

DOT 145.4

NEW CAR ASSESSMENT PROGRAM (NCAP) FRONTAL BARRIER IMPACT TEST

HONDA MOTOR COMPANY
1990 HONDA PRELUDE
2 DOOR COUPE (ACP)
NHTSA NO. ML5301

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



MARCH 29, 1990

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

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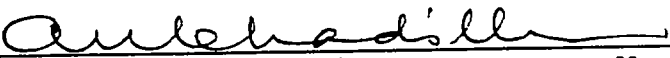
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MAY 24 1990

Date of Report Acceptance

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15. Supplementary Notes																		
16. Abstract A 35 mph frontal barrier impact test using a load cell barrier was conducted on a 1990 Honda Prelude, 2 Door Coupe at the Mobility System and Equipment Company (MSE) crash test facility in Mira Loma, CA, on 16 March 1990. The barrier impact velocity was 34.9 mph, and the ambient temperature at the barrier face at the time of impact was 81 deg. F. The post-test vehicle crush maximum was 22.8 in. A summary of occupant injury measure data from the test appears below:																		
<table border="1"> <thead> <tr> <th>Injury Criteria Threshold Value</th> <th>Driver Dummy</th> <th>Passenger Dummy</th> </tr> </thead> <tbody> <tr> <td>Head Injury Criterion HIC = 1000</td> <td>1279</td> <td>854</td> </tr> <tr> <td>Chest Resultant Peak 60 Gs (3 ms clip)</td> <td>58.9</td> <td>48.0</td> </tr> <tr> <td>Femur Load Left</td> <td>770</td> <td>681</td> </tr> <tr> <td>2250 Pounds Right</td> <td>674</td> <td>733</td> </tr> </tbody> </table>				Injury Criteria Threshold Value	Driver Dummy	Passenger Dummy	Head Injury Criterion HIC = 1000	1279	854	Chest Resultant Peak 60 Gs (3 ms clip)	58.9	48.0	Femur Load Left	770	681	2250 Pounds Right	674	733
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TYPE OF RESTRAINT SYSTEM: A 3-point passive belt system with two retractors mounted in the door at each front outboard seating position.																		
17. Key Words 35 MPH FRONTAL BARRIER IMPACT TEST NEW CAR ASSESSMENT PROGRAM (NCAP) 1990 HONDA PRELUDE, 2 DOOR COUPE (ACP)		18. Distribution Statement COPIES OF THIS REPORT ARE AVAILABLE FROM: Technical Reference Division Nat'l Highway Traffic Safety Admin. Room 5108, Nassif Building 400 7th St. S.W., Wash., DC 20590																
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TABLE OF CONTENTS

<u>SECTIONS</u>	<u>PAGES</u>
1 Purpose and Test Procedure	1
2 Summary of Frontal Barrier Impact Test	3
2.1 General Comments	3
3 Occupant and Vehicle Information	9
 <u>DATA TABLES</u>	
1 Test Vehicle Data	5
2 Post Crash Test Data	7
3 FMVSS 208 Occupant Crash Protection Data	10
4 Test Dummy Positioning Data	11
5 Seat Belt Positioning Data	13
6 Seat Belt Performance Assessment Test Data	14
7 Driver Dummy Positioning Data	15
8 Camera Location Data	16
9 Vehicle Accelerometer Locations and Data Summary	18
10 Test Vehicle Measurements	19
11 Pretest Vehicle Target Locations	21
12 Load Cell Locations on Fixed Barrier	22
 <u>APPENDICES</u>	
A Photographs	23
B-1 Vehicle and Dummy Response Data	25
B-2 Load Cell Barrier Data	27
C Dummy Configuration and Performance Verification Data	29
D Vehicle Owner's Manual Occupant Restraint System Instructions	31

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SECTION 1

PURPOSE AND TEST PROCEDURE

This 35 mph frontal barrier impact test is a part of the FY 89 Vehicle Barrier Impact and Testing Program sponsored by the National Highway Traffic Safety Administration (NHTSA) under Contract No. DTNH22-87-D-02009. 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 September 1986.

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SECTION 2

SUMMARY OF FRONTAL BARRIER IMPACT TESTS

A load cell barrier consisting of 36 cell units was impacted by a 1990 Honda Prelude 2 Door Coupe, NHTSA No. ML5301, at a velocity of 34.9 mph. The frontal impact test was conducted by Mobility Systems and Equipment Company (MSE) on 16 March 1990. The general test and vehicle description information is 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-five (65) channels of crash parameters were recorded using two (2) FM tape recorders, three (3) computers and associated data acquisition system. Time history plots of all recorded channels are presented in Appendix B.

2.1 GENERAL COMMENTS

The 1990 Honda Prelude 2 Door Coupe, was equipped with a 2.0 Liter, 4 cylinder engine and 5 speed transmission. The test weight of the 1990 Honda Prelude 2 Door Coupe, with two (2) 50th percentile male dummies, instrumentation, and cameras was 3,062 pounds.

The 1990 Honda Prelude 2 Door Coupe was involved in a frontal load cell barrier crash at a velocity of 34.9 mph.

The maximum static crush for the vehicle of 22.8 inches occurred at the centerline of the front bumper. The windshield was cracked, but no separation was observed. Both the driver's and passenger's front doors were opened without the aid of tools.

The driver ATD's head hit the steering column hub.

The driver's left and right knees hit the dash panel and steering column. The driver ATD had a HIC value of 1,279, the maximum chest acceleration (resultant clipped) was 58.9 g's and the maximum femur loads were 770 (left) and 674 (right) pounds.

The passenger ATD's head did not hit the knee assembly or dash panel. Both of his knees hit the dash panel. The right knee hit the glovebox door. The HIC value for the passenger ATD was 854, the maximum chest acceleration (resultant clipped) was 48.0 g's, and the maximum femur loads were 681 (left) and 733 (right) pounds.

Seat belt spool out, measured by high-speed film analysis, was 3.2 inches for the driver and 2.9 inches for the passenger belts.

The inboard and outboard track latching devices of the front seats remained latched.

There were no apparent visual indications of any standard solvent leaks.

Each of the test vehicle's front outboard seating position was equipped with a passive 3-point belt system with two retractors mounted in each door.

Data Table No. 1 Test Vehicle Data

VEHICLE YEAR/MAKE/MODEL/BODY STYLE: 1990/HONDA/PRELUDE/2 DOOR COUPE

VEHICLE NHTSA NO.: M L 5 3 0 1 VIN: J H M B A 4 2 1 1 L C 0 0 3 1 7 1

VEHICLE BODY COLOR: BLUE; MONTH & YEAR OF MANUFACTURE: 12/89

ENGINE: 4 Cylinders; C.I.D; 2.0 Liters; CC
X Gas; Diesel; Turbocharged
PLACEMENT-- Longitudinal; X Transverse (Lateral)

TRANSMISSION: 5 Speed; Manual; X Automatic; Overdrive
FINAL DRIVE: X Front Wheel Drive Rear Wheel Drive;
 Four Wheel Drive

DATE VEHICLE AVAILABLE FOR 35 MPH CRASH TESTING: 02/27/90

ODOMETER READING: 56 miles; OPTIONS: X A/C; P/S; P/Wdo.;
X Tilt Whl.; X Cruise Control

DATA RECORD FROM VEHICLE'S TIRE PLACARD:

=====

Tire Pressure (at capacity): 28 psi Front; 26 psi Rear

Recommended Tire Size: 185/70 HR13

Tires on Vehicle: 185/70 HR13; Manufacturer: BRIDGESTONE

Number of Occupants: 2 Front; 2 Rear; 3rd Seat; 4 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 = 700 lbs. (A)

No. of Occupants x 150 lbs.- - - = 600 lbs. (B)

Cargo Capacity (A - B) - - - - - = 100 lbs.

* gvw - Delivered Weight.

TEST VEHICLE DELIVERED WEIGHT WITH MAXIMUM FLUIDS:

=====

Right Front = 786 lbs.

Left Front = 803 lbs. TOTAL FRONT = 1589 lbs. (60.0% of TOTAL)

Right Rear = 531 lbs.

Left Rear = 530 lbs.

TOTAL WEIGHT = 2650 lbs. TOTAL REAR = 1061 lbs. (40.0% 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 =	<u>2650</u>	lbs.
Maximum Cargo Carrying Capacity of Test Vehicle*- - - -	<u>100</u>	lbs.
Weight of Two P.572 Dummies (2 x 164 lbs.)- - - - -	<u>328</u>	lbs.
TEST VEHICLE TARGET WEIGHT	<u>3078</u>	lbs.

*300 lbs. for light trucks and MPVs

ACTUAL WEIGHT OF TEST VEHICLE WITH 2 DUMMIES AND CARGO:

Right Front =	<u>861</u>	lbs.	TOTAL FRONT =	<u>1722</u>	lbs. (56.2% of TOTAL)
Left Front =	<u>861</u>	lbs.			
Right Rear =	<u>689</u>	lbs.	TOTAL REAR =	<u>1340</u>	lbs. (43.8% of TOTAL)
Left Rear =	<u>651</u>	lbs.			

TOTAL WEIGHT= 3062 lbs. (which includes 0 lbs. of cargo ballast weight placed in the cargo/luggage area)

VEHICLE COMPONENTS REMOVED TO MEET TARGET WEIGHT:

- | | |
|-------------------------------------|---|
| 1. <u>X</u> Spare Tire | 3. <u>X</u> Tail lamp hsg. <u> </u> Rt.Side <u>X</u> Left Side |
| 2. <u> </u> Rear Bumper Assembly | 4. <u>Rear Seat Assembly</u> |

TEST VEHICLE ATTITUDE:

As Delivered----Right Front = 26.6 inches
Left Front = 26.4 inches
Right Rear = 26.5 inches
Left Rear = 26.5 inches

Ready For Test--Right Front = 25.8 inches
Left Front = 26.1 inches
Right Rear = 24.6 inches
Left Rear = 24.6 inches

Test Vehicle Wheelbase: 101.0 inches; C.G.= 44.2 inches rearward of front wheel centerline

Total Vehicle Length:

Right Side =	<u>166.3</u>	inches
Left Side =	<u>166.7</u>	inches
Centerline =	<u>177.3</u>	inches

Data Table No. 2 Post Crash Test Data

DATA OF 35 MPH FRONTAL BARRIER IMPACT RATING TEST: 03/16/90

TIME OF TEST: 3:50 PM: AMBIENT TEMPERATURE AT BARRIER FACE: 81 °F

VEHICLE'S OCCUPANT COMPARTMENT TEMPERATURE: 72 °F

(spec. Range = 66 to 78 F.)

VEHICLE WINDSHIELD MOLDING TEMPERATURE: 72 °F.

VEHICLE IMPACT VELOCITY: Primary Speed Trap = 34.86 mph
Secondary Speed Trap 34.88 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 = 166.3"; C/Line = 177.3"; Left Side = 166.7"
Vehicle Post-test Length-Right Side = 146.8"; C/Line = 154.5"; Left Side = 148.3"
Vehicle Static Crush --- Right Side = 19.5"; C/Line = 22.8"; Left Side = 18.4"

VEHICLE REBOUND FROM BARRIER FACE:

Vehicle Right Side = 21.8 inches

Vehicle Centerline = 21.4 inches

Vehicle Left Side = 23.1 inches

VEHICLE DUMMY CONTACT POINTS:

	DRIVER (I.D. No. 465)			PASSENGER (I.D. No. 466)		
	Strg.Col. Hub	Strg. Wheel	Instru. Panel	Instru. Panel	Knee Assy.	Glove Box Door
HEAD - - - - -	YES	NO	NO	NO	NO	NO
RIGHT KNEE - -	////////	////	YES	YES	////////	YES
LEFT KNEE - -	////////	////	YES	YES	////////	NO

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

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 - - - - -	<u>0.0</u> " forward;	<u>0.0</u> " forward
Seat Adjuster Failure- - - -	<u>None</u> ;	<u>None</u>
Details Of Any Failure: N/A		

OTHER NOTABLE IMPACT EFFECTS:

- o No solvent leaks.
- o No windshield separation.

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: 1990/HONDA/PRELUDE/2 DOOR COUPE

VEH. NHTSA NO.: ML5301; TEST DATE: 03/16/90

MAXIMUM ACCELERATION VALUES:

	DRIVER DUMMY # 465	PASSENGER DUMMY # 466
Head Channel X HEAD X	-142.11	-39.27
Head Channel Y Y	- 30.17	15.80
Head Channel Z Z	70.09	72.05
HEAD RESULTANT R	157.31	77.53
Chest Channel X CHEST X	- 60.29	-50.90
Chest Channel Y Y	- 8.90	10.60
Chest Channel Z Z	20.06	-17.16
CHEST RESULTANT R	58.92	48.01
TIME INTERVAL (seconds)	0.0660 to 0.0690	0.0825 to 0.0855

HEAD INJURY CRITERIA (HIC) VALUES:

HIC HIC	1279.17	853.48
t_1 (seconds)	0.0701	0.0728
t_2 (seconds)	0.0931	0.1088
Avg. Accel. t_1 to t_2	78.94	56.20

MAXIMUM FEMUR FORCES:

Right Side (lbs.) FR	673.83	732.70
Left Side (lbs.) FL	770.49	681.28

MAXIMUM SEAT BELT FORCES:

Lap Belt LAP	No Data	1127.1
Shoulder Belt SHLDR	2296.5	2300.6

MAXIMUM SEAT BELT WEBBING SPOOL-OUT:

Lap/Shoulder Belt Combination	4.9	3.8
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Data Table No. 4 Test Dummy Positioning Data

PRE-IMPACT DATA:

Make/Model: HONDA/PRELUDE

Body Style: 2 DOOR COUPE

Model Year: 1990

NHTSA No.: ML5301

Color: BLUE

DATA FROM CERTIFICATION LABEL:

Vehicle Manufacturer: HONDA MOTOR CO.

Date of Manufacture: 12/89 ; VIN: JHMB4211LC003171

GVWR: 3,375 lb; GAWR: Front = 1,850 lb; Rear = 1,610 lb

POST-IMPACT DATA:

Date of Test: 03/16/90 Time: 3:50 PM Temperature: 81 °F

Required Impact Velocity Range: 34.5 to 35.5 mph

Impact Velocity: Primary = 34.86 mph Secondary = 34.88 mph

Seat Type: Bucket Adjuster Type: Lever

Bucket Seat Back Type: Adjustable headrest

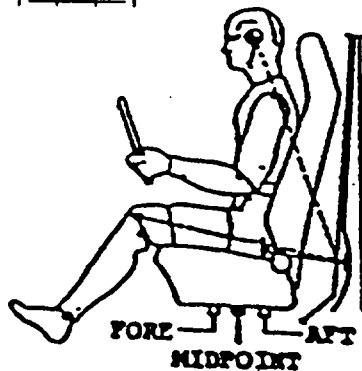
TECHNICIANS: Enrique Marin

DRIVER DUMMY # 4|6|5|

HEAD 18.0 "
TARGET 65.0

KNEE 29.7 "
JOINT -15.0

APPROX- 16.4 "
IMATE -35.0
"H"
POINT



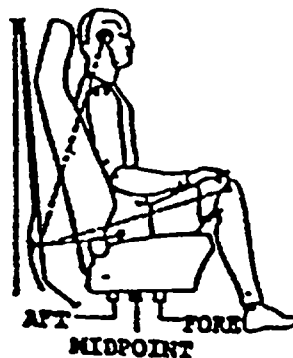
FORE MIDPOINT AFT

PASSENGER DUMMY # 4|6|6|

17.4 " HEAD
65.0 TARGET

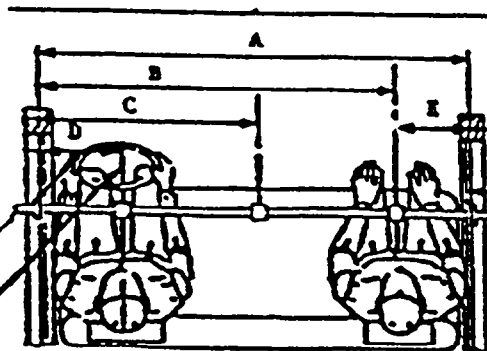
30.7 " KNEE
-10.0 JOINT

16.5 " APPROX-
-30.0 MATE
"H"
POINT



AFT MIDPOINT FORE

A = 57.6 "
B = 41.9 "
C = 28.8 "
D = 16.2 "
E = 15.7 "



LATERAL BAR

ADJUSTABLE
POINTER

LEFT
FRONT
DOOR

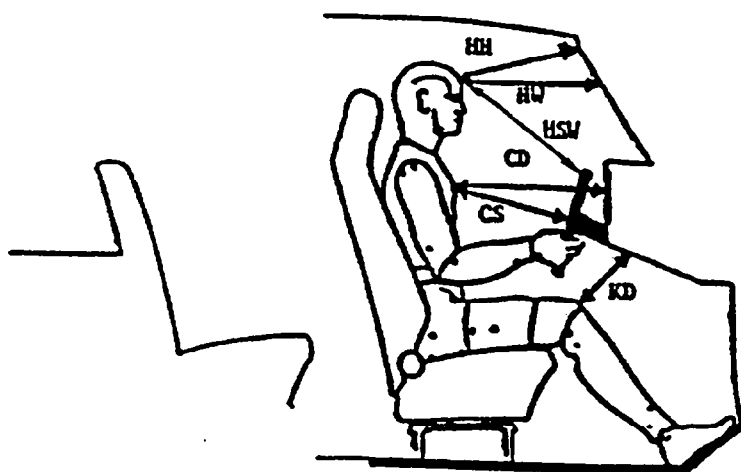
RIGHT
FRONT
DOOR

DOOR
GLASS
HEIGHT

DRIVER DUMMY # 4|6|5|

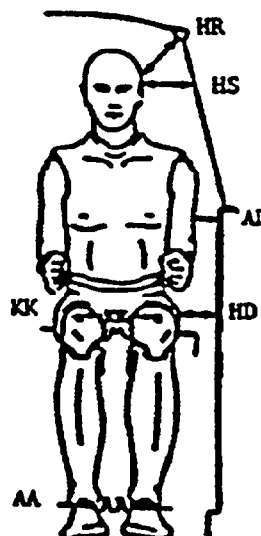
PASSENGER DUMMY # 4|6|6|

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

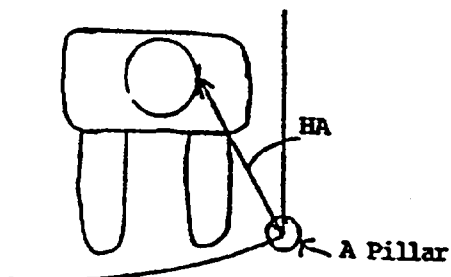


	Driver	Passenger
HH	16.7	17.0
HW	22.0	23.0
CD	26.4	25.9
CS	17.1	N/A
KD L-	8.2	L- 7.4
KD R-	8.6	R- 7.4
Torso Angle	25.0	Torso Angle 25.0
Seat Back Angle	26.0	Seat Back Angle 26.0
HSW	23.0	N/A

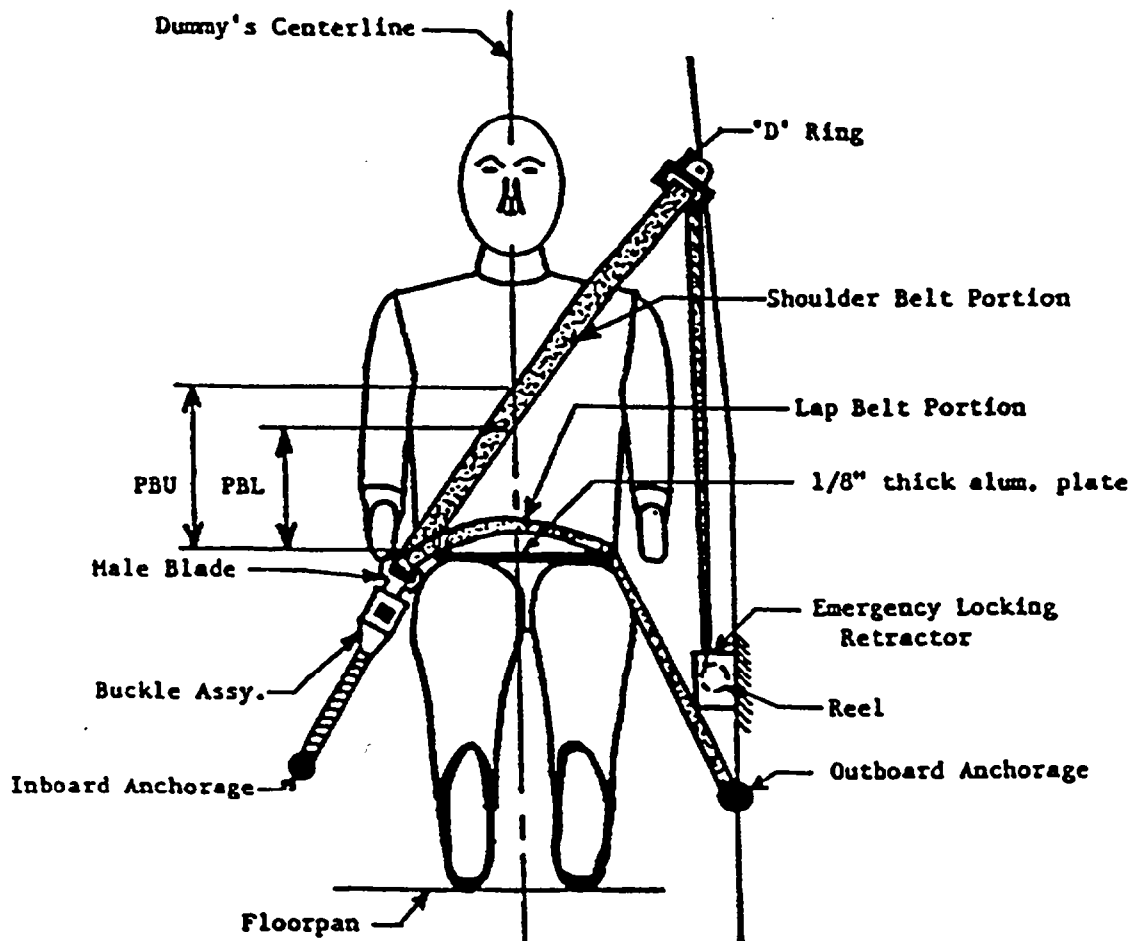
HSW = Head to Steering Wheel (in.)
 HA = Head Target to A Pillar (in.)
 HH = Head to Windshield Header (in.)
 HW = Head to Windshield (in.)
 CD = Chest to Dash (in.)
 CS = Chest to Steering Wheel (in.)
 HR = Head to Side Roof
 HS = Head to Side Window (in.)
 AD = Arm to Door (in.)
 HD = Hip to Door (in.)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



REMARKS



	Driver	Passenger
HR	6.4	6.5
HS	8.8	9.2
AD	4.1	4.2
HD	4.9	4.9
KK	14.5	11.8
AA	14.0	11.0
HA	22.8	23.0



FRONT VIEW OF DRIVER DUMMY

	DRIVER DUMMY (inches)	PASSENGER DUMMY (inches)
<u>PBU</u> -- Top surface of alum. plate to belt upper edge	12.7	13.5
<u>PBL</u> -- Top surface of alum. plate to belt lower edge	9.7	10.7
<u>LAP BELT TENSION, POUNDS</u>	0	0
<u>SHOULDER BELT TENSION, POUNDS</u>	0	0

Data Table 6 Seat Belt Performance Assessment Test Data

BELT LENGTH DATA:

Total belt length from retractor reel to bolt hole anchor point for continuous webbing systems _____

Retractor reel to 'D' ring as measured on Part 572 _____

Shoulder belt length as measured on Part 572 dummy _____

Lap belt length as measured on Part 572 dummy _____

Remainder of belt webbing left on retractor reel _____

DRIVER SIDE		PASSENGER SIDE	
PRE-TEST	POST-TEST	PRE-TEST	POST-TEST
SH-86.7 LP-77.0	SH-86.7 LP-77.0	SH-87.6 LP-77.5	SH-87.6 LP-77.5
8.7	8.0	8.6	8.4
34.0	35.0	35.0	37.5
27.0	28.5	27.0	28.0
SH-44.0 LP-50.0	SH-43.7 LP-48.5	SH-44.0 LP-50.5	SH-41.7 LP-49.5

BELT SPOOL-OFF DATA:

As determined by film analysis _____

As determined electronically _____

As determined mechanically _____

3.2 in	2.9 in
NOT MEASURED	NOT MEASURED
2.2 in	1.8 in

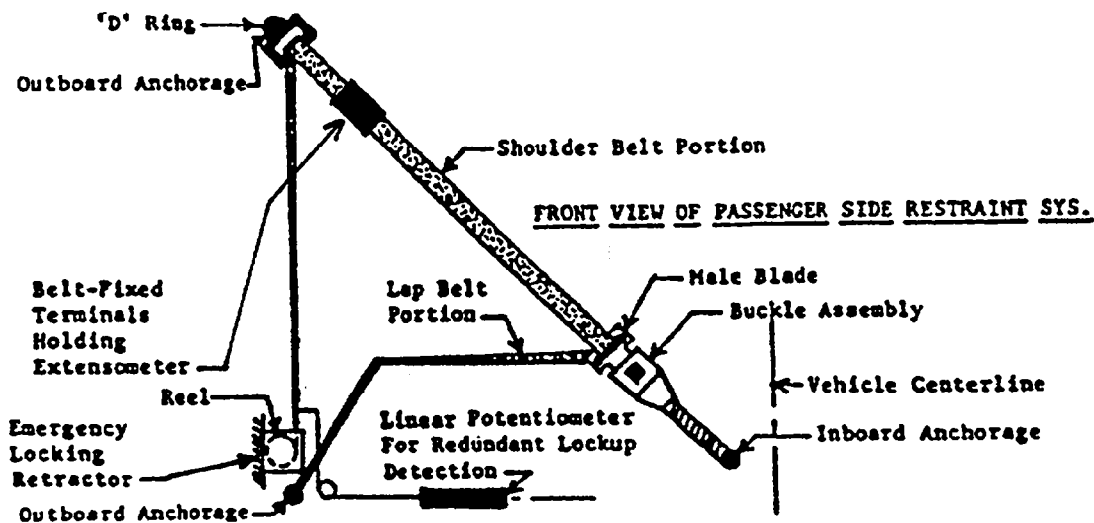
BELT STRAIN DATA:

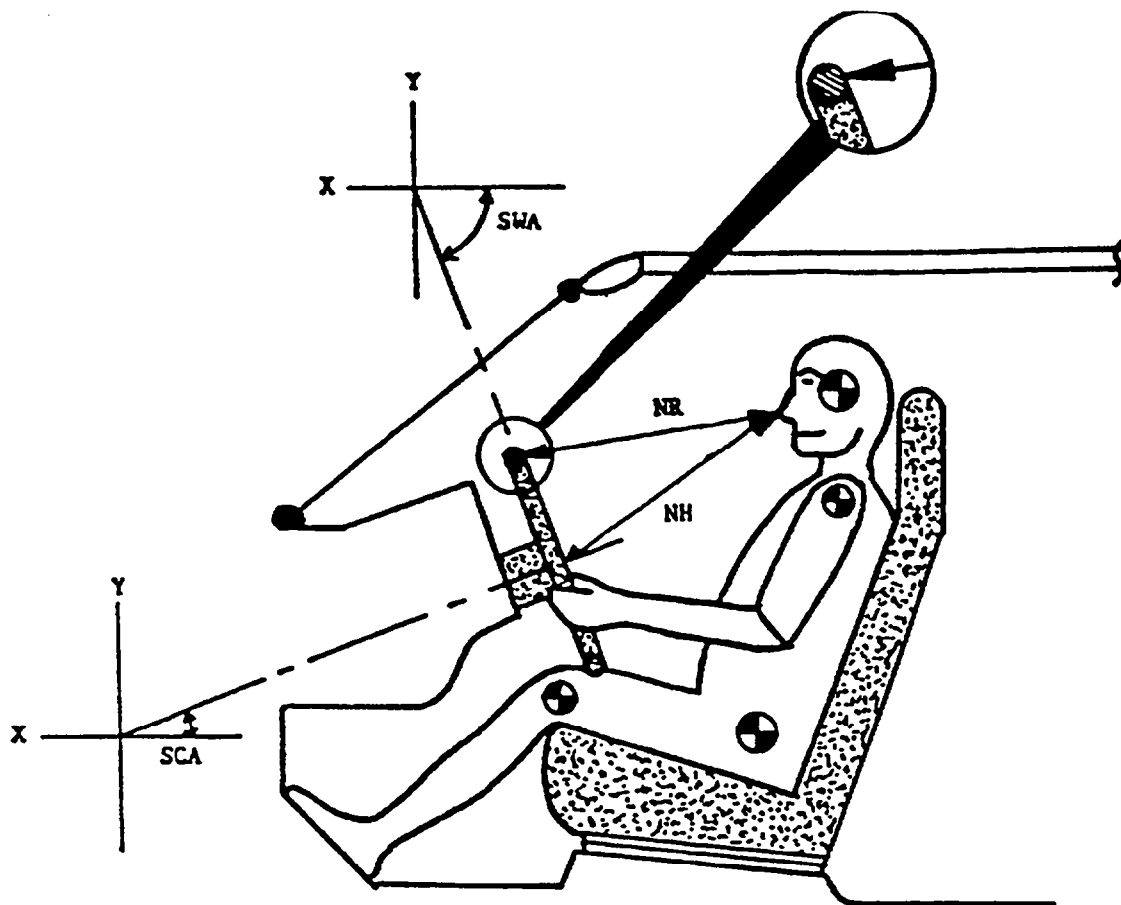
Measured between male blade and 'D' ring _____

*S = Shoulder

L = Lap

4.9 Percent	3.8 Percent
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LEFT SIDE VIEW

MEASUREMENTS	
<u>NR</u> --Distance from tip of dummy's nose to Top Rear surface of steering wheel rim.	20.8 Inches
<u>NH</u> --Distance from tip of dummy's nose to center of steering column hub.	20.6 Inches
<u>SCA</u> --Angle of steering column relative to the horizontal X axis.	26.0 Degrees
<u>SWA</u> --Angle of steering wheel relative to the horizontal X axis.	70.0 Degrees

Data Table 8 Camera Location Data

VEH. NHTSA NO.: ML5301; TEST DATE: 03/16/90; TIME: 3:50 PMVEH. YEAR/MAKE/MODEL/BODY STYLE: 1990/HONDA/PRELUDE/2 DOOR COUPE

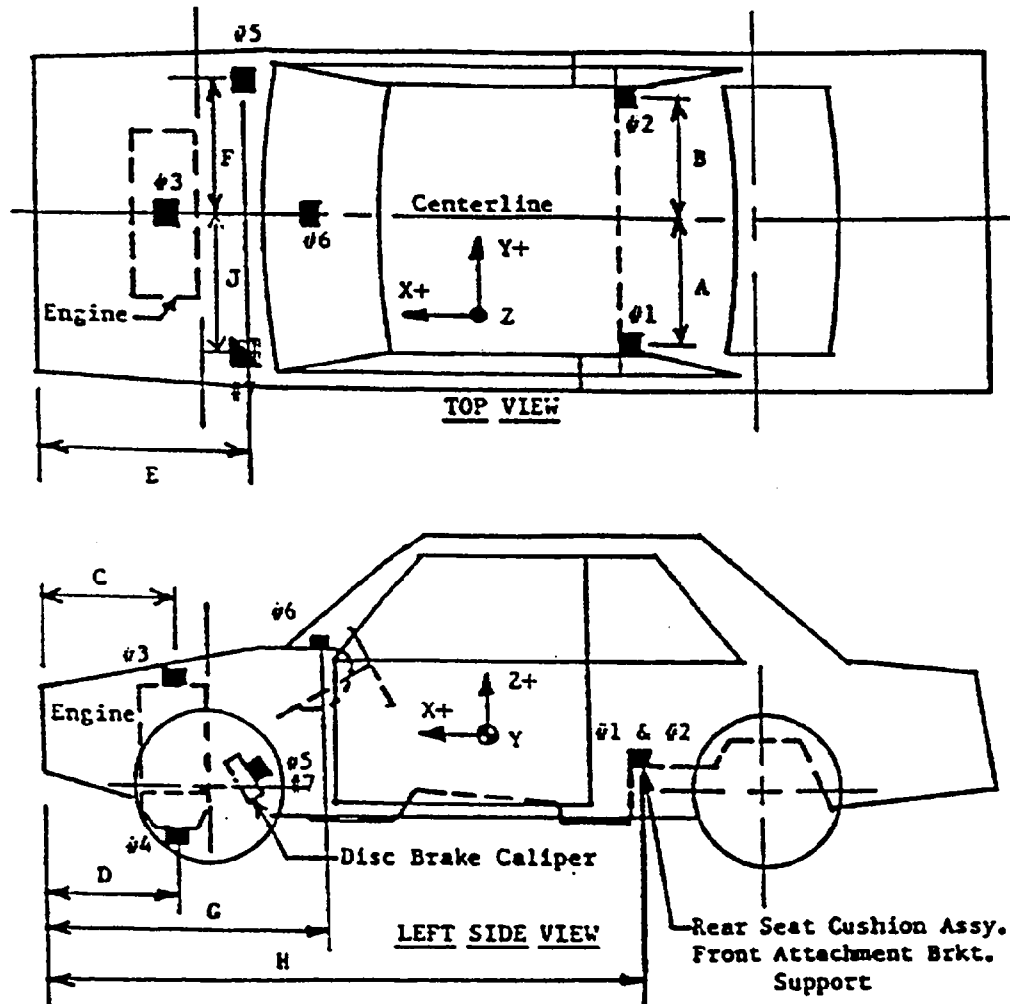
CAMERA NO.	VIEW	CAMERA POS. (in.)			ANGLE (deg)	FILM PLANE TO HEAD TARGET	LENS (mm)	SPEED (fps)
		X	Y	Z				
1	Left Side View	-676	268	57	3	690	50	24
2	Right Side View	348	81	52.5	1	333	16	550
3	Left Side View	-293	75	35	0	278	16	500
4	Overhead	-1	-4	124	58	111	16	500
5	Pit-Engine	+2	42	-54	40	**	16	550
6	Pit-Fuel Tank	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.
7	Front-Passenger	13	-14	104	50	104	50	600
8	Front-Driver	-12	-14	104	42	104	50	600
9	Left Side-Driver	-110	105	77	23	107	50	600
10	Right Side-Passenger	106	103	75.75	21	103	50	600
11	Right Side-'A' Post	173	16	52.5	5	167	50	600
12	Left Side-'A' Post	-295	-32	50.5	12	298	50	750
13	Onboard-Left Side	-22.5	118	21	-24	54	16	N/A
14	Onboard-Right Side	22.5	118	21	-23	54	16	N/A
15	Left Side-Steering Col.	-362	92	128	14	358	50	600
16	Left Side-Steering Col.	-366	96	111	11	359	28	600
17	Right Side Passenger	149	67	51.6	8	134	50	650

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

**Pit camera uses refractor lens for imagery.

[illegible]

Data Table No. 9 Vehicle Accelerometer Location and Data Summary



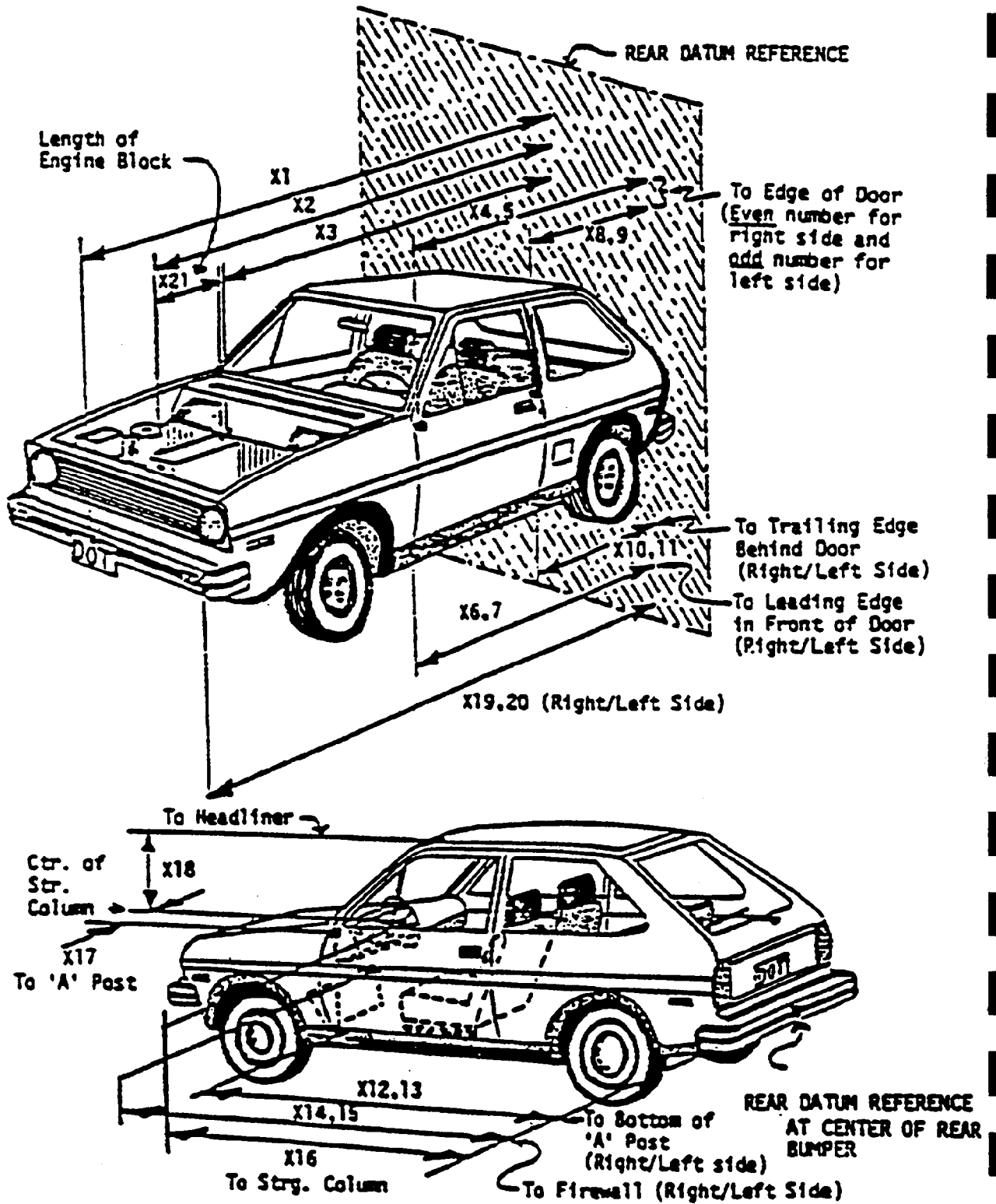
Dimension	Length (in.)
A	22.2
B	22.2
C	33.5
D	29.4
E	31.0
F	25.5
G	65.1
H	109.4
J	25.5

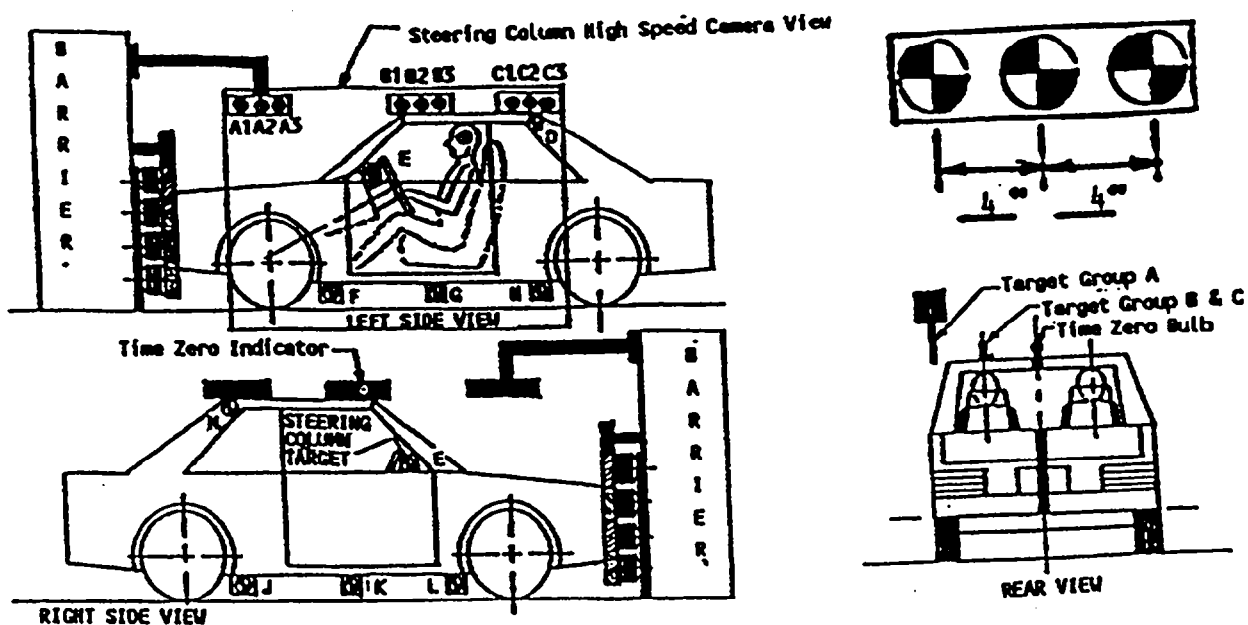
Loc. No.	Description	Maximum Value			
		X-	msec.	X+	msec.
1	Rear seat X-member @ Left Side	-33.7	56.2	2.7	127.1
2	Rear seat X-member @ Right Side	-30.1	79.5	1.8	210.3
3	Top of Engine Block	-131.2	26.8	49.4	39.1
4	Bottom of Engine	-136.4	29.2	44.3	36.3
5	Disc Brake Caliper Right Side	- 82.4	40.4	54.5	57.9
6	Instrument Panel	-78.9	67.8	45.7	72.6
7	Disc Brake Caliper @Left Side	- 73.8	30.3	33.0	54.4

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	177.3	154.5	22.8
X2	Rear Surface of Vehicle to Front of Engine	148.8	138.4	10.4
X3	Rear Surface of Vehicle to Firewall	127.0	125.7	1.3
X4	Rear Surface to Upr. Leading Edge of Right Door	118.2	118.2	0.0
X5	Rear Surface to Upr. Leading Edge of Left Door	118.3	117.8	0.5
X6	Rear Surface to Lwr. Leading Edge of Right Door	117.3	117.2	0.1
X7	Rear Surface to Lwr. Leading Edge of Left Door	117.2	116.8	0.4
X8	Rear Surface to Upr. Trailing Edge of Right Door	67.4	67.3	0.1
X9	Rear Surface to Upr. Trailing Edge of Left Door	67.6	67.3	0.3
X10	Rear Surface to Lwr. Trailing Edge of Right Door	69.6	69.4	0.2
X11	Rear Surface to Lwr. Trailing Edge of Left Door	69.4	69.0	0.4
X12	Rear Surface to Bottom 'A' Post on Right Side	117.0	117.0	0.0
X13	Rear Surface to Bottom 'A' Post on Left Side	117.0	116.3	0.7
X14	Rear Surface to Firewall on Right Side	130.2	129.8	0.4
X15	Rear Surface to Firewall on Left Side	130.3	130.0	0.3
X16	Rear Surface to Steering Column	99.2	97.5	1.7
X17	Center of Steering Column to 'A' Post	17.8	18.8	-1.0
X18	Center Steering Column to Headlining	16.0	18.0	-2.0
X19	Rear Surface to Right Side of Front Bumper	166.3	146.8	19.5
X20	Rear Surface to Left Side of Front Bumper	166.7	148.3	18.4
X21	Length of Engine Block	12.0	12.0	0.0

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



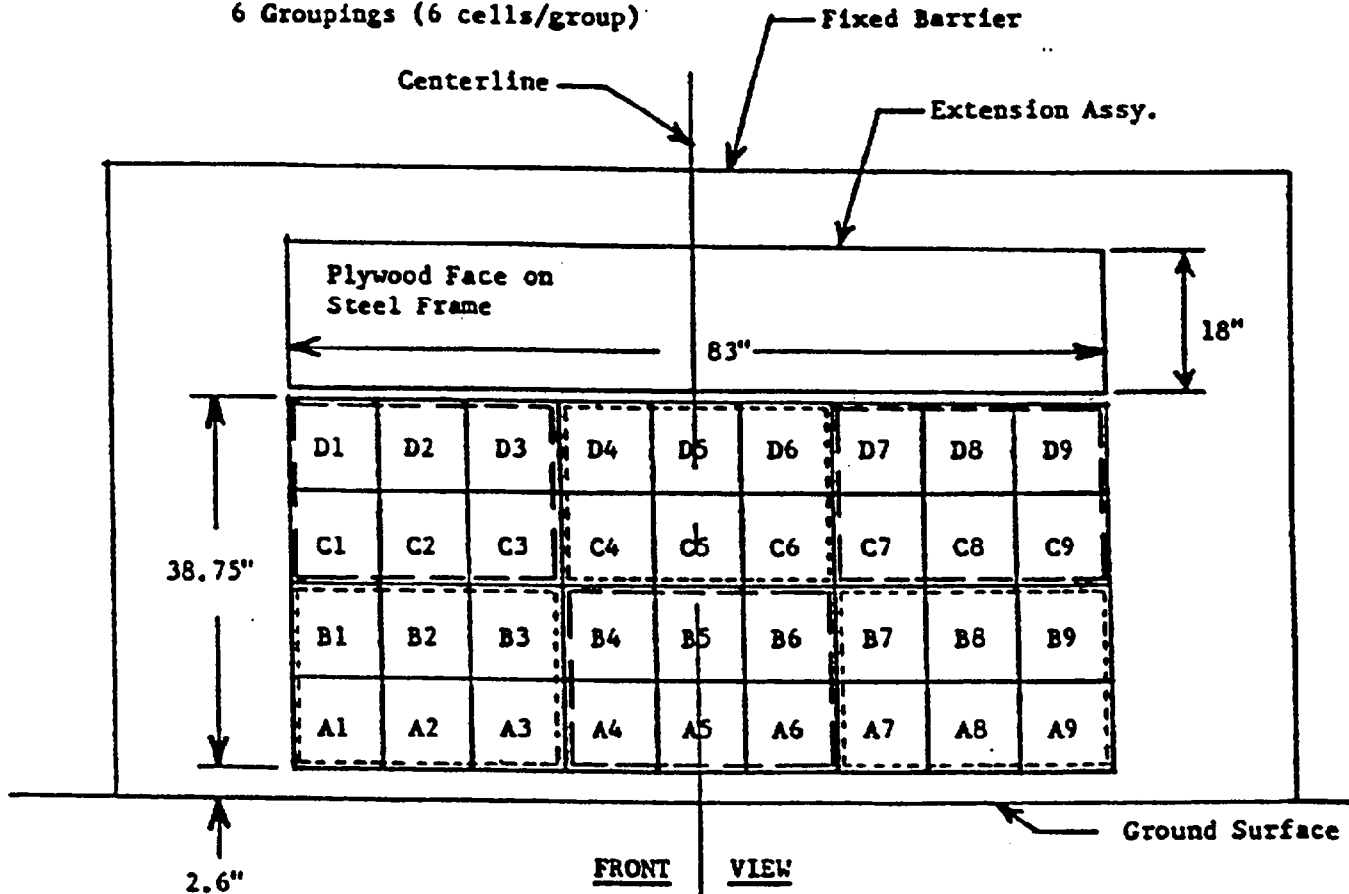


BARRIER TARGETS	'X' From Imag. Barrier Face Vertical Plane	'Y' From Monorail C/L	'Z' Above Ground
A-1	72.0	21.5	67.0
A-2	76.0	21.5	67.0
A-3	80.0	21.5	67.0
BARRIER TARGETS	'X' From Imag. Barrier Face Vertical Plane	'Y' From Monorail C/L	'Z' Above Ground
B-1	84.0	13.5	51.0
B-2	88.0	13.5	51.0
B-3	92.0	13.5	51.0
C-1	119.2	13.5	51.0
C-2	119.2	13.5	51.0
C-3	127.2	13.5	51.0
D	123.2	24.0	43.7
E	73.0	12.4	32.5
F	55.0	27.9	4.7
G	87.4	27.5	4.5
H	119.7	27.9	4.7
J	119.7	27.9	4.2
K	87.4	27.5	4.4
L	55.0	27.9	4.7
M	123.2	24.0	43.7

NOTE: Diameter of all photo targets is 4".

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)

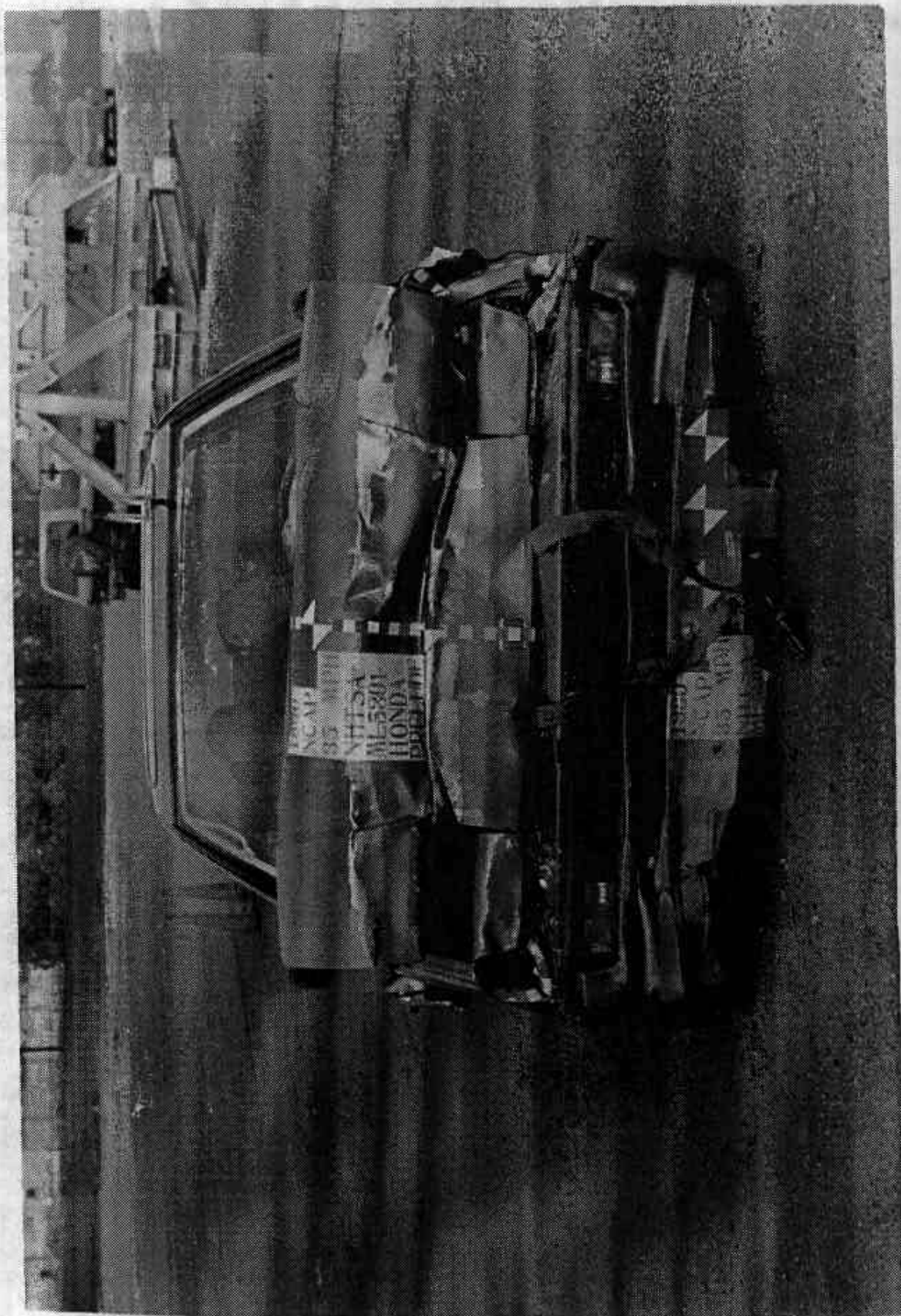
APPENDIX A
PHOTOGRAPHS

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 & KNEE CONTACT AREA
POSTTEST PASSENGER DUMMY (ATD) HEAD & KNEE CONTACT AREA

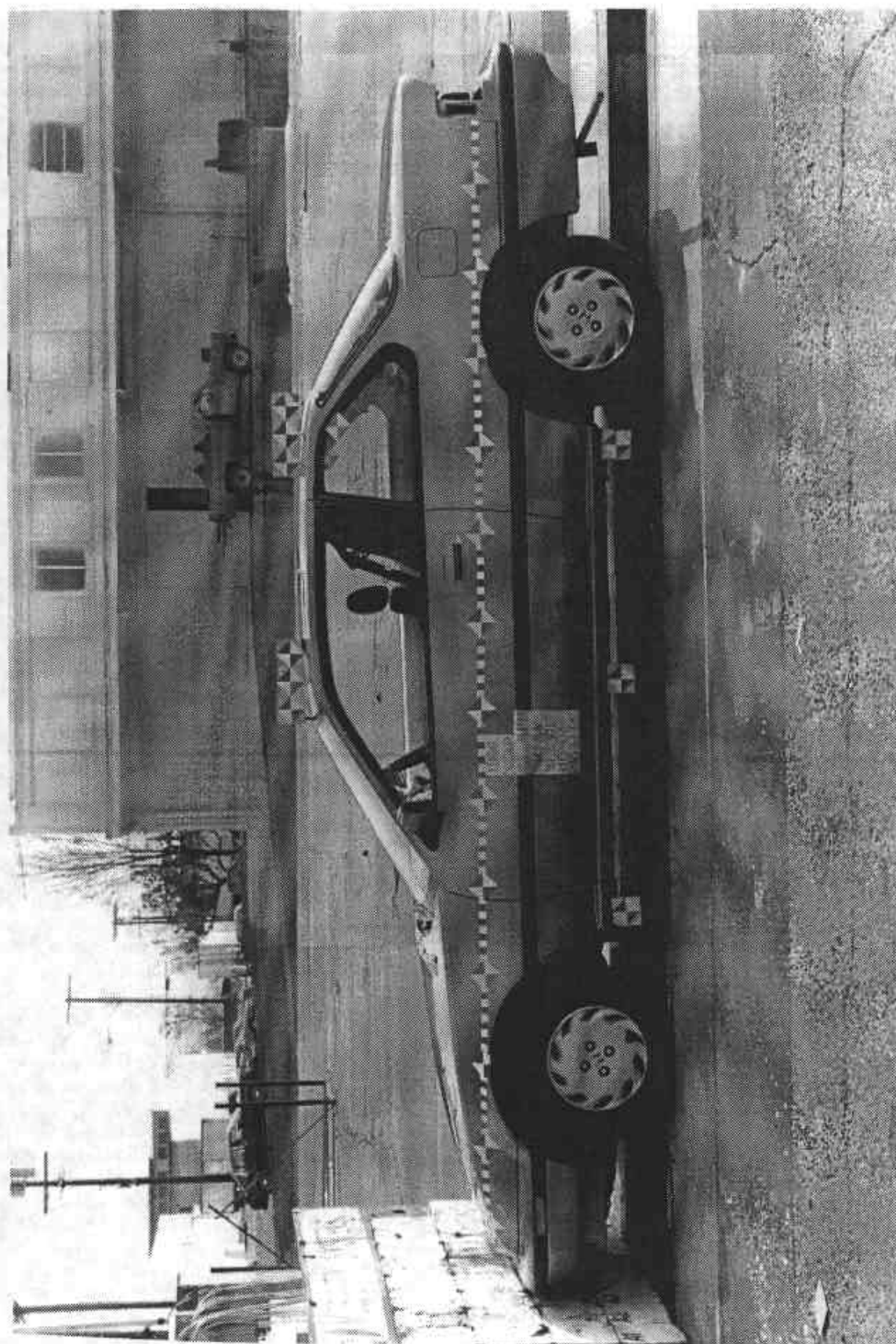
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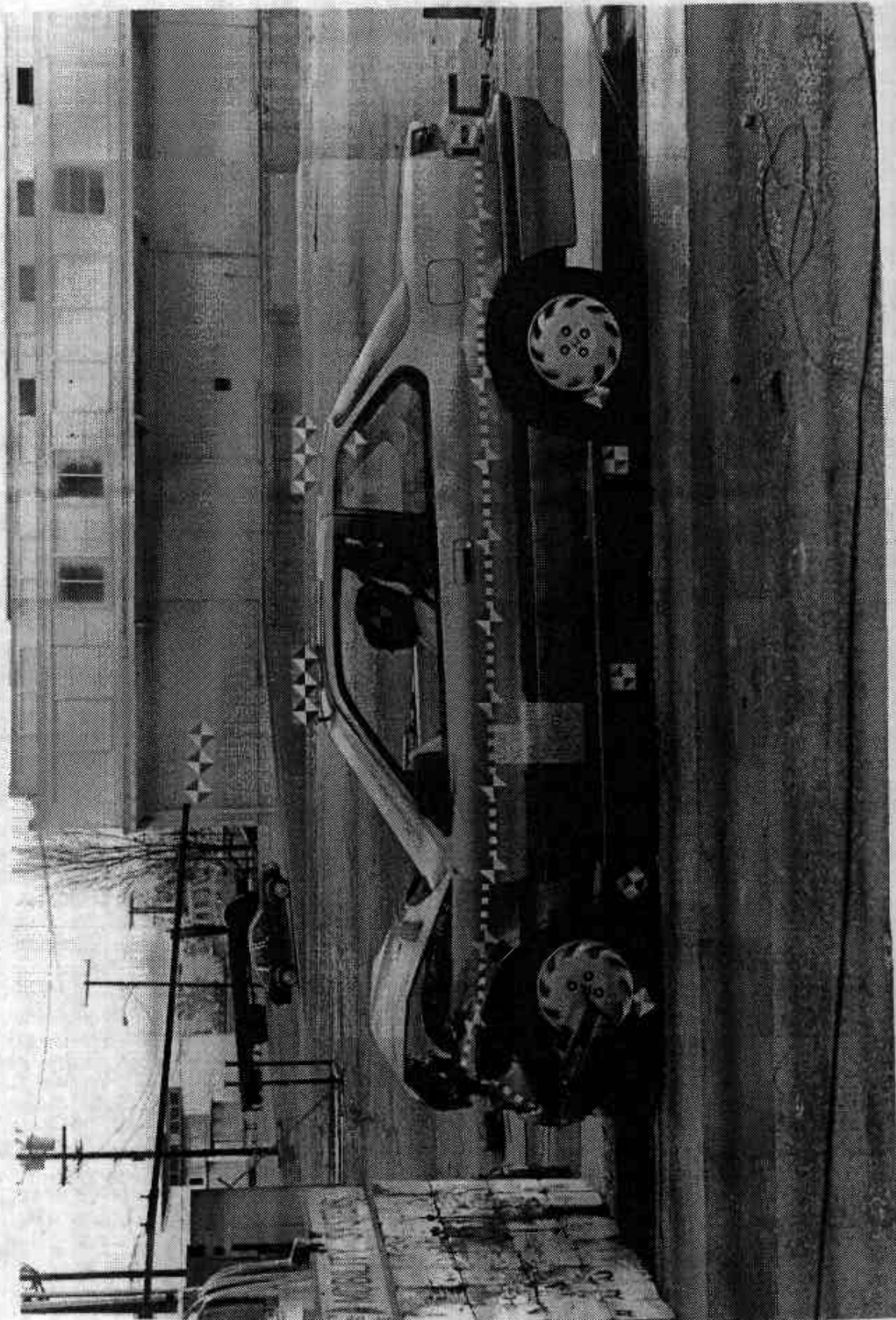
PRETEST FRONT VIEW



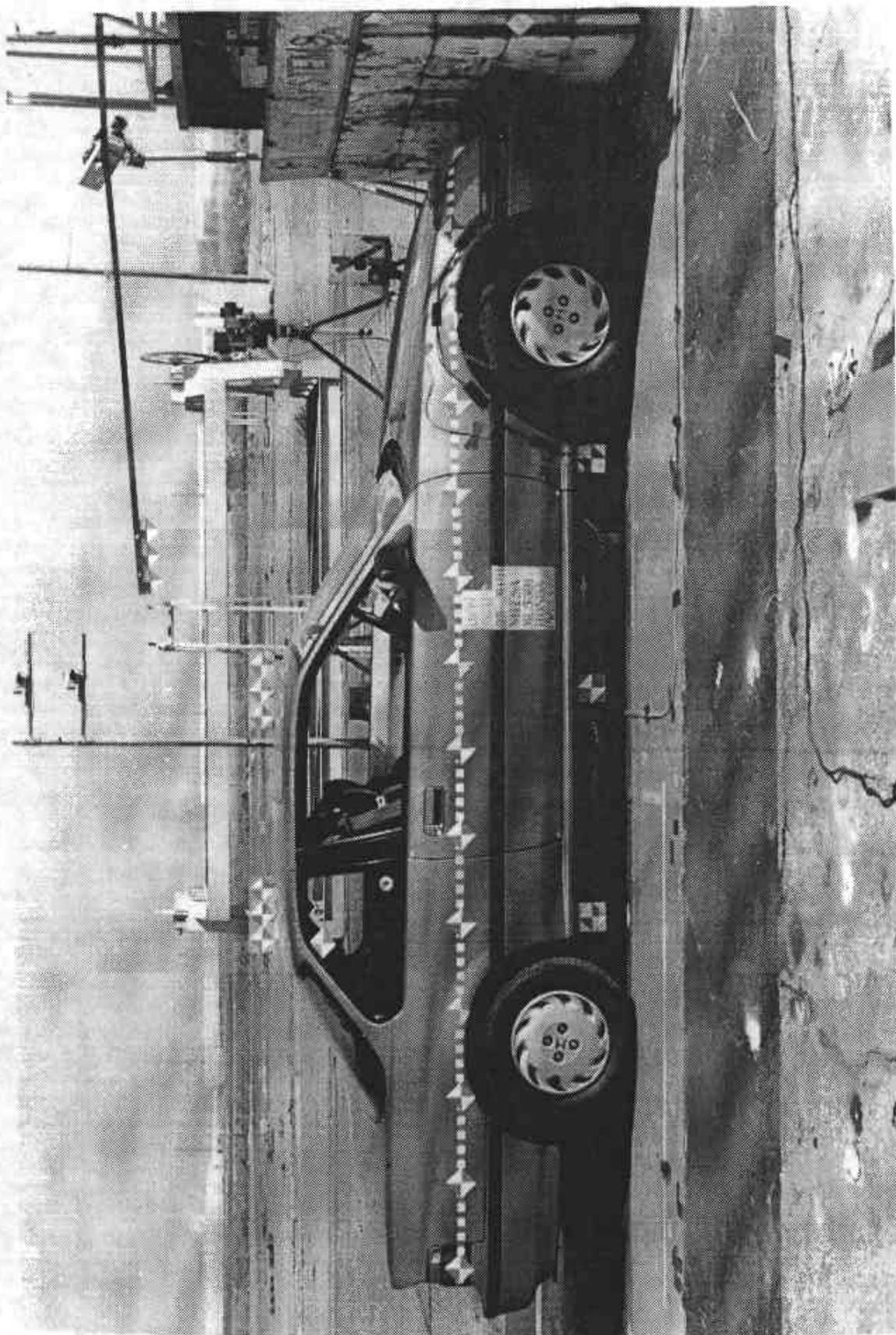
POSTTEST FRONT VIEW



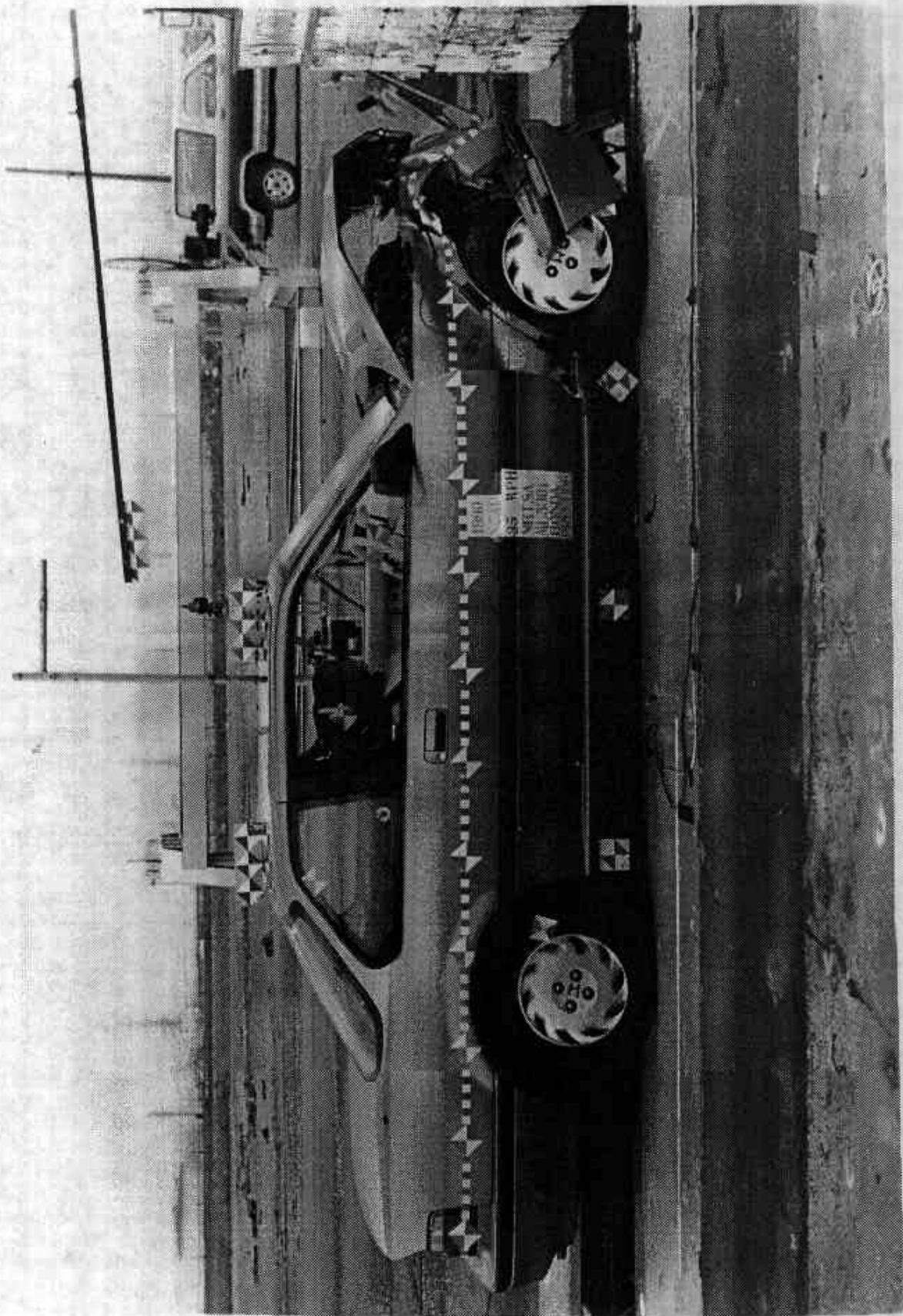
PRETEST LEFT SIDE VIEW



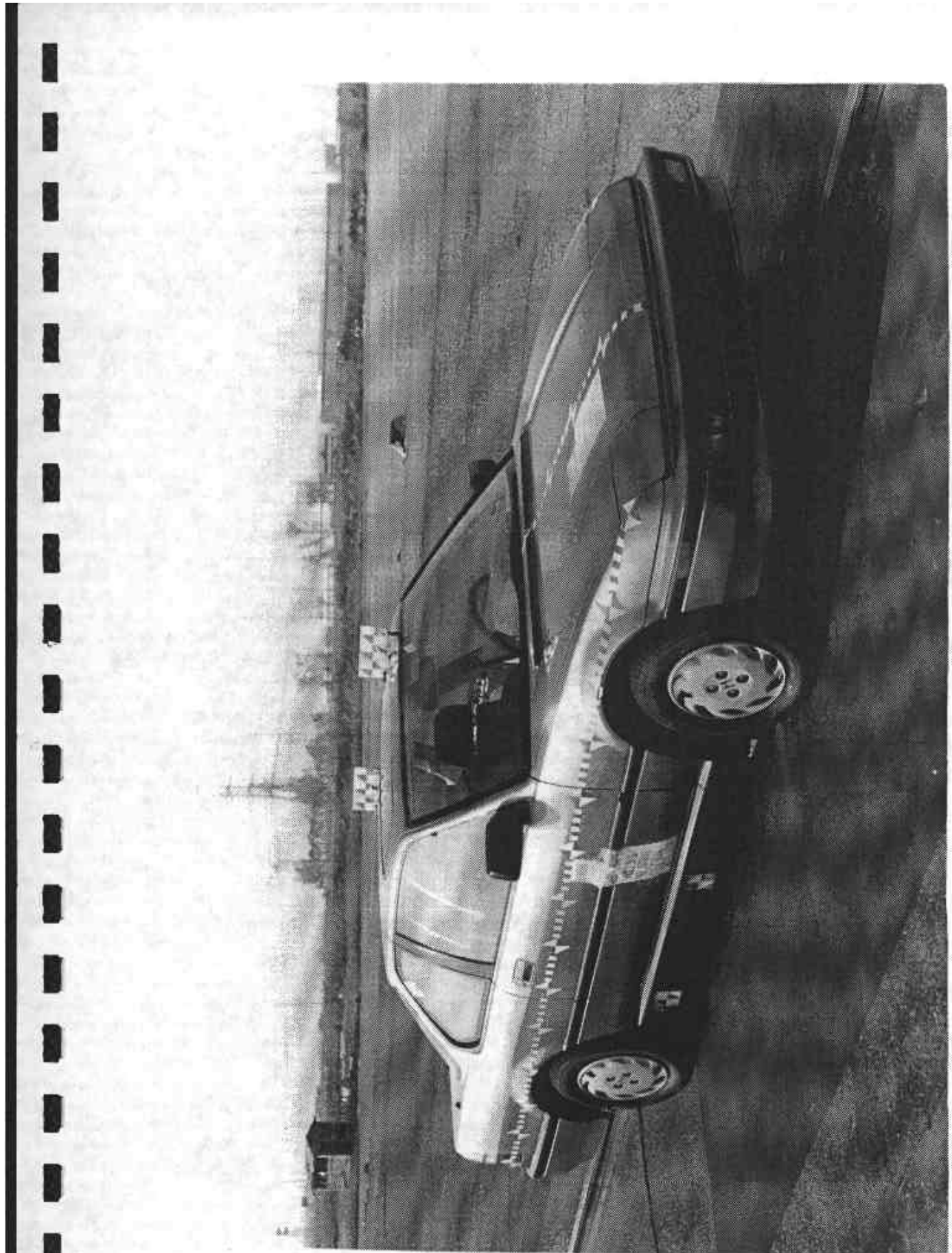
POSTTEST LEFT SIDE VIEW



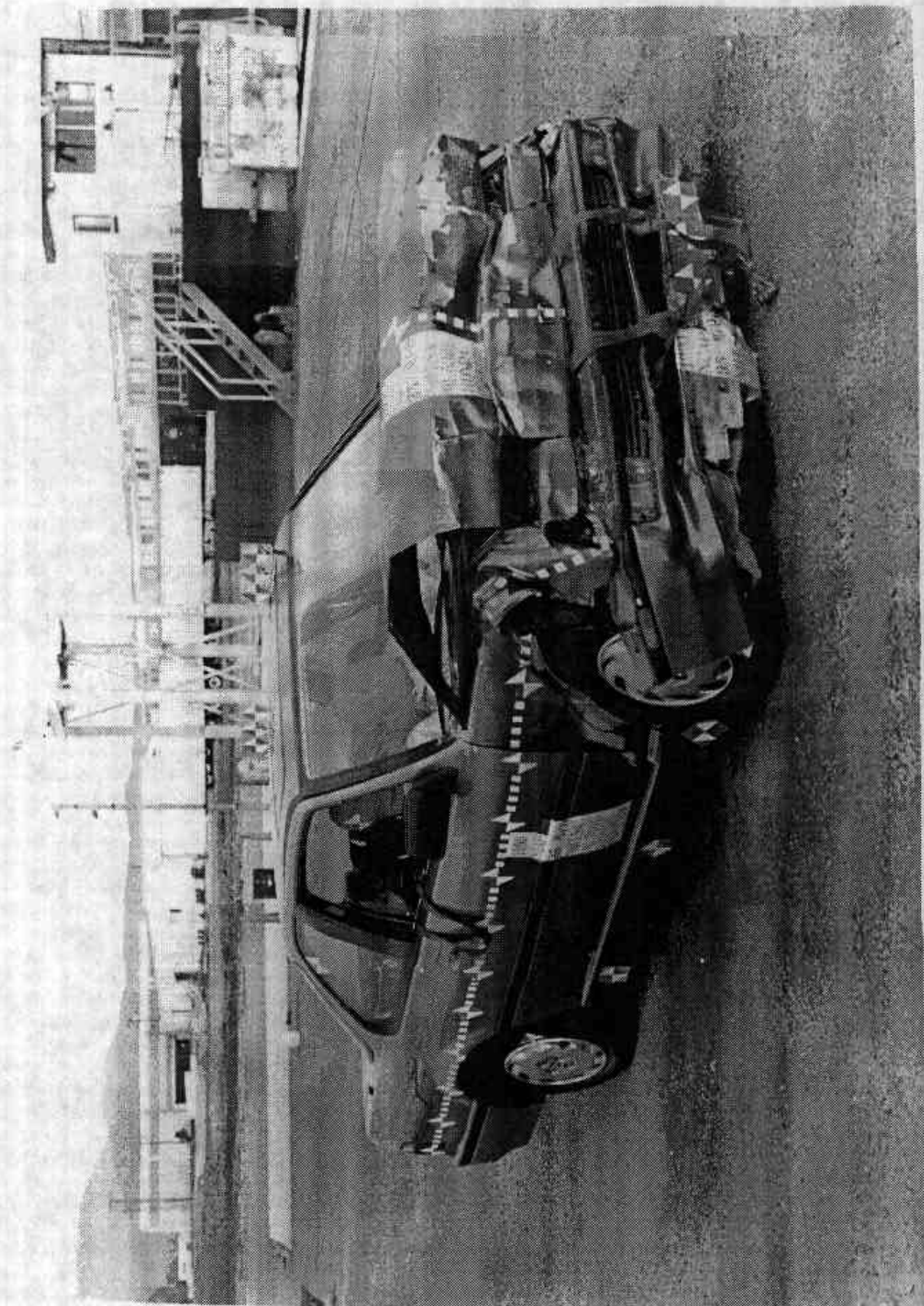
PRETEST RIGHT SIDE VIEW



POSTTEST RIGHT SIDE VIEW



PRETEST RIGHT FRONT 3/4 VIEW



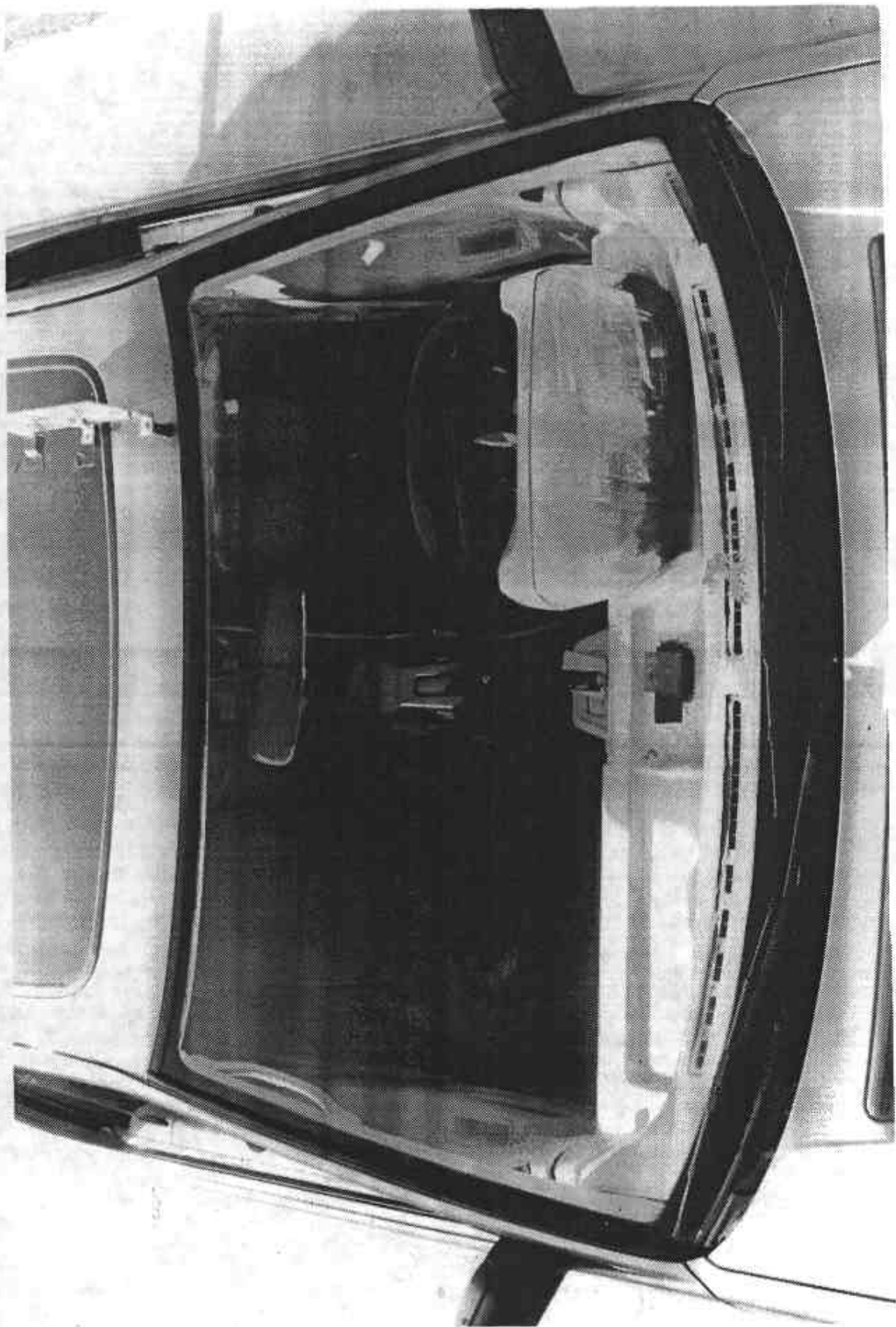
POSTTEST RIGHT FRONT 3/4 VIEW



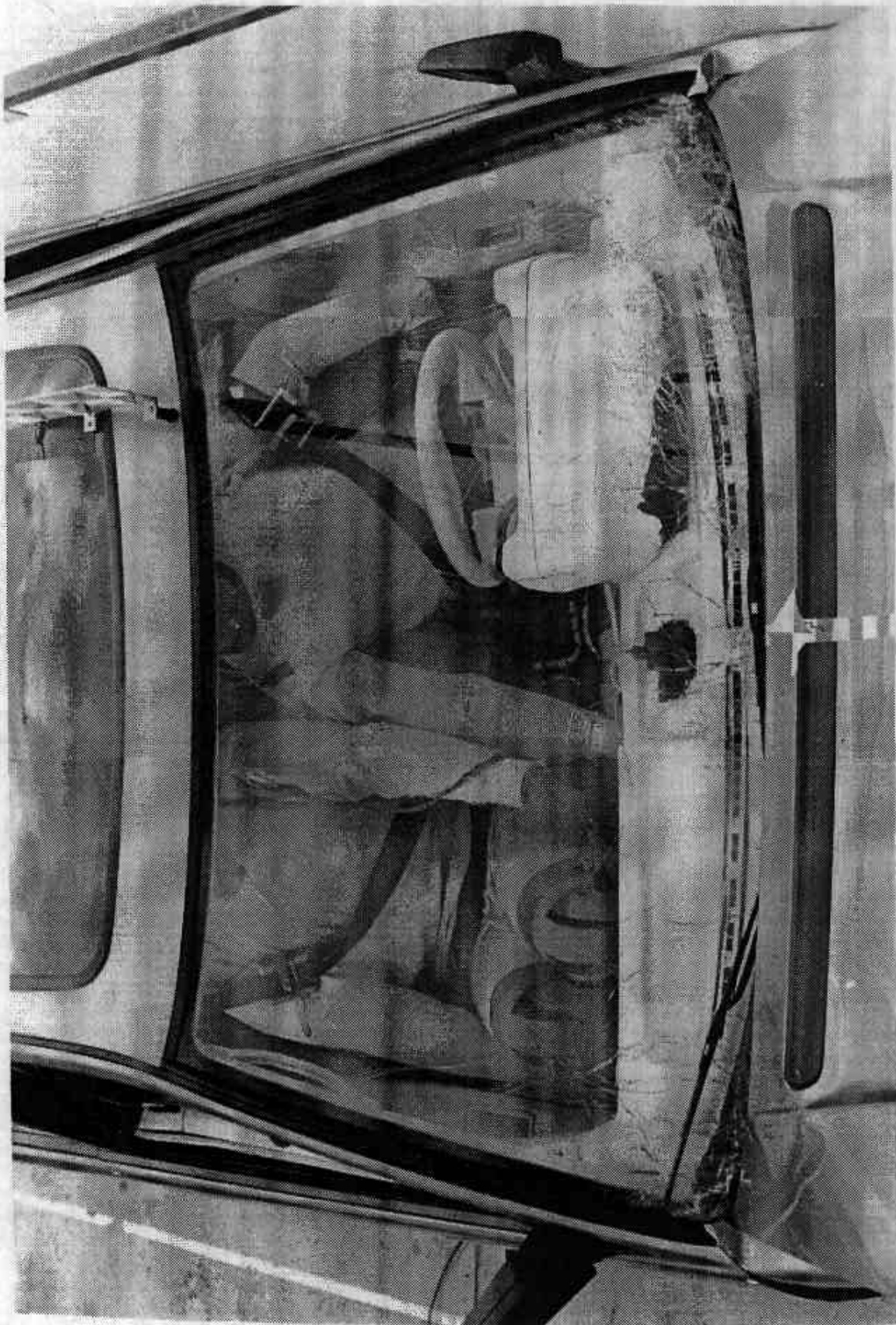
PRETEST LEFT REAR 3/4 VIEW



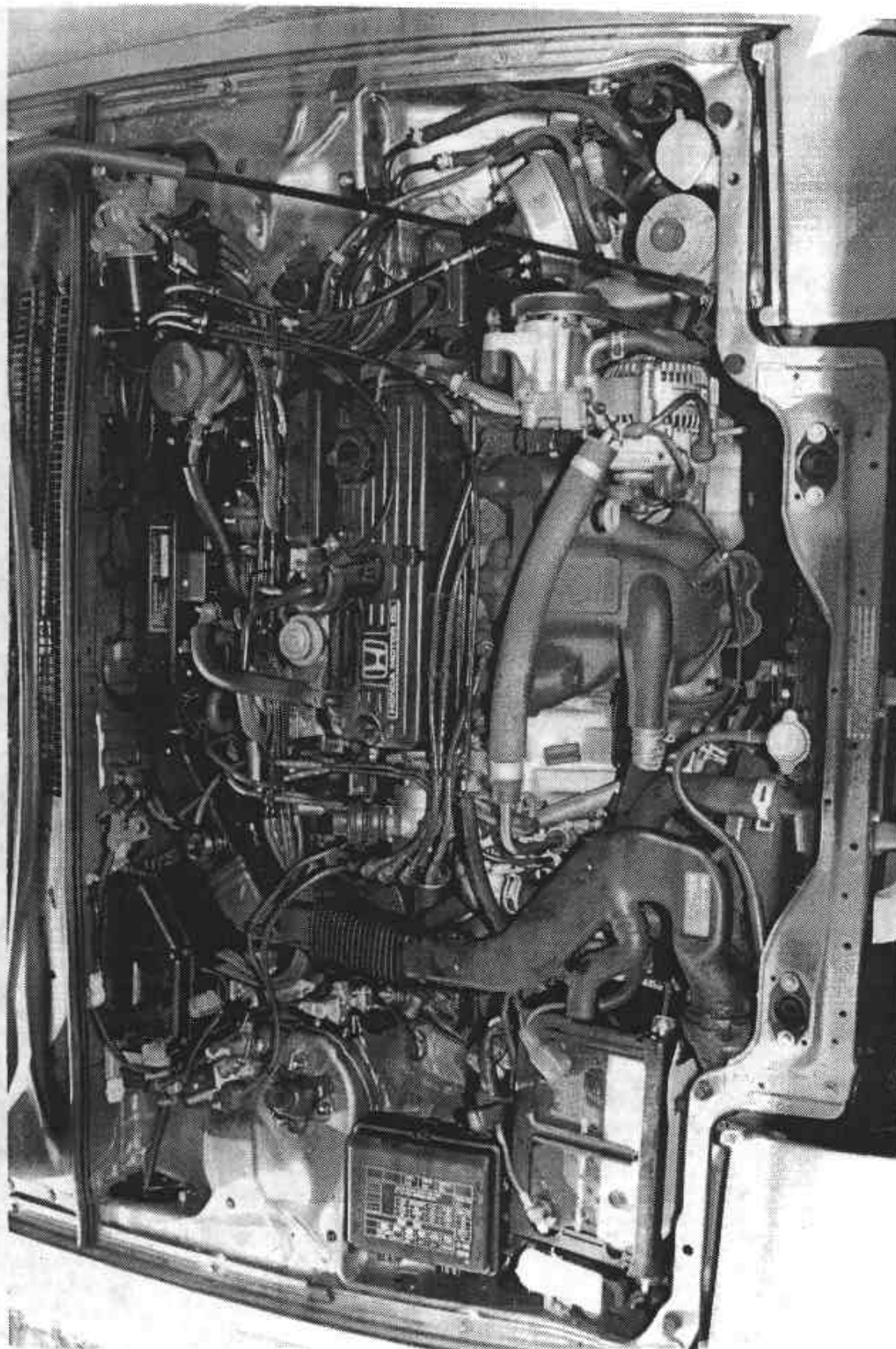
POSTTEST LEFT REAR 3/4 VIEW



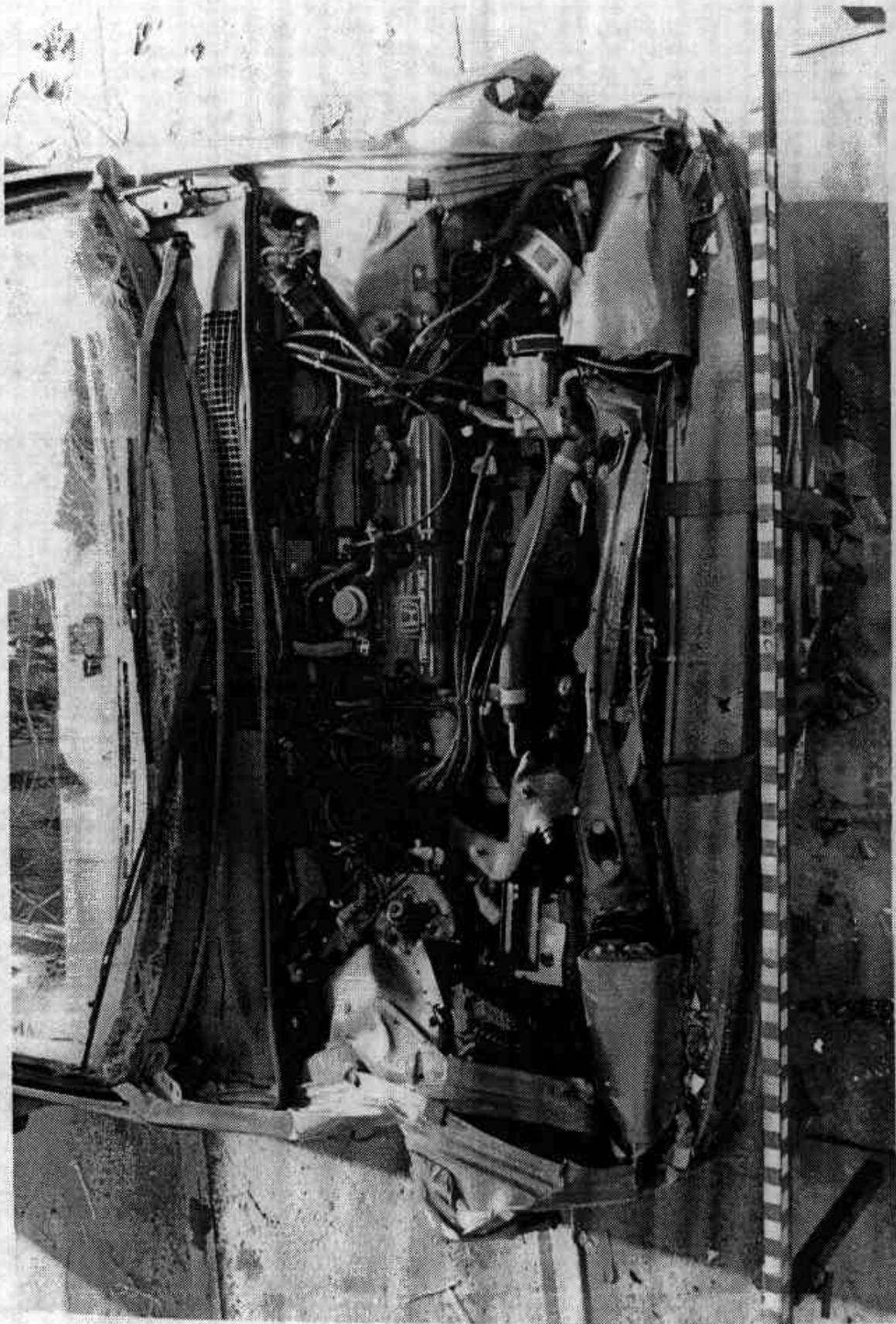
PRETEST WINDSHIELD VIEW



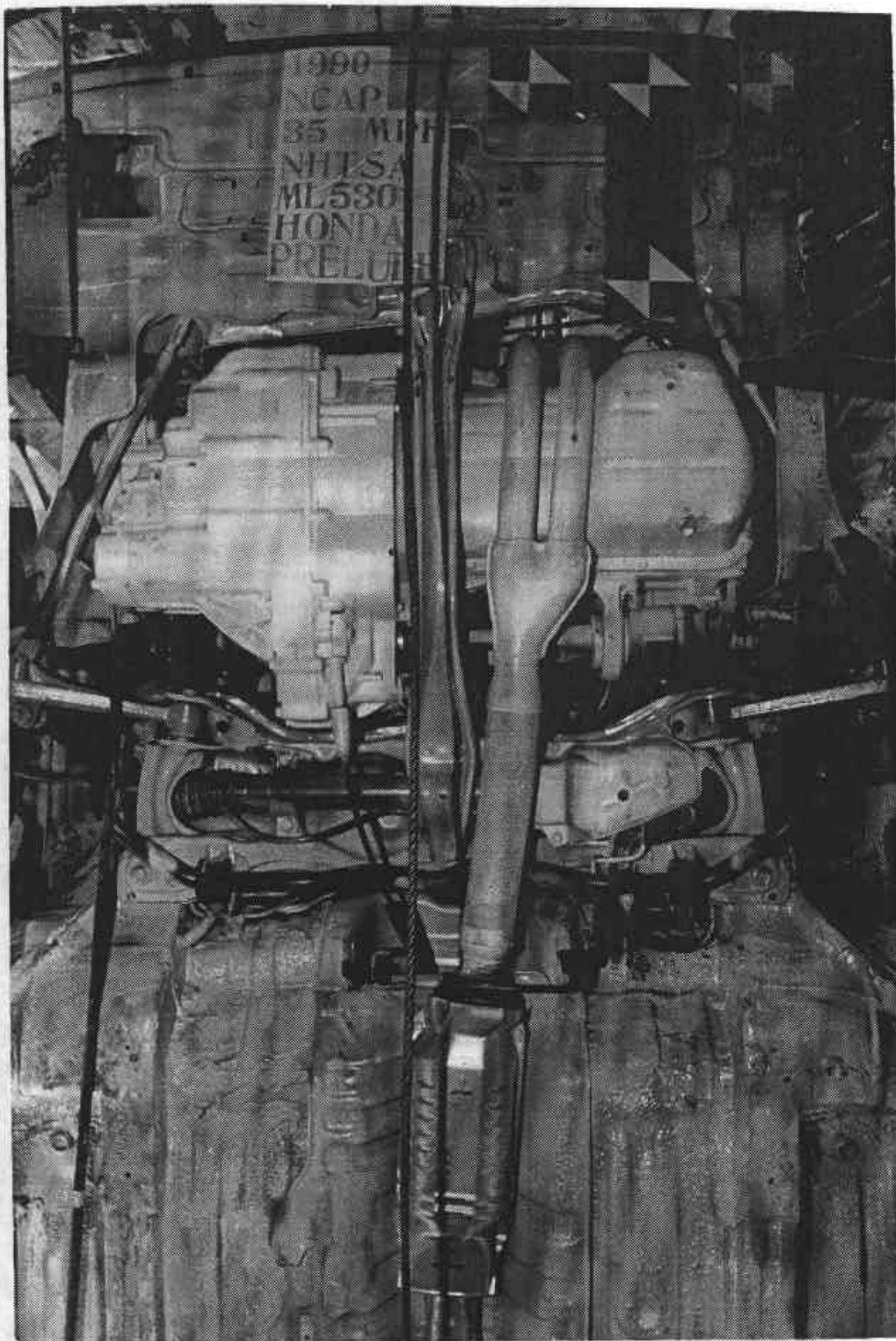
POSTTEST WINDSHIELD VIEW



PRETEST ENGINE COMPARTMENT VIEW



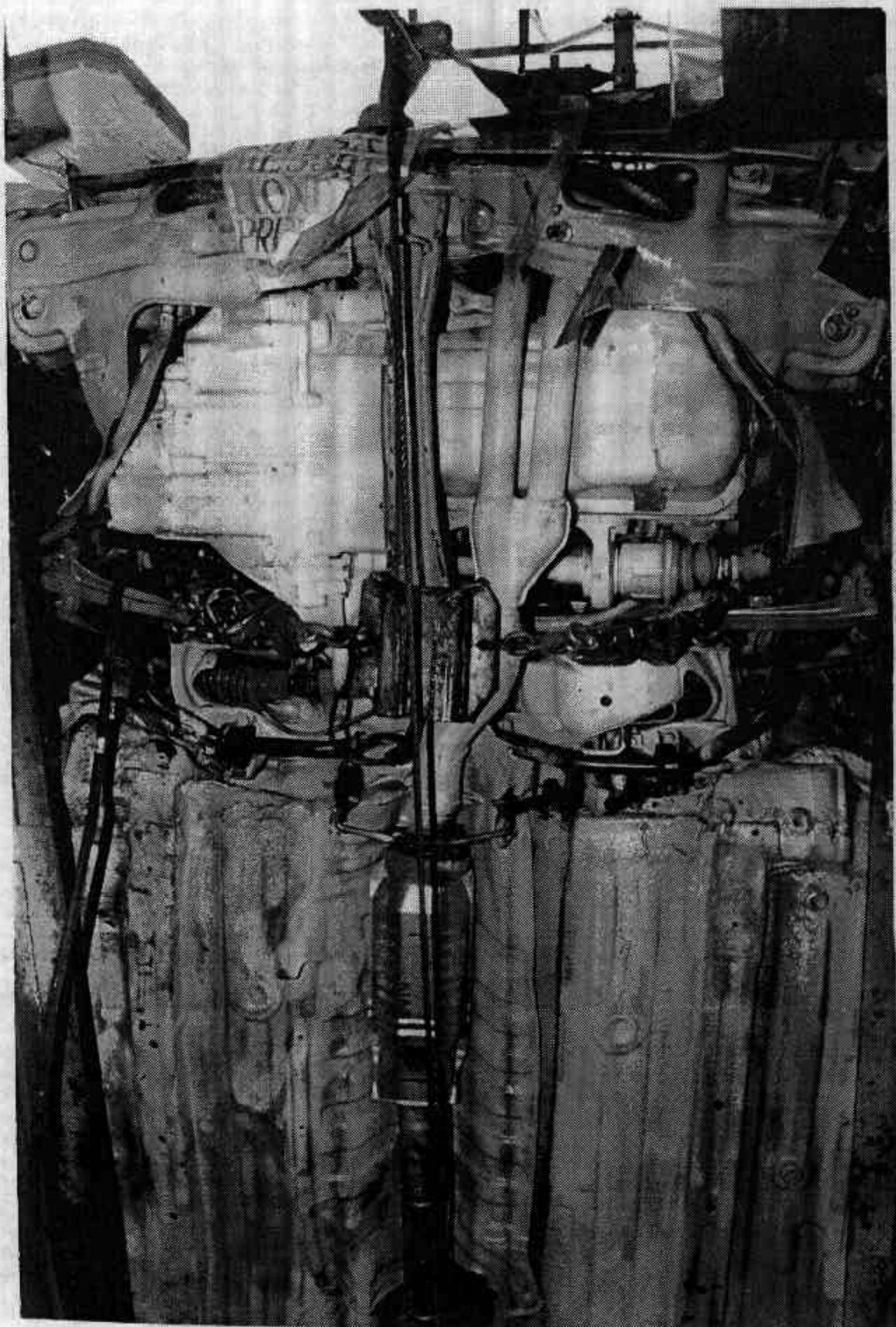
POSTTEST ENGINE COMPARTMENT VIEW



PRETEST FRONT UNDERBODY VIEW

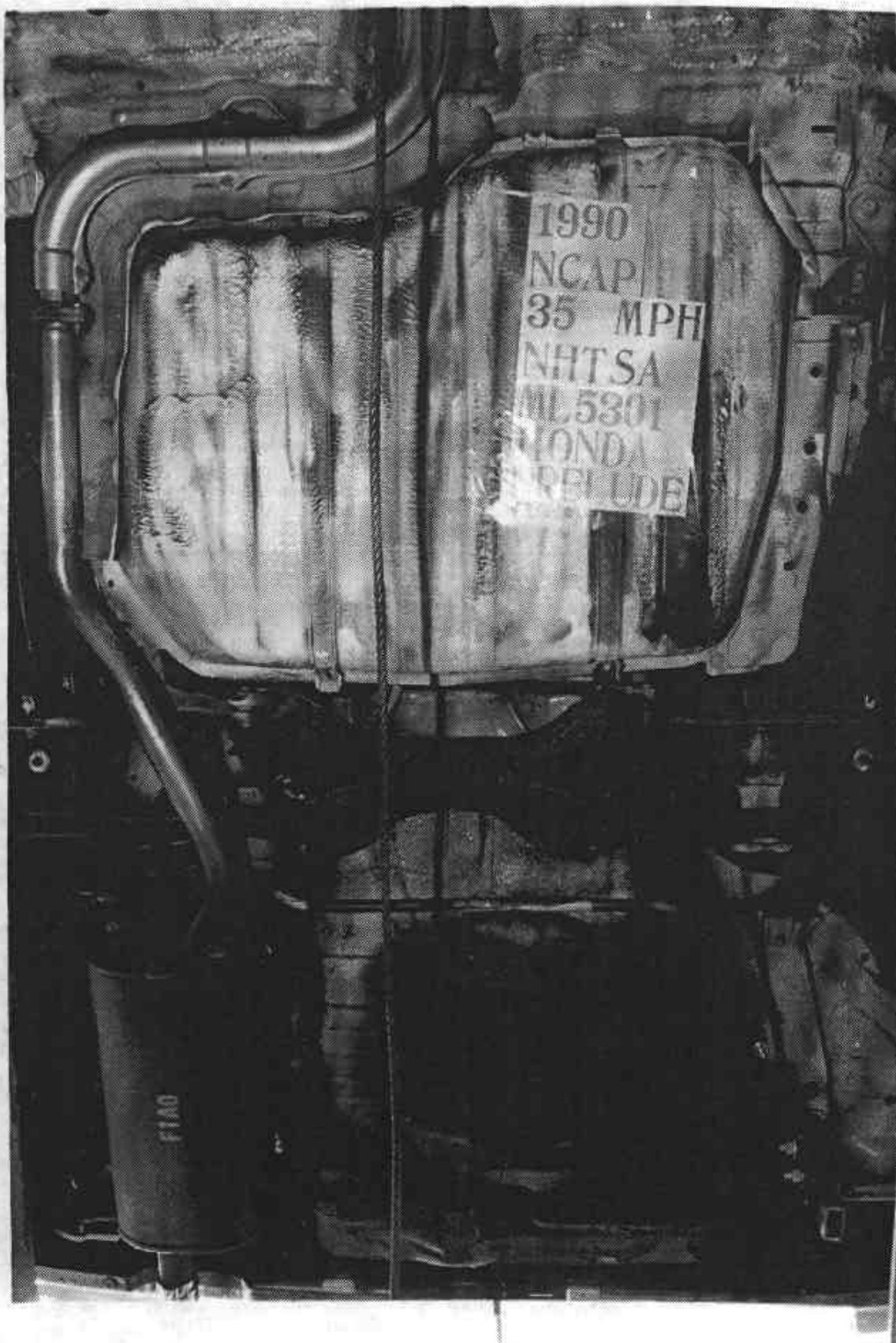
A-15

MSE-90-R9092-N05



POSTTEST FRONT UNDERBODY VIEW
A-16

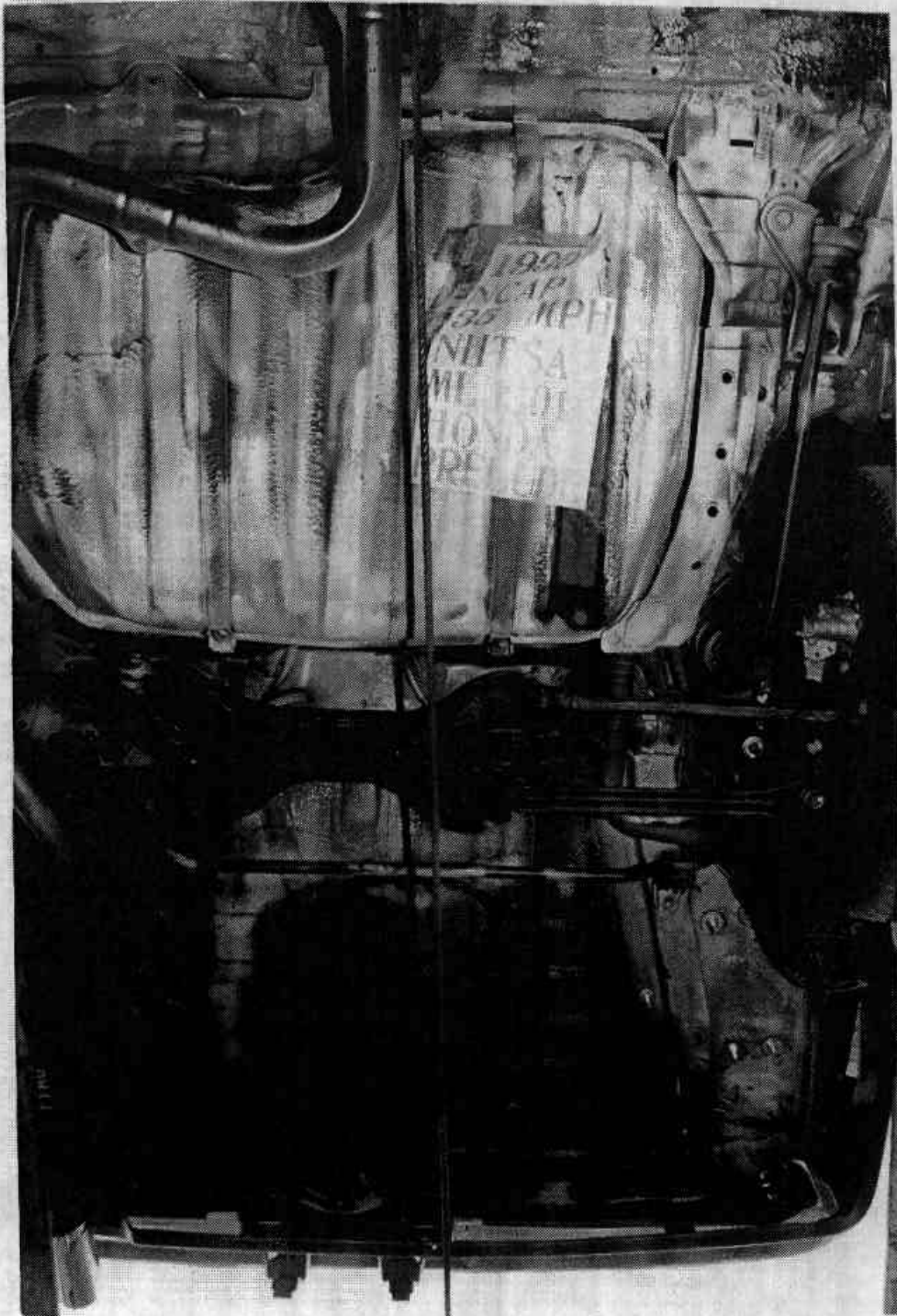
MSE-90-R9092-N05



PRETEST REAR UNDERBODY VIEW

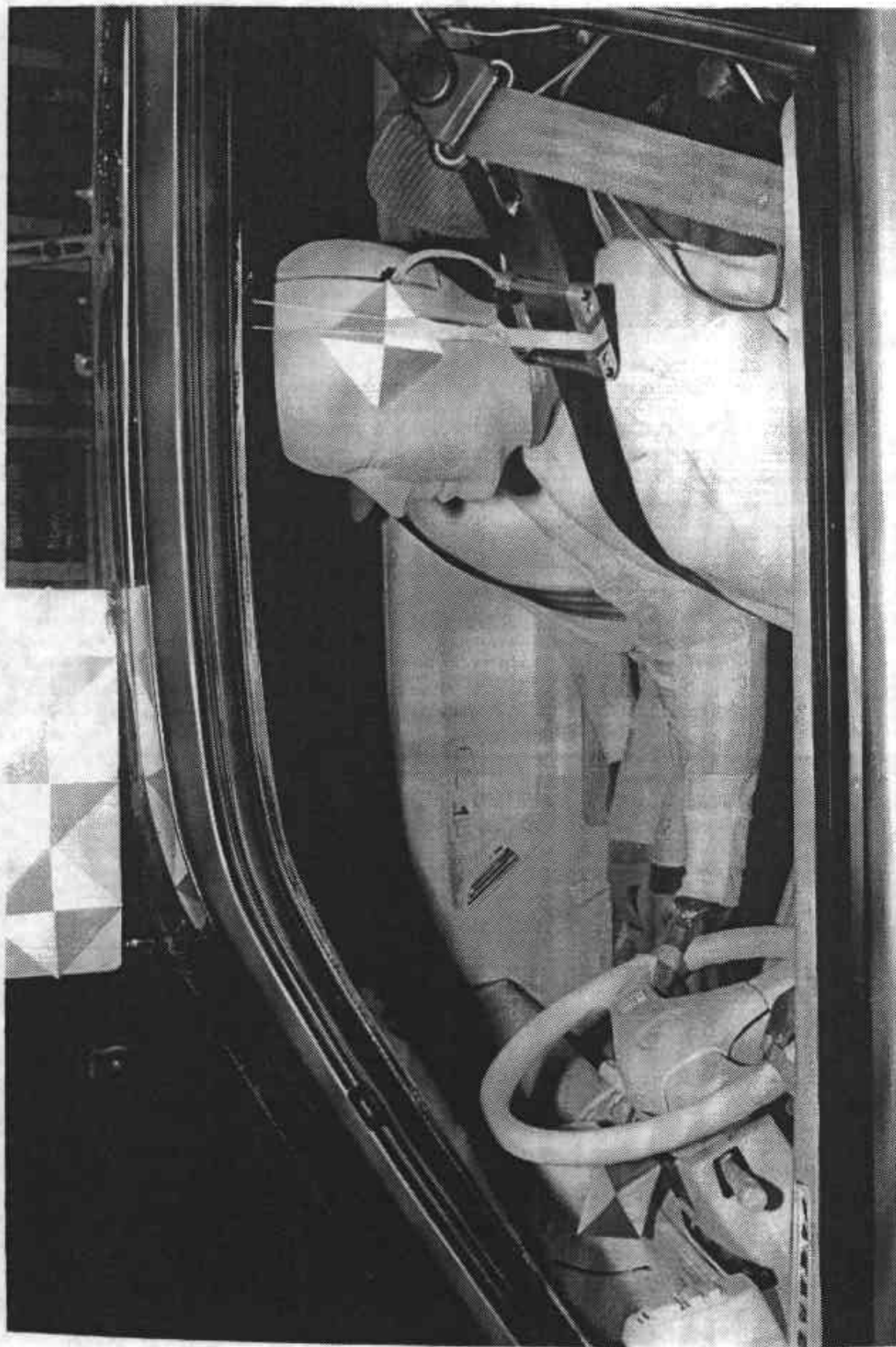
A-17

MSE-90-R9092-N05



POSTTEST REAR UNDERBODY VIEW
A-18

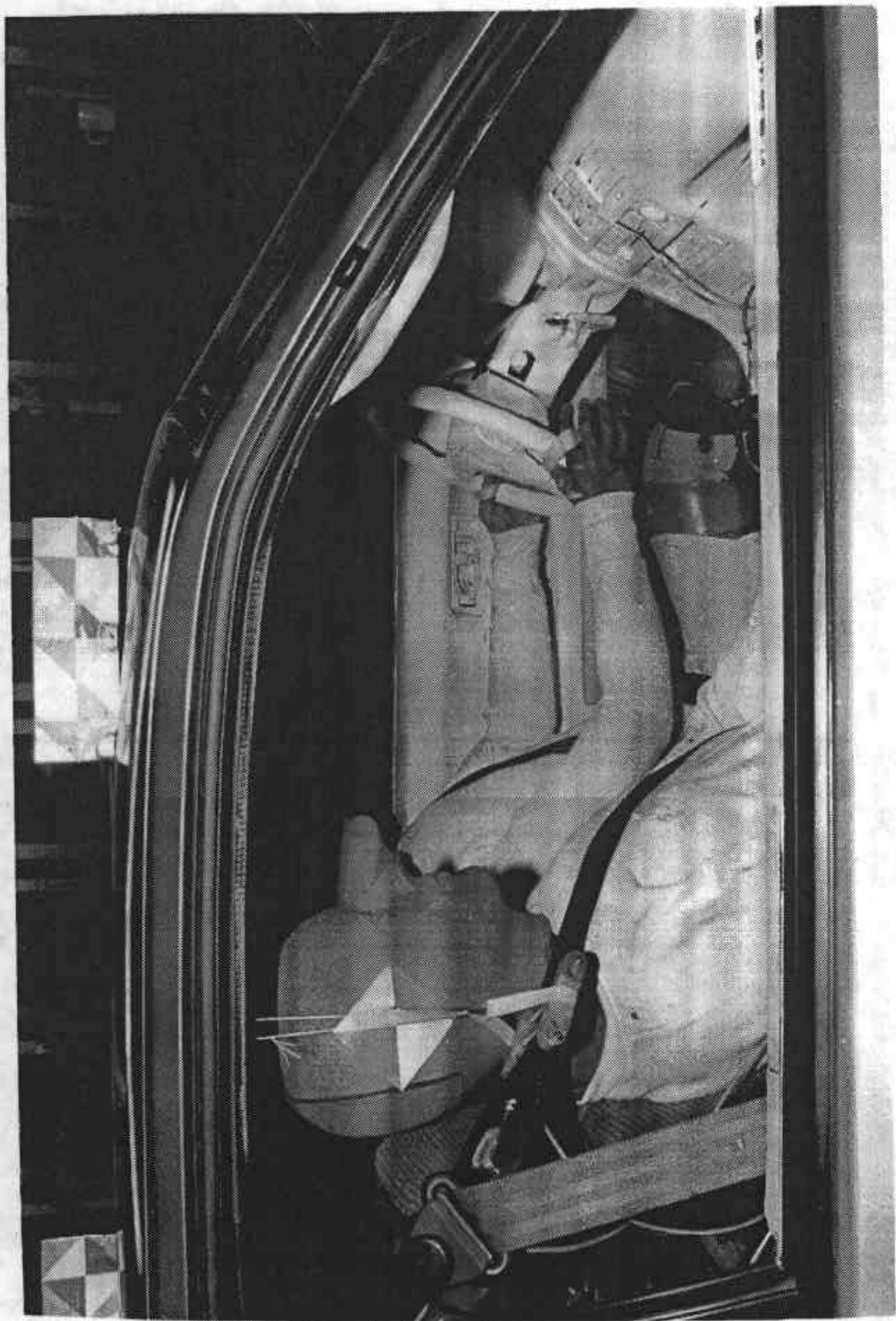
MSE-90-R9092-N05



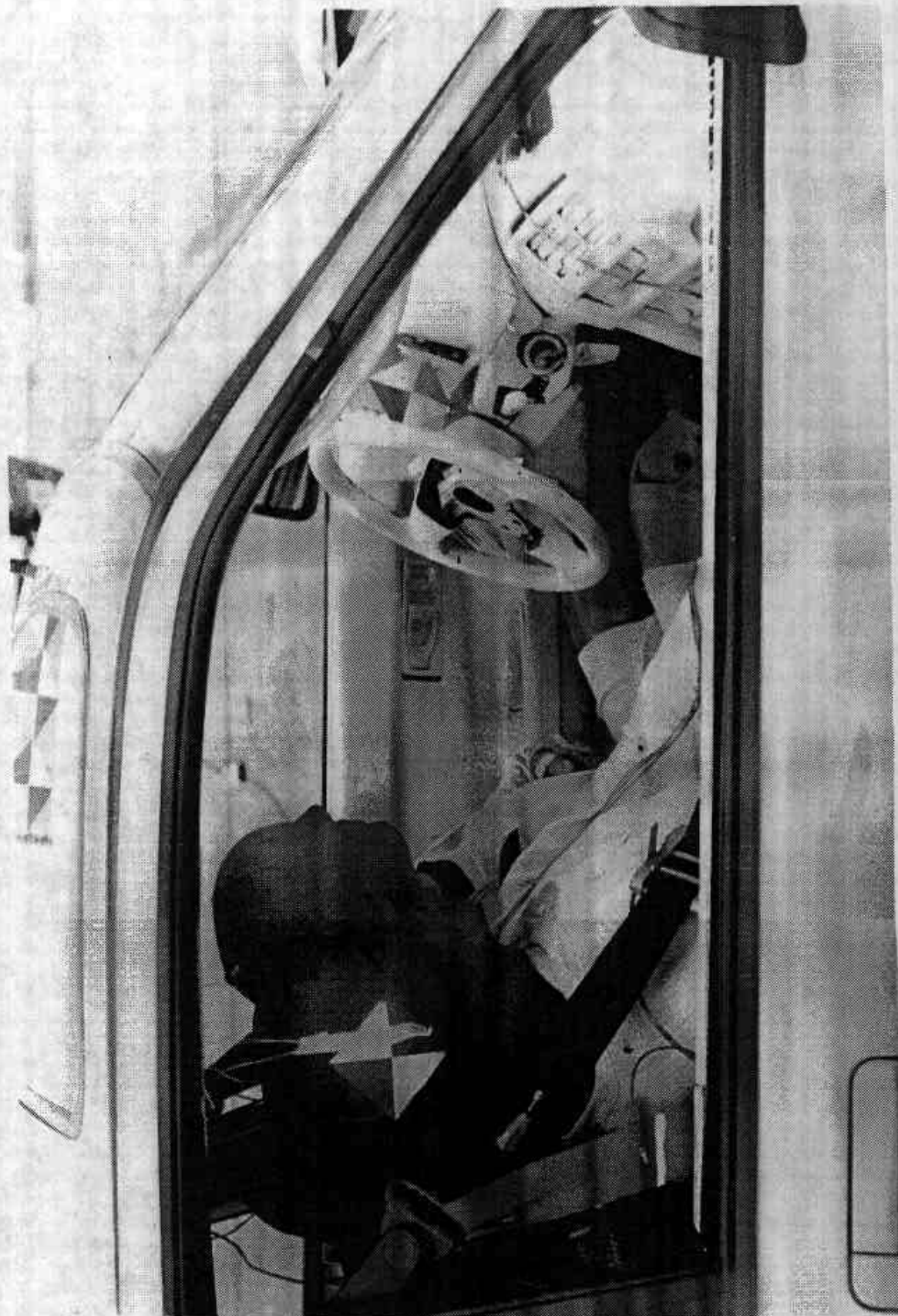
PRETEST DRIVER DUMMY POSITION VIEW



POSTTEST DRIVER DUMMY POSITION VIEW



PRETEST PASSENGER DUMMY POSITION VIEW



POSTTEST PASSENGER DUMMY POSITION VIEW



PRETEST DRIVER DUMMY & VEHICLE INTERIOR VIEW (Door Open)

A-23

MSE-90-R9092-N05



POSTTEST DRIVER DUMMY & VEHICLE INTERIOR VIEW (Door Open)

A-24

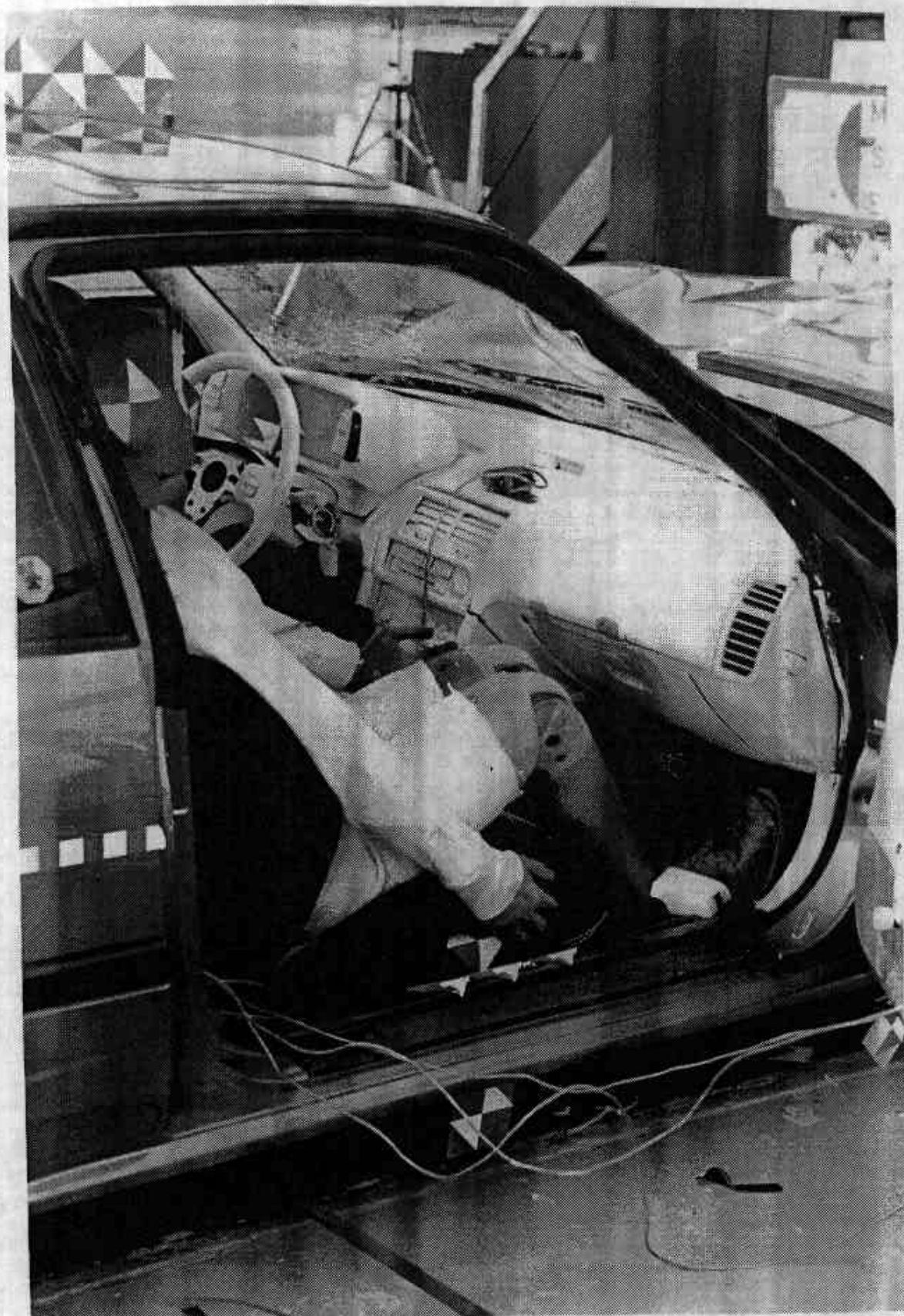
MSE-90-R9092-N05



PRETEST PASSENGER DUMMY & VEHICLE INTERIOR VIEW (Door Open)

A-25

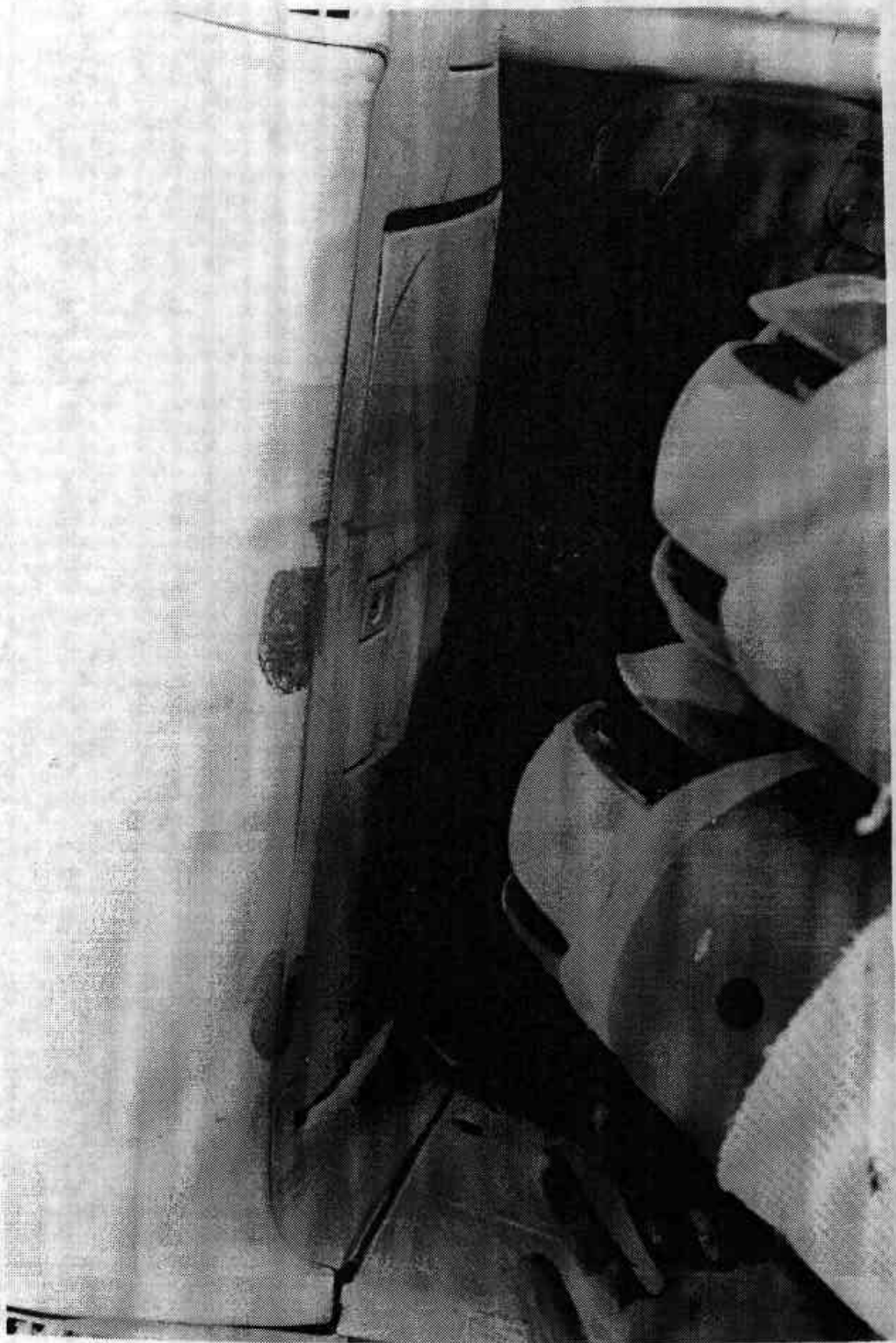
MSE-90-R9092-N05



POSTTEST PASSENGER DUMMY & VEHICLE INTERIOR VIEW (Door Open)
A-26 MSE-90-R9092-N05



POSTTEST DRIVER DUMMY (ATD) HEAD AND KNEE CONTACT AREA



POSTTEST PASSENGER DUMMY (ATD) HEAD AND 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

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General Test Information

VERSNO: V2 TGID: 1
TITLE: 1990 35MPH NCAP FRONTAL BARRIER IMPACT
TSTOBJ: ACQUIRE NCAP DATA USING TWO INSTR. DUMMIES AND LOAD CELL BARRIER
TSTDAT: 16/MAR/90 TSTPRF: MSE CONNO: DTNH22-87-D-02009
TSTREF: NCA110 TSTTYP: NCA TSTCFN: VTB
TKSURF: ASH TKCOND: DRY TEMP: 81 RECTYP: FMT
LINK: UMB CLSSPD: 34.9 IMPANG: 0 OFFSET: 0.0
IMPPNT: 9999.9 MEASUR: ENG TOTCRV: 65
TSTCOM: NO COMMENTS

Vehicle Information

VGID: 2 VEHNO: 1 MAKE: 23 MODEL: 05 YEAR: 90 BODY: 2S
 VIN: JHMB44211LC003171 ENGINE: 4CTF ENGDSP: 2.0 LITER TRANSM: MF
 VENTWT: 3062 WHLBAS: 101.0 VEHLN: 177.3 VENWID: 67.3
 VEHCG: 44.2 STRSEP: NO COLMEC: EMB MODIND: P

MODDSC: UNMODIFIED

BX

1: 177.3
 2: 148.8
 3: 130.3
 4: 118.2
 5: 118.3
 6: 117.3
 7: 117.2
 8: 67.4
 9: 67.6
 10: 69.6
 11: 69.4
 12: 117.0
 13: 117.0
 14: 130.2
 15: 130.3
 16: 99.2
 17: 17.8
 18: 16.0
 19: 166.3
 20: 166.7
 21: 12.0

VEHSPD: 34.9 CRBANG: 0 PDOF: 0 BMPENG: NA

SILENG: NA APLENG: NA

DPD

1: 20.9
 2: 22.7
 3: 23.6
 4: 22.3
 5: 22.3
 6: 19.8

VDI: 12FCAW9 LENCNT: 67.3 DAMDST: 0.0 CRHDST: 23.6

AX

1: 154.5
 2: 138.4
 3: 125.7
 4: 118.2
 5: 117.8
 6: 117.2
 7: 116.8
 8: 67.3
 9: 67.3
 10: 69.4
 11: 69.0
 12: 117.0
 13: 163.8
 14: 129.8
 15: 130.0
 16: 97.5
 17: 18.8
 18: 18.0
 19: 146.8
 20: 148.3
 21: 12.0

CARANG: 999
 VEHCOM: NONE

VEHOR: 999

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: 465
DUMMOD: UNMODIFIED
DUMDSC: NO COMMENTS
HH: 16.7 HW: 22.0 HR: 6.4 HS: 8.8 CD: 26.4 CS: 17.1 AD: 4.1 HD: 4.9
KD: 8.4 HB:999.9 NB:999.9 CB:999.9 KB:999.9
RESTR1: 3PT RESTR2: SWE
REXTXT: NO COMMENTS
SEPOSN: CN AIRDEP: NA
CNTRH1: SH CNTRH2: NO CNTRC1: SW CNTRC2: NO CNTRL1: OT CNTRL2: DP
HIC: 1279. T1: 70.100 T2: 93.100
CLIP3M: 58.9 LFEM: 771. RFEM: 674. CSI: 498. LBELT: 9999. SBELT: 2297.
OCCCOM: CNTRL1 IS STEERING COLUMN; LBELT TRANSDUCER FAILED

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: 466
DUMMOD: UNMODIFIED
DUMDSC: NO COMMENTS
HH: 17.0 HW: 23.0 HR: 6.5 HS: 9.2 CD: 25.9 CS:999.9 AD: 4.1 HD: 4.9
KD: 7.4 HB:999.9 NB:999.9 CB:999.9 KB:999.9
RESTR1: 3PT RESTR2: DPL
REXTXT: NO COMMENTS
SEPOSN: CN AIRDEP: NA
CNTRH1: NO CNTRH2: NO CNTRC1: NO CNTRC2: NO CNTRL1: DP CNTRL2: NO
HIC: 854. T1: 72.800 T2: 108.800
CLIP3M: 48.0 LFEM: 681. RFEM: 733. CSI: 436. LBELT: 1127. SBELT: 2301.
OCCCOM: NO COMMENTS

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: BF83H	
CALDAT: 17/JAN/90	INSRAT: 200	CHLMAX: 71	INIVEL: 34.9
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: BJ15H	
CALDAT: 17/JAN/90	INSRAT: 200	CHLMAX: 15	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: BG29H	
CALDAT: 17/JAN/90	INSRAT: 200	CHLMAX: 35	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: AD76	
CALDAT: 17/JAN/90	INSRAT: 200	CHLMAX: 32	INIVEL: 34.9
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: AD99	
CALDAT: 17/JAN/90	INSRAT: 200	CHLMAX: 8	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: 7264-200,	S/N: B160H		
CALDAT: 17/JAN/90	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: 007	
SENTYP: LC	SENLOC: 01	SENATT: FMRL	
AXIS: XL	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: GSE INC., MODEL: 2430, S/N: 701			
CALDAT: 16/JAN/90	INSRAT: 3000	CHLMAX: 27	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: 707			
CALDAT: 16/JAN/90	INSRAT: 3000	CHLMAX: 29	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: YL	UNITS: G'S	PREFIL: 1650	
INSMAN: MFG: ENDEVCO, MODEL: 7264-200, S/N: AE09			
CALDAT: 17/JAN/90	INSRAT: 200	CHLMAX: 20	INIVEL: 34.9
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: AD61			
CALDAT: 17/JAN/90	INSRAT: 200	CHLMAX: 8	INIVEL: 0.0
NFP: -300	NLP: 2999	DELT: 100	DASTAT: AM
INSCOM:			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 1	CURNO: 011	
SENTYP: AC	SENLOC: 02	SENATT: HDCG	
AXIS: ZL	UNITS: G'S	PREFIL: 1650	
INSMAN: MFG: ENDEVCO,	MODEL: 7264-200,	S/N: AD98	
CALDAT: 17/JAN/90	INSRAT: 200	CHLMAX: 36	INIVEL: 0.0
NFP: -300	NLP: 2999	DELT: 100	DASTAT: AM
INSCOM:			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 1	CURNO: 012	
SENTYP: AC	SENLOC: 02	SENATT: CHST	
AXIS: XL	UNITS: G'S	PREFIL: 1650	
INSMAN: MFG: ENDEVCO,	MODEL: 7264-200,	S/N: B114H	
CALDAT: 17/JAN/90	INSRAT: 200	CHLMAX: 26	INIVEL: 34.9
NFP: -300	NLP: 2999	DELT: 100	DASTAT: AM
INSCOM:			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 1	CURNO: 013	
SENTYP: AC	SENLOC: 02	SENATT: CHST	
AXIS: YL	UNITS: G'S	PREFIL: 1650	
INSMAN: MFG: ENDEVCO,	MODEL: 7264-200,	S/N: B119H	
CALDAT: 17/JAN/90	INSRAT: 200	CHLMAX: 6	INIVEL: 0.0
NFP: -300	NLP: 2999	DELT: 100	DASTAT: AM
INSCOM:			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 1	CURNO: 014	
SENTYP: AC	SENLOC: 02	SENATT: CHST	
AXIS: ZL	UNITS: G'S	PREFIL: 1650	
INSMAN: MFG: ENDEVCO,	MODEL: 7264-200,	S/N: B192H	
CALDAT: 17/JAN/90	INSRAT: 200	CHLMAX: 9	INIVEL: 0.0
NFP: -300	NLP: 2999	DELT: 100	DASTAT: AM
INSCOM:			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 1	CURNO: 015	
SENTYP: LC	SENLOC: 02	SENATT: FMRL	
AXIS: XL	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: GSE INC.,	MODEL: 2430,	S/N: 709	
CALDAT: 16/JAN/90	INSRAT: 3000	CHLMAX: 24	INIVEL: 0.0
NFP: -300	NLP: 2999	DELT: 100	DASTAT: AM
INSCOM:			

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: 710			
CALDAT: 16/JAN/90	INSRAT: 3000	CHLMAX: 25	INIVEL: 0.0
NFP: -300	NLP: 2999	DELT: 100	DASTAT: AM
INSCOM:			

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: 16/JAN/90	INSRAT: 3500	CHLMAX: 0	INIVEL: 0.0
NFP: -300	NLP: 2999	DELT: 100	DASTAT: MN
INSCOM: LOAD CELL FAILURE -- NO DATA			

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: 16/JAN/90	INSRAT: 3500	CHLMAX: 66	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: 16/JAN/90	INSRAT: 3500	CHLMAX: 33	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: 16/JAN/90	INSRAT: 3500	CHLMAX: 67	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: SHBT
 AXIS: OT UNITS: OTH PREFIL: 1650
 INSMAN: MFG: ETI, MODEL: LCP12A-12, S/N: 8803-1
 CALDAT: 25/JAN/90 INSRAT: 30 CHLMAX: 16 INIVEL: 0.0
 NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
 INSCOM: SEAT BELT ELONGATION, UNITS ARE INCHES/IN. (PERCENTAGE BELT STRETCH)

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 022
 SENTYP: DS SENLOC: 02 SENATT: SHBT
 AXIS: OT UNITS: OTH PREFIL: 1650
 INSMAN: MFG: ETI, MODEL: LCP12A-12, S/N: 8712-1
 CALDAT: 25/JAN/90 INSRAT: 30 CHLMAX: 13 INIVEL: 0.0
 NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
 INSCOM: SEAT BELT ELONGATION, UNITS ARE INCHES/IN. (PERCENTAGE BELT STRETCH)

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 023
 SENTYP: AC SENLOC: NA SENATT: SULF
 AXIS: XG UNITS: G'S PREFIL: 1650
 INSMAN: MFG: SETRA, MODEL: 111, S/N: 1123
 CALDAT: 17/JAN/90 INSRAT: 250 CHLMAX: 55 INIVEL: 34.9
 NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
 INSCOM:

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 024
 SENTYP: AC SENLOC: NA SENATT: SURF
 AXIS: XG UNITS: G'S PREFIL: 1650
 INSMAN: MFG: SETRA, MODEL: 111, S/N: 1124
 CALDAT: 17/JAN/90 INSRAT: 250 CHLMAX: 46 INIVEL: 34.9
 NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
 INSCOM:

Instrumentation Information

Inst. Group ID: 5 VEHNO: 1 CURNO: 025
 SENTYP: AC SENLOC: NA SENATT: ENGN
 AXIS: XG UNITS: G'S PREFIL: 1650
 INSMAN: MFG: SETRA, MODEL: 113B, S/N: 1877
 CALDAT: 17/JAN/90 INSRAT: 250 CHLMAX: 86 INIVEL: 34.9
 NFP: -300 NLP: 2999 DELT: 100 DASTAT: AM
 INSCOM:

Instrumentation Information

Inst. Group ID: 5	VEHNO: 1	CURNO: 026	
SENTYP: AC	SENLOC: NA	SENATT: ENGN	
AXIS: XG	UNITS: G'S	PREFIL: 1650	
INSMAN: MFG: SETRA,	MODEL: 113B, S/N: 1878		
CALDAT: 17/JAN/90	INSRAT: 250	CHLMAX: 72	INIVEL: 34.9
NFP: -300	NLP: 2999	DELT: 100	DASTAT: AM
INSCOM:			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 1	CURNO: 027	
SENTYP: AC	SENLOC: NA	SENATT: DPLC	
AXIS: XG	UNITS: G'S	PREFIL: 1650	
INSMAN: MFG: SETRA,	MODEL: 111, S/N: 1108		
CALDAT: 17/JAN/90	INSRAT: 250	CHLMAX: 51	INIVEL: 34.9
NFP: -300	NLP: 2999	DELT: 100	DASTAT: AM
INSCOM:			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 1	CURNO: 028	
SENTYP: AC	SENLOC: NA	SENATT: FLRR	
AXIS: XG	UNITS: G'S	PREFIL: 1650	
INSMAN: MFG: SETRA,	MODEL: 111, S/N: 1103		
CALDAT: 17/JAN/90	INSRAT: 100	CHLMAX: 48	INIVEL: 34.9
NFP: -300	NLP: 2999	DELT: 100	DASTAT: AM
INSCOM:			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 1	CURNO: 029	
SENTYP: AC	SENLOC: NA	SENATT: FLRR	
AXIS: XG	UNITS: G'S	PREFIL: 1650	
INSMAN: MFG: SETRA,	MODEL: 111, S/N: 1105		
CALDAT: 17/JAN/90	INSRAT: 100	CHLMAX: 35	INIVEL: 34.9
NFP: -300	NLP: 2999	DELT: 100	DASTAT: QD
INSCOM: DATA OFFSET ON RETURN TO ZERO; UNKNOWN CAUSE			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 0	CURNO: 030	
SENTYP: LC	SENLOC: NA	SENATT: LCA1	
AXIS: XG	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: INTERFACE,	MODEL: 1220-FS, S/N: 19349		
CALDAT: 14/MAY/85	INSRAT: 50000	CHLMAX: 2	INIVEL: 0.0
NFP: -250	NLP: 2499	DELT: 120	DASTAT: AM
INSCOM:			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 0	CURNO: 031	
SENTYP: LC	SENLOC: NA	SENATT: LCA2	
AXIS: XG	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: INTERFACE, MODEL: 1220-FS,		S/N: 19324	
CALDAT: 14/MAY/85	INSRAT: 50000	CHLMAX: 2	INIVEL: 0.0
NFP: -250	NLP: 2499	DELT: 120	DASTAT: AM
INSCOM:			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 0	CURNO: 032	
SENTYP: LC	SENLOC: NA	SENATT: LCA3	
AXIS: XG	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: INTERFACE, MODEL: 1220-FS,		S/N: 19283	
CALDAT: 14/MAY/85	INSRAT: 50000	CHLMAX: 34	INIVEL: 0.0
NFP: -250	NLP: 2499	DELT: 120	DASTAT: AM
INSCOM:			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 0	CURNO: 033	
SENTYP: LC	SENLOC: NA	SENATT: LCA4	
AXIS: XG	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: INTERFACE, MODEL: 1220-FS,		S/N: 19263	
CALDAT: 14/MAY/85	INSRAT: 50000	CHLMAX: 22	INIVEL: 0.0
NFP: -250	NLP: 2499	DELT: 120	DASTAT: AM
INSCOM:			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 0	CURNO: 034	
SENTYP: LC	SENLOC: NA	SENATT: LCA5	
AXIS: XG	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: INTERFACE, MODEL: 1220-FS,		S/N: 19265	
CALDAT: 14/MAY/85	INSRAT: 50000	CHLMAX: 35	INIVEL: 0.0
NFP: -250	NLP: 2499	DELT: 120	DASTAT: AM
INSCOM:			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 0	CURNO: 035	
SENTYP: LC	SENLOC: NA	SENATT: LCA6	
AXIS: XG	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: INTERFACE, MODEL: 1220-FS,		S/N: 19266	
CALDAT: 14/MAY/85	INSRAT: 50000	CHLMAX: 12	INIVEL: 0.0
NFP: -250	NLP: 2499	DELT: 120	DASTAT: AM
INSCOM:			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 0	CURNO: 036	
SENTYP: LC	SENLOC: NA	SENATT: LCA7	
AXIS: XG	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: INTERFACE, MODEL: 1220-FS,	S/N: 19317		
CALDAT: 14/MAY/85	INSRAT: 50000	CHLMAX: 10	INIVEL: 0.0
NFP: -250	NLP: 2499	DELT: 120	DASTAT: AM
INSCOM:			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 0	CURNO: 037	
SENTYP: LC	SENLOC: NA	SENATT: LCA8	
AXIS: XG	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: INTERFACE, MODEL: 1220-FS,	S/N: 19270		
CALDAT: 14/MAY/85	INSRAT: 50000	CHLMAX: 4	INIVEL: 0.0
NFP: -250	NLP: 2499	DELT: 120	DASTAT: AM
INSCOM:			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 0	CURNO: 038	
SENTYP: LC	SENLOC: NA	SENATT: LCA9	
AXIS: XG	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: INTERFACE, MODEL: 1220-FS,	S/N: 19428		
CALDAT: 14/MAY/85	INSRAT: 50000	CHLMAX: 2	INIVEL: 0.0
NFP: -250	NLP: 2499	DELT: 120	DASTAT: AM
INSCOM:			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 0	CURNO: 039	
SENTYP: LC	SENLOC: NA	SENATT: LCB1	
AXIS: XG	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: INTERFACE, MODEL: 1220-FS,	S/N: 19273		
CALDAT: 14/MAY/85	INSRAT: 50000	CHLMAX: 2	INIVEL: 0.0
NFP: -250	NLP: 2499	DELT: 120	DASTAT: AM
INSCOM:			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 0	CURNO: 040	
SENTYP: LC	SENLOC: NA	SENATT: LCB2	
AXIS: XG	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: INTERFACE, MODEL: 1220-FS,	S/N: 19276		
CALDAT: 14/MAY/85	INSRAT: 50000	CHLMAX: 15	INIVEL: 0.0
NFP: -250	NLP: 2499	DELT: 120	DASTAT: AM
INSCOM:			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 0	CURNO: 041	
SENTYP: LC	SENLOC: NA	SENATT: LCB3	
AXIS: XG	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: INTERFACE, MODEL: 1220-FS,	S/N: 19258		
CALDAT: 14/MAY/85	INSRAT: 50000	CHLMAX: 19	INIVEL: 0.0
NFP: -250	NLP: 2499	DELT: 120	DASTAT: AM
INSCOM:			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 0	CURNO: 042	
SENTYP: LC	SENLOC: NA	SENATT: LCB4	
AXIS: XG	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: INTERFACE, MODEL: 1220-FS,	S/N: 19278		
CALDAT: 14/MAY/85	INSRAT: 50000	CHLMAX: 32	INIVEL: 0.0
NFP: -250	NLP: 2499	DELT: 120	DASTAT: AM
INSCOM:			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 0	CURNO: 043	
SENTYP: LC	SENLOC: NA	SENATT: LCB5	
AXIS: XG	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: INTERFACE, MODEL: 1220-FS,	S/N: 19279		
CALDAT: 14/MAY/85	INSRAT: 50000	CHLMAX: 41	INIVEL: 0.0
NFP: -250	NLP: 2499	DELT: 120	DASTAT: AM
INSCOM:			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 0	CURNO: 044	
SENTYP: LC	SENLOC: NA	SENATT: LCB6	
AXIS: XG	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: INTERFACE, MODEL: 1220-FS,	S/N: 19282		
CALDAT: 14/MAY/85	INSRAT: 50000	CHLMAX: 26	INIVEL: 0.0
NFP: -250	NLP: 2499	DELT: 120	DASTAT: AM
INSCOM:			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 0	CURNO: 045	
SENTYP: LC	SENLOC: NA	SENATT: LCB7	
AXIS: XG	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: INTERFACE, MODEL: 1220-FS,	S/N: 19262		
CALDAT: 14/MAY/85	INSRAT: 50000	CHLMAX: 24	INIVEL: 0.0
NFP: -250	NLP: 2499	DELT: 120	DASTAT: AM
INSCOM:			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 0	CURNO: 046	
SENTYP: LC	SENLOC: NA	SENATT: LCB8	
AXIS: XG	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: INTERFACE, MODEL: 1220-FS,	S/N: 19285		
CALDAT: 14/MAY/85	INSRAT: 50000	CHLMAX: 20	INIVEL: 0.0
NFP: -250	NLP: 2499	DELT: 120	DASTAT: AM
INSCOM:			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 0	CURNO: 047	
SENTYP: LC	SENLOC: NA	SENATT: LCB9	
AXIS: XG	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: INTERFACE, MODEL: 1220-FS,	S/N: 19286		
CALDAT: 14/MAY/85	INSRAT: 50000	CHLMAX: 2	INIVEL: 0.0
NFP: -250	NLP: 2499	DELT: 120	DASTAT: AM
INSCOM:			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 0	CURNO: 048	
SENTYP: LC	SENLOC: NA	SENATT: LCC1	
AXIS: XG	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: INTERFACE, MODEL: 1220-FS,	S/N: 19287		
CALDAT: 14/MAY/85	INSRAT: 50000	CHLMAX: 2	INIVEL: 0.0
NFP: -250	NLP: 2499	DELT: 120	DASTAT: AM
INSCOM:			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 0	CURNO: 049	
SENTYP: LC	SENLOC: NA	SENATT: LCC2	
AXIS: XG	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: INTERFACE, MODEL: 1220-FS,	S/N: 19288		
CALDAT: 14/MAY/85	INSRAT: 50000	CHLMAX: 7	INIVEL: 0.0
NFP: -250	NLP: 2499	DELT: 120	DASTAT: AM
INSCOM:			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 0	CURNO: 050	
SENTYP: LC	SENLOC: NA	SENATT: LCC3	
AXIS: XG	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: INTERFACE, MODEL: 1220-FS,	S/N: 19289		
CALDAT: 14/MAY/85	INSRAT: 50000	CHLMAX: 14	INIVEL: 0.0
NFP: -250	NLP: 2499	DELT: 120	DASTAT: AM
INSCOM:			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 0	CURNO: 051	
SENTYP: LC	SENLOC: NA	SENATT: LCC4	
AXIS: XG	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: INTERFACE, MODEL: 1220-FS,	S/N: 19291		
CALDAT: 14/MAY/85	INSRAT: 50000	CHLMAX: 17	INIVEL: 0.0
NFP: -250	NLP: 2499	DELT: 120	DASTAT: AM
INSCOM:			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 0	CURNO: 052	
SENTYP: LC	SENLOC: NA	SENATT: LCC5	
AXIS: XG	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: INTERFACE, MODEL: 1220-FS,	S/N: 19324		
CALDAT: 14/MAY/85	INSRAT: 50000	CHLMAX: 4	INIVEL: 0.0
NFP: -250	NLP: 2499	DELT: 120	DASTAT: AM
INSCOM:			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 0	CURNO: 053	
SENTYP: LC	SENLOC: NA	SENATT: LCC6	
AXIS: XG	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: INTERFACE, MODEL: 1220-FS,	S/N: 19313		
CALDAT: 14/MAY/85	INSRAT: 50000	CHLMAX: 12	INIVEL: 0.0
NFP: -250	NLP: 2499	DELT: 120	DASTAT: AM
INSCOM:			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 0	CURNO: 054	
SENTYP: LC	SENLOC: NA	SENATT: LCC7	
AXIS: XG	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: INTERFACE, MODEL: 1220-FS,	S/N: 19314		
CALDAT: 14/MAY/85	INSRAT: 50000	CHLMAX: 10	INIVEL: 0.0
NFP: -250	NLP: 2499	DELT: 120	DASTAT: AM
INSCOM:			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 0	CURNO: 055	
SENTYP: LC	SENLOC: NA	SENATT: LCC8	
AXIS: XG	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: INTERFACE, MODEL: 1220-FS,	S/N: 19315		
CALDAT: 14/MAY/85	INSRAT: 50000	CHLMAX: 10	INIVEL: 0.0
NFP: -250	NLP: 2499	DELT: 120	DASTAT: AM
INSCOM:			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 0	CURNO: 056	
SENTYP: LC	SENLOC: NA	SENATT: LCC9	
AXIS: XG	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: INTERFACE, MODEL: 1220-FS,	S/N: 19316		
CALDAT: 14/MAY/85	INSRAT: 50000	CHLMAX: 2	INIVEL: 0.0
NFP: -250	NLP: 2499	DELT: 120	DASTAT: AM
INSCOM:			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 0	CURNO: 057	
SENTYP: LC	SENLOC: NA	SENATT: LCD1	
AXIS: XG	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: INTERFACE, MODEL: 1220-FS,	S/N: 19460		
CALDAT: 14/MAY/85	INSRAT: 50000	CHLMAX: 2	INIVEL: 0.0
NFP: -250	NLP: 2499	DELT: 120	DASTAT: AM
INSCOM:			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 0	CURNO: 058	
SENTYP: LC	SENLOC: NA	SENATT: LCD2	
AXIS: XG	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: INTERFACE, MODEL: 1220-FS,	S/N: 19318		
CALDAT: 14/MAY/85	INSRAT: 50000	CHLMAX: 2	INIVEL: 0.0
NFP: -250	NLP: 2499	DELT: 120	DASTAT: AM
INSCOM:			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 0	CURNO: 059	
SENTYP: LC	SENLOC: NA	SENATT: LCD3	
AXIS: XG	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: INTERFACE, MODEL: 1220-FS,	S/N: 19322		
CALDAT: 14/MAY/85	INSRAT: 50000	CHLMAX: 6	INIVEL: 0.0
NFP: -250	NLP: 2499	DELT: 120	DASTAT: AM
INSCOM:			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 0	CURNO: 060	
SENTYP: LC	SENLOC: NA	SENATT: LCD4	
AXIS: XG	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: INTERFACE, MODEL: 1220-FS,	S/N: 19323		
CALDAT: 14/MAY/85	INSRAT: 50000	CHLMAX: 4	INIVEL: 0.0
NFP: -250	NLP: 2499	DELT: 120	DASTAT: AM
INSCOM:			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 0	CURNO: 061	
SENTYP: LC	SENLOC: NA	SENATT: LCD5	
AXIS: XG	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: INTERFACE, MODEL: 120-FS, S/N: 19260			
CALDAT: 14/MAY/85	INSRAT: 50000	CHLMAX: 3	INIVEL: 0.0
NFP: -250	NLP: 2499	DELT: 120	DASTAT: AM
INSCOM:			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 0	CURNO: 062	
SENTYP: LC	SENLOC: NA	SENATT: LCD6	
AXIS: XG	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: INTERFACE, MODEL: 1220-FS, S/N: 19325			
CALDAT: 14/MAY/85	INSRAT: 50000	CHLMAX: 2	INIVEL: 0.0
NFP: -250	NLP: 2499	DELT: 120	DASTAT: AM
INSCOM:			

Instrumentation Information

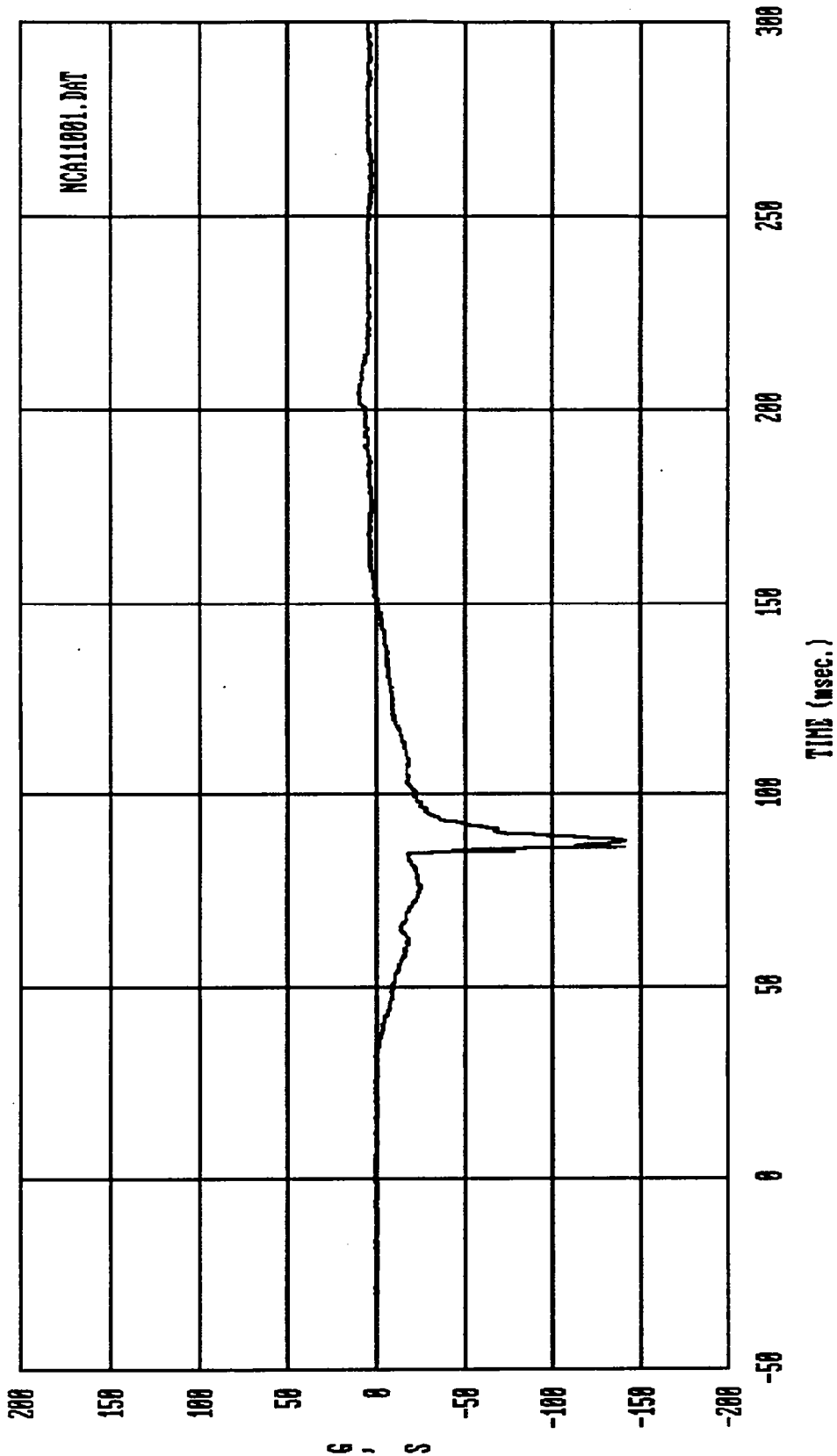
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SENTYP: LC	SENLOC: NA	SENATT: LCD7	
AXIS: XG	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: INTERFACE, MODEL: 1220-FS, S/N: 19332			
CALDAT: 14/MAY/85	INSRAT: 50000	CHLMAX: 6	INIVEL: 0.0
NFP: -250	NLP: 2499	DELT: 120	DASTAT: AM
INSCOM:			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 0	CURNO: 064	
SENTYP: LC	SENLOC: NA	SENATT: LCD8	
AXIS: XG	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: INTERFACE, MODEL: 1220-FS, S/N: 19333			
CALDAT: 14/MAY/85	INSRAT: 50000	CHLMAX: 4	INIVEL: 0.0
NFP: -250	NLP: 2499	DELT: 120	DASTAT: AM
INSCOM:			

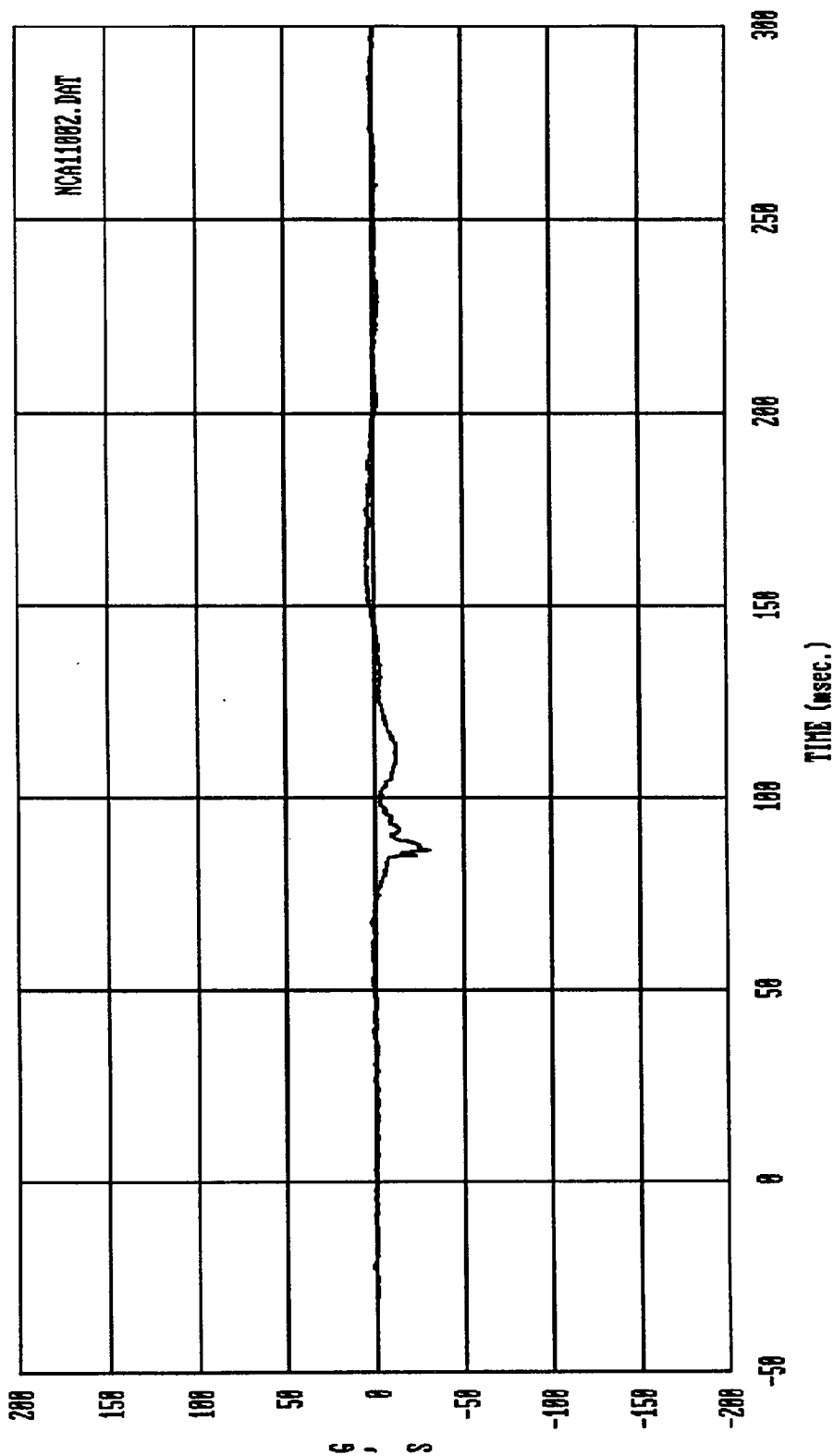
Instrumentation Information

Inst. Group ID: 5	VEHNO: 0	CURNO: 065	
SENTYP: LC	SENLOC: NA	SENATT: LCD9	
AXIS: XG	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: INTERFACE, MODEL: 1220-FS, S/N: 19466			
CALDAT: 14/MAY/85	INSRAT: 50000	CHLMAX: 2	INIVEL: 0.0
NFP: -250	NLP: 2499	DELT: 120	DASTAT: AM
INSCOM:			

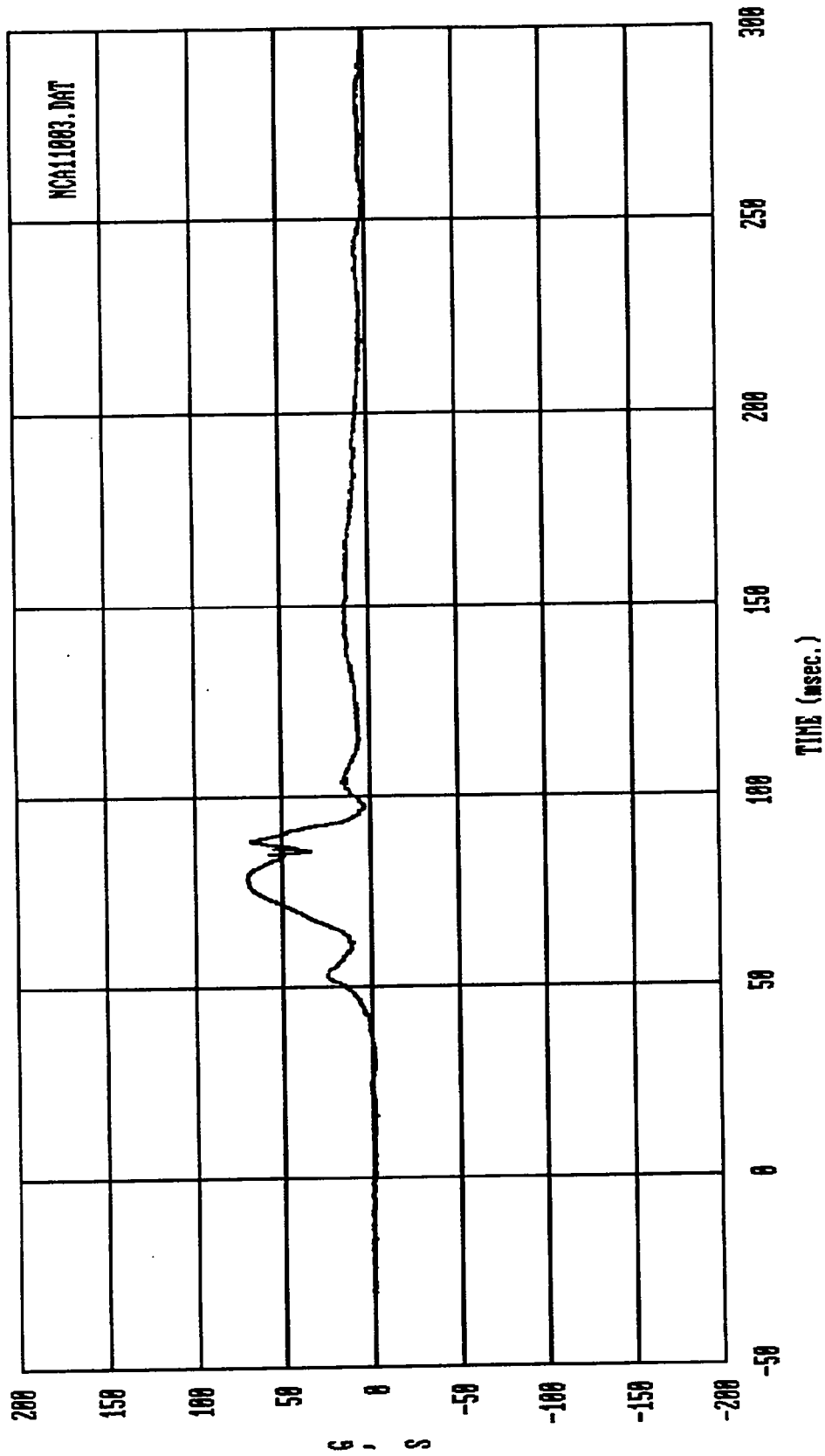


Curve: Driver Head acceleration -- X axis Filter: SAE CLASS 1000 Max = 10.010 Min = -142.11

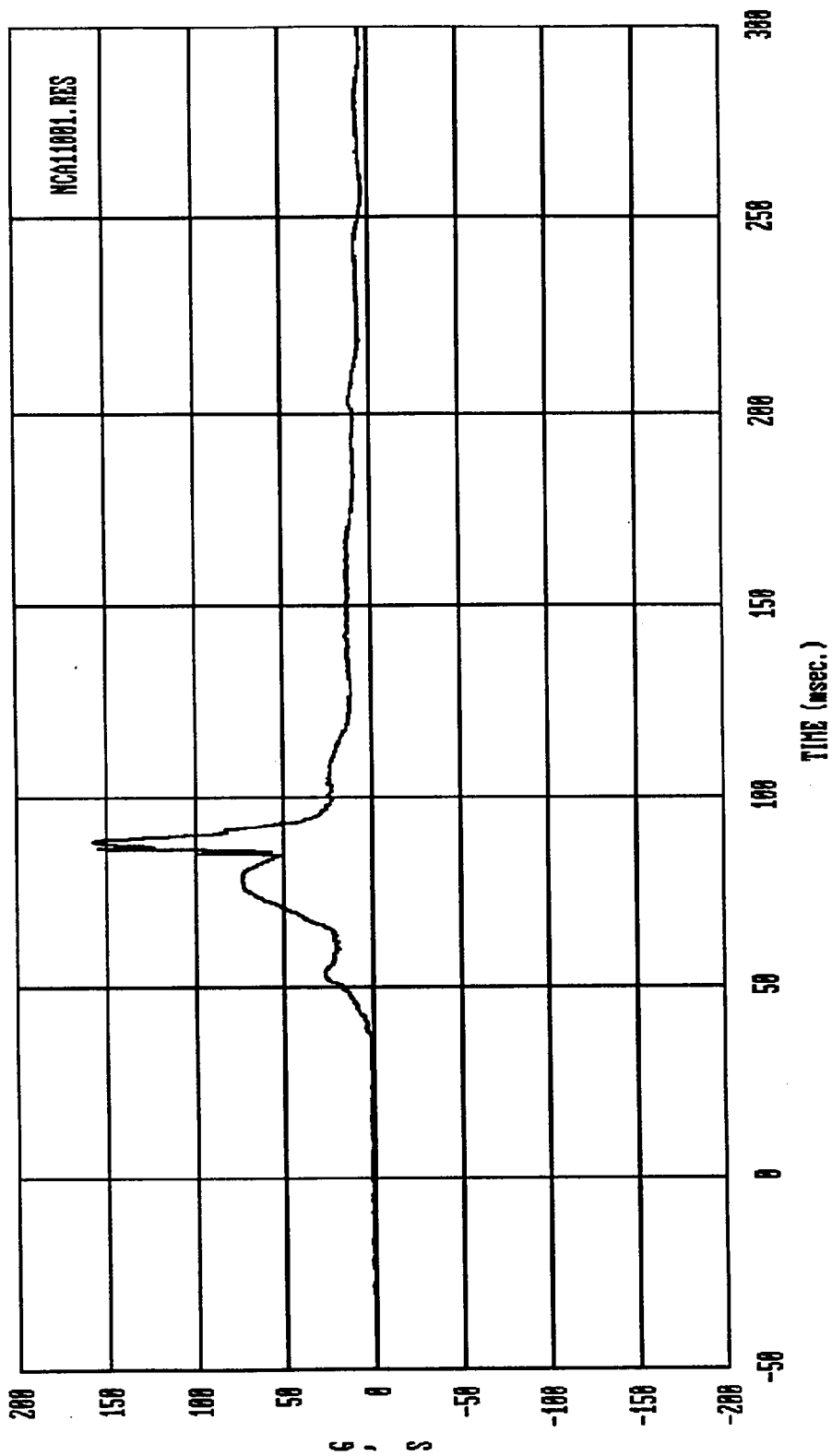
MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude



Curve: Driver Head acceleration — Y axis Filter: SAE CLASS 1000 Max = 5.3343 Min = -30.172
MSE Date: 03/16/98 Program: 1998 New Car Assessment #11 Vehicle: 1998 Honda Prelude

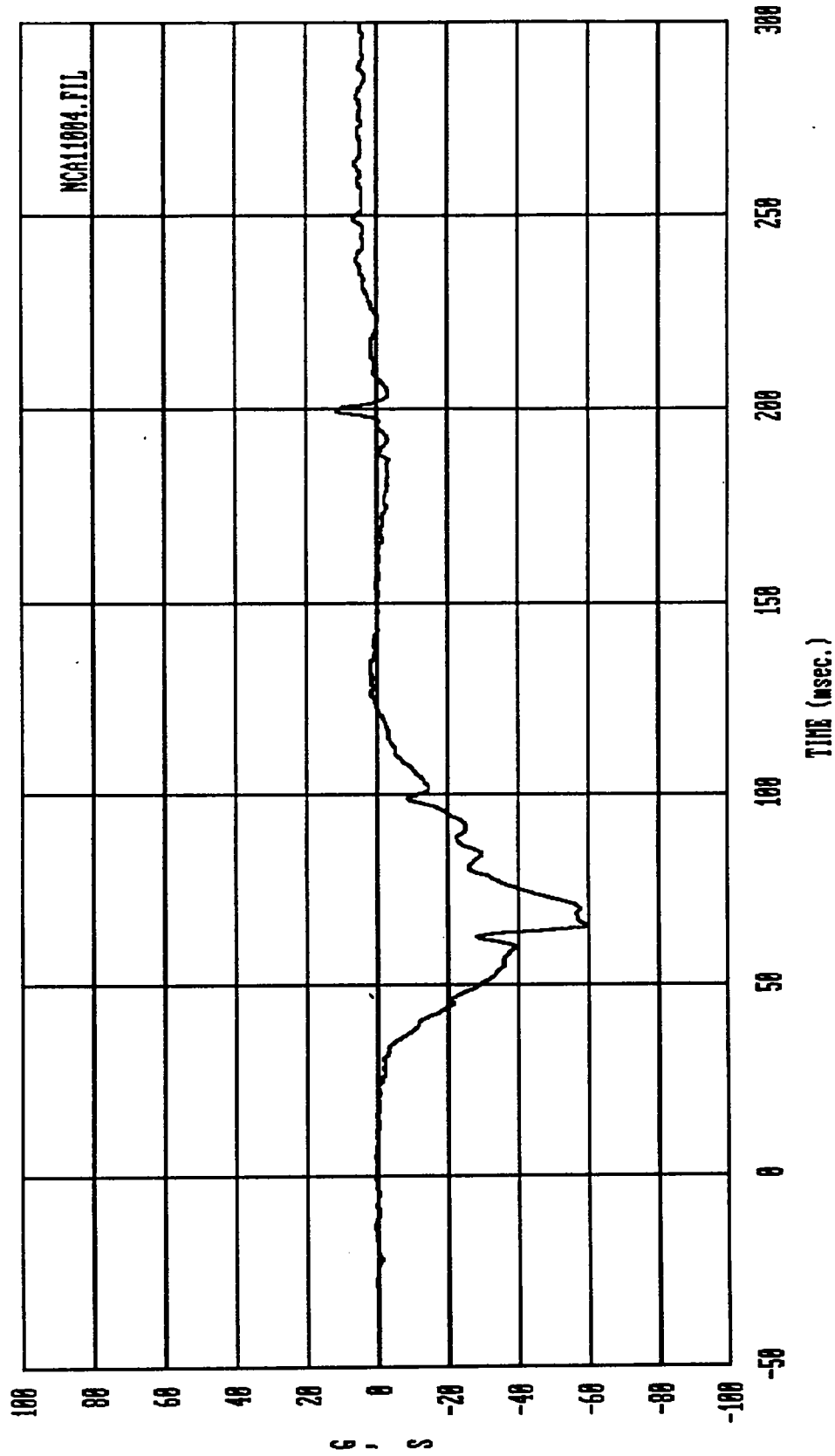


Curve: Driver Head acceleration — Z axis Filter: SAE CLASS 1000 Max = 70.092 Min = -2.0219
MSE Date: 03/16/90 Program: 1998 New Car Assessment #11 Vehicle: 1998 Honda Prelude

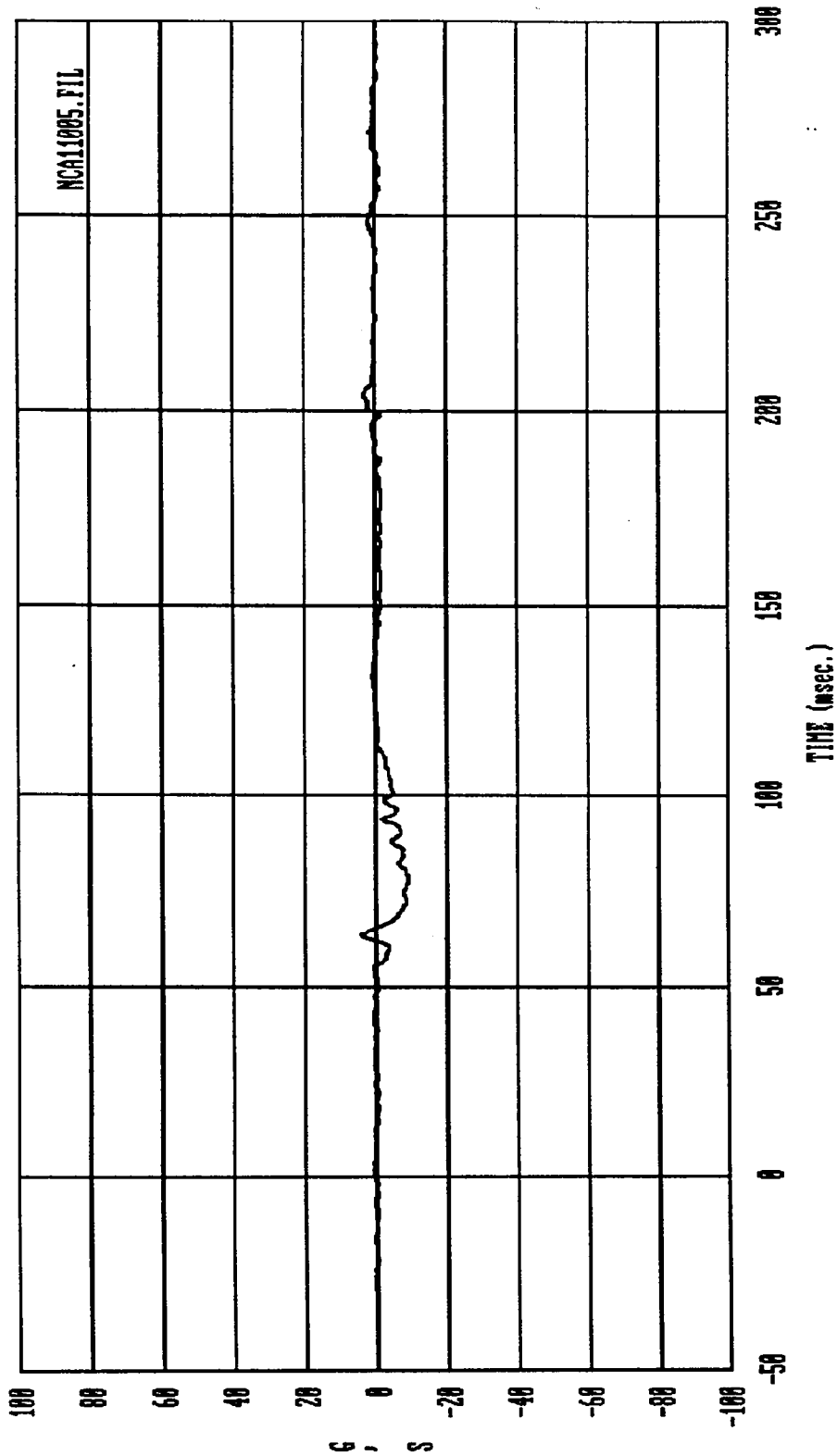


Curve: Driver Head resultant acceleration Filter: SHE CLASS 1000 Max = 157.31 Min = .16409

MSE Date: 03/16/90 Program: 1998 New Car Assessment #11 Vehicle: 1998 Honda Prelude

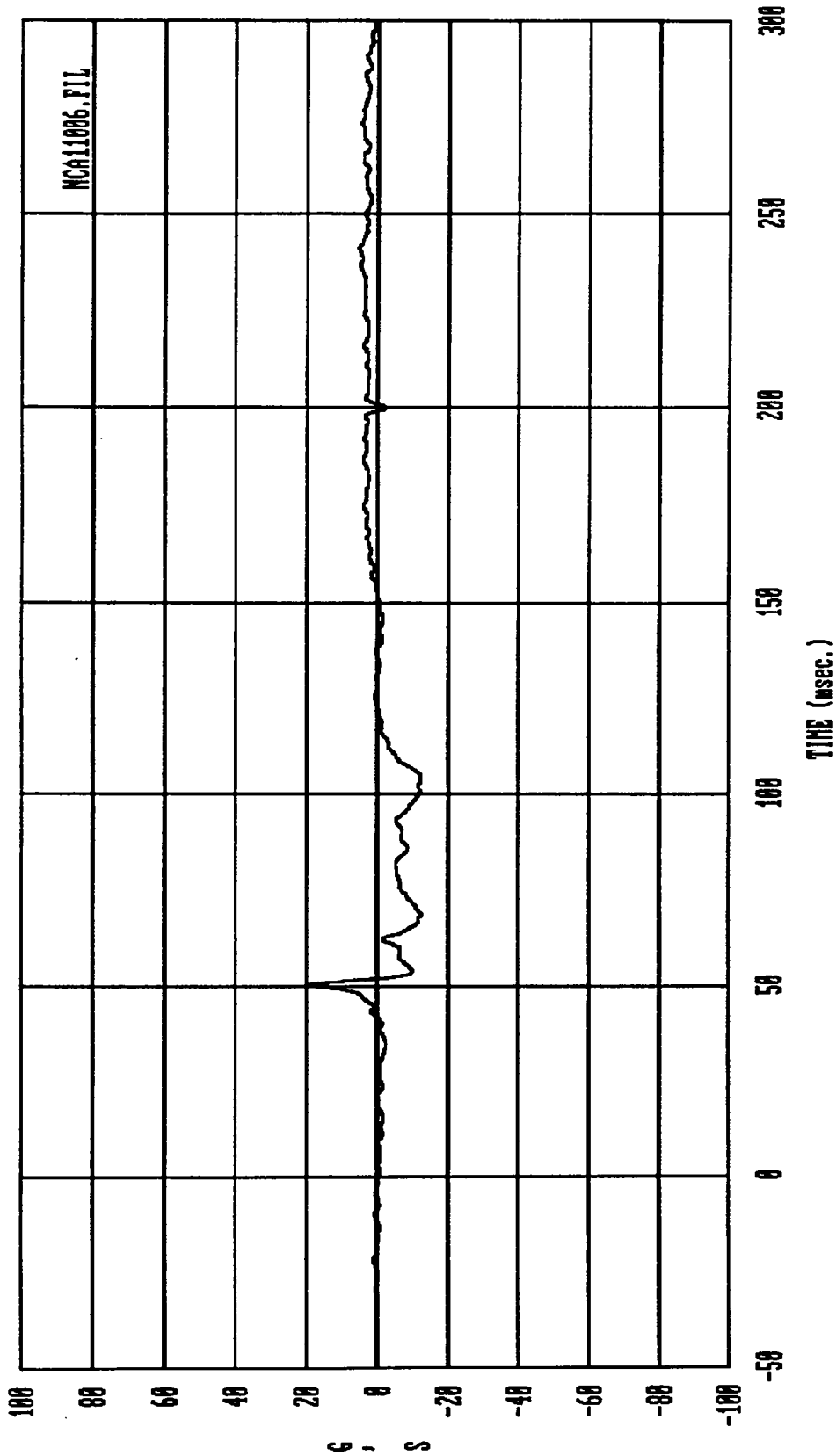


Curve: Driver Chest acceleration -- X axis Filter: SAE CLASS 180 Max = 11.730 Min = -60.293
MSE Date: 03/16/98 Program: 1998 New Car Assessment #11 Vehicle: 1998 Honda Prelude

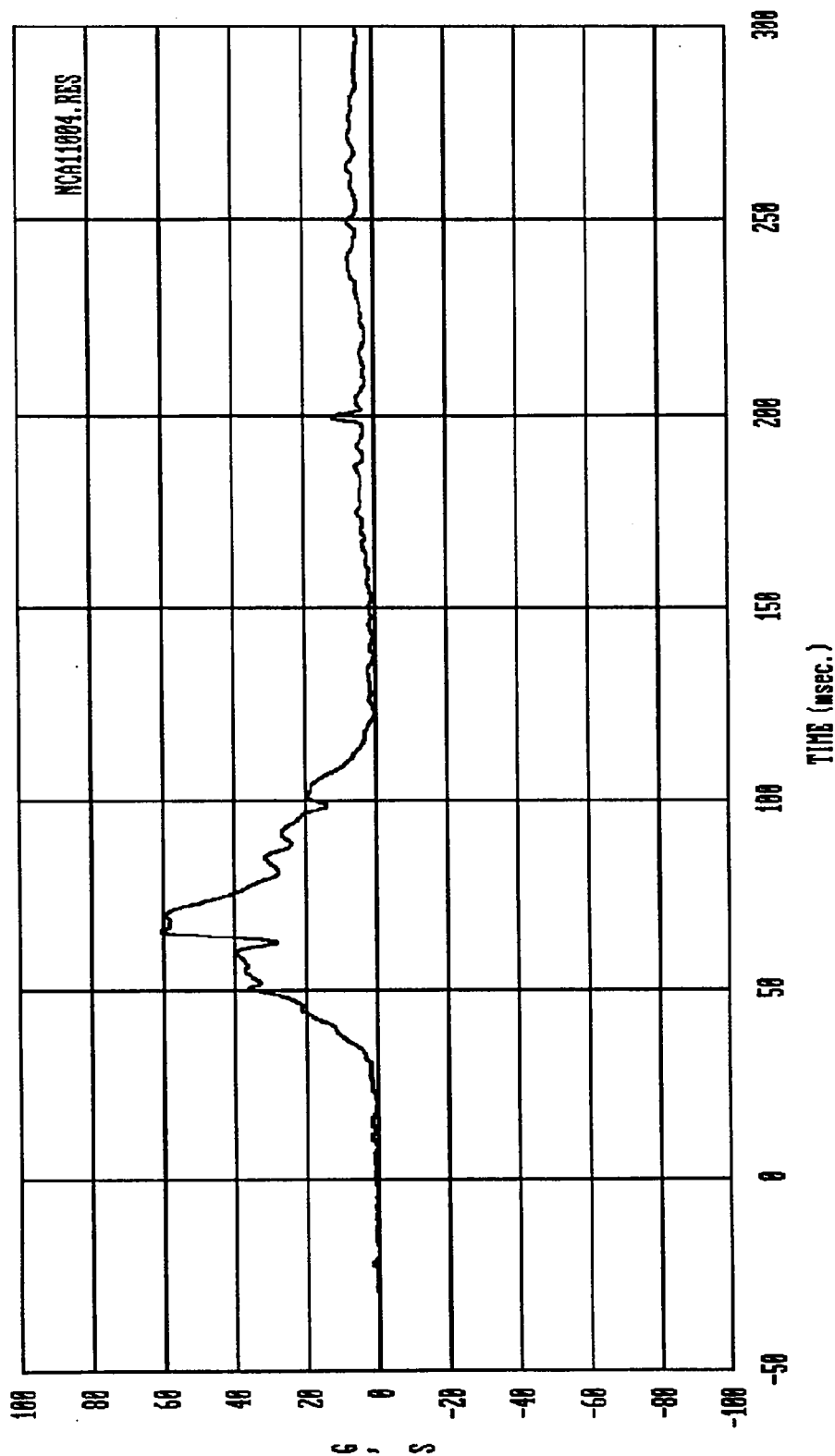


Curve: Driver Chest acceleration -- Y axis Filter: SAE CLASS 180 Max = 4.2607 Min = -8.9044

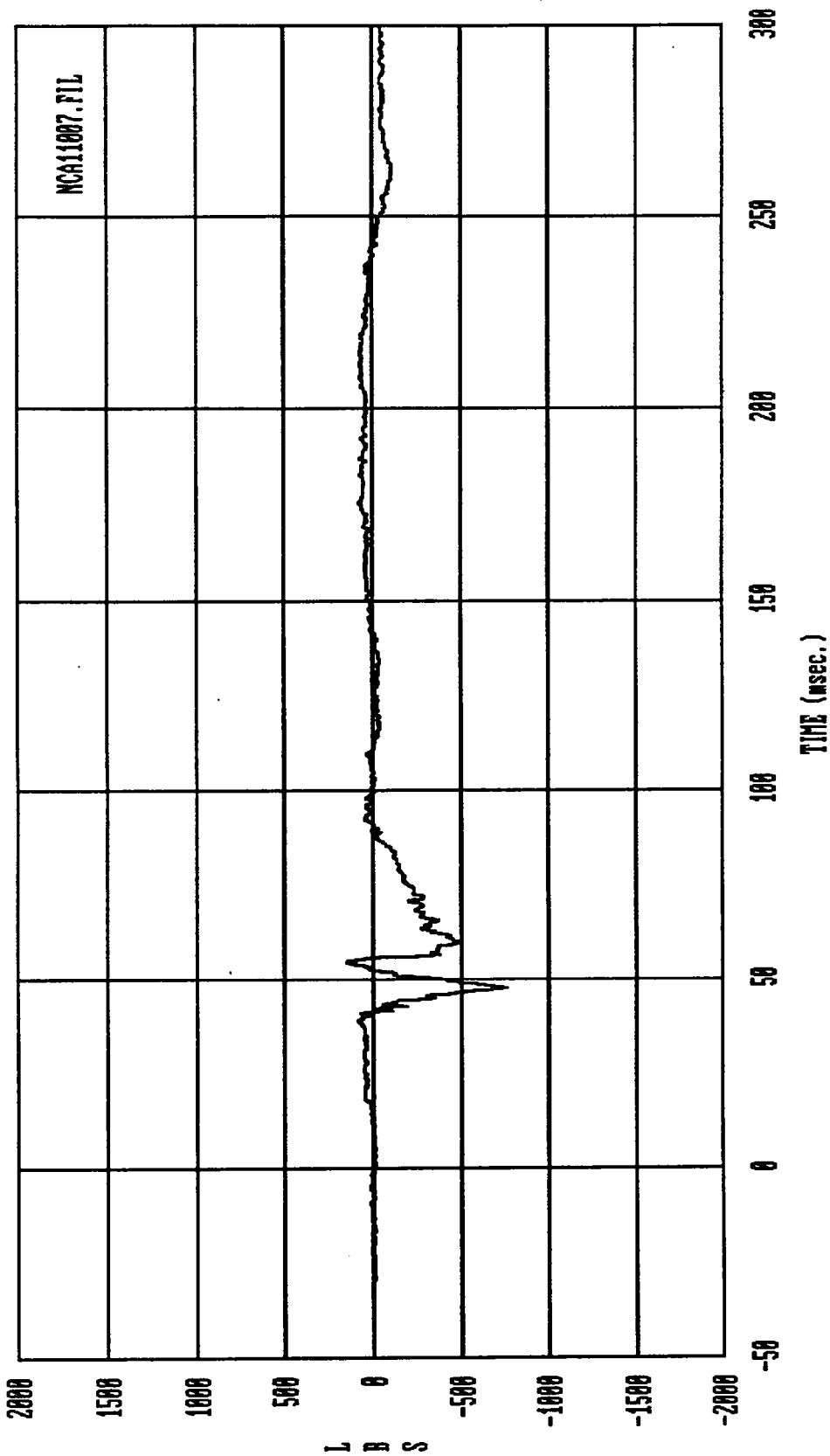
MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude



Curve: Driver Chest acceleration -- Z axis Filter: SAE CLASS 180 Max = 20.862 Min = -12.455
 MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude

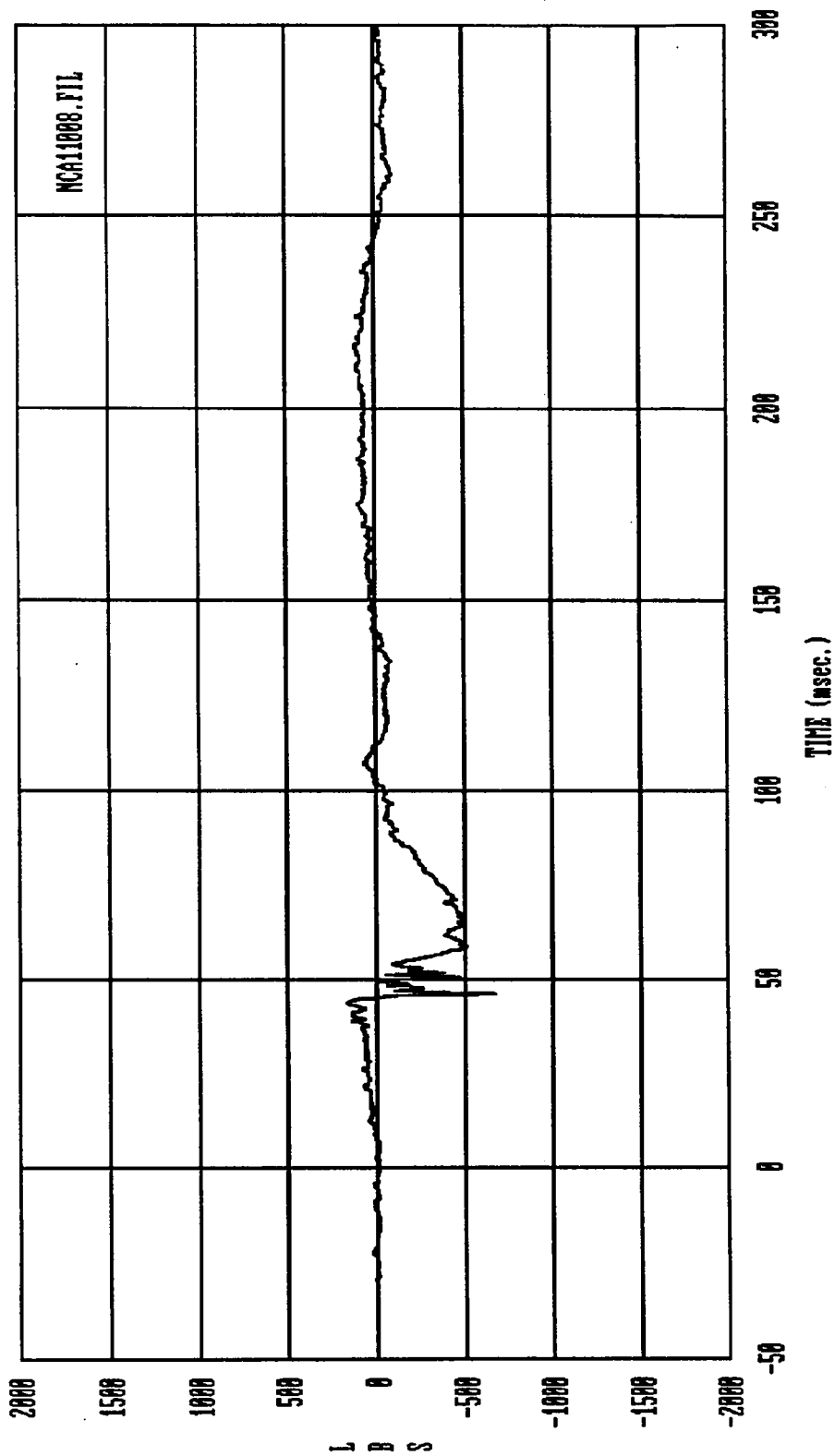


Curve: Driver Chest resultant acceleration Filter: SAE CLASS 100 Max = 60.974 Min = .13681
MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude

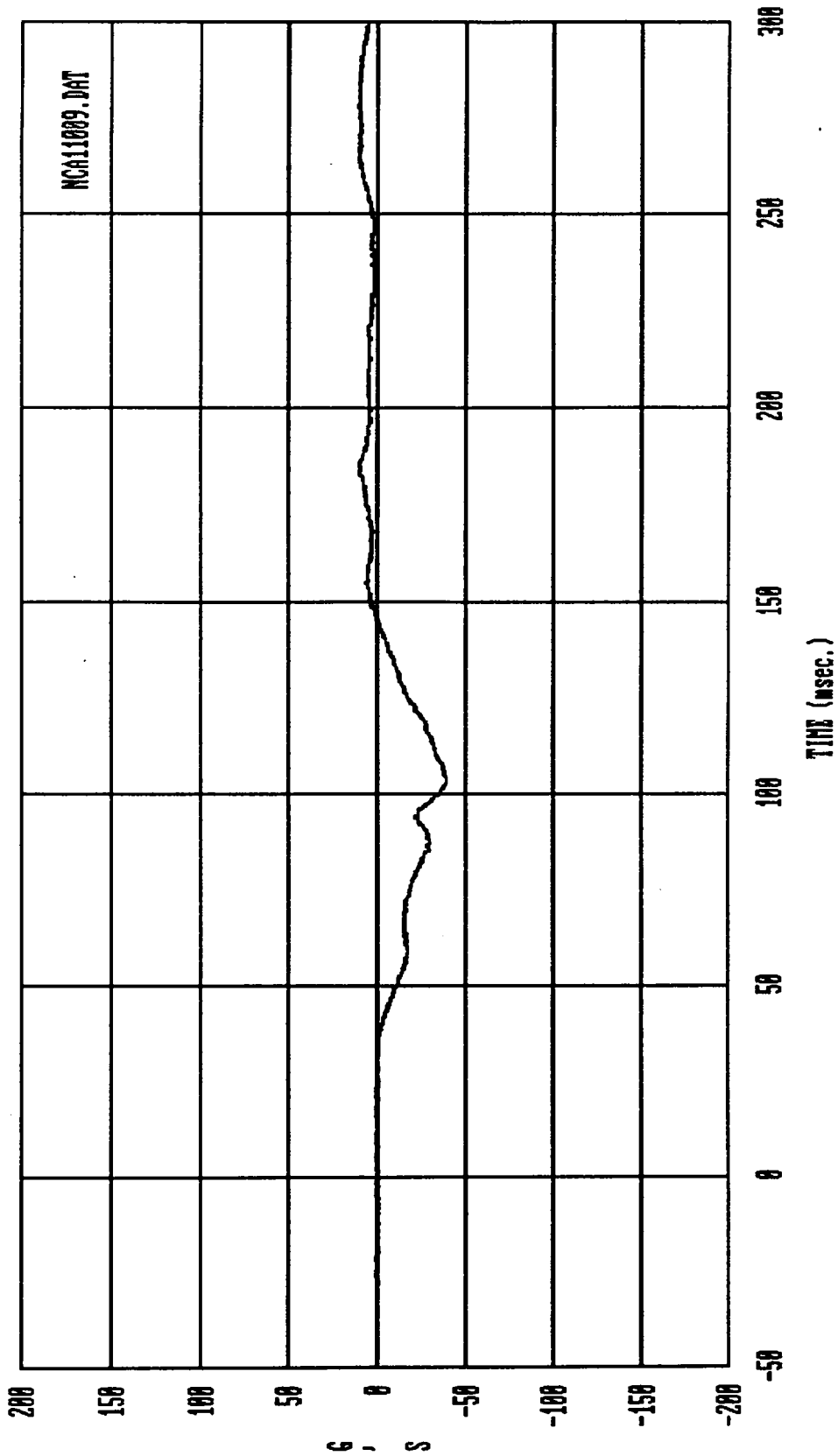


Curve: Driver Left Rear force Filter: SAE CLASS 600 Max = 152.62 Min = -770.49

MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude

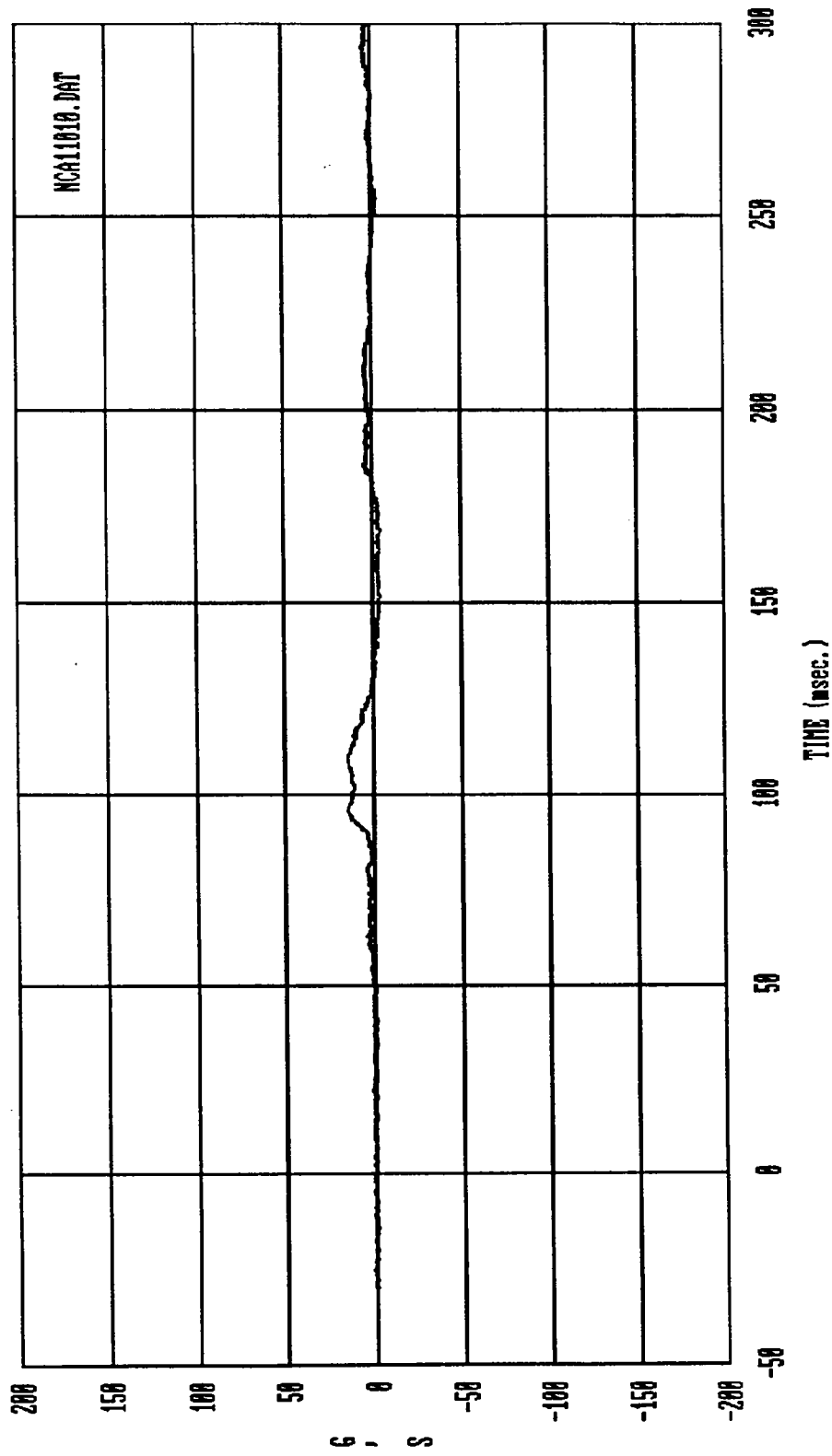


Curve: Driver Right Femur force Filter: SAE CLASS 600 Max = 163.06 Min = -673.83
 MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude



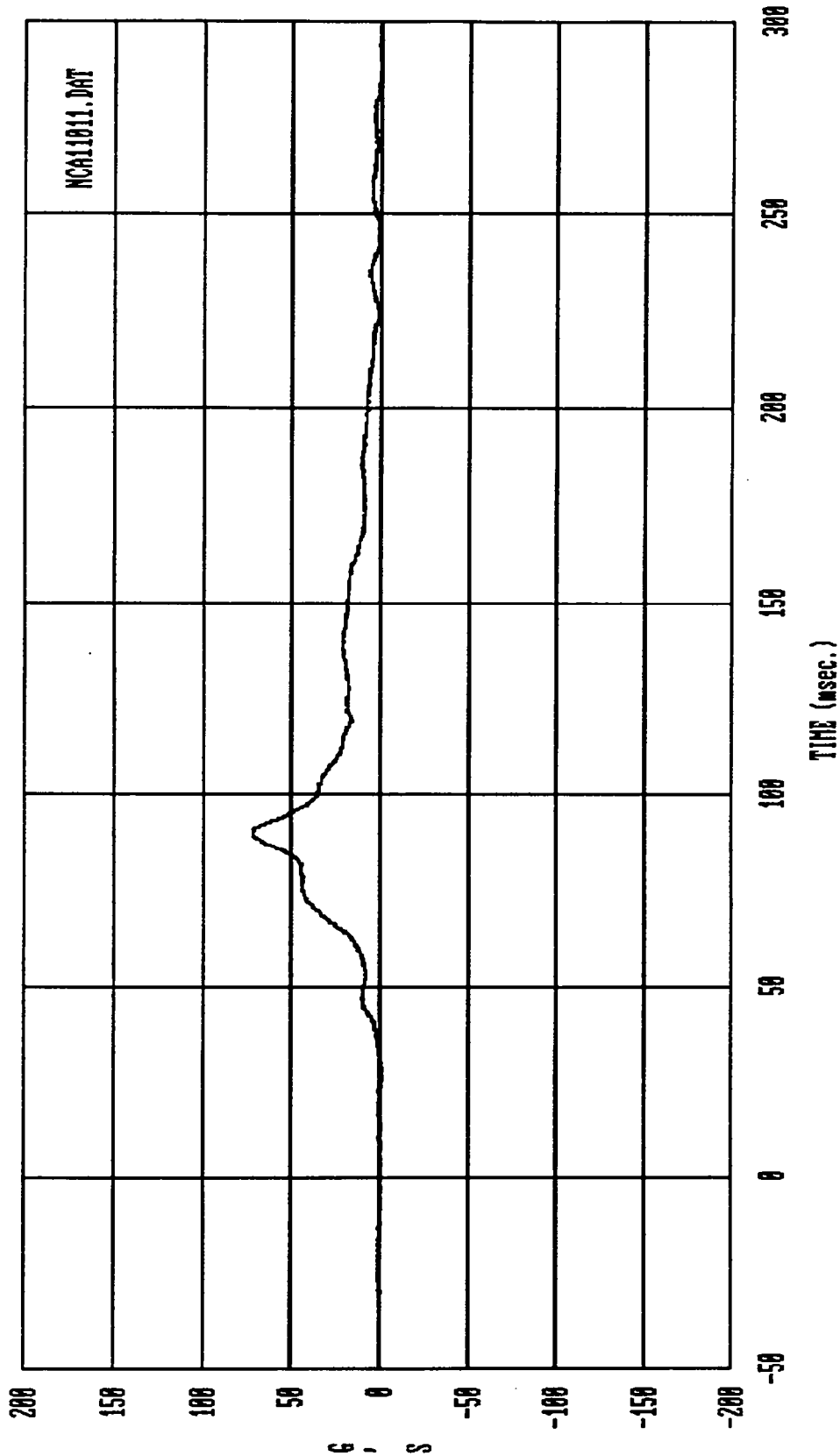
Curve: Pasngr Head acceleration — X axis Filter: SAE CLASS 1000 Max = 10.891 Min = -39.274

MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1998 Honda Prelude



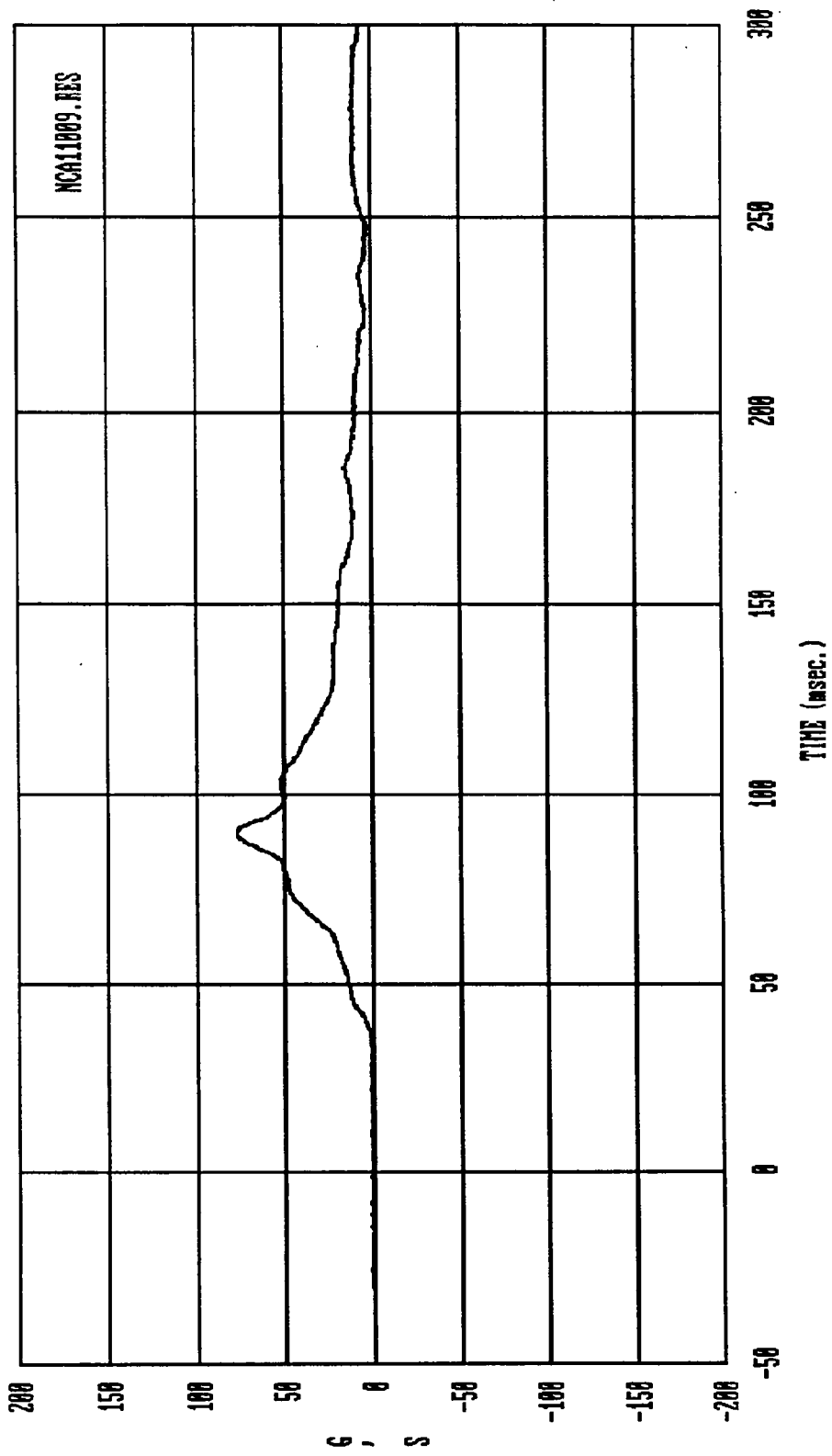
Curve: Pasngr Head acceleration — Y axis Filter: SAE CLASS 1000 Max = 15.795 Min = -4.6144

MSE Date: 03/16/98 Program: 1998 New Car Assessment #11 Vehicle: 1998 Honda Prelude

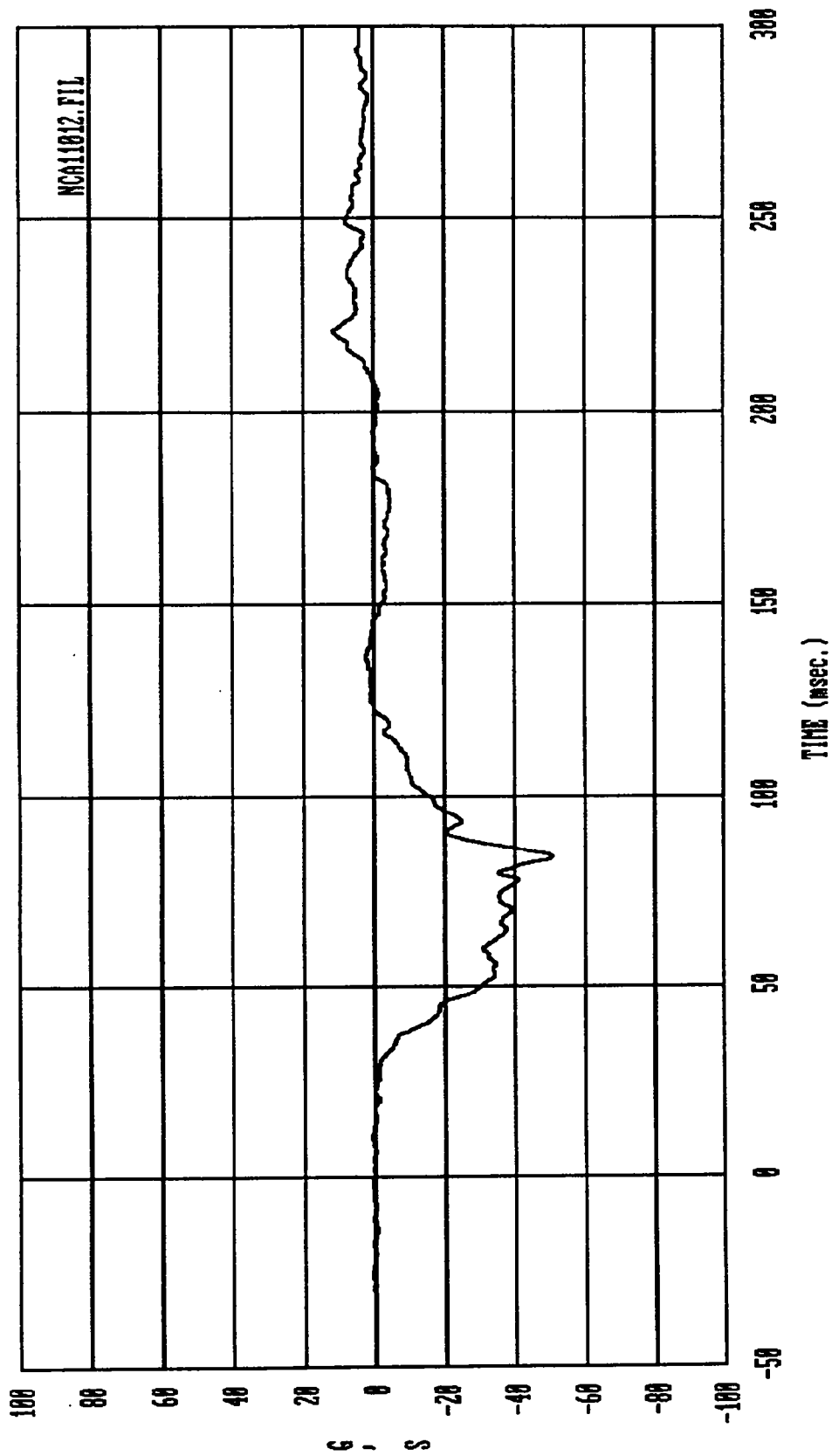


Curve: Pasngr Head acceleration -- Z axis Filter: SAE CLASS 1000 Max = 72.852 Min = -1.4097

MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude

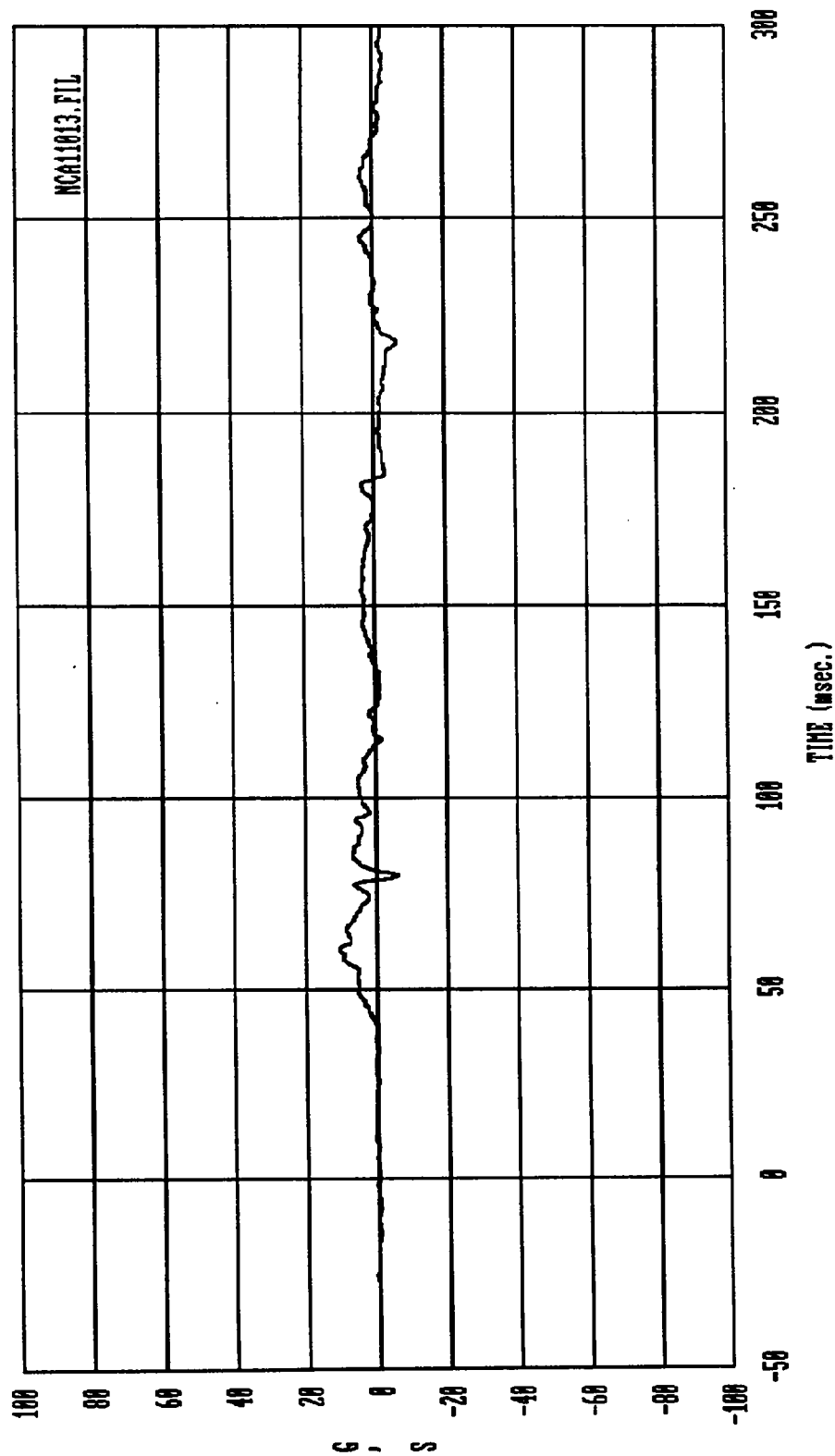


Curve: Pasngr Head resultant acceleration Filter: SAE CLASS 1000 Max = 77.534 Min = .15664
MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude



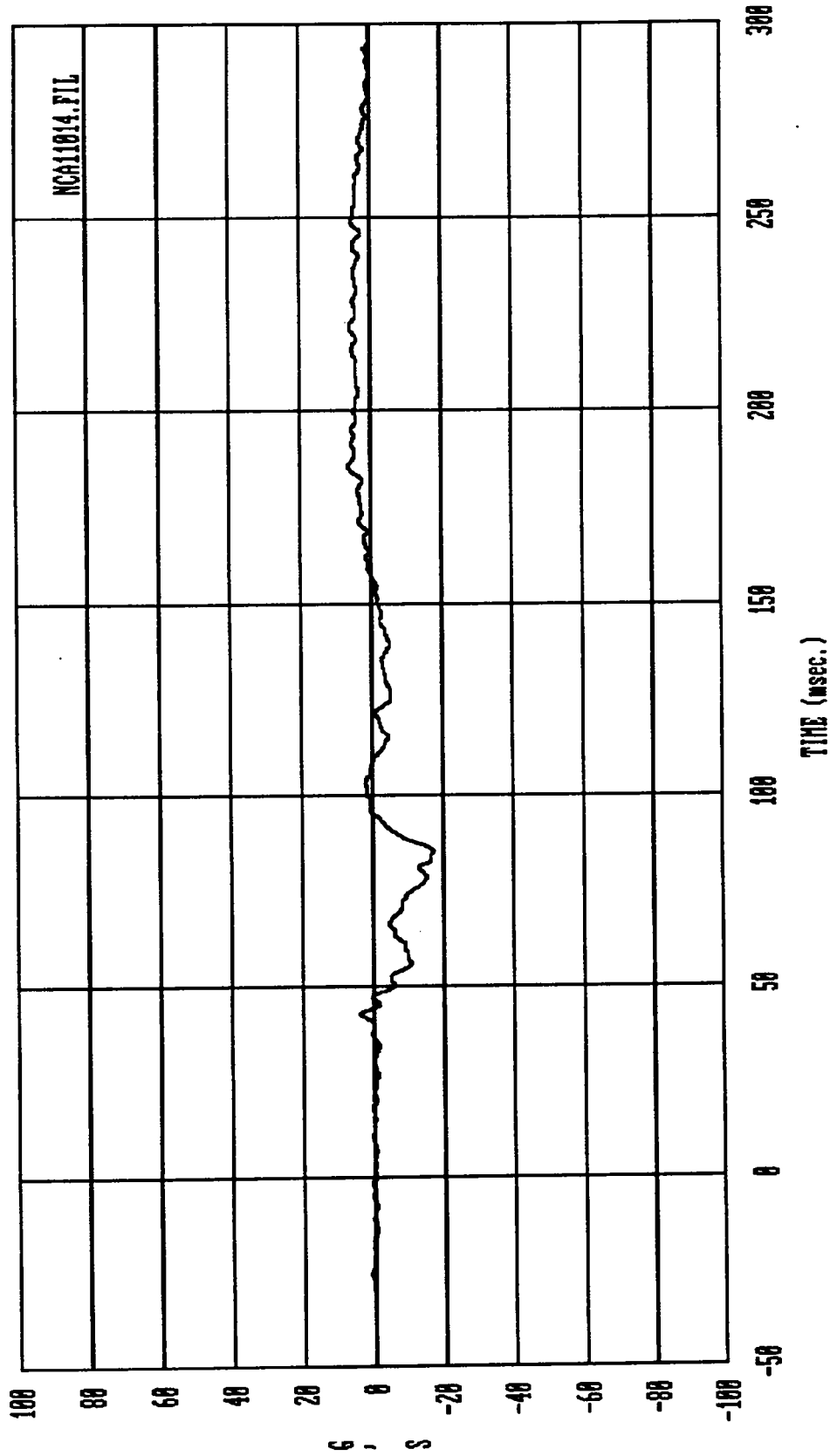
Curve: Pasngr Chest acceleration -- X axis Filter: SAE CLASS 100 Max = 11.361 Min = -50.895

MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude



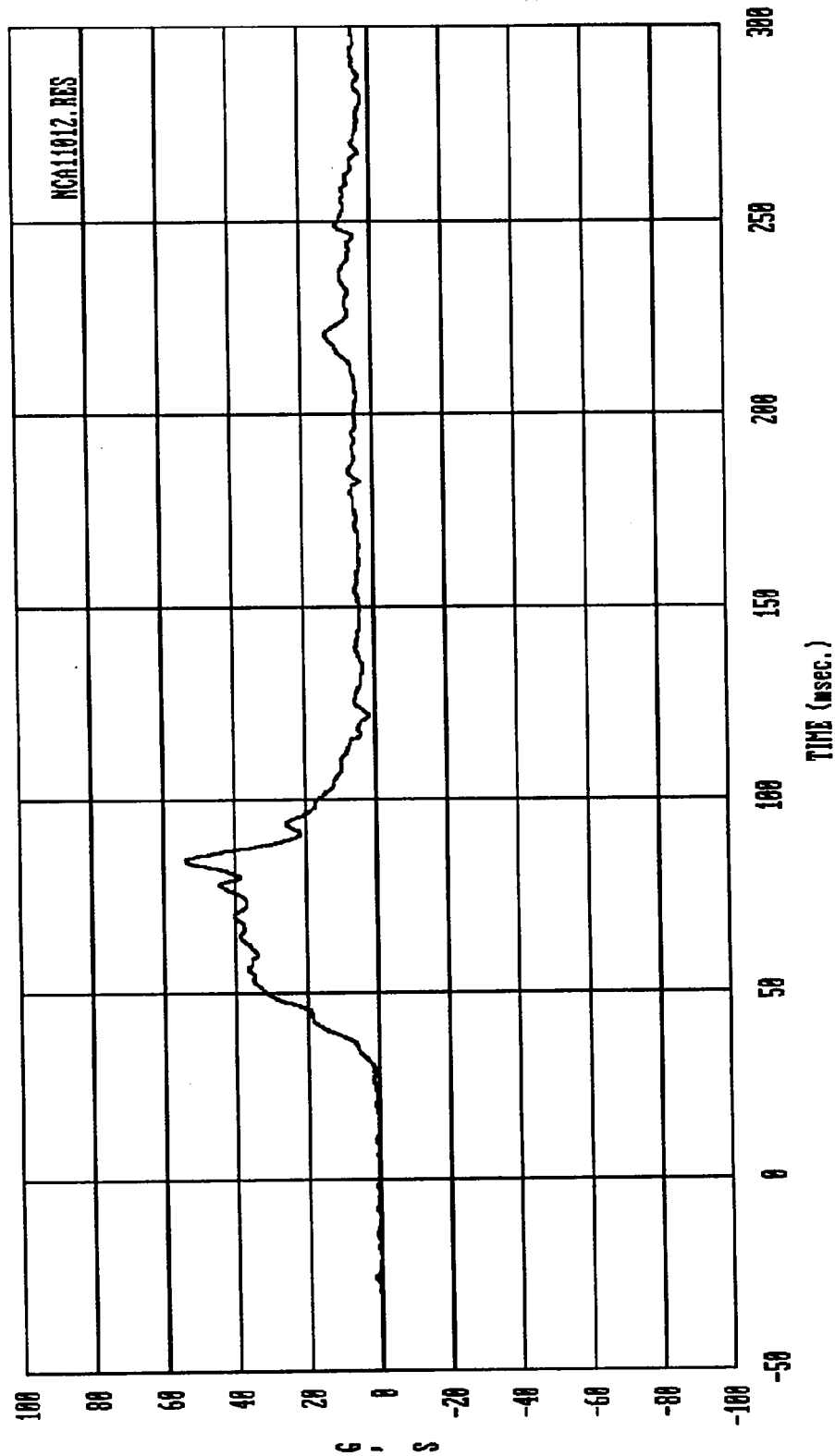
Curve: Pasngr Chest acceleration — Y axis Filter: SAE CLASS 100 Max = 10.604 Min = -6.8229

MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude

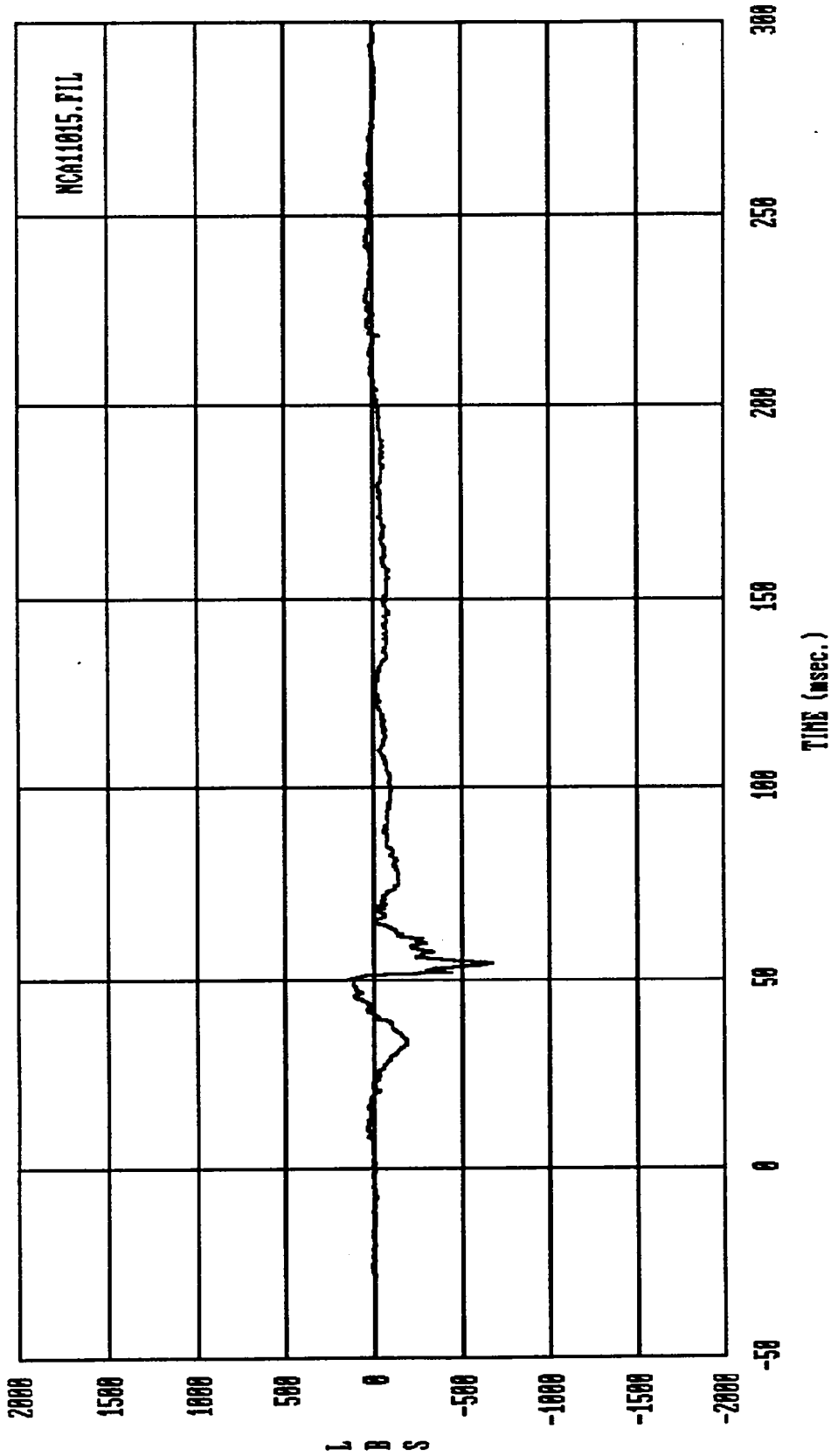


Curve: Pasngr Chest acceleration -- Z axis Filter: SAE CLASS 180 Max = 6.3237 Min = -17.163

MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude

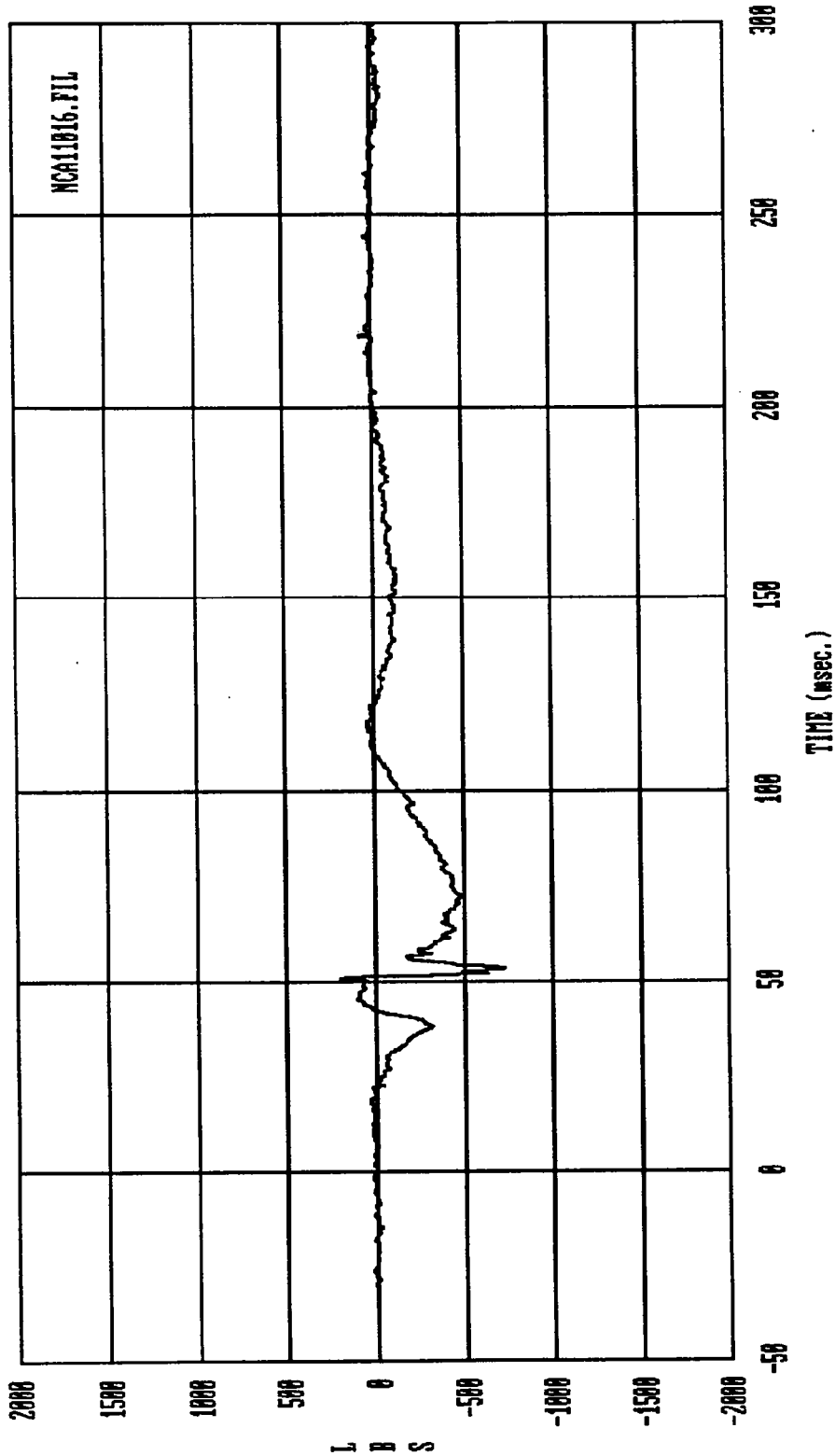


Curve: Passngr Chest resultant acceleration
 Filter: SAE CLASS 100
 Max = 53.850
 Min = .21680
 Date: 03/16/90
 Program: 1990 New Car Assessment #11
 Vehicle: 1990 Honda Prelude
 MSE

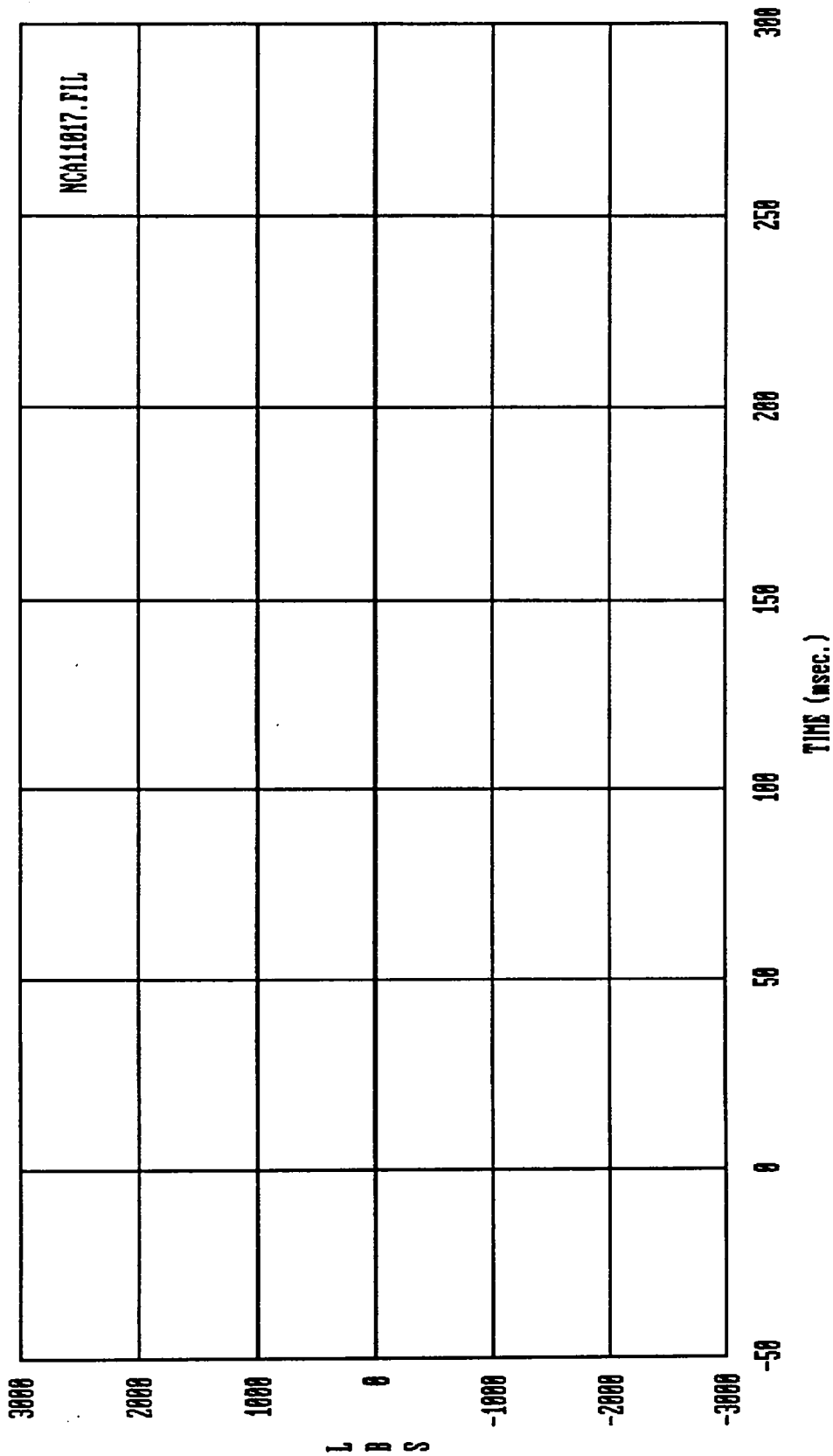


Curve: Passngr Left Rear force Filter: SAE CLASS 600 Max = 155.84 Min = -681.28

MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude

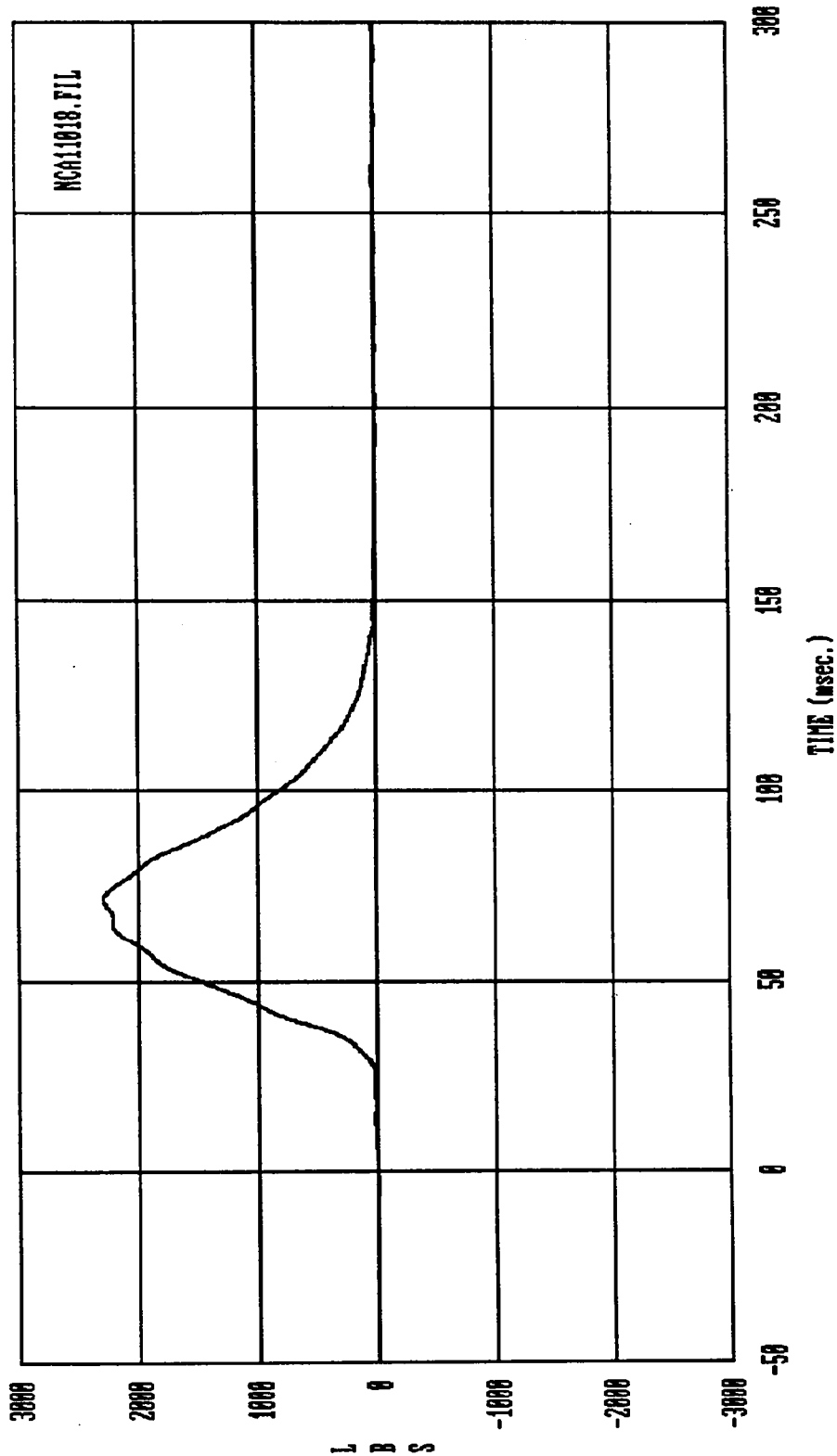


Curve: Pasngr Right Femur force
 Filter: SAE CLASS 600 Max = 193.59 Min = -732.70
 MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude



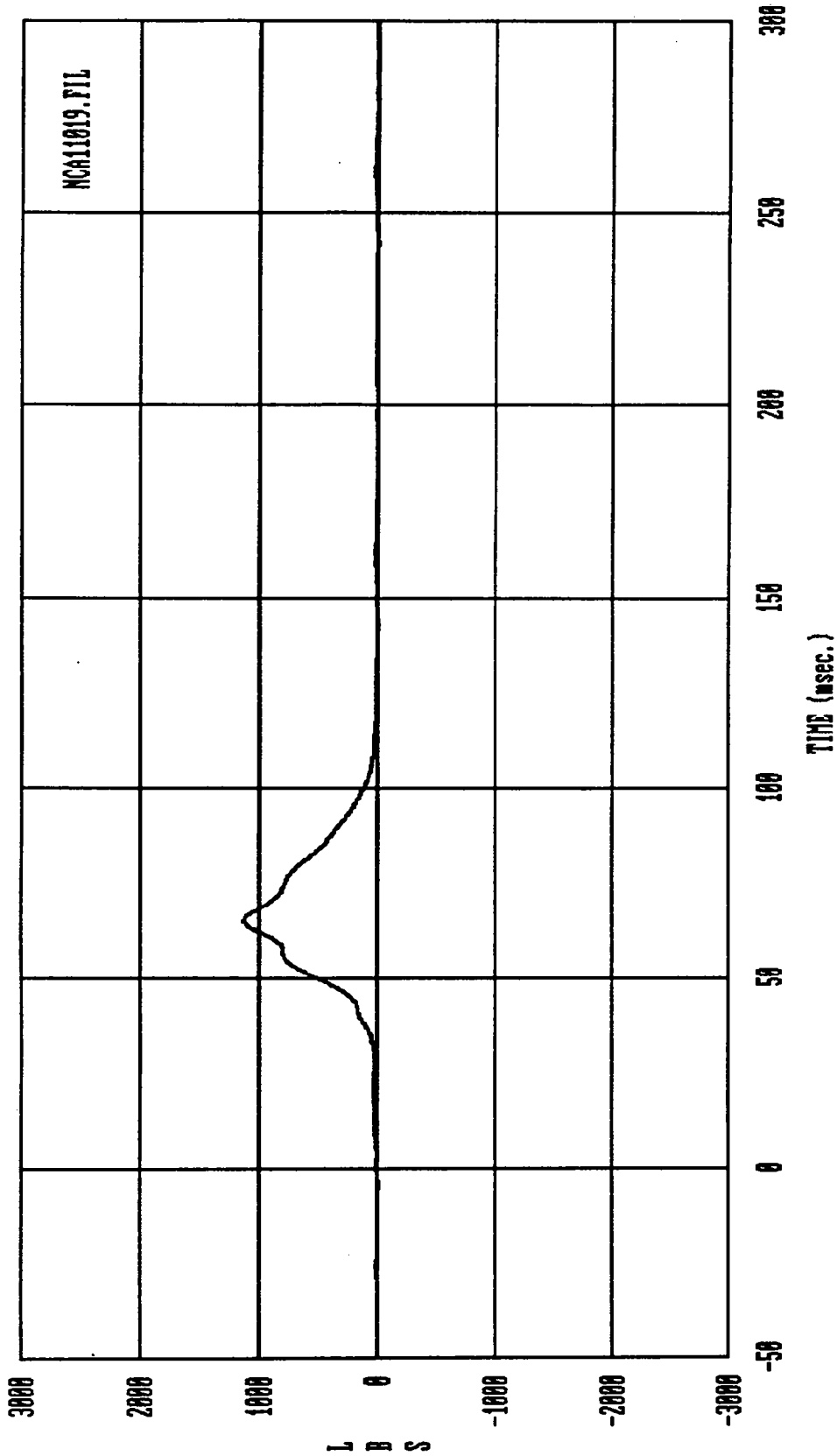
Curve: Driver Lap seat belt force (No data) Filter: SAE CLASS 60 Max = .00000 Min = .00000

MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude



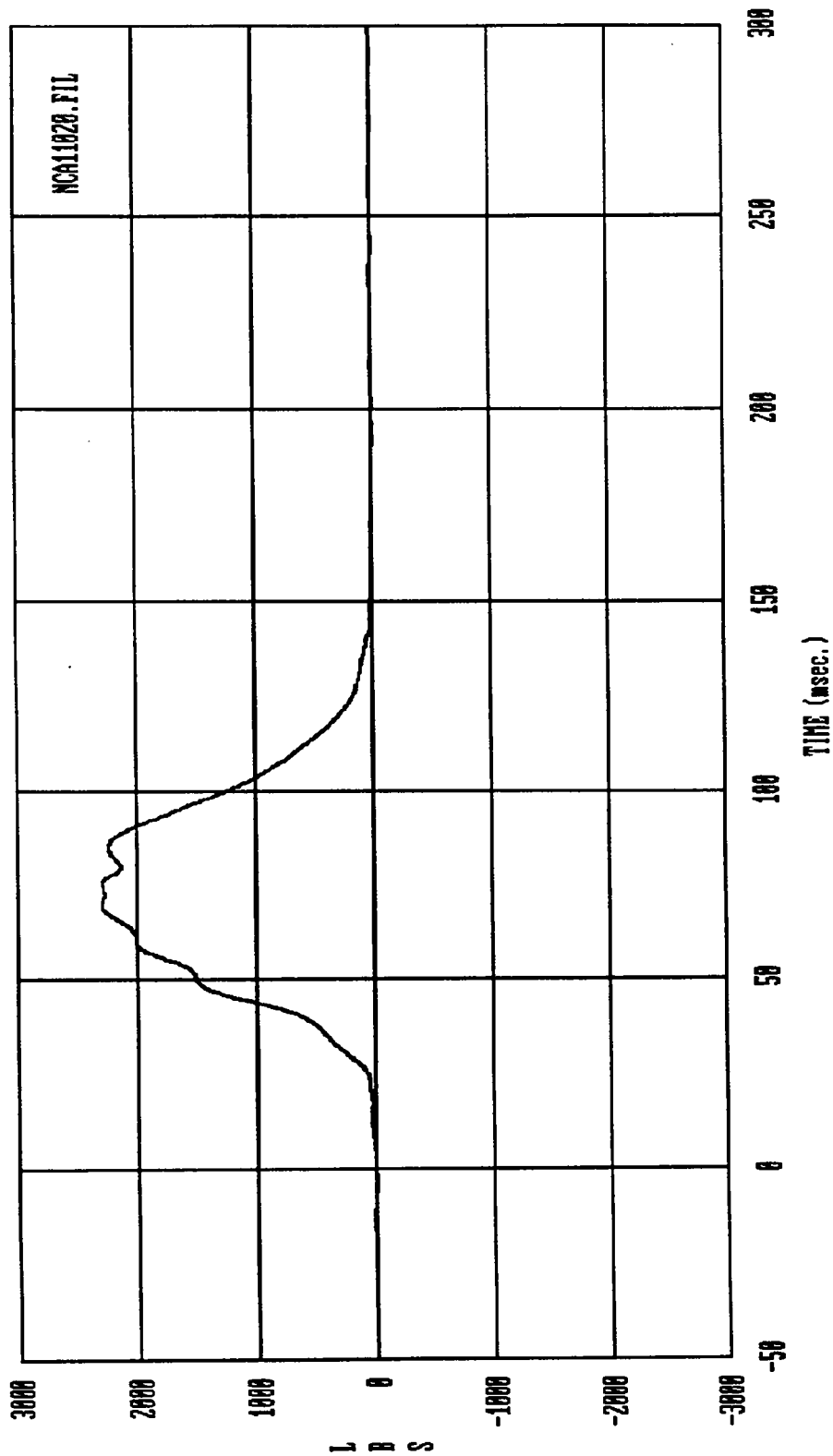
Curve: Driver Shoulder seat belt force Filter: SAE CLASS 60 Max = 2296.5 Min = -15.853

HSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude

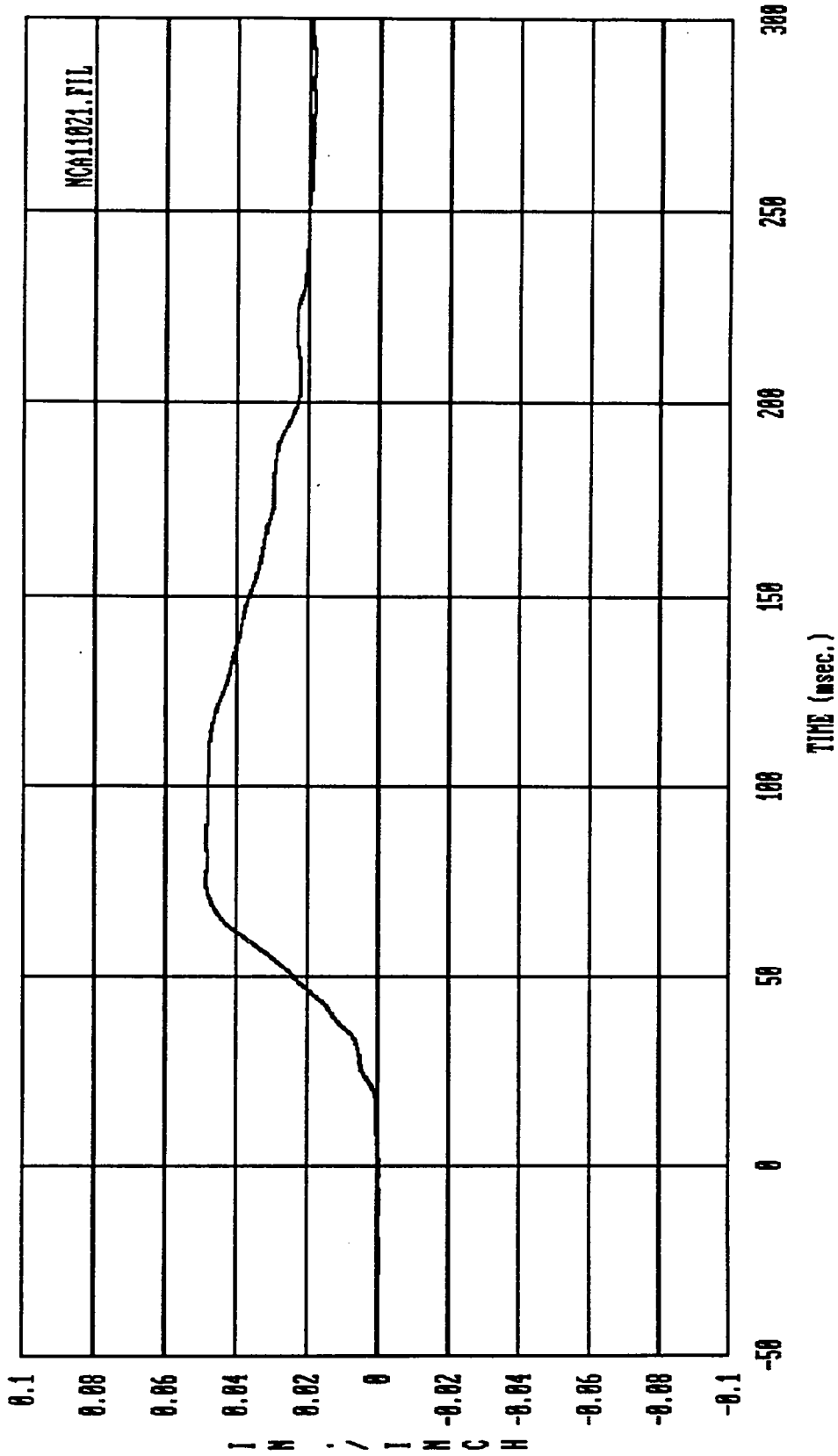


Curve: Pasngr Lap seat belt force Filter: SAE CLASS 60 Max = 1127.1 Min = -7.2855

MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude

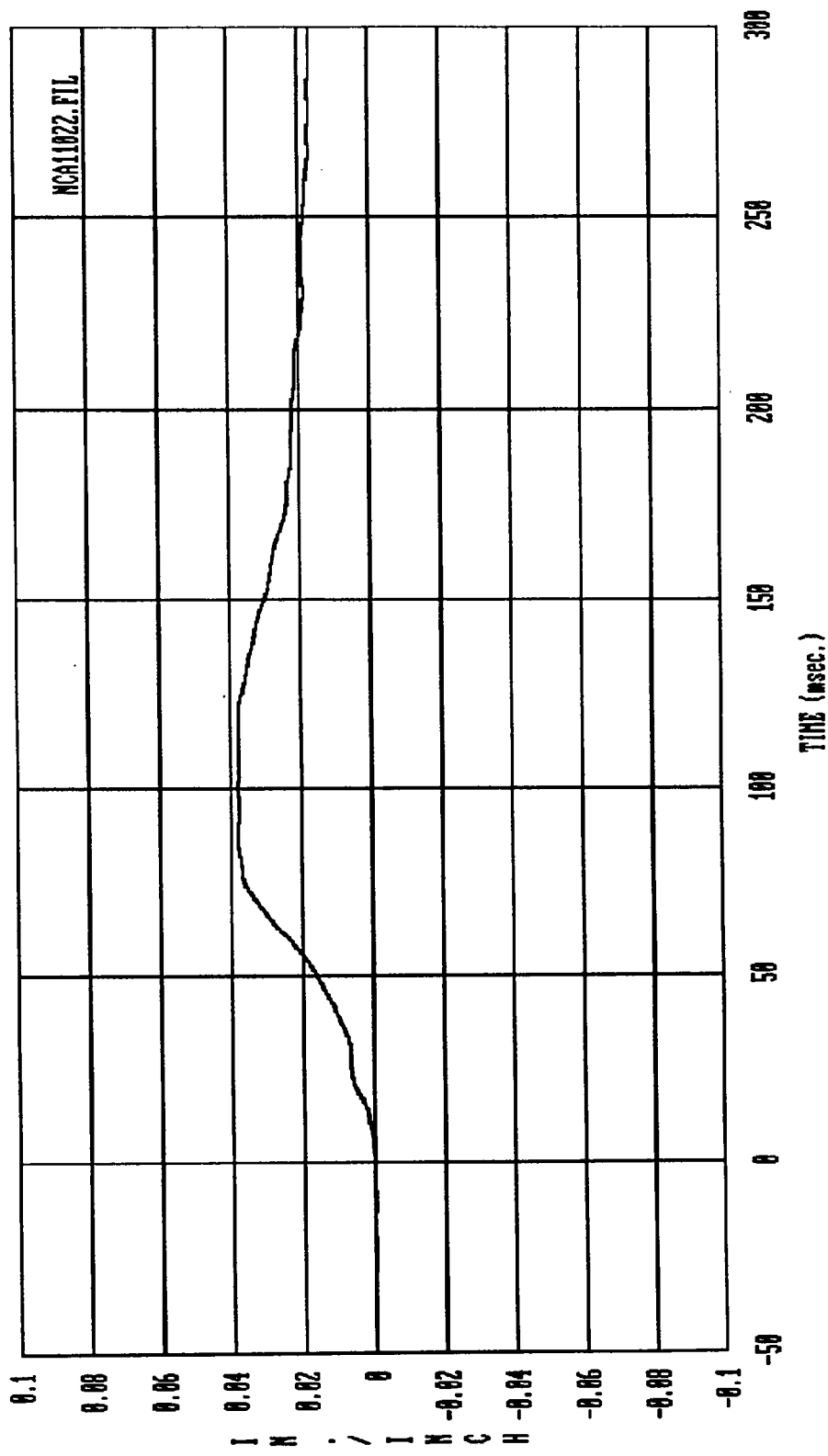


Curve: Pasngr Shoulder seat belt force Filter: SAE CLASS 60 Max = 2300.6 Min = -14.718
 MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude



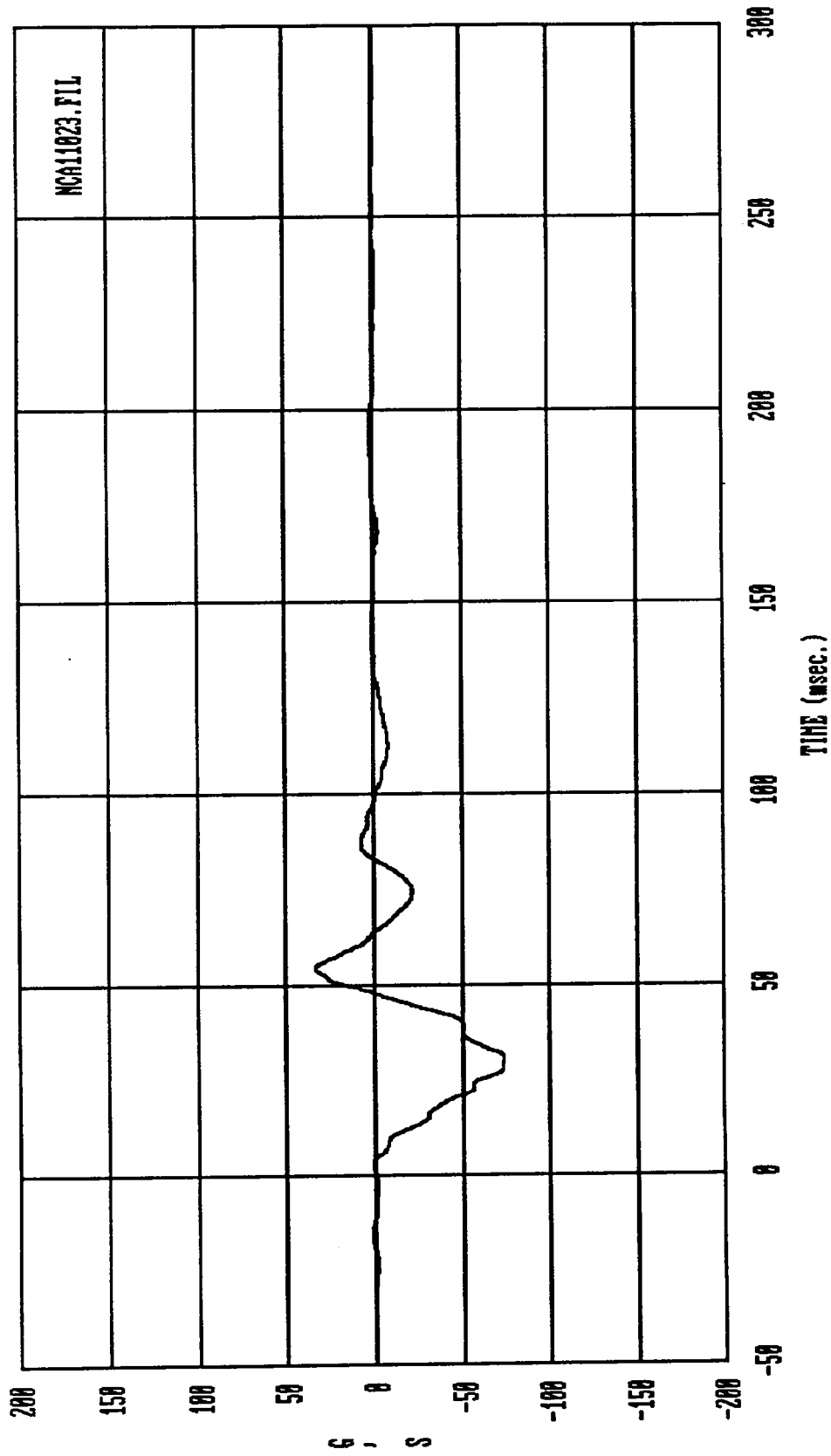
Curve: Driver seat belt elongation (Percent stretch) Filter: SAE CLASS 60 Max = .48858E-01 Min = .17831E-03

MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude



Curve: Pasngr seat belt elongation (Percent stretch) Filter: SAE CLASS 60 Max = .38245E-01 Min = .67543E-02

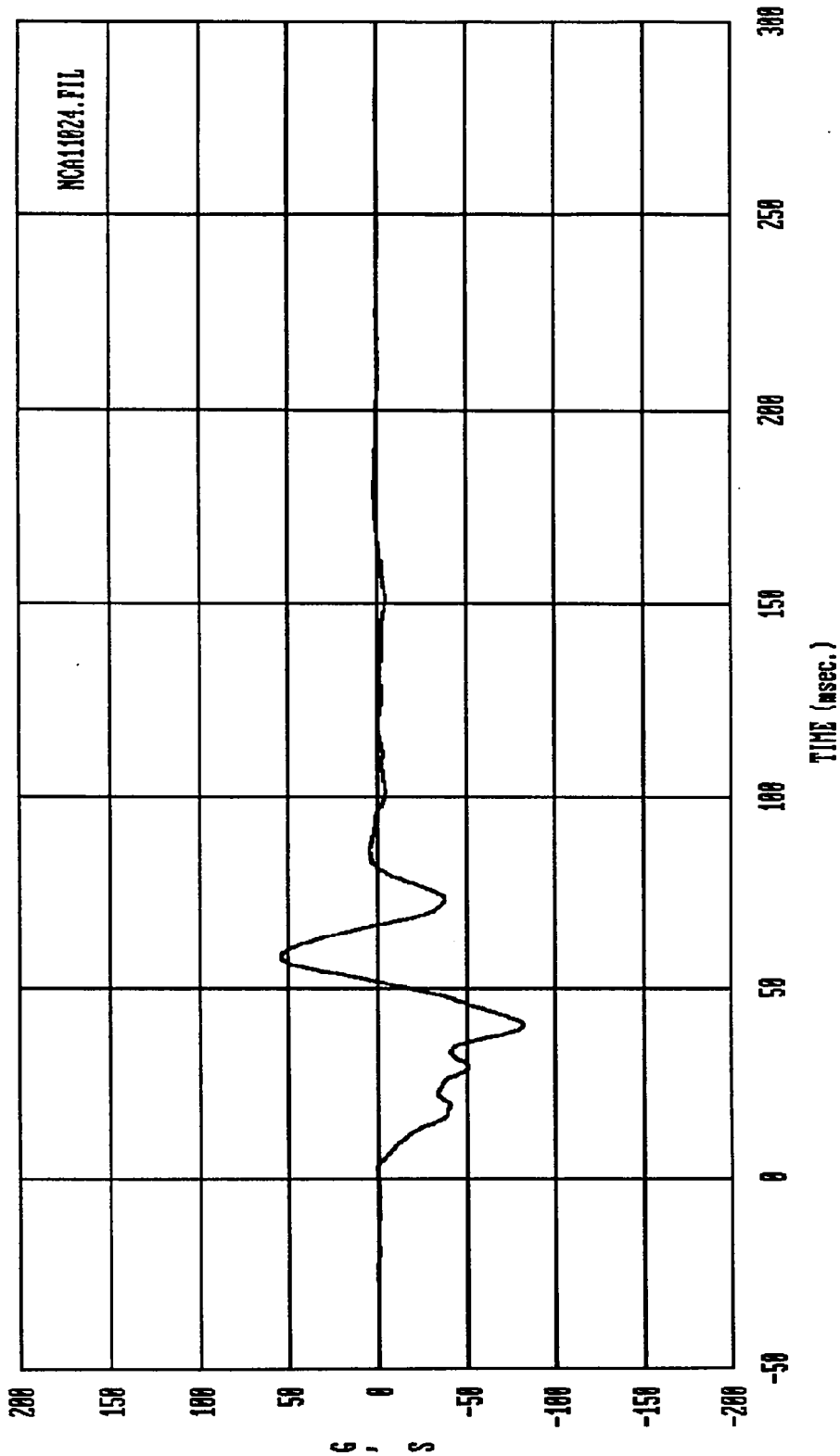
MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude



B1-45

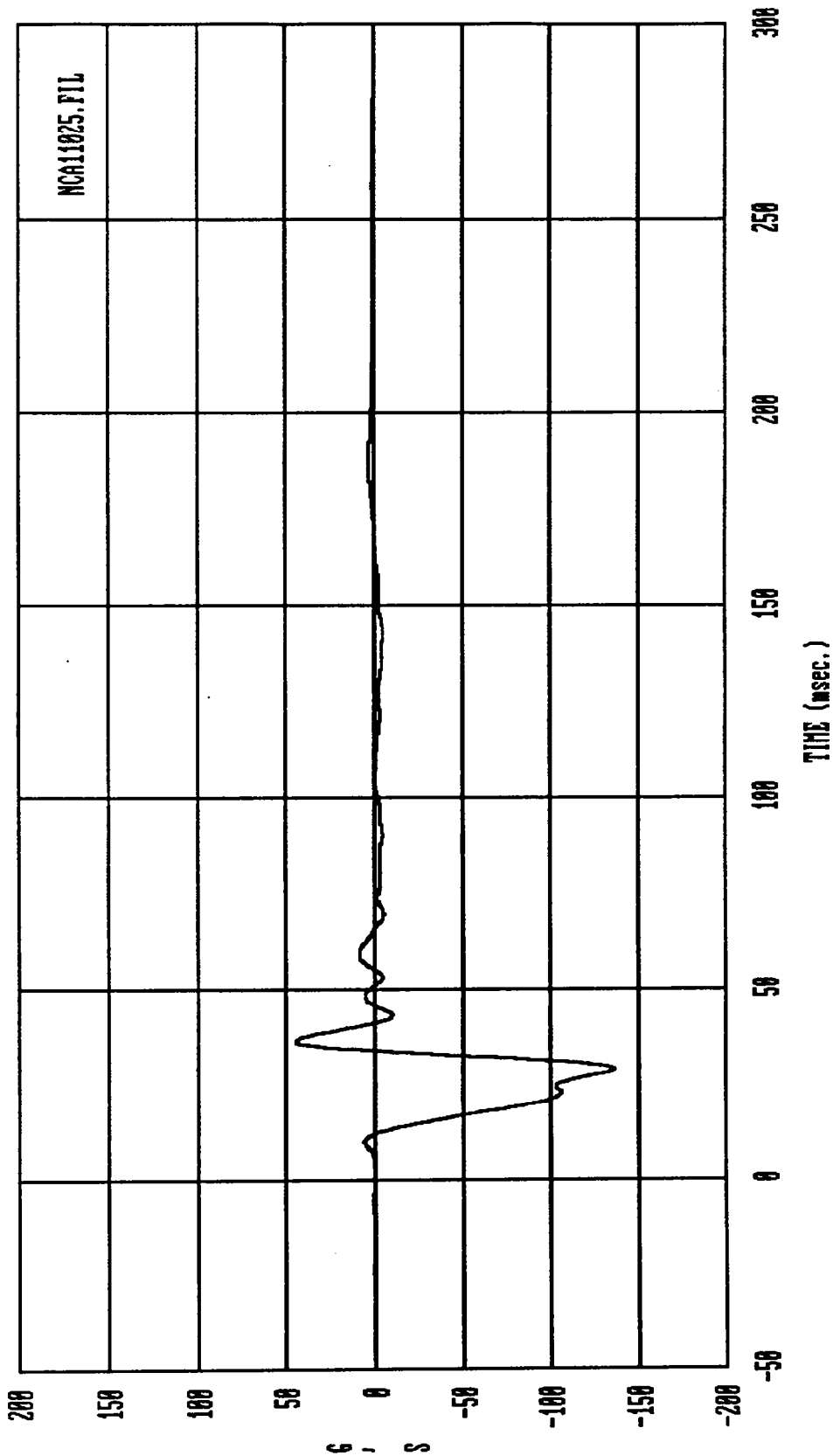
MSE-90-R9092-N05

Curve: Left front brake caliper acceleration -- X axis Filter: SAE CLASS 60 Max = 32.987 Min = -73.781
MSE Date: 03/16/90 Program: 1998 New Car Assessment #11 Vehicle: 1998 Honda Prelude



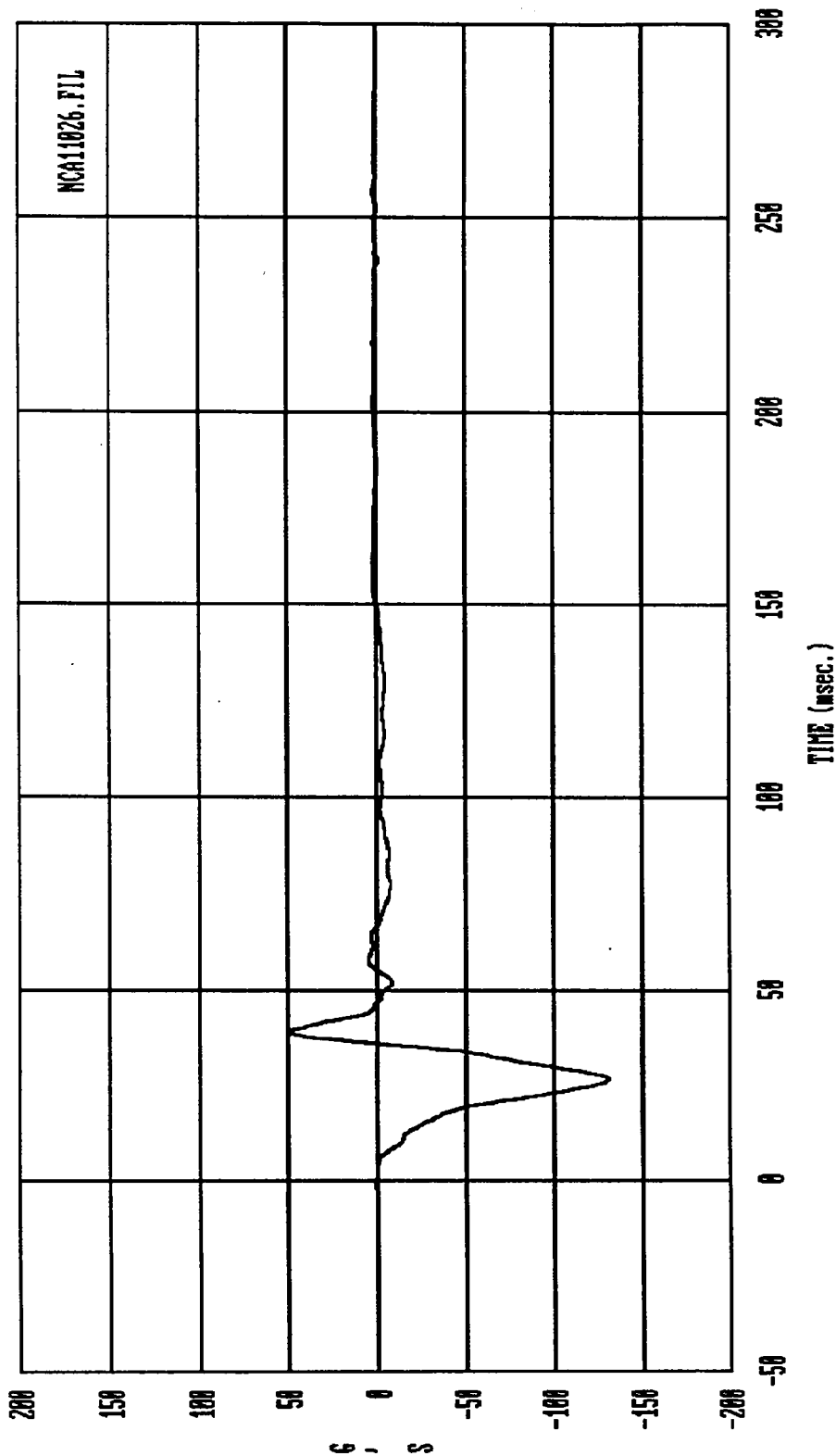
Curve: Right front brake caliper accel. -- X axis Filter: SAE CLASS 60 Max = 54.524 Min = -82.446

MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude



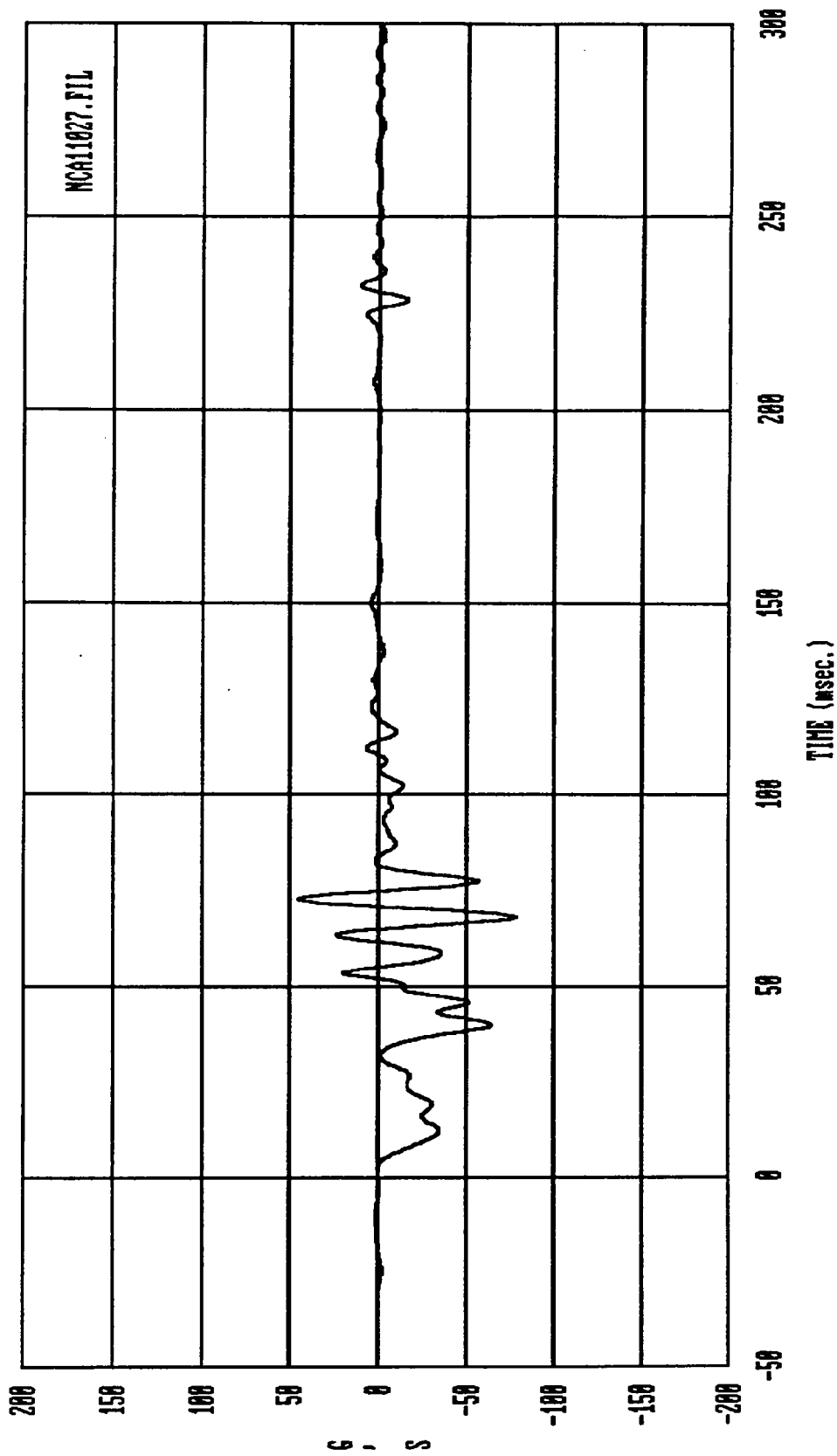
Curve: Engine bottom acceleration — X axis Filter: SAE CLASS 60 Max = 44.389 Min = -136.37

MSE Date: 03/16/90 Program: 1998 New Car Assessment #11 Vehicle: 1998 Honda Prelude



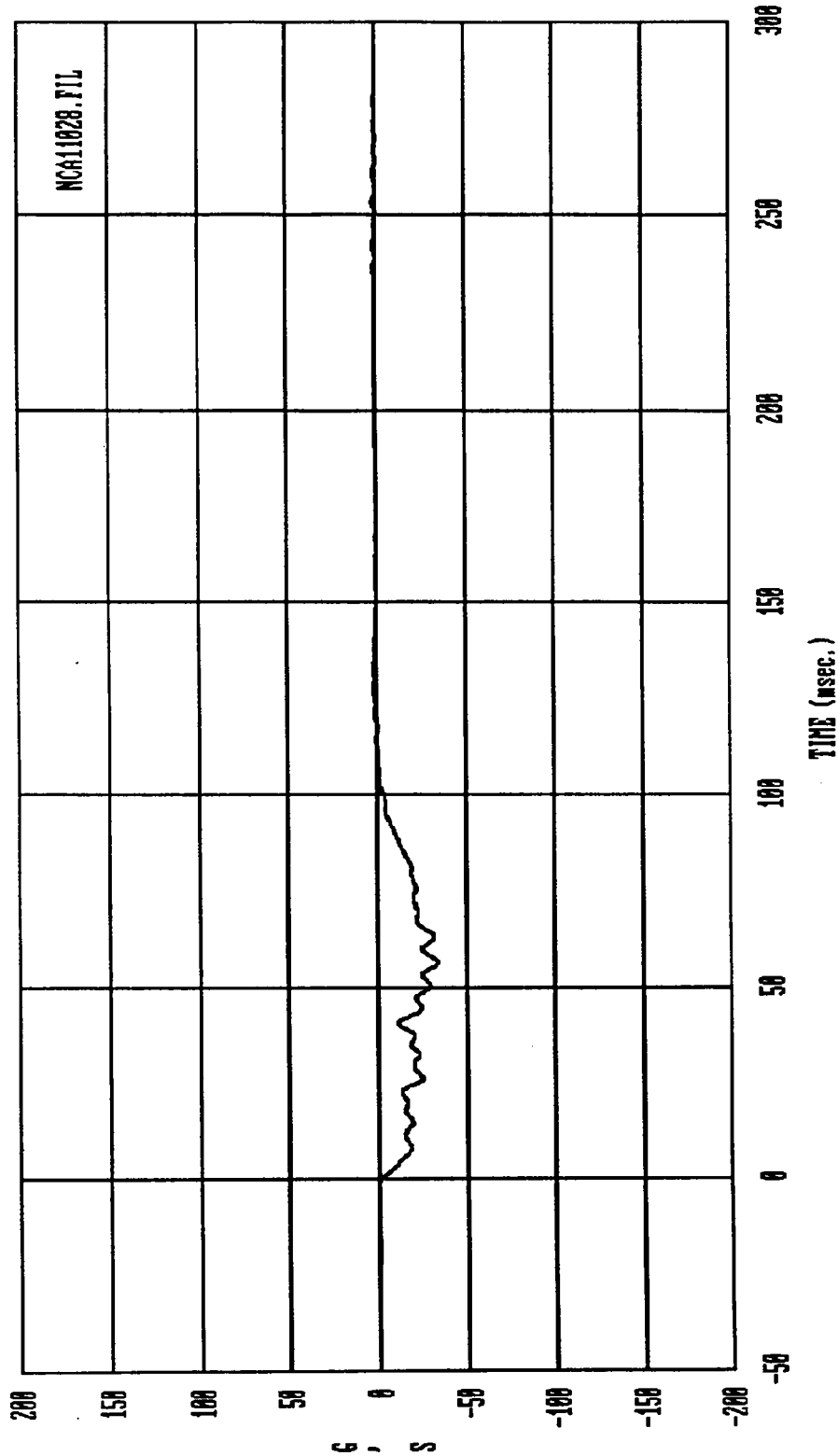
Curve: Engine top acceleration — X axis Filter: SAE CLASS 60 Max = 49.443 Min = -131.20

MSE Date: 03/16/98 Program: 1998 New Car Assessment #11 Vehicle: 1998 Honda Prelude



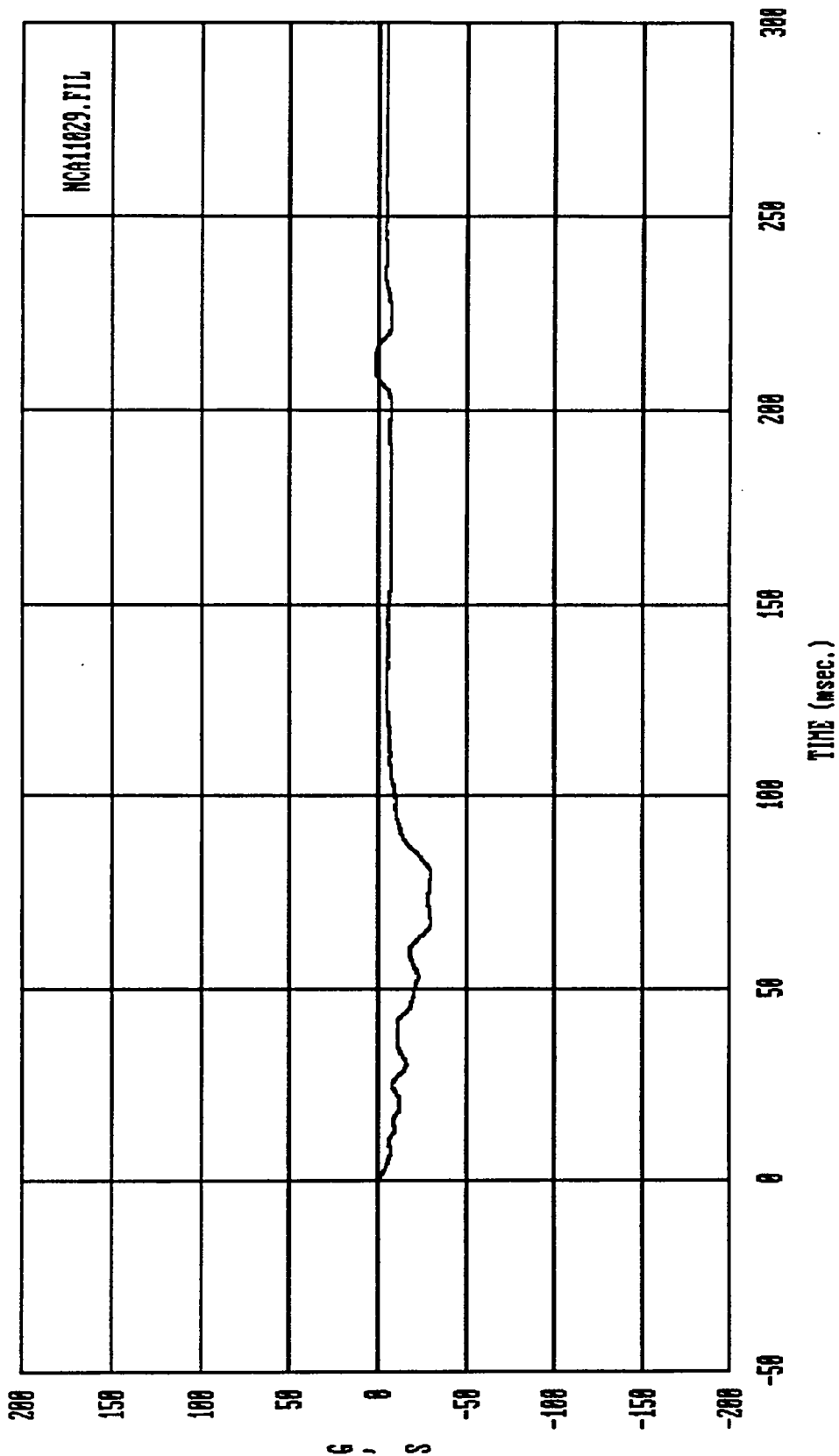
Curve: Instrument panel acceleration -- X axis Filter: SAE CLASS 60 Max = 45.741 Min = -78.936

MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude



Curve: Left-rear seat cross-member accel. — X axis Filter: SAE CLASS 60 Max = 2.6660 Min = -33.691

MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude



Curve: Right-rear seat cross member accel. -- X axis Filter: SAE CLASS 60 Max = 1.7787 Min = -30.003

MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude

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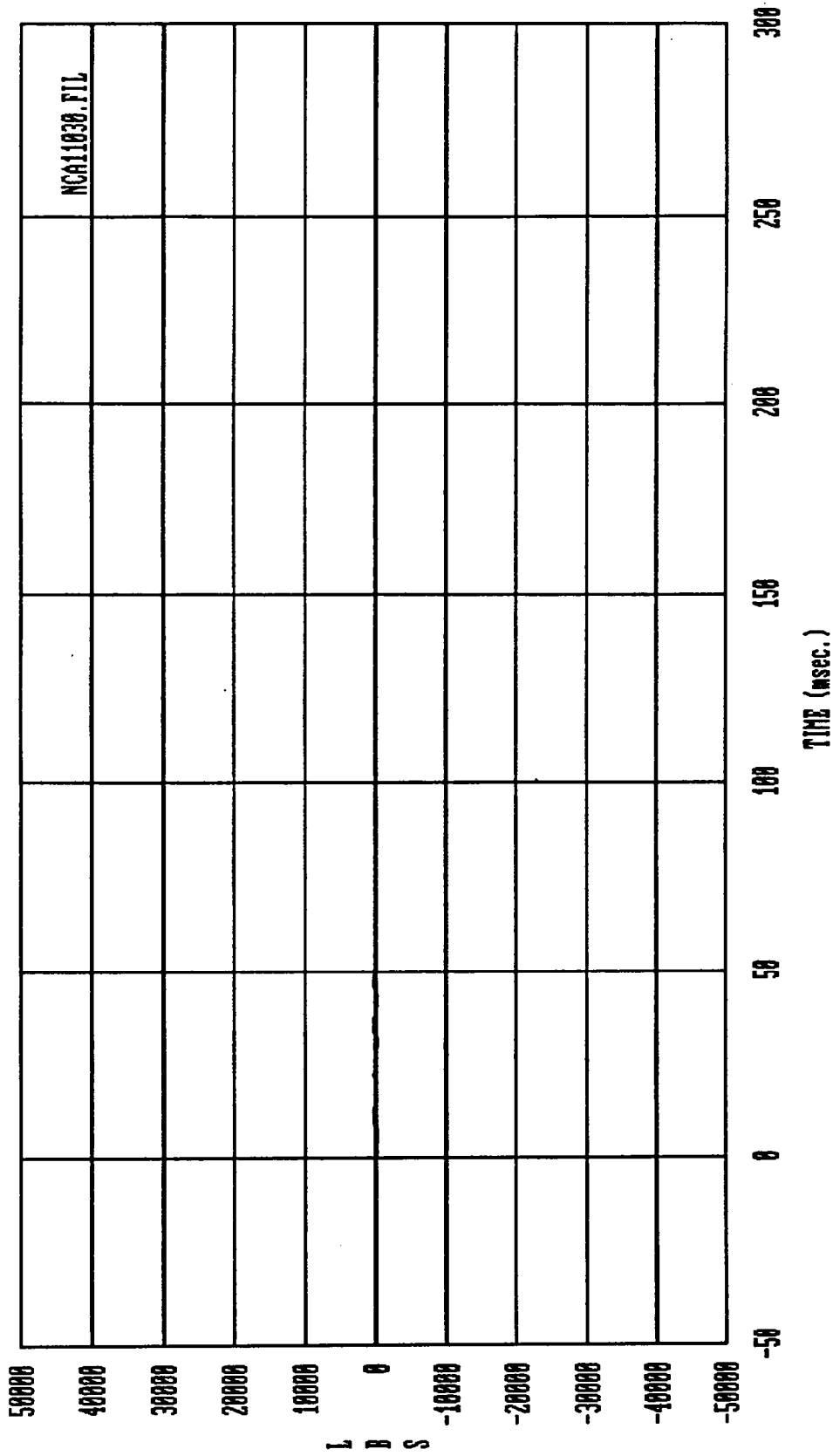
APPENDIX B-2

LOAD CELL BARRIER DATA

DATA FILTERING:

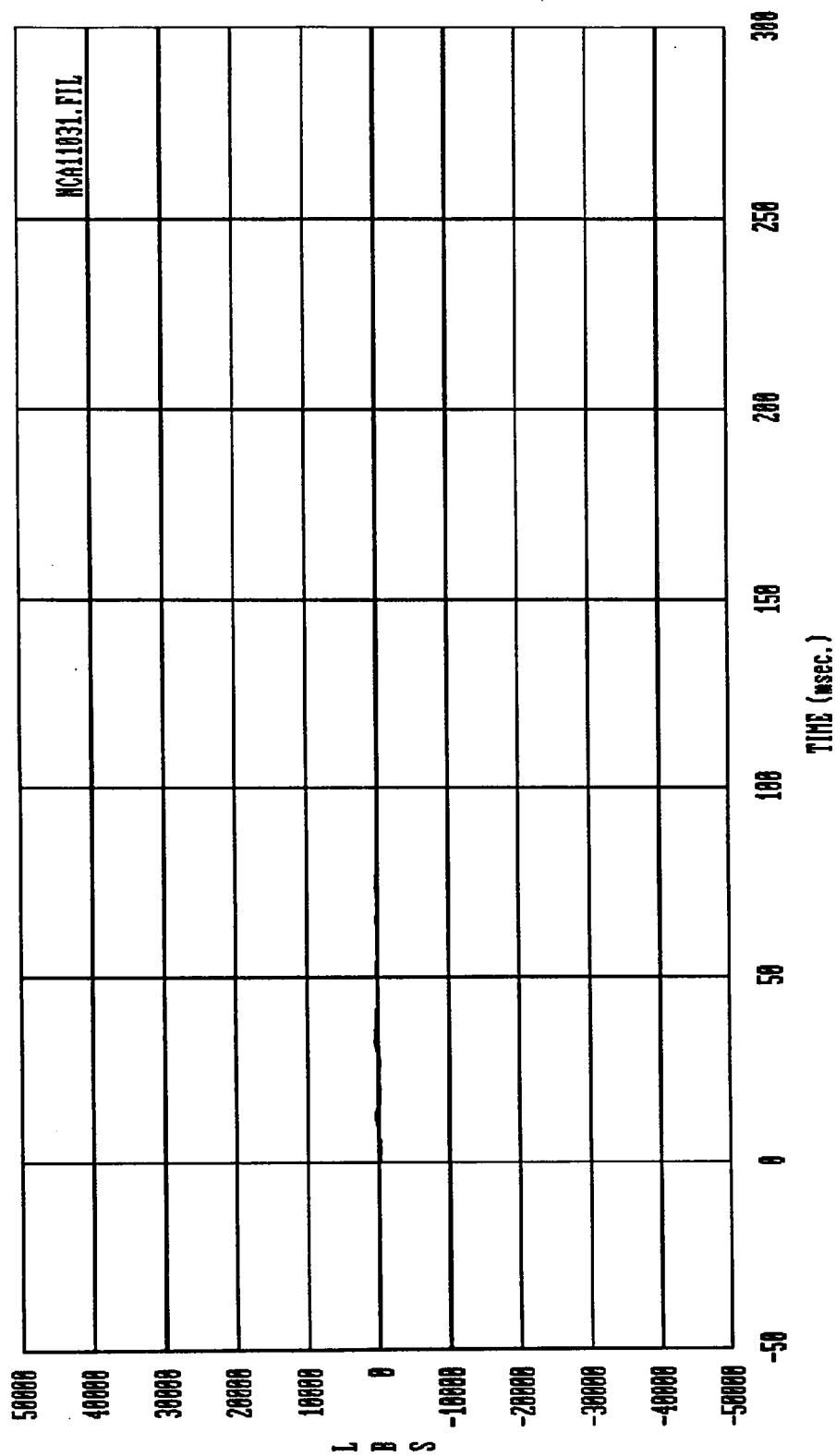
Load Cell Barrier Channels - Class 60

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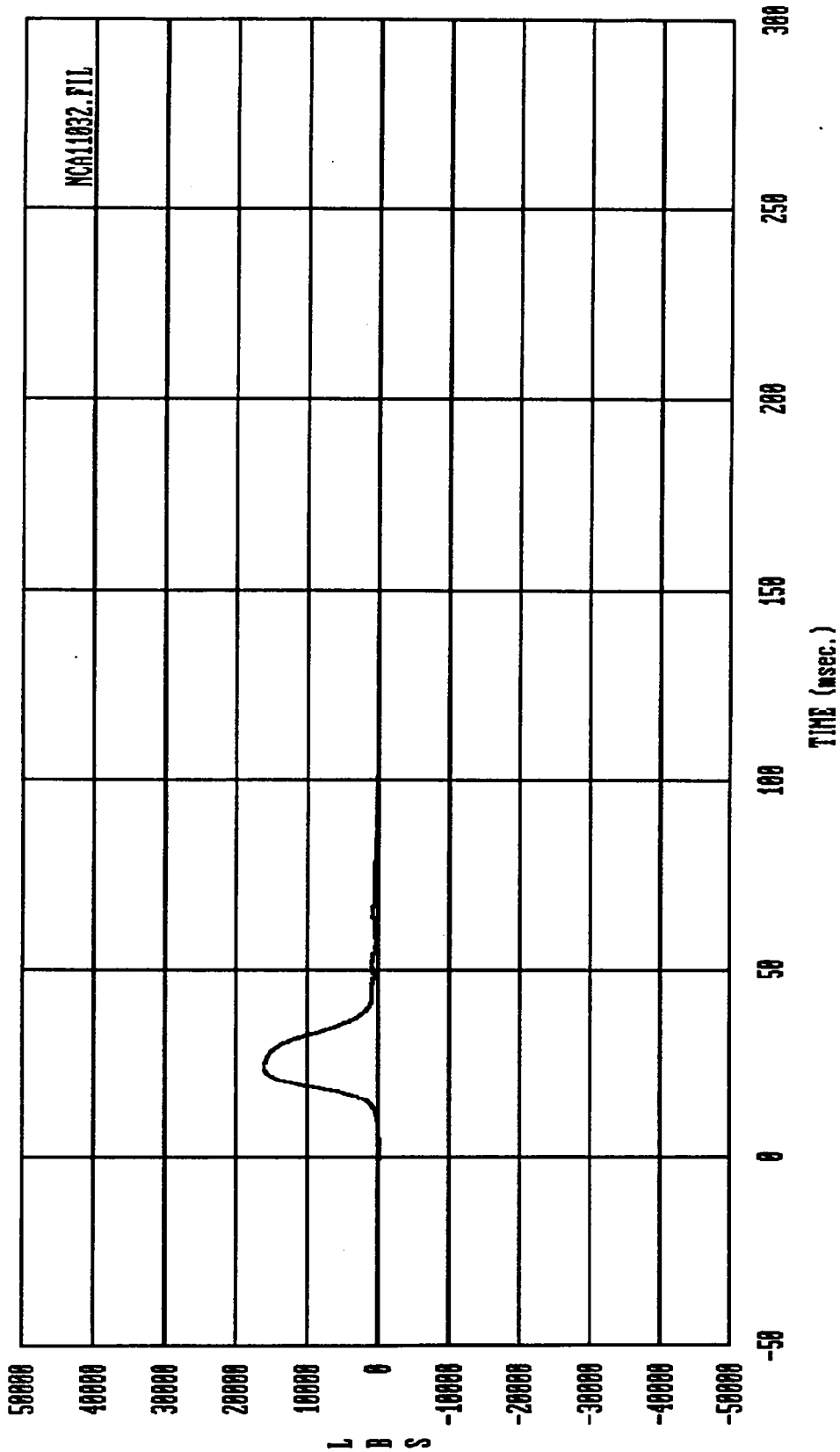
Curve: Force on Barrier load cell A1 Filter: SAE CLASS 60 Max = 305.24 Min = -163.37

MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude



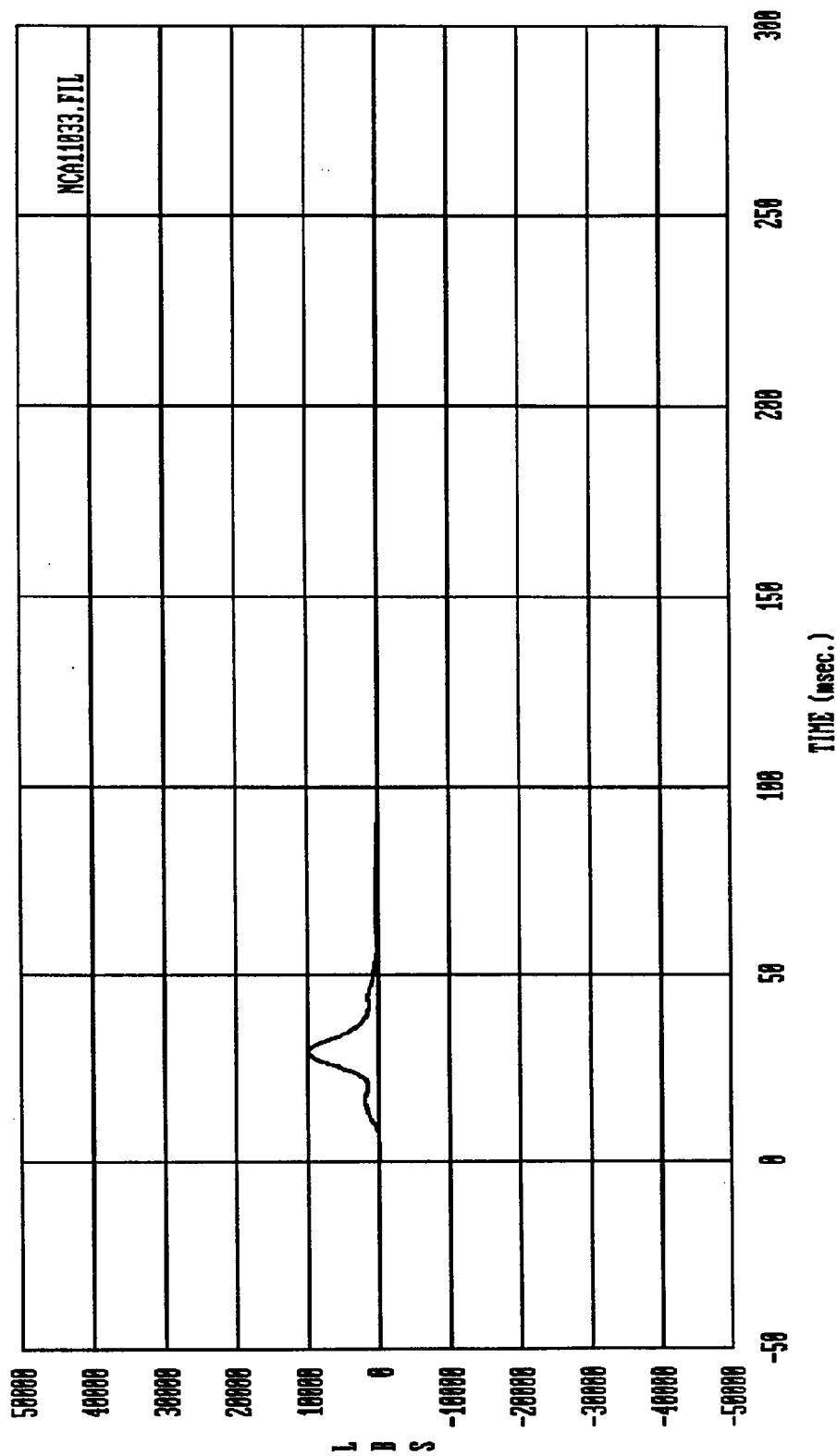
Curve: Force on Barrier load cell A2 Filter: SAE CLASS 60 Max = 443.74 Min = -275.02

MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude

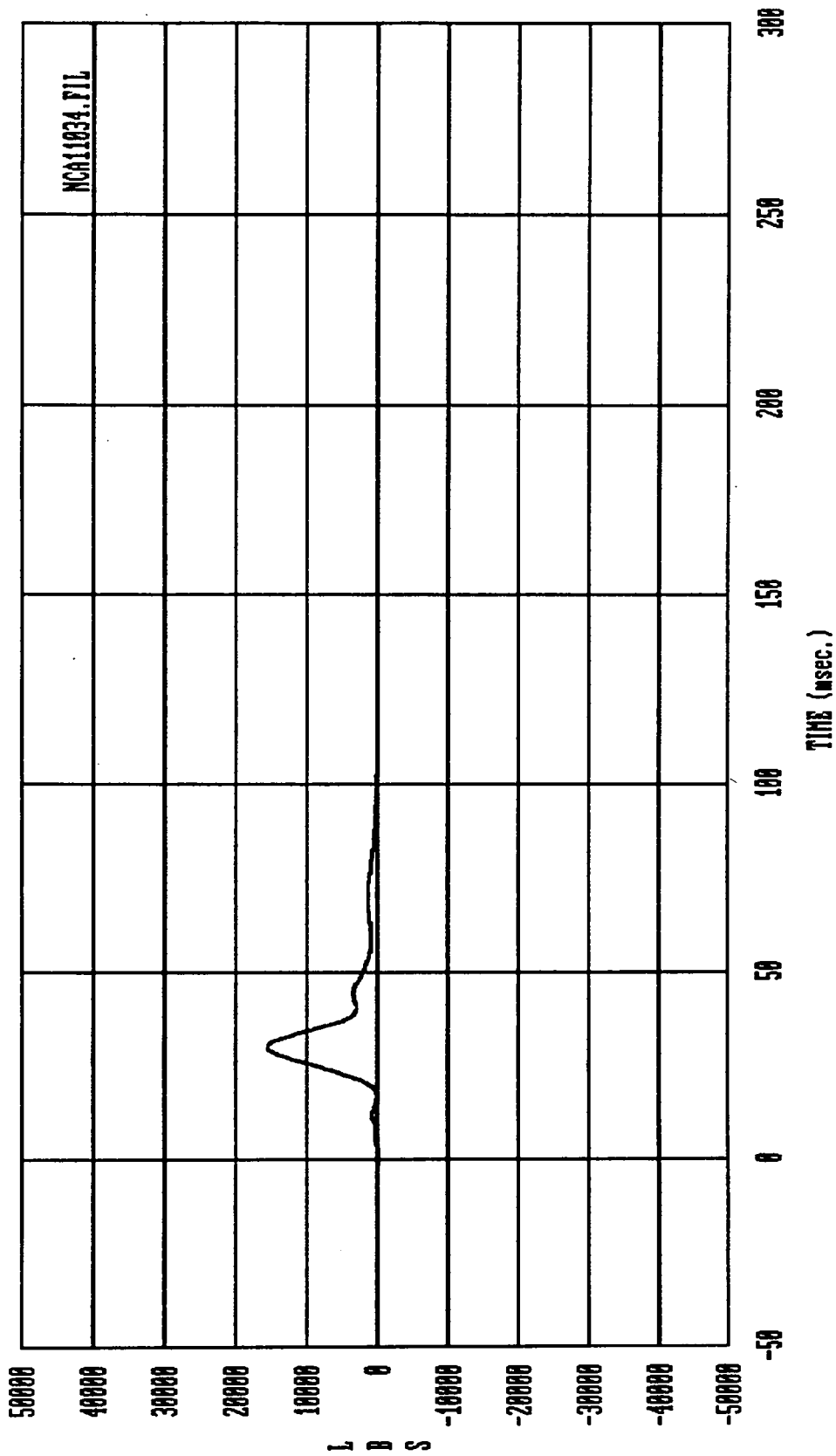


Curve: Force on Barrier load cell A3 Filter: SAE CLASS 60 Max = 16109 Min = -180.70

MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude

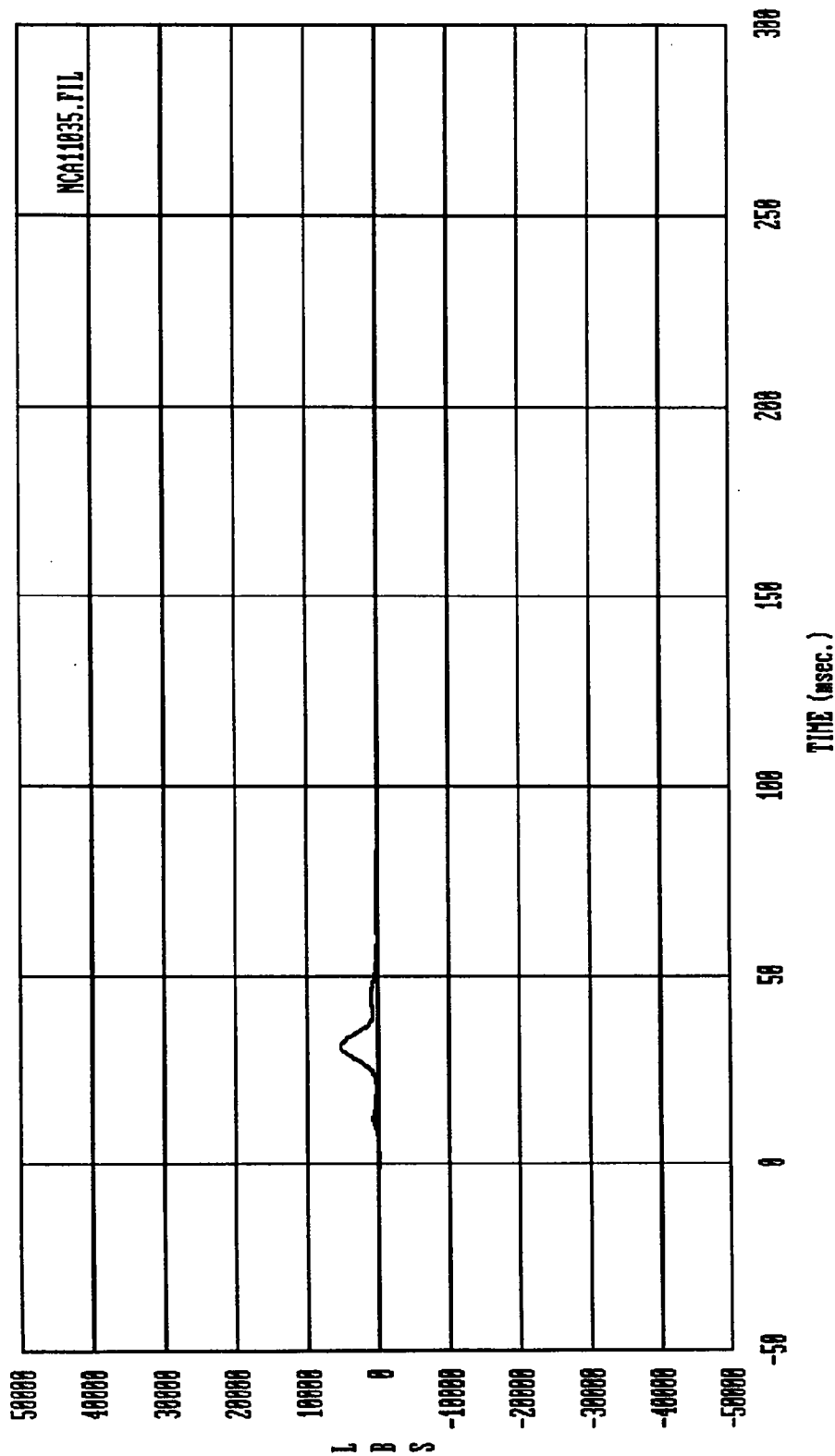


Curve: Force on Barrier load cell A4 Filter: SAE CLASS 60 Max = 9951.5 Min = -225.17
 MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude

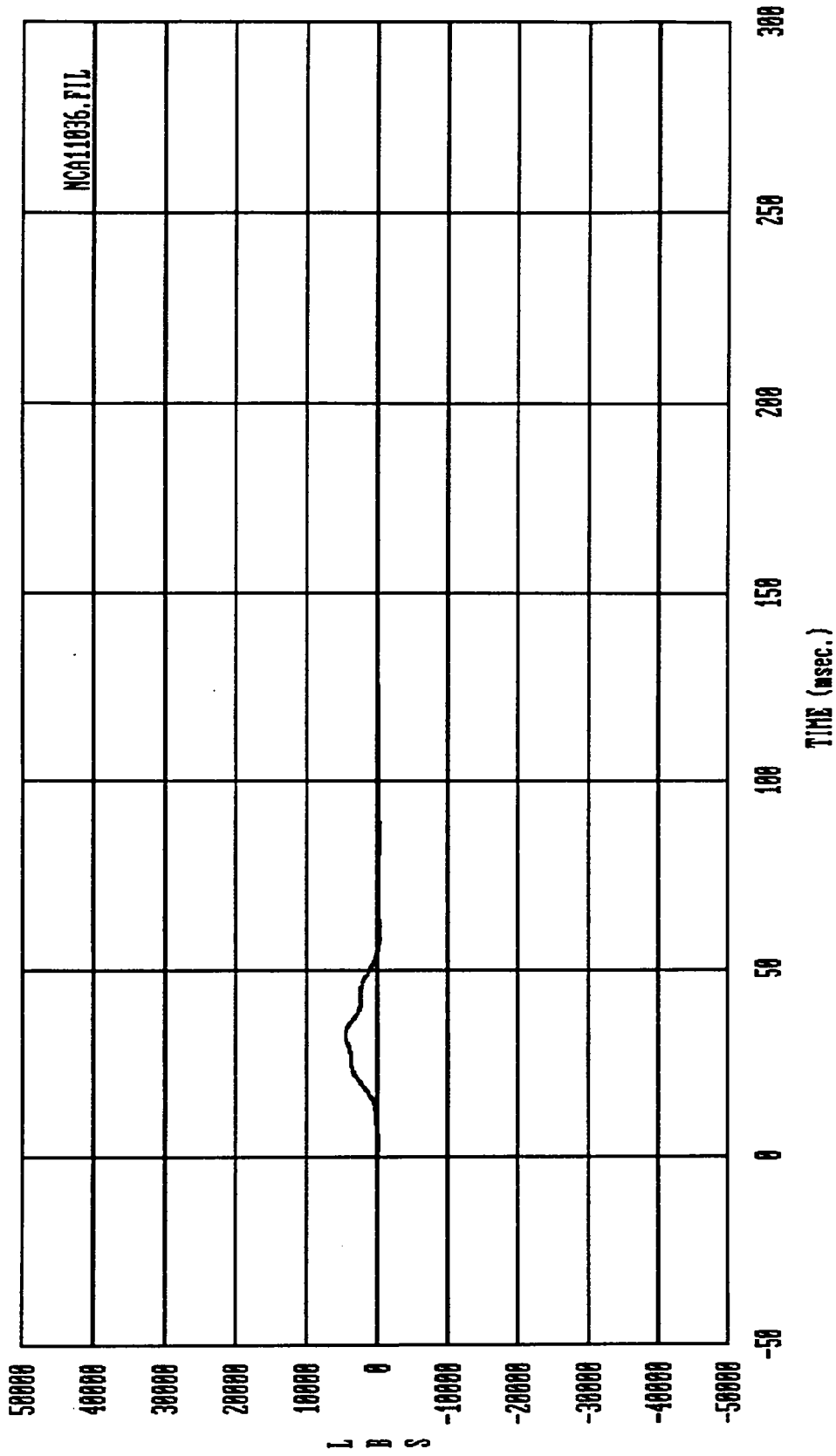


Curve: Force on Barrier load cell A5 Filter: SAE CLASS 60 Max = 15632. Min = -195.03

MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude

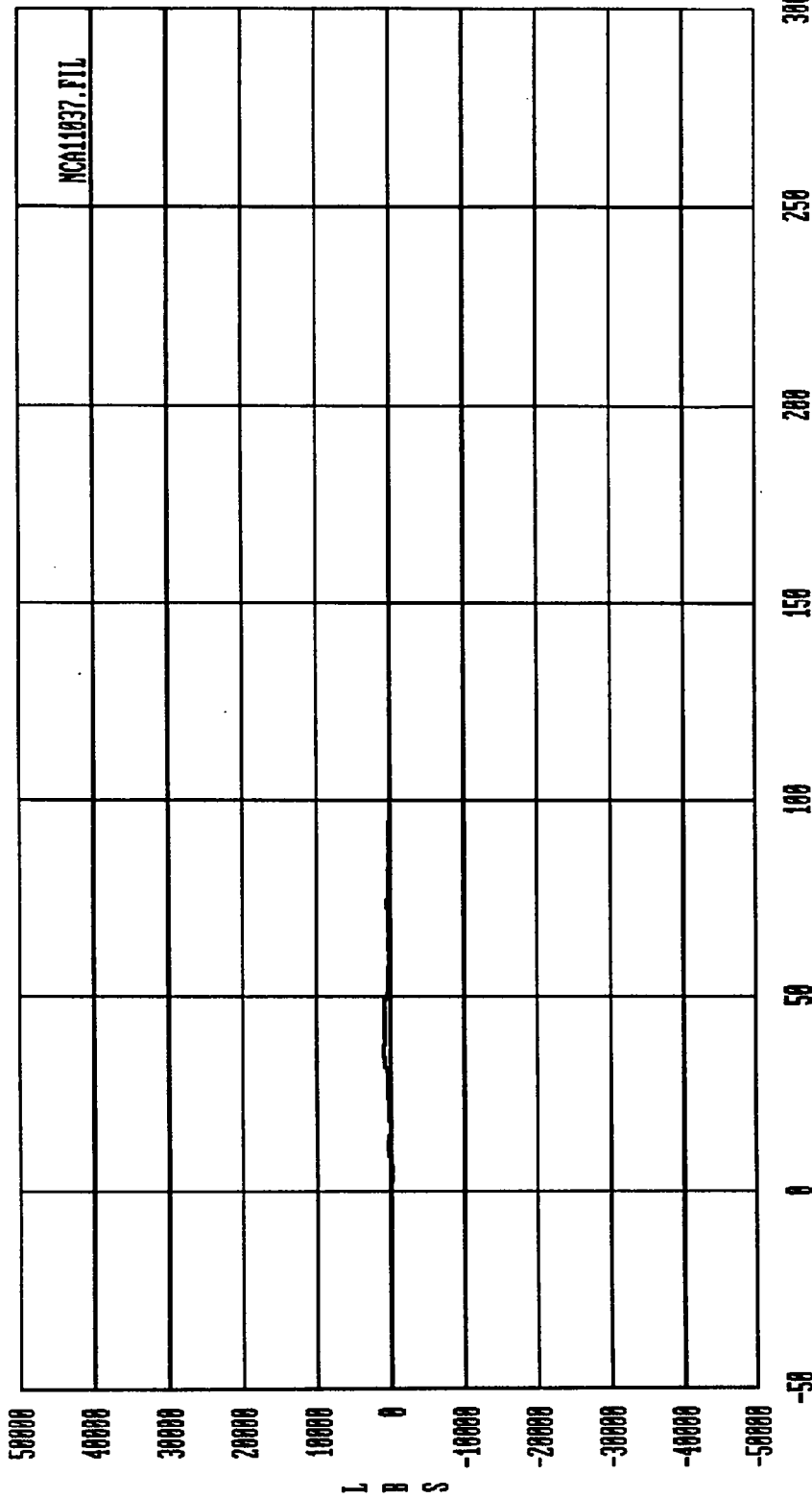


Curve: Force on Barrier load cell A6 Filter: SAE CLASS 60 Max = 5341.7 Min = -155.02
MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude



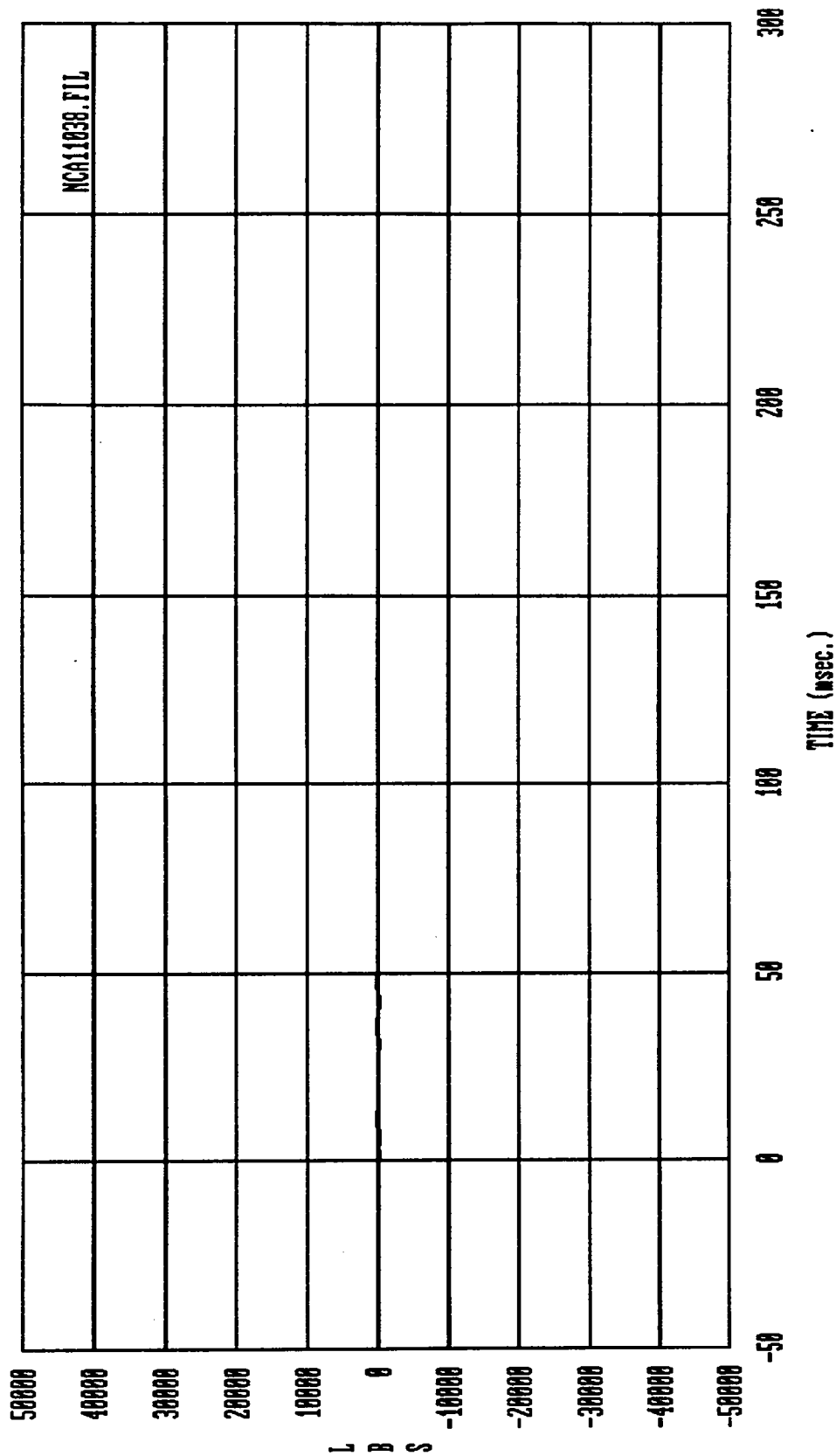
Curve: Force on Barrier load cell A7 Filter: SAE CLASS 60 Max = 4536.7 Min = -376.83

MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude



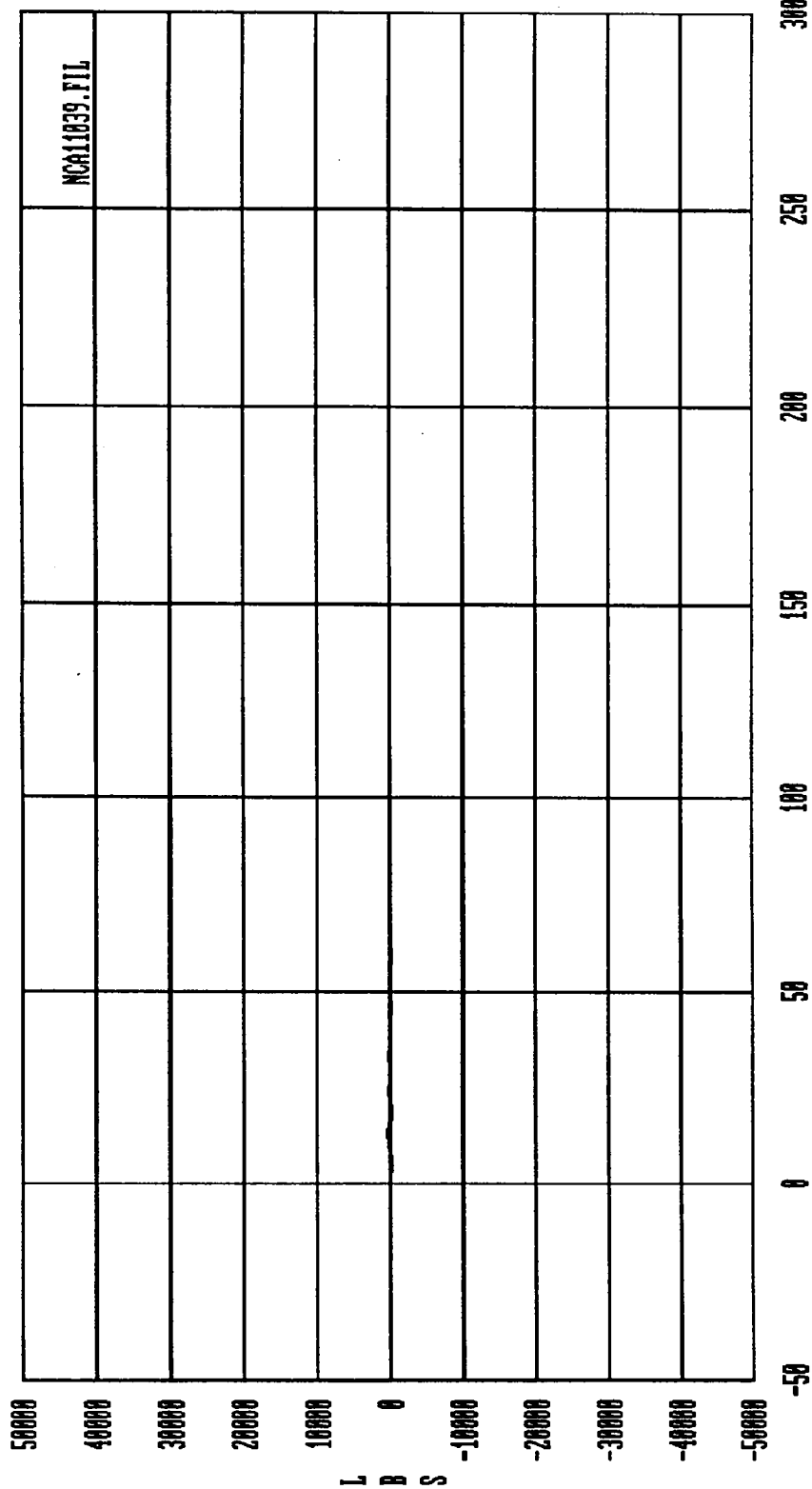
Curve: Force on Barrier load cell A8 Filter: SAE CLASS 60 Max = 928.22 Min = -128.71

MSE Date: 03/16/98 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude



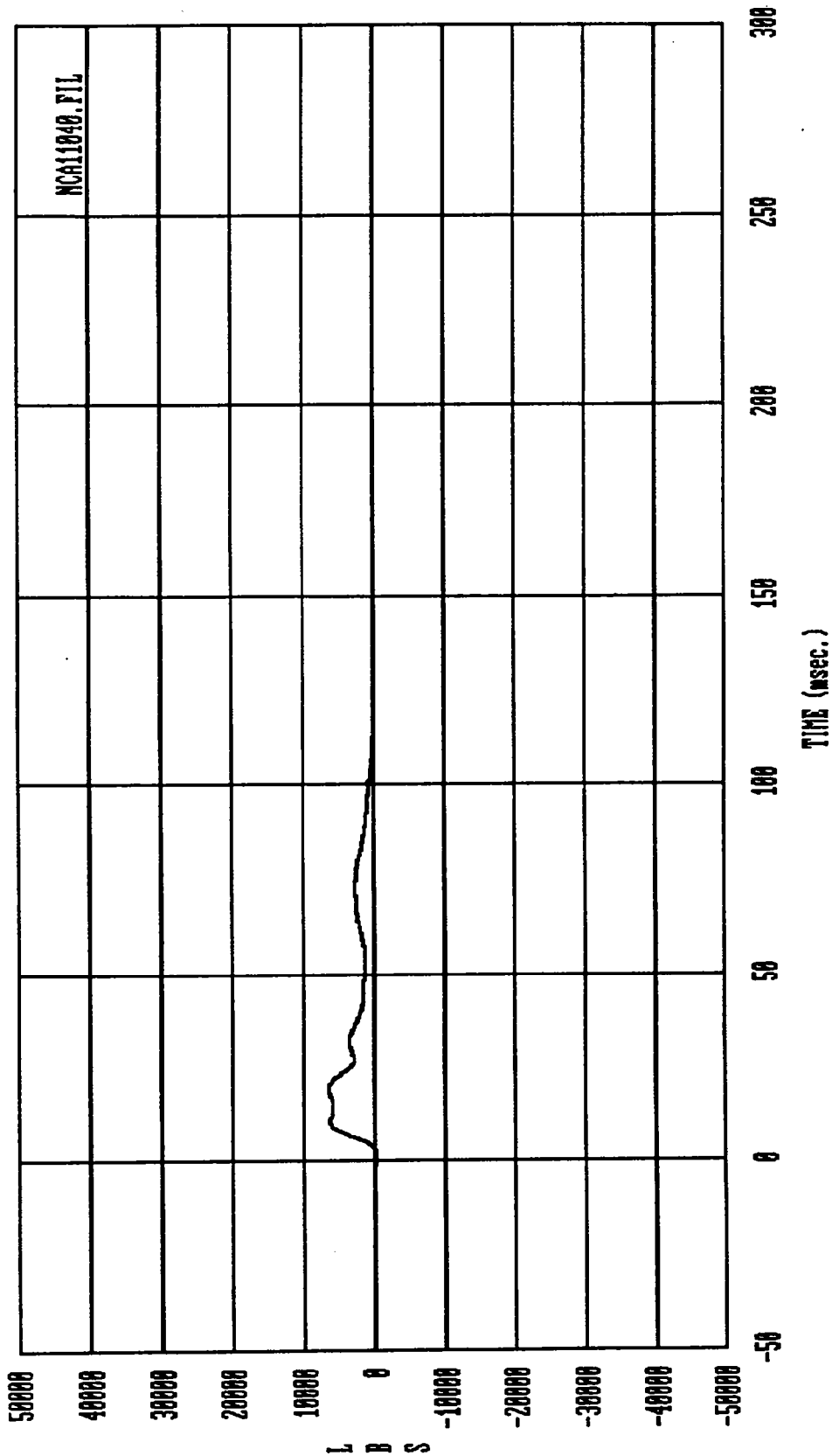
Curve: Force on Barrier load cell A9 Filter: SAE CLASS 60 Max = 295.55 Min = -176.70

MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude



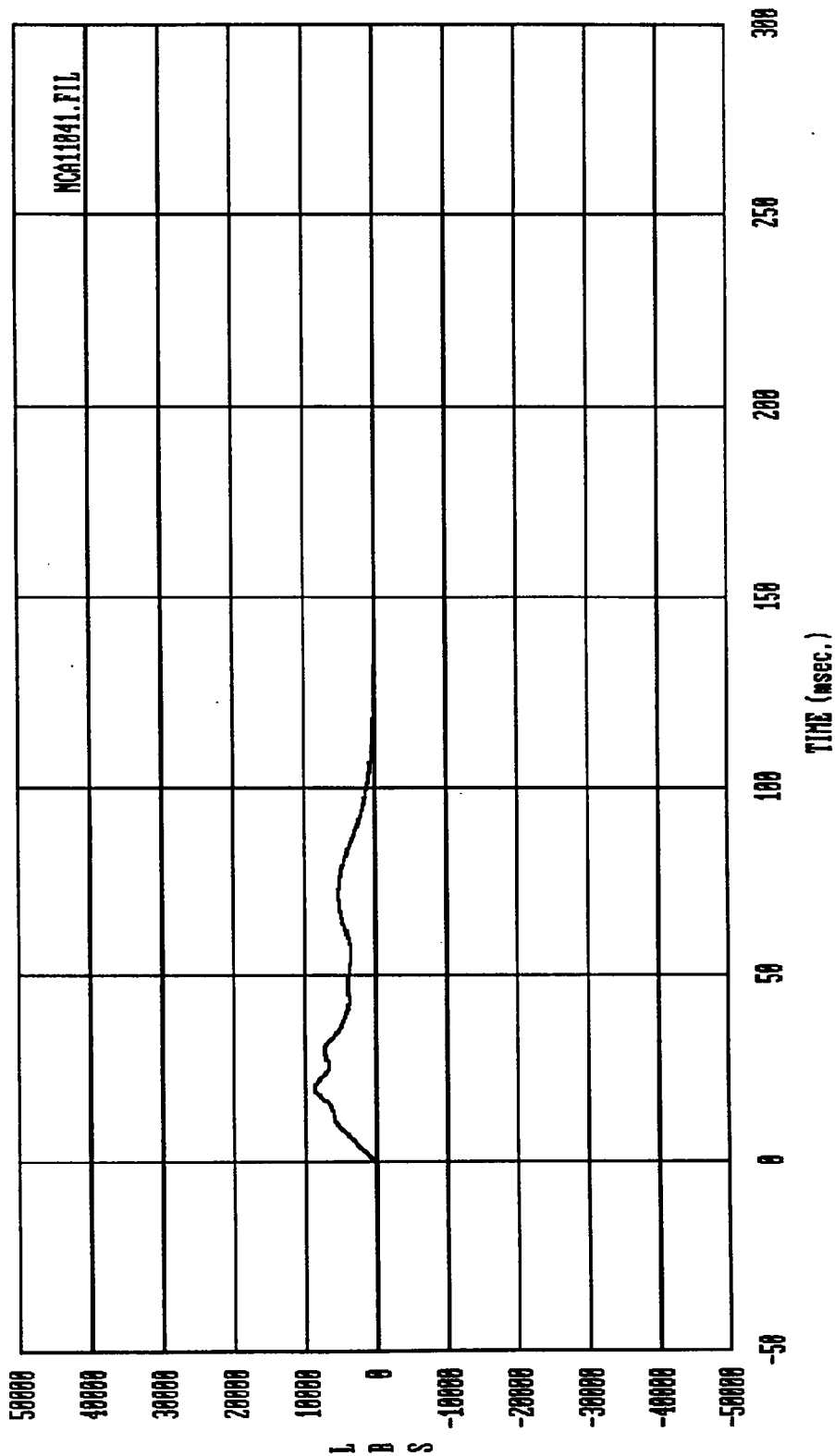
Curve: Force on Barrier load cell #1 Filter: SAE CLASS 60 Max = 344.54 Min = -146.68

MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude



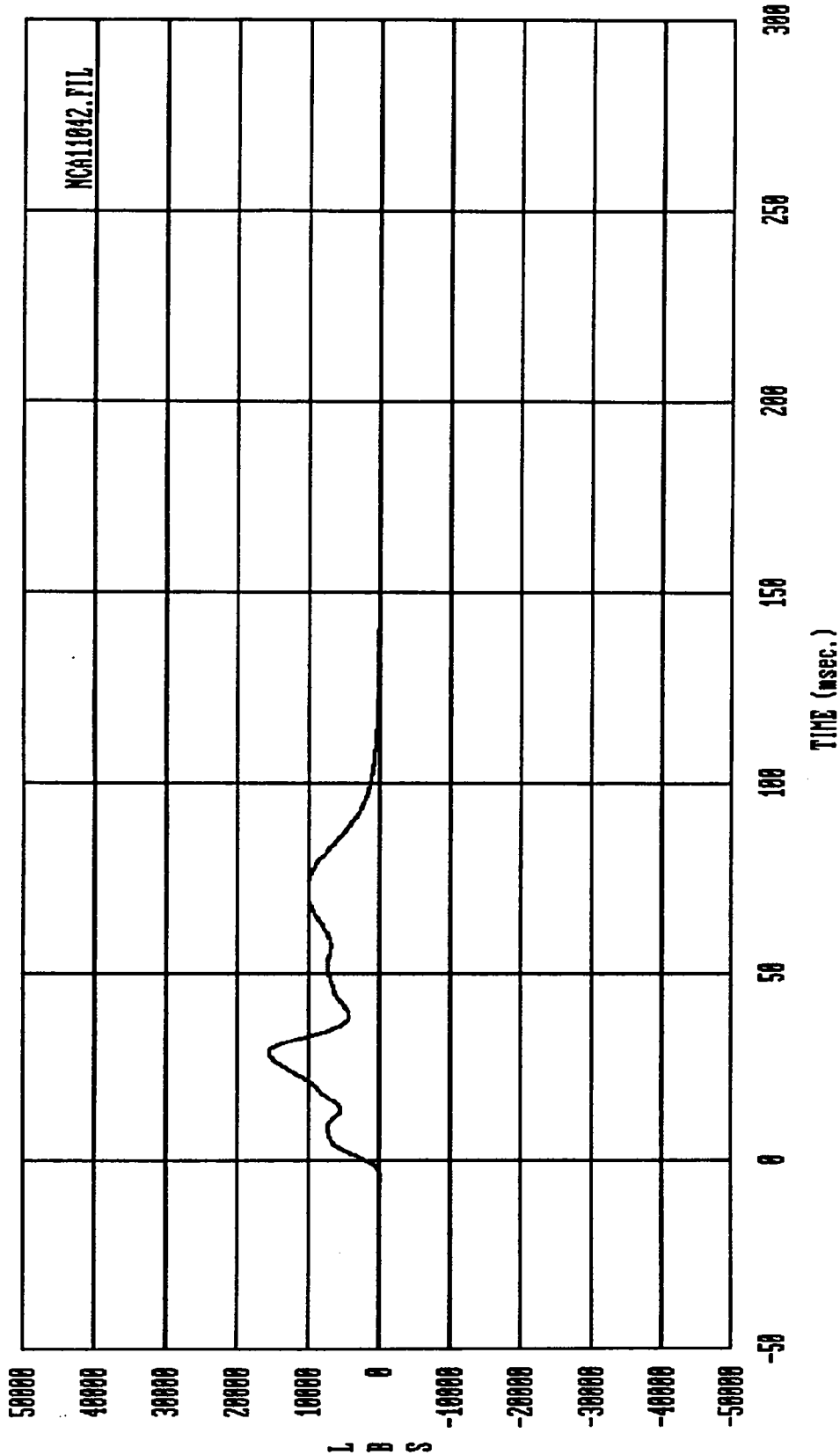
Curve: Force on Barrier load cell B2 Filter: SAE CLASS 60 Max = 6516.8 Min = -287.87

MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude



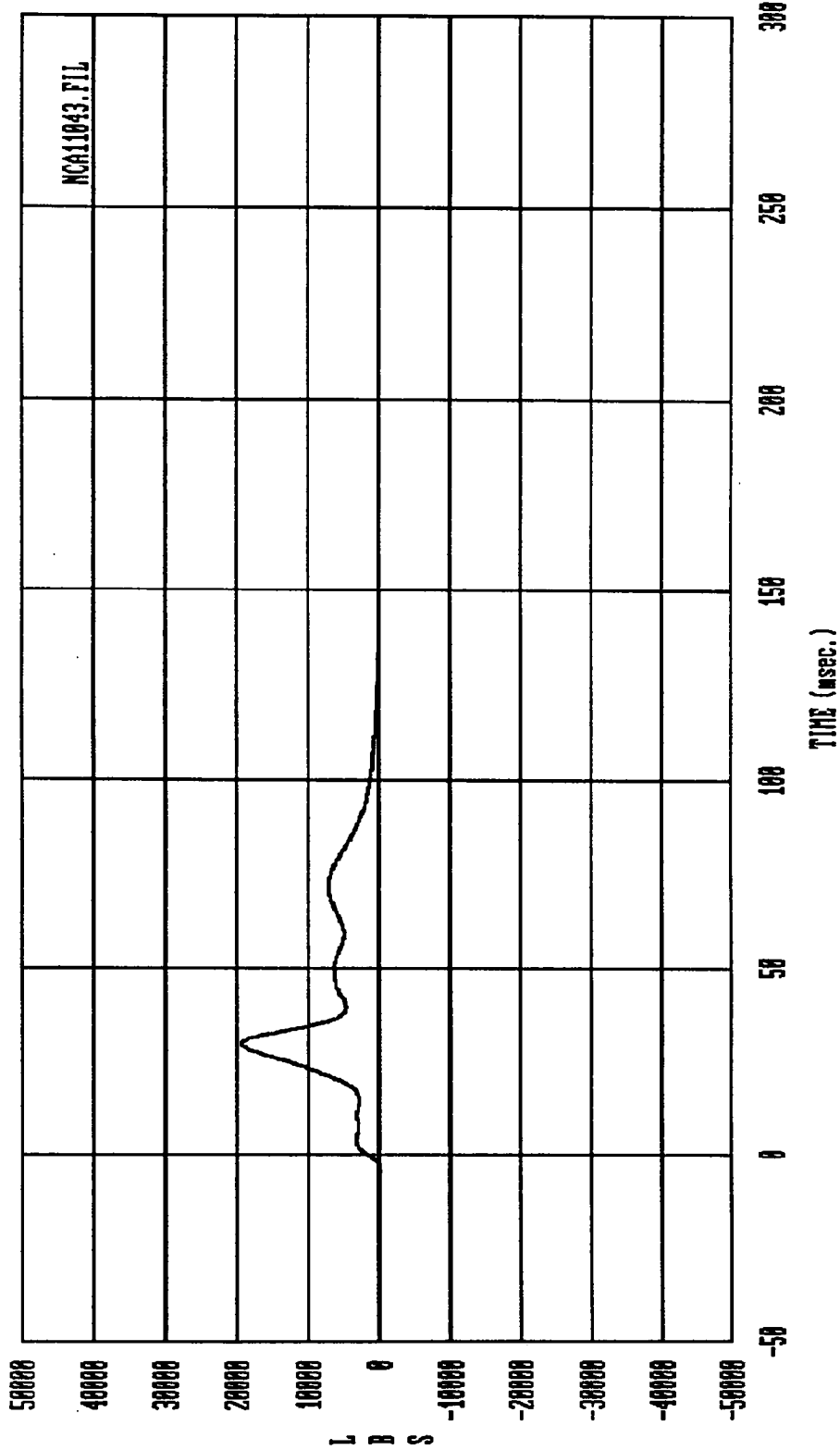
Curve: Force on Barrier load cell B3 Filter: SAE CLASS 60 Max = 8699.4 Min = -32.231

MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude



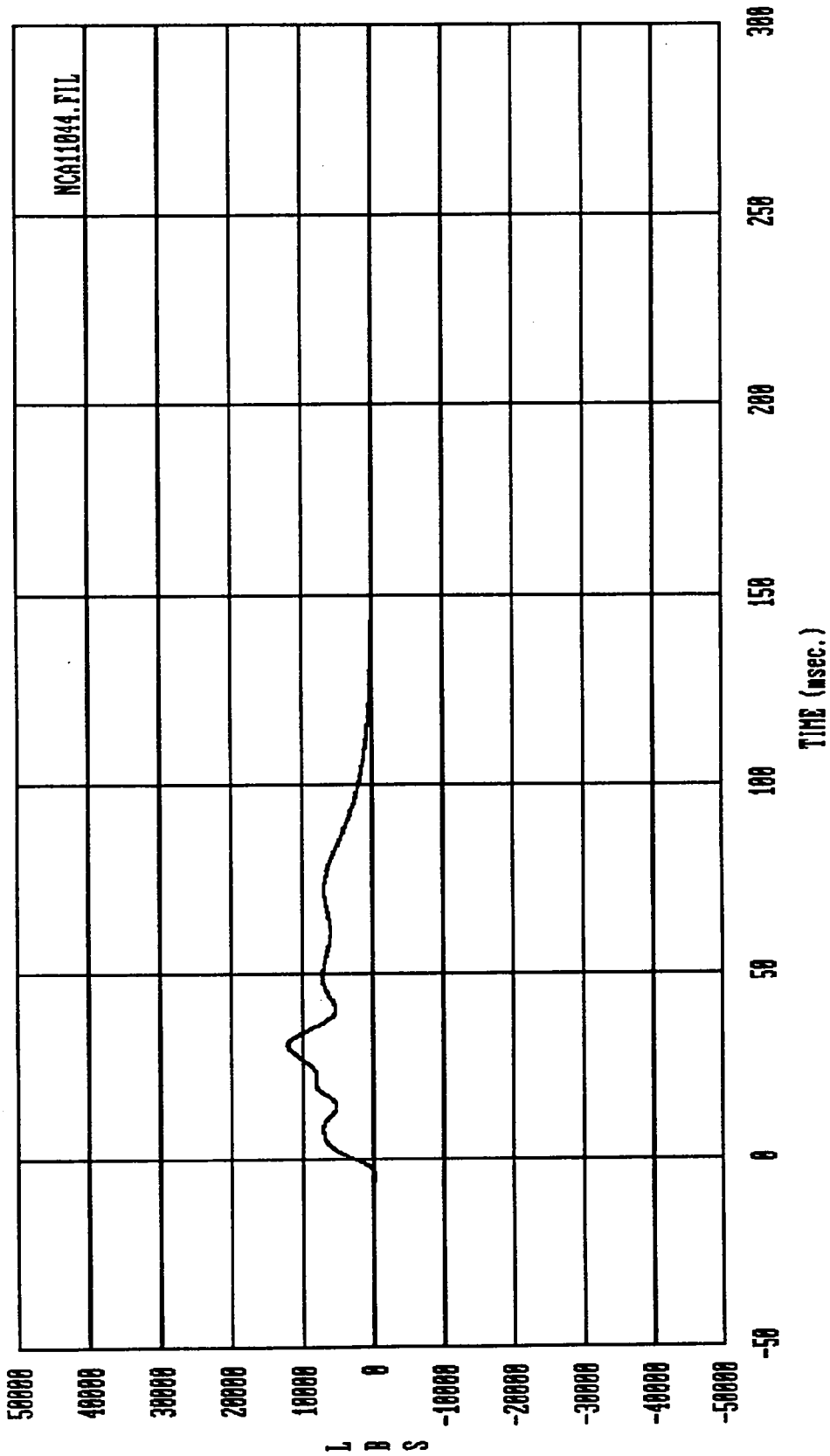
Curve: Force on Barrier load cell B4 Filter: SAE CLASS 60 Max = 15634. Min = -26.477

MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude



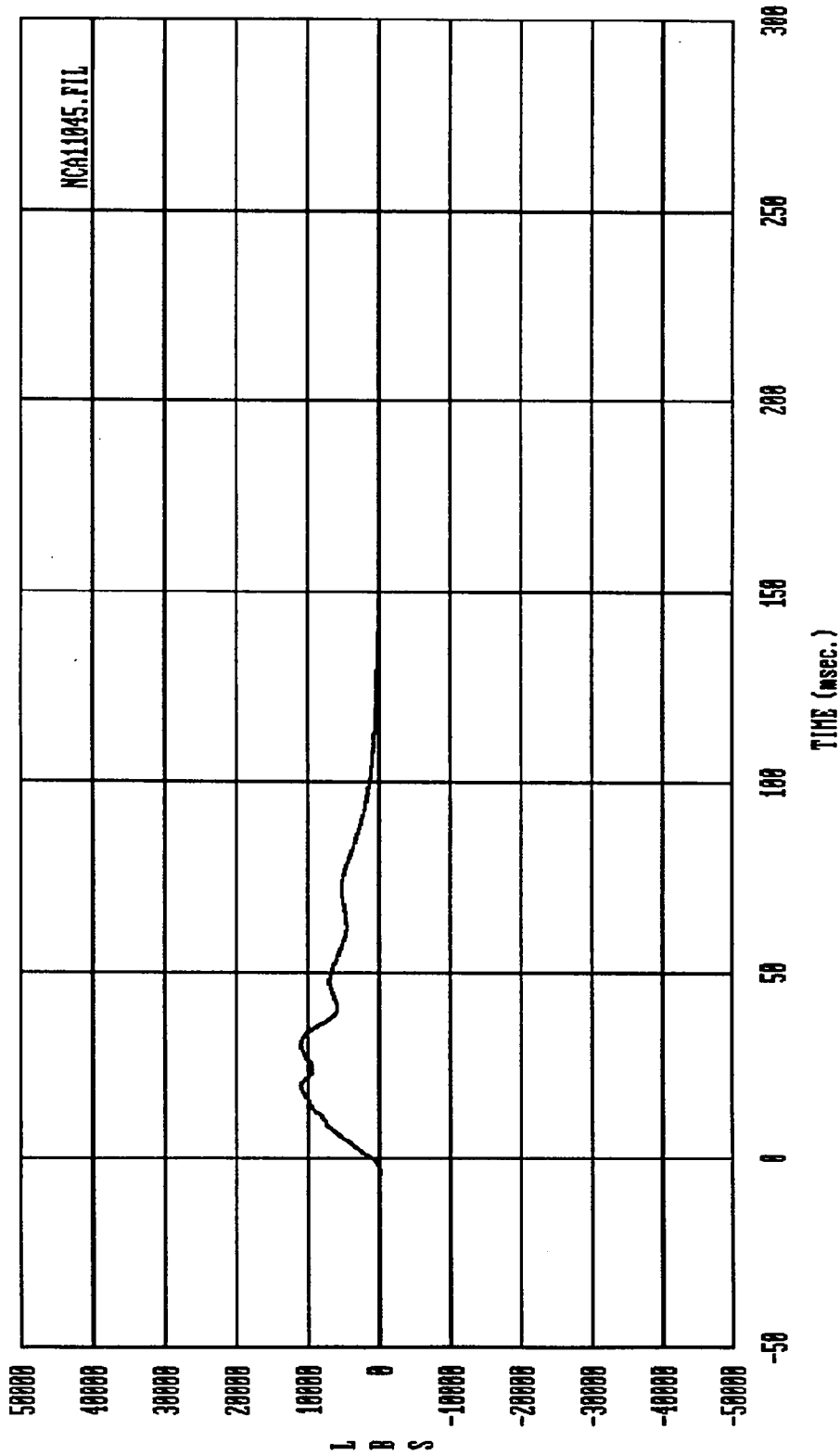
Curve: Force on Barrier load cell B5 Filter: SAE CLASS 60 Max = 19489. Min = -9.2196

MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude

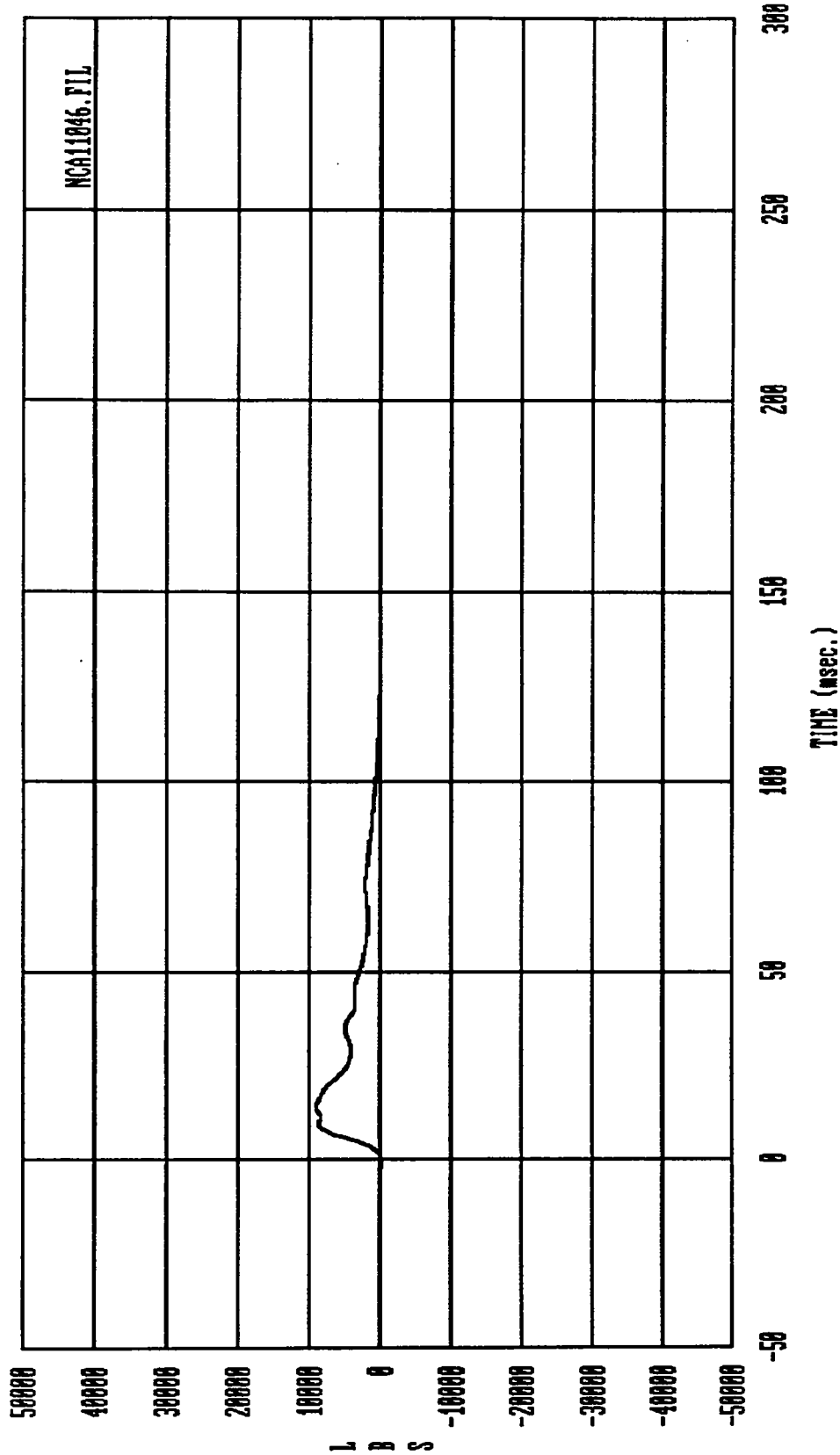


Curve: Force on Barrier load cell B6 Filter: SAE CLASS 60 Max = 12105. Min = -3.1435

MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude

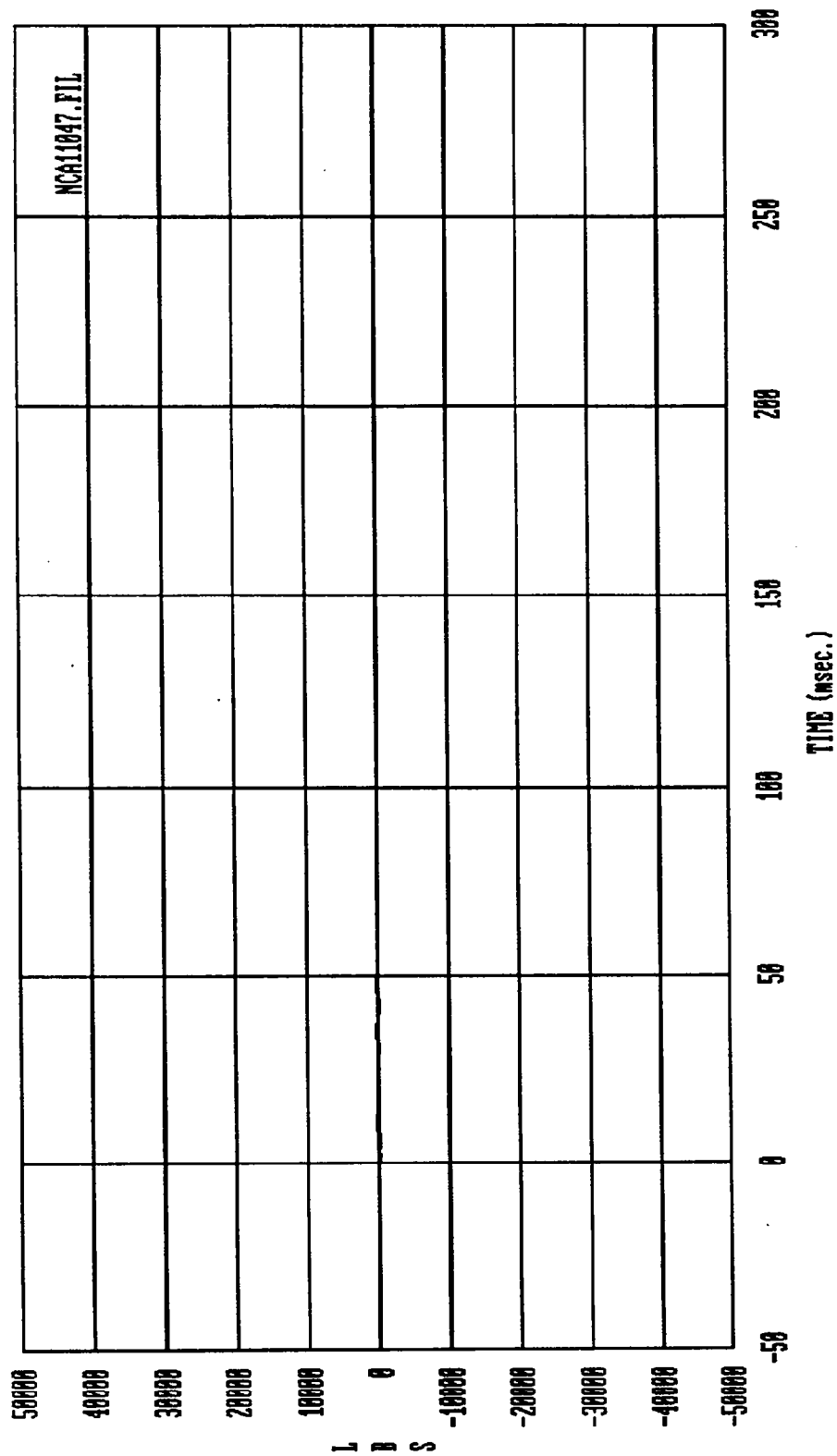


Curve: Force on Barrier load cell B7 Filter: SAE CLASS 60 Max = 10999. Min = -23.145
MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude

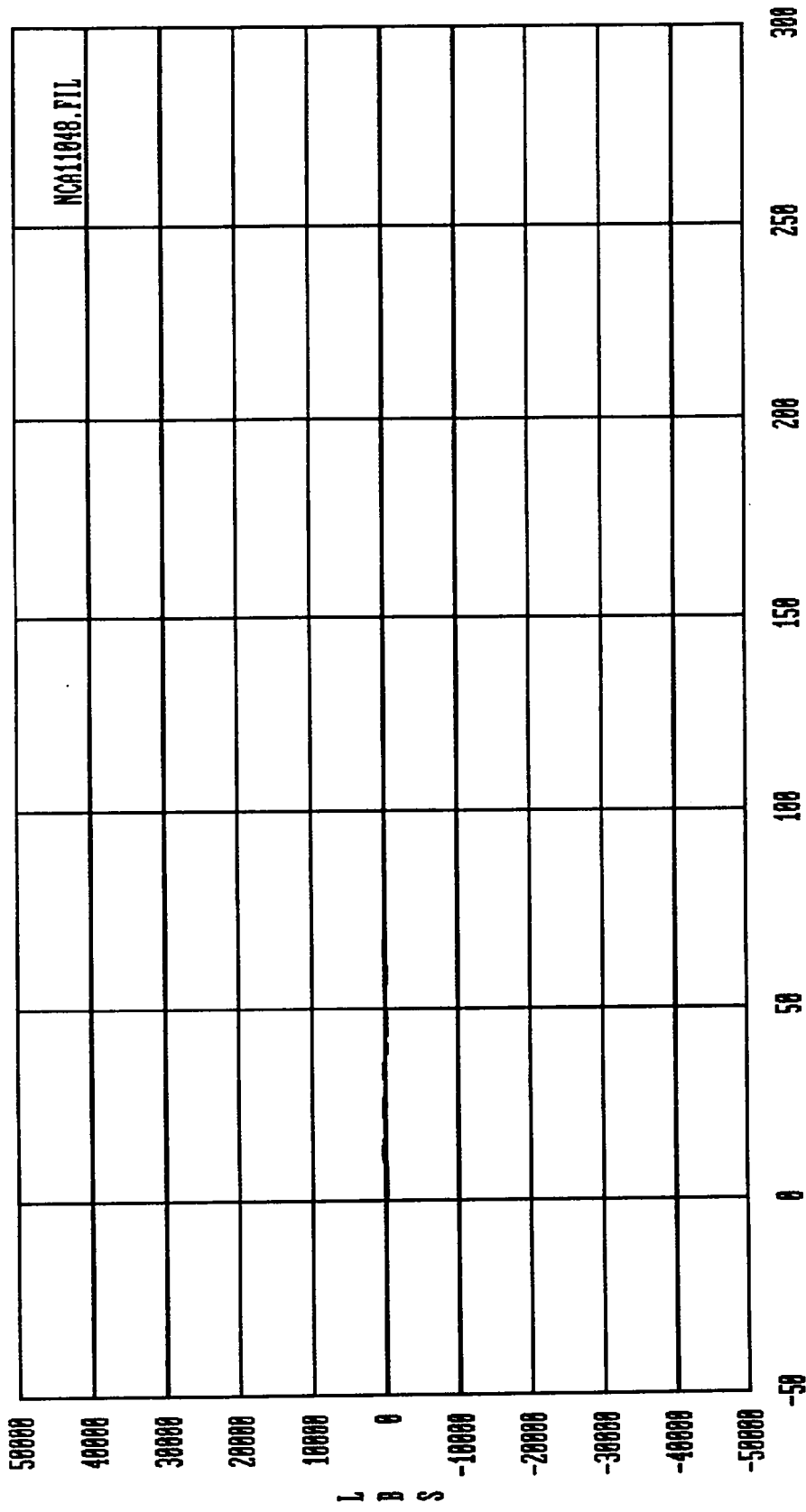


Curve: Force on Barrier load cell B8 Filter: SAE CLASS 60 Max = 9847.3 Min = -45.929

MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude

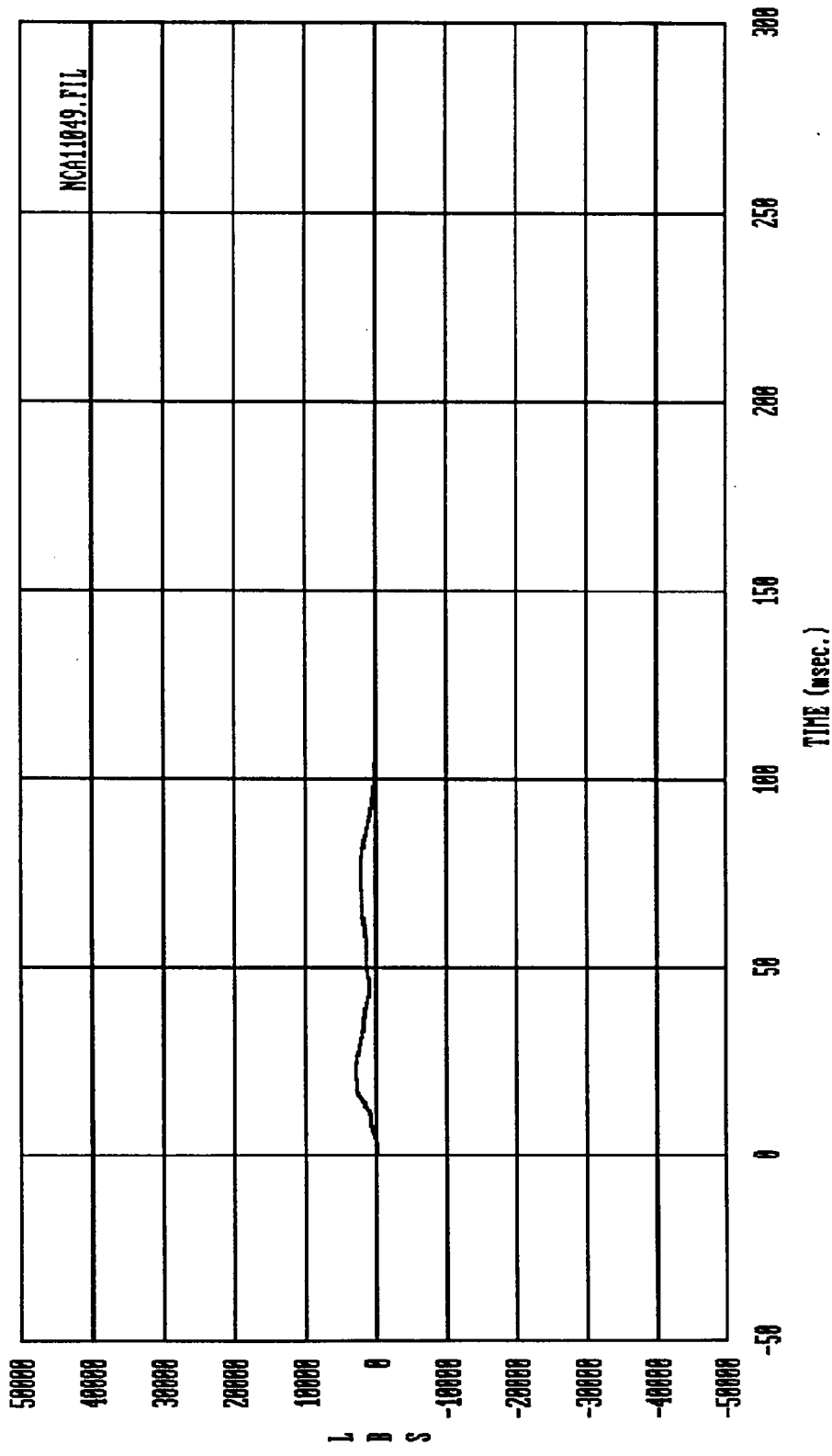


Curve: Force on Barrier load cell B9 Filter: SAE CLASS 60 Max = 295.55 Min = -176.70
 HSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude



Curve: Force on Barrier load cell C1 Filter: SAE CLASS 60 Max = 343.66 Min = -182.31

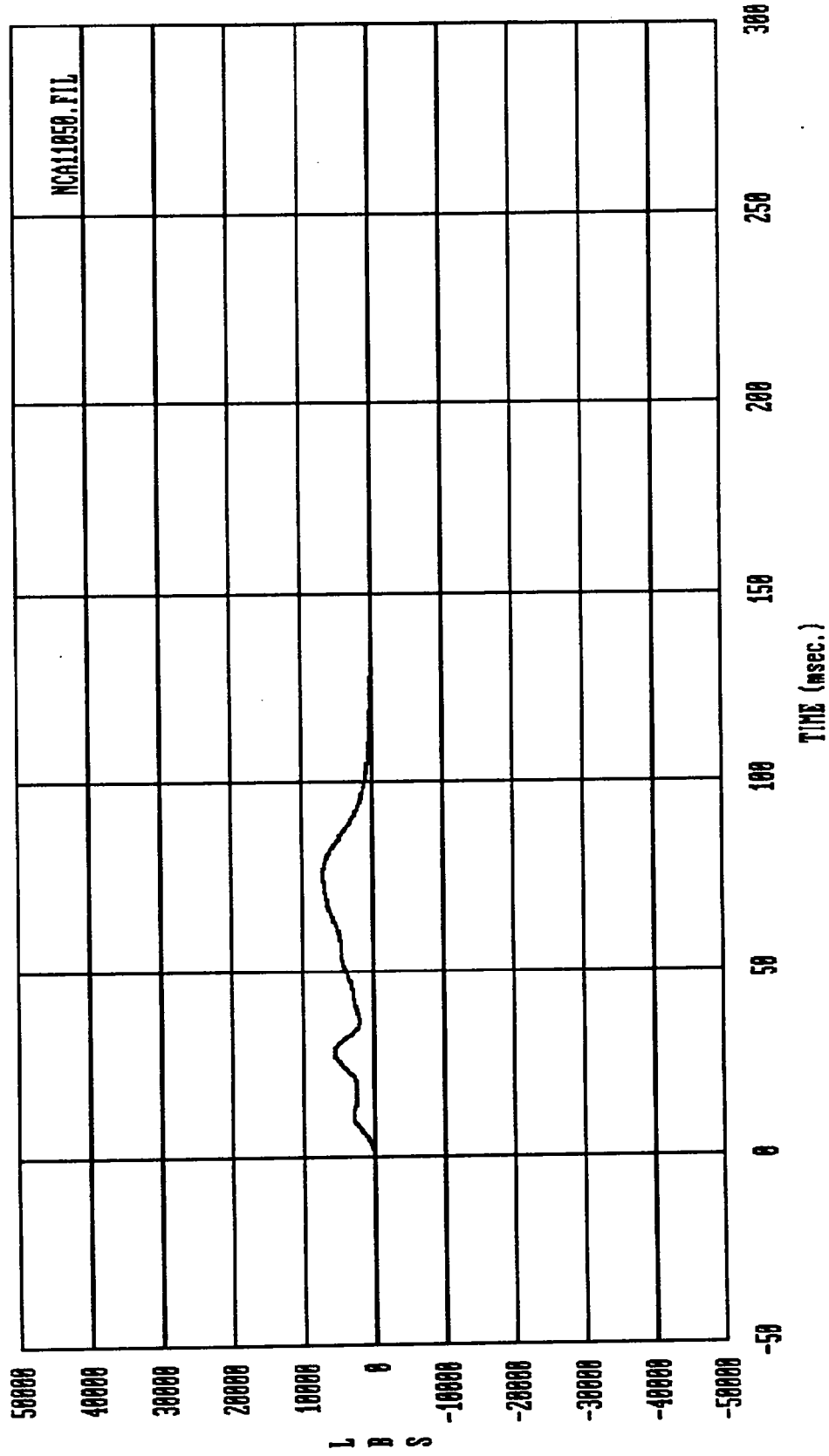
MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude



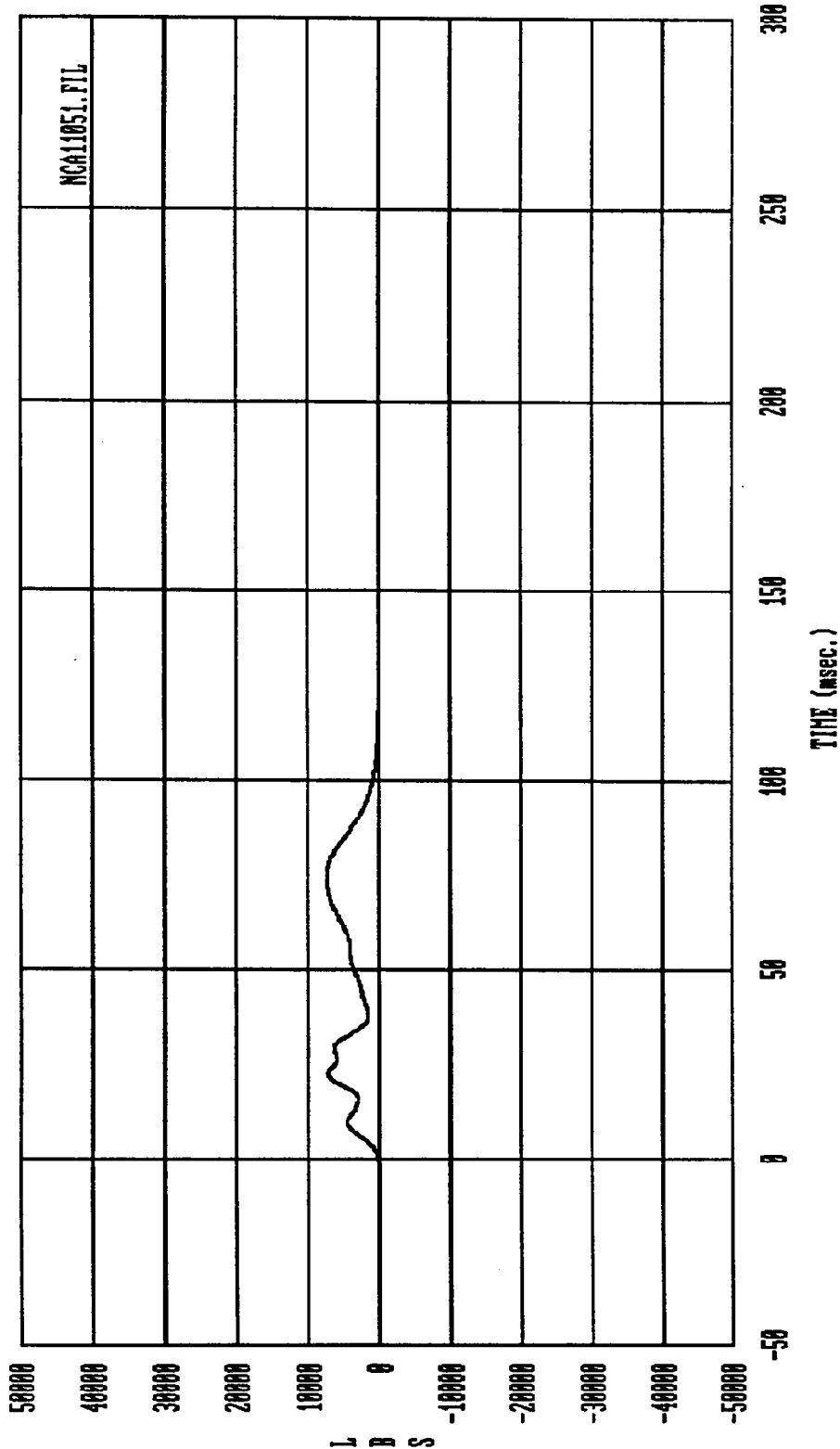
NCA11049.FIL

Curve: Force on Barrier load cell C2 Filter: SAE CLASS 60 Max = 2977.5 Min = -119.73

MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude

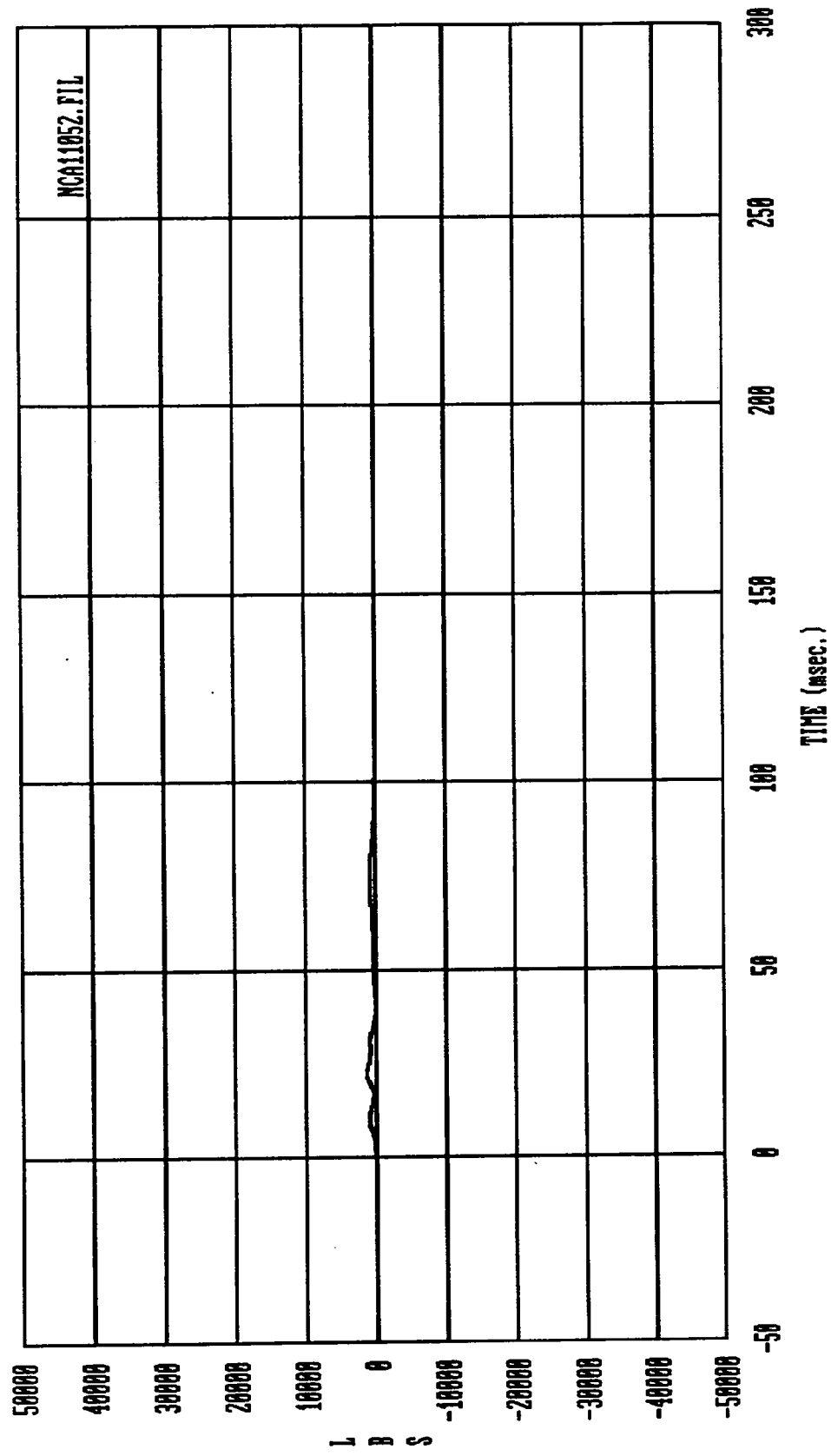


Curve: Force on Barrier load cell C3 Filter: SAE CLASS 60 Max = 7040.3 Min = -30.188
MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude



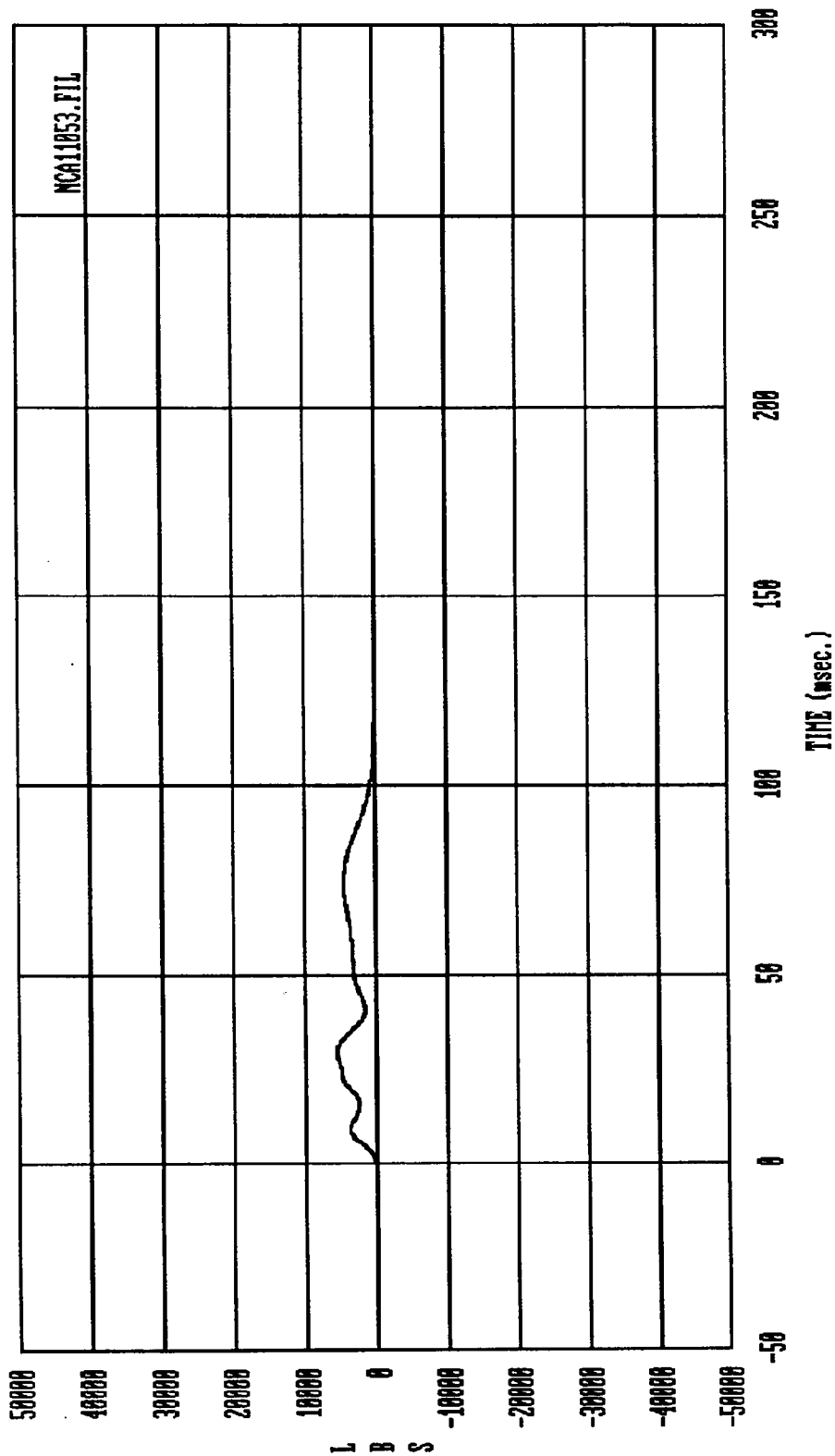
Curve: Force on Barrier load cell C4 Filter: SAE CLASS 60 Max = 7332.9 Min = -21.986

MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude



Curve: Force on Barrier load cell C5 Filter: SAE CLASS 60 Max = 1402.9 Min = -52.373

MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude

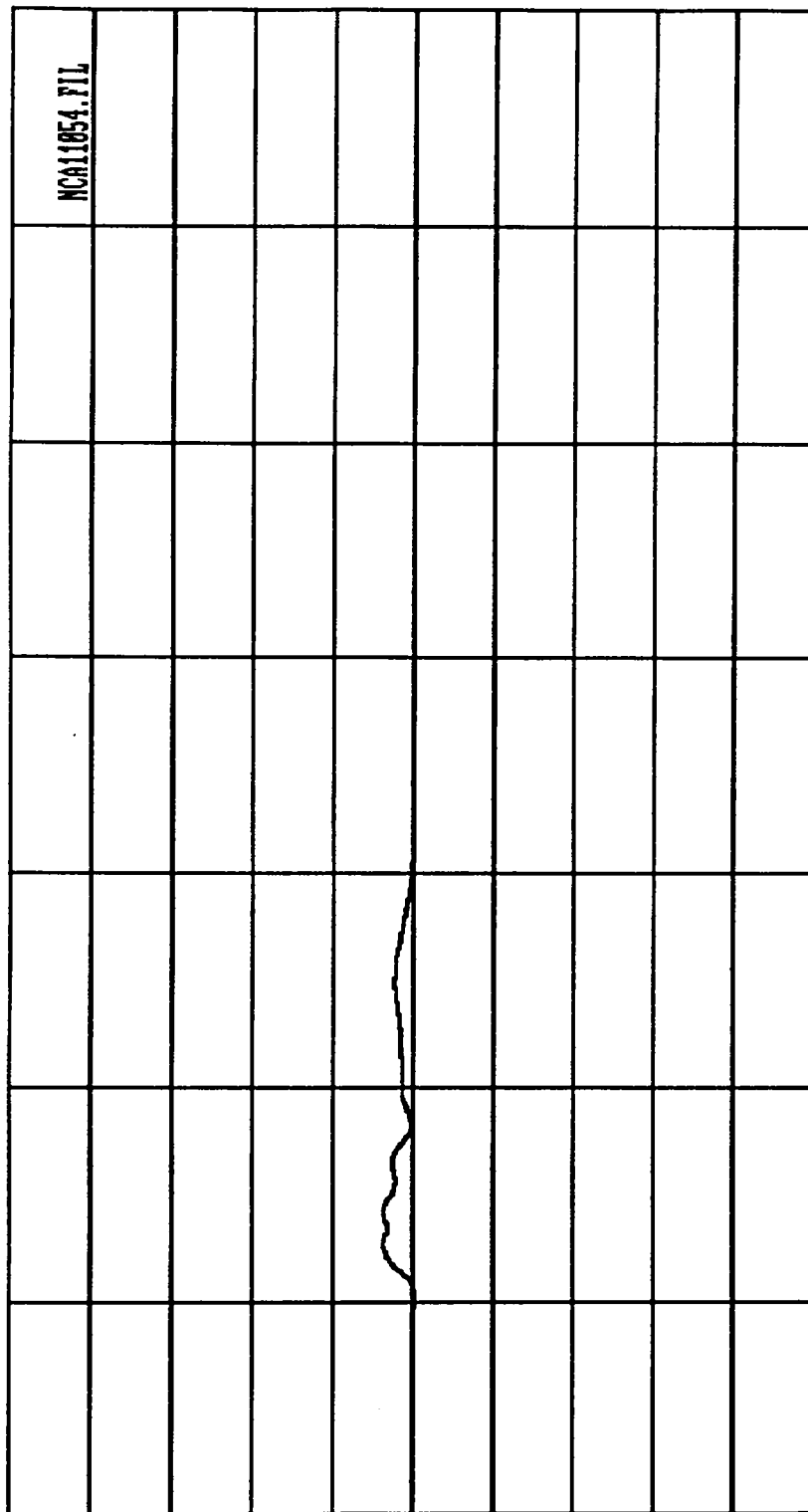


Curve: Force on Barrier load cell C6 Filter: SAE CLASS 60 Max = 5535.2 Min = -27.044

MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude

50000
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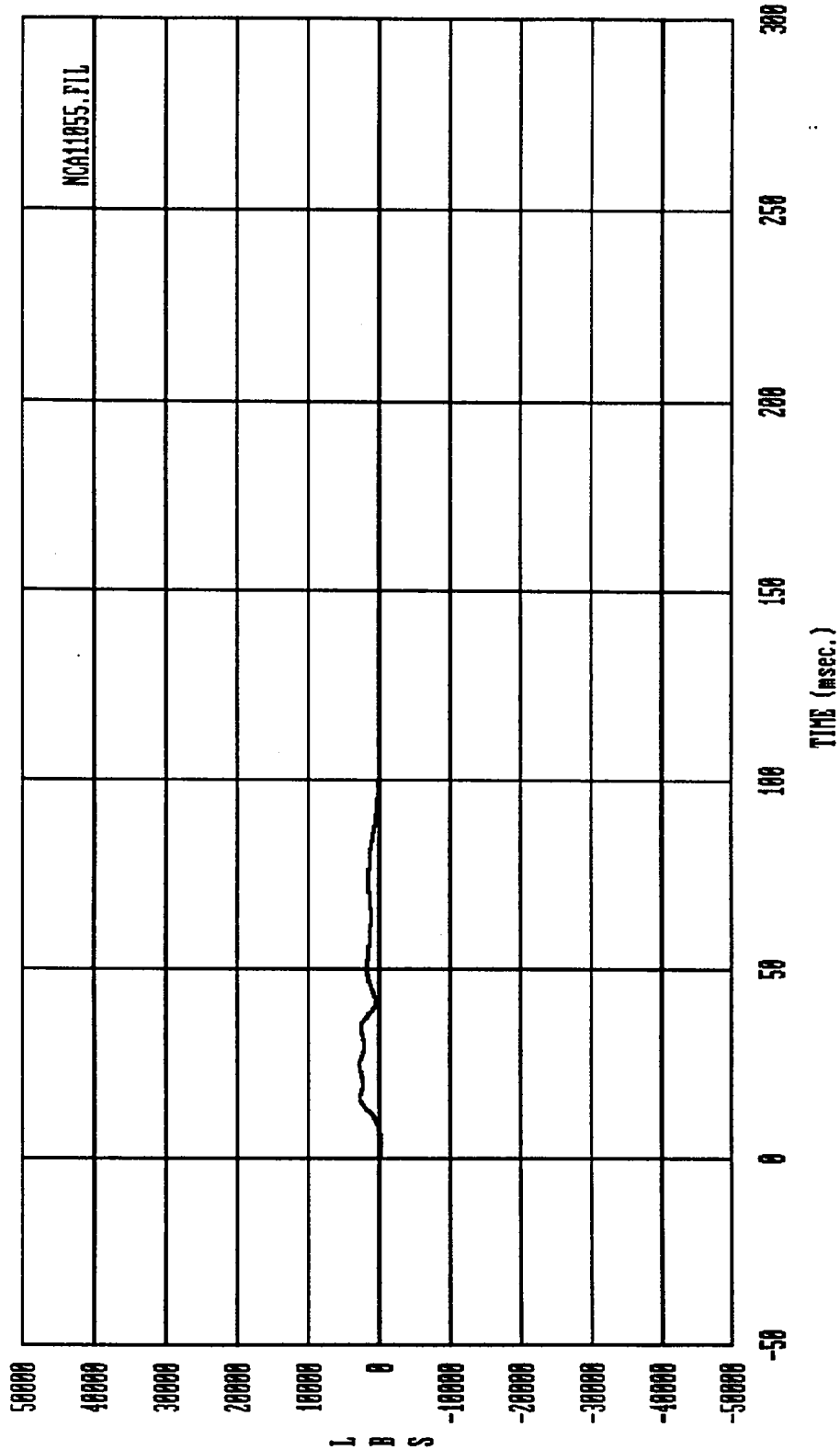


TIME (msec.)

-50 0 50 100 150 200 250 300

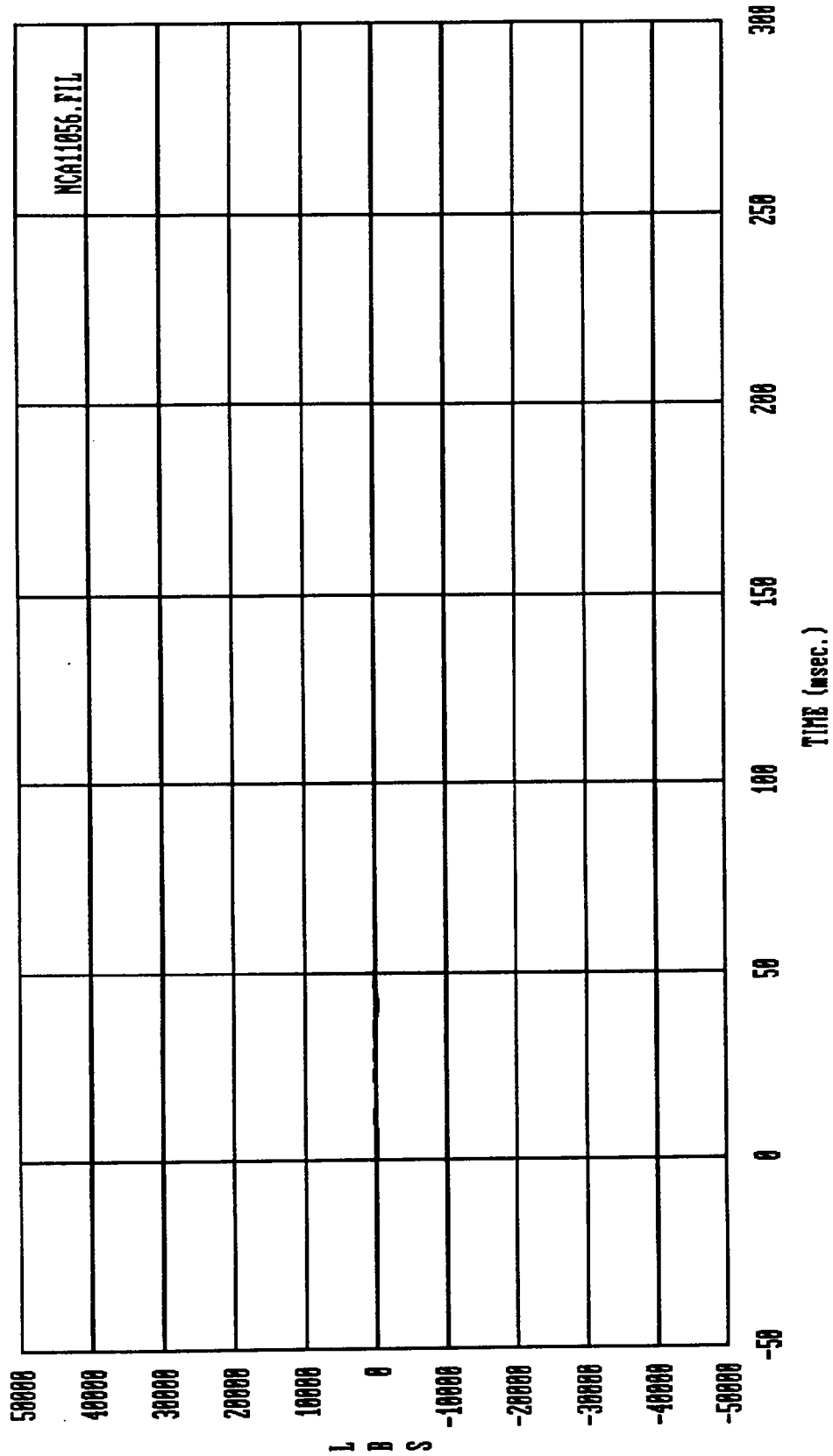
Curve: Force on Barrier load cell C7 Filter: SAE CLASS 60 Max = 3758.1 Min = -154.76

MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude



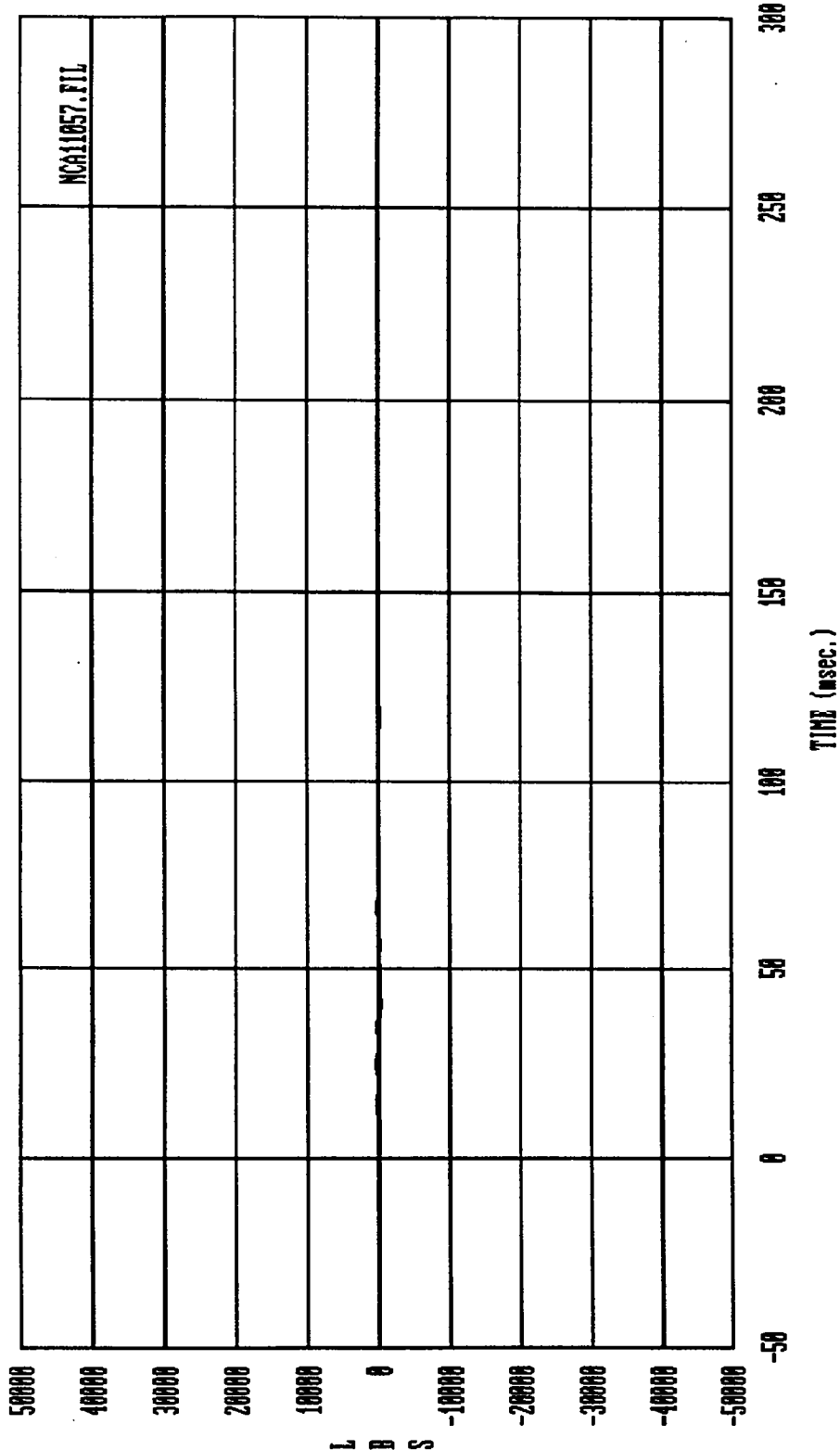
Curve: Force on Barrier load cell C8 Filter: SAE CLASS 60 Max = 2879.9 Min = -139.28

HSE Date: 03/16/90 Program: 1998 New Car Assessment #11 Vehicle: 1998 Honda Prelude

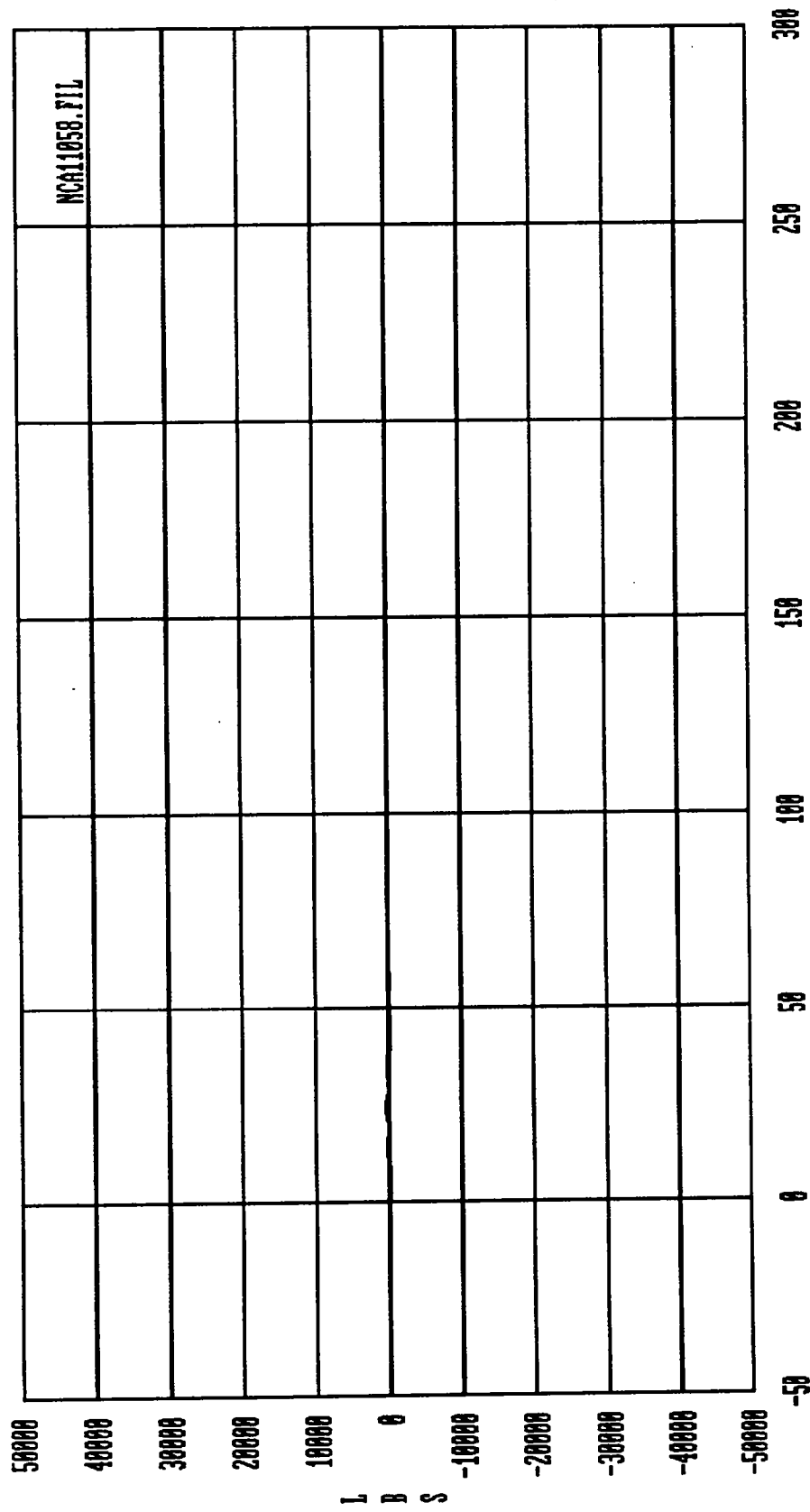


Curve: Force on Barrier load cell C9 Filter: SAE CLASS 60 Max = 255.81 Min = -367.61

MSE Date: 03/16/98 Program: 1998 New Car Assessment #11 Vehicle: 1998 Honda Prelude

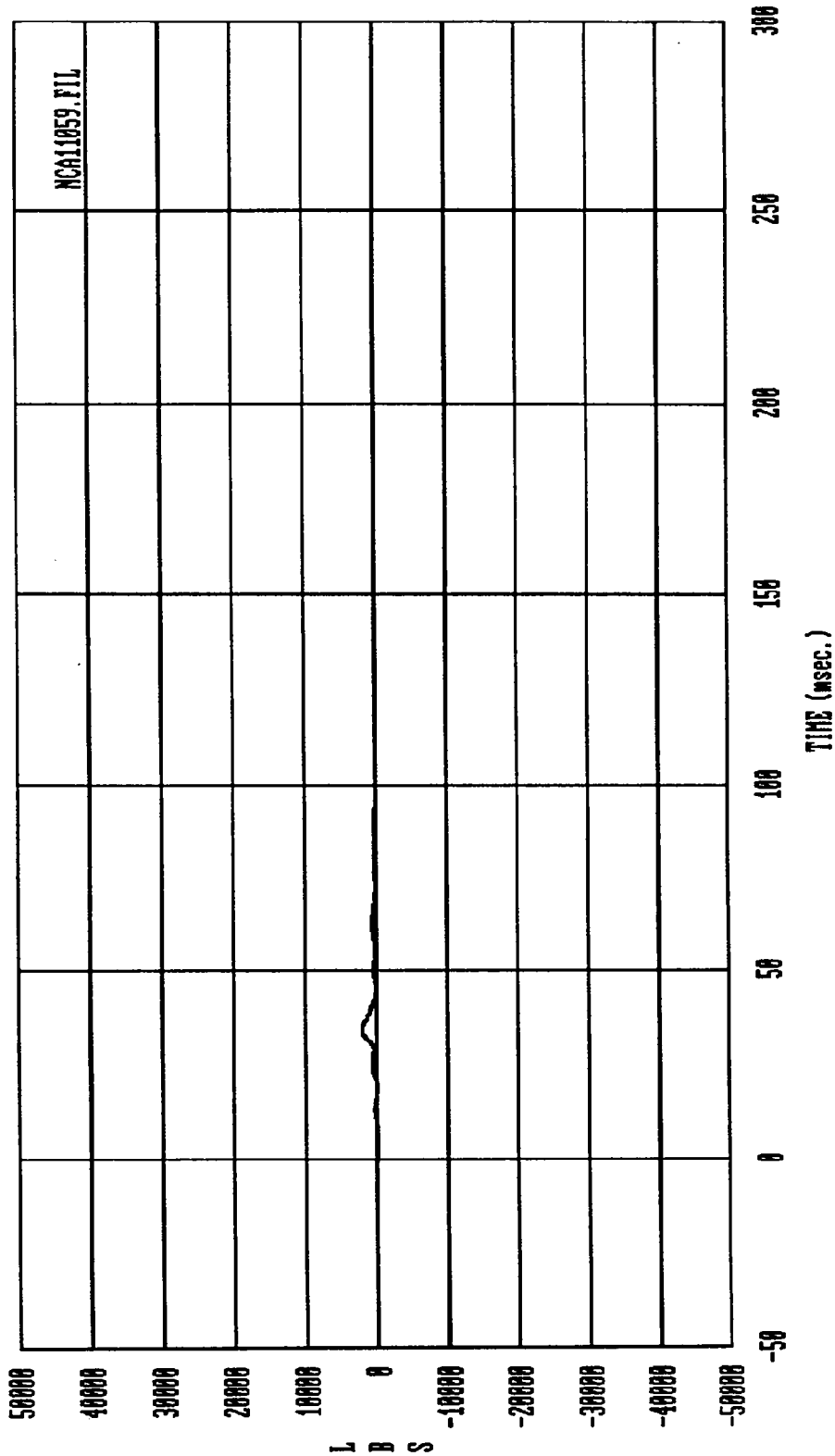


Curve: Force on Barrier load cell D1 Filter: SAE CLASS 60 Max = 368.13 Min = -322.37
 HSE Date: 03/16/98 Program: 1998 New Car Assessment #11 Vehicle: 1998 Honda Prelude



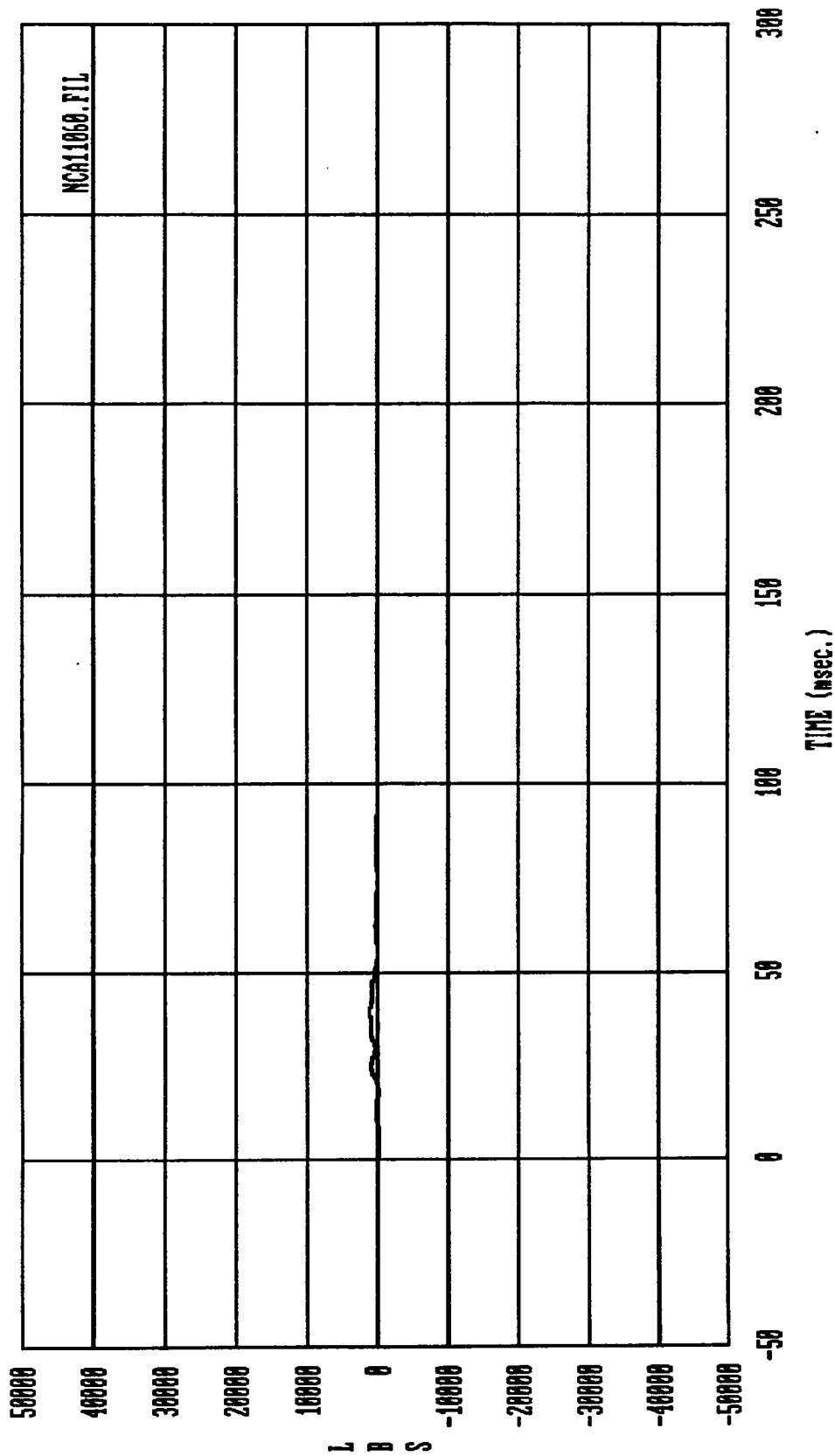
TIME (msec.)

Curve: Force on Barrier load cell D2 Filter: SAE CLASS 60 Max = 363.79 Min = -223.92
 MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude



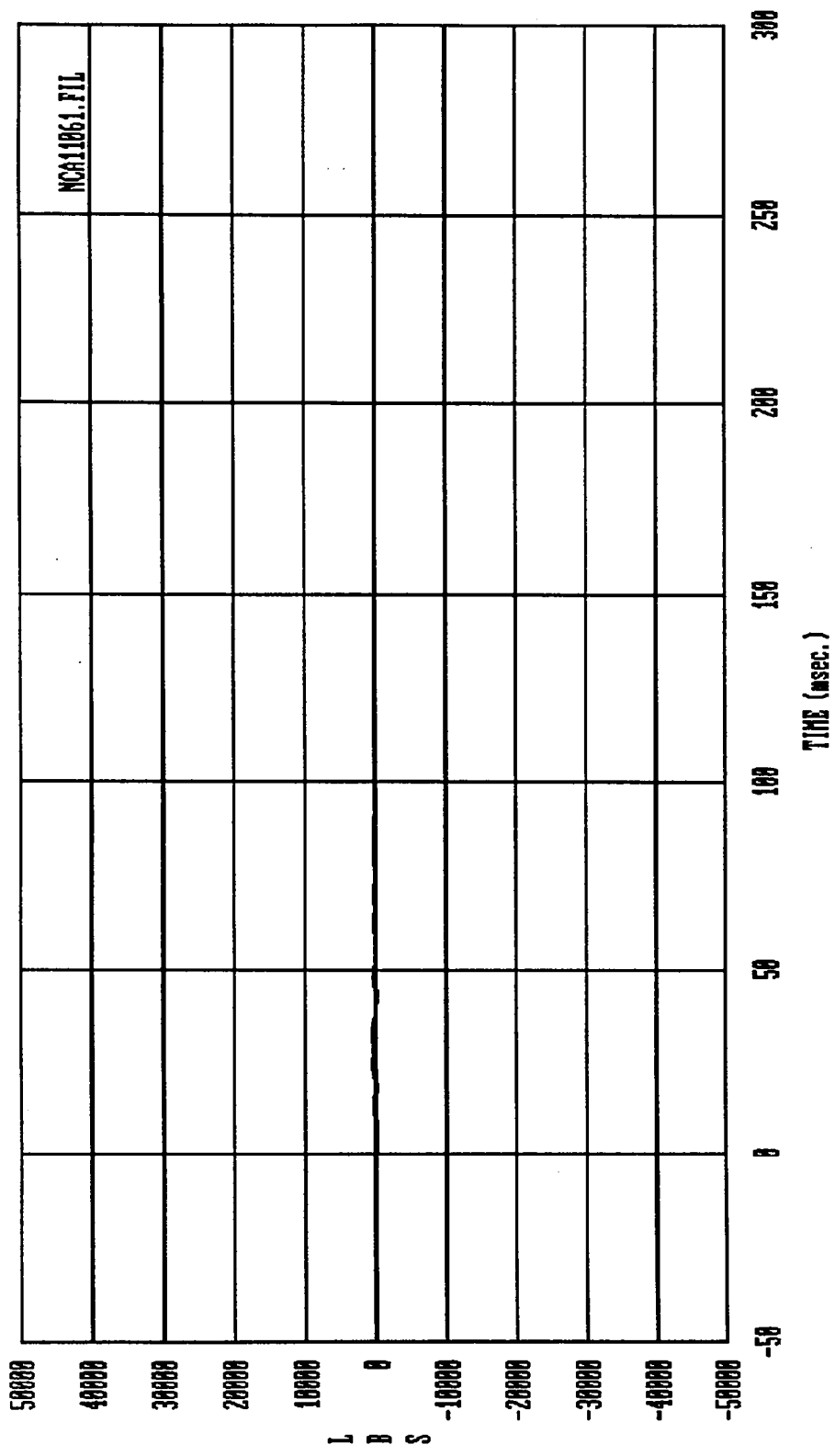
Curve: Force on Barrier load cell D3 Filter: SAE CLASS 60 Max = 1995.5 Min = -213.26

MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude



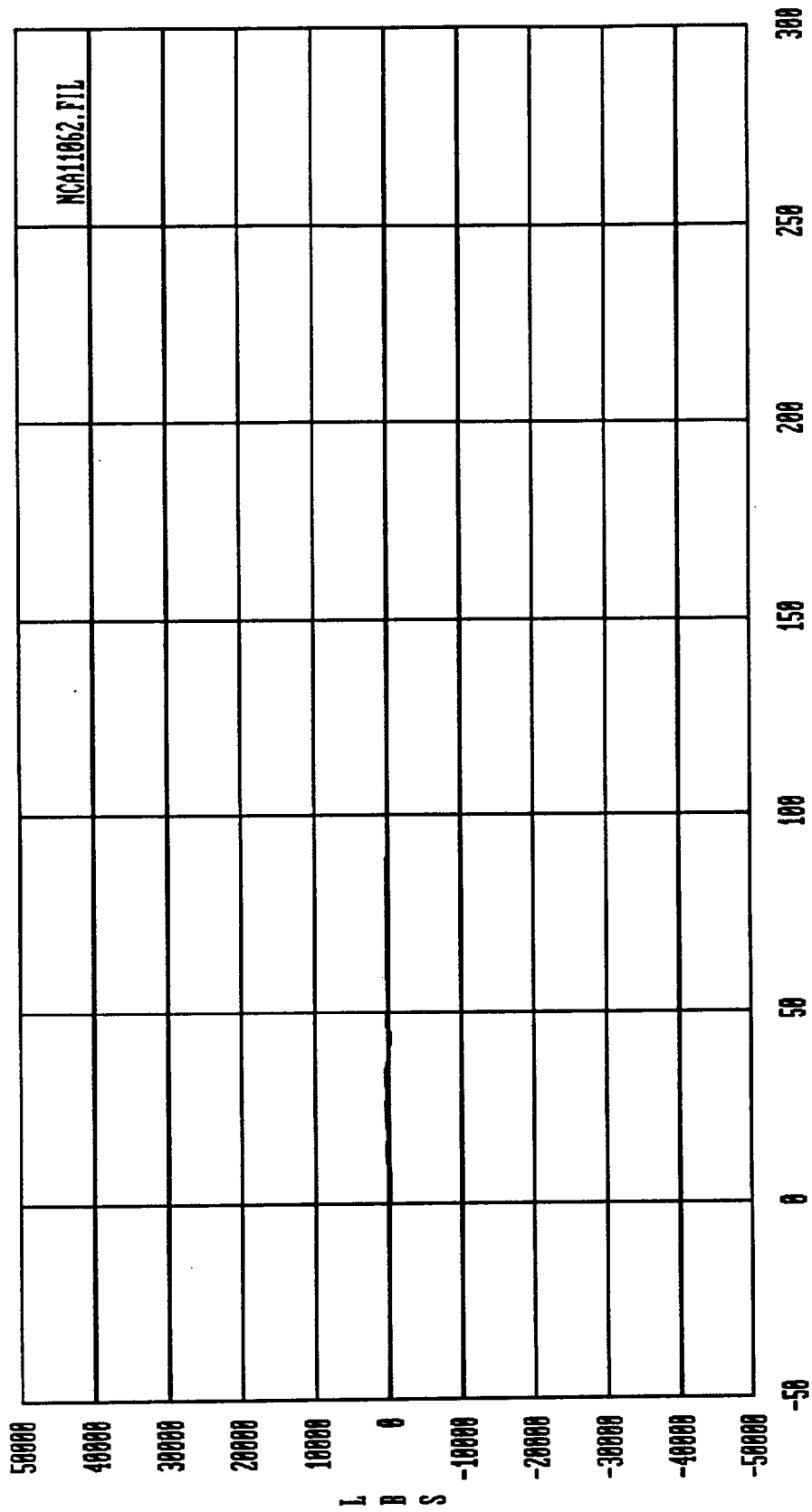
Curve: Force on Barrier load cell D4 Filter: SAE CLASS 60 Max = 1177.0 Min = -165.71

MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude



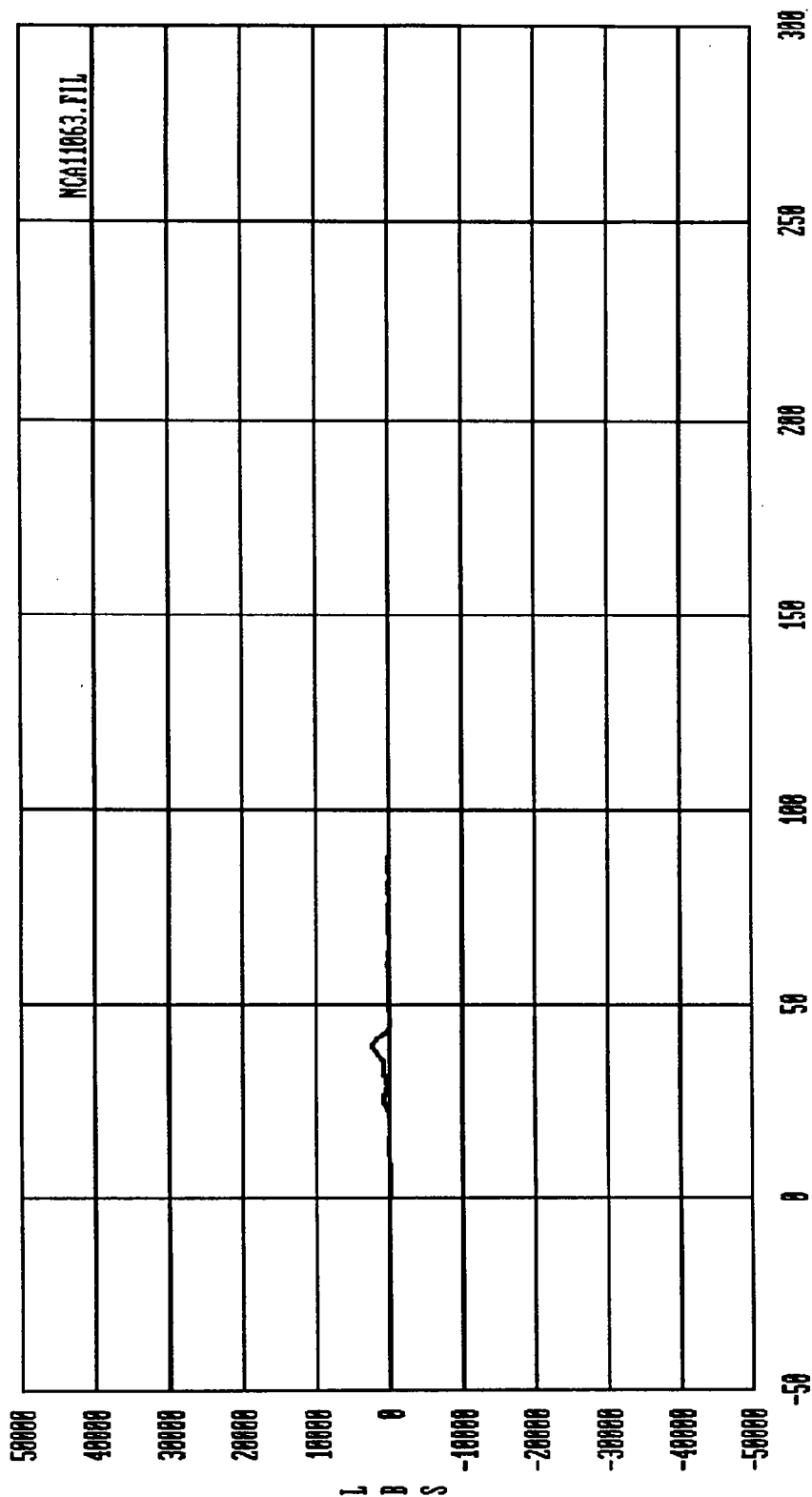
Curve: Force on Barrier load cell DS Filter: SAE CLASS 60 Max = 676.86 Min = -199.94

MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude



Curve: Force on Barrier load cell D6 Filter: SAE CLASS 60 Max = 449.98 Min = -206.72

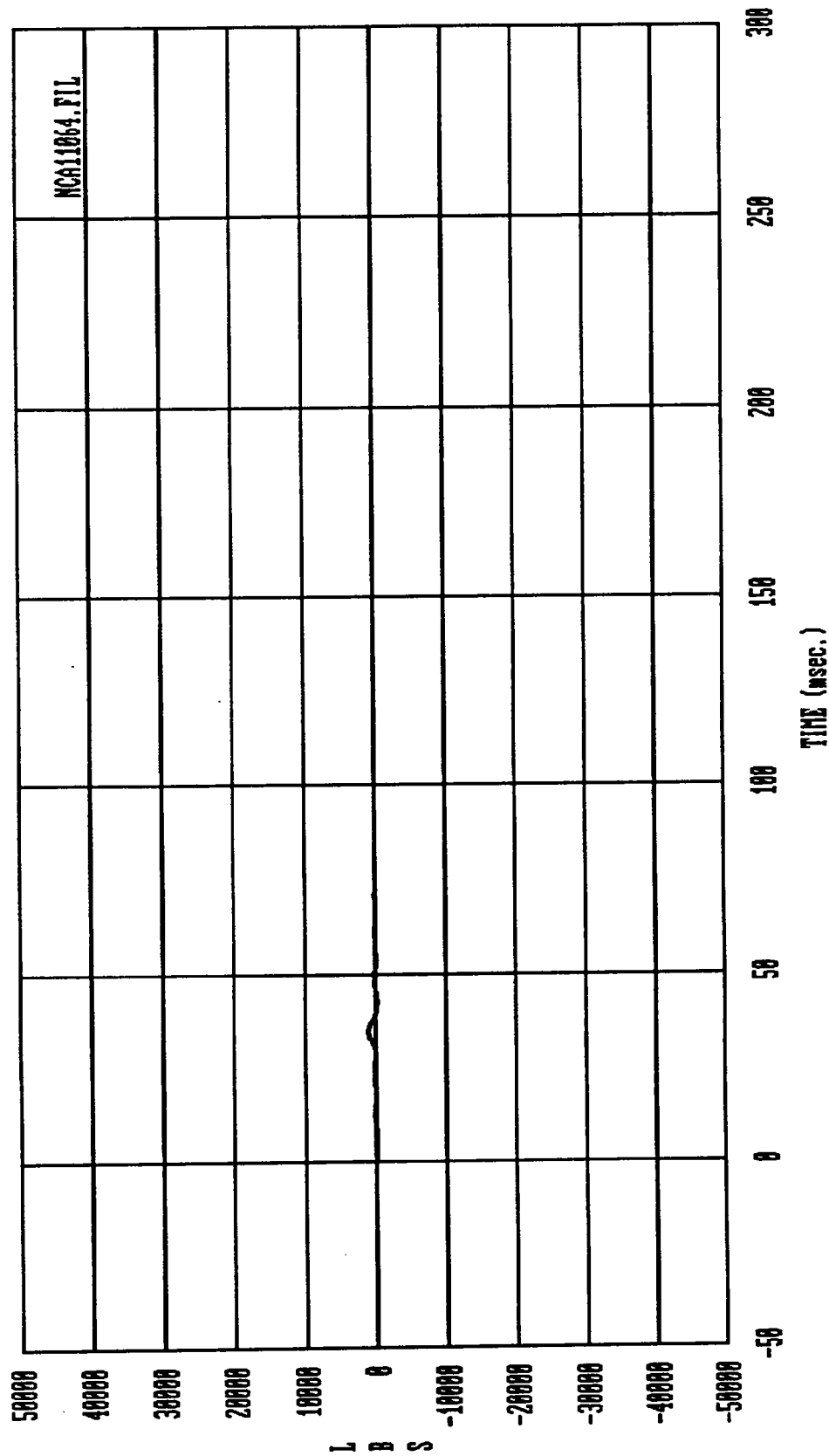
HSE Date: 03/16/98 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude



TIME (msec.)

Curve: Force on Barrier load cell D7 Filter: SAE CLASS 60 Max = 2362.0 Min = -171.79

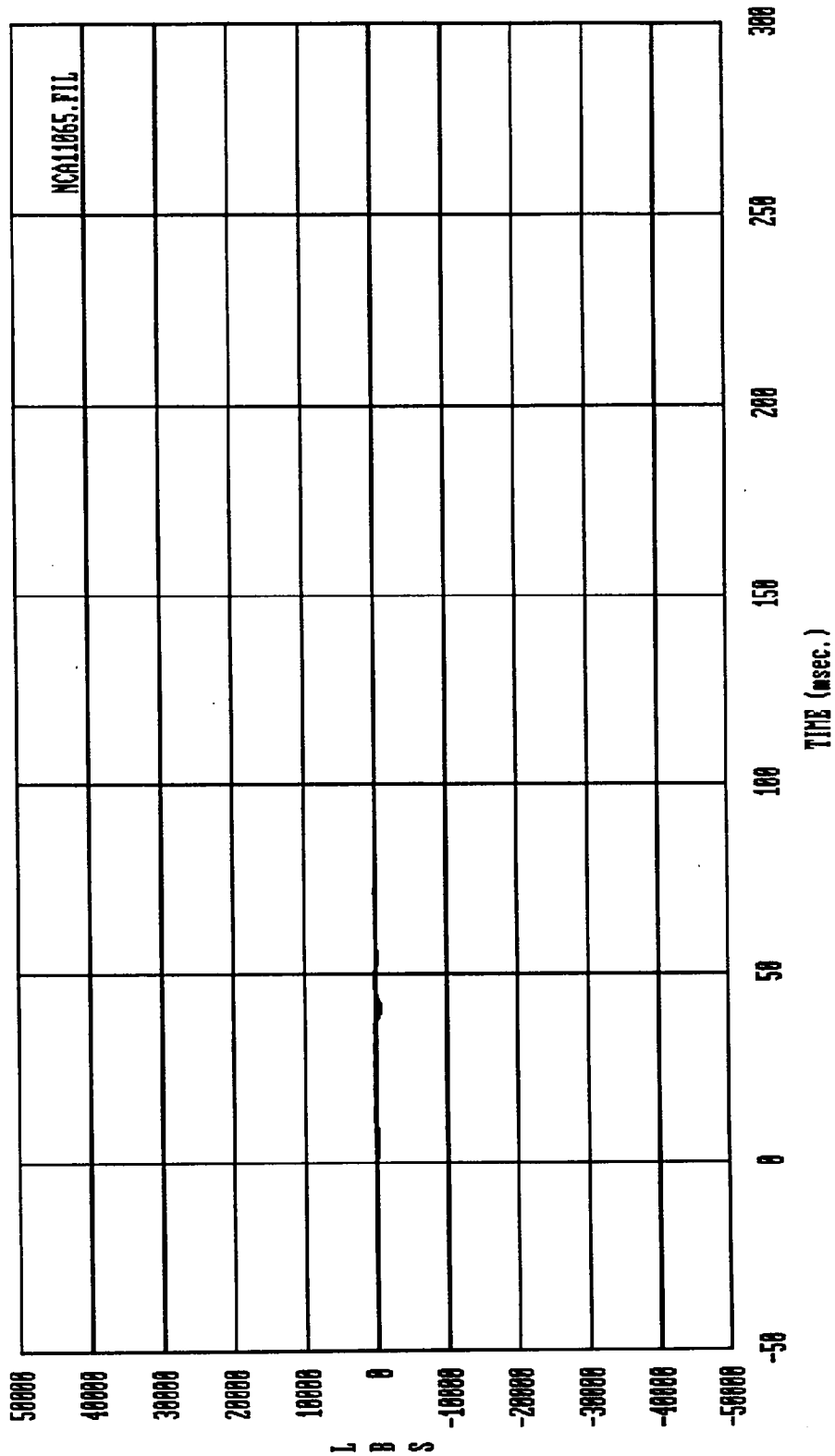
MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude



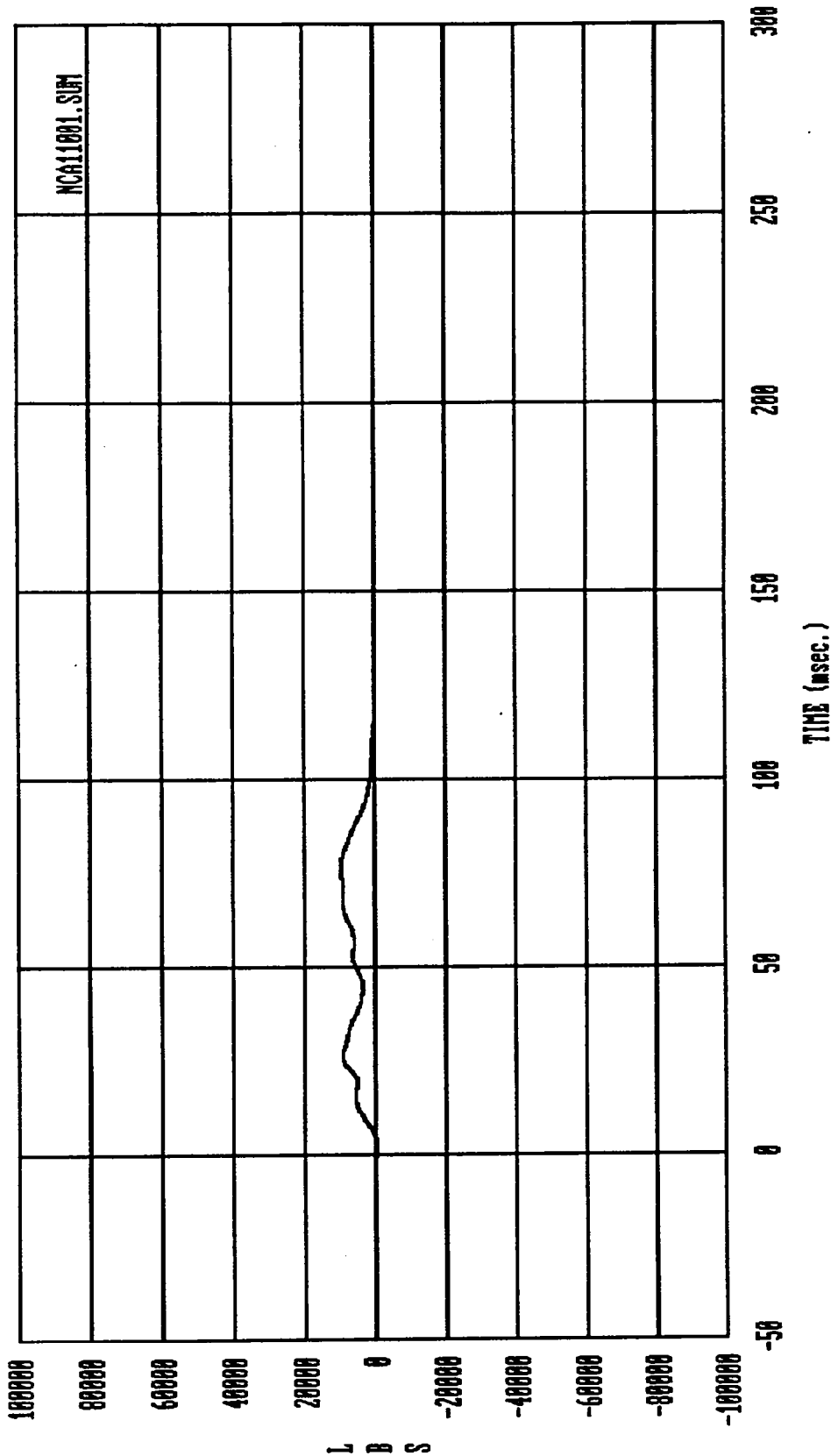
B2-35

MSE-90-R9092-N05

Curve: Force on Barrier load cell DB Filter: SAE CLASS 60 Max = 1124.4 Min = -298.90
 HSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude

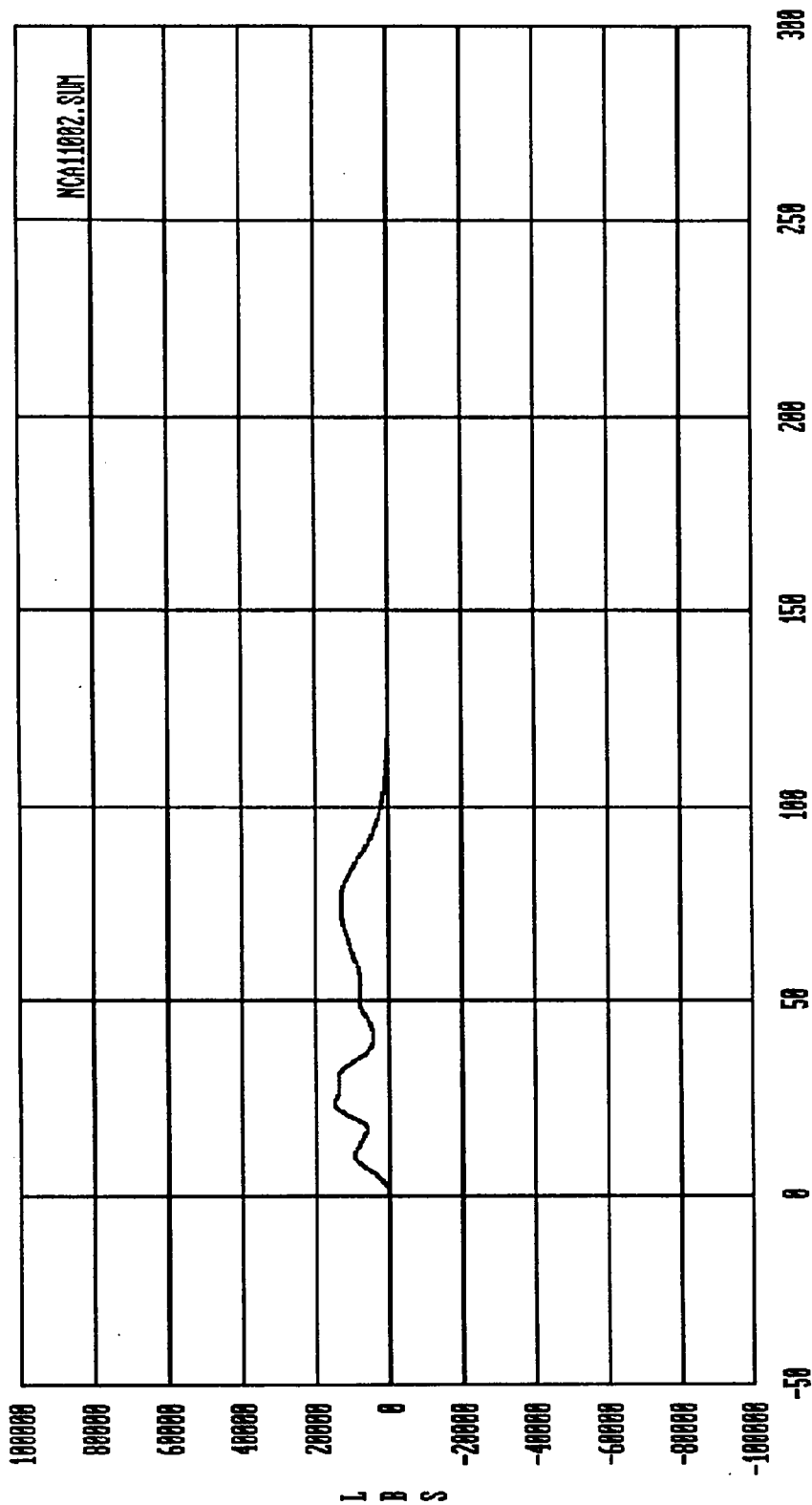


Curve: Force on Barrier load cell 09 Filter: SHE CLASS 60 Max = 274.38 Min = -634.60
MSE Date: 03/16/98 Program: 1998 New Car Assessment #11 Vehicle: 1998 Honda Prelude



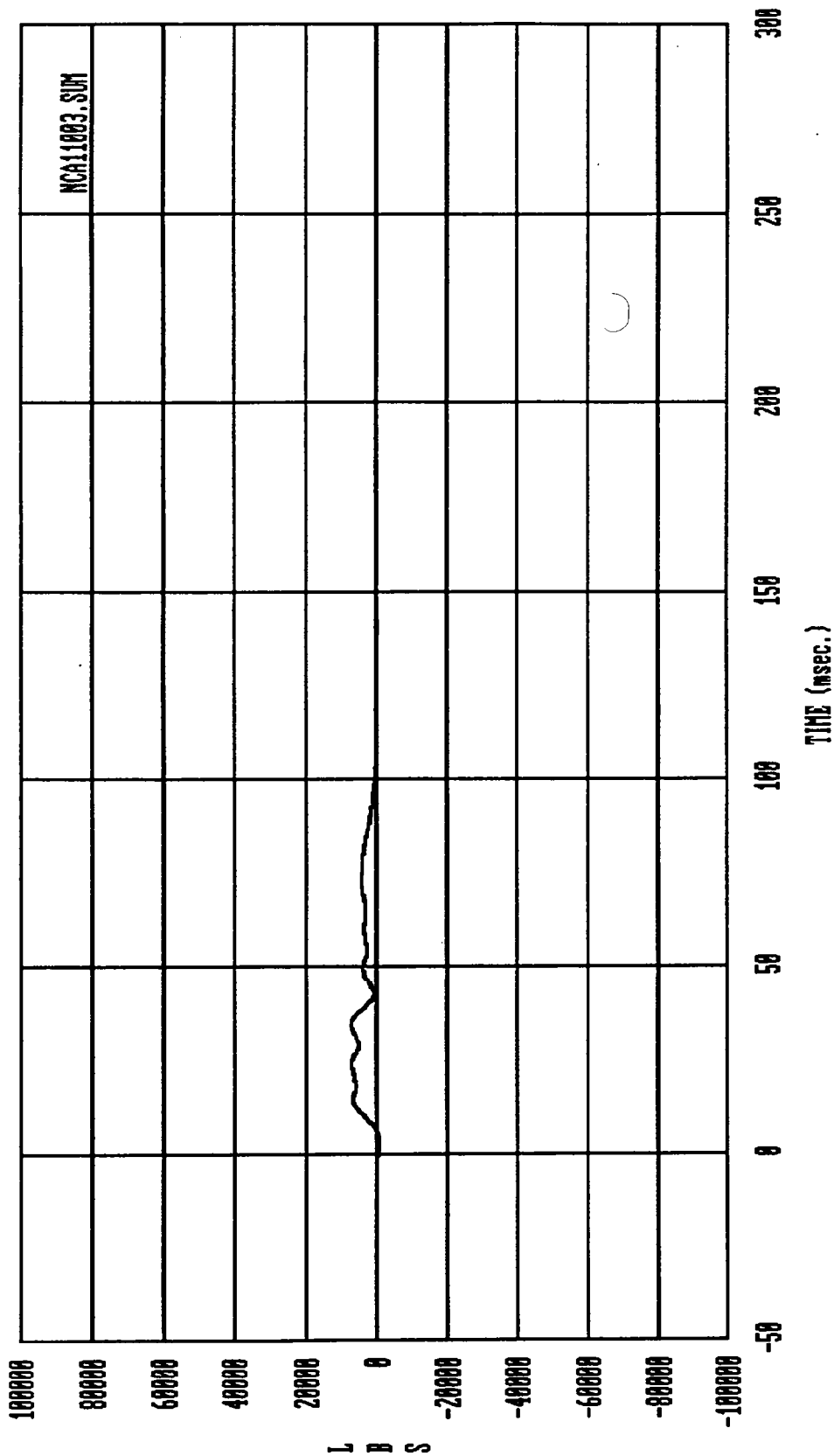
Curve: LCB sum force C1,C2,C3,D1,D2,D3 -- Group 1 Filter: SAE CLASS 60 Max = 9655.3 Min = -519.43

MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude



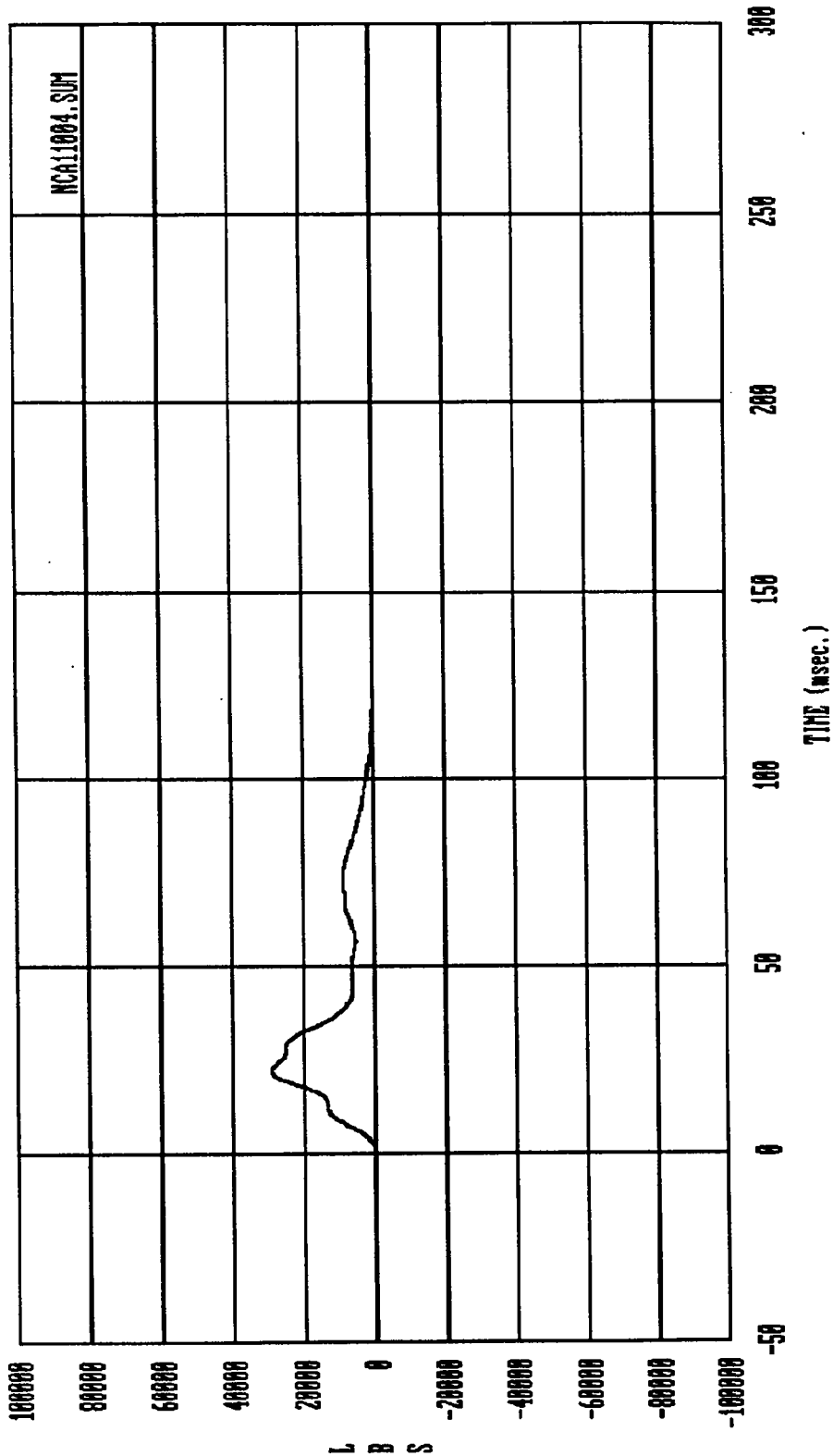
Curve: LBS sum force 04,05,06,04,05,06 -- Group 2 Filter: SAE CLASS 60 Max = 14932. Min = -91.764

MSE Date: 03/16/90 Program: 1998 New Car Assessment #11 Vehicle: 1998 Honda Prelude



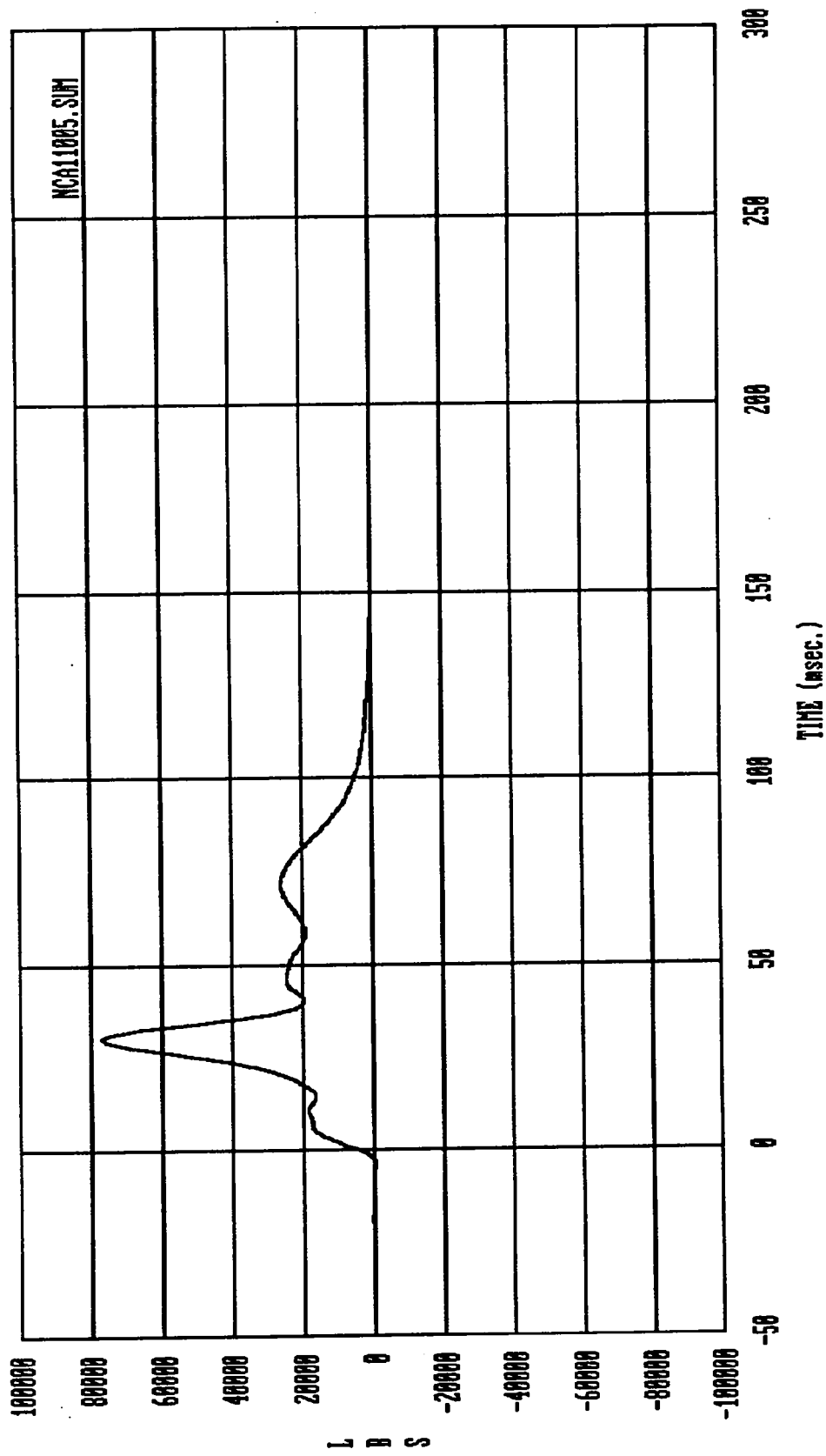
Curve: LCB sum force C7,C8,C9,D7,D8,D9 -- Group 3 Filter: SAE CLASS 60 Max = 7139.9 Min = -753.36

MSE Date: 03/16/98 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude



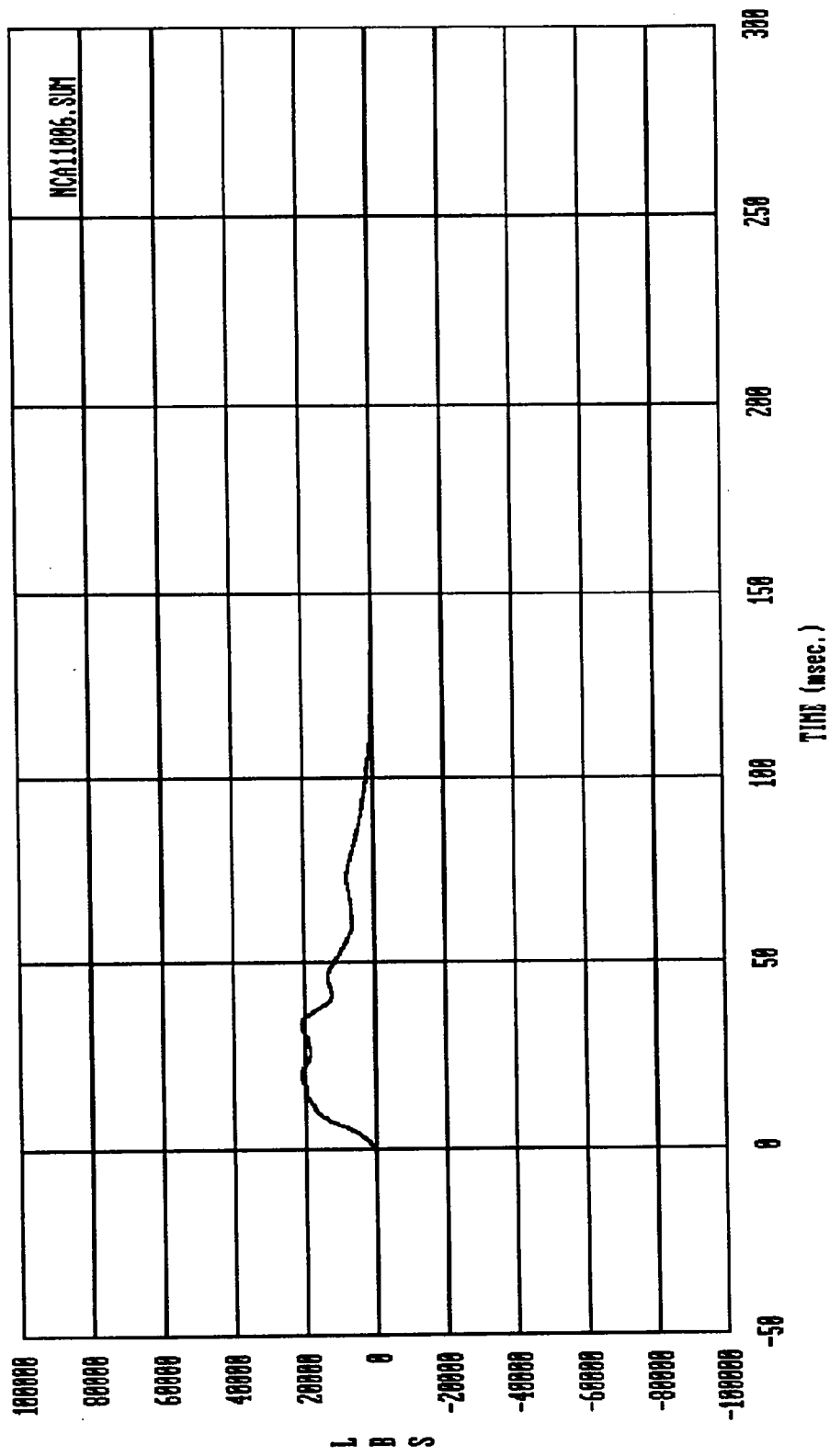
Curve: LCB sum force A1,A2,A3,B1,B2,B3 -- Group 4 Filter: SAE CLASS 60 Max = 29206. Min = -118.55

MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude

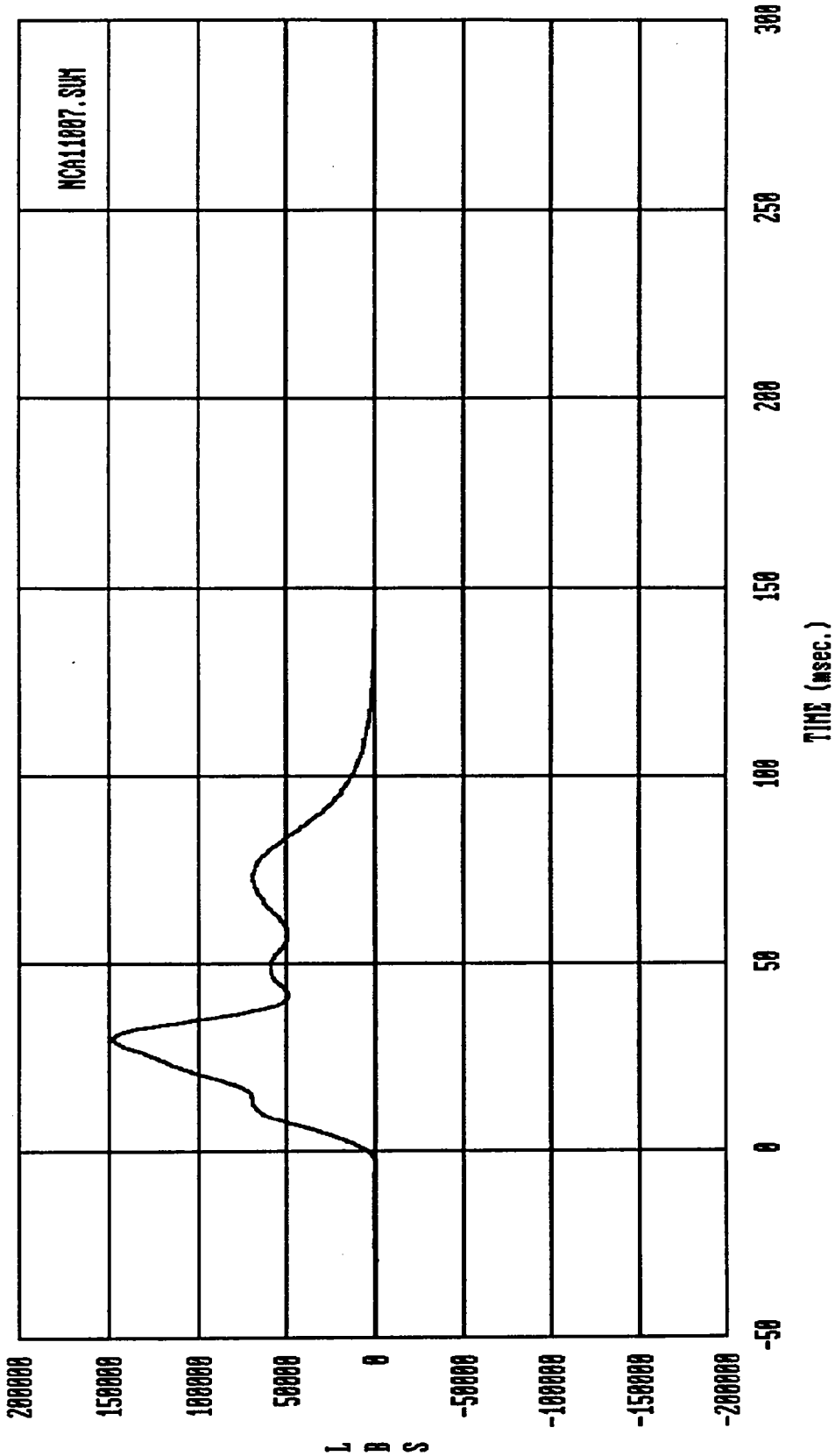


Curve: LCB sum force A4,A5,A6,B4,B5,B6 -- Group 5 Filter: SAE CLASS 60 Max = 76915. Min = -22.006

MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude



Curve: LCB sum force A7,A8,A9,B7,B8,B9 -- Group 6 Filter: SAE CLASS 60 Max = 20878. Min = -138.72
 MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude



Curve: Load Cell Barrier total force Filter: SAE CLASS 60 Max = .14815E+06 Min = -283.95

MSE Date: 03/16/90 Program: 1990 New Car Assessment #11 Vehicle: 1990 Honda Prelude

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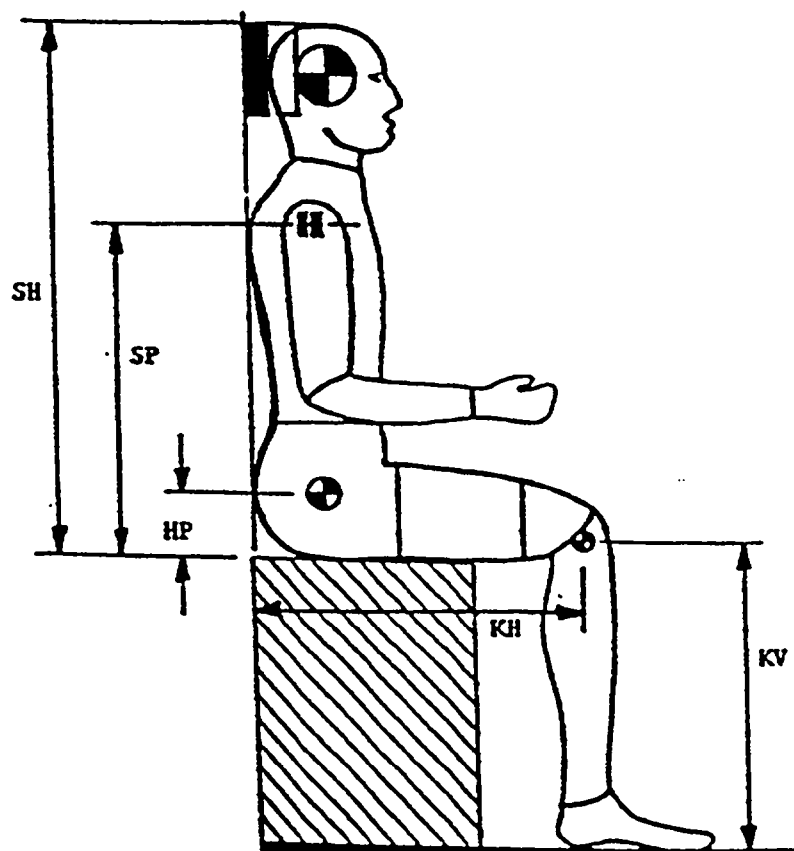
APPENDIX C

PART 572 DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION TESTS

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HTSA DUMMY I.D. NO.: 4 6 5

. CONFIGURATION VERIFICATION DATA:



	P. 572 SPECIFICATION	PRE-TEST (if required)	POST-TEST (if required)
DATE OF CONFIGURATION VERIFICATION	////////////////	03/09/90 to	
	////////////////	03/13/90	
CONFIGURATION NUMBER FOR DUMMY* ---	////////////////	4.00	
SH - Seated Height- - - - -	35.6 to 35.8"	35.60	
SP - Shoulder Pivot Height- - - -	21.8 to 22.4"	21.80	
HP - Hip Pivot Height - - - - -	3.9 ref.	3.90	
KH - Knee Pivot from back line- -	20.1 to 20.7"	20.55	
KV - Knee Pivot from floor- - - -	19.3 to 19.9"	19.30	
SW - Shoulder Width - - - - -	17.8 to 18.4"	18.10	
HW - Hip Width- - - - -	14.0 to 15.4"	15.10	

TECHNICIAN'S NAME: APURVA MAPARA

*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.:

4	6	5
---	---	---

TECHNICIAN NAME: APURVA MAPARA

		PRE-TEST (if required)	POST-TEST (if required)
DATE OF PERFORMANCE VERIFICATION-----		03/09-03/13/90	
SEQUENTIAL VERIFICATION NUMBER FOR DUMMY*-----		04	
VERIF. LAB. TEMPERATURE (66 to 78 F Range)----		68-75 F	F
VERIF. LAB. HUMIDITY (10 to 70% Range)-----		50-70 %	%
TEST PARAMETER	SPECIFICATION		
1. HEAD DROP TEST--			
a. Peak Resultant Accel.	210 to 260G	249.40	
b. Peak Lateral Accel.-	<10G	2.05	
c. Time above 100G - - -	0.9 to 1.5 ms	1.25	
2. NECK BENDING TEST--			
a. Pendulum Speed- - - -	21.5 to 22.5 fps	22.00	
b. Pend. Avg. Decel. over t ₃ - t ₂	20 to 24G	23.20	
c. Peak Resultant Head Acceleration - - - -	26G max.	25.20	
d. Pendulum Decel.(t ₂ - t ₁)	<3 ms	2.15	
e. Pendulum Decel.(t ₃ - t ₂)	25 to 30 ms	27.90	
f. Pendulum Decel.(t ₄ - t ₃)	<10 ms	8.60	
g. Max. Head Rotation -	63° to 73°	69.17	
h. Chordal Displacement- Head Rotation Angle-			
0°	Time- -	-2 to 2 ms	0.00
	Displ.-	-.5 to .5"	-0.019
30°	Time- -	22.6 to 34 ms	28.80
	Displ.-	2.1 to 3.1"	2.93
60°	Time- -	40.3 to 51.7ms	43.70
	Displ.-	4.3 to 5.3"	4.93
Maximum 0° (69.2°)	Time- -	53.2 to 66.8ms	58.00
	Displ.-	5.0 to 6.0"	6.00

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

I. PERFORMANCE VERIFICATION DATA:
 TECHNICIAN NAME: APURVA MAPARA

NHTSA DUMMY I.D. NO.: | 4 | 6 | 5 |

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	70.10	
	Displ.-	4.3 to 5.3 in.	5.19	
30°	Time- -	85.4 to 104.6 ms	86.20	
	Displ.-	2.1 to 3.1 in.	2.40	
0°	Time- -	101.0 to 123.0 ms	101.50	
	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.	43.00	
c. Force @ 1.0"- - - -		50 to 63 lbs.	61.00	
d. Force @ 1.3"- - - -		73 to 88 lbs.	85.00	
4. LUMBAR FLEXION TEST:				
a. Force @ 20° - - - -		22 to 34 lbs.	28.90	
b. Force @ 30° - - - -		34 to 46 lbs.	38.90	
c. Force @ 40° - - - -		46 to 58 lbs.	47.60	
d. Return Angle- - - -		12° maximum	5.00	
5. CHEST IMPACT TESTS:				
a. High Speed				
(1) Probe Speed - - -		21.78-22.22 fps	21.90	
(2) Peak Deflection -		1.7" maximum	1.68	
(3) Peak Resistive Force - - - - -		2250 lbs.maximum	1834.00	
(4) Internal Hysteresis		50 to 70%	62.00	
b. Low Speed				
(1) Probe Speed - - -		13.86-14.14 fps	14.00	
(2) Peak Deflection -		1.1" maximum	1.06	
(3) Peak Resistive Force - - - - -		1450 lbs.maximum	1243.00	
(4) Internal Hysteresis		50 to 70%	69.00	

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

II. PERFORMANCE VERIFICATION DATA:

NHTSA DUMMY I.D. NO.:

4	6	5
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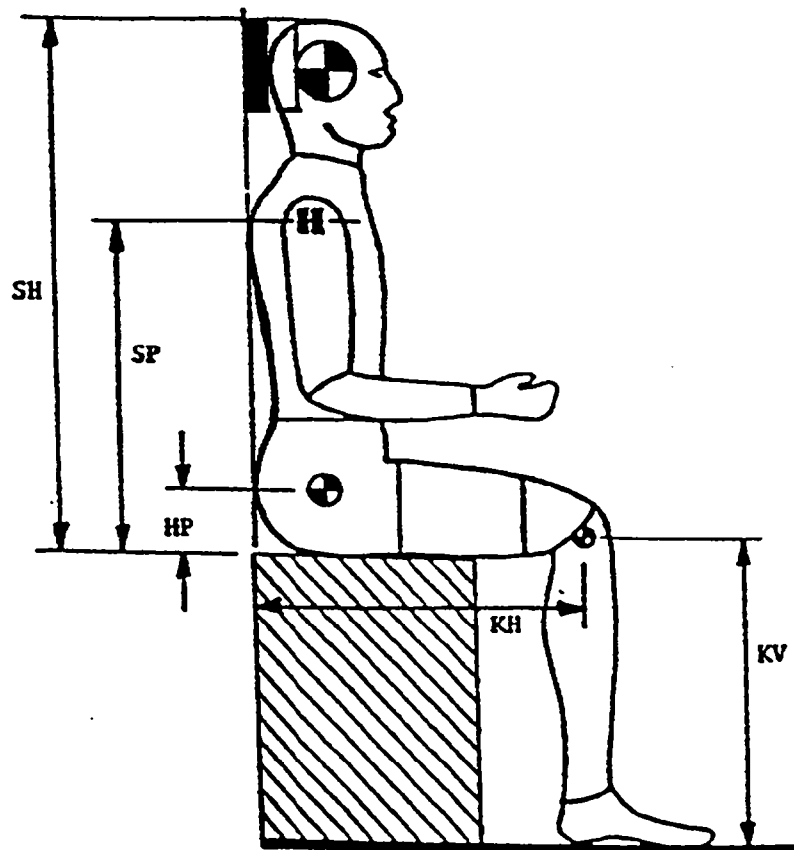
TECHNICIAN NAME: APURVA MAPARA

TEST PARAMETER	SPECIFICATION	PRE-TEST (if required)	POST-TEST (if required)
=====	=====	=====	=====
6. <u>KNEE IMPCT TESTS:</u>			
a. Right Side--			
(1) Probe Speed - - -	6.76 to 7.04 fps	7.00	
(2) Maximum Force - -	1850 to 2500 lbs	2051.23	
(3) Time Above 1000#-	1.7 ms minimum	2.00	
b. Left Side--			
(1) Probe Speed - - -	6.76 to 7.04 fps	7.00	
(2) Maximum Force - -	1850 to 2500 lbs	22.80	
(3) Time Above 1000#-	1.7 ms minimum	1.90	

HTSA DUMMY I.D. NO.:

4	6	6
---	---	---

. CONFIGURATION VERIFICATION DATA:



	P. 572 SPECIFICATION	PRE-TEST (if required)	POST-TEST (if required)
DATE OF CONFIGURATION VERIFICATION	////////////////	03/09/90 to 03/13/90	
VERIFICATION NUMBER FOR DUMMY* ---	////////////////	03	
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"	19.30	
SW - Shoulder Width - - - - -	17.8 to 18.4"	18.40	
HW - Hip Width- - - - -	14.0 to 15.4"	15.00	

TECHNICIAN'S NAME: APURVA MAPARA

*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.:

4	6	6
---	---	---

TECHNICIAN NAME: APURVA MAPARA

		PRE-TEST (if required)	POST-TEST (if required)
DATE OF PERFORMANCE VERIFICATION-----		03/09-03/13/90	
SEQUENTIAL VERIFICATION NUMBER FOR DUMMY*-----		03	
VERIF. LAB. TEMPERATURE (66 to 78 F Range)----		65-75 F	F
VERIF. LAB. HUMIDITY (10 to 70% Range)-----		50-70 %	%
TEST PARAMETER	SPECIFICATION		
1. HEAD DROP TEST--			
a. Peak Resultant Accel.	210 to 260G	222.20	
b. Peak Lateral Accel.-	<10G	3.85	
c. Time above 100G - - -	0.9 to 1.5 ms	1.30	
2. NECK BENDING TEST--			
a. Pendulum Speed- - -	21.5 to 22.5 fps	22.00	
b. Pend. Avg. Decel. over t ₃ - t ₂	20 to 24G	22.40	
c. Peak Resultant Head Acceleration - - -	26G max.	24.20	
d. Pendulum Decel.(t ₂ -t ₁)	<3 ms	2.15	
e. Pendulum Decel.(t ₃ -t ₂)	25 to 30 ms	28.20	
f. Pendulum Decel.(t ₄ -t ₃)	<10 ms	7.00	
g. Max. Head Rotation -	63 to 73°	65.33	
h. Chordal Displacement- Head Rotation Angle-			
0°	Time- -	-2 to 2 ms	0.00
	Displ.-	-.5 to .5"	0.005
30°	Time- -	22.6 to 34 ms	28.40
	Displ.-	2.1 to 3.1"	2.60
60°	Time- -	40.3 to 51.7ms	45.10
	Displ.-	4.3 to 5.3"	5.10
Maximum	Time- -	53.2 to 66.8ms	57.90
(65.3°)	Displ.-	5.0 to 6.0"	5.70

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

TEST PARAMETER		SPECIFICATION	PRE-TEST (if required)	POST-TEST (if required)
2. NECK BENDING TEST----				
<u>Continued:</u>				
h. Chordal Displacement- Head Rotation Angle-				
60°	Time- -	67.0 to 83.0 ms	67.00	
	Displ.-	4.3 to 5.3 in.	5.20	
30°	Time- -	85.4 to 104.6 ms	86.00	
	Displ.-	2.1 to 3.1 in.	2.50	
0°	Time- -	101.0 to 123.0 ms	101.40	
	Displ.-	-.5 to 0.5 in.	0.50	
3. ABDOMINAL COMPRESSION				
<u>TEST:</u> (Preload=10 pounds)				
a. Force @ .5" - - - -		23 to 36 lbs.	29.50	
b. Force @ .75" - - - -		36 to 50 lbs.	42.00	
c. Force @ 1.0"- - - -		50 to 63 lbs.	62.00	
d. Force @ 1.3"- - - -		73 to 88 lbs.	82.50	
4. LUMBAR FLEXION TEST:				
a. Force @ 20° - - - -		22 to 34 lbs.	33.20	
b. Force @ 30° - - - -		34 to 46 lbs.	43.40	
c. Force @ 40° - - - -		46 to 58 lbs.	50.70	
d. Return Angle- - - -		12° maximum	8.20	
5. CHEST IMPACT TESTS:				
a. High Speed				
(1) Probe Speed - - -		21.78-22.22 fps	21.88	
(2) Peak Deflection -		1.7" maximum	1.69	
(3) Peak Resistive Force - - - - -		2250 lbs.maximum	1858.00	
(4) Internal Hysteresis		50 to 70%	52.00	
b. Low Speed				
(1) Probe Speed - - -		13.86-14.14 fps	14.00	
(2) Peak Deflection -		1.1" maximum	1.01	
(3) Peak Resistive Force - - - - -		1450 lbs.maximum	1215.00	
(4) Internal Hysteresis		50 to 70%	62.50	

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

II. PERFORMANCE VERIFICATION DATA:

NHTSA DUMMY I.D. NO.:

4	6	6
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TECHNICIAN NAME: APURVA MAPARA

TEST PARAMETER	SPECIFICATION	PRE-TEST (if required)	POST-TEST (if required)
=====	=====	=====	=====
6. <u>KNEE IMPCT TESTS:</u>			
a. Right Side--			
(1) Probe Speed - - -	6.76 to 7.04 fps	7.00	
(2) Maximum Force - -	1850 to 2500 lbs	1945.00	
(3) Time Above 1000#-	1.7 ms minimum	1.70	
b. Left Side--			
(1) Probe Speed - - -	6.76 to 7.04 fps	7.00	
(2) Maximum Force - -	1850 to 2500 lbs	1888.00	
(3) Time Above 1000#-	1.7 ms minimum	1.70	

APPENDIX D

VEHICLE OWNER'S MANUAL OCCUPANT RESTRAINT SYSTEM INSTRUCTIONS

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Seat Belts

Your Honda is provided with seat belts to minimize the chance of injury to yourself and your passengers in a sudden stop or accident. For precautions on using seat belts for children, babies and pregnant women, see pages 14 through 16.

Seat belts are most effective when the driver and passengers are sitting up straight and well back in the seat.

▲WARNING

In the event of a collision, occupants not wearing seat belts could be seriously or fatally injured. Make sure you and all your passengers **ALWAYS** put on the seat belts before driving away.

CAUTION:

Be careful the seat belts are not damaged by catching or entangling in the door or seat mechanism.

Wearing the Front Seat Belts

The automatic ("passive") lap/shoulder belt system with emergency locking retractors are designed to lock only during a sudden stop or impact. Otherwise, they allow you some freedom of movement in the seat.

NOTE:

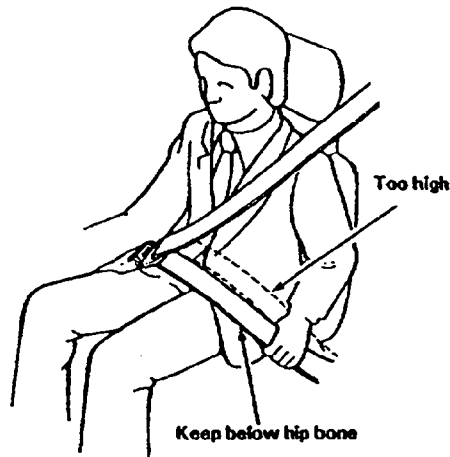
The motion-sensing lock mechanisms for the front belts are located in the doors, therefore, if you open the door too quickly, the belt may lock and the door cannot be opened further. If this happens, close the door and open it again more slowly.

1. Enter the car and close the door completely. If the door is not closed completely, the belt will not function properly, the warning light on the instrument panel will come on and the beeper will sound when the ignition switch is in the ON position. See page 13

▲WARNING

Never drive the car with the doors ajar. The doors must be closed completely for the front seat belts to function properly.

2. Move the seat a comfortable distance from the steering wheel, sit as straight up as possible and well back in the seat.
3. Position the belt across your lap, not your abdomen, as low on your hips as possible. Be sure the belt is not twisted.

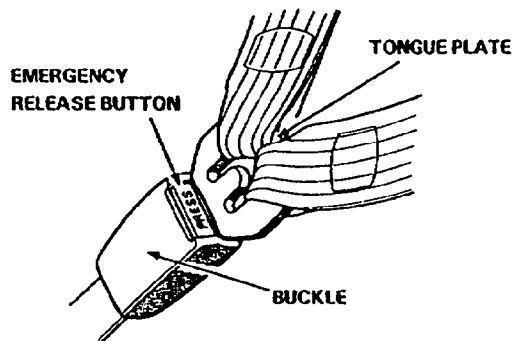


▲WARNING

- Avoid placing the lap belt across your abdomen. In the event of a collision, the pressure of the belt on the abdomen may increase the extent of injury.
- Do not wear the shoulder portion of the belt under your arm or out of position. Such use could increase the chance and amount of injury in an accident.
- Never use one belt for more than one person, child or adult.
- Comfort clips sold on the open market are not recommended since they could impair the function and safety of the belts.

Emergency Belt Release

The front belts should remain permanently latched. However, an emergency release button is provided as shown.



(cont'd)

Seat Belts (cont'd)

Buckling the Rear Lap/Shoulder Belts

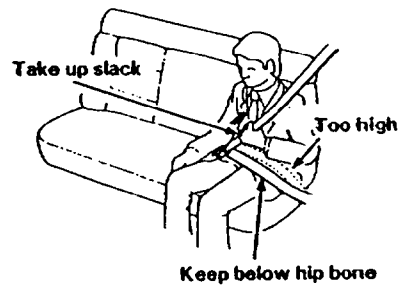
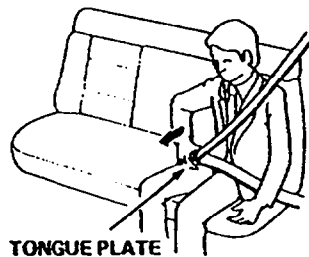
The rear seat belts are one-piece combination lap/shoulder belts with emergency locking retractors designed to lock only during a sudden stop or impact. Otherwise, they allow you some freedom of movement in the seat.

NOTE:

The emergency locking system of the rear seat belts will also be activated if you pull the belt too fast. If this happens, release the belt slightly then pull it out more slowly.

1. Take hold of the tongue plate and pull the belt across your lap. Be sure the belt is not twisted or caught on anything.

Pull the belt across your lap



2. Push the tongue plate into the buckle until it clicks locked. Position the belt across your lap, not your abdomen, as low on your hips as possible.

⚠ WARNING

Avoid placing the lap belt across your abdomen. In the event of a collision, the pressure of the belt on the abdomen may increase the extent of injury.

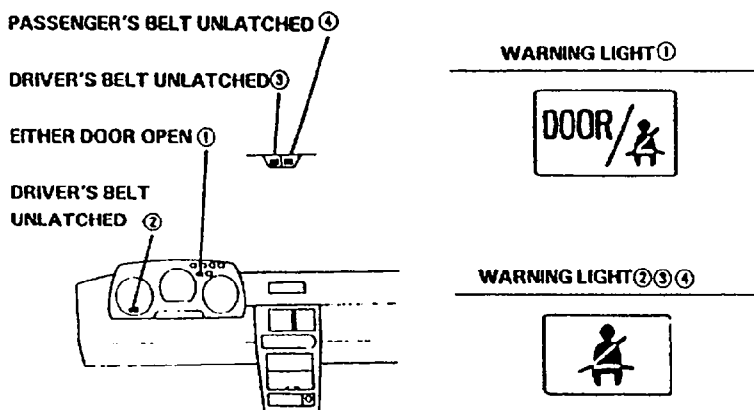
3. To release the seat belt, push the "PRESS" button in the buckle; the belt should retract automatically when released. If the belt does not fully retract, pull it out and check for kinks or twists. Make sure both rear shoulder belts are positioned in front of the rear seat-back whenever the seat-back is in its upright position.

▲ WARNING

- Do not wear the shoulder portion of the belt under your arm or out of position. Such use could increase the chance and amount of injury in an accident.
- Never use one belt for more than one person, child or adult.
- Comfort clips sold on the open market are not recommended since they could impair the function and safety of the belts.

Front Seat Belt Warning Light and Warning Beeper

There are four warning lights in the car. Two of them are in the instrument panel and the other two lights are in the ceiling behind the rearview mirror. Each warning light will go on for about two seconds, when the ignition switch is turned on.



Warning Light Indicators

 **Either Door Open**—The warning light will come on if either door is open. The beeper will sound for approximately six seconds while the light is ON. Confirm which door is open and close the door completely. If either door is opened while the car is being driven, the beeper and all four warning lights will come on. Stop the car immediately and close whichever door is open. The warning light should go off.

(cont'd)

Seat Belts (cont'd)



Driver's Belt Unlatched—The warning lights will come on if the driver's seat belt is not latched. The beeper will sound for approximately six seconds while the light is ON. Relatch the belt; the light should go off.



Front Passenger's Belt Unlatched—The warning light will come on if the passenger's belt is not securely latched, the beeper will sound for approximately six seconds. Relatch the belt; the light should go off.

▲WARNING

If the lights and beeper do not function at all or if they come on even with the belts latched and doors fully closed, it indicates a malfunction in the seat belt system. In the event of a collision, severe personal injury could result. The system should be checked immediately by an authorized Honda dealer.