

V2749

REPORT NUMBER: CAL-98-12

**NEW CAR ASSESSMENT PROGRAM (NCAP)
FRONTAL BARRIER IMPACT TEST**

**FORD MOTOR COMPANY USA
1998 FORD EXPLORER
4-DOOR SUV**

NHTSA NUMBER: MW0206

CALSPAN TEST NUMBER: 8413-11

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December 3, 1997

FINAL REPORT

PREPARED FOR:

**U. S. DEPARTMENT OF TRANSPORTATION
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Safety Performance Standards
Office of Crashworthiness Standards
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NHTSA, Office of Crashworthiness Standards

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16. <i>Abstract</i> A frontal barrier test of a 1998 Ford Explorer 4-Door SUV was performed at Calspan SRL Corporation crash test facility in Buffalo, New York, on December 3, 1997. The impact velocity was 56.3 kph and the temperature at the barrier face was 20°C. The maximum post-test vehicle crush was 545.0 mm. The test vehicle was equipped with a 3-point restraint system and supplemental airbags at each outboard seating position. This vehicle was equipped with dual front next generation depowered airbags. With respect to FMVSS 208 "Occupant Crash Protection - Injury Criteria" both the driver and passenger appear to comply with head, chest and femur requirements.					
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Section 1

PURPOSE AND SUMMARY OF TEST MW0206

PURPOSE

This 56.3 kph frontal barrier impact test is part of the Vehicle Barrier Impact Testing Program sponsored by the National Highway Traffic Safety Administration (NHTSA) under Contract No. DTNH22-96-D-02010. The purpose of this test was to obtain vehicle crashworthiness and occupant restraint system performance data for an impact speed in excess of the current 48.3 kph requirements.

The 56.3 kph frontal barrier impact test was conducted in accordance with the Office of Market Incentives (OMI) Laboratory Indicant Test procedure.

SUMMARY

A frontal barrier was impacted by a 1998 Ford Explorer 4-Door SUV at a velocity of 56.3 kph. The test was performed at the Calspan SRL Corporation on December 3, 1997. Pre- and post-test photographs of the vehicle and dummies can be found in Appendix A.

The frontal barrier impact event was documented by 1 real-time camera and 16 high-speed cameras. Camera locations and other pertinent camera information can be found in this report. The windshield view camera malfunctioned during the test.

Two Part 572E, 50th percentile male anthropomorphic test devices (ATDs), were placed in the driver and right-front passenger seating positions according to dummy placement instructions specified in the Laboratory Indicant Test Procedure.

Both ATDs were fully instrumented with head, chest, and pelvis triaxial accelerometers, chest displacement potentiometers, upper neck transducers, right/left femur load cells, and lower leg instrumentation. Seat belt load cells were also on the driver's and passenger's lap and shoulder belts to measure dummy torso and pelvic section loading. The driver (position 1) ATD (Serial No. 061) was calibrated prior to this test. The right-front passenger (position 2) ATD (Serial No. 245) was used in two tests where it did not exceed FMVSS 208 injury criteria previous to this test.

Certification details, along with instrumentation calibration data, are found in Appendix C.

The 93 channels of data were recorded on a P.C. based data acquisition system. Appendix B contains the vehicle, load cell barrier and dummy response data traces. Load cell barrier data was not required for this test.

At the request of Ford Motor Company representatives with the permission of the NHTSA, seat belt torso load, spool out, and stretch data transducers were not used during this test. Two additional vehicle accelerometers were added to the vehicle for this test. The underbody B-Pillar accelerometers were requested by Ford Motor Company prior to the test and installed with the permission of the NHTSA.

The driver's HIC was 566.91. The maximum chest deceleration over 3 milliseconds was 55.704 g's and maximum chest deflection was 35.0 mm. Femur loads were -4793.8 Newtons on the left and -6027.3 Newtons on the right.

The right front passenger's HIC was 558.13. Maximum chest deceleration over 3 milliseconds was 54.587 g's and maximum chest deflection was 26.3 mm. Femur loads were -4189.0 Newtons on the left and -3674.2 Newtons on the right.

The driver (position #1) dummy was tested with its neck in the full-rearward position. The passenger dummy (position #2) neck was tested at the sixth rearward notch.

Position #1 Pelvic Z did not record accurately, data is not available for this channel. Position #1 Upper Neck Fy sustained a cut wire during the event, data is not available for this channel. Position #2 Right Lower Tibia Fx data is not accurate. The top of engine block accelerometer (#3) data is not accurate after 30 ms.

SECTION 2

GENERAL TEST AND VEHICLE PARAMETER DATA

DATA SHEET NO. 1 CRASH TEST SUMMARY

Vehicle NHTSA No. : MW0206 Test Mode : 56 kph Frontal Barrier

Test Date : December 3, 1997 Time: 11:40 Temperature : 6.7 °C

Vehicle Make/Model/Body Style : 1998 Ford Explorer 4-Door SUV

Vehicle Test Weight : 2209.5 kg

Vehicle/Barrier Impact Angle : 0 °

Impact Velocity : 56.3 kph

Maximum Static Crush : 545.0 mm

Vehicle Rebound : 160.0 mm

<u>DUMMIES:</u>	<u>DRIVER</u>	<u>PASSENGER</u>
Type :	<u> 572E </u>	<u> 572E </u>
Restraint System :	<u> Airbag, Seatbelt, Knee Bolster </u>	<u> Airbag, Seatbelt, Knee Bolster </u>

Number of Data Channels : 93

Number of Cameras : 1 Real Time

 16 High Speed

DOOR OPENING DATA :

<u> Closed/Operable </u>	- Left Front
<u> Closed/Operable </u>	- Right Front

Front Seat(s) Data :	<u>DRIVER</u>	<u>PASSENGER</u>
Seat Track Failure :(mm of shift)	<u> 0 </u>	<u> 0 </u>
Seat Back Failure :	<u> None </u>	<u> None </u>

<u>VISIBLE DUMMY CONTACT POINTS :</u>	<u>DRIVER</u>	<u>PASSENGER</u>
Head :	<u> Face to center of airbag, Back of head to left outer headrest </u>	<u> Face to right third of airbag, Back of head to right outer headrest </u>
Abdomen :	<u> Seatbelt </u>	<u> Seatbelt </u>
Chest	<u> Airbag, Seatbelt </u>	<u> Airbag, Seatbelt </u>
Knees	<u> Knee Bolster </u>	<u> Knee Bolster </u>

DATA SHEET NO. 2 GENERAL TEST AND VEHICLE PARAMETER DATA

TEST VEHICLE INFORMATION :

Year/Make/Model/Body Style : 1998 Ford Explorer 4-Door SUV
NHTSA No. : MW0206 ; VIN: 1FMZU34E7WUA54556 ; Color : Red
Engine Data: 6 cylinders; - CID; 4.0 Liters; - cc
Placement : X Longitudinal or In-Line; - Transverse or Lateral
Transmission Data : 4 speeds; - Manual; X Automatic; X Overdrive
Final Drive : - Rear Wheel Drive; - Front Wheel Drive; X Four Wheel Drive
Major Options : X A/C; X Pwr.Strg.; X Pwr. Brakes
X Pwr. Windows; X Pwr. Door Locks; X Tilt Wheel
Date Received : 11/13/97 ; Odometer Reading 203 km
Selling Dealer : West-Herr Ford, Inc.
& Address: S 5025 South Camp Road Hamburg, NY 14075

DATA FROM TIRE VEHICLE'S CERTIFICATION LABEL:

Vehicle Manufactured by : Ford Motor Company USA
Date of Manufacture 10/97
GVWR : 2422 kg; GAWR: 1229 kg FRONT; 1338 kg REAR

DATA FROM TIRE PLACARD:

Tire Pressure with Maximum Capacity Vehicle Load : 241 kpa FRONT
241 kpa REAR
Recommended Tire Size : P225/70R15
* Recommended Cold Tire Pressure : 207 kpa FRONT; 207 kpa REAR
Size of Tires on Test Vehicle: P225/70R15 ; Manufacturer: Goodyear
Vehicle Capacity Data :
Type of Front Seats: - Bench; X Bucket; - Split Bench
Number of Occupants: 2 Front; 3 Rear; 5 Total
Vehicle Capacity Weight (VCW) = 491.5 kg
No. of Occupants x 68 kg = 340 kg
Rated Cargo/Luggage Weight (RCLW) = 151.5 kg

*Tire pressure used for test

DATA SHEET NO. 2 GENERAL TEST AND VEHICLE PARAMETER DATA (cont.)

WEIGHT OF TEST VEHICLE AS RECEIVED FROM DEALER (with maximum fluids)= UDW:

Right Front	=	<u>507.0</u>	kg	Right Rear	=	<u>433.0</u>	kg
Left Front	=	<u>540.0</u>	kg	Left Rear	=	<u>450.5</u>	kg
TOTAL FRONT	=	<u>1,047.0</u>	kg	TOTAL REAR	=	<u>883.5</u>	kg
TOTAL DELIVERED WEIGHT = <u>1,930.5</u> kg							
% of Total Front of Vehicle Weight = <u>54.2</u> %				% of Total Rear Weight = <u>45.8</u> %			

CALCULATION OF VEHICLE'S TARGET TEST WEIGHT :

Total Delivered Weight (UDW)	=	<u>1,930.5</u>	kg
Rated Cargo/Luggage Weight (RCLW)	=	<u>136.0</u>	kg
Weight of 2 p.572 Dummies @ 76 each	=	<u>152</u>	kg
TARGET TEST WEIGHT	=	<u>2,218.5</u>	kg

WEIGHT OF TEST VEHICLE WITH TWO DUMMIES AND 127 KG OF CARGO WEIGHT:

Right Front	=	<u>532.0</u>	kg	Right Rear	=	<u>552.0</u>	kg
Left Front	=	<u>567.0</u>	kg	Left Rear	=	<u>558.5</u>	kg
TOTAL FRONT	=	<u>1,099.0</u>	kg	TOTAL REAR	=	<u>1,110.5</u>	kg
TOTAL TEST WEIGHT = <u>2,209.5</u> kg							
% of Total Front Weight = <u>49.7</u> %				% of Total Rear Weight = <u>50.3</u> %			
Weight of Ballast Secured in Vehicle Trunk Area = <u>50.0</u> kg							
Vehicle Components Removed for Weight Reduction:				<u>None</u>			

VEHICLE ATTITUDE (all dimension in millimeters):

AS DELIVERED :	RF	<u>834</u>	LF	<u>832</u>	RR	<u>831</u>	LR	<u>822</u>
FULLY LOADED :	RF	<u>825</u>	LF	<u>830</u>	RR	<u>797</u>	LR	<u>791</u>
AS TESTED :	RF	<u>830</u>	LF	<u>831</u>	RR	<u>799</u>	LR	<u>793</u>
Vehicle's Wheel Base : <u>2843</u> mm								
Location of Vehicle's C.G. : <u>1,428.9</u> mm rearward of front wheel center.								

FUEL SYSTEM DATA :

Fuel System Capacity From Owner's Manual	=	<u>79.5</u>	liters
Usable Capacity Figure Furnished by COTR	=	<u>79.5</u>	liters
Test Volume Range (92 to 94 % of Usable Capacity)	=	<u>73.1</u>	to <u>74.7</u> liters
ACTUAL TEST VOLUME	=	<u>73.8</u>	liters (with entire fuel system filled)
Test Fluid Type:	<u>Stoddard Solution</u> ;	Spec. Grav. =	<u>0.764</u>
Kinematic Viscosity	=	<u>0.96</u>	centistokes; Color = <u>Orange</u>
Type of Fuel Pump:	Electric- <u>X</u> ;	Mechanical-	<u>-</u>
Does Electric Pump operate with ignition switch "ON" & engine "OFF"		Yes- <u>X</u>	No- <u>-</u>
Details of Fuel System <u>Filler - Left side, behind rear axle; Tank - Left of center, ahead of rear axle;</u>			
<u>Lines - Inside left frame rail.</u>			

DATA SHEET NO. 3 POST IMPACT DATA

TYPE OF TEST:

Type of Test : Frontal Barrier Impact Angle : 0°
Test Date : December 3, 1997 Time: 11:40 Temperature: 6.7 °C
Vehicle NHTSA No. : MW0206
Required Impact Velocity Range : 55.7 to 57.1 kph

BARRIER IMPACT VELOCITY : (Speed traps within 5 feet of impact plane.)

Trap No. 1 = 56.3 kph; Trap No. 2 = 56.3 kph
Distance from vehicle to barrier : (1) entering trap = 813 mm
(2) exiting trap = 305 mm

VEHICLE STATIC CRUSH: (mm) (For frontal and rear impacts only.)

Vehicle Length:

Pre-Test Right = 4750 ; C/L = 4790 ; Left = 4750
Post-Test Right = 4250 ; C/L = 4245 ; Left = 4220
Crush Right = 500.0 ; C/L = 545.0 ; Left = 530.0
AVERAGE = 525.0 mm

VEHICLE REBOUND: (From rigid barrier only.)

Distance from front of test vehicle to impact point :

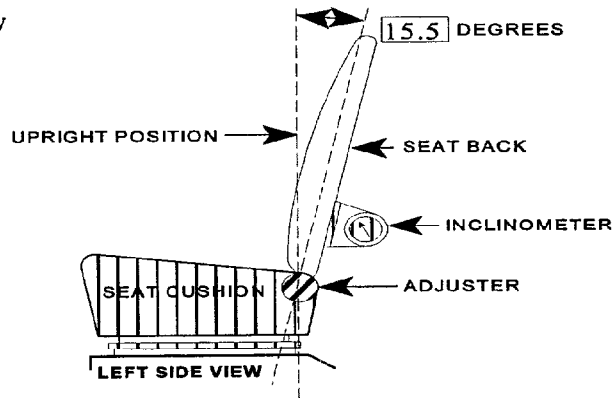
Right = 153.0 ; C/L = 155.0 ; Left = 172.0
AVERAGE = 160.0 mm

DATA SHEET NO. 4 TEST VEHICLE INFORMATION

VEHICLE IDENTIFICATION:

Model Year : 1998 Vehicle Model: Ford Explorer 4-Door Body Style : SUV

1. Nominal Design Riding Position for adjustable driver and passenger seat backs. Please describe how to position the inclinometer to measure the seat back angle. Include description of the location of the adjustment latch detent, if applicable.



FRONT SEAT ASSEMBLY

Seat back angle for driver's seat : 15.5°

Measurement instructions : For sport buckets, place in second detent. Full forward is detent number 1. Angle should read 15.5° when measured 330 mm above seatback pivot.

Seat back angle for passenger's seat : 15.5°

Measurement instructions : Same as driver's seat.

2. Seat Fore and Aft Positioning

Positioning of the driver's seat : Place seat in mid-position. Power seat was set in mid-position. Total travel was 246 mm. Seat was placed at 123 mm from full-forward or full-rearward.

Positioning of the passenger's seat (if applicable) : Manual seat tracks had 15 positions.

Seat tracks were numbered from 0 to 14. Mid-position is track number 7.

3. Fuel Tank Capacity Data

3.1

- | | |
|--|--------------------|
| A. "Usable Capacity" of the standard equipment fuel tank is | <u>79.5</u> liters |
| B. "Usable Capacity" of the optional equipment fuel tank is | <u>-</u> liters |
| C. "Usable Capacity" of the vehicle(s) used for certification testing to requirements of FMVSS 301 = | <u>79.5</u> liters |

3.2 Amount of Stoddard solvent added to vehicle(s) used for certification test(s) = 73.8 liters

3.3 Is vehicle equipped with electric fuel pump? Yes- X; No- -

If YES, explain the vehicle operating conditions under which the fuel pump will pump fuel.

While engine is running or ignition switch is activated.

DATA SHEET NO. 4 TEST VEHICLE INFORMATION (cont.)

4. STEERING COLUMN ADJUSTMENTS :

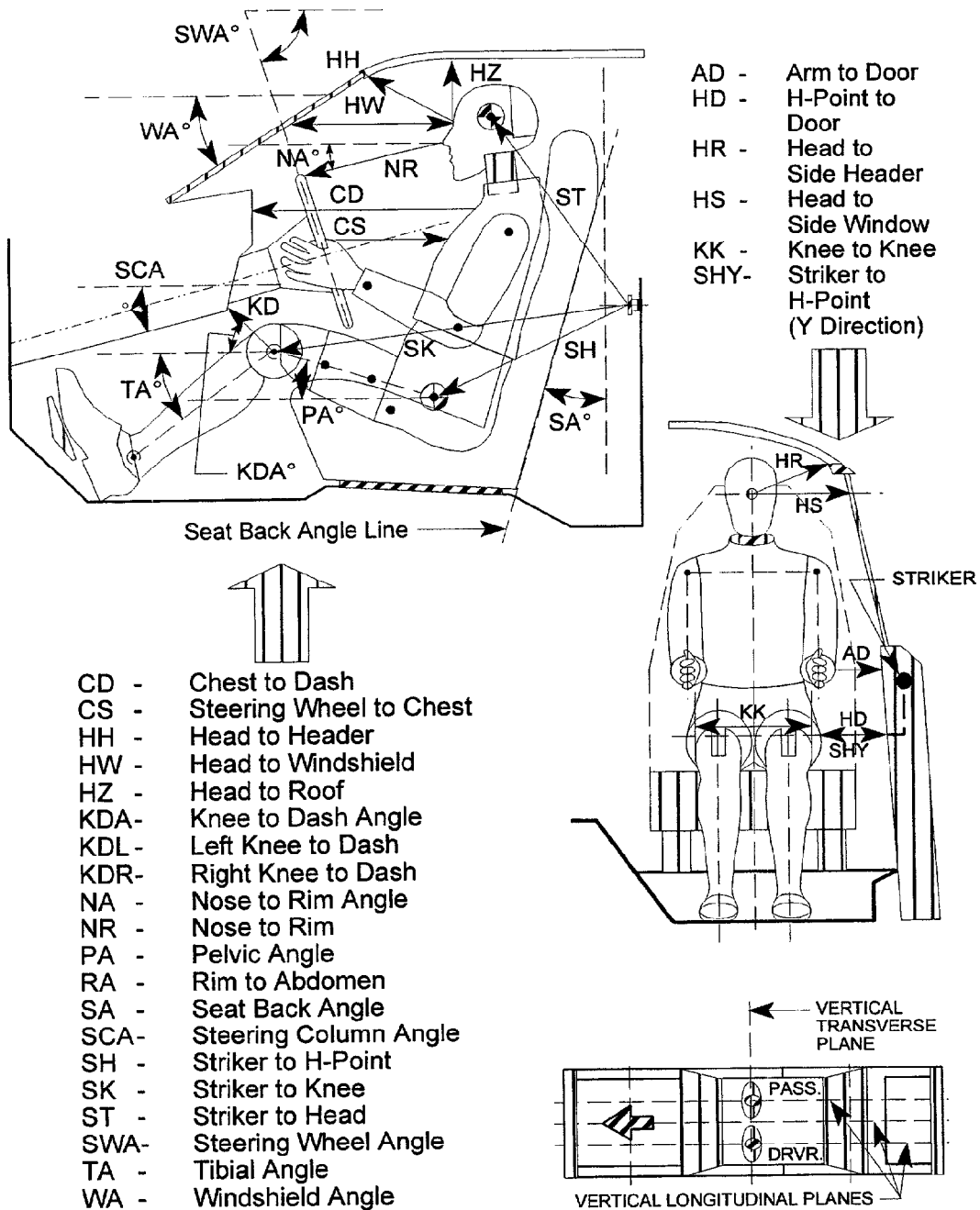
Steering wheel and column adjustments are made so that the steering wheel hub is at the geometric center of the locus it describes when it is moved through its full range of driving positions. If the tested vehicle has any of these adjustments, does your company use any specific procedures to determine the geometric center.

Operational Instructions: There are five total positions. Mid-position is detent number 3.

5. SEAT BELT UPPER ANCHORAGE

Nominal design riding position: There are 5 total detents. Mid-position is detent number 3.

DUMMY MEASUREMENT FOR FRONT SEAT PASSENGERS

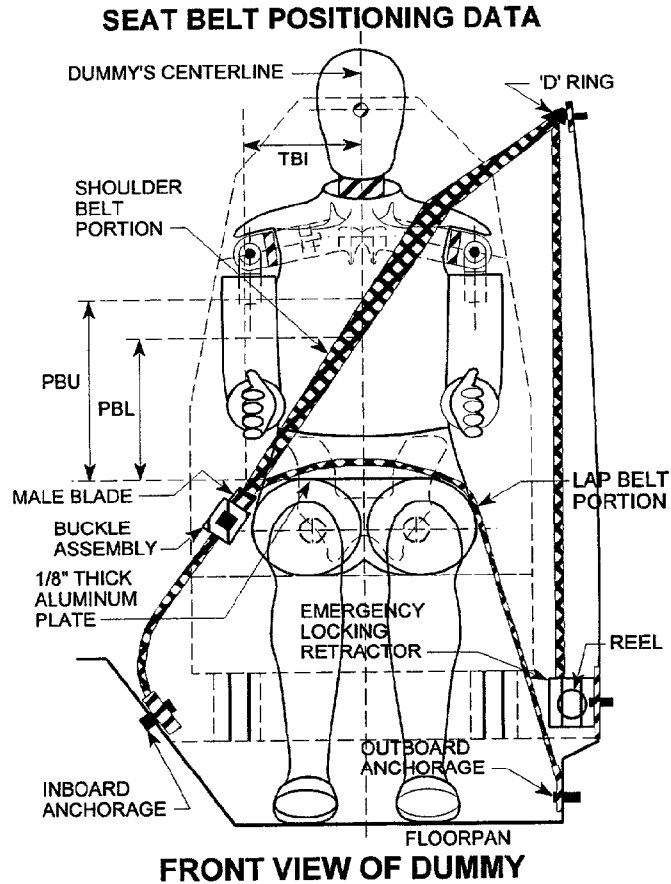


DATA SHEET NO. 5 FRONT SEAT DUMMY POSITIONING MEASUREMENTS IN VEHICLE

	DRIVER (Serial #061)			PASS. (Serial # 245)		
WA ^o	39 deg.			N/A		
SWA ^o	70 deg.			N/A		
SCA ^o	20 deg.			N/A		
SA ^o	15.5 deg.			15.5 deg.		
HZ	153			160		
HH	275			284		
HW	450			451		
HR	265			270		
NR	250	Angle	-19 deg.	N/A		
CD	411			455		
CS	194			N/A		
RA	105			N/A		
KDL	110	Angle (KDA)	42 deg.	110		
KDR	106			120	Angle (KDA)	40 deg.
PA ^o	21 deg.			25 deg.		
TA ^o	-47 deg.			-44 deg.		
KK	290			265		
ST	612	Angle	21 deg.	600	Angle	14 deg.
SK	640	Angle	85 deg.	635	Angle	85 deg.
SH	295	Angle	107 deg.	254	Angle	107 deg.
SHY	230			198		
HS	325			335		
HD	135			130		
AD	95			113		

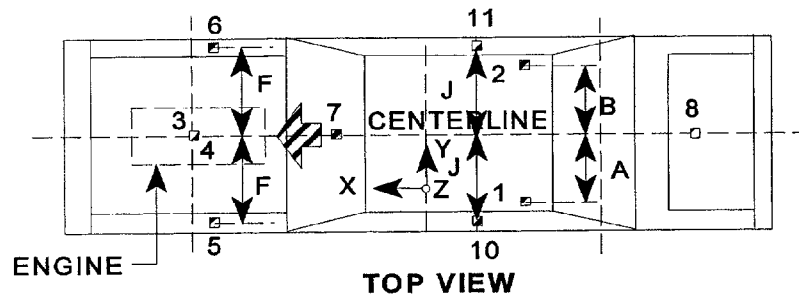
Dimensions in millimeters

DATA SHEET NO. 6 SEAT BELT POSITIONING DATA

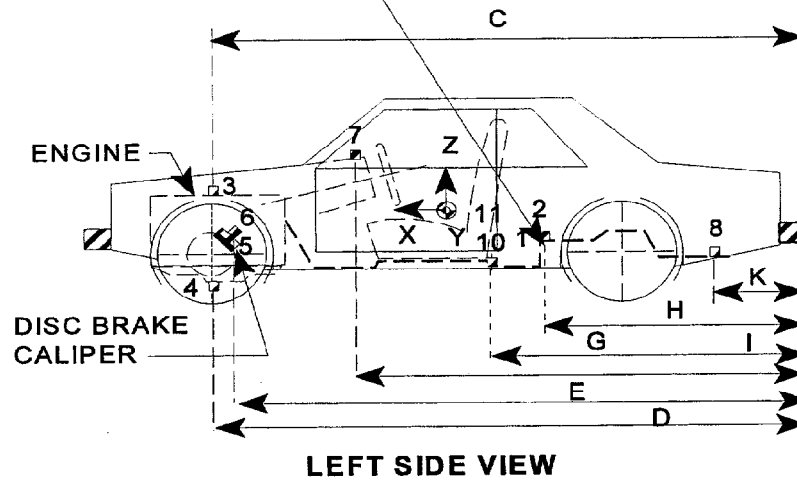


	DRIVER DUMMY (mm)	PASSENGER DUMMY (mm)
PBU -- Top surface of alum. plate to upper edge	310	275
PBL-- Top surface of alum. plate to belt lower edge	235	195
<u>LAP BELT TENSION</u>	10 Newtons	10 Newtons
<u>SHOULDER BELT TENSION</u>	Retractor	Retractor

VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY



REAR SEAT CUSHION
ASSY. FRONT ATTACHMENT
BRACKET SUPPORT



Note: Vehicle accelerometer location and data summary shown in DATA SHEET NO. 7

DATA SHEET NO. 7 VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

DIMENSION	LENGTH (mm)
	PRE-TEST VALUES
A Left Rear Seat Crossmember Y	610
B Right Rear Seat Crossmember Y	-610
C Top of Engine X	3989
D Bottom of Engine X	3796
E Disc Brake Calipers X	3956
F Disc Brake Calipers Y	±500
G Instrument Panel X	3126
H Rear Seat Crossmembers X	1678
I Underbody B Pillar X	2448
J Underbody B Pillar Y	±650

LOCATION NUMBER	DESCRIPTION	MAXIMUM VALUE (g's)			
		Pos.	msec.	Neg.	msec.
1	Rear Seat X-Member @ Left Side	3.0	128.4	-37.1	11.6
2	Rear Seat X-Member @ Right Side	2.4	127.4	-38.8	29.2
3	Top of Engine Block	*	*	*	*
4	Bottom of Engine	15.8	48.9	-83.5	36.3
5	Disc Brake Caliper @ Left Side	14.2	70.1	-51.2	51.9
6	Disc Brake Caliper @ Right Side	34.1	67.4	-60.6	51.4
7	Instrument Panel	19.6	38.1	-93.3	49.1
8	Rear Seat X-Member @ Left-Redundant	2.6	128.1	-38.4	11.7
9	Rear Seat X-Member @ Right-Redundant	3.1	130.3	-39.6	29.3
10	Underbody B-Pillar X @ Left Side	2.3	147.8	-40.7	11.9
11	Underbody B-Pillar X @ Right Side	3.8	145.5	-47.4	12.2

* Data is not accurate after 30 ms.

DATA SHEET NO. 8 DUMMY INJURY CRITERIA VALUES

NHTSA Test No.: MW0206 Vehicle: 1998 Ford Explorer 4-Door SUV

DESCRIPTION	UNIT	MAXIMUM VALUE			
		Pos.	msec.	Neg.	msec.
Pos. 1 Head X	g's	22.9	203.5	-50.8	67.2
Pos. 1 Head Y	g's	4.5	152.0	-13.8	70.6
Pos. 1 Head Z	g's	18.7	53.6	-9.1	124.7
Pos. 1 Head Resultant	g's	54.5	67.2	0.1	-30.5
Pos. 2 Head X	g's	27.7	201.8	-56.0	73.4
Pos. 2 Head Y	g's	15.6	29.0	-6.3	41.3
Pos. 2 Head Z	g's	33.5	63.3	-9.5	120.4
Pos. 2 Head Resultant	g's	61.6	72.9	0.0	-29.1
Pos. 1 Chest X	g's	4.6	147.7	-52.6	50.7
Pos. 1 Chest Y	g's	3.1	62.3	-4.6	28.9
Pos. 1 Chest Z	g's	21.0	49.7	-11.8	122.8
Pos. 1 Chest Resultant	g's	56.6	50.4	0.0	-30.6
Pos. 1 Chest Displacement	mm	0.0	-26.9	-35.0	68.3
Pos. 2 Chest X	g's	5.7	155.3	-53.6	62.1
Pos. 2 Chest Y	g's	9.4	61.5	-5.3	110.4
Pos. 2 Chest Z	g's	20.3	66.4	-15.2	120.8
Pos. 2 Chest Resultant	g's	56.4	61.7	0.0	-32.2
Pos. 2 Chest Displacement	mm	0.0	-5.3	-26.3	72.7
Pos. 1 Left Femur	N	82.7	17.6	-4793.8	45.0
Pos. 1 Right Femur	N	127.7	145.1	-6027.3	29.1
Pos. 2 Left Femur	N	283.9	91.0	-4189.0	40.6
Pos. 2 Right Femur	N	111.8	88.5	-3674.2	40.1
Pos. 1 Left Belt Load	N	4053.8	62.3	-38.9	148.4
Pos. 1 Torso Belt Load	N	-	-	-	-
Pos. 2 Right Belt Load	N	6524.4	60.9	-4.8	-1.8
Pos. 2 Torso Belt Load	N	-	-	-	-

DATA SHEET NO. 8 DUMMY INJURY CRITERIA VALUES (cont.)

NHTSA Test No.: MW0206 Vehicle: 1998 Ford Explorer 4-Door SUV

HEAD INJURY CRITERIA (HIC)				
	HIC**	t ₁ (msec)	t ₂ (msec)	Average Acceleration t ₁ to t ₂
Position #1 - Driver	566.91	44.600	80.600	47.74
Position #2 - Passenger	558.13	53.000	88.000	47.98

** HIC is as defined in FMVSS 208. The maximum time interval from t₁ to t₂ is 36 milliseconds.

CLIP SUMMARY*				
	CLIP (g's)	t ₁ (msec)	t ₂ (msec)	CSI
Position #1 - Driver	55.704	49.3075	52.3075	525.817
Position #2 - Passenger	54.587	60.5469	63.5469	557.776

* The maximum chest resultant acceleration is defined as the maximum acceleration which exceeds 0.003 seconds in duration.

DATA SHEET NO. 8 DUMMY INJURY CRITERIA VALUES (cont.)
HYBRID III NECK AND PELVIC DATA SHEET

Vehicle Year/Make/Model/Body Style: 1998 Ford Explorer 4-Door SUV
 NHTSA Test No.: MW0206 Test Date: December 3, 1997

DESCRIPTION	UNIT	MAXIMUM VALUE			
		Pos.	msec	Neg.	msec
Pos. 1 Upper Neck Fx	N	76.1	214.2	-924.1	63.9
Pos. 1 Upper Neck Fy	N	*	*	*	*
Pos. 1 Upper Neck Fz	N	3237.2	63.9	-488.2	122.5
Pos. 1 Neck Force Result	N	*	*	*	*
Pos. 1 Upper Neck Mx	N-m	21.0	157.0	-25.5	80.7
Pos. 1 Upper Neck My	N-m	40.9	143.9	-57.1	51.3
Pos. 1 Upper Neck Mz	N-m	26.4	90.6	-6.0	143.1
Pos. 1 Neck Moment Result	N-m	58.0	51.3	0.0	-36.9
Pos. 2 Upper Neck Fx	N	644.8	69.6	-660.8	138.4
Pos. 2 Upper Neck Fy	N	300.6	61.1	-355.8	148.3
Pos. 2 Upper Neck Fz	N	2314.8	63.4	-820.2	14.8
Pos. 2 Neck Force Result	N	2331.7	63.4	4.1	-21.1
Pos. 2 Upper Neck Mx	N-m	36.1	76.2	-19.1	151.0
Pos. 2 Upper Neck My	N-m	46.7	64.0	-21.0	231.3
Pos. 2 Upper Neck Mz	N-m	20.4	84.1	-10.1	44.1
Pos. 2 Neck Moment Result	N-m	51.9	64.1	0.1	-37.8
Pos. 1 Pelvic (X)	g's	7.3	122.2	-54.9	34.6
Pos. 1 Pelvic (Y)	g's	5.8	100.3	-17.8	27.9
Pos. 1 Pelvic (Z)	g's	*	*	*	*
Pos. 1 Pelvic (R)	g's	*	*	*	*
Pos. 2 Pelvic (X)	g's	11.8	114.0	-57.7	40.6
Pos. 2 Pelvic (Y)	g's	7.6	49.2	-6.5	91.7
Pos. 2 Pelvic (Z)	g's	3.0	34.0	-15.1	112.1
Pos. 2 Pelvic (R)	g's	58.1	40.6	0.0	-25.7

* Data is not accurate.

DATA SHEET NO. 8 DUMMY INJURY CRITERIA VALUES (cont.)
HYBRID III LOWER LEG DATA SHEET

Vehicle Year/Make/Model/Body Style: 1998 Ford Explorer 4-Door SUV
 NHTSA Test No.: MW0206 Test Date: December 3, 1997

DESCRIPTION	UNIT	MAXIMUM VALUE			
		Pos.	msec	Neg.	msec
P1 Lt Upper Tibia Mx	N-m	31.8	62.7	-38.8	38.7
P1 Lt Upper Tibia My	N-m	22.5	120.3	-99.4	29.9
P1 Lt Lower Tibia Fx	N	234.9	64.1	-696.1	30.3
P1 Lt Lower Tibia Fz	N	573.7	64.0	-2108.4	31.3
P1 Lt Lower Tibia My	N-m	17.6	79.0	-44.9	30.3
P1 Rt Upper Tibia Mx	N-m	32.6	53.2	-32.0	26.8
P1 Rt Upper Tibia My	N-m	149.7	47.3	-18.5	121.0
P1 Rt Lower Tibia Fx	N	80.4	140.3	-1012.1	39.7
P1 Rt Lower Tibia Fz	N	102.2	123.6	-1098.0	39.3
P1 Rt Lower Tibia My	N-m	117.8	62.5	-78.2	38.0
Pos. 2 Lt Upper Tibia Mx	N-m	22.1	86.8	-23.4	49.1
Pos. 2 Lt Upper Tibia My	N-m	12.1	105.6	-105.1	52.1
Pos. 2 Lt Lower Tibia Fx	N	396.6	48.0	-590.3	30.6
Pos. 2 Lt Lower Tibia Fz	N	300.8	60.9	-1682.9	76.7
Pos. 2 Lt Lower Tibia My	N-m	32.2	48.6	-46.6	51.8
Pos. 2 Rt Upper Tibia Mx	N-m	20.4	56.0	-31.8	83.8
Pos. 2 Rt Upper Tibia My	N-m	33.5	40.0	-82.3	74.1
Pos. 2 Rt Lower Tibia Fx	N	*	*	*	*
Pos. 2 Rt Lower Tibia Fz	N	254.7	150.4	-2335.3	73.9
Pos. 2 Rt Lower Tibia My	N-m	44.2	40.5	-37.1	60.9

* Data is not accurate.

DATA SHEET NO. 8 DUMMY INJURY CRITERIA VALUES (cont.)
HYBRID III ANKLE DATA SHEET

Vehicle Year/Make/Model/Body Style: 1998 Ford Explorer 4-Door SUV
 NHTSA Test No.: MW0206 Test Date: December 3, 1997

DESCRIPTION	UNIT	MAXIMUM VALUE			
		Pos.	msec	Neg.	msec
Pos. 1 Left Ankle X	g's	40.6	14.5	-67.7	6.7
Pos. 1 Left Ankle Z	g's	89.9	46.3	-58.1	33.6
Pos. 1 Left Toe Z	g's	105.9	46.4	-82.0	33.8
Pos. 1 Right Ankle X	g's	38.1	69.7	-77.4	40.4
Pos. 1 Right Ankle Z	g's	35.3	59.4	-112.4	46.1
Pos. 1 Right Toe Z	g's	91.1	59.5	-189.7	37.1
Pos. 2 Left Ankle X	g's	13.5	85.7	-105.3	48.6
Pos. 2 Left Ankle Z	g's	7.3	51.1	-66.1	48.6
Pos. 2 Left Toe Z	g's	49.7	51.5	-118.6	48.6
Pos. 2 Right Ankle X	g's	27.0	76.6	-73.2	30.9
Pos. 2 Right Ankle Z	g's	20.1	48.4	-50.0	48.8
Pos. 2 Right Toe Z	g's	72.8	49.0	-72.6	48.7

DATA SHEET NO. 8 DUMMY INJURY CRITERIA VALUES (cont.)
REDUNDANT DUMMY DATA

NHTSA Test No.: MW0206 Vehicle: 1998 Ford Explorer 4-Door SUV

DESCRIPTION	UNIT	MAXIMUM VALUE			
		Pos.	msec	Neg.	msec
Pos. 1 Head X(R)	g's	22.8	203.7	-53.5	65.5
Pos. 1 Head Y(R)	g's	6.4	32.1	-17.4	67.9
Pos. 1 Head Z(R)	g's	27.4	45.3	-9.2	120.1
Pos. 1 Head Resultant(RR)	g's	58.1	67.9	0.1	-30.5
Pos. 2 Head X(R)	g's	27.2	202.0	-60.6	74.3
Pos. 2 Head Y(R)	g's	23.5	29.0	-10.1	41.3
Pos. 2 Head Z(R)	g's	34.0	50.0	-10.1	120.4
Pos. 2 Head Resultant(RR)	g's	66.4	71.0	0.0	-29.4
Pos. 1 Chest X(R)	g's	4.6	149.0	-51.3	50.7
Pos. 1 Chest Y(R)	g's	2.4	108.7	-5.0	30.1
Pos. 1 Chest Z(R)	g's	21.4	49.5	-10.3	125.0
Pos. 1 Chest Resultant(RR)	g's	55.3	50.4	0.0	-31.8
Pos. 2 Chest X(R)	g's	6.9	158.5	-50.9	59.3
Pos. 2 Chest Y(R)	g's	8.3	61.1	-7.1	110.2
Pos. 2 Chest Z(R)	g's	22.1	68.2	-16.6	108.5
Pos. 2 Chest Resultant(RR)	g's	53.7	59.4	0.0	-32.2

DATA SHEET NO. 8 DUMMY INJURY CRITERIA VALUES (cont.)
REDUNDANT DUMMY DATA

NHTSA Test No.: MW0206 Vehicle: 1998 Ford Explorer 4-Door SUV

HEAD INJURY CRITERIA (HIC) REDUNDANT				
	HIC**	t ₁ (msec)	t ₂ (msec)	Average Acceleration t ₁ to t ₂
Position #1 - Driver	675.83	44.600	80.600	51.22
Position #2 - Passenger	676.88	49.600	85.600	51.25

** HIC is as defined in FMVSS 208. The maximum time interval from t₁ to t₂ is 36 milliseconds.

CLIP SUMMARY* REDUNDANT				
	CLIP (g's)	t ₁ (msec)	t ₂ (msec)	CSI
Position #1 - Driver	54.680	49.2612	52.7583	517.061
Position #2 - Passenger	50.079	58.2724	63.1641	531.333

* The maximum chest resultant acceleration is defined as the maximum acceleration which exceeds 0.003 seconds in duration.

DATA SHEET NO. 9 SEAT BELT PERFORMANCE ASSESSMENT TEST DATA

BELT LENGTH DATA:

	<u>Driver</u>	<u>Passenger</u>
Belt length from trim panel exit to bolt hole anchor point for continuous webbing systems.	<u>2545</u>	<u>2554</u>
Shoulder belt length as measured on Part 572 Dummy.	<u>975</u>	<u>990</u>
Lap belt length as measured on Part 572 Dummy.	<u>980</u>	<u>970</u>

SHOULDER BELT SPOOL-OFF DATA:

As determined by film analysis.	<u>38.1</u>	<u>127</u>
As determined mechanically.	<u>*</u>	<u>*</u>
As determined electronically.	<u>*</u>	<u>*</u>

BELT STRETCH DATA:

Measured electronically between shoulder belt load cell and the "D" ring.	<u>*</u>	<u>*</u>
Measured mechanically.	<u>*</u>	<u>*</u>

Dimensions in millimeters

* This instrumentation was not attached to the seatbelts at the request of Ford Motor Company.

DATA SHEET NO.10 SUMMARY OF FMVSS 212 DATA

FMVSS NO. 212 - "WINDSHIELD MOUNTING" DATA

DETAILS OF WINDSHIELD MOUNTING SUCH AS RETENTION METHOD, TRIM TYPE, ETC.:

Windshield is bonded in place and covered with 20 mm molding.

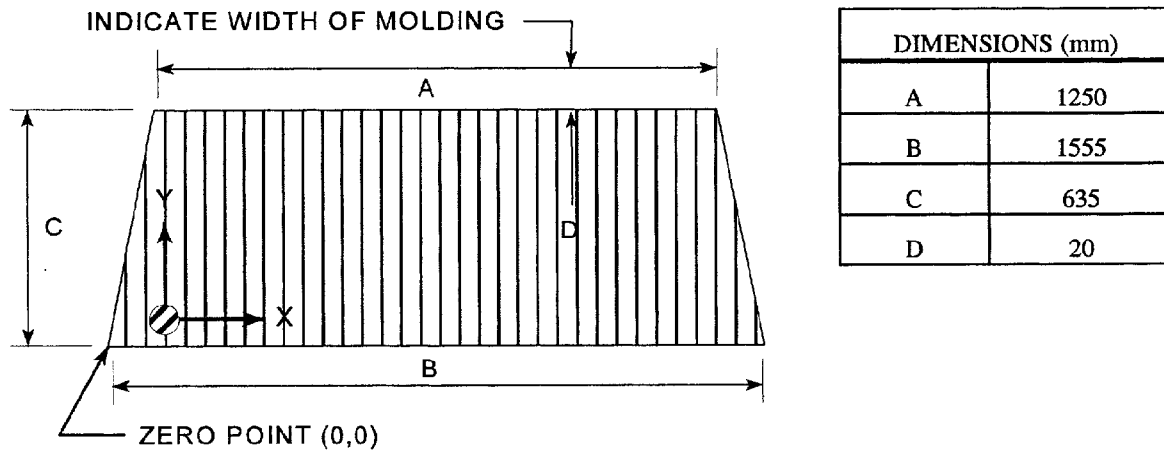
FMVSS 212 REQUIREMENTS:

The Post-Test periphery retention amount must be at least 75% of the Pre-Test periphery measurement for vehicles NOT equipped with automatic restraints, and 50% for each side of the windshield for vehicles equipped with automatic restraint systems for front occupants,

FMVSS 212 TEST DATA

	WINDSHIELD PERIPHERY		% OF RETENTION
	PRE-TEST (mm)	POST-TEST(mm)	
RIGHT SIDE	2037.5	2037.5	100
LEFT SIDE	2037.5	2037.5	100
TOTAL	4,075	4,075	100

AREA OF RETENTION FAILURE:



FRONT VIEW OF WINDSHIELD

FAILURE DETAILS: None.

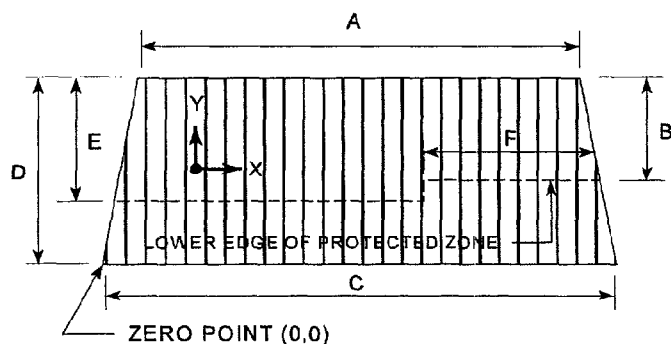
DATA SHEET NO. 11 FMVSS NO. 219 (PARTIAL) - "WINDSHIELD ZONE INTRUSION" DATA

PROTECTED ZONE LOWER EDGE REQUIREMENT:

The lower edge of the protected zone is determined by placing a 165 mm diameter rigid sphere weighing 6.8 kg in a position such that it simultaneously contacts the inner surface of the windshield and the top surface of the instrument panel including padding. The locus of points is drawn on the inner surface of the windshield contacted by the sphere across the width of the instrument panel. From the outermost contactable points extend the locus line horizontally to the edges of the windshield, then draw a line on the inner surface of the windshield below and 13 mm distant from the locus line. The LOWER EDGE OF THE PROTECTED ZONE is the longitudinal projection of this line onto the outer surface of the windshield.

FMVSS 219 TEST DATA:

(Dimensions in mm)



FRONT VIEW OF WINDSHIELD

DIMENSIONS	
A	1250
B	340
C	1555
D	635
E	420
F	770

DETAILS OF WINDSHIELD GLASS PENETRATION GREATER THAN 6 mm: None

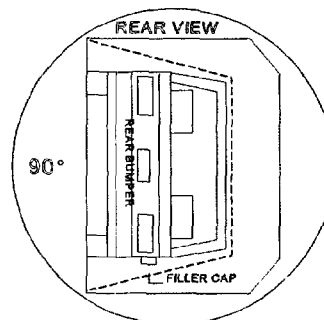
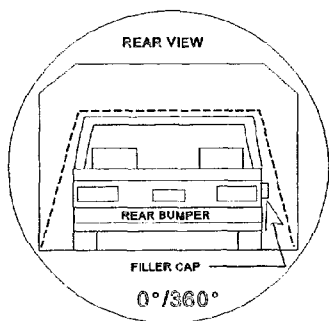
(Show location of penetration on the above sketch)

COORDINATES		
	X	Y
1.	-	-
2.	-	-
3.	-	-
4.	-	-

DATA SHEET NO. 13 FMVSS NO. 301 STATIC ROLLOVER DATA SHEET

TEST PHASE:
0-90 deg.

NHTSA Test No.:
MW0206



INDETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90 deg. Rotation Time
(Spec. Range = 1 to 3 minutes)

1 minutes

10 seconds

FMVSS 301 Position Hold Time +

5 minutes

00 seconds

TOTAL

6 minutes

10 seconds

Next whole minute interval

7 minutes

00 seconds

II. FMVSS 301 REQUIREMENTS:

(1) Time Period

First 5 min. from onset of rotation	6th min.	7th min.	8th min. if reqd.
-------------------------------------	----------	----------	-------------------

(2) Maximum Allowable Solvent Spillage

141 g	28 g	28 g	28 g
-------	------	------	------

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

0	0	0	N/A
---	---	---	-----

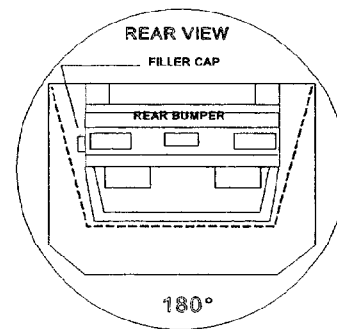
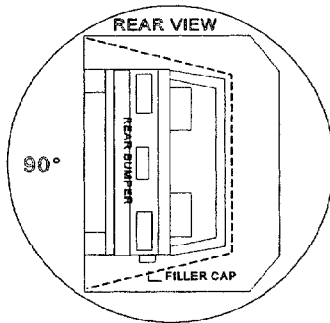
Note: Record spillage for whole minute intervals only as determined above.

IV. SOLVENT SPILLAGE LOCATION(S): None

TEST SHEET NO. 13 FMVSS NO. 301 STATIC ROLLOVER DATA SHEET (cont.)

TEST PHASE:
90-180 deg.

NHTSA Test No.:
MW0206



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90 deg. Rotation Time
(Spec. Range = 1 to 3 minutes)

1 minutes 12 seconds

FMVSS 301 Position Hold Time +

5 minutes 00 seconds

TOTAL

6 minutes 12 seconds

Next whole minute interval

7 minutes 00 seconds

II. FMVSS 301 REQUIREMENTS:

(1) Time Period

First 5 min. from onset of rotation	6th min.	7th min.	8th min. if reqd.
-------------------------------------	----------	----------	-------------------

(2) Maximum Allowable Solvent Spillage

141 g	28 g	28 g	28 g
-------	------	------	------

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

0	0	0	N/A
---	---	---	-----

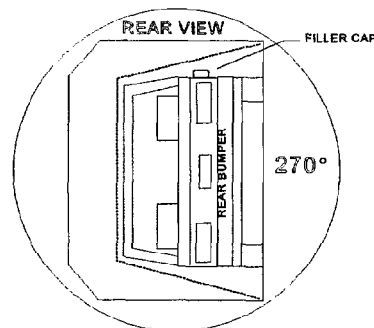
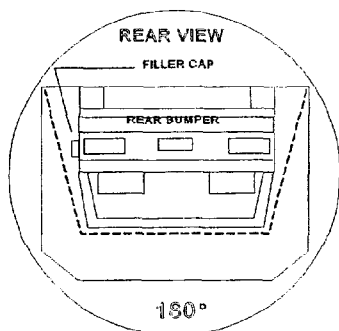
Note: Record spillage for whole minute intervals only as determined above.

IV. SOLVENT SPILLAGE LOCATION(S): None

TEST SHEET NO. 13 FMVSS NO. 301 STATIC ROLLOVER DATA SHEET (cont.)

TEST PHASE:
180-270 deg.

NHTSA Test No.:
MW0206



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90 deg. Rotation Time
(Spec. Range = 1 to 3 minutes)

1 minutes 03 seconds

FMVSS 301 Position Hold Time +

5 minutes 00 seconds

TOTAL

6 minutes 3 seconds

Next whole minute interval

7 minutes 00 seconds

II. FMVSS 301 REQUIREMENTS:

(1) Time Period

First 5 min. from onset of rotation	6th min.	7th min.	8th min. if reqd.
-------------------------------------	----------	----------	-------------------

(2) Maximum Allowable Solvent Spillage

141 g	28 g	28 g	28 g
-------	------	------	------

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

0	0	0	N/A
---	---	---	-----

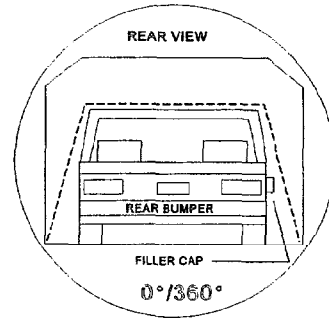
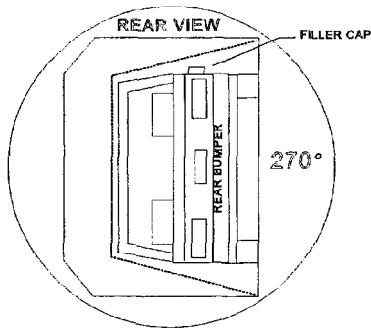
Note: Record spillage for whole minute intervals only as determined above.

IV. SOLVENT SPILLAGE LOCATION(S): None

TEST SHEET NO. 13 FMVSS NO. 301 STATIC ROLLOVER DATA SHEET (cont.)

TEST PHASE:
270-360 deg.

NHTSA Test No.:
MW0206



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90 deg. Rotation Time
(Spec. Range = 1 to 3 minutes)

1 minutes 14 seconds

FMVSS 301 Position Hold Time +

5 minutes 00 seconds

TOTAL

6 minutes 14 seconds

Next whole minute interval

7 minutes 00 seconds

II. FMVSS 301 REQUIREMENTS:

(1) Time Period

First 5 min. from onset of rotation	6th min.	7th min.	8th min. if reqd.
-------------------------------------	----------	----------	-------------------

(2) Maximum Allowable Solvent Spillage

141 g	28 g	28 g	28 g
-------	------	------	------

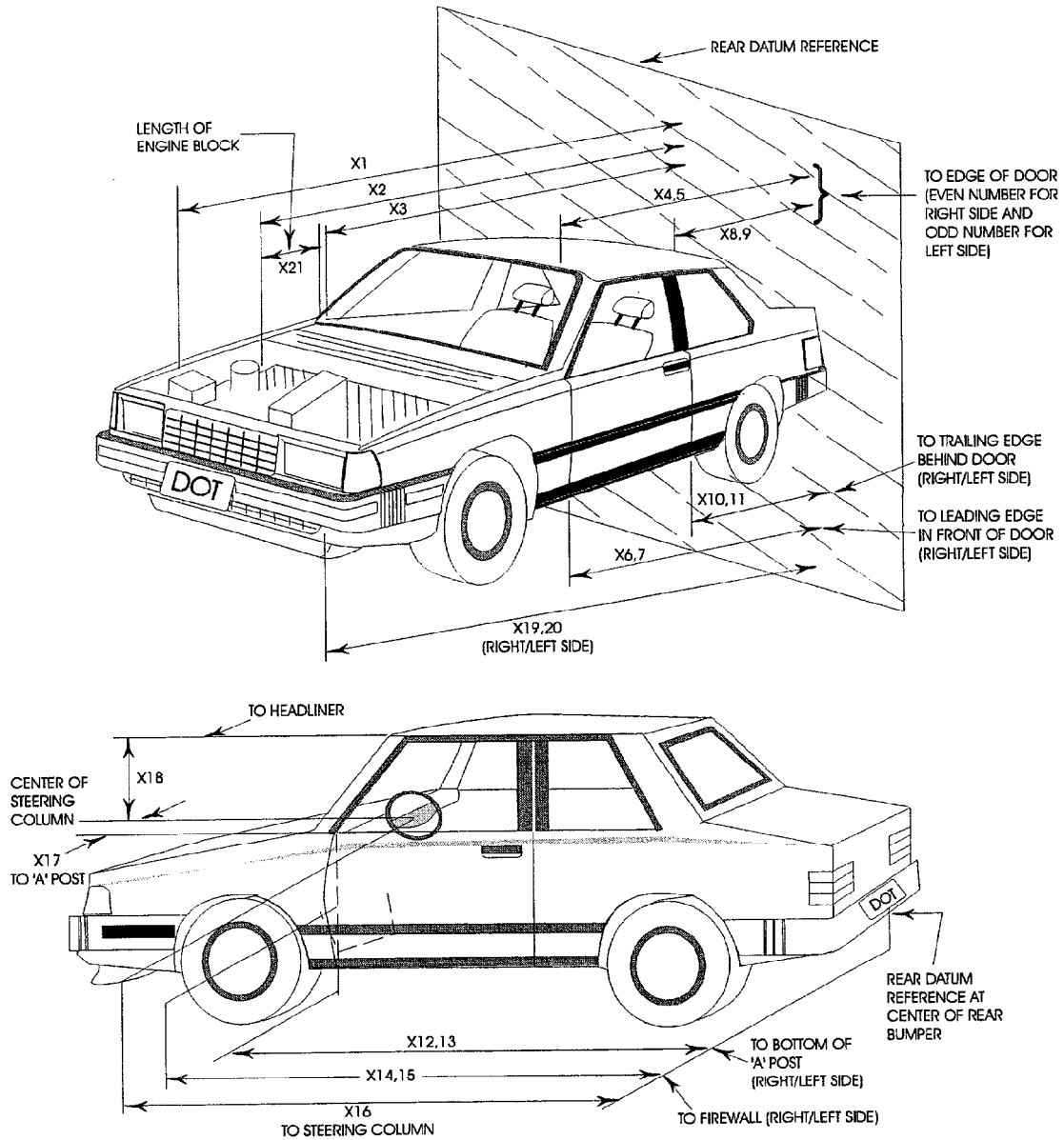
III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

0	0	0	N/A
---	---	---	-----

Note: Record spillage for whole minute intervals only as determined above.

IV. SOLVENT SPILLAGE LOCATION(S): None

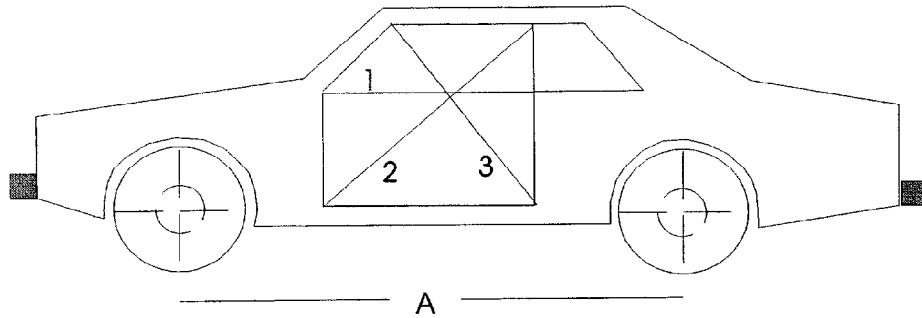
TEST VEHICLE MEASUREMENTS



DATA SHEET NO.14 VEHICLE MEASUREMENTS

No.		All Dimensions in mm		
		Pre-Test	Post-Test	Differences
X1	Total Length of Vehicle at Centerline	4790	4245	545
X2	Rear Surface of Vehicle to Front of Engine	4130	3980	150
X3	Rear Surface of Vehicle to Firewall	3615	3525	90
X4	Rear Surface of Vehicle to Upper Leading Edge of Right Door	3351	3354	-3
X5	Rear Surface of Vehicle to Upper Leading Edge of Left Door	3346	3360	-14
X6	Rear Surface of Vehicle to Lower Leading Edge of Right Door	3284	3266	18
X7	Rear Surface of Vehicle to Lower Leading Edge of Left Door	3290	3260	30
X8	Rear Surface of Vehicle to Upper Trailing Edge of Right Door	2315	2325	-10
X9	Rear Surface of Vehicle to Upper Trailing Edge of Left Door	2318	2325	-7
X10	Rear Surface of Vehicle to Lower Trailing Edge of Right Door	2305	2286	19
X11	Rear Surface of Vehicle to Lower Trailing Edge of Left Door	2306	2288	18
X12	Rear Surface of Vehicle to Bottom of "A" Post of Right Side	3280	3255	25
X13	Rear Surface of Vehicle to Bottom of "A" Post of Left Side	3284	3250	34
X14	Rear Surface of Vehicle to Firewall, Right Side	3565	3575	-10
X15	Rear Surface of Vehicle to Firewall, Left Side	3565	3590	-25
X16	Rear Surface of Vehicle to Steering Column	2870	2900	-30
X17	Center of Steering Column to "A" Post	425	430	-5
X18	Center of Steering Column to Headliner	435	425	10
X19	Rear Surface of Vehicle to Right Side of Front Bumper	4750	4250	500
X20	Rear Surface of Vehicle to Left Side of Front Bumper	4750	4220	530
X21	Length of Engine Block	560	560	0
RD	Rear Surface of Vehicle to Right Side of Dash Panel	3090	3090	0
CD	Rear Surface of Vehicle to Center of Dash Panel	3095	3095	0
LD	Rear Surface of Vehicle to Left Side of Dash Panel	3110	3090	20

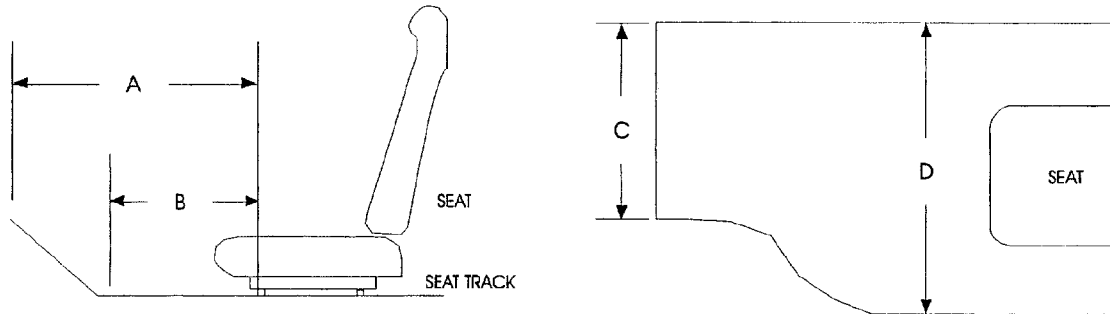
DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)
VEHICLE INTRUSION MEASUREMENTS
DOOR OPENING WIDTH



UNITS (mm)	LEFT			RIGHT		
MEASUREMENT	1	2	3	1	2	3
BEFORE TEST	935	1535	1160	935	1535	1155
AFTER TEST	925	1530	1190	920	1515	1211
DIFFERENCE	10	5	-30	15	20	-56

UNITS (mm)	A = WHEELBASE LEFT	A = WHEELBASE RIGHT
BEFORE TEST	2843	2843
AFTER TEST	2820	2810
DIFFERENCE	23	33

DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)
VEHICLE INTRUSION MEASUREMENTS
STATIC FOOTWELL DEFORMATION



DRIVER

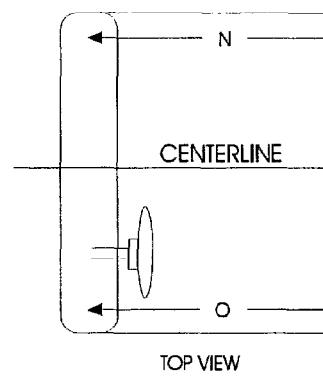
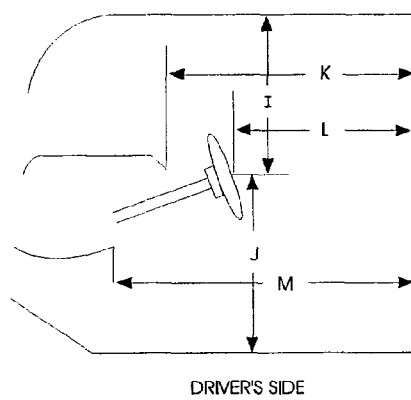
Measurement	Pre-Test	Post-Test	Difference
A	600	600	0
B	505	500	5
C	405	405	0
D	380	380	0

PASSENGER

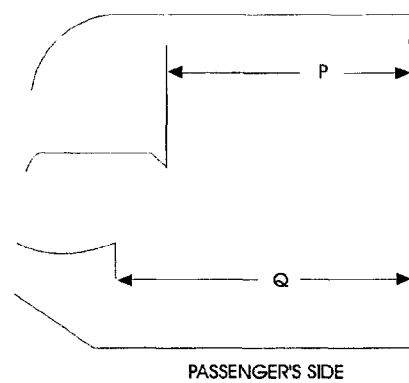
Measurement	Pre-Test	Post-Test	Difference
A	595	585	10
B	510	505	5
C	325	325	0
D	390	385	5

Units = mm

DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)
VEHICLE INTRUSION MEASUREMENTS
STATIC PASSENGER COMPARTMENT INTRUSION



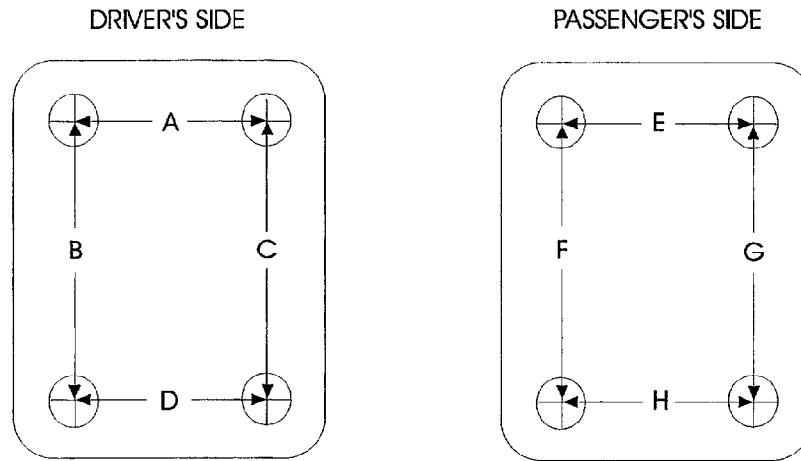
MEASUREMENTS
FROM C-PILLAR
BELT ANCHORAGE



Measurement	Pre-Test	Post-Test	Difference
I	420	420	0
J	645	645	0
K	765	765	0
L	540	570	-30
M	775	750	25
N	760	760	0
O	780	760	20
P = K (PASS.)	765	770	-5
Q = M (PASS.)	755	765	-10

Units = mm

DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)
FLOORBOARD DEFORMATION



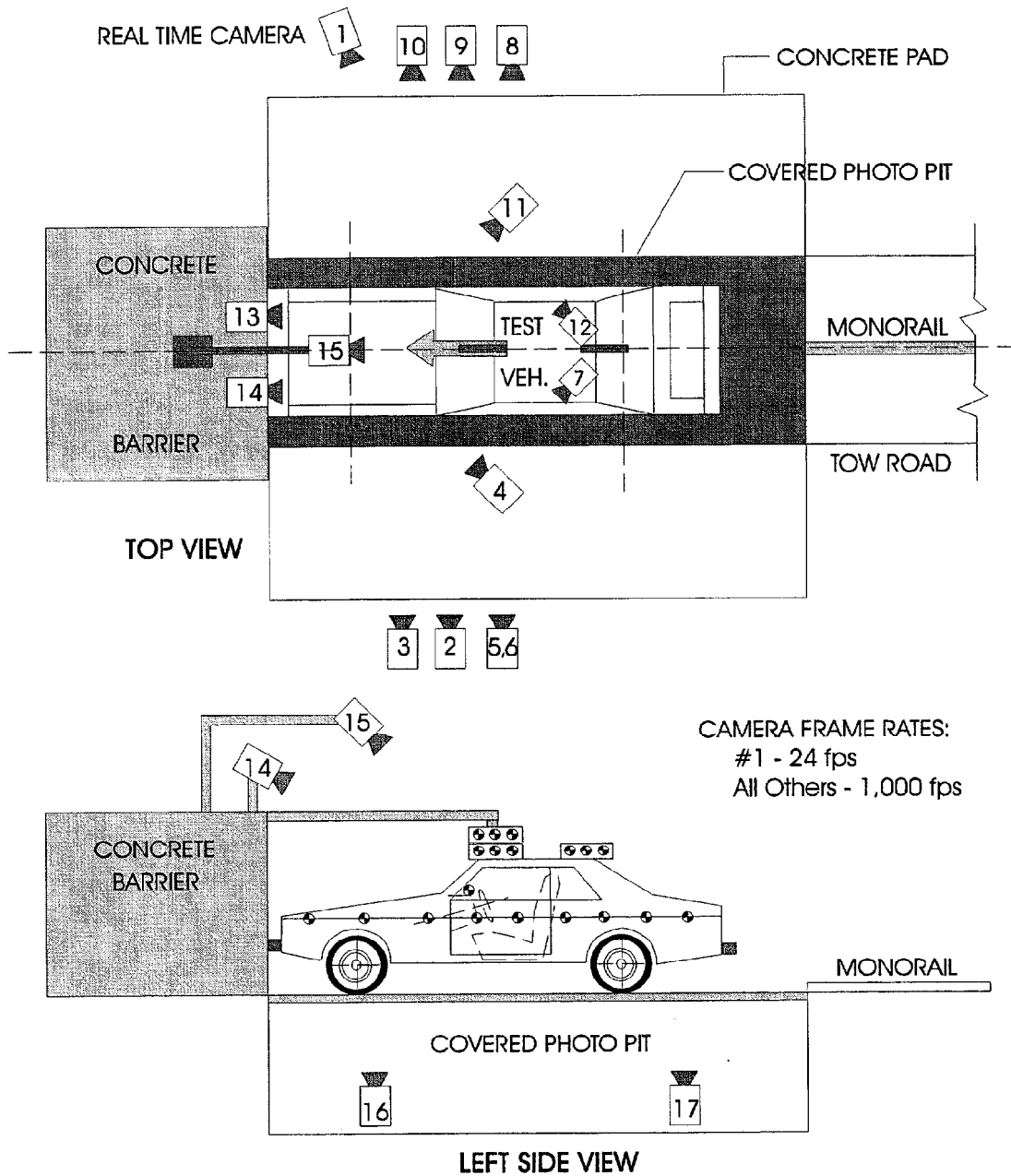
TOP VIEW THROUGH FLOOR PAN

Measurement	Pre-Test	Post-Test	Difference
A	205	205	0
B	500	500	0
C	555	555	0
D	100	100	0
E	160	157	3
F	500	503	-3
G	540	535	5
H	160	160	0

Units = mm

CAMERA POSITIONS FOR FRONTAL IMPACTS

NOTE: Camera information shown in DATA SHEET NO. 15.



DATA SHEET NO.15 HIGH-SPEED CAMERA LOCATIONS

NHTSA Test No.:			MW0206		Vehicle:		1998 Ford Explorer 4-Door SUV			
CAMERA NO.	VIEW	CAMERA POSITIONS (mm)*			ANGLE** (deg)	FILM PLANE TO HEAD TARGET	LENS (mm)	SPEED (fps)		
		X	Y	Z						
1	Real-Time Camera	-	-	-	-	-	-	24		
2	Overall Left Side	6804	1562	1100	-4	6333	12.5	1000		
3	Left Side View	8099	886	1132	-3	7628	25	1000		
4	Driver and Interior View	5225	2795	1950	-15	-	25	N.T.		
5	Steering Column (Bottom)	7855	1883	1170	-2	7384	25	1050		
6	Steering Column (Top)	7855	1883	1777	-9	7384	25	1000		
7	Left Belt	-	-	-	-	-	13	550		
8	Overall Right Side	6640	2192	1130	-4	7111	13	1020		
9	Right Side View	8000	1605	1262	-3	8471	25	1020		
10	Right Passenger View	7890	1880	1420	-3	8361	35	1000		
11	Passenger and Interior View	5175	2913	2015	-15	-	25	1020		
12	Right Belt	-	-	-	-	-	13	N.T.		
13	Passenger Front View	545	-450	2000	-43	-	8	1000		
14	Driver Front View	545	-450	2000	-45	-	8	1020		
15	Windshield View	0	0	3374	-58	-	13	-		
16	Pit View of Engine	0	850	-3048	90	-	13	1000		
17	Pit View of Fuel Tank	0	2335	-3048	90	-	13	1000		

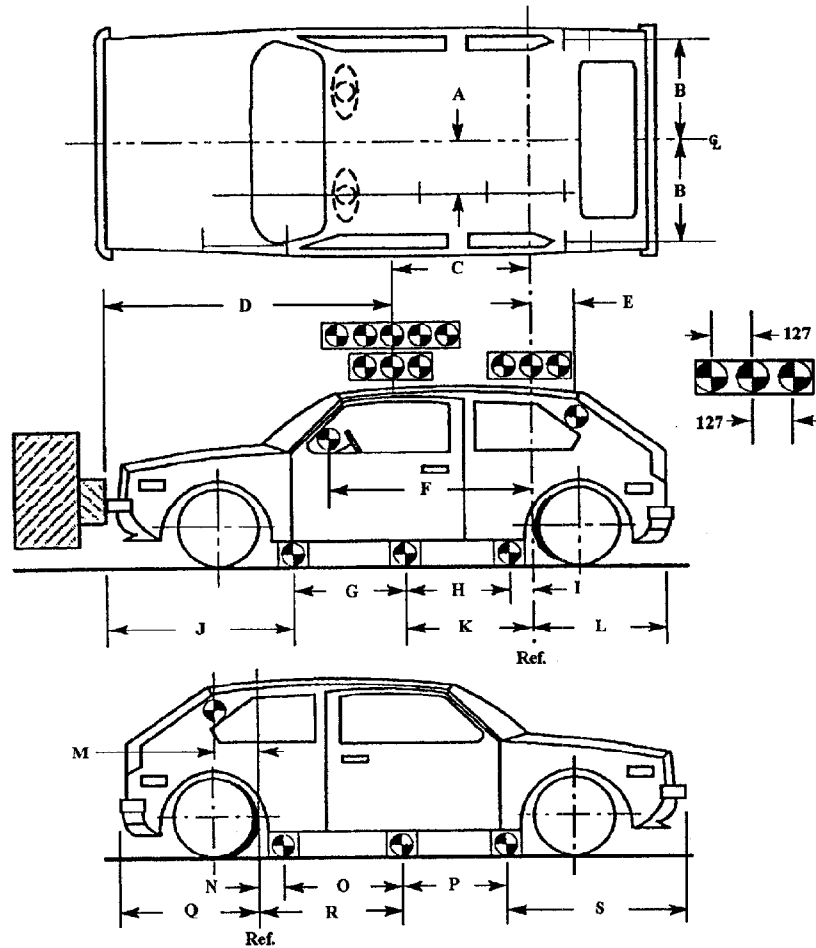
*X = film plane to monorail centerline
 Y = film plane to impact location
 Z = film plane to ground

** = referenced to horizontal plane
 N.T. indicates No Timing

DATA SHEET NO. 16 VEHICLE REFERENCE PHOTO TARGET LOCATIONS

(Dimensions in millimeters)

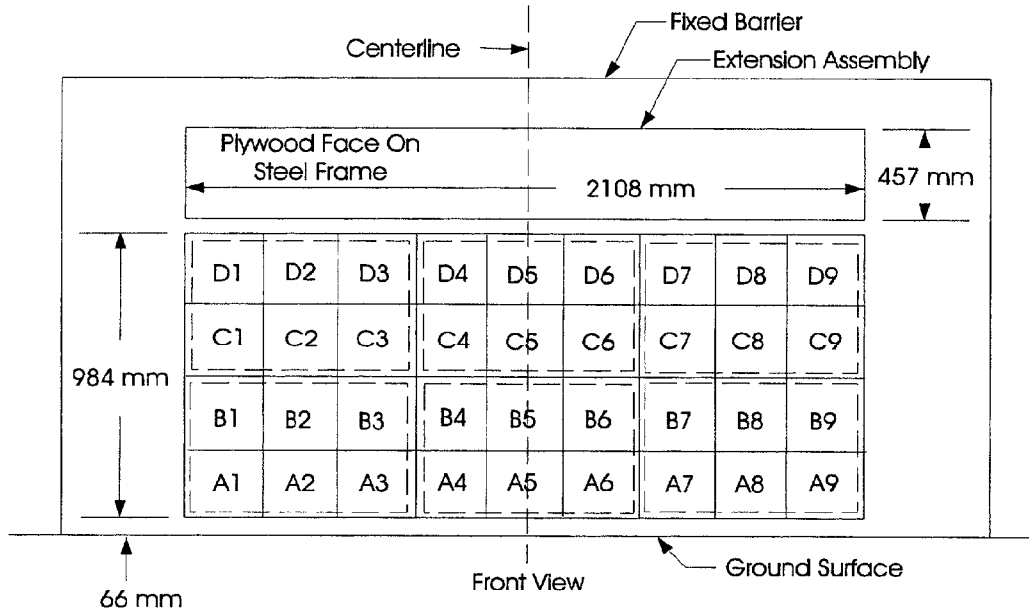
A	395
B	565
C	1219
D	2118
E	343
F	1632
G	930
H	930
I	147
J	1330
K	1077
L	1453
M	343
N	147
O	930
P	930
Q	1453
R	1077
S	1330



DATA SHEET NO. 17 LOAD CELL LOCATIONS ON FIXED BARRIER

Load cell barrier data was not requested for this test

- 36 Load Cells
- 4 Rows
- 9 Columns
- 6 Groupings (6 cells/group)



6 GROUPS OF 6 LOAD CELLS EACH

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

The following data is presented in Appendix B:

- (1) Data from 36 individual load cells
- (2) Total or Sum of 36 individual load cells
- (3) Data from 6 Groupings shown above (6 cells/group)

DATA SHEET NO. 18 POST TEST AIR BAG DATA

NHTSA No. : MW0206; Test Date: December 3, 1997; Technician: P. MacDiarmid

Vehicle Model Year/Make/Model: 1998 Ford Explorer 4-Door

A. No. of vent holes: 2 -Driver 0 -Passenger

B. Size of vent holes: (mm²) 314 -Driver - -Passenger

C. Total vent area: (mm²) 628 -Driver - -Passenger

D. Deflated air bag length and width dimensions or, if round, diameter. (mm)

Driver: 460 -Height; 615 -Width; 360 -Depth

Passenger: 750 -Height; 600 -Width; 780 -Depth

E. Is the air bag tethered?

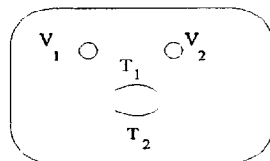
Driver: X -Yes; - -No; If yes, record length of tether- 250

Passenger: - -Yes; X -No; If yes, record length of tether- -

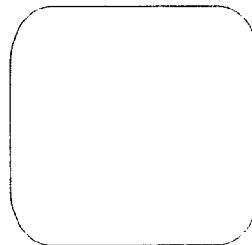
Sketch the air bag showing the location of the vent holes, how the bag is tethered, and where the bag is tethered. Also describe how the tethers are attached to the bag and the steering wheel.

(Note: Not to scale; V_n = Vent hole_n, T_n = Tether_n).

Driver



Passenger



F. Record part numbers and manufacturer name of the air bag and gas generator.

Driver: Air bag: FB78043B13ACJAFS BLACK

Generator: 2022141B T1JE241K20501 1ZV5248K10461 DP

Passenger: Air bag: FB7B78044A74

Generator: CCAYCQ DP Y72722628 330300243A 702 2003642A

FOR 56.3 KPH FRONTAL BARRIER IMPACT

Vehicle Make/Model/Body Style: Ford Explorer 4-Door SUV

NHTSA Test No.: MW0206 VIN: 1FMZU34E7WUA54556

Model Year: 1998 Build Date: 10/97 Test Date: December 3, 1997

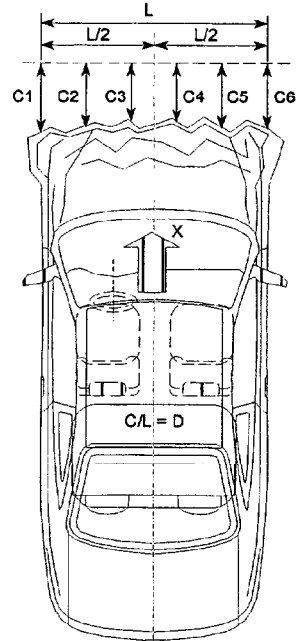
Vehicle Size Category: Sport Utility Vehicle Test Weight: 2209.5 kg

Vehicle Wheelbase: 2843 mm; Front Overhang: 1330 mm; Overall Width: 1783 mm

Collision Deformation Classification (CDC) Code: 12FDEW3

Crush Depth Dimensions:

	PRE	POST	DIFF	
C1 =	4620	4145	-475	mm
C2 =	4755	4255	-500	mm
C3 =	4785	4250	-535	mm
C4 =	4780	4240	-540	mm
C5 =	4750	4220	-530	mm
C6 =	4610	4140	-470	mm



Midpoint of Damage: $D = \frac{\text{Vehicle Centerline (Longitudinal)}}{2}$

Length of Damaged
Region:

L1 = 1645 mm

L2= 822.5 mm

L3= 329 mm

Appendix A
PHOTOGRAPHS

PHOTOGRAPHS

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PHOTOGRAPH NOT AVAILABLE



Figure A-2 PRE-TEST FRONT VIEW



Figure A-3 POST-TEST FRONT VIEW



Figure A-4 PRE-TEST LEFT SIDE VIEW

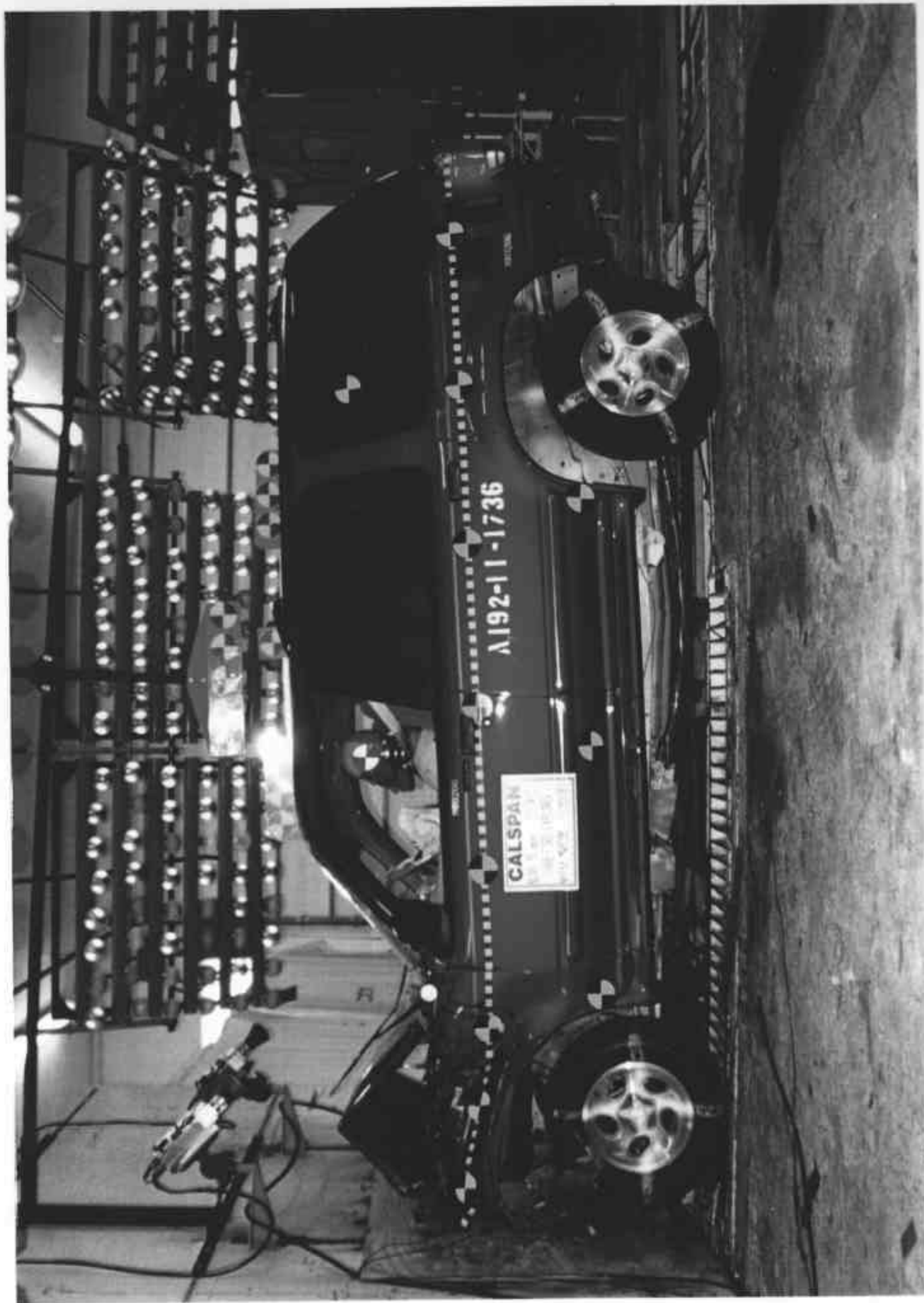


Figure A-5 POST-TEST LEFT SIDE VIEW

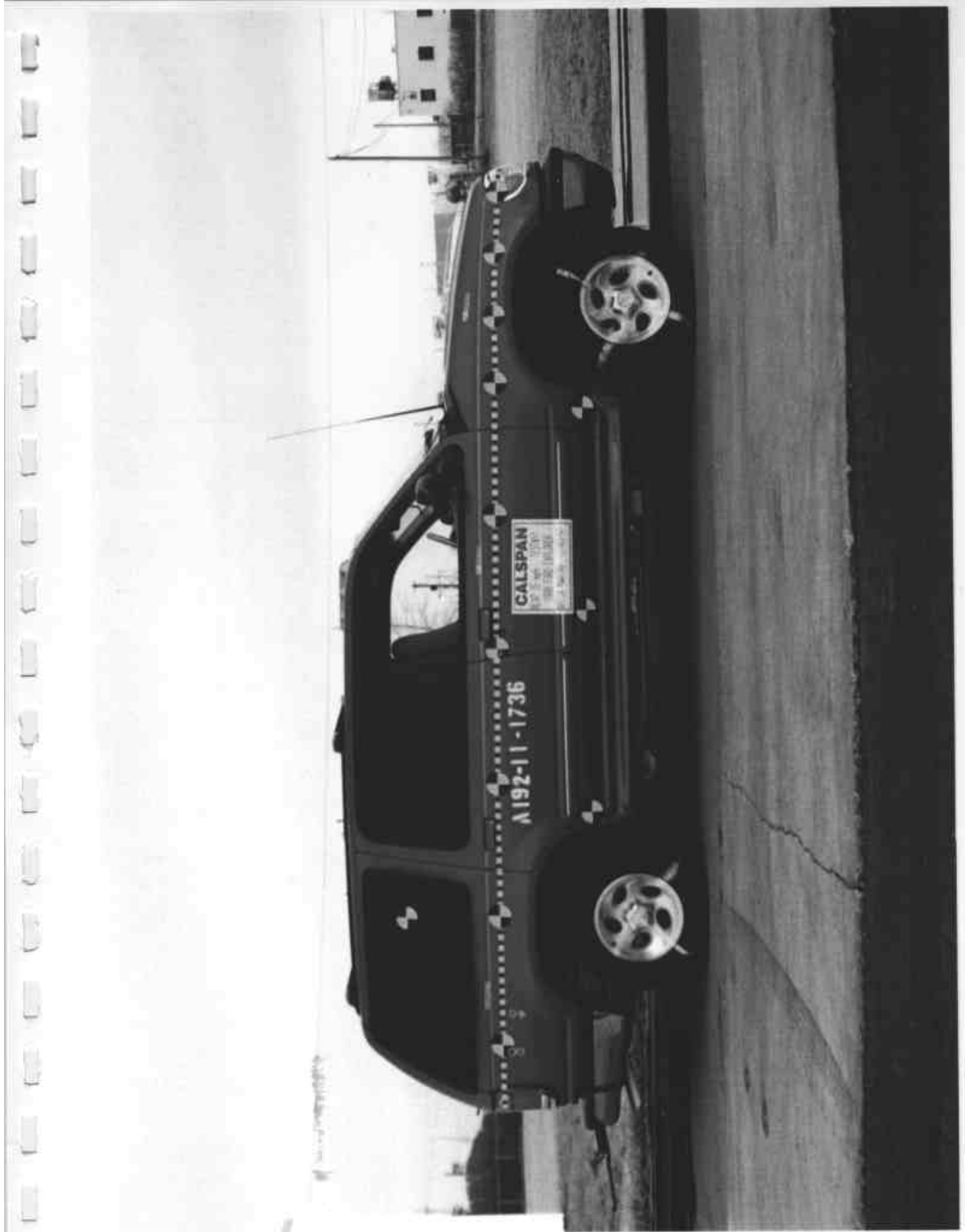


Figure A-6 PRE-TEST RIGHT SIDE VIEW

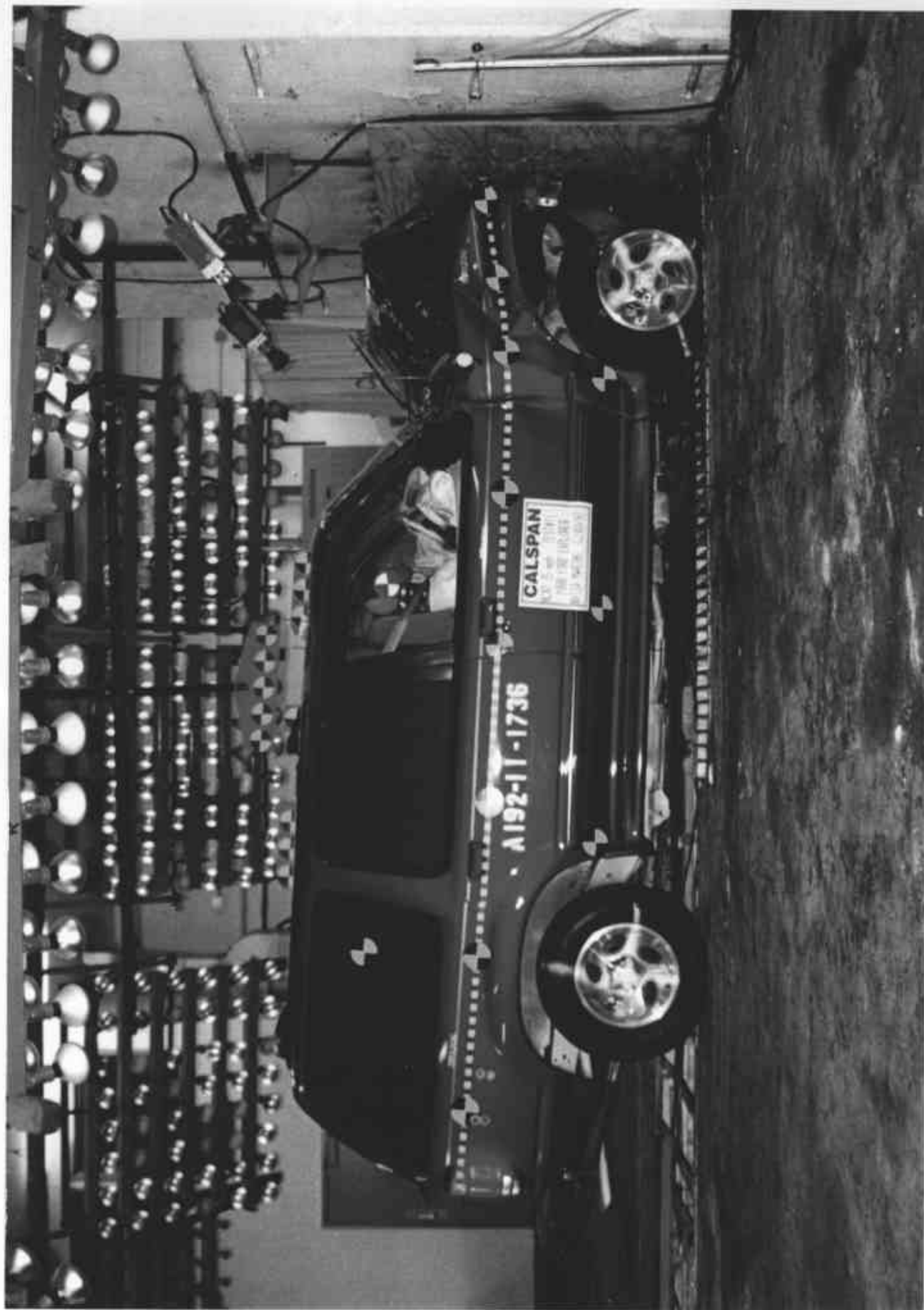


Figure A-7 POST-TEST RIGHT SIDE VIEW



Figure A-8 PRE-TEST RIGHT FRONT THREE-QUARTER VIEW



Figure A-9 POST-TEST RIGHT FRONT THREE-QUARTER VIEW



Figure A-10 PRE-TEST LEFT REAR THREE-QUARTER VIEW



Figure A-11 POST-TEST LEFT REAR THREE-QUARTER VIEW



Figure A-12 PRE-TEST WINDSHIELD VIEW



Figure A-13 POST-TEST WINDSHIELD VIEW

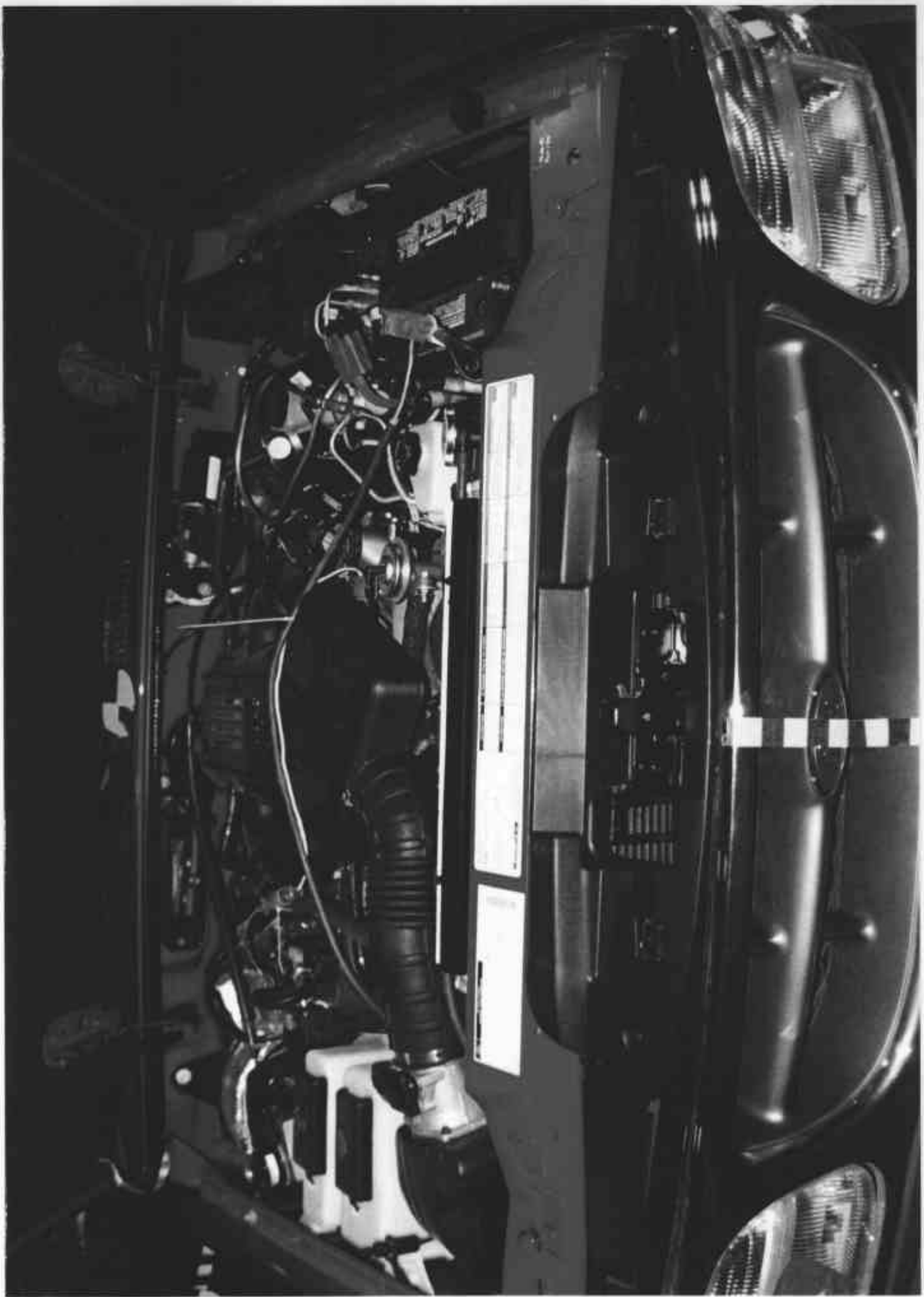


Figure A-14 PRE-TEST ENGINE COMPARTMENT VIEW



Figure A-15 FUEL CAP VIEW



Figure A-16 PRE-TEST FRONT UNDERBODY VIEW

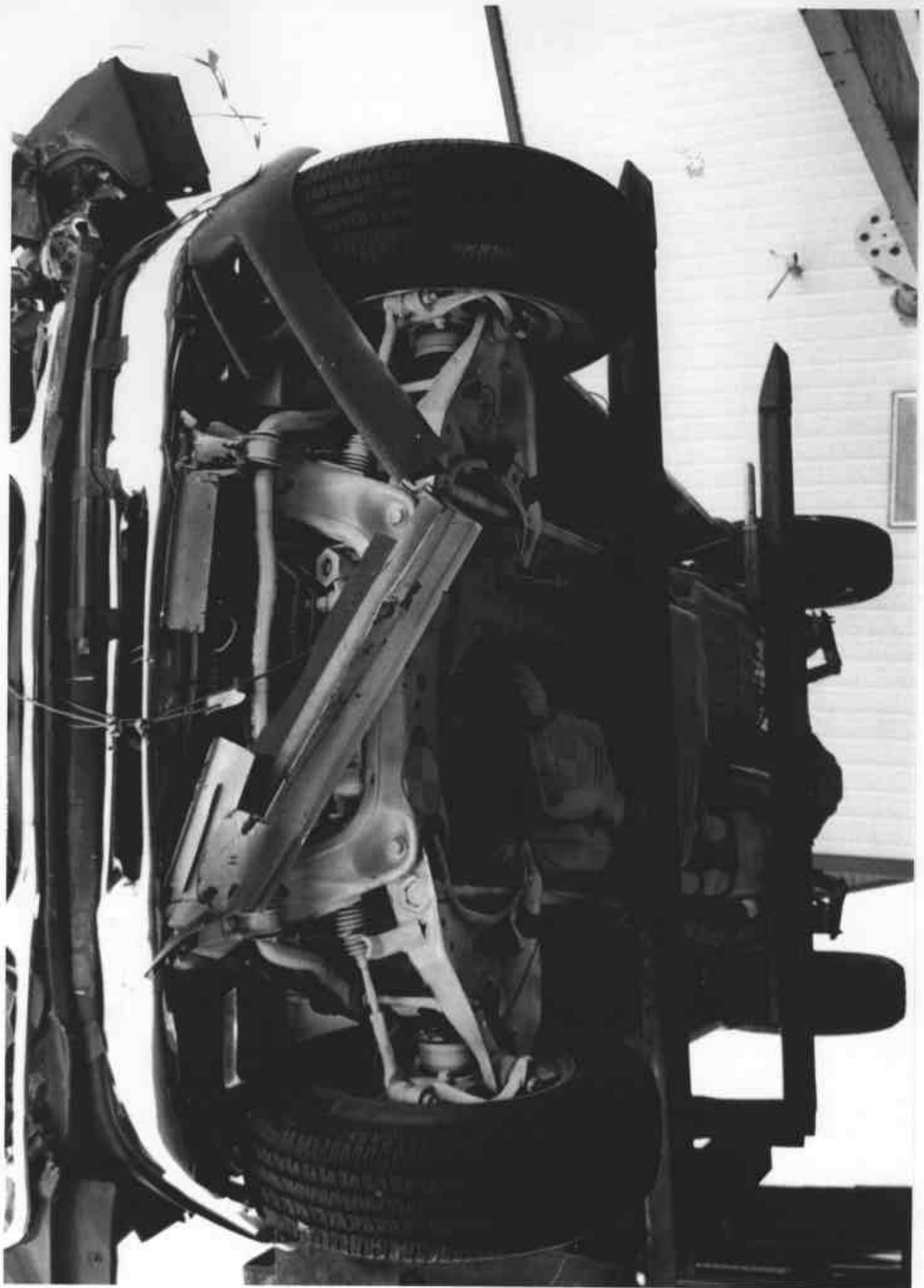


Figure A-17 POST-TEST FRONT UNDERBODY VIEW



Figure A-18 PRE-TEST FRONT SIDE UNDERBODY VIEW



Figure A-19 POST-TEST FRONT SIDE UNDERBODY VIEW

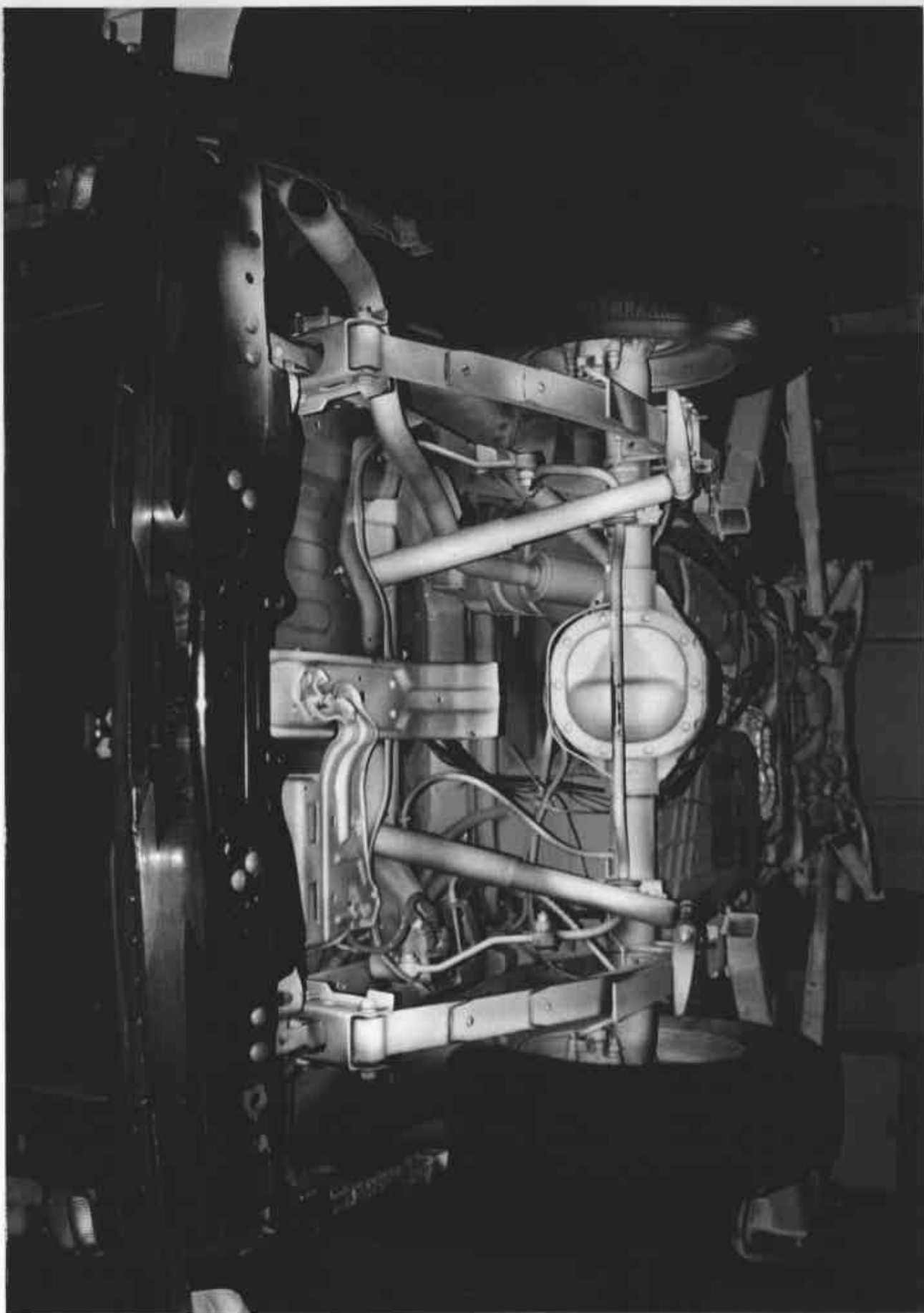


Figure A-20 PRE-TEST REAR UNDERBODY VIEW

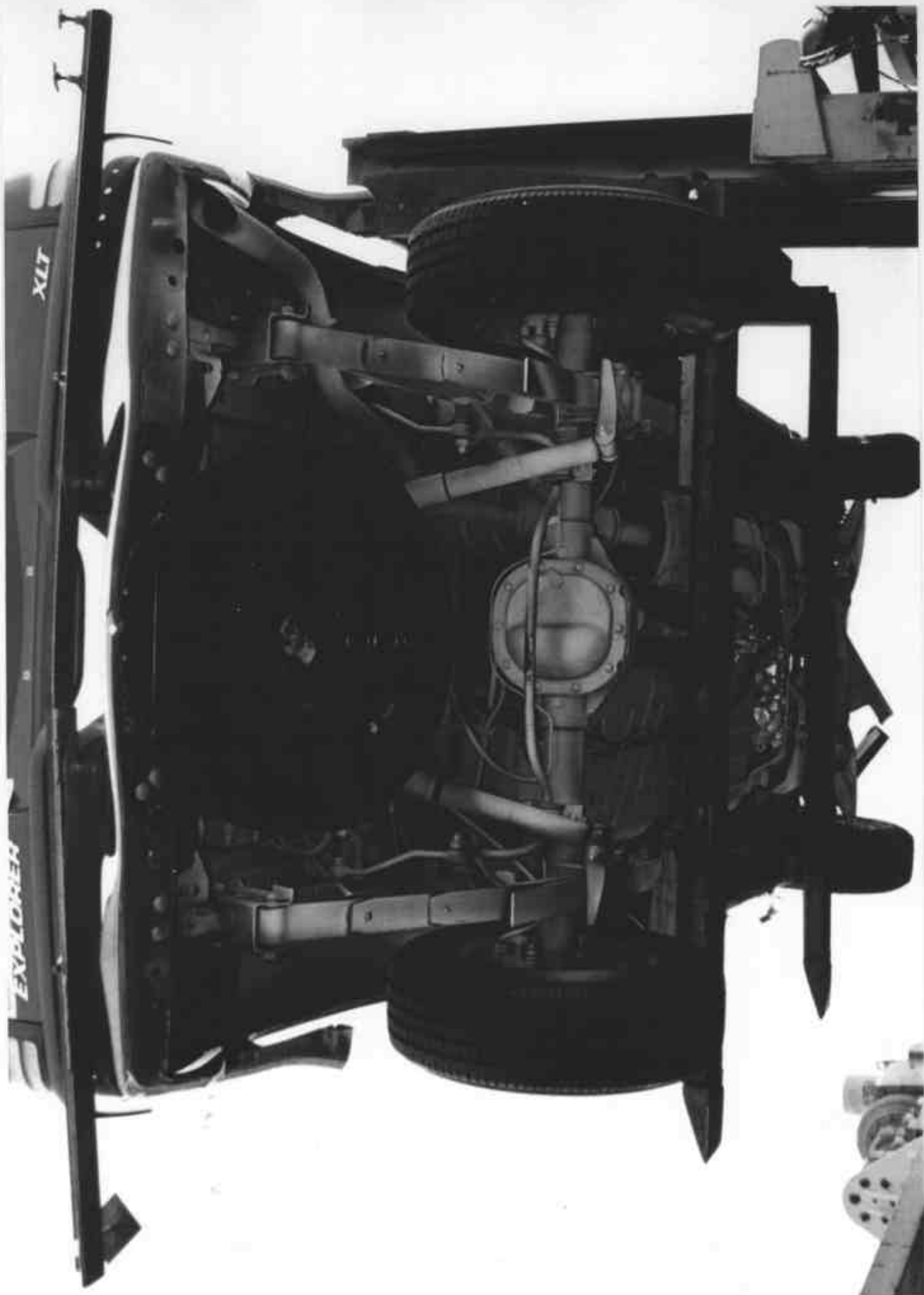


Figure A-21 POST-TEST REAR UNDERBODY VIEW



Figure A-22 PRE-TEST DRIVER POSITION VIEW

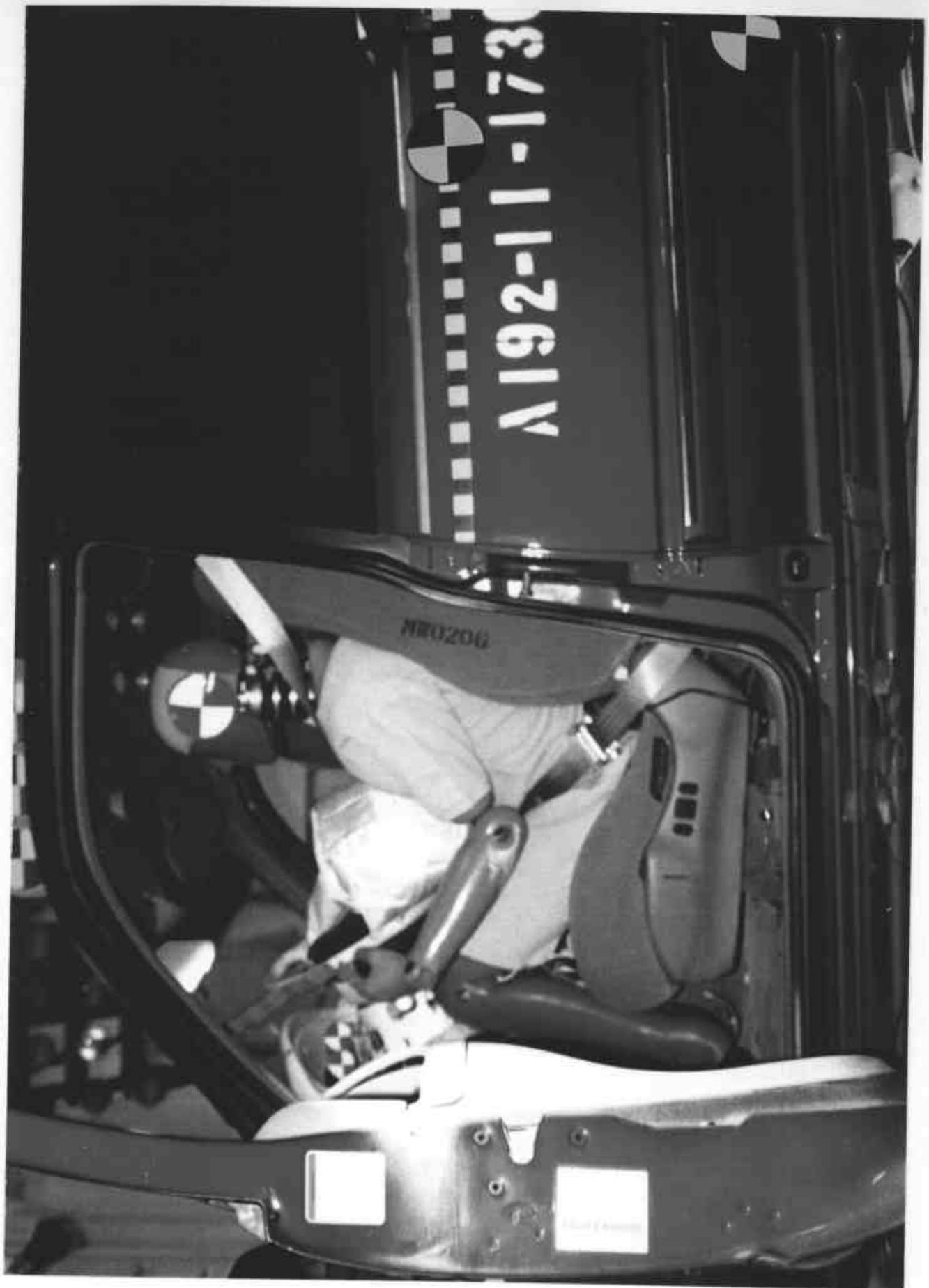


Figure A-23 POST-TEST DRIVER POSITION VIEW



Figure A-24 PRE-TEST PASSENGER POSITION VIEW

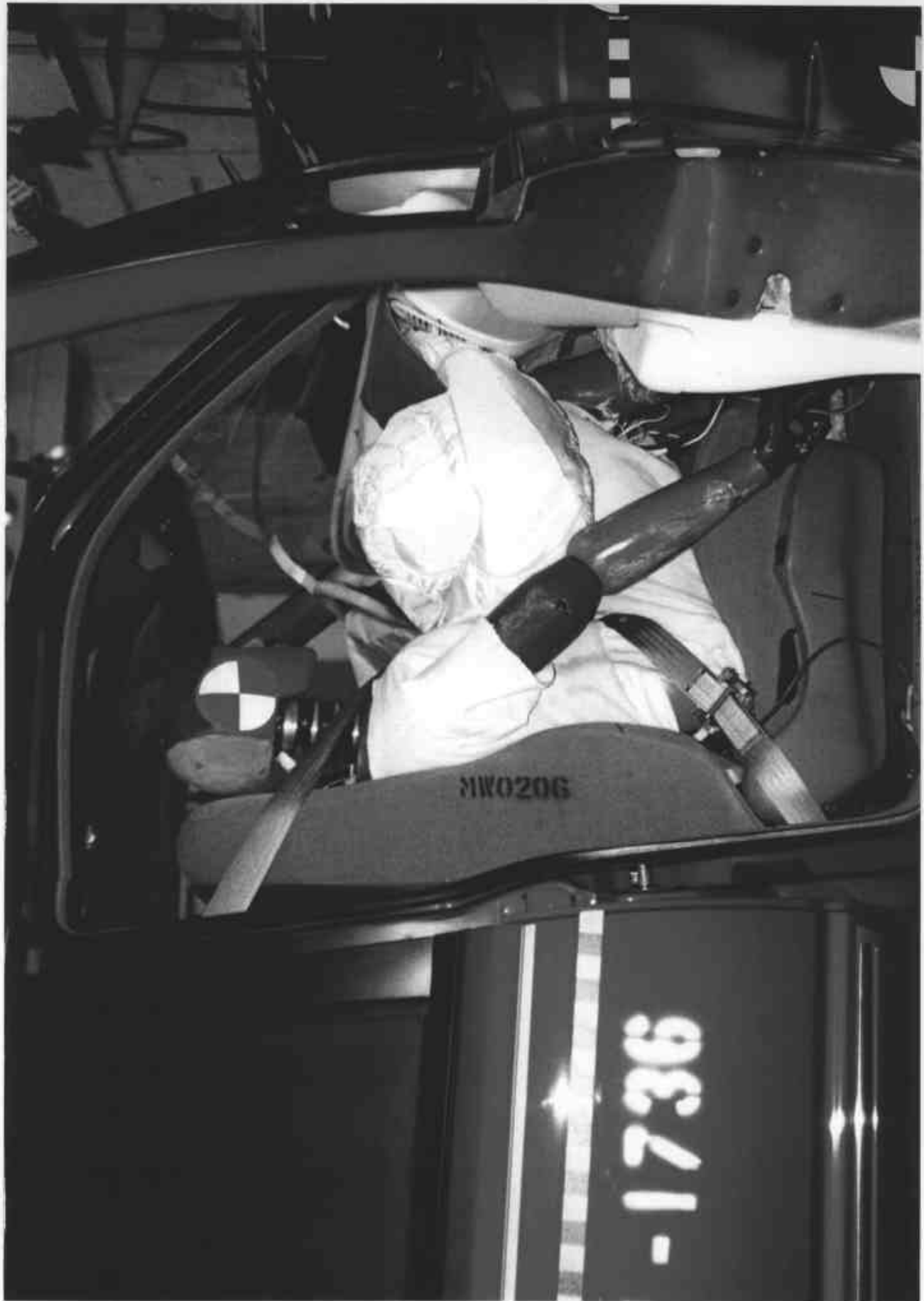


Figure A-25 POST-TEST PASSENGER POSITION VIEW



Figure A-26 PRE-TEST DRIVER AND INTERIOR VIEW



Figure A-27 POST-TEST DRIVER AND INTERIOR VIEW

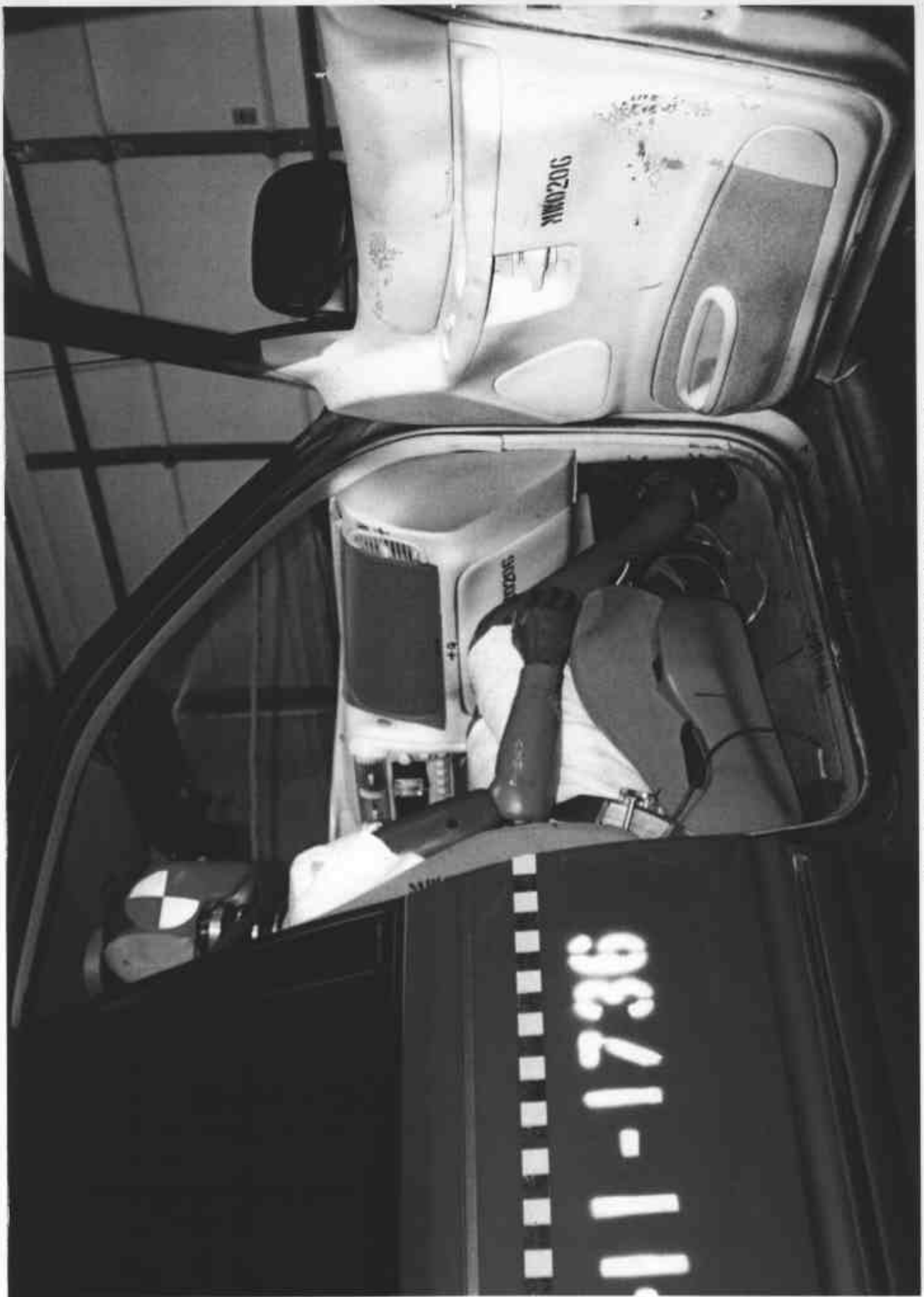


Figure A-28 PRE-TEST PASSENGER AND INTERIOR VIEW



Figure A-29 POST-TEST PASSENGER AND INTERIOR VIEW

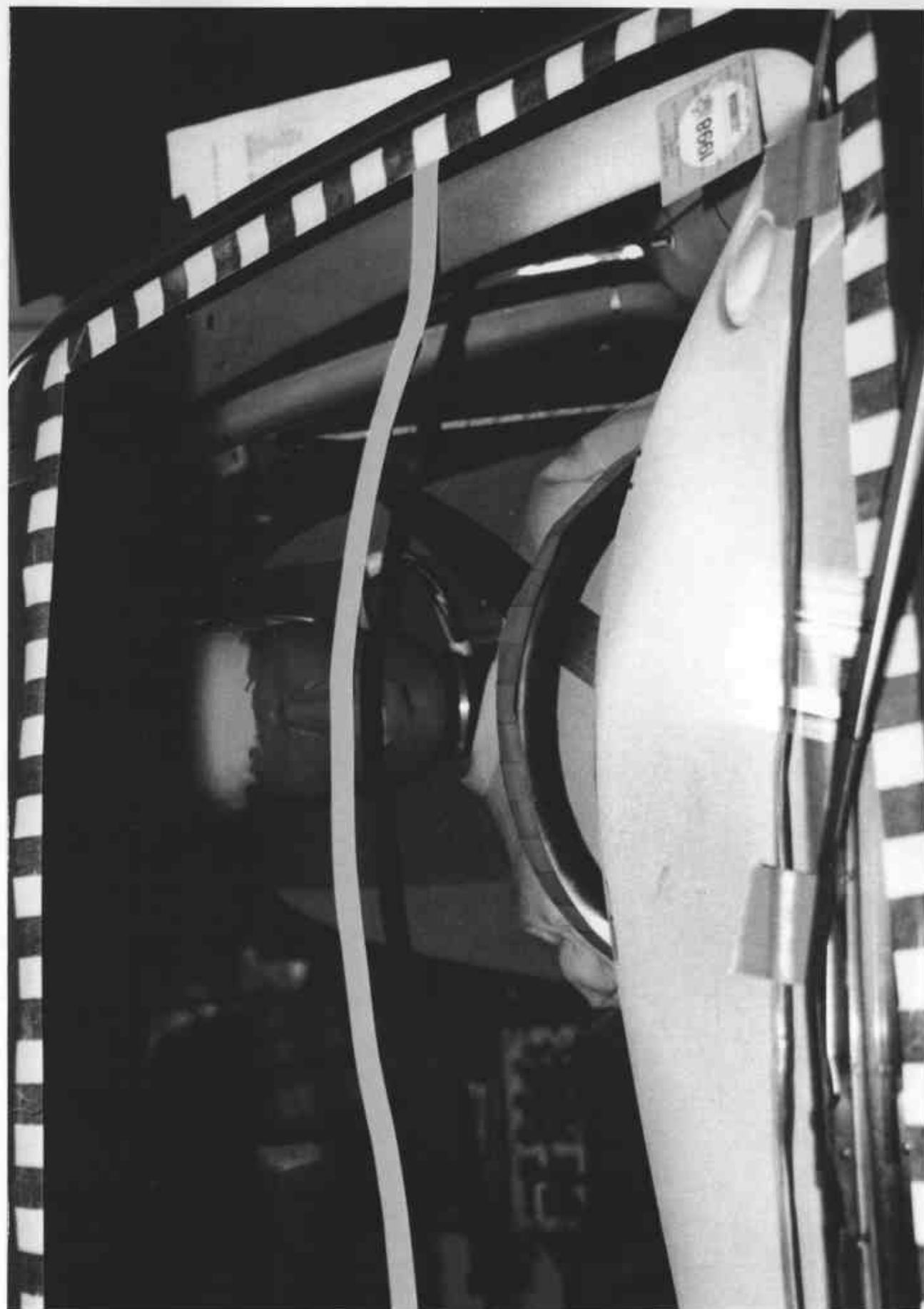


Figure A-30 PRE-TEST DRIVER HEAD LOCATION

Figure A-31 POST-TEST DRIVER HEAD LOCATION

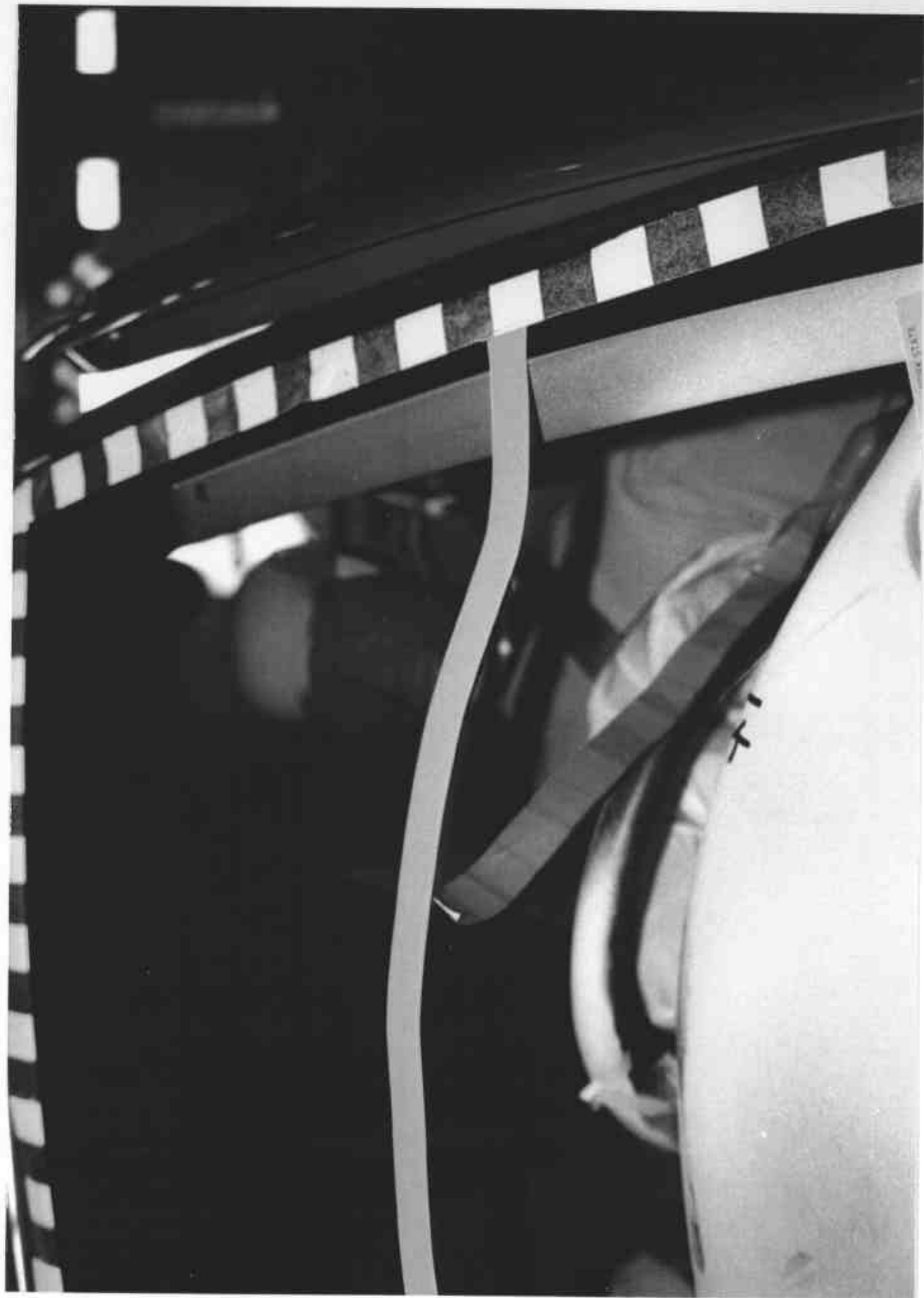




Figure A-32 PRE-TEST PASSENGER HEAD LOCATION



Figure A-33 POST-TEST PASSENGER HEAD LOCATION



Figure A-34 PRE-TEST DRIVER FLOOR PAN VIEW

Figure A-35 POST-TEST DRIVER FLOOR PAN VIEW





Figure A-36 PRE-TEST PASSENGER FLOOR PAN VIEW



Figure A-37 POST-TEST PASSENGER FLOOR PAN VIEW



Figure A-38 ROLLOVER VIEW

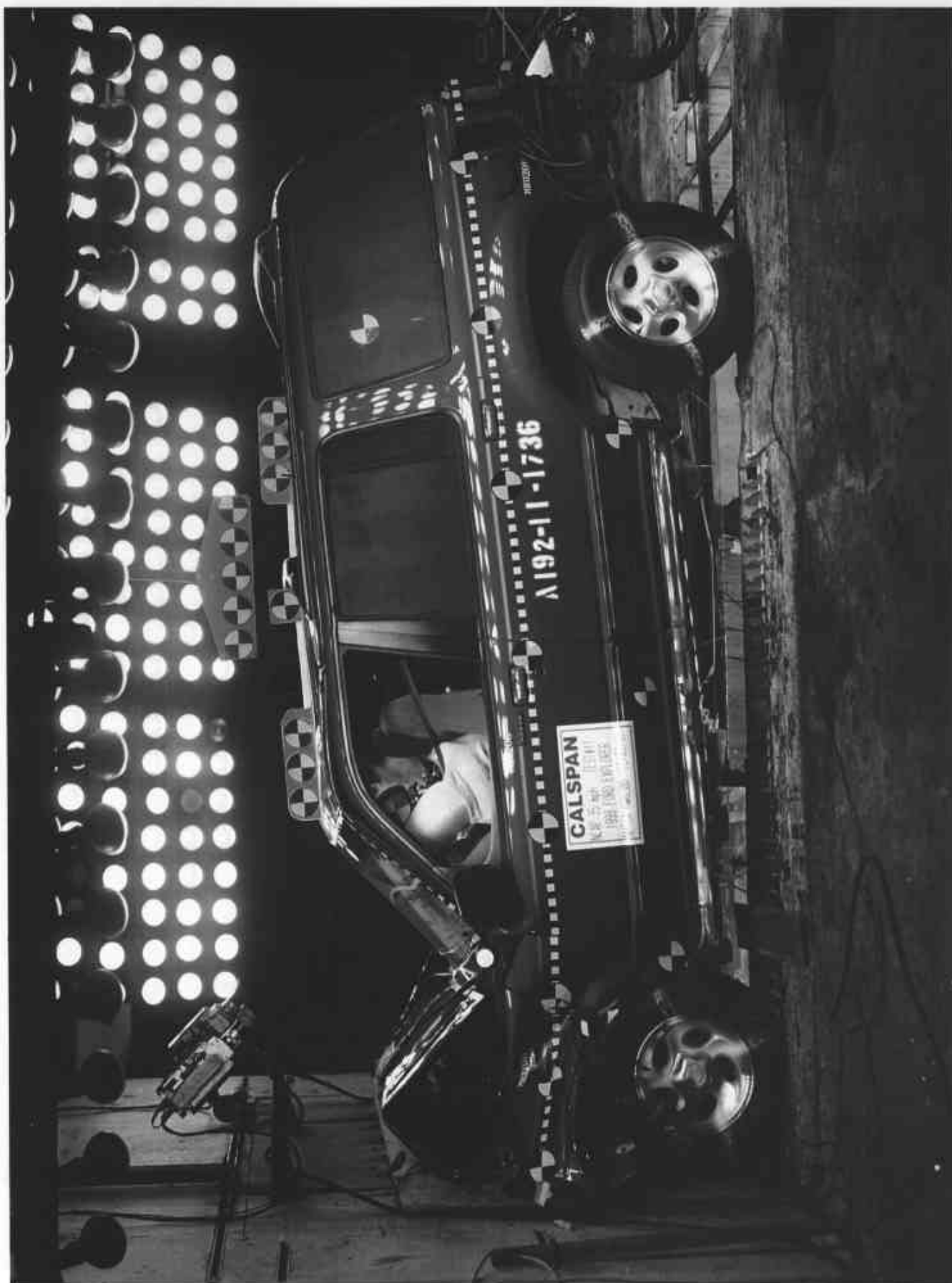


Figure A-39 IMPACT VIEW

Appendix B

DUMMY, VEHICLE AND LOAD CELL BARRIER RESPONSE DATA

**Hybrid III Dummy Sign Conventions
Load Cells and Special Transducers**

Transducer	DOT/NHTSA Sign Convention (positive unless noted)
Upper Neck Load Cell	Fx Head forward Fy Head left Fz Neck in tension Mx Right ear to right shoulder My Chin to chest (flexion) Mz Chin to left shoulder (look left)
Chest Displacement Potentiometer	Compression is negative
Pelvic Load Cell (Lower Lumbar)	Fx Chest forward Fy Chest left Fz Spine in tension
Femur Load Cell	Compression is negative
Upper Tibia Load Cell (right and left leg)	Mx Support tibia, load right side center My Support tibia, load front (shin) center
Lower Tibia Load Cell (right and left leg)	Fy Foot right w/r to left Fz Tibia in tension Mx Support tibia, press right side center

NHTSA TEST NO. MW0206

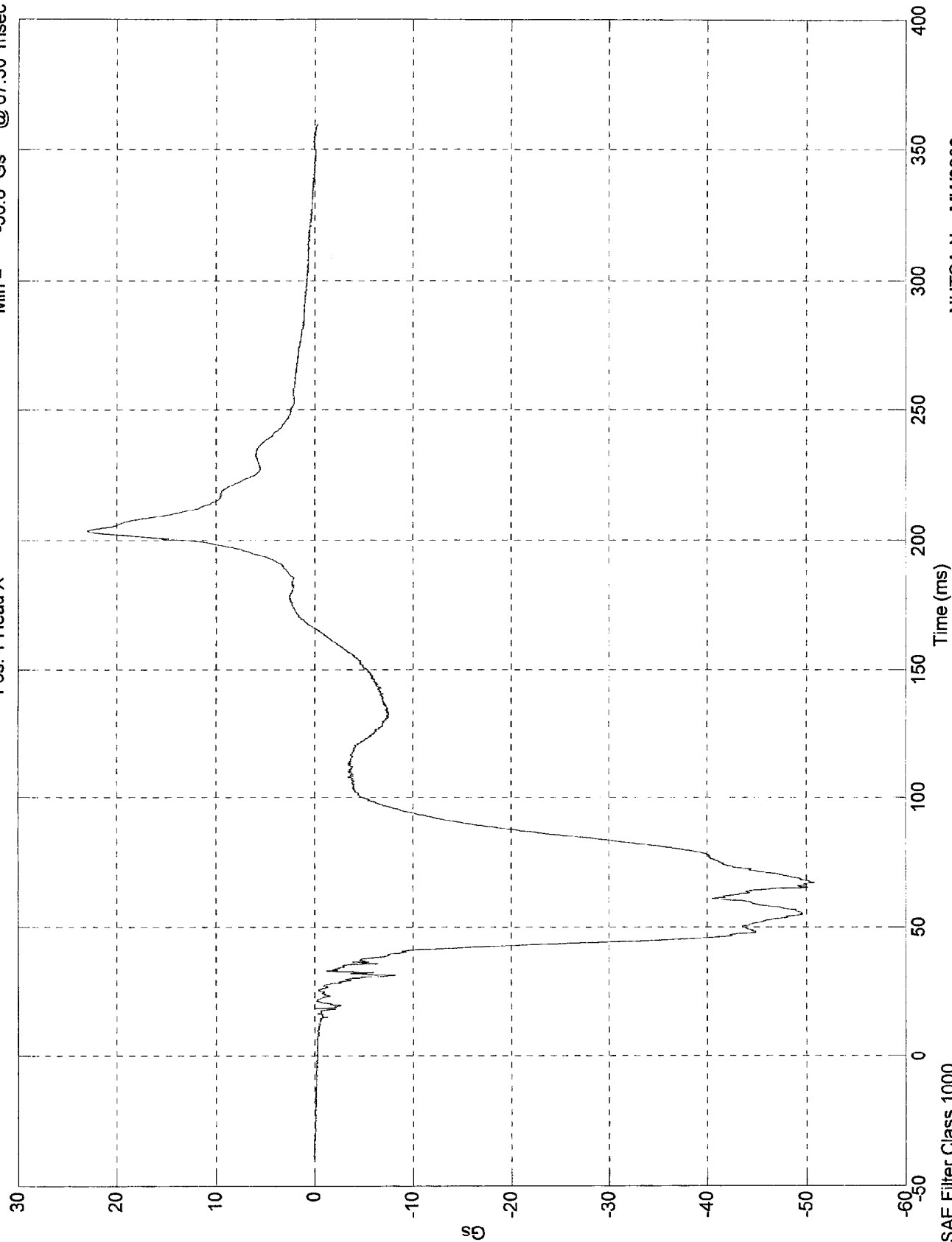
DUMMY DATA

CLASS	FILTER CHANNEL
Head Accelerations	1000
Chest Accelerations	180
Chest Displacements	60
Femur Forces	600
Belt Loads	60
Belt Displacements	180
Neck Forces	1000
Neck Moments	600

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 22.9 Gs @ 203.60 msec
Min = -50.8 Gs @ 67.30 msec

Pos. 1 Head X

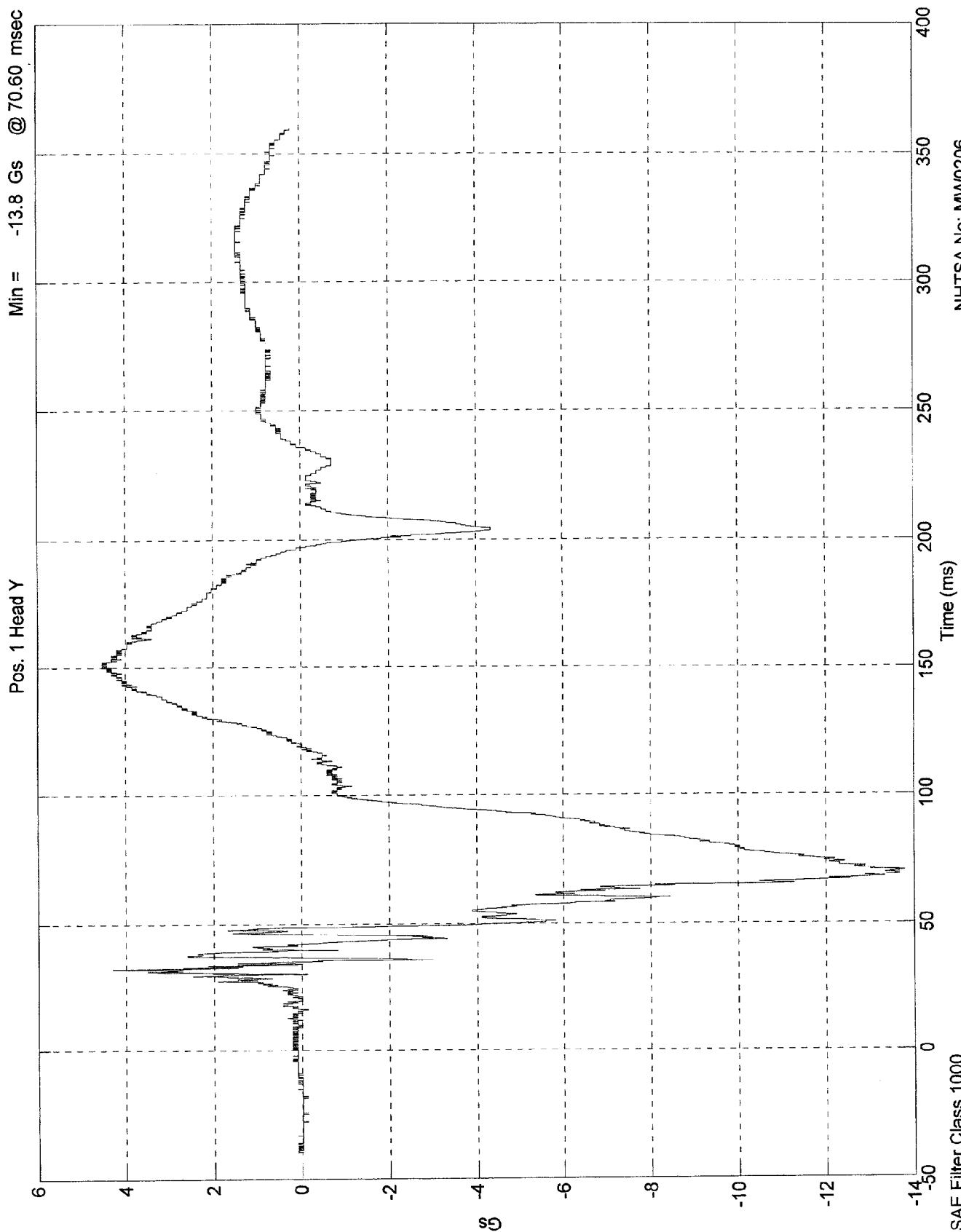


SAE Filter Class 1000

NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 4.53 Gs @ 149.90 msec
 Min = -13.8 Gs @ 70.60 msec

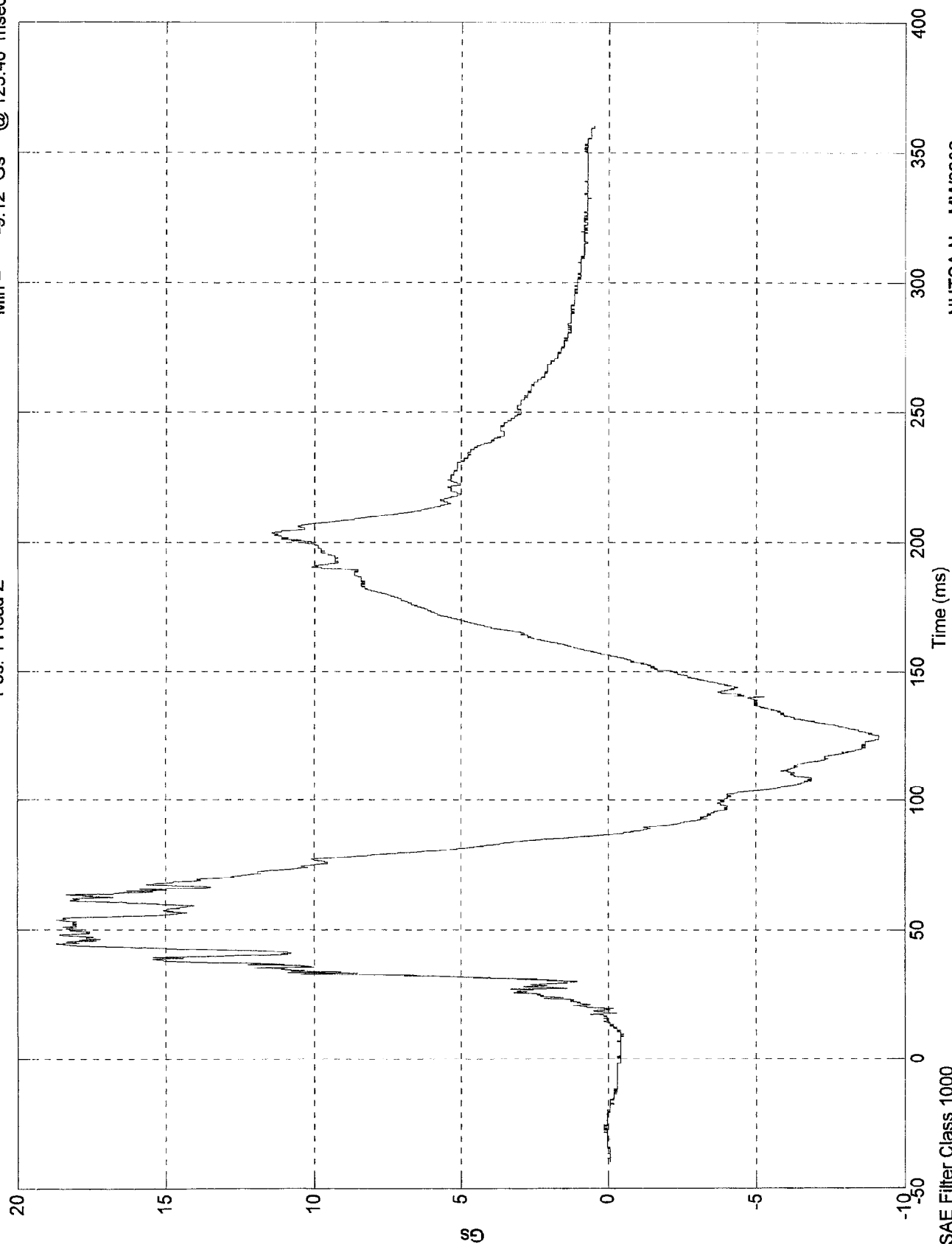


NHTSA No: MW0206
 Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 18.7 Gs @ 44.50 msec
 Min = -9.12 Gs @ 123.40 msec

Pos. 1 Head Z

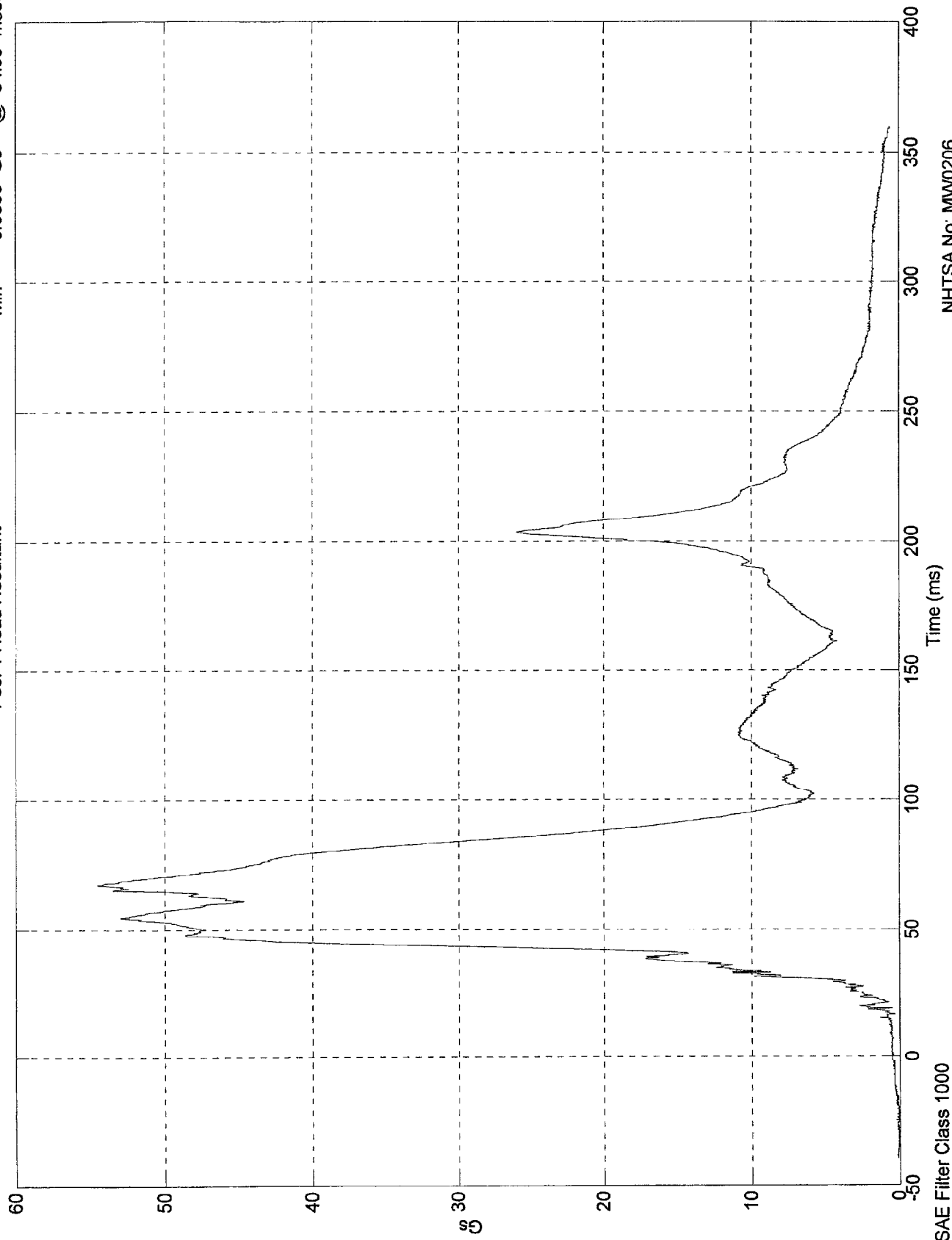


NHTSA No: MW0206
 Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 54.5 Gs @ 67.30 msec
Min = 0.0669 Gs @ -34.50 msec

Pos. 1 Head Resultant

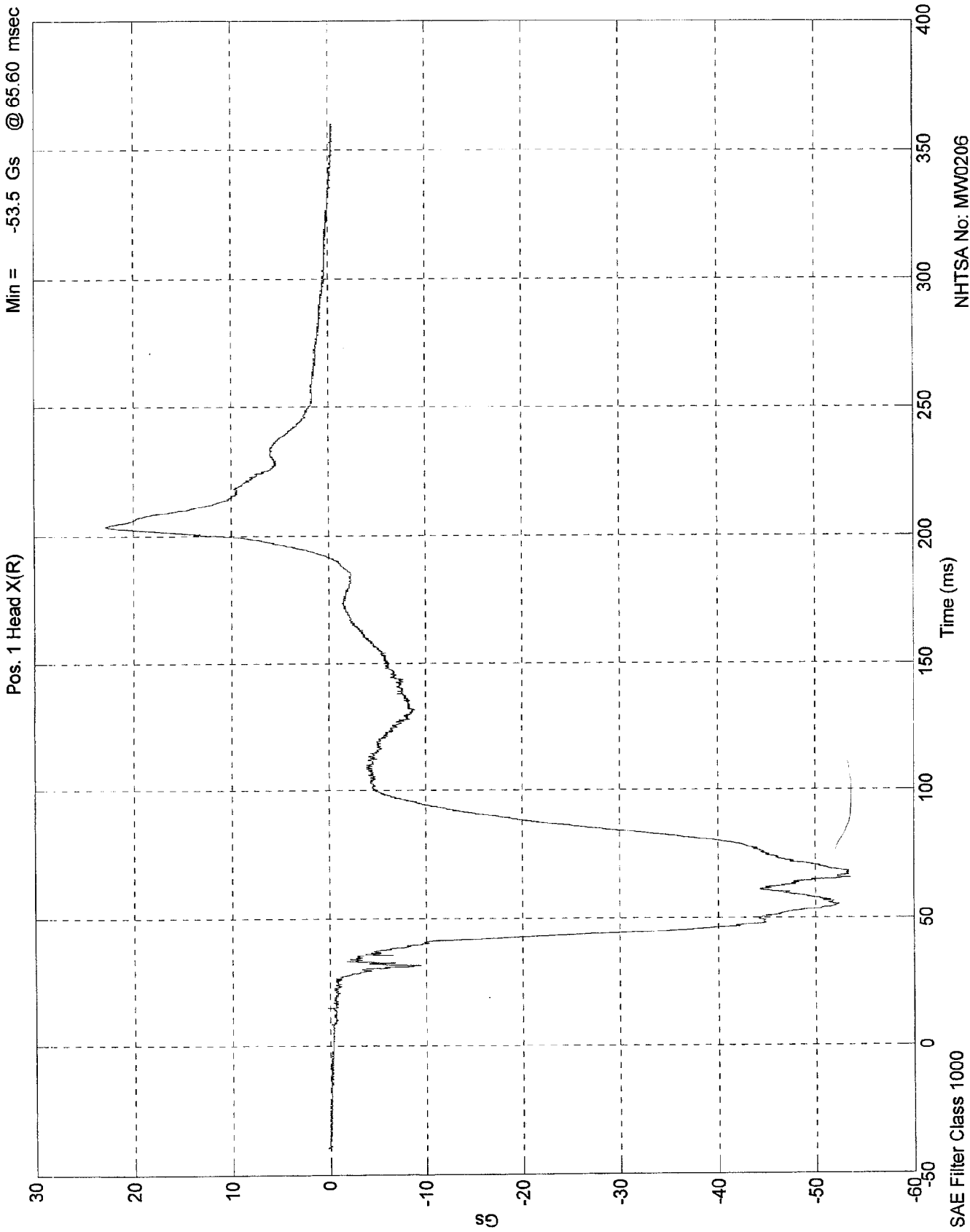


SAE Filter Class 1000

NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 22.8 Gs @ 203.70 msec
Min = -53.5 Gs @ 65.60 msec

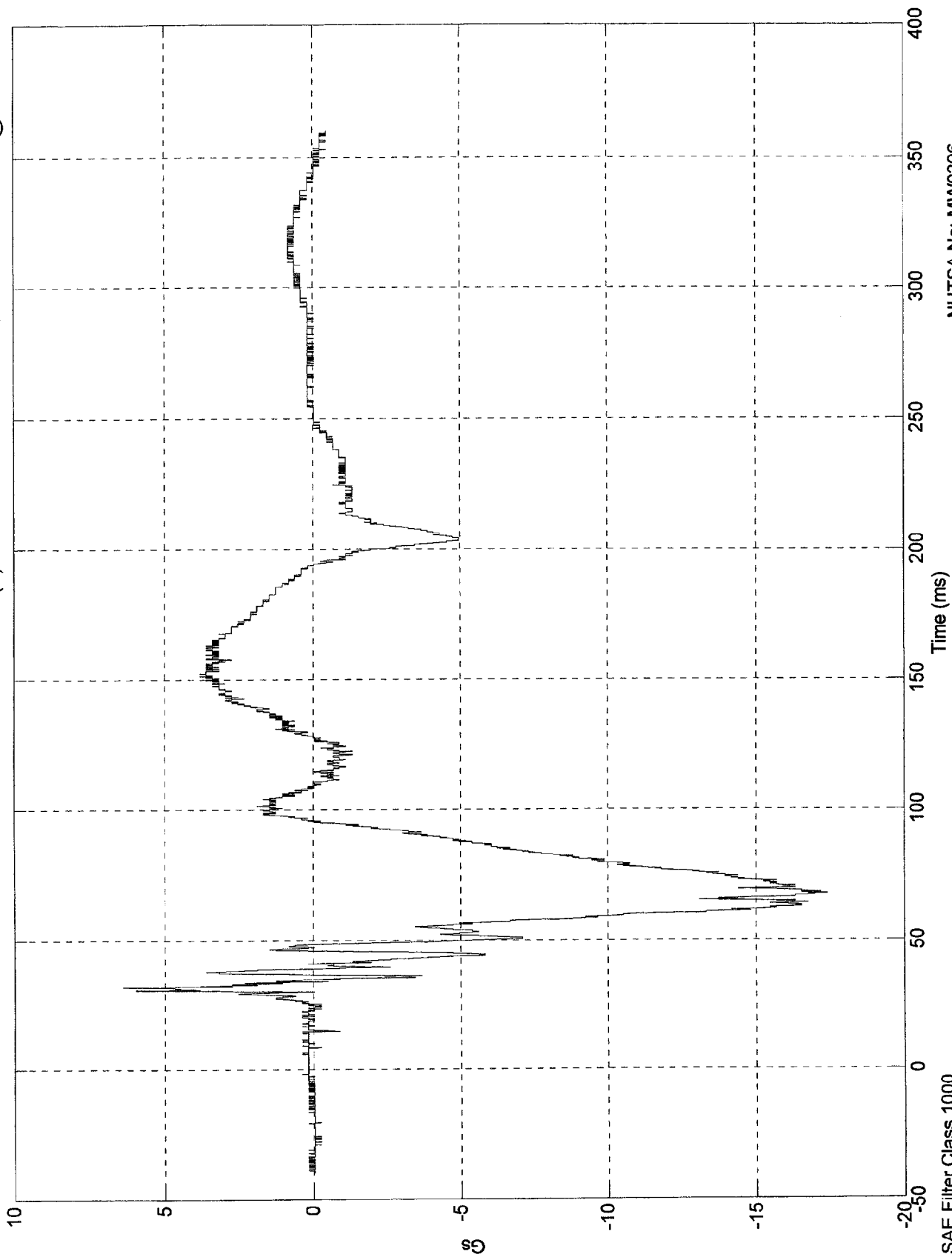


NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 6.39 Gs @ 32.20 msec
Min = -17.4 Gs @ 68.00 msec

Pos. 1 Head Y(R)



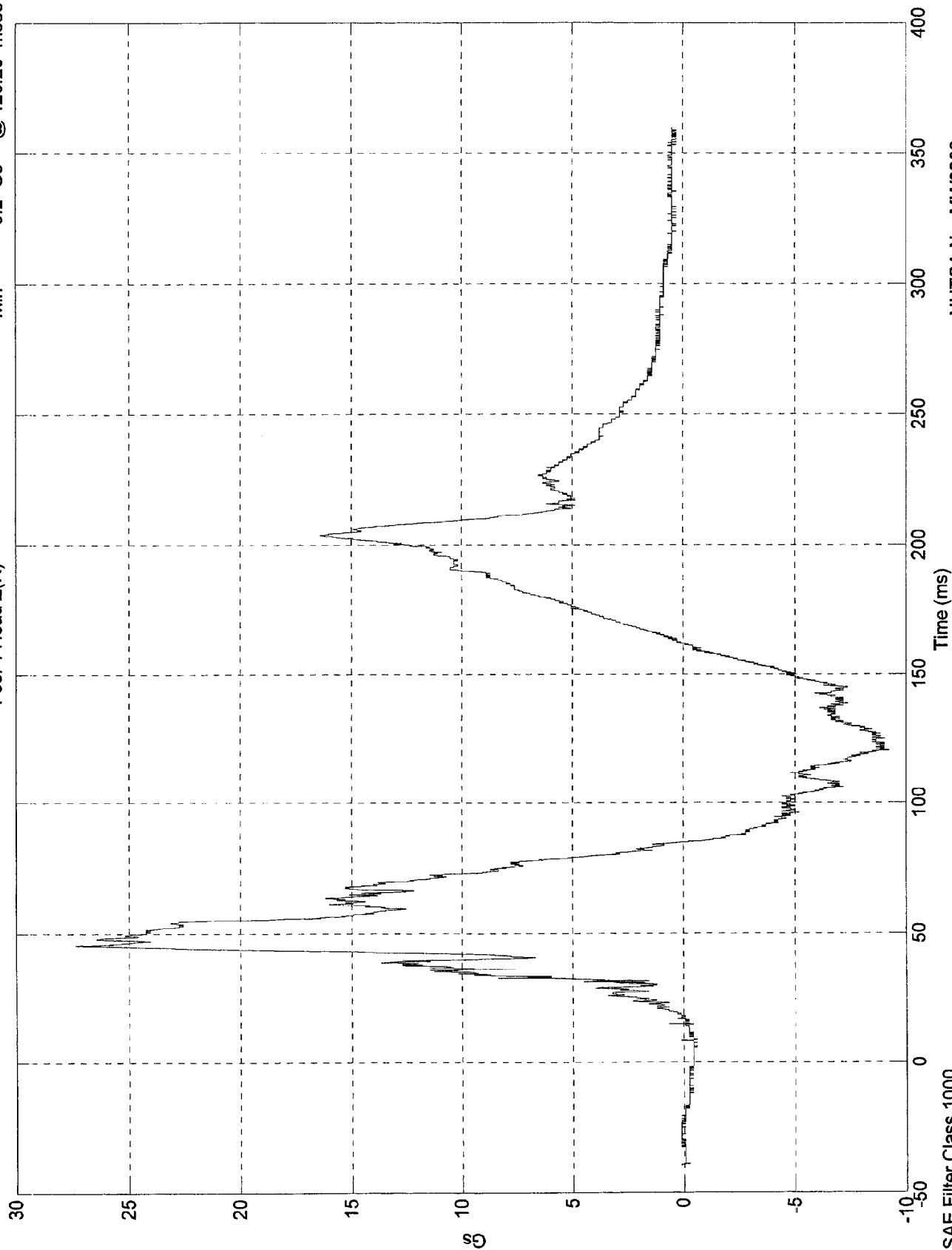
SAE Filter Class 1000

NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 27.4 Gs @ 45.40 msec
 Min = -9.2 Gs @ 120.20 msec

Pos. 1 Head Z(R)

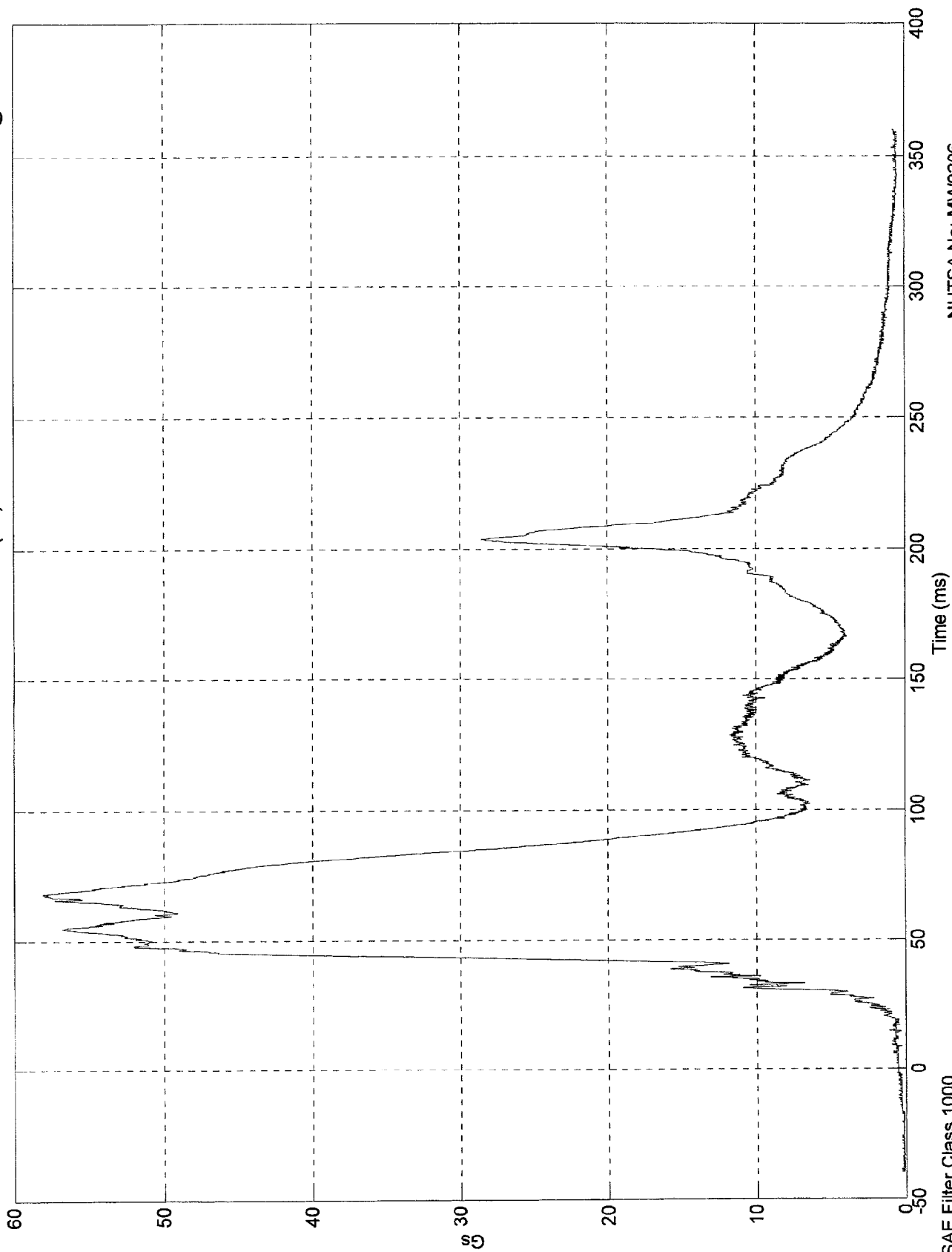


NHTSA No: MW0206
 Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 58.1 Gs @ 68.00 msec
Min = 0.0949 Gs @ -39.50 msec

Pos. 1 Head Resultant(RR)



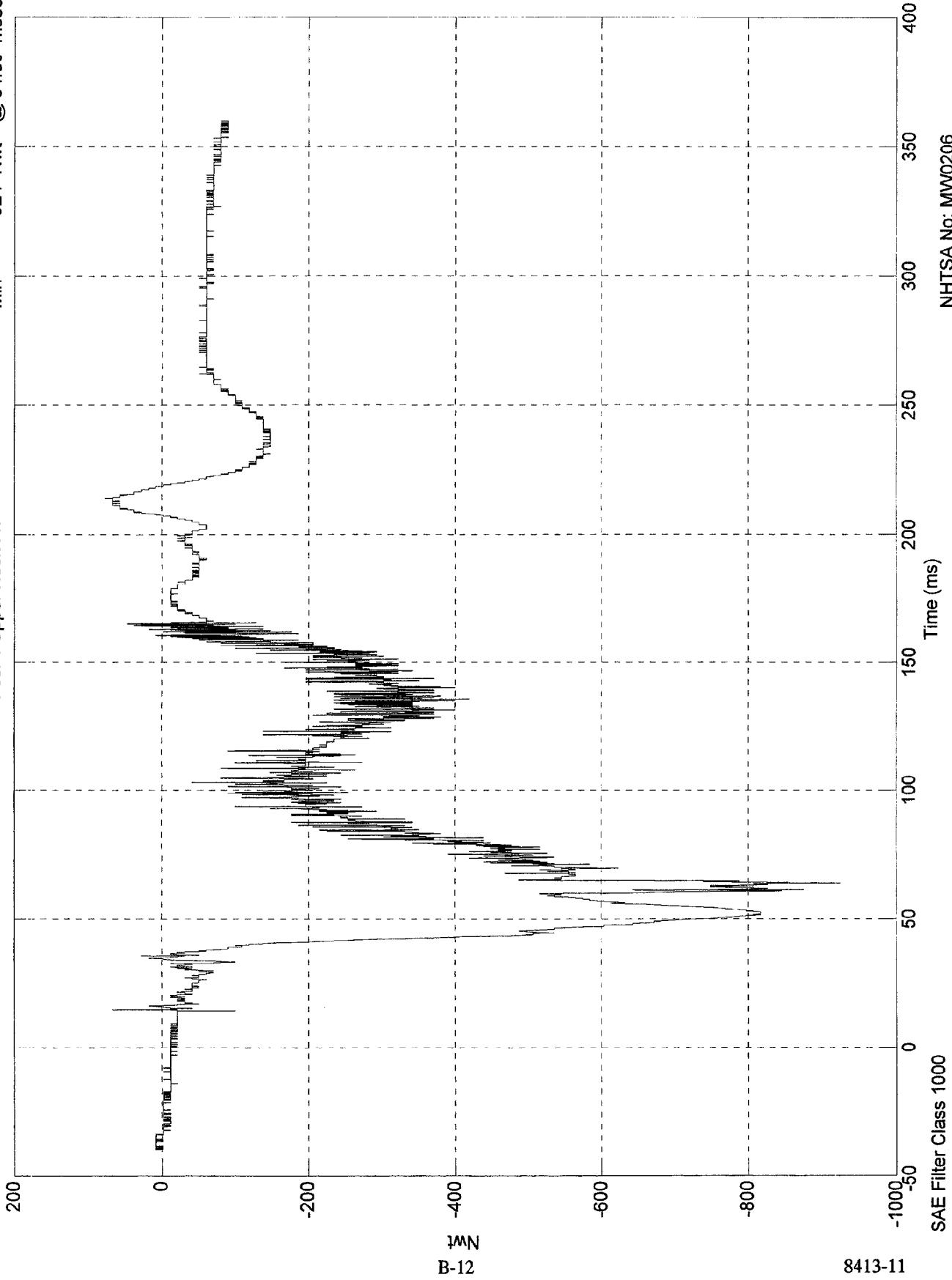
SAE Filter Class 1000

NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 76.1 Nwt @ 214.30 msec
Min = -924 Nwt @ 64.00 msec

Pos. 1 Upper Neck Fx

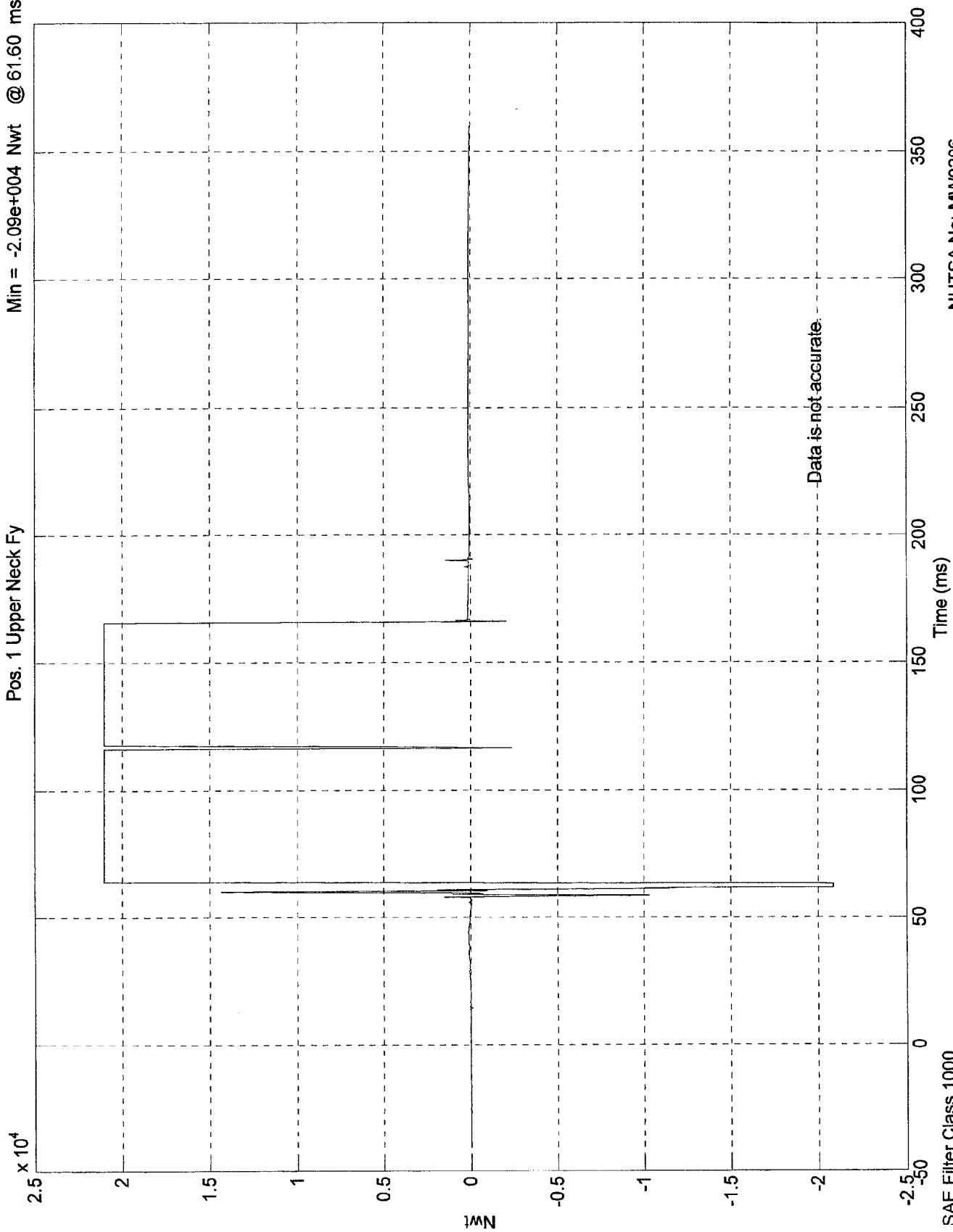


NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Pos. 1 Upper Neck Fy

Max = 2.1e+004 Nwt @ 63.90 msec
Min = -2.09e+004 Nwt @ 61.60 msec



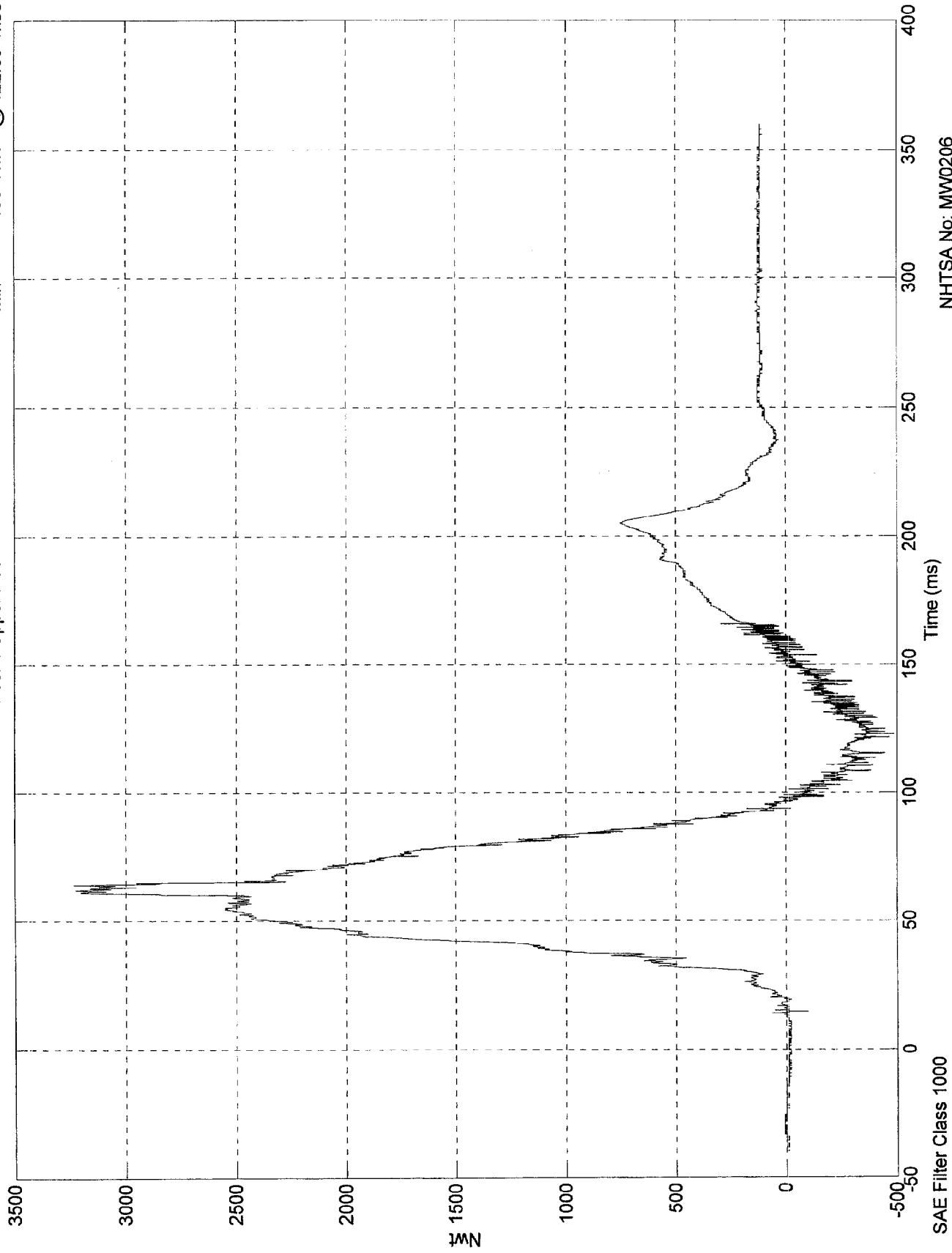
NHTSA No: MW0206
Date: 03 Dec 1997

SAE Filter Class 1000

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 3.24e+003 Nwt @ 64.00 msec
Min = -488 Nwt @ 122.60 msec

Pos. 1 Upper Neck Fz

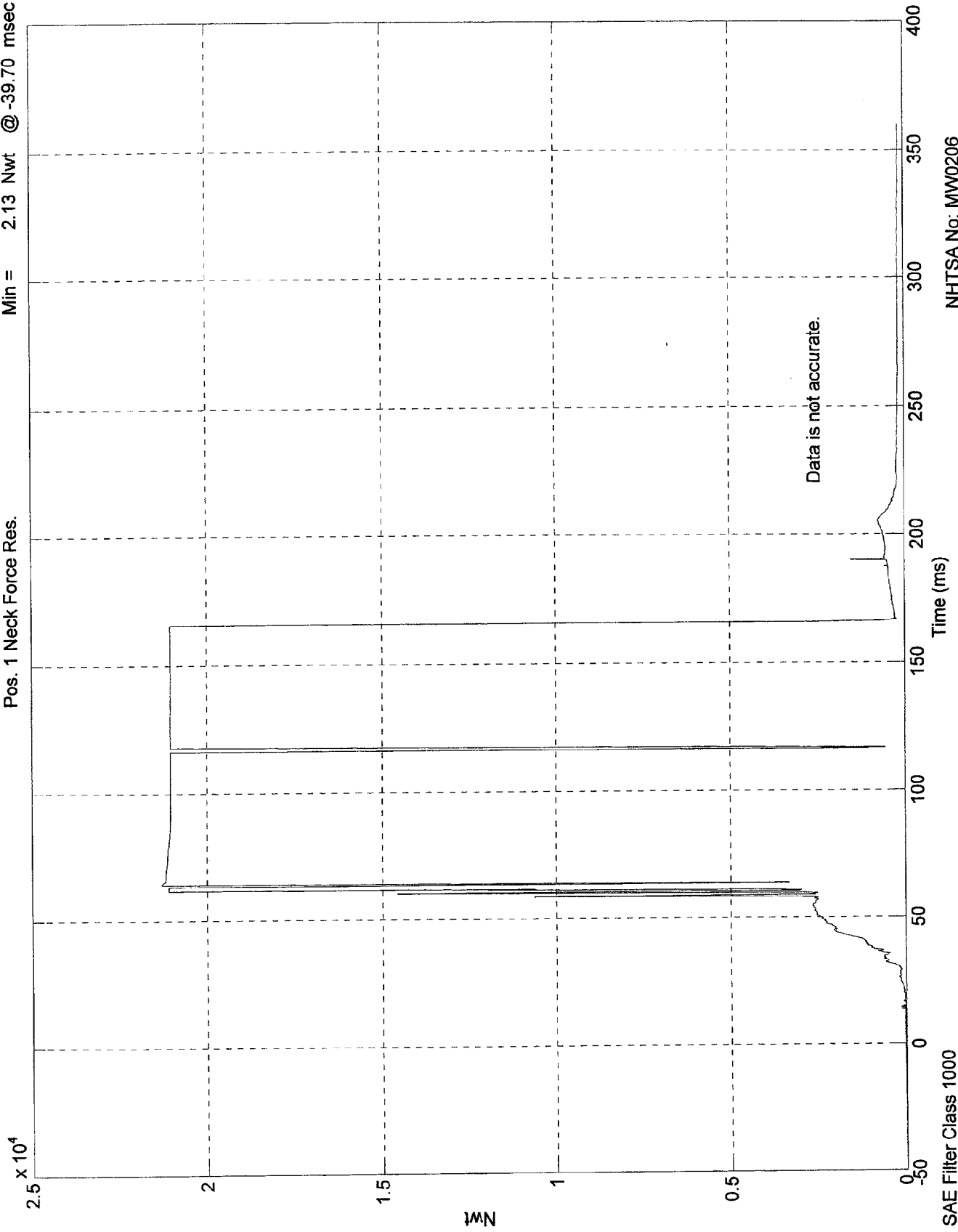


NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 2.13e+004 Nwt @ 64.00 msec
 Min = 2.13 Nwt @ -39.70 msec

Pos. 1 Neck Force Res.

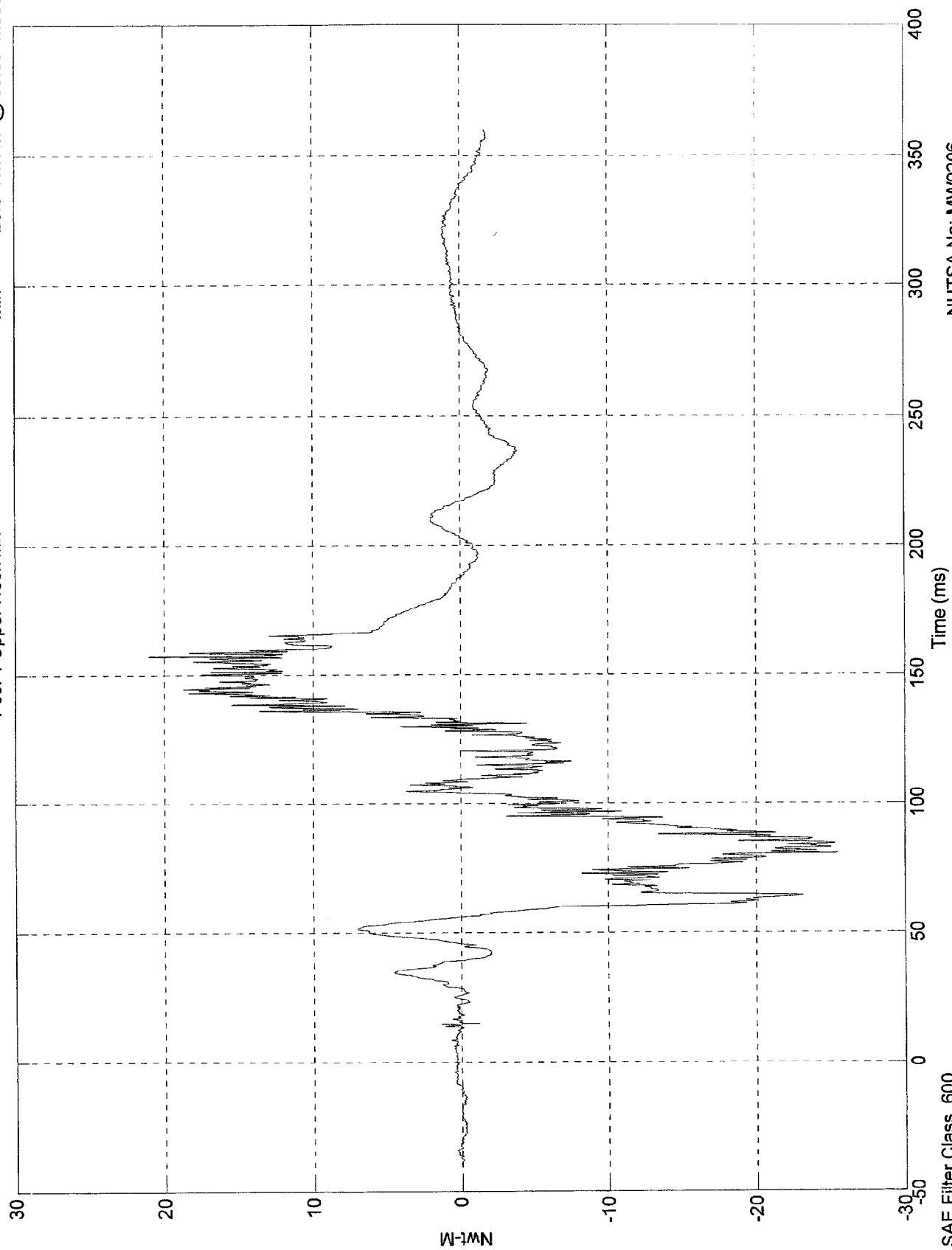


NHTSA No: MW0206
 Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 21 Nwt-M @ 157.10 msec
 Min = -25.5 Nwt-M @ 80.80 msec

Pos. 1 Upper Neck Mix

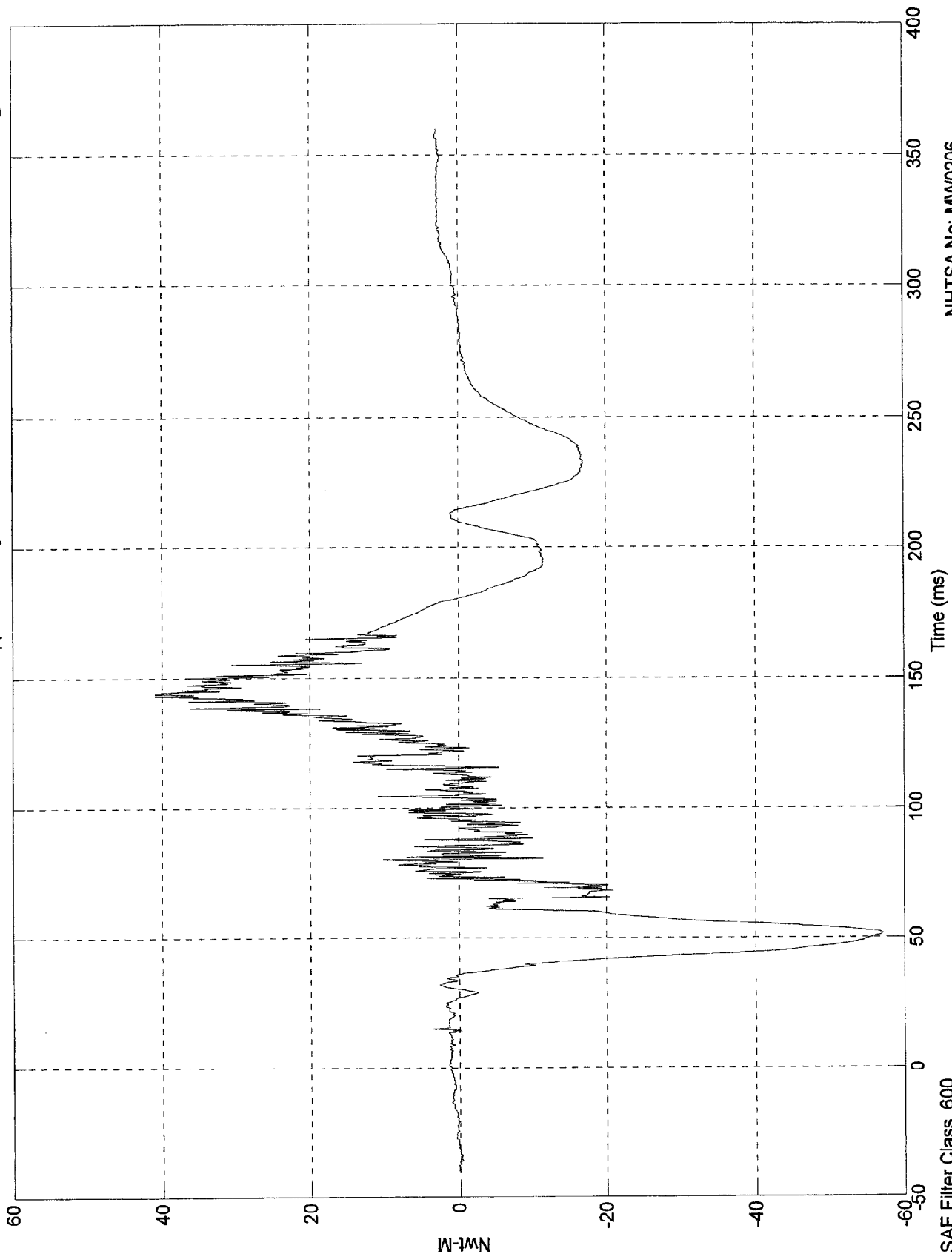


NHTSA No: MW0206
 Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 40.9 Nwt-M @ 144.00 msec
Min = -57.1 Nwt-M @ 51.40 msec

Pos. 1 Upper Neck My



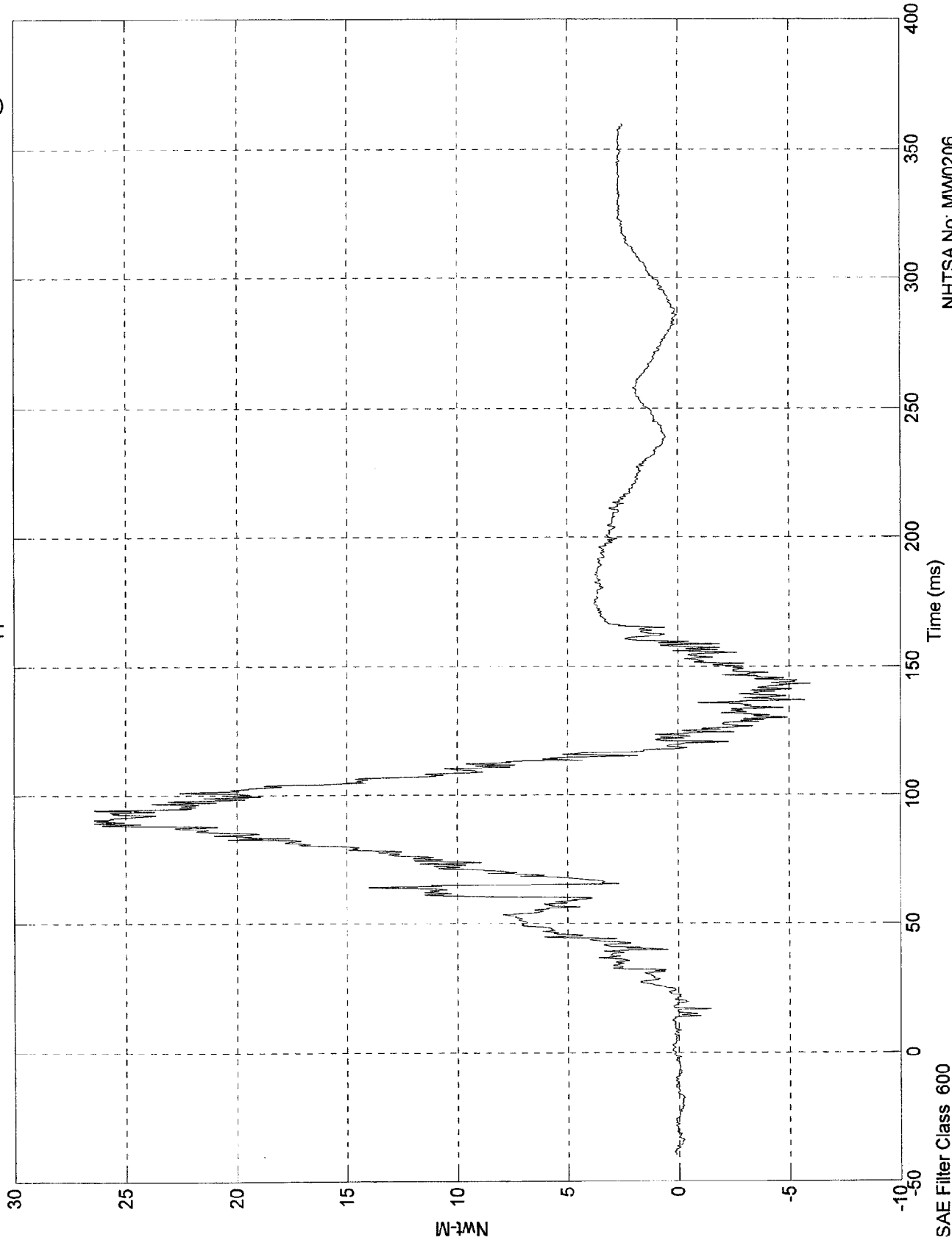
NHTSA No: MW0206
Date: 03 Dec 1997

SAE Filter Class 600

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 26.4 Nwt-M @ 90.70 msec
Min = -5.96 Nwt-M @ 143.20 msec

Pos. 1 Upper Neck Mz

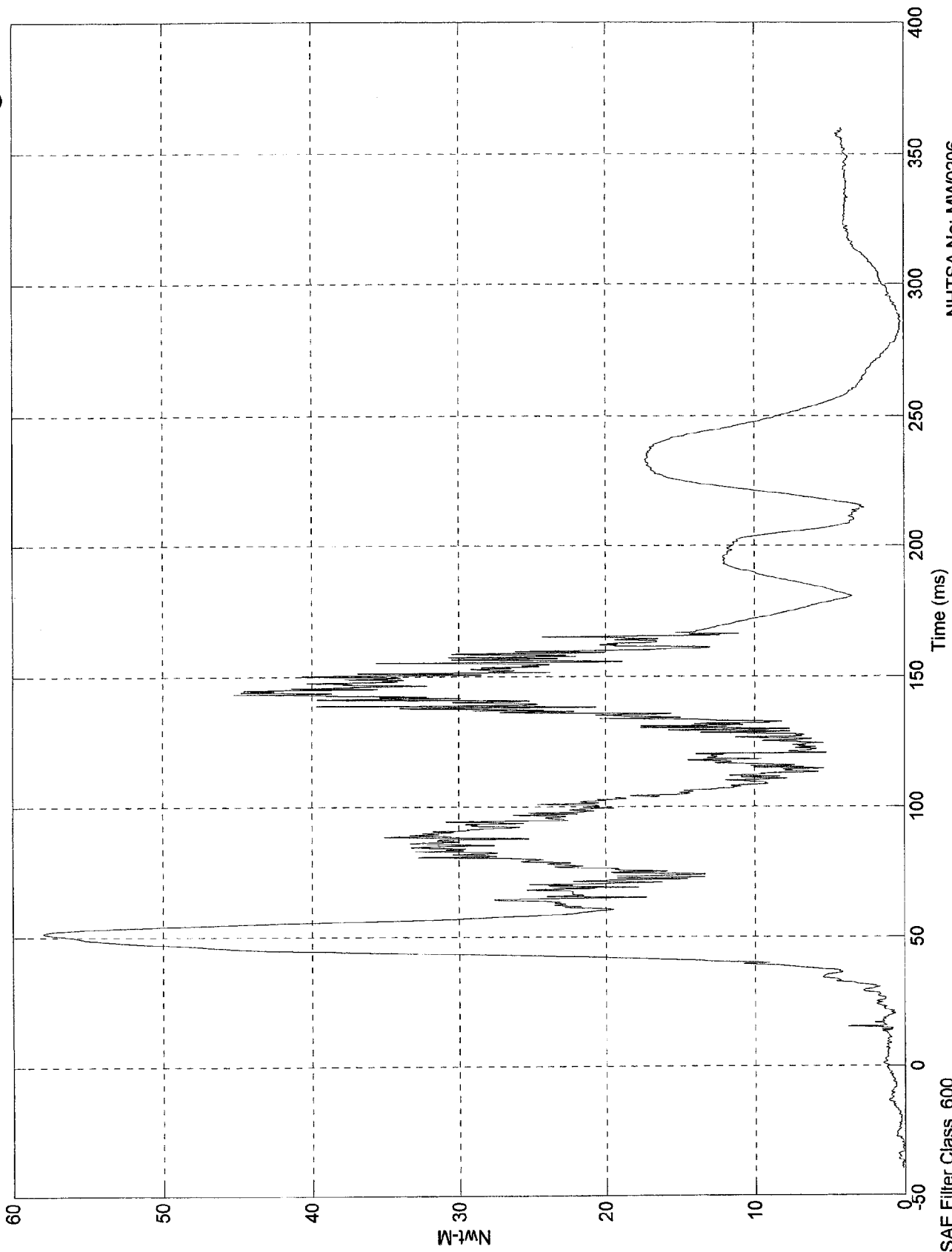


NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 58 Nwt-M @ 51.40 msec
Min = 0.0286 Nwt-M @ -36.80 msec

Pos. 1 Neck Moment Res.



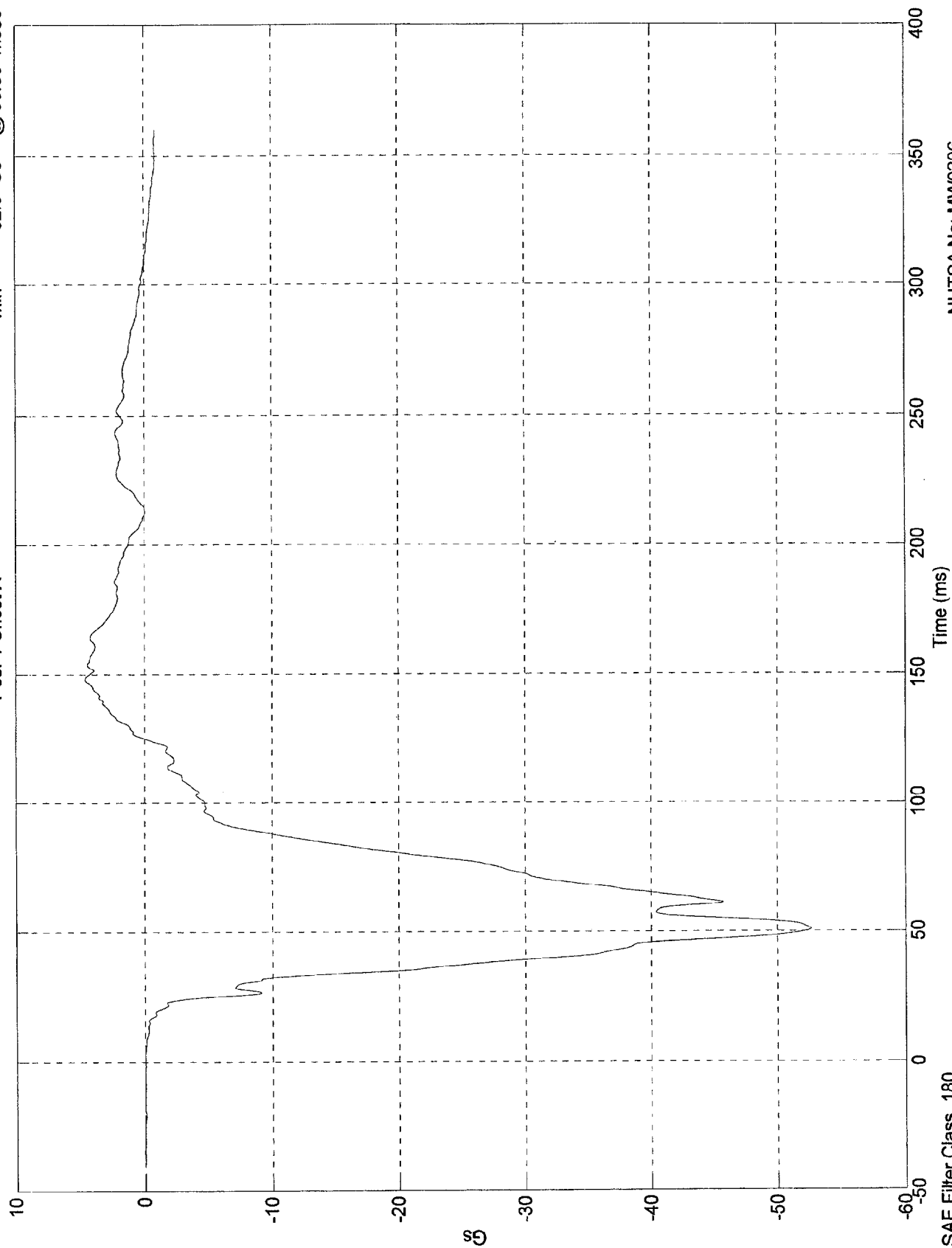
SAE Filter Class 600

NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 4.61 Gs @ 147.80 msec
Min = -52.6 Gs @ 50.80 msec

Pos. 1 Chest X

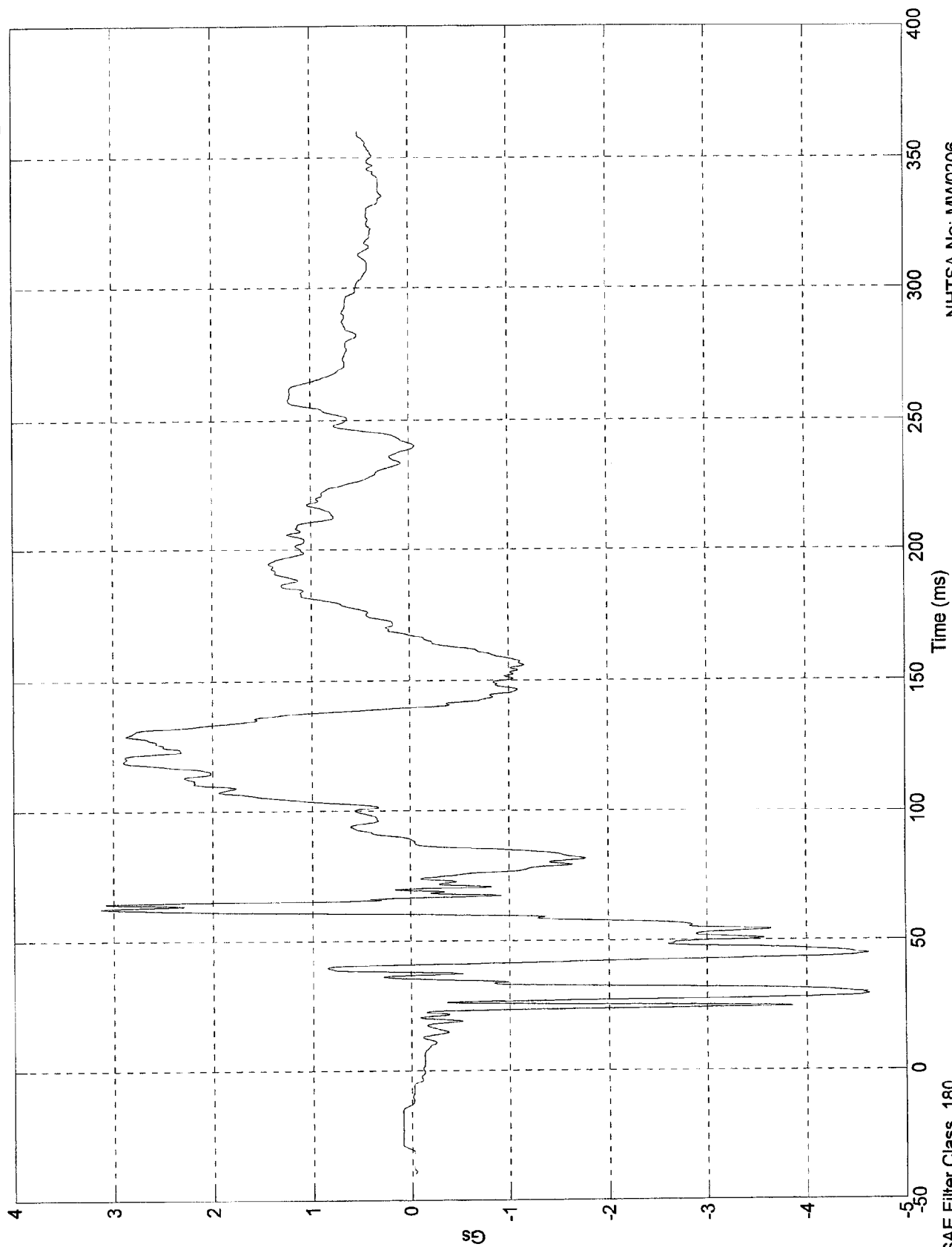


NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 3.13 Gs @ 62.40 msec
 Min = -4.63 Gs @ 29.00 msec

Pos. 1 Chest Y



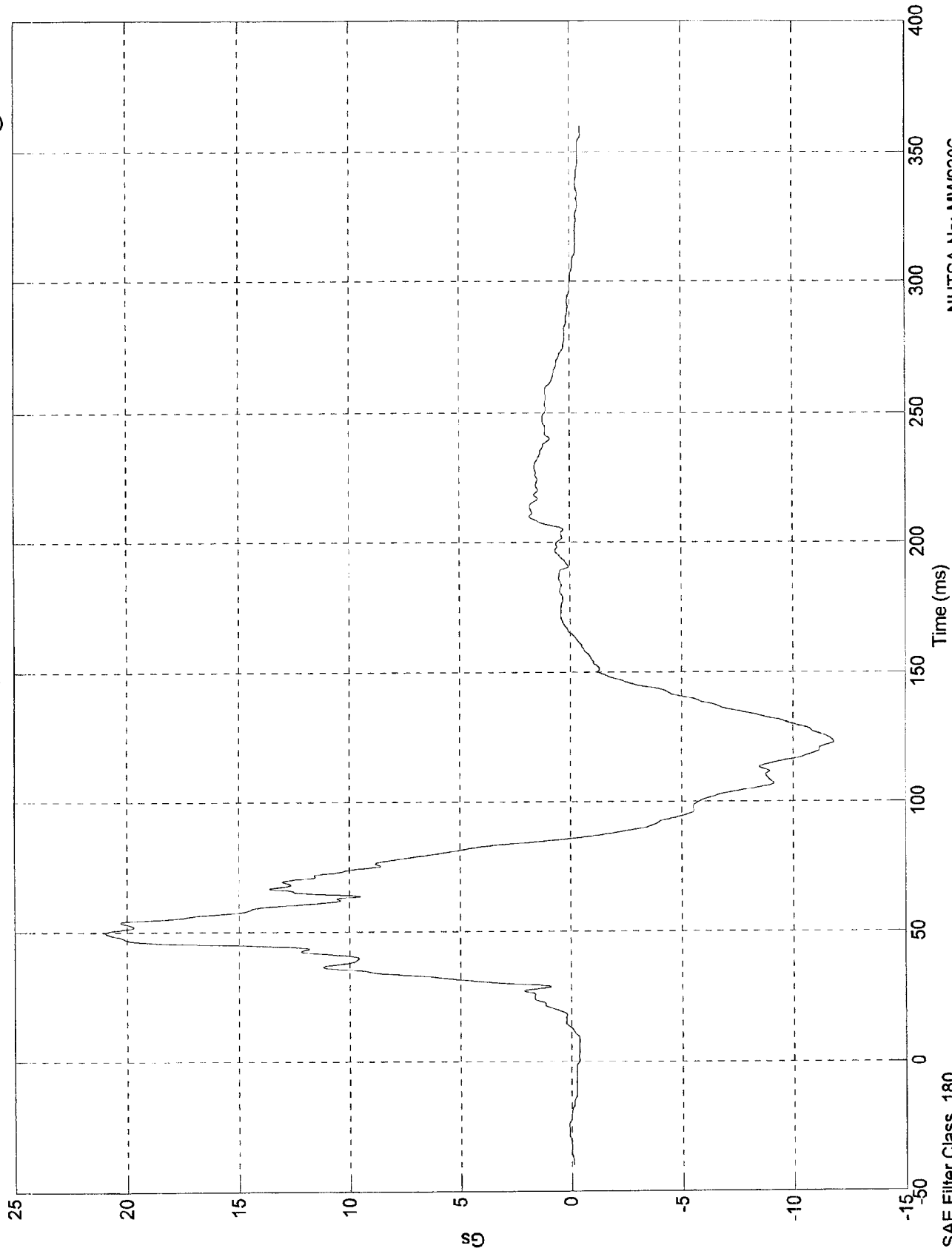
SAE Filter Class 180

NHTSA No: MW0206
 Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 21 Gs @ 49.80 msec
Min = -11.8 Gs @ 122.90 msec

Pos. 1 Chest Z



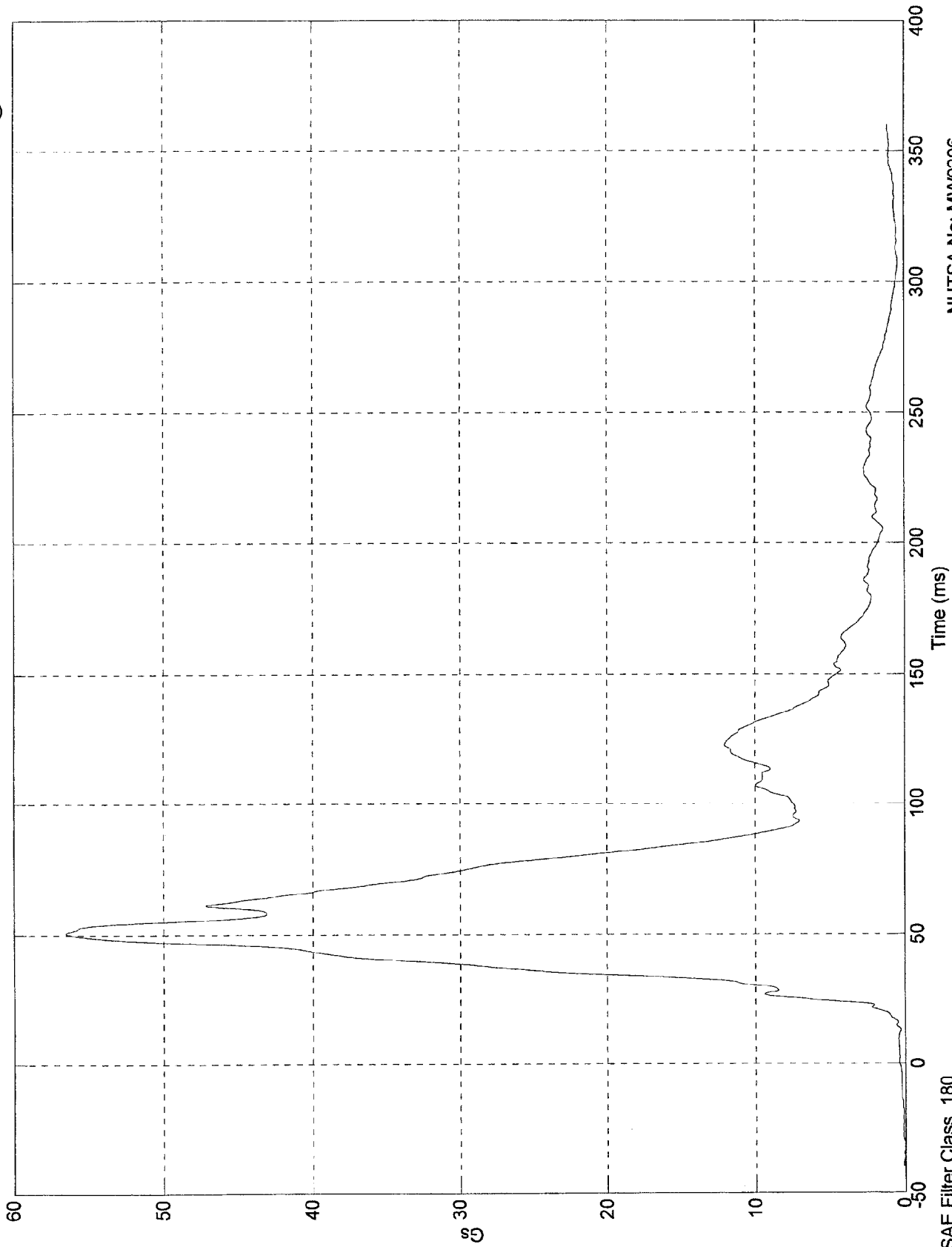
SAE Filter Class 180

NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 56.6 Gs @ 50.50 msec
 Min = 0.0109 Gs @ -30.50 msec

Pos. 1 Chest Resultant

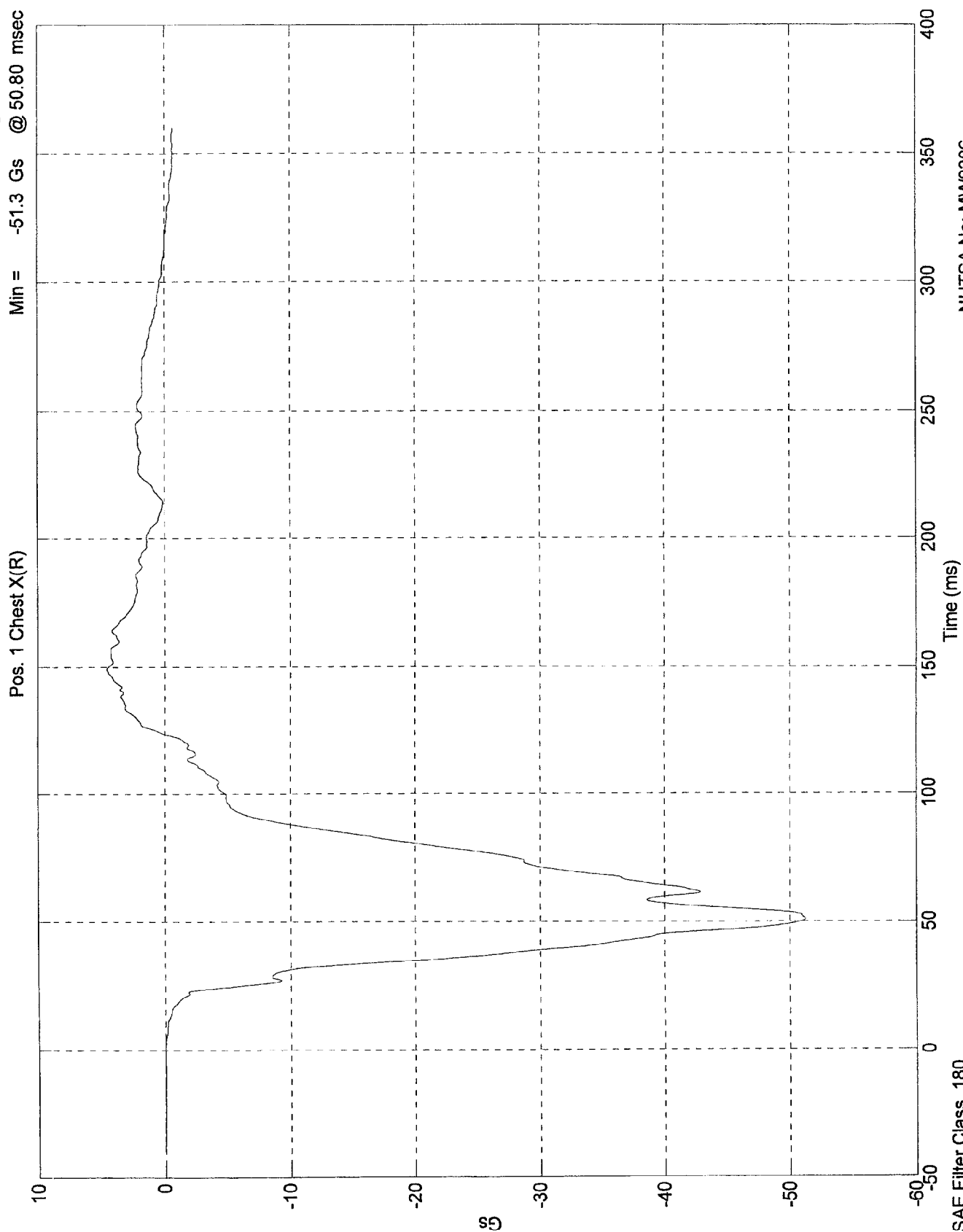


SAE Filter Class 180

NHTSA No: MW0206
 Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

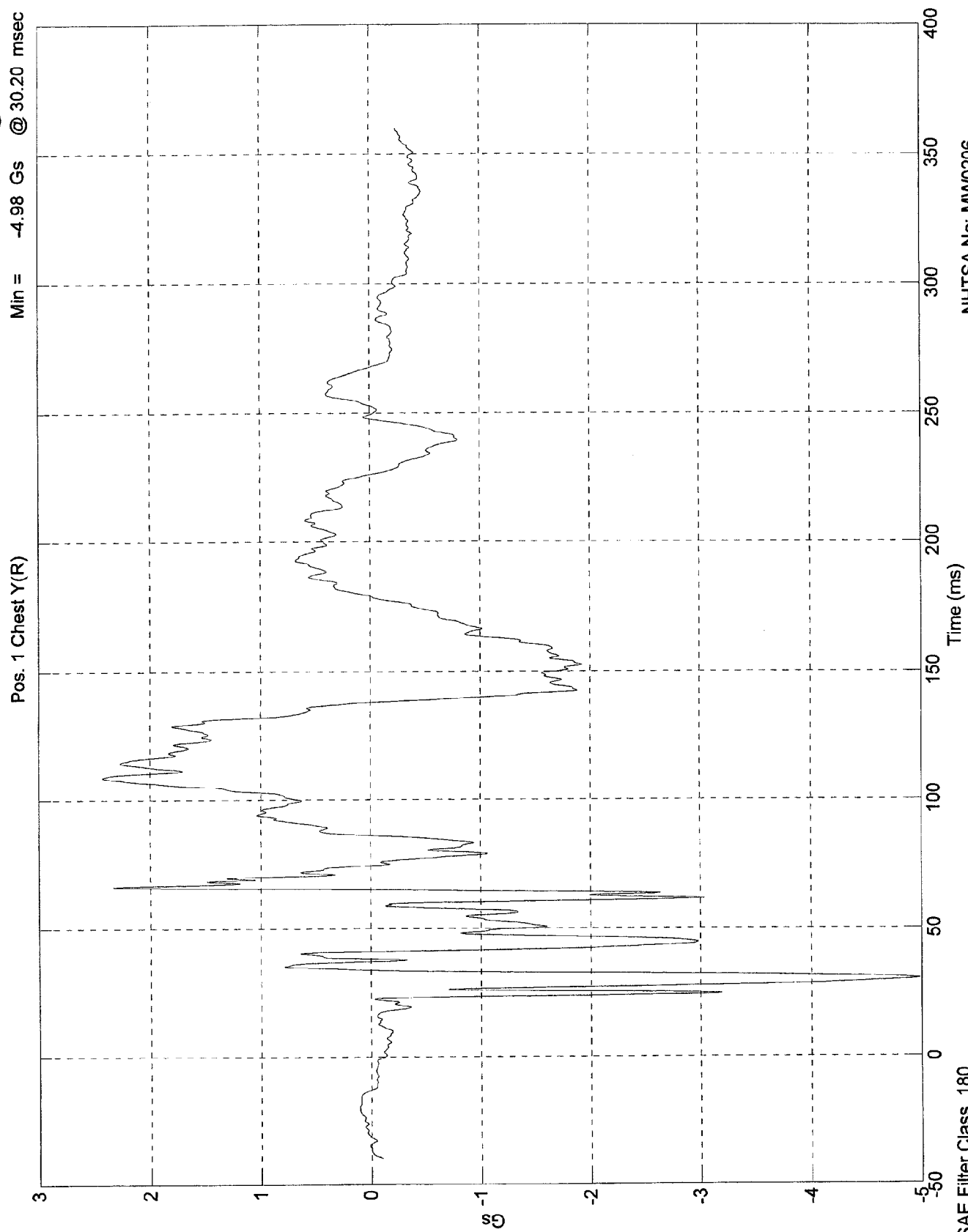
Max = 4.59 Gs @ 149.10 msec
Min = -51.3 Gs @ 50.80 msec



NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 2.43 Gs @ 108.80 msec
 Min = -4.98 Gs @ 30.20 msec



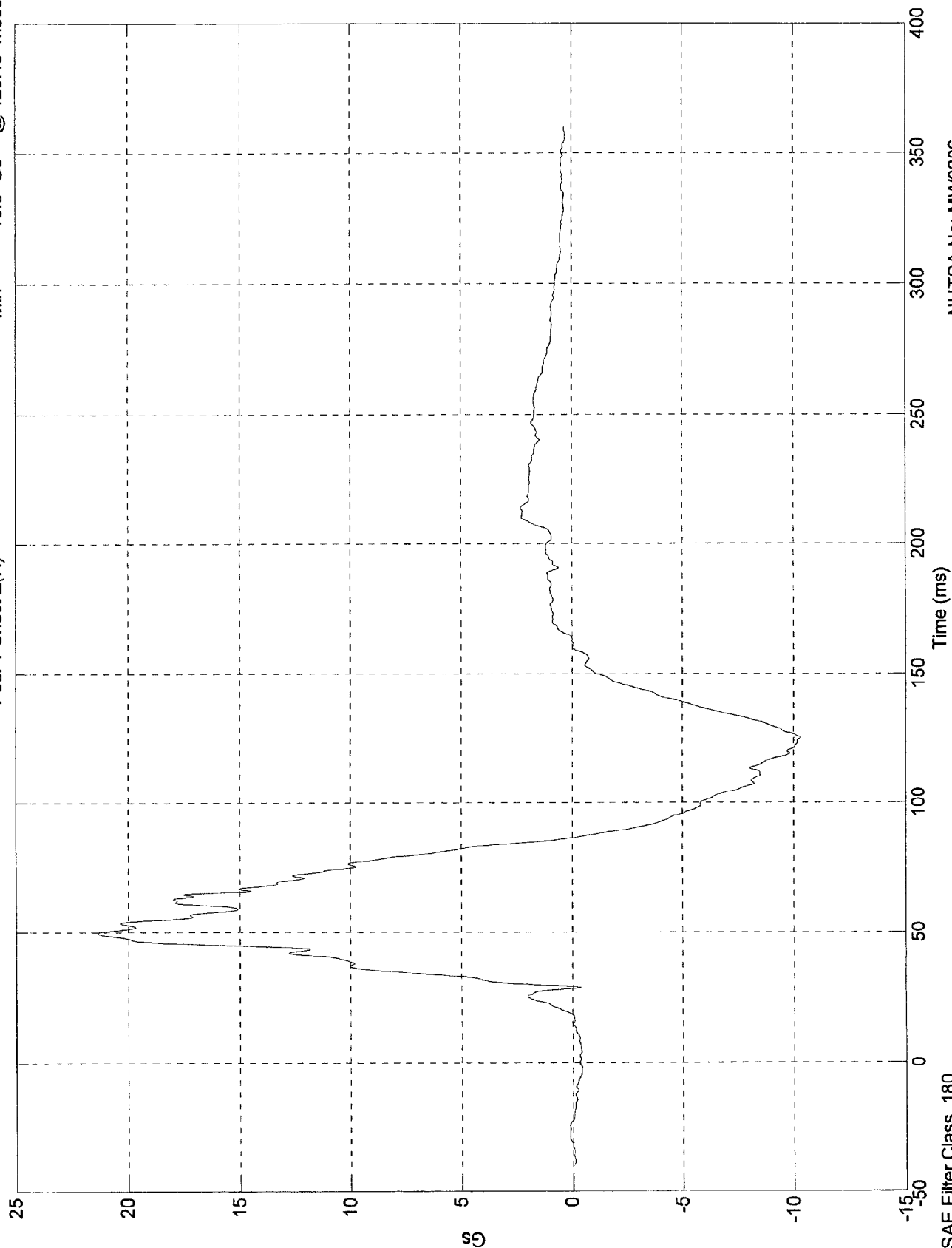
NHTSA No: MW0206
 Date: 03 Dec 1997

SAE Filter Class 180

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 21.4 Gs @ 49.60 msec
 Min = -10.3 Gs @ 125.10 msec

Pos. 1 Chest Z(R)



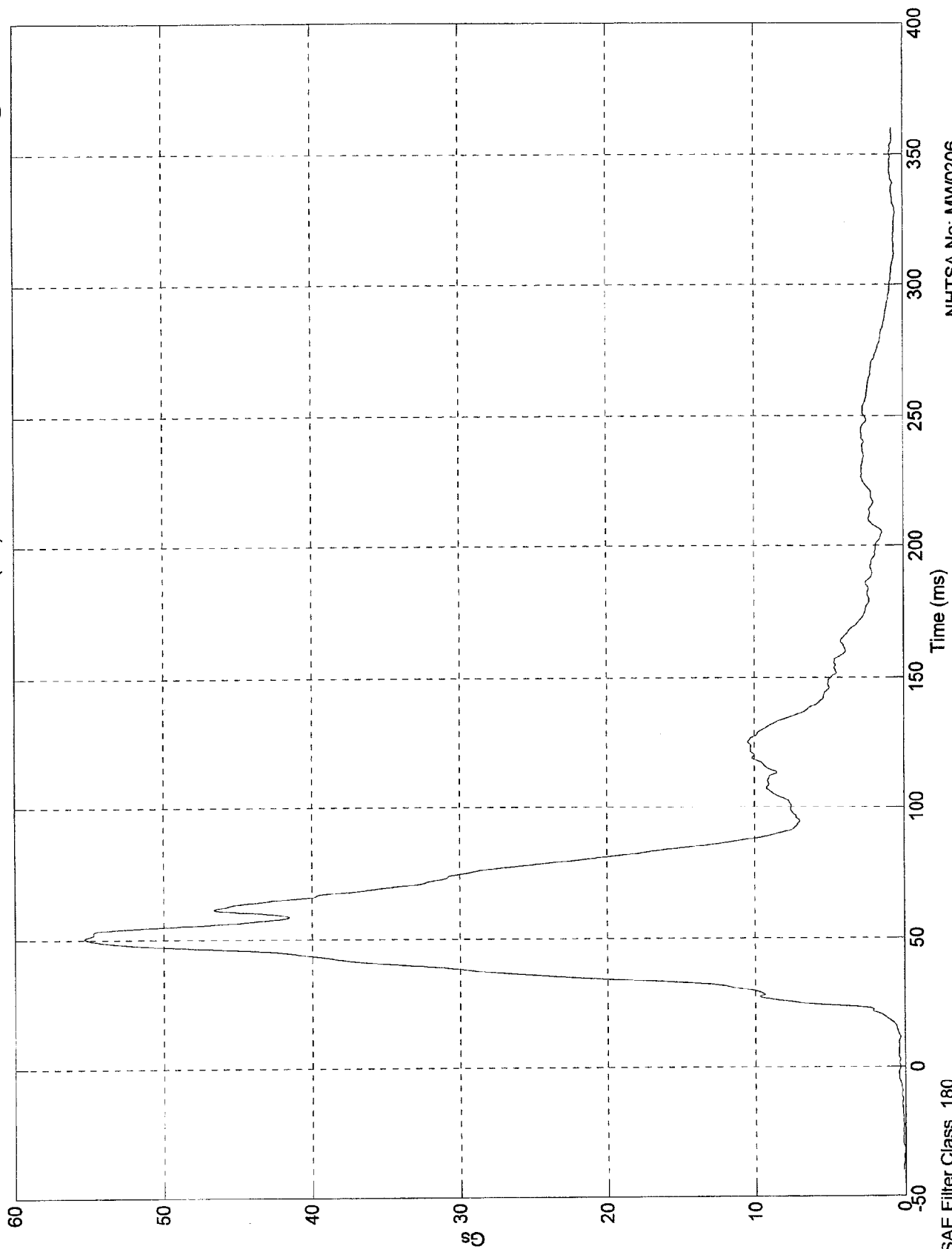
NHTSA No: MW0206
 Date: 03 Dec 1997

SAE Filter Class 180

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 55.3 Gs @ 50.50 msec
Min = 0.00485 Gs @ -31.70 msec

Pos. 1 Chest Res(RR)



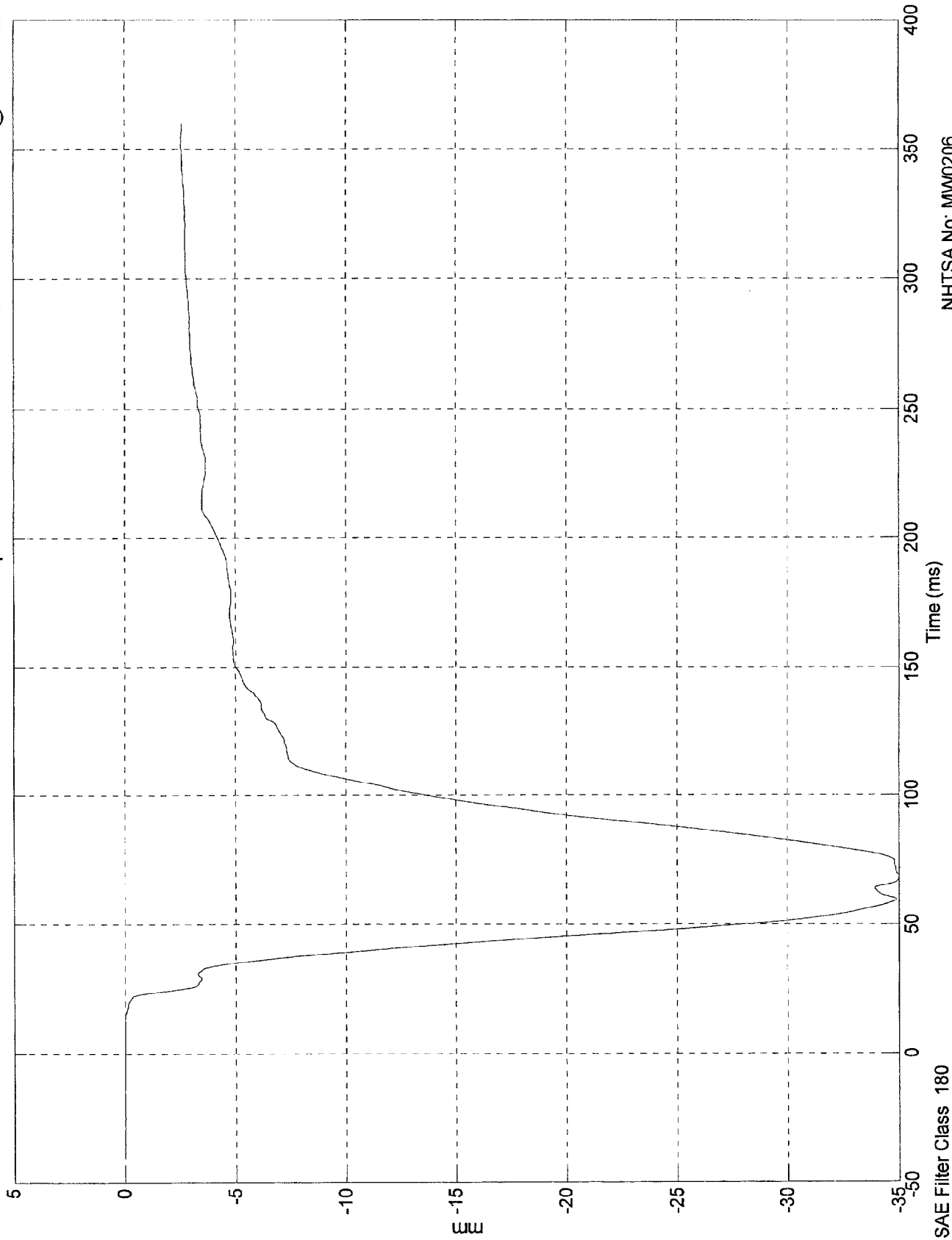
SAE Filter Class 180

NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 0.0167 mm @ -26.80 msec
Min = -35 mm @ 68.40 msec

Pos. 1 Chest Disp.

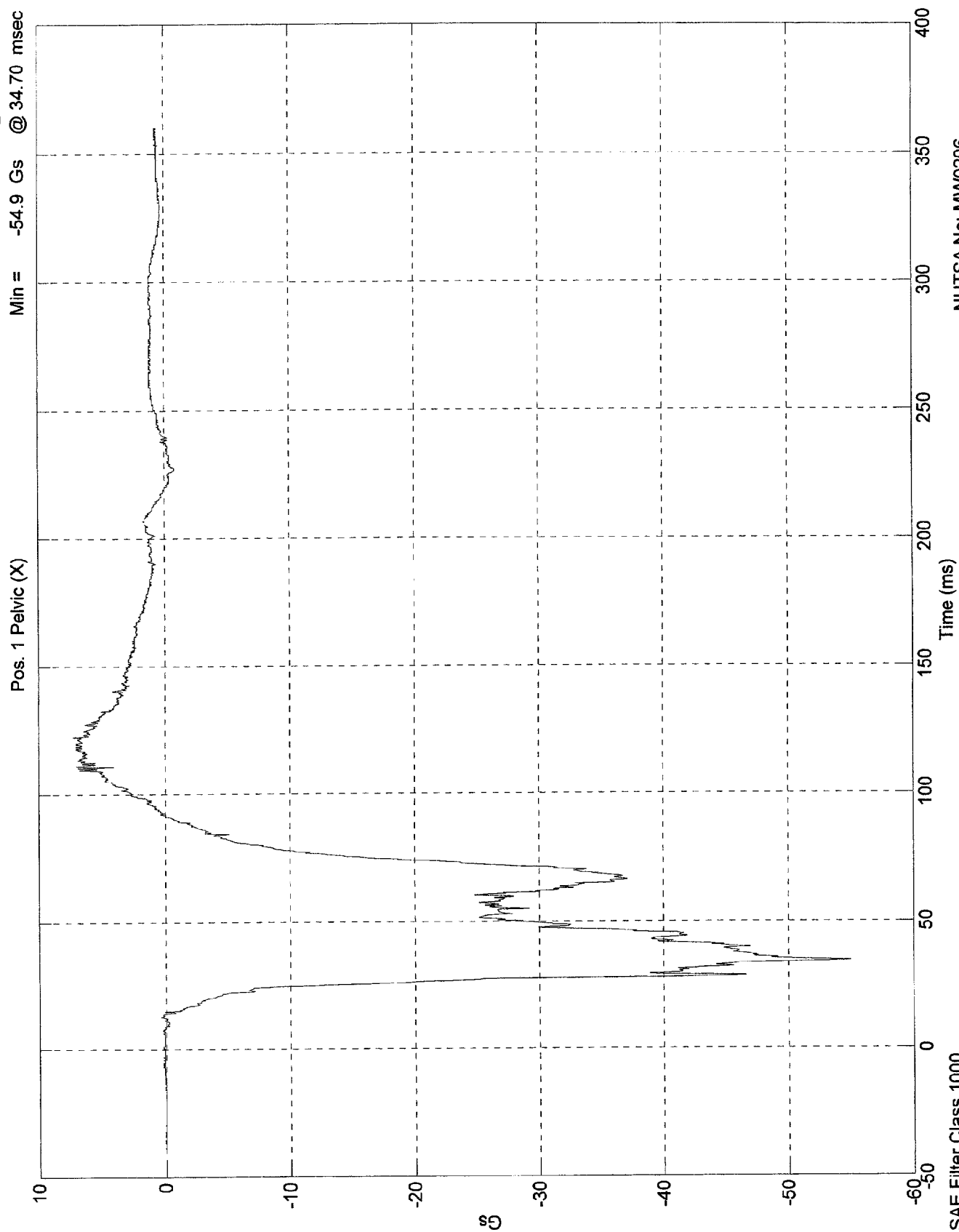


NHTSA No: MW0206
Date: 03 Dec 1997

SAE Filter Class 180

NCAP TEST #11 - 1998 FORD EXPLORER

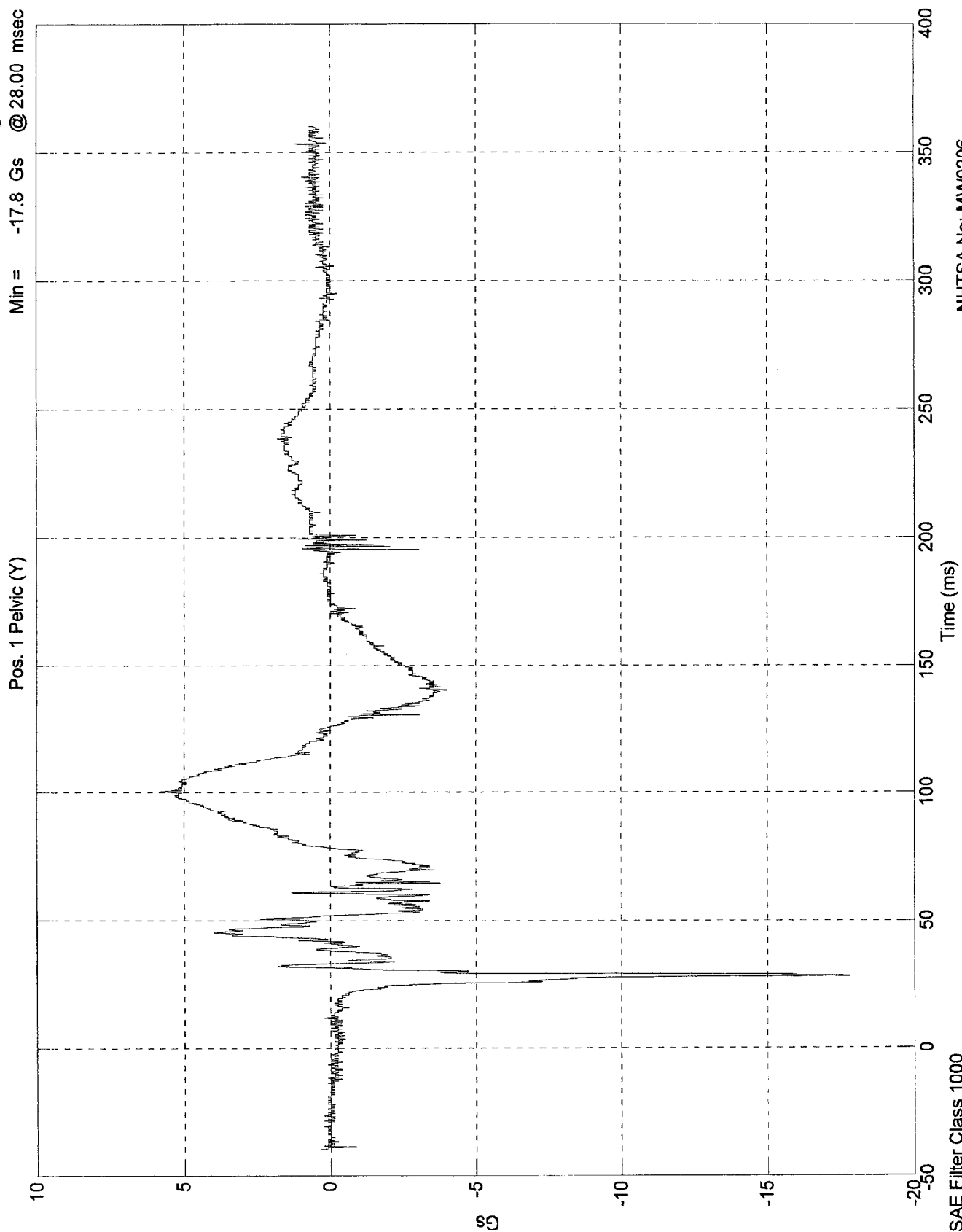
Max = 7.25 Gs @ 122.30 msec
 Min = -54.9 Gs @ 34.70 msec



NHTSA No: MW0206
 Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 5.8 Gs @ 100.30 msec
Min = -17.8 Gs @ 28.00 msec

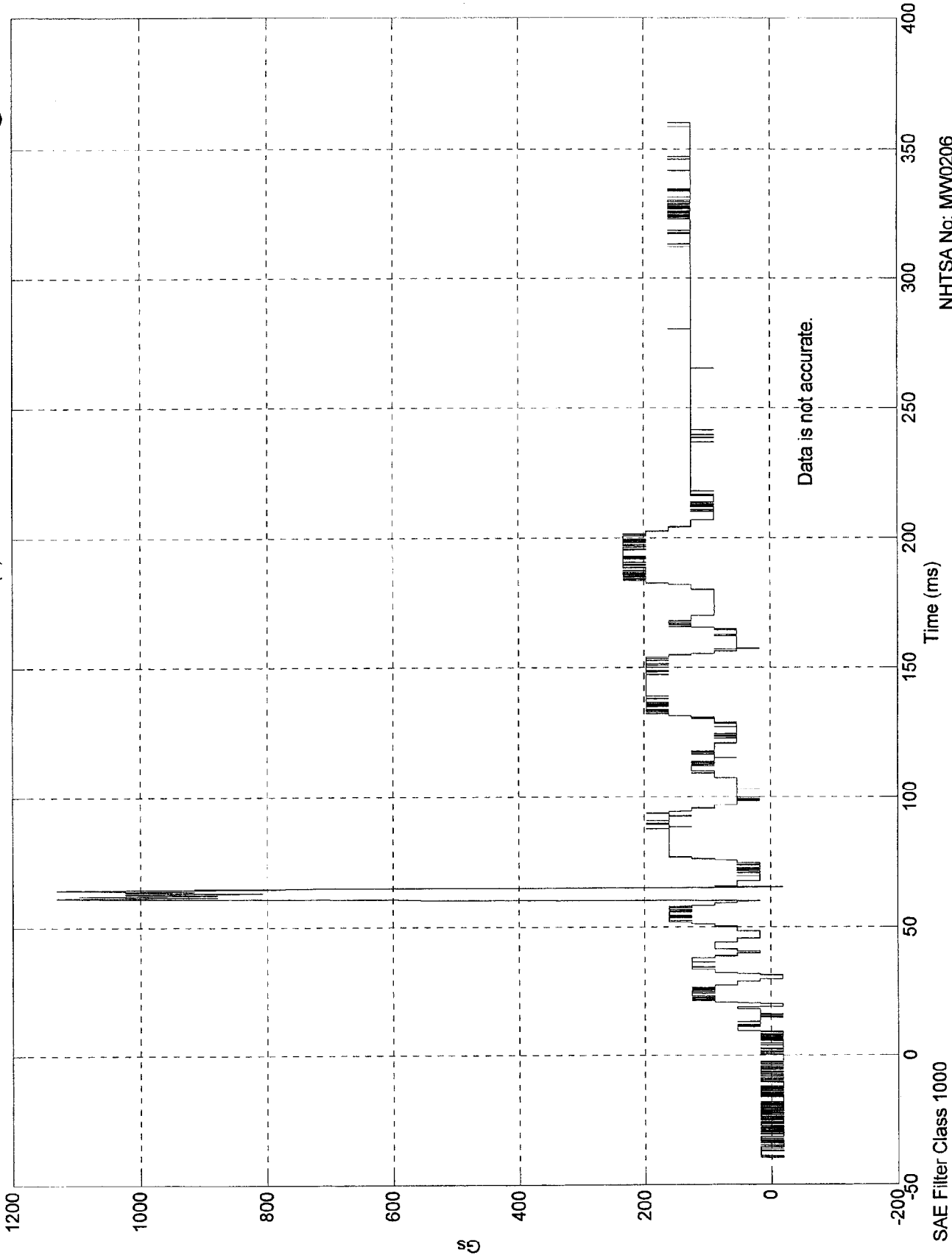


NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 1.13e+003 Gs @ 61.10 msec
Min = -18.9 Gs @ -39.90 msec

Pos. 1 Pelvic (Z)

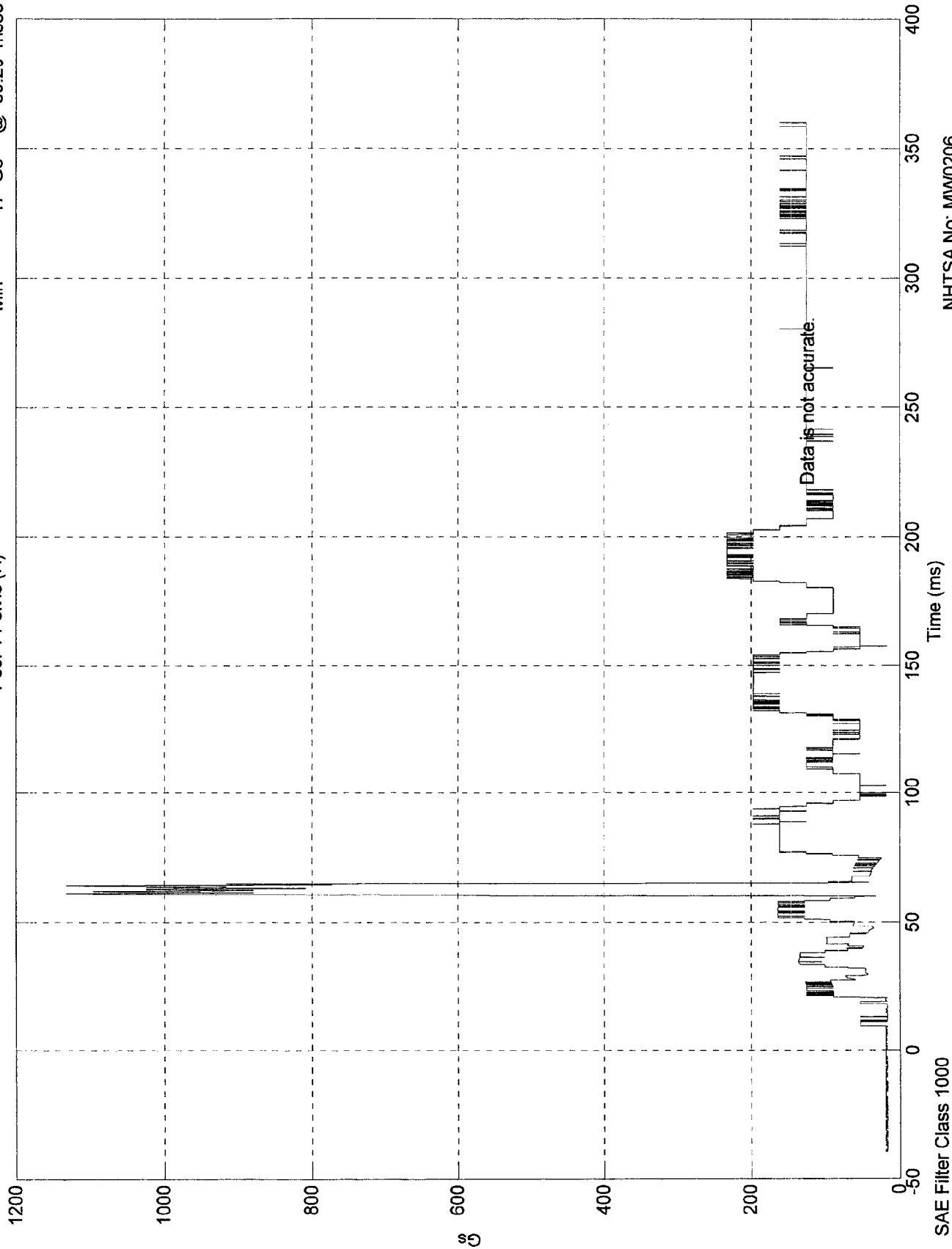


NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 1.13e+003 Gs @ 64.10 msec
 Min = 17 Gs @ -39.20 msec

Pos. 1 Pelvic (R)



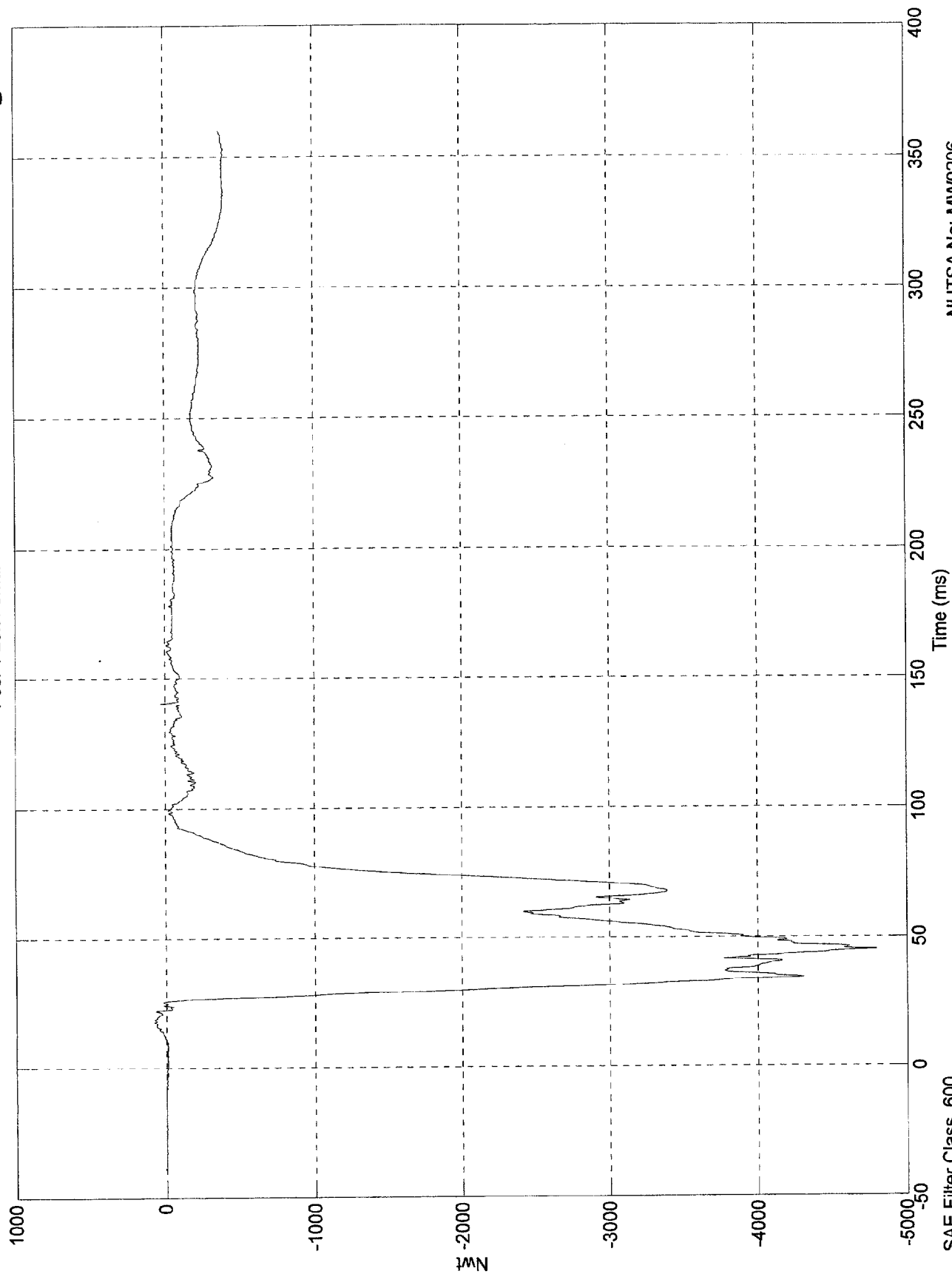
NHTSA No: MW0206
 Date: 03 Dec 1997

SAE Filter Class 1000

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 82.7 Nwt @ 17.70 msec
 Min = -4.79e+003 Nwt @ 45.10 msec

Pos. 1 Left Femur



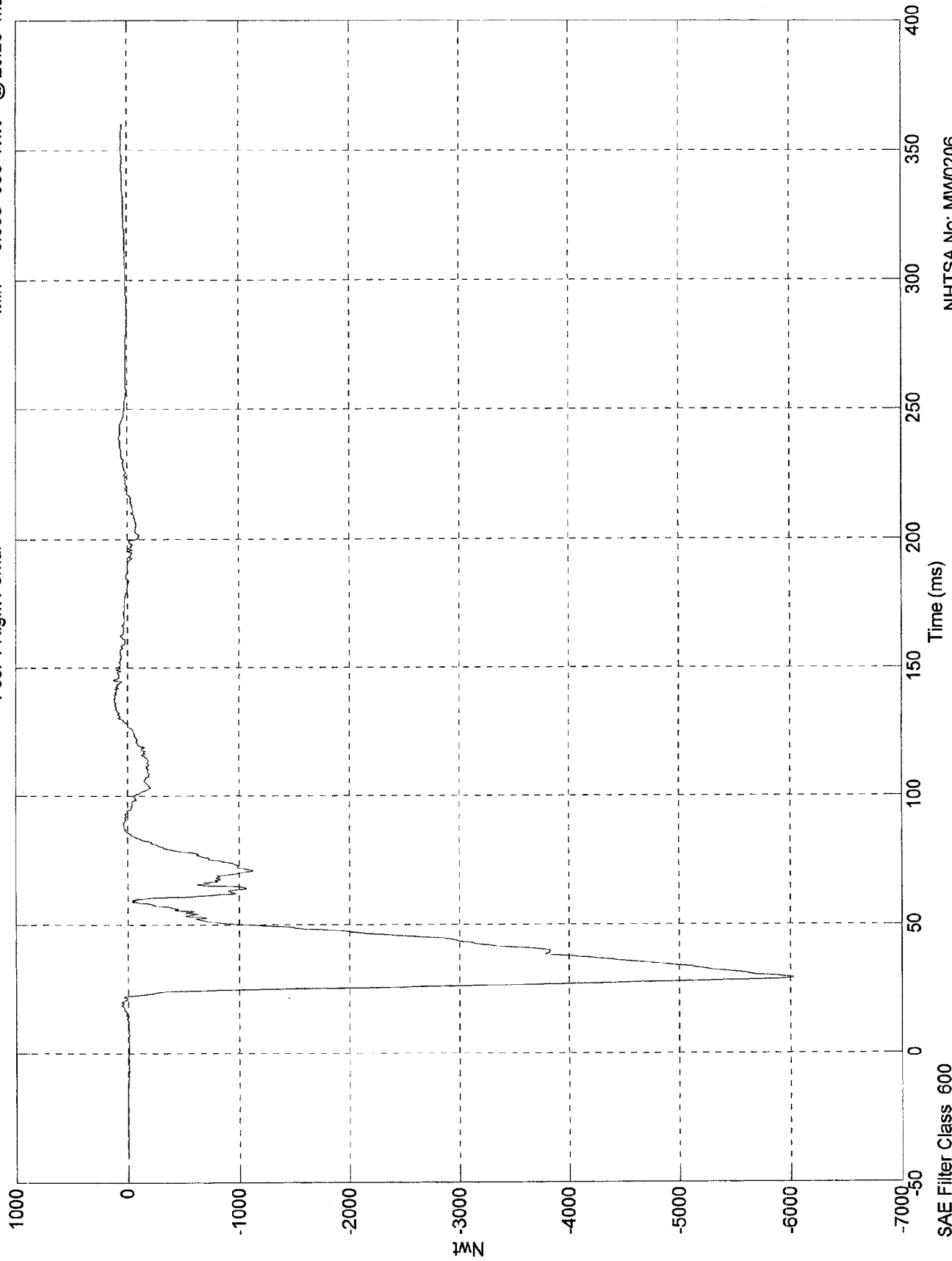
NHTSA No: MW0206
 Date: 03 Dec 1997

SAE Filter Class 600

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 128 Nwt @ 145.20 msec
 Min = -6.03e+003 Nwt @ 29.20 msec

Pos. 1 Right Femur



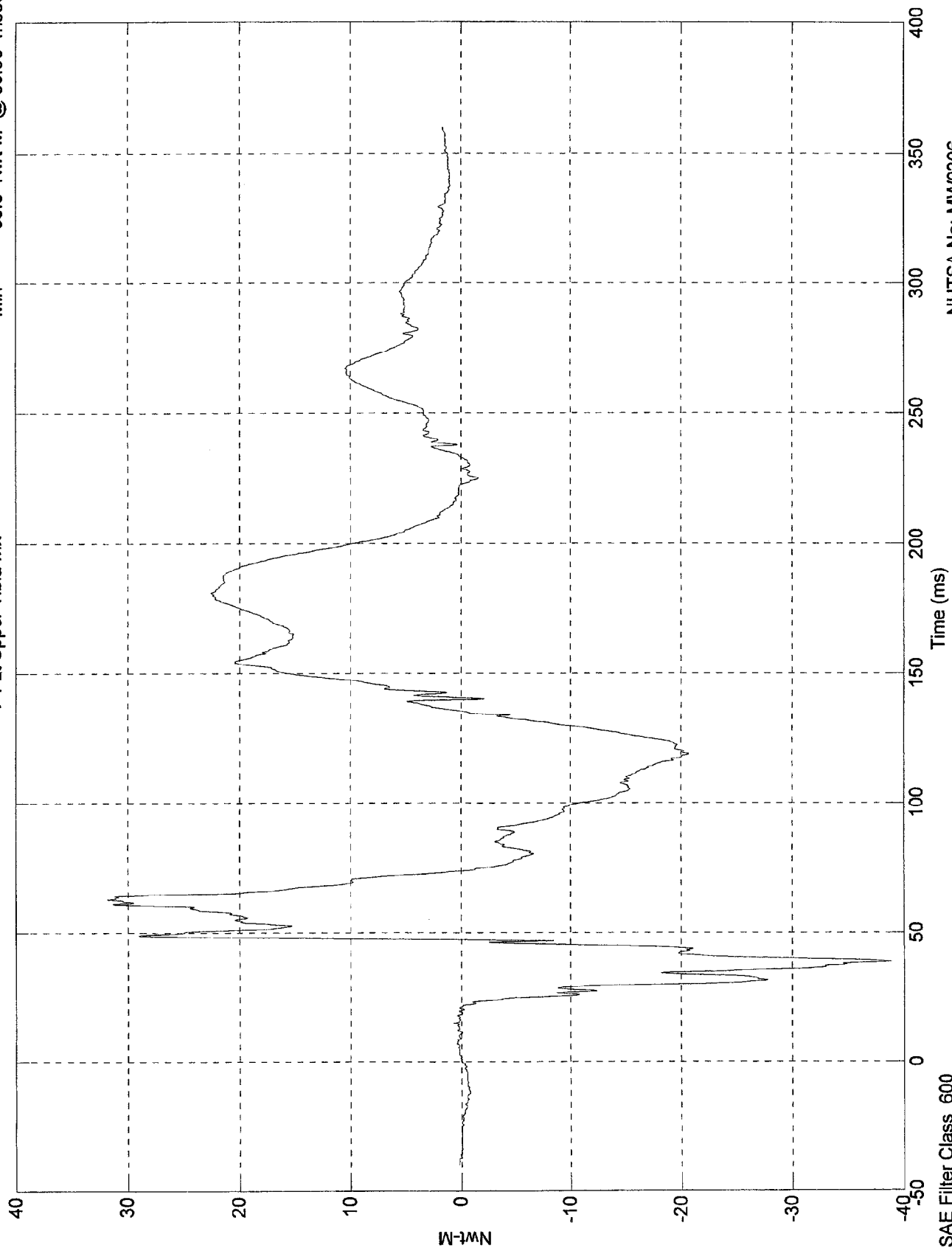
NHTSA No: MW0206
 Date: 03 Dec 1997

SAE Filter Class 600

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 31.8 Nwt-M @ 62.80 msec
 Min = -38.8 Nwt-M @ 38.80 msec

P1 Lt Upper Tibia Mx

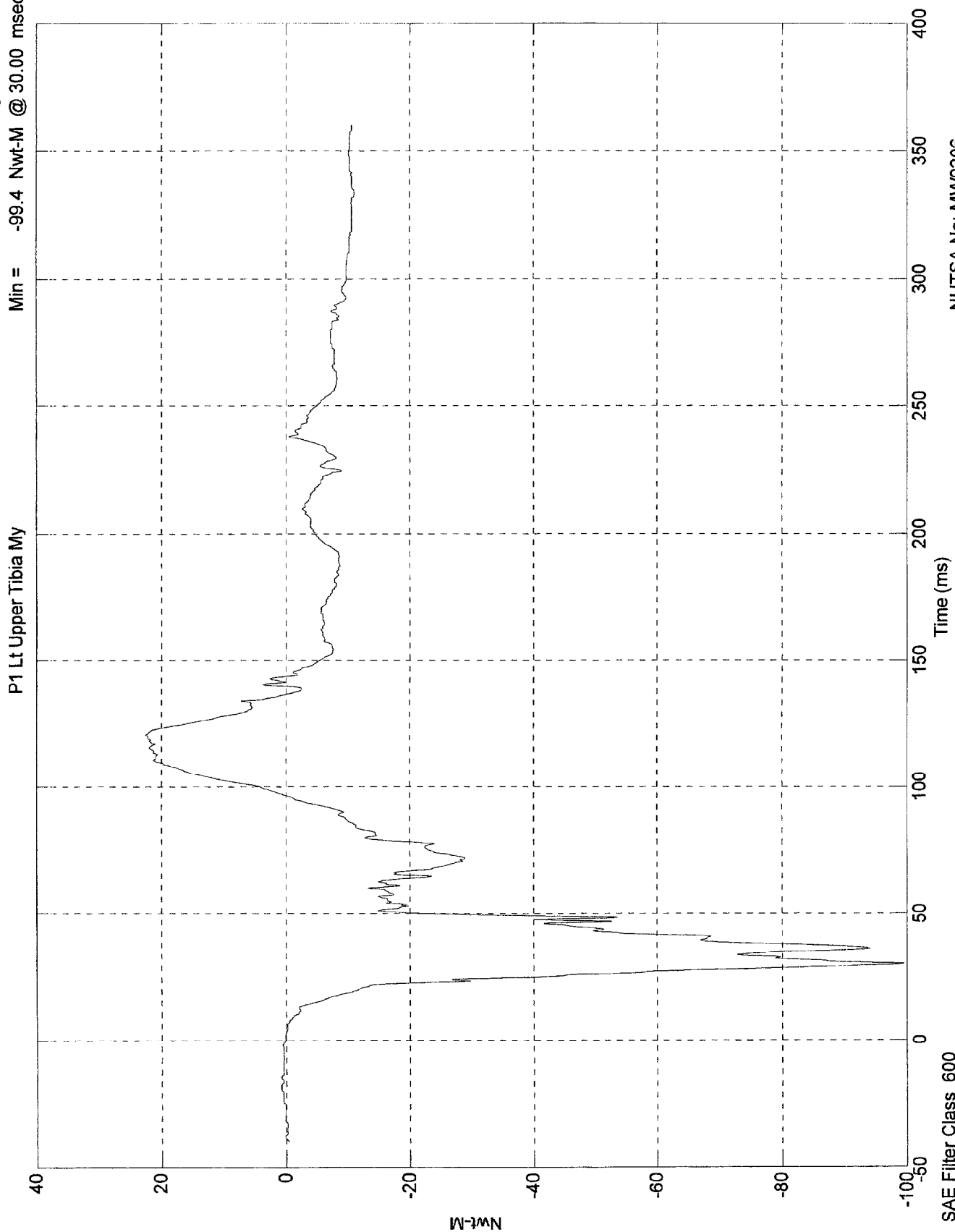


SAE Filter Class 600

NHTSA No: MW0206
 Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 22.5 Nwt-M @ 120.40 msec
 Min = -99.4 Nwt-M @ 30.00 msec



NHTSA No: MW0206
 Date: 03 Dec 1997

Nwt-M

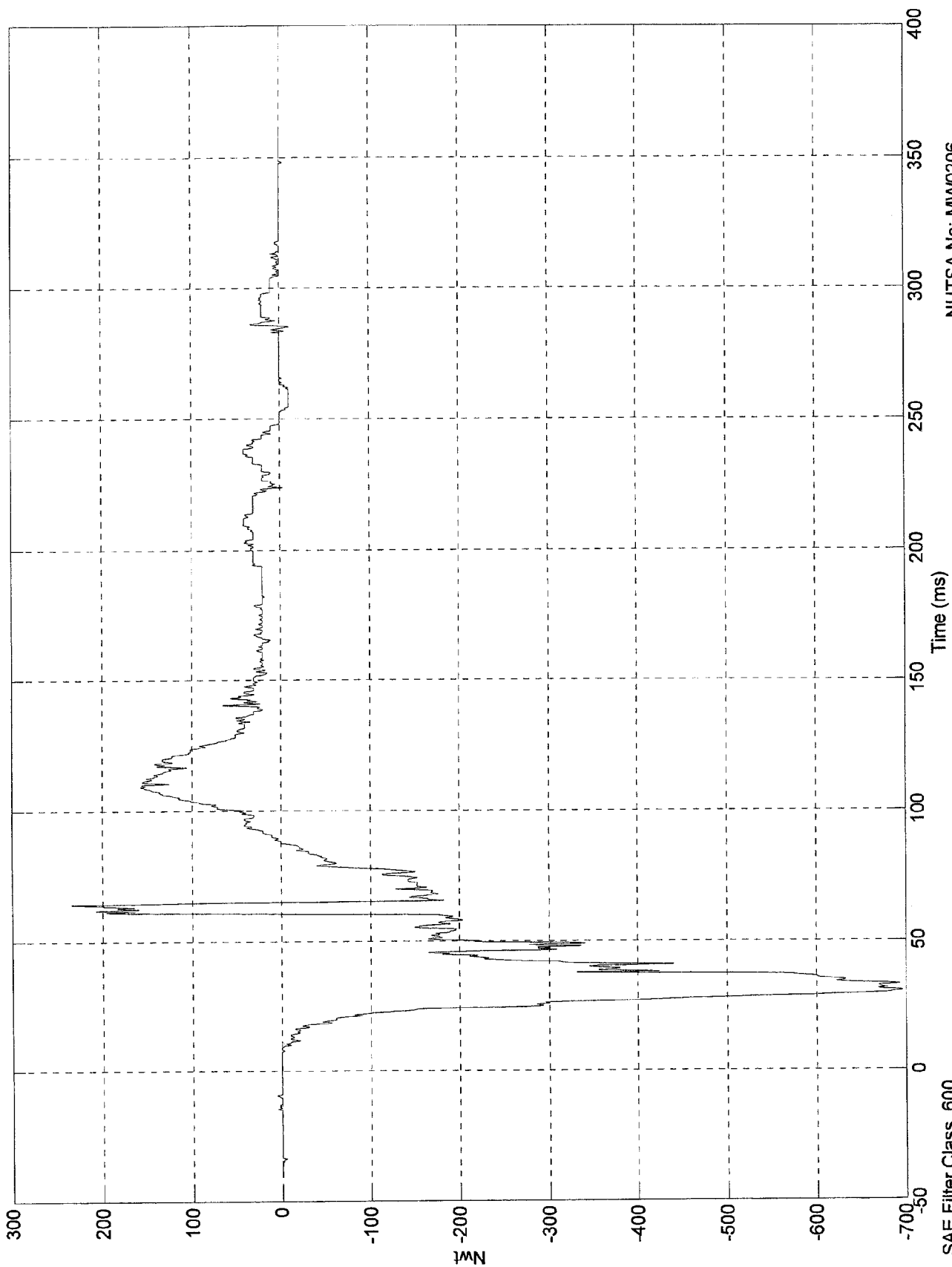
B-36

8413-11

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 235 Nwt @ 64.20 msec
Min = -696 Nwt @ 30.40 msec

P1 Lt Lower Tibia Fx



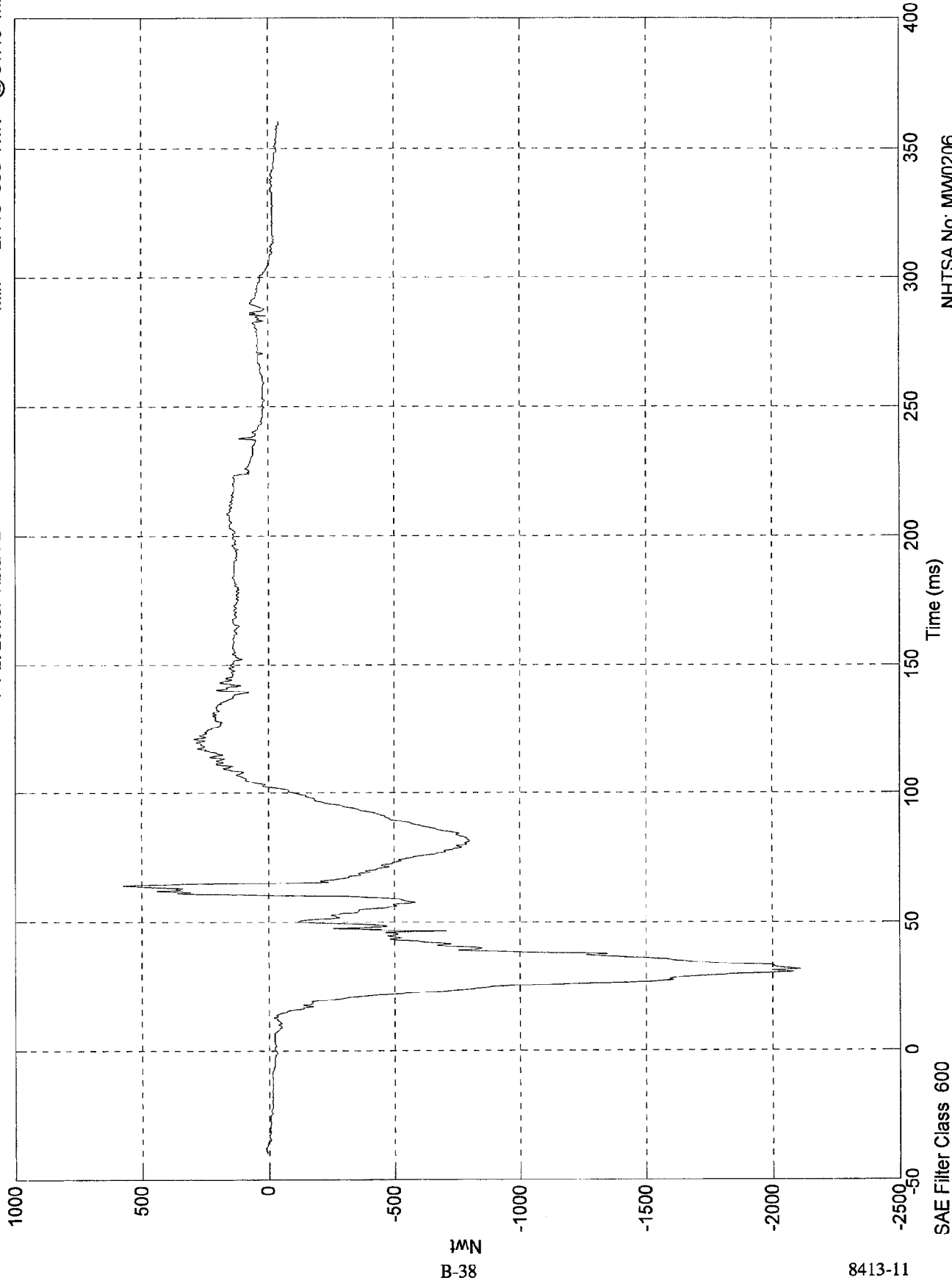
NHTSA No: MW0206
Date: 03 Dec 1997

SAE Filter Class 600

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 574 Nwt @ 64.10 msec
Min = -2.11e+003 Nwt @ 31.40 msec

P1 Lt Lower Tibia Fz

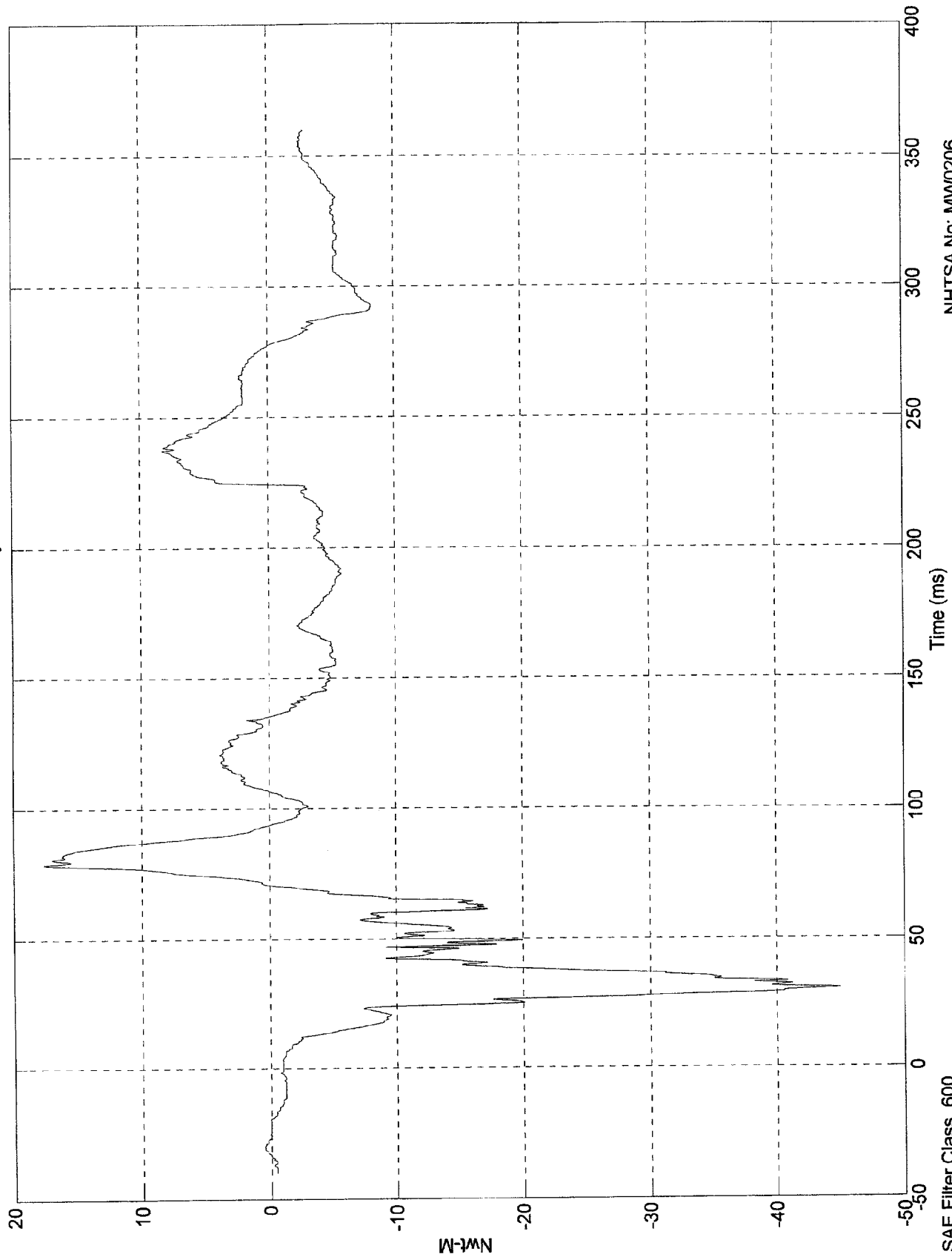


NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 17.6 Nwt-M @ 79.10 msec
Min = -44.9 Nwt-M @ 30.40 msec

P1 Lt Lower Tibia My



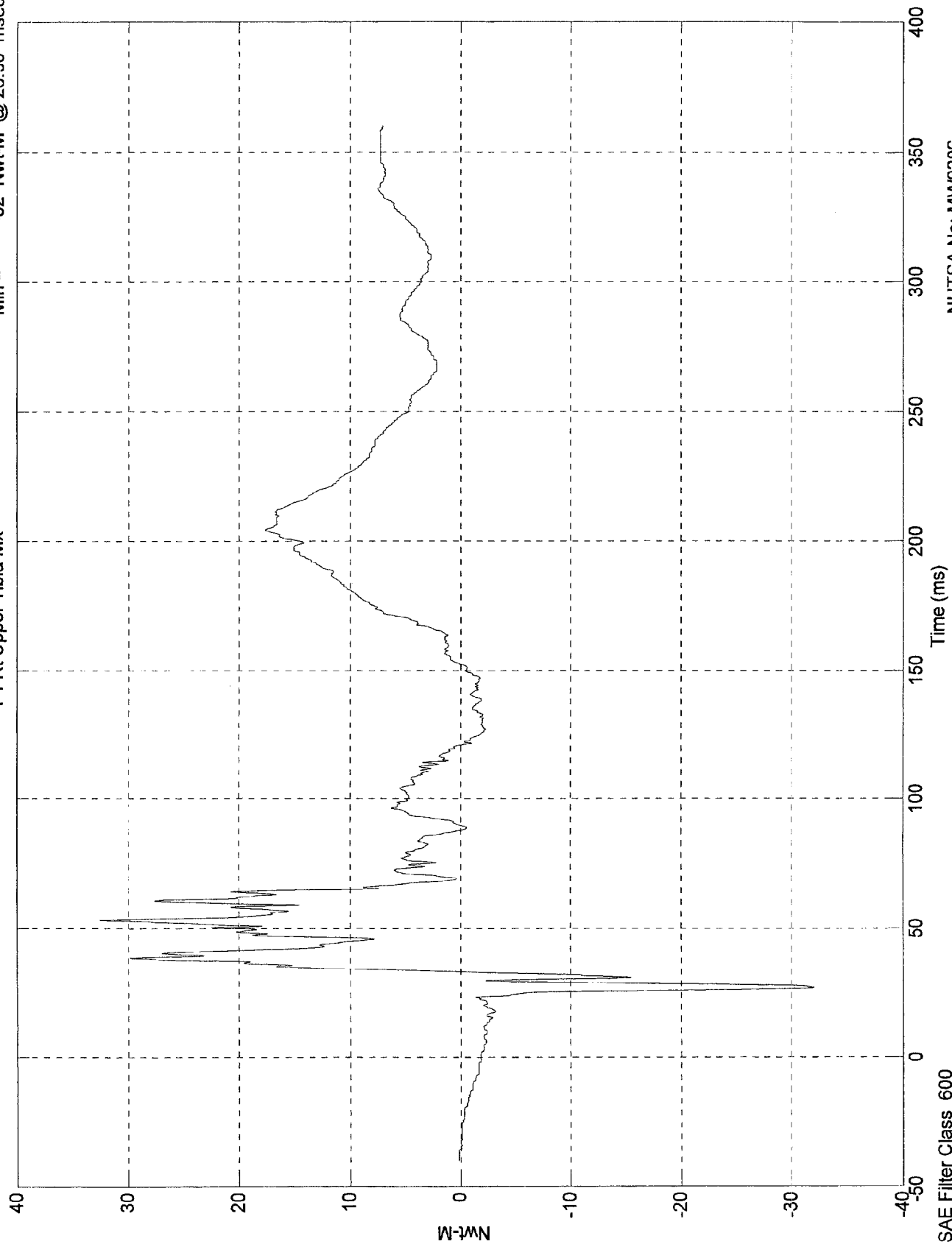
NHTSA No: MW0206
Date: 03 Dec 1997

SAE Filter Class 600

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 32.6 Nwt-M @ 53.30 msec
Min = -32 Nwt-M @ 26.90 msec

P1 Rt Upper Tibia Mx

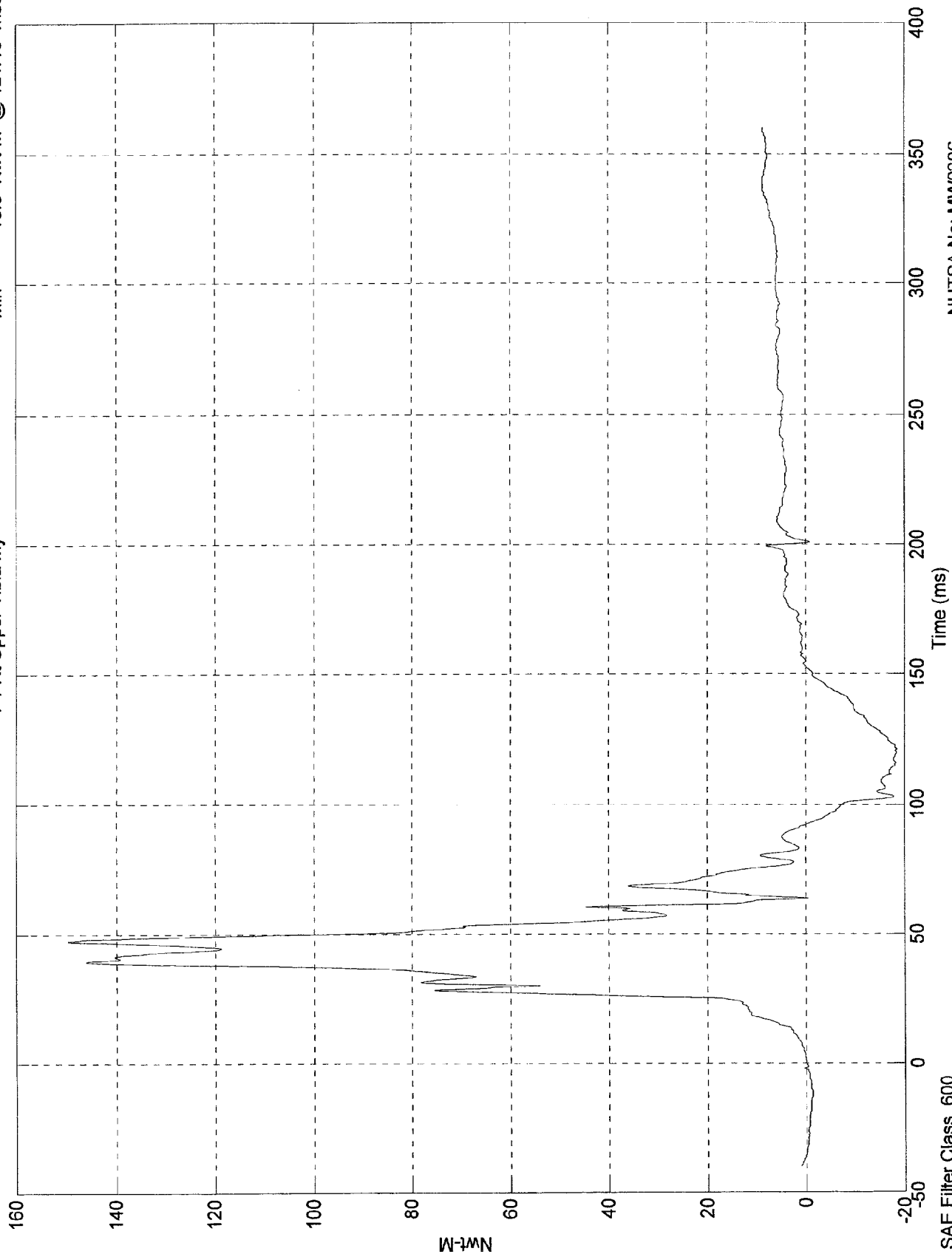


NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 150 Nwt-M @ 47.30 msec
Min = -18.5 Nwt-M @ 121.10 msec

P1 Rt Upper Tibia My



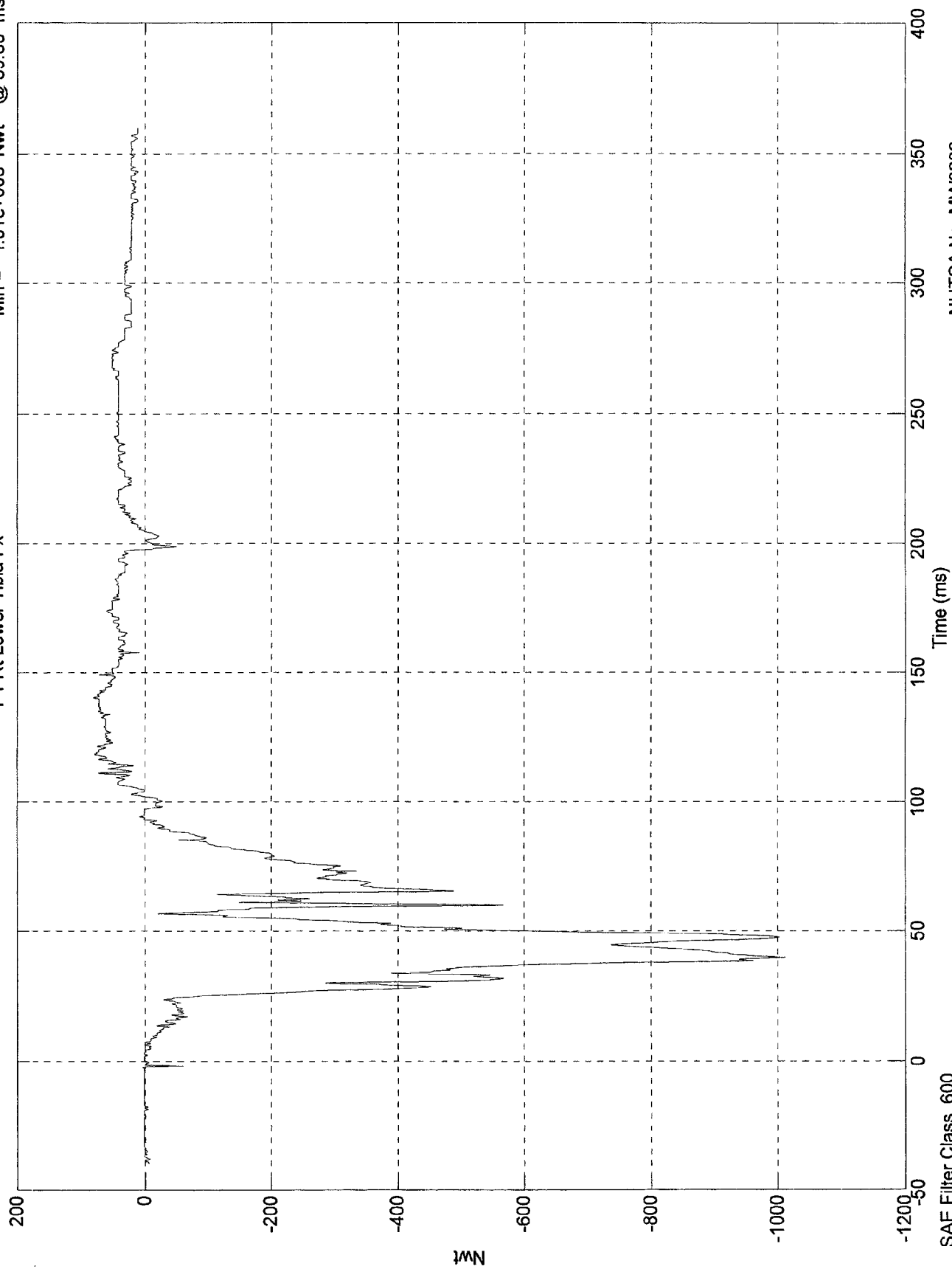
SAE Filter Class 600

NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 80.4 Nwt @ 140.40 msec
Min = -1.01e+003 Nwt @ 39.80 msec

P1 Rt Lower Tibia Fx



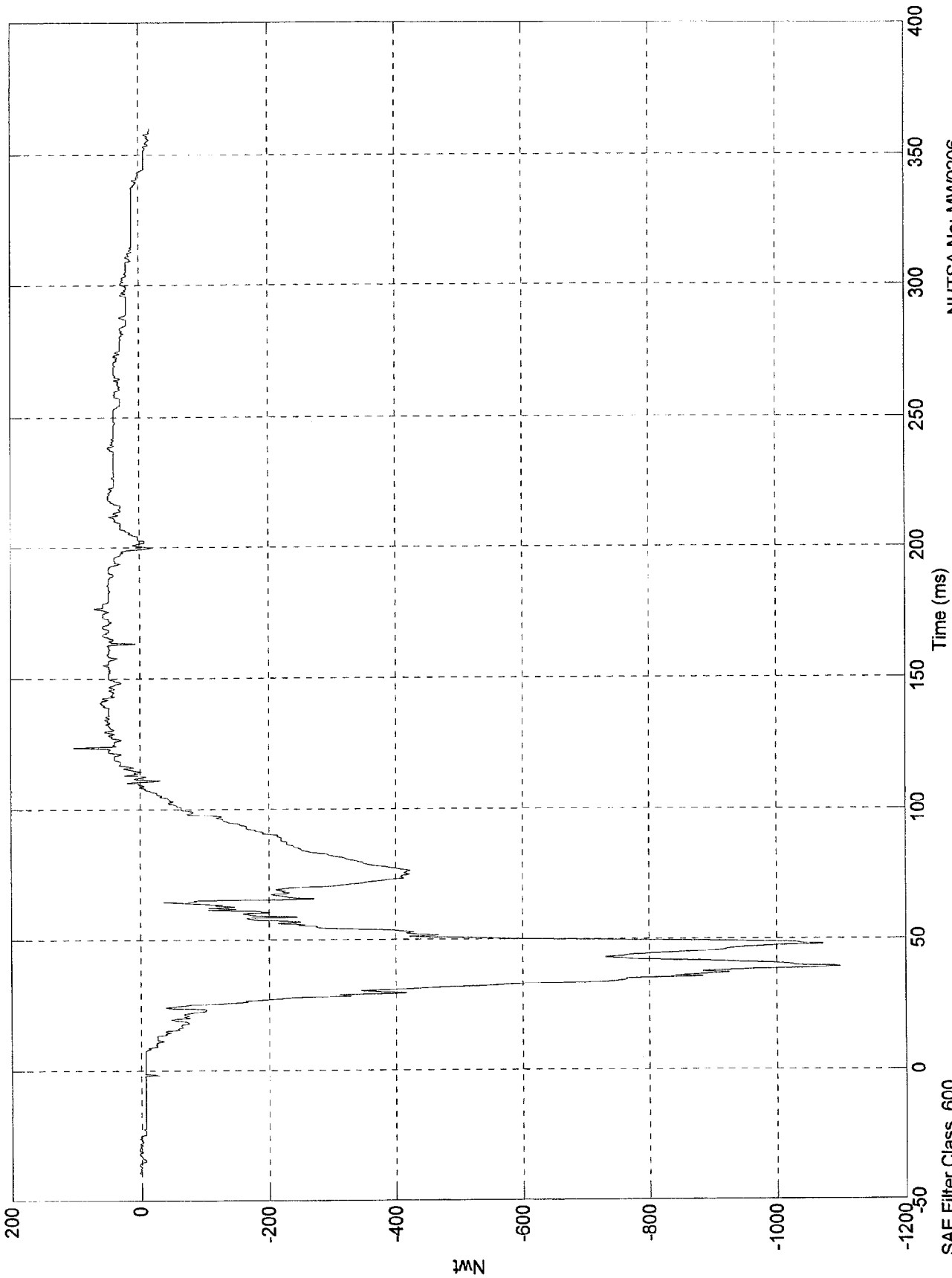
NHTSA No: MW0206
Date: 03 Dec 1997

SAE Filter Class 600

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 102 Nwt @ 123.70 msec
Min = -1.1e+003 Nwt @ 39.40 msec

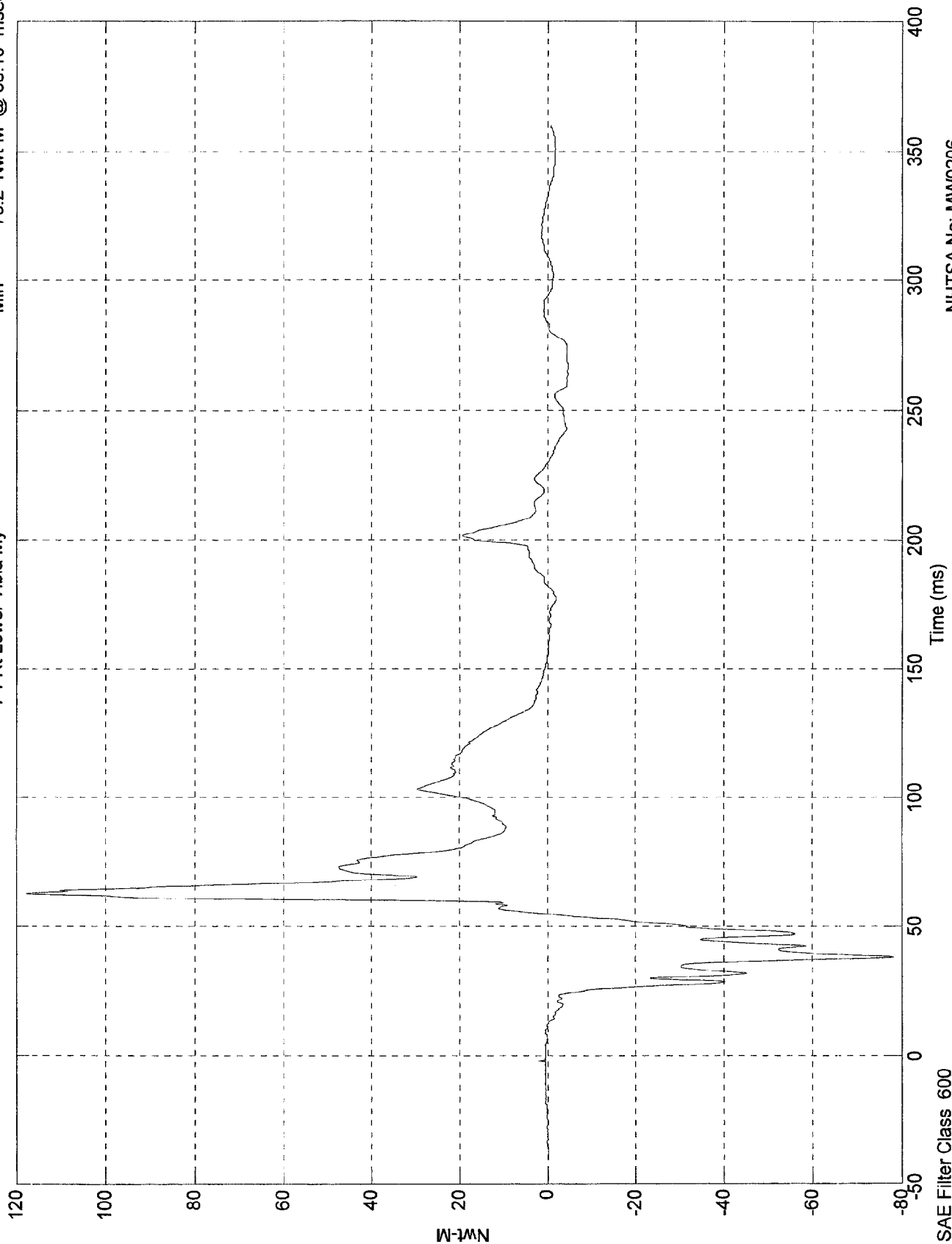
P1 Rt Lower Tibia Fz



NHTSA No: MW0206
Date: 03 Dec 1997

Max = 118 Nwt-M @ 62.60 msec
 Min = -78.2 Nwt-M @ 38.10 msec

P1 Rt Lower Tibia My



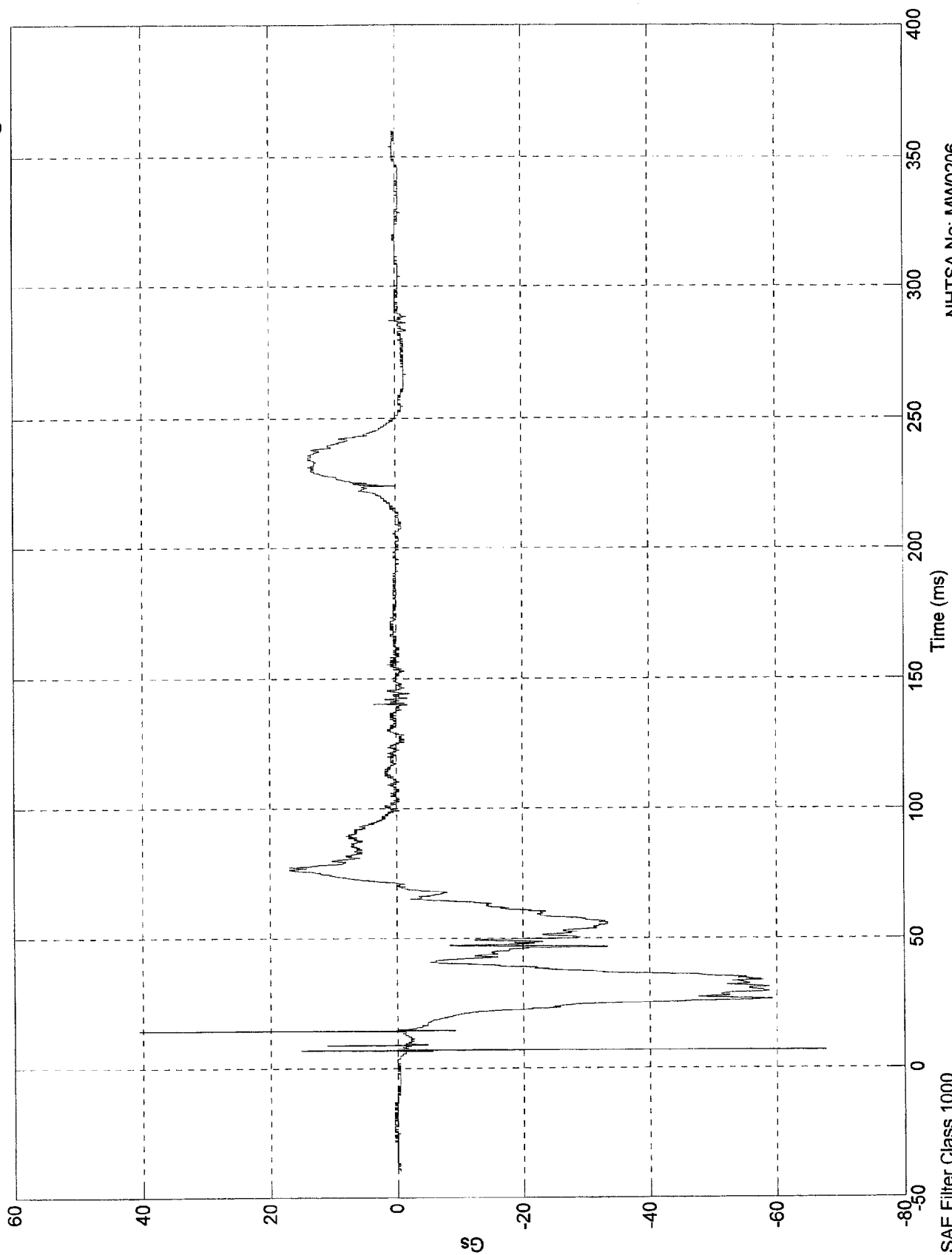
NHTSA No: MW0206
 Date: 03 Dec 1997

SAE Filter Class 600

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 40.6 Gs @ 14.60 msec
Min = -67.7 Gs @ 6.80 msec

Pos. 1 Left Ankle X



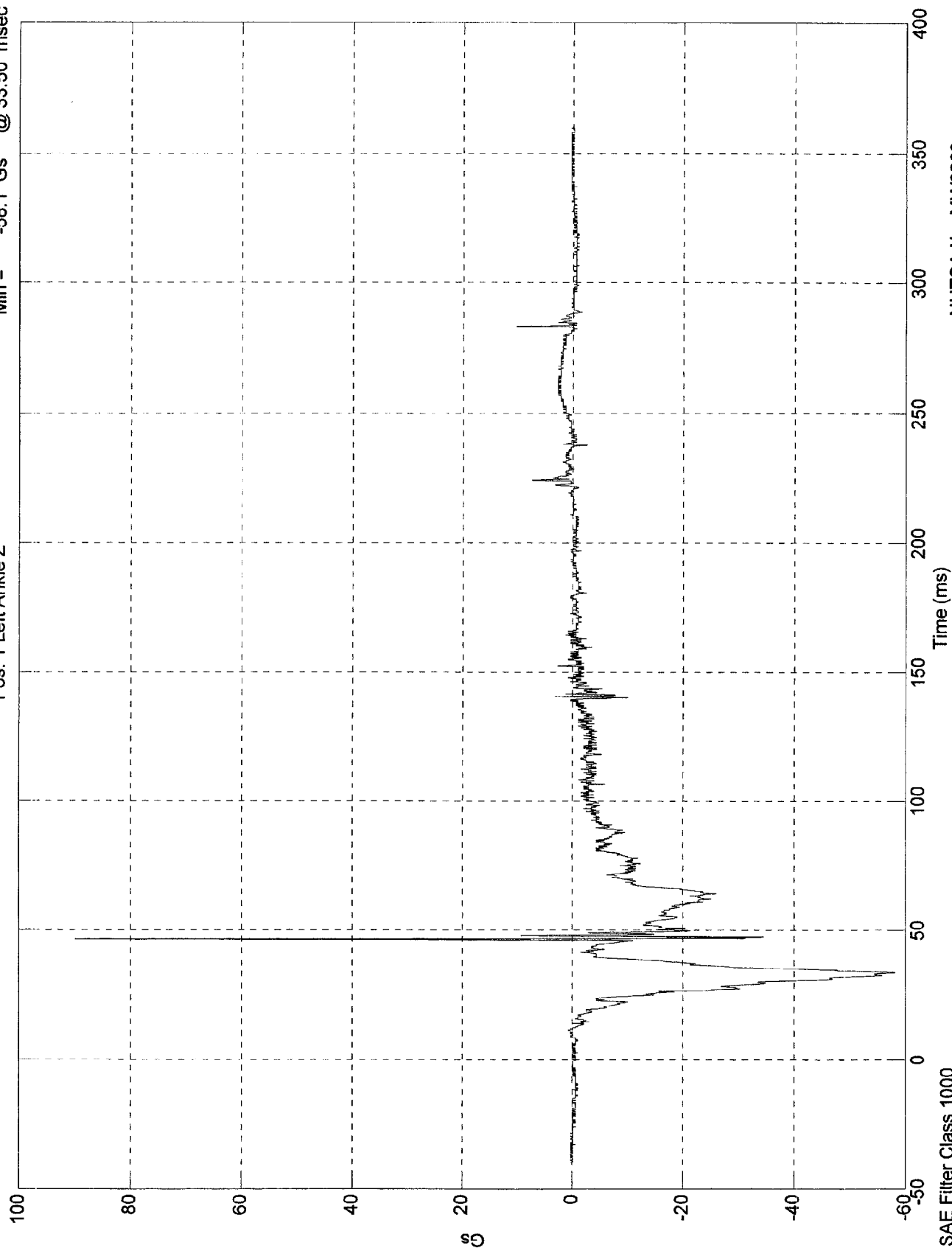
SAE Filter Class 1000

NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 89.9 Gs @ 46.40 msec
 Min = -58.1 Gs @ 33.50 msec

Pos. 1 Left Ankle Z

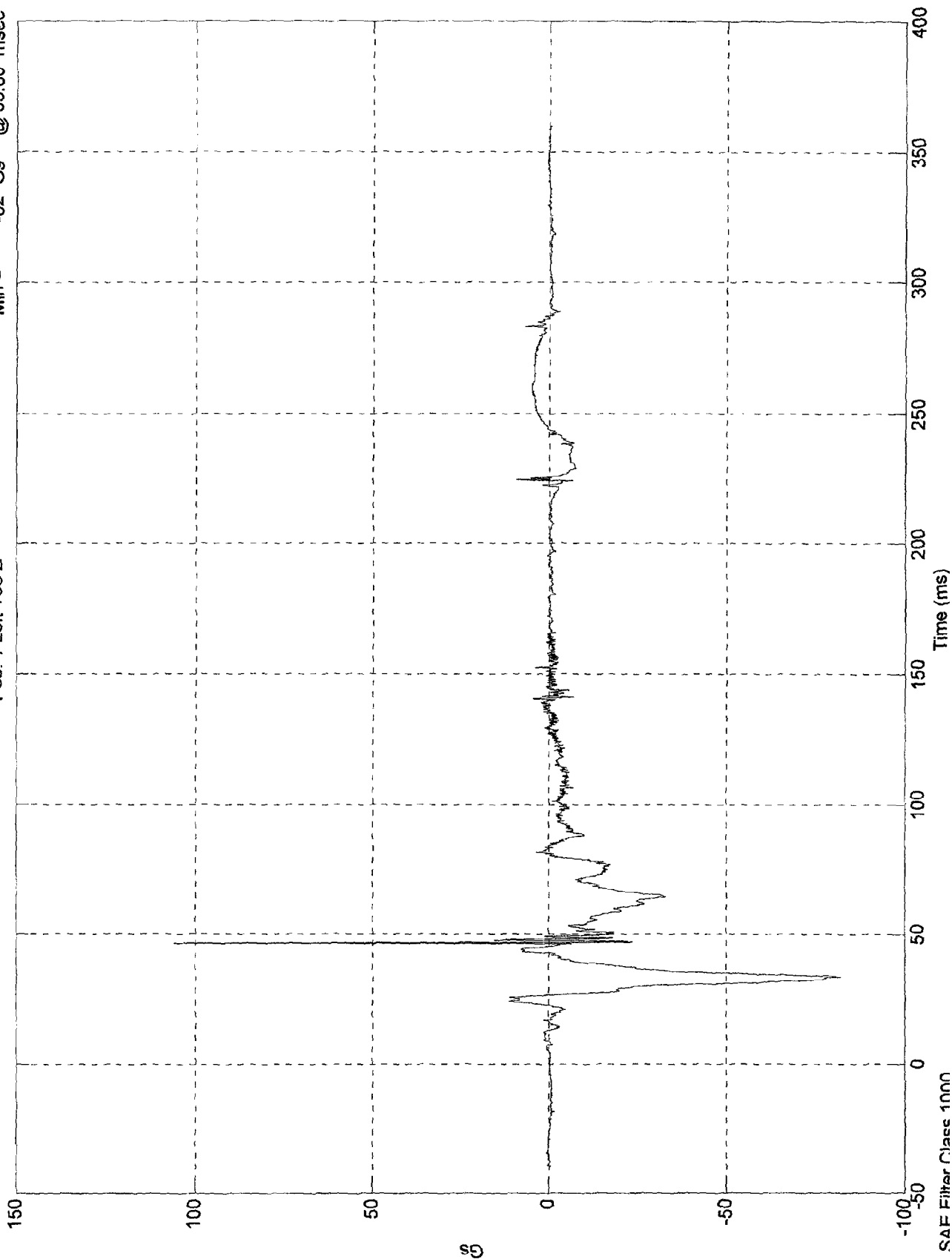


NHTSA No: MW0206
 Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 106 Gs @ 46.50 msec
Min = -82 Gs @ 33.80 msec

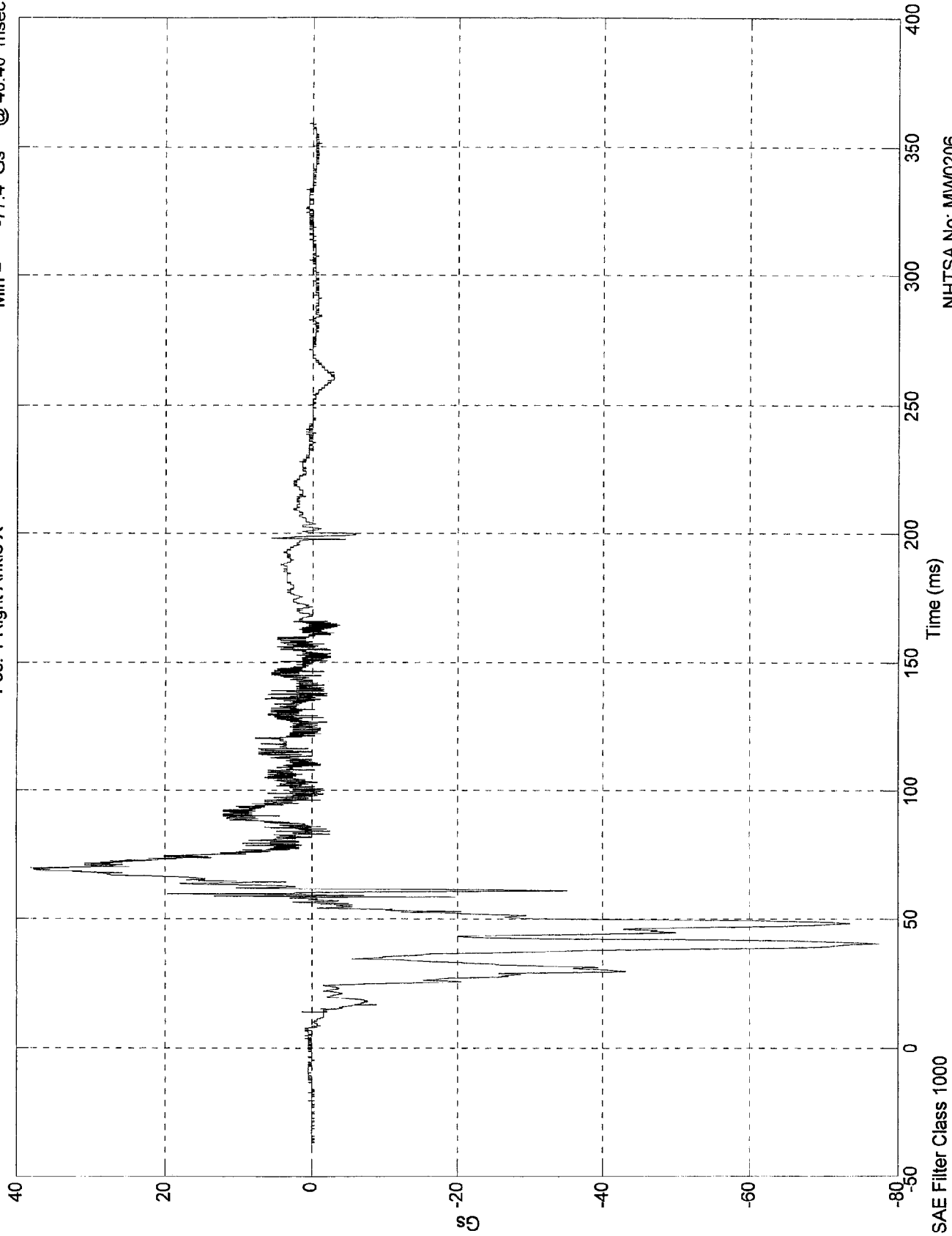
Pos. 1 Left Toe Z



NCAP TEST #11 - 1998 FORD EXPLORER

Max = 38.1 Gs @ 69.80 msec
Min = -77.4 Gs @ 40.40 msec

Pos. 1 Right Ankle X

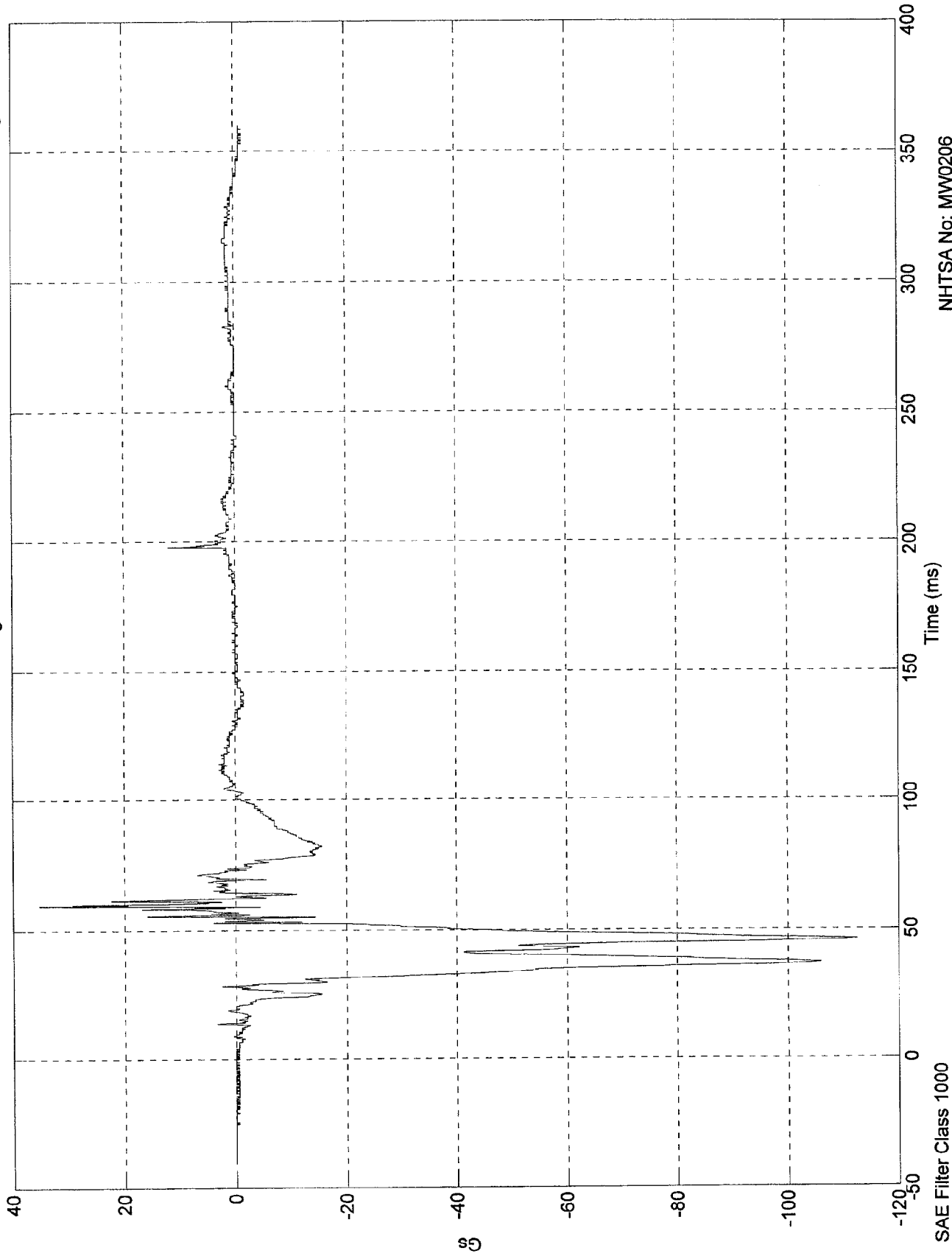


NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 35.3 Gs @ 59.50 msec
Min = -112 Gs @ 46.20 msec

Pos. 1 Right Ankle Z



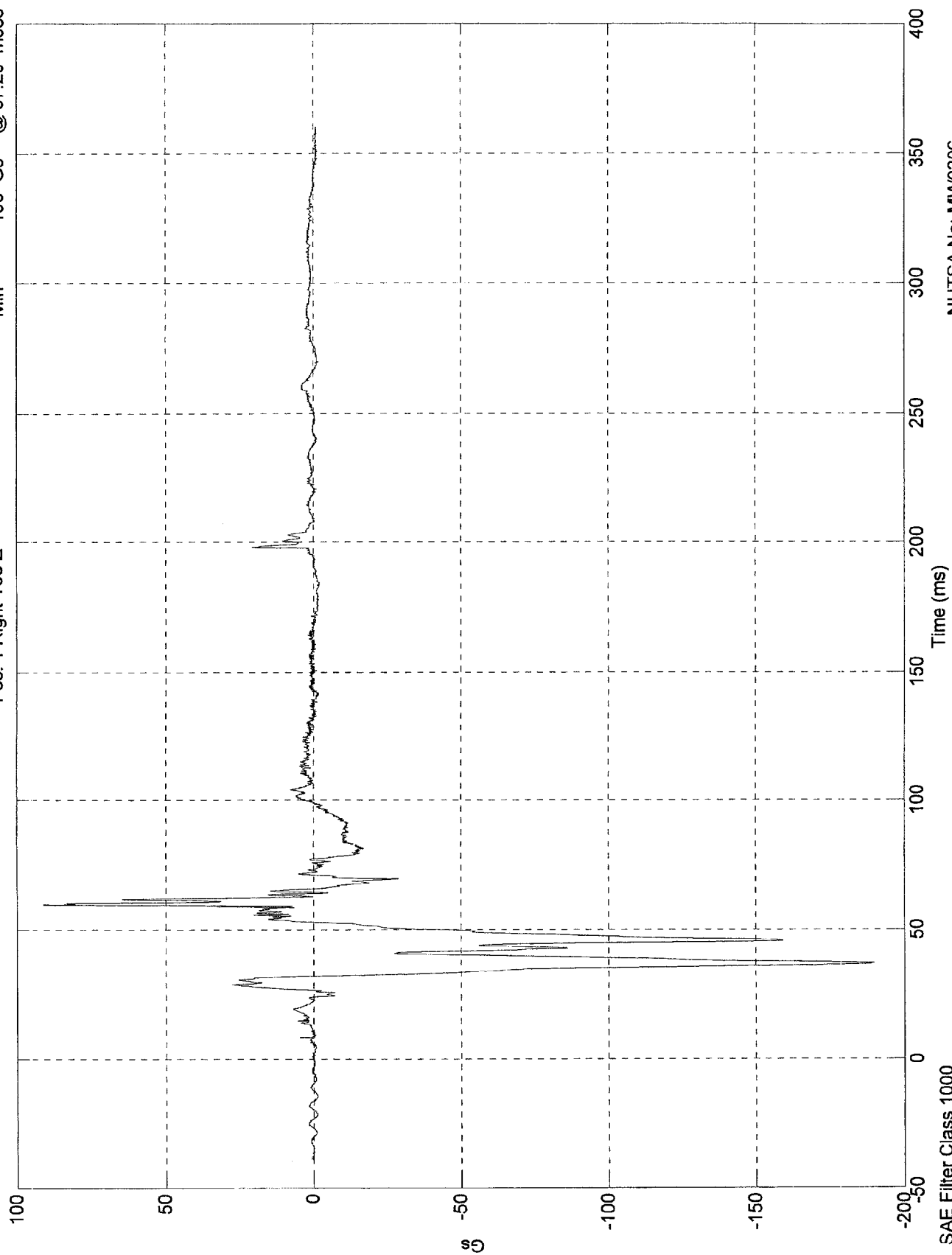
NHTSA No: MW0206
Date: 03 Dec 1997

SAE Filter Class 1000

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 91.1 Gs @ 59.60 msec
Min = -190 Gs @ 37.20 msec

Pos. 1 Right Toe Z

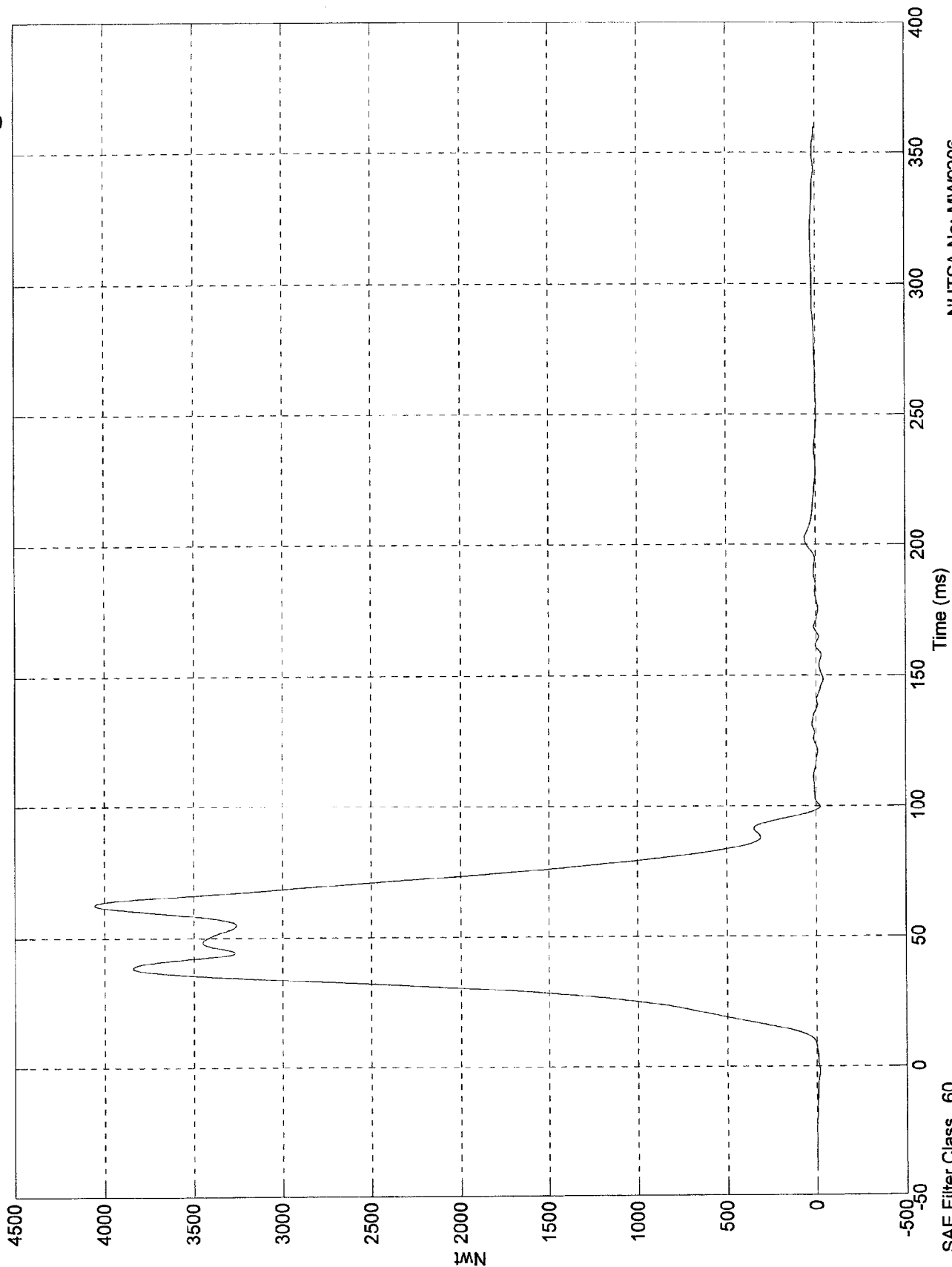


NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 4.05e+003 Nwt @ 62.40 msec
Min = -38.9 Nwt @ 148.50 msec

Pos. 1 Left Belt Load

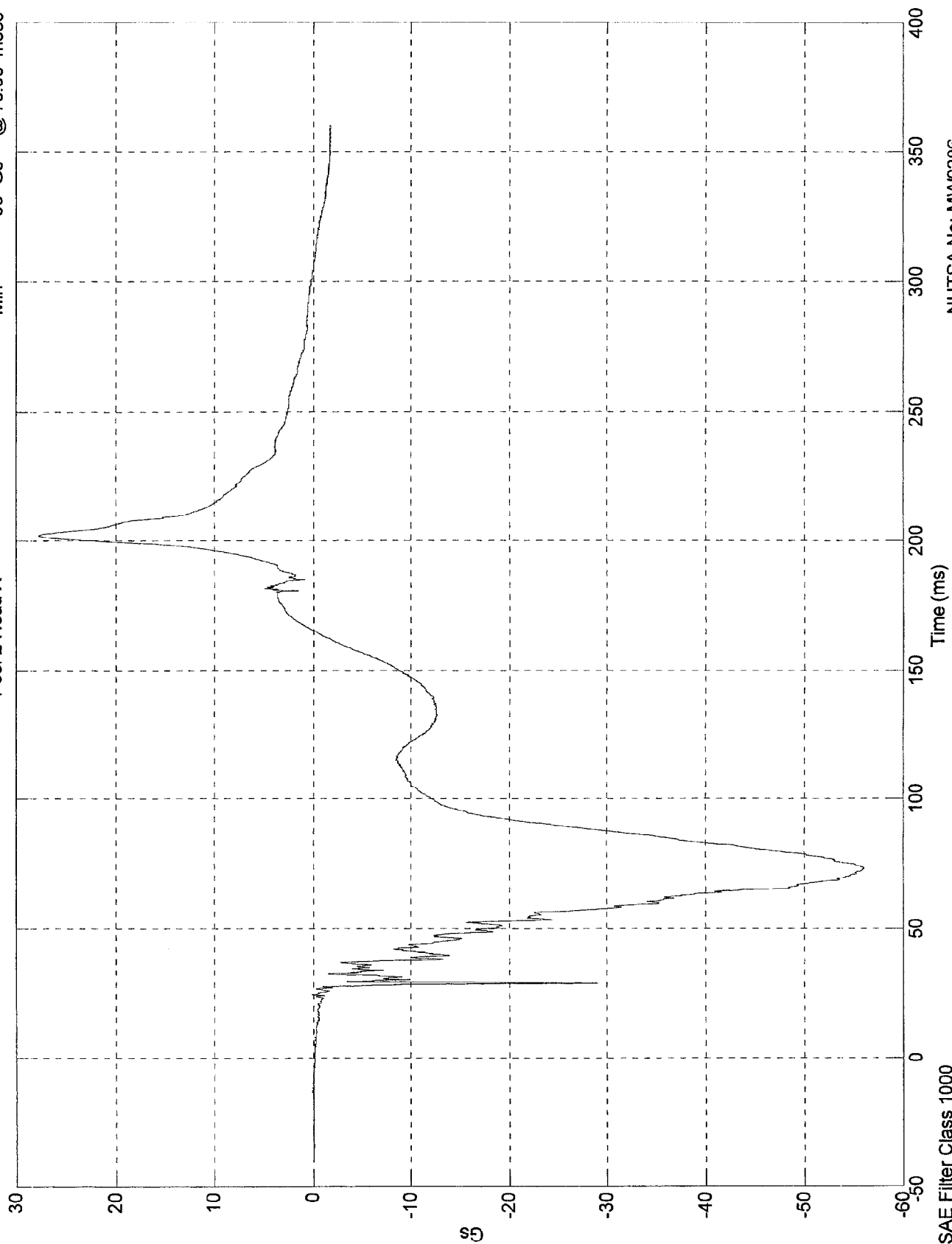


NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 27.7 Gs @ 201.70 msec
Min = -56 Gs @ 73.00 msec

Pos. 2 Head X

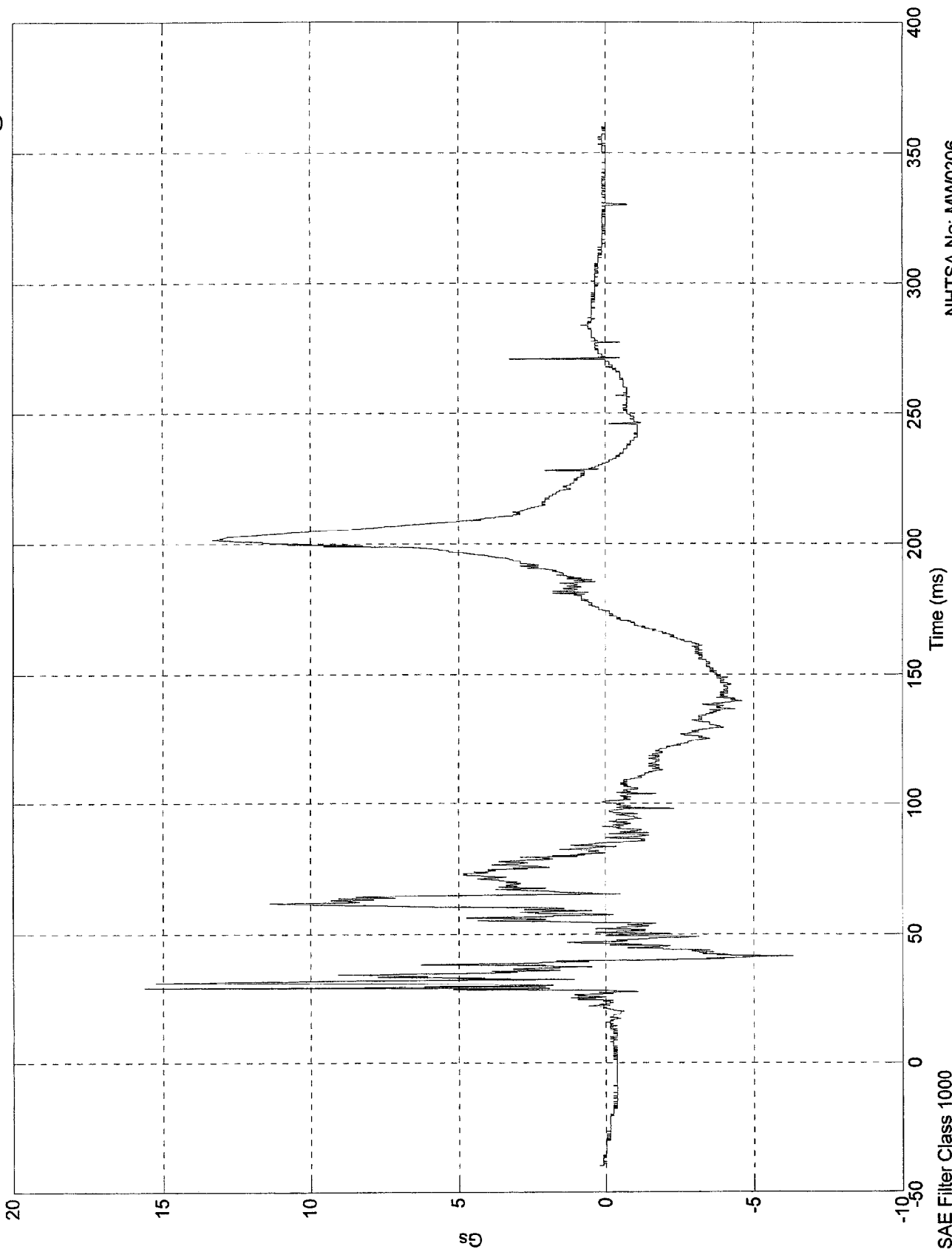


NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 15.6 Gs @ 29.10 msec
Min = -6.31 Gs @ 41.40 msec

Pos. 2 Head Y



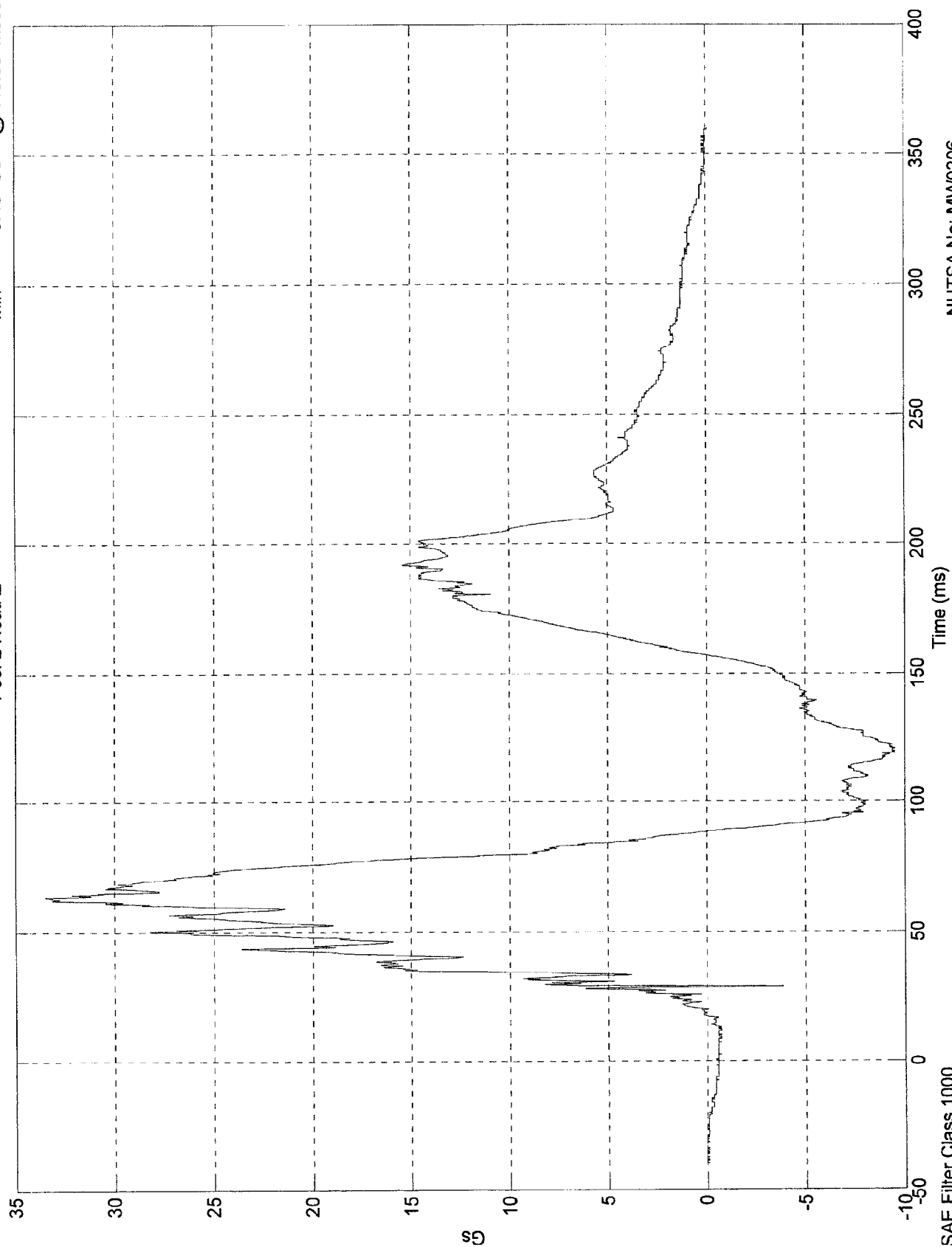
SAE Filter Class 1000

NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 33.5 Gs @ 63.40 msec
 Min = -9.48 Gs @ 118.90 msec

Pos. 2 Head Z



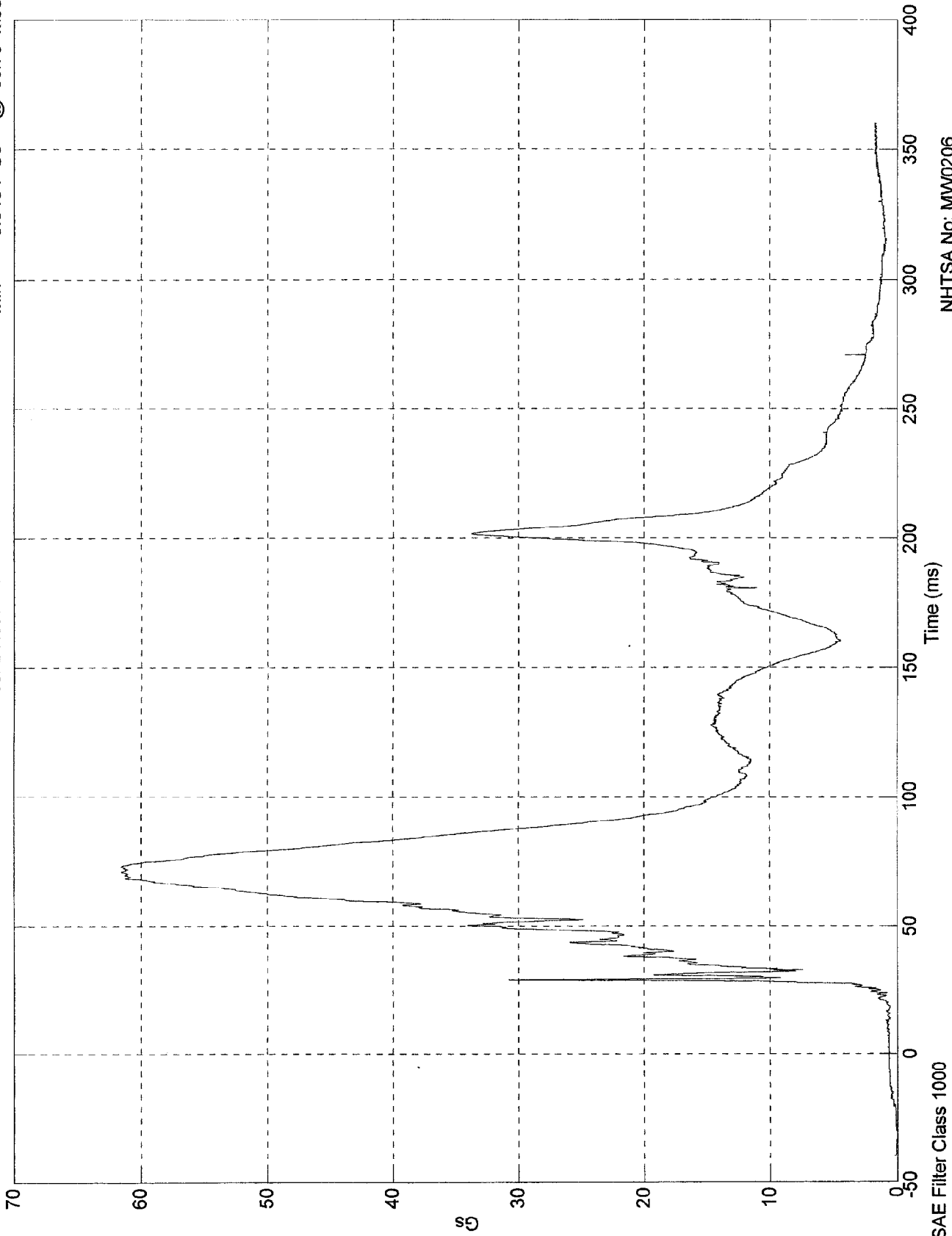
NHTSA No: MW0206
 Date: 03 Dec 1997

SAE Filter Class 1000

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 61.6 Gs @ 73.00 msec
Min = 0.0464 Gs @ -38.70 msec

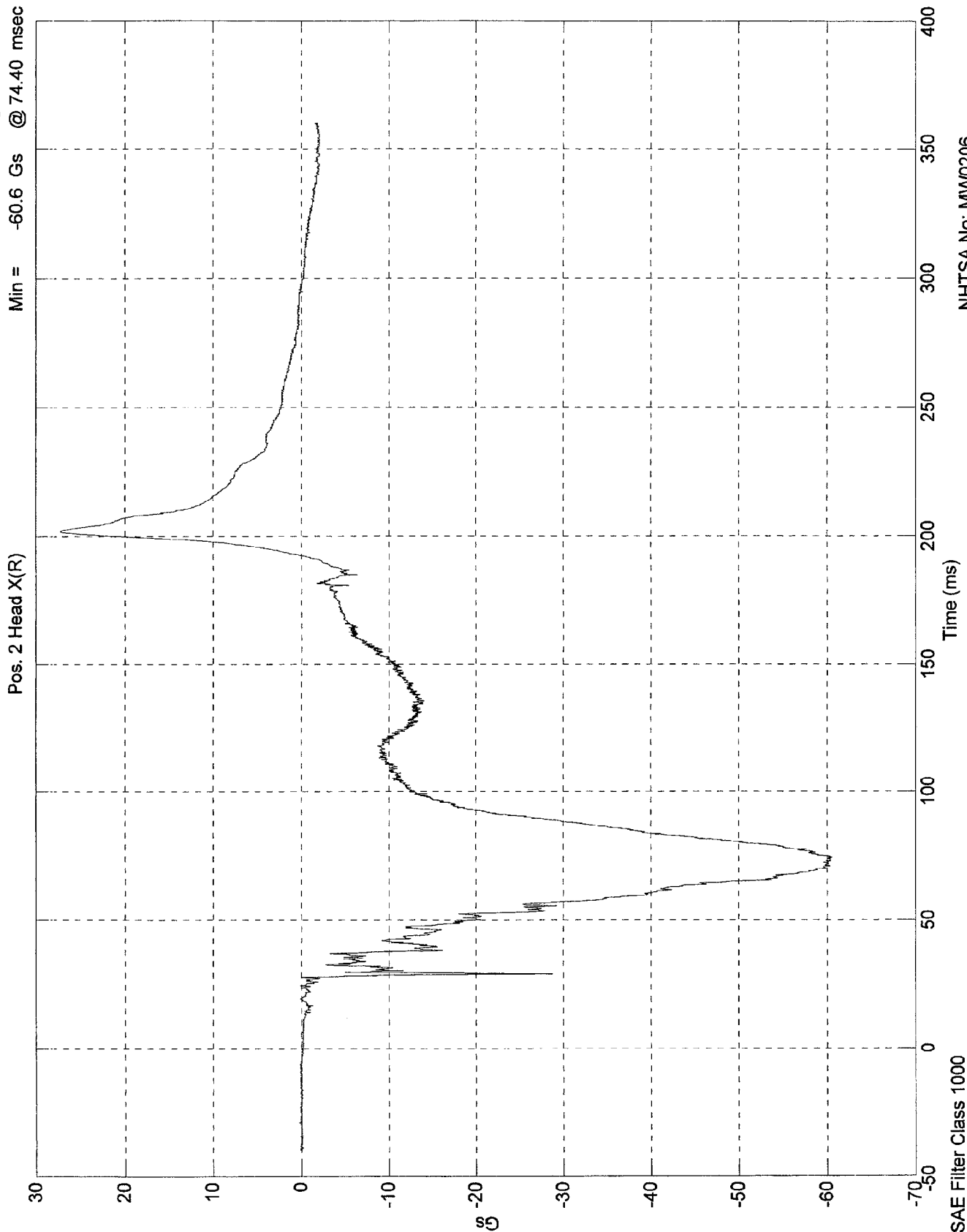
Pos. 2 Head Resultant



NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 27.2 Gs @ 201.70 msec
Min = -60.6 Gs @ 74.40 msec

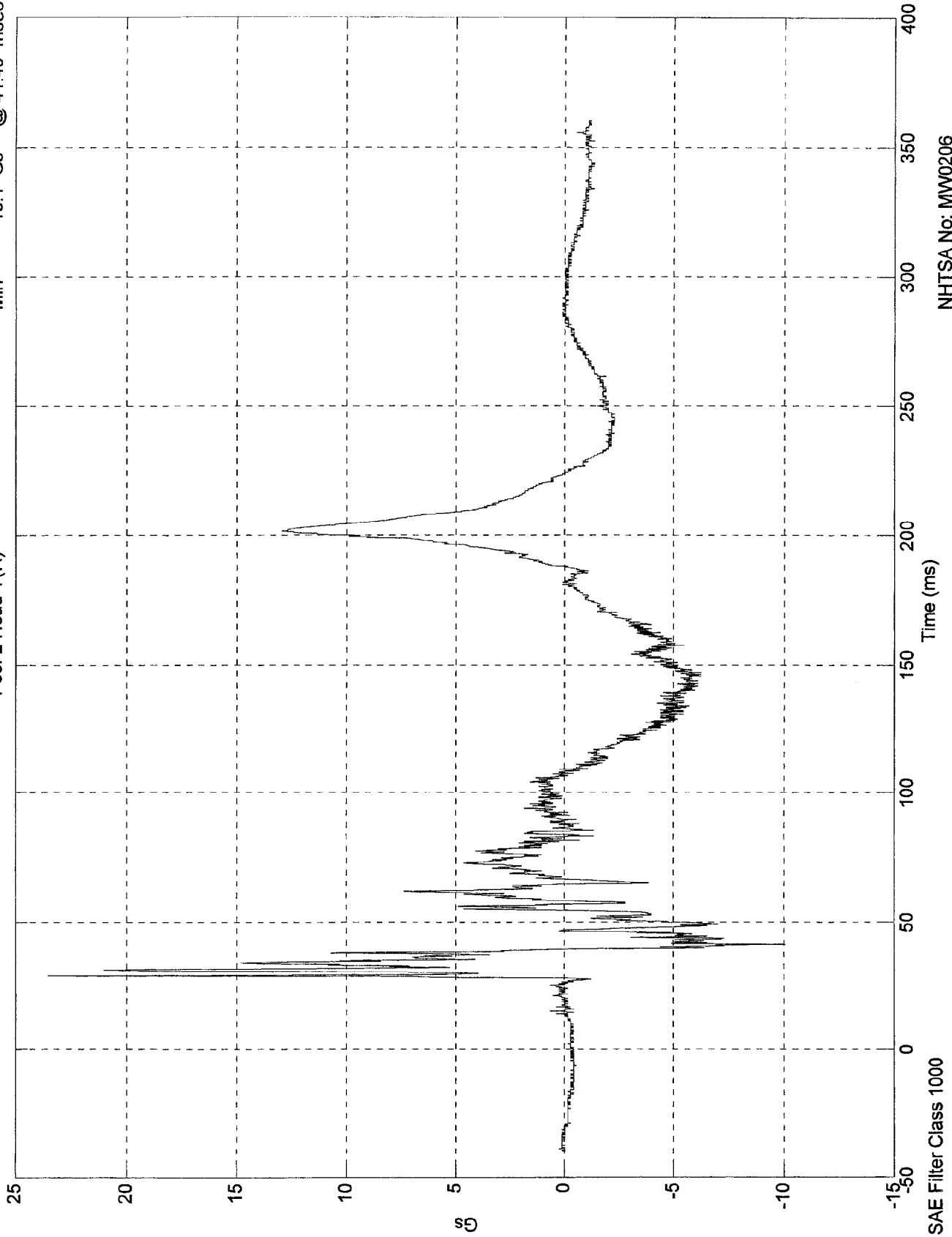


NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 23.5 Gs @ 29.10 msec
Min = -10.1 Gs @ 41.40 msec

Pos. 2 Head Y(R)



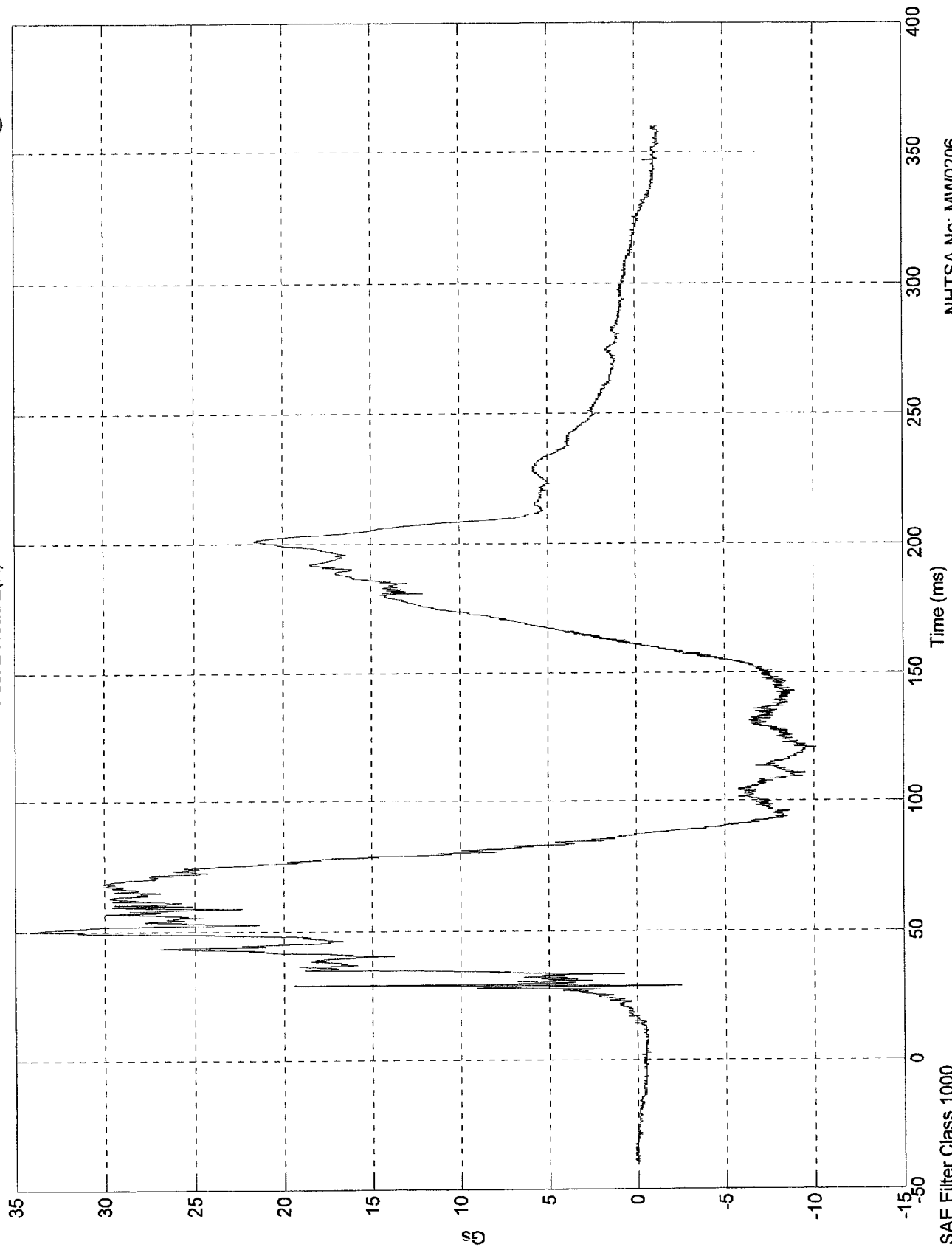
NHTSA No: MW0206
Date: 03 Dec 1997

SAE Filter Class 1000

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 34 Gs @ 50.00 msec
Min = -10.1 Gs @ 120.50 msec

Pos. 2 Head Z(R)

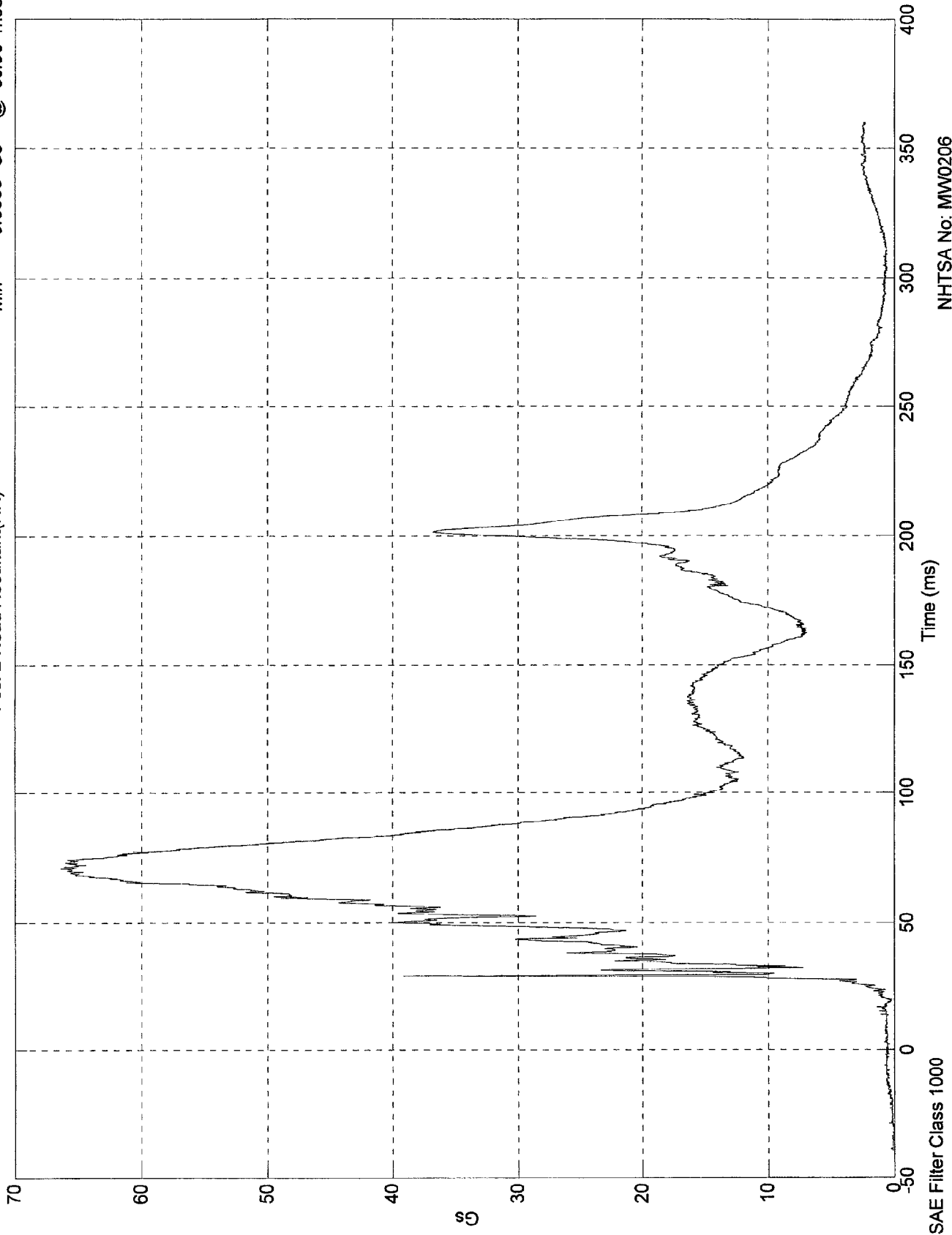


NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 66.4 Gs @ 71.10 msec
Min = 0.0335 Gs @ -35.90 msec

Pos. 2 Head Resultant(RR)

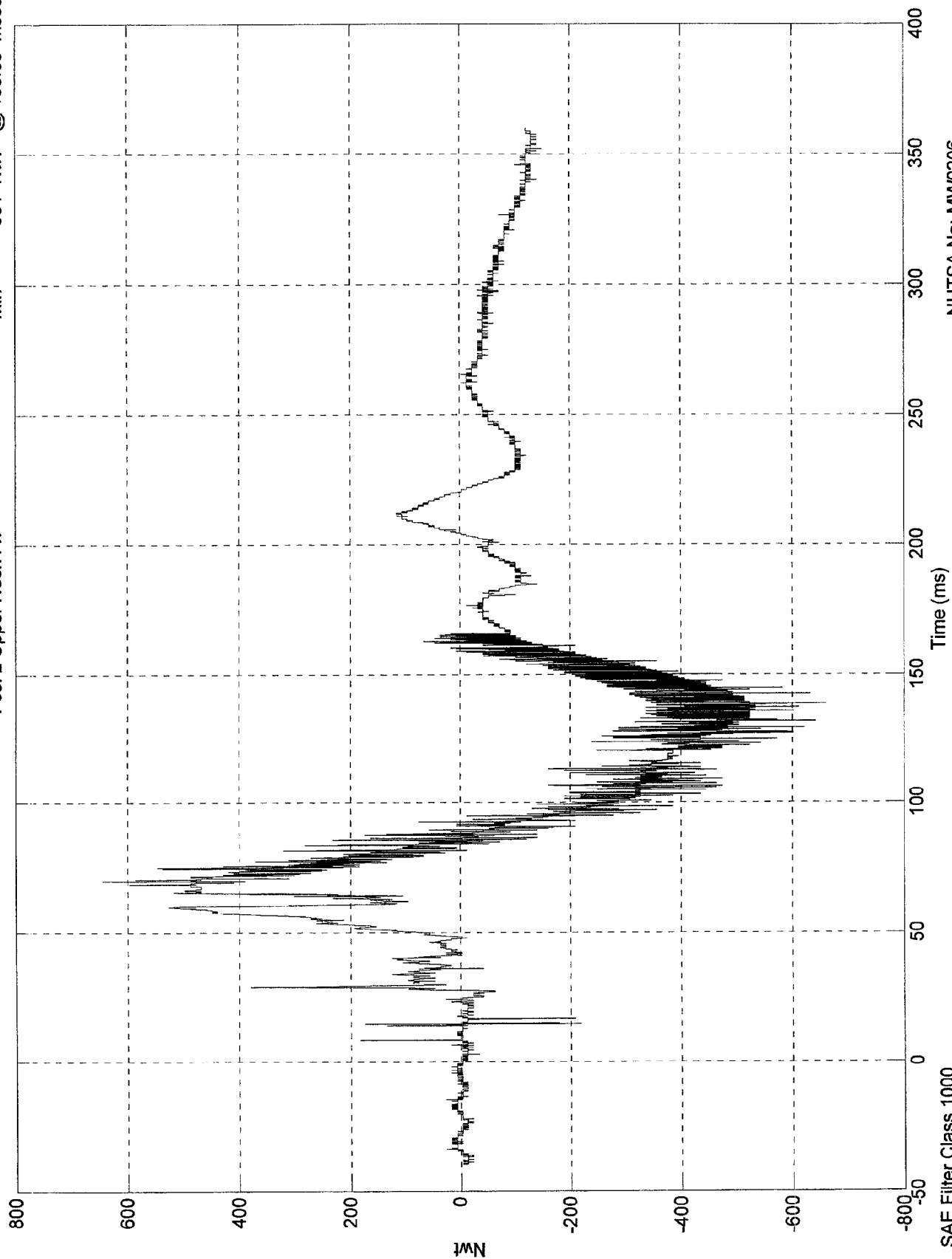


NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 645 Nwt @ 69.70 msec
Min = -661 Nwt @ 138.50 msec

Pos. 2 Upper Neck Fx

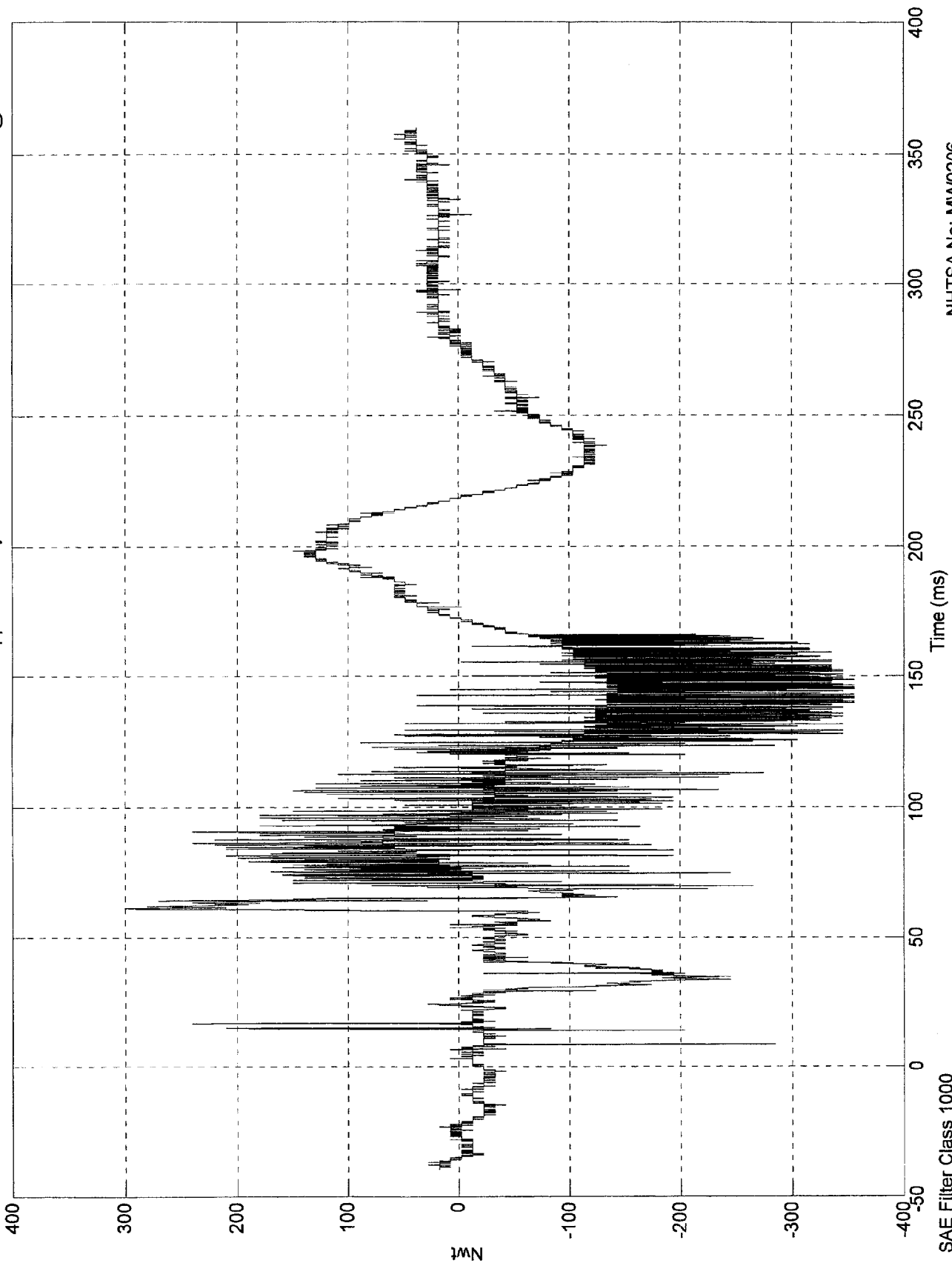


NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 301 Nwt @ 61.20 msec
Min = -356 Nwt @ 139.50 msec

Pos. 2 Upper Neck Fy

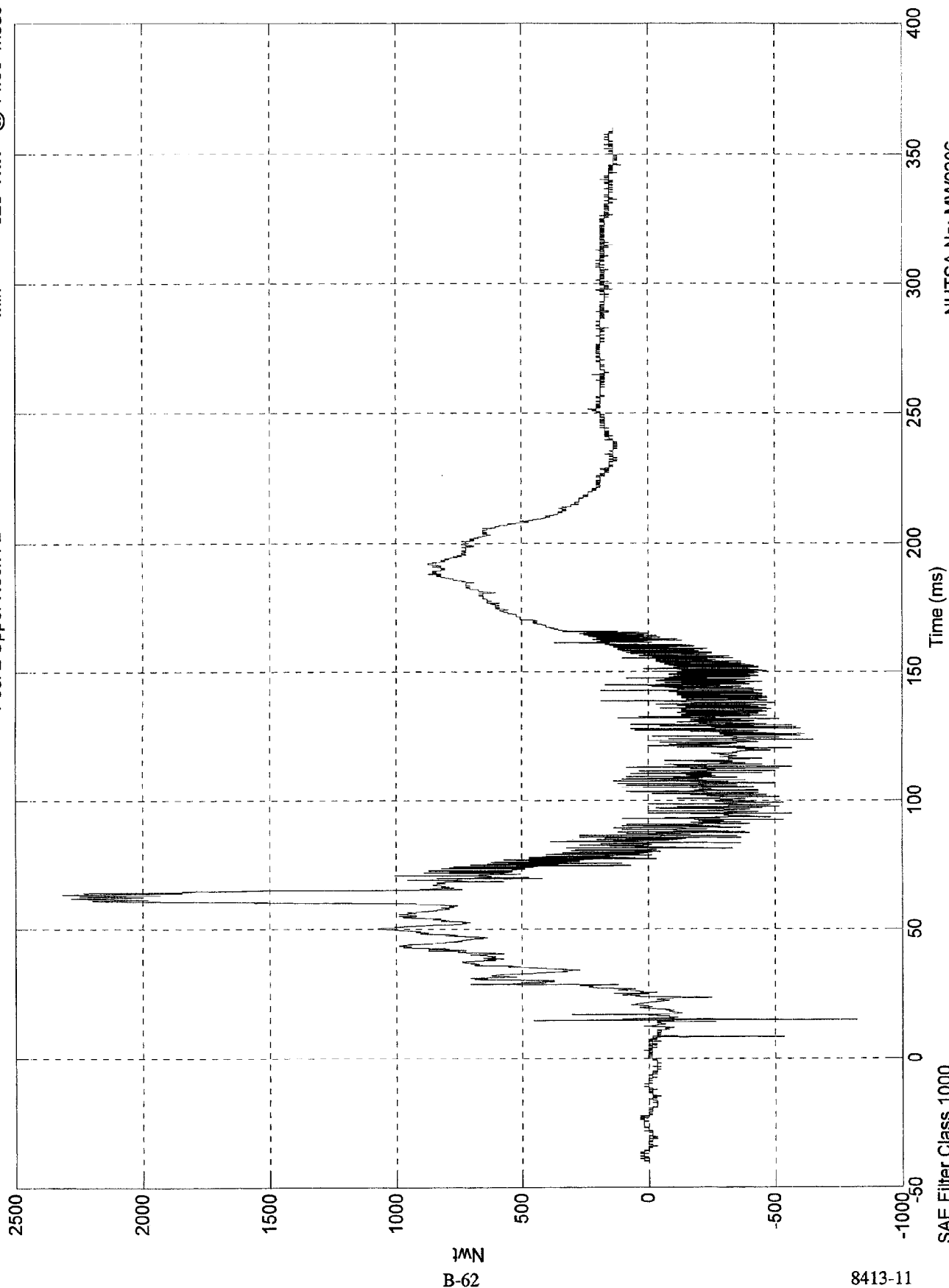


NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 2.31e+003 Nwt @ 63.50 msec
Min = -820 Nwt @ 14.90 msec

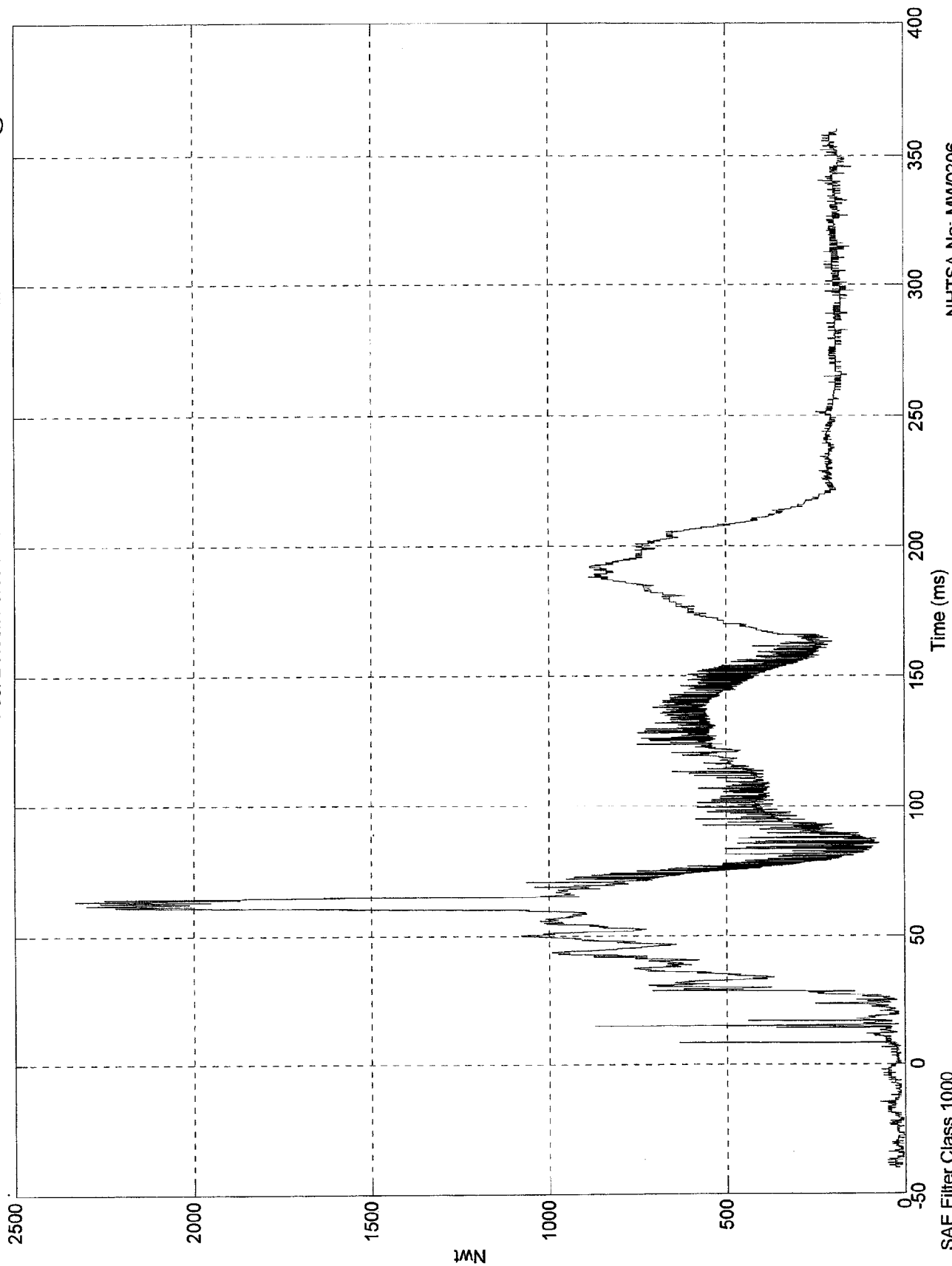
Pos. 2 Upper Neck Fz



NCAP TEST #11 - 1998 FORD EXPLORER

Max = 2.33e+003 Nwt @ 63.50 msec
Min = 4.09 Nwt @ -35.90 msec

Pos. 2 Neck Force Res.



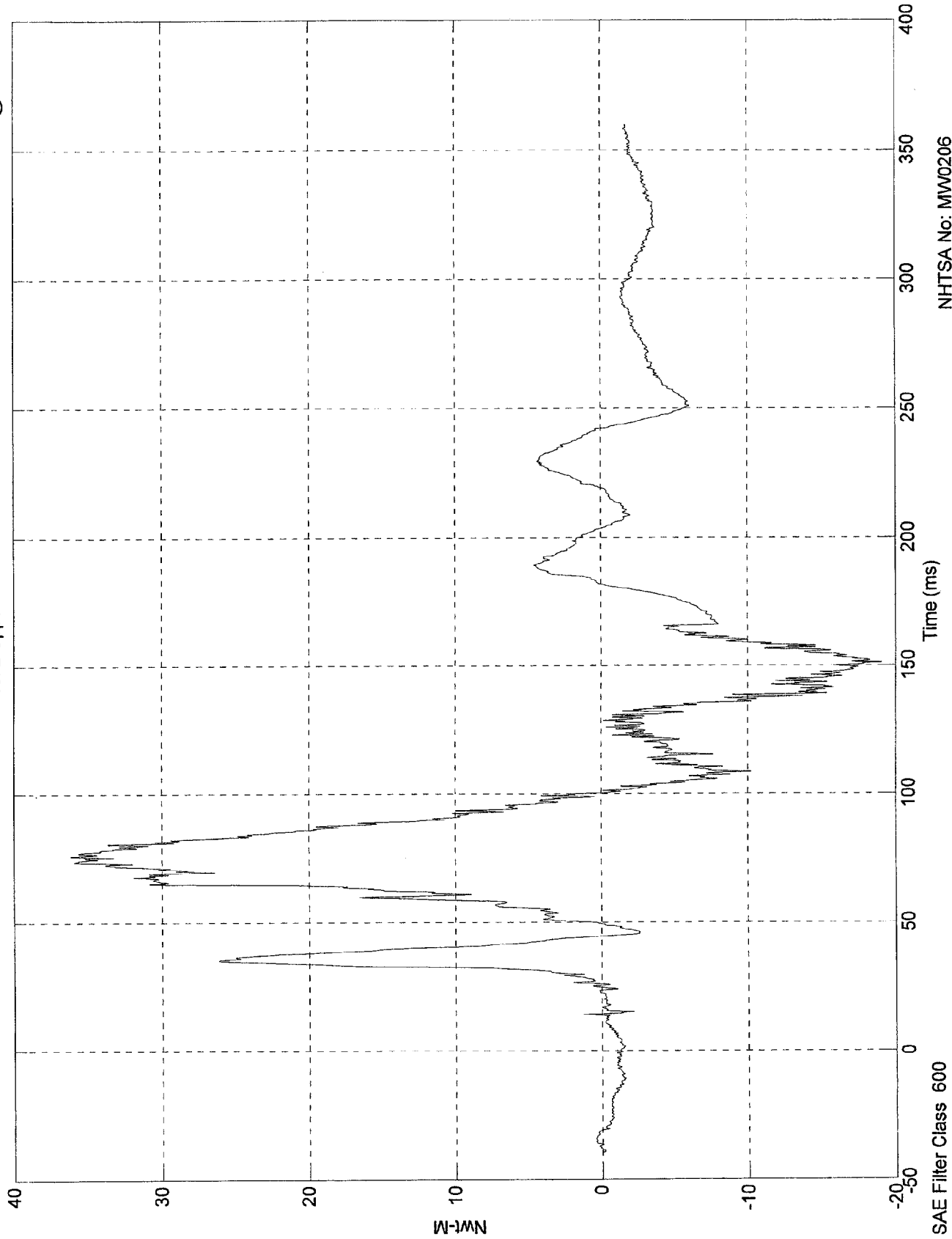
NHTSA No: MW0206
Date: 03 Dec 1997

SAE Filter Class 1000

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 36.1 Nwt-M @ 76.30 msec
Min = -19.1 Nwt-M @ 151.10 msec

Pos. 2 Upper Neck Mx

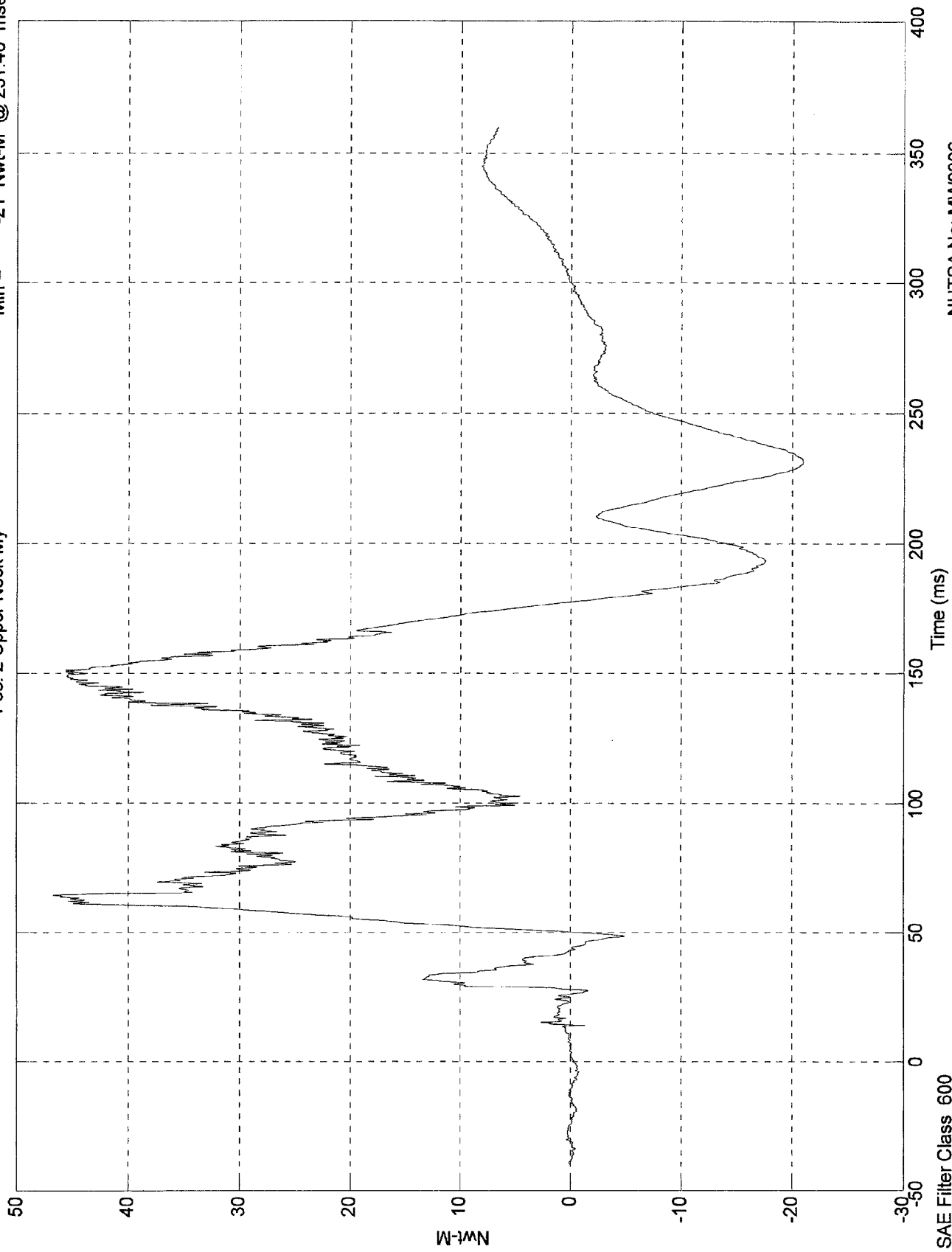


NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 46.7 Nwt-M @ 64.10 msec
Min = -21 Nwt-M @ 231.40 msec

Pos. 2 Upper Neck My



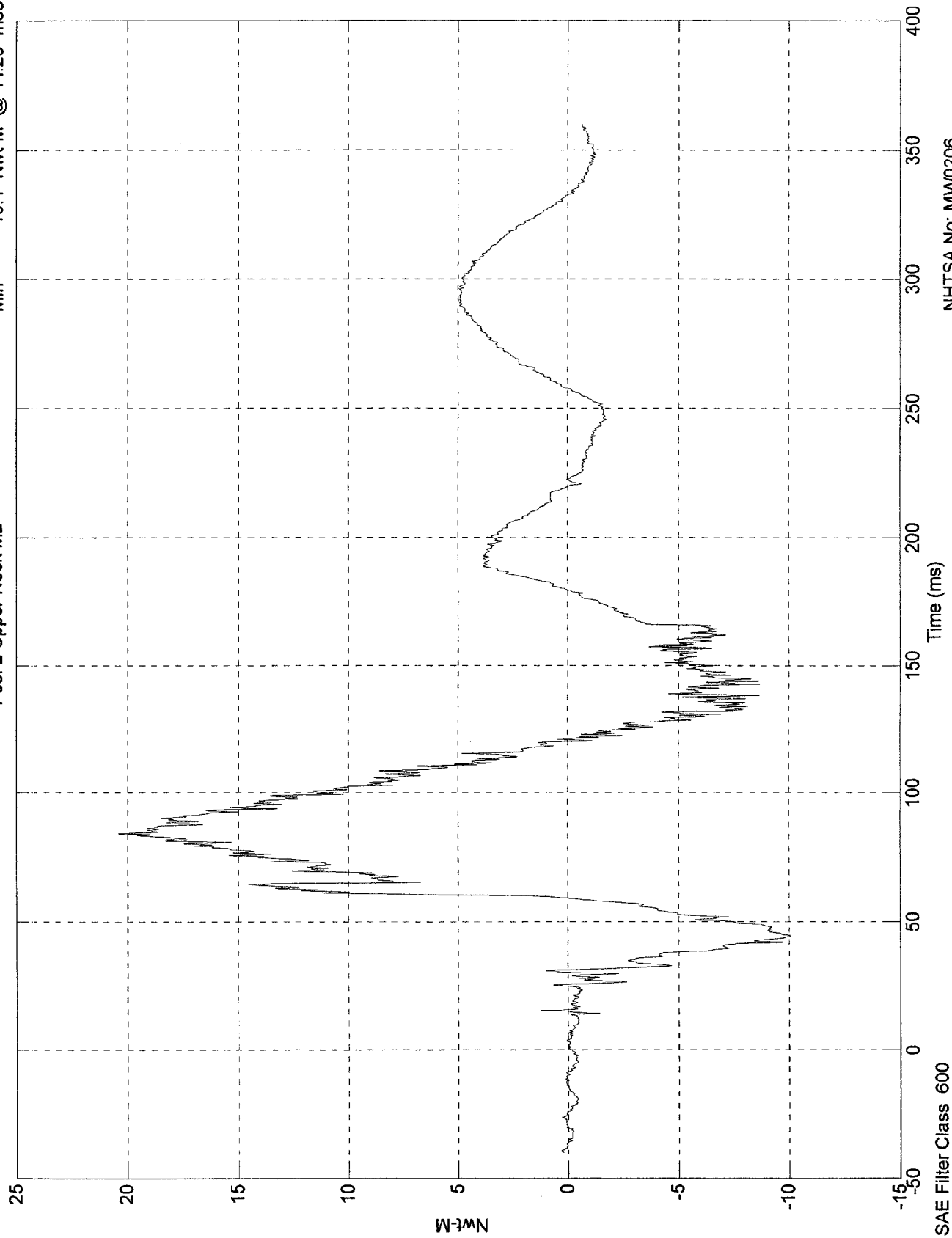
SAE Filter Class 600

NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 20.4 Nwt-M @ 84.20 msec
Min = -10.1 Nwt-M @ 44.20 msec

Pos. 2 Upper Neck Mz

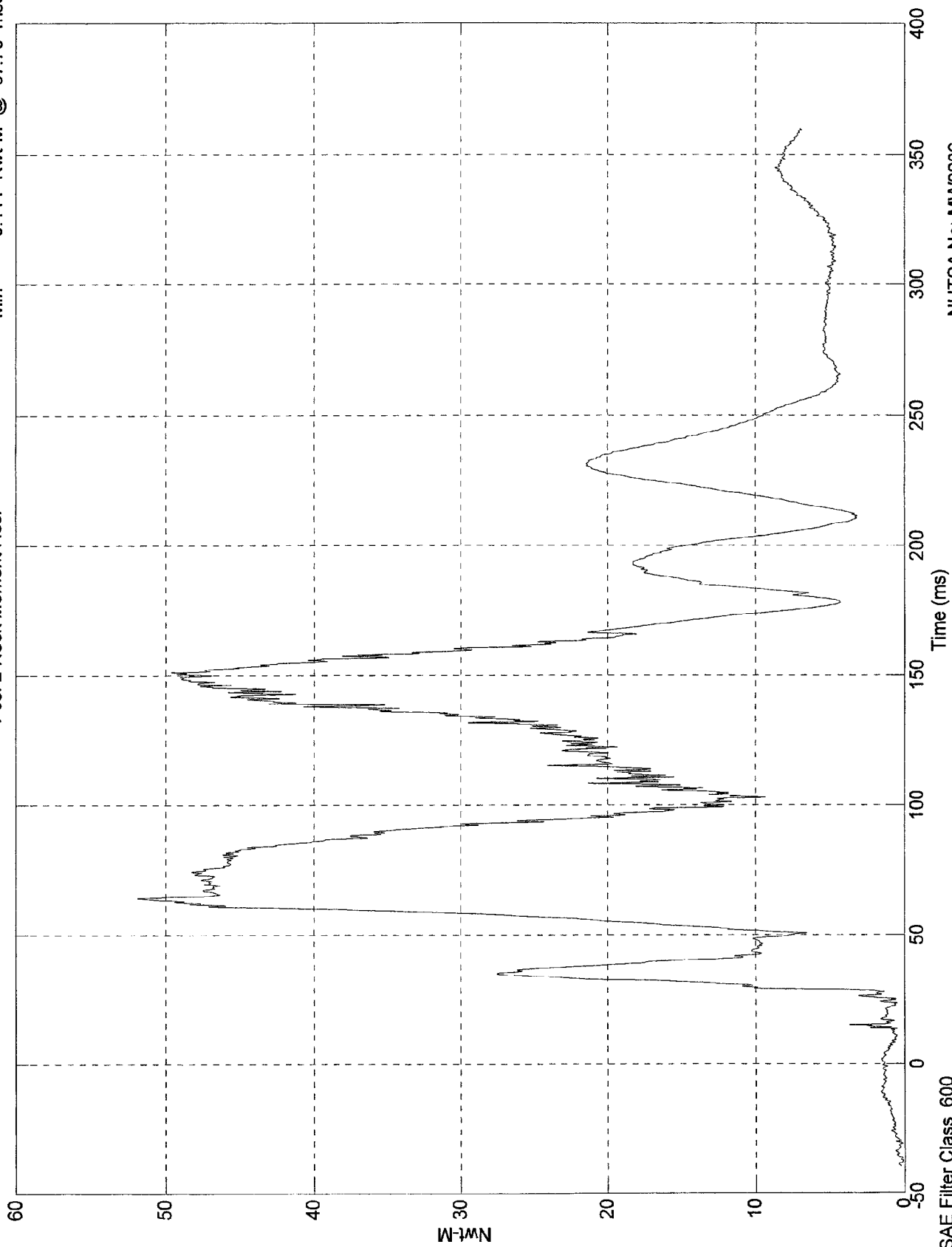


NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 51.9 Nwt-M @ 64.20 msec
 Min = 0.111 Nwt-M @ -37.70 msec

Pos. 2 Neck Moment Res.

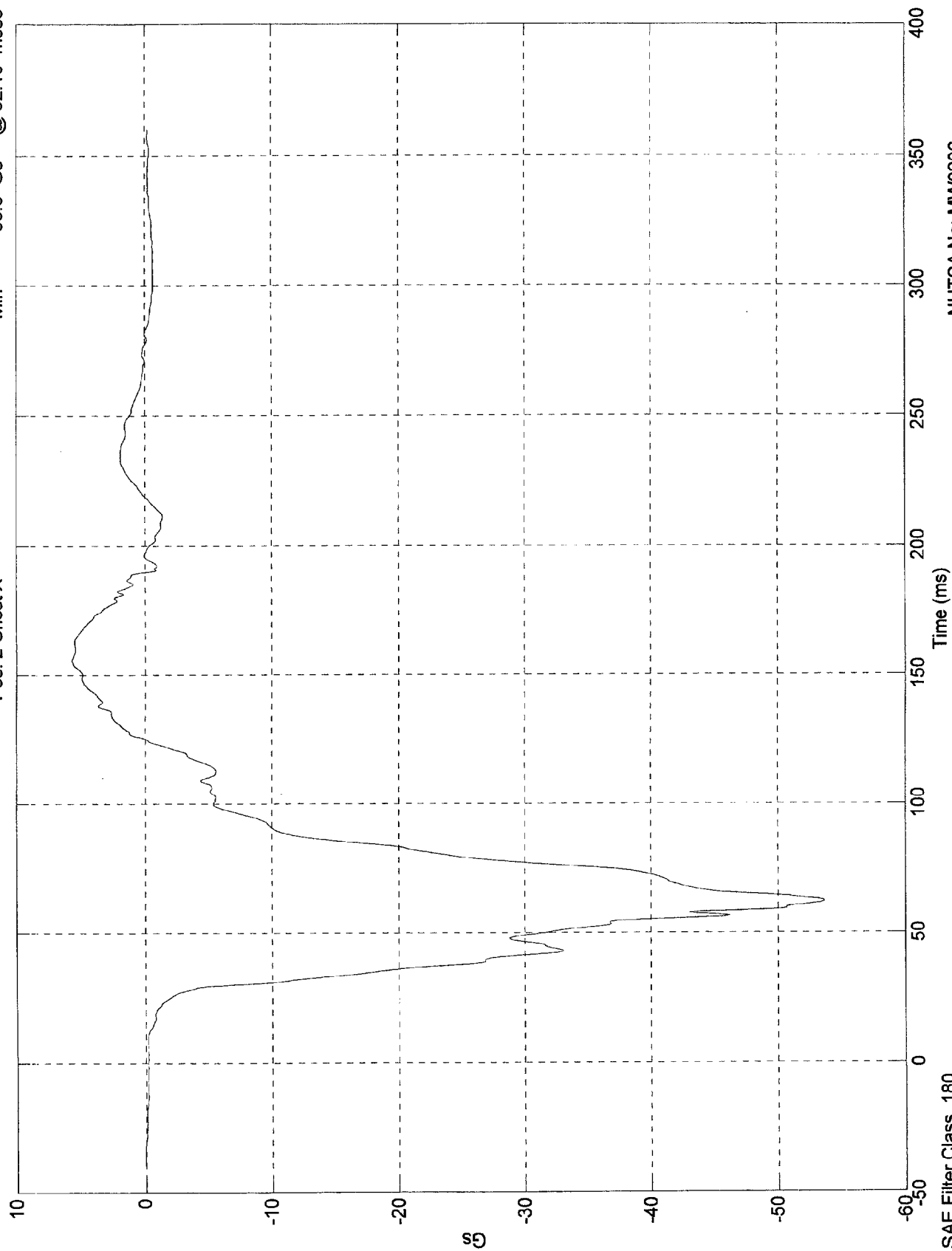


SAE Filter Class 600
 NHTSA No: MW0206
 Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 5.66 Gs @ 155.40 msec
Min = -53.6 Gs @ 62.10 msec

Pos. 2 Chest X

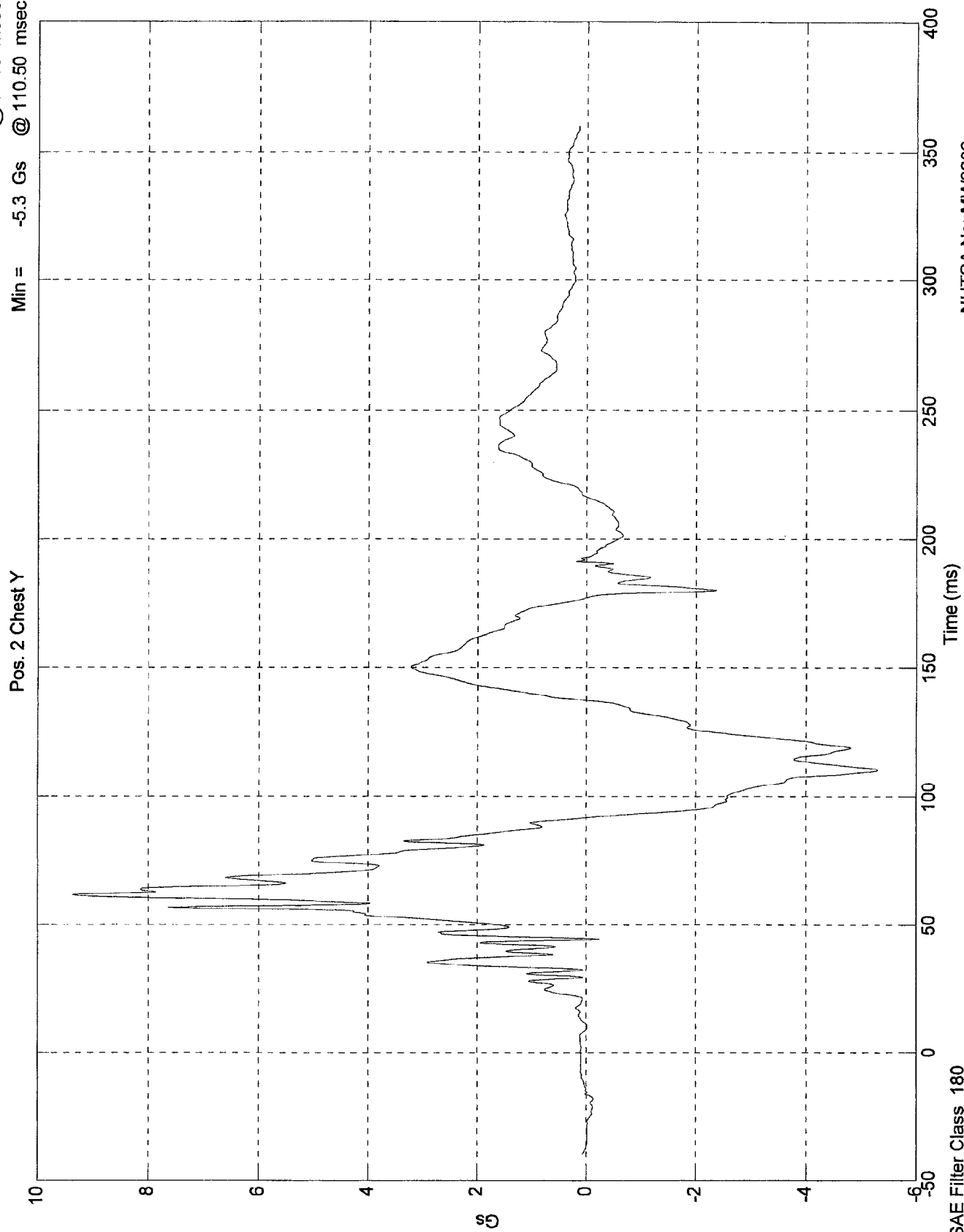


SAE Filter Class 180

NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 9.35 Gs @ 61.60 msec
Min = -5.3 Gs @ 110.50 msec

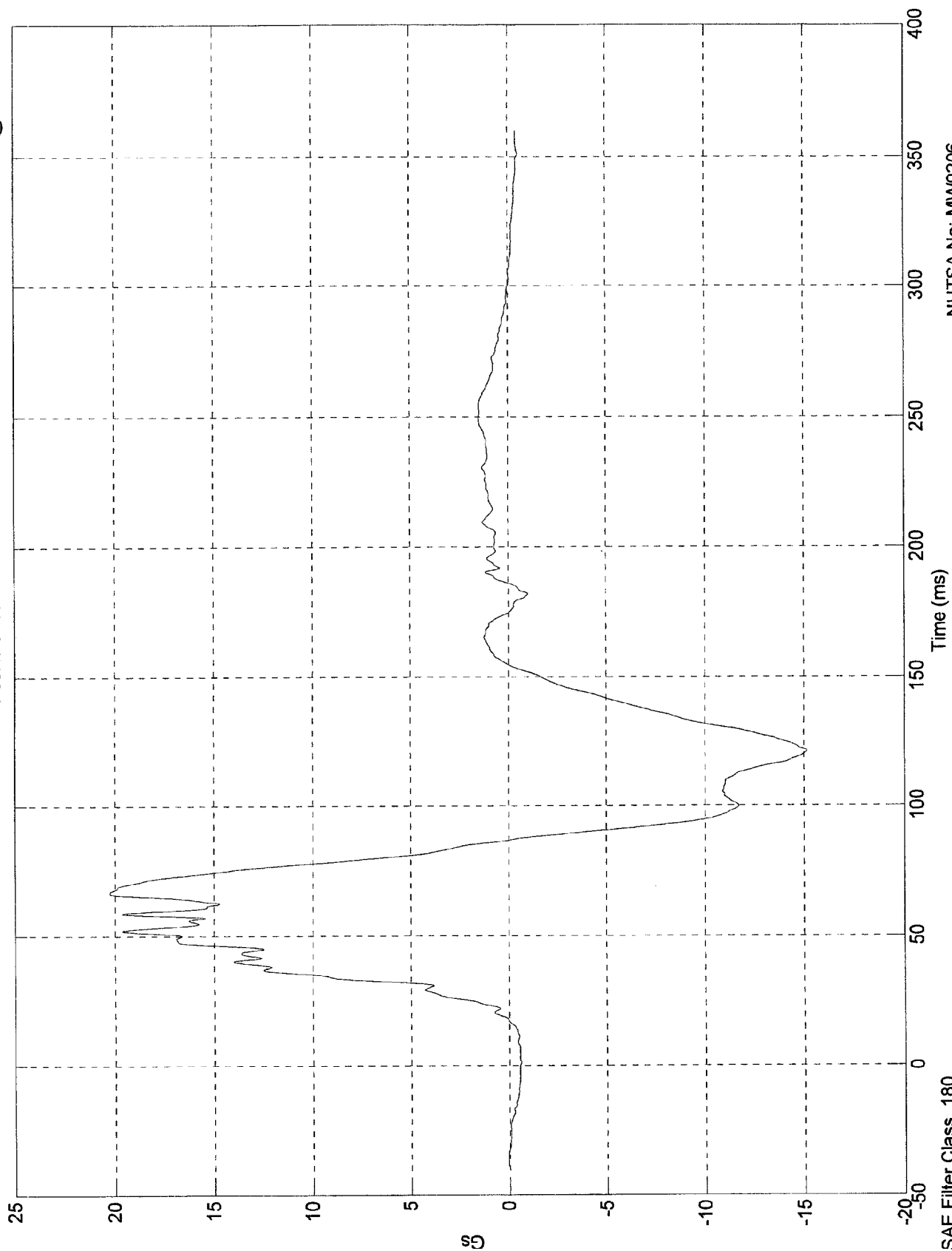


NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 20.3 Gs @ 66.50 msec
Min = -15.2 Gs @ 120.90 msec

Pos. 2 Chest Z



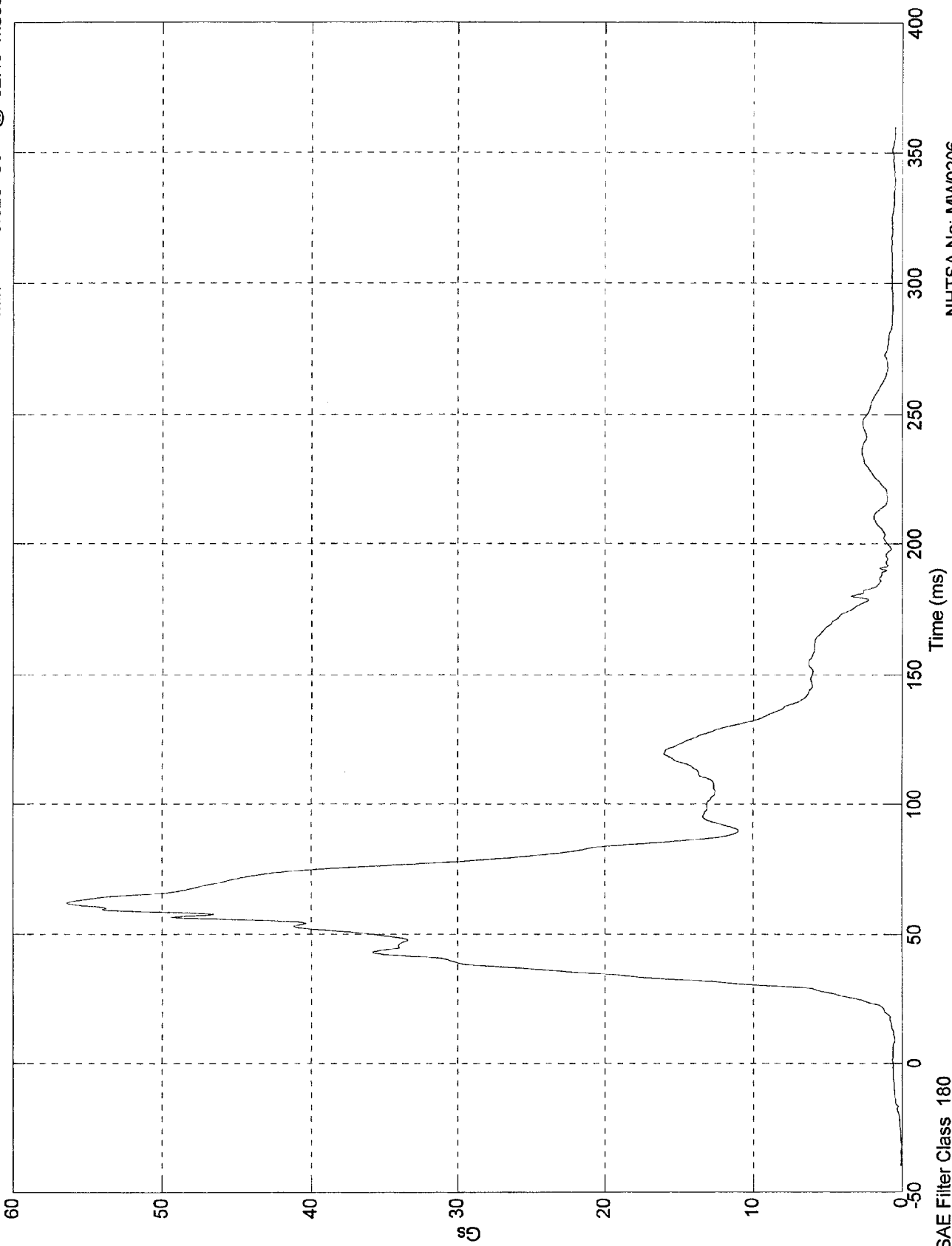
NHTSA No: MW0206
Date: 03 Dec 1997

SAE Filter Class 180

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 56.4 Gs @ 61.80 msec
Min = 0.028 Gs @ -32.10 msec

Pos. 2 Chest Resultant

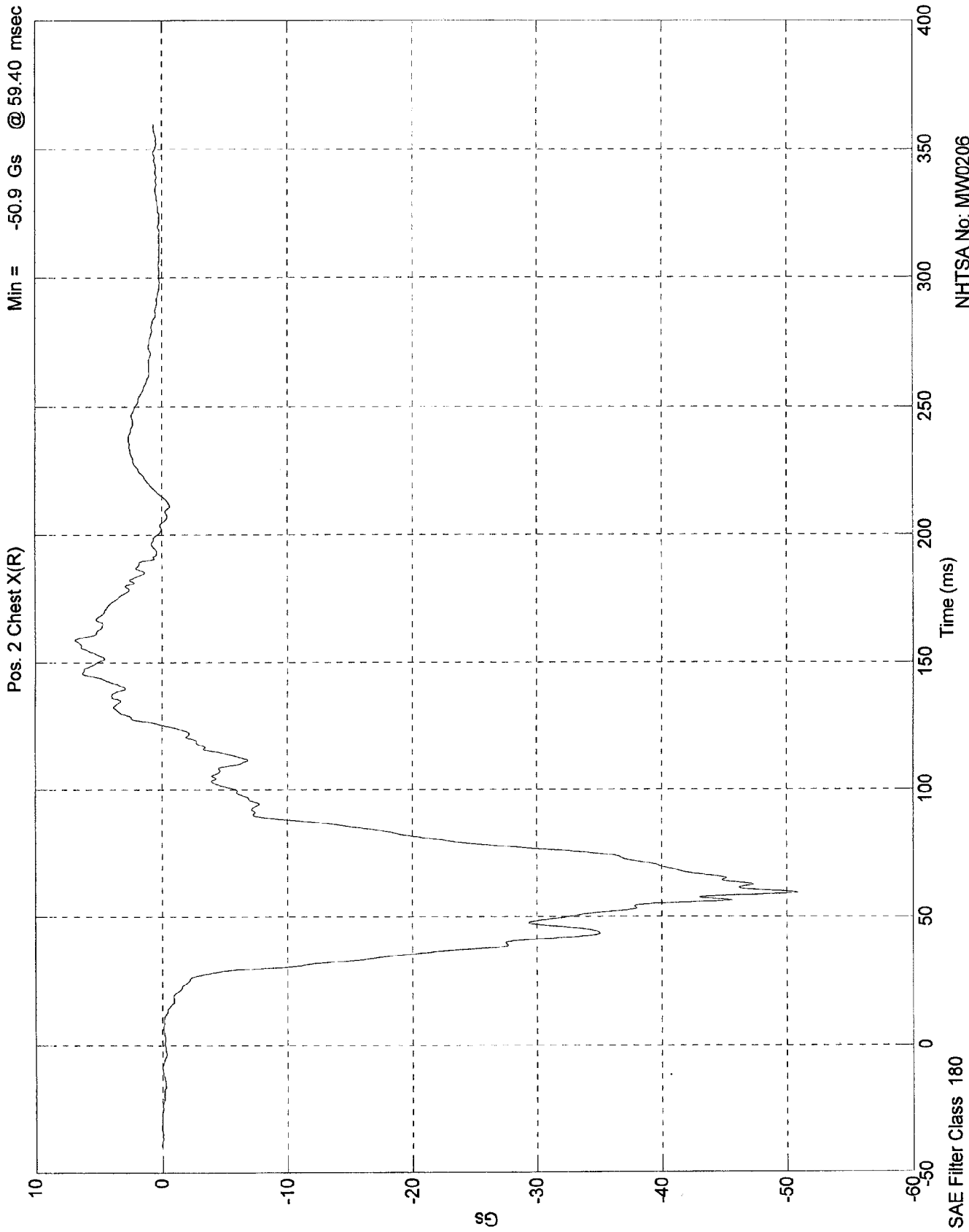


SAE Filter Class 180

NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 6.86 Gs @ 158.60 msec
Min = -50.9 Gs @ 59.40 msec

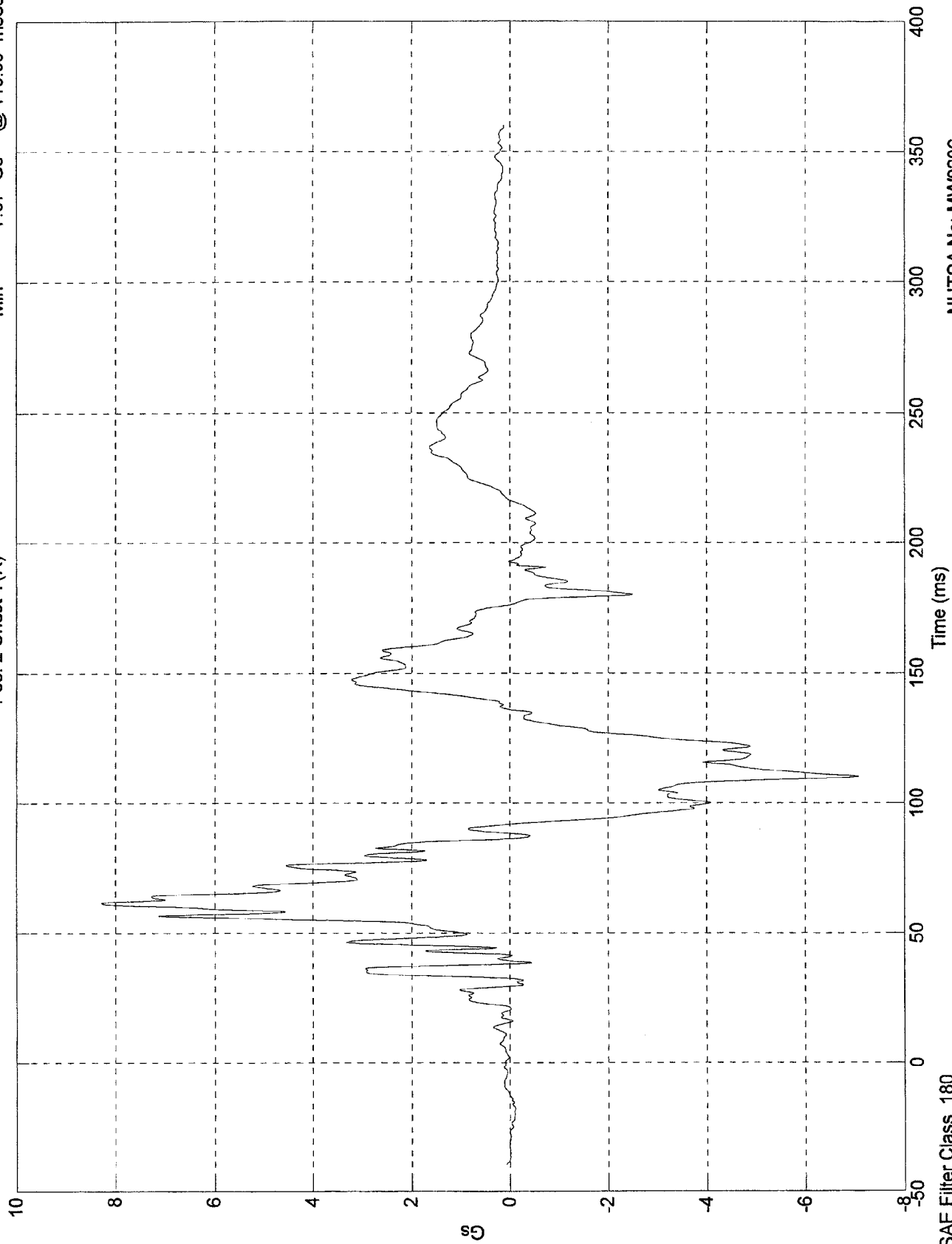


NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 8.28 Gs @ 61.20 msec
Min = -7.07 Gs @ 110.30 msec

Pos. 2 Chest Y(R)



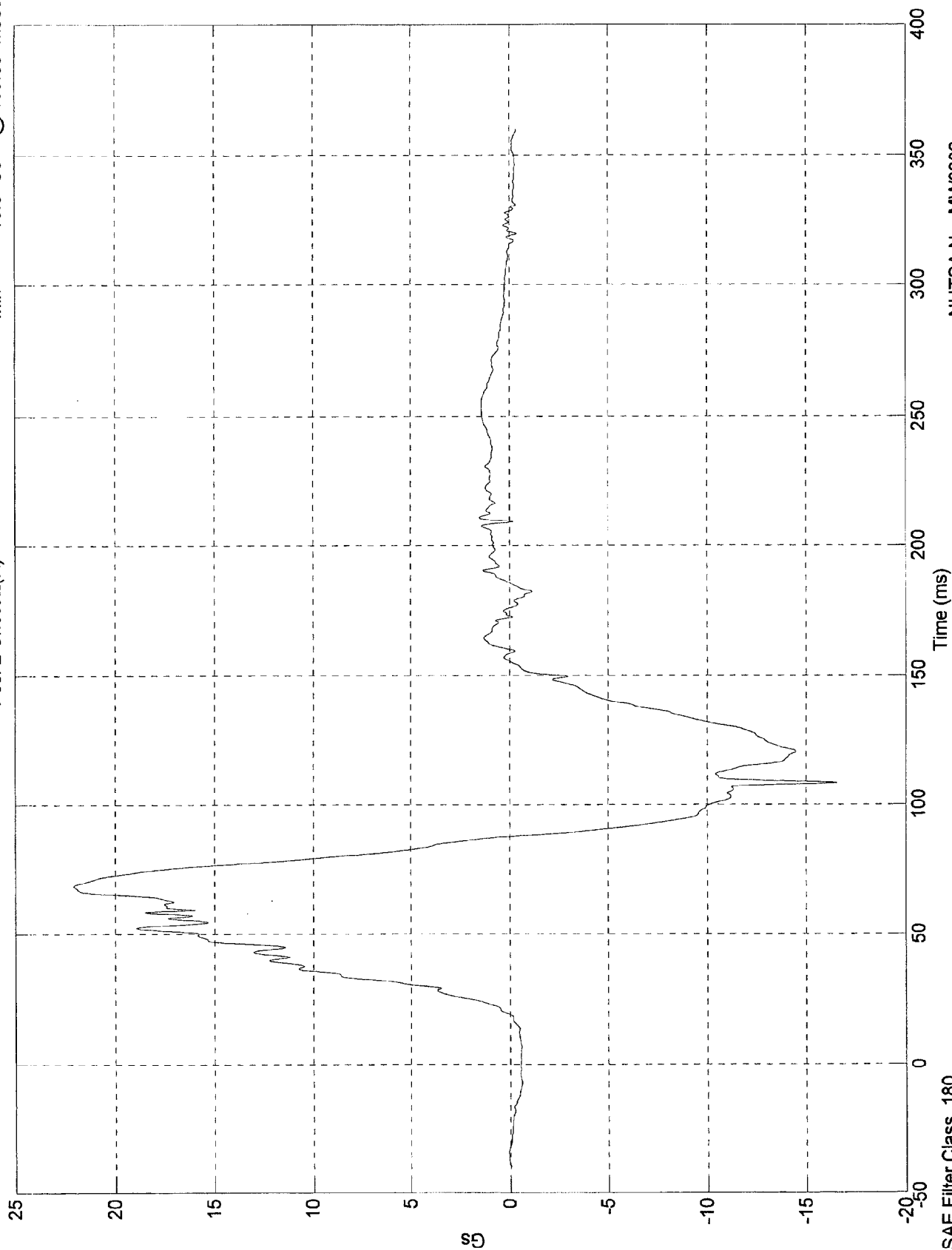
SAE Filter Class 180

NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 22.1 Gs @ 68.30 msec
Min = -16.6 Gs @ 108.60 msec

Pos. 2 Chest Z(R)



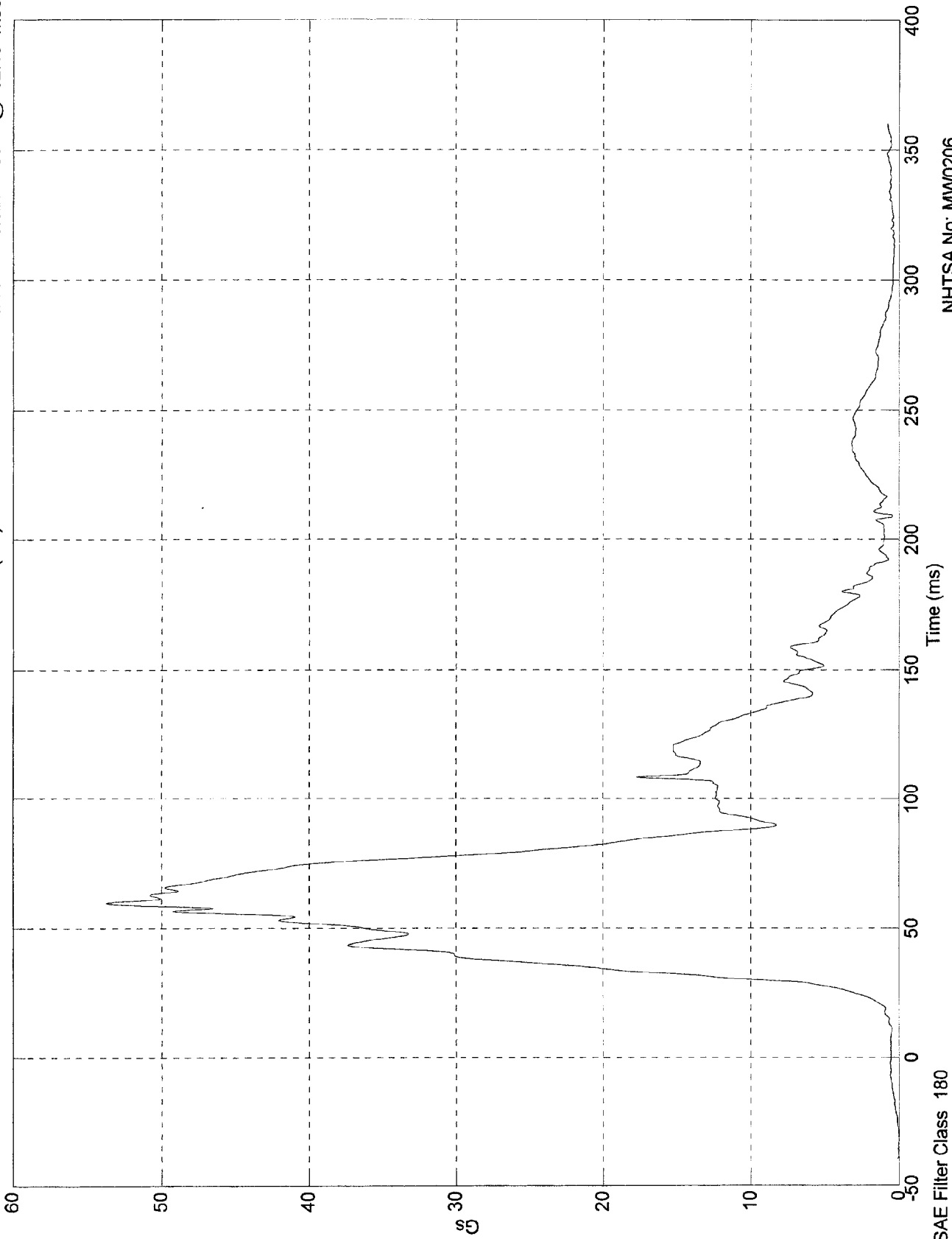
NHTSA No: MW0206
Date: 03 Dec 1997

SAE Filter Class 180

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 53.7 Gs @ 59.50 msec
Min = 0.0274 Gs @ -32.10 msec

Pos. 2 Chest Res(RR)

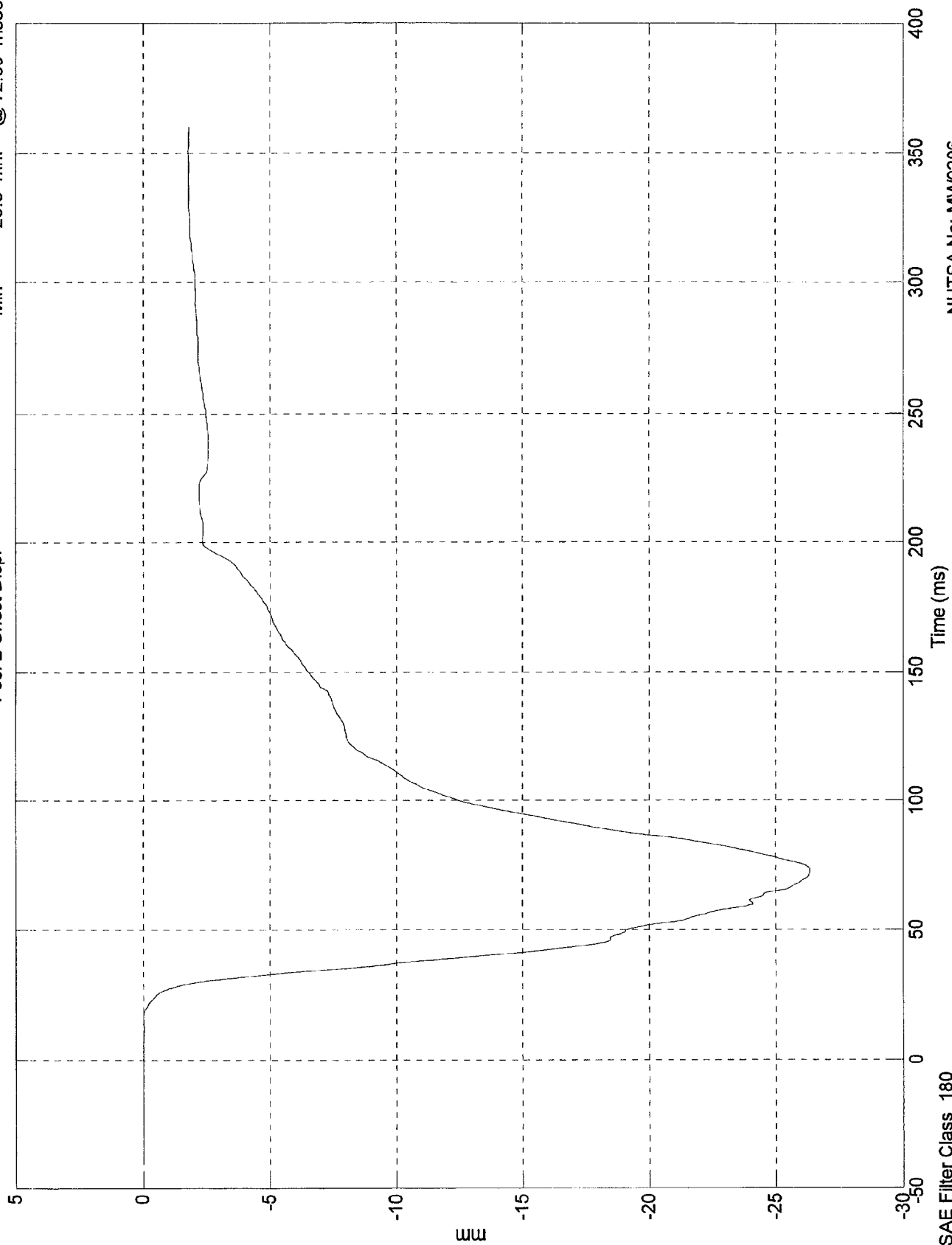


NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 0.000757 mm @ -5.30 msec
Min = -26.3 mm @ 72.80 msec

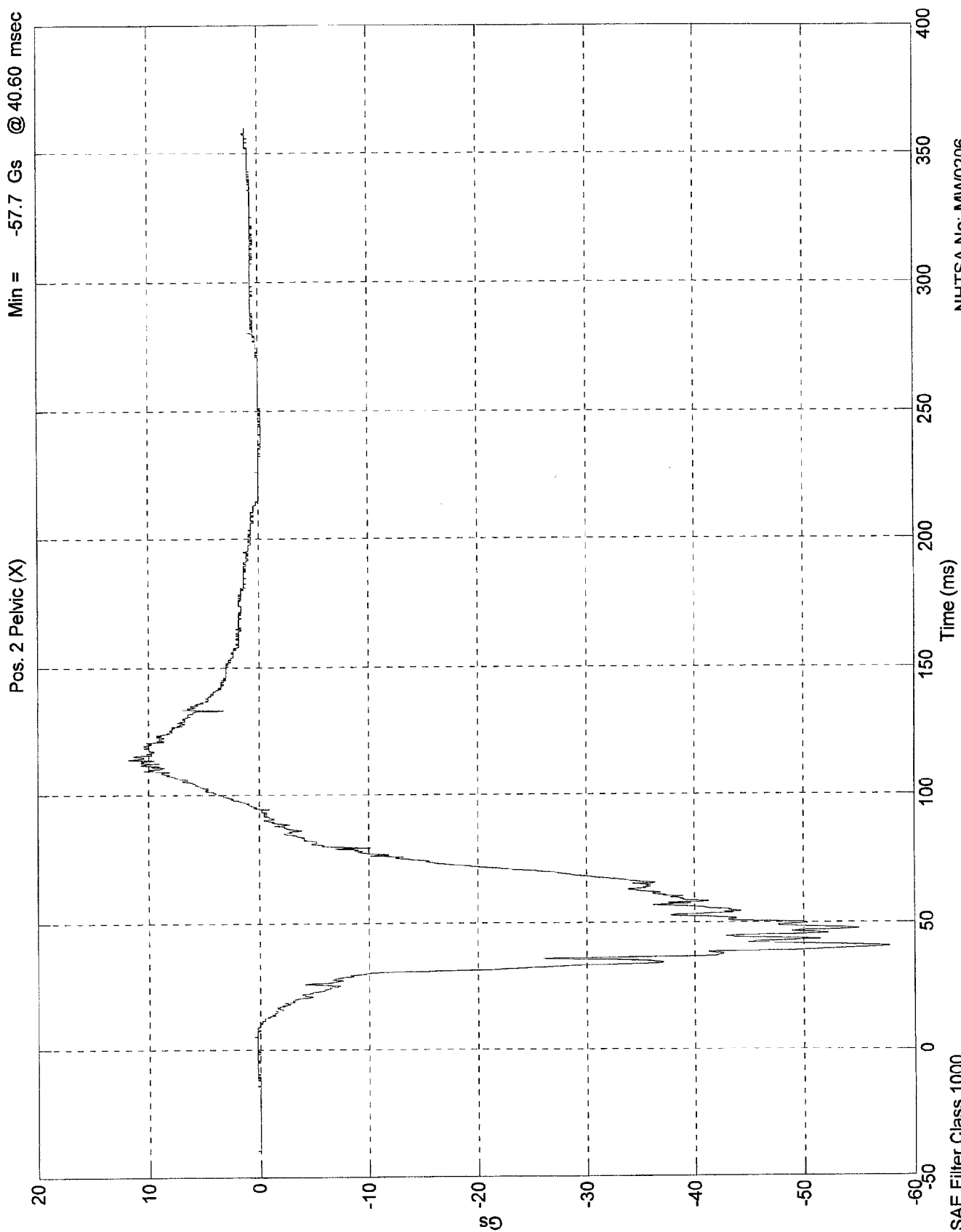
Pos. 2 Chest Disp.



NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

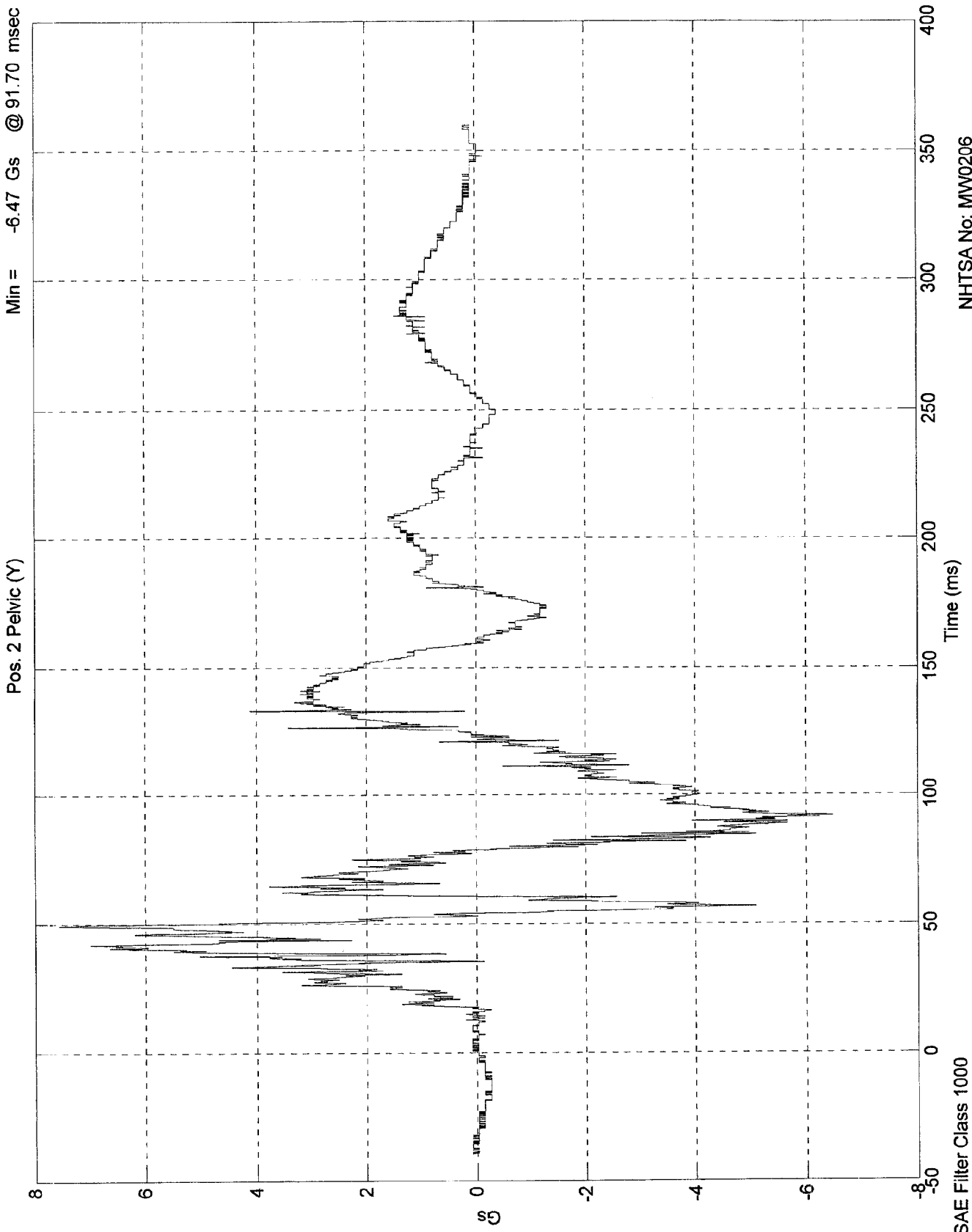
Max = 11.8 Gs @ 114.10 msec
Min = -57.7 Gs @ 40.60 msec



NHTSA No: MW0206
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NCAP TEST #11 - 1998 FORD EXPLORER

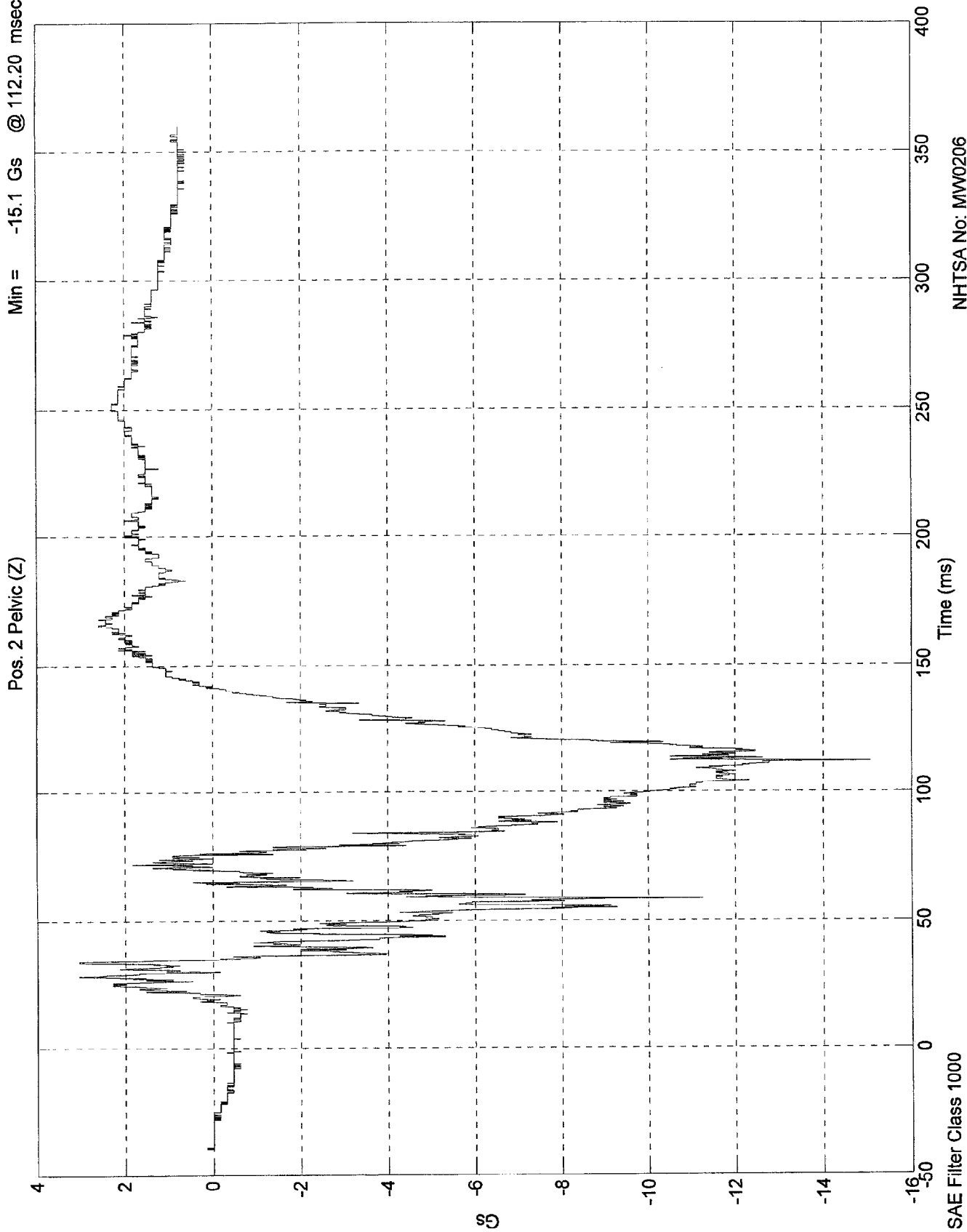
Max = 7.56 Gs @ 49.30 msec
Min = -6.47 Gs @ 91.70 msec



NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 3.05 Gs @ 28.30 msec
Min = -15.1 Gs @ 112.20 msec

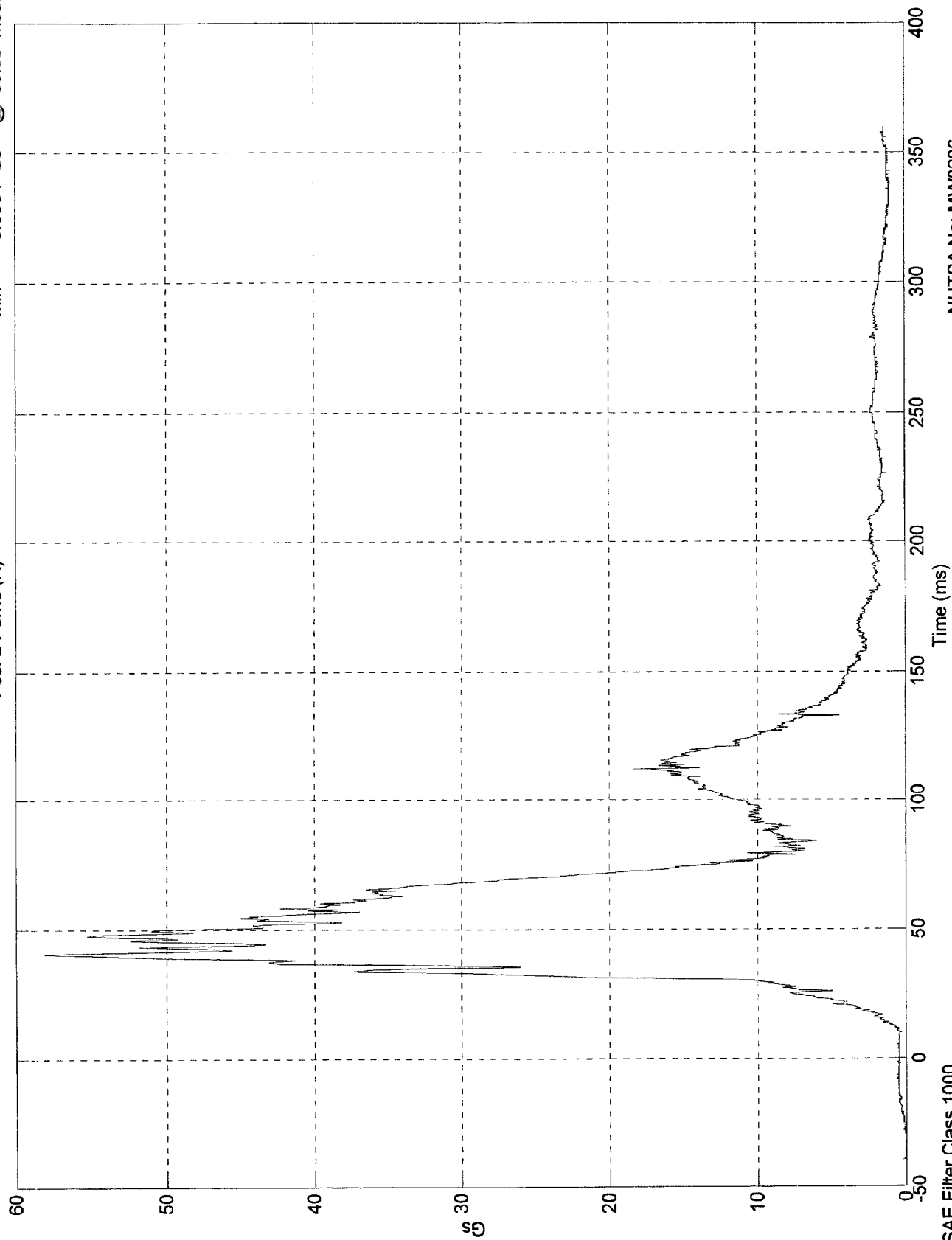


NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 58.1 Gs @ 40.70 msec
Min = 0.0304 Gs @ -39.50 msec

Pos. 2 Pelvic (R)



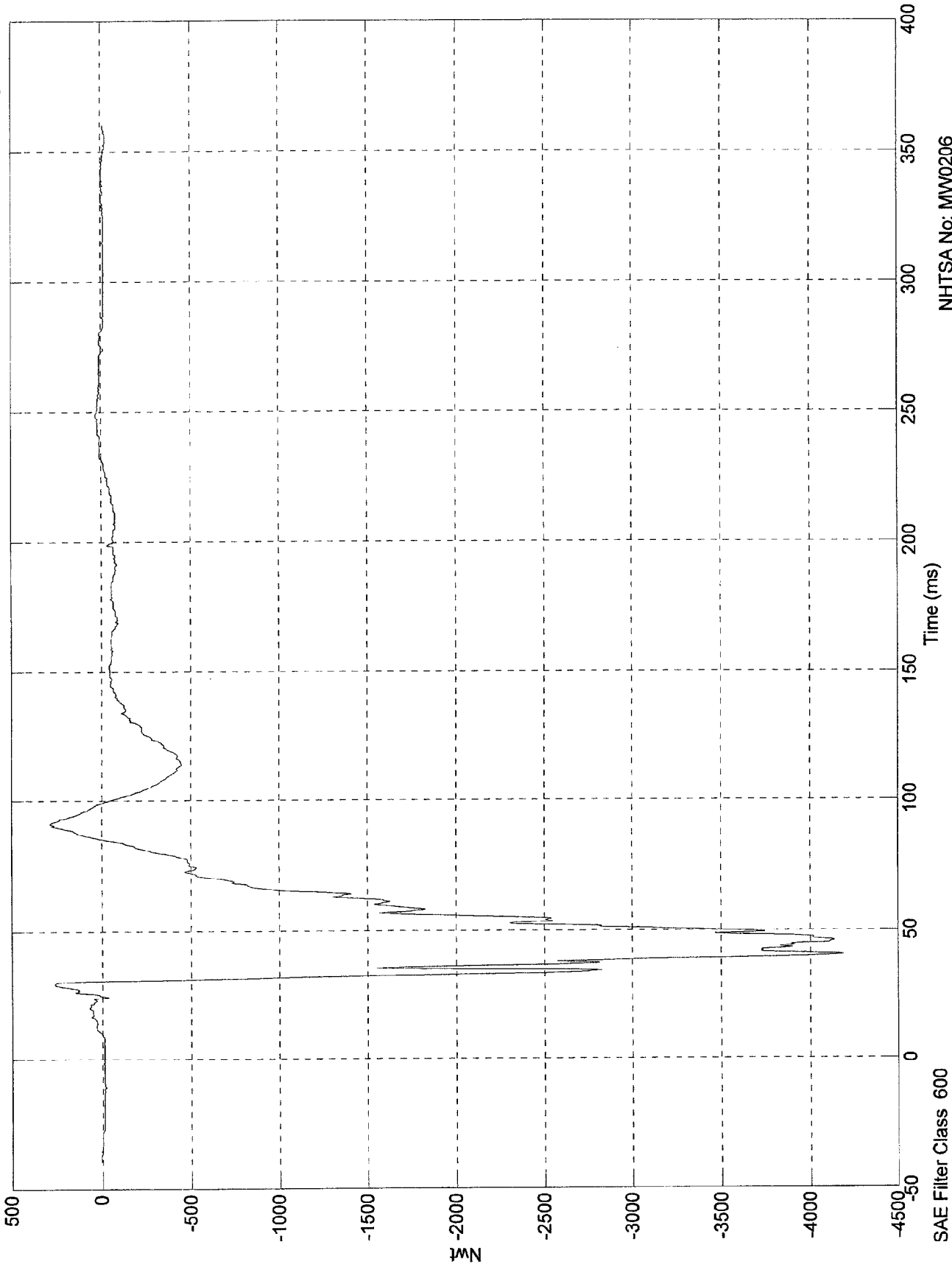
NHTSA No: MW0206
Date: 03 Dec 1997

SAE Filter Class 1000

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 284 Nwt @ 91.10 msec
Min = -4.19e+003 Nwt @ 40.70 msec

Pos. 2 Left Femur

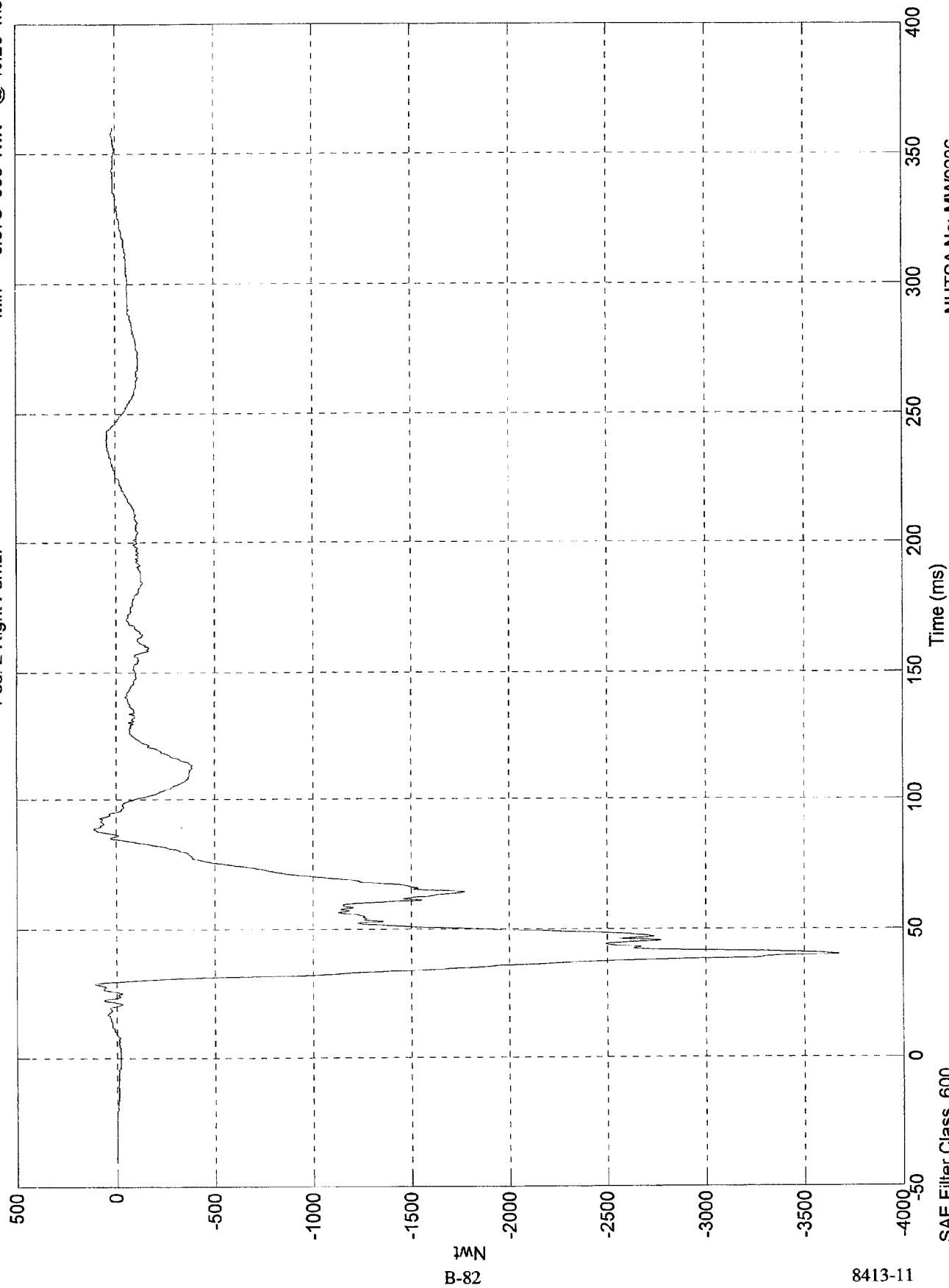


NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 112 Nwt @ 88.60 msec
Min = -3.67e+003 Nwt @ 40.20 msec

Pos. 2 Right Femur



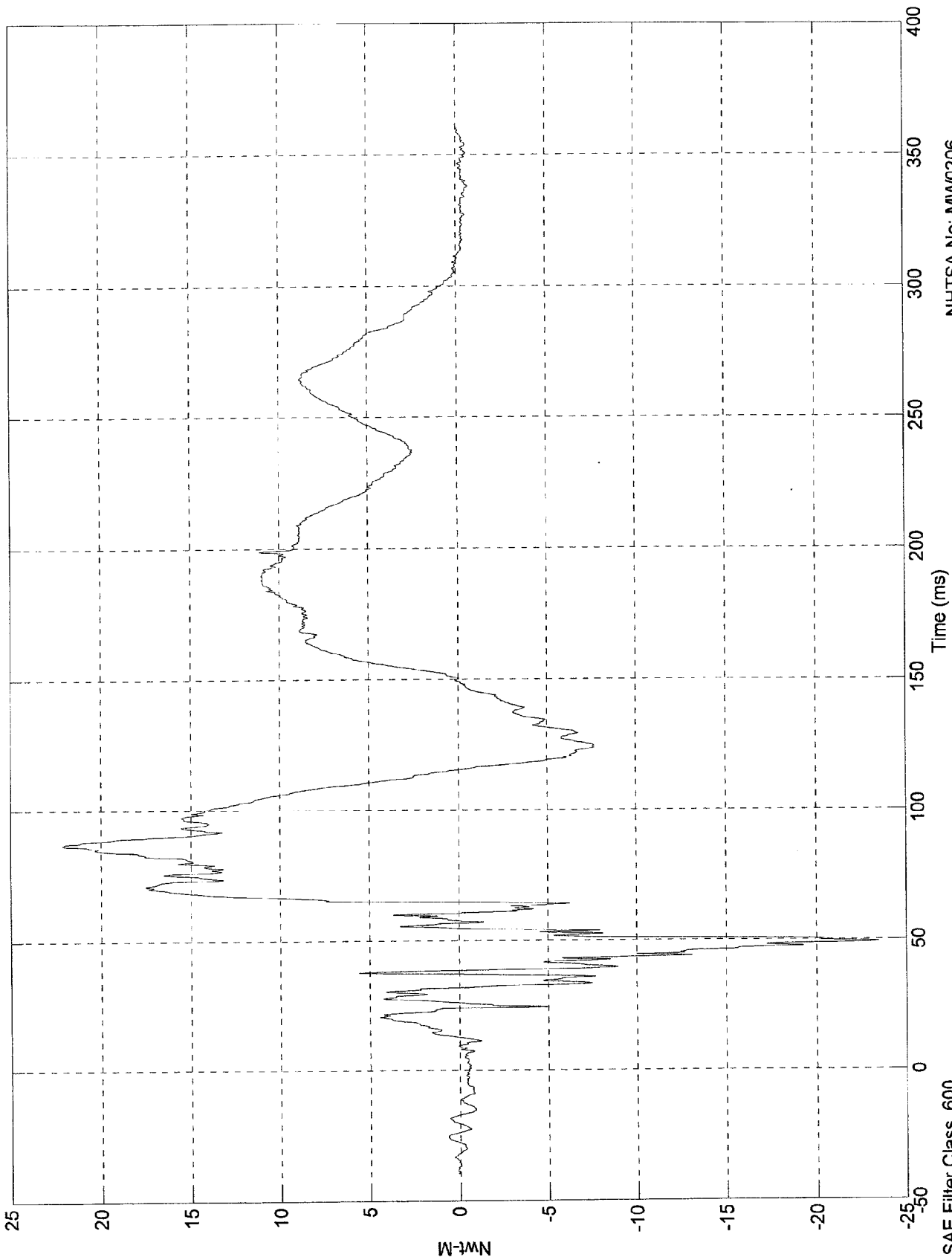
NHTSA No: MW0206
Date: 03 Dec 1997

SAE Filter Class 600

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 22.1 Nwt-M @ 86.90 msec
Min = -23.4 Nwt-M @ 49.20 msec

Pos. 2 Lt Upper Tibia Mx



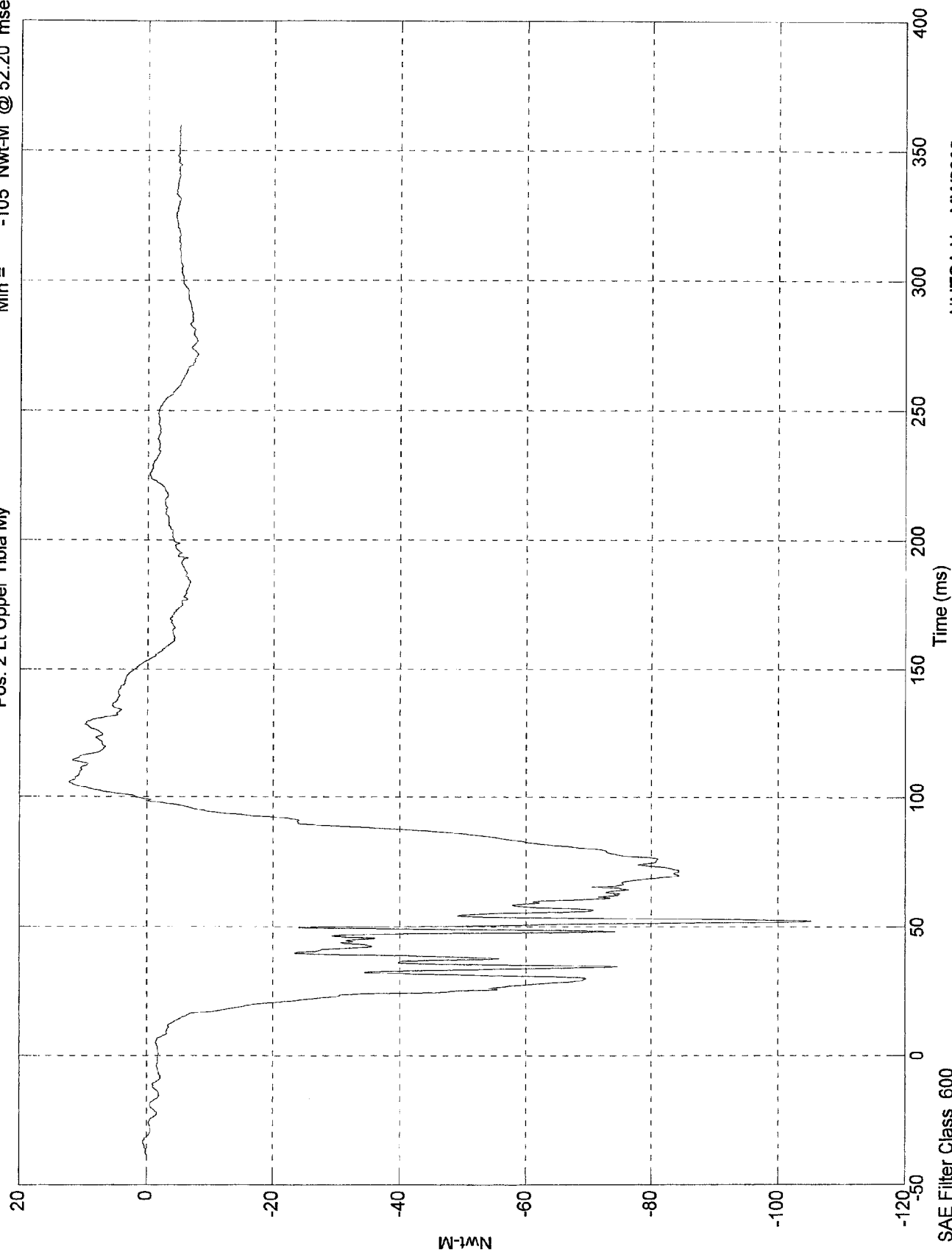
SAE Filter Class 600

NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 12.1 Nwt-M @ 105.70 msec
Min = -105 Nwt-M @ 52.20 msec

Pos. 2 Lt Upper Tibia My



NHTSA No: MW0206
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SAE Filter Class 600

N-M

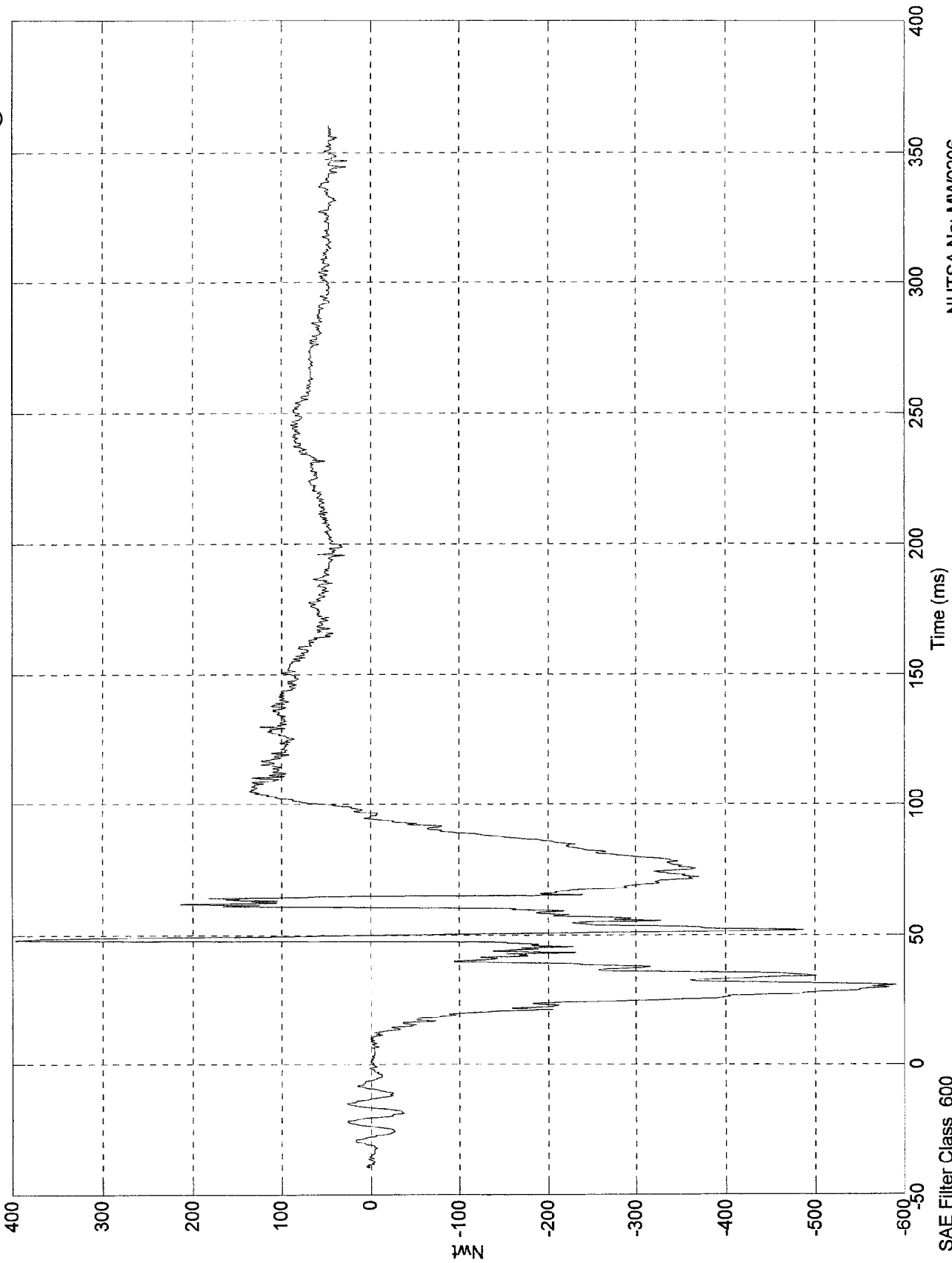
B-84

8413-11

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 397 Nwt @ 48.10 msec
Min = -590 Nwt @ 30.70 msec

Pos. 2 Lt Lower Tibia Fx



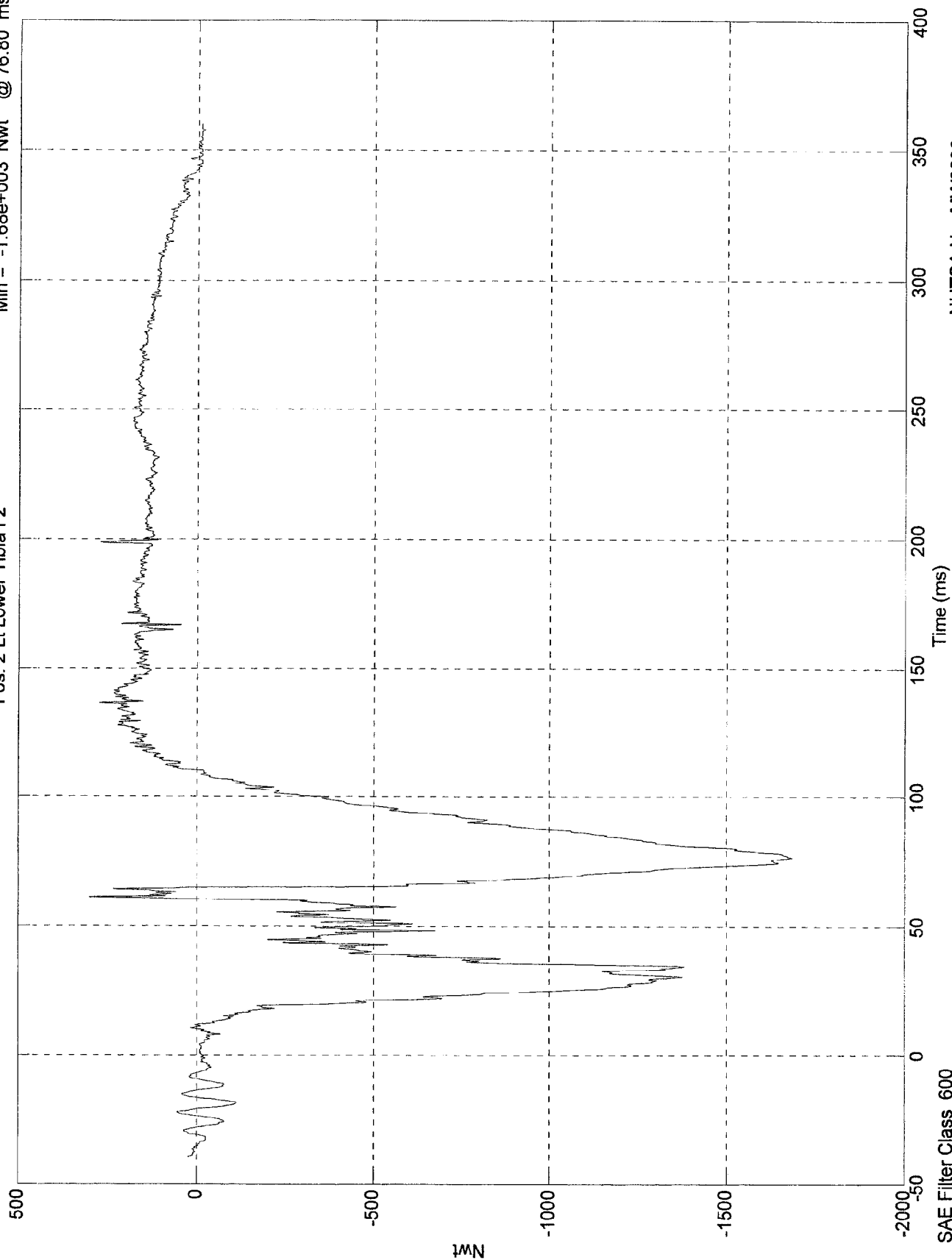
NHTSA No: MW0206
Date: 03 Dec 1997

SAE Filter Class 600

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 301 Nwt @ 61.00 msec
Min = -1.68e+003 Nwt @ 76.80 msec

Pos. 2 Lt Lower Tibia Fz

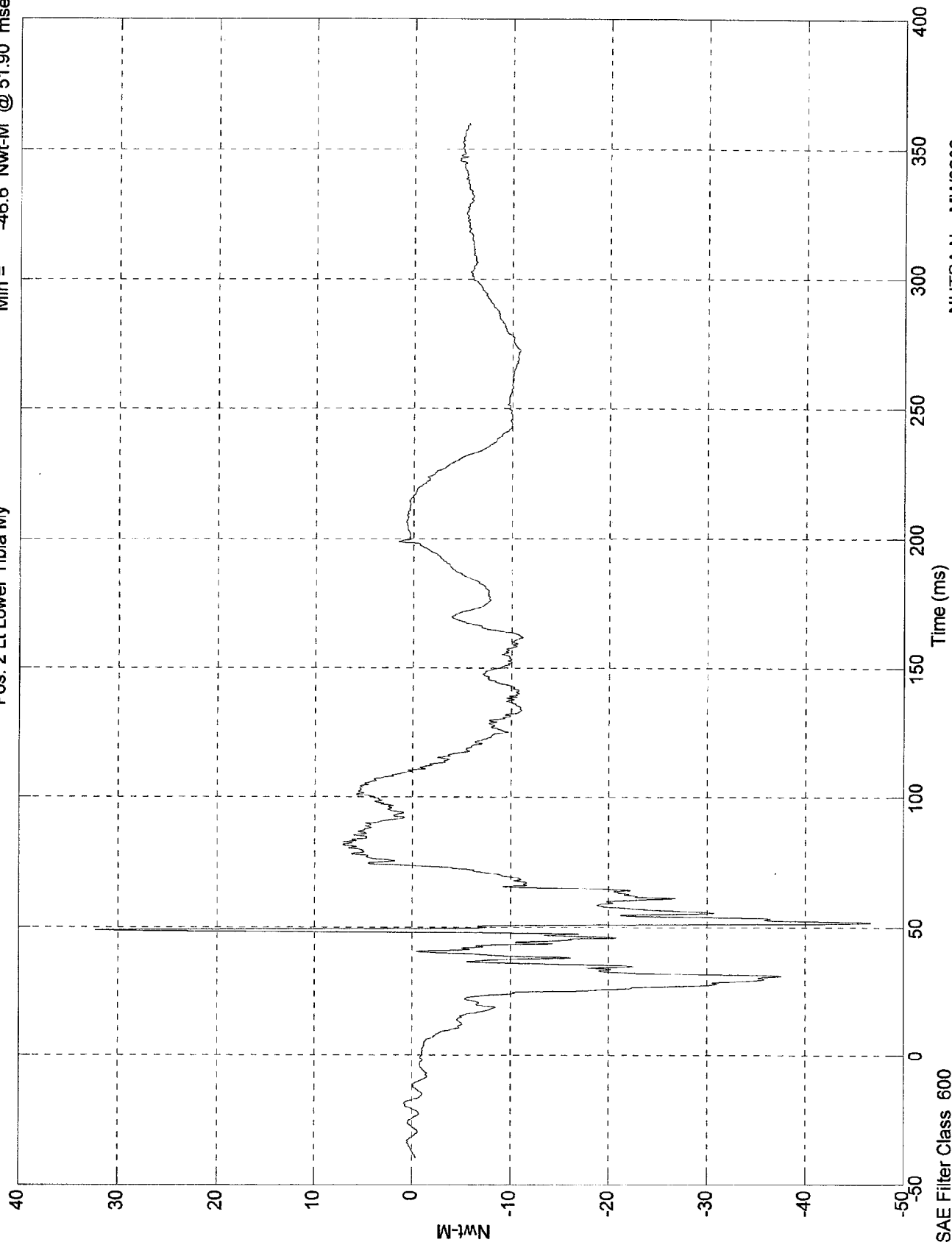


NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 32.2 Nwt-M @ 48.70 msec
Min = -46.6 Nwt-M @ 51.90 msec

Pos. 2 Lt Lower Tibia My



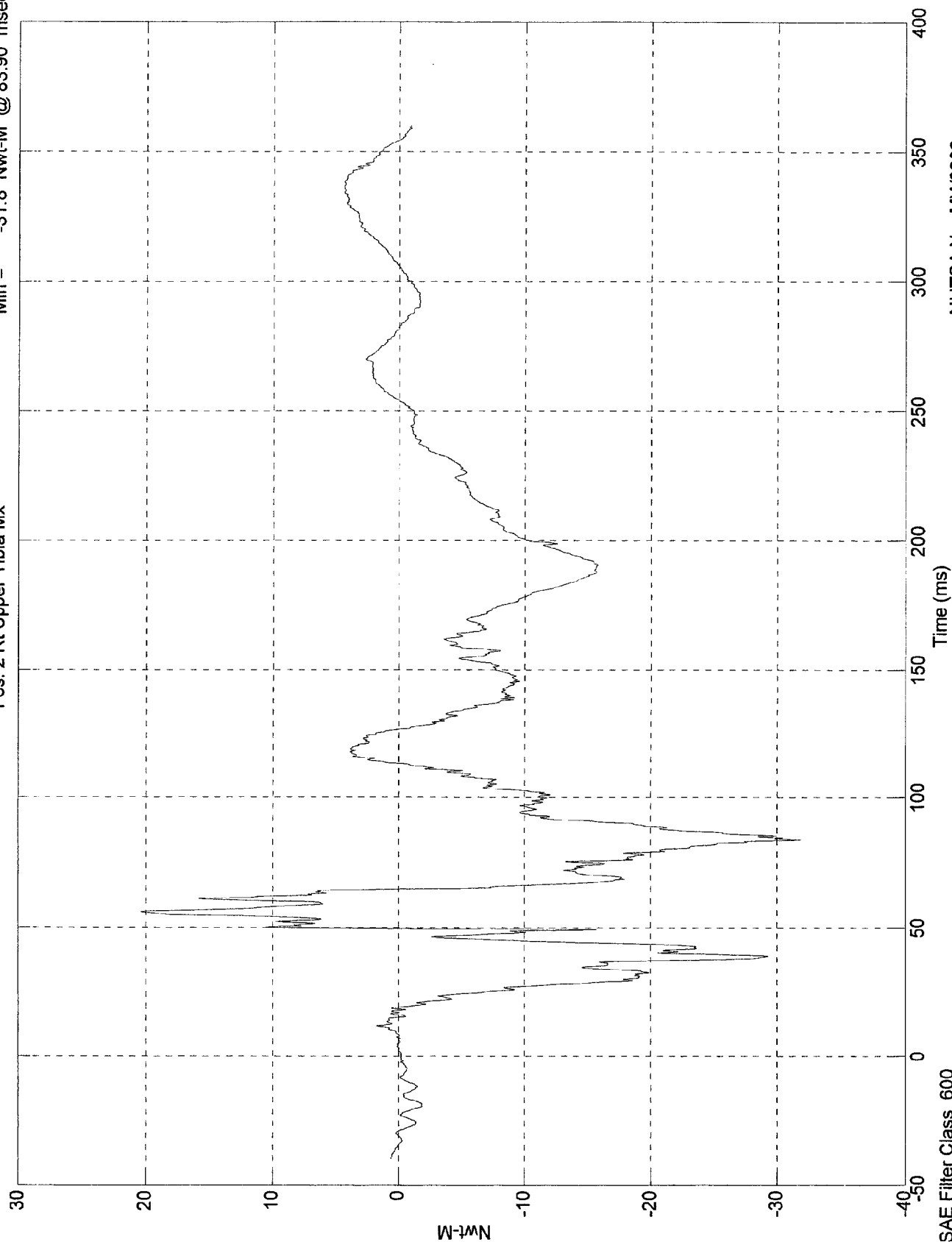
NHTSA No: MW0206
Date: 03 Dec 1997

SAE Filter Class 600

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 20.4 Nwt-M @ 56.10 msec
 Min = -31.8 Nwt-M @ 83.90 msec

Pos. 2 Rt Upper Tibia Mx



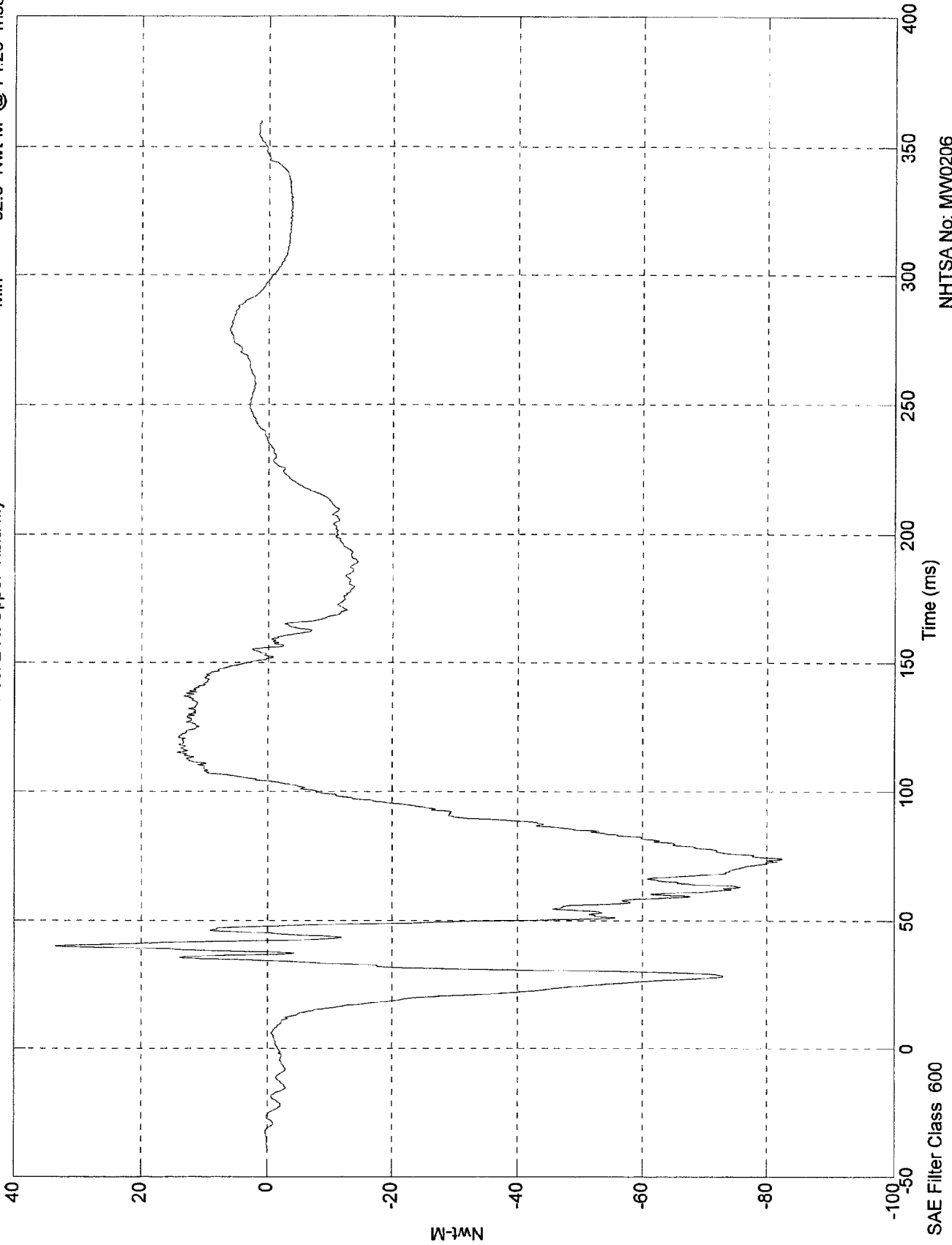
NHTSA No: MW0206
 Date: 03 Dec 1997

SAE Filter Class 600

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 33.5 Nwt-M @ 40.10 msec
Min = -82.3 Nwt-M @ 74.20 msec

Pos. 2 Rt Upper Tibia My



NHTSA No: MW0206
Date: 03 Dec 1997

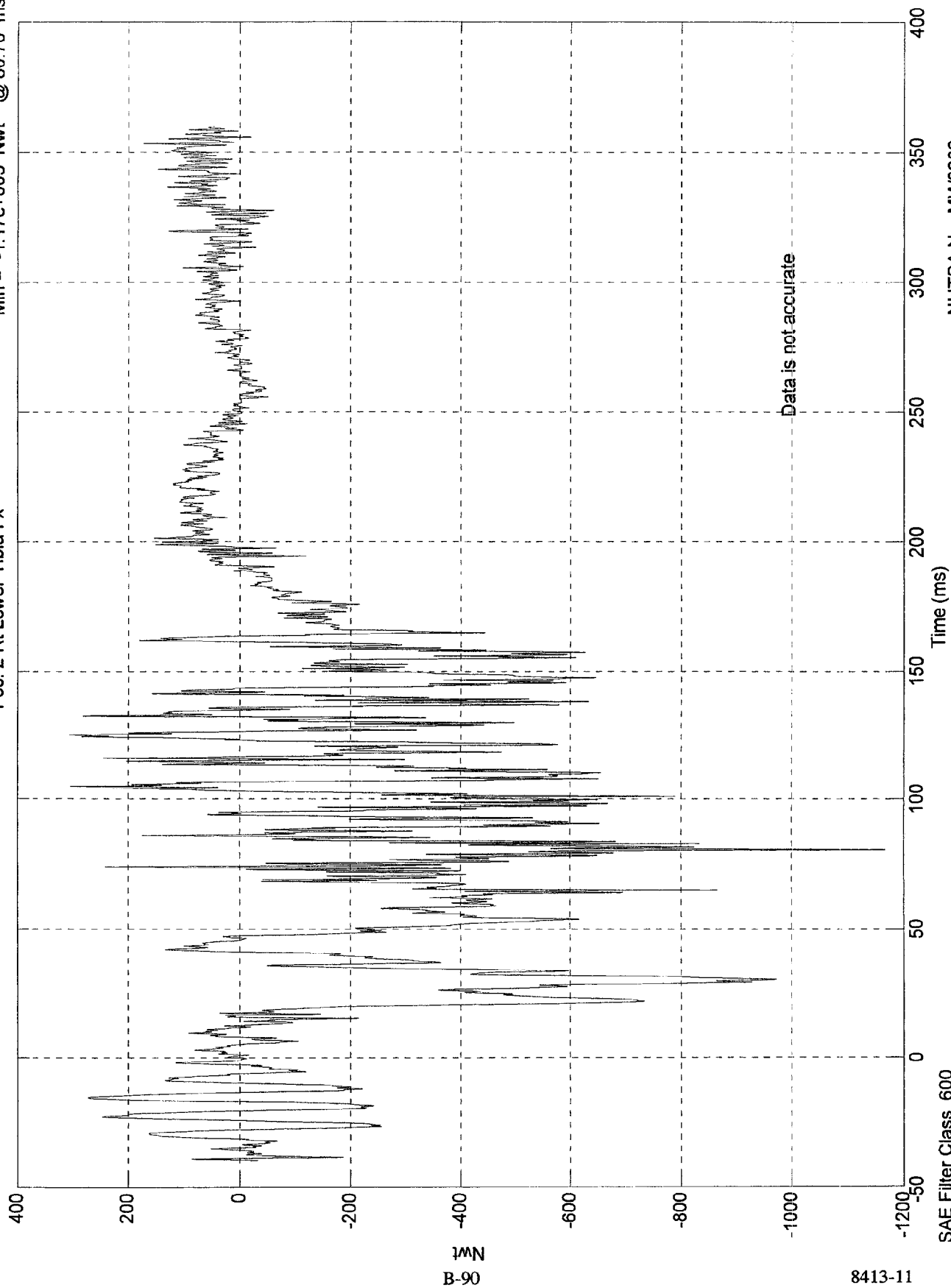
Nwt-M

SAE Filter Class 600

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 306 Nwt @ 124.80 msec
Min = -1.17e+003 Nwt @ 80.70 msec

Pos. 2 Rt Lower Tibia Fx

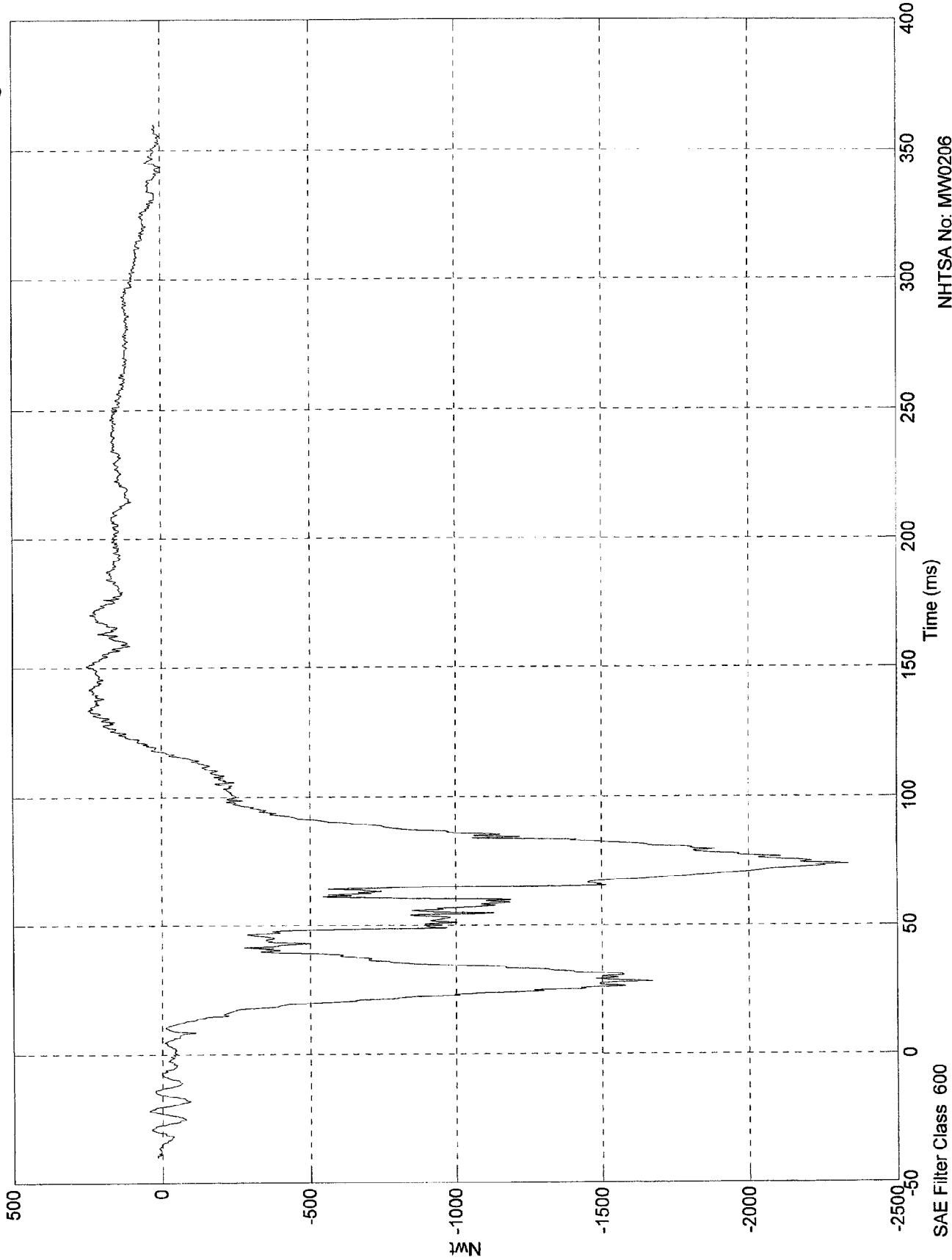


NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 255 Nwt @ 150.50 msec
Min = -2.34e+003 Nwt @ 74.00 msec

Pos. 2 Rt Lower Tibia Fz

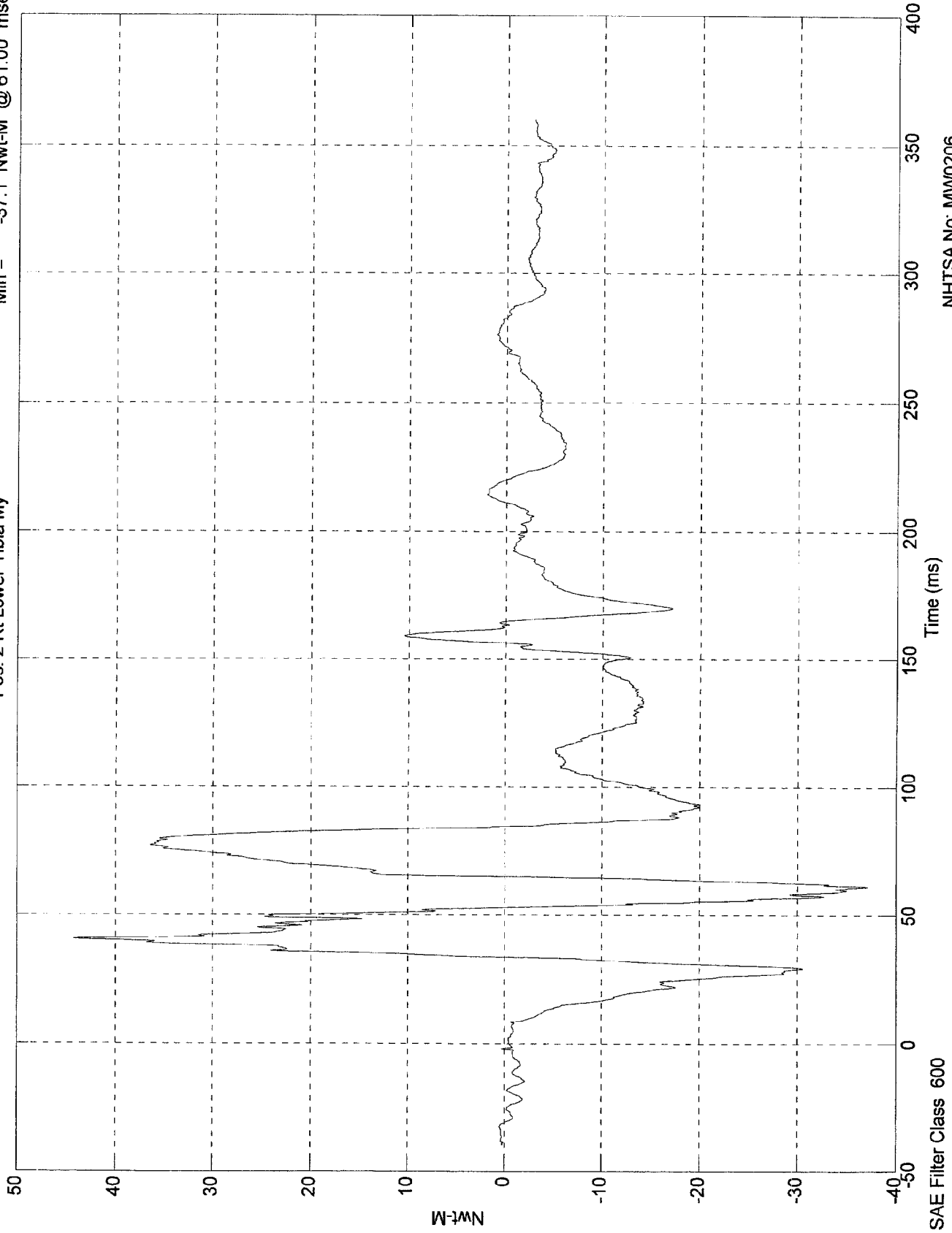


NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 44.2 Nwt-M @ 40.60 msec
Min = -37.1 Nwt-M @ 61.00 msec

Pos. 2 Rt Lower Tibia My



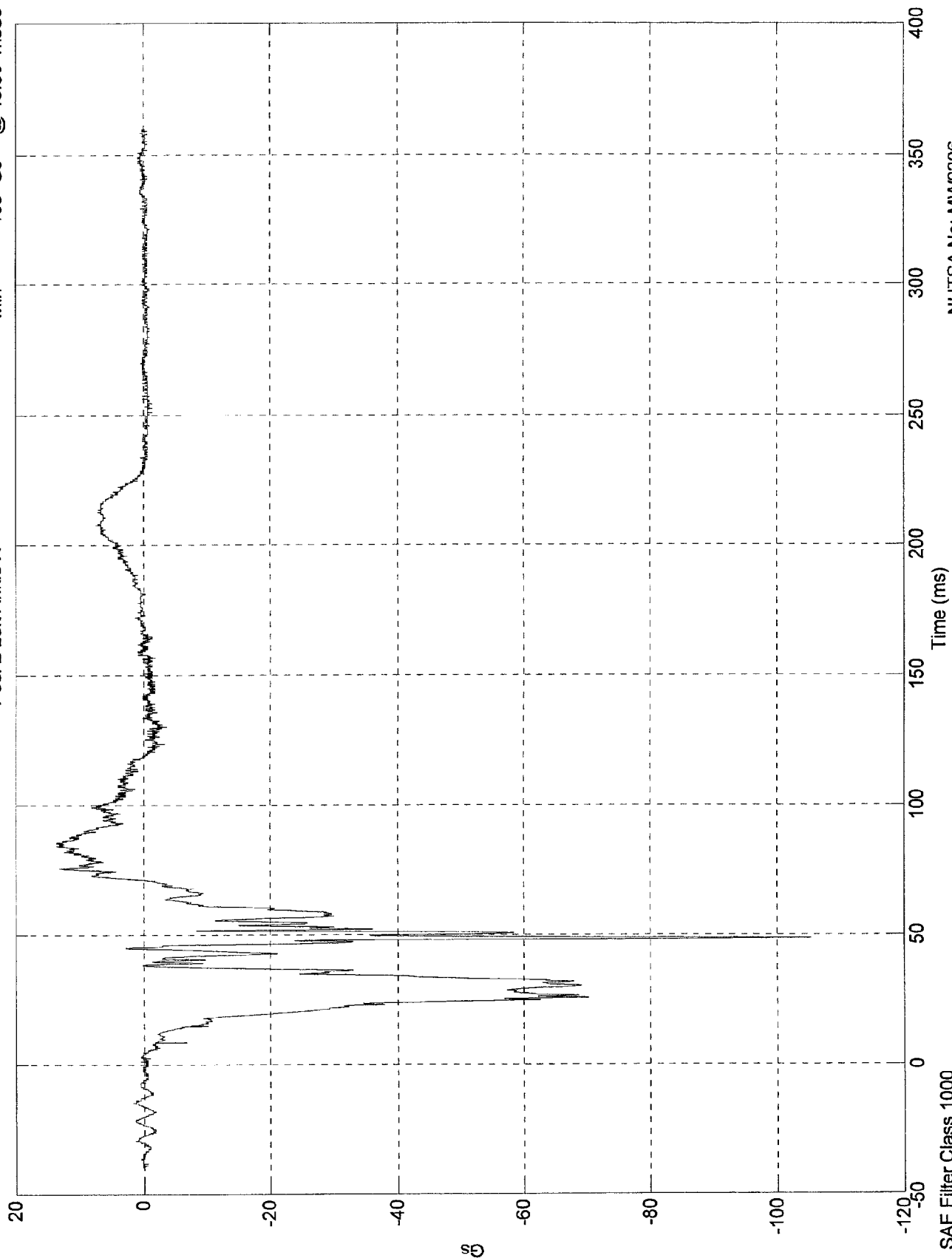
NHTSA No: MW0206
Date: 03 Dec 1997

SAE Filter Class 600

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 13.5 Gs @ 84.30 msec
Min = -105 Gs @ 48.60 msec

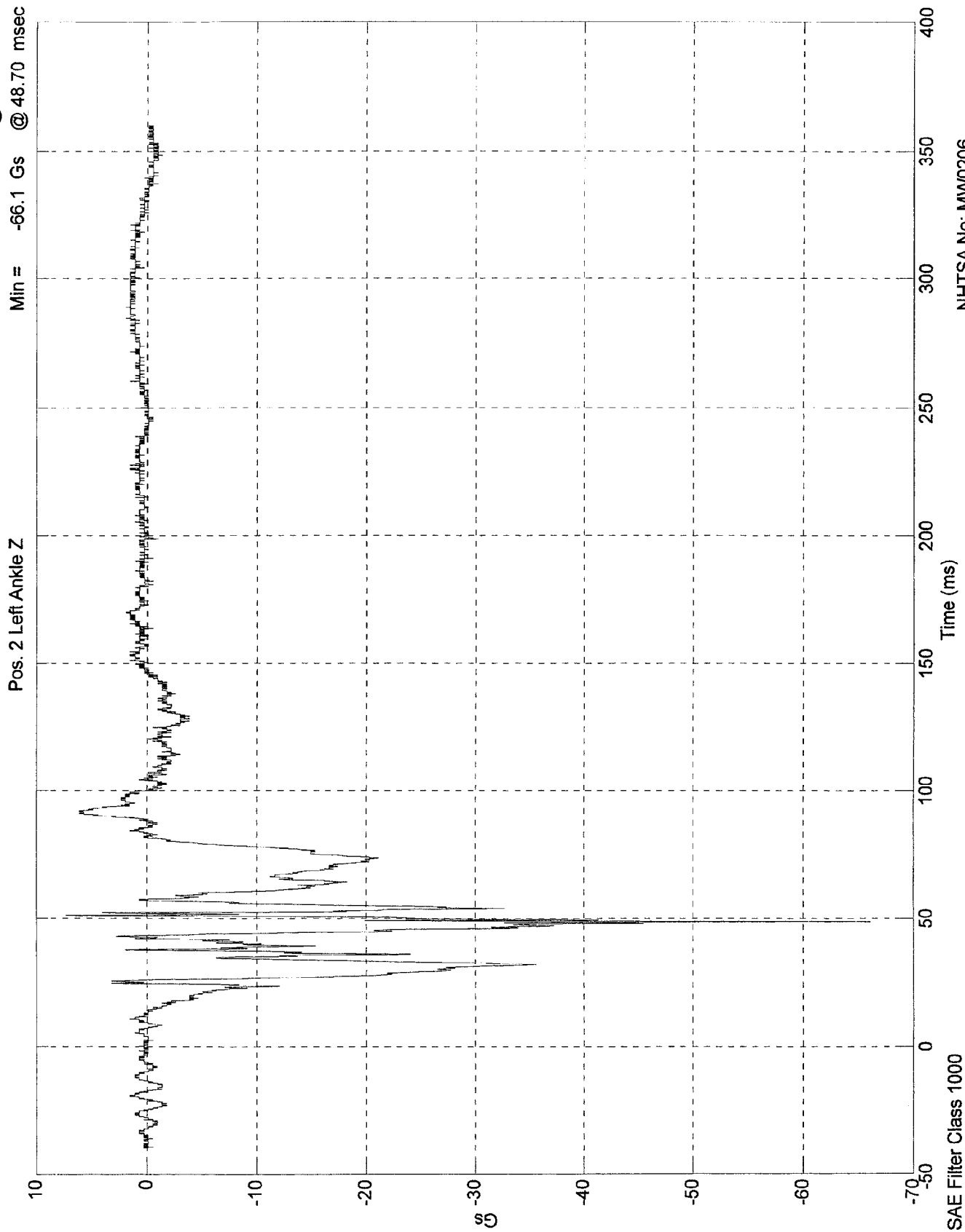
Pos. 2 Left Ankle X



NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 7.31 Gs @ 51.20 msec
Min = -66.1 Gs @ 48.70 msec

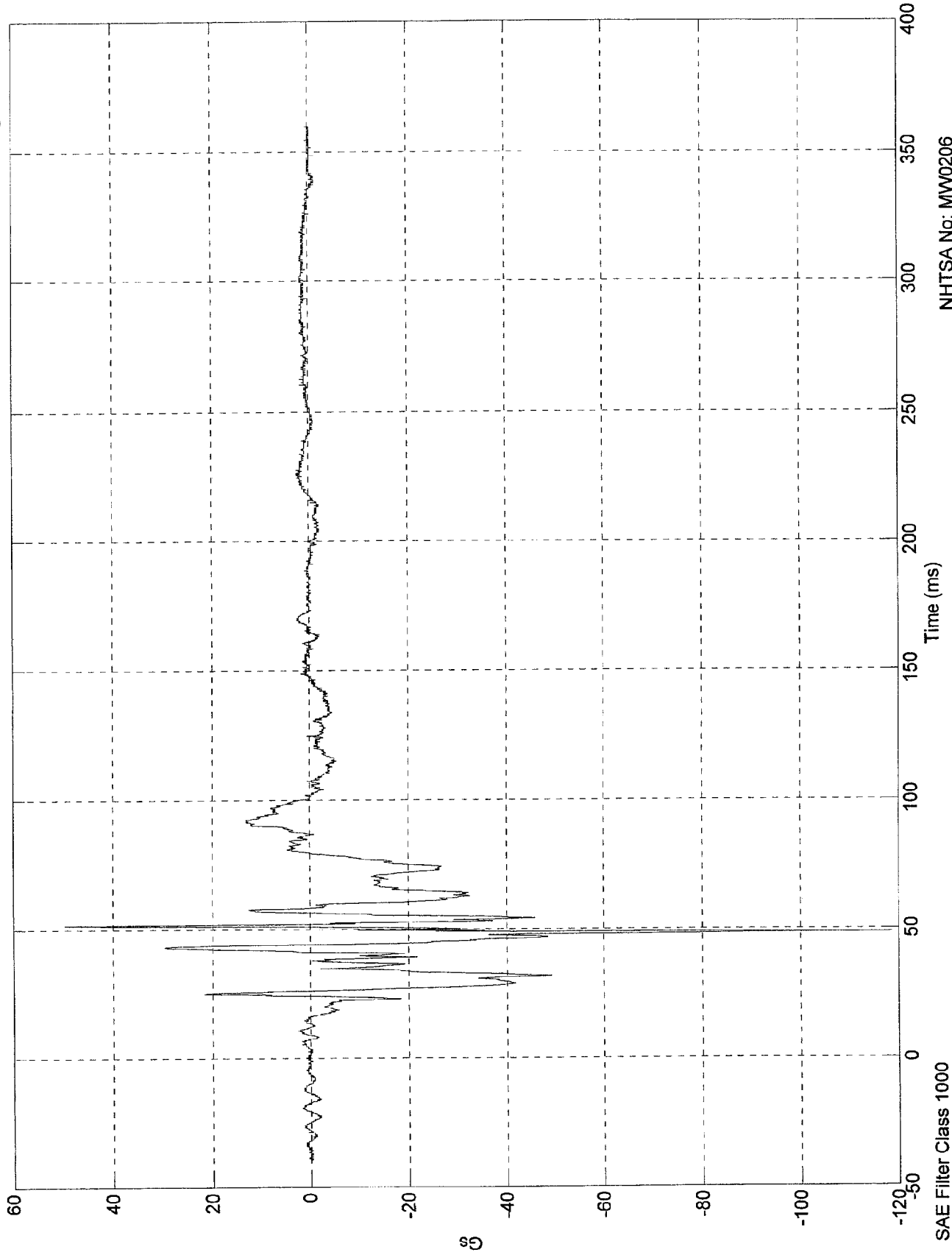


NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 49.7 Gs @ 51.60 msec
Min = -119 Gs @ 48.70 msec

Pos. 2 Left Toe Z

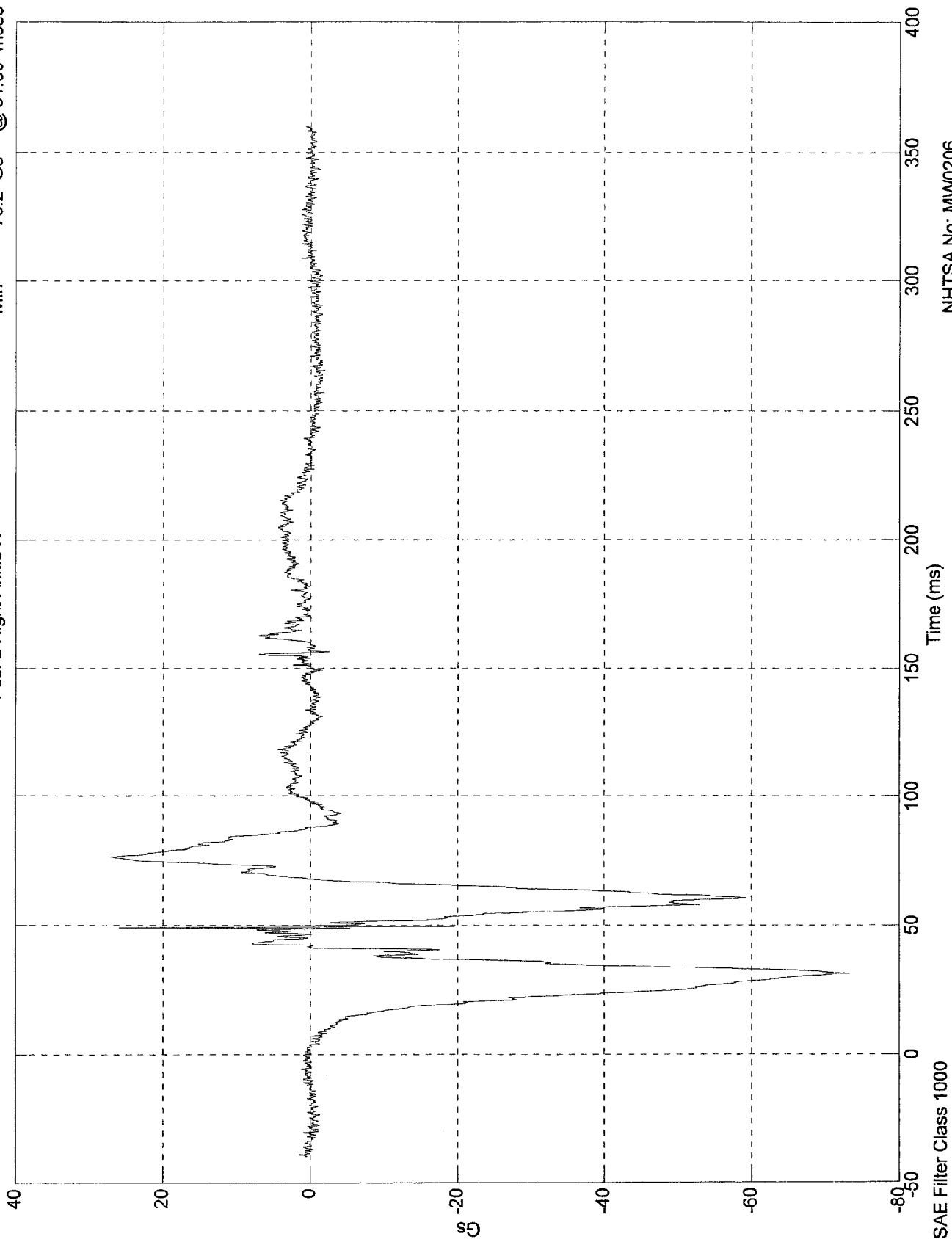


NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 27 Gs @ 76.60 msec
Min = -73.2 Gs @ 31.00 msec

Pos. 2 Right Ankle X

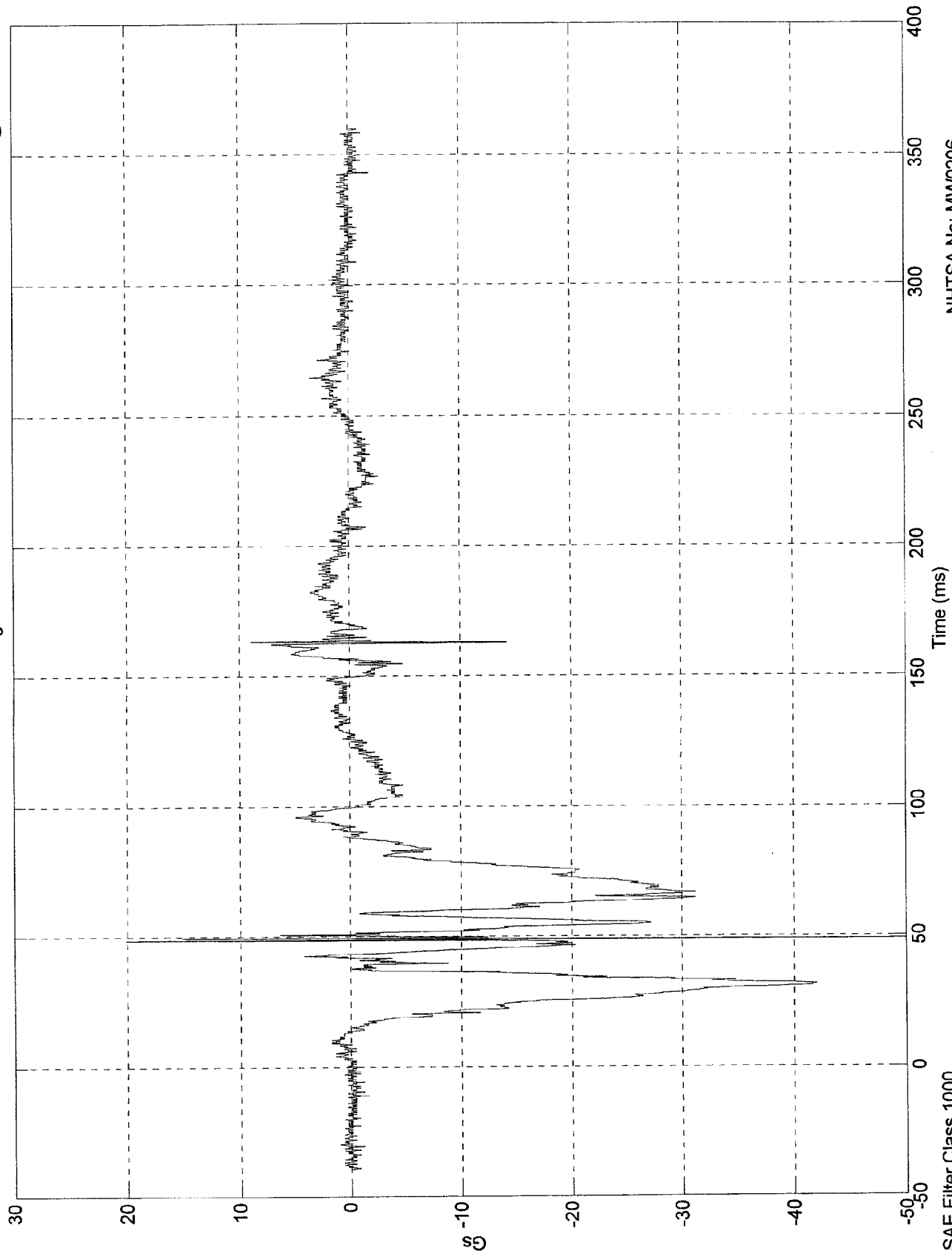


NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 20.1 Gs @ 48.50 msec
Min = -50 Gs @ 48.90 msec

Pos. 2 Right Ankle Z



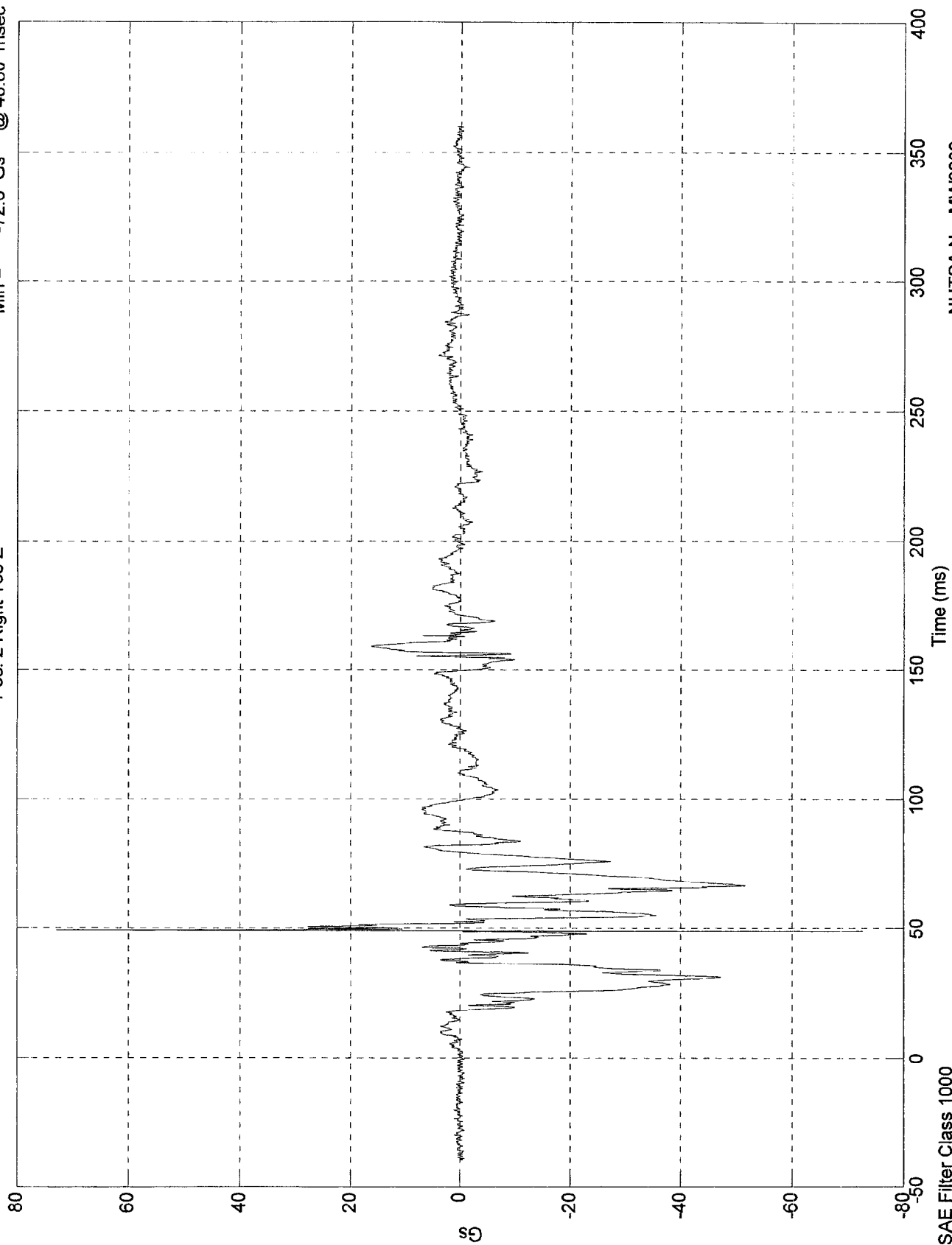
SAE Filter Class 1000

NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 72.8 Gs @ 49.10 msec
Min = -72.6 Gs @ 48.80 msec

Pos. 2 Right Toe Z

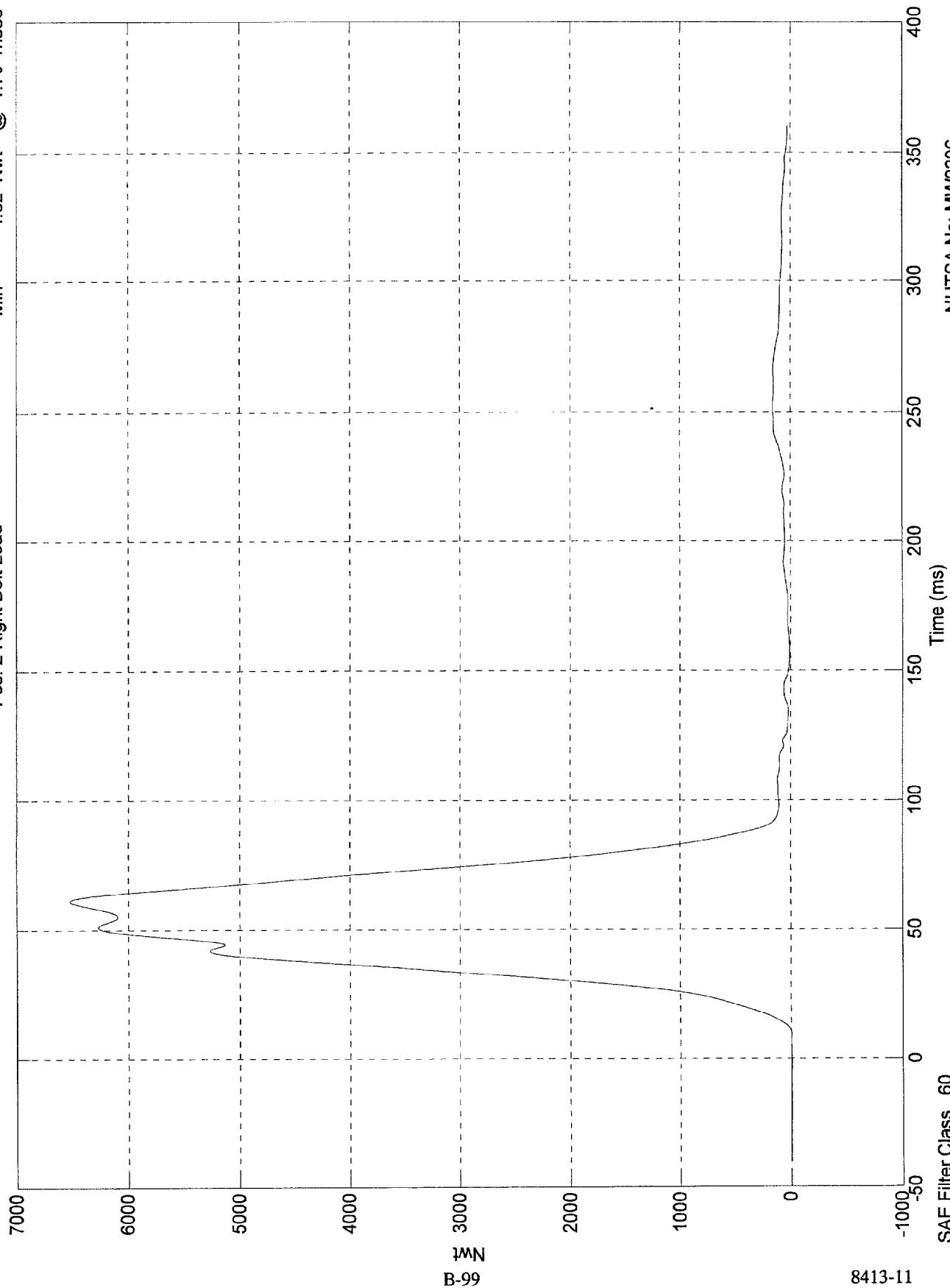


NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 6.52e+003 Nwt @ 60.90 msec
Min = -4.82 Nwt @ -1.70 msec

Pos. 2 Right Belt Load



NHTSA No: MW0206
Date: 03 Dec 1997

SAE Filter Class 60

NHTSA TEST NO. MW0206

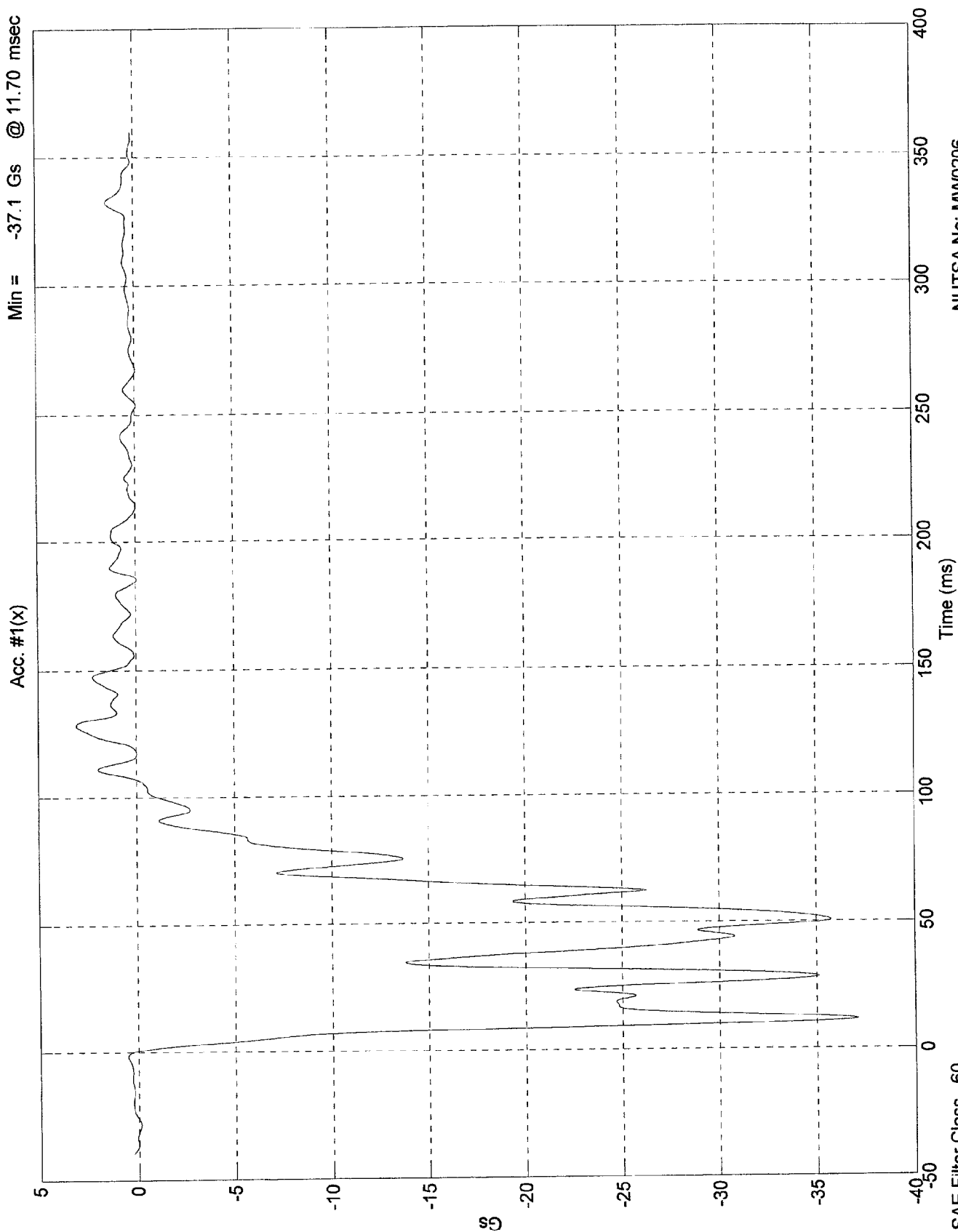
VEHICLE DATA

FILTER CHANNEL CLASS

Acceleration	60
Velocity	180
Displacement	180
Time Zero	1000

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 3.04 Gs @ 128.50 msec
 Min = -37.1 Gs @ 11.70 msec

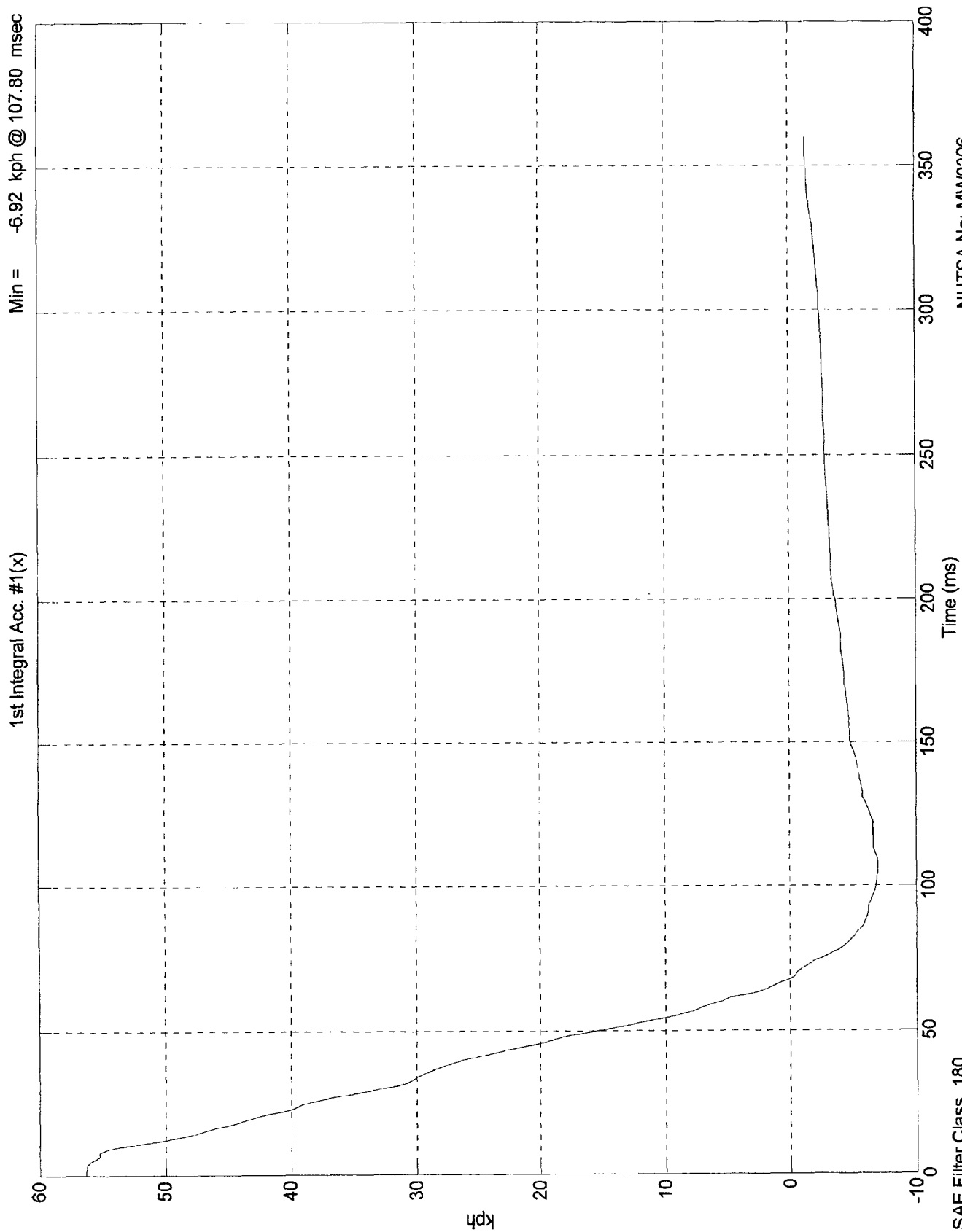


NHTSA No: MW0206
 Date: 03 Dec 1997

SAE Filter Class 60

NCAP TEST #11 - 1998 FORD EXPLORER

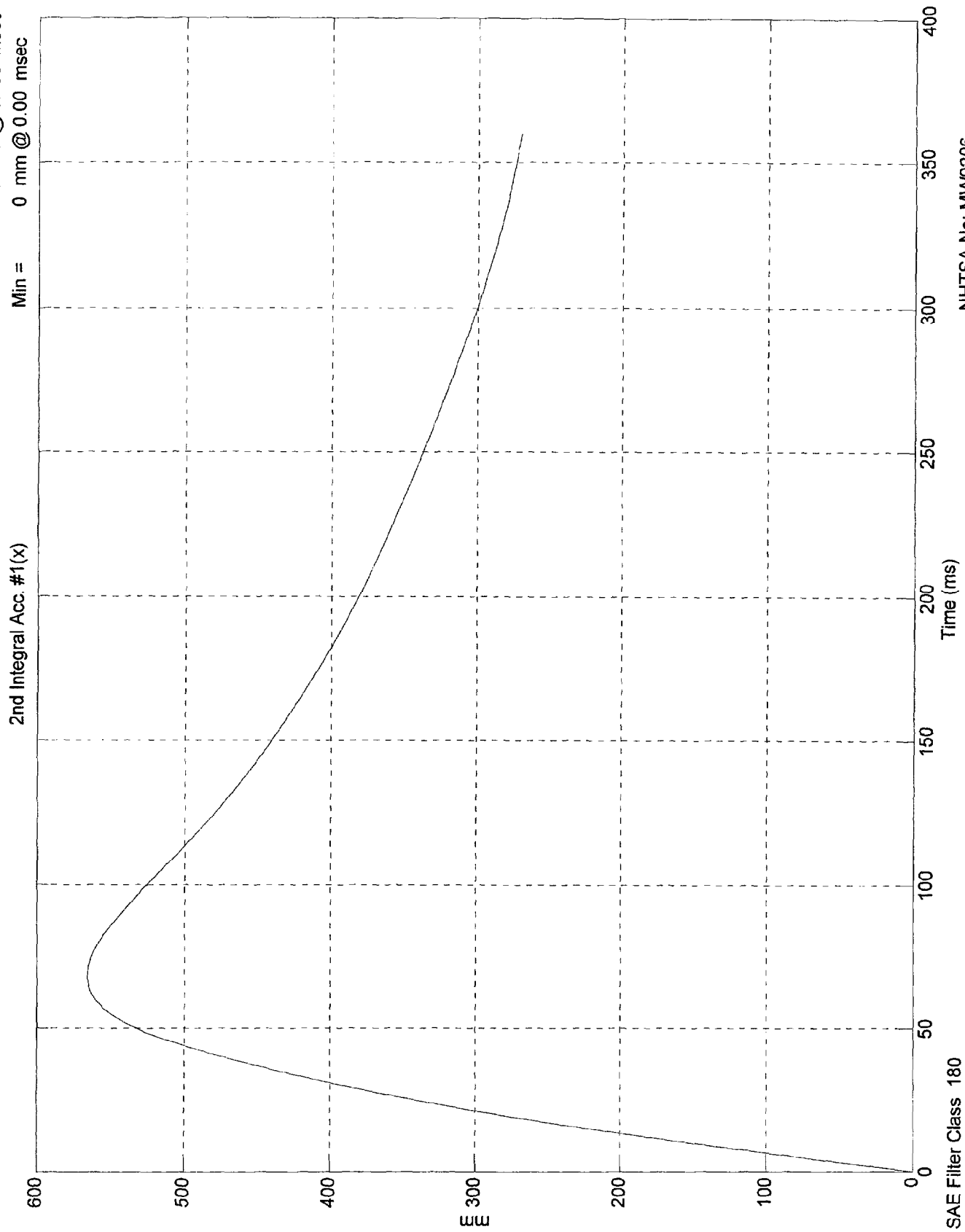
Max = 56.3 kph @ 1.10 msec
Min = -6.92 kph @ 107.80 msec



NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 565 mm @ 67.60 msec
Min = 0 mm @ 0.00 msec

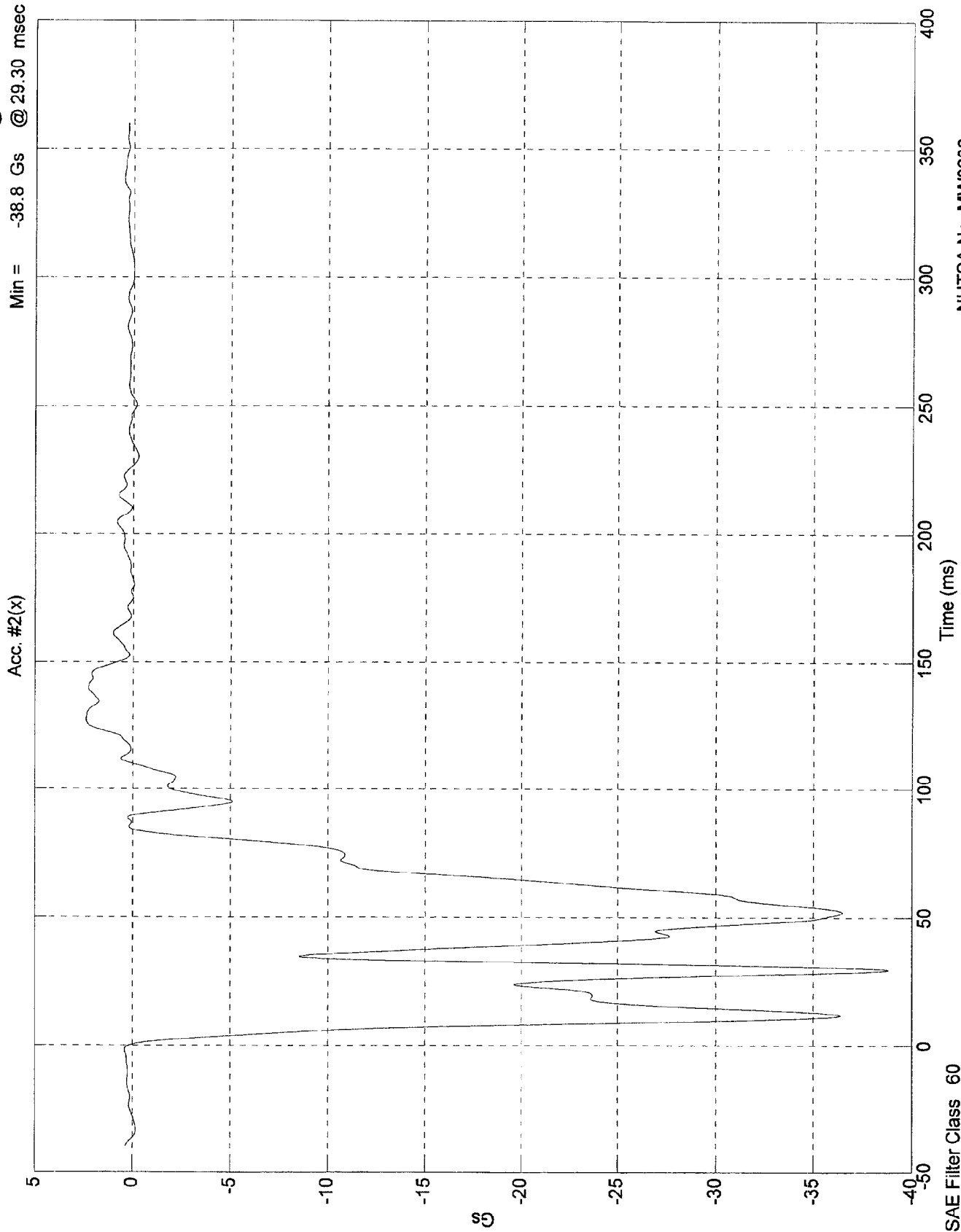


NHTSA No: MW0206
Date: 03 Dec 1997

SAE Filter Class 180

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 2.4 Gs @ 127.50 msec
Min = -38.8 Gs @ 29.30 msec

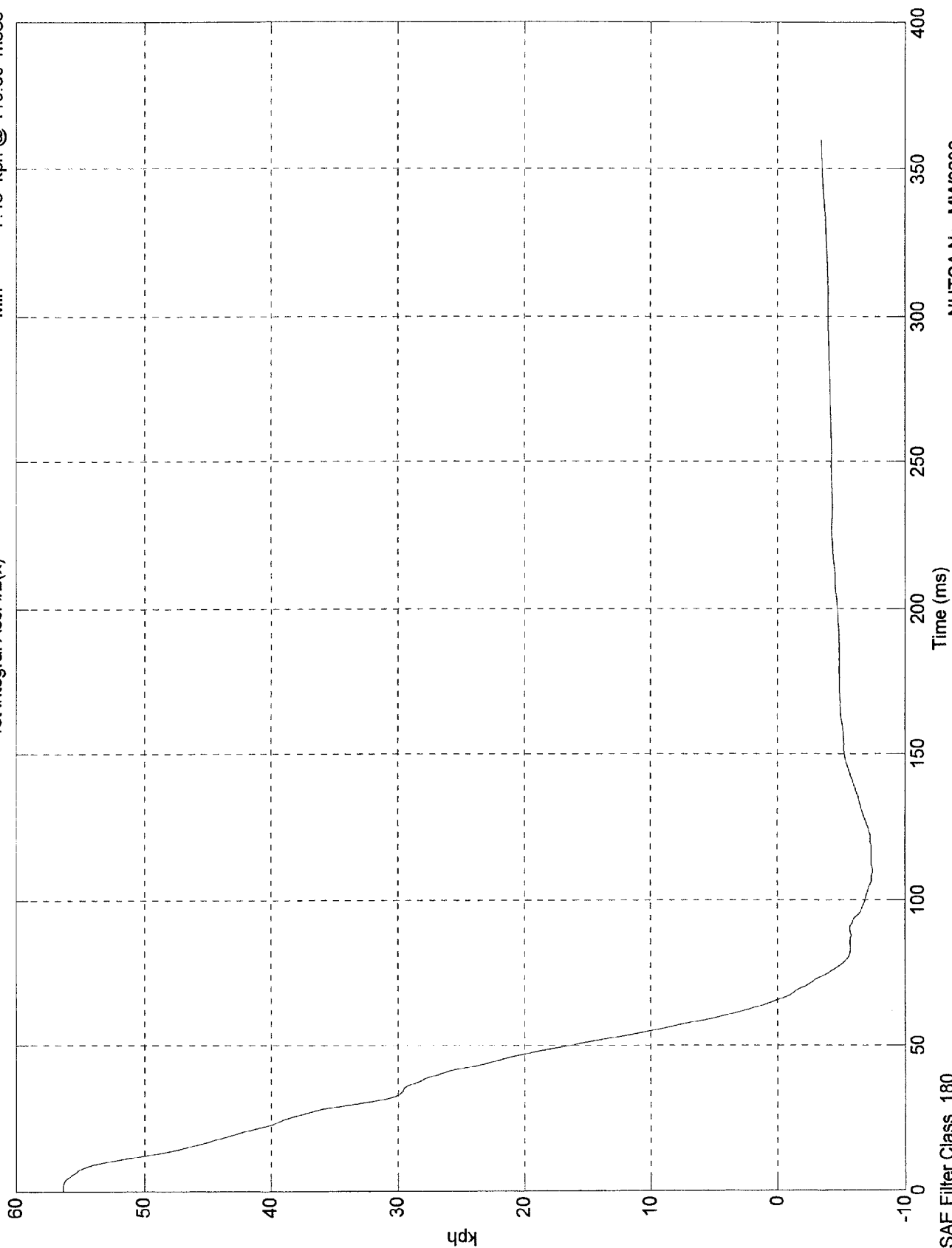


NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 56.3 kph @ 1.20 msec
Min = -7.46 kph @ 110.30 msec

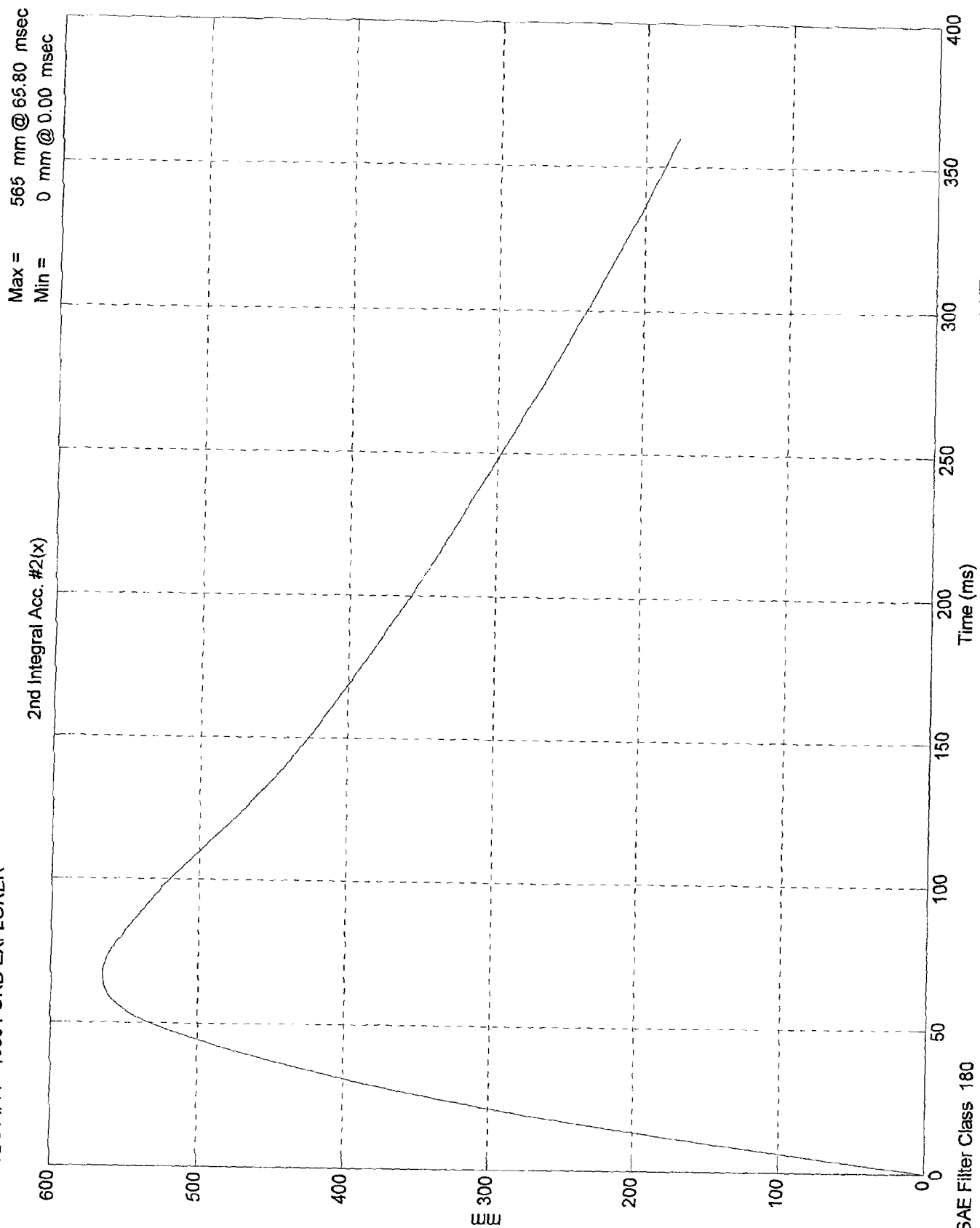
1st Integral Acc. #2(x)



SAE Filter Class 180

NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

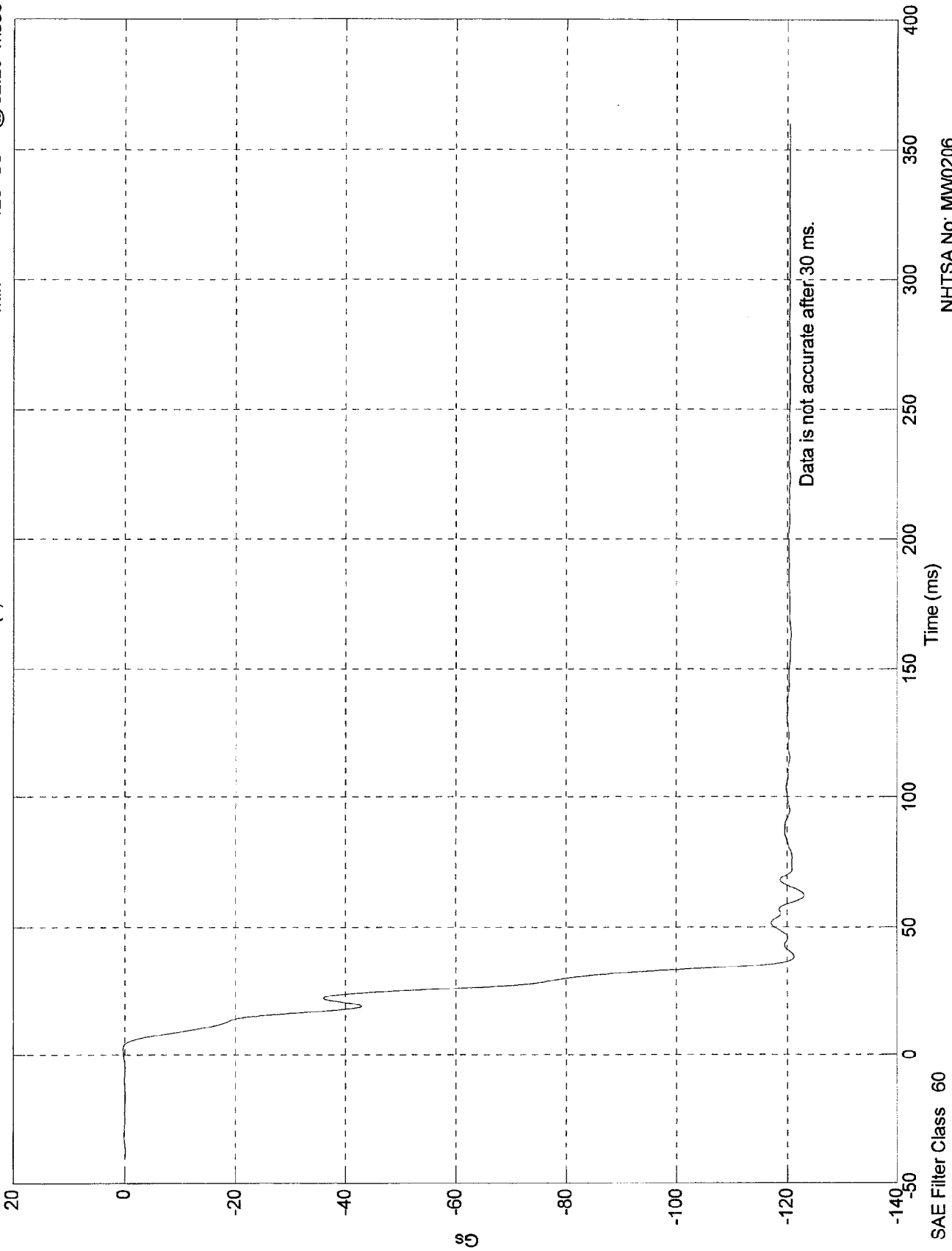


NHTSA No: MW0206

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 0.31 Gs @ 2.20 msec
Min = -123 Gs @ 62.20 msec

Acc. #3(x)



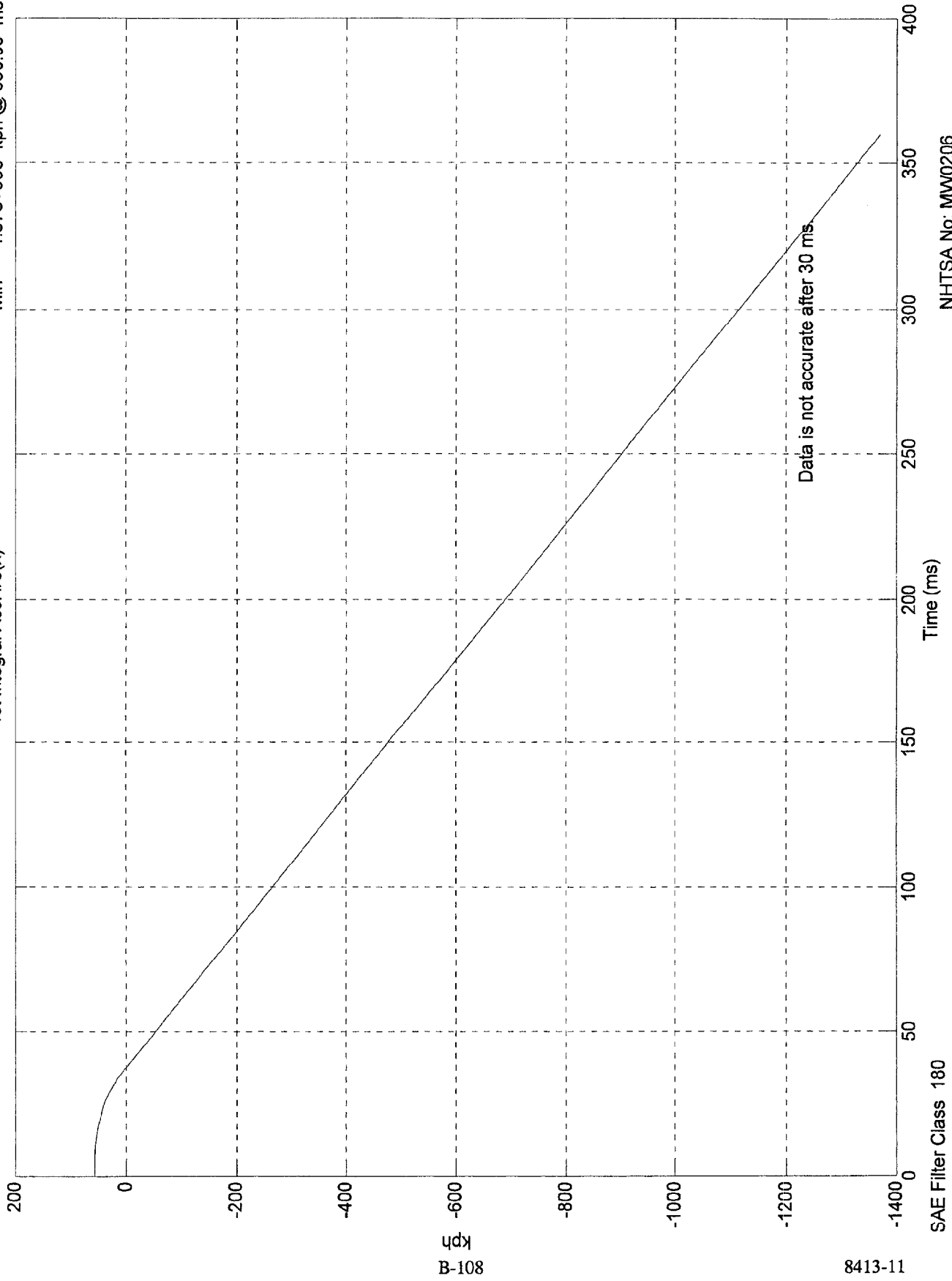
SAE Filter Class 60

NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 56.3 kph @ 3.60 msec
Min = -1.37e+003 kph @ 360.00 msec

1st Integral Acc. #3(x)

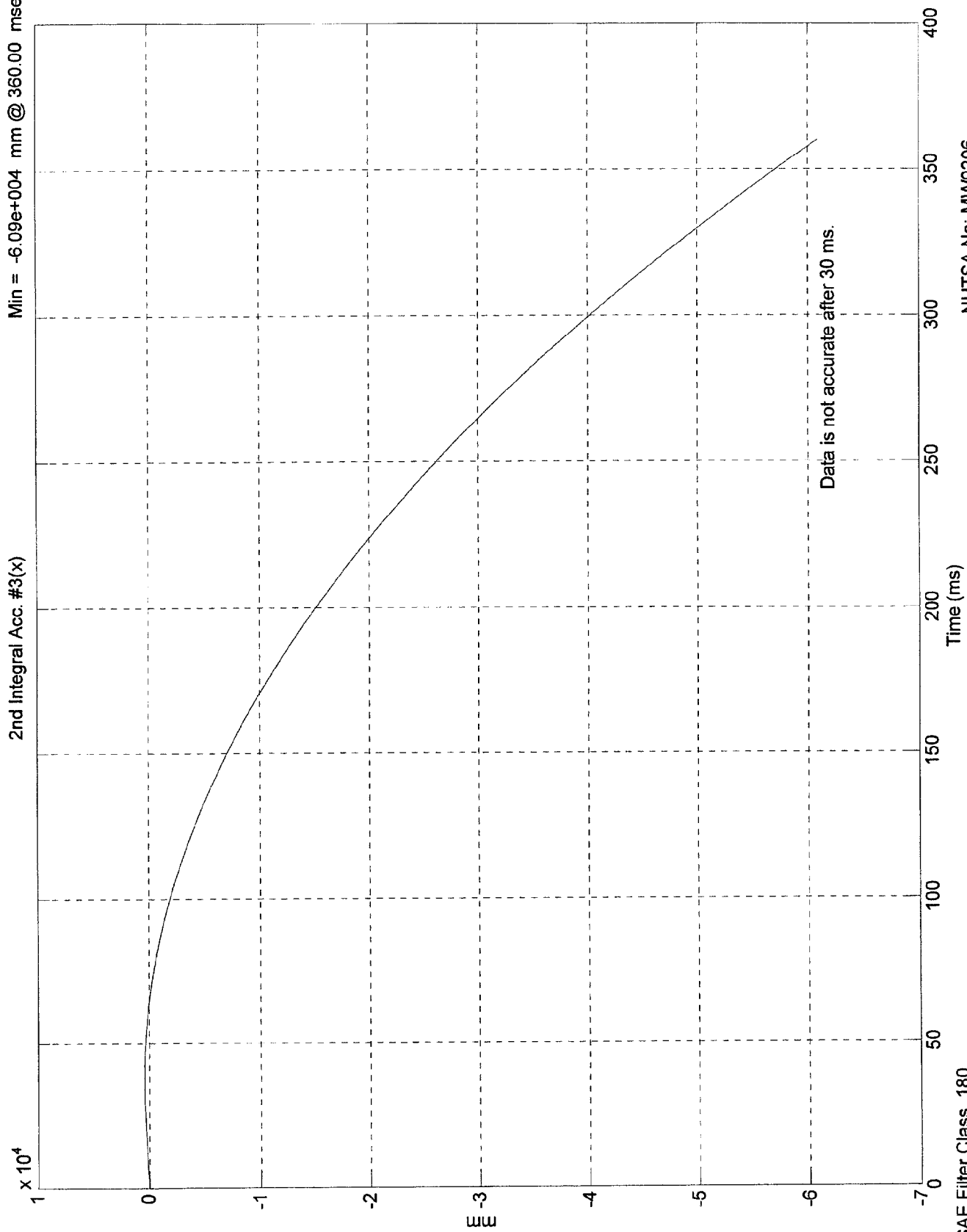


NHTSA No: MW0206
Date: 03 Dec 1997

SAE Filter Class 180

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 436 mm @ 37.50 msec
 Min = -6.09e+004 mm @ 360.00 msec

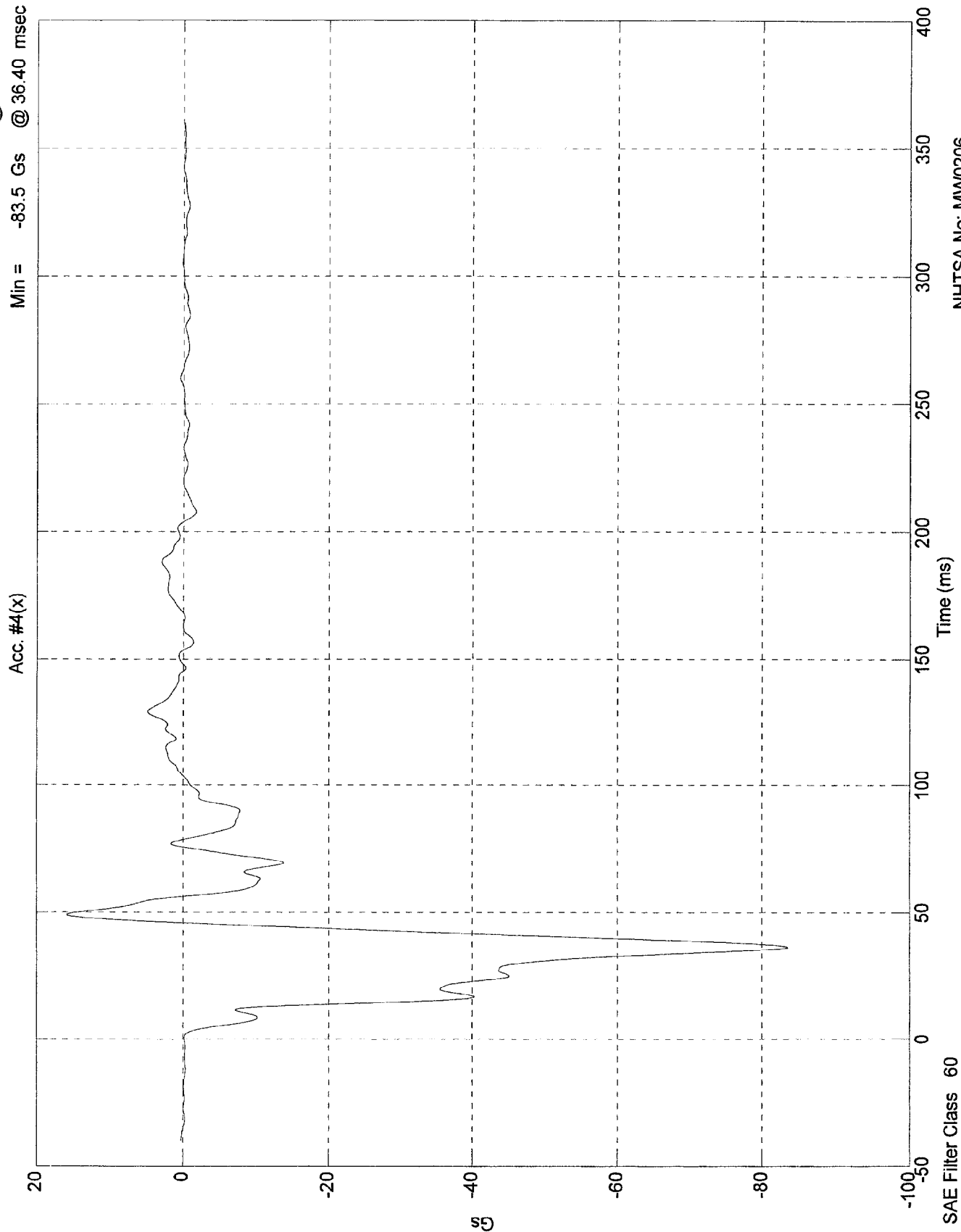


NHTSA No: MW0206
 Date: 03 Dec 1997

SAE Filter Class 180

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 15.8 Gs @ 48.90 msec
Min = -83.5 Gs @ 36.40 msec

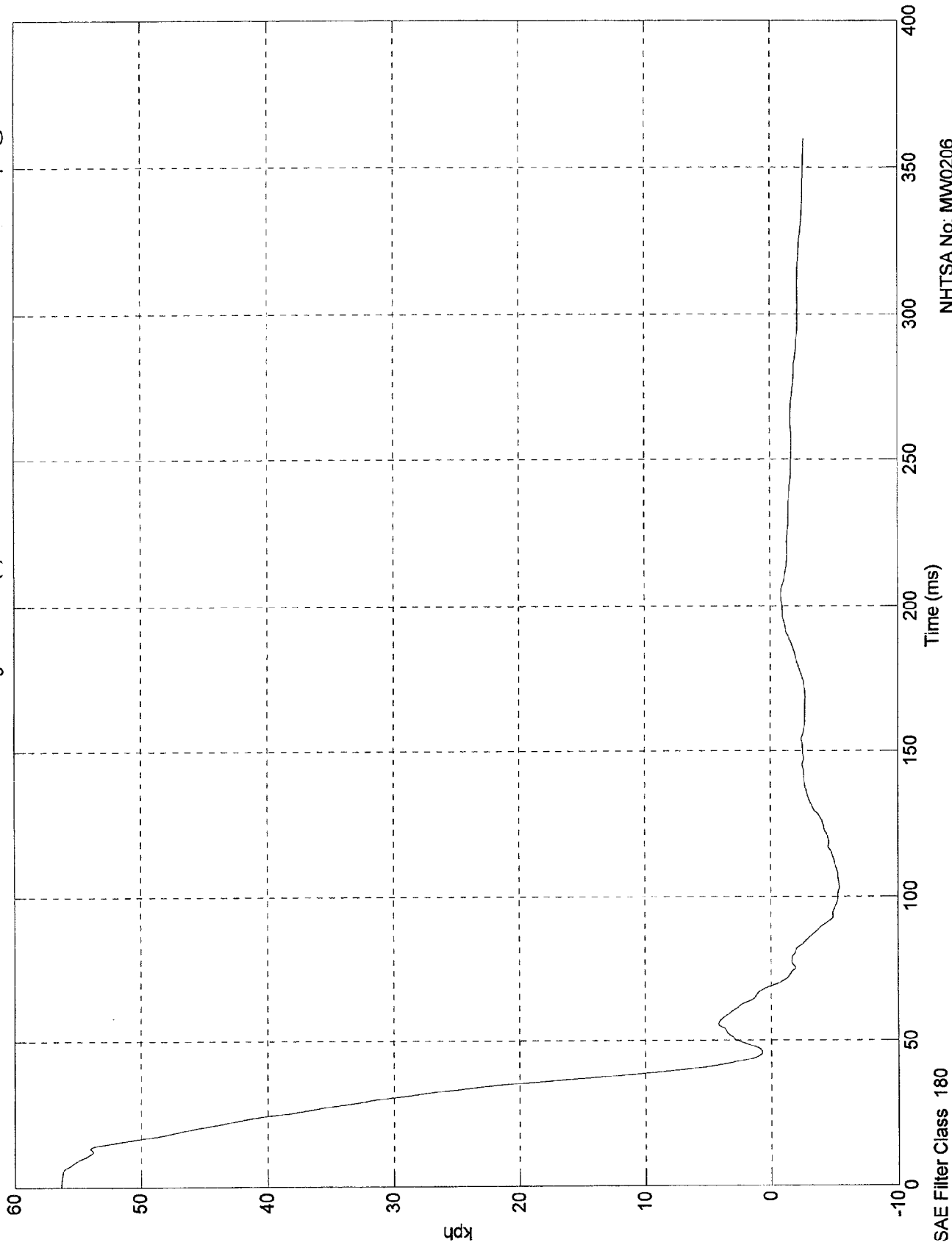


NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 56.3 kph @ 0.00 msec
Min = -5.34 kph @ 103.00 msec

1st Integral Acc. #4(x)



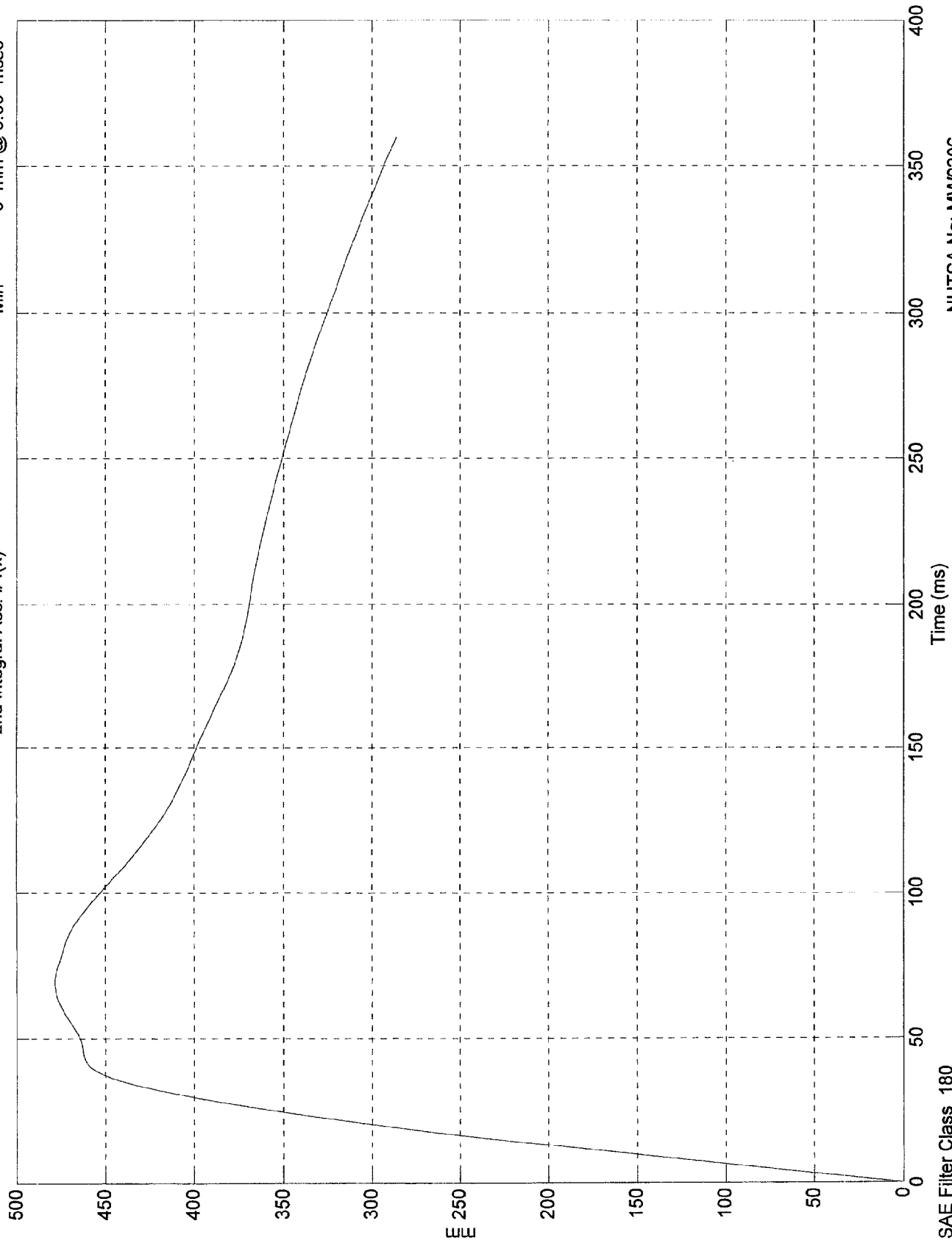
NHTSA No: MW0206
Date: 03 Dec 1997

SAE Filter Class 180

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 479 mm @ 69.10 msec
Min = 0 mm @ 0.00 msec

2nd Integral Acc. #4(x)

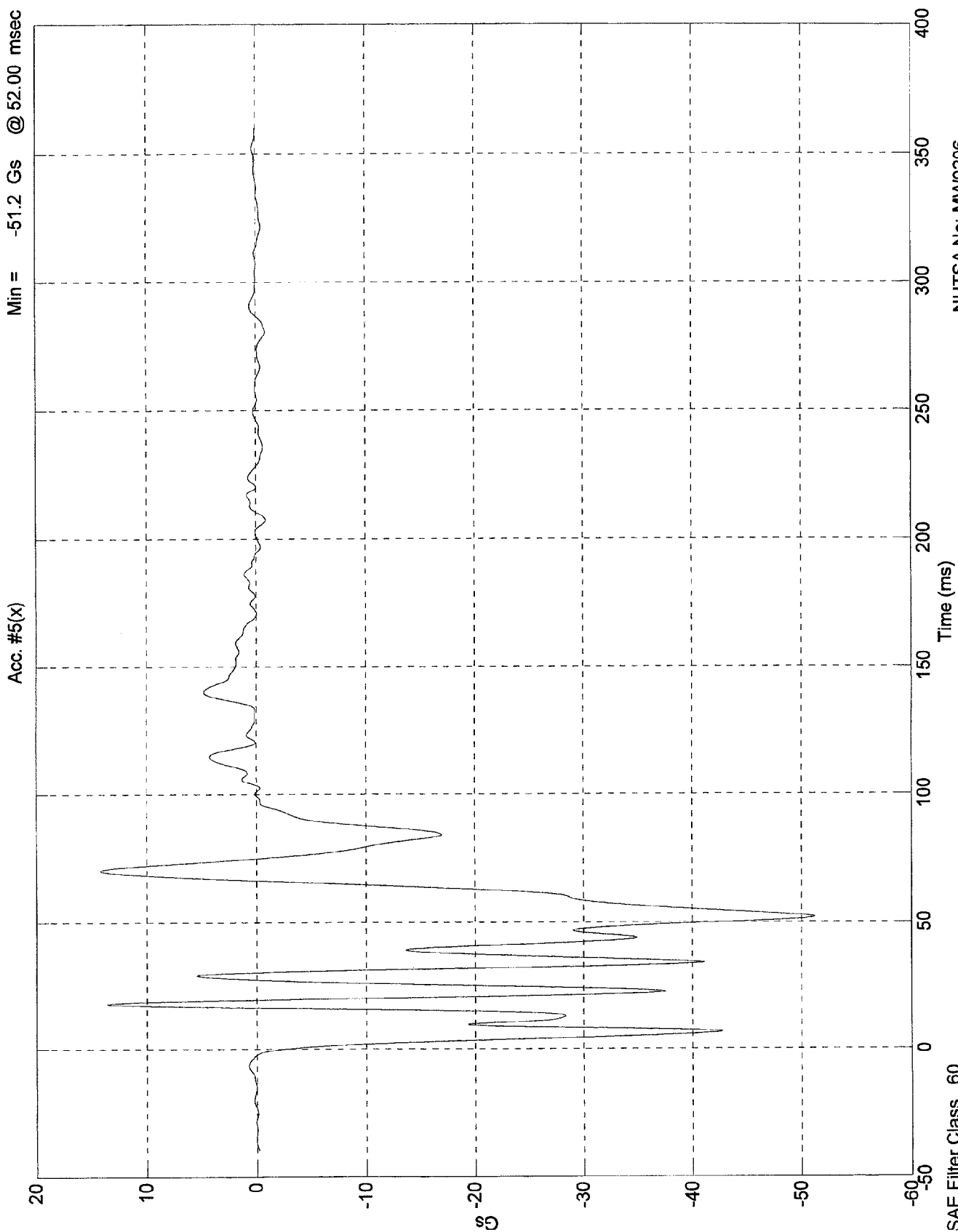


SAE Filter Class 180

NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 14.2 Gs @ 70.20 msec
Min = -51.2 Gs @ 52.00 msec

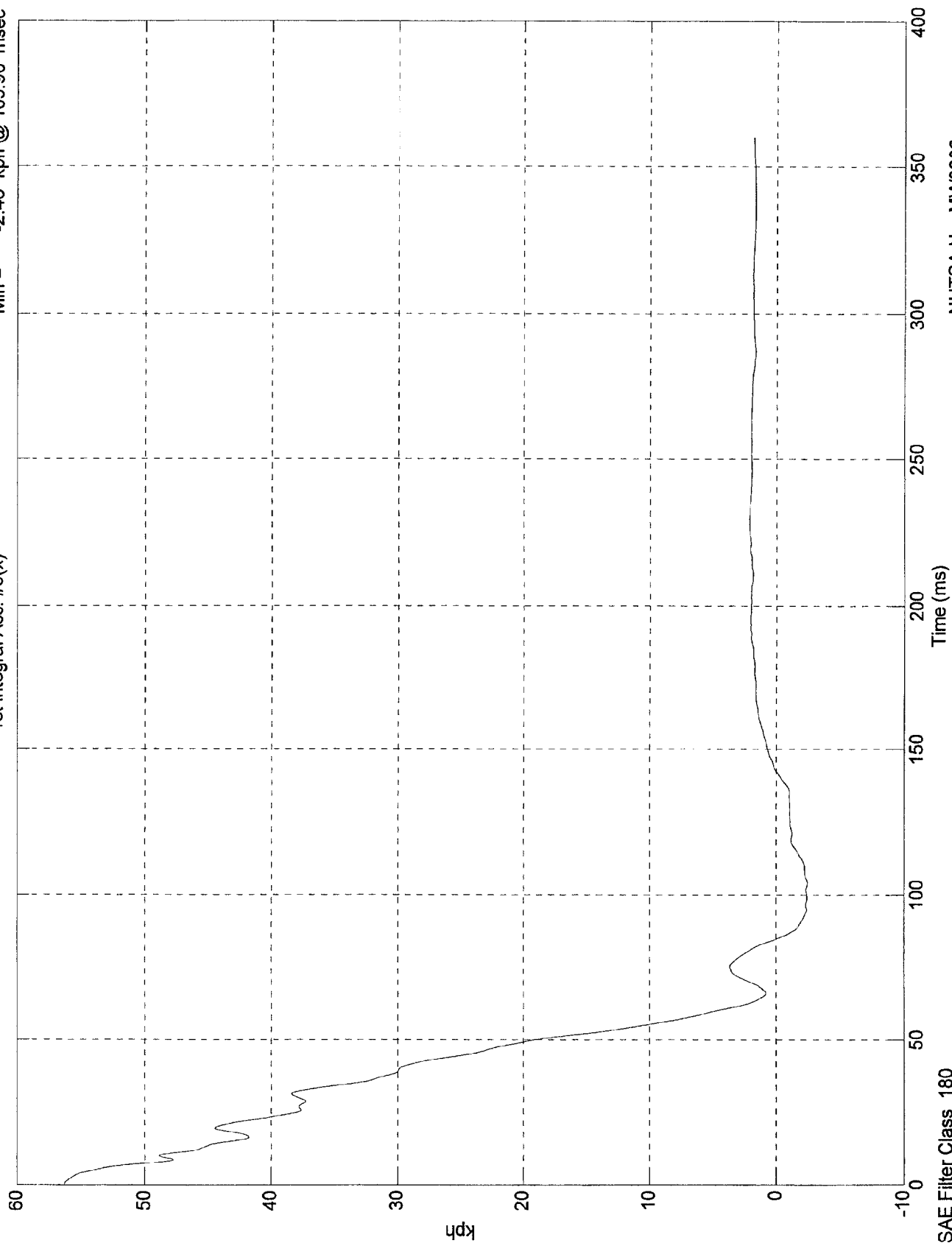


NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 56.3 kph @ 0.00 msec
Min = -2.46 kph @ 103.90 msec

1st Integral Acc. #5(x)



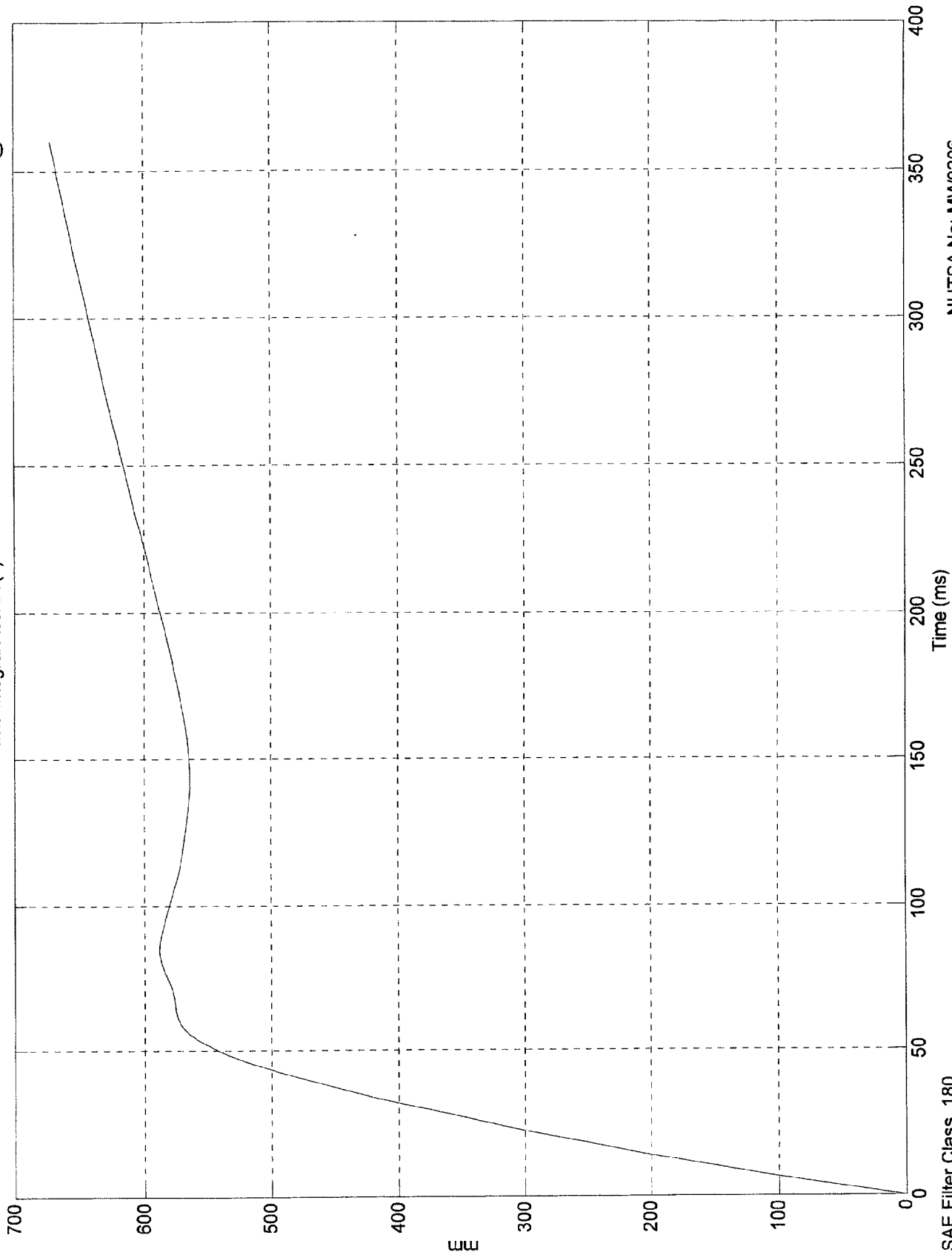
SAE Filter Class 180

NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 672 mm @ 360.00 msec
Min = 0 mm @ 0.00 msec

2nd Integral Acc. #5(x)

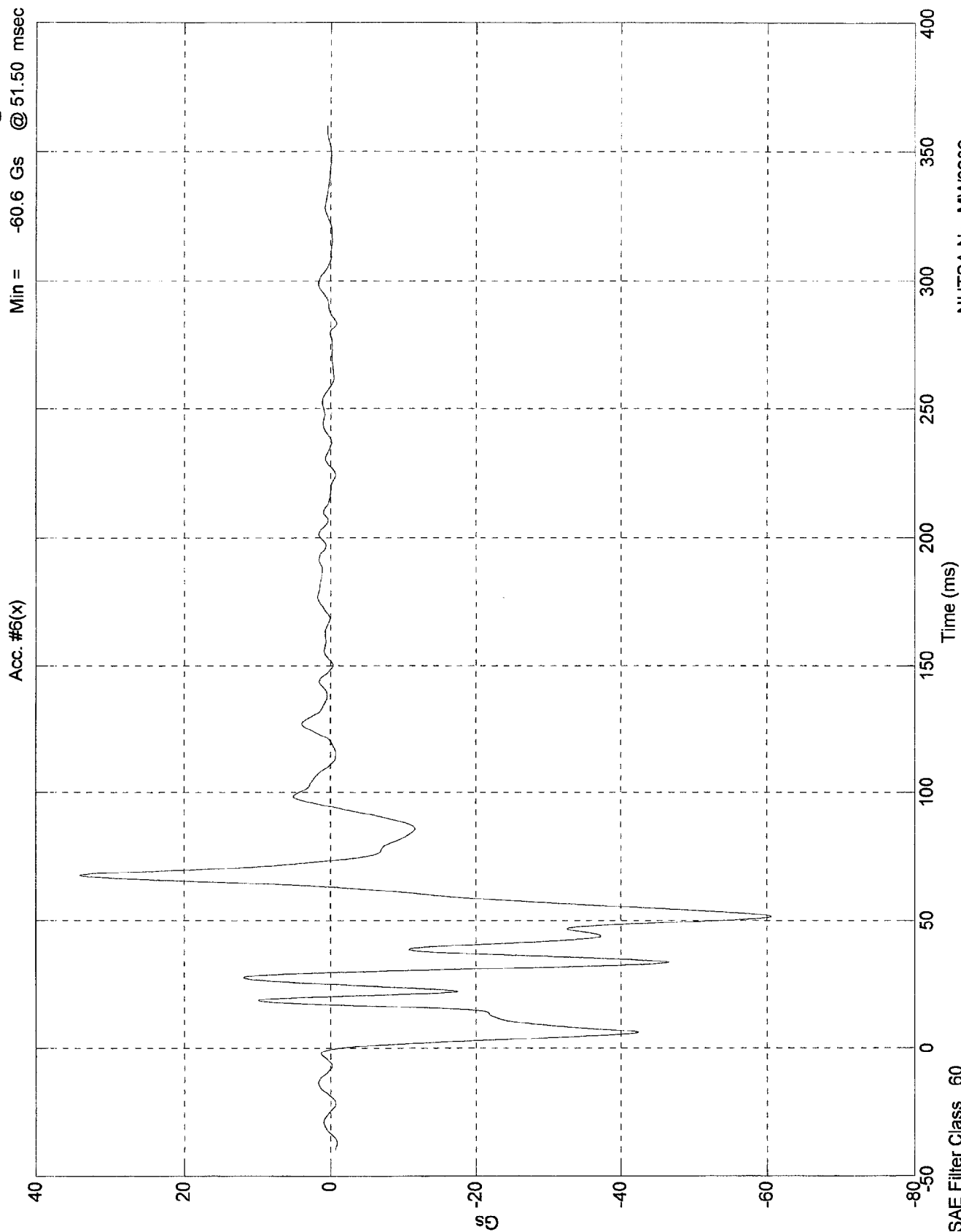


NHTSA No: MW0206
Date: 03 Dec 1997

SAE Filter Class 180

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 34.1 Gs @ 67.50 msec
Min = -60.6 Gs @ 51.50 msec

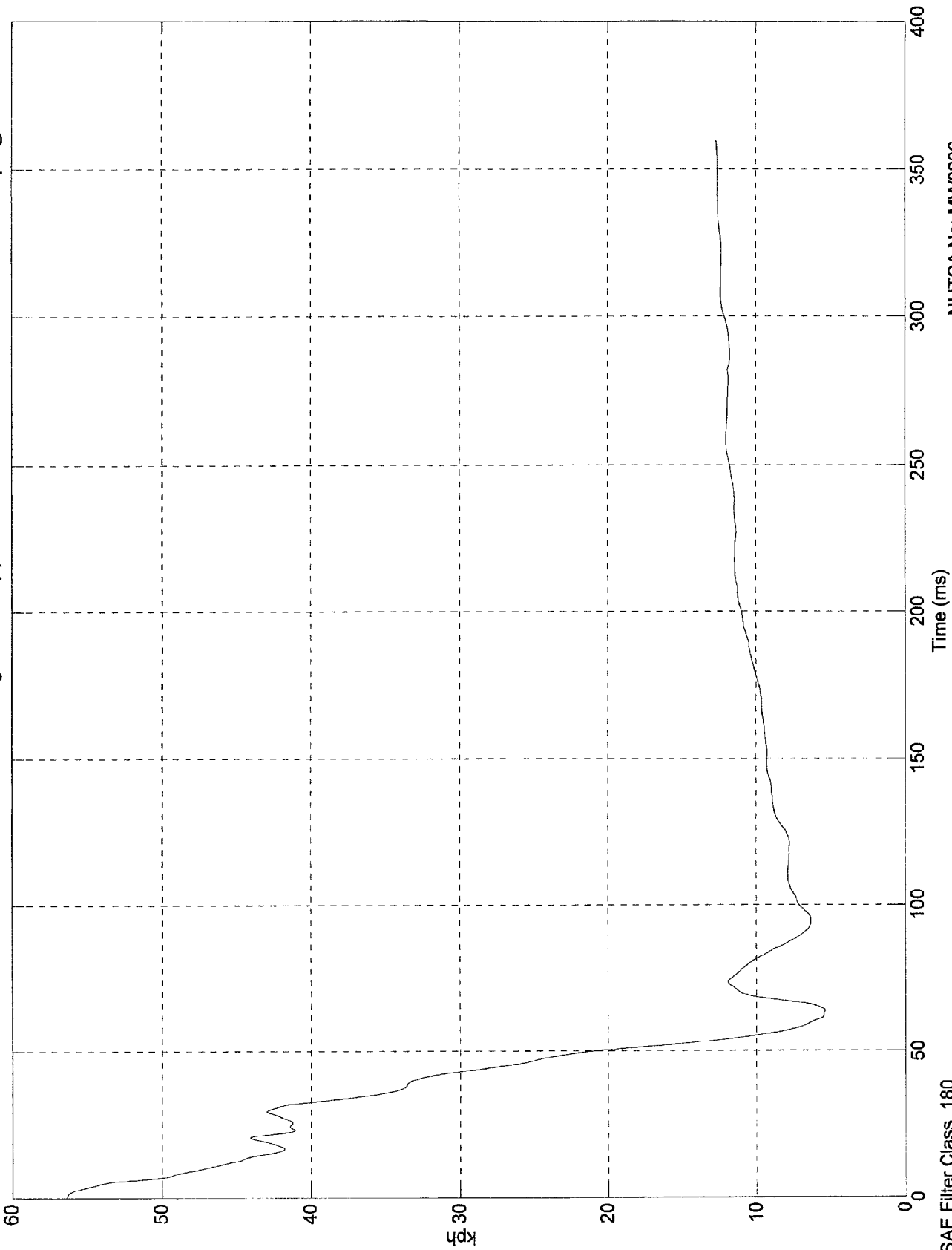


NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 56.3 kph @ 0.30 msec
Min = 5.41 kph @ 64.00 msec

1st Integral Acc. #6(x)



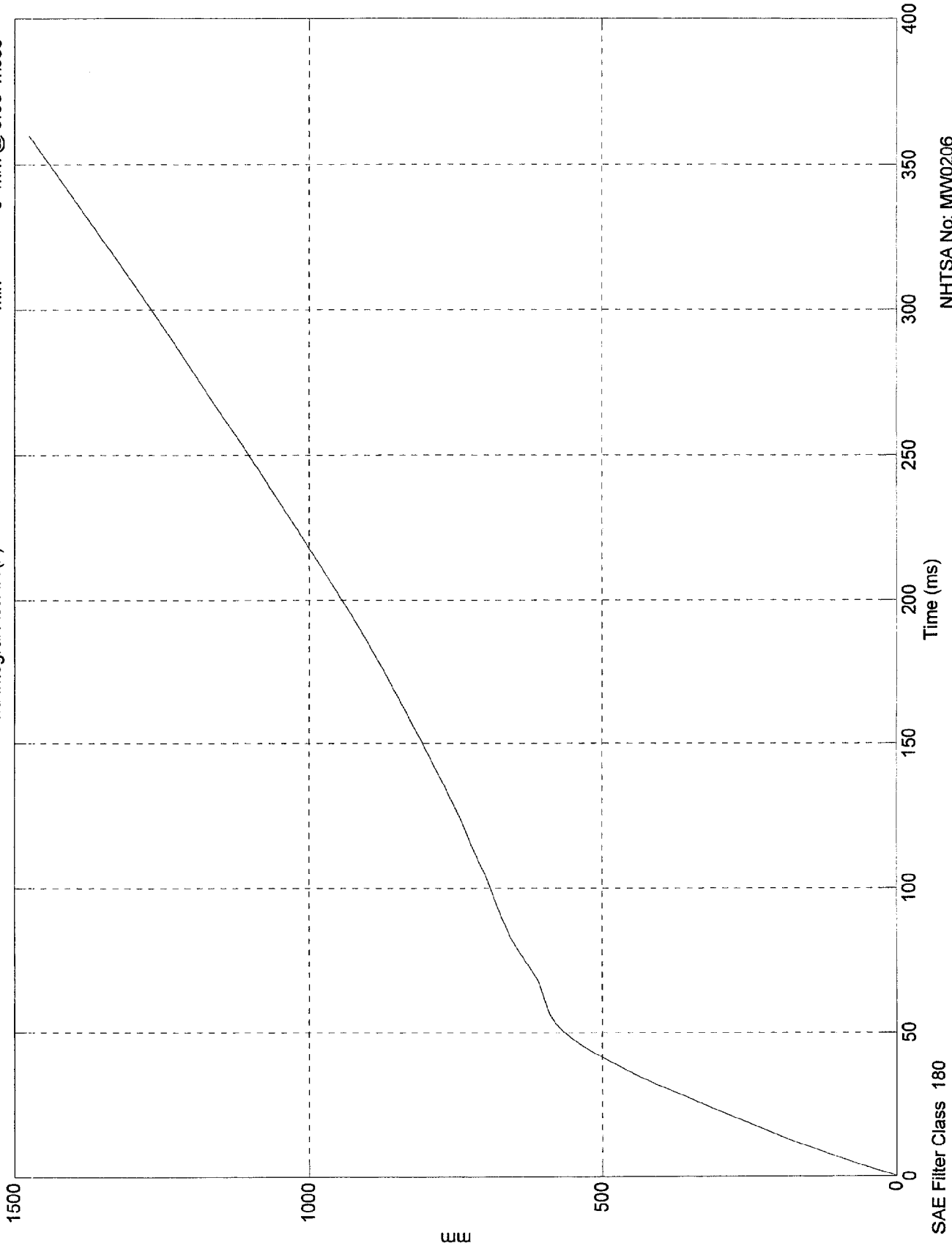
SAE Filter Class 180

NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 1.47e+003 mm @ 360.00 msec
Min = 0 mm @ 0.00 msec

2nd Integral Acc. #6(x)



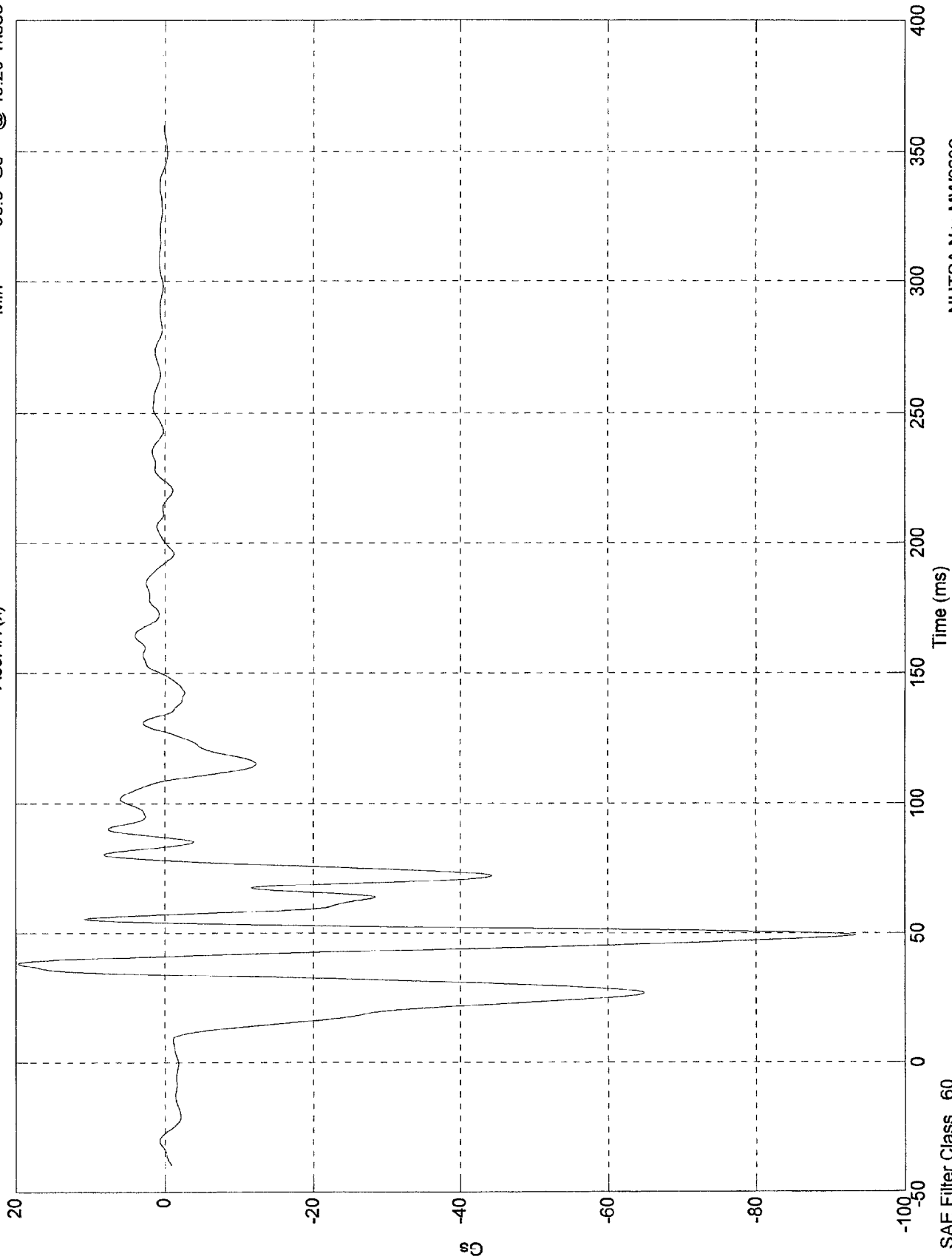
NHTSA No: MW0206
Date: 03 Dec 1997

SAE Filter Class 180

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 19.6 Gs @ 38.20 msec
Min = -93.3 Gs @ 49.20 msec

Acc. #7(x)



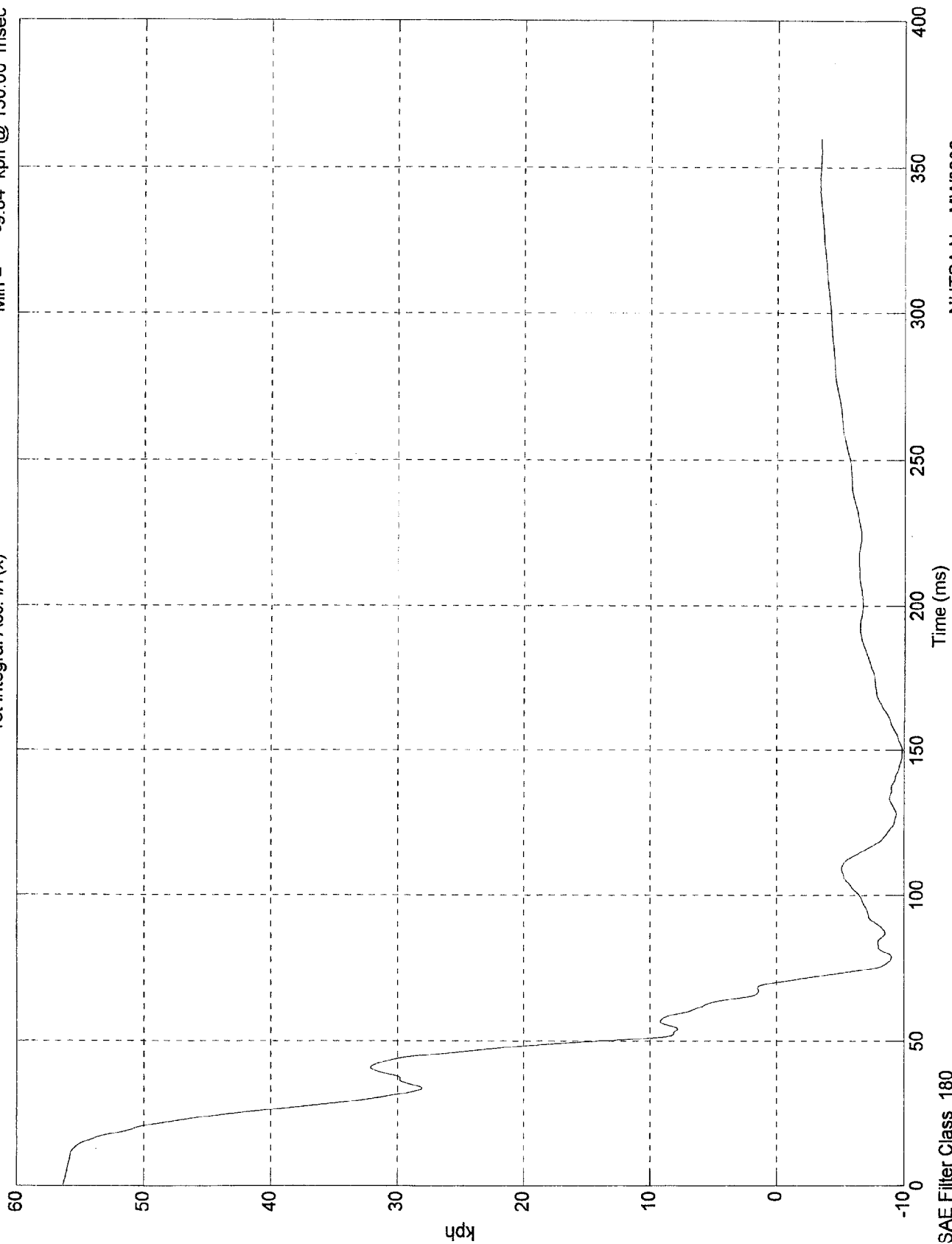
NHTSA No: MW0206
Date: 03 Dec 1997

SAE Filter Class 60

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 56.3 kph @ 0.00 msec
Min = -9.84 kph @ 150.00 msec

1st Integral Acc. #7(x)



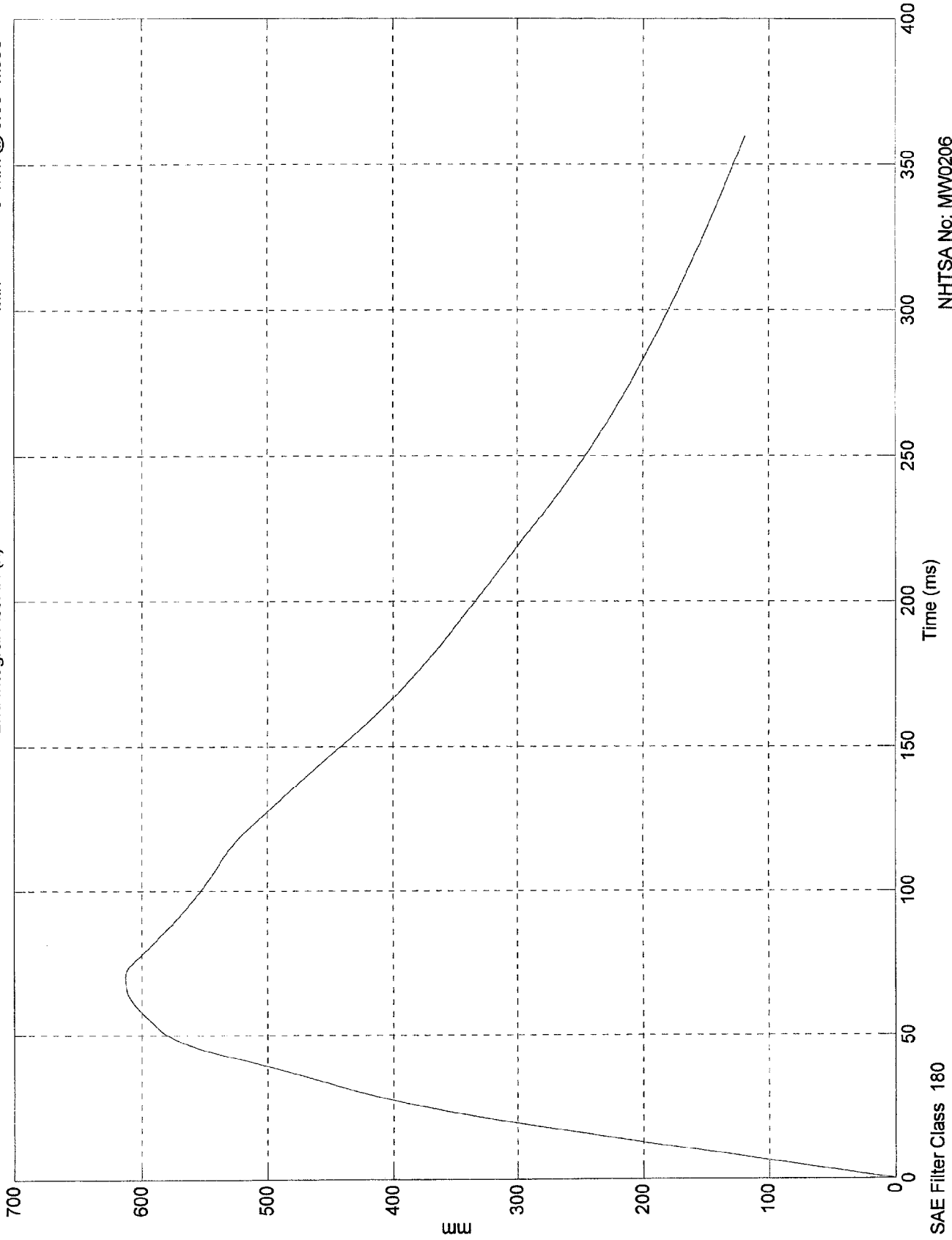
NHTSA No: MW0206
Date: 03 Dec 1997

SAE Filter Class 180

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 613 mm @ 69.90 msec
Min = 0 mm @ 0.00 msec

2nd Integral Acc. #7(x)

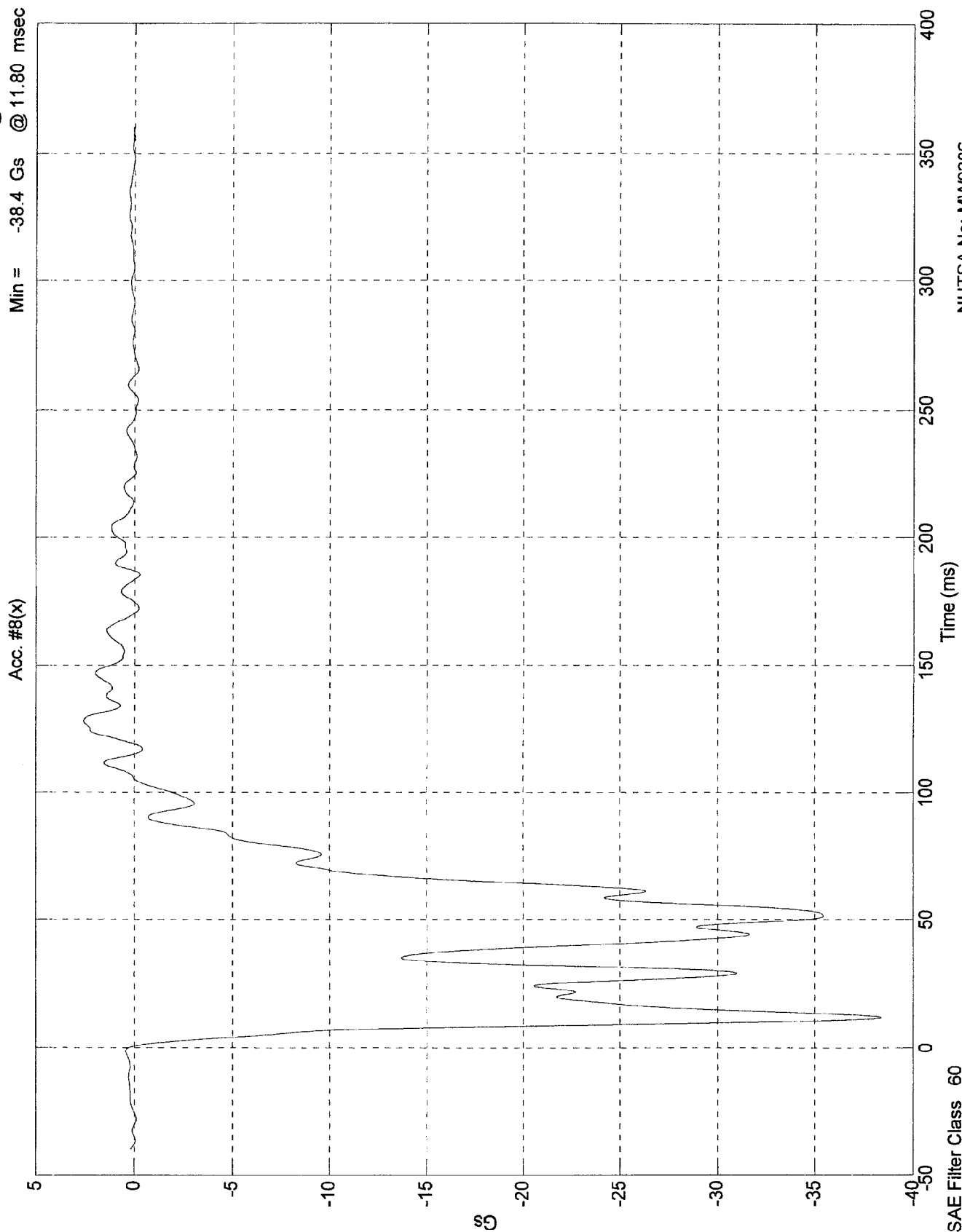


NHTSA No: MW0206
Date: 03 Dec 1997

SAE Filter Class 180

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 2.57 Gs @ 128.20 msec
Min = -38.4 Gs @ 11.80 msec

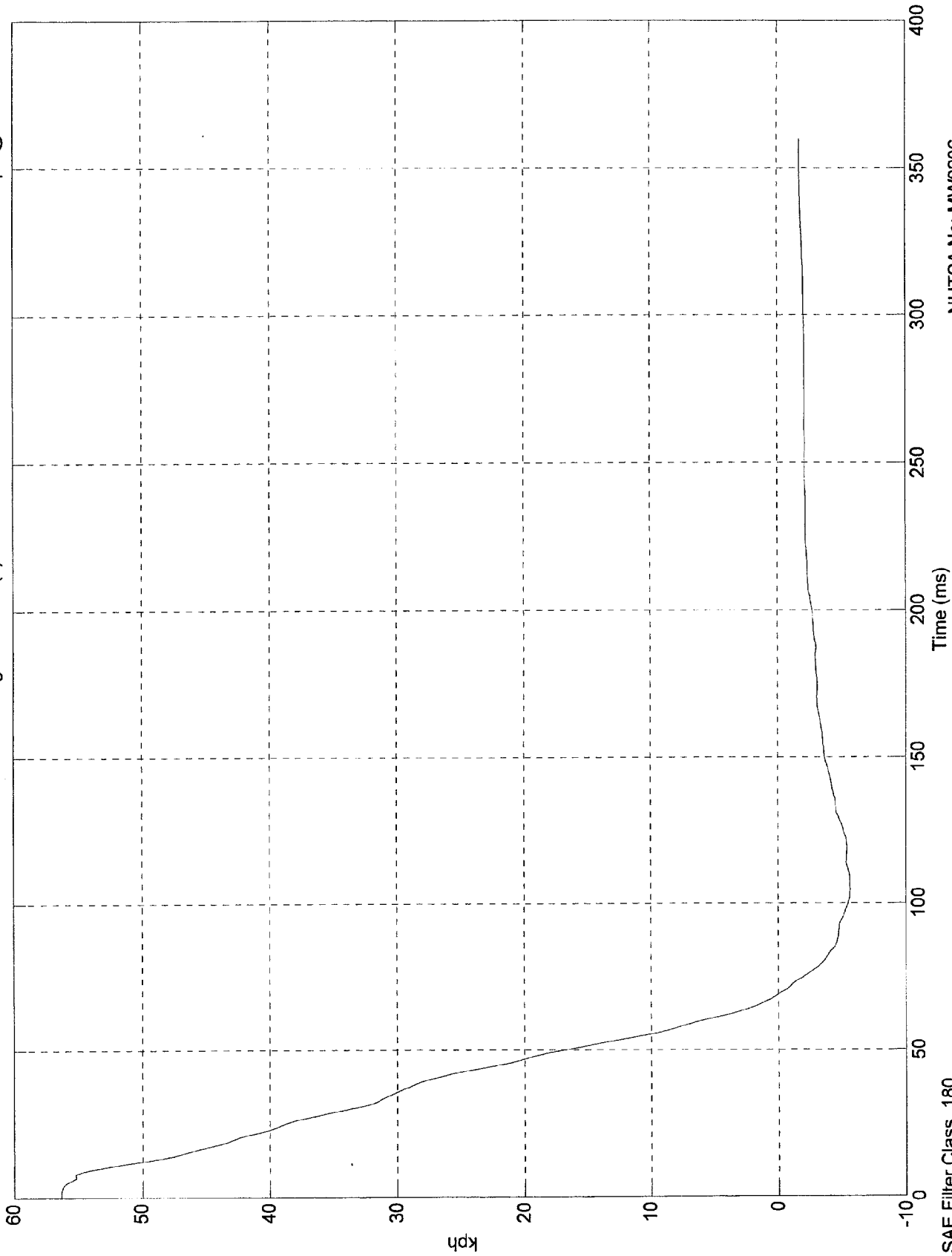


NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 56.3 kph @ 1.20 msec
Min = -5.6 kph @ 104.80 msec

1st Integral Acc. #8(x)



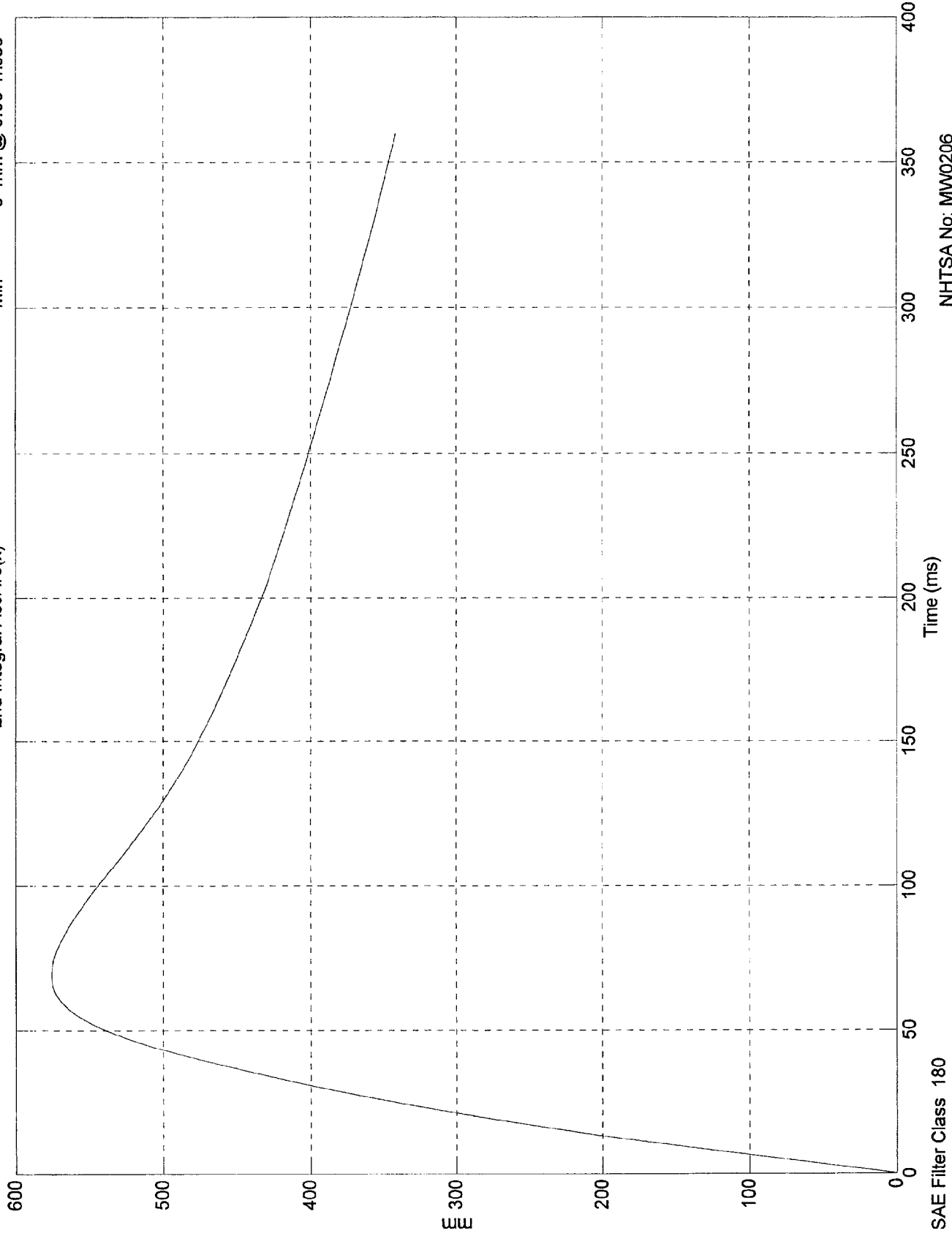
SAE Filter Class 180

NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 575 mm @ 69.10 msec
Min = 0 mm @ 0.00 msec

2nd Integral Acc. #8(x)

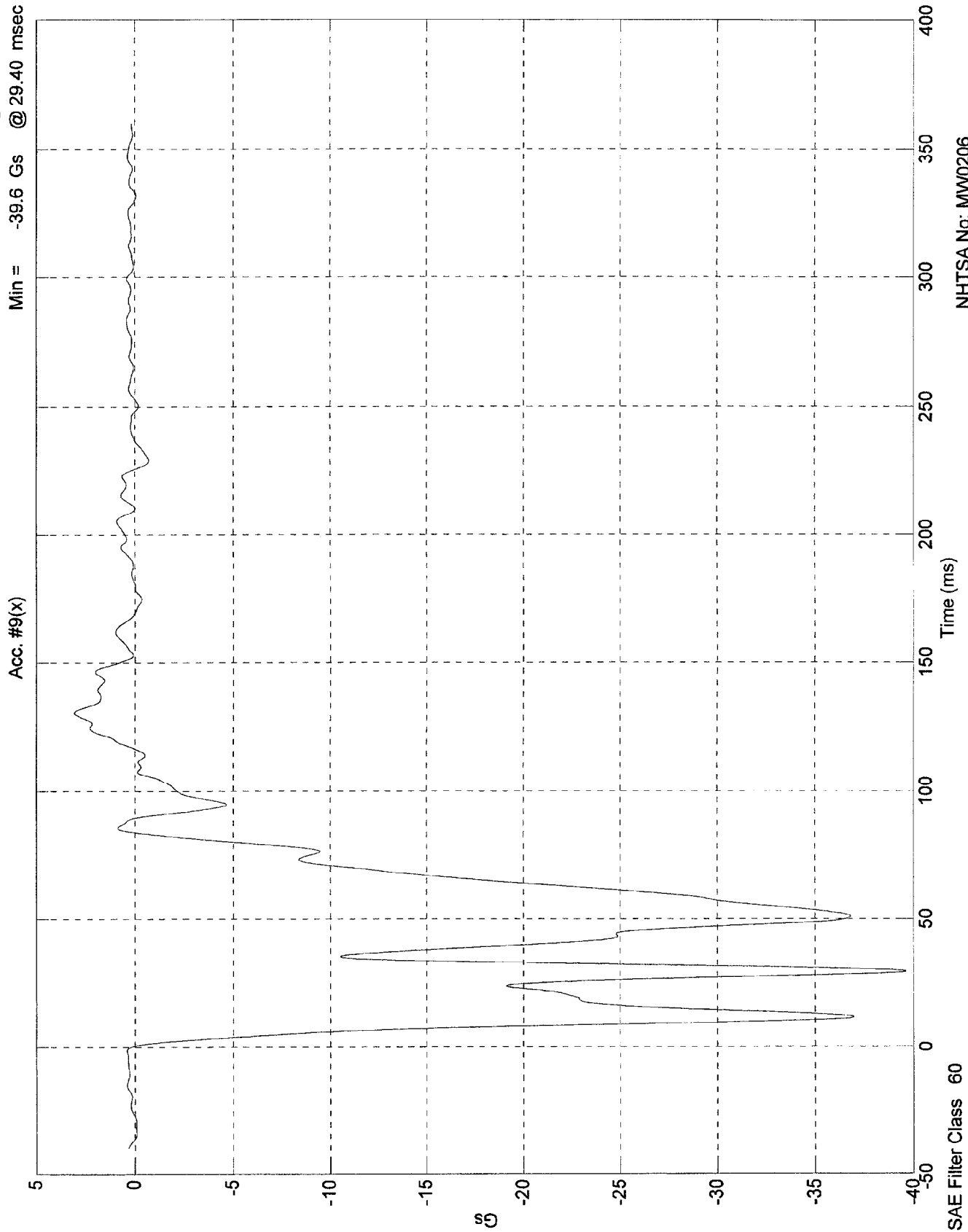


NHTSA No: MW0206
Date: 03 Dec 1997

SAE Filter Class 180

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 3.07 Gs @ 130.40 msec
Min = -39.6 Gs @ 29.40 msec

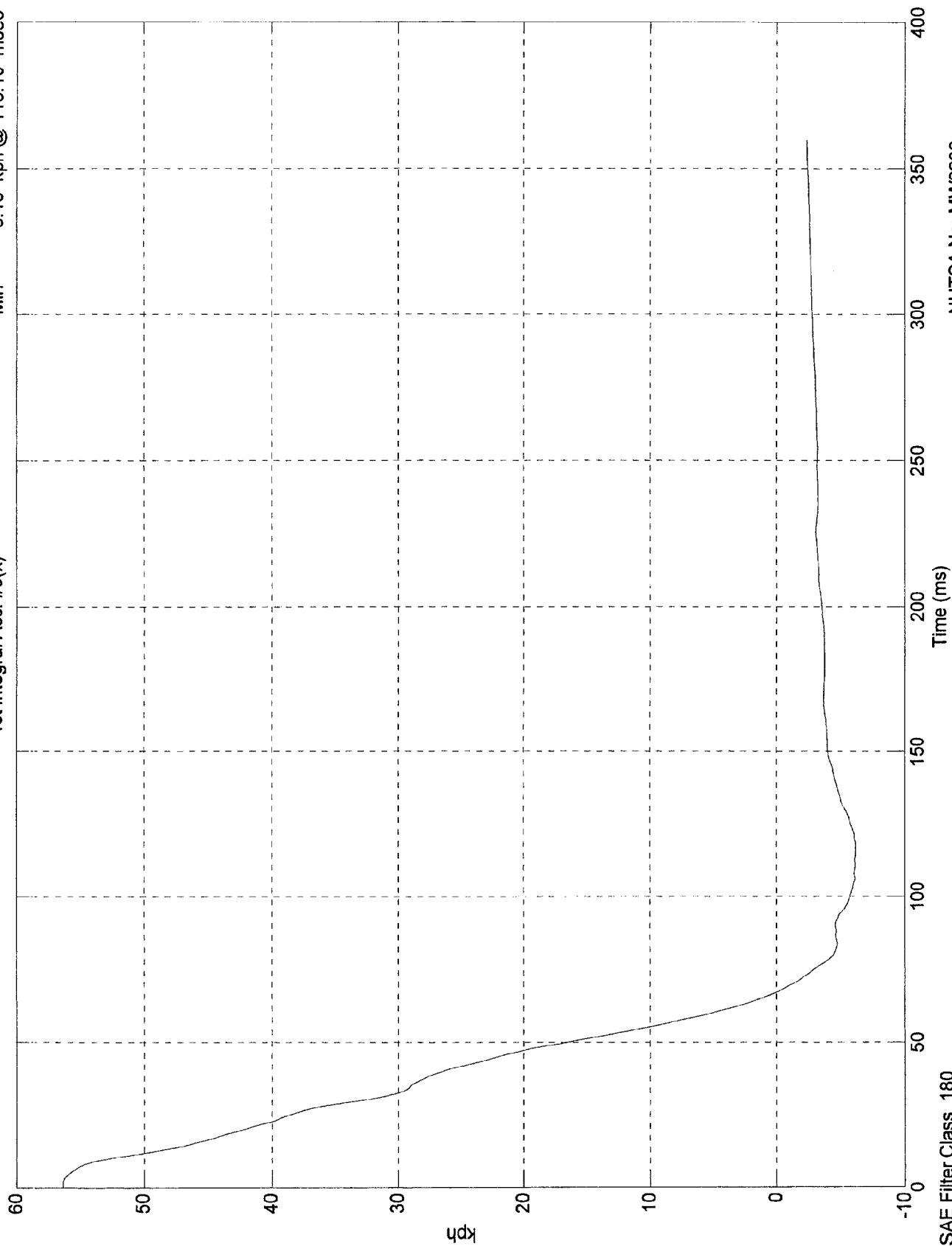


NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 56.3 kph @ 1.40 msec
Min = -6.15 kph @ 116.10 msec

1st Integral Acc. #9(x)



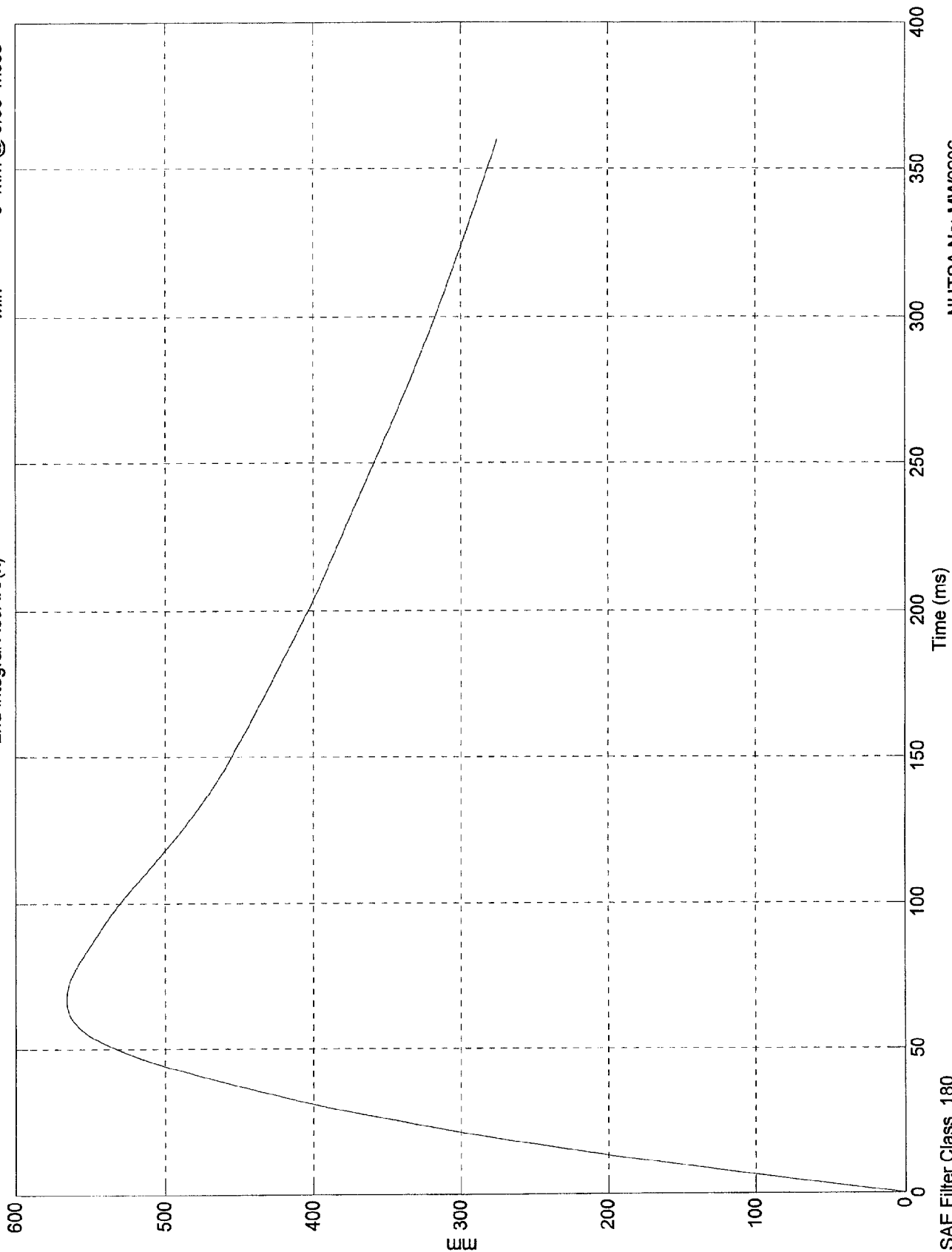
NHTSA No: MW0206
Date: 03 Dec 1997

SAE Filter Class 180

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 566 mm @ 67.10 msec
Min = 0 mm @ 0.00 msec

2nd Integral Acc. #9(x)



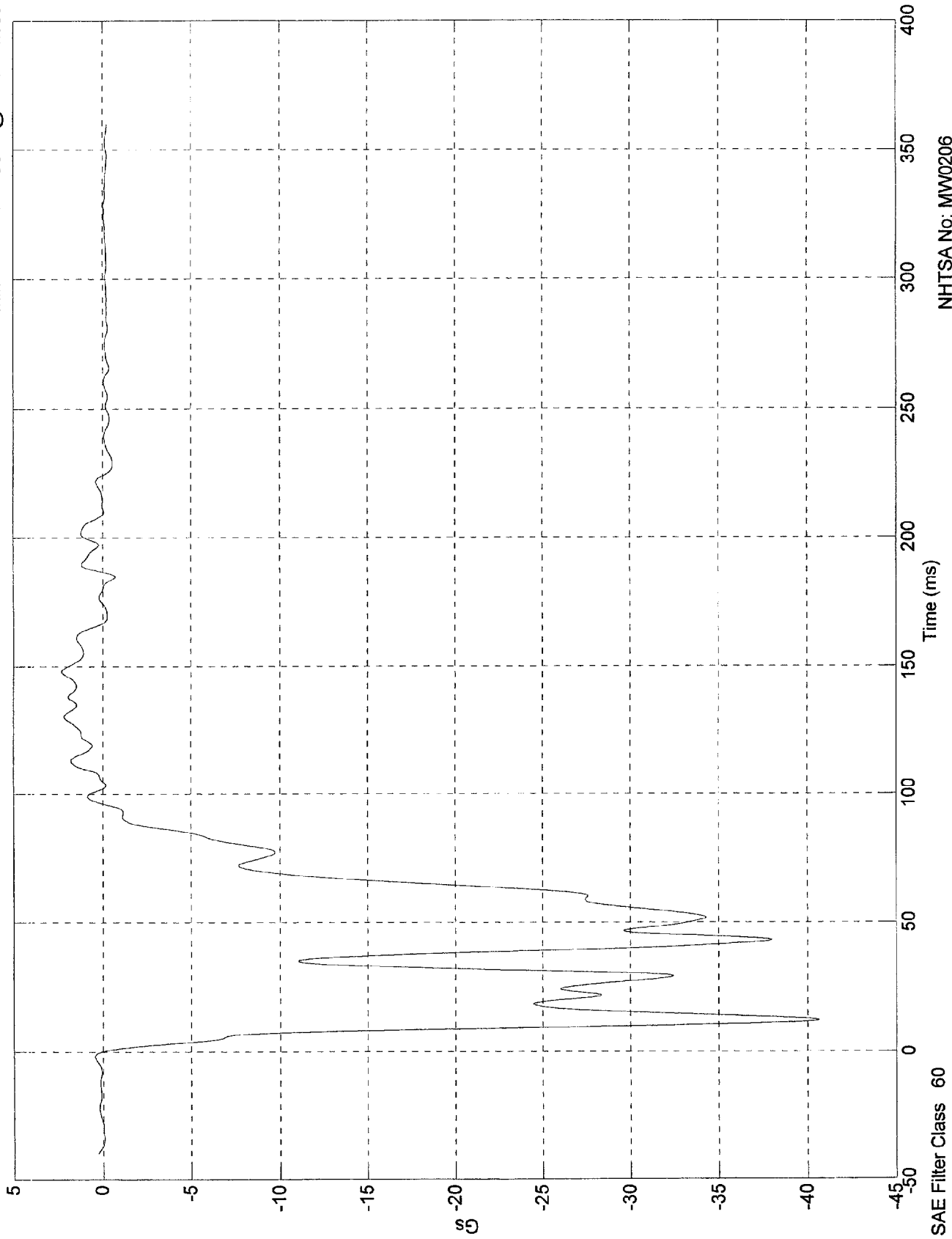
NHTSA No: MW0206
Date: 03 Dec 1997

SAE Filter Class 180

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 2.3 Gs @ 147.90 msec
Min = -40.7 Gs @ 12.00 msec

Acc 10 Left B-Pillar X



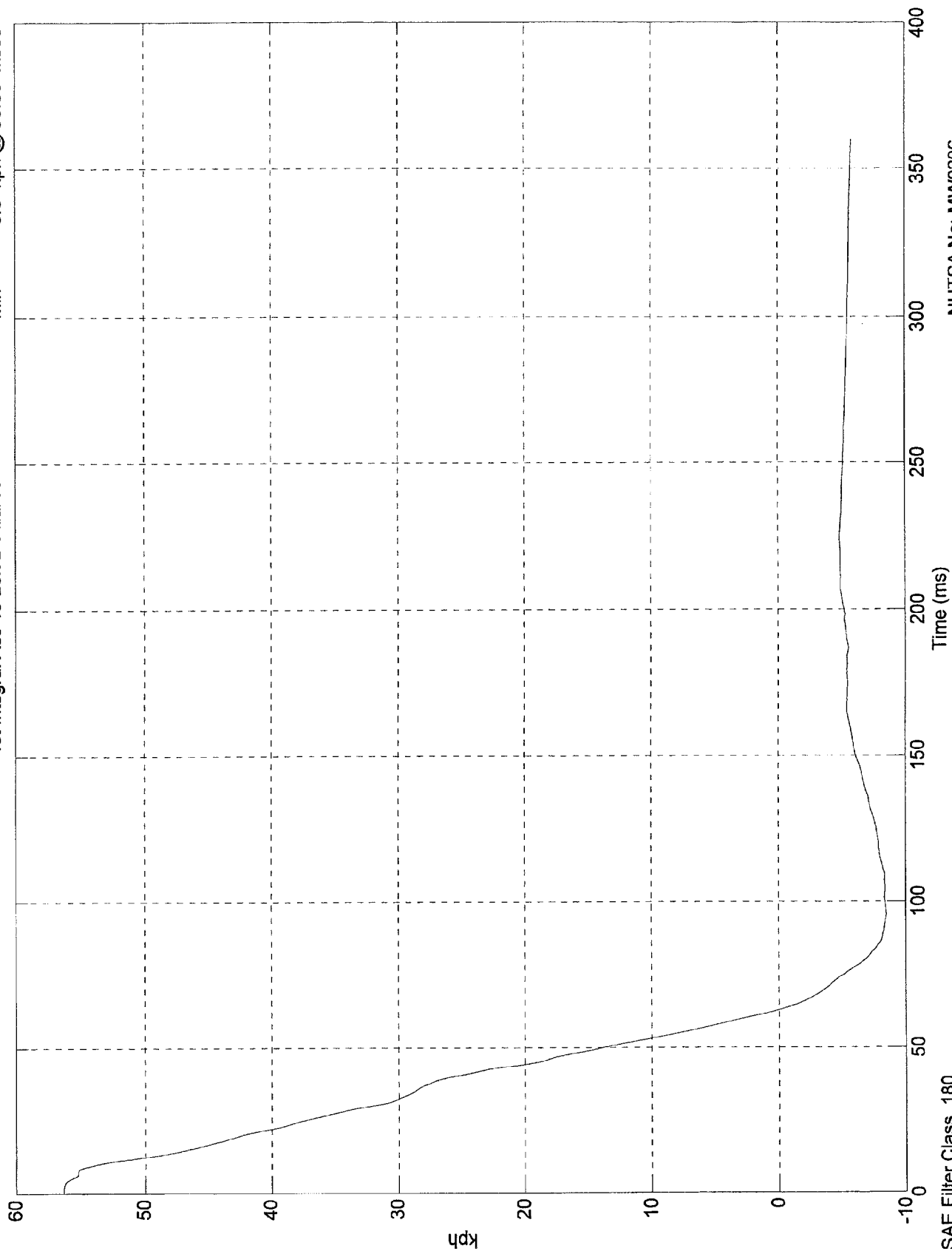
NHTSA No: MW0206
Date: 03 Dec 1997

SAE Filter Class 60

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 56.3 kph @ 0.70 msec
Min = -8.5 kph @ 95.60 msec

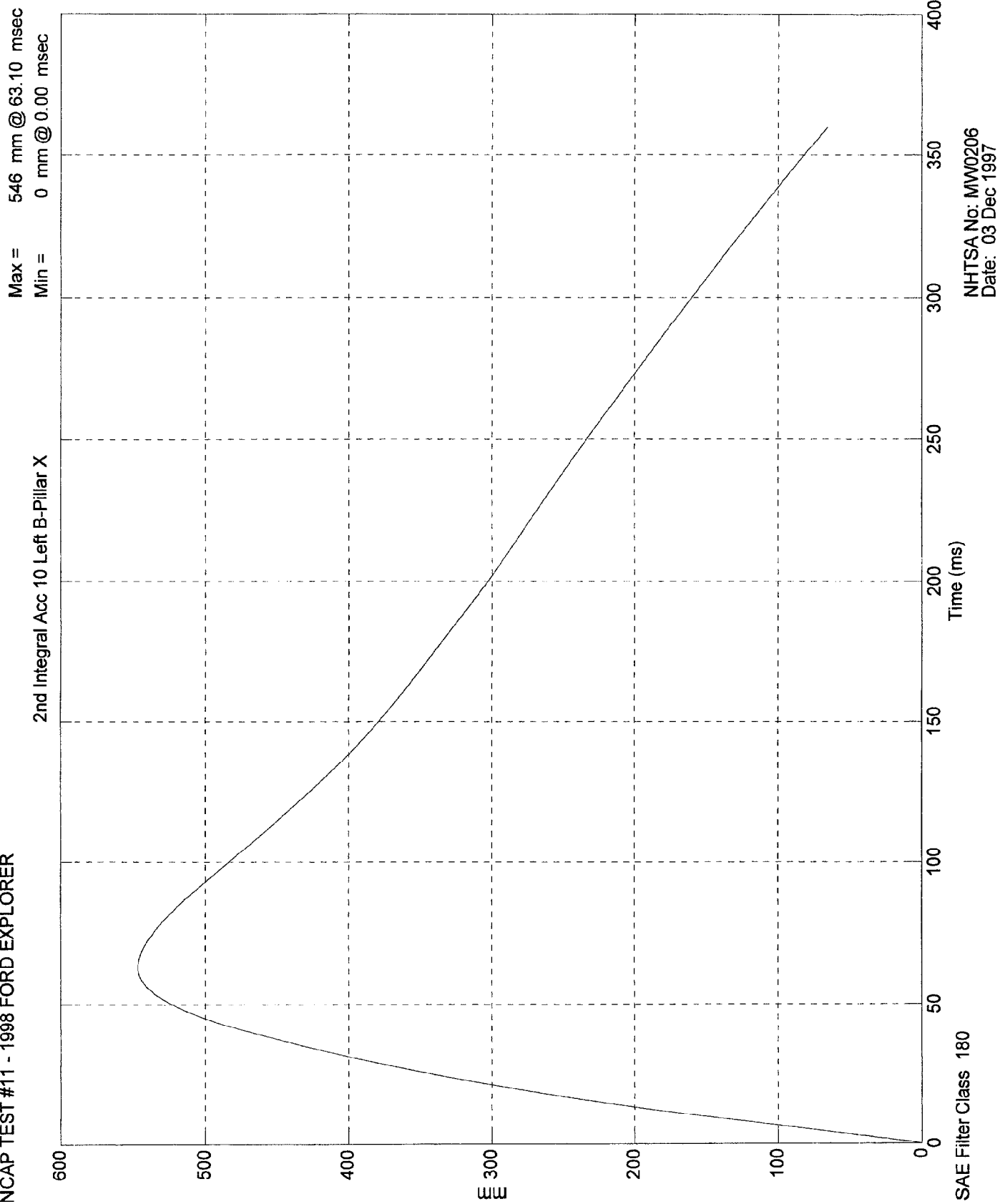
1st Integral Acc 10 Left B-Pillar X



NHTSA No: MW0206
Date: 03 Dec 1997

SAE Filter Class 180

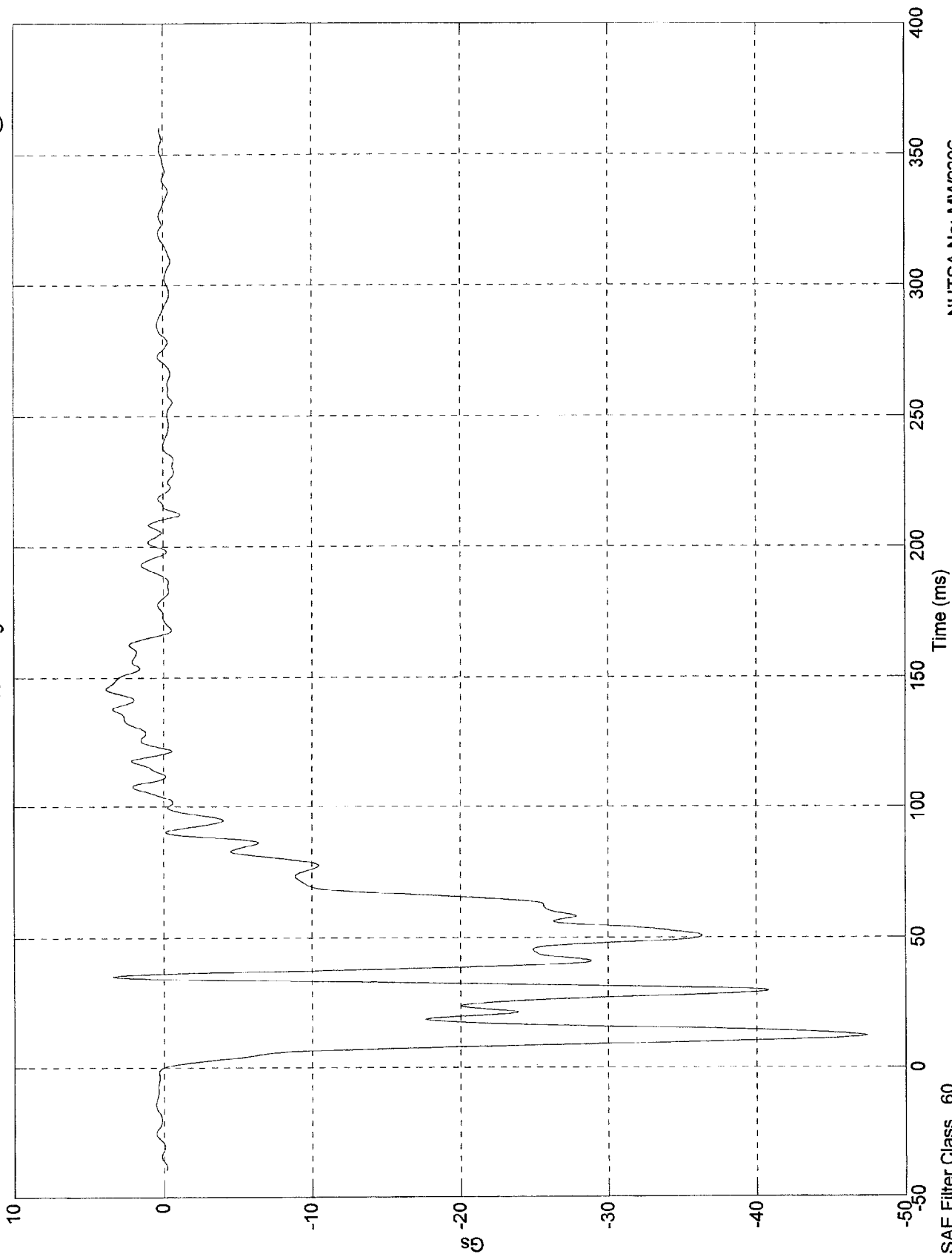
NCAP TEST #11 - 1998 FORD EXPLORER



NCAP TEST #11 - 1998 FORD EXPLORER

Max = 3.83 Gs @ 145.60 msec
Min = -47.4 Gs @ 12.30 msec

Acc 11 Right B-Pillar X



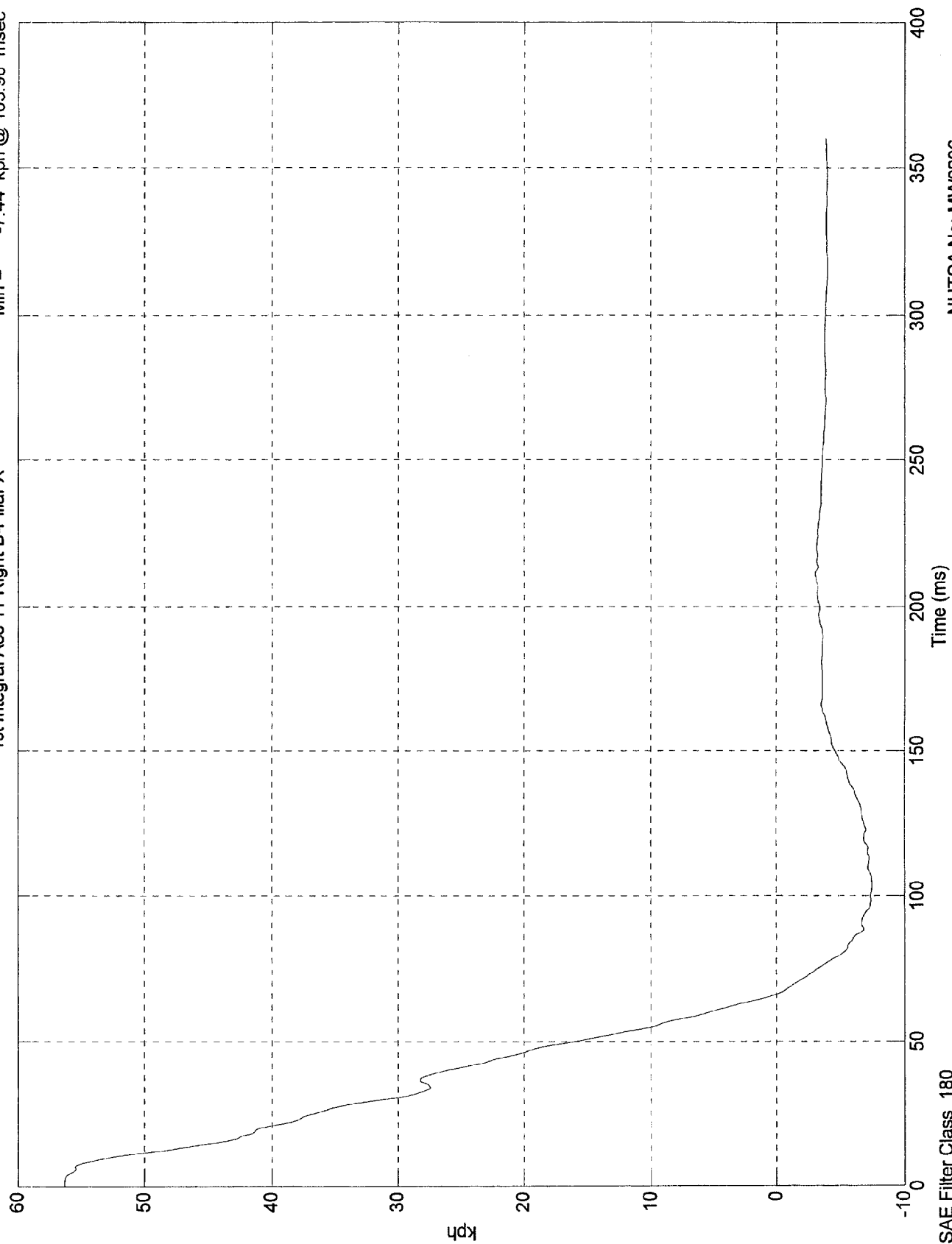
SAE Filter Class 60

NHTSA No: MW0206
Date: 03 Dec 1997

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 56.3 kph @ 1.00 msec
Min = -7.44 kph @ 103.90 msec

1st Integral Acc 11 Right B-Pillar X



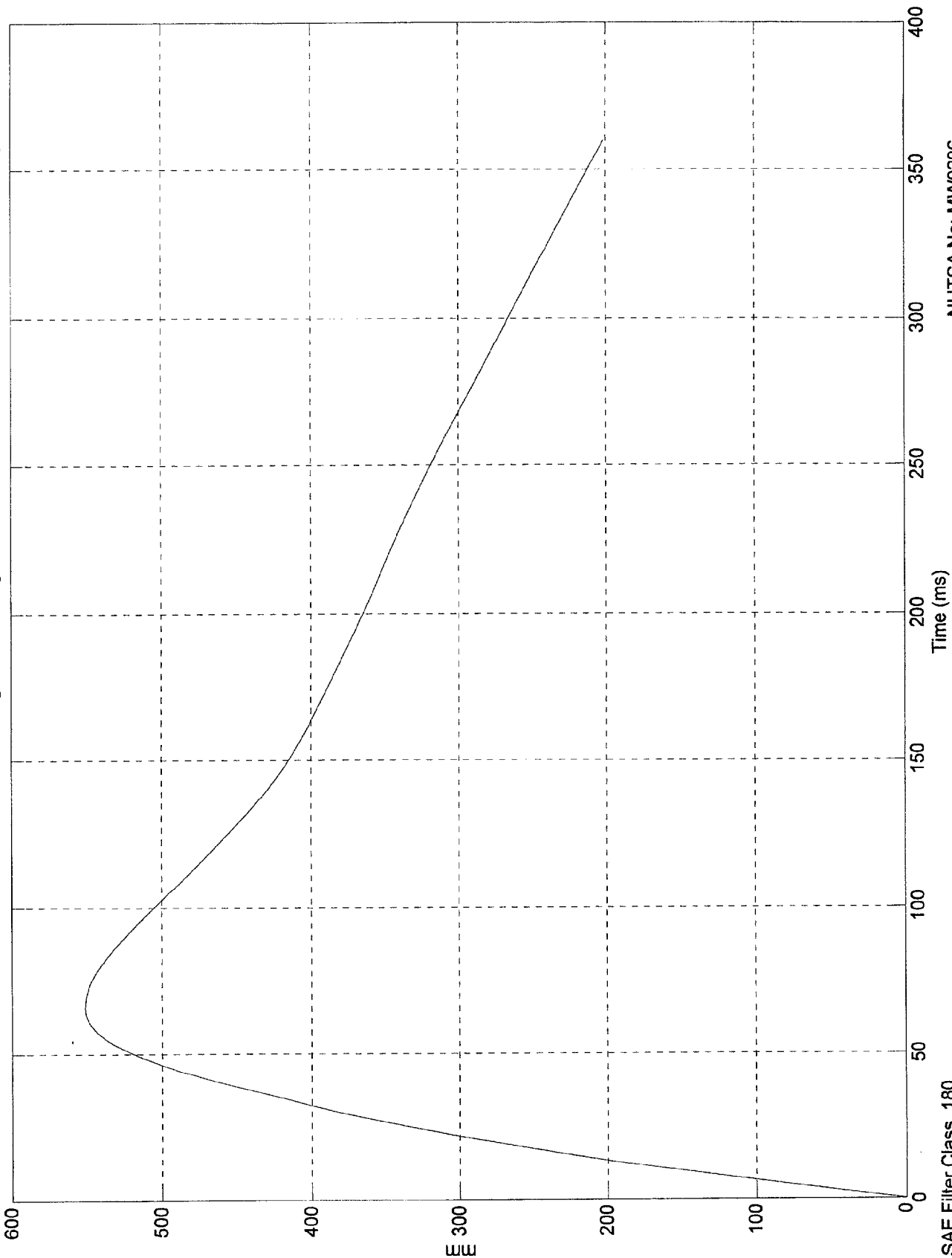
NHTSA No: MW0206
Date: 03 Dec 1997

SAE Filter Class 180

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 551 mm @ 66.20 msec
Min = 0 mm @ 0.00 msec

2nd Integral Acc 11 Right B-Pillar X

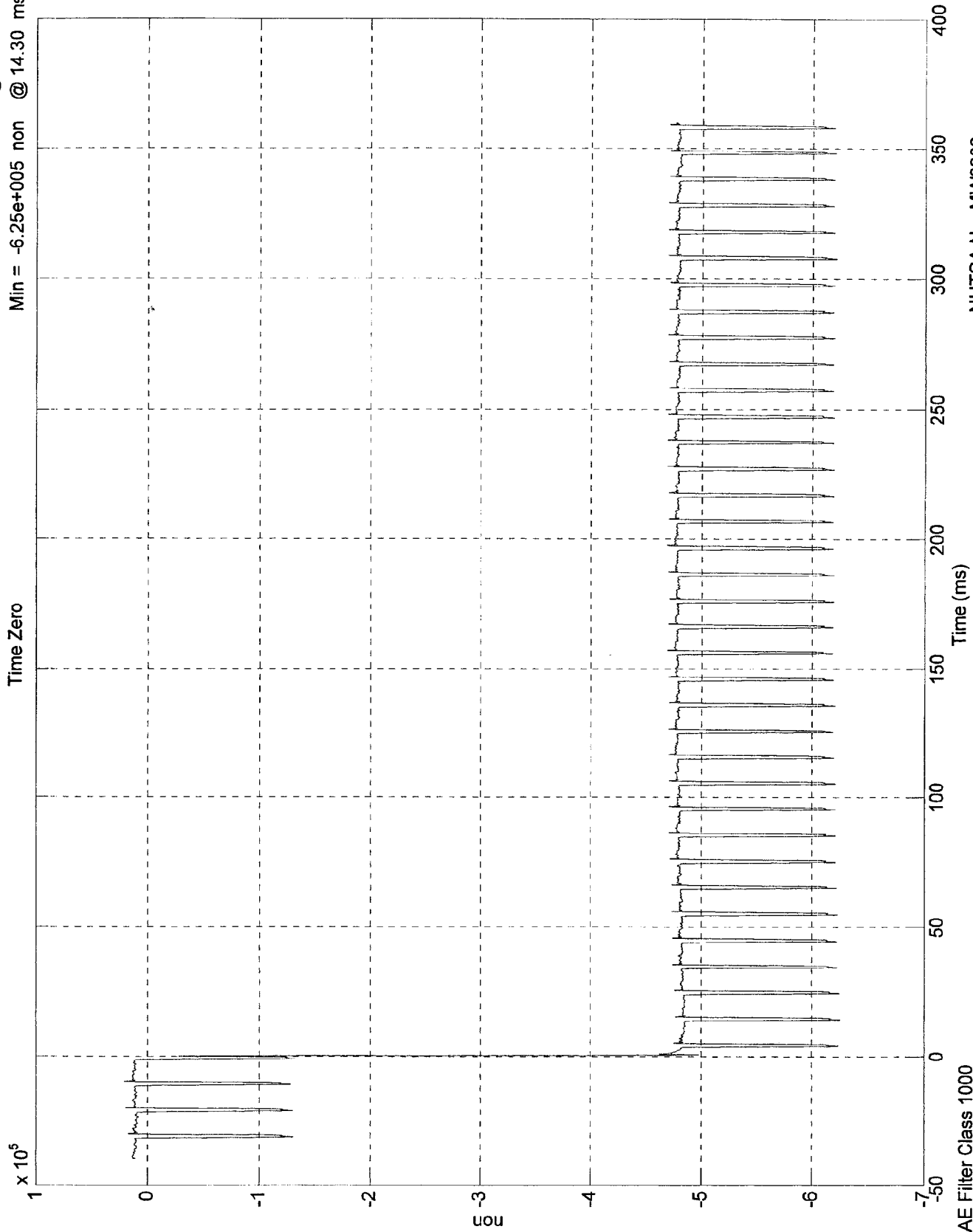


NHTSA No: MW0206
Date: 03 Dec 1997

SAE Filter Class 180

NCAP TEST #11 - 1998 FORD EXPLORER

Max = 2.12e+004 non @ -9.80 msec
Min = -6.25e+005 non @ 14.30 msec



NHTSA No: MW0206
Date: 03 Dec 1997

Appendix C

**PART 572B/E DUMMY CONFIGURATION
AND PERFORMANCE VERIFICATION DATA SHEETS**

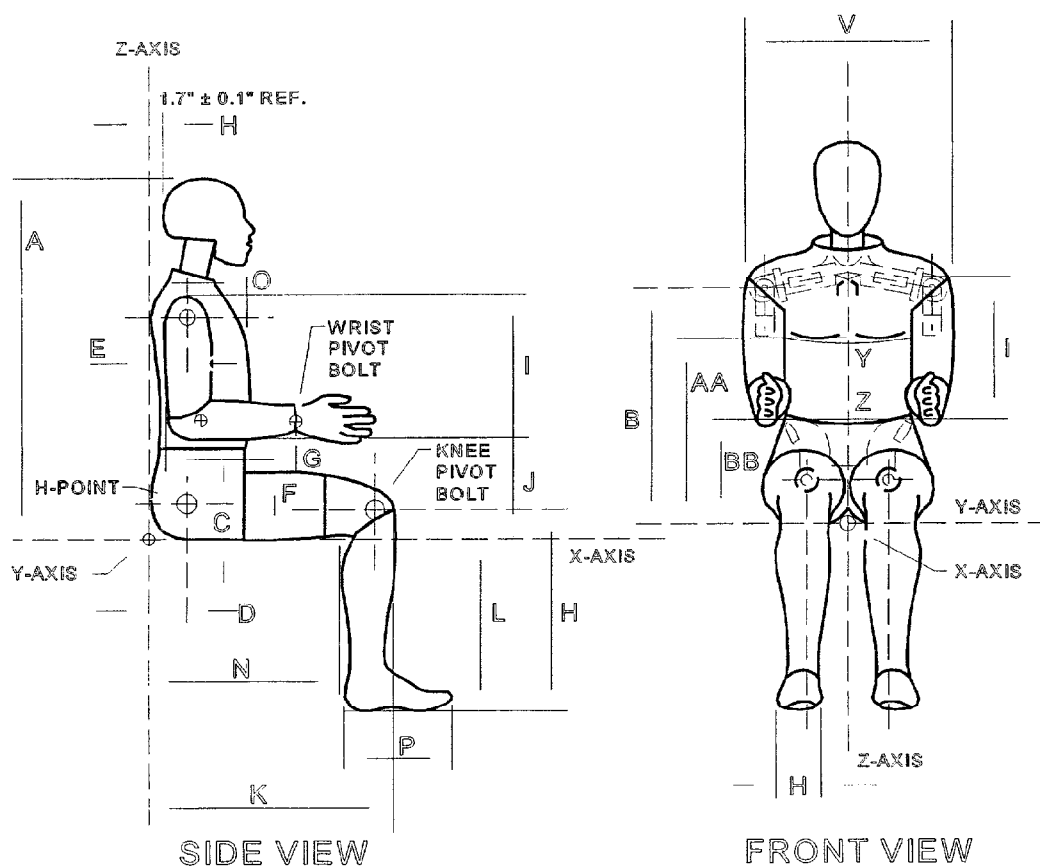
Appendix C contains the results from certification tests performed on the 50th percentile male anthropomorphic test devices utilized for this crash test. The results indicate that the dummies meet all of the performance requirements of the six standard tests as specified in 49 CFR Part 572, Federal Register, Volume 42, No. 25, dated February 7, 1977.

The tests were conducted at the Dummy Certification Test Facility of Calspan SRL Corporation. A summary of the test results, and Part 572 specifications are included in this Appendix.

Dummy serial numbers and certification dates are:

DUMMY CONFIGURATION DIMENSIONS

EXTERNAL DIMENSIONS SPECIFICATIONS



NOTE: Figure is referenced to the erect seated position. The curved lumbar does not allow the Hybrid III to be positioned in a perfect erect attitude.
(REF: S572.31(A)(6))

PART 572E
HEAD DROP TEST

Dummy Serial Number 061
Calspan Sequential Test Number 3
Date 11/13/97
Workfile 061397.hdp

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	66-78 Deg F	70
Relative Humidity	10% - 70%	30
Peak Resultant Acceleration	225-275 G's	241.8
Peak Lateral Acceleration	15 G's Max	3.1
Is Acceleration Curve Unimodal?	YES	YES

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
NECK FLEXION TEST

Dummy Serial Number 061
 Calspan Sequential Test Number 3
 Date 11/13/97
 Workfile 061397.nfl

6 Axis Neck Transducer

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	70
Relative Humidity		10% - 70%	50
Impact Velocity		22.60 - 23.40 Ft/s	23.00
Pendulum Deceleration	10 ms	22.50 - 27.50 G's	22.70
	20 ms	17.60 - 22.60 G's	19.32
	30 ms	12.50 - 18.50 G's	17.17
Max Pendulum G's Above 30 ms		29 G's Max	17.17
Deceleration - Time Curve Decay Time to 5 G's		34 - 42 ms	40.25
D Plane Rotation	Max	64 - 78 Deg	65.21
	Time	57 - 64 ms	57.50
Moment About Occipital Condyle	Max	65 - 80 Ft-Lbs	71.80
	Time	47 - 58 ms	52.13
Rotation Angle - Time Curve Decay Time to Zero		113 - 128 ms	117.38
Positive Moment - Time Curve Decay Time to Zero		97 - 107 ms	97.38

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
NECK EXTENSION TEST

Dummy Serial Number 061
 Calspan Sequential Test Number 3
 Date 11/14/97
 Workfile 061497.nex

6 Axis Neck Transducer

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	70
Relative Humidity		10% - 70%	50
Impact Velocity		19.50 - 20.30 Ft/s	19.70
Pendulum Deceleration	10 ms	17.20 - 21.20 G's	19.32
	20 ms	14.00 - 19.00 G's	17.18
	30 ms	11.00 - 16.00 G's	13.79
Max Pendulum G's Above 30 ms		22 G's Max	13.79
Deceleration - Time Curve Decay Time to 5 G's		38 - 46 ms	41.13
D Plane Rotation	Max	81 - 106 Deg	90.51
	Time	72 - 82 ms	75.38
Moment About Occipital Condyle	Max	-59.0 - -39.0 Ft-Lbs	-41.78
	Time	65 - 79 ms	71.13
Rotation Angle - Time Curve Decay Time to Zero		147 - 174 ms	162.50
Positive Moment - Time Curve Decay Time to Zero		120 - 148 ms	141.13

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
THORAX IMPACT TEST

Dummy Serial Number 061
Calspan Sequential Test Number 3
Date 11/17/97
Workfile 061397.th3

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	69-72 Deg F	71
Relative Humidity	10% - 70%	35
Pendulum Velocity	21.6 - 22.4 Ft/s	22.00
Maximum Deflection	2.50 - 2.86 in	2.50
Maximum Resistive Force	1160 - 1325 Lbs	1307.12
Internal Hysteresis	69 - 85 %	73.3

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
KNEE IMPACT TEST

Dummy Serial Number 061
Calspan Sequential Test Number 3
Date 11/18/97
Workfile 061397

TEST PARAMETER	SPECIFICATION	TEST RESULTS
LEFT KNEE		
Temperature	66 - 78 Deg F	71
Relative Humidity	10% - 70%	35
Probe Velocity	6.8 - 7.0 Ft/s	6.90
Peak Knee Impact Force	1060 - 1300 Lbs	1114.0
RIGHT KNEE		
Temperature	66 - 78 Deg F	71
Relative Humidity	10% - 70%	35
Probe Velocity	6.8 - 7.0 Ft/s	6.90
Peak Knee Impact Force	1060 - 1300 Lbs	1167.0

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
EXTERNAL DIMENSIONS

Dummy Serial Number 061
Calspan Sequential Test Number 3
Date 11/17/97

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature			71
Relative Humidity			35
Location for Chest Circumference	AA	16.9 - 17.1 in	17.0
Location for Waist Circumference	BB	8.9 - 9.1 in	9.0
Chest Circumference (With Jacket)	Y	38.2 - 39.4 in	39.4
Waist Circumference	Z	32.9 - 34.1 in	33.5
Chest Depth	O	8.4 - 9.0 in	8.5
H-Point Height	C	3.3 - 3.5 in	3.4
H-Point from Backline	D	5.3 - 5.5 in	5.4
Skull Cap to Backline	H	1.6 - 1.8 in	1.7
Total Sitting Height	A	34.6 - 35.0 in	34.8
Thigh Clearance	F	5.5 - 6.1 in	6.1
Buttock Knee Length	K	22.8 - 23.8 in	23.3
Buttock Popliteal Length	N	17.8 - 18.8 in	18.3
Popliteal Height	L	16.9 - 17.9 in	17.7
Knee Pivot Height	M	19.1 - 19.7 in	19.4
Foot Length	P	9.9 - 10.5 in	10.1
Foot Breadth	W	3.6 - 4.2 in	3.8
Shoulder Pivot from Backline	E	3.3 - 3.7 in	3.5
Shoulder Breadth	V	16.6 - 17.2 in	16.8
Shoulder Pivot Height	B	19.9 - 20.5 in	20.1
Elbow Rest Height	J	7.5 - 8.3 in	7.7
Shoulder - Elbow Length	I	13.0 - 13.6 in	13.4
Back of Elbow to Wrist Pivot	G	11.4 - 12.0 in	11.6

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
HEAD DROP TEST

Dummy Serial Number 245
Calspan Sequential Test Number 5
Date 11/13/97
Workfile 245597.hdp

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	66-78 Deg F	70
Relative Humidity	10% - 70%	30
Peak Resultant Acceleration	225-275 G's	268.0
Peak Lateral Acceleration	15 G's Max	12.6
Is Acceleration Curve Unimodal?	YES	YES

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
NECK FLEXION TEST

Dummy Serial Number 245
 Calspan Sequential Test Number 5
 Date 11/17/97
 Workfile 245597.nfl

6 Axis Neck Transducer

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	71
Relative Humidity		10% - 70%	35
Impact Velocity		22.60 - 23.40 Ft/s	23.14
Pendulum Deceleration	10 ms	22.50 - 27.50 G's	24.01
	20 ms	17.60 - 22.60 G's	21.48
	30 ms	12.50 - 18.50 G's	17.20
Max Pendulum G's Above 30 ms		29 G's Max	17.20
Deceleration - Time Curve Decay Time to 5 G's		34 - 42 ms	38.63
D Plane Rotation	Max	64 - 78 Deg	74.91
	Time	57 - 64 ms	58.13
Moment About Occipital Condyle	Max	65 - 80 Ft-Lbs	75.84
	Time	47 - 58 ms	53.38
Rotation Angle - Time Curve Decay Time to Zero		113 - 128 ms	120.38
Positive Moment - Time Curve Decay Time to Zero		97 - 107 ms	97.75

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
NECK EXTENSION TEST

Dummy Serial Number 245
 Calspan Sequential Test Number 5
 Date 11/17/97
 Workfile 245597.nex

6 Axis Neck Transducer

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	71
Relative Humidity		10% - 70%	35
Impact Velocity		19.50 - 20.30 Ft/s	19.70
Pendulum Deceleration	10 ms	17.20 - 21.20 G's	19.42
	20 ms	14.00 - 19.00 G's	18.01
	30 ms	11.00 - 16.00 G's	14.72
Max Pendulum G's Above 30 ms		22 G's Max	14.72
Deceleration - Time Curve Decay Time to 5 G's		38 - 46 ms	39.25
D Plane Rotation	Max	81 - 106 Deg	89.97
	Time	72 - 82 ms	73.75
Moment About Occipital Condyle	Max	-59.0 - -39.0 Ft-Lbs	-52.45
	Time	65 - 79 ms	68.63
Rotation Angle - Time Curve Decay Time to Zero		147 - 174 ms	150.50
Positive Moment - Time Curve Decay Time to Zero		120 - 148 ms	134.63

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
THORAX IMPACT TEST

Dummy Serial Number 245
Calspan Sequential Test Number 5
Date 11/18/97
Workfile 245597.th3

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	69-72 Deg F	70
Relative Humidity	10% - 70%	30
Pendulum Velocity	21.6 - 22.4 Ft/s	22.00
Maximum Deflection	2.50 - 2.86 in	2.67
Maximum Resistive Force	1160 - 1325 Lbs	1302.28
Internal Hysteresis	69 - 85 %	73.47

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
KNEE IMPACT TEST

Dummy Serial Number 245
 Calspan Sequential Test Number 5
 Date 11/18/97
 Workfile 245597

TEST PARAMETER	SPECIFICATION	TEST RESULTS
LEFT KNEE		
Temperature	66 - 78 Deg F	71
Relative Humidity	10% - 70%	35
Probe Velocity	6.8 - 7.0 Ft/s	6.92
Peak Knee Impact Force	1060 - 1300 Lbs	1110.0
RIGHT KNEE		
Temperature	66 - 78 Deg F	71
Relative Humidity	10% - 70%	35
Probe Velocity	6.8 - 7.0 Ft/s	6.80
Peak Knee Impact Force	1060 - 1300 Lbs	1204.0

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
EXTERNAL DIMENSIONS

Dummy Serial Number 245
Calspan Sequential Test Number 5
Date 11/17/97

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature			71
Relative Humidity			35
Location for Chest Circumference	AA	16.9 - 17.1 in	17.0
Location for Waist Circumference	BB	8.9 - 9.1 in	9.0
Chest Circumference (With Jacket)	Y	38.2 - 39.4 in	39.0
Waist Circumference	Z	32.9 - 34.1 in	33.7
Chest Depth	O	8.4 - 9.0 in	8.4
H-Point Height	C	3.3 - 3.5 in	3.4
H-Point from Backline	D	5.3 - 5.5 in	5.4
Skull Cap to Backline	H	1.6 - 1.8 in	1.7
Total Sitting Height	A	34.6 - 35.0 in	34.9
Thigh Clearance	F	5.5 - 6.1 in	6.0
Buttock Knee Length	K	22.8 - 23.8 in	23.4
Buttock Popliteal Length	N	17.8 - 18.8 in	18.3
Popliteal Height	L	16.9 - 17.9 in	17.5
Knee Pivot Height	M	19.1 - 19.7 in	19.2
Foot Length	P	9.9 - 10.5 in	10.2
Foot Breadth	W	3.6 - 4.2 in	3.8
Shoulder Pivot from Backline	E	3.3 - 3.7 in	3.6
Shoulder Breadth	V	16.6 - 17.2 in	16.8
Shoulder Pivot Height	B	19.9 - 20.5 in	20.2
Elbow Rest Height	J	7.5 - 8.3 in	8.0
Shoulder - Elbow Length	I	13.0 - 13.6 in	13.2
Back of Elbow to Wrist Pivot	G	11.4 - 12.0 in	11.6

Remarks:

Laboratory Technician: B. Swiecicki

Appendix D

DUMMY, VEHICLE AND LABORATORY INSTRUMENT CALIBRATION

INSTRUMENT CALIBRATION FOR DRIVER DUMMY

(6 Month Calibration Minimum)

DRIVER DUMMY (S/N 061)	Serial #	Manufacturer	Calibration	
			Last	Next
Head				
X	C14883	ENDEVCO	8/97	2/98
Y	C14972	ENDEVCO	8/97	2/98
Z	C15018	ENDEVCO	8/97	2/98
Chest				
X	AL6C4	ENDEVCO	8/97	2/98
Y	AE8W7	ENDEVCO	8/97	2/98
Z	A57G	ENDEVCO	8/97	2/98
Right Femur Load Cell	952	GSE	9/97	3/98
Left Femur Load Cell	951	GSE	9/97	3/98
Neck Load Cell	269	DENTON	10/97	4/98
Y	269	DENTON	10/97	4/98
Z	269	DENTON	10/97	4/98
Neck Moment	269	DENTON	10/97	4/98
X	269	DENTON	10/97	4/98
Y	269	DENTON	10/97	4/98
Z	269	DENTON	10/97	4/98
Chest Deflection Gauge	061	HUMANOID	11/97	5/98
Hybrid III Use Only				
Lap Belt Load Cells	706	LEBOW	6/97	12/97
Shoulder Belt Load Cells	-	LEBOW	-	-
Spool-Out Potentiometer	-	MAGNETEK	-	-
Belt Stretch Transducer	-	CALSPAN	-	-

INSTRUMENT CALIBRATION FOR DRIVER DUMMY

(6 Month Calibration Minimum)

DRIVER DUMMY	Serial #	Manufacturer	Calibration	
			Last	Next
Head				
X (R)	A13937	ENDEVCO	10/97	4/98
Y (R)	A13517	ENDEVCO	10/97	4/98
Z (R)	A13941	ENDEVCO	10/97	4/98
Chest				
X (R)	A1381	ENDEVCO	10/97	4/98
Y (R)	A13828	ENDEVCO	10/97	4/98
Z (R)	A13883	ENDEVCO	10/97	4/98
Pelvic				
X	AC2P5	ENDEVCO	8/97	2/98
Y	ADL50	ENDEVCO	8/97	2/98
Z	A59J	ENDEVCO	8/97	2/98
Left Upper Tibia				
Mx	038	DENTON	10/97	4/98
Left Upper Tibia				
My	038	DENTON	10/97	4/98
Left Lower Tibia				
Fy	032	DENTON	10/97	4/98
Left Lower Tibia				
Fz	032	DENTON	10/97	4/98
Left Lower Tibia				
Mx	032	DENTON	10/97	4/98
Right Upper Tibia				
Mx	045	DENTON	10/97	4/98
Right Upper Tibia				
My	045	DENTON	10/97	4/98
Right Lower Tibia				
Fy	041	DENTON	10/97	4/98
Right Lower Tibia				
Fz	041	DENTON	10/97	4/98
Right Lower Tibia				
Mx	041	DENTON	10/97	4/98

INSTRUMENT CALIBRATION FOR DRIVER DUMMY

(6 Month Calibration Minimum)

DRIVER DUMMY	Serial #	Manufacture	Calibration	
			Last	Next
Left Foot Front Z	A14058	ENDEVCO	9/97	3/98
Left Foot Rear X	A13929	ENDEVCO	9/97	3/98
Left Foot Rear Z	A14150	ENDEVCO	9/97	3/98
Right Foot Front Z	A14124	ENDEVCO	9/97	3/98
Right Foot Rear X	A14181	ENDEVCO	9/97	3/98
Right Foot Rear Z	A14126	ENDEVCO	9/97	3/98

INSTRUMENT CALIBRATION FOR PASSENGER DUMMY

(6 Month Calibration Minimum)

PASSENGER DUMMY (S/N 245)	Serial #	Manufacturer	Calibration	
			Last	Next
Head				
X	ADL98	ENDEVCO	8/97	2/98
Y	AE8K0	ENDEVCO	8/97	2/98
Z	ADMB6	ENDEVCO	8/97	2/98
Chest				
X	A26A	ENDEVCO	8/97	2/98
Y	A27A	ENDEVCO	8/97	2/98
Z	A51A	ENDEVCO	8/97	2/98
Right Femur Load Cell	232	GSE	9/97	3/98
Left Femur Load Cell	231	GSE	9/97	3/98
Neck Load Cell	440	DENTON	8/97	2/98
X	440	DENTON	8/97	2/98
Y	440	DENTON	8/97	2/98
Z	440	DENTON	8/97	2/98
Neck Moment	440	DENTON	8/97	2/98
X	440	DENTON	8/97	2/98
Y	440	DENTON	8/97	2/98
Z	440	DENTON	8/97	2/98
Chest Deflection Gauge	245	HUMANOID	10/97	4/98
Hybrid III Use Only				
Lap Belt Load Cells	635	LEBOW	6/97	12/97
Shoulder Belt Load Cells	-	LEBOW	-	-
Spool-Out Potentiometer	-	MAGNETEK	-	-
Belt Stretch Transducer	-	CALSPAN	-	-

INSTRUMENT CALIBRATION FOR PASSENGER DUMMY

(6 Month Calibration Minimum)

PASSENGER DUMMY	Serial #	Manufacturer	Calibration	
			Last	Next
Head				
X (R)	A13829	ENDEVCO	8/97	2/98
Y (R)	AC8F6	ENDEVCO	8/97	2/98
Z (R)	ACCW0	ENDEVCO	8/97	2/98
Chest				
X (R)	AHRC9	ENDEVCO	8/97	2/98
Y (R)	AC7W8	ENDEVCO	8/97	2/98
Z (R)	ACC06	ENDEVCO	8/97	2/98
Pelvic				
X	AL6N5	ENDEVCO	8/97	2/98
Y	AL6R7	ENDEVCO	8/97	2/98
Z	A12C	ENDEVCO	8/97	2/98
Left Upper Tibia	Mx			
	015	DENTON	10/97	4/98
Left Upper Tibia	My			
	015	DENTON	10/97	4/98
Left Lower Tibia	Fy			
	011	DENTON	10/97	4/98
Left Lower Tibia	Fz			
	011	DENTON	10/97	4/98
Left Lower Tibia	Mx			
	011	DENTON	10/97	4/98
Right Upper Tibia	Mx			
	016	DENTON	10/97	4/98
Right Upper Tibia	My			
	016	DENTON	10/97	4/98
Right Lower Tibia	Fy			
	012	DENTON	10/97	4/98
Right Lower Tibia	Fz			
	012	DENTON	10/97	4/98
Right Lower Tibia	Mx			
	012	DENTON	10/97	4/98

INSTRUMENT CALIBRATION FOR PASSENGER DUMMY

(6 Month Calibration Minimum)

PASSENGER DUMMY	Serial #	Manufacture	Calibration	
			Last	Next
Left Foot Front Z	A13011	ENDEVCO	9/97	3/98
Left Foot Rear X	A13506	ENDEVCO	9/97	3/98
Left Foot Rear Z	A12268	ENDEVCO	9/97	3/98
Right Foot Front Z	J18418	ENDEVCO	8/97	2/98
Right Foot Rear X	AEWK1	ENDEVCO	8/97	2/98
Right Foot Rear Z	AKD92	ENDEVCO	8/97	2/98

INSTRUMENT CALIBRATION FOR VEHICLE ACCELEROMETERS

(6 Month Calibration Minimum)

	Serial #	Manufacturer	Calibration	
			Last	Next
Left Seat Rear Crossmember	D88	ICS	9/97	3/98
Right Rear Seat Crossmember	D82	ICS	9/97	3/98
Top of Engine	E10	ICS	6/97	12/97
Bottom of Engine	Y17	ICS	9/97	3/98
Left Disc Brake Caliper	X88	CEC	9/97	3/98
Right Disc Brake Caliper	D87	CEC	9/97	3/98
Instrument Panel	E02	CEC	11/97	5/98
Left Seat Rear Crossmember (R)	D74	ICS	10/97	4/98
Right Seat Rear Crossmember (R)	Y05	ICS	8/97	2/98
Left B Pillar X	D33	ICS	9/97	3/98
Right B Pillar X	X92	ICS	8/97	2/98