V1724

REPORT NO. MSE-92-N02 R92027-02

NEW CAR ASSESSMENT PROGRAM (NCAP)

FRONTAL BARRIER IMPACT TEST

MAZDA MOTOR CORP.
1992 MAZDA B2200
2 DOOR PICKUP
NHTSA NO. MN5400

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

MAY 30, 1992

FINAL REPORT

Prepared For:

U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
OFFICE OF MARKET INCENTIVES
400 Seventh Street, S.W.
Room No. 5313 (NRM-22)
Washington, DC 20590

This publication is distributed by the U.S. Department of Transportation, National Highway Traffic Safety Administration, in the interest of information exchange. The opinions, findings and conclusions expressed in this publication are those of the author(s) and not necessarily those of the Department of Transportation or the National Highway Traffic Safety Administration. The United States Government assumes no liability for its contents or use thereof. If trade or manufacturers' names or products are mentioned, it is only because they are considered essential to the object of the publication and should not be construed as an endorsement. The United States Government does not endorse products or manufacturers.

Prepared by: Dr. Anil V. Khadilkar, Program Manager

Mr. Brian O'Keefe, Test Engineer

Mr. Jerry Kratzke, Test Engineer

MOBILITY SYSTEMS AND EQUIPMENT COMPANY

Approved by: _____
Dr. Anil V. Khadilkar

Date: 30 May 1992

FINAL REPORT ACCEPTED BY:

_____
Manager, New Car Assessment Program

AUG 19 1992
Date of Report Acceptance

_____
COTR, New Car Assessment Program

AUG 19 1992
Date of Report Acceptance

Technical Report Documentation Page

1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.
MSE-92-N02		

4. Title and Subtitle
NEW CAR ASSESSMENT PROGRAM (NCAP)
FRONTAL BARRIER IMPACT TEST
1992 MAZDA B2200, PICKUP
NHTSA No. MN5400

5. Report Date
MAY 30, 1992

6. Performing Organization Code
MSE

7. Author(s)
Dr. A. V. Khadilkar/Mr. Brian O'Keefe

8. Performing Organization Report No.
R92027-02

9. Performing Organization Name and Address
MOBILITY SYSTEMS AND EQUIPMENT COMPANY
9920 La Cienega Boulevard, Suite 708
Inglewood, California 90301

10. Work Unit No. (TRAIS)

11. Contract or Grant No.
DTNH22-90-D-32121,D.O.#3

12. Sponsoring Agency Name and Address
U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMIN.
OFFICE OF MARKET INCENTIVES
400 SEVENTH STREET, S.W., ROOM 5313
WASHINGTON, D.C. 20590

13. Type of Report and Period Covered
FINAL

14. Sponsoring Agency Code
DOT/NHTSA/RM/OMI

15. Supplementary Notes

16. Abstract

A 35 mph frontal barrier impact test using a load cell barrier was conducted on a 1992 Mazda B2200, Pickup, at the Mobility Systems and Equipment Company (MSE) crash test facility in San Bernardino, CA, on May 14, 1992.

The barrier impact velocity was 35.21 mph, and the ambient temperature at the barrier face at the time of impact was 80 deg. F. The post-test vehicle crush maximum was 14.7 in.

A summary of occupant injury measure data from the test appears below:

Injury Criteria Threshold Value	Driver Dummy	Passenger Dummy
Head Injury Criterion HIC = 1000	535	424
Chest Resultant Peak 60 Gs (3 ms clip)	40.9	43.10
Femur Load Left 2250 Pounds Right	540 296	222 N.D.

TYPE OF RESTRAINT SYSTEM: Manual 3 point continuous webbing system at each front outboard seating positions.

17. Key Words
35 MPH FRONTAL BARRIER IMPACT TEST
NEW CAR ASSESSMENT PROGRAM (NCAP)
1992 MAZDA, PICKUP

18. Distribution Statement
COPIES OF THIS REPORT ARE AVAILABLE FROM:
Technical Reference Division
Nat'l Hwy. Traffic Safety Admin.
Room 5108, Nassif Building
400 7th St. S.W. Wash. DC 20590

19. Security Classif. (of this report)	20. Security Classif. (of this page)	21. No. of Pages	22. Price
UNCLASSIFIED	UNCLASSIFIED	34	

Form DOT F 1700.7 (8-72) Reproduction of completed page authorized

TABLE OF CONTENTS

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 1

PURPOSE AND TEST PROCEDURE

This 35 mph frontal barrier impact test is a part of the FY'92 Vehicle Barrier Impact and Testing Program sponsored by the National Highway Traffic Safety Administration (NHTSA) under Contract No. DTNH22-90-D-32121. The purpose of this test was to obtain vehicle crashworthiness and occupant restraint system performance data for an impact speed in excess of the current 30 mph FMVSS 208/212/219/301-75 requirements.

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

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 2

SUMMARY OF FRONTAL BARRIER IMPACT TEST

A barrier was impacted by a 1992 Mazda B2200, Pickup, NHTSA No. MN5400, at a velocity of 35.21 mph. The frontal impact test was conducted by Mobility Systems and Equipment Company (MSE) on 14 May 1992. The general test and vehicle description information are presented in Tables 1 and 2. Pretest and posttest photographs of the test vehicle and dummies are shown in Appendix A.

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

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

The frontal impact event was documented by one (1) real time camera and fifteen (15) high-speed cameras. The camera location data are presented in Table 8.

Sixty (60) channels of crash parameters were recorded using two (2) FM tape recorders, associated direct analog to digital acquisition unit and data acquisition computers. Time history plots of all recorded channels are presented in Appendix B.

2.1 GENERAL COMMENTS

The 1992 Mazda B2200, Pickup, was equipped with a 133.2 cubic inch 4 cylinder engine and 4 speed automatic transmission. The test weight of the 1992 Mazda B2200, Pickup, with two (2) 50th percentile male dummies, instrumentation, and cameras was 3,453 pounds.

The 1992 Mazda B2200, Pickup, was involved in a frontal barrier crash at a velocity of 35.21 mph.

The maximum static crush for the vehicle of 14.7 inches occurred at the right side of the bumper. The windshield was cracked, but otherwise the vehicle glazing remained intact. The passenger's front door was opened without the aid of tools.

The driver ATD's face hit the steering wheel center hub. The top of the driver's head hit the ceiling, the sun visor and

the top of the steering wheel. The driver's left and right knees hit the steering column and the dash panel. The driver ATD had a HIC value of 535, the maximum chest acceleration (resultant clipped) was 40.9 g's and the maximum femur loads were 540 (left) and 296 (right) pounds.

The top of the passenger ATD's head hit the ceiling, sun visor glove box door and his right knee. THe passenger's face hit his right knee, both knees hit the glove box door and the dash panel. The HIC value for the passenger ATD was 424, the maximum chest acceleration (resultant clipped) was 43.1 g's, and the maximum femur loads was 222 (left) pounds. There was no reportable data for the right femur load.

Seat belt spool out, measured by high-speed film analysis, was not recorded since the onboard cameras did not run.

There were no apparent visual indications of any stoddard solvent leaks, windshield periphery separation or hood contact with the windshield.

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

Data Table No. 1 Test Vehicle Data

VEHICLE YEAR/MAKE/MODEL/BODY STYLE: 1992/MAZDA B2200/PICKUP

VEHICLE NHTSA NO.: M N 5 4 0 0 VIN: J M 2 U F 1 2 3 6 N 0 2 9 3 5 3 3

VEHICLE BODY COLOR: BLUE/GREEN ; MONTH & YEAR OF MANUFACTURE: 02/92

ENGINE: 4 Cylinders; 133.2 C.I.D; - Liters; 2184 CC
X Gas; _____ Diesel: _____ Turbocharged
PLACEMENT-- X Longitudinal; _____ Transverse (Lateral)

TRANSMISSION: 4 Speed; ____ Manual; X Automatic; X Overdrive
FINAL DRIVE: ____ Front Wheel Drive X Rear Wheel Drive;
____ Four Wheel Drive

DATE VEHICLE AVAILABLE FOR 35 MPH CRASH TESTING: 04/06/92

ODOMETER READING: 134 miles; OPTIONS: ___ A/C; X P/S; ___ P/Wdo.; ___
____ Tilt Whl.; ___ Cruise Control

DATA RECORD FROM VEHICLE'S TIRE PLACARD:

Tire Pressure (at capacity): 26 psi Front; 35 psi Rear
Recommended Tire Size: P205/75 R14
Tires on Vehicle: P205/75 R14 ; Manufacturer: BRIDGESTONE
Number of Occupants: 2 Front; N/A Rear; ____ 3rd Seat; 2 TOTAL
Type of Front Seats: X Bucket; _____ Bench; _____ Split Bench
Type of Front Seat Back: ____ Fixed; X Adjustable With X Lever
___Rotating Knob

Vehicle Maximum Capacity Loading = N/A lbs. (A)
No. of Occupants x 150 lbs.- - - = N/A lbs. (B)
Cargo Capacity (A - B)- - - - - = 300 lbs.
* gvw - Delivered Weight.

TEST VEHICLE DELIVERED WEIGHT WITH MAXIMUM FLUIDS:

Right Front = 795 lbs.
Left Front = 826 lbs. TOTAL FRONT = 1621 lbs.(57.0% of TOTAL)
Right Rear = 631 lbs.
Left Rear = 578 lbs
TOTAL WEIGHT = 2830 lbs. TOTAL REAR = 1209 lbs.(43.0% of TOTAL)

Data Table No. 1 (Con't) Test Vehicle Data

CALCULATION OF TEST VEHICLE TARGET WEIGHT:

Total Test Vehicle Delivered Weight With Maximum Fluids = 2830 lbs.
Maximum Cargo Carrying Capacity of Test Vehicle*- - - - - 300 lbs.
Weight of Two P.572 Dummies (2 x 164 lbs.)- - - - - - - - 328 lbs.
TEST VEHICLE TARGET WEIGHT 3458 lbs.
*300 lbs. for light trucks and MPVs

ACTUAL WEIGHT OF TEST VEHICLE WITH 2 DUMMIES AND CARGO:

Right Front = 875 lbs. TOTAL FRONT = 1791 lbs. (52.0% of TOTAL)
Left Front = 916 lbs.
Right Rear = 848 lbs. TOTAL REAR = 1662 lbs. (48.0% of TOTAL)
Left Rear = 814 lbs.

TOTAL WEIGHT= 3453 lbs. (which includes 100 lbs. of cargo ballast weight placed in the cargo/luggage area)

VEHICLE COMPONENTS REMOVED TO MEET TARGET WEIGHT:

1. X Spare Tire 3. ___ Tail lamp hsg. ___ Rt.Side ___ Left Side
2. ___ Rear Bumper Assembly 4. _____

TEST VEHICLE ATTITUDE:

As Delivered----Right Front = 29.30 inches
Left Front = 29.30 inches
Right Rear = 31.40 inches
Left Rear = 31.00 inches

Ready For Test--Right Front = 28.40 inches
Left Front = 28.20 inches
Right Rear = 29.60 inches
Left Rear = 29.10 inches

Test Vehicle Wheelbase: 108.70 inches; C.G.= 52.20 inches rearward of front wheel centerline

Total Vehicle Length:

Right Side = 174.20 inches
Left Side = 174.20 inches
Centerline = 175.80 inches

Data Table No. 2 Post Crash Test Data

DATA OF 35 MPH FRONTAL BARRIER IMPACT RATING TEST: 05/14/92

TIME OF TEST: 4:00 PM: AMBIENT TEMPERATURE AT BARRIER FACE: 80 °F

VEHICLE'S OCCUPANT COMPARTMENT TEMPERATURE: 76 °F

(spec. Range = 66 to 78 °F.)

VEHICLE WINDSHIELD MOLDING TEMPERATURE: 76 °F.

VEHICLE IMPACT VELOCITY: Primary Speed Trap = 35.21 mph
Secondary Speed Trap *ND mph
(Specified Range = 34.5 to 35.5 mph)

Distance from vehicle's front bumper forwardmost surface to barrier face when--

(a) entering the speed trap = 5.0 ft
(b) exiting the speed trap = 1.0 ft

VEHICLE STATIC CRUSH:

Vehicle Pre-test Length-Right Side =174.2"; C/Line=175.8"; Left Side=174.2"
Vehicle Post-test Length-Right Side=159.5"; C/Line=162.5"; Left Side=162.0"
Vehicle Static Crush --- Right Side= 14.7"; C/Line= 13.3"; Left Side= 12.2"

VEHICLE REBOUND FROM BARRIER FACE:

Vehicle Right Side = 13.5 inches
Vehicle Centerline = 13.0 inches
Vehicle Left Side = 15.3 inches

VEHICLE DUMMY CONTACT POINTS:

	DRIVER (I.D. No. 814)			PASSENGER (I.D. No. 830)		
	Strg.Col. Hub	Strg. Wheel	Instru. Panel	Instru. Panel	Knee Assy.	Glove Box Door
HEAD	YES	YES	NO	NO	YES	YES
RIGHT KNEE	////////	/////	YES	YES	//////	YES
LEFT KNEE	////////	/////	YES	YES	//////	YES

VEHICLE DOOR OPENING INFORMATION:

	RIGHT SIDE		LEFT SIDE	
	OPENED	JAMMED	OPENED	JAMMED
FRONT DOORS	YES	NO	YES	NO
REAR DOORS	N/A	N/A	N/A	N/A

* NO DATA

Data Table No. 2 (Cont'd) Post Crash Test Data

VEHICLE'S FRONT SEAT MOVEMENT DURING CRASH EVENT:

	RIGHT SIDE	LEFT SIDE
Seat Cushion Shift - - - - -	0.6 " forward;	0.0 " forward
Seat Adjuster Failure- - - -	None ;	None

Details of Any Failure: N/A

OTHER NOTABLE IMPACT EFFECTS: N/A

SECTION 3

OCCUPANT AND VEHICLE INFORMATION

I. OMI DATA

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

II. OVR DATA

Load Cell Barrier Data
Vehicle Accelerometer Data

Data Table No. 3 FMVSS No. 208 Occupant Crash Protection Data Sheet

VEH. YR./MAKE/MODEL/BODY STYLE: 1991 MAZDA B2200, PICKUP

VEH. NHTSA NO.: MN5400 ; TEST DATE: 05/14/92

MAXIMUM ACCELERATION VALUES:

		DRIVER DUMMY # 814	PASSENGER DUMMY # 830
Head Channel X	HEAD X	-73.561	-69.877
Head Channel Y	Y	-20.535	38.134
Head Channel Z	Z	53.446	89.413
HEAD RESULTANT	R	92.962	118.590
Chest Channel X	CHEST X	-40.634	-40.067
Chest Channel Y	Y	15.539	26.609
Chest Channel Z	Z	20.191	29.803
CHEST RESULTANT (3 msec clip)	R	40.85	43.10
TIME INTERVAL (seconds)		.0367 - .0397	.0481 - .0511

HEAD INJURY CRITERIA (HIC) VALUES:

HIC	HIC	535.4	424.4
t_1 (seconds)		0.0497	0.0442
t_2 (seconds)		0.0857	0.0802
Avg. Accel. t_1 to t_2		46.7	42.1

MAXIMUM FEMUR FORCES:

Right Side (lbs.)	FR	-296.2	N. D.
Left Side (lbs.)	FL	-539.80	-222.2

MAXIMUM SEAT BELT FORCES:

Lap Belt	LAP	2485.2	2024.1
Shoulder Belt	SHLDR	1826.0	1729.9

MAXIMUM SEAT BELT WEBBING SPOOL-OUT:

Lap/Shoulder Belt Combination	1.7	2.8

Data Table No. 4 Test Dummy Positioning Data

PRE-IMPACT DATA:

Make/Model: MAZDA B2200

Body Style: PICKUP Model Year: 1992

NHTSA No.: MN5400 Color: BLUE/GREEN

DATA FROM CERTIFICATION LABEL:

Vehicle Manufacturer: MAZDA

Date of Manufacture: 02/92 ; VIN: JM2UF1236N0293533

GVWR: 4460 lb; GAWR: Front = 2050 lb; Rear = 2770 lb

POST-IMPACT DATA:

Date of Test: 05/14/92 Time: 4:00 PM Temperature: 80 °F

Required Impact Velocity Range: 34.5 to 35.5 mph

Impact Velocity: Primary = 35.21 mph Secondary = N. D. mph

Seat Type: Bucket Adjuster Type: Lever

Bucket Seat Back Type: Adjustable Headrest

TECHNICIANS: Levi Navarro

DRIVER DUMMY # |8|1|4|

HEAD 25.00" TARGET 70.00°

KNEE 26.40" JOINT - 3.00°

APPROX- 11.60" IMATE -19.00° "H" POINT

FORE AFT

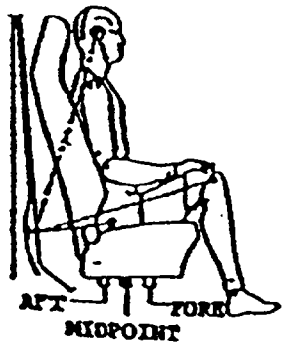
MIDPOINT

PASSENGER DUMMY # |8|3|0|

25.10" HEAD 72.00° TARGET

26.60" KNEE - 2.00° JOINT

11.40" APPROX- -20.00° MATE "H" POINT



AFT FORE

MIDPOINT

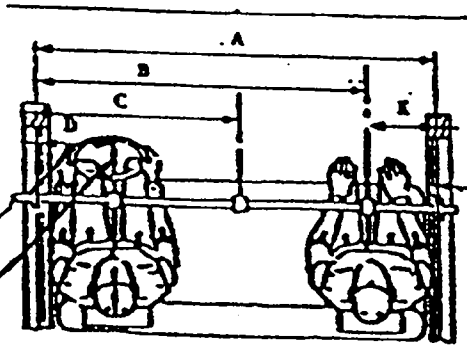
A = 56.00 "

B = 42.40 "

C = 28.00 "

D = 13.20 "

E = 13.60 "



LATERAL BAR

ADJUSTABLE POINTER

DOOR GLASS HEIGHT

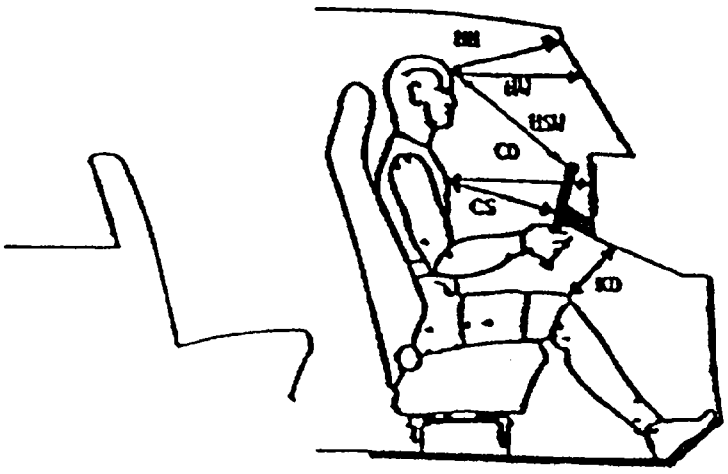
LEFT FRONT DOOR

RIGHT FRONT DOOR

DRIVER DUMMY # |8|1|4|

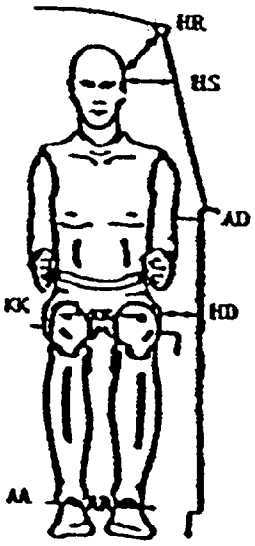
PASSENGER DUMMY # |8|3|0|

Data Table No. 4 (Cont'd) Test Dummy Positioning Data

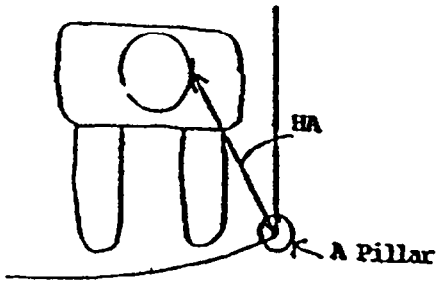


	Driver	Passenger
HH	9.50	11.50
HW	13.80	13.90
CD	19.30	20.50
CS	12.40	N/A
KD	L- 6.40	L- 5.80
KD	R- 6.00	R- 6.50
Torso Angle	10.00	Torso Angle 12.00
Seat Back Angle	15.00	Seat Back Angle 15.00
HSW	14.50	N/A

HSW = Head to Steering Wheel (in.)
HA = Head Target to A Pillar (in.)
HH = Head to Windshield Header (in.)
HW = Head to Windshield (in.)
CD = Chest to Dash (in.)
CS = Chest to Steering Wheel (in.)
HR = Head to Side Roof
HS = Head to Side Window (in.)
AD = Arm to Door (in.)
HD = Hip to Door (in.)
KK = Knee to Knee (in.)
Torso and seat back angles
are relative to vertical. (deg.)

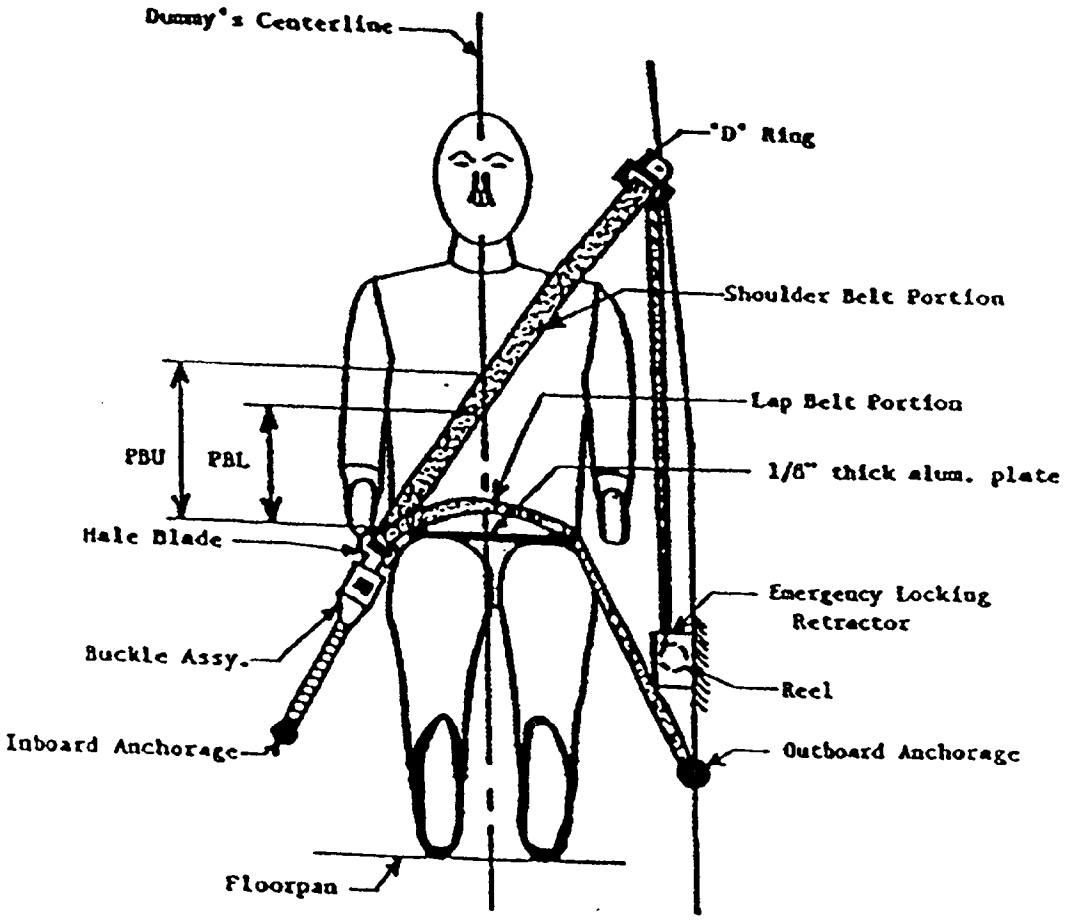


REMARKS



	Driver	Passenger
HR	5.40	6.00
HS	7.10	7.80
AD	2.30	3.50
HD	5.30	6.40
KK	14.00	12.50
AA	12.50	9.00
HA	13.10	14.80

Data Table No. 5 Seat Belt Positioning Data

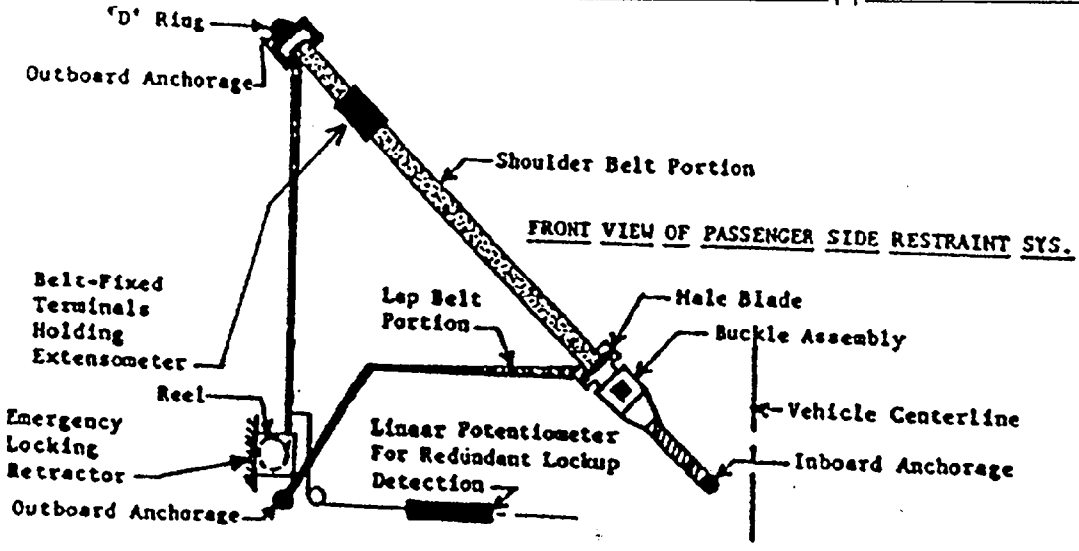


FRONT VIEW OF DRIVER DUMMY

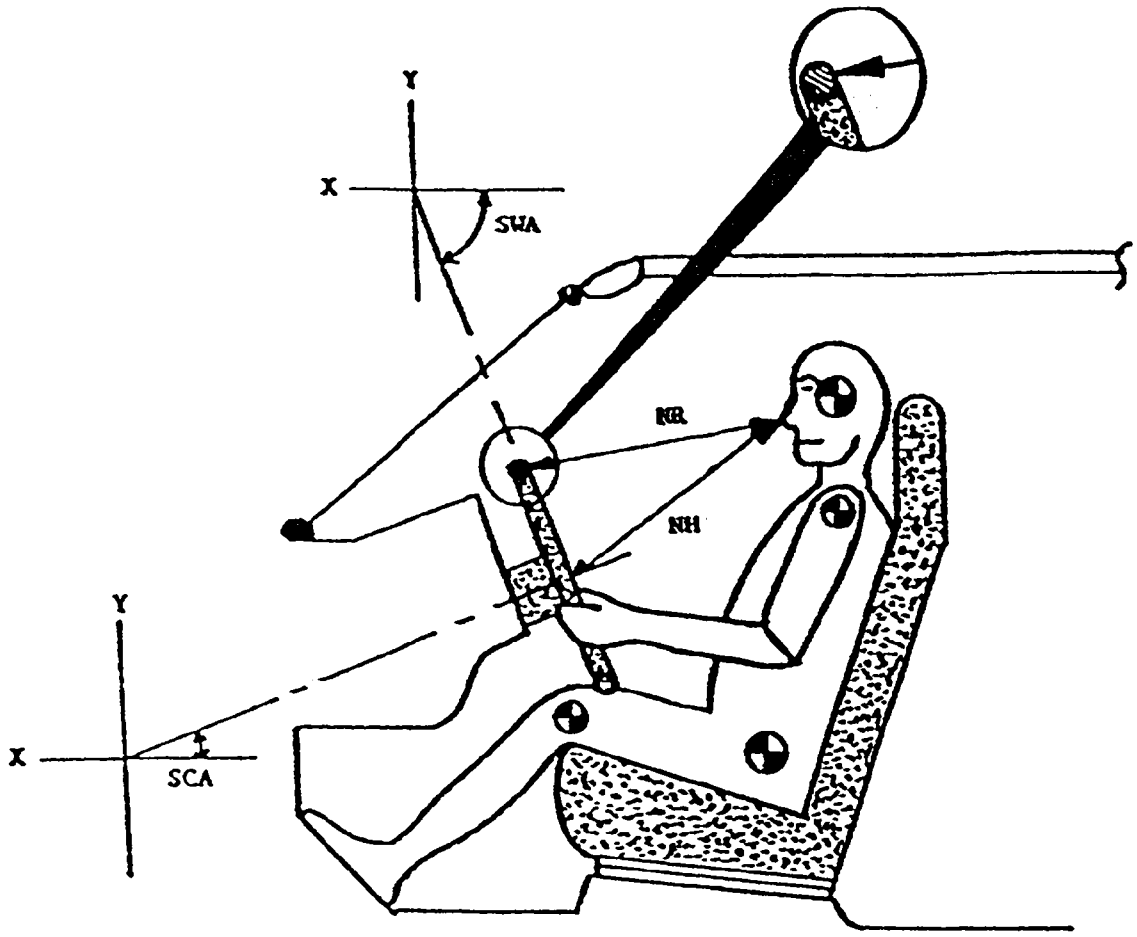
	DRIVER DUMMY (inches)	PASSENGER DUMMY (inches)
PBU -- Top surface of alum. plate to belt upper edge	12.80	13.40
PBL -- Top surface of alum. plate to belt lower edge	9.50	10.50
LAP BELT TENSION, POUNDS	3.0	3.0
SHOULDER BELT TENSION, POUNDS	3.0	3.0

Data Table 6 Seat Belt Performance Assessment Test Data

	DRIVER SIDE		PASSENGER SIDE	
BELT LENGTH DATA:	PRE-TEST	POST-TEST	PRE-TEST	POST-TEST
Total belt length from retractor reel to bolt hole anchor point for continuous webbing systems	92.00	96.30	92.30	94.30
Retractor reel to 'D' ring as measured on Part 572	25.00	25.00	24.30	24.30
Shoulder belt length as measured on Part 572 dummy	35.00	35.50	35.00	36.00
Lap belt length as measured on Part 572 dummy	32.00	35.80	33.00	34.00
Remainder of belt webbing left on retractor reel	24.80	24.80	25.50	25.50
BELT SPOOL-OFF DATA:				
As determined by film analysis	N. D.		N. D.	
As determined electronically	1.65 in		2.75 in	
As determined mechanically	1.25 in		3.10 in	
BELT STRAIN DATA:				
Measured between male blade and 'D' ring, electronically	4.1 Percent		1.0 Percent	
mechanically	0.0		0.0	



Data Table No. 7 Driver Dummy to Steering Wheel Positioning



LEFT SIDE VIEW

	MEASUREMENTS
NR--Distance from tip of dummy's nose to Top Rear surface of steering wheel rim.	12.80 Inches
NH--Distance from tip of dummy's nose to center of steering column hub.	14.30 Inches
SCA-Angle of steering column relative to the horizontal X axis.	24.00 Degrees
SWA-Angle of steering wheel relative to the horizontal X axis.	66.00 Degrees

Data Table 8 Camera Location Data

VEH. NHTSA NO.: MN5400 ; TEST DATE: 05/14/92 ; TIME: 4.00 PM

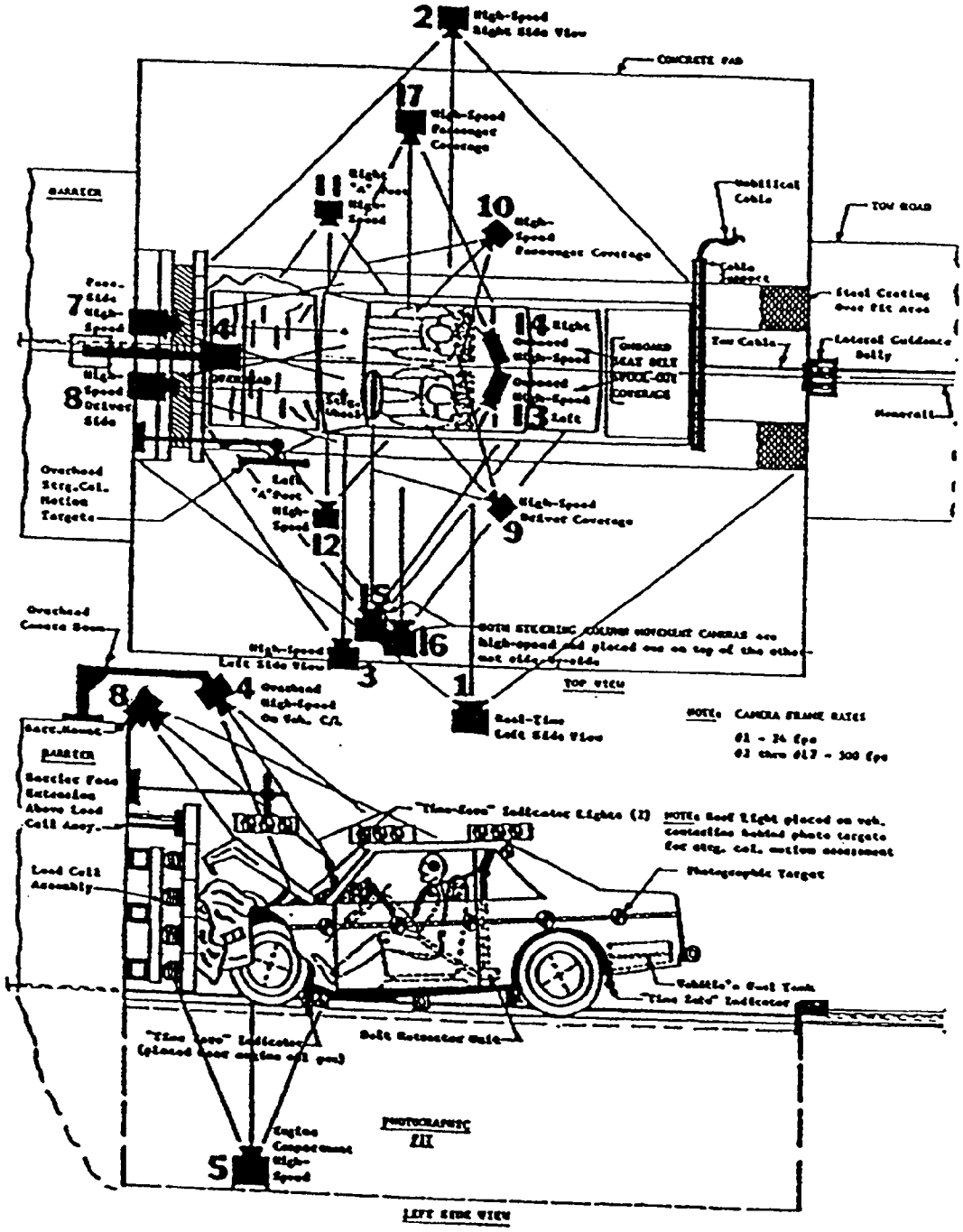
VEH. YEAR/MAKE/MODEL/BODY STYLE: 1992/MAZDA B2200, PICKUP

CAMERA NO.	VIEW	CAMERA POS. (in.) X	Y	Z	ANGLE (deg)	FILM PLANE TO HEAD TARGET	LENS (mm)	SPEED (fps)
1	Left Side View	231	565	134	-20	573	15-70 ZOOM	24
2	Right Side View	33	288	56	- 3	277	13	600
3	Left Side View	48	397	68	- 7	382	25	580
4	Overhead	-14	0	159	-75	147	13	660
5	Pit-Engine	25	0	-72	+90	140	13	560
6	Pit-Fuel Tank	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.
7	Front-Passenger	-17	15	95	-44	113	16	600
8	Front-Driver	-17	13	95	-41	111	16	610
9	Left Side-Driver	89	106	80	-18	93	16	610
10	Right Side-Passenger	90	112	78	-15	98	16	660
11	Right Side-'A' Post	7	178	45	- 1	180	28	600
12	Left Side-'A' Post	25	439	5	- 6	429	50	620
13	Onboard-Left Side	116	11	47	+ 4	31	13	**
14	Onboard-Right Side	116	10	48	+ 3	29	13	**
15	Left Side-Steering Col.	56	397	137	-14	390	28	590
16	Left Side-Steering Col.	56	397	122	-15	387	28	550
17	Right Side Passenger	71	115	60	- 8	100	16	540

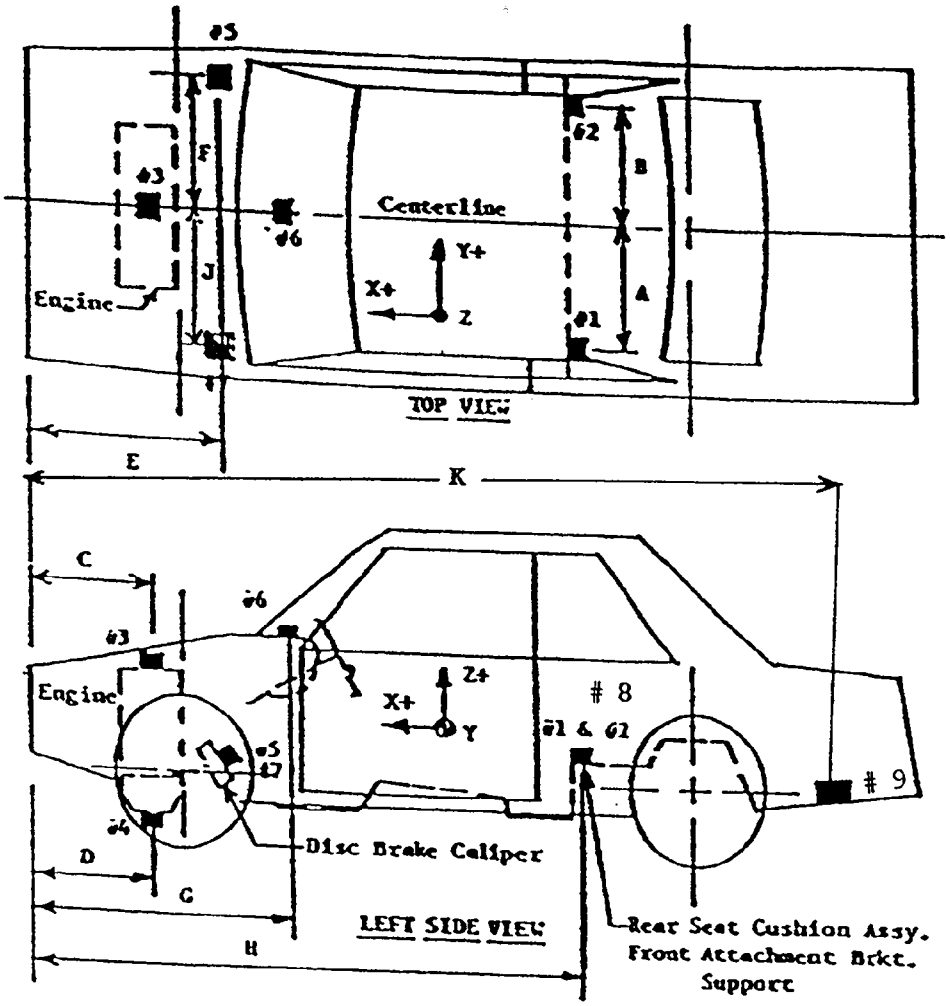
* X = film plane to monorail centerline
  Y = film plane to barrier face
  Z = film plane to ground

** Did not run

Data Table No. 8 (Cont'd) Camera Location Data



Data Table No. 9 Vehicle Accelerometer Location and Data Summary



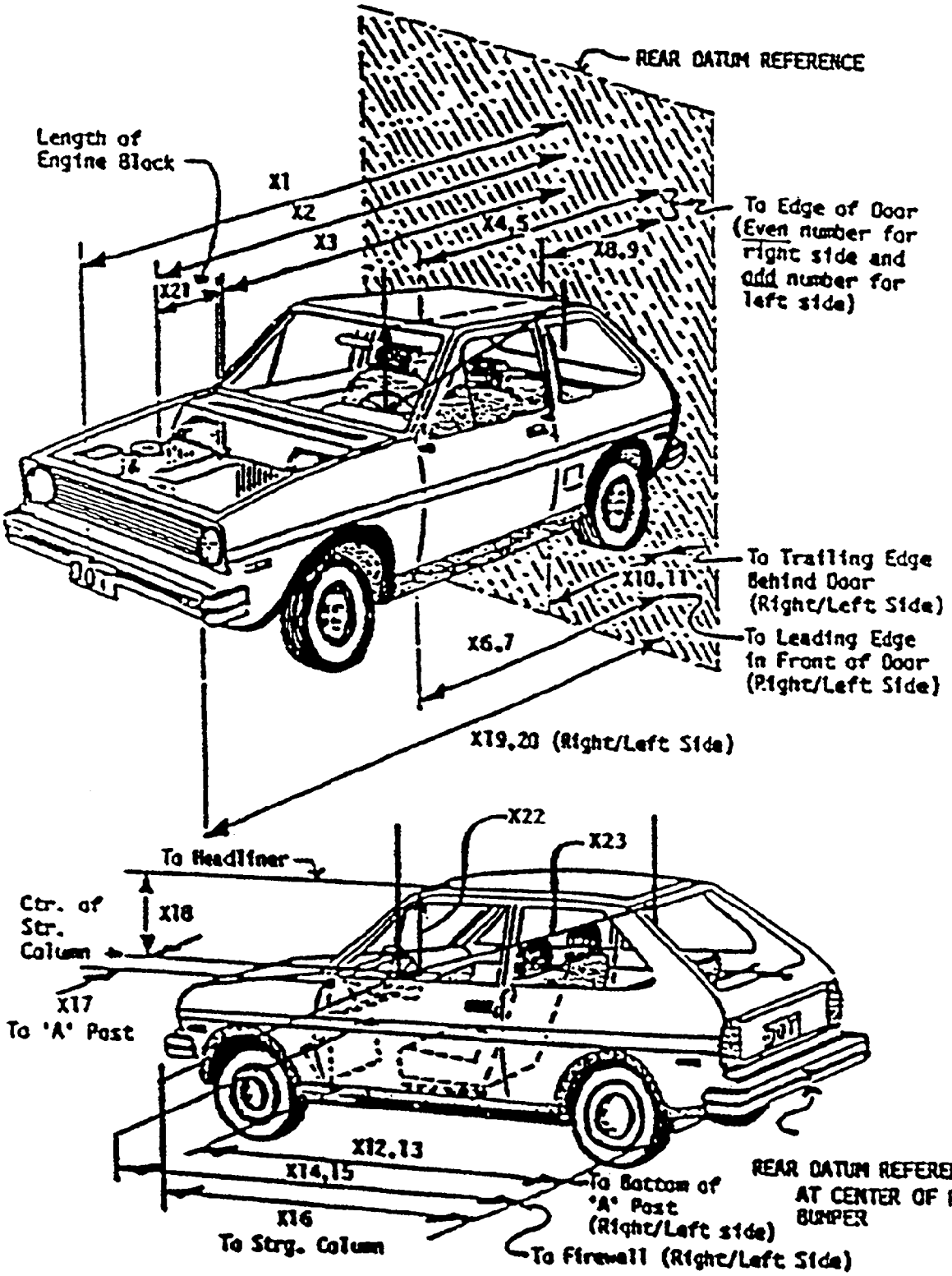
Dimension	Length (in.)
A	22.5
B	22.5
C	25.0
D	28.0
E	33.0
F	22.0
G	56.0
H	118.0
J	22.0
K	173.0

Loc. No.	Description	Maximum Value X-	msec.	X+	msec.
1	Rear seat X-member @ Left Side	39.7	16.9	2.5	143.4
2	Rear seat X-member @ Right Side	37.1	23.0	2.8	162.7
3	Top of Engine Block	201.9	28.5	40.6	38.3
4	Bottom of Engine Block	101.8	27.1	286.8	38.5
5	Disc Brake Caliper Right Side	101.5	44.0	44.7	52.1
6	Instrument Panel	80.1	12.1	33.2	18.0
7	Disc Brake Caliper @Left Side	106.0	17.6	43.5	37.8
Loc. No.		Z-	msec	Z+	msec
8	Center Rear X Member	27.1	15.8	20.3	43.1
9	Vehicle Rear	35.5	92.7	32.2	16.1

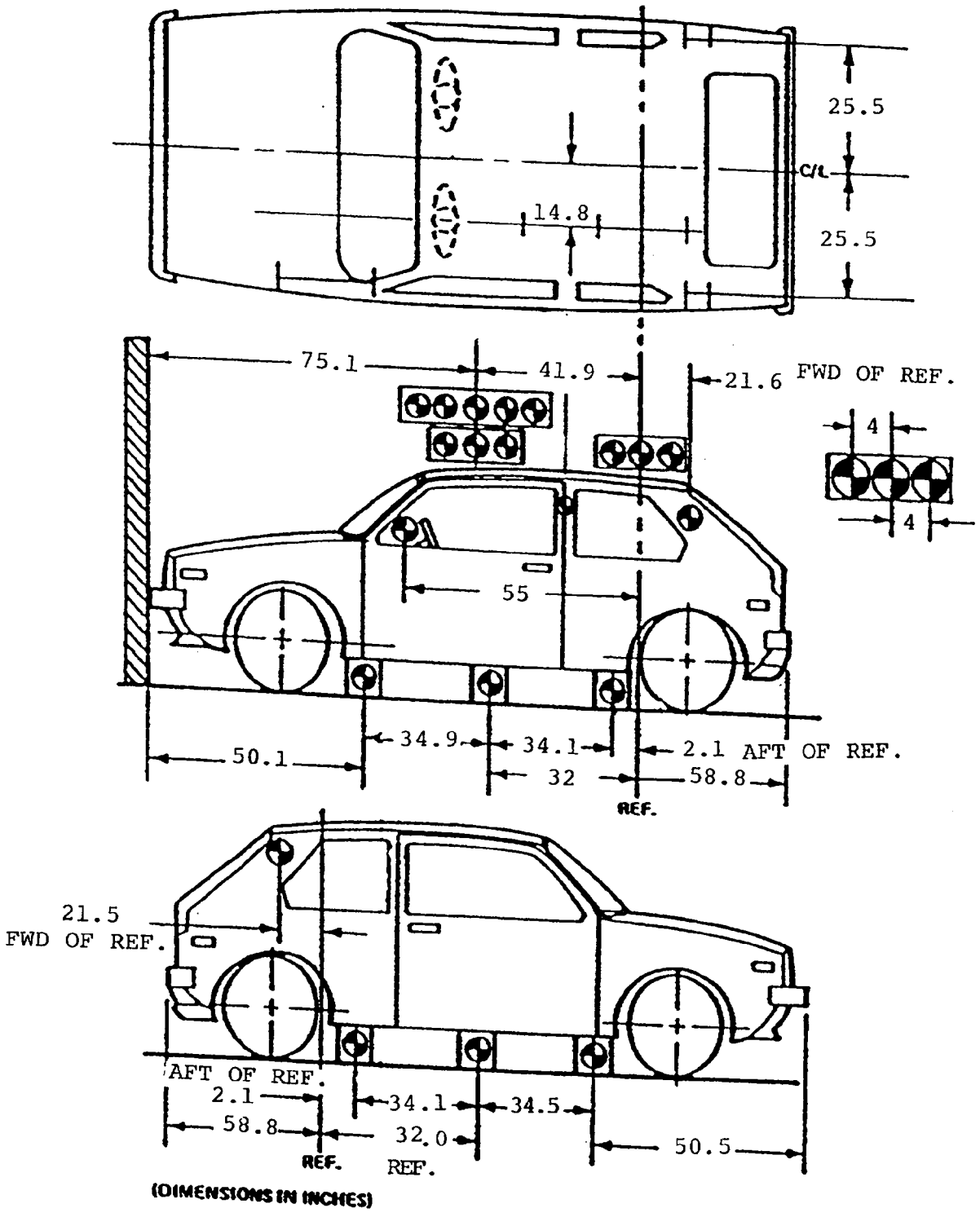
Data Table No. 10 Test Vehicle Measurements

NO.	MEASUREMENT DESCRIPTION	Pre-Test (in.)	Post-Test (in.)	Diff. (in.)
X1	Total Length of Test Vehicle at Centerline	175.8	162.5	13.3
X2	Rear Surface of Vehicle to Front of Engine	154.8	150.0	4.8
X3	Rear Surface of Vehicle to Firewall	138.5	136.0	2.5
X4	Rear Surface to Upr. Leading Edge of Right Door	104.4	104.0	0.4
X5	Rear Surface to Upr. Leading Edge of Left Door	104.8	104.5	0.3
X6	Rear Surface to Lwr. Leading Edge of Right Door	124.6	123.0	1.6
X7	Rear Surface to Lwr. Leading Edge of Left Door	124.8	124.0	0.8
X8	Rear Surface to Upr. Trailing Edge of Right Door	85.5	84.5	1.0
X9	Rear Surface to Upr. Trailing Edge of Left Door	85.6	85.5	0.1
X10	Rear Surface to Lwr. Trailing Edge of Right Door	83.4	81.5	1.9
X11	Rear Surface to Lwr. Trailing Edge of Left Door	83.1	83.0	1.1
X12	Rear Surface to Bottom 'A' Post on Right Side	124.8	123.0	1.8
X13	Rear Surface to Bottom 'A' Post on Left Side	124.8	124.0	0.8
X14	Rear Surface to Firewall on Right Side	138.3	135.5	2.8
X15	Rear Surface to Firewall on Left Side	138.0	136.5	1.5
X16	Rear Surface to Steering Column	114.5	110.0	4.5
X17	Center of Steering Column to 'A' Post	15.0	13.0	2.0
X18	Center Steering Column to Headlining	17.3	16.5	0.8
X19	Rear Surface to Right Side of Front Bumper	174.2	159.5	14.7
X20	Rear Surface to Left Side of Front Bumper	174.2	162.0	12.2
X21	Length of Engine Block	17.5	17.5	0.0

Data Table No. 10 (Cont'd) Test Vehicle Measurements



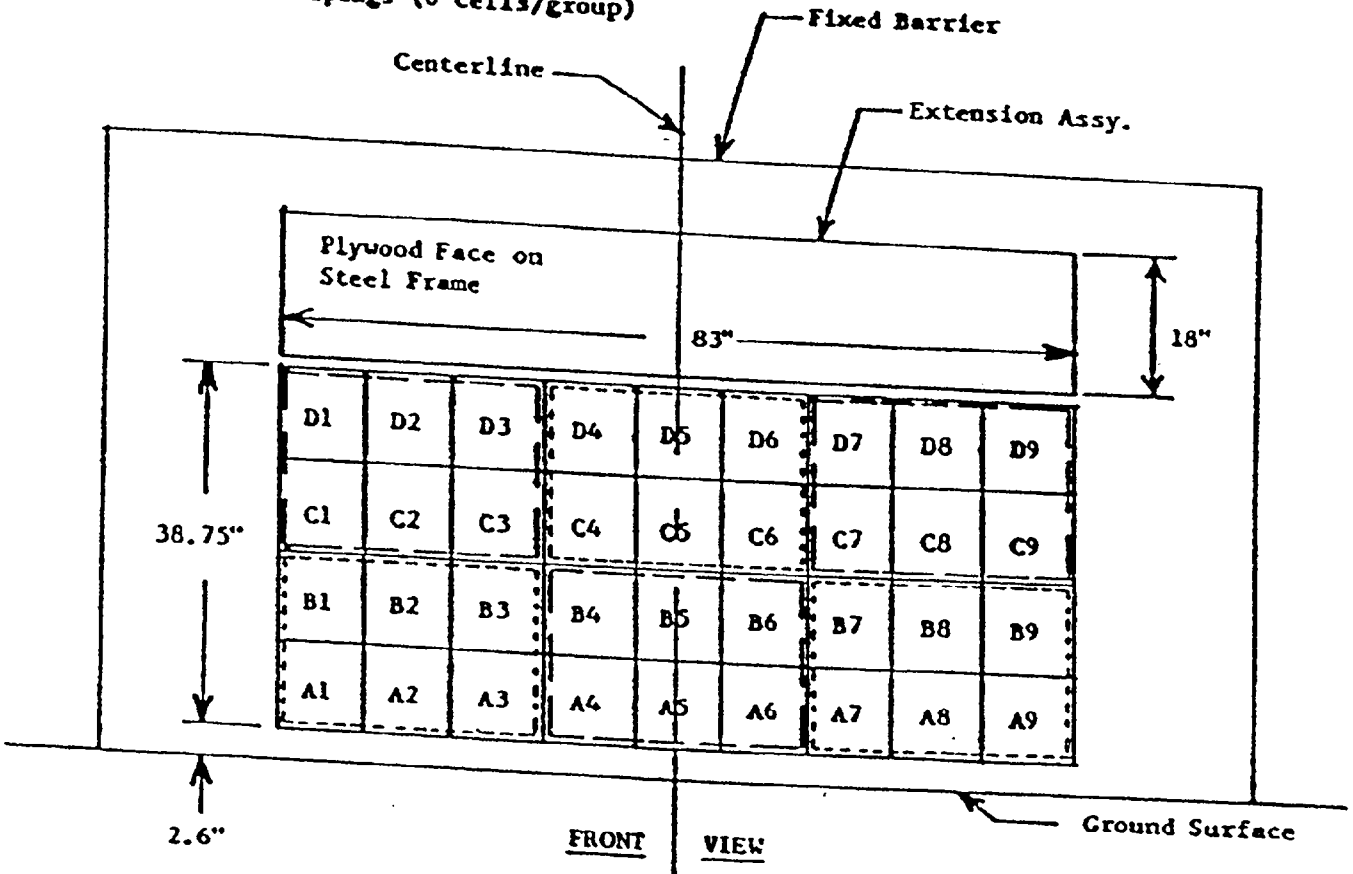
DATA TABLE 11 VEHICLE TARGET LOCATIONS



(DIMENSIONS IN INCHES)

Data Table No. 12 Load Cell Locations on Fixed Barrier

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



6 GROUPINGS OF 6 LOAD CELLS EACH

C1 thru D3	C4 thru D6	C7 thru D9
A1 thru B3	A4 thru B6	A7 thru B9

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

ACCIDENT INVESTIGATION DIVISION DATA FOR 35 MPH FRONTAL BARRIER IMPACT

VEHICLE MAKE/MODEL/BODY/STYLE: 1992 MAZDA B2200 PICKUP

VEH. NHTSA NO.: MN5400 ; VIN: JM2UF1236N0293533

MODEL YEAR: 1992 ; BUILD DATE: 02/92 ; TEST DATE: 05/14/92

VEH. SIZE CATEGORY: PICKUP ; TEST WEIGHT: 3453 LB.

VEH. WHEELBASE: 108.7 IN; FRONT OVERHANG: 30 IN; OVERALL WIDTH: 65.7 IN

ACCELEROMETER DATA:

LOCATION: LEFT AND RIGHT SIDE PASSENGER COMPARTMENT

CALIBRATION PROCEDURE: 6 MO.S/DROP TEST

LINEARITY: GOOD ; INTEGRATION ALGORITHM: NHTSA STANDARD

VEH. IMPACT SPEED: 35.21 MPH ; TIME OF SEPARATION: 100 MSEC

VELOCITY CHANGE: 37.54 MPH (LEFT), 37.60 MPH (RIGHT)

COLLISION DEFORMATION CLASSIFICATION (CDC) CODE:

F (FRONTAL)

CRUSH DEPTH DIMENSIONS:

C1 = N/AV INCHES*

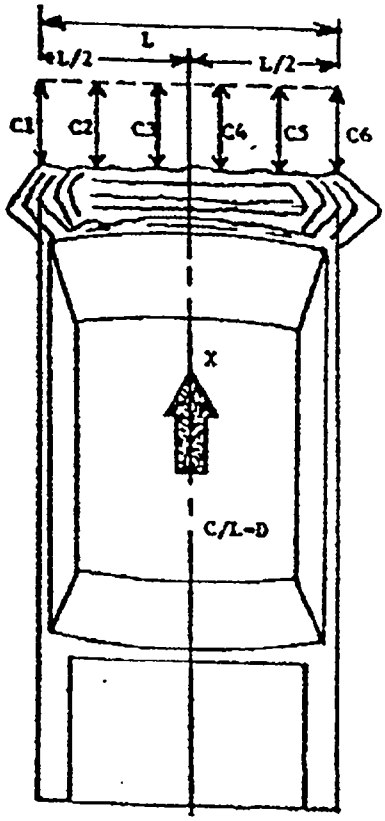
C2 = 13.10 INCHES

C3 = 13.40 INCHES

C4 = 13.90 INCHES

C5 = 14.00 INCHES

C6 = 9.50 INCHES



MIDPOINT OF DAMAGE:

D = VEHICLE CENTERLINE (LONGITUD.)

LENGTH OF DAMAGED REGION:

L = 64.50 INCHES

* PIECE OF BUMPER BROKE OFF.

THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX A

PHOTOGRAPHS

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

THIS PAGE INTENTIONALLY LEFT BLANK

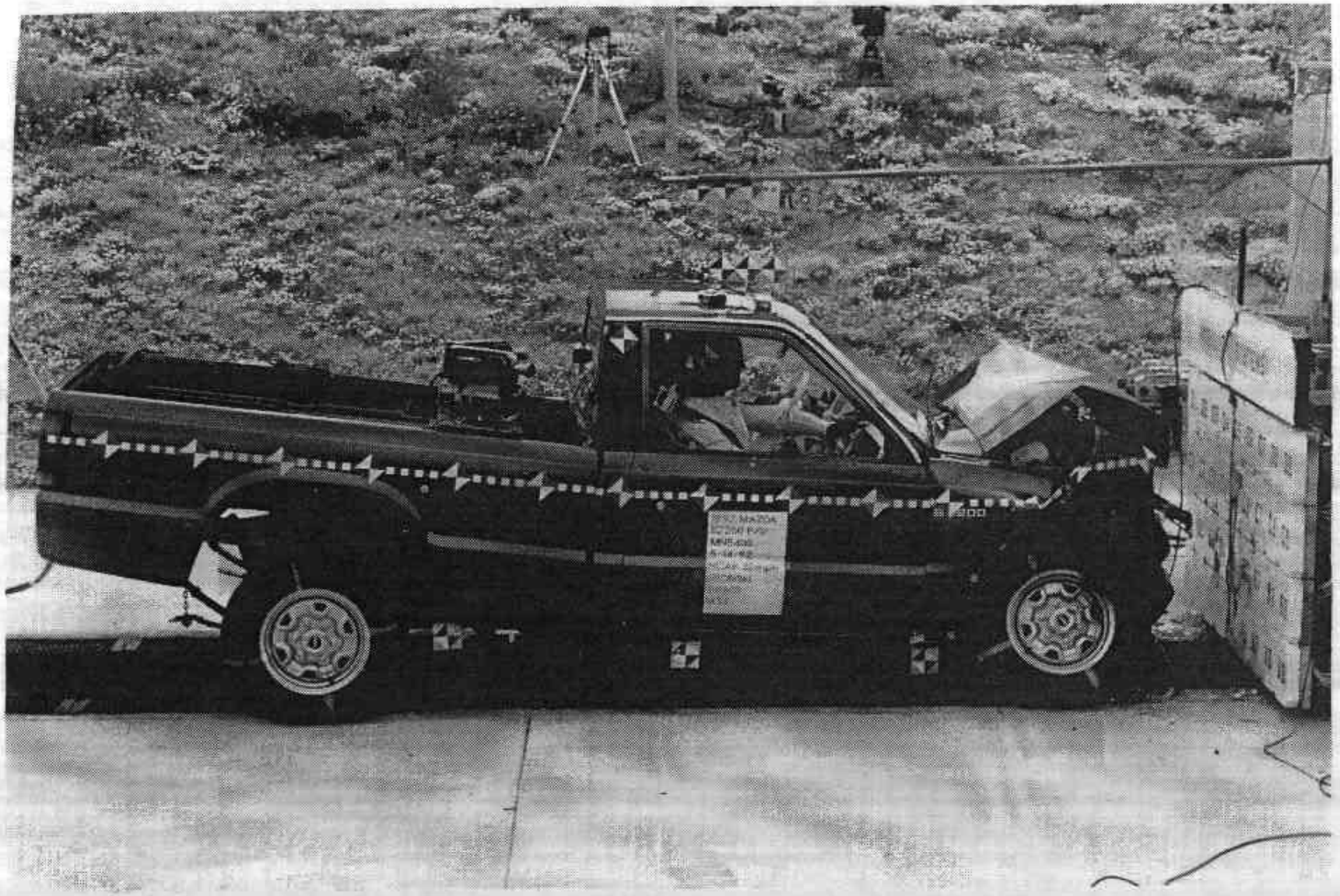
PRETEST FRONT VIEW

POSTTEST FRONT VIEW

PRETEST LEFT SIDE VIEW

POSTTEST LEFT SIDE VIEW

PRETEST RIGHT SIDE VIEW



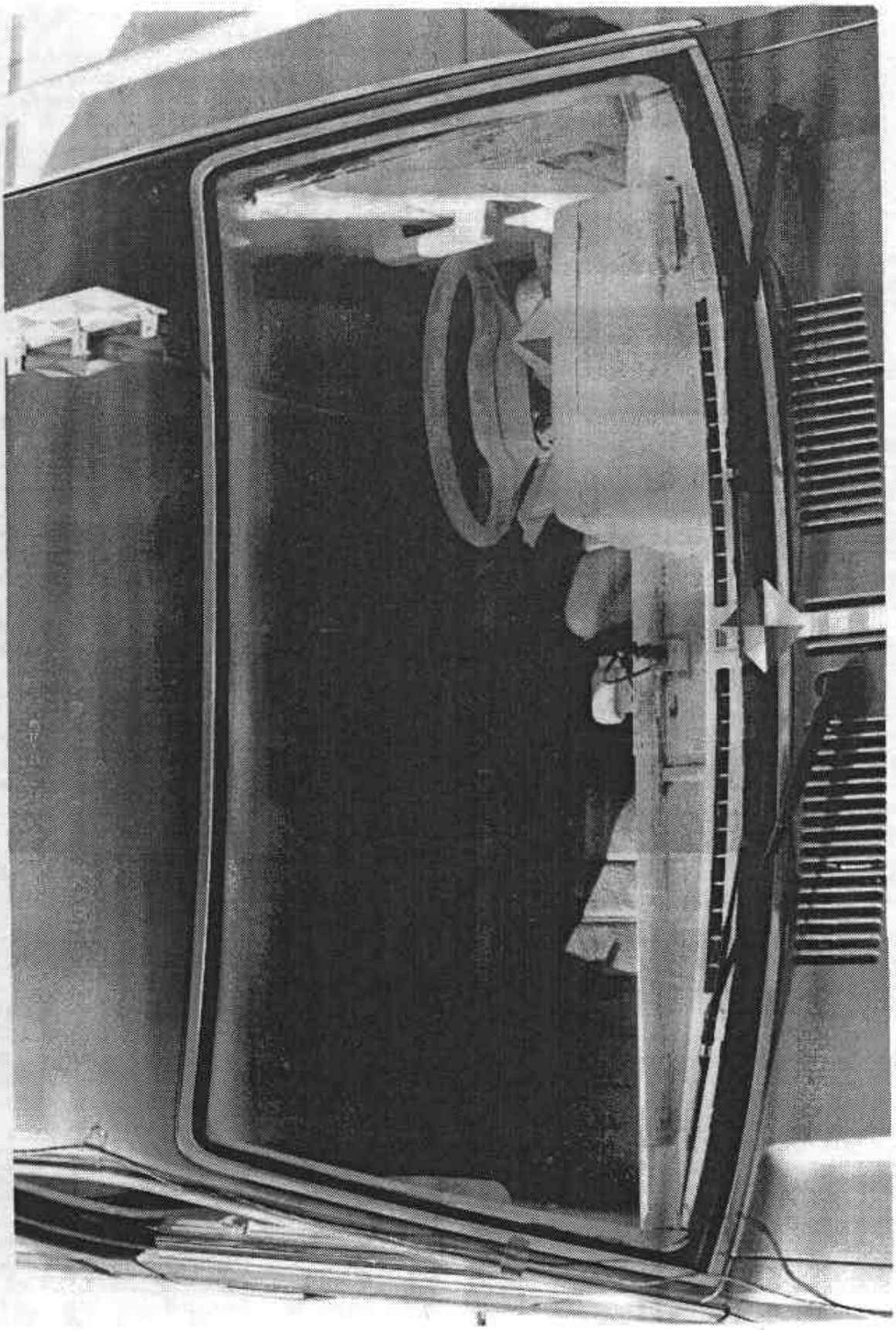
POSTTEST RIGHT SIDE VIEW

PRETEST RIGHT FRONT 3/4 VIEW

POSTTEST RIGHT FRONT 3/4 VIEW

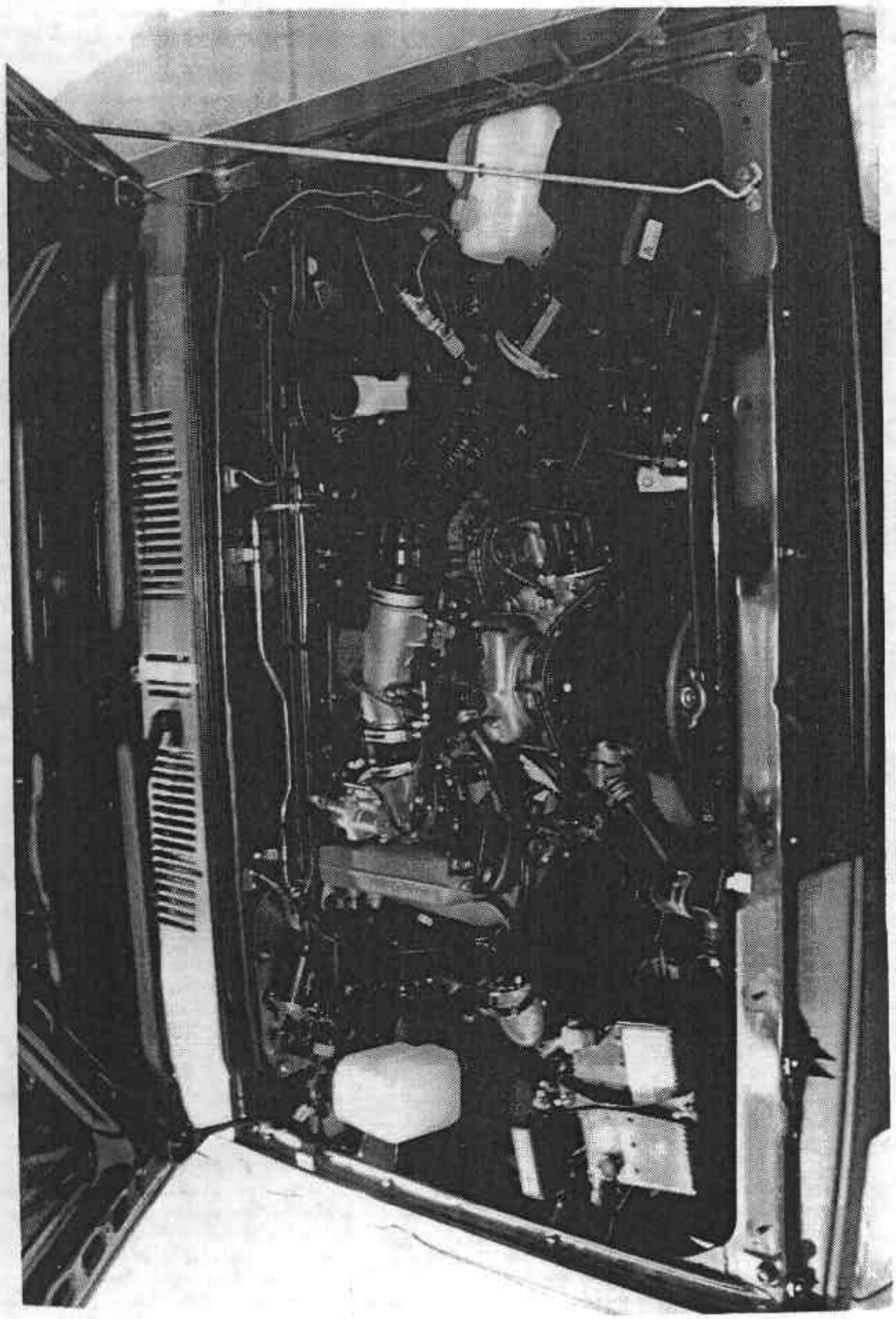
PRETEST LEFT REAR 3/4 VIEW

POSTTEST LEFT REAR 3/4 VIEW

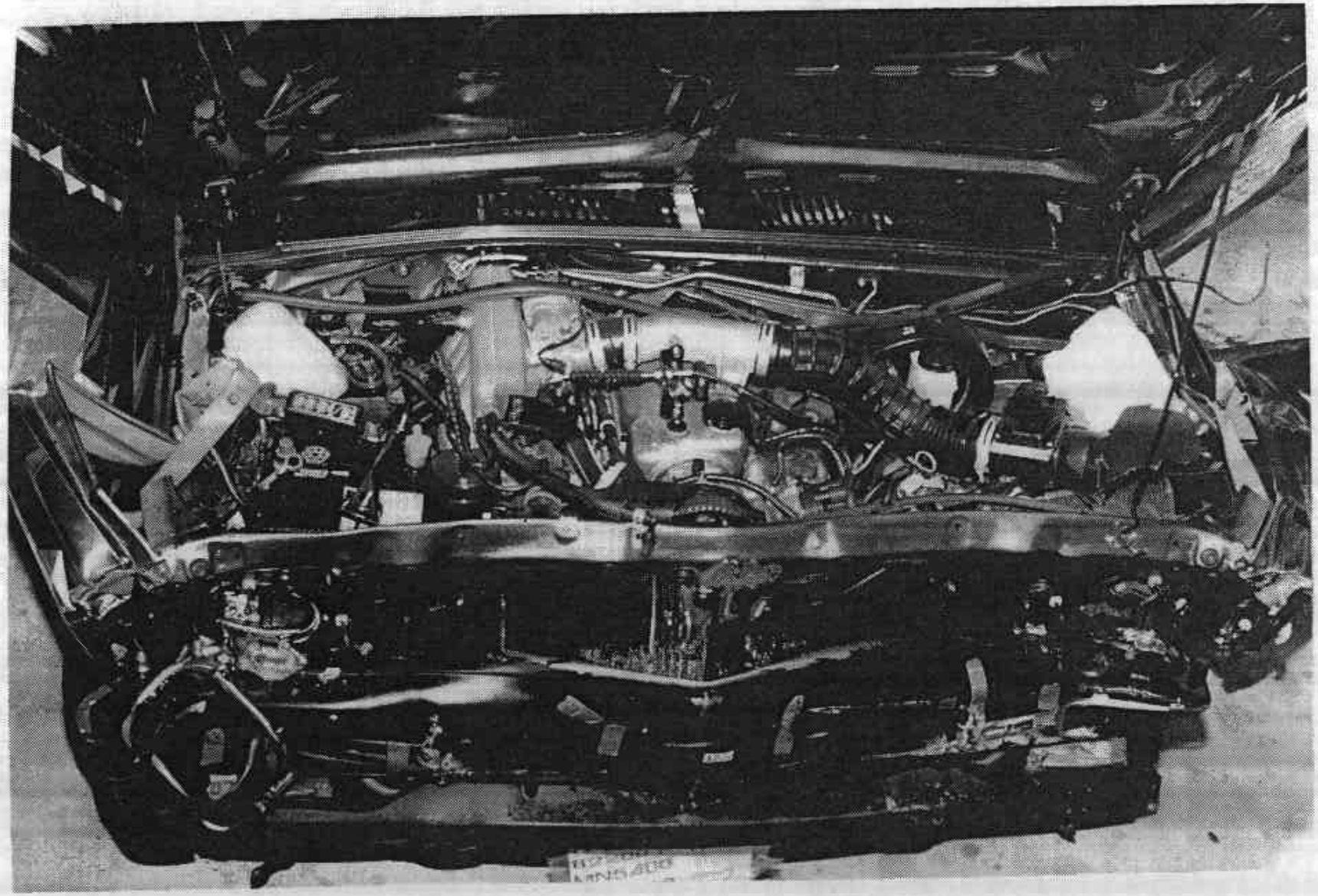


PRETEST WINDSHIELD VIEW

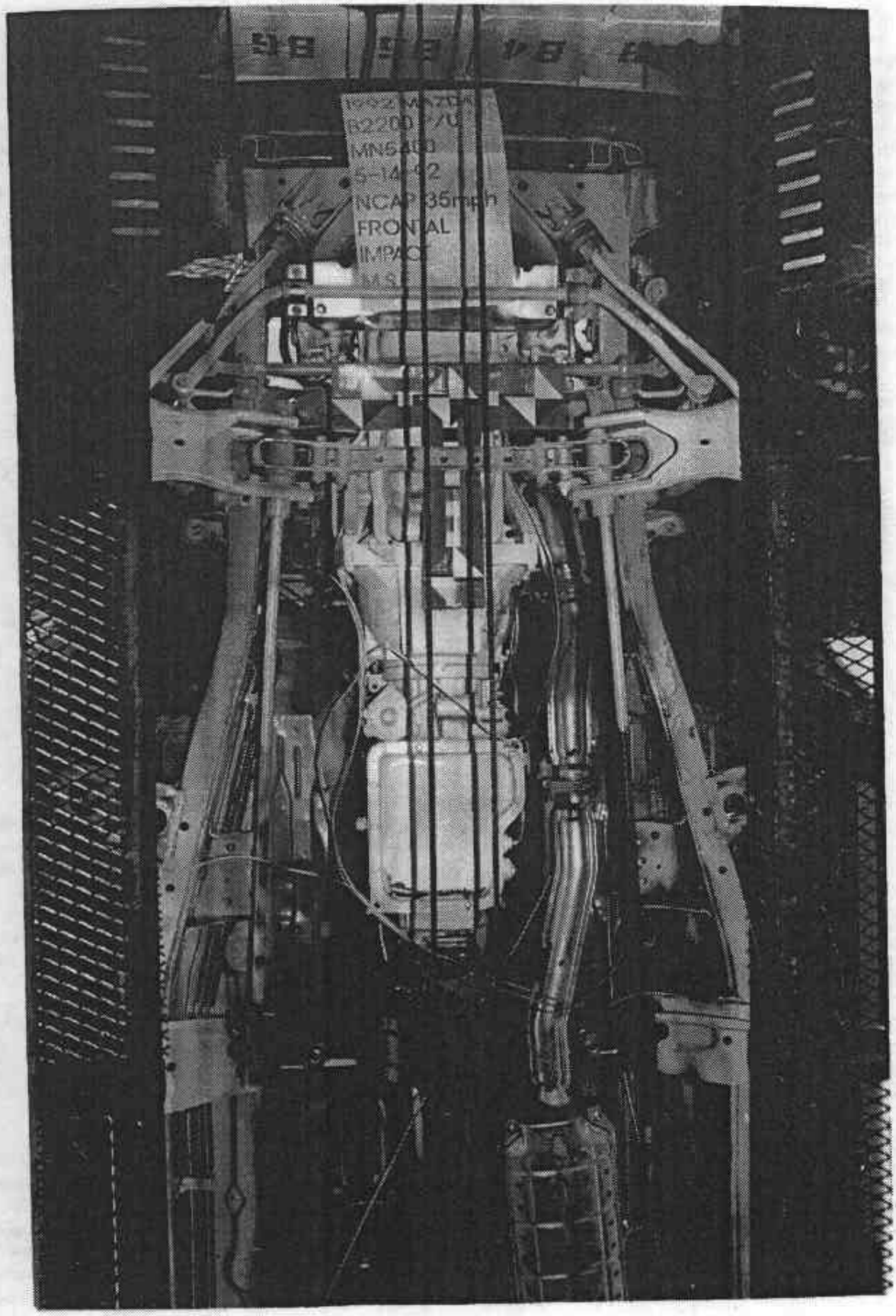
POSTTEST WINDSHIELD VIEW



PRETEST ENGINE COMPARTMENT VIEW



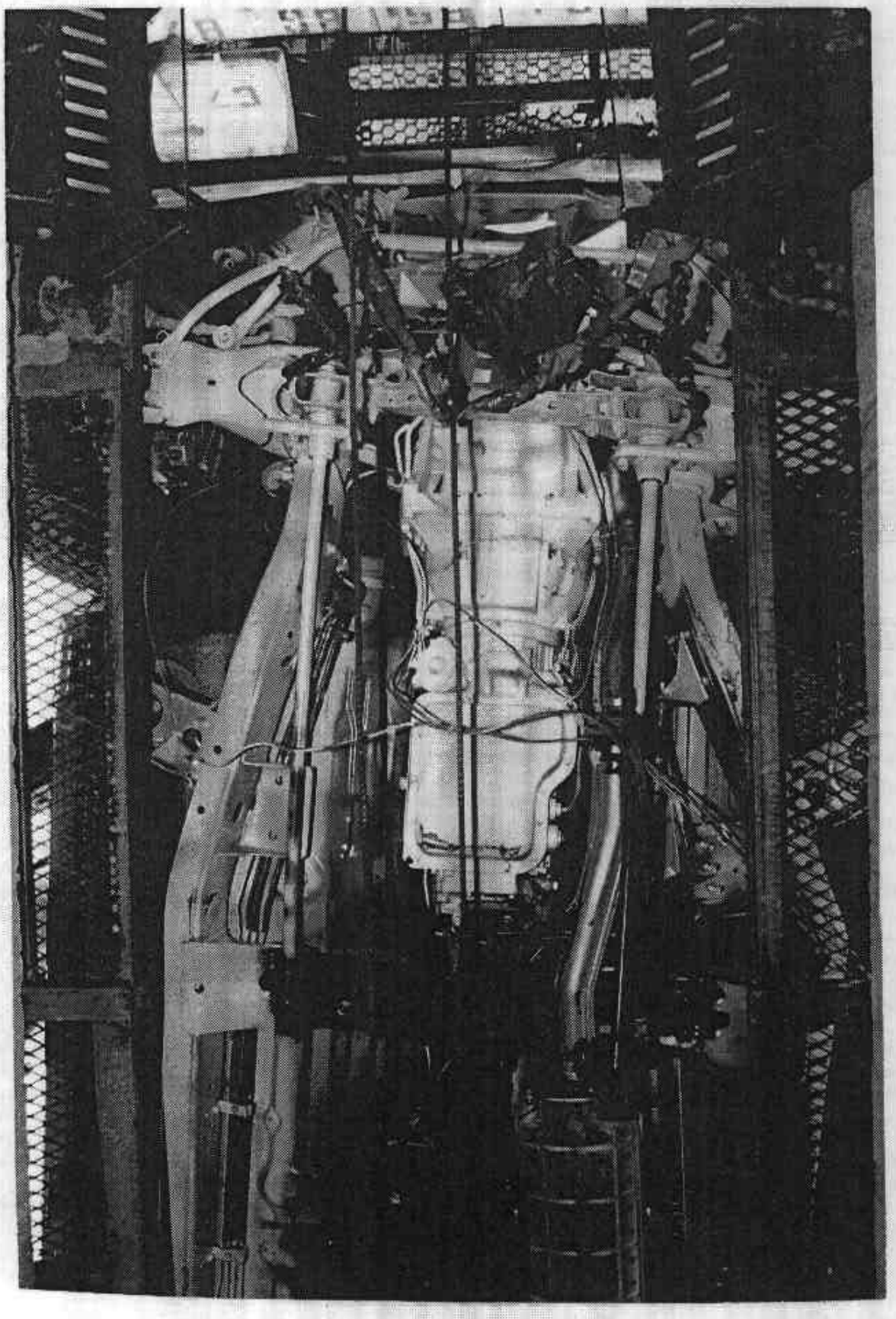
POSTTEST ENGINE COMPARTMENT VIEW



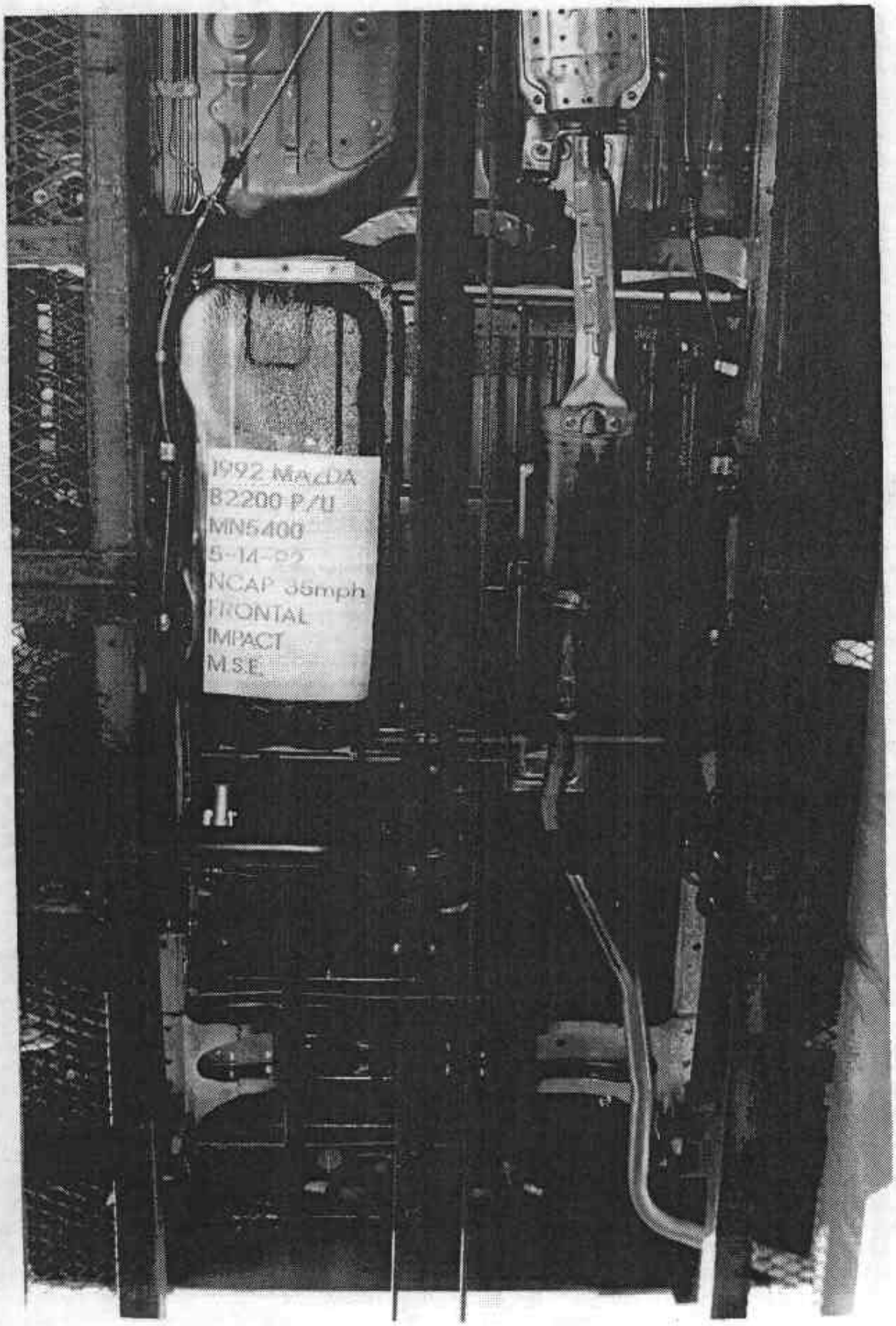
PRETEST FRONT UNDERBODY VIEW

A-15

MSE-92-R92027-N02

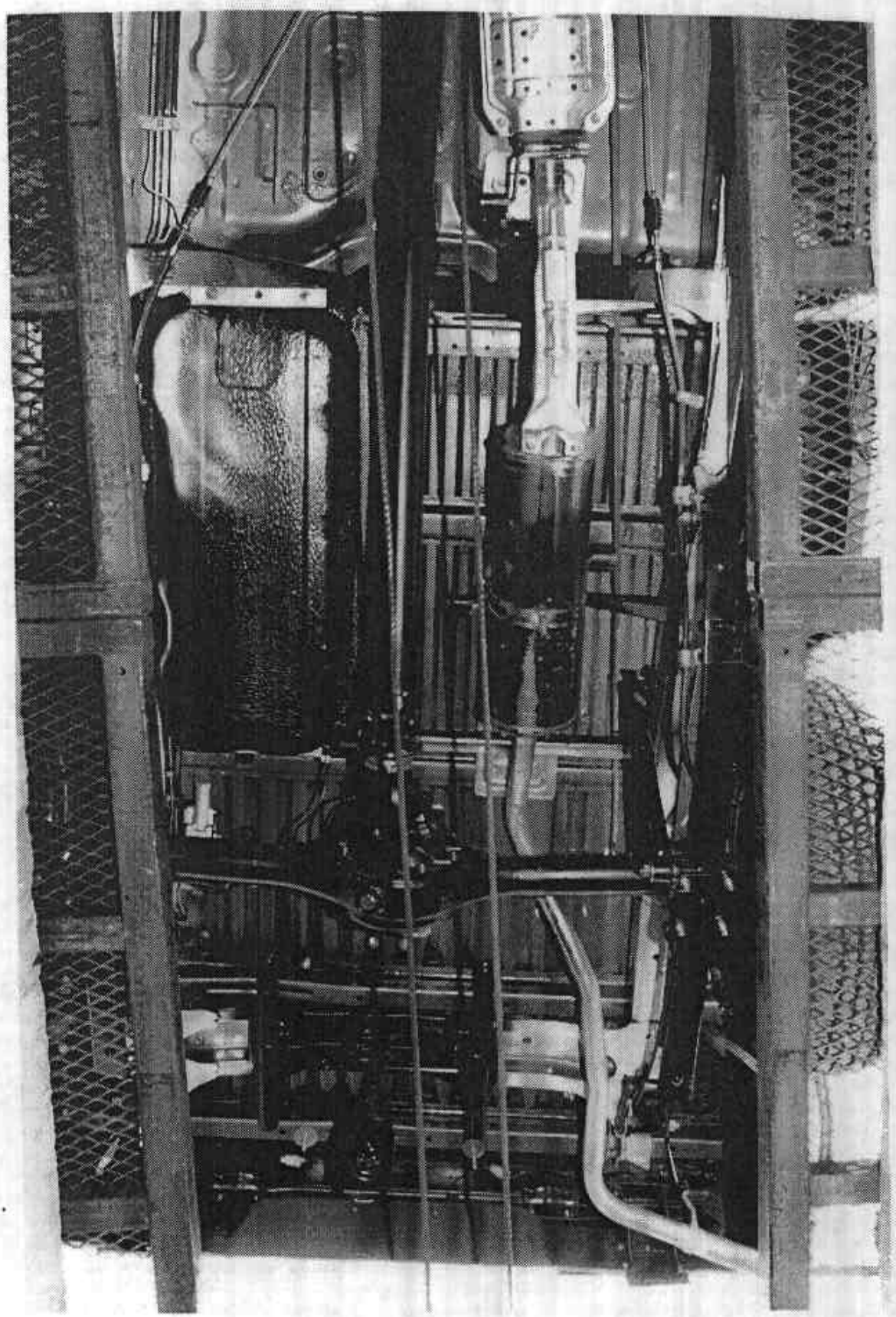


POSTTEST FRONT UNDERBODY VIEW

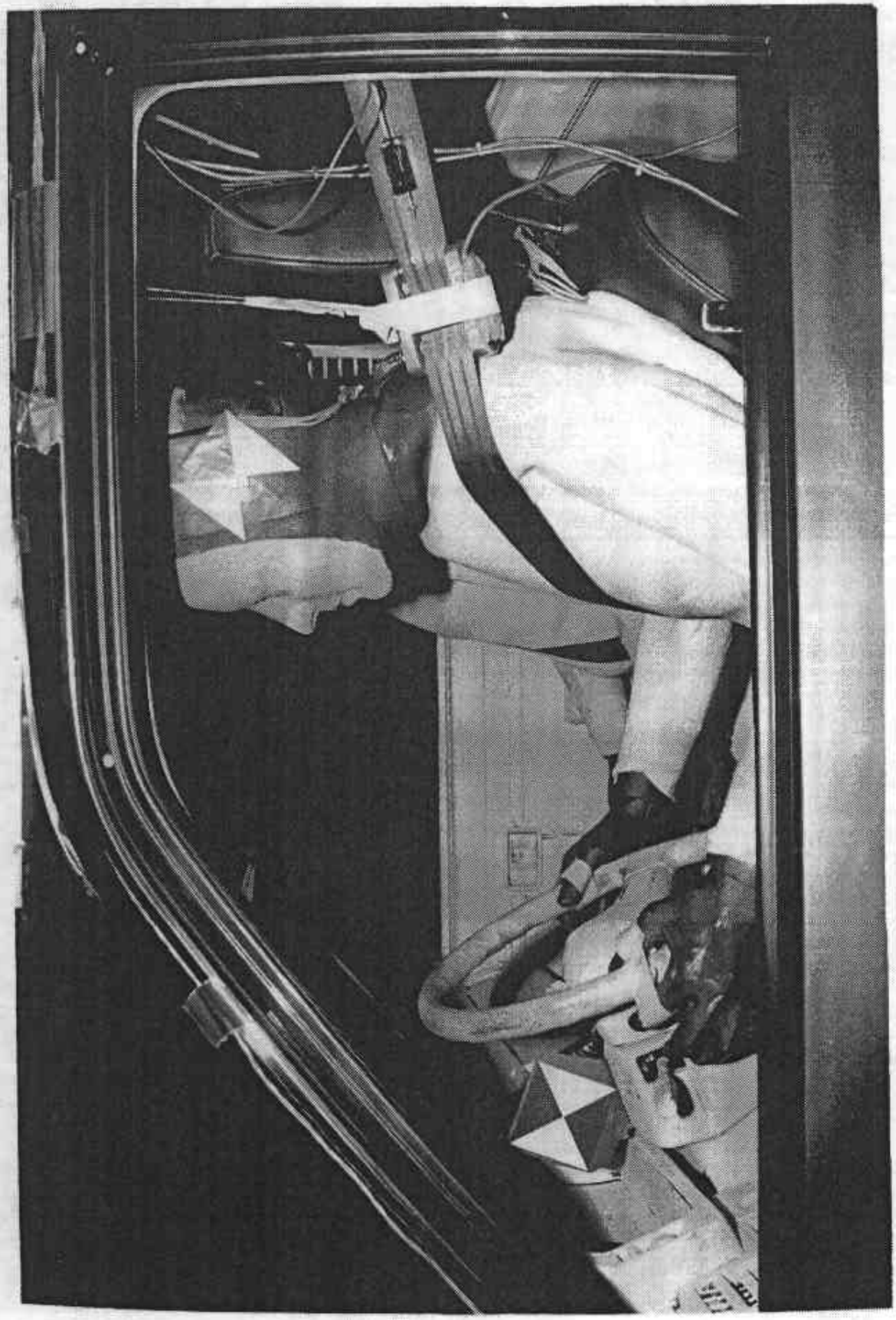


PRETEST REAR UNDERBODY VIEW
A-17

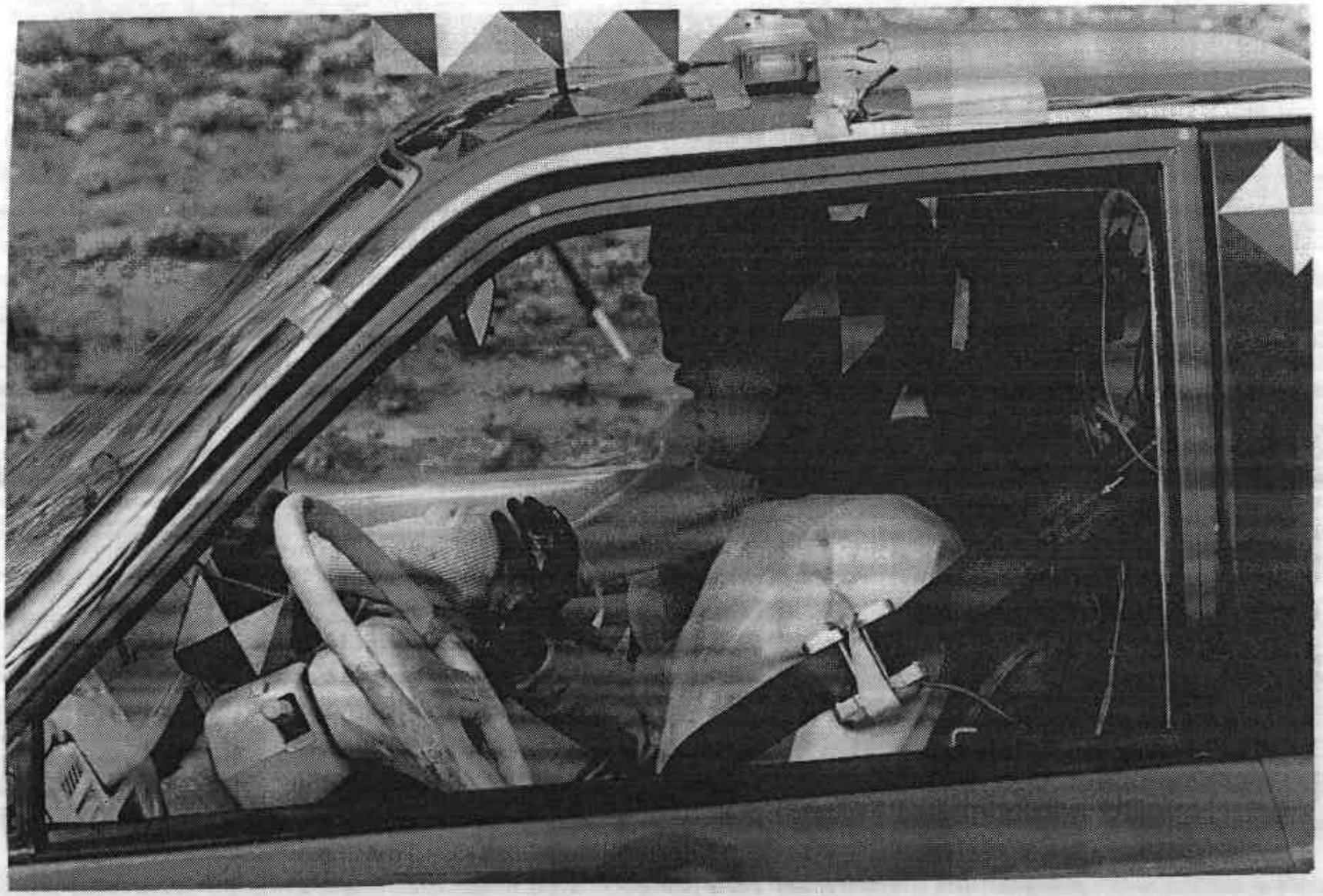
MSE-92-R92027-N02



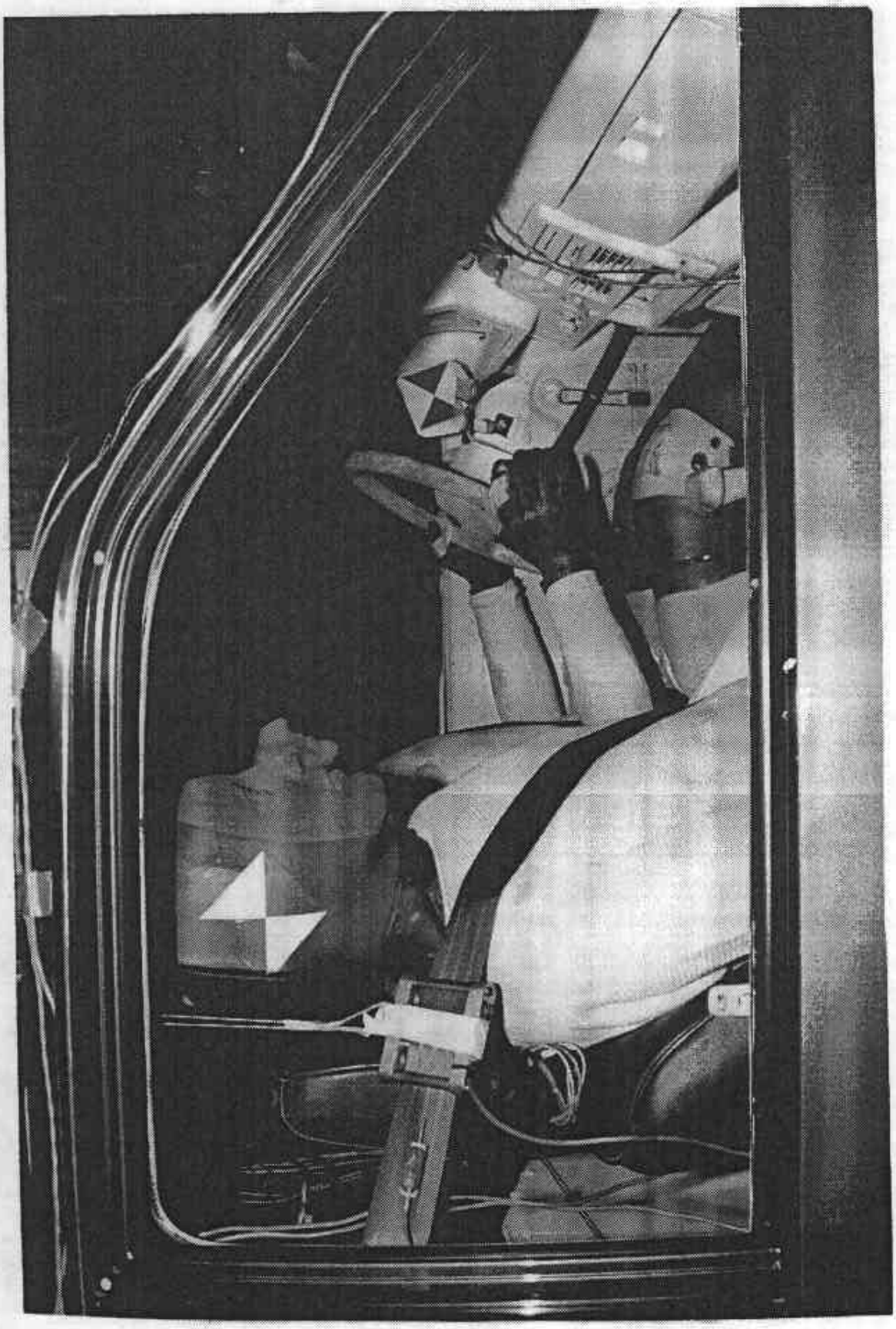
POSTTEST REAR UNDERBODY VIEW



PRETEST DRIVER DUMMY POSITION VIEW

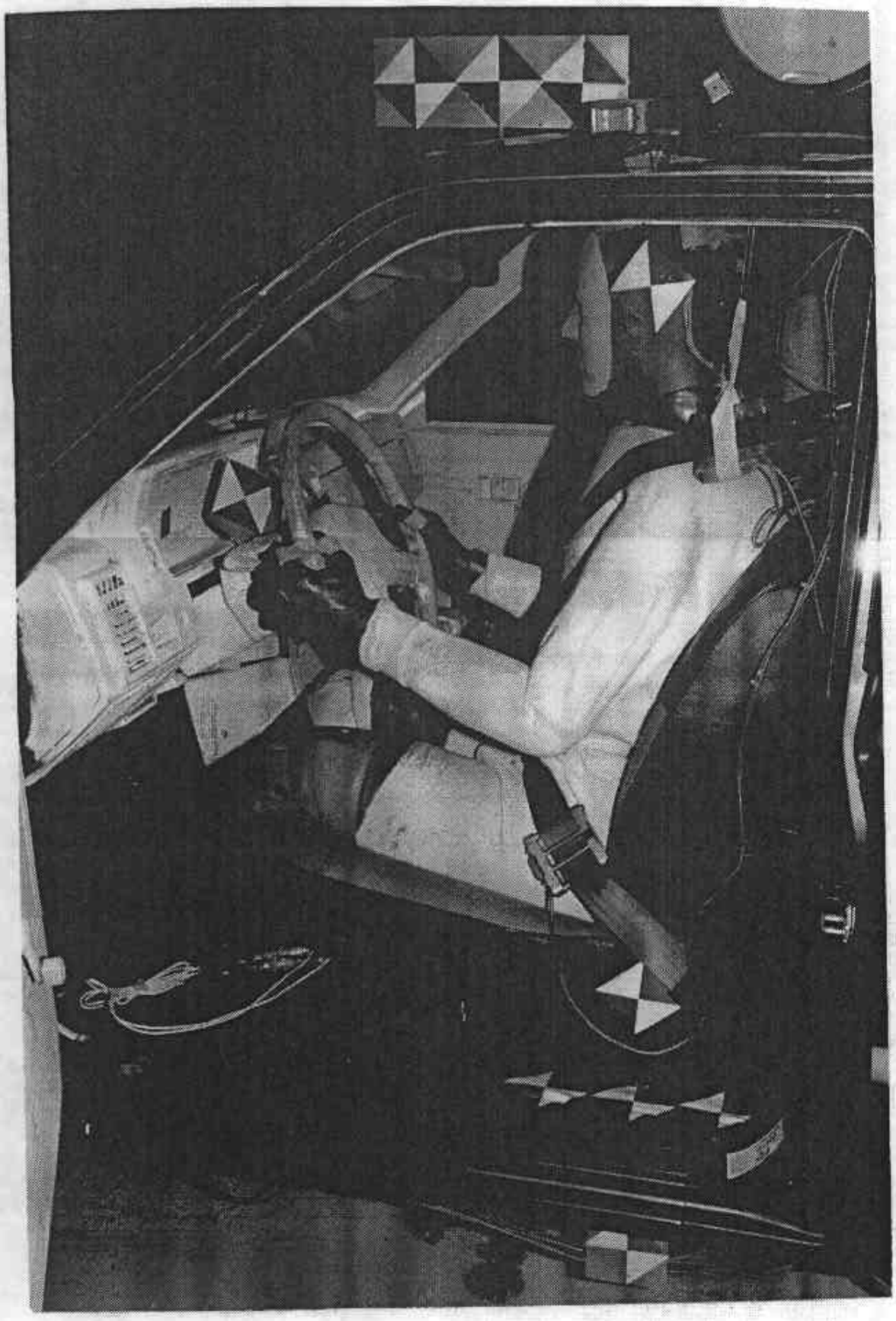


POSTTEST DRIVER DUMMY POSITON VIEW

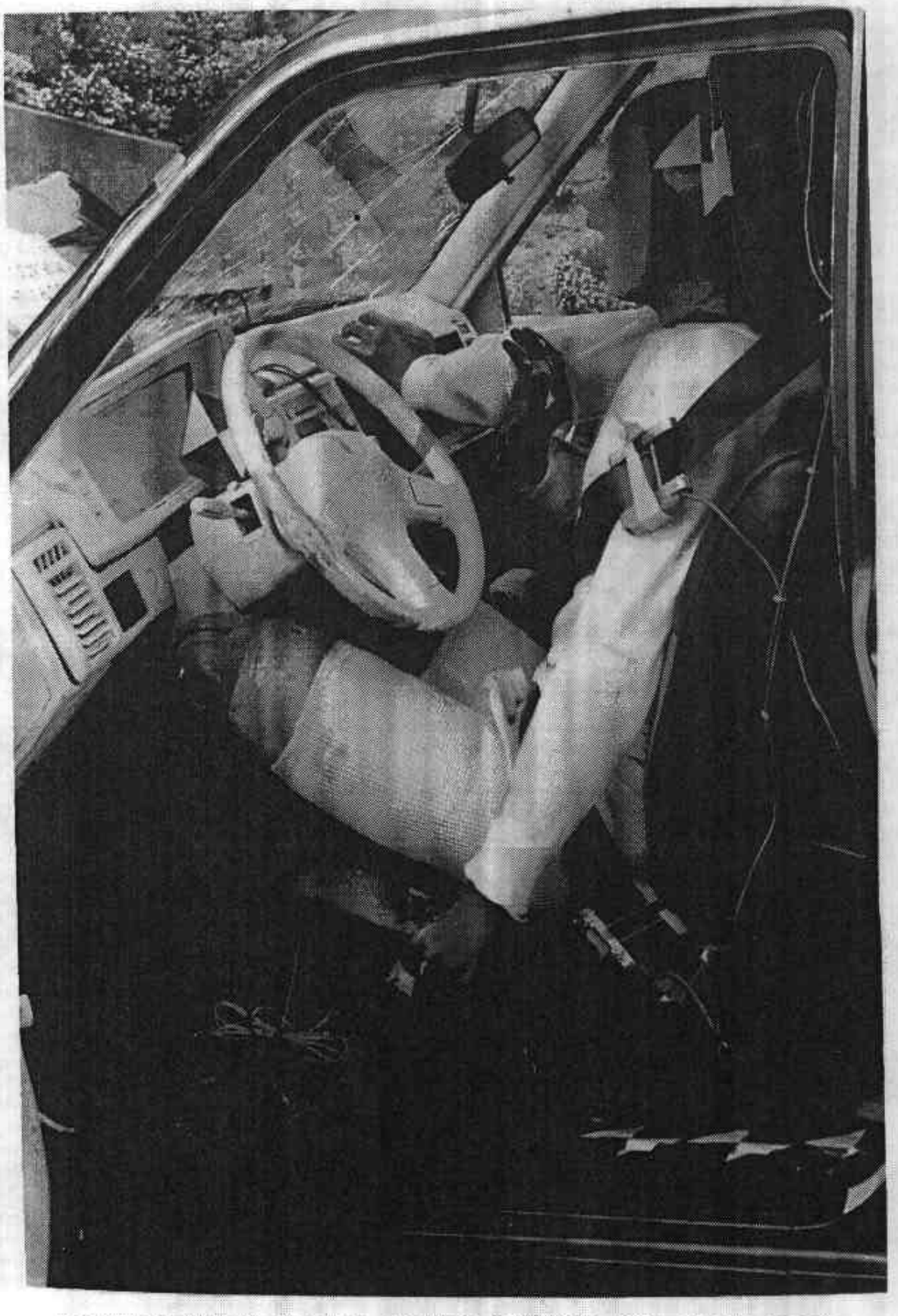


PRETEST PASSENGER DUMMY POSITION VIEW

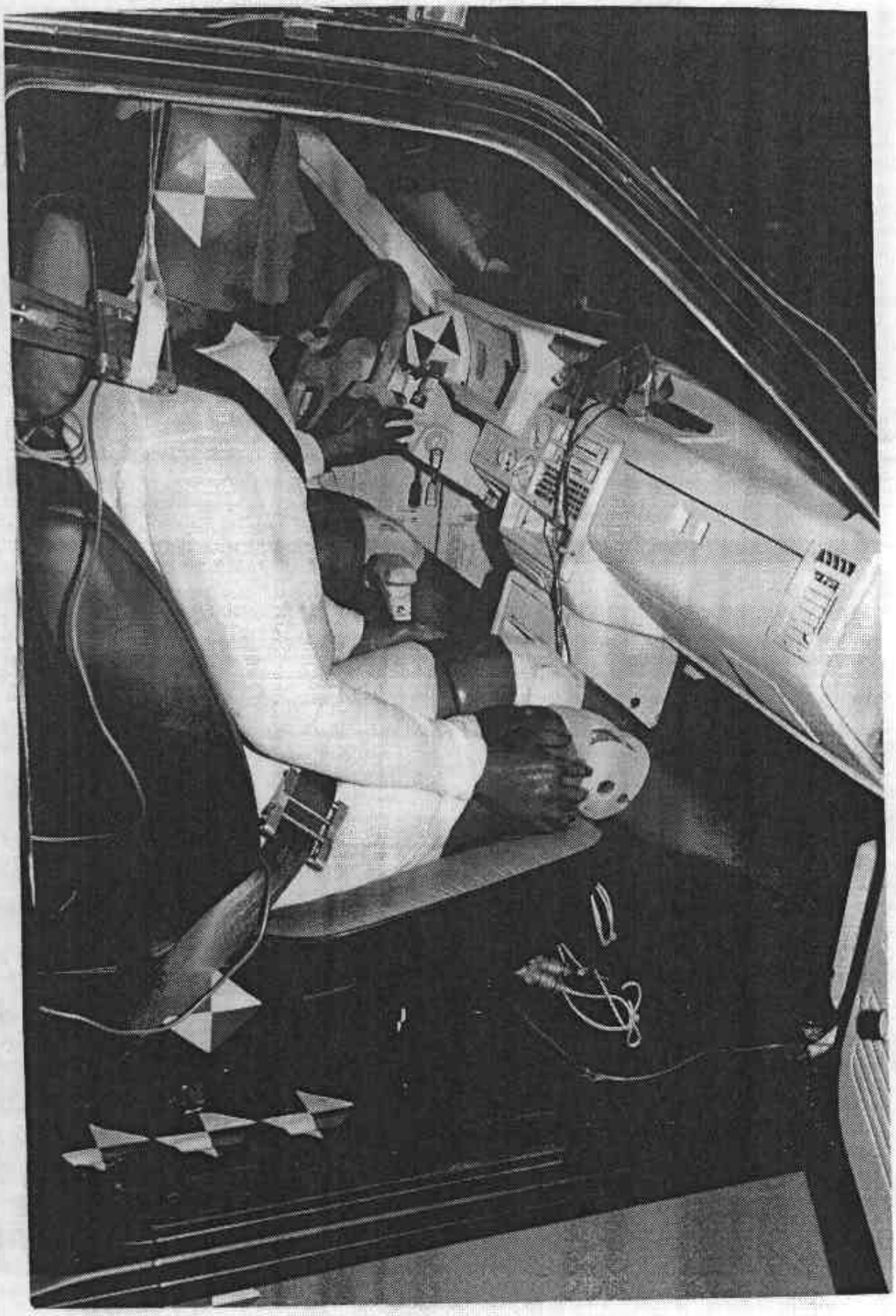
POSTTEST PASSENGER DUMMY POSITION VIEW



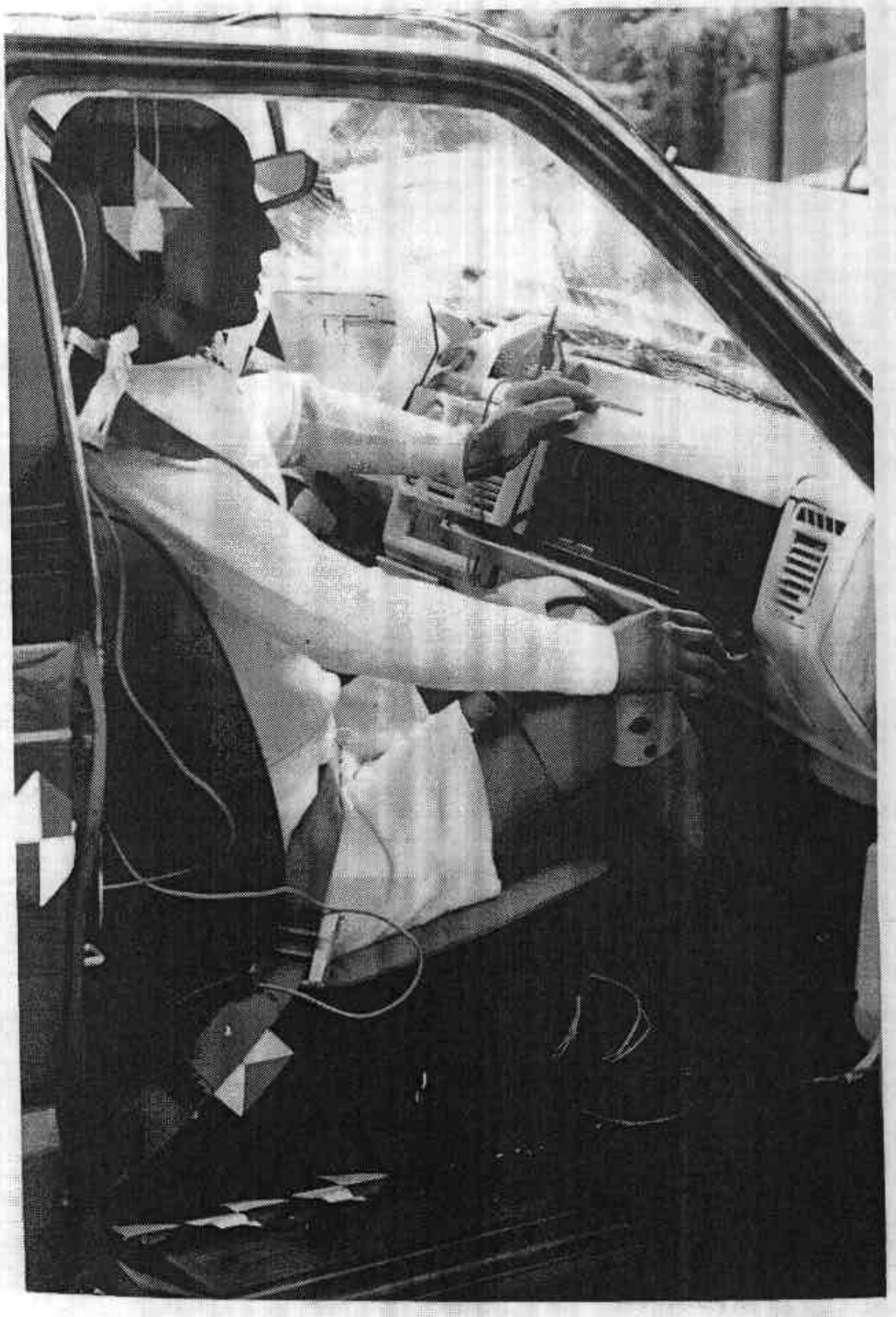
PRETEST DRIVER DUMMY & VEHICLE INTERIOR VIEW (Door Open)



POSTTEST DRIVER DUMMY & VEHICLE INTERIOR VIEW (Door Open)
A-24 MSE-92-R92027-N02



PRETEST PASSENGER DUMMY & VEHICLE INTERIOR VIEW (Door Open)



POSTTEST PASSENGER DUMMY & VEHICLE INTERIOR VIEW (Door Open)

A-26 MSE-92-R92027-N02

POSTTEST DRIVER DUMMY (ATD) HEAD AND KNEE CONTACT AREA

POSTTEST PASSENGER DUMMY (ATD) KNEE CONTACT AREA

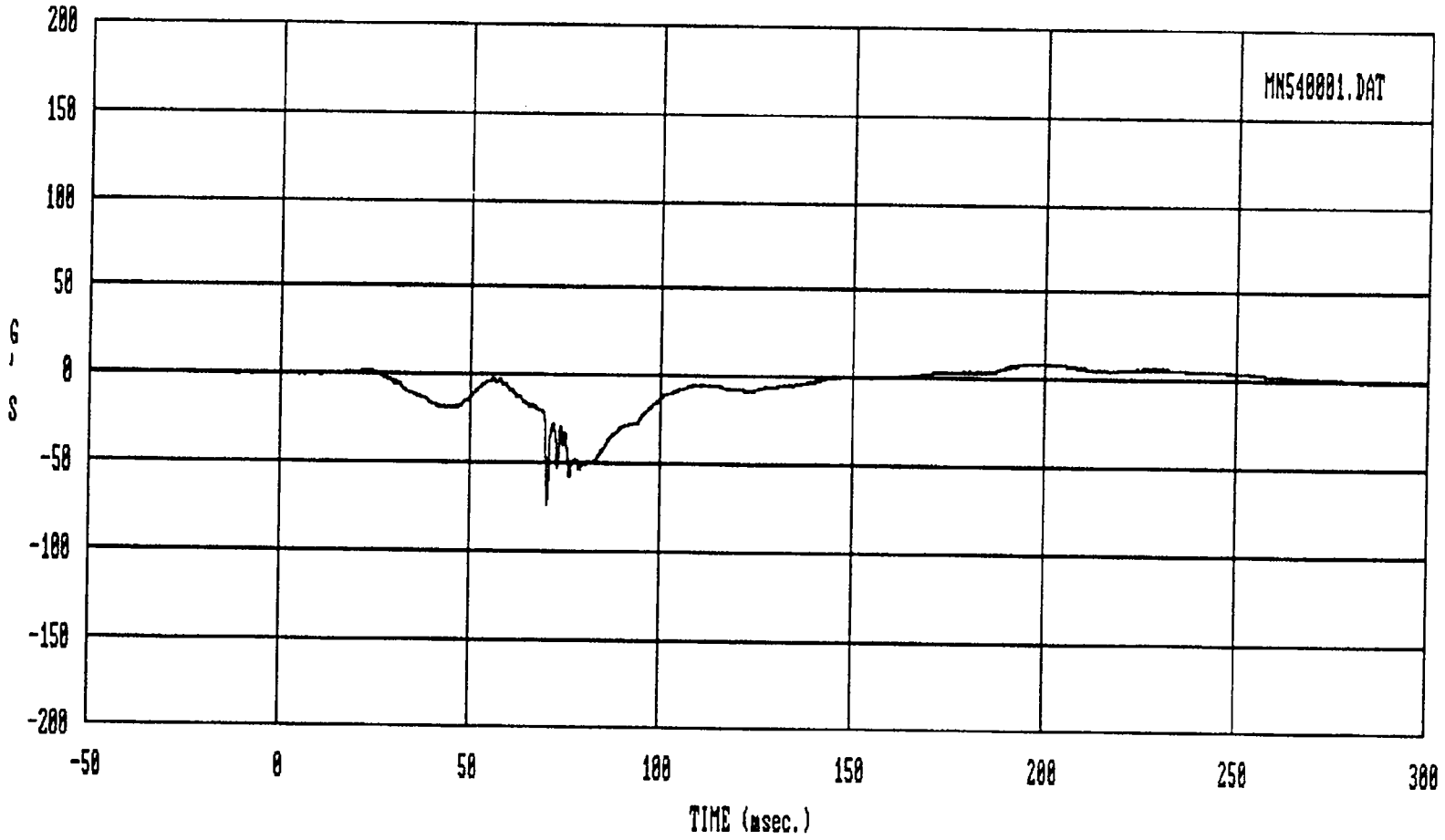
APPENDIX B-1

VEHICLE AND DUMMY (ATD) RESPONSE DATA

DATA FILTERING:

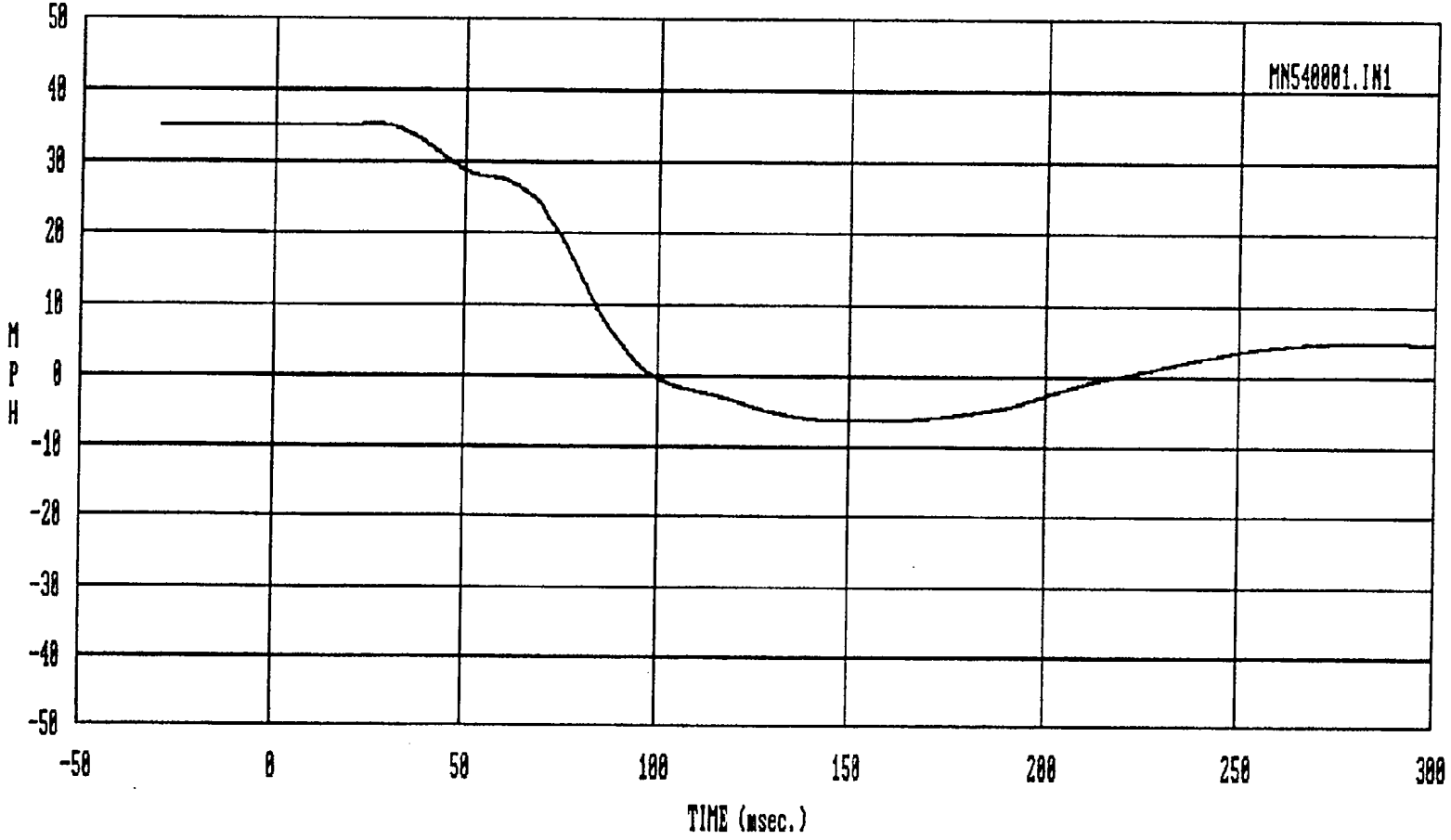
ATD Head Channels	- Class 1000
ATD Chest Channels	- Class 180
ATD Femur Channels	- Class 600
Vehicle Channels	- Class 60

THIS PAGE INTENTIONALLY LEFT BLANK



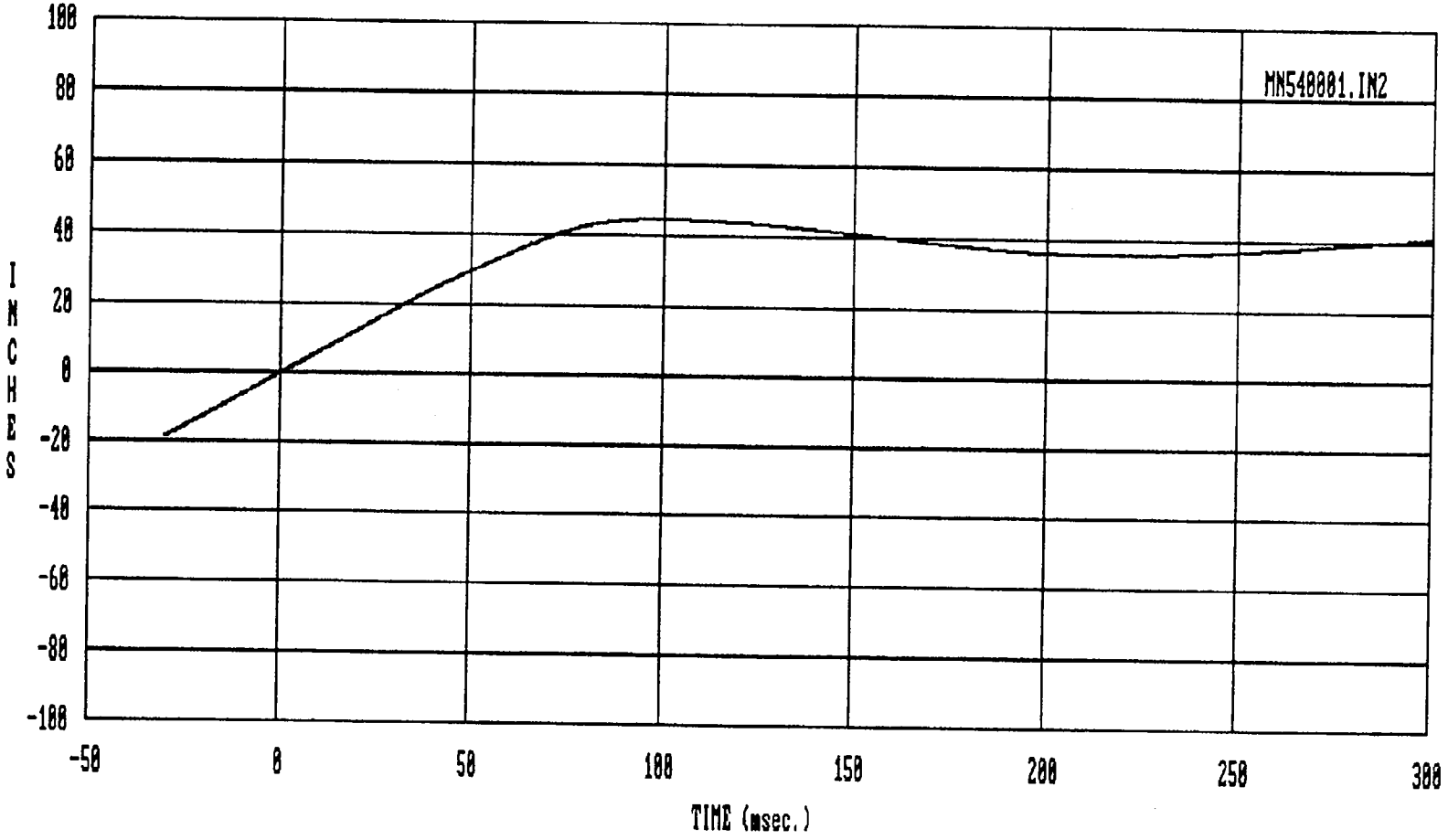
Curve: Driver head acceleration -- X axis Filter: SAE CLASS 1000 Max = 8.7789 Min = -73.561

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



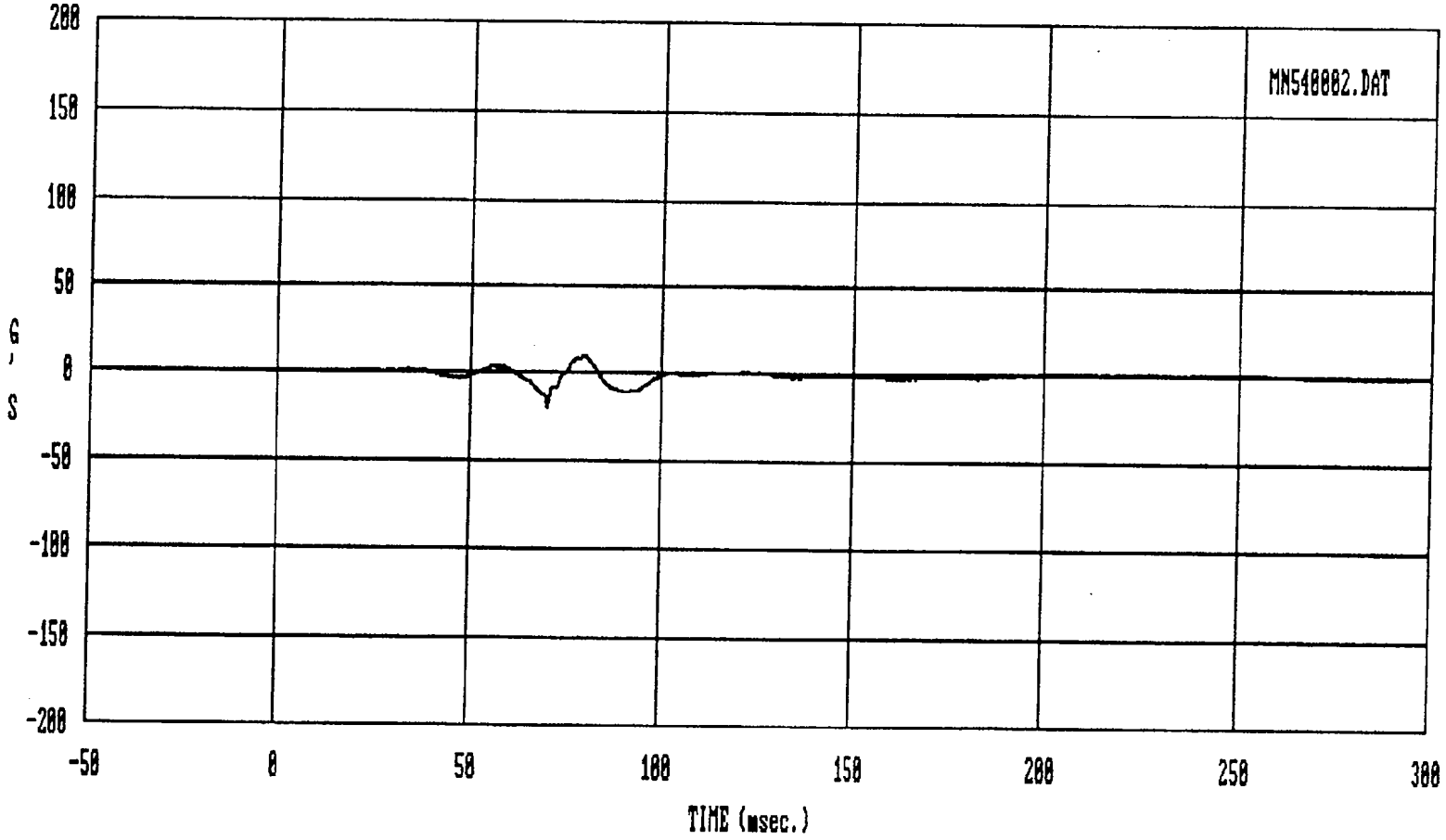
Curve: Driver head delta V -- X axis Filter: SAE CLASS 180 Max = 35.354 Min = -6.2727

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



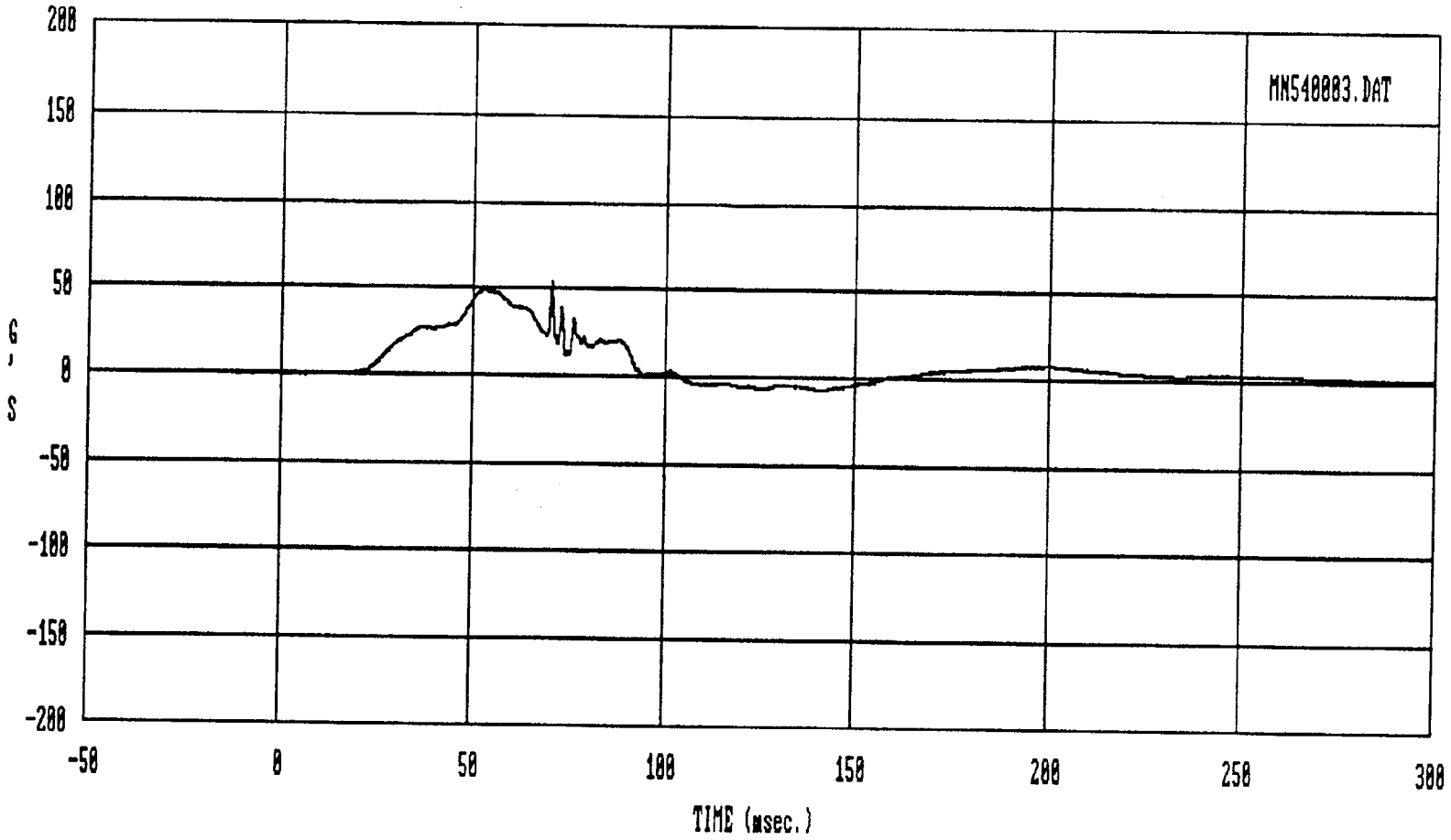
Curve: Driver head displacement -- X axis Filter: SAE CLASS 180 Max = 44.743 Min = 36.094

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



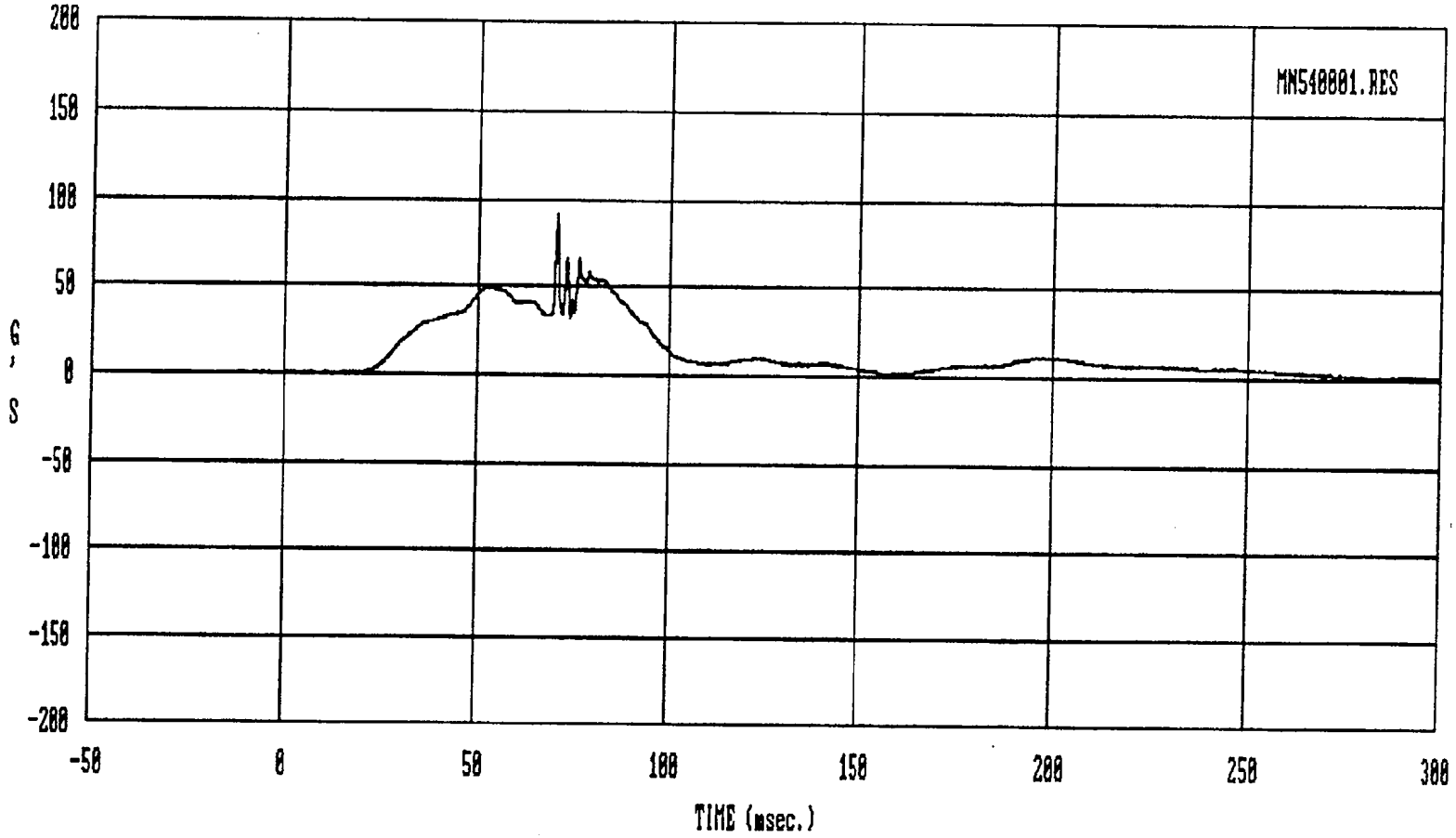
Curve: Driver head acceleration — Y axis Filter: SAE CLASS 1000 Max = 9.5489 Min = -20.535

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



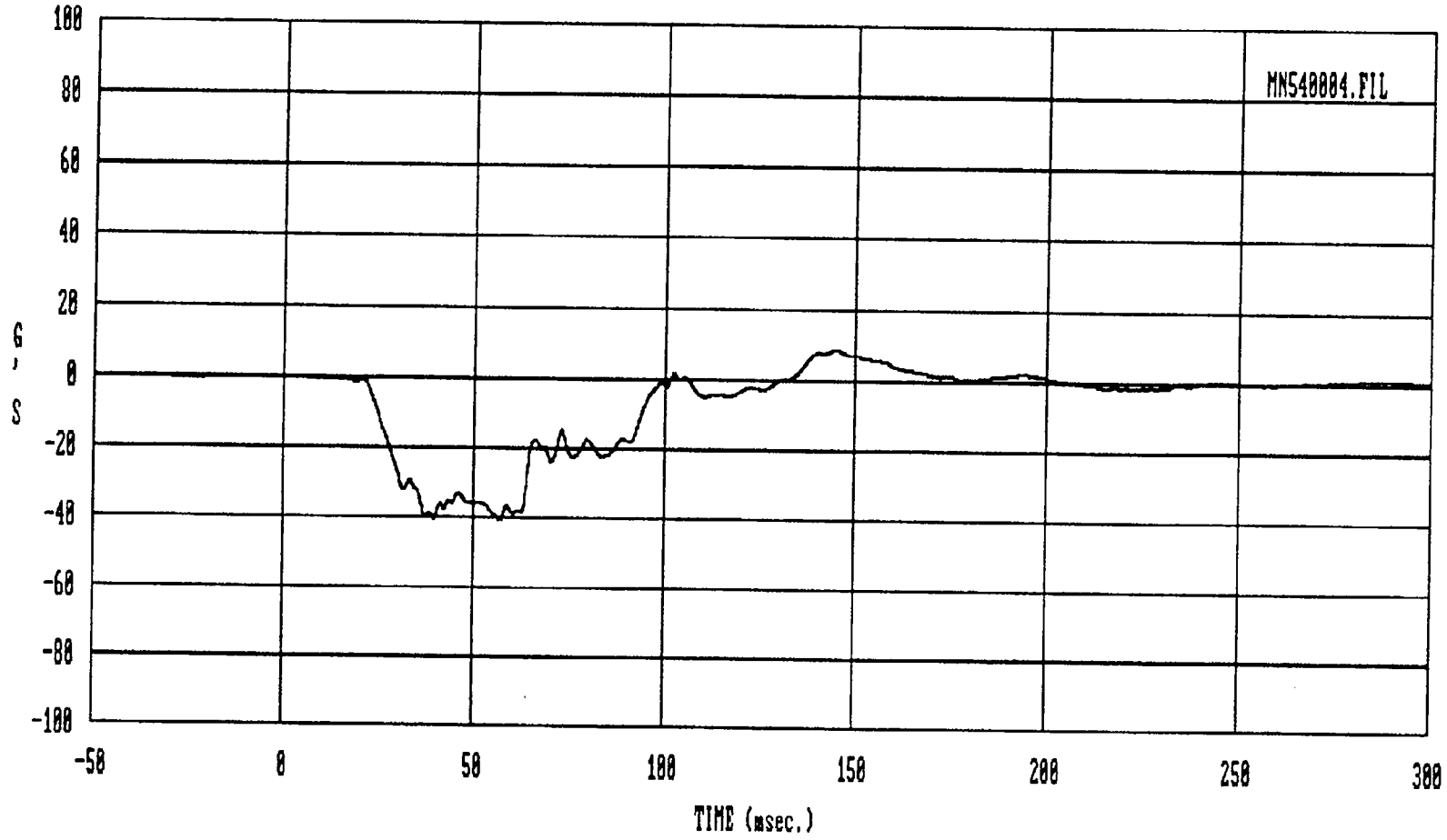
Curve: Driver head acceleration — Z axis Filter: SAE CLASS 1000 Max = 53.446 Min = -7.2224

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



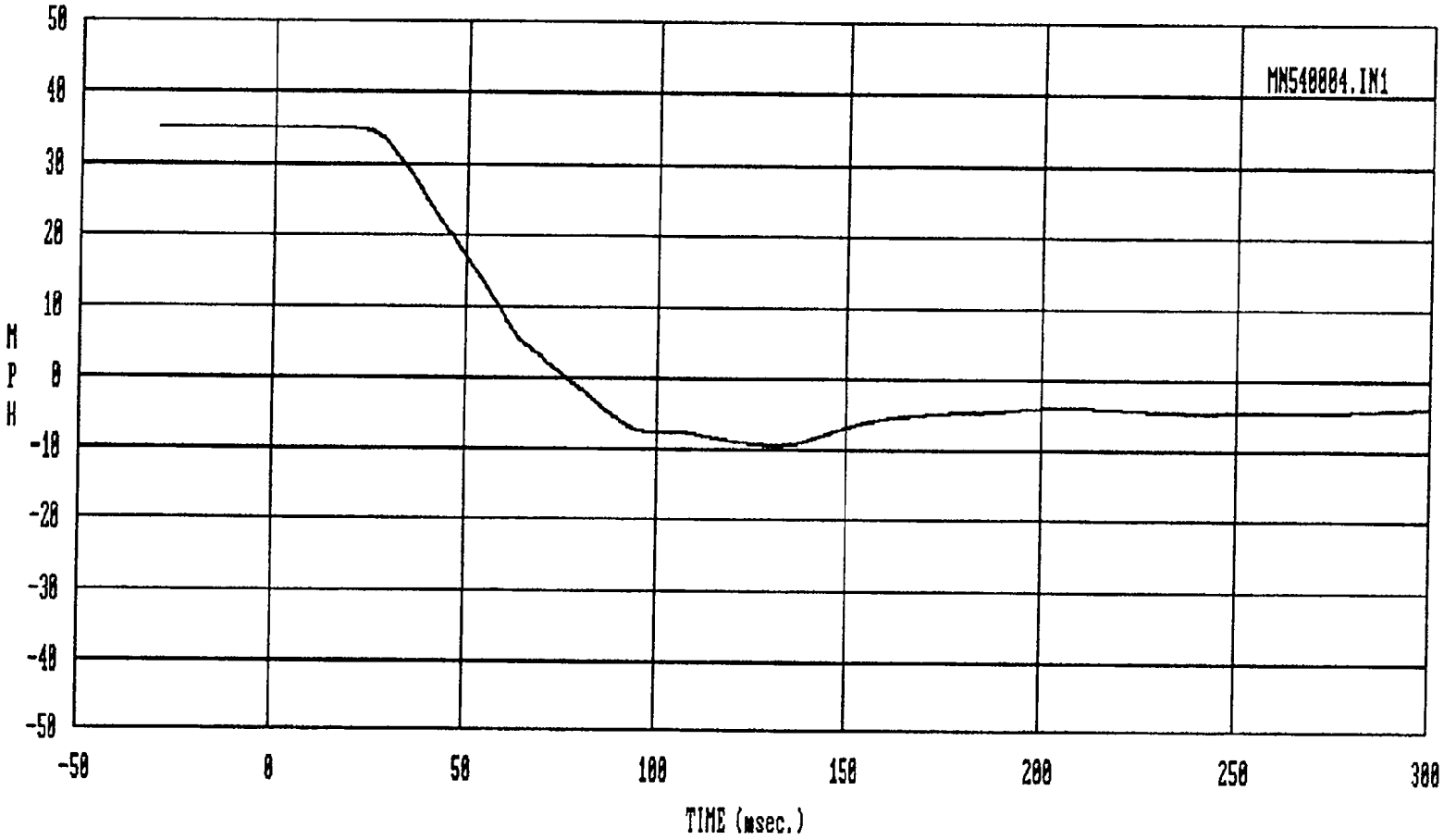
Curve: Driver head acceleration — Resultant Filter: SAE CLASS 1000 Max = 92.962 Min = .22361

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



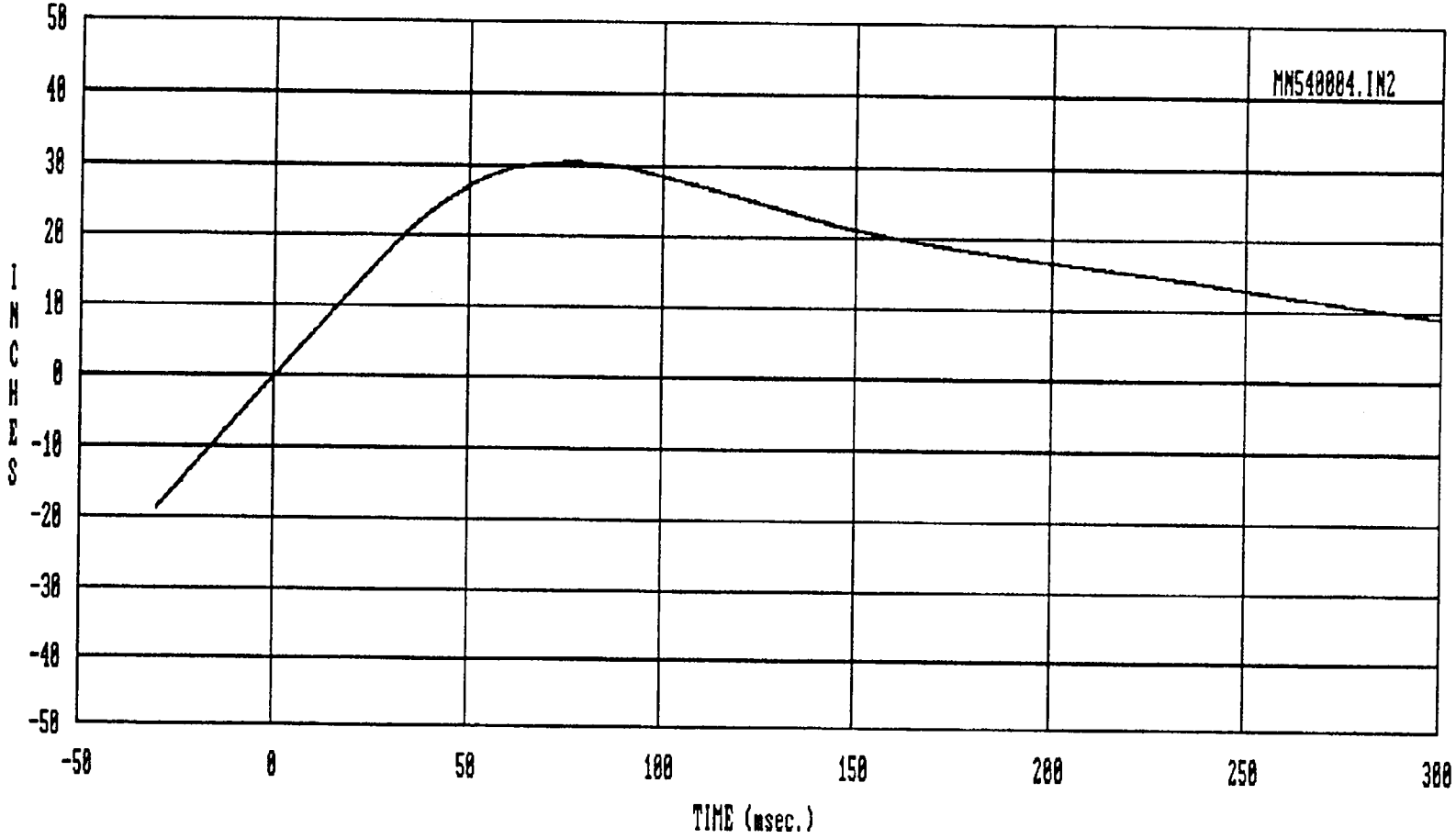
Curve: Driver chest acceleration -- X axis Filter: SAE CLASS 180 Max = 8.7167 Min = -40.634

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



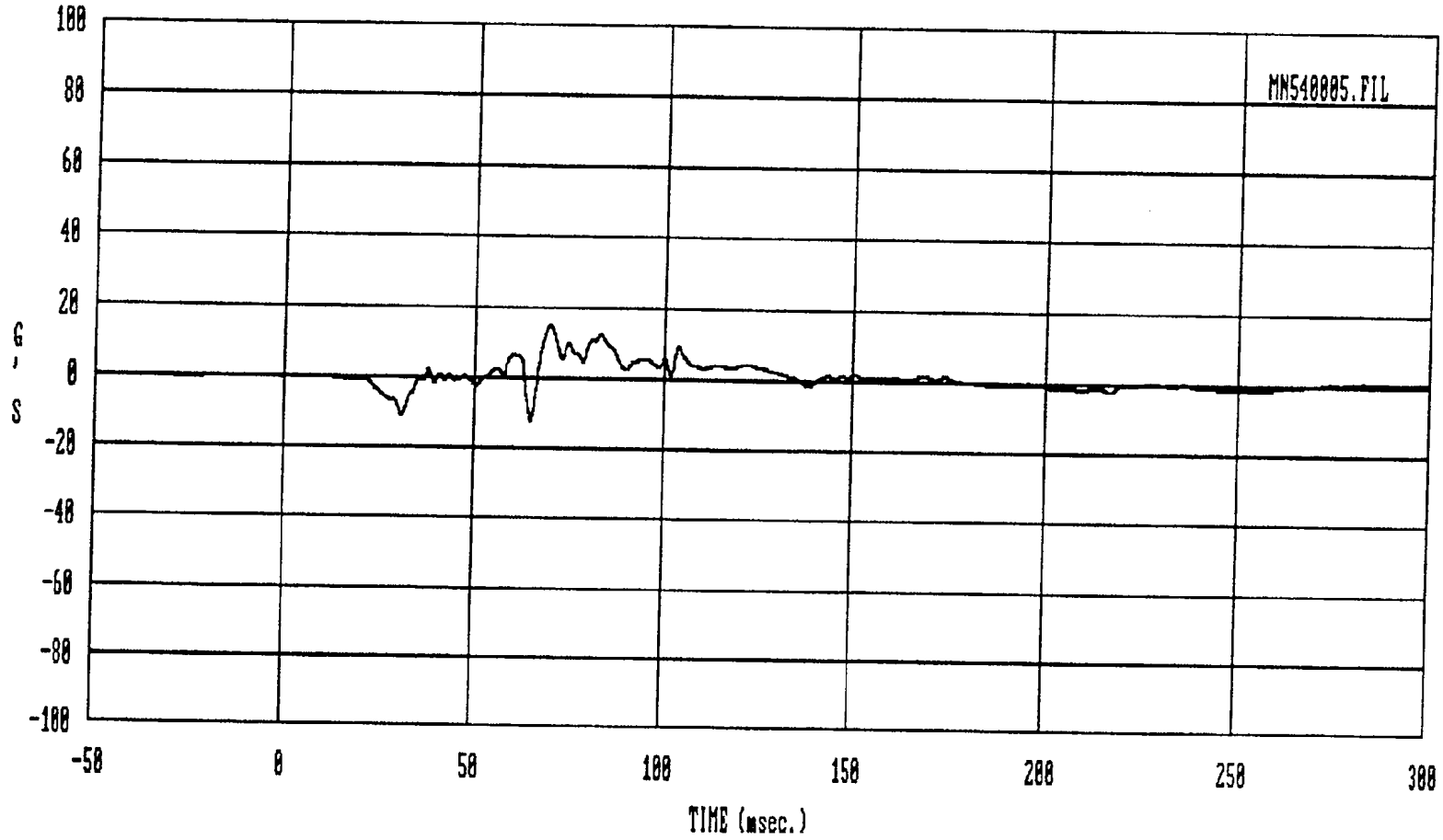
Curve: Driver chest delta V — X axis Filter: SAE CLASS 180 Max = 35.281 Min = -9.3486

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



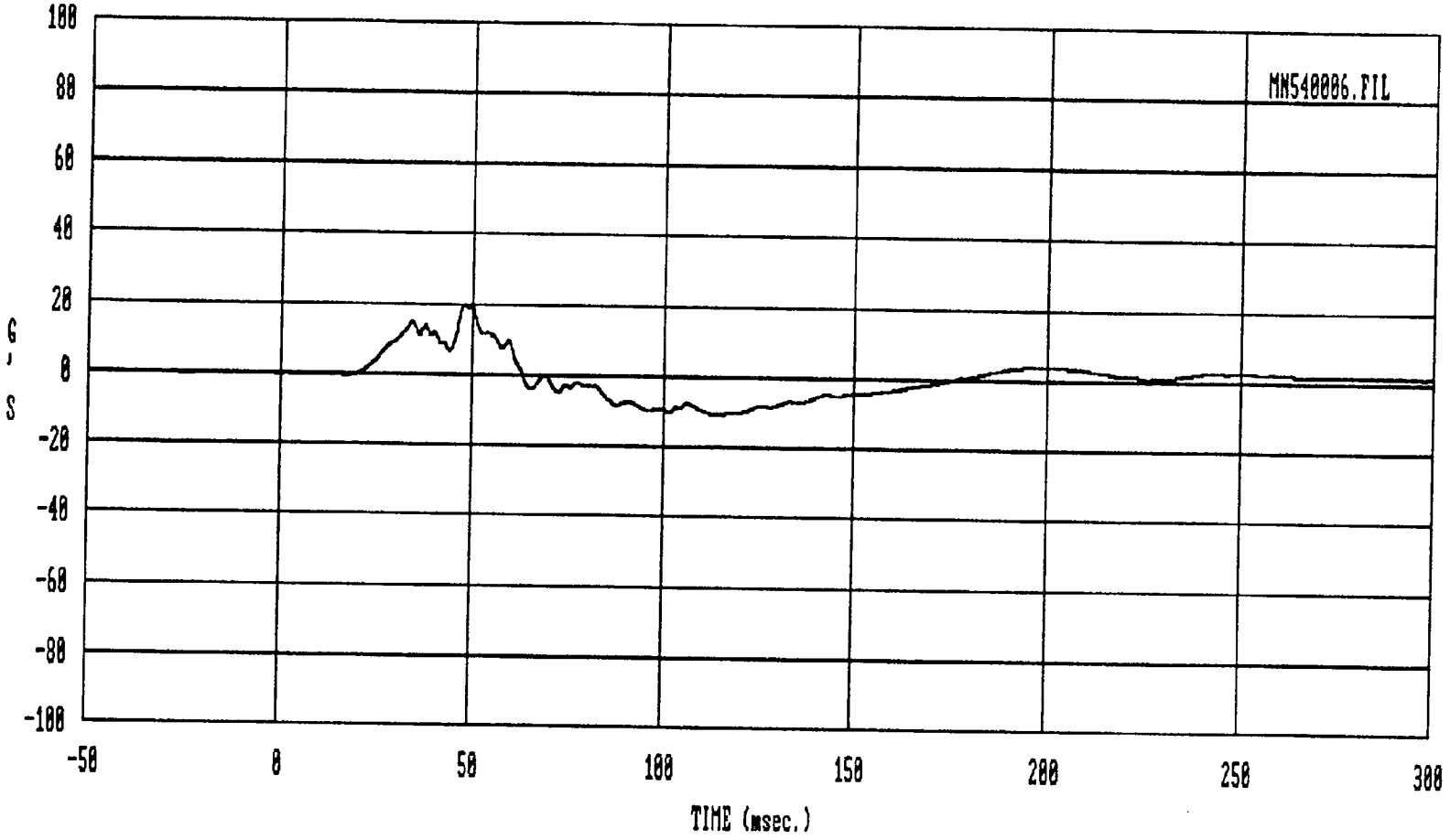
Curve: Driver chest displacement — X axis Filter: SAE CLASS 180 Max = 30.581 Min = 9.1102

MSE Date: 05/14/92 Program: 1992 NCAP - N2 Vehicle: 1992 Mazda B2200 P/U



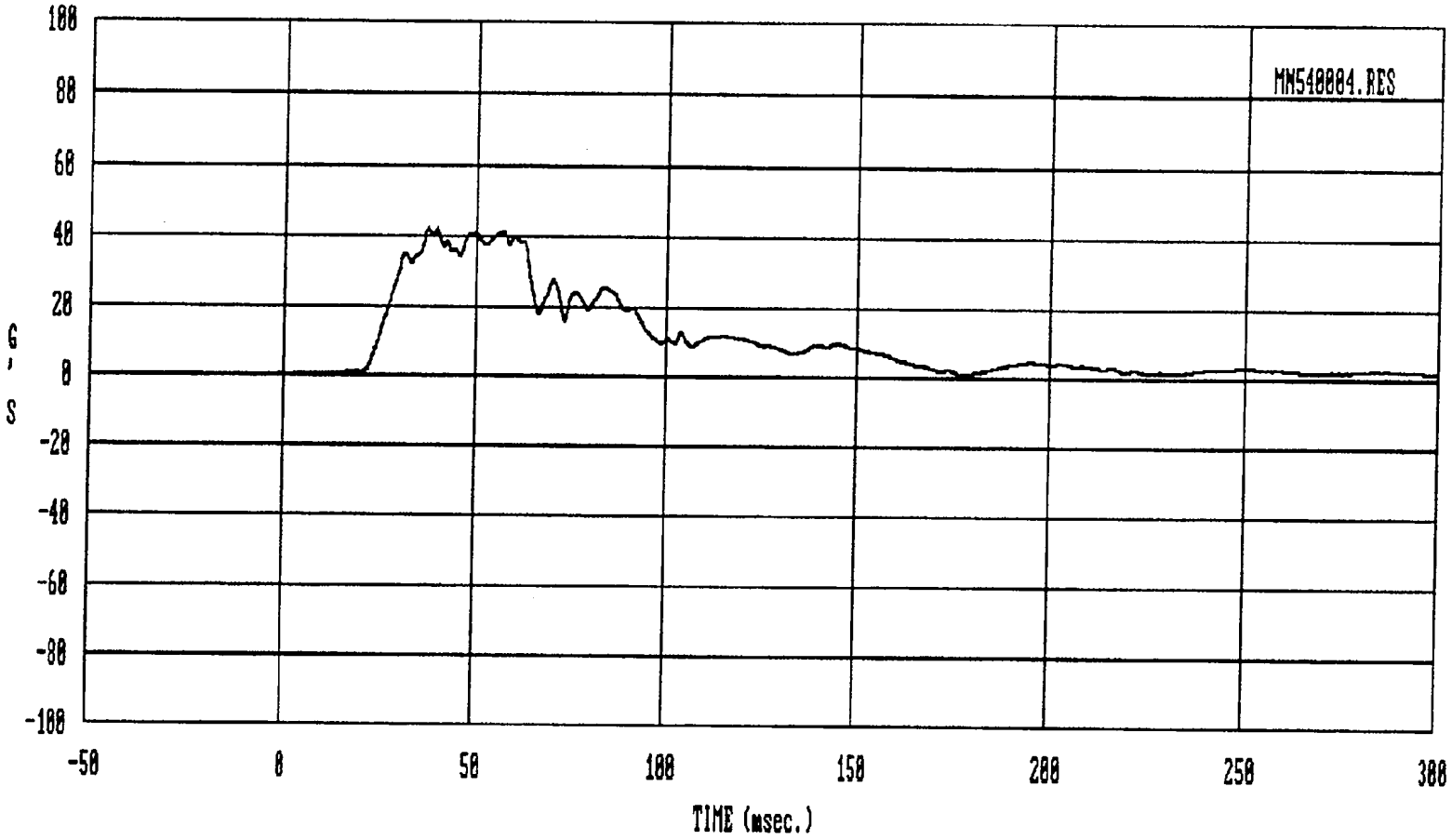
Curve: Driver chest acceleration -- Y axis Filter: SAE CLASS 180 Max = 15.539 Min = -12.232

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



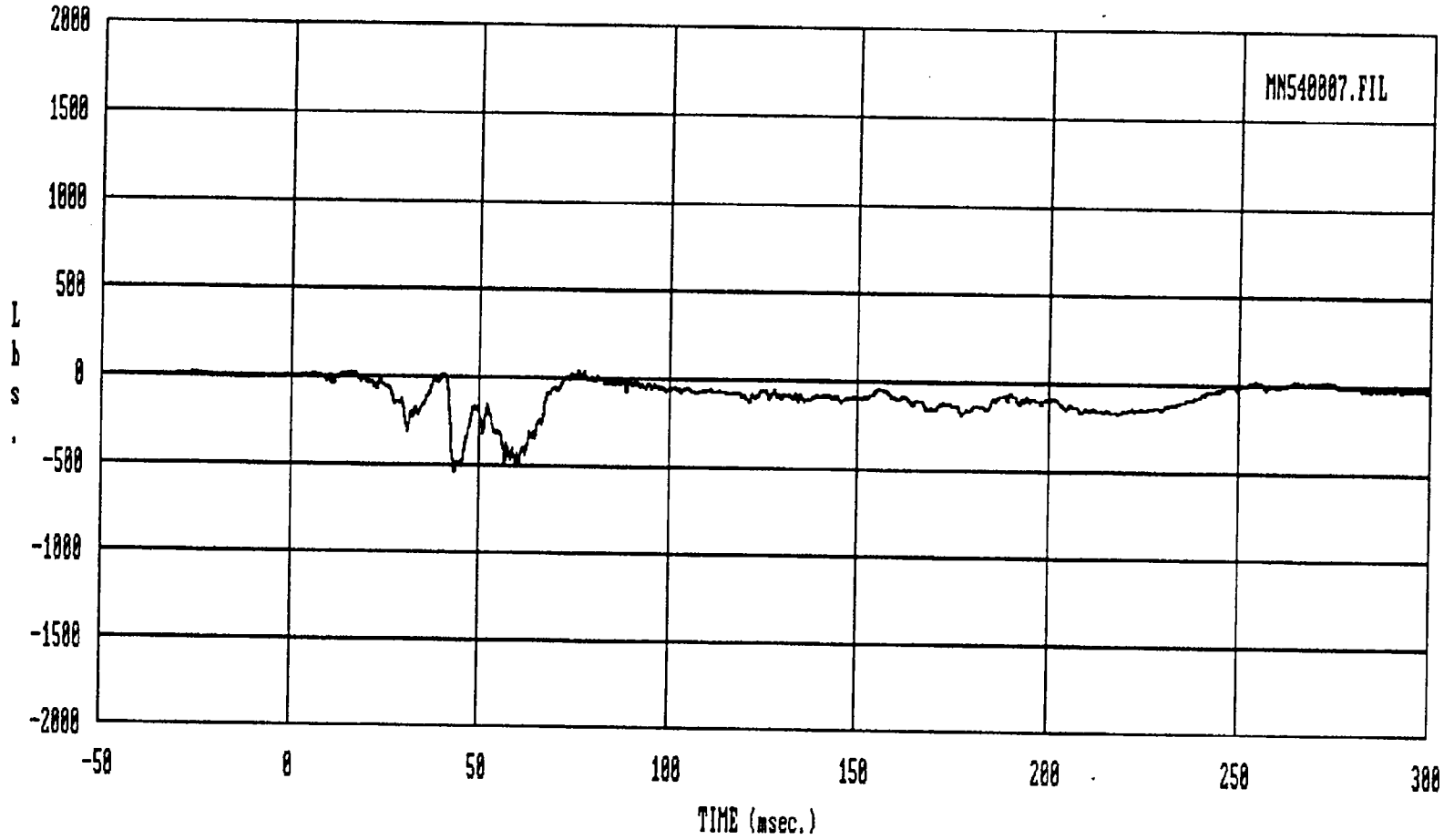
Curve: Driver chest acceleration -- Z axis Filter: SAE CLASS 180 Max = 20.191 Min = -10.581

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



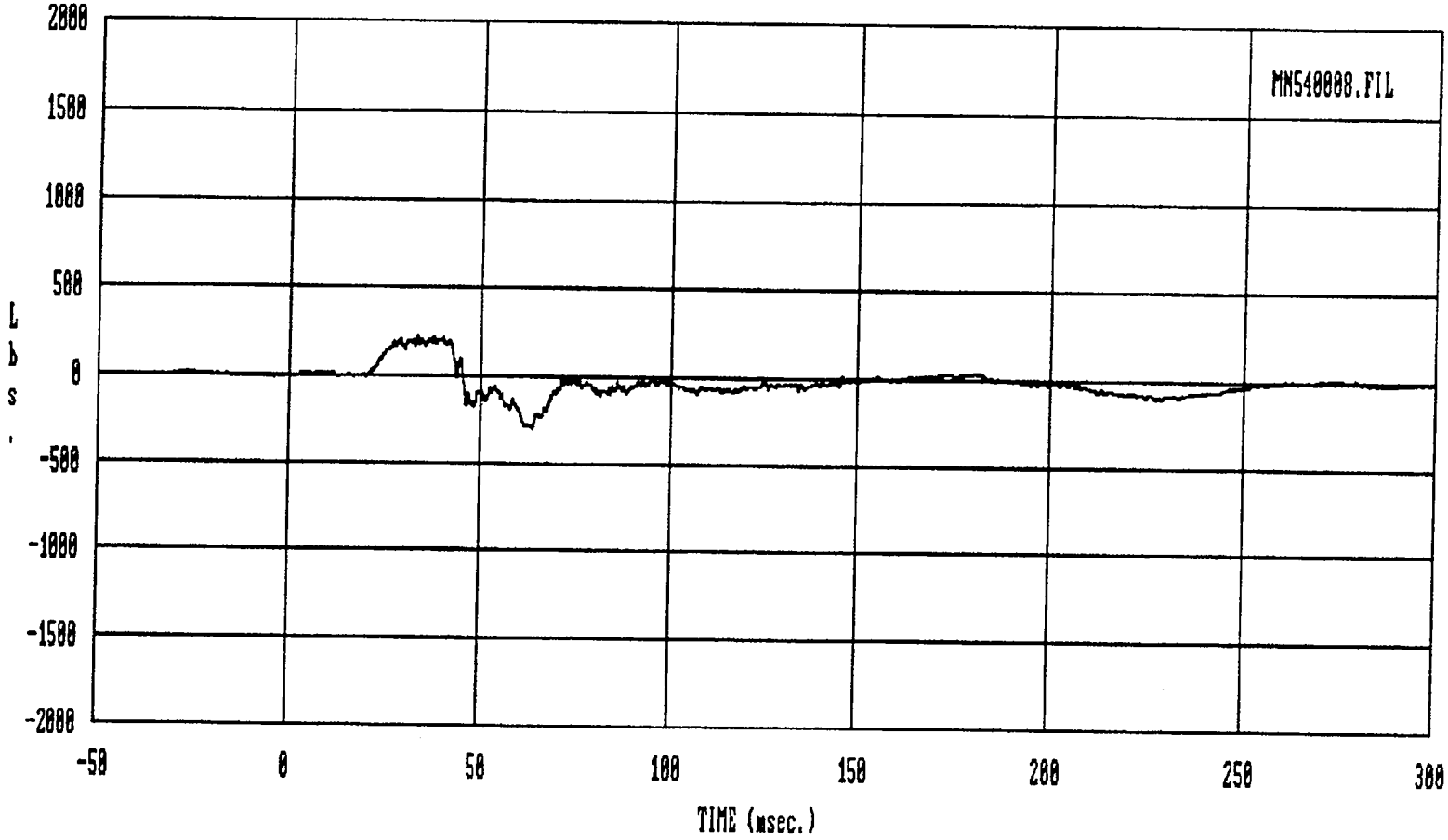
Curve: Driver chest acceleration — Resultant Filter: SAE CLASS 180 Max = 42.298 Min = .15961

MSE Date: 05/14/92 Program: 1992 NCAP - M2 Vehicle: 1992 Mazda B2200 P/U



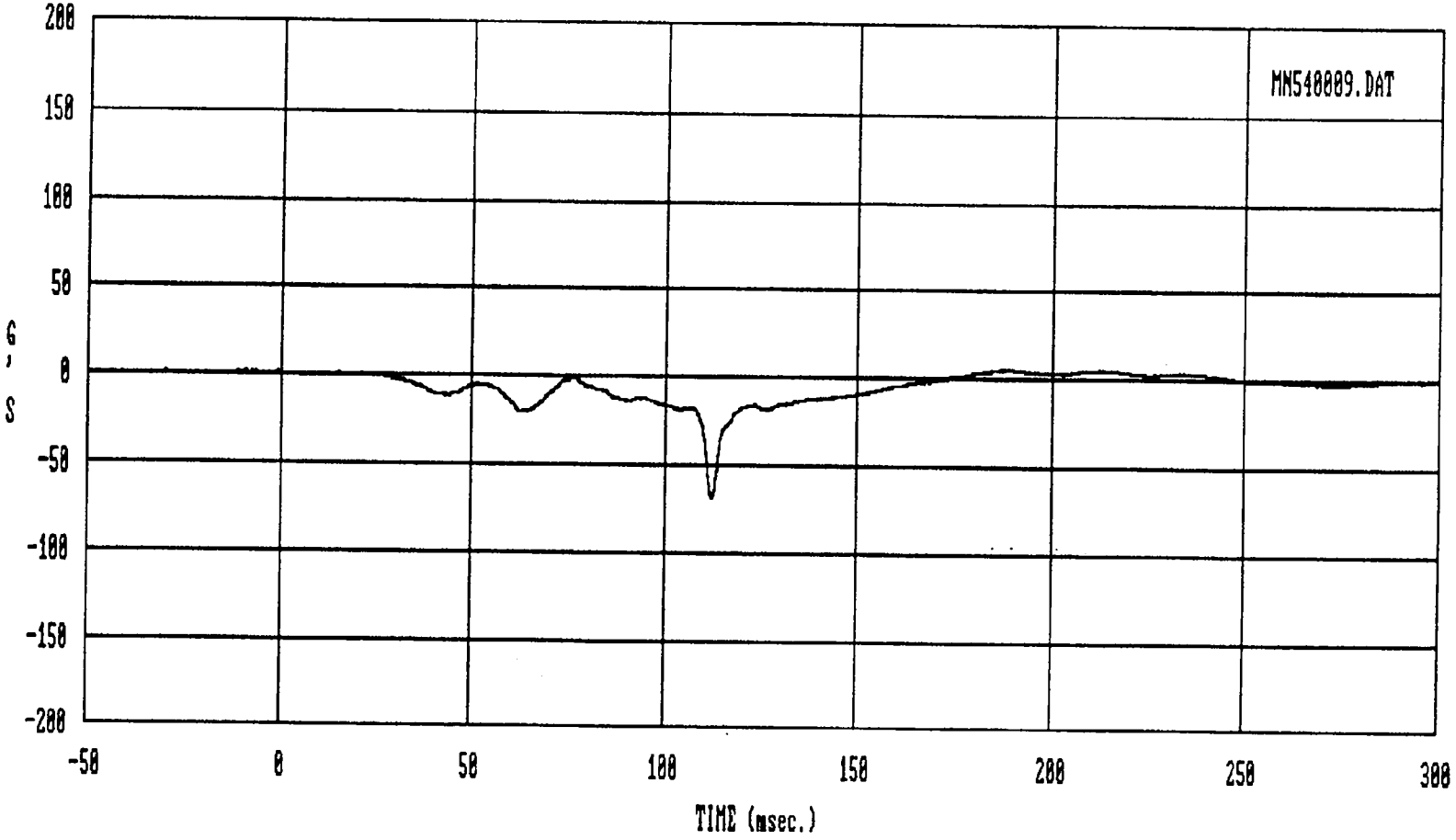
Curve: Driver femur load -- Left femur Filter: SAE CLASS 600 Max = 36.941 Min = -539.80

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



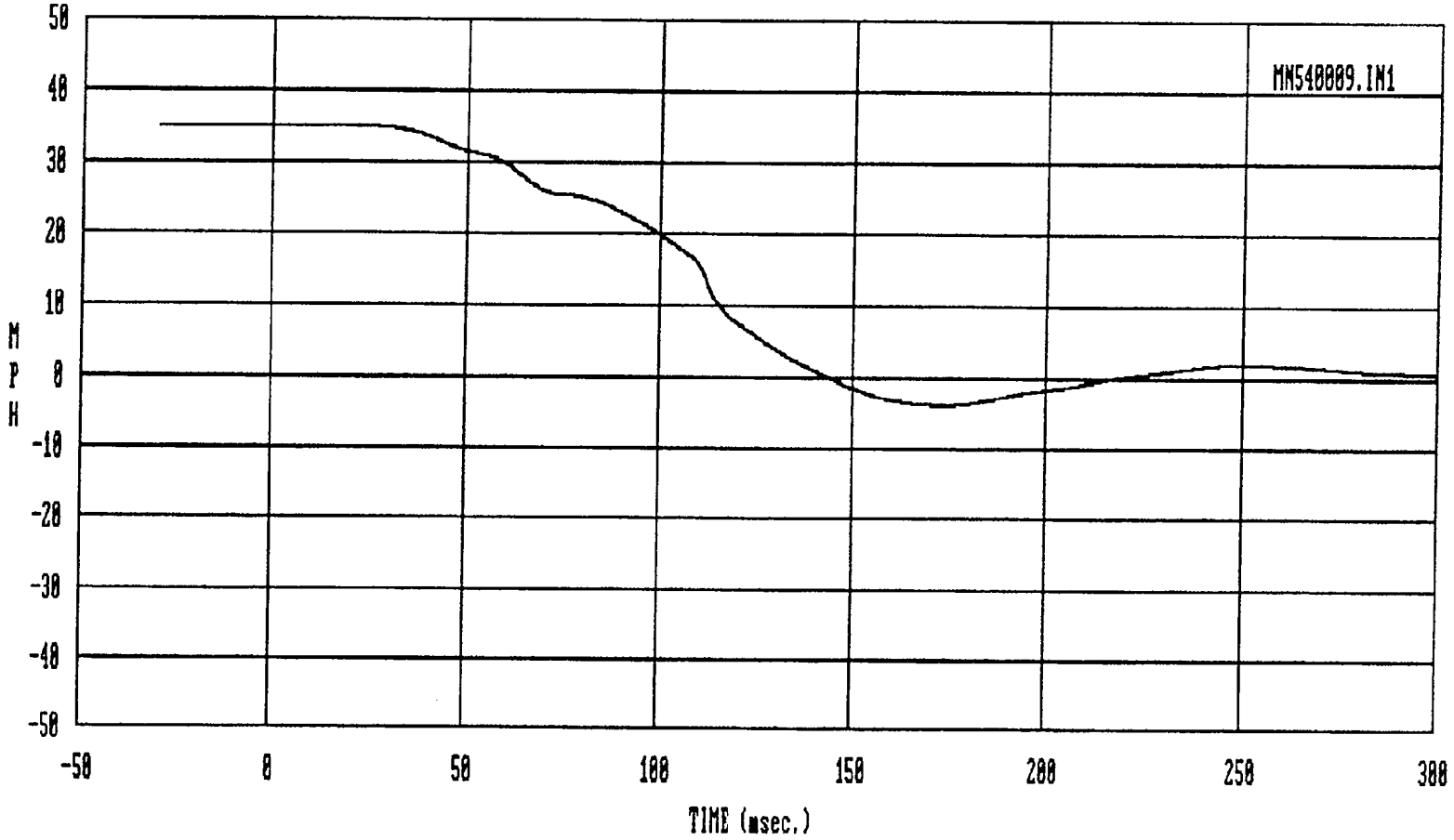
Curve: Driver femur load — Right femur Filter: SAE CLASS 600 Max = 238.58 Min = -296.17

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



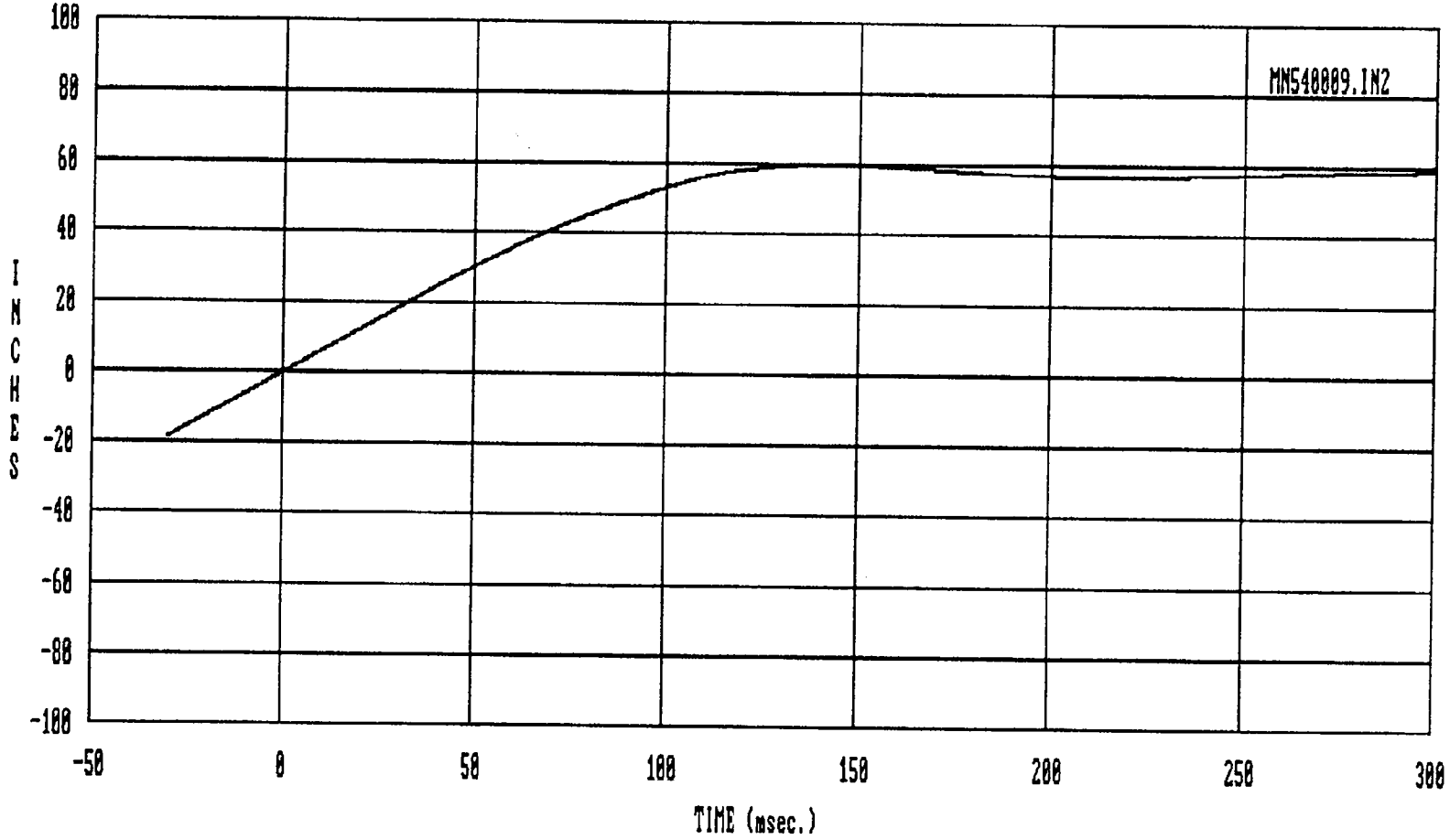
Curve: Passenger head acceleration -- X axis Filter: SAE CLASS 1000 Max = 5.5842 Min = -69.877

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



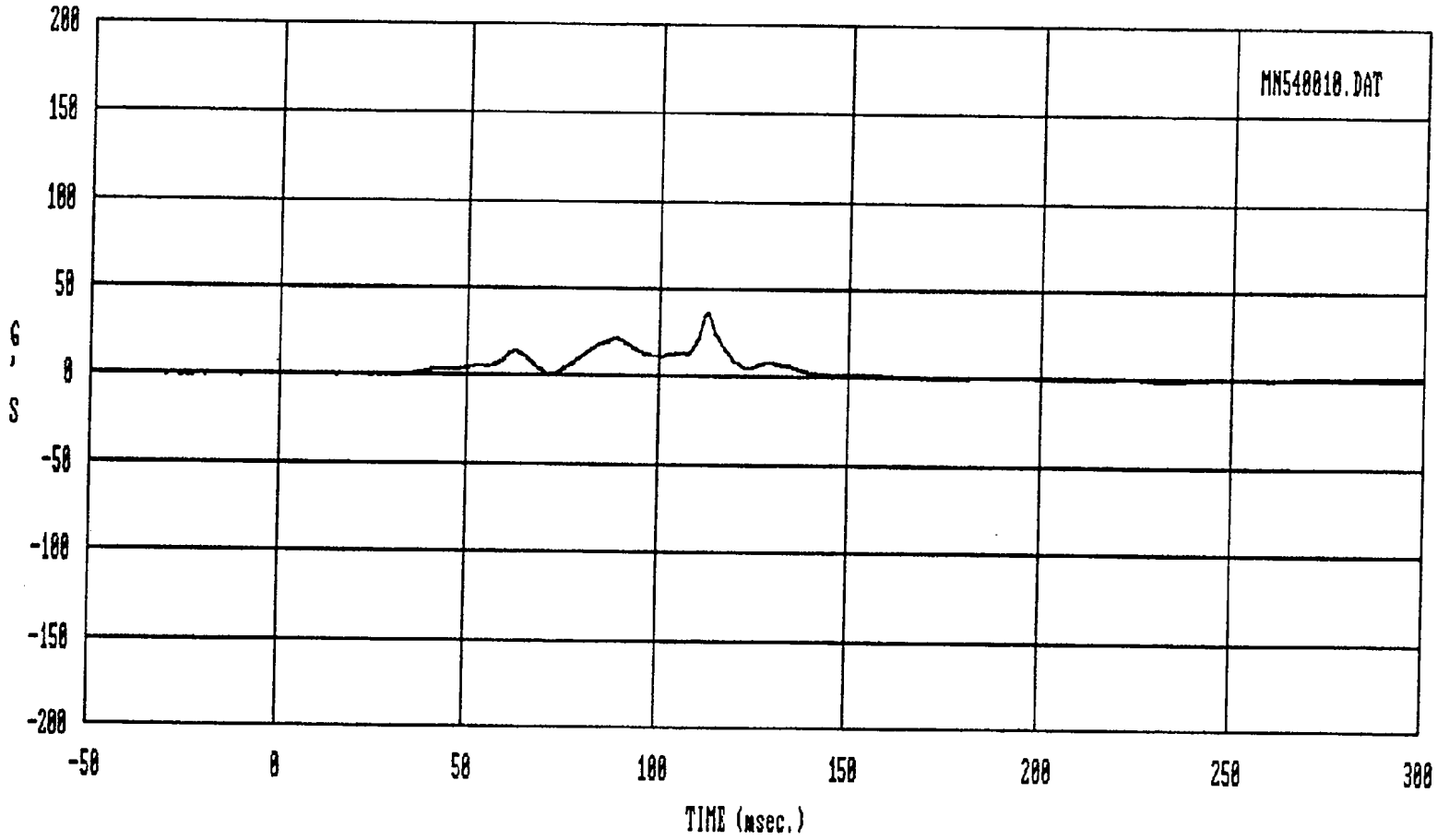
Curve: Passenger head delta V — X axis Filter: SAE CLASS 180 Max = 35.200 Min = -3.6648

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



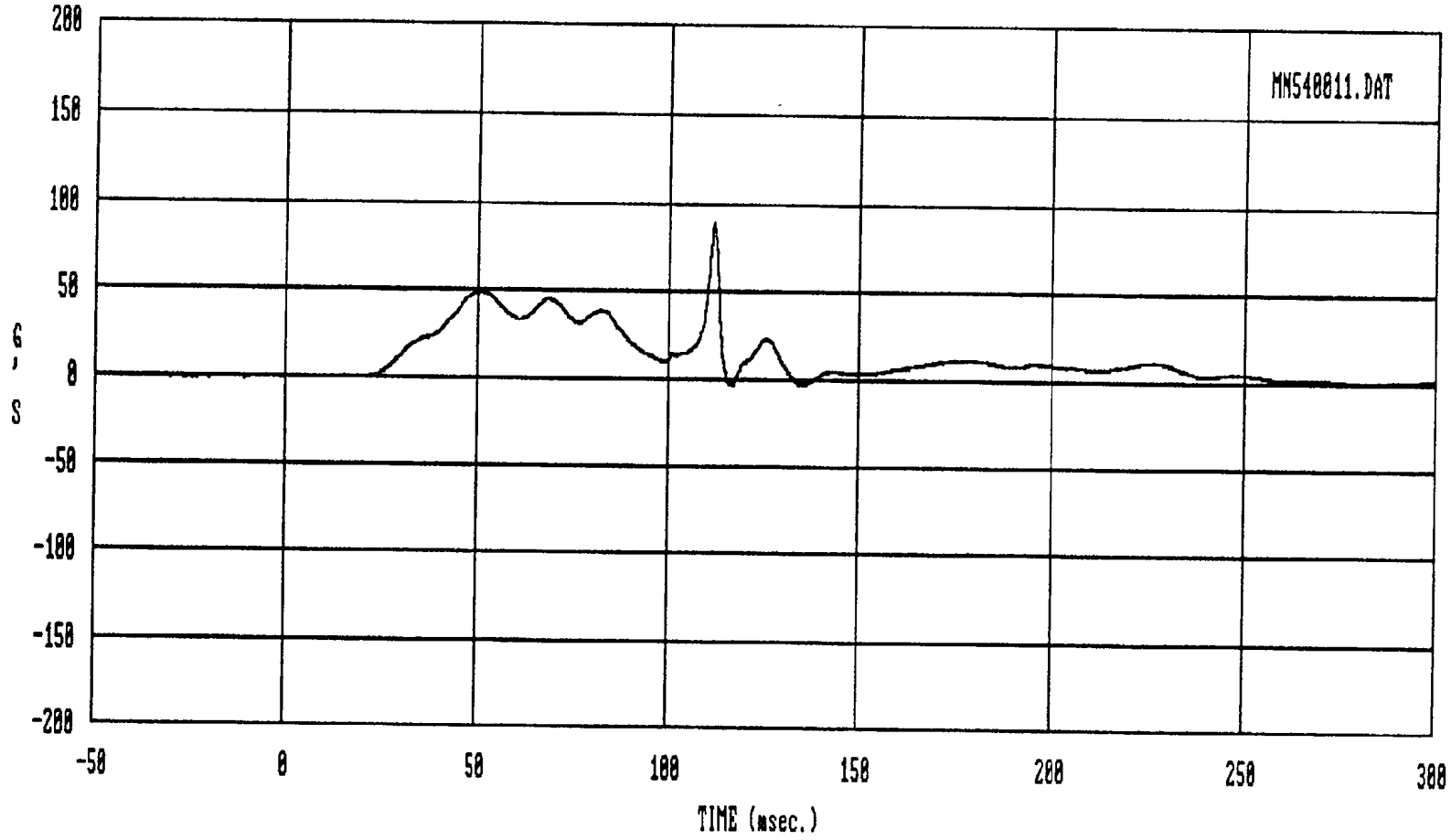
Curve: Passenger head displacement — X axis Filter: SAE CLASS 180 Max = 59.798 Min = 56.953

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



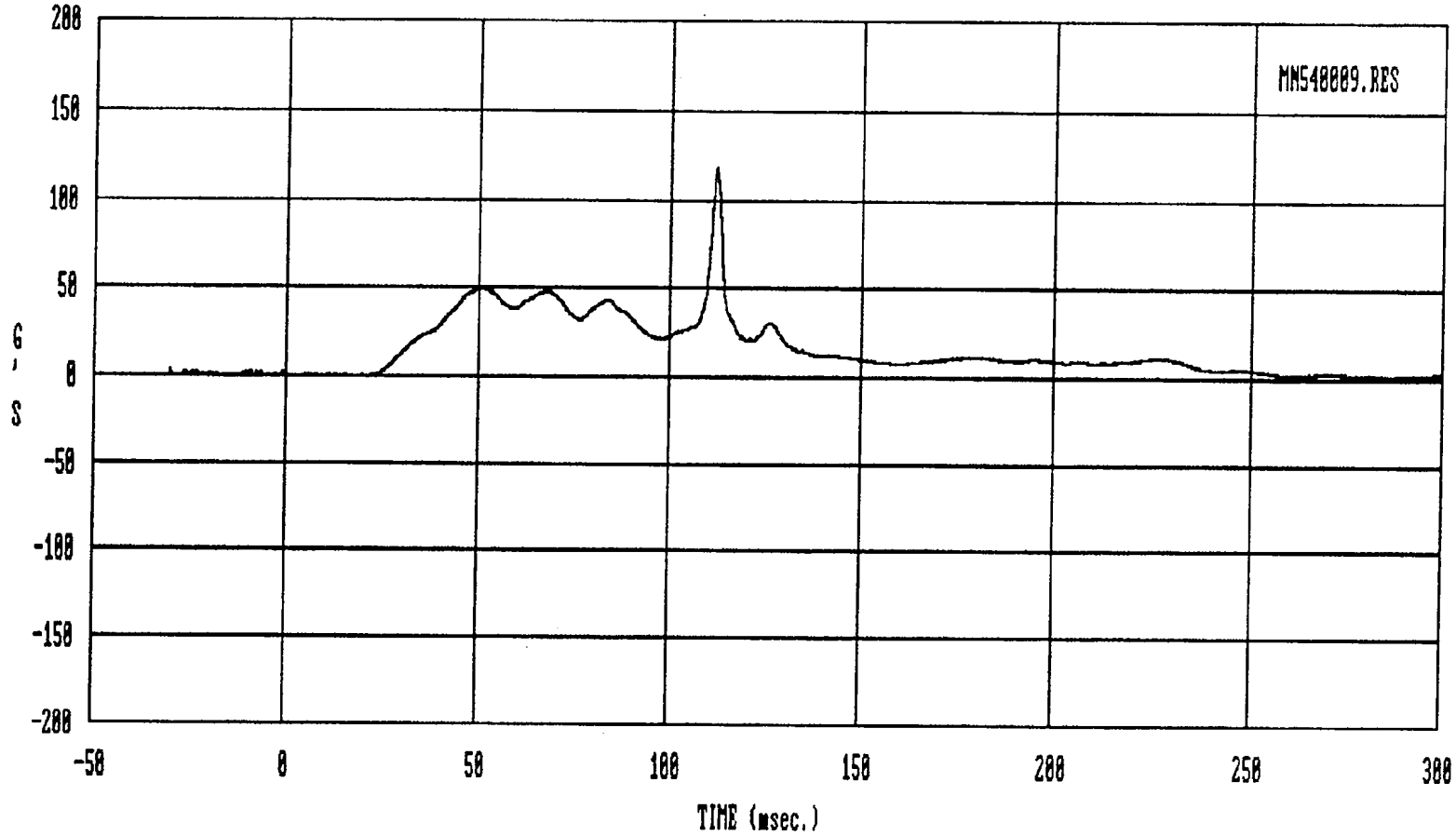
Curve: Passenger head acceleration — Y axis Filter: SAE CLASS 1000 Max = 38.134 Min = -1.6466

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



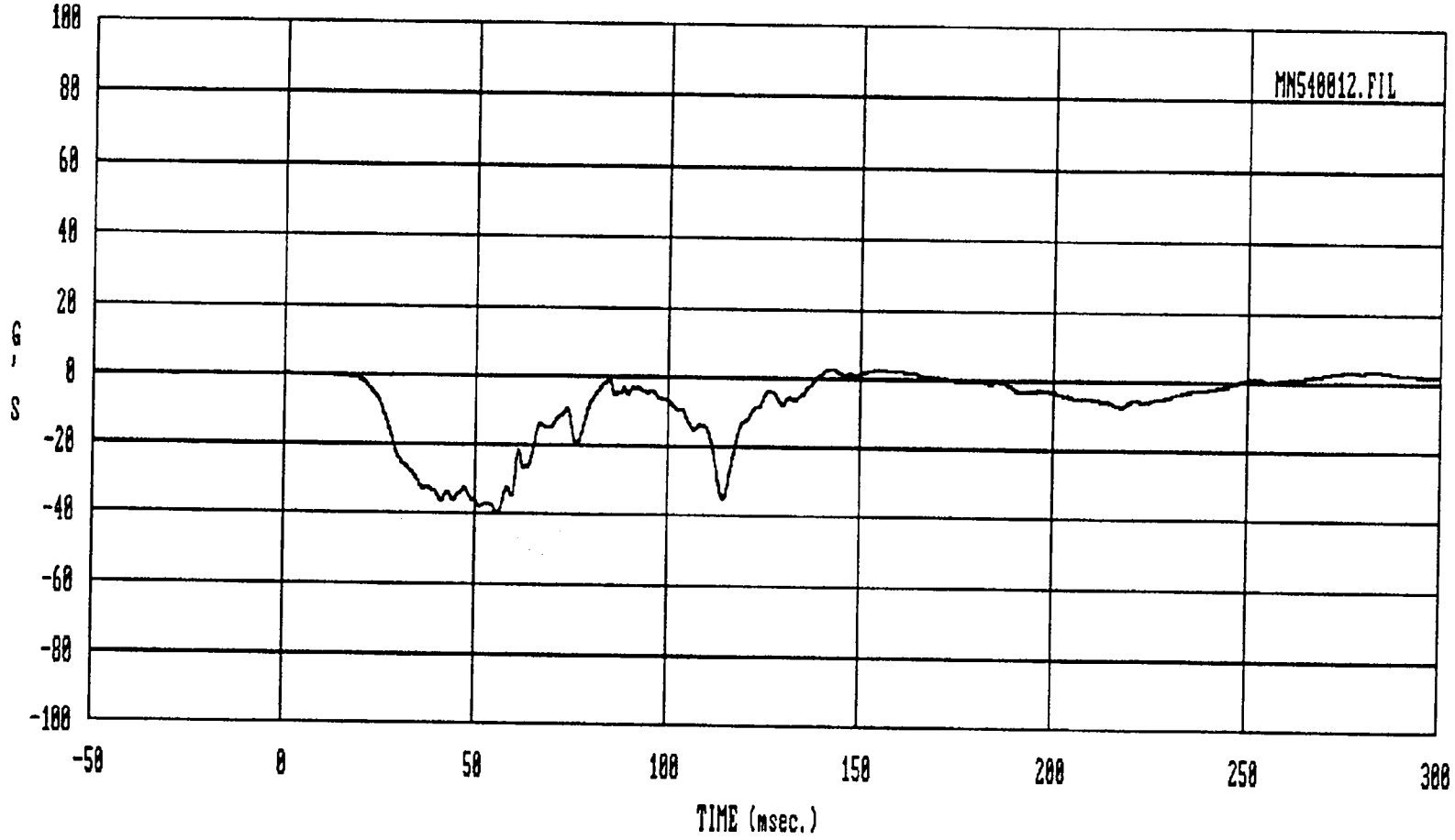
Curve: Passenger head acceleration — Z axis Filter: SAE CLASS 1000 Max = 89.413 Min = -3.5313

MSE Date: 05/14/92 Program: 1992 NCAP - N2 Vehicle: 1992 Mazda B2200 P/U



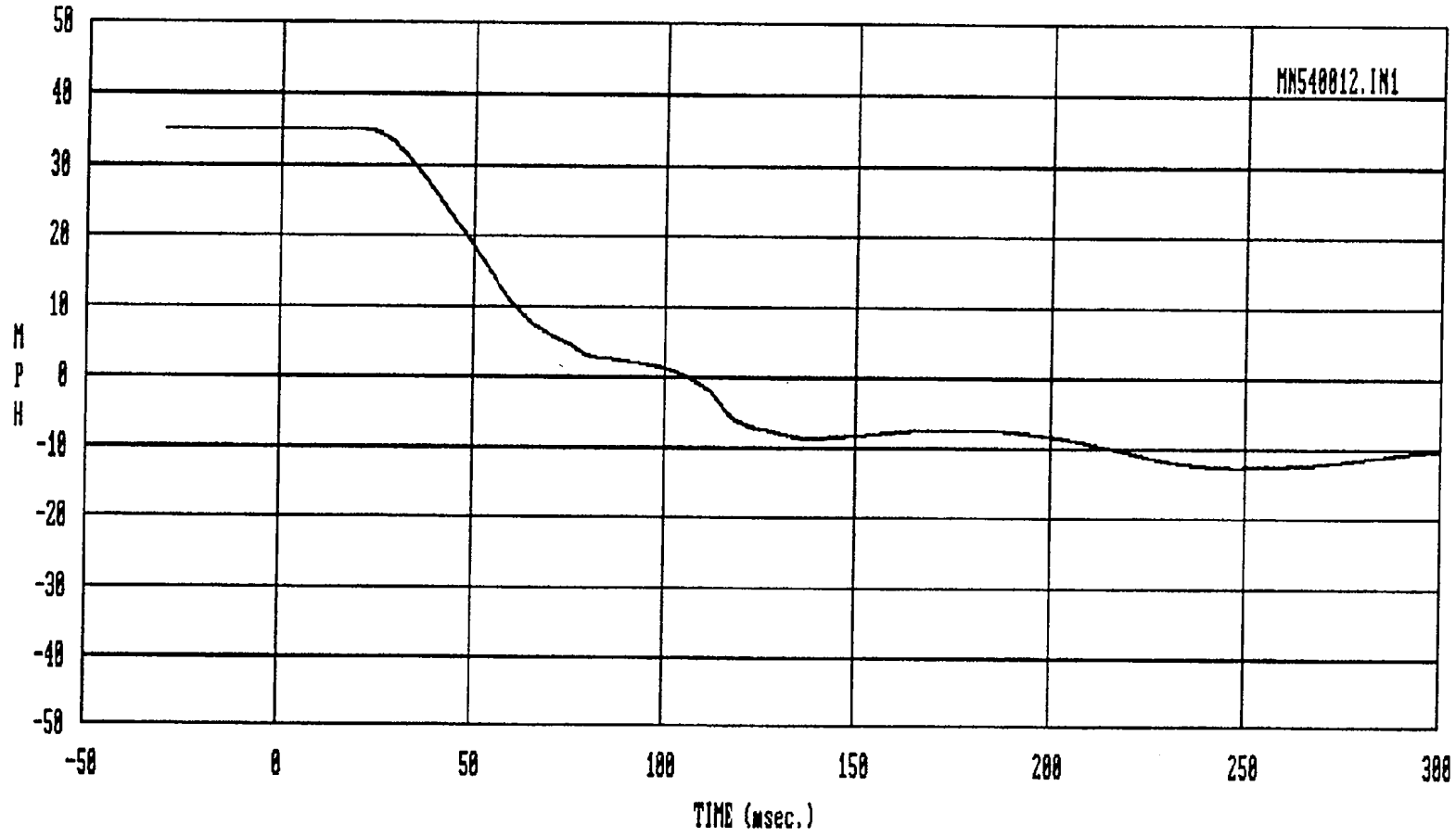
Curve: Passenger head acceleration -- Resultant Filter: SAE CLASS 1000 Max = 118.59 Min = .46519E-01

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



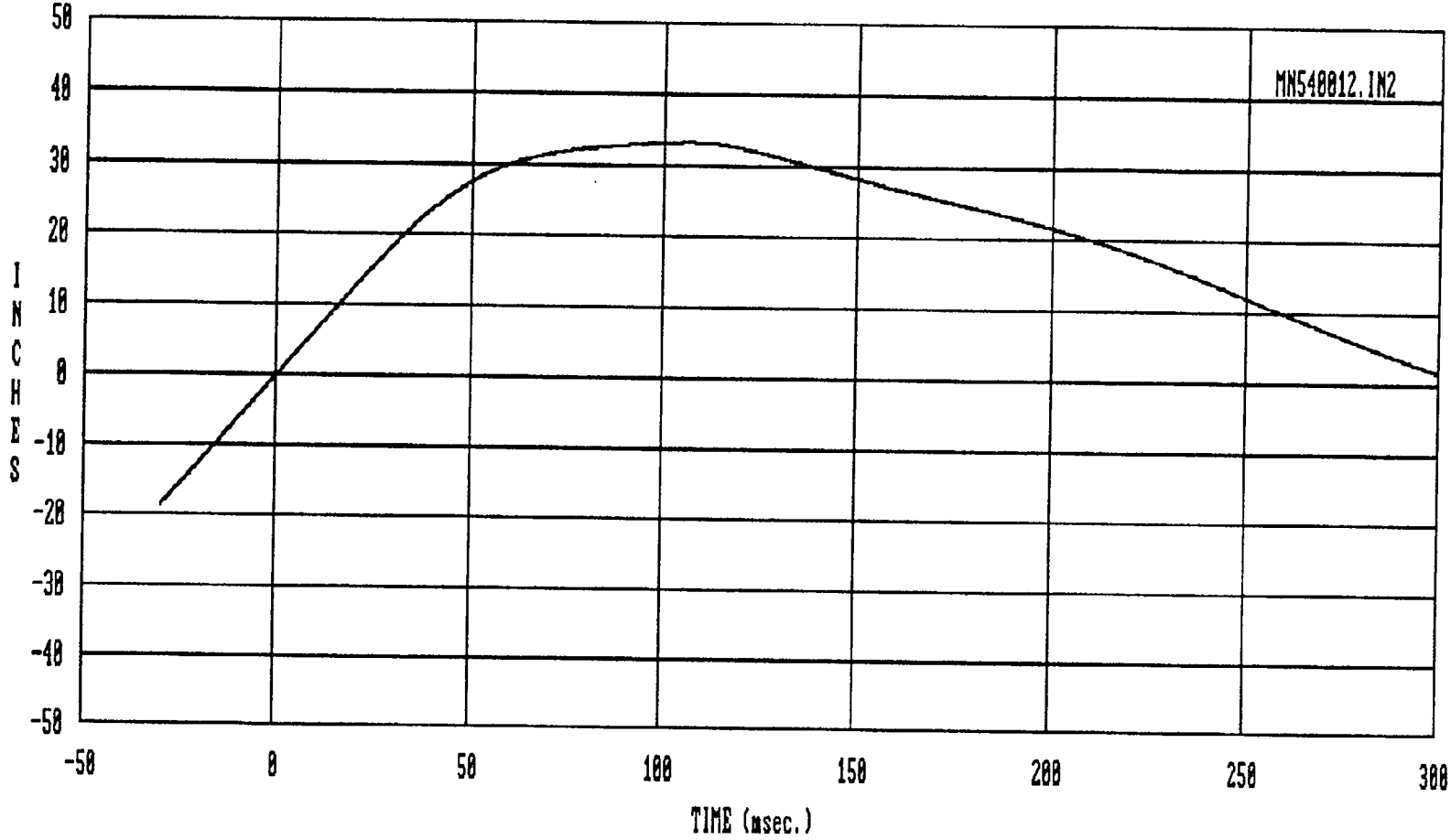
Curve: Passenger chest acceleration -- X axis Filter: SAE CLASS 180 Max = 3.5897 Min = -40.867

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



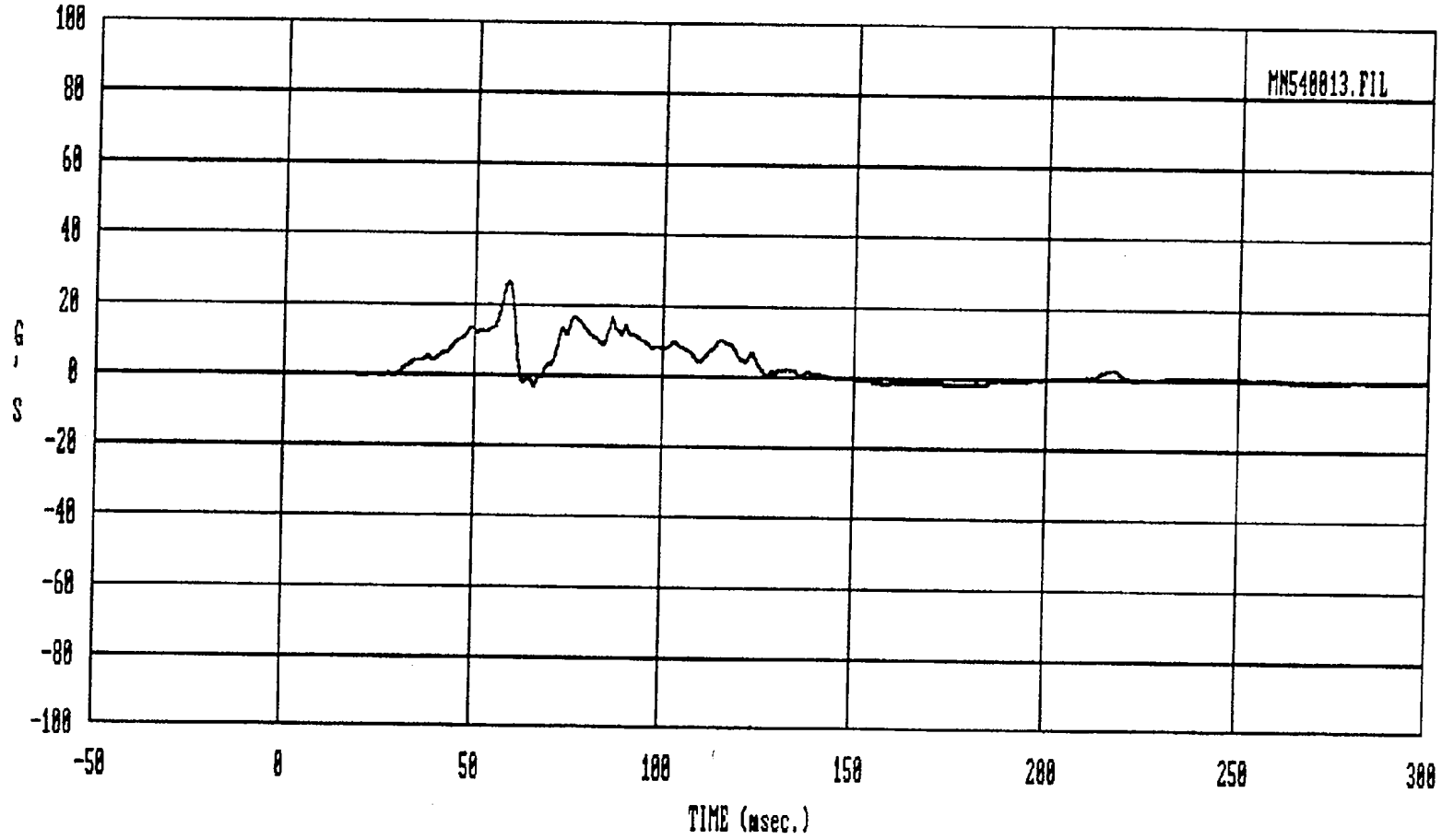
Curve: Passenger chest delta V — X axis Filter: SAE CLASS 180 Max = 35.225 Min = -12.671

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



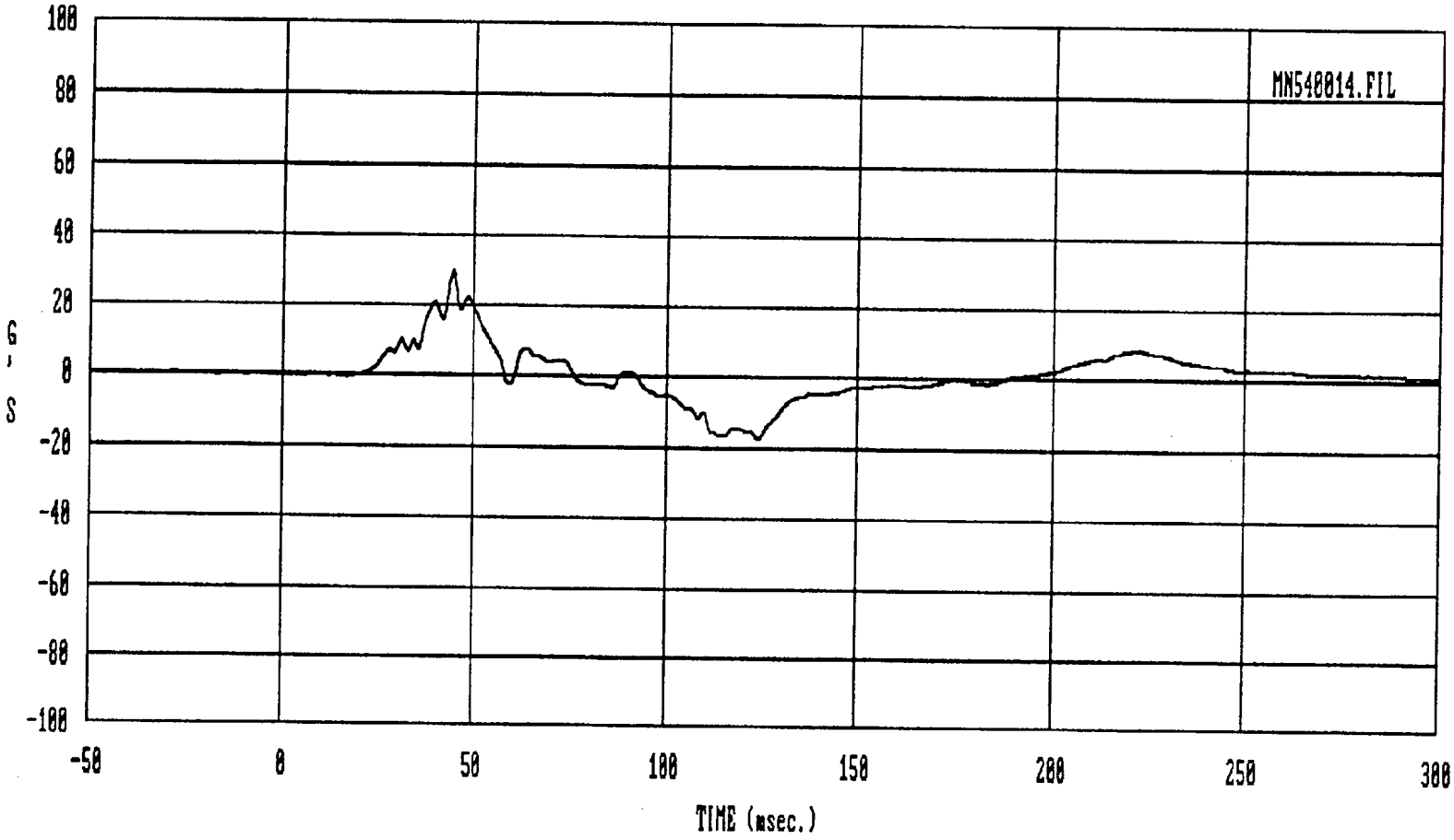
Curve: Passenger chest displacement -- X axis Filter: SAE CLASS 180 Max = 33.311 Min = 1.6965

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



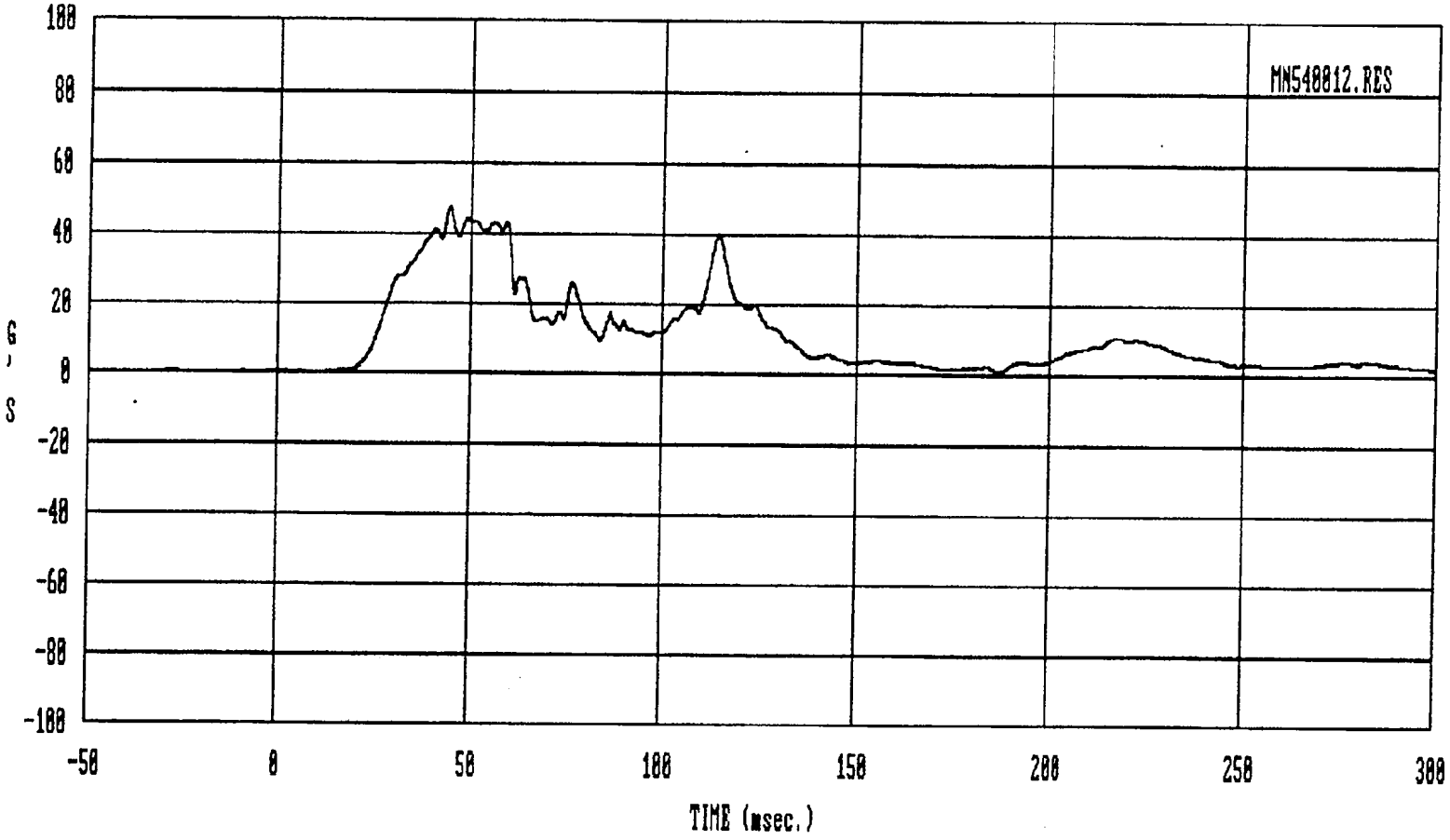
Curve: Passenger chest acceleration -- Y axis Filter: SAE CLASS 180 Max = 26.689 Min = -2.7942

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



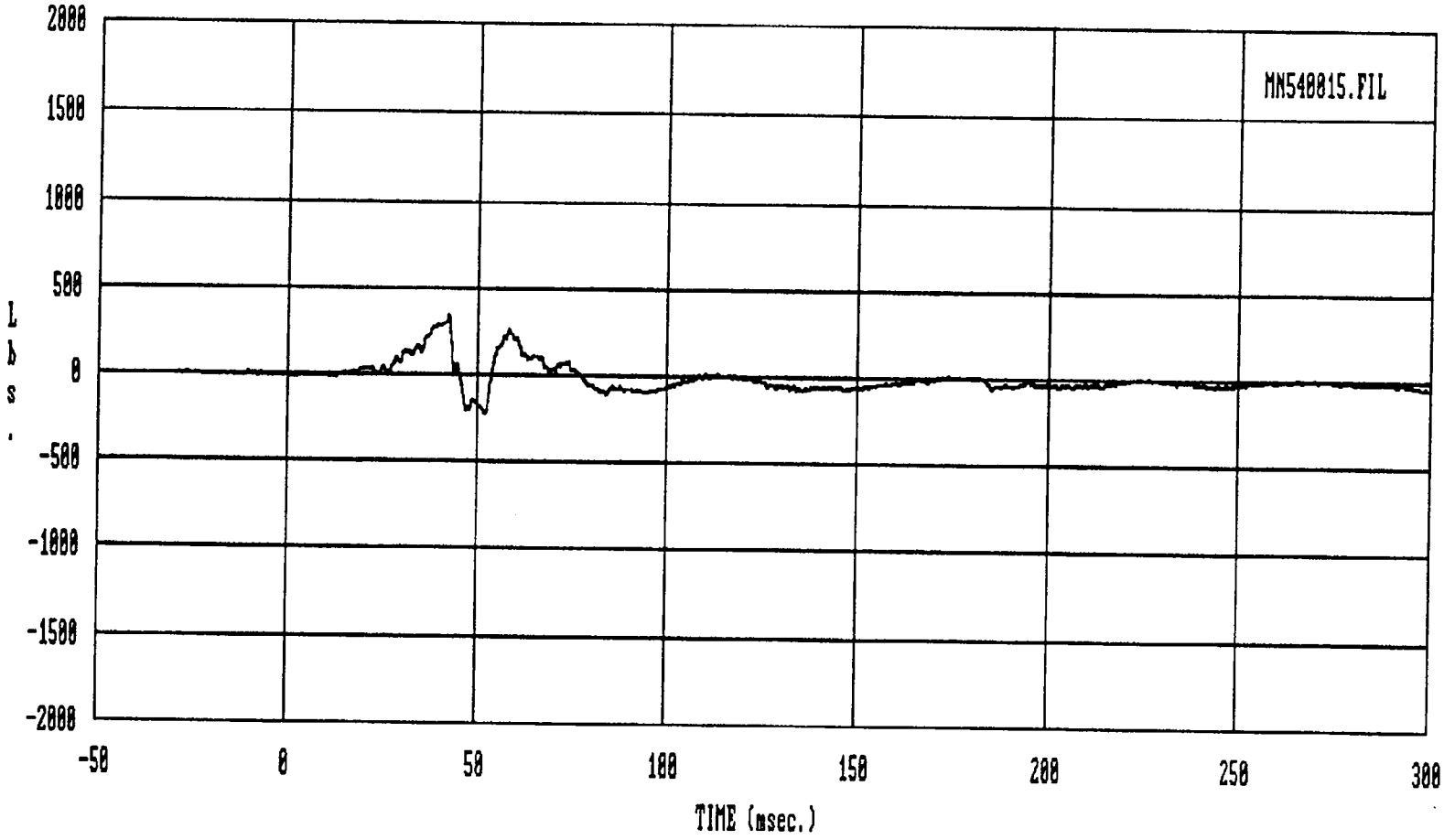
Curve: Passenger chest acceleration -- Z axis Filter: SAE CLASS 180 Max = 29.883 Min = -17.318

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



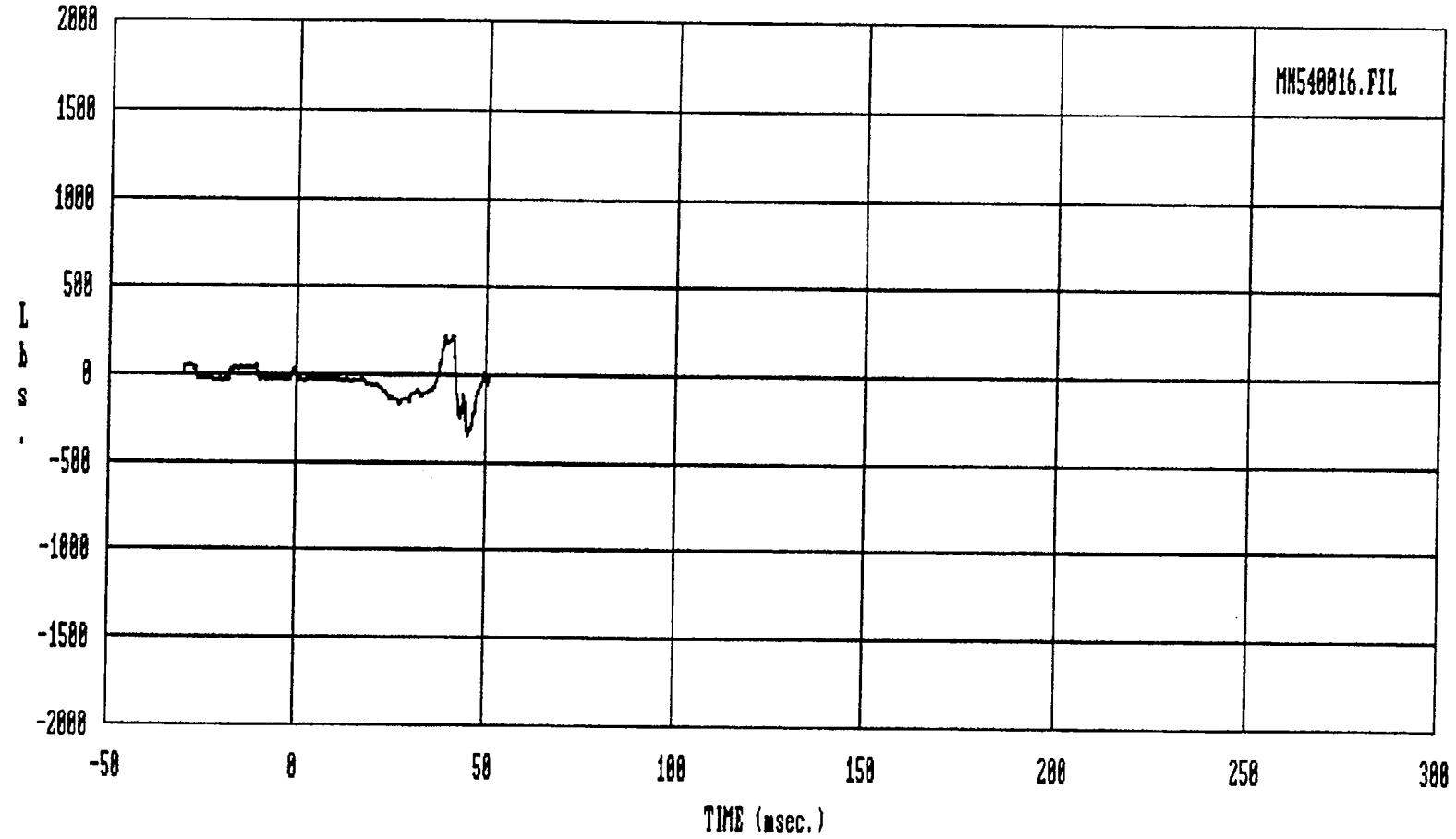
Curve: Passenger chest acceleration — Resultant Filter: SAE CLASS 180 Max = 47.736 Min = .10298

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



Curve: Passenger femur load — Left femur Filter: SAE CLASS 600 Max = 347.83 Min = -222.20

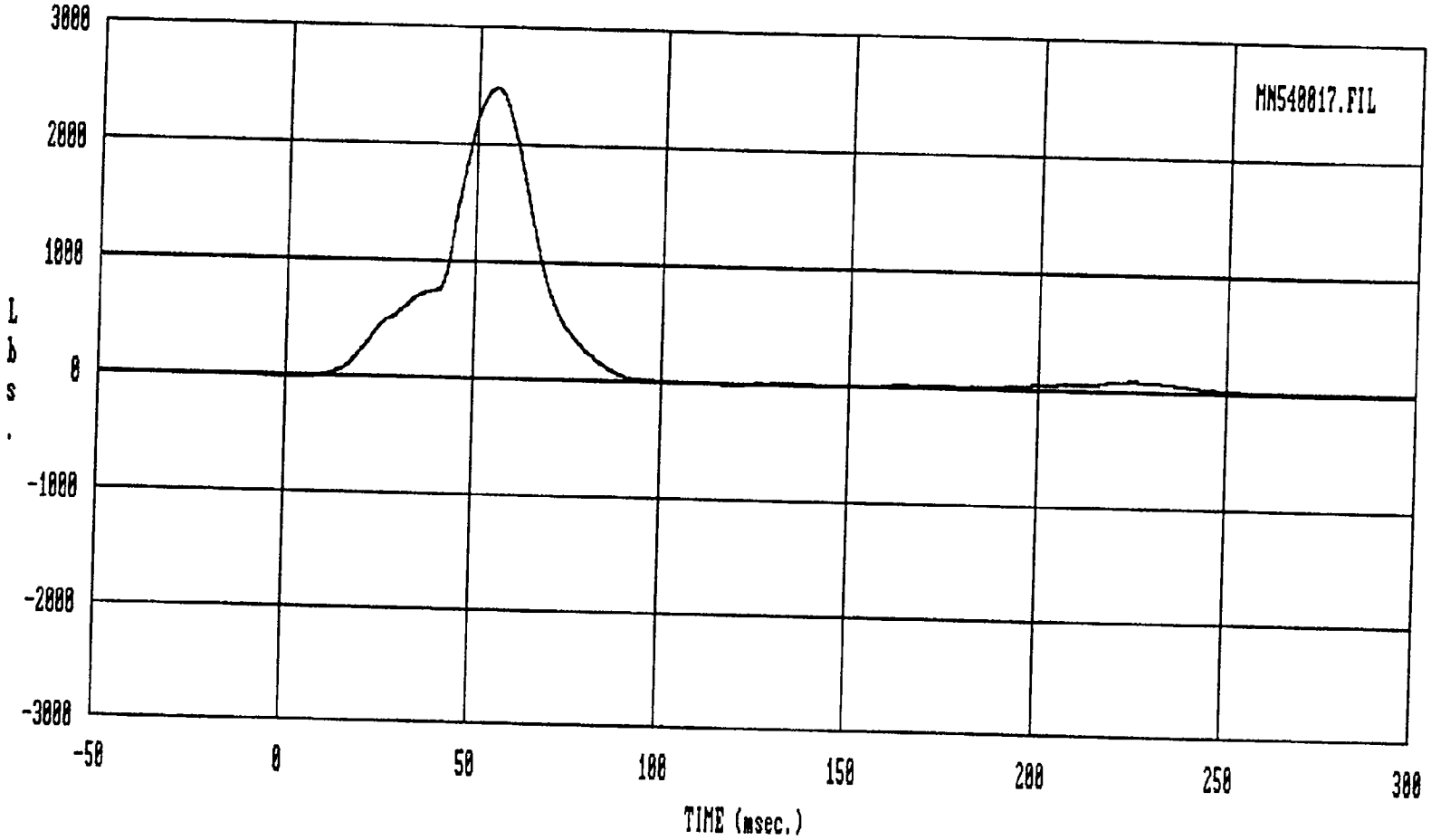
MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



Curve: Passenger femur load — Right femur Filter: SAE CLASS 600 Max = 225.32 Min = -360.00

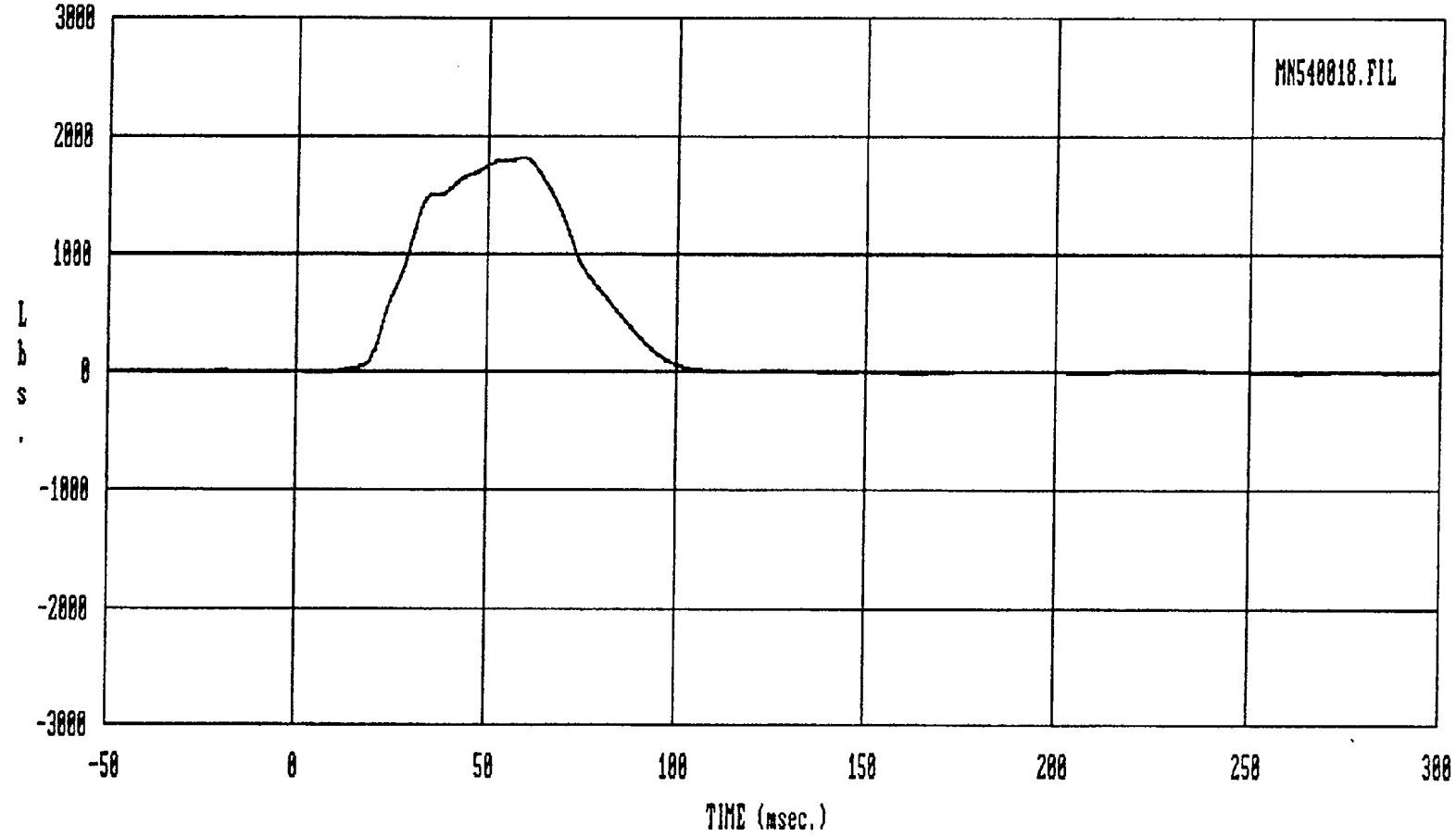
MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U

* DATA LOST AFTER ABOUT 52 MILLISECONDS.



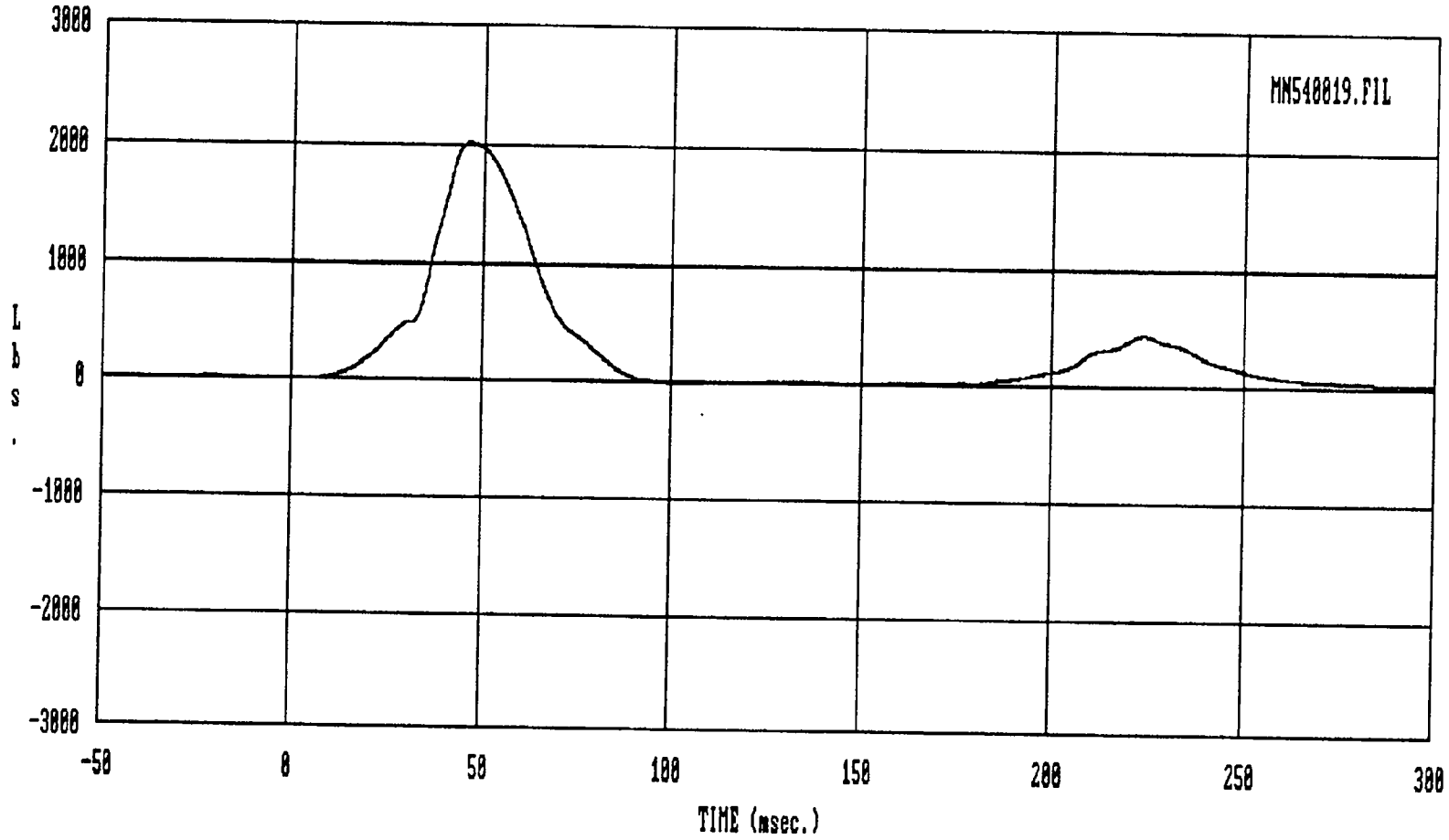
Curve: Driver lap belt load Filter: SAE CLASS 60 Max = 2485.2 Min = -12.669

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



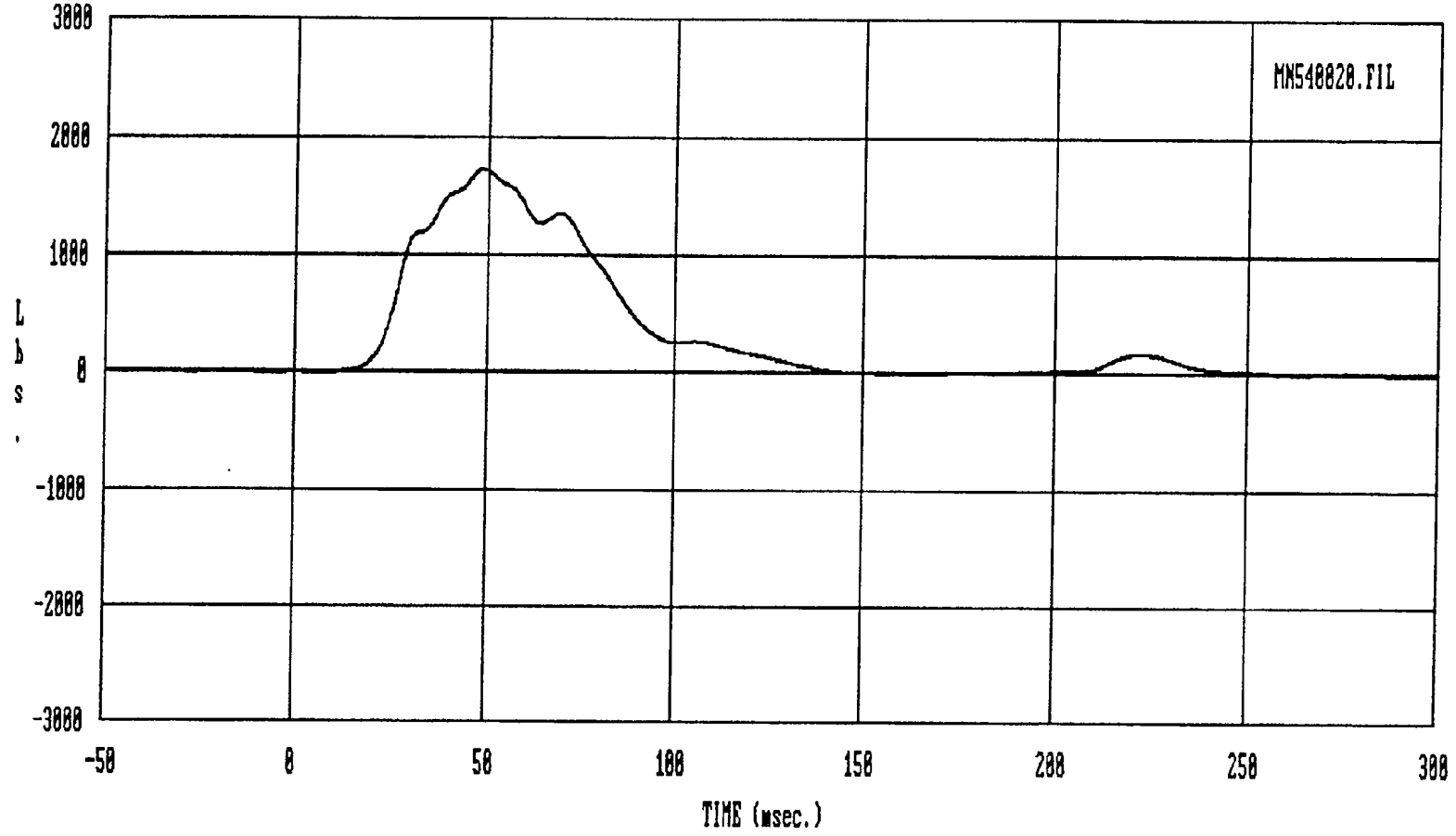
Curve: Driver shoulder belt load Filter: SAE CLASS 60 Max = 1826.0 Min = -18.906

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



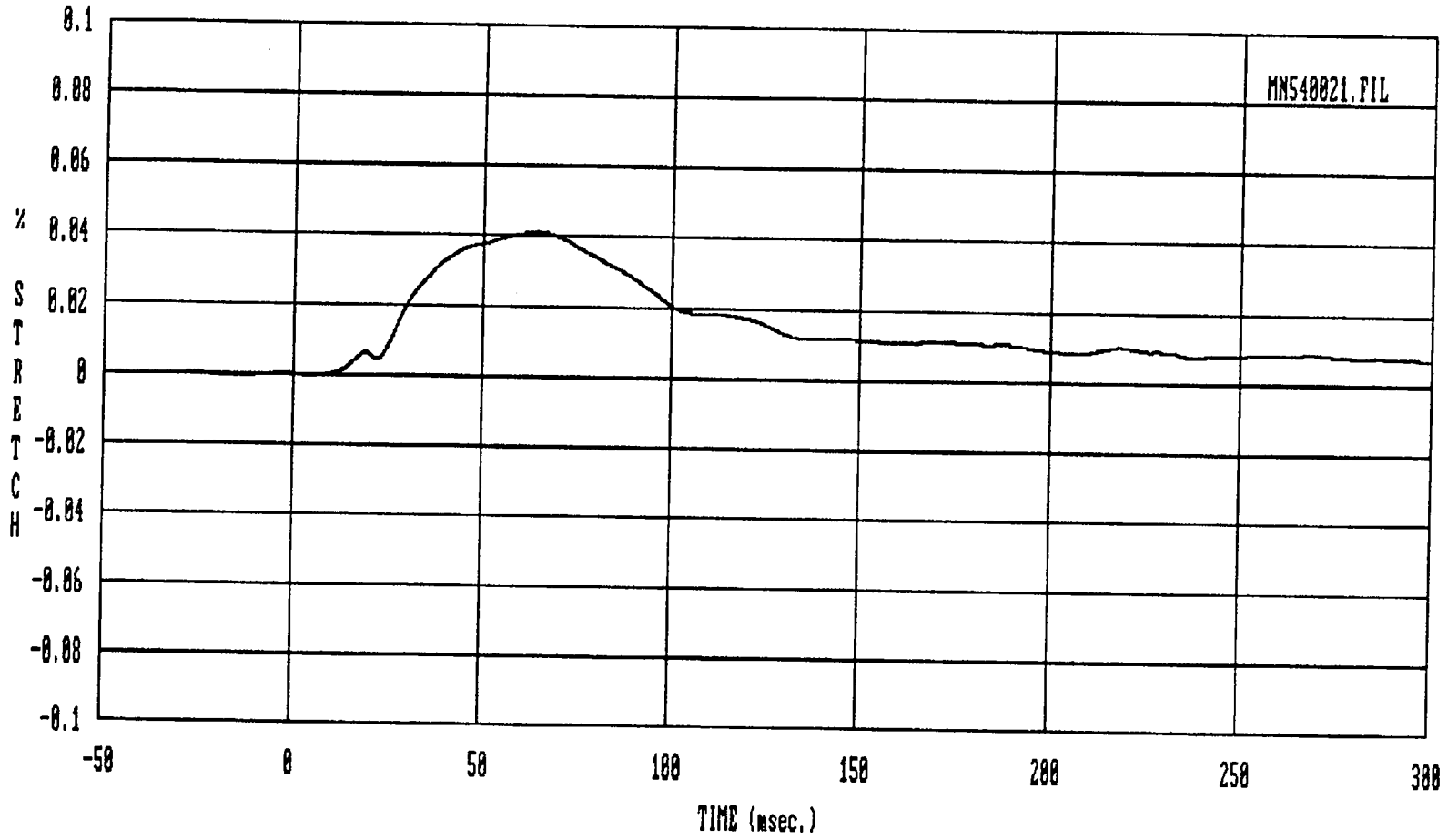
Curve: Passenger lap belt load Filter: SAE CLASS 60 Max = 2024.1 Min = -9.3600

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



Curve: Passenger shoulder belt load Filter: SAE CLASS 60 Max = 1729.9 Min = -15.549

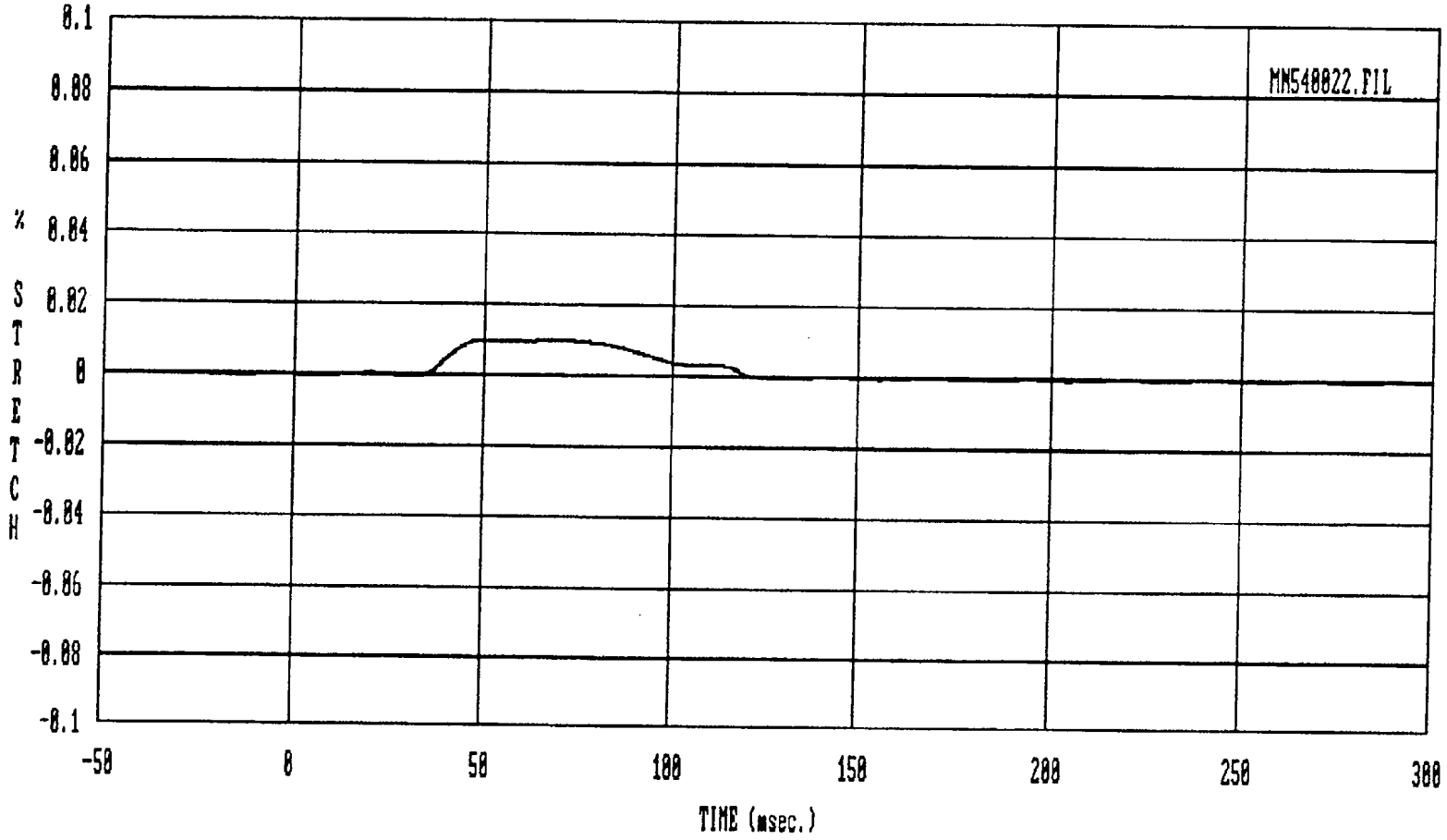
MSE Date: 05/14/92 Program: 1992 NCAP - M2 Vehicle: 1992 Mazda B2200 P/U



Curve: Driver seat belt elongation (Percent Stretch) Filter: SAE CLASS 60 Max = .41184E-01 Min = -.20482E-03

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U

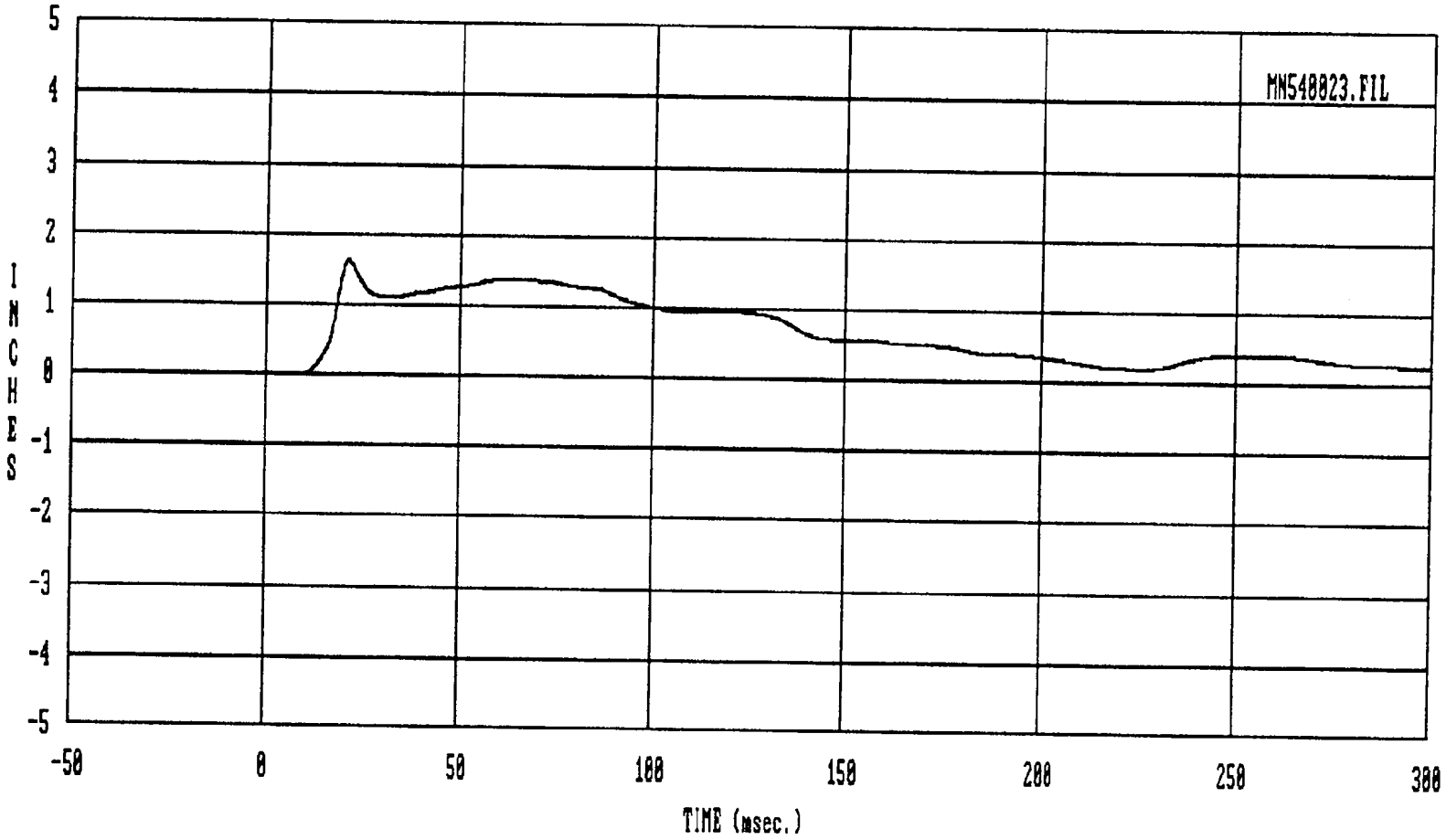
* DATA LOST AFTER ABOUT 52 MILLISECONDS.



Curve: Passenger seat belt elongation (Percent Stretch) Filter: SAE CLASS 60 Max = .98693E-02 Min = -.56491E-03

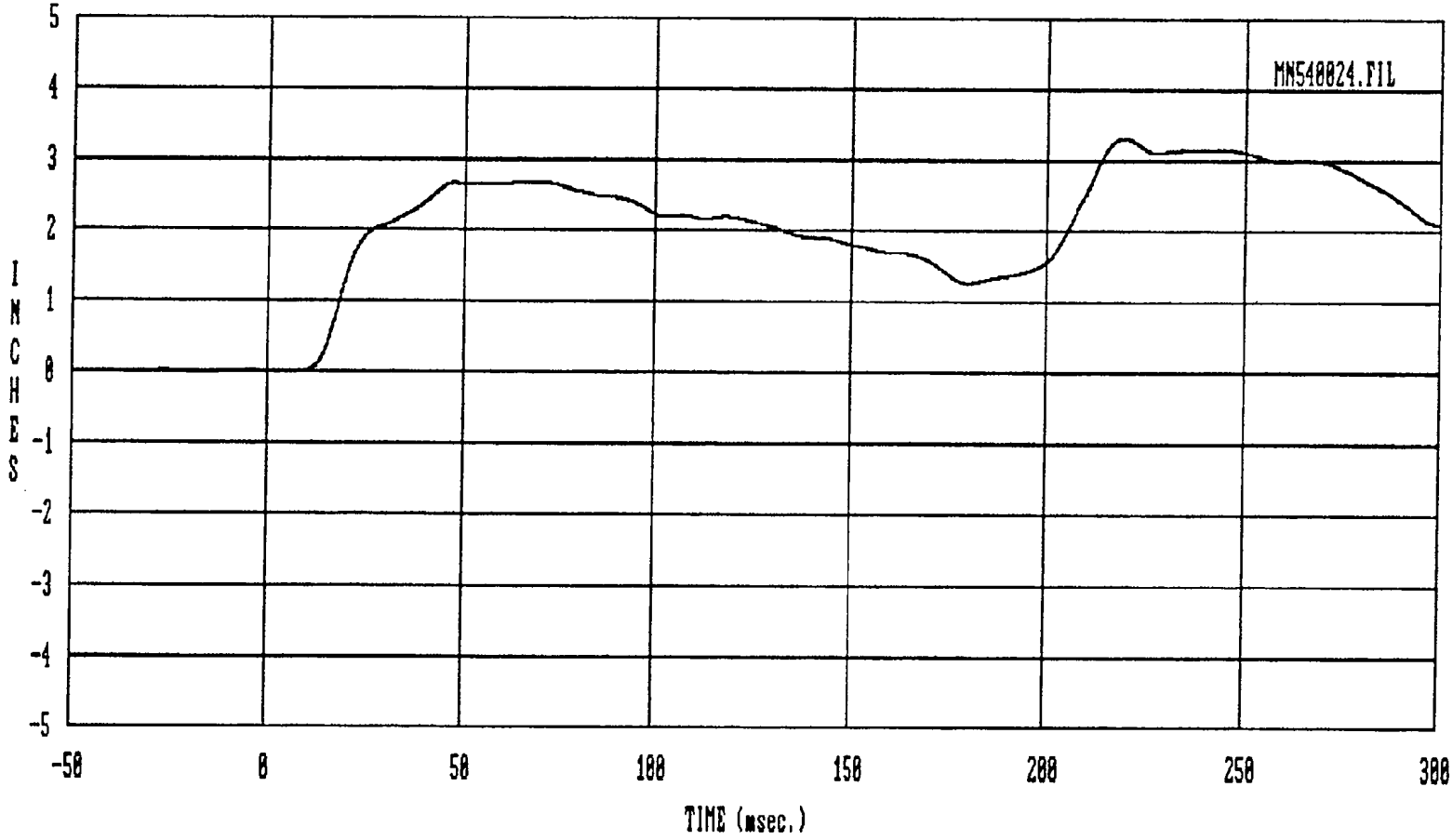
MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U

* DATA LOST AFTER ABOUT 52 MILLISECONDS.



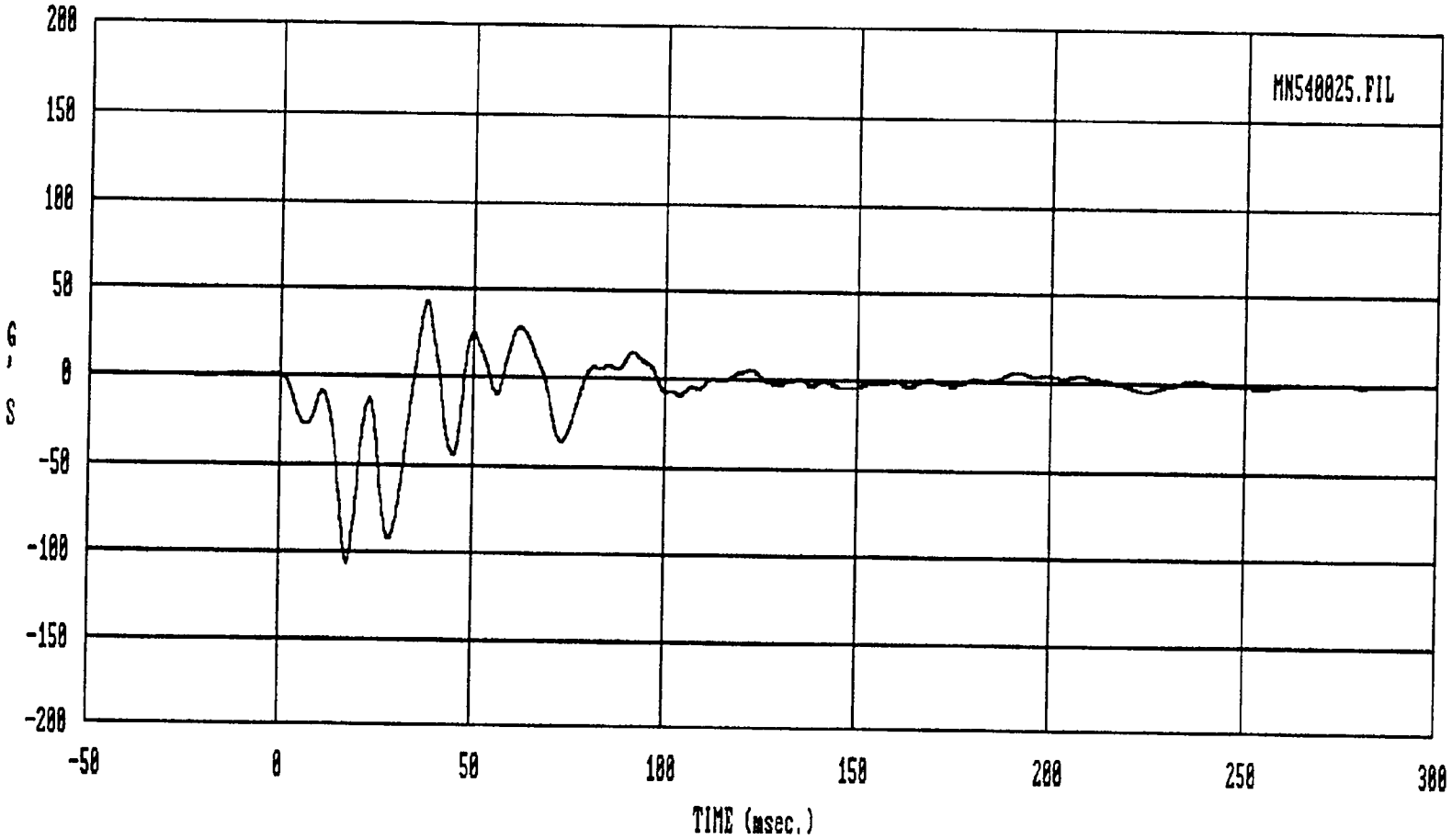
Curve: Driver seat belt pullout Filter: SAE CLASS 60 Max = 1.6532 Min = -.20800E-02

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



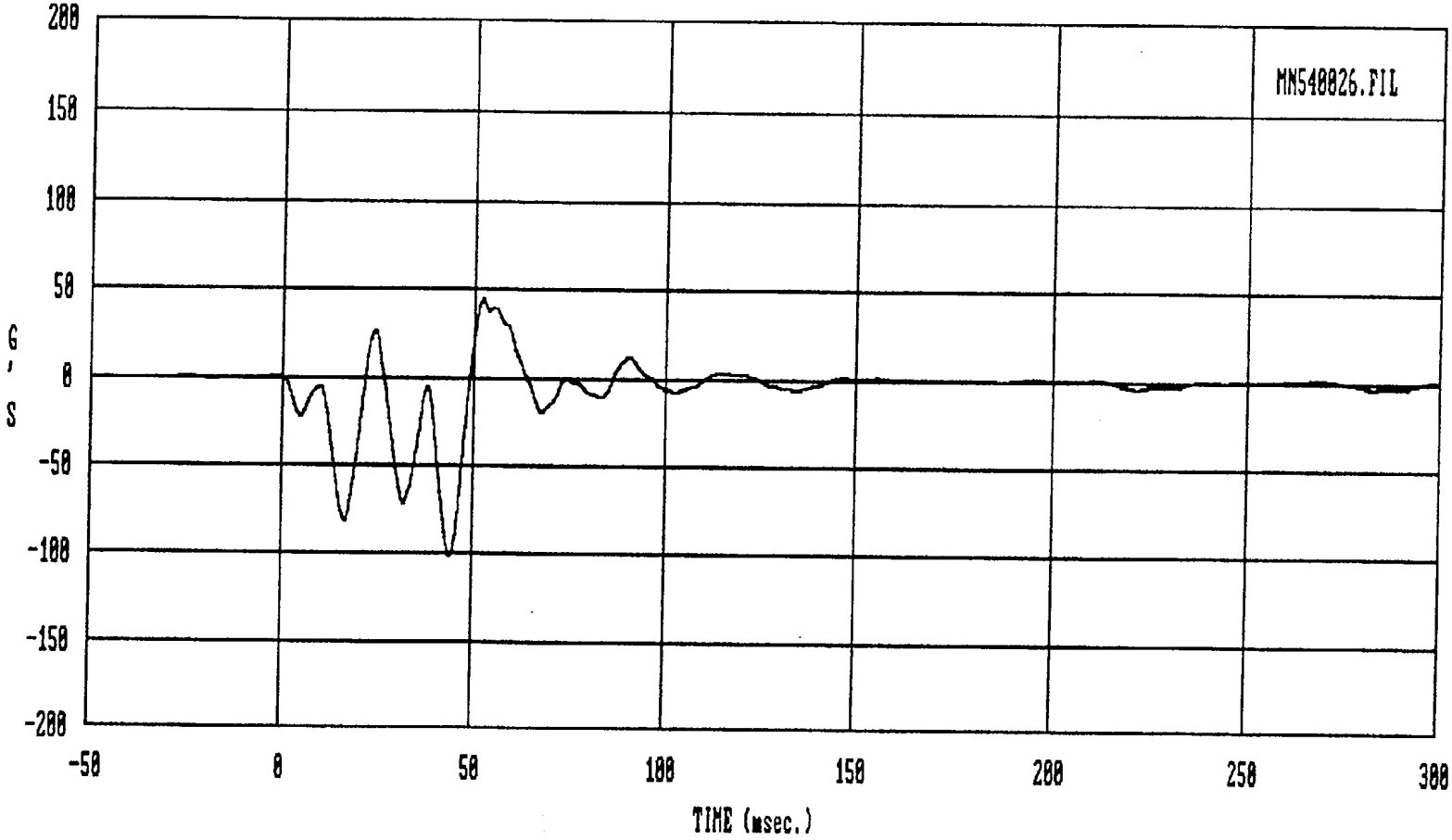
Curve: Passenger seat belt pullout Filter: SAE CLASS 60 Max = 3.3290 Min = -.58894E-02

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



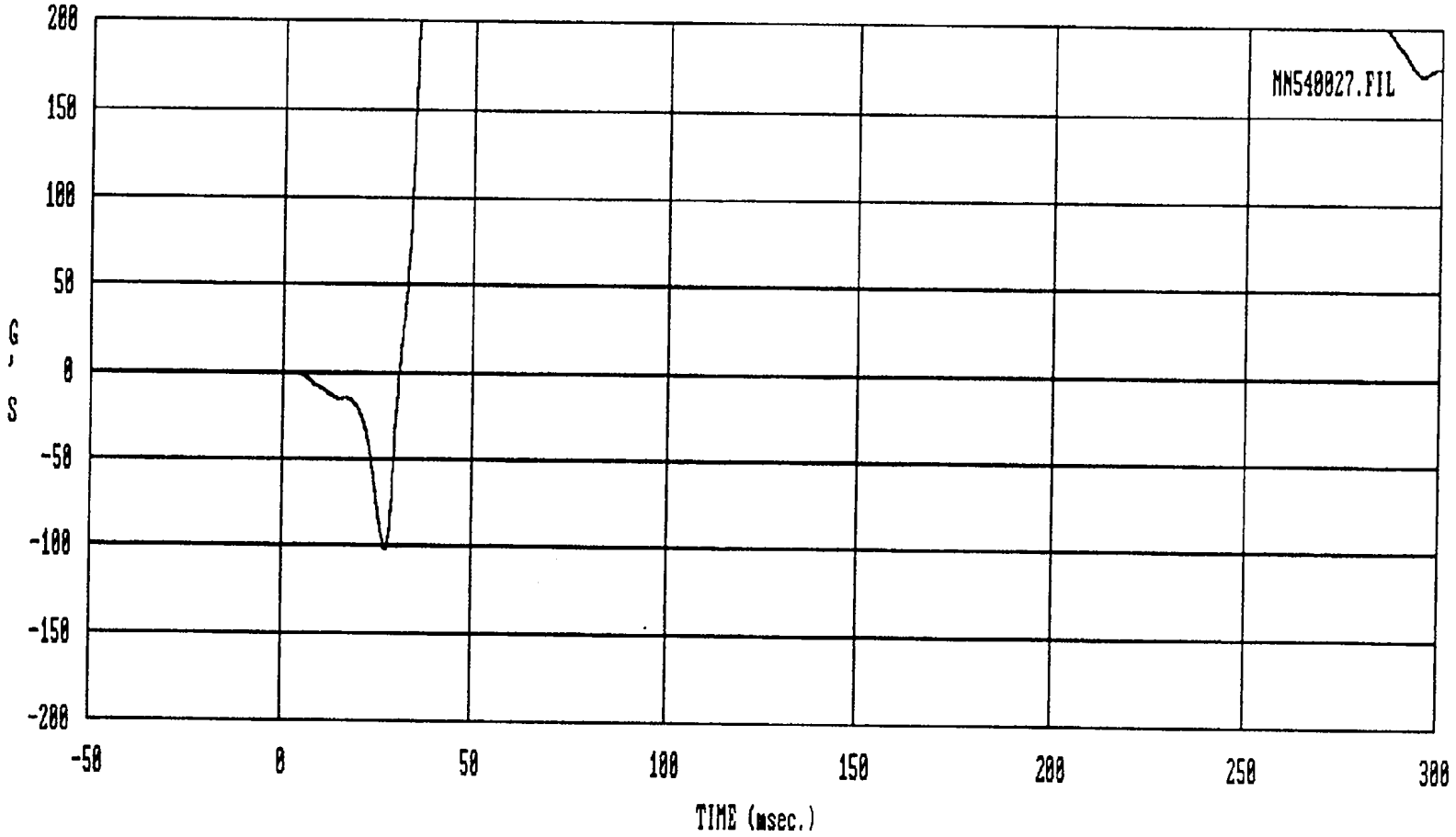
Curve: Left front caliper acceleration -- X axis Filter: SAE CLASS 60 Max = 43.495 Min = -106.00

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



Curve: Right front caliper acceleration — X axis Filter: SAE CLASS 60 Max = 44.677 Min = -181.51

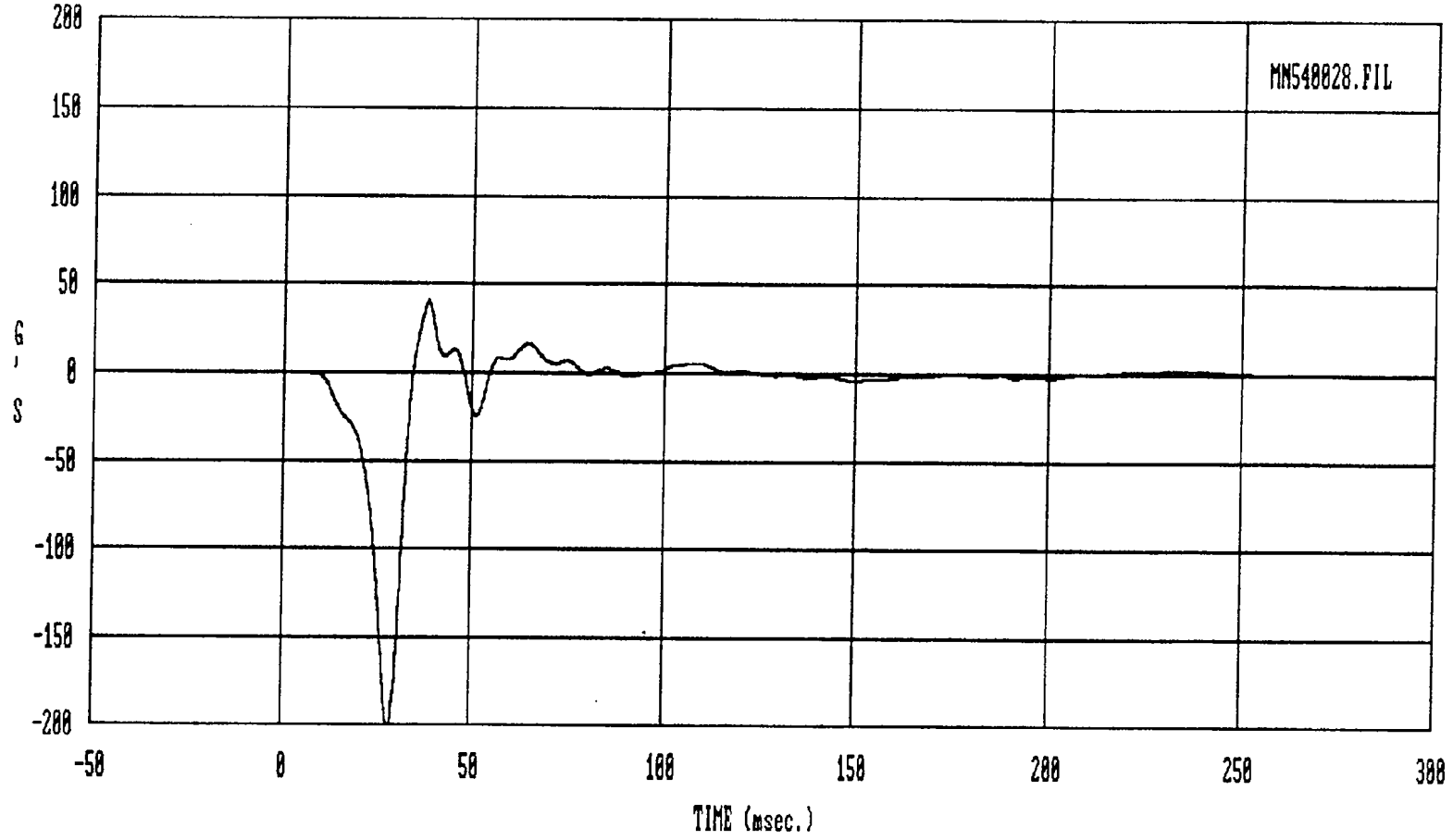
MSE Date: 05/14/92 Program: 1992 NCAP - N2 Vehicle: 1992 Mazda B2200 P/U



Curve: Engine bottom acceleration — X axis * Filter: SAE CLASS 60 Max = 286.78 Min = -101.75

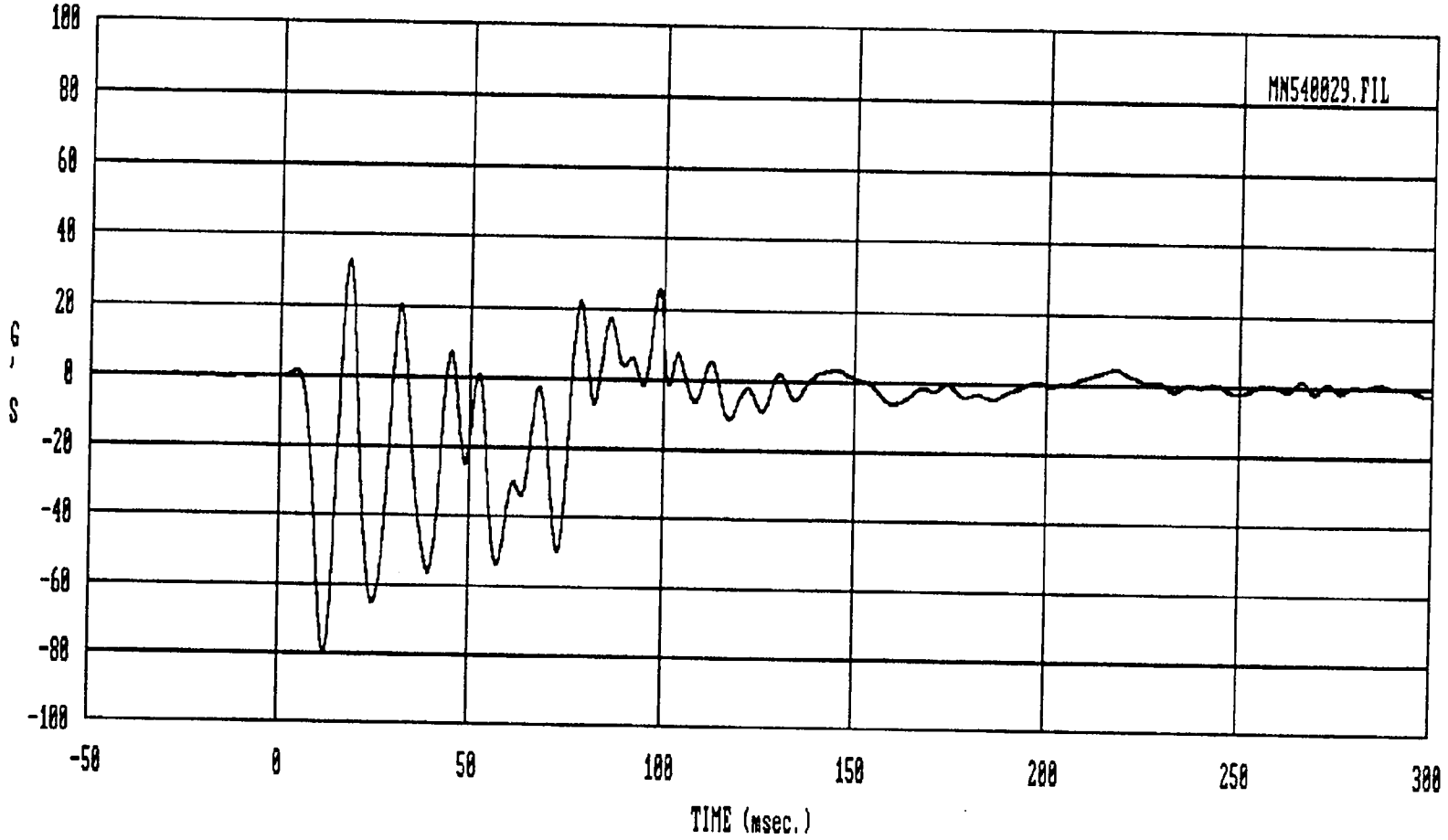
MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U

* QUESTIONABLE DATA



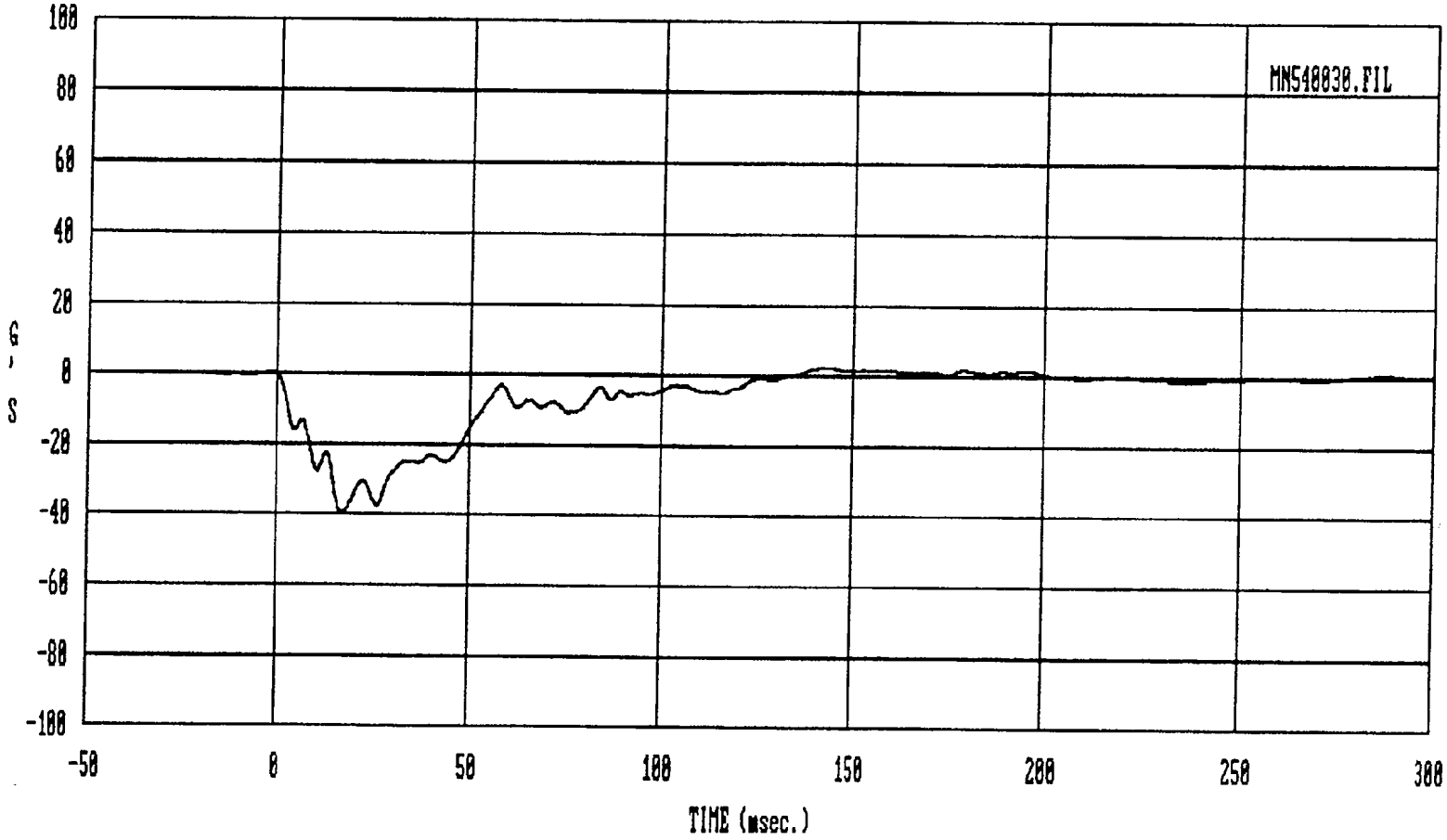
Curve: Engine top acceleration -- X axis Filter: SAE CLASS 60 Max = 40.588 Min = -201.91

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



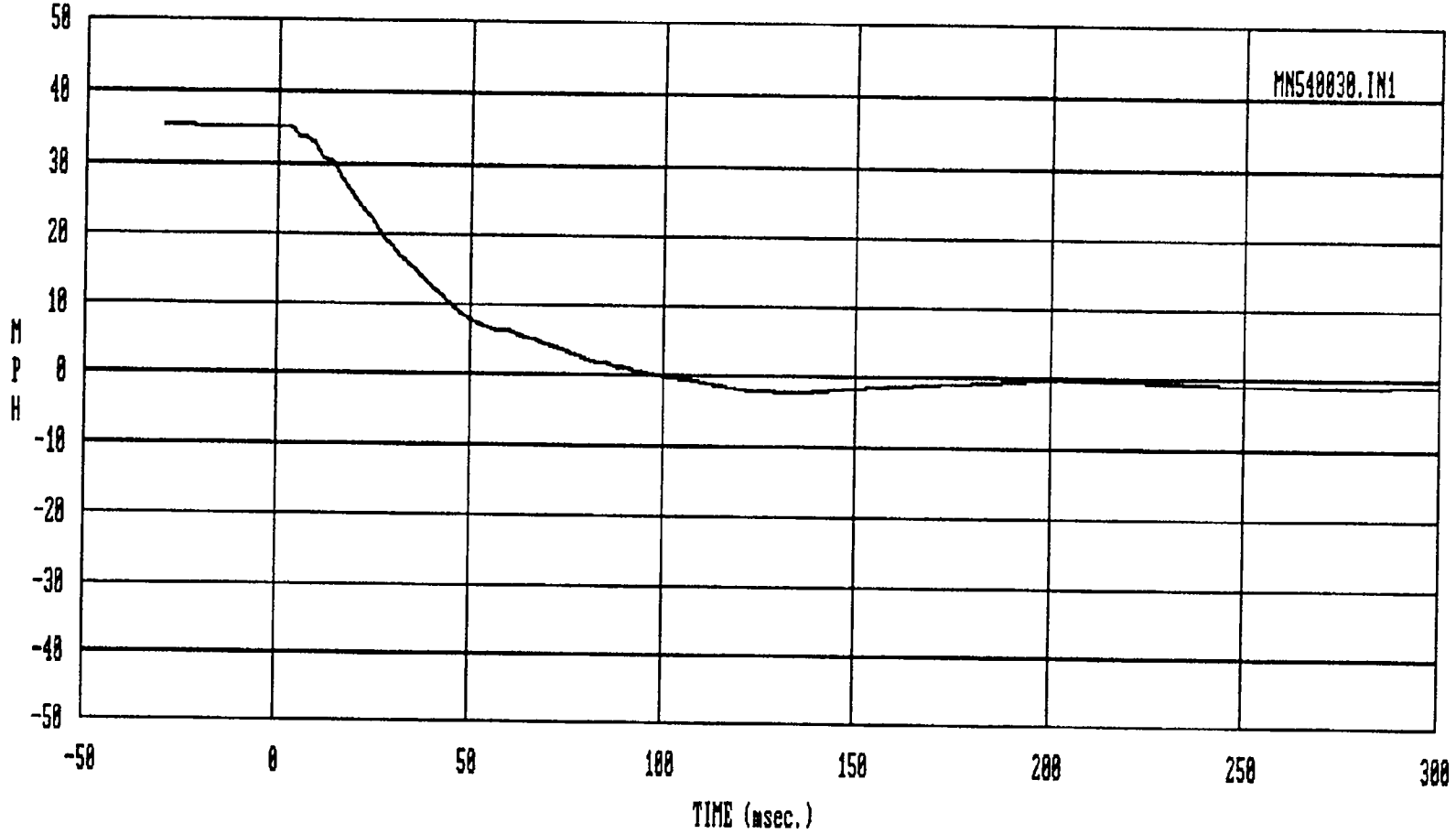
Curve: Dashpanel acceleration -- X axis Filter: SAE CLASS 60 Max = 33.184 Min = -80.140

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



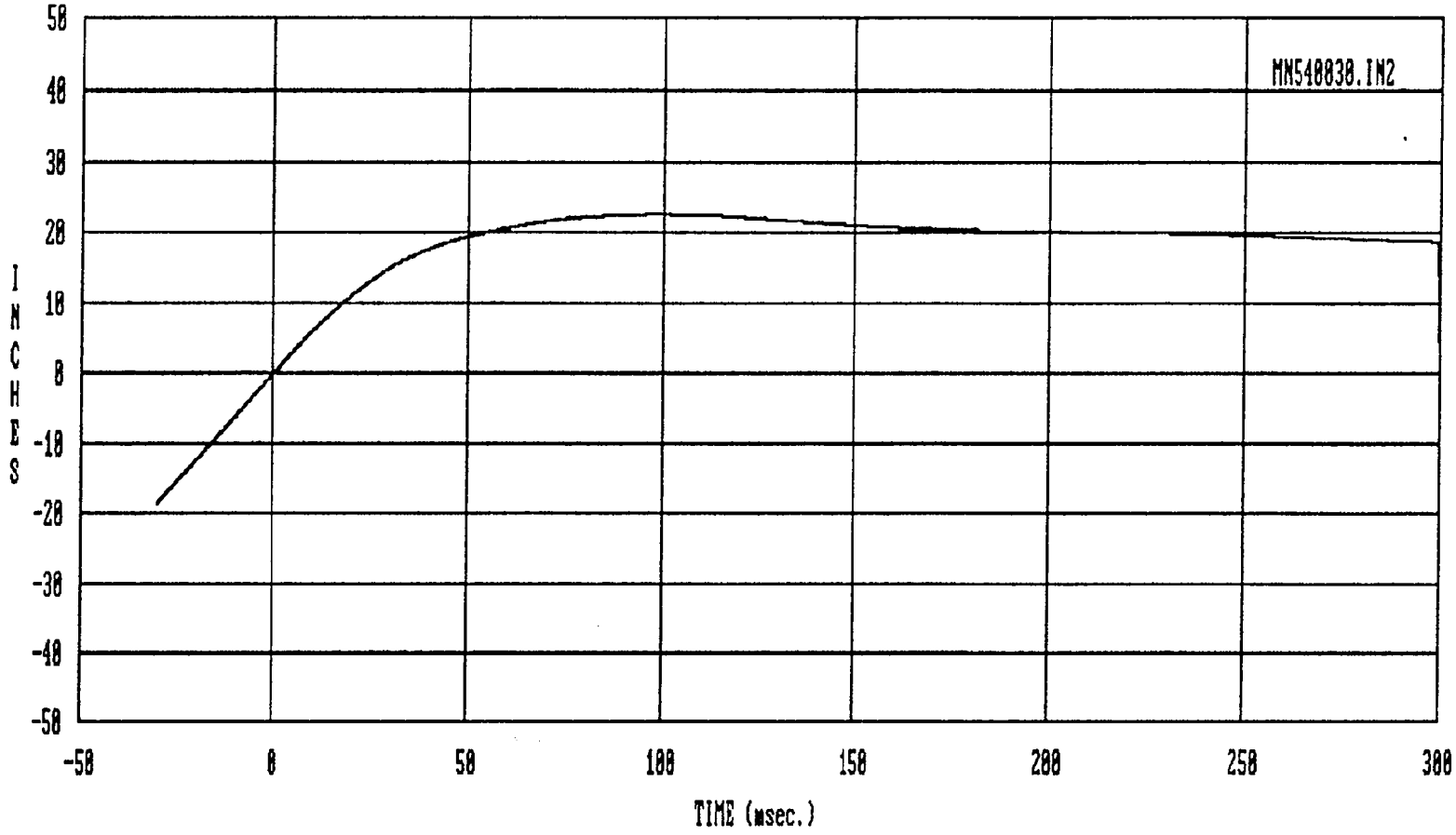
Curve: Left rear cross-member accel. — X axis Filter: SAE CLASS 60 Max = 2.4688 Min = -39.692

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



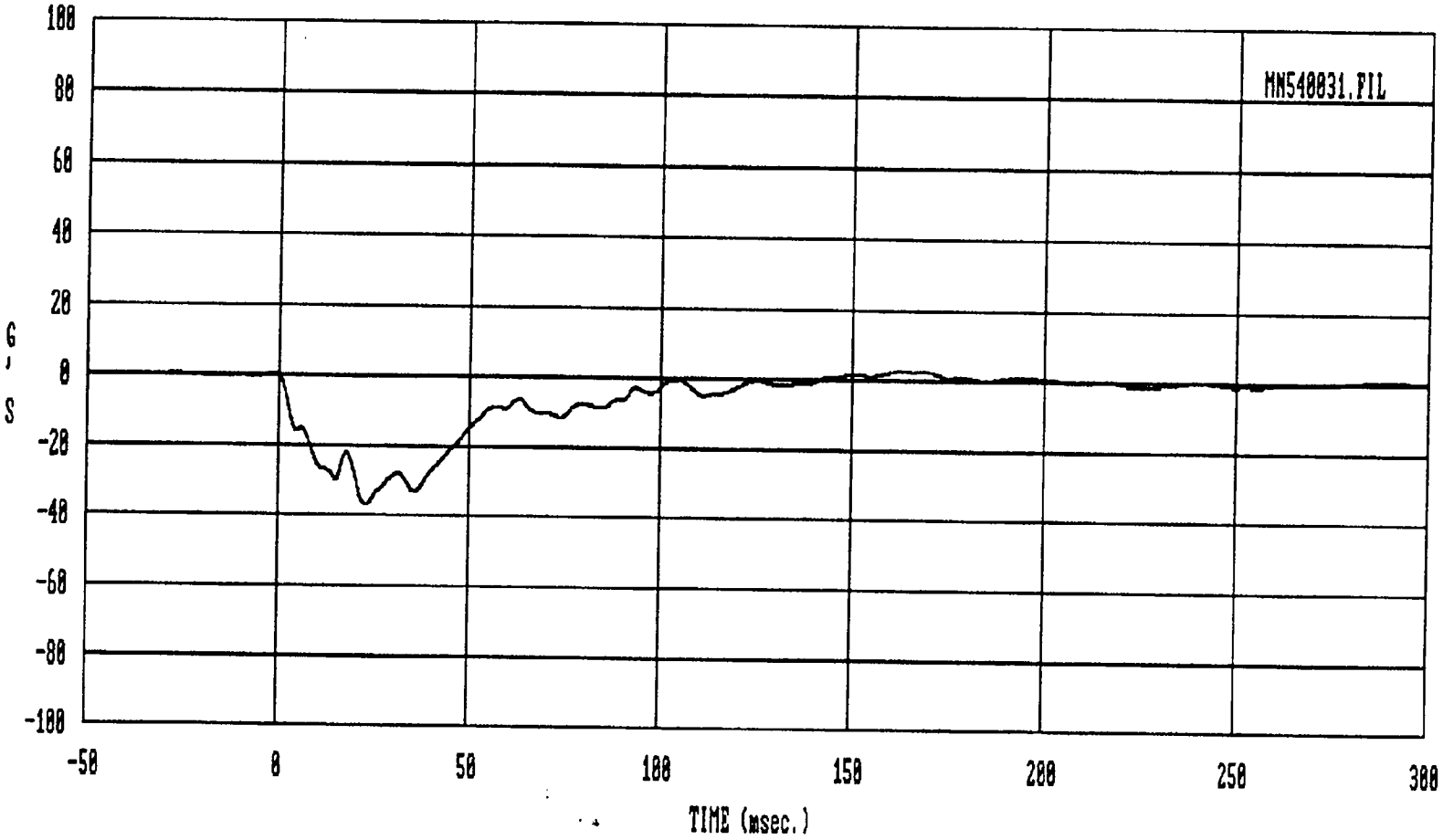
Curve: Left rear seat cross-member delta V — X axis Filter: SAE CLASS 180 Max = 35.212 Min = -2.3311

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



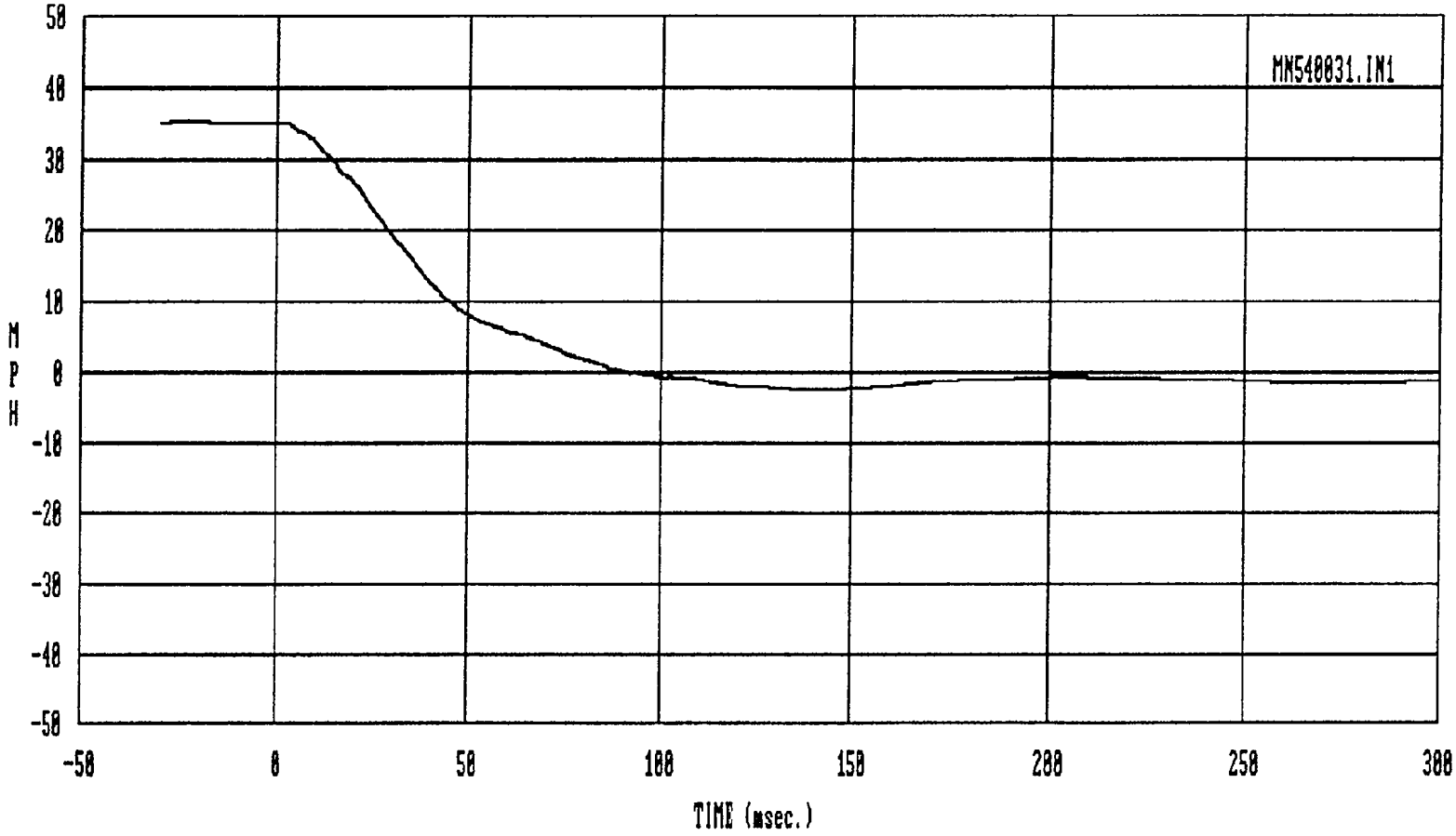
Curve: Left rear seat cross-member disp. — X axis Filter: SAE CLASS 180 Max = 22.516 Min = 18.742

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



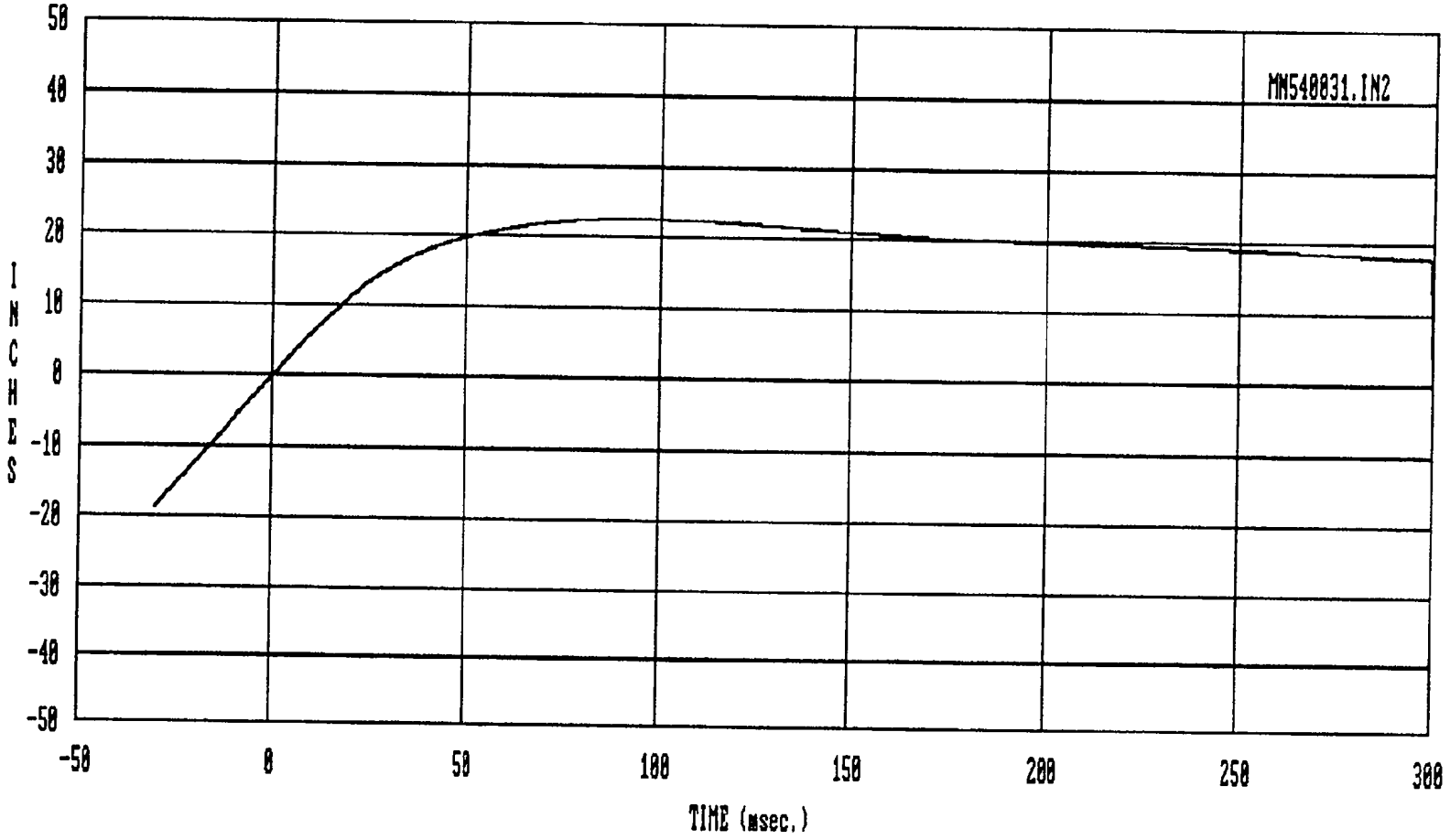
Curve: Right rear cross-member accel. — X axis Filter: SAE CLASS 60 Max = 2.8884 Min = -37.082

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



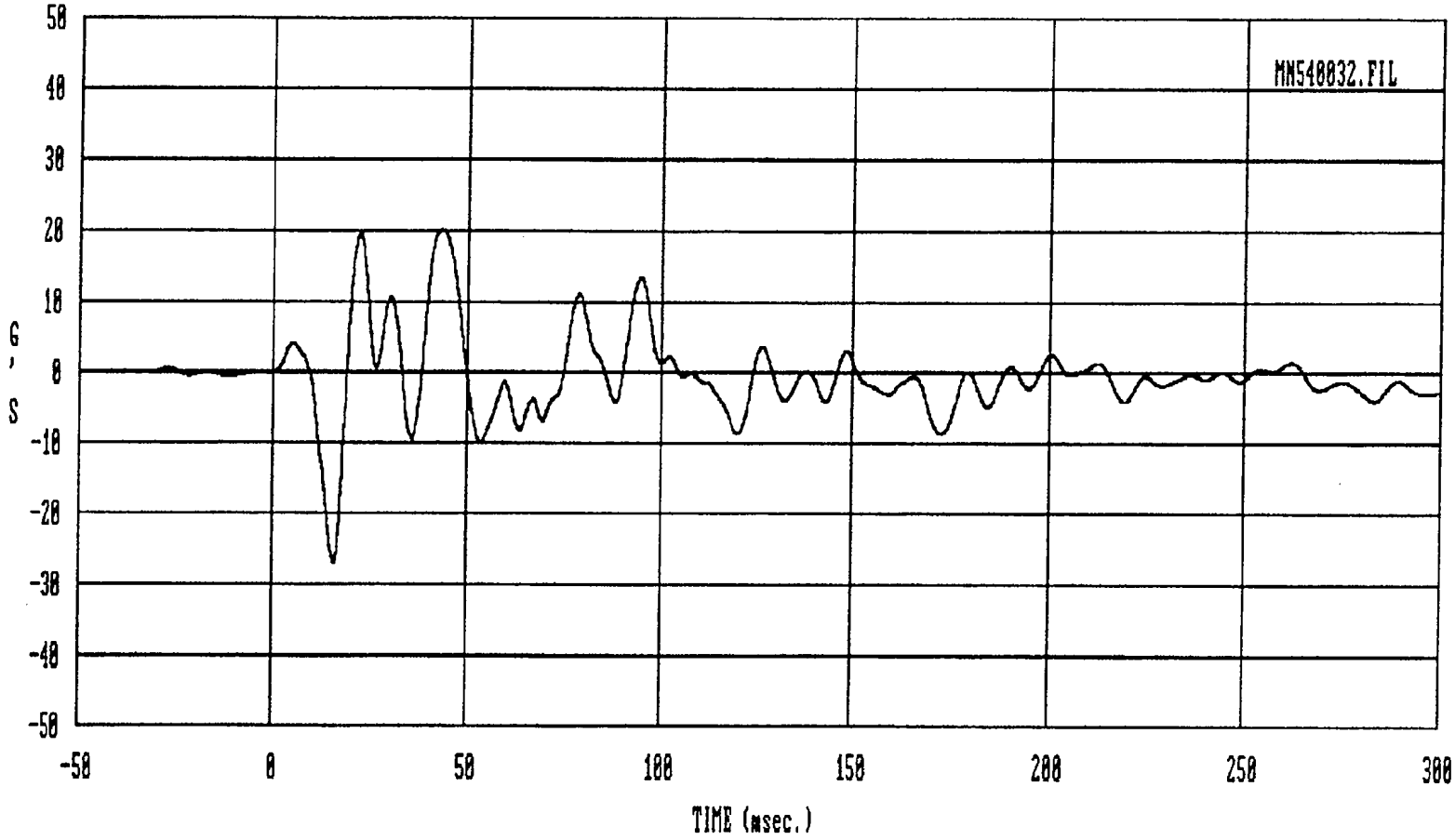
Curve: Right rear seat cross-member delta V — X axis Filter: SAE CLASS 180 Max = 35.283 Min = -2.3968

MSE Date: 05/14/92 Program: 1992 NCAP - N2 Vehicle: 1992 Mazda B2200 P/U



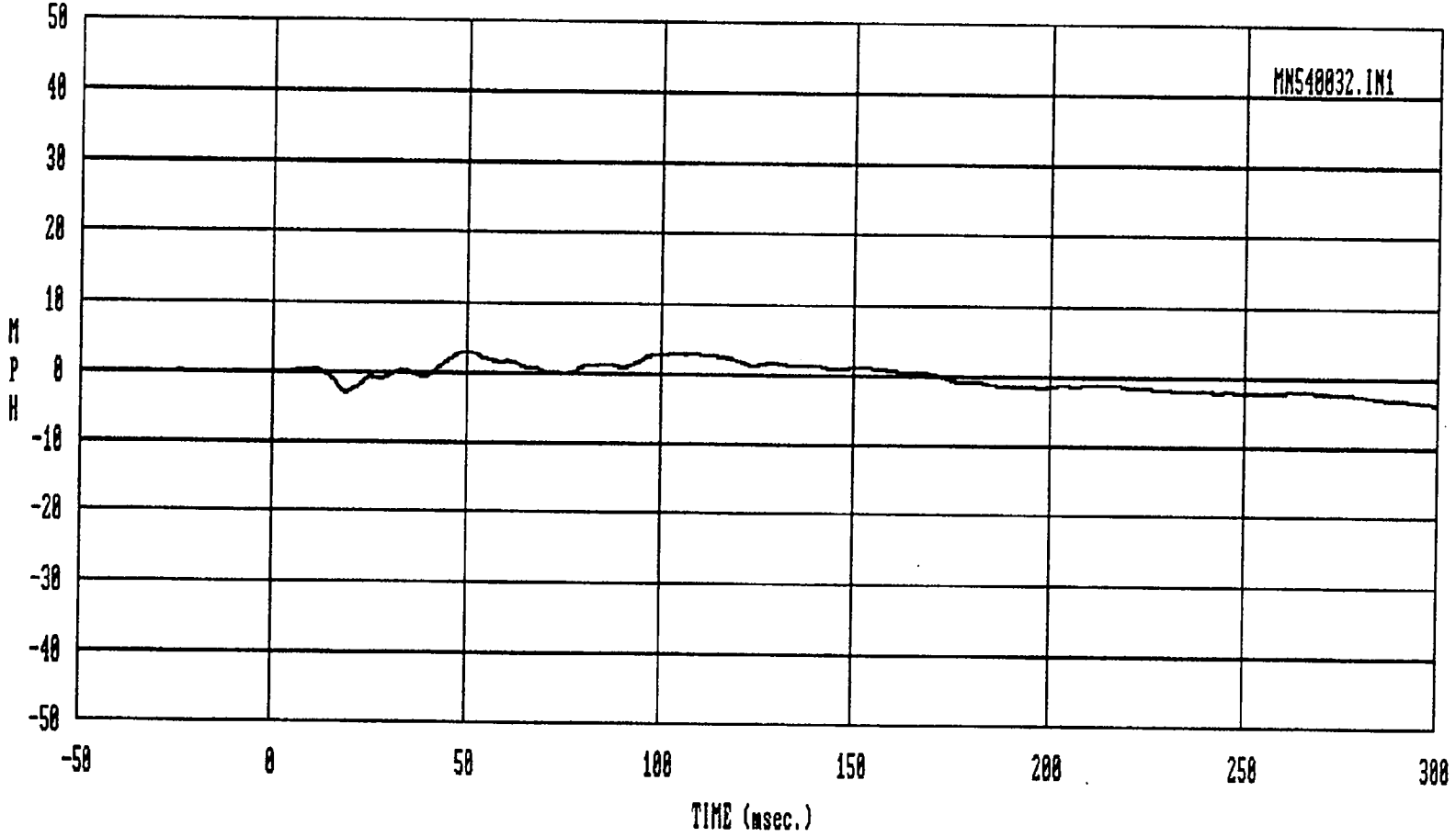
Curve: Right rear seat cross-member disp. — X axis Filter: SAE CLASS 180 Max = 22.572 Min = 17.961

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



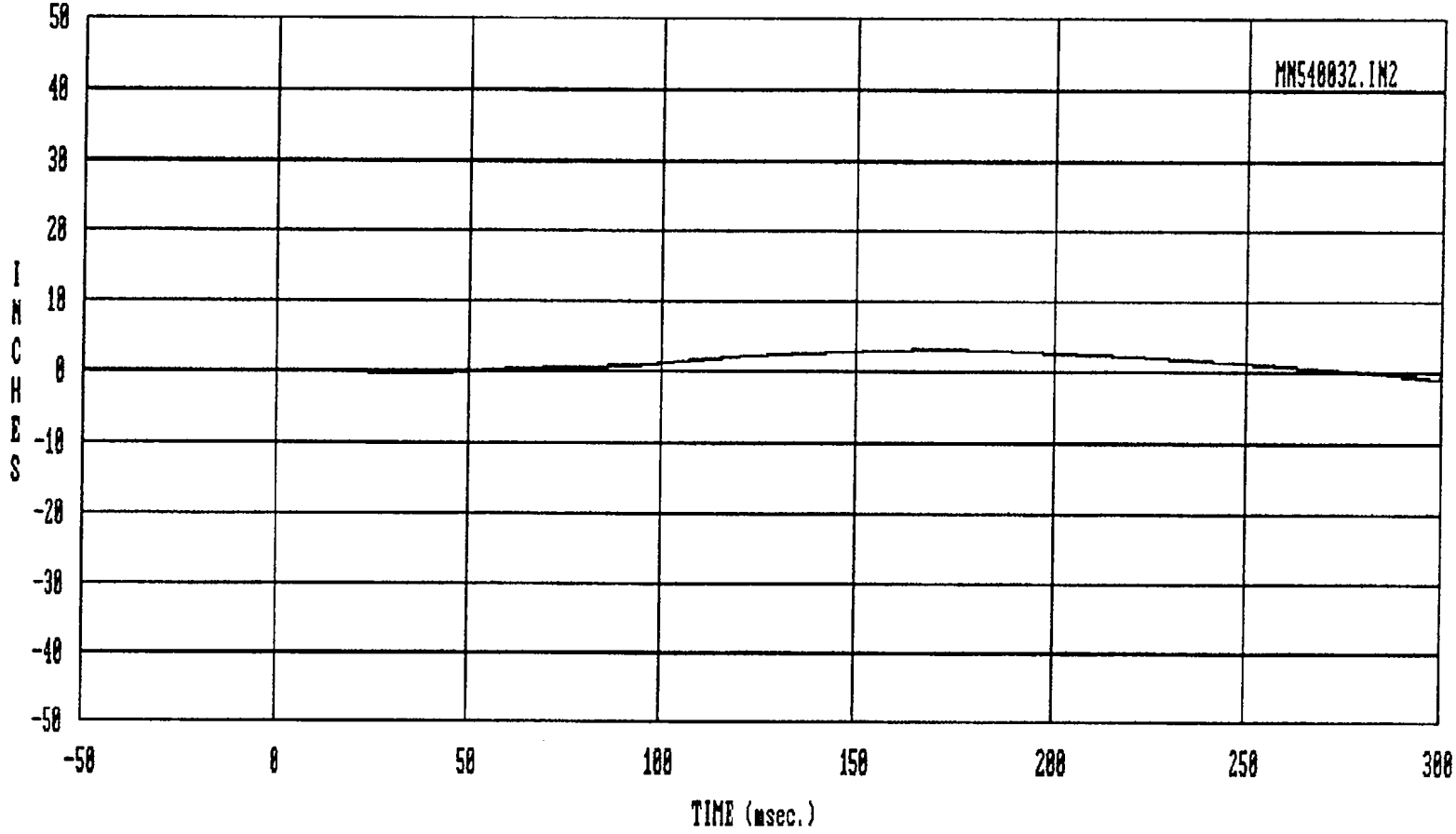
Curve: Center rear cross-member accel. — Z axis Filter: SAE CLASS 60 Max = 20.310 Min = -27.112

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



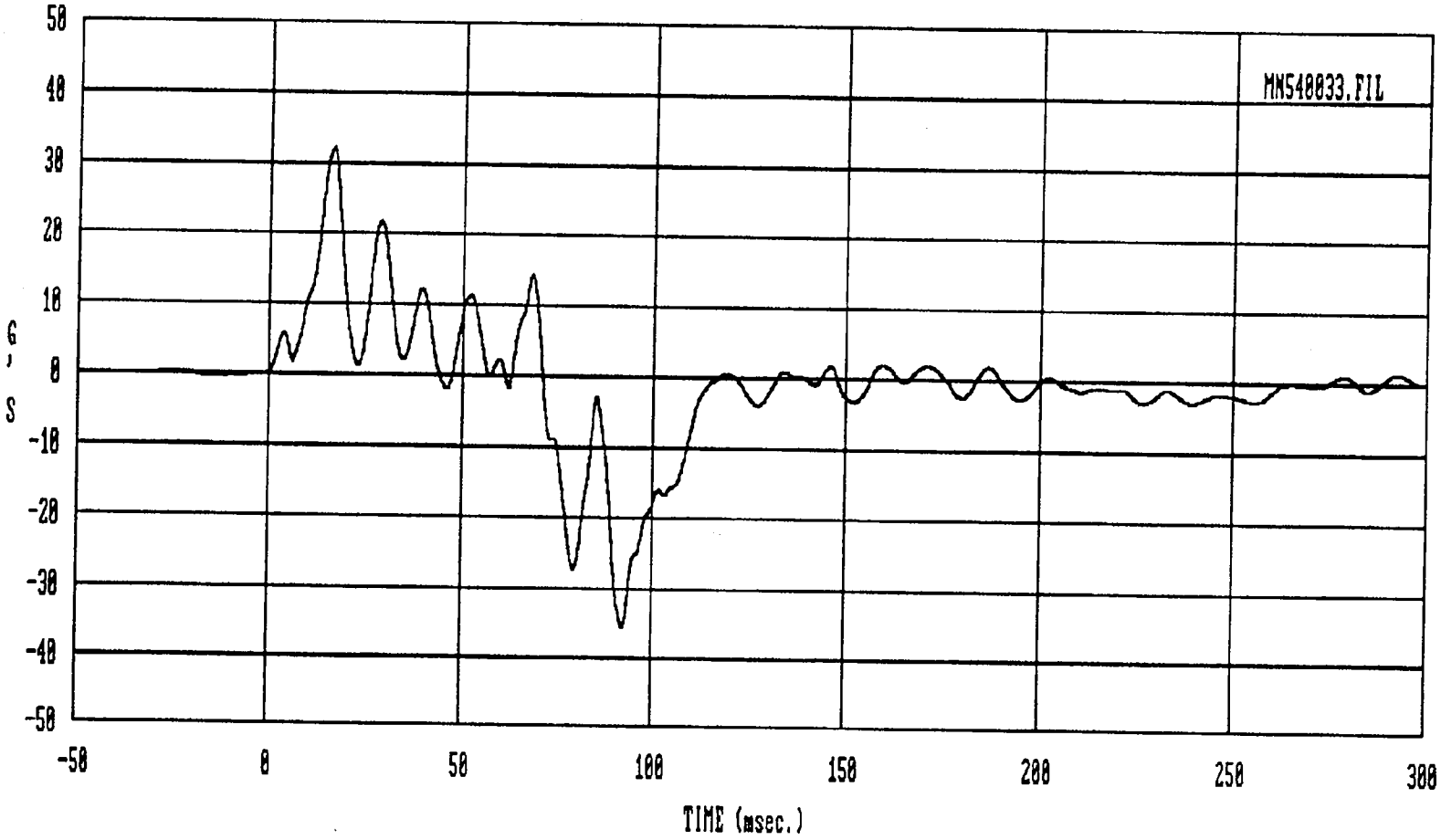
Curve: Center rear seat cross-member delta V -- Z axis Filter: SAE CLASS 180 Max = 2.9948 Min = -3.6957

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



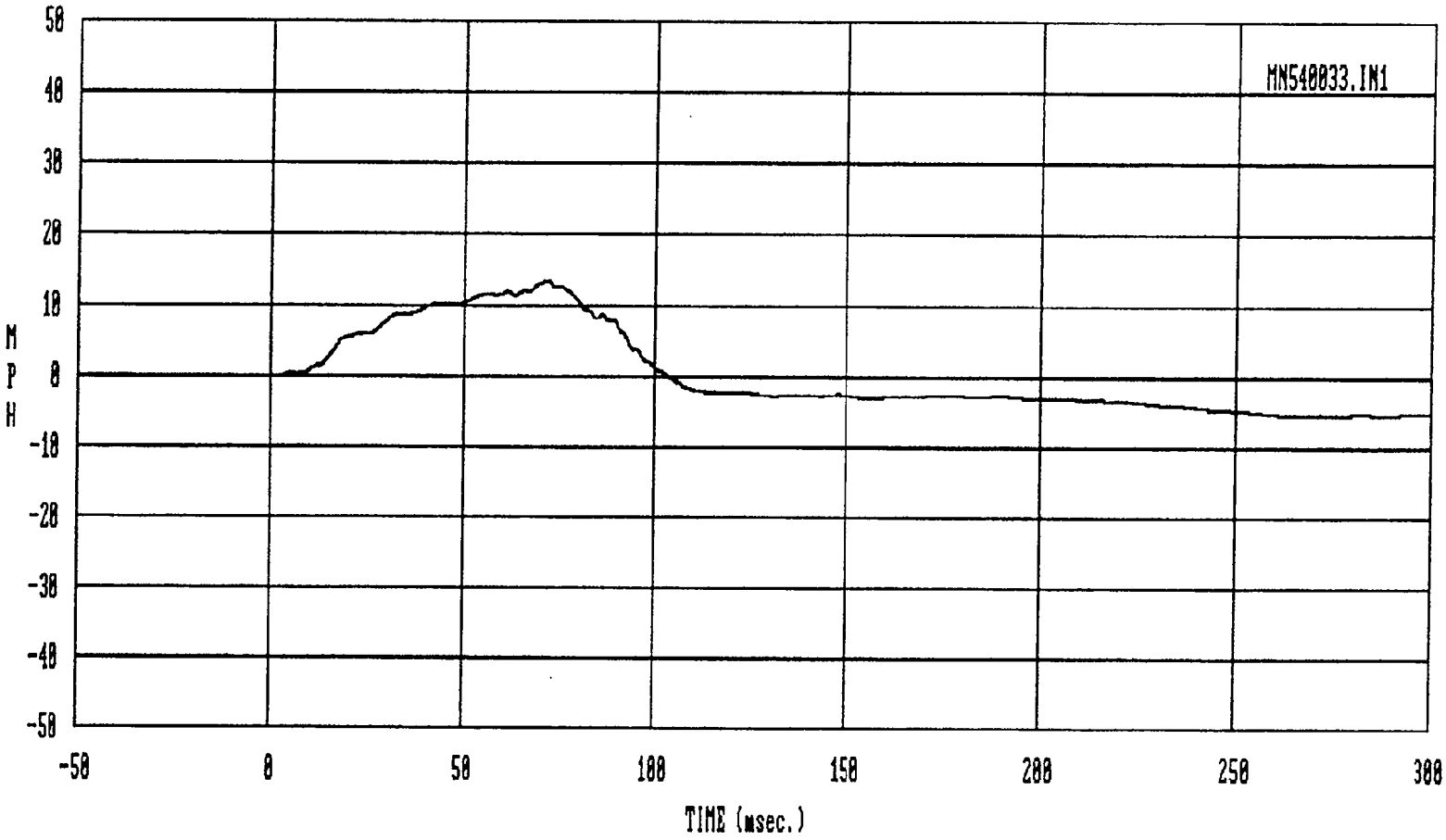
Curve: Center rear seat cross-member disp. -- Z axis Filter: SAE CLASS 180 Max = 3.1183 Min = -1.0709

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



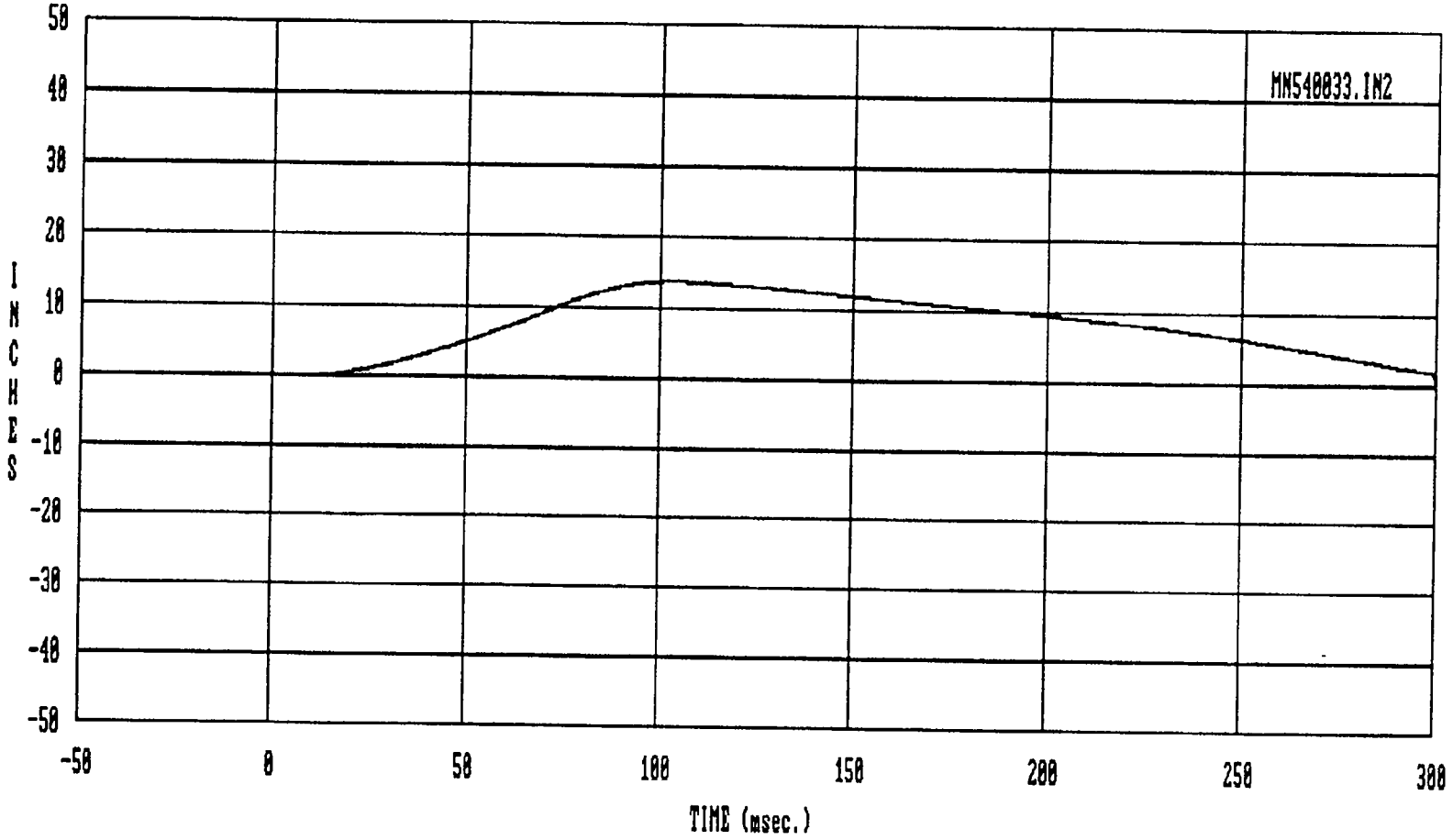
Curve: Center rear acceleration -- Z axis Filter: SAE CLASS 60 Max = 32.241 Min = -35.534

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



Curve: Center rear delta V -- Z axis Filter: SAE CLASS 180 Max = 13.453 Min = -5.2753

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



Curve: Center rear disp. — Z axis Filter: SAE CLASS 180 Max = 13.692 Min = -.55689E-03

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U

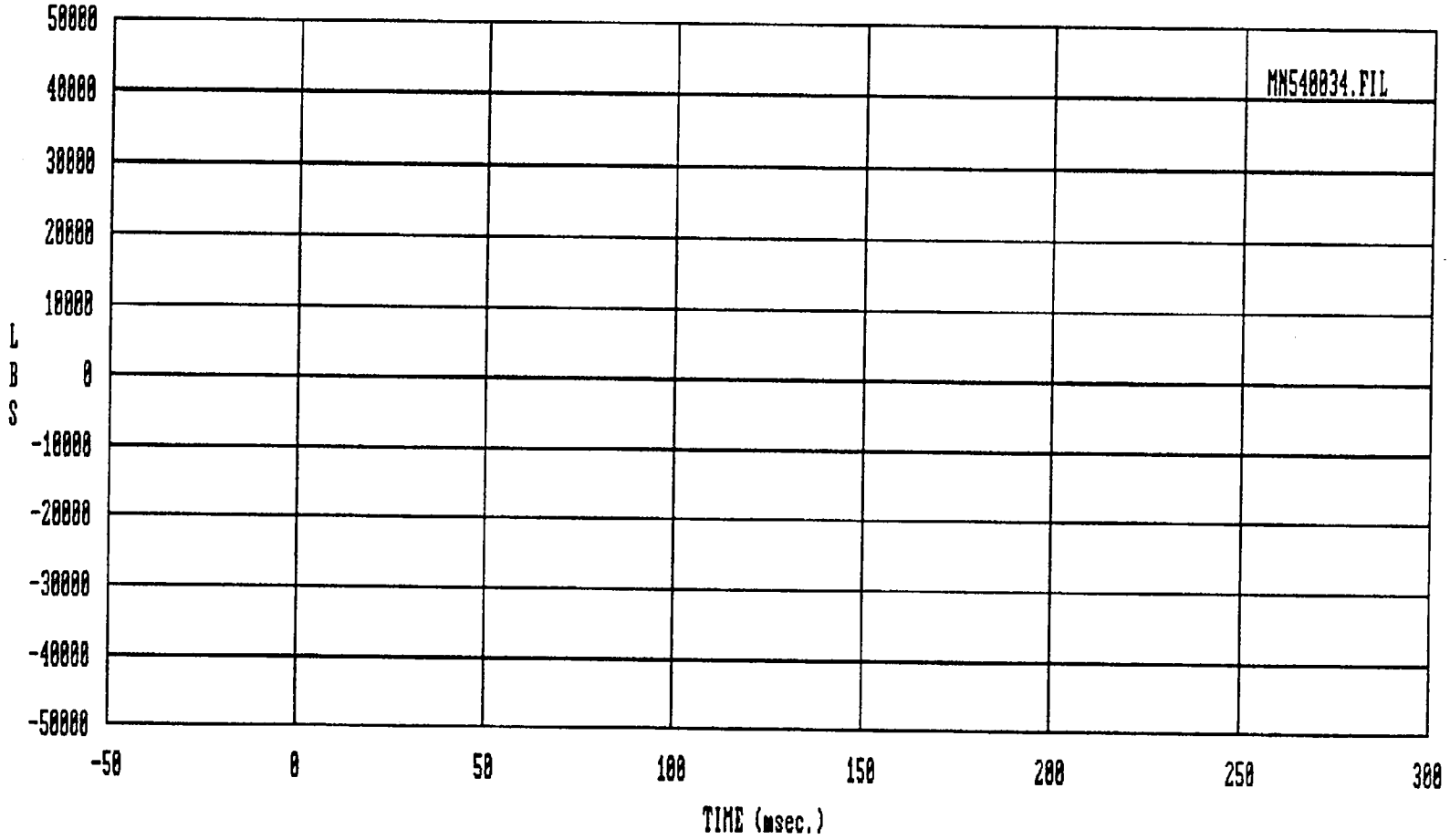
THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX B-2

LOAD CELL BARRIER DATA

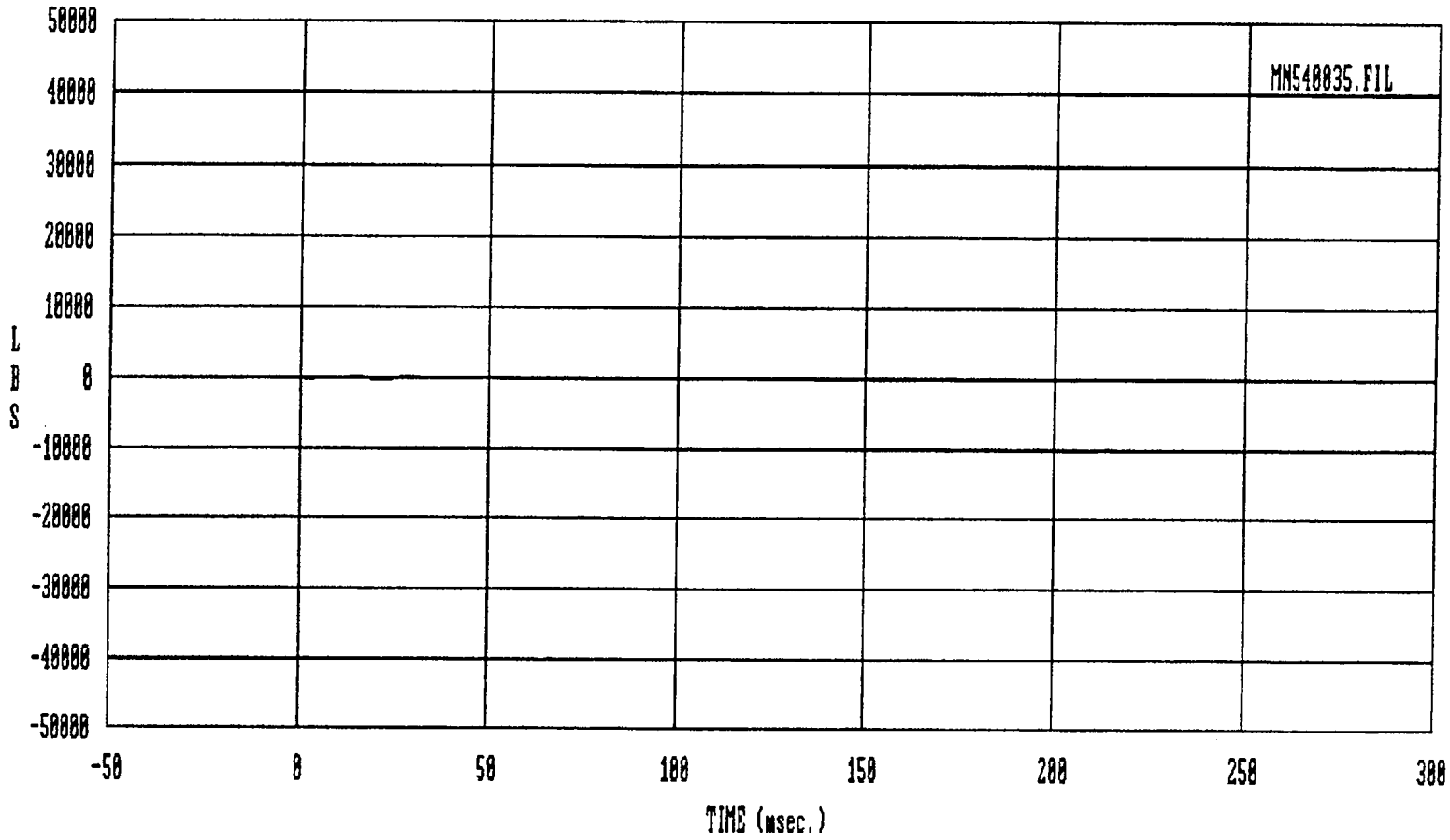
DATA FILTERING:
Load Cell Barrier Channels - Class 60

THIS PAGE INTENTIONALLY LEFT BLANK



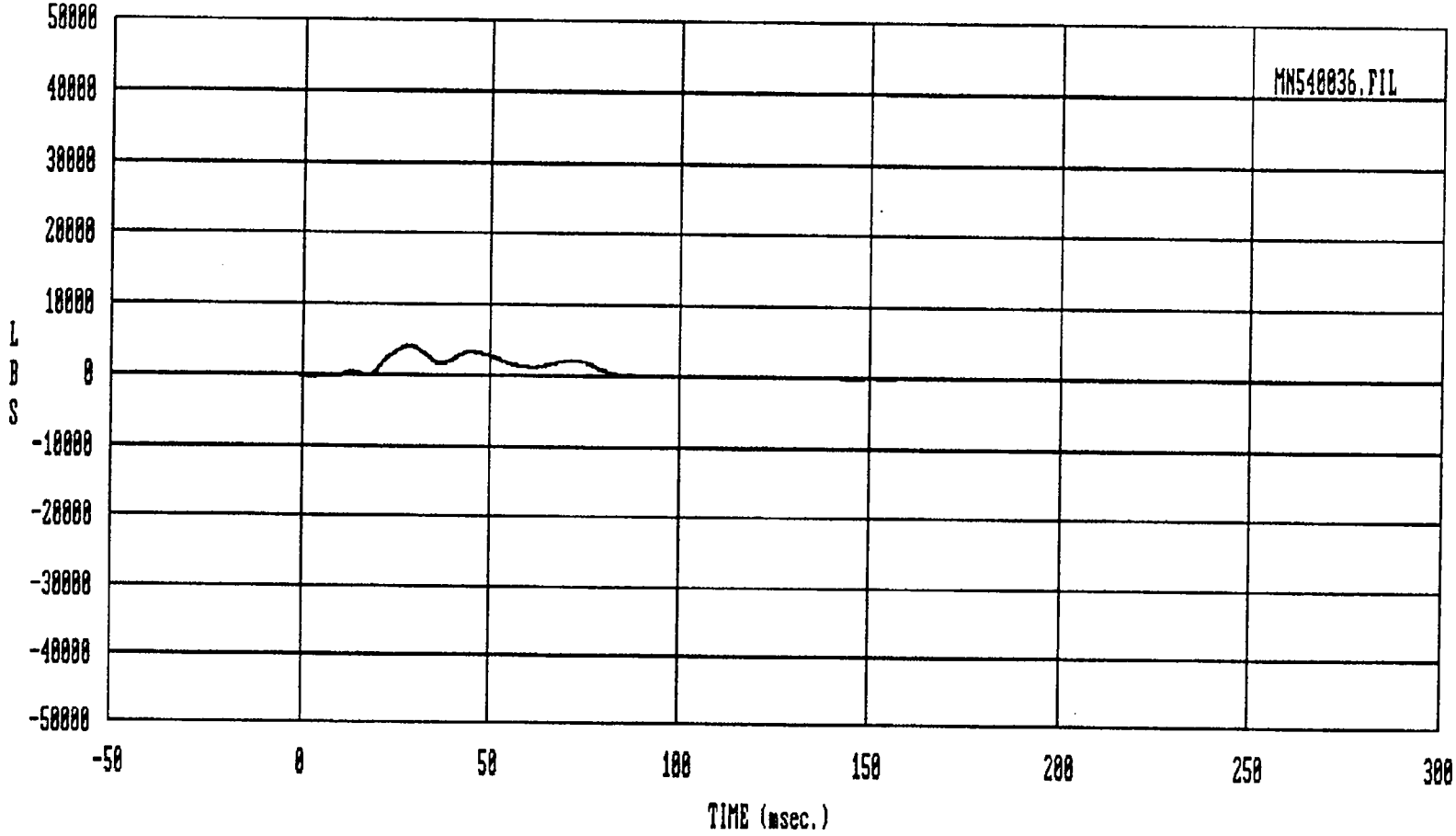
Curve: Force on Barrier load cell A1 Filter: SAE CLASS 60 Max = .00000 Min = .00000

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



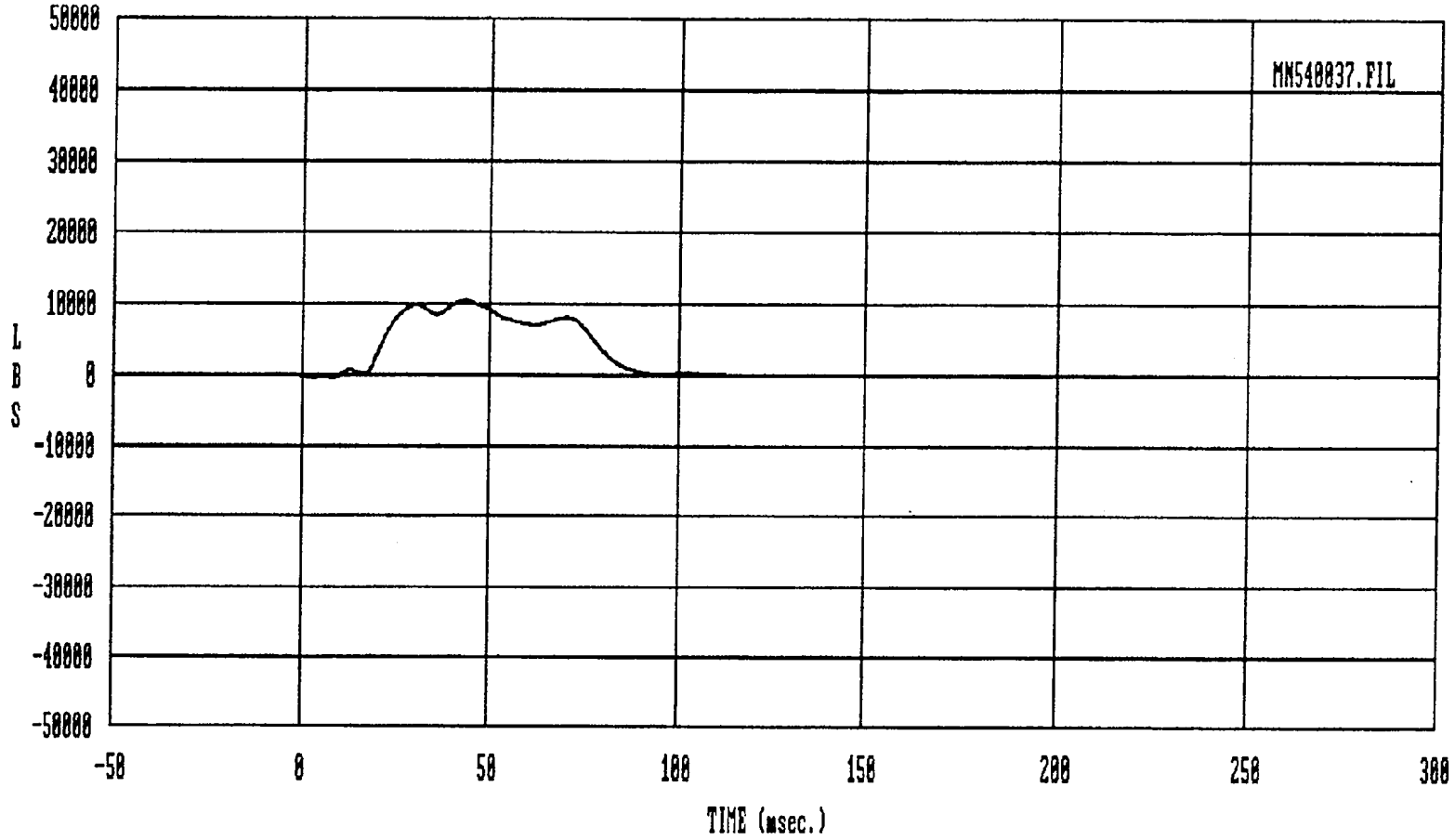
Curve: Force on Barrier load cell A2 Filter: SAE CLASS 60 Max = 211.32 Min = -127.91

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



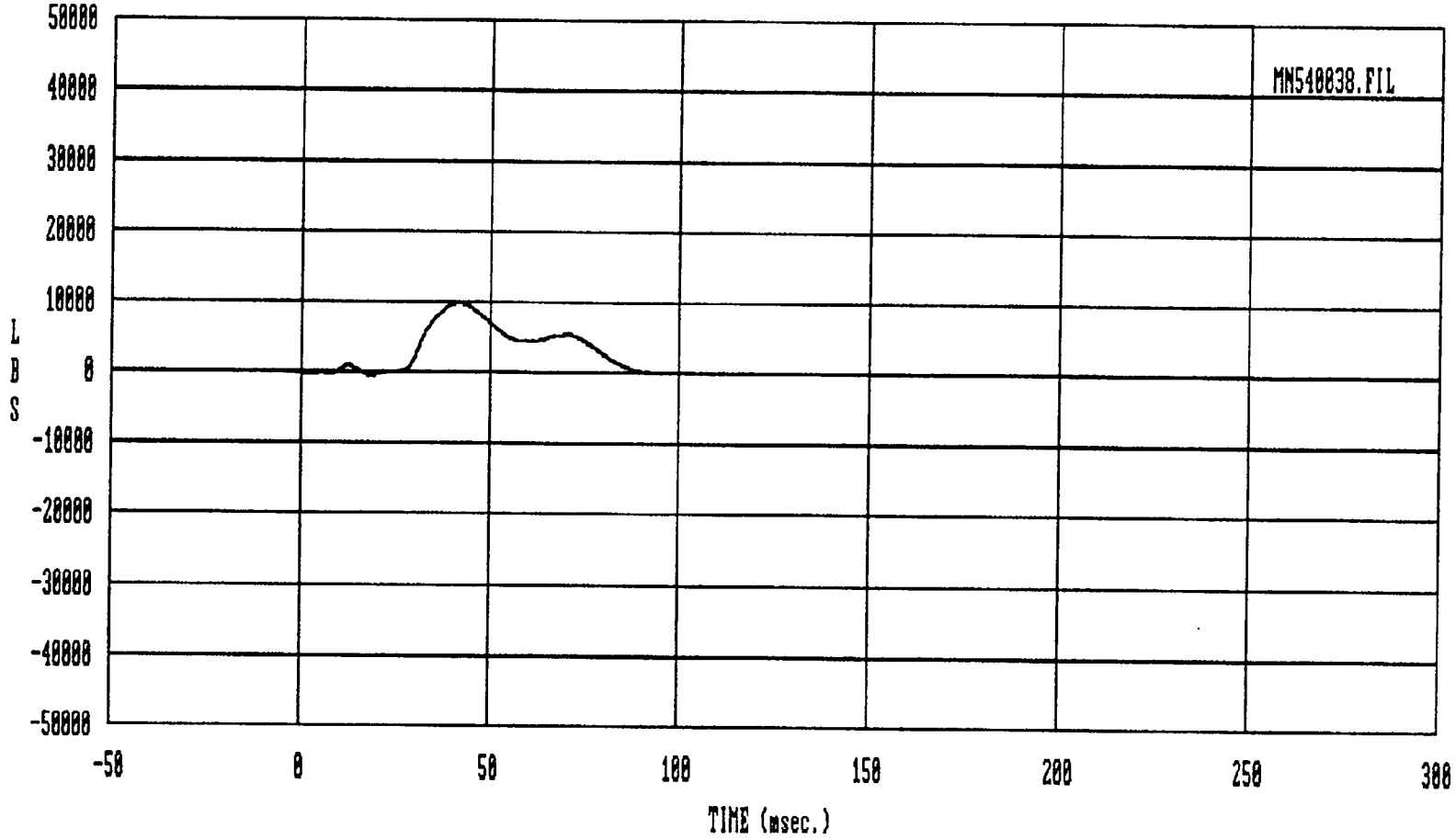
Curve: Force on Barrier load cell A3 Filter: SAE CLASS 60 Max = 4135.8 Min = -363.62

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



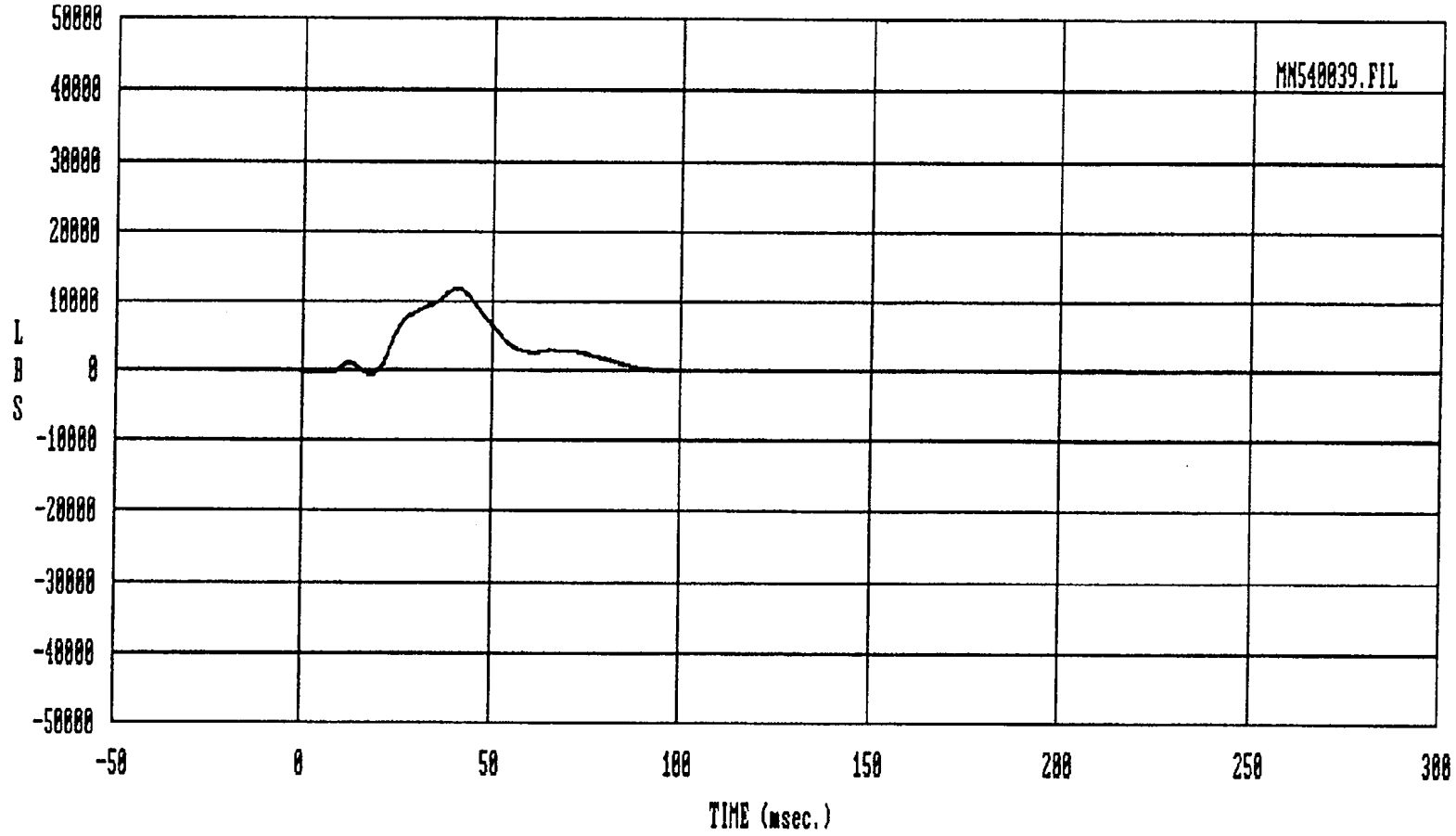
Curve: Force on Barrier load cell A4 Filter: SAE CLASS 60 Max = 10536. Min = -364.39

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



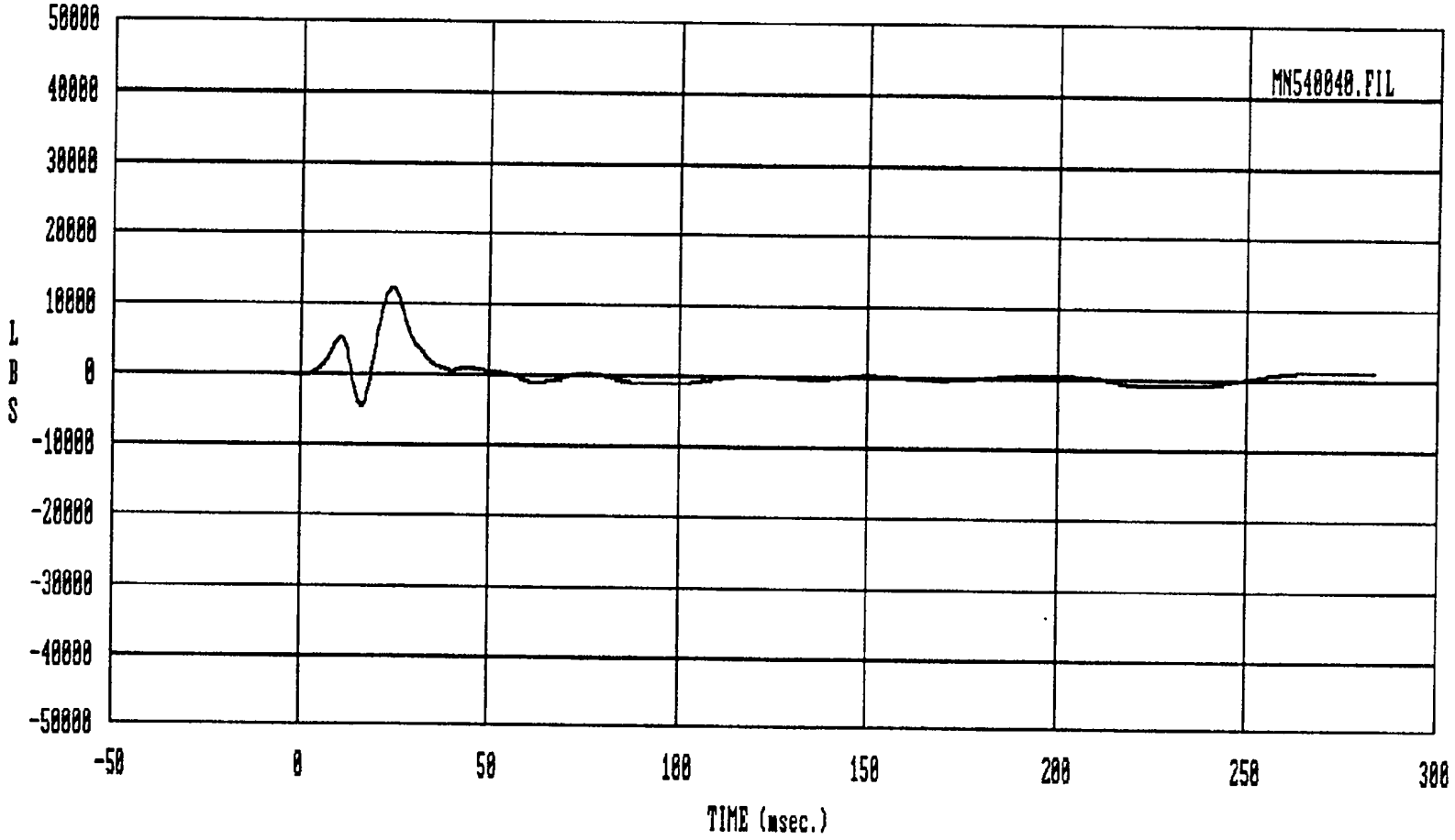
Curve: Force on Barrier load cell A5 Filter: SAE CLASS 60 Max = 9783.5 Min = -598.96

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



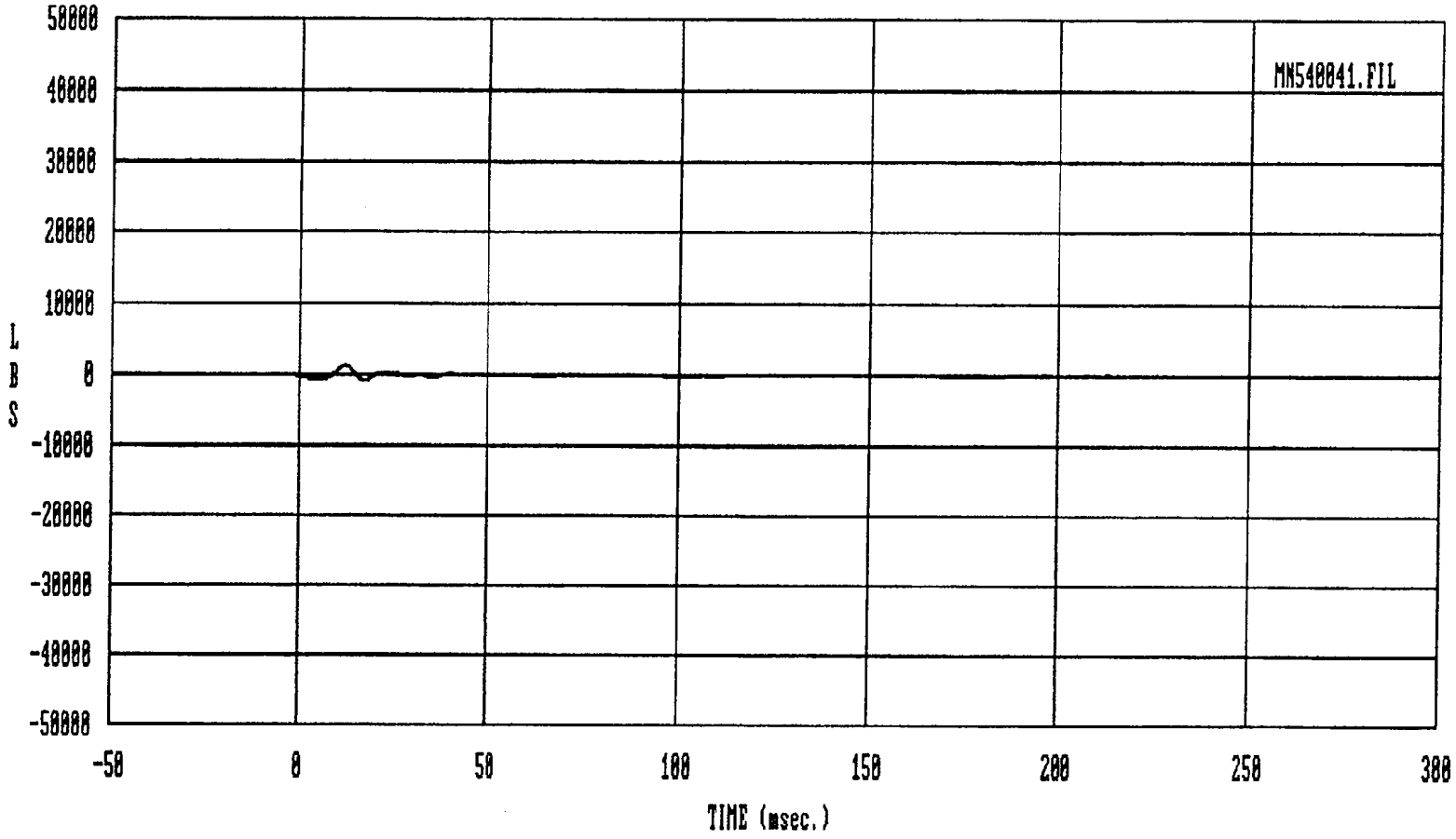
Curve: Force on Barrier load cell A6 Filter: SAE CLASS 60 Max = 11869. Min = -560.85

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



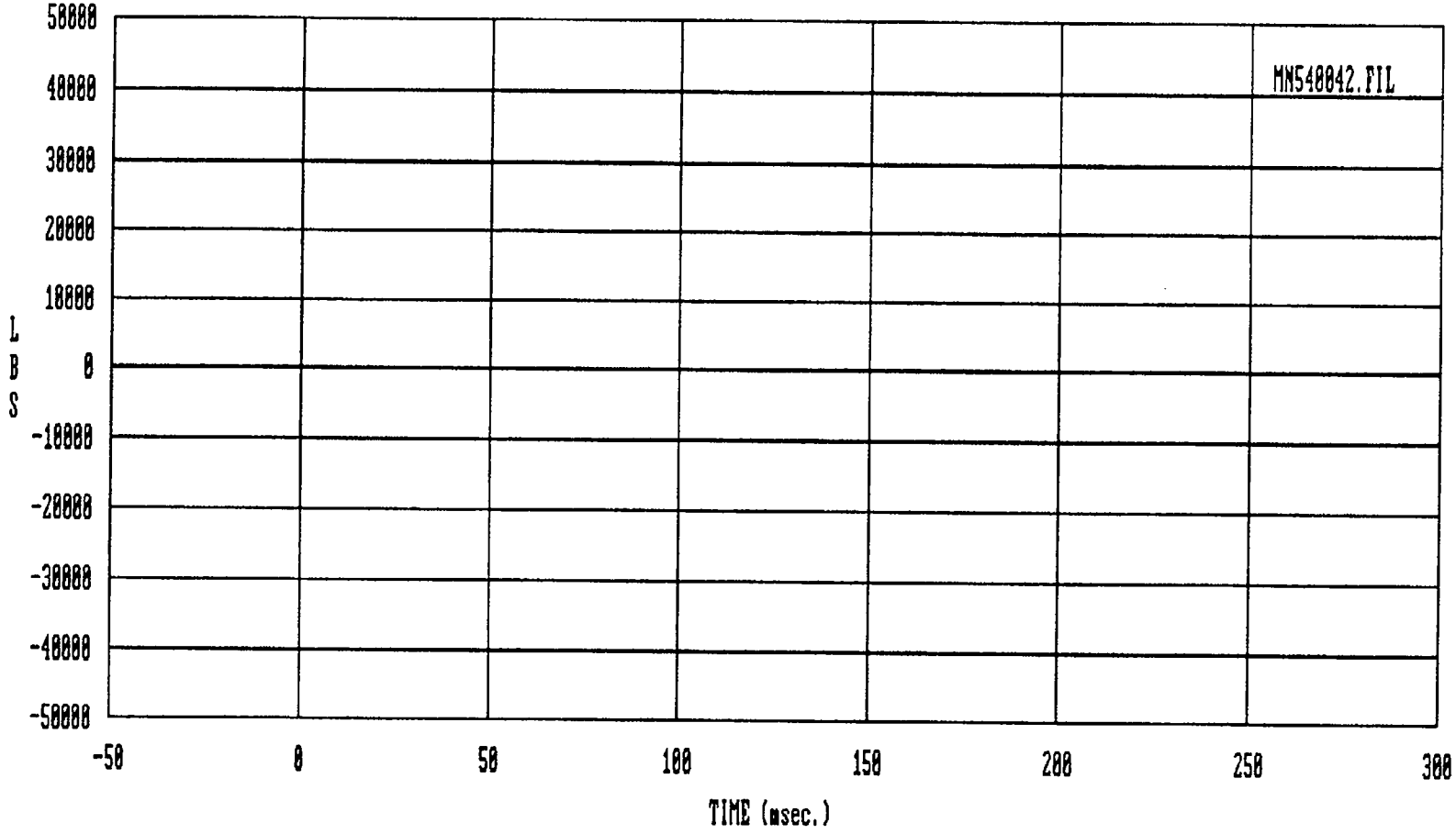
Curve: Force on Barrier load cell A7 Filter: SAE CLASS 60 Max = 12169. Min = -4544.1

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



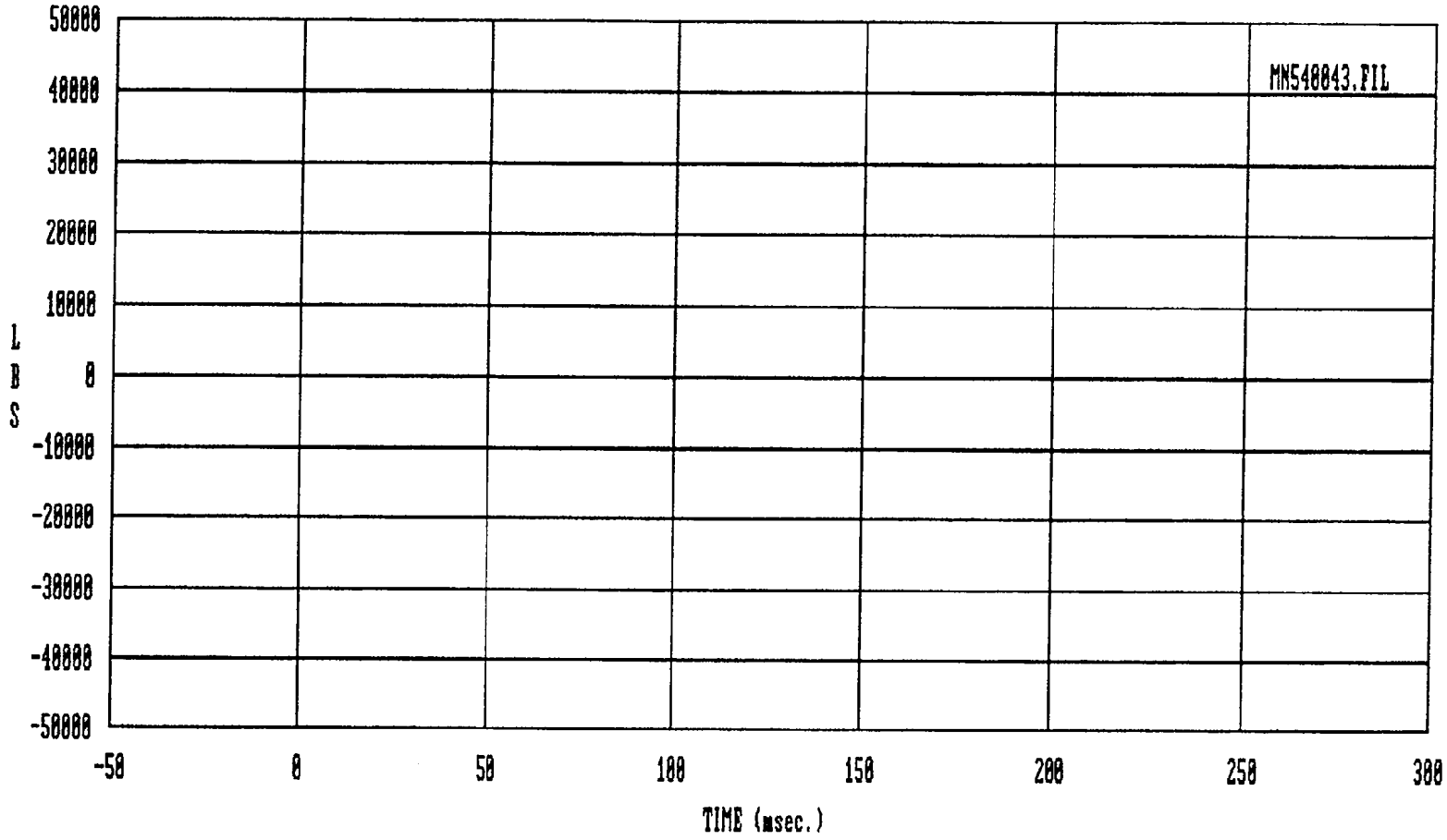
Curve: Force on Barrier load cell A8 Filter: SAE CLASS 60 Max = 1360.2 Min = -824.09

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



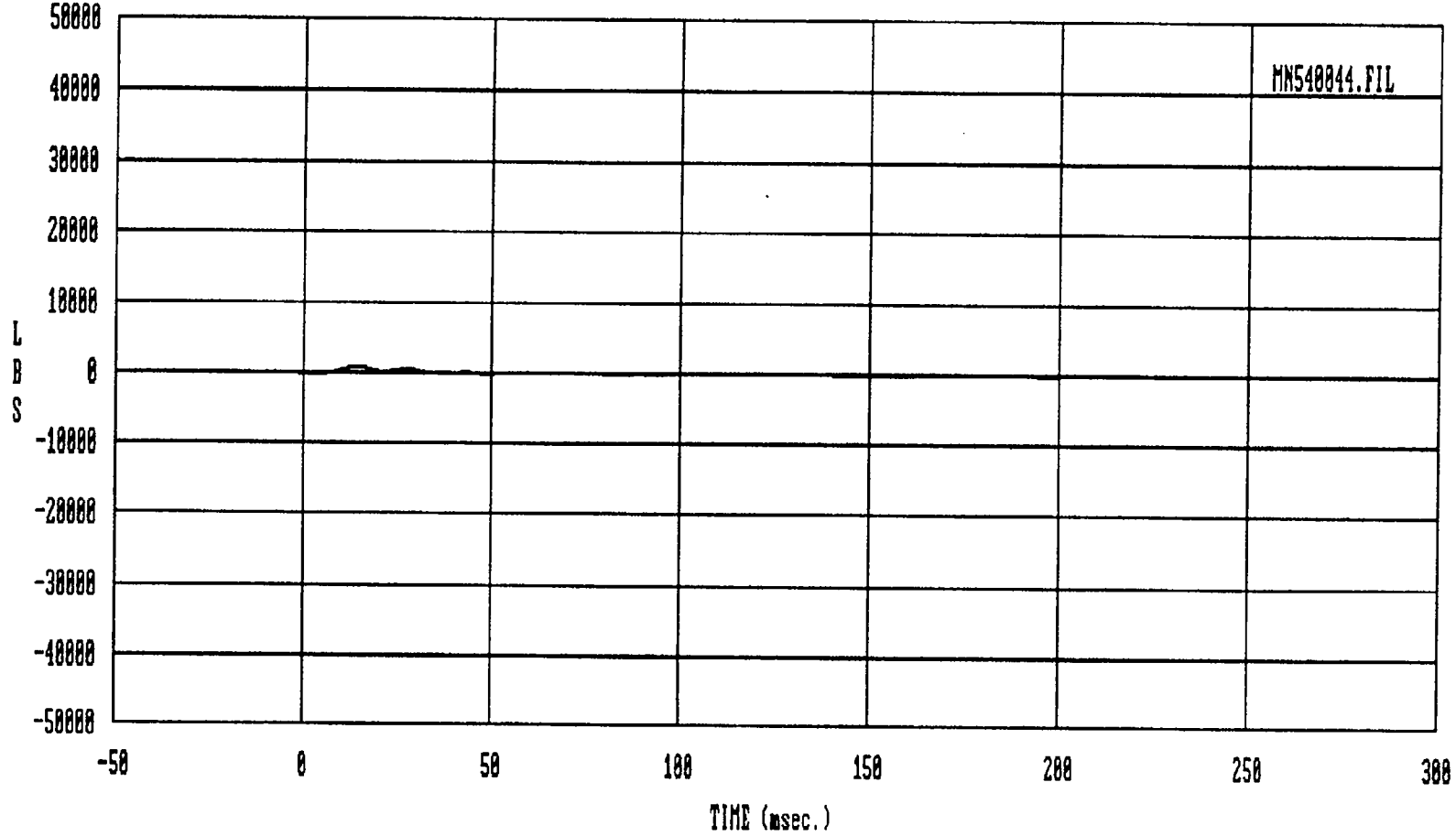
Curve: Force on Barrier load cell A9 Filter: SAE CLASS 60 Max = .00000 Min = .00000

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



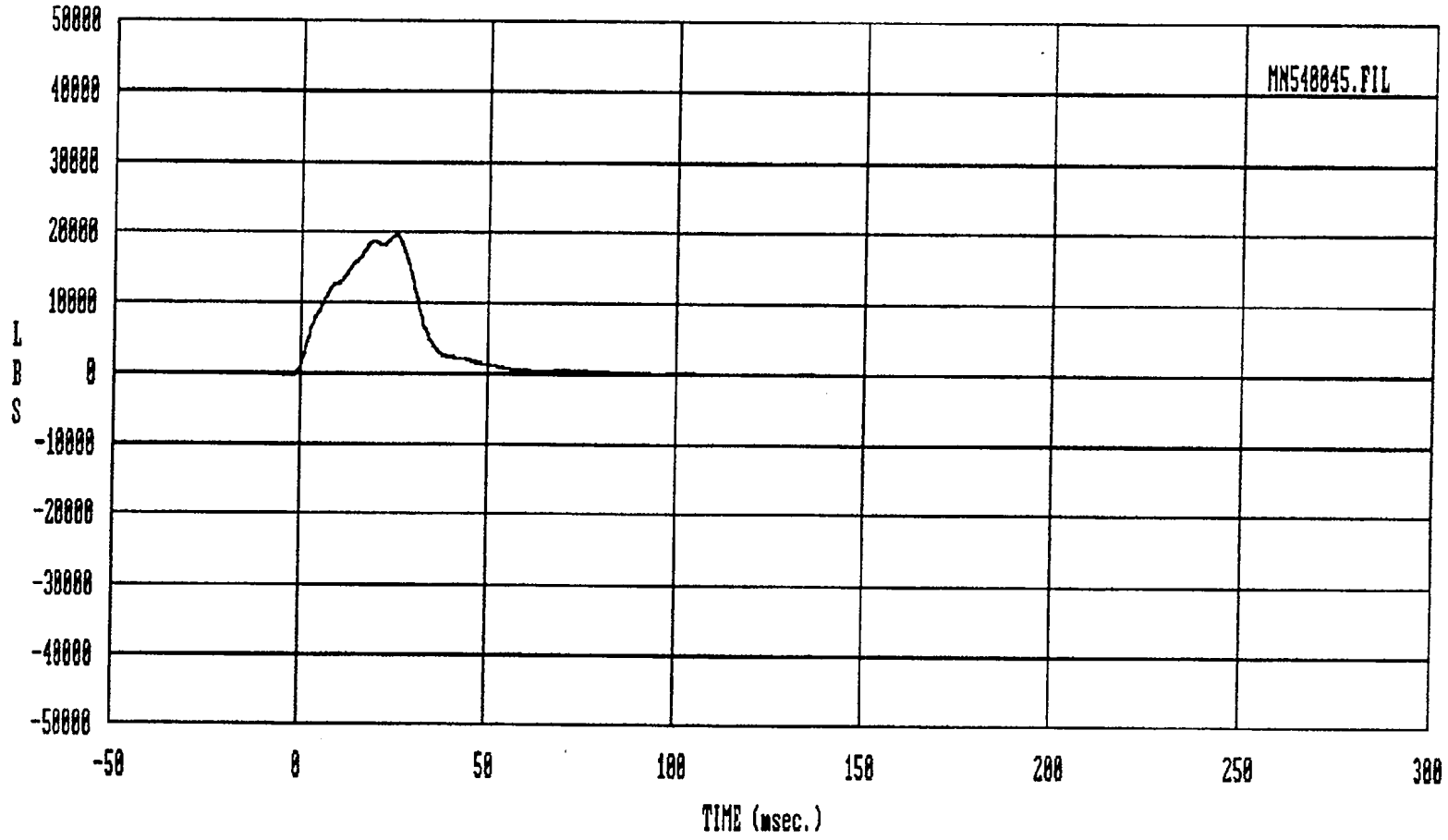
Curve: Force on Barrier load cell B1 Filter: SAE CLASS 60 Max = .00000 Min = .00000

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



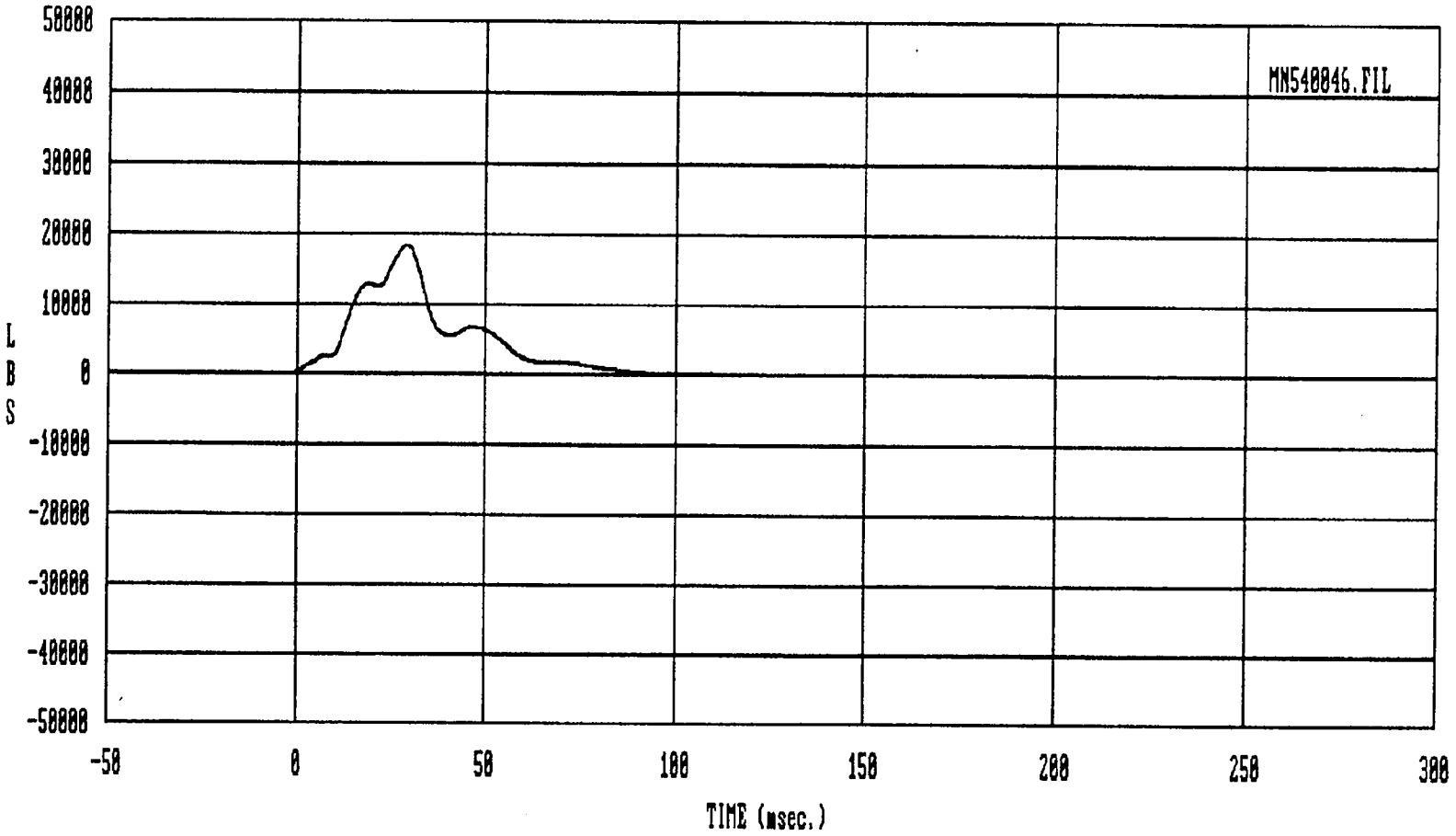
Curve: Force on Barrier load cell B2 Filter: SAE CLASS 60 Max = 894.37 Min = -278.17

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



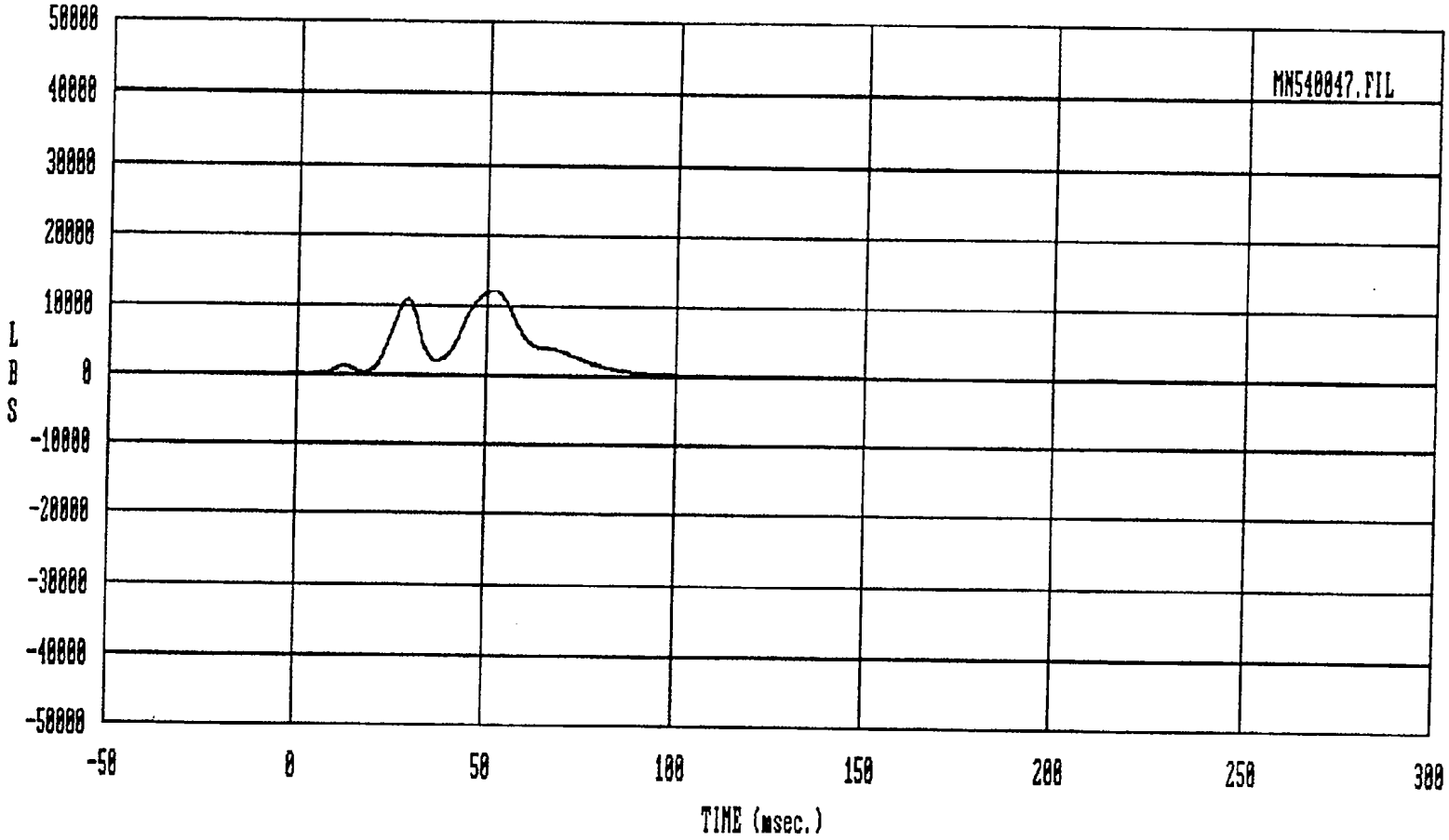
Curve: Force on Barrier load cell B3 Filter: SAE CLASS 60 Max = 19629. Min = -30.781

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



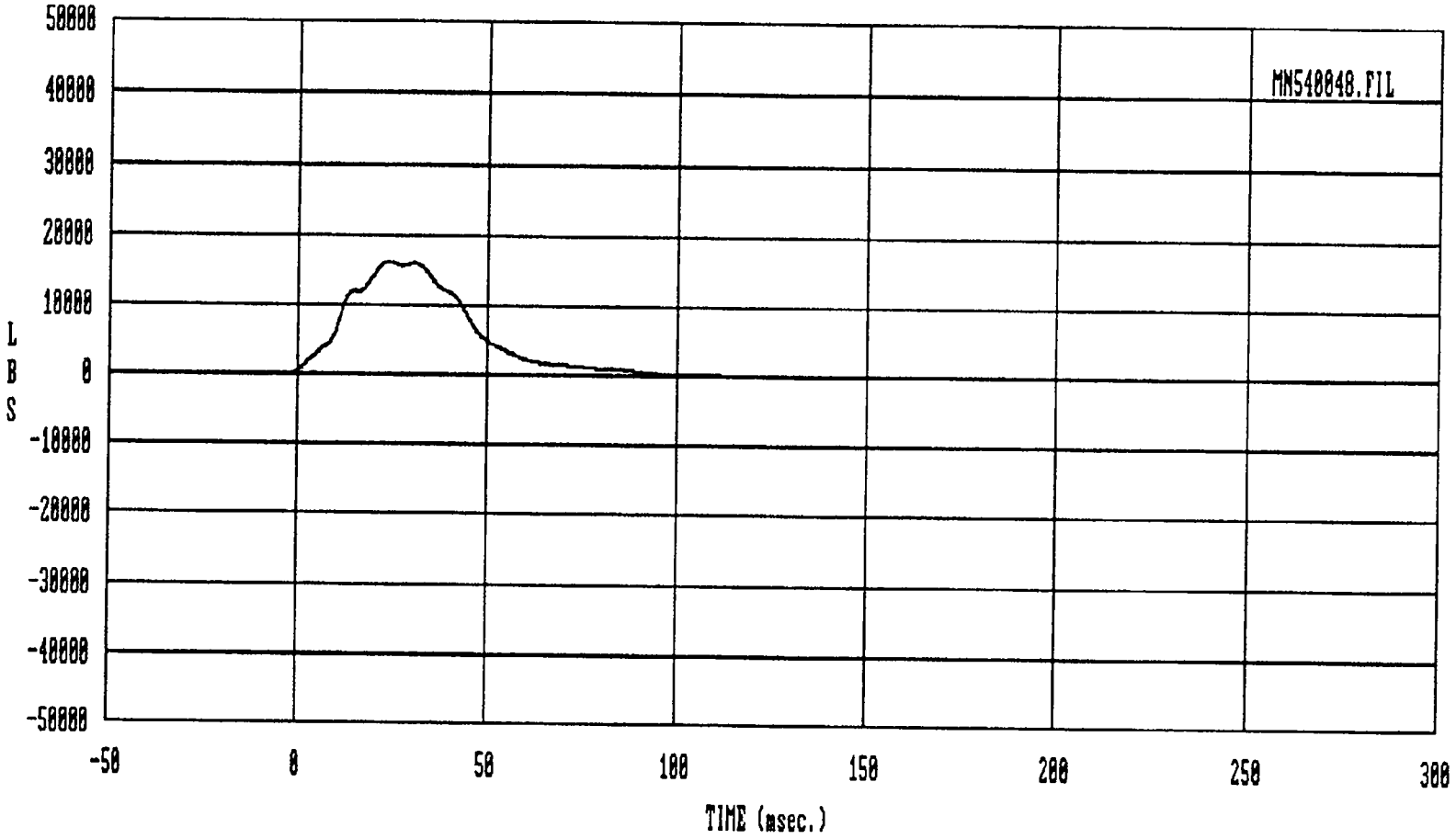
Curve: Force on Barrier load cell B4 Filter: SAE CLASS 60 Max = 18518. Min = -42.228

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



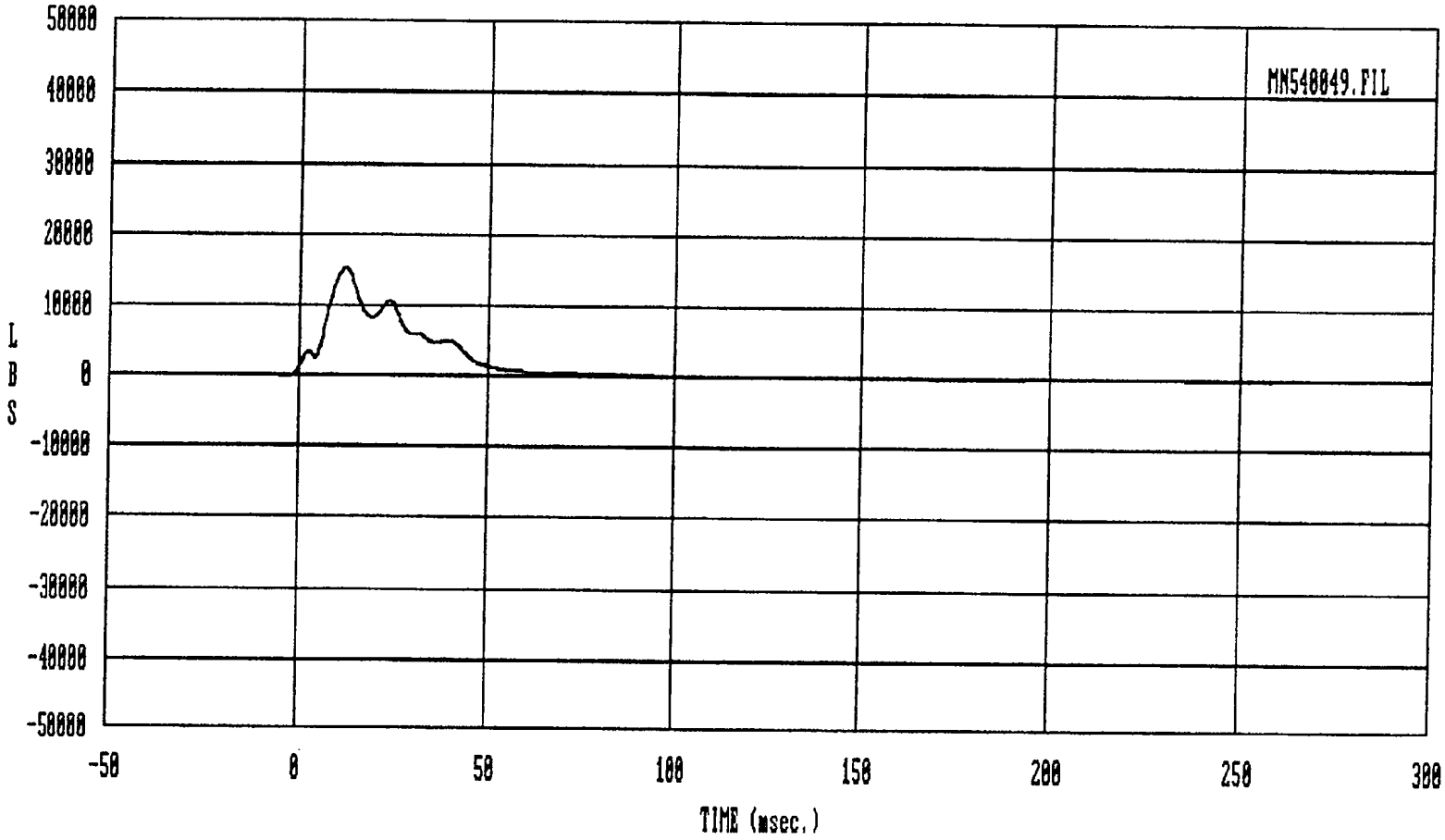
Curve: Force on Barrier load cell B5 Filter: SAE CLASS 60 Max = 12290. Min = 2.6233

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



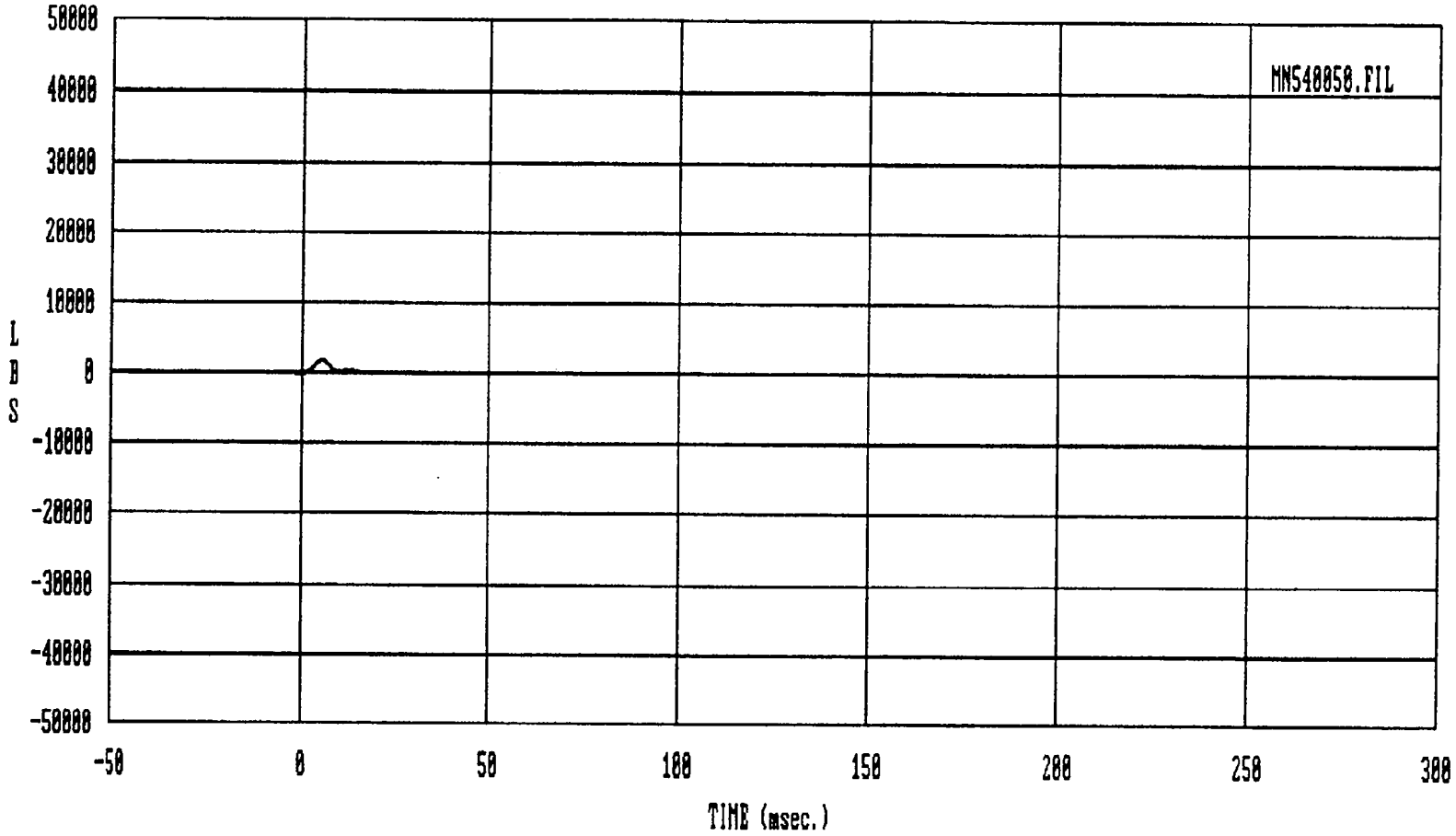
Curve: Force on Barrier load cell B6 Filter: SAE CLASS 60 Max = 16313. Min = -55.172

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



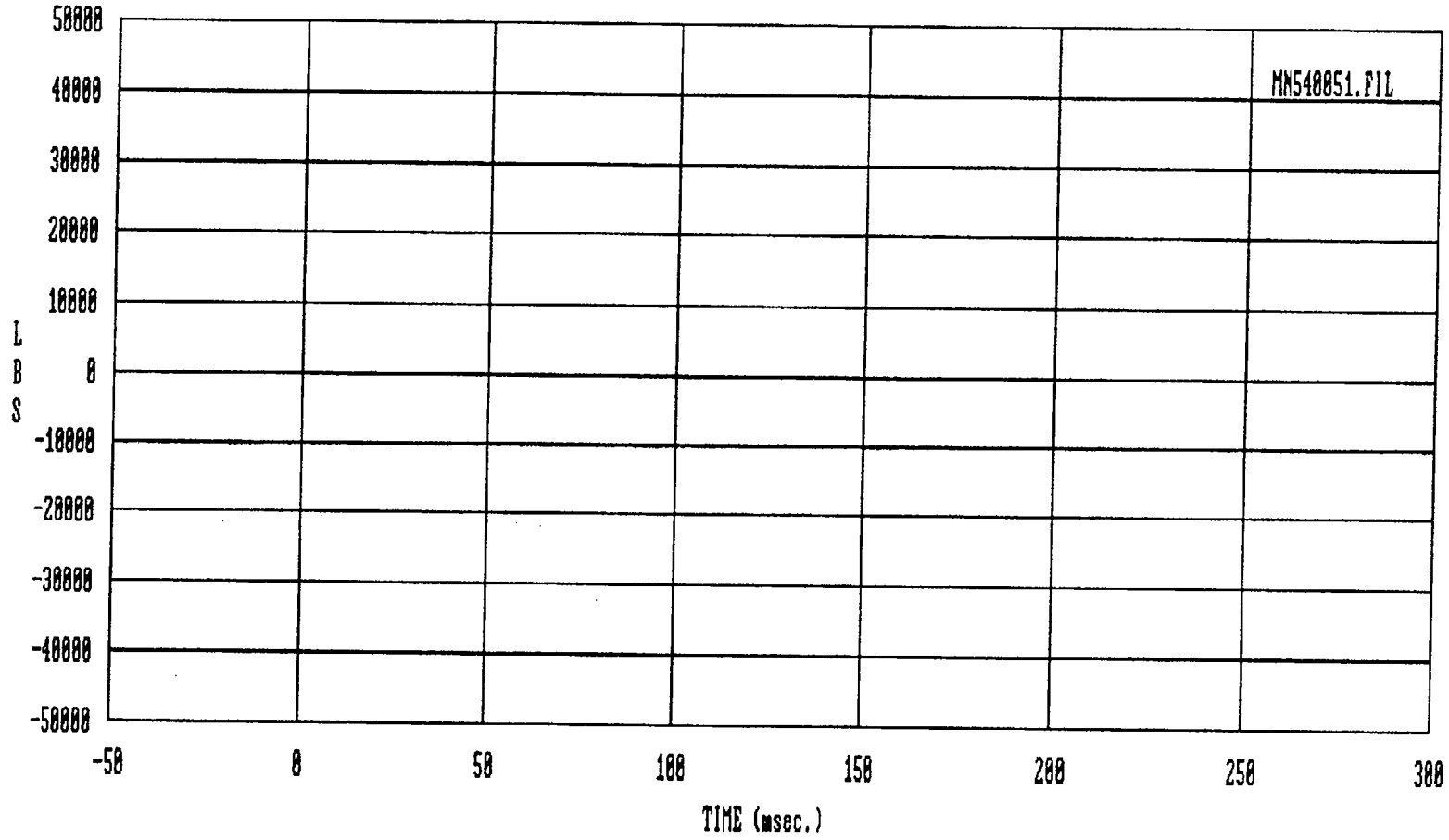
Curve: Force on Barrier load cell B7 Filter: SAE CLASS 60 Max = 15412. Min = -133.12

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



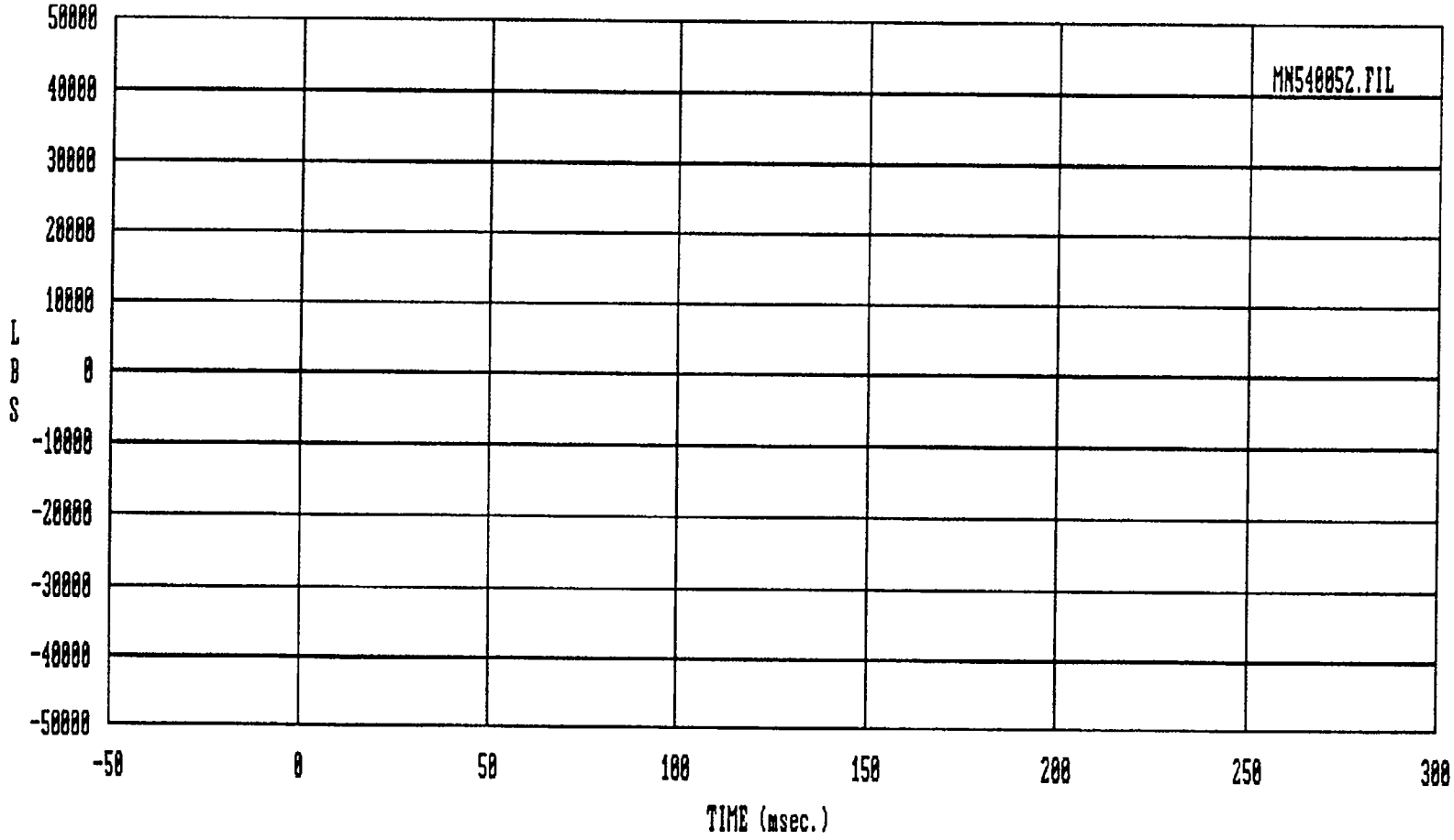
Curve: Force on Barrier load cell B8 Filter: SAE CLASS 60 Max = 1795.5 Min = -63.414

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



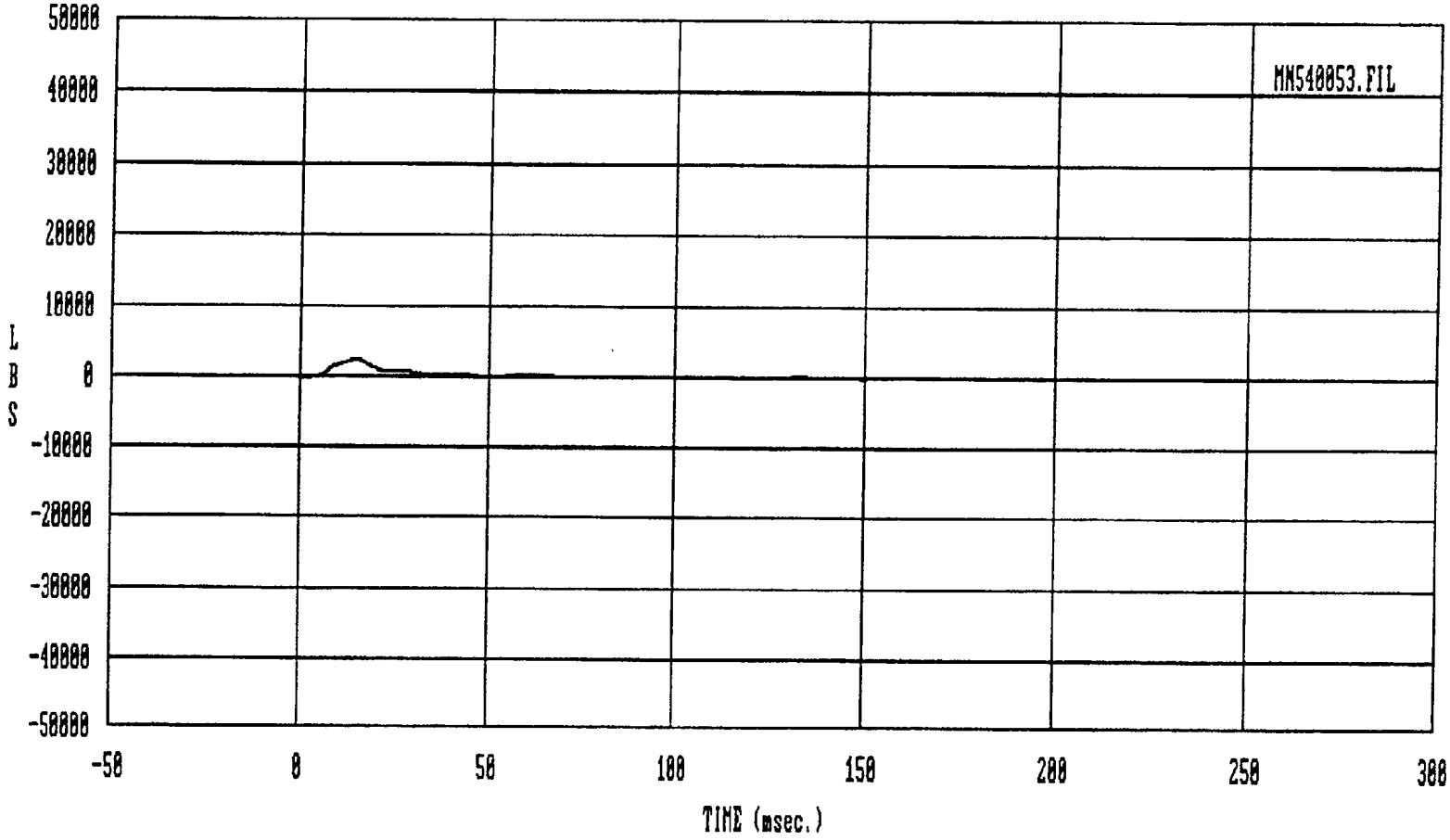
Curve: Force on Barrier load cell B9 Filter: SAE CLASS 60 Max = .00000 Min = .00000

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



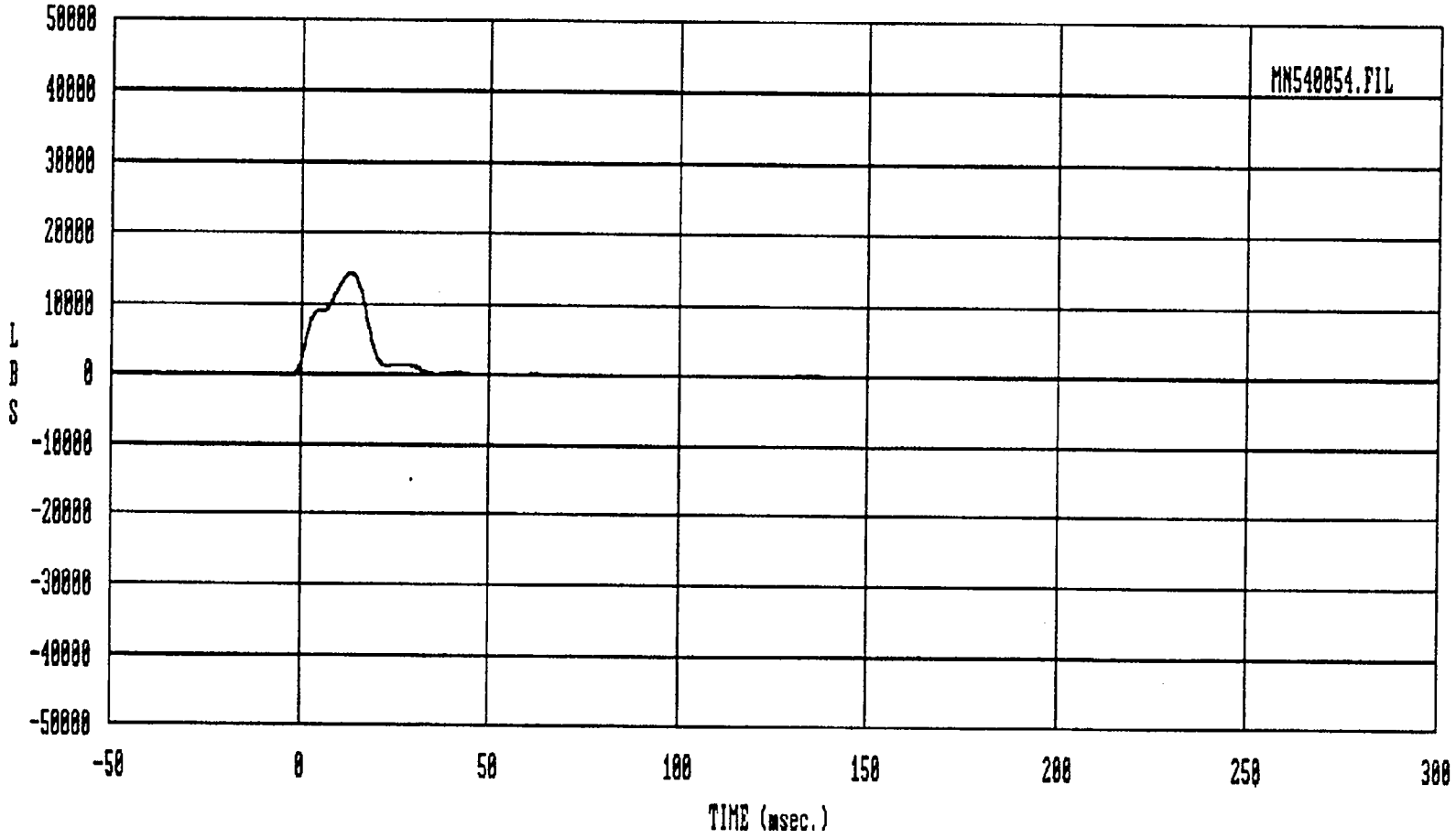
Curve: Force on Barrier load cell C1 Filter: SAE CLASS 60 Max = .00000 Min = .00000

MSE Date: 05/14/92 Program: 1992 NCAP - N2 Vehicle: 1992 Mazda B2200 P/U



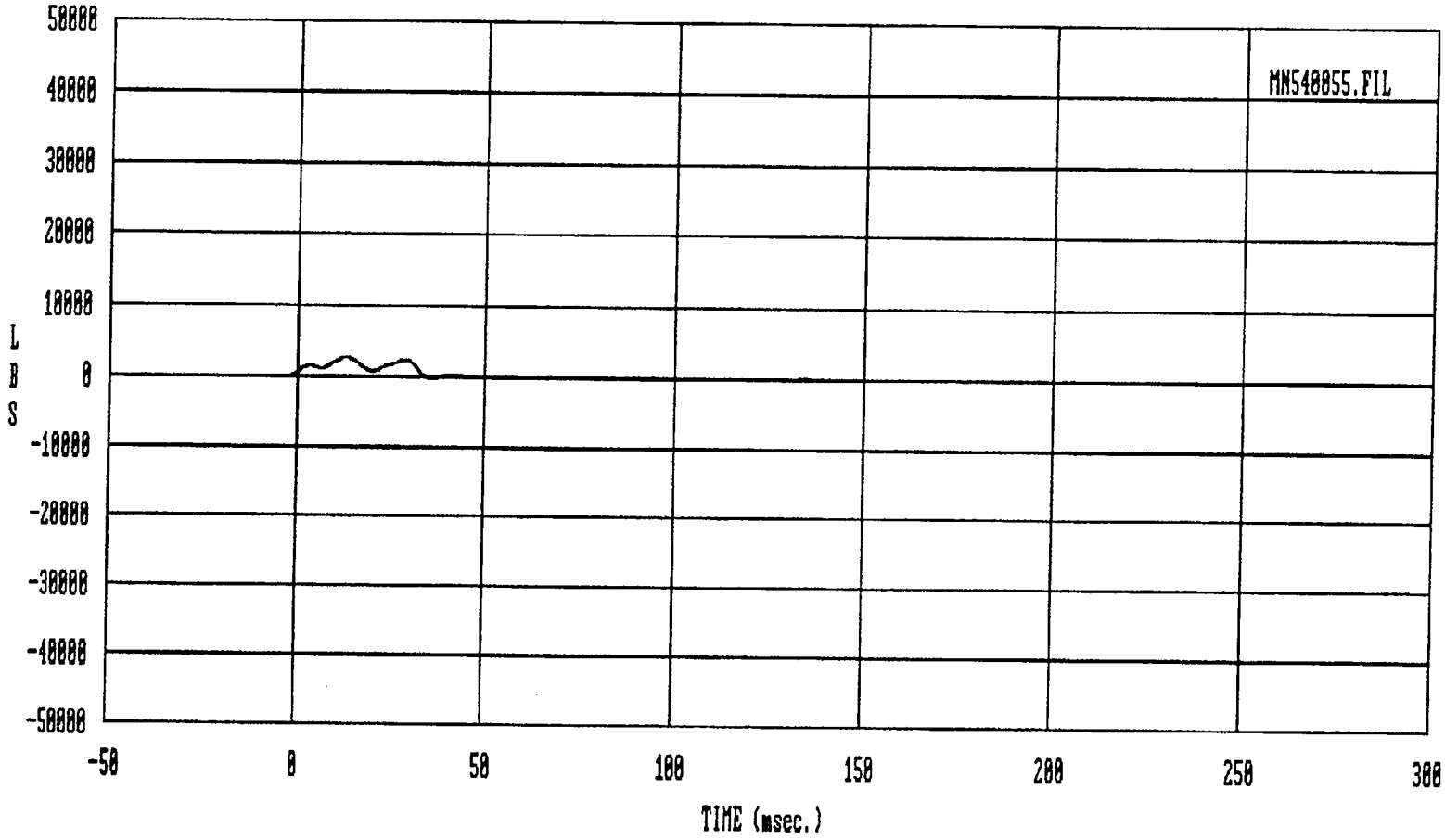
Curve: Force on Barrier load cell C2 Filter: SAE CLASS 60 Max = 2389.7 Min = -135.38

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



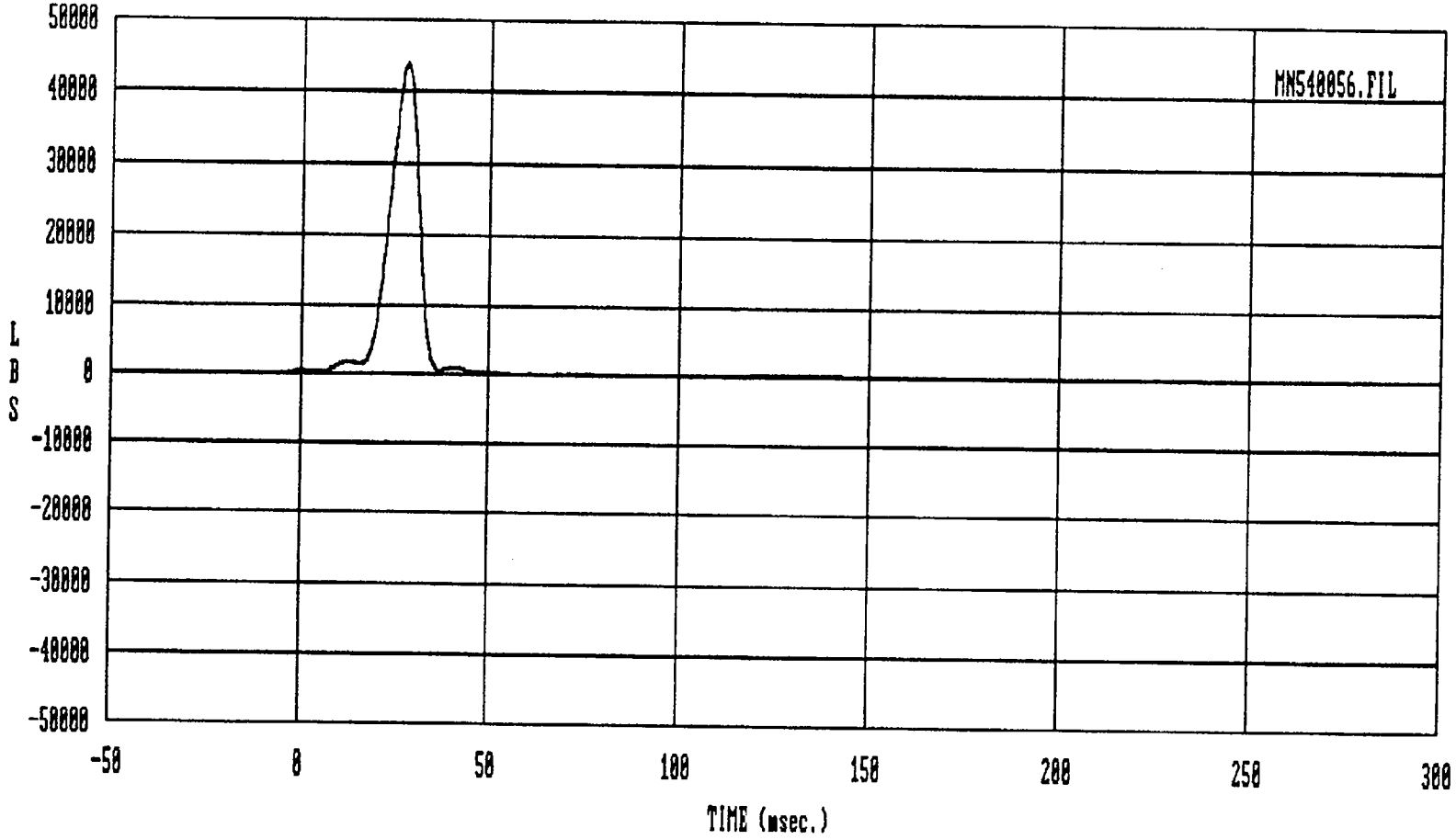
Curve: Force on Barrier load cell C3 Filter: SAE CLASS 60 Max = 14407. Min = -63.833

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



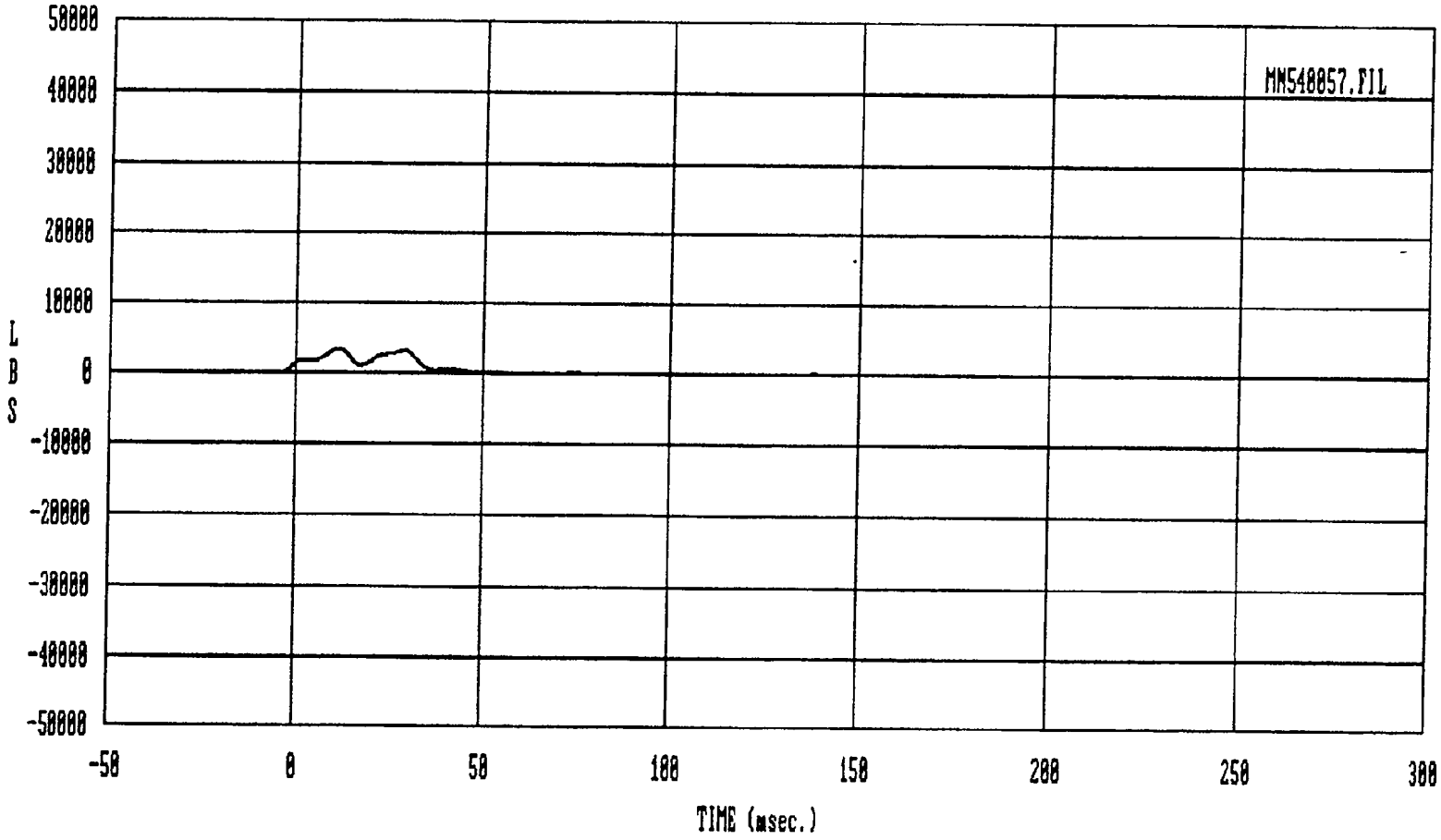
Curve: Force on Barrier load cell C4 Filter: SAE CLASS 60 Max = 2758.7 Min = -188.13

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



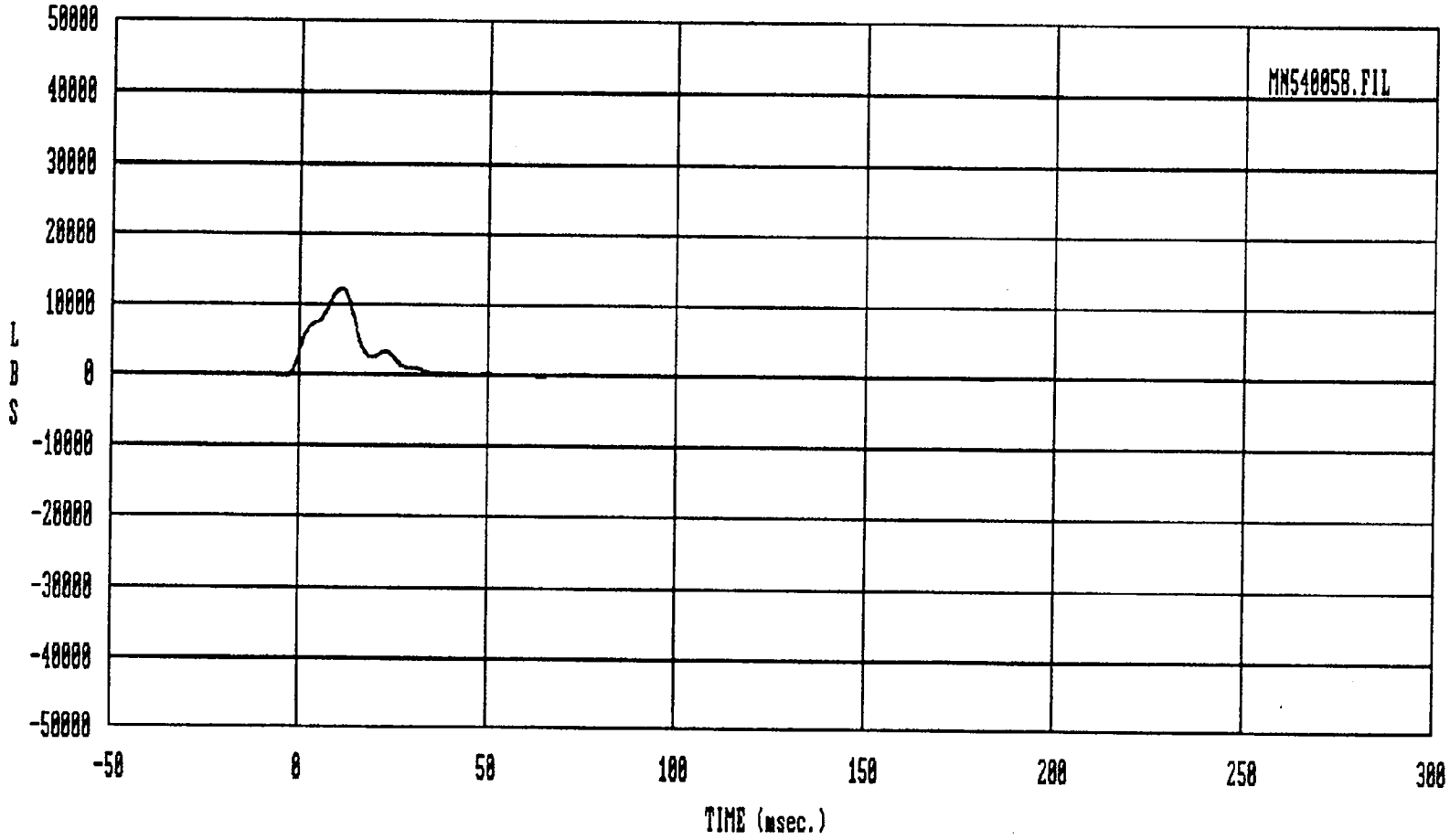
Curve: Force on Barrier load cell C5 Filter: SAE CLASS 60 Max = 43988. Min = -18.830

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



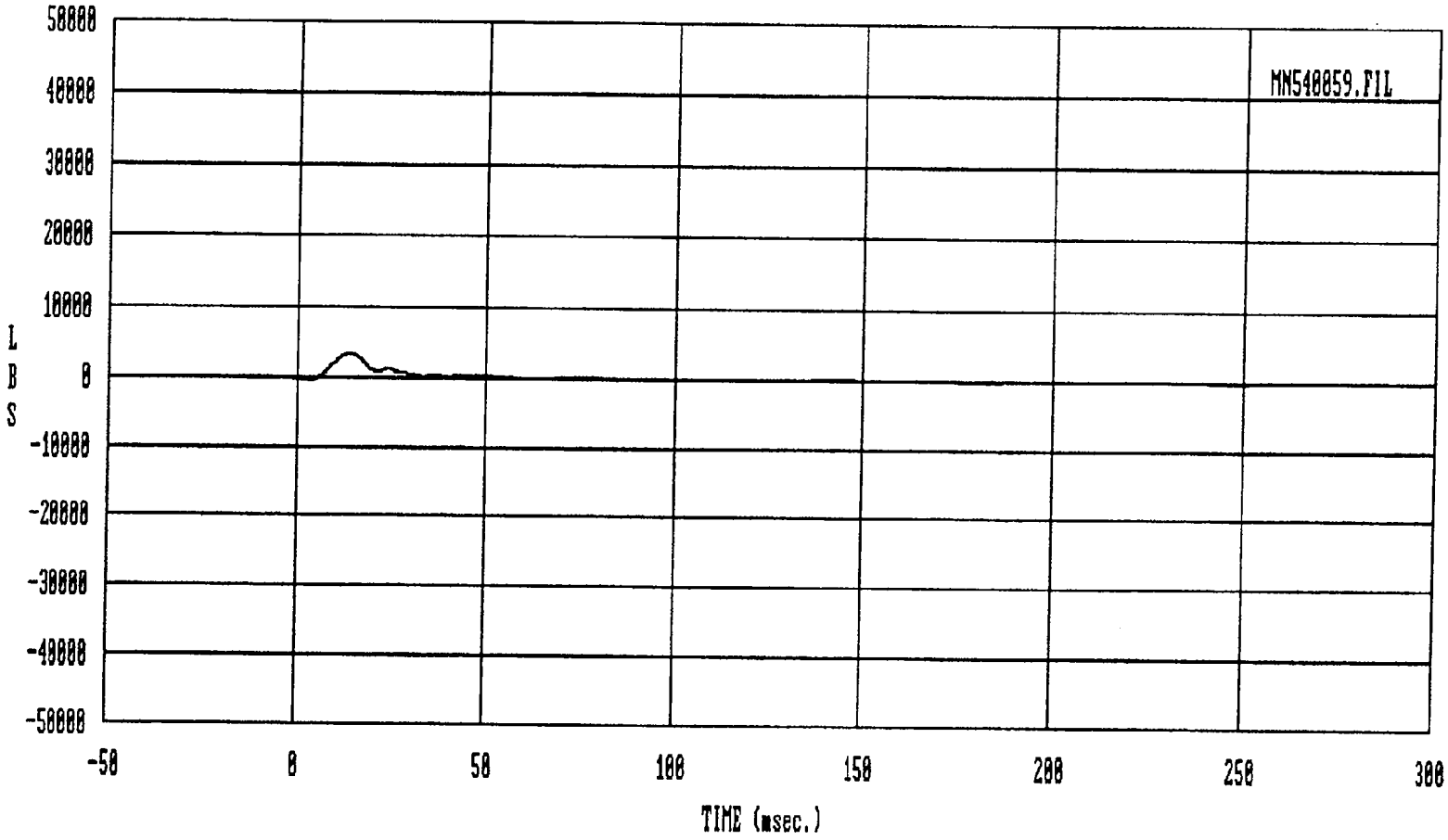
Curve: Force on Barrier load cell C6 Filter: SAE CLASS 60 Max = 3436.0 Min = -46.537

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



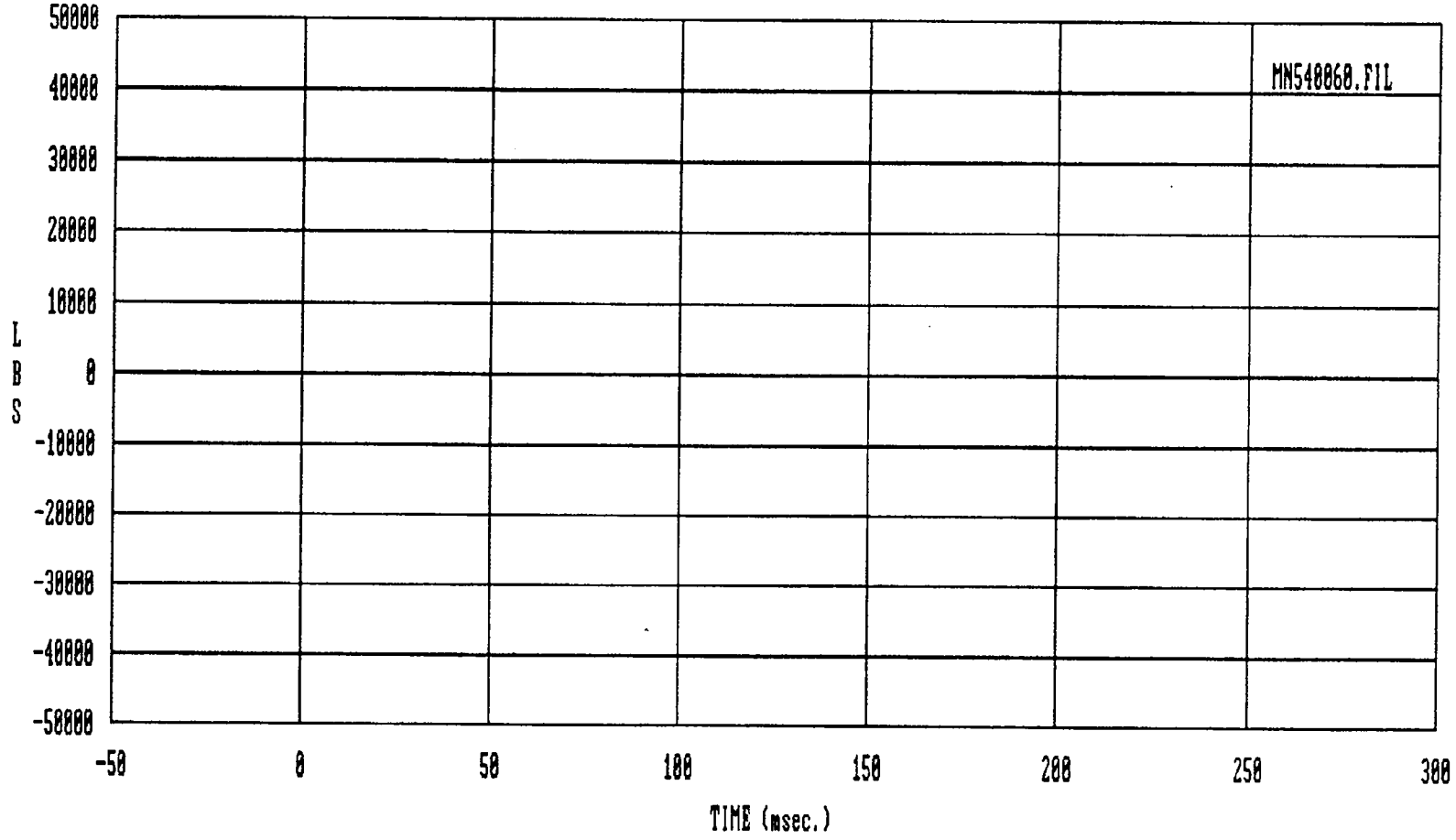
Curve: Force on Barrier load cell C7 Filter: SAE CLASS 60 Max = 12200. Min = -89.343

MSE Date: 05/14/92 Program: 1992 NCAP - N2 Vehicle: 1992 Mazda B2200 P/U



Curve: Force on Barrier load cell C8 Filter: SAE CLASS 60 Max = 3372.4 Min = -385.16

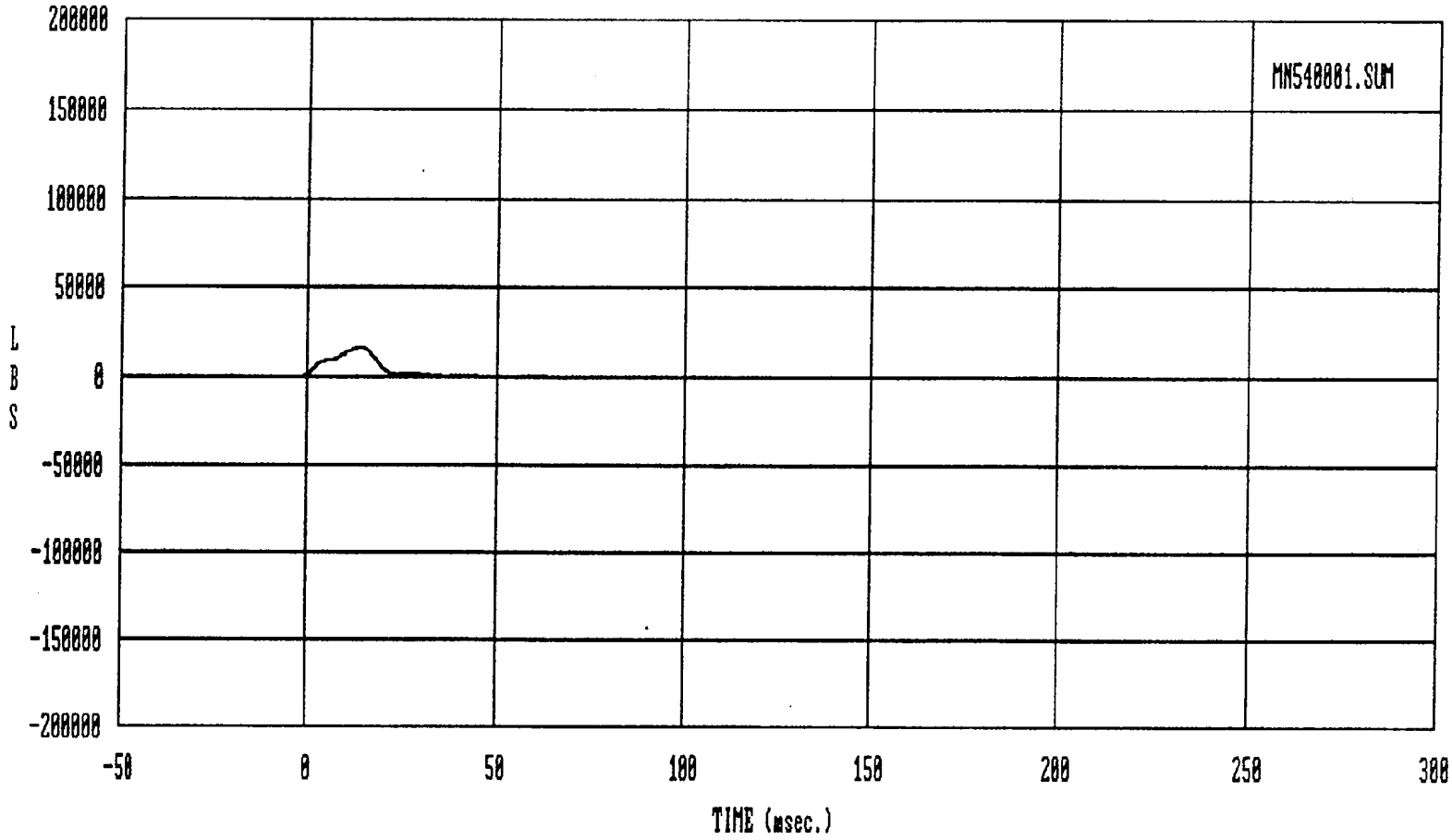
MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



Curve: Force on Barrier load cell C9 * Filter: SAE CLASS 60 Max = .00000 Min = .00000

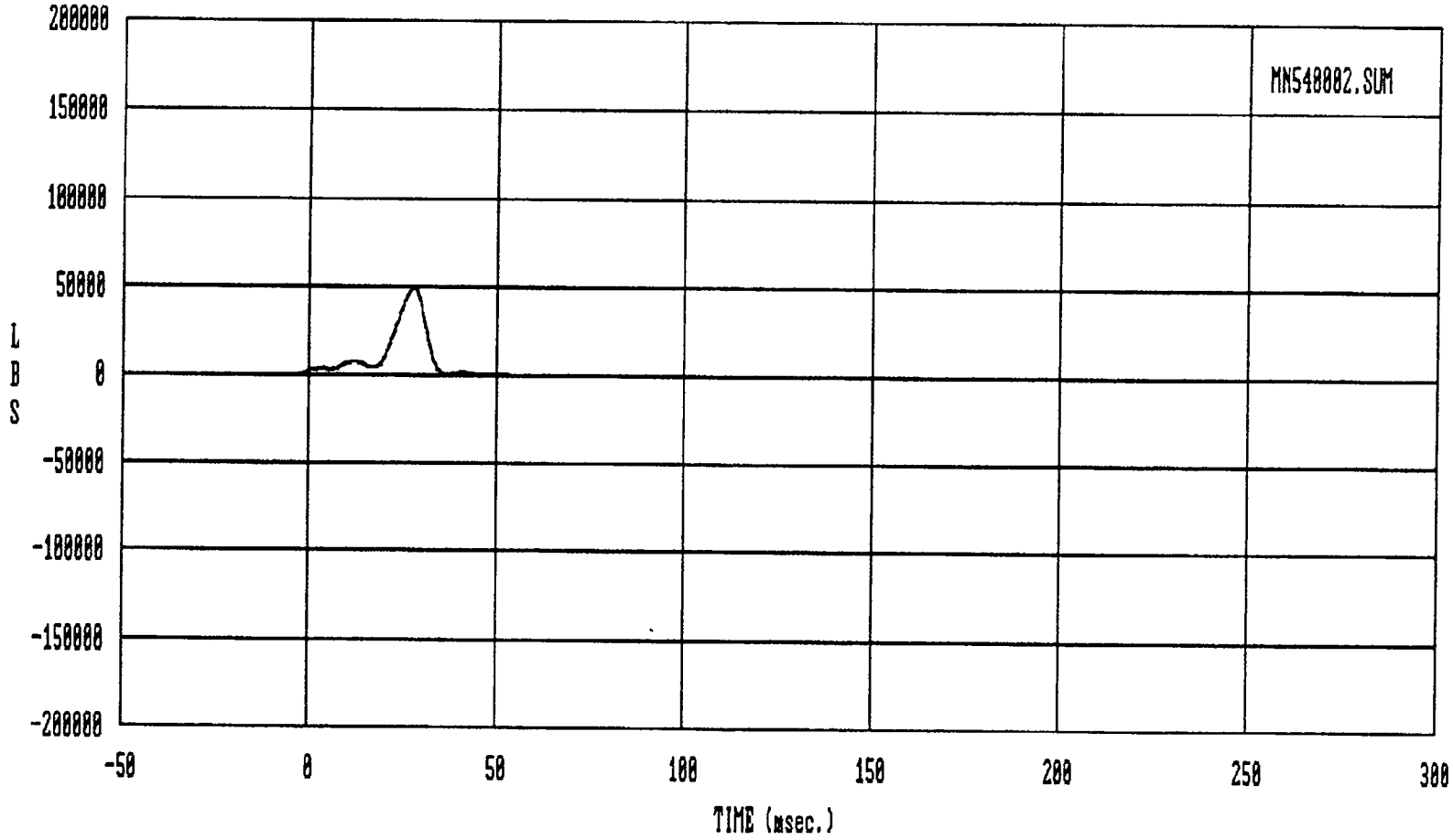
MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U

* LOAD CELLS D_1 TO D_9 WERE NOT USED IN FINAL SUMMATION



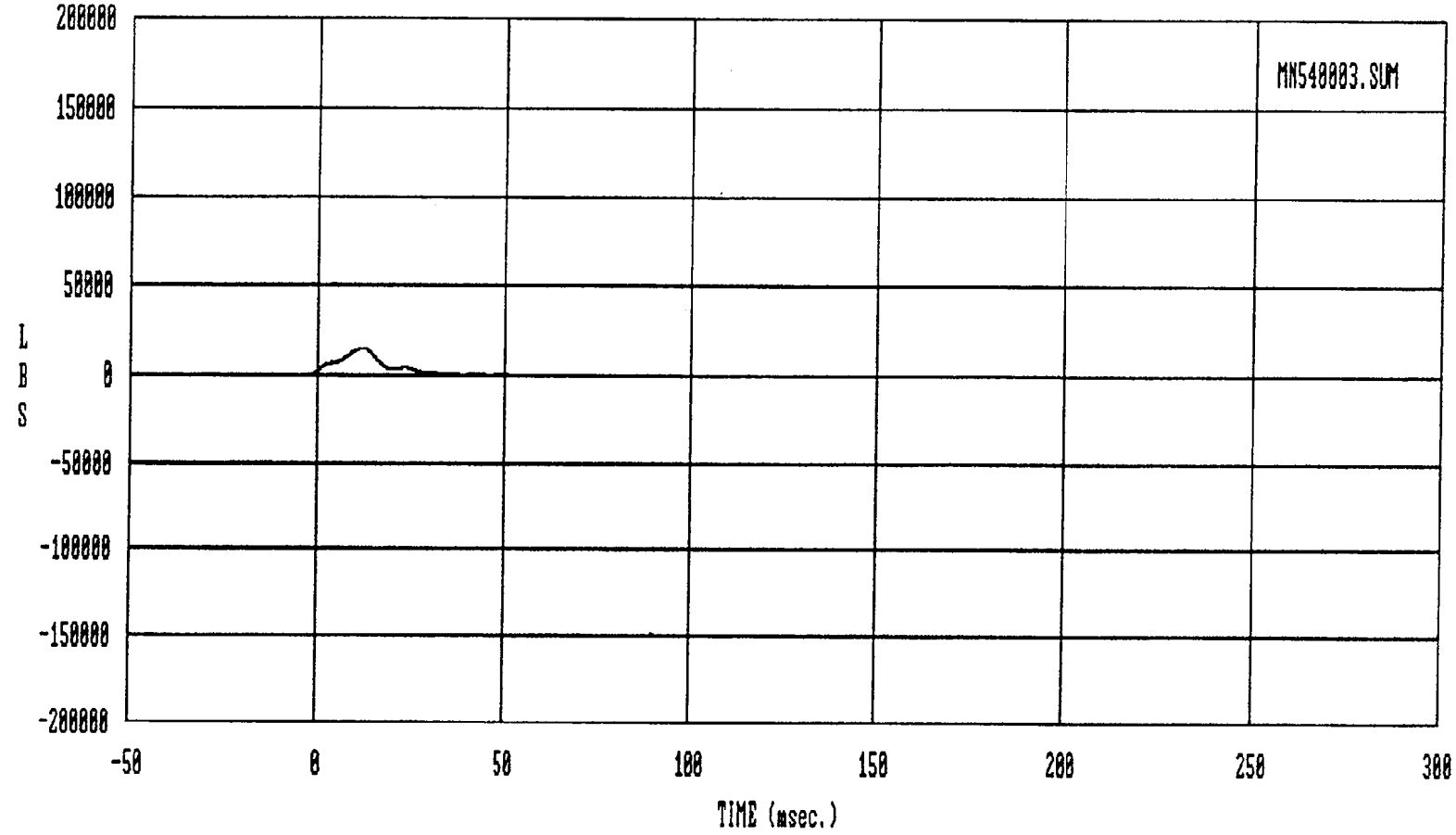
Curve: LCB sum force C1,C2,C3 -- Group 1 Filter: SAE CLASS 60 Max = 16699. Min = -142.63

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



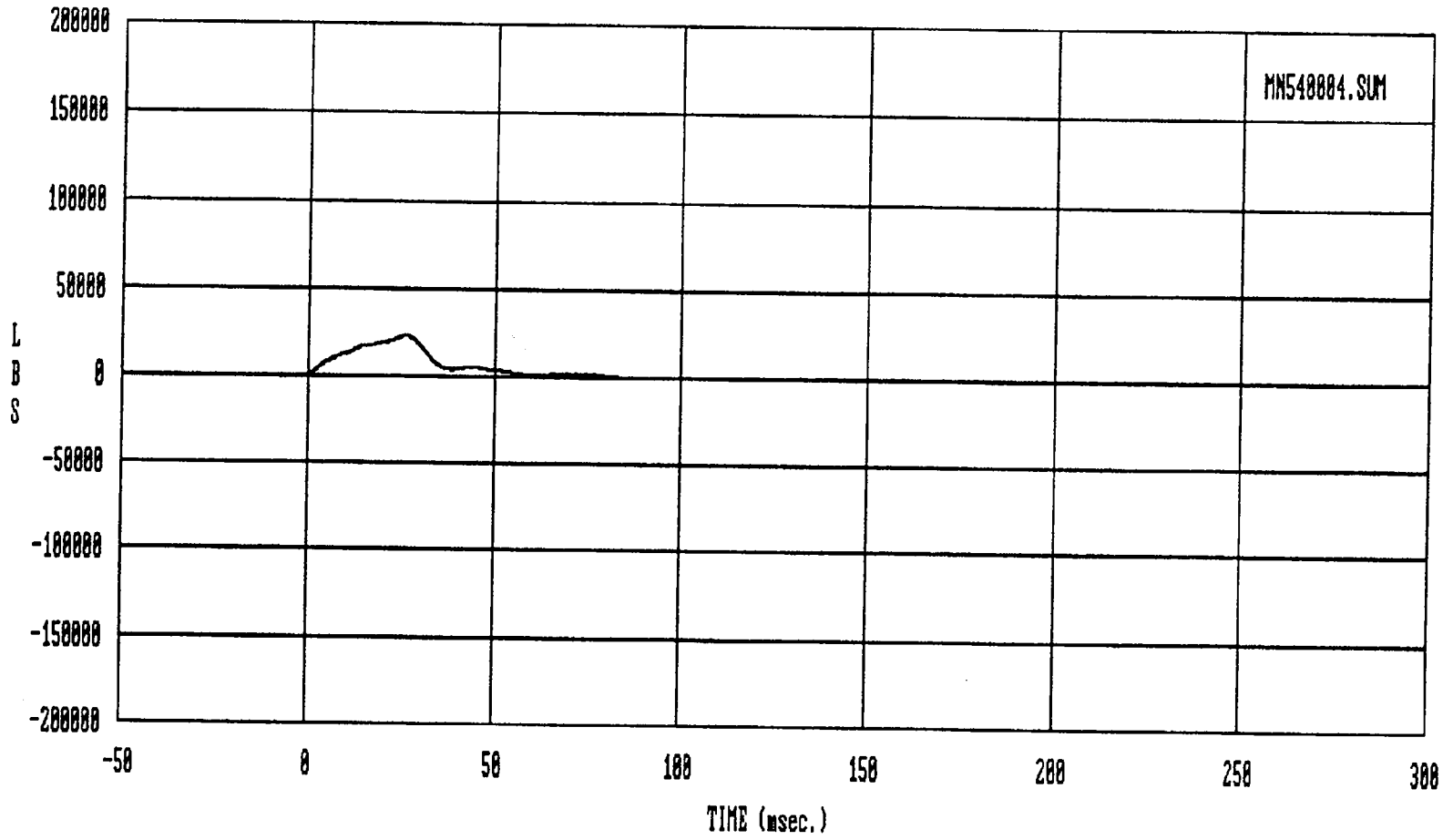
Curve: LCB sum force C4,C5,C6 -- Group 2 Filter: SAE CLASS 60 Max = 49357. Min = -58.671

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



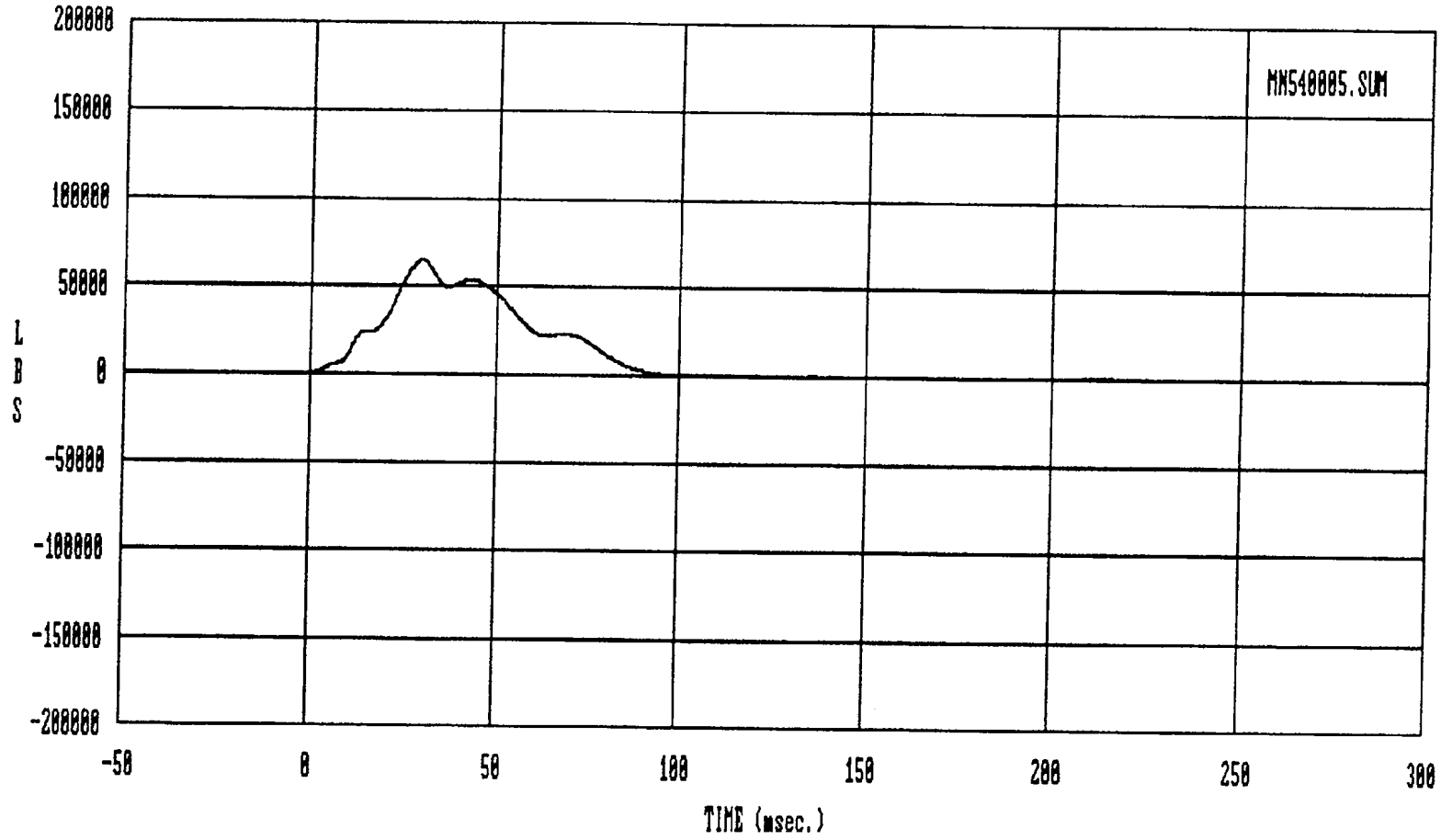
Curve: LCB sum force C7,C8,C9. -- Group 3 Filter: SAE CLASS 60 Max = 15217. Min = -201.56

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



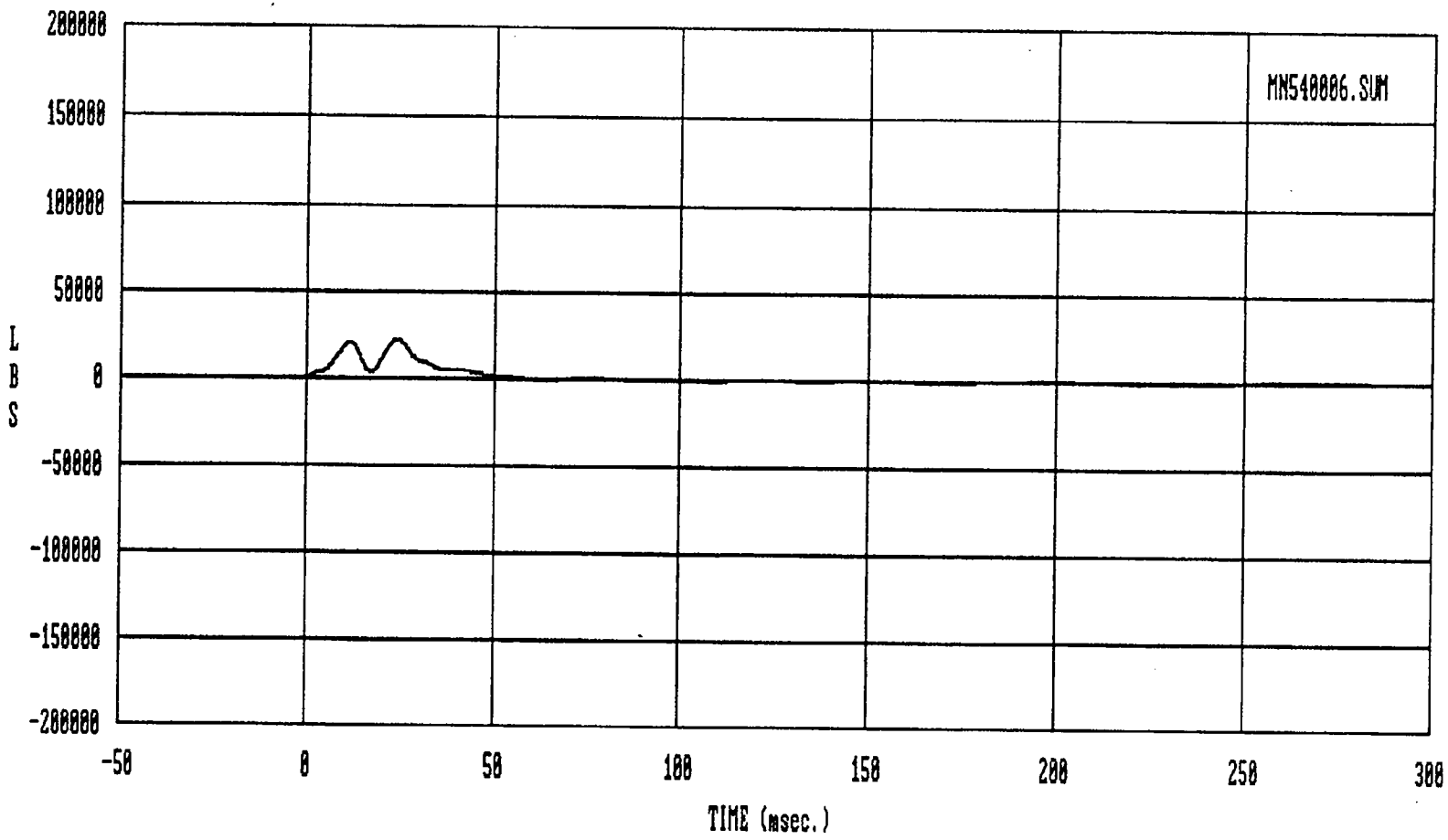
Curve: LCB sum force A1,A2,A3,B1,B2,B3 — Group 4 Filter: SAE CLASS 60 Max = 23653. Min = -299.31

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



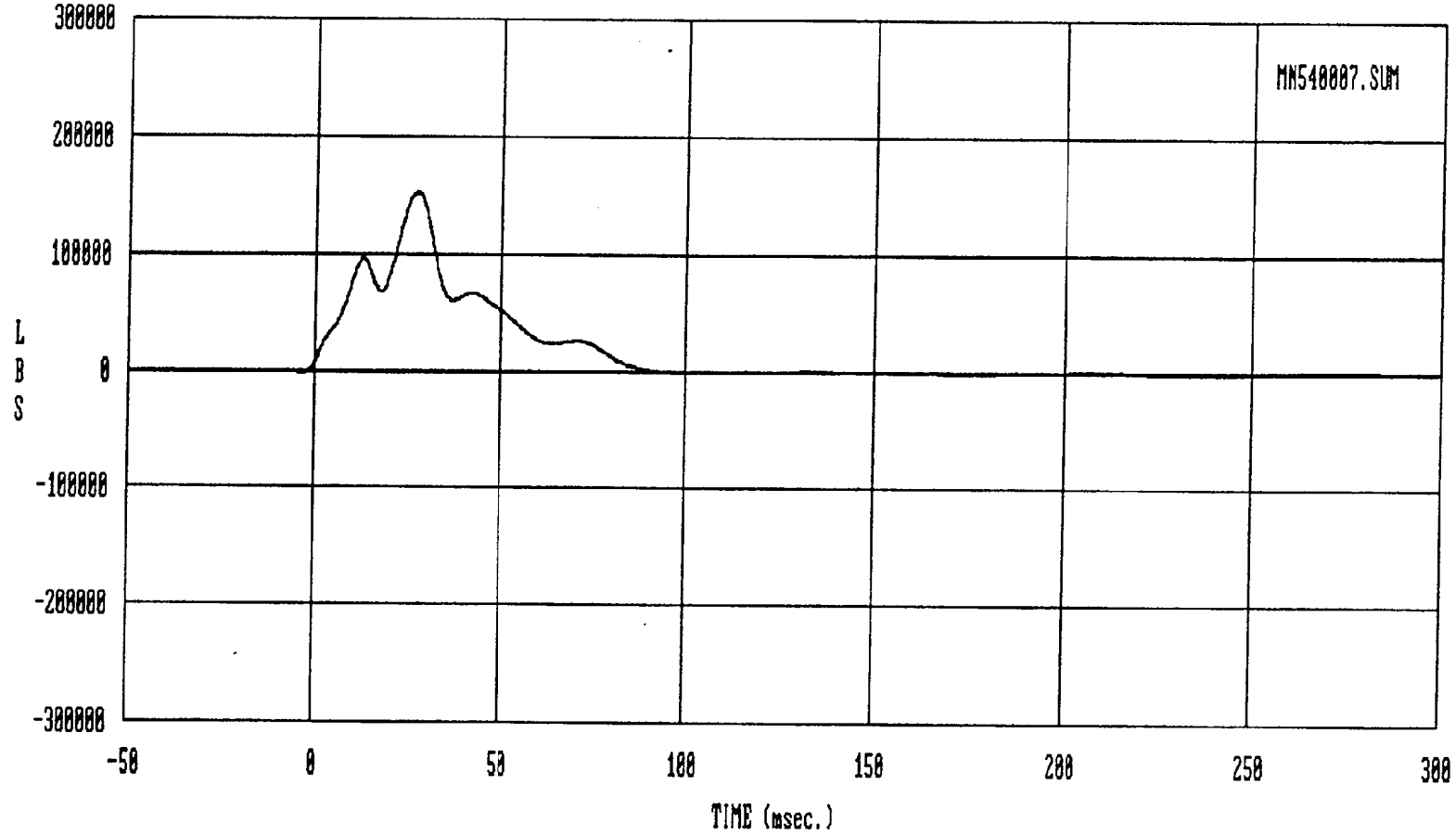
Curve: LCB sum force A4,A5,A6,B4,B5,B6 — Group 5 Filter: SAE CLASS 60 Max = 65286. Min = -171.99

MSE Date: 05/14/92 Program: 1992 NCAP - N2 Vehicle: 1992 Mazda B2200 P/U



Curve: LCB sum force A7,A8,A9,B7,B8,B9 — Group 6 Filter: SAE CLASS 60 Max = 23111. Min = -1050.0

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U



Curve: Load Cell Barrier total force * Filter: SAE CLASS 60 Max = .15298E+06 Min = -1134.3

MSE Date: 05/14/92 Program: 1992 NCAP - #2 Vehicle: 1992 Mazda B2200 P/U

* ROW D (LOAD CELLS D_1 TO D_9) IS NOT INCLUDED IN THE SUMMATION

APPENDIX C

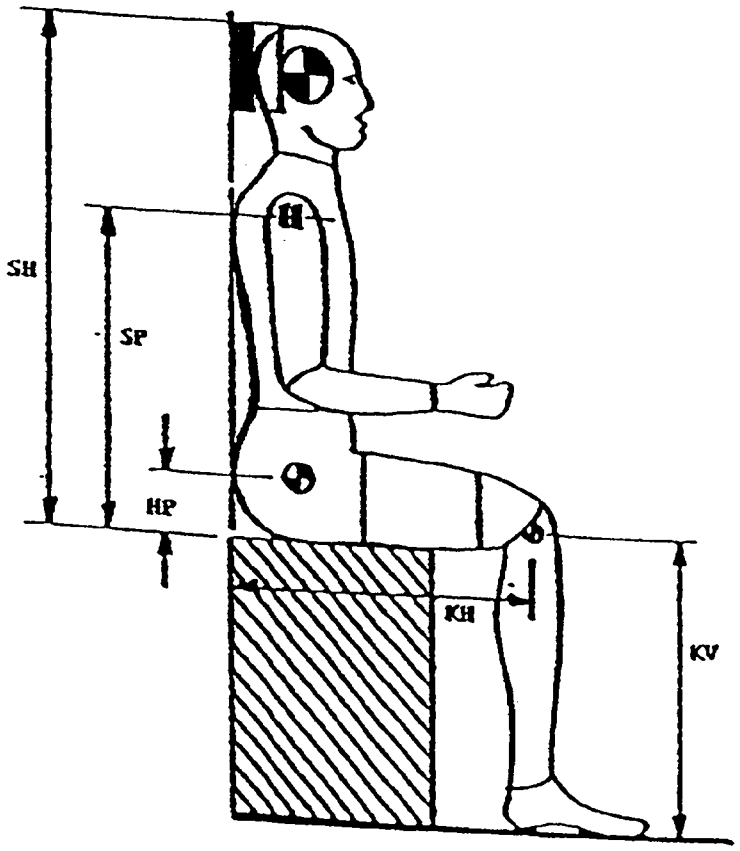
PART 572 DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION TESTS

THIS PAGE INTENTIONALLY LEFT BLANK

PART 572 DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA

NHTSA DUMMY I.D. NO.: | 8 | 1 | 4 |

I. CONFIGURATION VERIFICATION DATA:



	P. 572 SPECIFICATION	PRE-TEST (if required)	POST-TEST (if required)
DATE OF CONFIGURATION VERIFICATION	////////////	05/03/92	
	////////////		
VERIFICATION NUMBER FOR DUMMY* ---	////////////	01	
SH - Seated Height- - - - - - - - -	35.6 to 35.8"	35.60	
SP - Shoulder Pivot Height- - - -	21.8 to 22.4"	21.90	
HP - Hip Pivot Height - - - - - -	3.9 ref.	3.90	
KH - Knee Pivot from back line- -	20.1 to 20.7"	20.50	
KV - Knee Pivot from floor- - - -	19.3 to 19.9"	19.50	
SW - Shoulder Width - - - - - - - -	17.8 to 18.4"	18.10	
HW - Hip Width- - - - - - - - - - -	14.0 to 15.4"	14.50	

TECHNICIAN'S NAME: MR. MARK WALKER

*Sequential number beginning with "1" at the start of each fiscal year's crash test program

DUMMY CONFIG. & PERF. VERIF. DATA....Continued:

II. PERFORMANCE VERIFICATION DATA: NHTSA DUMMY I.D. NO.: | 8 | 1 | 4 |

TECHNICIAN NAME: MR. MARK WALKER

		PRE-TEST (if required)	POST-TEST (if required)
DATE OF PERFORMANCE VERIFICATION----------		05/03/92	
SEQUENTIAL VERIFICATION NUMBER FOR DUMMY*-----		01	
VERIF. LAB. TEMPERATURE (66 to 78 F Range)----		65-72 °F	F
VERIF. LAB. HUMIDITY (10 to 70% Range---------		40-70 %	%
TEST PARAMETER	SPECIFICATION		
1. HEAD DROP TEST--			
a. Peak Resultant Accel.	210 to 260G	244.90	
b. Peak Lateral Accel.-	<10G	5.00	
c. Time above 100G - - -	0.9 to 1.5 ms	1.20	
2. NECK BENDING TEST--			
a. Pendulum Speed- - - -	21.5 to 22.5 fps	21.90	
b. Pend. Avg. Decel. over (t_3 - t_2)	20 to 24G	21.20	
c. Peak Resultant Head Acceleration - - - -	26G max.	24.06	
d. Pendulum Decel.(t_2 -t_1)	<3 ms	1.50	
e. Pendulum Decel.(t_3 -t_2)	25 to 30 ms	28.00	
f. Pendulum Decel.(t_4 -t_3)	<10 ms	7.00	
g. Max. Head Rotation -	63 to 73	65.70	
h. Chordal Displacement-Head Rotation Angle-			
0° Time- -	-2 to 2 ms	0.00	
0° Displ.-	-.5 to .5"	0.00	
30° Time- -	22.6 to 34 ms	30.00	
30° Displ.-	2.1 to 3.1"	2.75	
60° Time- -	40.3 to 51.7ms	45.50	
60° Displ.-	4.3 to 5.3"	5.20	
Maximum Time- -	53.2 to 66.8ms	59.00	
(65.70°) Displ.-	5.0 to 6.0"	5.90	

*beginning with "1" at the start of each fiscal year's crash test program

DUMMY CONFIG. & PERF. VERIF. DATA....Continued:

II. PERFORMANCE VERIFICATION DATA: NHTSA DUMMY I.D. NO.: | 8 | 1 | 4 |

TECHNICIAN NAME: MR. MARK WALKER

TEST PARAMETER		SPECIFICATION	PRE-TEST (if required)	POST-TEST (if required)
2. NECK BENDING TEST---- Continued:				
h. Chordal Displacement-Head Rotation Angle-				
60°	Time- -	67.0 to 83.0 ms	72.00	
	Displ.-	4.3 to 5.3 in.	5.30	
30°	Time- -	85.4 to 104.6 ms	89.00	
	Displ.-	2.1 to 3.1 in.	2.70	
0°	Time- -	101.0 to 123.0 ms	103.00	
	Displ.-	-.5 to 0.5 in.	0.30	
3. ABDOMINAL COMPRESSION TEST: (Preload=10 pounds)				
a. Force @ .5" - - - -		23 to 36 lbs.	28.00	
b. Force @ .75" - - - -		36 to 50 lbs.	41.00	
c. Force @ 1.0"- - - - -		50 to 63 lbs.	57.00	
d. Force @ 1.3"- - - - -		73 to 88 lbs.	82.00	
4. LUMBAR FLEXION TEST:				
a. Force @ 20° - - - - -		22 to 34 lbs.	23.00	
b. Force @ 30° - - - - -		34 to 46 lbs.	34.00	
c. Force @ 40° - - - - -		46 to 58 lbs.	49.00	
d. Return Angle- - - - -		12° maximum	10.00	
5. CHEST IMPACT TESTS:				
a. High Speed				
(1) Probe Speed - - -		21.78-22.22 fps	22.08	
(2) Peak Deflection -		1.7" maximum	1.62	
(3) Peak Resistive Force - - - - - -		2250 lbs.maximum	1900.80	
(4) Internal Hysteresis		50 to 70%	65.00	
b. Low Speed				
(1) Probe Speed - - -		13.86-14.14 fps	14.04	
(2) Peak Deflection -		1.1" maximum	0.52	
(3) Peak Resistive Force - - - - - -		1450 lbs.maximum	1257.70	
(4) Internal Hysteresis		50 to 70%	62.00	

DUMMY CONFIG. & PERF. VERIF. DATA....Continued:

II. PERFORMANCE VERIFICATION DATA: NHTSA DUMMY I.D. NO.: | 8 | 1 | 4 |

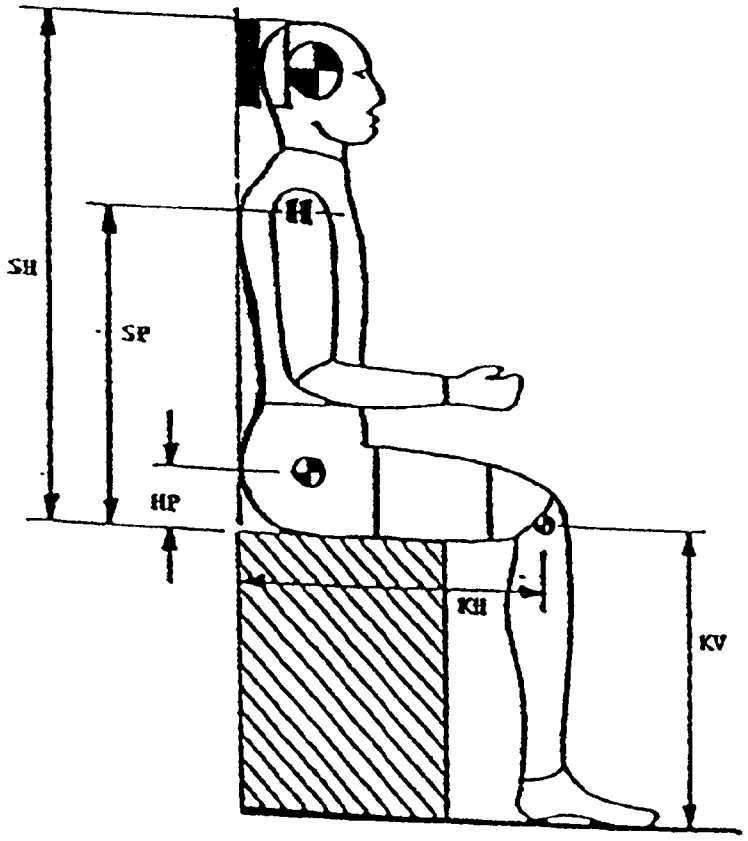
TECHNICIAN NAME: MR. MARK WALKER

TEST PARAMETER	SPECIFICATION	PRE-TEST (if required)	POST-TEST (if required)
6. KNEE IMPCT TESTS:			
a. Right Side--			
(1) Probe Speed - - -	6.76 to 7.04 fps	6.92	
(2) Maximum Force - -	1850 to 2500 lbs	2209.50	
(3) Time Above 1000#-	1.7 ms minimum	1.85	
b. Left Side--			
(1) Probe Speed - - -	6.76 to 7.04 fps	6.88	
(2) Maximum Force - -	1850 to 2500 lbs	2108.30	
(3) Time Above 1000#-	1.7 ms minimum	1.90	

PART 572 DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA

NHTSA DUMMY I.D. NO.: | 8 | 3 | 0 |

I. CONFIGURATION VERIFICATION DATA:



	P. 572 SPECIFICATION	PRE-TEST (if required)	POST-TEST (if required)
DATE OF CONFIGURATION VERIFICATION	//////////	05/03/92	
	//////////		
VERIFICATION NUMBER FOR DUMMY* ---	//////////	01	
SH - Seated Height- - - - - - - - -	35.6 to 35.8"	35.60	
SP - Shoulder Pivot Height- - - -	21.8 to 22.4"	22.00	
HP - Hip Pivot Height - - - - - -	3.9 ref.	3.90	
KH - Knee Pivot from back line- -	20.1 to 20.7"	20.50	
KV - Knee Pivot from floor- - - -	19.3 to 19.9"	19.40	
SW - Shoulder Width - - - - - - - -	17.8 to 18.4"	18.20	
HW - Hip Width- - - - - - - - - - -	14.0 to 15.4"	14.40	

TECHNICIAN'S NAME: MR. MARK WALKER

*Sequential number beginning with "1" at the start of each fiscal year's crash test program

DUMMY CONFIG. & PERF. VERIF. DATA....Continued:

II. PERFORMANCE VERIFICATION DATA: NHTSA DUMMY I.D. NO.: | 8 | 3 | 0 |

TECHNICIAN NAME: MR. MARK WALKER

		PRE-TEST (if required)	POST-TEST (if required)
DATE OF PERFORMANCE VERIFICATION----------		05/03/92	
SEQUENTIAL VERIFICATION NUMBER FOR DUMMY*-----		01	
VERIF. LAB. TEMPERATURE (66 to 78 F Range)----		66-72 °F	F
VERIF. LAB. HUMIDITY (10 to 70% Range---------		40-70 %	%
TEST PARAMETER	SPECIFICATION		
1. HEAD DROP TEST--			
a. Peak Resultant Accel.	210 to 260G	253.90	
b. Peak Lateral Accel.-	<10G	10.00	
c. Time above 100G - - -	0.9 to 1.5 ms	1.20	
2. NECK BENDING TEST--			
a. Pendulum Speed- - - -	21.5 to 22.5 fps	21.90	
b. Pend. Avg. Decel. over ($t_3 - t_2$)	20 to 24G	21.00	
c. Peak Resultant Head Acceleration - - - -	26G max.	24.40	
d. Pendulum Decel.($t_2 - t_1$)	<3 ms	3.00	
e. Pendulum Decel.($t_3 - t_2$)	25 to 30 ms	30.00	
f. Pendulum Decel.($t_4 - t_3$)	<10 ms	9.50	
g. Max. Head Rotation -	63 to 73	64.00	
h. Chordal Displacement- Head Rotation Angle-			
0° Time- -	-2 to 2 ms	1.00	
0° Displ.-	-.5 to .5"	0.02	
30° Time- -	22.6 to 34 ms	31.00	
30° Displ.-	2.1 to 3.1"	2.32	
60° Time- -	40.3 to 51.7ms	47.20	
60° Displ.-	4.3 to 5.3"	4.50	
Maximum (64.0°) Time- -	53.2 to 66.8ms	61.00	
(64.0°) Displ.-	5.0 to 6.0"	5.10	

*beginning with "1" at the start of each fiscal year's crash test program

DUMMY CONFIG. & PERF. VERIF. DATA....Continued:

II. PERFORMANCE VERIFICATION DATA: NHTSA DUMMY I.D. NO.: | 8 | 3 | 0 |

TECHNICIAN NAME: MR. MARK WALKER

TEST PARAMETER		SPECIFICATION	PRE-TEST (if required)	POST-TEST (if required)
2. NECK BENDING TEST---- Continued:				
h. Chordal Displacement-Head Rotation Angle-				
60°	Time- -	67.0 to 83.0 ms	75.00	
	Displ.-	4.3 to 5.3 in.	4.50	
30°	Time- -	85.4 to 104.6 ms	93.00	
	Displ.-	2.1 to 3.1 in.	2.10	
0°	Time- -	101.0 to 123.0 ms	102.00	
	Displ.-	-.5 to 0.5 in.	0.10	
3. ABDOMINAL COMPRESSION TEST: (Preload=10 pounds)				
a. Force @ .5" - - - -		23 to 36 lbs.	32.00	
b. Force @ .75" - - - -		36 to 50 lbs.	43.00	
c. Force @ 1.0"- - - - -		50 to 63 lbs.	58.00	
d. Force @ 1.3"- - - - -		73 to 88 lbs.	82.00	
4. LUMBAR FLEXION TEST:				
a. Force @ 20° - - - - -		22 to 34 lbs.	26.00	
b. Force @ 30° - - - - -		34 to 46 lbs.	40.00	
c. Force @ 40° - - - - -		46 to 58 lbs.	53.00	
d. Return Angle- - - - -		12° maximum	10.00	
5. CHEST IMPACT TESTS:				
a. High Speed				
(1) Probe Speed - - -		21.78-22.22 fps	21.83	
(2) Peak Deflection -		1.7" maximum	1.62	
(3) Peak Resistive Force - - - - - -		2250 lbs.maximum	2019.50	
(4) Internal Hysteresis		50 to 70%	68.00	
b. Low Speed				
(1) Probe Speed - - -		13.86-14.14 fps	14.05	
(2) Peak Deflection -		1.1" maximum	1.06	
(3) Peak Resistive Force - - - - - -		1450 lbs.maximum	1355.80	
(4) Internal Hysteresis		50 to 70%	65.00	

DUMMY CONFIG. & PERF. VERIF. DATA....Continued:

II. PERFORMANCE VERIFICATION DATA: NHTSA DUMMY I.D. NO.: | 8 | 3 | 0 |

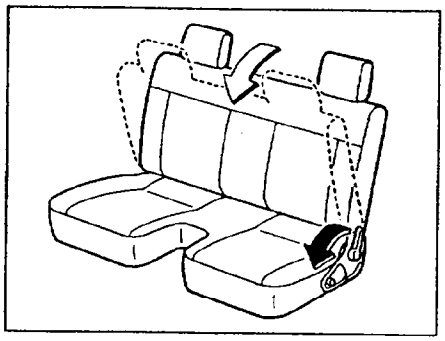
TECHNICIAN NAME: MR. MARK WALKER

TEST PARAMETER	SPECIFICATION	PRE-TEST (if required)	POST-TEST (if required)
6. KNEE IMPCT TESTS:			
a. Right Side--			
(1) Probe Speed - - -	6.76 to 7.04 fps	6.85	
(2) Maximum Force - -	1850 to 2500 lbs	2450.00	
(3) Time Above 1000#-	1.7 ms minimum	1.70	
b. Left Side--			
(1) Probe Speed - - -	6.76 to 7.04 fps	6.83	
(2) Maximum Force - -	1850 to 2500 lbs	2268.00	
(3) Time Above 1000#-	1.7 ms minimum	1.70	

APPENDIX D

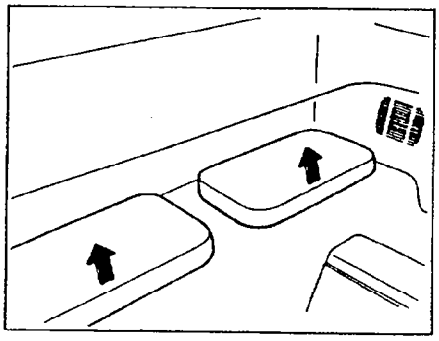
VEHICLE OWNER'S MANUAL OCCUPANT RESTRAINT SYSTEM INSTRUCTIONS

THIS PAGE INTENTIONALLY LEFT BLANK



■ **Seat Back Lock (Bench Seat)***

To fold the seat back forward for access to the jack and tools, move the release lever forward and hold it there. The back will now fold forward.



■ **Jump Seats***

The rear seat cushions can be lifted to take out the jack, jack handle and lug wrench.

Seat Belt System

Seat belts help decrease the possibility or severity of injury during accidents and sudden stops. Mazda recommends that the driver and passenger wear seat belts at all times. The seats have a lap/shoulder belt. These belts have retractors with inertia locks that keep them out of the way when not in use. The locks allow the belts to remain comfortable on users, but they'll lock in position during a collision.

The rear seat has lap/shoulder belts that have retractors with inertia locks.

⚠WARNING

Seat Belts:
Passengers not wearing seat belts during a collision can be injured much worse than those wearing seat belts. They can hit things inside the vehicle or even be thrown from it. They can be seriously injured or killed. In the same collision, passengers wearing seat belts might be much safer.

⚠WARNING

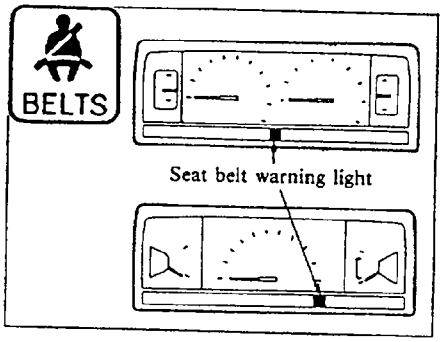
Damaged Seat Belts:
An accident can damage a seat belt in use. The belt webbing can be weakened and retractors and anchors can be bent or broken. Therefore a damaged seat belt may not provide adequate protection in a collision. Have a professional inspect all seat belt systems in use during an accident before they are used again.

⚠WARNING

One Belt, One Passenger:
Using one seat belt for more than one person at a time is dangerous. A seat belt used in this way can't spread the impact forces properly and the two passengers could be crushed together and seriously injured. Never use one belt for more than one person at a time.

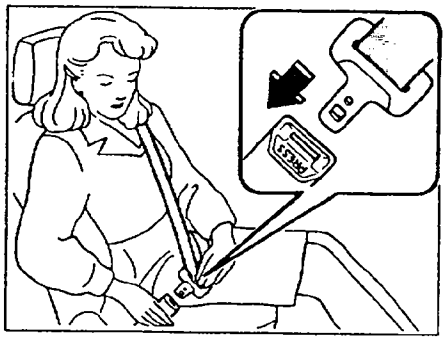
⚠WARNING

Twisted Seat Belts:
Twisted seat belts can cause injury. In a collision, the full width of the belt isn't available to absorb the impact. This puts more force on the bones beneath the belt, which could break them or cause other serious injury. Don't wear twisted seat belts.



■ Seat Belt Warning Light/Beep

When you turn on the ignition before fastening your seat belt, a warning light will come on and a beep will sound (warning lights/beeps, page 4-36).



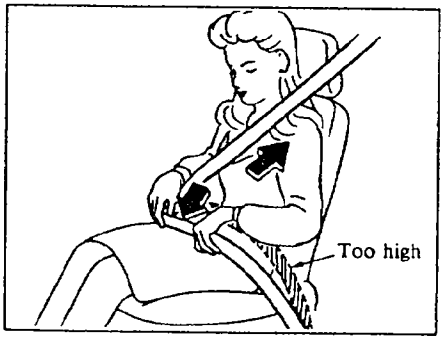
■ Front Seat Belts

To fasten:

1. Grasp the buckle and tongue plate.
2. Slowly pull out the lap/shoulder belt.
3. Insert the plate into the buckle until you hear a click.

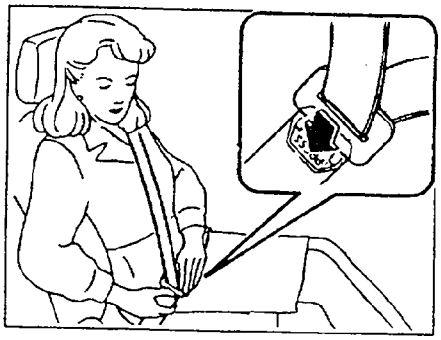
⚠WARNING

Wearing the Shoulder Belt:
An improperly worn shoulder belt can be dangerous. In a collision, a shoulder belt worn under the arm will transfer the full force of impact to the ribs and cause serious injury. A shoulder belt worn behind the neck and over the inside shoulder provides no protection. Never wear a shoulder belt under the arm or place it behind the neck and over the inside shoulder.



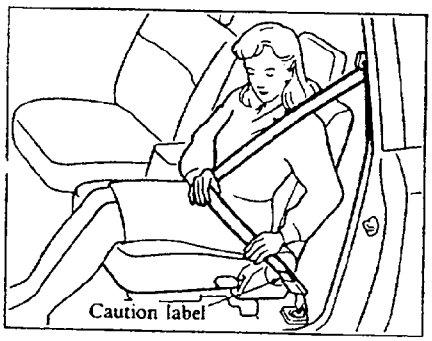
⚠WARNING

Wearing the Lap Belt:
A lap belt worn too high can be dangerous. In a collision, this would concentrate the impact force directly on the abdominal area, causing serious injury. Wear the lap belt snugly and as low as possible.



To unfasten:

Depress the buckle release.

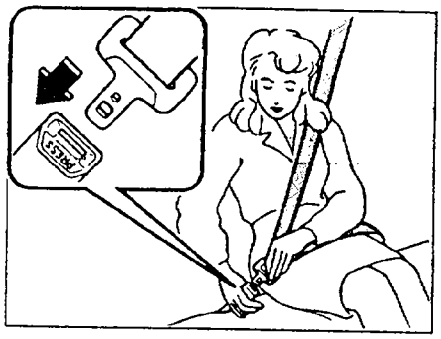


■ Seat Belt Caution Label

A caution label is inside the sleeve of each lap belt. If a belt is used in an accident, the stress will cause this label to be pulled from the sleeve.

This indicates that **the seat belt must be replaced.**

Also, if the seat belt undergoes excessive stress at any time, the belt's webbing, metal fittings, and anchor bolt may be damaged. The damage may not be apparent, so the seat belt should be replaced after this kind of stress, even if the label is not exposed.

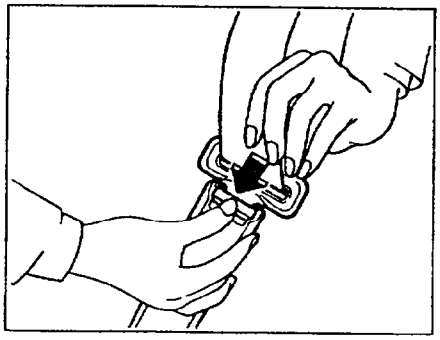


■ Rear Seat Belts (Cab Plus models)

To fasten:

1. Grasp the tongue plate and pull it to the desired length.
2. Insert this plate into the buckle until you hear a click.

The retractor will take up excess belt and maintain tension.



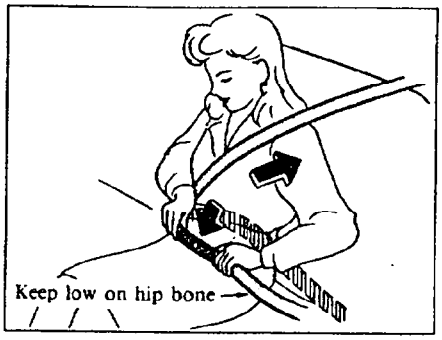
To unfasten:

Depress the button on the buckle.

NOTE
If a belt does not fully retract, inspect it for kinks and twists.

⚠WARNING

Wearing the Shoulder Belt:
An improperly worn shoulder belt can be dangerous. In a collision, a shoulder belt worn under the arm will transfer the full force of impact to the ribs and cause serious injury. A shoulder belt worn behind the neck and over the inside shoulder provides no protection. Never wear a shoulder belt under the arm or place it behind the neck and over the inside shoulder.



⚠WARNING

Wearing the Lap Belt:
A lap belt worn too high can be dangerous. In a collision, this would concentrate the impact force directly on the abdominal area, causing serious injury. Wear the lap belt snugly and as low as possible.

■ Pregnant Women

Pregnant women should wear seat belt assemblies as recommended by their doctors. The lap belt should be worn SNUGLY AND AS LOW AS POSSIBLE.

■ Child-Restraint System

Small children should be protected by a child-restraint system that meets the Federal Motor Vehicle Safety Standard (FMVSS).

It should fit the seat and the child.

NOTE

Every child-restraint system is designed for use with a lap belt or the lap-belt portion of a lap/shoulder belt.

Follow all instructions when installing a child-restraint system.

⚠WARNING

Unsecured Restraint System:
A child restraint system that is not securely fastened down can be dangerous. In a sudden stop or collision, it can become a projectile and hit someone, causing serious injury. When not in use, remove it from the vehicle or fasten it with a seat belt.

⚠WARNING

Holding a Child:
A child should never be held on the lap or in the arms of a passenger in a moving vehicle. No matter how strong a person may be, he or she cannot hold a child during an accident. The child may thus be injured by hitting parts of the vehicle or by being crushed by an unrestrained passenger.

⚠WARNING

Unattended Children:
Leaving children unattended in a vehicle can be dangerous. In hot weather, temperatures inside a parked vehicle can become hot enough to cause brain damage or even death. Never leave children or animals unattended in the vehicle.

⚠WARNING

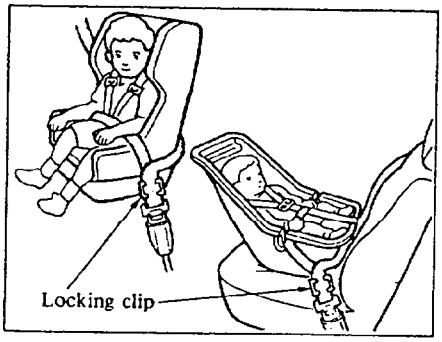
Child-Restraint Anchor:
Your Mazda has no child-restraint anchor. Therefore, using a child-restraint system that requires an anchor can be dangerous. In a collision, it would not be properly secured; thus it could move around in the cabin and seriously injure someone. Use only a system designed for use without an anchor.

■ Installing a Child-Restraint System

The installation of a child-restraint system requires a seat belt locking clip. Use a Mazda locking clip (part No. FA55 57 999), available at Authorized Mazda Dealers, or an equivalent.

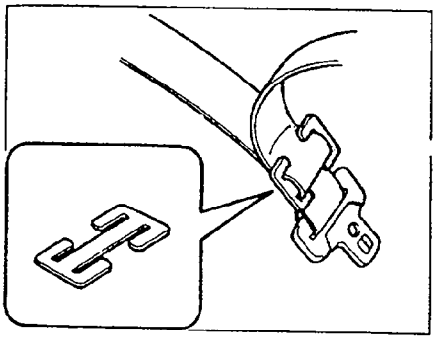
⚠WARNING

Improperly Secured System:
An improperly secured child restraint may move in a sudden stop or collision and injure the child or someone else. You can properly secure it by following the child-restraint installation instructions in this manual.



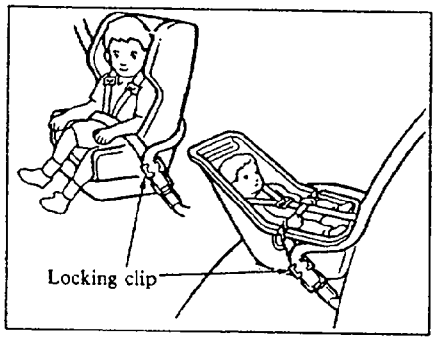
▼ **Front seat passenger position**

1. Slide the seat as far back as possible.
2. Secure the system with the lap portion of the lap/shoulder belt.
3. Tighten the lap belt by pulling on the shoulder belt.



4. Insert the lap and shoulder belt webbing through the locking clip near the seat belt tongue plate.

5. Tuck the shoulder portion of the belt between the system's seat and the back.



▼ Rear door-side positions (Cab Plus models)

1. Secure the system with the lap portion of the lap/shoulder belts.

2. Tighten the lap belt by pulling on the shoulder belt.

3. Insert the lap and shoulder belt webbings through the locking clip near the seat belt tongue plate.

4. Tuck the shoulder portion of the belt between the system's seat and the rear seat back.

■ Older Children

A child who has outgrown child-restraint systems should use seat belts, both lap and shoulder. If the shoulder belt crosses the neck or face, move the child closer to the center.

⚠CAUTION

A seat belt or child restraint can become very hot in a closed vehicle during warm weather. To avoid burning yourself or a child, inspect either before using.

APPENDIX E

INSTRUMENTATION AND CALIBRATION DATA

THIS PAGE INTENTIONALLY LEFT BLANK

General Test Information

VERSNO: V2 TGID: 1
TITLE: 1992 35 MPH NCAP FRONTAL BARRIER IMPACT
TSTOBJ: ACQUIRE NCAP DATA USING TWO INSTR. DUMMIES AND LOAD CELL BARRIER

TSTDAT: 14/MAY/92	TSTPRF: MSE	CONNO: DTNH22-90-D-32121	
TSTREF: MN5400	TSTTYP: NCA	TSTCFN: VT8	
TKSURF: CON	TKCOND: DRY	TEMP: 80	RECTYP: FMT
LINK: UMB	CLSSPD: 35.2	IMPANG: 0	OFFSET: 0.0
IMPPNT: 9999.9	MEASUR: ENG	TOTCRV: 60	

TSTCOM: NO COMMENTS

Vehicle Information

VGID: 2 VEHNO: 1 MAKE: 18 MODEL: 10 YEAR: 92 BODY: PU
VIN: JM2UF1236N0293533 ENGINE: 4CIF ENGDSP: 133.2 CI TRANSM: AF
VEHTWT: 3453 WHLBAS: 108.7 VEHLEN: 175.8 VEHWID: 65.7
VEHCG: 52.2 STRSEP: NO COLMEC: OTH MODIND: P
MODDSC: UNMODIFIED
BX
1: 175.8
2: 154.8
3: 138.5
4: 104.4
5: 104.8
6: 124.6
7: 124.8
8: 85.5
9: 85.6
10: 83.4
11: 83.1
12: 124.8
13: 124.8
14: 138.3
15: 138.0
16: 114.5
17: 15.0
18: 17.3
19: 174.3
20: 174.3
21: 17.5
VEHSPD: 35.2 CRBANG: 0 PDOF: 0 BMPENG: NA
SILENG: NA APLENG: NA
DPD
1:999.9
2: 13.1
3: 13.4
4: 13.9
5: 14.0
6: 9.5
VDI: 12FCAW9 LENCNT: 64.5 DAMDST: 0.0 CRHDST: 14.7
AX
1: 162.5
2: 150.0
3: 136.0
4: 104.0
5: 104.5
6: 123.0
7: 124.0
8: 84.5
9: 85.5
10: 81.5
11: 82.0
12: 123.0
13: 124.0
14: 135.5
15: 136.5
16: 110.0
17: 13.0
18: 16.5
19: 159.5
20: 162.0
21: 17.5
CARANG: 999 VEHOR: 999
VEHCOM: VEHICLE MODEL IS B2200.

Barrier Information

Barrier ID: 3
BARRIG: R
BARSHP: LCB
BARANG: 0
BARDIA: 999.9
BARCOM: 36 50KLB LOAD CELLS ARRANGED IN A 9 WIDE BY 4 HIGH MATRIX.

Occupant Information

Occupant Group ID: 4 VEHNO: 1
OCCLOC: 01 OCCTYP: P5 OCCAGE: 99 OCCSEX: M OCCHT: 999 OCCWT: 999
MTHCAL: P5 DUMSIZ: 50
DUMMAN: MFG: HUMANOID SYSTEMS, S/N: 814
DUMMOD: UNMODIFIED
DUMDSC: NO COMMENTS
HN: 9.5 HW: 13.8 HR: 5.4 HS: 7.1 CD: 19.3 CS: 12.4 AD: 2.3 HD: 5.3
KD: 6.4 HB:999.9 NB:999.9 CB:999.9 KB:999.9
RESTR1: 3PT RESTR2: SWE
RESTXT: NO COMMENTS
SEPOSN: CN AIRDEP: NA
CNTRH1: SR CNTRH2: SH CNTRC1: UN CNTRC2: NO CNTRL1: DP CNTRL2: NO
HIC: 535. T1: 49.700 T2: 85.700
CLIP3M: 40.9 LFEM: 540. RFEM: 296. CSI: 415. LBELT: 2485. SBELT: 1826.
OCCCOM: NONE

Occupant Information

Occupant Group ID: 4 VEHNO: 1
OCCLOC: 02 OCCTYP: P5 OCCAGE: 99 OCCSEX: M OCCHT: 999 OCCWT: 999
MTHCAL: P5 DUMSIZ: 50
DUMMAN: MFG: HUMANOID SYSTEMS, S/N: 830
DUMMOD: UNMODIFIED
DUMDSC: NO COMMENTS
HH: 11.5 HW: 13.9 HR: 6.0 HS: 7.1 CD: 20.5 CS:999.9 AD: 2.3 ND: 5.3
KD: 6.5 HB:999.9 NB:999.9 CB:999.9 KB:999.9
RESTR1: 3PT RESTR2: NON
RESTXT: NO COMMENTS
SEPOSN: CN AIRDEP: NA
CNTRH1: DP CNTRH2: OT CNTRC1: NO CNTRC2: NO CNTRL1: DP CNTRL2: NO
HIC: 424. T1: 44.200 T2: 80.200
CLIP3M: 43.1 LFEM: 222. RFEM: 360. CSI: 444. LBELT: 2024. SBELT: 1730.
OCCCOM: NONE

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 001
SENTYP: AC SENLOC: 01 SENATT: HDCG
AXIS: XL UNITS: G'S PREFIL: 1650
INSMAN: MFG: ENDEVCO, MODEL: 7264-200, S/N: AE09
CALDAT: 26/MAR/92 INSRAT: 200 CHLMAX: 37 INIVEL: 35.2
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM:

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 002
SENTYP: AC SENLOC: 01 SENATT: HDCG
AXIS: YL UNITS: G'S PREFIL: 1650
INSMAN: MFG: ENDEVCO, MODEL: 7264-200, S/N: AD61
CALDAT: 26/MAR/92 INSRAT: 200 CHLMAX: 11 INIVEL: 0.0
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM:

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 003
SENTYP: AC SENLOC: 01 SENATT: HDCG
AXIS: ZL UNITS: G'S PREFIL: 1650
INSMAN: MFG: ENDEVCO, MODEL: 7264-200, S/N: AD98
CALDAT: 26/MAR/92 INSRAT: 200 CHLMAX: 27 INIVEL: 0.0
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM:

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 004
SENTYP: AC SENLOC: 01 SENATT: CHST
AXIS: XL UNITS: G'S PREFIL: 1650
INSMAN: MFG: ENDEVCO, MODEL: 7264-200, S/N: BI14H
CALDAT: 26/MAR/92 INSRAT: 200 CHLMAX: 24 INIVEL: 35.2
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM:

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 005
SENTYP: AC SENLOC: 01 SENATT: CHST
AXIS: YL UNITS: G'S PREFIL: 1650
INSMAN: MFG: ENDEVCO, MODEL: 7264-200, S/N: BI19H
CALDAT: 26/MAR/92 INSRAT: 200 CHLMAX: 14 INIVEL: 0.0
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM:

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 006
SENTYP: AC SENLOC: 01 SENATT: CHST
AXIS: ZL UNITS: G'S PREFIL: 1650
INSMAN: MFG: ENDEVCO, MODEL: 7254-200, S/N: 8I92H
CALDAT: 26/MAR/92 INSRAT: 200 CHLMAX: 13 INIVEL: 0.0
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM:

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 007
SENTYP: LC SENLOC: 01 SENATT: FMRL
AXIS: XL UNITS: LBS PREFIL: 1650
INSMAN: MFG: GSE INC, MODEL: 2430, S/N: 559
CALDAT: 07/APR/92 INSRAT: 3000 CHLMAX: 20 INIVEL: 0.0
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM:

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 008
SENTYP: LC SENLOC: 01 SENATT: FMRR
AXIS: XL UNITS: LBS PREFIL: 1650
INSMAN: MFG: GSE INC, MODEL: 2430, S/N: 710
CALDAT: 07/APR/92 INSRAT: 3000 CHLMAX: 10 INIVEL: 0.0
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM:

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 009
SENTYP: AC SENLOC: 02 SENATT: HDCG
AXIS: XL UNITS: G'S PREFIL: 1650
INSMAN: MFG: ENDEVCO, MODEL: 7264-200, S/N: 8J27H
CALDAT: 26/MAR/92 INSRAT: 200 CHLMAX: 35 INIVEL: 35.2
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM:

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 010
SENTYP: AC SENLOC: 02 SENATT: HDCG
AXIS: YL UNITS: G'S PREFIL: 1650
INSMAN: MFG: ENDEVCO, MODEL: 7264-200, S/N: BG78H
CALDAT: 26/MAR/92 INSRAT: 200 CHLMAX: 20 INIVEL: 0.0
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM:

Instrumentation Information

Inst. Group ID: 5
SENTYP: AC
AXIS: ZL
INSMAN: MFG: ENDEVCO, MODEL: 7254-200, S/N: AR39
CALDAT: 26/MAR/92
NFP: -300
INSCOM:
VEHNO: 1
SENLOC: 02
UNITS: G'S
INSRAT: 200
NLP: 2999
CURNO: 011
SENATT: HDCG
PREFIL: 1650
CHLMAX: 45
DELT: 100
INIVEL: 0.0
DASTAT: AM

Instrumentation Information

Inst. Group ID: 5
SENTYP: AC
AXIS: XL
INSMAN: MFG: ENDEVCO, MODEL: 7264-200, S/N: AD76
CALDAT: 26/MAR/92
NFP: -300
INSCOM:
VEHNO: 1
SENLOC: 02
UNITS: G'S
INSRAT: 200
NLP: 2999
CURNO: 012
SENATT: CHST
PREFIL: 1650
CHLMAX: 27
DELT: 100
INIVEL: 35.2
DASTAT: AM

Instrumentation Information

Inst. Group ID: 5
SENTYP: AC
AXIS: YL
INSMAN: MFG: ENDEVCO, MODEL: 7264-200, S/N: AD99
CALDAT: 26/MAR/92
NFP: -300
INSCOM:
VEHNO: 1
SENLOC: 02
UNITS: G'S
INSRAT: 200
NLP: 2999
CURNO: 013
SENATT: CHST
PREFIL: 1650
CHLMAX: 26
DELT: 100
INIVEL: 0.0
DASTAT: AM

Instrumentation Information

Inst. Group ID: 5
SENTYP: AC
AXIS: ZL
INSMAN: MFG: ENDEVCO, MODEL: 7264-200, S/N: BI60H
CALDAT: 26/MAR/92
NFP: -300
INSCOM:
VEHNO: 1
SENLOC: 02
UNITS: G'S
INSRAT: 200
NLP: 2999
CURNO: 014
SENATT: CHST
PREFIL: 1650
CHLMAX: 18
DELT: 100
INIVEL: 0.0
DASTAT: AM

Instrumentation Information

Inst. Group ID: 5
SENTYP: LC
AXIS: XL
INSMAN: MFG: GSE INC, MODEL: 2430, S/N: 634
CALDAT: 07/APR/92
NFP: -300
INSCOM:
VEHNO: 1
SENLOC: 02
UNITS: LBS
INSRAT: 3000
NLP: 2999
CURNO: 015
SENATT: FMRL
PREFIL: 1650
CHLMAX: 12
DELT: 100
INIVEL: 0.0
DASTAT: AM

Instrumentation Information

Inst. Group ID: 5	VEHNO: 1	CURNO: 016	
SENTYP: LC	SENLOC: 02	SENATT: FMRR	
AXIS: XL	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: GSE INC,	MODEL: 2430,	S/N: 701	
CALDAT: 07/APR/92	INSRAT: 3000	CHLMAX: 11	INIVEL: 0.0
NFP: -300	NLP: 2999	DELT: 100	DASTAT: CF
INSCOM: WIRE INSIDE FEMUR LOADCELL DISCONNECTED DURING IMPACT.			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 1	CURNO: 017	
SENTYP: LC	SENLOC: 01	SENATT: LPBO	
AXIS: OT	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: LEBOW,	MODEL: 3371,	S/N: 333	
CALDAT: 09/APR/92	INSRAT: 3500	CHLMAX: 72	INIVEL: 0.0
NFP: -300	NLP: 2999	DELT: 100	DASTAT: AM
INSCOM:			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 1	CURNO: 018	
SENTYP: LC	SENLOC: 01	SENATT: SHBT	
AXIS: OT	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: LEBOW,	MODEL: 3371,	S/N: 327	
CALDAT: 09/APR/92	INSRAT: 3500	CHLMAX: 53	INIVEL: 0.0
NFP: -300	NLP: 2999	DELT: 100	DASTAT: AM
INSCOM:			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 1	CURNO: 019	
SENTYP: LC	SENLOC: 02	SENATT: LPBO	
AXIS: OT	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: LEBOW,	MODEL: 3371,	S/N: 330	
CALDAT: 09/APR/92	INSRAT: 3500	CHLMAX: 58	INIVEL: 0.0
NFP: -300	NLP: 2999	DELT: 100	DASTAT: AM
INSCOM:			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 1	CURNO: 020	
SENTYP: LC	SENLOC: 02	SENATT: SHBT	
AXIS: OT	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: LEBOW,	MODEL: 3371,	S/N: 308	
CALDAT: 09/APR/92	INSRAT: 3500	CHLMAX: 50	INIVEL: 0.0
NFP: -300	NLP: 2999	DELT: 100	DASTAT: AM
INSCOM:			

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 021
SENTYP: DS SENLOC: 01 SENATT: SH8T
AXIS: OT UNITS: INS PREFIL: 1650
INSMAN: MFG: ETI, MODEL: LCP12A-12, S/N: 1
CALDAT: 14/MAY/92 INSRAT: 25 CHLMAX: 0 INIVEL: 0.0
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM: SEAT BELT ELONGATION, UNITS ARE IN./IN.,(PERCENTAGE ELONGATION)

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 022
SENTYP: DS SENLOC: 02 SENATT: SH8T
AXIS: OT UNITS: INS PREFIL: 1650
INSMAN: MFG: ETI, MODEL: LCP12A-12, S/N: 2
CALDAT: 14/MAY/92 INSRAT: 25 CHLMAX: 0 INIVEL: 0.0
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM: SEAT BELT ELONGATION, UNITS ARE IN./IN. (PERCENTAGE ELONGATION)

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 023
SENTYP: DS SENLOC: 01 SENATT: SH8E
AXIS: OT UNITS: OTH PREFIL: 1650
INSMAN: MFG: CELESCO, MODEL: 20 IN., S/N: NA
CALDAT: 14/MAY/92 INSRAT: 20 CHLMAX: 14 INIVEL: 0.0
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM:

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 024
SENTYP: DS SENLOC: 02 SENATT: SH8E
AXIS: OT UNITS: OTH PREFIL: 1650
INSMAN: MFG: MSE, MODEL: 24 IN. LIN., S/N: 112
CALDAT: 14/MAY/92 INSRAT: 24 CHLMAX: 14 INIVEL: 0.0
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM: NONE

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 025
SENTYP: AC SENLOC: NA SENATT: SULF
AXIS: XG UNITS: G'S PREFIL: 1650
INSMAN: MFG: I.C. SENSOR, MODEL: 3031-200, S/N: 25-200
CALDAT: 10/APR/92 INSRAT: 200 CHLMAX: 92 INIVEL: 35.2
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM:

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 026
SENTYP: AC SENLOC: NA SENATT: SURF
AXIS: XG UNITS: G'S PREFIL: 1650
INSMAN: MFG: I.C. SENSOR, MODEL: 3031-200, S/N: 21-200
CALDAT: 10/APR/92 INSRAT: 200 CHLMAX: 93 INIVEL: 35.2
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM:

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 027
SENTYP: AC SENLOC: NA SENATT: ENGN
AXIS: XG UNITS: G'S PREFIL: 1650
INSMAN: MFG: I.C. SENSOR, MODEL: 3031-200, S/N: 23-200
CALDAT: 10/APR/92 INSRAT: 200 CHLMAX: 139 INIVEL: 35.2
NFP: -300 NLP: 2999 DELT: 100 DASTAT: CF
INSCOM: ACCLEROMETER MOUNT BROKE OFF FROM ENGINE BOTTOM DURING IMPACT.

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 028
SENTYP: AC SENLOC: NA SENATT: ENGN
AXIS: XG UNITS: G'S PREFIL: 1650
INSMAN: MFG: I.C. SENSOR, MODEL: 3031-200, S/N: 20-200
CALDAT: 10/APR/92 INSRAT: 200 CHLMAX: 171 INIVEL: 35.2
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM:

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 029
SENTYP: AC SENLOC: NA SENATT: DPLC
AXIS: XG UNITS: G'S PREFIL: 1650
INSMAN: MFG: I.C. SENSOR, MODEL: 3031-200, S/N: 22-200
CALDAT: 10/APR/92 INSRAT: 200 CHLMAX: 112 INIVEL: 35.2
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM:

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 030
SENTYP: AC SENLOC: NA SENATT: FLLR
AXIS: XG UNITS: G'S PREFIL: 1650
INSMAN: MFG: I.C. SENSOR, MODEL: 3031-200, S/N: 24-200
CALDAT: 10/APR/92 INSRAT: 200 CHLMAX: 81 INIVEL: 35.2
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM:

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 031
SENTYP: AC SENLOC: NA SENATT: FLRR
AXIS: XG UNITS: G'S PREFIL: 1650
INSMAN: MFG: I.C. SENSOR, MODEL: 3031-200, S/N: 27-200
CALDAT: 10/APR/92 INSRAT: 200 CHLMAX: 70 INIVEL: 35.2
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM:

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 032
SENTYP: AC SENLOC: NA SENATT: OTHR
AXIS: XG UNITS: G'S PREFIL: 1650
INSMAN: MFG: I.C. SENSOR, MODEL: 3031-200, S/N: 26-200
CALDAT: 10/APR/92 INSRAT: 200 CHLMAX: 120 INIVEL: 35.2
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM: SENSOR WAS LOCATED ABOVE REAR CROSSMEMBER ON CEN. LINE OF VEHICLE.

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 033
SENTYP: AC SENLOC: NA SENATT: OTHR
AXIS: XG UNITS: G'S PREFIL: 1650
INSMAN: MFG: I.C. SENSOR, MODEL: 3031-200, S/N: 29-200
CALDAT: 10/APR/92 INSRAT: 200 CHLMAX: 75 INIVEL: 35.2
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM: SENSOR WAS LOCATED IN THE REAR ON CEN. LINE OF THE VEHICLE.

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 034
SENTYP: LC SENLOC: NA SENATT: LCA1
AXIS: XG UNITS: LBS PREFIL: 1650
INSMAN: MFG: INTERFACE, MODEL: 1220-FS, S/N: 19349
CALDAT: 11/SEP/89 INSRAT: 50000 CHLMAX: 0 INIVEL: 0.0
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM:

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 035
SENTYP: LC SENLOC: NA SENATT: LCA2
AXIS: XG UNITS: LBS PREFIL: 1650
INSMAN: MFG: INTERFACE, MODEL: 1220-FS, S/N: 19324
CALDAT: 11/SEP/89 INSRAT: 50000 CHLMAX: 2 INIVEL: 0.0
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM:

Instrumentation Information

Inst. Group ID: 5
SENTYP: LC
AXIS: XG
INSMAN: MFG: INTERFACE, MODEL: 1220-FS,
CALDAT: 11/SEP/89
NFP: -300
INSCOM:

VEHNO: 1
SENLOC: NA
UNITS: LBS
INSRAT: 50000
NLP: 2999

CURNO: 036
SENATT: LCA3
PREFIL: 1650
S/N: 19283
CHLMAX: 10
DELT: 100

INIVEL: 0.0
DASTAT: AM

Instrumentation Information

Inst. Group ID: 5
SENTYP: LC
AXIS: XG
INSMAN: MFG: INTERFACE, MODEL: 1220-FS,
CALDAT: 11/SEP/89
NFP: -300
INSCOM:

VEHNO: 1
SENLOC: NA
UNITS: LBS
INSRAT: 50000
NLP: 2999

CURNO: 037
SENATT: LCA3
PREFIL: 1650
S/N: 19263
CHLMAX: 22
DELT: 100

INIVEL: 0.0
DASTAT: AM

Instrumentation Information

Inst. Group ID: 5
SENTYP: LC
AXIS: XG
INSMAN: MFG: INTERFACE, MODEL: 1220-FS,
CALDAT: 11/SEP/89
NFP: -300
INSCOM:

VEHNO: 1
SENLOC: NA
UNITS: LBS
INSRAT: 50000
NLP: 2999

CURNO: 038
SENATT: LCA5
PREFIL: 1650
S/N: 19265
CHLMAX: 22
DELT: 100

INIVEL: 0.0
DASTAT: AM

Instrumentation Information

Inst. Group ID: 5
SENTYP: LC
AXIS: XG
INSMAN: MFG: INTERFACE, MODEL: 1220-FS,
CALDAT: 11/SEP/89
NFP: -300
INSCOM:

VEHNO: 1
SENLOC: NA
UNITS: LBS
INSRAT: 50000
NLP: 2999

CURNO: 039
SENATT: LCA6
PREFIL: 1650
S/N: 19266
CHLMAX: 25
DELT: 100

INIVEL: 0.0
DASTAT: AM

Instrumentation Information

Inst. Group ID: 5
SENTYP: LC
AXIS: XG
INSMAN: MFG: INTERFACE, MODEL: 1220-FS,
CALDAT: 11/SEP/89
NFP: -300
INSCOM:

VEHNO: 1
SENLOC: NA
UNITS: LBS
INSRAT: 50000
NLP: 2999

CURNO: 040
SENATT: LCA7
PREFIL: 1650
S/N: 19317
CHLMAX: 26
DELT: 100

INIVEL: 0.0
DASTAT: AM

Instrumentation Information

Inst. Group ID: 5
SENTYP: LC
AXIS: XG
INSMAN: MFG: INTERFACE, MODEL: 1220-FS,
CALDAT: 11/SEP/89
NFP: -300
INSCOM:

VEHNO: 1
SENLOC: NA
UNITS: LBS
INSRAT: 50000
NLP: 2999

CURNO: 041
SENATT: LCA8
PREFIL: 1650
S/N: 19270
CHLMAX: 7
DELT: 100

INIVEL: 0.0
DASTAT: AM

Instrumentation Information

Inst. Group ID: 5
SENTYP: LC
AXIS: XG
INSMAN: MFG: INTERFACE, MODEL: 1220-FS,
CALDAT: 11/SEP/89
NFP: -300
INSCOM:

VEHNO: 1
SENLOC: NA
UNITS: LBS
INSRAT: 50000
NLP: 2999

CURNO: 042
SENATT: LCA9
PREFIL: 1650
S/N: 19428
CHLMAX: 0
DELT: 100

INIVEL: 0.0
DASTAT: AM

Instrumentation Information

Inst. Group ID: 5
SENTYP: LC
AXIS: XG
INSMAN: MFG: INTERFACE, MODEL: 1220-FS,
CALDAT: 11/SEP/89
NFP: -300
INSCOM:

VEHNO: 1
SENLOC: NA
UNITS:
INSRAT: 50000
NLP: 2999

CURNO: 043
SENATT: LCB1
PREFIL: 1650
S/N: 19273
CHLMAX: 0
DELT: 100

INIVEL: 0.0
DASTAT: AM

Instrumentation Information

Inst. Group ID: 5
SENTYP: LC
AXIS: XG
INSMAN: MFG: INTERFACE, MODEL: 1220-FS,
CALDAT: 11/SEP/89
NFP: -300
INSCOM:

VEHNO: 1
SENLOC: NA
UNITS: LBS
INSRAT: 50000
NLP: 2999

CURNO: 044
SENATT: LCB1
PREFIL: 1650
S/N: 19276
CHLMAX: 7
DELT: 100

INIVEL: 0.0
DASTAT: AM

Instrumentation Information

Inst. Group ID: 5
SENTYP: LC
AXIS: XG
INSMAN: MFG: INTERFACE, MODEL: 1220-FS,
CALDAT: 11/SEP/89
NFP: -300
INSCOM:

VEHNO: 1
SENLOC: NA
UNITS: LBS
INSRAT: 50000
NLP: 2999

CURNO: 045
SENATT: LCB3
PREFIL: 1650
S/N: 19258
CHLMAX: 43
DELT: 100

INIVEL: 0.0
DASTAT: AM

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 046
SENTYP: LC SENLOC: NA SENATT: LC84
AXIS: XG UNITS: LBS PREFIL: 1650
INSMAN: MFG: INTERFACE, MODEL: 1220-FS, S/N: 19278
CALDAT: 11/SEP/89 INSRAT: 50000 CHLMAX: 40 INIVEL: 0.0
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM:

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 047
SENTYP: LC SENLOC: NA SENATT: LC85
AXIS: XG UNITS: LBS PREFIL: 1650
INSMAN: MFG: INTERFACE, MODEL: 1220-FS, S/N: 19279
CALDAT: 11/SEP/89 INSRAT: 50000 CHLMAX: 25 INIVEL: 0.0
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM:

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 048
SENTYP: LC SENLOC: NA SENATT: LC86
AXIS: XG UNITS: LBS PREFIL: 1650
INSMAN: MFG: INTERFACE, MODEL: 1220-FS, S/N: 19282
CALDAT: 11/SEP/89 INSRAT: 50000 CHLMAX: 38 INIVEL: 0.0
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM:

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 049
SENTYP: LC SENLOC: NA SENATT: LC87
AXIS: XG UNITS: LBS PREFIL: 1650
INSMAN: MFG: INTERFACE, MODEL: 1220-FS, S/N: 19262
CALDAT: 11/SEP/89 INSRAT: 50000 CHLMAX: 34 INIVEL: 0.0
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM:

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 050
SENTYP: LC SENLOC: NA SENATT: LC88
AXIS: XG UNITS: LBS PREFIL: 1650
INSMAN: MFG: INTERFACE, MODEL: 1220-FS, S/N: 19285
CALDAT: 11/SEP/89 INSRAT: 50000 CHLMAX: 8 INIVEL: 0.0
NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
INSCOM:

Instrumentation Information

Inst. Group ID: 5
SENTYP: LC
AXIS: XG
INSMAN: MFG: INTERFACE, MODEL: 1220-FS,
CALDAT: 11/SEP/89
NFP: -300
INSCOM:

VEHNO: 1
SENLOC: NA
UNITS: LBS
INSRAT: 50000
NLP: 2999

CURNO: 051
SENATT: LC89
PREFIL: 1650
S/N: 19286
CHLMAX: 0
DELT: 100

INIVEL: 0.0
DASTAT: AM

Instrumentation Information

Inst. Group ID: 5
SENTYP: LC
AXIS: XG
INSMAN: MFG: INTERFACE, MODEL: 1220-FS,
CALDAT: 11/SEP/89
NFP: -300
INSCOM:

VEHNO: 1
SENLOC: NA
UNITS: LBS
INSRAT: 50000
NLP: 2999

CURNO: 052
SENATT: LCC1
PREFIL: 1650
S/N: 19287
CHLMAX: 0
DELT: 100

INIVEL: 0.0
DASTAT: AM

Instrumentation Information

Inst. Group ID: 5
SENTYP: LC
AXIS: XG
INSMAN: MFG: INTERFACE, MODEL: 1220-FS,
CALDAT: 11/SEP/89
NFP: -300
INSCOM:

VEHNO: 1
SENLOC: NA
UNITS: LBS
INSRAT: 50000
NLP: 2999

CURNO: 053
SENATT: LCC2
PREFIL: 1650
S/N: 19288
CHLMAX: 8
DELT: 100

INIVEL: 0.0
DASTAT: AM

Instrumentation Information

Inst. Group ID: 5
SENTYP: LC
AXIS: XG
INSMAN: MFG: INTERFACE, MODEL: 1220-FS,
CALDAT: 11/SEP/89
NFP: -300
INSCOM:

VEHNO: 1
SENLOC: NA
UNITS: LBS
INSRAT: 50000
NLP: 2999

CURNO: 054
SENATT: LCC3
PREFIL: 1650
S/N: 19289
CHLMAX: 31
DELT: 100

INIVEL: 0.0
DASTAT: AM

Instrumentation Information

Inst. Group ID: 5
SENTYP: LC
AXIS: XG
INSMAN: MFG: INTERFACE, MODEL: 1220-FS,
CALDAT: 11/SEP/89
NFP: -300
INSCOM:

VEHNO: 1
SENLOC: NA
UNITS: LBS
INSRAT: 50000
NLP: 2999

CURNO: 055
SENATT: LCC4
PREFIL: 1650
S/N: 19291
CHLMAX: 13
DELT: 100

INIVEL: 0.0
DASTAT: AM

Instrumentation Information

Inst. Group ID: 5	VEHNO: 1	CURNO: 056	
SENTYP: LC	SENLOC: NA	SENATT: LCC5	
AXIS: XG	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: INTERFACE,	MODEL: 1220-FS,	S/N: 19324	
CALDAT: 11/SEP/89	INSRAT: 50000	CHLMAX: 92	INIVEL: 0.0
NFP: -300	NLP: 2999	DELT: 100	DASTAT: AM
INSCOM:			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 1	CURNO: 057	
SENTYP: LC	SENLOC: NA	SENATT: LCC6	
AXIS: XG	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: INTERFACE,	MODEL: 1220-FS,	S/N: 19313	
CALDAT: 11/SEP/89	INSRAT: 50000	CHLMAX: 15	INIVEL: 0.0
NFP: -300	NLP: 2999	DELT: 100	DASTAT: AM
INSCOM:			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 1	CURNO: 058	
SENTYP: LC	SENLOC: NA	SENATT: LCC7	
AXIS: XG	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: INTERFACE,	MODEL: 1220-FS,	S/N: 19314	
CALDAT: 11/SEP/89	INSRAT: 50000	CHLMAX: 27	INIVEL: 0.0
NFP: -300	NLP: 2999	DELT: 100	DASTAT: AM
INSCOM:			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 1	CURNO: 059	
SENTYP: LC	SENLOC: NA	SENATT: LCC8	
AXIS: XG	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: INTERFACE,	MODEL: 1220-FS,	S/N: 19315	
CALDAT: 11/SEP/89	INSRAT: 50000	CHLMAX: 10	INIVEL: 0.0
NFP: -300	NLP: 2999	DELT: 100	DASTAT: AM
INSCOM:			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 1	CURNO: 060	
SENTYP: LC	SENLOC: NA	SENATT: LCC9	
AXIS: XG	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: INTERFACE,	MODEL: 1220-FS,	S/N: 19316	
CALDAT: 11/SEP/89	INSRAT: 50000	CHLMAX: 0	INIVEL: 0.0
NFP: -300	NLP: 2999	DELT: 100	DASTAT: AM
INSCOM:			

CALIBRATION DATA FOR INSTRUMENTATION USED IN DUMMY CALIBRATION

DUMMY INSTRUMENTS	MFR	MODEL	S/N	CAL DATE	CAL DUE DATE
CHEST DEFLECTION POT	BECKMAN	5311	N/A	EACH USE	EACH USE
CHEST IMPACTOR ACCEL	ENTRAN	EGV-1	14N3N-V13-1	03/17/92	09/17/92
NECK PENDULUM ACCEL	"	"	"	"	"
NECK ROTATION NO. 1	BECKMAN	5311	N/A	EACH USE	EACH USE
NECK ROTATION NO. 2	BECKMAN	5311	N/A	EACH USE	EACH USE
NECK EXTENSION POT	BOURNS	80294-20518-1840202	1684-067	EACH USE	EACH USE
ABDOMINAL COMPRESSION LOAD	LEBOW/EATON	3167	1573	03/17/92	09/17/92
LUMBAR FLEXION LOAD	"	"	"	"	"
LUMBAR ROTATION	BOURNS	3590S-2-102	N/A	EACH USE	EACH USE
ABDOMINAL DISPLACEMENT	CELESCO	PT-101-15B	0786551	EACH USE	EACH USE
TIMER	MSE	MSE TIM	#1	02/18/92	08/18/92
TIME TRAP	MSE	1"	#1	08/18/92	08/18/92