V2064

REPORT NO. MSE-94-06 R93030-06

NEW CAR ASSESSMENT PROGRAM

FRONTAL BARRIER IMPACT TEST

FORD MOTOR COMPANY
1994 FORD PROBE 2 DOOR COUPE
NHTSA No. MR0201

MOBILITY SYSTEMS AND EQUIPMENT COMPANY
9920 LaCienega Boulevard, Suite 708
Inglewood, California 90301

1 June ., 1994

FINAL REPORT

Prepared For:

U. S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
OFFICE OF MARKET INCENTIVES
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MOBILITY SYSTEMS AND EQUIPMENT COMPANY

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JUL 25 1994
Date of Report Acceptance

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16. Abstract

A 56 kph Frontal barrier impact test using a load cell barrier was conducted on a 1994 Ford Probe 2 Dr. Coupe at the Mobility Systems and Equipment Company (MSE) crash test facility in San Bernardino, CA, on March 11, 1994.

The impact velocity was 56.0 km/h, and the ambient temperature at the barrier face at the time of impact was 21.6 degrees C. The vehicle's maximum post-test static crush was 387 mm.

The test vehicle satisfied the requirements of FMVSS No.'s 212, 219 and 301-75.

Occupant injury response data summary is as follows:

Injury Criteria Threshold Value	Driver Dummy	Passenger Dummy
Head Injury Criterion HIC = 1000	238.1	538.1
Chest Resultant Peak 60 G's (3 msec clip)	34.0	45.2
Femur Force Left 10009 N Right	7055.0 4392.0	4277.0 6792.0

Type of occupant restraint system: A 3 point continuous webbing belt system and an airbag at both seating positions.

17. Key Words	18. Distribution Statement
35 MPH Frontal Barrier Impact Test New Car Assesment Program (NCAP) 1994 Ford Probe 2 Dr. Coupe	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 56.32 km/h (35 mph) frontal barrier impact test is a part of the FY'94 Vehicle Barrier Impact and Testing Program sponsored by the Natonal 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 48.27 km/h (30 mph) FMVSS 208/212/219/301-75 requirements.

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

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SECTION 2

SUMMARY OF FRONTAL BARRIER IMPACT TEST

A load cell barrier was impacted by a 1994 Ford Probe 2 Door Coupe, NHTSA No. MR0201, at a velocity of 56.0 km/h. The frontal impact test was conducted by Mobility Systems and Equipment Company (MSE) on 11 March 1994. 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) Hybrid III, Part 572, Subpart E, 50th percentile adult male Anthropomorphic Test Devices (ATD's), Serial Nos. 34 and 35 respectively, were placed in the driver and front outboard passenger designated seating positions (DSP's), respectively, according to the NHTSA test requirements. No. 34 was previously used for NCAP testing for the Ford F150 and Escort tests. No. 35 has not been used for NCAP testing since recalibration.

The ATD's were instrumented with head, neck and chest triaxial accelerometers, chest displacement gauges, upper neck load/moment sensors and right and left femur load cells. In addition, load cells were placed on both lap and shoulder seat belts to measure ATD upper torso and pelvic section belt loading. Displacement transducers were attached to the shoulder belts to measure seat belt elongation and belt spoolout. A summary of ATD data is presented in Table 3. A summary of ATD configuration and performance verification test data is presented in Appendix C.

The frontal impact event was documented by one (1) real time camera and sixteen (16) high-speed cameras. Camera location data and film speeds are presented in Table 7.

Seventy-three (73) channels of crash parameters were recorded using three (3) FM tape recorders and three (3) data acquisition computers with direct analog to digital acquisition units. Time history plots of all recorded data channels are presented in Appendix B. Channels that failed were 35, 37, 47, 49, 78, 79, and 80 - 83. The reason for the failure is unknown.

2.1 GENERAL COMMENTS

The 1994 Ford Probe 2 Door Coupe was equipped with a 1983 cc, 4 cylinder engine and a 4 speed automatic transmission. The test weight of the 1994 Ford Probe 2 Door Coupe with two (2) 50th percentile male ATD's, instrumentation and cameras was 1441 kg.

The 1994 Ford Probe 2 Door Coupe was involved in a frontal barrier crash at a velocity of 56.0 km/h.

The maximum static crush for the vehicle of 391 mm occurred at 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 airbag. The driver's left and right knees hit the dash panel. The driver ATD had a Head Injury Criteria (HIC) value of 238.1, the maximum chest acceleration (resultant clipped) was 34.0g's and the maximum femur loads were -7055.0 newtons (left) and -4392.0 newtons (right).

The passenger ATD's face hit the airbag. Both of his knees hit the glove box door and the instrument panel. The passenger ATD had a HIC value of 538.1, the maximum chest acceleration (resultant clipped) was 45.2g's and the maximum femur loads were -4277.0 newtons (left) and -6792.0 newtons (right).

Shoulder seat belt spoolout, measured by mechanical analysis, was 47 mm for the driver and 50 mm for the passenger. Seat belt spoolout and strain data are presented in Table 6.

The 1994 Ford Probe 2 Door Coupe passed the requirements of FMVSS 212, FMVSS 219 and FMVSS 301-75. Data pertaining to these standards are presented in Section 4, in Tables 13, 14 and 15, respectively.

Appendix D contains the manufacturer's occupant restraint system instructions as presented in the owner's manual. Appendix E contains the instrumentation calibration data.

DATA TABLE No. 1
TEST VEHICLE DATA

VEHICLE YEAR/MAKE/MODEL/BODY STYLE: 1994/Ford/Probe/2 dr. Coupe

VEHICLE NHTSA No.: M R 0 2 0 1 ; **VIN:** 1 Z V L T 2 0 A 4 R 5 1 2 9 0 7 3

VEHICLE BODY COLOR: White ; **MONTH AND YEAR OF MANUFACTURE:** 12/93

ENGINE: 4 Cylinders; 121 cu in; 2.0 Liters; 1983 cc
X Gas; ___ Diesel; ___ Turbocharged
PLACEMENT: ___ Longitudinal; X Transverse (Lateral)

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

FINAL DRIVE: X Front Wheel Drive; ___ Rear Wheel Drive; ___ Four Wheel Drive

DATE VEHICLE AVAILABLE FOR 35 MPH CRASH TESTING: 02/01/94

ODOMETER READING: 45 km; **OPTIONS :** X A/C; X P/S; ___ P/Window;
X Tilt Whl.; ___ Cruise Control

DATA RECORD FROM VEHICLE'S TIRE PLACARD:

Tire Pressure (at capacity): 220 kPa Front; 180 kPa Rear
Recommended Tire Size: P195/65R14 88S
Tires on Vehicle: P195/65R1488S; Manufacturer: Firestone
Number of Occupants: 2 Front; 2 Rear; ___ Third Seat; 4 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: 308 kg
No. of Occupants x 68 kg: 272 kg
Cargo Capacity (Max - Occupants): 36 kg

TEST VEHICLE DELIVERED WEIGHT WITH MAXIMUM FLUIDS:

Right Front:	389 kg			
Left Front:	419 kg	Total Front:	808 kg	(64% of Total)
Right Rear:	230 kg			
Left Rear:	220 kg	Total Rear:	450 kg	(36% of Total)

Total Weight: 1258 kg

CALCULATION OF TEST VEHICLE TARGET WEIGHT:

Total Test Vehicle Delivered Weight with Maximum Fluids:	1258	kg
Maximum Cargo Carrying Capacity of Test Vehicle:	36	kg*
Weight of Two Part 572 ATD;s (2*74.5 kg):	149	kg
TEST VEHICLE TARGET WEIGHT:	1443	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: 426 kg
Left Front: 440 kg Total Front: 866 kg (60% of Total)
Right Rear: 289 kg
Left Rear: 286 kg Total Rear: 575 kg (40% of Total)

Total Weight: 1441 kg (includes 0 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 assembly

TEST VEHICLE ATTITUDE:

As Delivered -	Right Front:	686 mm	Ready for Test -	Right Front:	680 mm
	Left Front:	686 mm		Left Front:	680 mm
	Right Rear:	686 mm		Right Rear:	655 mm
	Left Rear:	686 mm		Left Rear:	655 mm

TEST VEHICLE DIMENSIONS:

Total Vehicle Length: Right Side: 4210 mm
Left Side: 4220 mm
Centerline: 4480 mm

Wheelbase: 2615 mm

C. G. is 1044 mm rearward of front axle centerline.

DATA TABLE No. 2
POST CRASH TEST DATA

DATE OF 35 MPH FRONTAL BARRIER IMPACT RATING TEST: 03/11/94

TIME OF TEST: 1440 Hrs; AMBIENT TEMPERATURE AT BARRIER FACE: 21.6° C

VEHICLE OCCUPANT COMPARTMENT TEMPERATURE: 21.6° C (Req. Range 19° C to 26° C)

VEHICLE WINDSHIELD MOLDING TEMPERATURE: 21.6° C

VEHICLE IMPACT VELOCITY: (Req. Range 55.52 to 57.13 km/h)
Primary Speed Trap: 56.0 km/h
Secondary Speed Trap: 55.70 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)	4210	4051	159
Centerline (mm)	4480	4089	391
Left Side (mm)	4220	3988	232

VEHICLE REBOUND FROM BARRIER: Right Side: 530 mm
Centerline: 600 mm
Left Side: 655 mm

ATD CONTACT POINTS:

	Driver ATD (ID# 34)	Pass. ATD (ID# 35)
Head	Airbag	Airbag
Chest	Airbag	Airbag
Abdomen	No Contact	No Contact
Right Knee	Instrument Pn. & Steering Col.	Glove Box Dr./Inst. Pn
Left Knee	Instrument Panel	Glove Box Dr./Inst. Pn

VEHICLE DOOR OPENING INFORMATION:

Door	Opened	Jammed
Right Front	Yes	No
Left Front	Yes	No
Right Rear	N/A	N/A
Left Rear	N/A	N/A

VEHICLE FRONT SEAT MOVEMENT DURING IMPACT EVENT:
Seat Cushion Shift - Driver = 3 mm Passenger = 7 mm
Seat Adjustor Failure - Driver: No Passenger: No
Details of Any Failure: None

OTHER NOTABLE IMPACT EFFECTS: None

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SECTION 3

OCCUPANT AND VEHICLE INFORMATION

I. OMI DATA

ATD Injury Criteria Data Summary
ATD Positioning Data
Seat Belt Positioning Data
Seat Belt Performance Assessment Data
Camera Locations

II. OVR DATA

Load Cell Barrier Data
Vehicle Accelerometer Data

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

VEH. YEAR/MAKE/MODEL/BODY STYLE: 1994/Ford/Probe/2 Dr. Coupe

VEH. NHTSA NO.: MR0201 TEST DATE: 03/11/94

MAXIMUM ACCELERATION VALUES:	DRIVER ATD No. 34	PASSENGER ATD No. 35
Head X	-37.7	-38.5
Head Y	-16.8	-46.0
Head Z	-11.7	30.4
HEAD RESULTANT	39.1	59.9
Chest X	-34.1	-47.8
Chest Y	-8.6	-8.3
Chest Z	21.3	12.1
CHEST RESULTANT (3msec clip)	34.0	45.2
TIME INTERVAL (msec)	75.3 to 78.3	79.2 to 82.2

HEAD INJURY CRITERIA (HIC) VALUES:

HIC	238.1	538.1
t^1 (msec)	61.2	65.3
t^2 (msec)	97.2	97.9
Avg. Acceleration t^1 to t^2	33.7	48.6

MAXIMUM FEMUR FORCES:

Left Femur (N)	-7055.0	-4277.0
Right Femur (N)	-4392.0	-6792.0

MAXIMUM SEAT BELT FORCES:

Lap Belt (N)	3741.0	N/D
Shoulder Belt (N)	4470.0	4239.0

MAXIMUM SEAT BELT WEBBING SPOOLOUT:

Lap/Shoulder Belt Combination	47	50

TABLE No. 3 (Continued)
FMVSS No. 208 OCCUPANT CRASH PROTECTION DATA SHEET

VEH. YEAR/MAKE/MODEL/BODY STYLE: 1994/Ford/Probe/2 Dr. Coupe

VEH. NHTSA NO.: MR0201 TEST DATE: 03/11/94

MAXIMUM ACCELERATION VALUES:	DRIVER ATD No. 34	PASSENGER ATD No. 35
Neck Force X (N)	-484.5	-806.3
Neck Force Y (N)	-202.2	669.1
Neck Force Z (N)	1503.7	1071.0
Neck Moment X	12.5	44.6
Neck Moment Y	-39.0	97.7
Neck Moment Z	-16.9	54.6
Neck Moment Resultant	42.7	112.0
Chest Displacement (mm)	34.0	3.6
Time of Max. Occurrence (msec)	75.0	98.0

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DATA TABLE No. 4
TEST ATD POSITIONING DATA

PRE - IMPACT DATA:

Make / Model: Ford Probe
Body Style: 2 dr. Coupe
Model Year: 1994
Color: White
NHTSA No.: MR0201

DATA FROM CERTIFICATION LABEL:

Vehicle Manufacturer: Autoalliance International for Ford
Date of Manufacture: 12/93
VIN: 1ZVLT20A4R5129073
GVWR: 1640 kg
GAWR Front: 955 kg
GAWR Rear: 900 kg

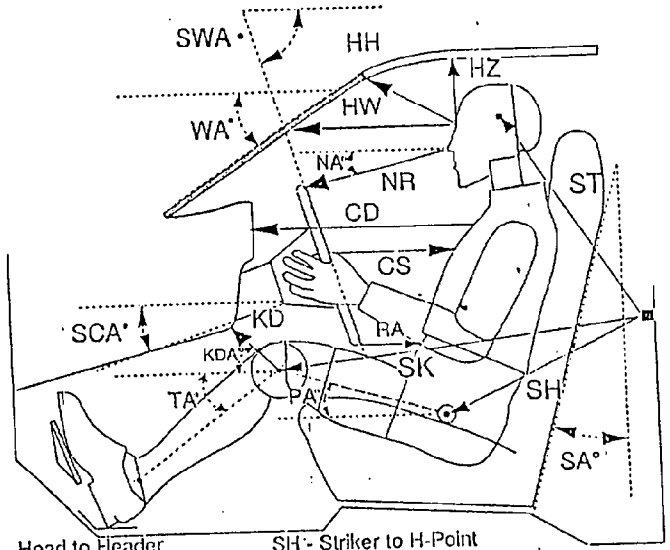
POST IMPACT DATA:

Date of Test: 03/11/94
Time: 1440 Hrs.
Temperature: 21.6° C
Required Impact Velocity Range: 55.52 to 57.13 km/h
Impact Velocity - Primary: 56.0 km/h
Secondary: 55.7 km/h
Seat Type: Bucket
Adjustor Type: Adjustable lever
Bucket Seat Back Type: Fixed head restraint

ATD POSITIONING TECHNICIANS: Frank Richardson

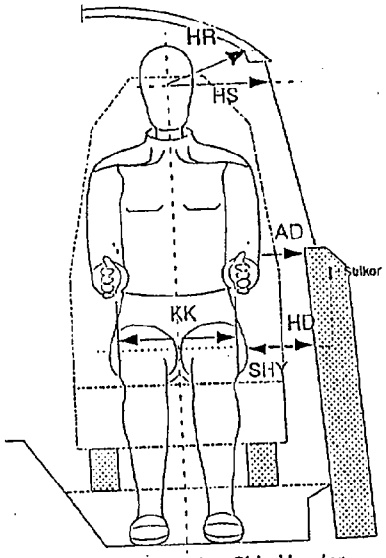
DATA TABLE No. 4 (Continued)
TEST ATD POSITIONING DATA

DUMMY MEASUREMENTS FOR FRONT SEAT PASSENGERS

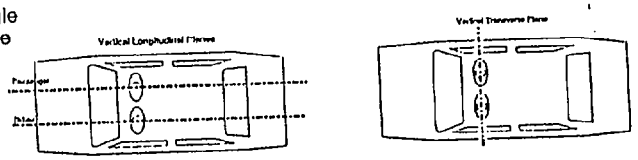


HH - Head to Header
HW - Head to Windshield
HZ - Head to Roof
NR - Nose to Rim
CS - Steering Wheel to Chest
CD - Chest to Dash
RA - Rim to Abdomen
KDL/KDR - Knee to Dash
KDA - Knee to Dash Angle

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



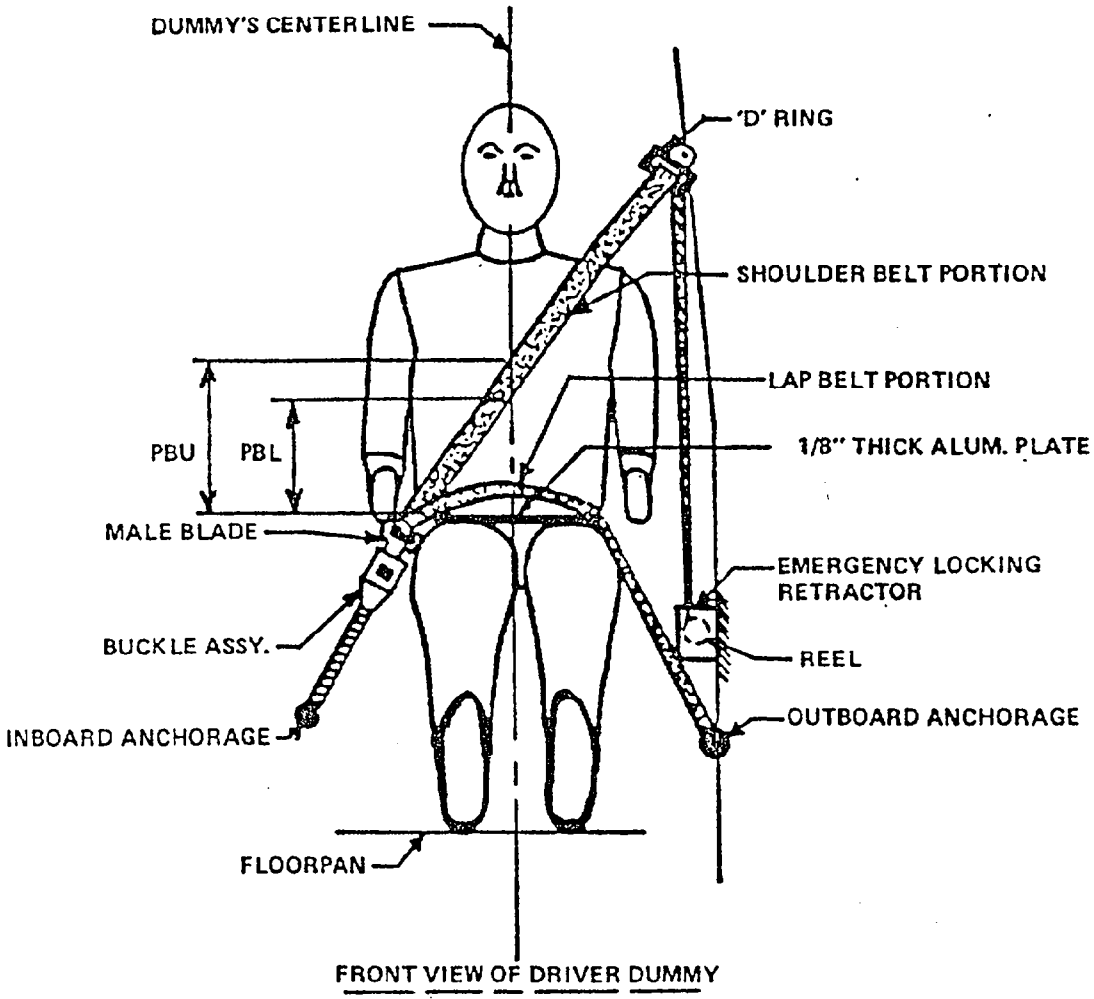
HR - Head to Side Header
HS - Head to Side Window
AD - Arm to Door
HD - H-Point to Door
SHY - Striker to H-Point (Y Dir.)
KK - Knee to Knee



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

Measurement	Driver (Serial No. 34)		Passenger (Serial No. 830)	
	Length (mm)	Angle (Degrees)	Length (mm)	Angle (Degrees)
WA	---	25	---	---
SWA	---	70	---	---
SCA	---	20	---	---
HZ	130	90	130	90
HH	200	---	205	0
HW	397	---	435	0
HR	207	---	197	---
NR	306	10	---	---
CD	440	---	440	---
CS	240	0	---	---
RA	175	0	---	---
KDL	183	37	105	---
KDR	170	---	90	47
PA	---	23	---	23
TA	---	42	---	40
KK	390	---	330	---
ST	472	48	392	46
SK	915	4	980	2
SH	515	22	500	21
SHY	275	0	245	0
HS	300	0	295	0
HD	160	0	160	0
AD	85	0	100	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)	310	330
PBL - Top Surface of alum. plate to belt lower edge (mm)	230	250
Lap Belt Tension (N)	N/D	N/D
Shoulder Belt Tension (N)	N/D	N/D

DATA TABLE 6
SEAT BELT PERFORMANCE ASSESSMENT TEST DATA

	DRIVER SIDE		PASSENGER SIDE	
BELT LENGTH DATA:	PRETEST	POSTTEST	PRETEST	POSTTEST
Total belt length from retractor reel to bolt hole anchor point for continuous webbing systems (mm)	1720	1830	1860	2070
Retractor reel to 'D' ring as measured on Part 572 ATD (mm)	130	130	180	180
Shoulder belt length as measured on Part 572 ATD (mm)	910	1020	1020	1100
Lap belt length as measured on Part 572 ATD (mm)	680	680	660	790*
Remainder of belt webbing left on the retractor reel (mm)	545	435	550	340

BELT SPOOL-OFF DATA:		
As determined by film analysis (mm)	13	N/D
As determined electronically (mm)	N/D	N/D
As determined mechanically (mm)	47	50

BELT STRAIN DATA: Measured on the shoulder belt		
As determined electronically (%)	N/D	N/D
As determined mechanically (%)	0	0

* Lap Belt stitching tore loose at mount, Driver seat broke loose from mounting on right side.

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

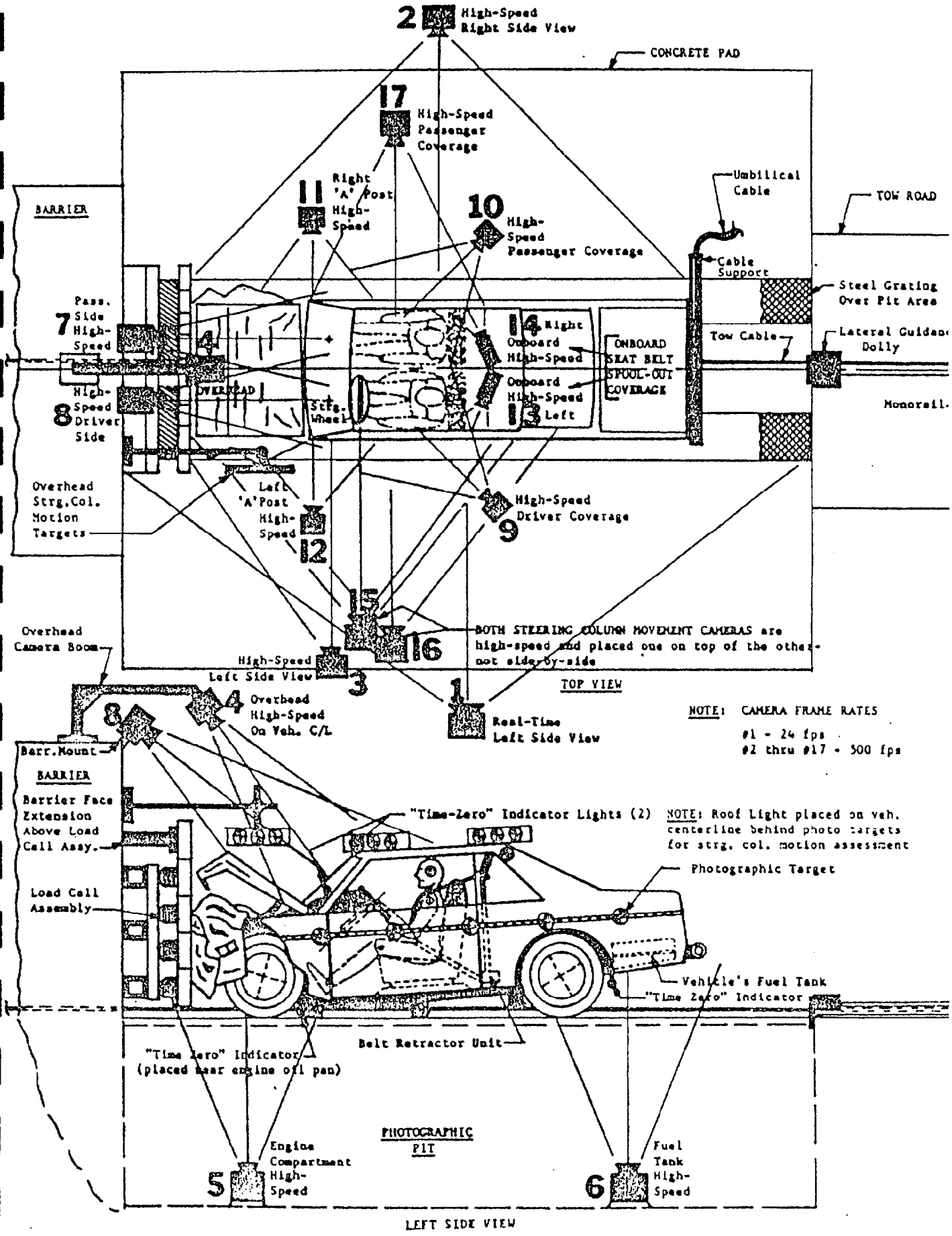
VEH. YEAR/MAKE/MODEL/BODY STYLE: 1994/Ford/Probe/2 Dr. Coupe

VEH. NHTSA NO.: MR0201 TEST DATE: 03/11/94 TIME: 1440 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	5900	14350	3400	-20	14577	15-70 Zoom	24
2	Right Side View	3460	18400	3700	-11	18212	28	N/D
3	Left Side View	3770	13120	3700	-13	13044	28	700
4	Overhead	-410	0	5190	-77	4751	13	615
5	Pit - Engine	600	60	-1605	87	3377	13	N/D
6	Pit - Fuel Tank	4455	0	-1550	90	3600	13	N/D
7	Front - Passenger	-530	370	2510	-48	3069	13	1025
8	Front - Driver	-530	330	2510	-48	3070	13	770
9	Left Side - Driver	3310	2405	1610	-5	2284	13	770
10	Right Side - Pass.	3370	2440	1810	-14	2377	13	870
11	Right Side - A-Post	1530	5760	1120	4	5432	19	550
12	Left Side - A-Post	1825	9510	2160	-7	9178	13	615
13	Onboard - Left Side	2970	-290	1320	4	689	35	1010
14	Onboard - Right Side	2970	280	1310	3	689	13	N/D
15	Left Side - St. Col.	2205	9960	3140	-10	9751	28	520
16	Left Side - St. Col.	2265	9960	2390	-16	9637	28	720
17	Right Side - Pass.	1960	5900	1100	1	5529	19	1080

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

NOTES: * Film is good but film speed could not be determined.
** Film was destroyed during test *** Film was destroyed during processing


2 High-Speed Right Side View
CONCRETE PAD
17 High-Speed Passenger Coverage
11 Right 'A' Post High-Speed
10 High-Speed Passenger Coverage
Umbilical Cable
TOW ROAD
BARRIER
Cable Support
Steel Grating Over Pit Area
7 Pass. Side High-Speed
14 Right Onboard High-Speed
ONBOARD SEAT BELT SPOOL-OUT COVERAGE
Tow Cable
Lateral Guidance Dolly
8 High-Speed Driver Side
OVERHEAD
Strg. Wheel
13 Left Onboard High-Speed
Monorail
Overhead Strg.Col. Motion Targets
Left 'A' Post High-Speed
12
High-Speed Driver Coverage
9
15
16
BOTH STEERING COLUMN MOVEMENT CAMERAS are high-speed and placed one on top of the other - not side-by-side
Overhead Camera Boom
High-Speed Left Side View
3
TOP VIEW
1 Real-Time Left Side View
NOTE: CAMERA FRAME RATES
#1 - 24 fps
#2 thru #17 - 500 fps
8
4 Overhead High-Speed On Veh. C/L
Barr.Mount
BARRIER
Barrier Face Extension Above Load Cell Assy.
"Time-Zero" Indicator Lights (2)
NOTE: Roof Light placed on veh. centerline behind photo targets for strg. col. motion assessment
Photographic Target
Load Cell Assembly
Vehicle's Fuel Tank
"Time Zero" Indicator
Belt Retractor Unit
"Time Zero" Indicator (placed near engine oil pan)
PHOTOGRAPHIC PIT
5 Engine Compartment High-Speed
6 Fuel Tank High-Speed
LEFT SIDE VIEW

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	-1880	-590	350	50.9	52.4	2.4	111.5
2	Right rear seat cross member	-1820	600	350	22.1	75.5	1.3	141.9
3	Top of engine block	220	100	800	60.4	43.1	3.9	74.2
4	Bottom of engine	130	250	95	124.0	43.2	55.2	54.6
5	Right brake caliper	135	640	95	110.1	59.6	38.4	76.6
6	Instrument panel	-600	-90	880	0.0	.1	0.0	.0
7	Left brake caliper	135	-640	206	91.6	54.1	48.0	76.1
8	Left rear seat cross member Redun.	-1920	-590	368	72.5	61.6	12.7	133.8
9	Right rear seat cross member Redun.	-1920	600	368	.0	.1	.0	.0

REFERENCE: X - Front bumper leading edge
Y - Vehicle centerline (Right Pos., Left Neg.)
Z - Ground level

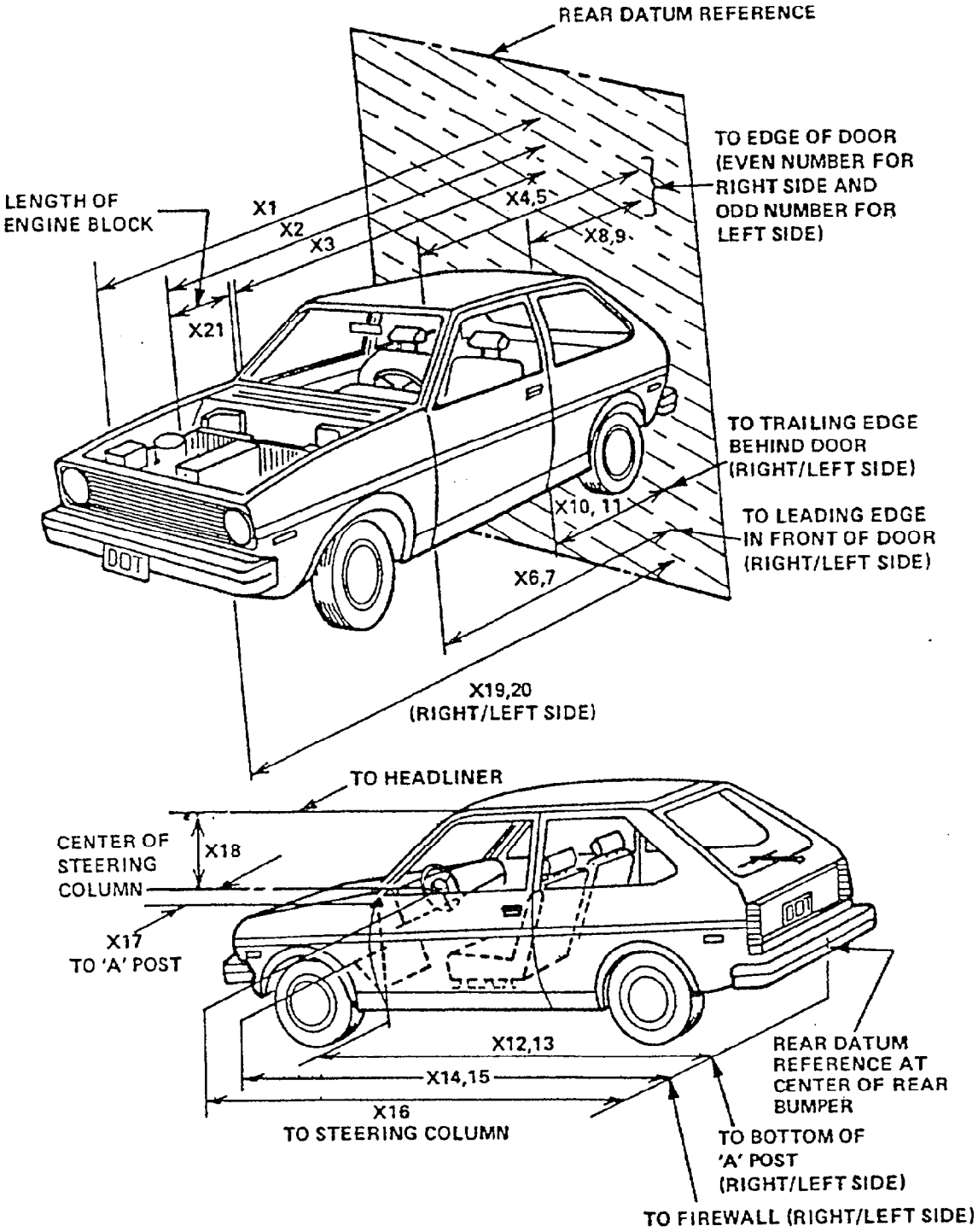
All dimensions in mm

DATA TABLE No. 9
TEST VEHICLE MEASUREMENTS

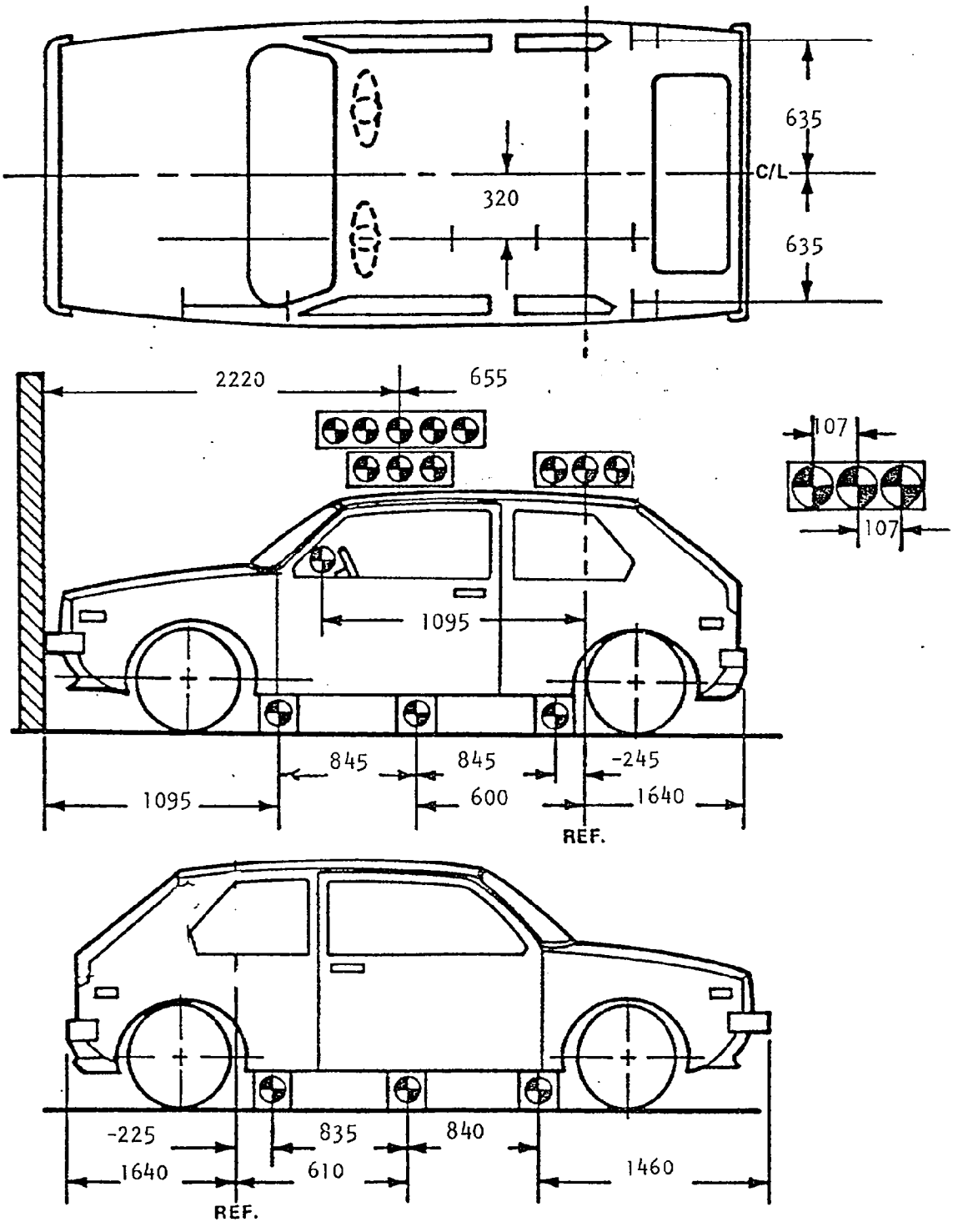
No.	Measurement Description	Pretest	Posttest	Change
1	Length of test vehicle at centerline	4480	4089	391
2	Rear surface of vehicle to front of engine	3825	3810	15
3	Rear of vehicle to firewall centerline	3270	3251	19
4	Rear to upper leading edge of right door	2975	2972	3
5	Rear to upper leading edge of left door	2965	2965	0
6	Rear to lower leading edge of right door	3010	2991	19
7	Rear to lower leading edge of left door	3000	3000	0
8	Rear to upper trailing edge of right door	1715	1715	0
9	Rear to upper trailing edge of left door	1710	1710	0
10	Rear to lower trailing edge of right door	1835	1835	0
11	Rear to lower trailing edge of left door	1850	1854	-4
12	Rear to bottom of right 'A' pillar	3040	3023	17
13	Rear to bottom of left 'A' pillar	3050	3035	15
14	Rear surface to firewall on right side	3245	3226	19
15	Rear surface to firewall on left side	3240	3226	14
16	Rear surface to steering column	2640	2640	0
17	Center of steering column to left 'A' pillar	370	355	15
18	Center of steering column to headlining	455	455	0
19	Rear surface to right side of front bumper	4210	4051	159
20	Rear surface to left side of front bumper	4220	3988	232
21	Length of engine block	215	215	0

All measurements in mm

DATA TABLE No. 9 (Continued)
TEST VEHICLE MEASUREMENTS



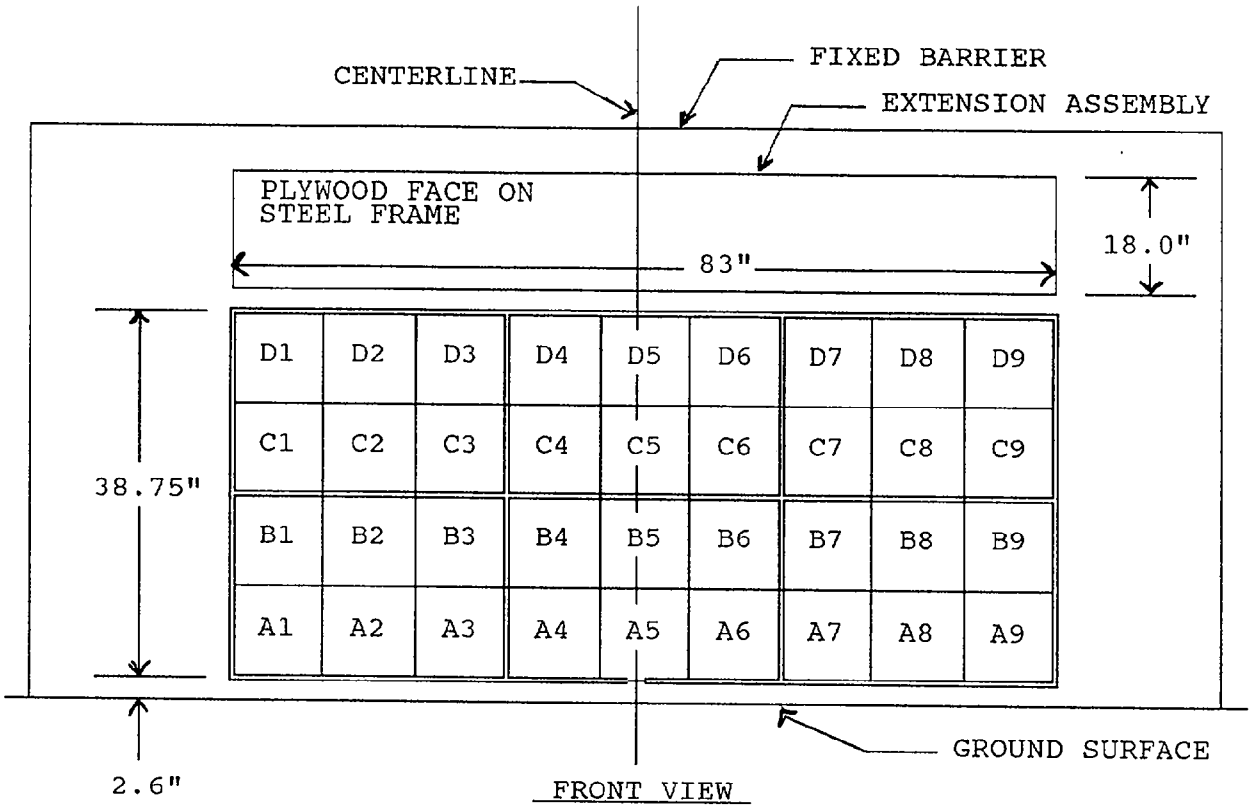
DATA TABLE No. 10
VEHICLE TARGET LOCATIONS



all measurements 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 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 REQUIREEMTNS:

(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/Probe/2 Dr. Coupe

Veh. NHTSA No.: MR0201 ; VIN: 1ZVLT20A4R5129073

Model Year: 1994 ; Build Date: 12/93 ; Test Date: 03/11/94

Veh. Size Category: N/A ; Test Weight: 1441 kg

Veh. Wheelbase: 2615 mm ; Front Overhang: 610 mm ; Overall Width: 1778 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: 56.00 km/h ; Time of separation: 0.0 msec

Velocity Change: 48.8 km/h (Left); 36.7 km/h (Right)

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

Crush Depth Dimensions:

C1 = 202 mm

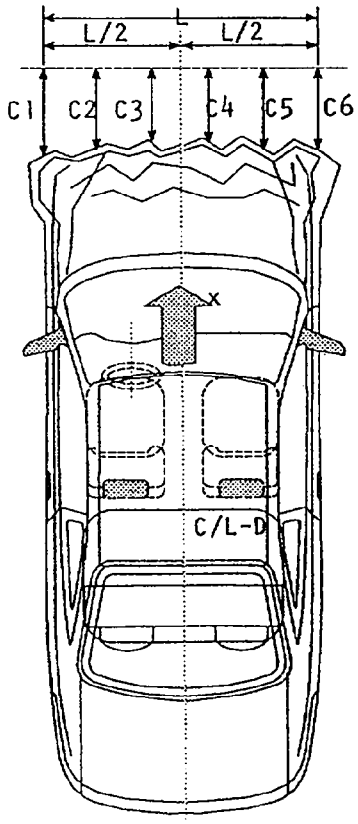
C2 = 336 mm

C3 = 375 mm

C4 = 387 mm

C5 = 387 mm

C6 = 199 mm



Midpoint of Damage: Vehicle Centerline

Length of Damaged Region: L = 1524 mm

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SECTION 4

SUMMARY OF RESULTS FOR:

FMVSS 212, "Windshield Mounting"
FMVSS 219, "Windshield Zone Intrusion"
FMVSS 301-75, "Fuel System Integrity"

DATA TABLE No. 13
FMVSS No. 212, WINDSHIELD MOUNTING

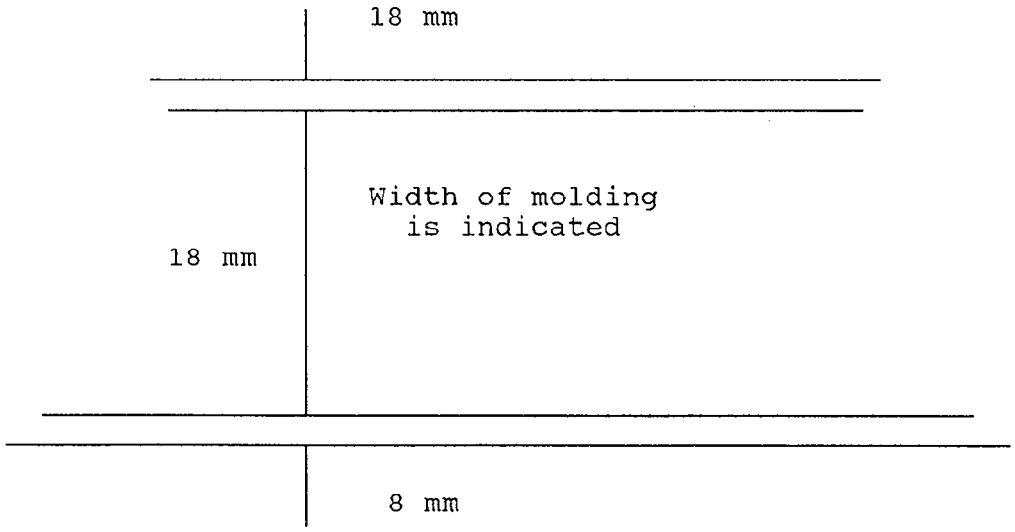
Details of windshield mounting: Glass is secured to the vehicle frame with a rubber type adhesive with rubber molding along the top and sides and rubber and plastic molding along the bottom.

FMVSS 212 Requirements: The post-test periphery retention amount must be at least 75% of the pretest periphery measurement for vehicles not equipped with automatic restraints and 50% for each side of the windshield for vehicles equipped with automatic restraint systems for front occupants.

FMVSS 212 Test Data:

	Windshield Periphery Retention		
	Pretest (mm)	Posttest (mm)	Percent Retention
Right Side	1665	1665	100
Left Side	1665	1665	100
Total	2330	2330	100

AREA OF RETENTION FAILURE:



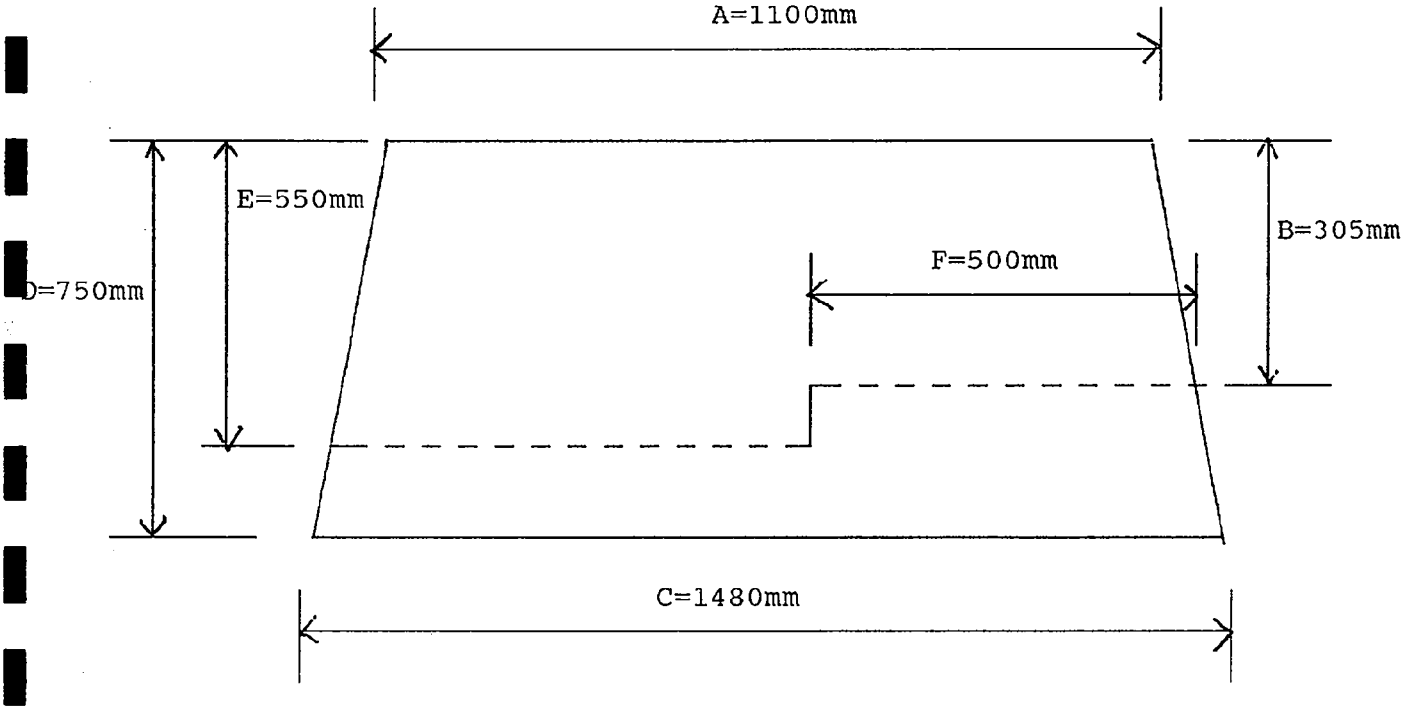
FAILURE DETAILS: None

DATA TABLE No. 14
FMVSS No. 219 WINDSHIELD ZONE INTRUSION

PROTECTED ZONE LOWER EDGE REQUIREMENT

The lower edge of the protected zone is determined by placing a 6.5 inch diameter rigid sphere weighing 15 pounds in a position such that it simultaneously contacts the inner surface of the windshield and the top surface of the instrument panel including padding. Draw the locus of points on the inner surface of the windshield contactable by the sphere across the width of the instrument panel. From the outermost contactable points, extend the locus line horizontally to the edges of the windshield and then draw a line on the inner surface of the windshield below and 1/2 inch distant from the locus line. The lower edge of the protected zone is the longitudinal projection onto the outer surface of the windshield of this line.

FMVSS 219 TEST DATA:



DETAILS OF WINDSHIELD GLASS PENETRATION GREATER THAN 1/4": None
(Location shown on above sketch)

Data Table No. 15
FMVSS No. 301-75, Fuel System Integrity

VEH. YEAR/MAKE/MODEL/BODY STYLE: 19 94/Ford/Probe/2dr. Coupe

VEH. NHTSA NO.: MR0201 TEST DATE: 03/11/94

USABLE CAPACITY OF VEHICLE'S FUEL TANK: 58.5 Liters (furnished by Mfr.)

TEST REQUIREMENTS:

Vehicle's engine operated to "run dry" condition and a small amount of Stoddard solvent, dyed red, was added to the vehicle's fuel tank. Fuel pump was operated to fill the fuel system ahead of the fuel tank, then added 92% to 94% of the stated usable capacity to the fuel tank.

AMOUNT OF STODDARD SOLVENT ADDED TO THE VEHICLE'S FUEL TANK:

54.4 Liters, which is 93.0% of the stated usable capacity

SOLVENT SPILLAGE MEASUREMENT AFTER 35 MPH FRONTAL BARRIER IMPACT TEST:

	Actual	Max. Allowed
From impact until vehicle motion ceases	0 oz.	1 oz.
For 5 min. period after vehicle motion ceases	0 oz.	5 oz.
For next 25 min. at barrier face	0 oz.	1 oz./min.

SOLVENT SPILLAGE DETAILS: None

STATIC ROLLOVER MACHINE ROTATION TIME INFORMATION: (Spec. range = 1 to 3 min)

Time reqd. for machine to rotate 90°	1 minutes,	20 seconds
FMVSS 301-75 position hold time	5 minutes,	00 seconds
Total	6 minutes,	20 seconds
Next whole minute interval	7 minutes	

VEHICLE STATIC ROLLOVER DATA:

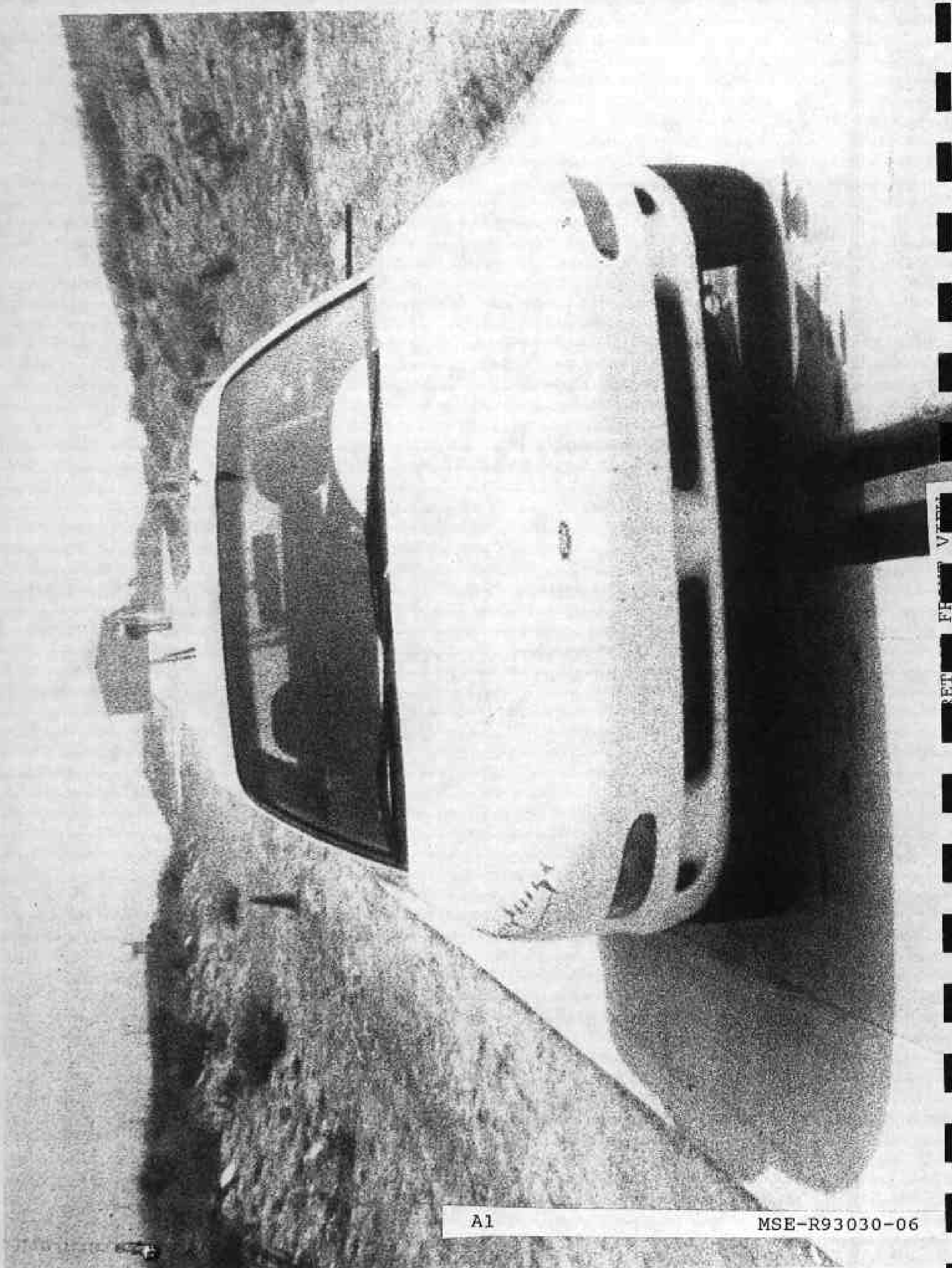
	1st 5 Min.	6th min.	7th min.	8th min.
Max allowable solvent spillage	5 oz.	1 oz.	1 oz.	1 oz.
0° to 90° (filler cap down)	0 oz.	0 oz.	0 oz.	N/A
90° to 180°	0 oz.	0 oz.	0 oz.	N/A
180° to 270°	0 oz.	0 oz.	0 oz.	N/A
270° to 360°	0 oz.	0 oz.	0 oz.	N/A

SOLVENT SPILLAGE LOCATIONS: None

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 ATD Position View
Posttest Driver ATD Position View
Pretest Passenger ATD Position View
Posttest Passenger ATD Position View
Pretest Driver ATD and Vehicle Interior View (Door Open)
Posttest Driver ATD and Vehicle Interior View (Door Open)
Pretest Passenger ATD and Vehicle Interior View (Door Open)
Posttest Passenger ATD and Vehicle Interior View (Door Open)
Posttest Driver ATD Knee Contact Area
Posttest Passenger ATD Knee Contact Area



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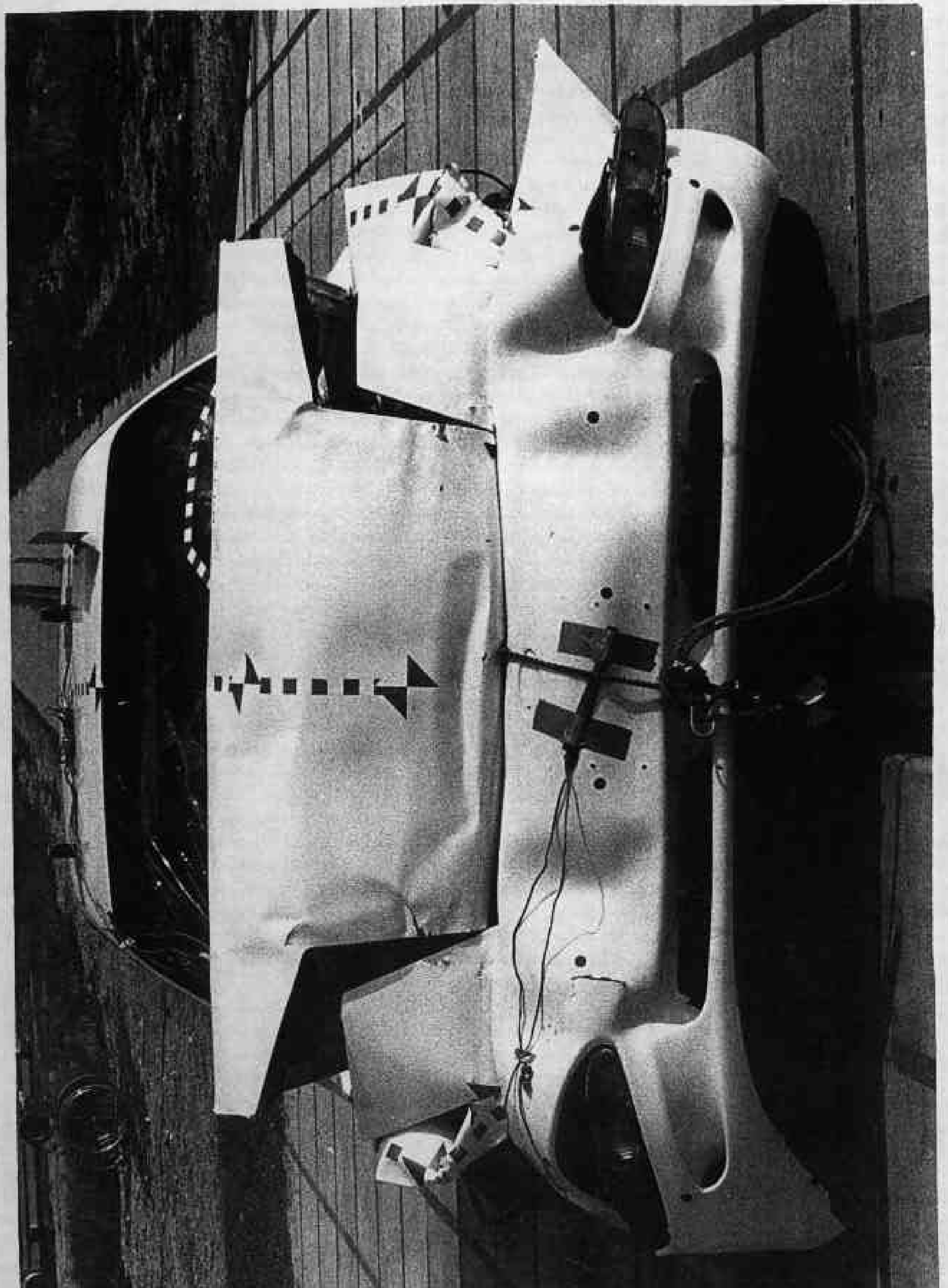
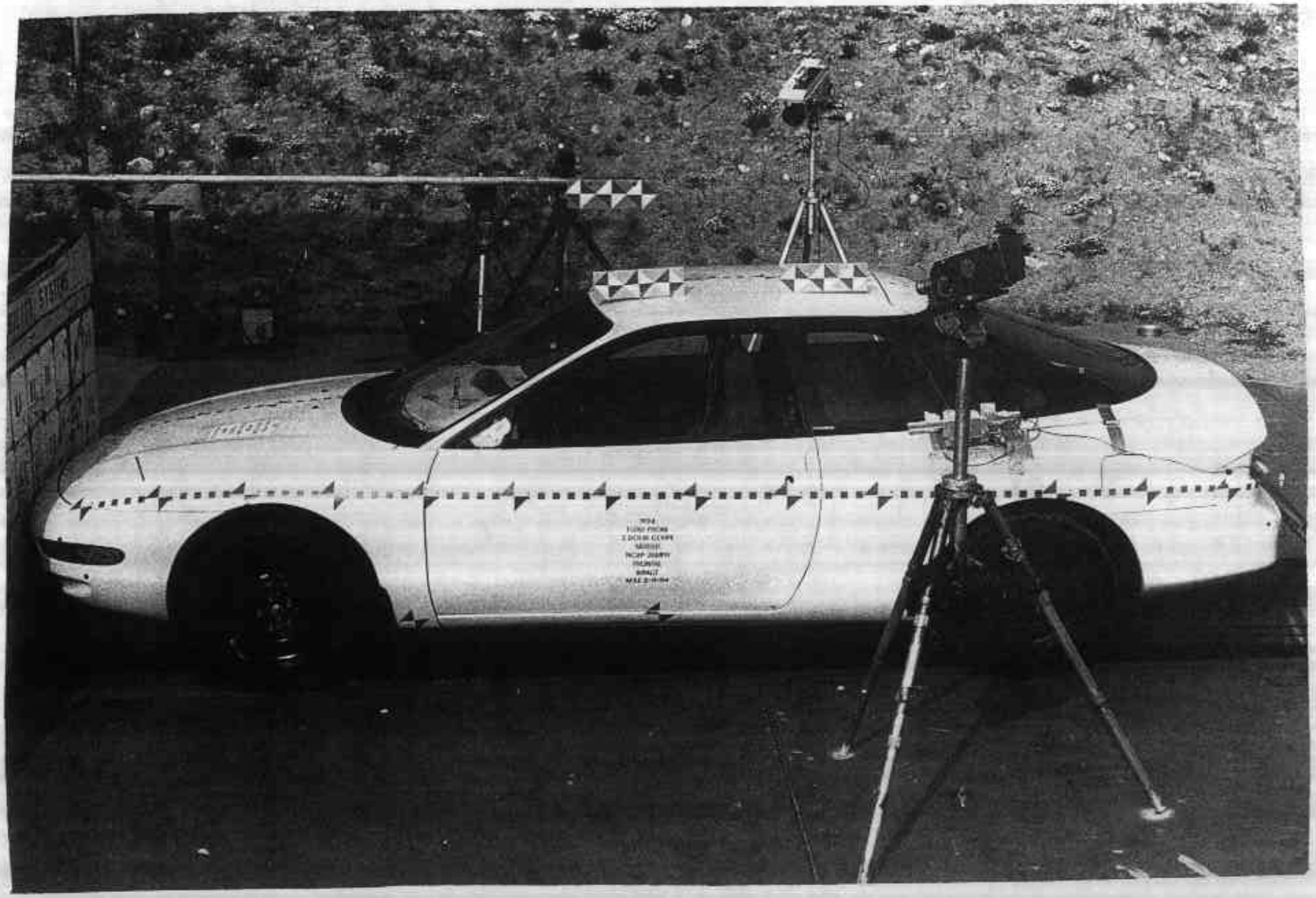
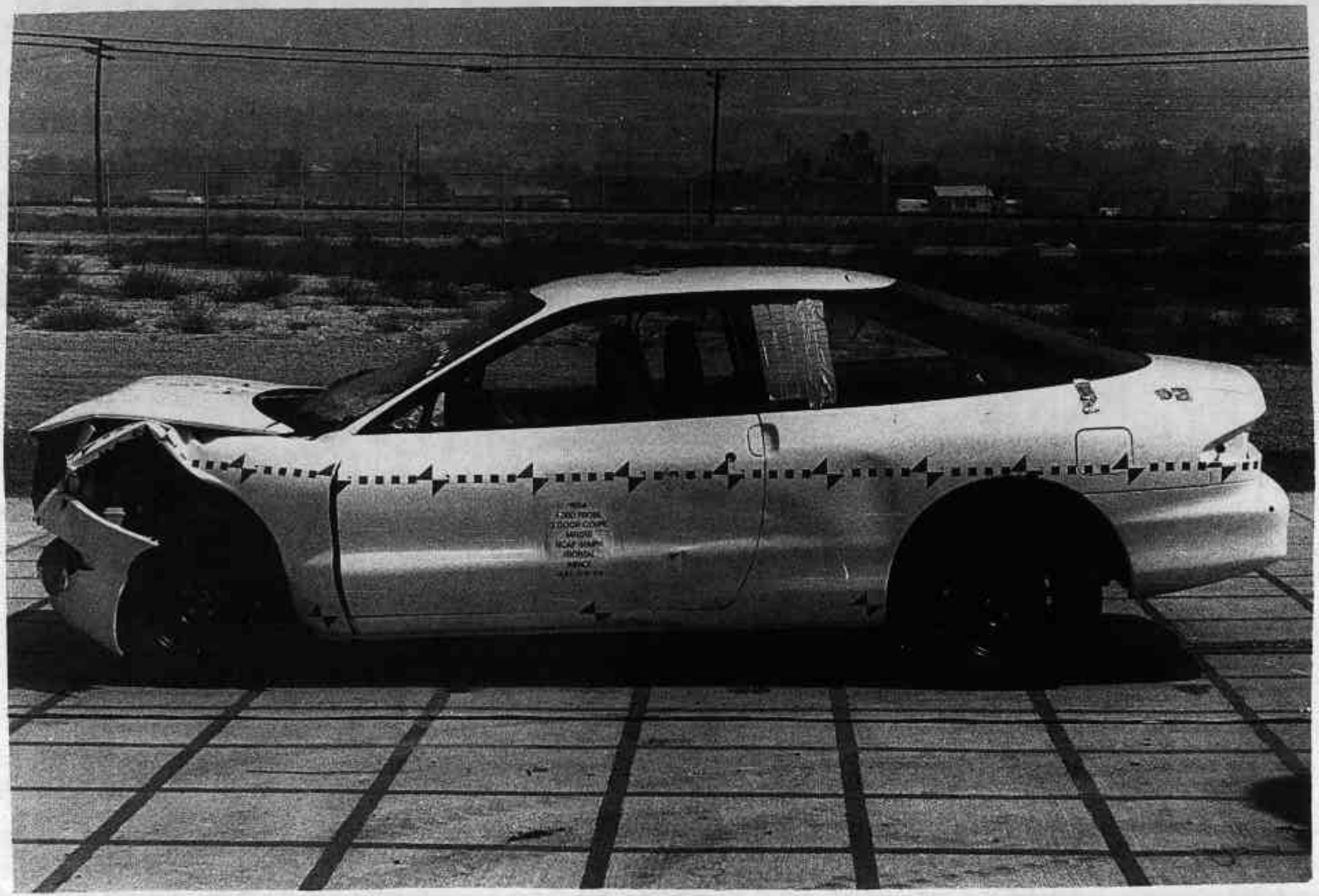


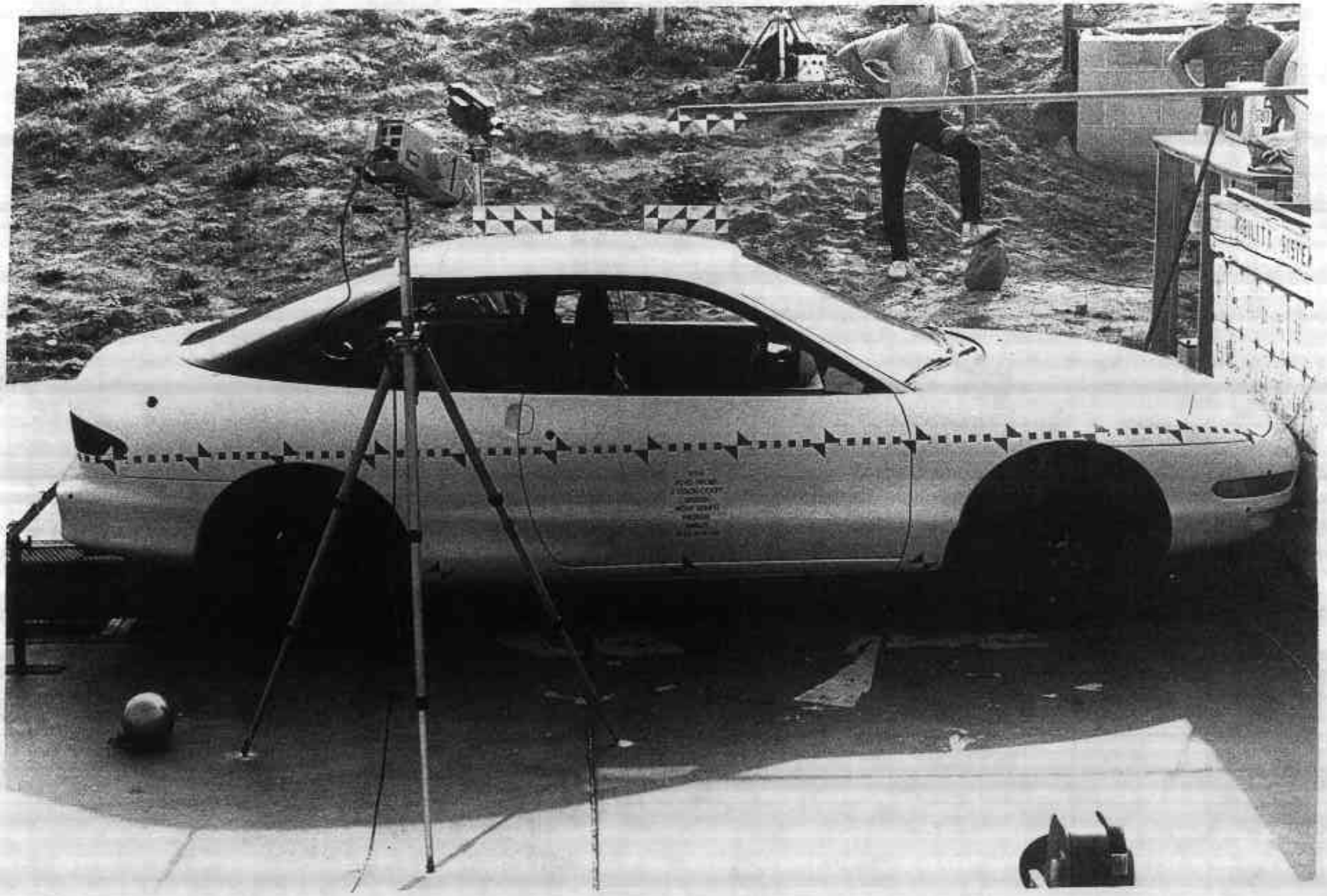
POSTTEST FRONT VIEW



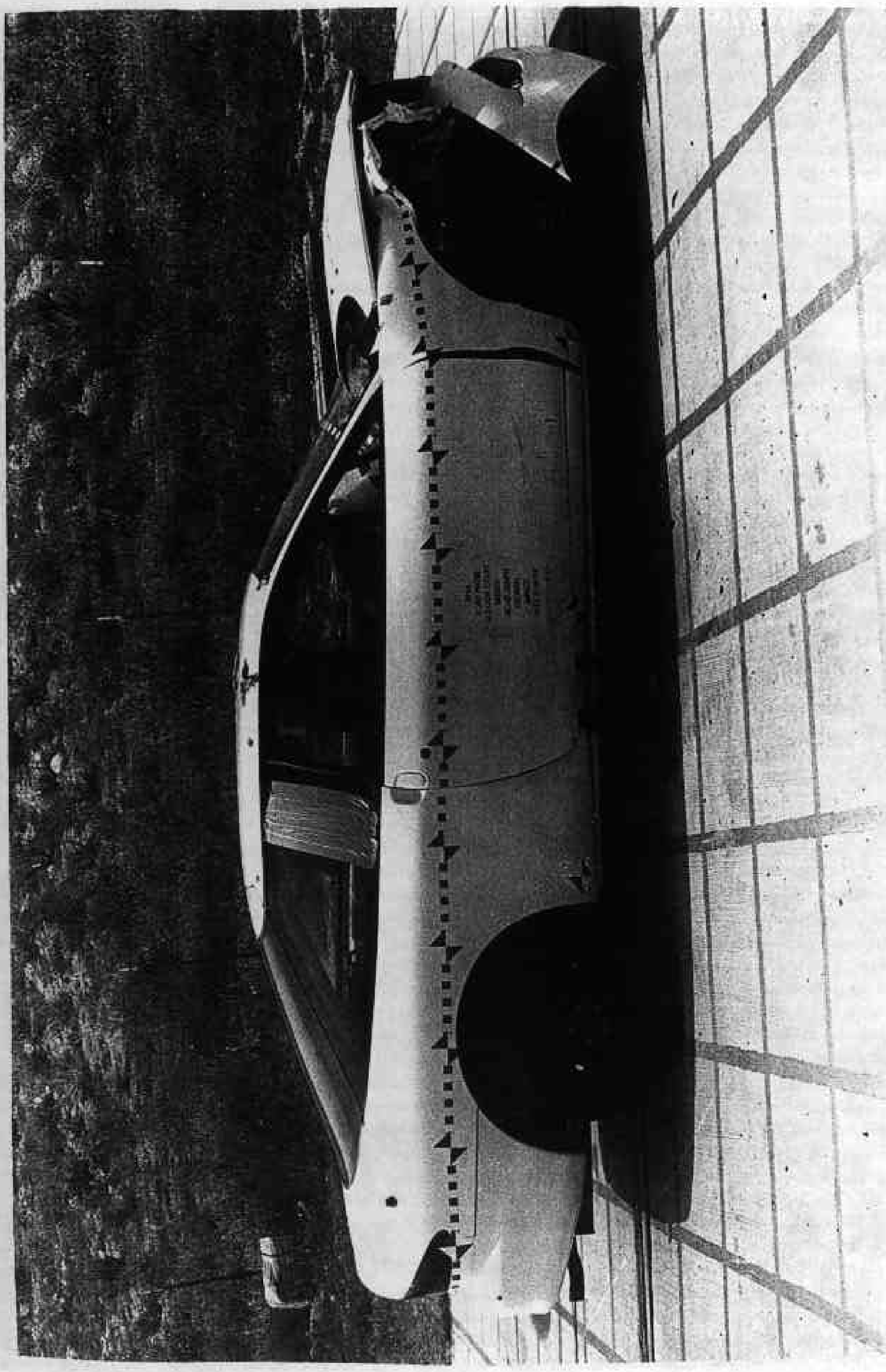
PRETEST LEFT SIDE VIEW



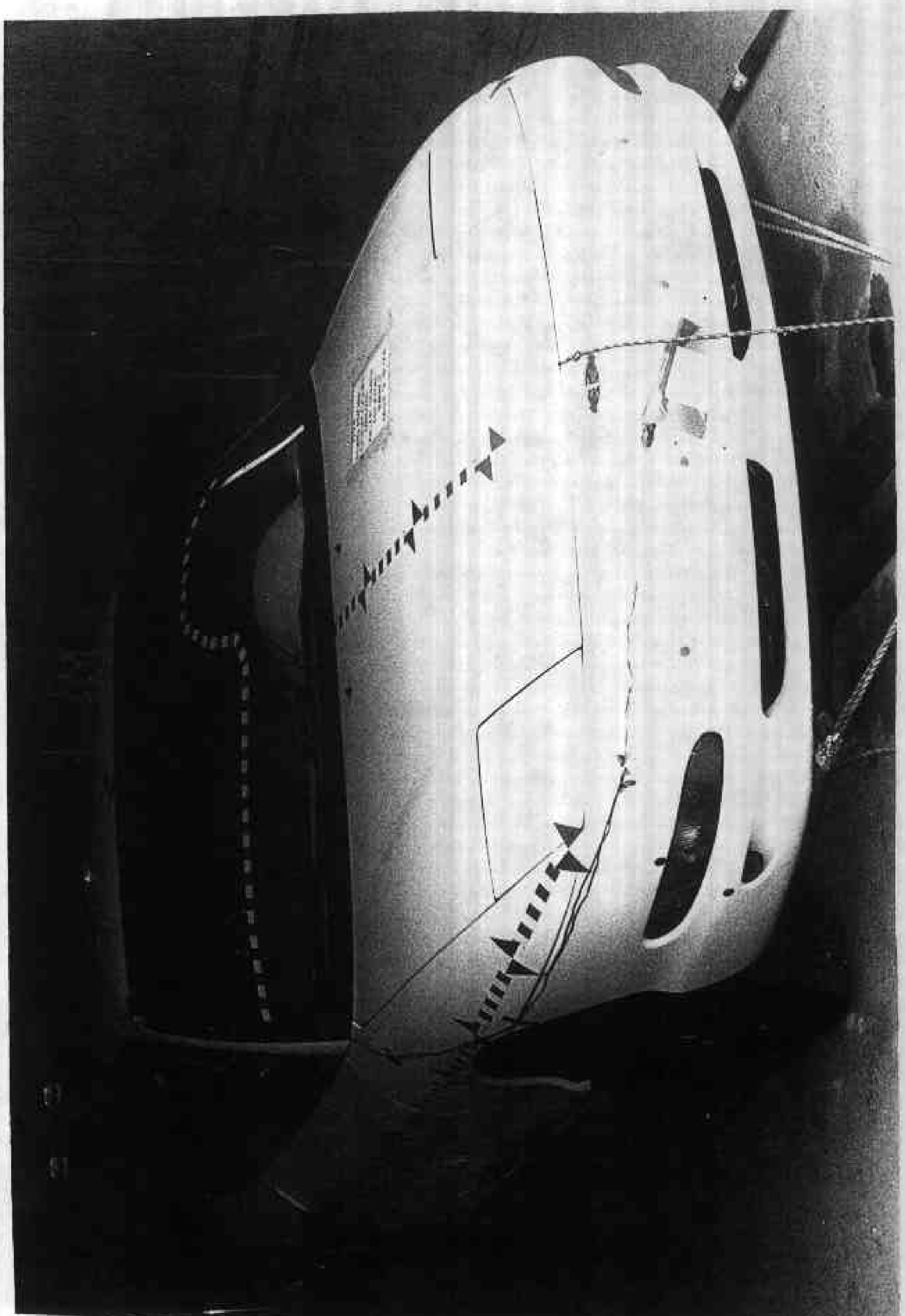
POSTTEST LEFT SIDE VIEW



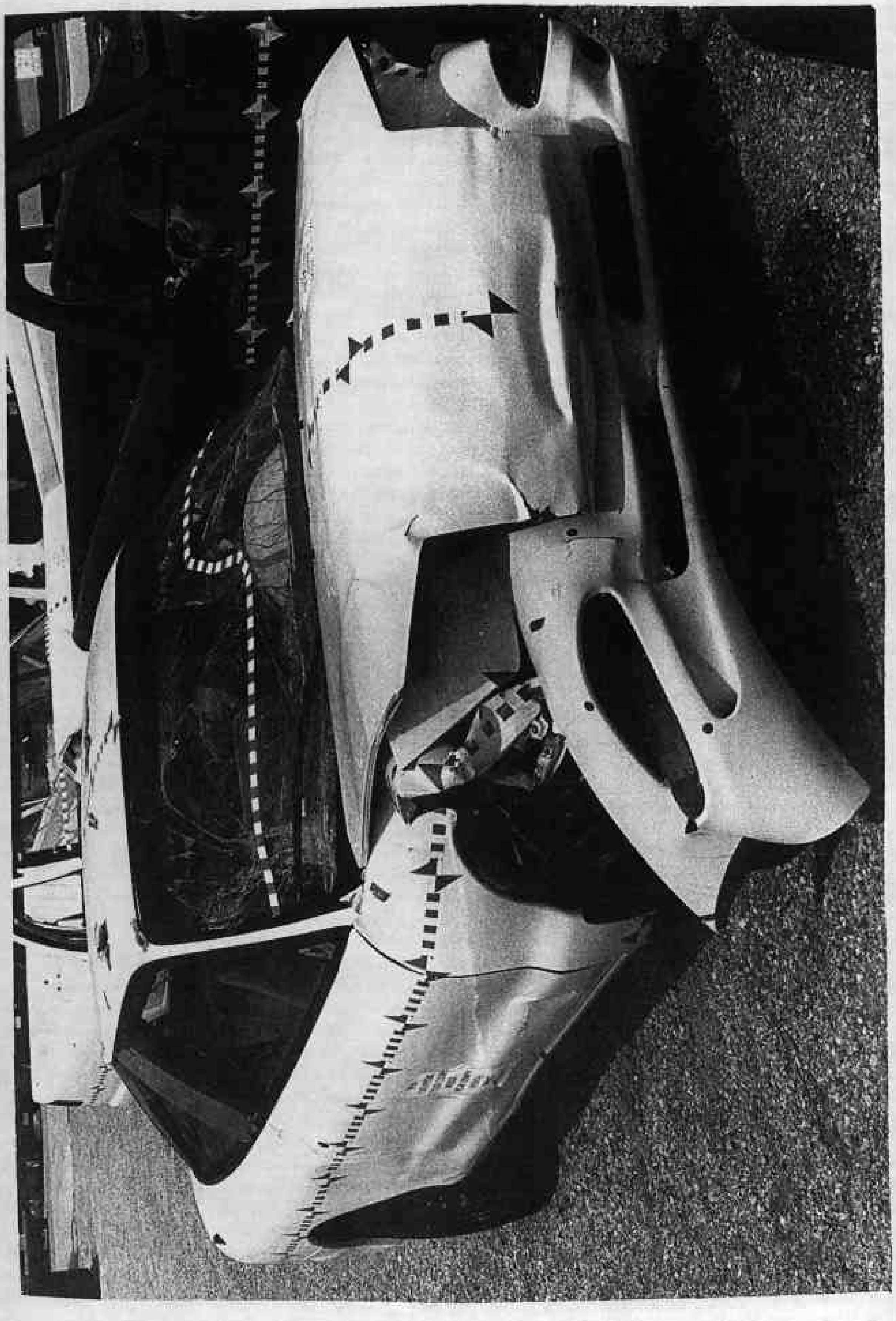
PRETEST RIGHT SIDE VIEW



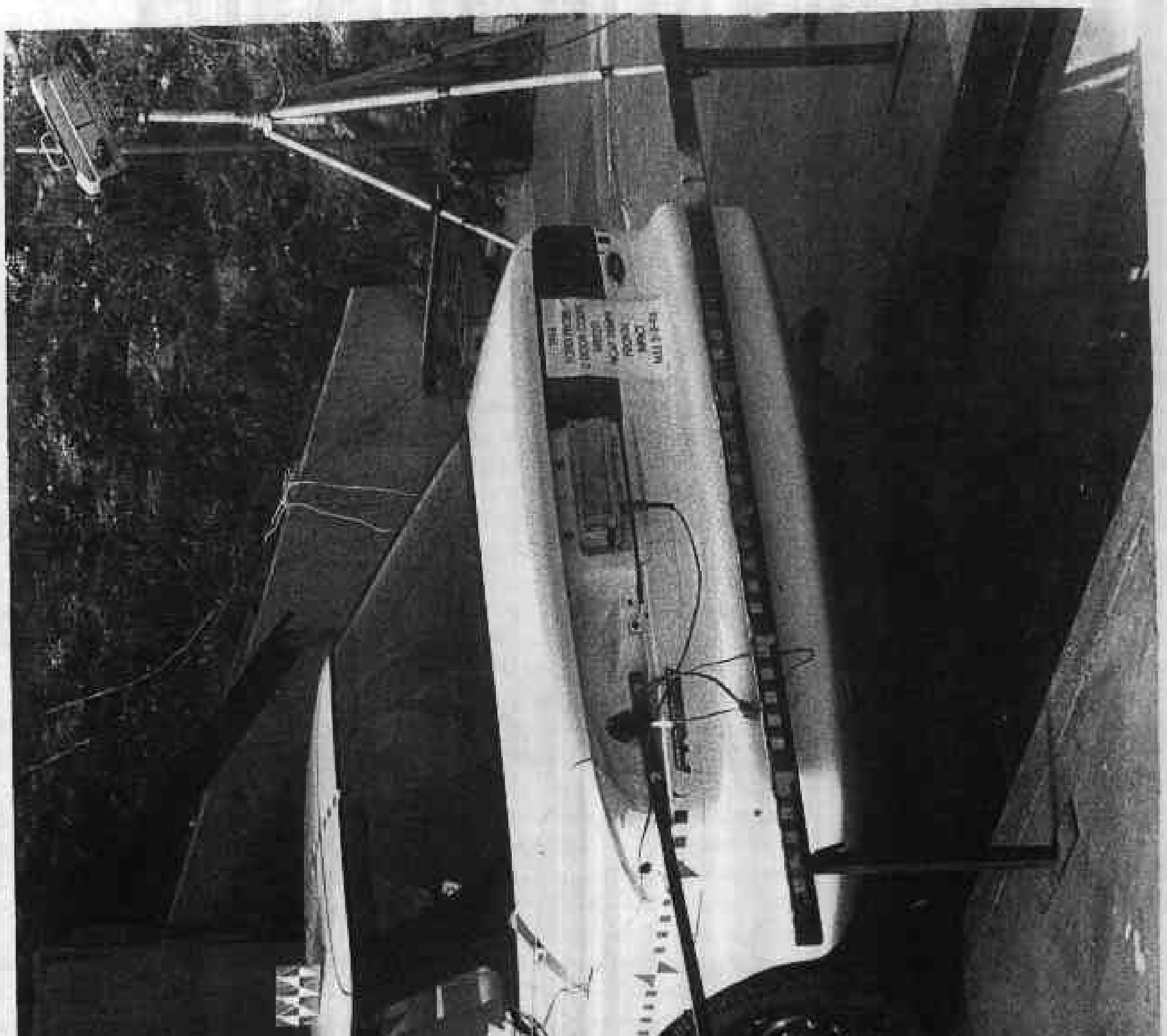
POSTTEST RIGHT SIDE VIEW



PRETEST RIGHT FRONT 3/4 VIEW

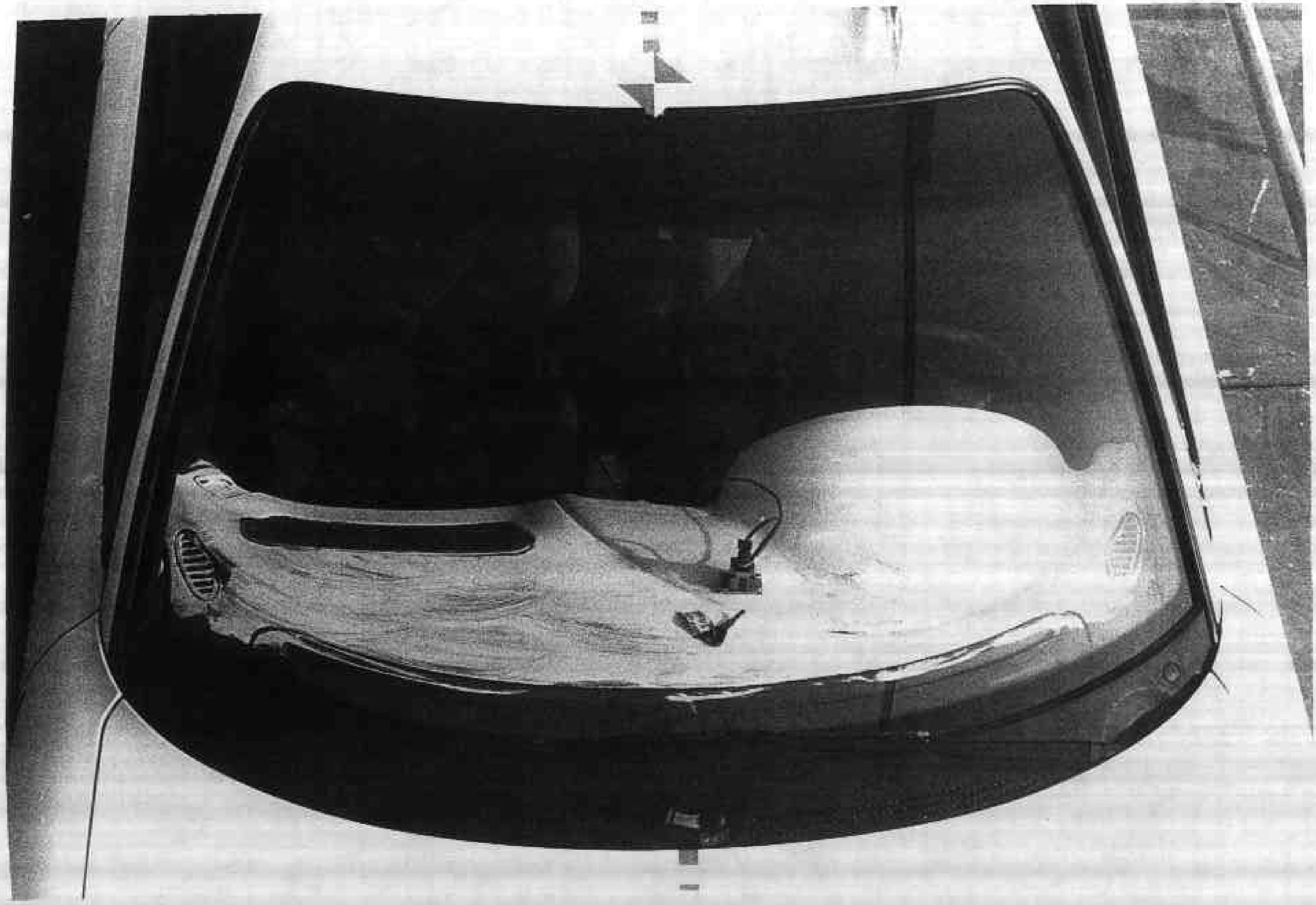


POSTTEST RIGHT FRONT 3/4 VIEW

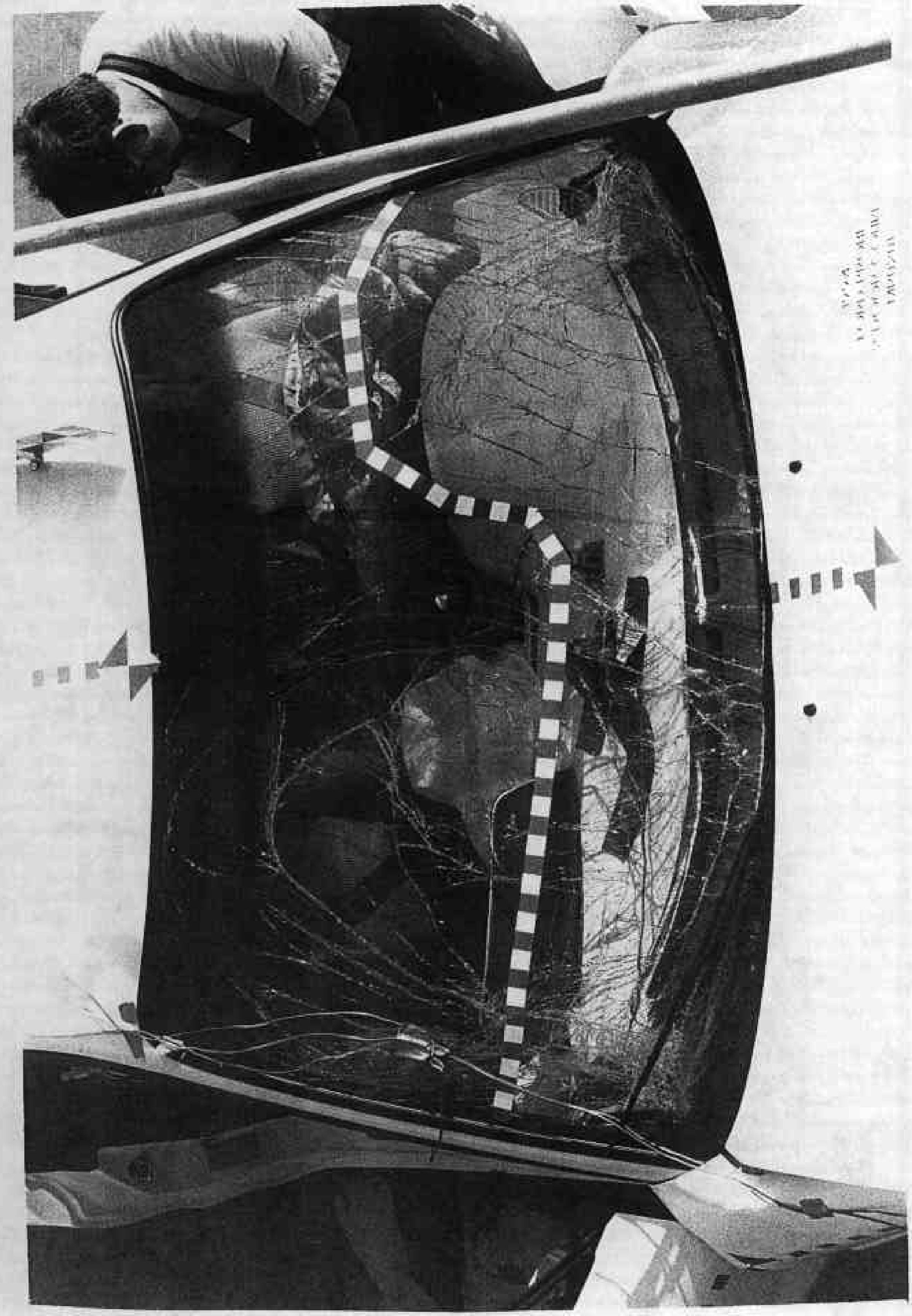


PRETEST LEFT REAR 3/4 VIEW

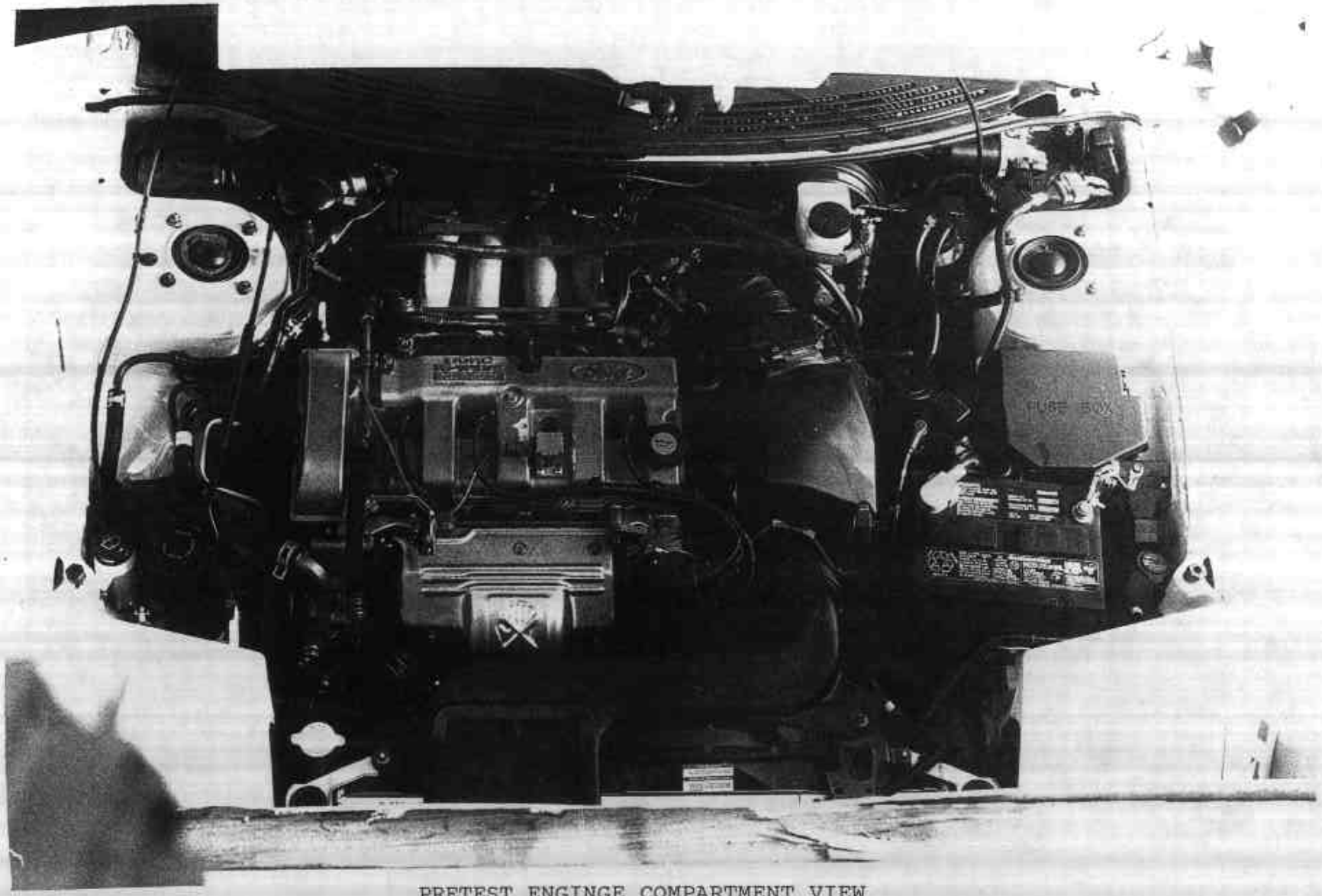
POSTTEST LEFT REAR 3/4 VIEW



PRETEST WINDSHIELD VIEW

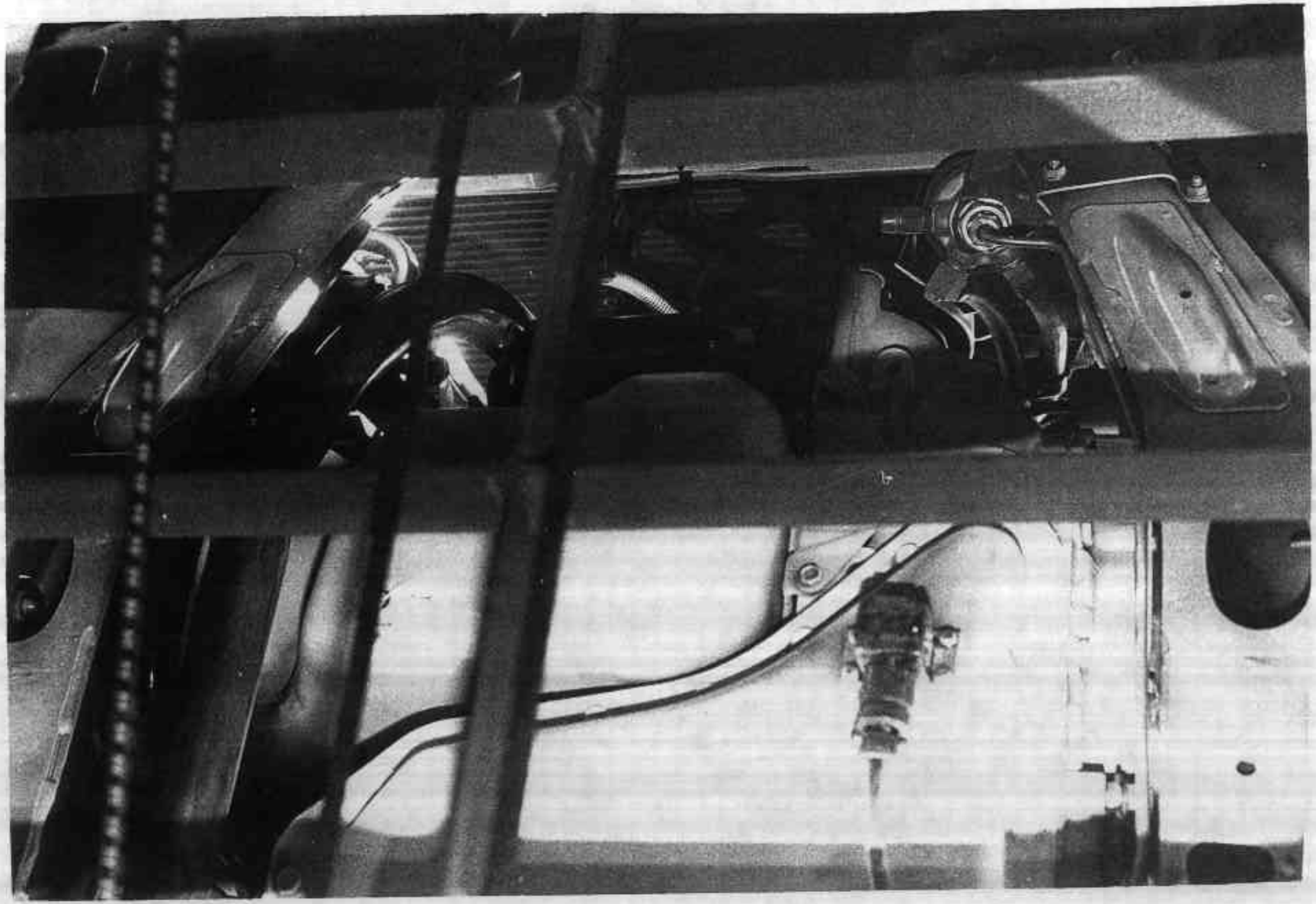


POSTTEST WINDSHIELD VIEW

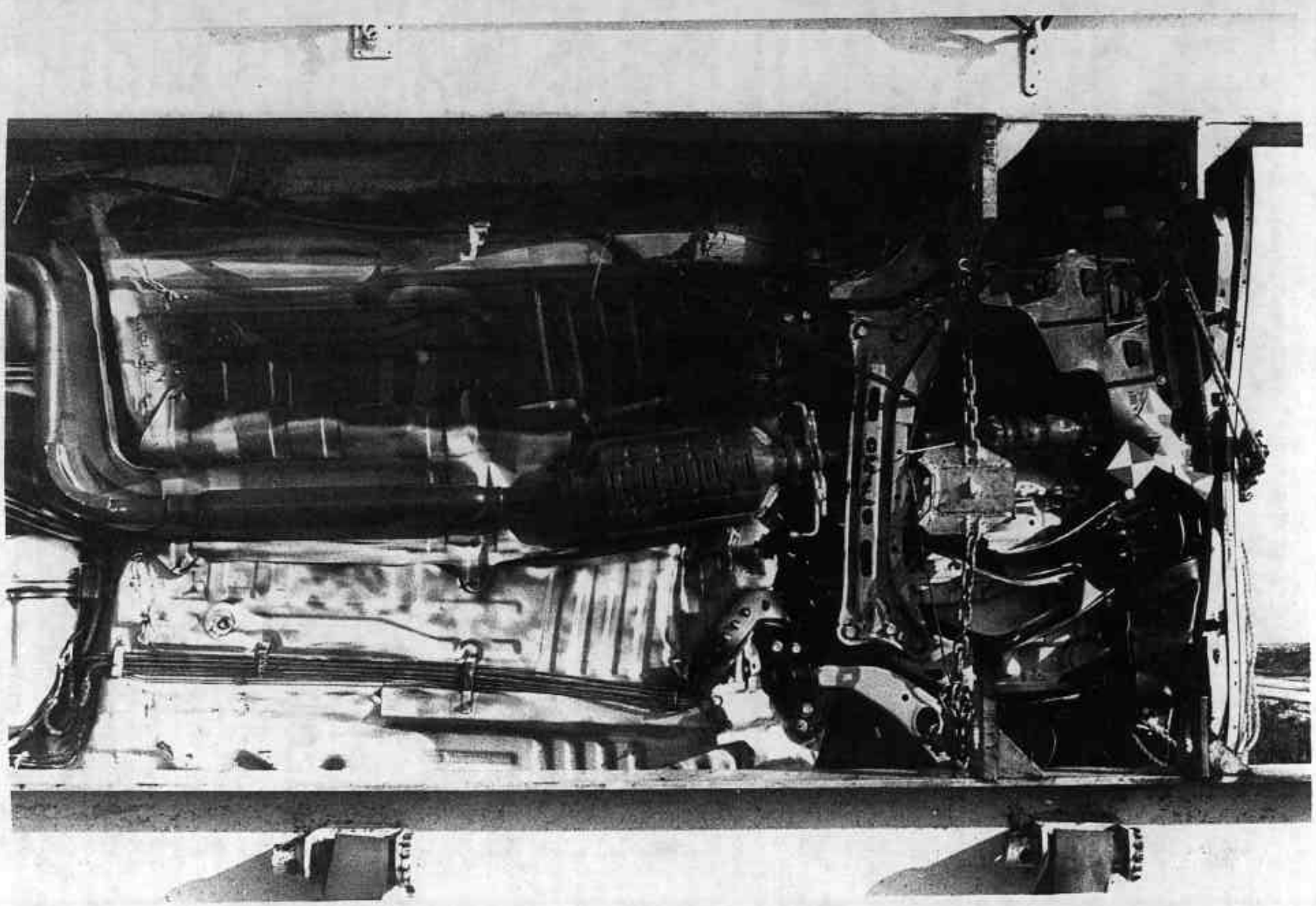


PRETEST ENGINGE COMPARTMENT VIEW

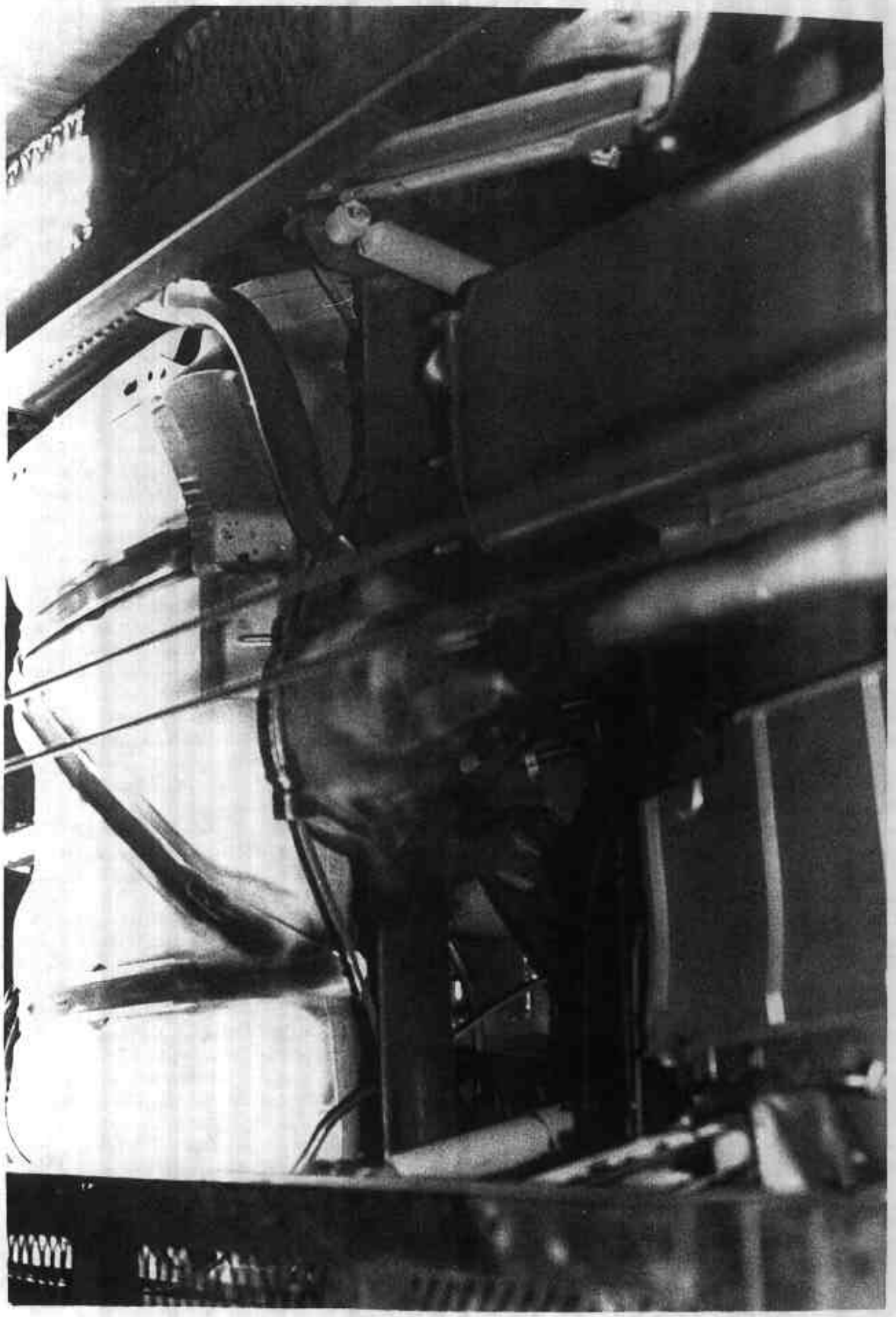
POSTTEST ENGINE COMPARTMENT VIEW



PRETEST FRONT UNDERBODY VIEW

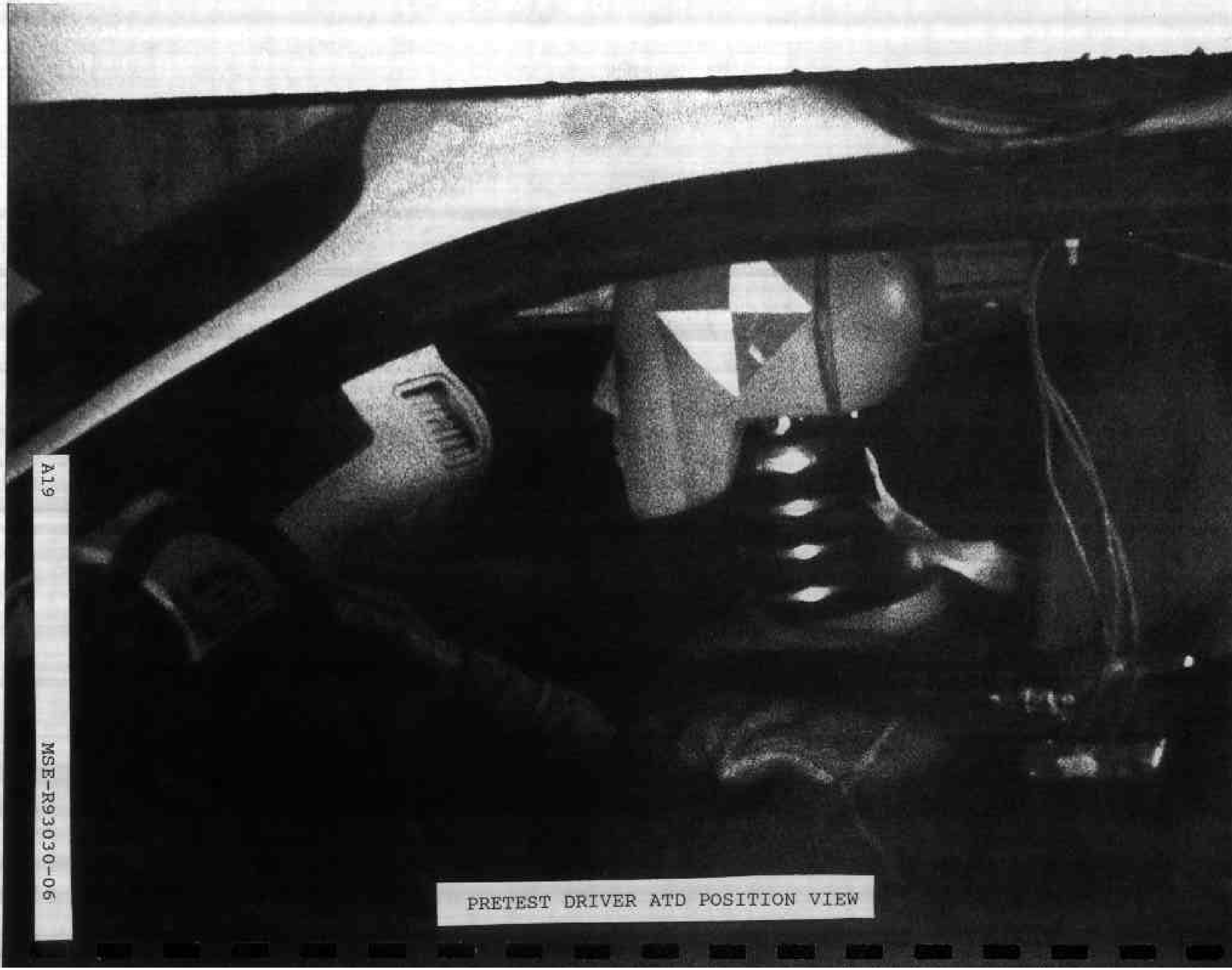


POSTTEST FRONT UNDERBODY VIEW



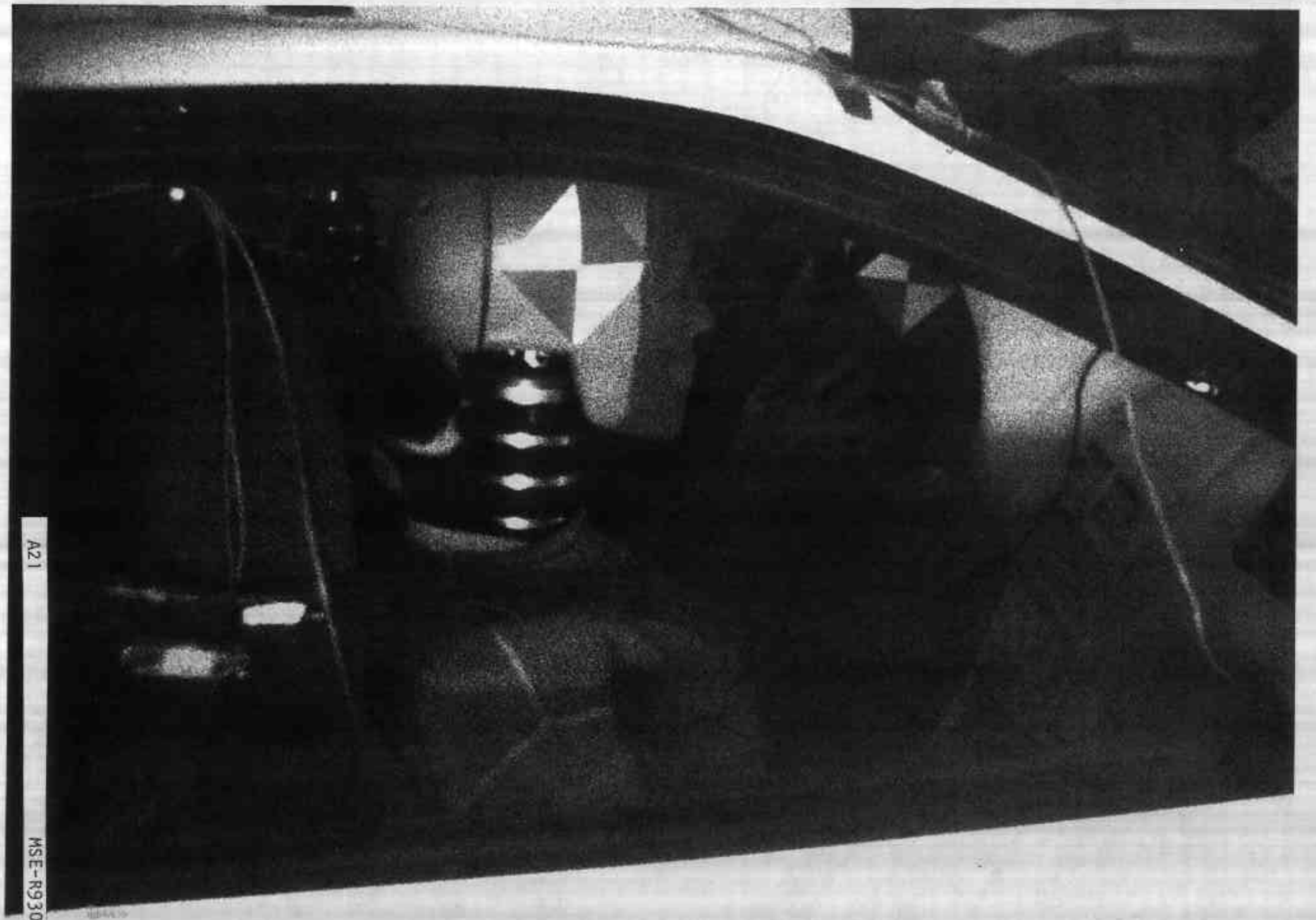
PRETEST REAR UNDERBODY VIEW

POSTTEST REAR UNDERBODY VIEW



PRETEST DRIVER ATD POSITION VIEW

POSTTEST DRIVER ATD POSITION VIEW



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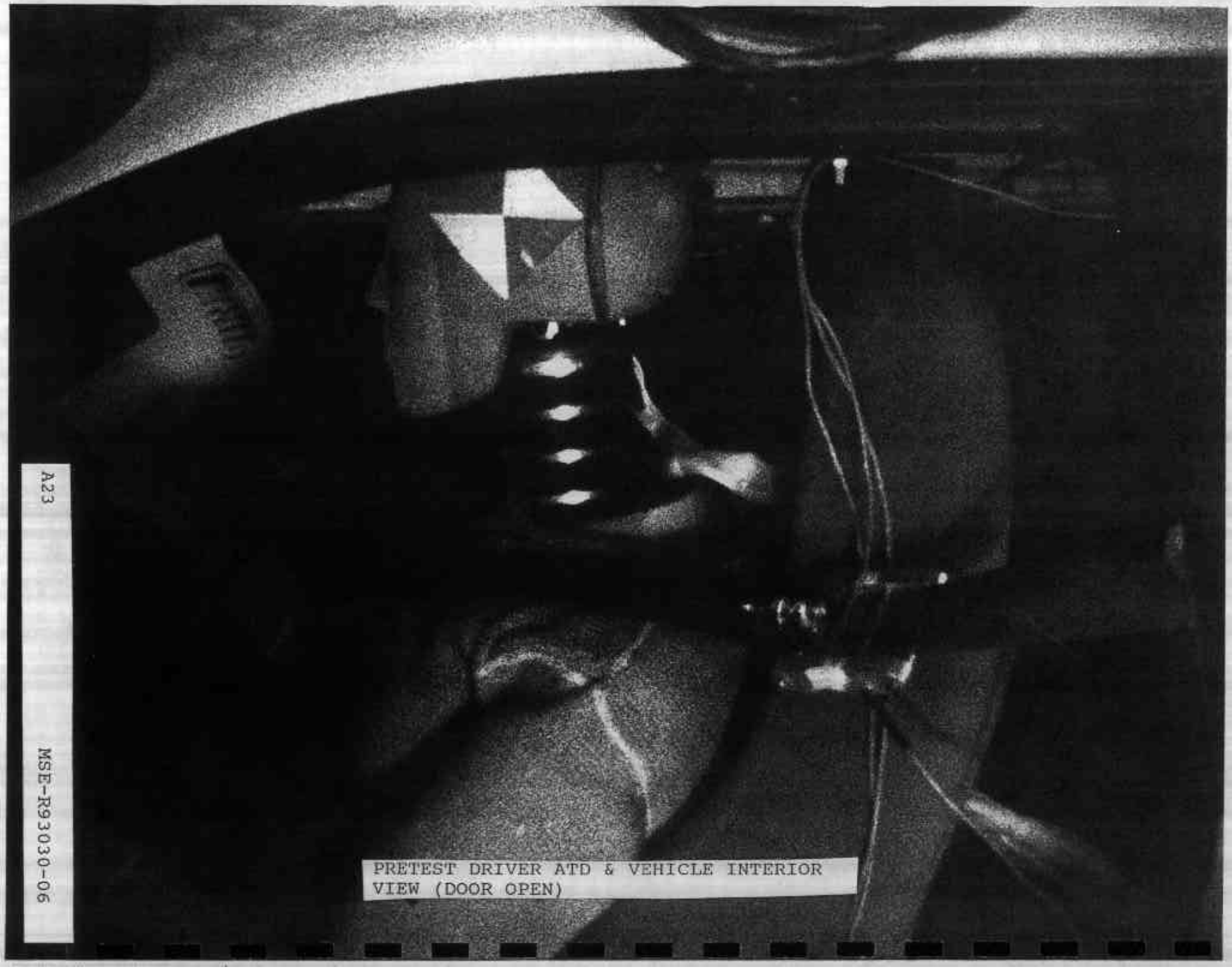
PRETEST PASSENGER ATD POSITION VIEW

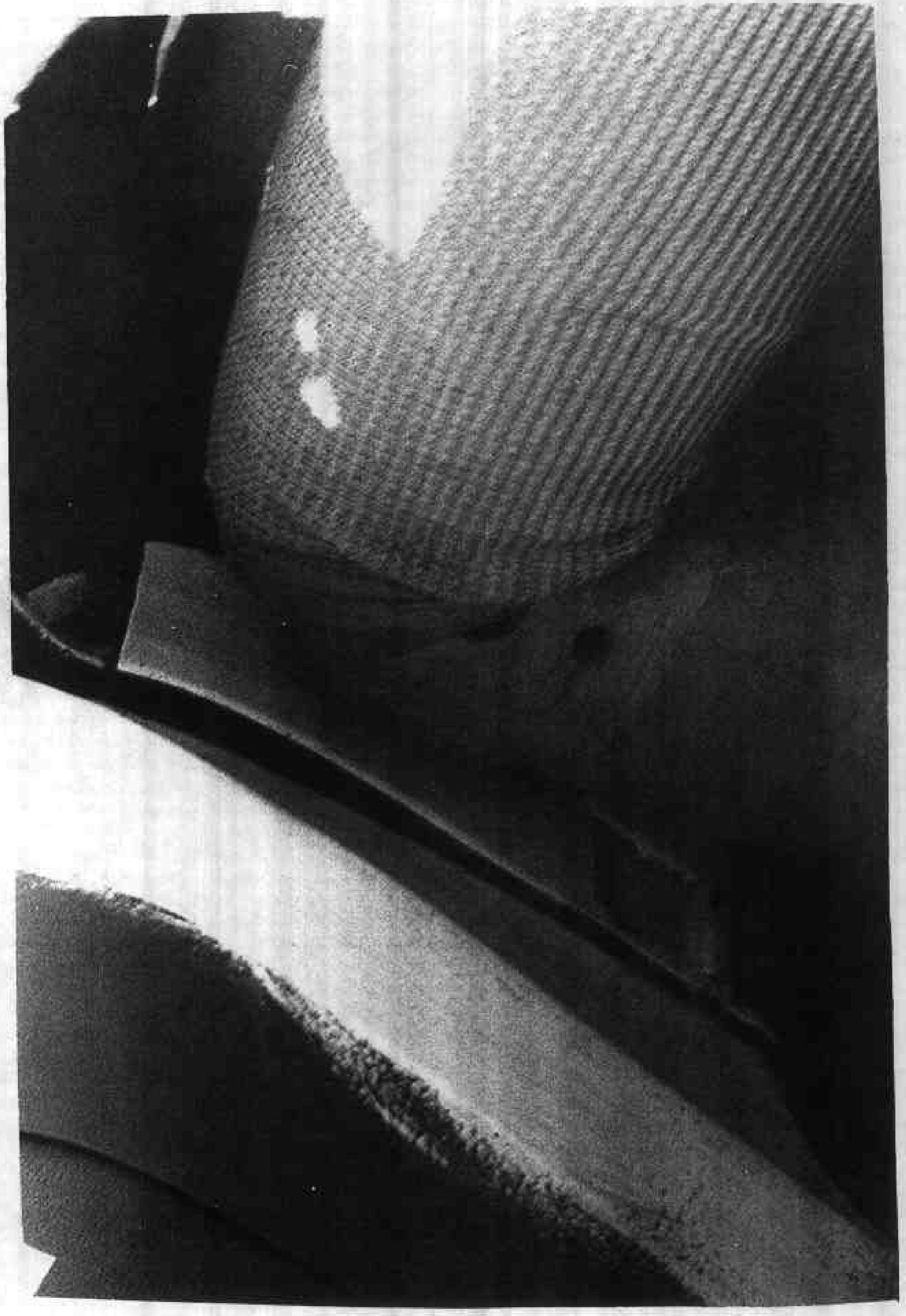
POSTTEST PASSENGER ATD POSITION VIEW


A23
MSE-R93030-06
PRETEST DRIVER ATD & VEHICLE INTERIOR
VIEW (DOOR OPEN)

POSTTEST DRIVER ATD & VEHICLE INTERIOR
VIEW (DOOR OPEN)

PRETEST PASSENGER ATD & VEHICLE
INTERIOR VIEW (DOOR OPEN)

POSTTEST PASSENGER ATD & VEHICLE
INTERIOR VIEW (DOOR OPEN)



POSTTEST DRIVER ATD KNEE CONTACT AREA

POSTEST PASSENGER ATD KNEE CONTACT AREA

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APPENDIX B - 1

VEHICLE AND ATD (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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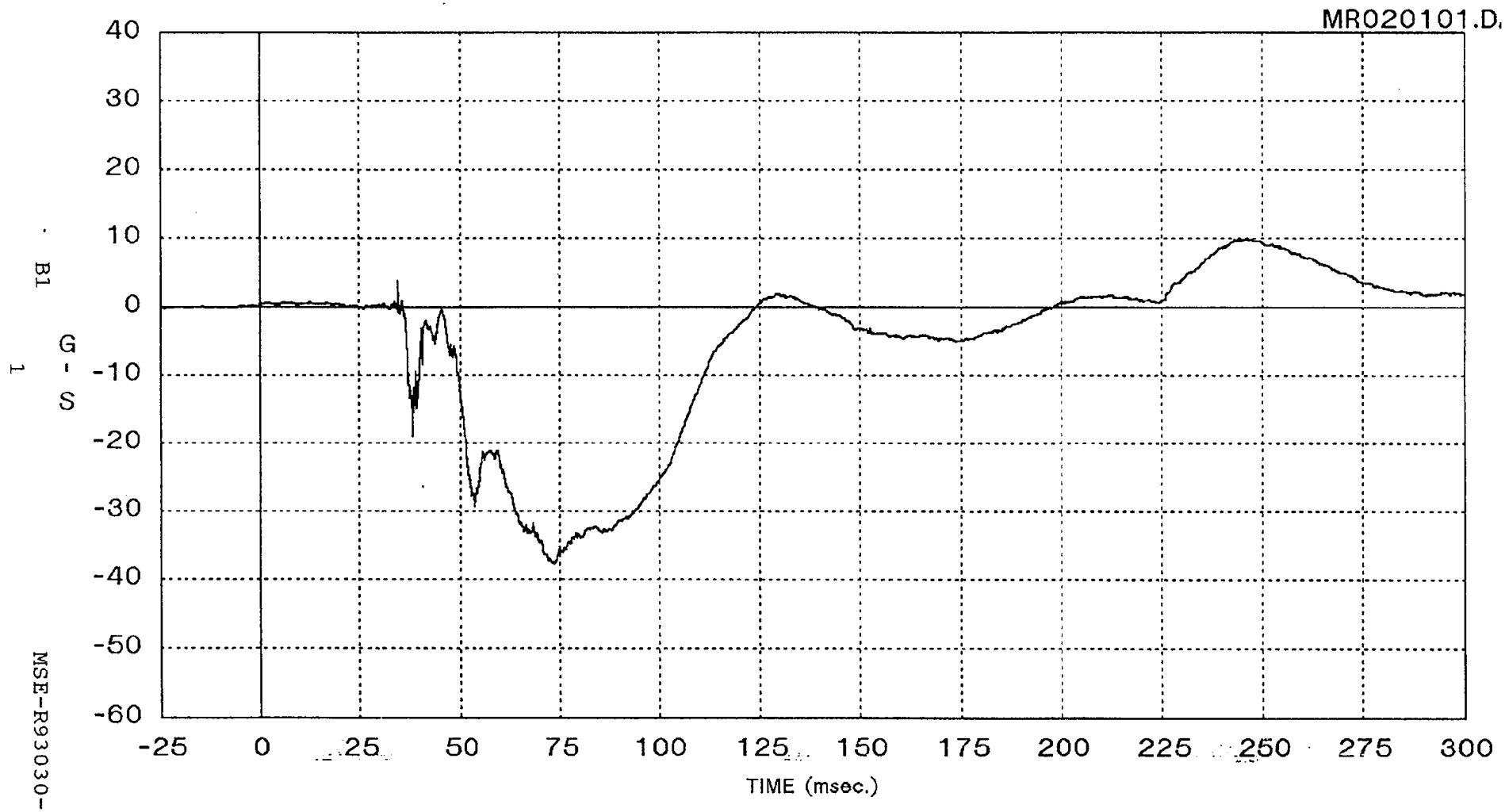
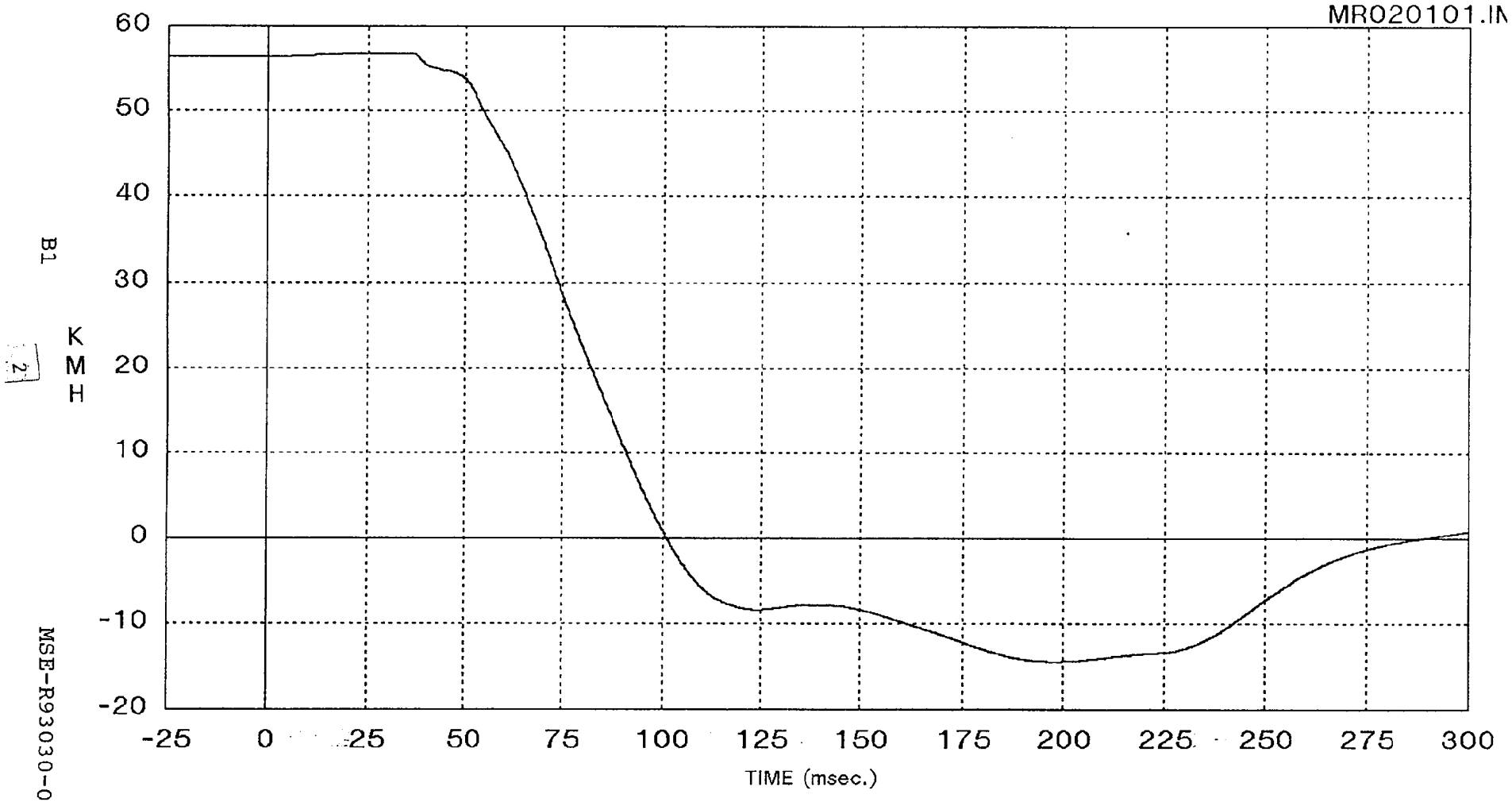


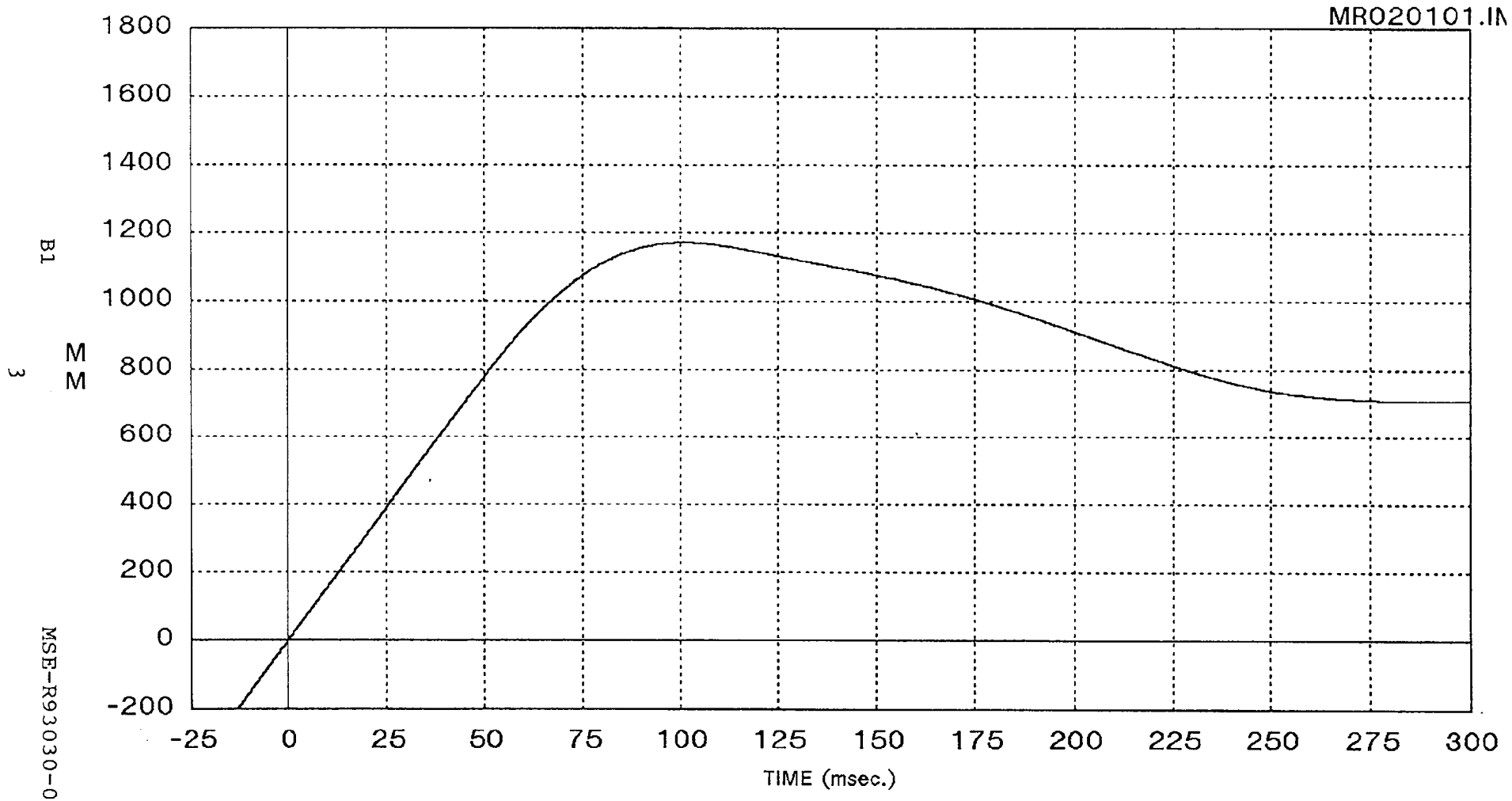
Curve: Driver head acceleration -- X axis Filter: SAE CLASS 1000 Max = 9.9649 Min = -37.665

MSE Date: 03/11/94 Program:1994 New Car Assessment Program Vehicle: 1994 Ford Probe 2 Door Coupe



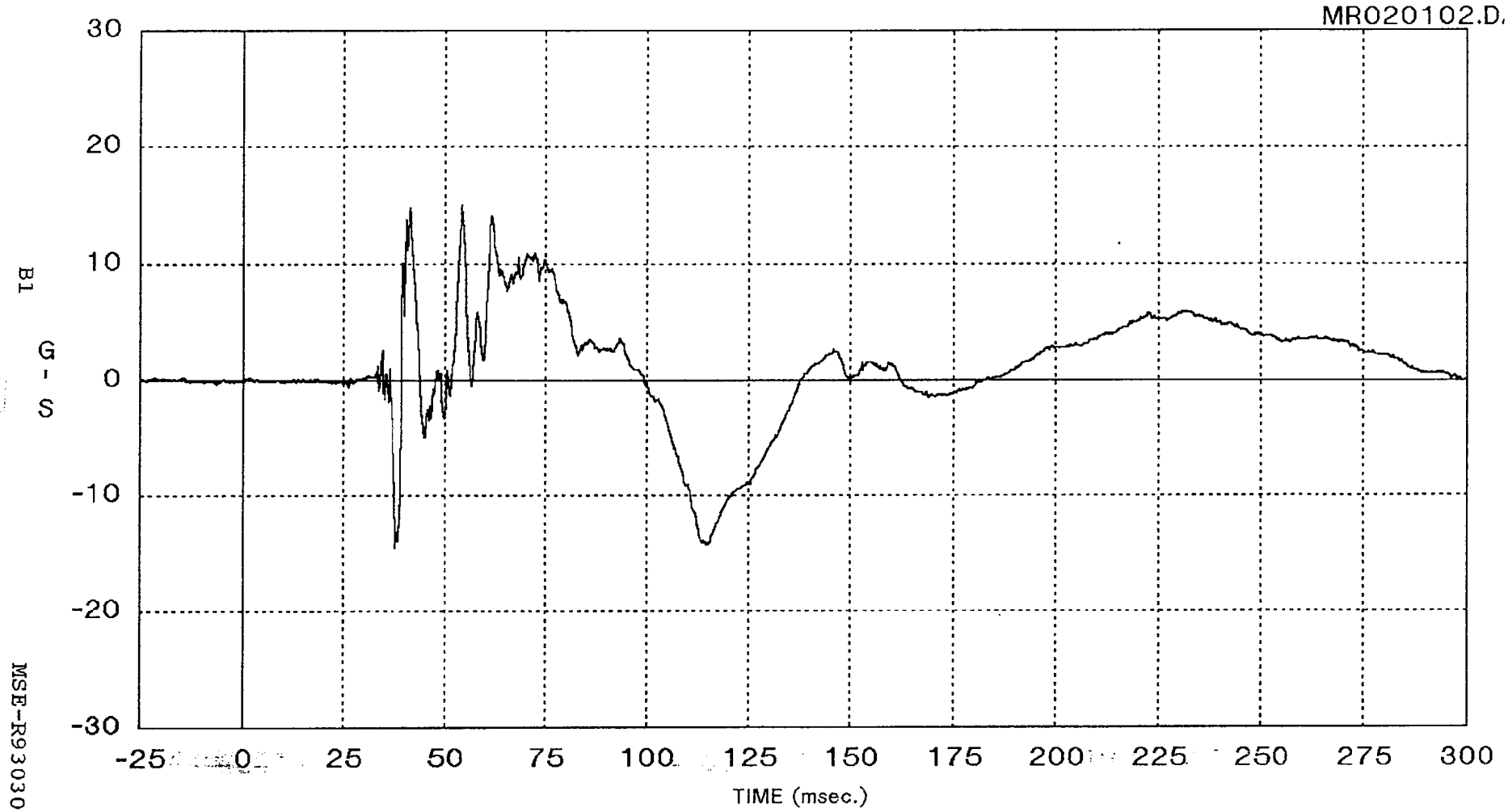
Curve: Driver head delta V -- X axis Filter: SAE CLASS 180 Max = 56.769 Min = -14.505

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



Curve: Driver head displacement -- X axis Filter: SAE CLASS 180 Max = 1172.3 Min = 706.23

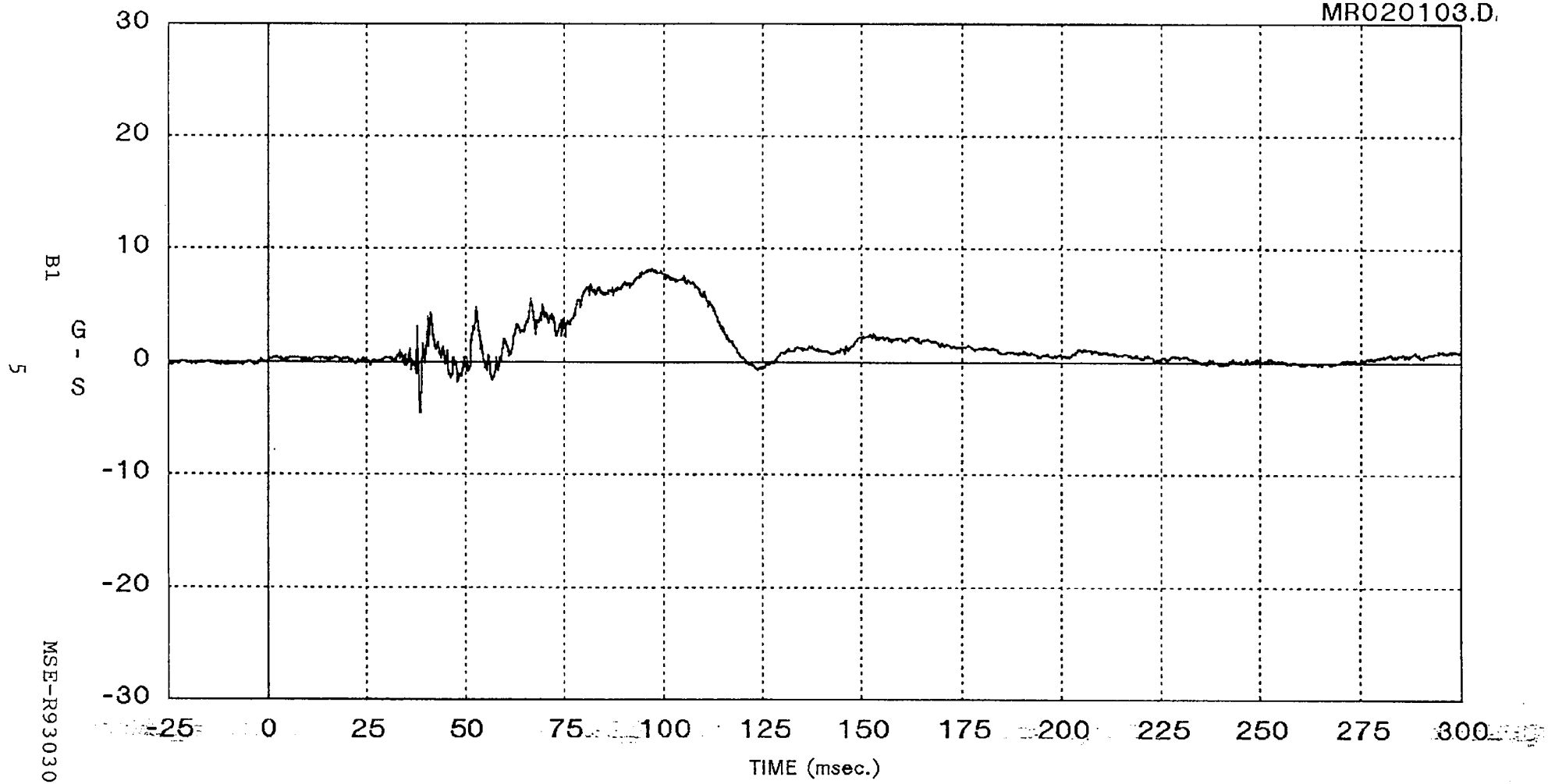
MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



Curve: Driver head acceleration -- Y axis Filter: SAE CLASS 1000 Max = 15.305 Min = -16.843

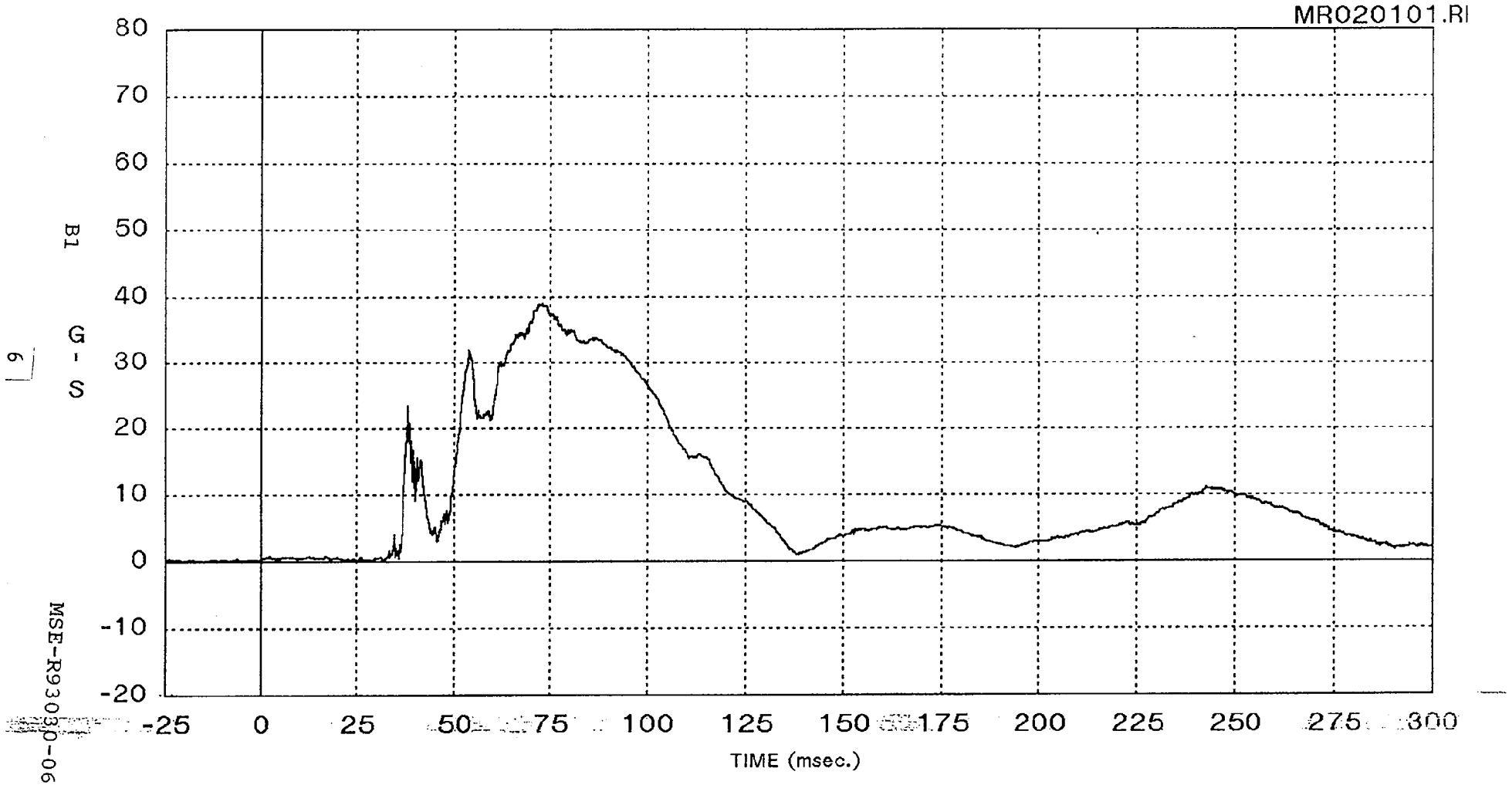
MSE Date: 03/11/94 Program:1994 New Car Assessment Program Vehicle: 1994 Ford Probe 2 Door Coupe

MSE-R93030-06



Curve: Driver head acceleration -- Z axis Filter: SAE CLASS 1000 Max = 8.3364 Min = -11.720

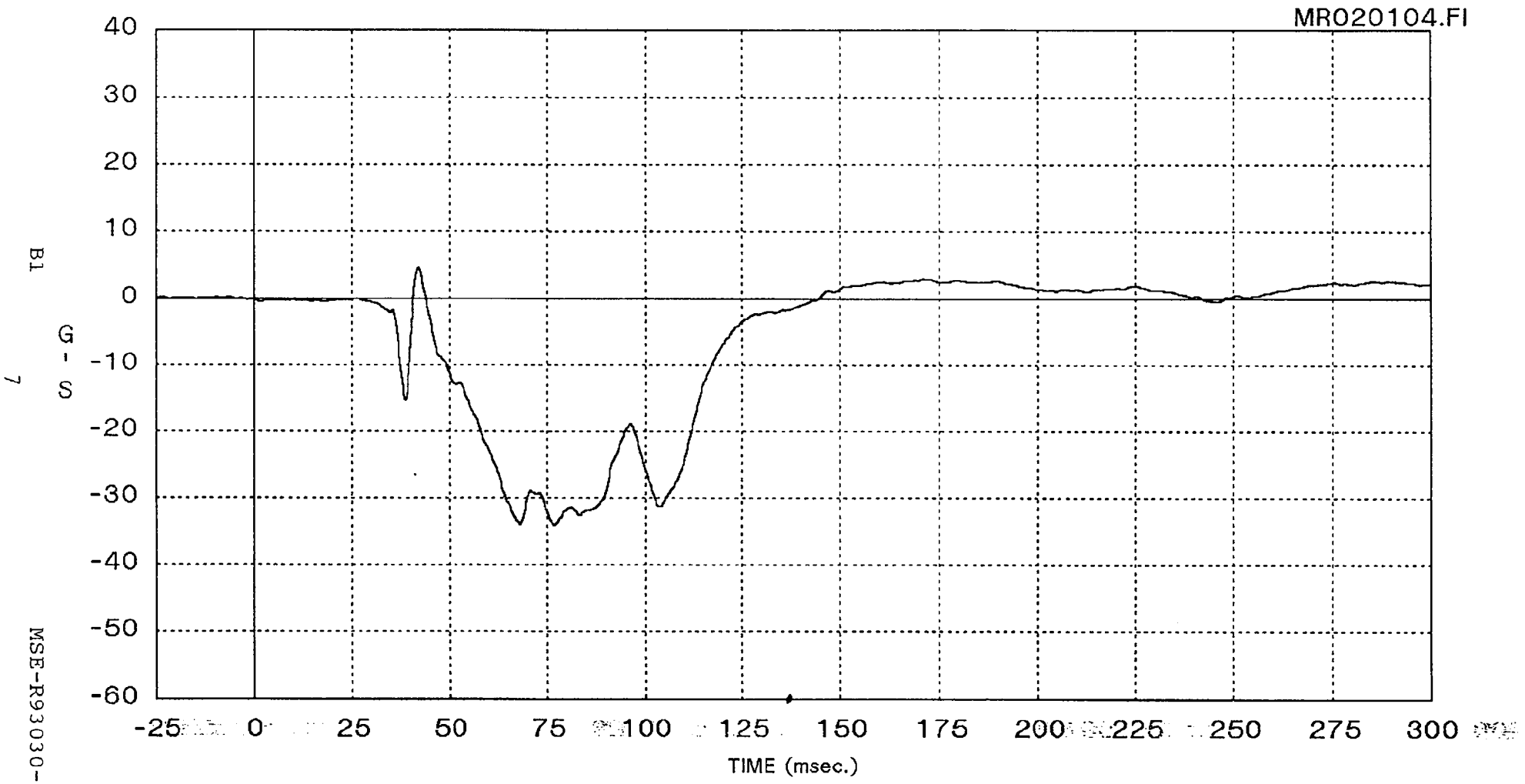
MSE Date: 03/11/94 Program:1994 New Car Assessment Program Vehicle: 1994 Ford Probe 2 Door Coupe



Curve: Driver head acceleration -- Resultant Filter: SAE CLASS 1000 Max = 39.097 Min = .10621

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe

MSE-R9303D-06



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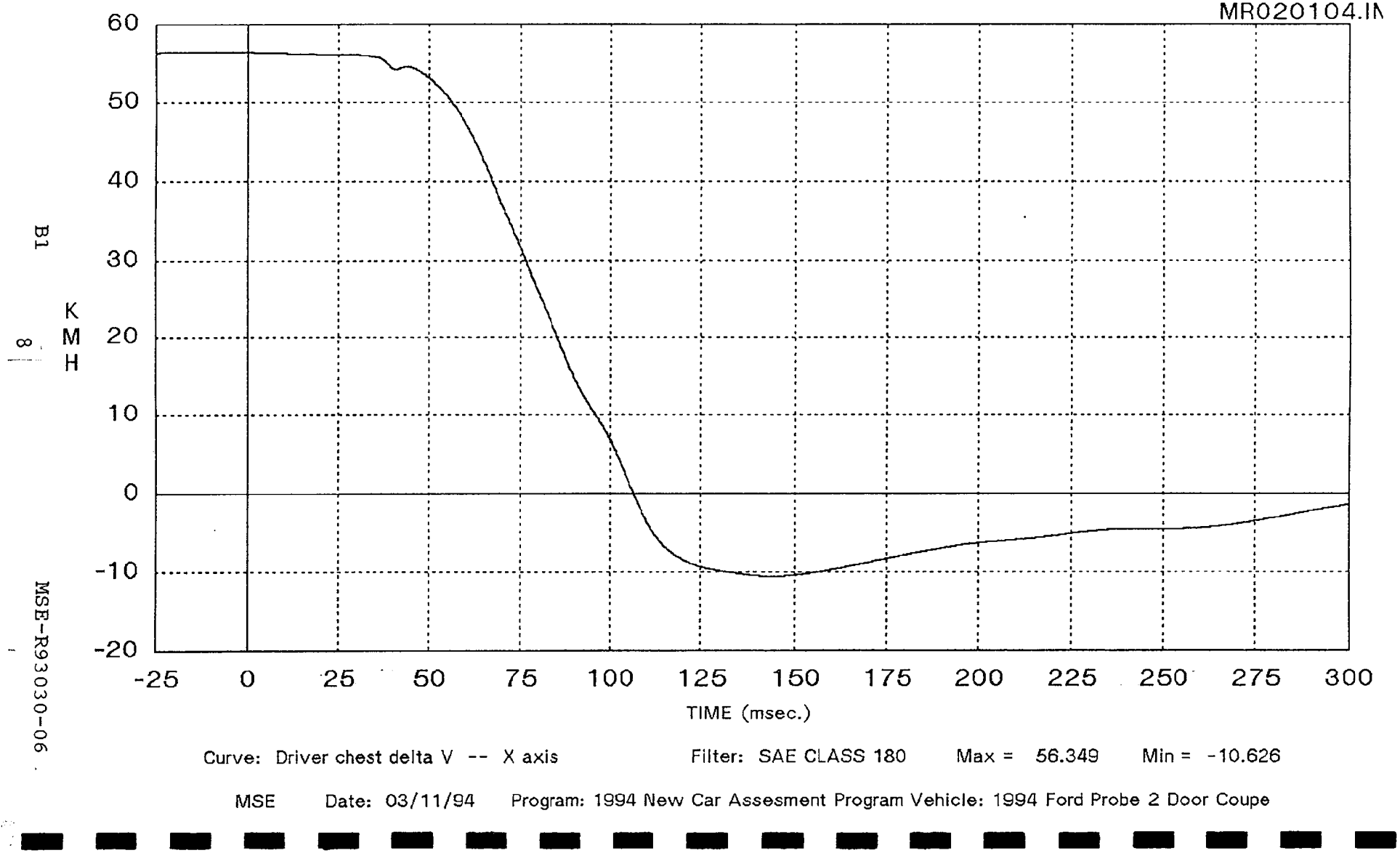
MSE-R93030-06

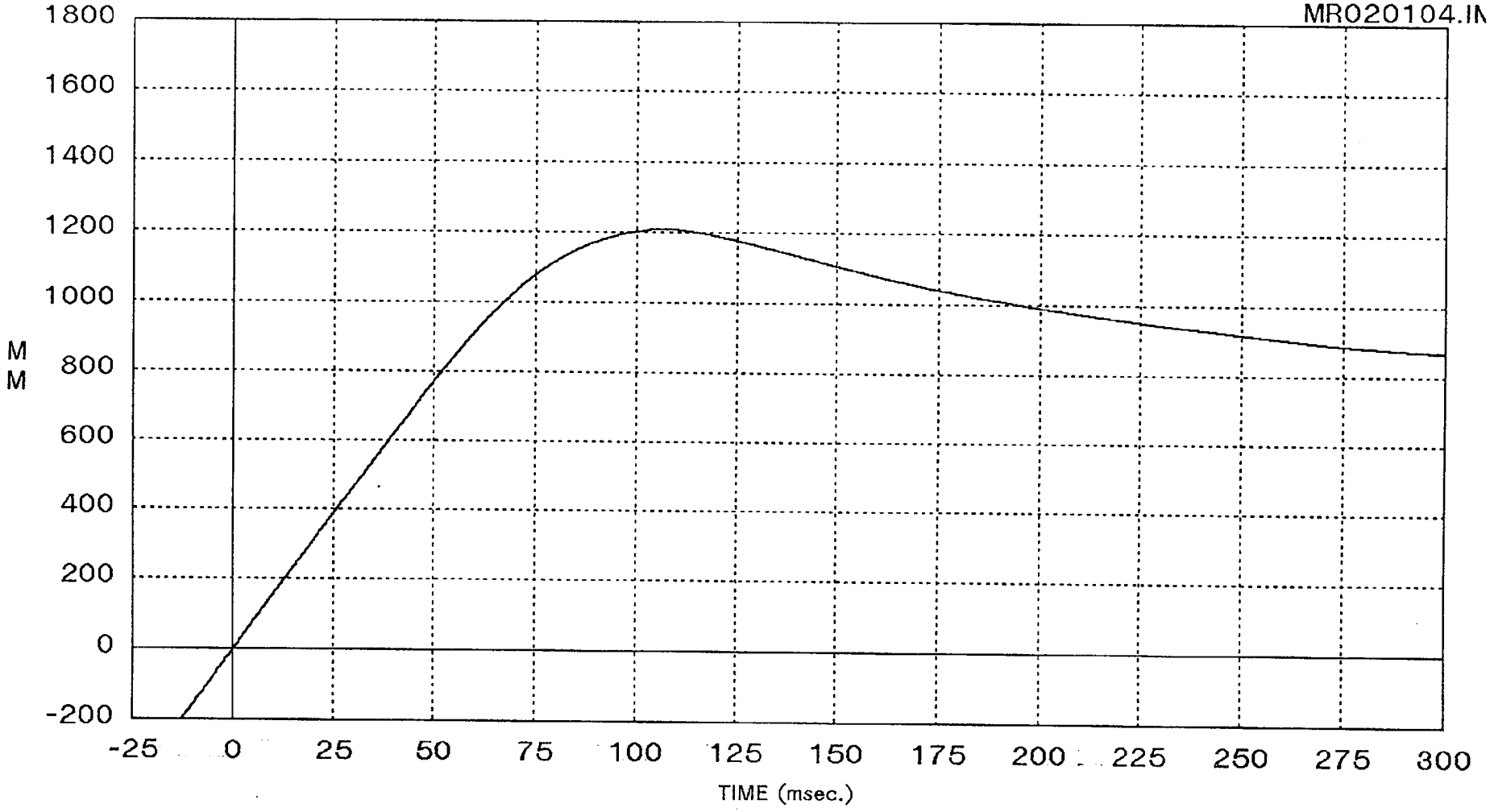
Curve: Driver chest acceleration -- X axis Filter: SAE CLASS 180 Max = 4.5634 Min = -34.076

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



Curve: Driver chest delta V -- X axis Filter: SAE CLASS 180 Max = 56.349 Min = -10.626

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



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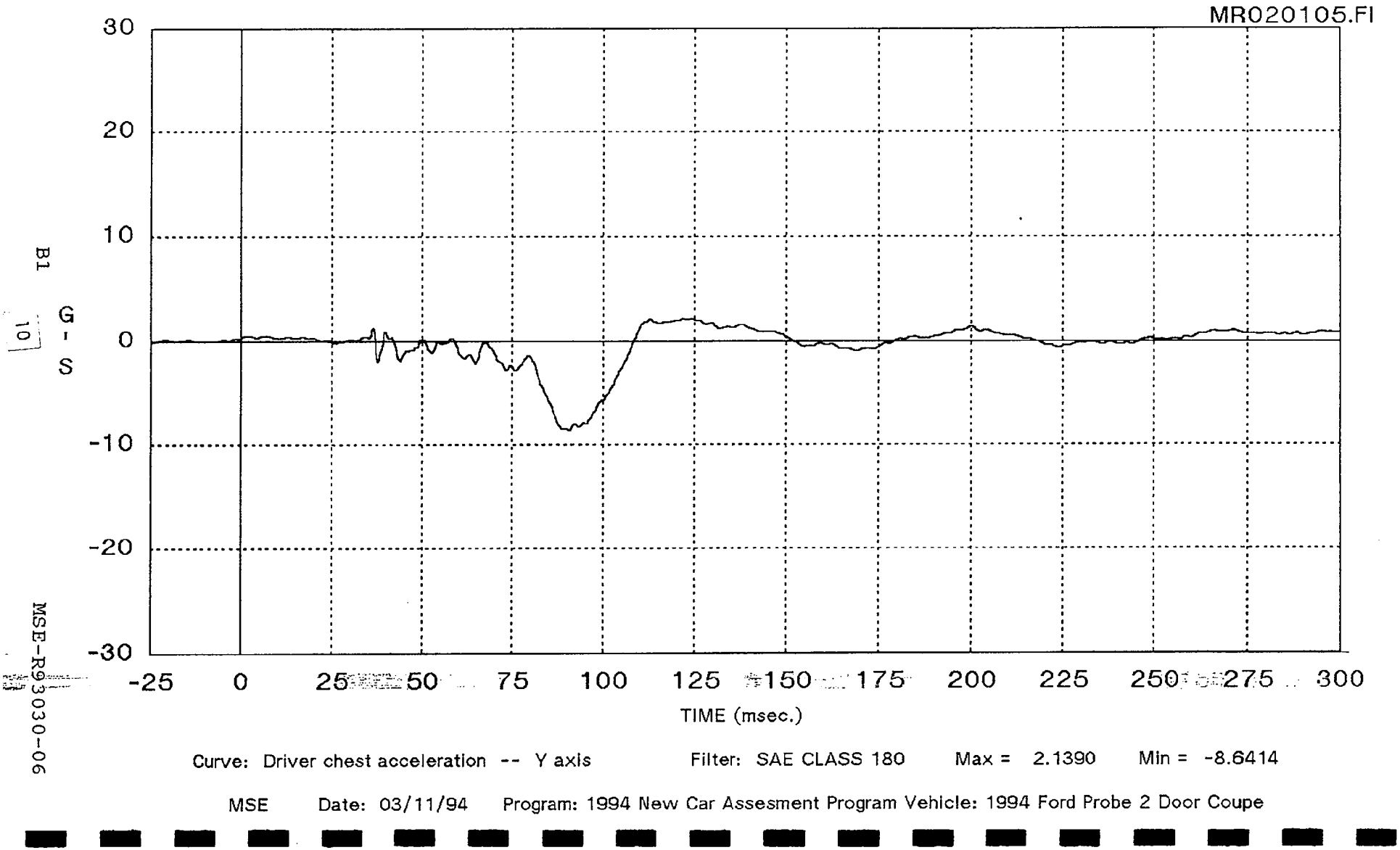
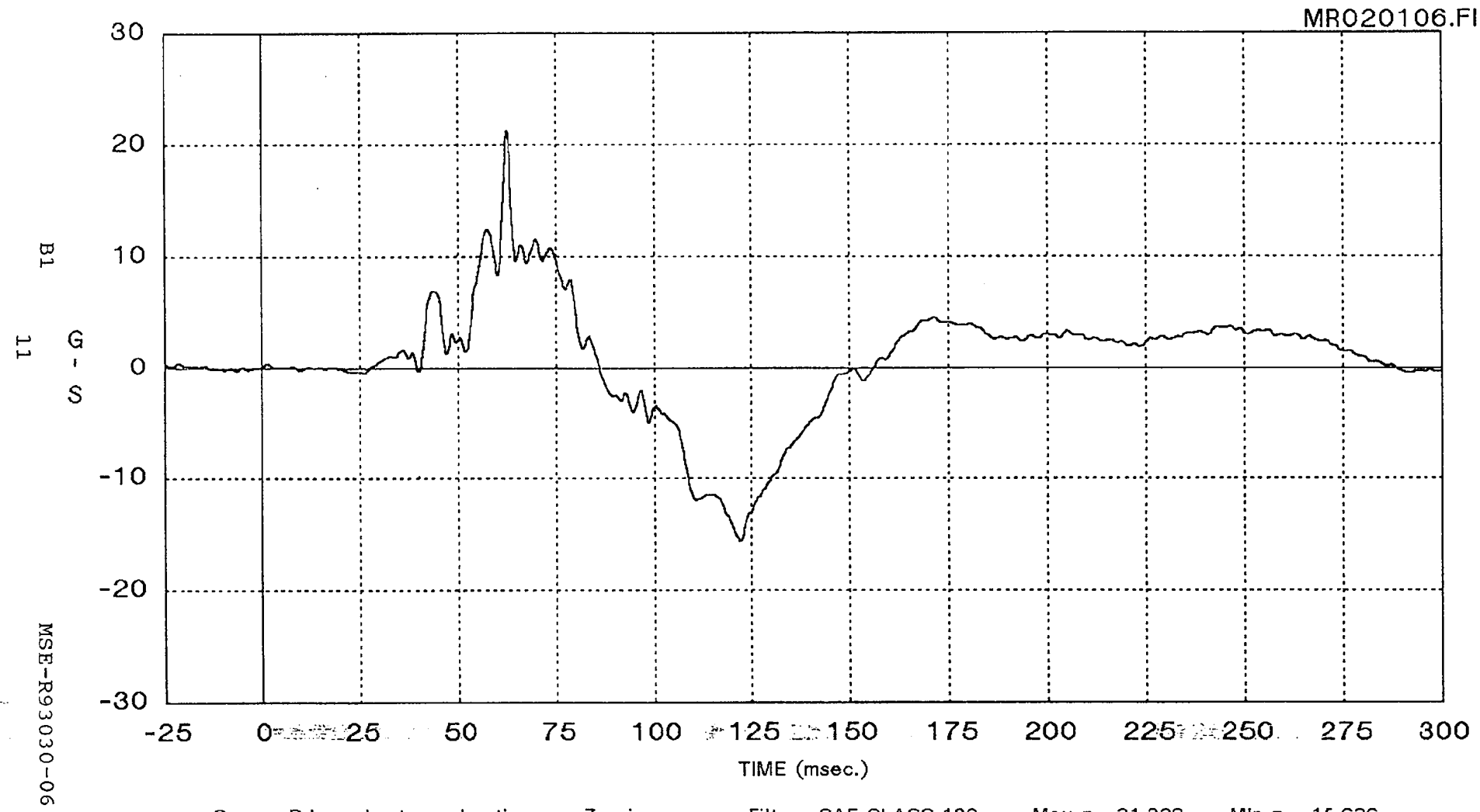
MSE-R93030-06

Curve: Driver chest displacement -- X axis Filter: SAE CLASS 180 Max = 1209.2 Min = 868.82

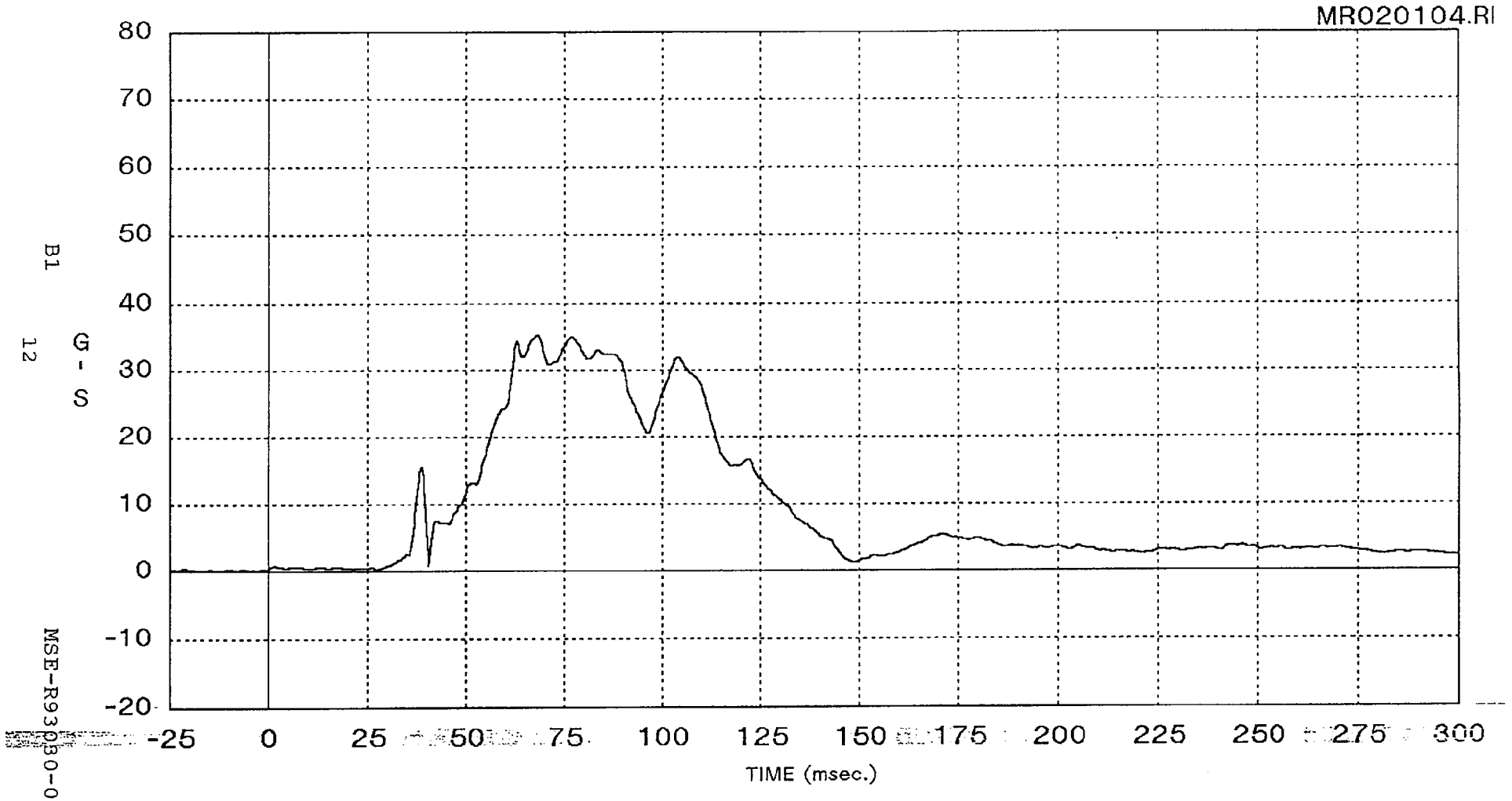
MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe


MR020105.FI
30
20
10
0
-10
-20
-30
B1
G - S
10
-25
0
25
50
75
100
125
150
175
200
225
250
275
300
TIME (msec.)
MSE-R93030-06
Curve: Driver chest acceleration -- Y axis
Filter: SAE CLASS 180
Max = 2.1390
Min = -8.6414
MSE
Date: 03/11/94
Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



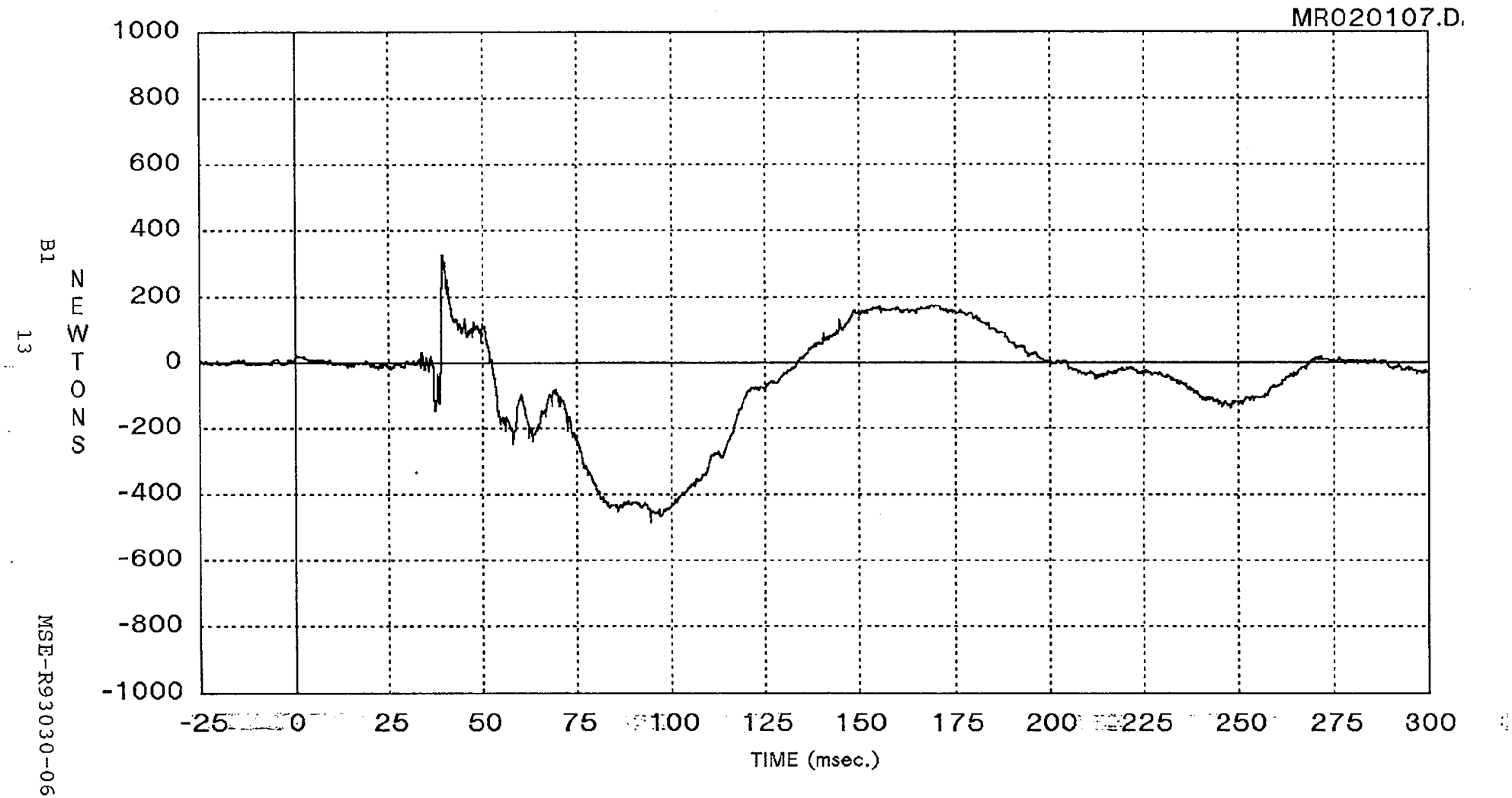
Curve: Driver chest acceleration -- Z axis Filter: SAE CLASS 180 Max = 21.329 Min = -15.626

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



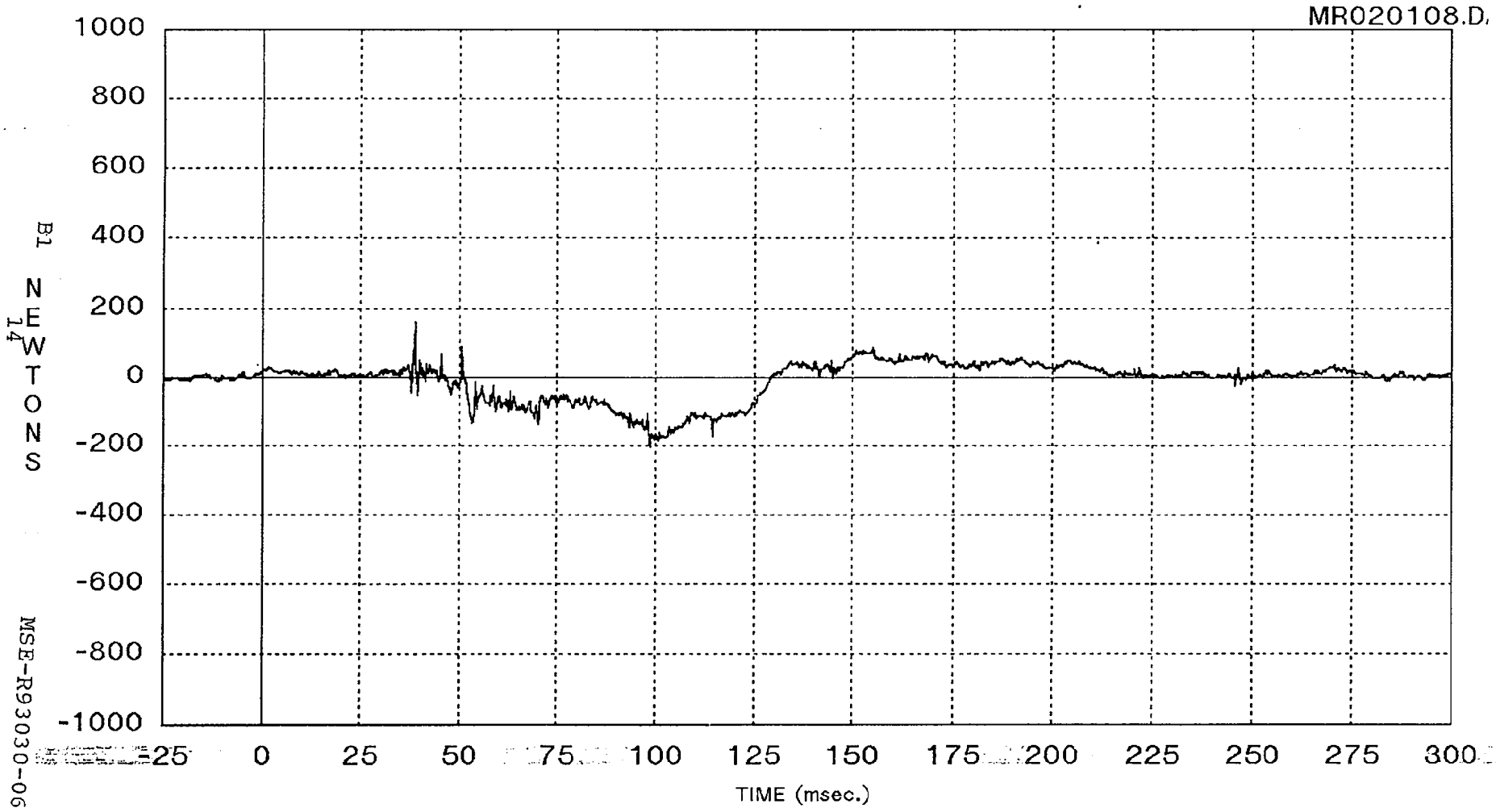
Curve: Driver chest acceleration -- Resultant Filter: SAE CLASS 180 Max = 35.279 Min = .22805

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



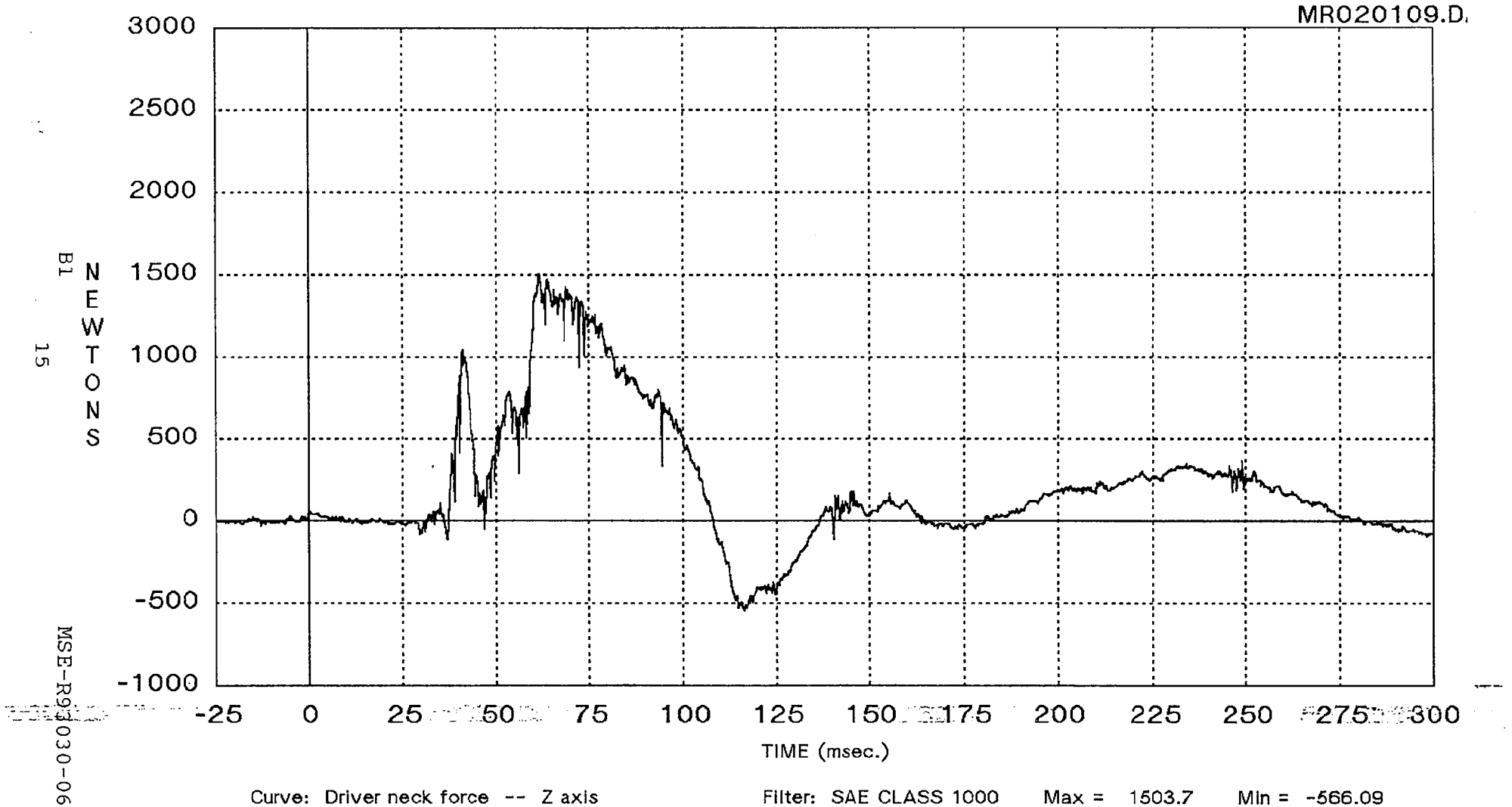
Curve: Driver neck force -- X axis Filter: SAE CLASS 1000 Max = 375.95 Min = -484.47

MSE Date: 03/11/94 Program:1994 New Car Assessment Program Vehicle: 1994 Ford Probe 2 Door Coupe



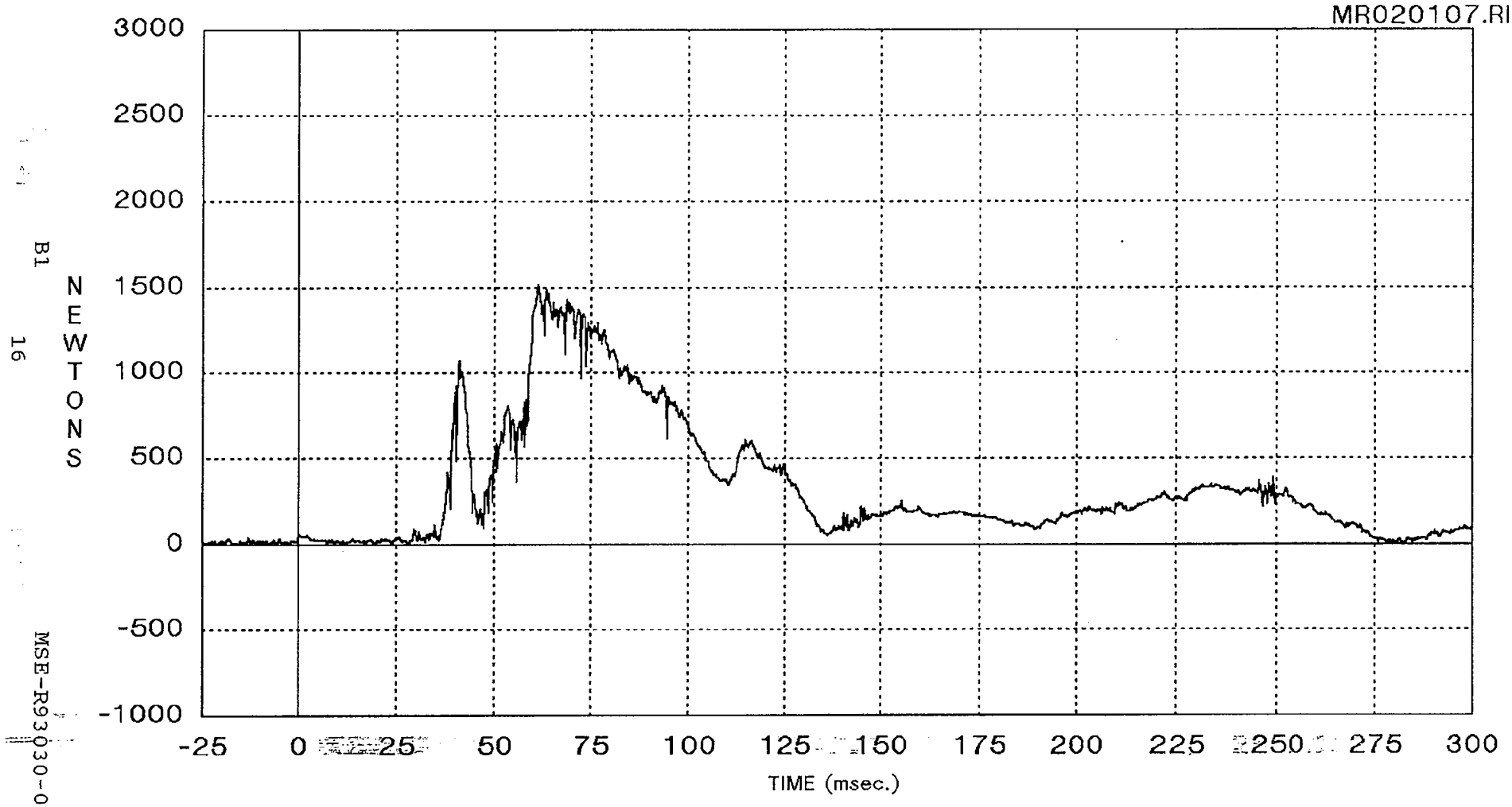
Curve: Driver neck force -- Y axis Filter: SAE CLASS 1000 Max = 159.45 Min = -202.22

MSE Date: 03/11/94 Program:1994 New Car Assessment Program Vehicle: 1994 Ford Probe 2 Door Coupe



Curve: Driver neck force -- Z axis Filter: SAE CLASS 1000 Max = 1503.7 Min = -566.09

MSE Date: 03/11/94 Program:1994 New Car Assessment Program Vehicle: 1994 Ford Probe 2 Door Coupe



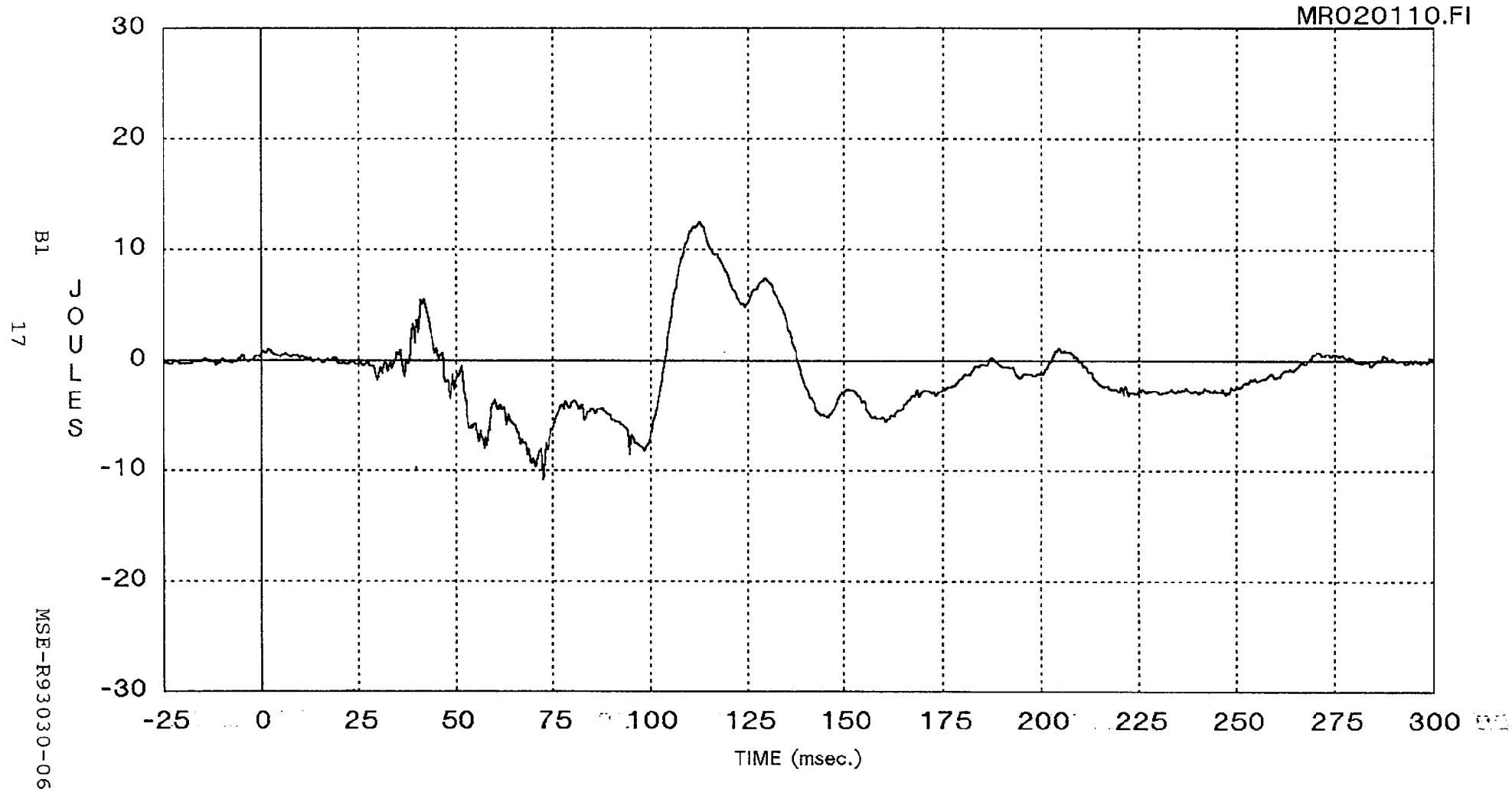
Curve: Driver neck force -- Resultant Filter: SAE CLASS 1000 Max = 1514.9 Min = 3.8757

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe

B1

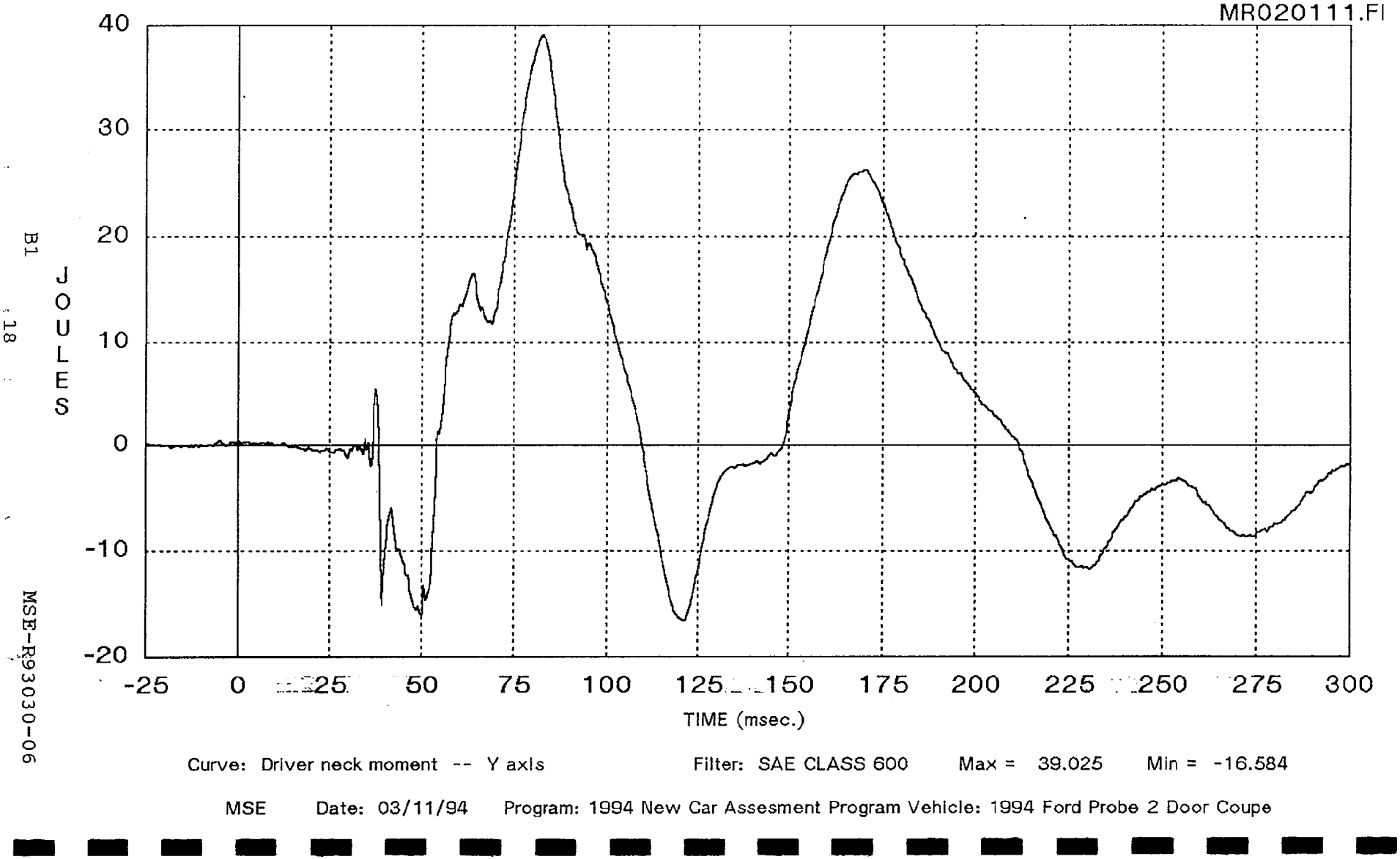
16

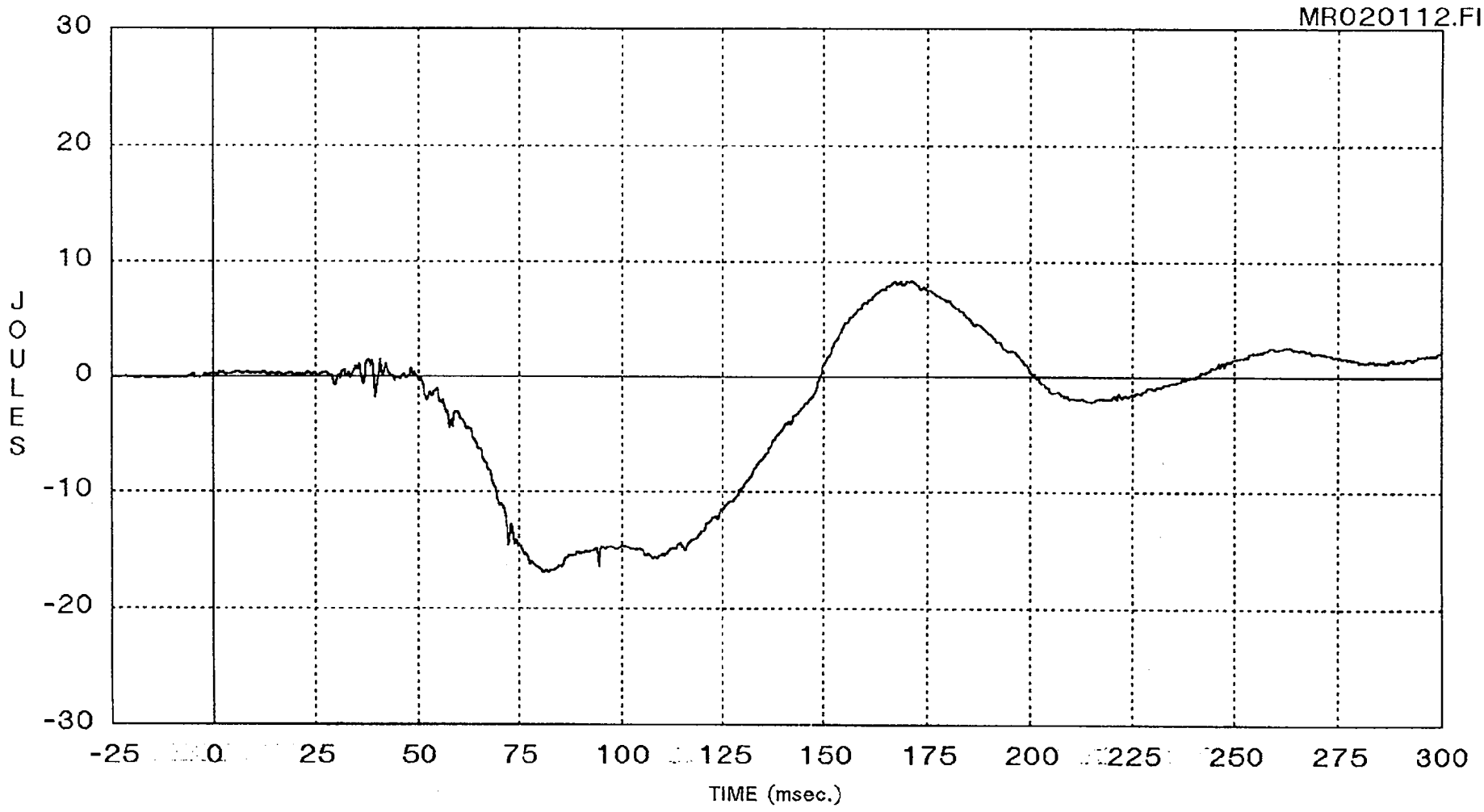
MSE-R93030-06



Curve: Driver neck moment -- X axis Filter: SAE CLASS 600 Max = 12.529 Min = -10.884

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe


MR020111.FI
40
30
20
10
0
-10
-20
JOULES
-25
0
25
50
75
100
125
150
175
200
225
250
275
300
TIME (msec.)
B1
18
MSE-R93030-06
Curve: Driver neck moment -- Y axis
Filter: SAE CLASS 600
Max = 39.025
Min = -16.584
MSE
Date: 03/11/94
Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



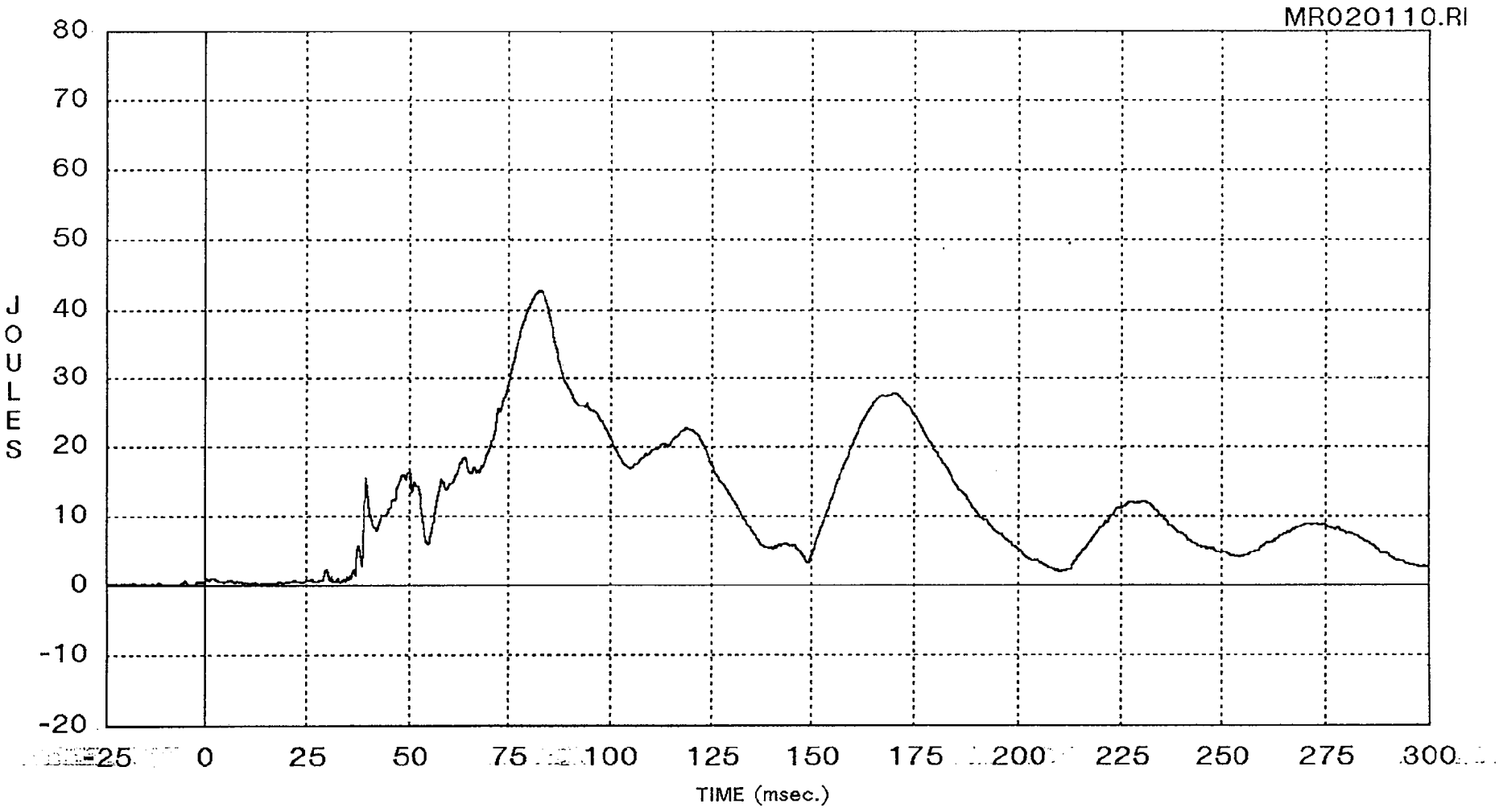
B1

19

MSE-R93030-06

Curve: Driver neck moment -- Z axis Filter: SAE CLASS 600 Max = 8.4009 Min = -16.921

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



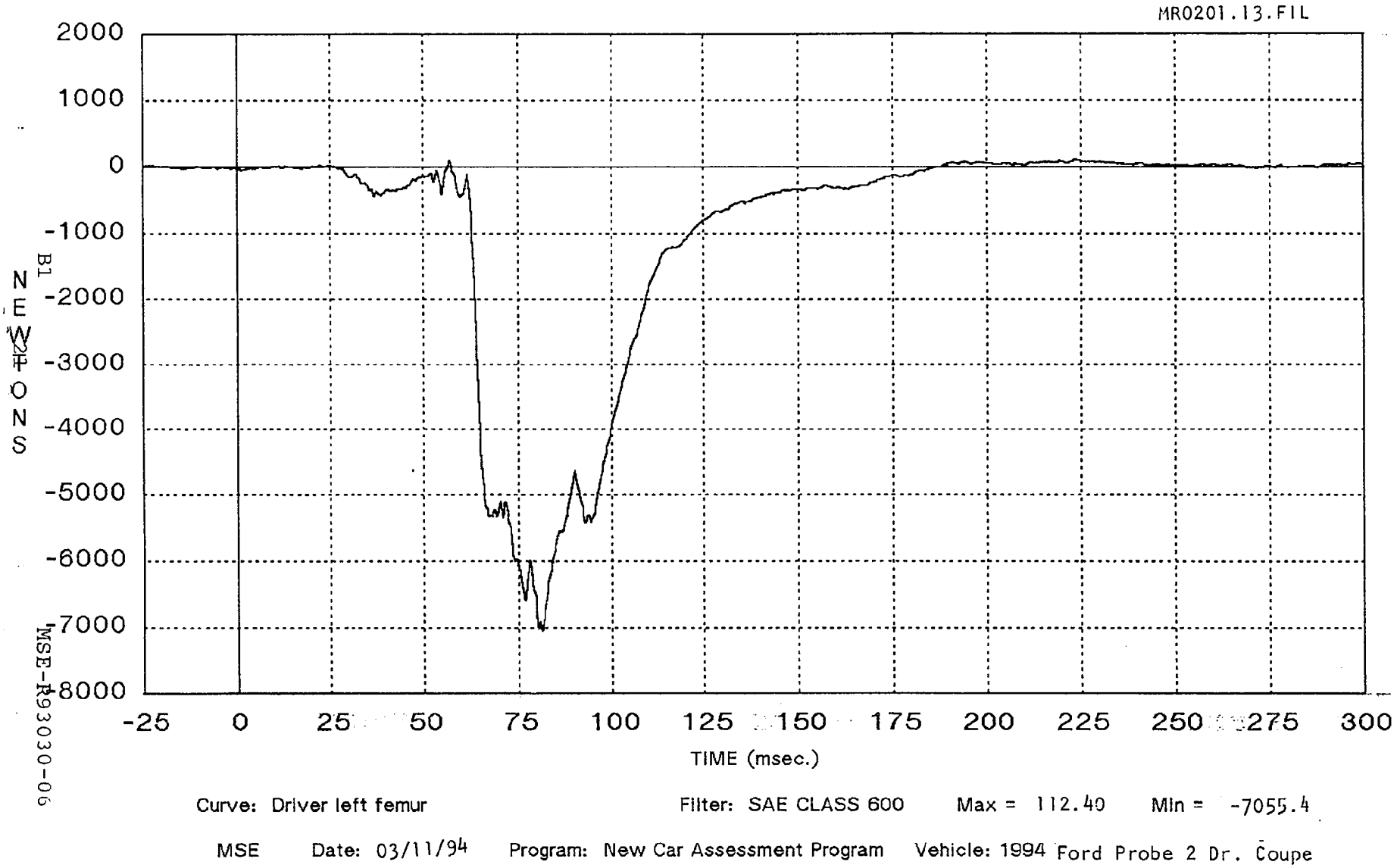
B1

20

MSE-R93030-06

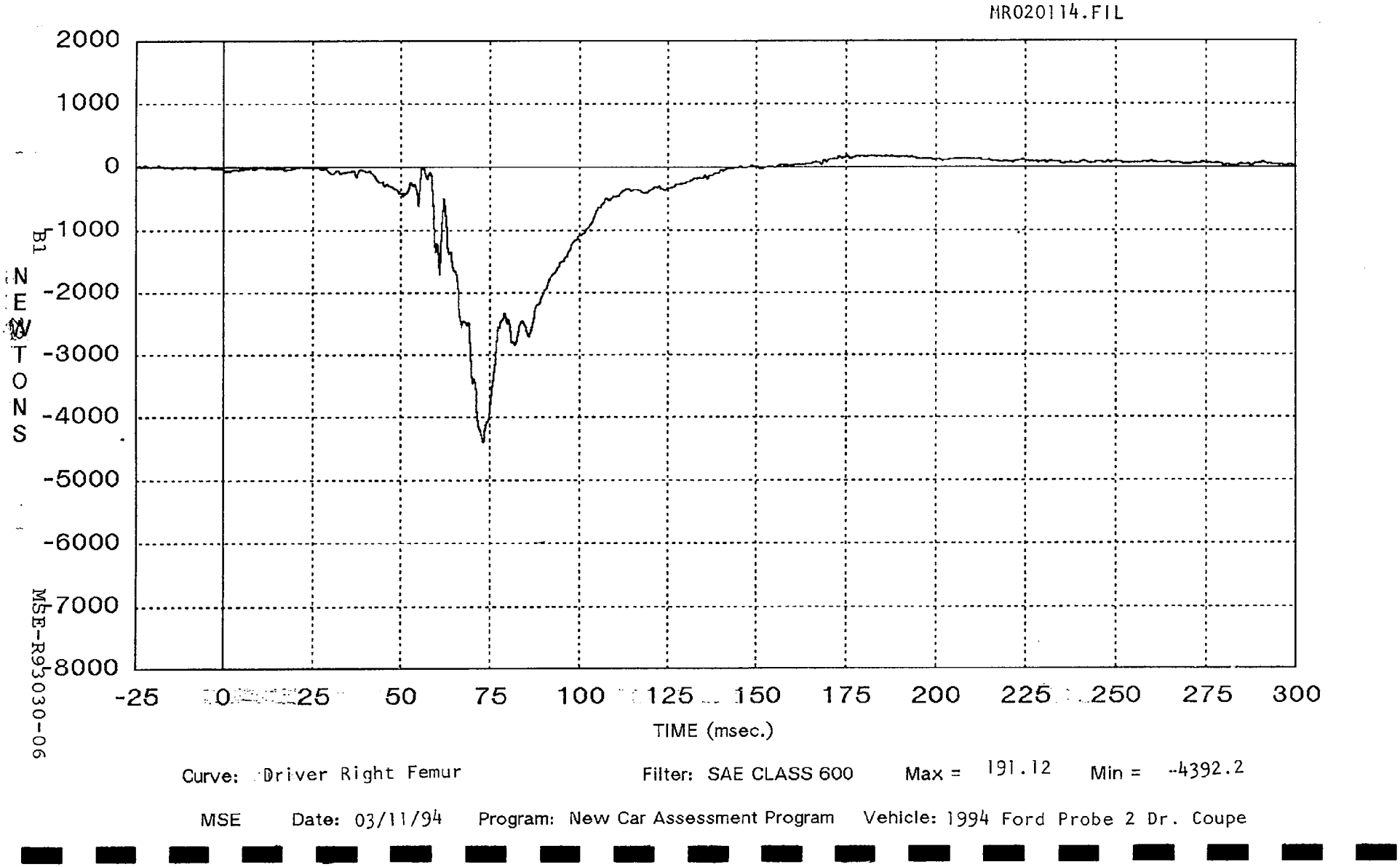
Curve: Driver neck moment -- Resultant Filter: SAE CLASS 600 Max = 42.708 Min = .19429

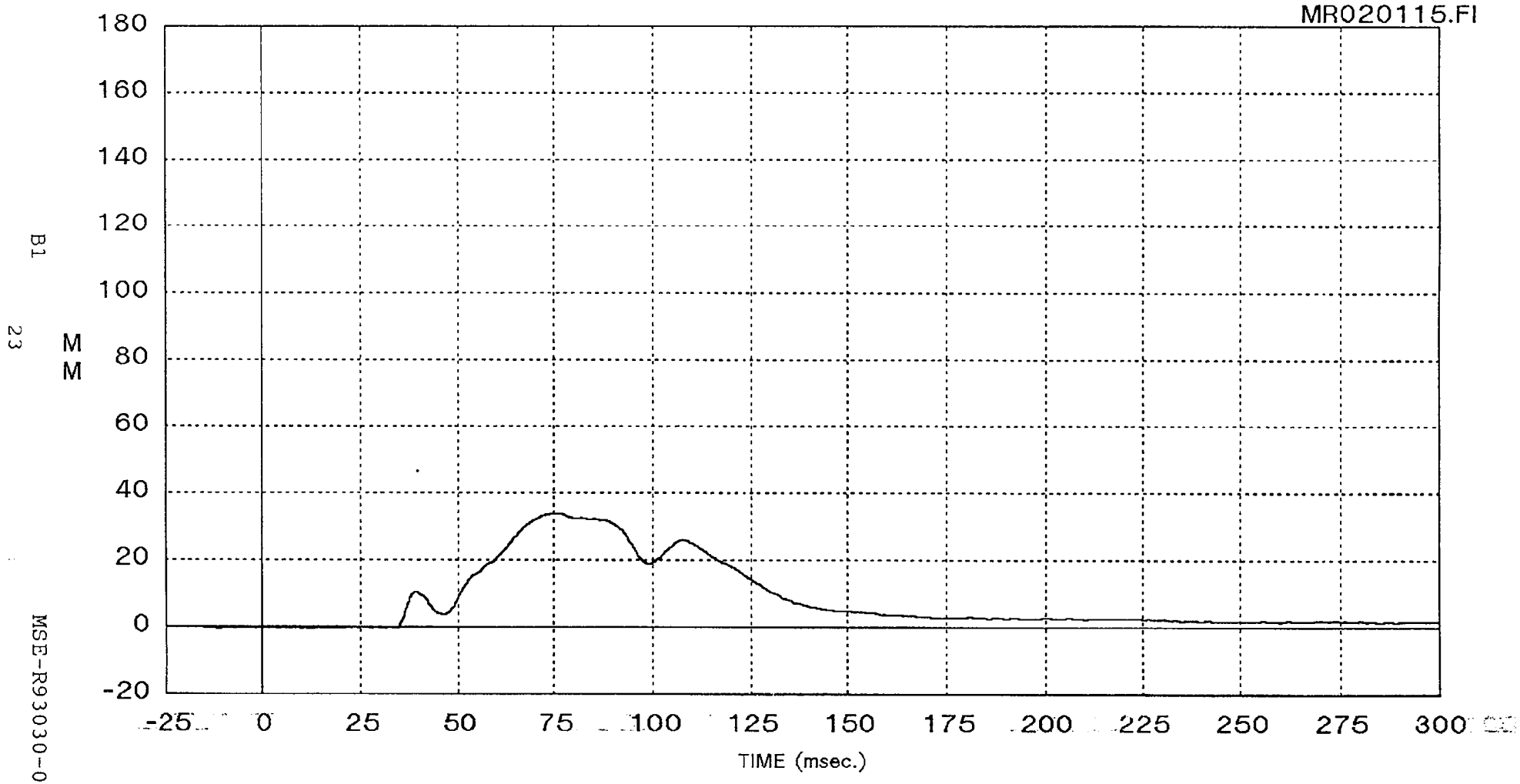
MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



Curve: Driver left femur Filter: SAE CLASS 600 Max = 112.40 Min = -7055.4

MSE Date: 03/11/94 Program: New Car Assessment Program Vehicle: 1994 Ford Probe 2 Dr. Coupe


MR020114.FIL
2000
1000
0
-1000
-2000
-3000
-4000
-5000
-6000
-7000
-8000
B1
NEWTONS
MSE-R93030-06
-25
0
25
50
75
100
125
150
175
200
225
250
275
300
TIME (msec.)
Curve: Driver Right Femur
Filter: SAE CLASS 600
Max = 191.12
Min = -4392.2
MSE
Date: 03/11/94
Program: New Car Assessment Program
Vehicle: 1994 Ford Probe 2 Dr. Coupe



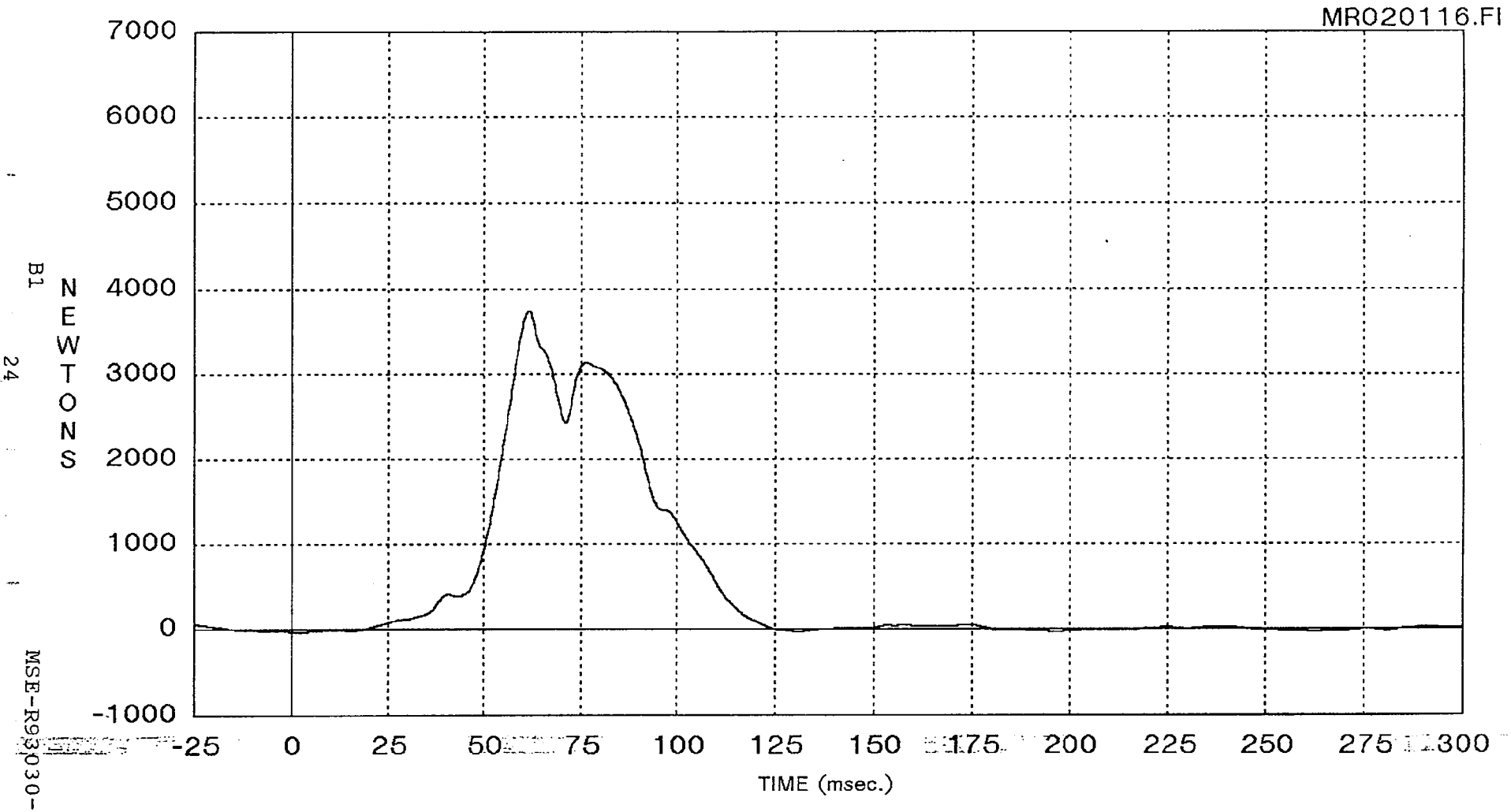
B1

23

MSE-R93030-06

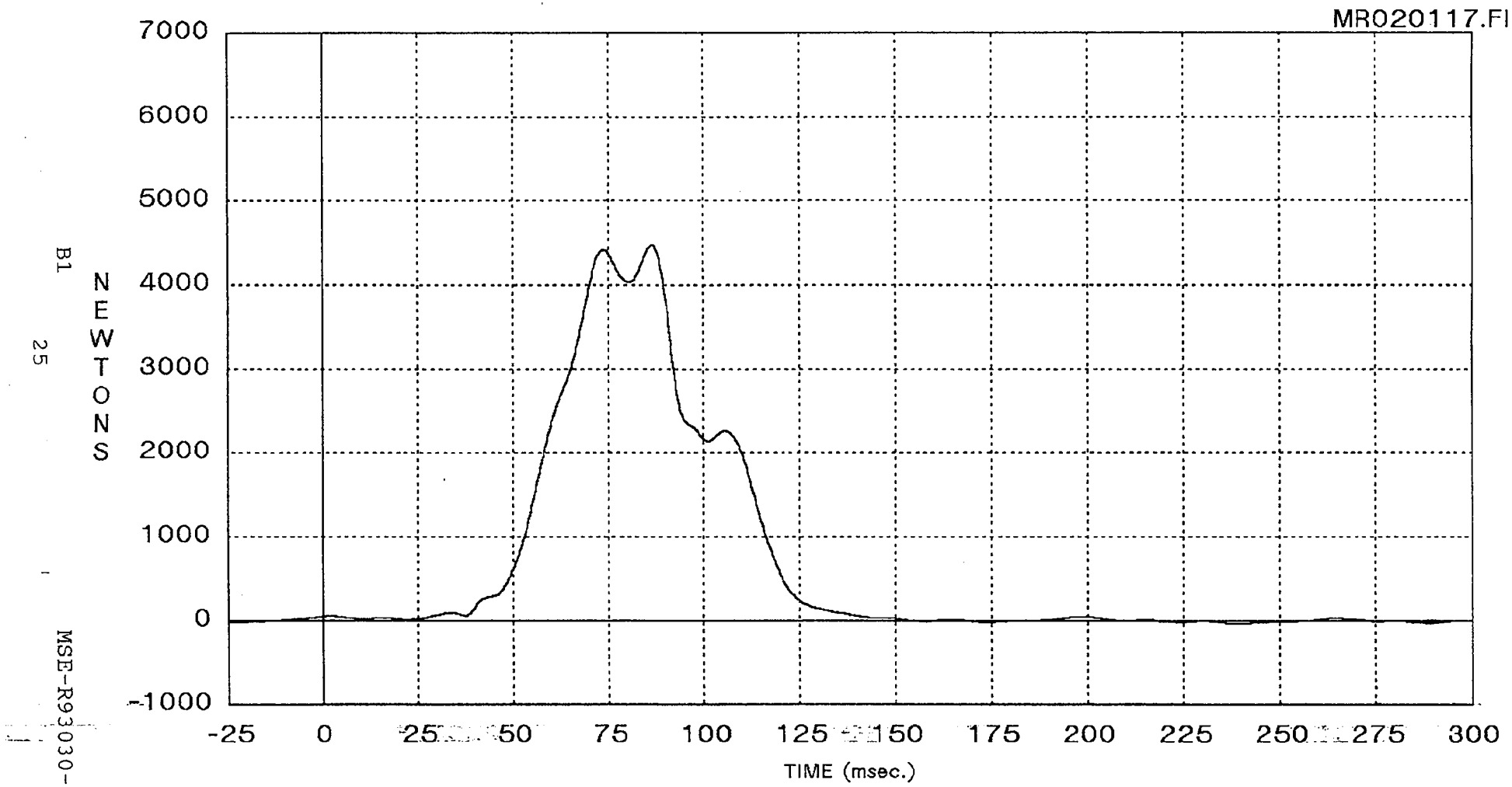
Curve: Driver chest displacement Filter: SAE CLASS 180 Max = 33.958 Min = -.39256

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



Curve: Driver lap belt load Filter: SAE CLASS 60 Max = 3740.7 Min = -39.801

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



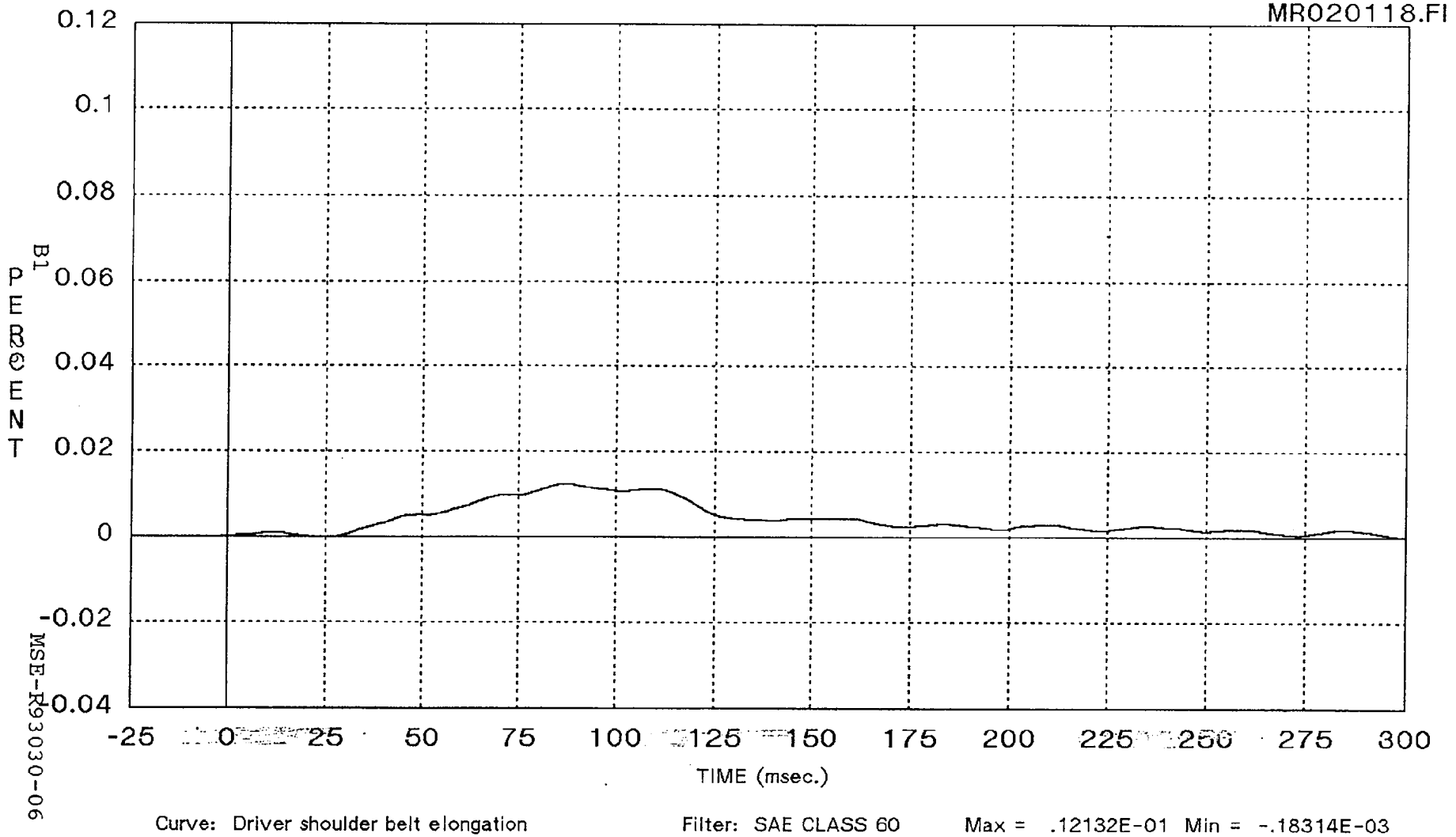
Curve: Driver shoulder belt load Filter: SAE CLASS 60 Max = 4470.3 Min = -41.628

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe

B1

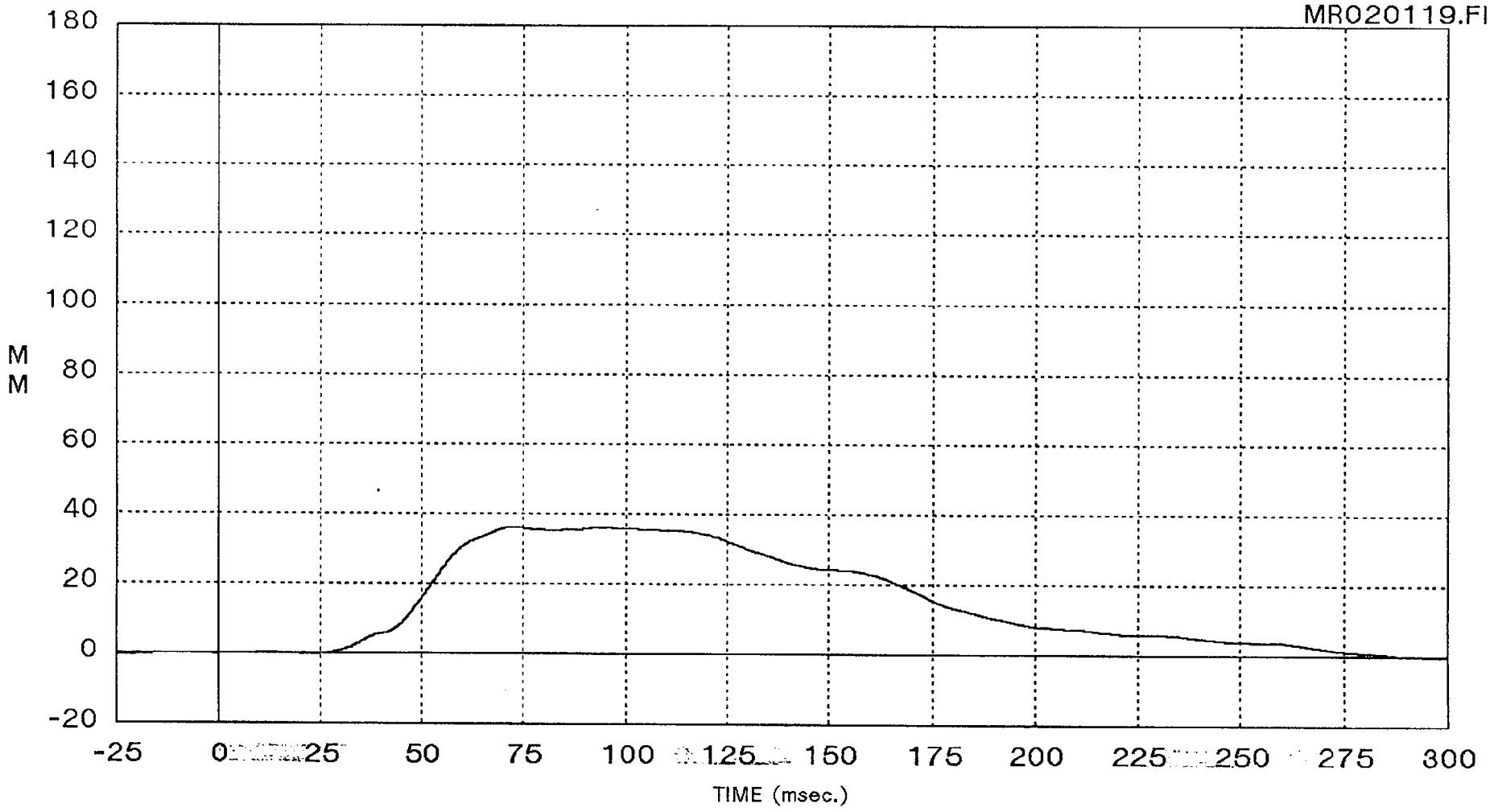
25

MSE-R93030-06



Curve: Driver shoulder belt elongation Filter: SAE CLASS 60 Max = .12132E-01 Min = -.18314E-03

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



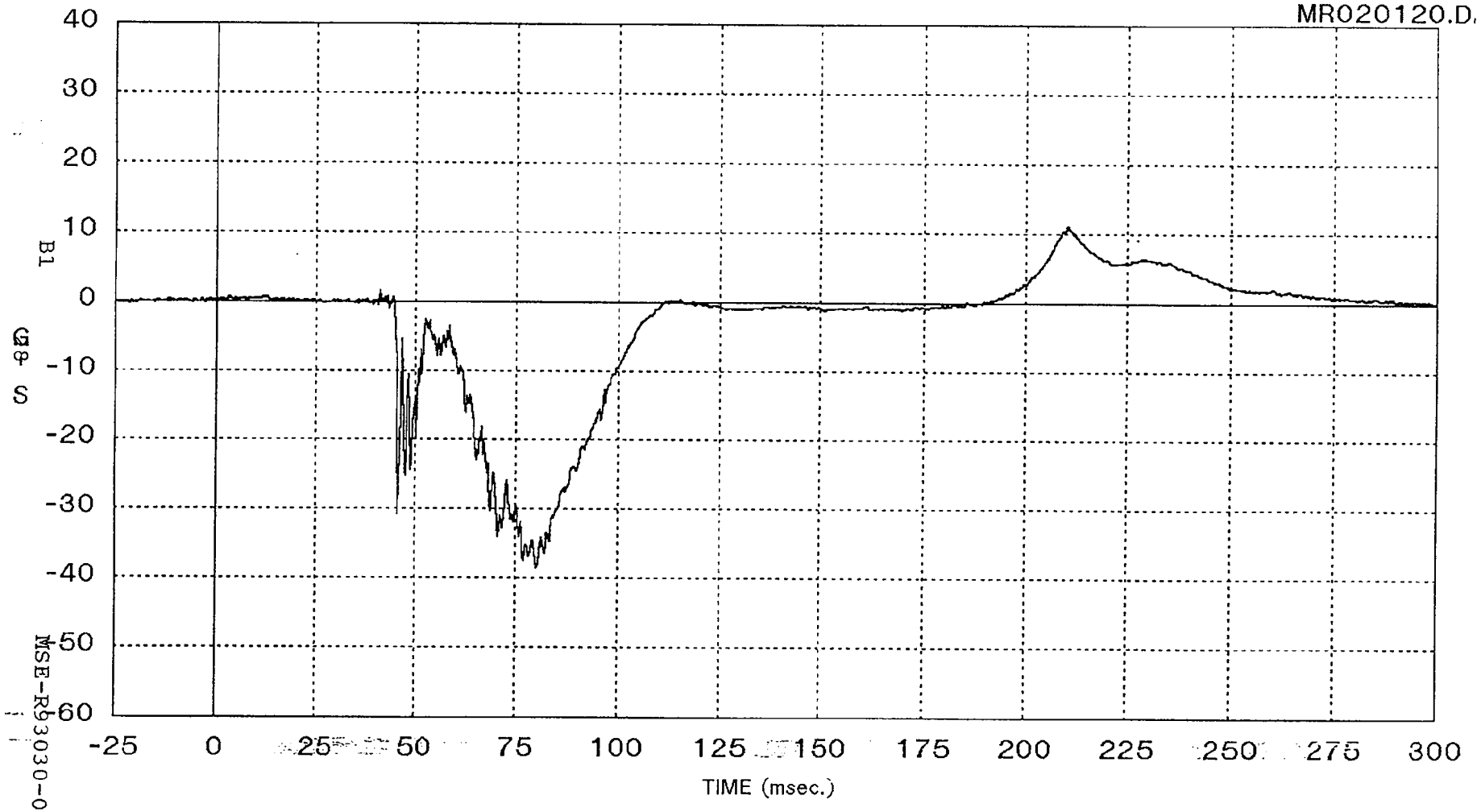
B1

27

MSE-R93030-06

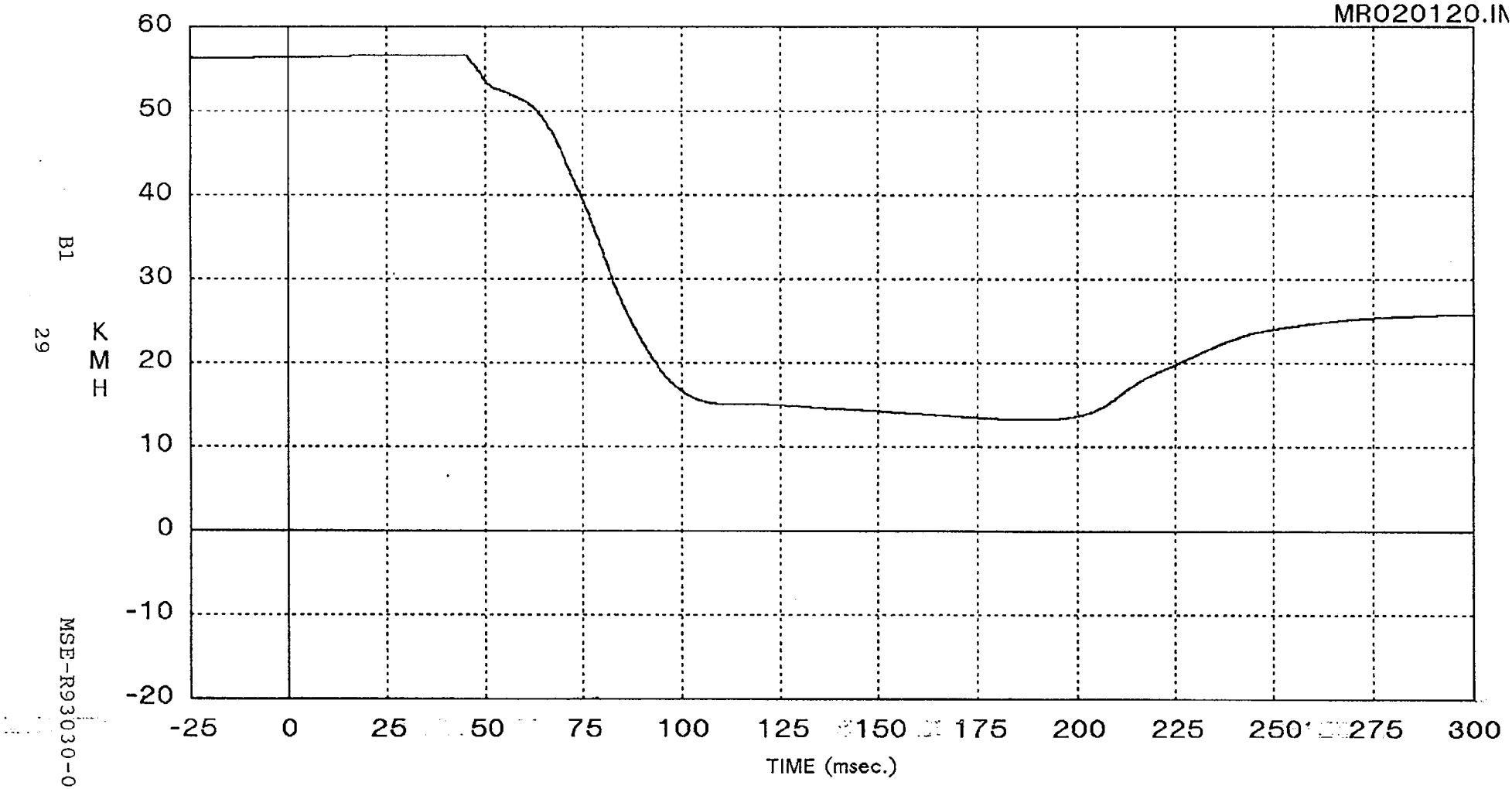
Curve: Driver seat belt pullout Filter: SAE CLASS 60 Max = 36.164 Min = -.18722

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



Curve: Passenger head acceleration -- X axis Filter: SAE CLASS 1000 Max = 11.096 Min = -38.515

MSE Date: 03/11/94 Program:1994 New Car Assessment Program Vehicle: 1994 Ford Probe 2 Door Coupe



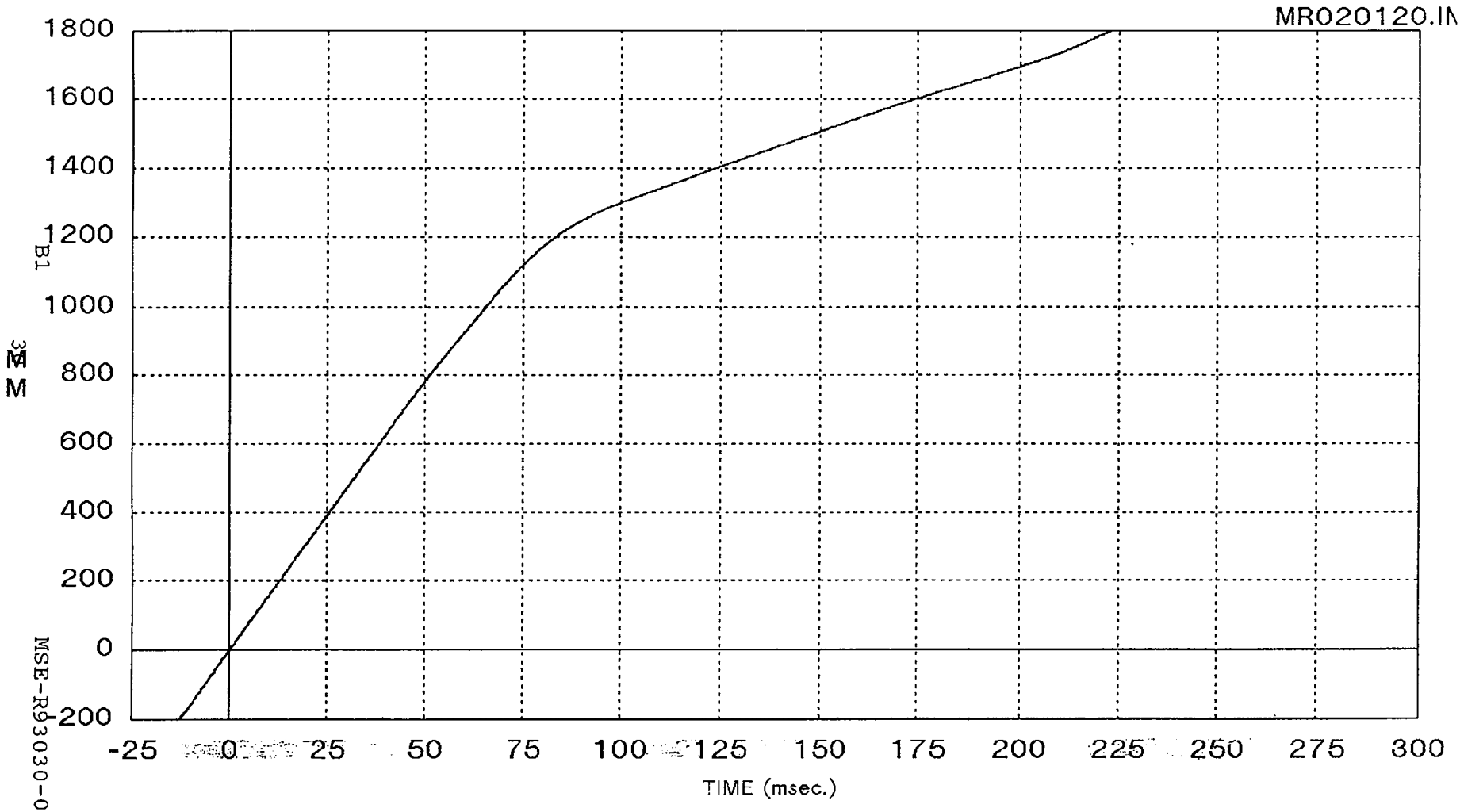
B1

29

MSE-R93030-06

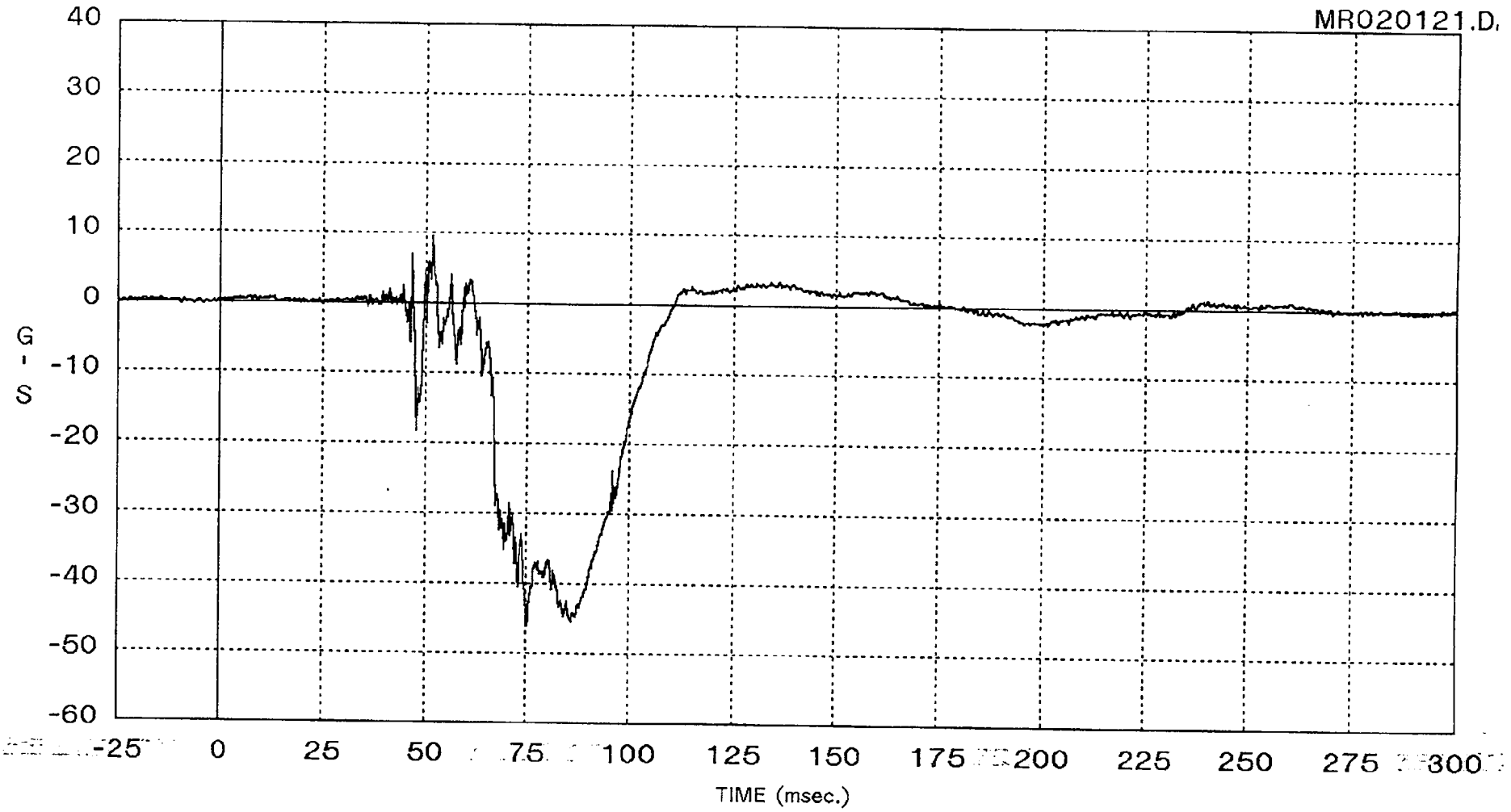
Curve: Passenger head delta V -- X axis Filter: SAE CLASS 180 Max = 56.616 Min = 13.178

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



Curve: Passenger head displacement -- X axis Filter: SAE CLASS 180 Max = 2313.0 Min = .10000E+11

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



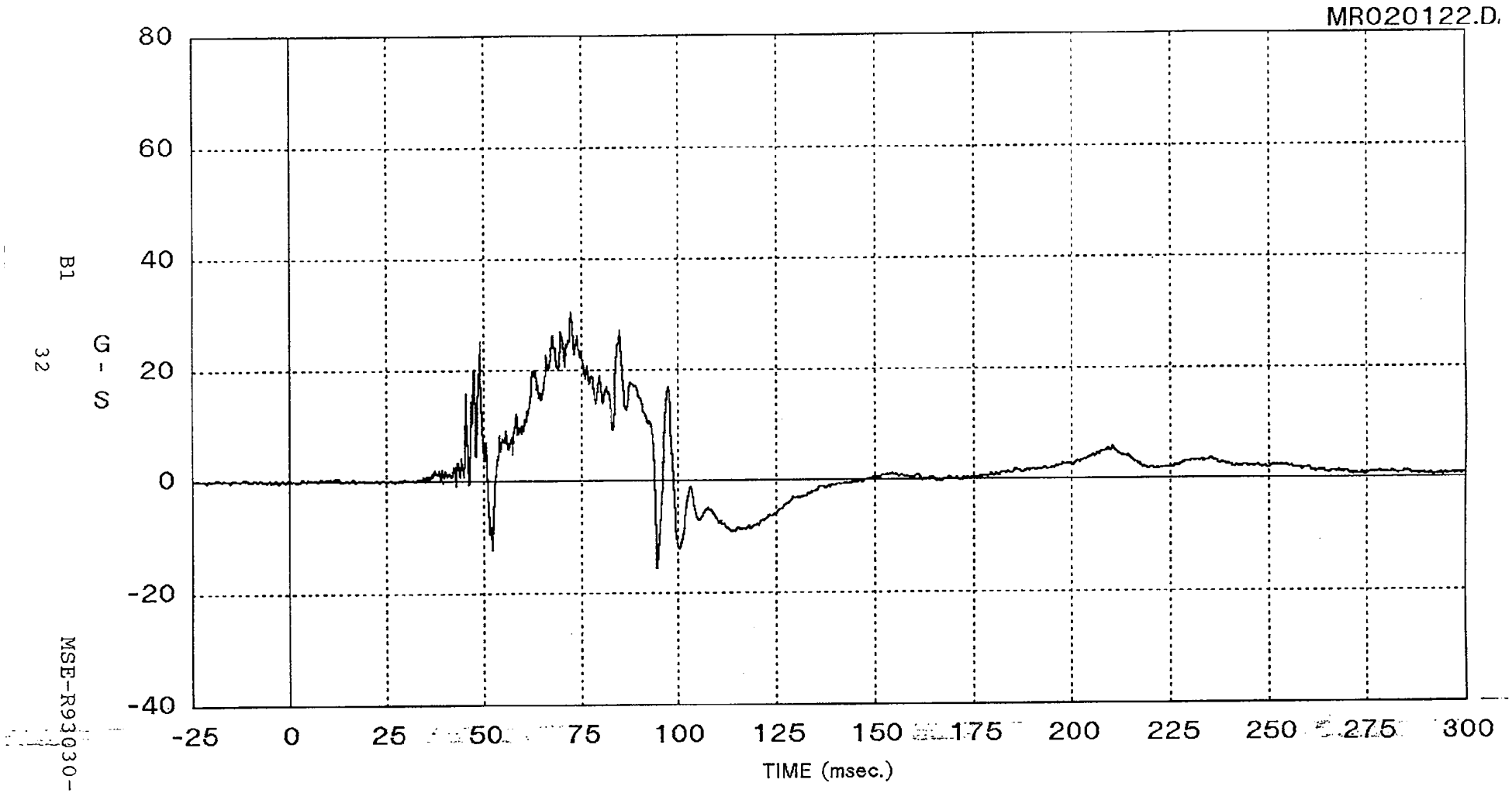
B1

31

MSE-R93030-06

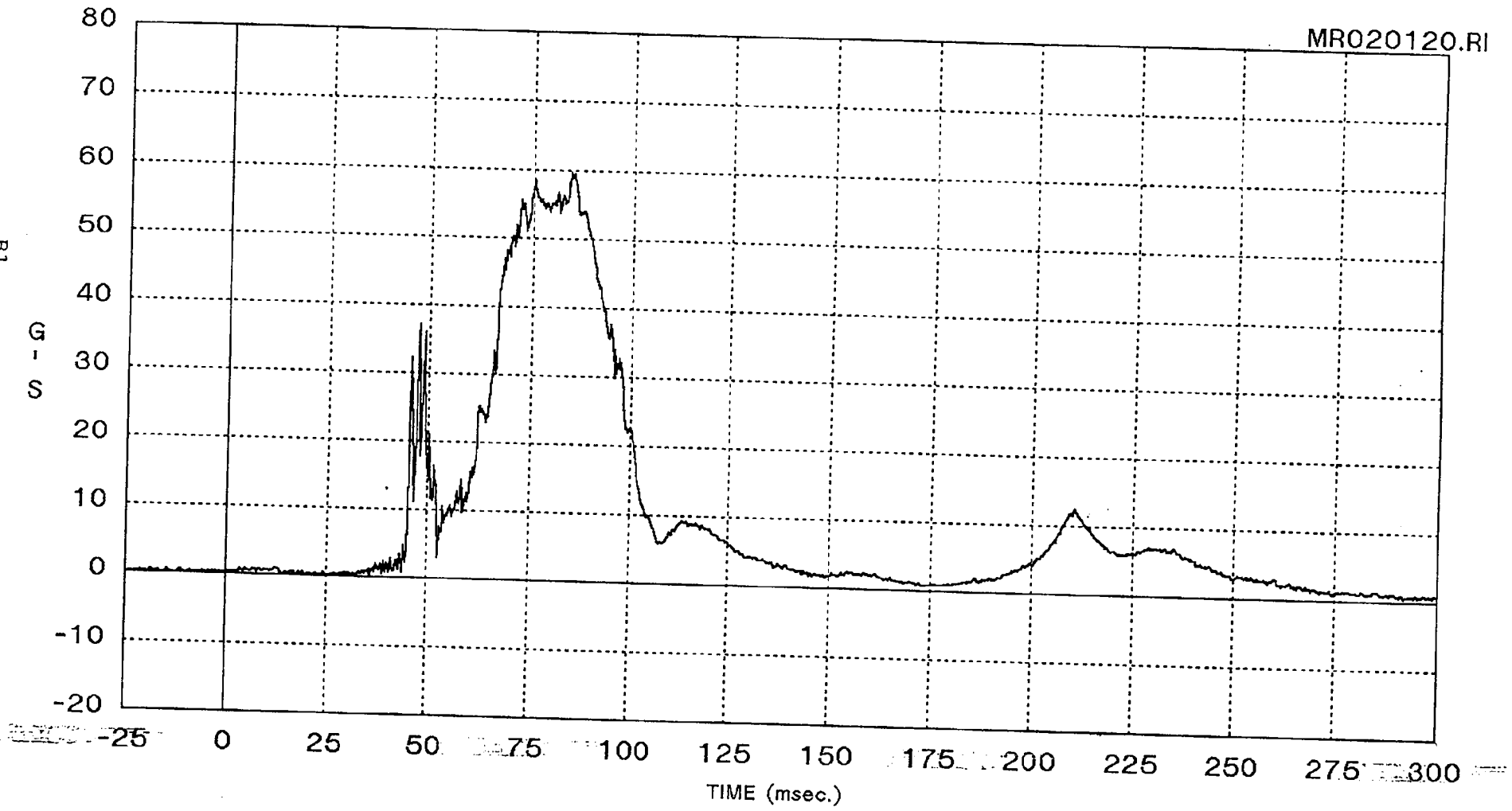
Curve: Passenger head acceleration -- Y axis Filter: SAE CLASS 1000 Max = 9.6331 Min = -45.985

MSE Date: 03/11/94 Program:1994 New Car Assessment Program Vehicle: 1994 Ford Probe 2 Door Coupe



Curve: Passenger head acceleration -- Z axis Filter: SAE CLASS 1000 Max = 30.432 Min = -15.951

MSE Date: 03/11/94 Program:1994 New Car Assessment Program Vehicle: 1994 Ford Probe 2 Door Coupe



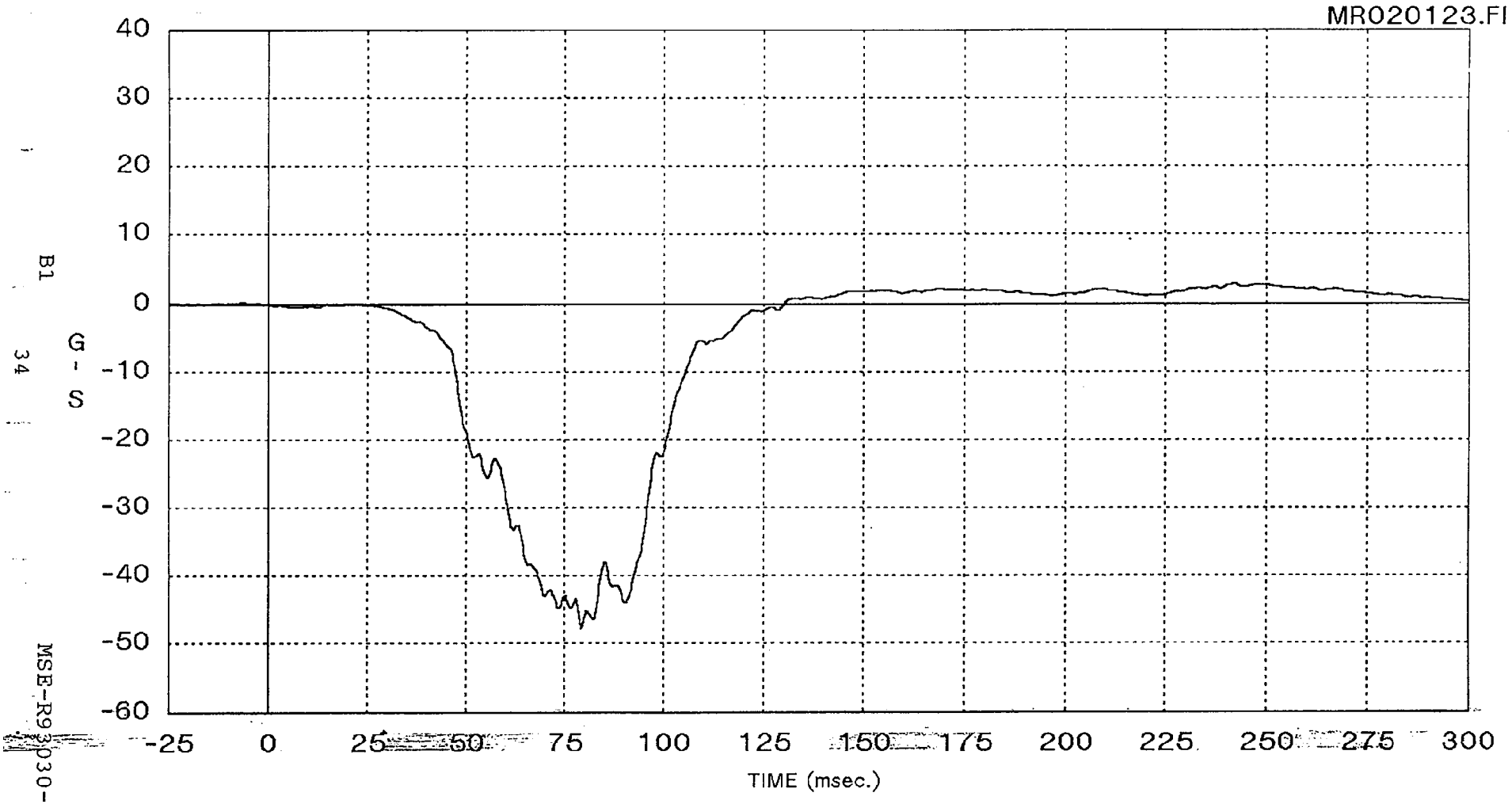
B1

33

MSE-R93030-06

Curve: Passenger head acceleration -- Resultant Filter: SAE CLASS 1000 Max = 59.851 Min = .73595E-01

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



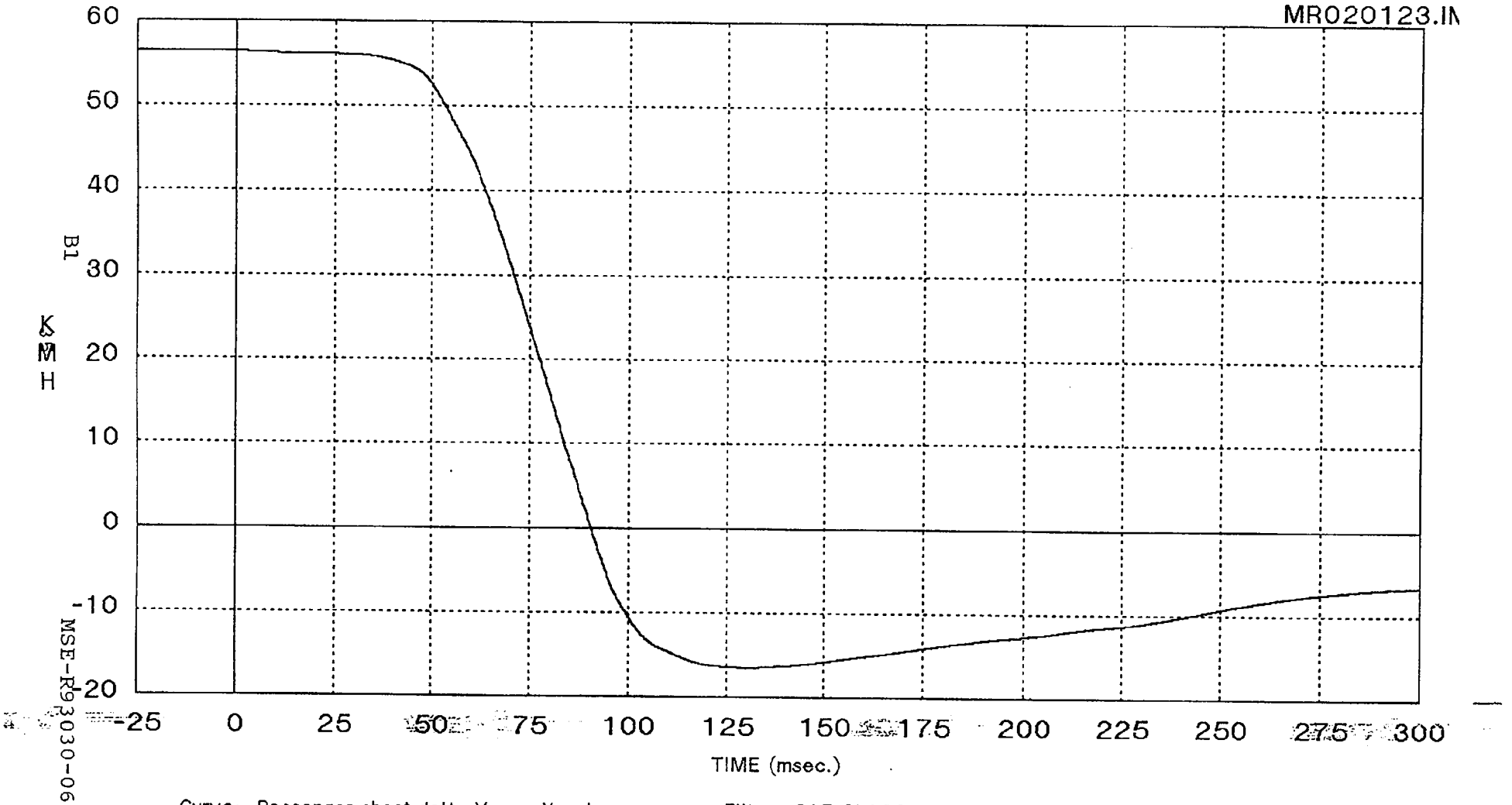
B1

34

MSE-R93030-06

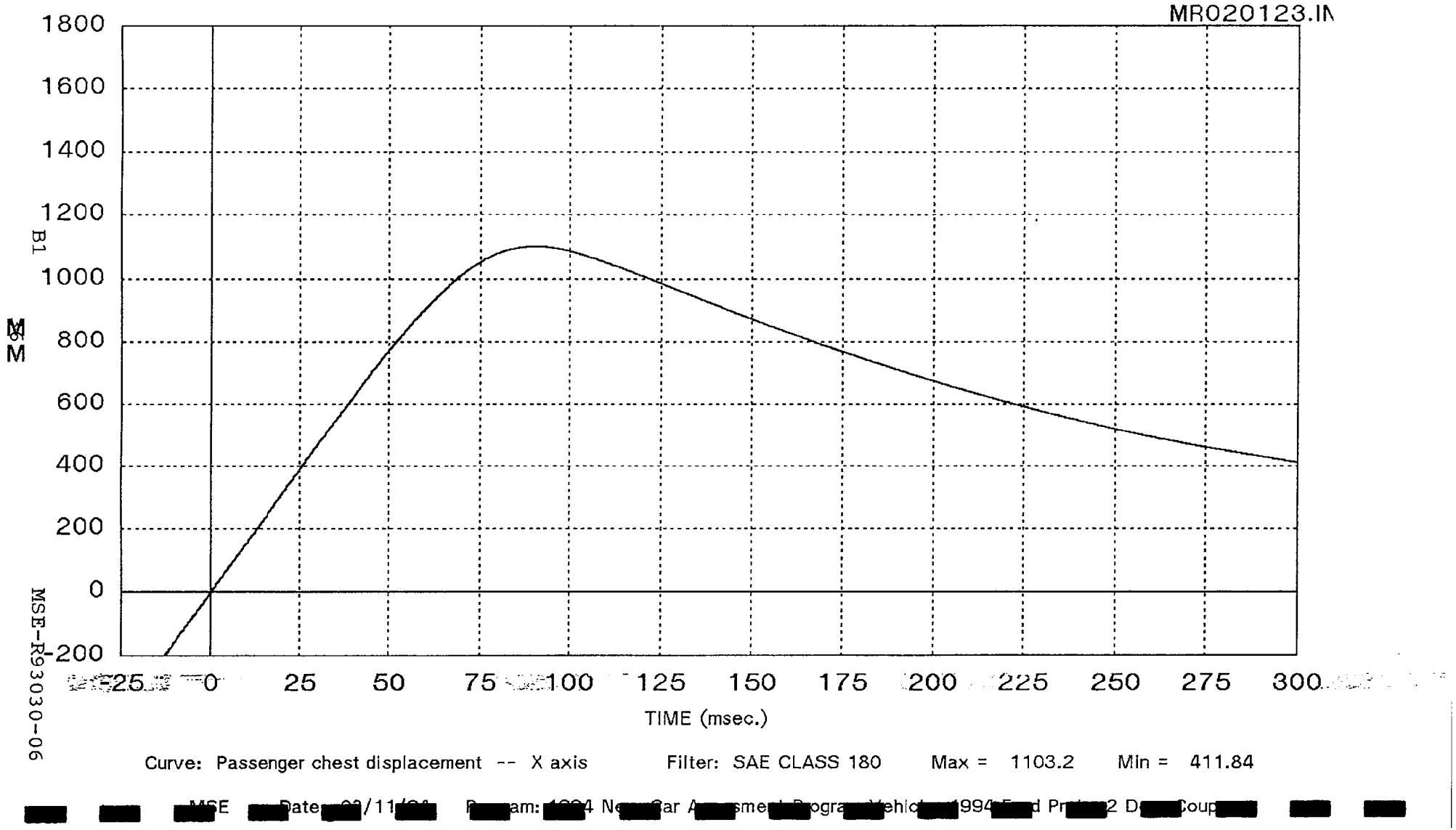
Curve: Passenger chest acceleration -- X axis Filter: SAE CLASS 180 Max = 2.8734 Min = -47.774

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



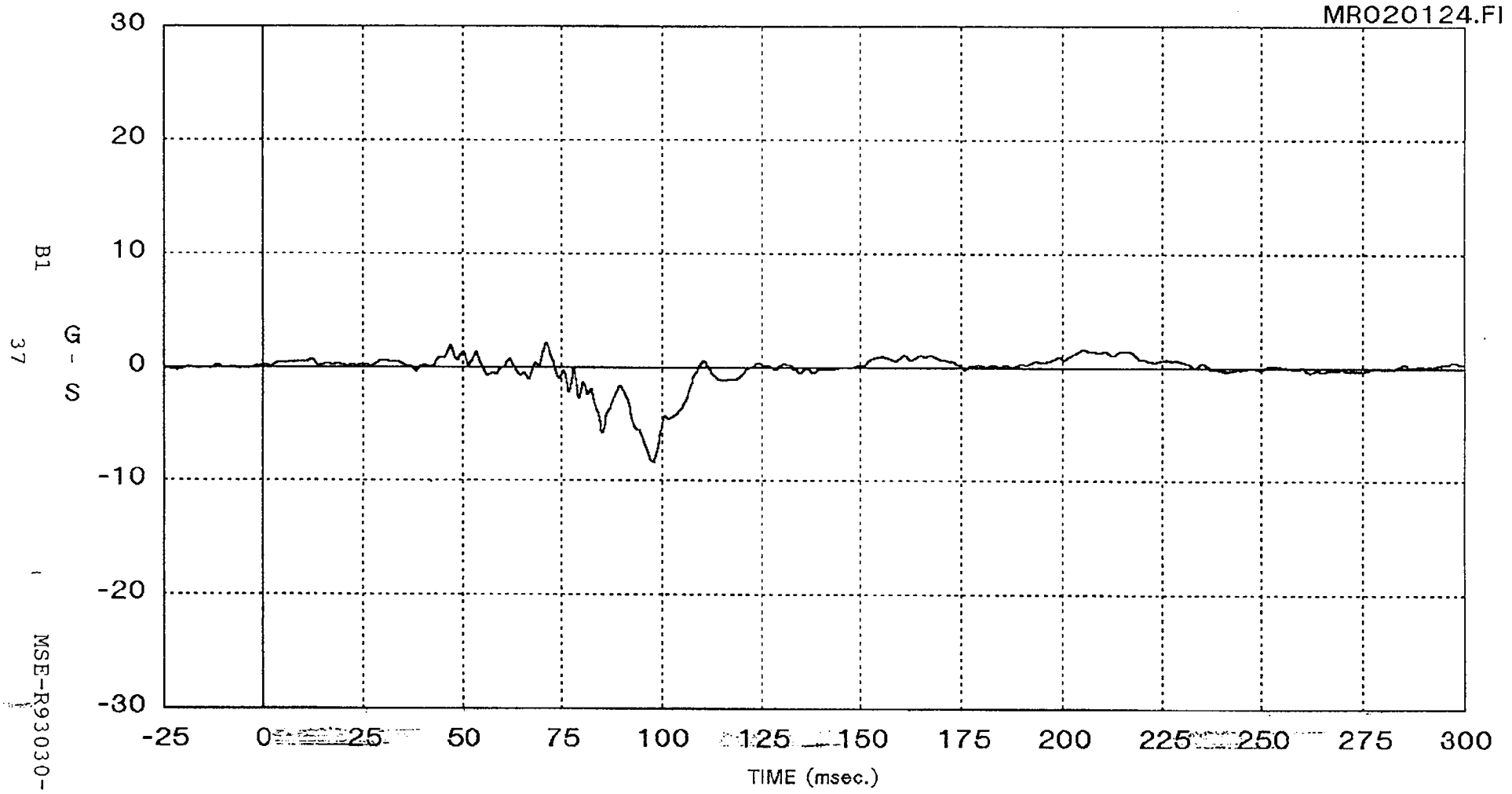
Curve: Passenger chest delta V -- X axis Filter: SAE CLASS 180 Max = 56.349 Min = -16.579

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



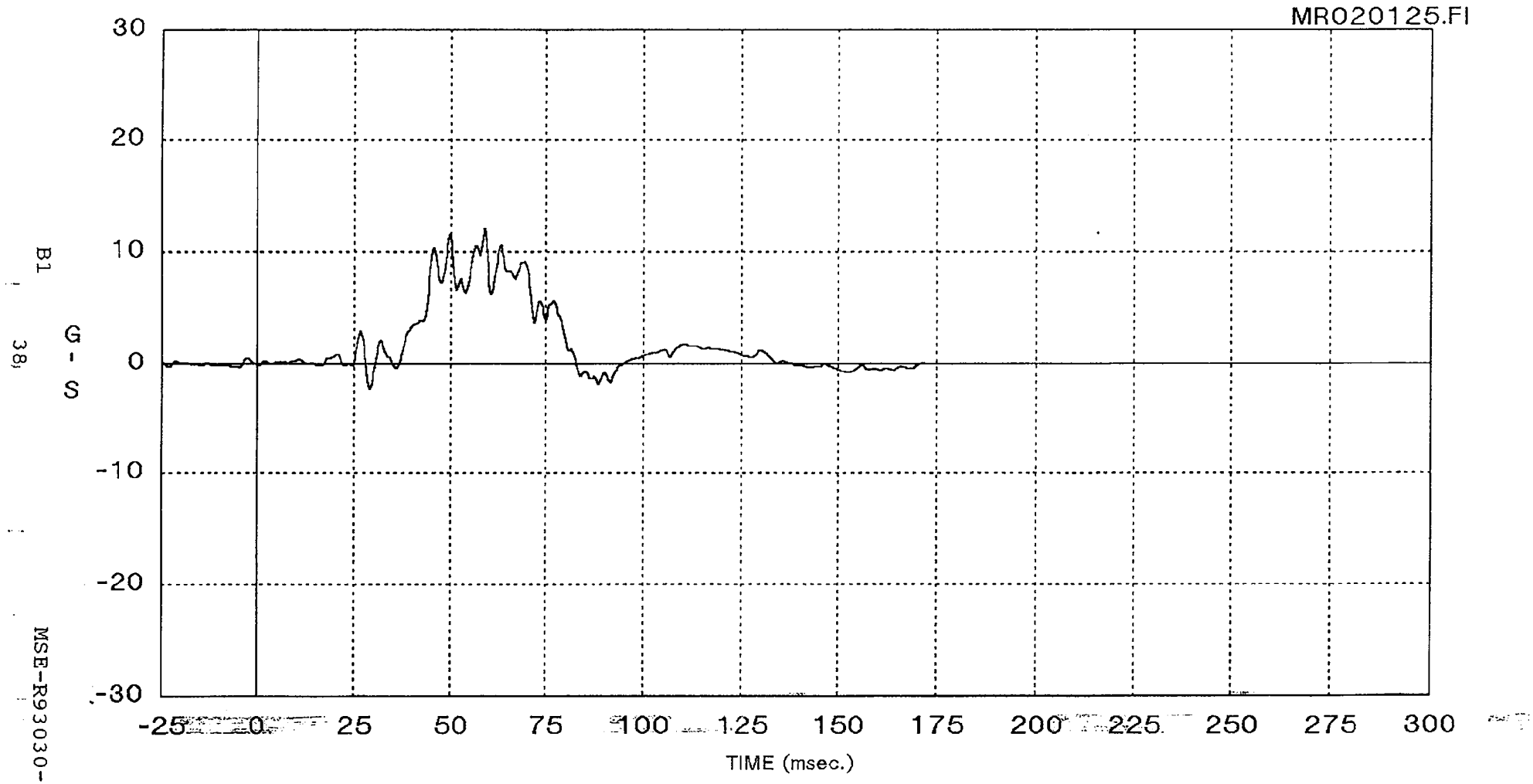
Curve: Passenger chest displacement -- X axis Filter: SAE CLASS 180 Max = 1103.2 Min = 411.84

[redacted] MSE [redacted] Date: [redacted]/11/[redacted] Program: [redacted] New Car Assessment Program Vehicle: [redacted] 1994 Ford Probe 2 Door Coupe [redacted]



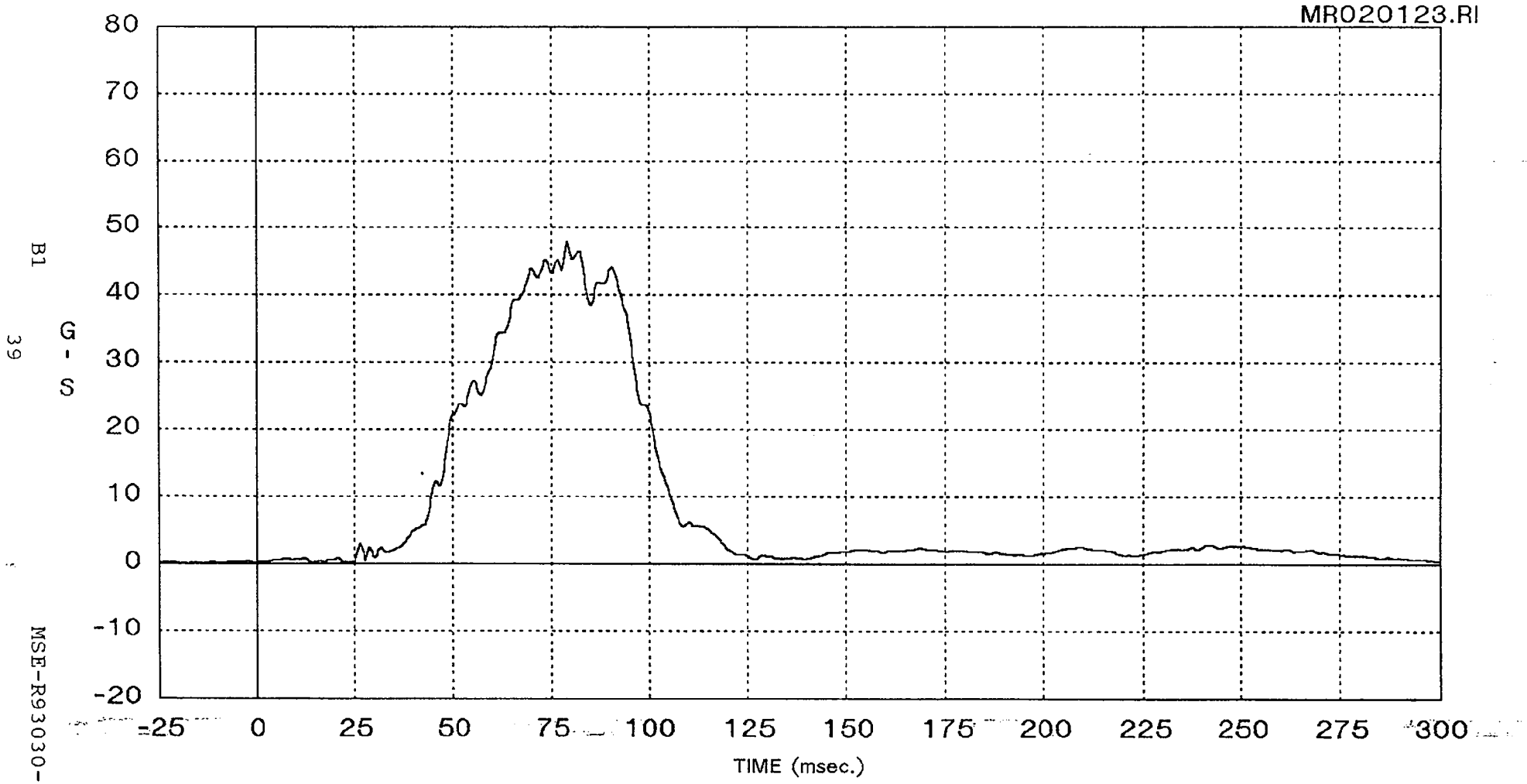
Curve: Passenger chest acceleration -- Y axis Filter: SAE CLASS 180 Max = 2.0643 Min = -8.3399

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



Curve: Passenger chest acceleration -- Z axis Filter: SAE CLASS 180 Max = 12.054 Min = -2.2836

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



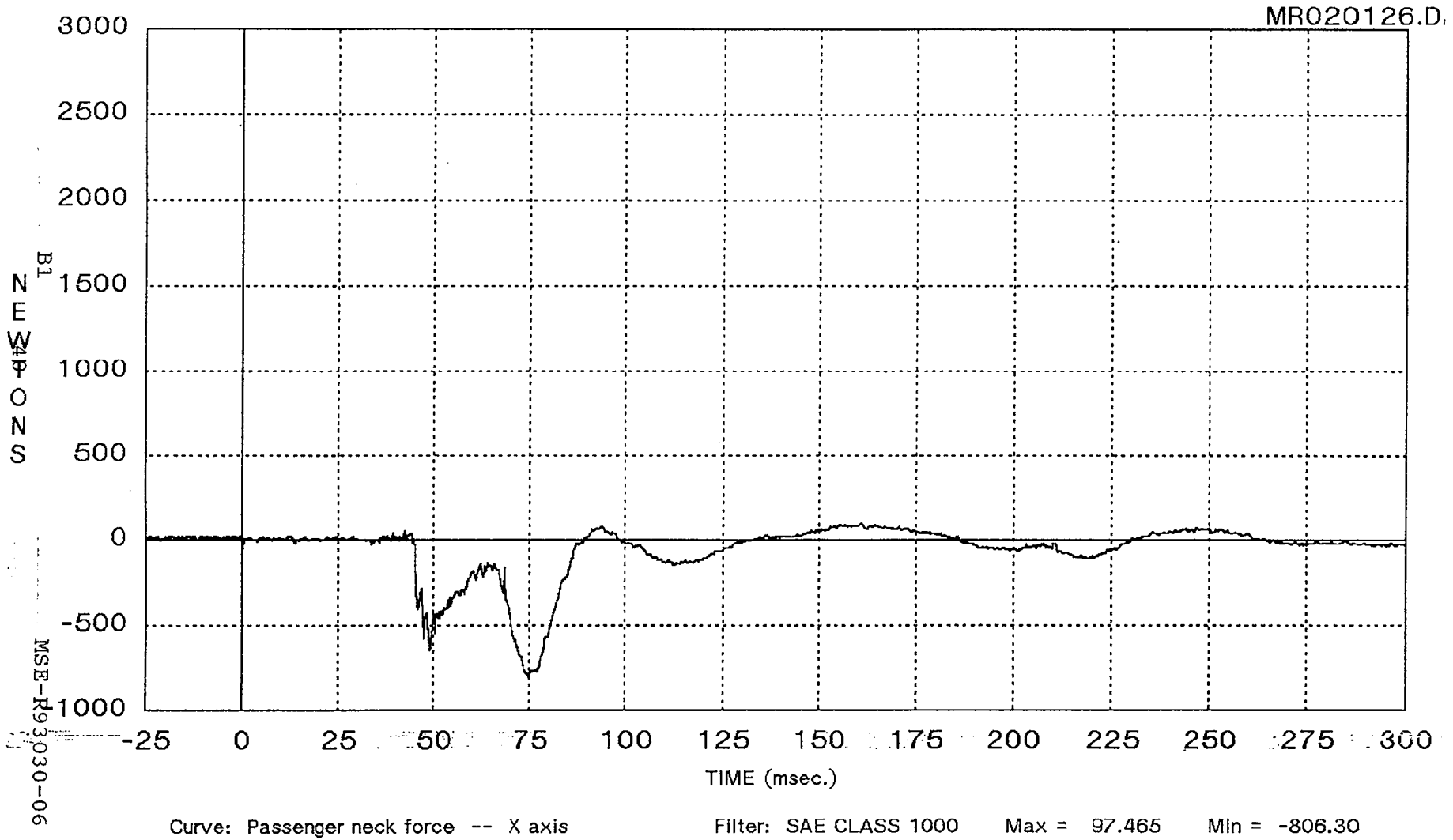
B1

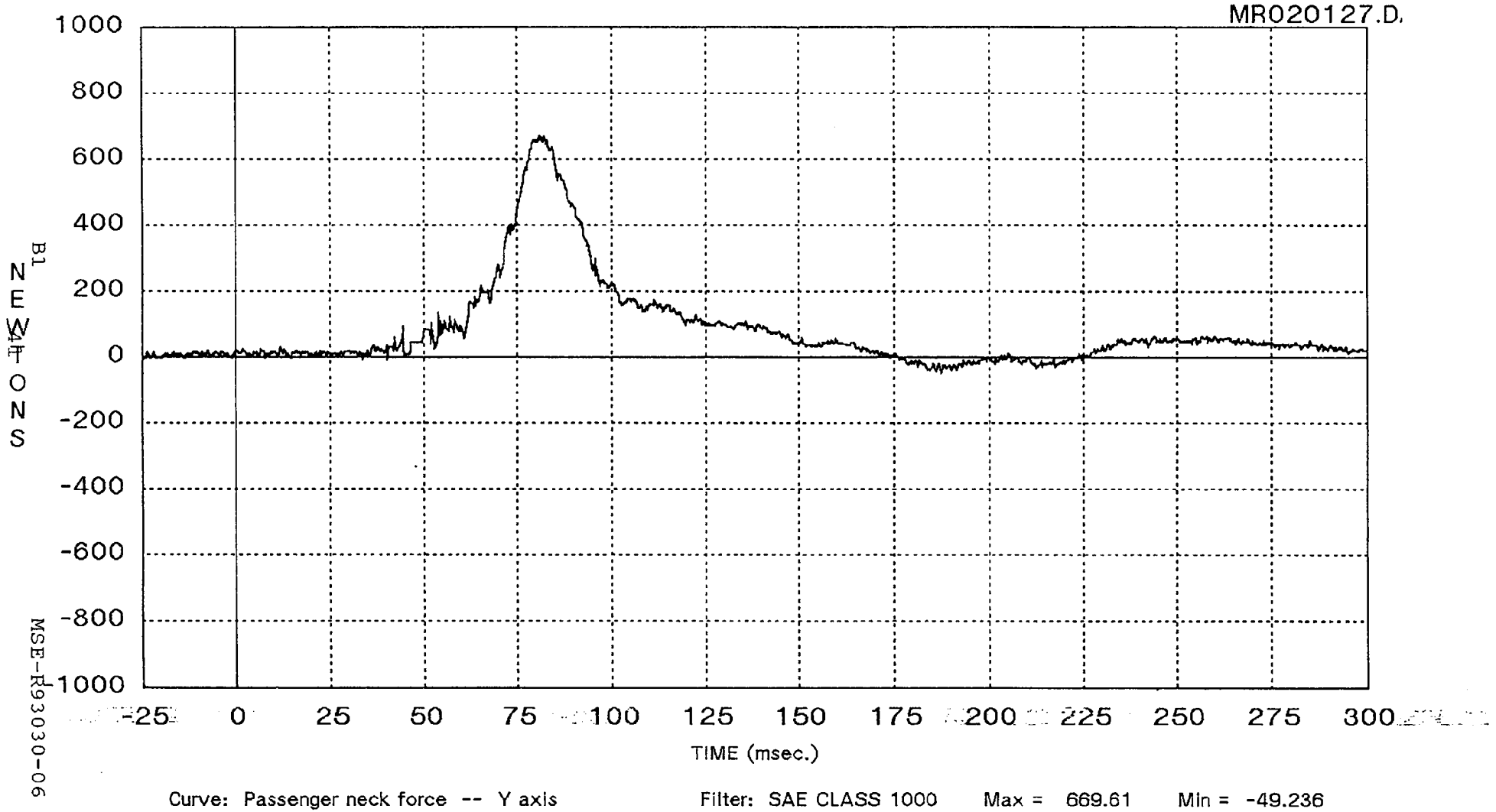
39

MSE-R93030-06

Curve: Passenger chest acceleration -- Resultant Filter: SAE CLASS 180 Max = 47.968 Min = .18396

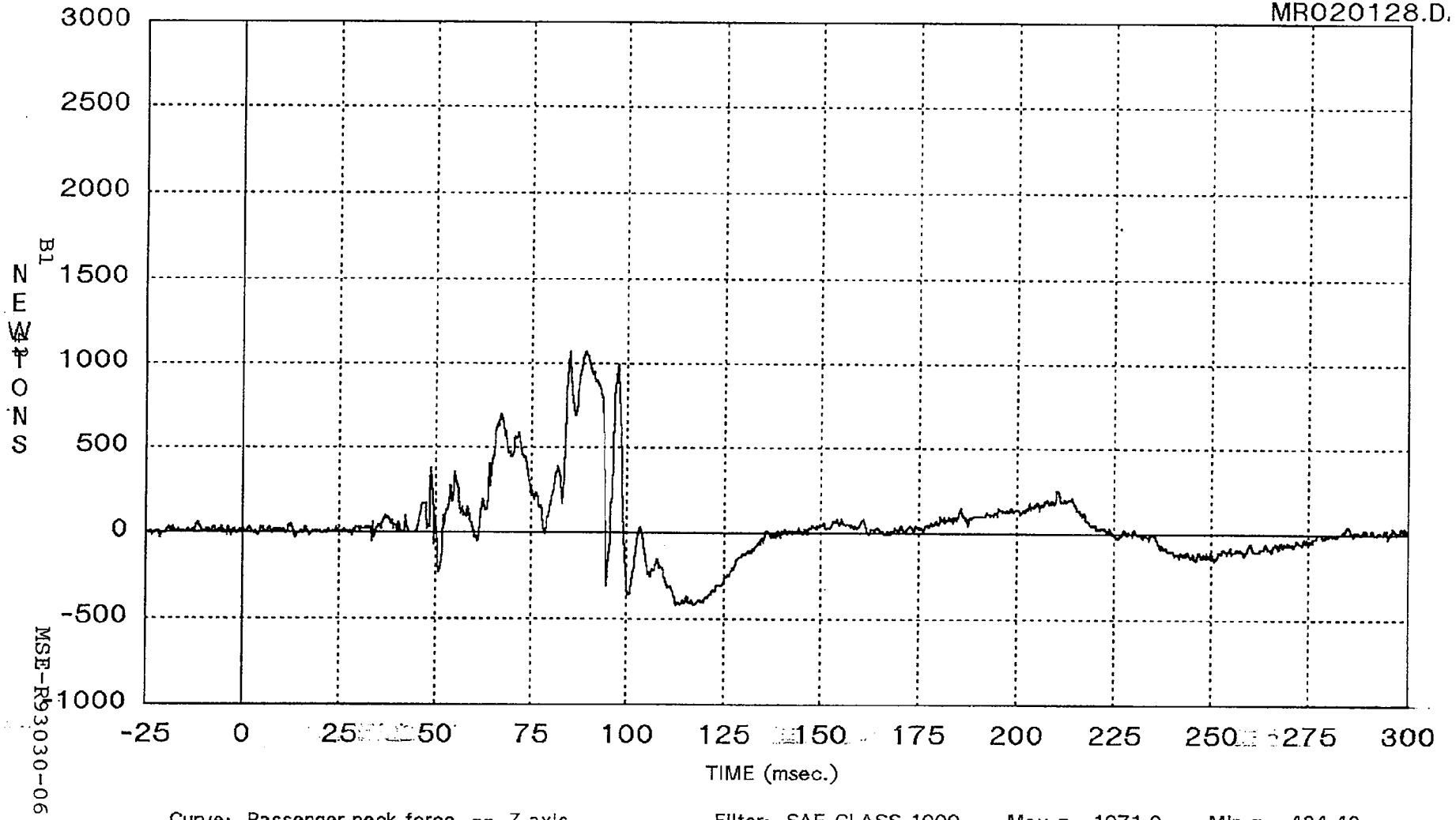
MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe


MR020126.D
3000
2500
2000
1500
1000
500
0
-500
-1000
NEWTONS
B1
MSE-R93030-06
-25
0
25
50
75
100
125
150
175
200
225
250
275
300
TIME (msec.)
Curve: Passenger neck force -- X axis
Filter: SAE CLASS 1000
Max = 97.465
Min = -806.30



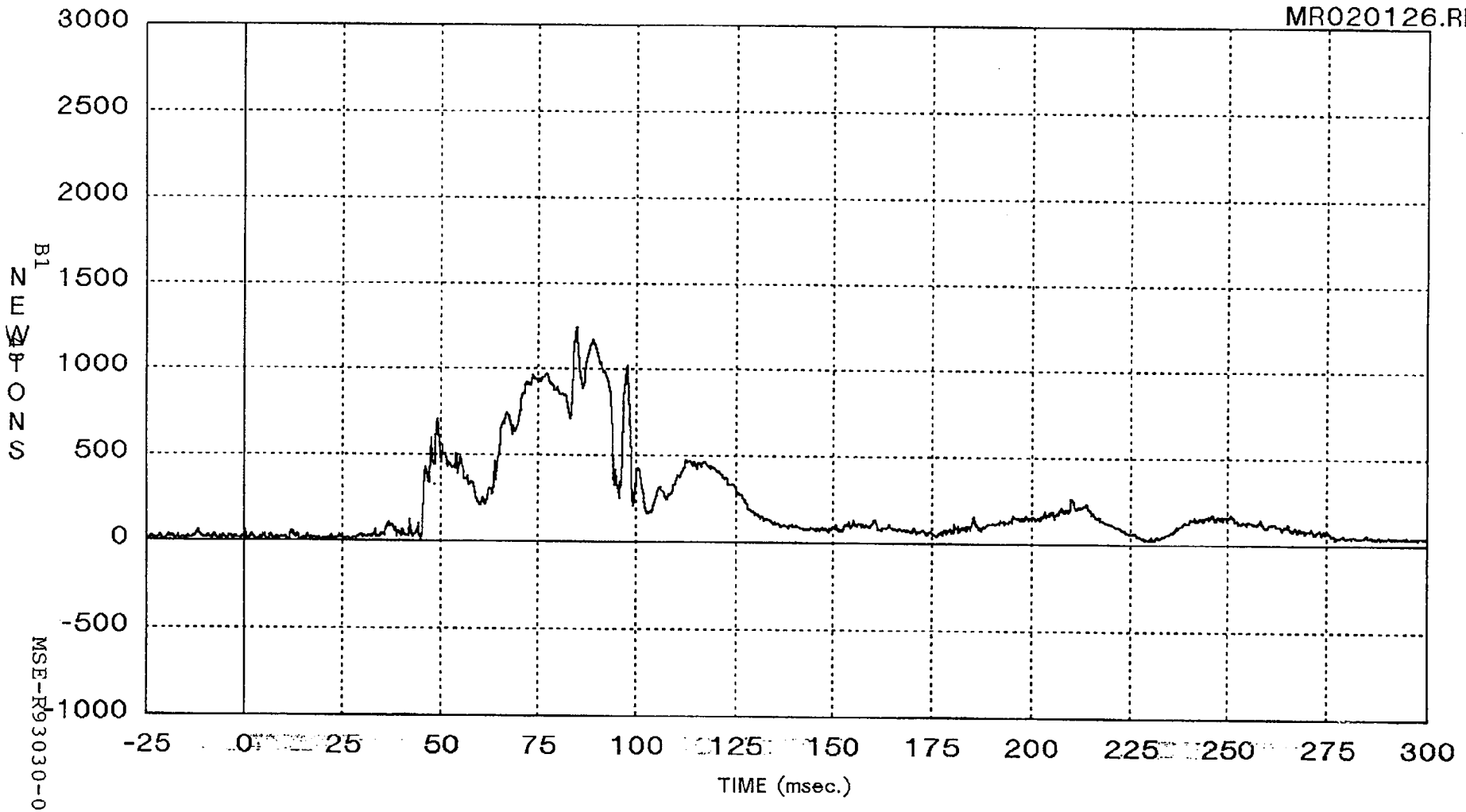
Curve: Passenger neck force -- Y axis Filter: SAE CLASS 1000 Max = 669.61 Min = -49.236

MSE Date: 03/11/94 Program:1994 New Car Assessment Program Vehicle: 1994 Ford Probe 2 Door Coupe



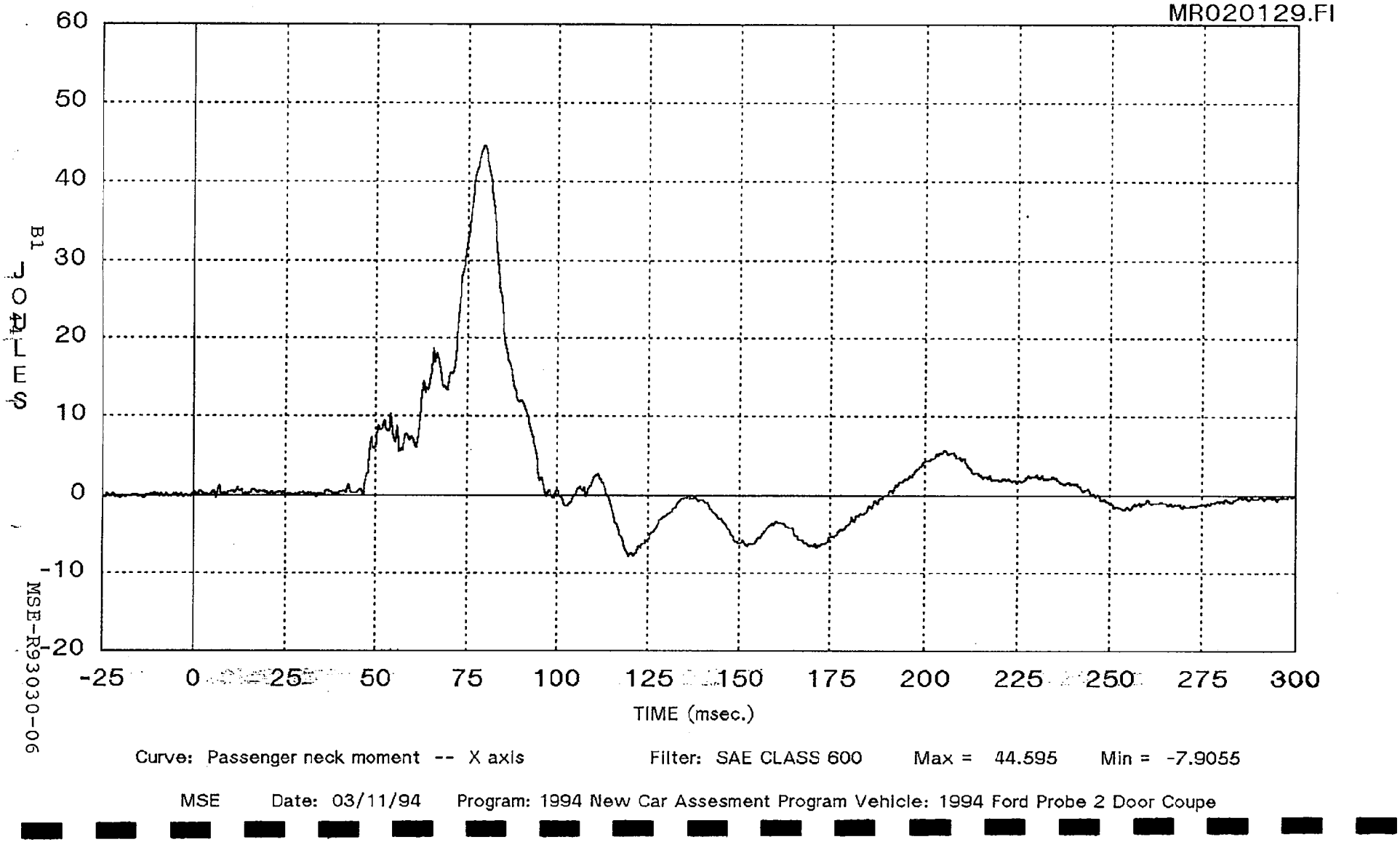
Curve: Passenger neck force -- Z axis Filter: SAE CLASS 1000 Max = 1071.0 Min = -434.48

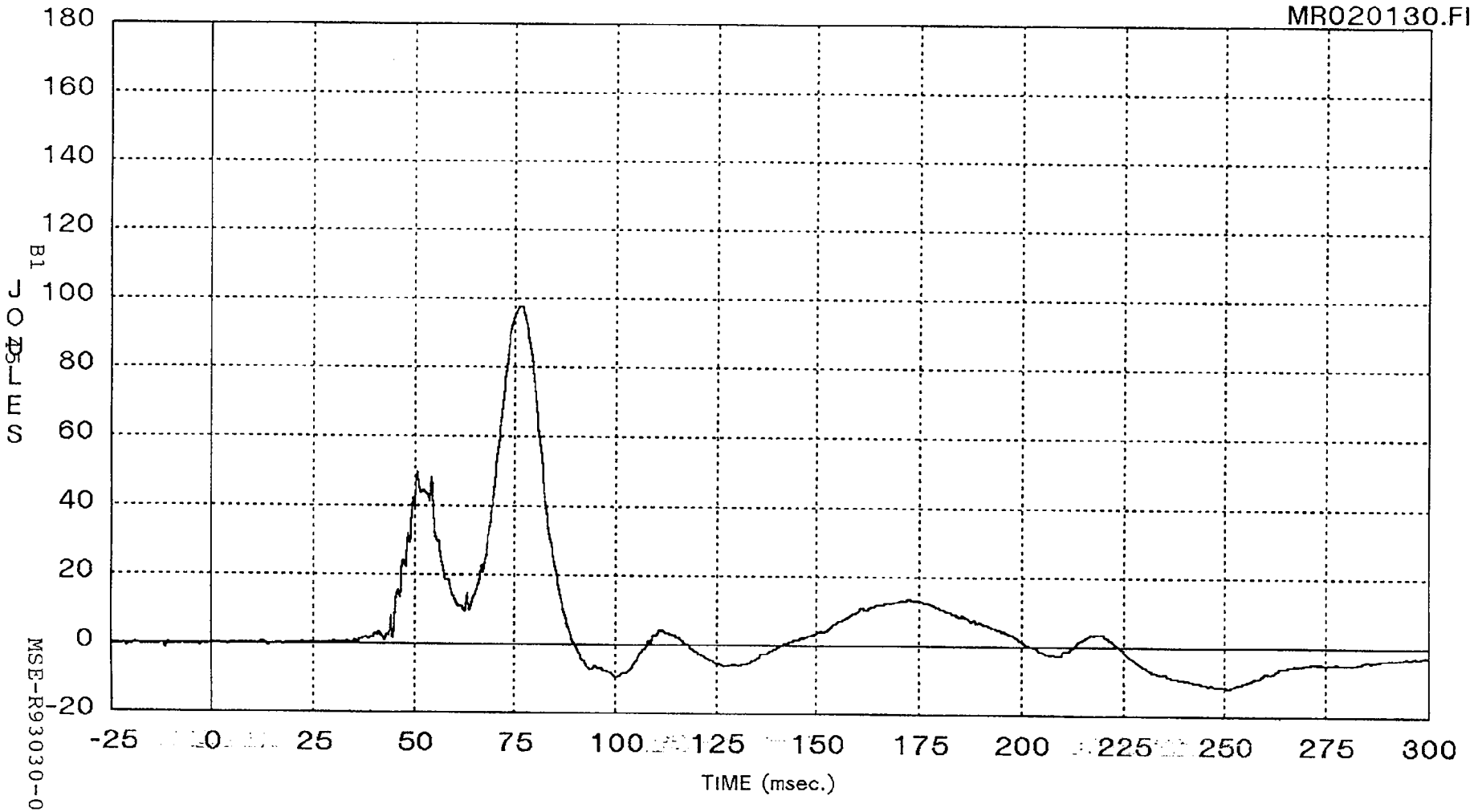
MSE Date: 03/11/94 Program: 1994 New Car Assessment Program Vehicle: 1994 Ford Probe 2 Door Coupe



Curve: Passenger neck force -- Resultant Filter: SAE CLASS 1000 Max = 1247.9 Min = .27418E-03

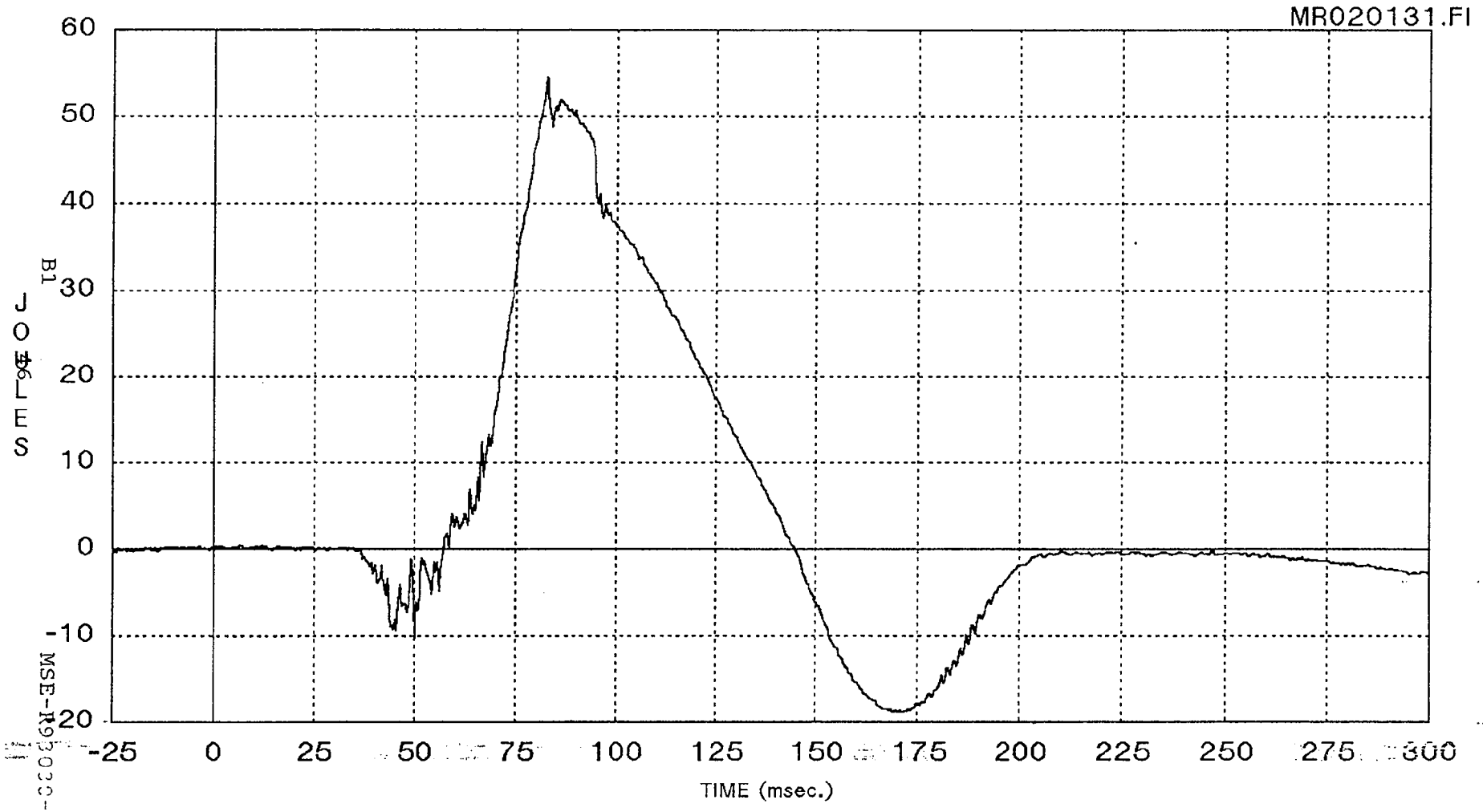
MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe


MR020129.FI
60
50
40
30
20
10
0
-10
-20
-25
0
25
50
75
100
125
150
175
200
225
250
275
300
TIME (msec.)
POUNDS
B1
MSE-R93030-06
Curve: Passenger neck moment -- X axis
Filter: SAE CLASS 600
Max = 44.595
Min = -7.9055
MSE
Date: 03/11/94
Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



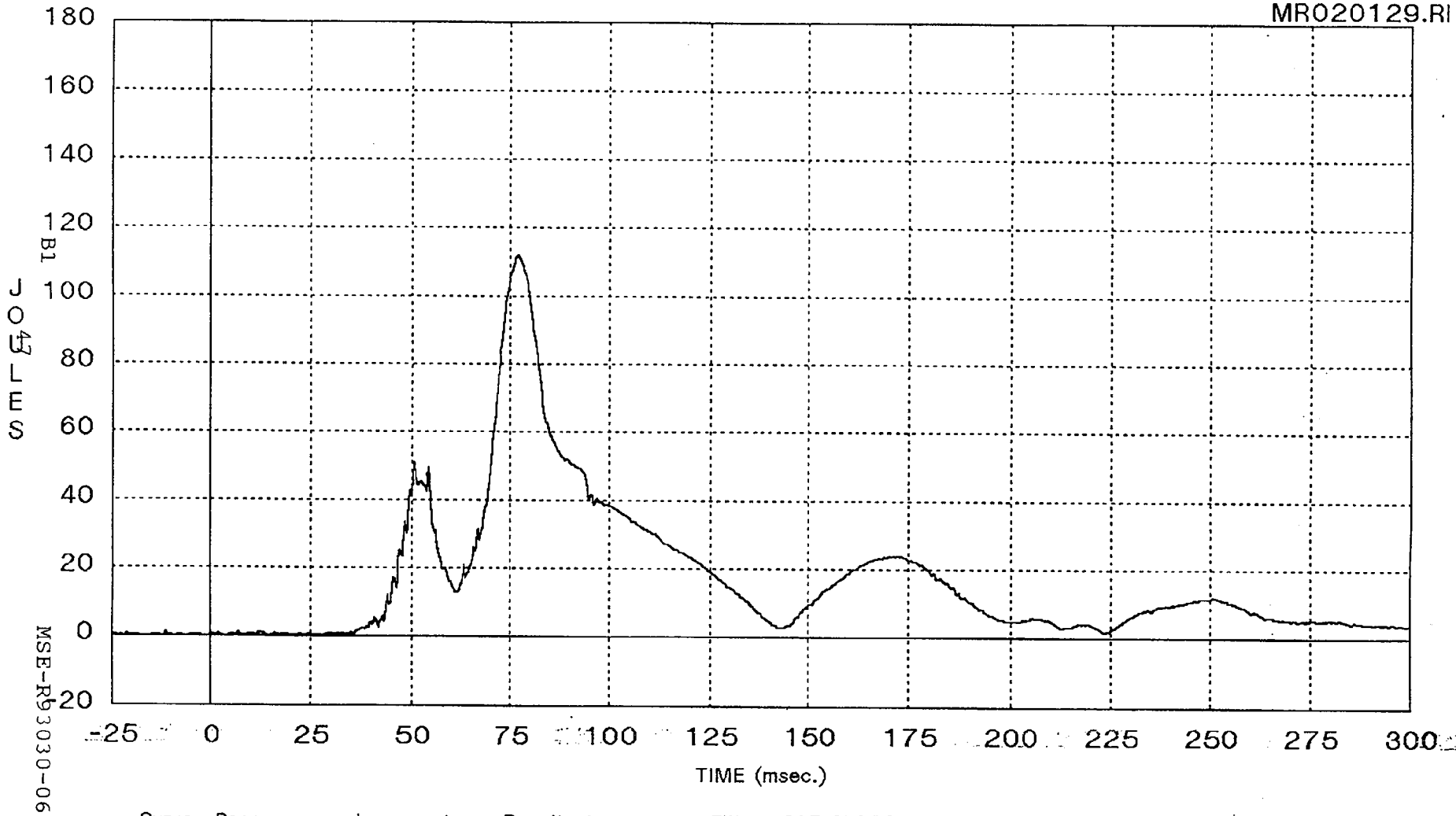
Curve: Passenger neck moment -- Y axis Filter: SAE CLASS 600 Max = 97.709 Min = -12.079

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



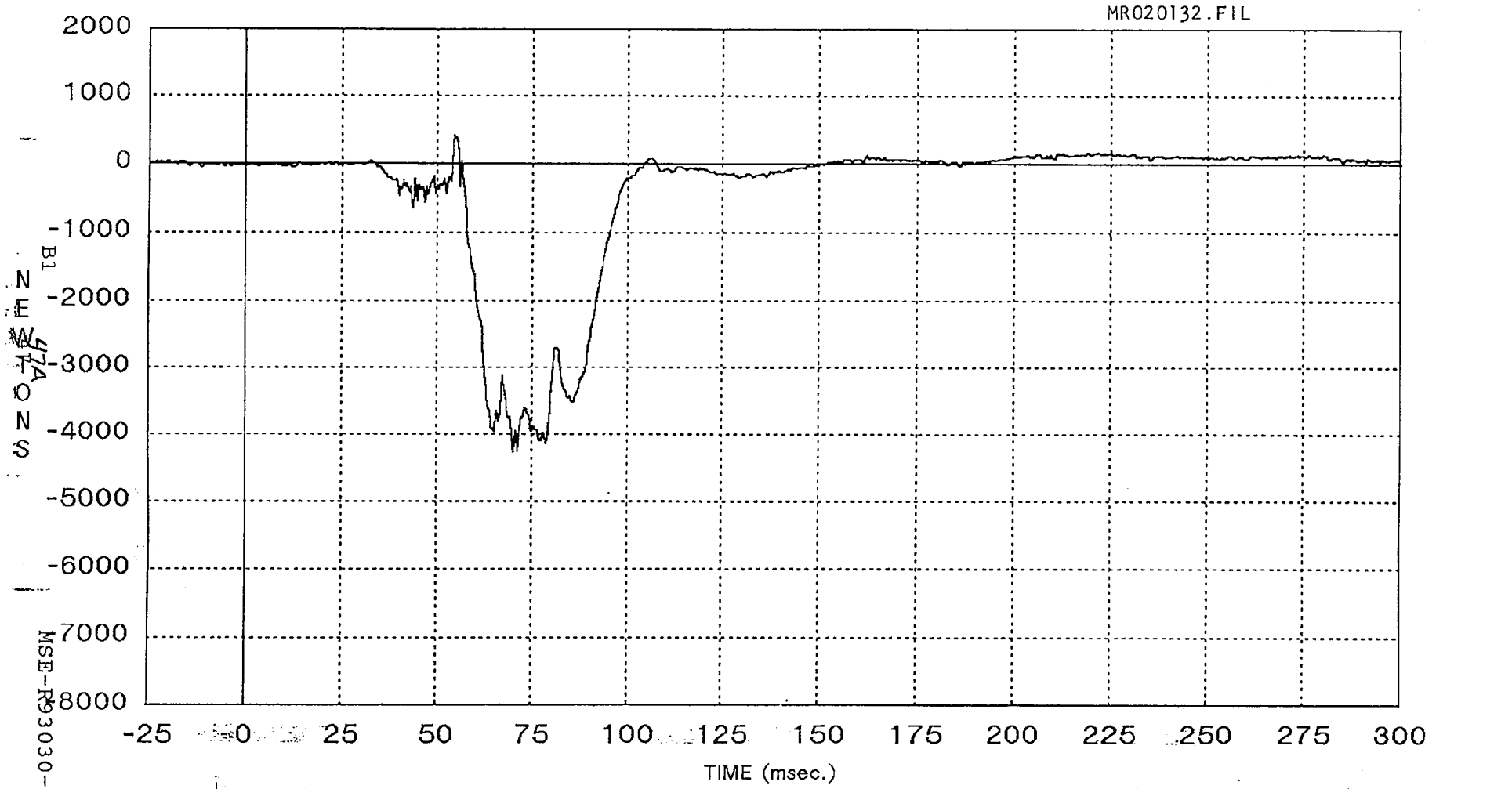
Curve: Passenger neck moment -- Z axis Filter: SAE CLASS 600 Max = 54.625 Min = -18.953

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



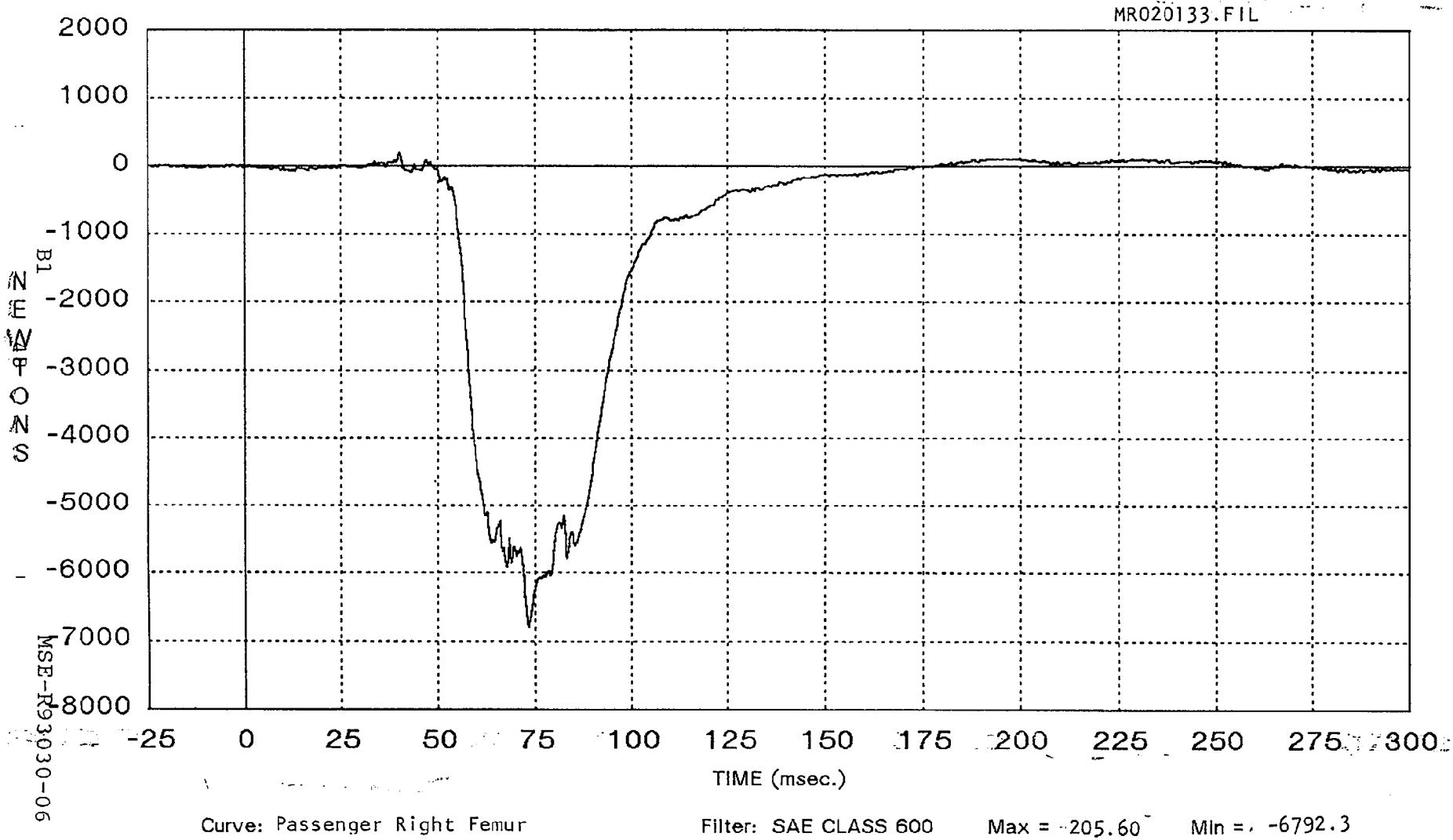
Curve: Passenger neck moment -- Resultant Filter: SAE CLASS 600 Max = 111.99 Min = .49636E-01

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



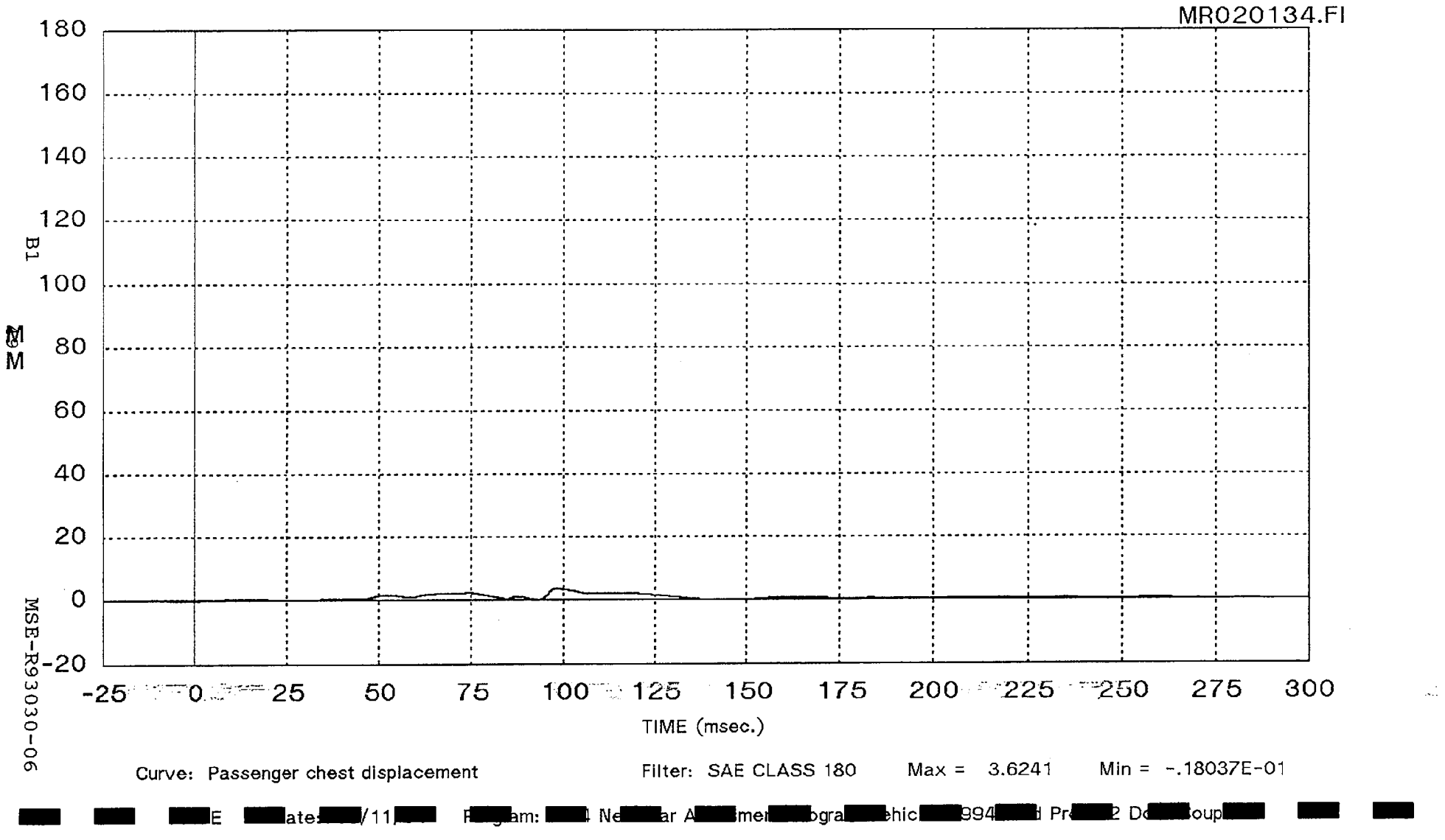
Curve: Passenger Left Femur Filter: SAE CLASS 600 Max = 425.08 Min = -4276.8

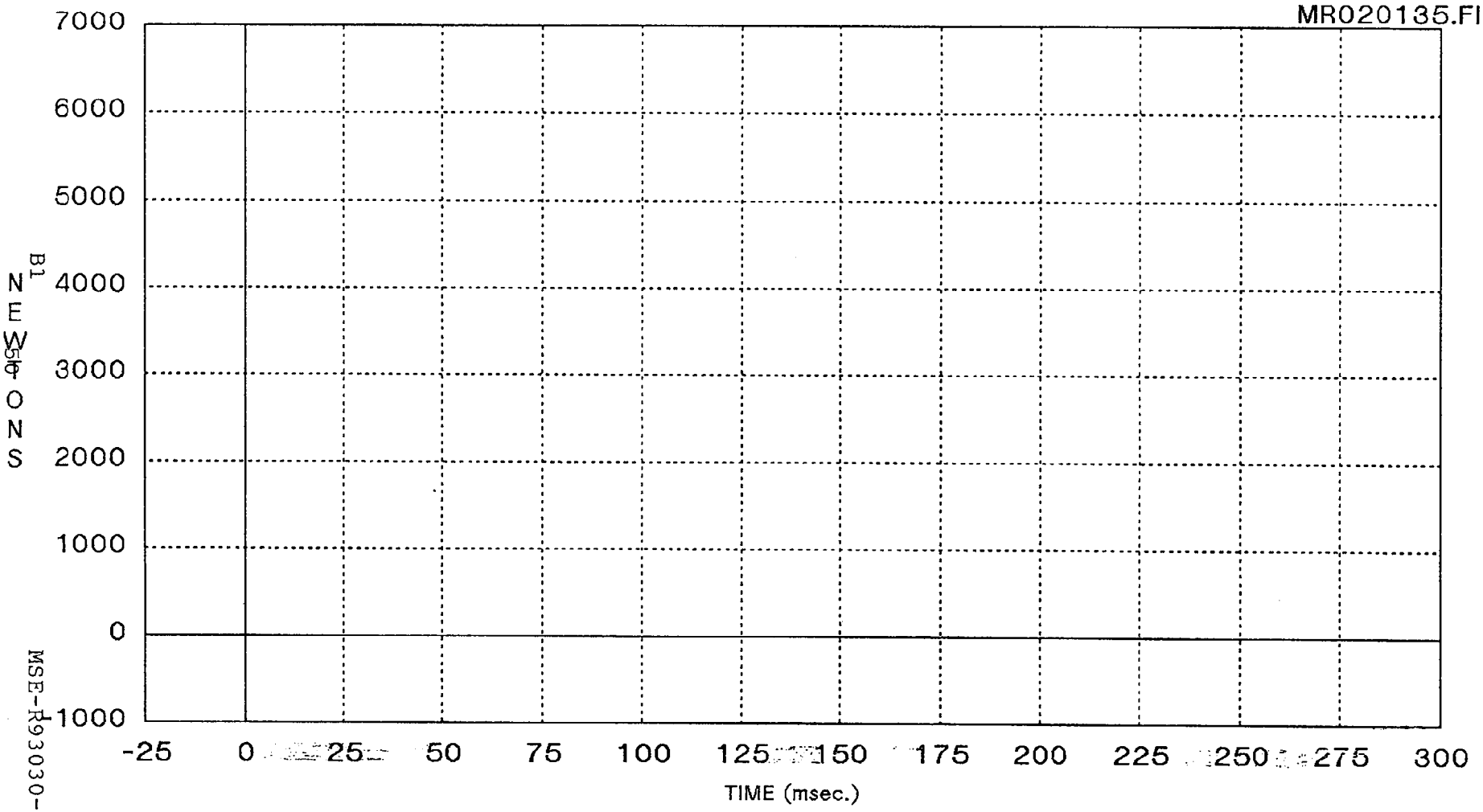
MSE Date: 03/11/94 Program: New Car Assessment Program Vehicle: 1994 Ford Probe 2 Dr. Coupe



Curve: Passenger Right Femur Filter: SAE CLASS 600 Max = 205.60 Min = -6792.3

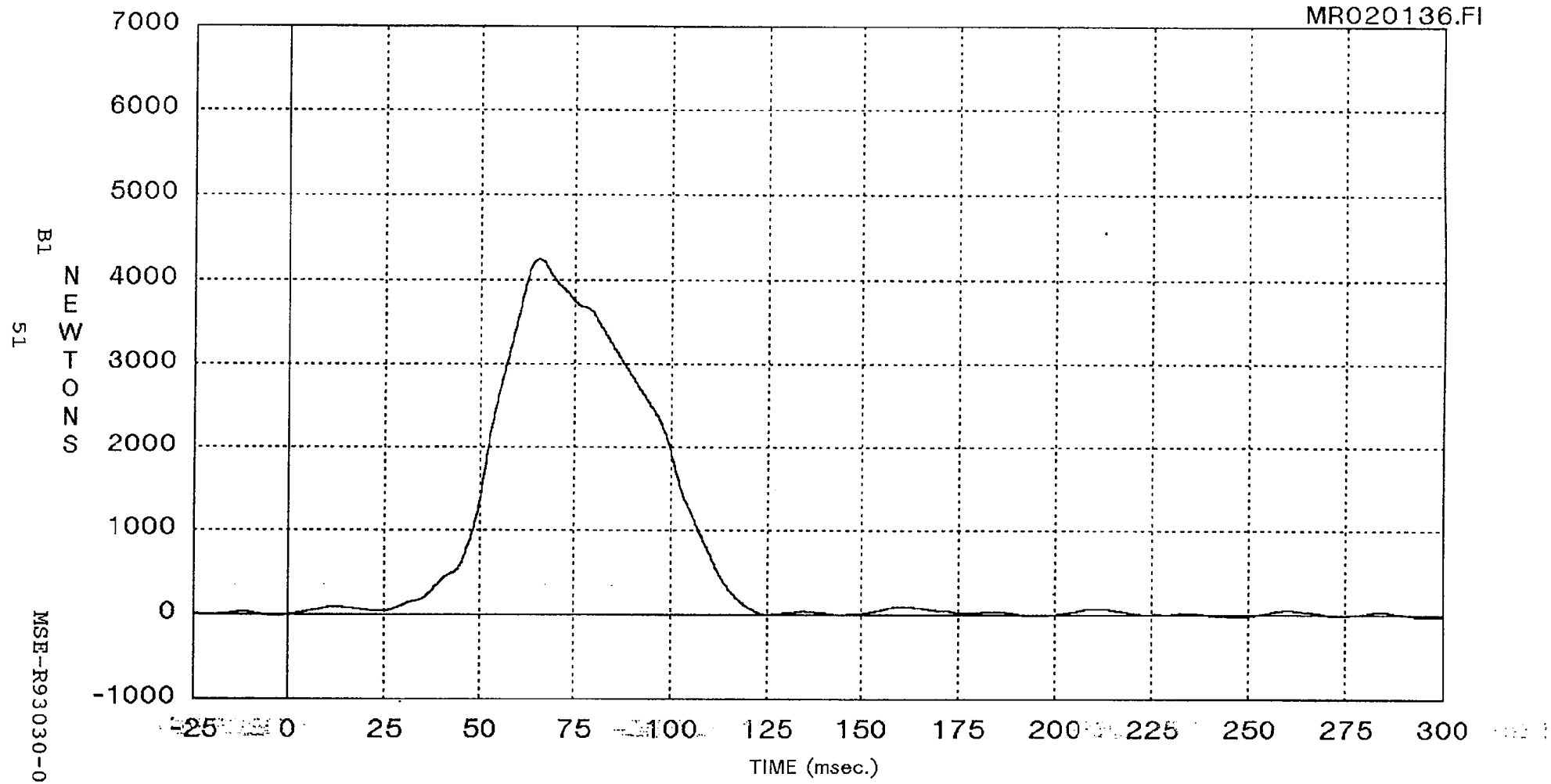
MSE Date: 03/11/94 Program: New Car Assessment Program Vehicle: 1994 Ford Probe 2 Dr. Coupe


MR020134.FI
180
160
140
120
100
80
60
40
20
0
-20
B1
MM
MSE-R93030-06
-25
0
25
50
75
100
125
150
175
200
225
250
275
300
TIME (msec.)
Curve: Passenger chest displacement
Filter: SAE CLASS 180
Max = 3.6241
Min = -.18037E-01



Curve: Passenger lap belt load (No data) Filter: SAE CLASS 60 Max = .00000 Min = .00000

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



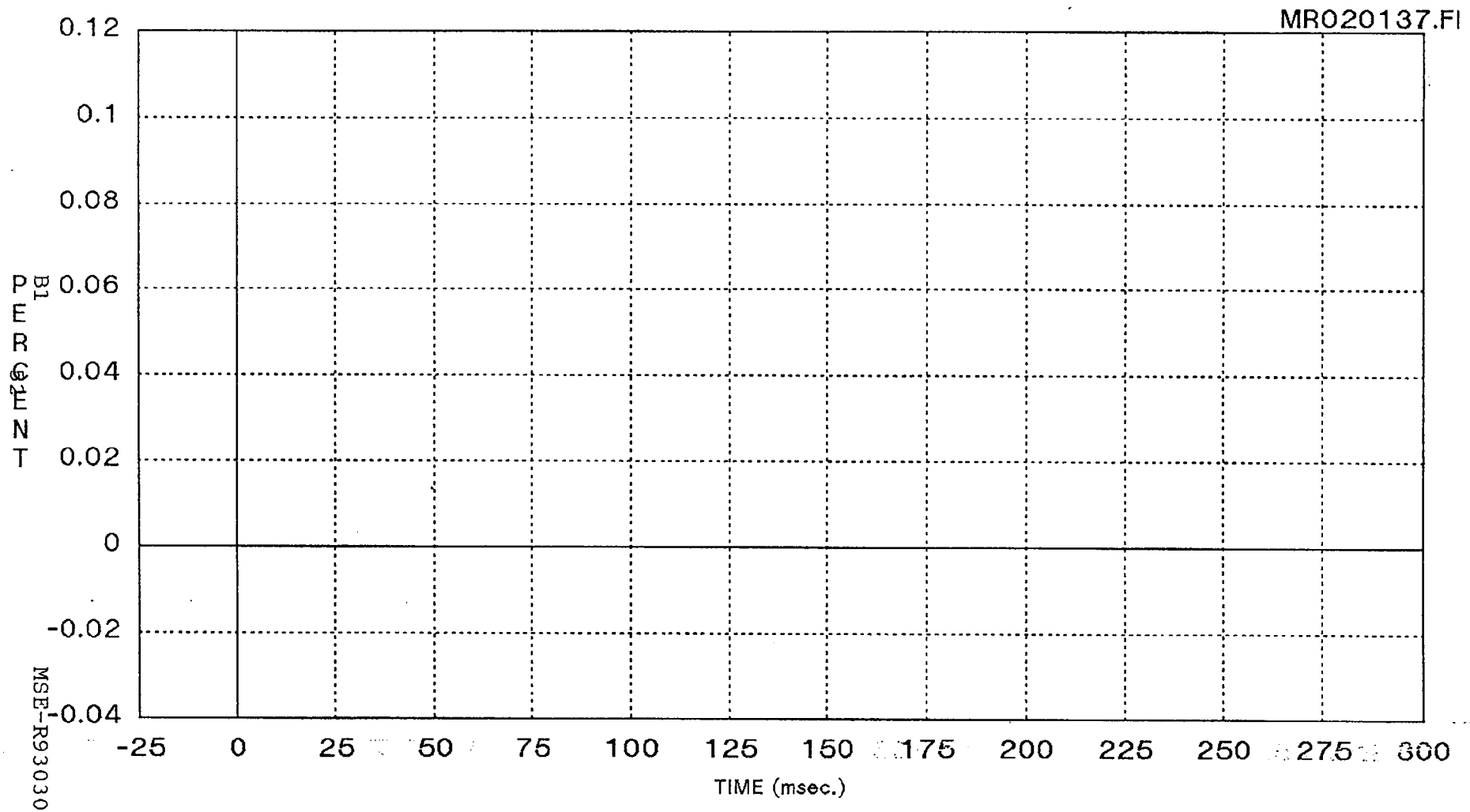
B1

51

MSE-R93030-06

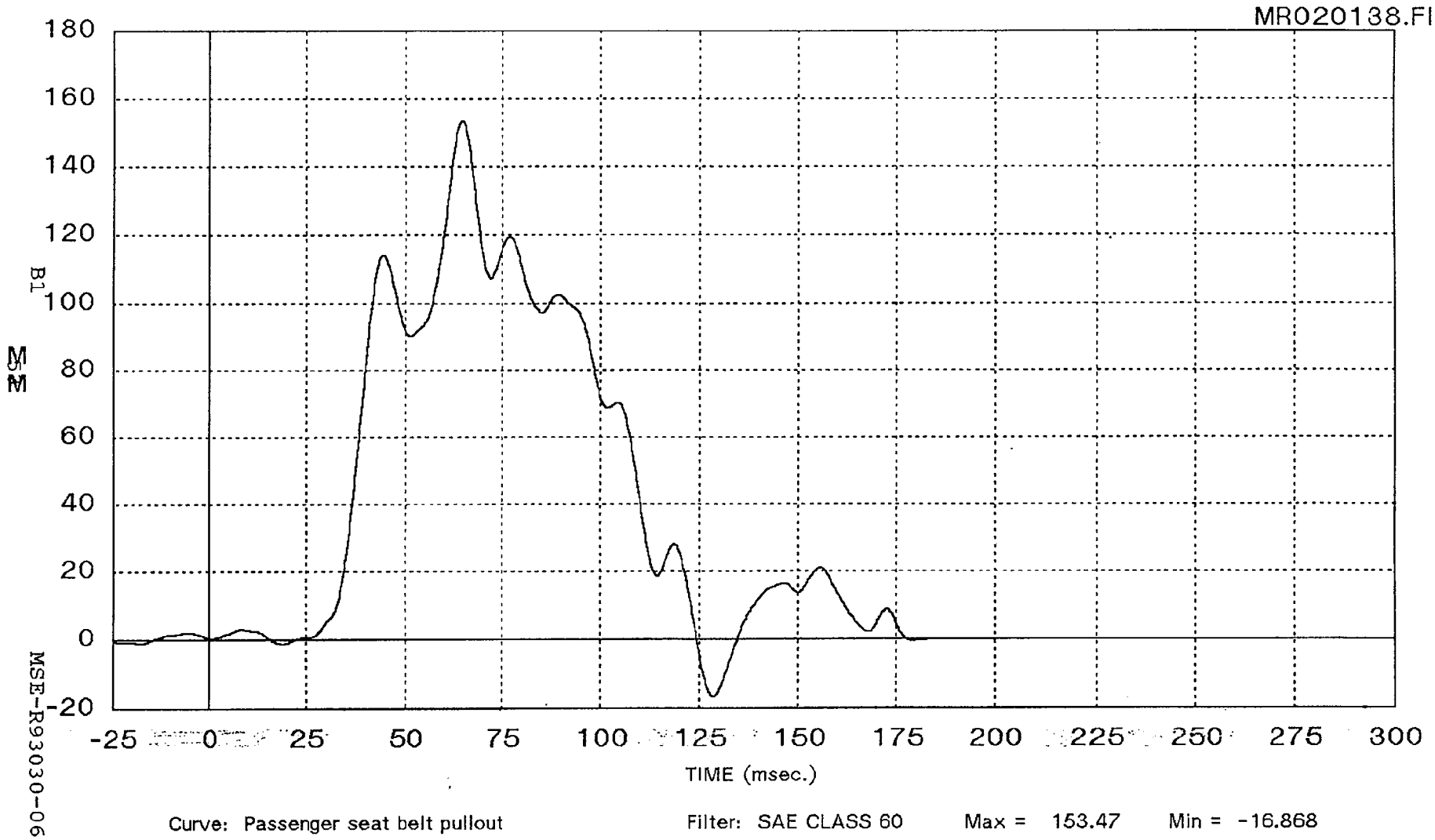
Curve: Passenger shoulder belt load Filter: SAE CLASS 60 Max = 4239.2 Min = -29.353

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



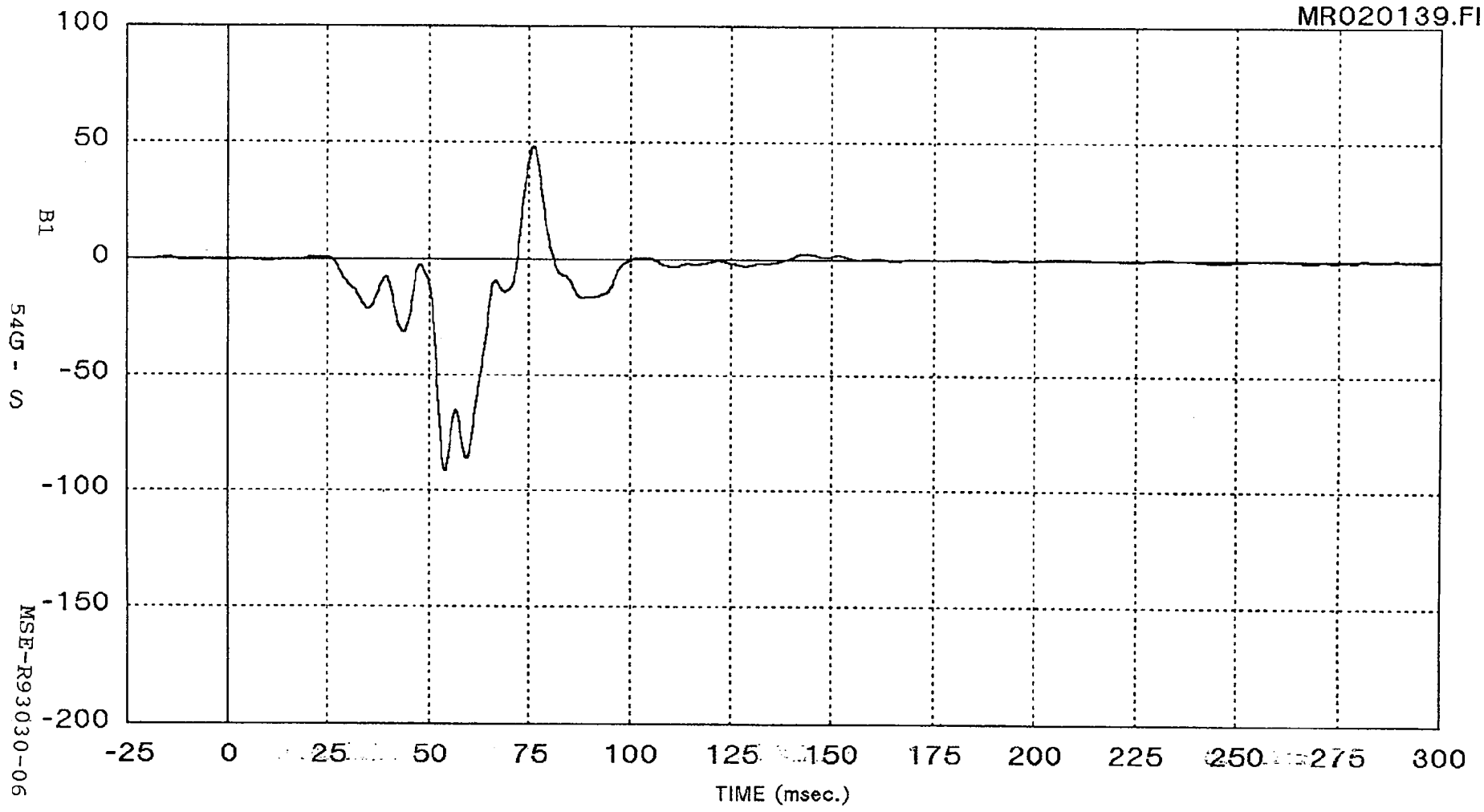
Curve: Passenger shoulder belt elongation (No data) Filter: SAE CLASS 60 Max = .00000 Min = .00000

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



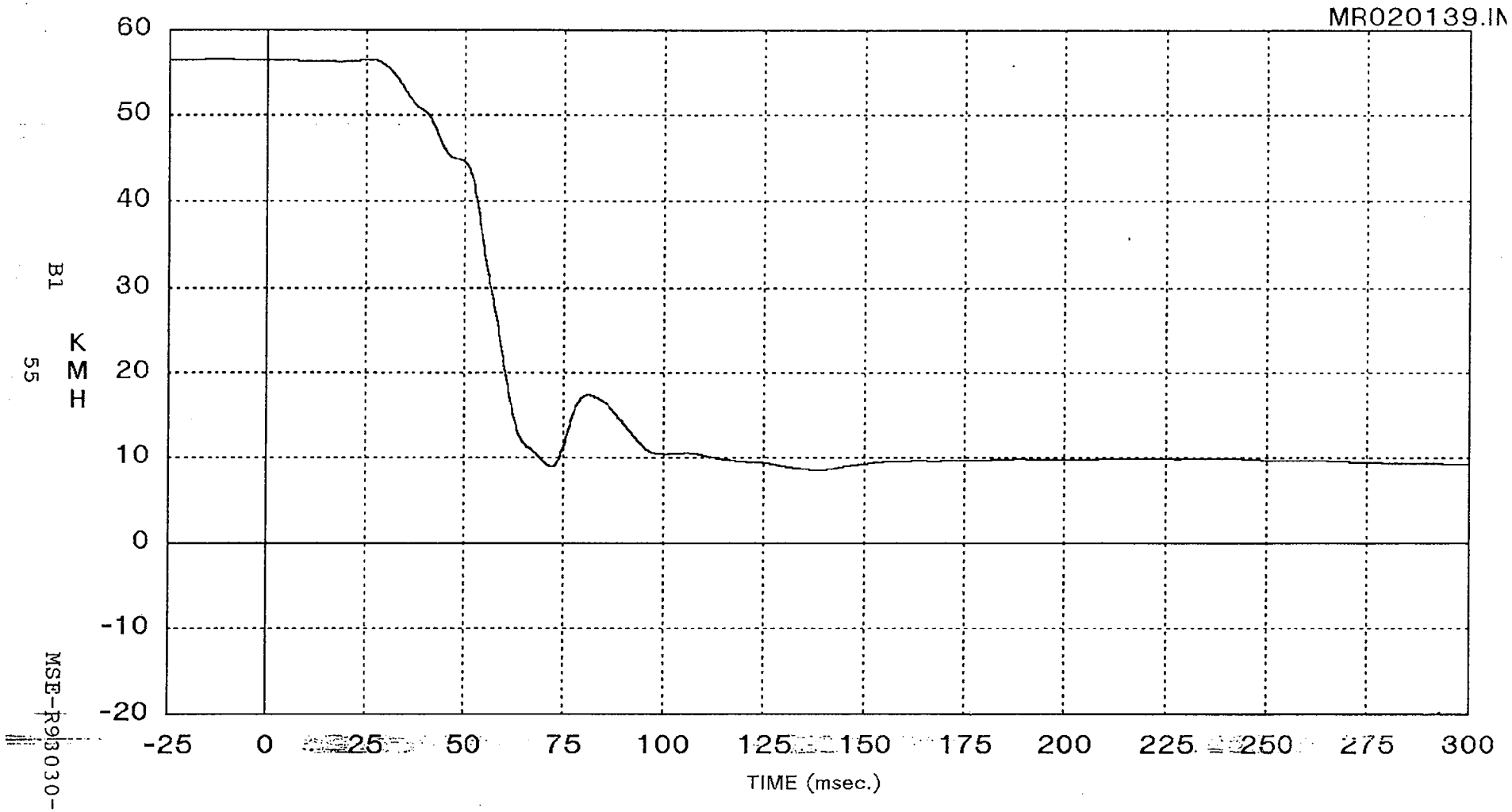
Curve: Passenger seat belt pullout Filter: SAE CLASS 60 Max = 153.47 Min = -16.868

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



Curve: Vehicle left front caliper acceleration Filter: SAE CLASS 60 Max = 47.974 Min = -91.639

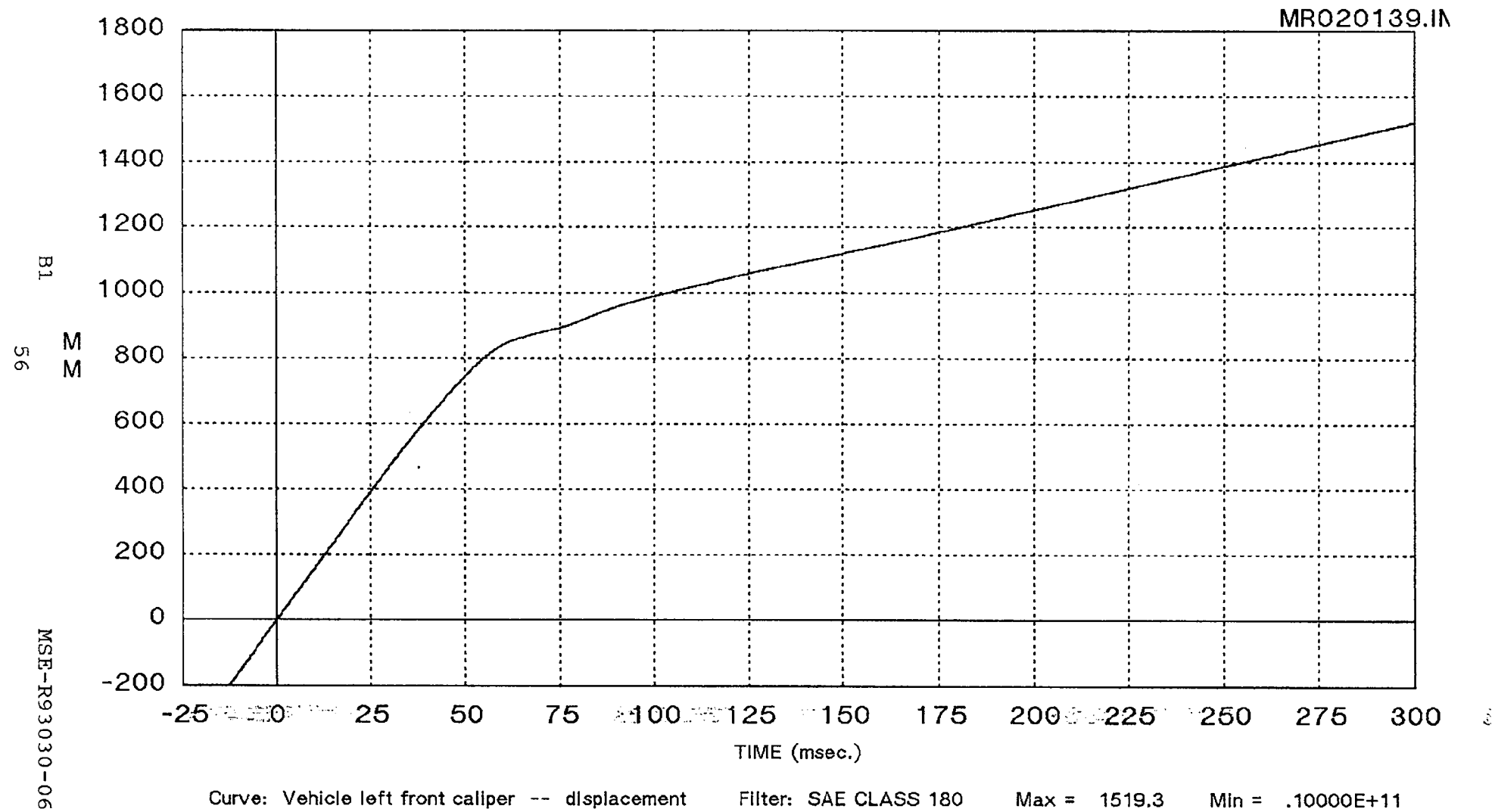
MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



MSE-R9030-06

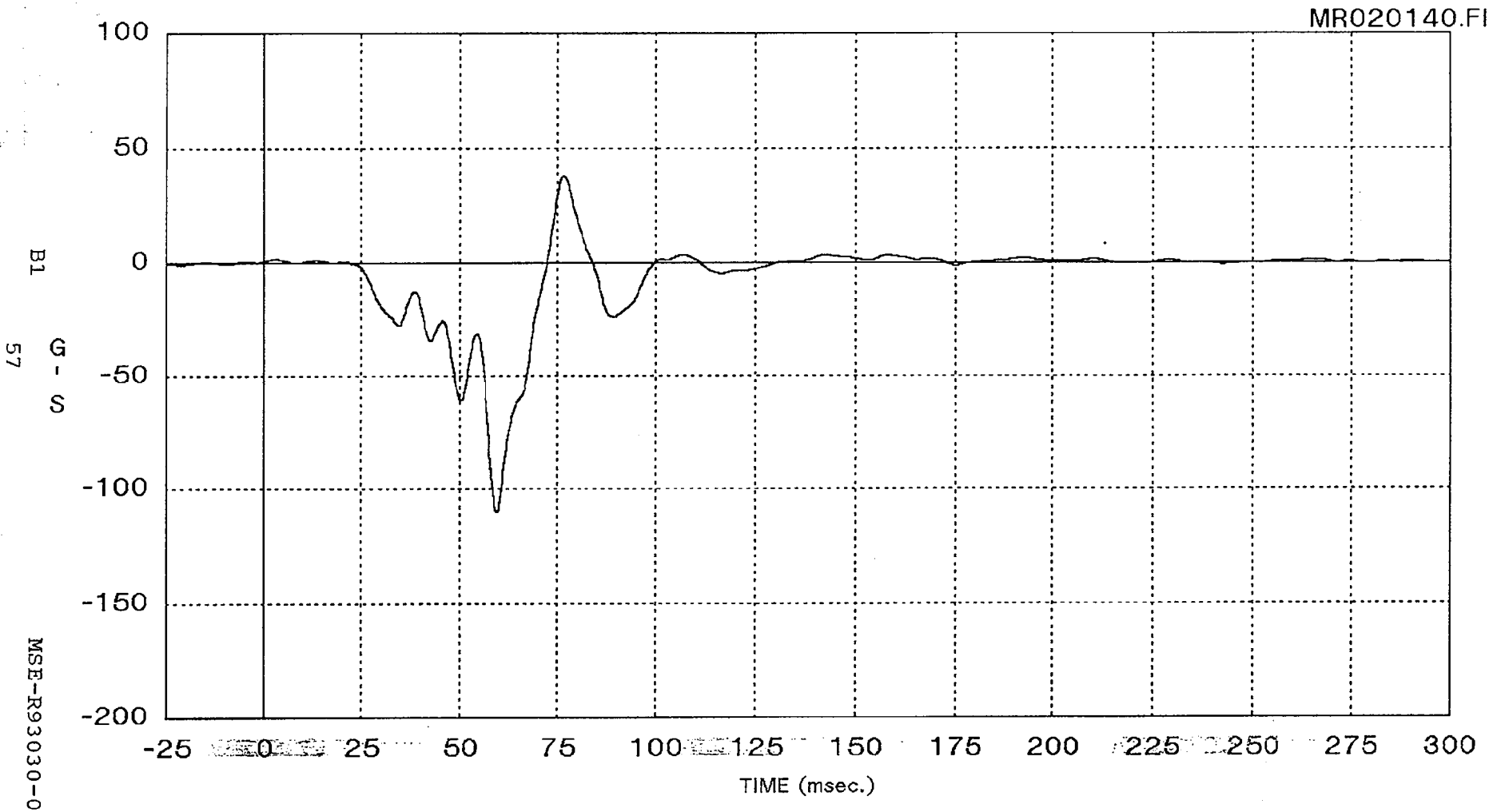
Curve: Vehicle left front caliper -- delta V Filter: SAE CLASS 180 Max = 56.405 Min = 8.5092

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



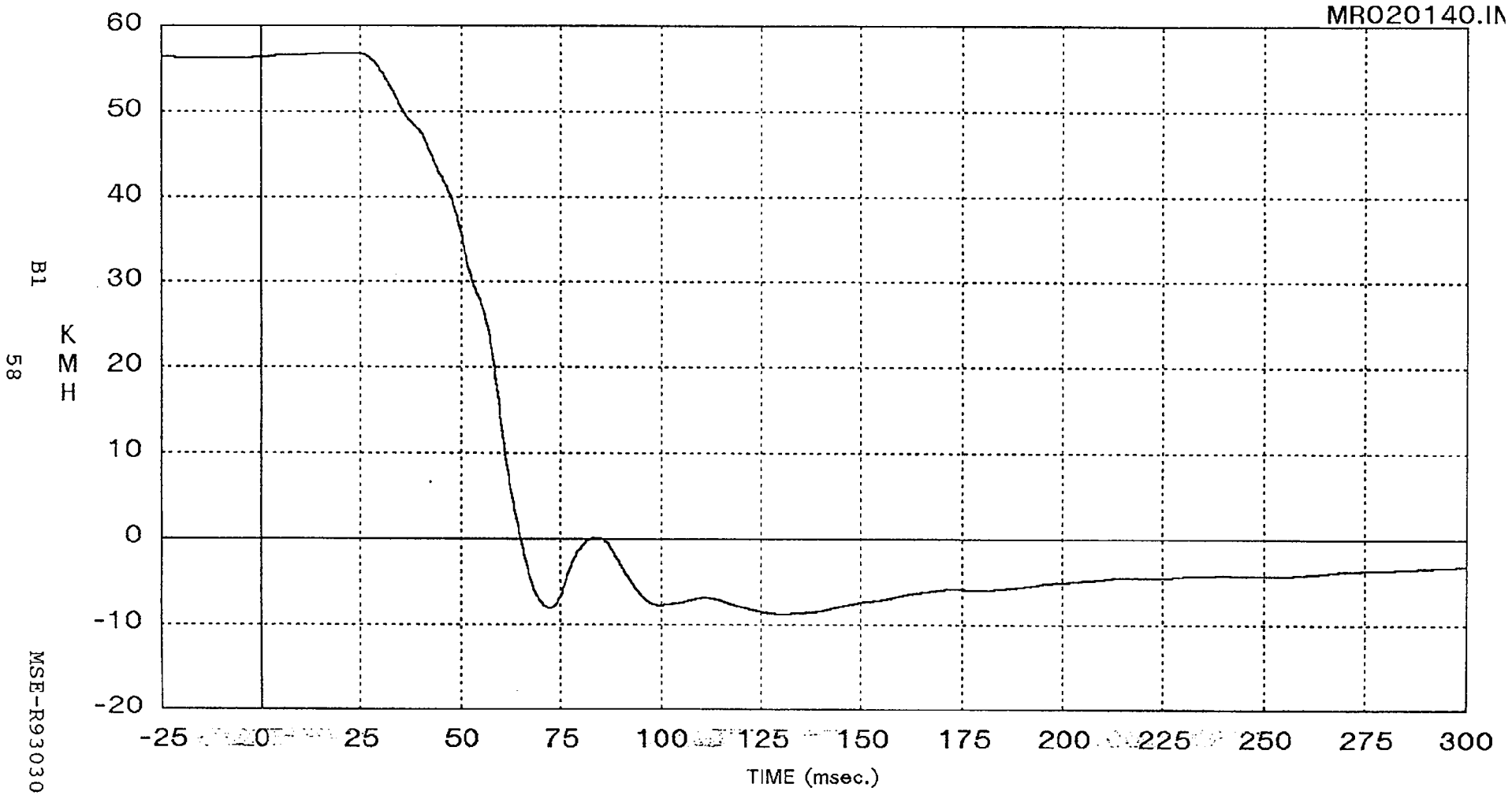
Curve: Vehicle left front caliper -- displacement Filter: SAE CLASS 180 Max = 1519.3 Min = .10000E+11

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



Curve: Vehicle right front caliper acceleration Filter: SAE CLASS 60 Max = 38.409 Min = -110.07

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



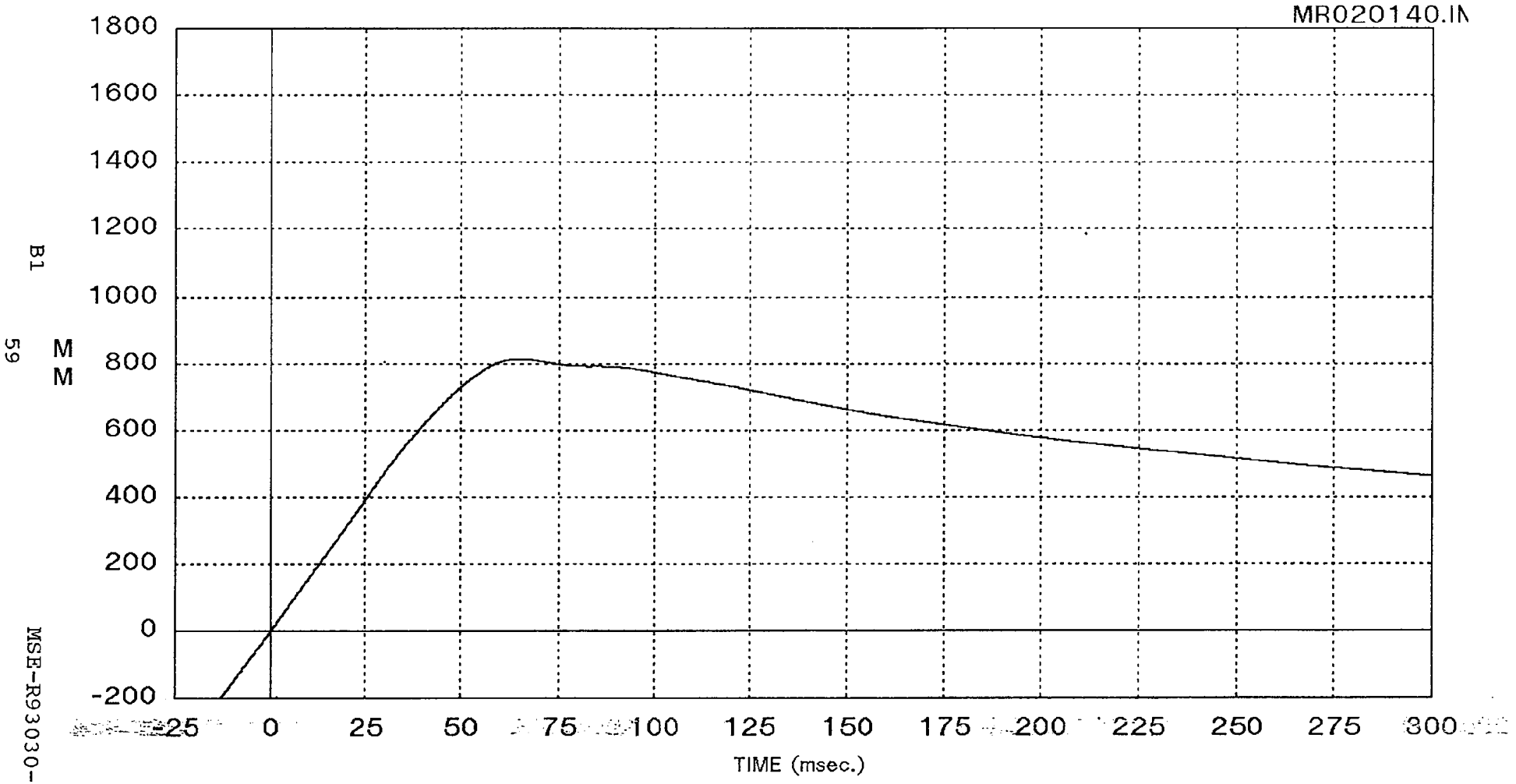
B1

58

MSE-R93030-06

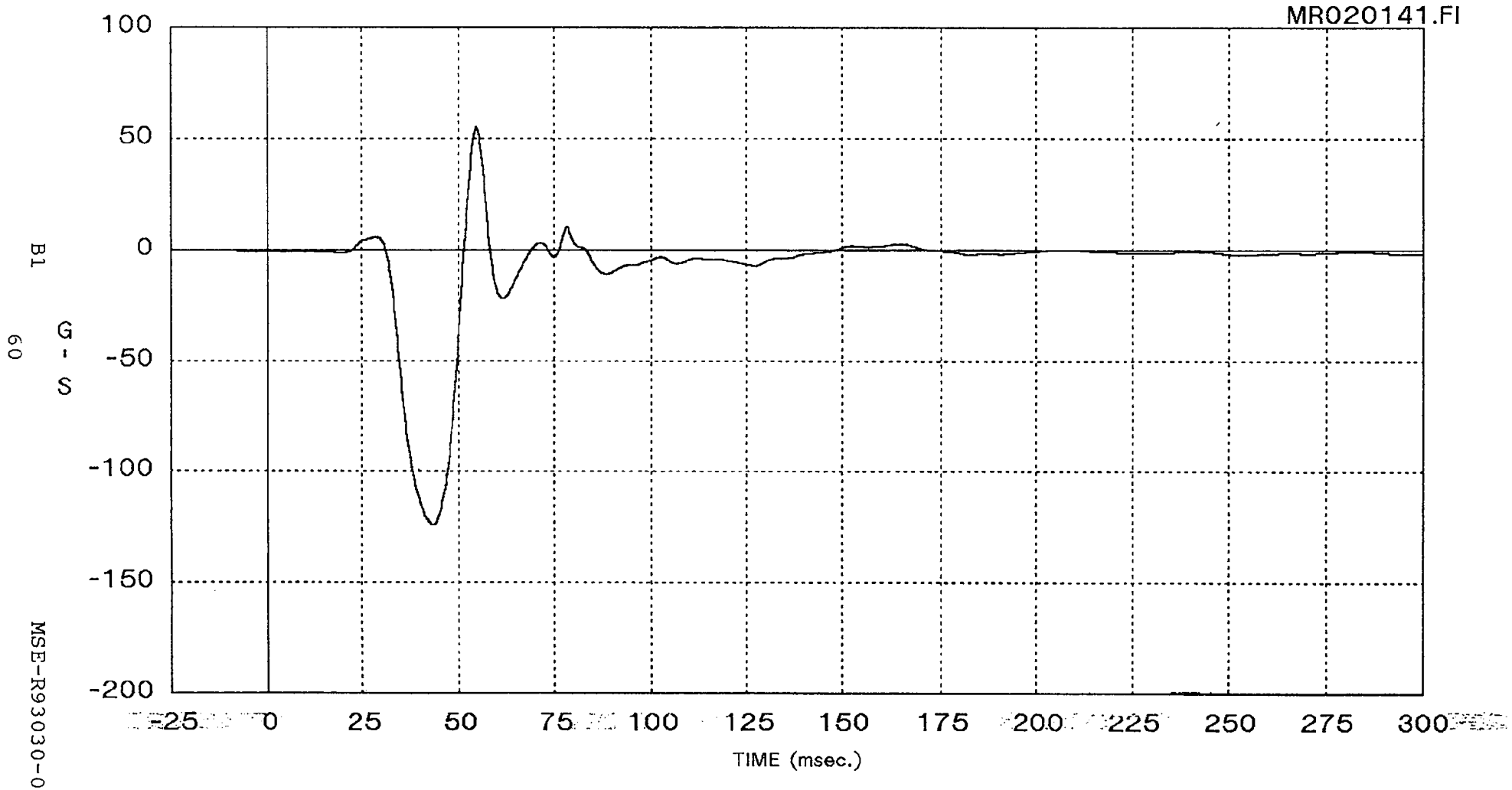
Curve: Vehicle right front caliper -- delta V Filter: SAE CLASS 180 Max = 56.870 Min = -8.7722

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



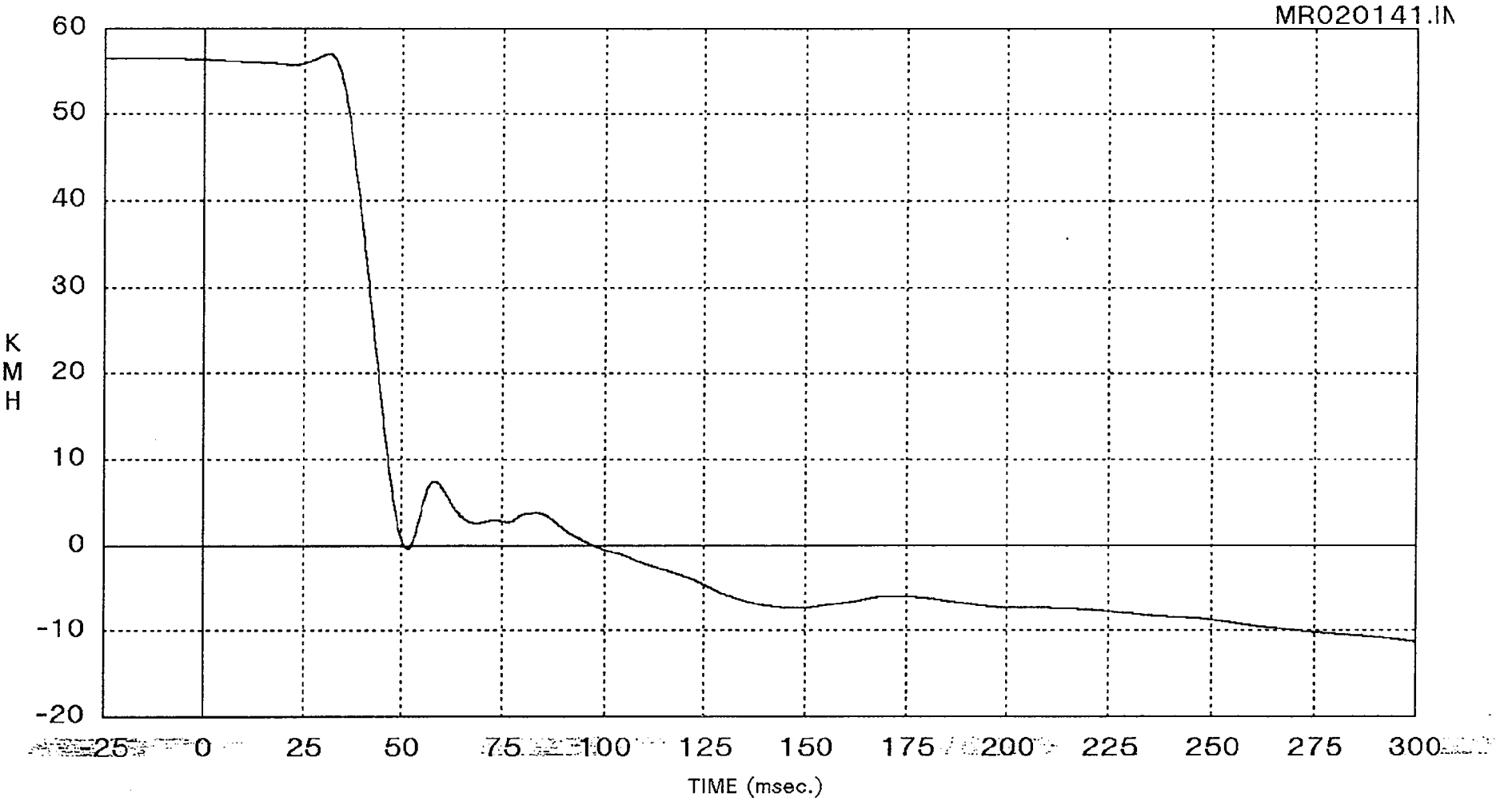
Curve: Vehicle right front caliper -- displacement Filter: SAE CLASS 180 Max = 814.38 Min = 463.53

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



Curve: Vehicle engine bottom acceleration Filter: SAE CLASS 60 Max = 55.269 Min = -123.97

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



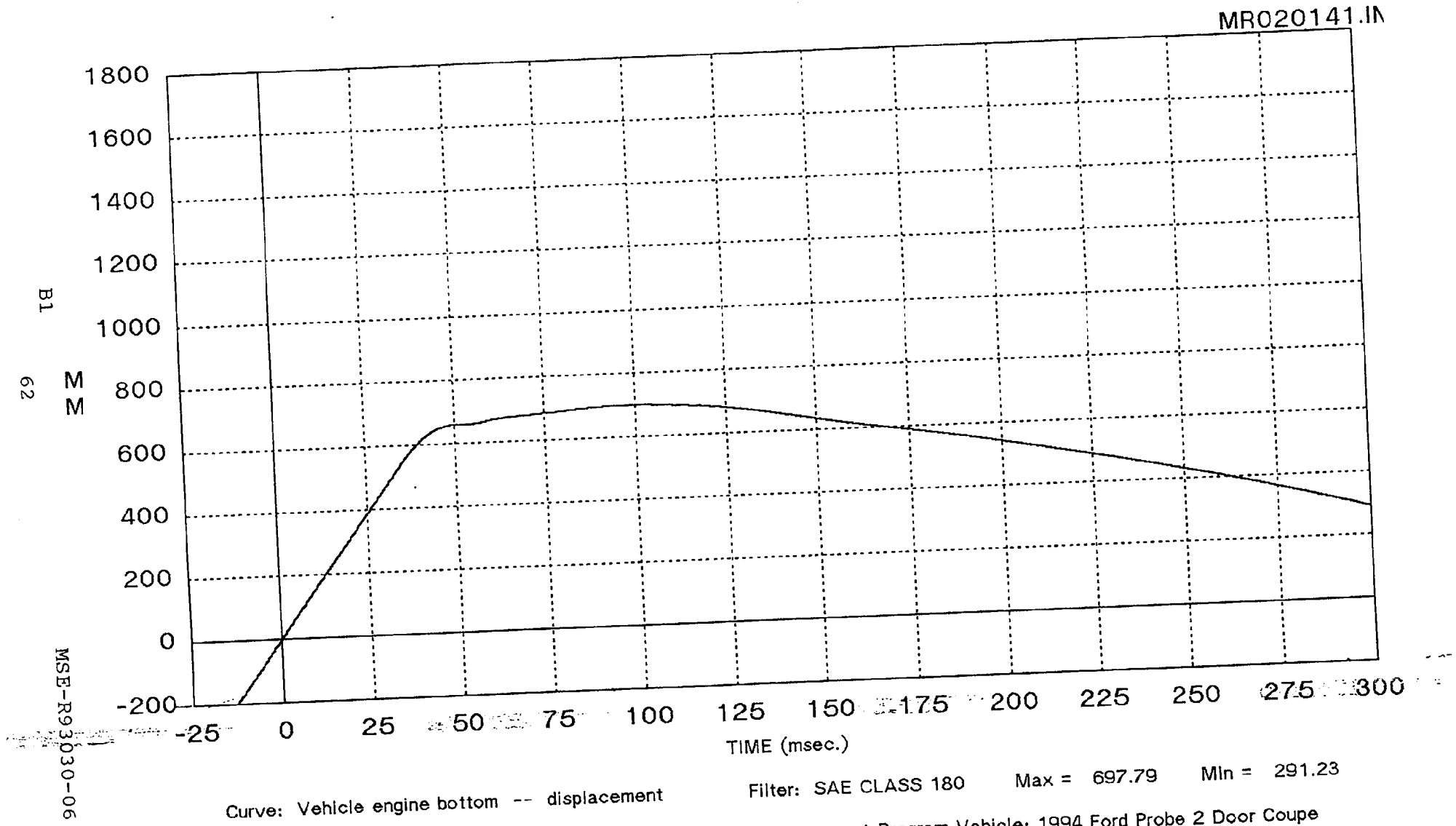
B1

61

MSE-R93030-06

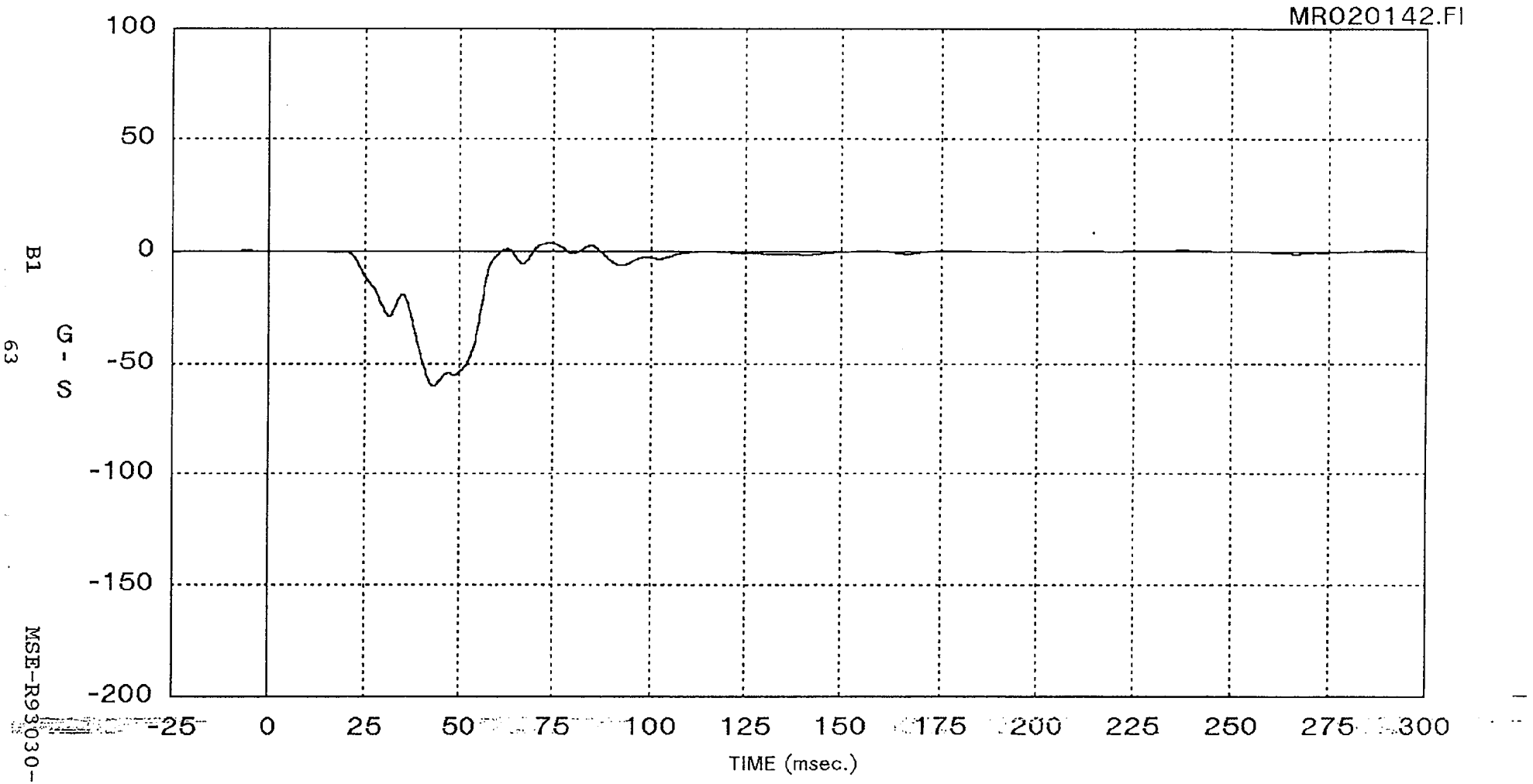
Curve: Vehicle engine bottom -- delta V Filter: SAE CLASS 180 Max = 56.949 Min = -11.358

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



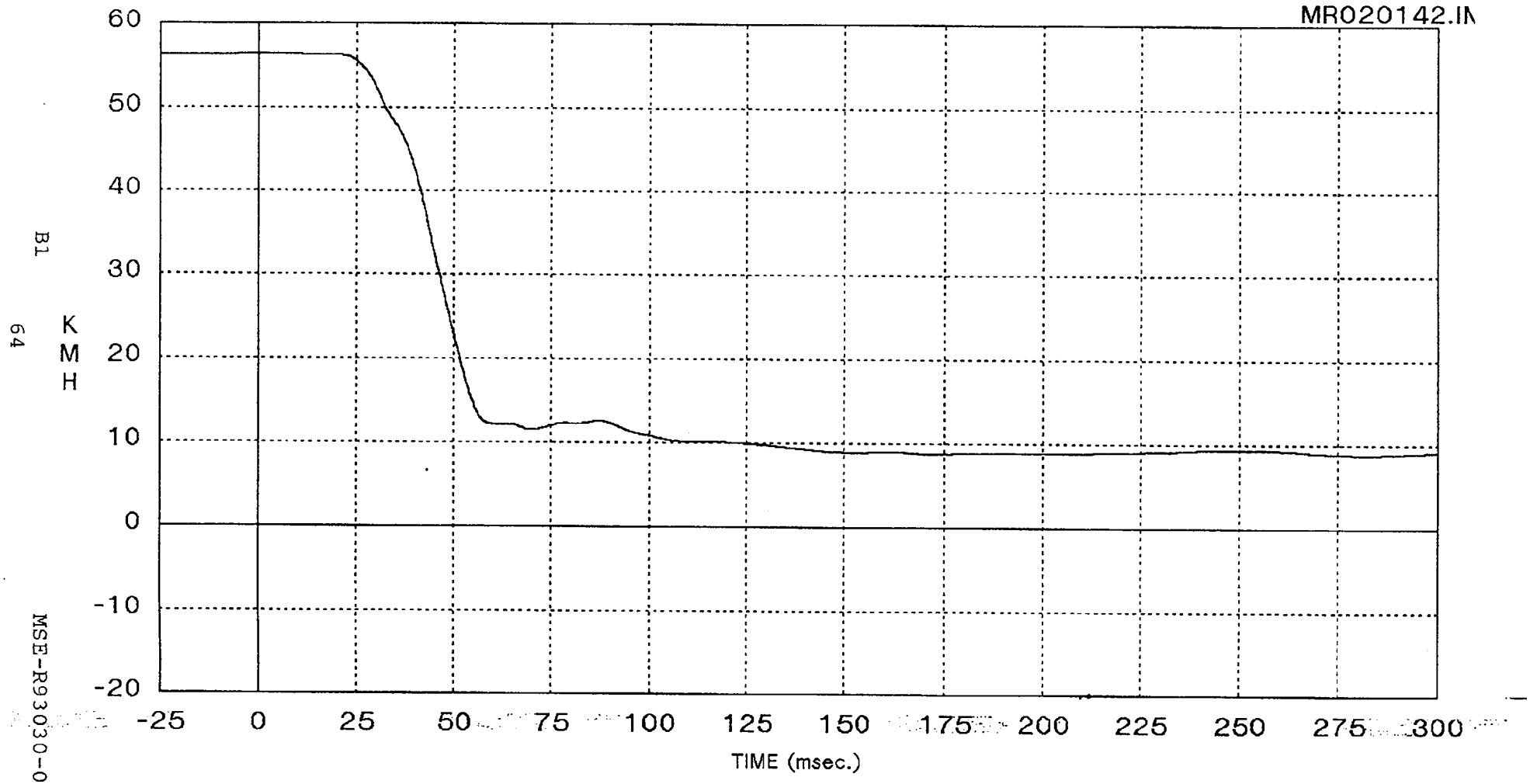
Curve: Vehicle engine bottom -- displacement Filter: SAE CLASS 180 Max = 697.79 Min = 291.23

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



Curve: Vehicle engine top acceleration Filter: SAE CLASS 60 Max = 3.8872 Min = -60.381

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



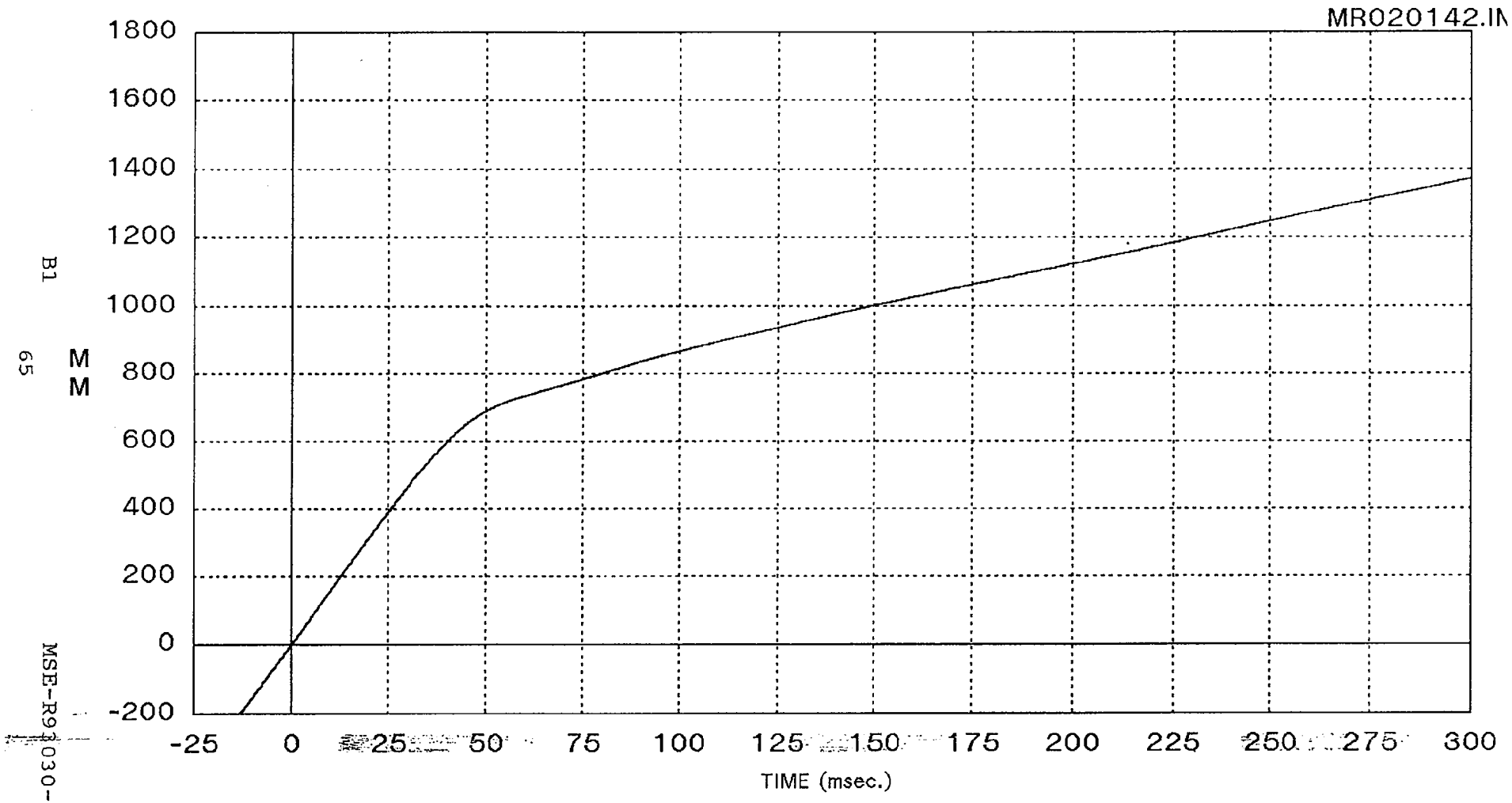
B1

64

MSE-R93030-06

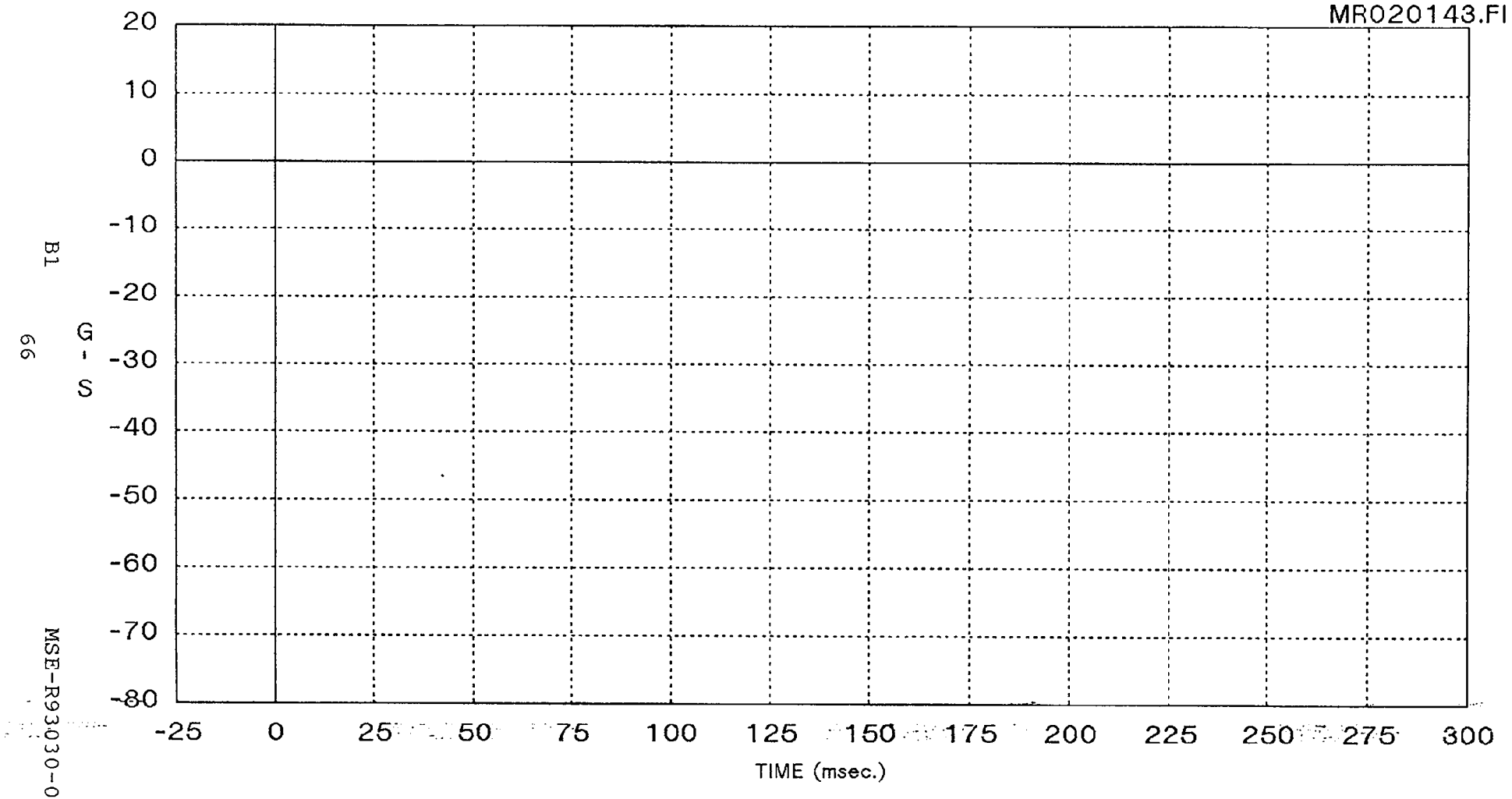
Curve: Vehicle engine top acceleration Filter: SAE CLASS 60 Max = 56.350 Min = 8.7159

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



Curve: Vehicle engine top acceleration Filter: SAE CLASS 60 Max = 1373.5 Min = .10000E+11

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



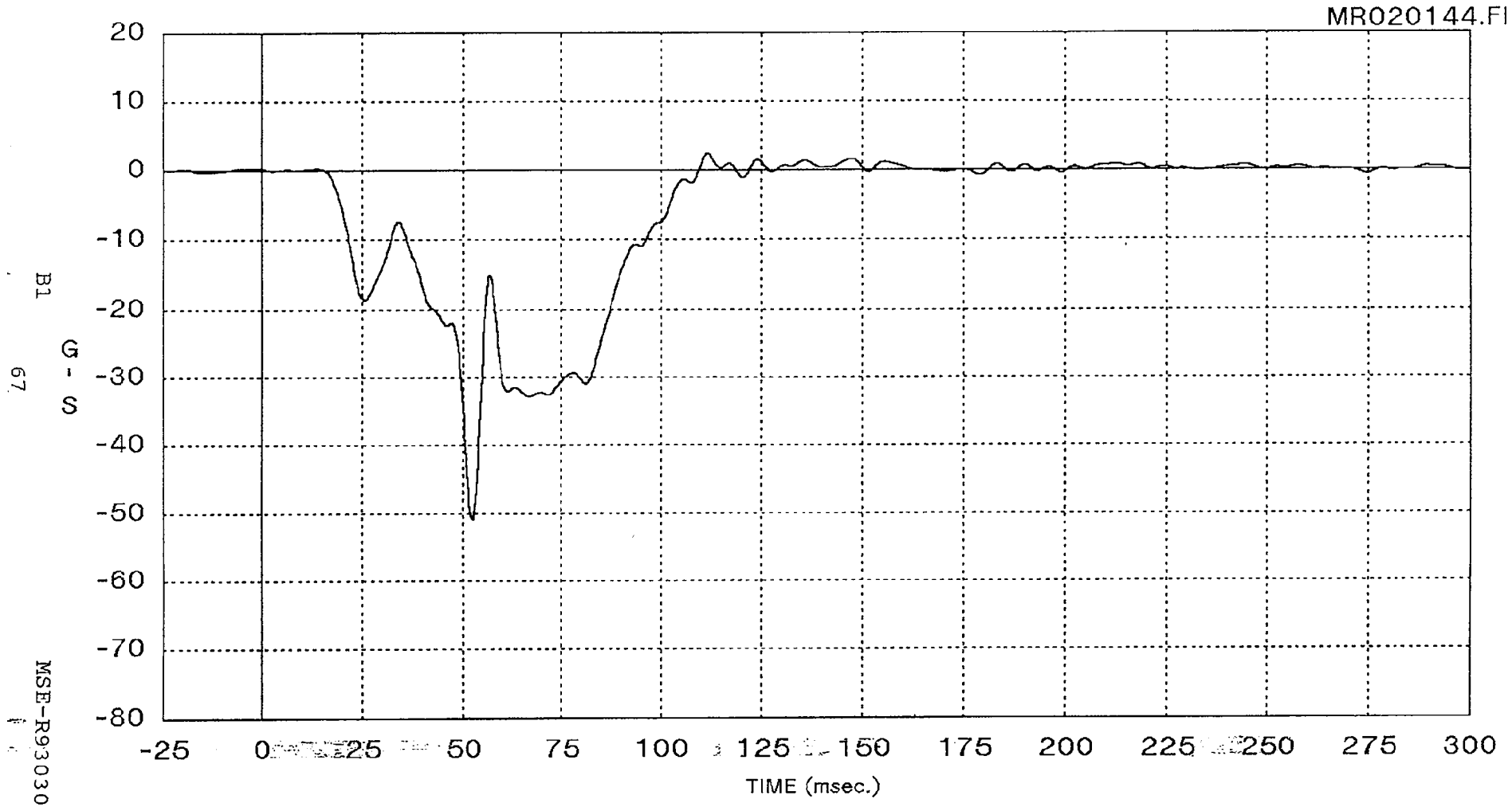
B1

66

MSE-R93030-06

Curve: Vehicle instrument panel acceleration (No data) Filter: SAE CLASS 60 Max = .00000 Min = .00000

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



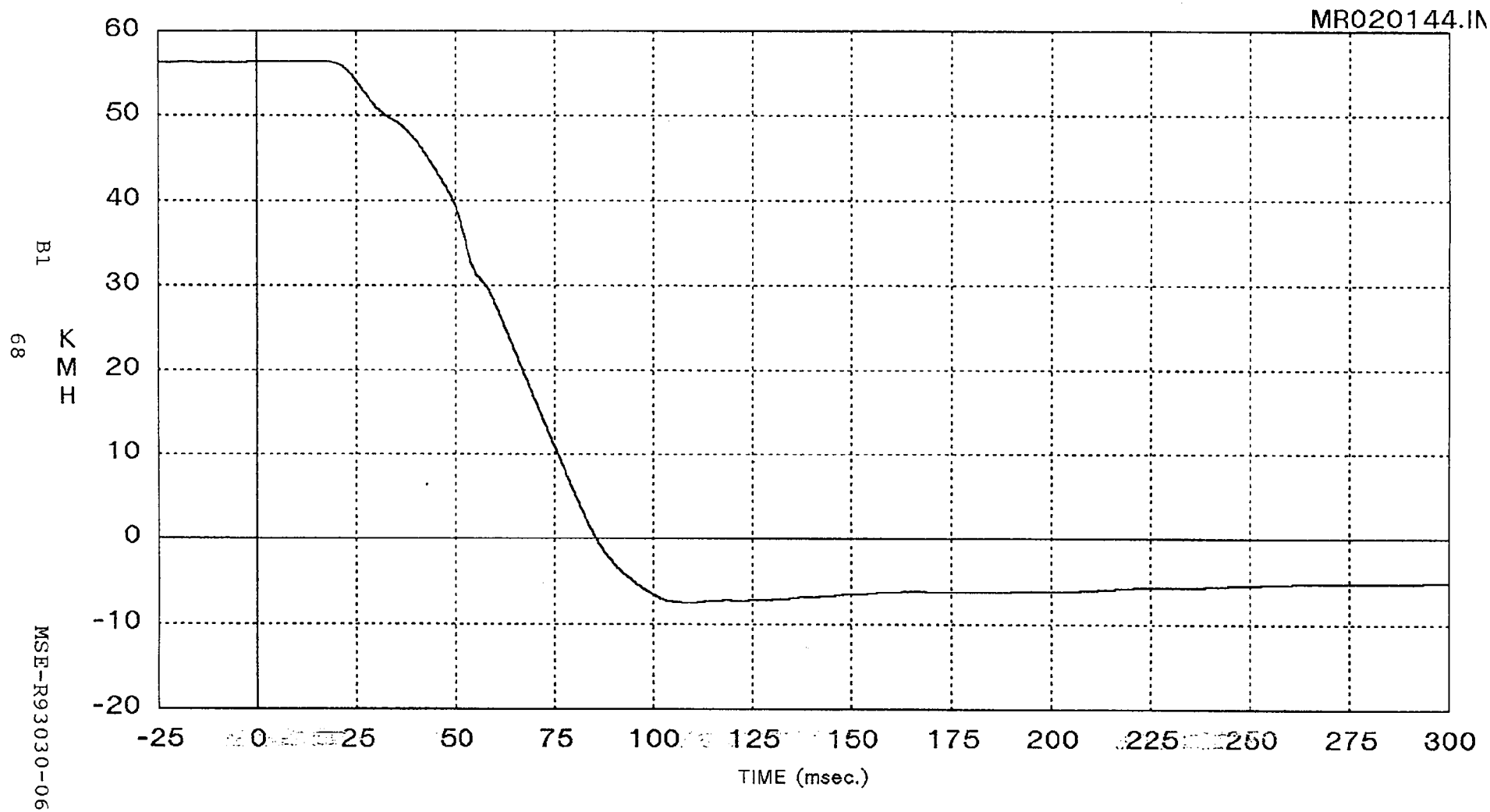
B1

67

MSE-R93030-06

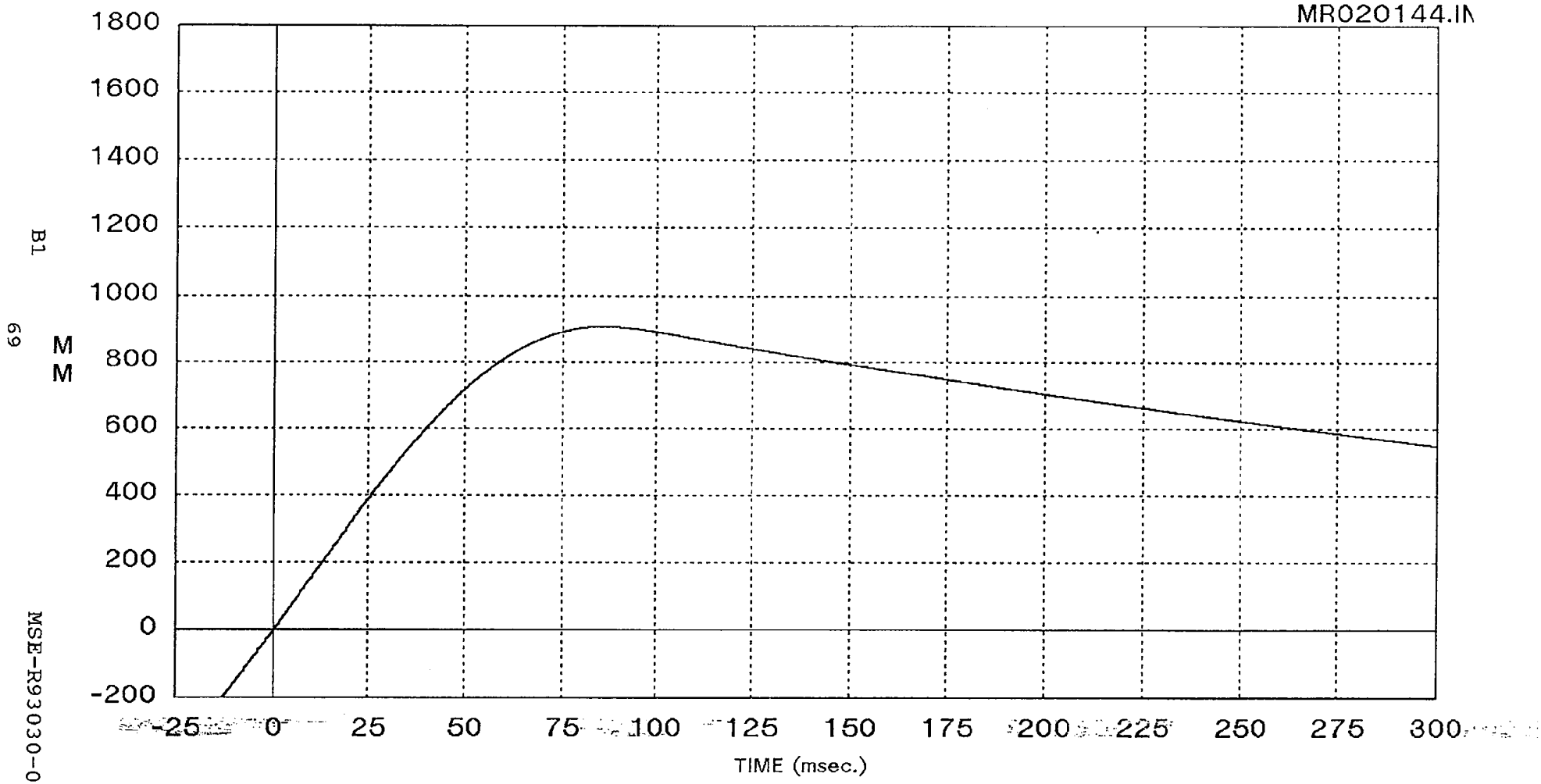
Curve: Vehicle left rear X-member acceleration (Pri.) Filter: SAE CLASS 60 Max = 2.3816 Min = -50.876

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



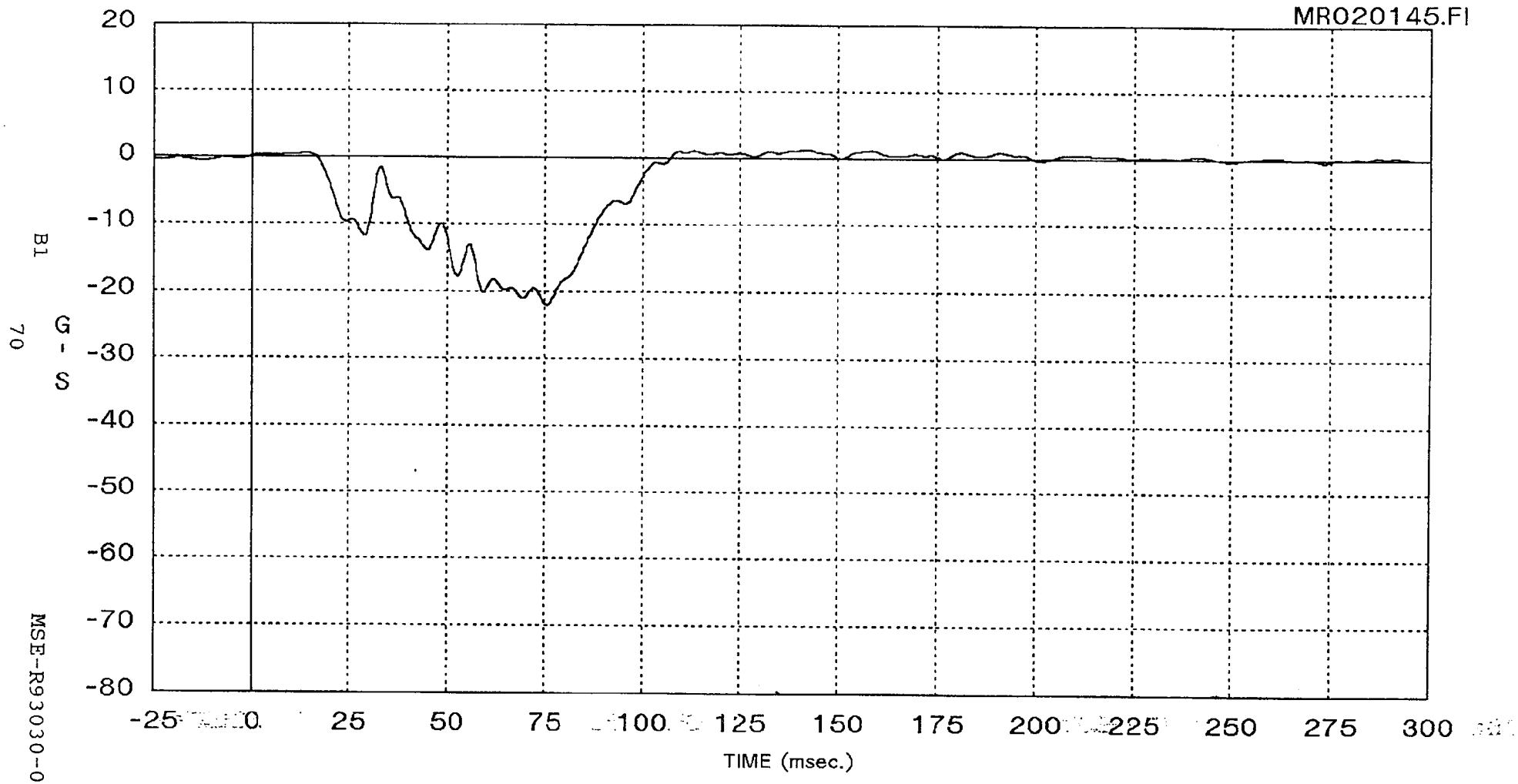
Curve: Vehicle left rear X-member -- delta V (Pri.) Filter: SAE CLASS 60 Max = 56.405 Min = -7.6218

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



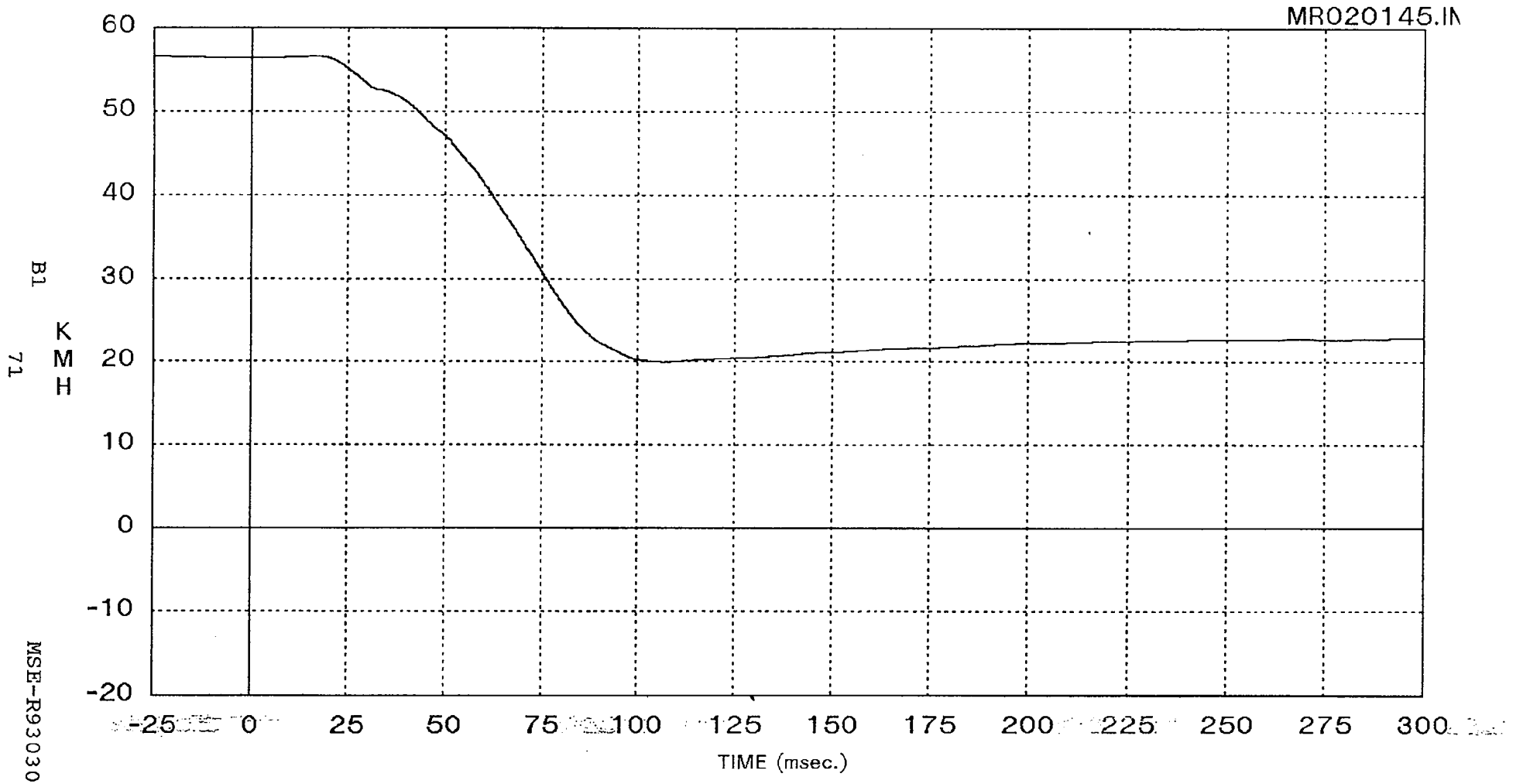
Curve: Vehicle left rear X-member - displacement (Pri.) Filter: SAE CLASS 60 Max = 906.65 Min = 548.46

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



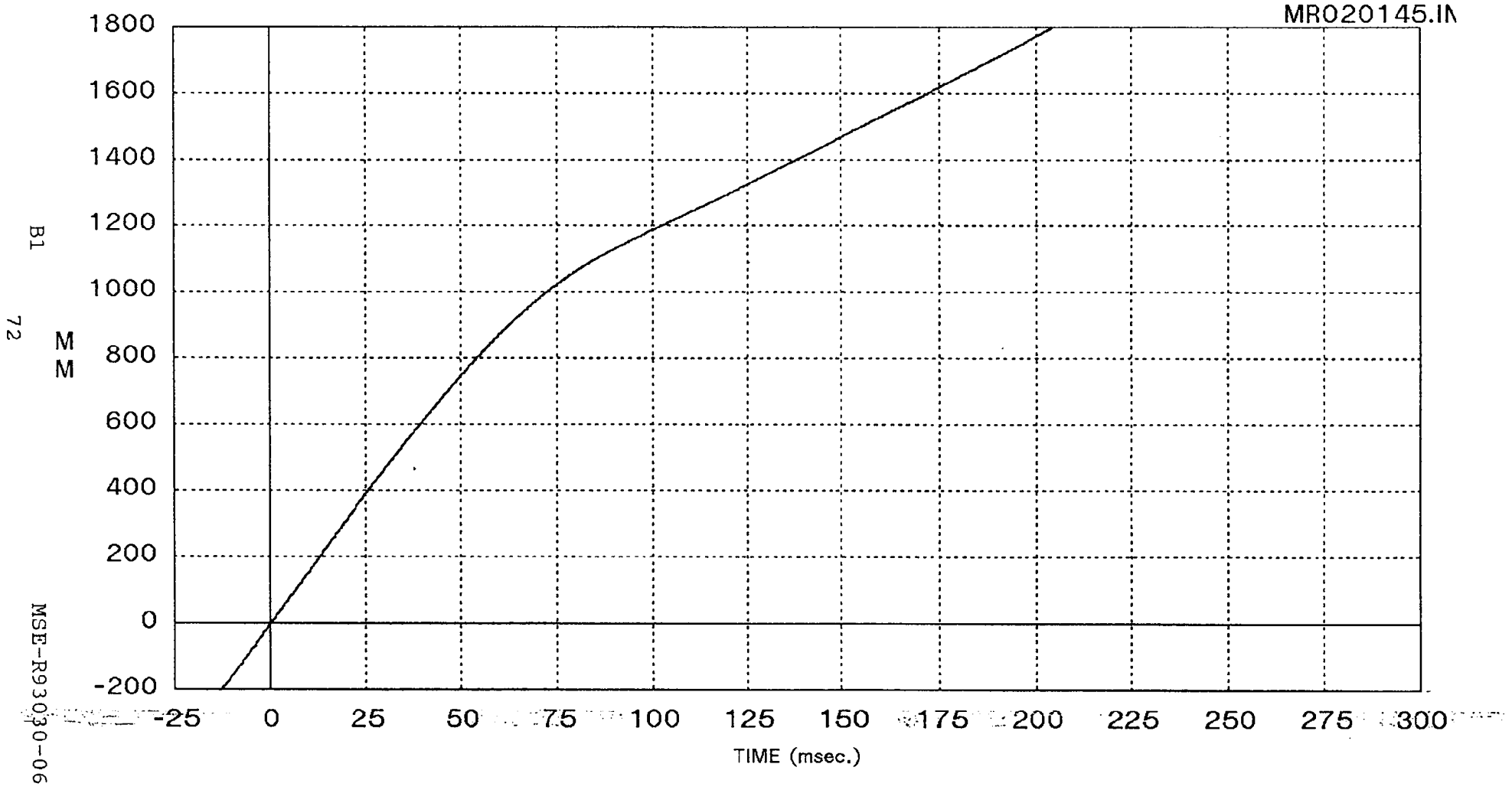
Curve: Vehicle right rear X-member acceleration (Pri.) Filter: SAE CLASS 60 Max = 1.3068 Min = -22.123

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



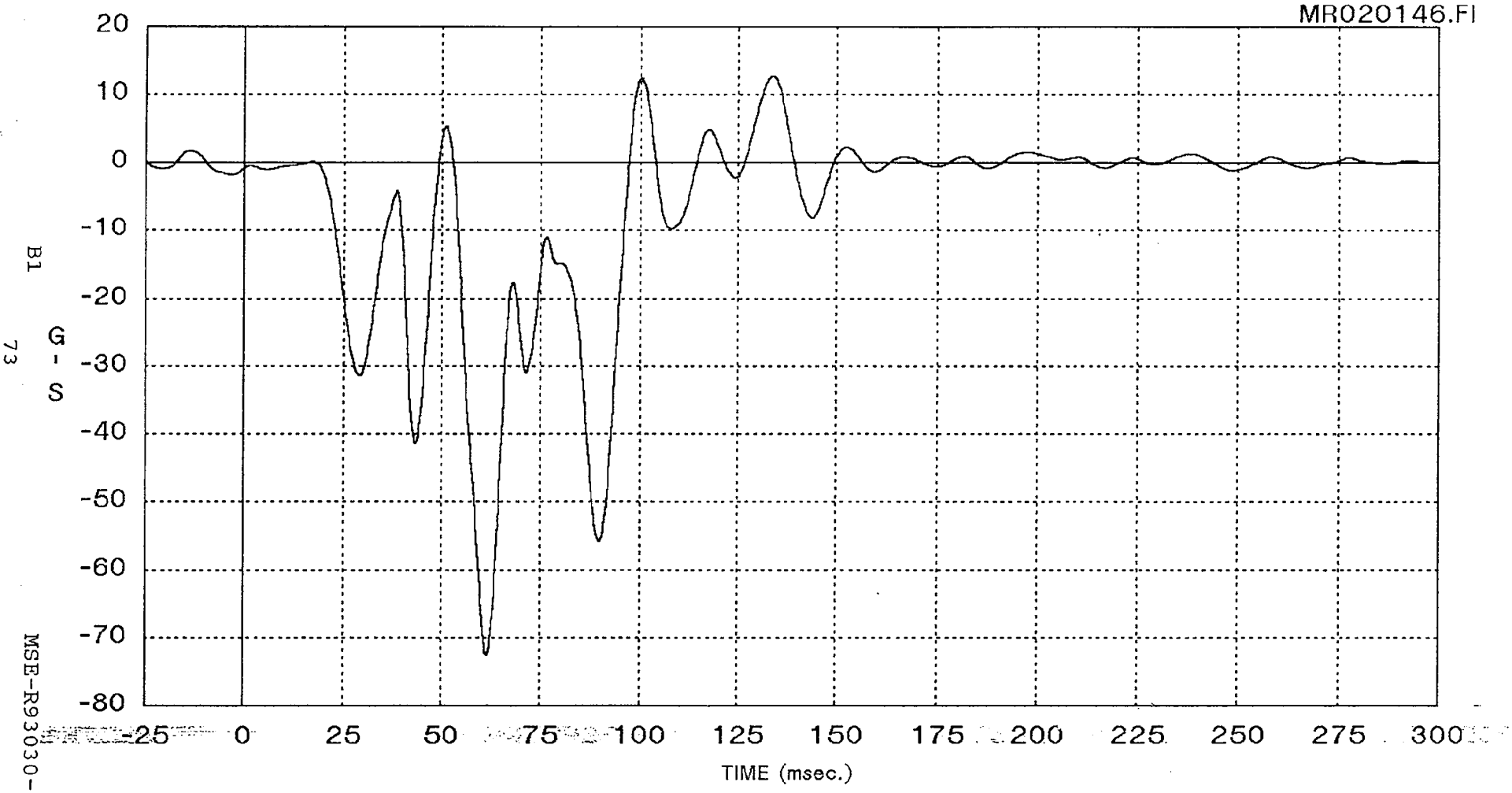
Curve: Vehicle right rear X-member -- delta V (Pri.) Filter: SAE CLASS 60 Max = 56.577 Min = 19.896

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



Curve: Vehicle right rear X-member - displacement (Pri.) Filter: SAE CLASS 60 Max = 2398.9 Min = .10000E+11

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



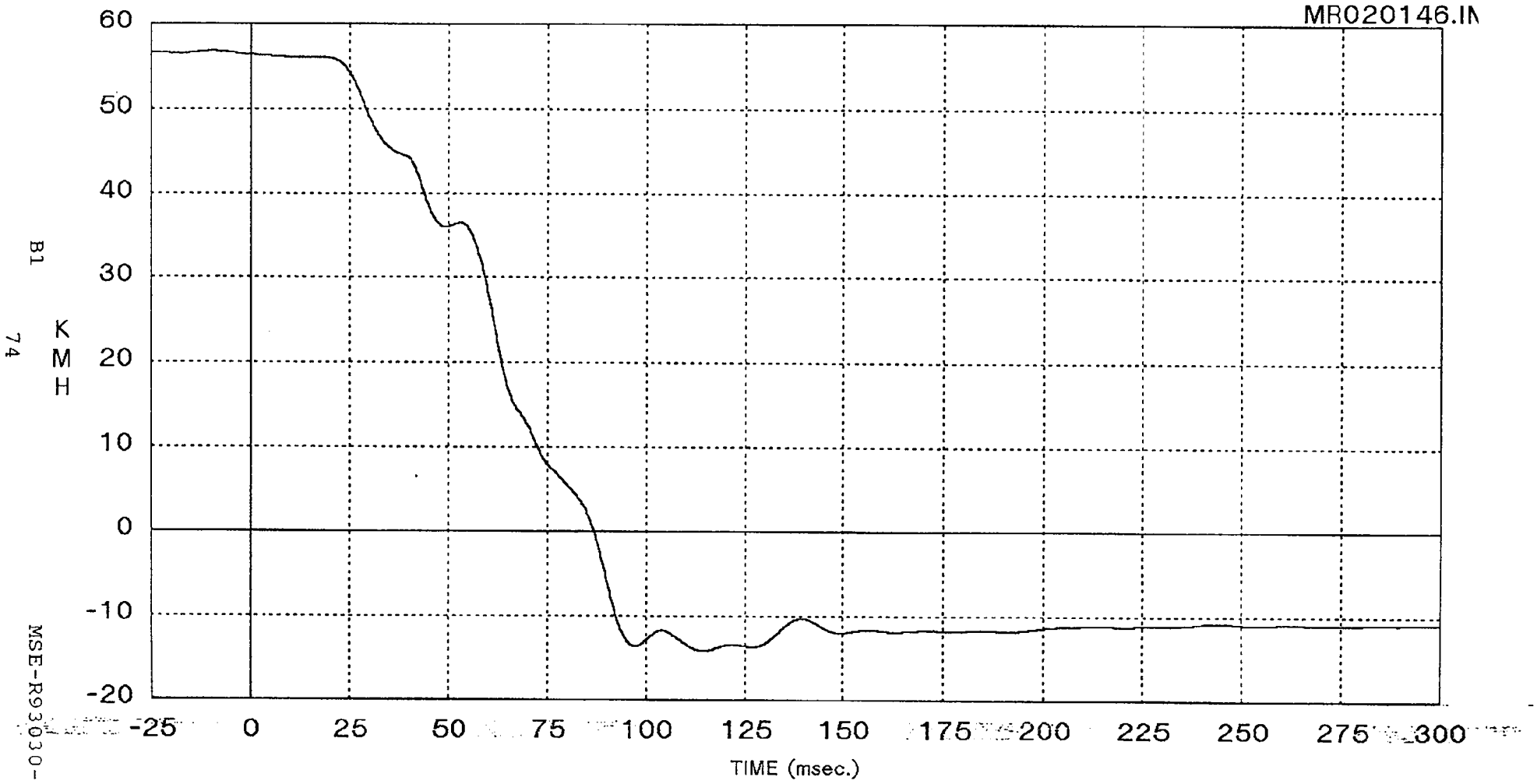
B1

73

MSE-R93030-06

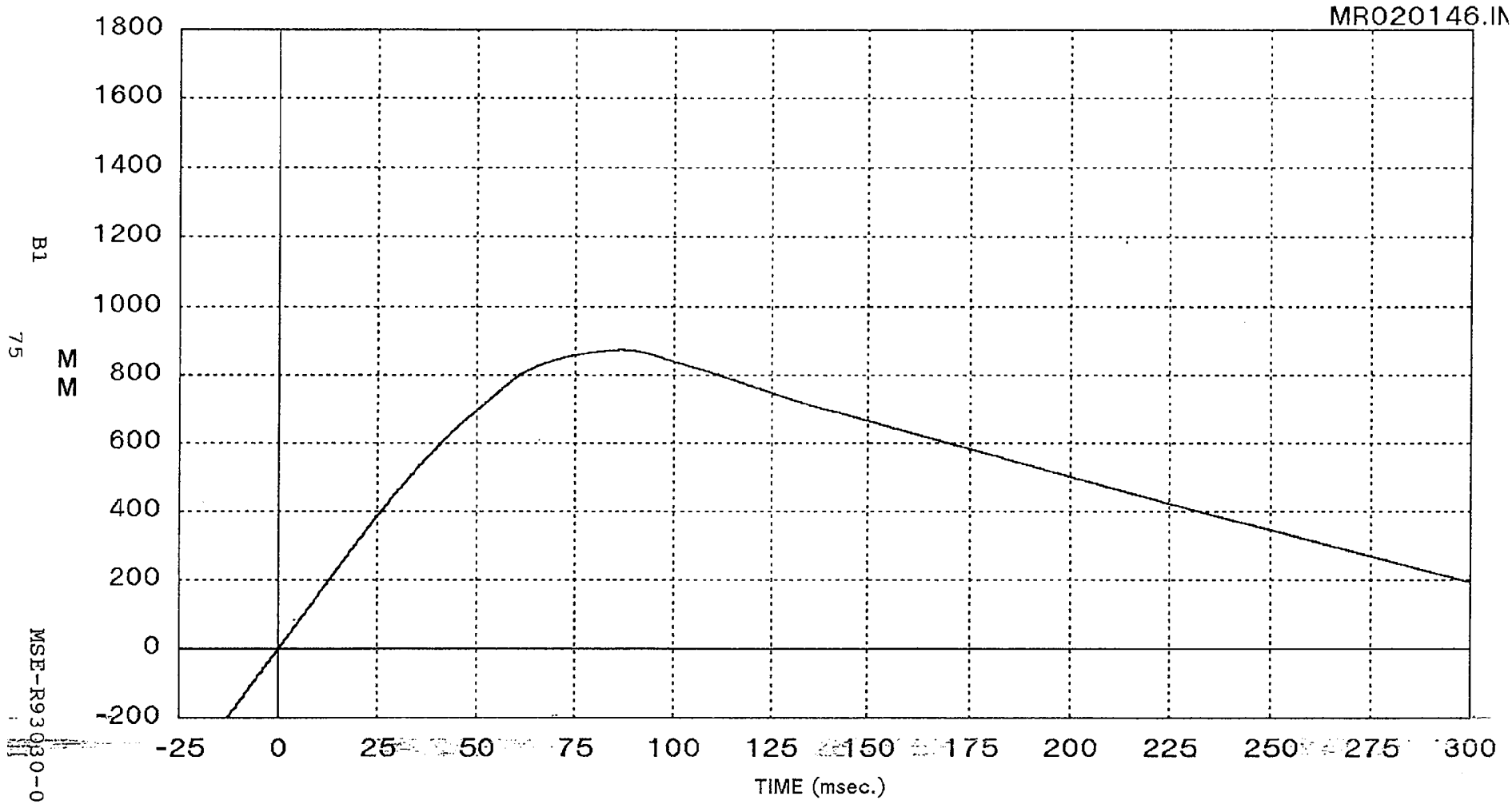
Curve: Vehicle left rear X-member acceleration (Sec.) Filter: SAE CLASS 60 Max = 12.745 Min = -72.476

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



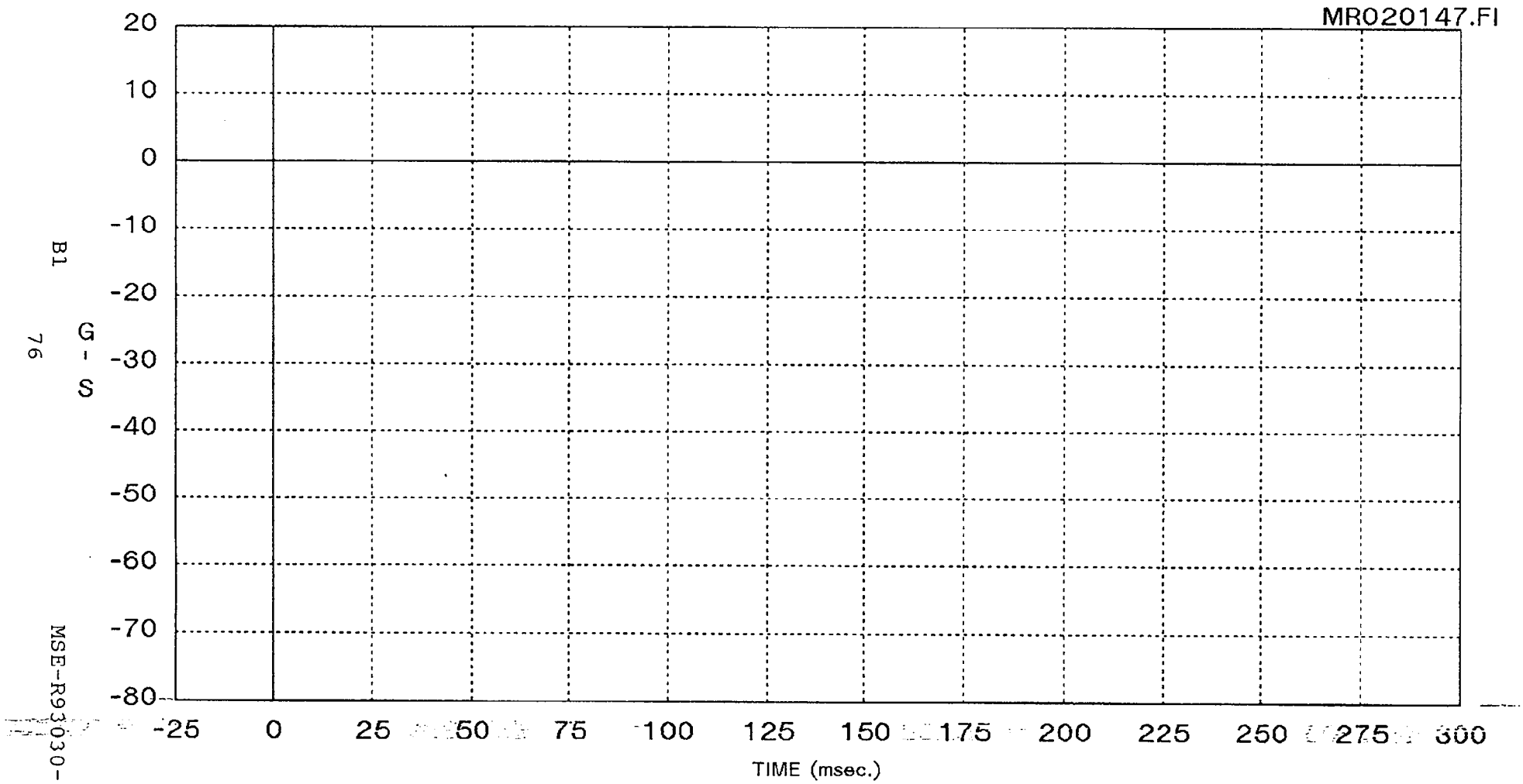
Curve: Vehicle left rear X-member -- delta V (Sec.) Filter: SAE CLASS 60 Max = 56.347 Min = -14.250

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



Curve: Vehicle left rear X-member - displacement (Sec.) Filter: SAE CLASS 60 Max = 873.75 Min = 193.52

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe



Curve: Vehicle right rear X-member acceleration (Sec.)ND Filter: SAE CLASS 60 Max = .00000 Min = .00000

MSE Date: 03/11/94 Program: 1994 New Car Assesment Program Vehicle: 1994 Ford Probe 2 Door Coupe

APPENDIX B - 2

LOAD CELL BARRIER DATA

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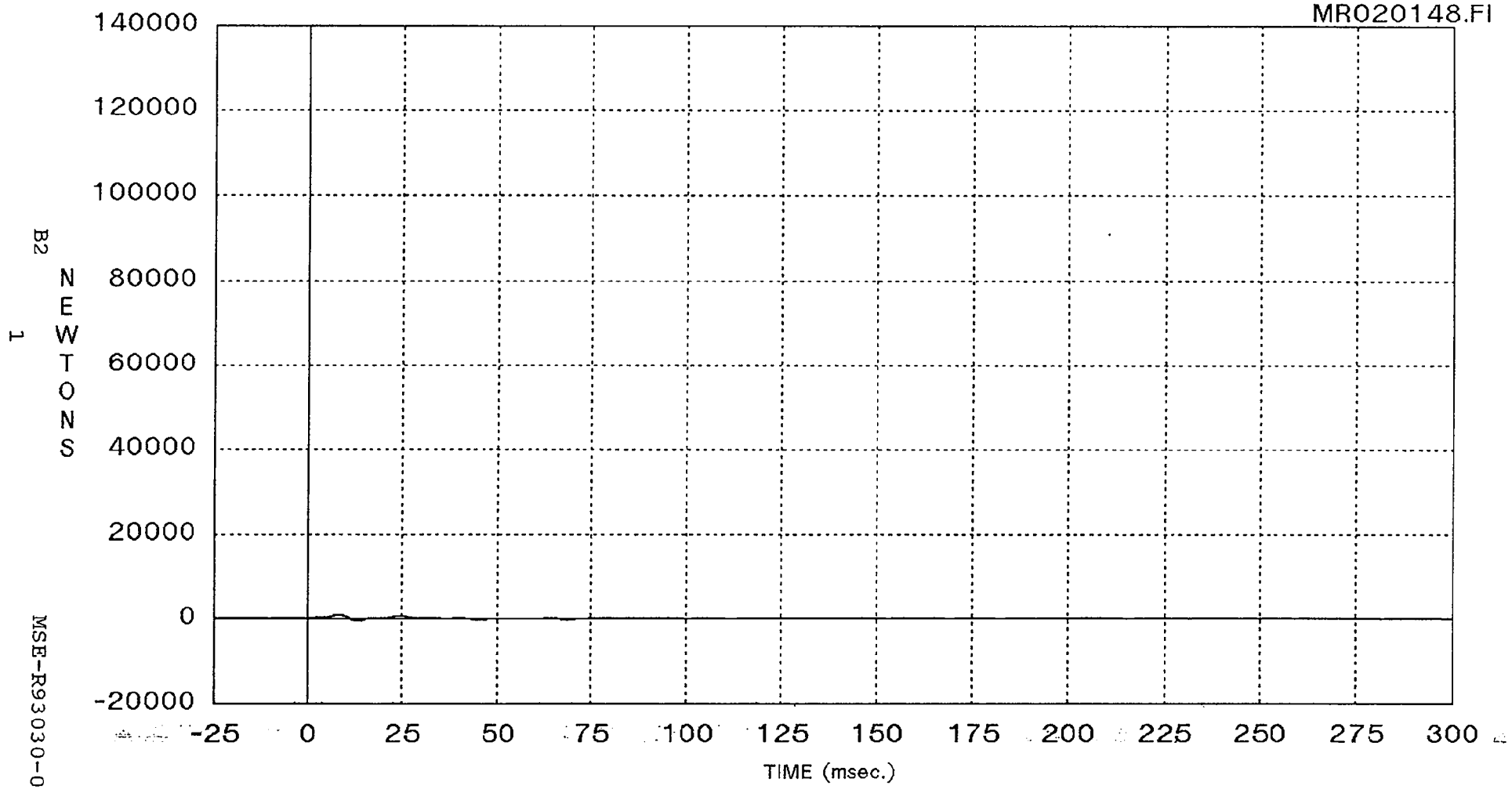
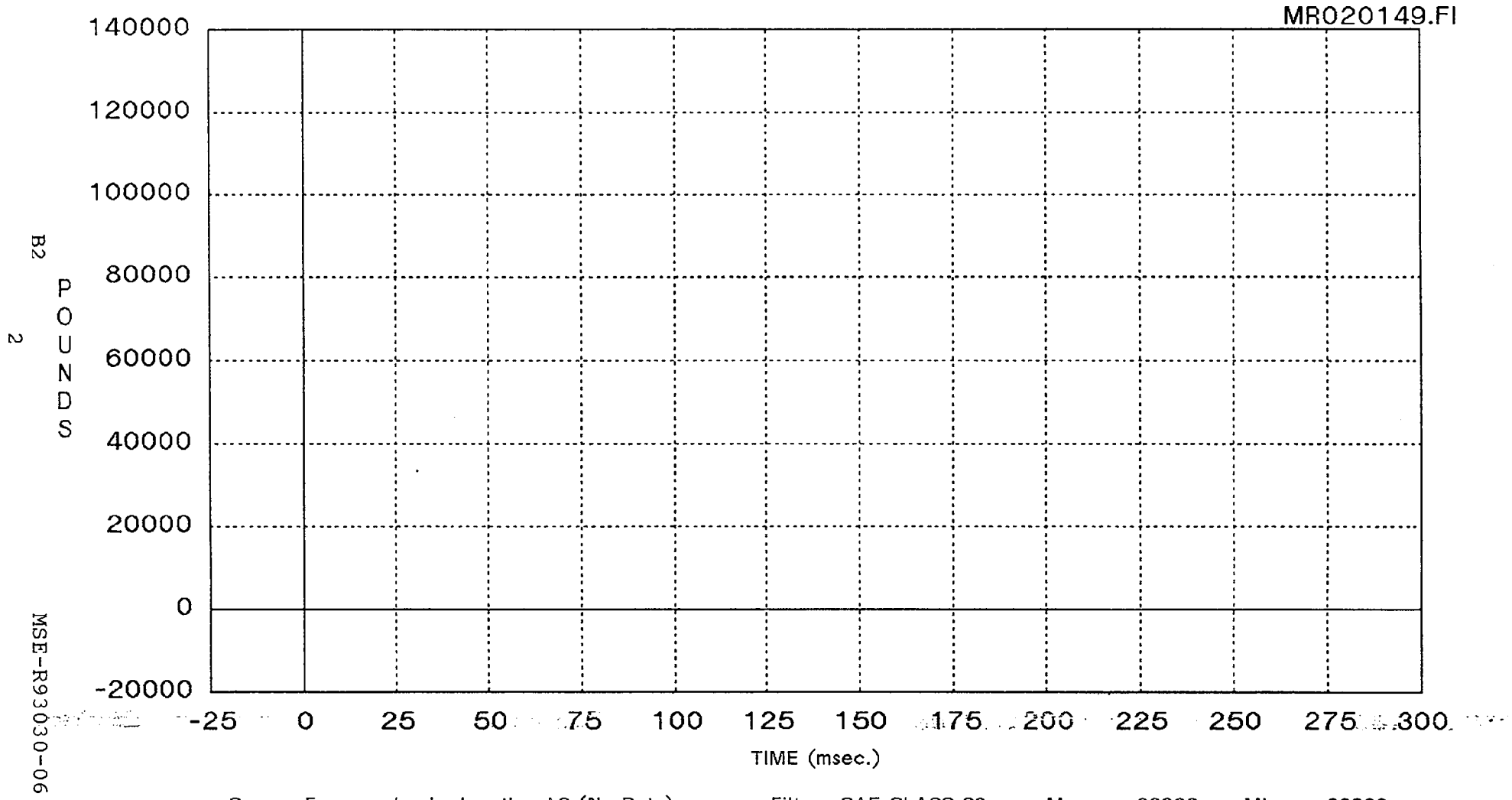


B2 1

MSE-R93030-06

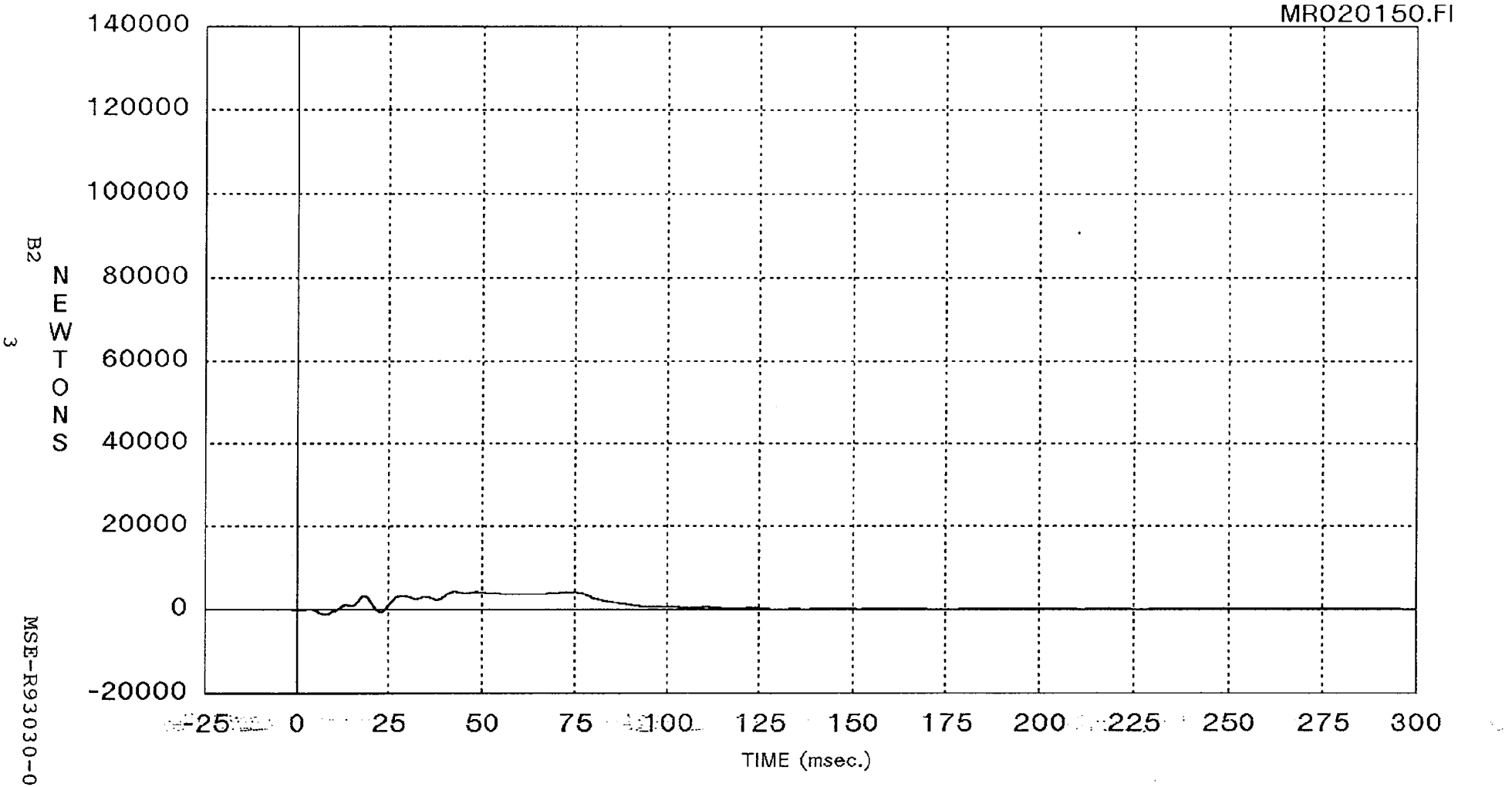
Curve: Force on barrier location A1 Filter: SAE CLASS 60 Max = 914.98 Min = -563.87

MSE Date: 03/11/94 Program: 1994 New Car Assessment Vehicle: 1994 Ford Probe 2 Door Coupe



Curve: Force on barrier location A2 (No Data) Filter: SAE CLASS 60 Max = .00000 Min = .00000

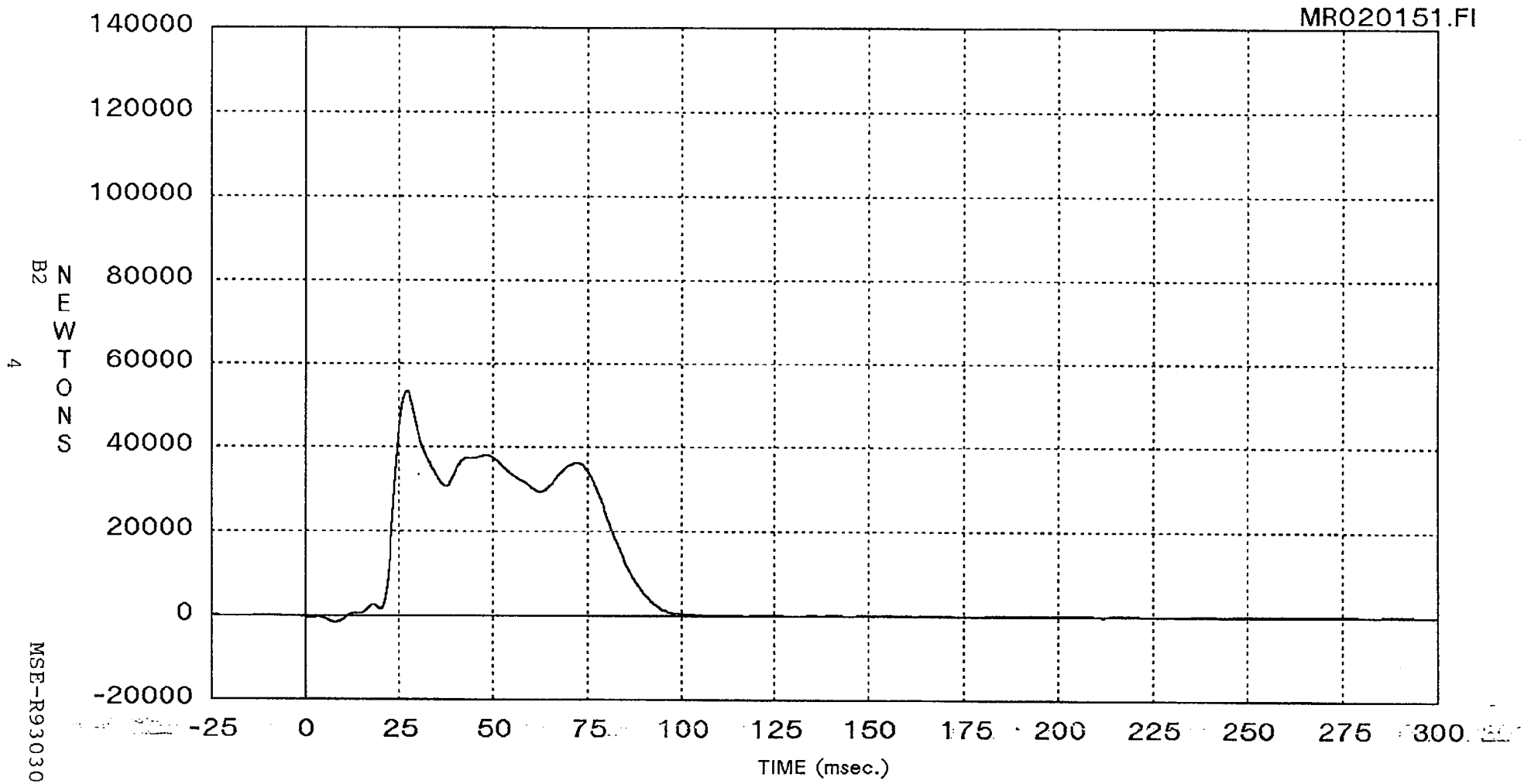
MSE Date: 03/11/94 Program: 1994 New Car Assessment Vehicle: 1994 Ford Probe 2 Door Coupe



B2

3

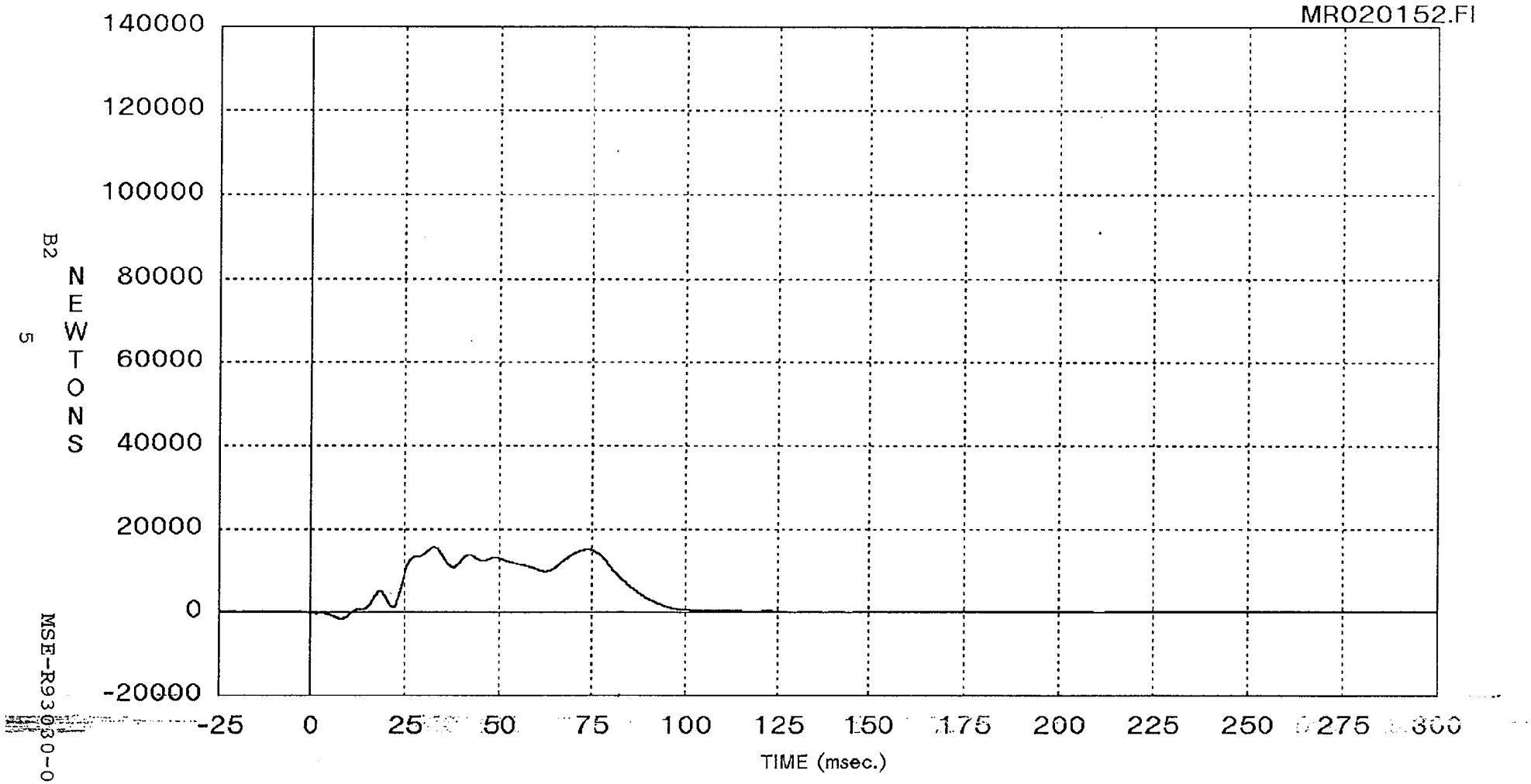
MSE-R93030-06



Curve: Force on barrier location A4 Filter: SAE CLASS 60 Max = 53476. Min = -1571.2

MSE Date: 03/11/94 Program: 1994 New Car Assessment Vehicle: 1994 Ford Probe 2 Door Coupe

B2 4 MSE-R93030-06

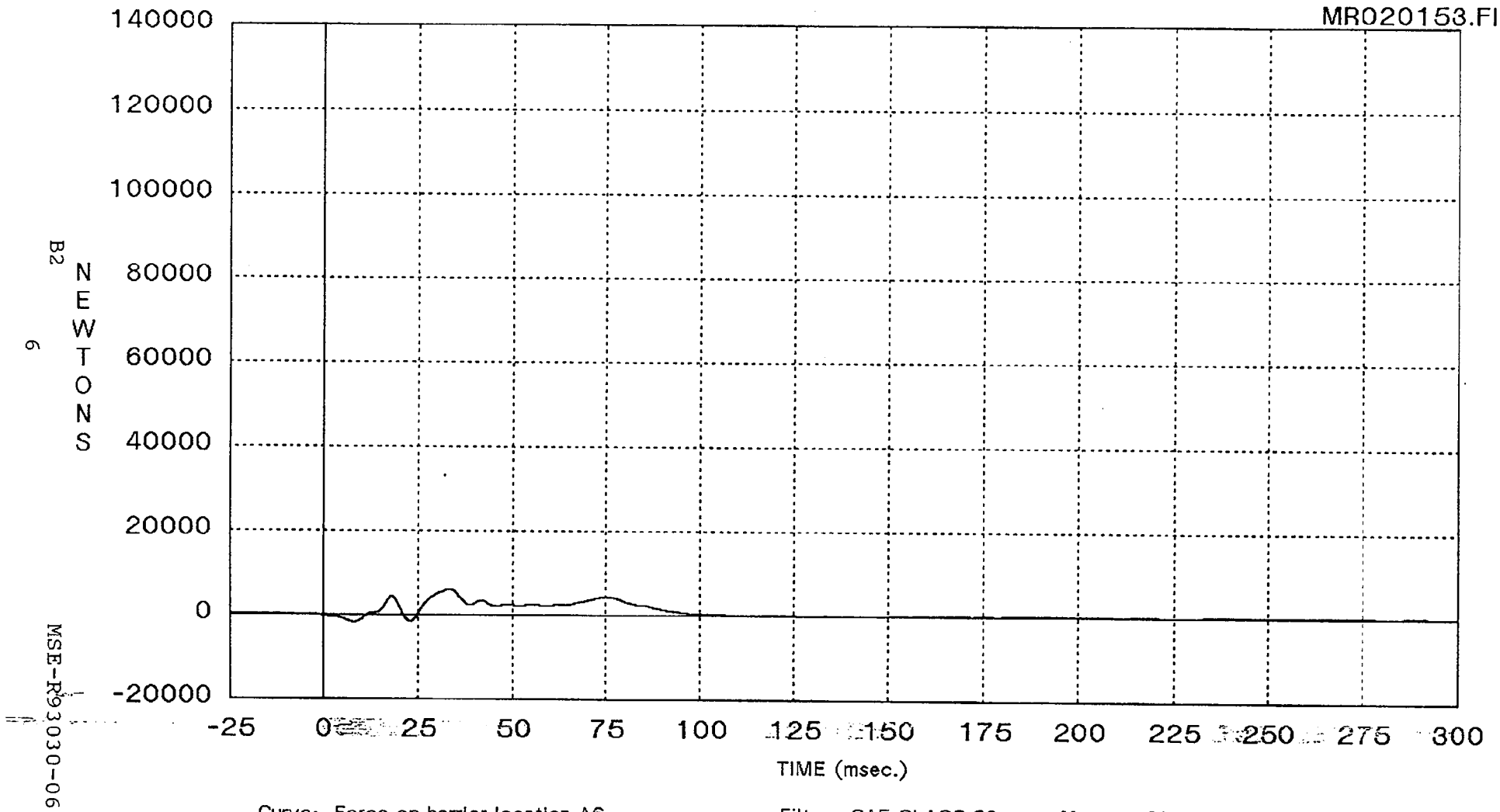


B2
5

MSE-R93030-06

Curve: Force on barrier location A5 Filter: SAE CLASS 60 Max = 15577. Min = -1617.8

MSE Date: 03/11/94 Program: 1994 New Car Assessment Vehicle: 1994 Ford Probe 2 Door Coupe



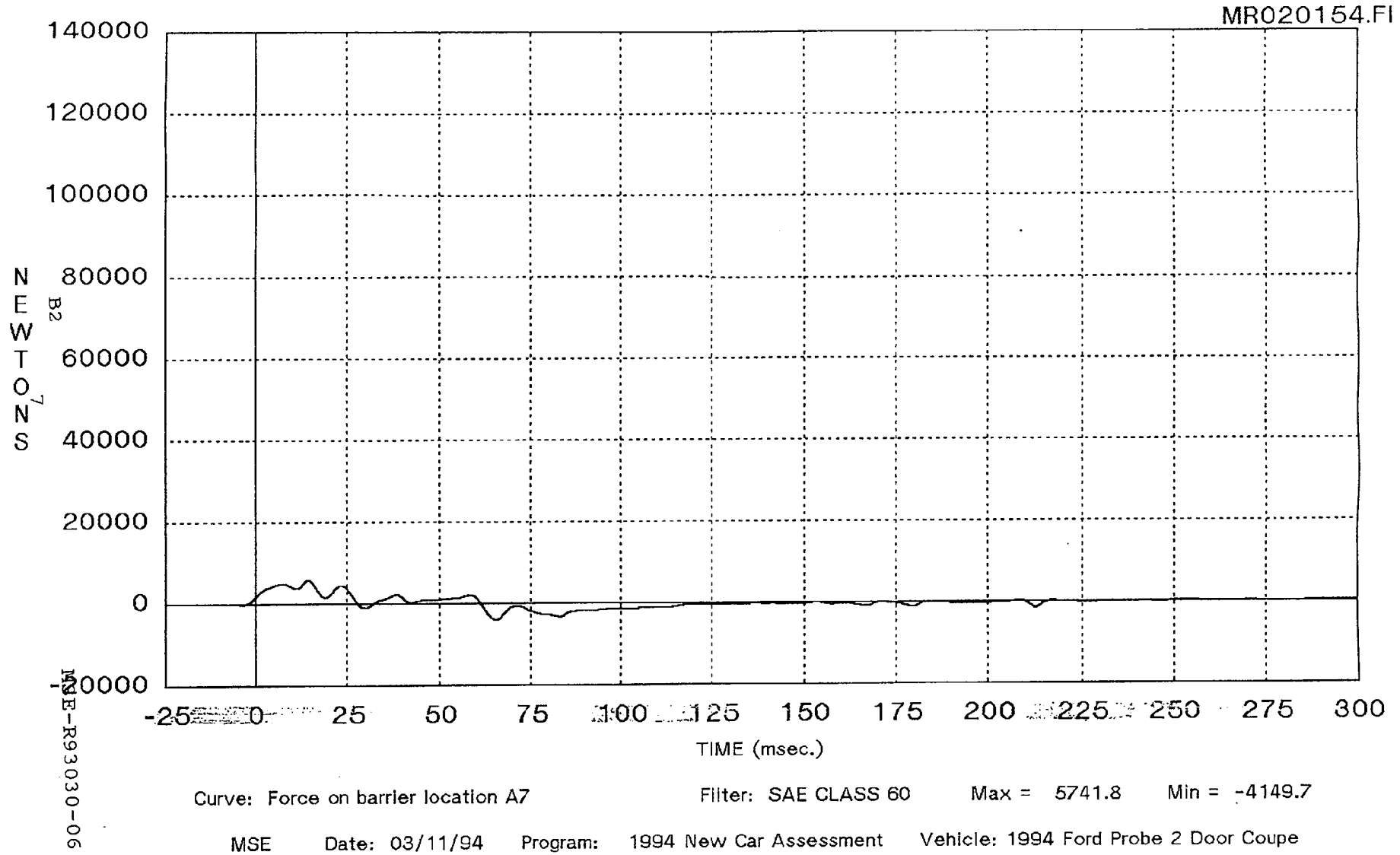
Curve: Force on barrier location A6 Filter: SAE CLASS 60 Max = 6034.1 Min = -1823.0

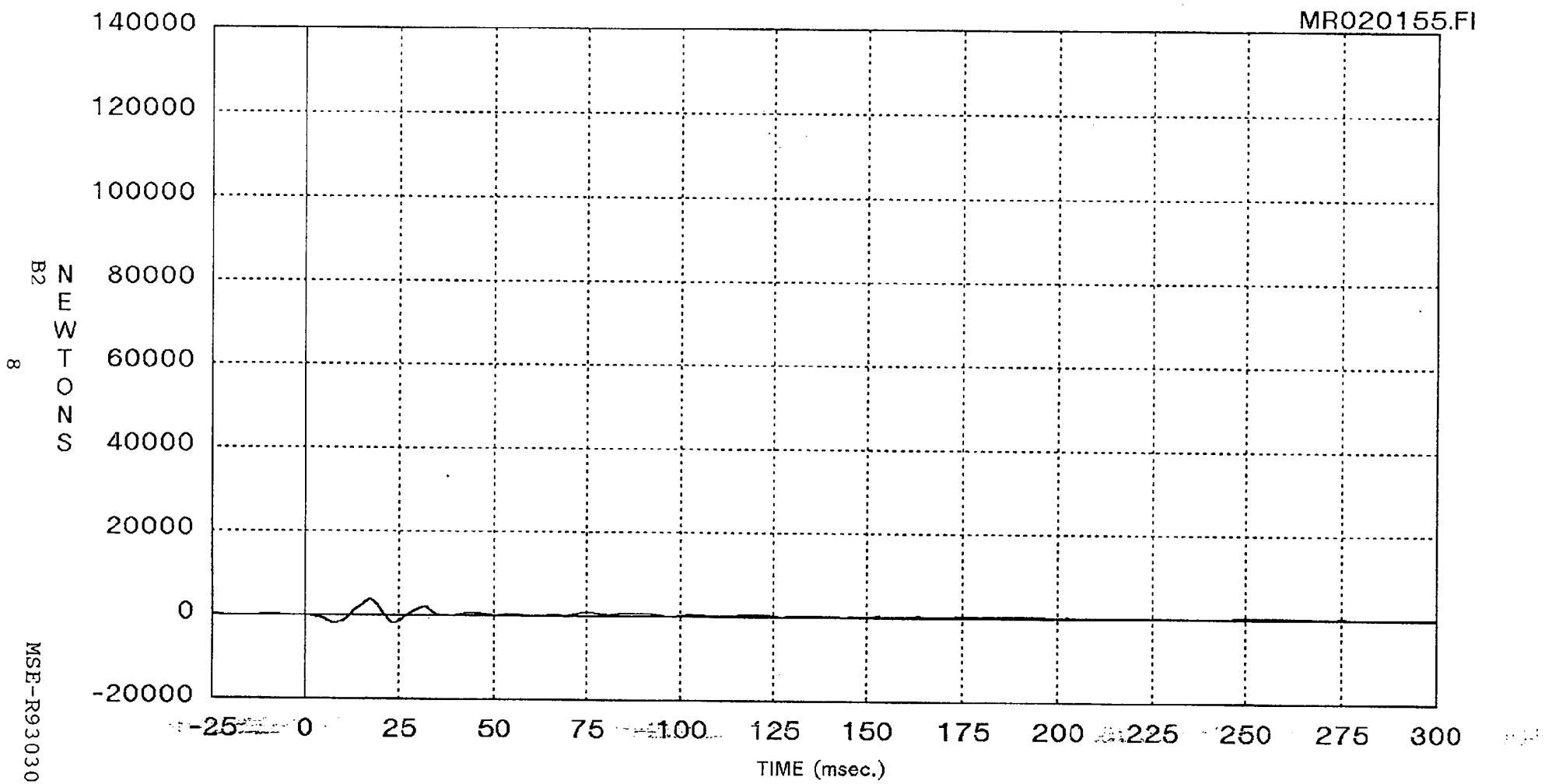
MSE Date: 03/11/94 Program: 1994 New Car Assessment Vehicle: 1994 Ford Probe 2 Door Coupe

B2

6

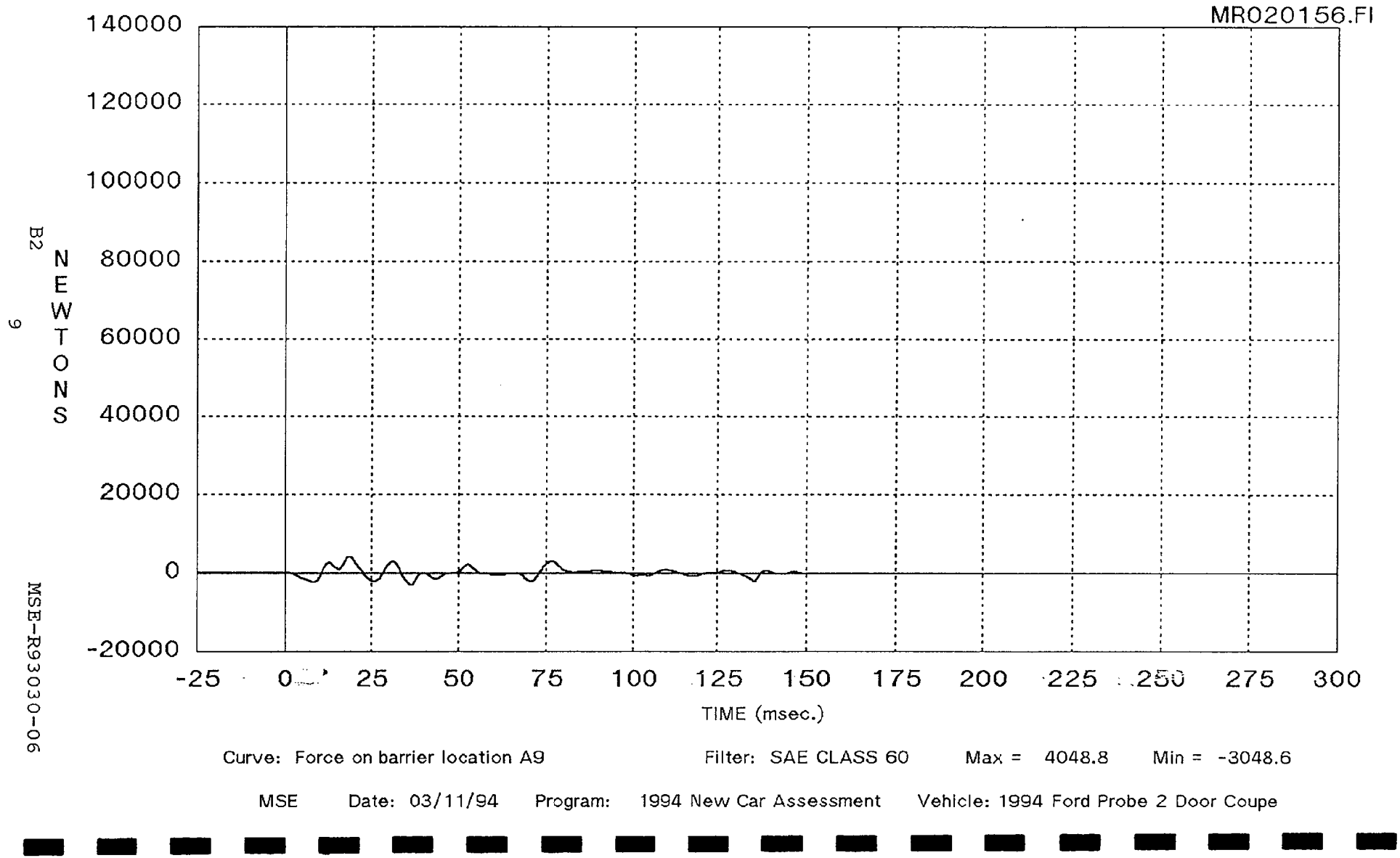
MSE-R93030-06

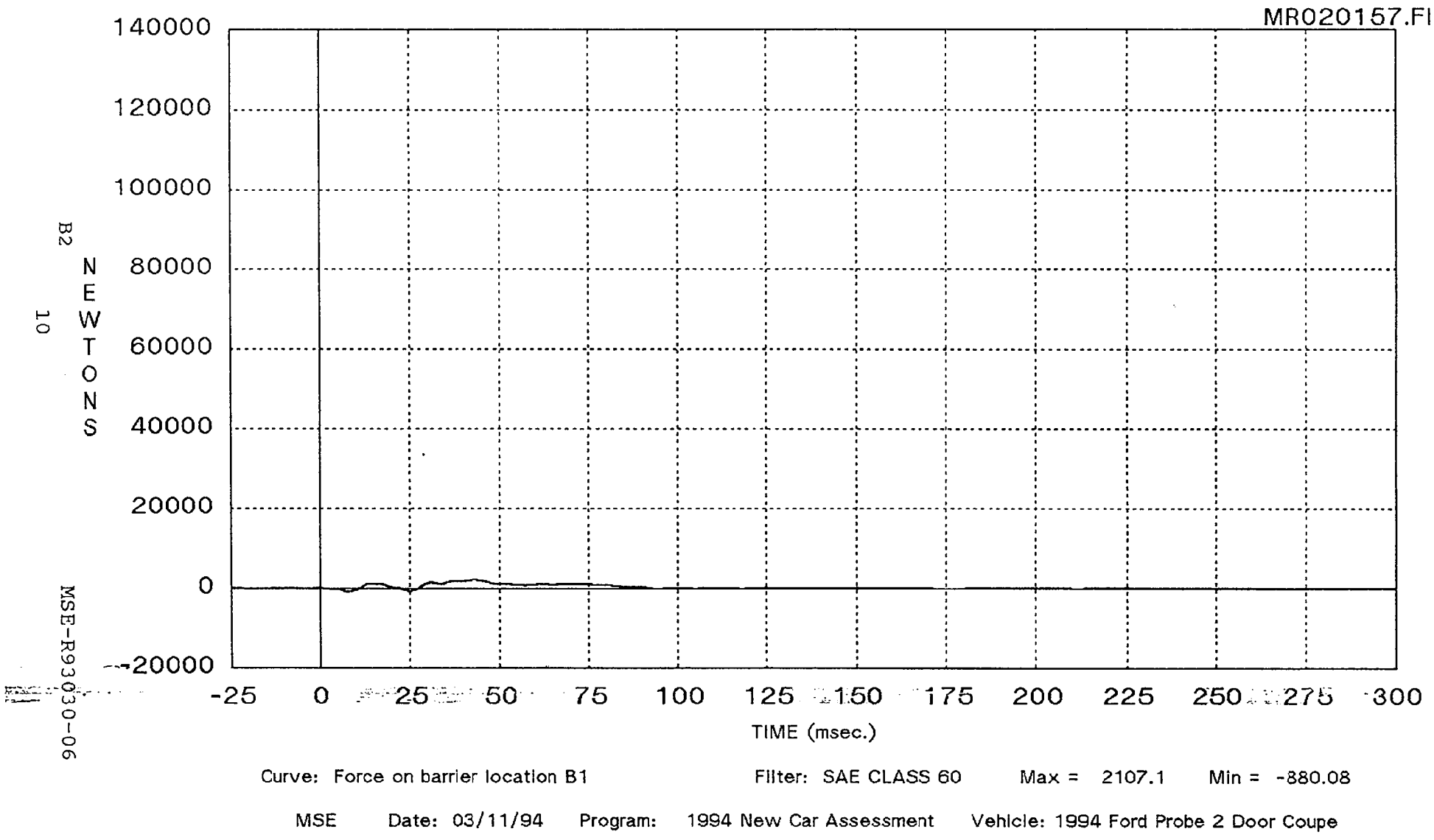

MR020154.FI
140000
120000
100000
80000
60000
40000
20000
0
-20000
NEWTONS
B2
-25
0
25
50
75
100
125
150
175
200
225
250
275
300
TIME (msec.)
MSE-R93030-06
Curve: Force on barrier location A7
Filter: SAE CLASS 60
Max = 5741.8
Min = -4149.7
MSE
Date: 03/11/94
Program: 1994 New Car Assessment
Vehicle: 1994 Ford Probe 2 Door Coupe



B2 8

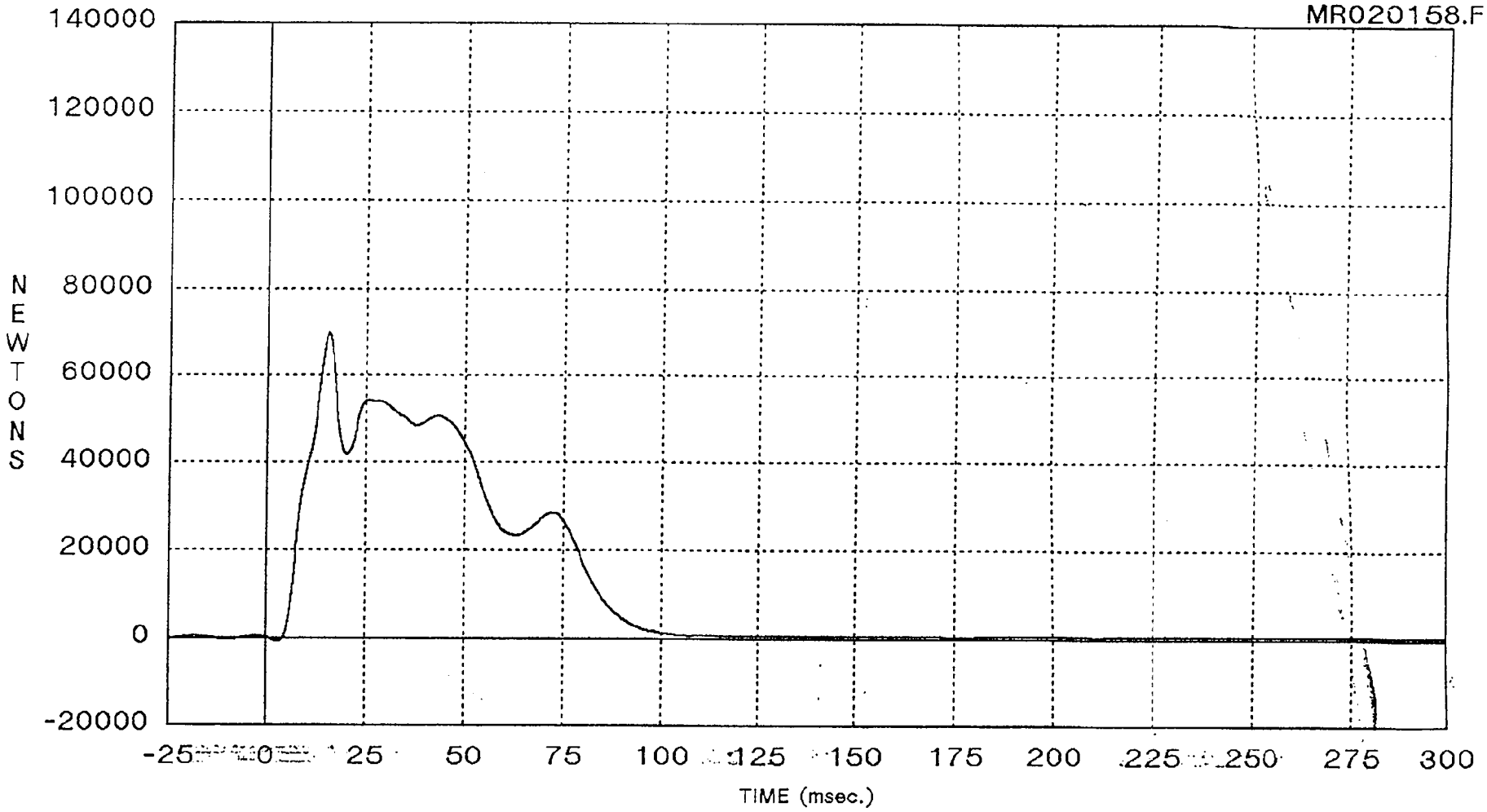
MSE-R93030-06


MR020156.FI
140000
120000
100000
80000
60000
40000
20000
0
-20000
NEWTONS
-25
0
25
50
75
100
125
150
175
200
225
250
275
300
TIME (msec.)
Curve: Force on barrier location A9
Filter: SAE CLASS 60
Max = 4048.8
Min = -3048.6
MSE
Date: 03/11/94
Program: 1994 New Car Assessment
Vehicle: 1994 Ford Probe 2 Door Coupe



Curve: Force on barrier location B1 Filter: SAE CLASS 60 Max = 2107.1 Min = -880.08

MSE Date: 03/11/94 Program: 1994 New Car Assessment Vehicle: 1994 Ford Probe 2 Door Coupe



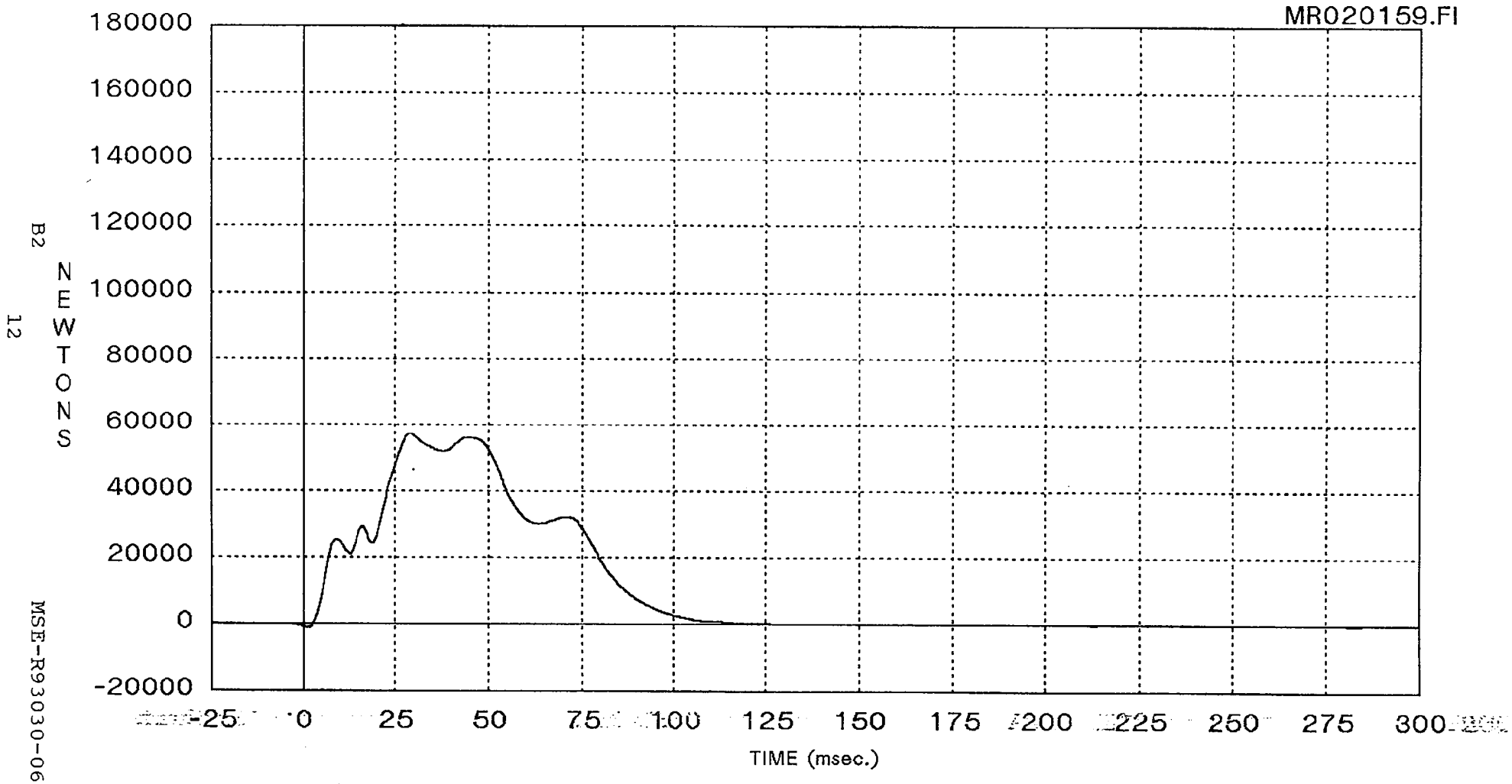
B2

11

MSE-R93030-06

Curve: Force on barrier location B2 Filter: SAE CLASS 60 Max = 69719. Min = -843.28

MSE Date: 03/11/94 Program: 1994 New Car Assessment Vehicle: 1994 Ford Probe 2 Door Coupe



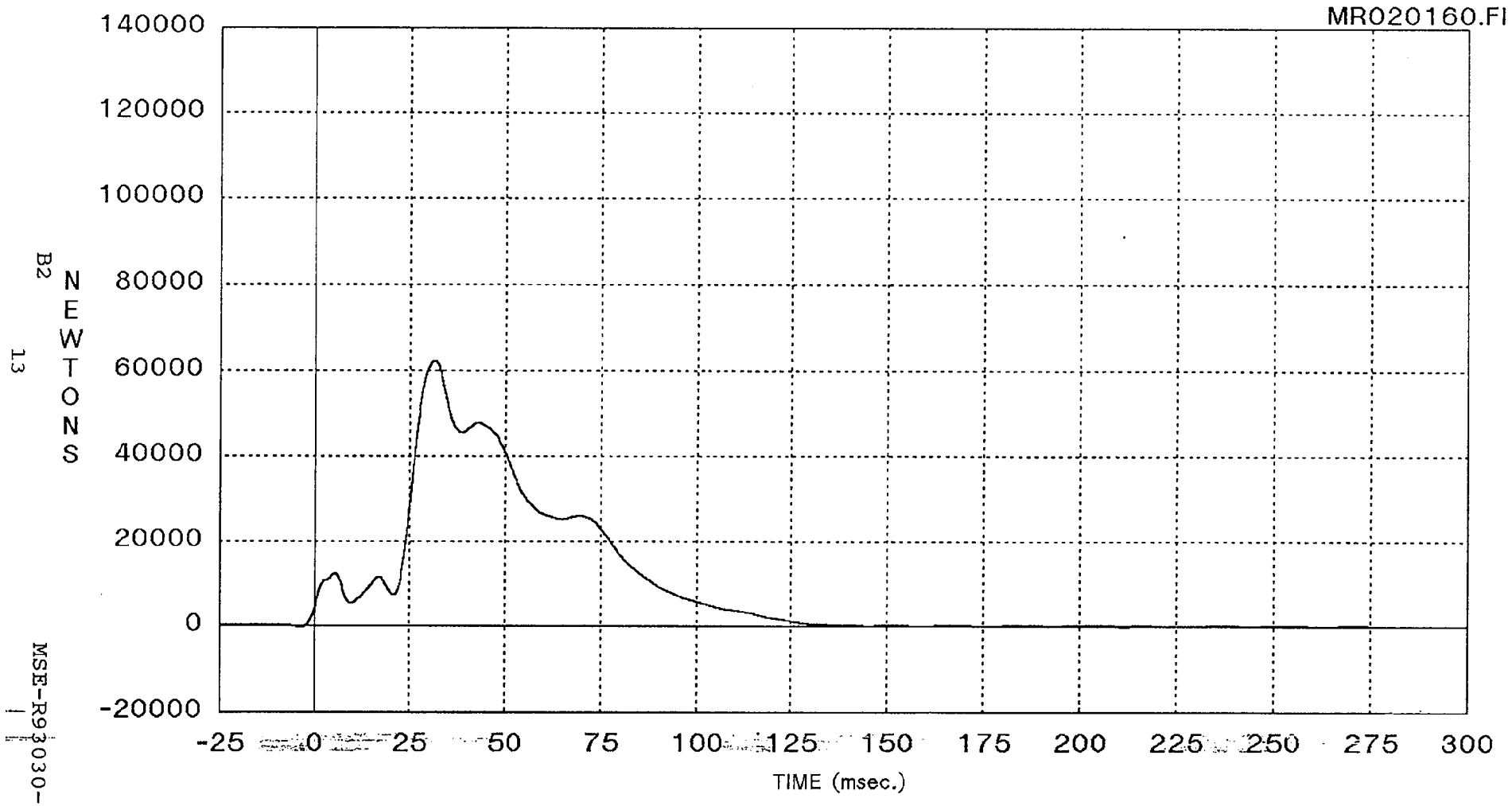
B2

12

MSE-R93030-06

Curve: Force on barrier location B3 Filter: SAE CLASS 60 Max = 57248. Min = -1025.3

MSE Date: 03/11/94 Program: 1994 New Car Assessment Vehicle: 1994 Ford Probe 2 Door Coupe



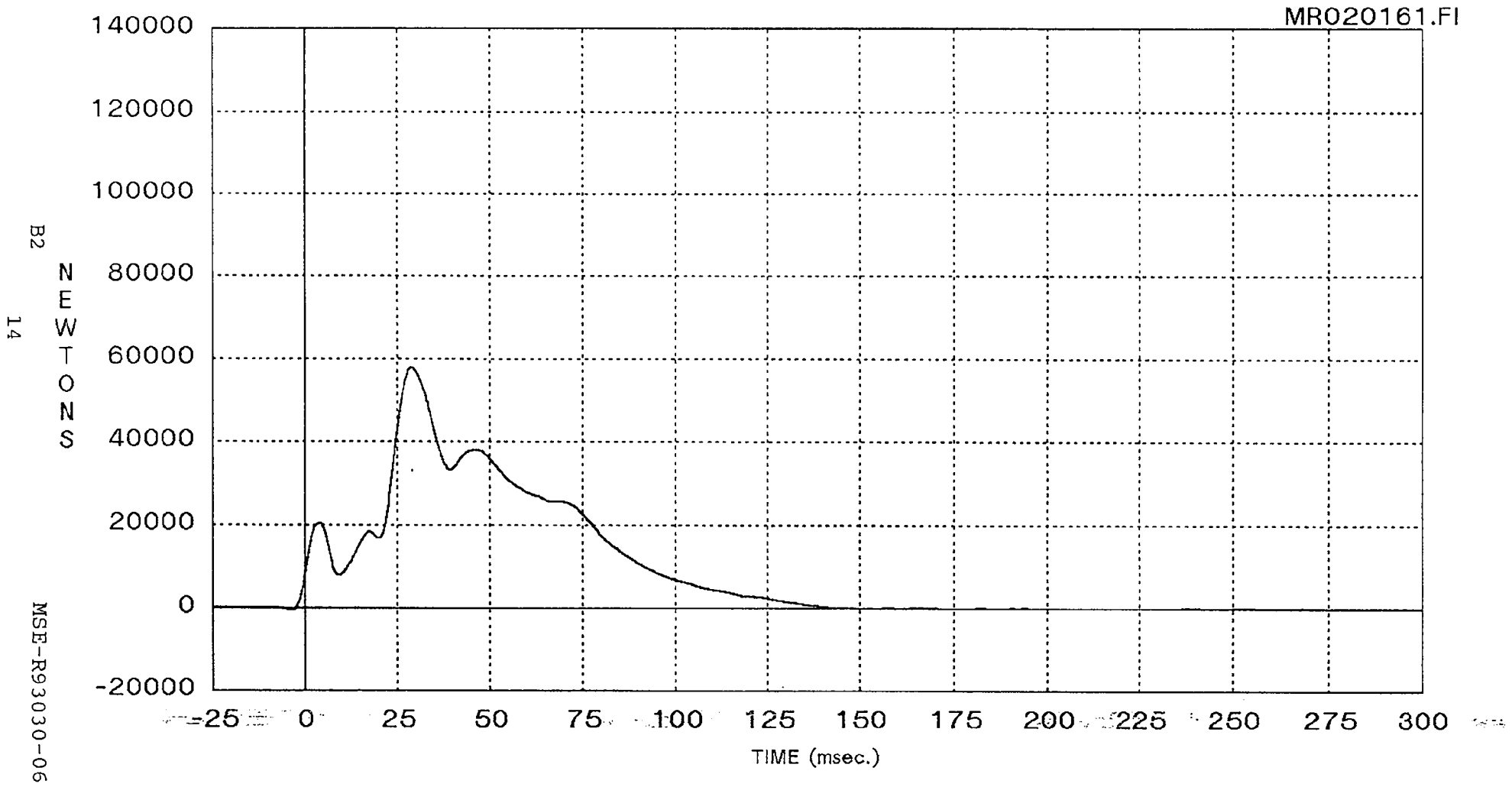
Curve: Force on barrier location B4 Filter: SAE CLASS 60 Max = 62200. Min = -259.29

MSE Date: 03/11/94 Program: 1994 New Car Assessment Vehicle: 1994 Ford Probe 2 Door Coupe

B2

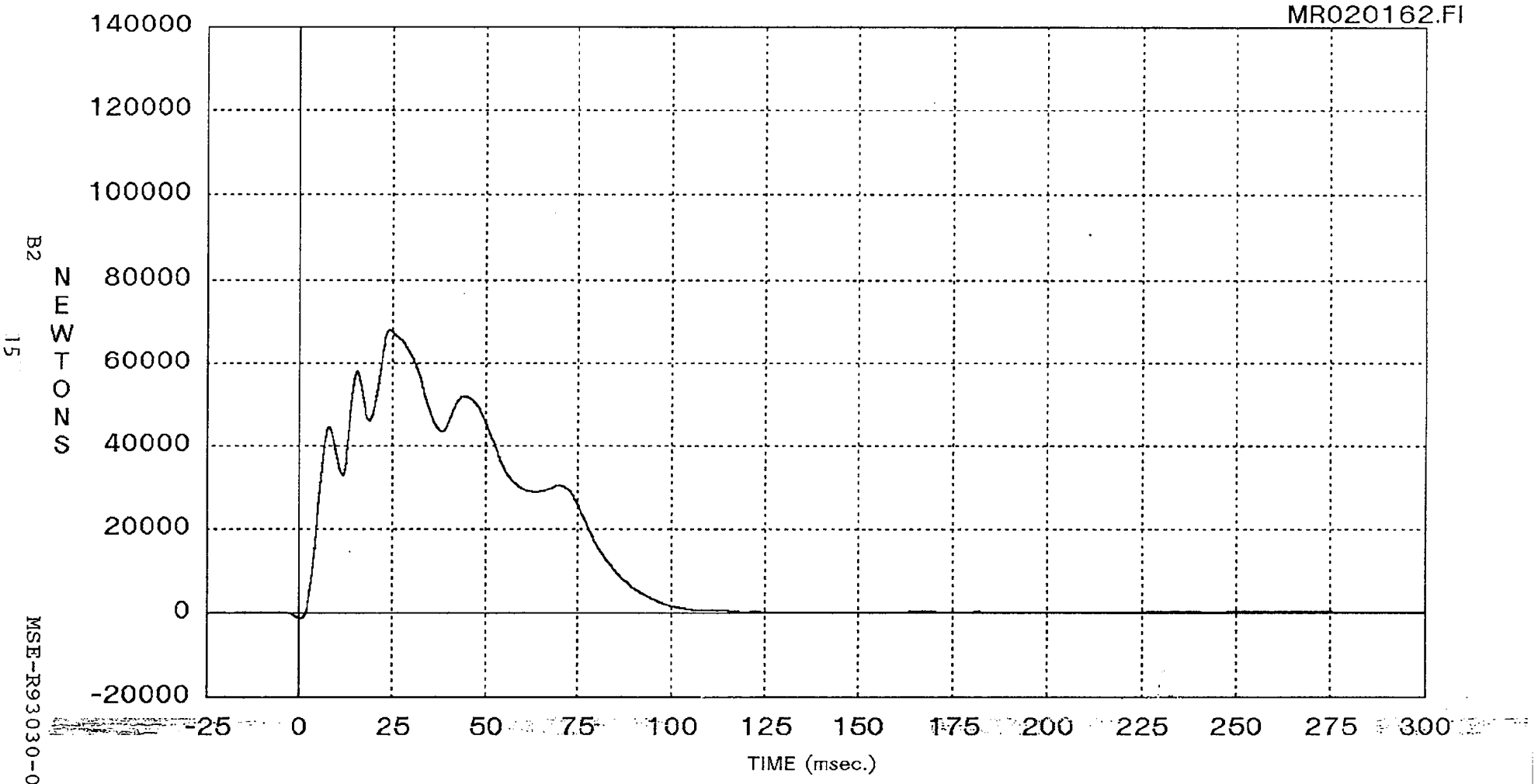
13

MSE-R93030-06



Curve: Force on barrier location B5 Filter: SAE CLASS 60 Max = 57866. Min = -116.72

MSE Date: 03/11/94 Program: 1994 New Car Assessment Vehicle: 1994 Ford Probe 2 Door Coupe



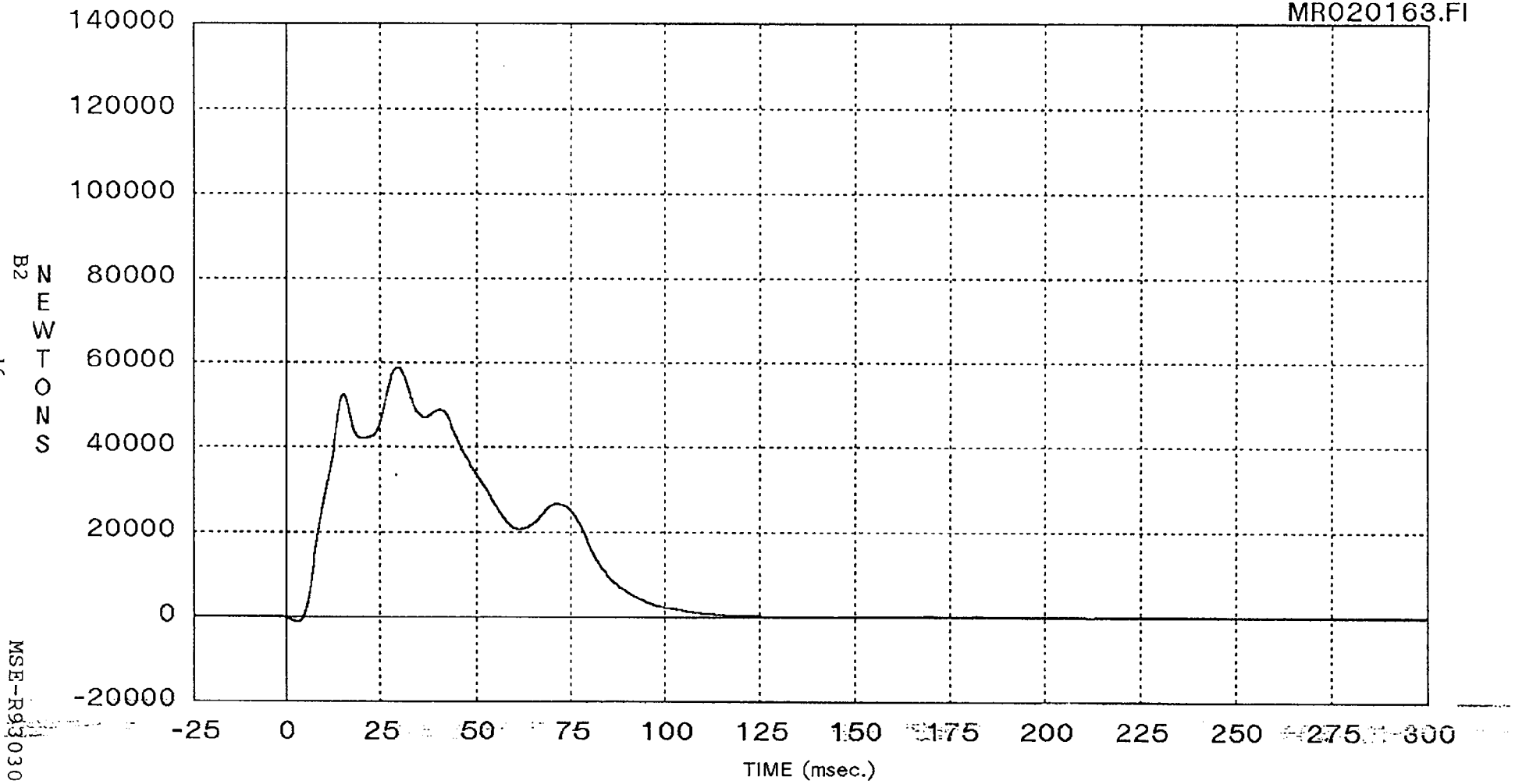
B2

15

MSE-R93030-06

Curve: Force on barrier location B6 Filter: SAE CLASS 60 Max = 68107. Min = -1386.4

MSE Date: 03/11/94 Program: 1994 New Car Assessment Vehicle: 1994 Ford Probe 2 Door Coupe



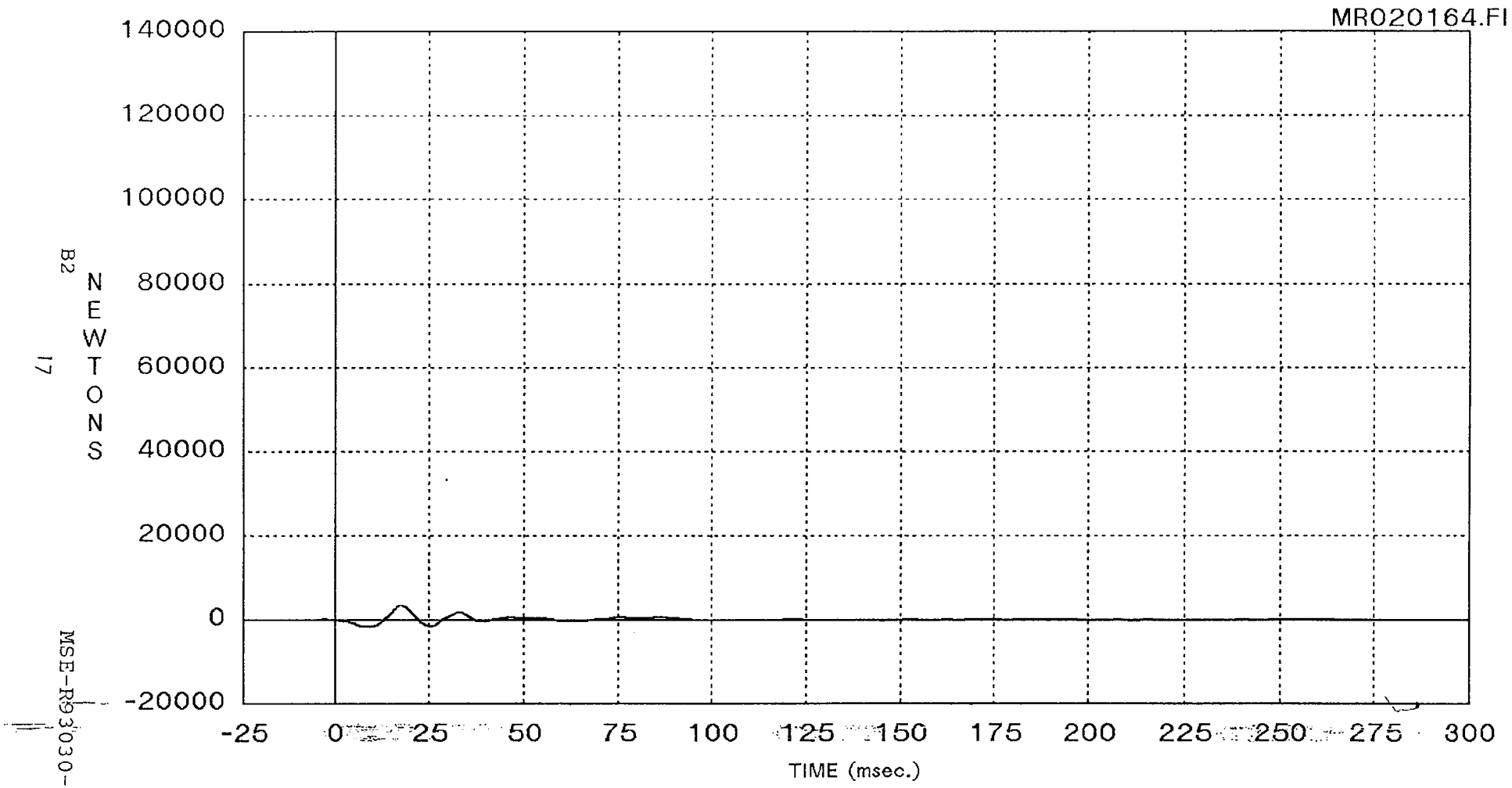
Curve: Force on barrier location B7 Filter: SAE CLASS 60 Max = 58691. Min = -1194.4

MSE Date: 03/11/94 Program: 1994 New Car Assessment Vehicle: 1994 Ford Probe 2 Door Coupe

B2

16

MSE-R93030-06



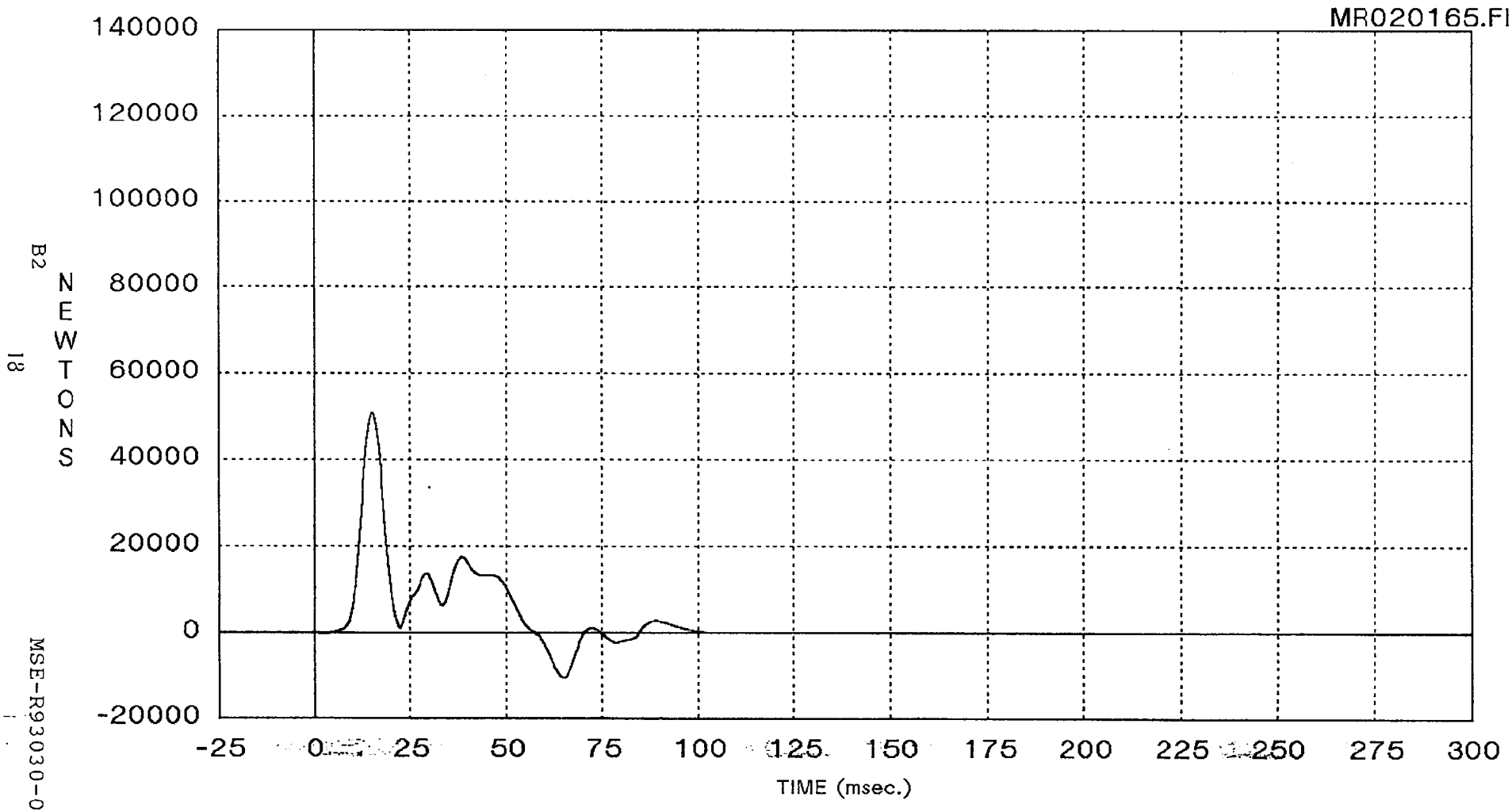
Curve: Force on barrier location B8 Filter: SAE CLASS 60 Max = 3306.4 Min = -1772.6

MSE Date: 03/11/94 Program: 1994 New Car Assessment Vehicle: 1994 Ford Probe 2 Door Coupe

B2

17

MSE-R93030-06



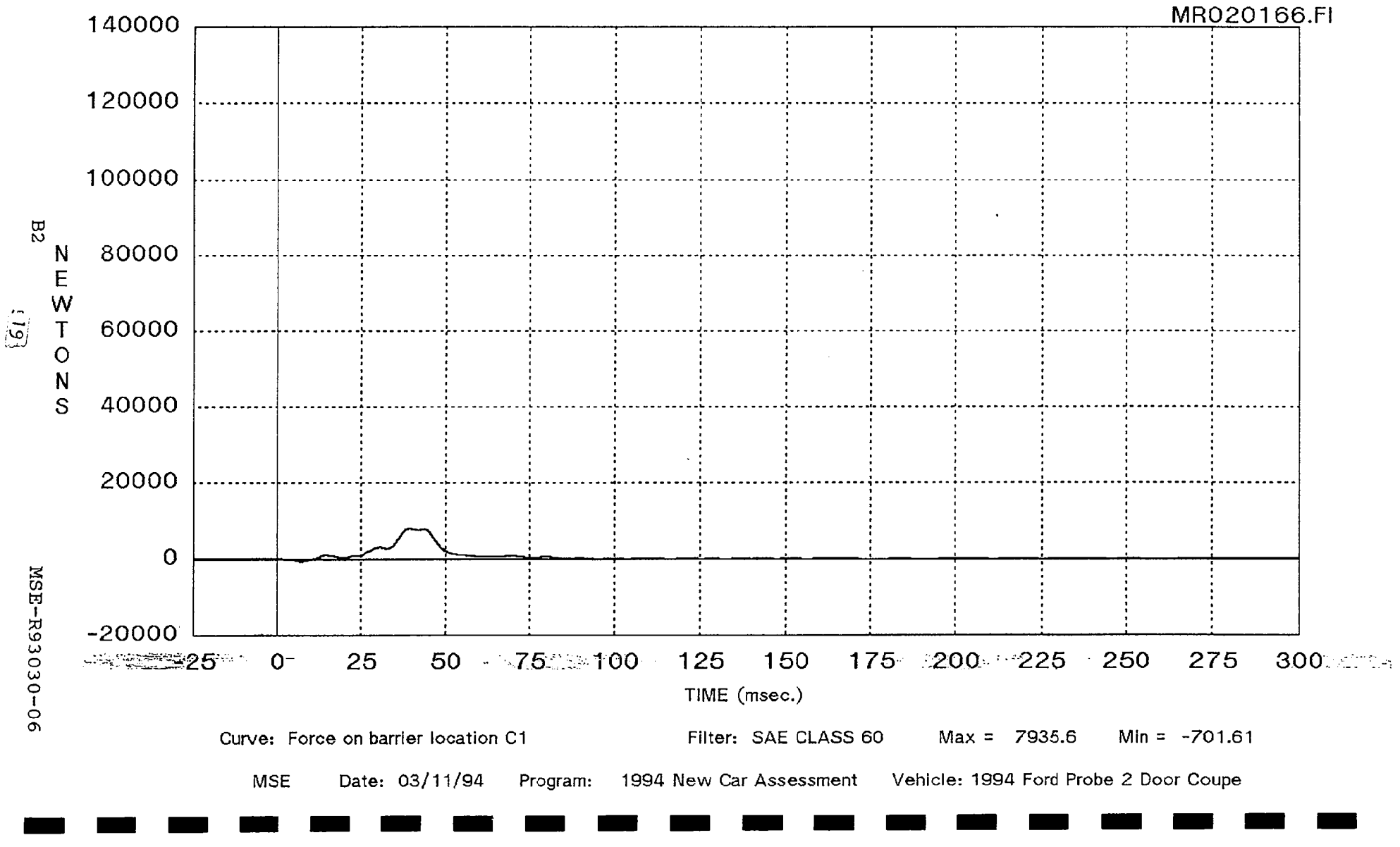
Curve: Force on barrier location B9 Filter: SAE CLASS 60 Max = 50730. Min = -10612.

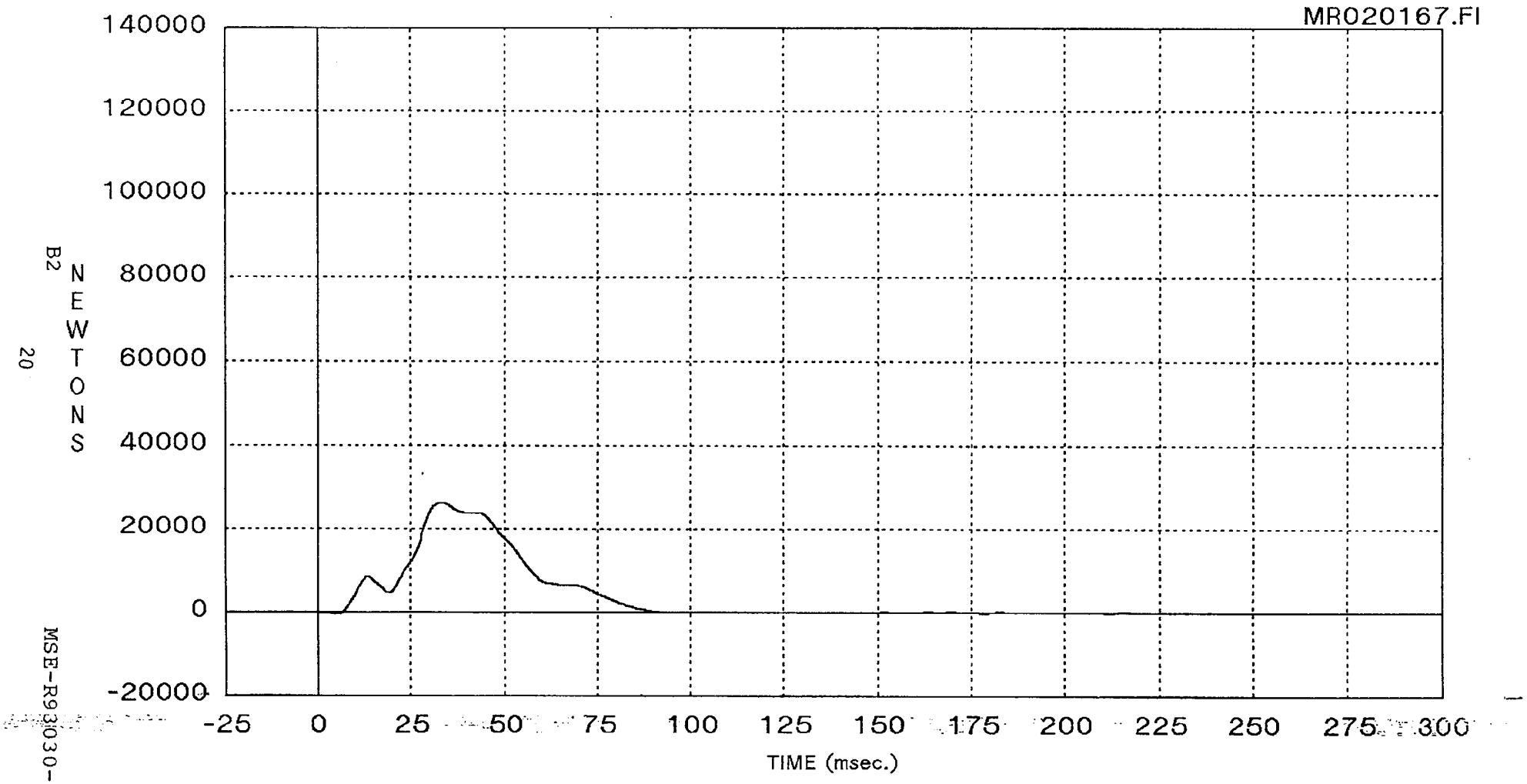
MSE Date: 03/11/94 Program: 1994 New Car Assessment Vehicle: 1994 Ford Probe 2 Door Coupe

B2

18

MSE-R93030-06


MR020166.FI
140000
120000
100000
80000
60000
40000
20000
0
-20000
NEWTONS
B2
[19]
-25
0
25
50
75
100
125
150
175
200
225
250
275
300
TIME (msec.)
MSE-R93030-06
Curve: Force on barrier location C1
Filter: SAE CLASS 60
Max = 7935.6
Min = -701.61
MSE
Date: 03/11/94
Program: 1994 New Car Assessment
Vehicle: 1994 Ford Probe 2 Door Coupe

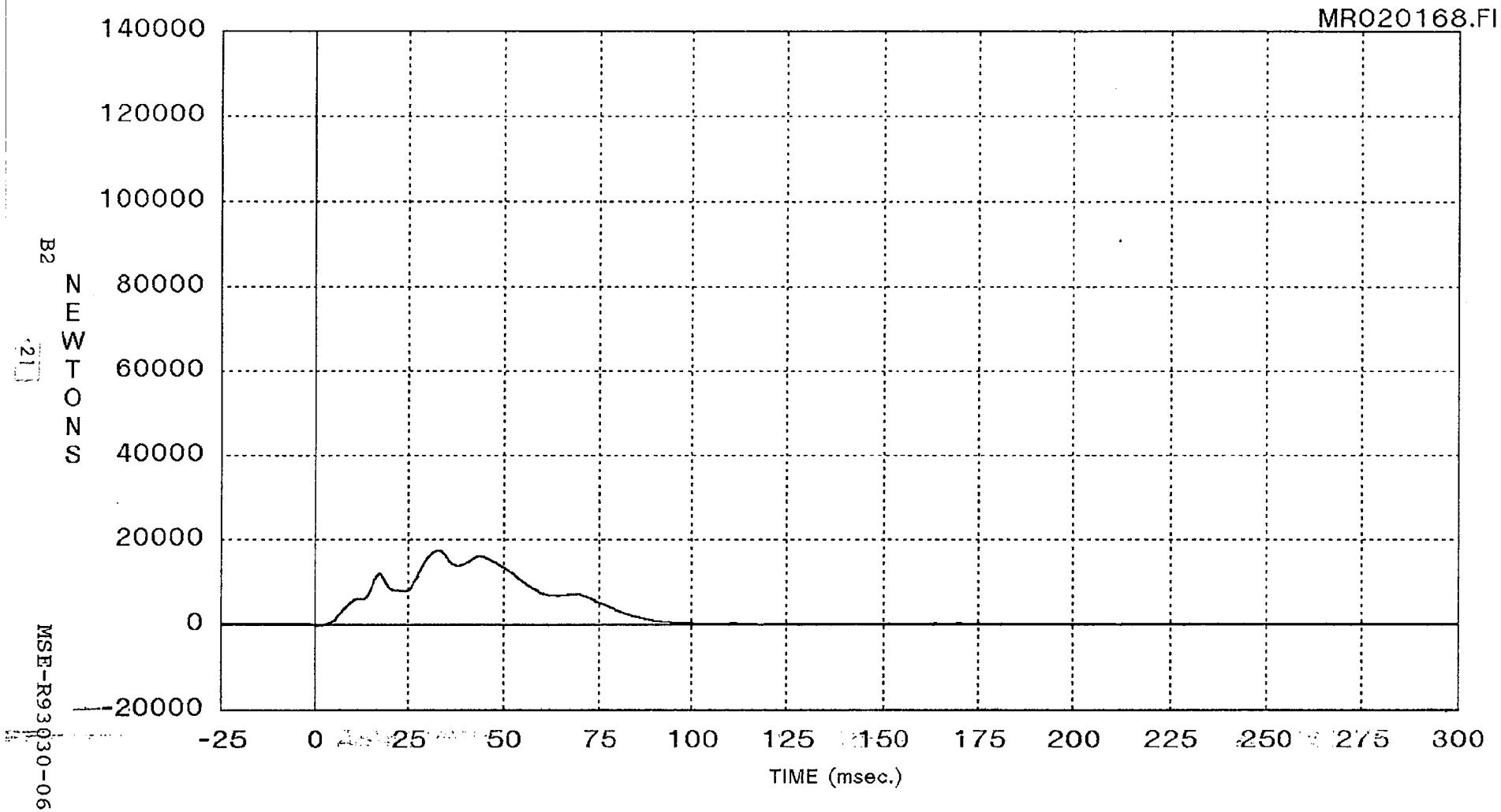


B2 20

MSE-R93030-06

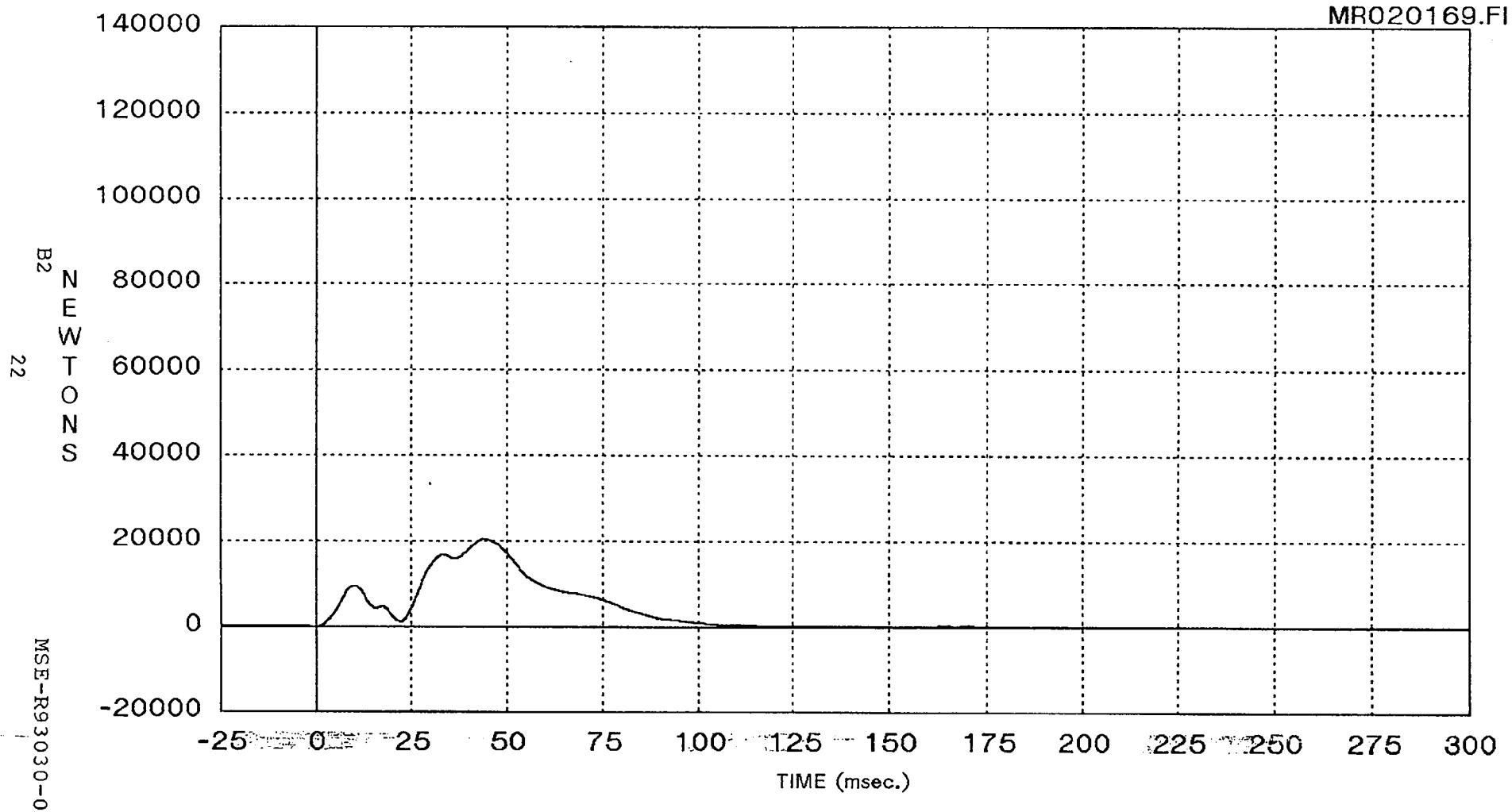
Curve: Force on barrier location C2 Filter: SAE CLASS 60 Max = 26256. Min = -555.35

MSE Date: 03/11/94 Program: 1994 New Car Assessment Vehicle: 1994 Ford Probe 2 Door Coupe



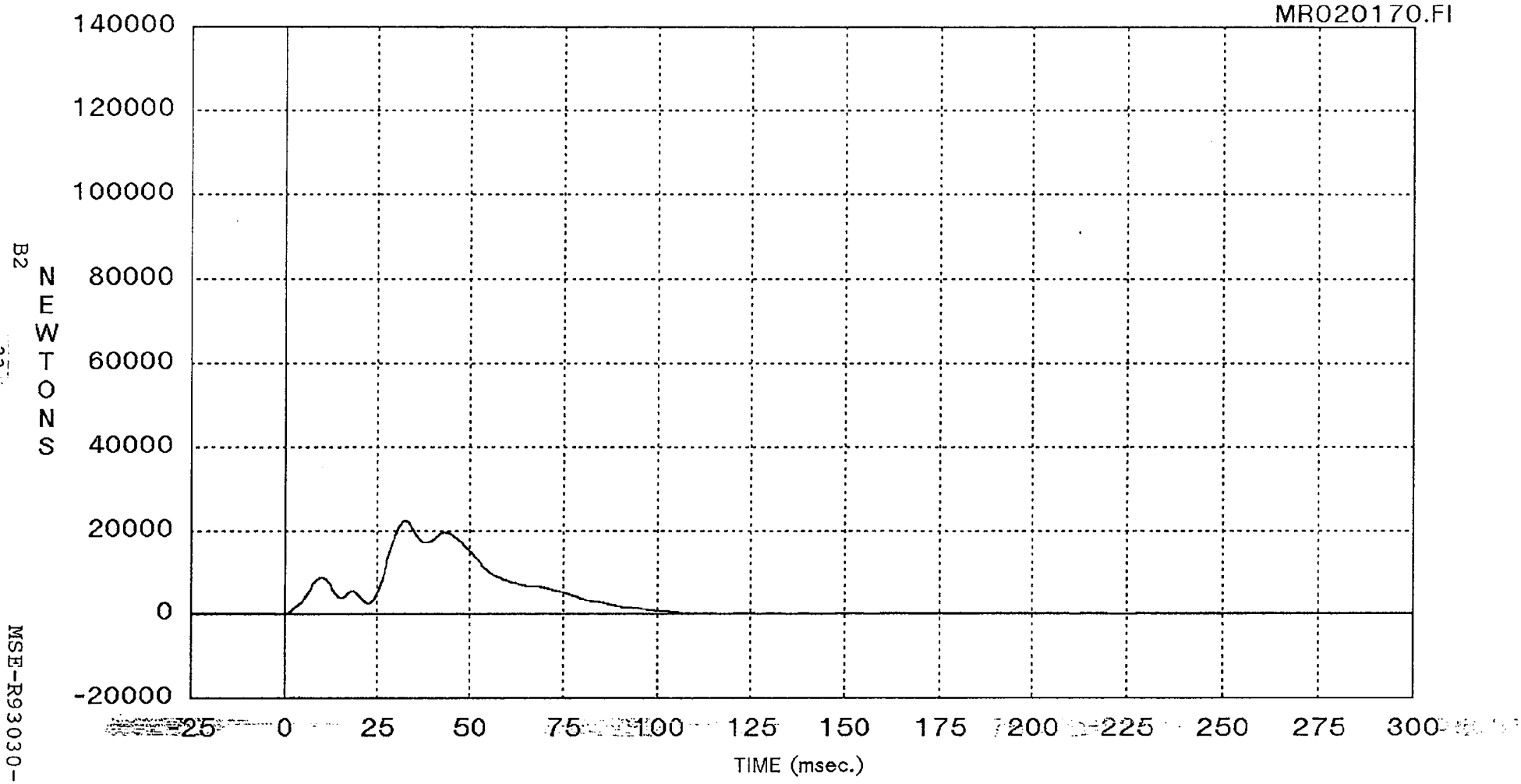
Curve: Force on barrier location C3 Filter: SAE CLASS 60 Max = 17402. Min = -318.02

MSE Date: 03/11/94 Program: 1994 New Car Assessment Vehicle: 1994 Ford Probe 2 Door Coupe



Curve: Force on barrier location C4 Filter: SAE CLASS 60 Max = 20398. Min = 41.610

MSE Date: 03/11/94 Program: 1994 New Car Assessment Vehicle: 1994 Ford Probe 2 Door Coupe



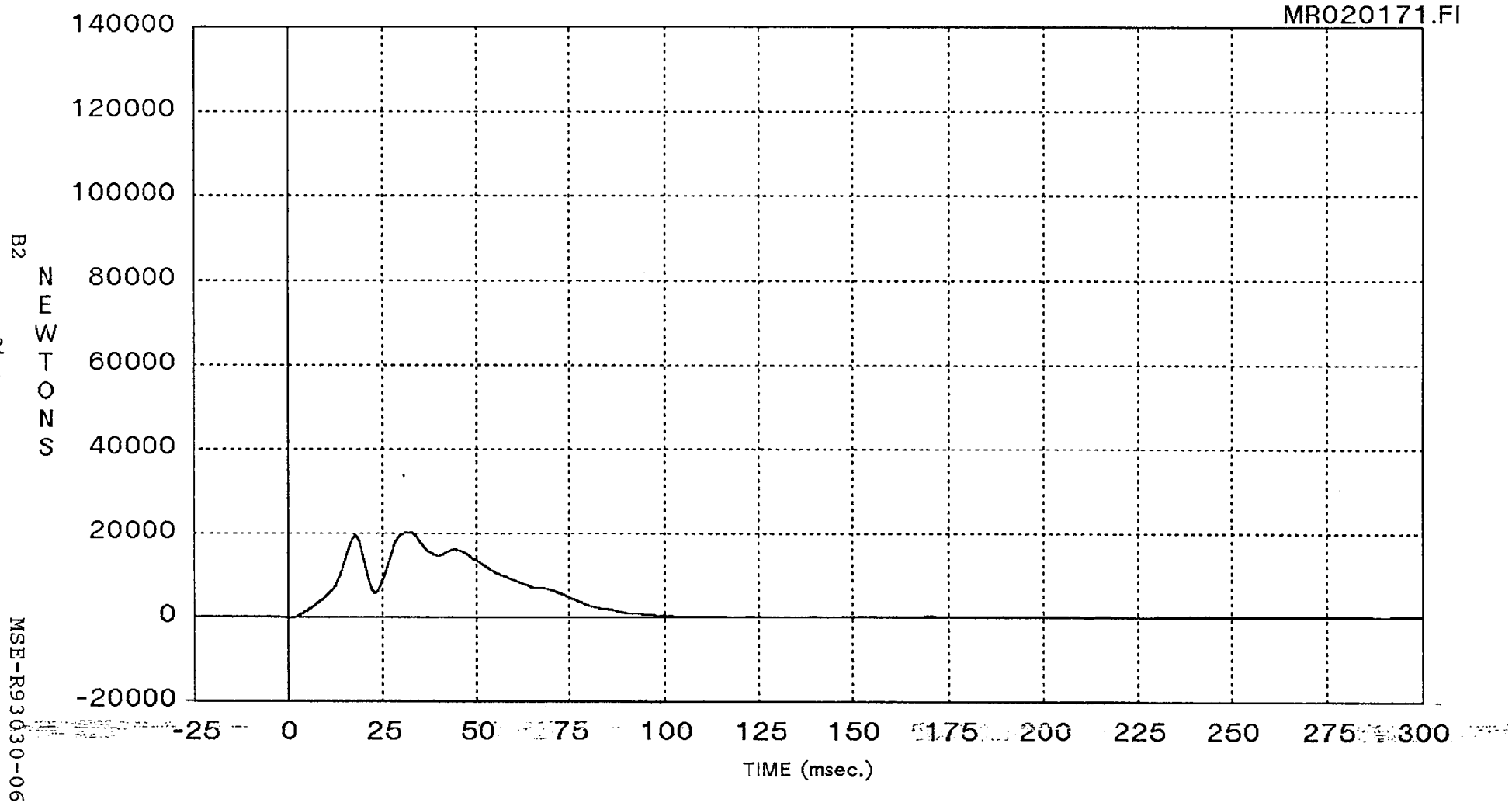
Curve: Force on barrier location C5 Filter: SAE CLASS 60 Max = 22397. Min = -109.28

MSE Date: 03/11/94 Program: 1994 New Car Assessment Vehicle: 1994 Ford Probe 2 Door Coupe

B2

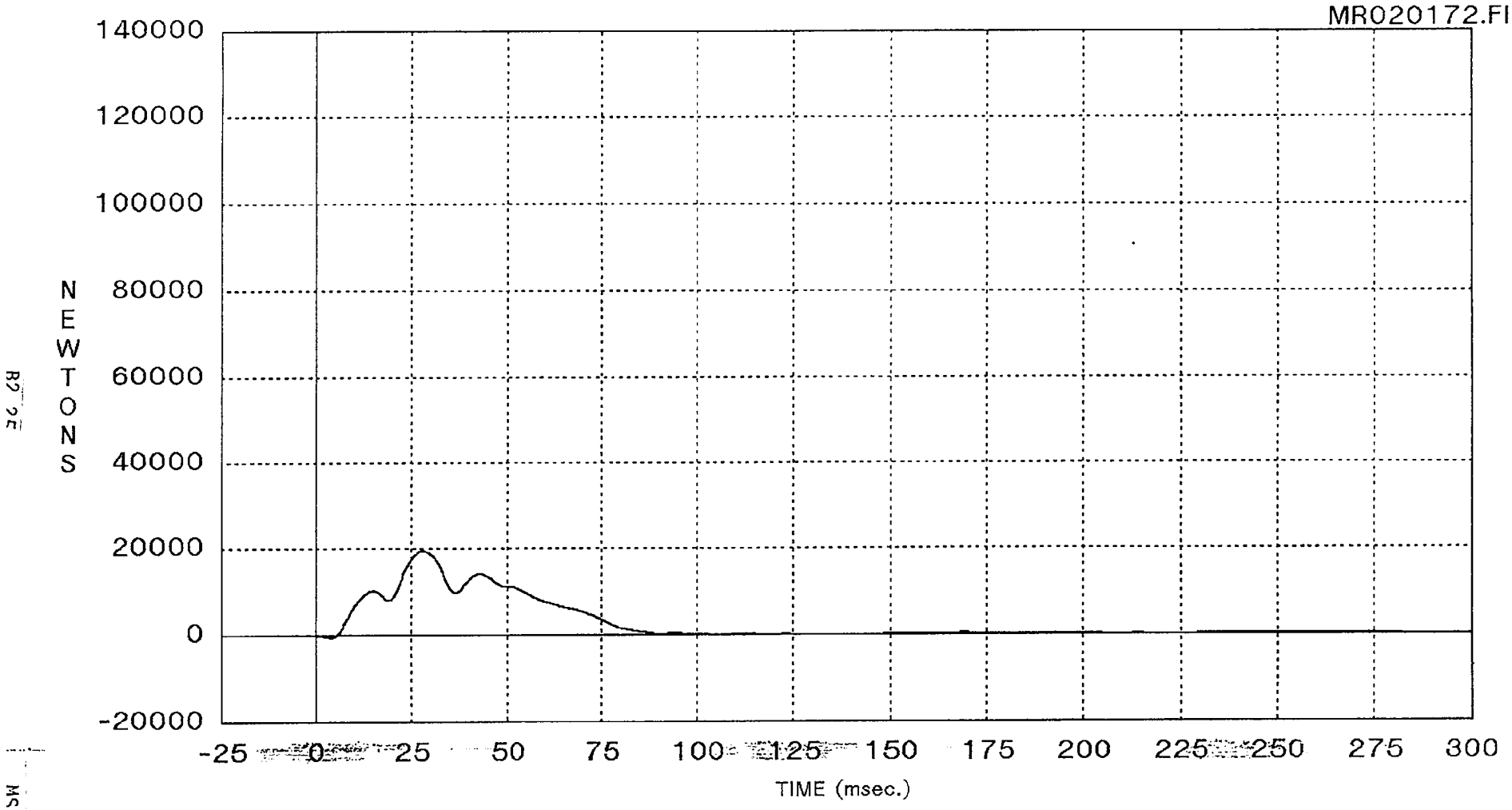
23

MSE-R93030-06



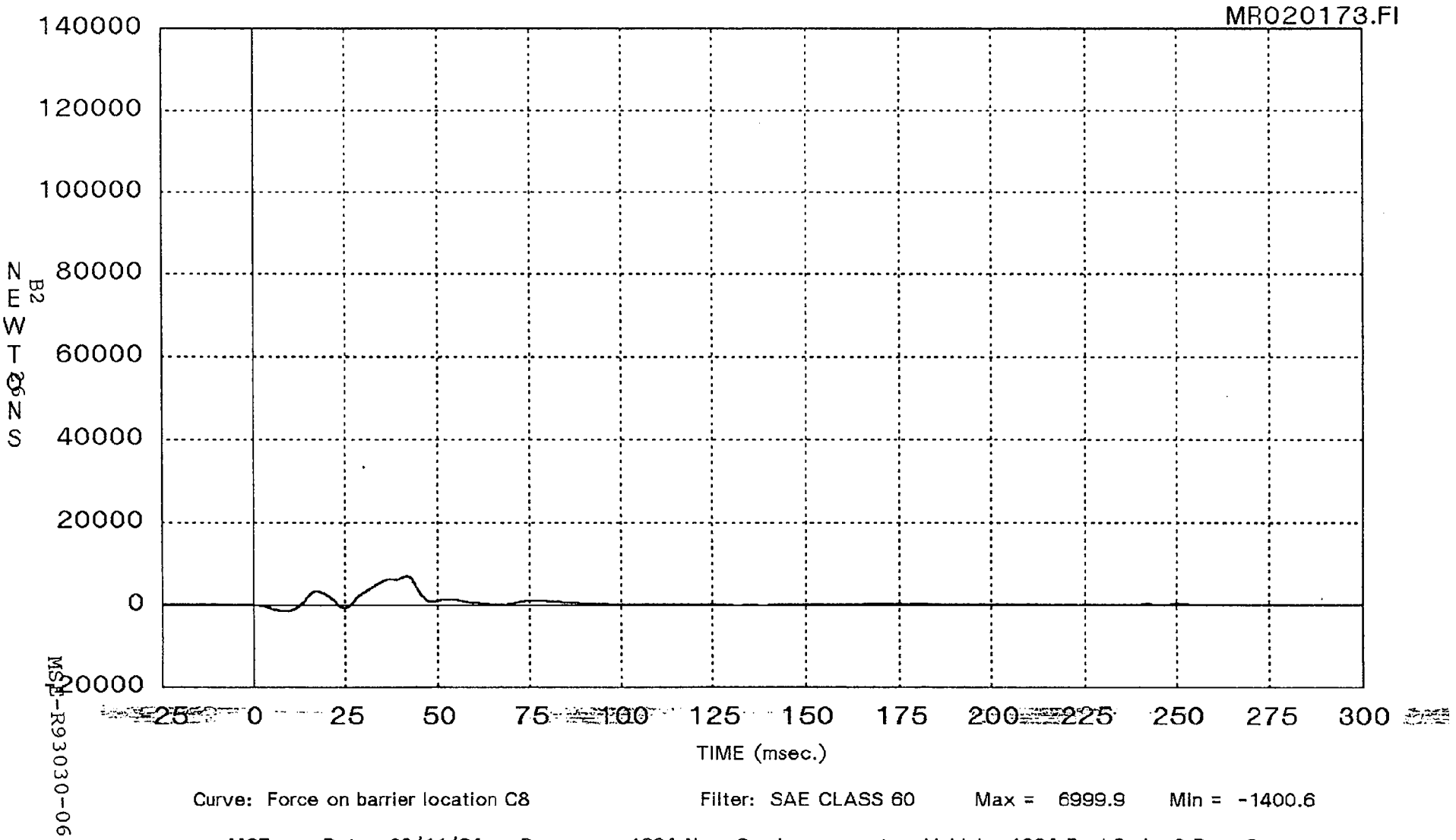
Curve: Force on barrier location C6 Filter: SAE CLASS 60 Max = 20242. Min = -279.36

MSE Date: 03/11/94 Program: 1994 New Car Assessment Vehicle: 1994 Ford Probe 2 Door Coupe

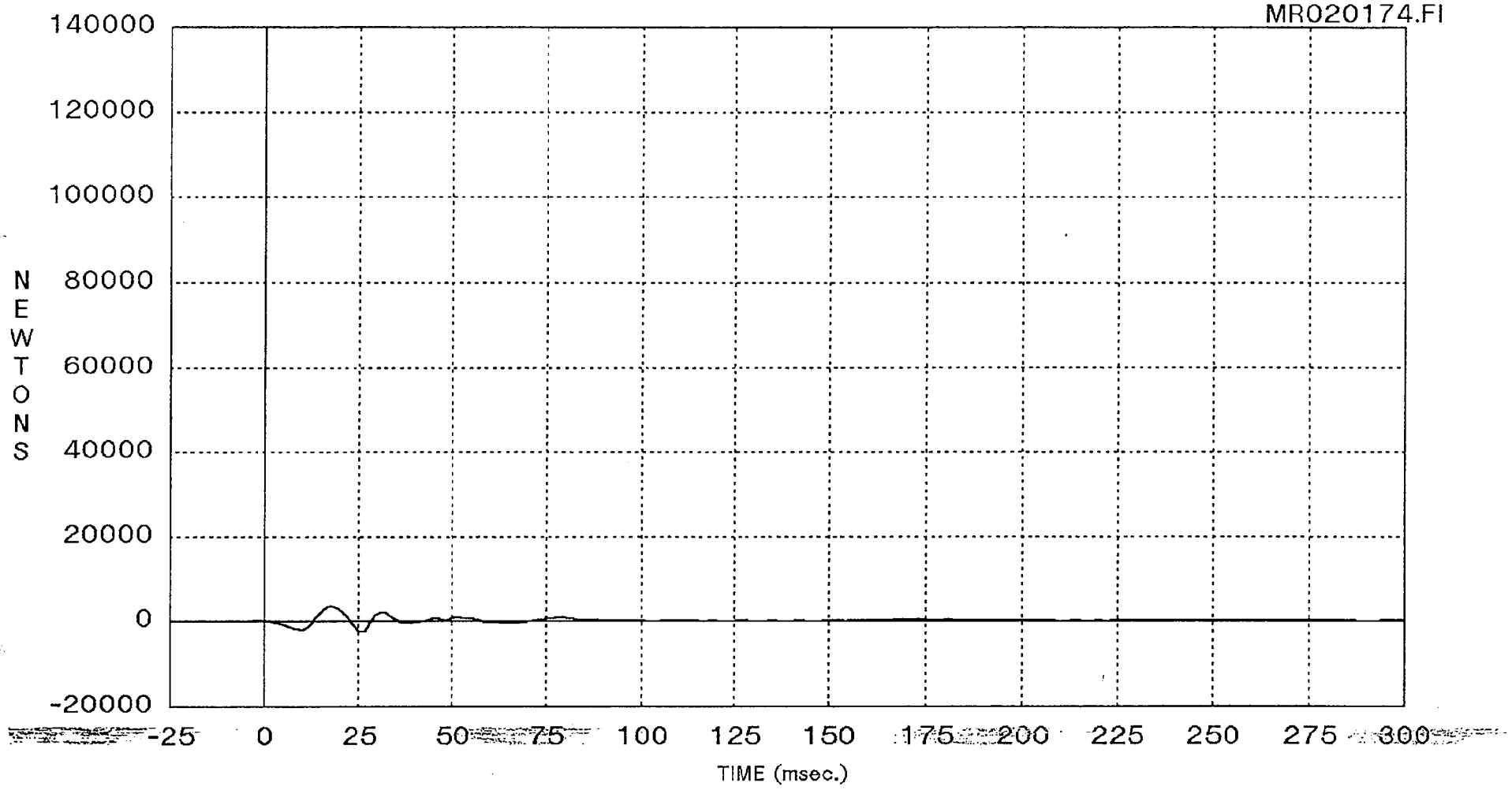


Curve: Force on barrier location C7 Filter: SAE CLASS 60 Max = 19413. Min = -695.55

MSE Date: 03/11/94 Program: 1994 New Car Assessment Vehicle: 1994 Ford Probe 2 Door Coupe



MSE-R93030-06

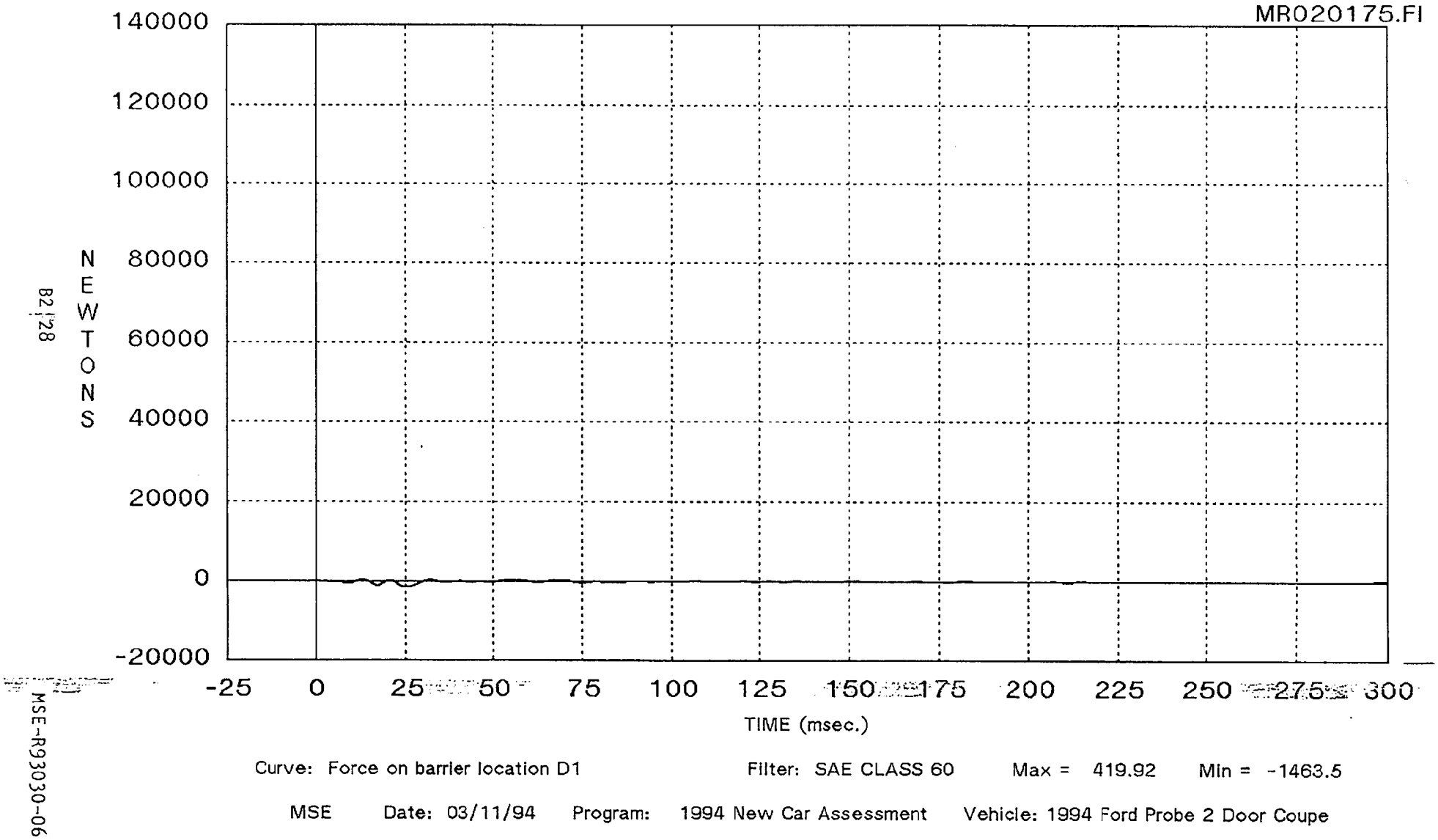


Curve: Force on barrier location C9 Filter: SAE CLASS 60 Max = 3427.2 Min = -2672.3

MSE Date: 03/11/94 Program: 1994 New Car Assessment Vehicle: 1994 Ford Probe 2 Door Coupe

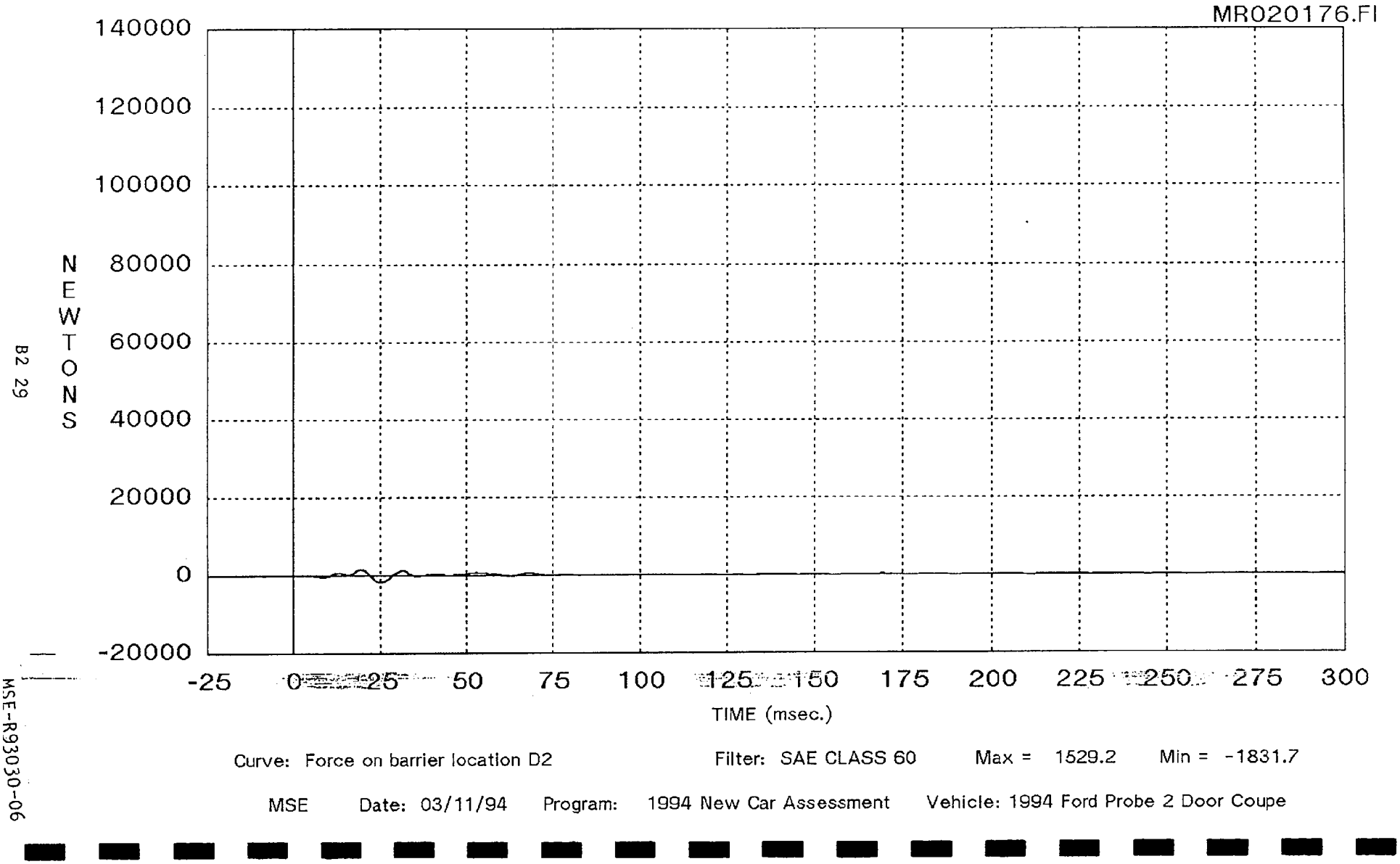
B2 27

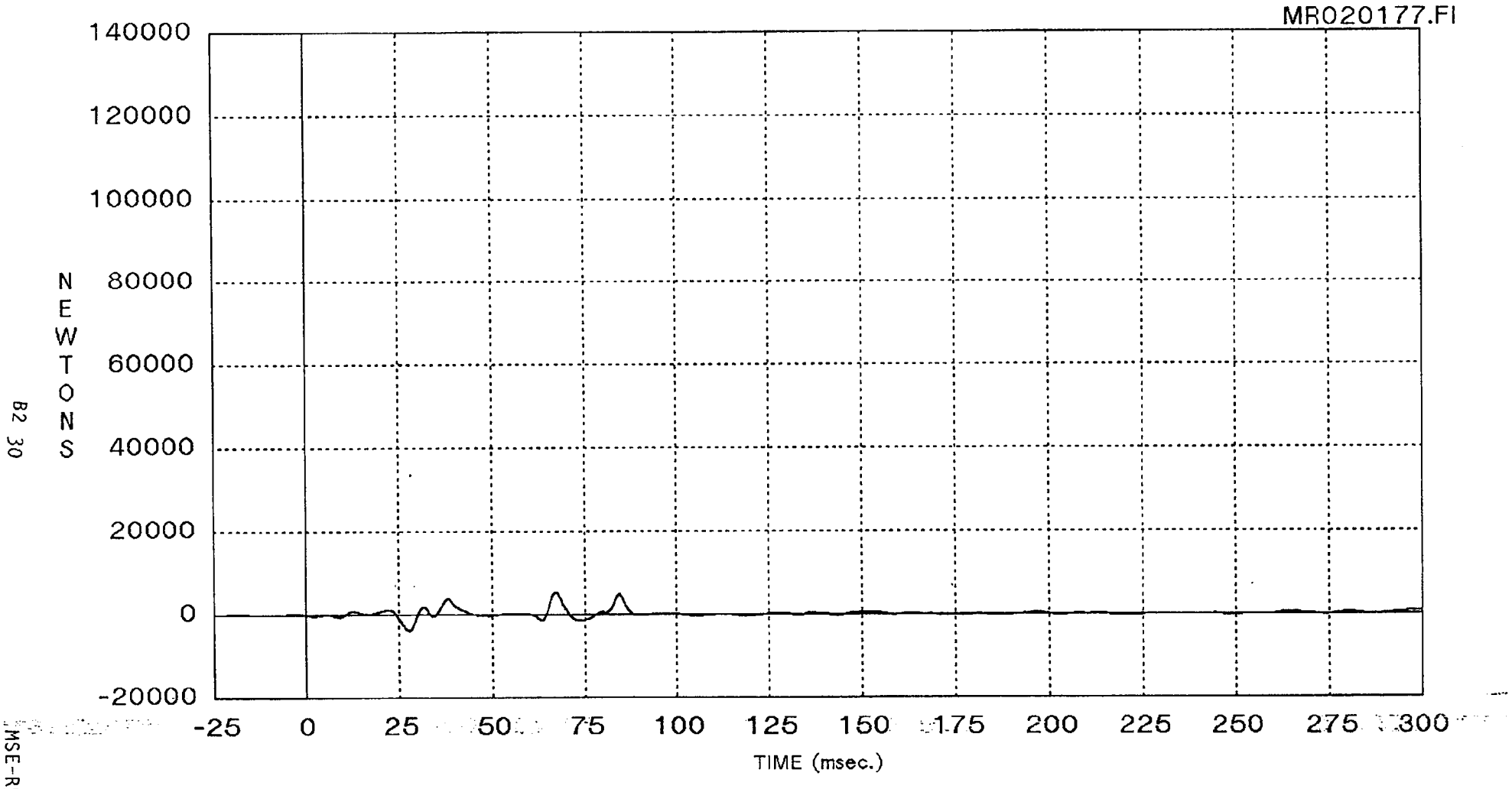
MSE-R93030-06



Curve: Force on barrier location D1 Filter: SAE CLASS 60 Max = 419.92 Min = -1463.5

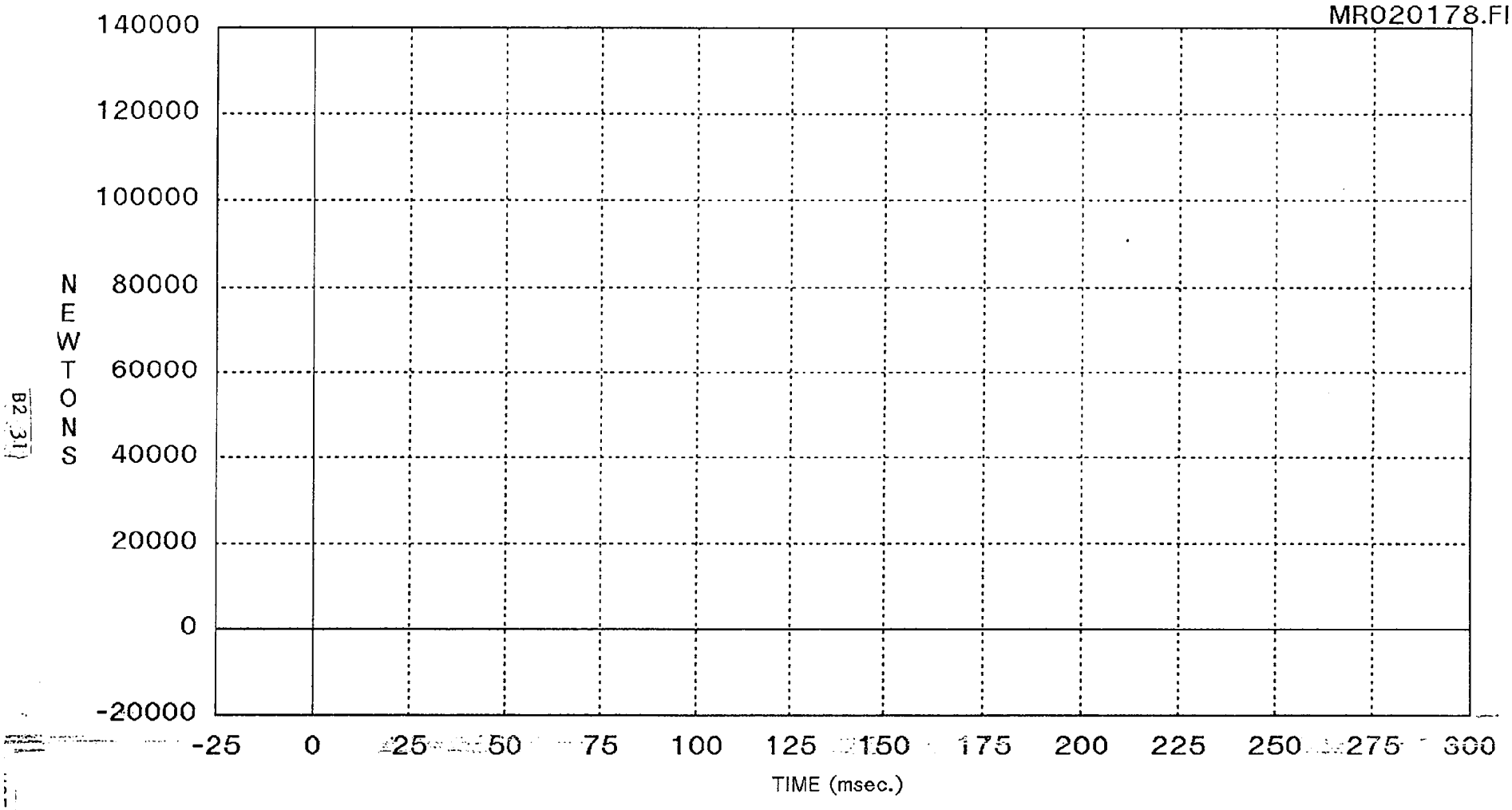
MSE Date: 03/11/94 Program: 1994 New Car Assessment Vehicle: 1994 Ford Probe 2 Door Coupe

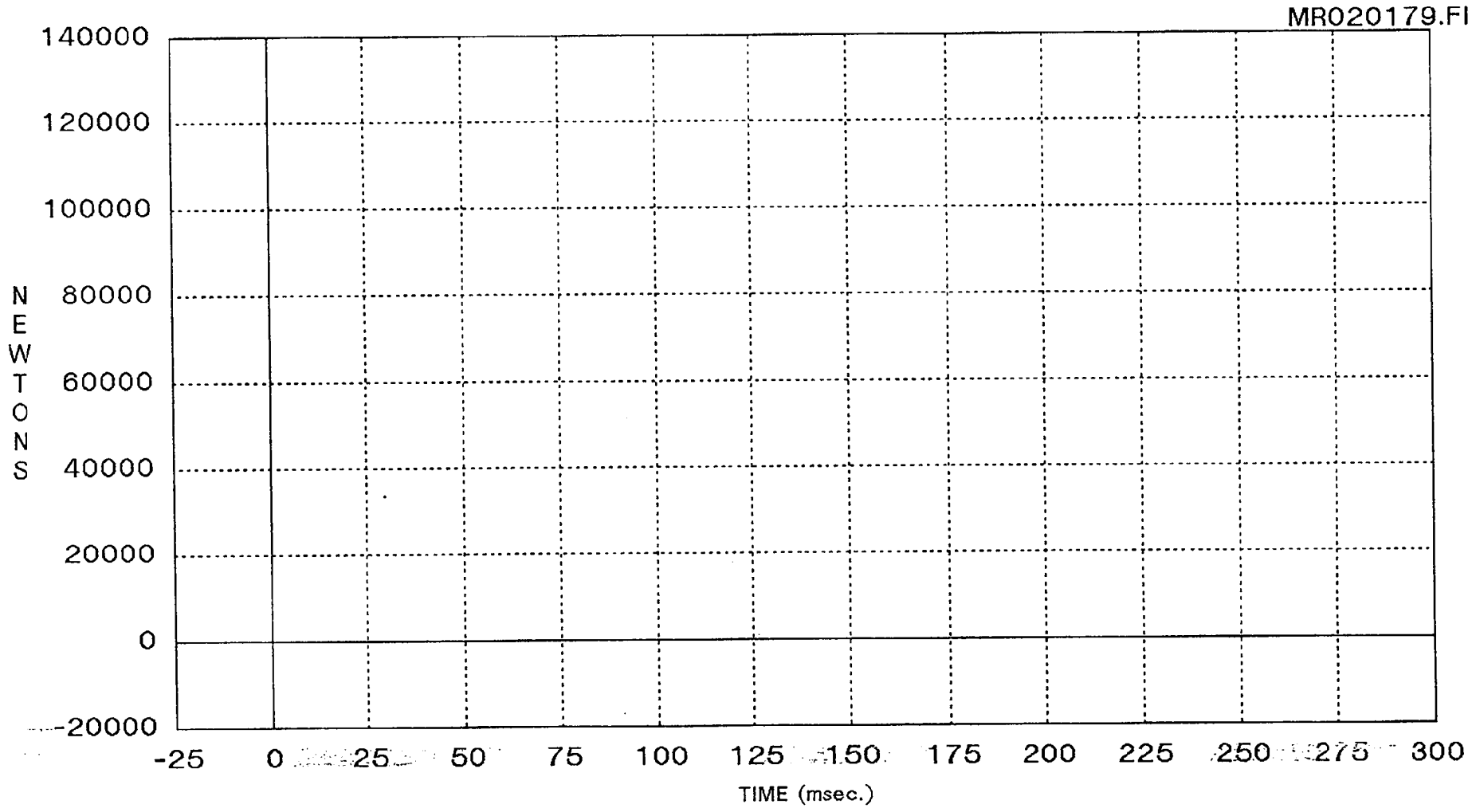

MR020176.FI
140000
120000
100000
80000
60000
40000
20000
0
-20000
NEWTONS
-25
0
25
50
75
100
125
150
175
200
225
250
275
300
TIME (msec.)
B2 29
MSE-R93030-06
Curve: Force on barrier location D2
Filter: SAE CLASS 60
Max = 1529.2
Min = -1831.7
MSE
Date: 03/11/94
Program: 1994 New Car Assessment
Vehicle: 1994 Ford Probe 2 Door Coupe



Curve: Force on barrier location D3 Filter: SAE CLASS 60 Max = 5092.0 Min = -3890.6

MSE Date: 03/11/94 Program: 1994 New Car Assessment Vehicle: 1994 Ford Probe 2 Door Coupe


MR020178.FI
140000
120000
100000
80000
60000
40000
20000
0
-20000
NEWTONS
-25
0
25
50
75
100
125
150
175
200
225
250
275
300
TIME (msec.)
Curve: Force on barrier location D4 (No Data)
Filter: SAE CLASS 60
Max = .00000
Min = .00000
MSE
Date: 03/11/94
Program: 1994 New Car Assessment
Vehicle: 1994 Ford Probe 2 Door Coupe

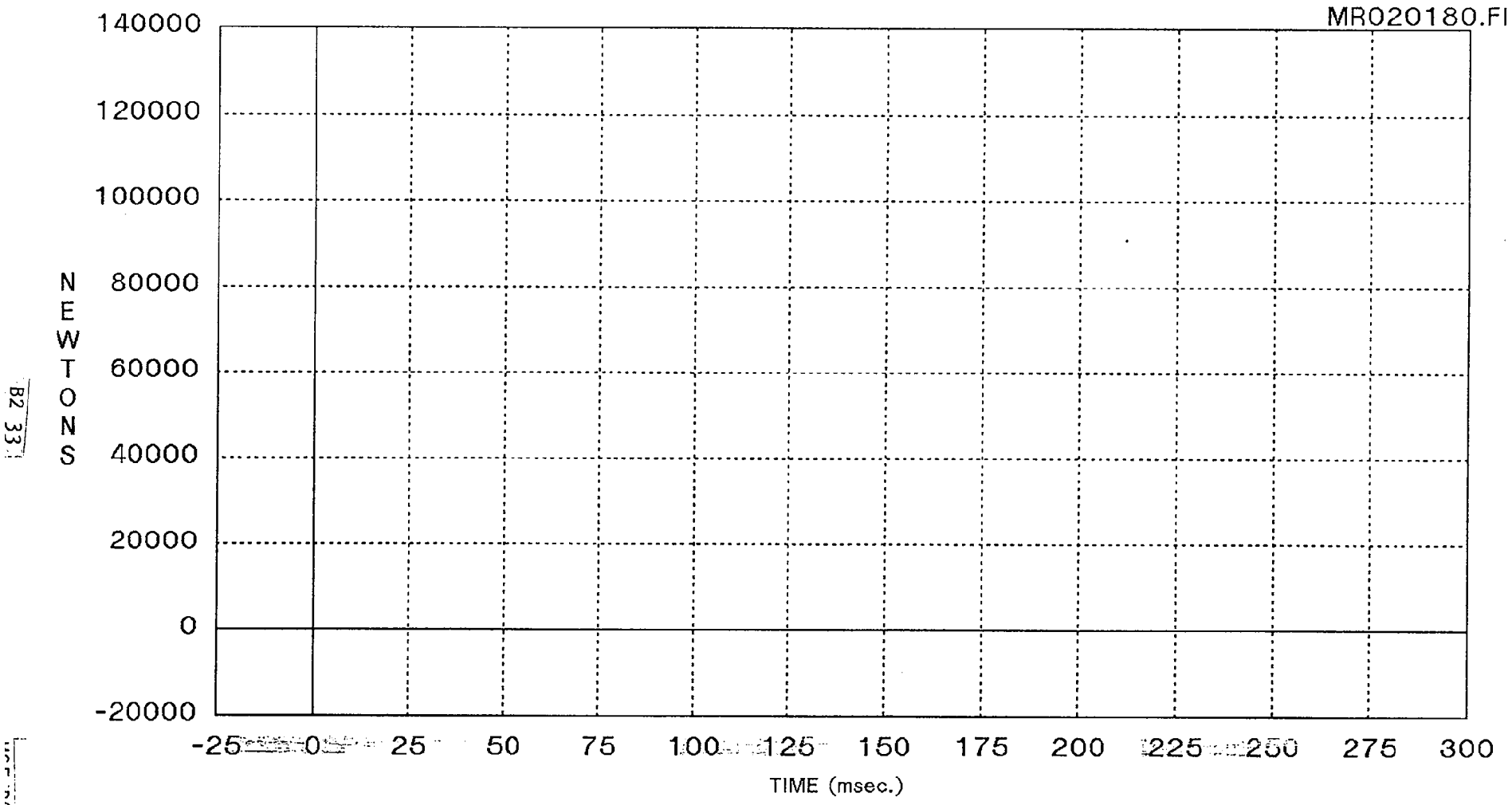


Curve: Force on barrier location D5 (No Data) Filter: SAE CLASS 60 Max = .00000 Min = .00000

MSE Date: 03/11/94 Program: 1994 New Car Assessment Vehicle: 1994 Ford Probe 2 Door Coupe

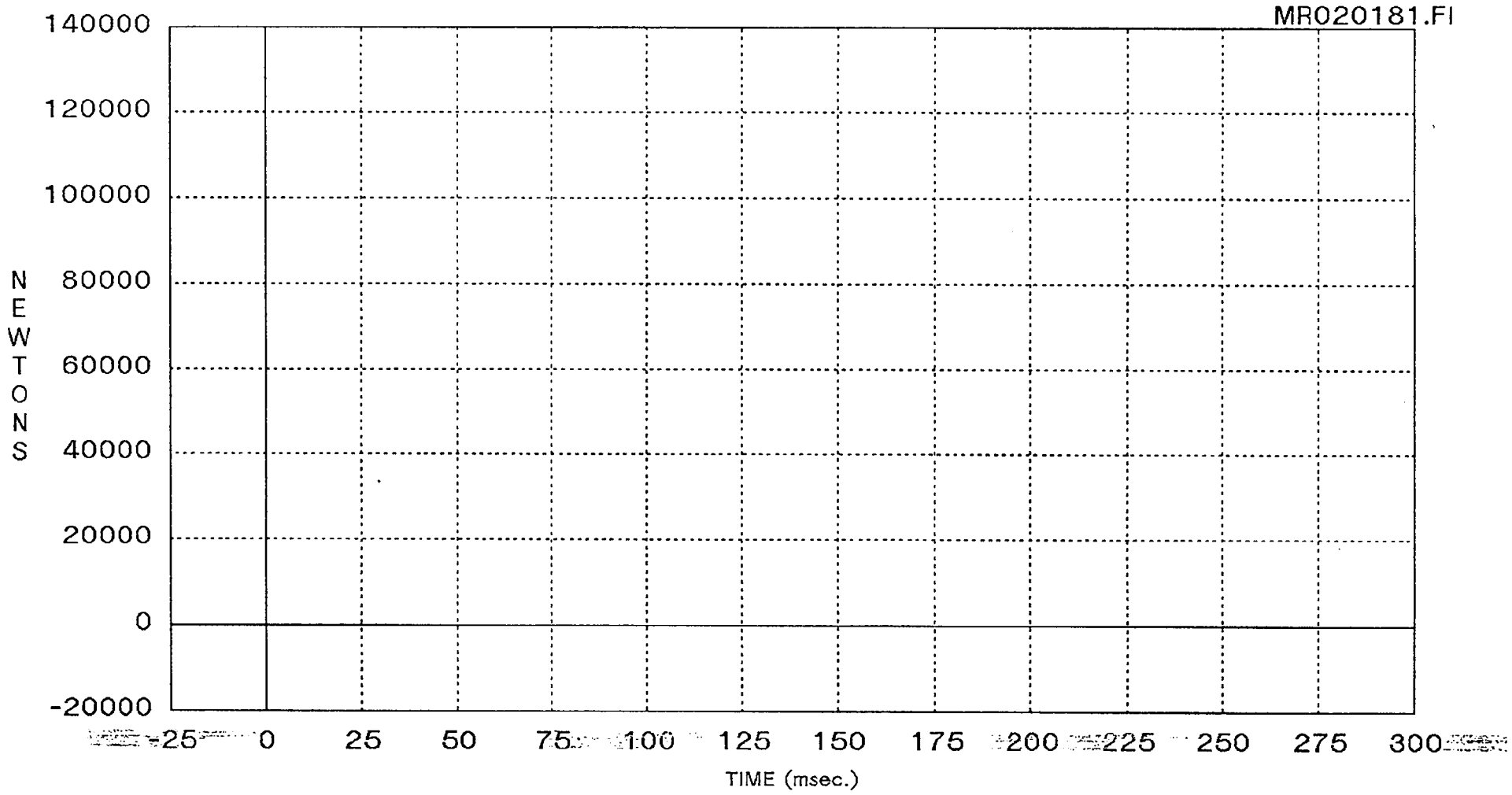
B2 32

MSE-R93030-06



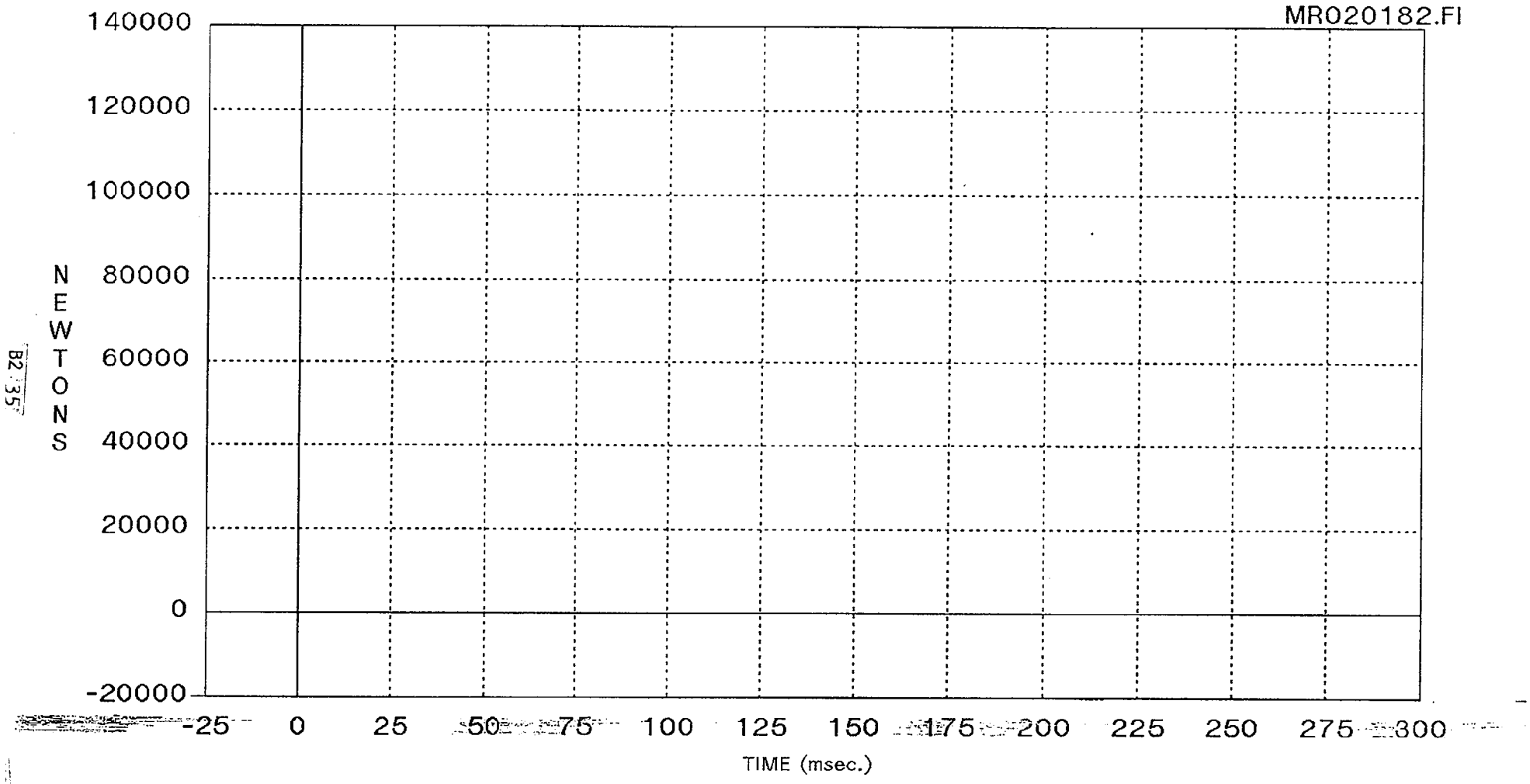
Curve: Force on barrier location D6 (No Data) Filter: SAE CLASS 60 Max = .00000 Min = .00000

MSE Date: 03/11/94 Program: 1994 New Car Assessment Vehicle: 1994 Ford Probe 2 Door Coupe



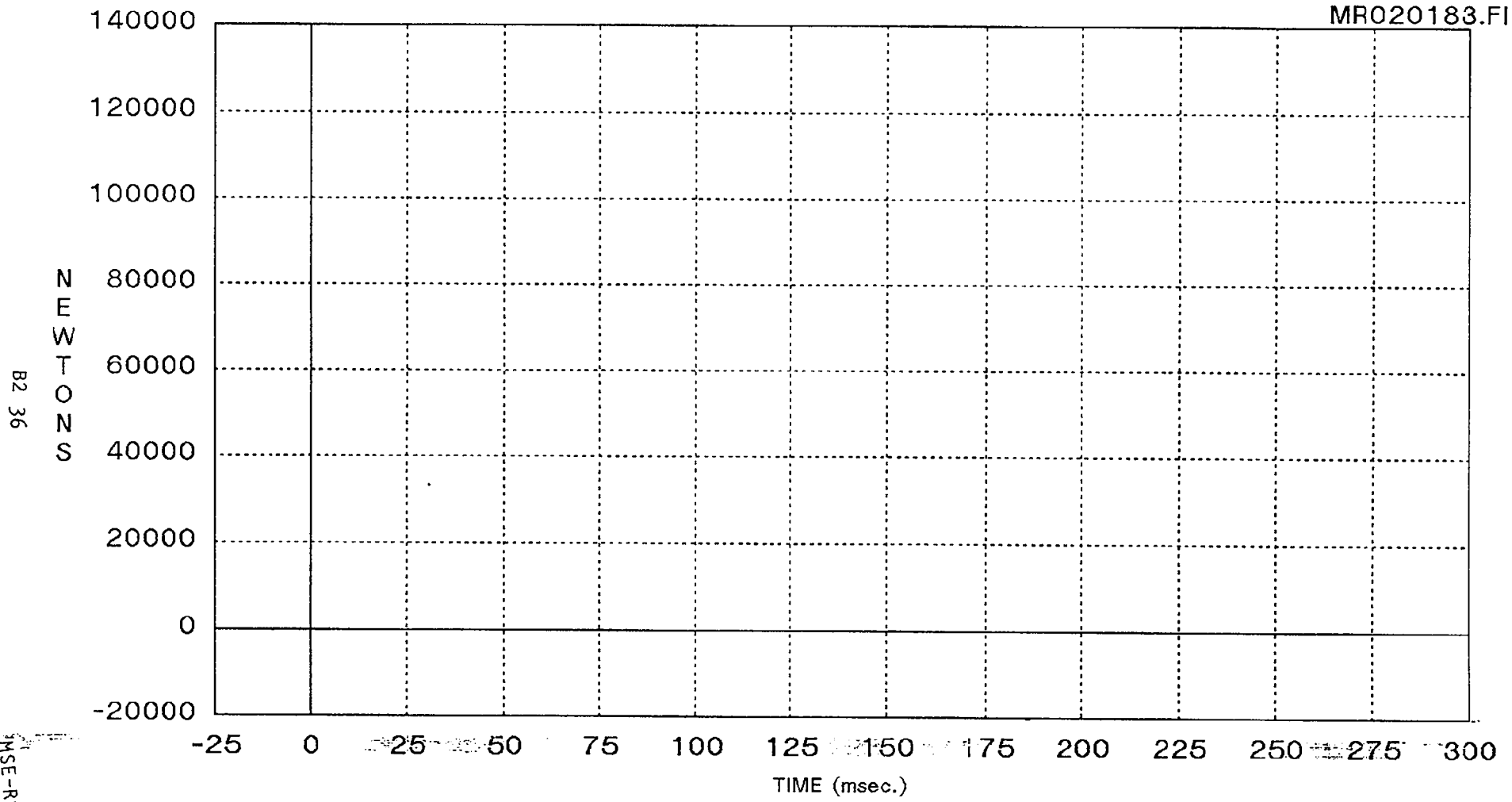
Curve: Force on barrier location D7 (No Data) Filter: SAE CLASS 60 Max = .00000 Min = .00000

MSE Date: 03/11/94 Program: 1994 New Car Assessment Vehicle: 1994 Ford Probe 2 Door Coupe



Curve: Force on barrier location D8 (No Data) Filter: SAE CLASS 60 Max = .00000 Min = .00000

MSE Date: 03/11/94 Program: 1994 New Car Assessment Vehicle: 1994 Ford Probe 2 Door Coupe

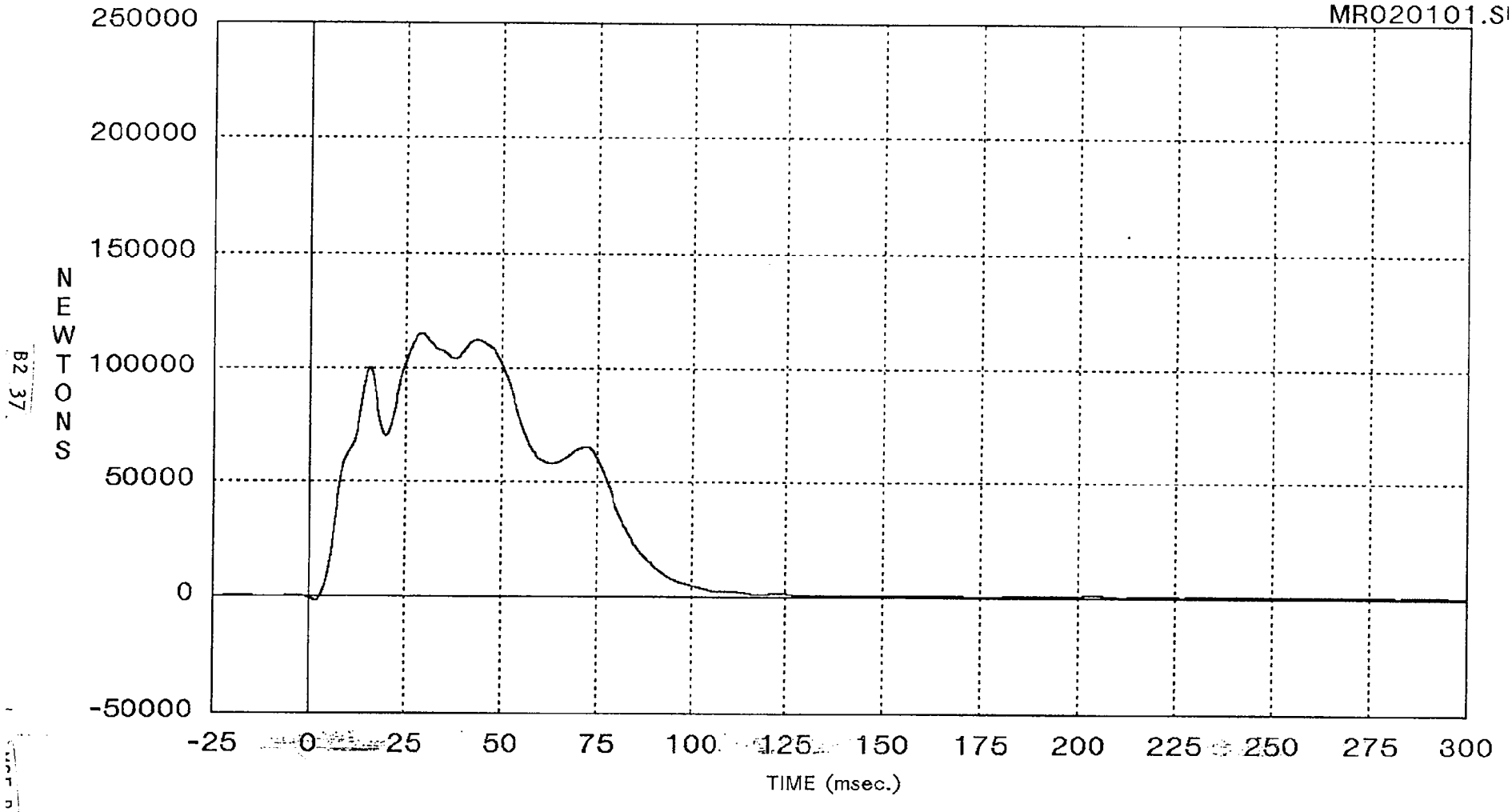


Curve: Force on barrier location D9 (No Data) Filter: SAE CLASS 60 Max = .00000 Min = .00000

MSE Date: 03/11/94 Program: 1994 New Car Assessment Vehicle: 1994 Ford Probe 2 Door Coupe

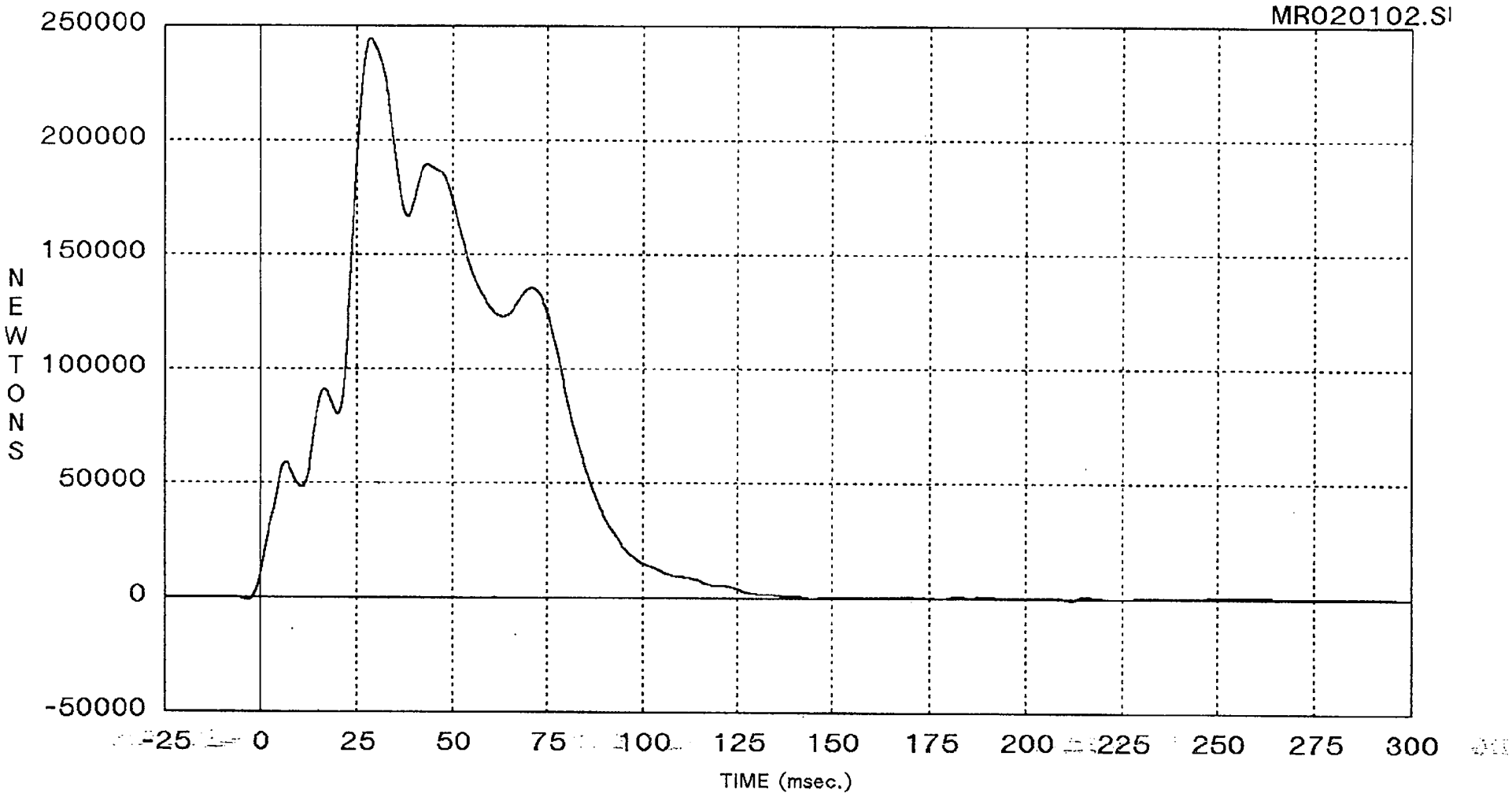
B2 36

MSE-R93030-06



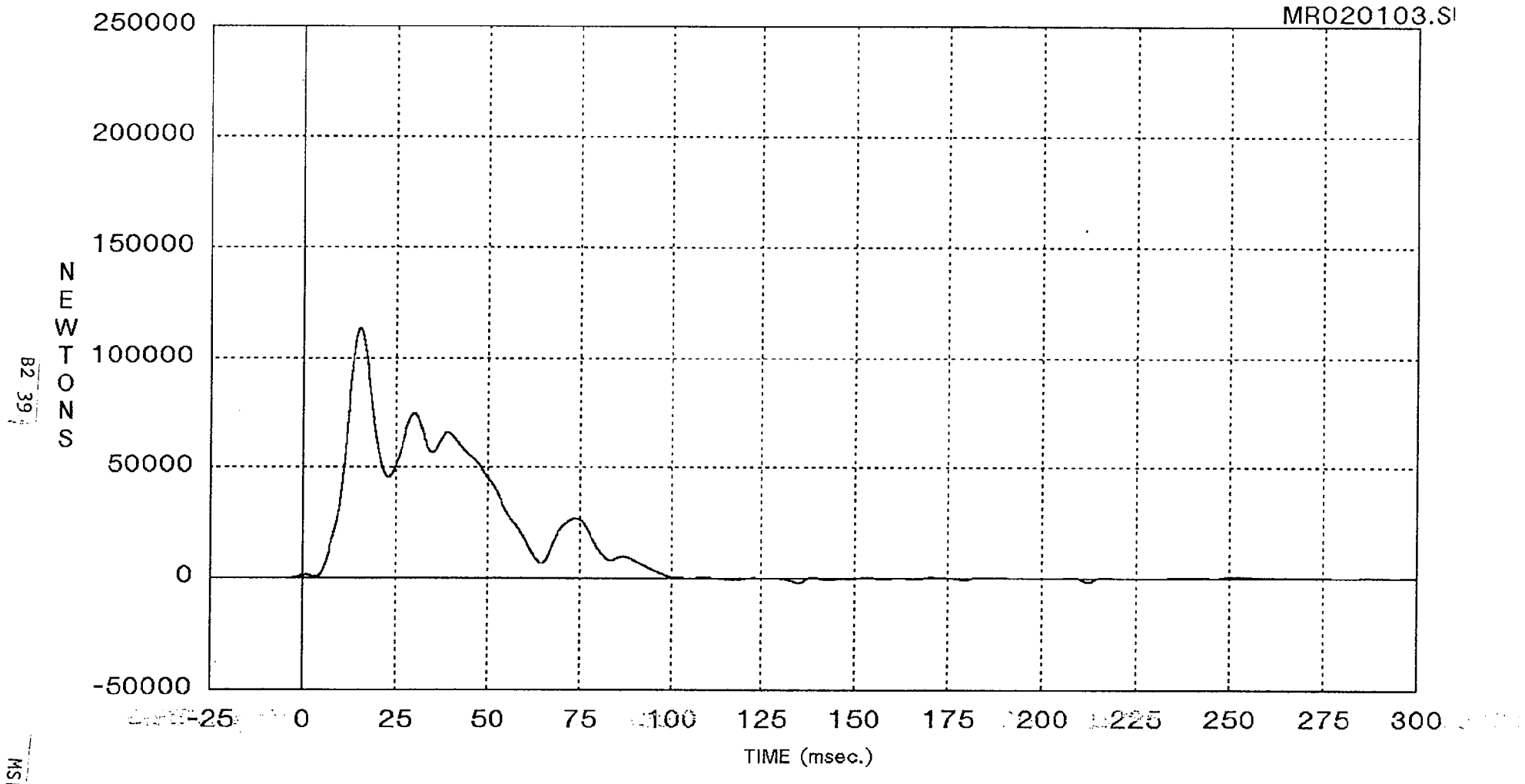
Curve: Barrier sum force A1,A2,A3,B1,B2,B3 -- Group 1 Filter: SAE CLASS 60 Max = .11511E+06 Min = -1673.8

MSE Date: 03/11/94 Program: New Car Assessment Program Vehicle: 1994 Ford Probe 2 Door Coupe



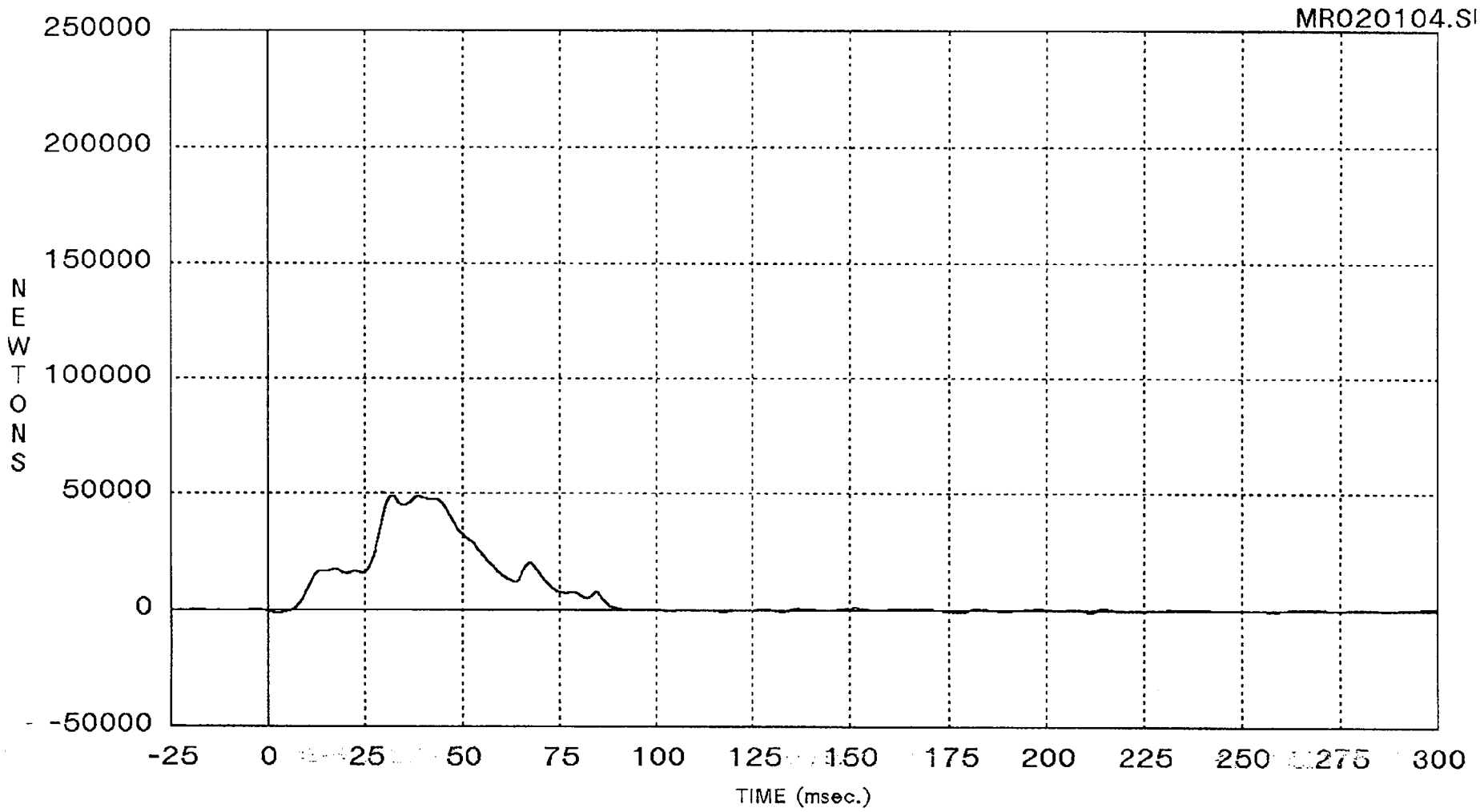
Curve: Barrier sum force A4,A5,A6,B4,B5,B6 -- Group 2 Filter: SAE CLASS 60 Max = .24460E+06 Min = -698.90

MSE Date: 03/11/94 Program: New Car Assessment Program Vehicle: 1994 Ford Probe 2 Door Coupe



Curve: Barrier sum force A7,A8,A9,B7,B8,B9 -- Group 3 Filter: SAE CLASS 60 Max = .11358E+06 Min = -2271.5

MSE Date: 03/11/94 Program: New Car Assessment Program Vehicle: 1994 Ford Probe 2 Door Coupe

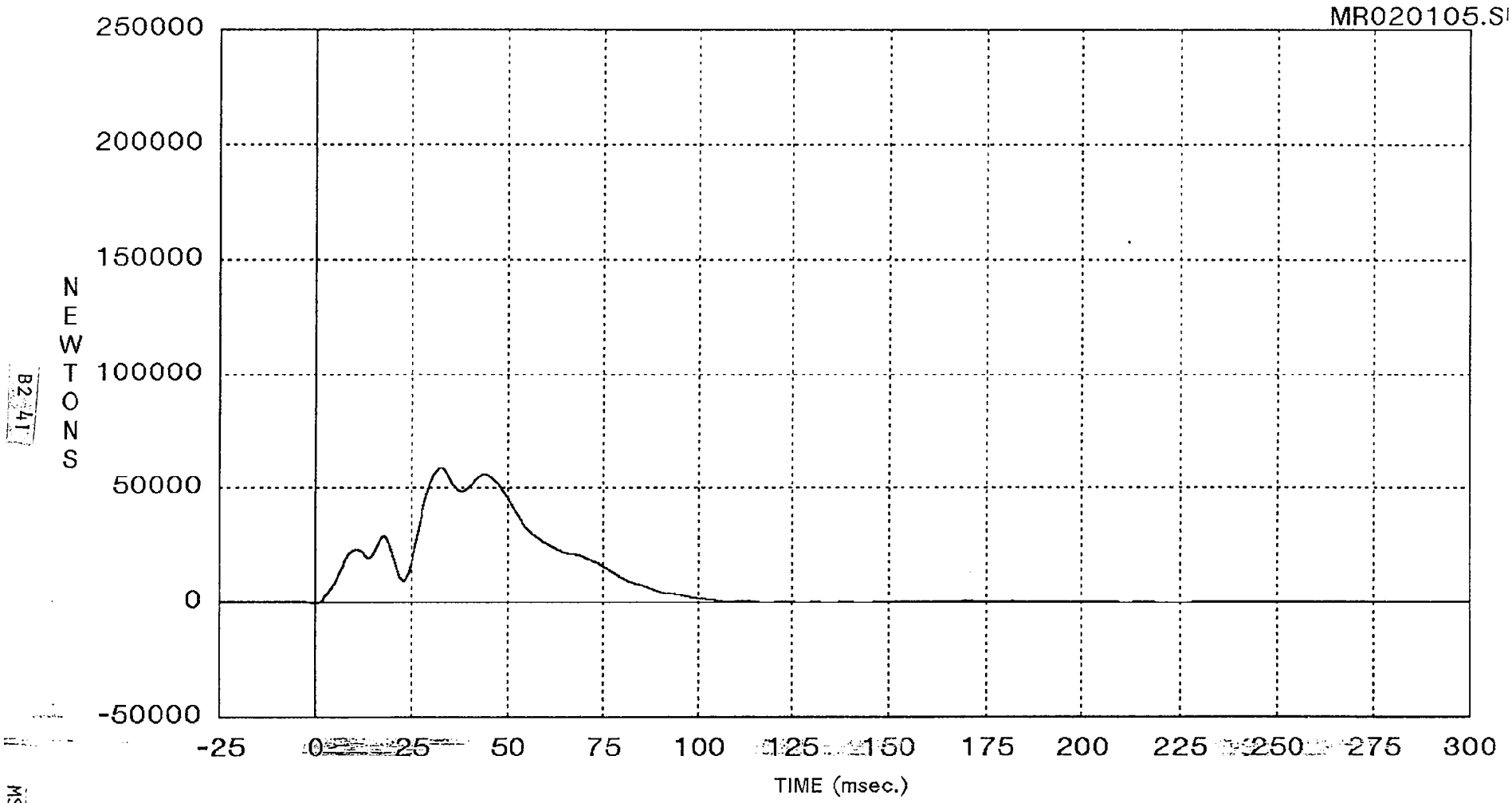


Curve: Barrier sum force C1,C2,C3,D1,D2,D3 -- Group 4 Filter: SAE CLASS 60 Max = 48923. Min = -1424.6

MSE Date: 03/11/94 Program: New Car Assessment Program Vehicle: 1994 Ford Probe 2 Door Coupe

B2 40

MSE-R93030-06

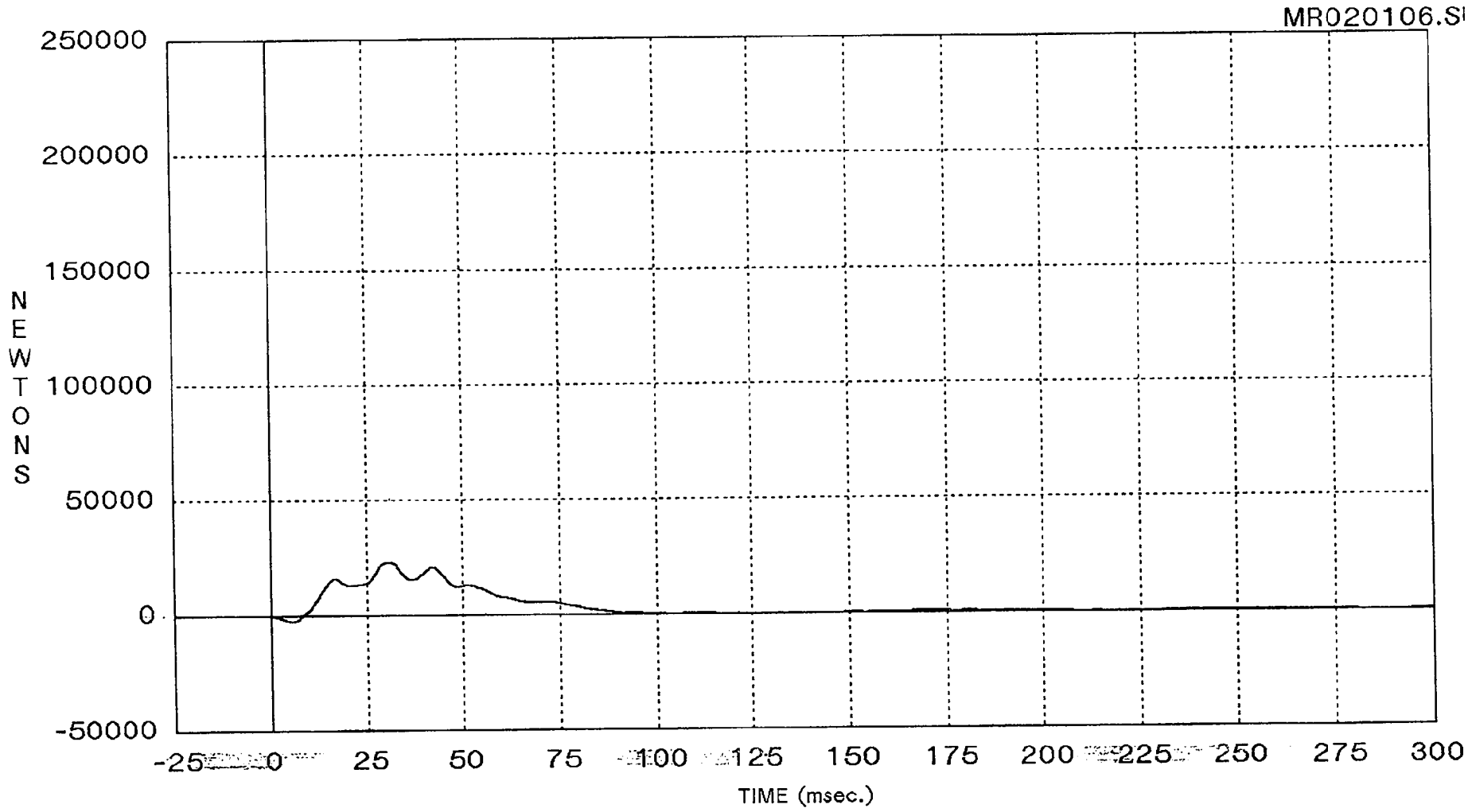


Curve: Barrier sum force C4,C5,C6,D4,D5,D6 -- Group 5 Filter: SAE CLASS 60 Max = 59064. Min = -208.19

MSE Date: 03/11/94 Program: New Car Assessment Program Vehicle: 1994 Ford Probe 2 Door Coupe

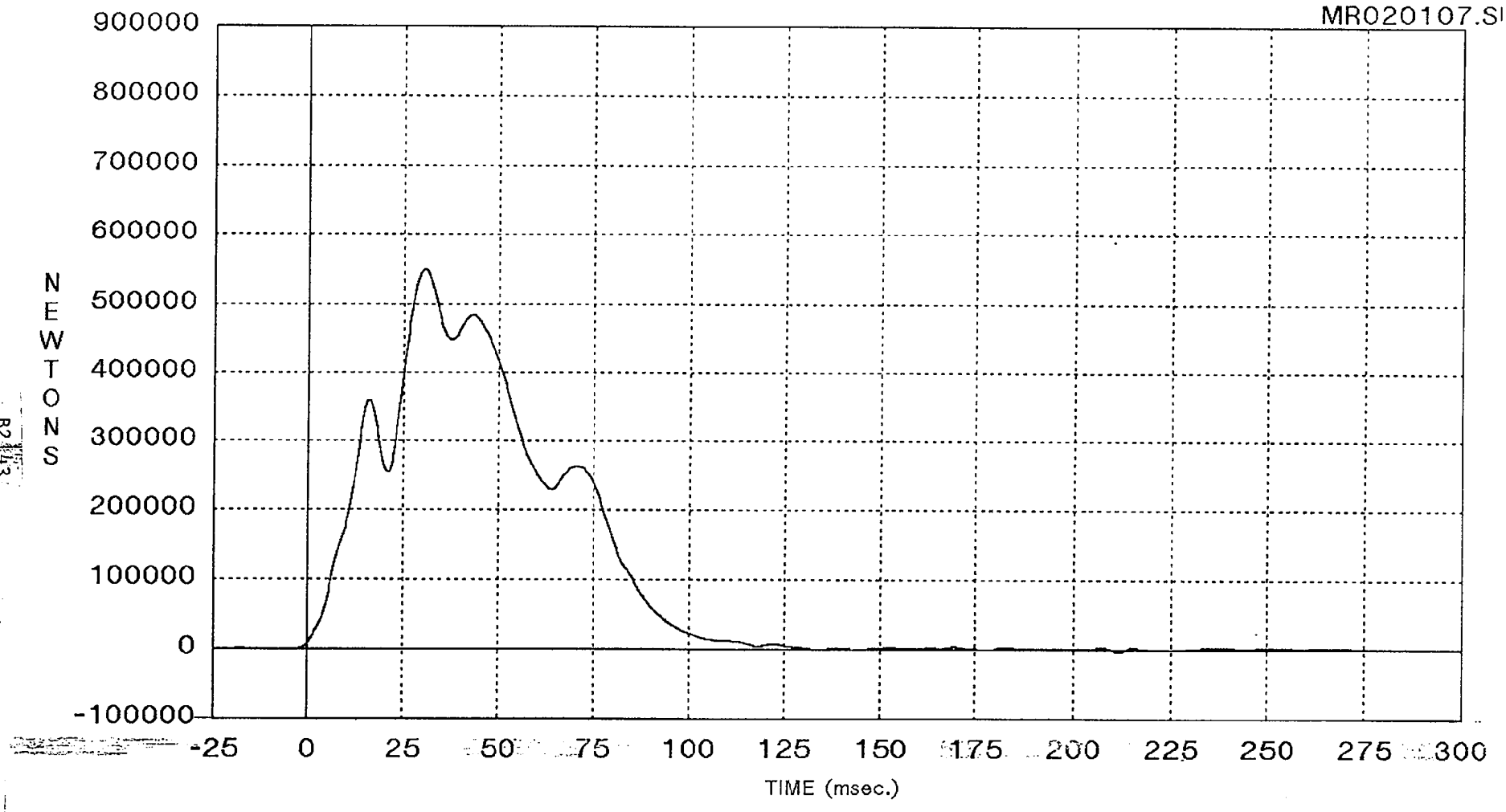
B2-41

MSE-R93030-06



Curve: Barrier sum force C7,C8,C9,D7,D8,D9 -- Group 6 Filter: SAE CLASS 60 Max = 23240. Min = -2410.8

MSE Date: 03/11/94 Program: New Car Assessment Program Vehicle: 1994 Ford Probe 2 Door Coupe



Curve: Barrier sum force -- Total Filter: SAE CLASS 60 Max = .55021E+06 Min = -2817.8

MSE Date: 03/11/94 Program: New Car Assessment Program Vehicle: 1994 Ford Probe 2 Door Coupe

MSE-R93030-06

APPENDIX C

PART 572 ATD CONFIGURATION AND PERFORMANCE VERIFCATION TABLES

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HYBRID III ATD CONFIGURATION AND PERFORMANCE VERIFICATION DATA

NHTSA ATD I.D. NUMBER: 34 LAB TECHNICIAN: Patrick Puzzuto

CALIBRATION SEQUENCE: 02 CALIBRATION DATE: 02/17/94 to 02/18/94

I. CONFIGURATION VERIFICATION DATA, PRETEST			
TESTED PARAMETER	UNIT	SPECIFICATION	TEST RESULTS
AA - Location for Chest Circ.	MM	429.3 to 434.3	430.2
BB - Location for Waist Circ.	MM	226.1 to 231.1	228.6
Y - Chest Circumference	MM	970.3 to 1000.8	985.5
Z - Waist Circumference	MM	815.3 to 866.1	863.6
O - Chest Depth	MM	213.4 to 228.6	215.9
C - "H" Point Height	MM	83.8 to 88.9	88.2
D - "H" Point from Seat Back	MM	134.6 to 139.7	137.2
H - Skull Cap to Back Line	MM	40.6 to 45.7	43.2
A - Total Sitting Height	MM	878.8 to 889.0	883.5
F - Thigh Clearance	MM	139.7 to 154.9	147.3
K - Buttock to Knee Length	MM	579.1 to 604.5	594.4
N - Buttock Poplipteal Length	MM	452.1 to 477.5	475.0
L - Poplipteal Length	MM	429.3 to 454.7	431.8
M - Knee Pivot Height	MM	485.1 to 500.4	495.3
P - Foot Length	MM	251.5 to 266.7	260.5
W - Foot Breadth	MM	91.4 to 106.7	106.7
E - Shoulder Pivot from Back	MM	84.0 to 94.0	88.9
V - Shoulder Breadth	MM	421.6 to 436.9	421.6
B - Shoulder Pivot Height	MM	505.5 to 520.7	516.4
J - Elbow Rest Height	MM	190.5 to 210.8	198.1
I - Shoulder to Elbow Length	MM	330.2 to 345.4	332.7
G - Elbow Back to Wrist Pivot	MM	289.6 to 304.8	294.2

PART 572E ATD PERFORMANCE AND CALIBRATION DATA

NHTSA ATD I.D. NUMBER: 34

CALIBRATION SEQUENCE: 02 CALIBRATION DATE: 02/17/94 to 02/18/94

HEAD DROP TEST			
TESTED PARAMETER	UNITS	SPECIFICATION	TEST RESULTS
Temperature in laboratory	Deg C	20.6 - 22.2	21.4
Humidity in laboratory	%	10 - 70	50
Peak resultant acceleration	G's	225 - 275	245.0
Peak lateral acceleration	G's	15 max	8.9
Is acceleration curve unimodal ?		YES	YES

LAB TECHNICIAN: Patrick J. Puzzuto

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

NHTSA ATD I.D. NUMBER: 34

CALIBRATION SEQUENCE: 02 CALIBRATION DATE: 02/17/94 to 02/18/94

THORAX IMPACT TEST			
TESTED PARAMETER	UNITS	SPECIFICATION	TEST RESULTS
Temperature in laboratory	Deg C	20.6 - 22.2	21.0
Humidity in laboratory	%	10 - 70	50
Probe speed	MPS	6.58 - 6.83	6.75
Peak deflection	MM	63.5 - 72.6	67.2
Peak resistive force	Kgs	526.6 - 601.6	557.66
Internal hysteresis	%	69 - 89	74.0

LAB TECHNICIAN: P. Puzzuto

PART 572E ATD PERFORMANCE AND CALIBRATION DATA

NECK FLEXION TEST

NHTSA ATD I.D. NUMBER: 34

CALIBRATION SEQUENCE: 02 CALIBRATION DATE: 02/17/94 to 02/18/94

TESTED PARAMETER		UNITS	SPECIFICATION	TEST RESULTS
Lab temperature		Deg C	20.6 - 22.2	21.1
Lab relative humidity		%	10 - 70	50
Pendulum speed		MPS	6.89 - 7.13	6.95
Pendulum deceleration	10 msec	G's	22.50 - 27.50	24.72
	20 msec	G's	17.60 - 22.60	20.20
	30 msec	G's	12.50 - 18.50	15.40
Max decel. above 30 msec		G's	29.00 max	15.00
Deceleration decay time to first cross 5 G's		msec	34.0 - 42.0	38.90
"D" Plane Rotation	Maximum	Deg.	64.0 - 78.0	64.20
	Time	msec	57.0 - 64.0	62.20
Moment About Occipital Condyle	Maximum	Mt.Kgs	9.0 - 11.1	9.20
	Time	msec	47.0 - 58.0	57.20
Rotation angle decay time to cross zero		msec	113.0 - 128.0	121.50
Positive moment decay time to cross zero		msec	97.0 - 107.0	105.70

LAB TECHNICIAN: P. Puzzuto

PART 572E ATD PERFORMANCE AND CALIBRATION DATA

NECK EXTENSION TEST

NHTSA ATD I.D. NUMBER: 34

CALIBRATION SEQUENCE: 02 CALIBRATION DATE: 02/17/94 to 02/18/94

TESTED PARAMETER		UNITS	SPECIFICATION	TEST RESULTS
Lab temperature		Deg C	20.6 - 22.2	21.0
Lab relative humidity		%	10 - 70	52
Pendulum speed		MPS	5.94 - 6.19	6.11
Pendulum deceleration	10 msec	G's	17.20 - 21.20	19.65
	20 msec	G's	14.00 - 19.00	17.40
	30 msec	G's	11.00 - 16.00	14.58
Max decel. above 30 msec		G's	22.00 max	14.50
Deceleration decay time to first cross 5 G's		msec	38.0 - 46.0	45.20
"D" Plane	Rotation	Deg.	81.0 - 106.0	94.00
	Time	msec	72.0 - 82.0	74.60
Occipital Condyle	Moment	Mt.Kgs	-8.2 to -5.4	8.00
	Time	msec	65.0 - 79.0	68.70
Rotation angle decay time to cross zero		msec	147.0 - 174.0	158.40
Negative moment decay time to cross zero		msec	120.0 - 148.0	132.80

LAB TECHNICIAN: P. Puzzuto

PART 572E ATD PERFORMANCE AND CALIBRATION DATA

NHTSA ATD I.D. NUMBER: 34

CALIBRATION SEQUENCE: 02 CALIBRATION DATE: 02/17/94 to 02/18/94

LEFT KNEE IMPACT TEST			
TESTED PARAMETER	UNITS	SPECIFICATION	TEST RESULTS
Lab temperature	Deg C	18.9 - 25.6	21.2
Lab relative humidity	%	10 - 70	52
Probe velocity	MPS	2.07 - 2.13	2.11
Peak impact force (Probe mass x deceleration)	Kgs	481.2- 590.2	560.4

LAB TECHNICIAN: P. Puzzuto

RIGHT KNEE IMPACT TEST			
TESTED PARAMETER	UNITS	SPECIFICATION	TEST RESULTS
Lab temperature	Deg C	18.9 - 25.6	21.2
Lab relative humidity	%	10 - 70	52
Probe velocity	MPS	2.07 - 2.13	2.12
Peak impact force (Probe mass x deceleration)	Kgs	481.2 - 590.2	520.4

LAB TECHNICIAN: P. Puzzuto

HYBRID III ATD CONFIGURATION AND PERFORMANCE VERIFICATION DATA

NHTSA ATD I.D. NUMBER: 35 LAB TECHNICIAN: Patrick Puzzuto

CALIBRATION SEQUENCE: 02 CALIBRATION DATE: 03/05/94 to 03/07/94

I. CONFIGURATION VERIFICATION DATA, PRETEST			
TESTED PARAMETER	UNIT	SPECIFICATION	TEST RESULTS
AA - Location for Chest Circ.	MM	429.3 to 434.3	431.6
BB - Location for Waist Circ.	MM	226.1 to 231.1	228.6
Y - Chest Circumference	MM	970.3 to 1000.8	985.0
Z - Waist Circumference	MM	815.3 to 866.1	863.0
O - Chest Depth	MM	213.4 to 228.6	216.0
C - "H" Point Height	MM	83.8 to 88.9	88.2
D - "H" Point from Seat Back	MM	134.6 to 139.7	137.2
H - Skull Cap to Back Line	MM	40.6 to 45.7	43.2
A - Total Sitting Height	MM	878.8 to 889.0	881.0
F - Thigh Clearance	MM	139.7 to 154.9	147.3
K - Buttock to Knee Length	MM	579.1 to 604.5	594.0
N - Buttock Poplipteal Length	MM	452.1 to 477.5	475.0
L - Poplipteal Length	MM	429.3 to 454.7	431.5
M - Knee Pivot Height	MM	485.1 to 500.4	495.3
P - Foot Length	MM	251.5 to 266.7	259.1
W - Foot Breadth	MM	91.4 to 106.7	106.0
E - Shoulder Pivot from Back	MM	84.0 to 94.0	88.9
V - Shoulder Breadth	MM	421.6 to 436.9	423.6
B - Shoulder Pivot Height	MM	505.5 to 520.7	515.6
J - Elbow Rest Height	MM	190.5 to 210.8	198.0
I - Shoulder to Elbow Length	MM	330.2 to 345.4	332.7
G - Elbow Back to Wrist Pivot	MM	289.6 to 304.8	295.0

PART 572E ATD PERFORMANCE AND CALIBRATION DATA

NHTSA ATD I.D. NUMBER: 35

CALIBRATION SEQUENCE: 02 CALIBRATION DATE: 03/05/94 to 03/07/94

HEAD DROP TEST			
TESTED PARAMETER	UNITS	SPECIFICATION	TEST RESULTS
Temperature in laboratory	Deg C	20.6 - 22.2	21.1
Humidity in laboratory	%	10 - 70	52
Peak resultant acceleration	G's	225 - 275	235.2
Peak lateral acceleration	G's	15 max	4.9
Is acceleration curve unimodal ?		YES	YES

LAB TECHNICIAN: Patrick J. Puzzuto

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

NHTSA ATD I.D. NUMBER: 35

CALIBRATION SEQUENCE: 02 CALIBRATION DATE: 03/05/94 to 03/07/94

THORAX IMPACT TEST			
TESTED PARAMETER	UNITS	SPECIFICATION	TEST RESULTS
Temperature in laboratory	Deg C	20.6 - 22.2	21.7
Humidity in laboratory	%	10 - 70	49
Probe speed	MPS	6.58 - 6.83	6.62
Peak deflection	MM	63.5 - 72.6	65.00
Peak resistive force	Kgs	526.6 - 601.6	570.30
Internal hysteresis	%	69 - 89	73.0

LAB TECHNICIAN: P. Puzzuto

PART 572E ATD PERFORMANCE AND CALIBRATION DATA

NECK FLEXION TEST

NHTSA ATD I.D. NUMBER: 35

CALIBRATION SEQUENCE: 02 CALIBRATION DATE: 03/05/94 to 03/07/94

TESTED PARAMETER		UNITS	SPECIFICATION	TEST RESULTS
Lab temperature		Deg C	20.6 - 22.2	21.1
Lab relative humidity		%	10 - 70	50
Pendulum speed		MPS	6.89 - 7.13	6.95
Pendulum deceleration	10 msec	G's	22.50 - 27.50	23.40
	20 msec	G's	17.60 - 22.60	19.40
	30 msec	G's	12.50 - 18.50	16.60
Max decel. above 30 msec		G's	29.00 max	16.40
Deceleration decay time to first cross 5 G's		msec	34.0 - 42.0	41.50
"D" Plane Rotation	Maximum	Deg.	64.0 - 78.0	72.08
	Time	msec	57.0 - 64.0	60.00
Moment About Occipital Condyle	Maximum	Mt.Kgs	9.0 - 11.1	10.44
	Time	msec	47.0 - 58.0	55.20
Rotation angle decay time to cross zero		msec	113.0 - 128.0	115.20
Positive moment decay time to cross zero		msec	97.0 - 107.0	99.88

LAB TECHNICIAN: P. Puzzuto

PART 572E ATD PERFORMANCE AND CALIBRATION DATA

NECK EXTENSION TEST

NHTSA ATD I.D. NUMBER: 35

CALIBRATION SEQUENCE: 02 CALIBRATION DATE: 03/05/94 to 03/07/94

TESTED PARAMETER		UNITS	SPECIFICATION	TEST RESULTS
Lab temperature		Deg C	20.6 - 22.2	21.0
Lab relative humidity		%	10 - 70	48
Pendulum speed		MPS	5.94 - 6.19	6.08
Pendulum deceleration	10 msec	G's	17.20 - 21.20	20.07
	20 msec	G's	14.00 - 19.00	18.94
	30 msec	G's	11.00 - 16.00	15.80
Max decel. above 30 msec		G's	22.00 max	15.77
Deceleration decay time to first cross 5 G's		msec	38.0 - 46.0	42.44
"D" Plane	Rotation	Deg.	81.0 - 106.0	99.74
	Time	msec	72.0 - 82.0	72.68
Occipital Condyle	Moment	Mt.Kgs	-8.2 to -5.4	8.04
	Time	msec	65.0 - 79.0	66.30
Rotation angle decay time to cross zero		msec	147.0 - 174.0	151.80
Negative moment decay time to cross zero		msec	120.0 - 148.0	123.20

LAB TECHNICIAN: P. Puzzuto

PART 572E ATD PERFORMANCE AND CALIBRATION DATA

NHTSA ATD I.D. NUMBER: 35

CALIBRATION SEQUENCE: 02 CALIBRATION DATE: 03/05/94 to 03/07/94

LEFT KNEE IMPACT TEST			
TESTED PARAMETER	UNITS	SPECIFICATION	TEST RESULTS
Lab temperature	Deg C	18.9 - 25.6	22.2
Lab relative humidity	%	10 - 70	50
Probe velocity	MPS	2.07 - 2.13	2.10
Peak impact force (Probe mass x deceleration)	Kgs	481.2- 590.2	558.4

LAB TECHNICIAN: P. Puzzuto

RIGHT KNEE IMPACT TEST			
TESTED PARAMETER	UNITS	SPECIFICATION	TEST RESULTS
Lab temperature	Deg C	18.9 - 25.6	22.2
Lab relative humidity	%	10 - 70	50
Probe velocity	MPS	2.07 - 2.13	2.12
Peak impact force (Probe mass x deceleration)	Kgs	481.2 - 590.2	542.5

LAB TECHNICIAN: P. Puzzuto

APPENDIX D

VEHICLE OWNER'S MANUAL OCCUPANT RESTRAINT SYSTEM INSTRUCTION

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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

Your vehicle has combination lap and shoulder belts for front and rear seat passengers.

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 belt fits 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: Use the shoulder belt on the outside shoulder only. Never wear the shoulder belt under the arm. Never swing it around your neck over the inside shoulder. Never use a single belt for more than one person. Failure to follow these precautions could increase the risk and/or severity of injury 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.

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

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.

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.

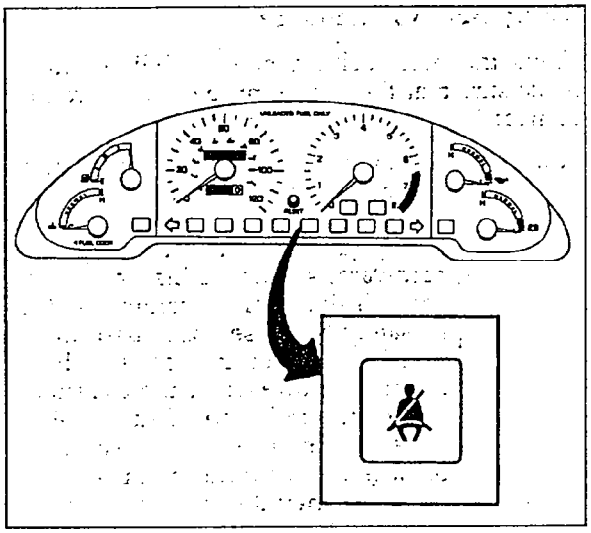
Safety Belt Maintenance

Check the safety belt systems periodically to make sure that they work properly and are not damaged.

Warning: All safety belt assemblies, including retractors, buckles, front seat belt buckle support assemblies (slide bar) (if so equipped), 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 Belt Light/Chime

This warning light and chime remind you to fasten your safety belt. If the driver does not fasten the safety belt before the ignition key is turned to the ON position, the warning light comes on for one to two minutes and the chime sounds for four (4) to eight (8) seconds, or until the driver's belt is fastened.



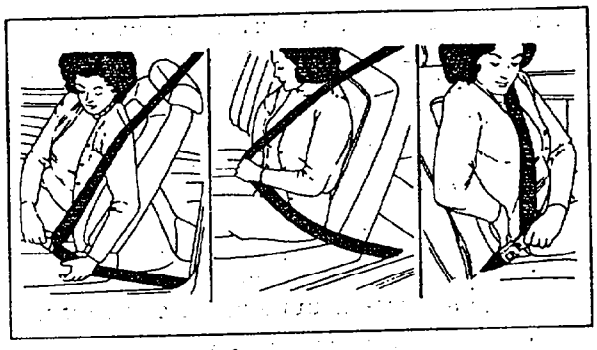
Safety belt warning light location on cluster

Front and Rear Seat Combination Lap and Shoulder Belts

While in motion, the combination lap and shoulder belt adjusts to your movement. However, if you brake hard, turn 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.

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, find the long strap of the belt near the door, pull it across your shoulder and chest, and insert the tongue into the proper buckle on your seat until you hear a snap and feel it lock. Be sure to use the correct buckle and check to make sure the buckle is securely fastened.



Fastening the safety belt

Adjust the lap part of the belt by pulling up on the shoulder belt until the lap belt fits snugly and as low as possible around your hips.

Warning: Front and rear seat occupants, including pregnant women, should wear safety belts for optimum protection in an accident.

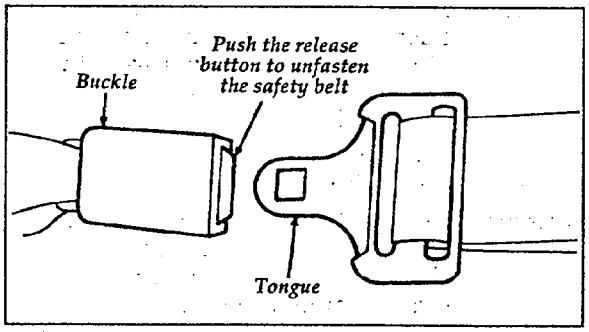
Warning: Make sure that the lap portion of the safety belt is as low around your hips as possible. Do not wear the lap belt around your waist. If you do not use the lap belts properly, the risk of being injured in a collision greatly increases.

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. Never use a single belt for more than one person. Failure to follow these precautions could increase the risk and/or severity of injury in a collision.

Warning: To reduce the risk of sliding under the lap belt during a collision, always drive and ride with seatbacks in the upright position. If the lap belt slips above the hip-bone during a collision and applies force directly to the soft areas of the abdomen, it will increase the risk of serious injury. The seatbacks and the belts provide best restraint when the seatback is upright, the occupant is sitting upright in the seat (not slouching), the lap belt is snug and low on the hips, the shoulder belt is snug against the chest and the knees are straight forward.

To unfasten the belt:

1. Push the release button on the buckle. This allows the tongue to unlatch from the buckle.



Unfastening the lap and shoulder belt

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. Work the belt slowly 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.
2. 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.

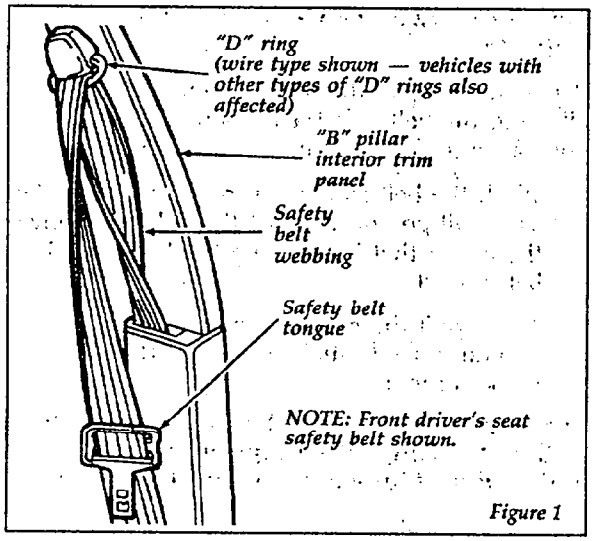


Figure 1

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

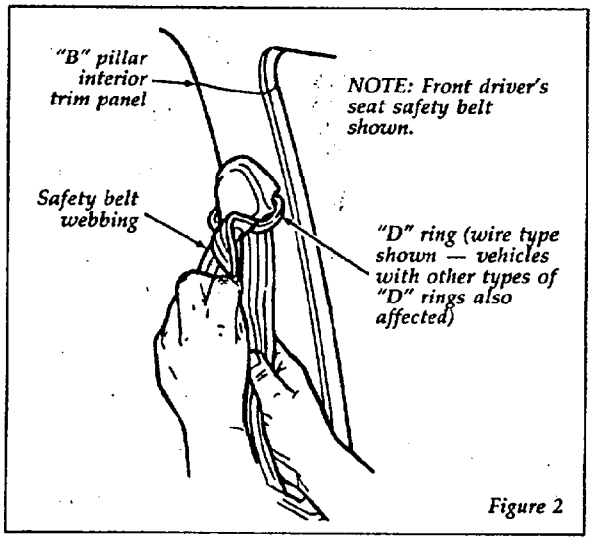


Figure 2

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.

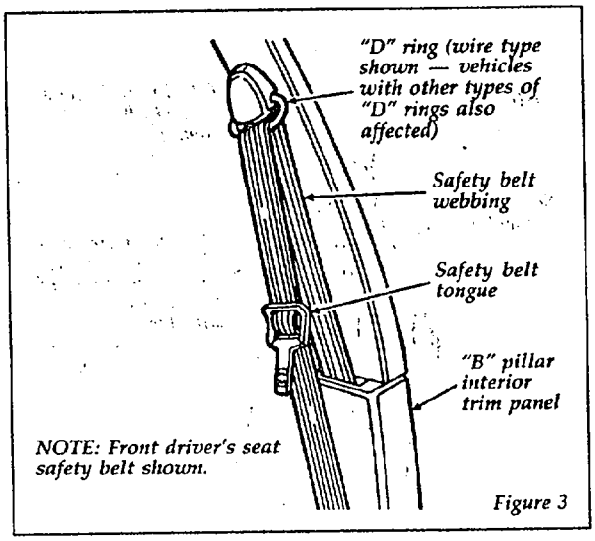


Figure 3

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.

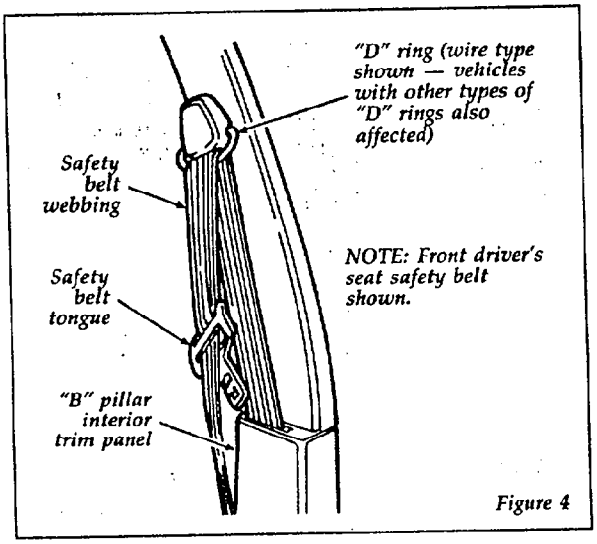
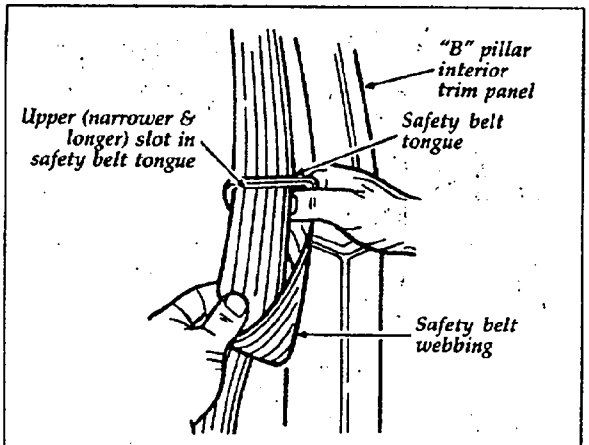


Figure 4

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.



NOTE: Front driver's seat safety belt shown.

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.

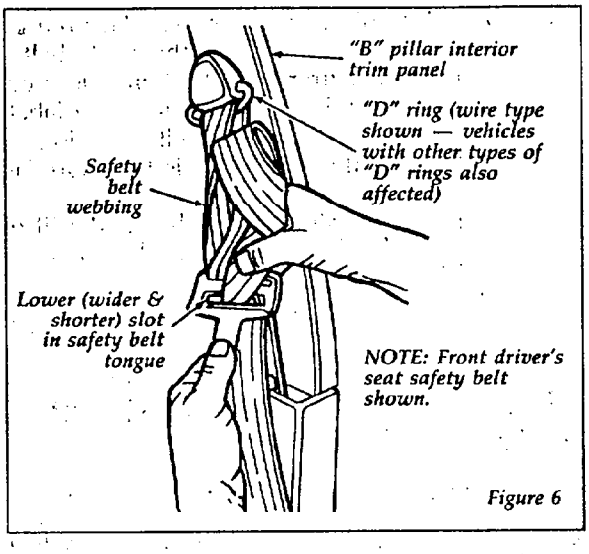


Figure 6

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. Safety belt extensions are available from your dealer.

Warning: Use only extensions manufactured by the same supplier as the safety belt. Manufacturer identification is located at the end of the webbing on a label. Also, use the safety belt extension only if the safety belt is too short for you when fully extended. Do not use the extension to change the fit of the shoulder belt across the torso. Failure to follow these instructions will affect the performance of the safety belts and increase the risk of personal injury.

Air Bag Supplemental Restraint System (SRS)

Driver and right front passenger air bag

The driver and right front passenger air bag is a Supplemental Restraint System (SRS) designed to add to the protection provided to a properly belted occupant in moderate to severe frontal collisions.

The Importance of Wearing Safety Belts

Warning: ALWAYS WEAR THE SAFETY BELT!

There are four very important reasons to use safety belts even with an air bag system. Use your safety belts to:

- help keep you in the proper position (away from the air bag) when it inflates
- reduce the risk of harm in rollover, side or rear impact collisions, because an air bag is not designed to inflate in such situations
- reduce the risk of harm in frontal collisions that are not severe enough to activate the air bag

- reduce the risk of being thrown from your vehicle

The Importance of Being Properly Seated

In a collision, the air bag must inflate extremely fast to help provide additional protection for you. In order to do this, the air bag must inflate with considerable force. If you are not seated in a normal riding position with your back against the seatback, the air bag may not protect you properly and could possibly hurt you as it inflates.

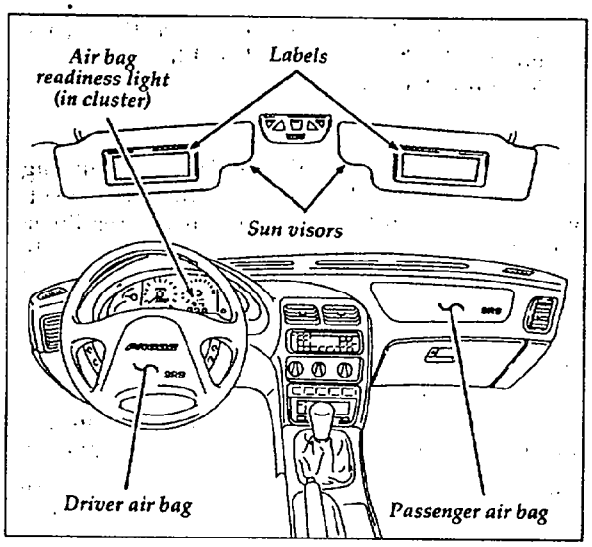
Warning: Your vehicle is equipped with a right front passenger air bag. Front passengers, especially children and small adults, should never sit on the edge of the seat, stand near the glove compartment of the instrument panel, or lean over with their faces near the glove compartment when the vehicle is moving. All occupants should sit with their backs against the seatback and use the safety belts. Children weighing less than 40 lbs. (18 kg) should use child or infant seats. Forward-facing child seats must have the passenger seat moved as far back from the instrument panel as possible. REAR-FACING INFANT SEATS SHOULD NEVER BE USED IN THE FRONT SEAT, BECAUSE THE FORCE OF THE RAPIDLY INFLATING PASSENGER AIR BAG COULD PUSH THE TOP OF THE REAR-FACING SEAT AGAINST THE VEHICLE SEATBACK OR CENTER ARMRESTS. REAR-FACING INFANT SEATS MUST ALWAYS BE PLACED IN THE REAR SEAT.

Warning: Do not place objects or mount equipment in front of the air bag module cover or in front seat areas that may come in contact with a deploying air bag. Failure to follow this instruction could result in personal injury.

How the Air Bag Supplemental Restraint System Operates

The Air Bag Supplemental Restraint System has two main parts. One part is the air bag system with the driver and passenger-side air bags and inflators. The second part is the electrical system which has impact sensors and a diagnostic module. The diagnostic module monitors its own internal circuits and the supplemental air bag electrical system readiness, including the crash sensors, the system wiring, the air bag readiness light, air bag back-up power, and the supplemental air bag igniters.

The driver air bag is in the center of the steering wheel. The front passenger seat air bag is in the upper right-hand section of the instrument panel ledge above the glove compartment. The letters "SRS" appear there.



The location of the air bag and warning labels

The air bag system uses a readiness light and a tone to indicate the condition of the system. The readiness light is in the instrument cluster. When you turn the ignition key to ON, the light will illuminate for approximately six (6) seconds and then turn off. This indicates that the system is operating normally.

NOTE: Maintenance of the air bag system is not required.

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

- ❑ the readiness light will either flash or stay lit,
- ❑ or it will not light immediately after the ignition is turned on,
- ❑ or a group of five beeps will be heard.

If any of these things happens, have the air bag system serviced at your Ford or Lincoln-Mercury Dealer immediately.

Tone generator

The air bag readiness light indicates the air bag system condition. However, a series of five sets of five beeps will be heard only if the readiness light doesn't work and there is a problem with the air bag system. This also means that the Air Bag Supplemental Restraint System (SRS) is in need of service. The tone pattern will repeat (five sets of five beeps) periodically until the problem and light are repaired. Unless serviced, the Air Bag Supplemental Restraint System may not function properly in the event of a collision.

Warning: Do not attempt to service, repair, or modify the Air Bag Supplemental Restraint System; tampering could cause activation of the system and increase the risk of personal injury. For servicing of the Air Bag Supplemental Restraint System, see your dealer.

The air bag system is designed to stay out of sight until it is activated. The air bag system is designed to deploy in frontal and front-angled collisions more severe than hitting a parked vehicle of similar size and weight head-on at about 28 mph (45 km/h). Because the system senses the crash severity rather than vehicle speed, some frontal collisions at speeds above 28 mph (45 km/h) will not inflate the air bag.

The following four steps show how the air bag system works:

1. Sensors in the vehicle will detect the degree of severity of a frontal impact. When two sensors (one primary and one safing) close at the same time, electric current flows to the inflator and the system ignites the gas generant.
2. The propellant then rapidly burns in the metal container. The rapid burning produces nitrogen gas and small amounts of dust. The nitrogen gas and dust are cooled and filtered during inflation of the air bag.
3. The inflating air bag splits open the trim cover. The air bag then rapidly unfolds and inflates in front of the occupant.

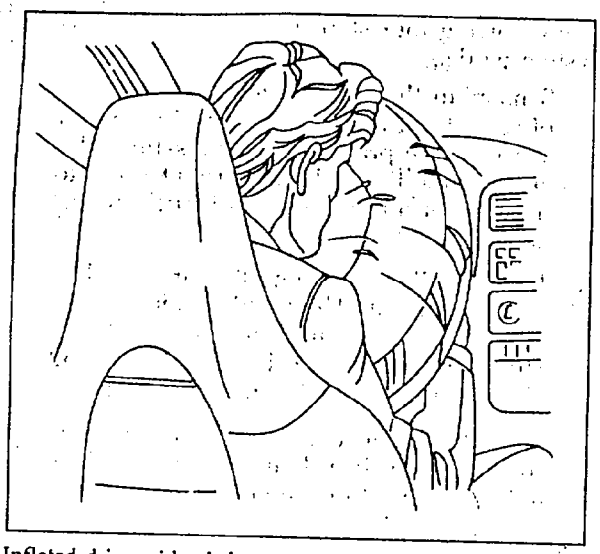
NOTE: STEPS 1-3 TAKE PLACE IN A FRACTION OF A SECOND.

4. After inflation, the gas empties through holes in the air bag. The air bag deflates at once.

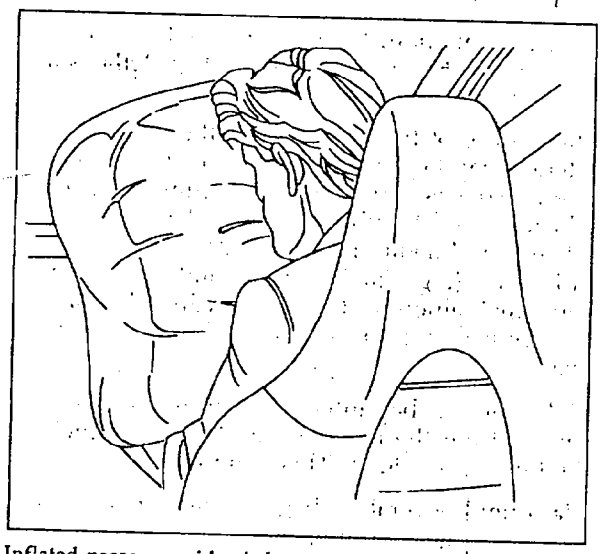
The surface of the air bags and the vehicle interior may be dusted with a powdery residue. The powder is corn starch or talcum powder, which is used to lubricate the air bag as it inflates, and sodium compounds such as sodium carbonates (e.g., baking soda), and possibly a very small amount of sodium hydroxide that may be irritating to the skin and eyes, but is not toxic.

Right after air bag inflation, you may notice smoke (from the powder and dust) and smell the burnt propellant. This is normal.

Warning: Several air bag system components get hot after inflation. Do not try to touch them after inflation.



Inflated driver-side air bag



Inflated passenger-side air bag

Warning: The air bag will inflate only once. The system is designed to function on a one-time-only basis. If the air bag is inflated, THE AIR BAG WILL NOT FUNCTION AGAIN AND MUST BE REPLACED IMMEDIATELY. If the air bag is not replaced, the unrepaired area will increase the risk of injury in a collision.

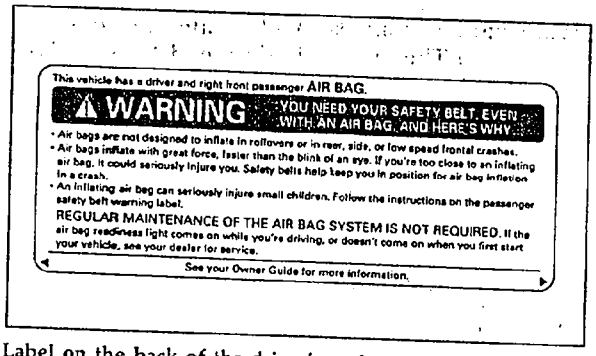
Disposal of air bag equipped vehicles

For disposal of air bags or air bag equipped vehicles, see your local Ford or Lincoln-Mercury dealer, or refer to the procedures in the 1994 Ford Service Manual. Information on how to order a service manual is available at an authorized Ford or Lincoln-Mercury Dealer. You can also order a service manual using the order form in the *Accessories* chapter of your Owner Guide.

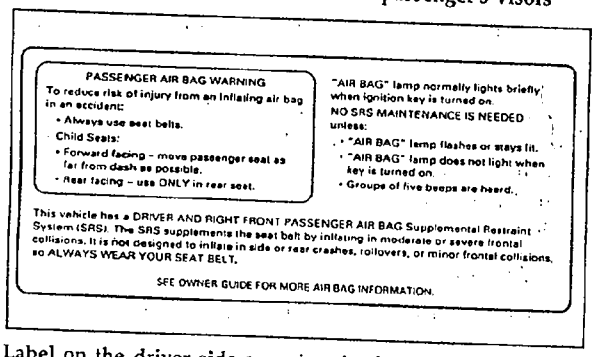
Service and information labels

Service and information labels are attached to the sun visor (USA vehicles), on the headliner above the driver's seat (Canadian vehicles), and the radiator support in the engine compartment.

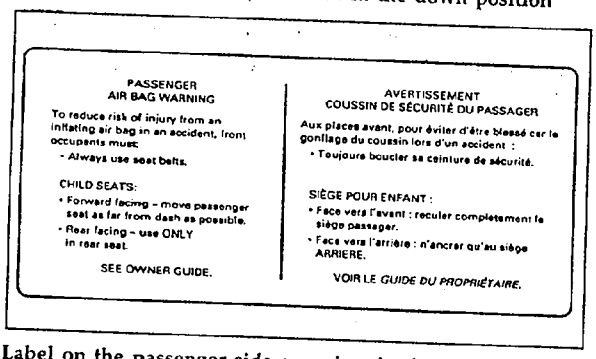
Your vehicle will have one or two of the following sun visor lables:



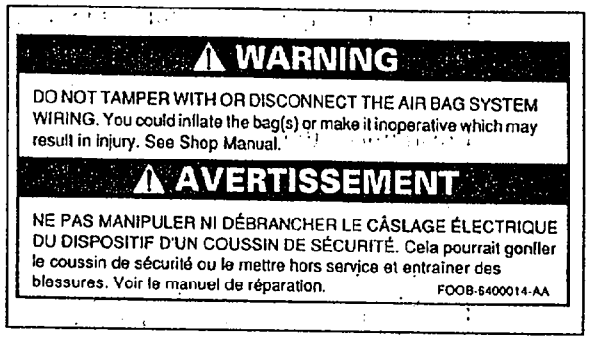
Label on the back of the driver's and passenger's visors



Label on the driver side sun visor in the down position



Label on the passenger side sun visor in the down position



Label on the radiator

NOTE: Canadian vehicles are equipped with a supplemental French label, located in the passenger compartment above the driver's and passenger's visors.

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.

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.

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.

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.

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

Warning: 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 *Attaching Safety Seats with Tether Straps* in this chapter.

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.

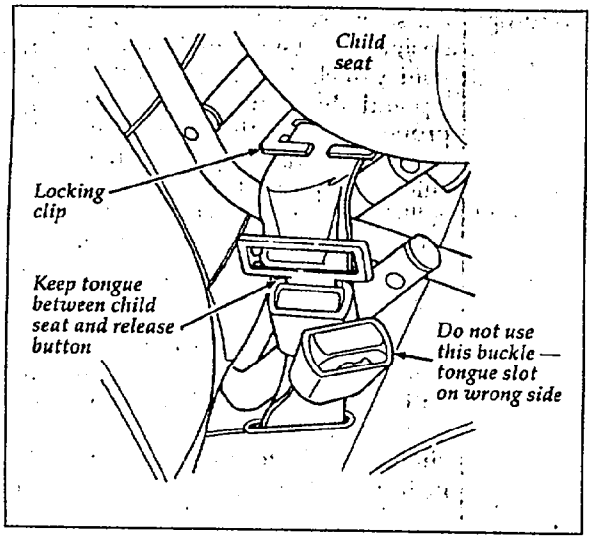
In rear-facing infant seats, the infant's head is closer to the passenger air bag. The force of the rapidly inflating air bag could push the top of the rear facing seat against the vehicle seatback or center armrests. REAR-FACING INFANT SEATS MUST ALWAYS BE SECURED IN THE REAR SEAT, and other child seats and infant seats should be secured in the rear seat whenever possible. Forward facing child seats used in the front seat must have the passenger seat moved as far back from the instrument panel as possible.

Warning: Rear-facing infant seats should never be placed in the front seat.

Warning: All safety seats for children are designed to be secured to the seat of your vehicle 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.

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 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.

Warning: Always keep the buckle release button pointing upward and away from the child seat, with the tongue between the child seat and the release button as shown in the following illustration. Failure to follow these instructions could result in accidental unbuckling of the safety belt if the child safety seat hits the release button. Release of the safety belt could result in serious injuries.

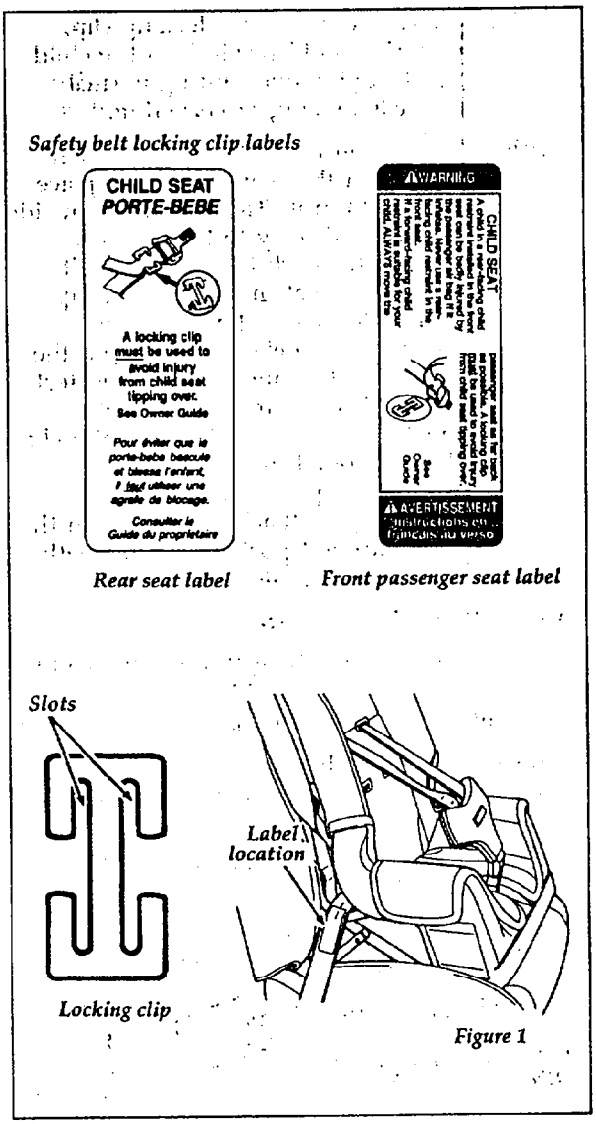


Safety belt buckle placement for child seats

Installation Instructions for Child Safety Seat Locking Clip

To install a child safety seat in your vehicle, a safety belt locking clip is required. To prevent looseness of the safety belt, use a genuine Ford Locking Clip, which is provided, along with instructions for its use, in your glove compartment.

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 shown in Figure 1.



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

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.

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 safety belt.

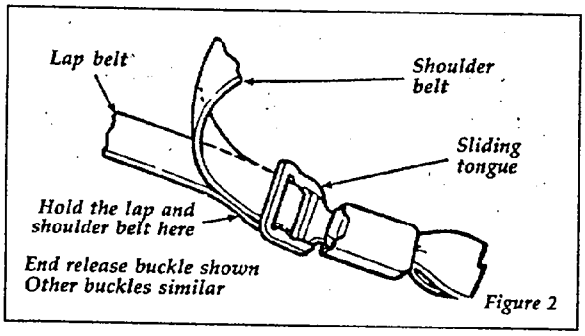


Figure 2

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.

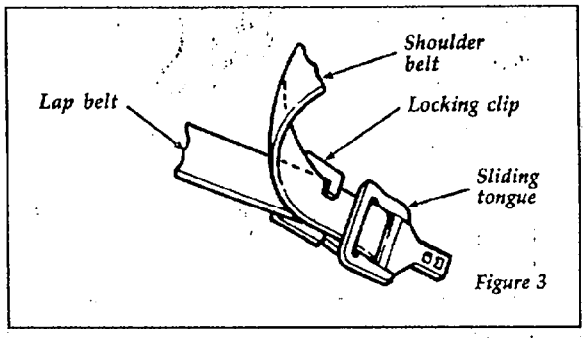


Figure 3

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

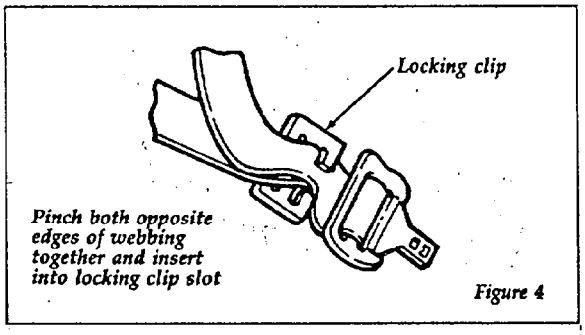


Figure 4

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

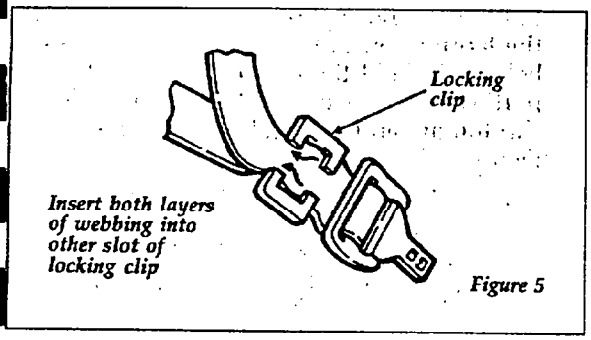


Figure 5

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

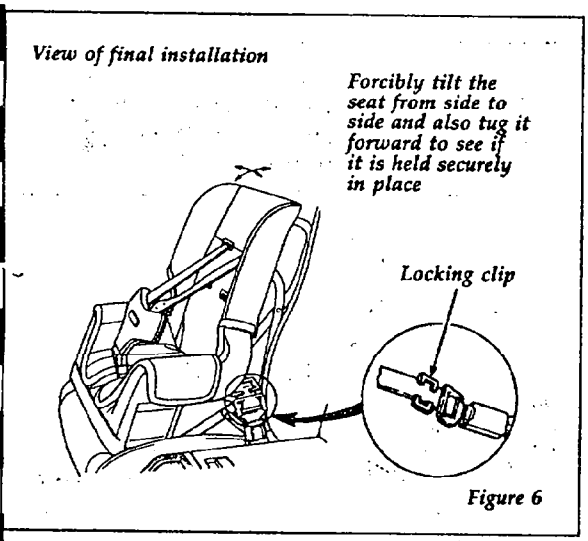


Figure 6

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

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

You can attach the tether anchor bracket to one of the two 0.3 inch (8mm) weld nuts on the rear of the cargo area below the opening for the liftgate.

Tether Anchor Hardware

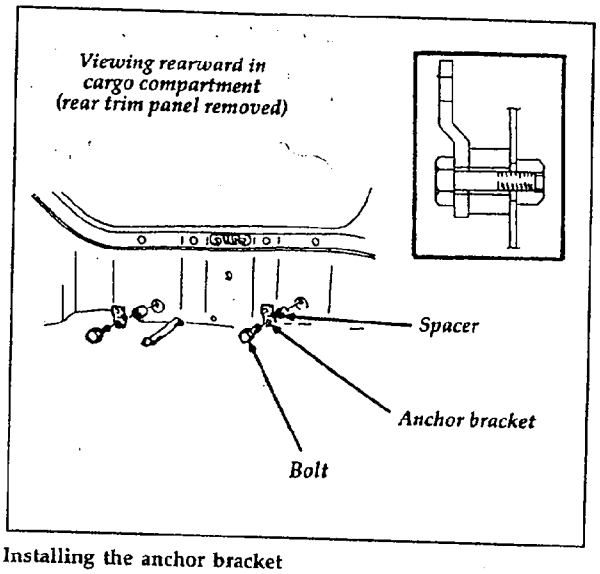
A tether safety seat should not be installed in the front seat because the tether cannot be properly secured to the rear belts of your car.

All vehicles built for sale in Canada include a tether anchor hardware kit for use with Canadian child safety seats.

All vehicles built for sale in the USA do not include a tether anchor hardware kit for use with child safety seats. However, attachment holes (at each rear seating position) have been provided in your vehicle to attach the tether anchor hardware. Tether anchor hardware kits can be obtained at no charge from any Ford or Lincoln-Mercury dealer. Be sure to follow the child safety seat manufacturer's instructions.

Installing the Anchor Bracket

1. Open the liftgate and take out the luggage compartment cover (if equipped).
2. Weld nuts for the tether anchor bolts are behind the trim in the rear trim panel. Make a hole in the rear end trim panel to provide access to the anchor nut.
3. Next, insert a 0.4 inch (10mm) spacer between the anchor bracket and the rear wall panel of cargo area. Next, install the 8mm retaining bolt, making sure at least five full threads are engaged.
4. Re-install luggage compartment cover.



Installing the anchor bracket

Warning: The threaded holes have an 8 mm metric locking thread. A wrench will be needed to screw an 8 mm bolt into the locking thread. Some child restraints supply a non-metric bolt with a different thread. Do not use a non-metric bolt as it may be impossible to screw it all the way into the hole, resulting in inadequate retention of the child restraint. If you need a metric bolt or assistance, any Ford or Lincoln-Mercury dealer will be happy to assist you.

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

APPENDIX E

INSTRUMENTATION AND CALIBRATION DATA

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INSTRUMENTATION AND CALIBRATION DATA

DRIVER ATD SN 34

CH#	TYP	LOCATION/AXIS	MAKE	MODEL/SERIAL No	CAL DATE
01	AC	HEAD C.G. X	ENDEVCO	7264-2000/ACC59	11/01/93
02	AC	HEAD C.G. Y	ENDEVCO	7264-2000/ACCD1	11/01/93
03	AC	HEAD C.G. Z	ENDEVCO	7264-2000/ACC62	11/01/93
04	AC	CHEST X	ENDEVCO	7264-2000/ACC65	11/01/93
05	AC	CHEST Y	ENDEVCO	7264-2000/ACC66	11/01/93
06	AC	CHEST Z	ENDEVCO	7264-2000/ACC67	11/01/93
07	LC	NECK FORCE X	R.A. DENTON	1716A/0400FX	11/02/93
08	LC	NECK FORCE Y	R.A. DENTON	1716A/0440FY	11/02/93
09	LC	NECK FORCE Z	R.A. DENTON	1716A/0440FZ	11/02/93
10	LC	NECK MOMENT X	R.A. DENTON	1716A/0440MX	11/02/93
11	LC	NECK MOMENT Y	R.A. DENTON	1716A/0440MY	11/02/93
12	LC	NECK MOMENT Z	R.A. DENTON	1716A/0440MZ	11/02/93
13	LC	LEFT FEMUR X	R.A. DENTON	2121A/0255	11/09/93
14	LC	RIGHT FEMUR X	R.A. DENTON	2121A/0256	11/09/93
15	DS	CHEST DISP. X	SERVO	14CBI-2897/9241	12/02/93
16	LC	LAP BELT OT	LEBOW	3371/330	11/09/93
17	LC	SHOULDER BELT OT	LEBOW	3371/308	11/09/93
18	DS	BELT ELONG. OT	ETI	LPC 12A-12/001	03/11/94
19	DS	BELT PULLOUT OT	MSE	701-36/113	03/11/94

INSTRUMENTATION AND CALIBRATION DATA

PASSENGER ATD SN 35

CH#	TYP	LOCATION/AXIS	MAKE	MODEL/SERIAL No	CAL DATE
20	AC	HEAD C.G. X	ENDEVCO	7264-2000/ACC63	11/01/93
21	AC	HEAD C.G. Y	ENDEVCO	7264-2000/ACCC9	11/01/93
22	AC	HEAD C.G. Z	ENDEVCO	7264-2000/ACCY2	11/01/93
23	AC	CHEST X	ENDEVCO	7264-2000/ACCF3	11/01/93
24	AC	CHEST Y	ENDEVCO	7264-2000/ACC02	11/01/93
25	AC	CHEST Z	ENDEVCO	7264-2000/ACC67	11/01/93
26	LC	NECK FORCE X	R.A. DENTON	1716A/0400FX	11/02/93
27	LC	NECK FORCE Y	R.A. DENTON	1716A/0440FY	11/02/93
28	LC	NECK FORCE Z	R.A. DENTON	1716A/0440FZ	11/02/93
29	LC	NECK MOMENT X	R.A. DENTON	1716A/0440MX	11/02/93
30	LC	NECK MOMENT Y	R.A. DENTON	1716A/0440MY	11/02/93
31	LC	NECK MOMENT Z	R.A. DENTON	1716A/0440MZ	11/02/93
32	LC	LEFT FEMUR X	R.A. DENTON	2121A/0263	11/09/93
33	LC	RIGHT FEMUR X	R.A. DENTON	2121A/0264	11/09/93
34	DS	CHEST DISP. X	SERVO	14CBI-2897/9242	12/02/93
35	LC	LAP BELT OT	LEBOW	3371/333	11/09/93
36	LC	SHOULDER BELT OT	LEBOW	3371/327	11/09/93
37	DS	BELT ELONG. OT	ETI	LCP-12A-12/002	03/11/94
38	DS	BELT PULLOUT OT	CELESCO	PT0620	03/11/94

INSTRUMENTATION AND CALIBRATION DATA

VEHICLE

CH#	TYP	LOCATION/AXIS	MAKE	MODEL/SERIAL No	CAL DATE
39	AC	Lt. Fr. Caliper X	I. C. Sensor	3031-200/23-200	11/02/93
40	AC	Rt. Fr. Caliper X	I. C. Sensor	3031-200/34-200	11/02/93
41	AC	Engine Bottom X	I. C. Sensor	3031-200/21-200	11/02/93
42	AC	Engine Top X	I. C. Sensor	3031-200/29-200	11/02/93
43	AC	Instr. Panel X	I. C. Sensor	3031-200/27-200	11/02/93
44	AC	LfRr X-mbr Pri X	I. C. Sensor	3031-200/25-200	11/02/93
45	AC	RtRr X-mbr Pri X	I. C. Sensor	3031-200/26-200	11/02/93
46	AC	LfRr X-mbr Sec X	I. C. Sensor	3031-200/28-200	11/02/93
47	AC	RtRr X-mbr Sec X	I. C. Sensor	3031-200/26-200	11/02/93

INSTRUMENTATION AND CALIBRATION DATA

LOAD CELL BARRIER

CH#	TYP	LOCATION/AXIS	MAKE	MODEL/SERIAL No	CAL DATE
01	LC	A1 XG	Interface	1220-F3/19349	05/14/85
02	LC	A2 XG	Interface	1220-F3/19349	05/14/85
03	LC	A3 XG	Interface	1220-F3/19349	05/14/85
04	LC	A4 XG	Interface	1220-F3/19349	05/14/85
05	LC	A5 XG	Interface	1220-F3/19349	05/14/85
06	LC	A6 XG	Interface	1220-F3/19349	05/14/85
07	LC	A7 XG	Interface	1220-F3/19349	05/14/85
08	LC	A8 XG	Interface	1220-F3/19349	05/14/85
09	LC	A9 XG	Interface	1220-F3/19349	05/14/85
10	LC	B1 XG	Interface	1220-F3/19349	05/14/85
11	LC	B2 XG	Interface	1220-F3/19349	05/14/85
12	LC	B3 XG	Interface	1220-F3/19349	05/14/85
13	LC	B4 XG	Interface	1220-F3/19349	05/14/85
14	LC	B5 XG	Interface	1220-F3/19349	05/14/85
15	LC	B6 XG	Interface	1220-F3/19349	05/14/85
16	LC	B7 XG	Interface	1220-F3/19349	05/14/85
17	LC	B8 XG	Interface	1220-F3/19349	05/14/85
18	LC	B9 XG	Interface	1220-F3/19349	05/14/85

INSTRUMENTATION AND CALIBRATION DATA

LOAD CELL BARRIER

CH#	TYP	LOCATION/AXIS	MAKE	MODEL/SERIAL No	CAL DATE
19	LC	C1 XG	Interface	1220-F3/19349	05/14/85
20	LC	C2 XG	Interface	1220-F3/19349	05/14/85
21	LC	C3 XG	Interface	1220-F3/19349	05/14/85
22	LC	C4 XG	Interface	1220-F3/19349	05/14/85
23	LC	C5 XG	Interface	1220-F3/19349	05/14/85
24	LC	C6 XG	Interface	1220-F3/19349	05/14/85
25	LC	C7 XG	Interface	1220-F3/19349	05/14/85
26	LC	C8 XG	Interface	1220-F3/19349	05/14/85
27	LC	C9 XG	Interface	1220-F3/19349	05/14/85
28	LC	D1 XG	Interface	1220-F3/19349	05/14/85
29	LC	D2 XG	Interface	1220-F3/19349	05/14/85
30	LC	D3 XG	Interface	1220-F3/19349	05/14/85
31	LC	D4 XG	Interface	1220-F3/19349	05/14/85
32	LC	D5 XG	Interface	1220-F3/19349	05/14/85
33	LC	D6 XG	Interface	1220-F3/19349	05/14/85
34	LC	D7 XG	Interface	1220-F3/19349	05/14/85
35	LC	D8 XG	Interface	1220-F3/19349	05/14/85
36	LC	D9 XG	Interface	1220-F3/19349	05/14/85

CALIBRATION DATA FOR INSTRUMENTATION

USED IN ATD CALIBRATION

ATD INSTRUMENTS	MANUFACTURER	MODEL/SERIAL No	CAL DATE	DUE
Chest Deflection Pot	BECKMAN	5311 / N/A	EACH USE	EACH USE
Chest Impactor Accelerometer	ENTRAN	EGV-1/14N3N-V13-1	09/14/93	03/14/94
Neck Pendulum Accelerometer	ENTRAN	EGV-1/14N3N-V13-1	09/14/93	03/14/94
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 184020/1684-067	EACH USE	EACH USE
Abdominal Compression Load	LEBOW/EATON	3167 /1573	09/14/93	03/14/94
Lumbar Flexion Load	LEBOW/EATON	3167 / 1573	09/14/93	03/14/94
Lumbar Rotation	BOURNS	3590S-2-102/ N/A	EACH USE	EACH USE
Abdominal Displacement	CELESCO	PT-101-158/0786551	EACH USE	EACH USE
Timer	MSE	MSE TIM/1	02/11/94	08/11/94
Time Trap	MSE	1 IN./1	02/11/94	08/11/94