V18920

REPORT NO. MSE-93-N06 R92083-06

NEW CAR ASSESSMENT PROGRAM (NCAP)
FRONTAL BARRIER IMPACT TEST

FORD MOTOR COMPANY
1993 FORD EXPLORER
4 WHEEL DRIVE WAGON

NHTSA NO. MP0202

MOBILITY SYSTEMS AND EQUIPMENT COMPANY
9920 LA CIENEGA BOULEVARD SUITE 708
INGLEWOOD, CALIFORNIA 90301

DECEMBER 31, 1992

FINAL REPORT

Prepared For:

U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
OFFICE OF MARKET INCENTIVES
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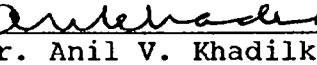
Prepared by: Dr. Anil V. Khadilkar, Program Manager

Mr. Brian O'Keefe, Test Engineer

Mr. Jerry Kratzke, Test Engineer

Mr. Patrick Puzzuto, Instrumentation

MOBILITY SYSTEMS AND EQUIPMENT COMPANY

Approved by: 

Dr. Anil V. Khadilkar

Date: 31 December 1992

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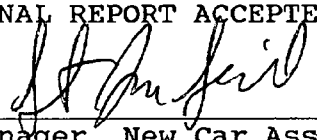
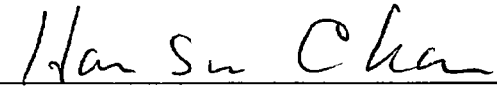


Manager, New Car Assessment Program

MAR 08 1993

Date of Report Acceptance



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15. Supplementary Notes

16. Abstract

A 35 MPH Frontal barrier impact test using a load cell barrier was conducted on a 1993 Ford Explorer 4WD Wagon at the Mobility Systems and Equipment Company (MSE) crash test facility in San Bernadino, CA, on December 17, 1992.

The impact velocity was 56.62 km/h, and the ambient temperature at the barrier face at the time of impact was 11 degrees C. The vehicle's maximum post-test static crush was 517 mm.

Occupant injury response data summary is as follows:

Injury Criteria Threshold Value	Driver Dummy	Passenger Dummy
Head Injury Criterion HIC = 1000	882.0	716.6
Chest Resultant Peak 60 G's (3 msec clip)	50.2	47.9
Femur Force Left 10009 N Right	3599.9 4572.8	2591.5 1756.9

Type of occupant restraint system: 3 point continuous webbing manual active belt system at each front outboard seating position.

17. Key Words	18. Distribution Statement
35 MPH Frontal Barrier Impact Test New Car Assesment Program (NCAP) 1993 Ford Explorer 4WD Wagon	Copies of this report are available from: Technical Reference Division Nat'l Highway Traffic Safety Admin. Room 5108, Nassif Building 400 7th St., S.W.,Wash. D.C. 20590

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SECTION 1

PURPOSE AND TEST PROCEDURE

This 35 mph frontal barrier impact test is a part of the FY'93 Vehicle Barrier Impact Testing Program sponsored by the National Highway Traffic Safety Administration (NHTSA) under Contract No. DTNH22-90-D-32121. 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 30 mph (48.27 km/h) FMVSS 208/212/219/301-75 requirements.

This 35 mph (56.32 km/h) frontal barrier impact test was conducted in accordance with the Office of Market Incentives (OMI) Laboratory Indicant Test Procedure, dated 01 January 1990.

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SECTION 2

SUMMARY OF FRONTAL BARRIER IMPACT TEST

A barrier was impacted by a 1993 Ford Explorer, 4 Wheel Drive Wagon, NHTSA No. MP0202, at a velocity of 56.62 km/h. The frontal impact test was conducted by Mobility Systems and Equipment Company (MSE) on 17 December 1992. The general test and vehicle description information are presented in Tables 1 and 2. Pretest and posttest photographs of the test vehicle and dummies are shown in Appendix A.

Two (2) Part 572 50th percentile adult male Anthropomorphic Test Devices (ATDs) were placed in the driver and right front passenger designated seating positions (DSP's) according to the NHTSA test requirements.

The ATD's were instrumented with head and chest triaxial accelerometers and right/left femur load cells. In addition, load cells were placed on the driver's and passenger's lap and shoulder belts to measure dummy upper torso and pelvic section belt loading. A summary of dummy configuration and performance verification test data is presented in Appendix C.

The frontal impact event was documented by one (1) real time camera and fifteen (15) high-speed cameras. The camera location data are presented in Table 7.

Sixty-nine (69) channels of crash parameters were recorded using two (2) FM tape recorders and three (3) direct analog to digital acquisition unit and data acquisition computers. Time history plots of all recorded channels are presented in Appendix B.

2.1 GENERAL COMMENTS

The 1993 Ford Explorer, 4 Wheel Drive Wagon, was equipped with a 4.0 liter, 6 cylinder engine and 4 speed automatic transmission. The test weight of the 1993 Ford Explorer, with two (2) 50th percentile male dummies, instrumentation and cameras was 2178 kg.

The 1993 Ford Explorer, was involved in a frontal barrier crash at a velocity of 56.62 km/h.

The maximum static crush for the vehicle of 517 mm occurred 150 mm to the left of the centerline of the bumper. The windshield was cracked, but otherwise the vehicle glazing remained intact. All doors were opened without the aid of tools.

The driver ATD's face hit the steering wheel center hub. The top of his head hit the top of the steering wheel. The

driver's left and right knees hit the dash panel. The driver ATD had a HIC value of 882, the maximum chest acceleration (resultant clipped) was 50 g's and the maximum femur loads were 3600 (left) and 4573 (right) Newtons.

The passenger ATD's chin contacted his chest. Both of his knees hit the dash panel and the glove box door. The HIC value for the passenger ATD was 717, the maximum chest acceleration (resultant clipped) was 48 g's and the maximum femur loads were 2592 (left) and 1757 (right) Newtons.

Seat belt spoolout, measured by high-speed film analysis, was 38 mm for the driver and 38 mm for the passenger.

There were no apparent visual indications of windshield penetration or windshield periphery separation. There was a stoddard solvent leak. The leak was measured to be 5.06 oz. by weight in the first 5 minutes and 11.14 oz. in the next 25 minutes The cause of the leak is not readily apparent. It may be investigated at a later date with a Ford Representative available to witness the tank removal.

Appendix D shows occupant restraint system instructions by the manufacturer and Appendix E shows the instrumentation and calibration data.

DATA TABLE No. 1
TEST VEHICLE DATA

VEHICLE YEAR/MAKE/MODEL/BODY STYLE: 1993/Ford/Explorer/4WD

VEHICLE NHTSA No.: M P 0 2 0 2 ; **VIN:** 1 F M D U 3 4 X 1 P U A 5 3 2 7 1

VEHICLE BODY COLOR: White ; **MONTH AND YEAR OF MANUFACTURE:** 10/92

ENGINE: 6 Cylinders; _____cu in; 4.0 Liters; _____cc
X Gas; ___ Diesel; ___ Turbocharged
PLACEMENT: X Longitudinal; ___ Transverse (Lateral)

TRANSMISSION: 4 Speed; ___ Manual; X Automatic; ___ Overdrive

FINAL DRIVE: ___Front Wheel Drive; ___Rear Wheel Drive; X Four Wheel Drive

DATE VEHICLE AVAILABLE FOR 35 MPH CRASH TESTING: 11/23/92

ODOMETER READING: 145 km; **OPTIONS:** X A/C; X P/S; X P/Window;
X Tilt Whl.; ___ Cruise Control

DATA RECORD FROM VEHICLE'S TIRE PLACARD:

Tire Pressure (at capacity): 207 kPa Front; 240 kPa Rear
Recommended Tire Size: P225/70R15
Tires on Vehicle: P225/70R15 ; Manufacturer: Firestone
Number of Occupants: 2 Front; 3 Rear; ___Third Seat; 5 TOTAL
Type of Front Seats: X Bucket; ___ Bench; ___ Split Bench
Type of Front Seat Back: ___ Fixed; X Adj. Lever; ___ Adj. Rotating Knob

Vehicle Maximum Capacity Loading: N/A kg
No. of Occupants x 68 kg: N/A kg
Cargo Capacity (Max - Occupants): 136 kg *

TEST VEHICLE DELIVERED WEIGHT WITH MAXIMUM FLUIDS:

Right Front:	485 kg			
Left Front:	539 kg	Total Front:	1024 kg	(54% of Total)
Right Rear:	449 kg			
Left Rear:	425 kg	Total Rear:	874 kg	(46% of Total)
		Total Weight:	1898 kg	

CALCULATION OF TEST VEHICLE TARGET WEIGHT:

Total Test Vehicle Delivered Weight With Maximum Fluids:	1898 kg
Maximum Cargo Carrying Capacity of Test Vehicle:	136 kg *
Weight of Two Part 572 ATD's (2 * 74.5 kg):	149 kg
TEST VEHICLE TARGET WEIGHT:	2183 kg

* 136 kg for light trucks and MPV's

DATA TABLE No. 1 (Cont.)
TEST VEHICLE DATA

ACTUAL WEIGHT OF TEST VEHICLE WITH 2 ATD's AND CARGO:

Right Front: 532 kg
Left Front: 585 kg Total Front: 1117 kg (51% of Total)
Right Rear: 546 kg
Left Rear: 515 kg Total Rear: 1061 kg (49% of Total)

Total Weight: 2178 kg (includes 64 kg of ballast secured in the cargo / luggage area)

VEHICLE COMPONENTS REMOVED TO MEET TARGET WEIGHT:

1. Jack
2. Left tail lamp housing
3. Rear seat assemblies

TEST VEHICLE ATTITUDE:

As Delivered -	Right Front:	829 mm	Ready for Test -	Right Front:	820 mm
	Left Front:	820 mm		Left Front:	813 mm
	Right Rear:	830 mm		Right Rear:	804 mm
	Left Rear:	826 mm		Left Rear:	788 mm

TEST VEHICLE DIMENSIONS:

Total Vehicle Length: Right Side: 4620 mm
Left Side: 4610 mm
Centerline: 4688 mm

Wheelbase: 2847 mm

C. G. is 1387 mm rearward of front axle centerline.

DATA TABLE No. 2
POST CRASH TEST DATA

DATE OF 35 MPH FRONTAL BARRIER IMPACT RATING TEST: 12/17/92

TIME OF TEST: 1435 Hrs; **AMBIENT TEMPERATURE AT BARRIER FACE:** 11° C

VEHICLE OCCUPANT COMPARTMENT TEMPERATURE: 21° C (Req. Range 19° C to 26° C)

VEHICLE WINDSHIELD MOLDING TEMPERATURE: 21° C

VEHICLE IMPACT VELOCITY: (Req. Range 55.52 to 57.13 km/h)
Primary Speed Trap: 56.62 km/h
Secondary Speed Trap: 57.02 km/h
Distance from vehicle leading edge to barrier face when:
Entering Speed Trap: 1524 mm
Exiting Speed Trap: 305 mm

VEHICLE STATIC CRUSH:	Pretest	Posttest	Static Crush
Right Side (mm)	4620	4175	445
Centerline (mm)	4688	4208	480
Left Side (mm)	4610	4175	435

VEHICLE REBOUND FROM BARRIER: Right Side: 410 mm
Centerline: 410 mm
Left Side: 400 mm

ATD CONTACT POINTS:

	Driver ATD (ID# 830)	Pass. ATD (ID# 814)
Head	Steering Wheel Upr Rim, Ctr Hub	No Contact
Chest	Steering Wheel Lower Rim	No Contact
Abdomen	Steering Wheel Lower Rim	No Contact
Left Knee	Instrument Panel	Instr Panel, Glove Box
Right Knee	Instrument Panel	Instr Panel, Glove Box

VEHICLE DOOR OPENING INFORMATION:

Door	Opened	Jammed
Right Front	Yes	No
Left Front	Yes	No
Right Rear	Yes	No
Left Rear	Yes	No

VEHICLE FRONT SEAT MOVEMENT DURING IMPACT EVENT:
Seat Cushion Shift - Driver = 0 mm Passenger = 0 mm
Seat Adjustor Failure - Driver: No Passenger: No
Details of Any Failure: None

OTHER NOTABLE IMPACT EFFECTS: Solvent leakage was observed.
See page 4 for details.

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SECTION 3

OCCUPANT AND VEHICLE INFORMATION

I. OMI DATA

Dummy Injury Criteria Data Summary
Dummy Positioning Data
Seat Belt Positioning Data
Seat Belt Performance Assessment Data
Driver Dummy to Steering Column Dimensions
Camera Locations

II. OVR DATA

Load Cell Barrier Data
Vehicle Accelerometer Data

DATA TABLE No. 3
FMVSS No. 208 OCCUPANT CRASH PROTECTION DATA SHEET

VEH. YEAR/MAKE/MODEL/BODY STYLE: 1993/Ford/Explorer/4WD Wagon

VEH. NHTSA NO.: MP0202 TEST DATE: 12/17/92

MAXIMUM ACCELERATION VALUES:	DRIVER ATD No. 830	PASSENGER ATD No. 814
Head X	-146.8	-34.8
Head Y	22.4	11.4
Head Z	106.0	65.7
HEAD RESULTANT	182.0	68.1
Chest X	-54.3	-47.5
Chest Y	-9.4	13.8
Chest Z	14.3	-16.1
CHEST RESULTANT (3msec clip)	50.2	47.9
TIME INTERVAL (msec)	58.9 to 61.9	55.9 to 58.9

HEAD INJURY CRITERIA (HIC) VALUES:

HIC	882.0	716.6
t_1 (msec)	59.5	56.0
t_2 (msec)	87.6	92.0
Avg. Acceleration t_1 to t_2	62.8	52.4

MAXIMUM FEMUR FORCES:

Left Femur (N)	-3599.9	-2591.5
Right Femur (N)	-4572.8	-1756.9

MAXIMUM SEAT BELT FORCES:

Lap Belt (N)	8499.8	8479.0
Shoulder Belt (N)	9203.9	9696.5

MAXIMUM SEAT BELT WEBBING SPOOLOUT:	(MECHANICAL)	(MECHANICAL)
Lap/Shoulder Belt Combination	50 mm	40 mm

DATA TABLE No. 4
TEST ATD POSITIONING DATA

PRE - IMPACT DATA:

Make / Model: Ford Explorer
Body Style: 4WD Wagon
Model Year: 1993
Color: White
NHTSA No.: MP0202

DATA FROM CERTIFICATION LABEL:

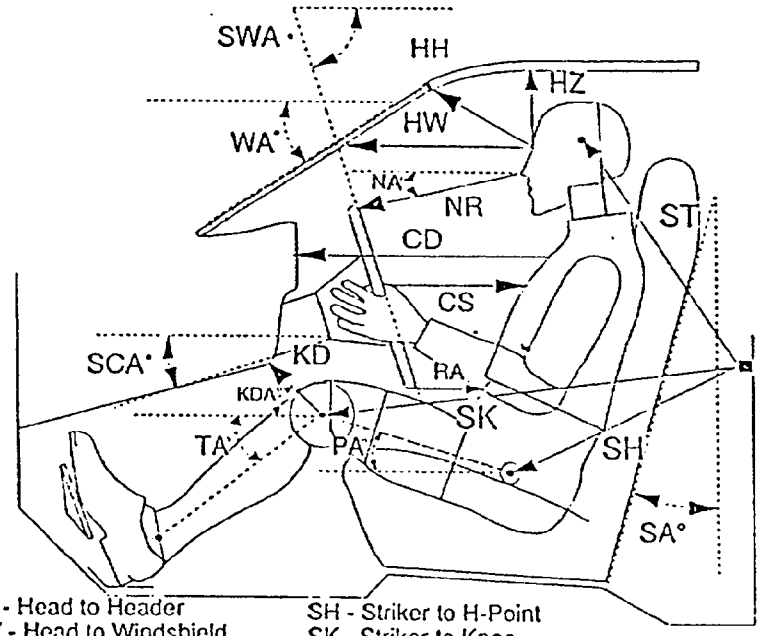
Vehicle Manufacturer: Ford
Date of Manufacture: 10/92
VIN: 1FMDU34X1PUA53271
GVWR: 2395 Kg
GAWR Front: 1153 Kg
GAWR Rear: 1362 Kg

POST IMPACT DATA:

Date of Test: 12/17/92
Time: 1435 Hrs.
Temperature: 11° C
Required Impact Velocity Range: 55.52 to 57.13 km/h
Impact Velocity - Primary: 56.62 km/h
Secondary: 57.02 km/h
Seat Type: Bucket
Adjustor Type: Lever
Bucket Seat Back Type: Non-Adjustable Head Restraint

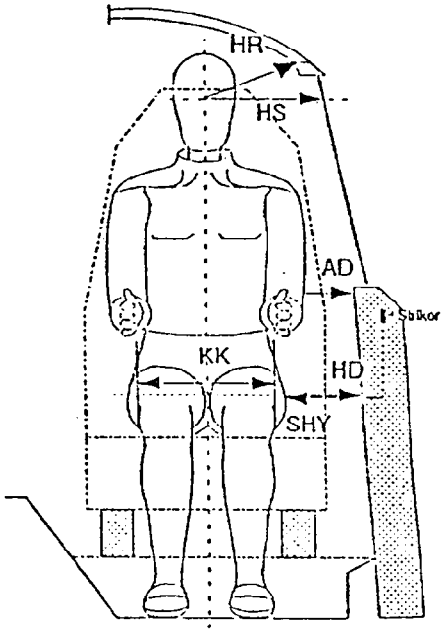
ATD POSITIONING TECHNICIANS: Brian O'Keefe, Levi Navarro

DATA TABLE No. 4 (Cont.)
TEST ATD POSITIONING DATA

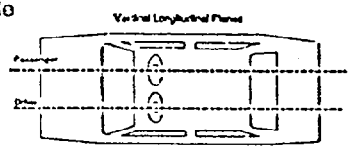


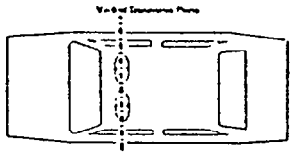
HH - Head to Header
HW - Head to Windshield
HZ - Head to Roof
NR - Nose to Rim
CS - Steering Wheel to Chest
CD - Chest to Dash
RA - Rim to Abdomen
KDL/KDR - Knee to Dash
KDA - Knee to Dash Angle

SH - Striker to H-Point
SK - Striker to Knee
ST - Striker to Head
NA - Nose to Rim Angle
TA - Tibial Angle
PA - Pelvic Angle
SA - Seat Back Angle
SCA - Steering Column Angle
SWA - Steering Wheel Angle
WA - Windshield Angle



HR - Head to Side Header
HS - Head to Side Window
AD - Arm to Door
HD - H-Point to Door
SHY - Striker to H-Point (Y Dir.)
KK - Knee to Knee

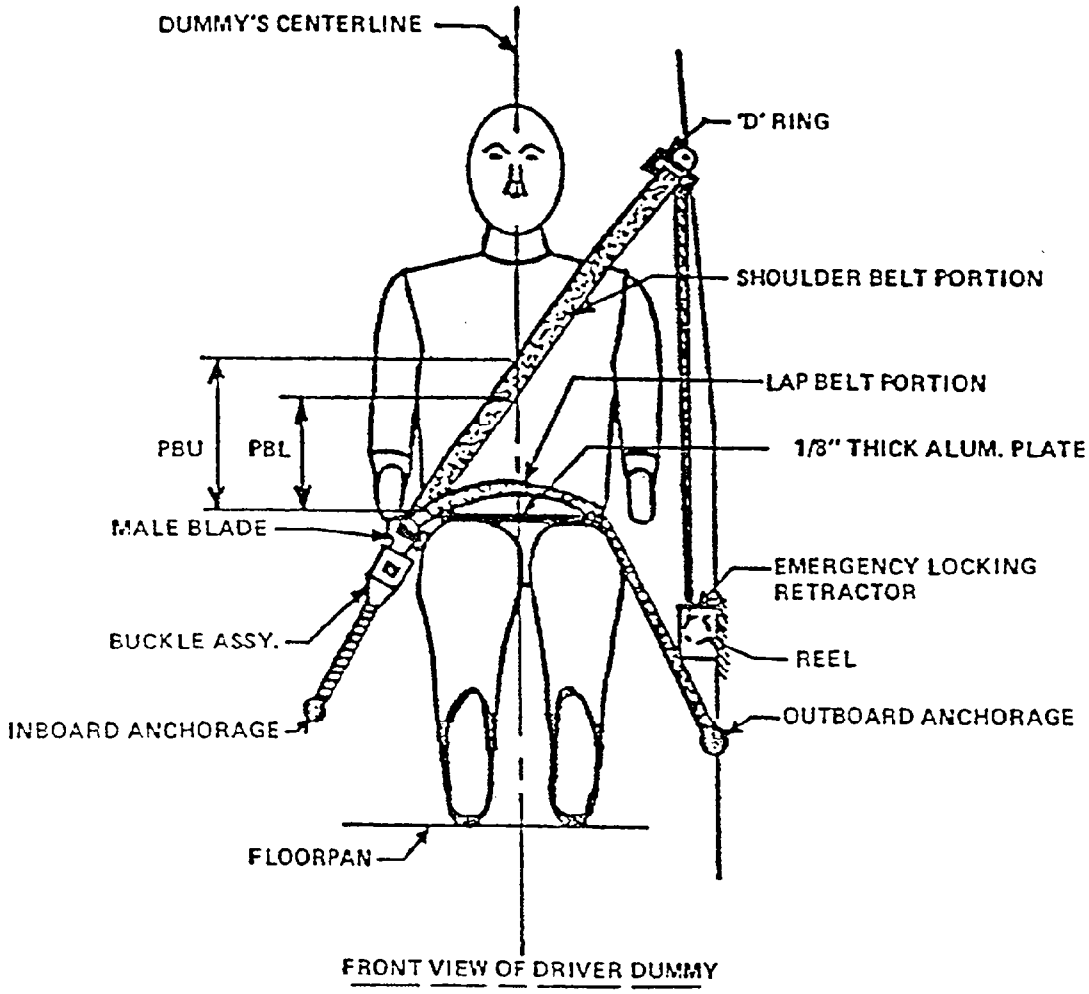




DATA TABLE No. 4 (Cont.)
TEST ATD POSITIONING DATA

Measurement	Driver (Serial No. 830)		Passenger (Serial No. 814)	
	Length (mm)	Angle (Degrees)	Length (mm)	Angle (Degrees)
WA	---	37	---	---
SWA	---	64	---	---
SCA	---	34	---	---
HZ	200	90	205	90
HH	425	---	460	---
HW	575	0	585	0
HR	220	---	220	---
NR	420	-14	---	---
CD	580	---	640	---
CS	335	0	---	---
RA	195	0	---	---
KDL	270	22	265	---
KDR	280	---	270	29
PA	---	16	---	11
TA	---	-36	---	-34
KK	350	---	305	---
ST	595	87	583	92
SK	542	0	560	-2
SH	170	-41	185	-28
SHY	220	0	230	0
HS	320	0	320	0
HD	125	0	135	0
AD	65	0	15	0

DATA TABLE No. 5
SEAT BELT POSITIONING DATA



Measurement	Driver ATD	Passenger ATD
PBU - Top Surface of alum. plate to belt upper edge (mm)	360	345
PBL - Top Surface of alum. plate to belt lower edge (mm)	270	255
Lap Belt Tension (N)	-	-
Shoulder Belt Tension (N)	-	-

DATA TABLE 6
SEAT BELT PERFORMANCE ASSESSMENT TEST DATA

BELT LENGTH DATA:	DRIVER SIDE		PASSENGER SIDE	
	PRETEST	POSTTEST	PRETEST	POSTTEST
Total belt length from retractor reel to bolt hole anchor point for continuous webbing systems (mm)	2390	2370	2370	2410
Retractor reel to 'D' ring as measured on Part 572 ATD (mm)	620	620	620	620
Shoulder belt length as measured on Part 572 ATD (mm)	900	880	870	870
Lap belt length as measured on Part 572 ATD (mm)	870	870	880	920
Remainder of belt webbing left on the retractor reel (mm)	540	560	620	580

BELT SPOOL-OFF DATA:		
As determined by film analysis (mm)	32	40
As determined electronically (mm)	37	36
As determined mechanically (mm)	50	40

BELT STRAIN DATA: Measured on the shoulder belt		
As determined electronically (%)	4.2	6.7
As determined mechanically (%)	0.0	0.0

DATA TABLE No. 7
FMVSS No. 208 CAMERA LOCATION DATA

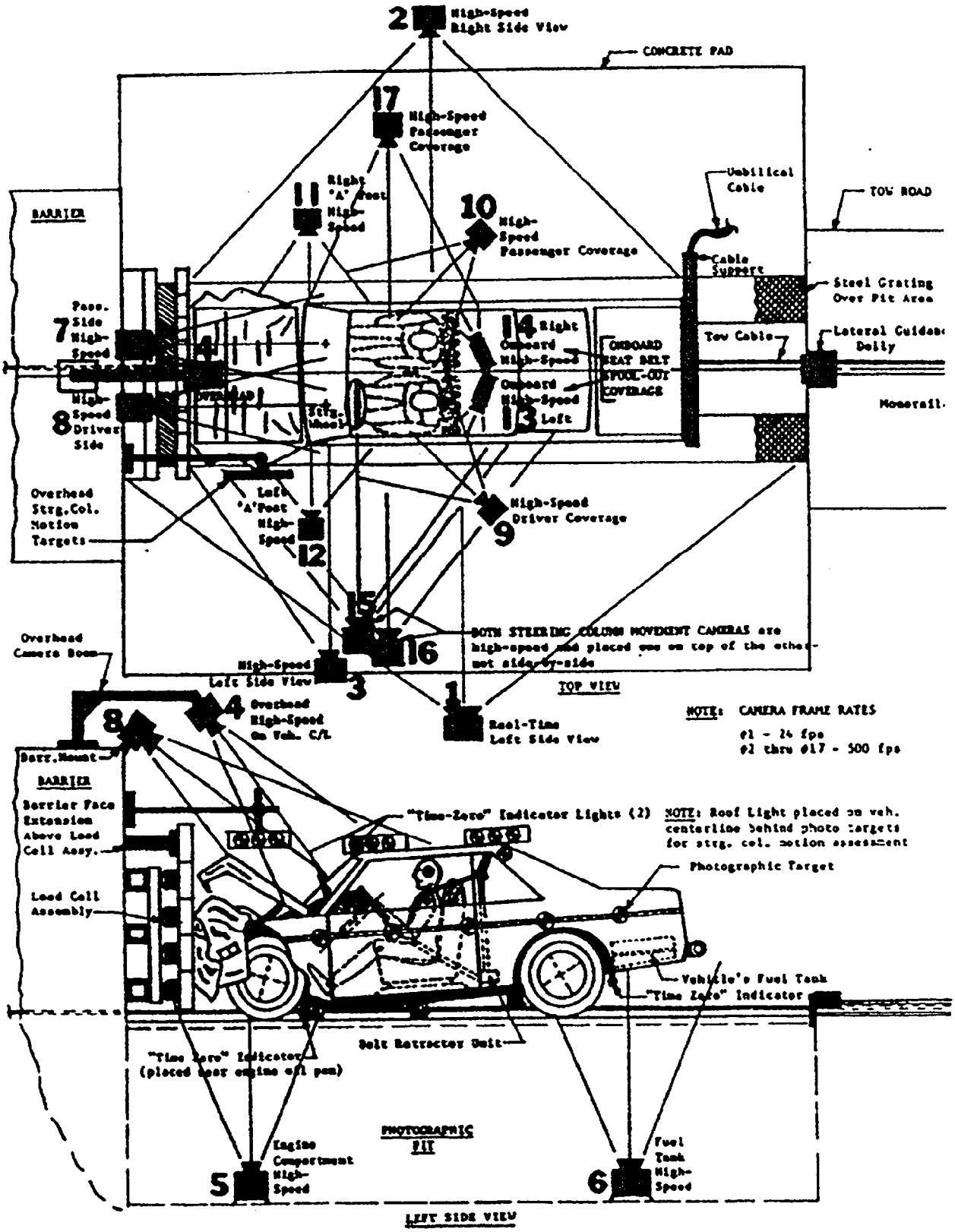
VEH. YEAR/MAKE/MODEL/BODY STYLE: 1993/Ford/Explorer/4WD Wagon

VEH. NHTSA NO.: MP0202 TEST DATE: 12/17/92 TIME: 1435 Hrs.

CAMERA NO.	VIEW	CAMERA POS. (mm)			ANGLE (deg)	FILM PLANE TO HEAD TARGET	LENS (mm)	SPEED (fps)
		X	Y	Z				
1	Left Side View	5867	14350	3404	-20	14508	15-70 Zoom	24
2	Right Side View	1310	7790	1240	-2	7448	13	590
3	Left Side View	1219	9906	1727	-3	9559	25	600
4	Overhead	-152	0	4039	-66	3602	13	370
5	Pit - Engine	635	25	-1829	90	3720	13	550
6	Pit - Fuel Tank	N/R	N/R	N/R	N/R	N/R	N/R	N/R
7	Front - Passenger	-406	406	2438	-41	2904	16	600
8	Front - Driver	-406	-305	2438	-36	2906	16	510
9	Left Side - Driver	2450	3030	2050	-12	2684	16	610
10	Right Side - Pass.	2195	3180	2020	-12	2824	16	600
11	Right Side - A-Post	170	5070	1320	+1	5133	28	630
12	Left Side - A-Post	635	9825	2127	-4	9584	50	690
13	Onboard - Left Side	3025	170	770	+2	1010	13	600
14	Onboard - Right Side	3025	170	770	+4	1010	13	600
15	Left Side - St. Col.	1422	10176	3427	-16	9998	28	610
16	Left Side - St. Col.	1422	10176	3046	-15	9930	28	600
17	Right Side - Pass.	1830	3740	1660	-9	3368	16	560

REFERENCE: X - Film plane to barrier face
Y - Film plane to monorail centerline
Z - Film plane to ground

Data Table No. 7 (Cont'd) Camera Location Data



DATA TABLE No. 8
VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY

No.	Description	Location			Maximum Value (g's)			
		X	Y	Z	-X	msec	+X	msec
1	Left rear seat cross member	3345	-315	710	35.8	8.9	2.4	180.8
2	Right rear seat cross member	3345	315	710	35.8	8.8	2.1	180.9
3	Top of Engine Block	825	110	1000	96.0	24.1	20.5	51.1
4	Bottom of engine	1545	-25	350	89.1	29.7	1.7	42.7
5	Right Brake Caliper	875	610	315	91.1	9.6	19.4	56.7
6	Instrument Panel	1570	-50	1280	67.2	68.9	11.8	133.4
7	Left Brake Caliper	875	-610	315	N/D	N/D	N/D	N/D
8	Left rear seat cross member Redun.	3345	-315	710	35.8	8.9	2.6	180.7
9	Right rear seat cross member Redun.	3345	315	710	36.3	8.8	2.2	180.9

REFERENCE: X - Front Bumper Leading Edge
Y - Vehicle Centerline (Right Pos., Left Neg.)
Z - Ground Level

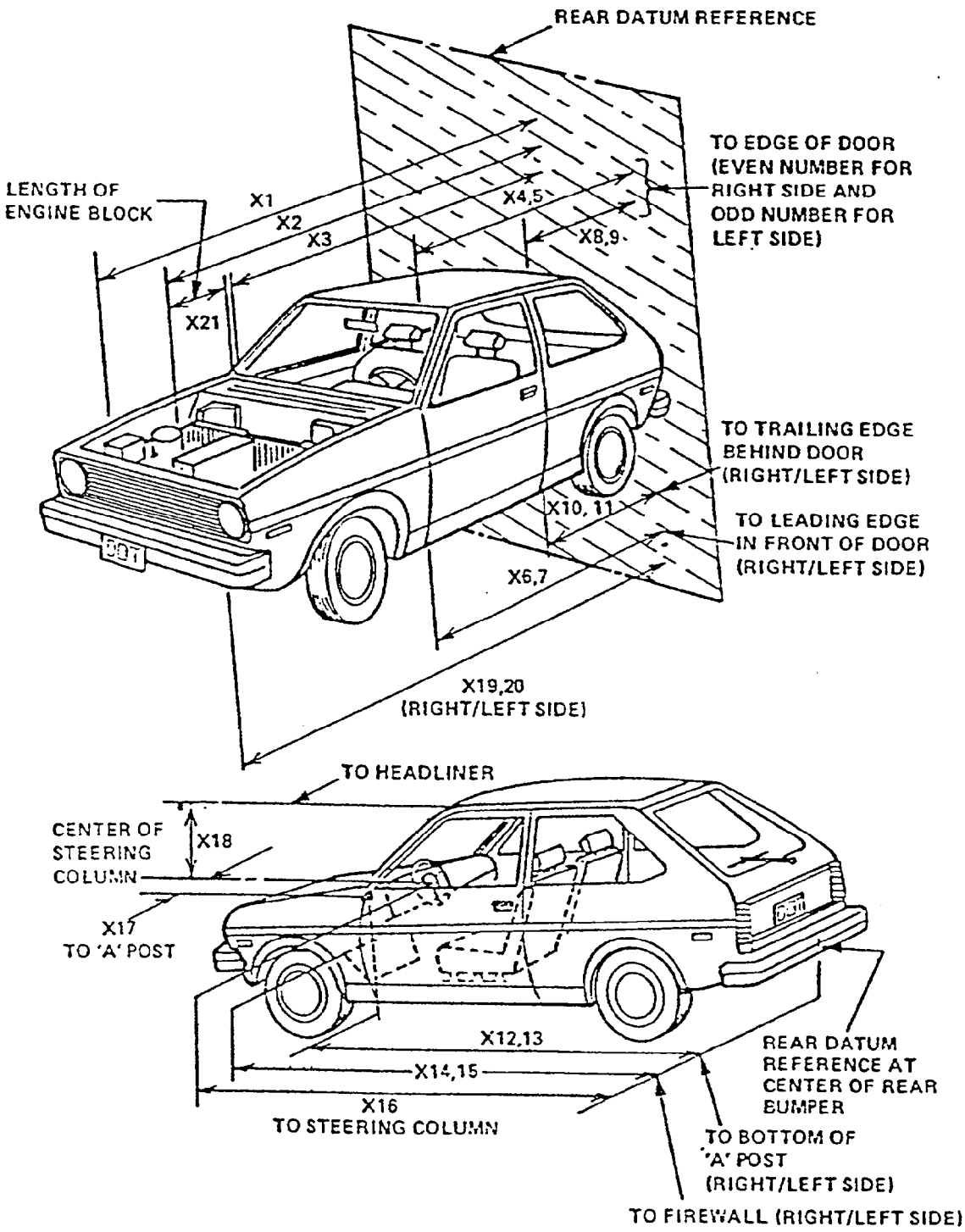
All dimensions in mm

DATA TABLE No. 9
TEST VEHICLE MEASUREMENTS

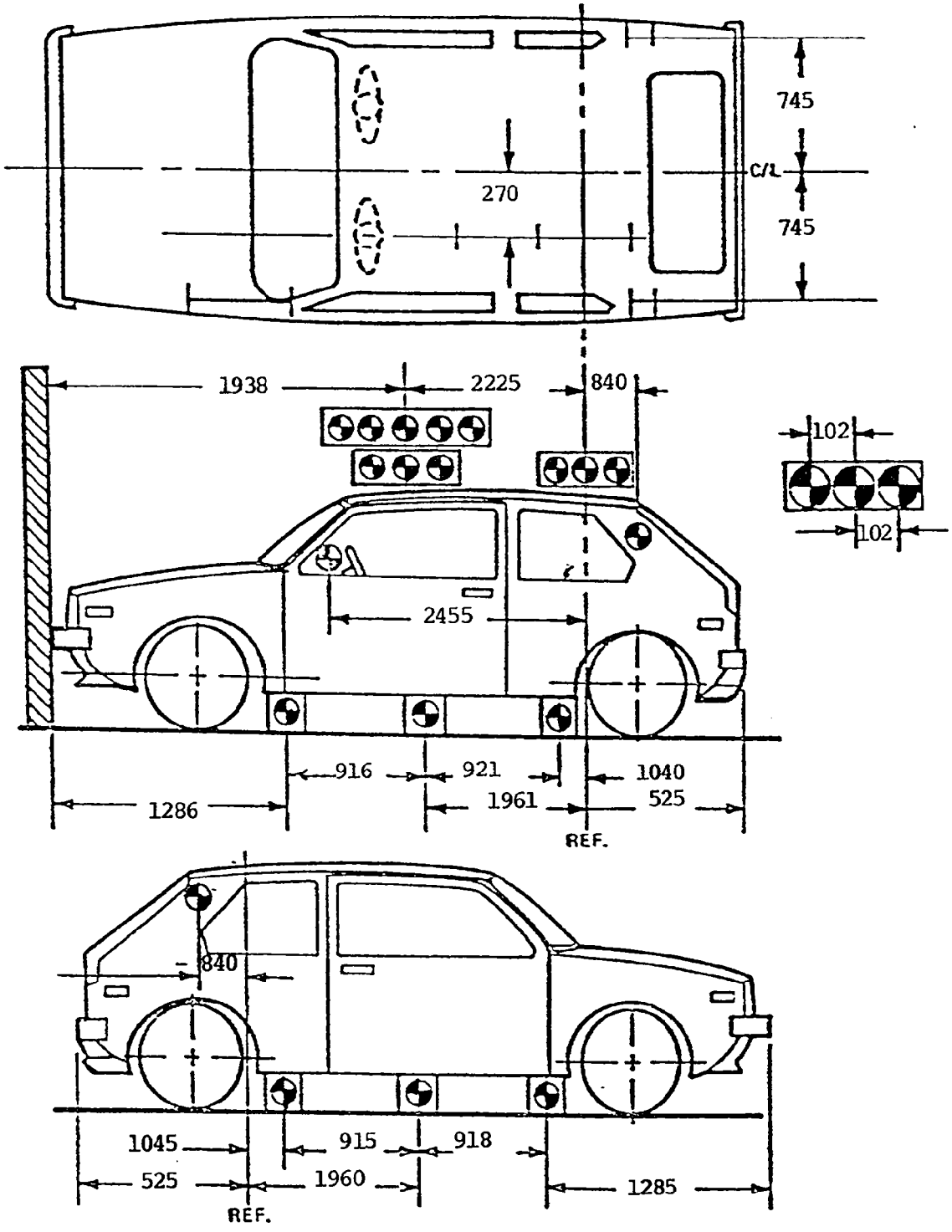
No.	Measurement Description	Pretest	Posttest	Change
1	Length of test vehicle at centerline	4688	4208	480
2	Rear surface of vehicle to front of engine	4053	3838	215
3	Rear of vehicle to firewall centerline	3623	3478	145
4	Rear to upper leading edge of right door	2795	2865	-70
5	Rear to upper leading edge of left door	2790	2860	-70
6	Rear to lower leading edge of right door	3257	3235	22
7	Rear to lower leading edge of left door	3250	3235	15
8	Rear to upper trailing edge of right door	2170	2245	-75
9	Rear to upper trailing edge of left door	2165	2240	-75
10	Rear to lower trailing edge of right door	2280	2270	10
11	Rear to lower trailing edge of left door	2280	2265	15
12	Rear to bottom of right 'A' pillar	3335	3330	5
13	Rear to bottom of left 'A' pillar	3335	3320	15
14	Rear surface to firewall on right side	3560	3580	-20
15	Rear surface to firewall on left side	3550	3550	0
16	Rear surface to steering column	2835	2855	-20
17	Center of steering column to left 'A' pillar	335	320	15
18	Center of steering column to headlining	460	525	-65
19	Rear surface to right side of front bumper	4620	4175	445
20	Rear surface to left side of front bumper	4610	4175	435
21	Length of engine block	395	395	0

All measurements in mm

DATA TABLE No. 9 (Cont.)
TEST VEHICLE MEASUREMENTS



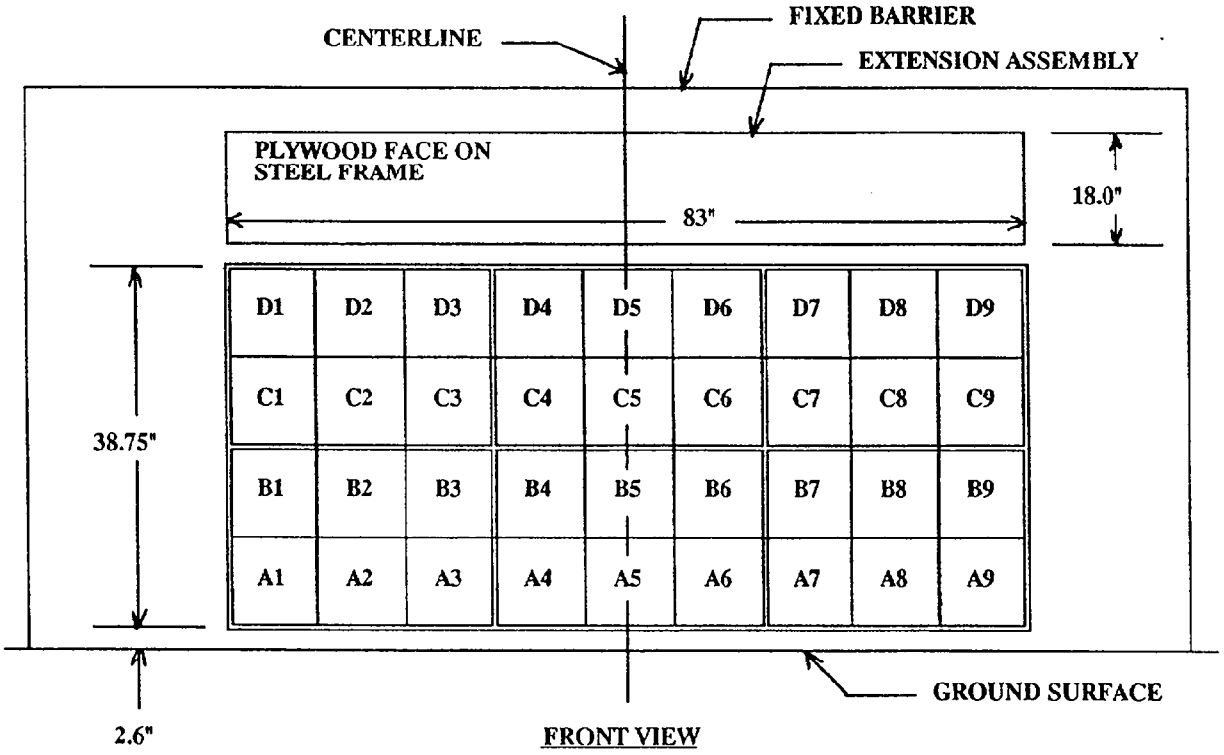
DATA TABLE No. 10
VEHICLE TARGET LOCATIONS



Dimensions in mm

DATA TABLE No. 11
LOAD CELL LOCATIONS ON FIXED BARRIER

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

DATA REQUIREMENTS:

(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)

(4) Total load vs. vehicle dynamic crush

DATA TABLE No. 12
ACCIDENT INVESTIGATION DIVISION DATA FOR 35 MPH FRONTAL BARRIER IMPACT

Vehicle Make/Model/Body Style: Ford/Explorer/4WD Wagon

Veh. NHTSA No.: MP0202 ; VIN: 1FMDU34X1PUA53271

Model Year: 1993 ; Build Date: 10/92 ; Test Date: 12/17/92

Veh. Size Category: N/A ; Test Weight: 2178 kg

Veh. Wheelbase: 2847 mm ; Front Overhang: 760 mm ; Overall Width: 1792 mm

ACCELEROMETER DATA:

Location: Left and right side passenger compartment

Calibration Procedure: 6 months / Drop test

Linearity: Good ; Integration Algorithm: NHTSA Standard

Veh. Impact Speed: 56.62 km/h ; Time of separation: 80.5 msec

Velocity Change: 64.4 km/h (Left); 63.5 km/h (Right)

Collision Deformation Classification (CDC) Code: F (Frontal)

Crush Depth Dimensions:

C1 = 477 mm

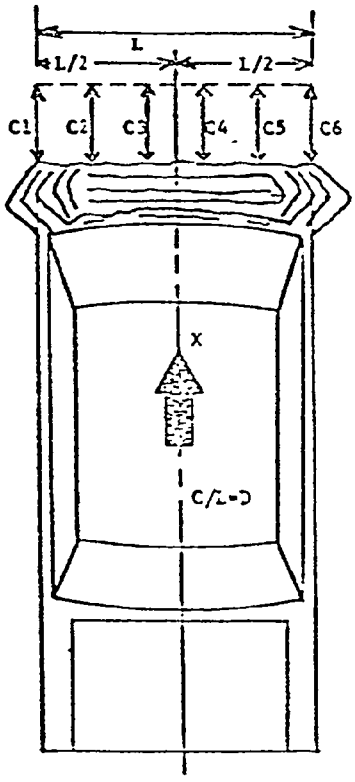
C2 = 506 mm

C3 = 517 mm

C4 = 515 mm

C5 = 513 mm

C6 = 488 mm



Midpoint of Damage: Vehicle Centerline

Length of Damaged Region: L = 1500 mm

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SECTION 4

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

This section shows full list of Test Equipment and the calibration dates.

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General Test Information

VERSNO: V2 TGID: 1
TITLE: 1993 56.35 KM/H NCAP FRONTAL BARRIER IMPACT
TSTOBJ: ACQUIRE NCAP DATA USING TWO INSTR. DUMMIES AND LOAD CELL BARRIER

TSTDAT: 17/DEC/92	TSTPRF: MSE	CONNO: DTNH22-90-D-32121	
TSTREF: MP0202	TSTTYP: NCA	TSTCFN: VTB	
TKSURF: CON	TKCOND: DRY	TEMP: 11	RECTYP: FMT
LINK: UMB	CLSSPD: 56.6	IMPANG: 0	OFFSET: 0.0
IMPPNT: 9999.9	MEASUR: MET	TOTCRV: 69	

TSTCOM: NO COMMENTS

Vehicle Information

VGID: 2 VEHNO: 1 MAKE: 02 MODEL: 99 YEAR: 93 BODY: SW
VIN: 1FMDU34X1PUA53271 ENGINE: V6IF ENGDSP: 4.0 LITER TRANSM: A4
VEHTWT: 2178 WHLBAS: 284.7 VEHLEN: 468.8 VEHWID: 179.2
VEHCG: 138.7 STRSEP: NO COLMEC: EXA MODIND: P
MODDSC: UNMODIFIED
BX
1: 468.8
2: 405.3
3: 362.3
4: 279.5
5: 279.0
6: 325.7
7: 325.0
8: 217.0
9: 216.5
10: 228.0
11: 228.0
12: 333.5
13: 333.5
14: 356.0
15: 355.0
16: 283.5
17: 33.5
18: 46.0
19: 462.0
20: 461.0
21: 39.5
VEHSPD: 56.6 CRBANG: 0 PDOF: 0 BMPENG: NA
SILENG: NA APLENG: NA
DPD
1: 47.7
2: 50.6
3: 51.7
4: 51.5
5: 51.3
6: 48.8
VDI: 12FCAW9 LENCNT: 150.0 DAMDST: 0.0 CRHDST: 51.7
AX
1: 420.8
2: 383.8
3: 347.8
4: 286.5
5: 286.0
6: 323.5
7: 323.5
8: 224.5
9: 224.0
10: 227.0
11: 226.5
12: 333.0
13: 332.0
14: 358.0
15: 355.0
16: 285.5
17: 32.0
18: 52.5
19: 417.5
20: 417.5
21: 39.5
CARANG: 999 VEHOR: 999
VEHCOM: MODEL: EXPLORER/4WD WAGON

Barrier Information

Barrier ID: 3
BARRIG: R
BARSHP: LCB
BARANG: 0
BARDIA: 999.9
BARCOM: BARRIER INSRAT FIELDS ARE IN KILONEWTONS

Occupant Information

Occupant Group ID: 4 VEHNO: 1
OCCLOC: 01 OCCTYP: P5 OCCAGE: 99 OCCSEX: M OCCHT: 999 OCCWT: 999
MTHCAL: P5 DUMSIZ: 50
DUMMAN: MFG: HUMANOID SYSTEMS, S/N: 830
DUMMOD: UNMODIFIED
DUMDSC: NO COMMENT
HH: 42.5 HW: 57.5 HR: 22.0 HS: 32.0 CD: 58.0 CS: 33.5 AD: 6.5 HD: 12.5
KD: 27.0 HB:999.9 NB:999.9 CB:999.9 KB:999.9
RESTR1: 3PT RESTR2: SWE
RESTXT: NO COMMENTS
SEPOSN: CN AIRDEP: NA
CNTRH1: SR CNTRH2: SH CNTRC1: SW CNTRC2: NO CNTRL1: DP CNTRL2: NO
HIC: 882. T1: 59.500 T2: 87.600
CLIP3M: 50.2 LFEM: 3600 RFEM: 4573 CSI: 479. LBELT: 8500 SBELT: 9204
OCCCOM: NO COMMENT

Occupant Information

Occupant Group ID: 4 VEHNO: 1
OCCLOC: 02 OCCTYP: P5 OCCAGE: 99 OCCSEX: M OCCHT: 999 OCCWT: 999
MTHCAL: P5 DUMSIZ: 50
DUMMAN: MFG: HUMANOID SYSTEMS, S/N: 814
DUMMOD: UNMODIFIED
DUMDSC: NO COMMENT
HH: 46.0 HW: 58.5 HR: 22.0 HS: 32.0 CD: 64.0 CS:999.9 AD: 1.5 HD: 13.5
KD: 26.5 HB:999.9 NB:999.9 CB:999.9 KB:999.9
RESTR1: 3PT RESTR2: DPL
RESTXT: NO COMMENTS
SEPOSN: CN AIRDEP: NA
CNTRH1: OT CNTRH2: NO CNTRC1: NO CNTRC2: NO CNTRL1: DP CNTRL2: NO
HIC: 717. T1: 56.000 T2: 92.000
CLIP3M: 47.9 LFEM: 2592 RFEM: 1757 CSI: 494. LBELT: 8479 SBELT: 9697
OCCCOM: CNTRH1: HEAD CONTACTS CHIN TO CHEST

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 001
SENTYP: AC SENLOC: 01 SENATT: HDCG
AXIS: XL UNITS: G'S PREFIL: 1650
INSMAN: MFG: ENDEVCO, MODEL: 7264-200, S/N: BJ28H
CALDAT: 02/OCT/92 INSRAT: 200 CHLMAX: 73 INIVEL: 56.6
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 002
SENTYP: AC SENLOC: 01 SENATT: HDCG
AXIS: YL UNITS: G'S PREFIL: 1650
INSMAN: MFG: ENDEVCO, MODEL: 7264-200, S/N: BT28H
CALDAT: 02/OCT/92 INSRAT: 200 CHLMAX: 11 INIVEL: 0.0
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 003
SENTYP: AC SENLOC: 01 SENATT: HDCG
AXIS: ZL UNITS: G'S PREFIL: 1650
INSMAN: MFG: ENDEVCO, MODEL: 7264-200, S/N: AE29
CALDAT: 02/OCT/92 INSRAT: 200 CHLMAX: 53 INIVEL: 0.0
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 004
SENTYP: AC SENLOC: 01 SENATT: CHST
AXIS: XL UNITS: G'S PREFIL: 1650
INSMAN: MFG: ENDEVCO, MODEL: 7264-200, S/N: BI14H
CALDAT: 02/OCT/92 INSRAT: 200 CHLMAX: 27 INIVEL: 56.6
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 005
SENTYP: AC SENLOC: 01 SENATT: CHST
AXIS: YL UNITS: G'S PREFIL: 1650
INSMAN: MFG: ENDEVCO, MODEL: 7264-200, S/N: BI19H
CALDAT: 02/OCT/92 INSRAT: 200 CHLMAX: 8 INIVEL: 0.0
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 006
SENTYP: AC SENLOC: 01 SENATT: CHST
AXIS: ZL UNITS: G'S PREFIL: 1650
INSMAN: MFG: ENDEVCO, MODEL: 7264-200, S/N: BI92H
CALDAT: 02/OCT/92 INSRAT: 200 CHLMAX: 16 INIVEL: 0.0
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 007
SENTYP: LC SENLOC: 01 SENATT: FMRL
AXIS: XL UNITS: NWT PREFIL: 1650
INSMAN: MFG: GSE INC. MODEL: 2430, S/N: 735
CALDAT: 09/OCT/92 INSRAT: 13350 CHLMAX: 27 INIVEL: 0.0
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 008
SENTYP: LC SENLOC: 01 SENATT: FMRR
AXIS: XL UNITS: NWT PREFIL: 1650
INSMAN: MFG: GSE INC, MODEL: 2430, S/N: 710
CALDAT: 09/OCT/92 INSRAT: 13350 CHLMAX: 36 INIVEL: 0.0
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 009
SENTYP: AC SENLOC: 02 SENATT: HDCG
AXIS: XL UNITS: G'S PREFIL: 1650
INSMAN: MFG: ENDEVCO, MODEL: 7264-200, S/N: BJ61H
CALDAT: 02/OCT/92 INSRAT: 200 CHLMAX: 17 INIVEL: 56.6
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 010
SENTYP: AC SENLOC: 02 SENATT: HDCG
AXIS: YL UNITS: G'S PREFIL: 1650
INSMAN: MFG: ENDEVCO, MODEL: 7264-200, S/N: BG95H
CALDAT: 02/OCT/92 INSRAT: 200 CHLMAX: 6 INIVEL: 0.0
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 011
SENTYP: AC SENLOC: 02 SENATT: HDCG
AXIS: ZL UNITS: G'S PREFIL: 1650
INSMAN: MFG: ENDEVCO, MODEL: 7264-200, S/N: BJ54H
CALDAT: 02/OCT/92 INSRAT: 200 CHLMAX: 33 INIVEL: 0.0
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 012
SENTYP: AC SENLOC: 02 SENATT: CHST
AXIS: XL UNITS: G'S PREFIL: 1650
INSMAN: MFG: ENDEVCO, MODEL: 7264-200, S/N: BJ27H
CALDAT: 02/OCT/92 INSRAT: 200 CHLMAX: 29 INIVEL: 56.6
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 013
SENTYP: AC SENLOC: 02 SENATT: CHST
AXIS: YL UNITS: G'S PREFIL: 1650
INSMAN: MFG: ENDEVCO, MODEL: 7264-200, S/N: BG78H
CALDAT: 02/OCT/92 INSRAT: 200 CHLMAX: 18 INIVEL: 0.0
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 014
SENTYP: AC SENLOC: 02 SENATT: CHST
AXIS: ZL UNITS: G'S PREFIL: 1650
INSMAN: MFG: ENDEVCO, MODEL: 7264-200, S/N: AR39
CALDAT: 02/OCT/92 INSRAT: 200 CHLMAX: 10 INIVEL: 0.0
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 015
SENTYP: LC SENLOC: 02 SENATT: FMRL
AXIS: XL UNITS: NWT PREFIL: 1650
INSMAN: MFG: GSE INC, MODEL: 2430, S/N: 634
CALDAT: 09/OCT/92 INSRAT: 13350 CHLMAX: 20 INIVEL: 0.0
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 016
SENTYP: LC SENLOC: 02 SENATT: FMRR
AXIS: XL UNITS: NWT PREFIL: 1650
INSMAN: MFG: GSE INC, MODEL: 2430, S/N: 550
CALDAT: 09/OCT/92 INSRAT: 13350 CHLMAX: 14 INIVEL: 0.0
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 017
SENTYP: LC SENLOC: 01 SENATT: LPBO
AXIS: OT UNITS: NWT PREFIL: 1650
INSMAN: MFG: LEBOW, MODEL: 3371, S/N: 333
CALDAT: 13/OCT/92 INSRAT: 15575 CHLMAX: 57 INIVEL: 0.0
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 018
SENTYP: LC SENLOC: 01 SENATT: SHBT
AXIS: OT UNITS: NWT PREFIL: 1650
INSMAN: MFG: LEBOW, MODEL: 3371, S/N: 327
CALDAT: 13/OCT/92 INSRAT: 15575 CHLMAX: 59 INIVEL: 0.0
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 019
SENTYP: LC SENLOC: 02 SENATT: LPBO
AXIS: OT UNITS: NWT PREFIL: 1650
INSMAN: MFG: LEBOW, MODEL: 3371, S/N: 330
CALDAT: 13/OCT/92 INSRAT: 15575 CHLMAX: 55 INIVEL: 0.0
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 020
SENTYP: LC SENLOC: 02 SENATT: SHBT
AXIS: OT UNITS: NWT PREFIL: 1650
INSMAN: MFG: LEBOW, MODEL: 3371, S/N: 308
CALDAT: 13/OCT/92 INSRAT: 15575 CHLMAX: 64 INIVEL: 0.0
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 021
SENTYP: DS SENLOC: 01 SENATT: SHBT
AXIS: OT UNITS: OTH PREFIL: 1650
INSMAN: MFG: ETI, MODEL: LCP12A-12, S/N: 1
CALDAT: 10/NOV/92 INSRAT: 50 CHLMAX: 9 INIVEL: 0.0
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM: PERCENT OF TOTAL BELT STRETCH

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 022
SENTYP: DS SENLOC: 02 SENATT: SHBT
AXIS: OT UNITS: OTH PREFIL: 1650
INSMAN: MFG: ETI, MODEL: LCP12A-12, S/N: 2
CALDAT: 10/NOV/92 INSRAT: 50 CHLMAX: 14 INIVEL: 0.0
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM: PERCENT OF TOTAL BELT STRETCH

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 023
SENTYP: DS SENLOC: 01 SENATT: SHBE
AXIS: OT UNITS: CMS PREFIL: 1650
INSMAN: MFG: CELESCO, MODEL: 20 IN., S/N: NA
CALDAT: 10/NOV/92 INSRAT: 51 CHLMAX: 7 INIVEL: 0.0
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 024
SENTYP: DS SENLOC: 02 SENATT: SHBE
AXIS: OT UNITS: CMS PREFIL: 1650
INSMAN: MFG: MSE, MODEL: 24 IN. LIN., S/N: 112
CALDAT: 10/NOV/92 INSRAT: 61 CHLMAX: 6 INIVEL: 0.0
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 025
SENTYP: AC SENLOC: NA SENATT: SULF
AXIS: XG UNITS: G'S PREFIL: 1650
INSMAN: MFG: I.C. SENSOR, MODEL: 3031-200, S/N: 29-200
CALDAT: 09/OCT/92 INSRAT: 200 CHLMAX: 0 INIVEL: 56.6
NFP: -300 NLP: 2999 DELT: 100 DASTAT: MN
INSCOM: NO DATA COLLECTED

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 026
SENTYP: AC SENLOC: NA SENATT: SURF
AXIS: XG UNITS: G'S PREFIL: 1650
INSMAN: MFG: I.C. SENSOR, MODEL: 3031-200, S/N: 25-200
CALDAT: 09/OCT/92 INSRAT: 200 CHLMAX: 88 INIVEL: 56.6
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 027
SENTYP: AC SENLOC: NA SENATT: ENGN
AXIS: XG UNITS: G'S PREFIL: 1650
INSMAN: MFG: I.C. SENSOR, MODEL: 3031-200, S/N: 33-200
CALDAT: 09/OCT/92 INSRAT: 200 CHLMAX: 54 INIVEL: 56.6
NFP: -300 NLP: 2999 DELT: 100 DASTAT: CF
INSCOM: CHANNEL FAILED 39.7 MSEC

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 028
SENTYP: AC SENLOC: NA SENATT: ENGN
AXIS: XG UNITS: G'S PREFIL: 1650
INSMAN: MFG: I.C. SENSOR, MODEL: 3031-200, S/N: 27-200
CALDAT: 09/OCT/92 INSRAT: 200 CHLMAX: 63 INIVEL: 56.6
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 029
SENTYP: AC SENLOC: NA SENATT: DPLC
AXIS: XG UNITS: G'S PREFIL: 1650
INSMAN: MFG: I.C. SENSOR, MODEL: 3031-200, S/N: 28-200
CALDAT: 09/OCT/92 INSRAT: 200 CHLMAX: 67 INIVEL: 56.6
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 030
SENTYP: AC SENLOC: NA SENATT: FLLR
AXIS: XG UNITS: G'S PREFIL: 1650
INSMAN: MFG: I.C. SENSOR, MODEL: 3031-200, S/N: 23-200
CALDAT: 09/OCT/92 INSRAT: 200 CHLMAX: 65 INIVEL: 56.6
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 031
SENTYP: AC SENLOC: NA SENATT: FLRR
AXIS: XG UNITS: G'S PREFIL: 1650
INSMAN: MFG: I.C. SENSOR, MODEL: 3031-200, S/N:
CALDAT: 09/OCT/92 INSRAT: 200 CHLMAX: 74 INIVEL: 56.6
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 032
SENTYP: AC SENLOC: NA SENATT: OTHR
AXIS: XG UNITS: G'S PREFIL: 1650
INSMAN: MFG: BELL & HOWELL, MODEL: 4-202-0001, S/N: 20839
CALDAT: 19/OCT/92 INSRAT: 200 CHLMAX: 71 INIVEL: 56.6
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 033
SENTYP: AC SENLOC: NA SENATT: TRFC
AXIS: XG UNITS: G'S PREFIL: 1650
INSMAN: MFG: BELL & HOWELL, MODEL: 4-202-0001, S/N: 19428
CALDAT: 19/OCT/92 INSRAT: 200 CHLMAX: 59 INIVEL: 56.6
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 0 CURNO: 034
SENTYP: LC SENLOC: NA SENATT: LCA1
AXIS: XG UNITS: NWT PREFIL: 1650
INSMAN: MFG: INTERFACE, MODEL: 1220-FS, S/N: 19349
CALDAT: 14/MAY/85 INSRAT: 222 CHLMAX: 4 INIVEL: 0.0
NFP: -250 NLP: 2499 DELT: 120 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 0 CURNO: 035
SENTYP: LC SENLOC: NA SENATT: LCA2
AXIS: XG UNITS: NWT PREFIL: 1650
INSMAN: MFG: INTERFACE, MODEL: 1220-FS, S/N: 19324
CALDAT: 14/MAY/85 INSRAT: 222 CHLMAX: 6 INIVEL: 0.0
NFP: -250 NLP: 2499 DELT: 120 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 0 CURNO: 036
SENTYP: LC SENLOC: NA SENATT: LCA3
AXIS: XG UNITS: NWT PREFIL: 1650
INSMAN: MFG: INTERFACE, MODEL: 1220-FS, S/N: 19283
CALDAT: 14/MAY/85 INSRAT: 222 CHLMAX: 6 INIVEL: 0.0
NFP: -250 NLP: 2499 DELT: 120 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 0 CURNO: 037
SENTYP: LC SENLOC: NA SENATT: LCA3
AXIS: XG UNITS: NWT PREFIL: 1650
INSMAN: MFG: INTERFACE, MODEL: 1220-FS, S/N: 19263
CALDAT: 14/MAY/85 INSRAT: 222 CHLMAX: 6 INIVEL: 0.0
NFP: -250 NLP: 2499 DELT: 120 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 0 CURNO: 038
SENTYP: LC SENLOC: NA SENATT: LCA5
AXIS: XG UNITS: NWT PREFIL: 1650
INSMAN: MFG: INTERFACE, MODEL: 1220-FS, S/N: 19265
CALDAT: 14/MAY/85 INSRAT: 222 CHLMAX: 5 INIVEL: 0.0
NFP: -250 NLP: 2499 DELT: 120 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 0 CURNO: 039
SENTYP: LC SENLOC: NA SENATT: LCA6
AXIS: XG UNITS: NWT PREFIL: 1650
INSMAN: MFG: INTERFACE, MODEL: 1220-FS, S/N: 19266
CALDAT: 14/MAY/85 INSRAT: 222 CHLMAX: 6 INIVEL: 0.0
NFP: -250 NLP: 2499 DELT: 120 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 0 CURNO: 040
SENTYP: LC SENLOC: NA SENATT: LCA7
AXIS: XG UNITS: NWT PREFIL: 1650
INSMAN: MFG: INTERFACE, MODEL: 1220-FS, S/N: 19317
CALDAT: 14/MAY/85 INSRAT: 222 CHLMAX: 6 INIVEL: 0.0
NFP: -250 NLP: 2499 DELT: 120 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 0 CURNO: 041
SENTYP: LC SENLOC: NA SENATT: LCA8
AXIS: XG UNITS: NWT PREFIL: 1650
INSMAN: MFG: INTERFACE, MODEL: 1220-FS, S/N: 19270
CALDAT: 14/MAY/85 INSRAT: 222 CHLMAX: 6 INIVEL: 0.0
NFP: -250 NLP: 2499 DELT: 120 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 0 CURNO: 042
SENTYP: LC SENLOC: NA SENATT: LCA9
AXIS: XG UNITS: NWT PREFIL: 1650
INSMAN: MFG: INTERFACE, MODEL: 1220-FS, S/N: 19428
CALDAT: 14/MAY/85 INSRAT: 222 CHLMAX: 9 INIVEL: 0.0
NFP: -250 NLP: 2499 DELT: 120 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 0 CURNO: 043
SENTYP: LC SENLOC: NA SENATT: LCB1
AXIS: XG UNITS: NWT PREFIL: 1650
INSMAN: MFG: INTERFACE, MODEL: 1220-FS, S/N: 19273
CALDAT: 14/MAY/85 INSRAT: 222 CHLMAX: 7 INIVEL: 0.0
NFP: -250 NLP: 2499 DELT: 120 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 0 CURNO: 044
SENTYP: LC SENLOC: NA SENATT: LCB1
AXIS: XG UNITS: NWT PREFIL: 1650
INSMAN: MFG: INTERFACE, MODEL: 1220-FS, S/N: 19276
CALDAT: 14/MAY/85 INSRAT: 222 CHLMAX: 11 INIVEL: 0.0
NFP: -250 NLP: 2499 DELT: 120 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 0 CURNO: 045
SENTYP: LC SENLOC: NA SENATT: LCB3
AXIS: XG UNITS: NWT PREFIL: 1650
INSMAN: MFG: INTERFACE, MODEL: 1220-FS, S/N: 19258
CALDAT: 14/MAY/85 INSRAT: 222 CHLMAX: 2 INIVEL: 0.0
NFP: -250 NLP: 2499 DELT: 120 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 0 CURNO: 046
SENTYP: LC SENLOC: NA SENATT: LCB4
AXIS: XG UNITS: NWT PREFIL: 1650
INSMAN: MFG: INTERFACE, MODEL: 1220-FS, S/N: 19278
CALDAT: 14/MAY/85 INSRAT: 222 CHLMAX: 32 INIVEL: 0.0
NFP: -250 NLP: 2499 DELT: 120 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 0 CURNO: 047
SENTYP: LC SENLOC: NA SENATT: LCB5
AXIS: XG UNITS: NWT PREFIL: 1650
INSMAN: MFG: INTERFACE, MODEL: 1220-FS, S/N: 19279
CALDAT: 14/MAY/85 INSRAT: 222 CHLMAX: 7 INIVEL: 0.0
NFP: -250 NLP: 2499 DELT: 120 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 0 CURNO: 048
SENTYP: LC SENLOC: NA SENATT: LCB6
AXIS: XG UNITS: NWT PREFIL: 1650
INSMAN: MFG: INTERFACE, MODEL: 1220-FS, S/N: 19282
CALDAT: 14/MAY/85 INSRAT: 222 CHLMAX: 1 INIVEL: 0.0
NFP: -250 NLP: 2499 DELT: 120 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 0 CURNO: 049
SENTYP: LC SENLOC: NA SENATT: LCB7
AXIS: XG UNITS: NWT PREFIL: 1650
INSMAN: MFG: INTERFACE, MODEL: 1220-FS, S/N: 19262
CALDAT: 14/MAY/85 INSRAT: 222 CHLMAX: 37 INIVEL: 0.0
NFP: -250 NLP: 2499 DELT: 120 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 0 CURNO: 050
SENTYP: LC SENLOC: NA SENATT: LCB8
AXIS: XG UNITS: NWT PREFIL: 1650
INSMAN: MFG: INTERFACE, MODEL: 1220-FS, S/N: 19285
CALDAT: 14/MAY/85 INSRAT: 222 CHLMAX: 14 INIVEL: 0.0
NFP: -250 NLP: 2499 DELT: 120 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 0 CURNO: 051
SENTYP: LC SENLOC: NA SENATT: LCB9
AXIS: XG UNITS: NWT PREFIL: 1650
INSMAN: MFG: INTERFACE, MODEL: 1220-FS, S/N: 19286
CALDAT: 14/MAY/85 INSRAT: 222 CHLMAX: 11 INIVEL: 0.0
NFP: -250 NLP: 2499 DELT: 120 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 0 CURNO: 052
SENTYP: LC SENLOC: NA SENATT: LCC1
AXIS: XG UNITS: NWT PREFIL: 1650
INSMAN: MFG: INTERFACE, MODEL: 1220-FS, S/N: 19287
CALDAT: 14/MAY/85 INSRAT: 222 CHLMAX: 5 INIVEL: 0.0
NFP: -250 NLP: 2499 DELT: 120 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 0 CURNO: 053
SENTYP: LC SENLOC: NA SENATT: LCC2
AXIS: XG UNITS: NWT PREFIL: 1650
INSMAN: MFG: INTERFACE, MODEL: 1220-FS, S/N: 19288
CALDAT: 14/MAY/85 INSRAT: 222 CHLMAX: 11 INIVEL: 0.0
NFP: -250 NLP: 2499 DELT: 120 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 0 CURNO: 054
SENTYP: LC SENLOC: NA SENATT: LCC3
AXIS: XG UNITS: NWT PREFIL: 1650
INSMAN: MFG: INTERFACE, MODEL: 1220-FS, S/N: 19289
CALDAT: 14/MAY/85 INSRAT: 222 CHLMAX: 1 INIVEL: 0.0
NFP: -250 NLP: 2499 DELT: 120 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 0 CURNO: 055
SENTYP: LC SENLOC: NA SENATT: LCC4
AXIS: XG UNITS: NWT PREFIL: 1650
INSMAN: MFG: INTERFACE, MODEL: 1220-FS, S/N: 19291
CALDAT: 14/MAY/85 INSRAT: 222 CHLMAX: 34 INIVEL: 0.0
NFP: -250 NLP: 2499 DELT: 120 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 0 CURNO: 056
SENTYP: LC SENLOC: NA SENATT: LCC5
AXIS: XG UNITS: NWT PREFIL: 1650
INSMAN: MFG: INTERFACE, MODEL: 1220-FS, S/N: 19324
CALDAT: 14/MAY/85 INSRAT: 222 CHLMAX: 42 INIVEL: 0.0
NFP: -250 NLP: 2499 DELT: 120 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 0 CURNO: 057
SENTYP: LC SENLOC: NA SENATT: LCC6
AXIS: XG UNITS: NWT PREFIL: 1650
INSMAN: MFG: INTERFACE, MODEL: 1220-FS, S/N: 19313
CALDAT: 14/MAY/85 INSRAT: 222 CHLMAX: 29 INIVEL: 0.0
NFP: -250 NLP: 2499 DELT: 120 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 0 CURNO: 058
SENTYP: LC SENLOC: NA SENATT: LCC7
AXIS: XG UNITS: NWT PREFIL: 1650
INSMAN: MFG: INTERFACE, MODEL: 1220-FS, S/N: 19314
CALDAT: 14/MAY/85 INSRAT: 222 CHLMAX: 32 INIVEL: 0.0
NFP: -250 NLP: 2499 DELT: 120 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 0 CURNO: 059
SENTYP: LC SENLOC: NA SENATT: LCC8
AXIS: XG UNITS: NWT PREFIL: 1650
INSMAN: MFG: INTERFACE, MODEL: 1220-FS, S/N: 19315
CALDAT: 14/MAY/85 INSRAT: 222 CHLMAX: 14 INIVEL: 0.0
NFP: -250 NLP: 2499 DELT: 120 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 0 CURNO: 060
SENTYP: LC SENLOC: NA SENATT: LCC9
AXIS: XG UNITS: NWT PREFIL: 1650
INSMAN: MFG: INTERFACE, MODEL: 1220-FS, S/N: 19316
CALDAT: 14/MAY/85 INSRAT: 222 CHLMAX: 9 INIVEL: 0.0
NFP: -250 NLP: 2499 DELT: 120 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 0 CURNO: 061
SENTYP: LC SENLOC: NA SENATT: LCD1
AXIS: XG UNITS: NWT PREFIL: 1650
INSMAN: MFG: INTERFACE, MODEL: 1220-FS, S/N: 19317
CALDAT: 14/MAY/85 INSRAT: 222 CHLMAX: 3 INIVEL: 0.0
NFP: -250 NLP: 2499 DELT: 120 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 0 CURNO: 062
SENTYP: LC SENLOC: NA SENATT: LCD2
AXIS: XG UNITS: NWT PREFIL: 1650
INSMAN: MFG: INTERFACE, MODEL: 1220-FS, S/N: 19318
CALDAT: 14/MAY/85 INSRAT: 222 CHLMAX: 21 INIVEL: 0.0
NFP: -250 NLP: 2499 DELT: 120 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 0 CURNO: 063
SENTYP: LC SENLOC: NA SENATT: LCD3
AXIS: XG UNITS: NWT PREFIL: 1650
INSMAN: MFG: INTERFACE, MODEL: 1220-FS, S/N: 19322
CALDAT: 14/MAY/85 INSRAT: 222 CHLMAX: 12 INIVEL: 0.0
NFP: -250 NLP: 2499 DELT: 120 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 0 CURNO: 064
SENTYP: LC SENLOC: NA SENATT: LCD4
AXIS: XG UNITS: NWT PREFIL: 1650
INSMAN: MFG: INTERFACE, MODEL: 1220-FS, S/N: 19323
CALDAT: 14/MAY/85 INSRAT: 222 CHLMAX: 18 INIVEL: 0.0
NFP: -250 NLP: 2499 DELT: 120 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 0 CURNO: 065
SENTYP: LC SENLOC: NA SENATT: LCD5
AXIS: XG UNITS: NWT PREFIL: 1650
INSMAN: MFG: INTERFACE, MODEL: 1220-FS, S/N: 19260
CALDAT: 14/MAY/85 INSRAT: 222 CHLMAX: 34 INIVEL: 0.0
NFP: -250 NLP: 2499 DELT: 120 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 0 CURNO: 066
SENTYP: LC SENLOC: NA SENATT: LCD6
AXIS: XG UNITS: NWT PREFIL: 1650
INSMAN: MFG: INTERFACE, MODEL: 1220-FS, S/N: 19325
CALDAT: 14/MAY/85 INSRAT: 222 CHLMAX: 13 INIVEL: 0.0
NFP: -250 NLP: 2499 DELT: 120 DASTAT: AM
INSCOM: NO COMMENT

Instrumentation Information

Inst. Group ID: 5 VEHNO: 0 CURNO: 067
SENTYP: LC SENLOC: NA SENATT: LCD7
AXIS: XG UNITS: NWT PREFIL: 1650
INSMAN: MFG: INTERFACE, MODEL: 1220-FS, S/N: 19332
CALDAT: 14/MAY/85 INSRAT: 222 CHLMAX: 0 INIVEL: 0.0
NFP: -250 NLP: 2499 DELT: 120 DASTAT: MN
INSCOM: MEANINGLESS DATA, CAUSE UNKNOWN

Instrumentation Information

Inst. Group ID: 5 VEHNO: 0 CURNO: 068
SENTYP: LC SENLOC: NA SENATT: LCD8
AXIS: XG UNITS: NWT PREFIL: 1650
INSMAN: MFG: INTERFACE, MODEL: 1220-FS, S/N: 19333
CALDAT: 14/MAY/85 INSRAT: 222 CHLMAX: 30 INIVEL: 0.0
NFP: -250 NLP: 2499 DELT: 120 DASTAT: CF
INSCOM: CHANNEL FAILED AT 65.28 MSEC

Instrumentation Information

Inst. Group ID: 5 VEHNO: 0 CURNO: 069
SENTYP: LC SENLOC: NA SENATT: LCD9
AXIS: XG UNITS: NWT PREFIL: 1650
INSMAN: MFG: INTERFACE, MODEL: 1220-FS, S/N: 19338
CALDAT: 14/MAY/85 INSRAT: 222 CHLMAX: 8 INIVEL: 0.0
NFP: -250 NLP: 2499 DELT: 120 DASTAT: AM
INSCOM: NO COMMENT

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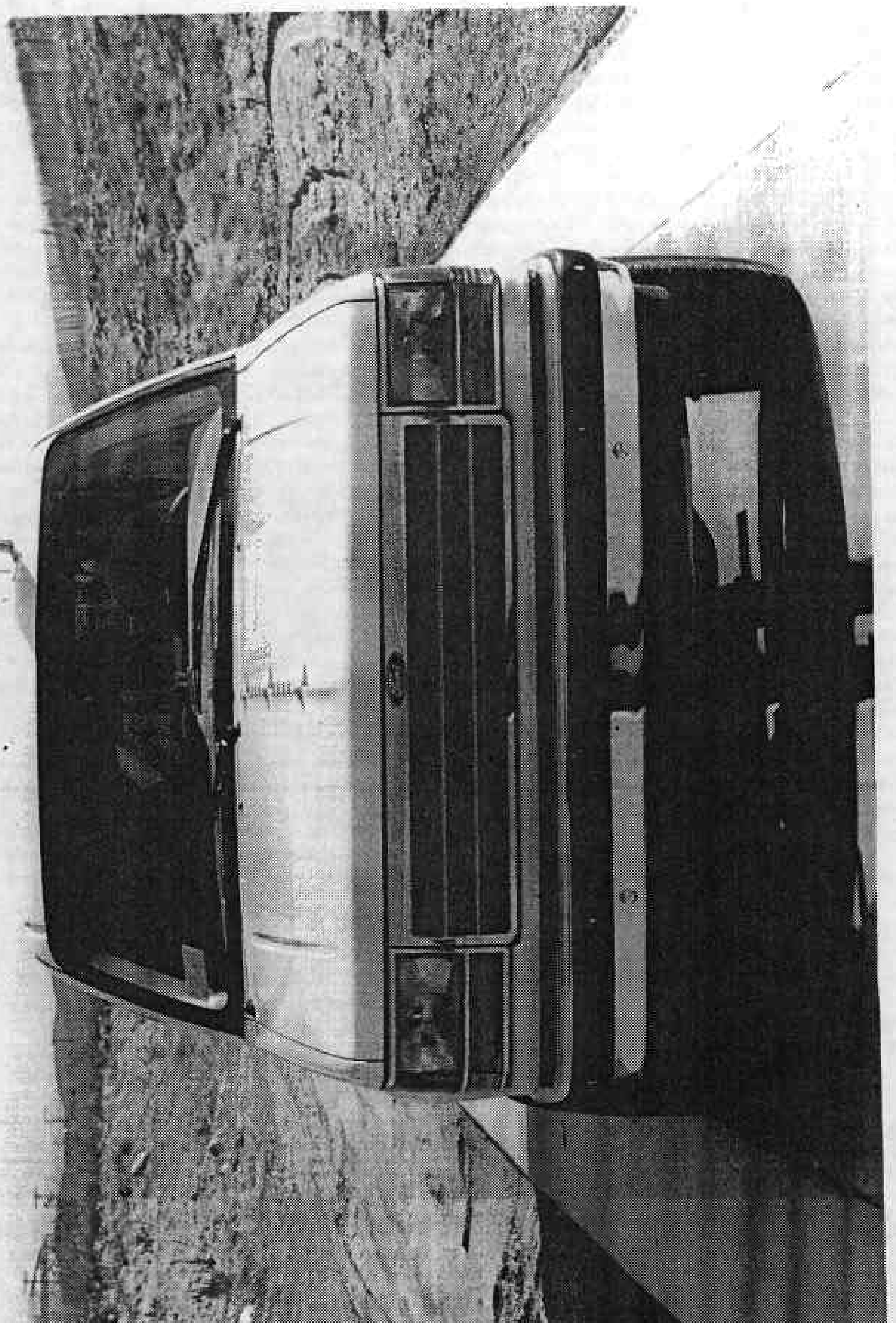
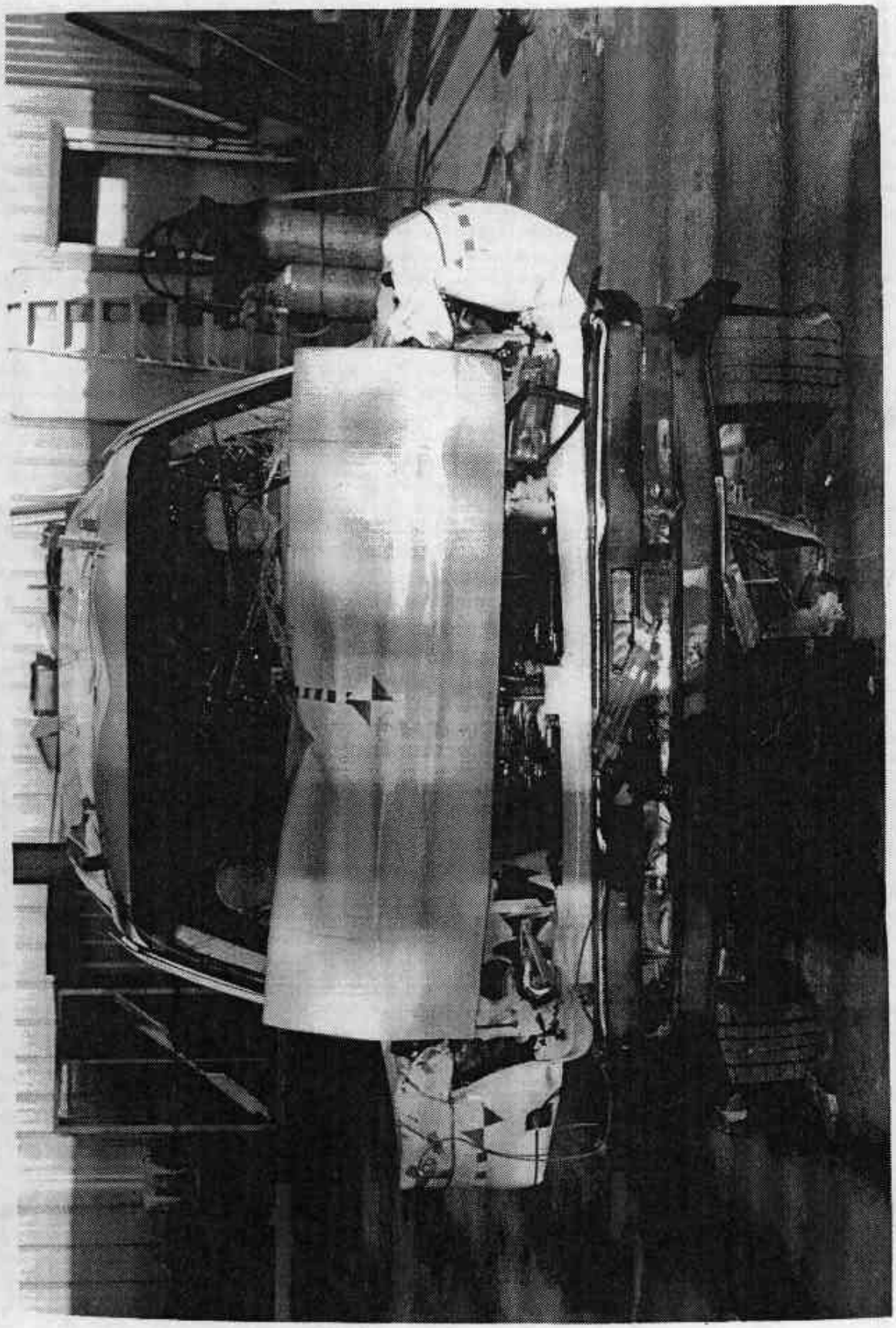
APPENDIX A

PHOTOGRAPHS

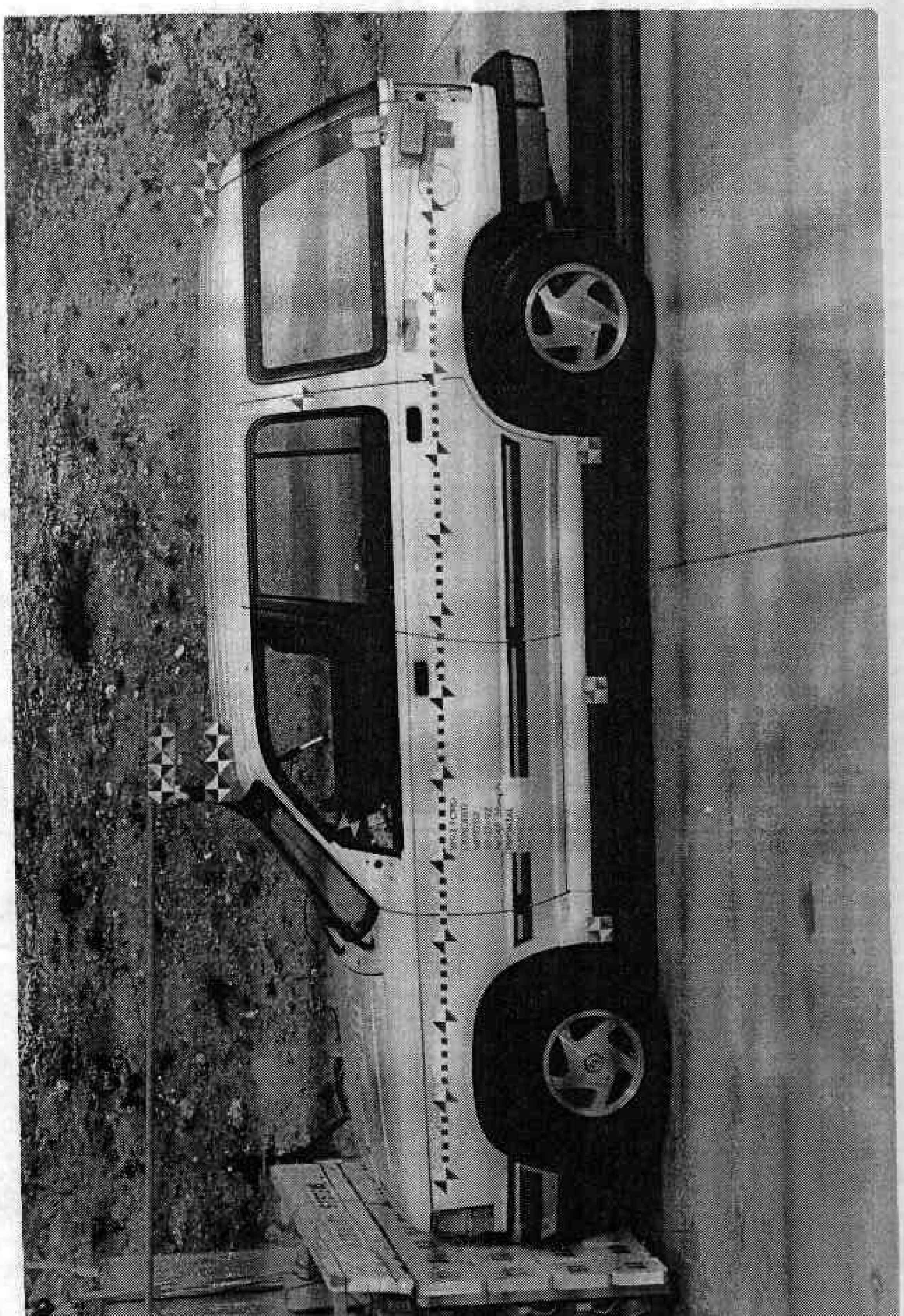
PRETEST FRONT VIEW
POSTTEST FRONT VIEW
PRETEST LEFT SIDE VIEW
POSTTEST LEFT SIDE VIEW
PRETEST RIGHT SIDE VIEW
POSTTEST RIGHT SIDE VIEW
PRETEST RIGHT FRONT 3/4 VIEW
POSTTEST RIGHT FRONT 3/4 VIEW
PRETEST LEFT REAR 3/4 VIEW
POSTTEST LEFT REAR 3/4 VIEW
PRETEST WINDSHIELD VIEW
POSTTEST WINDSHIELD VIEW
PRETEST ENGINE COMPARTMENT VIEW
POSTTEST ENGINE COMPARTMENT VIEW
PRETEST FRONT UNDERBODY VIEW
POSTTEST FRONT UNDERBODY VIEW
PRETEST REAR UNDERBODY VIEW
POSTTEST REAR UNDERBODY VIEW
PRETEST DRIVER DUMMY POSITION VIEW
POSTTEST DRIVER DUMMY POSITION VIEW
PRETEST PASSENGER DUMMY POSITION VIEW
POSTTEST PASSENGER DUMMY POSITION VIEW
PRETEST DRIVER DUMMY & VEHICLE INTERIOR VIEW (Door Open)
POSTTEST DRIVER DUMMY & VEHICLE INTERIOR VIEW (Door Open)
PRETEST PASSENGER DUMMY & VEHICLE INTERIOR VIEW (Door Open)
POSTTEST PASSENGER DUMMY & VEHICLE INTERIOR VIEW (Door Open)
POSTTEST DRIVER ATD HEAD AND KNEE CONTACT AREA
POSTTEST PASSENGER ATD KNEE CONTACT AREA
COLLECTION OF SOLVENT LEAKAGE



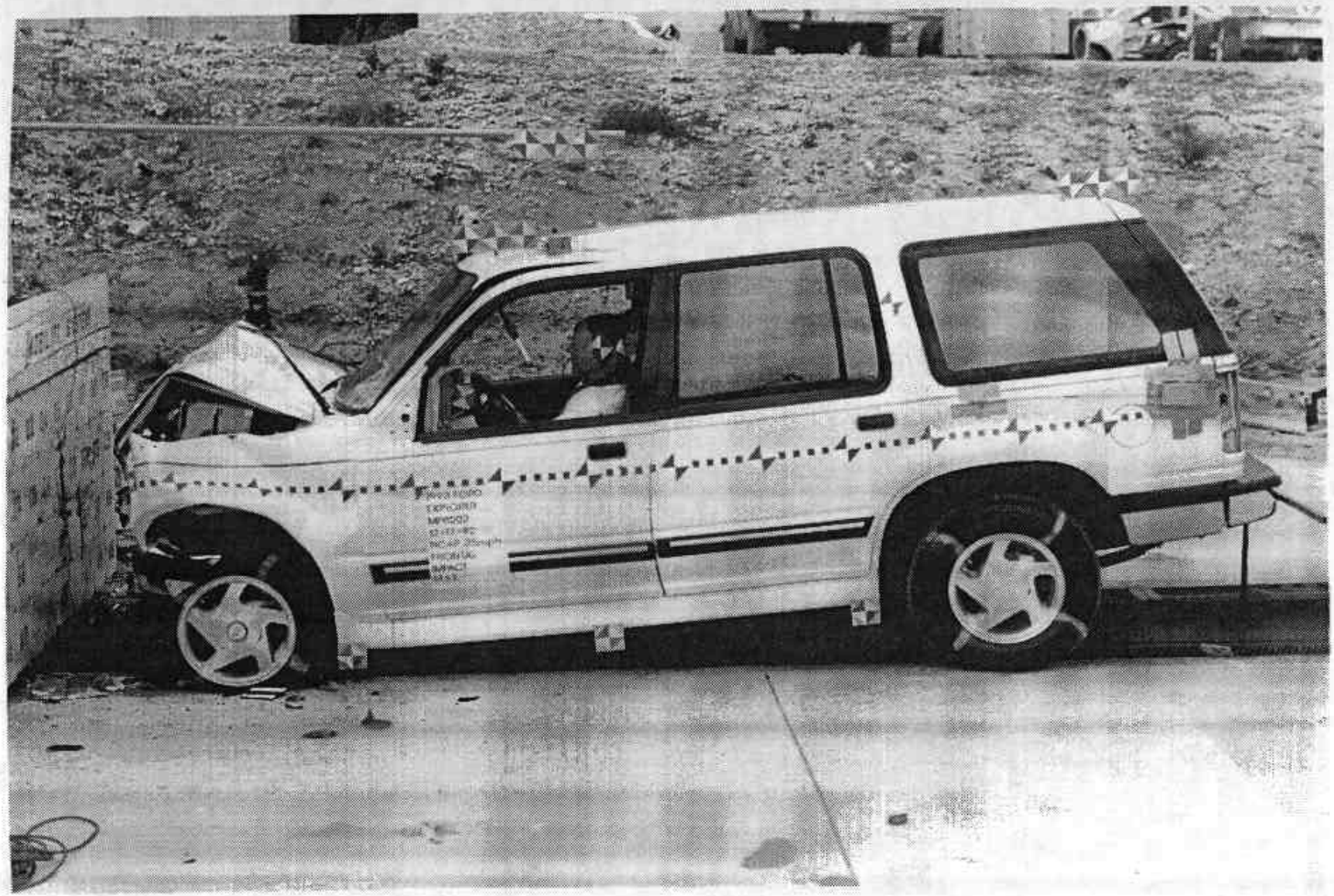
PRETEST FRONT VIEW



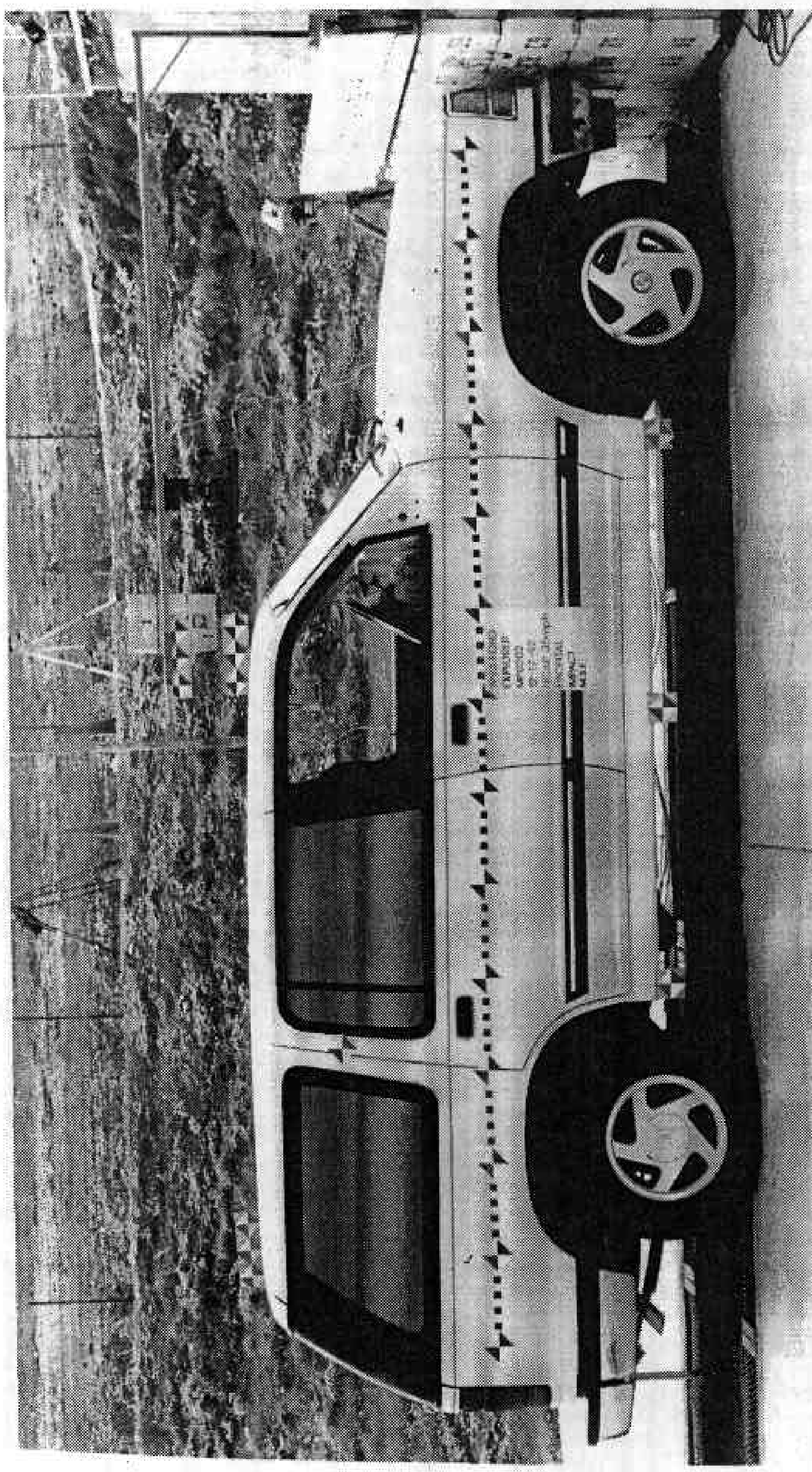
POSTTEST FRONT VIEW



PRETEST LEFT SIDE VIEW



POSTTEST LEFT SIDE VIEW



PRETEST RIGHT SIDE VIEW

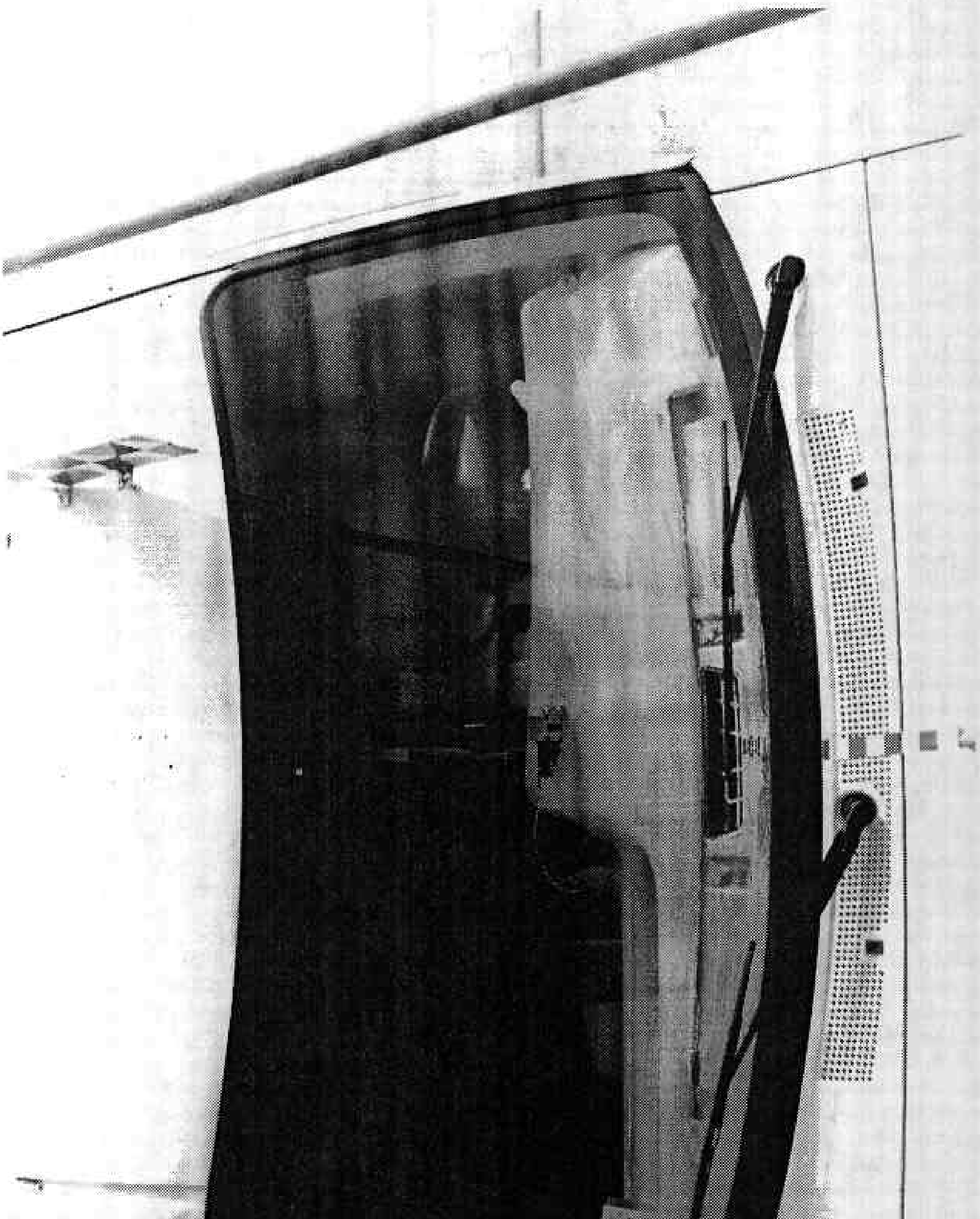
POSTTEST RIGHT SIDE VIEW

PRETEST RIGHT FRONT 3/4 VIEW

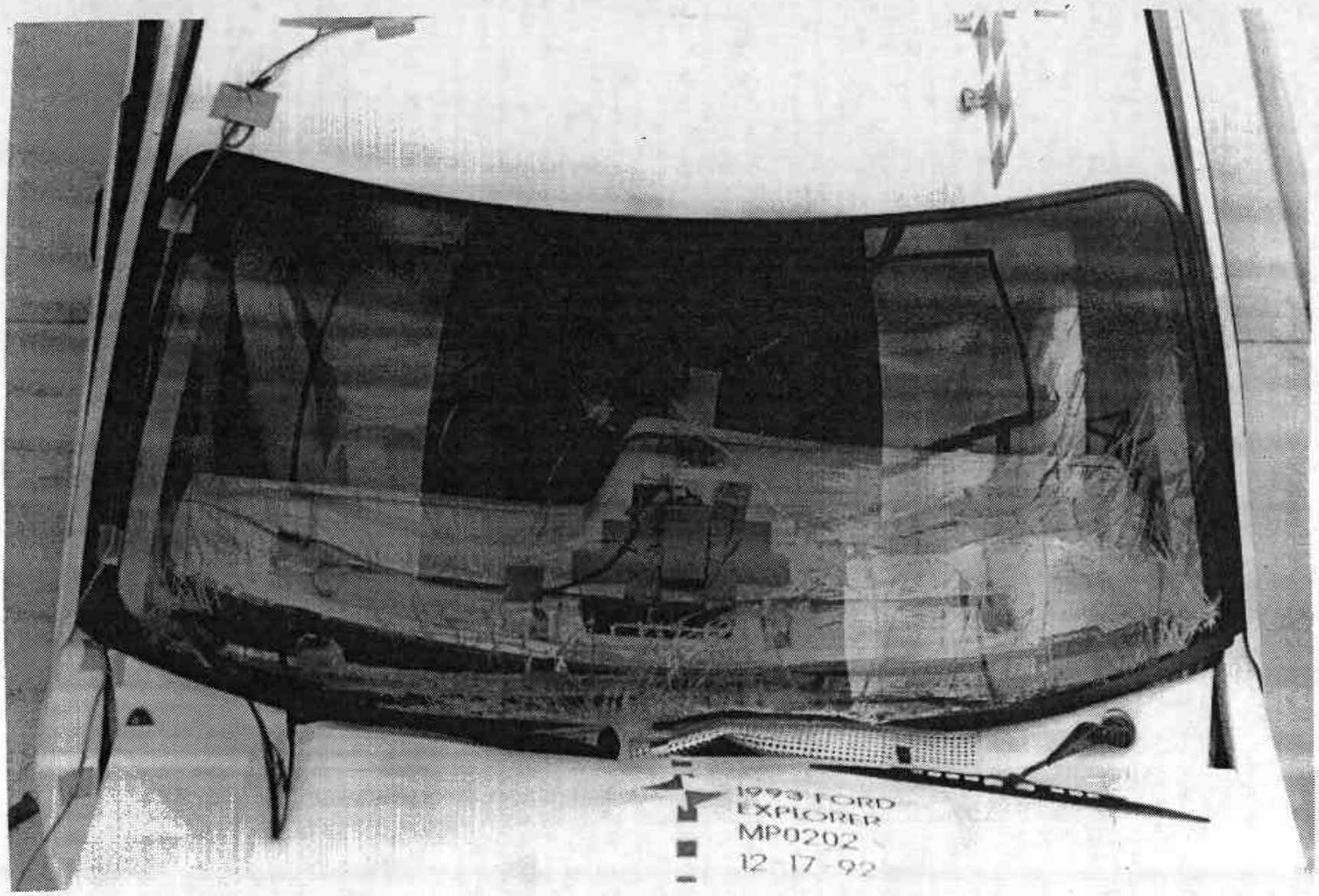
POSTTEST RIGHT FRONT 3/4 VIEW

PRETEST LEFT REAR 3/4 VIEW

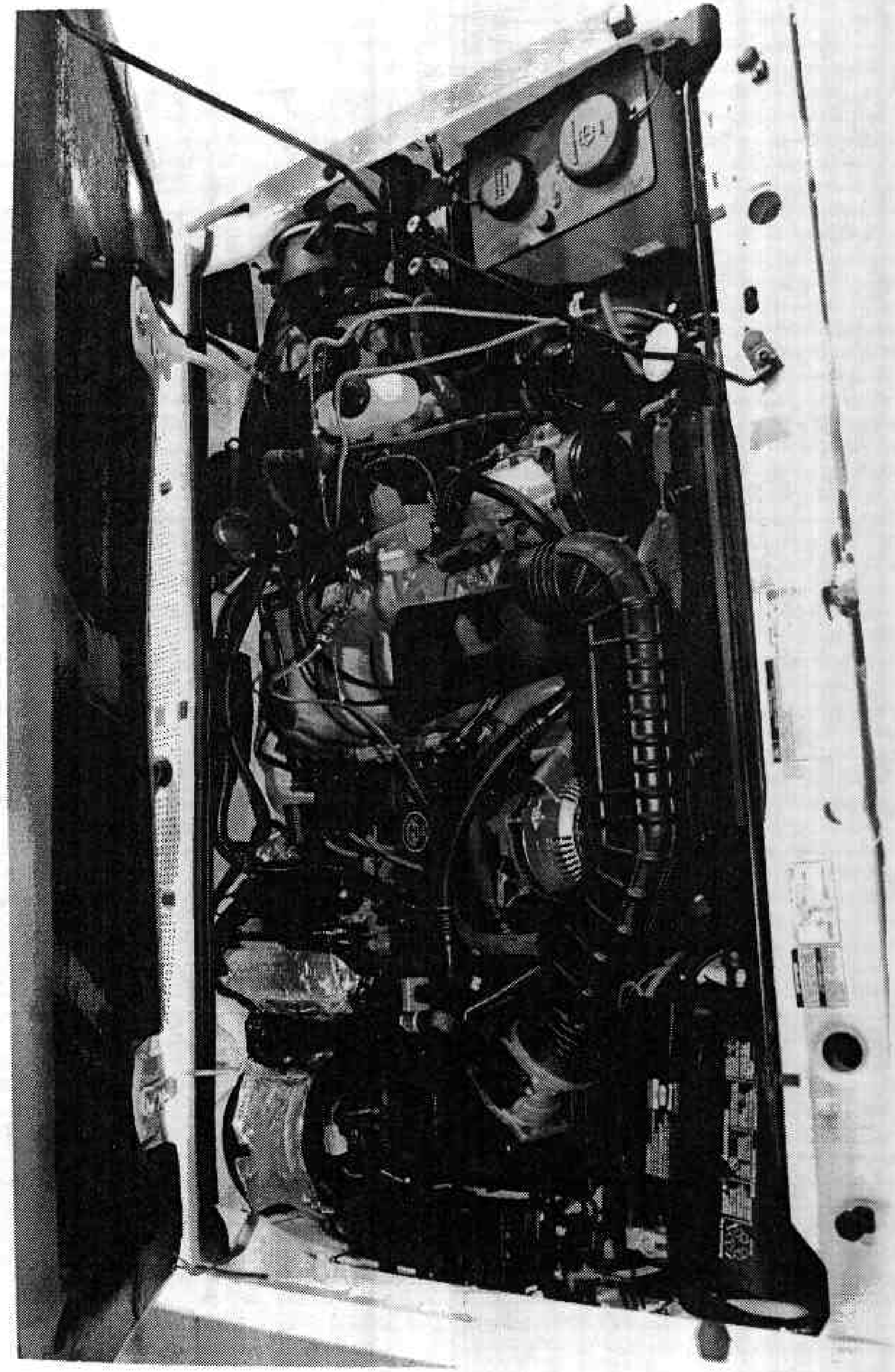
POSTTEST LEFT REAR 3/4 VIEW



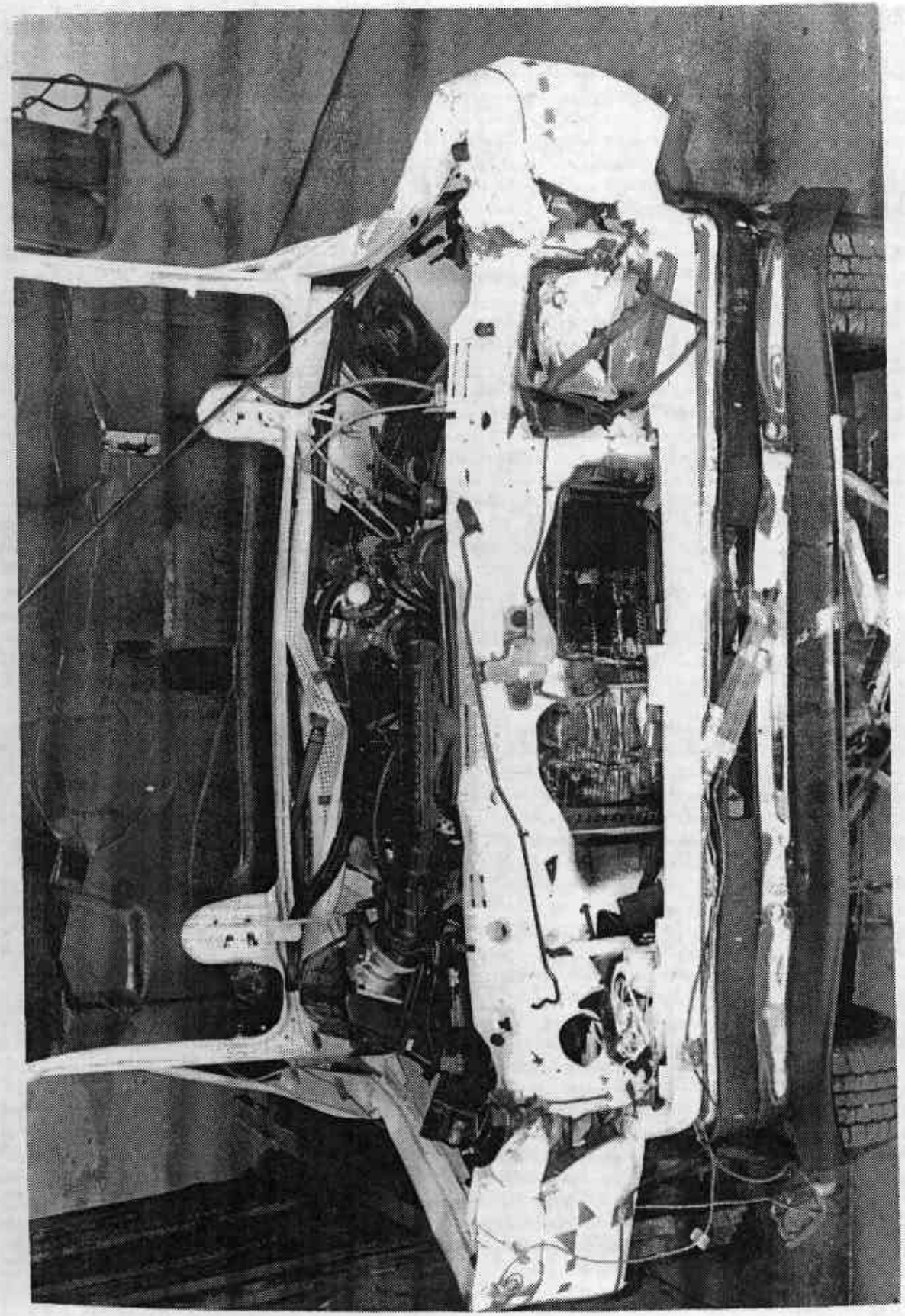
PRETEST WINDSHIELD VIEW



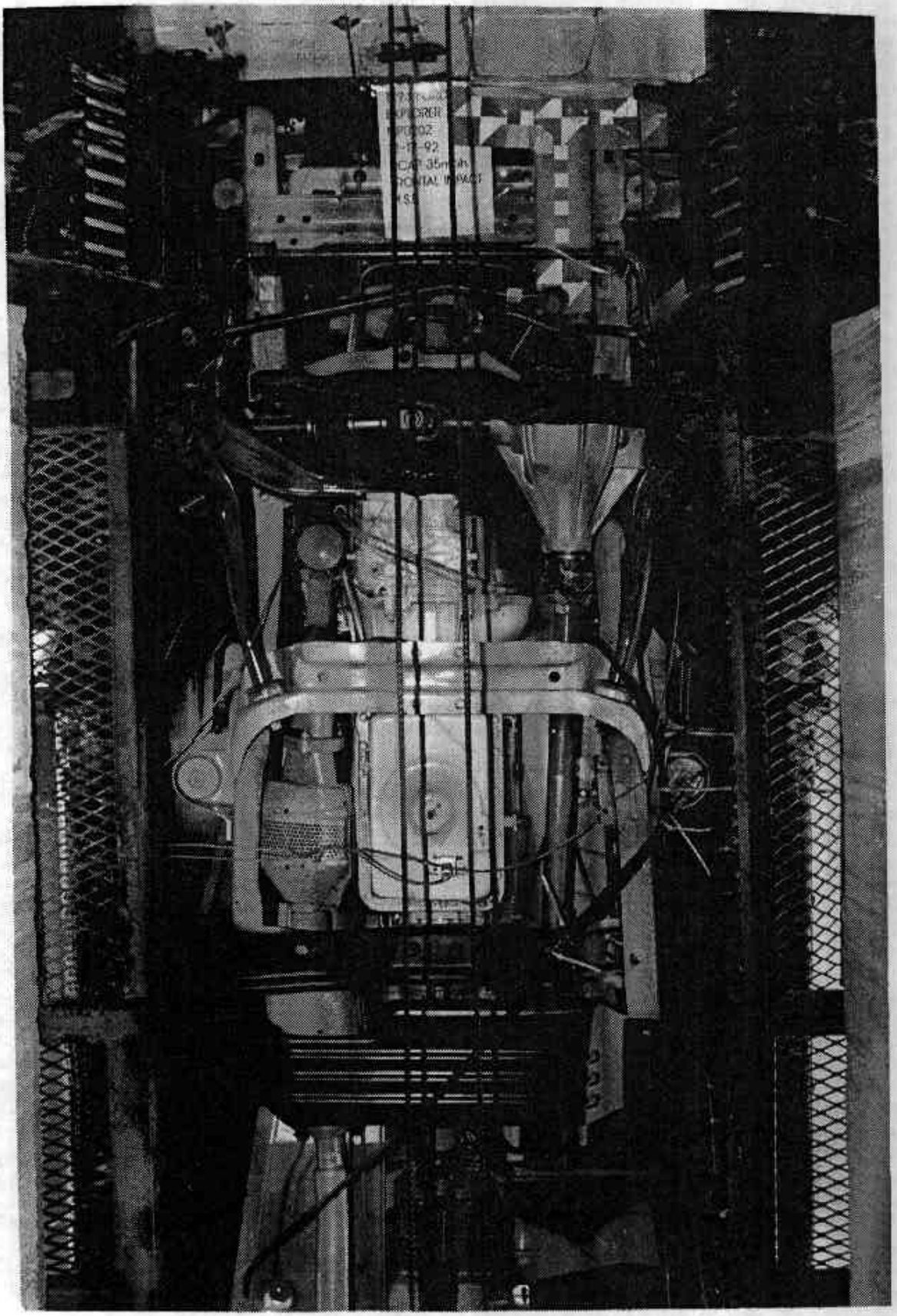
POSTTEST WINDSHIELD VIEW



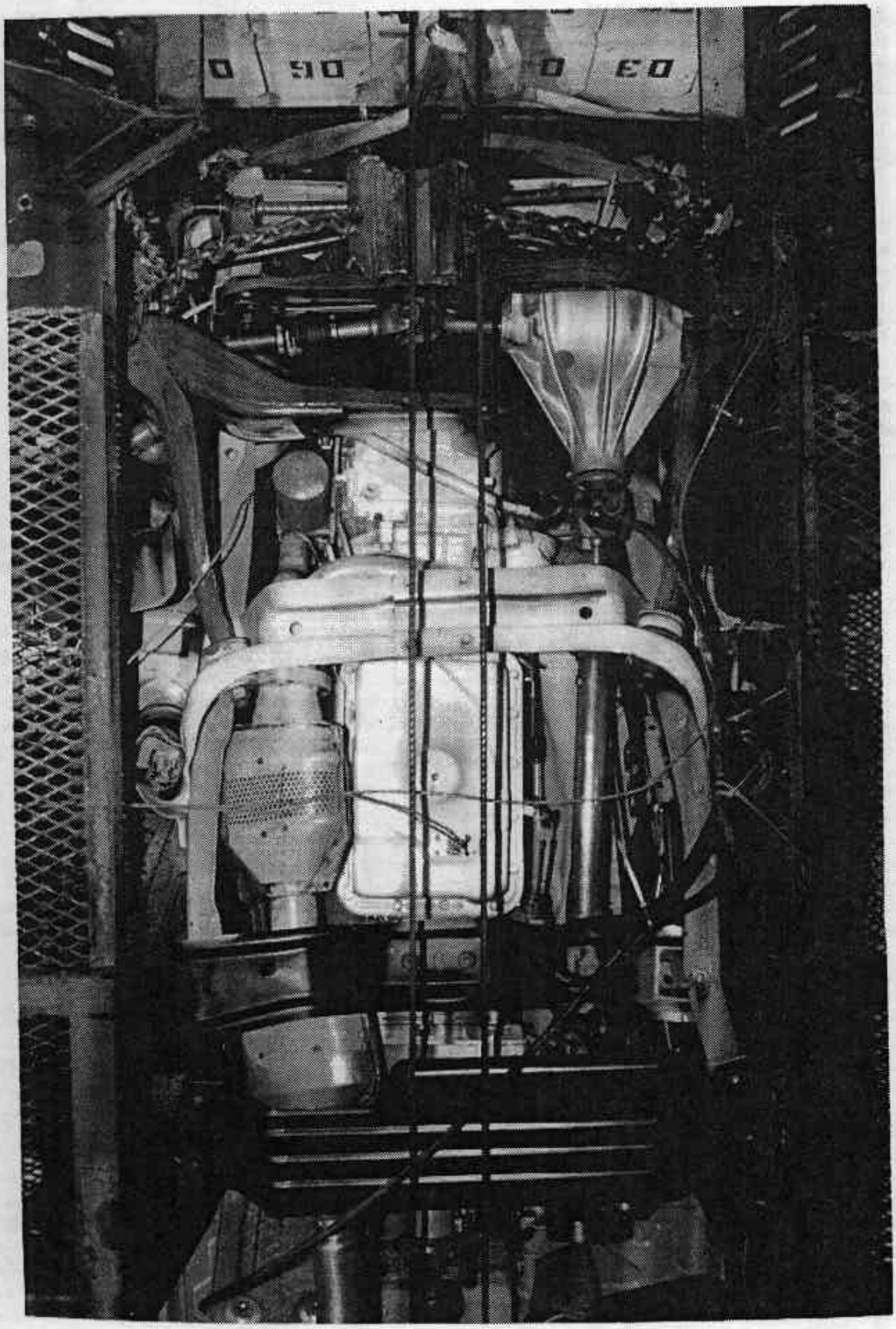
PRETEST ENGINE COMPARTMENT VIEW



POSTTEST ENGINE COMPARTMENT VIEW

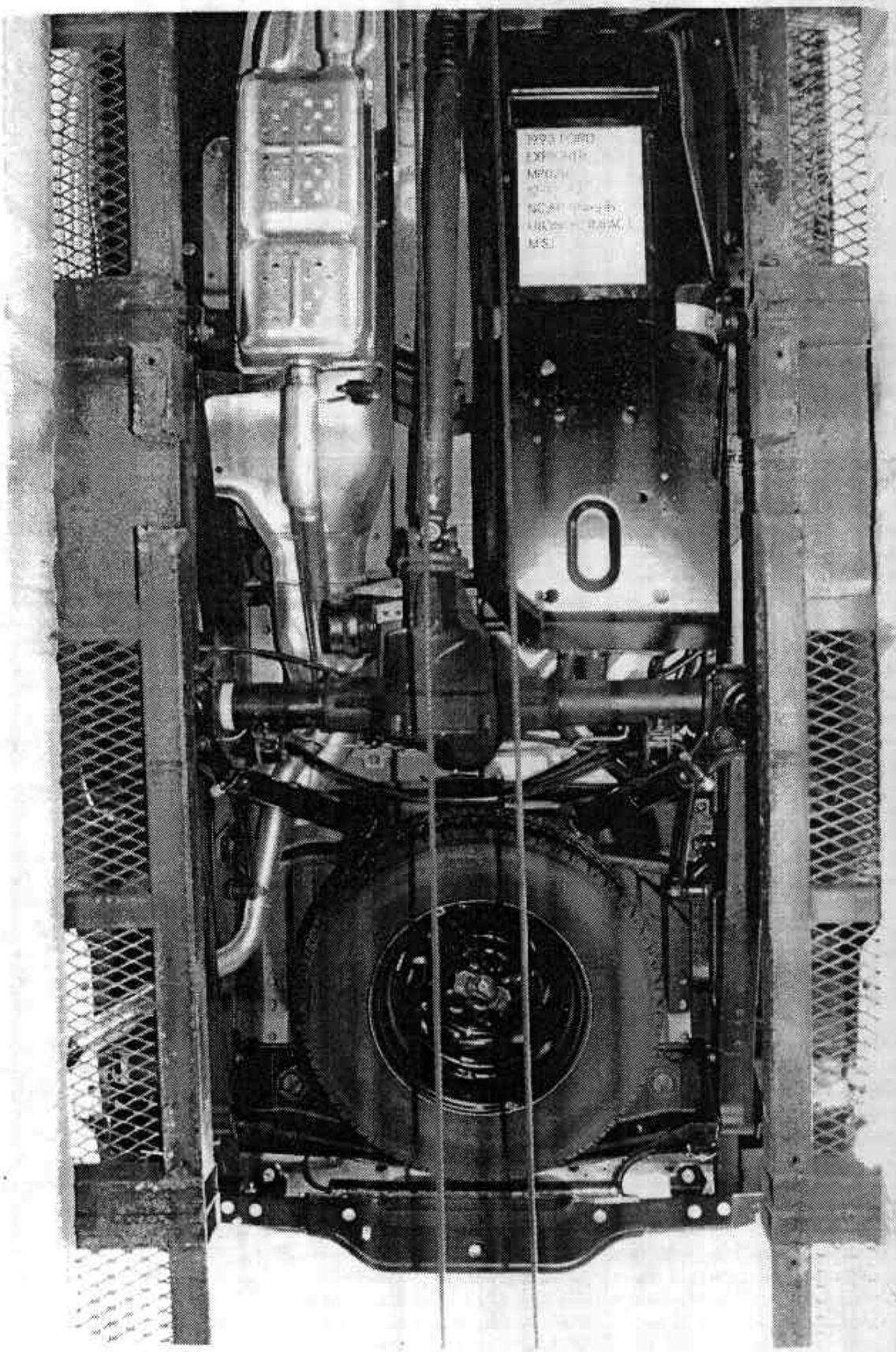


PRETEST FRONT UNDERBODY VIEW



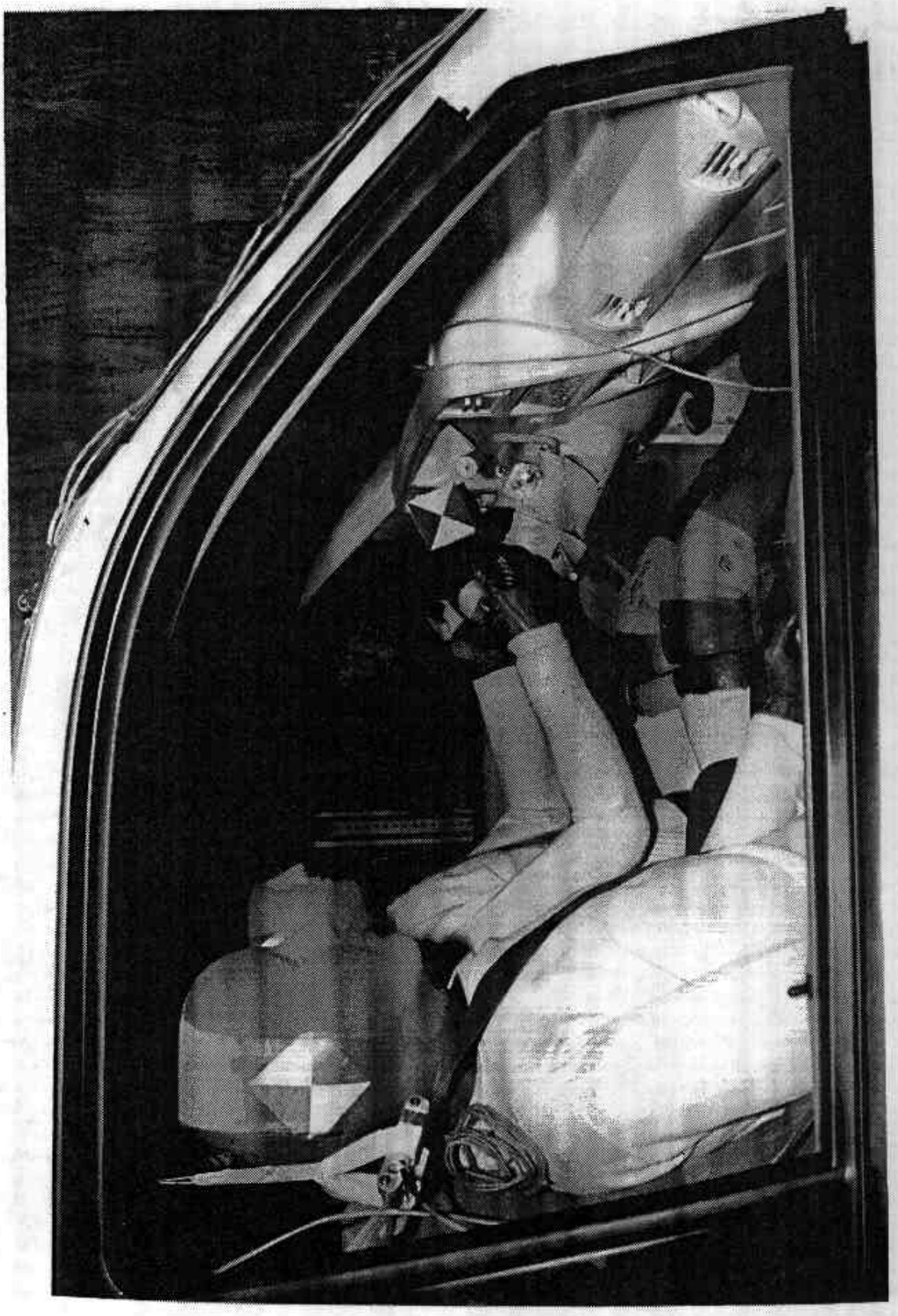
POSTTEST FRONT UNDERBODY VIEW
A-16

MSE-93-R92083-N06



PRETEST REAR UNDERBODY VIEW

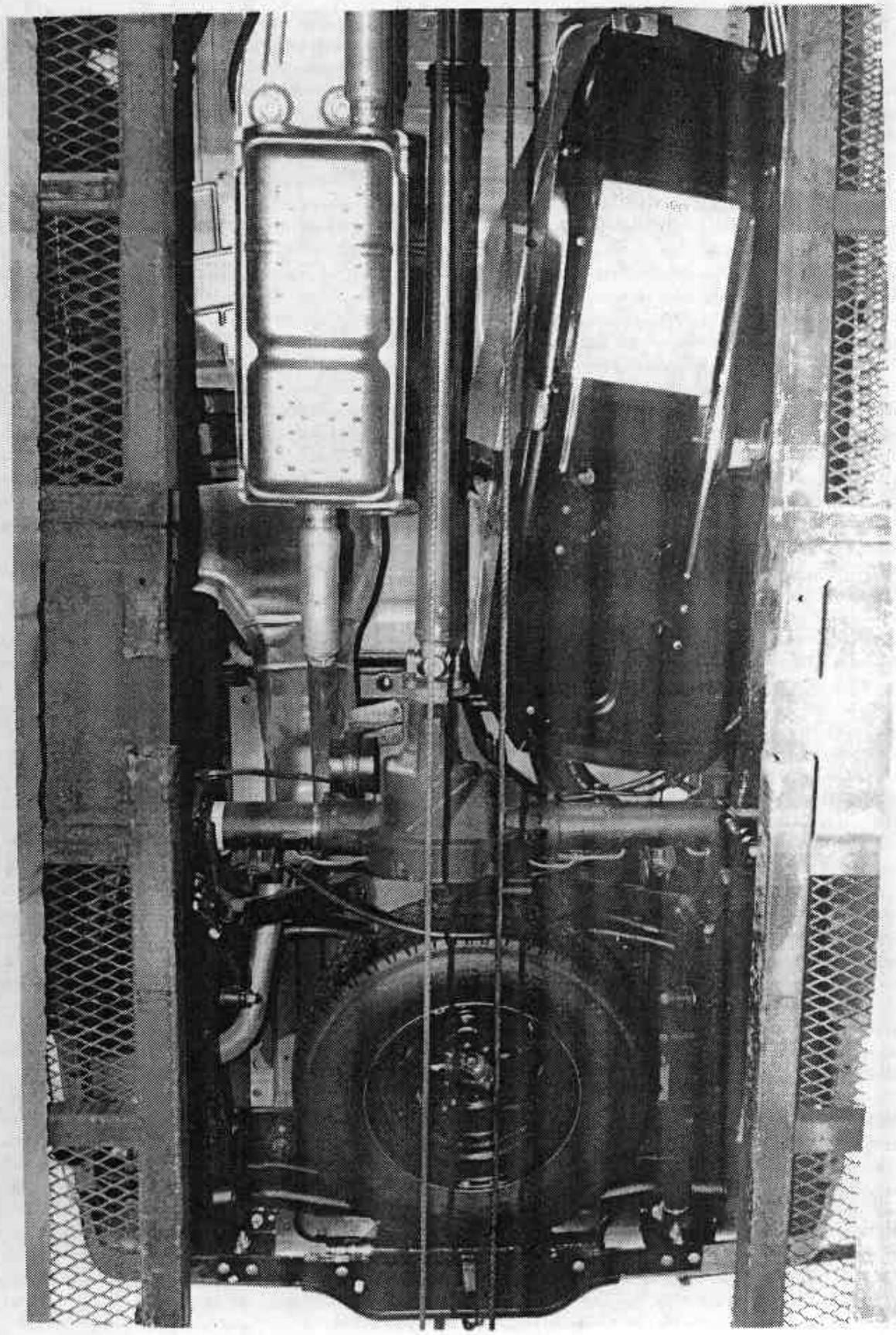
POSTTEST DRIVER DUMMY POSITON VIEW



PRETEST PASSENGER DUMMY POSITION VIEW

POSTTEST PASSENGER DUMMY POSITION VIEW

PRETEST DRIVER DUMMY & VEHICLE INTERIOR VIEW (Door Open)

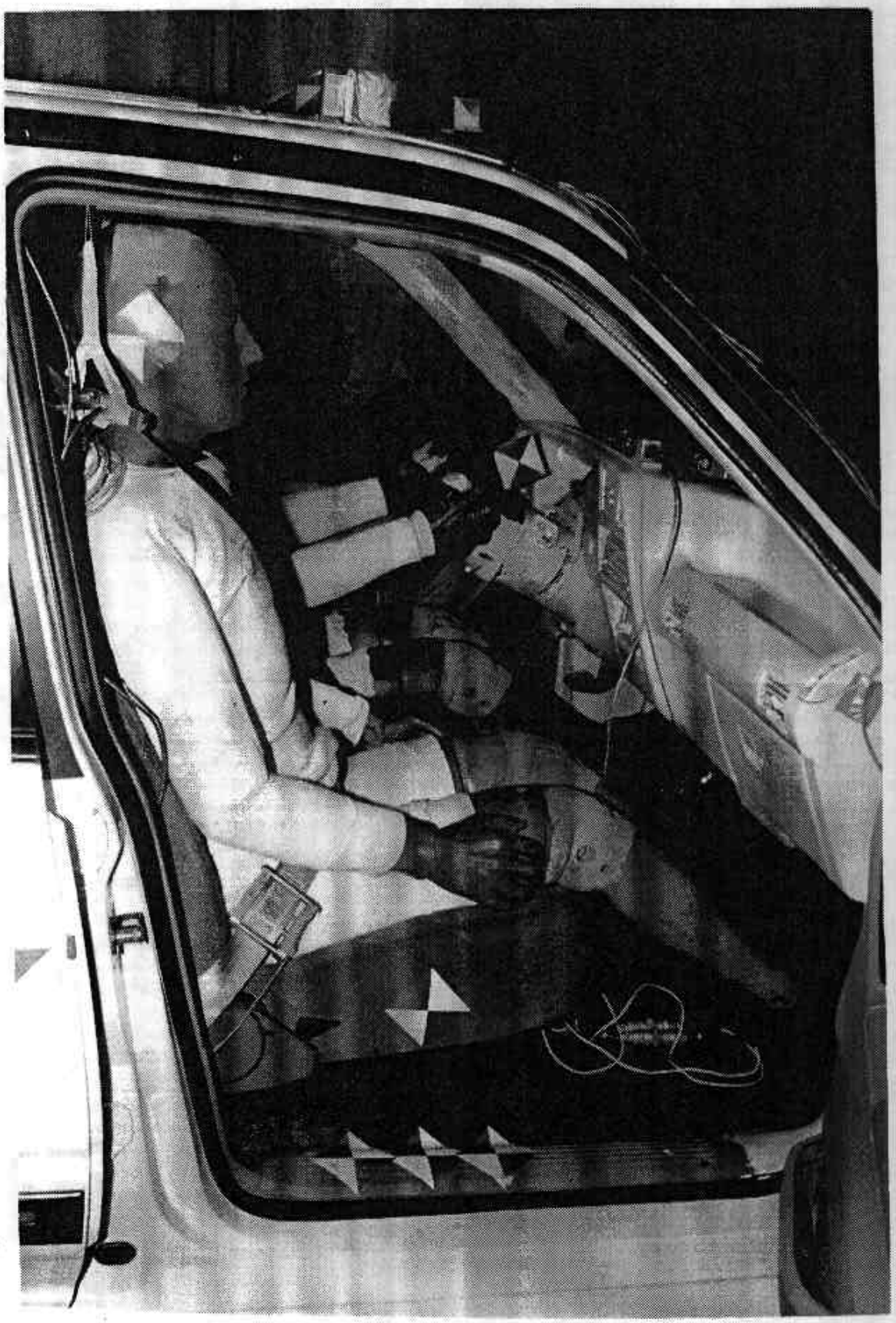


POSTTEST REAR UNDERBODY VIEW
A-18

MSE-93-R92083-N06

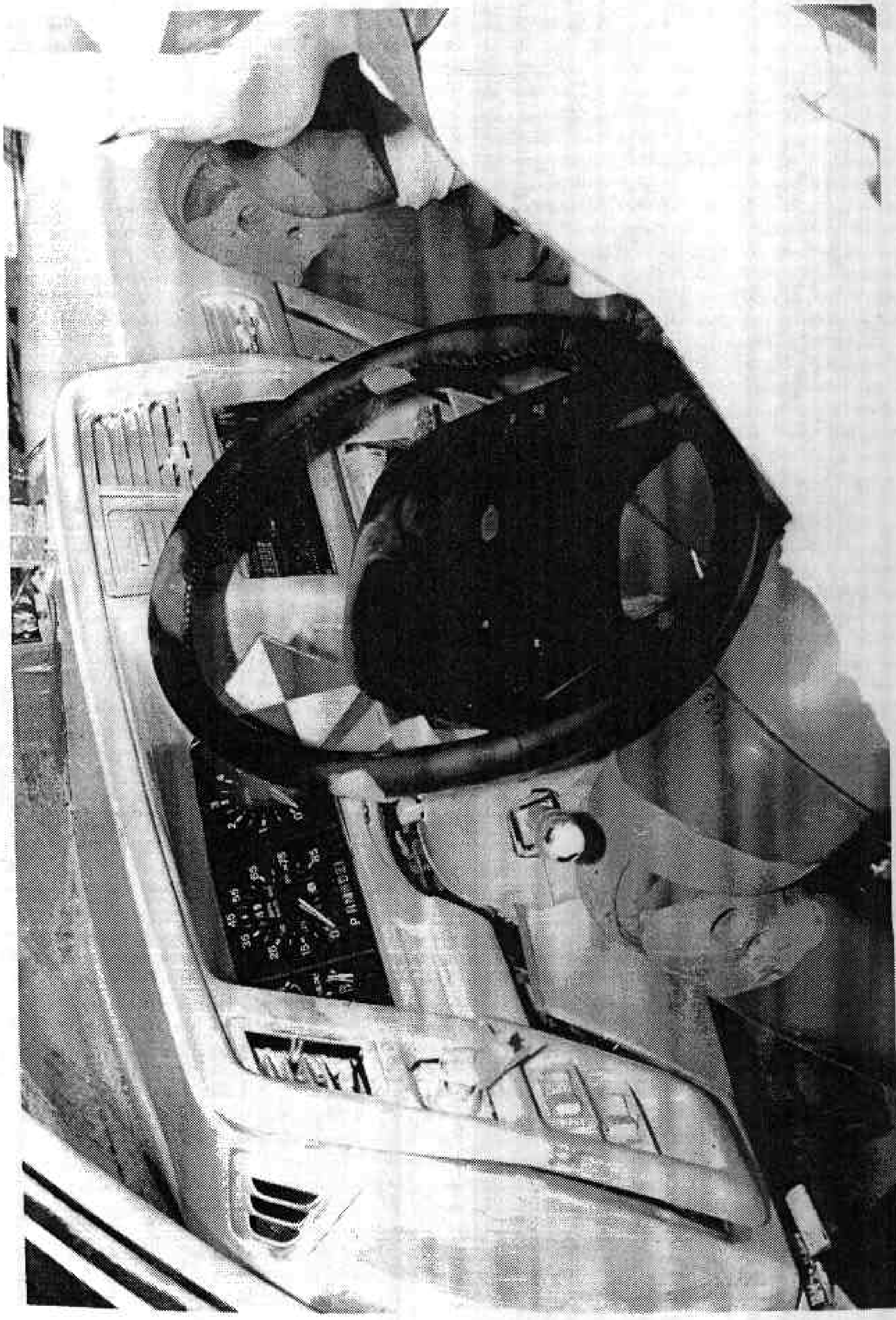
PRETEST DRIVER DUMMY POSITION VIEW

POSTTEST DRIVER DUMMY & VEHICLE INTERIOR VIEW (Door Open)

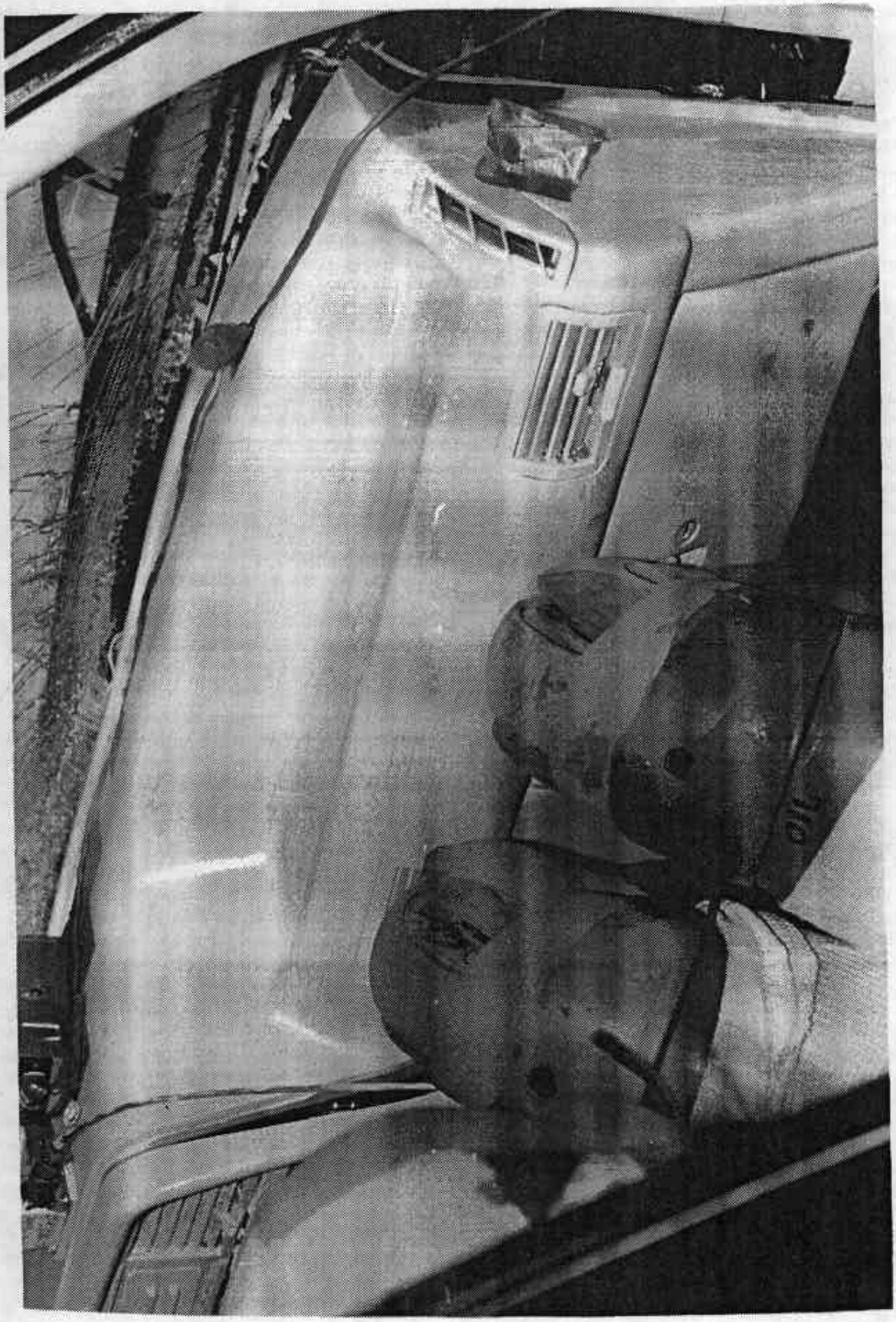


PRETEST PASSENGER DUMMY & VEHICLE INTERIOR VIEW (Door Open)

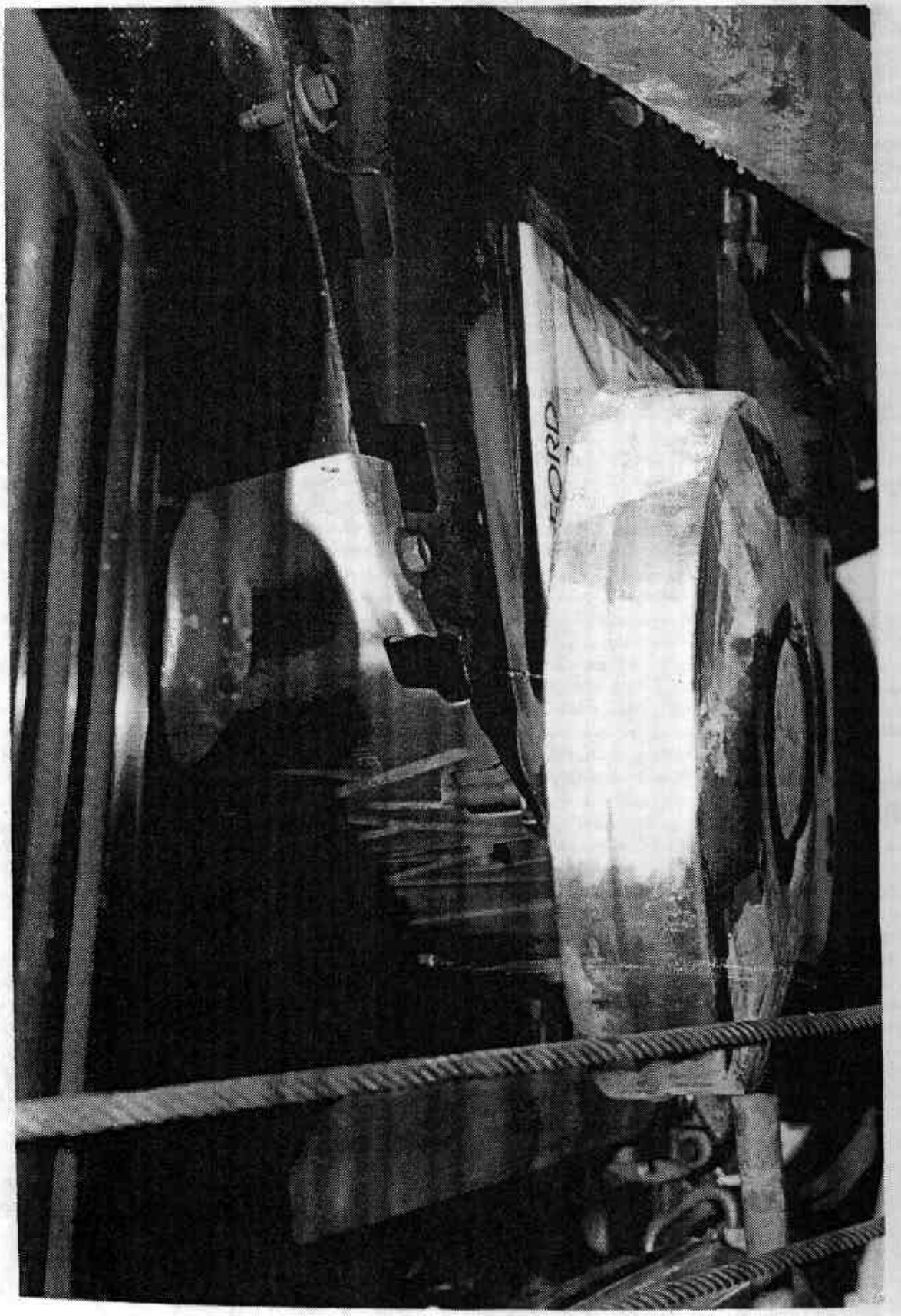
POSTTEST PASSENGER DUMMY & VEHICLE INTERIOR VIEW (Door Open)



POSTTEST DRIVER ATD HEAD AND KNEE CONTACT AREA



POSTTEST PASSENGER ATD KNEE CONTACT AREA



COLLECTION OF SOLVENT LEAKAGE

APPENDIX B-1

VEHICLE AND DUMMY (ATD) RESPONSE DATA

DATA FILTERING:

ATD Head Channels	- Class 1000
ATD Chest Channels	- Class 180
ATD Femur Channels	- Class 600
Vehicle Channels	- Class 60

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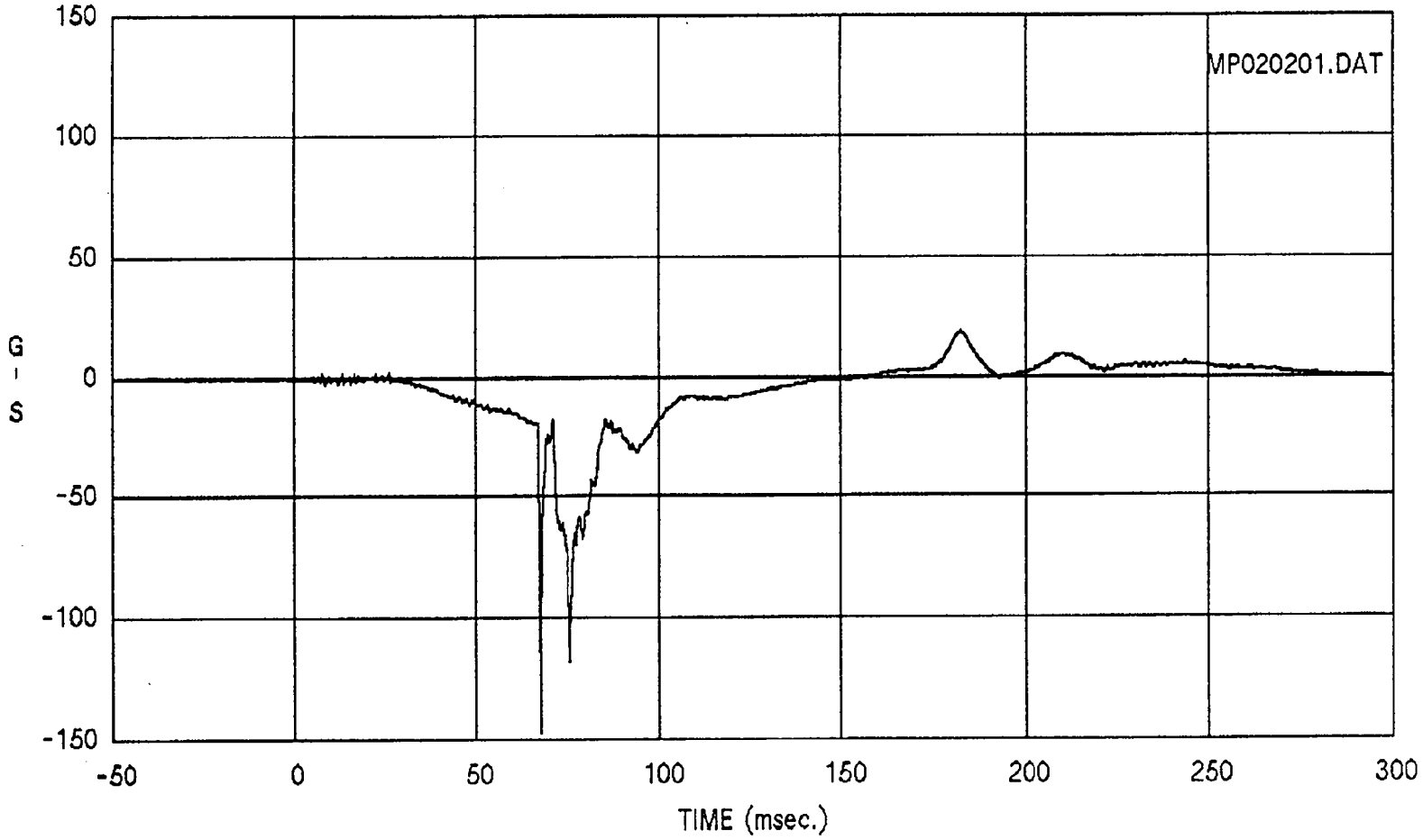
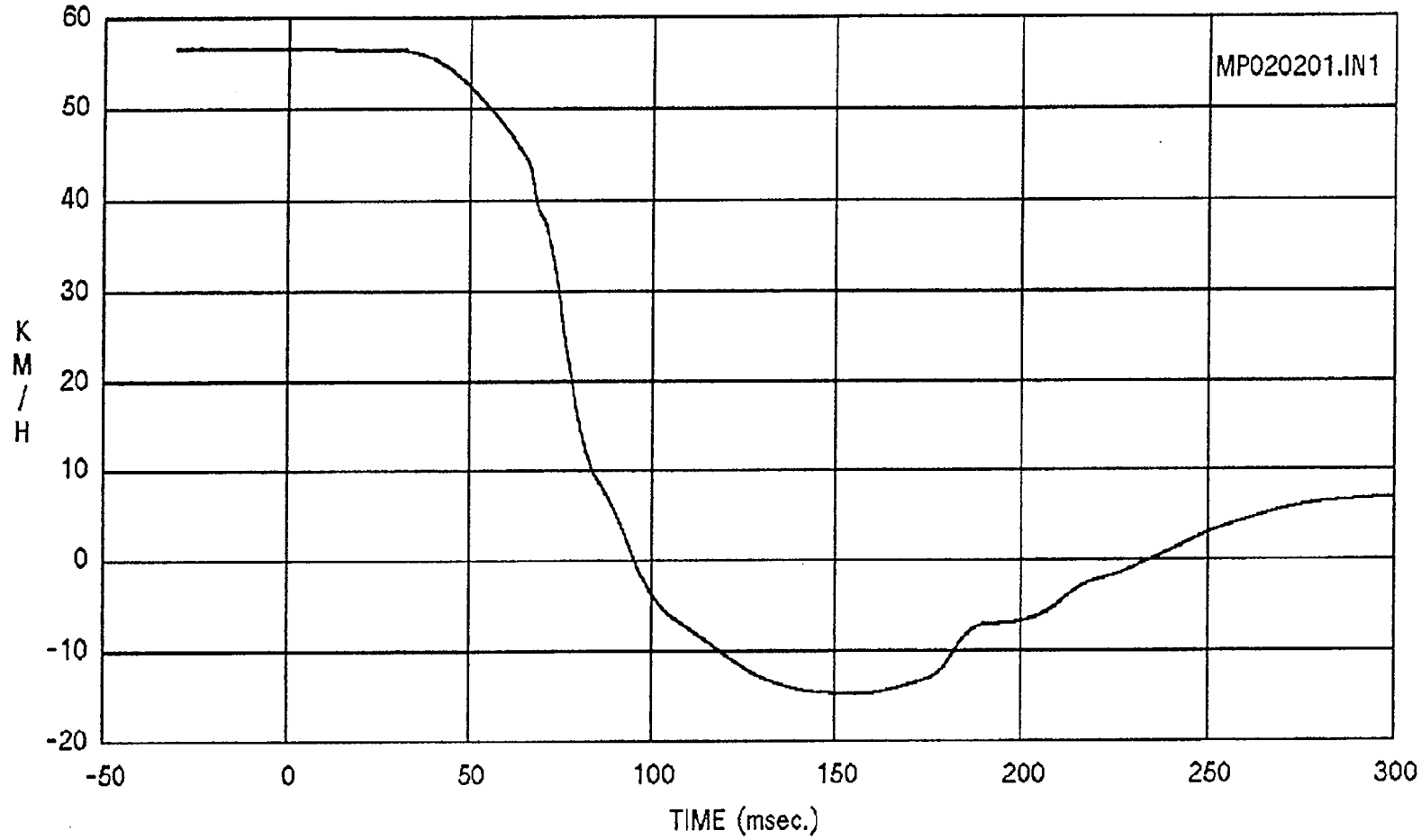


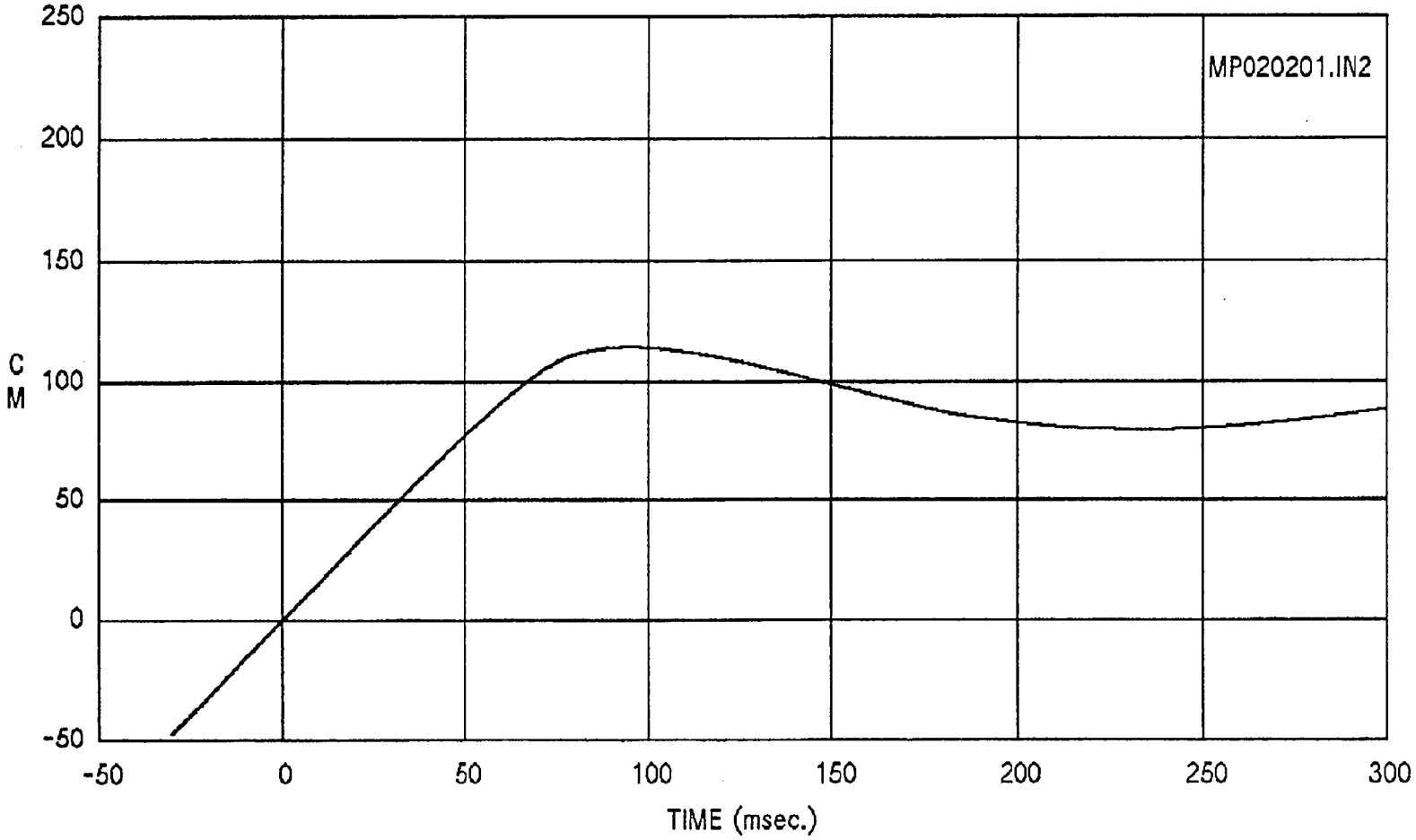
Curve: Driver head acceleration -- X axis Filter: SAE CLASS 1000 Max = 19.641 Min = -146.81

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



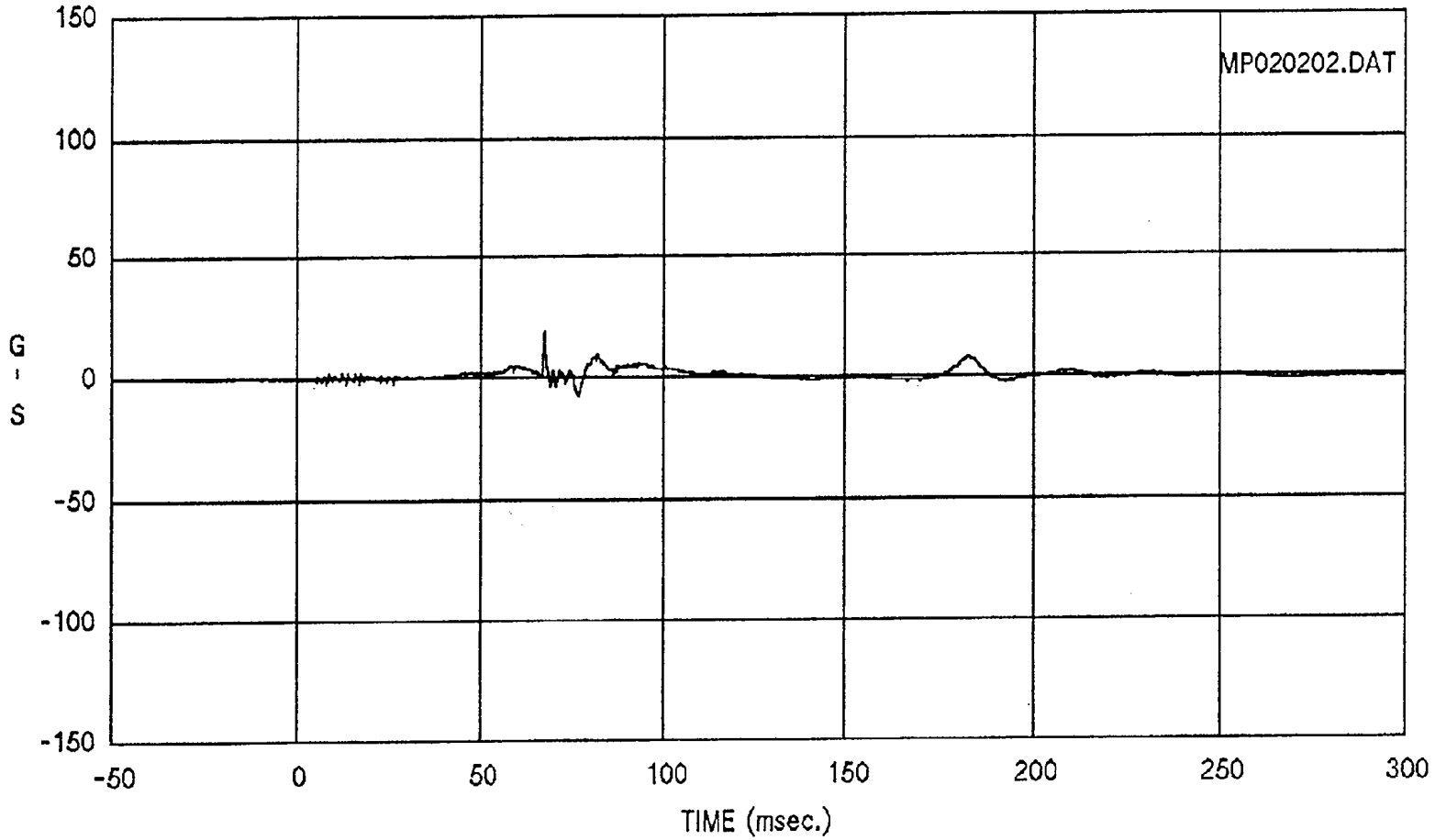
Curve: Driver head delta V -- X axis Filter: SAE CLASS 180 Max = 56.623 Min = -14.733

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



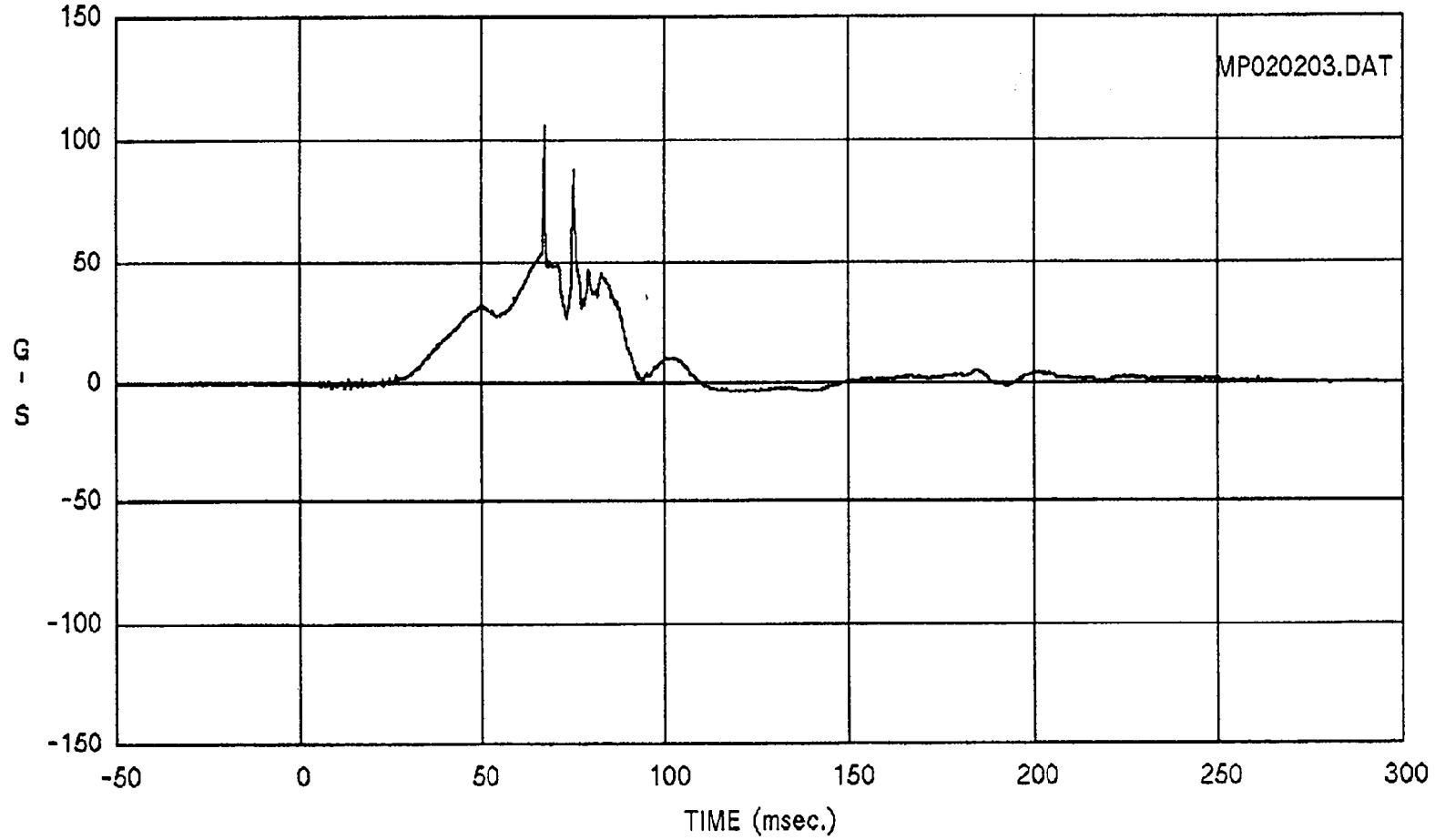
Curve: Driver head displacement -- X axis Filter: SAE CLASS 180 Max = 114.65 Min = 80.113

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



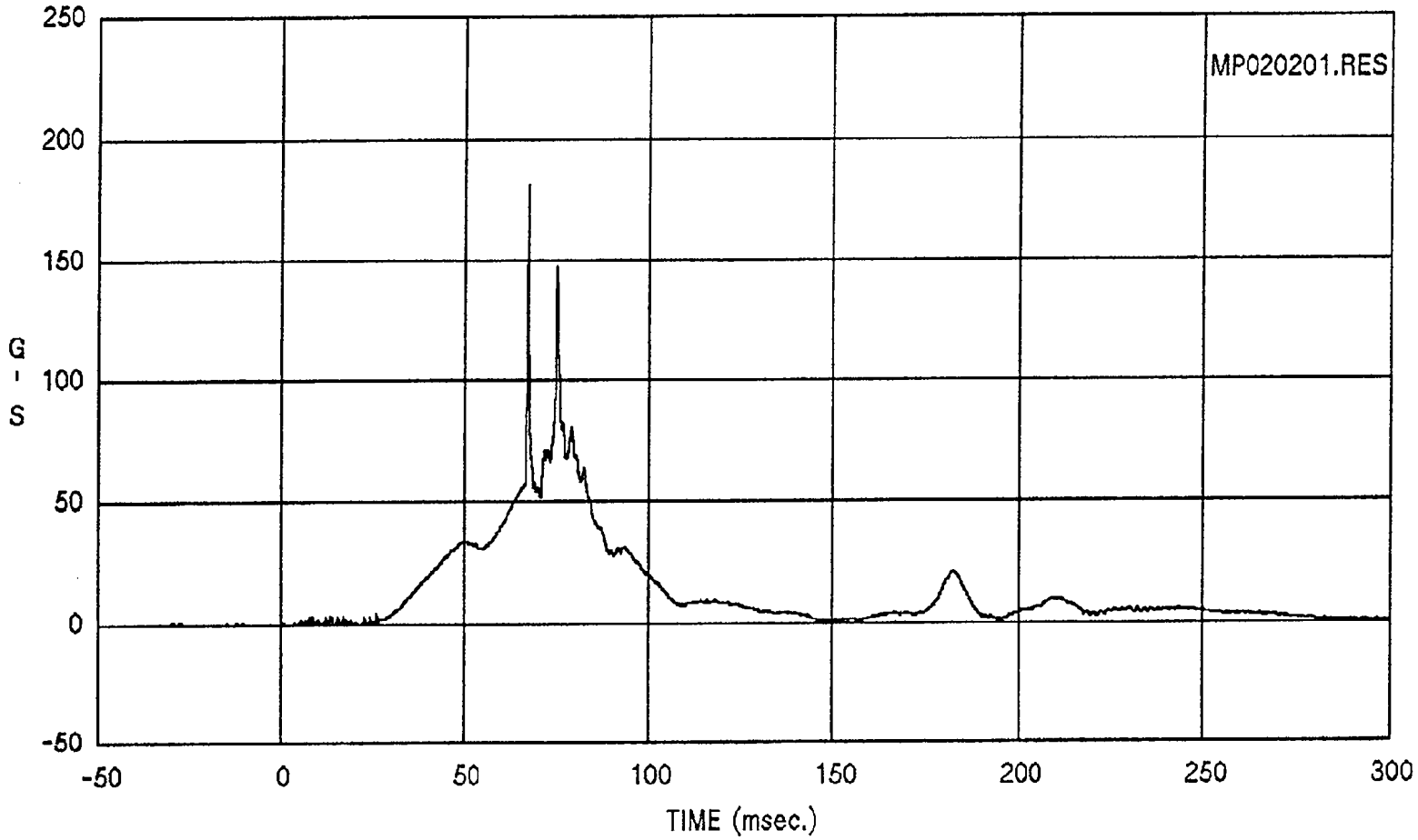
Curve: Driver head acceleration -- Y axis Filter: SAE CLASS 1000 Max = 22.423 Min = -7.4295

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



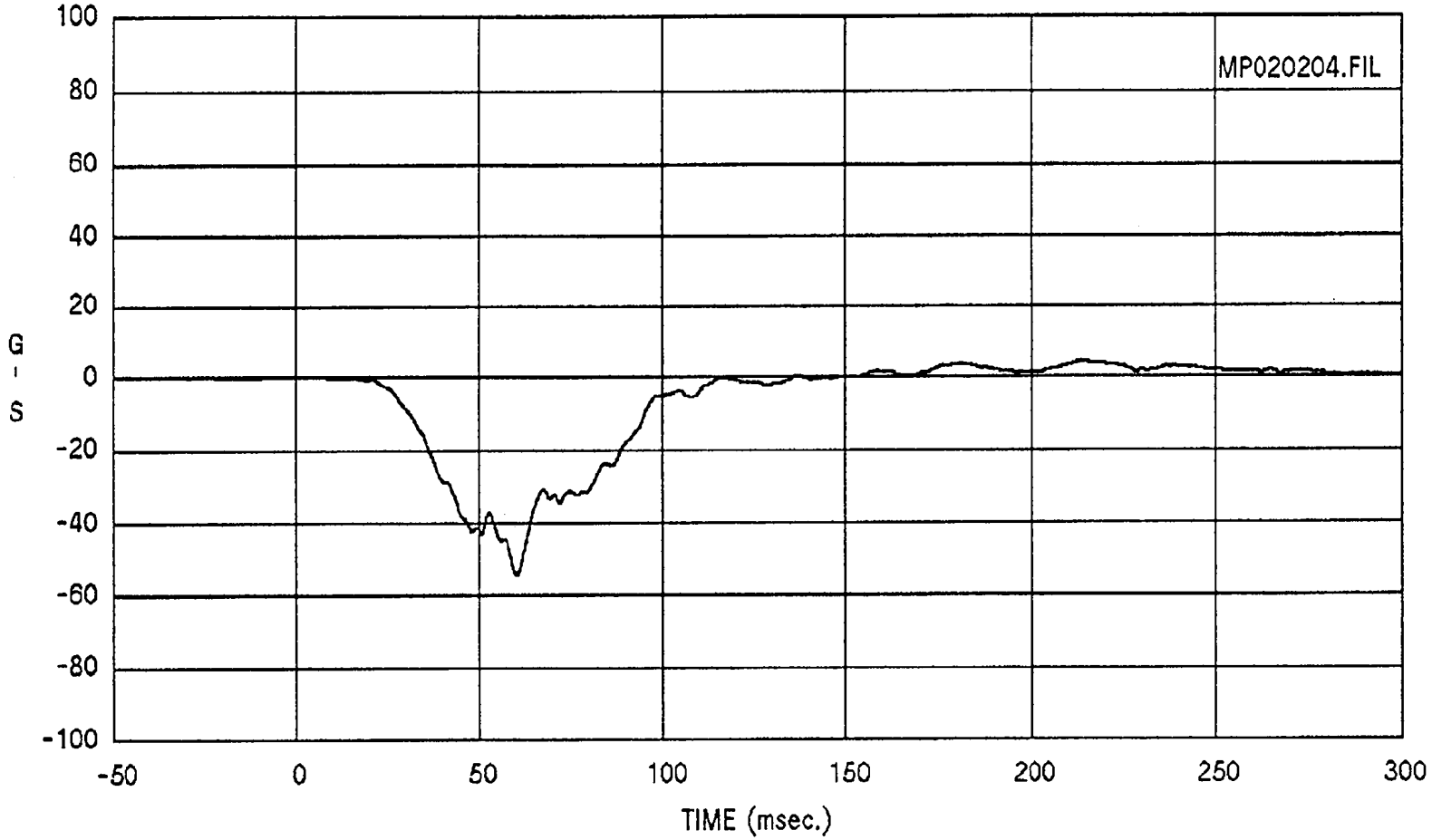
Curve: Driver head acceleration -- Z axis Filter: SAE CLASS 1000 Max = 105.99 Min = -3.8657

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



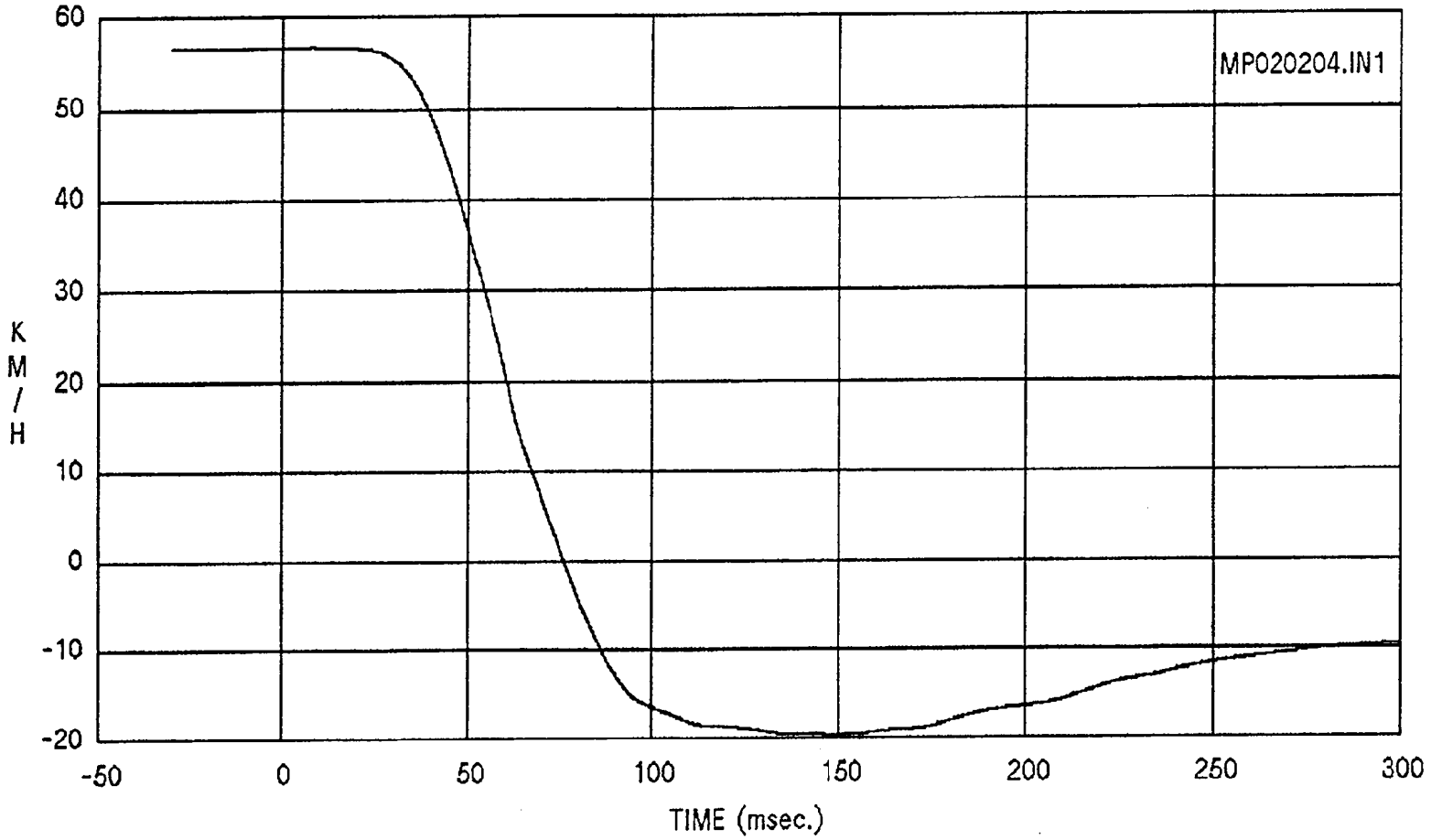
Curve: Driver head acceleration -- Resultant Filter: SAE CLASS 1000 Max = 182.02 Min = .00000

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



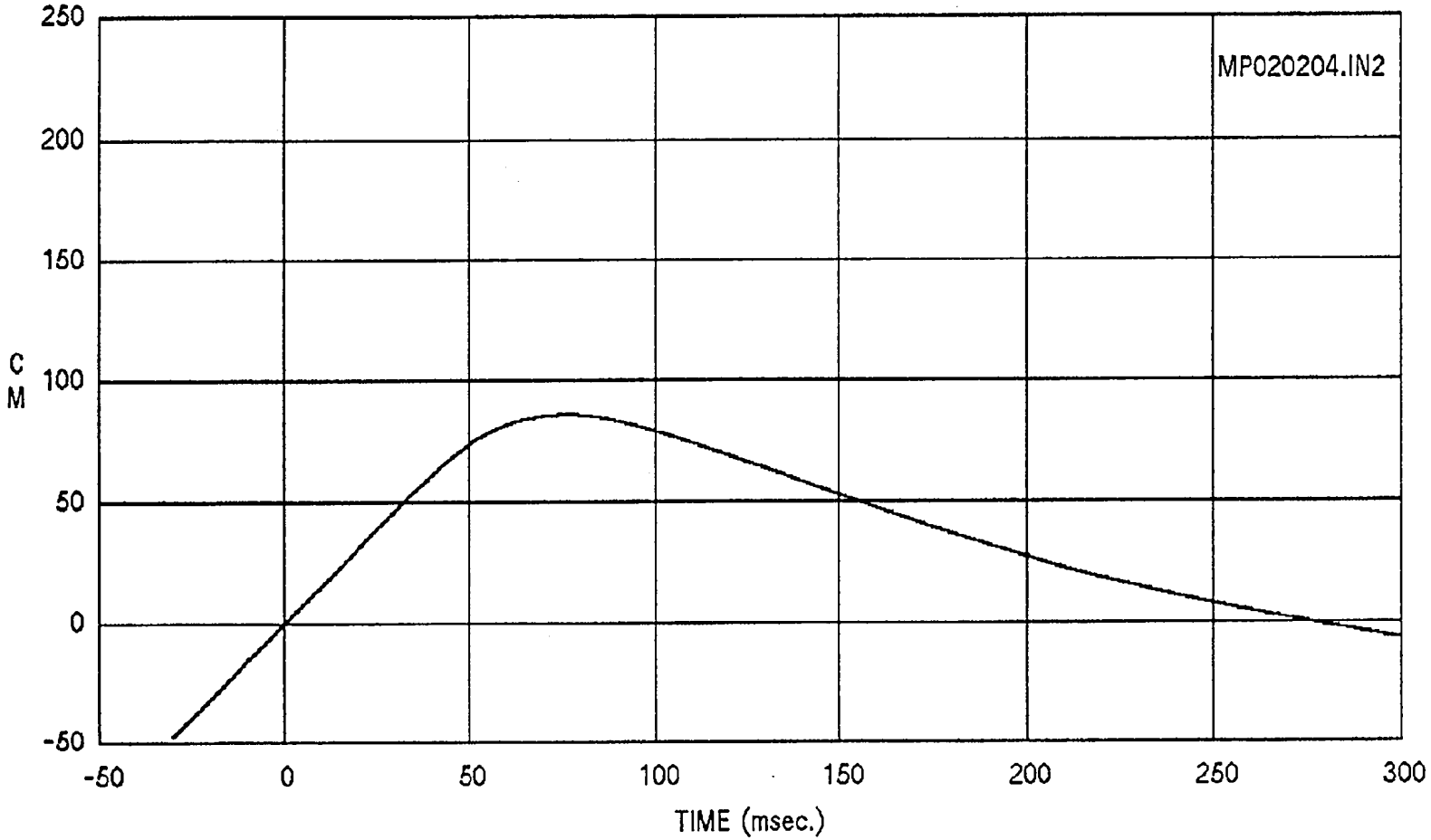
Curve: Driver chest acceleration -- X axis Filter: SAE CLASS 180 Max = 4.1696 Min = -54.266

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



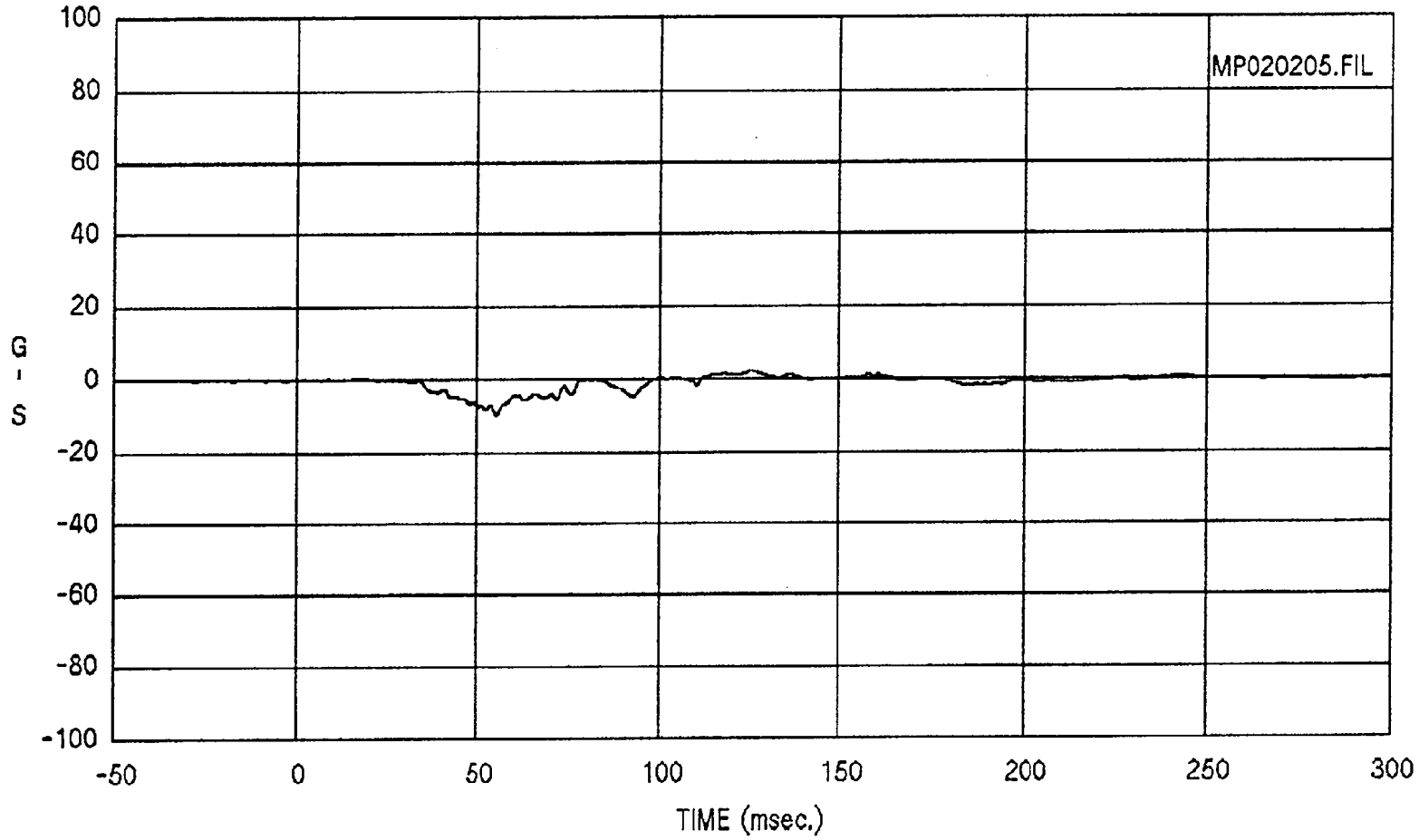
Curve: Driver chest delta V -- X axis Filter: SAE CLASS 180 Max = 56.669 Min = -19.579

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



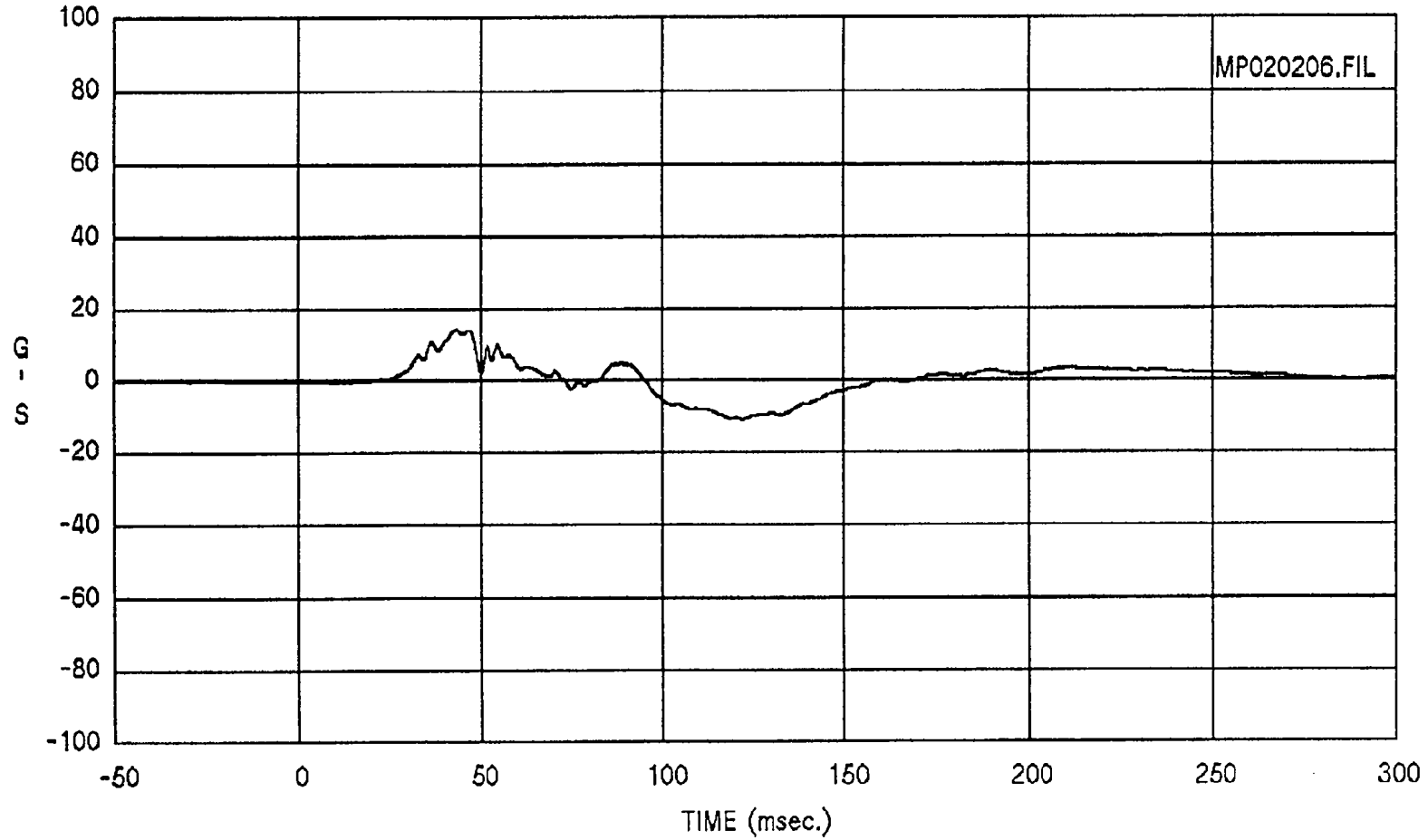
Curve: Driver chest displacement -- X axis Filter: SAE CLASS 180 Max = 86.011 Min = -6.1717

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



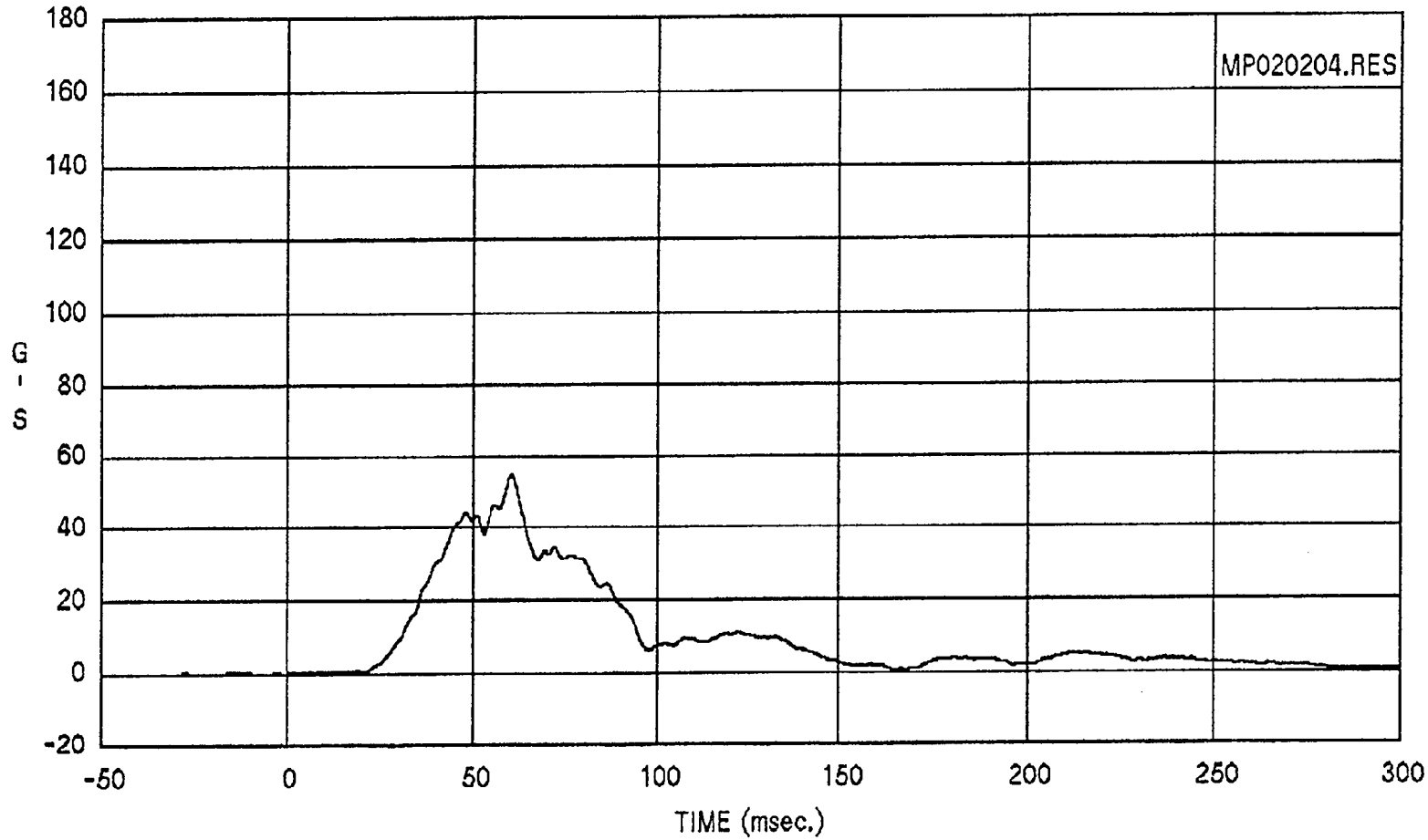
Curve: Driver chest acceleration -- Y axis Filter: SAE CLASS 180 Max = 2.2676 Min = -9.4077

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



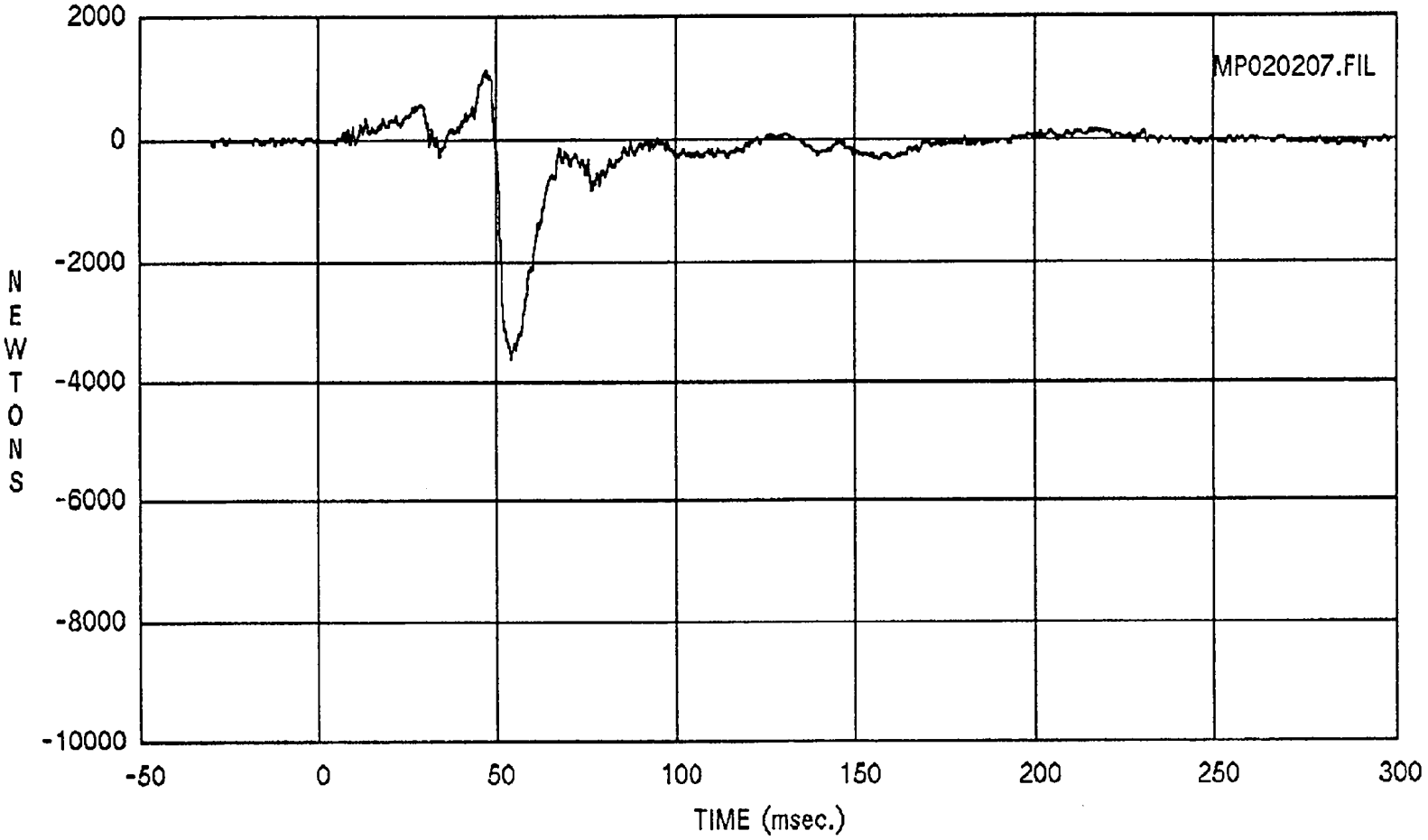
Curve: Driver chest acceleration -- Z axis Filter: SAE CLASS 180 Max = 14.275 Min = -10.998

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



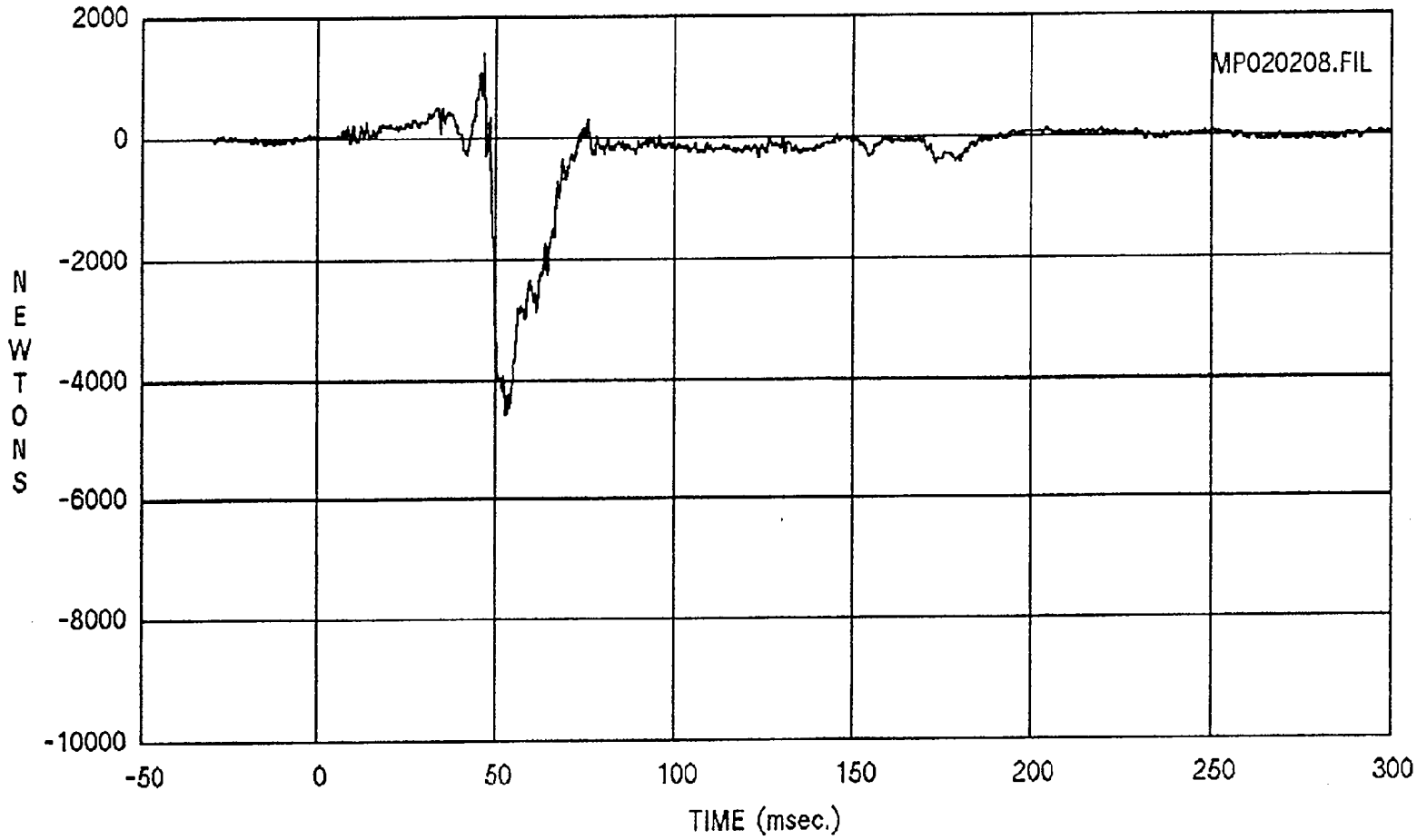
Curve: Driver chest acceleration -- Resultant Filter: SAE CLASS 180 Max = 54.559 Min = .25089

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



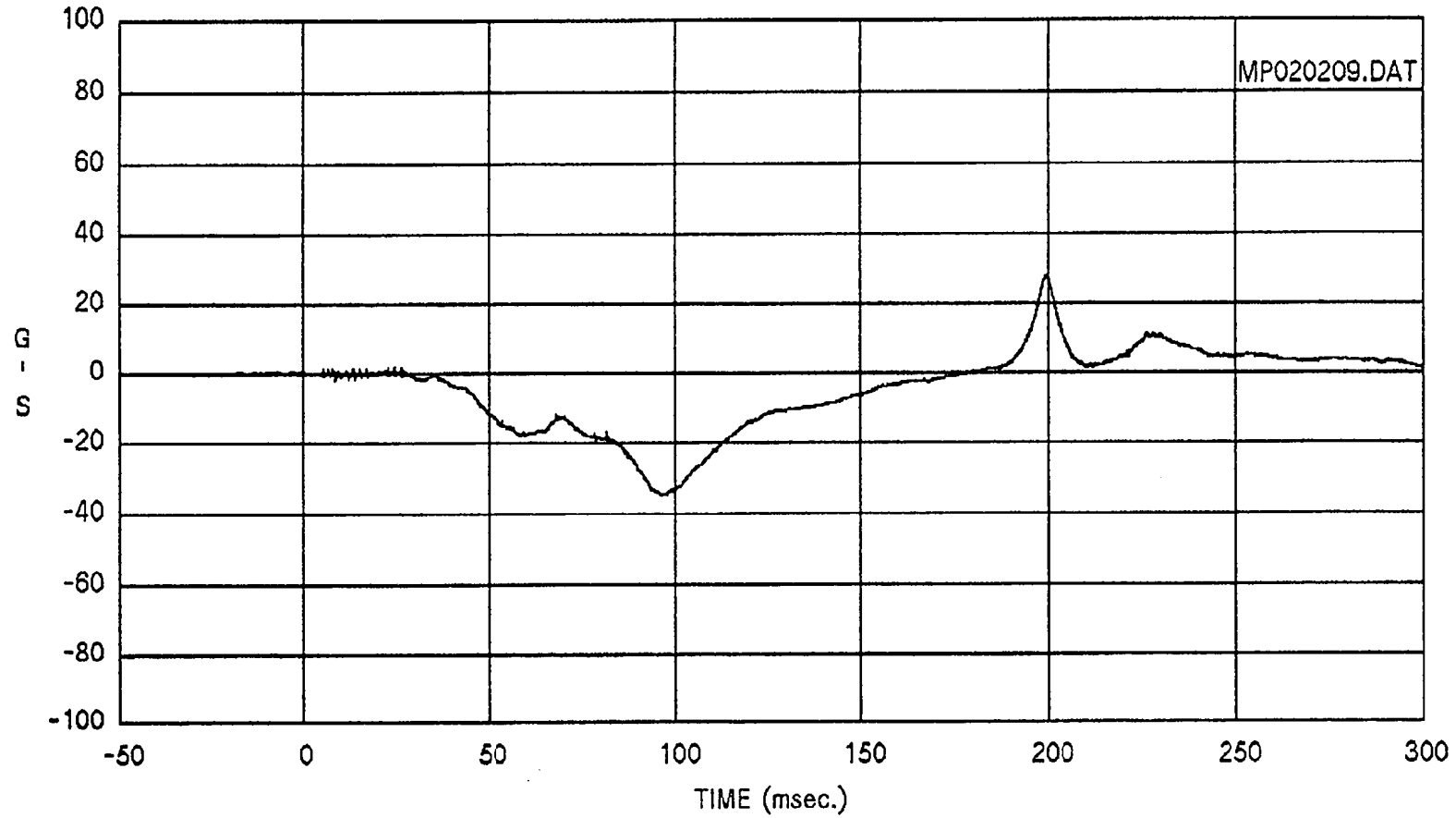
Curve: Driver left femur force Filter: SAE CLASS 600 Max = 1133.1 Min = -3599.9

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



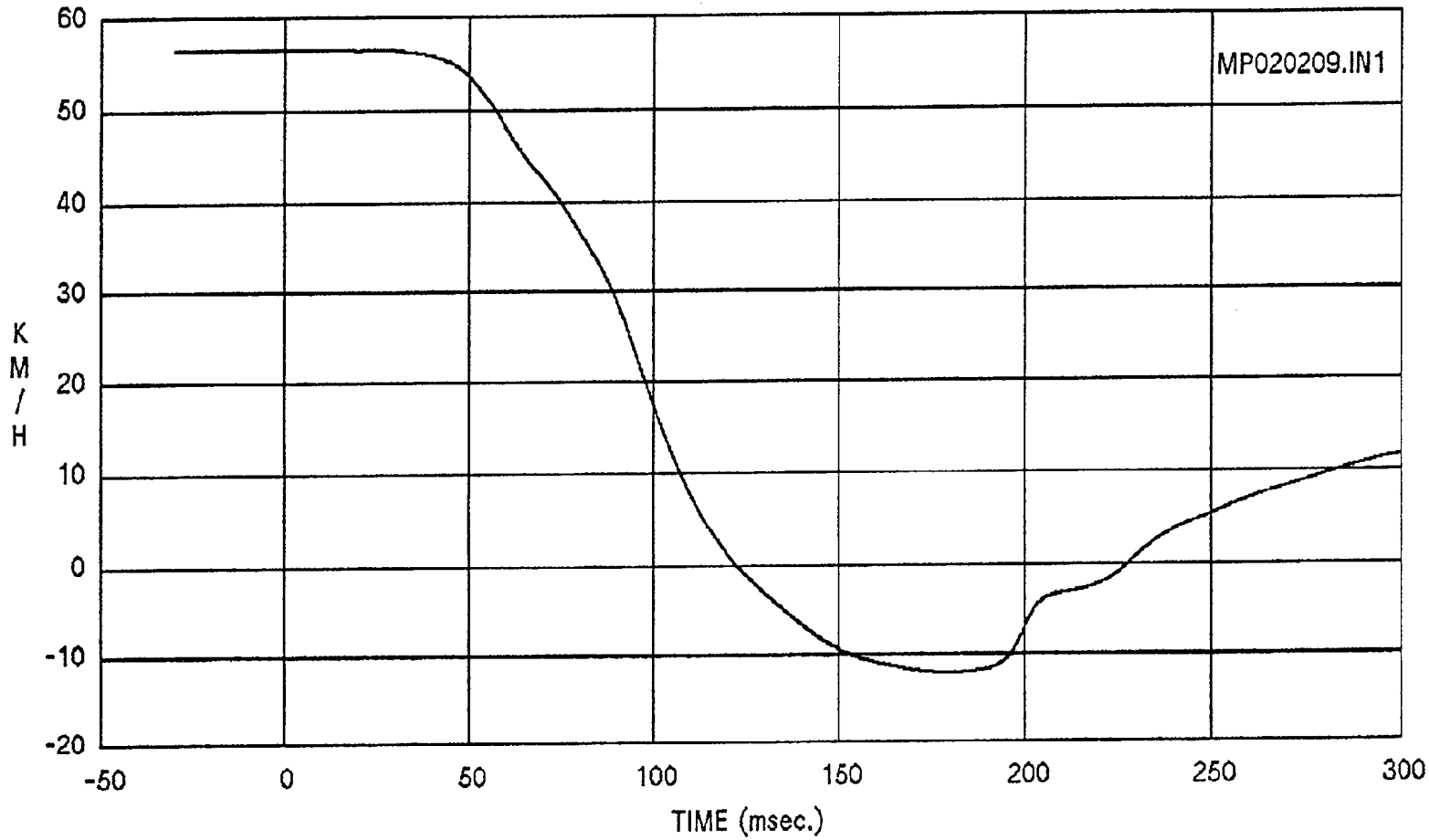
Curve: Driver right femur force Filter: SAE CLASS 600 Max = 1387.3 Min = -4572.8

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



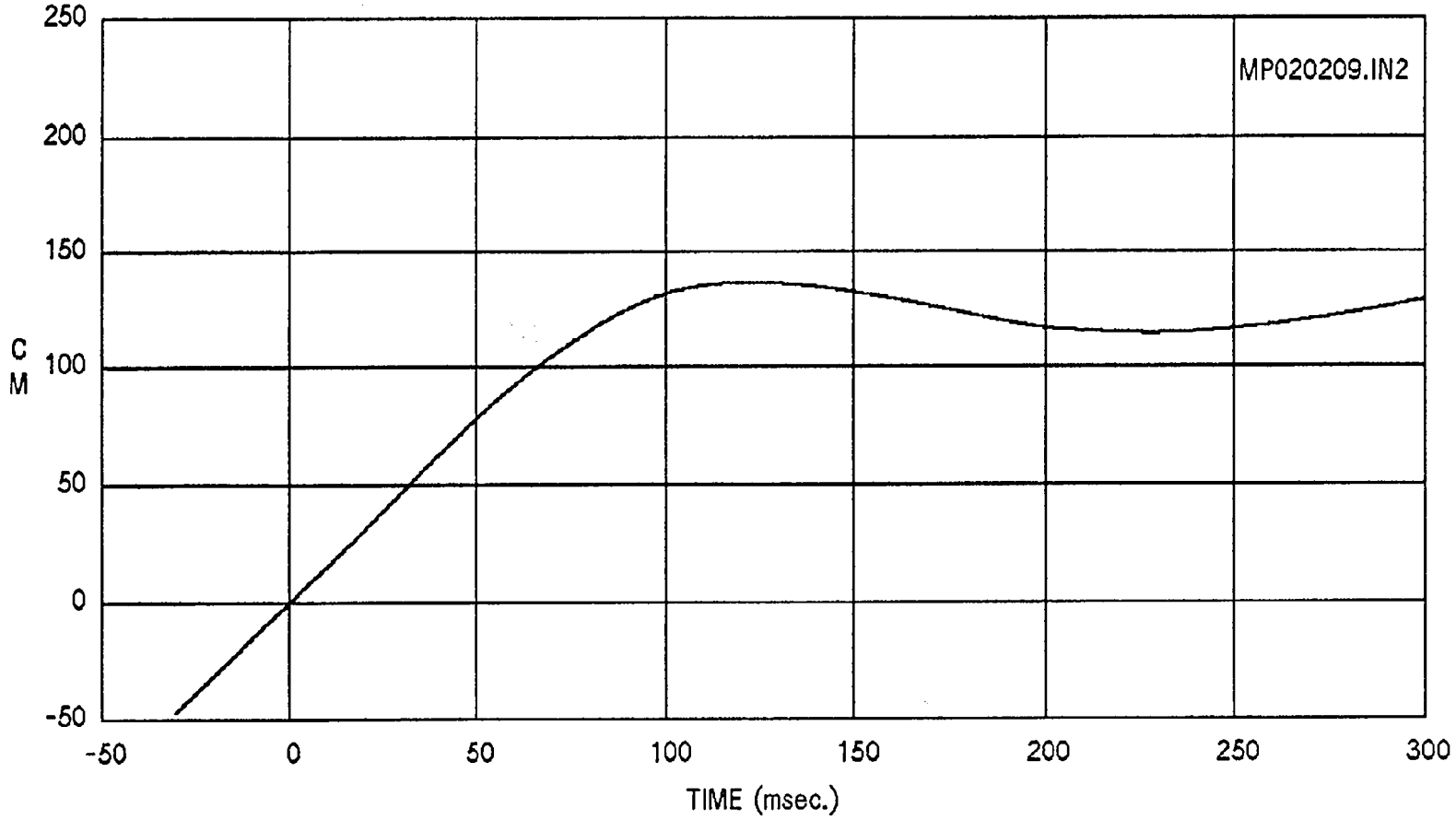
Curve: Passenger head acceleration -- X axis Filter: SAE CLASS 1000 Max = 27.977 Min = -34.796

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



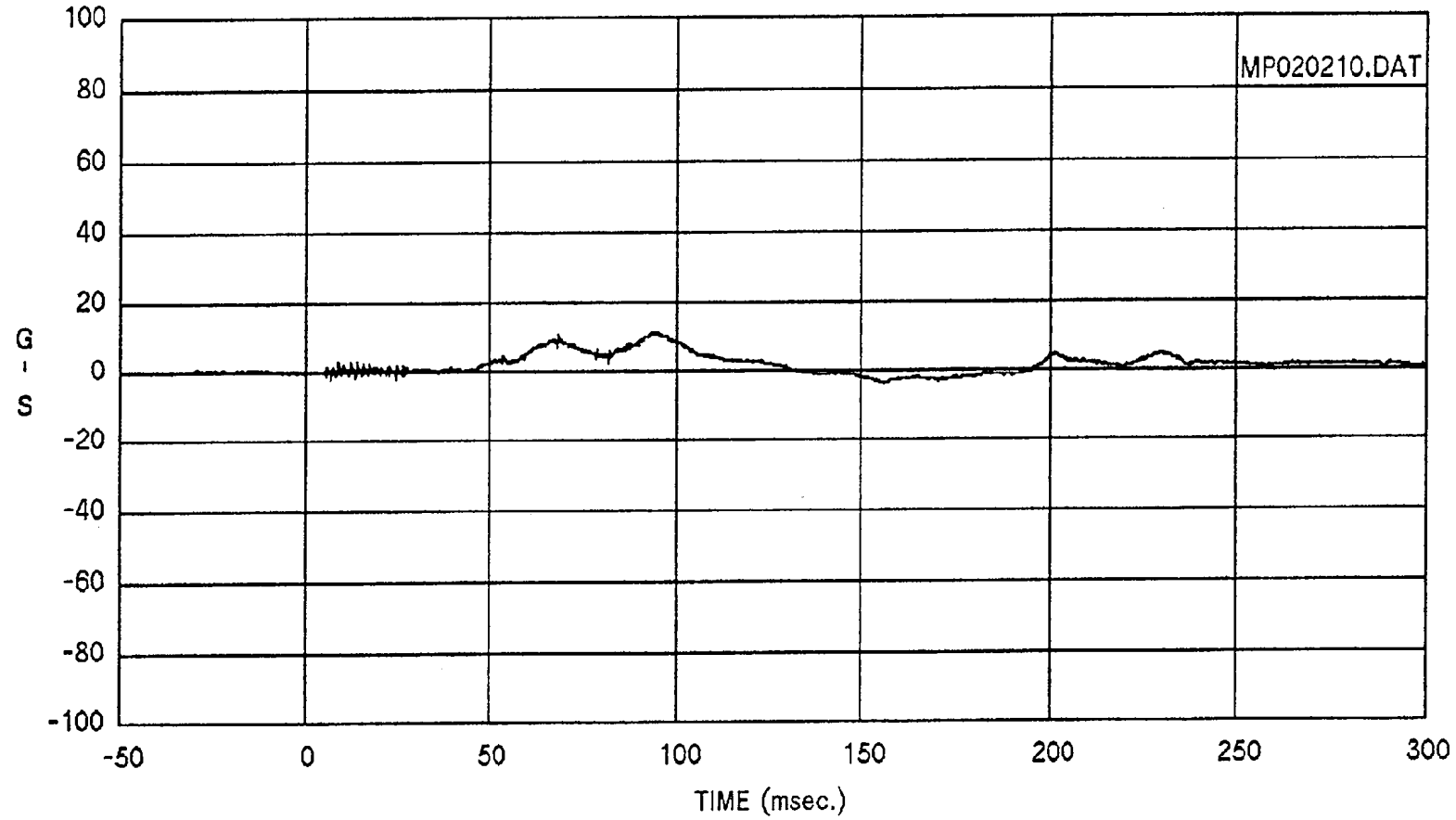
Curve: Passenger head delta V -- X axis Filter: SAE CLASS 180 Max = 56.626 Min = -12.109

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



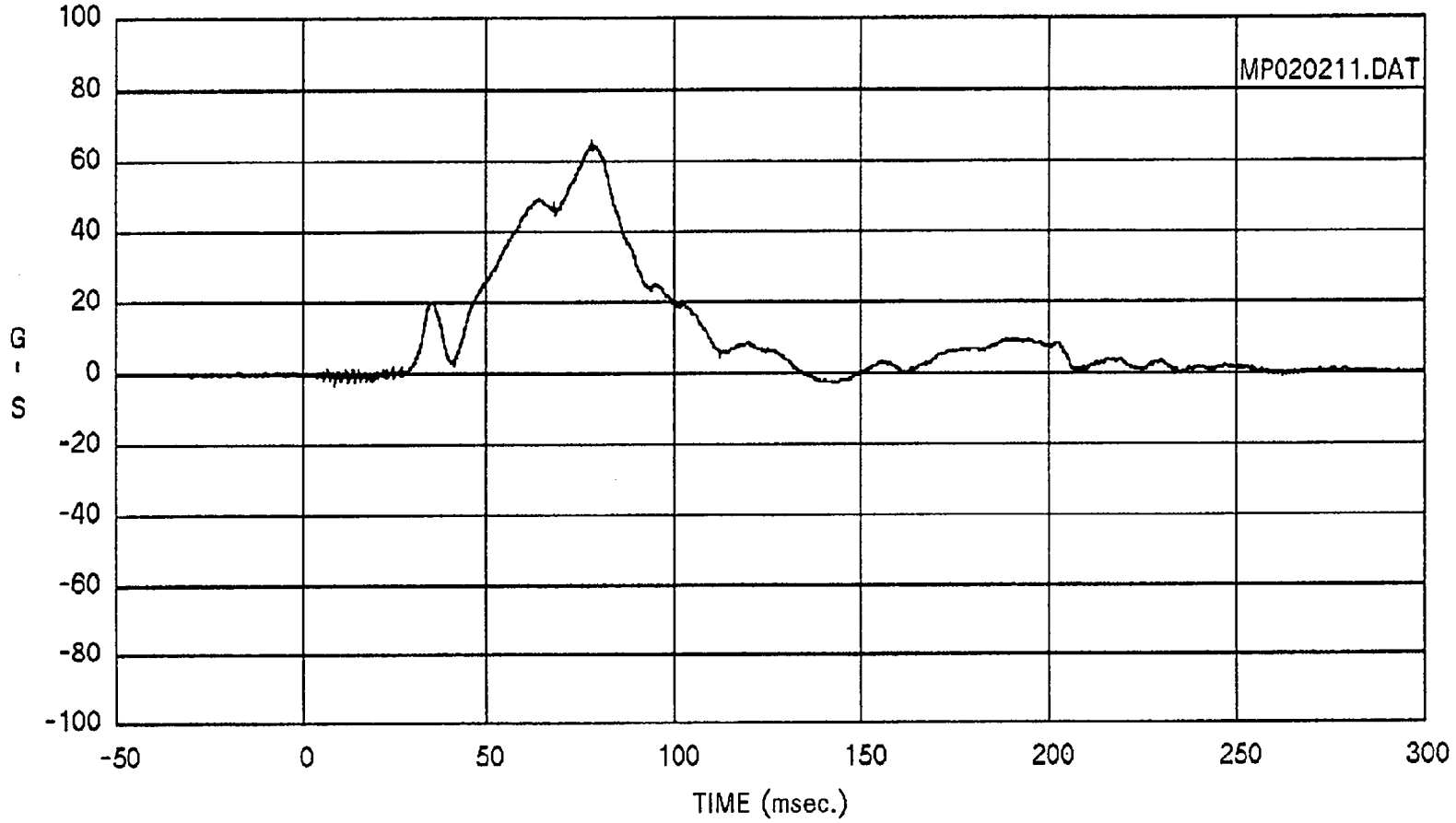
Curve: Passenger head displacement -- X axis Filter: SAE CLASS 180 Max = 135.99 Min = 114.32

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



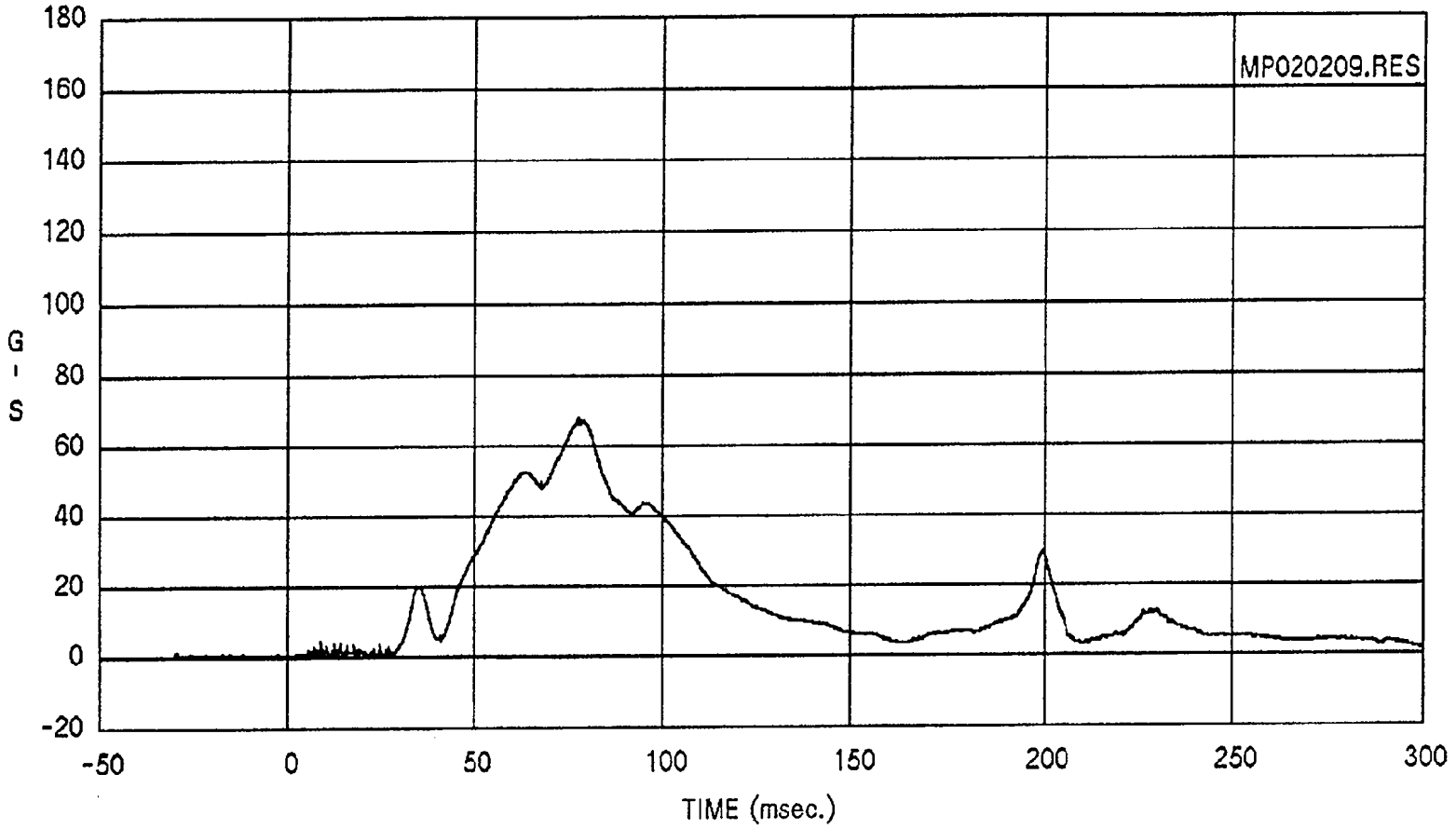
Curve: Passenger head acceleration -- Y axis Filter: SAE CLASS 1000 Max = 11.440 Min = -3.813

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



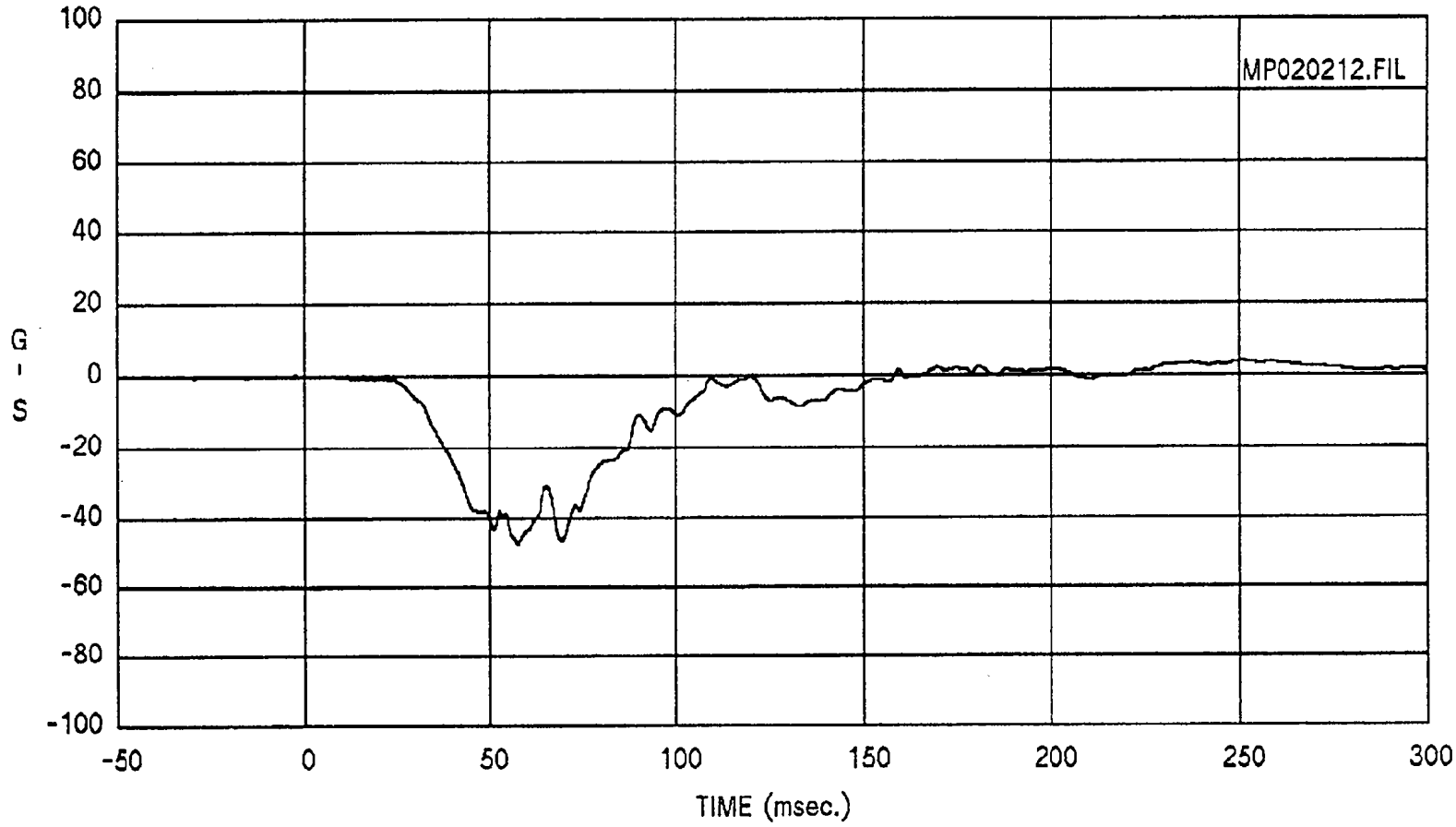
Curve: Passenger head acceleration -- Z axis Filter: SAE CLASS 1000 Max = 65.738 Min = -3.000

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



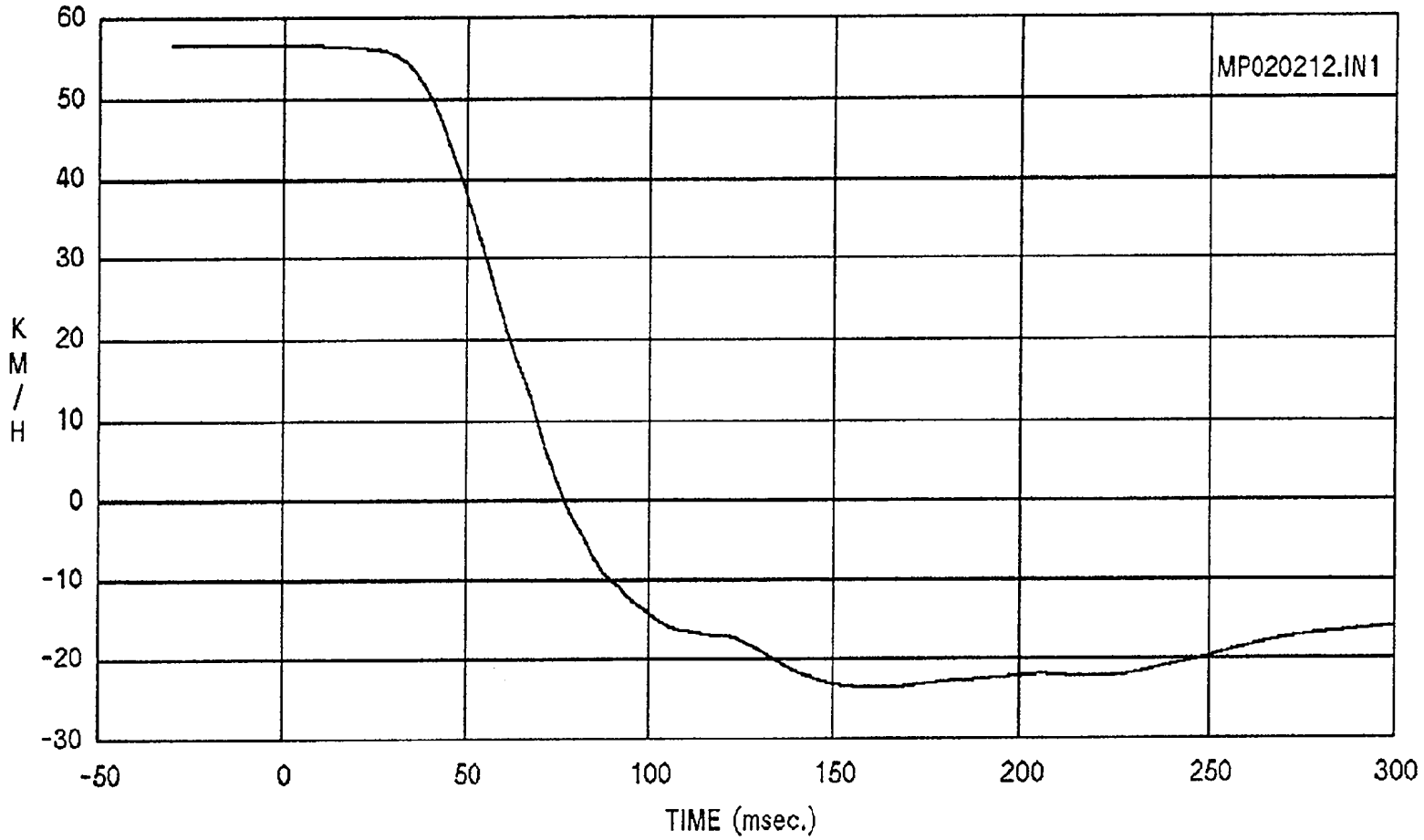
Curve: Passenger head acceleration -- Resultant Filter: SAE CLASS 1000 Max = 68.086 Min = .15702

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



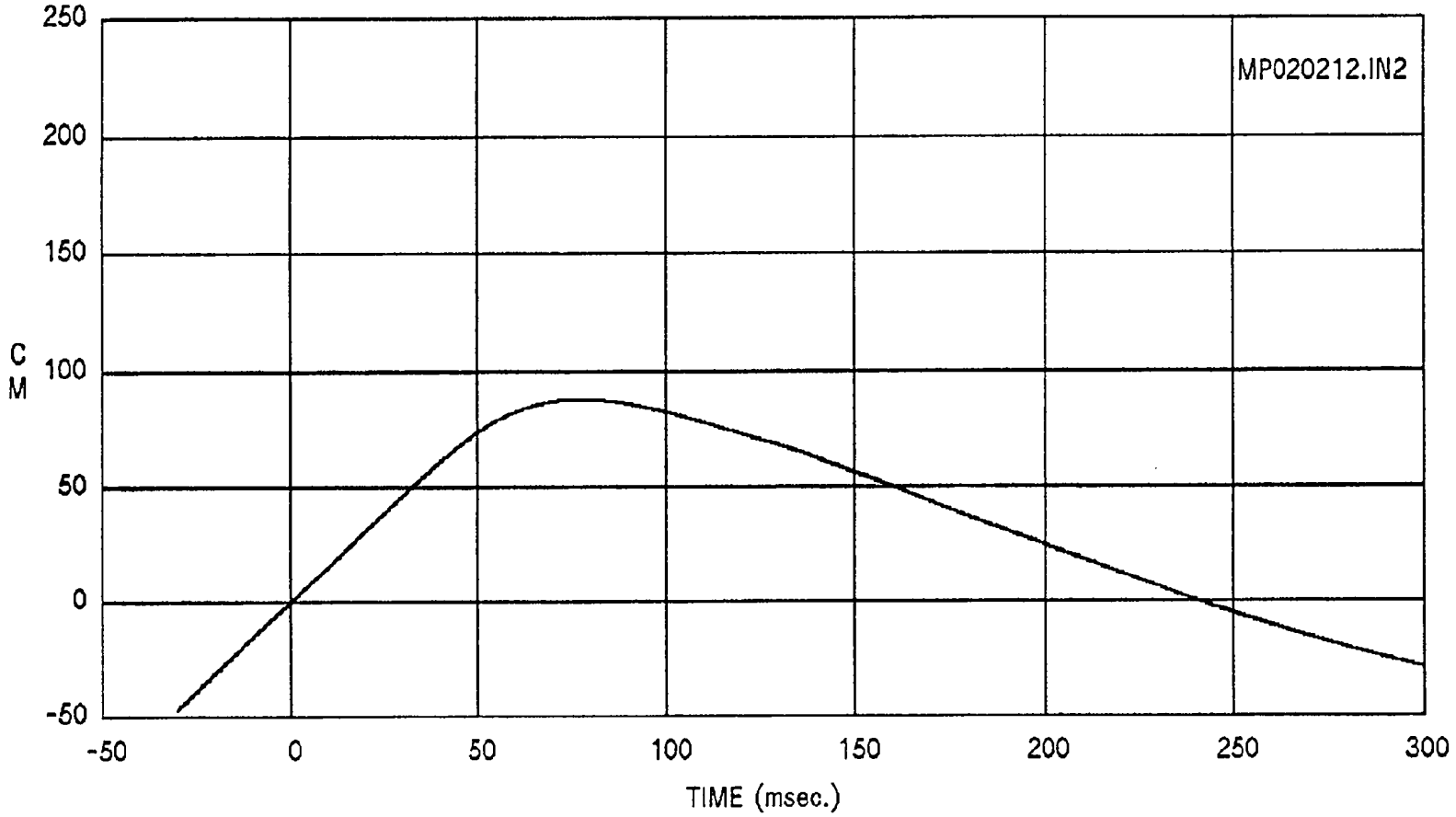
Curve: Passenger chest acceleration -- X axis Filter: SAE CLASS 180 Max = 3.7575 Min = -47.463

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



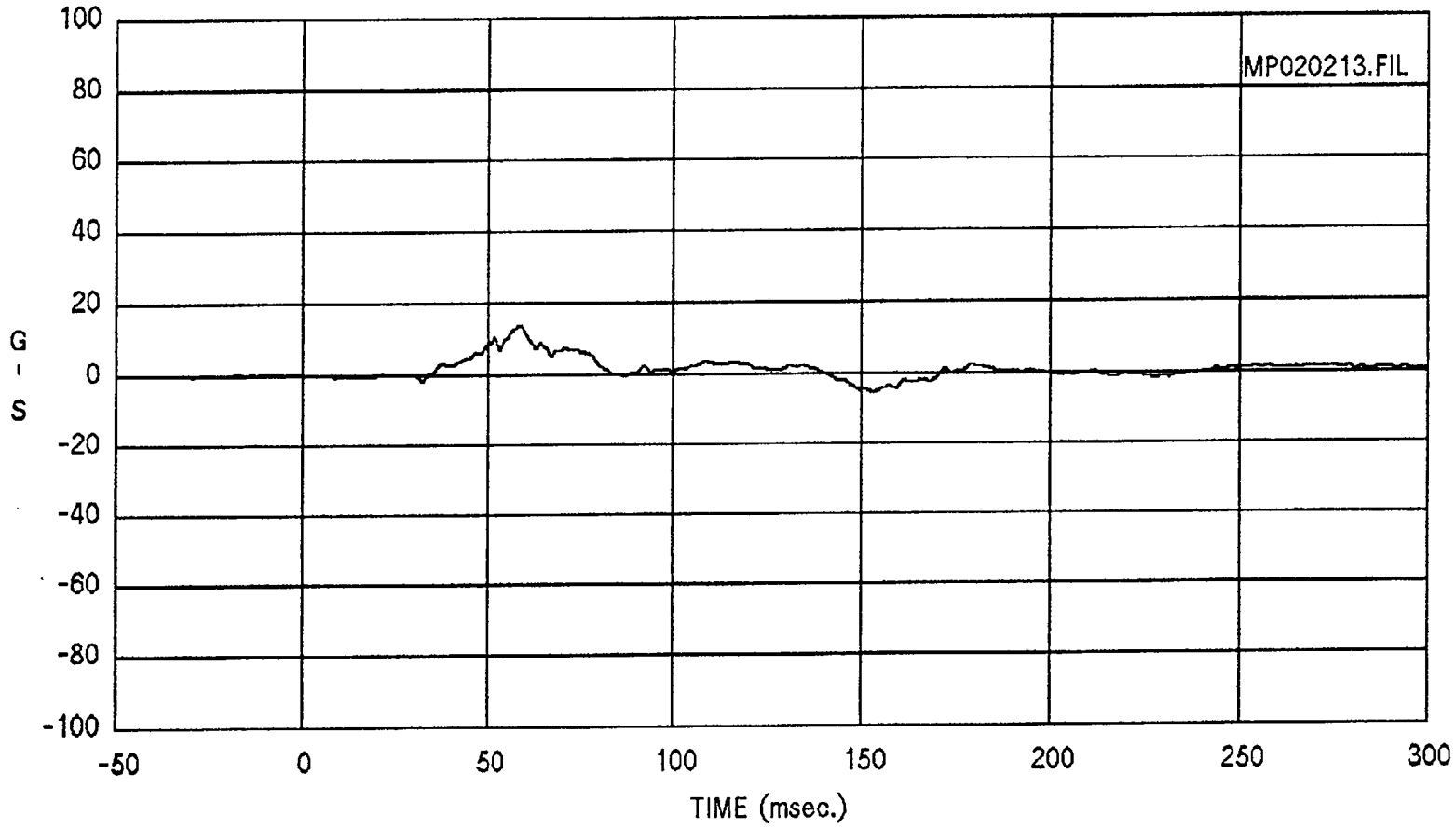
Curve: Passenger chest delta V -- X axis Filter: SAE CLASS 180 Max = 56.626 Min = -23.574

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



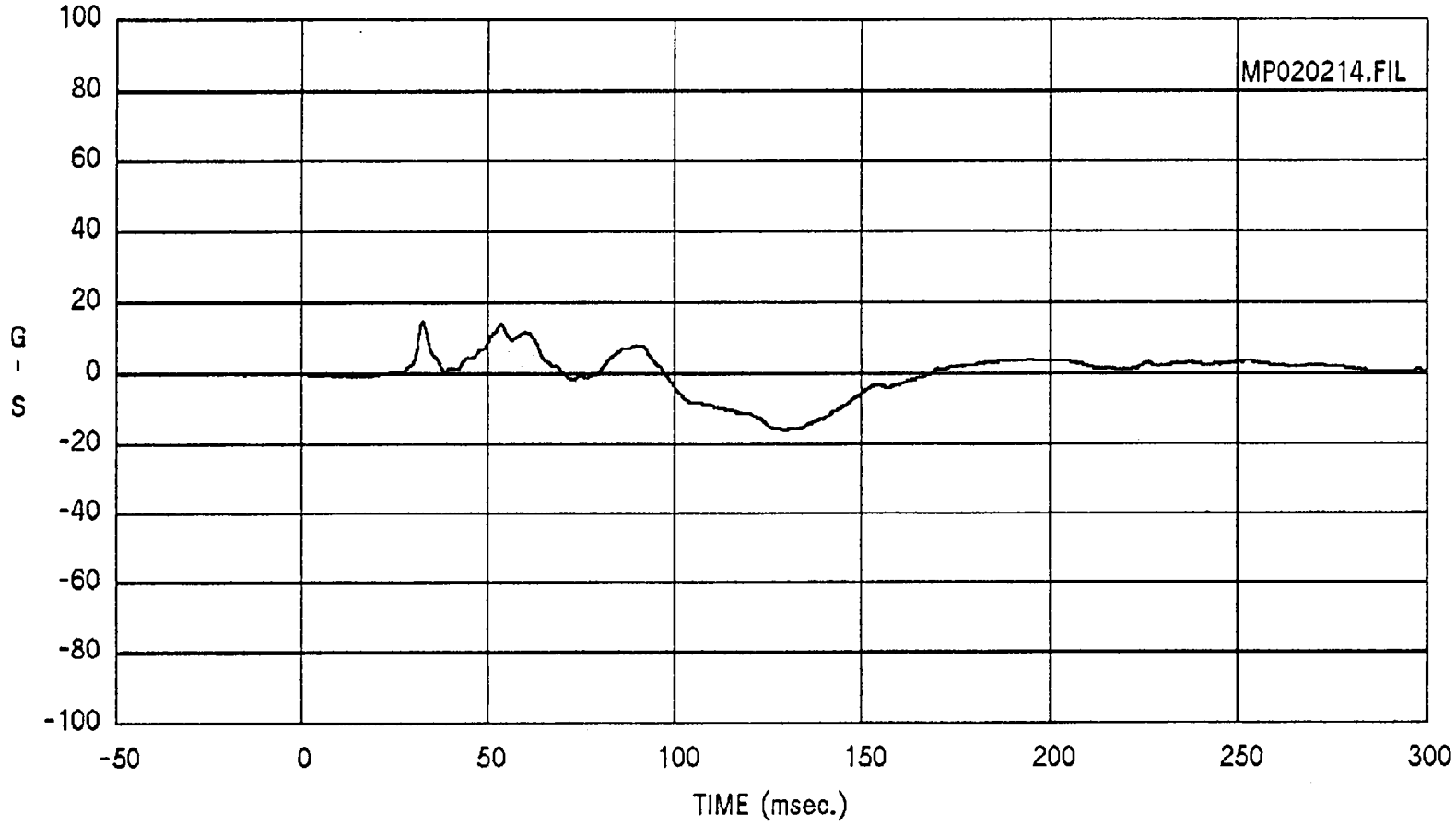
Curve: Passenger chest displacement -- X axis Filter: SAE CLASS 180 Max = 87.837 Min = -29.362

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



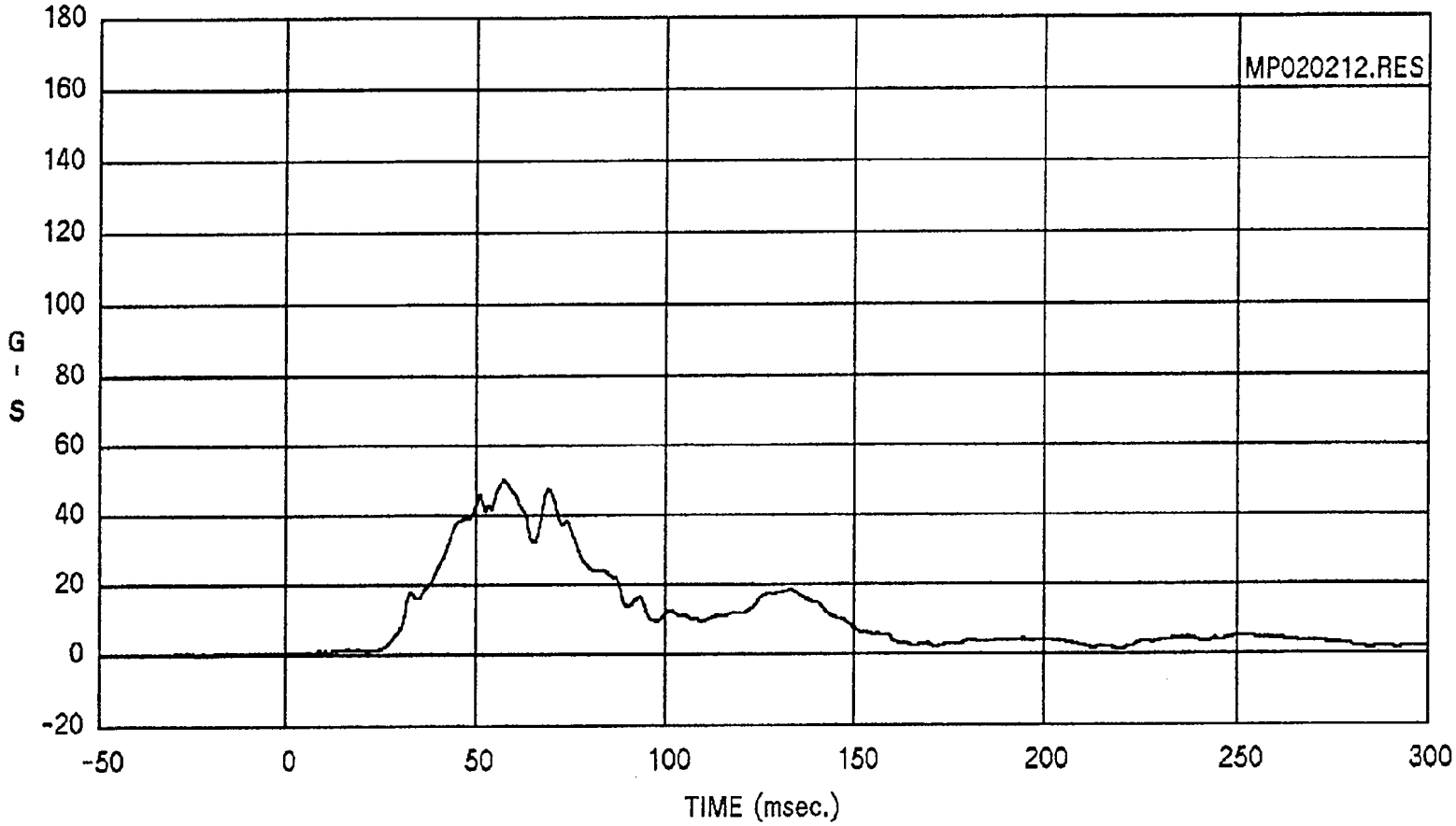
Curve: Passenger chest acceleration -- Y axis Filter: SAE CLASS 180 Max = 13.836 Min = -5.0726

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



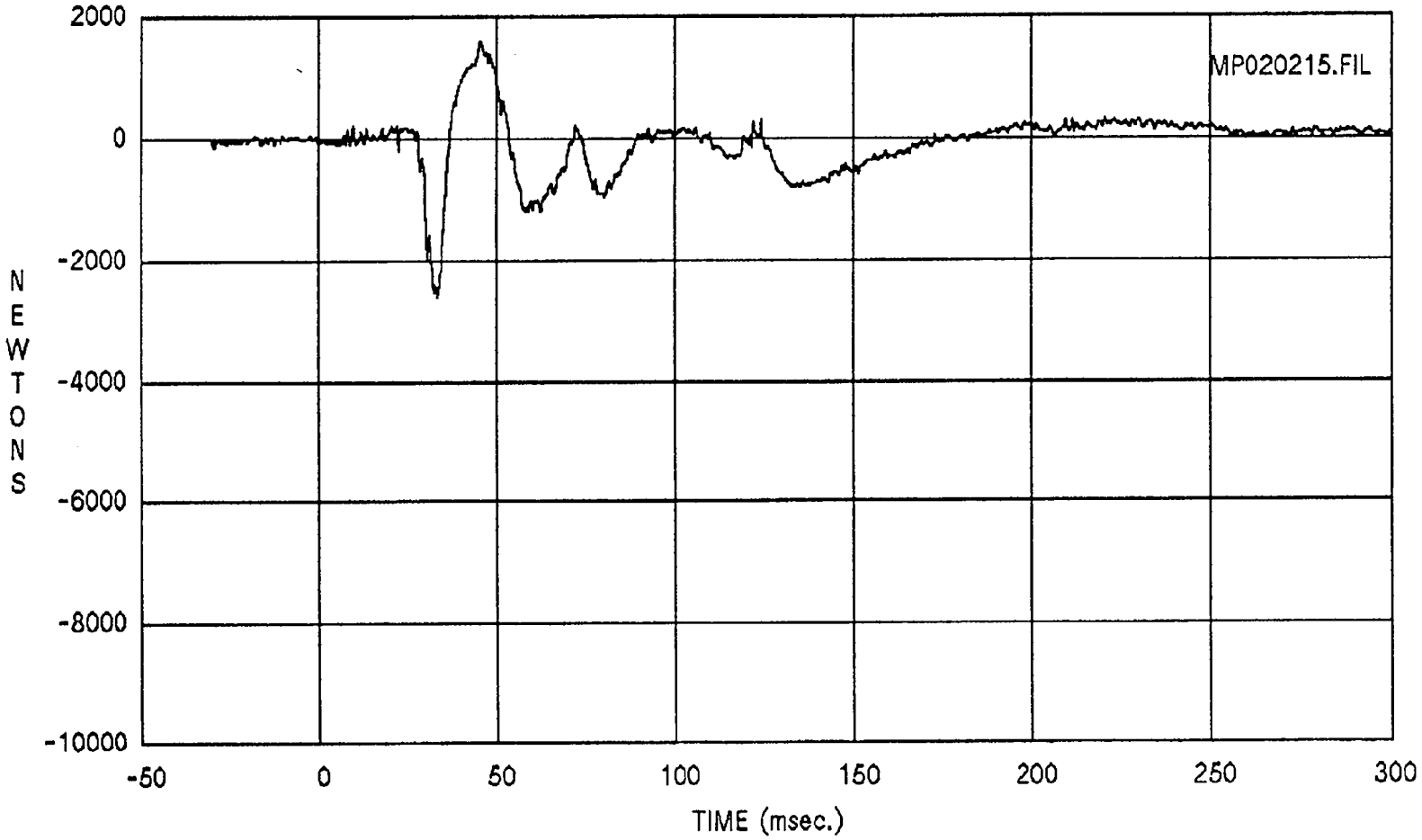
Curve: Passenger chest acceleration -- Z axis Filter: SAE CLASS 180 Max = 14.995 Min = -16.060

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



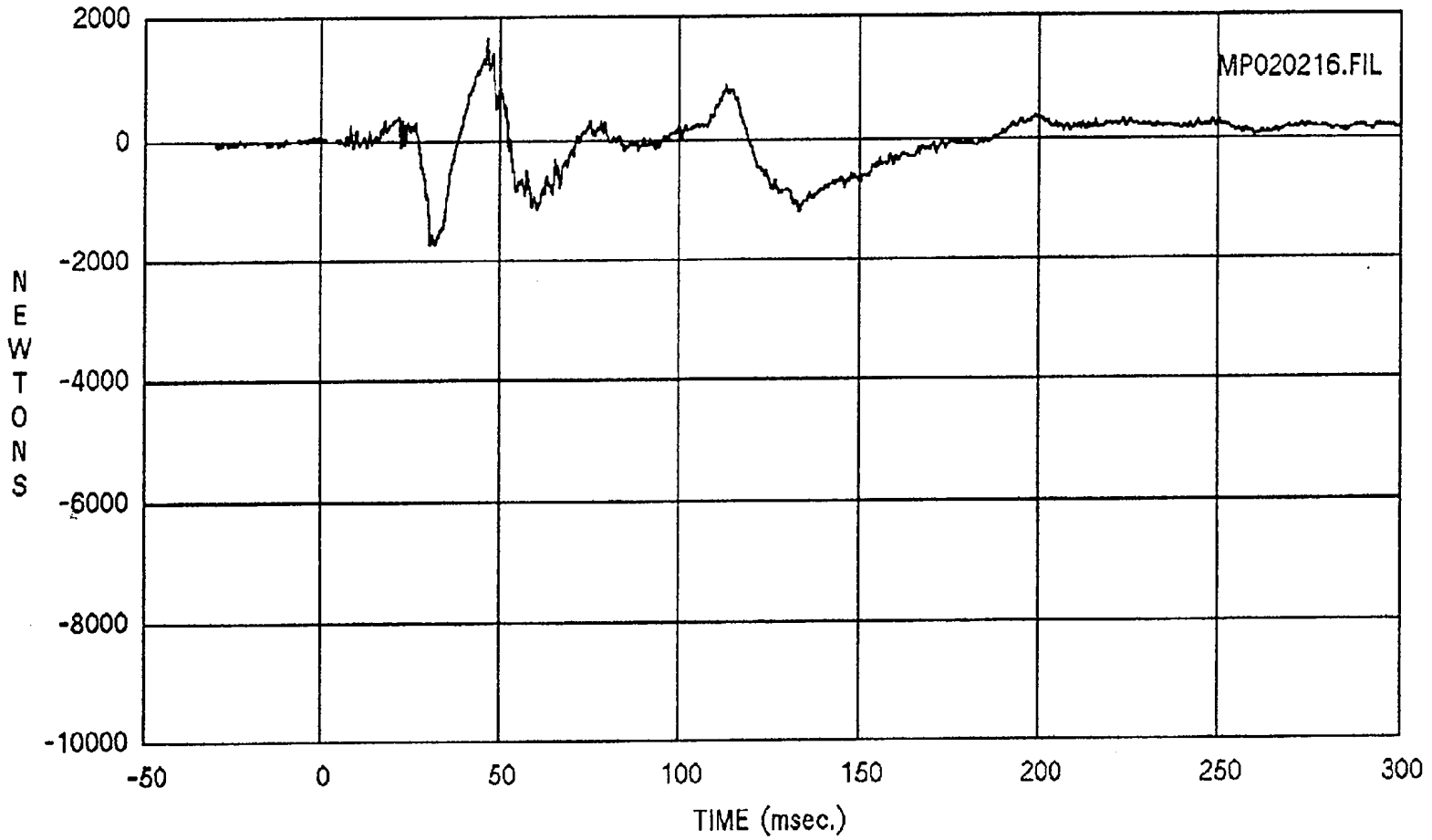
Curve: Passenger chest acceleration -- Resultant Filter: SAE CLASS 180 Max = 50.218 Min = .18818

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



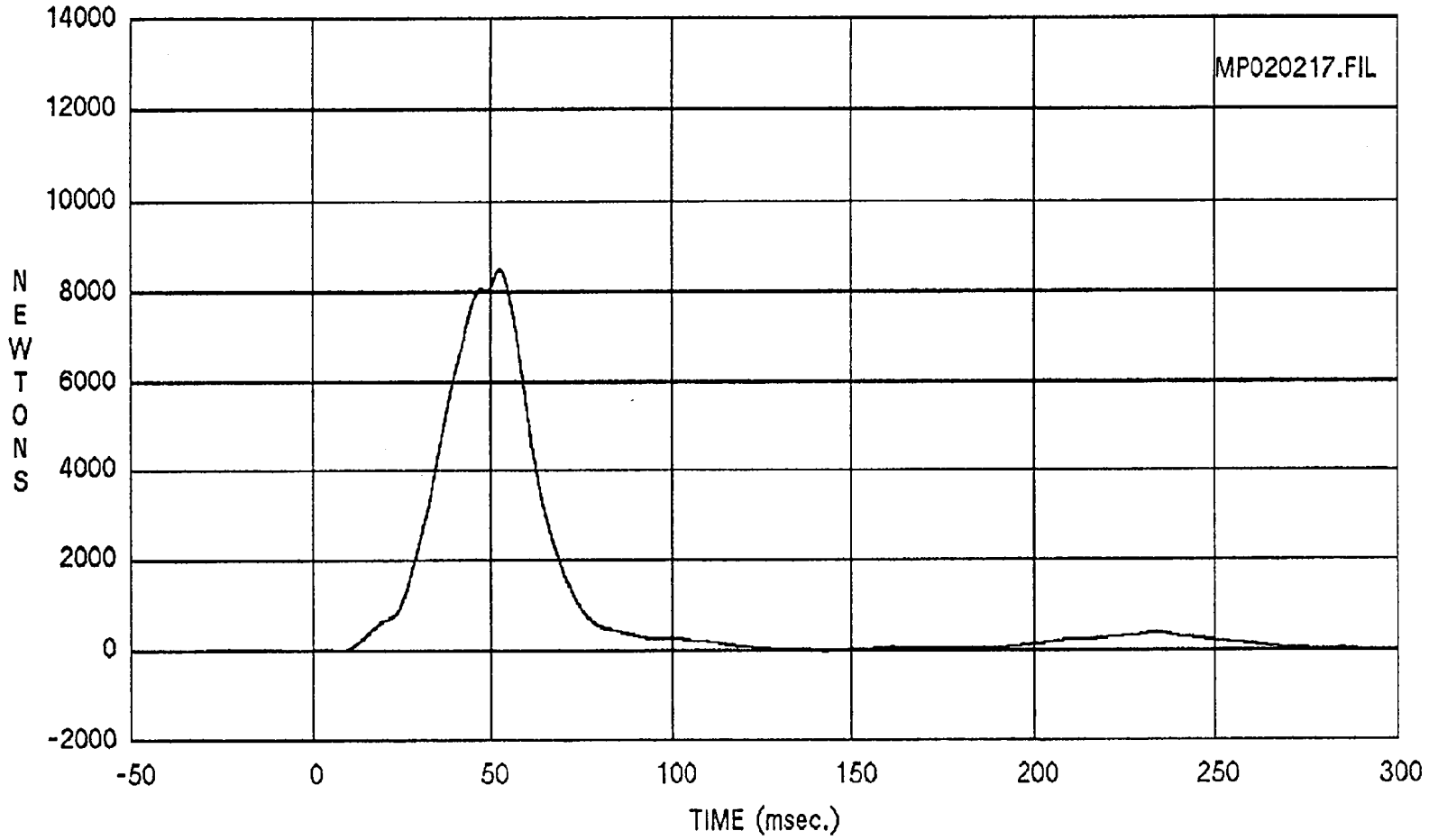
Curve: Passenger left femur force Filter: SAE CLASS 600 Max = 1604.8 Min = -2591.5

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



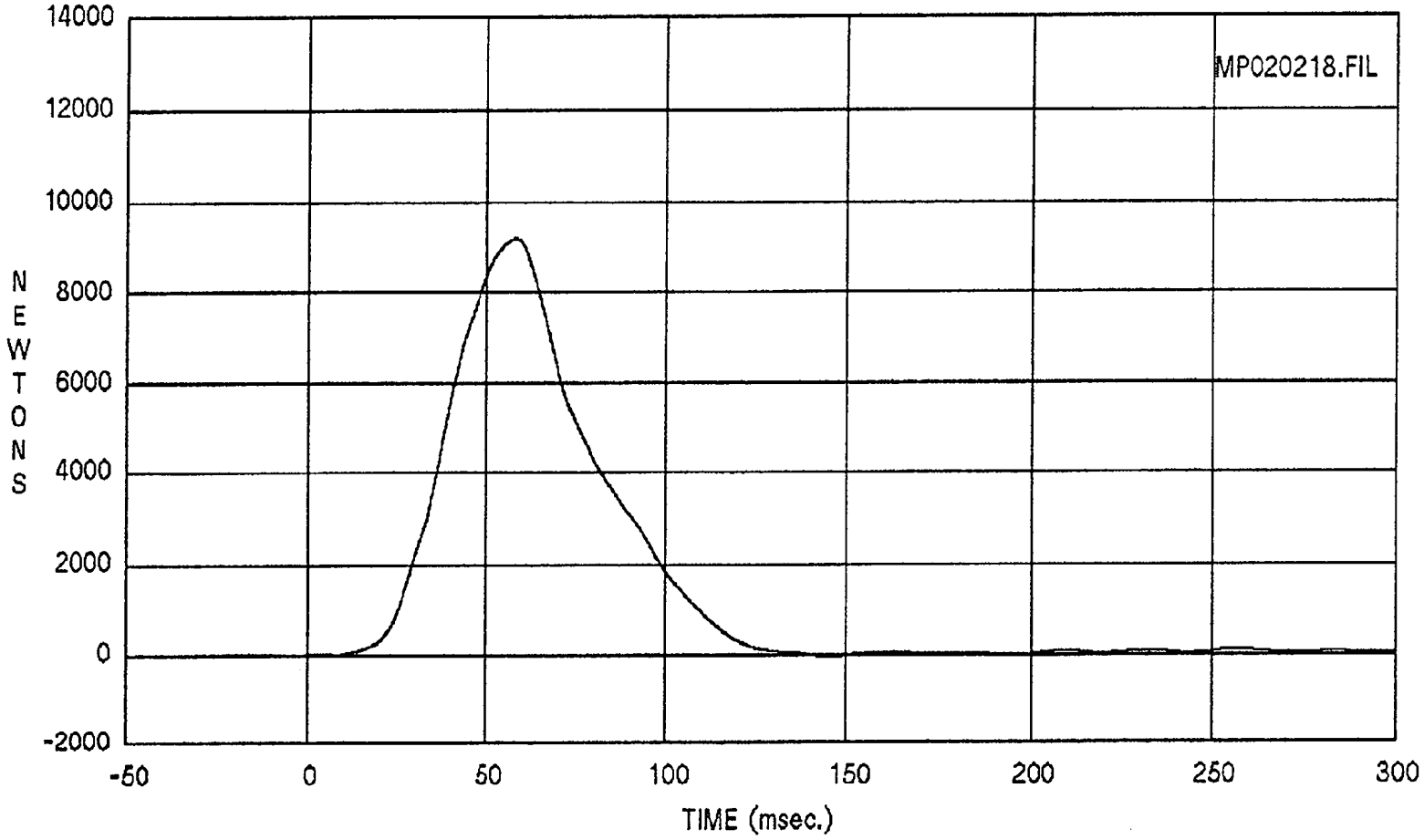
Curve: Passenger right femur force Filter: SAE CLASS 600 Max = 1647.0 Min = -1756.9

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



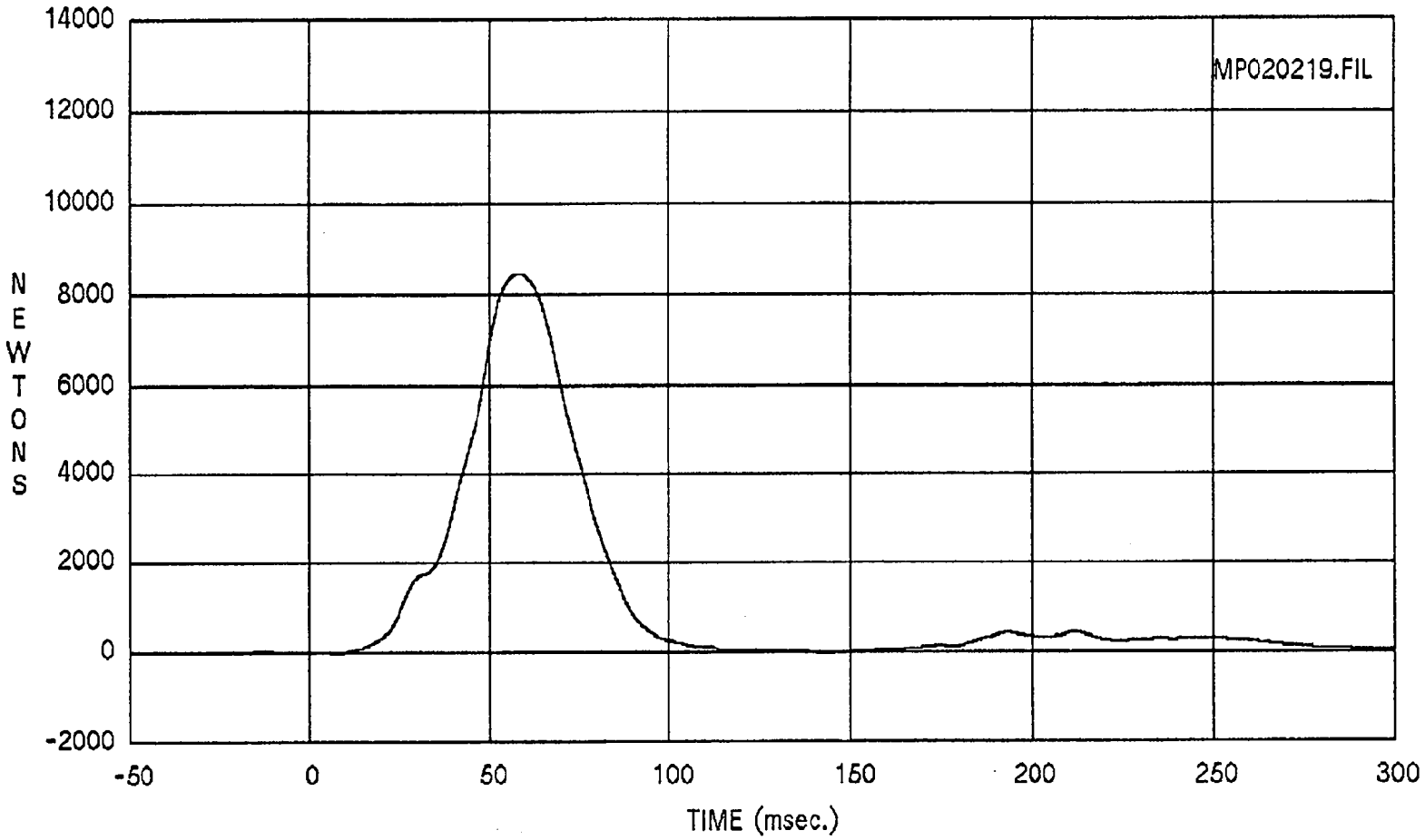
Curve: Driver lap belt load Filter: SAE CLASS 60 Max = 8499.8 Min = -24.139

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



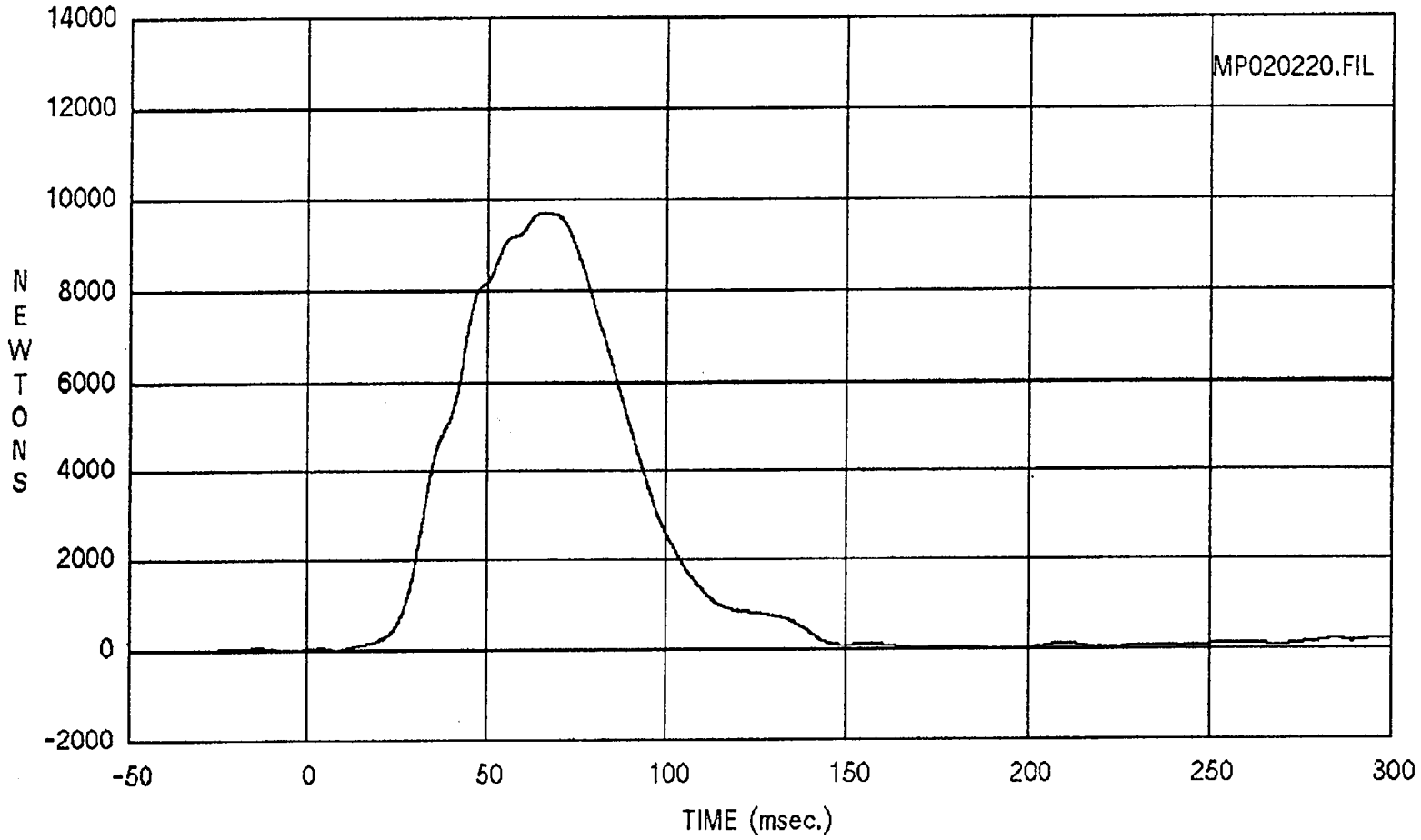
Curve: Driver shoulder belt load Filter: SAE CLASS 60 Max = 9203.9 Min = -37.268

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



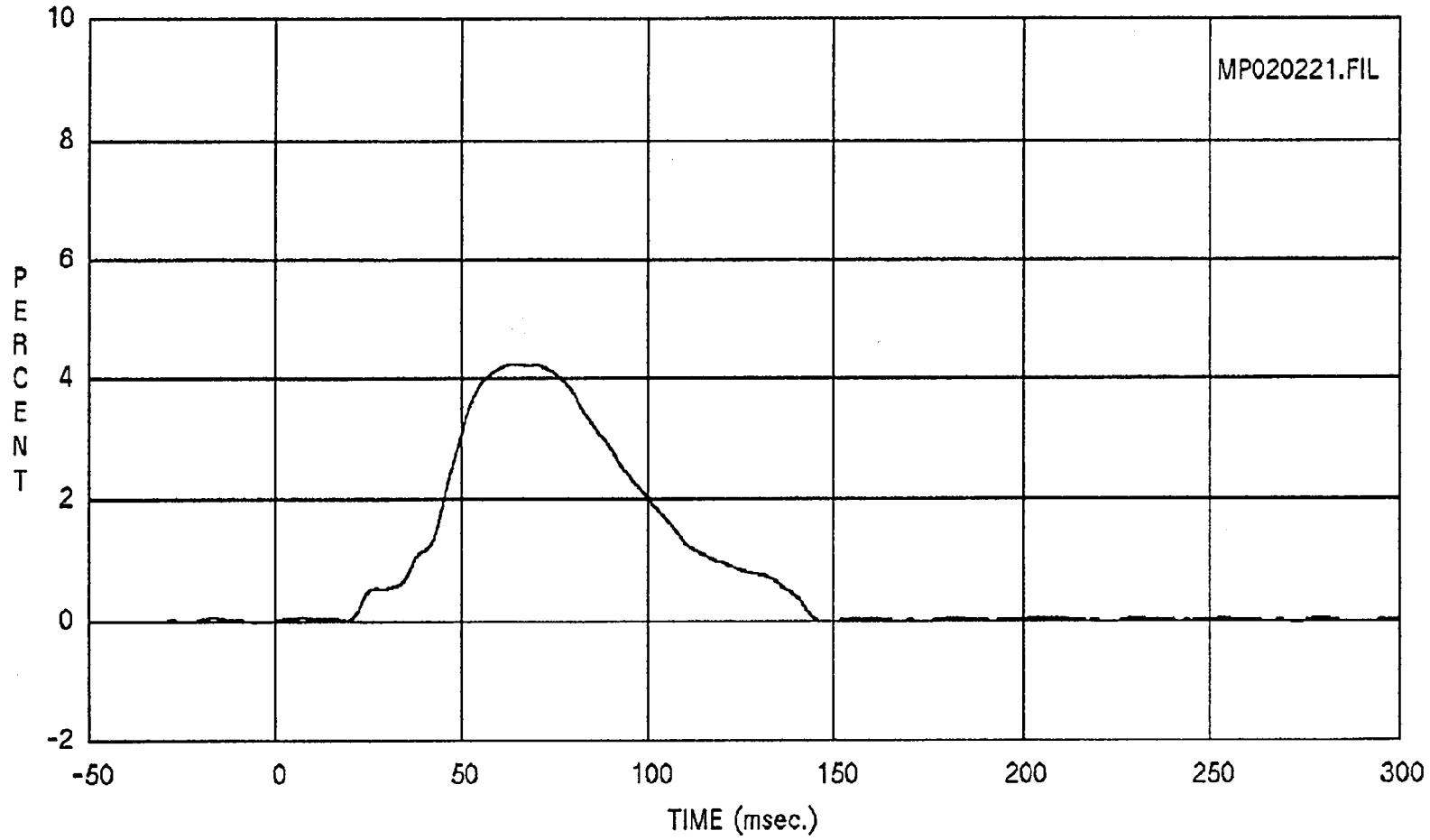
Curve: Passenger lap belt load Filter: SAE CLASS 60 Max = 8479.0 Min = -42.777

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



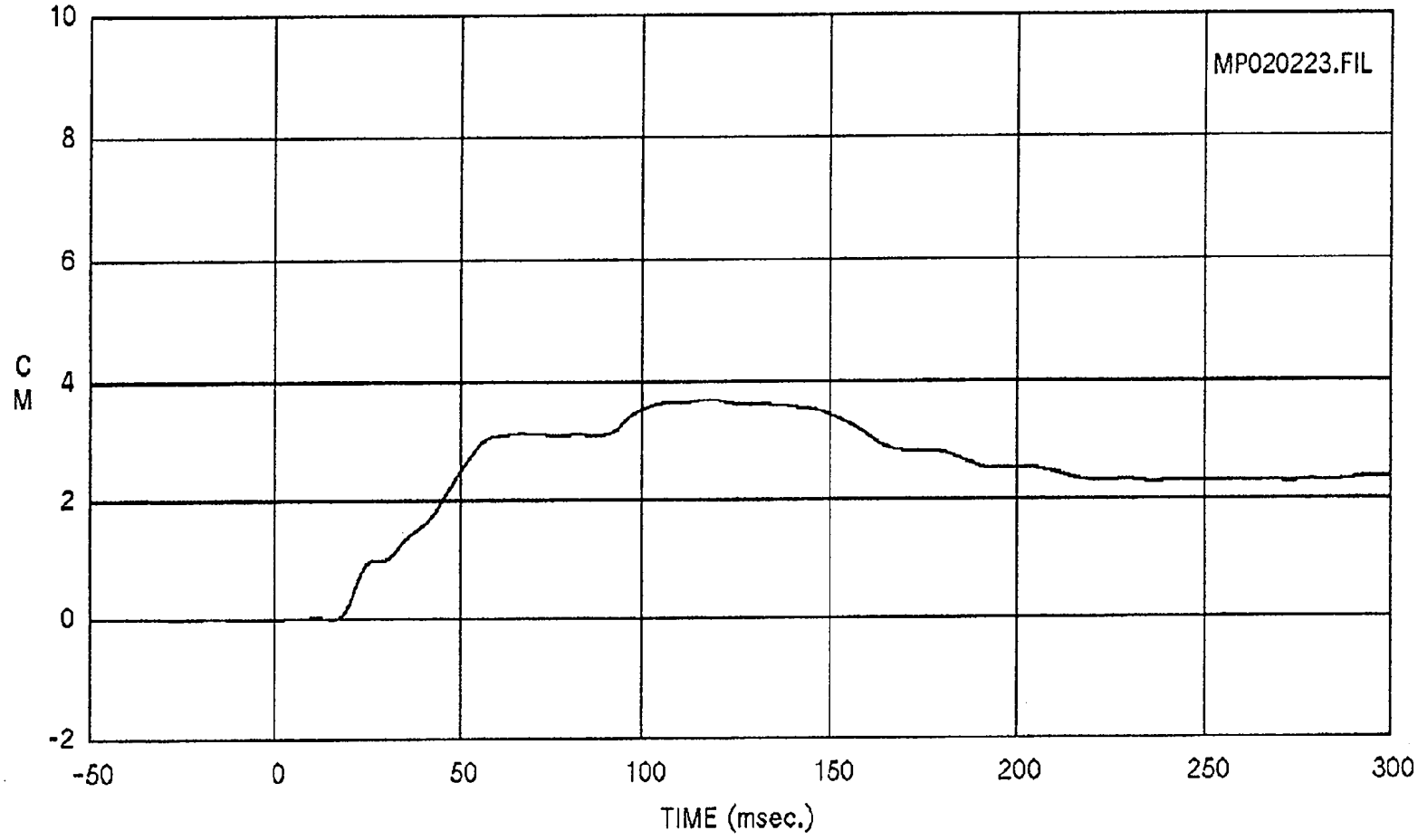
Curve: Passenger shoulder belt load Filter: SAE CLASS 60 Max = 9696.5 Min = -21.430

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



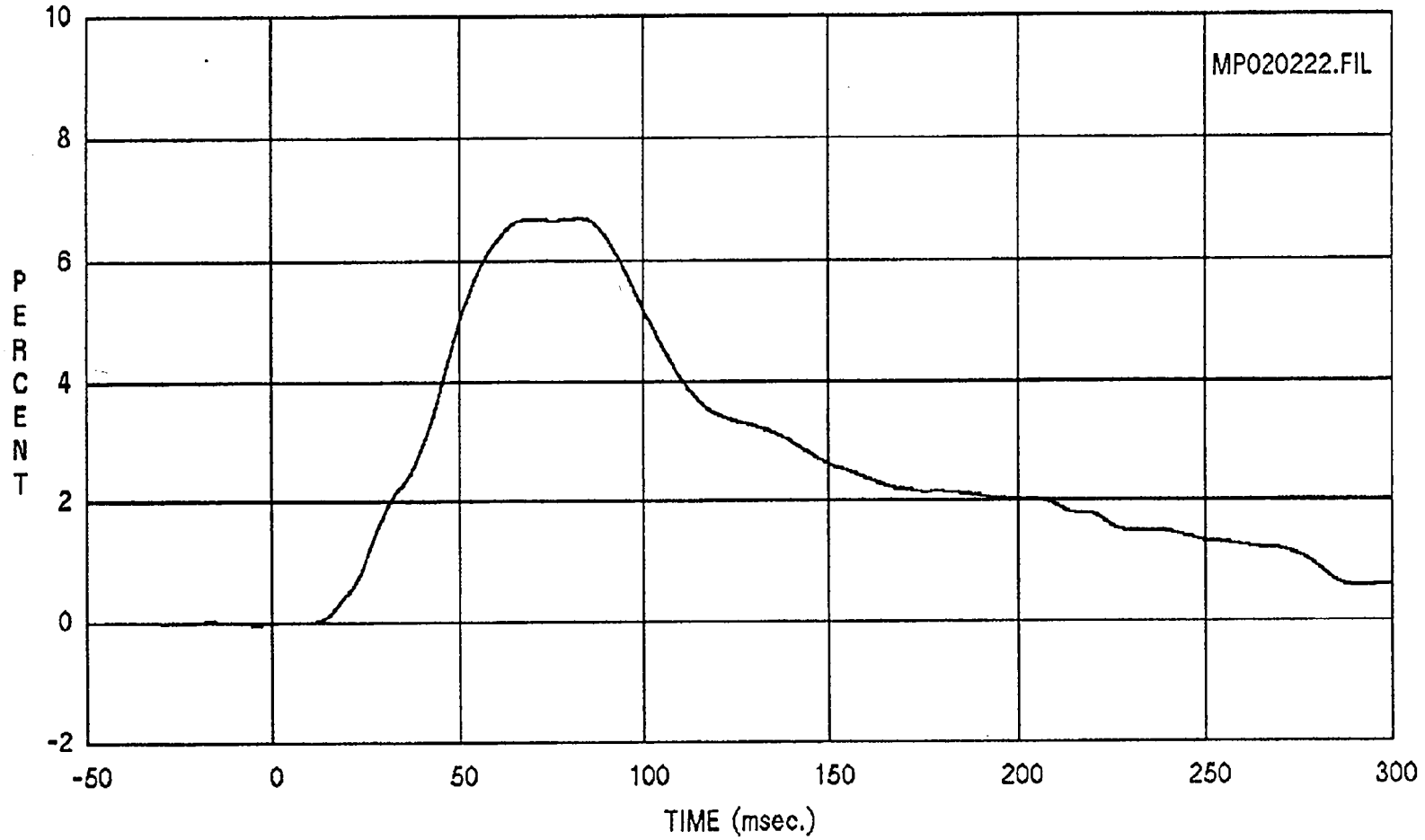
Curve: Driver shoulder belt elongation Filter: SAE CLASS 60 Max = 4.2334 Min = -.14413E-0

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



Curve: Driver shoulder belt spoolout Filter: SAE CLASS 60 Max = 3.6911 Min = -.48969E-0:

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



Curve: Passenger shoulder belt elongation Filter: SAE CLASS 60 Max = 6.6959 Min = .13448E-(

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer

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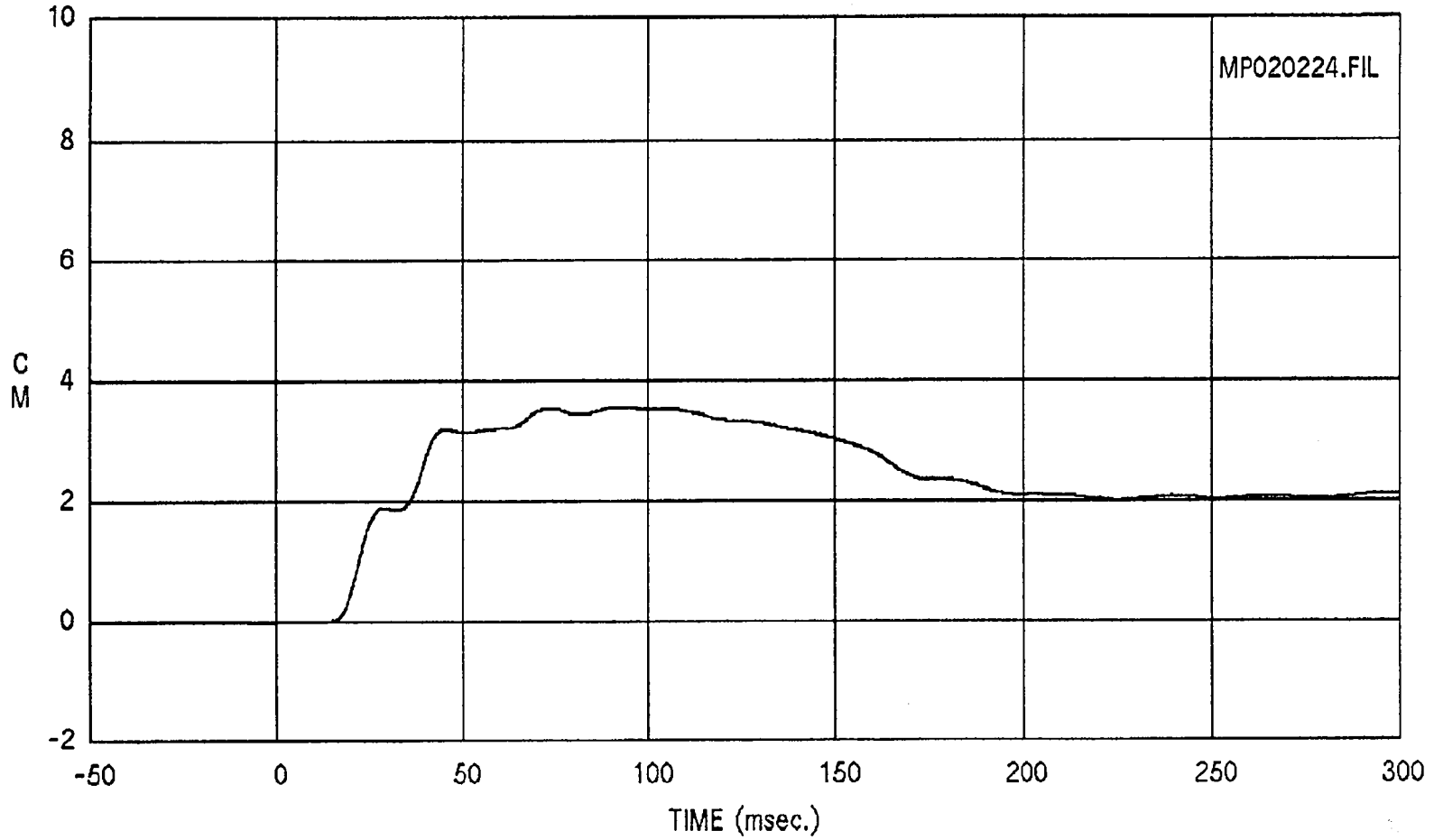
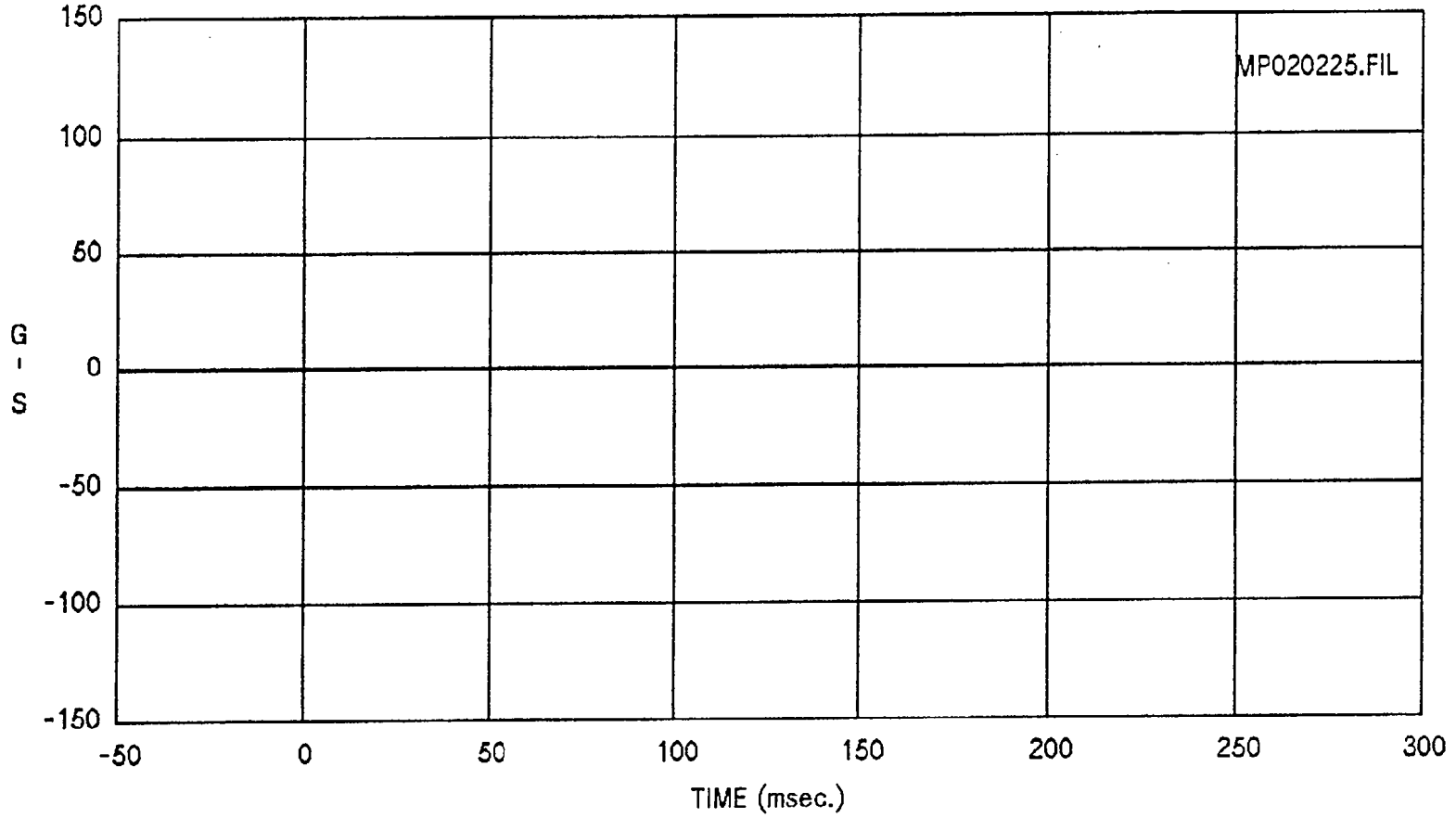


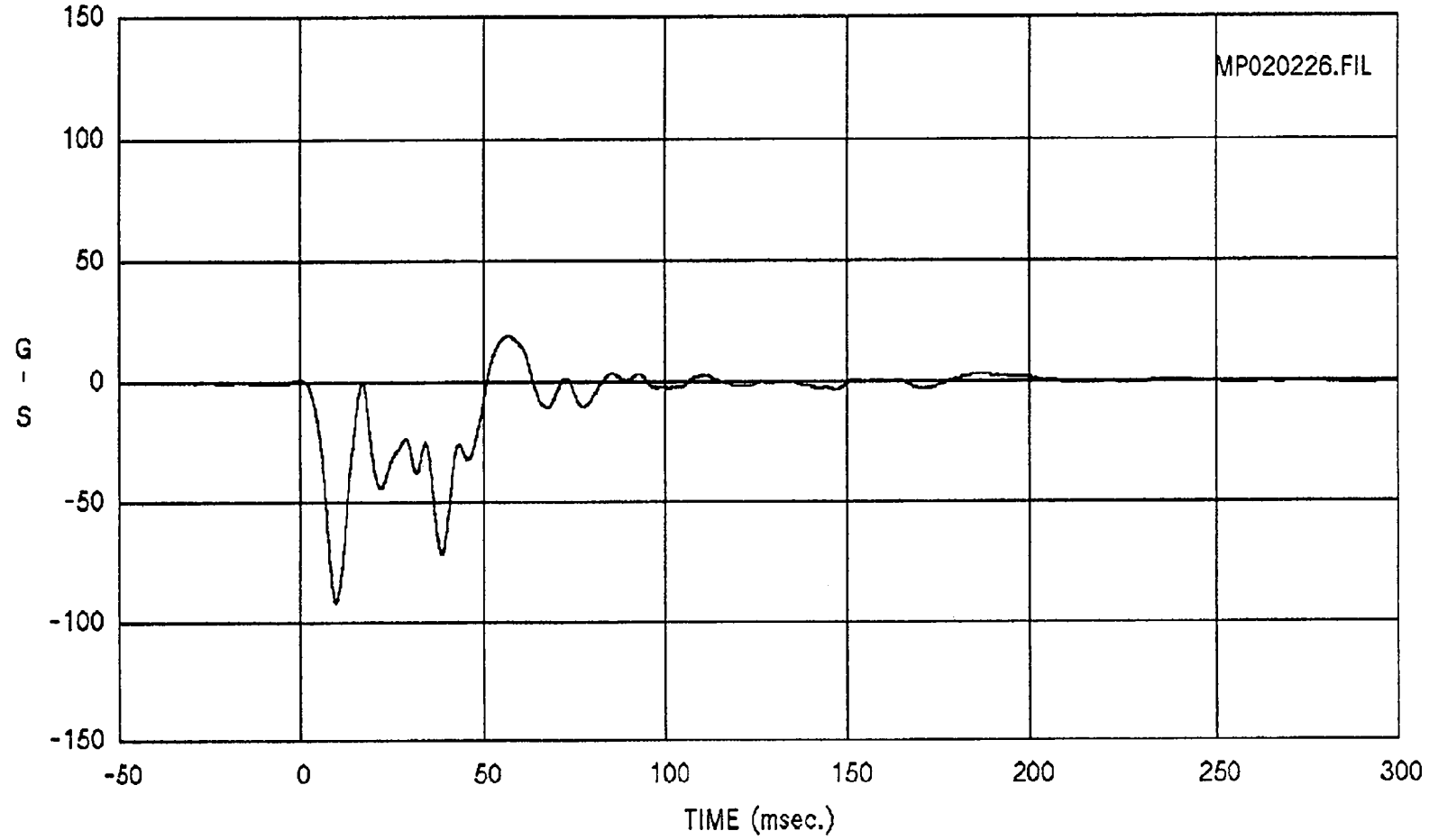
Curve: Passenger shoulder belt spoolout Filter: SAE CLASS 60 Max = 3.5695 Min = .64450E-0

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



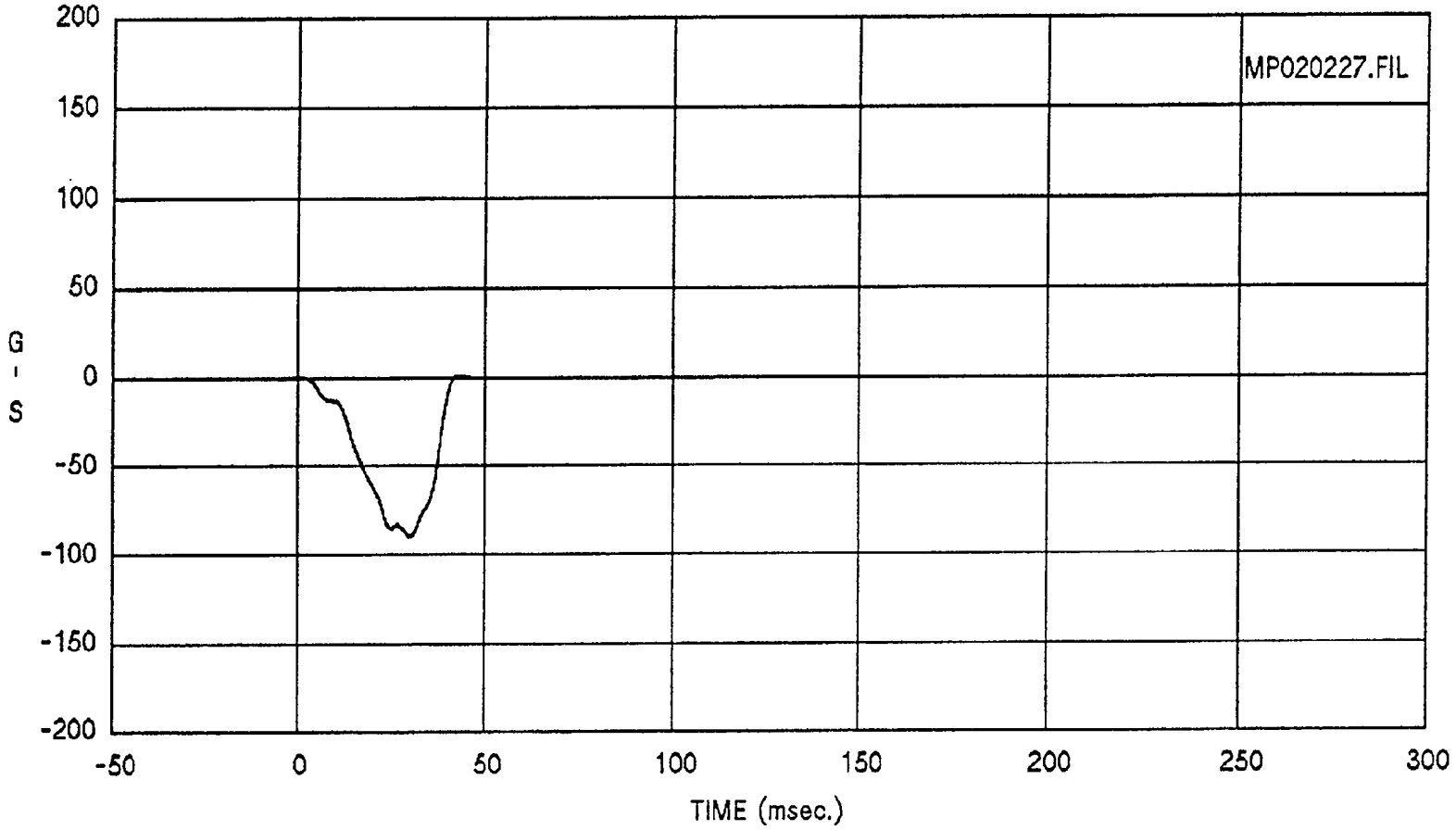
Curve: Left front caliper acceleration - X axis(No data) Filter: SAE CLASS 60 Max = .00000 Min = .00000

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



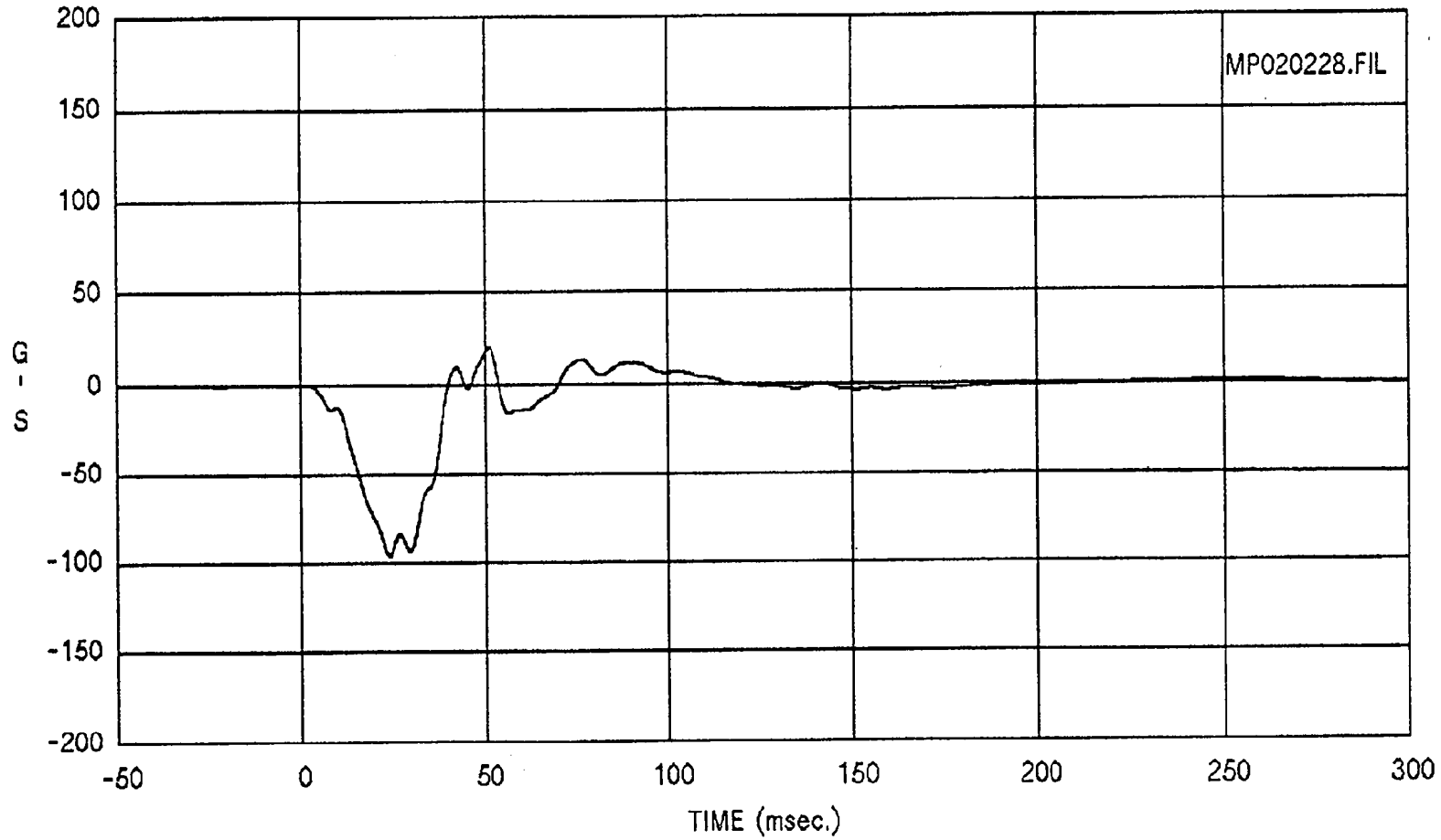
Curve: Right front caliper acceleration -- X axis Filter: SAE CLASS 60 Max = 19.406 Min = -91.070

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



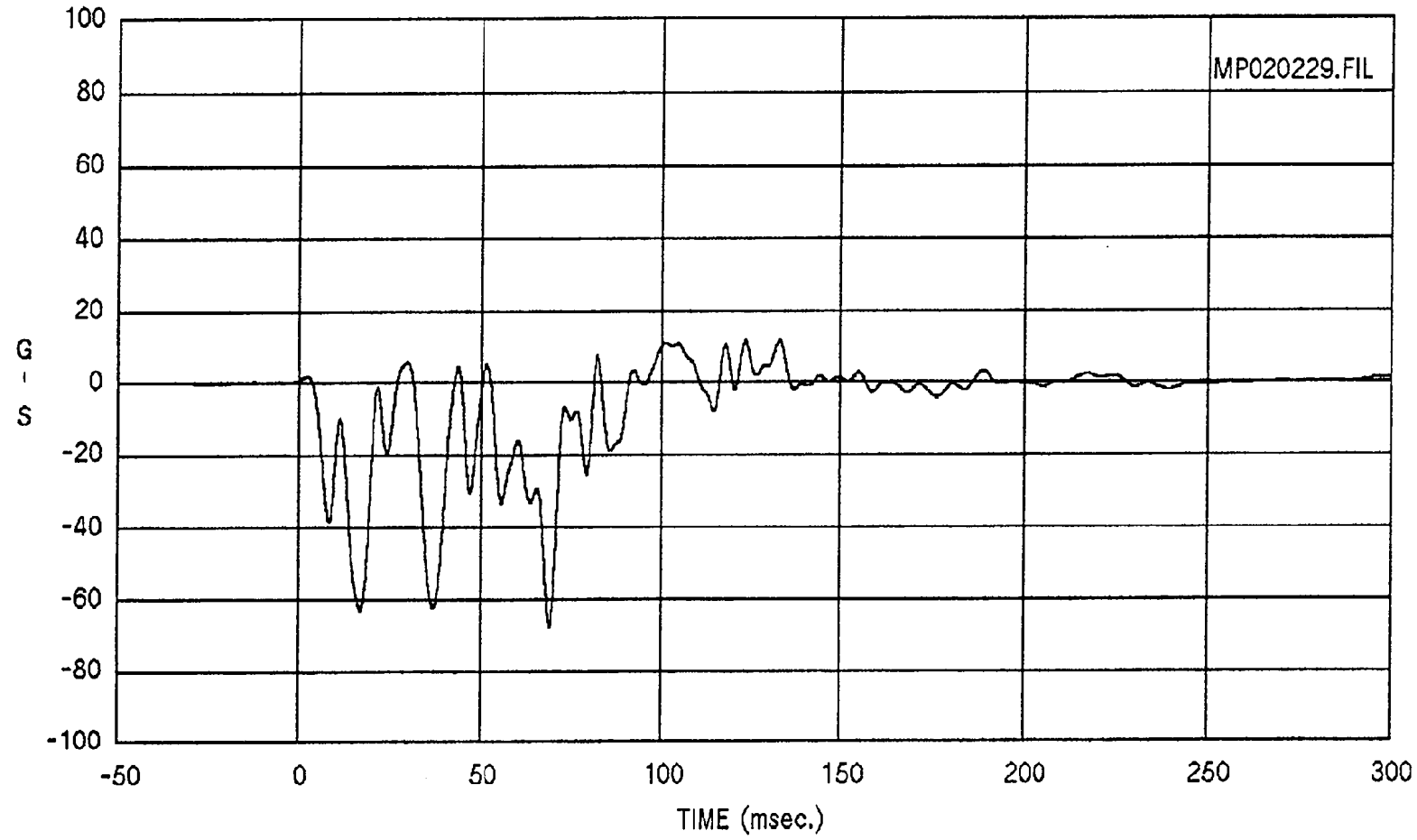
Curve: Engine bottom acceleration -- X axis (CF at 39.7) Filter: SAE CLASS 60 Max = 1.7301 Min = -89.1

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



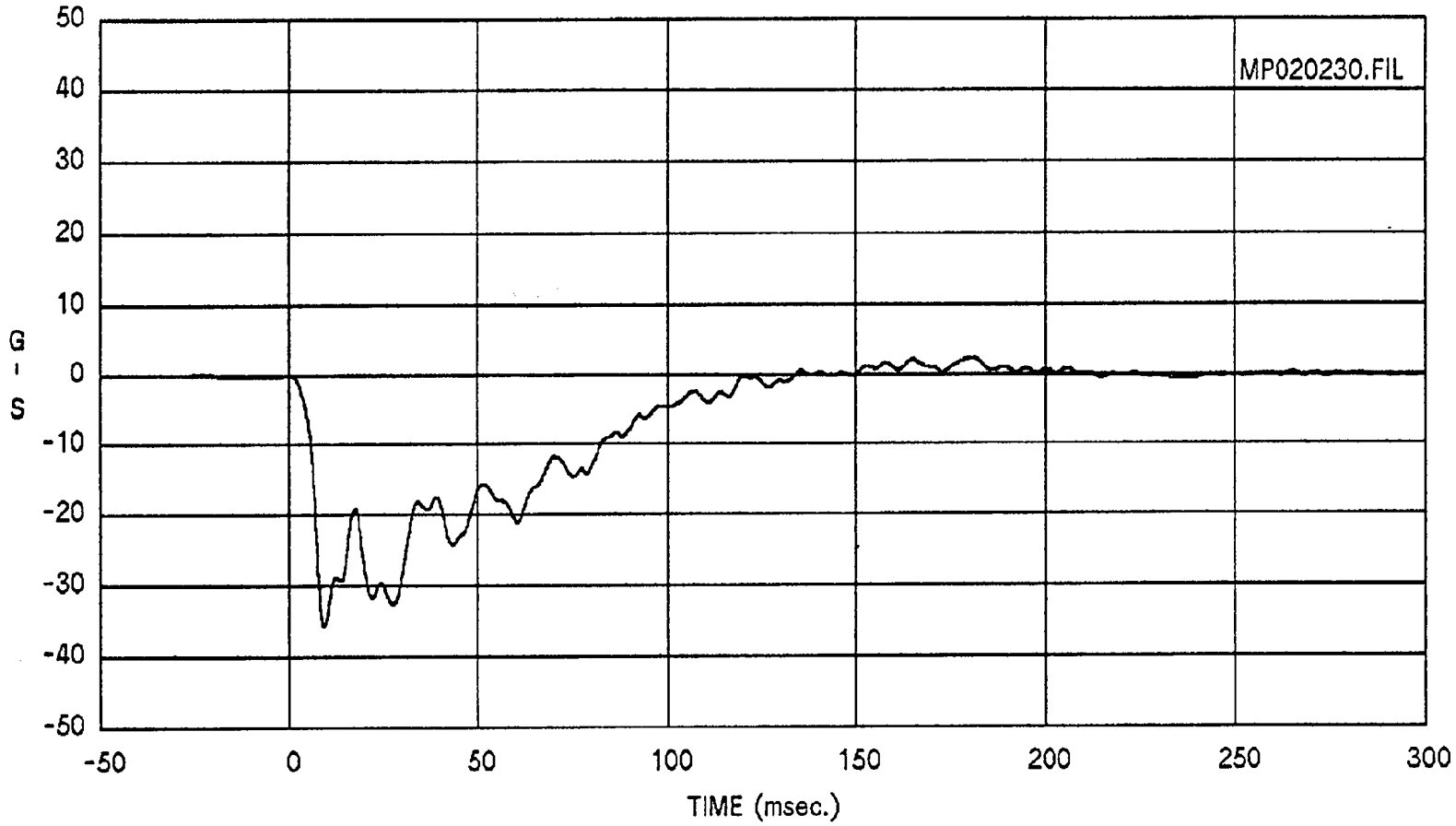
Curve: Engine top acceleration -- X axis Filter: SAE CLASS 60 Max = 20.523 Min = -95.989

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



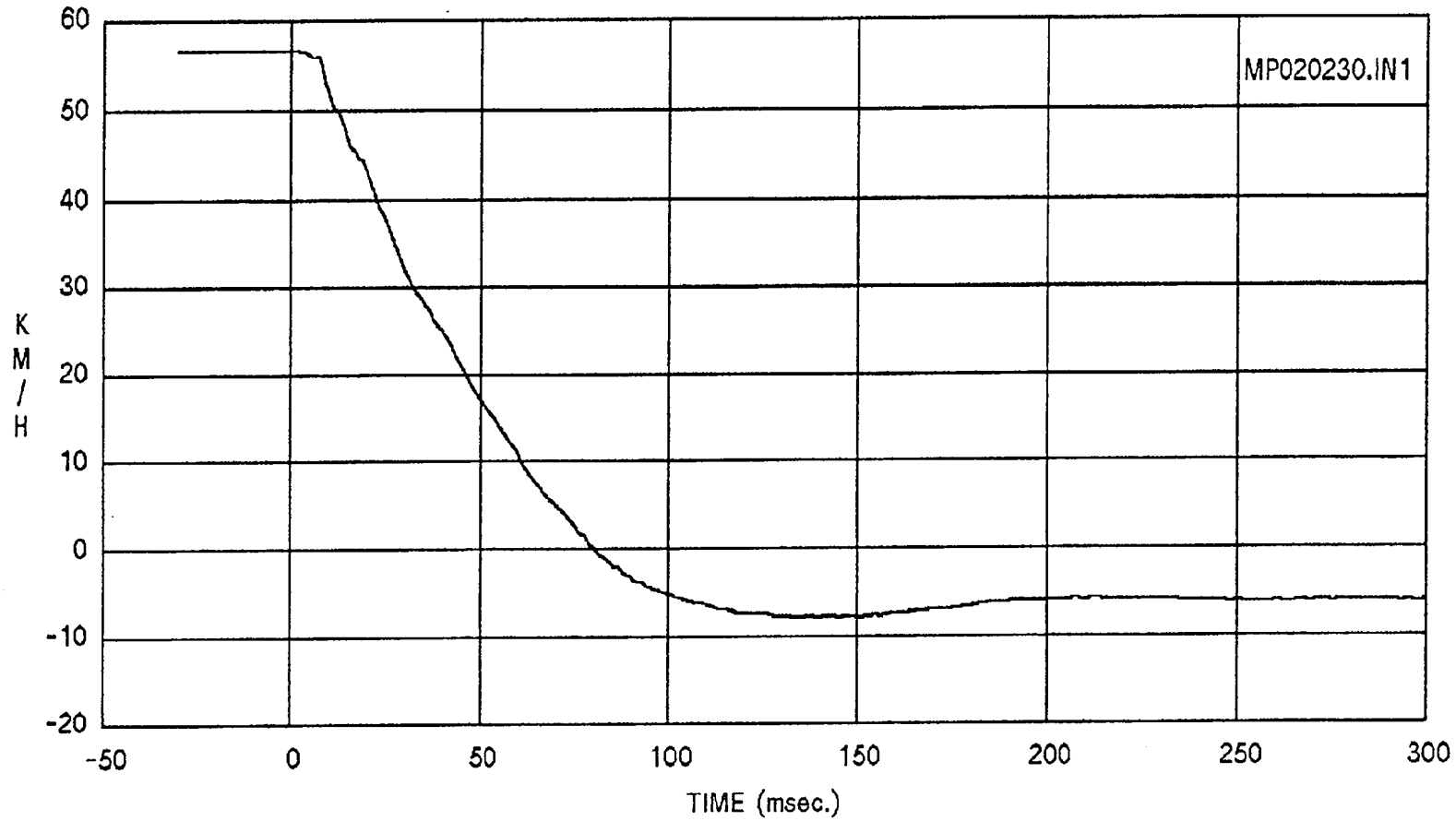
Curve: Dashpanel acceleration -- X axis Filter: SAE CLASS 60 Max = 11.816 Min = -67.180

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



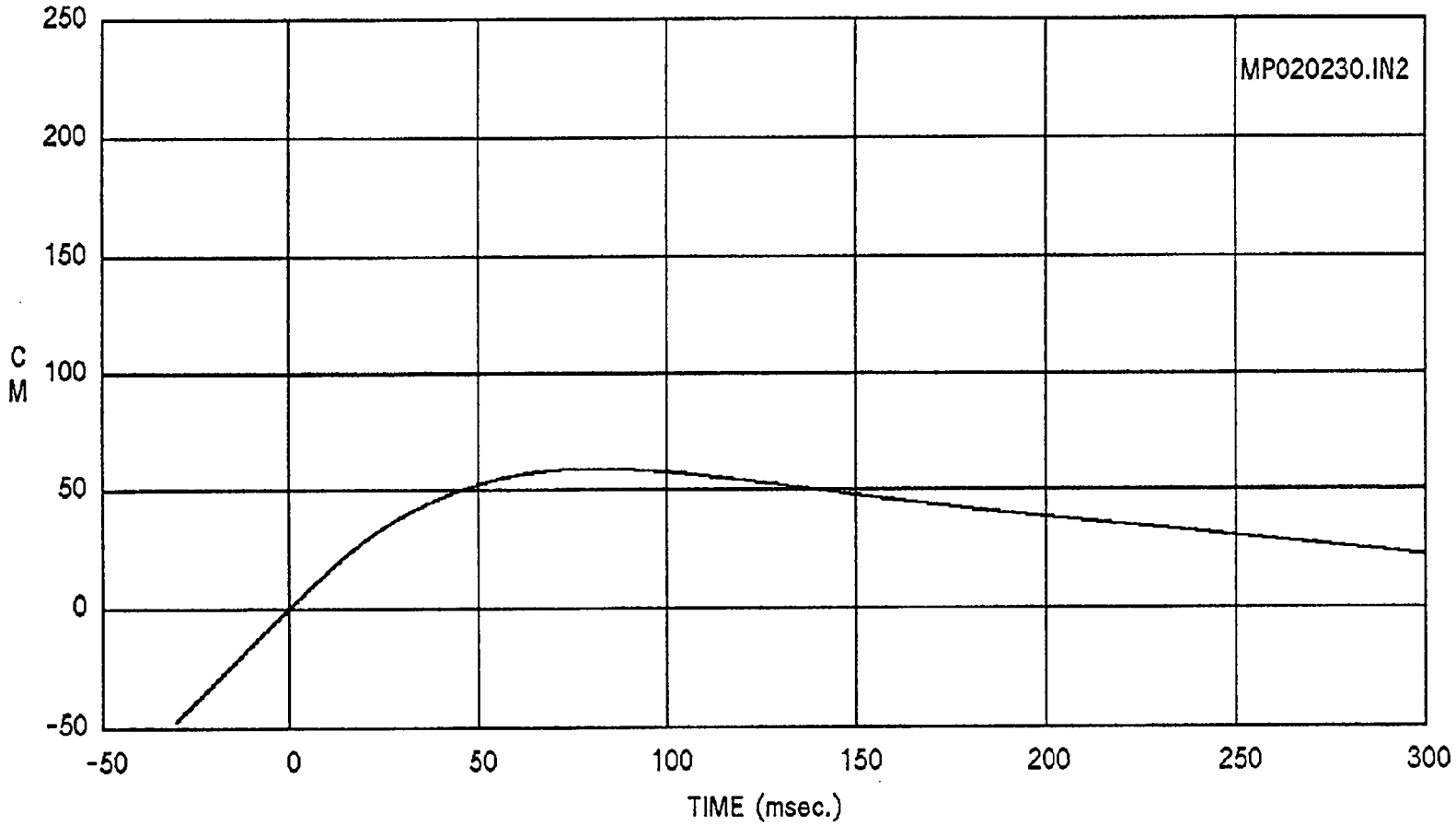
Curve: Left rear cross-member accel. - X axis (primary) Filter: SAE CLASS 60 Max = 2.3652 Min = -35.77

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



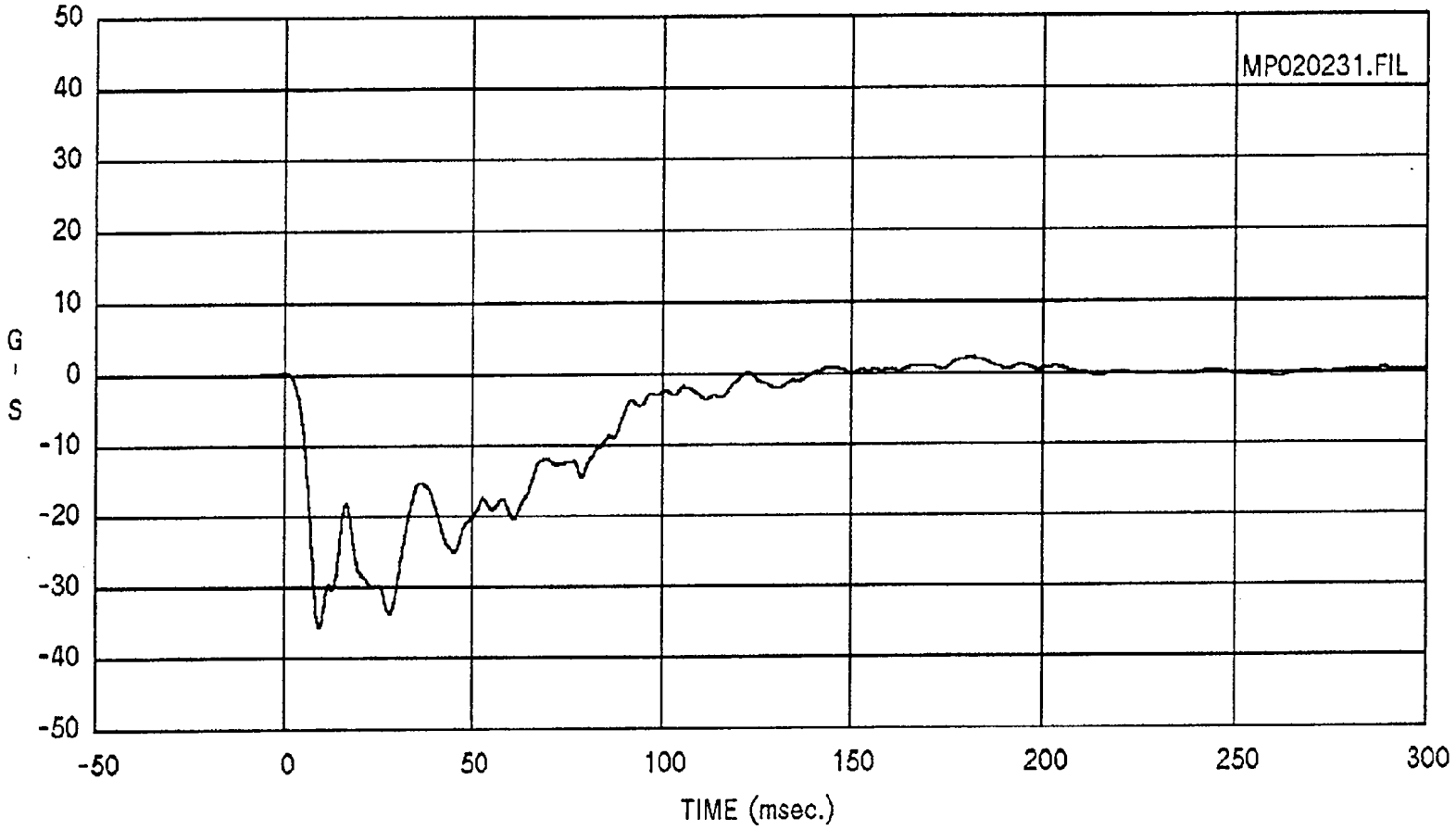
Curve: Left rear cross-member delta V -- X axis (Prl) Filter: SAE CLASS 180 Max = 56.624 Min = -7.784

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



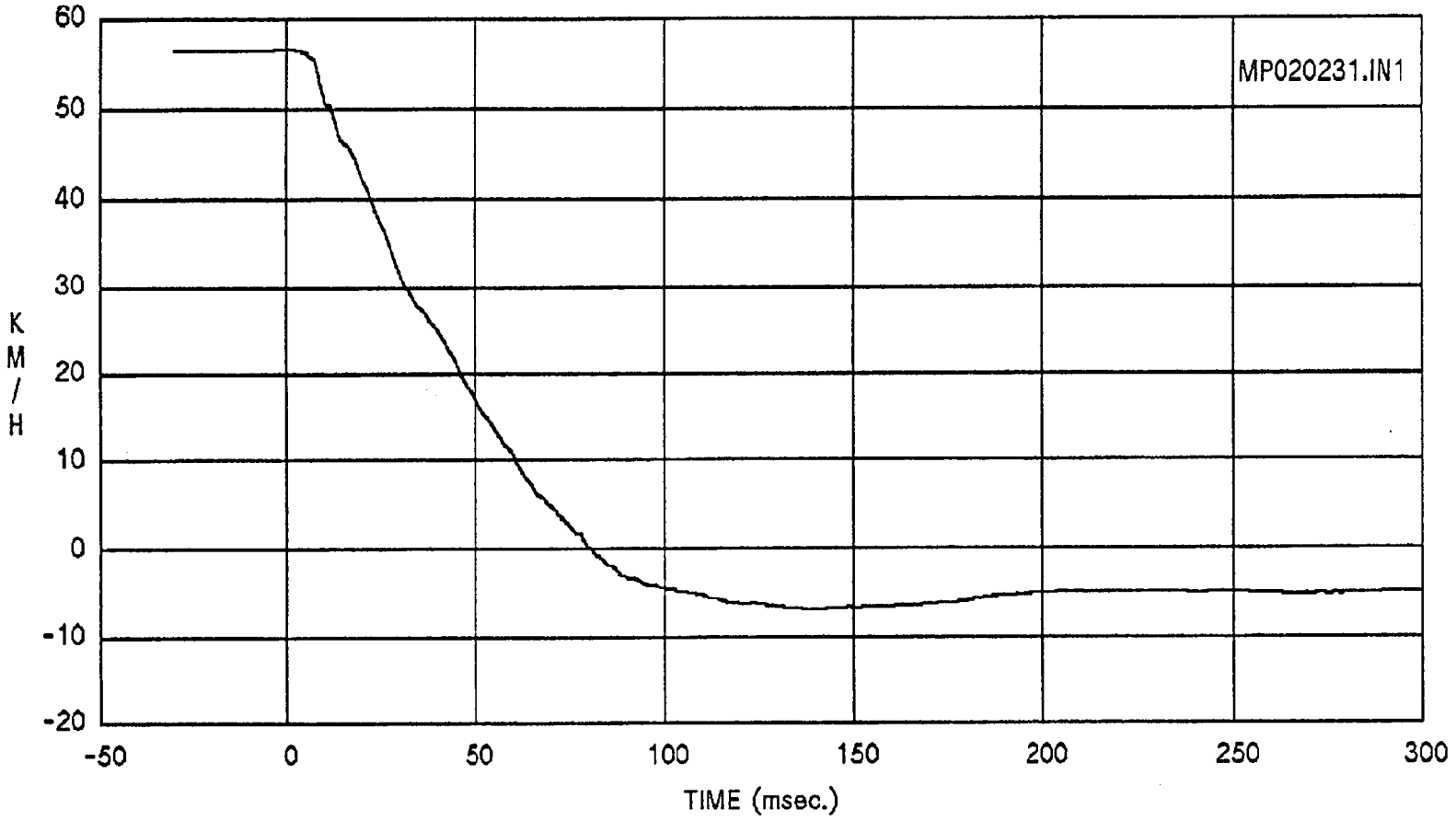
Curve: Left rear cross-member disp. - X axis (primary) Filter: SAE CLASS 180 Max = 59.020 Min = 21.914

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



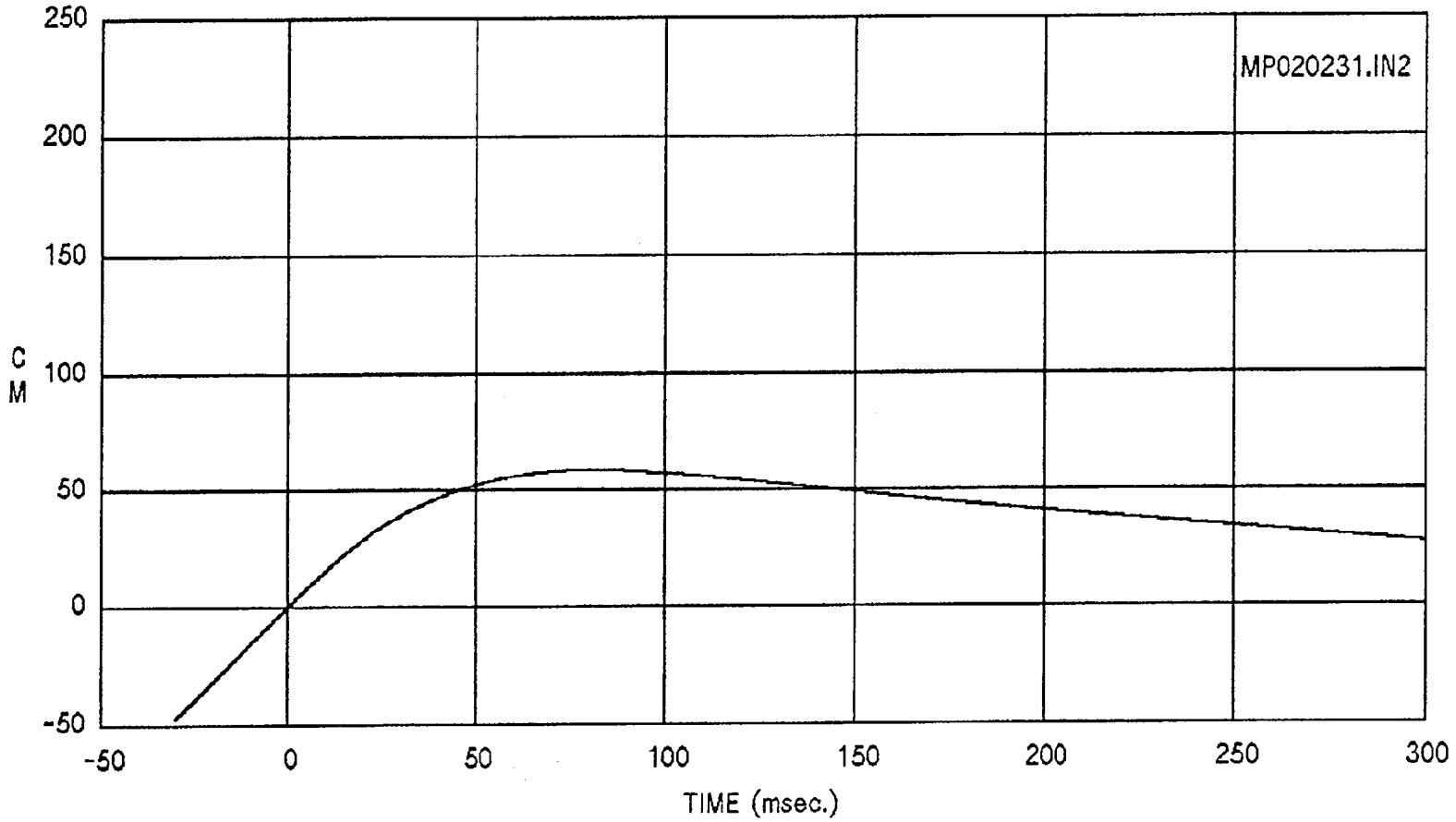
Curve: Right rear cross-member acc. - X axis (primary) Filter: SAE CLASS 60 Max = 2.1338 Min = -35.76

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



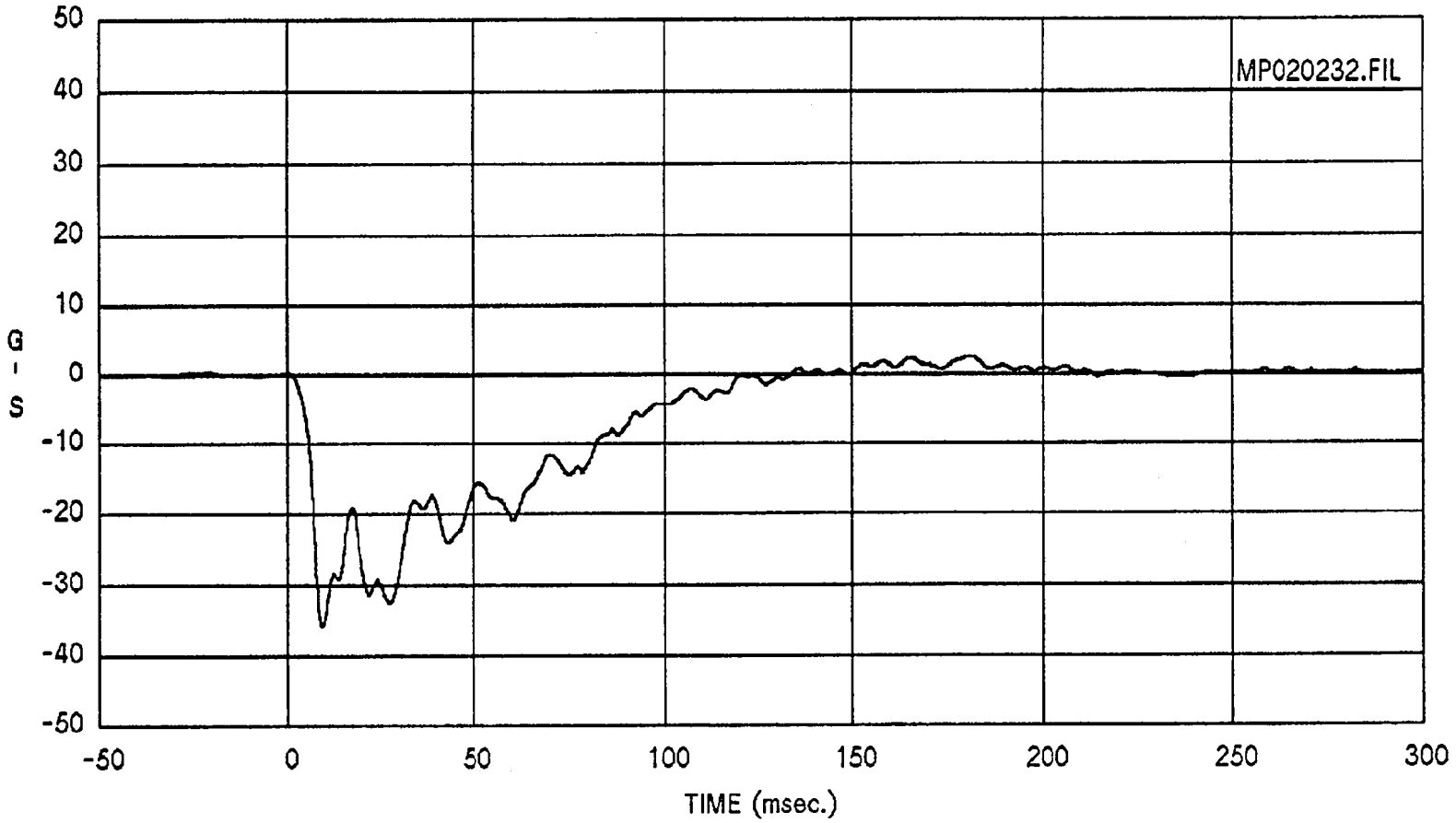
Curve: Right rear cross-member delta V -- X axis(Pri) Filter: SAE CLASS 180 Max = 56.627 Min = -6.861

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



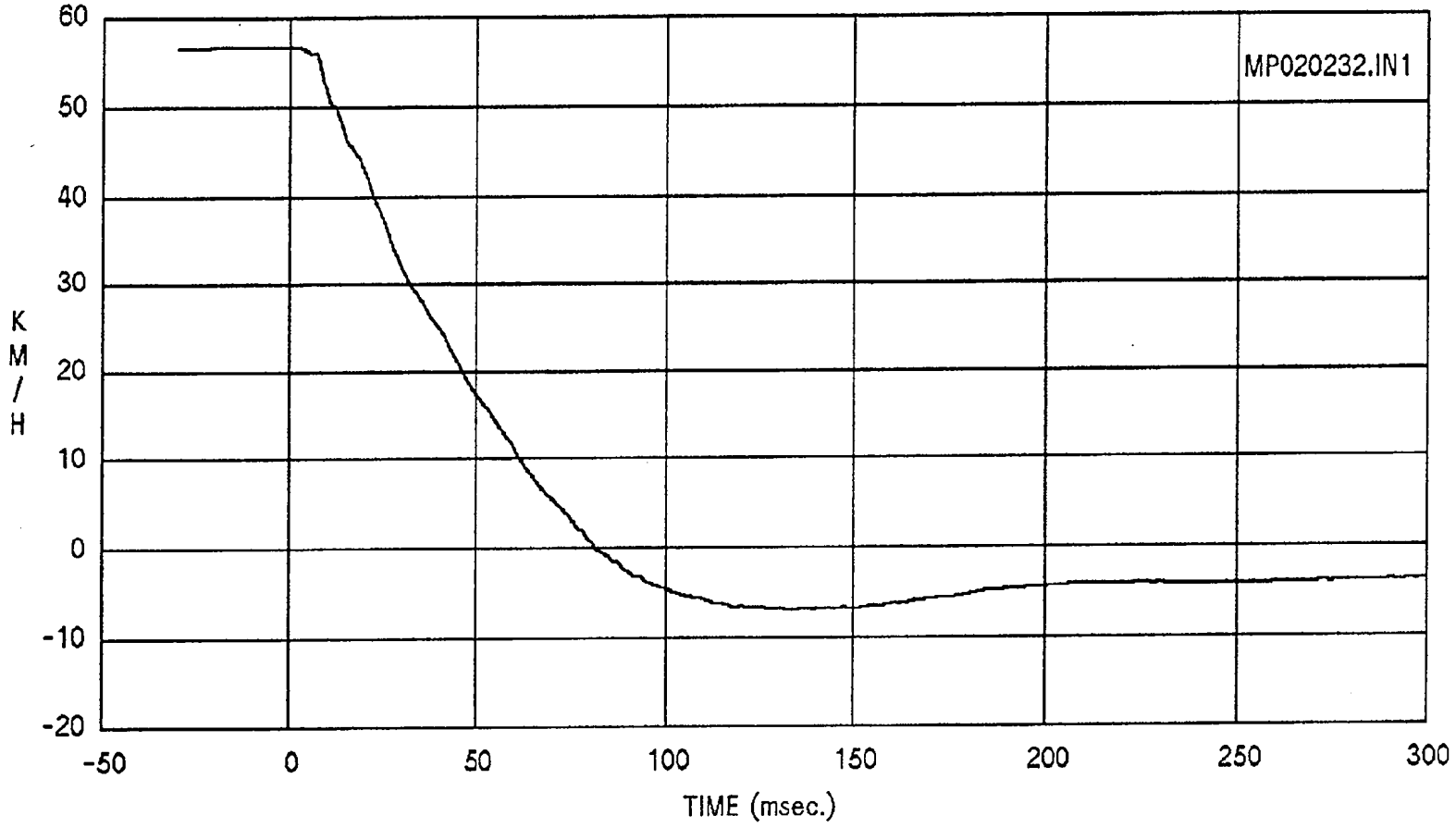
Curve: Right rear cross-member disp. - X axis (primary) Filter: SAE CLASS 180 Max = 58.794 Min = 27.102

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



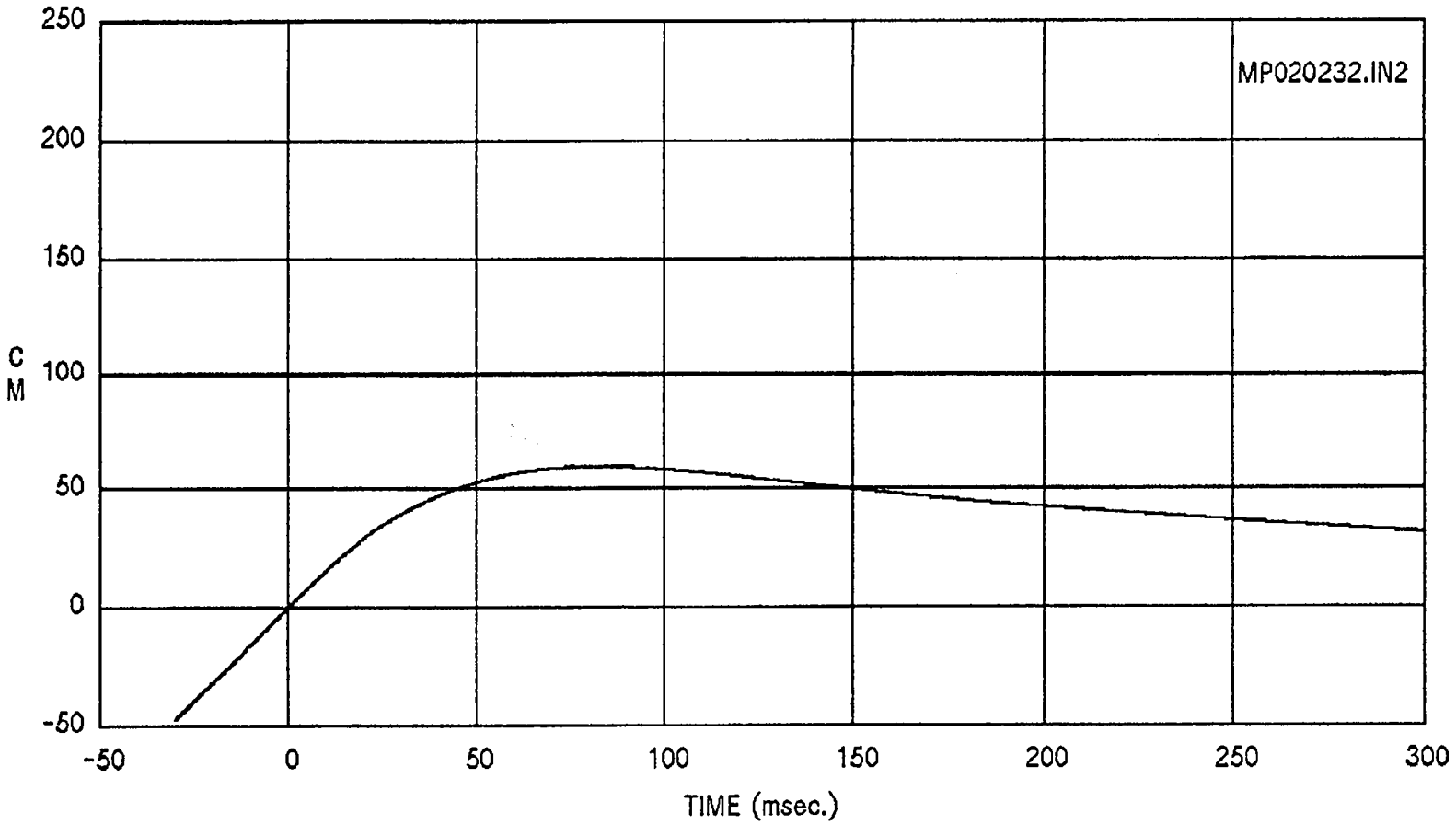
Curve: Left rear cross-member accel. - X axis(secondary) Filter: SAE CLASS 60 Max = 2.6210 Min = -35.7

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



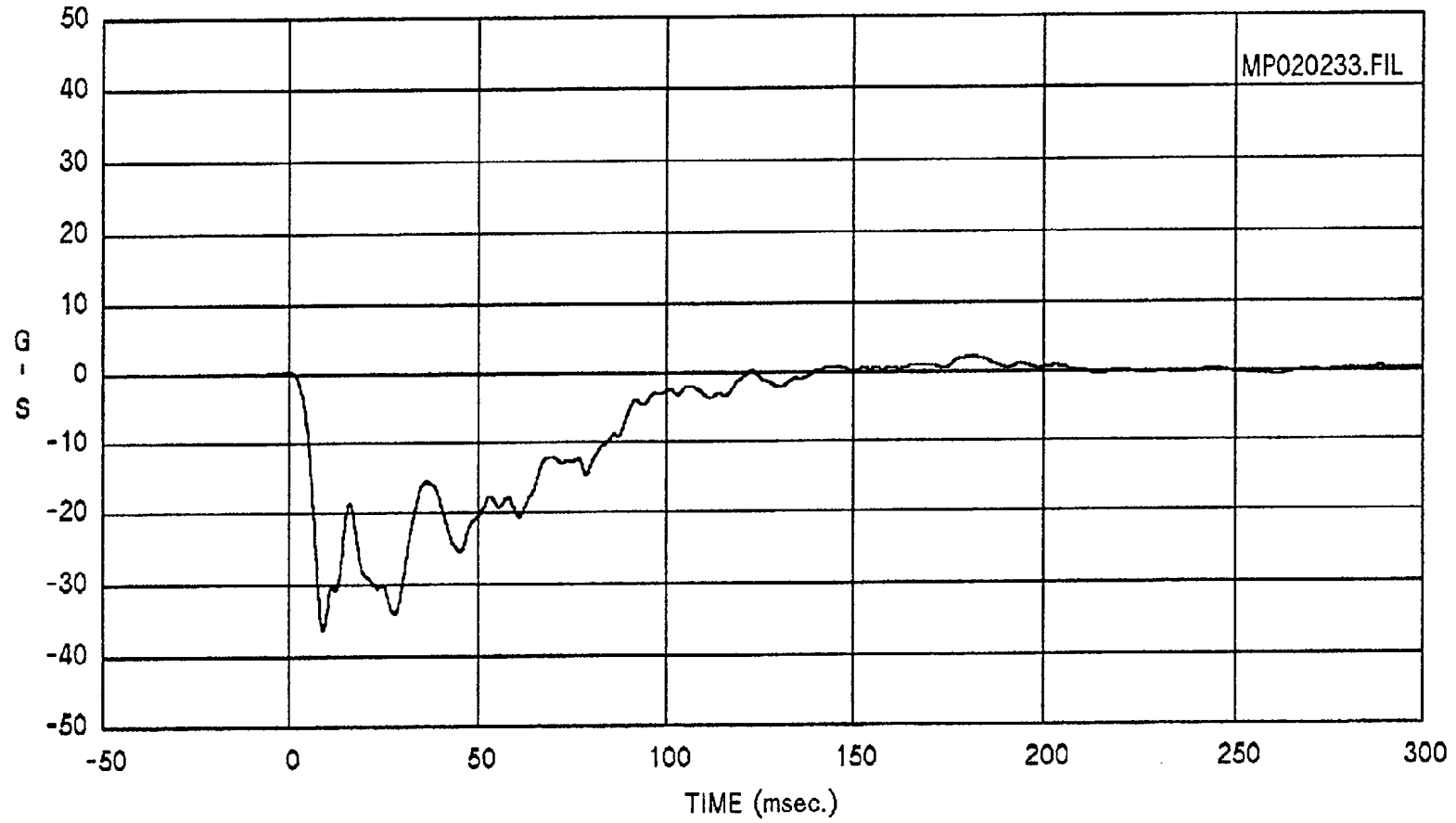
Curve: Left rear cross-member delta V -- X axis (Sec) Filter: SAE CLASS 180 Max = 56.628 Min = -6.84

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



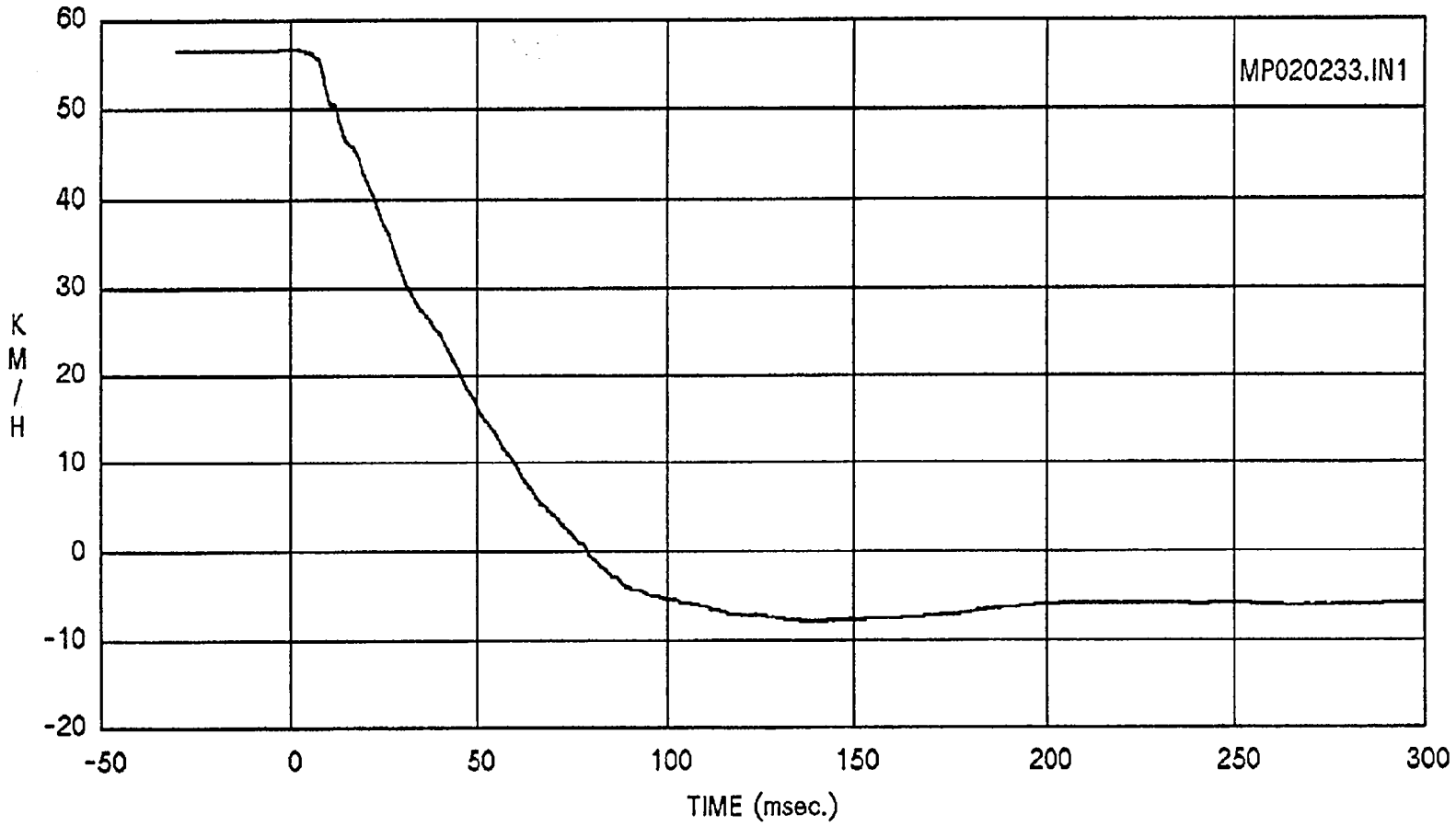
Curve: Left rear cross-member disp. - X axis(secondary) Filter: SAE CLASS 180 Max = 59.505 Min = 31.1

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



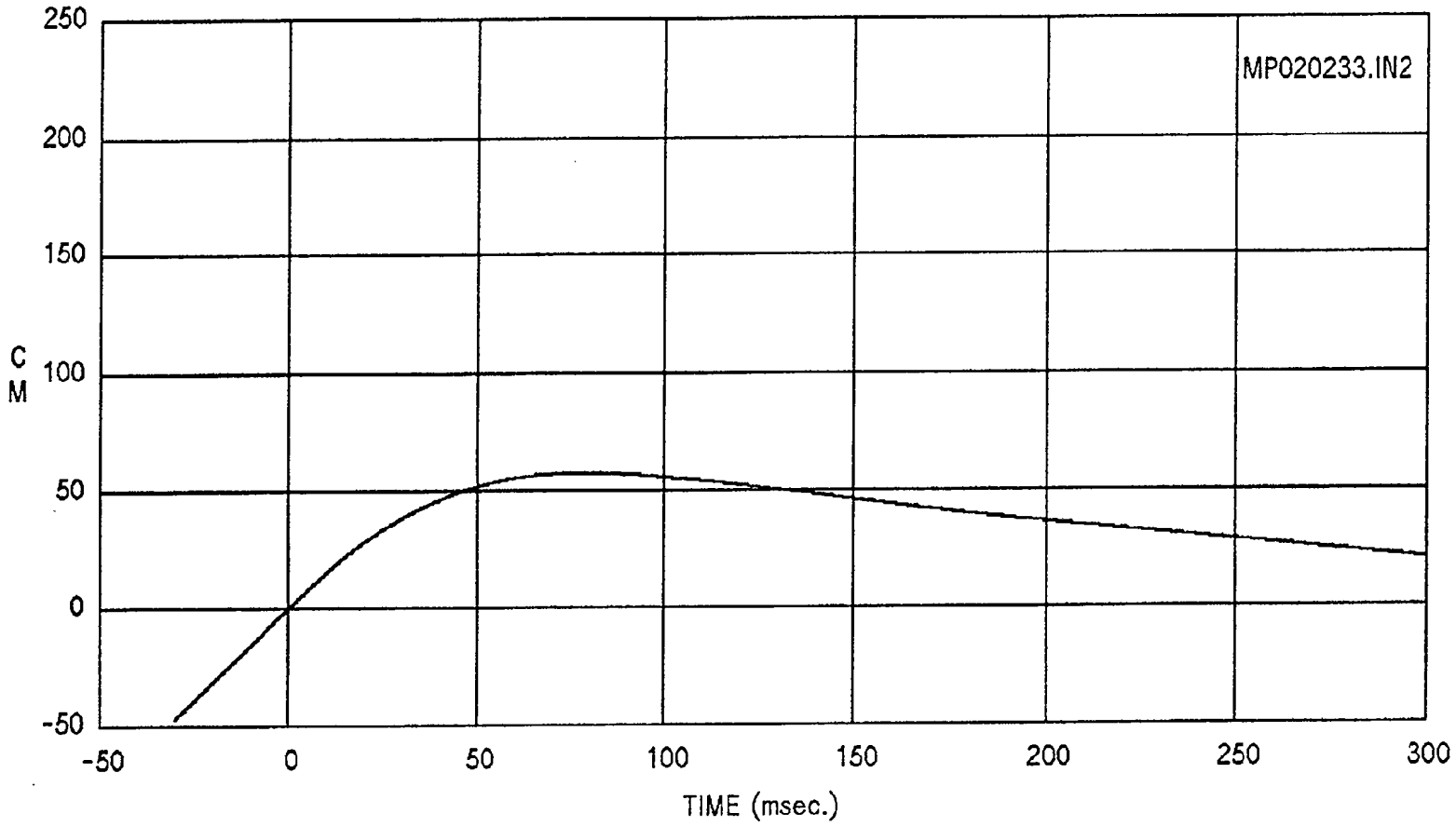
Curve: Right rear cross-member acc. - X axis (secondary) Filter: SAE CLASS 60 Max = 2.1692 Min = -36.3

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



Curve: Right rear cross-member delta V -- X axis(Sec) Filter: SAE CLASS 180 Max = 56.627 Min = -7.82

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



Curve: Right rear cross-member disp. - X axis(secondary) Filter: SAE CLASS 180 Max = 57.810 Min = 20.3

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer

APPENDIX B-2

LOAD CELL BARRIER DATA

DATA FILTERING:
Load Cell Barrier Channels - Class 60

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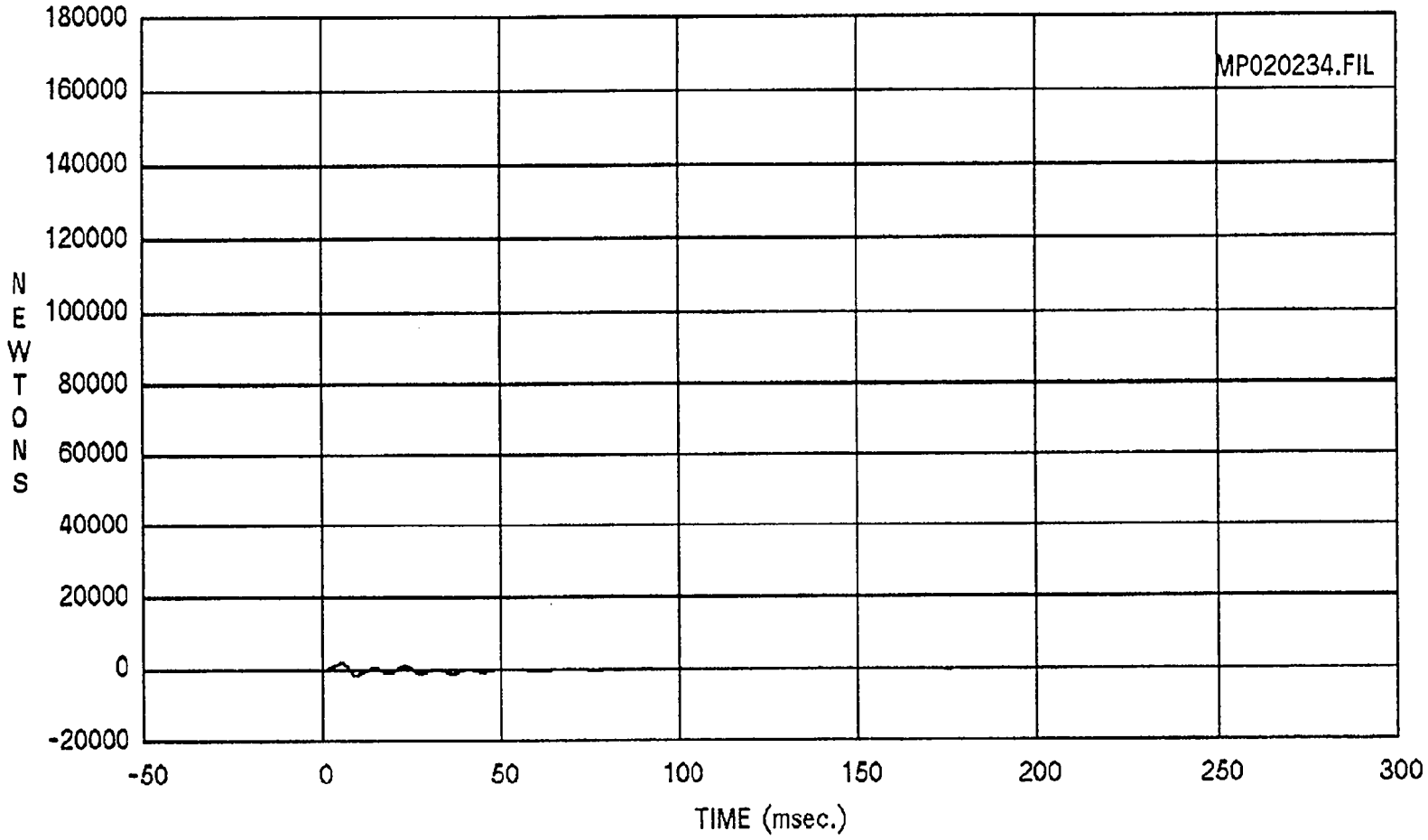
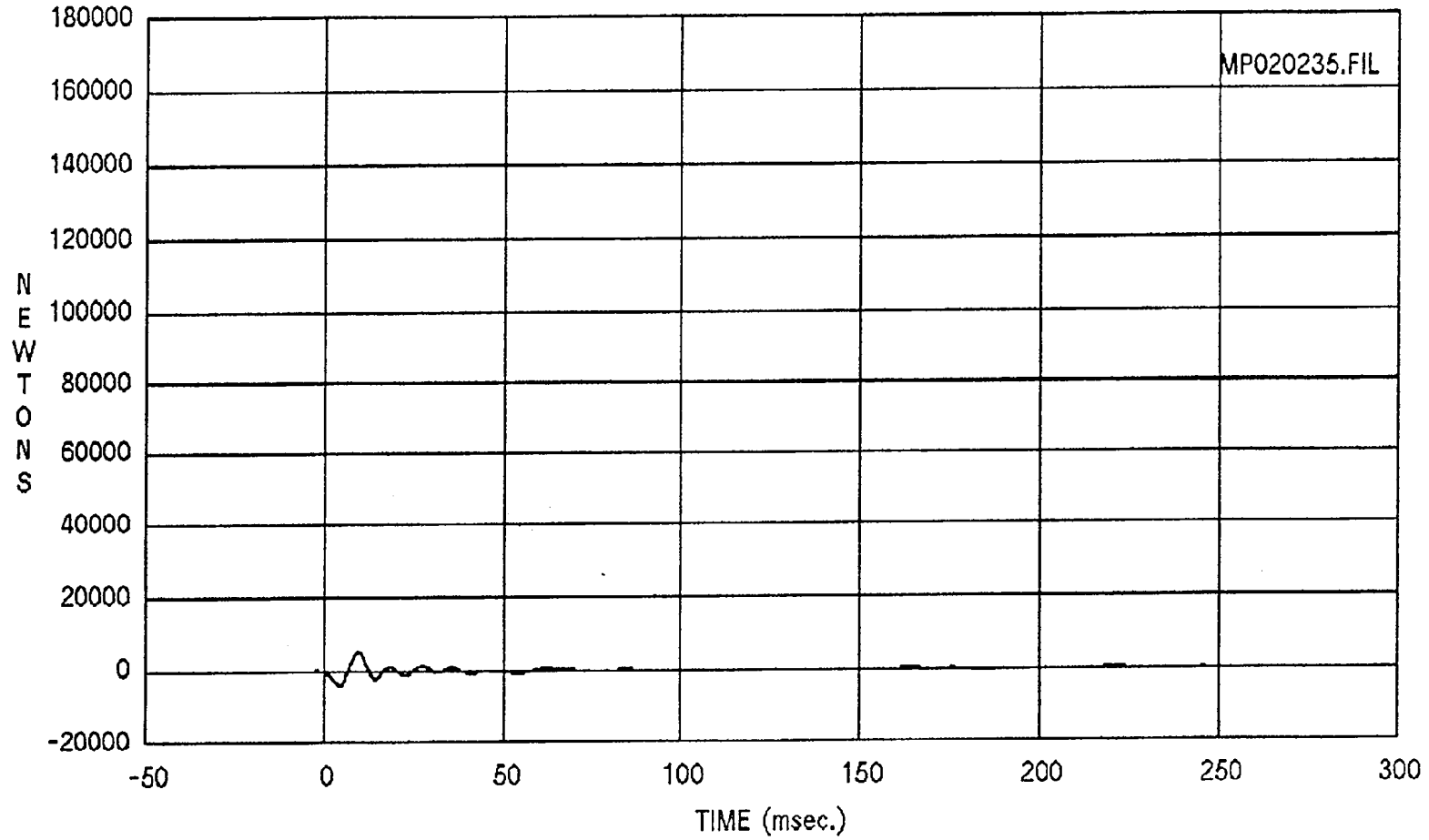


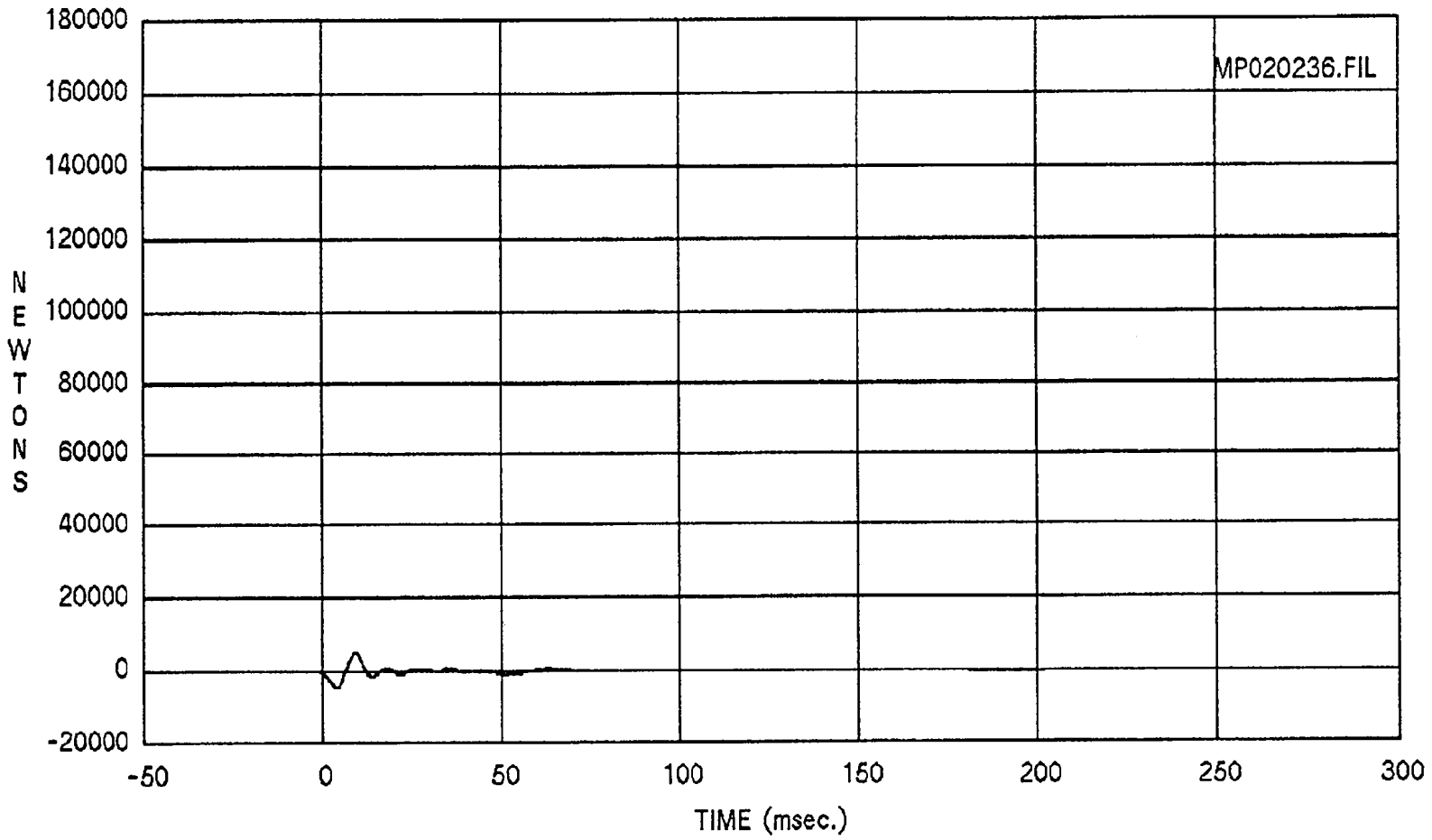
Curve: Force on barrier location A1 Filter: SAE CLASS 60 Max = 1895.7 Min = -1506.2

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



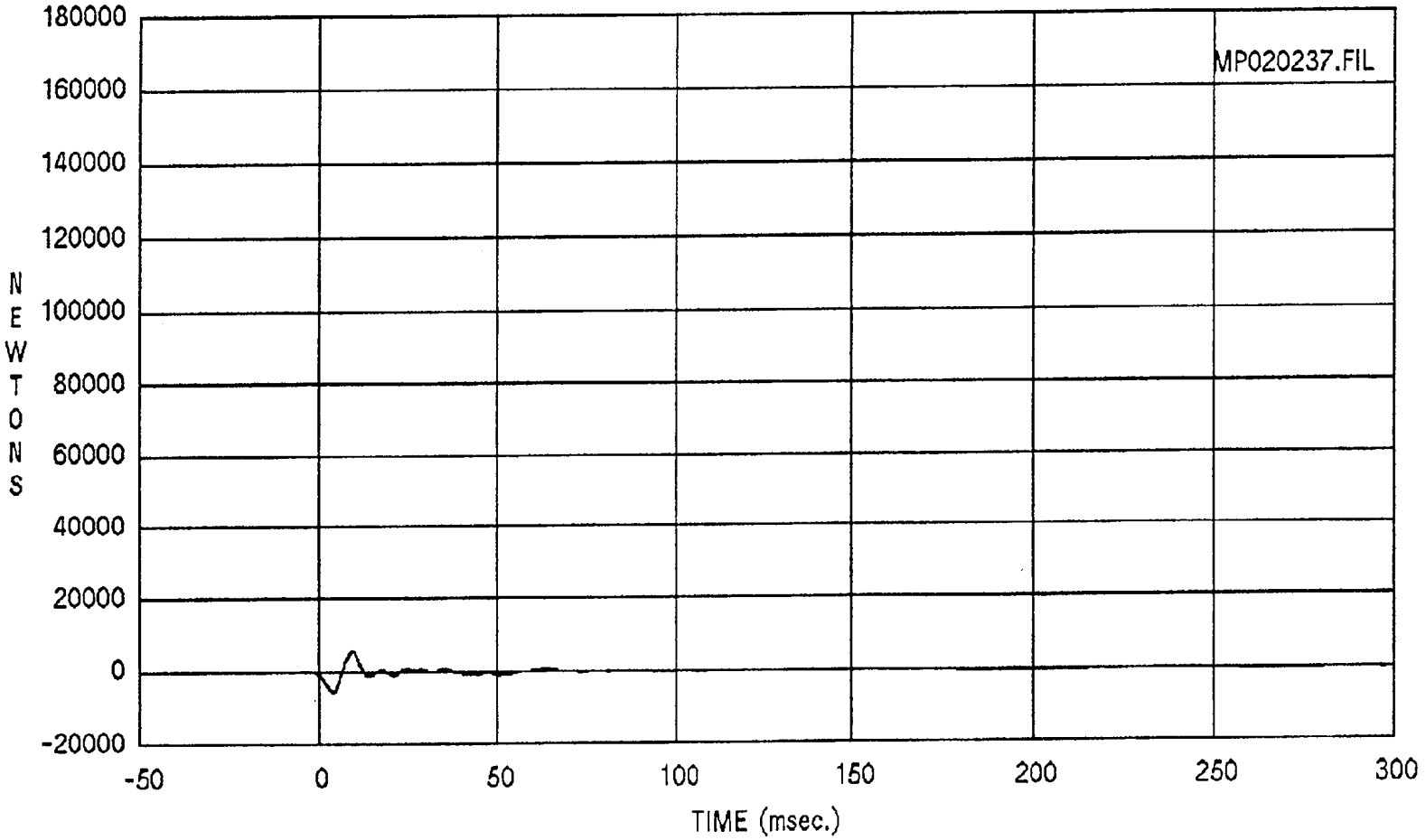
Curve: Force on barrier location A2 Filter: SAE CLASS 60 Max = 5152.5 Min = -3998.9

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



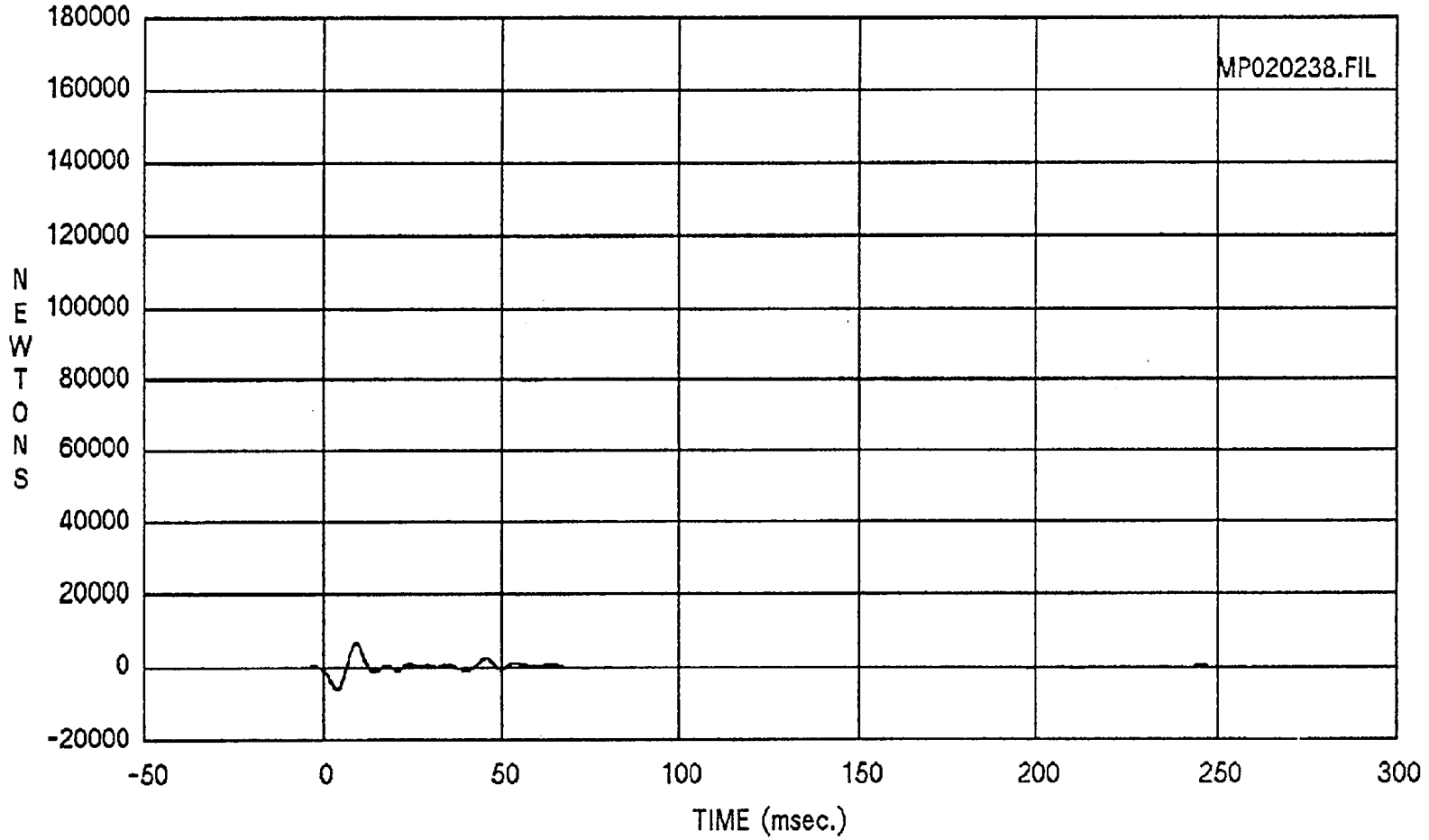
Curve: Force on barrier location A3 Filter: SAE CLASS 60 Max = 5028.6 Min = -4584.4

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



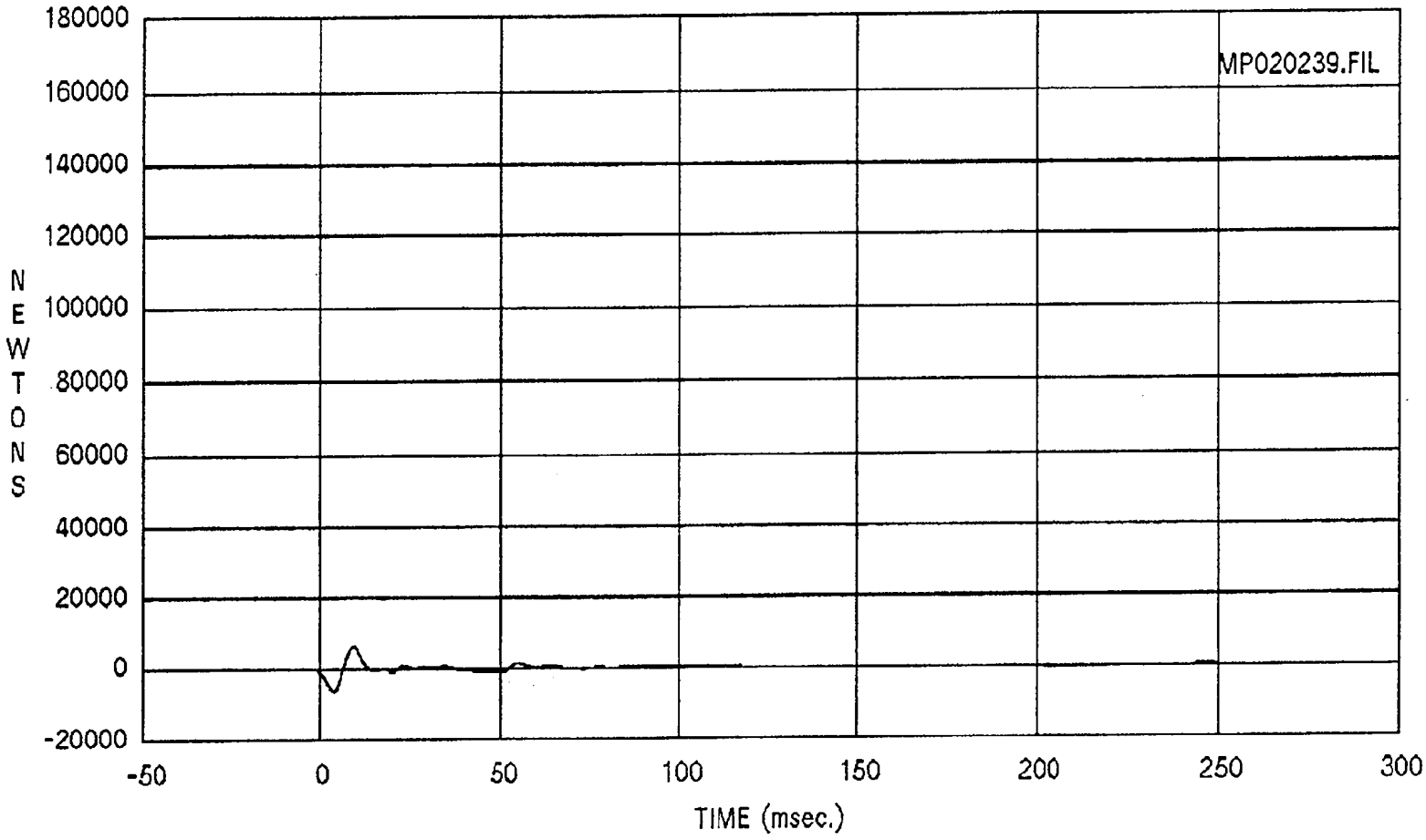
Curve: Force on barrier location A4 Filter: SAE CLASS 60 Max = 5832.4 Min = -5487.7

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



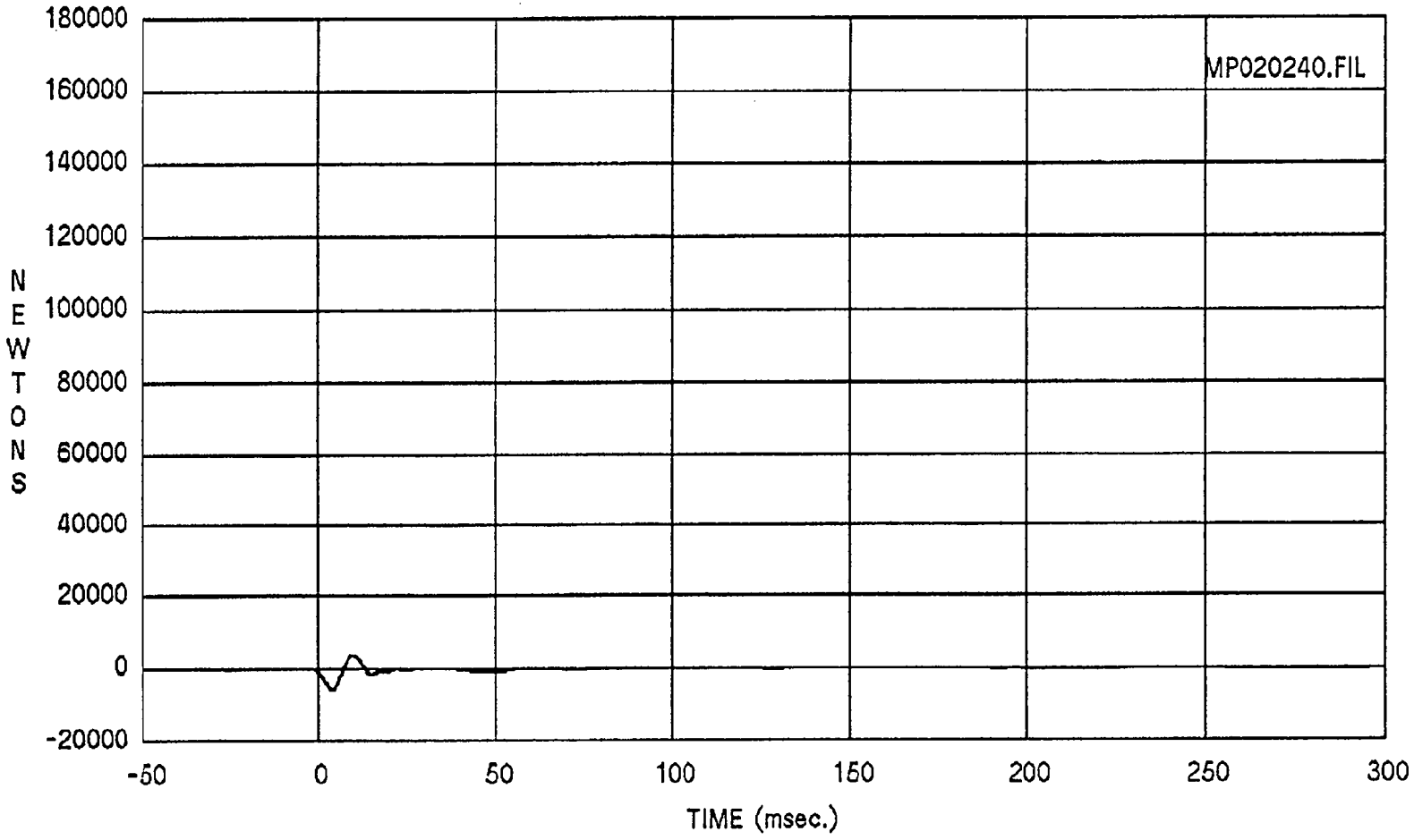
Curve: Force on barrier location A5 Filter: SAE CLASS 60 Max = 6876.5 Min = -5894.9

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



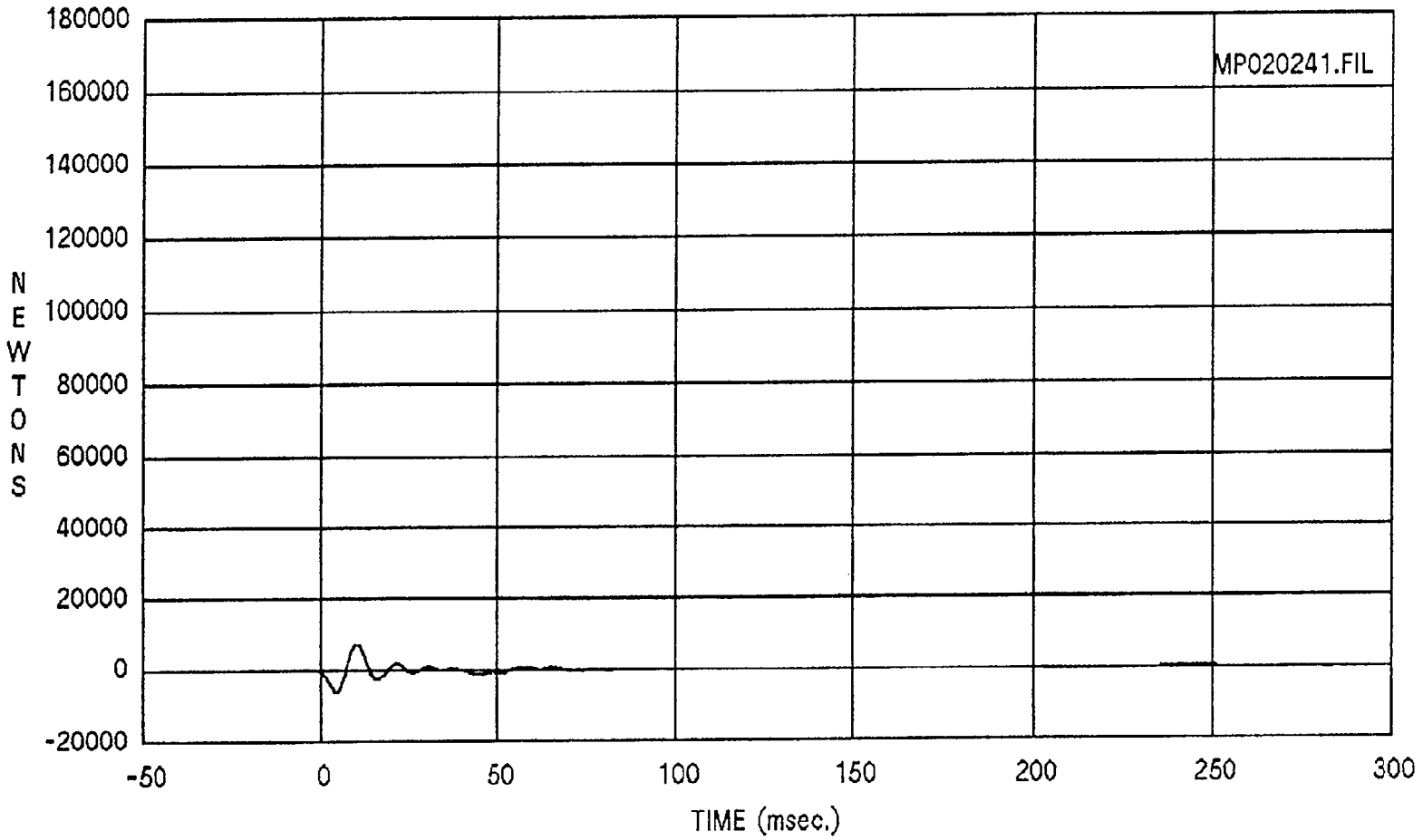
Curve: Force on barrier location A6 Filter: SAE CLASS 60 Max = 6493.6 Min = -6179.9

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



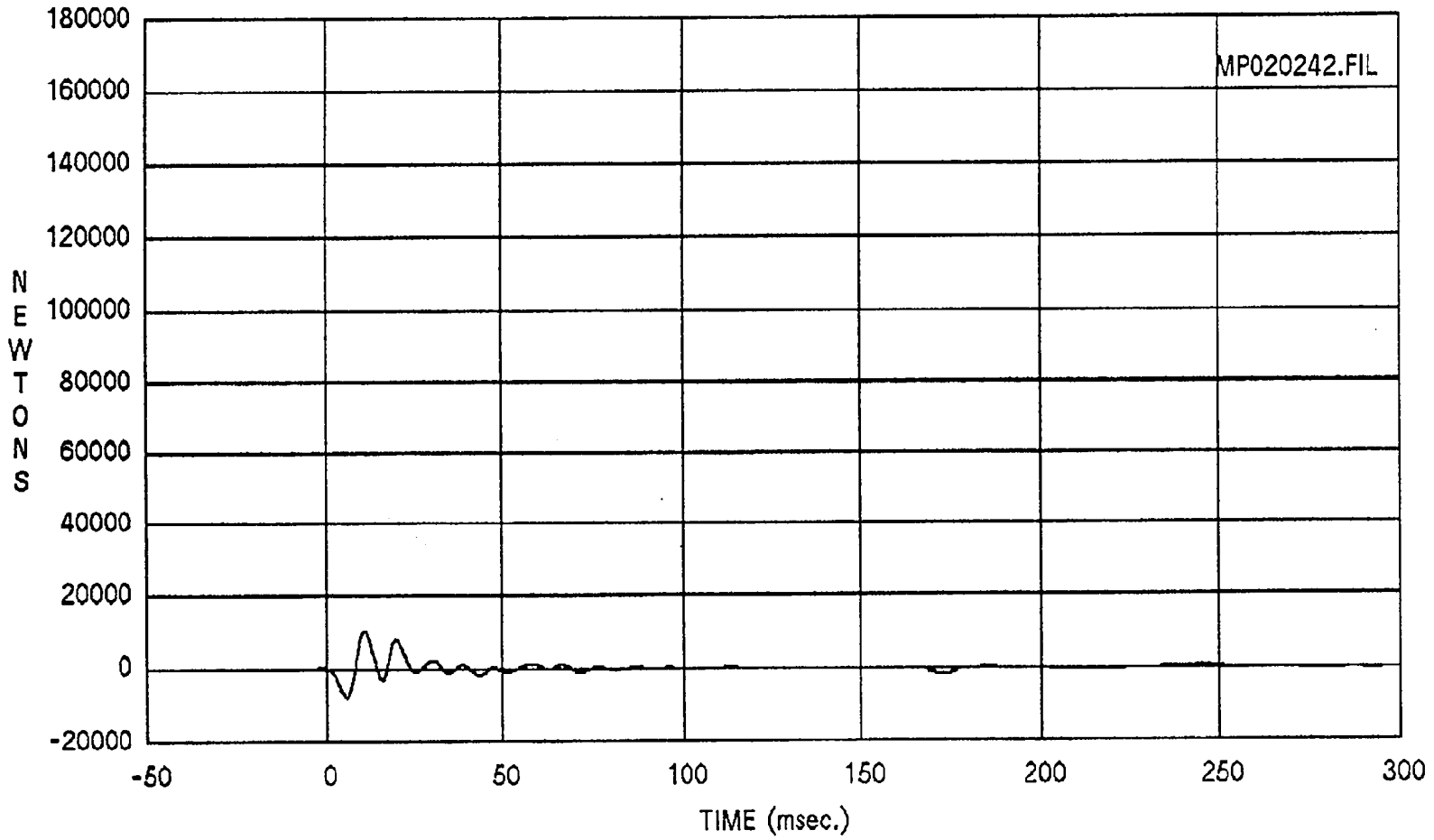
Curve: Force on barrier location A7 Filter: SAE CLASS 60 Max = 3842.9 Min = -5710.5

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



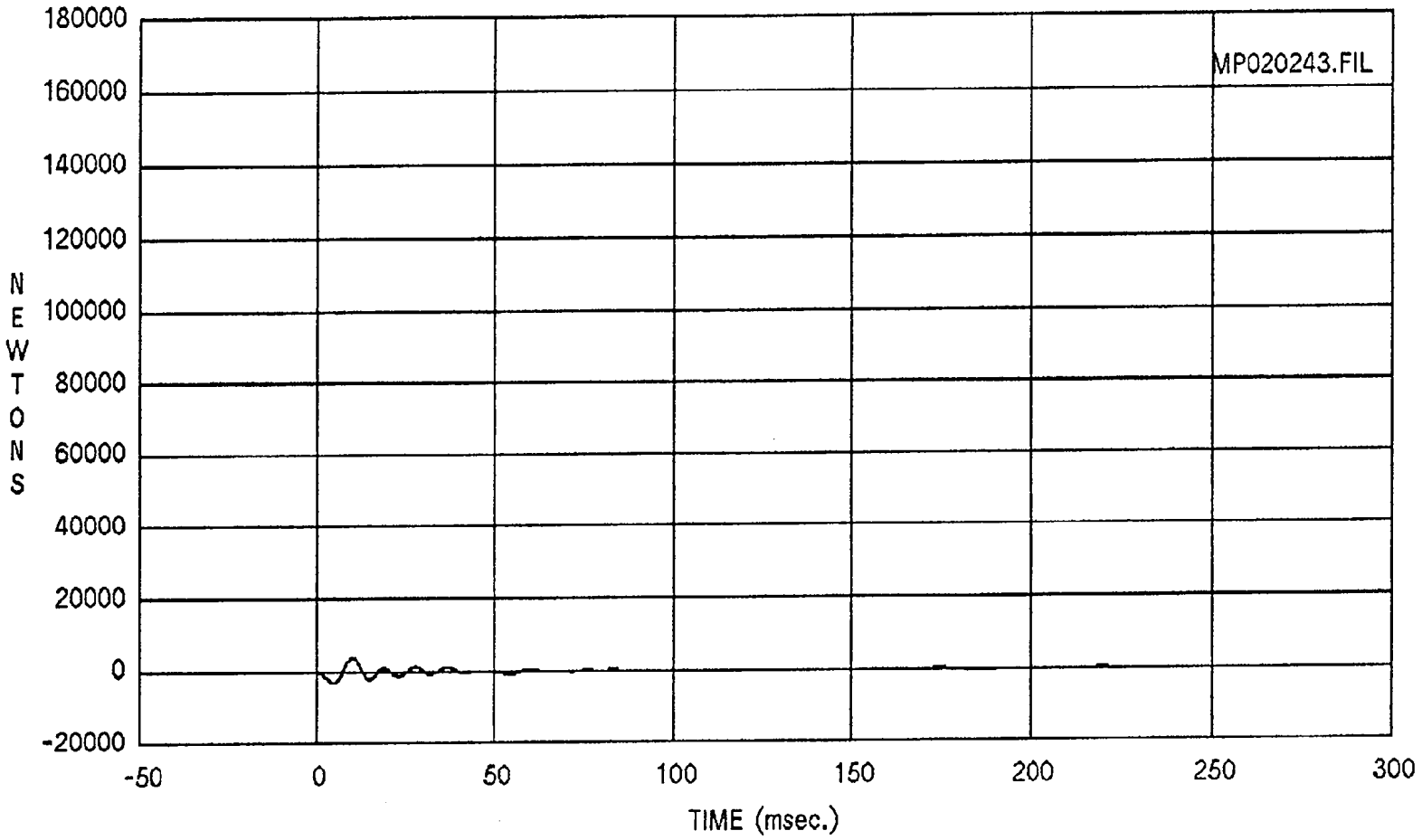
Curve: Force on barrier location A8 Filter: SAE CLASS 60 Max = 7258.4 Min = -6108.2

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



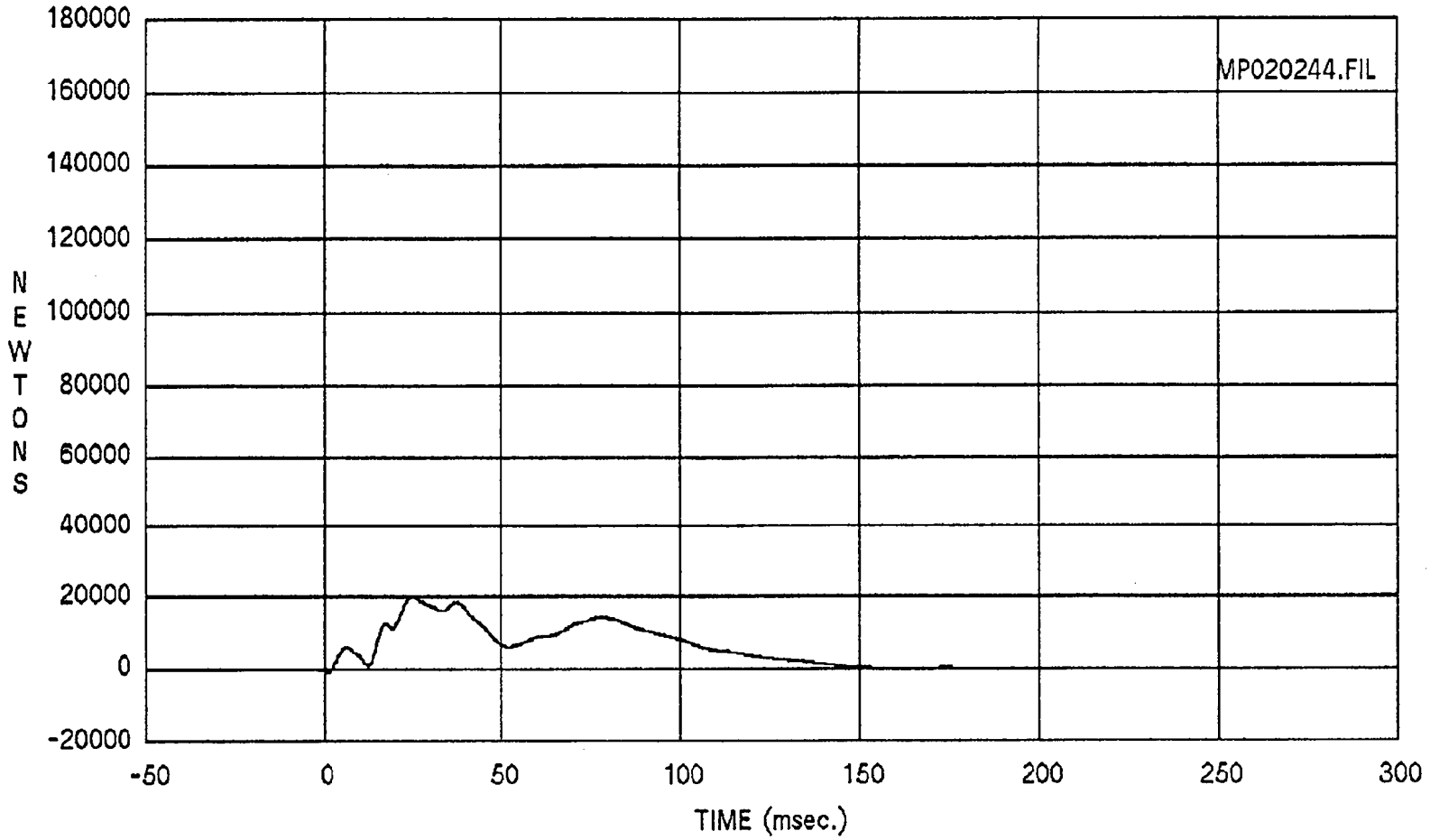
Curve: Force on barrier location A9 Filter: SAE CLASS 60 Max = 10671. Min = -7663.3

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



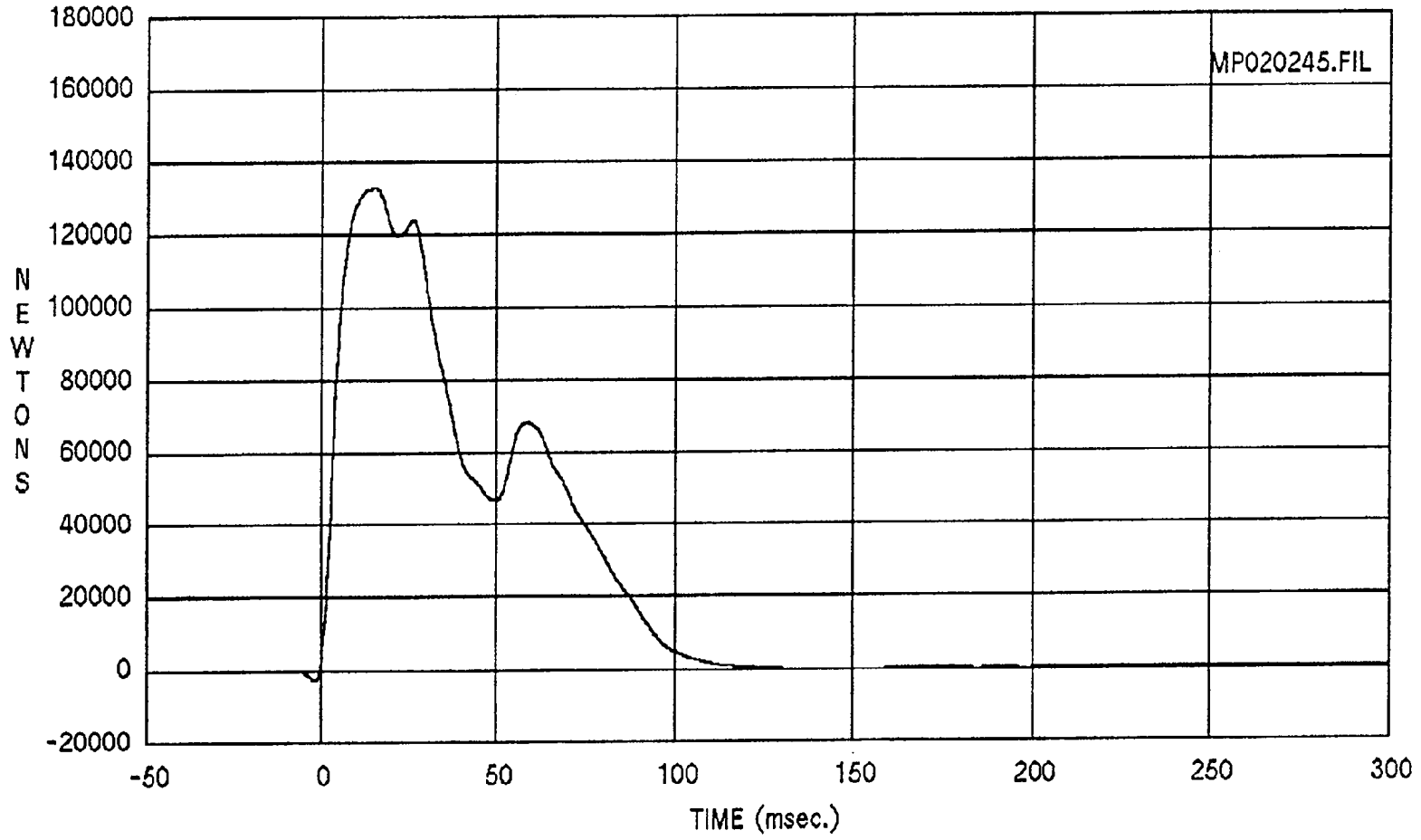
Curve: Force on barrier location B1 Filter: SAE CLASS 60 Max = 3879.7 Min = -3063.8

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



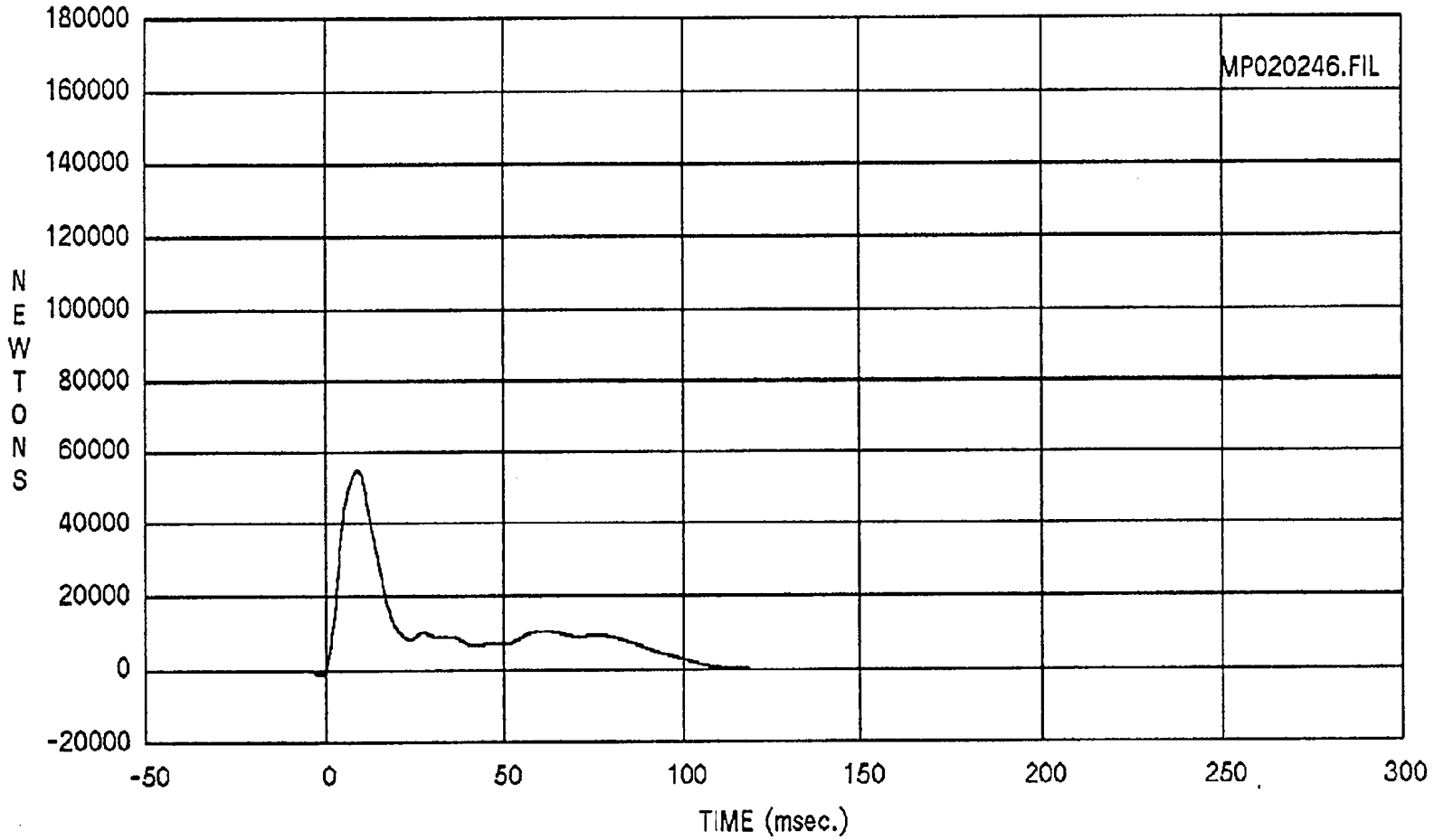
Curve: Force on barrier location B2 Filter: SAE CLASS 60 Max = 20263. Min = -618.87

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



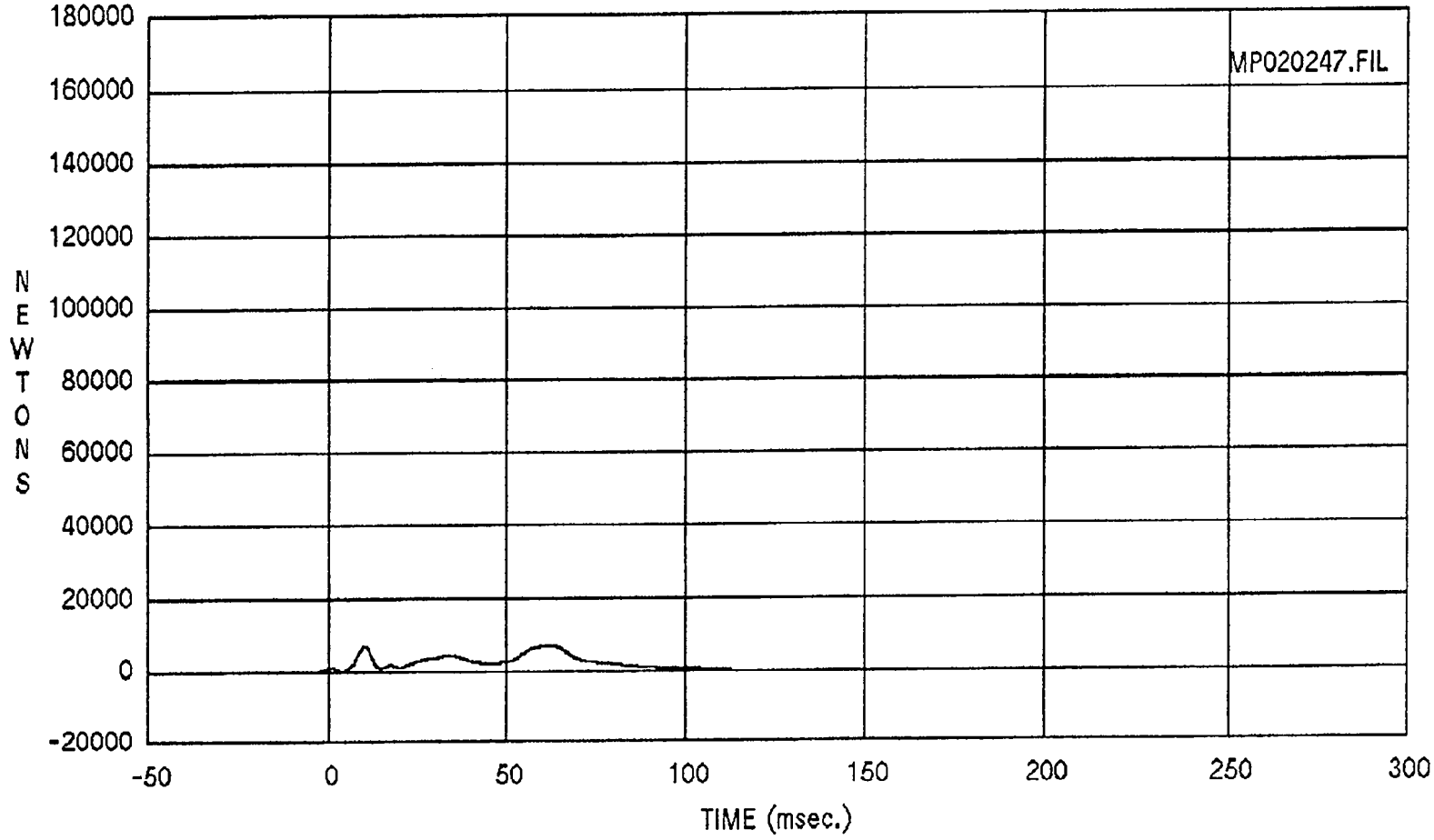
Curve: Force on barrier location B3 Filter: SAE CLASS 60 Max = .13282E+06 Min = 82.302

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



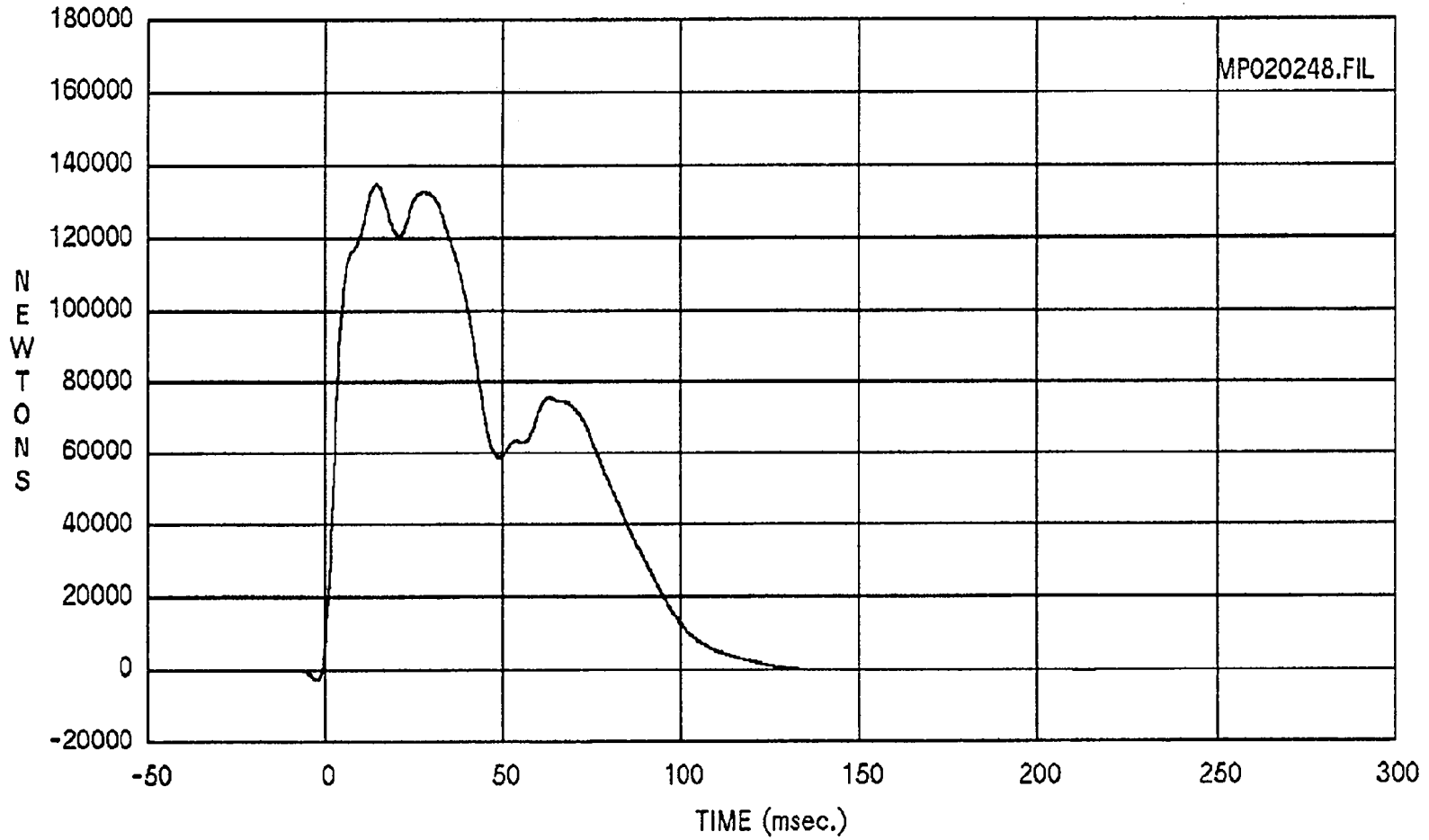
Curve: Force on barrier location B4 Filter: SAE CLASS 60 Max = 54671. Min = -94.955

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



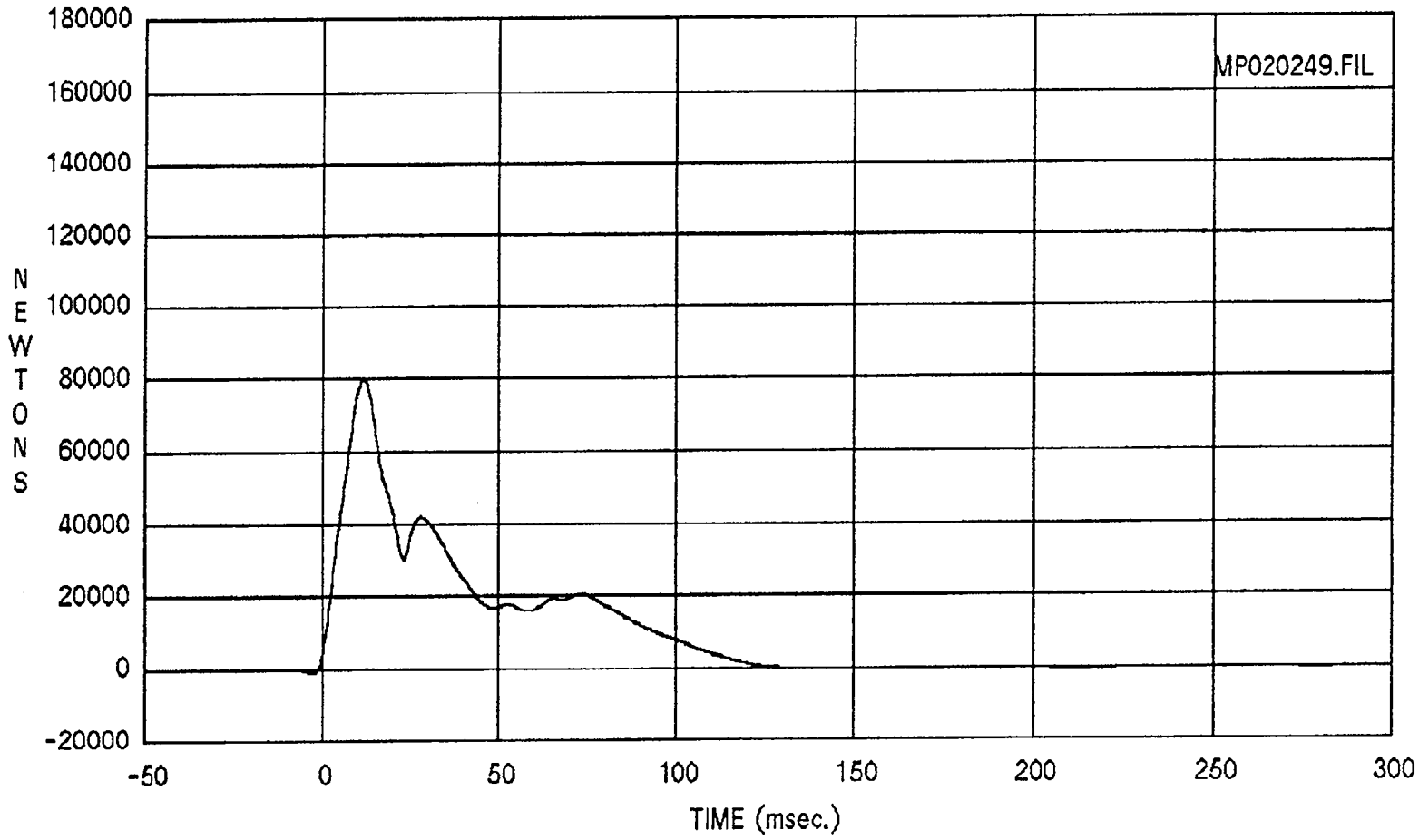
Curve: Force on barrier location B5 Filter: SAE CLASS 60 Max = 7316.0 Min = -107.52

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



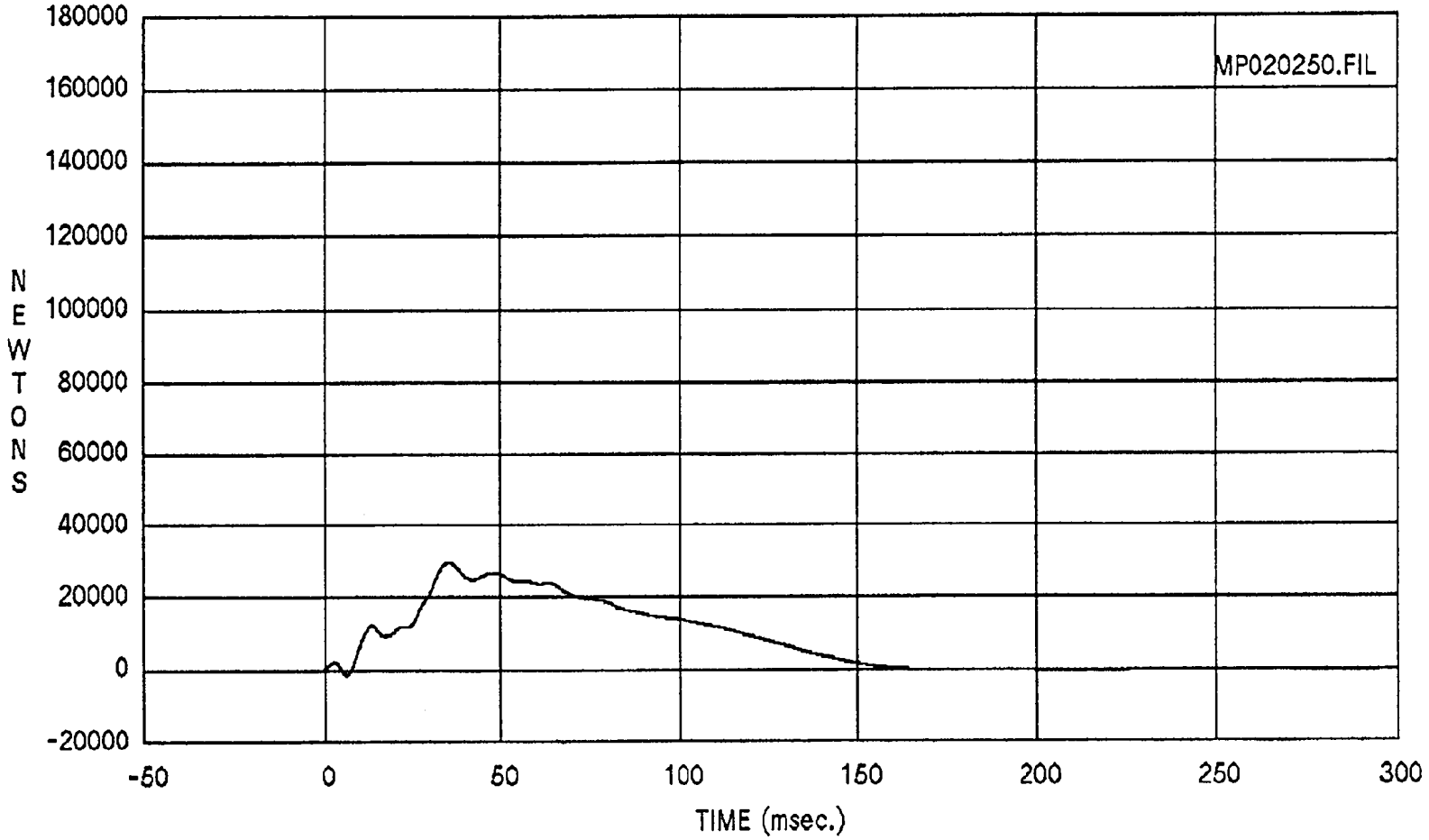
Curve: Force on barrier location B6 Filter: SAE CLASS 60 Max = .13496E+06 Min = -189.11

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



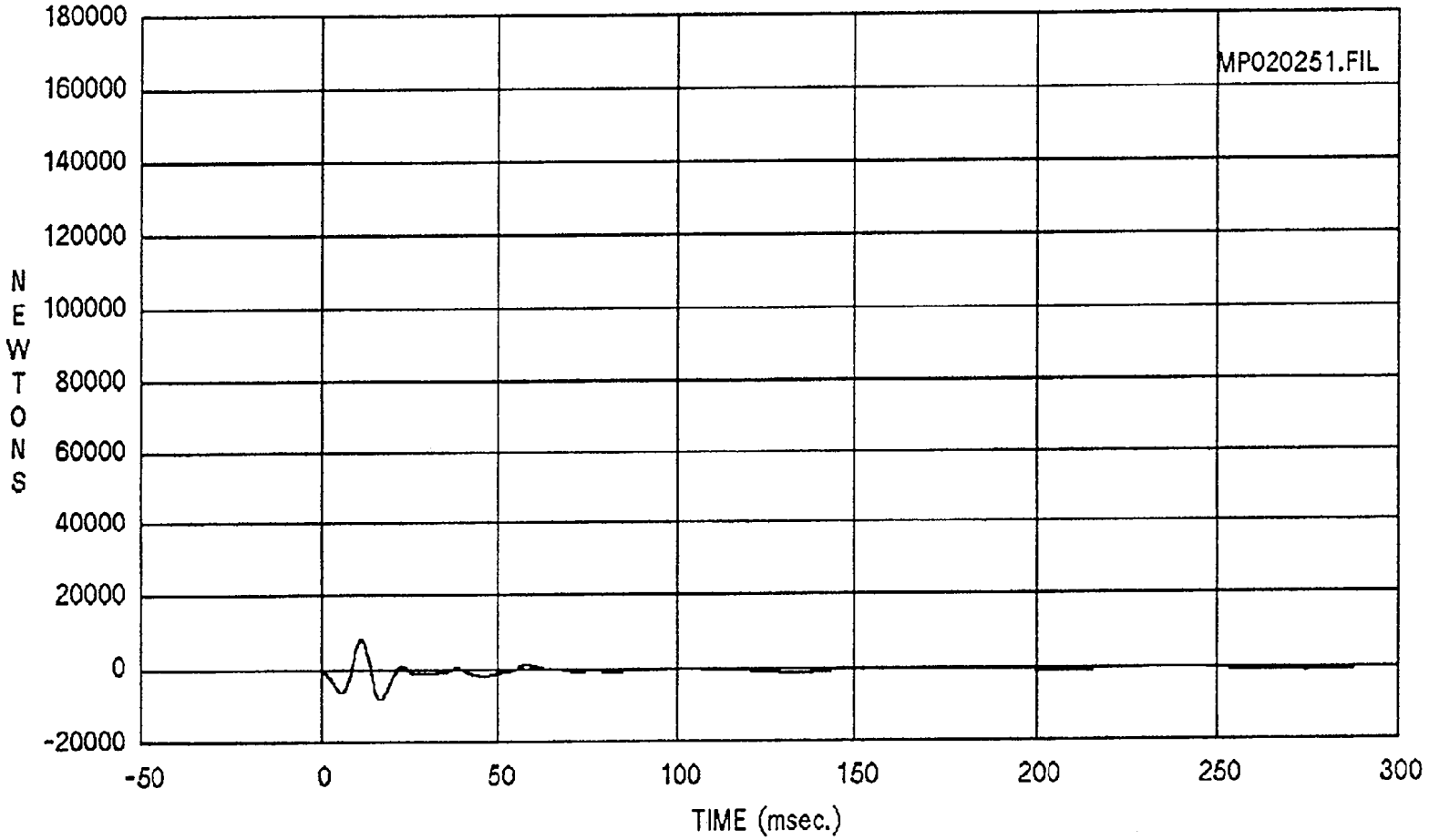
Curve: Force on barrier location B7 Filter: SAE CLASS 60 Max = 79893. Min = -272.51

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



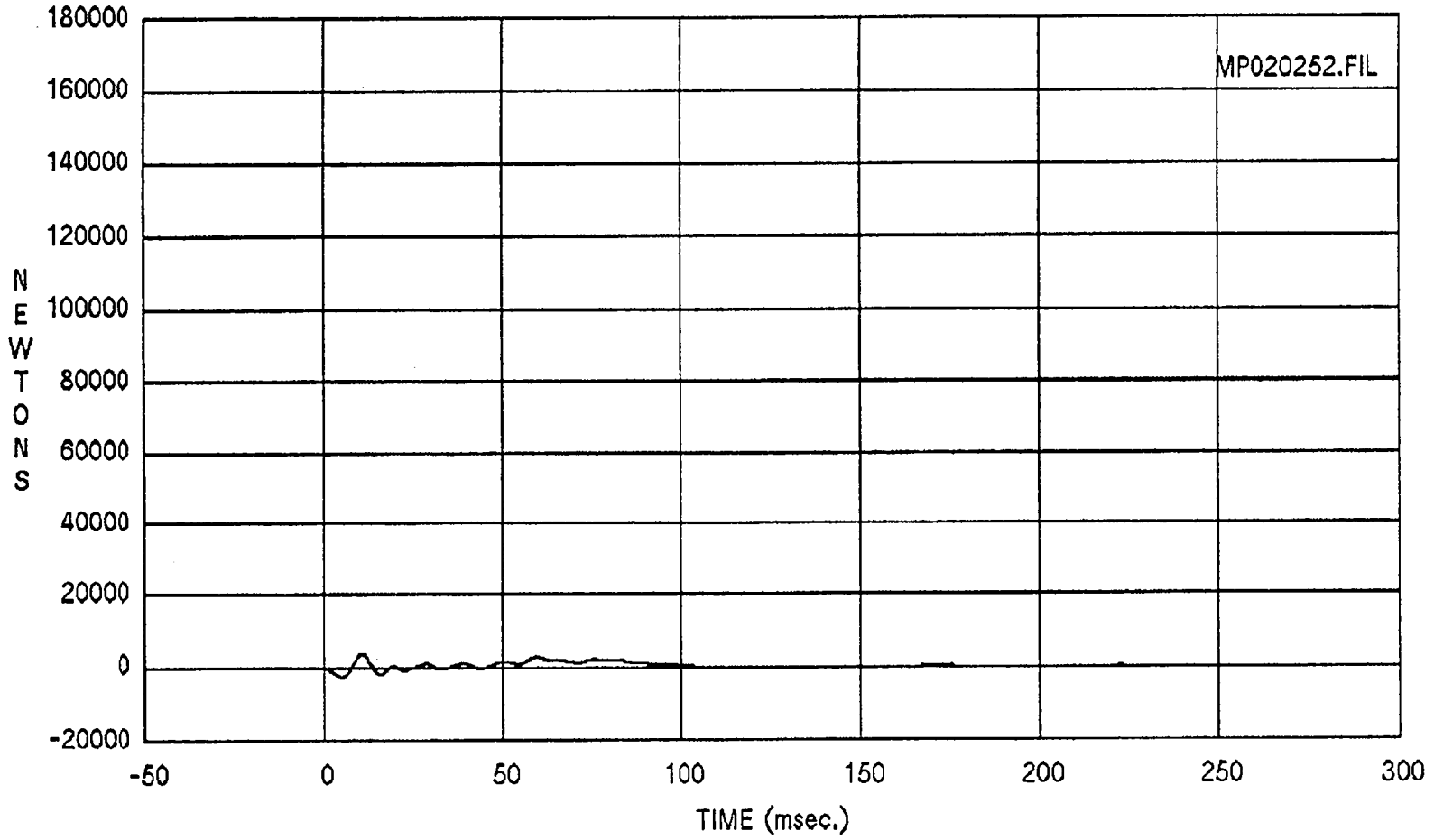
Curve: Force on barrier location B8 Filter: SAE CLASS 60 Max = 29655. Min = -1315.3

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



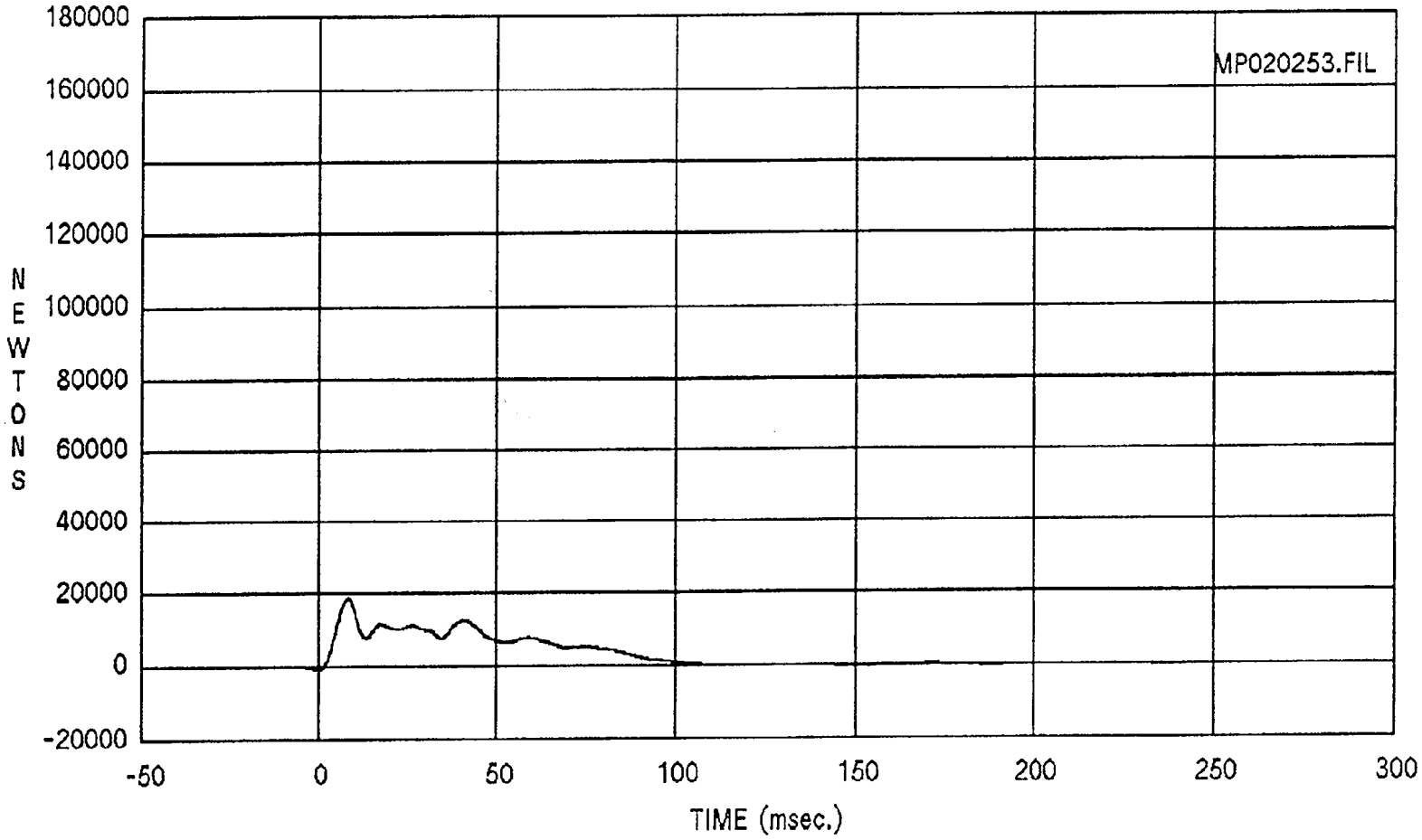
Curve: Force on barrier location B9 Filter: SAE CLASS 60 Max = 8360.3 Min = -7998.5

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



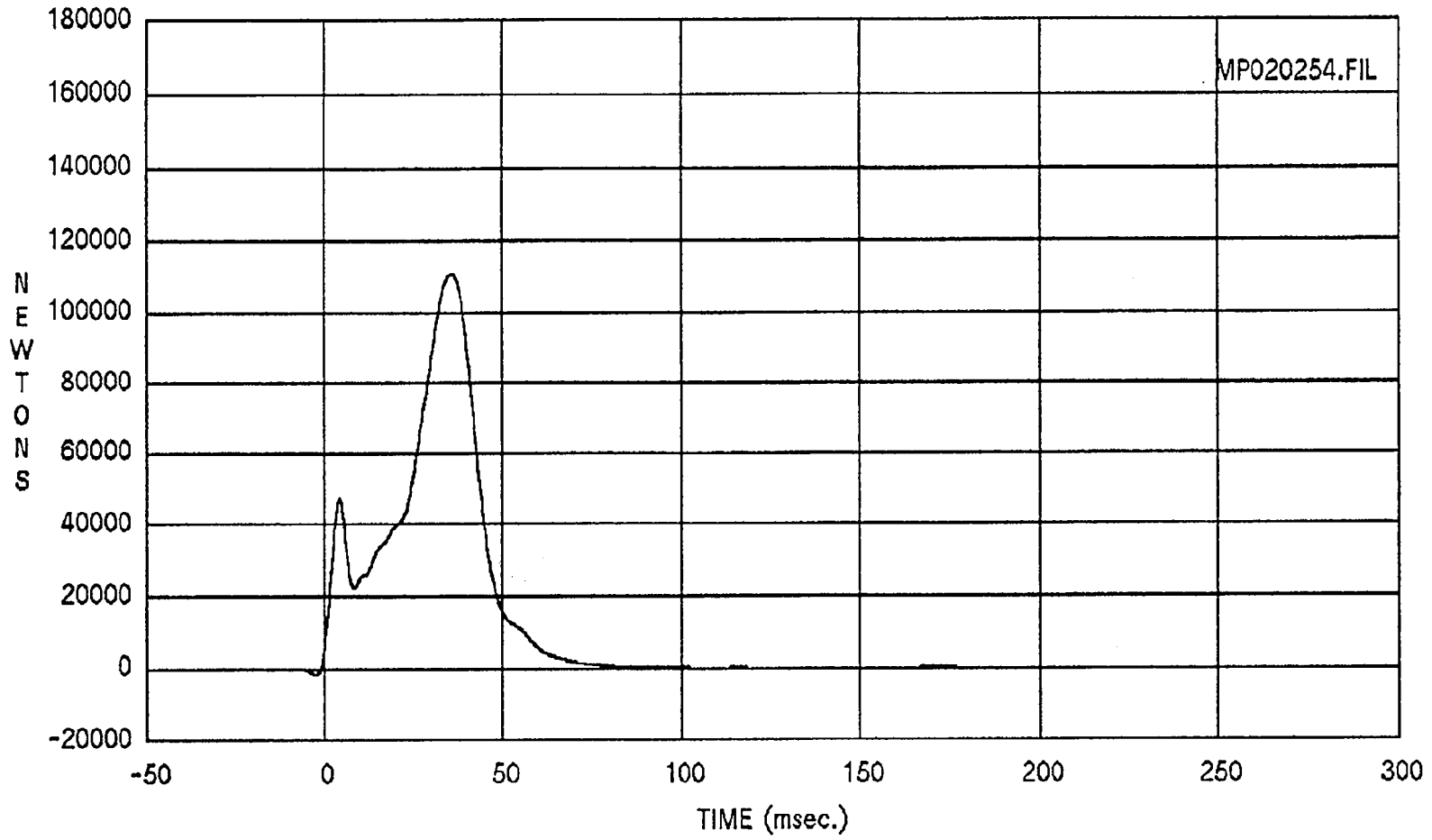
Curve: Force on barrier location C1 Filter: SAE CLASS 60 Max = 3957.5 Min = -2596.4

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



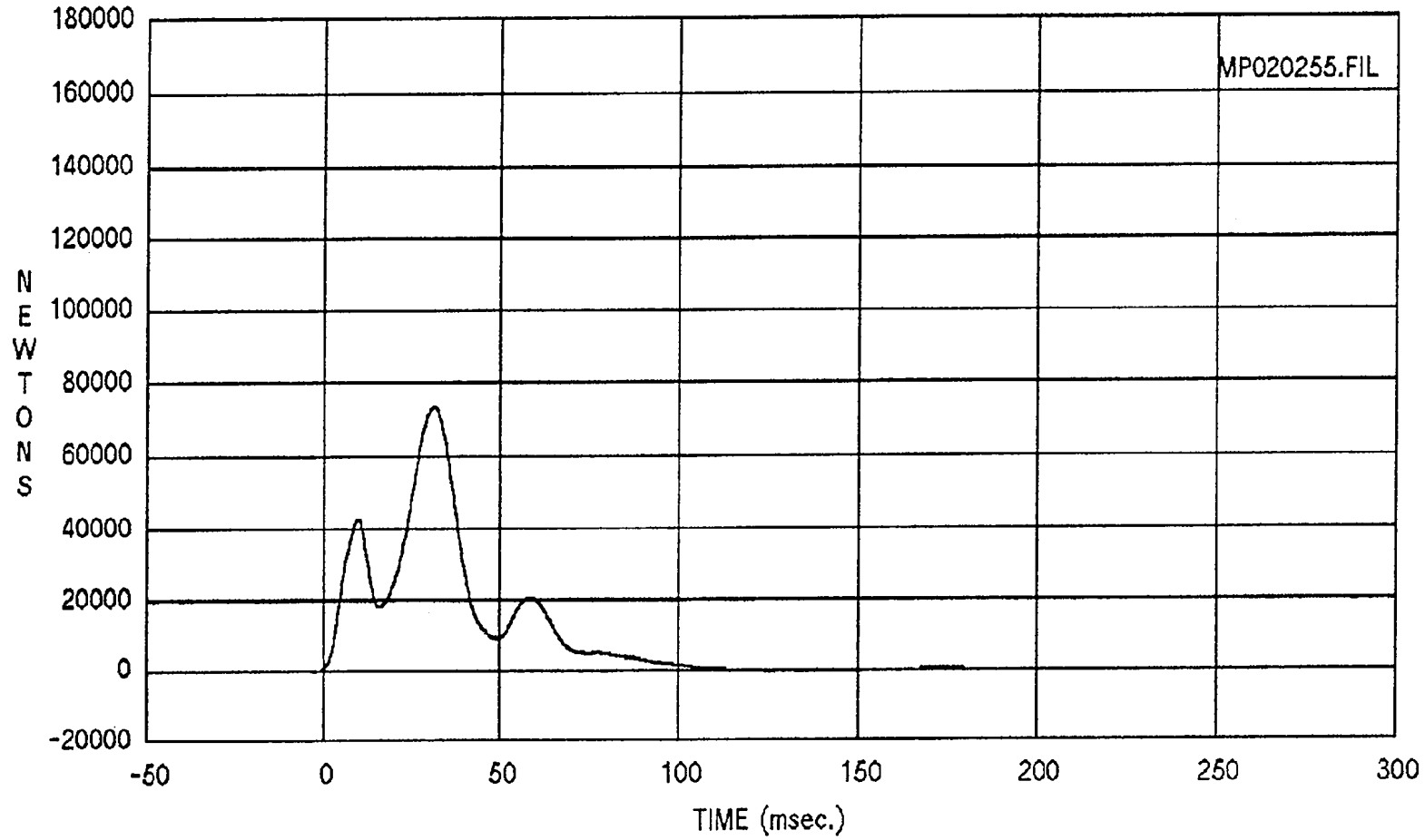
Curve: Force on barrier location C2 Filter: SAE CLASS 60 Max = 18605. Min = -201.79

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



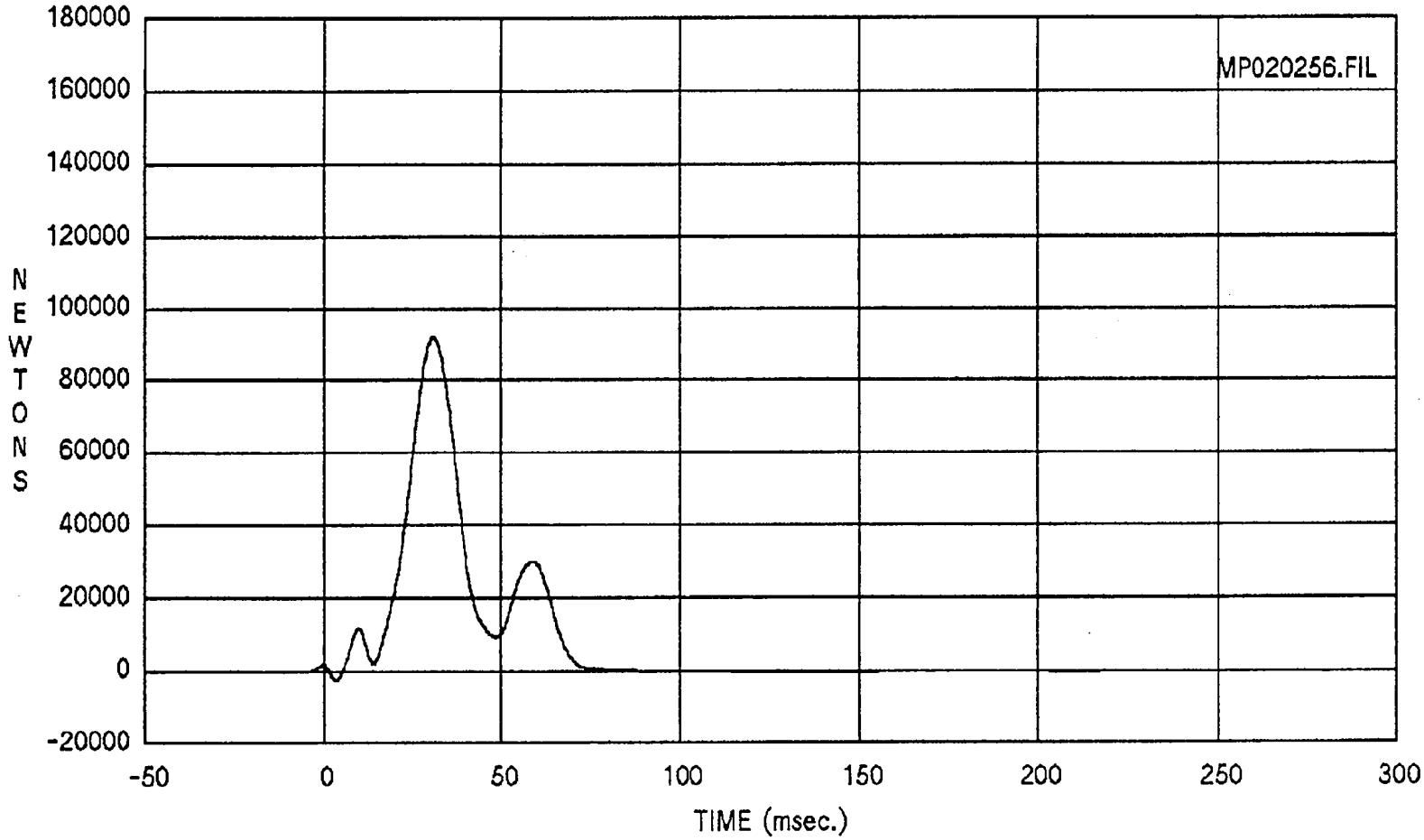
Curve: Force on barrier location C3 Filter: SAE CLASS 60 Max = .11088E+06 Min = -95.31

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



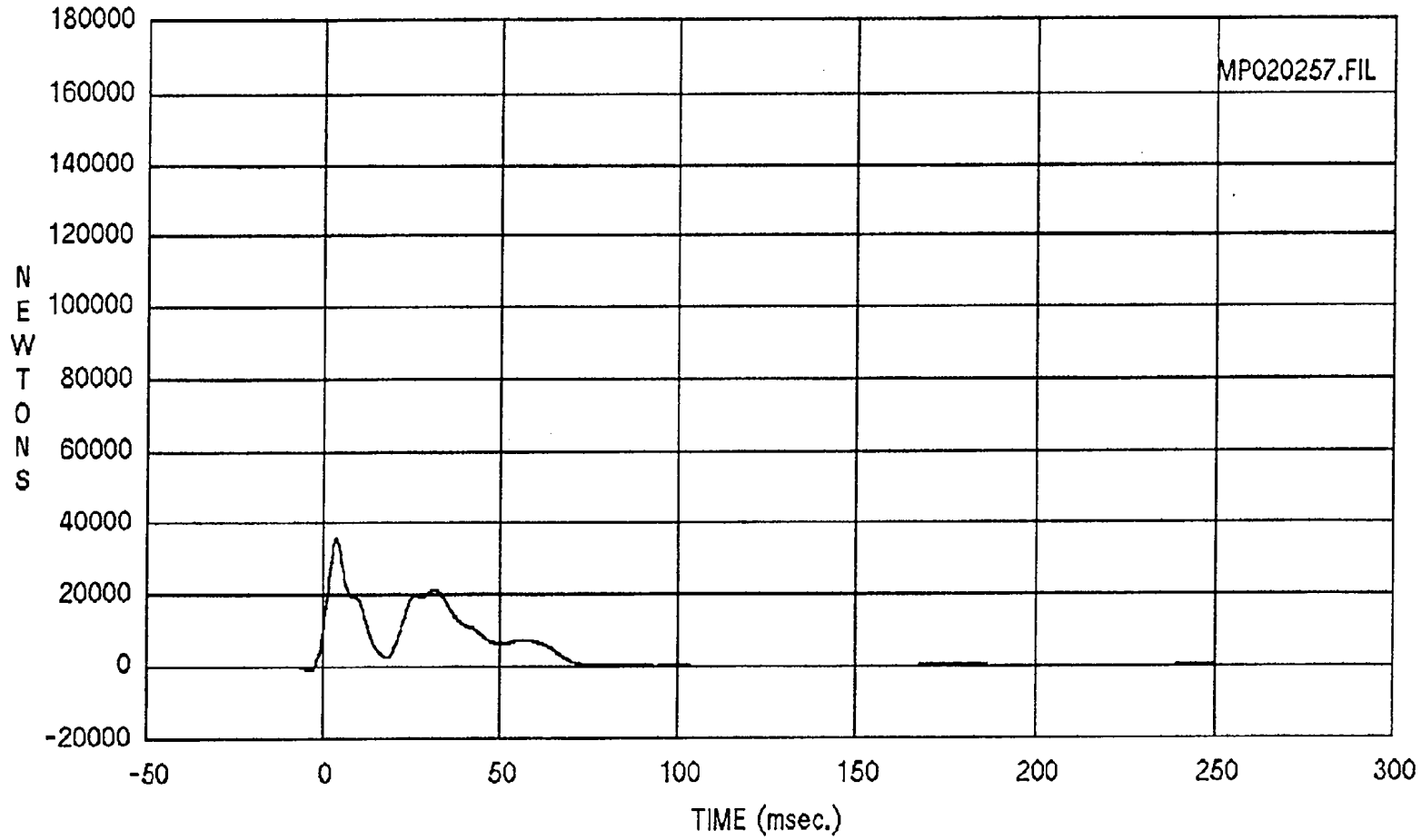
Curve: Force on barrier location C4 Filter: SAE CLASS 60 Max = 73282. Min = -248.56

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



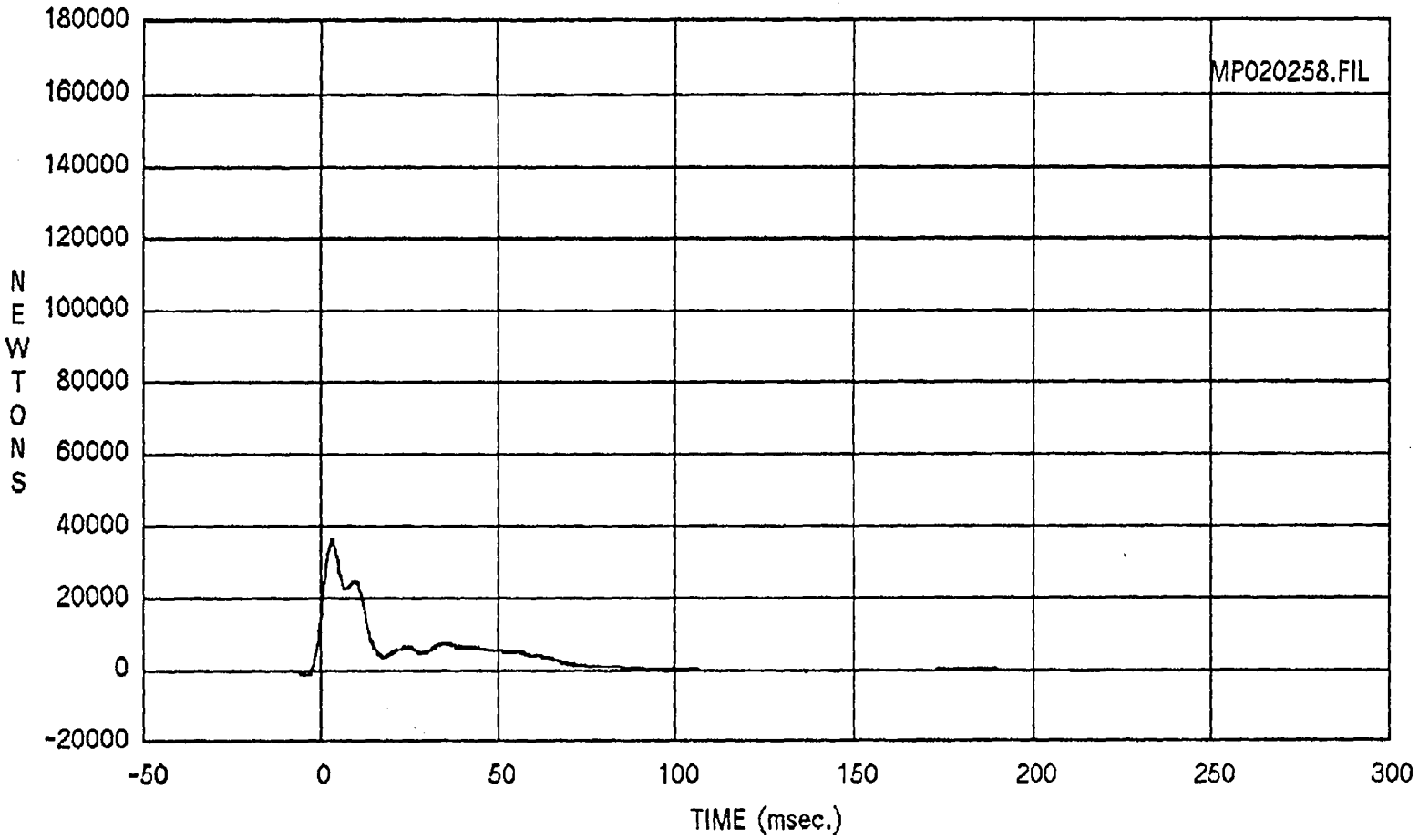
Curve: Force on barrier location C5 Filter: SAE CLASS 60 Max = 92149. Min = -2374.4

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



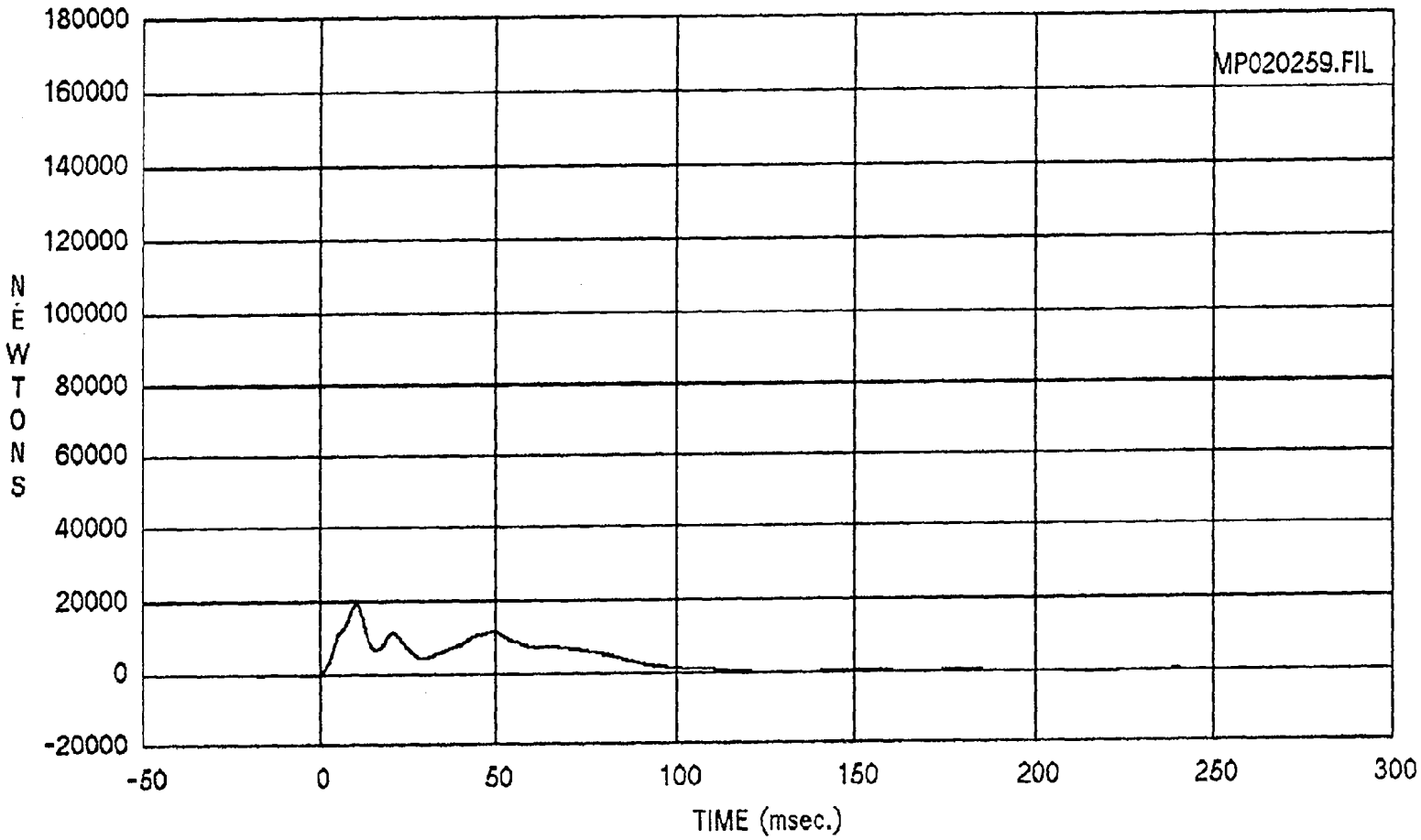
Curve: Force on barrier location C6 Filter: SAE CLASS 60 Max = 35836. Min = -82.539

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



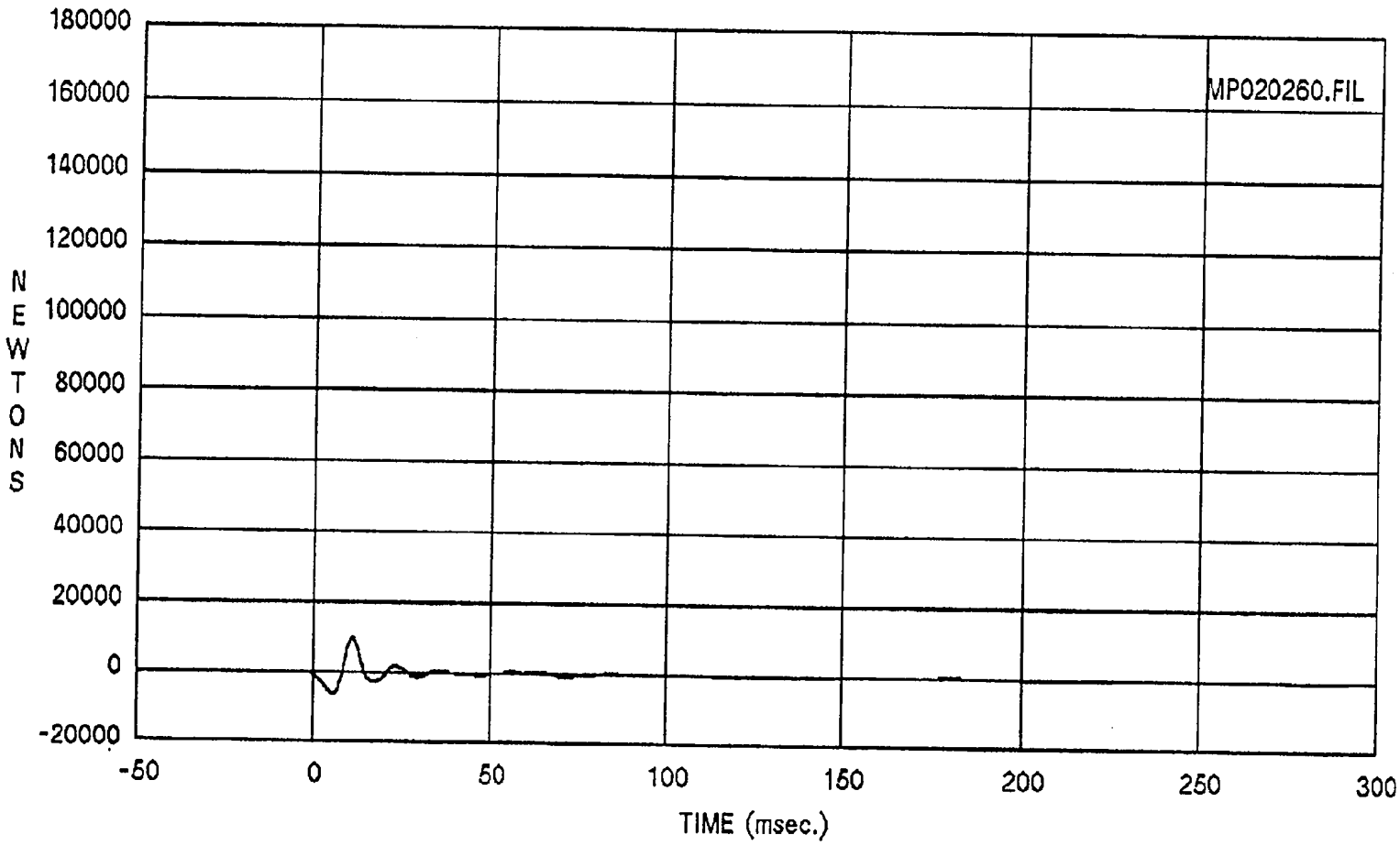
Curve: Force on barrier location C7 Filter: SAE CLASS 60 Max = 36545. Min = -190.77

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



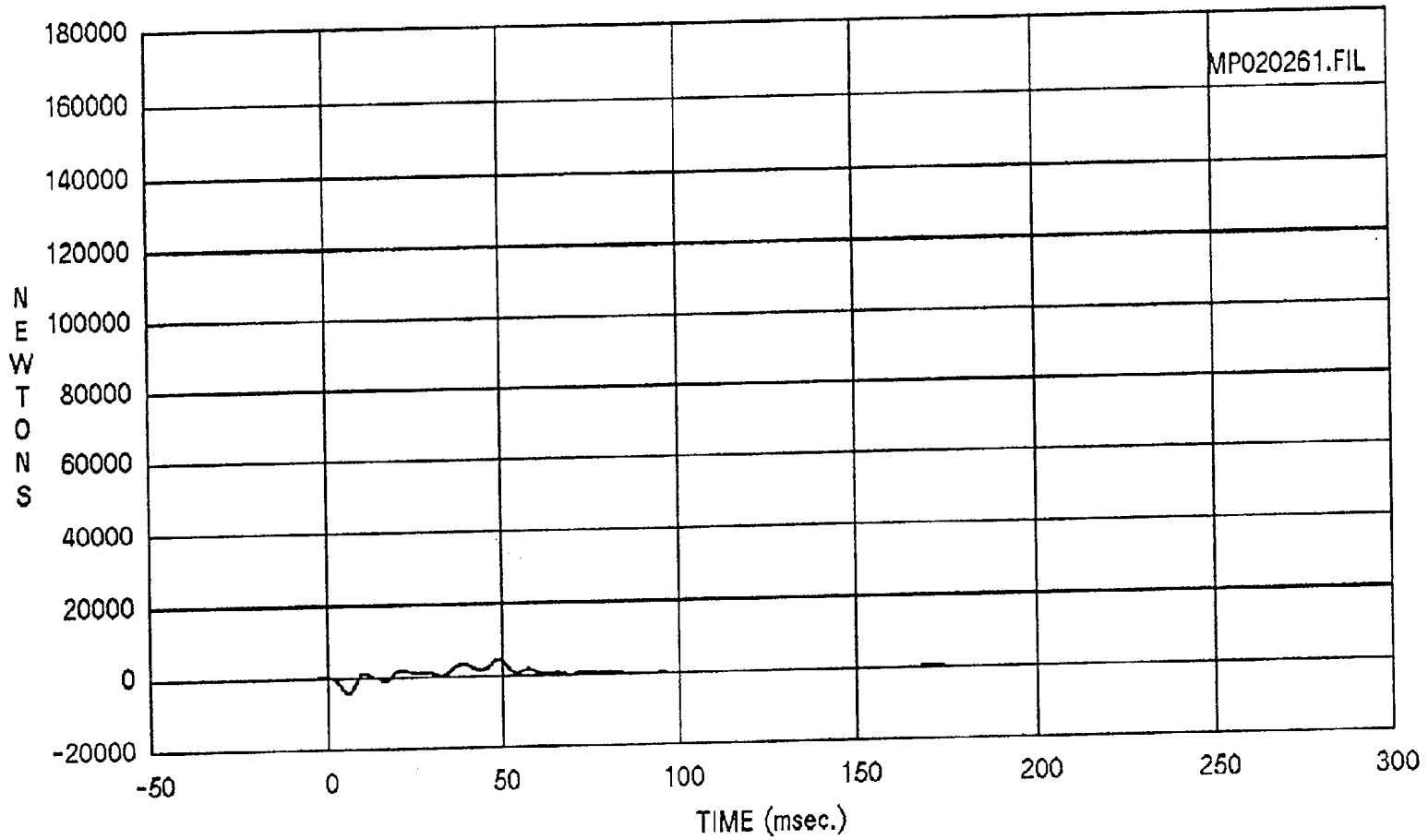
Curve: Force on barrier location C8 Filter: SAE CLASS 60 Max = 19452. Min = -235.73

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



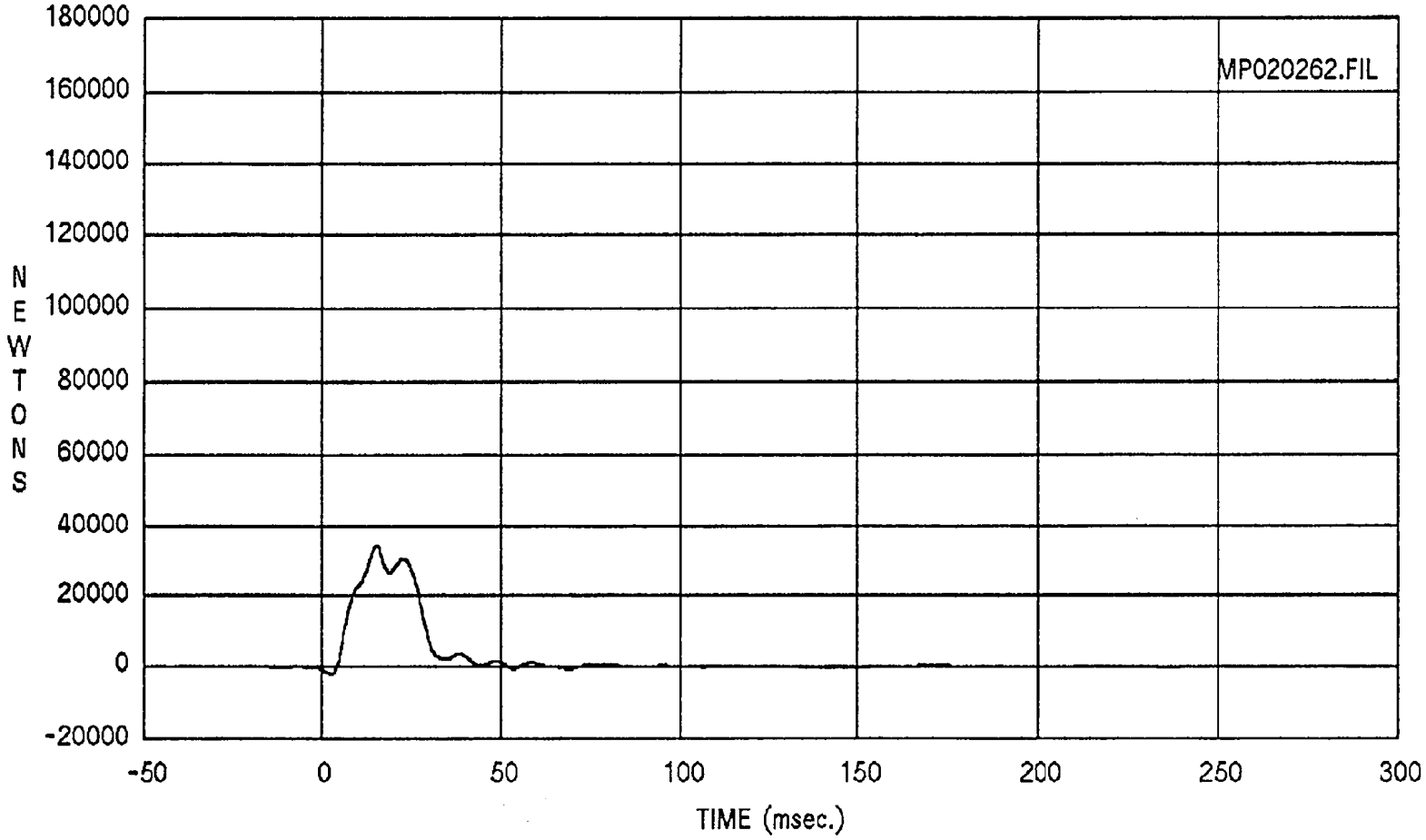
Curve: Force on barrier location C9 Filter: SAE CLASS 60 Max = 10080. Min = -6190.6

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



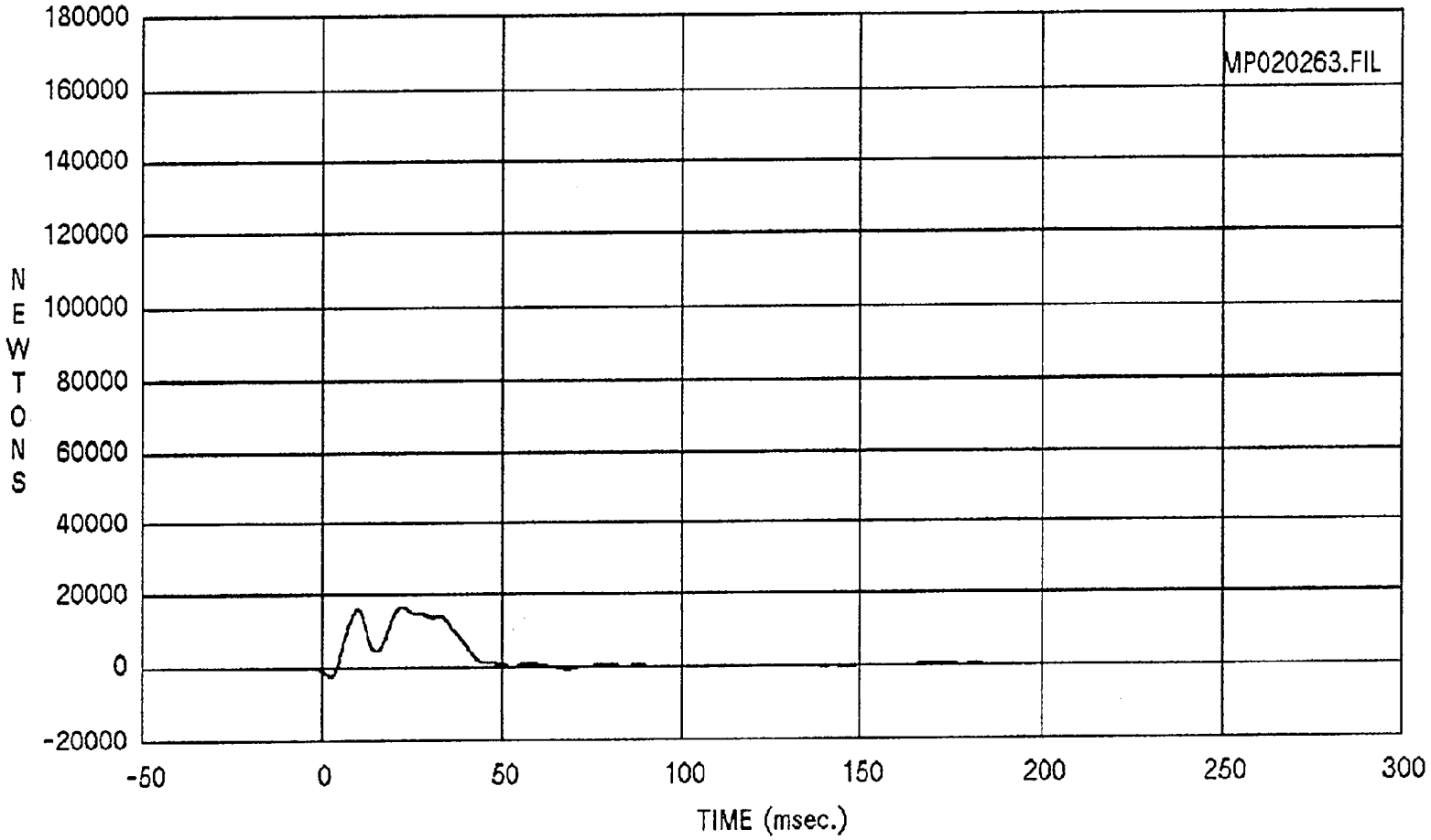
Curve: Force on barrier location D1 Filter: SAE CLASS 60 Max = 4704.7 Min = -4103.0

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



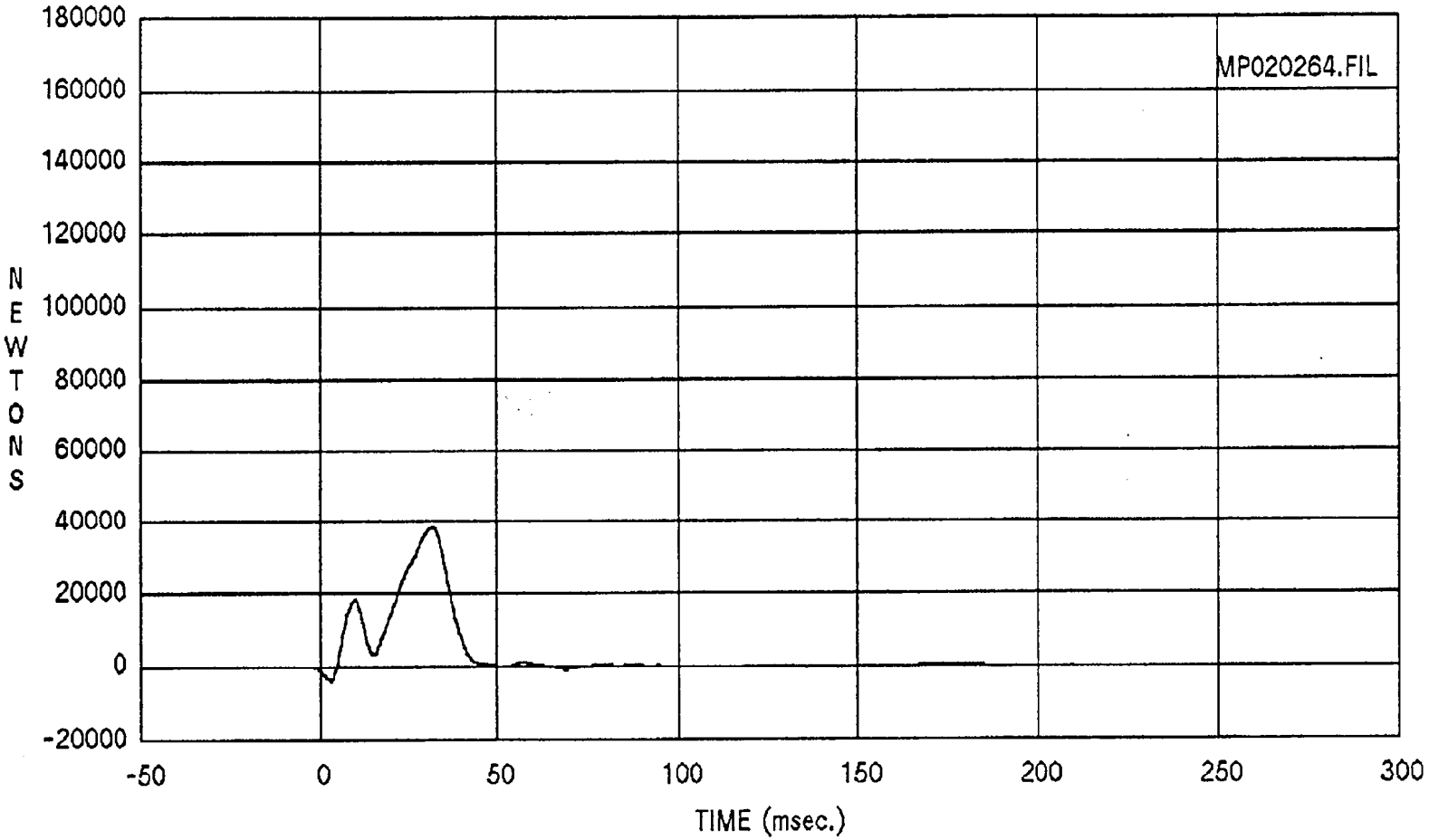
Curve: Force on barrier location D2 Filter: SAE CLASS 60 Max = 34532. Min = -2132.5

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



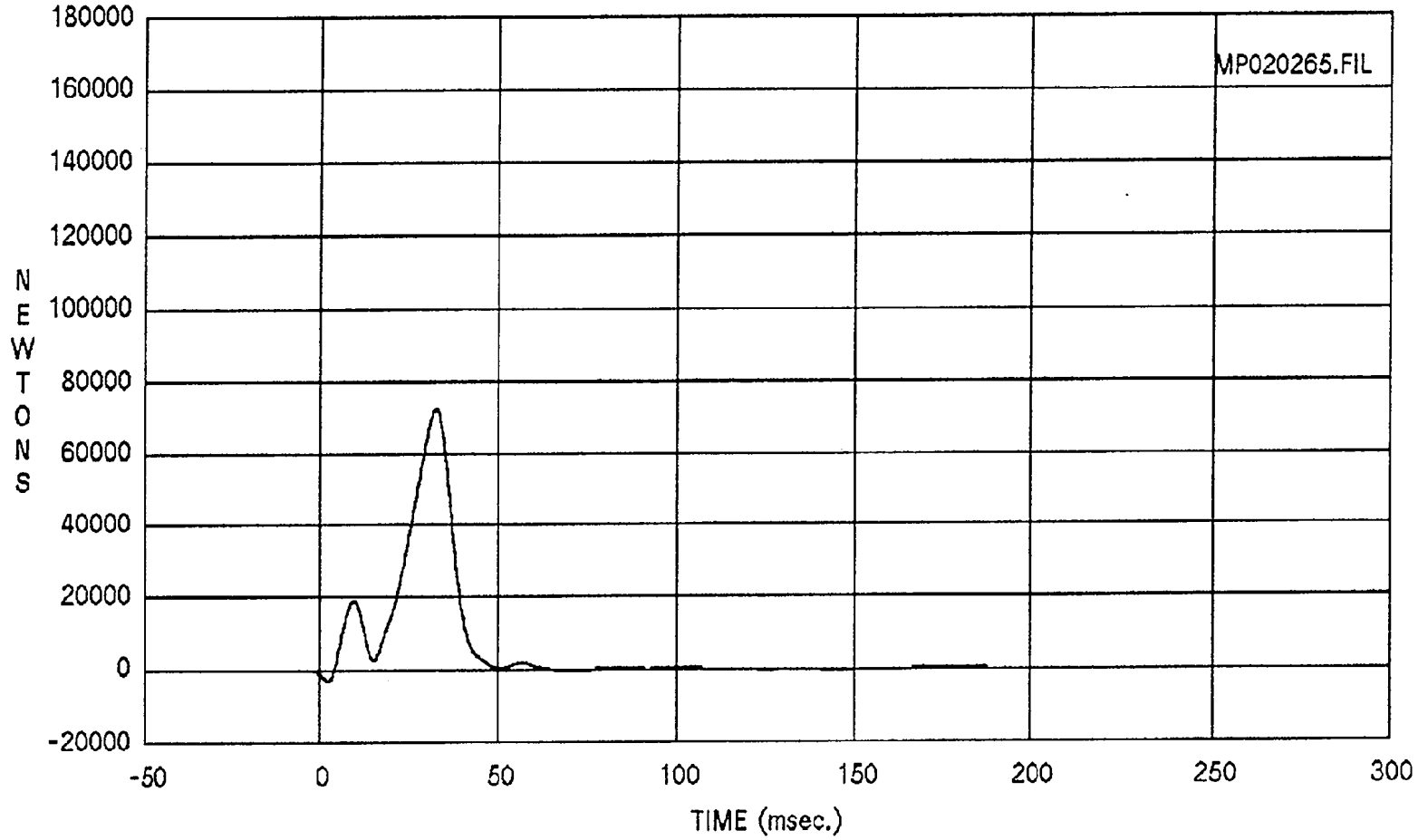
Curve: Force on barrier location D3 Filter: SAE CLASS 60 Max = 16500. Min = -2222.7

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



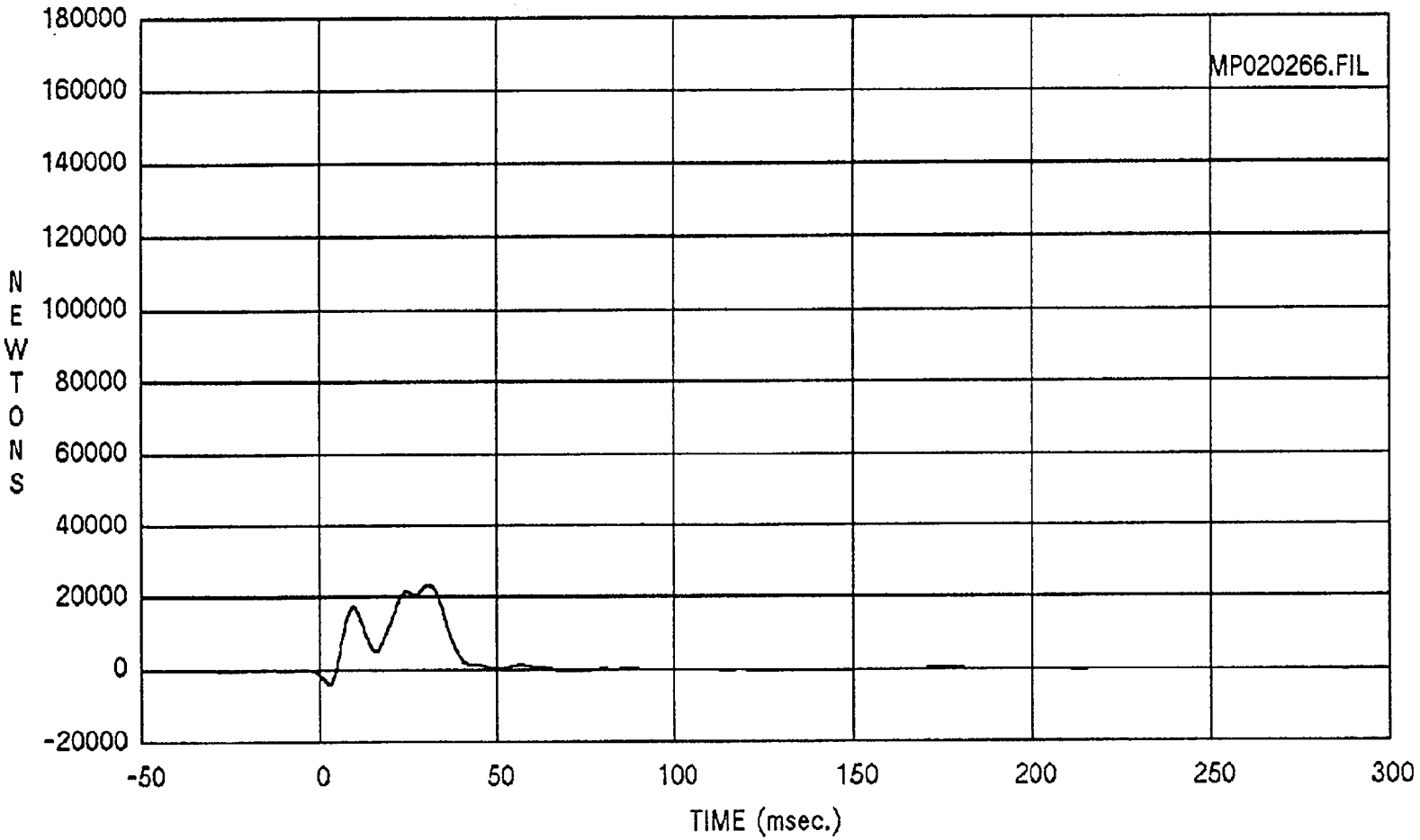
Curve: Force on barrier location D4 Filter: SAE CLASS 60 Max = 38512. Min = -3585.3

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



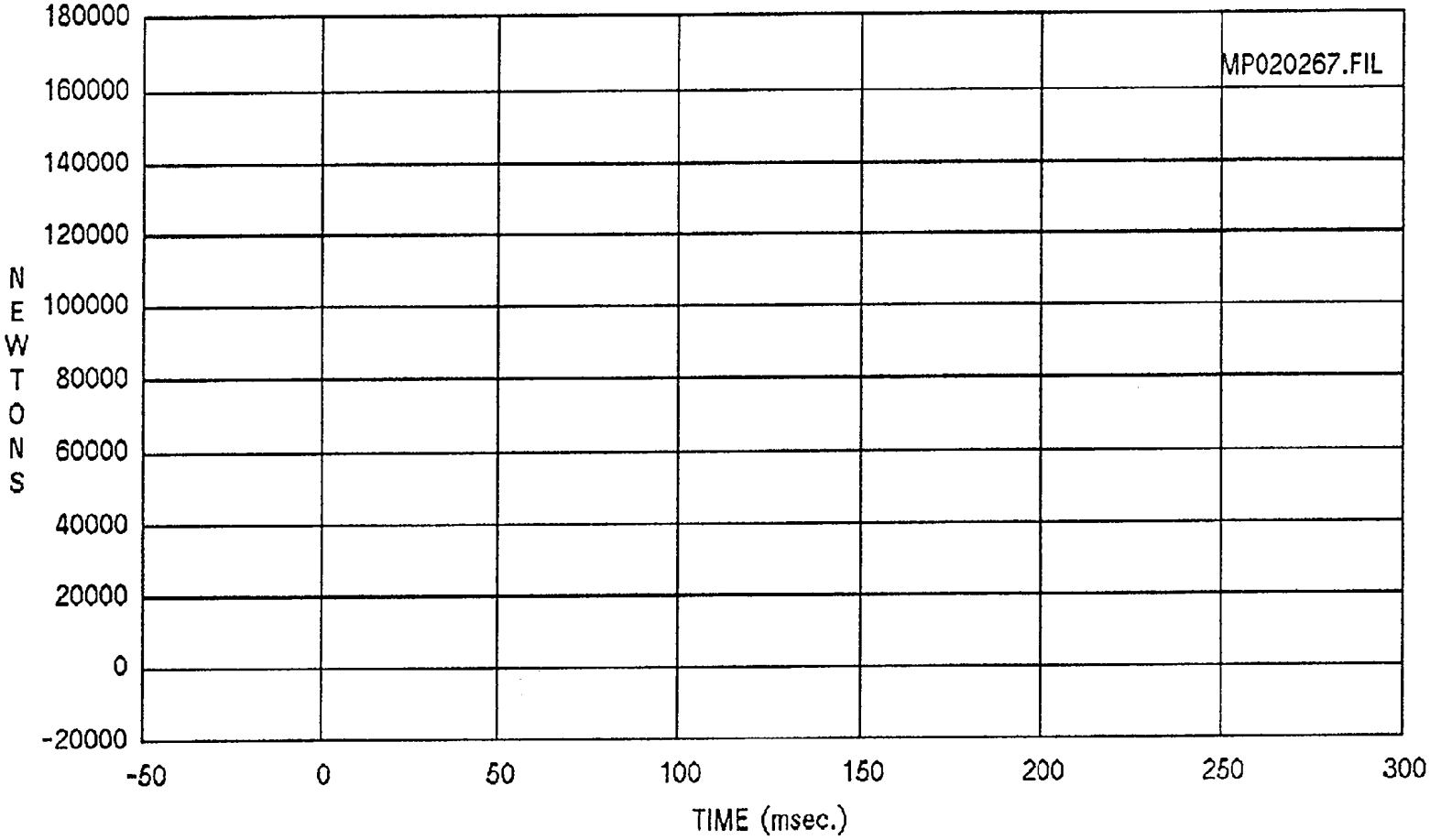
Curve: Force on barrier location D5 Filter: SAE CLASS 60 Max = 72448. Min = -2922.5

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



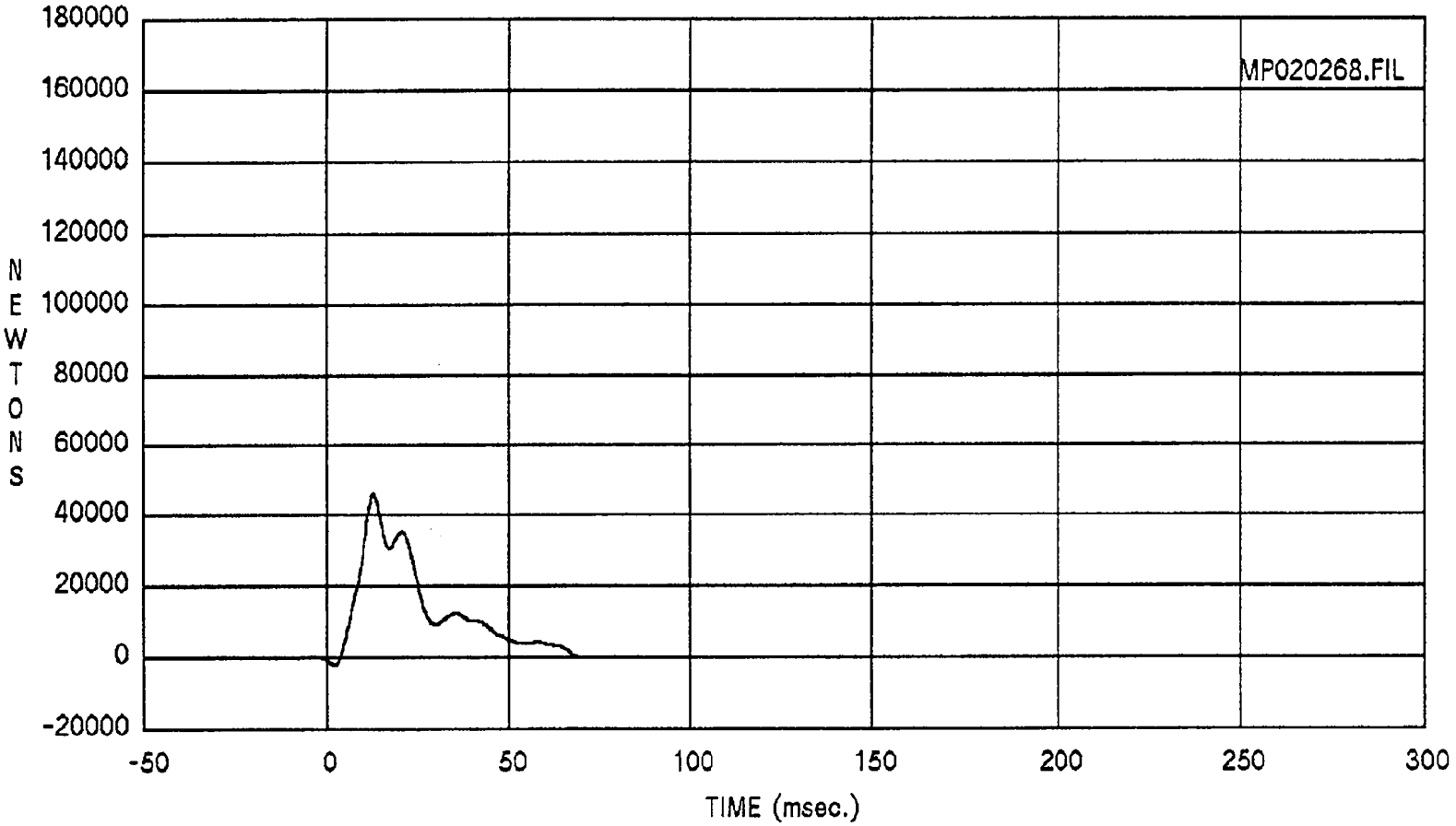
Curve: Force on barrier location D6 Filter: SAE CLASS 60 Max = 23312. Min = -3792.8

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



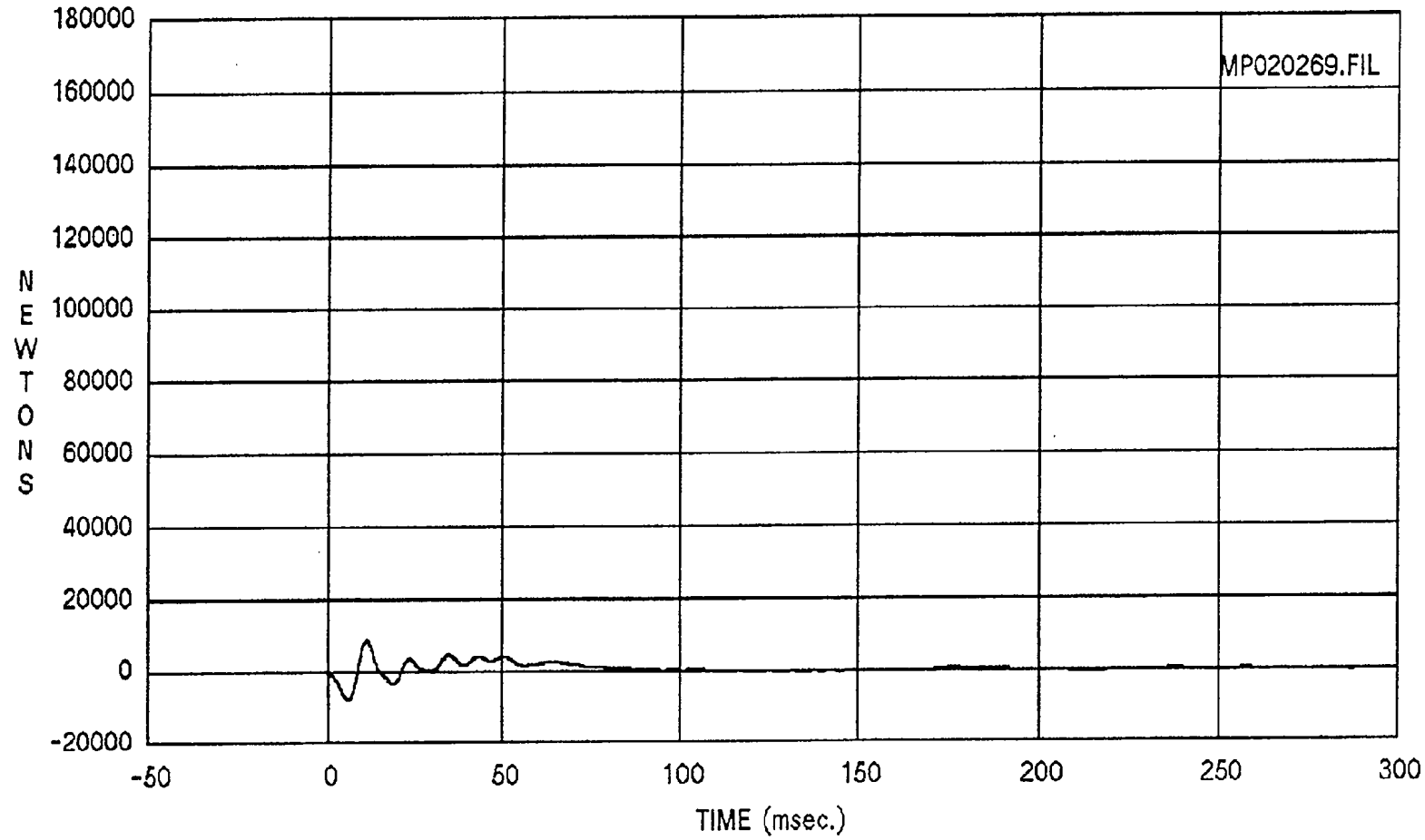
Curve: Force on barrier location D7 Filter: SAE CLASS 60 Max = .00000 Min = .00000

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



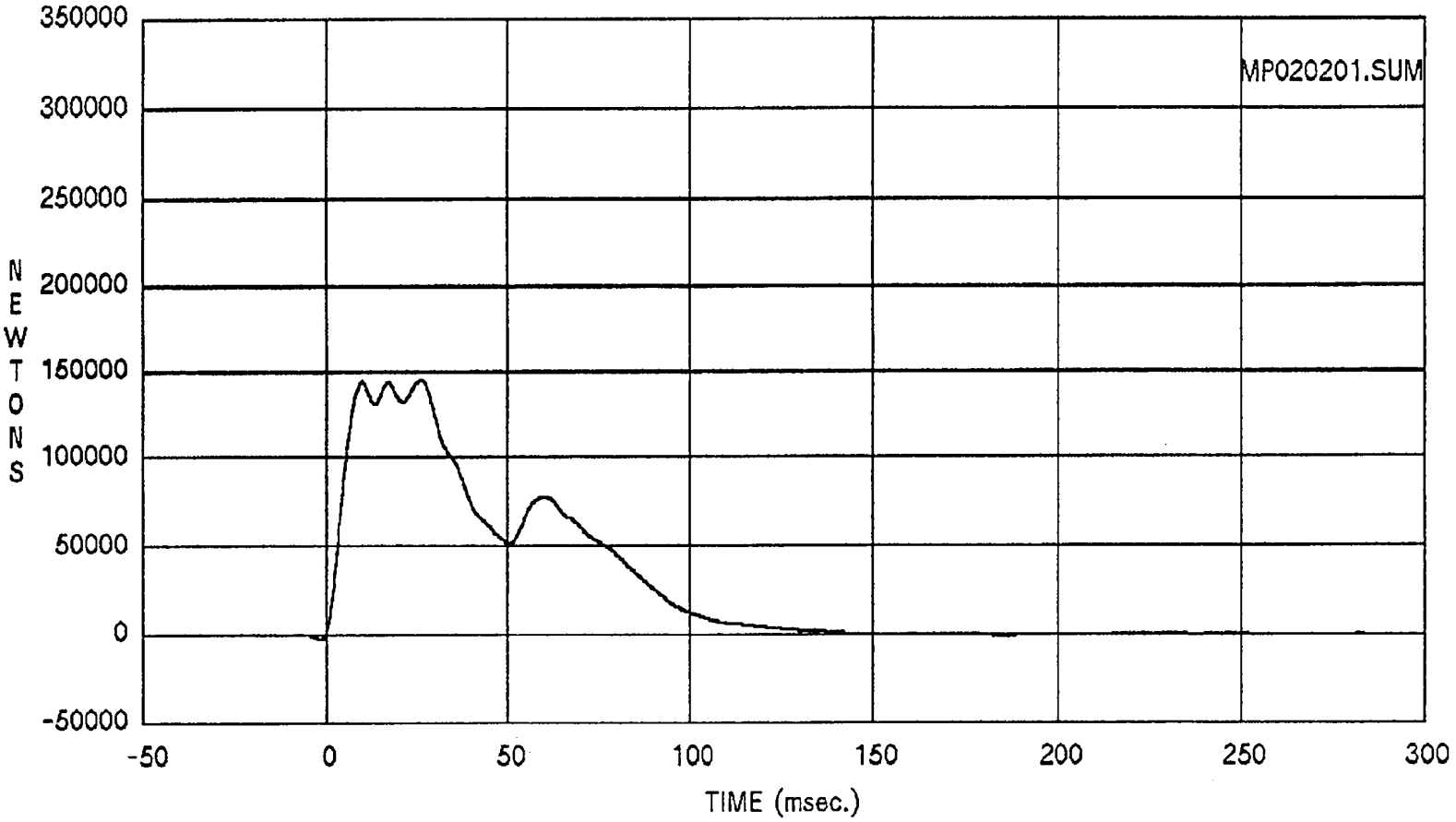
Curve: Force on barrier location D8 (CF at 66.8 MSEC) Filter: SAE CLASS 60 Max = 45994. Min = -20

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



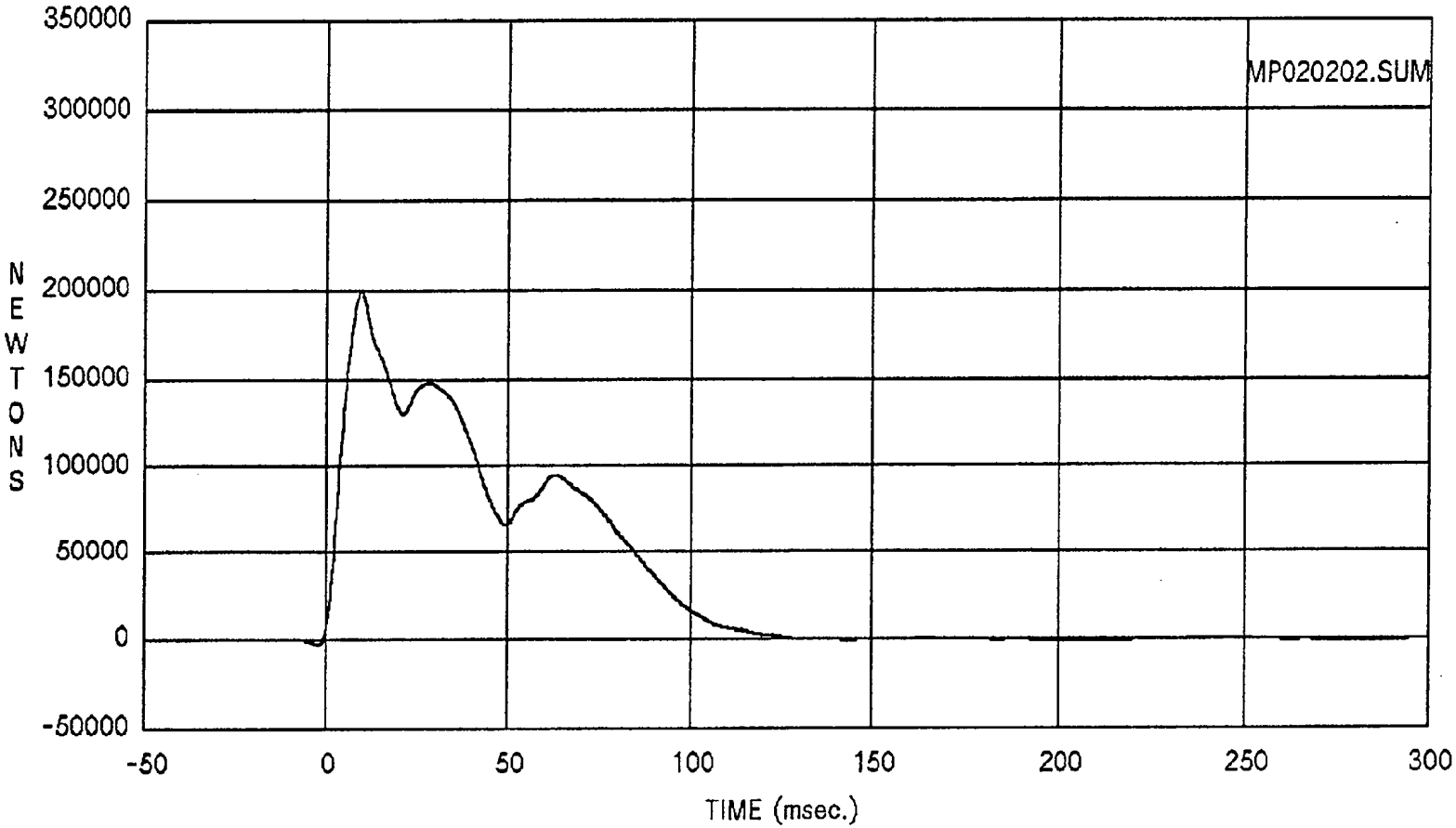
Curve: Force on barrier location D9 Filter: SAE CLASS 60 Max = 8850.4 Min = -7844.0

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



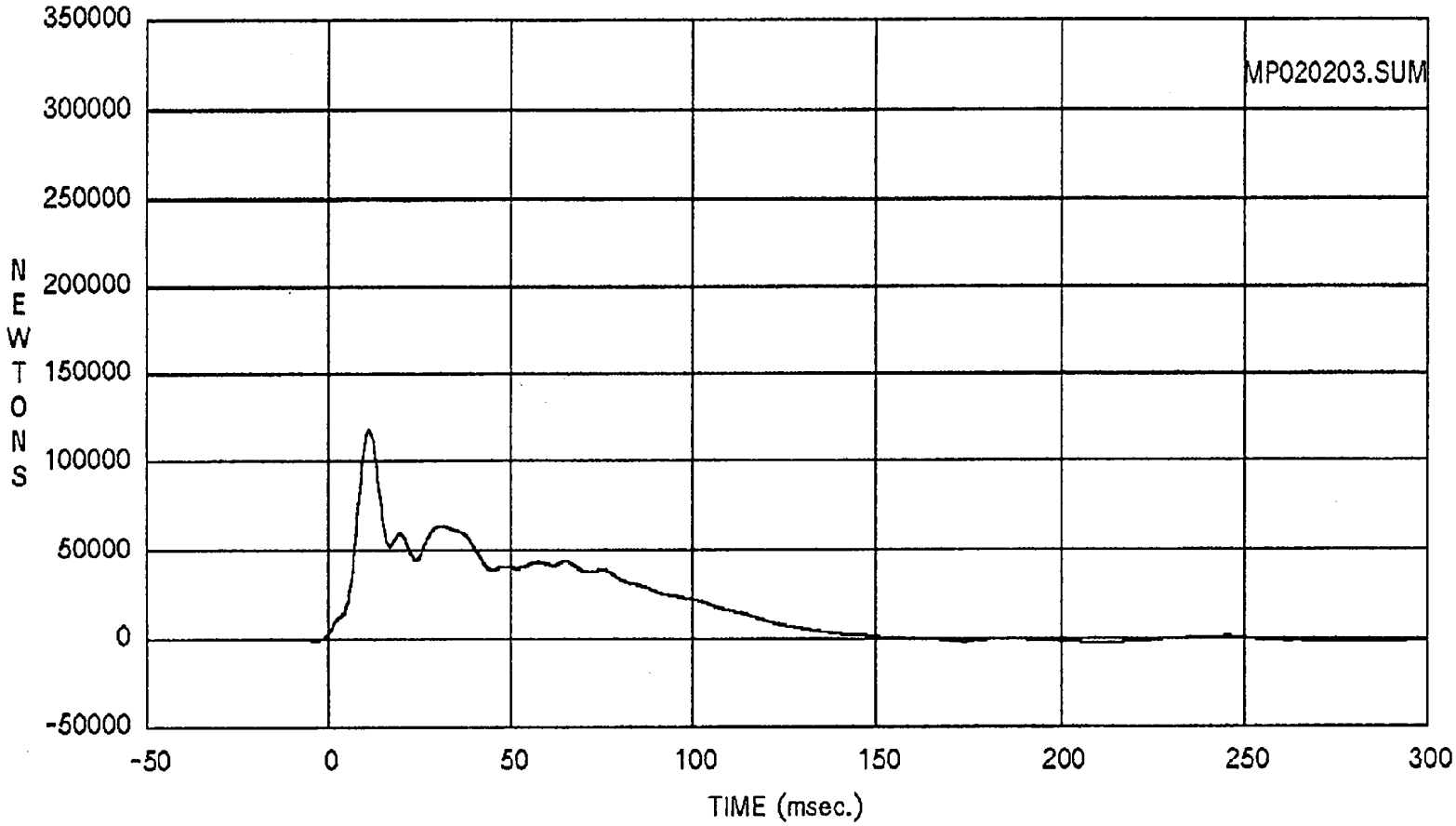
Curve: Barrier sum force A1,A2,A3,B1,B2,B3 -- Group 1 Filter: SAE CLASS 60 Max = .14510E+06 Min = 573.34

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



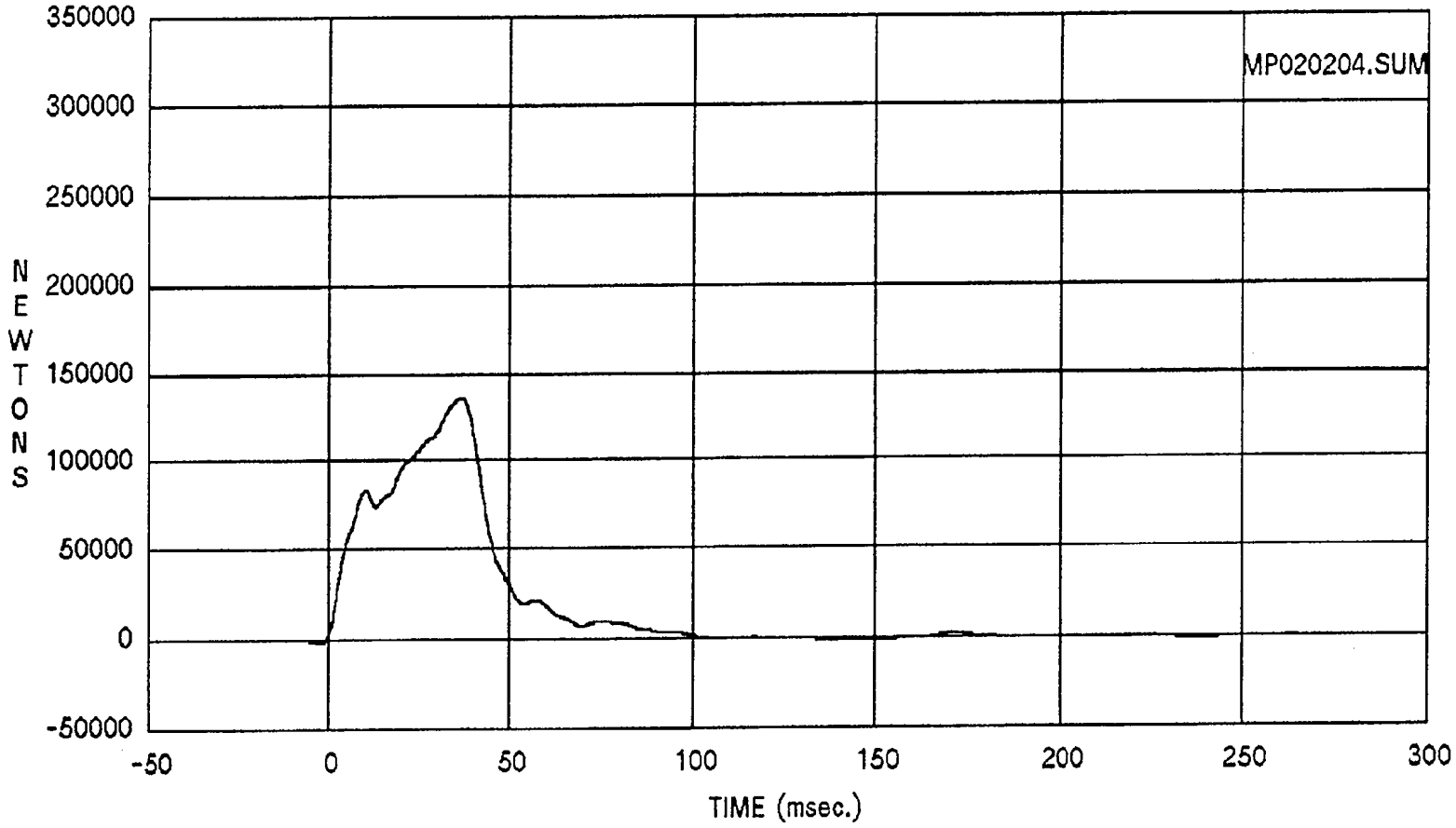
Curve: Barrier sum force A4,A5,A6,B4,B5,B6 -- Group 2 Filter: SAE CLASS 60 Max = .19984E+06 Min = 990.70

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



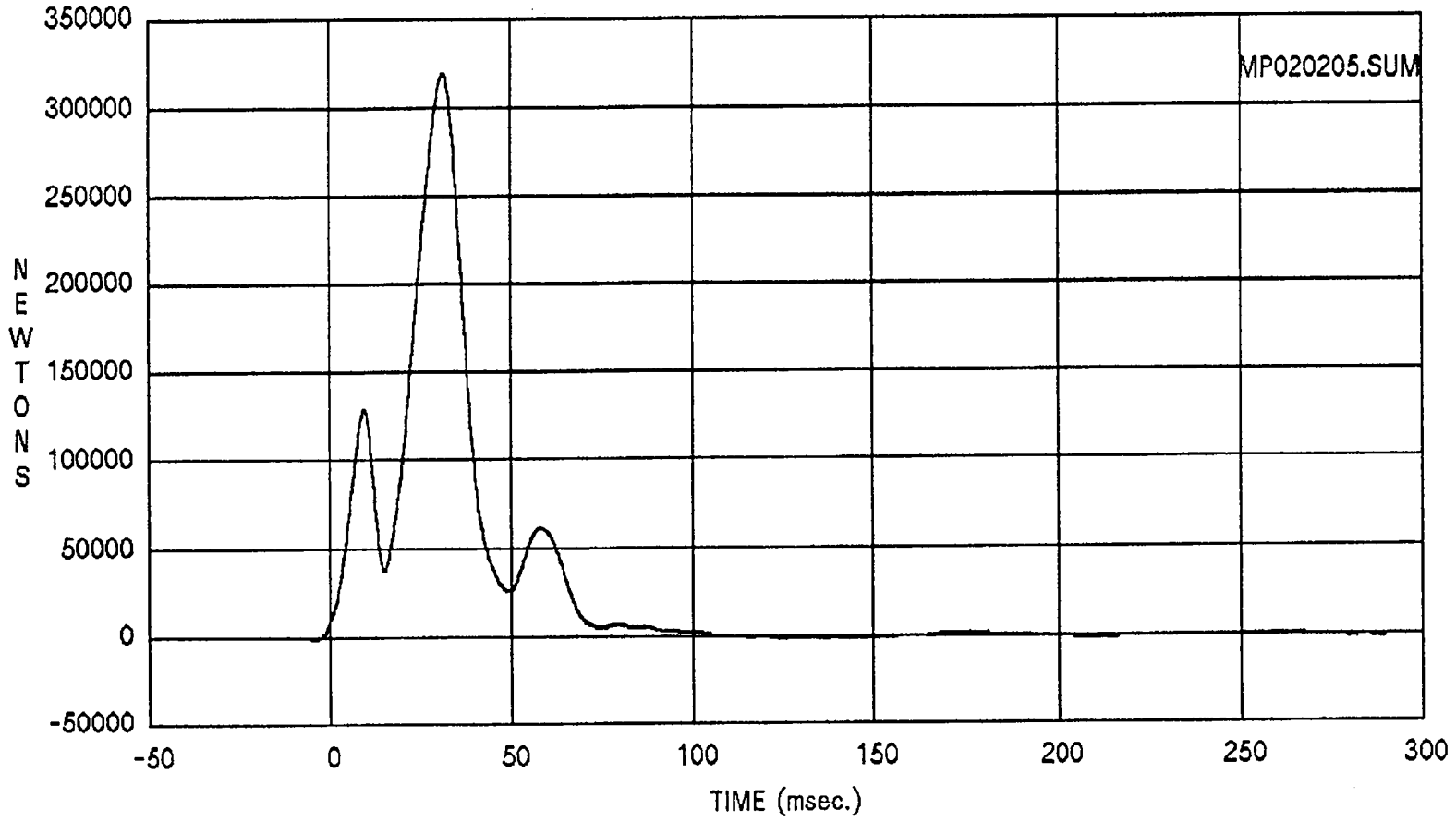
Curve: Barrier sum force A7,A8,A9,B7,B8,B9 -- Group 3 Filter: SAE CLASS 60 Max = .11782E+06 Min = 2274.5

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



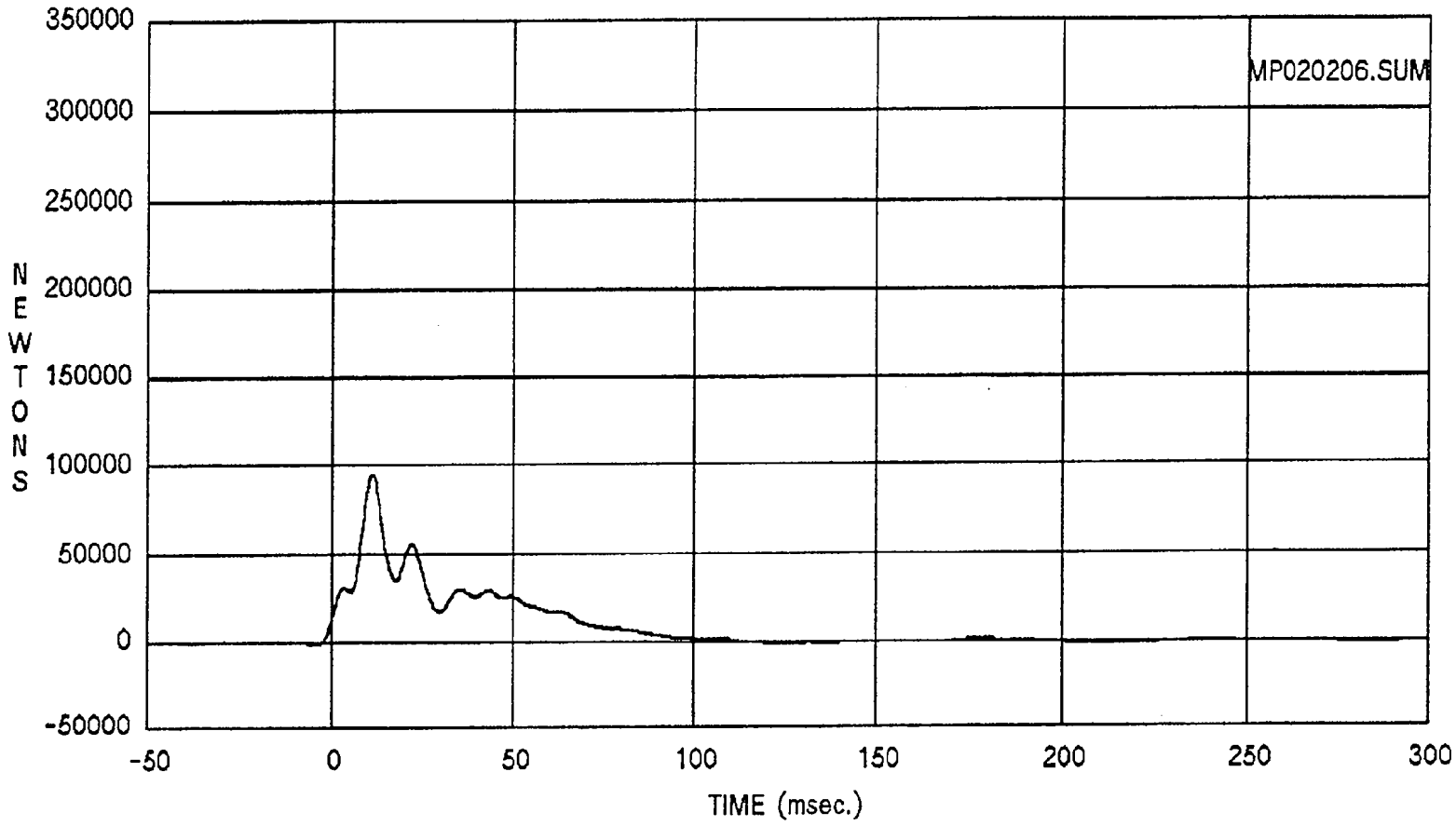
Curve: Barrier sum force C1,C2,C3,D1,D2,D3 -- Group 4 Filter: SAE CLASS 60 Max = .13606E+06 Min = 913.77

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



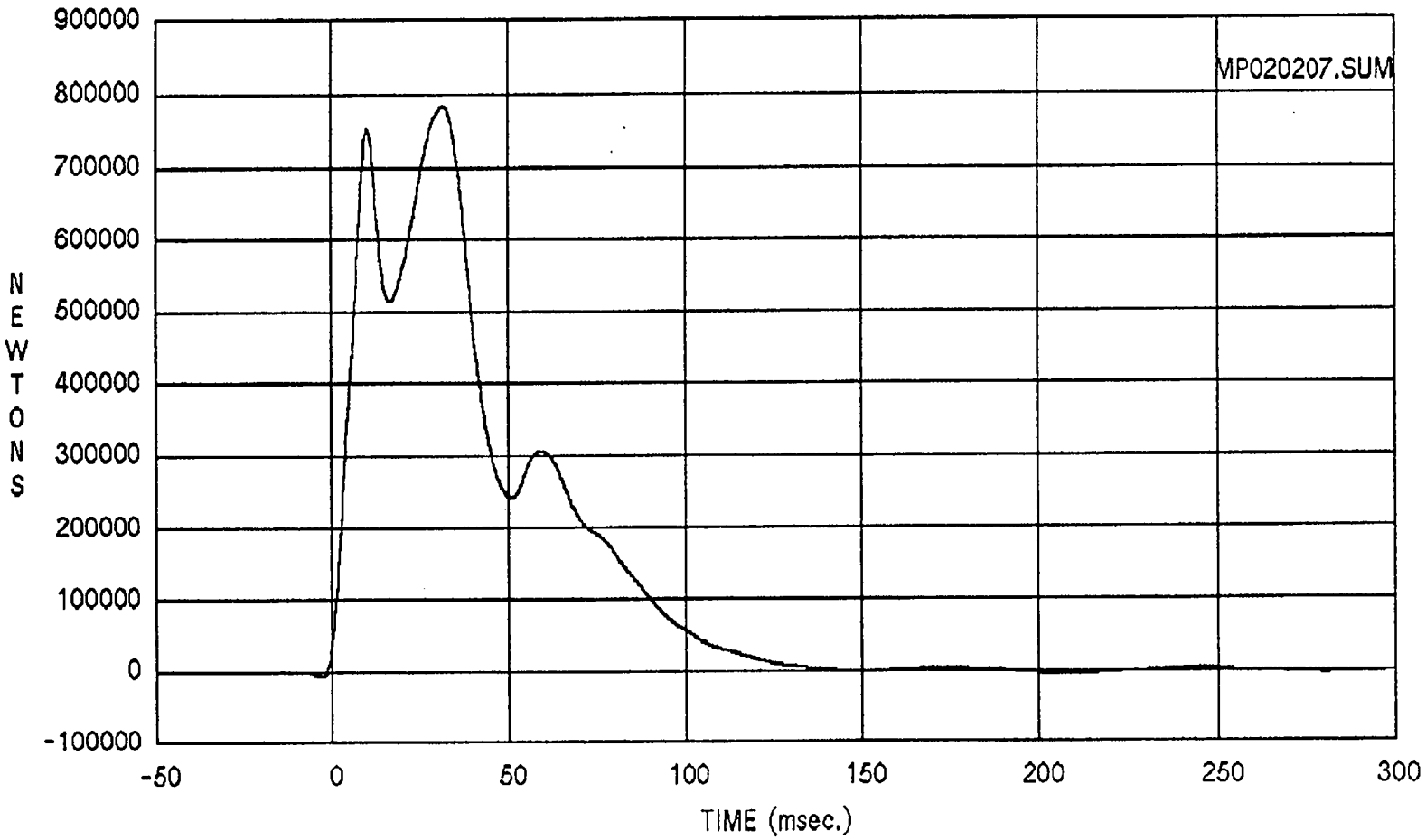
Curve: Barrier sum force C4,C5,C6,D4,D5,D6 -- Group 5 Filter: SAE CLASS 60 Max = .31928E+06 Min = 1258.9

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



Curve: Barrier sum force C7,C8,C9,D7,D8,D9 -- Group 6 Filter: SAE CLASS 60 Max = 95217. Min = -10

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer



Curve: Barrier sum force -- Total Filter: SAE CLASS 60 Max = .78382E+06 Min = -4167.

MSE Date: 12/17/92 Program: 1993 NCAP, test number 6 Vehicle: 1993 Ford Explorer

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APPENDIX C

PART 572 DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION TESTS

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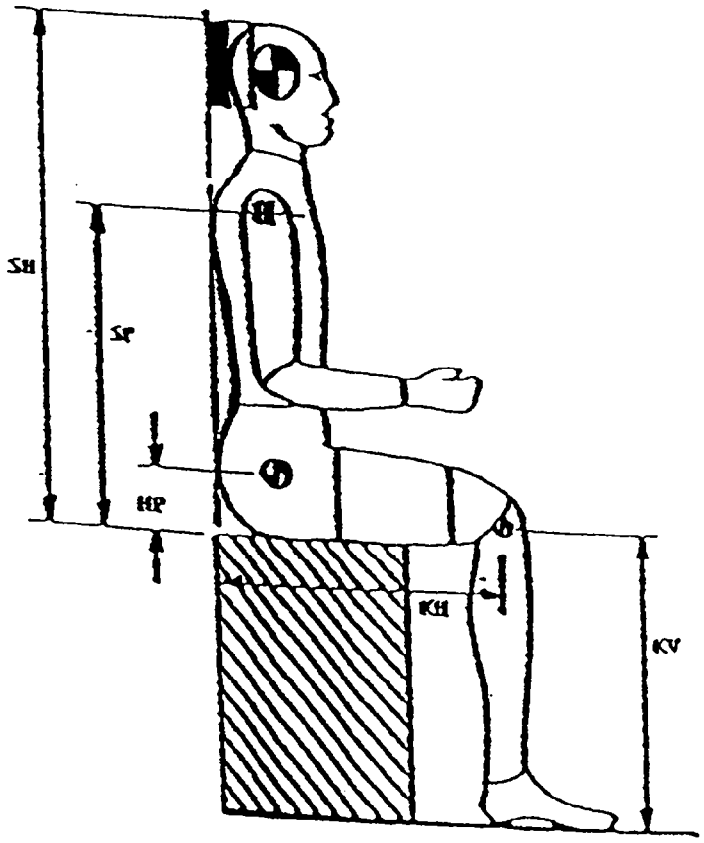
PART 572 ATD CONFIGURATION AND PERFORMANCE VERIFICATION DATA

NHTSA ATD I.D. NUMBER: 830 **LAB TECHNICIAN: P. Puzzuto/L. Rawlings**

CALIBRATION SEQUENCE: 02 **CALIBRATION DATE: 11/19/92 to 11/25/92**



I. CONFIGURATION VERIFICATION DATA, PRETEST			
TESTED PARAMETER	**UNITS**	**SPECIFICATION**	**TEST RESULTS**
SH - Seated height	mm	904 - 909	906
SP - Shoulder pivot height	mm	554 - 569	556
HP - Hip pivot height	mm	99 reference	99
KH - Knee pivot from back	mm	511 - 526	522
KV - Knee pivot from floor	mm	490 - 505	504
SW - Shoulder width	mm	452 - 467	461
HW - Hip width	mm	356 - 391	381

NHTSA ATD I.D. NUMBER: 830 LAB TECHNICIAN: P. PUZZUTO/L. RAWLINGS

CALIBRATION SEQUENCE: 02 CALIBRATION DATE: 11/19/92 to 11/25/92

II. PERFORMANCE VERIFICATION DATA, PRETEST			
TESTED PARAMETER	UNITS	SPECIFICATION	TEST RESULTS
Temperature in laboratory	Deg C	18.9 - 25.6	22.2
Humidity in laboratory	%	10 - 70	45
HEAD DROP TEST			
Peak resultant acceleration	G's	210 - 260	251.8
Peak lateral acceleration	G's	less than 10	4.9
Time above 100 G's	msec	0.9 to 1.5	1.1
ABDOMINAL COMPRESSION TEST			
Force at 12mm displacement	kg	10.5 - 16.4	12.7
Force at 19mm displacement	kg	16.4 - 22.7	19.2
Force at 25mm displacement	kg	22.7 - 28.6	27.2
Force at 33mm displacement	kg	23.2 - 40.0	39.1
CHEST IMPACT TEST, HIGH ENERGY			
Probe speed	mps	6.64 - 6.77	6.71
Peak deflection	mm	43.2 maximum	42.0
Peak resistive force	kg	1023 maximum	907
Internal hysteresis	%	50 - 70	57
CHEST IMPACT TEST, LOW ENERGY			
Probe speed	mps	4.22 - 4.31	4.26
Peak deflection	mm	27.9 maximum	27.5
Peak resistive force	kg	659 maximum	564
Internal hysteresis	%	50 - 70	52

PART 572 ATD CONFIGURATION AND PERFORMANCE VERIFICATION DATA (CONT.)

NHTSA ATD I.D. NUMBER: 830 **LAB TECHNICIAN: P. Puzzuto/L. Rawlings**

CALIBRATION SEQUENCE: 02 **CALIBRATION DATE: 11/19/92 to 11/25/92**

II. PERFORMANCE VERIFICATION DATA, PRETEST				
TESTED PARAMETER		**UNITS**	**SPECIFICATION**	**TEST RESULTS**
NECK BEND TEST				
Pendulum speed		mps	6.55 - 7.77	6.61
Pendulum avg. decel. (T_1 -T_2)		G's	20 - 24	22.3
Pendulum decel. (T_2 -T_1)		msec	less than 3	2.6
Pendulum decel. (T_3 -T_2)		msec	25 - 30	29.4
Pendulum decel. (T_4 -T_3)		msec	less than 10	6.8
Resultant head acceleration		G's	less than 26	25.1
Maximum head rotation		deg.	63 - 73	63.9
CHORDAL DISPLACEMENT / HEAD ROTATION ANGLE				
0 deg.	Time	msec	-2.0 - 2.0	0.0
	Displ.	mm	-13 - 13	0
30 deg.	Time	msec	25.6 - 34.4	27.1
	Displ.	mm	53 - 79	58
60 deg.	Time	msec	40.3 - 51.7	44.2
	Displ.	mm	109 - 135	119
Maximum	Time	msec	53.2 - 66.8	57.1
	Displ.	mm	127 - 152	135
60 deg.	Time	msec	67.0 - 83.0	68.9
	Displ.	mm	109 - 135	122
30 deg.	Time	msec	85.4 - 104.6	89.6
	Displ.	mm	53 - 79	60
0 deg.	Time	msec	101.0 - 123.0	101.9
	Displ.	mm	-13 - 13	2

PART 572 ATD CONFIGURATION AND PERFORMANCE VERIFICATION DATA (CONT.)

NHTSA ATD I.D. NUMBER: 830 LAB TECHNICIAN: P. Puzzuto/L. Rawlings

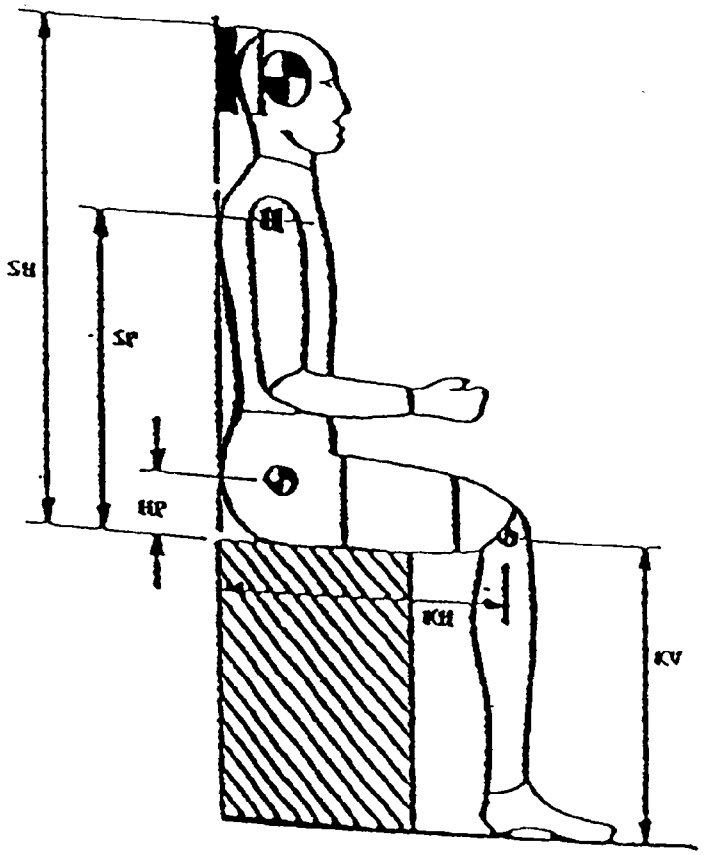
CALIBRATION SEQUENCE: 02 CALIBRATION DATE: 11/19/92 to 11/25/92

II. PERFORMANCE VERIFICATION DATA, PRETEST			
TESTED PARAMETER	UNITS	SPECIFICATION	TEST RESULTS
KNEE IMPACT TEST, LEFT			
Probe speed	mps	2.06 to 2.15	2.10
Maximum force	kg	841 to 1136	1103
Time above 455 kg	msec	1.7 minimum	1.7
KNEE IMPACT TEST, RIGHT			
Probe speed	mps	2.06 to 2.15	2.12
Maximum force	kg	841 to 1136	1130
Time above 455 kg	msec	1.7 minimum	1.8
LUMBAR FLEXION TEST			
Force at 20 degrees	kg	10.0 to 15.5	13.4
Force at 30 degrees	kg	15.5 to 20.9	18.7
Force at 40 degrees	kg	20.9 to 26.4	25.0
Lumbar return angle	deg	12 maximum	10

PART 572 ATD CONFIGURATION AND PERFORMANCE VERIFICATION DATA

NHTSA ATD I.D. NUMBER: 814 LAB TECHNICIAN: P. Puzzuto/L. Rawlings

CALIBRATION SEQUENCE: 03 CALIBRATION DATE: 12/12/92 to 12/13/92



I. CONFIGURATION VERIFICATION DATA, PRETEST			
TESTED PARAMETER	UNITS	SPECIFICATION	TEST RESULTS
SH - Seated height	mm	904 - 909	907
SP - Shoulder pivot height	mm	554 - 569	560
HP - Hip pivot height	mm	99 reference	99
KH - Knee pivot from back	mm	511 - 526	518
KV - Knee pivot from floor	mm	490 - 505	502
SW - Shoulder width	mm	452 - 467	461
HW - Hip width	mm	356 - 391	369

NHTSA ATD I.D. NUMBER: 814 **LAB TECHNICIAN: P. PUZZUTO/L. RAWLINGS**

CALIBRATION SEQUENCE: 03 **CALIBRATION DATE: 12/12/92 to 12/13/92**

II. PERFORMANCE VERIFICATION DATA, PRETEST			
TESTED PARAMETER	**UNITS**	**SPECIFICATION**	**TEST RESULTS**
Temperature in laboratory	Deg C	18.9 - 25.6	22.2
Humidity in laboratory	%	10 - 70	25
HEAD DROP TEST			
Peak resultant acceleration	G's	210 - 260	234.4
Peak lateral acceleration	G's	less than 10	6.0
Time above 100 G's	msec	0.9 to 1.5	1.3
ABDOMINAL COMPRESSION TEST			
Force at 12mm displacement	kg	10.5 - 16.4	16.2
Force at 19mm displacement	kg	16.4 - 22.7	22.2
Force at 25mm displacement	kg	22.7 - 28.6	28.3
Force at 33mm displacement	kg	23.2 - 40.0	39.4
CHEST IMPACT TEST, HIGH ENERGY			
Probe speed	mps	6.64 - 6.77	6.67
Peak deflection	mm	43.2 maximum	42.4
Peak resistive force	kg	1023 maximum	988
Internal hysteresis	%	50 - 70	61
CHEST IMPACT TEST, LOW ENERGY			
Probe speed	mps	4.22 - 4.31	4.28
Peak deflection	mm	27.9 maximum	26.9
Peak resistive force	kg	659 maximum	628
Internal hysteresis	%	50 - 70	60

NHTSA ATD I.D. NUMBER: 814 LAB TECHNICIAN: P. Puzzuto/L. Rawlings

CALIBRATION SEQUENCE: 03 CALIBRATION DATE: 12/12/92 to 11/13/92

II. PERFORMANCE VERIFICATION DATA, PRETEST				
TESTED PARAMETER		UNITS	SPECIFICATION	TEST RESULTS
NECK BEND TEST				
Pendulum speed		mps	6.55 - 7.77	7.02
Pendulum avg. decel. (T_1 -T_2)		G's	20 - 24	21.3
Pendulum decel. (T_2 -T_1)		msec	less than 3	1.8
Pendulum decel. (T_3 -T_2)		msec	25 - 30	27.6
Pendulum decel. (T_4 -T_3)		msec	less than 10	8.7
Resultant head acceleration		G's	less than 26	23.8
Maximum head rotation		deg.	63 - 73	67.2
CHORDAL DISPLACEMENT / HEAD ROTATION ANGLE				
0 deg.	Time	msec	-2.0 - 2.0	0.1
	Displ.	mm	-13 - 13	2
30 deg.	Time	msec	25.6 - 34.4	31.1
	Displ.	mm	53 - 79	70
60 deg.	Time	msec	40.3 - 51.7	45.1
	Displ.	mm	109 - 135	127
Maximum	Time	msec	53.2 - 66.8	61.7
	Displ.	mm	127 - 152	138
60 deg.	Time	msec	67.0 - 83.0	72.7
	Displ.	mm	109 - 135	125
30 deg.	Time	msec	85.4 - 104.6	94.8
	Displ.	mm	53 - 79	72
0 deg.	Time	msec	101.0 - 123.0	106.5
	Displ.	mm	-13 - 13	4

PART 572 ATD CONFIGURATION AND PERFORMANCE VERIFICATION DATA (CONT.)

NHTSA ATD I.D. NUMBER: 814 **LAB TECHNICIAN: P. Puzzuto/L. Rawlings**

CALIBRATION SEQUENCE: 03 **CALIBRATION DATE: 12/12/92 to 12/13/92**

II. PERFORMANCE VERIFICATION DATA, PRETEST			
TESTED PARAMETER	**UNITS**	**SPECIFICATION**	**TEST RESULTS**
KNEE IMPACT TEST, LEFT			
Probe speed	mps	2.06 to 2.15	2.11
Maximum force	kg	841 to 1136	1106
Time above 455 kg	msec	1.7 minimum	1.9
KNEE IMPACT TEST, RIGHT			
Probe speed	mps	2.06 to 2.15	2.10
Maximum force	kg	841 to 1136	942
Time above 455 kg	msec	1.7 minimum	1.8
LUMBAR FLEXION TEST			
Force at 20 degrees	kg	10.0 to 15.5	11.3
Force at 30 degrees	kg	15.5 to 20.9	19.1
Force at 40 degrees	kg	20.9 to 26.4	22.9
Lumbar return angle	deg	12 maximum	11

APPENDIX D

VEHICLE OWNER'S OCCUPANT RESTRAINT SYSTEM INSTRUCTIONS

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Safety Restraints

Using Safety Restraints Properly

Safety Belts

The use of safety belts help to restrain you and your passengers in case of a collision. In most states, the law requires their use. We strongly recommend that you use them every time you travel in your vehicle.

Safety belts provide best restraint when:

- ❑ the seatback is upright
- ❑ the occupant is sitting upright (not slouched)
- ❑ the lap belt is snug and low on the hips
- ❑ the shoulder belt is snug against the chest
- ❑ the knees are straight forward

For your safety, your vehicle has different types of safety belts:

- ❑ Combination lap and shoulder belts - for people who sit next to the side windows in either front or rear seats
- ❑ Rear lap belt with retractor (4 door only) - for the center rear seat
- ❑ Front lap belt without retractor - if your Explorer has a center front seat

See the following sections for directions on how to properly use these safety belts. Also see *Safety Restraints for Children* in this chapter for special instructions about using safety belts for children.

Warning: Make sure that you and your passengers, including pregnant women, wear safety belts. Be sure that the lap belt portion of your safety belts fit snugly and as low as possible around the hips. If safety belts are not used properly, the risk of you or your passengers being injured in a collision greatly increases.

Warning: Always drive and ride with your seatback upright and the lap belt portion of your safety belt snug and low across the hips. This will reduce the risk of serious injury to the abdomen or neck that could be caused by sliding under the safety belts in a collision.

Do not allow any people to ride in the cargo area of your vehicle. People who are not riding in seats with their safety belts fastened are much more likely to be injured in a collision.

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

Children should always ride with the seatback in the fully upright position. When the seatback is not fully upright, there is a greater risk that the child will slide under the safety belt and be seriously injured in a collision.

Never use a single belt for more than one person or across more than one seating position. This greatly increases the risk that one or both of the people will be injured in a collision. Each seating position in your vehicle has a specific safety belt assembly which is made up of one buckle and one tongue that are designed to be used as a pair.

Warning: Use the shoulder belt on the outside shoulder only. Never wear the shoulder belt under the arm. Never swing it around the neck over the inside shoulder. Failure to follow these precautions could increase the risk and/or severity of injury in a collision.

Warning: Lock the doors of your vehicle before driving to lessen the risk of the door coming open in a collision.

Combination Lap and Shoulder Belts

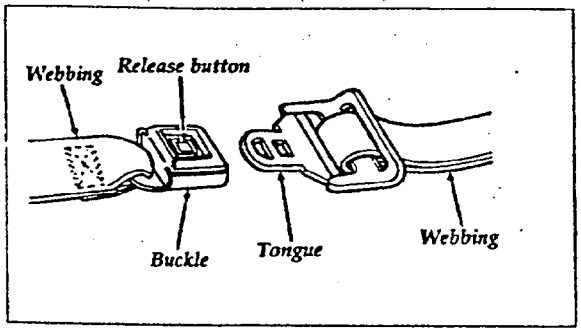
While your vehicle is in motion, the combination lap and shoulder belts adjusts to your movement. However, if you brake hard, corner hard or if your vehicle receives an impact of 5 mph (8 km/h) or more, the lap and shoulder belt locks and helps reduce your forward movement. The front seat belt systems can also be made to lock by jerking on the belt.

After you get into your vehicle, close the door and lock it. Then adjust the seat to the position that suits you best.

To fasten the belt, pull the lap-shoulder belt from the retractor so that the shoulder portion of the belt crosses your shoulder and chest. Be sure the belt is not twisted. If it is, remove the twist. Insert the belt tongue into the proper buckle until you hear a snap and feel it latch. Make sure the tongue is securely fastened at the buckle.

Warning: Use the shoulder belt only on the shoulder that is closest to the side of the vehicle. Never wear the belt under your arm. Never swing it around your neck over the inside shoulder. If you do not use the shoulder belt properly, the chances of your being injured in a collision greatly increase.

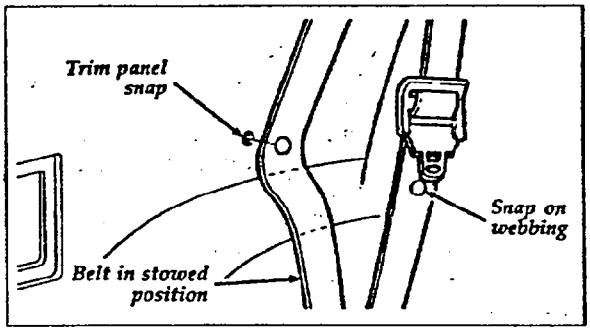
To tighten the lap portion of the belt, pull up on the shoulder belt until it fits you snugly. The belt should rest as low on your hips as possible.



Unfastening the outboard lap/shoulder belts

The rear seat shoulder safety belts have a feature which allows the seat belt webbing to be stowed out of the way when the rear seats are folded down (2 door only). To stow the belt while the seat is folded, attach the plastic snap on the seat belt to the metal mating part on the plastic trim panel. This will keep the belt out of the way while the seats are folded. Once the rear seats have been returned to their upright position, unsnap the belt from the trim panel.

Warning: It is important that the rear seat belt snap be detached from the trim panel prior to wearing the belt.



Rear combination lap and shoulder belts (2 door model)

Center Front Lap Belt (60/40 Split Seat)

The lap belt in the center of the front seat does not adjust automatically. You must adjust it to fit snugly around your hips. Do not wear it around your waist.

Before you fasten your center position lap belt in the front seat, you may need to lengthen it.

To lengthen the belt, tip the belt tongue at a right angle to the belt. Pull the belt tongue over your lap until it reaches the buckle.

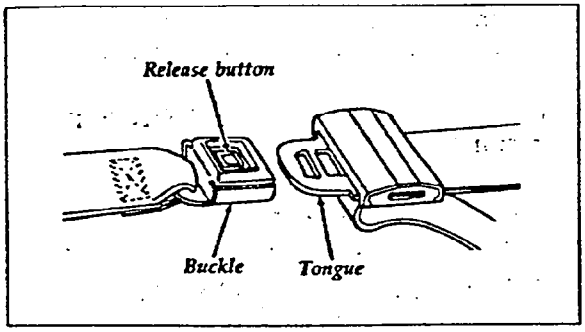
To fasten the belt, pull the belt across your hips and insert the tongue into the correct buckle on your seat until you hear a snap and feel it lock. Make sure the buckle is securely fastened.

Adjust the belt so that it fits snugly around your hips:

- If you need to shorten the belt, pull on the loose end of the webbing.

To unfasten the belt, push the release button on the buckle. This allows the tongue to unlatch from the buckle.

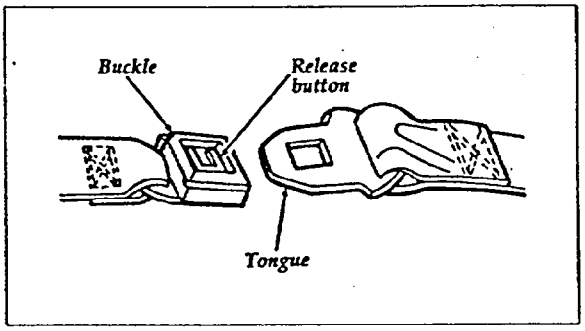
Because the center front lap belt does not have a retractor, it should be shortened and fastened when not in use.



Fastening and unfastening the front center safety belt

Rear Lap Belt with Retractor

Pull the belt out of the retractor with a steady motion and insert the tongue into the proper buckle until you hear a snap and feel the latch engage.



Fastening and unfastening the rear center safety belts (4-door model)

To Unfasten the Safety Belts with Retractors:

1. Push the release button on the buckle. This allows the tongue to unlatch from the buckle.
2. While the belt retracts, guide the tongue to its original position. If you do not guide the tongue, it may strike you or part of the vehicle.

How to Untwist or Unjam a Safety Belt Retractor

If you should jam the lap belt retractor by allowing the belt to retract when it is twisted, you can free the webbing with this procedure:

1. Pull on the belt with both hands to tighten it on the retractor spool.
2. Feed the belt back into the retractor until it is completely retracted. Repeat previous step if necessary.
3. Pull the belt out of its holder as far as it will go and untwist the belt or remove the object that is jamming the belt. Let the belt retract.
4. Then, pull the belt out and let it retract several times to make sure that the belt works properly.

Procedure to Correct a Twisted Safety Belt at the "D" Ring (if so equipped) Front and/or Rear Outboard Seating Positions

NOTE: The restraint system shown in the following figures may be different than your vehicle. However, use these figures and this procedure to correct a twisted safety belt at any outboard seating position that has a "D" ring.

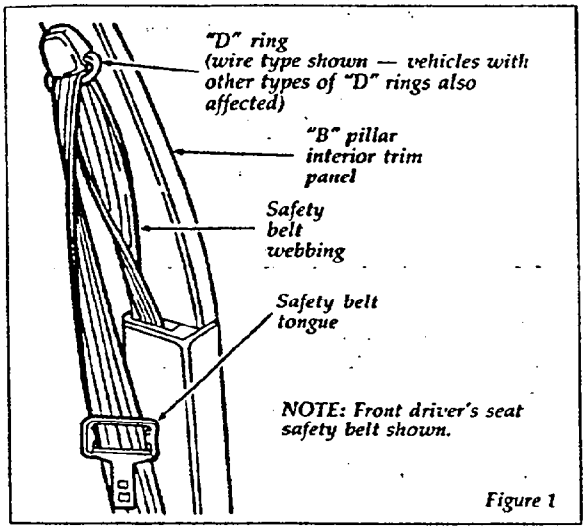


Figure 1

1. Grasp the belt webbing at the "D" ring. See Figure 2.

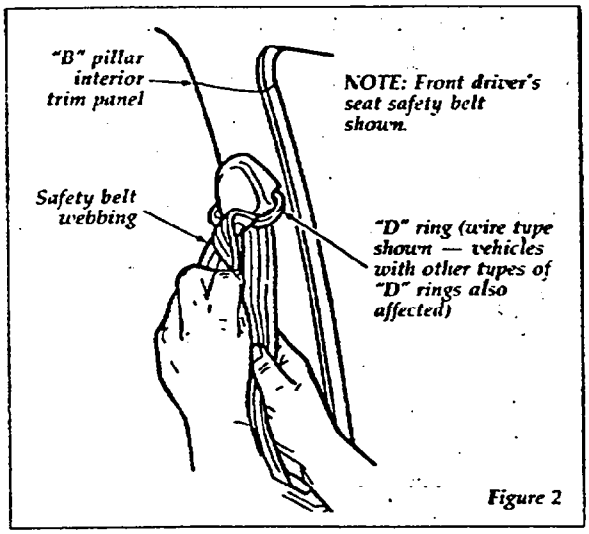


Figure 2

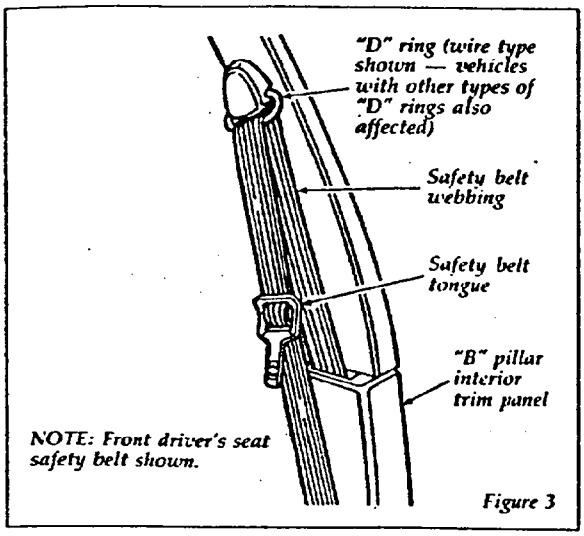


Figure 3

2. Rotate and fold the belt webbing over itself as required to remove the twist.
3. Feed the folded portion of the belt through the "D" ring.
4. When completed, safety belt should look like Figure 3.

Procedure to Correct a Rotated Tongue on the Safety Belt (Front and/or Rear Outboard Seating Positions)

NOTE: The restraint system shown in the following figures may be different than your vehicle. However, use these figures and this procedure to correct a rotated tongue on the safety belt at any outboard seating position that has a "D" ring.

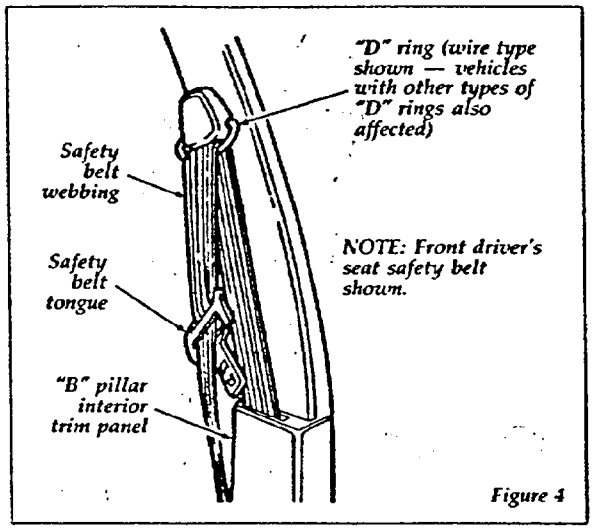


Figure 4

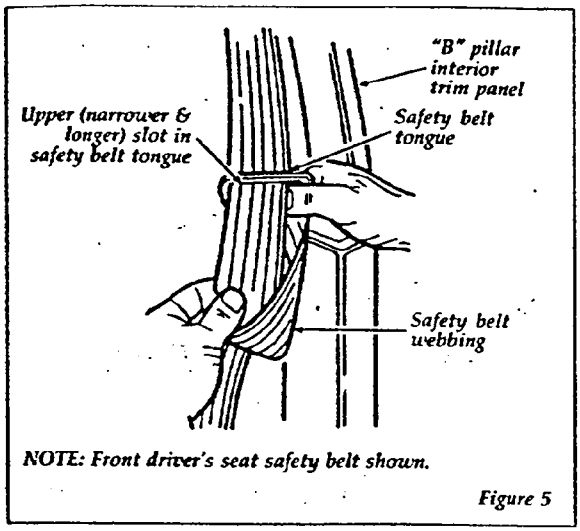


Figure 5

1. Grasp the belt tongue and pull down on the belt webbing closest to you to form a loop through the upper (narrow and longer) slot in the tongue. See Figure 5.
2. Working within the upper slot, rotate and fold the belt webbing over itself as required to remove the twist.
3. Pull the excess belt webbing back through the upper slot in the tongue.
4. Repeat the above steps to complete the removal of the twist at the lower (wider and larger) slot in the tongue. See Figure 6.

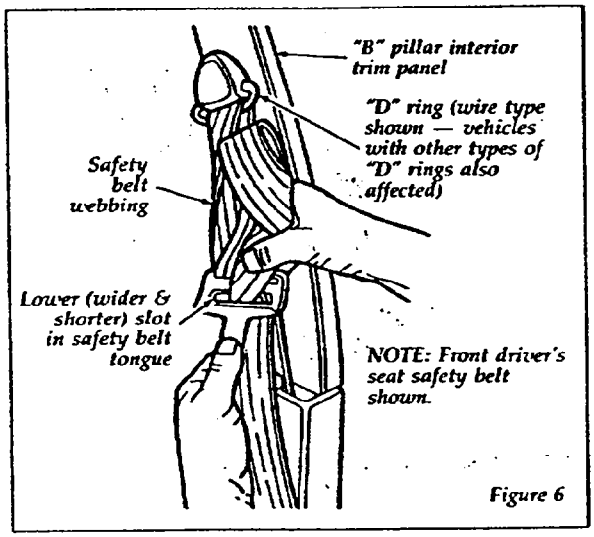


Figure 6

5. When completed, the safety belt should look like Figure 3.

Safety Belt Extension Assembly

For some people, the safety belt may be too short even when it is fully extended. You can add about eight inches (20 cm) to the belt length with a safety belt extension assembly (611C22). Safety belt extensions are available from your dealer.

Warning: To ensure that the safety belt extension assembly will hold in the event of a collision, only safety belt extensions manufactured by the same supplier as the safety belt should be used. Manufacturer identification is located at the end of the webbing on a label.

Safety Belt Maintenance

Check your safety belt system periodically to make sure that it works properly and isn't damaged. If the webbing shows any wear, nicks or cuts, have it examined by a qualified technician to determine if replacement is necessary. Always have your safety belt system checked after a collision.

For information on cleaning the webbing of seat belt assemblies, see *"Cleaning the Safety Belts"* in the Index.

Warning: All safety belt assemblies, including retractors and attaching hardware, should be inspected after any collision. Ford recommends that all safety belt assemblies used in vehicles involved in a collision be replaced. However, if the collision was minor and a qualified technician finds that the belts do not show damage and continue to operate properly, they do not need to be replaced. Safety belt assemblies not in use during a collision should also be inspected and replaced if either damage or improper operation is noted.

Safety Restraints for Children

In most states, you are required by law to use safety restraints for children. If small children ride in your vehicle – this generally includes children who are four years old or younger and who weigh 40 pounds (18 kg) or less – you must put them in safety seats that are made specially for children. Safety belts alone do not provide maximum protection for these children. Check your local and state laws for specific requirements.

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

Warning: Never let children or adults ride in the cargo area of your vehicle. Make sure that they sit where they can be properly restrained. If they are not restrained, the risk of their being injured in a collision greatly increases.

Warning: When using any infant or child restraint system, it is important that you follow the instructions and warnings provided by the manufacturer concerning its installation and use. Failure to follow each of the restraint manufacturer's instructions could increase the risk or severity of an injury in the event of a collision or sudden stop.

When possible, put children in the rear seat of your vehicle. Accident statistics suggest that children are safer when properly restrained in the rear seating positions than in the front seating positions.

Safety belts and seats can become hot in a vehicle that has been closed up in sunny weather; they could burn a small child. Check seat covers and buckles before you place a child anywhere near them.

Warning: Never leave a child unattended in your vehicle. Always remove the key from the ignition and take it with you.

Safety Belts for Children

Children who are too large for child safety seats should always wear safety belts. (See instructions with your child seat, or contact its manufacturer, to determine maximum size of child that will safely fit in the seat.)

Warning: If safety belts are not properly worn and adjusted as described, the risk of serious injury to the child in a collision will be much greater.

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

If the shoulder belt cannot be properly positioned, move the child to one of the seats with a lap belt only (preferably in a rear seat) and use the lap belt.

Lap belts and the lap belt portion of lap and shoulder belts should always be worn snugly and below the hips, touching the child's thighs.

Children should always ride with the seatback in the fully upright position. When the seatback is not fully upright, there is a greater risk that the child will slide under the safety belt and be seriously injured in a collision.

Safety Seats for Children

Use a safety seat that is recommended for the size and weight of the child. Always follow the safety seat manufacturer's instructions when installing and using the safety seat.

Ford recommends the use of a child safety seat having a top tether strap. Install the child safety seat in a seating position which is capable of providing a tether anchorage. For more information on top tether straps see the section on *Attaching Safety Seats with Tether Straps*.

When installing a child safety seat, be sure to use the correct safety belt buckle for that seating position, and make sure the tongue is securely fastened in the buckle.

Warning: All safety seats for children are designed to be secured to the seat of your vehicle by lap belts or by the lap portion of a lap and shoulder belt. If you do not properly secure the safety seat to the vehicle, the risk is greater that a child, occupying the seat during a collision or sudden stop, will be injured. An unsecured safety seat could also injure other passengers in the vehicle.

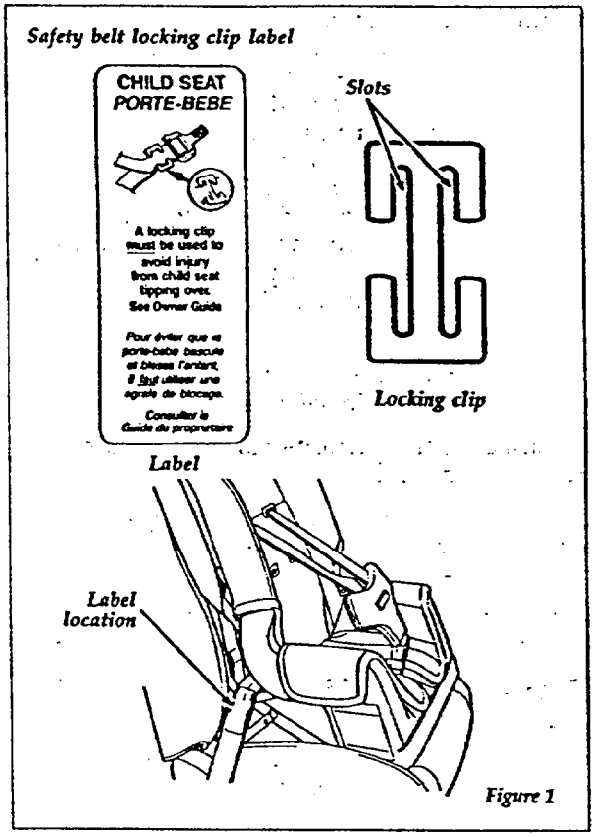
Warning: Carefully follow all of the manufacturer's instructions that come with the safety seat that you put in your vehicle. Make sure that the shoulder belt (if provided at the seating position where the safety seat is being used) does not cross or rest in front of the child's face or neck. If you do not install and use the safety seat properly, the child may be injured in a sudden stop or collision.

Seat backs should be upright for use with child safety seats.

Installation Instructions for Child Safety Seat Locking Clip

Obtain the locking clip kit at no charge from an authorized Ford or Lincoln-Mercury dealer (Basic number 61248).

The locking clip must be used to secure a child seat when your vehicle has a shoulder and lap belt with a sliding tongue. Every seat belt that requires a locking clip is identified on the belt, with the label as shown in FIGURE 1. The locking clip is installed on a sample piece of webbing to show proper installation.

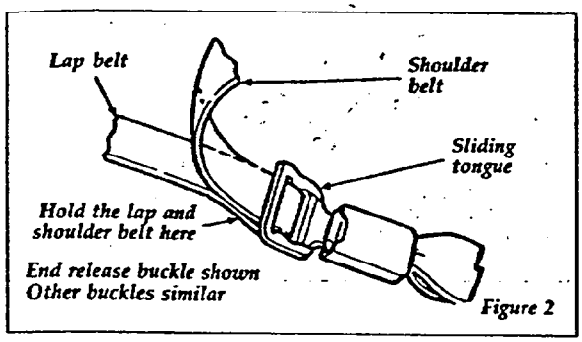


Warning: If you do not use a locking clip, injuries could result from the child seat tipping over during normal vehicle braking or cornering.

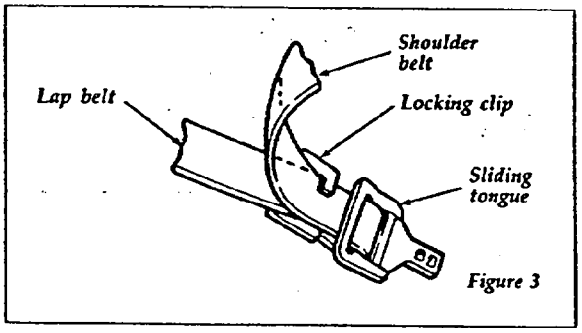
To Install the Locking Clip

1. Thread the belt webbing through the child seat according to the child seat manufacturer's instructions.

2. Buckle the seat belt.



3. Pull on shoulder portion of the belt to make the lap portion fit snugly. Keeping the lap belt snug, hold the lap and shoulder belt portions of the webbing together next to the slip tongue and unbuckle the seat belt, FIGURE 2.



4. Slide either corner of the locking clip slot closest to the tongue over both layers of webbing as shown in FIGURE 3.

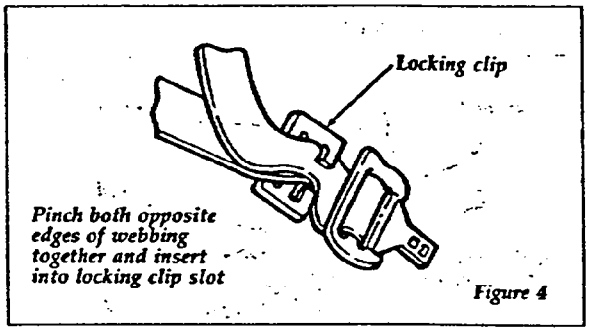


Figure 4

5. Pinch both opposite edges of webbing together and insert them into the locking clip slot as shown in FIGURE 4.

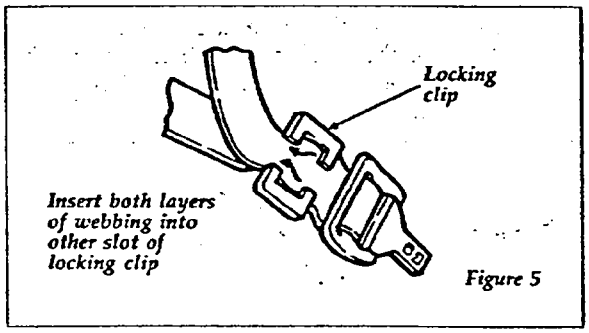


Figure 5

6. Pinch both layers of webbing together and insert into other slot of locking clip, FIGURE 5.

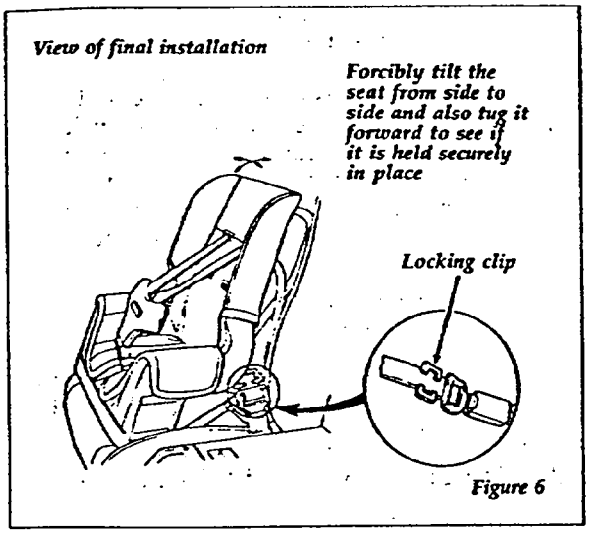


Figure 6

7. Re-buckle belt. Forcibly tilt the child seat from side to side and also tug it forward to see if it is held securely in place, FIGURE 6. If excessive movement occurs, repeat steps 2 through 7 or properly install child seat in a different seating position in the vehicle.

Warning: Once you have attached the safety seat, test the seat before you place the child in it. Tilt the seat from side to side. Also try to tug the seat forward. Check to see if the belt holds the seat in place. If the lap belt is too loose, tighten it by moving the locking clip, or put the safety seat in another seat and test it again. If the safety seat is not anchored properly, the risk of a child being injured in a collision or sudden stop greatly increases. Reclining seatbacks should be in the most upright position for use with child safety seats.

Attaching Safety Seats With Tether Straps

General Instructions

Some manufacturers make safety seats with a tether strap that goes over the back of the vehicle seat and attaches to an anchoring point behind the vehicle seat.

You can attach a tether strap anchor bracket to the rear floor by using a tether anchor kit (613D74), available at no charge from any Ford dealership.

Read and follow the instructions provided with the kit carefully for installation of the child tether strap anchor.

Follow the child seat manufacturer's instructions to attach the tether strap to the tether bracket.

Ford recommends placement of tethered safety seats in a rear seating position with the tether strap attached to the tether anchoring point as shown in the instructions provided with the child tether strap anchor kit.

On four-door models, if a tethered seat is installed in the front seat, it should be located only at the center front seating position, with the tether strap secured to the webbing of the buckled center rear lap belt behind the child safety seat.

Warning: Use only the tether attachment hole locations shown in the instructions. The tether anchorage may not perform properly if the wrong mounting location is used.

The rear lap/shoulder safety belts should not be used to secure the tether strap of a safety seat located in the front seat.

Warning: Failure to follow these precautions could increase the chance and/or severity of injury in an accident.

Warning: If the anchor bolt(s) are ever removed, the hole(s) in the floor must be sealed to prevent the possibility of exhaust fumes entering the passenger compartment.

APPENDIX E

INSTRUMENTATION AND CALIBRATION DATA

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CALIBRATION DATA FOR INSTRUMENTATION USED IN ATD CALIBRATION

DUMMY INSTRUMENTS	MANUFACTURER	MODEL	SERIAL No.	CAL DATE	DUE DATE
CHEST DEFLECTION POT	BECKMAN	5311	N/A	EACH USE	EACH USE
CHEST IMPACTOR ACCELEROMETER	ENTRAN	EGV-1	14N3N-V13-1	09/14/92	03/14/93
NECK PENDULUM ACCELEROMETER	ENTRAN	EGV-1	14N3N-V13-1	09/14/92	03/14/93
NECK ROTATION NO. 2	BECKMAN	5311	N/A	EACH USE	EACH USE
NECK ROTATION NO. 1	BECKMAN	5311	N/A	EACH USE	EACH USE
NECK EXTENSION POT	BOURNS	80294-20518-1840202	1684-067	EACH USE	EACH USE
ABDOMINAL COMPRESSION LOAD	LEBOW/EATON	3167	1573	09/14/92	03/14/93
LUMBAR FLEXION LOAD	LEBOW/EATON	3167	1573	09/14/92	03/14/93
LUMBAR ROTATION	BOURNS	3590S-2-102	N/A	EACH USE	EACH USE
ABDOMINAL DISPLACEMENT	CELESCO	PT-101-15B	0786551	EACH USE	EACH USE
TIMER	MSE	MSE TIM	1	08/17/92	02/17/93
TIME TRAP	MSE	1 in.	1	08/17/92	02/17/93