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**Report Number: 208S-TRC-03-002**

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

**Ford Motor Company**  
**2003 Ford Expedition**  
**NHTSA Number: C30202**  
**TRC Inc. Test Number: S030124**

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



**Test Date: January 24, 2003**  
**Report Date: February 25, 2003**

**Final Report**

**Prepared For:**  
**U. S. Department of Transportation**  
**National Highway Traffic Safety Administration**  
**Office of Enforcement**  
**Office of Vehicle Safety Compliance (NVS-221)**  
**400 Seventh Street, S.W., Room No. 6115**  
**Washington, DC 20590**

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16. Abstract  An FMVSS 208 Section 13 compliance sled test was conducted on a 2003 Ford Expedition MPV, NHTSA No.C30202, 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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## Table of Contents

<u>Description</u>	<u>Page</u>
Purpose.....	1
Test Procedure.....	2
Test Results Summary.....	3
Sled Test Summary .....	5
General Test and Vehicle Parameter Data for the Sled Test Vehicle .....	6
Post-Impact Data.....	10
Seat and Steering Column Positioning Data .....	11
Dummy Measurement Data for Front Seat Occupants .....	12
Vehicle Accelerometer Placement .....	17
Vehicle Data Summary and Accelerometer Locations .....	18
Vehicle Targeting Measurements.....	20
Camera Positions.....	21
Motion Picture Camera Locations .....	22
FMVSS 208 Occupant Injury Data .....	23
FMVSS 208 Seat Belt Warning System Check .....	25
FMVSS 208 Readiness Indicator .....	26
FMVSS 208 Air Bag Labels .....	27
FMVSS 208 Rear Outboard Seating Position Seat Belts.....	35
FMVSS 208 Lap Belt Lockability .....	36
FMVSS 208 Seat Belt Comfort and Convenience Test.....	57
Appendix A - Photographs .....	A-1
Appendix B - Data Plots .....	B-1
Appendix C - Manufacturer Provided Test Information.....	C-1
Appendix D - Miscellaneous Test Information.....	D-1

### List of Photographs

<u>Figure</u>	<u>Photograph Title</u>	<u>Page</u>
A-1.	Pre-Test Front View of Test Vehicle Mounted to Sled	A-2
A-2.	Post-Test Front View of Test Vehicle Mounted to Sled	A-3
A-3.	Pre-Test Left Side View of Test Vehicle Mounted to Sled	A-4
A-4.	Post-Test Left Side View of Test Vehicle Mounted to Sled	A-5
A-5.	Pre-Test Right Side View of Test Vehicle Mounted to Sled	A-6
A-6.	Post-Test Right Side View of Test Vehicle Mounted to Sled	A-7
A-7.	Pre-Test Windshield View	A-8
A-8.	Post-Test Windshield View	A-9
A-9.	Pre-Test Driver Dummy Position View with Door Open - View 1	A-10
A-10.	Post-Test Driver Dummy Position View with Door Open - View 1	A-11
A-11.	Pre-Test Driver Dummy Position View with Door Open - View 2	A-12
A-12.	Post-Test Driver Dummy Position View with Door Open - View 2	A-13
A-13.	Pre-Test Driver Seat Track Position View	A-14
A-14.	Post-Test Driver Seat Track Position View	A-15
A-15.	Pre-Test Driver Dummy Position Front View	A-16
A-16.	Post-Test Driver Dummy Position Front View	A-17
A-17.	Pre-Test Passenger Dummy Position View with Door Open - View 1	A-18
A-18.	Post-Test Passenger Dummy Position View with Door Open - View 1	A-19
A-19.	Pre-Test Passenger Dummy Position View with Door Open - View 2	A-20
A-20.	Post-Test Passenger Dummy Position View with Door Open - View 2	A-21
A-21.	Pre-Test Passenger Seat Track Position View	A-22
A-22.	Post-Test Passenger Seat Track Position View	A-23
A-23.	Pre-Test Passenger Dummy Position Front View	A-24
A-24.	Post-Test Passenger Dummy Position Front View	A-25
A-25.	Post-Test Driver Airbag View	A-26
A-26.	Post-Test Driver Dummy Removed from Vehicle Overall View	A-27
A-27.	Post-Test Driver Head Contact View	A-28
A-28.	Post-Test Passenger Airbag View	A-29
A-29.	Post-Test Passenger Dummy Removed from Vehicle Overall View	A-30
A-30.	Post-Test Passenger Head Contact View	A-31

List of Photographs, Cont'd.

<u>Figure</u>	<u>Photograph Title</u>	<u>Page</u>
A-31.	Pre-Test Driver Knee Bolster View	A-32
A-32.	Post-Test Driver Knee Bolster View	A-33
A-33.	Pre-Test Passenger Glove Box View	A-34
A-34.	Post-Test Passenger Glove Box View	A-35
A-35.	Pre-Test Steering Column Linkage in Engine Compartment View	A-36
A-36.	Post-Test Steering Column Linkage in Engine Compartment View	A-37
A-37.	Pre-Test Vehicle Certification Label View	A-38

### 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 2003 Ford Expedition MPV, NHTSA No.C30202, 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 accelerations. The sled was instrumented with one (1) longitudinal accelerometer, which is prefiltered with an analog filter to 200 Hz as an integral part of the sled firing circuit, and two (2) additional 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 four (4) 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-four (44) 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 January 24, 2003.

The test vehicle, a 2003 Ford Expedition MPV, NHTSA No. C30202, does appear to comply with the performance requirements of FMVSS 208 in the impact simulation sled test mode as measured by Hybrid III 50<sup>th</sup> percentile male dummies.

	FMVSS 208 Max. Allowable Injury Assessment Values	Driver	Passenger
HIC	1000	289	156
Chest g	60 g	44.6	37.8
Chest Displacement	3 inches	1.0	0.4
Left Femur	2250 lbs	1017	1186
Right Femur	2250 lbs	1203	1010
Neck Extension	57 Nm	3.0	23.2
Neck Flexion	190 Nm	103.1	60.1
Neck Tension	3300 N	1066	371
Neck Compression	4000 N	537	1212
Neck Shear	3100 N	1299	1378

The subject vehicle, a 2003 Ford Expedition, NHTSA No. C30202, 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 17.0 g with an integrated velocity change of 29.0 mph. The primary stages of the air bags were triggered at 20.2 milliseconds after 0.5 g acceleration was measured by the firing circuit. The secondary stages of the driver and passenger air bags were triggered at 120.2 and 50.2 milliseconds, respectively, 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 primary stages air bag event

trigger signal was 21.4 ms after the 0.5 g acceleration level was indicated and the secondary stages air bag event trigger signal was 121.4 ms and 51.4 ms after the 0.5 g acceleration level was indicated.

The sled acceleration curve was not within the specified corridor, falling below the minimum acceleration profile between approximately 63 and 77 milliseconds.

### Data Acquisition Explanations

The sled measured velocity trap data channel, SLDXV, recorded questionable data spikes at 225 and 280 milliseconds.

The vehicle's left body at rear seat X-axis accelerometer, LBXG, channel class 1000 data exceeded full-scale multiple times between approximately 39 and 60 milliseconds and at approximately 135 milliseconds. The mounting plate was found to be loose, post-test.

The vehicle's right body at rear seat X-axis accelerometer, RBXG, channel class 1000 data exceeded full-scale multiple times between approximately 39 and 70 milliseconds and at approximately 130 milliseconds.

The vehicle's left vehicle frame X-axis accelerometer, LFXG, channel class 1000 data exceeded full-scale multiple times between approximately 47 and 65 milliseconds.

The vehicle's right vehicle frame X-axis accelerometer, RFXG, channel class 1000 data exceeded full-scale multiple times between approximately 50 and 70 milliseconds.

Sled Test Summary

NHTSA number: C30202  
Test type: Alternate FMVSS 208 Sled Test  
Test date: 01/24/03  
Test time: 1252  
Ambient temperature at impact area: 70.2° F  
Vehicle year/make/ model/body style: 2003/Ford/Expedition/MPV

<u>Dummy Info:</u>	Driver #314	Front passenger #229
Type:	Hybrid III	Hybrid III
Location:	Left Front	Right Front
Restraint:	Airbag	Airbag
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, headliner, sun visor, windshield	Airbag, sun 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: 2003/Ford/Expedition/MPV  
Color: Silver Birch Clearcoat Metallic  
VIN: 1FMRU15WX3LA70439  
NHTSA number: C30202  
Engine data:  
Placement: Inline  
Cylinders: 8  
Displacement: 4.6 liters  
Transmission data: 4 speed,    manual,    X automatic,    X overdrive  
Final drive:    fwd,    X rwd,    4wd  
Date vehicle received: 12/18/2002  
Odometer reading: 65  
Dealer's name  
and address: Webb Ford Inc.  
9809 Indianapolis  
Highland, Indiana 46322

Major Options:

Power steering Yes Other: None  
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 USA  
Date of manufacture: 08/02  
VIN: 1FMRU15WX3LA70439  
GVWR: 6900 lbs  
GAWR: Front: 2950 lbs  
Rear: 4000 lbs

Tire Data:

Tire pressure with maximum capacity vehicle load:

Front: 35 psi

Rear: 35 psi

Recommended tire size: P265/70R17

Load range: N/A lbs

Recommended cold tire pressure:

Front: 35 psi

Rear: 35 psi

Size of tires on vehicle: P265/70R17

Spare tire: P265/70R17

Vehicle capacity data:

Type of front seats: Bucket

Number of occupants:

Front 2

Mid 3

Rear 3

Total 8

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	1304.0 lbs	Right rear	1330.5 lbs
Left front	1225.7 lbs	Left rear	1426.4 lbs
Total front weight	2529.7 lbs	(47.9% of total vehicle weight)	
Total rear weight	2756.9 lbs	(52.1% of total vehicle weight)	
Total delivered weight	5286.6 lbs		

Calculation of test vehicle's target test weight:

RCLW = Rated Cargo and Luggage Weight

UDW = Unloaded Delivered Weight (5286.6 lbs)

DSC = Designated Seating Capacity (8)

RCLW = 300 lbs

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

Target test weight = 5286.6 + 300 + 334 = 5920.6 lbs.

Weight of test vehicle with two dummies and 300.9 lbs. of cargo weight:

Right front	1360.2 lbs	Right rear	1588.4 lbs
Left front	1280.9 lbs	Left rear	1692.0 lbs
Total front weight	2641.1 lbs	(44.6% of total vehicle weight)	
Total rear weight	3280.4 lbs	(55.4% of total vehicle weight)	
Total test weight	5921.5 lbs		

Remarks:

Weight of ballast secured in vehicle cargo area: N/A

Components removed to meet target test weight: N/A

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

Test Vehicle Attitude:

As delivered door sill angle: 0.6° Nose down

As tested door sill angle: 0.4° Nose down

Fully loaded door sill angle: 0.2° Nose down

Vehicle Wheelbase: 118.7 inches

Fuel System Data:

Fuel system capacity from owner's manual: 28.0 gallons

Useable capacity figure furnished by COTR: 28.0 gallons

Remarks: The roll angle measurements were within 1 inch of each other.

The left and right side measurements were 34.5 inches and 34.5 inches respectively.

Post-Impact Data

Test number: S030124  
NHTSA number: C30202  
Test date: 01/24/03  
Test time: 1252  
Test type: Alternate FMVSS 208 Sled Test  
Impact angle: 0°  
Ambient temperature  
at impact area: 70.2° F  
Temperature in  
occupant compartment: 70.2° F

Sled carriage velocity:

Integrated velocity from the integration of the entire sled acceleration: 29.0 mph  
Measured velocity from the light trap device attached to the sled (backup): 28.6 mph  
Specified integrated velocity range: 28 to 30 mph

Sled carriage acceleration:

Acceleration: 17.0 g  
Specified acceleration range: 16.0 g - 18.2 g

Sled carriage acceleration duration:

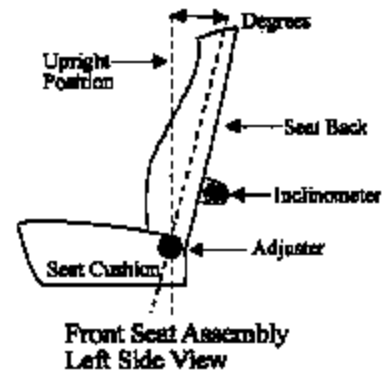
Time from T-0(-0.5 g) to 0.0 g: 125.2 ms  
Specified acceleration duration: 120 - 130 ms

The sled acceleration curve was not within the specified corridor, falling below the minimum acceleration profile between approximately 63 and 77 milliseconds.

## Seat and Steering Column Positioning Data

Vehicle: 2003/Ford/Expedition/MPV

NHTSA No.: C30202



### Nominal Design Riding Position:

- Driver Seat:** Seat Back Angle = 16.7° Power adjustable  
Seat back angle was measured on the seat back rear outboard frame 13 inches above the back pivot point.
- Passenger Seat:** Seat Back Angle = 16.6° Manual adjustable  
Seat back angle was measured on the seat back rear outboard frame 13 inches above the back pivot point.

### Seat Fore and Aft Positions:

- Driver Seat:** Mid Seats were marked by measuring the mid point of the power seat track fore-aft travel.
- Passenger:** Mid Seats were marked by marking each manual seat track positions.

### Steering Column Adjustments:

The steering column was adjusted to middle of the geometric range of travel.

Dummy Measurement Data for Front Seat Occupants

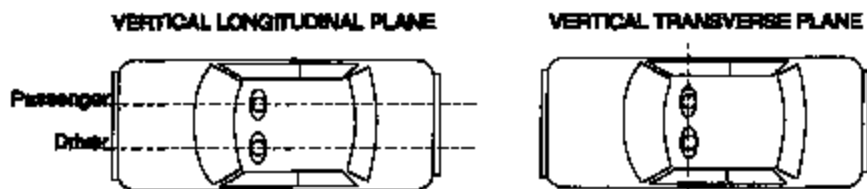
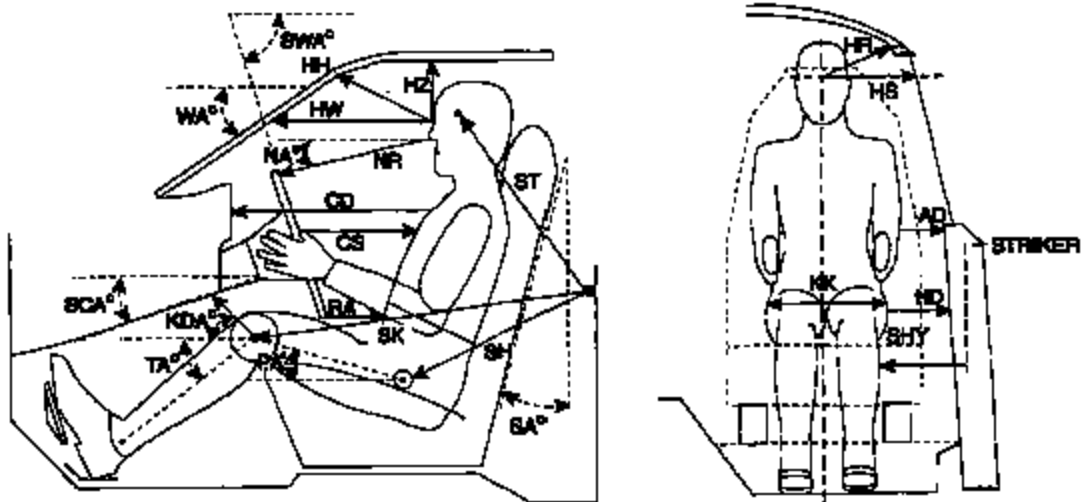
<u>Designation</u>	<u>Type of Measurement</u>	<u>Driver (Serial #314)</u>	<u>Passenger (Serial #229)</u>
WA	Windshield angle	33.3°	N/A
SWA	Steering wheel angle	20.6°	N/A
SCA	Steering column angle	69.4°	N/A
SA	Seat back angle	16.7°	16.6°
HZ	Head to roof	8.9 in	7.9 in
HH	Head to header	16.0 in	15.7 in
HW	Head to windshield	26.3 in	23.5 in
HR	Head to side header	9.9 in	9.6 in
NR	Nose to rim	16.2 in	N/A
NA	Nose to rim angle	11.1°	N/A
CD	Chest to dash	22.0 in	20.7 in
CS	Steering wheel to chest	11.9 in	N/A
RA	Rim to abdomen	8.3 in	N/A
KDL	Left knee to dash	6.1 in	5.8 in
KDR	Right knee to dash	5.7 in	5.9 in
KDA	Outboard knee to dash angle	23.6°	29°
PA	Pelvis angle	23.8°	22.7°
TA	Tibia angle	54.0°	54.0°
KK	Knee to knee	13.3 in	10.6 in
ST <sup>1</sup>	Striker to head	25.7 in	26.7 in
	Striker to head angle	81.2°	79.9°
SK <sup>1</sup>	Striker to knee	24.8 in	25.1 in
	Striker to knee angle	-9.8°	-9.3°
SH <sup>1</sup>	Striker to H-point	9.7 in	9.6 in
	Striker to H-point angle	9.3°	0.2°
SHY	Striker to H-point (Y dir.)	10.4 in	9.3 in
HS	Head to side window	12.2 in	12.5 in
HD	H-point to door	7.6 in	6.8 in
AD	Arm to door	5.3 in	4.8 in

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

All other angles are measured relative to horizontal.

<sup>1</sup> A negative angle indicates the measurement point was located below the striker.

Dummy Measurement Locations for Front Seat Occupants



### 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).

\* Measurement used in Data Tape Reference Guide

### Descriptions of Dummy Measurements, Cont'd

- \*<sup>1</sup> 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.
- 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.

\* Measurement used in Data Tape Reference Guide

<sup>1</sup> Only outboard measurement is referenced in Data Tape Reference Guide

### Descriptions of Dummy Measurements, Cont'd.

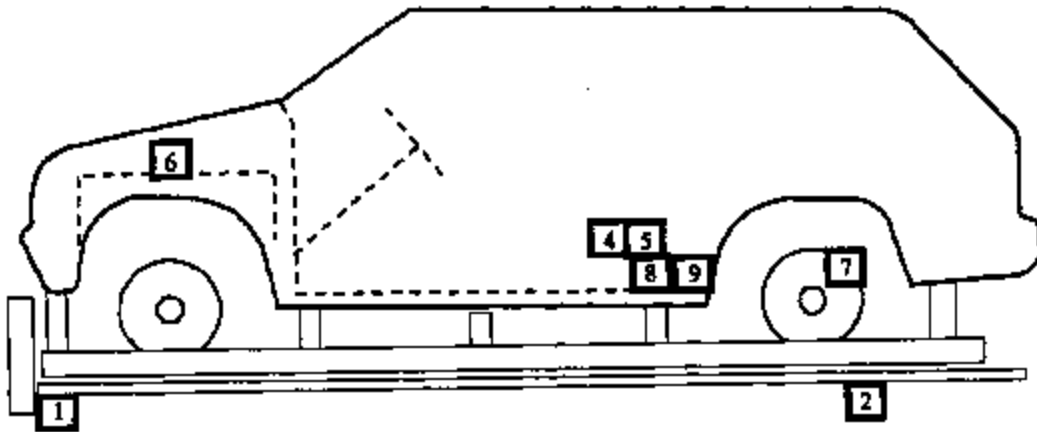
- SHY** Striker to H-point, taken from a rod rigidly connected to the forward most center point on the striker to the H-point. Use a level. See diagram.
- KK** Knee to Knee, for Hybrid II dummies measure the distance between knee pivot bolt head outer surfaces. For Hybrid III dummies measure the distance between the outboard knee clevis flange surfaces. (This measurement may not be exactly transverse.)

#### **Angles**

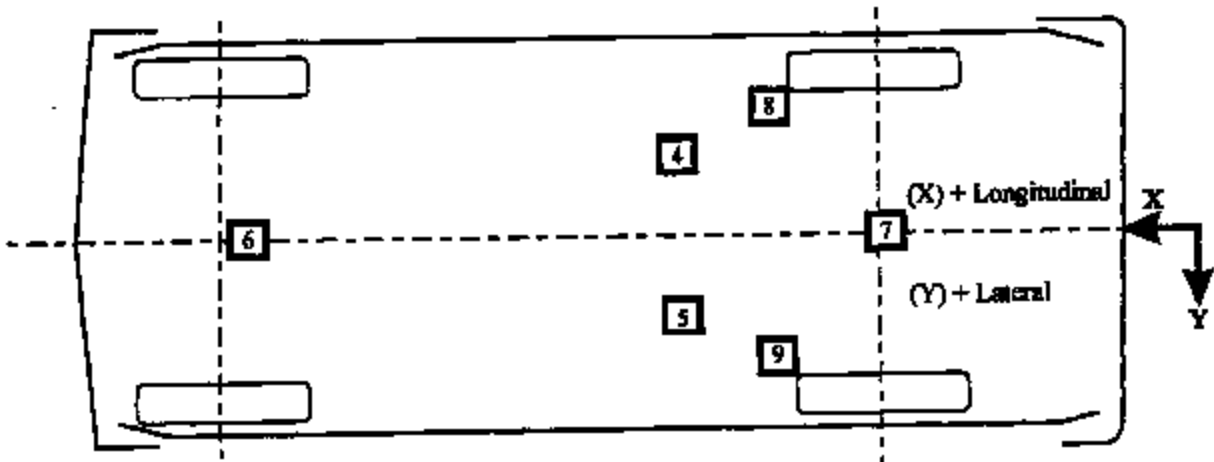
- SA** Seat Back Angle, find this angle using the instructions provided by the manufacturer. If the manufacturer doesn't provide clear instructions contact the COTR.
- PA** Pelvis or Femur Angle, taken by inserting the pelvic angle gauge into the H-point gauging hole on the SID or the Hybrid III dummies 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.

\* Measurement used in Data Tape Reference Guide

Vehicle Accelerometer Placement



**Side View**



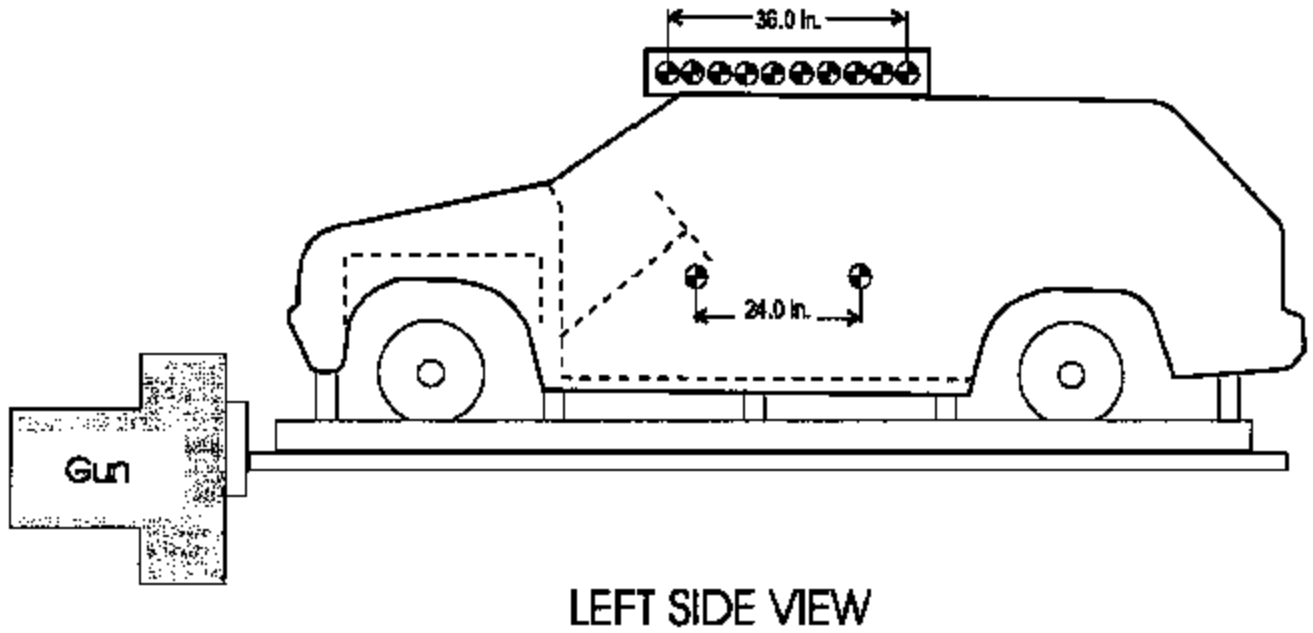
**Bottom View**



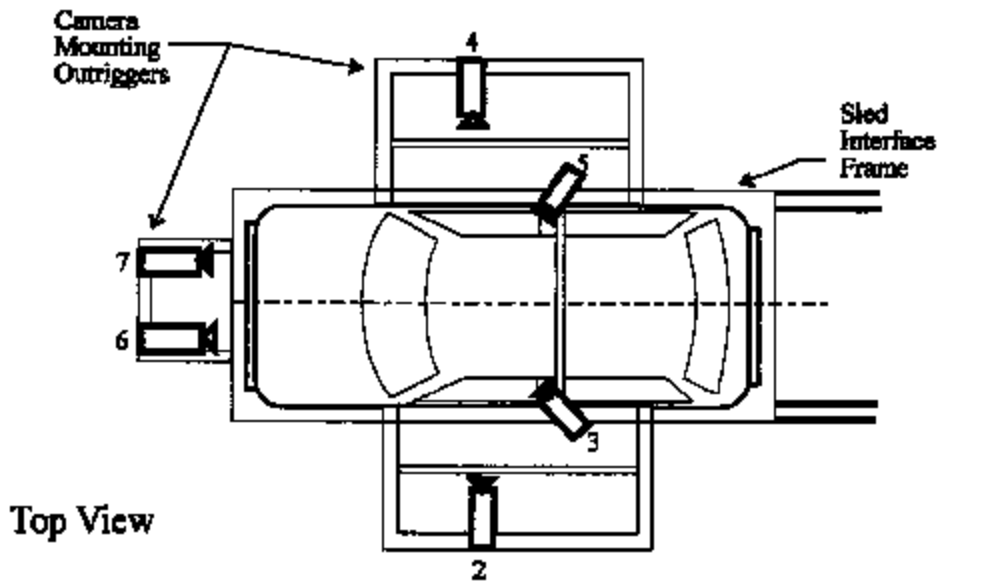


Vehicle Targeting Measurements

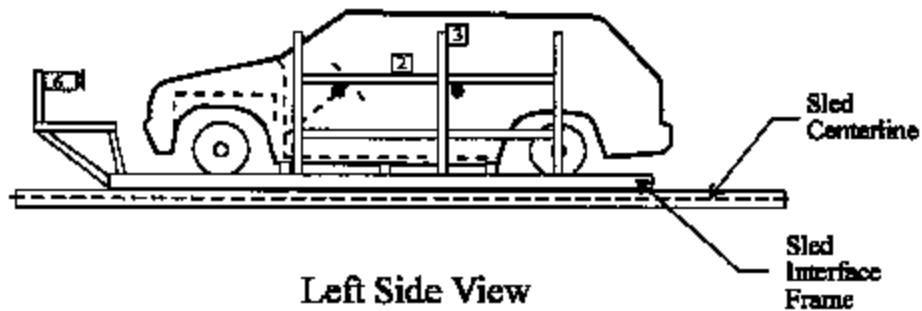
REFERENCE PHOTO TARGETS



## Camera Positions



Camera Frame Rates:  
#1 = 24 fps  
All Others = 1,000 fps



Motion Picture Camera Locations

Vehicle year/make/model/body style: 2003/Ford/Expedition/MPV

NHTSA No.: C30202

Test Number: S030124

Camera Number	View	Camera Positions <sup>1</sup>			Camera Angle <sup>2</sup>	Film Plane to Head Target	Camera Lens	Film Speed
		X	Y	Z				
1	Real-time Pre-Doc/Panning	93.0 in	309.2 in	44.2 in	-2.3	290.0 in	10 mm	24 frames/s
2	Left wide	72.8 in	72.5 in	66.0 in	-3.8°	53.7 in	8 mm	1025 frames/s
3	Left over shoulder airbag	97.1 in	49.7 in	73.8 in	-14.3°	33.7 in	8 mm	940 frames/s
4	Right wide	73.6 in	74.1 in	65.0 in	-8.0°	55.6 in	8 mm	995 frames/s
5	Right over shoulder airbag	98.8 in	49.3 in	75.4 in	-11.7°	33.9 in	8 mm	1000 frames/s
6	Front view - driver	25.3 in	16.1 in	70.1 in	-2.5°	57.6 in	8 mm	1002 frames/s
7	Front view - passenger	25.6 in	18.4 in	70.2 in	-3.7°	58.3 in	8 mm	992 frames/s

<sup>1</sup> X: Film plane to front of sled

Y: Film plane to sled centerline

Z: Film plane to top of sled

<sup>2</sup> Angle: Film plane of camera downward from horizontal plane

FMVSS 208 Occupant Injury Data

Vehicle: 2003/Ford/Expedition/MPV

NHTSA No.: C30202

Date:01/24/03

Maximum Acceleration Values: (g)	Driver Dummy #314	Passenger Dummy #229
Head Channel X	-58.6	-36.0
Head Channel Y	-7.5	-8.0
Head Channel Z	26.1	17.2
HEAD RESULTANT	62.1	36.6
Chest Channel X	-44.9	-37.2
Chest Channel Y	-3.0	-5.8
Chest Channel Z	13.5	14.1
CHEST RESULTANT	46.0	39.1

**Head Injury Criteria (HIC) Values:**

HIC	289	156
$t_1$ = (ms)	100.96	90.48
$t_2$ = (ms)	136.96	126.48

The maximum HIC time interval from  $t_1$  to  $t_2$  is 36 milliseconds.

**Chest Injury Criteria (Clip) Values:**

CLIP (g)	44.6	37.8
$t_1$ = (ms)	97.17	101.60
$t_2$ = (ms)	100.13	104.56
Chest Deflection (in)	1.0	0.4

FMVSS 208 Occupant Injury Data, Cont'd.

Vehicle: 2003/Ford/Expedition/MPV

NHTSA No.: C30202

Date:01/24/03

<b>Max. Compressive Femur Forces:</b>	<b>Driver Dummy #314</b>	<b>Passenger Dummy #229</b>
Left Side (lbs)	1017	1186
Right Side (lbs)	1203	1010

<b>Neck Injury Criteria:</b>	<b>Driver Dummy #314</b>	<b>Passenger Dummy #229</b>
Peak Flexion Bending Moment (N-m)	103.1	60.1
Peak Extension Bending Moment (N-m)	3.0	23.2
Peak Axial Tension (N)	1066	371
Peak Axial Compression (N)	537	1212
Peak Positive X-axis Shear (N)	1299	1378
Peak Negative X-axis Shear (N)	243	244

**FMVSS 208 Seat Belt Warning System Check**

Vehicle Model Year/Make/Model/Body Style: 2003/Ford/Expedition/MPV

NHTSA No.: C30202

Technician: Steve Bell

Date: 01/07/2003

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 = 6 seconds  
(4 to 8 seconds)

Time duration of reminder light operation = 64 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: 2003/Ford/Expedition/MPV

NHTSA No.: C30202

Technician: Steve Bell

Date: 01/07/2003

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: Right side of instrument panel

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: 2003/Ford/Expedition/MPV

NHTSA No.: C30202

Technician: Steve Bell

Date: 01/08/2003

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 placed 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**

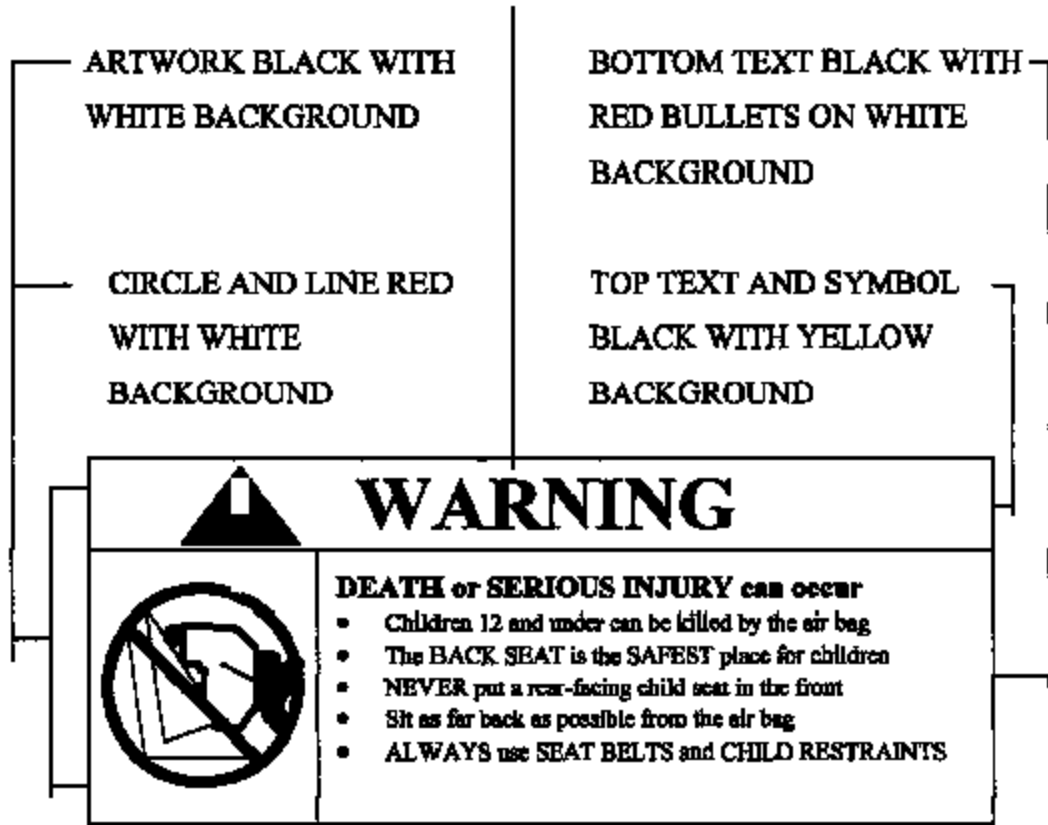


Figure 6a  
(S4.5.1(b)(2))

**FMVSS 208 Air Bag Labels, Cont'd.**

**SUN VISOR LABEL VISIBLE WHEN VISOR IS IN DOWN POSITION  
LABEL OUTLINE, VERTICAL AND HORIZONTAL LINE BLACK**

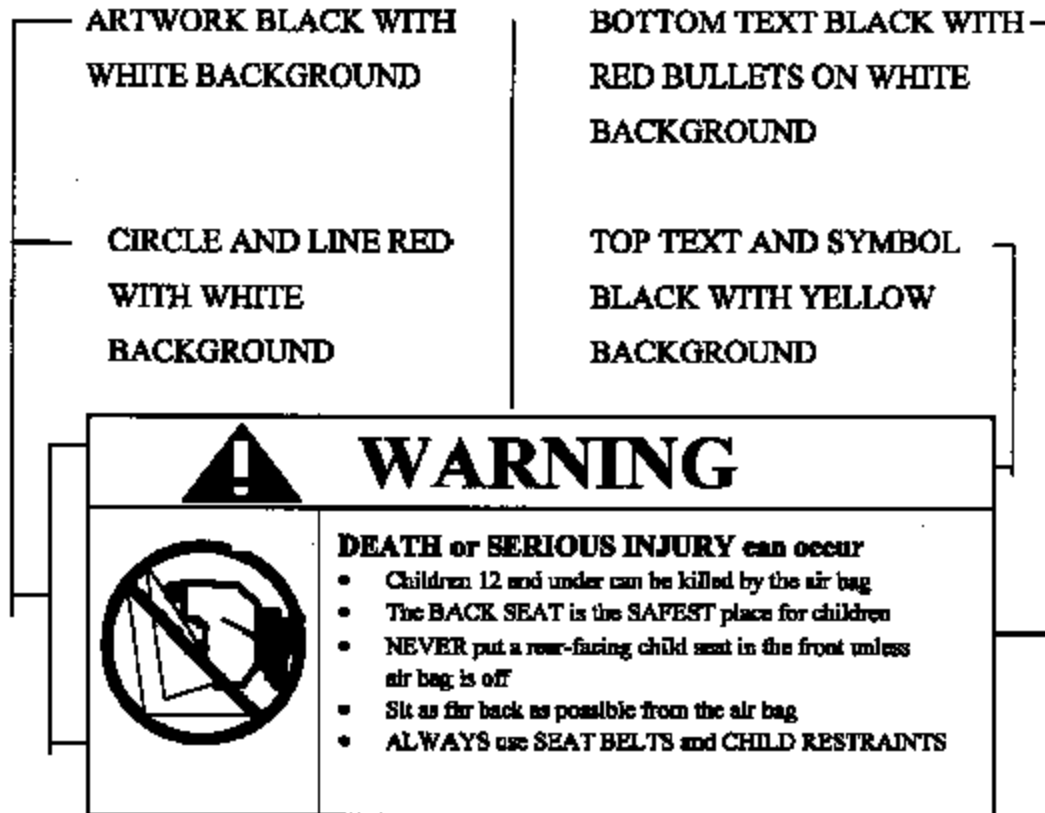


Figure 6b  
(S4.5.1(b)(2))

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 cm<sup>2</sup>? (S4.5.1(b)(2)(ii))

Actual message area, driver side 32 cm<sup>2</sup>

Actual message area, passenger side 32 cm<sup>2</sup>

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 a rollover warning label specified in 49CFR Part 575 (S575.105)?
- 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

**SUN VISOR LABEL VISIBLE WHEN VISOR IS IN UP POSITION**

Circle and Line Red with White Background

Artwork Black with White Background

Text Yellow with Black Background

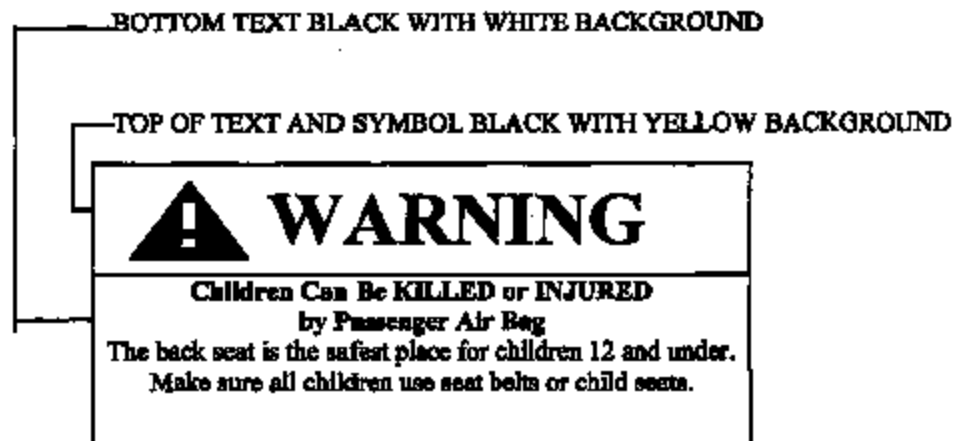
Figure 6c  
(S4.5.1(c)(2))



**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 cm<sup>2</sup>? (S4.5.1(c)(2)(i))  
Actual message area N/A cm<sup>2</sup>  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 checklist 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)(i))  Yes-Pass  No-Fail
- 6.5 Is the message white with black text? (S4.5.1(e)(ii))  Yes-Pass  No-Fail
- 6.6 Is the message area at least 30 cm<sup>2</sup>? (S4.5.1(e)(ii))  
Actual message area 34 cm<sup>2</sup>  Yes-Pass  No-Fail

**FMVSS 208 Rear Outboard Seating Position Seat Belts**

Vehicle Model Year/Make/Model/Body Style: 2003/Ford/Expedition/MPV

NHTSA No.: C30202

Technician: Ronald D. Stoner

Date: 01/24/03

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.

**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: 2003/Ford/Expedition/MPV

NHTSA No.: C30202

Technician: Steve Bell

Date: 01/14/2003

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: 2003/Ford/Expedition/MPV

NHTSA No.: C30202

Technician: Steve Bell

Date: 01/14/2003

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 52.0 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 24.0 inches.

FMVSS 208 Lap Belt Lockability, Cont'd.

Vehicle Model Year/Make/Model/Body Style: 2003/Ford/Expedition/MPV

NHTSA No.: C30202

Technician: Steve Bell

Date: 01/14/2003

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 24.2 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= 0.2 inches

Yes-Pass

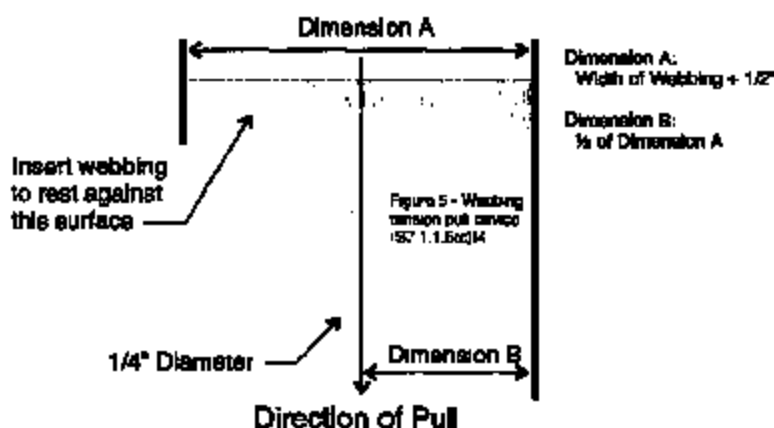
No-Fail

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= 27.8 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: 2003/Ford/Expedition/MPV

NHTSA No.: C30202

Technician: Steve Bell

Date: 01/14/2003

Designated Seating Position: 2nd Row Left

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: 2003/Ford/Expedition/MPV

NHTSA No.: C30202

Technician: Steve Bell

Date: 01/14/2003

Designated Seating Position: 2nd Row Left

- 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 49.5 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 21.3 inches.

**FMVSS 208 Lap Belt Lockability, Cont'd.**

Vehicle Model Year/Make/Model/Body Style: 2003/Ford/Expedition/MPV

NHTSA No.: C30202

Technician: Steve Bell

Date: 01/14/2003

Designated Seating Position: 2nd Row Left

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 21.7 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= 0.4 inches

Yes-Pass

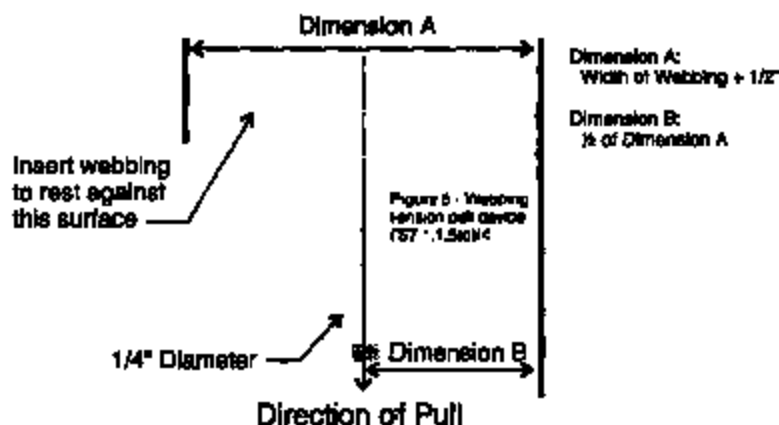
No-Fail

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= 27.8 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: 2003/Ford/Expedition/MPV

NHTSA No.: C30202

Technician: Steve Bell

Date: 01/14/2003

Designated Seating Position: 2nd Row Center

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: 2003/Ford/Expedition/MPV

NHTSA No.: C30202

Technician: Steve Bell

Date: 01/14/2003

Designated Seating Position: 2nd Row Center

- 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 61.3 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 26.6 inches.

**FMVSS 208 Lap Belt Lockability, Cont'd.**

Vehicle Model Year/Make/Model/Body Style: 2003/Ford/Expedition/MPV

NHTSA No.: C30202

Technician: Steve Bell

Date: 01/14/2003

Designated Seating Position: 2nd Row Center

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  $\leq$  lbs/sec (spec. 10 ~50 lb/sec)

The measured distance between A and B is 27.1 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= 0.5 inches

Yes-Pass

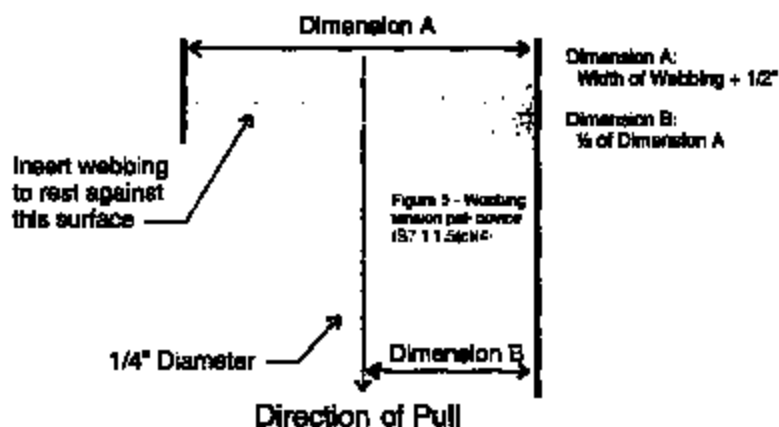
No-Fail

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= 34.2 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: 2003/Ford/Expedition/MPV

NHTSA No.: C30202

Technician: Steve Bell

Date: 01/14/2003

Designated Seating Position: 2nd Row Right

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: 2003/Ford/Expedition/MPV

NHTSA No.: C30202

Technician: Steve Bell

Date: 01/14/2003

Designated Seating Position: 2nd Row Right

- 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 52.0 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 22.4 inches.

**FMVSS 208 Lap Belt Lockability, Cont'd.**

Vehicle Model Year/Make/Model/Body Style: 2003/Ford/Expedition/MPV

NHTSA No.: C30202

Technician: Steve Bell

Date: 01/14/2003

Designated Seating Position: 2nd Row Right

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 22.8 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= 0.4 inches

Yes-Pass

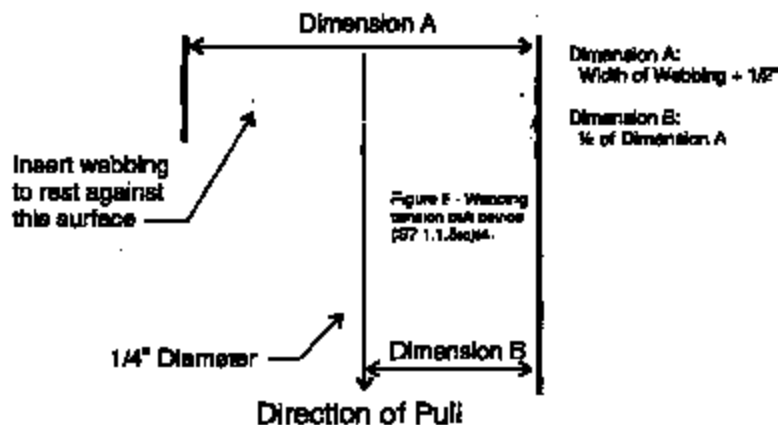
No-Fail

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= 29.2 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: 2003/Ford/Expedition/MPV

NHTSA No.: C30202

Technician: Steve Bell

Date: 01/14/2003

Designated Seating Position: 3rd Row Left

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: 2003/Ford/Expedition/MPV

NHTSA No.: C30202

Technician: Steve Bell

Date: 01/14/2003

Designated Seating Position: 3rd Row Left

- 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 48.4 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 24.9 inches.

**FMVSS 208 Lap Belt Lockability, Cont'd.**

Vehicle Model Year/Make/Model/Body Style: 2003/Ford/Expedition/MPV

NHTSA No.: C30202

Technician: Steve Bell

Date: 01/14/2003

Designated Seating Position: 3rd Row Left

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 25.2 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= 0.3 inches

Yes-Pass

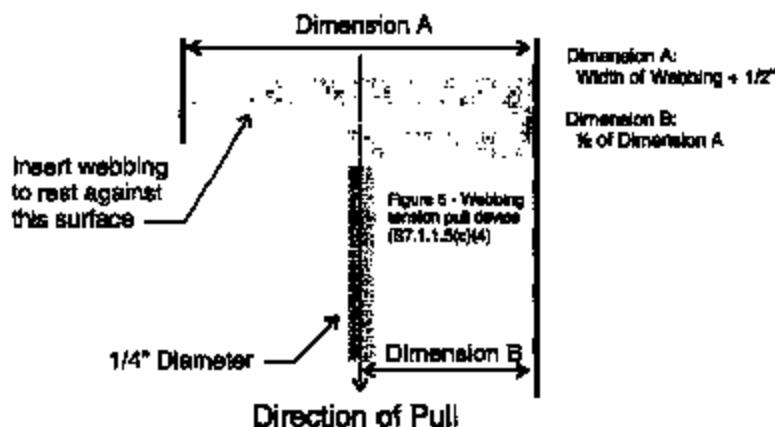
No-Fail

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= 23.2 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: 2003/Ford/Expedition/MPV

NHTSA No.: C30202

Technician: Steve Bell

Date: 01/14/2003

Designated Seating Position: 3rd Row Center

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: 2003/Ford/Expedition/MPV

NHTSA No.: C30202

Technician: Steve Bell

Date: 01/14/2003

Designated Seating Position: 3rd Row Center

- 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 61.4 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 27.8 inches.

FMVSS 208 Lap Belt Lockability, Cont'd.

Vehicle Model Year/Make/Model/Body Style: 2003/Ford/Expedition/MPV

NHTSA No.: C30202

Technician: Steve Bell

Date: 01/14/2003

Designated Seating Position: 3rd Row Center

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 28.1 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= 0.3 inches

Yes-Pass

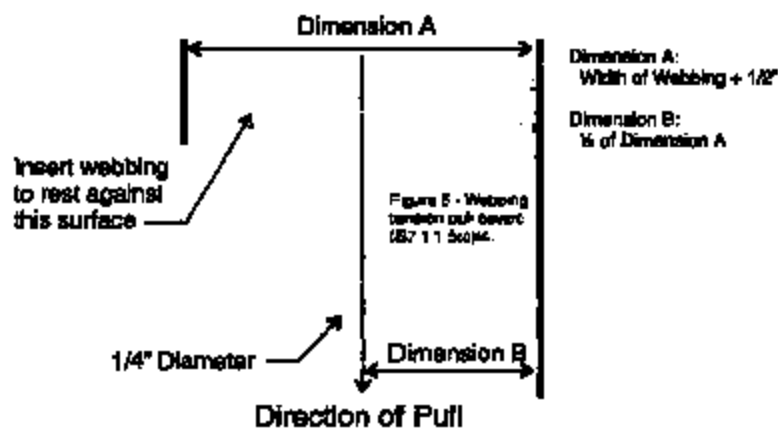
No-Fail

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= 33.3 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: 2003/Ford/Expedition/MPV

NHTSA No.: C30202

Technician: Steve Bell

Date: 01/14/2003

Designated Seating Position: 3rd Row Right

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: 2003/Ford/Expedition/MPV

NHTSA No.: C30202

Technician: Steve Bell

Date: 01/14/2003

Designated Seating Position: 3rd Row Right

- 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 46.9 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 17.3 inches.

**FMVSS 208 Lap Belt Lockability, Cont'd.**

Vehicle Model Year/Make/Model/Body Style: 2003/Ford/Expedition/MPV

NHTSA No.: C30202

Technician: Steve Bell

Date: 01/14/2003

Designated Seating Position: 3rd Row Right

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 17.8 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= 8.5 inches

Yes-Pass

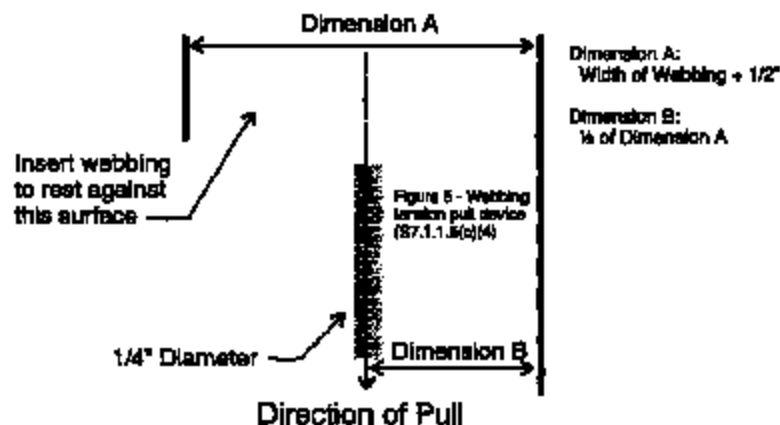
No-Fail

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= 29.1 inches.

Yes-Pass

No-Fail



**FMVSS 208 Seat Belt Comfort And Convenience Test**

**Belt Contact Force (S7.4.3)**

Test Vehicle NHTSA No.: C30202

Vehicle Model Year/Make/Model/Body Style: 2003/Ford/Expedition/MPV

Designated Seating Position Tested: Left Front

Date of Comfort and Convenience Check: 01/08/2003

Technician Performing Check: Steve Bell

GVWR: 6900 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 50<sup>th</sup> 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 0.453 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.: C30202

Vehicle Model Year/Make/Model/Body Style: 2003/Ford/Expedition/MPV

Designated Seating Position Tested: Right Front

Date of Comfort and Convenience Check: 01/08/2003

Technician Performing Check: Steve Bell

GVWR: 6900 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 50<sup>th</sup> 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 0.439 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.: C30202

Vehicle Model Year/Make/Model/Body Style: 2003/Ford/Expedition/MPV

Designated Seating Position Tested: 2nd Row Left

Date of Comfort and Convenience Check: 01/08/2003

Technician Performing Check: Steve Bell

GVWR: 6900 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 50<sup>th</sup> 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 0.469 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.: C30202

Vehicle Model Year/Make/Model/Body Style: 2003/Ford/Expedition/MPV

Designated Seating Position Tested: 2nd Row Center

Date of Comfort and Convenience Check: 01/08/2003

Technician Performing Check: Steve Bell

GVWR: 6900 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 50<sup>th</sup> 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 0.478 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.: C30202

Vehicle Model Year/Make/Model/Body Style: 2003/Ford/Expedition/MPV

Designated Seating Position Tested: 2nd Row Right

Date of Comfort and Convenience Check: 01/08/2003

Technician Performing Check: Steve Bell

GVWR: 6900 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 50<sup>th</sup> 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 0.464 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.: C30202

Vehicle Model Year/Make/Model/Body Style: 2003/Ford/Expedition/MPV

Designated Seating Position Tested: 3rd Row Left

Date of Comfort and Convenience Check: 01/08/2003

Technician Performing Check: Steve Bell

GVWR: 6900 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 50<sup>th</sup> 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 0.471 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.

**EMVSS 208 Seat Belt Comfort And Convenience Test Summary**  
**Belt Contact Force (S7.4.3)**

Test Vehicle NHTSA No.: C30202  
Vehicle Model Year/Make/Model/Body Style: 2003/Ford/Expedition/MPV  
Designated Seating Position Tested: 3rd Row Center  
Date of Comfort and Convenience Check: 01/08/2003  
Technician Performing Check: Steve Bell  
GVWR: 6900 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 50<sup>th</sup> 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 0.473 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.: C30202  
Vehicle Model Year/Make/Model/Body Style: 2003/Ford/Expedition/MPV  
Designated Seating Position Tested: 3rd Row Right  
Date of Comfort and Convenience Check: 01/08/2003  
Technician Performing Check: Steve Bell  
GVWR: 6900 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 50<sup>th</sup> 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 0.474 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.: C30202

Vehicle Model Year/Make/Model/Body Style: 2003/Ford/Expedition/MPV

Designated Seating Position Tested: Left Front

Date of Comfort and Convenience Check: 01/13/2003

Technician Performing Check: Steve Bell

GVWR: 6900 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 50<sup>th</sup> 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.: C30202

Vehicle Model Year/Make/Model/Body Style: 2003/Ford/Expedition/MPV

Designated Seating Position Tested: Right Front

Date of Comfort and Convenience Check: 01/13/2003

Technician Performing Check: Steve Bell

GVWR: 6900 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 50<sup>th</sup> 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.: C30202

Vehicle Model Year/Make/Model/Body Style: 2003/Ford/Expedition/MPV

Designated Seating Position Tested: Left Front

Date of Comfort and Convenience Check: 01/08/2003

Technician Performing Check: Steve Bell

GVWR: 6900 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 50<sup>th</sup> 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.: C30202

Vehicle Model Year/Make/Model/Body Style: 2003/Ford/Expedition/MPV

Designated Seating Position Tested: Right Front

Date of Comfort and Convenience Check: 01/08/2003

Technician Performing Check: Steve Bell

GVWR: 6900 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 50<sup>th</sup> 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.: C30202

Vehicle Model Year/Make/Model/Body Style: 2003/Ford/Expedition/MPV

Designated Seating Position Tested: Left Front

Date of Comfort and Convenience Check: 01/13/2003

Technician Performing Check: Steve Bell

GVWR: 6900 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.: C30202

Vehicle Model Year/Make/Model/Body Style: 2003/Ford/Expedition/MPV

Designated Seating Position Tested: Right Front

Date of Comfort and Convenience Check: 01/13/2003

Technician Performing Check: Steve Bell

GVWR: 6900 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.: C30202

Vehicle Model Year/Make/Model/Body Style: 2003/Ford/Expedition/MPV

Designated Seating Position Tested: Not tested. 2<sup>nd</sup> row left, 2<sup>nd</sup> row right, 3<sup>rd</sup> row left, 3<sup>rd</sup> row center, 3<sup>rd</sup> row right seat positions due to items A & C below.

Date of Comfort and Convenience Check: 01/13/2003

Technician Performing Check: Steve Bell

GVWR: 6900 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:

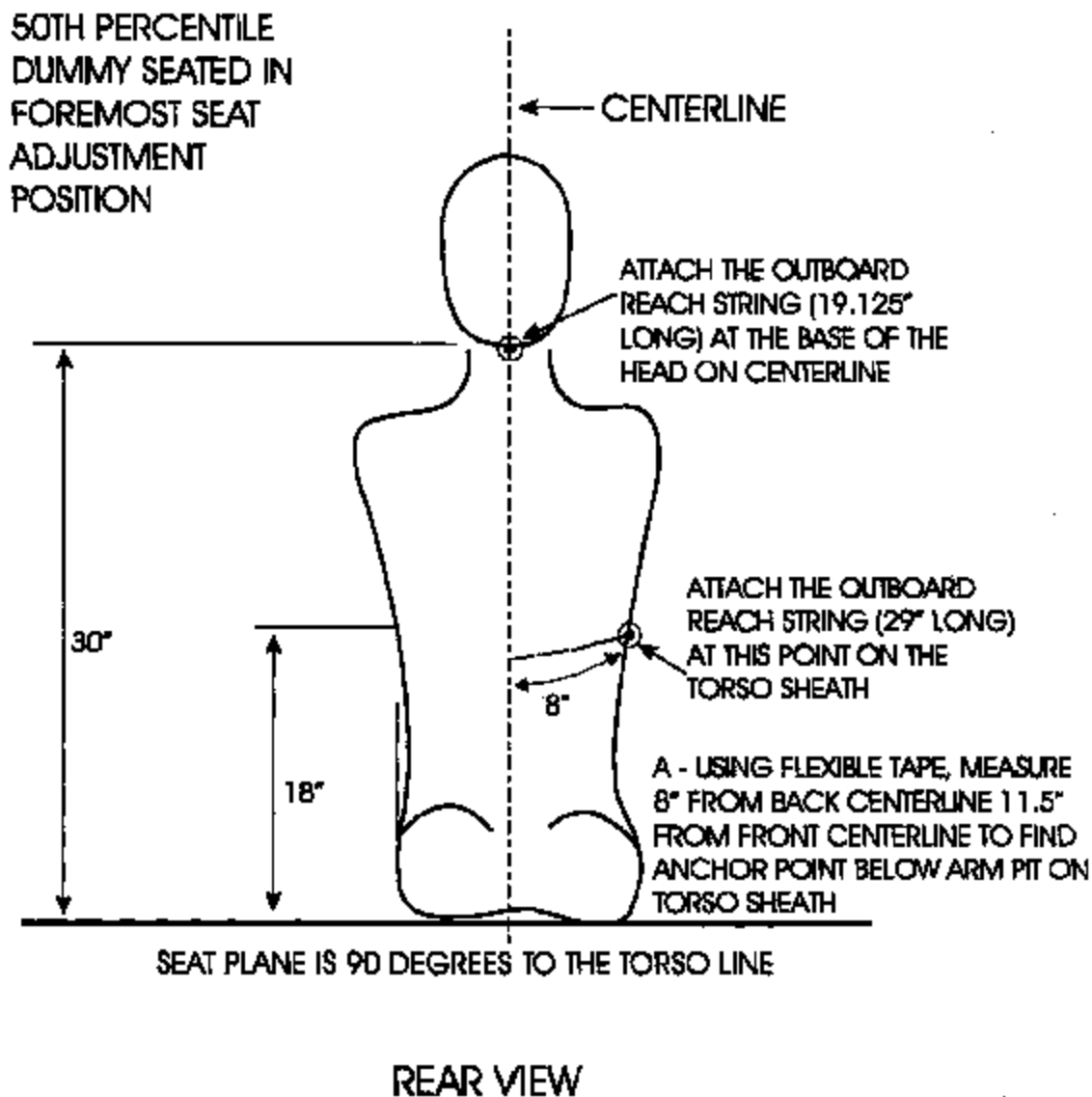
1. Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back?  
 Yes: go to 2.  
 No: this form is complete.
2. Does one of the following three parts, the seat belt latchplate, the buckle, or the seat belt webbing, stay on top of or above the seat cushion under 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

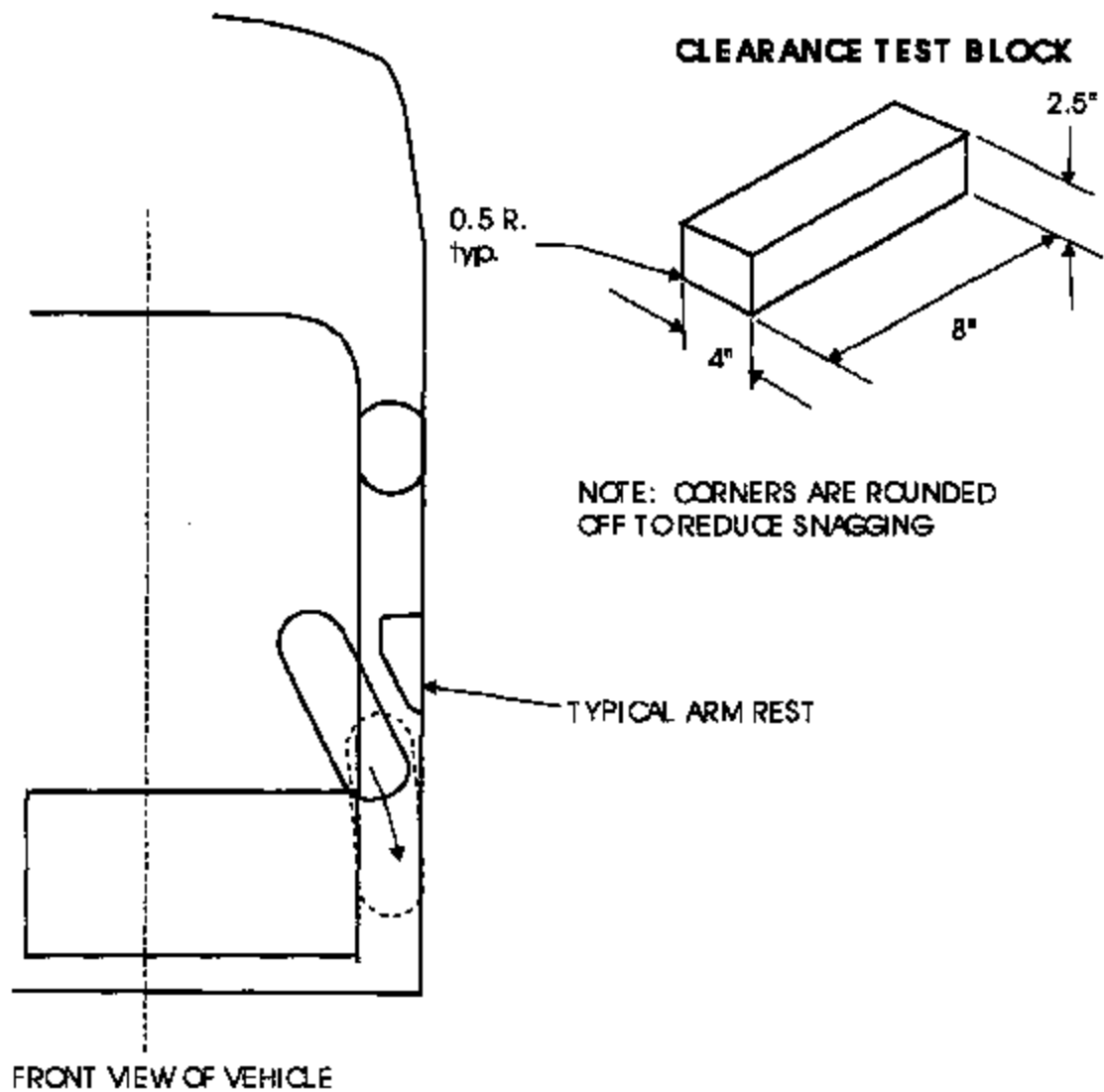
LOCATION OF ANCHORING POINTS FOR  
LATCHPLATE REACH LIMITING CHAINS OR STRINGS  
TO TEST FOR LATCHPLATE ACCESSIBILITY

PART 572E DUMMY



Laboratory Test Procedure Figure 1C

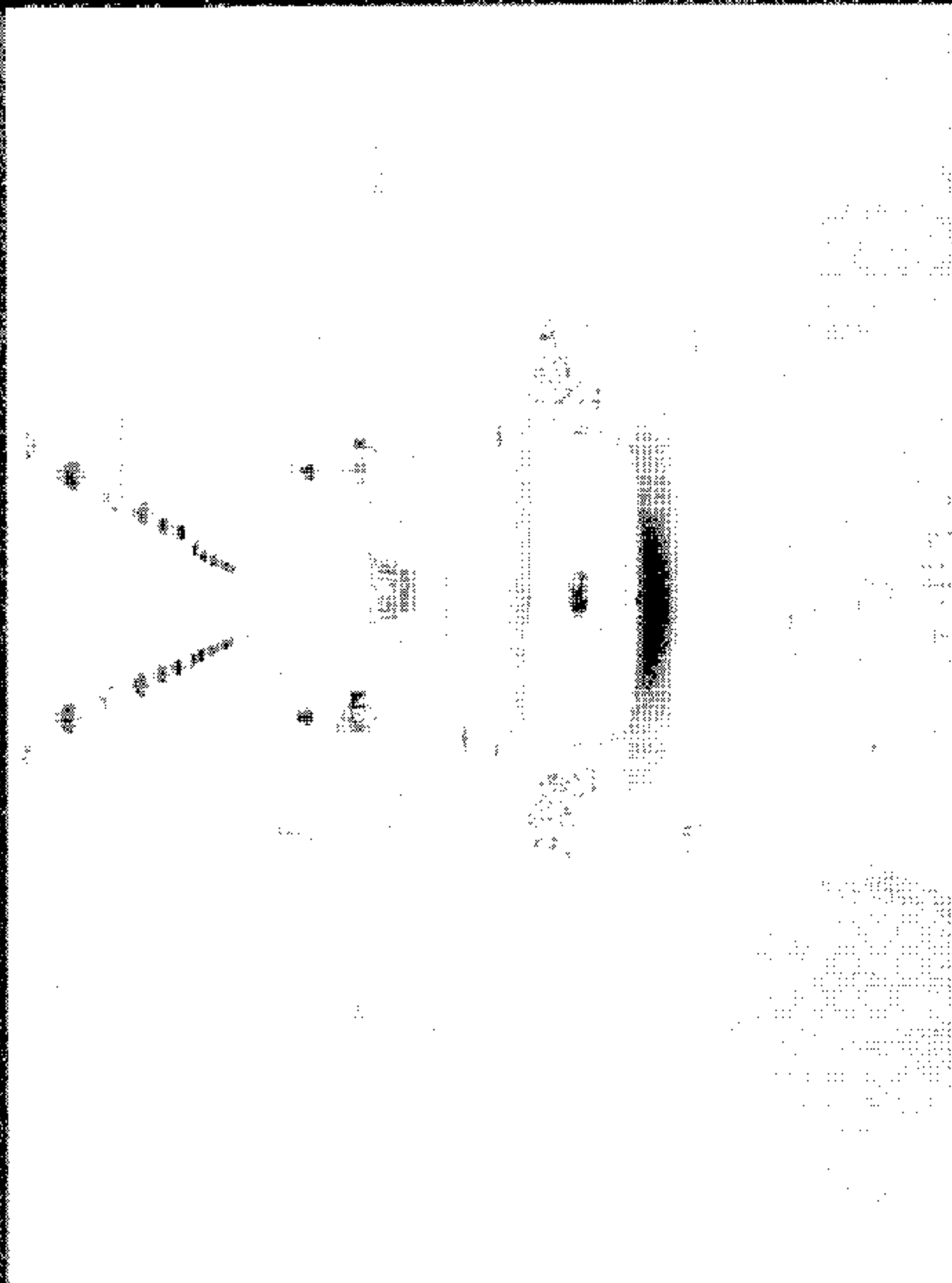
# USE OF CLEARANCE TEST BLOCK TO DETERMINE HAND/ARM ACCESS



Laboratory Test Procedure Figure 2C

Appendix A

Photographs



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

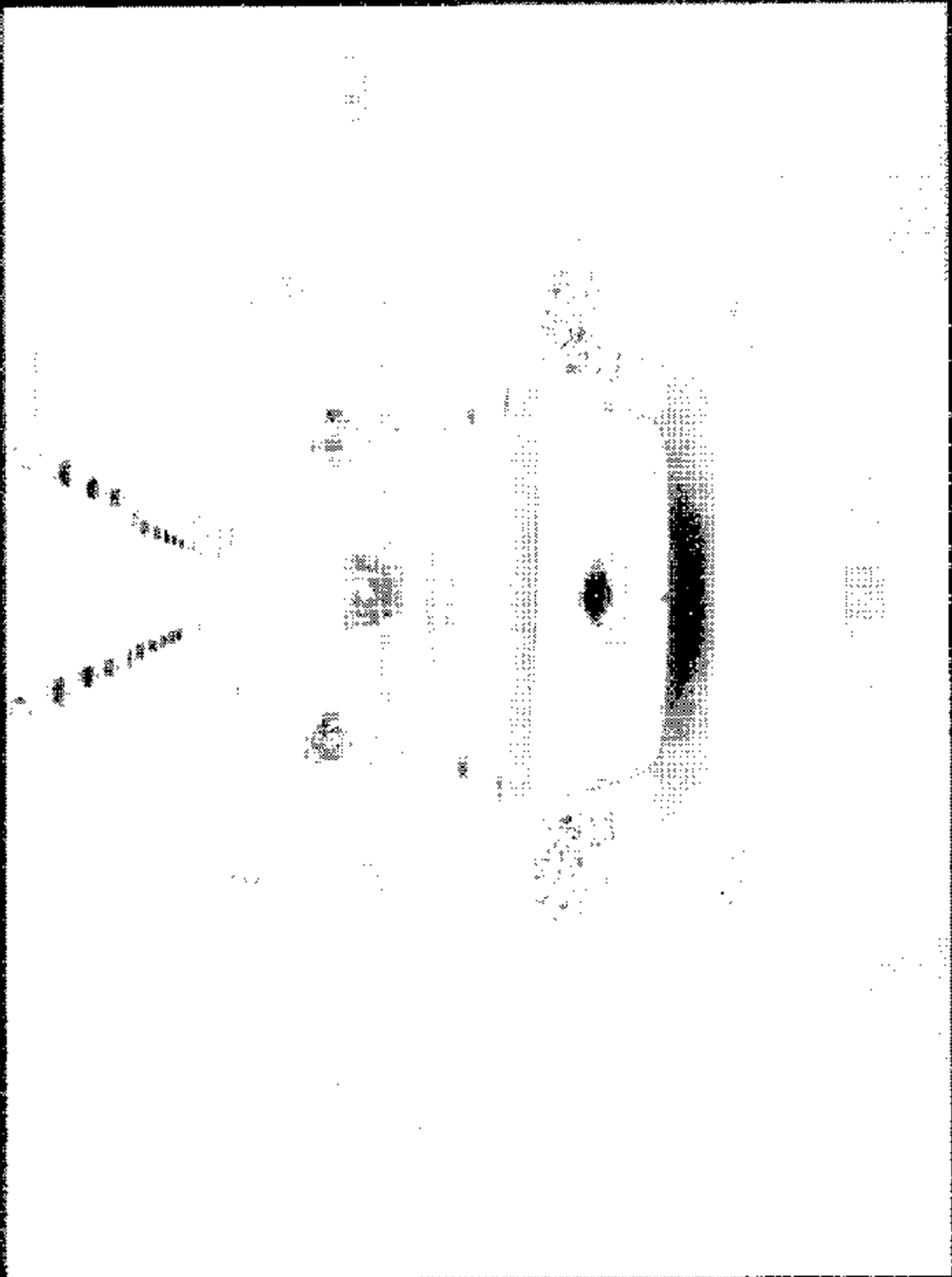


Figure A-2. Post-Test Front View of Test Vehicle Mounted to Sled

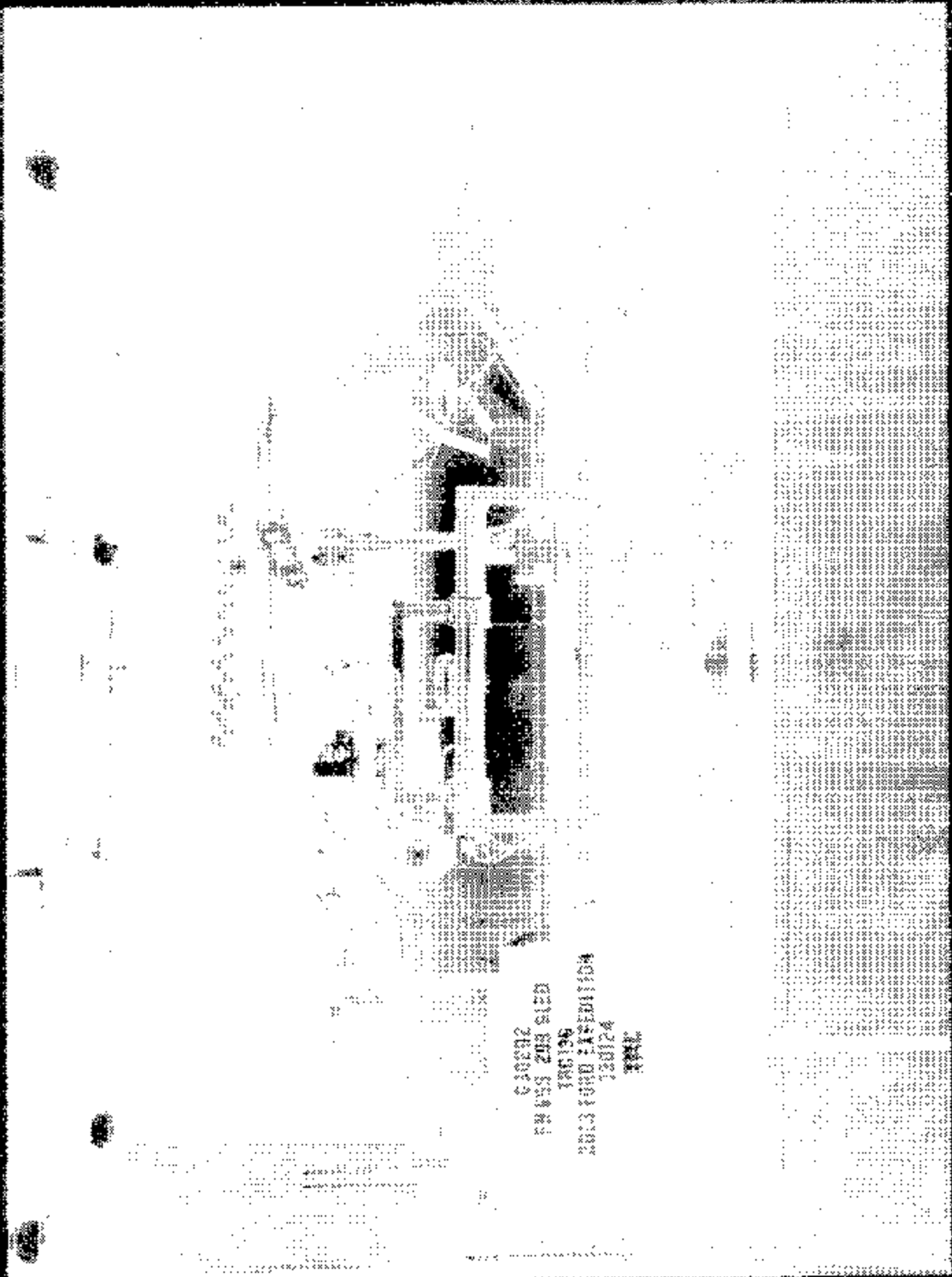


Figure A-3. Pre-Test Left Side View of Test Vehicle Mounted to Sled

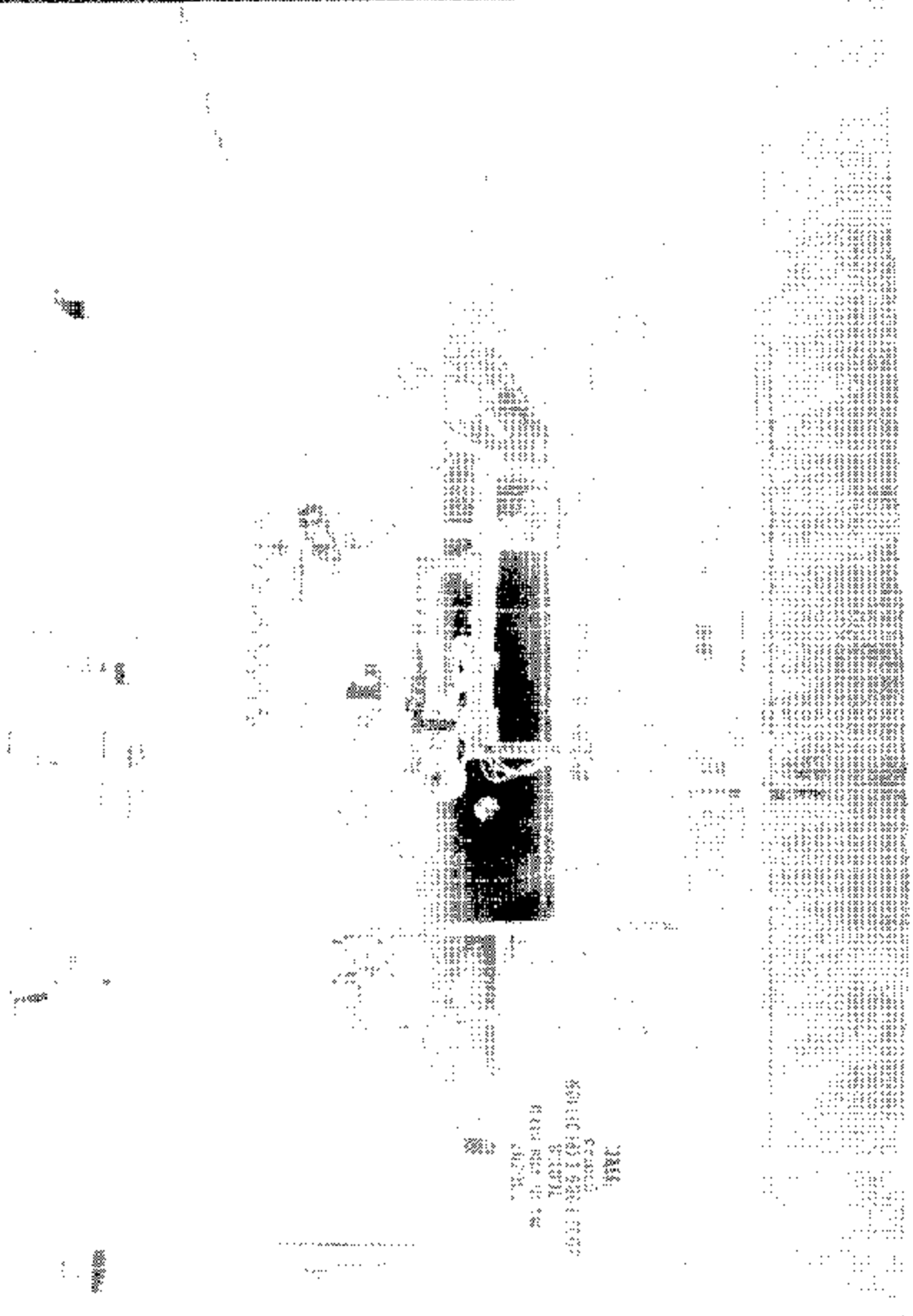
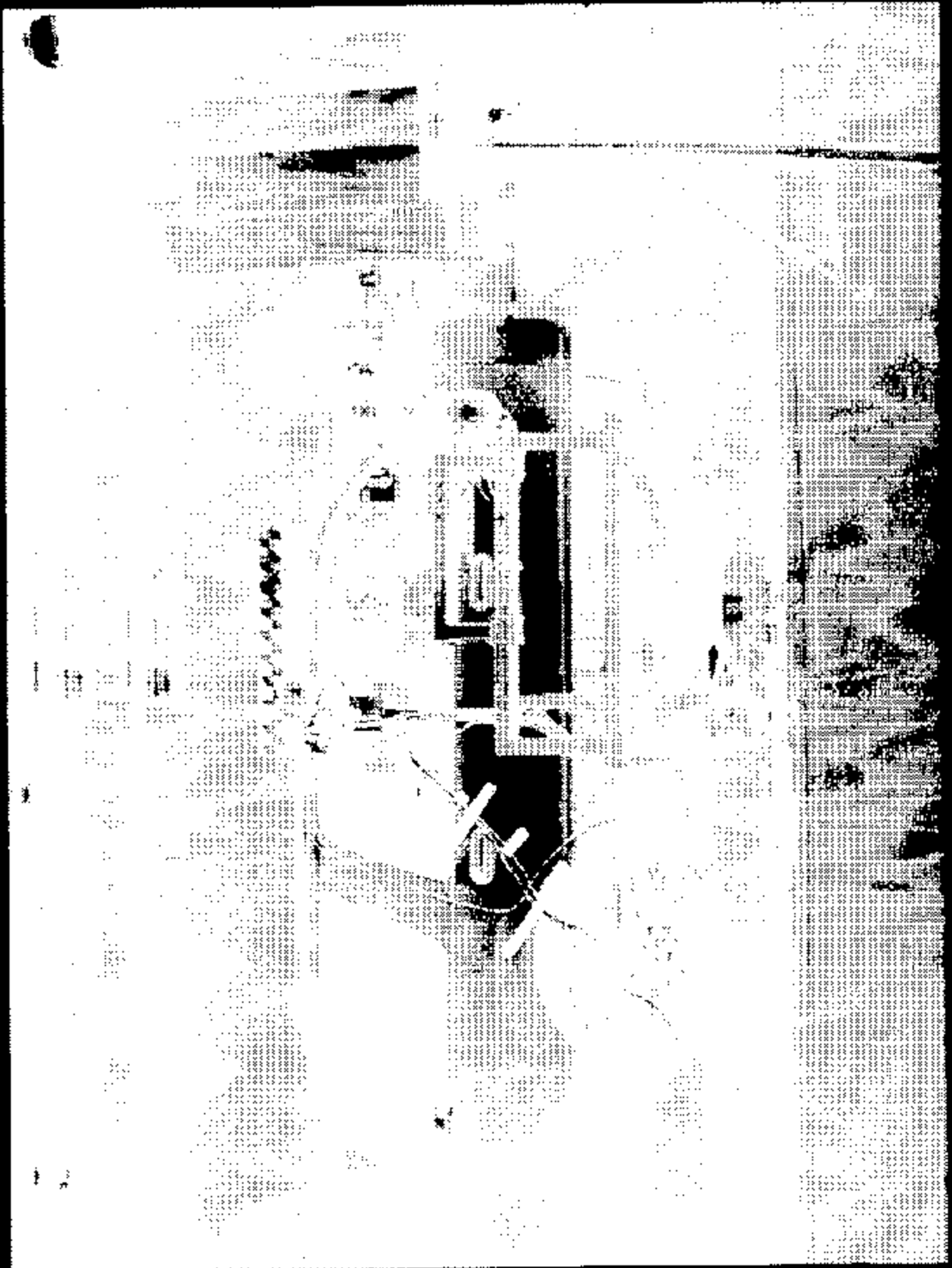


Figure A-4. Post-Test Left Side View of Test Vehicle Mounted to Sled



**Figure A-5. Pre-Test Right Side View of Test Vehicle Mounted to Sled**

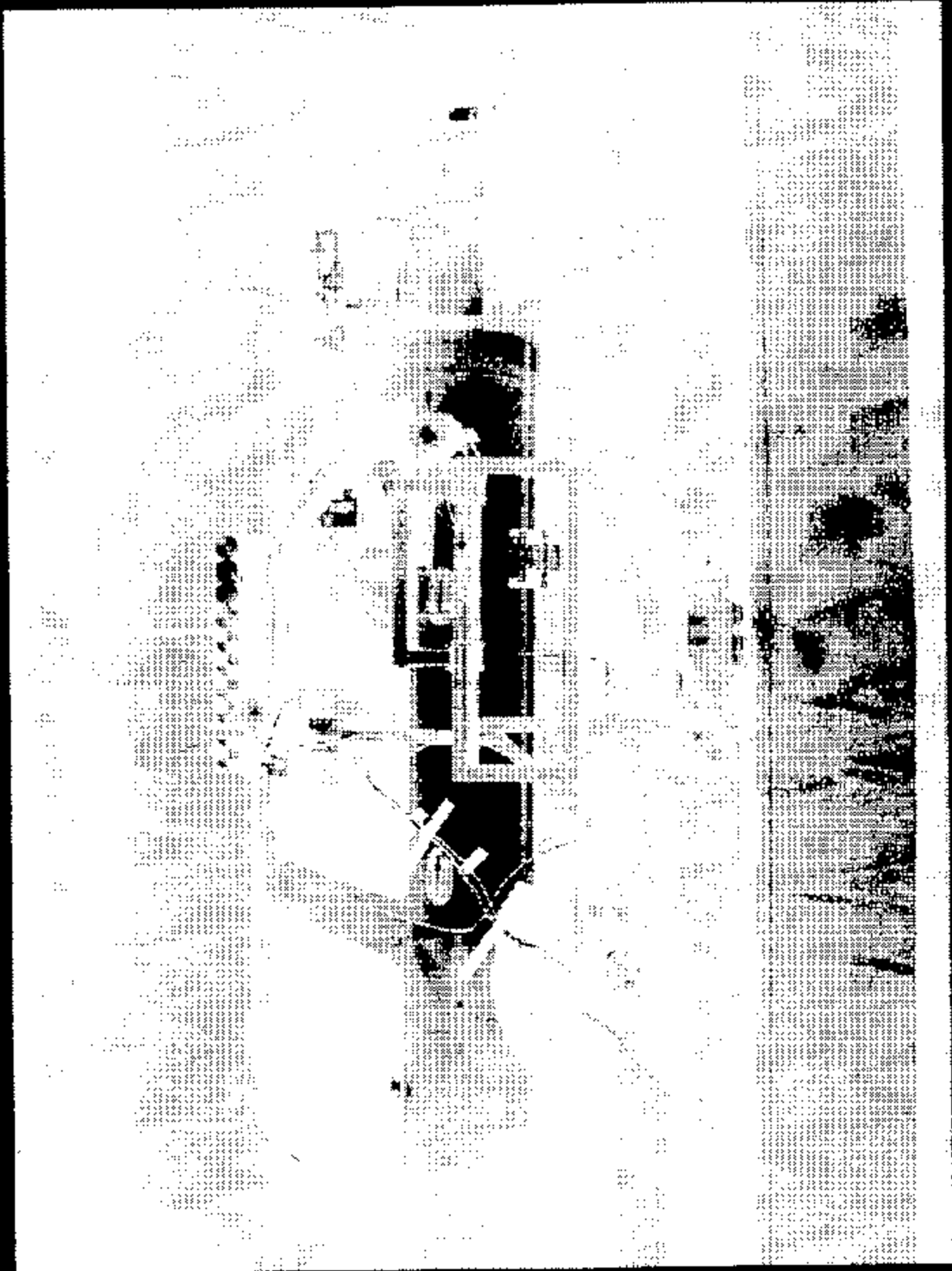


Figure A-6. Post-Test Right Side View of Test Vehicle Mounted to Sled

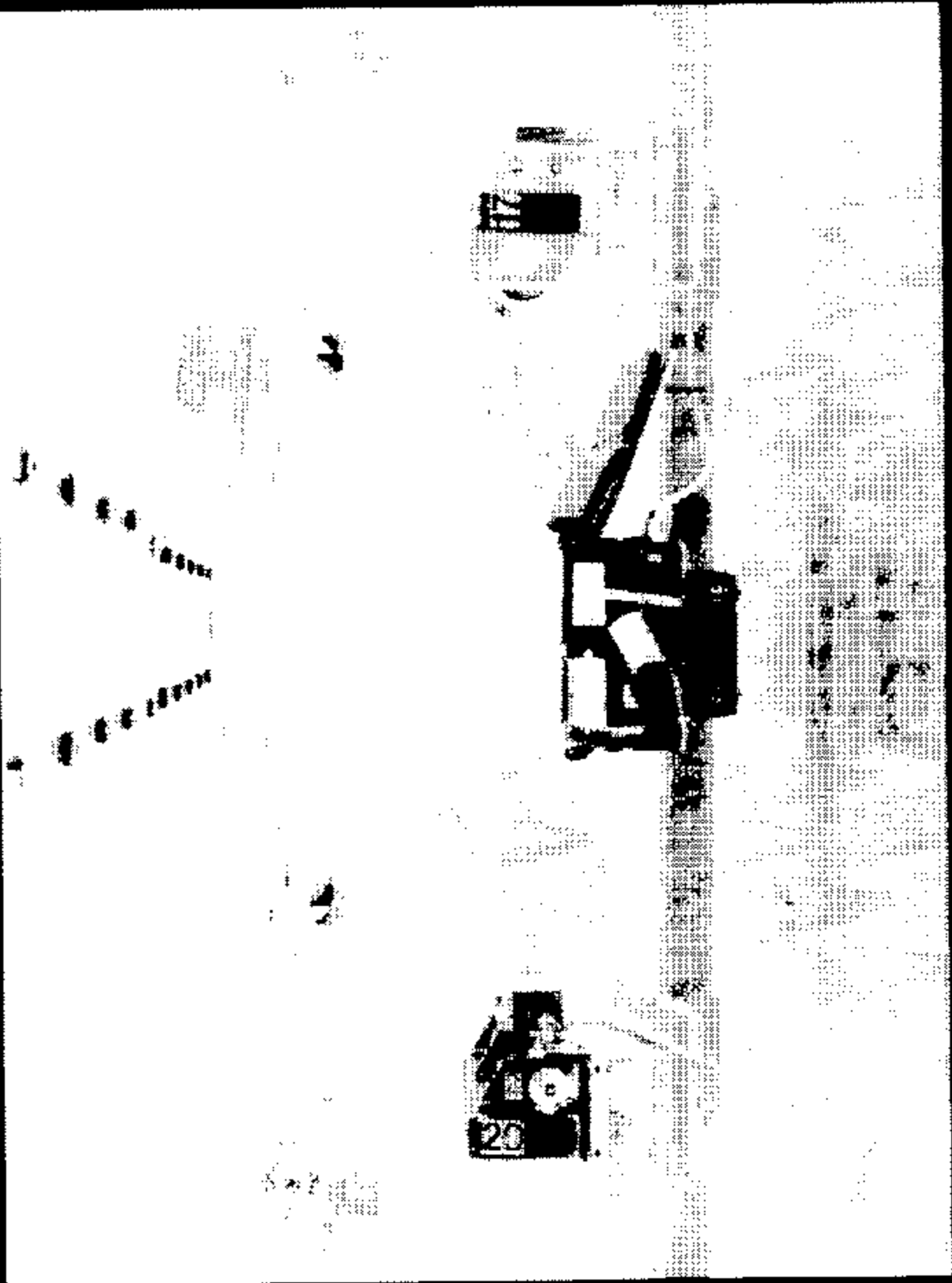


Figure A-7. Pre-Test Windshield View

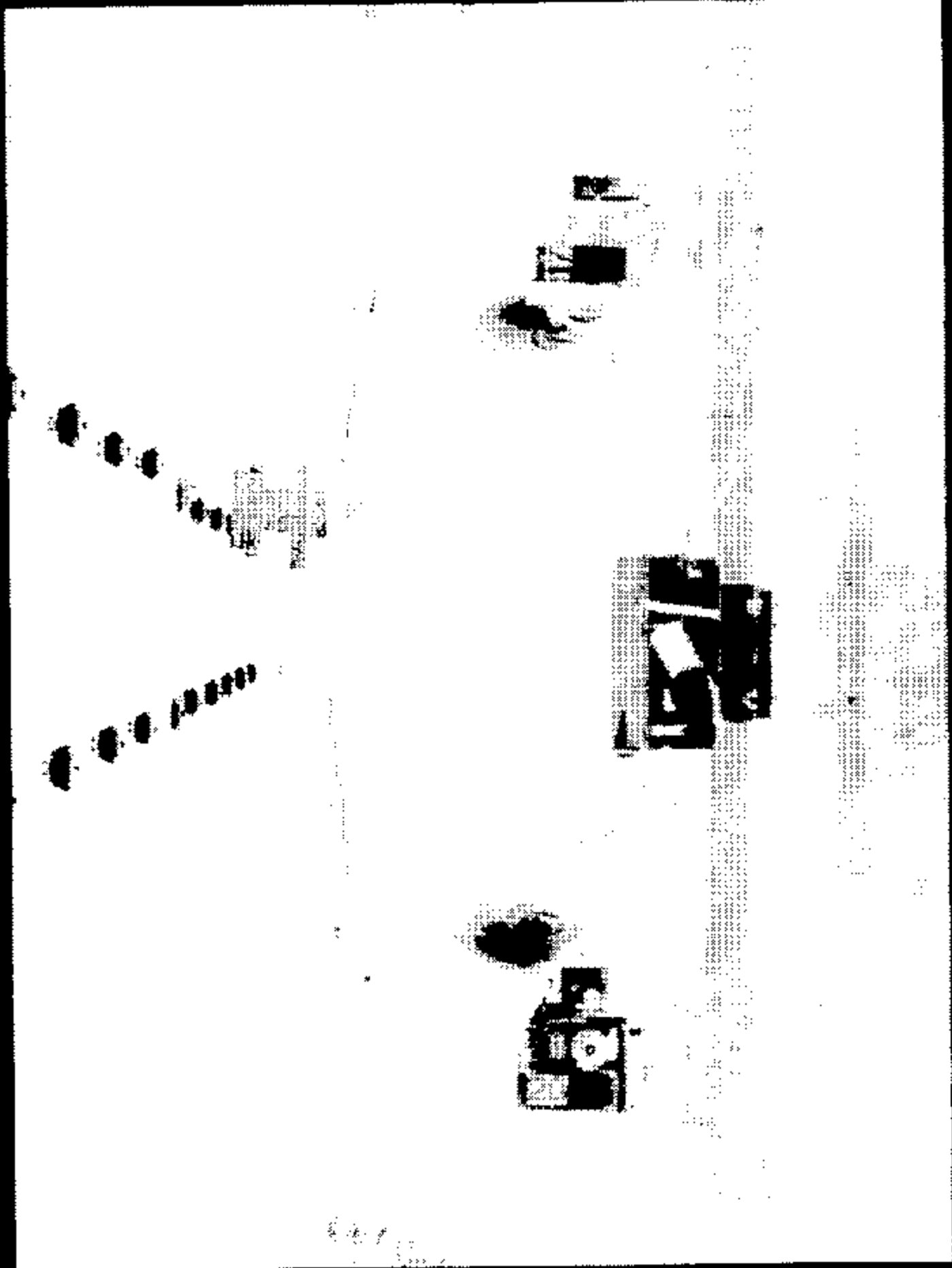


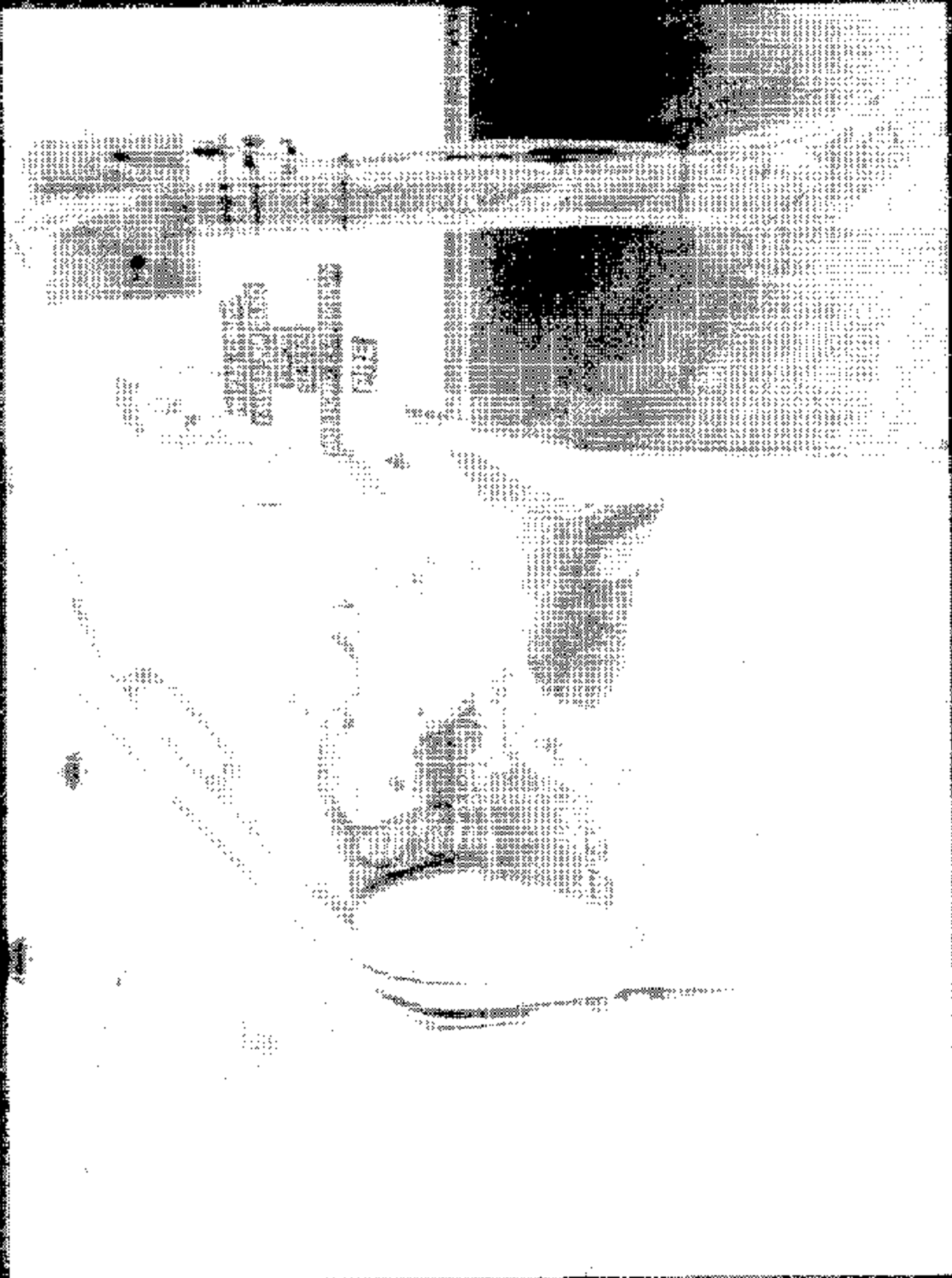
Figure A-8. Post-Test Windshield View



**Figure A-9. Pre-Test Driver Dummy Position View with Door Open - View 1**



**Figure A-10. Post-Test Driver Dummy Position View with Door Open - View 1**



**Figure A-11. Pre-Test Driver Dummy Position View with Door Open - View 2**



**Figure A-12. Post-Test Driver Dummy Position View with Door Open - View 2**

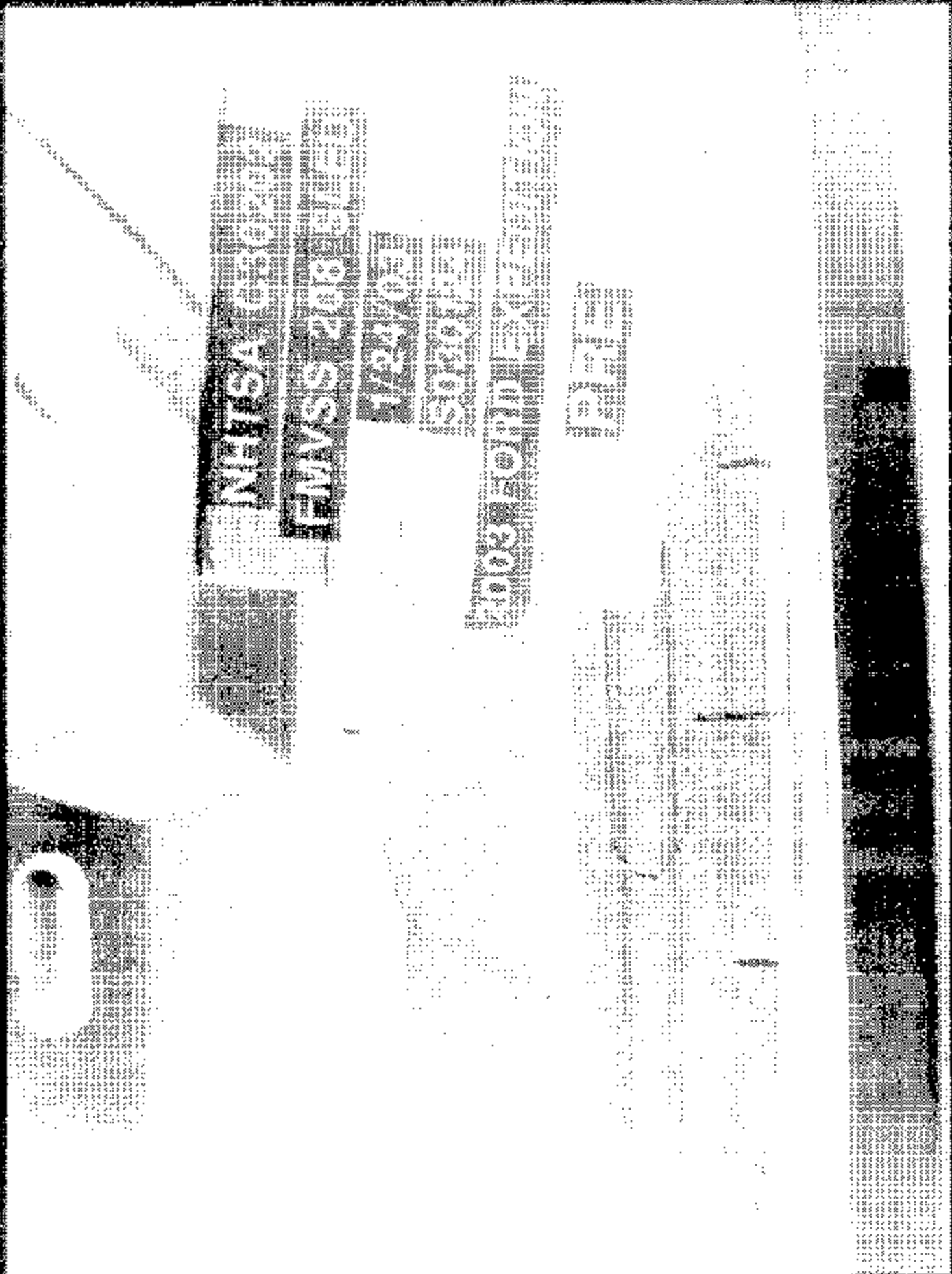


Figure A-13. Pre-Test Driver Seat Track Position View

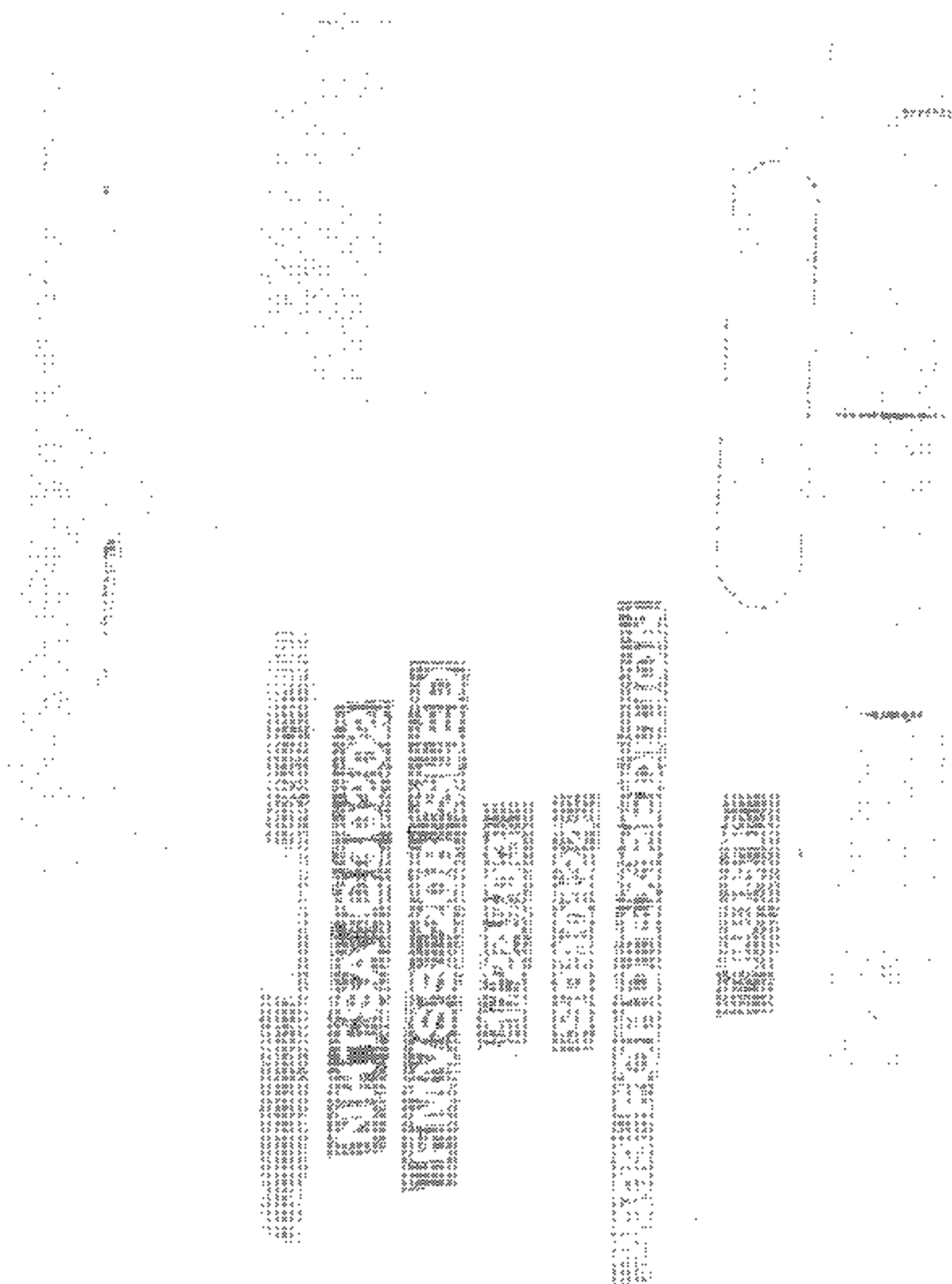
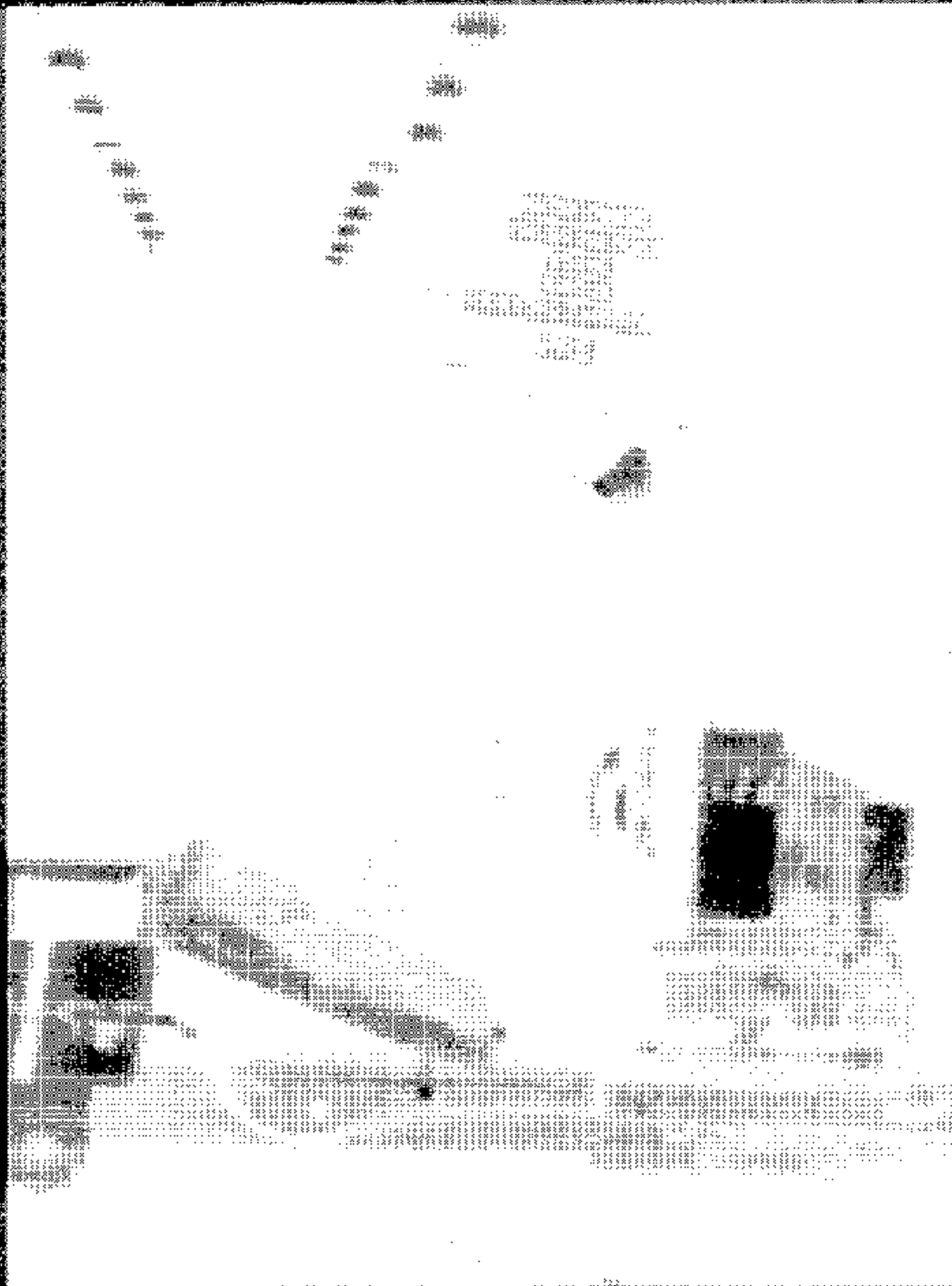
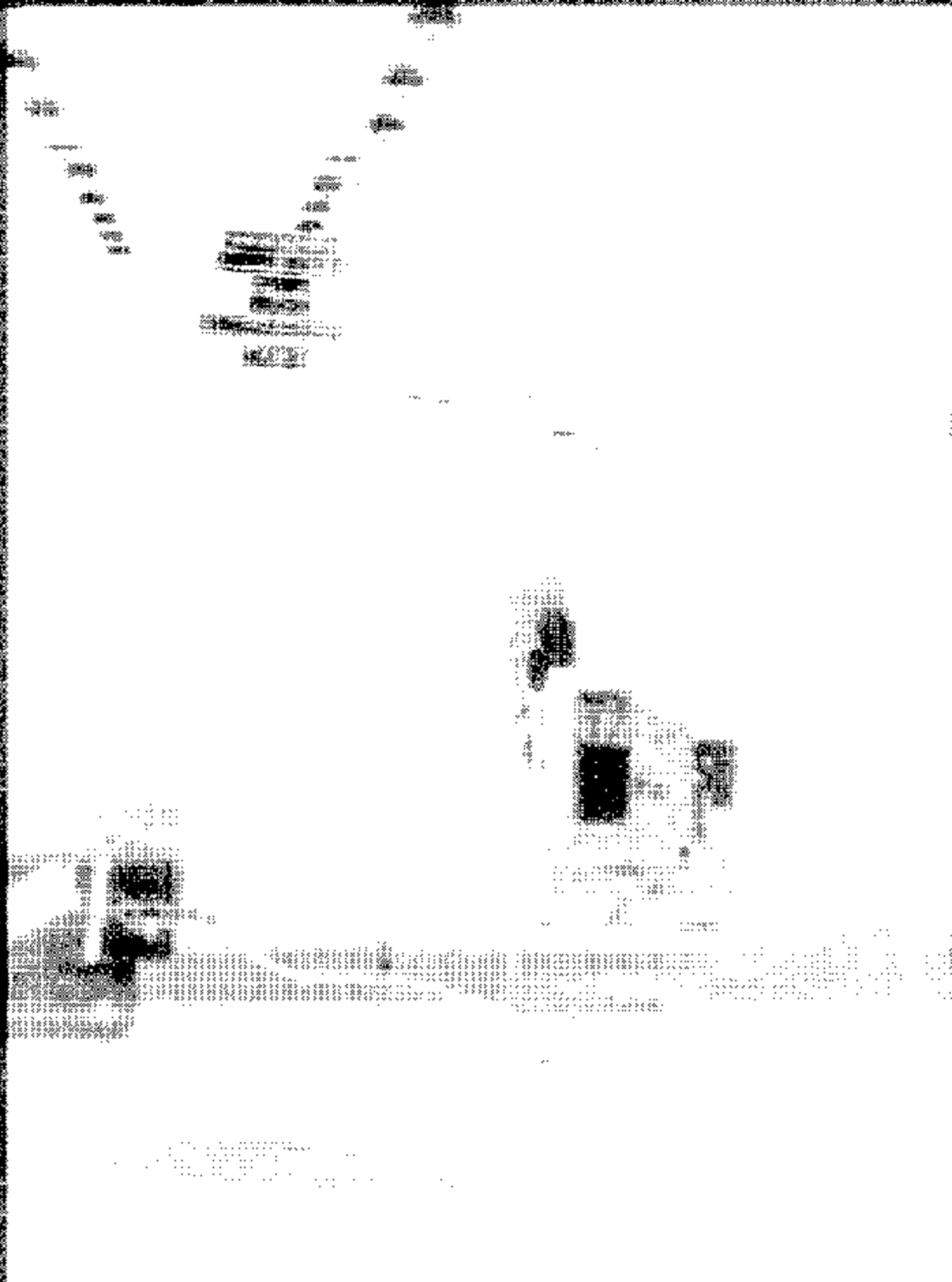


Figure A-14. Post-Test Driver Seat Track Position View



**Figure A-15. Pre-Test Driver Dummy Position Front View**



**Figure A-16. Post-Test Driver Dummy Position Front View**



**Figure A-17. Pre-Test Passenger Dummy Position View with Door Open - View 1**



Figure A-18. Post-Test Passenger Dummy Position View with Door Open - View 1

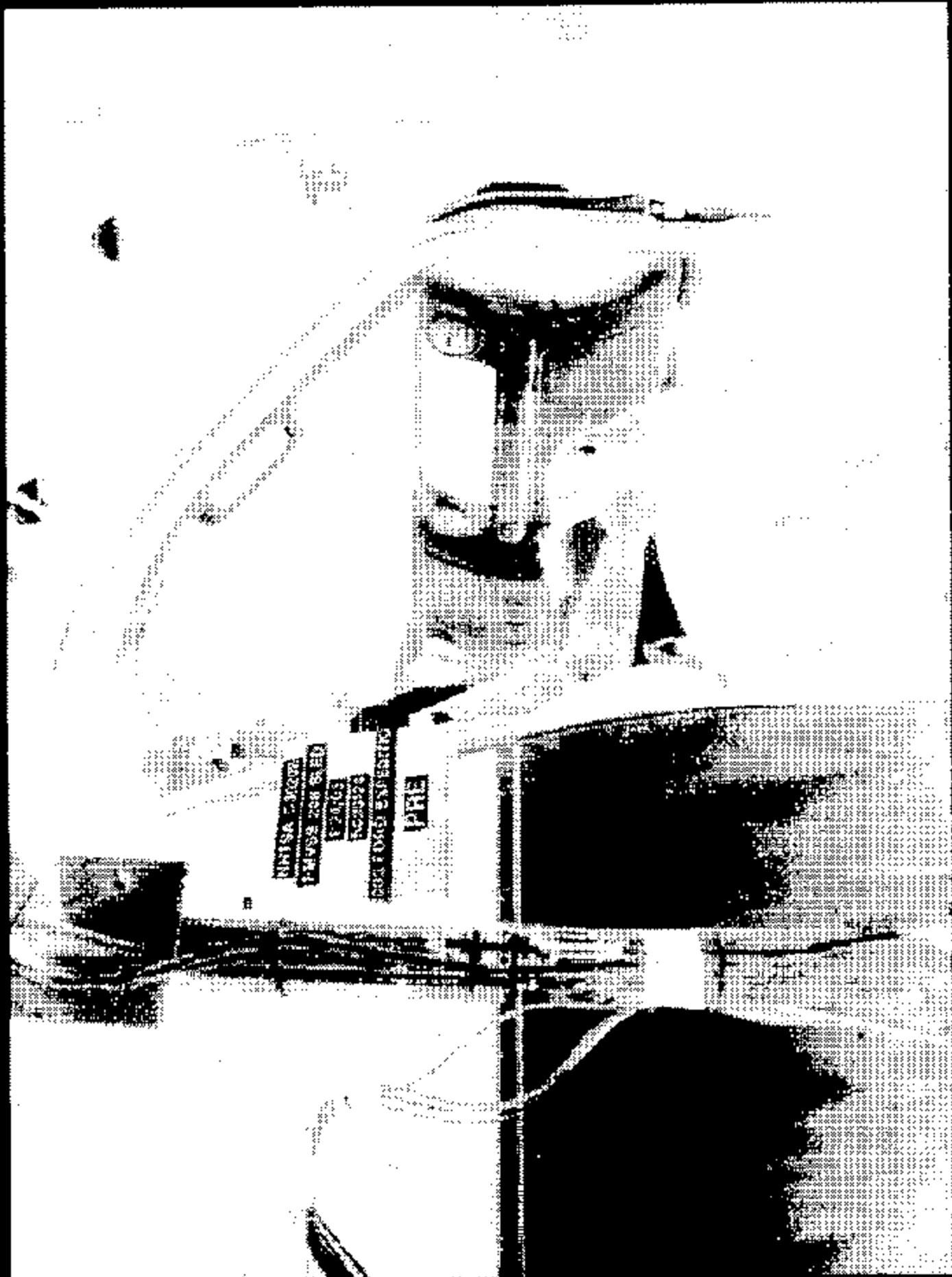


Figure A-19. Pre-Test Passenger Dummy Position View with Door Open - View 2

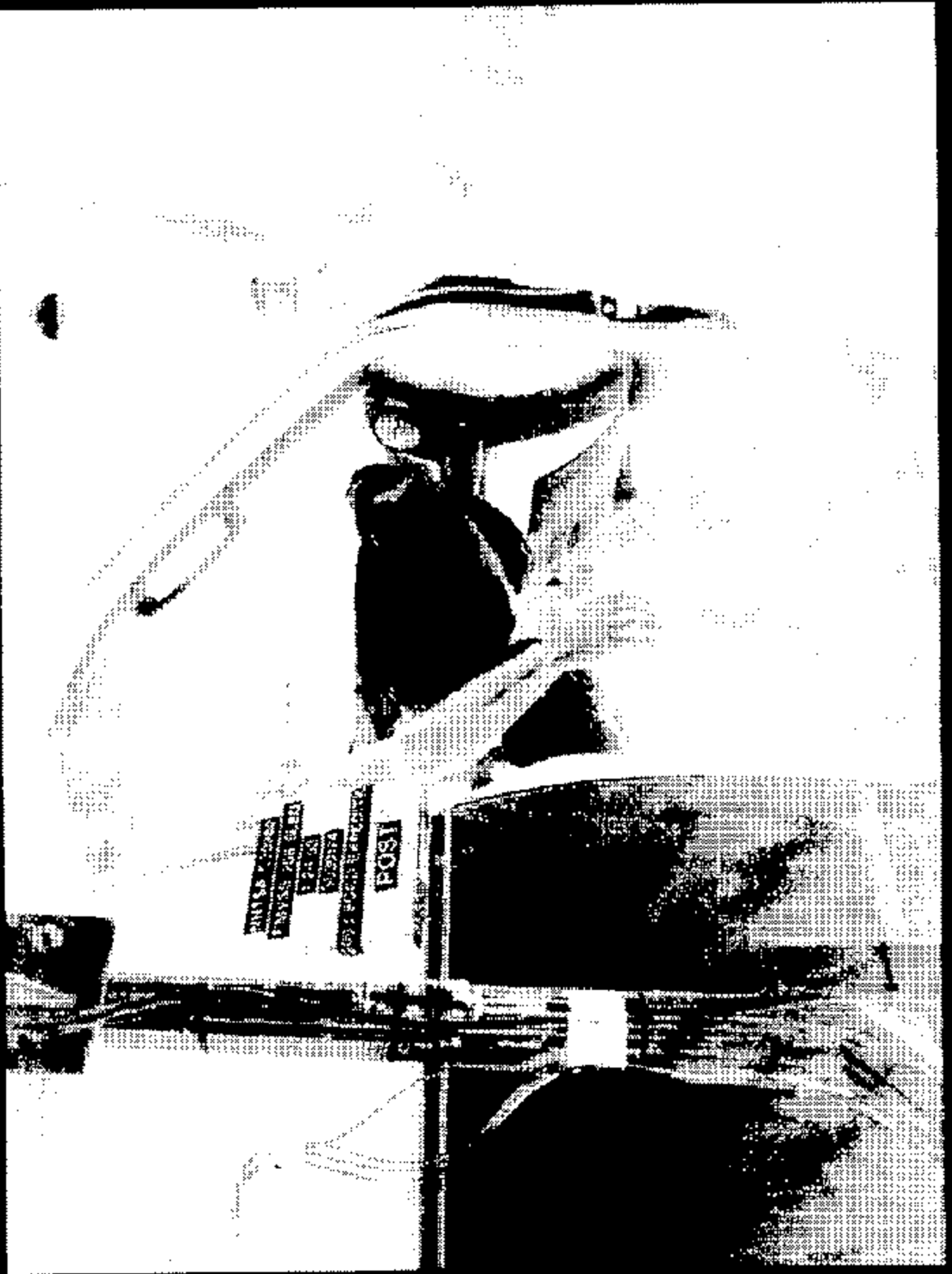


Figure A-20. Post-Test Passenger Dummy Position View with Door Open - View 2

NHTSA C30202

FMVSS 208 SLED

1/24/03

S030124

2003 FORD EXPLORER

PRE

Figure A-21. Pre-Test Passenger Seat Track Position View

NHTSA O-20-002

FMS-2018-01-01

1/22/18

18010101

18010101

180101

Figure A-22. Post-Test Passenger Seat Track Position View

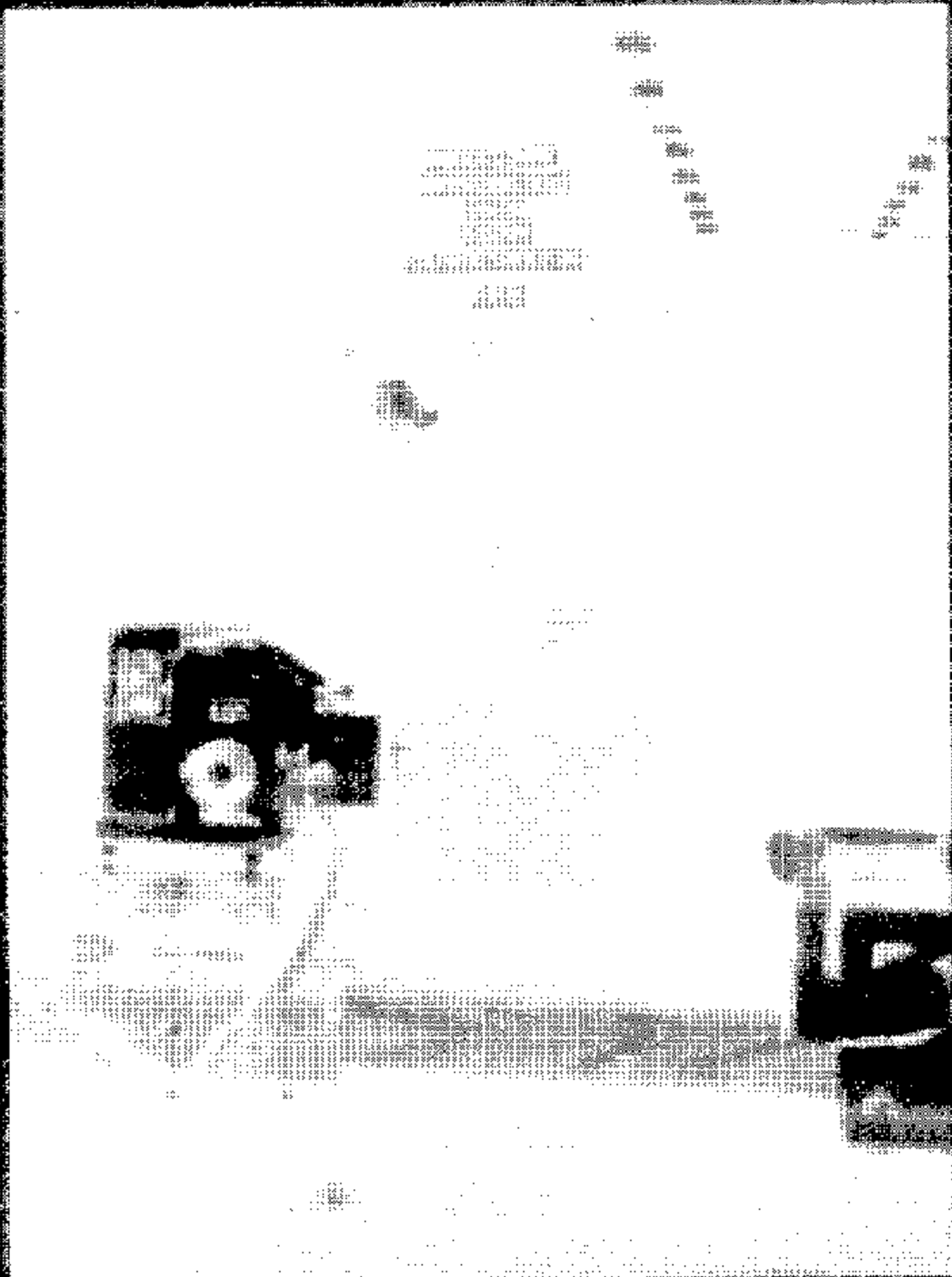


Figure A-23. Pre-Test Passenger Dummy Position Front View

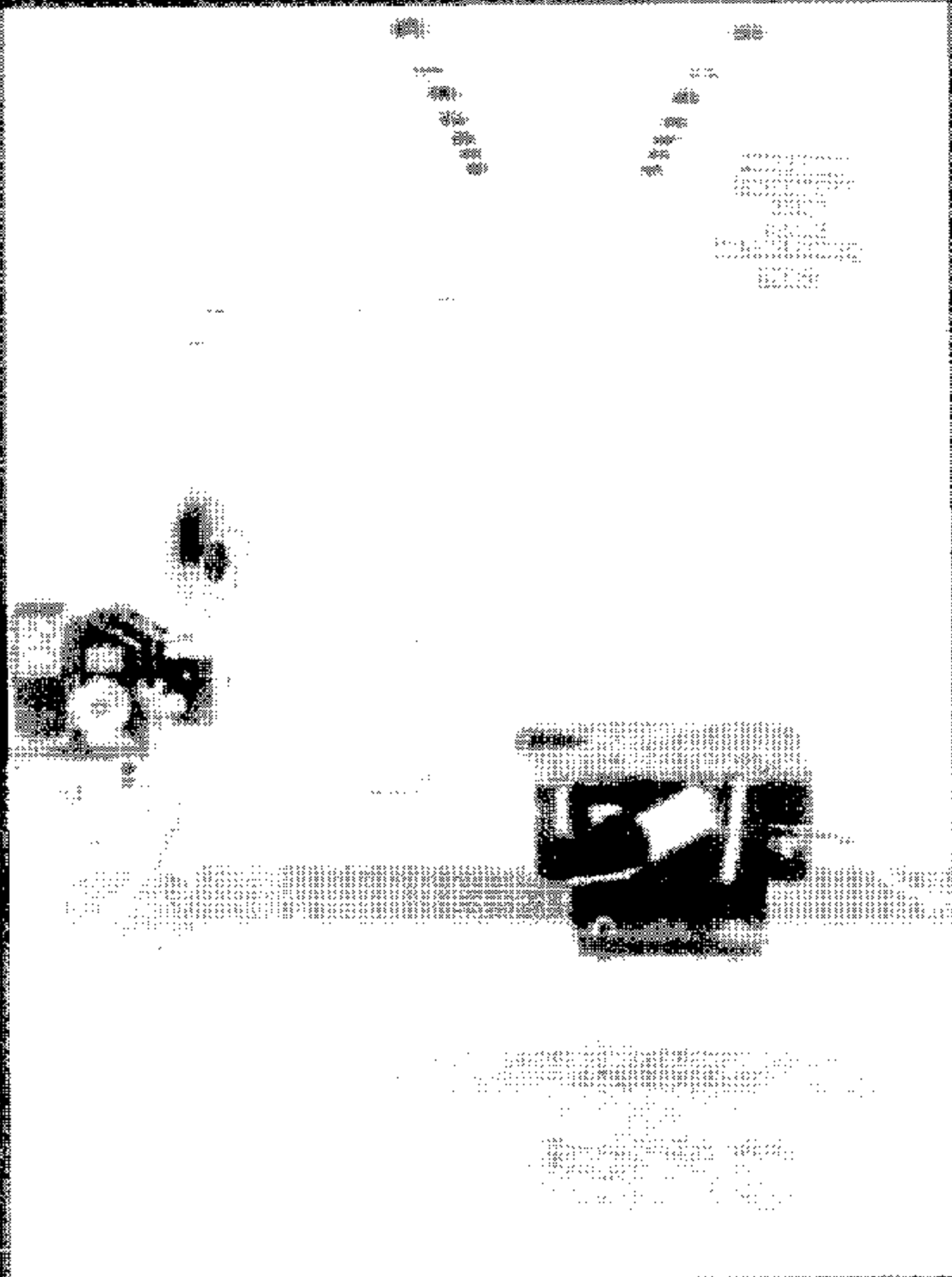
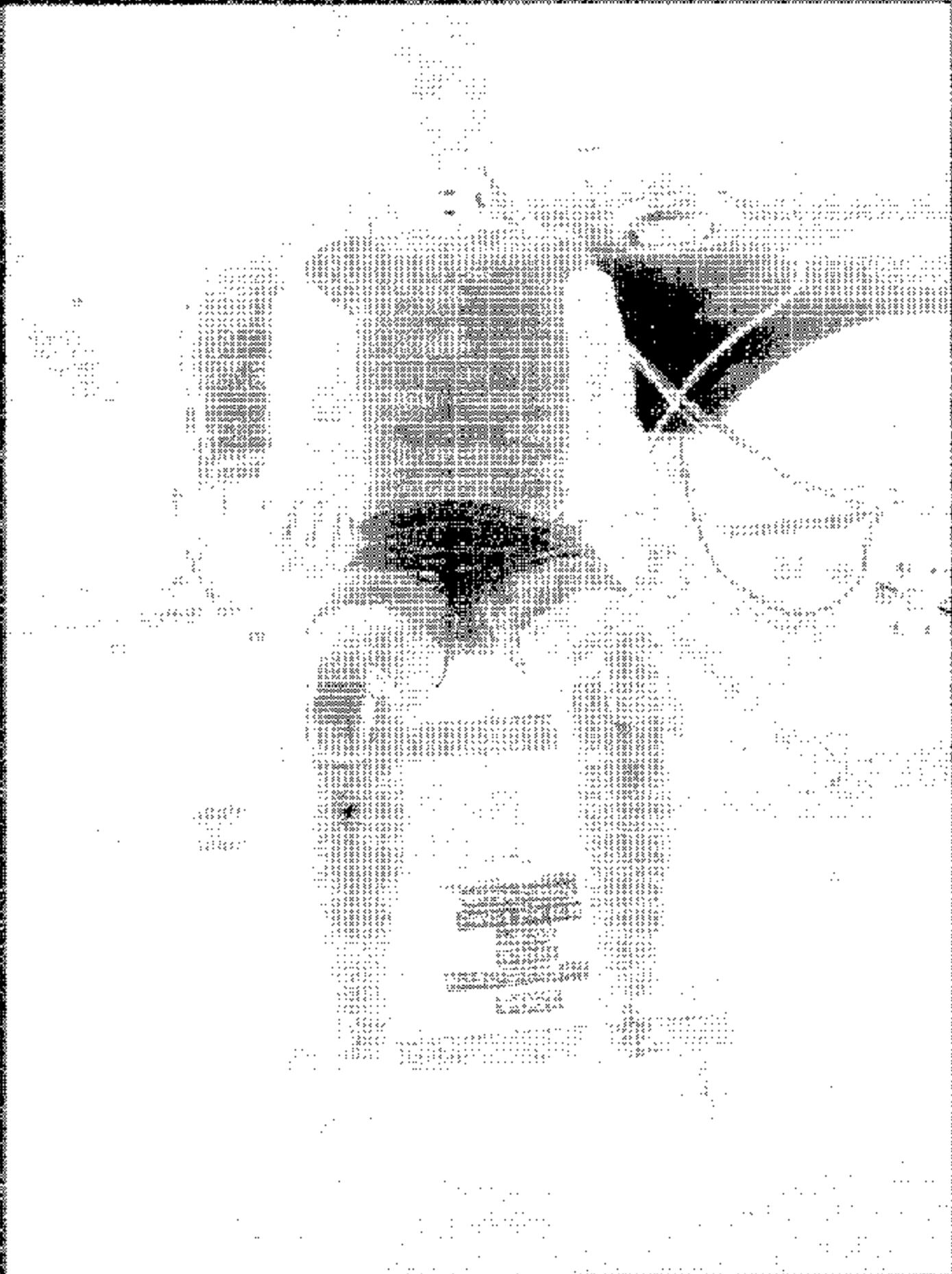


Figure A-24. Post-Test Passenger Dummy Position Front View



ENVVSSA C30202  
ENVVSS 208 SLED  
1/24/03  
S030124  
ENVVSS 208 SLED  
S030124

Figure A-25. Post-Test Driver Airbag View



**Figure A-26. Post-Test Driver Dummy Removed from Vehicle Overall View**



Figure A-27. Post-Test Driver Head Contact View



NHTSA 0510202  
EMVSS 208 S1E1  
DATE 1/24/03  
S030124  
S030124

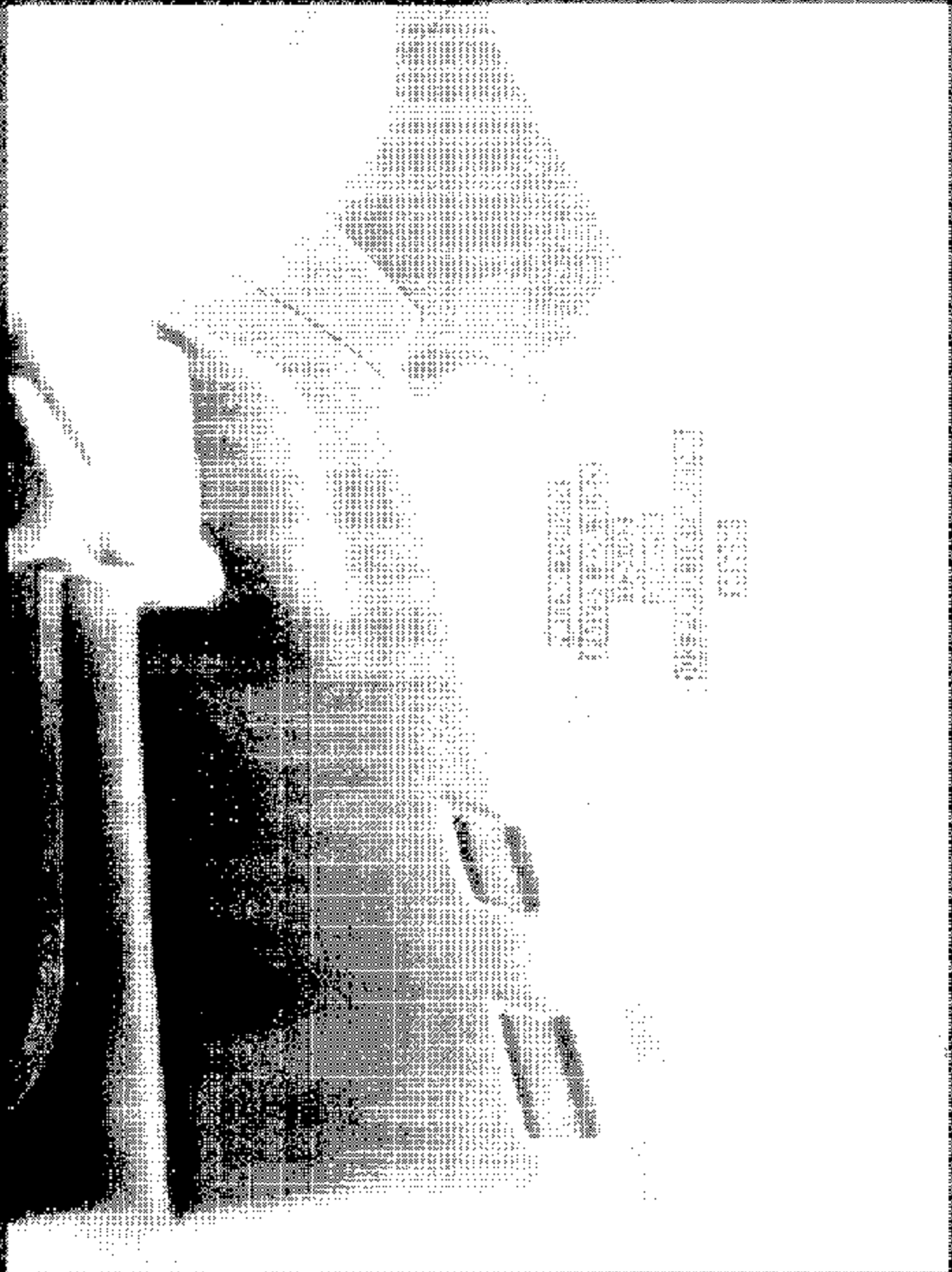
Figure A-28. Post-Test Passenger Airbag View



**Figure A-29. Post-Test Passenger Dummy Removed from Vehicle Overall View**



Figure A-30. Post-Test Passenger Head Contact View



**Figure A-31. Pre-Test Driver Knee Bolster View**

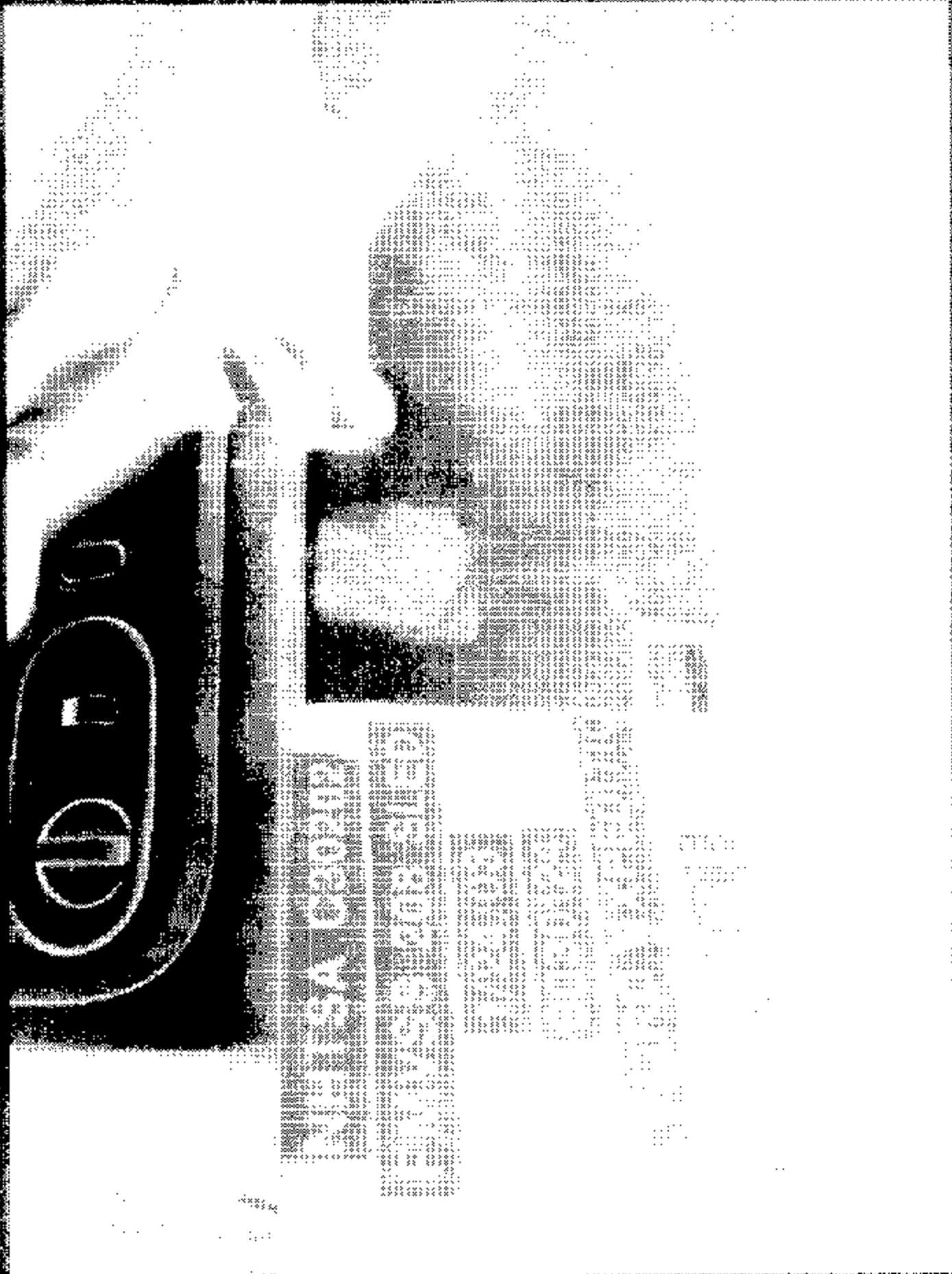
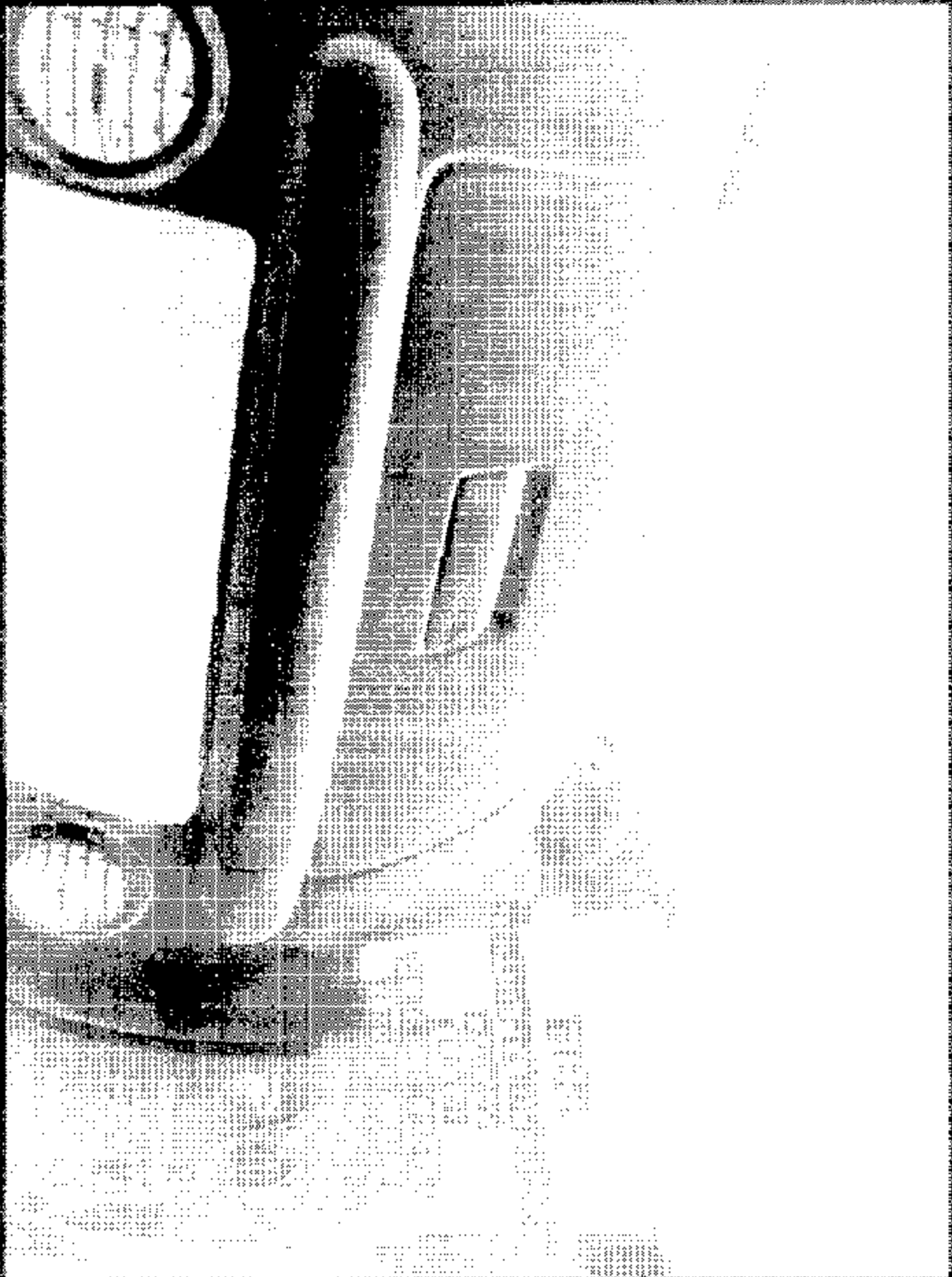
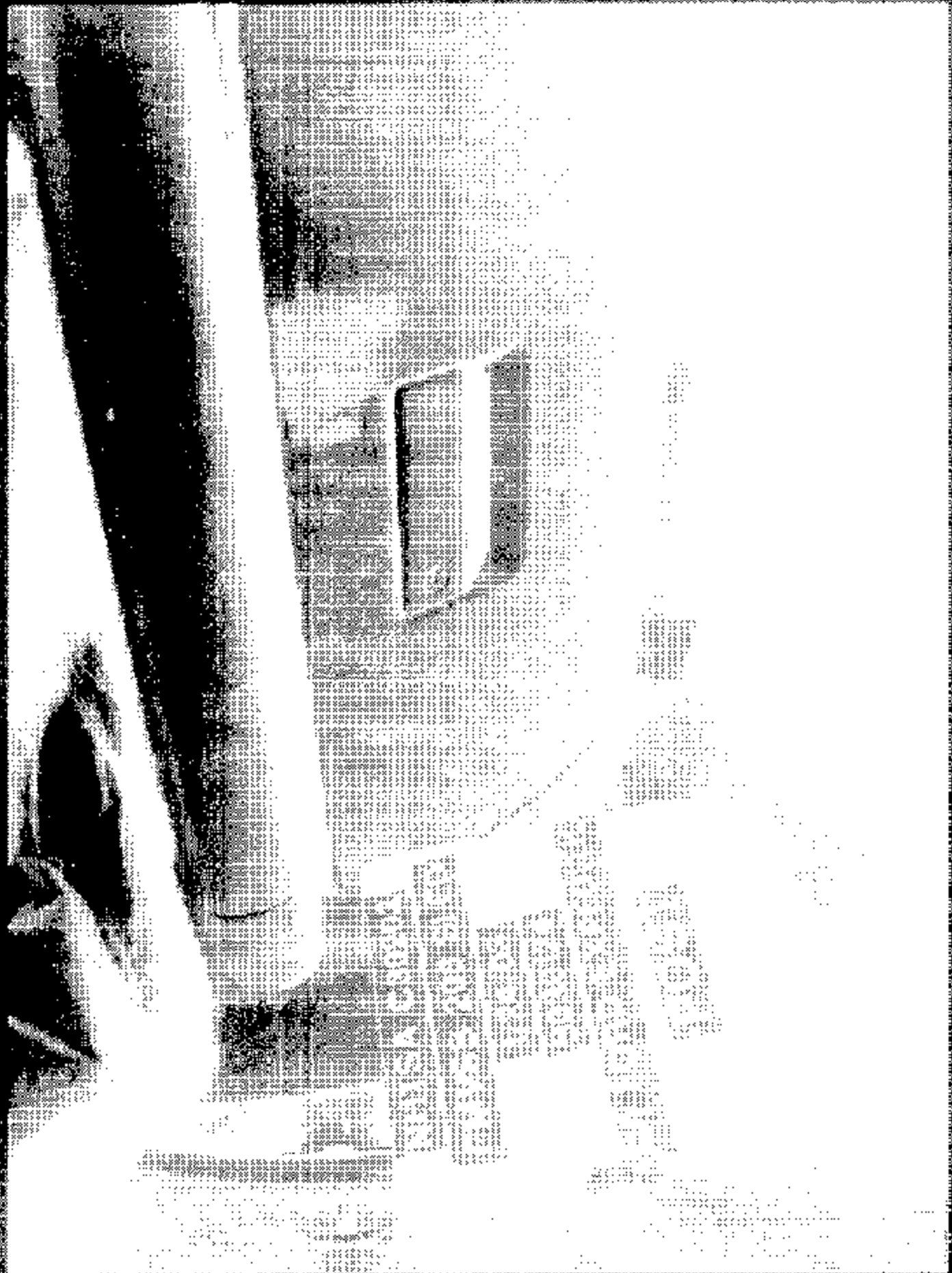


Figure A-32. Post-Test Driver Knee Bolster View



**Figure A-33. Pre-Test Passenger-Glove Box View**



**Figure A-34. Post-Test Passenger Glove Box View**

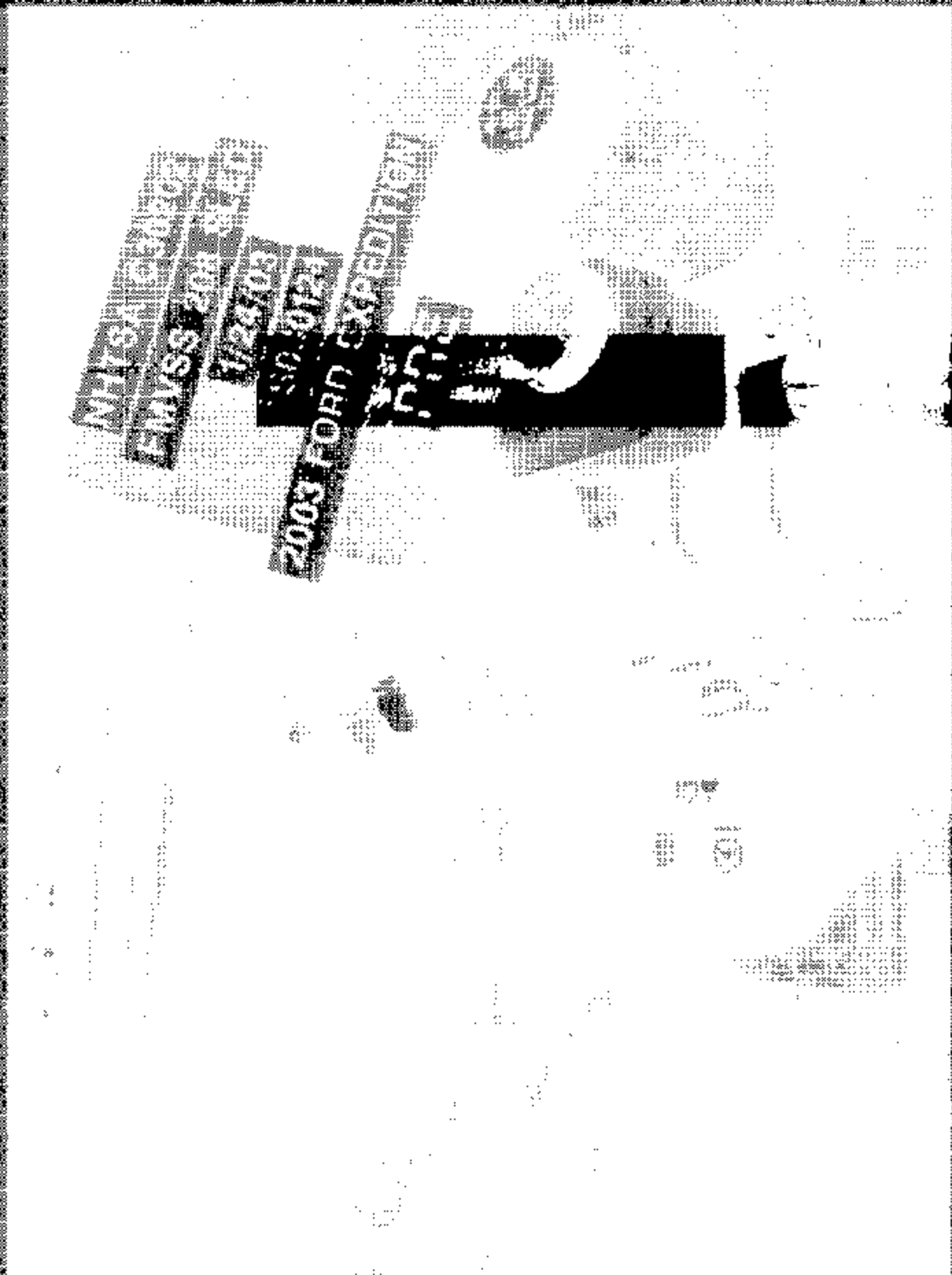


Figure A-35. Pre-Test Steering Column Linkage in Engine Compartment View



NHTSA C30202

FMVSS 208 SLED

1/24/03

S030124

2003 FORD EXPEDITION

POST

Figure A-36. Post-Test Steering Column Linkage in Engine Compartment View

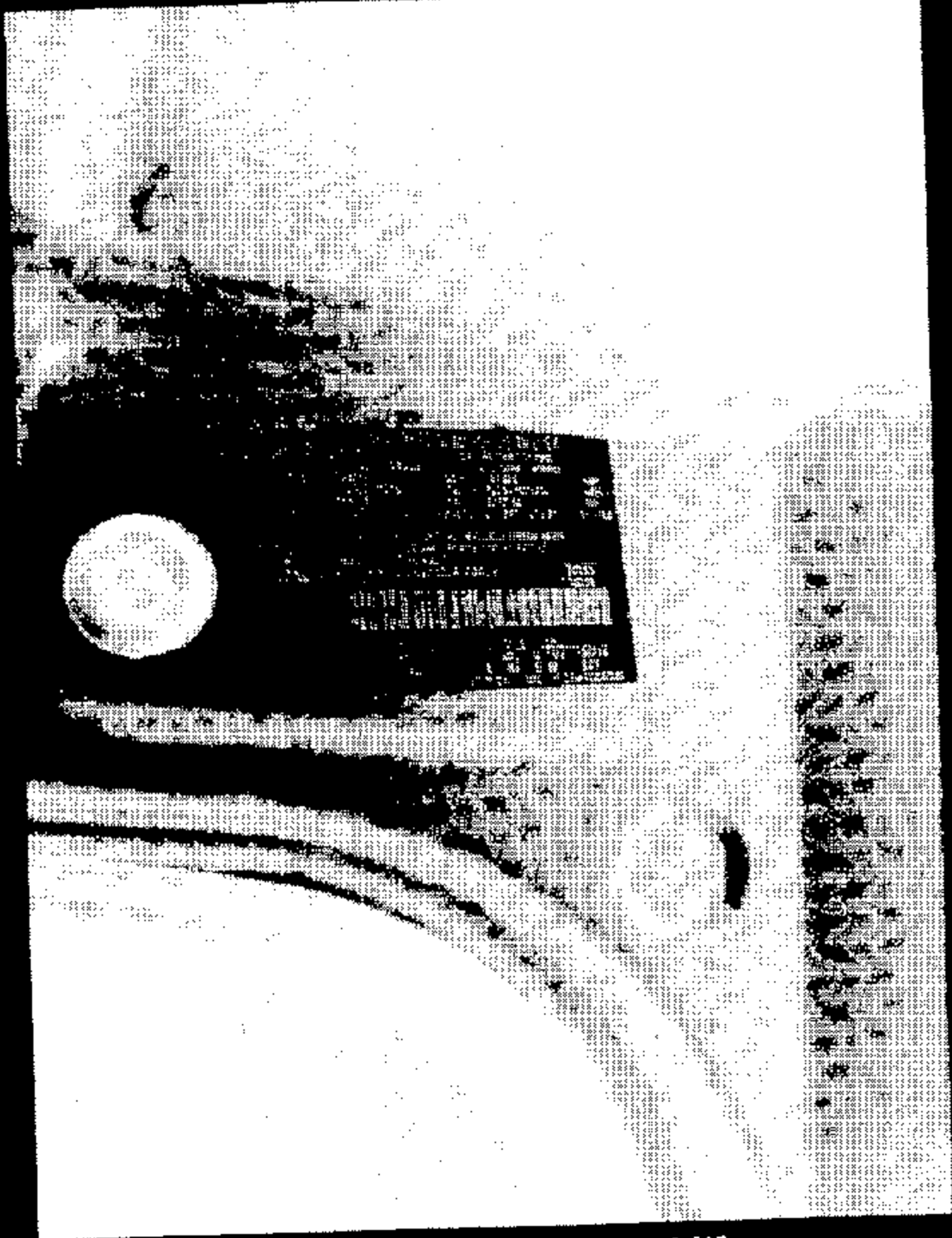


Figure A-37. Pre-Test Vehicle Certification Label View

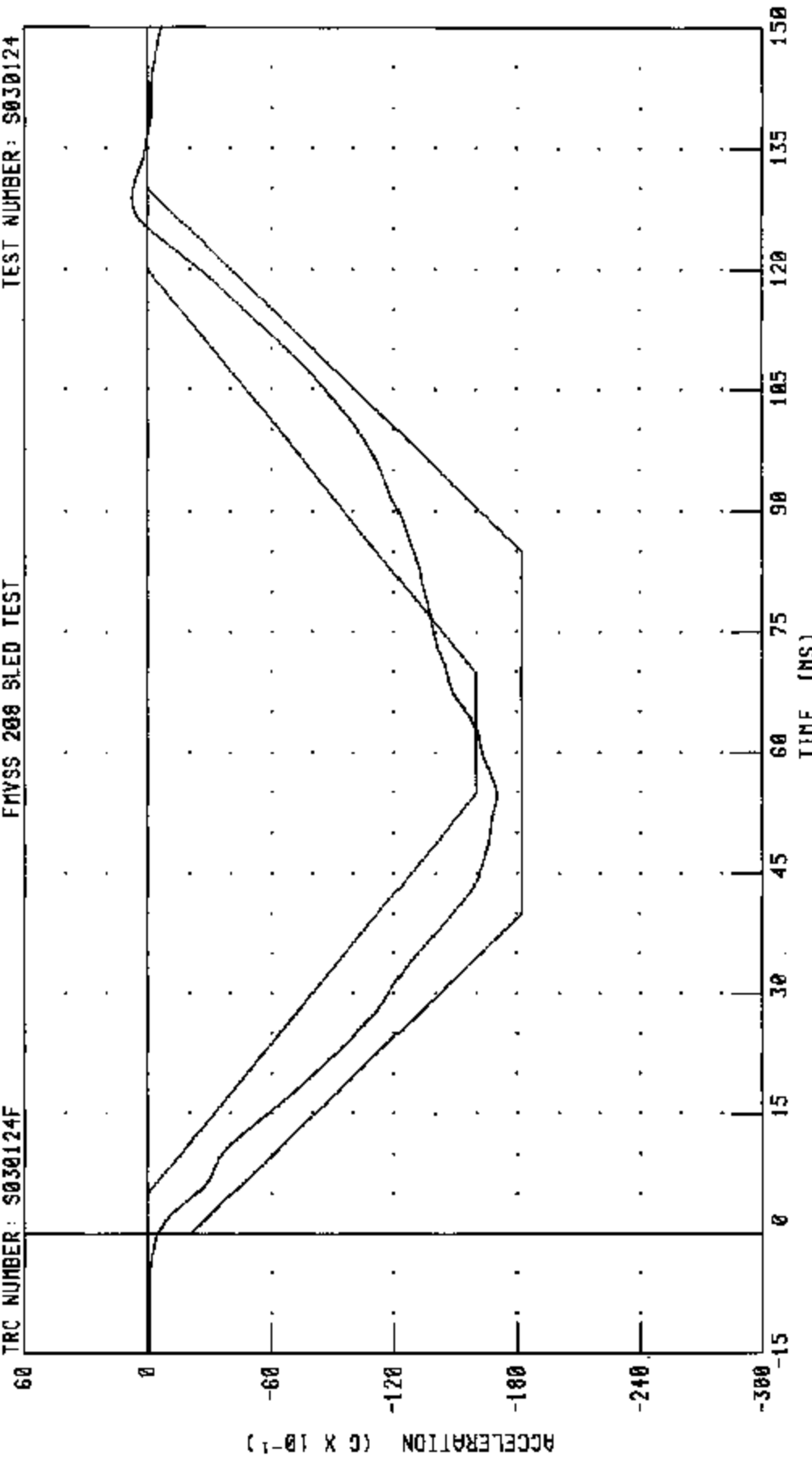
Appendix B

Data Plots

C30202 / 2003 FORD EXPEDITION  
SLED ACCELERATION  
FRYSS 200 SLED TEST

TEST NUMBER: S030124

TRC NUMBER: S030124F



CHANNEL: SLDXC FILTER: CH. CLASS 60 PEAK DATA: 0.76 G @ 128.80 MS; -16.99 G @ 54.64 MS

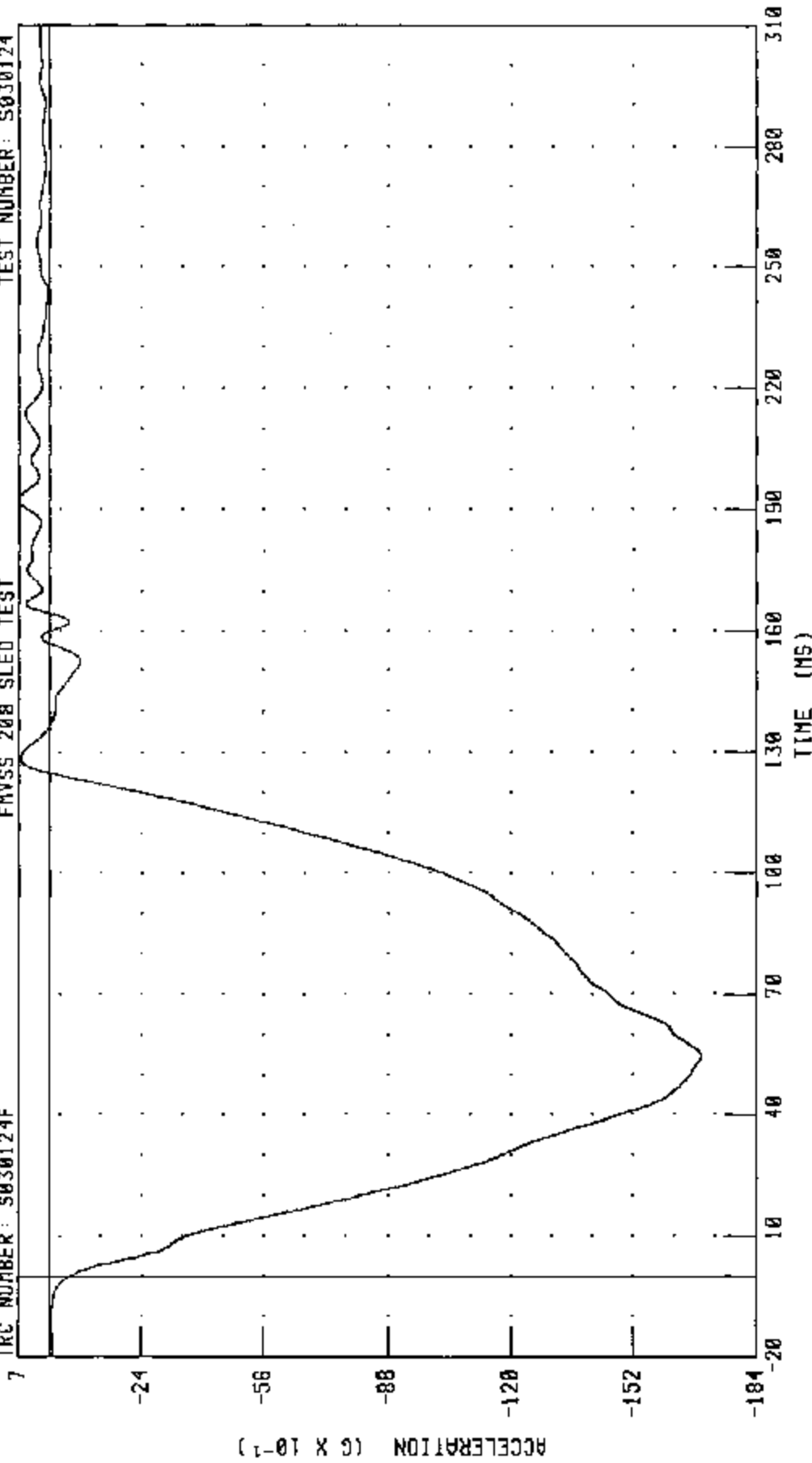
C30202 / 2003 FORD EXPEDITION

SLED ACCELERATION

FNVS 208 SLED TEST

TRC NUMBER: S030124F

TEST NUMBER: S030124



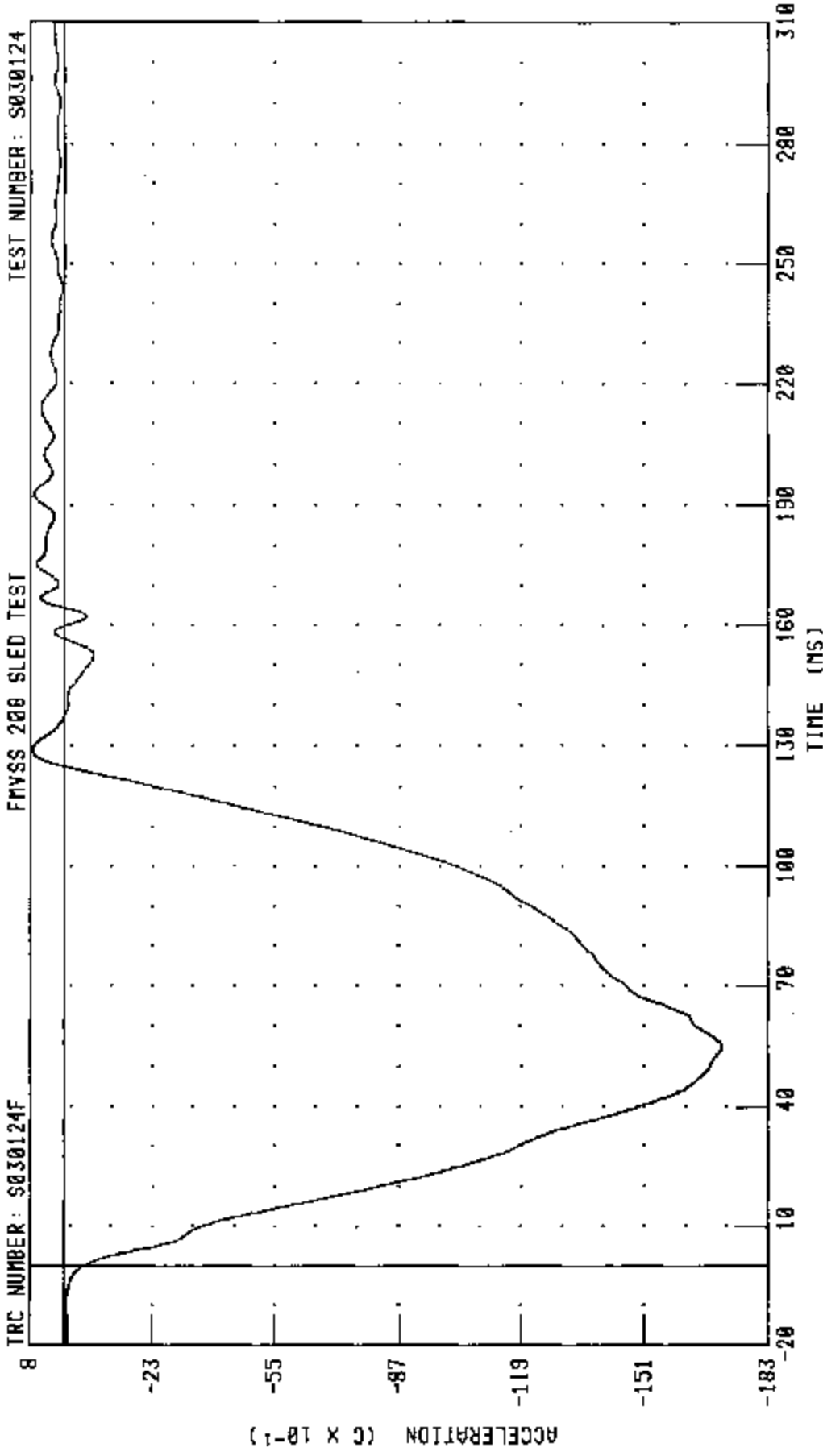
CHANNEL: SLDXC FILTER: CH. CLASS 60

PEAK DATA: 0.00 G @ 192.64 MS, -16.99 G @ 54.64 MS

C30202 / 2003 FORD EXPEDITION  
SLED ACCELERATION - BACKUP  
FMVSS 208 SLED TEST

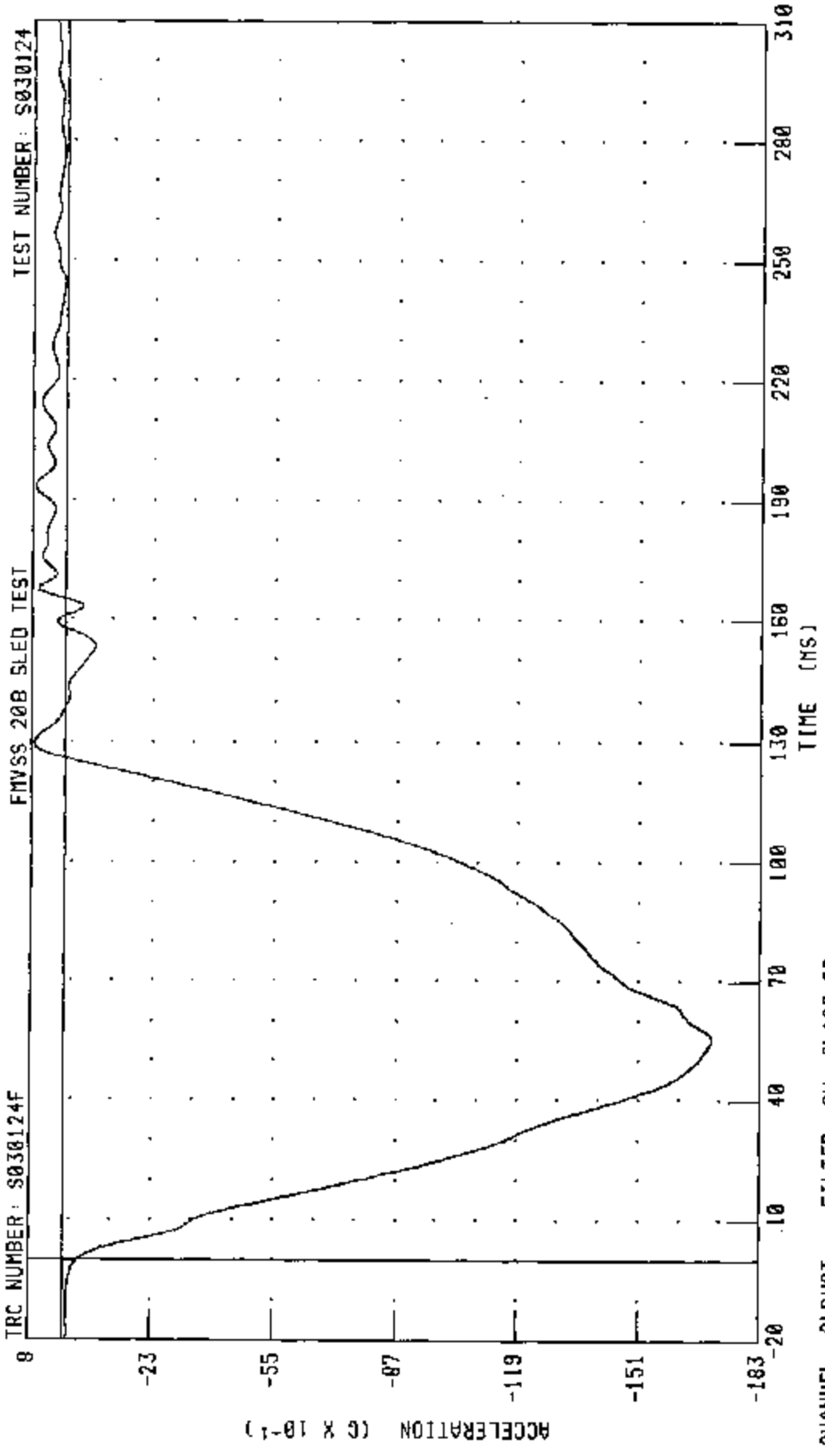
TRC NUMBER: S030124F

TEST NUMBER: S030124



CHANNEL: SLDXGR FILTER: CH. CLASS 60 PEAK DATA: 0.84 G @ 128.88 MS; -17.11 G @ 54.88 MS

C30202 / 2003 FORD EXPEDITION  
SLED ACCELERATION FOR TIMING CIRCUIT



CHANNEL: SLDXGT FILTER: CH. CLASS 60 PEAK DATA: 0.83 G @ 129.60 MS, -17.03 G @ 55.44 MS

C30202 / 2003 FORD EXPEDITION  
MEASURED VELOCITY TRAP  
FMVSS 208 SLED TEST

TEST NUMBER: S030124

TRC NUMBER: S030124F

312

See Data Acquisition Explanation

260

VELOCITY (MPH X 10<sup>-1</sup>)

208

156

104

52

0

TIME (MS)

10 40 70 100 130 160 190 220 250 280 310

CHANNEL: SLDXV FILTER: CH. CLASS 60

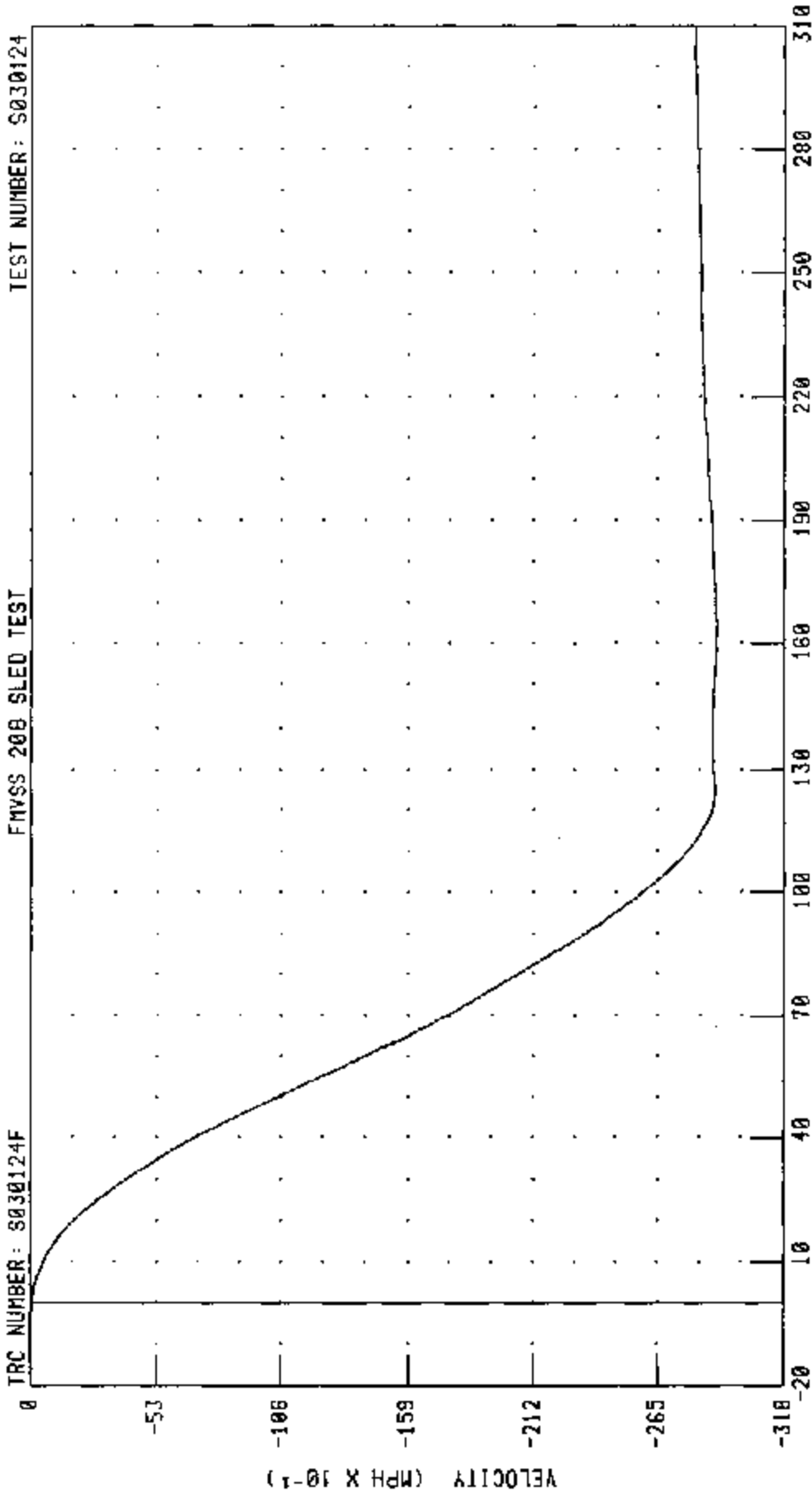
PEAK DATA: 28.59 MPH @ 160.08 MS; -0.06 MPH @ 2.56 MS

030124

C30202 / 2003 FORD EXPEDITION  
SLED VELOCITY (INTEGRATED)  
FMVSS 208 SLED TEST

TRC NUMBER: S030124F

TEST NUMBER: S030124



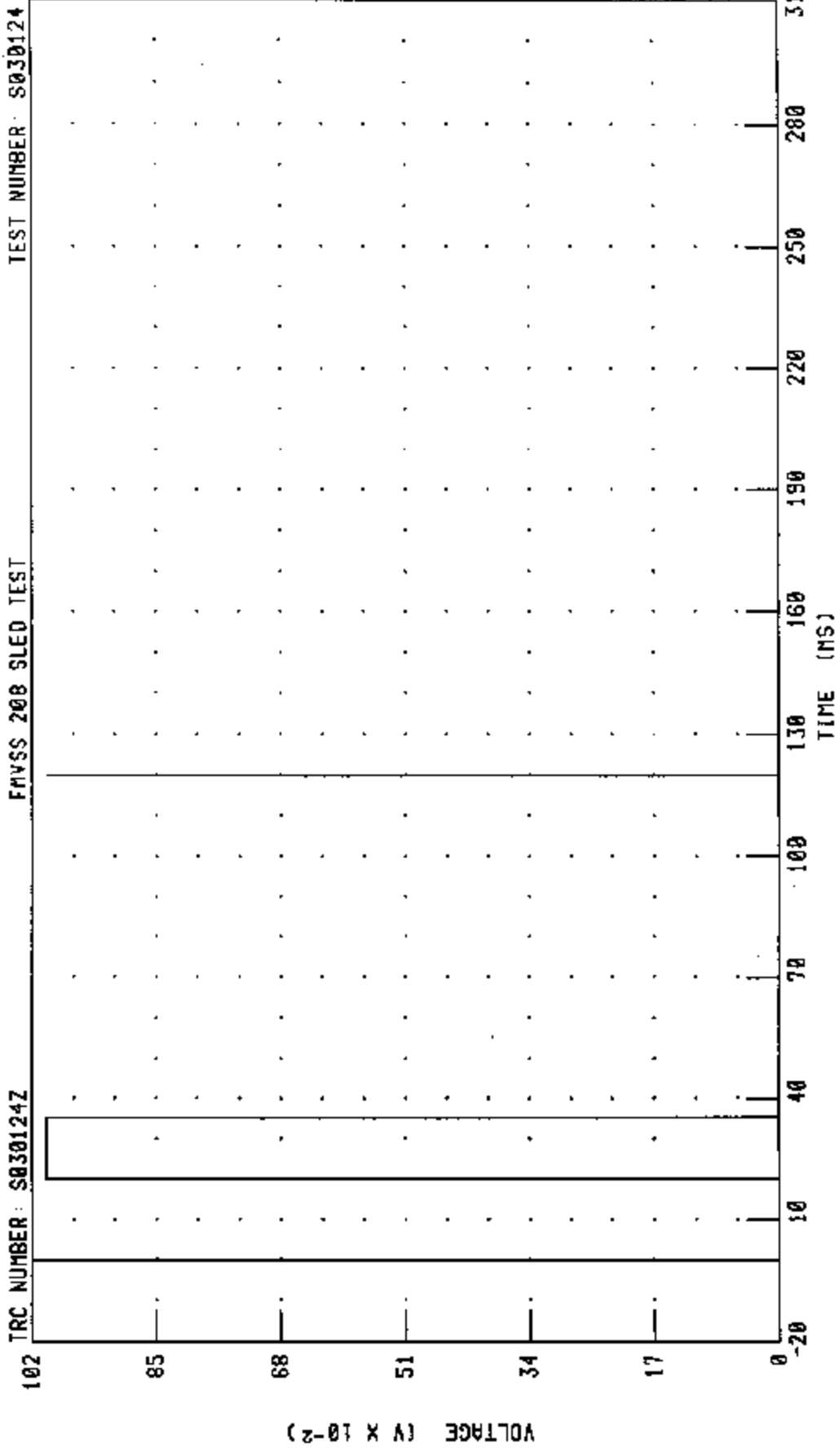
PEAK DATA: -0.01 MPH @ -20.00 MS; -29.00 MPH @ 164.00 MS

CHANNEL: SLDXVI FILTER: CH. CLASS 180

C30202 / 200J FORD EXPEDITION  
 DRIVER PRIMARY AIRBAG EVENT  
 FMVSS 208 SLED TEST

TEST NUMBER: S030124

TRC NUMBER: S030124Z



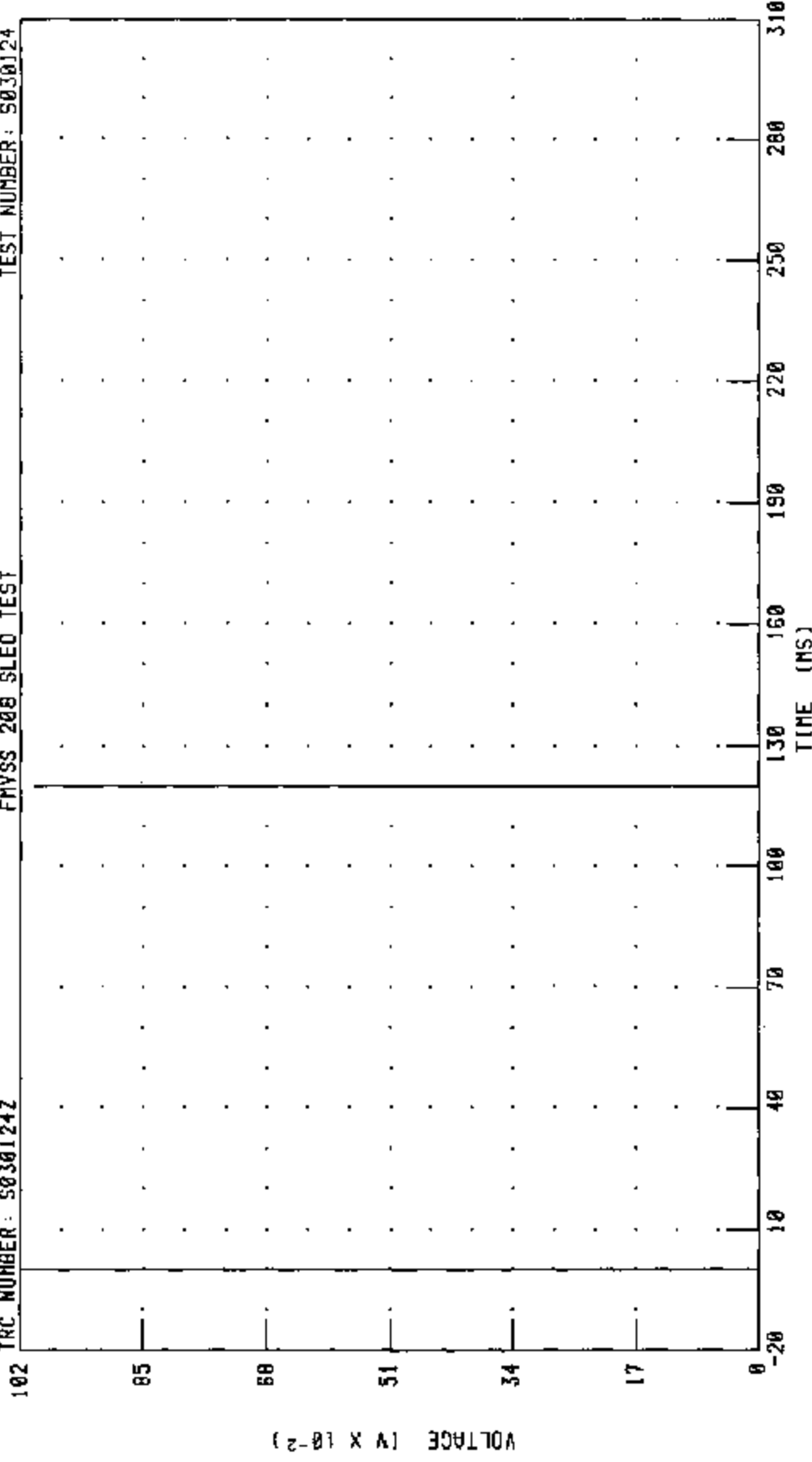
CHANNEL: DABET1 FILTER: CH. CLASS 1000 PEAK DATA: 1.00 V @ 20.16 MS; 0.00 V @ -20.00 MS

C30202 / 2003 FORD EXPEDITION  
DRIVER SECONDARY AIRBAG EVENT

TEST NUMBER: S030124

TRC NUMBER: S030124Z

FMVSS 208 SLED TEST



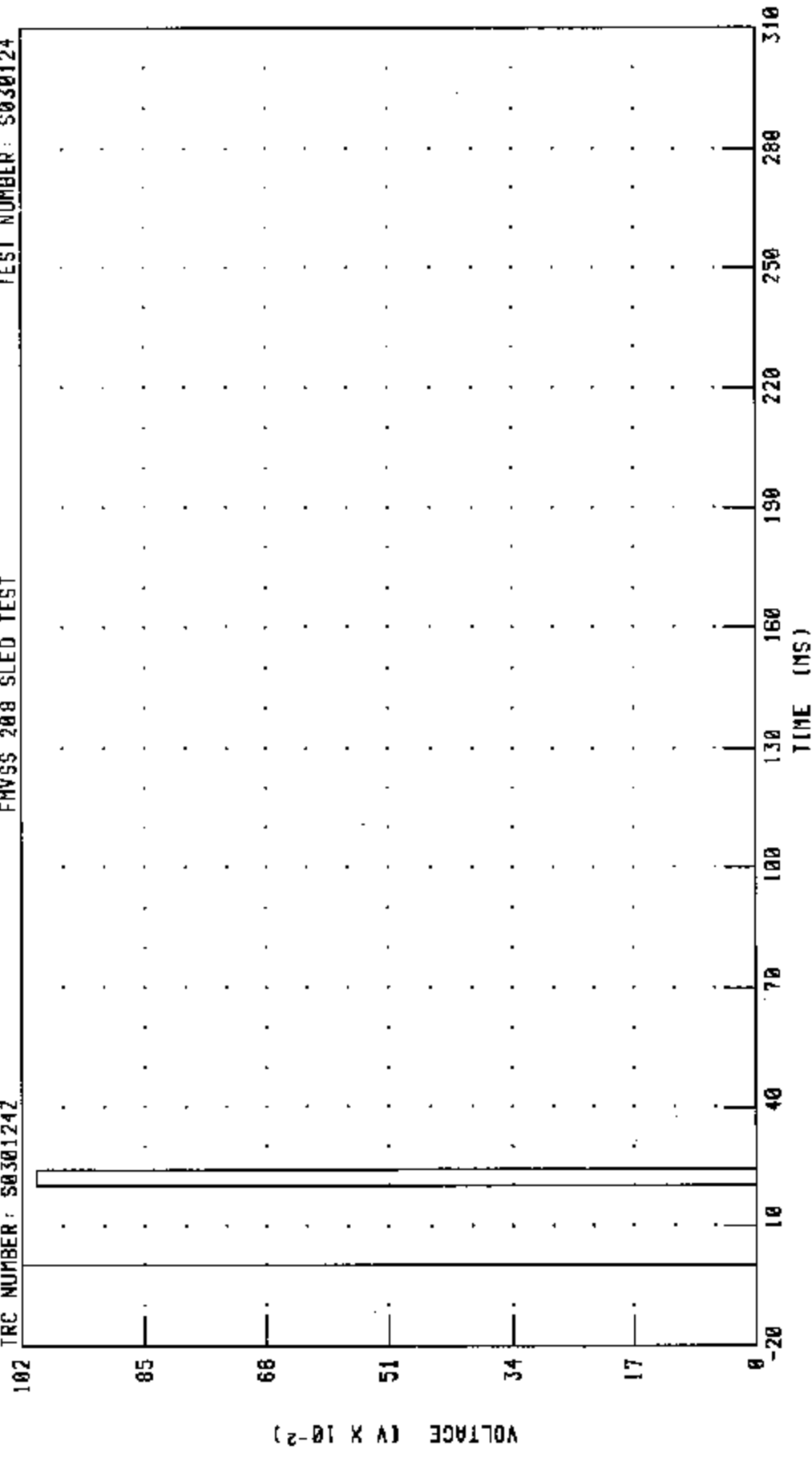
PEAK DATA: 1.00 V @ 120.16 MS; 0.00 V @ -20.00 MS

CHANNEL: DABET2 FILTER: CH. CLASS 1000

C30202 / 2003 FORD EXPEDITION  
PASSENGER PRIMARY AIRBAG EVENT  
FMVSS 208 SLED TEST

TEST NUMBER: S030124

TRC NUMBER: S030124Z



PEAK DATA: 1.00 V @ 20.16 MS; 0.00 V @ -20.00 MS

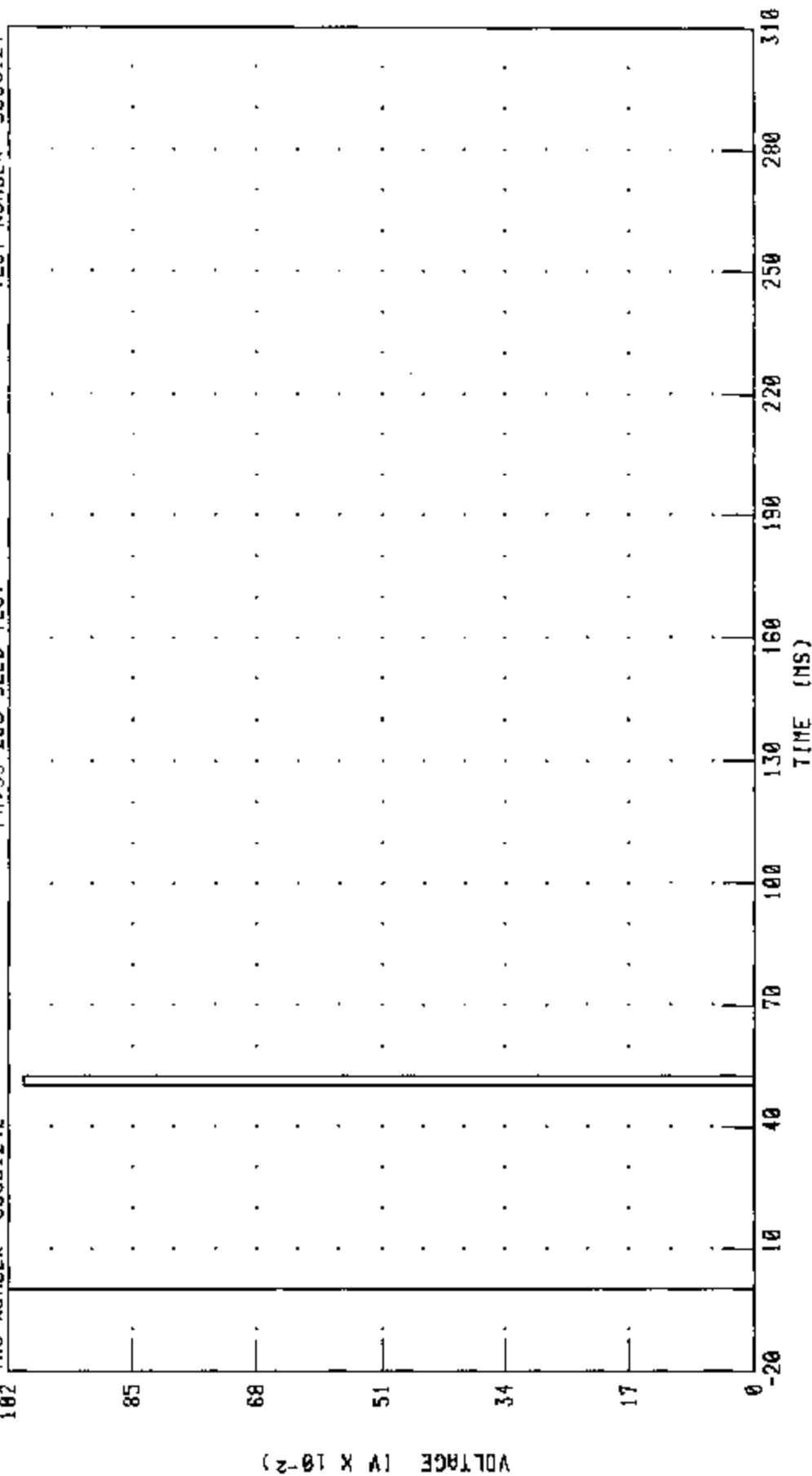
CHANNEL: PABET1 FILTER: CH. CLASS 1000

C30202 / 2003 FORD EXPEDITION  
PASSENGER SECONDARY AIRBAG EVENT

TRC NUMBER: S030124Z

FMVSS 208 SLED TEST

TEST NUMBER S030124



TIME (MS)

CHANNEL: PABET2 FILTER: CH. CLASS 1000

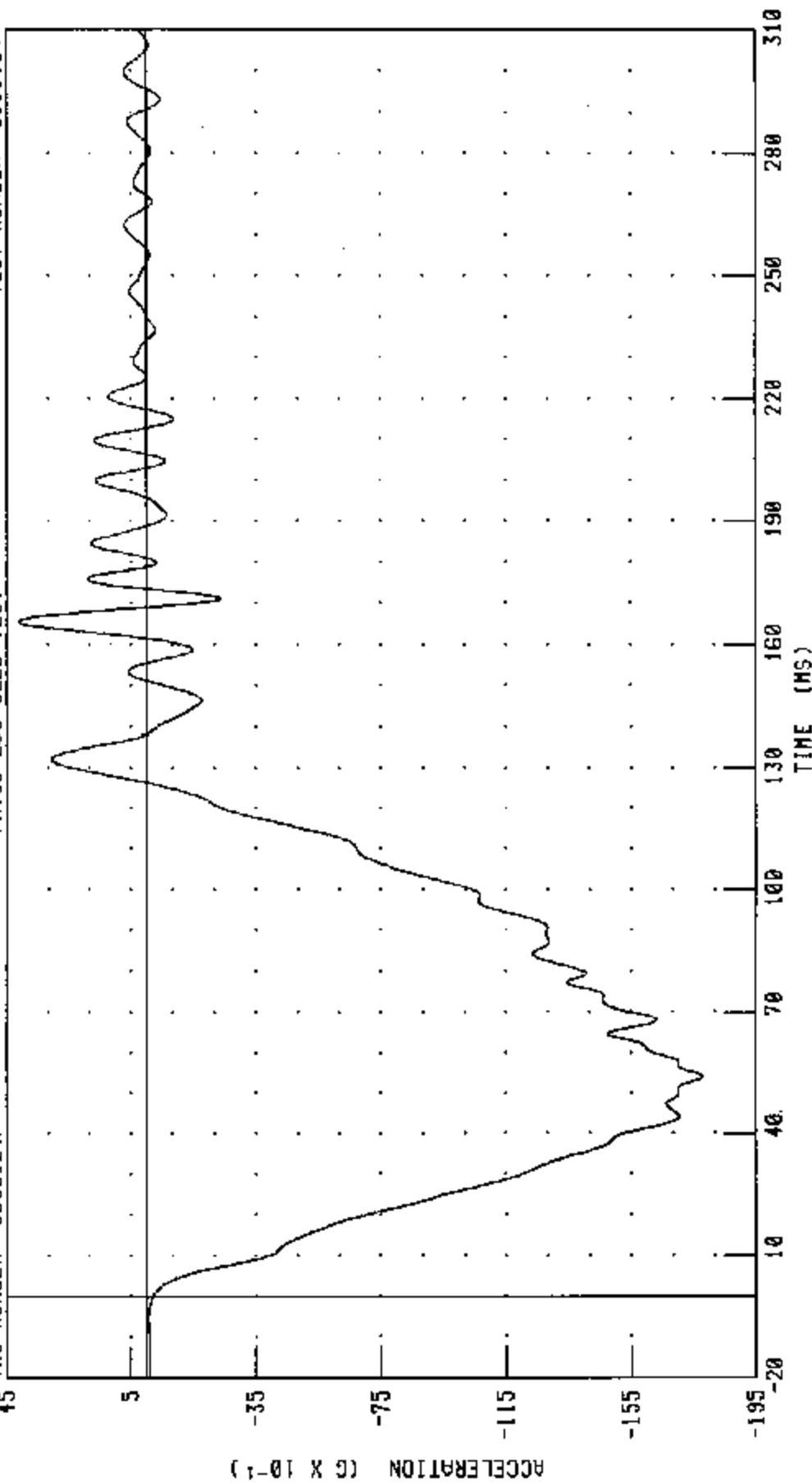
PEAK DATA: 1.00 V @ 50.16 MS, 0.00 V @ -20.00 NS

C30202 / 2003 FORD EXPEDITION  
REAR AXLE X-AXIS ACCELERATION

TEST NUMBER: S030124

TRC NUMBER: S030124F

FNYS 208 SLED TEST

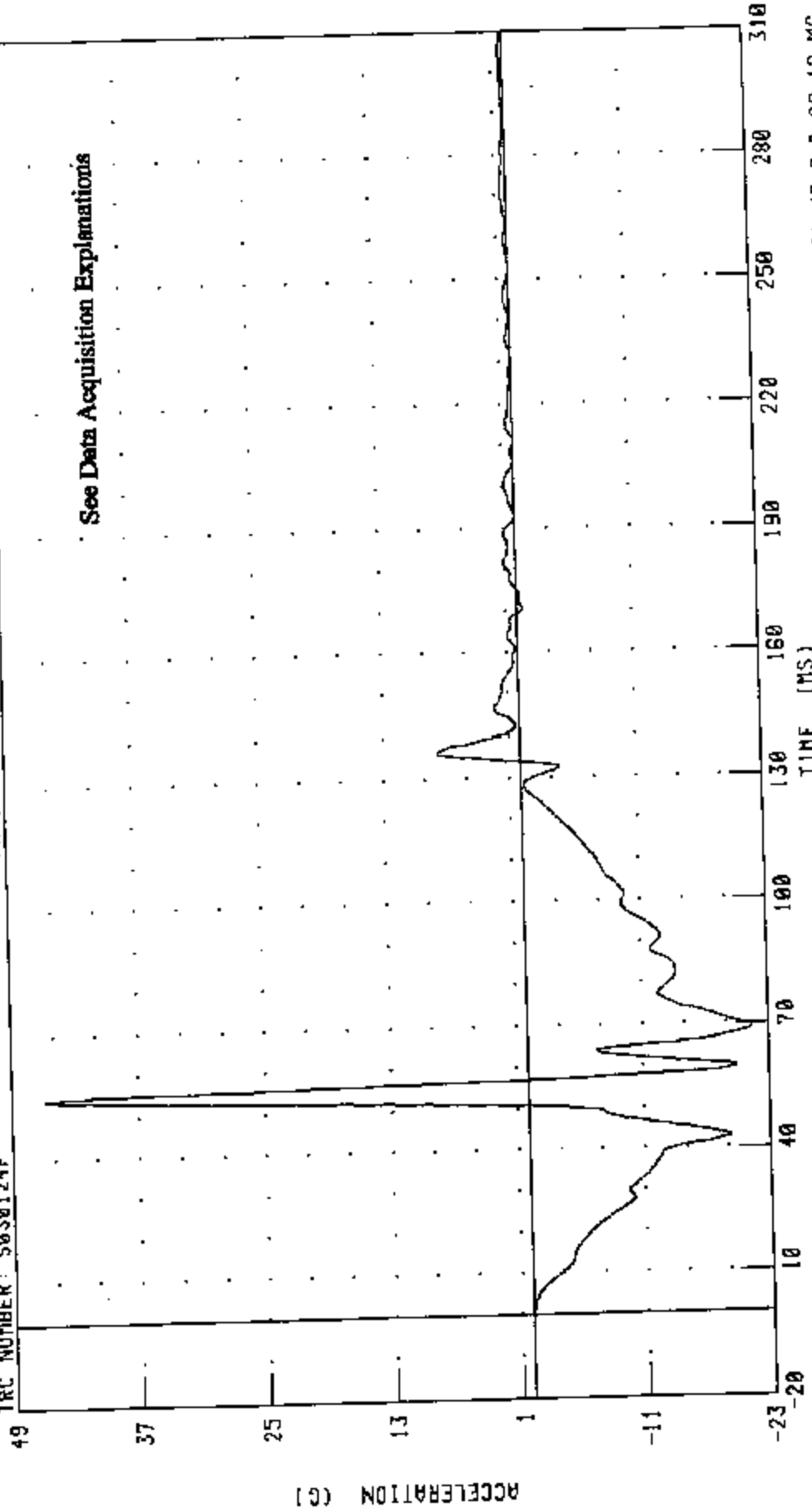


CHANNEL: RAXC FILTER: CH. CLASS 60  
PEAK DATA: 4.12 G @ 165.60 MS; -17.60 G @ 54.08 MS

C30202 / 2003 FORD EXPEDITION  
LEFT BODY AT REAR SEAT ATTACHMENT X-AXIS ACCELERATION  
FMYSS 208 SLED TEST

TEST NUMBER: S030124

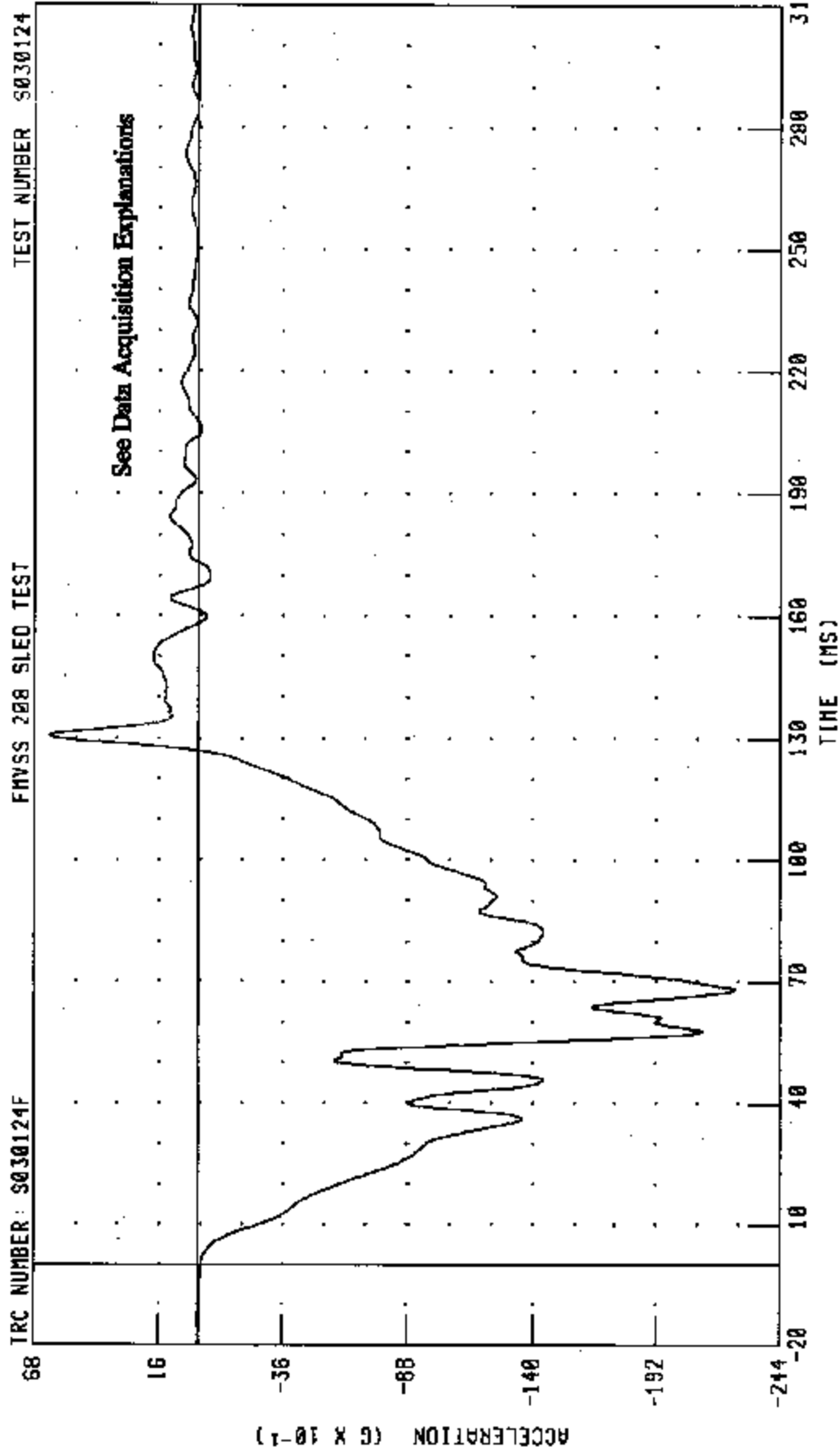
TRC NUMBER: S030124F



PEAK DATA: 45.92 G @ 54.40 MS; -21.45 G @ 69.12 MS

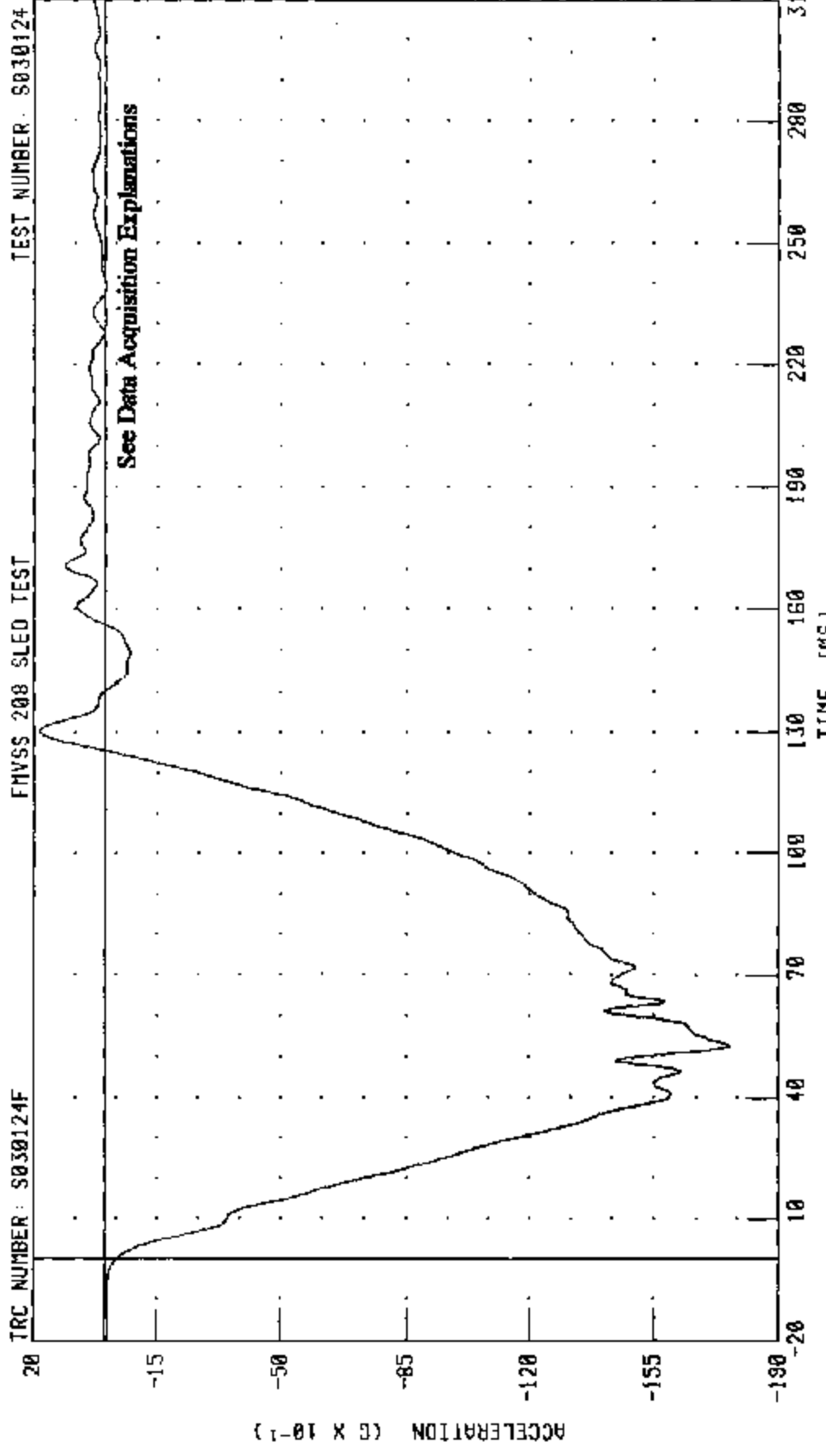
CHANNEL: LBXC FILTER: CH. CLASS 60

C30202 / 2003 FORD EXPEDITION  
RIGHT BODY AT REAR SEAT ATTACHMENT X-AXIS ACCELERATION  
FMVSS 208 SLED TEST



CHANNEL: RBXC FILTER: CH. CLASS 60 PEAK DATA: 6.20 G @ 130.80 MS; -22.52 G @ 60.16 MS

C30202 / 2003 FORD EXPEDITION  
LEFT VEHICLE FRAME X-AXIS ACCELERATION  
FMVSS 208 SLED TEST



TRC NUMBER: S030124F

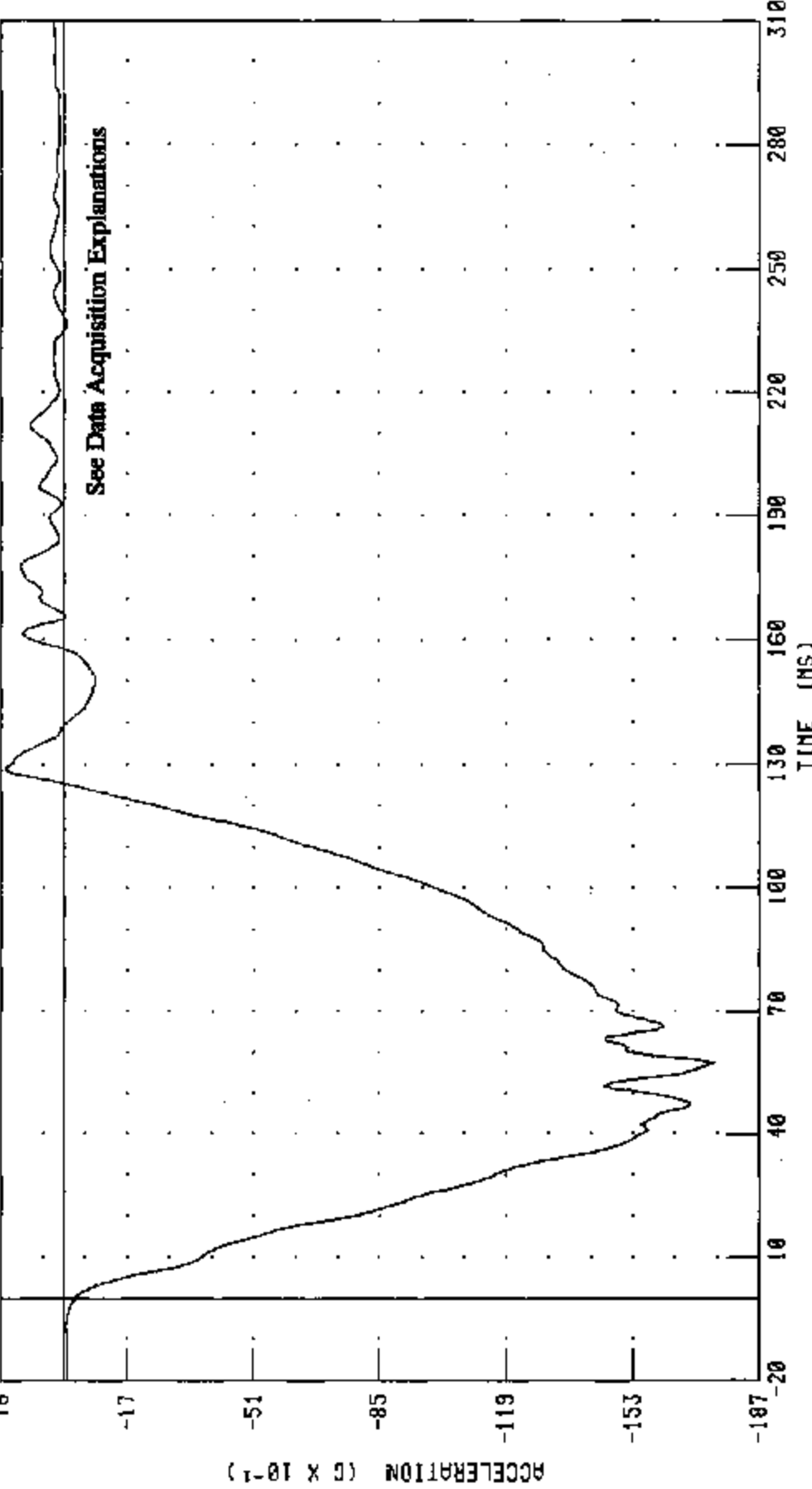
See Data Acquisition Explanations

CHANNEL: LFXG FILTER: CH. CLASS 60 PEAK DATA: 1.84 G @ 130.48 MS; -17.61 G @ 52.72 MS

C30202 / 2003 FORD EXPEDITION  
RIGHT VEHICLE FRAME X-AXIS ACCELERATION  
FMVSS 208 SLED TEST

TEST NUMBER: S030124

TRC NUMBER: S030124F

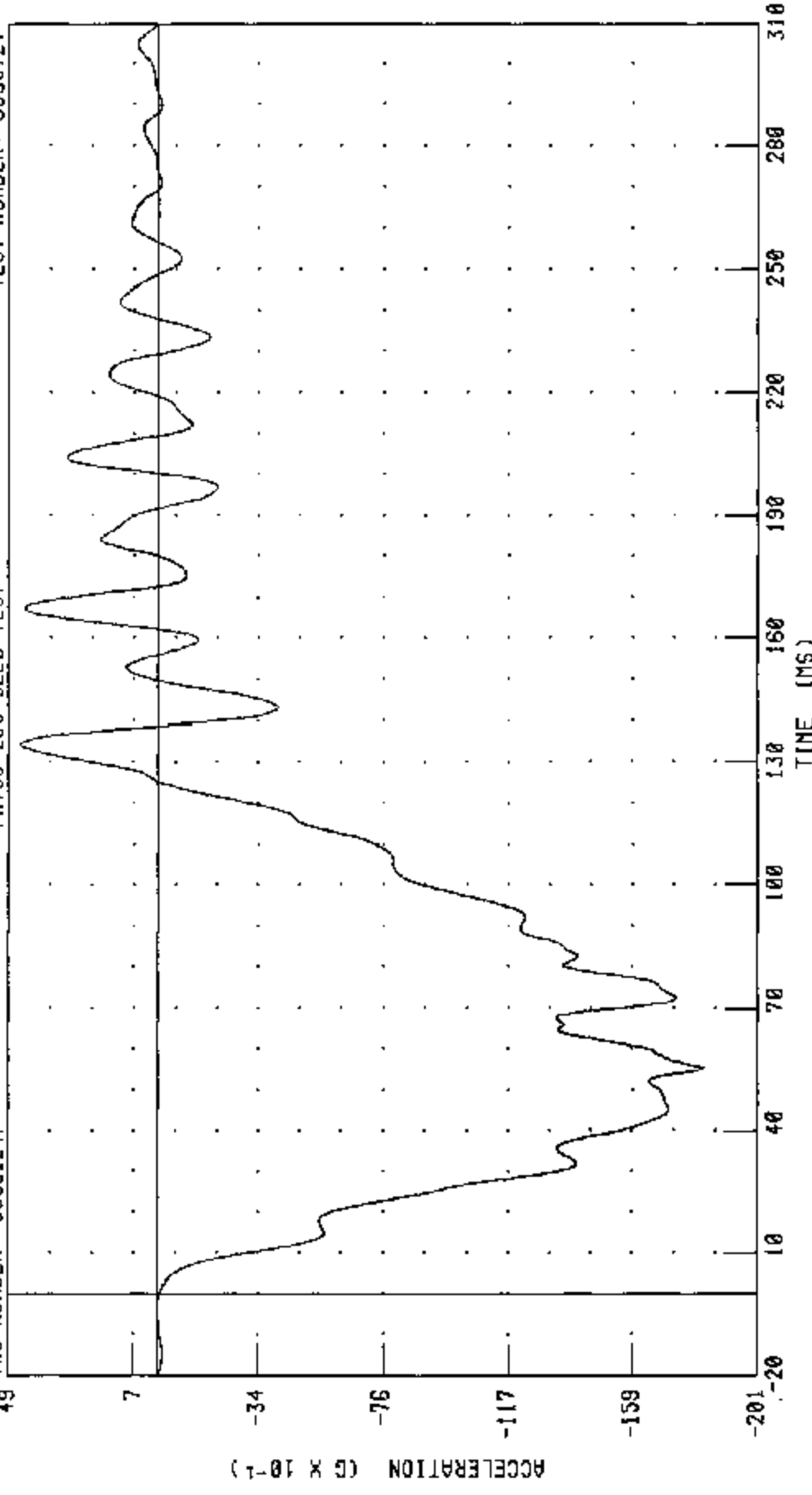


CHANNEL: RFXG FILTER: CH. CLASS 60 PEAK DATA: 1.59 G @ 129.28 MS, -17.40 G @ 57.44 MS

C30202 / 2003 FORD EXPEDITION  
TOP ENGINE X-AXIS ACCELERATION  
FVSS 200 SLED TEST

TEST NUMBER: S030124

TRC NUMBER: S030124F

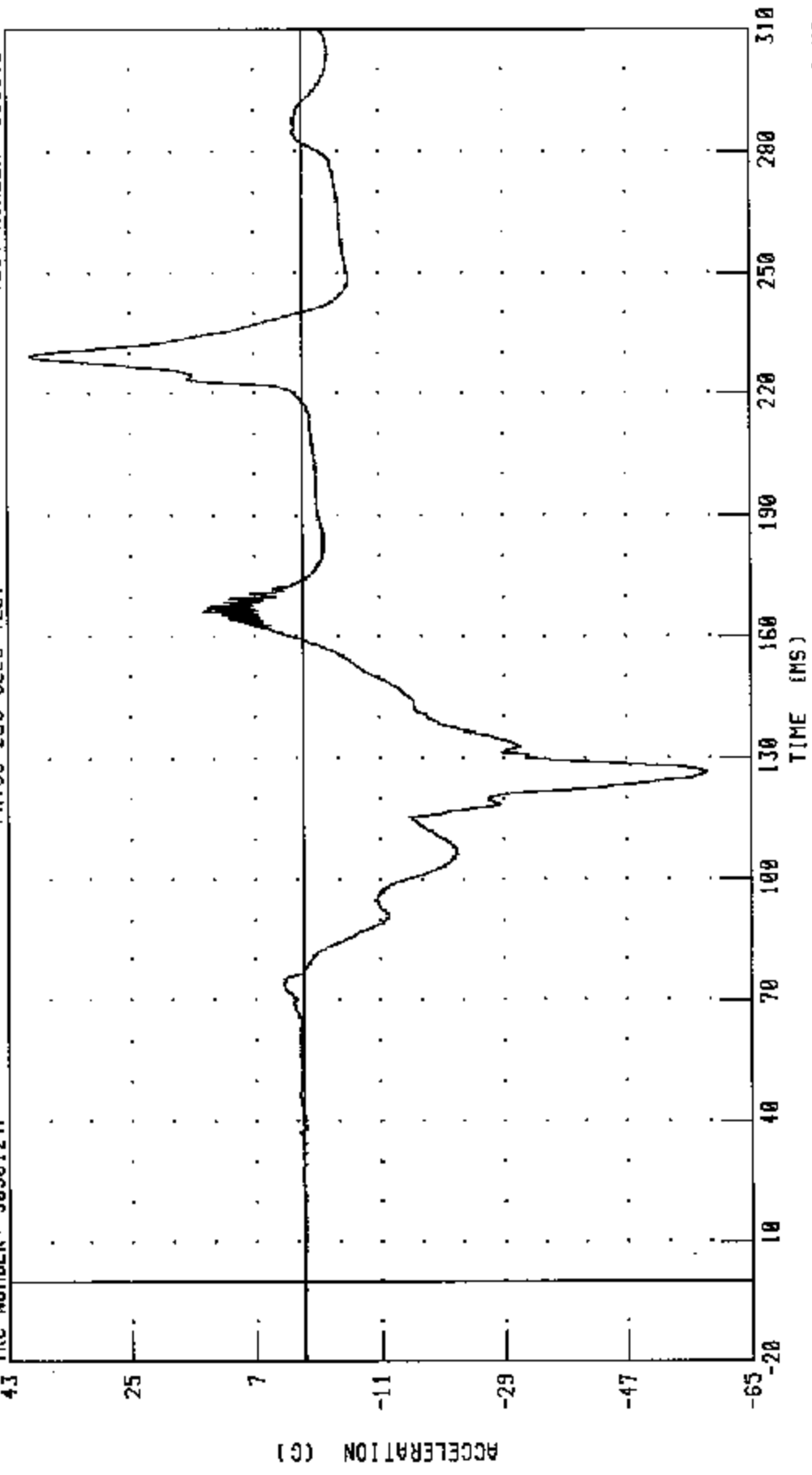


CHANNEL: TEXG FILTER: CH. CLASS 60  
PEAK DATA: 4.61 G @ 134.48 MS; -18.37 G @ 55.44 MS

C30202 / 2003 FORD EXPEDITION  
DRIVER HEAD X-AXIS ACCELERATION  
FHVSS 208 SLED TEST

TEST NUMBER: S030124

TRC NUMBER: S030124F

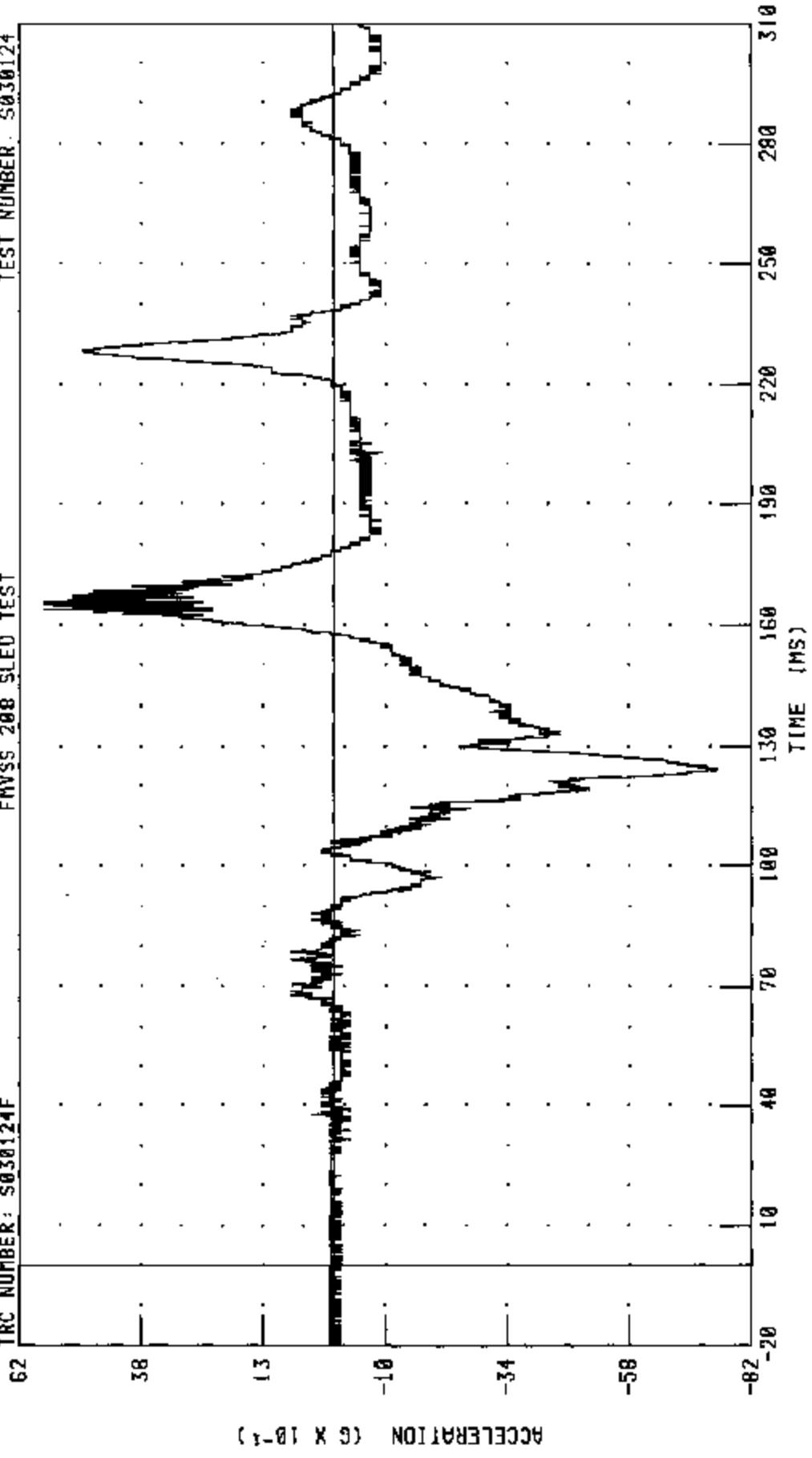


CHANNEL: HEDXG1 FILTER: CH. CLASS 1000  
PEAK DATA: 39.69 G @ 229.28 MS; -58.64 G @ 126.48 MS

C30202 / 2003 FORD EXPEDITION  
DRIVER HEAD Y-AXIS ACCELERATION  
FMVSS 208 SLED TEST

TRC NUMBER: S030124F

TEST NUMBER: S030124



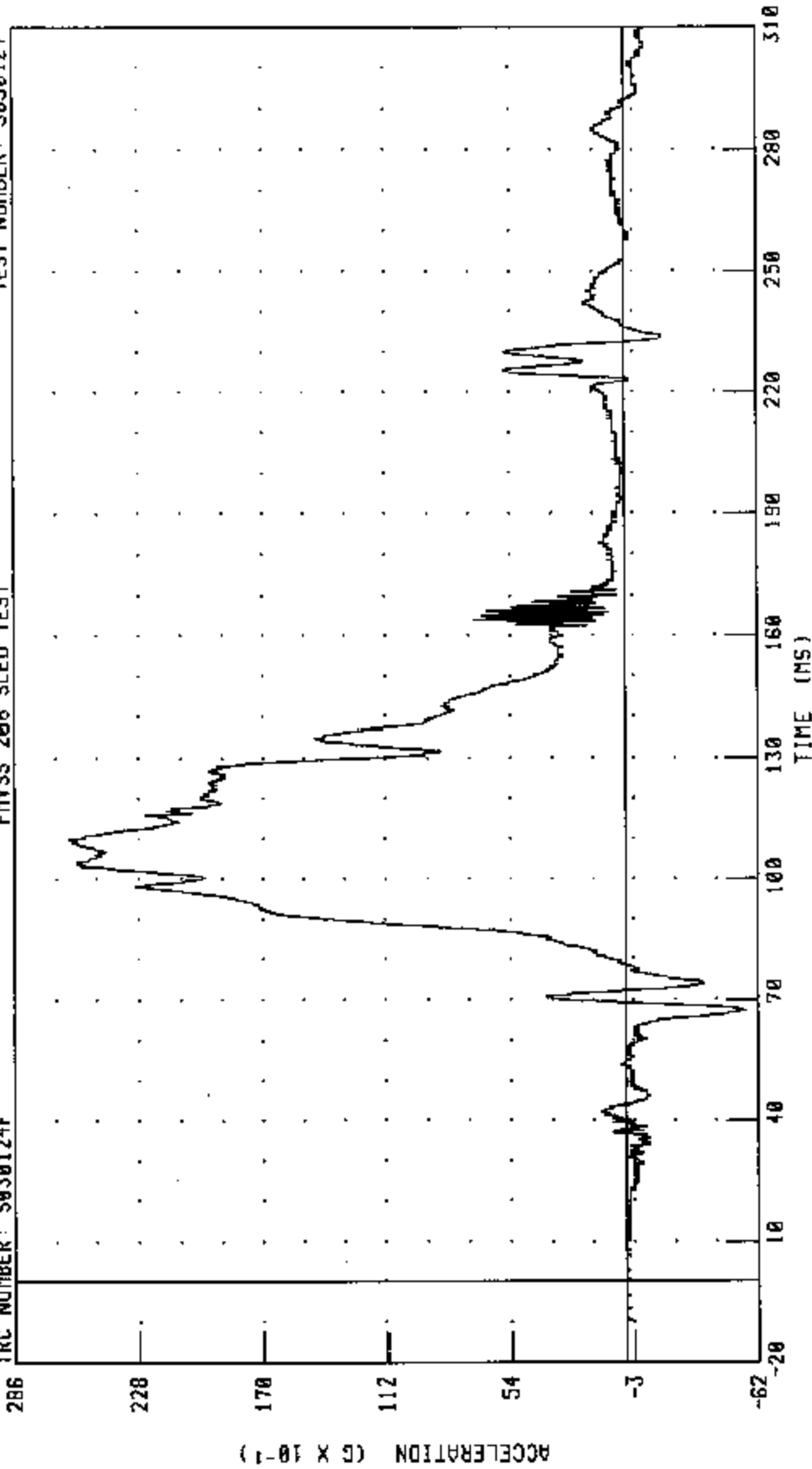
CHANNEL: HEDYG1 FILTER: CH. CLASS 1000

PEAK DATA: 5.72 G @ 164.08 MS; -7.54 G @ 124.08 MS

C30202 / 2003 FORD EXPEDITION  
DRIVER HEAD Z-AXIS ACCELERATION  
FMVSS 200 SLED TEST

TEST NUMBER S030124

TRC NUMBER: S030124F



PEAK DATA: 26.06 G @ 109.92 MS; -5.68 G @ 67.36 MS

CHANNEL: HEDZG1 FILTER: CH. CLASS 1000

C30202 / 2003 FORD EXPEDITION  
DRIVER HEAD RESULTANT ACCELERATION  
FMVSS 200 SLEO TEST

TEST NUMBER: S030124

TRC NUMBER: S030124F

56

55

44

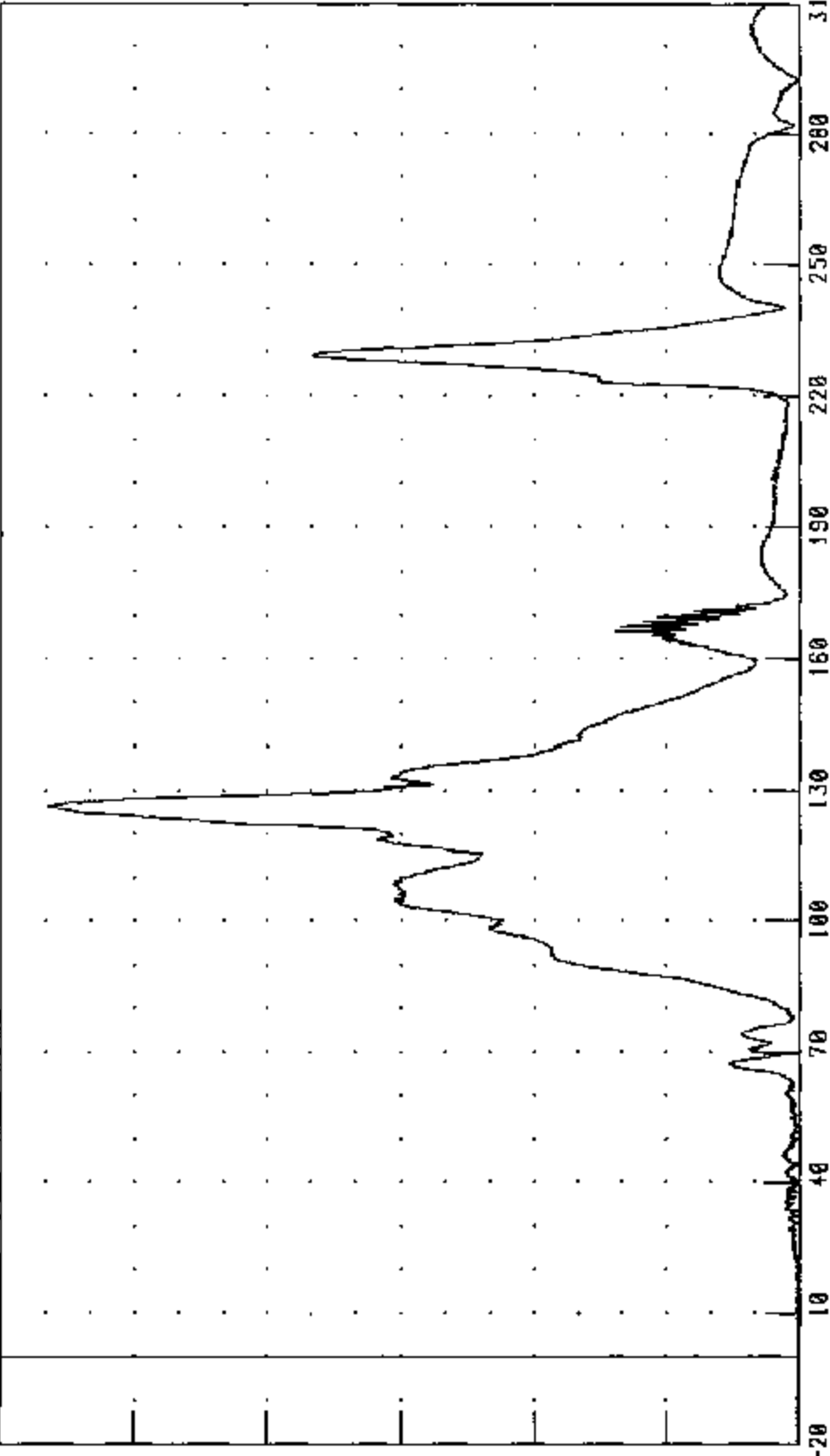
33

22

11

0

ACCELERATION (G)

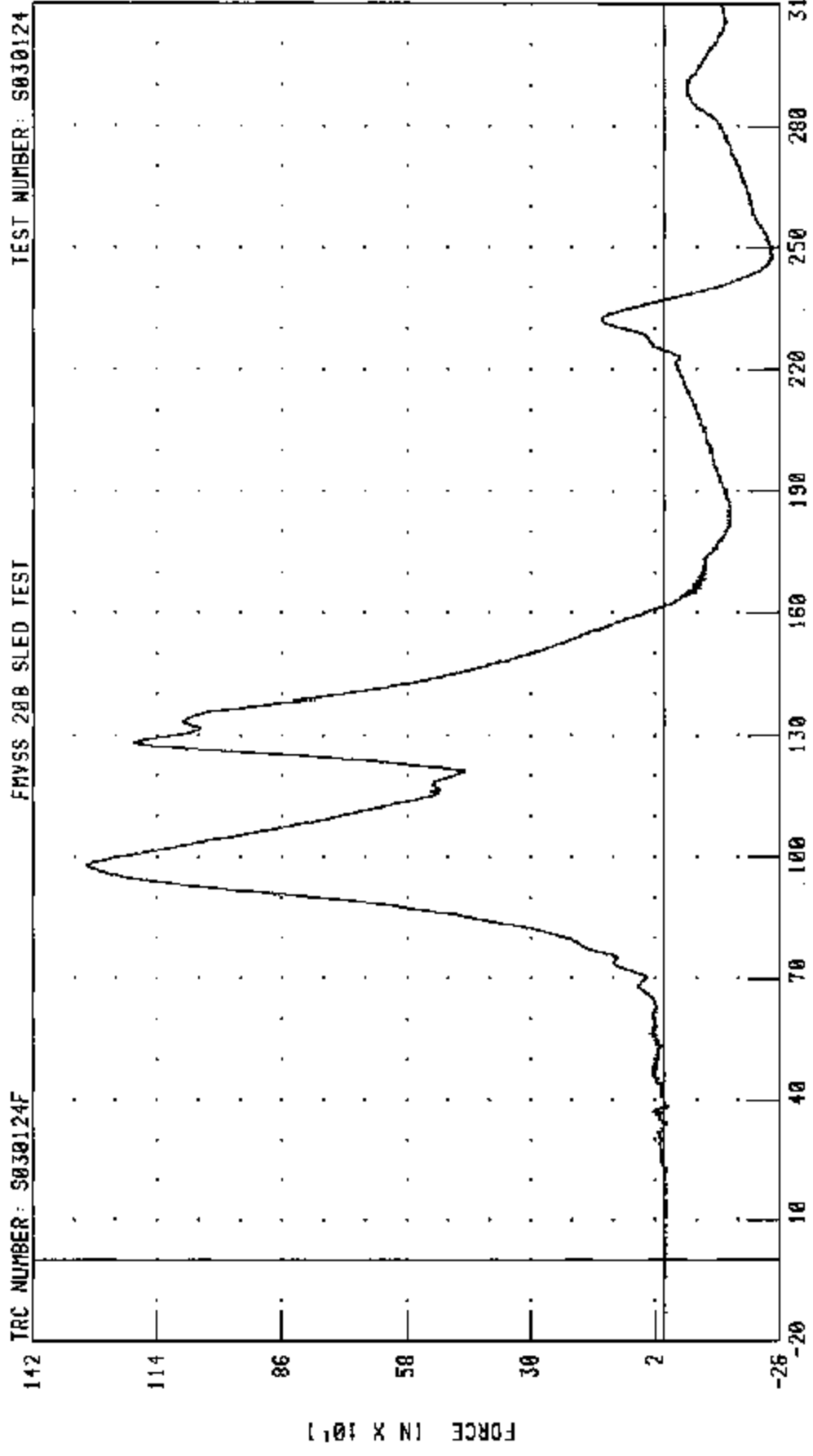


TIME (MS)

CHANNEL: HEDRC1 FILTER: CH. CLASS 1000

PEAK DATA: 52.11 G @ 126.56 MS; 0.06 G @ -19.92 MS

C30202 / 2003 FORD EXPEDITION  
DRIVER NECK X-AXIS SHEAR FORCE  
FHYSS 288 SLED TEST

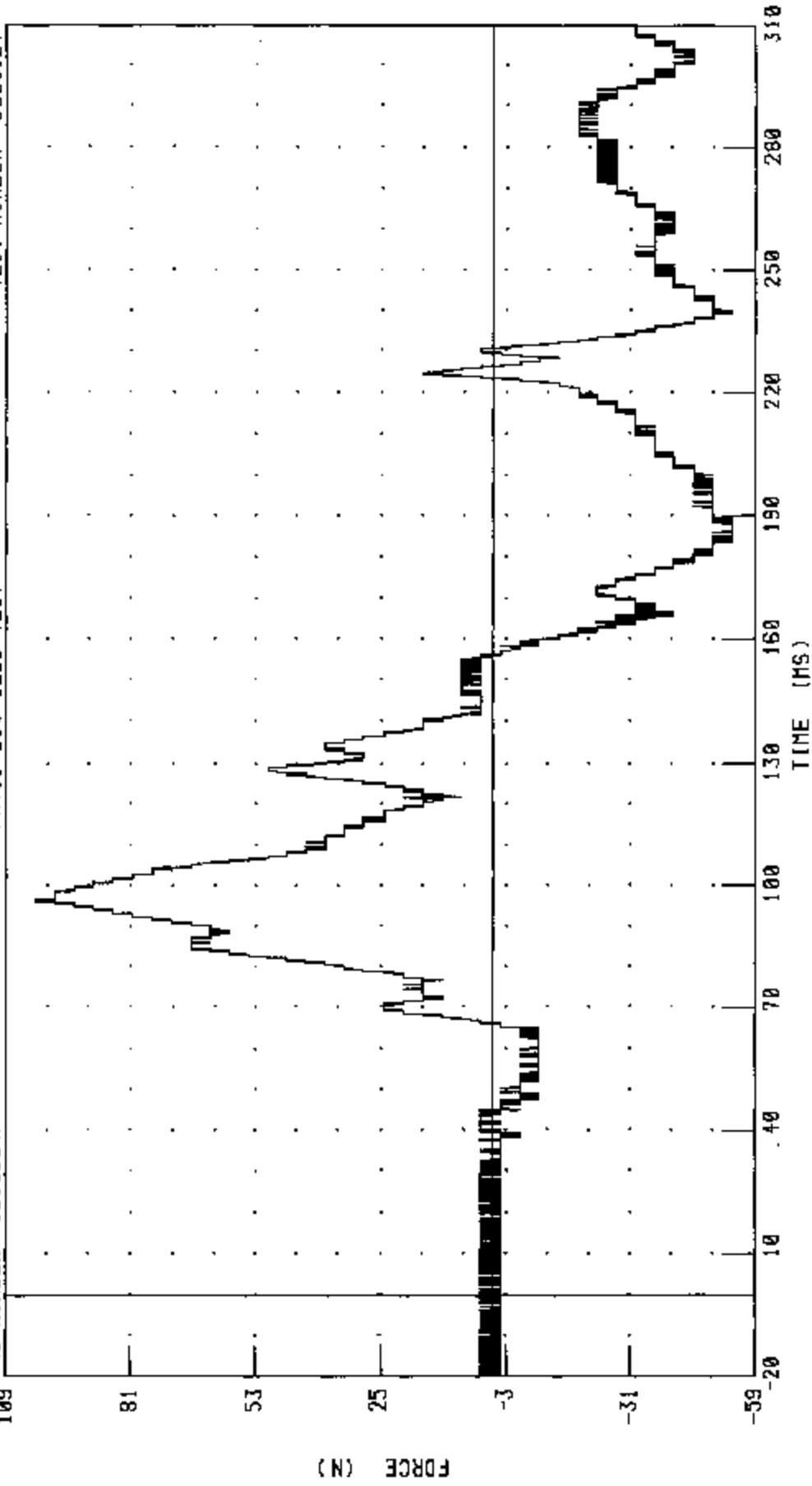


CHANNEL: NEKXF1 FILTER: CH. CLASS 1000 PEAK DATA: 1298.71 N @ 98.00 MS; -243.16 N @ 247.12 MS

C30202 / 2003 FORD EXPEDITION  
DRIVER NECK Y-AXIS SHEAR FORCE  
FMYSS 200 SLED TEST

TEST NUMBER: S030124

TRC NUMBER: S030124F



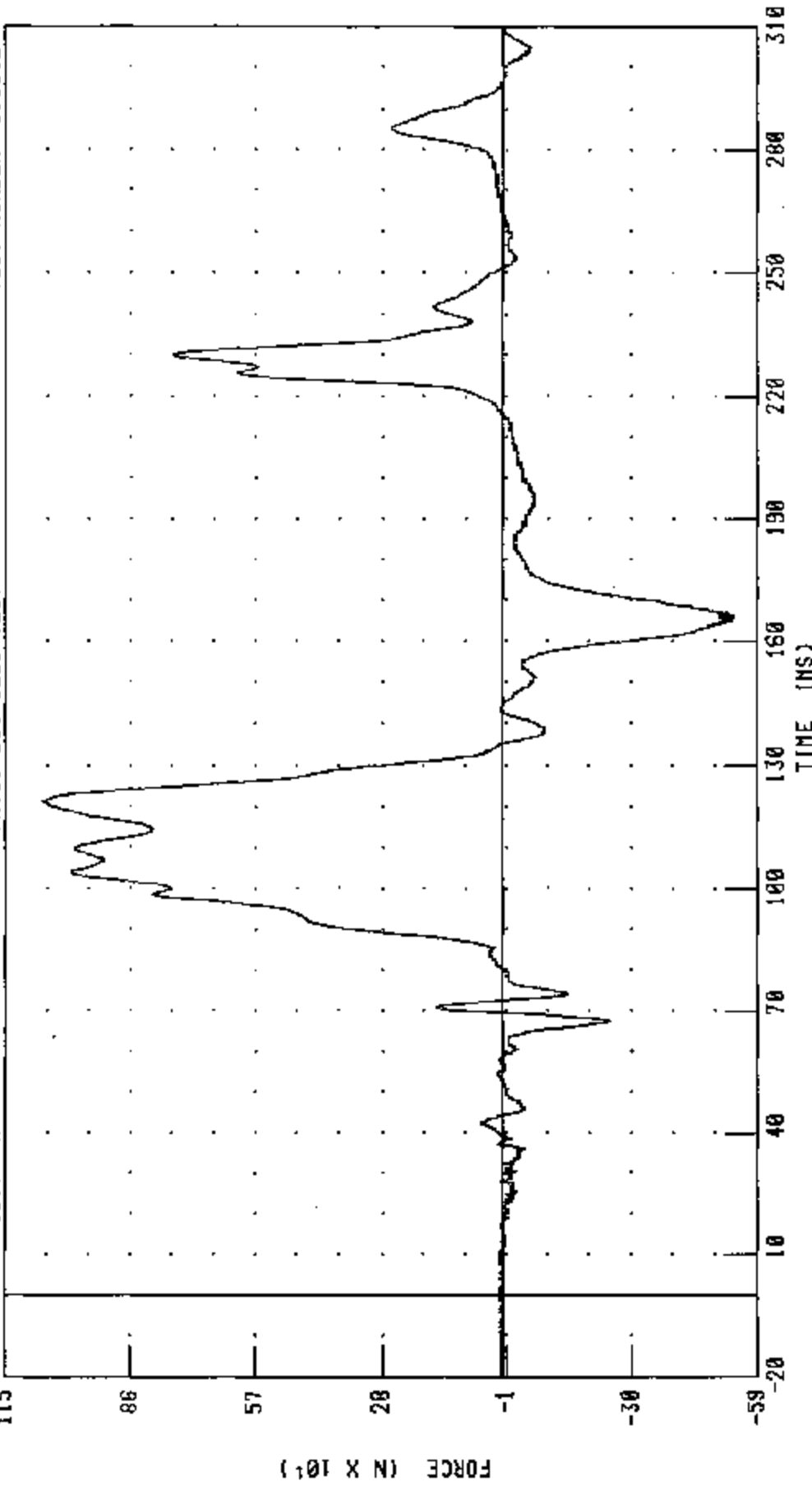
CHANNEL: NEKYF1 FILTER: CH. CLASS 1000 PEAK DATA: 102.38 N @ 96.00 MS; -53.88 N @ 183.52 MS

CJ0202 / 2003 FORD EXPEDITION  
DRIVER NECK Z-AXIS AXIAL FORCE  
FMVSS 209 SLED TEST

TEST NUMBER: S030124

TRC NUMBER: S030124F

115



FORCE (N X 10<sup>4</sup>)

TIME (MS)

PEAK DATA: 1066.38 N @ 121.60 MS, -537.19 N @ 165.68 MS

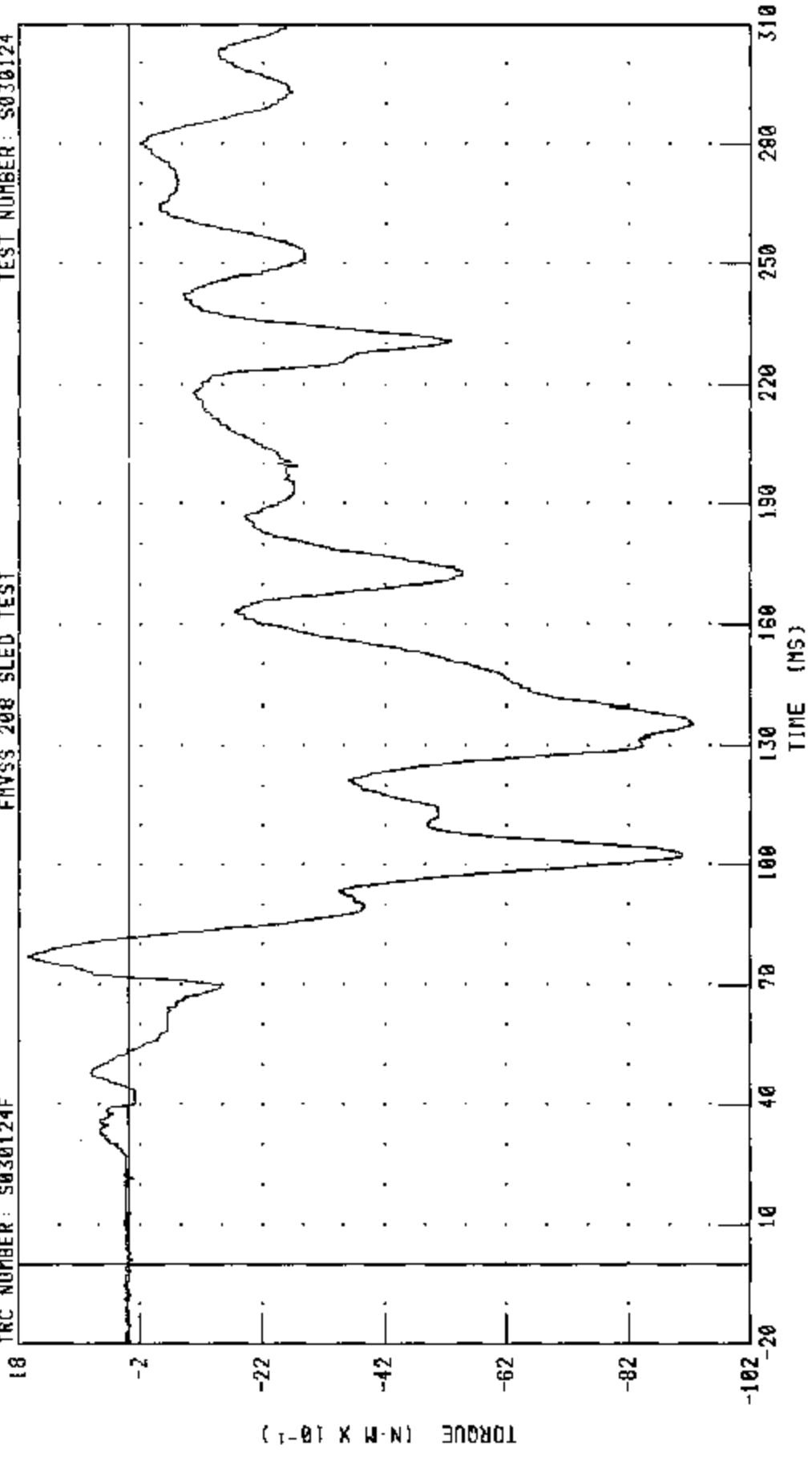
CHANNEL: NEK2F1 FILTER: CH. CLASS 1000

C30202 / 2003 FORD EXPEDITION  
DRIVER NECK MOMENT ABOUT X AXIS

TRC NUMBER: S030124F

FMVSS 208 SLED TEST

TEST NUMBER: S030124



CHANNEL: NEKXN1 FILTER: CH. CLASS 600

PEAK DATA: 1.66 N·M @ 77.04 MS; -9.26 N·M @ 135.60 MS

C30202 / 2003 FORD EXPEDITION  
DRIVER NECK MOMENT ABOUT Y AXIS  
FMVSS 208 SLED TEST

TEST NUMBER: S030124

TRC NUMBER: S030124F

129

107

85

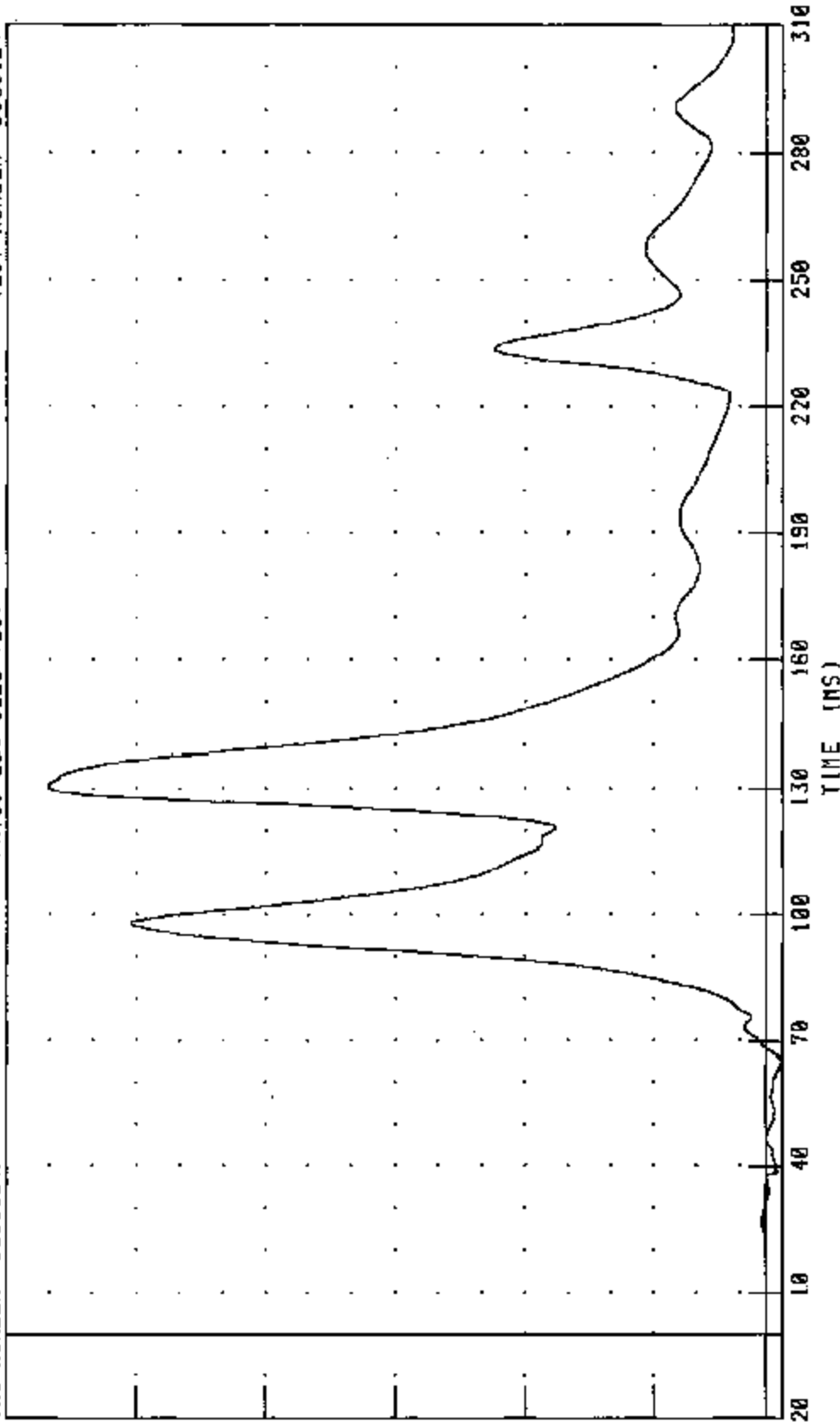
63

41

19

-2

TORQUE (N-M)



TIME (MS)

CHANNEL: NEKYM1 FILTER: CH CLASS 600

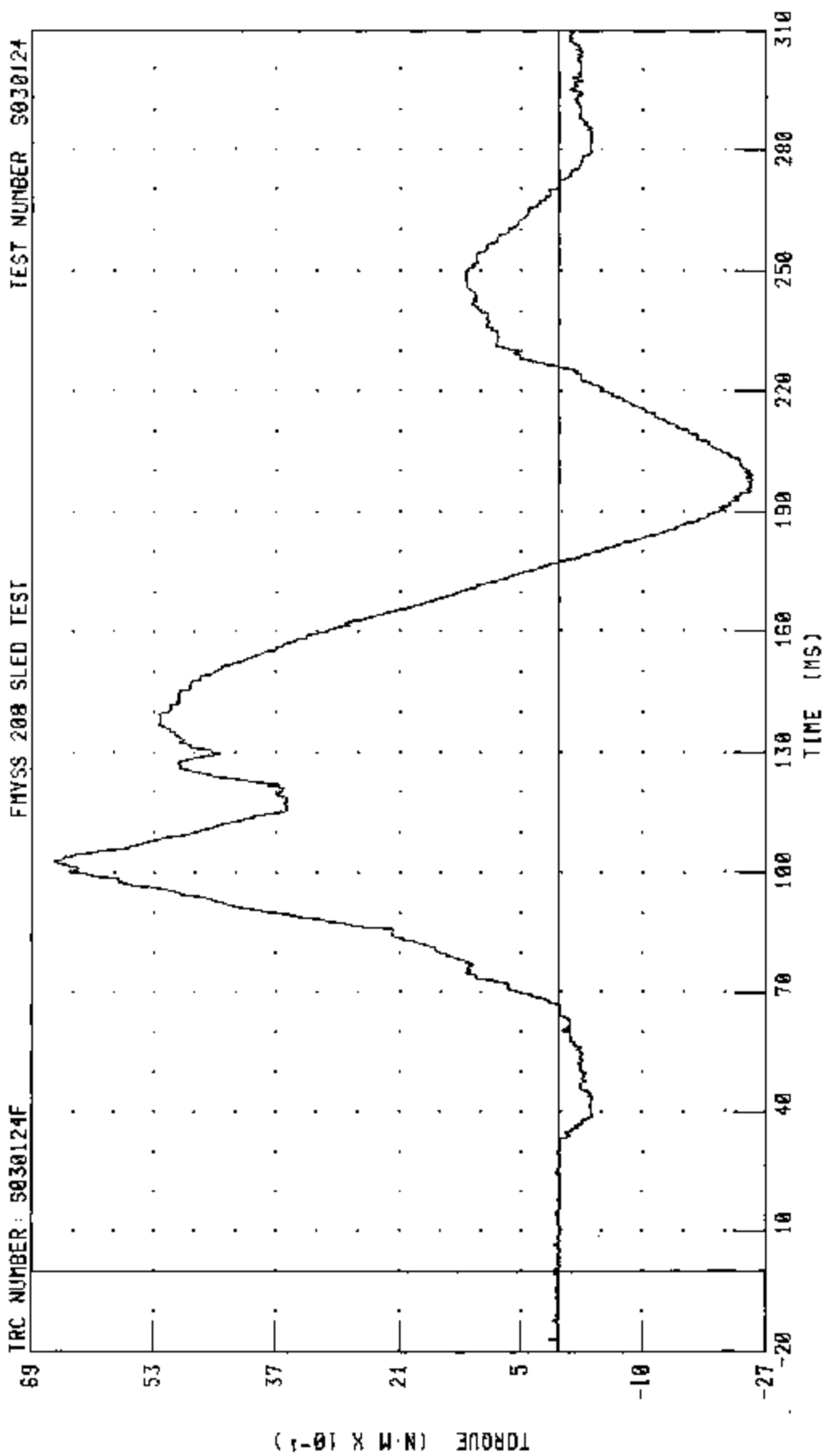
PEAK DATA: 122.08 N-M @ 130.80 MS, -2.56 N-M @ 64.88 MS

C30202 / 2003 FORD EXPEDITION  
DRIVER NECK MOMENT ABOUT Z AXIS

TRC NUMBER: 5030124F

TEST NUMBER: 5030124

FMYSS 200 SLED TEST



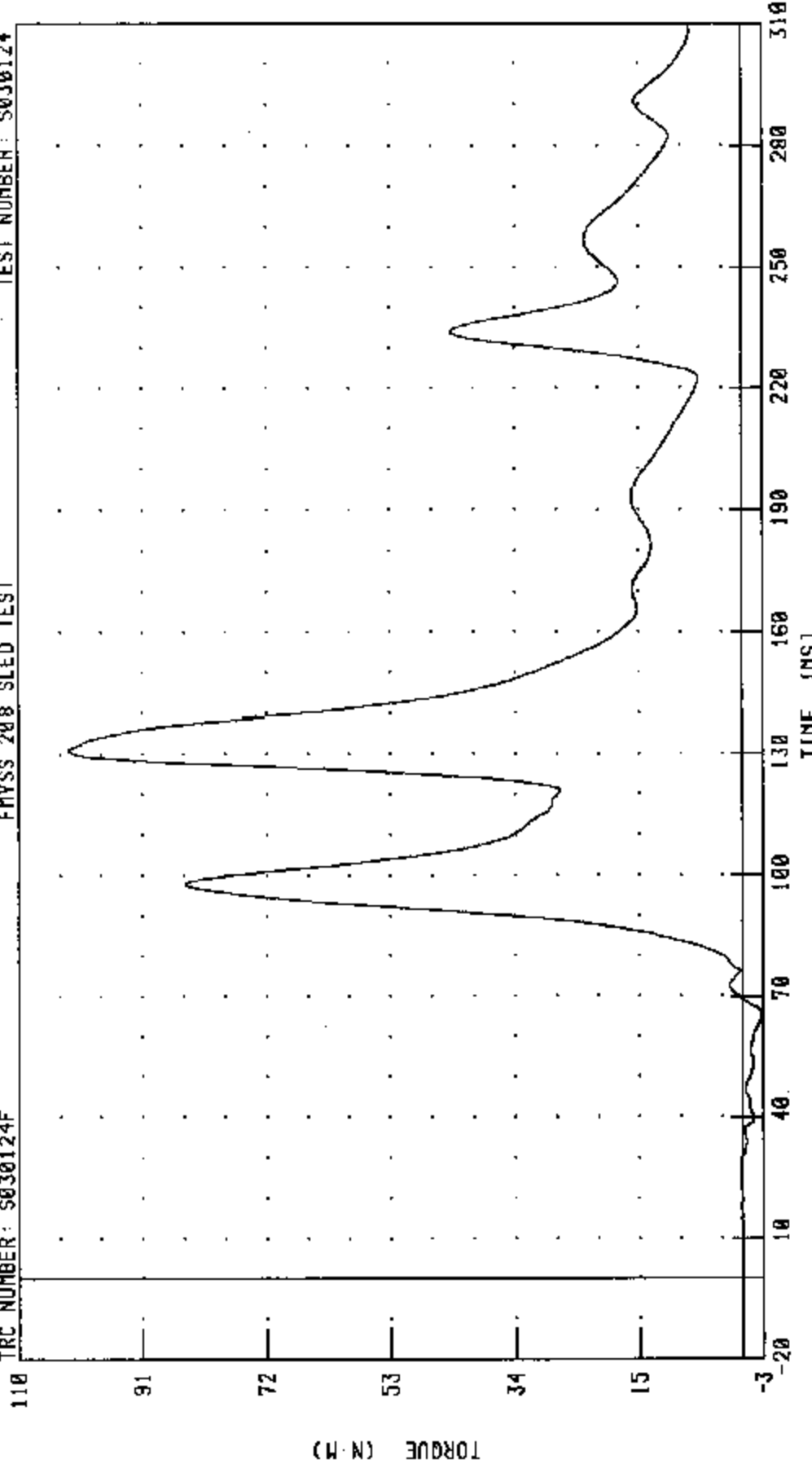
CHANNEL: NEKZM1 FILTER: CH. CLASS 600

PEAK DATA: 6.61 N·M @ 102.00 MS, -2.51 N·M @ 199.04 MS

C30202 / 2003 FORD EXPEDITION  
DRIVER NECK MOMENT ABOUT Y AXIS OCCIPITAL CONDYLE  
FMYSS 208 SLED TEST

TEST NUMBER: S030124

TRC NUMBER: S030124F



TIME (MS)

PEAK DATA: 103.13 N-M @ 131.04 MS; -2.98 N-M @ 65.12 MS

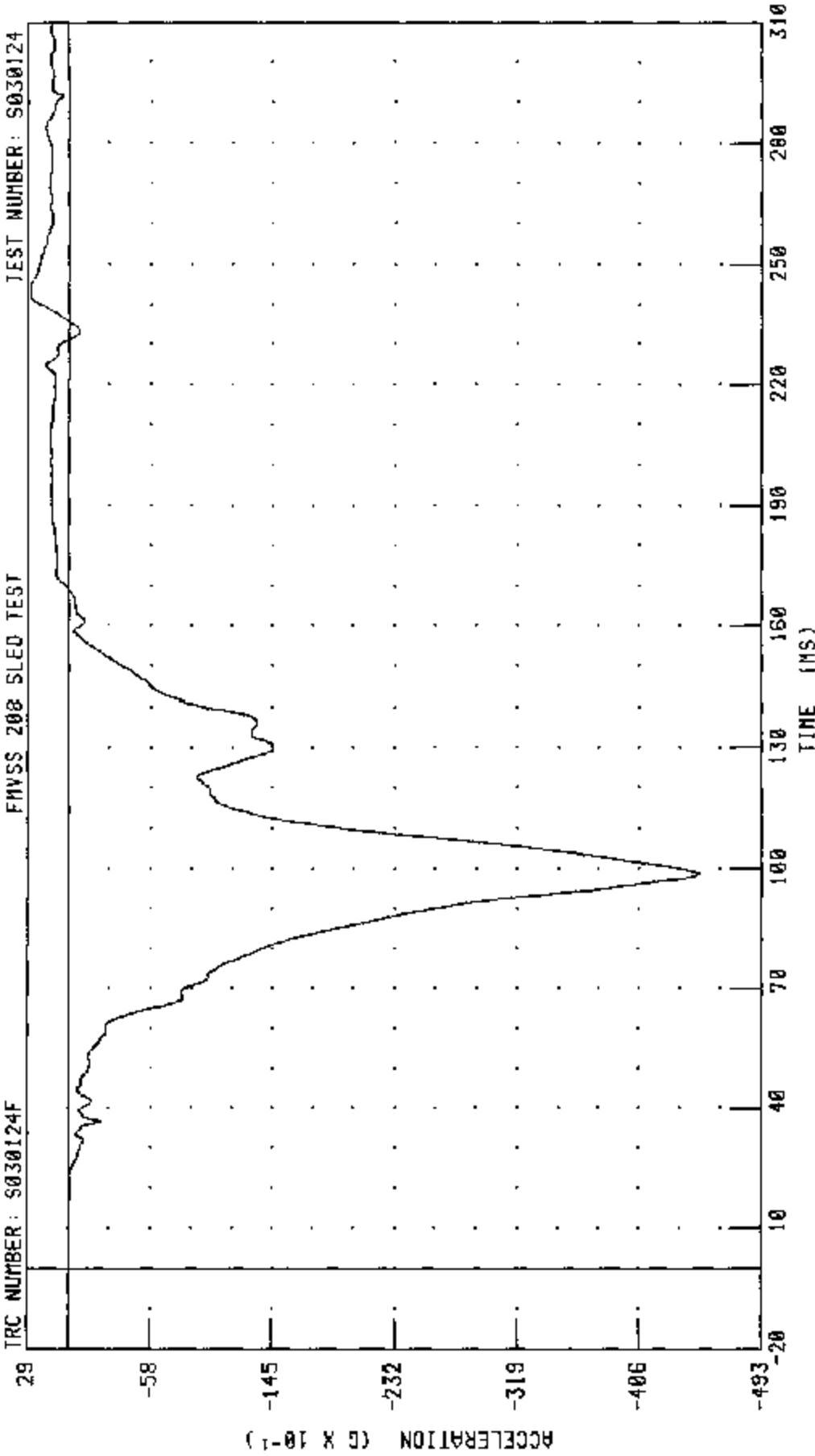
CHANNEL: NEKD01 FILTER: CH. CLASS 600

TORQUE (N-M)

C30202 / 2003 FORD EXPEDITION  
DRIVER CHEST X-AXIS ACCELERATION

TRC NUMBER: S030124F

TEST NUMBER: S030124



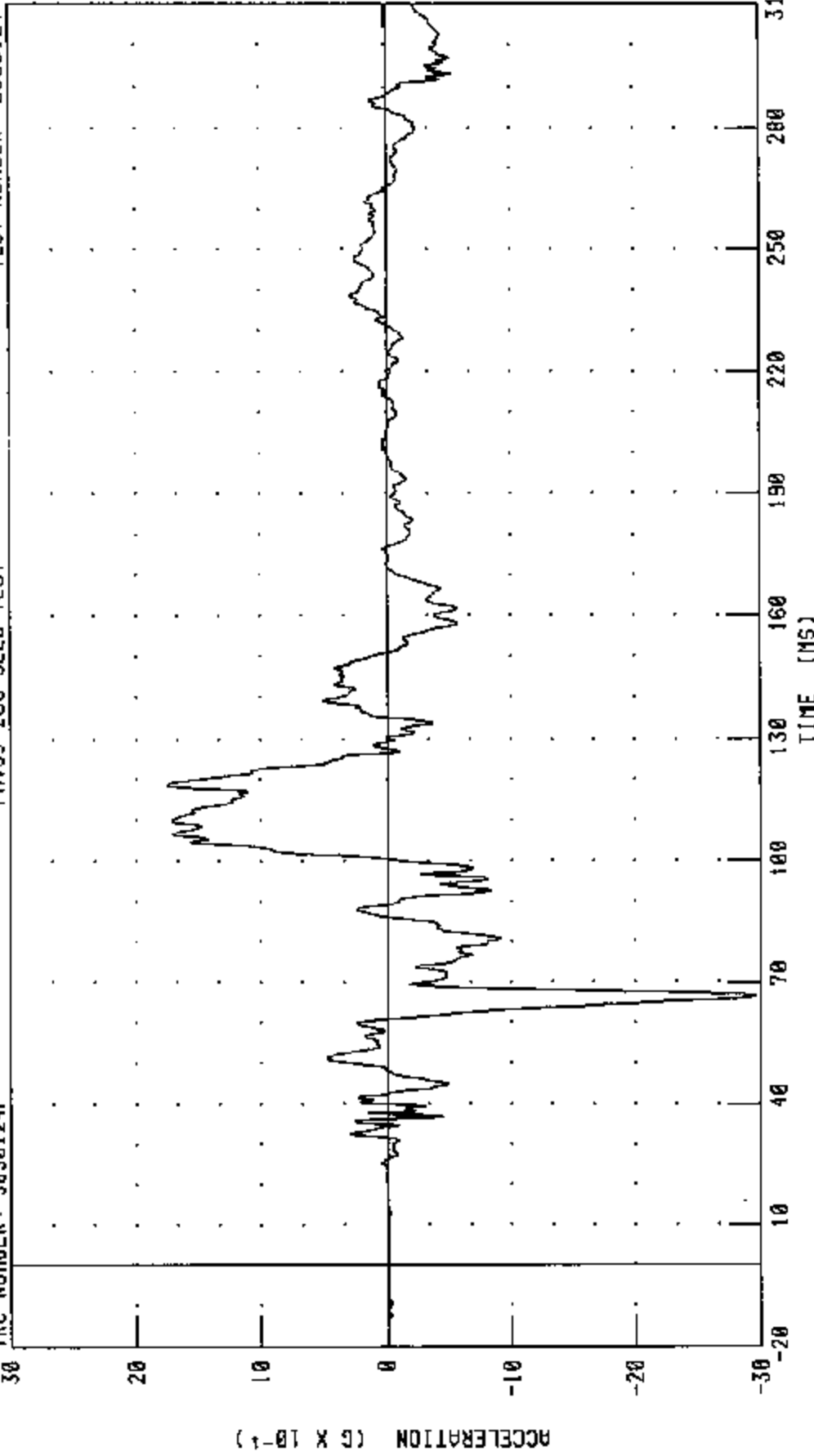
PEAK DATA: 2.72 G @ 242.88 MS; -44.85 G @ 98.72 MS

CHANNEL: CSTXG1 FILTER: CH. CLASS 180

C30202 / 2003 FORD EXPEDITION  
DRIVER CHEST Y-AXIS ACCELERATION  
FMVSS 208 SLED TEST

TEST NUMBER: S030124

TRC NUMBER: S030124F



PEAK DATA: 1 74 C 0 118 80 MS, -2 96 C 0 66 56 MS

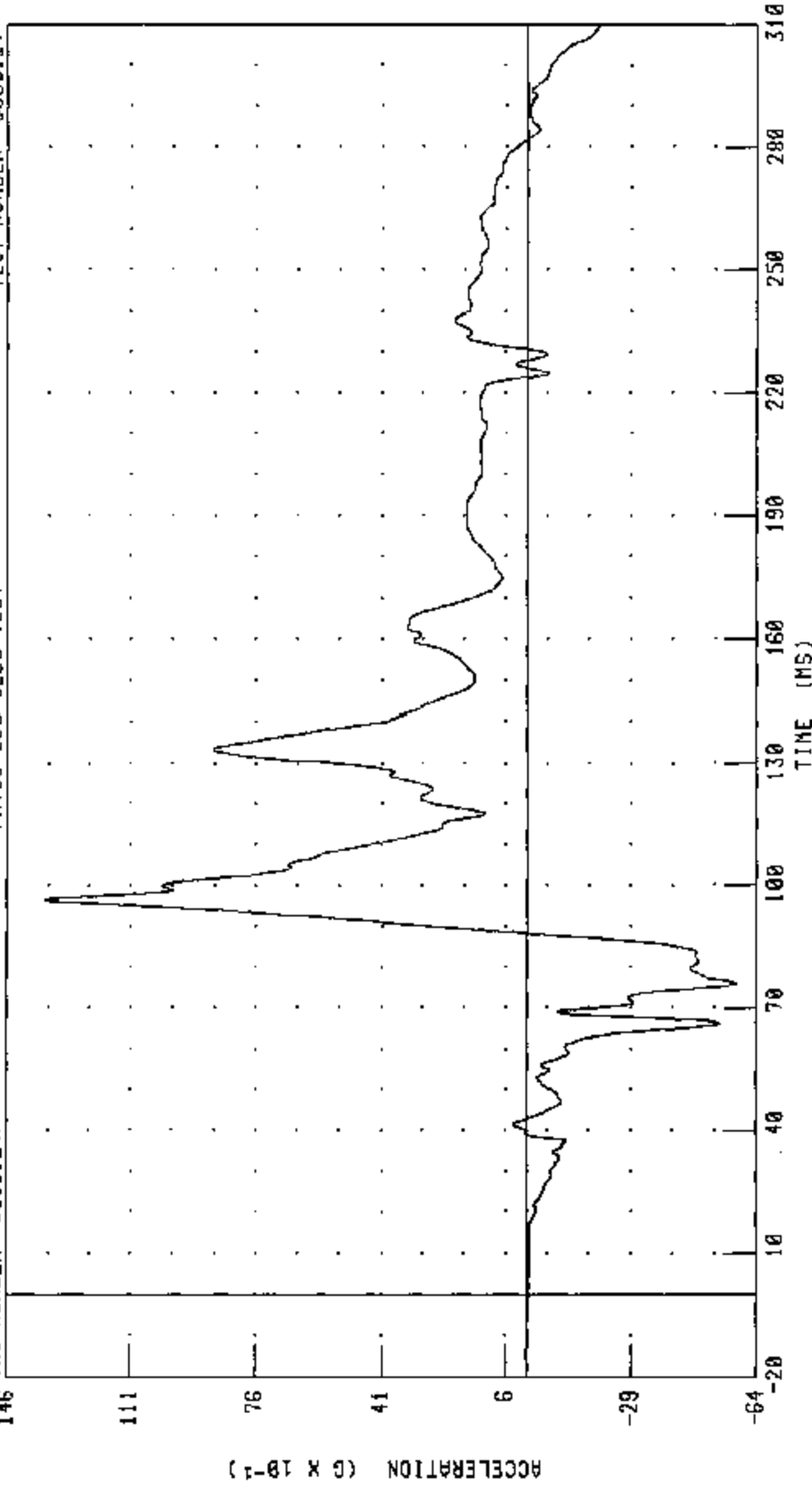
CHANNEL: CSTYG1 FILTER: CH. CLASS 100

C30202 / 2003 FORD EXPEDITION  
DRIVER CHEST Z-AXIS ACCELERATION  
FMVSS 208 SLED TEST

TEST NUMBER: S030124

TRC NUMBER: S030124F

146



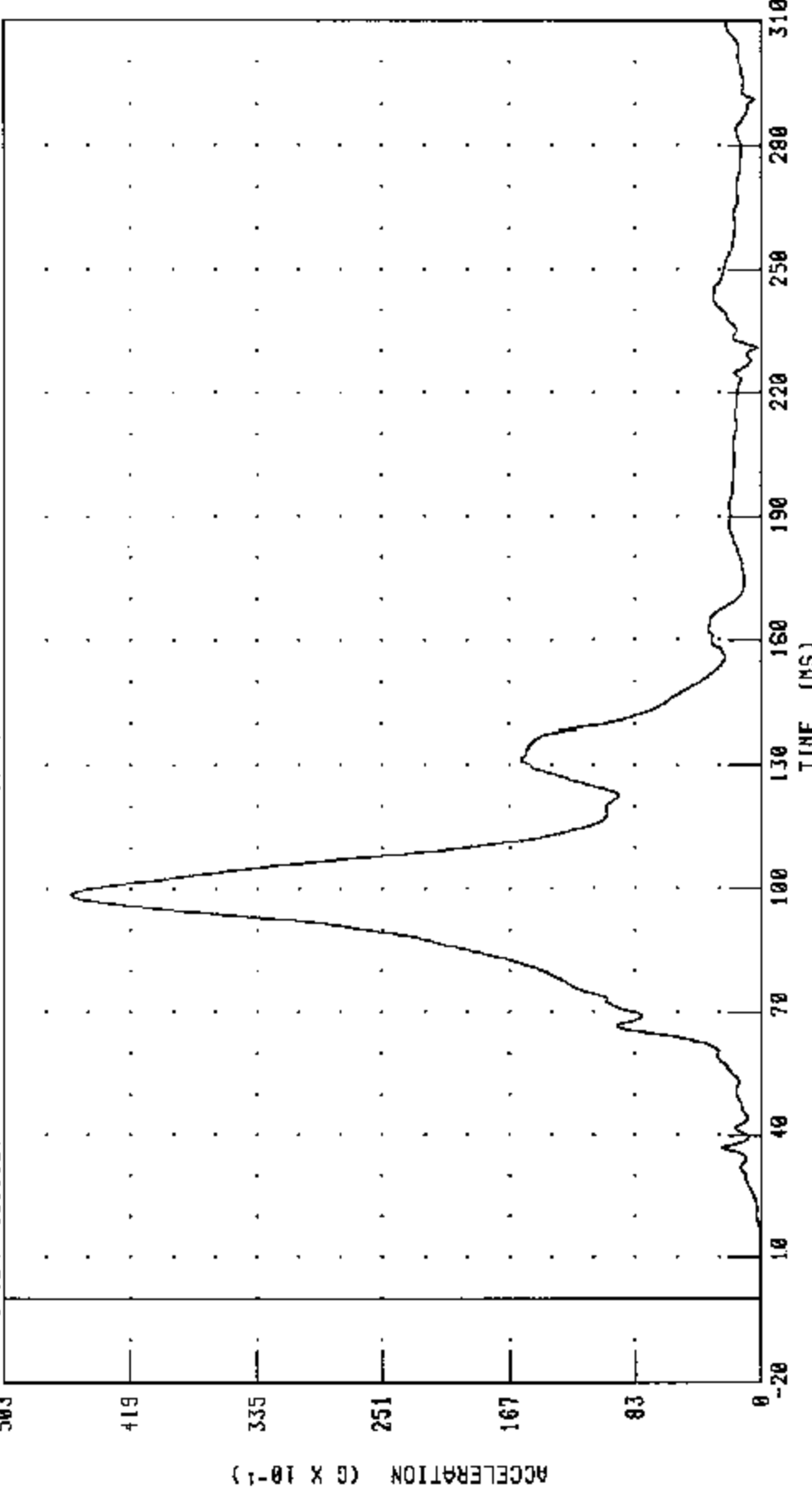
PEAK DATA: 13.53 G @ 96.72 MS, -5.88 G @ 76.08 MS

CHANNEL: CSTZG1 FILTER: CH. CLASS 180

C30202 / 2003 FORD EXPEDITION  
DRIVER CHEST RESULTANT ACCELERATION  
FMVSS 208 SLED TEST

TEST NUMBER: S030124

TRC NUMBER: S030124F



PEAK DATA: 45.97 G @ 98.56 MS; 0.01 G @ -18.72 MS

CHANNEL: CSTRGI FILTER: CH. CLASS 180

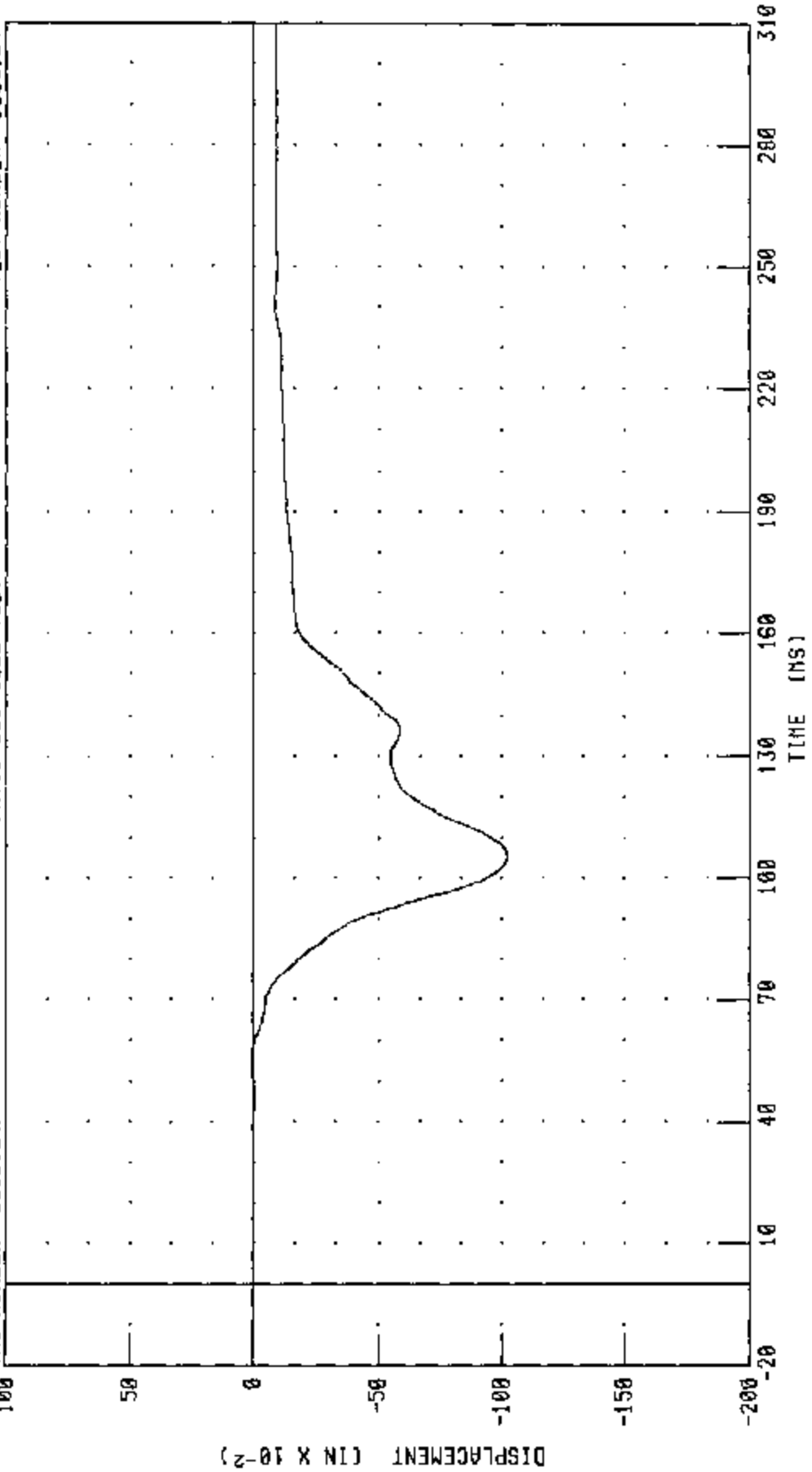
ACCELERATION (G X 10<sup>-1</sup>)

TIME (MS)

C30202 / 2003 FORD EXPEDITION  
DRIVER CHEST DEFLECTION  
FMVSS 206 SLED TEST

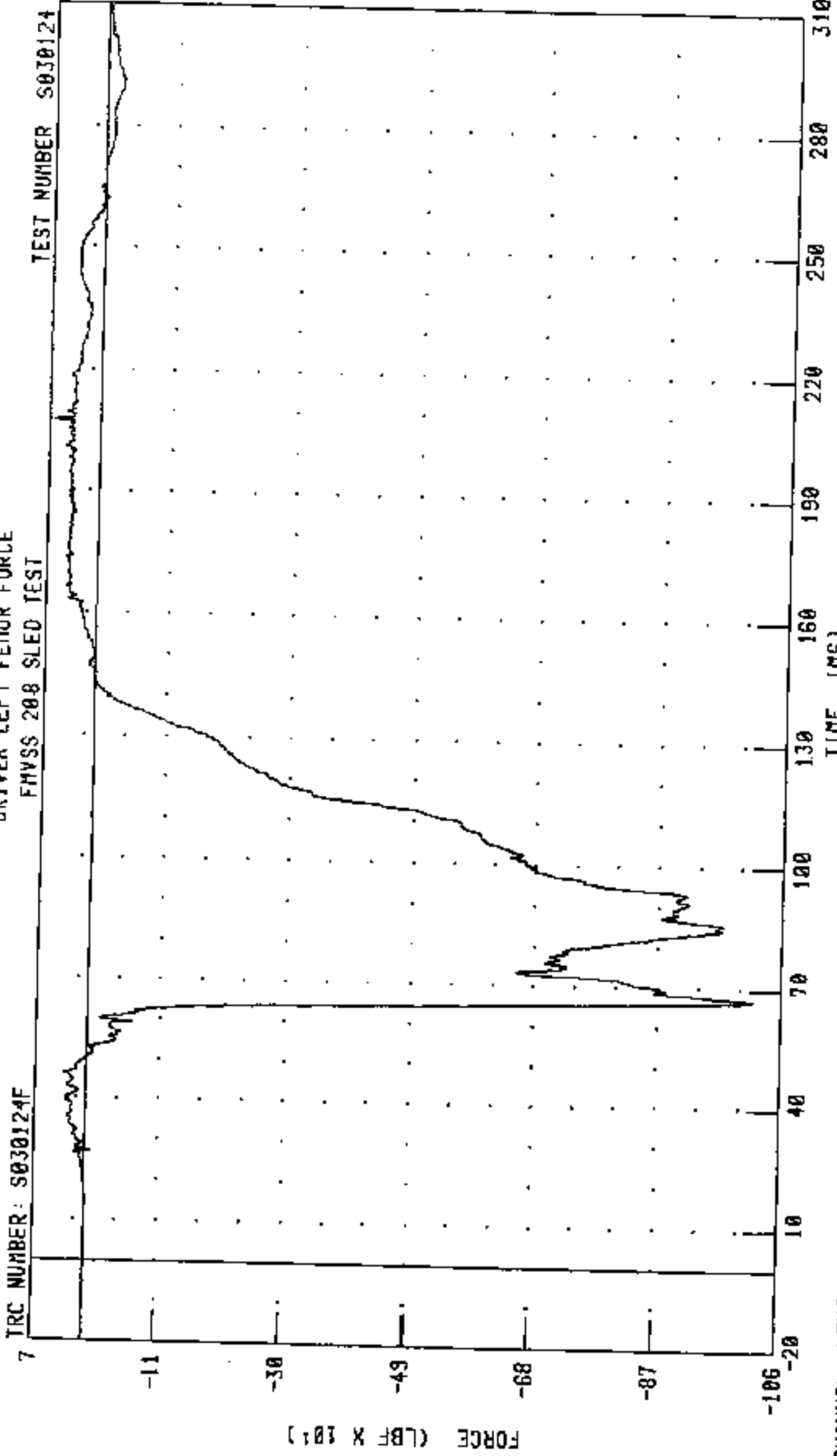
TEST NUMBER S030124

TRC NUMBER : S030124F



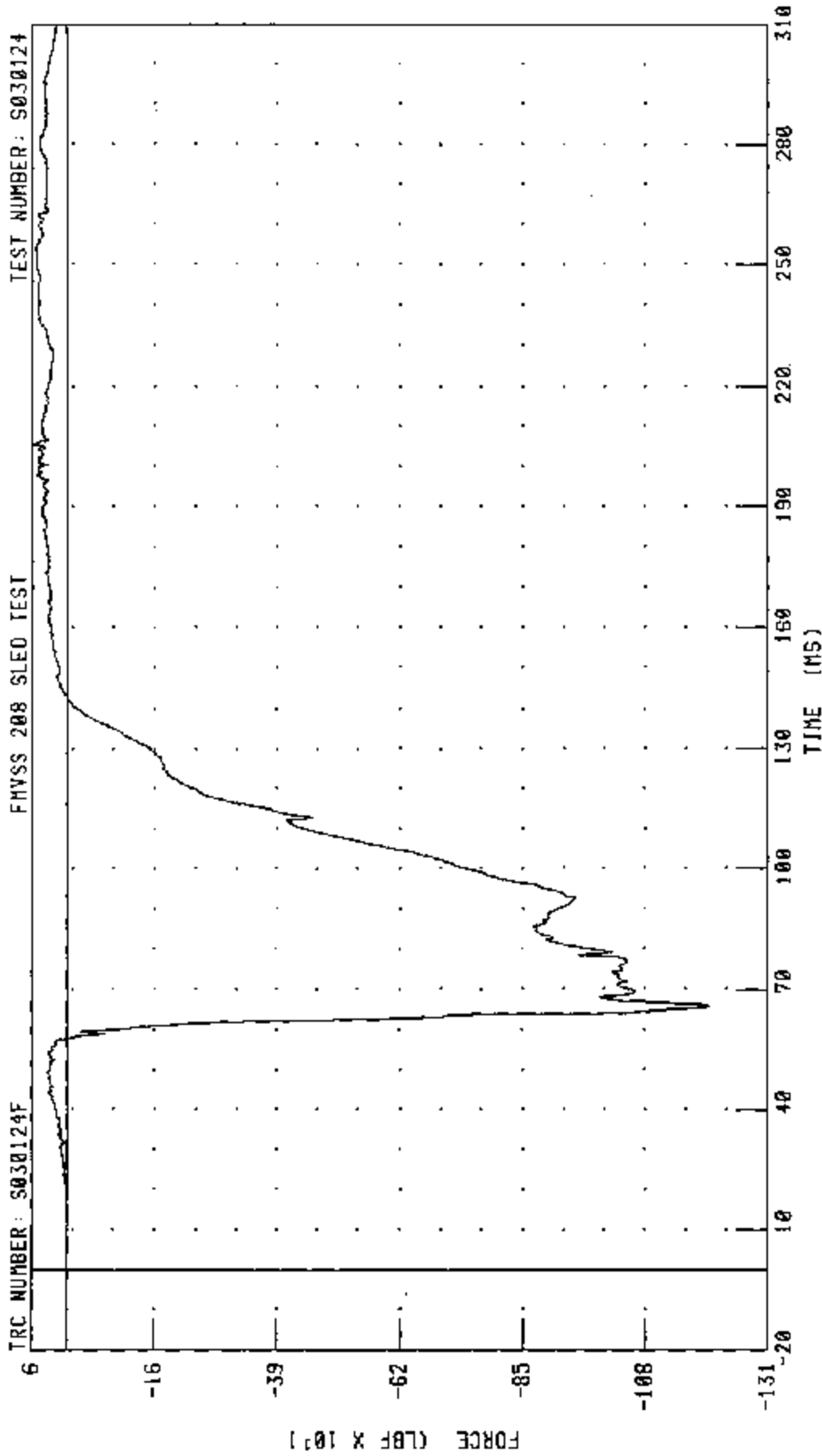
CHANNEL: CSTXD1 FILTER: CH. CLASS 600 PEAK DATA: 0.01 IN @ 53.52 MS; -1.02 IN @ 105.44 MS

C50202 / 2003 FORD EXPEDITION  
DRIVER LEFT FEMUR FORCE  
FMVSS 208 SLED TEST



CHANNEL: LFMZF1 FILTER: CH. CLASS 600  
PEAK DATA: 72.54 LBF @ 207.52 MS; -1017.46 LBF @ 66.96 MS

C30202 / 2003 FORD EXPEDITION  
DRIVER RIGHT FEMUR FORCE  
FHVSS 208 SLED TEST

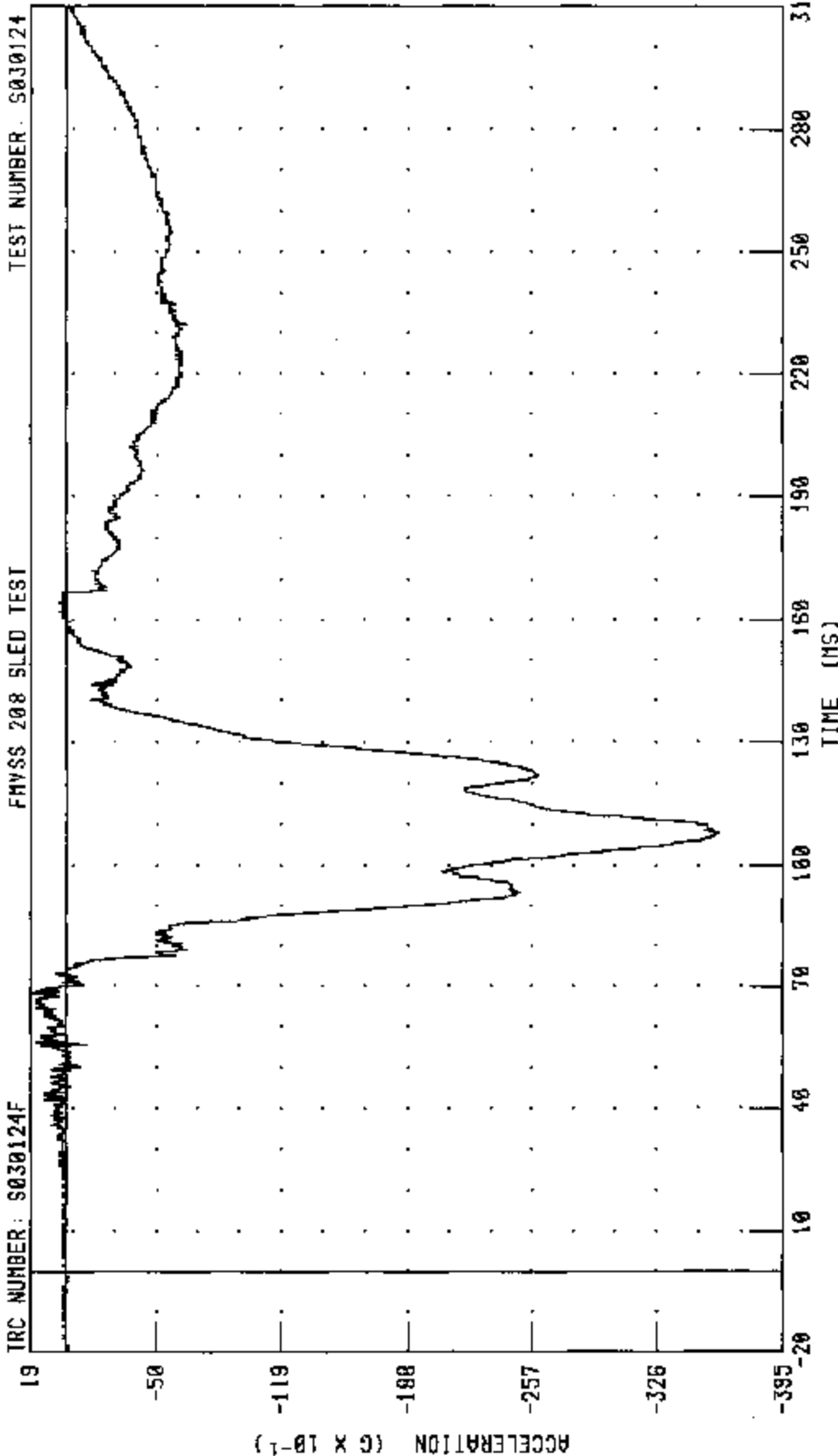


CHANNEL: RFMZF1 FILTER: CH. CLASS 600  
PEAK DATA: 60.21 LBF @ 205.44 MS, -1202.71 LBF @ 66.00 MS

C30202 / 2003 FORO EXPEDITION  
RIGHT FRONT PASSENGER HEAD X-AXIS ACCELERATION  
FHYSS 208 SLED TEST

TEST NUMBER: S030124

TRC NUMBER: S030124F



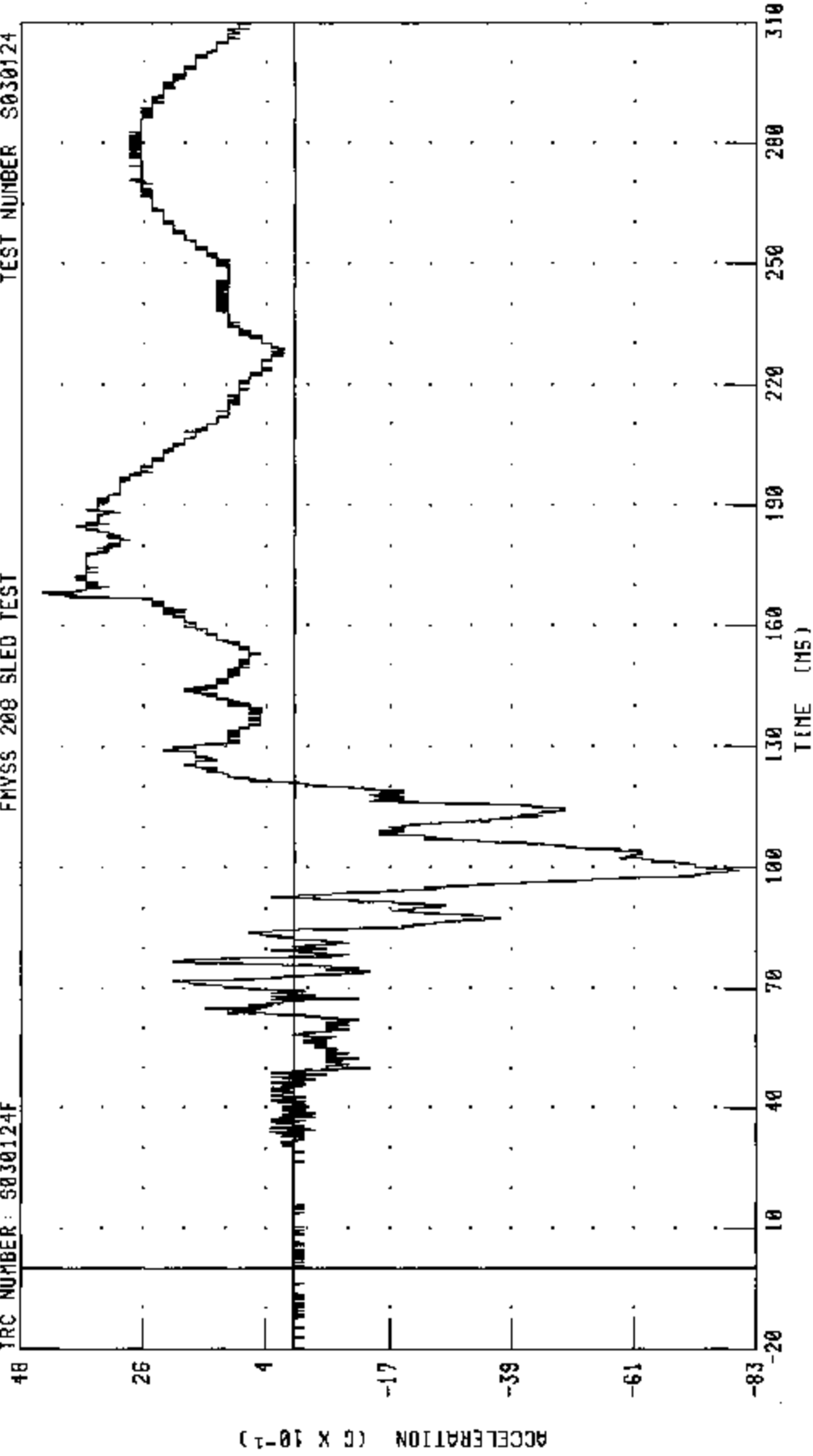
PEAK DATA: 1.74 G @ 68.40 MS, -35.96 G @ 107.68 MS

CHANNEL: HEDXC2 FILTER: CH. CLASS 1000

C30202 / 2003 FORD EXPEDITION  
RIGHT FRONT PASSENGER HEAD Y-AXIS ACCELERATION  
FMVSS 200 SLED TEST

TRC NUMBER: S030124F

TEST NUMBER S030124



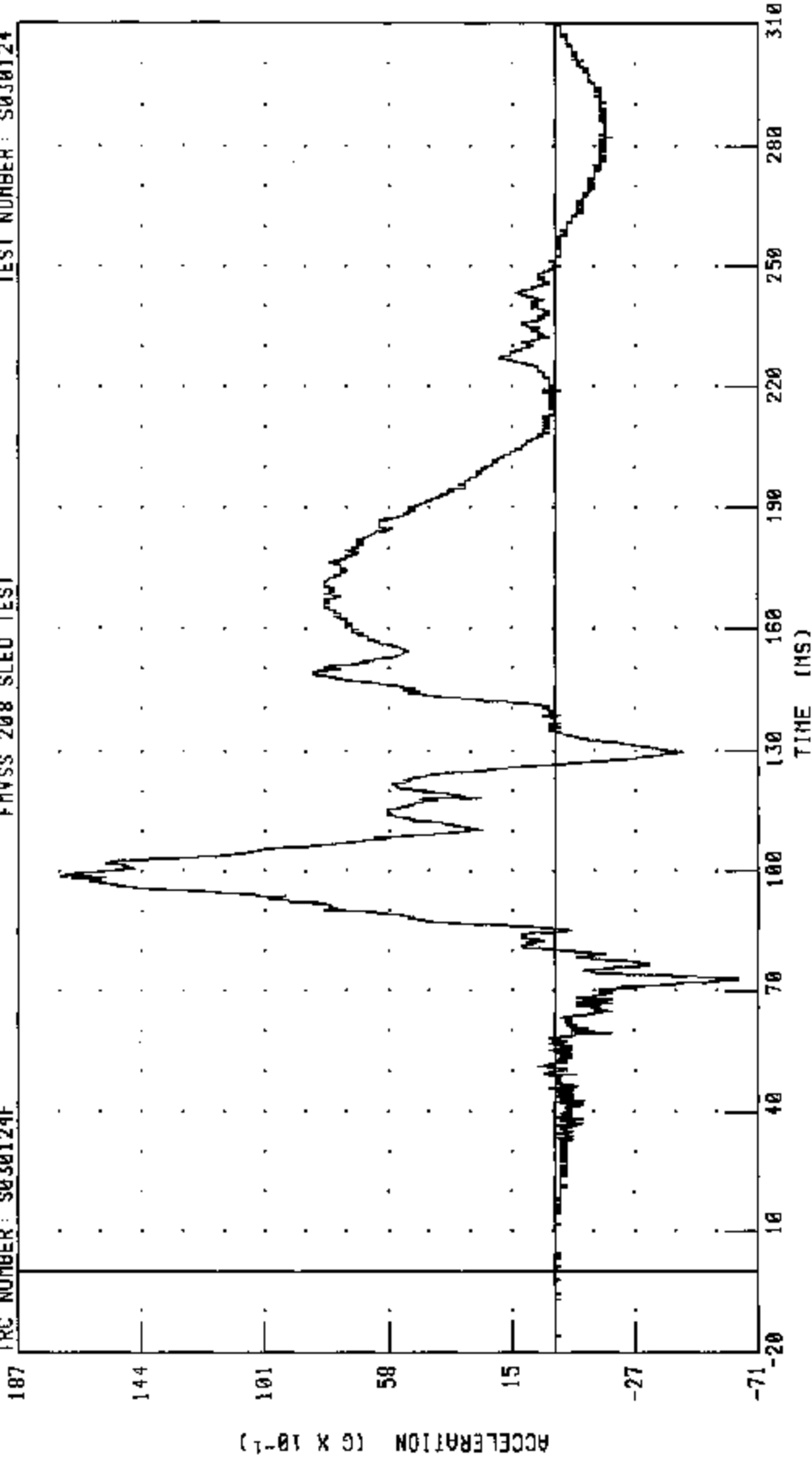
CHANNEL: HEDYG2 FILTER: CH. CLASS 1000

PEAK DATA: 4 51 G @ 168.32 MS, -7.99 G @ 99.44 MS

C30202 / 2003 FORD EXPEDITION  
RIGHT FRONT PASSENGER HEAD Z-AXIS ACCELERATION  
FMVSS 208 SLED TEST

TEST NUMBER: S030124

TRC NUMBER: S030124F



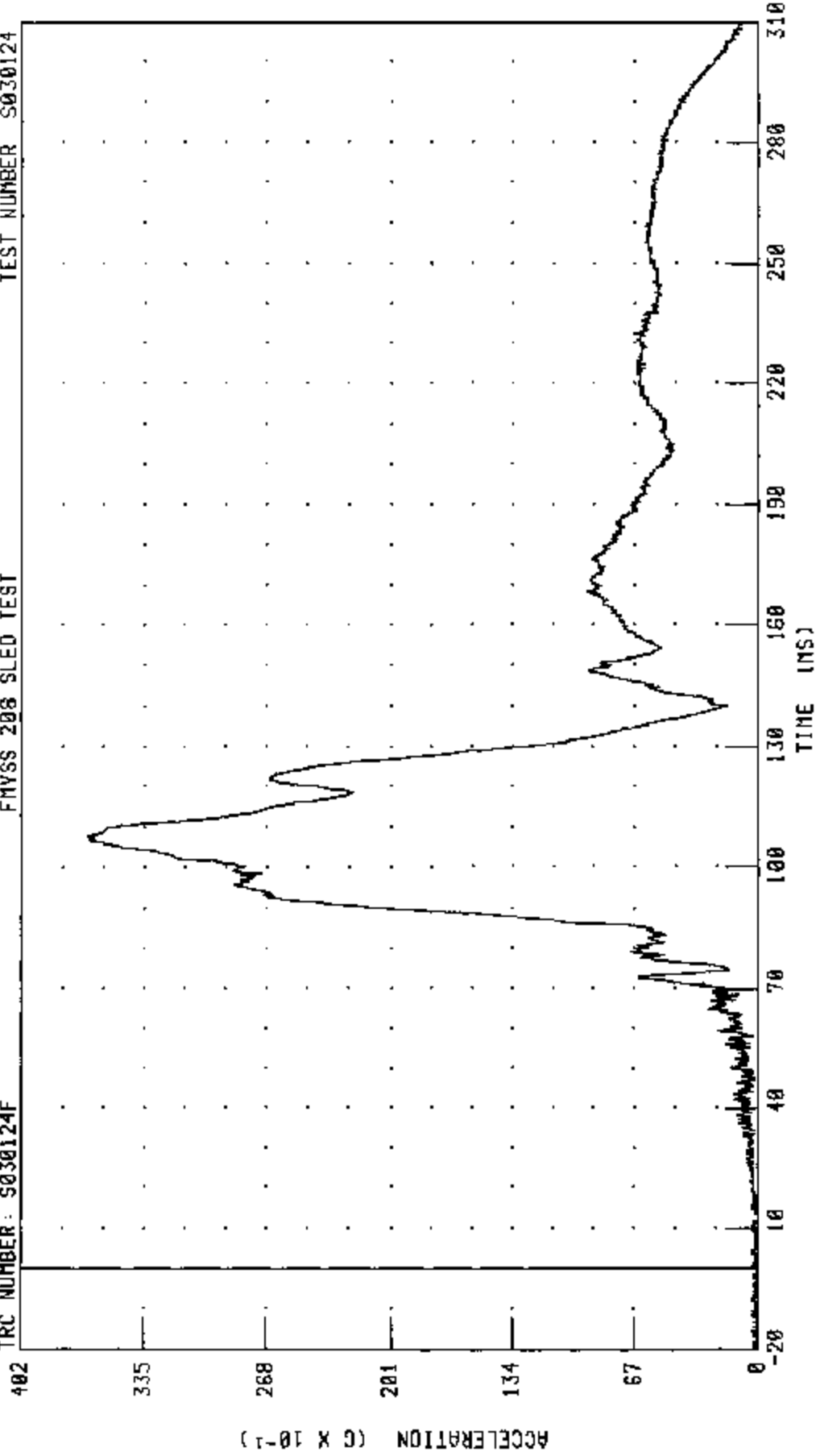
PEAK DATA: 17.22 G @ 98.88 MS; -6.46 G @ 72.72 MS

CHANNEL: HEDZG2 FILTER: CH. CLASS 1000

C30202 / 2003 FORD EXPEDITION  
RIGHT FRONT PASSENGER HEAD RESULTANT ACCELERATION  
FMVSS 208 SLED TEST

TRC NUMBER: 9030124F

TEST NUMBER: S030124



CHANNEL: HEDRG2 FILTER: CH. CLASS 1000 PEAK DATA: 36.62 G @ 107.68 MS; 0.02 G @ -20.00 MS

C30202 / 2003 FORD EXPEDITION  
RIGHT FRONT PASSENGER NECK X-AXIS SHEAR FORCE  
FMVSS 208 SLED TEST

TEST NUMBER S030124

TRC NUMBER: S030124Z

148

119

90

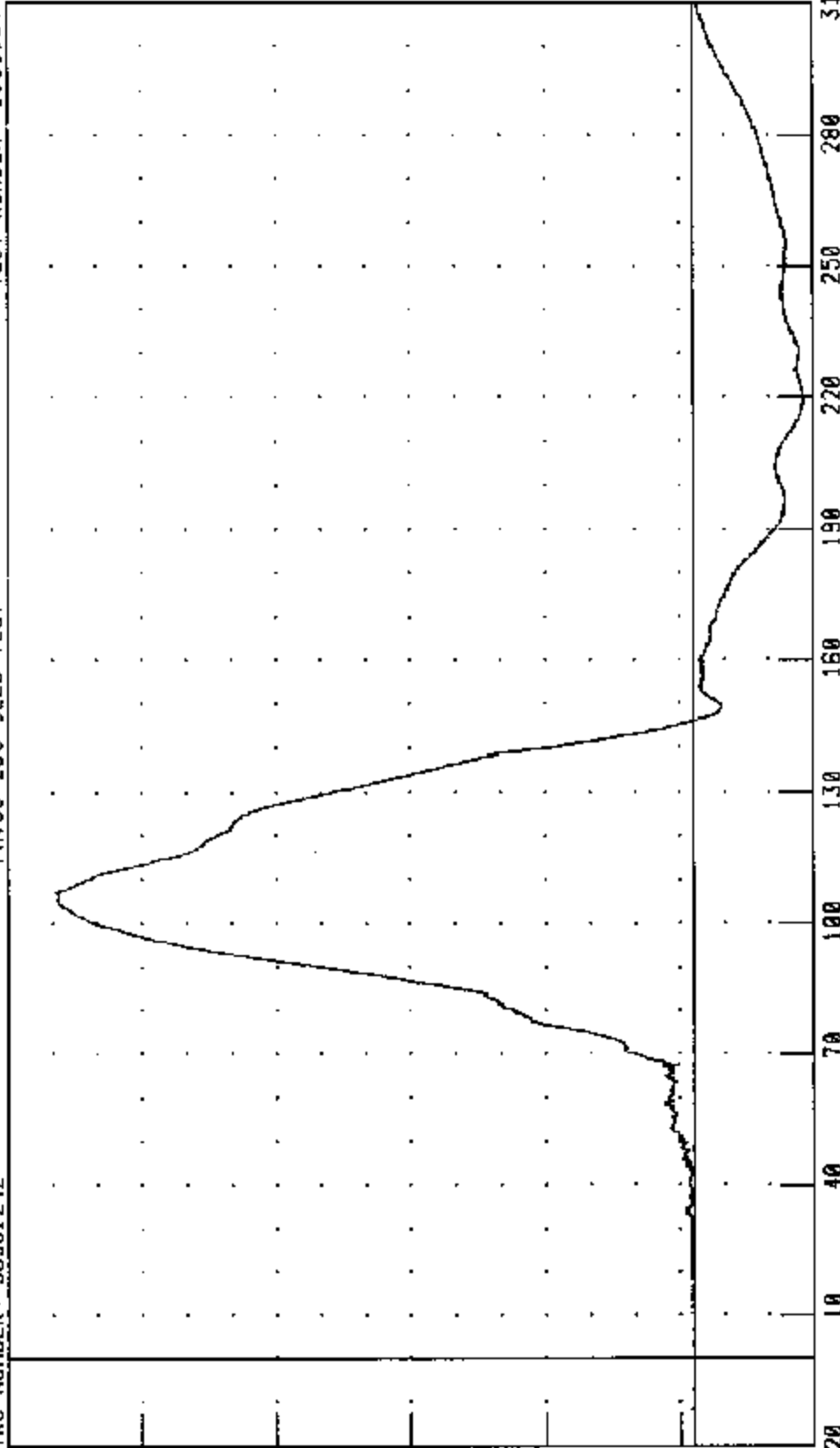
61

32

3

-26

FORCE (N X 10<sup>3</sup>)



TIME (MS)

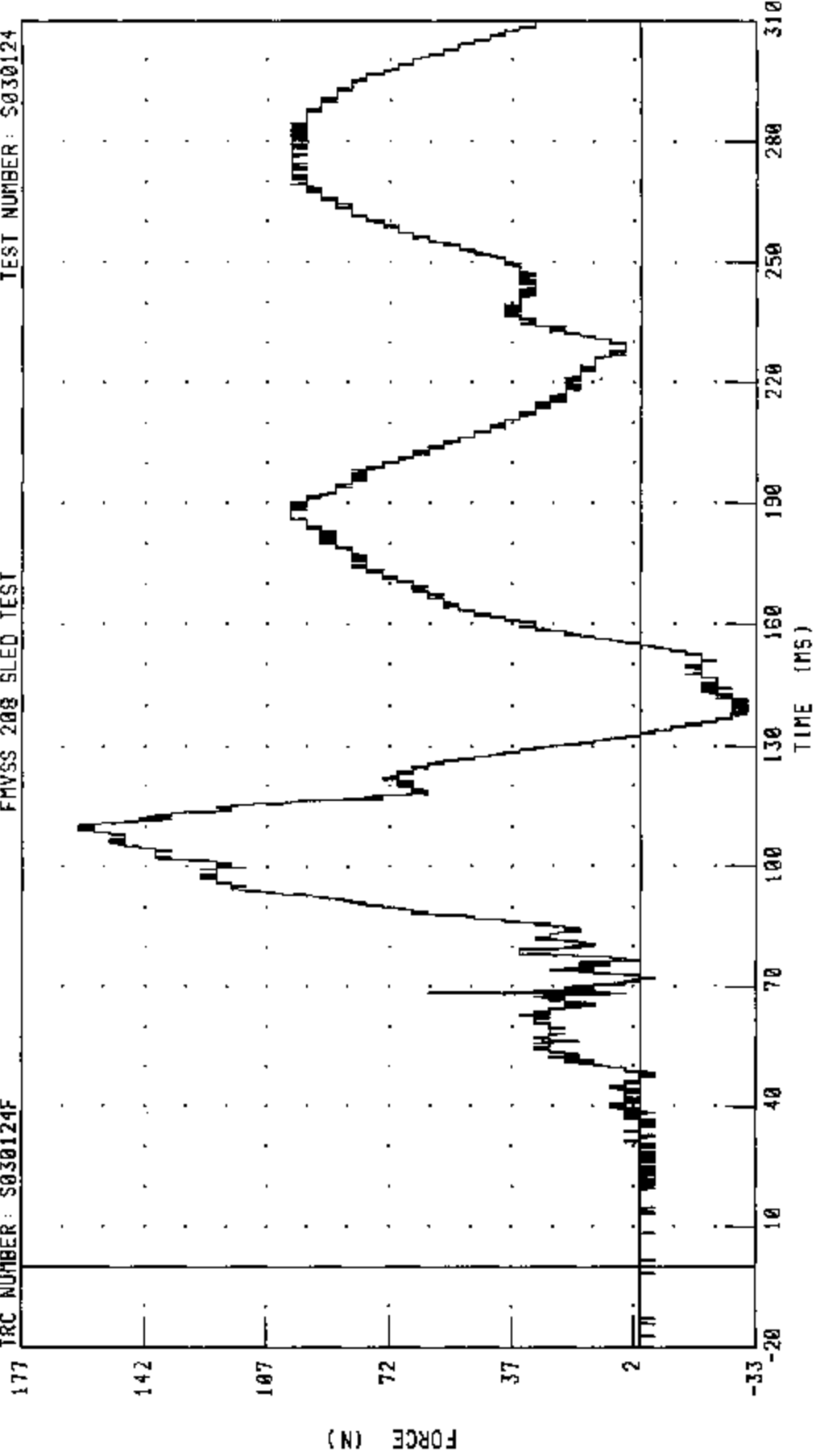
CHANNEL: NEKXF2 FILTER: CH. CLASS 1000

PEAK DATA: 1378.09 N @ 107.12 MS; -243.54 N @ 218.64 MS

C30202 / 2003 FORD EXPEDITION  
RIGHT FRONT PASSENGER NECK Y-AXIS SHEAR FORCE  
FMYSS 208 SLED TEST

TRC NUMBER: S030124F

TEST NUMBER: S030124



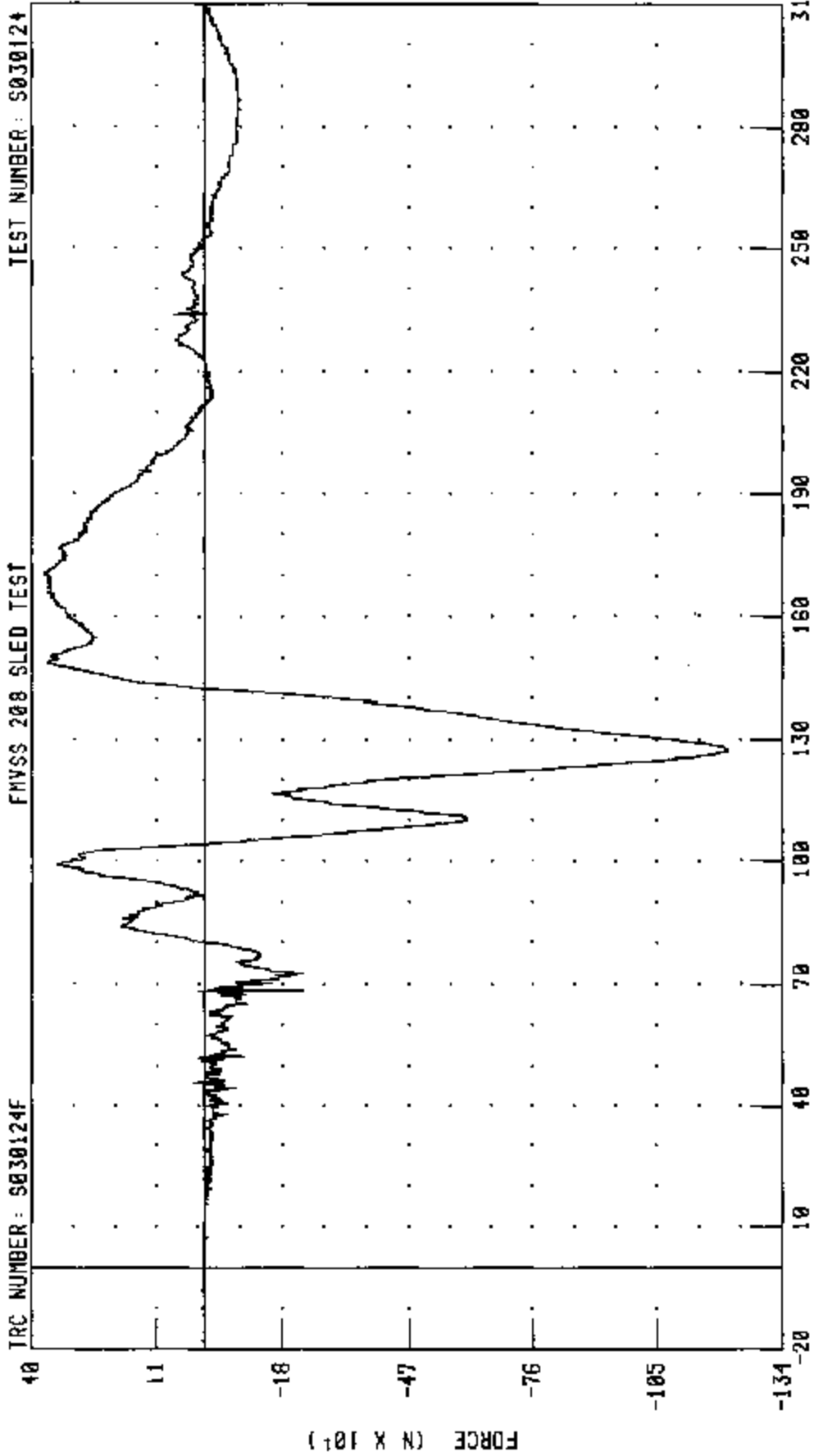
CHANNEL: NEKYFZ FILTER: CH. CLASS 1000

PEAK DATA: 160.90 N @ 109.36 MS; -30.37 N @ 137.84 MS

C30202 / 2003 FORD EXPEDITION  
RIGHT FRONT PASSENGER NECK Z-AXIS AXIAL FORCE  
FMVSS 208 SLED TEST

TEST NUMBER: S030124

TRC NUMBER: S830124F



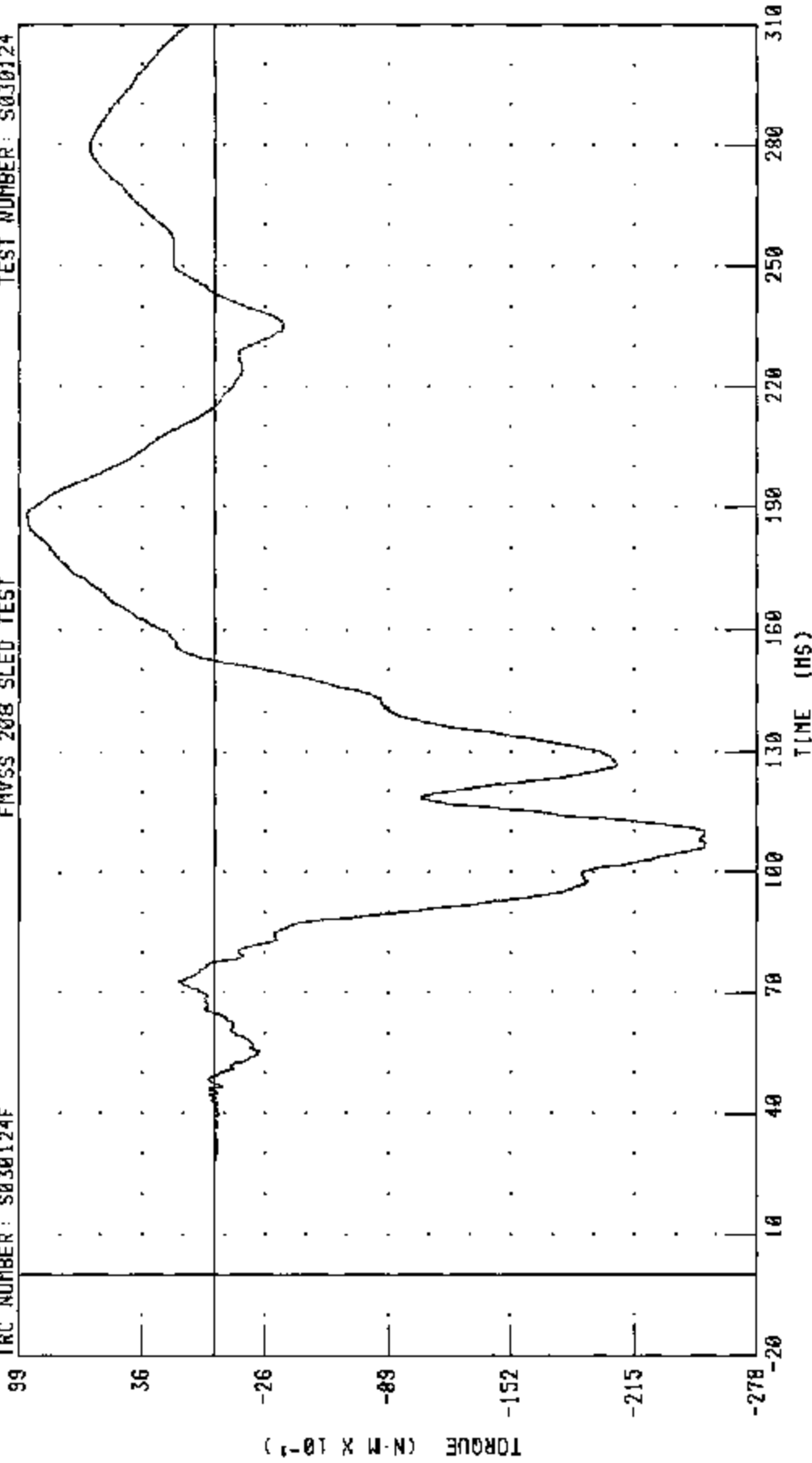
CHANNEL: NEKZF2 FILTER: CH. CLASS 1000 PEAK DATA: 370.75 N @ 170.16 MS; -1212.19 N @ 127.36 MS

C30202 / 2003 FORD EXPEDITION  
RIGHT FRONT PASSENGER NECK MOMENT ABOUT X AXIS

TRC NUMBER: S030124F

FHVSS 208 SLED TEST

TEST NUMBER: S030124

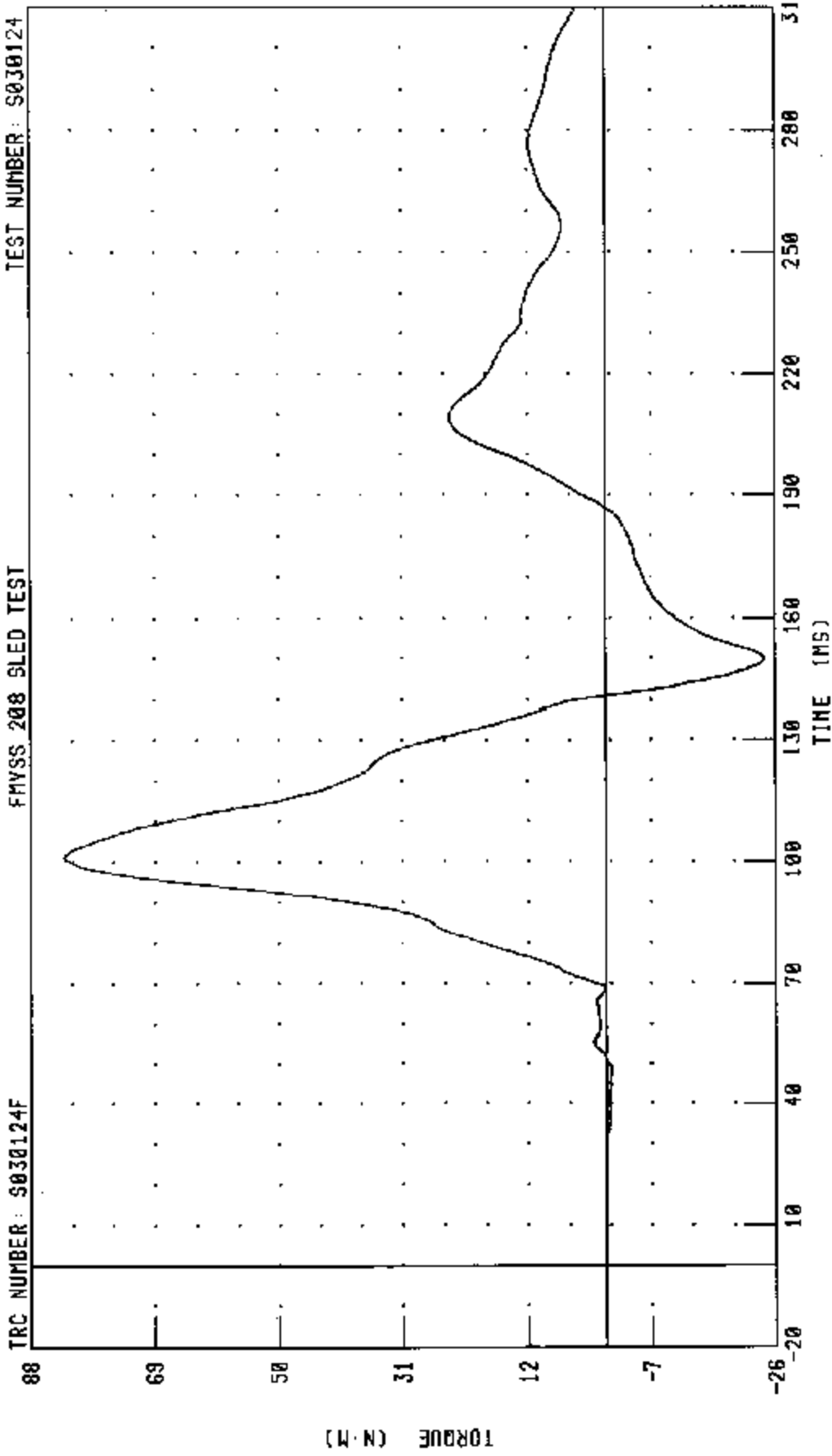


PEAK DATA: 9.66 N-M @ 188.08 MS; -25.13 N-M @ 107.12 MS

CHANNEL: NEKXN2 FILTER: CH. CLASS 600

C30202 / 2003 FORD EXPEDITION  
RIGHT FRONT PASSENGER NECK MOMENT ABOUT Y AXIS  
FVSS 200 SLED TEST

TRC NUMBER: S030124F TEST NUMBER: S030124



PEAK DATA: 82.98 N·M @ 101.20 MS; -24.25 N·M @ 149.76 MS

CHANNEL: NEKYN2 FILTER: CH. CLASS 600

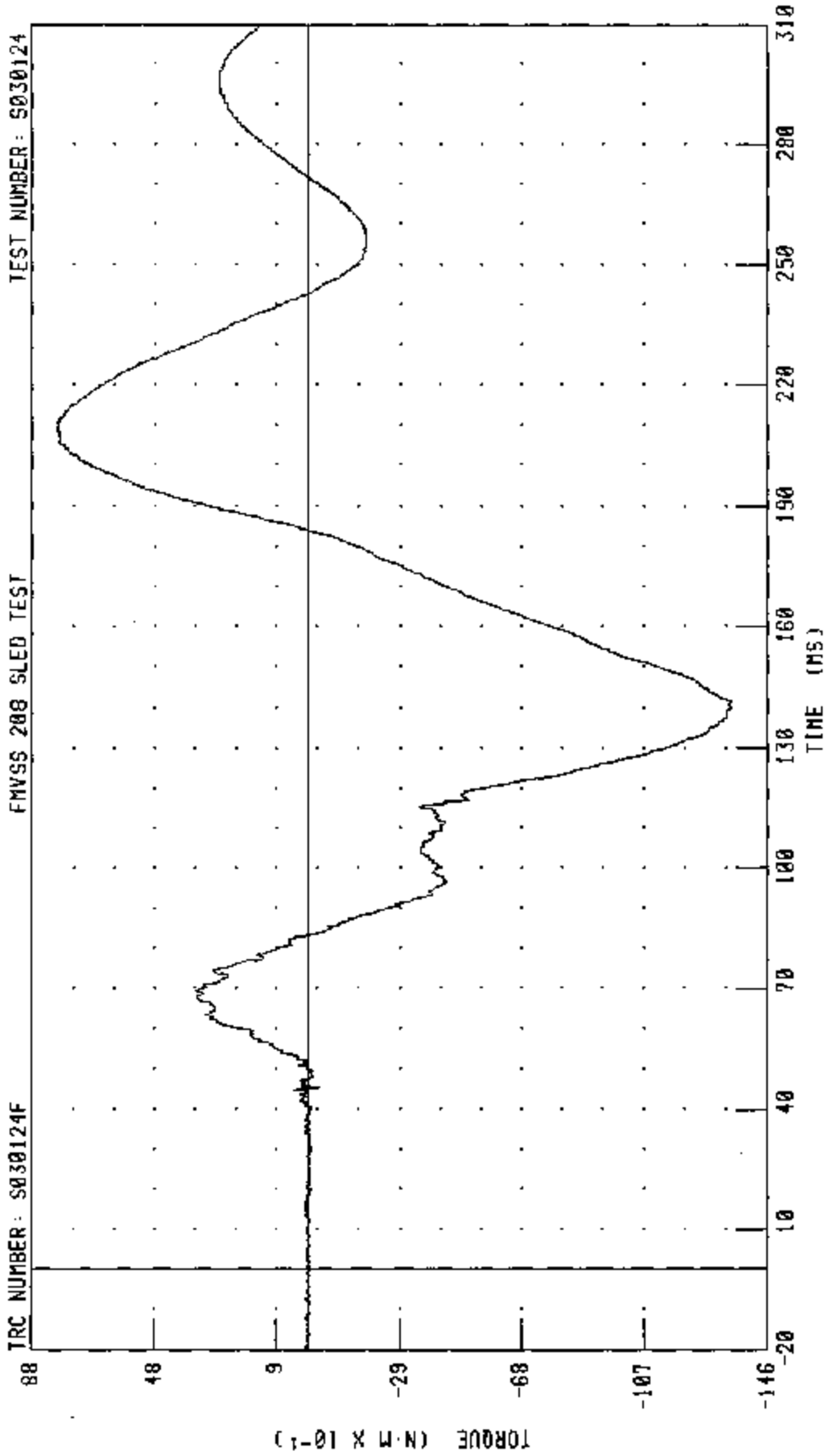
C30202 / 2003 FORD EXPEDITION

RIGHT FRONT PASSENGER NECK MOMENT ABOUT Z AXIS

TRC NUMBER: S030124F

FMVSS 208 SLED TEST

TEST NUMBER: S030124



CHANNEL: NEKZM2 FILTER: CH. CLASS 600

PEAK DATA: 8.03 N·M @ 208.64 MS; -13.46 N·M @ 141.12 MS

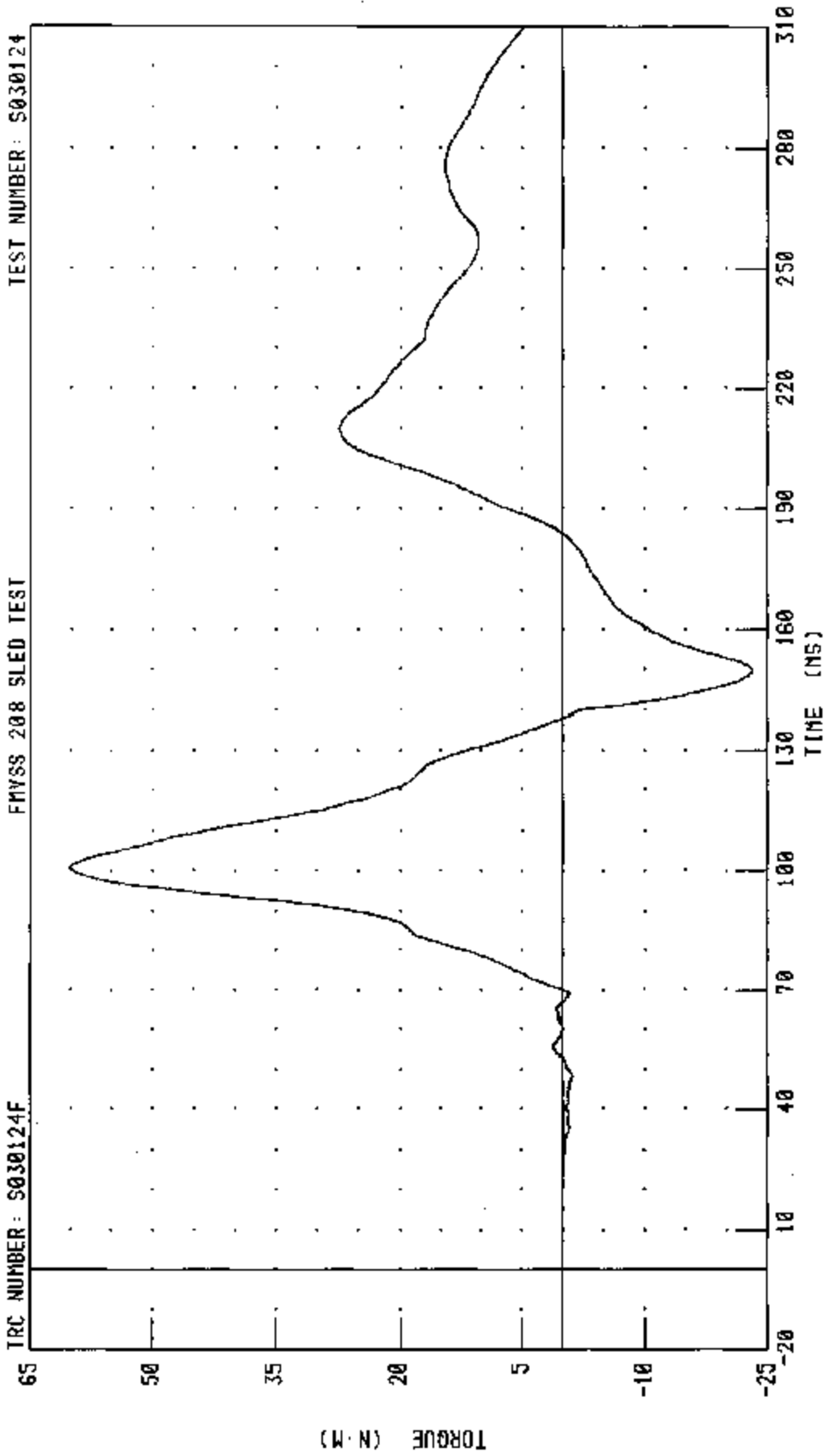
C30202 / 2003 FORD EXPEDITION

RIGHT FRONT PASSENGER NECK MOMENT ABOUT Y AXIS OCCIPITAL CONDYLE

TRC NUMBER: S030124F

FMYSS 208 SLED TEST

TEST NUMBER: S030124



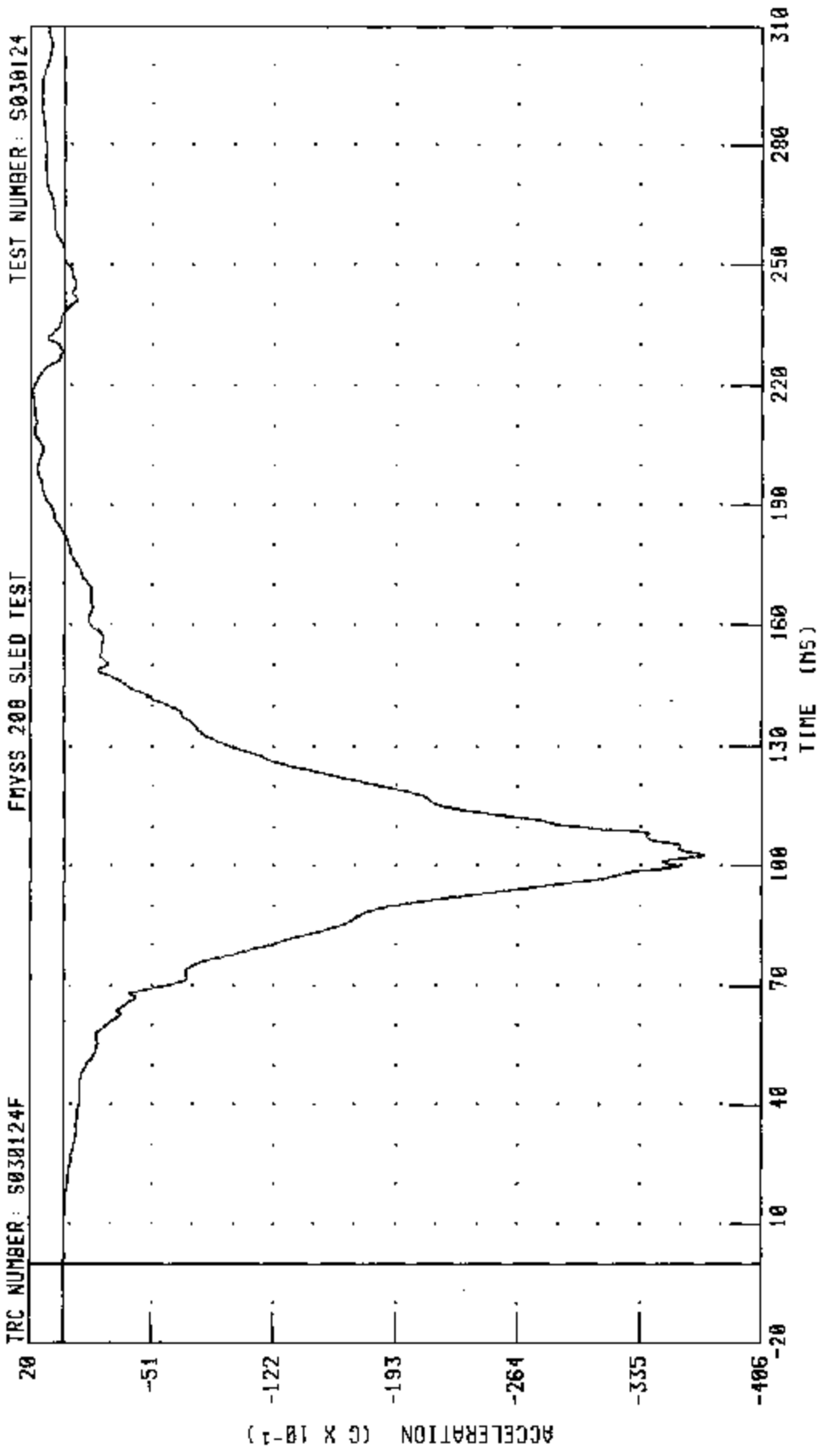
TIME (MS)

PEAK DATA: 60.14 N·M @ 100.80 MS, -23.24 N·M @ 149.76 MS

CHANNEL: NEK012 FILTER: CH. CLASS 600

TORQUE (N·M)

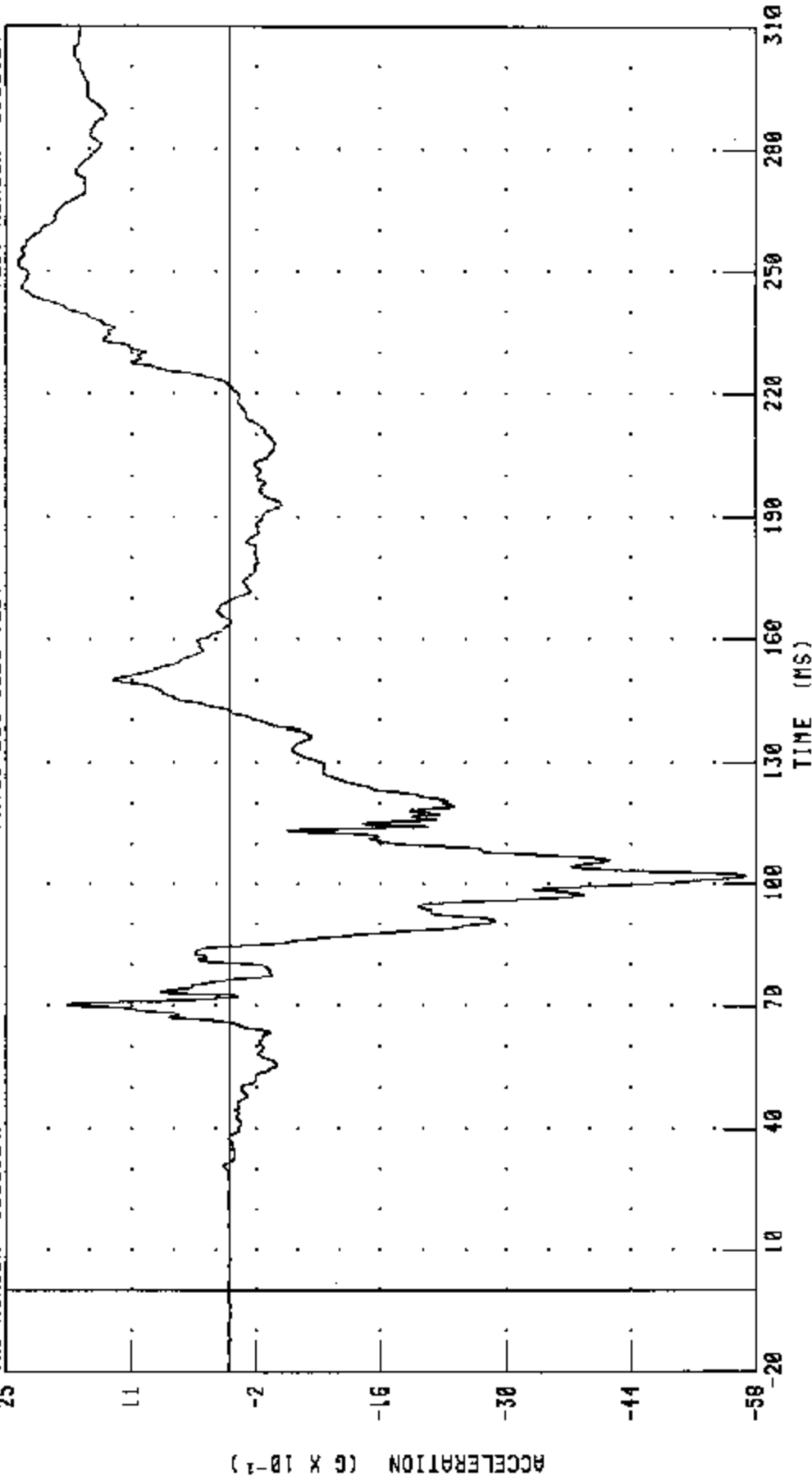
C30202 / 2003 FORD EXPEDITION  
RIGHT FRONT PASSENGER CHEST X-AXIS ACCELERATION  
FMYSS 208 SLED TEST



C30202 / 2003 FORD EXPEDITION  
RIGHT FRONT PASSENGER CHEST Y-AXIS ACCELERATION  
FMVSS 208 SLED TEST

TRC NUMBER: S030124F

TEST NUMBER: S030124

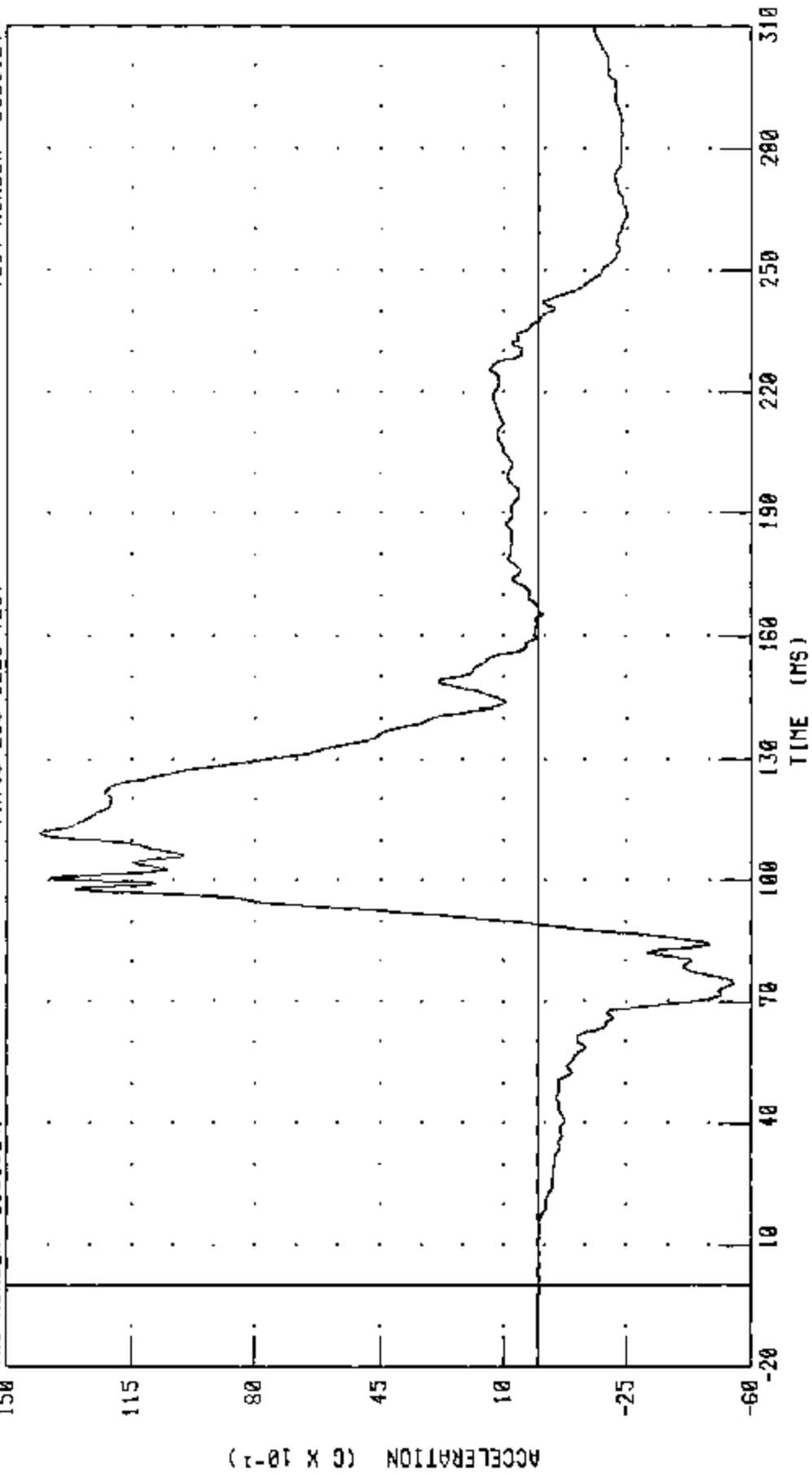


CHANNEL: CSTYG2 FILTER: CH. CLASS 180 PEAK DATA: 2.36 G @ 252.24 MS; -5.79 G @ 102.24 MS

C30202 / 2003 FORD EXPEDITION  
RIGHT FRONT PASSENGER CHEST Z-AXIS ACCELERATION  
FHYSS 208 SLED TEST

TRC NUMBER: S030124F

TEST NUMBER: S030124



CHANNEL: CSTZG2 FILTER: CH. CLASS 180 PEAK DATA: 14.07 G @ 111.84 MS, -5.52 G @ 74.48 MS

C30202 / 2003 FORD EXPEDITION  
RIGHT FRONT PASSENGER CHEST RESULTANT ACCELERATION  
FMVSS 208 SLED TEST

TEST NUMBER: S030124

TRC NUMBER: S030124F

426

355

284

213

142

71

0

ACCELERATION (G X 10<sup>-1</sup>)

-20

10

40

70

100

130

160

190

220

250

280

310

TIME (MS)

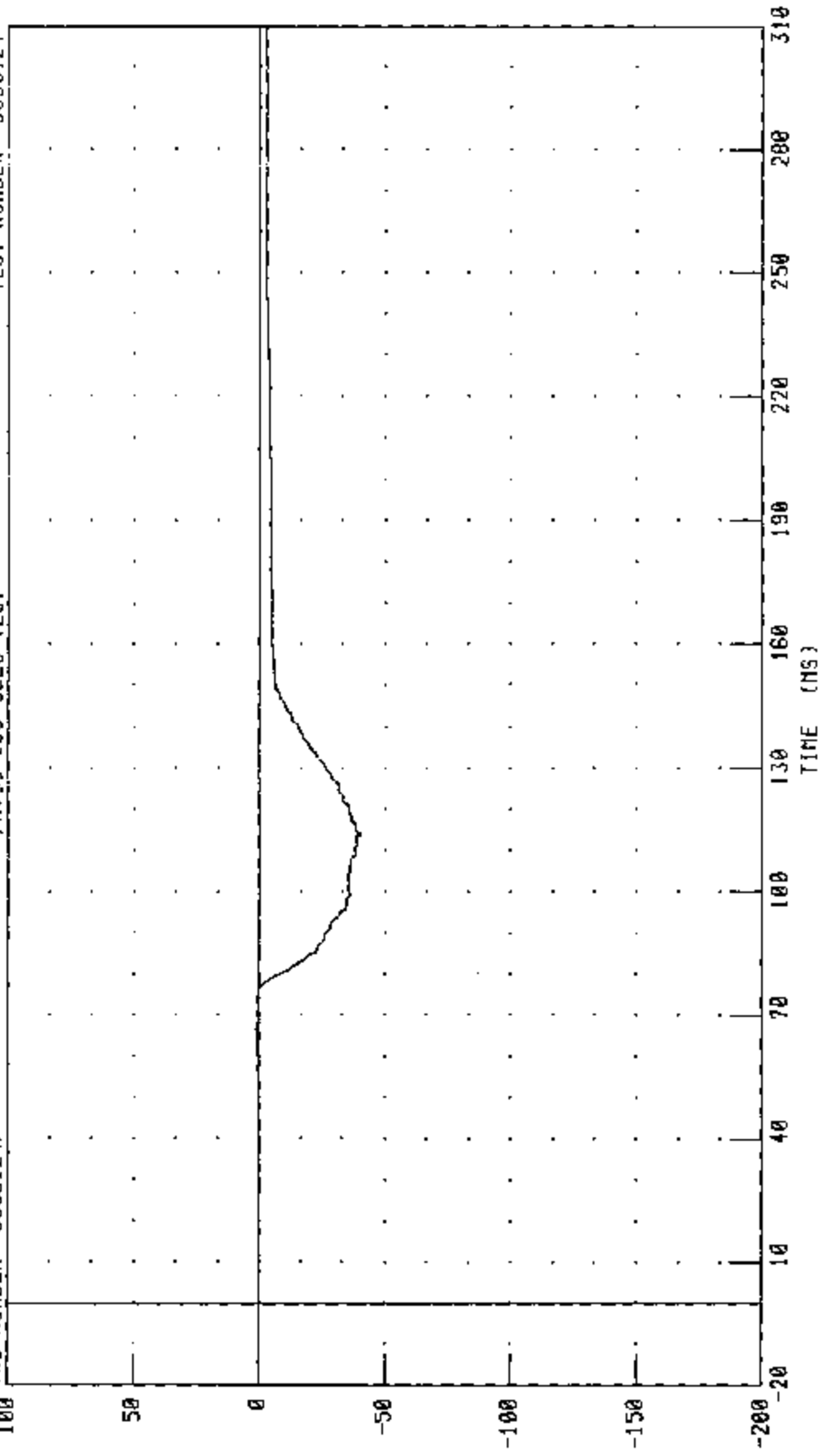
CHANNEL: CSTRG2 FILTER: CH. CLASS 180

PEAK DATA: 39.06 G @ 102.80 MS; 0.00 G @ -16.96 MS

C30202 / 2003 FORD EXPEDITION  
RIGHT FRONT PASSENGER CHEST DEFLECTION  
FMVSS 208 SLED TEST

TRC NUMBER: S030124F TEST NUMBER: S030124

DISPLACEMENT (IN X 10<sup>-2</sup>)

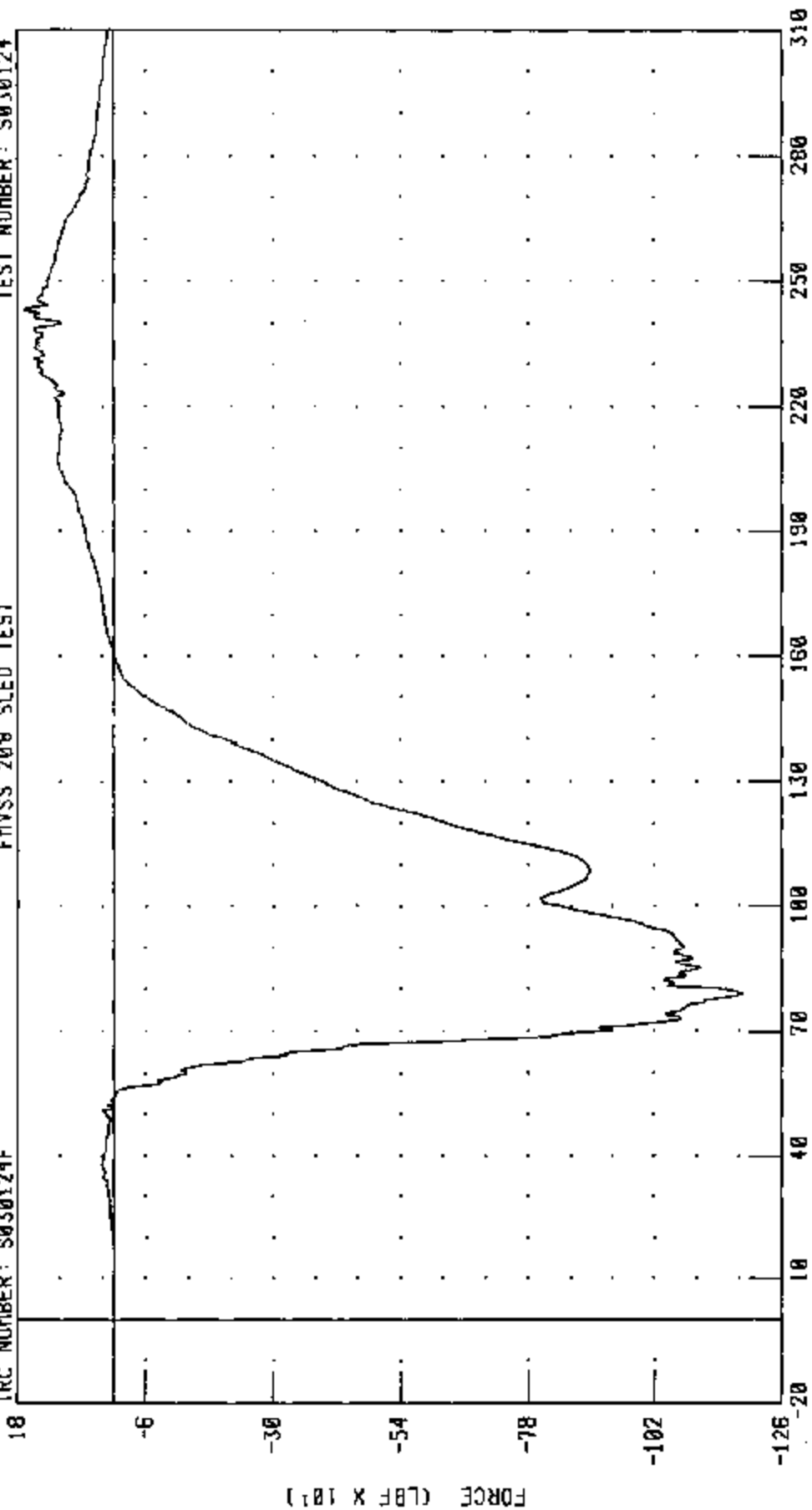


CHANNEL: CSTXD2 FILTER: CH. CLASS 600  
PEAK DATA: 0.01 IN @ 66.64 MS, -0.40 IN @ 114.08 MS

C30202 / 2003 FORD EXPEDITION  
RIGHT FRONT PASSENGER LEFT FEMUR FORCE  
FMVSS 200 SLED TEST

TRC NUMBER: S030124F

TEST NUMBER: S030124



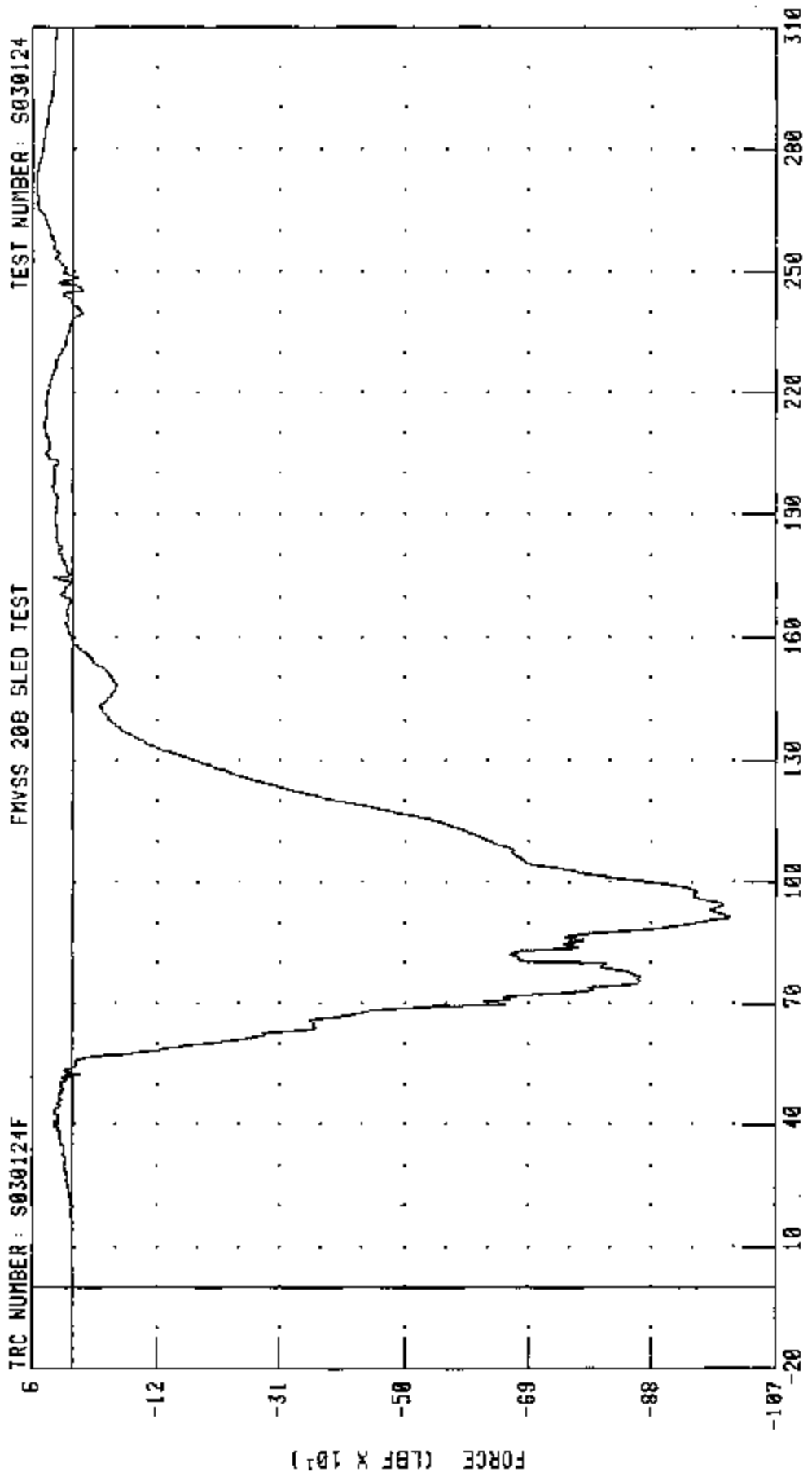
TIME (MS)

PEAK DATA: 167.98 LBF @ 243.36 MS; -1186.27 LBF @ 79.12 MS

CHANNEL: LFMZF2 FILTER: CH. CLASS 600

C30202 / 2003 FORD EXPEDITION  
RIGHT FRONT PASSENGER RIGHT FEMUR FORCE  
FMVSS 208 BLEED TEST

TRC NUMBER: S030124F  
TEST NUMBER: S030124



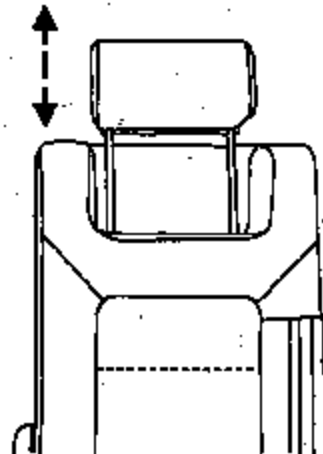
CHANNEL: RFMZF2 FILTER: CH. CLASS 600  
PEAK DATA: 55.63 LBF @ 271.44 MS, -1010.03 LBF @ 91.52 MS

CH. CLASS 600

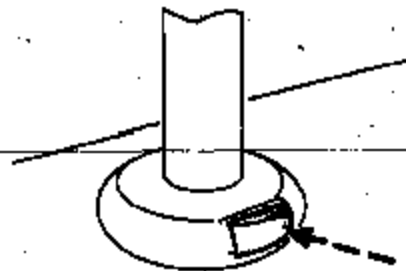
Appendix C

**Manufacturer's Vehicle Information**

The head restraints can be moved up and down.



Push control to lower head restraint.




## **SAFETY RESTRAINTS**

### **Personal Safety System**

The Personal Safety System provides an improved overall level of frontal crash protection to front seat occupants and is designed to help further reduce the risk of air bag-related injuries. The system is able to analyze different occupant conditions and crash severity before activating the appropriate safety devices to help better protect a range of occupants in a variety of frontal crash situations.

Your vehicle's Personal Safety System consists of:

- Driver and passenger dual-stage air bag supplemental restraints.

- 
- Front safety belts with pretensioners, energy management retractors, and safety belt usage sensors.
  - Driver's seat position sensor.
  - Front crash severity sensor.
  - Restraints Control Module (RCM) with impact and safing sensors.
  - Restraint system warning light and back-up tone.
  - The electrical wiring for the air bags, crash sensor(s), safety belt pretensioners, front safety belt usage sensors, driver seat position sensor, and indicator lights.

***How does the personal safety system work?***

The Personal Safety System can adapt the deployment strategy of your vehicle's safety devices according to crash severity and occupant conditions. A collection of crash and occupant sensors provides information to the Restraints Control Module (RCM). During a crash, the RCM activates the safety belt pretensioners and/or either one or both stages of the dual-stage air bag supplemental restraints based on crash severity and occupant conditions.

The fact that the pretensioners or air bags did not activate for both front seat occupants in a collision does not mean that something is wrong with the system. Rather, it means the Personal Safety System determined the accident conditions (crash severity, belt usage, etc.) were not appropriate to activate these safety devices. Front air bags are designed to activate only in frontal and near-frontal collisions, not rollovers, side-impacts, or rear-impacts unless the collision causes sufficient longitudinal deceleration.

***Driver and passenger dual-stage air bag supplemental restraints***

The dual-stage air bags offer the capability to tailor the level of air bag inflation energy. A lower, less forceful energy level is provided for more common, moderate-severity impacts. A higher energy level is used for the most severe impacts. Refer to *Air bag Supplemental Restraints* section in this chapter.

***Front crash severity sensor***

The front crash severity sensor enhances the ability to detect the severity of an impact. Positioned up front, it provides valuable information early in the crash event on the severity of the impact. This allows your Personal Safety System to distinguish between different levels of crash severity and modify the deployment strategy of the dual-stage air bags and safety belt pretensioners.

  
**Driver's seat position sensor**

The driver's seat position sensor allows your Personal Safety System to tailor the deployment level of the driver dual-stage air bag based on seat position. The system is designed to help protect smaller drivers sitting close to the driver air bag by providing a lower air bag output level.

**Front safety belt usage sensors**

The front safety belt usage sensors detect whether or not the driver and front outboard passenger safety belts are fastened. This information allows your Personal Safety System to tailor the air bag deployment and safety belt pretensioner activation depending upon safety belt usage. Refer to *Safety Belt* section in this chapter.

**Front safety belt pretensioners**

The safety belt pretensioners are designed to tighten the safety belts firmly against the occupant's body during a collision. This maximizes the effectiveness of the safety belts and helps properly position the occupant relative to the air bag to improve protection. The safety belt pretensioners can be either activated alone or, if the collision is of sufficient severity, together with the air bags.

**Front safety belt energy management retractors**

The front safety belt energy management retractors allow webbing to be pulled out of the retractor in a gradual and controlled manner in response to the occupant's forward momentum. This helps reduce the risk of force-related injuries to the occupant's chest by limiting the load on the occupant. Refer to *Safety Belt* section in this chapter.

**Determining if the Personal Safety System is operational**

The Personal Safety System uses a warning light in the instrument cluster or a back-up tone to indicate the condition of the system. Refer to the *Warning Light* section in the *Instrument Cluster* chapter. Routine maintenance of the Personal Safety System is not required.

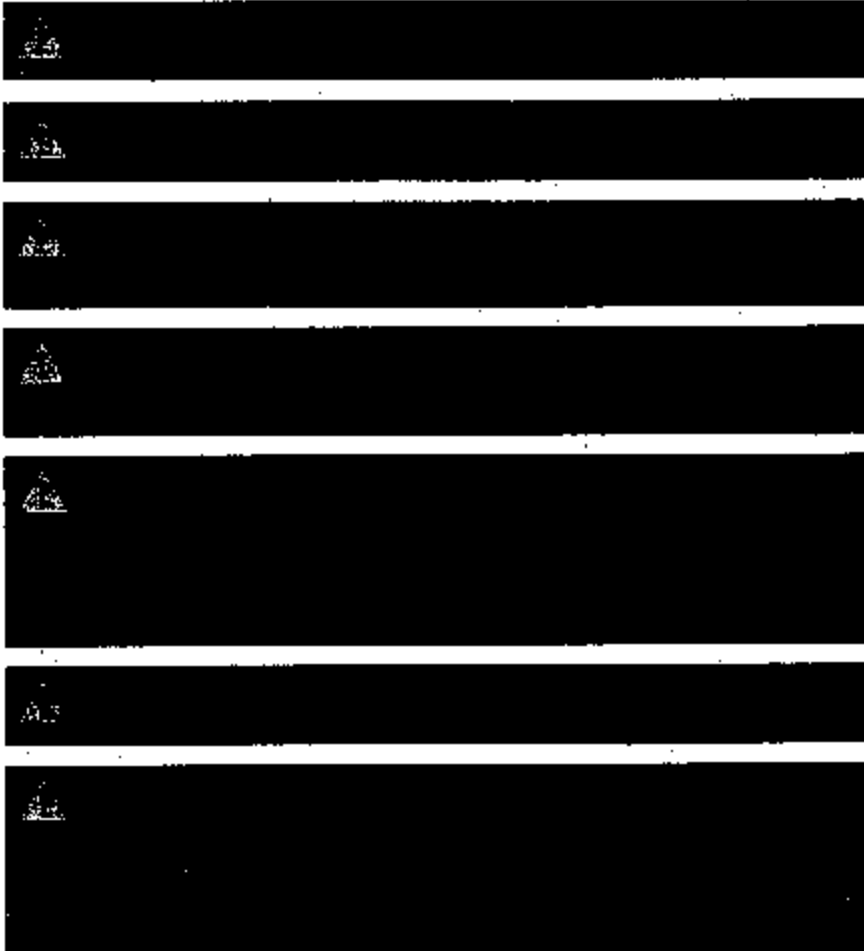
The Restraints Control Module (RCM) monitors its own internal circuits and the circuits for the air bag supplemental restraints, crash sensor(s), safety belt pretensioners, front safety belt buckle sensors, and the driver seat position sensor. In addition, the RCM also monitors the restraints warning light in the instrument cluster. A difficulty with the system is indicated by one or more of the following:

- The warning light will either flash or stay lit.
- The warning light will not illuminate immediately after the ignition is turned on.

- A series of five beeps will be heard. The tone pattern will repeat periodically until the problem and warning light are repaired.

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

**Safety restraints precautions**



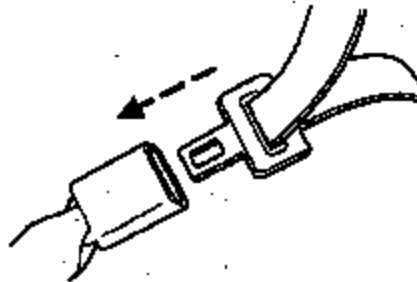
[REDACTED]

[REDACTED]

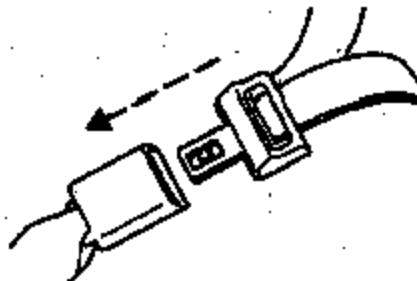
### Combination lap and shoulder belts

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.

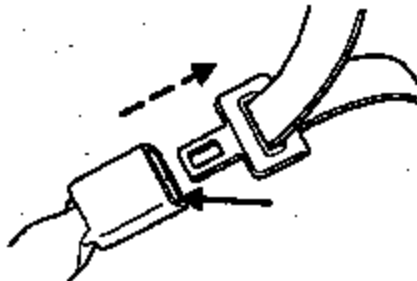
- Front seats



- Rear seats



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



The front outboard, rear outboard, and second and third row center safety restraints in the vehicle are combination lap and shoulder belts. The front center safety restraint (if equipped) is a manually-adjustable lap belt. All of the passenger lap and shoulder belts have two types of locking modes described below:

**Vehicle sensitive mode**

This is the normal retractor mode, which allows 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 pre-locked. The belt will still retract to remove any slack in the shoulder belt.

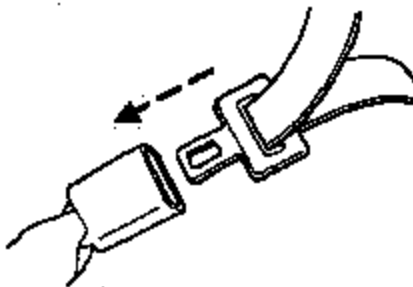
The automatic locking mode is not available on the driver safety belt.

**When to use the automatic locking mode**

- Anytime a child safety seat (except a booster) is installed in the vehicle. 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**

1. Buckle the combination lap and shoulder belt.



[REDACTED]

2. Grasp the shoulder portion and pull downward until the entire belt is pulled out.



3. 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***

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

[REDACTED]

[REDACTED]

[REDACTED]

**Safety belt pretensioner**

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

The safety belt pretensioner removes some slack from the safety belt system at the start of a crash. The safety belt pretensioner uses the same crash sensor system as the front airbags and Safety Canopy<sup>®</sup> system. When the safety belt pretensioner deploys, the lap and shoulder belt are tightened.

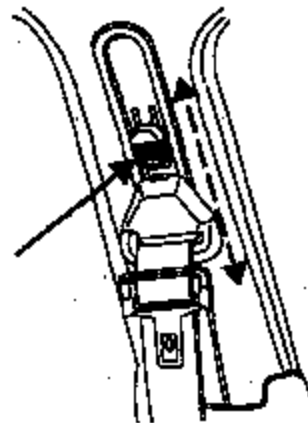
When the Safety Canopy<sup>®</sup> system and/or the front airbags are activated, the safety belt pretensioners for the driver and right front passenger seating positions will be activated when the respective seatbelt is properly buckled.

Refer to the *Safety belt maintenance* section in this chapter.

#### **Front and second row safety belt height adjustment**

Your vehicle has safety belt height adjustments for the driver, right front passenger and second row outboard passengers. Adjust the height of the shoulder belt so the belt rests across the middle of your shoulder.

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

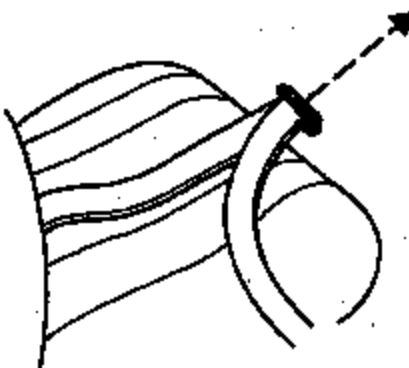


**First row center lap belt (if equipped)**

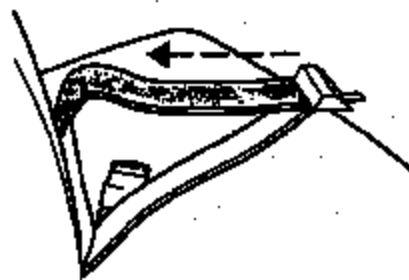
***Adjusting the lap belt***

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.



Shorten and fasten the belt when not in use.



**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.

### Conditions of operation

The driver 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 4-8 seconds.
The driver 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 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<sup>®</sup>

The BeltMinder<sup>®</sup> 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.

The driver's safety belt is not buckled approximately 6 seconds after the safety belt warning light has turned off...	The BeltMinder <sup>®</sup> 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 <sup>®</sup> feature will not activate.
The driver's safety belt is buckled before the ignition switch is turned to the ON position...	The BeltMinder <sup>®</sup> feature will not activate.

The purpose of the BeltMinder<sup>®</sup> is to remind occasional wearers to wear safety belts all of the time.

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

"Crashes are rare events"	<b>86 700 crashes occur every day.</b> The more we drive, the more we are exposed to "rare" events, even for good drivers. <i>1 in 4 of us will be seriously injured in a crash during our lifetime.</i>
"I'm not going far"	<b>3 of 4 fatal crashes occur within 25 miles of home.</b>
"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"	<b>Prime time for an accident.</b> BeltMinder <sup>®</sup> reminds us to take a few seconds to buckle up.
"Seat belts don't work"	<b>Safety belts, when used properly, reduce risk of death to front seat occupants by 45% in cars, and by 60% in light trucks.</b>
"Traffic is light"	<b>Nearly 1 of 2 deaths occur in single-vehicle crashes, many when no other vehicles are around.</b>
"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 and side crashes or rollovers.
"I'd rather be thrown clear"	Not a good idea. <b>People who are ejected are 40 times more likely to DIE.</b> Safety belts help prevent ejection, <b>WE CAN'T "PICK OUR CRASH".</b>


**One time disable**

Any time the safety belt is buckled and then unbuckled during an ignition ON cycle, BeltMinder<sup>®</sup> will be disabled for that ignition cycle only.

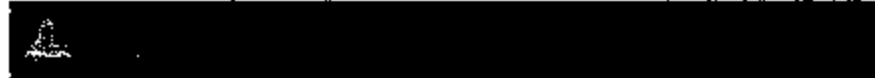
**Deactivating/activating the BeltMinder<sup>®</sup> feature**


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

The BeltMinder<sup>®</sup> 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)
- 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, this will not affect the procedure.)


- 
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<sup>®</sup> 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.
  6. Within seven seconds of the safety belt warning light turning off, buckle then unbuckle the safety belt.
    - This will disable BeltMinder<sup>®</sup> if it is currently enabled, or enable BeltMinder if it is currently disabled.
  7. Confirmation of disabling BeltMinder<sup>®</sup> is provided by flashing the safety belt warning light four times per second for three seconds.
  8. Confirmation of enabling BeltMinder<sup>®</sup> 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 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.

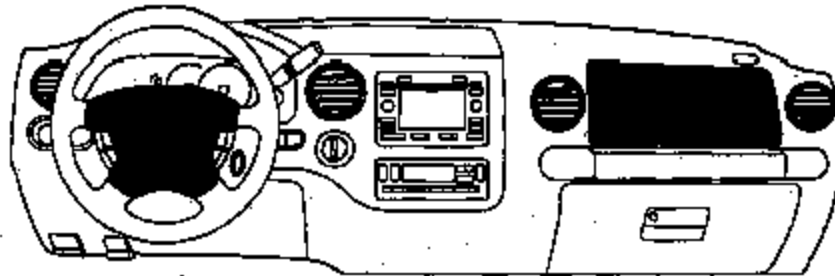


### **Safety belt maintenance**

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, shoulder belt guide on seatback (if equipped), child safety seat LATCH and tether anchors, 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.

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

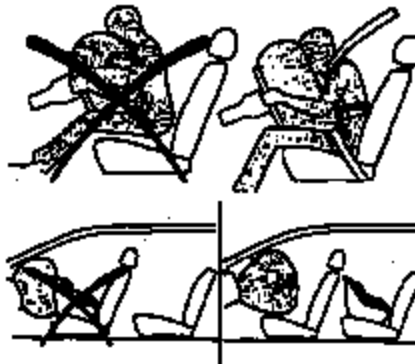
### **AIR BAG SUPPLEMENTAL RESTRAINT SYSTEM (SRS)**



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 servicing the vehicle and in helping to better understand real world collisions and further improve the safety of future vehicles.

### Important SRS precautions

The SRS 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; there is a risk of injury from a deploying air bag.



To properly position yourself away from the air bag:

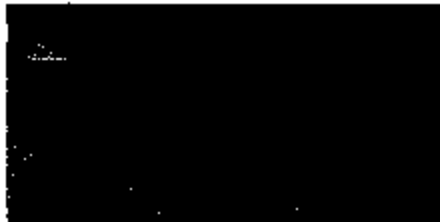
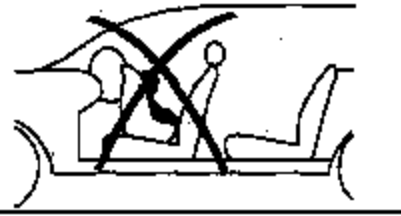
- Move your seat to the rear as far as you can while still reaching the pedals comfortably.
- Recline the seat slightly one or two degrees from the upright position.





### **Children and air bags**

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



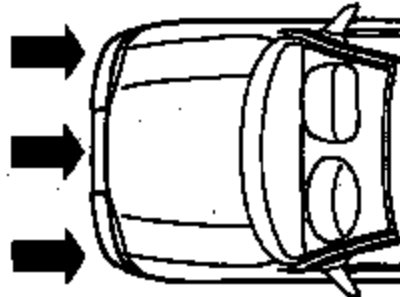
### How does the air bag supplemental restraint system work?

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. The driver and passenger airbags 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.





The SRS consists of:

- driver and passenger air bag modules (which include the inflators and air bags),
- one or more impact and safing sensors and diagnostic monitor (RCM),
- a readiness light and tone
- the electrical wiring which connects the components.

The RCM (restraints control 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:

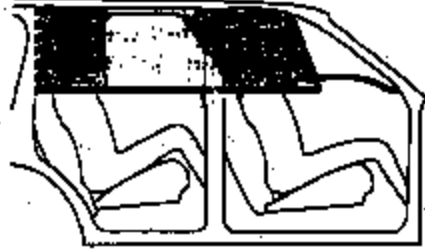
- The readiness light will either flash or stay lit.
- The readiness light will not illuminate immediately after ignition is turned on.
- A series of five beeps will be heard. The tone pattern will repeat periodically until the problem and/or light are repaired.



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.



**Safety Canopy<sup>®</sup> system (if equipped)** 

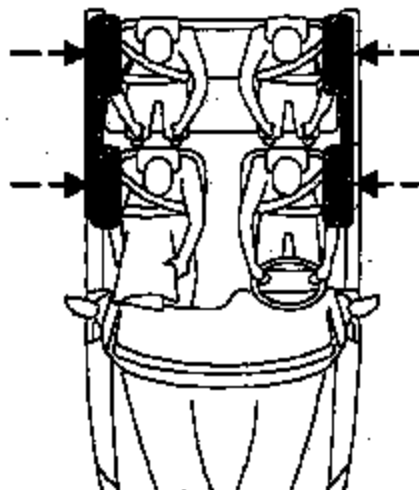


### **How does the Safety Canopy<sup>®</sup> system work?**

The design and development of the Safety Canopy<sup>®</sup> system included recommended testing procedures that were developed by a group of automotive safety experts known as the Side Air Bag Technical Working Group. These recommended testing procedures help reduce the risk of injuries related to the deployment of side airbags (including the Safety Canopy<sup>®</sup>).

The Safety Canopy<sup>®</sup> system consists of the following:

- An inflatable nylon curtain with a gas generator concealed behind the headliner and above the doors (one on each side of vehicle).
- A headliner designed to flex open above the side doors to allow Safety Canopy<sup>®</sup> deployment.
- The same warning light, electronic control and diagnostic unit as used for the front airbags.
- Two crash sensors mounted in the front doors (one on each side).
- Two crash sensors located at the c-pillar behind the rear doors (one on each side).
- Rollover sensor in the restraints control module (RCM).



The Safety Canopy<sup>®</sup> system, in combination with seat belts, can help reduce the risk of severe injuries in the event of a significant side impact collision or rollover event.

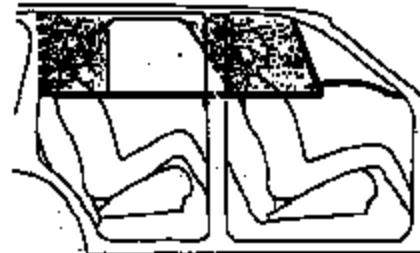
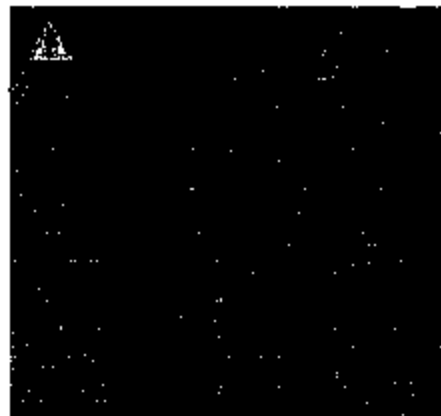
Children 12 years old and under should always be properly restrained in the second or third row seats. The Safety Canopy<sup>®</sup> will not interfere with children restrained using a properly installed child or booster seat because it is designed to inflate downward from the headliner above the doors along the side window opening.

The Safety Canopy<sup>®</sup> system is designed to activate when the vehicle sustains lateral deceleration sufficient to cause the side crash sensor to close an electrical circuit that initiates Safety Canopy<sup>®</sup> inflation or when a certain likelihood of a rollover event is detected by the rollover sensor.

[REDACTED]

The Safety Canopy<sup>®</sup> is mounted to roof side-rail sheet metal, behind the headliner, above the first and second row seats. In certain lateral collisions or rollover events, the Safety Canopy<sup>®</sup> system will be activated, regardless of which seats are occupied. In certain rollover events, the Safety Canopy<sup>®</sup> on both sides of the vehicle will be inflated, regardless of which seats are occupied. The Safety Canopy<sup>®</sup> is designed to inflate between the side window area and occupants to further enhance protection provided in side impact collisions and rollover events.

The fact that the Safety Canopy<sup>®</sup> did not activate 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. The Safety Canopy<sup>®</sup> is designed to inflate in certain side impact collisions or rollover events, not in rear impact, frontal or near-frontal collisions, unless the collision causes sufficient lateral deceleration or rollover likelihood.





### **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 or rollover event.

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

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 (generally children who are four years old or younger and who weigh 18 kg [40 lbs] or less) ride in your vehicle, 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. 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.


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

#### **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.

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.



#### **Child booster seats**

Children outgrow a typical convertible or toddler seat when they weigh 40 pounds and are around 4 years of age. Although the lap/shoulder belt will provide some protection, these children are still too small for lap/shoulder belts to fit properly, which could increase the risk of serious injury.

To improve the fit of both the lap and shoulder belt on children who have outgrown child safety seats, Ford Motor Company recommends use of a belt-positioning booster.

Booster seats position a child so that safety belts fit better. They lift the child up so that the lap belt rests low across the hips and the knees bend comfortably. Booster seats also make the shoulder belt fit better and more comfortably for growing children.

### When children should use booster seats

Children need to use booster seats from the time they outgrow the toddler seat until they are big enough for the vehicle seat and lap/shoulder belt to fit properly. Generally this is when they weigh about 80 lbs (about 8 to 12 years old).

Booster seats should be used until you can answer YES to ALL of these questions:

- Can the child sit all the way back against the vehicle seat back with knees bent comfortably at the edge of the seat without slouching?



- Does the lap belt rest low across the hips?
- Is the shoulder belt centered on the shoulder and chest?
- Can the child stay seated like this for the whole trip?

### Types of booster seats

There are two types of belt-positioning booster seats:

- Those that are backless.

If your backless booster seat has a removable shield, remove the shield and use the lap/shoulder belt. If a seating position has a low seat back and no head restraint, a backless booster seat may place your child's head (top of car level) above the top of the seat. In this case, move the backless booster to another seating position with a higher seat back and lap/shoulder belts.



- Those with a high back.

If, with a backless booster seat, you cannot find a seating position that adequately supports your child's head, a high back booster seat would be a better choice.



Both can be used in any vehicle in a seating position equipped with lap/shoulder belts if your child is over 40 lbs.

The shoulder belt should cross the chest, resting snugly on the center of the shoulder. The lap belt should rest low and snug across the hips, never up high across the stomach.

If the booster seat slides on the vehicle seat, placing a rubberized mesh sold as shelf or carpet liner under the booster seat may improve this condition.

#### **The importance of shoulder belts**

Using a booster without a shoulder belt increases the risk of a child's head hitting a hard surface in a collision. For this reason, you should never use a booster seat with a lap belt only. It is best to use a booster seat with lap/shoulder belts in the back seat- the safest place for children to ride.



## SAFETY SEATS FOR CHILDREN

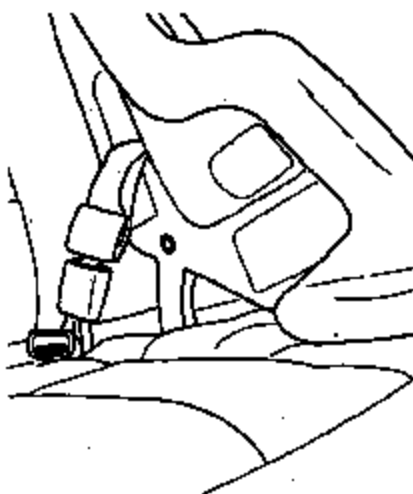


### Child and infant or child safety seats

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.

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.



- Place seat back in upright position.
- Put the safety belt in the automatic locking mode. Refer to *Automatic locking mode* section in this chapter.

- The second row center seat can be moved forward to keep a child in a child restraint close to the front seat occupants. The seat should be moved to the full rearward position when it is occupied by older children or adults.

Ford recommends the use of a child safety seat having a top tether strap and LATCH attachments. Install the child safety seat in a seating position which is capable of providing tether and LATCH anchors. For more information, refer to *Attaching child safety seats with tether straps*, and *Attaching safety seats with LATCH (Lower Anchors and Tethers for Children) attachments for child seat anchors* in this chapter.

#### Installing child safety seats with combination lap and shoulder belts

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



181

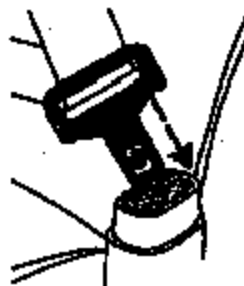
**2. Pull down on the shoulder belt and then grasp the shoulder belt and lap belt together.**



**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.**



6. 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 pulled out and a click is heard.



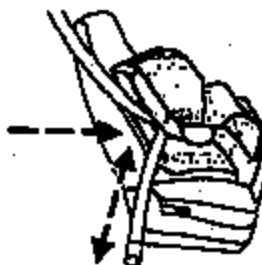
6. Allow the belt to retract. The belt will click as it retracts to indicate it is in the automatic locking mode.

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 move 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. 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.



**Installing child safety seats in the center front seating position**



1. Lengthen the lap belt. To lengthen the belt, hold the tongue so that its bottom is perpendicular to the direction of webbing while sliding the tongue up the webbing.
2. Place the child safety seat in the center seating position.
3. Route the tongue and webbing through the child seat according to the child seat manufacturer's instructions.
4. Insert the belt tongue into the proper buckle for the center seating position until you hear a snap and feel it latch. Make sure the tongue is securely fastened to the buckle by pulling on tongue.
5. Push down on the child seat with your knee while pulling on the loose end of the lap belt webbing to tighten the belt.
6. Before placing the child into the child seat, forcibly move the child seat from side to side and forward to make sure that the seat is held securely. If the child seat moves excessively, repeat steps 5 through 6, or properly install the child seat in a different position.

**Attaching child safety seats with tether straps (1)**

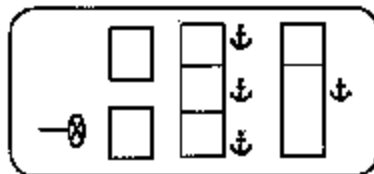
Most new forward-facing child safety seats include a tether strap which goes over the back of the seat and hooks to an anchoring point. Tether straps are available as an accessory for many older safety seats. Contact the manufacturer of your child seat for information about ordering a tether strap.

Some of the rear seats of your vehicle are equipped with built-in tether strap anchors located behind the seats as described below.

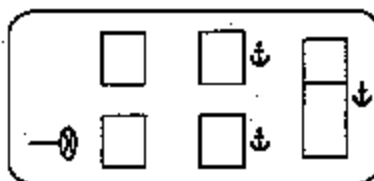
In the third row center seating position, the tether anchor is a loop at the bottom of the seatback.

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

- Second row bench seat

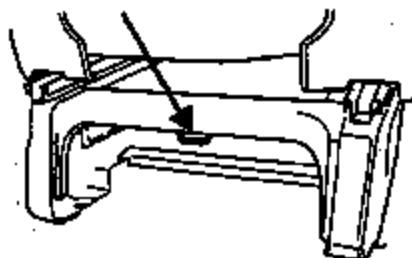


- Second row bucket seats



#### Second row seating positions

1. Position the child safety seat on the seat cushion.
2. Locate the tether anchor at the bottom back of the seat.
  - outboard seating positions

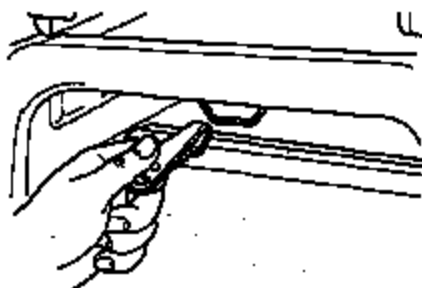


- center seating position (if equipped)

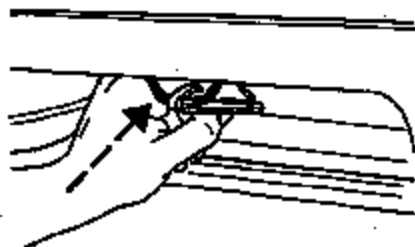


3. Route the child safety seat tether strap under the head restraint (outboard seats) and over the back of the seat.

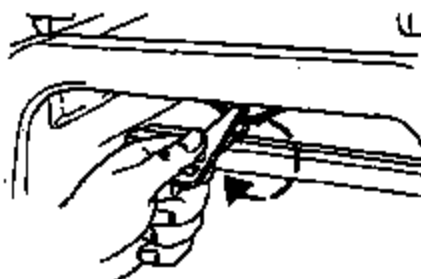
4. Grasp the tether strap and position it to the seat frame.



5. Rotate the tether strap, and clip the tether strap to the anchor on the seat frame.



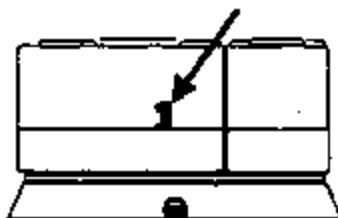
8. Rotate the tether strap clip.



7. Tighten the child safety seat tether strap according to the manufacturer's instructions.

**Third row seating position**

1. Position the child safety seat on the center of the seat cushion.
2. Route the child safety seat tether strap over the back of the seat.

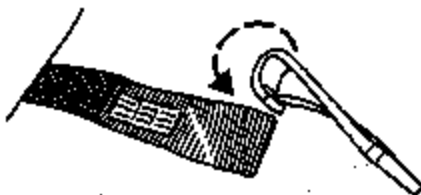


3. Locate the anchor webbing loop for the seating position.

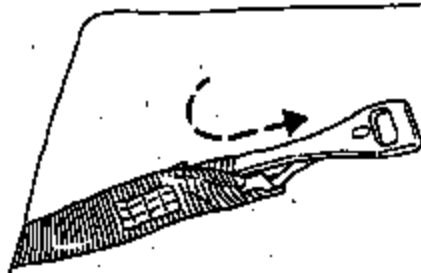
- You may need to pull back the top of the hinged panel along the bottom of the seat back to access the tether anchor.



4. Clip the tether strap through the anchor loop as shown.



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.

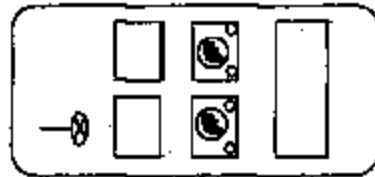
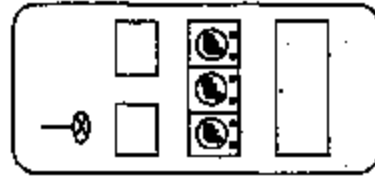


6. Tighten the child safety seat tether strap according to the manufacturer's instructions.

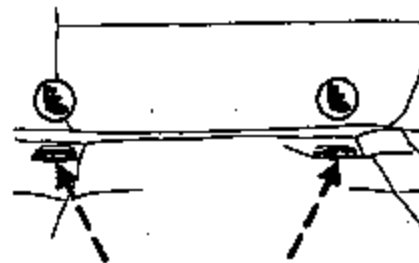
#### **Attaching safety seats with LATCH (Lower Anchors and Tethers for Children) attachments for child seat anchors**


Some child safety seats have two rigid or webbing mounted attachments that connect to two anchors at certain seating positions in your vehicle. This type of child seat eliminates the need to use seat belts to attach the child seat. For forward-facing child seats, the tether strap must also be attached to the proper tether anchor. See *Attaching safety seats with tether straps* in this chapter.

Your vehicle has LATCH anchors for child seat installation at the seating positions marked with the child seat symbol:




The lower anchors for child seat installation are located at the rear section of the second row seat between the cushion and seat back. The LATCH anchors are below the locator symbols on the seat back.






Follow the child seat manufacturer's instructions to properly install a child seat with LATCH attachments.



If you install a child seat with rigid LATCH attachments, do not tighten the tether strap enough to lift the child seat off the vehicle seat cushion when the child is seated in it. Keep the tether strap just snug without lifting the front of the child seat. Keeping the child seat just touching the vehicle seat gives the best protection in a severe crash.

Each time you use the safety seat, check that the seat is properly attached to the lower anchors and tether anchor. Try to move the child seat from side to side. Also try to tug the seat forward. Check to see if the anchors hold the seat in place.



**Appendix D**

**Miscellaneous Test Information**

# Channel Report

01/24/2003 8:51:55 AM

Name of Test 030124-1

System K3600

Name of DAU DAU0

Chan.#	Sensor #	Mechanicle	Description	Dir.	Range	Pol	Cal	Date/Status	Group	Mfg.	Model
0000	EVENT	EVENT	T-O		10.24	+		10/15/2002	OK SLED	TRC	Event
0001	C15351	SLDXG	Sled X - axis Acceleration	Rear	199.8828811g	-		01/09/2003	OK SLED	Endevco	7231C
0002	C15159	SLDXGR	Sled X - axis Acceleration	Rear	200.2777288g	-		01/09/2003	OK SLED	Endevco	7231C
0003	SLDXV	SLDXV	Measured Velocity		164.6408129 km/h	-		04/08/2002	OK SLED	TRC	SLDXV
0004	SLDXGT	SLDXGT	Sled X - axis Acceleration for	Rear	195.5131266g	-		01/09/2003	OK SLED	Endevco	7231C
0005	APD3	HEDXG1	Head X - axis acceleration	Rwd	400.3471760g	-		12/26/2002	OK 314n	Endevco	7231C
0006	AGHP8	HEDYGI	Head Y - axis acceleration	Left	399.2576303g	-		12/26/2002	OK 314n	Endevco	7231C
0007	APD60	HEDZGI	Head Z - axis acceleration	Up	401.2146145g	-		12/26/2002	OK 314n	Endevco	7231C
0008	1716A-1221-FX	NEKXFI	Neck X - axis Shear Force	Hd	8895.062154N	-		12/26/2002	OK 314n	Denton	1716A
0009	1716A-1221-FY	NEKYFI	Neck Y - axis Shear Force	Hd	8889.300790N	+		12/26/2002	OK 314n	Denton	1716A
0010	1716A-1221-FZ	NEKZFI	Neck Z - axis Shear Force	Hd	13350.07202N	+		12/26/2002	OK 314n	Denton	1716A
0011	1716A-1221-MX	NEKXMI	Neck Moment about X - axis	Rt Ear	282.4298268 N-m	-		12/26/2002	OK 314n	Denton	1716A
0012	1716A-1221-MY	NEKXMI	Neck Moment about Y - axis	Chn	282.6254107 N-m	+		12/26/2002	OK 314n	Denton	1716A
0013	1716A-1221-MZ	NEKZMI	Neck Moment about Z - axis	Chn	282.7948080 N-m	+		12/26/2002	OK 314n	Denton	1716A
0014	C13010	CSTXG1	Chest X - axis acceleration	Fwd	398.4468805g	+		12/26/2002	OK 314n	Endevco	7231C
0015	C14563	CSTYGI	Chest Y - axis acceleration	Left	399.4289414g	-		12/26/2002	OK 314n	Endevco	7231C
0016	AD343	CSTZG1	Chest Z - axis acceleration	Down	398.8470826g	+		12/26/2002	OK 314n	Endevco	7231C
0017	14CB1-2847-041	CSTXD1	Chest Deflection	Strum	100.5192841 mm	+		01/06/2003	OK 314n	Servo	14CB1-2847
0018	2430T-962	LFMZFI	Left Femur Force	Knee	13347.40580N	+		12/26/2002	OK 314n	GSE	2430T
0019	2430T-982	RFMZFI	Right Femur Force	Knee	13345.59042N	+		12/26/2002	OK 314n	GSE	2430T
0020	GB86	HEDXG2	Head X - axis acceleration	Rwd	400.0468804g	-		11/14/2002	OK 229n	Endevco	7231C
0021	GB77	HEDYGI	Head Y - axis acceleration	Lft	399.7532772g	-		11/14/2002	OK 229n	Endevco	7231C
0022	A54F	HEDZG2	Head Z - axis acceleration	Up	400.7059311g	-		11/14/2002	OK 229n	Endevco	7231C
0023	1716A-1222-FX	NEKXF2	Neck X - axis Shear Force	Hd	8903.740823N	-		11/14/2002	OK 229n	Denton	1716A
0024	1716A-1222-FY	NEKYF2	Neck Y - axis Shear Force	Hd	8902.672265N	+		11/14/2002	OK 229n	Denton	1716A
0025	1716A-1222-FZ	NEKZF2	Neck Z - axis Shear Force	Hd	13340.93766N	+		11/14/2002	OK 229n	Denton	1716A
0026	1716A-1222-MX	NEKXMI	Neck Moment about X - axis	Rt Ear	282.4279517 N-m	-		11/14/2002	OK 229n	Denton	1716A
0027	1716A-1222-MY	NEKXMI	Neck Moment about Y - axis	Chn	282.6454618 N-m	+		11/14/2002	OK 229n	Denton	1716A
0028	1716A-1222-MZ	NEKZMI	Neck Moment about Z - axis	Chn	282.5231606 N-m	+		11/14/2002	OK 229n	Denton	1716A
0029	C14135	CSTXG2	Chest X - axis acceleration	Fwd	401.7056799g	+		11/14/2002	OK 229n	Endevco	7231C

PS

030124

# Channel Report

01/24/2003 8:51:56 AM

Channel ID	Channel Name	Channel Description	Channel Type	Channel Units	Channel Status	Channel Date	Channel Action	Channel Value	Channel Unit	Channel Status	Channel Date	Channel Action	Channel Value	Channel Unit
0030	A3SD	Chest Y - axis acceleration	LF	400.4943602 g	OK	01/24/2003	-							7231C
0031	AHSG8	Chest Z - axis acceleration	Down	401.0669006 g	OK	01/24/2003	+							7231C
0032	14CB1-2847-229	Chest Deflection	Slim	100.0244200 mm	OK	11/18/2002	+							14CB1-2847
0033	2430T-901	Left Femur Force	Knee	13356.99957 N	OK	11/14/2002	+							2430T
0034	2430T-902	Right Femur Force	Knee	13360.96513 N	OK	11/14/2002	+							2430T
0035	P23809	Left Body @ Rear Seat	Fwd	199.8204737 g	OK	08/16/2002	+							7264C-2K-2-180
0036	P24667	Right Body @ Rear Seat	Fwd	200.1168051 g	OK	11/20/2002	+							7264C-2K-2-180
0037	P24576	Top of Engine Block	Fwd	199.9398618 g	OK	11/20/2002	+							7264C-2K-2-180
0038	P23927	Rear Axle	Rr	199.6977231 g	OK	09/04/2002	-							7264C-2K-2-180
0039	P24493	Left Vehicle Frame	Fwd	200.0488400 g	OK	11/22/2002	+							7264C-2K-2-180
0040	P24479	Right Vehicle Frame	Fwd	200.3498295 g	OK	11/21/2002	+							7264C-2K-2-180

# Digital and System Channel Report

2003-01-24 08:51:10

Name of Test 030124-1      System K3600      Name of DAU DAU0      description  
 enabled Channel      Short Name      Data File      Module Type  
 Yes 0500      Dig0      DAT00300      KM3650 Sequencer

bit position	bit selector	short name	long name	description
MSB = bit 15	1	Backup	Pull Apart Switch	
bit 14	1	ABEVT1	AIRBAG EVENT DP	20 mS 1
bit 13	1	ABEVT2	AIRBAG EVENT DS	120 mS 2
bit 12	1	ABEVT3	AIRBAG EVENT PP	20 mS 3
bit 11	1	ABEVT4	AIRBAG EVENT PS	50 mS 4
bit 10	0			
bit 09	0			
bit 08	0			
bit 07	0			
bit 06	0			
bit 05	0			
bit 04	0			
bit 03	0			
bit 02	0			
bit 01	0			
LSB = bit 00	0			

# Channel Report

01/27/2003 8:07:37 AM

Name of Test 030127-1

System K3600

Name of DAU DAU0

Chan.#	Sensor #	Mnemonic	Description	Dir.	Range	Pol.	Cal. Date/Status	Group	Mfg.	Model
0000	EVENT	EVENT	EVENT		10.24	+	10/15/2002	SLED	TRC	Event
0001	C1531	SLDXG	SLED G LONG.	Rear	199.8828811 g	-	01/09/2003	SLED	Endevco	7231C
0002	C15519	SLDXGR	SLED G LONG	Rear	200.2777288 g	-	01/09/2003	SLED	Endevco	7231C
0003	SLDXV	SLDXV	SLED VELOCITY		164.6408129 km/h	-	04/08/2002	SLED	TRC	SLDXV
0004	SLDXGT	SLDXGT	SLED TRIGGER	Rear	195.5131266 g	-	01/09/2003	SLED	Endevco	7231C
0005	AN397	HEDXG6	RR/C. HEAD X	Rear	400.6353826 g	-	12/20/2001	HRA 452	Endevco	7231C
0006	C10697	HEDYG6	RR/C. HEAD Y	Left	400.2454630 g	-	12/20/2001	HRA 452	Endevco	7231C
0007	AH426	HEDZG6	RR/C. HEAD Z	Up	398.6421252 g	-	12/20/2001	HRA 452	Endevco	7231C
0008	A30H	CSTXG6	RR/C. CHEST X	Fwd	400.4536388 g	+	12/20/2001	HRA 452	Endevco	7231C
0009	C14744	CSTYG6	RR/C. CHEST Y	Left	400.2454630 g	-	12/20/2001	HRA 452	Endevco	7231C
0010	A29H	CSTZG6	RR/C. CHEST Z	Dwn	399.2015968 g	+	12/20/2001	HRA 452	Endevco	7231C
0011	14CB1-2847-CP452	CSTXD6	RR/C. CHEST DEF	Strm	146.9469335 mm	+	12/19/2001	HRA 452	Servo	14CB1-2847
0012	A41G	PEVXG6	RR/C. PELVIS X	Rear	400.8612252 g	-	12/20/2001	HRA 452	Endevco	7231C
0013	A02H	PEVYG6	RR/C. PELVIS Y	Left	401.2696422 g	-	12/20/2001	HRA 452	Endevco	7231C
0014	A51H	PEVZG6	RR/C. PELVIS Z	Up	399.6303039 g	-	12/20/2001	HRA 452	Endevco	7231C
0015	2121-0219	RFMZFF6	RR/C. FEMUR R	Knee	13339.90584 N	+	12/20/2001	HRA 452	Denton	2121
0016	2121-0218	LFMZFF6	RR/C. FEMUR L	Knee	13349.16652 N	+	12/20/2001	HRA 452	Denton	2121
0017	1716-0420-FX	NEKXF6	RR/C. NECK FX	Hd	8894.105374 N	-	12/19/2001	HRA 452	Denton	1716
0018	1716-0420-FY	NEKYF6	RR/C. NECK FY	Hd	8892.595526 N	+	12/19/2001	HRA 452	Denton	1716
0019	1716-0420-FZ	NEKZF6	RR/C. NECK FZ	Hd	13345.44223 N	+	12/19/2001	HRA 452	Denton	1716
0020	1716-0420-MX	NEKXM6	RR/C. NECK MX	Ri Bar	282.4767441 N·m	-	12/19/2001	HRA 452	Denton	1716
0021	1716-0420-MY	NEKYM6	RR/C. NECK MY	Chan	282.4503638 N·m	+	12/19/2001	HRA 452	Denton	1716
0022	1716-0420-MZ	NEKZM6	RR/C. NECK MZ	Chan	282.4095688 N·m	+	12/19/2001	HRA 452	Denton	1716
0023	AN9G6	SHRXG6	RR/C. SHOLD G R	Rear	399.0864661 g	-	12/20/2001	HRA 452	Endevco	7264-2000TZ
0024	J41103	SHLXG6	RR/C. SHOLD G L	Rear	399.2981087 g	-	10/04/2001	HRA 452	Endevco	7264-2000TZ
0025	ACB36	CSUXG6	RR/C. UPR CHS GX	Fwd	399.1875908 g	+	12/20/2001	HRA 452	Endevco	7264-2000TZ
0026	ACC74	CSMXG6	RR/C. MID CHS GX	Fwd	401.1674599 g	+	12/20/2001	HRA 452	Endevco	7264-2000TZ
0027	J28329	CSLXG6	RR/C. LWR CHS GX	Fwd	398.1585168 g	+	12/20/2001	HRA 452	Endevco	7264-2000TZ
0028	ACCT3	SNLXG6	RR/C. RIB GX	Rear	400.2877067 g	-	12/20/2001	HRA 452	Endevco	7264-2000TZ
0029	ACCH2	LMBXG6	RR/C. LUMBAR G X	Fwd	400.2611078 g	+	12/20/2001	HRA 452	Endevco	7264-2000TZ

# Channel Report

01/27/2003 8:07:38 AM

0030	J28396	LMBZG6	RR/C. LUMBAR G Z	Up	398.7973766G	-	12/20/2001	--	HRA 452	Endevco	7264-2000TZ
0031	J41280	KNRXG6	RR/C. KNEE G R	Rear	400.7012271G	-	08/28/2002	OK	HRA 452	Endevco	7264-2000TZ
0032	J41104	KNLXG6	RR/C. KNEE G L	Rear	400.4004004G	-	09/10/2002	OK	HRA 452	Endevco	7264-2000TZ
0033	P25257	FTUXG1	FLOOR G LONG.	Fwd	401.1957513G	+	11/21/2002	OK	-1	Endevco	7264C-2K-2-180
0034	P24638	FTUXG2	FLOOR G LONG.	Fwd	399.8500562G	+	11/20/2002	OK	-1	Endevco	7264C-2K-2-180
0035	806	LBOP6	RR/C BELT LAP		13349.22986N	+	12/18/2002	OK	-1	Lebow	3419T

# Digital and System Channel Report

2003-01-27 08:06:39

Name of Test 030127-1      System K3600      Name of DAU DAU0      description  
 enabled Channel      Short Name      Data File      Module Type  
 Yes 0500      Dig0      DAT00500      KMB550 Sequencer

bit position	bit selector	short name	long name	description
MSB = bit 15	1	Backup	Pull Apert Switsh	
bit 14	0			
bit 13	0			
bit 12	0			
bit 11	0			
bit 10	0			
bit 09	0			
bit 08	0			
bit 07	0			
bit 06	0			
bit 05	0			
bit 04	0			
bit 03	0			
bit 02	0			
bit 01	0			
LSB = bit 00	0			

**C30202**  
**2003 Ford Expedition MPV**

