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REPORT NO. 208-MGA-2003-007

SAFETY COMPLIANCE SLED TESTING FOR FMVSS 208  
OCCUPANT CRASH PROTECTION

Mitsubishi Motor Mfg of America, Inc.  
2003 Mitsubishi Eclipse 2 Door Hatchback  
NHTSA NO. C35602

MGA RESEARCH CORPORATION  
5000 WARREN ROAD  
BURLINGTON, WI 53105



Test Date: June 4, 2003

Report Date: June 10, 2003

FINAL REPORT

Prepared For:  
U.S. DEPARTMENT OF TRANSPORTATION  
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION  
OFFICE OF ENFORCEMENT  
OFFICE OF VEHICLE SAFETY COMPLIANCE  
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16. Abstract  A compliance test (sled test) was conducted on the subject 2003 Mitsubishi Eclipse 2 Door Hatchback in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP208S-01 for the determination of FMVSS 208 compliance. Test failures identified were as follows:  NONE			
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## TABLE OF CONTENTS

<u>DESCRIPTION</u>	<u>PAGE NO.</u>
Purpose	1
Test Procedure	2
Test Results Summary	3
Sled Test Summary	5
General Test and Vehicle Parameter Data	6
Post Test Data	9
Seat and Steering Column Positioning Data	10
Dummy Positioning Measurement Table	11
Vehicle Targeting Measurements	16
Vehicle Accelerometer Placement and Data Summary	17
Vehicle Accelerometer Location Measurements and Data Summary	18
Camera Positions	19
Camera Location Measurements	20
Occupant Injury Data	21
Seat Belt Warning System Data	23
Readiness Indicator	24
Airbag Labels Data	25
Rear Outboard Seating Position Seat Belt Data	32
Lap Belt Lockability Data	33
Seat Belt Comfort and Convenience Data	45
Appendix A - Photographs	
Appendix B - Data Plots	
Appendix C - Manufacturer Provided Test Information	

## Purpose

This FMVSS 208 compliance sled test is part of the Federal Motor Vehicle Safety Standard (FMVSS) 208 compliance test program conducted for the National Highway Traffic Safety Administration (NHTSA) by MGA Research Corporation (MGA) under Contract No. DTNH22-98-D-11055. The purpose of this test was to determine if the subject vehicle, a 2003 Mitsubishi Eclipse 2 Door Hatchback, NHTSA No. C35602, meets the performance requirements of FMVSS 208, "Occupant Crash Protection," in the impact simulation sled test mode.

## Test Procedure

This test was conducted in accordance with NHTSA's Office of Vehicle Safety Compliance (OVSC) Laboratory Test Procedure No. TP-208S-01 dated January 15, 1998. Data was obtained relative to FMVSS 208, "Occupant Crash Protection," performance.

The test vehicle was instrumented with four (4) accelerometers to measure longitudinal axis accelerations.

The test vehicle contained two (2) Part 572 E 50th percentile adult male anthropomorphic test devices (dummies). The dummies were positioned in the front outboard seating positions according to the dummy placement procedures specified in Appendix B of the Laboratory Test Procedure. The dummies were not restrained by seat belts.

Both dummies were instrumented with head and chest accelerometers to measure longitudinal, lateral, and vertical accelerations; chest deflection potentiometers; left and right femur load cells to measure axial forces; and upper neck load cells to measure longitudinal, lateral, and vertical forces and moments.

The thirty-seven (37) data channels were digitally sampled at 10,000 samples per second and processed per Sections 11.7 through 11.9 of the Laboratory Test Procedure.

The crash event was recorded by six (6) high-speed motion picture cameras. The pre-test and post-test conditions were recorded by one (1) real-time motion picture camera.

### Test Results Summary

This FMVSS 208 compliance sled test was conducted at MGA Research Corporation on June 4, 2003.

The test vehicle, a 2003 Mitsubishi Eclipse 2 Door Hatchback, NHTSA No. C35602, appeared to comply with the performance requirements of FMVSS 208 in the impact simulation sled test mode as measured by Hybrid III 50th percentile male dummies.

	FMVSS 208 Max. Allowable Injury Assessment Values	Driver (Serial #403)	Passenger (Serial #401)
HIC	1000	98	139
Chest g	60 g	38.7 g	40.8 g
Chest displacement	3 in.	1.6 in.	0.5 in.
Left Femur	2250 lb	1139 lb	1068 lb
Right Femur	2250 lb	958 lb	1060 lb
Neck Extension	57 Nm	43.2 Nm	35.6 Nm
Neck Flexion	190 Nm	23.7 Nm	47.8 Nm
Neck Tension	3300 N	1704 N	1287 N
Neck Compression	4000 N	465 N	1274 N
Neck Shear	3100 N	906 N	889 N

The vehicle also appears to meet the other FMVSS 208 requirements for which it was tested. These results are shown in the data sheets that are included in this report.

The test vehicle was equipped with air bags at the driver and passenger seating positions. The dummies were not restrained by seat belts. The sled carriage was accelerated to 17.2 g with an integrated velocity change of 29.0 mph. After filtering the acceleration signal to Channel Class 60, the airbag system was triggered 20.0 milliseconds after 0.5 g acceleration.

INCLUDE DISCUSSION OF LOST CHANNELS OR OTHER TEST ISSUES.

- None noted



### Sled Test Summary

Vehicle NHTSA No.: C35602 Test Mode: FMVSS 208 SLED TEST

Vehicle Yr/Make/Model/Body Style: 2003/Mitsubishi/Eclipse/2 Door Hatchback

Test Date: June 4, 2003 Time: 11:50 a.m. Temp: 71°F

Vehicle Test Weight: 3361 lbs.

#### **DUMMY INFO.**

Dummy Type

**DRIVER**

**PASSENGER**

Part 572E

Part 572E

Serial Number

403

401

Restraint System

Frontal airbag

Frontal airbag

No. Data Channels

15

15

Number of Cameras:

1 Real Time

6 High Speed

Door Opening Data:

yes Left Front

yes Right Front

#### **FRONT SEAT(S) DATA**

**DRIVER**

**PASSENGER**

Seat Track Failure -

0.0 inches shift;

0.0 inches shift

Seat Back Failure -

no

no

#### **VISIBLE DUMMY CONTACT POINTS:**

**DRIVER**

**PASSENGER**

Head

Airbag/windshield/  
windshield header/  
sun visor

Airbag/sun visor

Chest

Airbag/steering wheel  
rim

Airbag

Left Knee

Knee bolster

Glove box

Right Knee

Knee bolster

Glove box



General Test And Vehicle Parameter Data (Cont.)

DATA FROM VEHICLE'S CERTIFICATION LABEL:

Vehicle Manufactured By: Mitsubishi Motor Mfg of America, Inc.

Date of Manufacture: 11/02 ; VIN: 4A3AC34G53E109742

GVWR: 3859 lbs; GAWR Front: 2216 lbs.

GAWR Rear: 1753 lbs.

DATA FROM TIRE PLACARD:

Tire Pressure with Maximum Capacity Vehicle Load:

FRONT: 32 psi REAR: 29 psi

Recommended Tire Size: P195/65R15 89H

Recommended Cold Tire Pressure:

FRONT: 32 psi REAR: 29 psi

Size of Tires on Test Vehicle: P195/65R15 89H

Type of Spare Tire: T125/70D16 ; Space Saver: X ; Standard: .....

Vehicle Capacity Data:

Type of Front Seats: X Bucket; \_\_ Bench; \_\_ Split Bench

Number of Occupants: 2 Front; 2 Rear; \_\_ 3rd Seat; 4 TOTAL

REMARKS: None

VEHICLE CAPACITY WEIGHT (VCW) = 661 lbs.  
No. Of Occupants x 150 lbs = 600 lbs.  
Rated Cargo/Luggage Weight (RCLW) = 61 lbs. (Difference)

General Test And Vehicle Parameter Data (Cont.)

WEIGHT OF TEST VEHICLE AS RECEIVED AT LABORATORY: (with maximum fluids)

Right Front =	<u>923</u> lbs.	Right Rear =	<u>562</u> lbs.
Left Front =	<u>913</u> lbs.	Left Rear =	<u>550</u> lbs.
TOTAL FRONT =	<u>1836</u> lbs.	TOTAL REAR =	<u>1112</u> lbs.
% Total Weight =	<u>62.3</u> %	% Total Weight =	<u>37.7</u> %
TOTAL DELIVERED WEIGHT = <u>2948</u> lbs.			

WEIGHT OF FULLY LOADED TEST VEHICLE WITH TWO DUMMIES (344 LB) AND 61 POUNDS OF CARGO WEIGHT:

Right Front =	<u>1005</u> lbs.	Right Rear =	<u>687</u> lbs.
Left Front =	<u>993</u> lbs.	Left Rear =	<u>676</u> lbs.
TOTAL FRONT =	<u>1998</u> lbs.	TOTAL REAR =	<u>1363</u> lbs.
% Total Weight =	<u>59.4</u> %	% Total Weight =	<u>40.6</u> %
TOTAL WEIGHT = <u>3361</u> lbs.*			

TEST VEHICLE ATTITUDE: (all measurements in degrees)

AS DELIVERED DOOR SILL ANGLE:	<u>0.3° nose down</u>
AS TESTED DOOR SILL ANGLE:	<u>0.2° nose down</u>
FULLY LOADED DOOR SILL ANGLE:	<u>0.0°</u>

FUEL SYSTEM DATA:

Fuel System Capacity From Owner's Manual =	<u>16.3</u> gallons
Usable Capacity Figure Furnished by COTR =	<u>16.4</u> gallons

REMARKS: \* UDW plus two dummies (344 lbs) plus 61 pounds of cargo weight should have been 3353 lbs, but the actual test weight was 3361 lbs.

## Post-Impact Data

Test number:	HT03060401
NHTSA number:	C35602
Test date:	June 4, 2003
Test time:	11:50 a.m.
Test type:	FMVSS 208 Compliance Sled Test
Impact angle:	0°
Ambient Temperature at Impact Area:	71°F
Temperature in Occupant Compartment:	71°F
Impact Velocity:	
Integrated velocity from the integration of the entire sled acceleration:	29.0 mph
Specified integrated velocity range:	28 to 30 mph
Sled Carriage Acceleration:	
Acceleration:	17.2 g
Specified Acceleration Range:	16.0 - 18.2 g
Sled Carriage Acceleration Duration:	
Time from T-0 (-0.5 g) to 0.0 g:	121.7 msec
Specified Acceleration Duration:	120.0 to 130.0 msec

The sled acceleration corridor was achieved.

## Seat and Steering Column Positioning Data

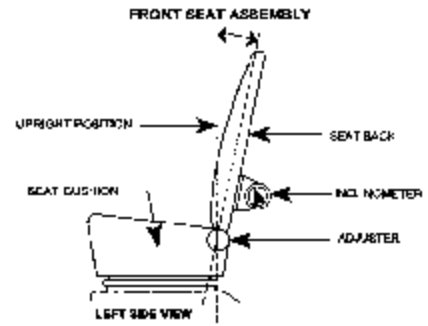
Vehicle Yr/Make/Model/Body Style: 2003/Mitsubishi/Eclipse/2 Door Hatchback

Vehicle NHTSA No.: C35602 Test Date: June 4, 2003

### NOMINAL DESIGN RIDING POSITION:

Driver Seat: Seat Back Angle =  $34.7^{\circ}$

Passenger Seat: Seat Back Angle =  $34.5^{\circ}$



### SEAT FORE AND AFT POSITIONS:

Driver Seat: The seat track had a total position movement of 23 notches and was positioned 11 notches rearward from the foremost position with the forward most locking position as zero.

Passenger Seat: The seat track had a total position movement of 23 notches and was positioned 11 notches rearward from the foremost position with the forward most locking position as zero.

### STEERING COLUMN ADJUSTMENTS:

The steering column was placed in the 3rd position of 6 as the lowest being 1.

Dummy Positioning Measurement Table

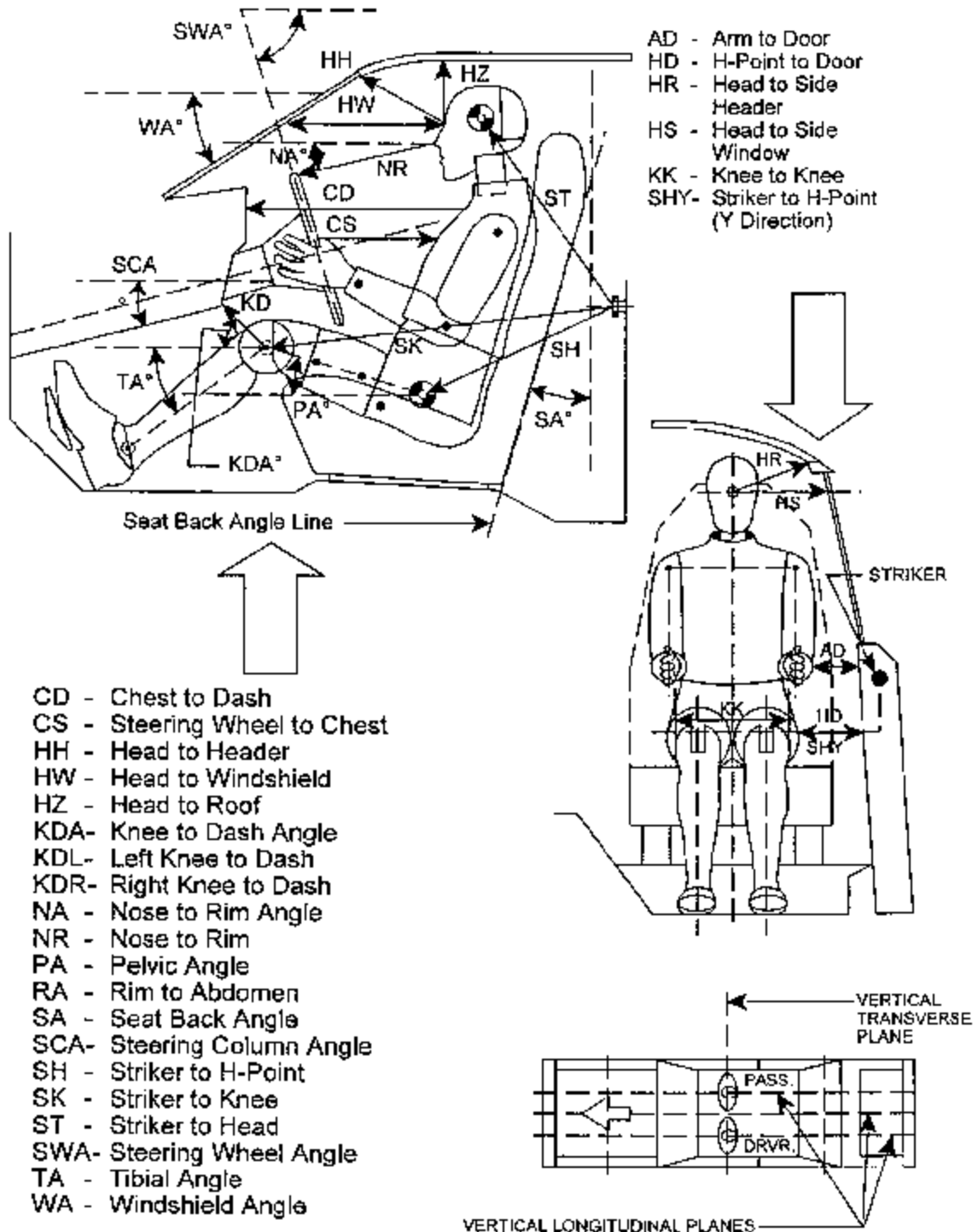
Vehicle Year/Make/Model/Body Style: 2003/Mitsubishi/Eclipse/2 Door Hatchback

Vehicle NHTSA No.: C35602 Test Date: June 4, 2003

	DRIVER (Serial #403)	PASSENGER (Serial #401)
WA°	25.2°	
SWA°	71.8°	
SCA°	18.4°	
SA°	34.7°	34.5°
HZ	6.5	6.4
HH	15.6	15.8
HW	27.6	27.6
HR	7.4	6.9
NR	14.6 Angle (NA°) 7.8°	
CD	23.3	21.0
CS	11.9	
RA	7.7	
KDL	10.2 Angle (KDA°) 0.0°	10.0
KDR	10.5	10.7 Angle (KDA°) 0.0°
PA°	23.7°	24.5°
TA°	32.2°	27.2°
KK	12.6	10.6
ST	18.7 Angle 37.0°	19.5 Angle 35.5°
SK	31.7 Angle 96.9°	33.0 Angle 100.1°
SH	18.9 Angle 120.8°	19.5 Angle 119.3°
SHY	10.6	10.6
HS	11.8	11.7
HD	5.0	4.8
AD	3.9	4.4

## Dummy Positioning Measurement Locations

### DUMMY MEASUREMENT FOR FRONT SEAT PASSENGERS





## Description of Dummy Measurements

When a level is to be used, it is to ensure that the line containing the two points described is either parallel or perpendicular to the ground. If a measurement to be made is less than 10 inches ignore the directions to use a level and approximate a level measurement. Also, when a measurement is to be taken to or from the center of a bolt on the dummy, take the measurement from the center of the bolt hole if the bolt is recessed.

**The following measurements are to be made within a vertical longitudinal plane.**

- \* HH Head to Header, taken from the point where the dummy's nose meets his forehead (between his eyes) to the furthest point forward on the header.
- \* HW Head to Windshield, taken from the point where the dummy's nose meets his forehead (between his eyes) to a point on the windshield. Use a level.
- HZ Head to Roof, taken from the point where the dummy's nose meets his forehead (between his eyes) to the point on the roof directly above it. Use a level.
- \* CS Steering Wheel to Chest, taken from the center of the steering wheel hub to the dummy's chest. Use a level.
- \* CD Chest to Dash, place a tape measure on the tip of the dummy's chin and rotate five inches of it downward toward the dummy to the point of contact on the transverse center of the dummy's chest. Then measure from this point to the closest point on the dashboard either between the upper part of the steering wheel between the hub and the rim, or measure to the dashboard placing the tape measure above the rim, whichever is a shorter measurement. See photograph.
- RA Steering Wheel Rim to Abdomen, taken from the bottommost point of the steering wheel rim horizontally rearward to the dummy. Use a level.
- NR Nose to Rim, taken from the tip of the dummy's nose to the closest point on the top of the steering wheel rim. Also indicate the angle this line makes with respect to the horizontal (NA).
- \*<sup>1</sup> KDL, KDR Left and Right Knees to Dashboard, taken from the center of the knee pivot bolt's outer surface to the closest point forward acquired by swinging the tape measure in continually larger arcs until it contacts the dashboard. Also reference the angle of this measurement with respect to the horizontal for the outboard knee (KDA). See photograph.

\* Measurement used in Data Tape Reference Guide

<sup>1</sup> Only outboard measurement is referenced in Data Tape Reference Guide

### Description of Dummy Measurements (Cont.)

SH, SK, ST Striker to Hip, Knee, and Head, these measurements are to be taken in the X-Z plane measured from the forward most center point on the striker to the center of the H-point, outer knee bolt, and head target. When taking this measurement a firm device that can be rigidly connected to the striker should be used. Use a level. The angles of these measurements with respect to the horizontal should also be recorded. The measurement in the Y (transverse) direction from the striker to the H-point should also be taken (SHY). See photograph.

**The following measurements are to be made within a vertical transverse plane.**

- HS Head to Side Window, taken from the point where the dummy's nose meets his forehead (between his eyes) to the outside of the side window. In order to make this measurement, roll the window down to the exact height which allows a level measurement. Use a level. See photograph.
- \* AD Arm to Door, taken from the outer surface of the elbow pivot bolt on a Hybrid II dummy to the first point it hits on the door. In the case of a Hybrid III dummy, measure from the bolt on the outer biceps. When a SID is used make the measurement from the center of the bottom of the arm segment where it meets the dummy's torso.
- \* HD H-point to Door, taken from the H-point on the dummy to the closest point on the door. Use a level.
- \* HR Head to Side Header, measure the shortest distance from the point where the dummy's nose meets his forehead (between his eyes) to the side edge of the header just above the window frame, directly adjacent to the dummy.
- SHY Striker to H-point, taken from a rod rigidly connected to the forward most center point on the striker to the H-point. Use a level. See photograph.
- KK Knee to Knee, for Hybrid II dummies measure the distance between knee pivot bolt head outer surfaces. For Hybrid III dummies measure the distance between the outboard knee clevis flange surfaces. (This measurement may not be exactly transverse)

\* Measurement used in Data Tape Reference Guide

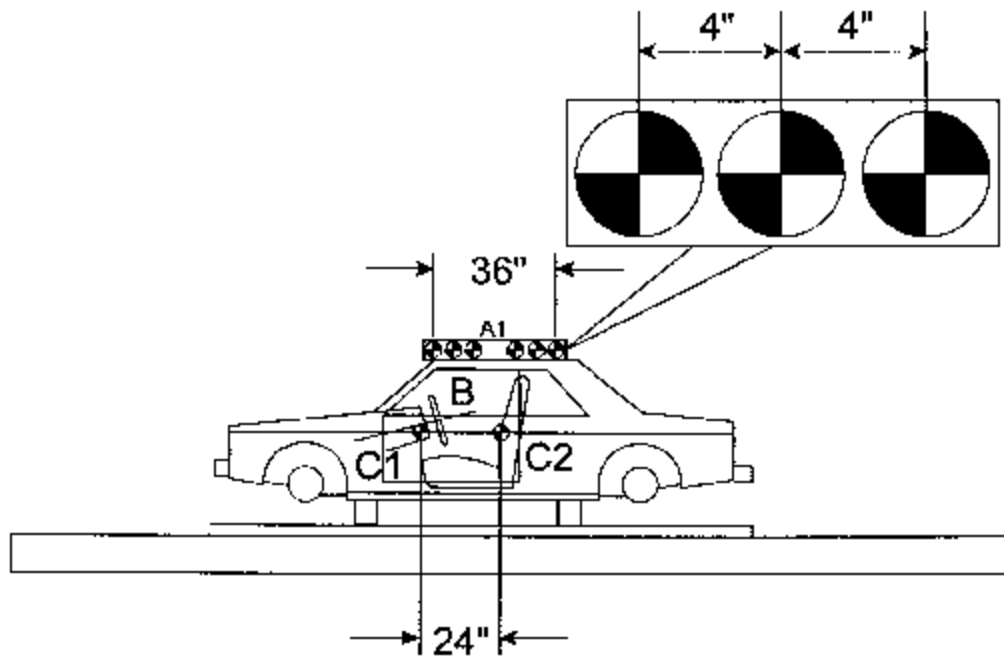
## Description of Dummy Measurements (Cont.)

### **Angles**

- SA**            **Seat Back Angle**, find this angle using the instructions provided by the manufacturer. If the manufacturer doesn't provide clear instructions contact the COTR.
- PA**            **Pelvic or Femur Angle**, taken by inserting the pelvic angle gauge into the H-point gauging hole on the SID or the Hybrid III dummies and taking this angle with respect to the horizontal. Measure the angle of the line connecting the H-point hole and the outer knee pivot bolt hole on a Hybrid II dummy with respect to the horizontal, to find the femur angle.
- SWA**          **Steering Wheel Angle**, find this by placing a straight edge against the steering wheel rim along the longitudinal plane. Then measure the acute angle of the straight edge with respect to the horizontal.
- SCA**          **Steering Column Angle**, measured with respect to the horizontal by placing an inclinometer on the center of the underside of the steering column.
- NA**            **Measure the angle made when taking the measurement NR with respect to the horizontal.**
- KDA**          **Knee to Dash Angle**, the angle that the measurement KD is taken at with respect to the horizontal. Only get this angle for the outboard knee. See photograph.
- WA**            **Windshield Angle**, place an inclinometer along the transverse center of the windshield exterior (measurement is made with respect to horizontal).
- TA**            **Tibial Angle**, use a straight edge to connect the dummy's knee and ankle bolts. Then place an inclinometer on the straight edge and measure the angle with respect to the horizontal.

Vehicle Targeting Measurements

REFERENCE PHOTO TARGETS

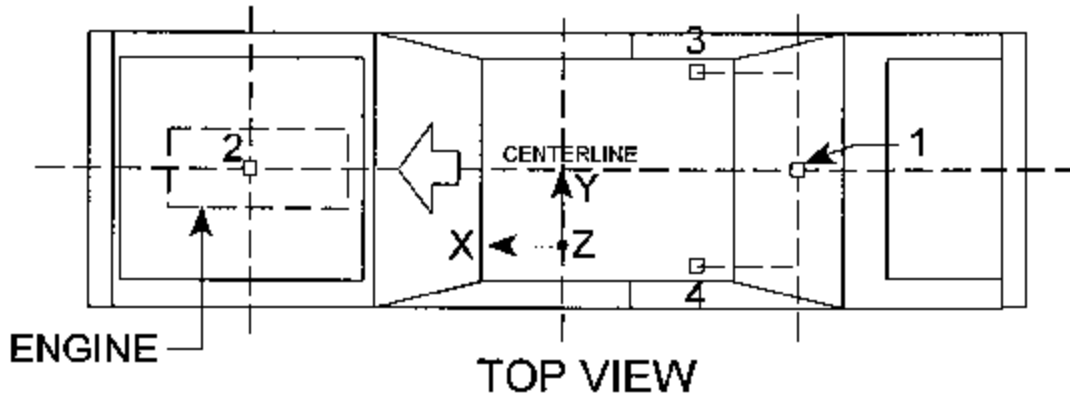


LEFT SIDE VIEW

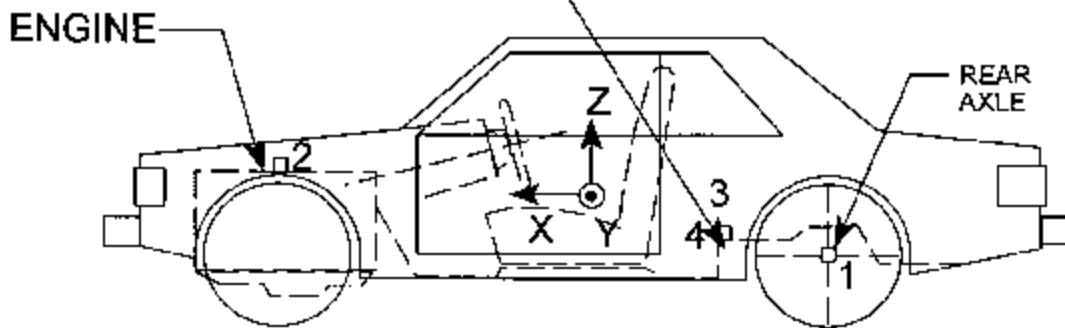
Vehicle Accelerometer Placement and Data Summary

Vehicle Year/Make/Model/Body Style: 2003/Mitsubishi/Eclipse/2 Door Hatchback

Vehicle NHTSA No.: C35602 Test Date: June 4, 2003



REAR SEAT CUSHION  
ASSY. FRONT ATTACHMENT  
BRACKET SUPPORT



LEFT SIDE VIEW

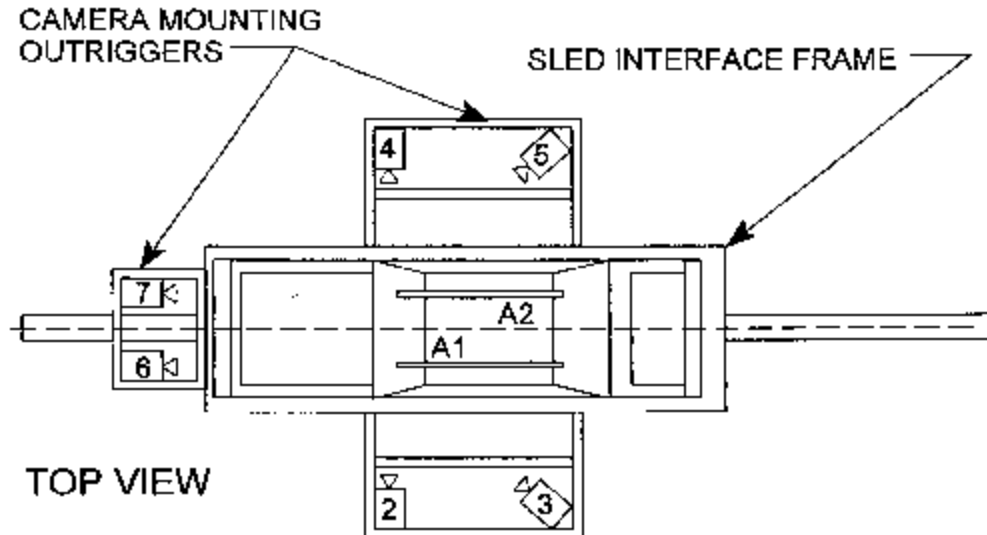
Vehicle Accelerometer Location Measurements and Data Summary

Vehicle Year/Make/Model/Body Style: 2003/Mitsubishi/Eclipse/2 Door Hatchback

Vehicle NHTSA No.: C35602      Test Date: June 4, 2003

No.	Location	X (in)	Y (in)	Positive Direction		Negative Direction	
				Value	Time (msec)	Value	Time (msec)
	Sled Primary Longitudinal	67	0	17.2 g	53	-1.5 g	125
	Sled Redundant Longitudinal	67	4	17.5 g	53	-1.5 g	125
	Sled Velocity Measured Integrated	67	0	29.0 mph	122	--	--
1	Rear Axle Longitudinal	36	0	17.8 g	67	-1.3 g	123
2	Top Engine Longitudinal	148	0	21.4 g	41	-4.5 g	126
3	Right Rear Seat Member Longitudinal	67	16	20.0 g	44	-1.8 g	123
4	Left Rear Seat Member Longitudinal	67	16	19.0 g	44	-1.6 g	123

## Camera Positions



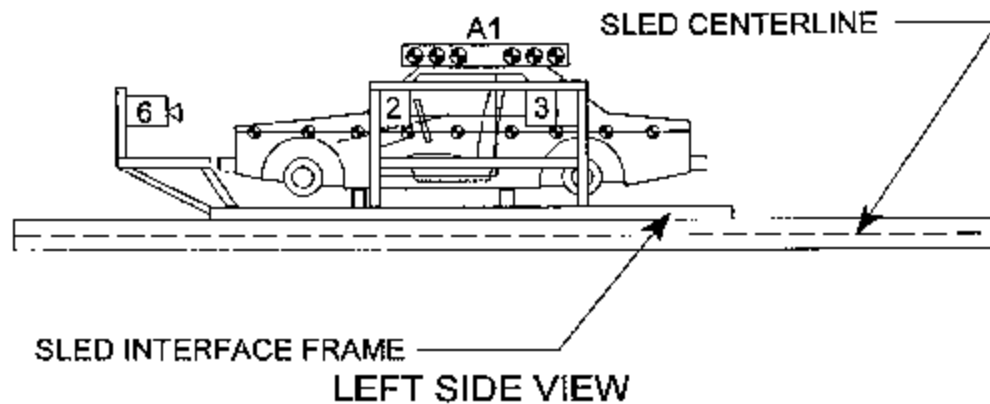
### CAMERA FRAME RATES:

#1 = 24 fps

All Others = 1,000 fps



REAL TIME CAMERA



Camera Location Measurements

Camera No.	VIEW	Camera Positions (inches)*			Angle (deg)	Film Plane To Head Target	Lens (mm)	Speed (fps)
		X	Y	Z				
1	Real-Time (Pre and Post)						10	24
2	Onboard Driver	70.6	88.6	38.4	90	72.4	13	1005
3	Onboard Driver Angle	150.9	91.1	47.8			13	830
4	Onboard Passenger	71.8	89.6	38.5	90	71.1	13	1000
5	Onboard Passenger Angle	146.7	88.5	47.9			13	952
6	Onboard Windshield Driver	18.3	14.1	42.9			13	1000
7	Onboard Windshield Passenger	18.3	13.9	42.9			13	917

Reference\* X = Front of sled carriage  
 Y = Center of sled carriage  
 Z = Top of sled carriage



### Occupant Injury Data

Vehicle Year/Make/Model/Body Style: 2003/Mitsubishi/Eclipse/2 Door Hatchback

Vehicle NHTSA No.: C35602 Test Date: June 4, 2003

MAXIMUM ACCELERATION VALUES: (g's)	DRIVER DUMMY #403	PASSENGER DUMMY #401
Head Channel X	-36.8	-41.9
Head Channel Y	-5.3	-7.1
Head Channel Z	21.5	-22.3
HEAD RESULTANT	37.4	44.1
Chest Channel X	-37.7	-36.0
Chest Channel Y	3.4	6.4
Chest Channel Z	16.4	22.1
CHEST RESULTANT	40.3	41.5

#### HEAD INJURY CRITERIA (HIC) VALUES:

HIC	98	139
$t_1$ = (msec)	80.4	79.4
$t_2$ = (msec)	99.4	115.4

[The maximum time interval from  $t_1$  to  $t_2$  is 36 milliseconds.]

#### CHEST INJURY CRITERIA (CLIP) VALUES: (g's)

CLIP	38.7	40.8
$t_1$ = (msec)	92.0	101.7
$t_2$ = (msec)	95.0	104.7
CHEST DEFLECTION (in)	1.6	0.5

Occupant Injury Data (Cont.)

MAX. COMPRESSIVE FEMUR FORCES:	DRIVER DUMMY #403	PASSENGER DUMMY #401
Left Side (lbs)	1139	1068
Right Side (lbs)	958	1060

NECK INJURY CRITERIA:

Peak Flexion Bending Moment about the Occipital Condyle (N-m)	23.7	47.8
Peak Extension Bending Moment about the Occipital Condyle (N-m)	43.2	35.6
Peak Axial Tension (N)	1704	1287
Peak Axial Compression (N)	465	1274
Peak Fore Shear (N)	367	889
Peak Aft Shear (N)	906	375

Seat Belt Warning System Data

Vehicle Year/Make/Model/Body Style: 2003/Mitsubishi/Eclipse/2 Door Hatchback

NHTSA No.: C35602 ; Technician: Chad Gadberry ; Date: May 14, 2003

Complete the following to determine which seat belt warning system option (S7.3(a)(1) or S7.3(a)(2)) is used. (Manufacturers may use either option.)

- A. With occupant in driver's position and lap belt in stowed position and ignition switch placed in "Start/On" position:
- A.1 S7.3(a)(1)  
Time duration of audible warning signal = 6 seconds  
(4 to 8 seconds)  
  
Time duration of reminder light operation = >60 seconds  
(no less than 60 seconds)
- A.2 S7.3(a)(2)  
Time duration of audible warning signal =      seconds  
(4 to 8 seconds)(see 49 USCS @ 30124)  
  
Time duration of reminder light operation =      seconds  
(4 to 8 seconds)
- B. With occupant in driver's position and lap belt in use and ignition switch placed in "Start/On" position:
- B.1 S7.3(a)(1)  
Time duration of audible warning signal = 0 seconds  
(audible warning not required)  
  
Time duration of reminder light operation = 0 seconds  
(reminder light not required)
- B.2 S7.3(a)(2)  
Time duration of audible warning signal =      seconds  
(audible warning not required)  
  
Time duration of reminder light operation =      seconds  
(4 to 8 seconds)
- C. Note wording of visual warning:  
Fasten seat belt \_\_\_\_\_  
Fasten Belt \_\_\_\_\_  
Symbol 101 \_\_\_\_\_ X \_\_\_\_\_

Readiness Indicator

Vehicle Year/Make/Model/Body Style: 2003/Mitsubishi/Eclipse/2 Door Hatchback

NHTSA No.: C35602; Technician: Chad Gadberry; Date: May 14, 2003

An occupant restraint system that deploys in the event of a crash shall have a monitoring system with a readiness indicator. A totally mechanical system is exempt from this requirement. (11/8/94 legal interpretation)

1. Is the system totally mechanical?      ( )Yes      (X)No  
**(If YES this Data Sheet is complete.)**
  
2. Describe the location of the readiness indicator: top-center of instrument panel  
\_\_\_\_\_
  
3. Is the readiness indicator clearly visible to the driver?  
(X)Yes-Pass      ( )No-FAIL
  
4. Is a list of the elements in the occupant restraint system, being monitored by the readiness indicator, provided?  
(X)Yes-Pass      ( )No-FAIL

## Air Bag Labels Data

Vehicle Year/Make/Model/Body Style: 2003/Mitsubishi/Eclipse/2 Door Hatchback

NHTSA No.: C35602 ; Technician: Chad Gadberry ; Date: May 14, 2003

1. Air bag maintenance label and owner's manual instructions (S4.5.1(a)):
  - 1.1. Does the manufacturer recommend periodic maintenance or replacement of the airbag?  
 Yes, go to 1.2                       No, go to 2
  - 1.2. Does the vehicle have a maintenance or replacement label?  
 Yes-Pass                       No-FAIL
  - 1.3. Does the label contain one of the following?  
 Yes-Pass                       No-FAIL  
 Schedule on label specifies month and year (Date: \_\_\_\_\_)  
 Schedule on label specifies vehicle mileage (Mileage: \_\_\_\_\_)  
 Schedule on label specifies interval measured from date on certification label (Date: \_\_\_\_\_)
  - 1.4. Is the label permanently affixed within the passenger compartment?  
 Yes-Pass                       No-FAIL
  - 1.5. Is the label lettered in English?  
 Yes-Pass                       No-FAIL
  - 1.6. Is the label in block capitals and numerals?  
 Yes-Pass                       No-FAIL
  - 1.7. Are the letters and numerals at least 3/32 inches high?  
 Yes-Pass                       No-FAIL
  - 1.8. Does the owner's manual set forth the recommended schedule for maintenance or replacement?  
 Yes-Pass                       No-FAIL
2. Does the owner's manual (S4.5.1(f)):
  - 2.1. Include a description of the vehicle's airbag system in an easily understandable format?  
 Yes-Pass                       No-FAIL
  - 2.2. Include a statement that the vehicle is equipped with an airbag and a lap/shoulder belt at the front outboard seating positions?  
 Yes-Pass                       No-FAIL

Air Bag Labels Data (Cont.)

- 2.3 Include a statement that the air bag is a supplemental restraint at the front outboard seating positions?  
(X)Yes-Pass      ( ) No-FAIL
- 2.4 Emphasize that all occupants, including the driver, should always wear their seat belts whether or not an airbag is also provided at their seating positions to minimize the risk of severe injury or death in the event of a crash?  
(X)Yes-Pass      ( ) No-FAIL
- 2.5 Provide any necessary precautions regarding the proper positioning of occupants, including children, at seating positions equipped with air bags to insure maximum safety protection for those occupants?  
(X)Yes-Pass      ( ) No-FAIL
- 2.6 Explain that no objects should be placed over or near the air bag on the steering wheel or on the instrument panel, because any such objects could cause harm if the vehicle is in a crash severe enough to cause the air bag to inflate?  
(X)Yes-Pass      ( ) No-FAIL

3. Does the vehicle:

- 3.1. Provide an automatic means to ensure that the airbag does not deploy when a child seat or child with a total mass of 30 kg or less is present on the front outboard passenger?  
( ) Yes      (X) No
- 3.2. Incorporate sensors, other than or in addition to weight sensors, which automatically prevent the passenger air bag from deploying in situations in which it might have an adverse effect on infants in rear-facing child seats, and unbelted or improperly belted children?  
( ) Yes      (X) No
- 3.3. Have a passenger air bag designed to deploy in a manner that does not create a risk of serious injury to infants in rear-facing child seats, and unbelted or improperly belted children?  
( ) Yes      (X) No

If yes to 3.1, or 3.2, or 3.3, the vehicle is not required to have a sunvisor warning label (S4.5.1(6)), an airbag alert label (S4.5.1(c)) or a label on the dash (S4.5.2(e)) and this check sheet is complete (S4.5.1). If no to 3.1, 3.2, and 3.3, go to 4.

4. Sun Visor Warning Label

- 4.1. Is the label permanently affixed (may be permanent marking or molding) to either side of the sunvisor at each front outboard seating position with an airbag? (S4.5.1(b)(2))
- |                  |         |             |             |
|------------------|---------|-------------|-------------|
| Driver Side -    |         | (X)Yes-Pass | ( ) No-FAIL |
| Passenger Side - | ( ) N/A | (X)Yes-Pass | ( ) No-FAIL |

Air Bag Labels Data (Cont.)

- 4.2. Does the label conform in content (vehicles without back seats may omit the statement: "The back seat is the safest place for children.") (S4.5.1(b)(2)(v)) to either label shown on the next page as appropriate at each front outboard seating position with an air bag? (S4.5.1(b)(2))

4.2.1 **Dual air bags:**       Not Applicable  
Driver Side -             Yes-Pass             No-FAIL  
Passenger Side -       Yes-Pass             No-FAIL

4.2.2 **Vehicle with driver air bag ONLY - either 4.2.2.1 or 4.2.2.2 is applicable, not both.** (S4.5.1(b)(2)(iv))

4.2.2.1 Does the label conform in content to either label shown on the following page as appropriate?  
 Not Applicable  
Driver Side -             Yes-Pass             No-FAIL

4.2.2.2 Does the label conform in content to the first label shown on the following page where the label can be modified to omit the pictogram and the message text may read:

DEATH or SERIOUS INJURY can occur.

- Sit as far back as possible from the air bag.
- ALWAYS use SEAT BELTS and CHILD RESTRAINTS
- The BACK SEAT is the SAFEST place for children.

Not Applicable  
Driver Side -             Yes-Pass             No-FAIL

Air Bag Labels Data (Cont.)

**SUN VISOR LABEL VISIBLE WHEN VISOR IS IN DOWN POSITION**

LABEL OUTLINE, VERTICAL AND HORIZONTAL LINE BLACK

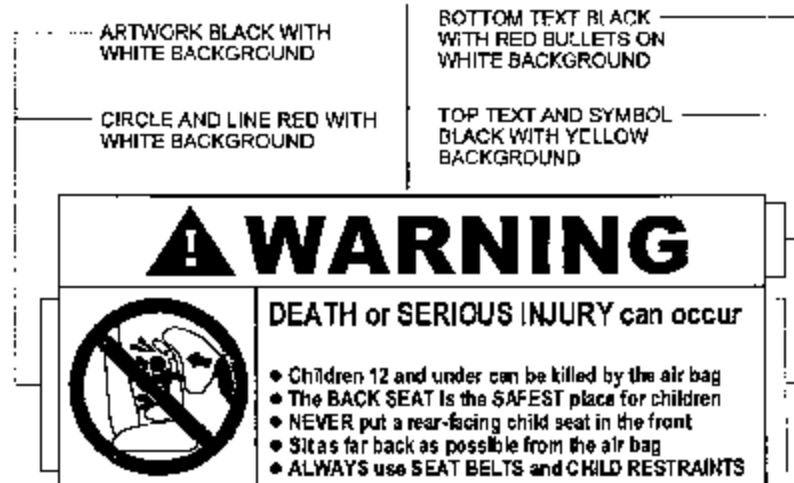


Figure 6a (S4.5.1(b)(2))

**SUN VISOR LABEL VISIBLE WHEN VISOR IS IN DOWN POSITION**

LABEL OUTLINE, VERTICAL AND HORIZONTAL LINE BLACK

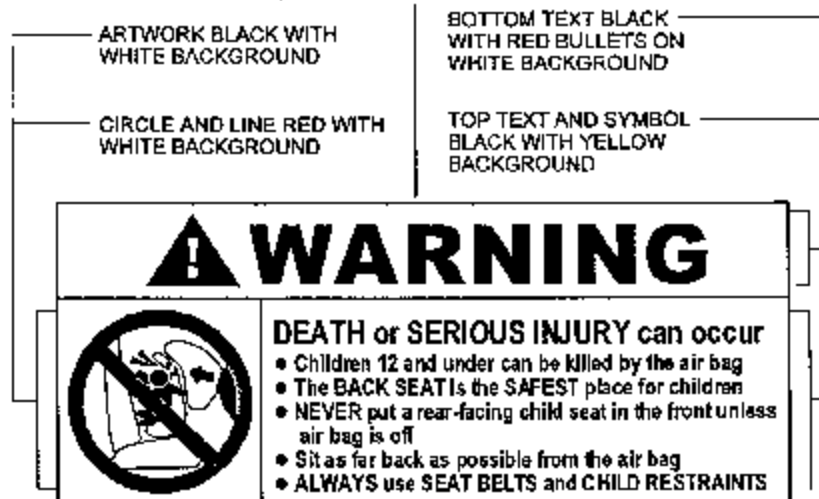


Figure 6b (S4.5.1(b)(2))

- 4.3 Is the label heading area yellow with the word "warning" and the alert symbol in black? (S4.5.1(b)(2)(i))
- |                  |  |  |
|------------------|--|--|
| Driver Side -    | <input checked="" type="checkbox"/> Yes-Pass | <input type="checkbox"/> No-FAIL             |
| Passenger Side - | <input type="checkbox"/> No air bag          | <input checked="" type="checkbox"/> Yes-Pass |
|                  |  | <input type="checkbox"/> No-FAIL             |
- 4.4 Is the message white with black text? (S4.5.1(b)(2)(ii))
- |                  |  |  |
|------------------|--|--|
| Driver Side -    | <input checked="" type="checkbox"/> Yes-Pass | <input type="checkbox"/> No-FAIL             |
| Passenger Side - | <input type="checkbox"/> No air bag          | <input checked="" type="checkbox"/> Yes-Pass |
|                  |  | <input type="checkbox"/> No-FAIL             |



Air Bag Labels Data (Cont.)

- 4.5 Is the message area at least 30 cm<sup>2</sup>? (S4.5.1(b)(2)(ii))  
Actual message area: 32.9 cm<sup>2</sup>
- |                                 |             |             |
|---------------------------------|-------------|-------------|
| Driver Side -                   | (X)Yes-Pass | ( ) No-FAIL |
| Passenger Side - ( ) No air bag | (X)Yes-Pass | ( ) No-FAIL |
- 4.6 Is the pictogram black with a red circle and slash on a white background?  
(S4.5.1(b)(2)(iii) & (S4.5.1(b)(2)(iv))  
For vehicles with driver side air bag ONLY ( ) Not Applicable
- |                                 |             |             |
|---------------------------------|-------------|-------------|
| Driver Side -                   | (X)Yes-Pass | ( ) No-FAIL |
| Passenger Side - ( ) No air bag | (X)Yes-Pass | ( ) No-FAIL |
- 4.7 Is the pictogram at least 30 mm in diameter? (S4.5.1(b)(2)(iii))  
Actual diameter: 31 mm  
For vehicles with driver side air bag ONLY ( ) Not Applicable
- |                                 |             |             |
|---------------------------------|-------------|-------------|
| Driver Side -                   | (X)Yes-Pass | ( ) No-FAIL |
| Passenger Side - ( ) No air bag | (X)Yes-Pass | ( ) No-FAIL |
- 4.8 Is the same side of the sun visor to which the sun visor label is affixed free of other information with the exception of an air bag maintenance label?  
(S4.5.1(b)(3))
- |                                 |             |             |
|---------------------------------|-------------|-------------|
| Driver Side -                   | (X)Yes-Pass | ( ) No-FAIL |
| Passenger Side - ( ) No air bag | (X)Yes-Pass | ( ) No-FAIL |
- 4.9 Is the sun visor free of other information about air bags or the need to wear seat belts with the exception of the air bag alert label or the utility vehicle label?  
(S4.5.1(b)(3))
- |                                 |             |             |
|---------------------------------|-------------|-------------|
| Driver Side -                   | (X)Yes-Pass | ( ) No-FAIL |
| Passenger Side - ( ) No air bag | (X)Yes-Pass | ( ) No-FAIL |
5. Air Bag Alert Label
- 5.1 Is the Sun Visor Warning Label visible when the sunvisor is in the stowed position?
- |                                 |                 |        |
|---------------------------------|-----------------|--------|
| Driver Side -                   | (X)Yes, go to 6 | ( ) No |
| Passenger Side - ( ) No air bag | (X)Yes          | ( ) No |
- 5.2 Does the label conform in content to the label shown below? (S4.5.1(c)(2))
- |                                 |              |             |
|---------------------------------|--------------|-------------|
| Driver Side -                   | ( ) Yes-Pass | ( ) No-FAIL |
| Passenger Side - ( ) No air bag | ( ) Yes-Pass | ( ) No-FAIL |
- 5.3 Is the message area black with yellow text? (S4.5.1(c)(2)(i))
- |                                 |              |             |
|---------------------------------|--------------|-------------|
| Driver Side -                   | ( ) Yes-Pass | ( ) No-FAIL |
| Passenger Side - ( ) No air bag | ( ) Yes-Pass | ( ) No-FAIL |

Air Bag Labels Data (Cont.)

- 5.4 Is the message area at least 20 cm<sup>2</sup>? (S4.5.1(c)(2)(i))  
Actual message area: \_\_\_\_\_ cm<sup>2</sup>  
Driver Side - ( ) Yes-Pass ( ) No-FAIL  
Passenger Side - ( ) No air bag ( ) Yes-Pass ( ) No-FAIL
- 5.5 Is the pictogram black with a red circle and slash on a white background?  
(S4.5.1(c)(2)(ii))  
For vehicles with driver side air bag ONLY ( ) Not Applicable  
( ) Yes-Pass ( ) No-FAIL
- 5.6 Is the pictogram at least 20 mm in diameter? (S4.5.1(c)(2)(ii))  
Actual diameter \_\_\_\_\_ mm  
For vehicles with driver side air bag ONLY ( ) Not Applicable  
( ) Yes-Pass ( ) No-FAIL

**SUN VISOR LABEL VISIBLE WHEN VISOR IS IN UP POSITION**



Figure 6c (S4.5.1(c)(2))

6. Label On the Dash
- 6.1 Does the vehicle have a passenger side air bag?  
(X) Yes ( ) No, check sheet is complete.
- 6.2 Does the vehicle have a label on the dash or steering wheel hub? (S4.5.1(e))  
(X) Yes-Pass ( ) No-FAIL
- 6.3 Does the label conform in content (vehicles without back seats may omit the statement: "The back seat is the safest place for children 12 and under." (S4.5.1(e)(iii)) to the label shown below. (S4.5.1(e))  
(X) Yes-Pass ( ) No-FAIL

Air Bag Labels Data (Cont.)

- 6.4 Is the heading area yellow with the word "warning" and the alert symbol in black?  
(S4.5.1(e)(i)) (X) Yes-Pass ( ) No-FAIL
- 6.5 Is the message white with black text? (S4.5.1(e)(ii))  
(X) Yes-Pass ( ) No-FAIL
- 6.6 Is the message area at least 30 cm<sup>2</sup>? (S4.5.1(e)(ii))  
Actual message area: 30.6 cm<sup>2</sup> (X) Yes-Pass ( ) No-FAIL



Figure 7 (S4.5.1(e))

Rear Outboard Seating Position Seat Belt Data

Vehicle Year/Make/Model/Body Style: 2003/Mitsubishi/Eclipse/2 Door Hatchback

NHTSA No.: C35602 ; Technician: Chad Gadberry ; Date: May 14, 2003

Do all rear outboard seating positions have type 2 seat belts?

Yes

No

If NO, describe the seat belt installed, the seat location, and any other information about the seat that would explain why a type 2 belt was not installed.

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Lap Belt Lockability Data

Vehicle Year/Make/Model/Body Style: 2003/Mitsubishi/Eclipse/2 Door Hatchback

NHTSA No.: C35602 ; Technician: Chad Gadberry ; Date: May 14, 2003

Passenger cars, trucks, buses, and multipurpose passenger vehicles with a GVWR of 10,000 pounds or less. (S7.1.1.5)

Complete one of these forms for **each** designated seating position with forward-facing seats, other than the driver's seat, or seats that can be adjusted to forward-facing and that has seat belt retractors that are not automatic locking retractors. (S7.1.1.5(c))

Designated Seating Position (DSP): Right Front

1. Record the seating position. Fully rearward  
(S7.1.1.5(c)(1))  
(Any position is acceptable.)
2. Buckle the seat belt. (S7.1.1.5(c)(1))
3. Complete any procedures recommended in the vehicle owner's manual to activate any locking feature. (S7.1.1.5(c)(1))
4. Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT have to be attached by the vehicle user to the seat belt webbing, retractor, or any other part of the vehicle. (S7.1.1.5(a))  

(X)Yes-Pass      ( ) No-FAIL
5. Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT require inverting, twisting or deforming of the belt webbing. (S7.1.1.5(a))  

(X)Yes-Pass      ( ) No-FAIL
6. Does the vehicle user need to take some action to activate the locking feature on the lap belt portion of the seat belt in any forward-facing seat or seat that can be adjusted to forward-facing?  

(X)Yes, go to 6.1      ( ) No, go to 7.
- 6.1 Does the vehicle owner's manual include a description in words and/or diagrams describing how to activate the locking feature so that the seat belt assembly can tightly secure a child restraint system and how to deactivate the locking feature to remove the child restraint system. (S7.1.1.5(b))  

(X)Yes-Pass      ( ) No-FAIL
7. Locate a reference point A on the seat belt buckle. (S7.1.1.5(c)(2))

### Lap Belt Lockability Data (Cont.)

8. Locate a reference point B on the attachment hardware or retractor assembly at the other end of the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))
9. Adjust the lap belt or lap belt portion of the seat belt assembly according to any procedures recommended in the vehicle owner's manual to activate any locking feature so that the webbing between points A and B is at the maximum length allowed by the belt system. (S7.1.1.5(c)(2))
10. Measure and record the distance between points A and B along the longitudinal centerline of the webbing for the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))

Measured distance between A and B is 61.4 inches.

11. Readjust the belt system so that the webbing between points A and B is at any length that is 5 inches or more shorter than the maximum length of the webbing. (S7.1.1.5(c)(3))
12. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal. (S7.1.1.5(c)(4))

The measured force application angle = 10 (spec. 5-15 degrees)

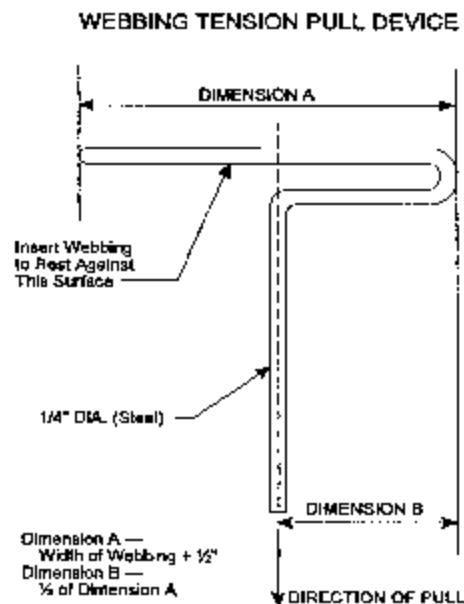


Figure 5 (S7.1.1.5(c)(4))

Lap Belt Lockability Data (Cont.)

13. Measure the length between points A and B along the longitudinal centerline of the webbing while the preload is being applied. (S7.1.1.5(c)(4))

Measured distance between A and B is 22.8 inches.

14. Increase the load to 50 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds. Measure and record the distance between points A and B along the longitudinal centerline of the webbing. (S7.1.1.5(c)(5))

Record onset rate: 10 lb/sec (Spec. 10 to 50 lb/sec)

Measure distance between points A and B 23.5 inches (S7.1.1.5(c)(6))

15. Subtract the measurement in 13 from the measurement in 14. Is the difference 2 inches or less? (S7.1.1.5(c)(7))

14-13 = 0.7 inches

Yes-Pass

No-FAIL

16. Subtract the measurement in 14 from the measurement in 10. Is the difference 3 inches or more?

10-14 = 37.9 inches

Yes-Pass

No-FAIL

REMARKS: None

Lap Belt Lockability Data (Cont.)

Vehicle Year/Make/Model/Body Style: 2003/Mitsubishi/Eclipse/2 Door Hatchback

NHTSA No.: C35602 ; Technician: Chad Gadberry; Date: May 14, 2003

Passenger cars, trucks, buses, and multipurpose passenger vehicles with a GVWR of 10,000 pounds or less. (S7.1.1.5)

Complete one of these forms for **each** designated seating position with forward-facing seats, other than the driver's seat, or seats that can be adjusted to forward-facing and that has seat belt retractors that are not automatic locking retractors. (S7.1.1.5(c))

Designated Seating Position (DSP): Left Rear

1. Record the seating position. Non-adjustable  
(S7.1.1.5(c)(1))  
(Any position is acceptable.)
2. Buckle the seat belt. (S7.1.1.5(c)(1))
3. Complete any procedures recommended in the vehicle owner's manual to activate any locking feature. (S7.1.1.5(c)(1))
4. Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT have to be attached by the vehicle user to the seat belt webbing, retractor, or any other part of the vehicle. (S7.1.1.5(a))  

(X)Yes-Pass      ( ) No-FAIL
5. Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT require inverting, twisting or deforming of the belt webbing. (S7.1.1.5(a))  

(X)Yes-Pass      ( ) No-FAIL
6. Does the vehicle user need to take some action to activate the locking feature on the lap belt portion of the seat belt in any forward-facing seat or seat that can be adjusted to forward-facing?  

(X)Yes, go to 6.1      ( ) No, go to 7.
- 6.1 Does the vehicle owner's manual include a description in words and/or diagrams describing how to activate the locking feature so that the seat belt assembly can tightly secure a child restraint system and how to deactivate the locking feature to remove the child restraint system. (S7.1.1.5(b))  

(X)Yes-Pass      ( ) No-FAIL
7. Locate a reference point A on the seat belt buckle. (S7.1.1.5(c)(2))



### Lap Belt Lockability Data (Cont.)

8. Locate a reference point B on the attachment hardware or retractor assembly at the other end of the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))
9. Adjust the lap belt or lap belt portion of the seat belt assembly according to any procedures recommended in the vehicle owner's manual to activate any locking feature so that the webbing between points A and B is at the maximum length allowed by the belt system. (S7.1.1.5(c)(2))
10. Measure and record the distance between points A and B along the longitudinal centerline of the webbing for the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))

Measured distance between A and B is 66.8 inches.

11. Readjust the belt system so that the webbing between points A and B is at any length that is 5 inches or more shorter than the maximum length of the webbing. (S7.1.1.5(c)(3))
12. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal. (S7.1.1.5(c)(4))

The measured force application angle = 10 (spec. 5-15 degrees)

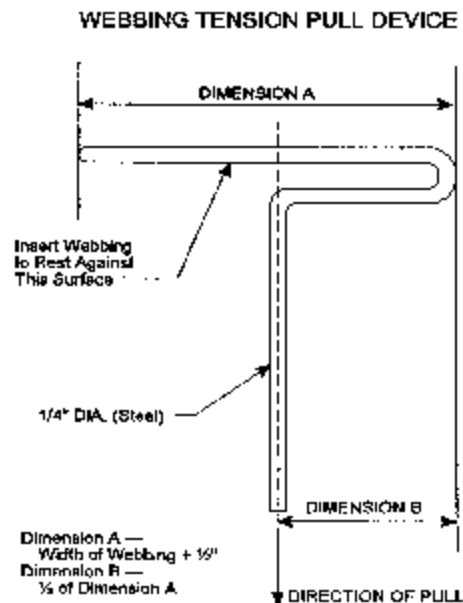


Figure 5 (S7.1.1.5(c)(4))

Lap Belt Lockability Data (Cont.)

13. Measure the length between points A and B along the longitudinal centerline of the webbing while the preload is being applied. (S7.1.1.5(c)(4))

Measured distance between A and B is 27.0 inches.

14. Increase the load to 50 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds. Measure and record the distance between points A and B along the longitudinal centerline of the webbing. (S7.1.1.5(c)(5))

Record onset rate: 10 lb/sec (Spec. 10 to 50 lb/sec)

Measure distance between points A and B 27.9 inches (S7.1.1.5(c)(6))

15. Subtract the measurement in 13 from the measurement in 14. Is the difference 2 inches or less? (S7.1.1.5(c)(7))

14-13 = 0.9 inches

Yes-Pass

No-FAIL

16. Subtract the measurement in 14 from the measurement in 10. Is the difference 3 inches or more?

10-14 = 38.9 inches

Yes-Pass

No-FAIL

REMARKS: None

Lap Belt Lockability Data (Cont.)

Vehicle Year/Make/Model/Body Style: 2003/Mitsubishi/Eclipse/2 Door Hatchback

NHTSA No.: C35602 ; Technician: Chad Gadberry ; Date: May 14, 2003

Passenger cars, trucks, buses, and multipurpose passenger vehicles with a GVWR of 10,000 pounds or less. (S7.1.1.5)

Complete one of these forms for **each** designated seating position with forward-facing seats, other than the driver's seat, or seats that can be adjusted to forward-facing **and** that has seat belt retractors that are not automatic locking retractors. (S7.1.1.5(c))

Designated Seating Position (DSP): Right Rear

1. Record the seating position. Non-adjustable  
(S7.1.1.5(c)(1))  
(Any position is acceptable.)
2. Buckle the seat belt. (S7.1.1.5(c)(1))
3. Complete any procedures recommended in the vehicle owner's manual to activate any locking feature. (S7.1.1.5(c)(1))
4. Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT have to be attached by the vehicle user to the seat belt webbing, retractor, or any other part of the vehicle. (S7.1.1.5(a))  

(X)Yes-Pass      ( ) No-FAIL
5. Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT require inverting, twisting or deforming of the belt webbing. (S7.1.1.5(a))  

(X)Yes-Pass      ( ) No-FAIL
6. Does the vehicle user need to take some action to activate the locking feature on the lap belt portion of the seat belt in any forward-facing seat or seat that can be adjusted to forward-facing?  

(X)Yes, go to 6.1      ( ) No, go to 7.

  - 6.1 Does the vehicle owner's manual include a description in words and/or diagrams describing how to activate the locking feature so that the seat belt assembly can tightly secure a child restraint system and how to deactivate the locking feature to remove the child restraint system. (S7.1.1.5(b))  

(X)Yes-Pass      ( ) No-FAIL
7. Locate a reference point A on the seat belt buckle. (S7.1.1.5(c)(2))

### Lap Belt Lockability Data (Cont.)

8. Locate a reference point B on the attachment hardware or retractor assembly at the other end of the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))
9. Adjust the lap belt or lap belt portion of the seat belt assembly according to any procedures recommended in the vehicle owner's manual to activate any locking feature so that the webbing between points A and B is at the maximum length allowed by the belt system. (S7.1.1.5(c)(2))
10. Measure and record the distance between points A and B along the longitudinal centerline of the webbing for the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))

Measured distance between A and B is 67.0 inches.

11. Readjust the belt system so that the webbing between points A and B is at any length that is 5 inches or more shorter than the maximum length of the webbing. (S7.1.1.5(c)(3))
12. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal. (S7.1.1.5(c)(4))

The measured force application angle = 10 (spec. 5-15 degrees)

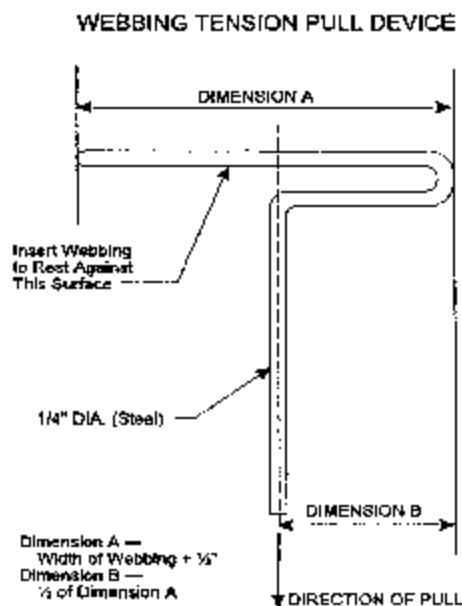


Figure 5 (S7.1.1.5(c)(4))

Lap Belt Lockability Data (Cont.)

13. Measure the length between points A and B along the longitudinal centerline of the webbing while the preload is being applied. (S7.1.1.5(c)(4))

Measured distance between A and B is 27.3 inches.

14. Increase the load to 50 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds. Measure and record the distance between points A and B along the longitudinal centerline of the webbing. (S7.1.1.5(c)(5))

Record onset rate: 10 lb/sec (Spec. 10 to 50 lb/sec)

Measure distance between points A and B 28.2 inches (S7.1.1.5(c)(6))

15. Subtract the measurement in 13 from the measurement in 14. Is the difference 2 inches or less? (S7.1.1.5(c)(7))

14-13 = 0.9 inches (X)Yes-Pass ( )No-FAIL

16. Subtract the measurement in 14 from the measurement in 10. Is the difference 3 inches or more?

10-14 = 38.8 inches (X)Yes-Pass ( )No-FAIL

REMARKS: None

## Seat Belt Comfort and Convenience Data

### 1. **BELT CONTACT FORCE (S7.4.3)**

Test Vehicle NHTSA No.: C35602

Vehicle Model Year/Make/Model/Body Style: 2003/Mitsubishi/Eclipse/2 Door Hatchback

Designated Seating Position Tested: Left Rear

Date of Comfort/Convenience Check: May 14, 2003

Technician Performing Check: Chad Gadberry

GVWR: 3859 lb

Test all Type 2 seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

- 1.1 Does the vehicle incorporate a webbing tension-relieving device?  
 Yes - go to latchplate access  
 No - continue with this check sheet
- 1.2 Adjustable seats are in adjustment position midway between the forward most and rearmost positions. If an adjustment position does not exist midway between the forward most and rearmost positions, the next closest adjustment position to the rear of the midpoint is used. (S8.1.2)  
 Check  
 N/A
- 1.3 If separately adjustable in a vertical direction, the seats are at the lowest position.  
 Check  
 N/A
- 1.4 Place adjustable seat backs in the manufacturer's nominal design riding position in the manner specified by the manufacturer.  
 Check  
 N/A
- 1.5 Place any adjustable anchorages at the manufacturer's nominal design position for a 50th percentile adult male (50M) occupant. This information will be furnished by the COTR.  
 Check  
 N/A
- 1.6 Place each adjustable head restraint in its highest adjustment position.  
 Check  
 N/A

Seat Belt Comfort and Convenience Data (Cont.)

- 1.7 Adjustable lumbar supports are positioned so that the lumbar support is in its lowest adjustment position. (S8.1.3)  
 Check  
 N/A
- 1.8 Position the test dummies according to dummy position placement instructions in Appendix B.  
 Check
- 1.9 Fasten the seat belt latch. Pull either 12 inches of belt webbing or the maximum available amount of belt webbing, whichever is less, from the retractor and then release it, allowing the belt webbing to return to the dummy's chest. Locate the point where the centerline of the upper torso belt webbing crosses the midsagittal line on the dummy's chest. At that point, pull the belt webbing out 3 inches from the dummy's chest and release until it is within one inch from the dummy's chest. (S10.8) Measure the contact force exerted by the belt webbing on the dummy's chest. Contact the COTR if the contact force exceeds 0.7 pounds.  
Contact Force 0.5 lb.  0.0 to 0.7 pounds - Pass  
 greater than 0.7 pounds - FAIL\*
- \* If the seat belts are voluntarily installed by the manufacturer they do not have to comply.

Seat Belt Comfort and Convenience Data (Cont.)

1. **BELT CONTACT FORCE (S7.4.3)**

Test Vehicle NHTSA No.: C35602

Vehicle Model Year/Make/Model/Body Style: 2003/Mitsubishi/Eclipse/2 Door Hatchback

Designated Seating Position Tested: Right Rear

Date of Comfort/Convenience Check: May 14, 2003

Technician Performing Check: Chad Gadberry

GVWR: 3859 lb

Test all Type 2 seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

- 1.1 Does the vehicle incorporate a webbing tension-relieving device?  
 Yes - go to latchplate access  
 No - continue with this check sheet
- 1.2 Adjustable seats are in adjustment position midway between the forward most and rearmost positions. If an adjustment position does not exist midway between the forward most and rearmost positions, the next closest adjustment position to the rear of the midpoint is used. (S8.1.2)  
 Check  
 N/A
- 1.3 If separately adjustable in a vertical direction, the seats are at the lowest position.  
 Check  
 N/A
- 1.4 Place adjustable seat backs in the manufacturer's nominal design riding position in the manner specified by the manufacturer.  
 Check  
 N/A
- 1.5 Place any adjustable anchorages at the manufacturer's nominal design position for a 50th percentile adult male (50M) occupant. This information will be furnished by the COTR.  
 Check  
 N/A
- 1.6 Place each adjustable head restraint in its highest adjustment position.  
 Check  
 N/A



Seat Belt Comfort and Convenience Data (Cont.)

- 1.7 Adjustable lumbar supports are positioned so that the lumbar support is in its lowest adjustment position. (S8.1.3)  
 Check  
 N/A
- 1.8 Position the test dummies according to dummy position placement instructions in Appendix B.  
 Check
- 1.9 Fasten the seat belt latch. Pull either 12 inches of belt webbing or the maximum available amount of belt webbing, whichever is less, from the retractor and then release it, allowing the belt webbing to return to the dummy's chest. Locate the point where the centerline of the upper torso belt webbing crosses the midsagittal line on the dummy's chest. At that point, pull the belt webbing out 3 inches from the dummy's chest and release until it is within one inch from the dummy's chest. (S10.8) Measure the contact force exerted by the belt webbing on the dummy's chest. Contact the COTR if the contact force exceeds 0.7 pounds.  
Contact Force 0.5 lb.  0.0 to 0.7 pounds - Pass  
 greater than 0.7 pounds - FAIL\*

\* If the seat belts are voluntarily installed by the manufacturer they do not have to comply.

Seat Belt Comfort and Convenience Data (Cont.)

2. **LATCHPLATE ACCESS (S7.4.4)**

Test Vehicle NHTSA No.: C35602

Vehicle Model Year/Make/Model/Body Style: 2003/Mitsubishi/Eclipse/2 Door Hatchback

Designated Seating Position Tested: Not applicable - passenger car

Date of Comfort/Convenience Check: \_\_\_\_\_

Technician Performing Check: \_\_\_\_\_

GVWR: \_\_\_\_\_

Test all front outboard seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

- 2.1 Position the seat in its forward most adjustment position.  
( ) Check
- 2.2 Position the test dummy using the procedures in Appendix B. (Some modifications to the positioning procedure may need to be made because the seat is in its forward most position.)  
( ) Check
- 2.3 Position the adjustable seat belt anchorage in the manufacturer's nominal design position for a 50th percentile adult male occupant.  
( ) Check
- 2.4 Attach the inboard and outboard reach string following the instructions on Figure 1C.  
( ) Check
- 2.5 Place the latch plate in the stowed position.  
( ) Check
- 2.6 Extend each line backward and outboard to generate arcs of the reach envelope of the test dummy's arms. Is the latch plate within the reach envelope?  
( ) Yes-Pass                      ( ) No-FAIL
- 2.7 Using the clearance test block, specified in Figure 2C, is there sufficient clearance between the vehicle seat and the side of vehicle interior to allow the test block to move unhindered to the latch plate or buckle?  
( ) Yes-Pass                      ( ) No-FAIL

Seat Belt Comfort and Convenience Data (Cont.)

3. **RETRACTION (S7.4.5)**

Test Vehicle NHTSA No.: C35602

Vehicle Model Year/Make/Model/Body Style: 2003/Mitsubishi/Eclipse/2 Door Hatchback

Designated Seating Position Tested: Not applicable - passenger car

Date of Comfort/Convenience Check: \_\_\_\_\_

Technician Performing Check: \_\_\_\_\_

GVWR: \_\_\_\_\_

Test all front outboard seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

- 3.1 Is the vehicle a passenger car or walk-in van-type vehicle?  
( ) Yes If yes, go to seat belt guides and hardware.  
( ) No
- 3.2 Adjustable seats are in the adjustment position midway between the forward most and rearmost positions. If an adjustment position does not exist midway between the forward most and rearmost positions, the next closest adjustment position to the rear of the midpoint is used. (S8.1.2)  
( ) Check
- 3.3 If separately adjustable in a vertical direction, the seats are at the lowest position.  
( ) Check
- 3.4 Place adjustable seat backs in the manufacturer's nominal design riding position in the manner specified by the manufacturer.  
( ) Check
- 3.5 Place any adjustable anchorages at the manufacturer's nominal design position for a 50th percentile adult male (50M) occupant. This information will be furnished by the COTR.  
( ) Check
- 3.6 Place each adjustable head restraint in its highest adjustment position.  
( ) Check
- 3.7 Adjustable lumbar supports are positioned so that the lumbar support is in its lowest adjustment position (S8.1.3)  
( ) Check

Seat Belt Comfort and Convenience Data (Cont.)

- 3.8 Use anthropomorphic test dummies whose arms have been removed and position the dummies in the front outboard designated seating positions according to instructions in Appendix B.  
( ) Check
- 3.9 Restrain the dummies using the belt systems for the position being tested.  
( ) Check
- 3.10 Stow outboard armrests which are capable of being stowed.  
( ) Check
- 3.11 Check the statement that applies to this test vehicle:
- (A) The torso and lap belt webbing of the seat belt system automatically retracts to a stowed position when the adjacent vehicle door is in an open position and the seat belt latch plate is released.  
( ) Pass
- (B) The torso and lap belt webbing of the seat belt system automatically retracts when the seat belt latch plate is released.  
( ) Pass
- (C) Neither A or B apply.  
( ) **FAIL**
- 3.12 With the webbing and hardware in the stowed position are the webbing and hardware prevented from being pinched when the door is closed?  
( ) Yes - Pass  
( ) **No - FAIL**
- 3.13 If this test vehicle has an open body (without doors) and has a seat belt system with a tension-relieving device, does the belt system fully retract when the tension-relieving device is deactivated?  
( ) N/A  
( ) Yes - Pass  
( ) **No - FAIL**

Seat Belt Comfort and Convenience Data (Cont.)

4. **SEAT BELT GUIDES AND HARDWARE (S7.4.6)**

Test Vehicle NHTSA No.: C35602

Vehicle Model Year/Make/Model/Body Style: 2003/Mitsubishi/Eclipse/2 Door Hatchback

Designated Seating Position Tested: Left Rear

Date of Comfort/Convenience Check: May 14, 2003

Technician Performing Check: Chad Gadberry

GVWR: 3859 lb

Test seat belts except those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

The requirements for accessibility **DO NOT APPLY** to:

- A. Seats whose seat cushions are movable so that the seat back serves a function other than seating (S7.4.6.1(b))
- B. Seats which are removable.
- C. Seats which are movable so that the space formerly occupied by the seat can be used for a secondary function.

If the seats in this vehicle are different than the criteria above determine the following:

- 4.1 Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back?  
 Yes - Go to 4.2.  
 No - this form is complete
- 4.2 Does one of the following three parts, the seat belt latch plate, the buckle, or the seat belt webbing, stay on top of or above the seat cushion under normal conditions (i.e., conditions other than when belt hardware is intentionally pushed behind the seat by a vehicle occupant)?  
 Yes - Pass  
 No - FAIL
- 4.3 Are the remaining two seat belt parts accessible under normal conditions?  
 Yes - Pass  
 No - FAIL

Seat Belt Comfort and Convenience Data (Cont.)

- 4.4 The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the following events occur in order:
- (A) The belt is completely retracted or, if the belt is nonretractable, the belt is unlatched. ( ) Check
  - (B) The seat is moved to any position to which it is designed to be adjusted. ( ) Check
  - (C) The seat back, if foldable, is folded forward as far as possible and then moved backward into position. ( ) Check
- ( ) Yes - Pass  
( ) No - FAIL
- 4.5 Is the inboard receptacle end of the seat belt assembly, installed in the outboard designated seating position, accessible with the center arm rest in any position to which it can be adjusted (without moving the armrest)?
- ( ) Yes - Pass  
( ) No - FAIL

Seat Belt Comfort and Convenience Data (Cont.)

4. **SEAT BELT GUIDES AND HARDWARE (S7.4.6)**

Test Vehicle NHTSA No.: C35602

Vehicle Model Year/Make/Model/Body Style: 2003/Mitsubishi/Eclipse/2 Door Hatchback

Designated Seating Position Tested: Right Rear

Date of Comfort/Convenience Check: May 14, 2003

Technician Performing Check: Chad Gadberry

GVWR: 3859 lb

Test seat belts except those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

The requirements for accessibility **DO NOT APPLY** to:

- A. Seats whose seat cushions are movable so that the seat back serves a function other than seating (S7.4.6.1(b))
- B. Seats which are removable.
- C. Seats which are movable so that the space formerly occupied by the seat can be used for a secondary function.

If the seats in this vehicle are different than the criteria above determine the following:

- 4.1 Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back?
  - Yes - Go to 4.2.
  - No - this form is complete
  
- 4.2 Does one of the following three parts, the seat belt latch plate, the buckle, or the seat belt webbing, stay on top of or above the seat cushion under normal conditions (i.e., conditions other than when belt hardware is intentionally pushed behind the seat by a vehicle occupant)?
  - Yes - Pass
  - No - FAIL
  
- 4.3 Are the remaining two seat belt parts accessible under normal conditions?
  - Yes - Pass
  - No - FAIL

Seat Belt Comfort and Convenience Data (Cont.)

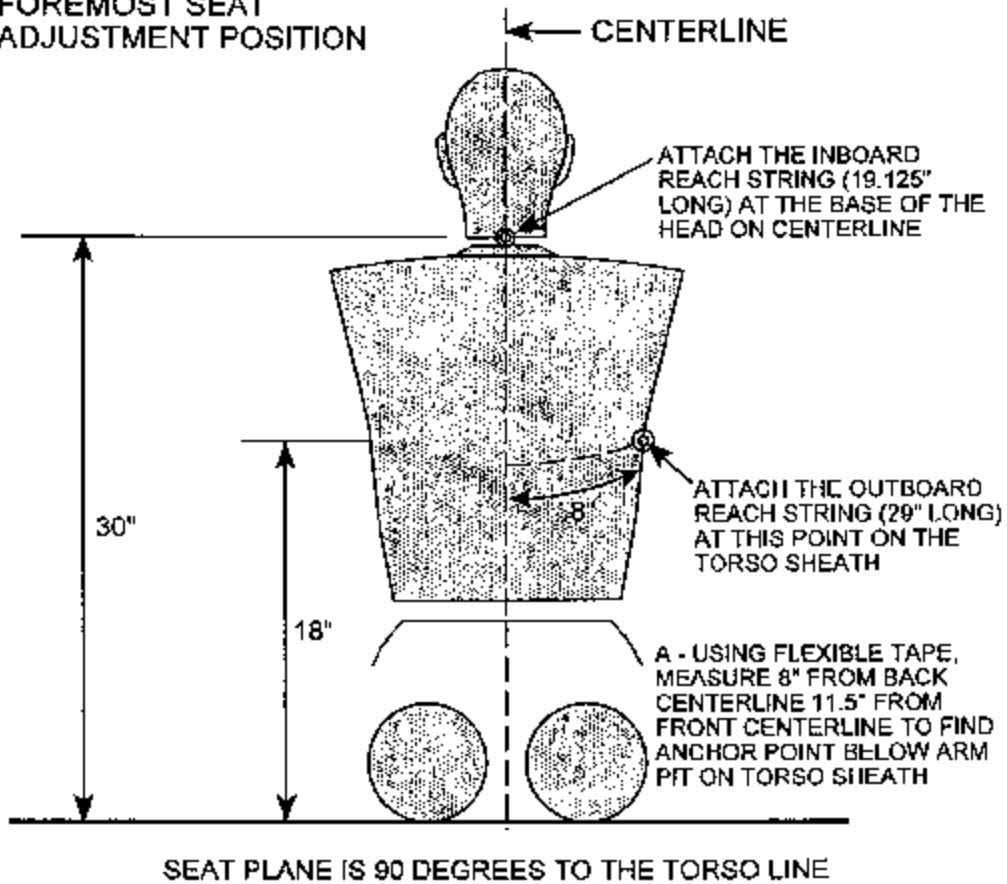
- 4.4 The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the following events occur in order:
- (A) The belt is completely retracted or, if the belt is nonretractable, the belt is unlatched.  Check
  - (B) The seat is moved to any position to which it is designed to be adjusted.  Check
  - (C) The seat back, if foldable, is folded forward as far as possible and then moved backward into position.  Check
- Yes - Pass  
 **No - FAIL**
- 4.5 Is the inboard receptacle end of the seat belt assembly, installed in the outboard designated seating position, accessible with the center arm rest in any position to which it can be adjusted (without moving the armrest)?
- Yes - Pass  
 **No - FAIL**



**LOCATION OF ANCHORING POINTS FOR  
LATCHPLATE REACH LIMITING CHAINS OR STRINGS  
TO TEST FOR LATCHPLATE ACCESSIBILITY**

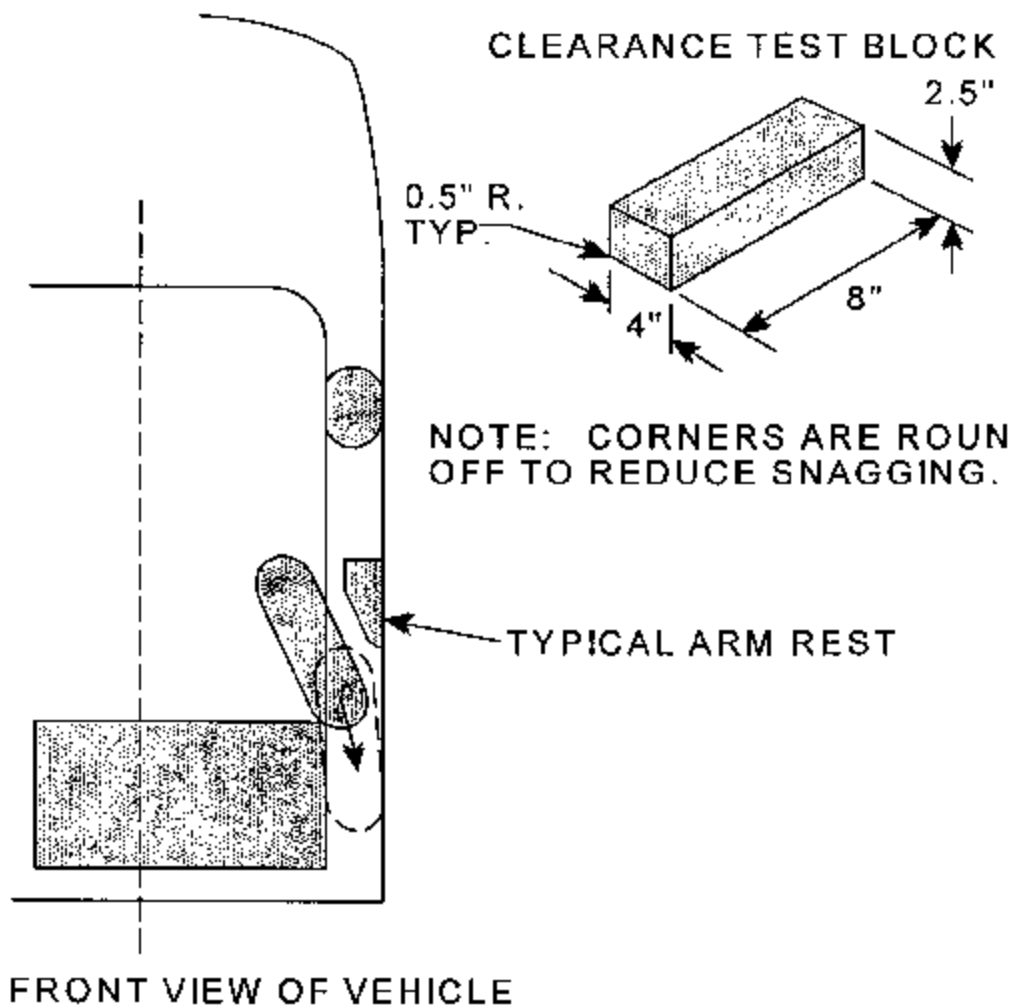
**PART 572E DUMMY**

50TH PERCENTILE  
DUMMY SEATED IN  
FOREMOST SEAT  
ADJUSTMENT POSITION



**REAR VIEW**

# USE OF CLEARANCE TEST BLOCK TO DETERMINE HAND/ARM ACCESS



APPENDIX A  
PHOTOGRAPHS

## TABLE OF PHOTOGRAPHS

<u>Description</u>	<u>Page No.</u>
Photo No. A-1 - Pre-Test Frontal View	A-1
Photo No. A-2 - Pre-Test Left Side View	A-2
Photo No. A-3 - Pre-Test Right Side View	A-3
Photo No. A-4 - Pre-Test Windshield View	A-4
Photo No. A-5 - Post-Test Windshield View	A-5
Photo No. A-6 - Pre-Test Driver Dummy Position View (Door Open)	A-6
Photo No. A-7 - Post-Test Driver Dummy Position View (Door Open)	A-7
Photo No. A-8 - Pre-Test Driver Dummy Position View	A-8
Photo No. A-9 - Post-Test Driver Dummy Position View	A-9
Photo No. A-10 - Pre-Test Passenger Dummy Position View (Door Open)	A-10
Photo No. A-11 - Post-Test Passenger Dummy Position View (Door Open)	A-11
Photo No. A-12 - Pre-Test Passenger Dummy Position View	A-12
Photo No. A-13 - Post-Test Passenger Dummy Position View	A-13
Photo No. A-14 - Post-Test Driver Dummy Airbag View	A-14
Photo No. A-15 - Post-Test Driver Dummy Head Contact View (windshield/header/visor)	A-15
Photo No. A-16 - Post-Test Passenger Dummy Airbag View	A-16
Photo No. A-17 - Post-Test Passenger Dummy Head Contact View (visor)	A-17
Photo No. A-18 - Pre-Test Driver Knee Bolster View	A-18
Photo No. A-19 - Post-Test Driver Knee Bolster View	A-19
Photo No. A-20 - Pre-Test Passenger Knee Bolster View	A-20
Photo No. A-21 - Post-Test Passenger Knee Bolster View	A-21
Photo No. A-22 - Pre-Test Driver Seat Position View	A-22
Photo No. A-23 - Post-Test Driver Seat Position View	A-23
Photo No. A-24 - Pre-Test Passenger Seat Position View	A-24
Photo No. A-25 - Post-Test Passenger Seat Position View	A-25
Photo No. A-26 - Vehicle Certification Label	A-26
Photo No. A-27 - FMVSS 110 Label	A-27

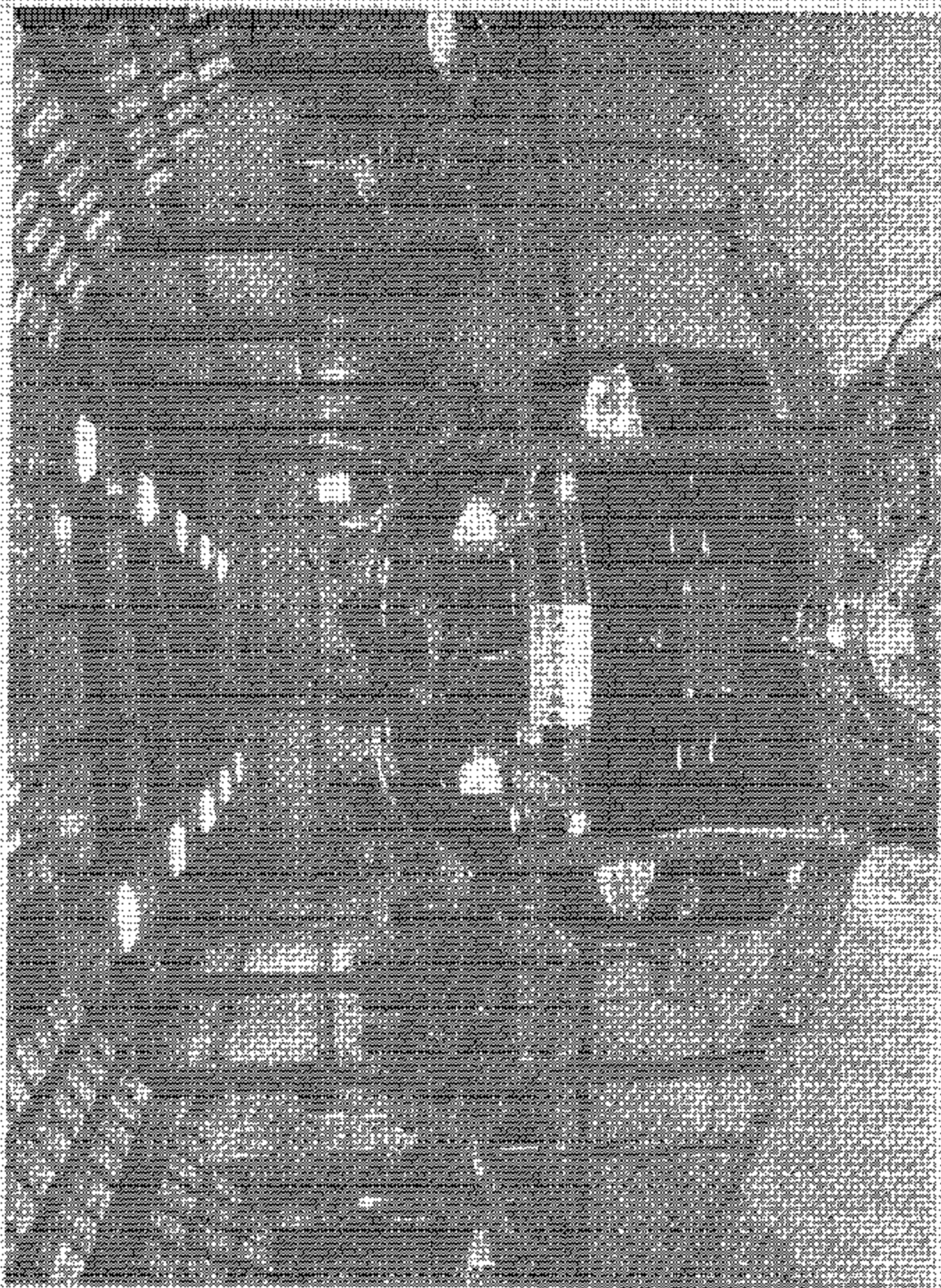


PHOTO BY AP/WIDEWORLD

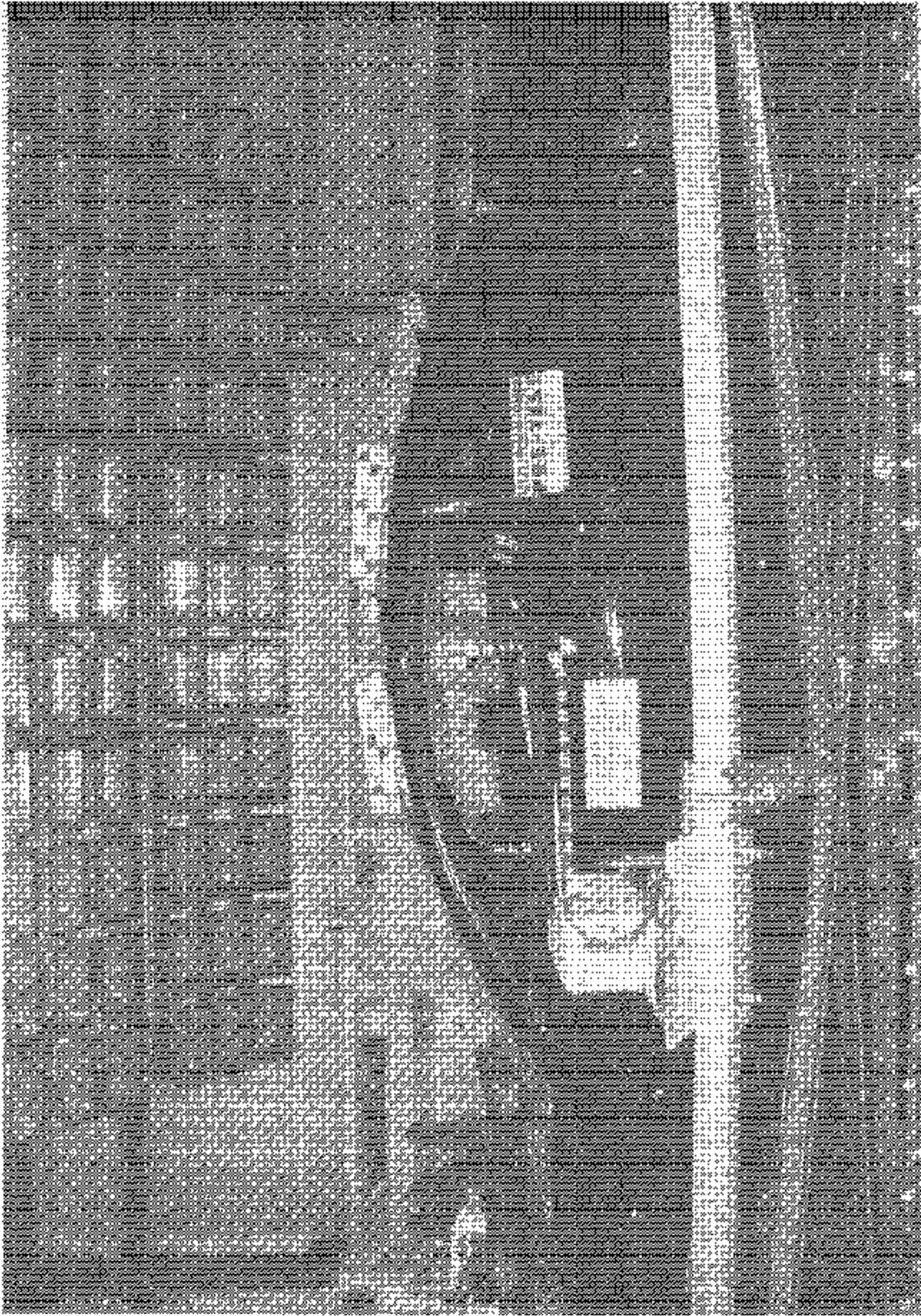
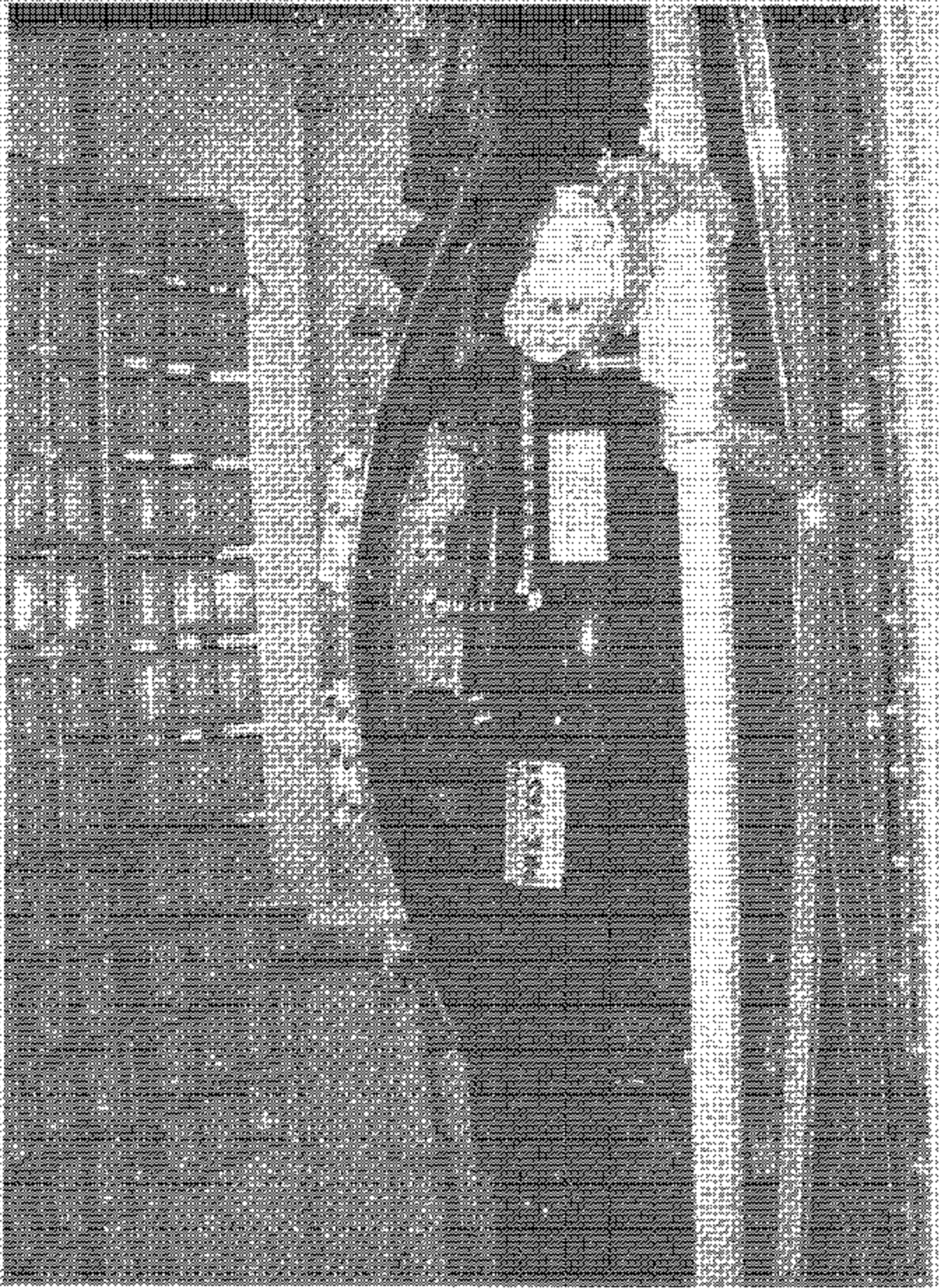


Photo by: Lee Sings - Views



Pre-Ford Bldg. Side View

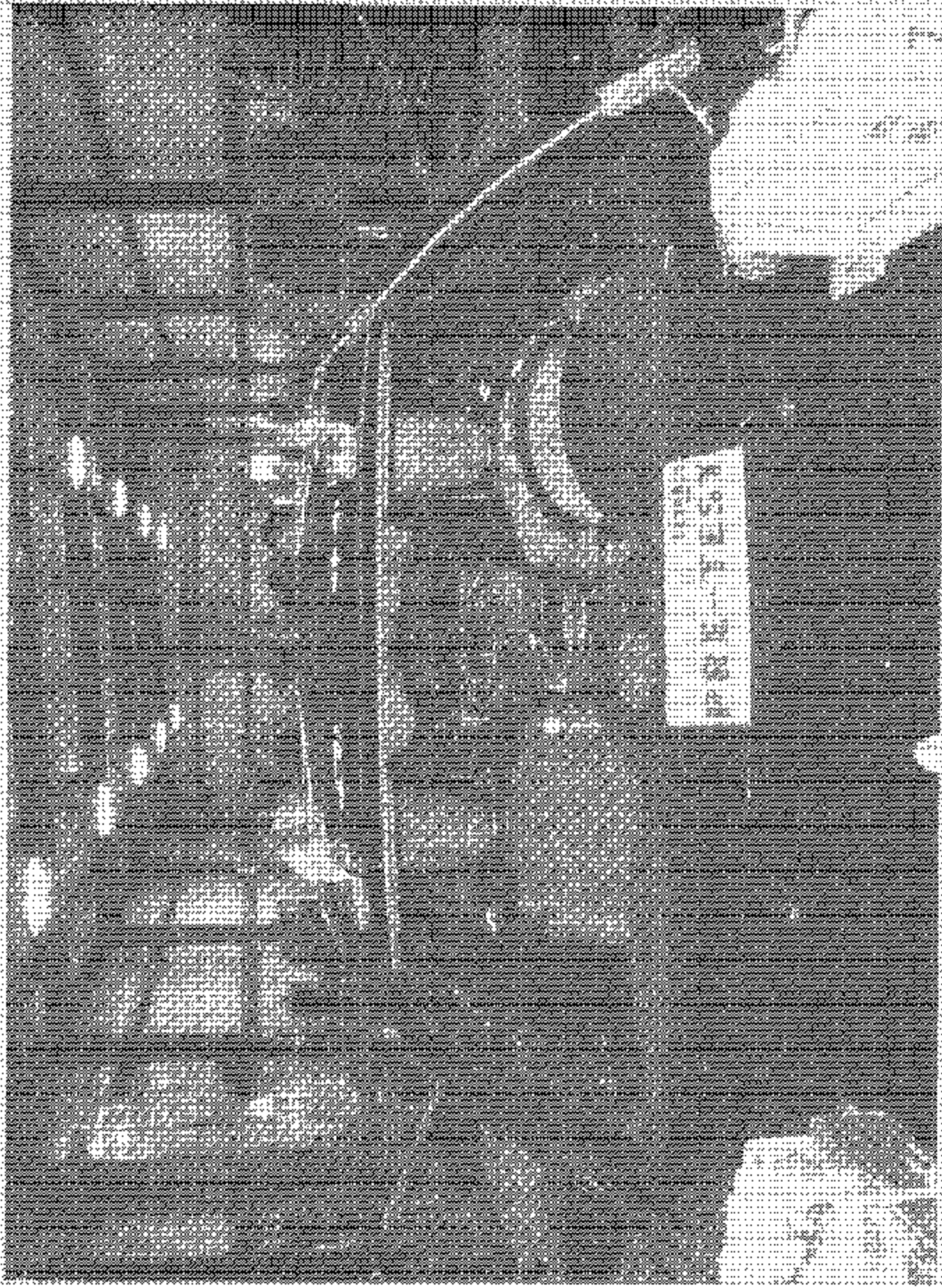
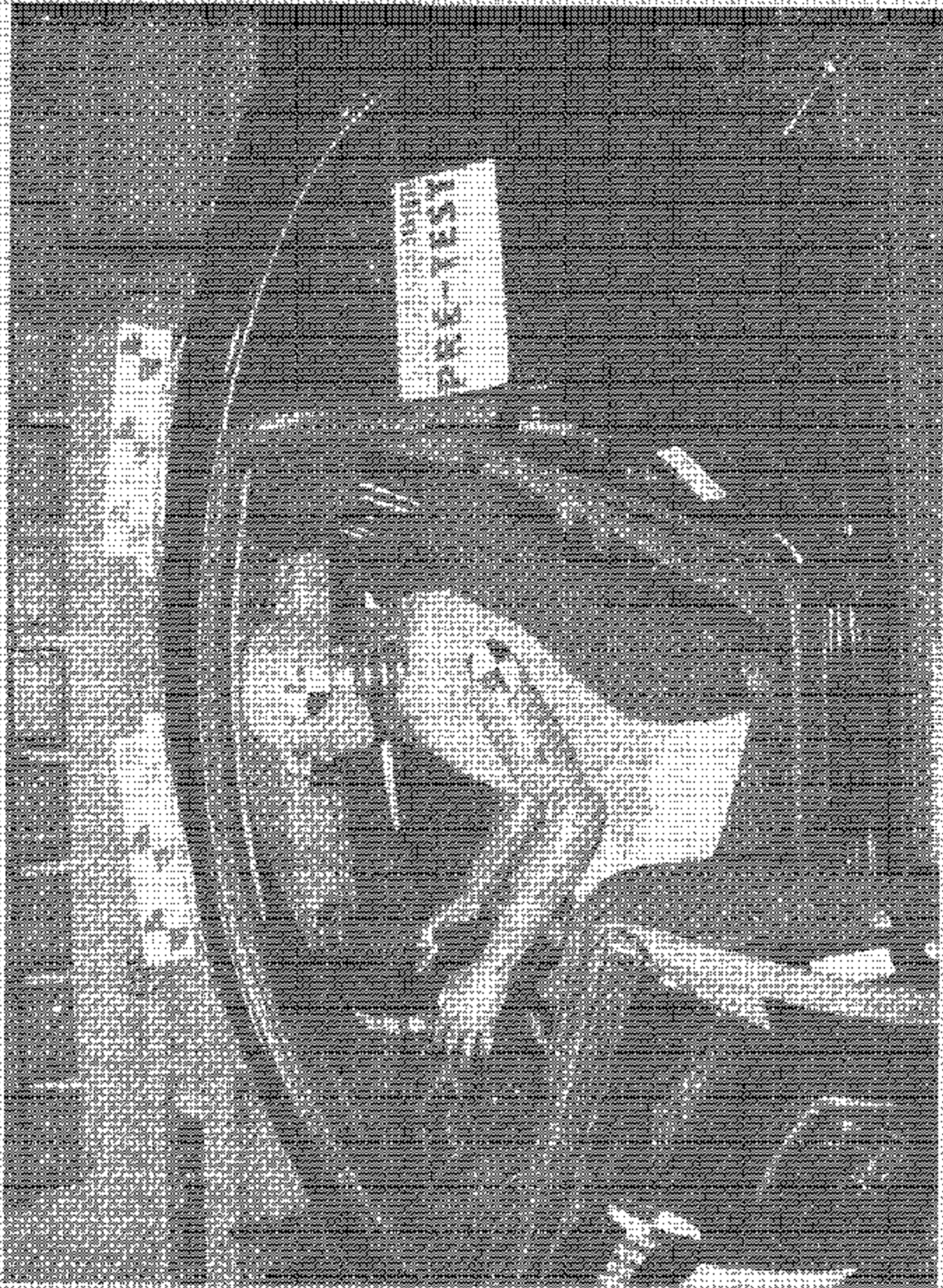


Fig. 1. Last Winch in the view.

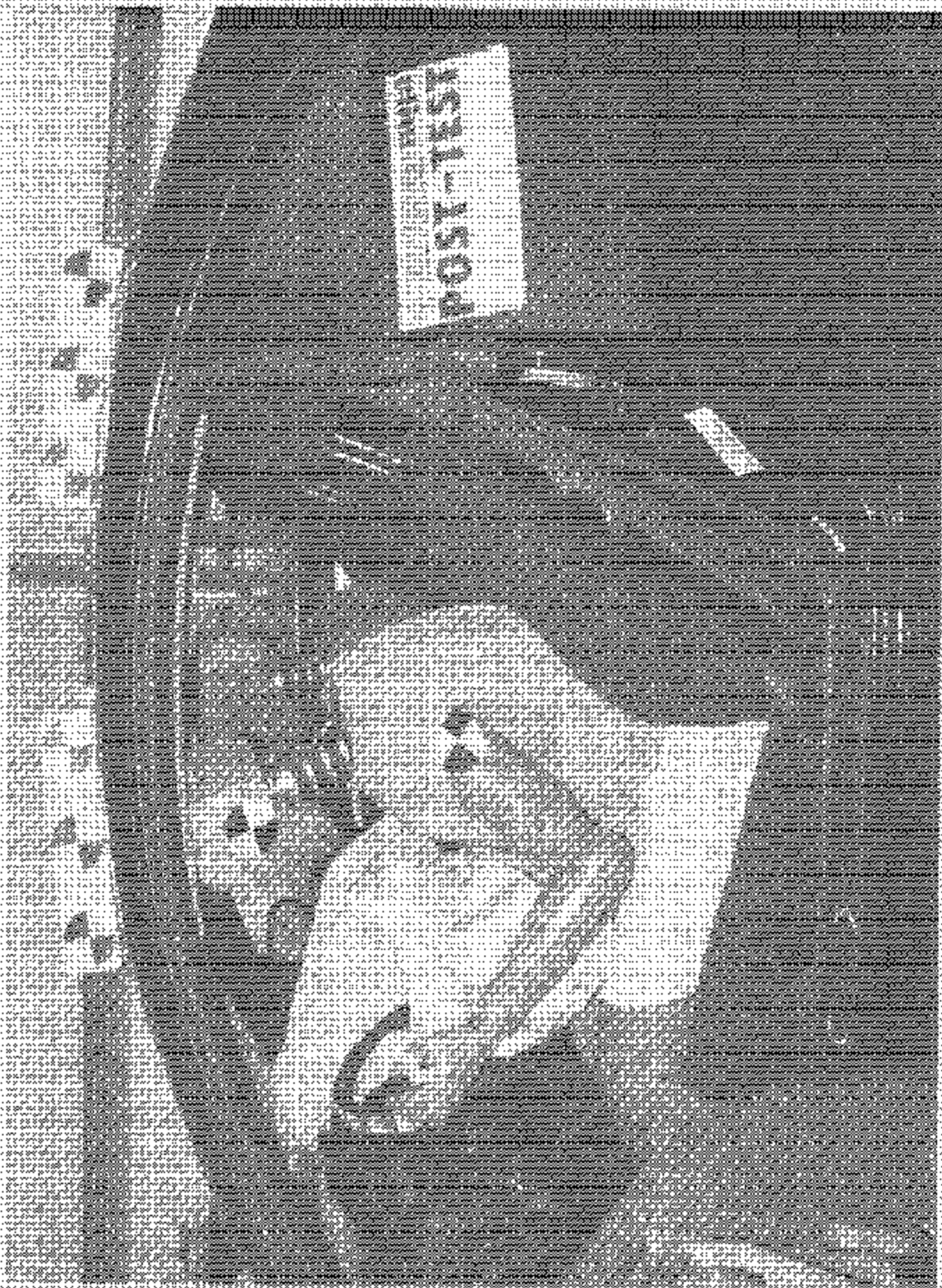




Post-Test View



Pilot Diver's Helmet (Close-up)



Post-Test Driver Dummy, Fronting View (Door Open)

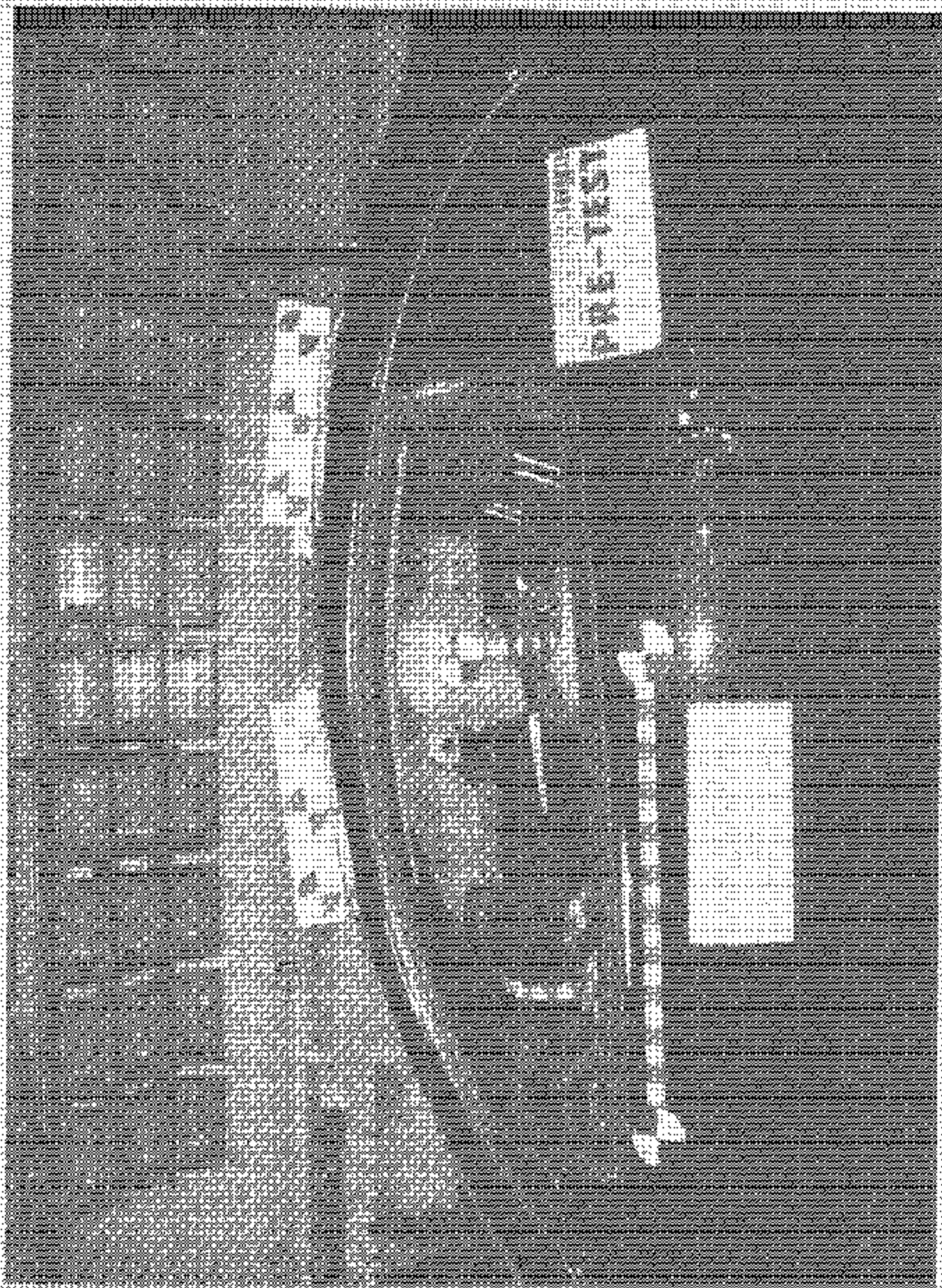
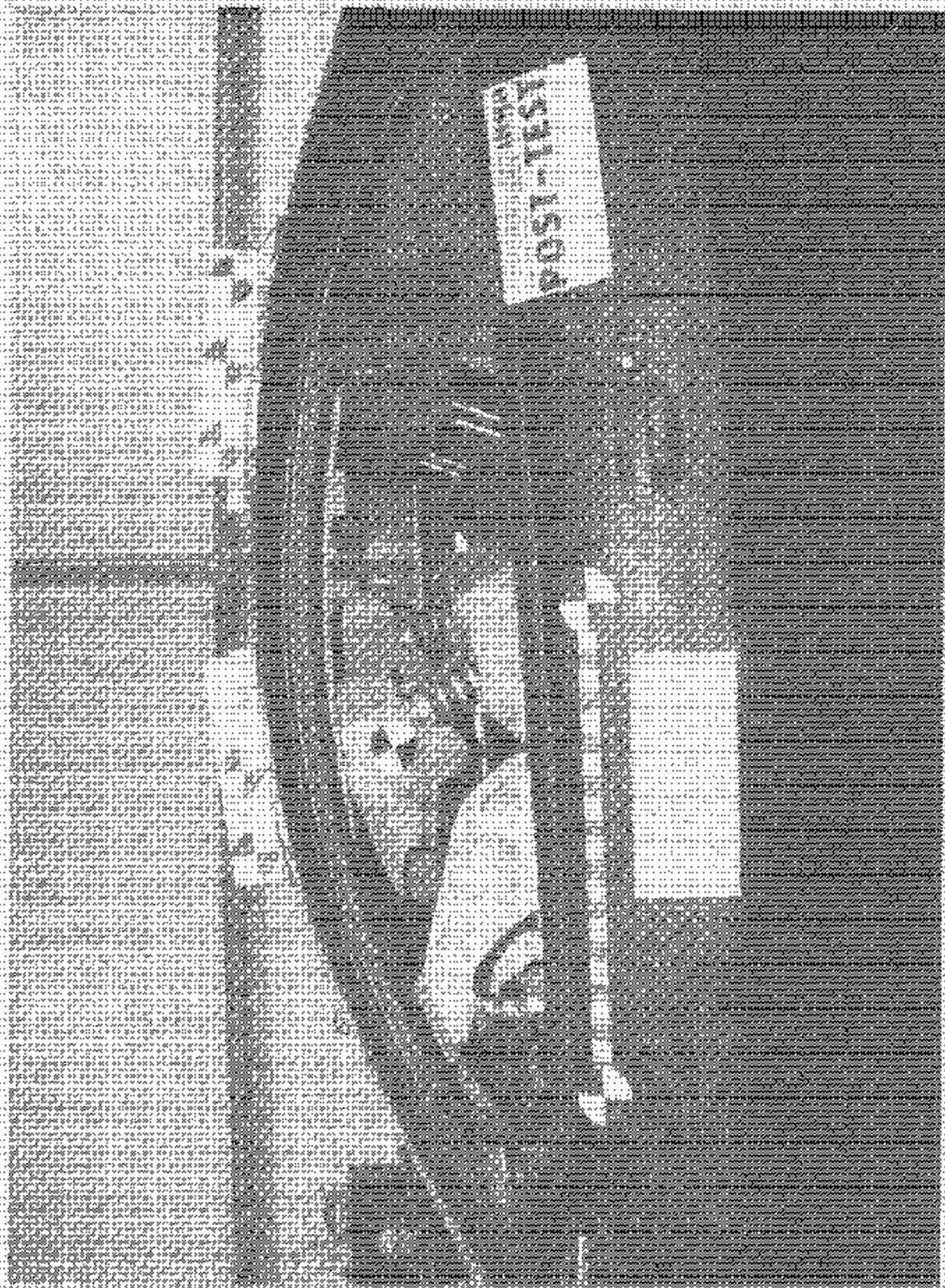


Figure 1. Pre-Test: Dummy Posttest view.



Acetab Post Dresser During Position View

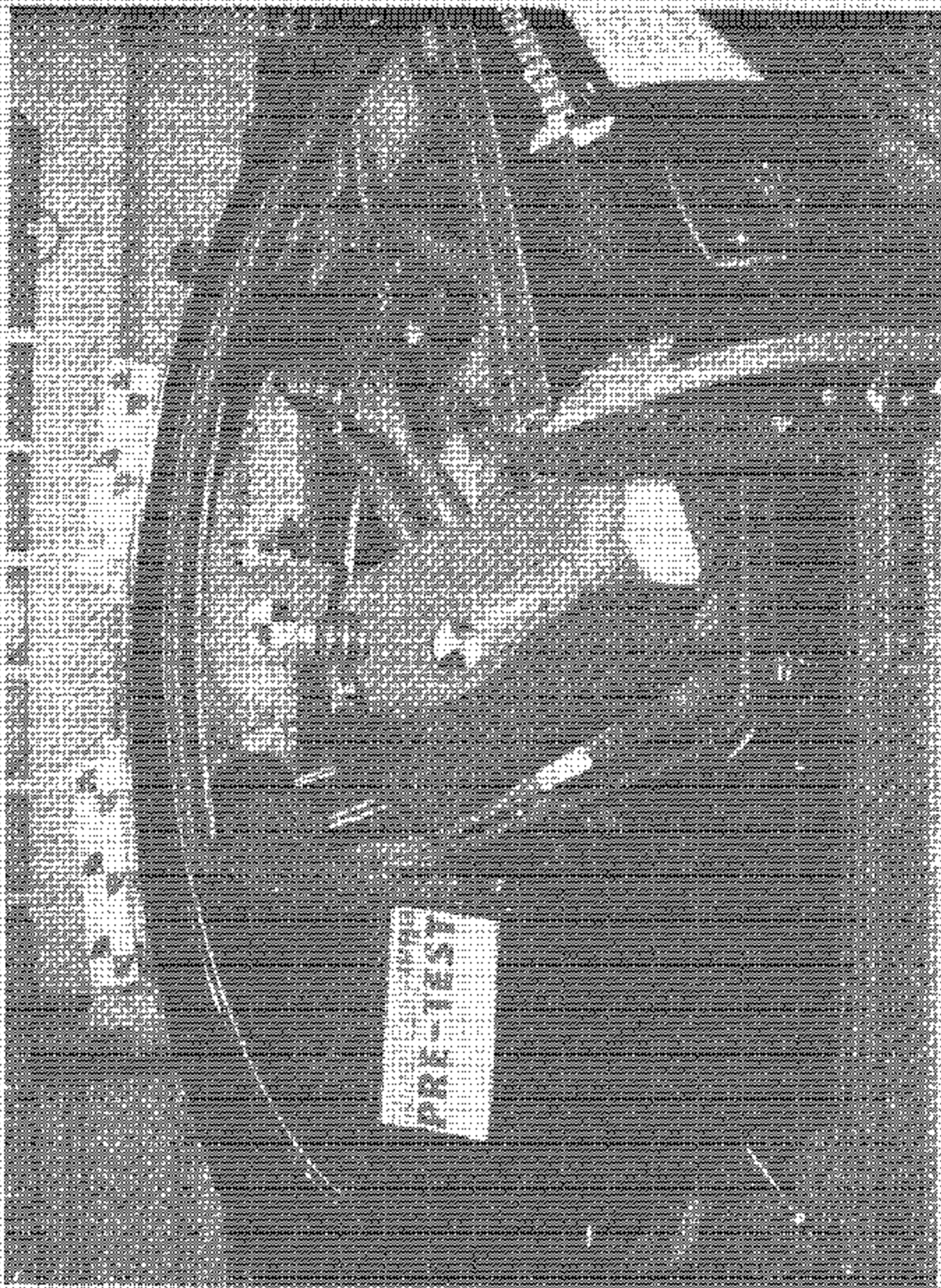


Fig. 1. Front Passenger Dummy Position View (Door Case)

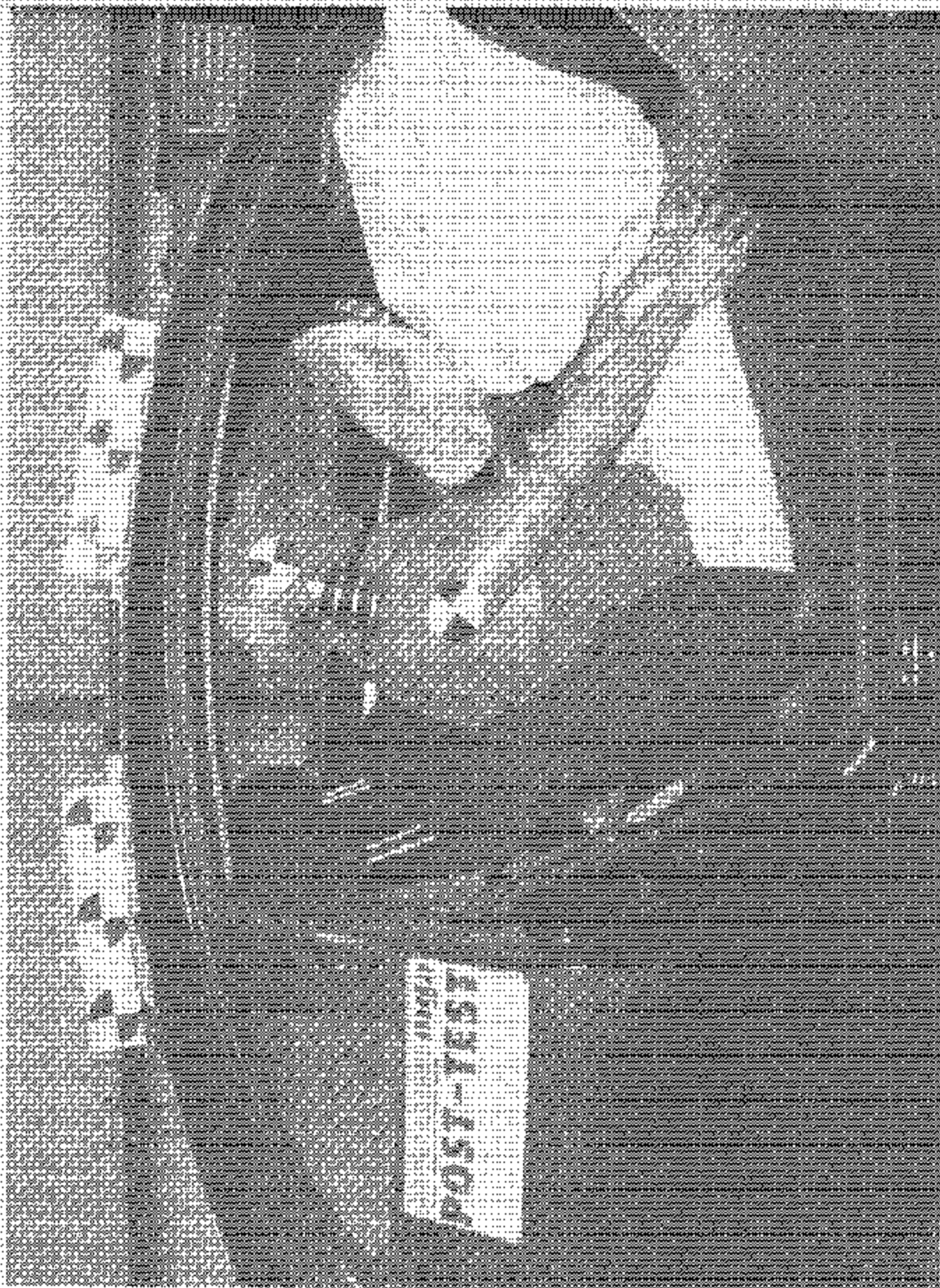


Photo: Peter S. Steyer/Johnny Posters/View (Ker Green)

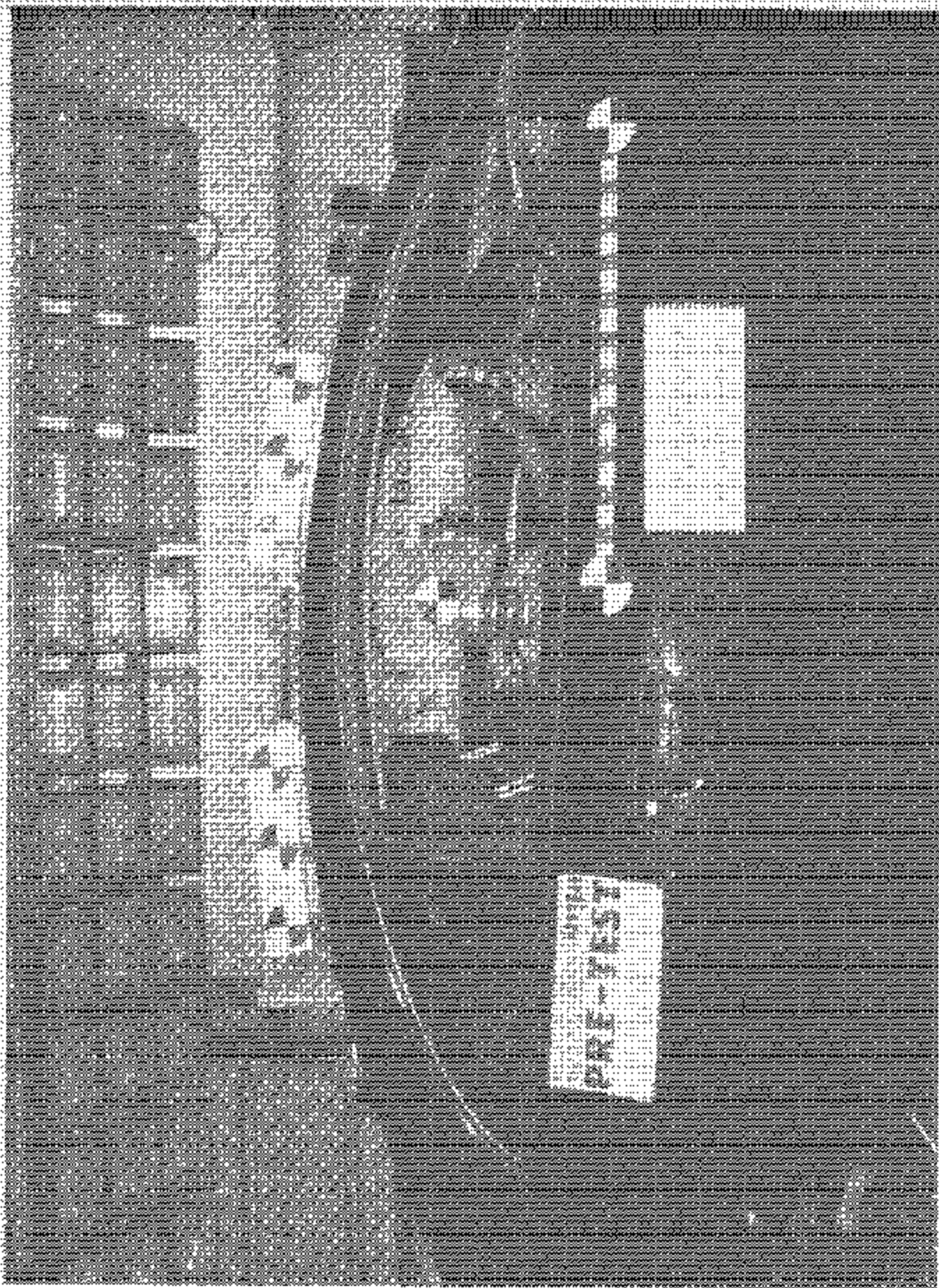
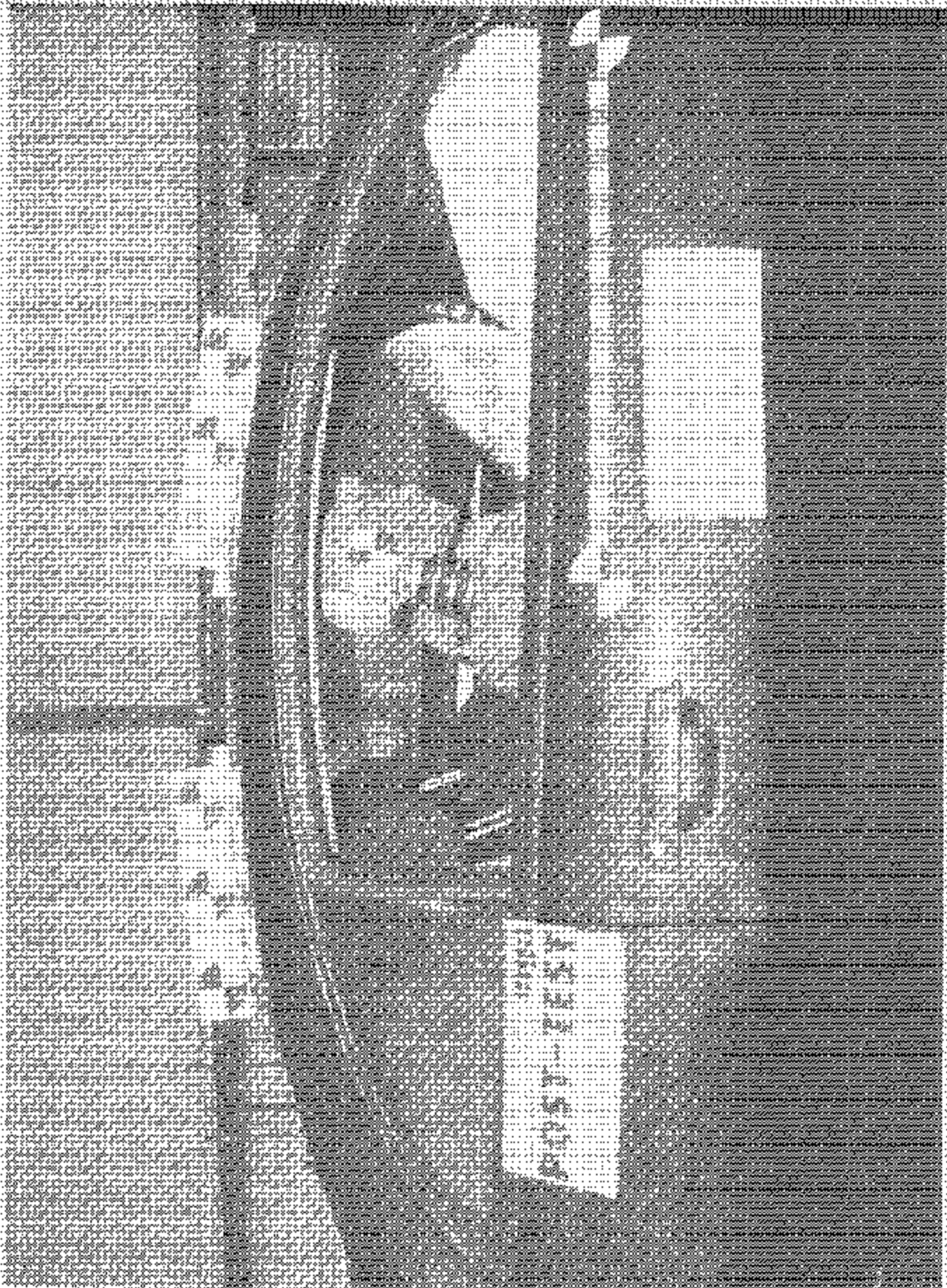


Photo: Passenger Economy Position View





Foot Rest Passenger Dummy Position view



Food-Tast Director, Durmay Amberg View



Fuel Tank Drive Canopy Head Detail View (Amendment 1) (10/10/10)



Post-test Passometer, Dornier A-10, view

# POST-TEST

QUESTIONS AND ANSWERS  
FOR THE POST-TEST  
ON THE POST-TEST

QUESTIONS AND ANSWERS  
FOR THE POST-TEST  
ON THE POST-TEST

Post-Test: Missions for Dummies, 1st Edition, Wiley-VCH

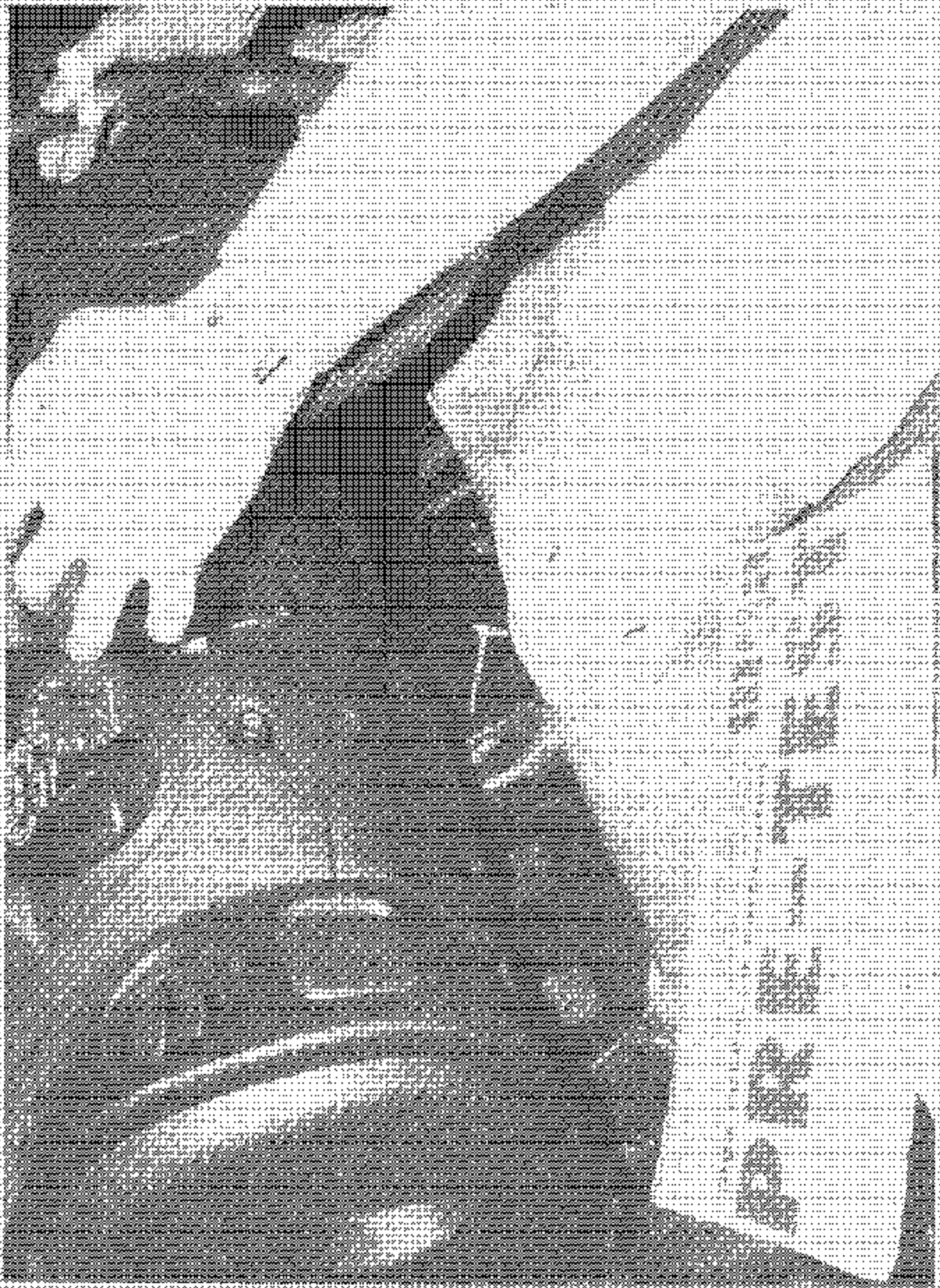


Photo: Courtesy of Acura. Acura is a registered trademark of Acura North America, Inc.

Photo: Courtesy of Acura. Acura is a registered trademark of Acura North America, Inc.



Photo: John Dwyer, Reuters/Corbis

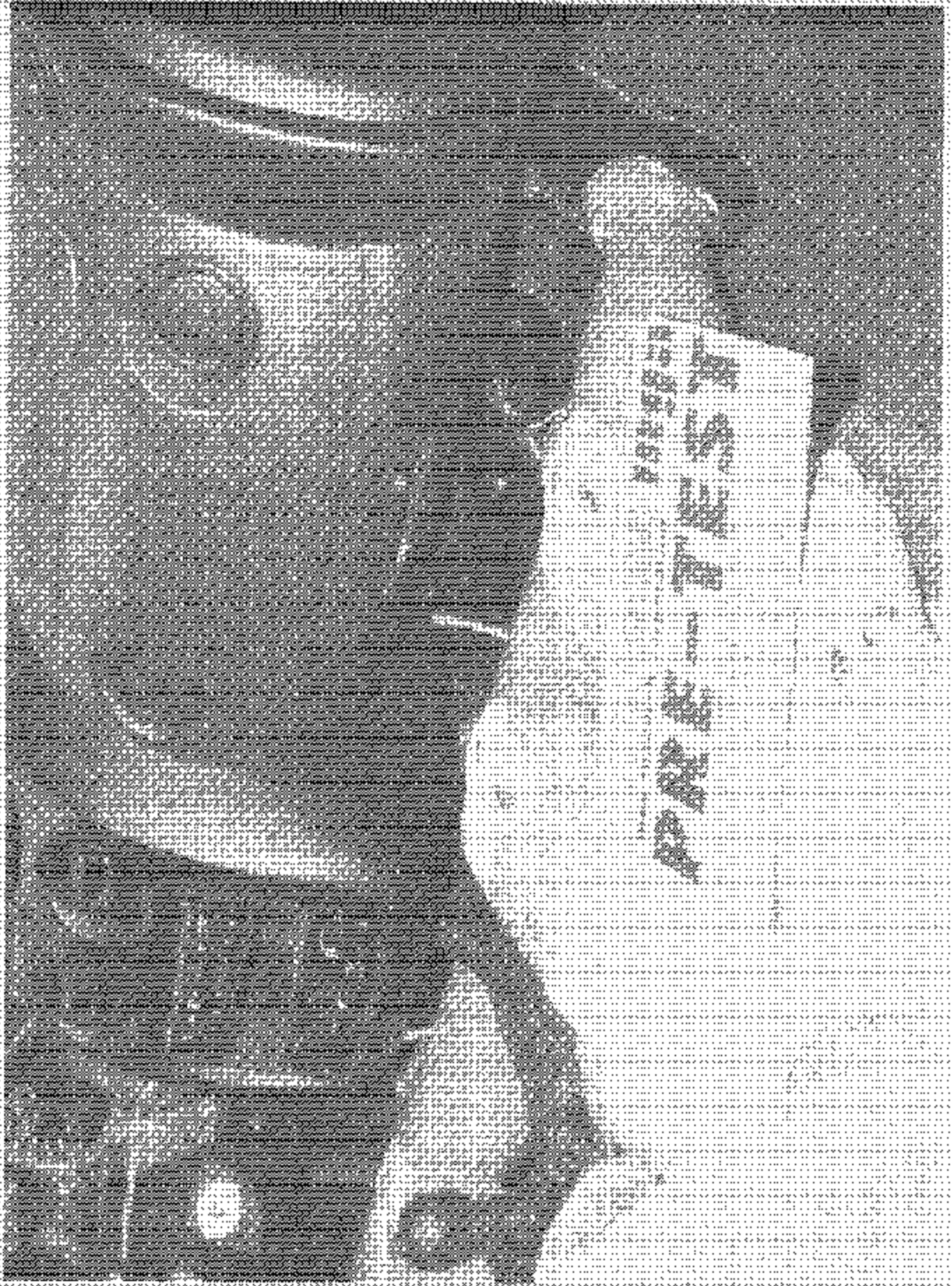


Photo 1 - Test Passengers from Exterior View





Foto: M. Sestini - Contrasto / Contrasto

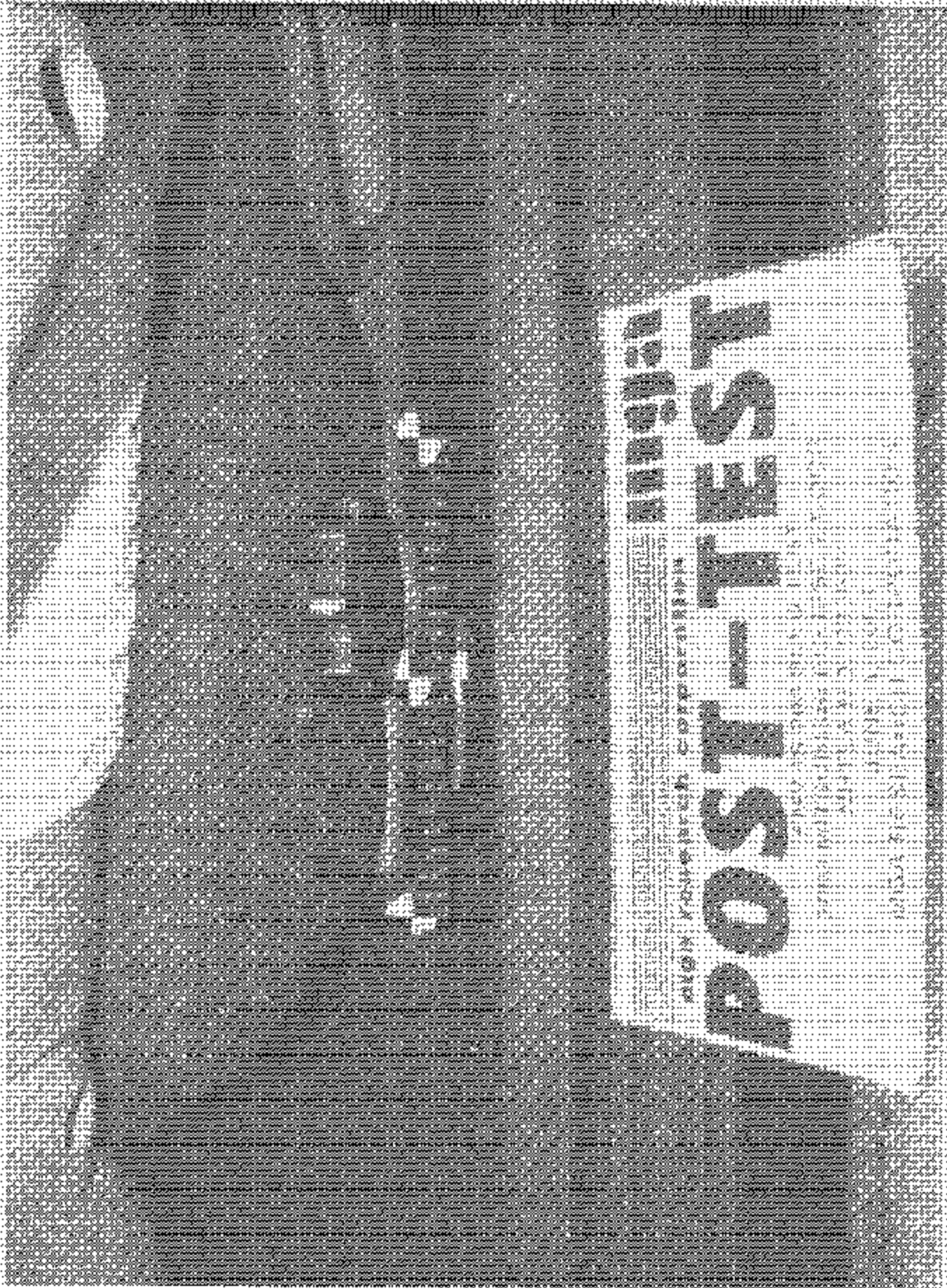


# URGENT PRE-TEST

FOR USE IN THE PRE-TEST SYSTEM

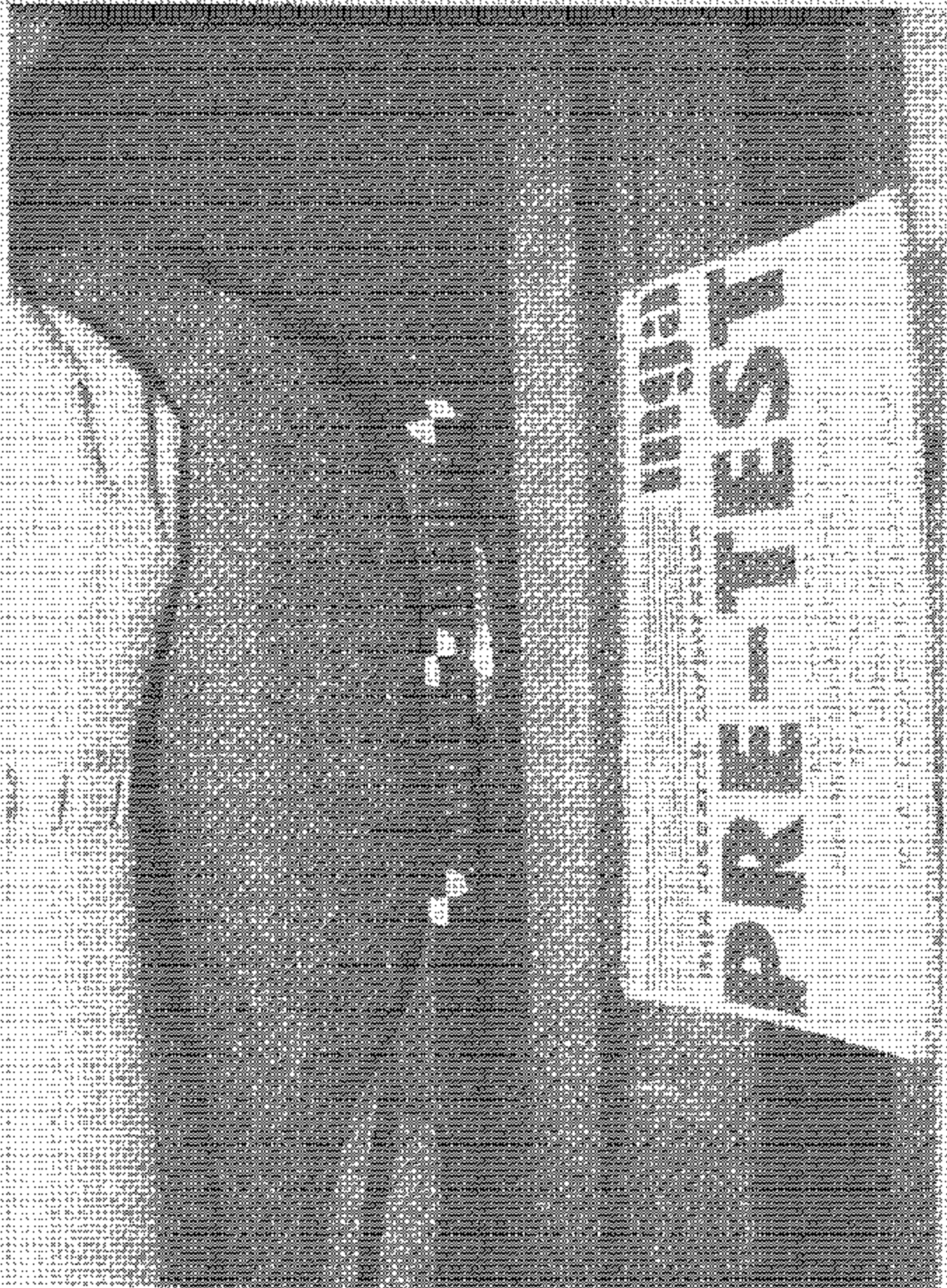
NEW YORK CITY  
PUBLIC HEALTH  
DEPARTMENT

Pre-Test Driver Seat Position View

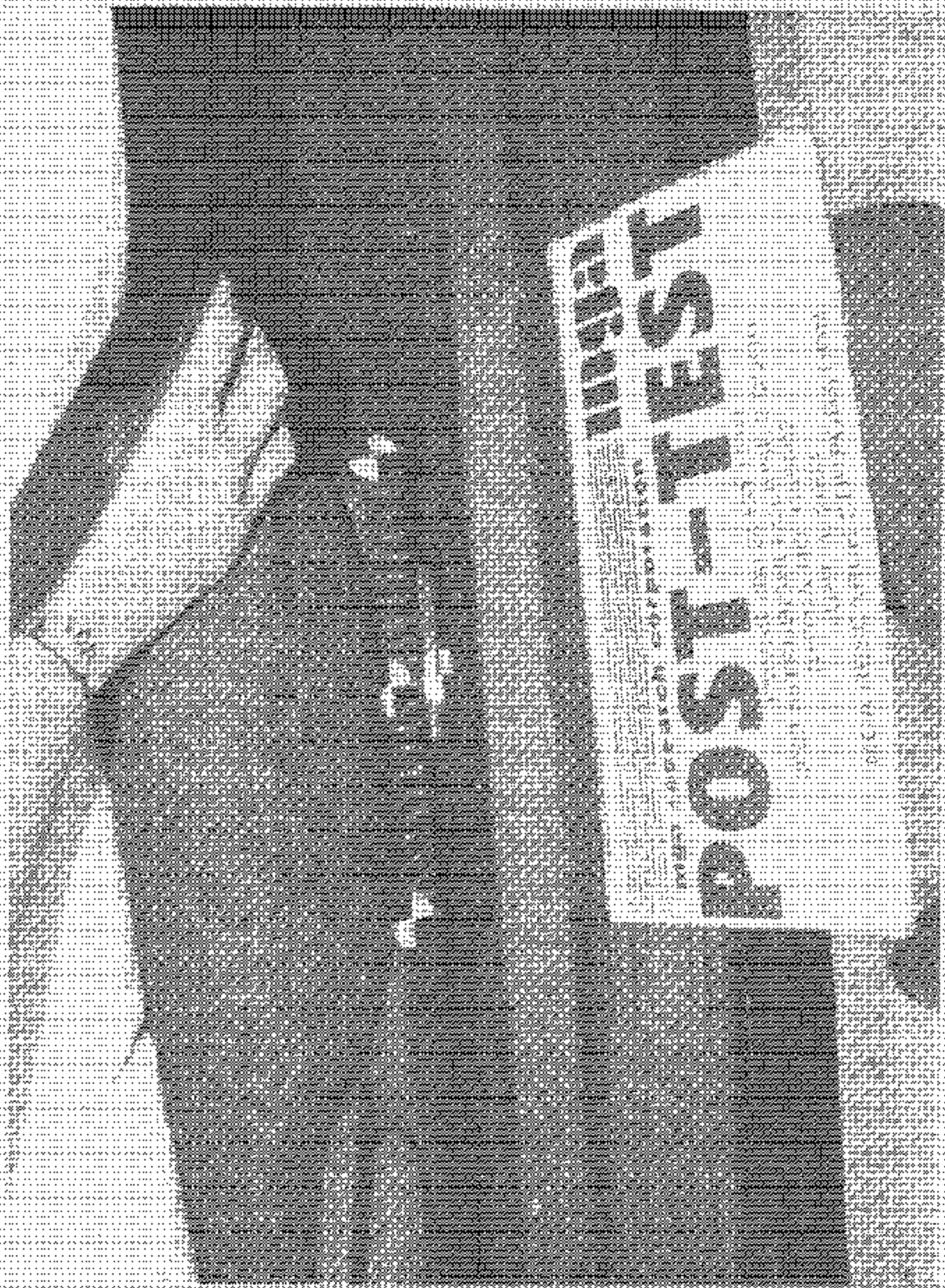


**POST-TENS**

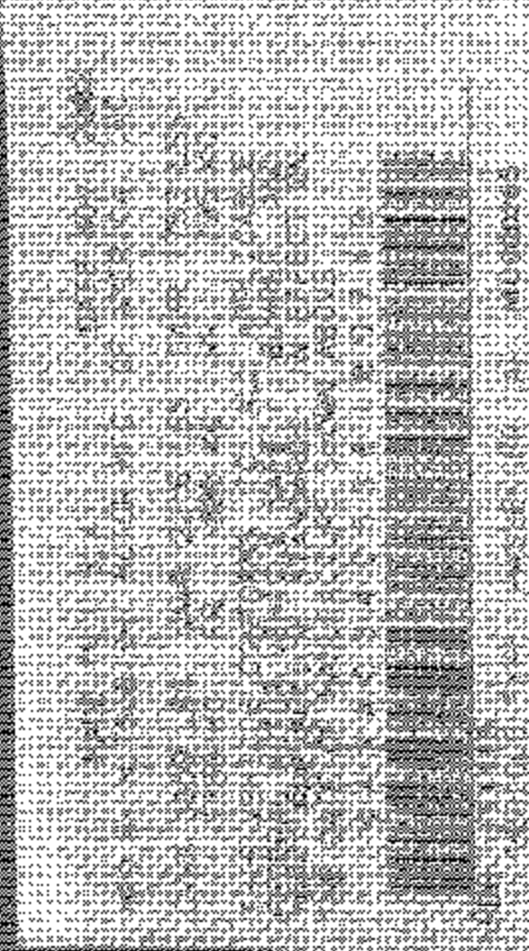
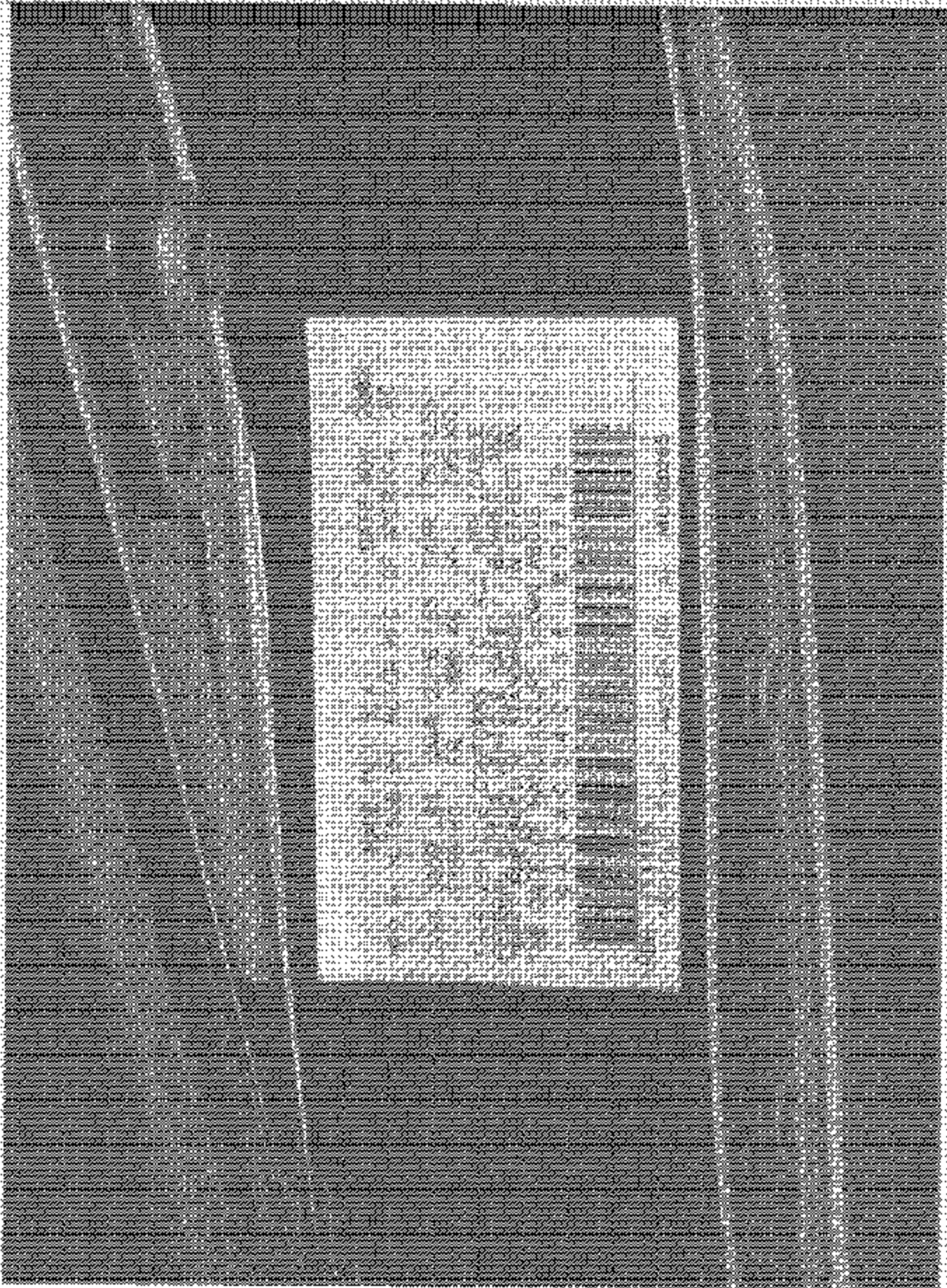
POST-TENS DRIVER SIDE POSITION VIEW



Front Passenger Seat Position View



Black Mesh Polyester Sweater Position View



MetEdebe Conduccion Label



APPENDIX B  
DATA PLOTS



## TABLE OF DATA PLOTS

<u>Description</u>	<u>Page No.</u>
Figure B-1 - Sled X Acceleration vs. Time	B-1
Figure B-2 - Sled X Velocity vs. Time	B-2
Figure B-3 - Sled X Displacement vs. Time	B-3
Figure B-4 - 1 Meter Sled Displacement	B-4
Figure B-5 - Airbag Timing vs. Time	B-5
Figure B-6 - Left Rear Seat Crossmember X Acceleration vs. Time	B-6
Figure B-7 - Right Rear Seat Crossmember X Acceleration vs. Time	B-7
Figure B-8 - Top of Engine X Acceleration vs. Time	B-8
Figure B-9 - Rear Axle X Acceleration vs. Time	B-9
Figure B-10 - Driver Head X Acceleration vs. Time	B-10
Figure B-11 - Driver Head Y Acceleration vs. Time	B-11
Figure B-12 - Driver Head Z Acceleration vs. Time	B-12
Figure B-13 - Driver Head Resultant Acceleration vs. Time	B-13
Figure B-14 - Driver Neck Force X vs. Time	B-14
Figure B-15 - Driver Neck Force Y vs. Time	B-15
Figure B-16 - Driver Neck Force Z vs. Time	B-16
Figure B-17 - Driver Neck Moment X vs. Time	B-17
Figure B-18 - Driver Neck Moment Y vs. Time	B-18
Figure B-19 - Driver Neck Moment Z vs. Time	B-19
Figure B-20 - Driver Occipital Condyle Moment Y vs. Time	B-20
Figure B-21 - Driver Chest X Acceleration vs. Time	B-21
Figure B-22 - Driver Chest Y Acceleration vs. Time	B-22
Figure B-23 - Driver Chest Z Acceleration vs. Time	B-23
Figure B-24 - Driver Chest Resultant Acceleration vs. Time	B-24
Figure B-25 - Driver Chest Compression vs. Time	B-25
Figure B-26 - Driver Left Femur Force vs. Time	B-26
Figure B-27 - Driver Right Femur Force vs. Time	B-27
Figure B-28 - Passenger Head X Acceleration vs. Time	B-28
Figure B-29 - Passenger Head Y Acceleration vs. Time	B-29
Figure B-30 - Passenger Head Z Acceleration vs. Time	B-30

TABLE OF DATA PLOTS (Cont.)

<u>Description</u>	<u>Page No.</u>
Figure B-31 - Passenger Head Resultant Acceleration vs. Time	B-31
Figure B-32 - Passenger Neck Force X vs. Time	B-32
Figure B-33 - Passenger Neck Force Y vs. Time	B-33
Figure B-34 - Passenger Neck Force Z vs. Time	B-34
Figure B-35 - Passenger Neck Moment X vs. Time	B-35
Figure B-36 - Passenger Neck Moment Y vs. Time	B-36
Figure B-37 - Passenger Neck Moment Z vs. Time	B-37
Figure B-38 - Passenger Occipital Condyle Moment Y vs. Time	B-38
Figure B-39 - Passenger Chest X Acceleration vs. Time	B-39
Figure B-40 - Passenger Chest Y Acceleration vs. Time	B-40
Figure B-41 - Passenger Chest Z Acceleration vs. Time	B-41
Figure B-42 - Passenger Chest Resultant Acceleration vs. Time	B-42
Figure B-43 - Passenger Chest Compression vs. Time	B-43
Figure B-44 - Passenger Left Femur Force vs. Time	B-44
Figure B-45 - Passenger Right Femur Force vs. Time	B-45

Test Desc: FMVSS 208 SLED

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

Test Number: H03125

Test Date: 06/04/03

Chn Name: SLED X ACCELERATION

CFC: 60

File Name: H03125AF.A01

Sensor S/N: 764077

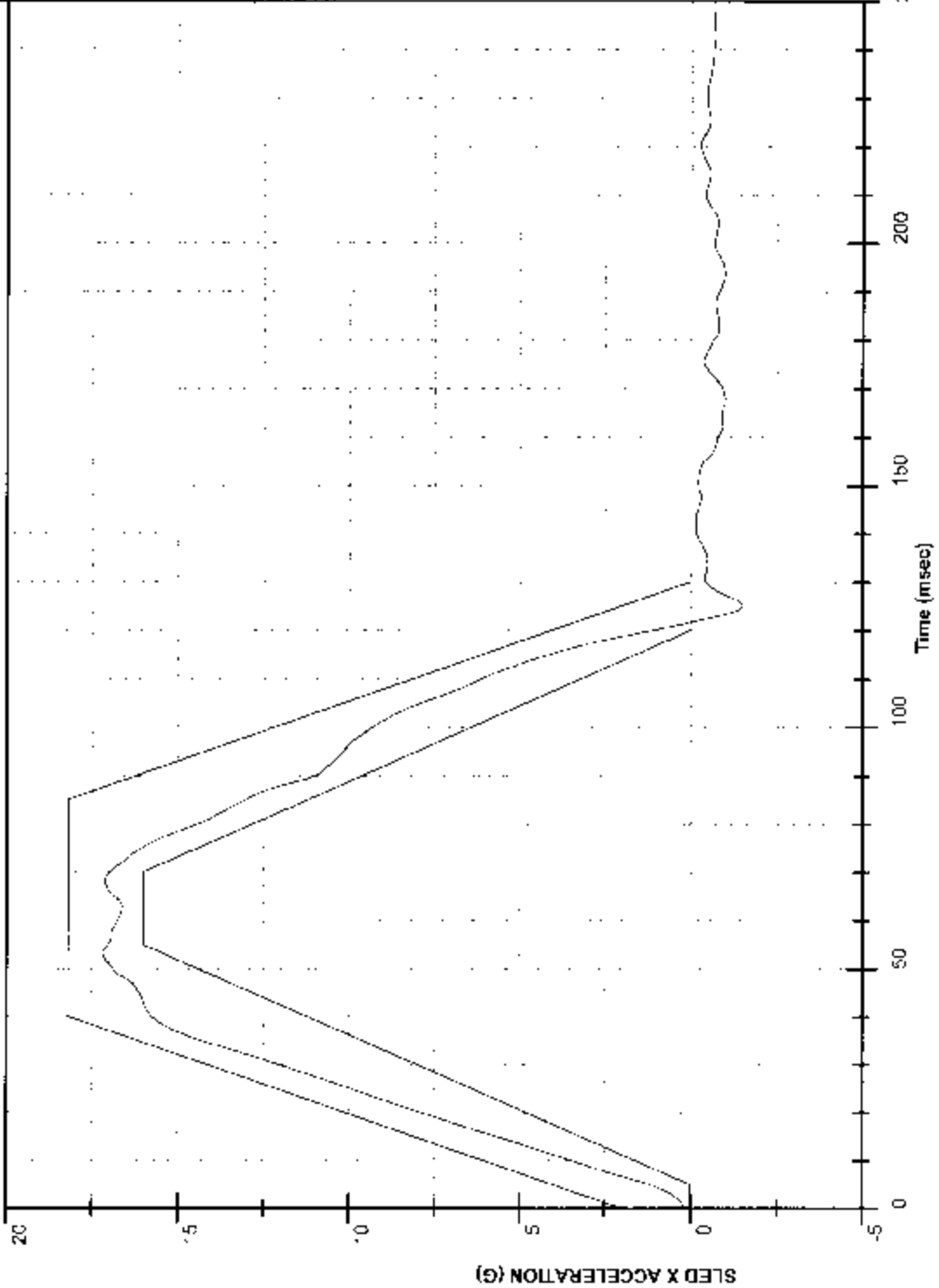
MGA Research Corp  
Accelerator Sled Facility  
5000 Warren Road,  
Burlington, WI 53105  
Ph #: 262-763-2705  
Fax #: 262-763-0934

Maximum: 17.2 G  
Time: 53.3 msec

Minimum: -1.5 G  
Time: 125.2 msec

Value at T0: 0.2 G

Plotted By: C. Gadberry  
On: 06.05.2003 08:45:26



Test Desc: FMVSS 208 SLED

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

Test Number: H03125

Test Date: 06/04/03

Chn Name: SLED X VELOCITY

CFC: 180

File Name: H03125AI.V01

Sensor S/N: 764077

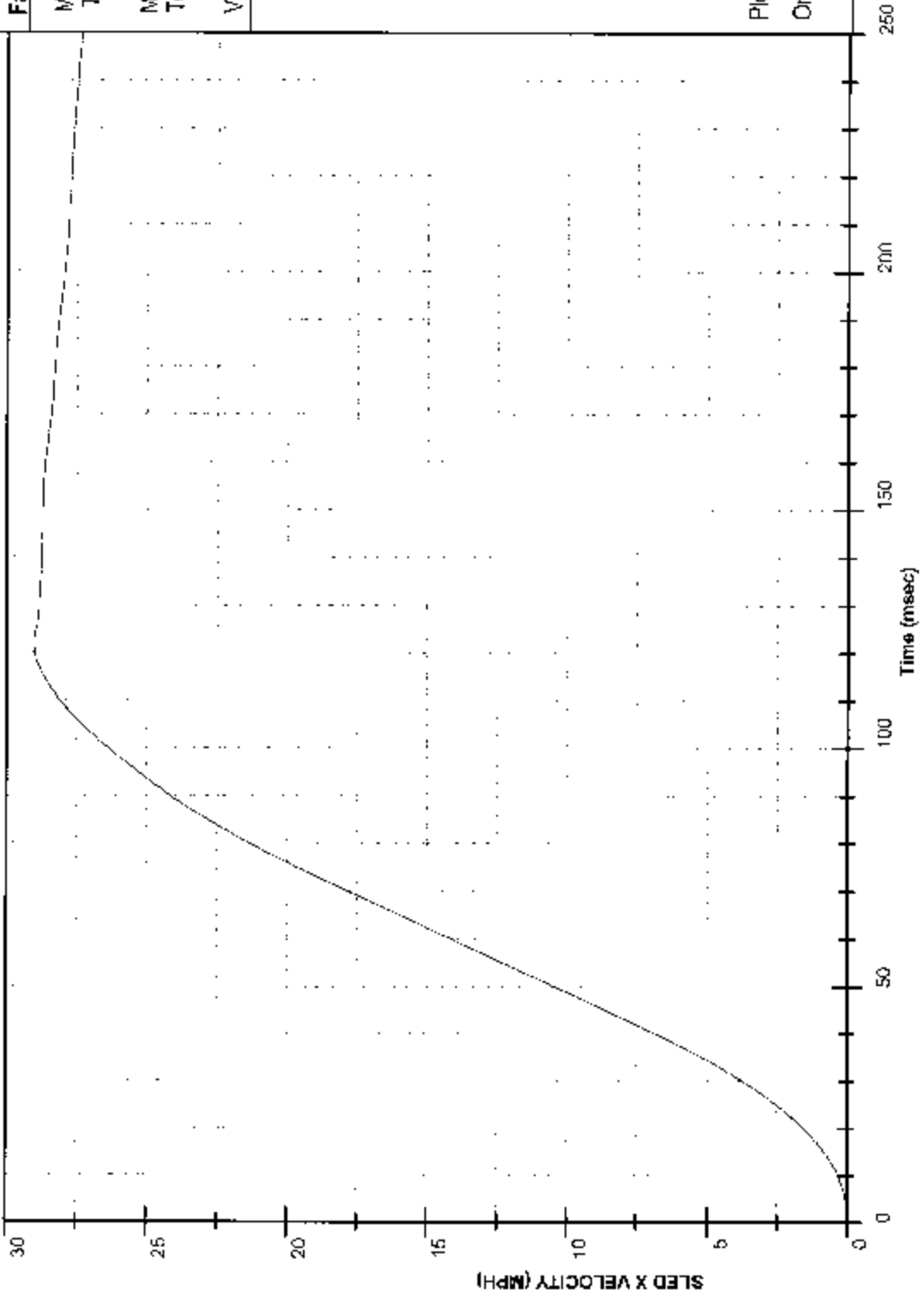
MGA Research Corp  
Accelerator Sled Facility  
5000 Warren Road,  
Burlington, WI 53105  
Ph #: 262-763-2705  
Fax #: 262-763-0934

Maximum: 29.0 MPH  
Time: 122.4 msec

Minimum: 0.0 MPH  
Time: 0.0 msec

Value at T0: 0.0 MPH

Plotted By: C. Gadberry  
On: 06.05.2003 08:45:31



Test Desc: FMVSS 208 SLED

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

Test Number: H03125

Test Date: 06/04/03

Chn Name: SLED X DISPLACEMENT

CFC: 180

File Name: H03125A1.D01

Sensor S/N: 764077

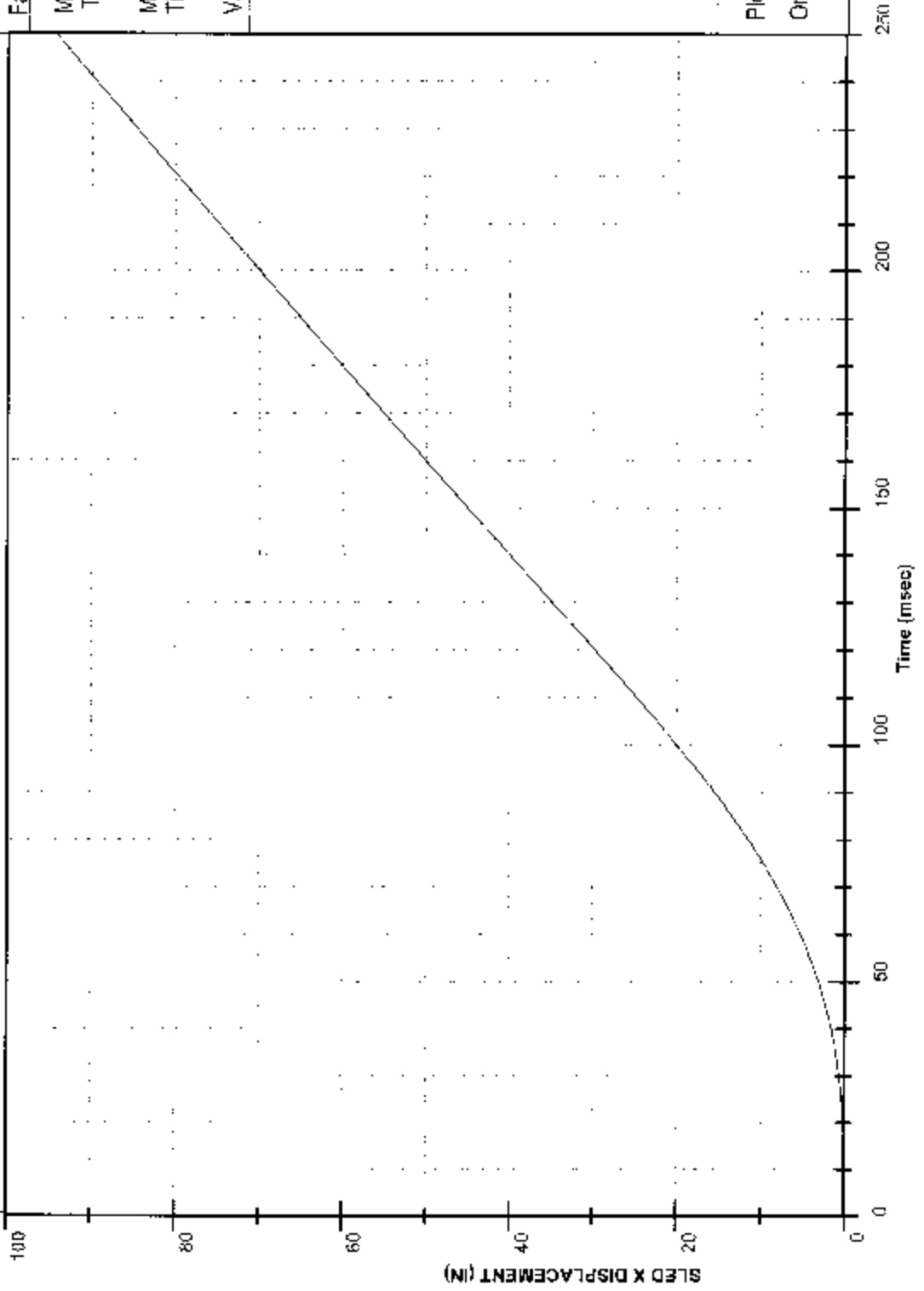
MGA Research Corp  
Accelerator Sled Facility  
5000 Warren Road,  
Burlington, WI 53105  
Ph #: 262-763-2705  
Fax #: 262-763-0934

Maximum: 94.3 IN  
Time: 249.9 msec

Minimum: 0.0 IN  
Time: 0.0 msec

Value at T0: 0.0 IN

Plotted By: C. Gadberry  
On: 06.05.2003 08:45:33



Test Desc: FMVSS 208 SLED

Chr Name: 1 METER

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

CFC: 1000

TestNumber: H03125

File Name: H03125OT.O10

Test Date: 06/04/03

Sensor S/N: N/A

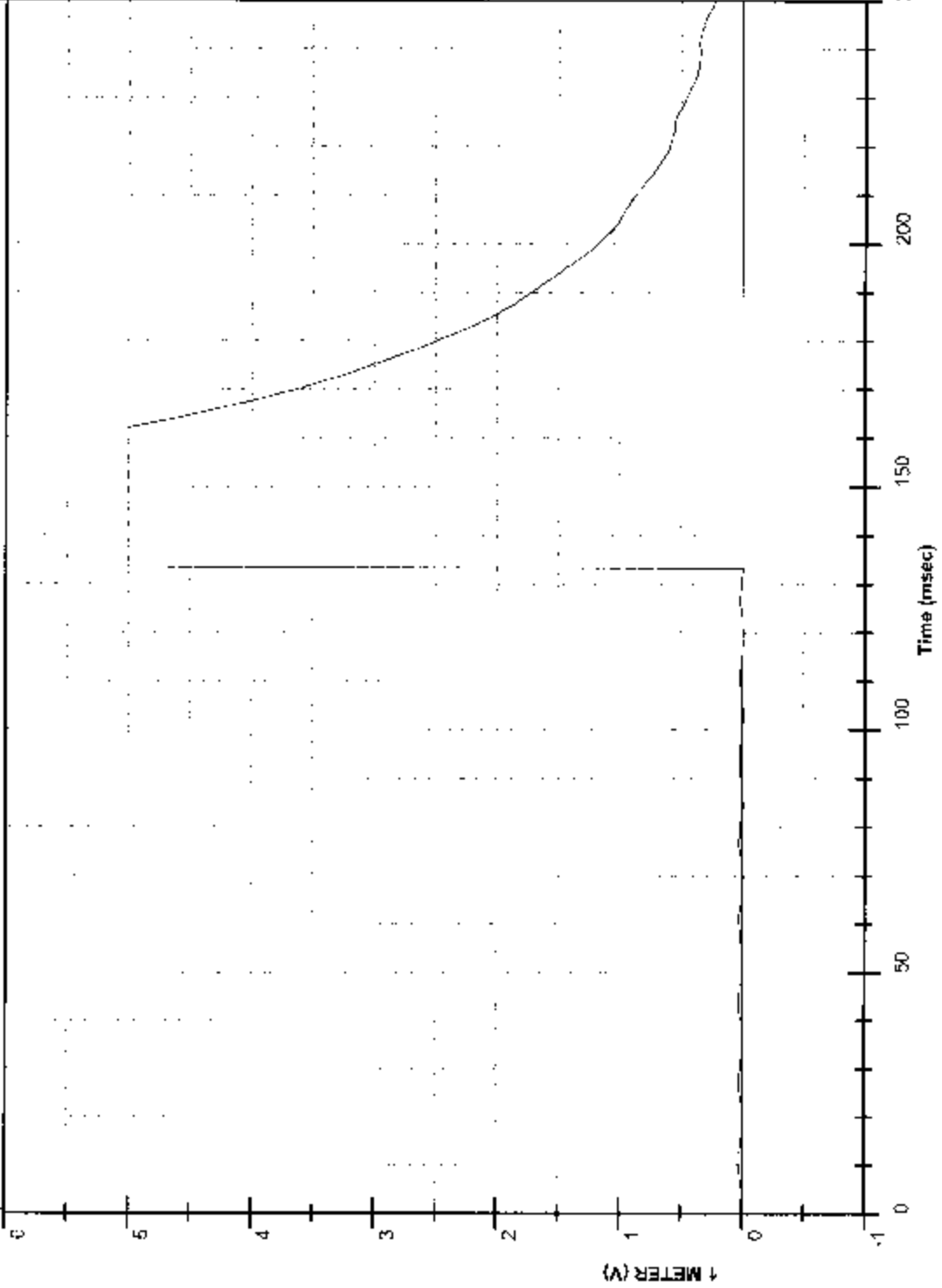
MGA Research Corp  
Accelerator Sled Facility  
5000 Warren Road,  
Burlington, WI 53105  
Ph #: 262-763-2705  
Fax #: 262-763-0934

Maximum: 5.0 V  
Time: 133.5 msec

Minimum: -0.0 V  
Time: 118.5 msec

Value at T0: -0.0 V

Plotted By: C. Gadberry  
On: 06.05.2003 08:45:35



Test Desc: FMVSS 208 SLED

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

TestNumber: H03125

Test Date: 06/04/03

Ctn Name: AIRBAG VOLTAGE

CFC: 1000

File Name: H03125OT.047

Sensor S/N: N/A

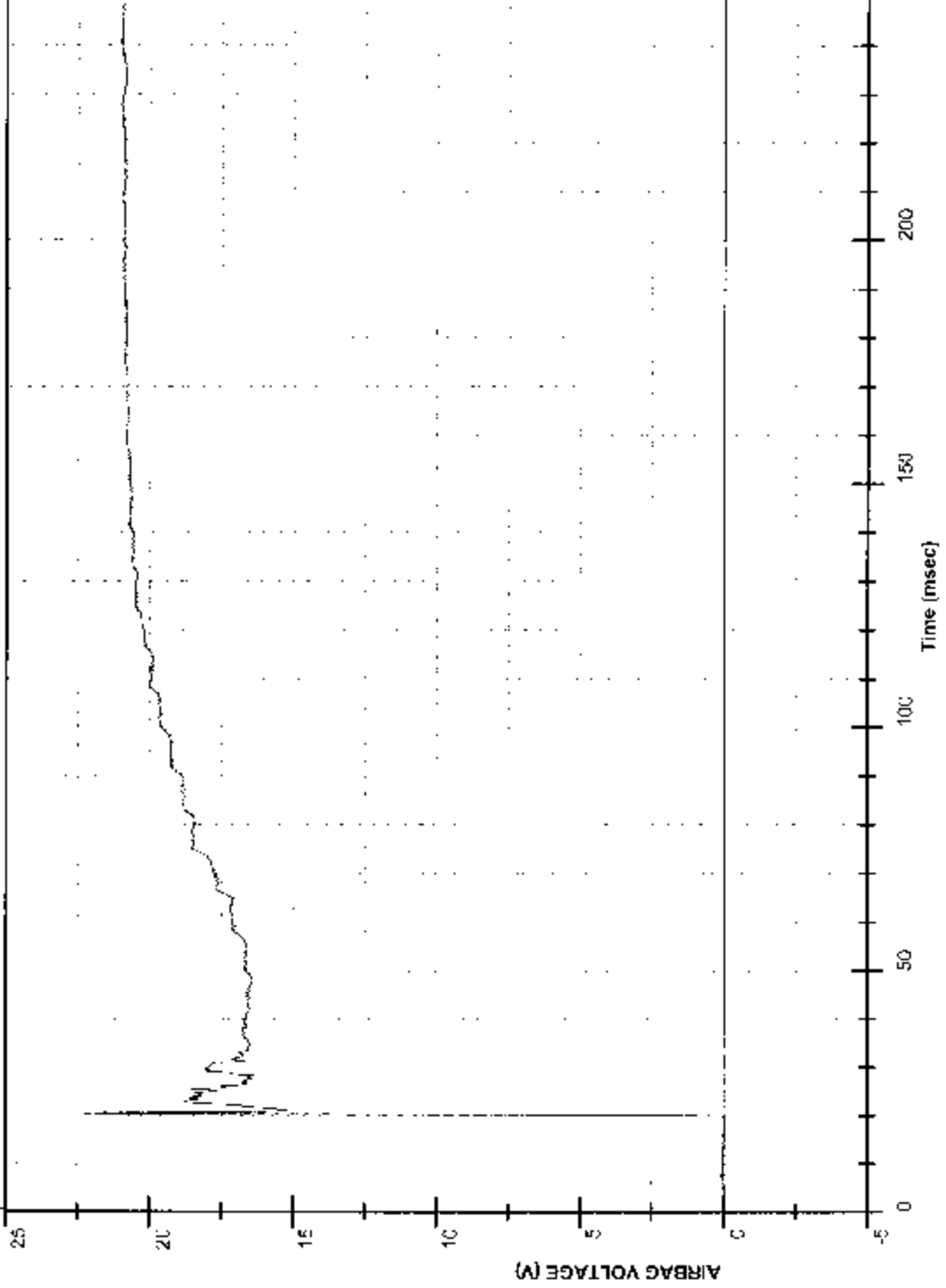
MGA Research Corp  
Accelerator Sled Facility  
5000 Warren Road,  
Burlington, WI 53105  
Ph #: 262-763-2705  
Fax #: 262-763-0934

Maximum: 22.6 V  
Time: 20.5 msec

Minimum: -0.1 V  
Time: 16.0 msec

Value at T0: 0.0 V

Plotted By: C. Gadberry  
On: 06.05.2003 08:47:00

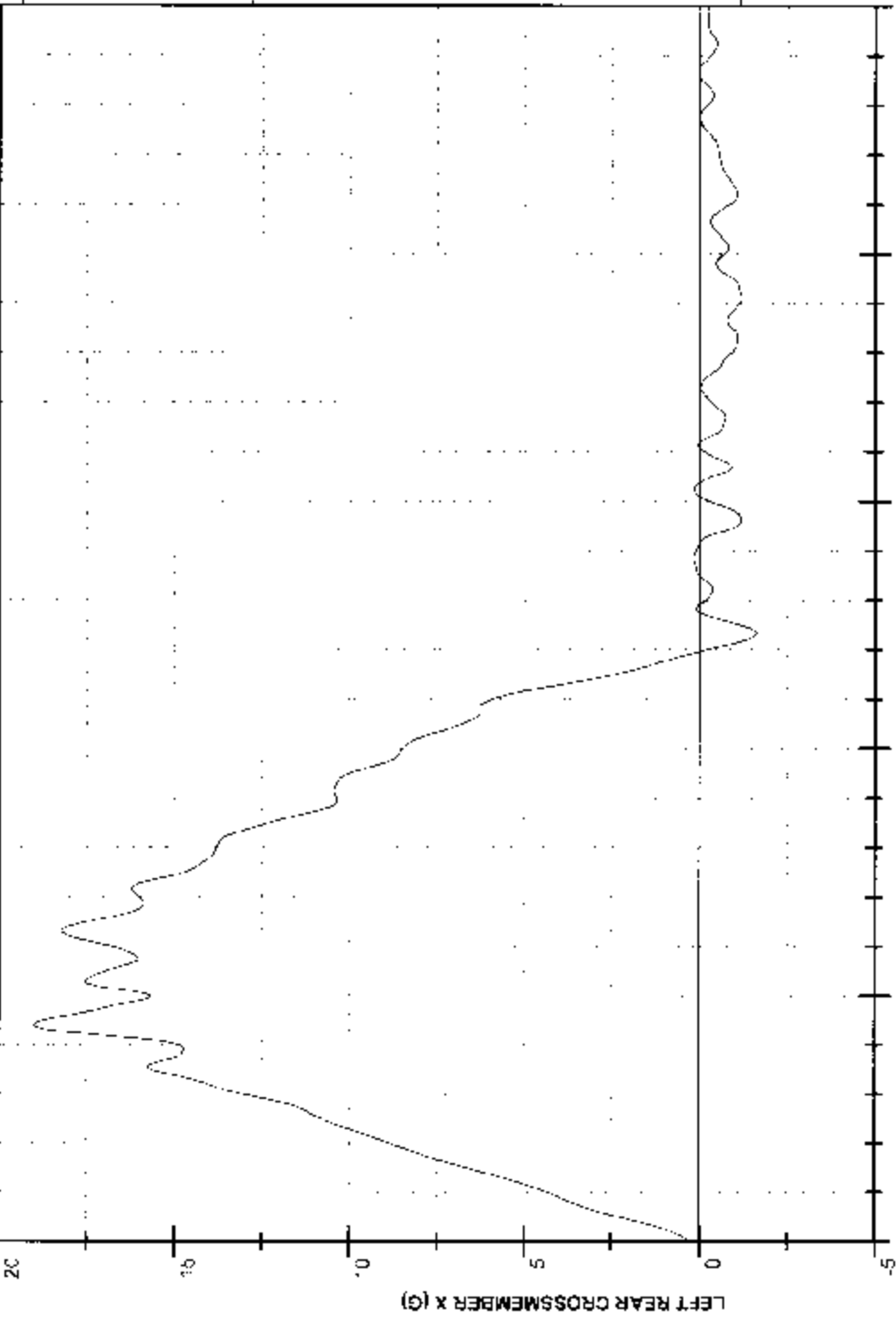


Test Desc: FMVSS 208 SLED  
Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C36602)  
TestNumber: H03125  
Test Date: 06/04/03

Chn Name: LEFT REAR CROSSMEMBER X  
CFC: 60  
File Name: H03125AF.A53  
Sensor S/N: G03-N11

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Burlington, WI 53105  
Ph #: 262-763-2705  
Fax #: 262-763-0934

Maximum: 19.0 G  
Time: 44.0 msec  
Minimum: -1.6 G  
Time: 123.2 msec  
Value at T0: 0.3 G



Plotted By: C. Gadberry  
On: 06.05.2003 08:46:56



Test Desc: **FMVSS 208 SLED** Chn Name: **RIGHT REAR CROSSMEMBER X**

Component: **2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)** CFC: **60**

TestNumber: **H03125** File Name: **H03125AF.A54**

Test Date: **06/04/03** Sensor S/N: **K16-X08**

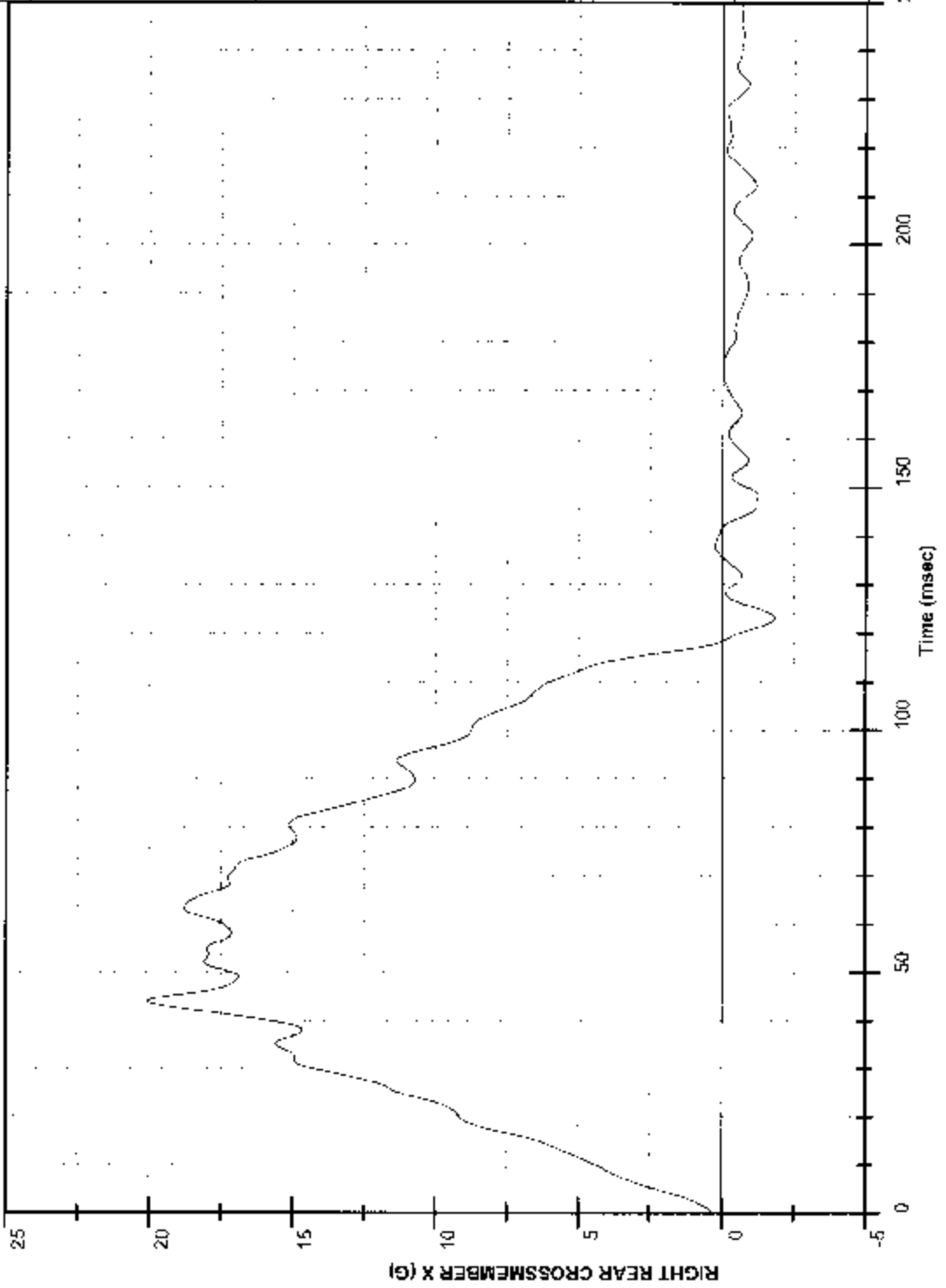
MGA Research Corp  
Accelerator Sled Facility  
5000 Warner Road,  
Burlington, WI 53105  
Ph #: 262-763-2705  
Fax #: 262-763-0934

Maximum: **20.0 G**  
Time: **44.1 msec**

Minimum: **-1.8 G**  
Time: **123.1 msec**

Value at T0: **0.3 G**

Plotted By: **C. Gadberry**  
On: **06.05.2003 08:46:58**



Test Desc: FMVSS 208 SLED

Chn Name: TOP OF ENGINE X

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

CFC: 60

TestNumber: H03125

File Name: H03125AF.A51

Test Date: 06/04/03

Sensor S/N: L23-A02

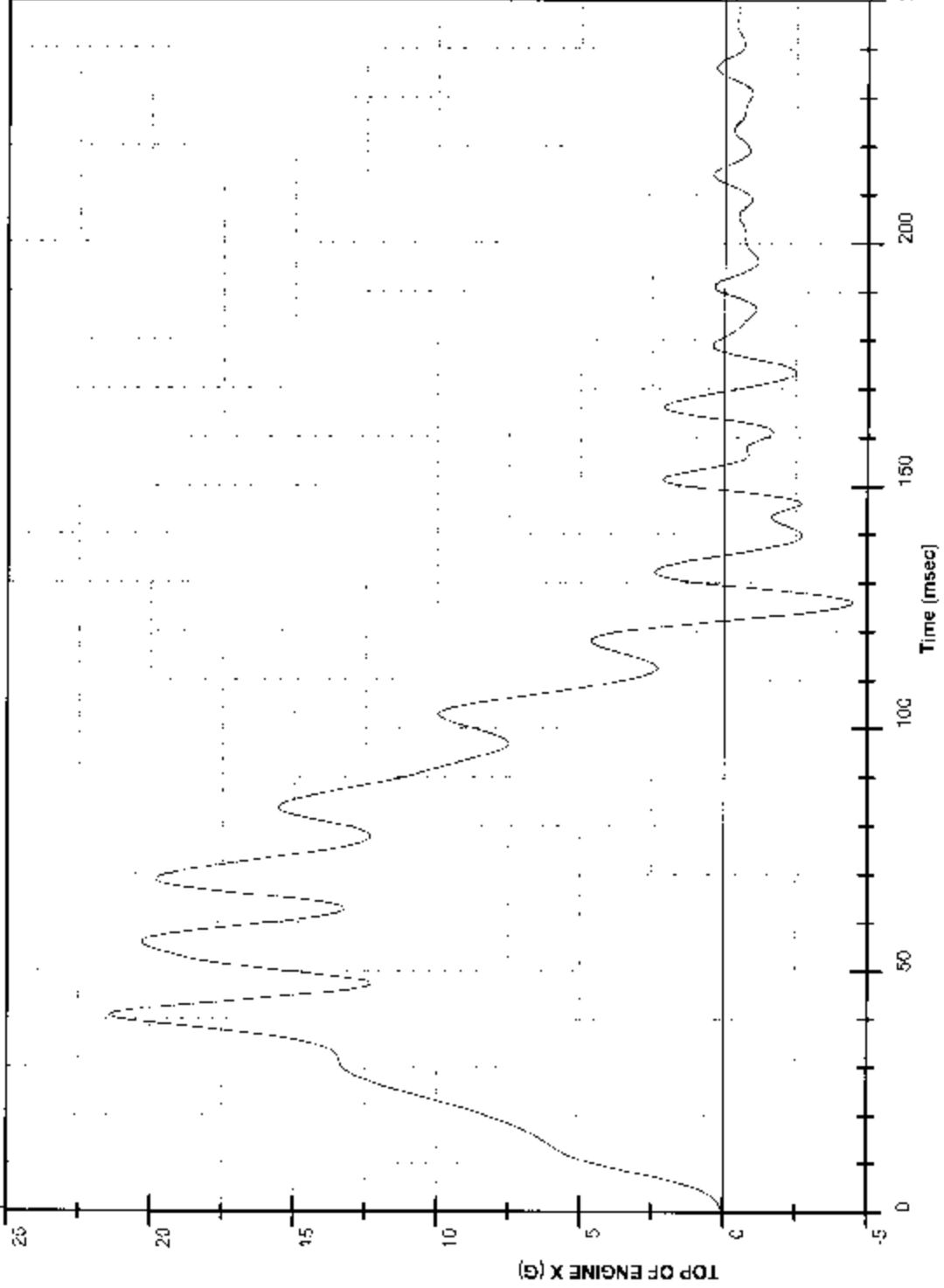
MGA Research Corp  
Accelerator Sled Facility  
5000 Warren Road,  
Burlington, WI 53105  
Ph #: 262-763-2705  
Fax #: 262-763-0934

Maximum: 21.4 G  
Time: 40.8 msec

Minimum: -4.5 G  
Time: 125.9 msec

Value at T0: 0.0 G

Plotted By: C. Gadberry  
On: 06.05.2003 08:46:52



Test Desc: FMVSS 208 SLED

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

TestNumber: H03125

Test Date: 06/04/03

Chn Name: REAR AXLE X

CFC: 60

File Name: H03125AF.A52

Sensor S/N: L23-A09

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Burlington, WI 53105

Ph #: 262-763-2705

Fax #: 262-763-0934

Maximum: 17.8 G

Time: 66.7 msec

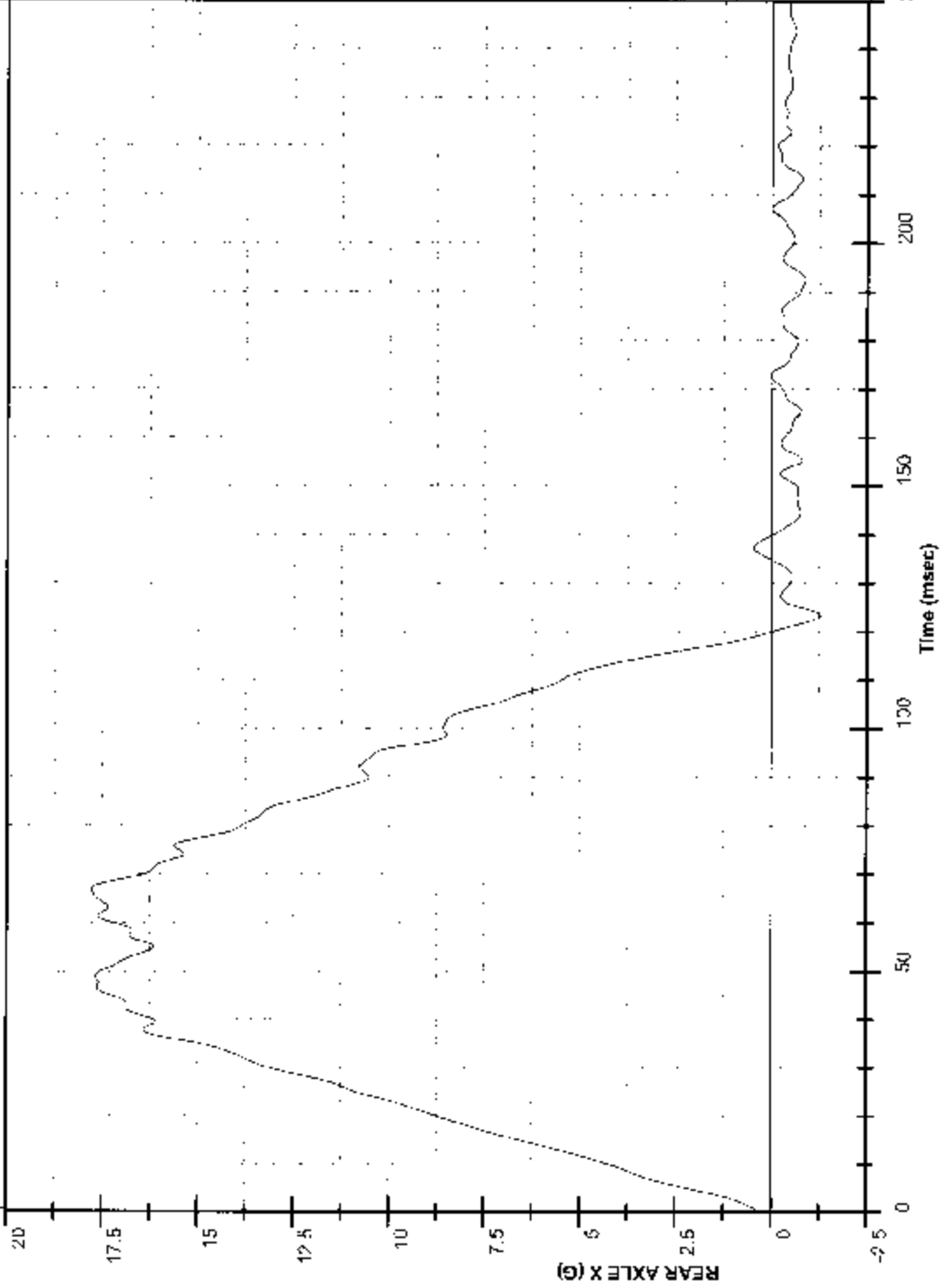
Minimum: -1.3 G

Time: 123.4 msec

Value at T0: 0.3 G

Plotted By: C. Gadberry

On: 06.05.2003 08:46:54



Test Desc: **FMVSS 208 SLED**

Component: **2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)**

Test Number: **H03125**

Test Date: **06/04/03**

Chn Name: **DRIVER HEAD X**

CFC: **1000**

File Name: **H03125AT.A05**

Sensor S/N: **C10686**

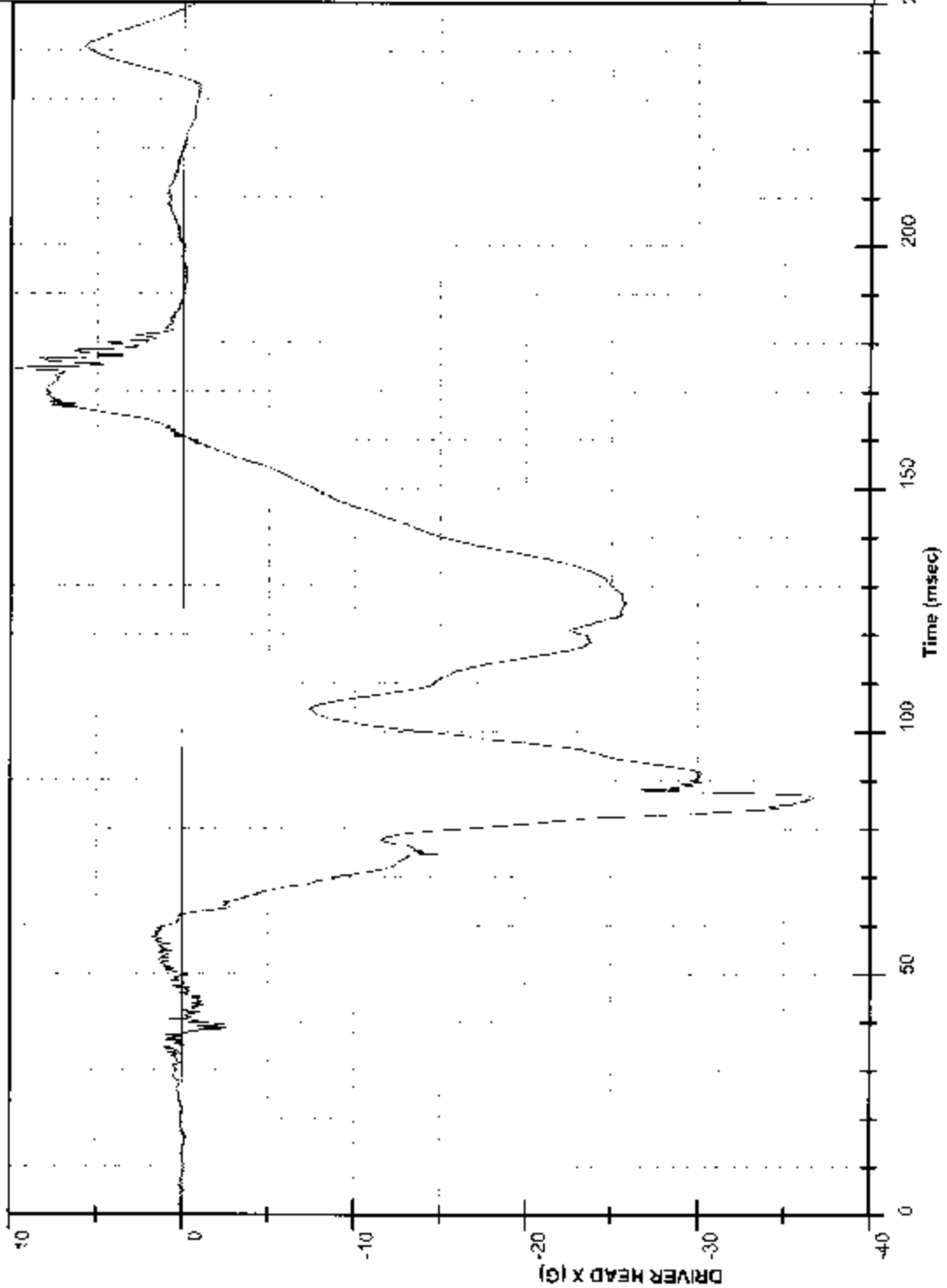
MGA Research Corp  
Accelerator Sled Facility  
5000 Warren Road,  
Burlington, WI 53105  
Ph #: 262-763-2705  
Fax #: 262-763-0934

Maximum: **9.8 G**  
Time: **174.6 msec**

Minimum: **-36.8 G**  
Time: **86.4 msec**

Value at T0: **0.0 G**

Plotted By: **C. Gadberry**  
On: **06.05.2003 08:45:37**



Test Desc: FMVSS 208 SLED

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

Test Number: H03125

Test Date: 06/04/03

Chn Name: DRIVER HEAD Y

CFC: 1000

File Name: H03125AT.A06

Sensor S/N: AGH74

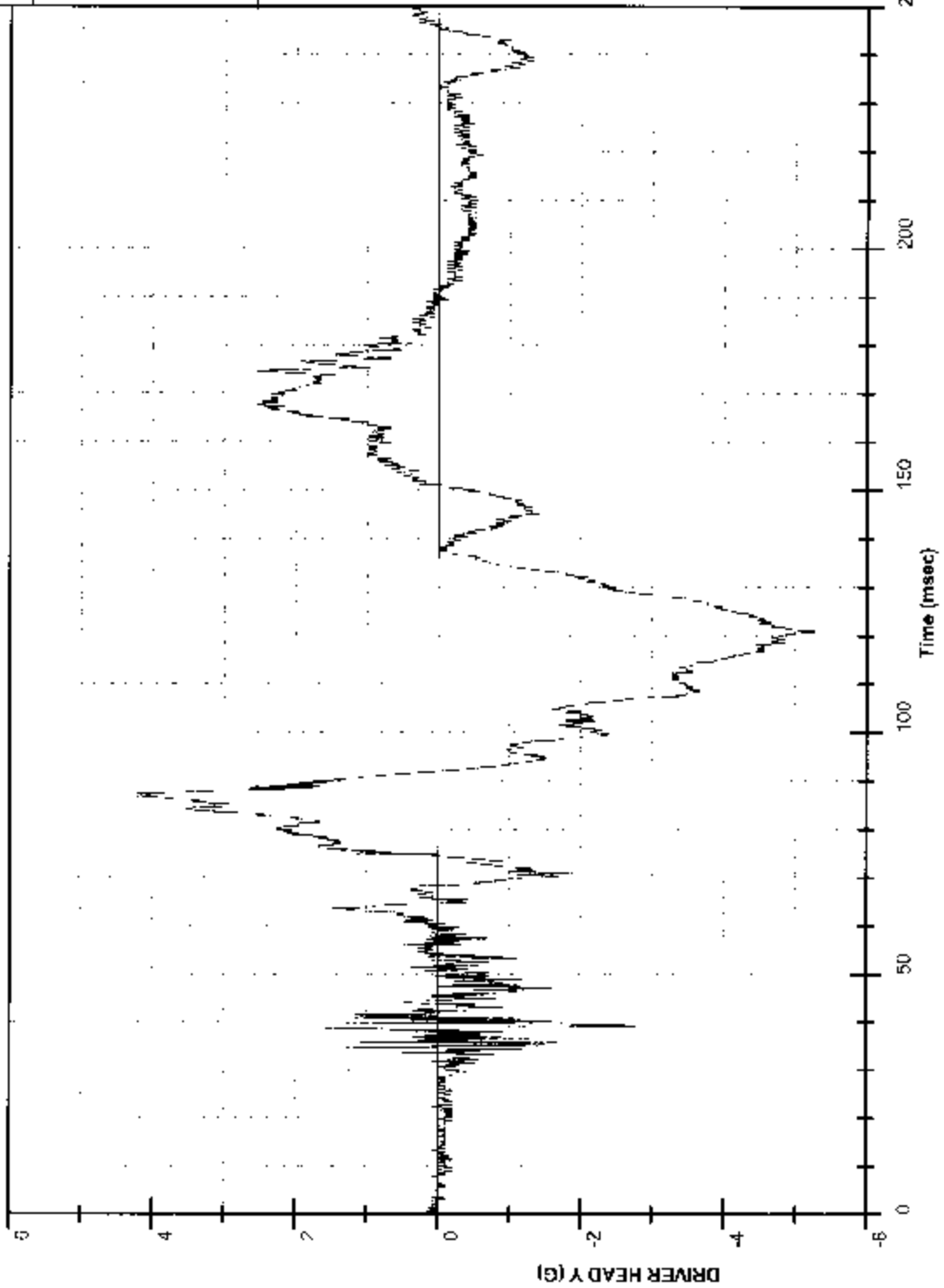
MGA Research Corp  
Accelerator Sled Facility  
5000 Warren Road,  
Burlington, WI 53106  
Ph #: 262-763-2705  
Fax #: 262-763-0934

Maximum: 4.2 G  
Time: 86.7 msec

Minimum: -5.3 G  
Time: 120.8 msec

Value at T0: -0.2 G

Plotted By: C. Gadberry  
On: 06.05.2003 08:45:39



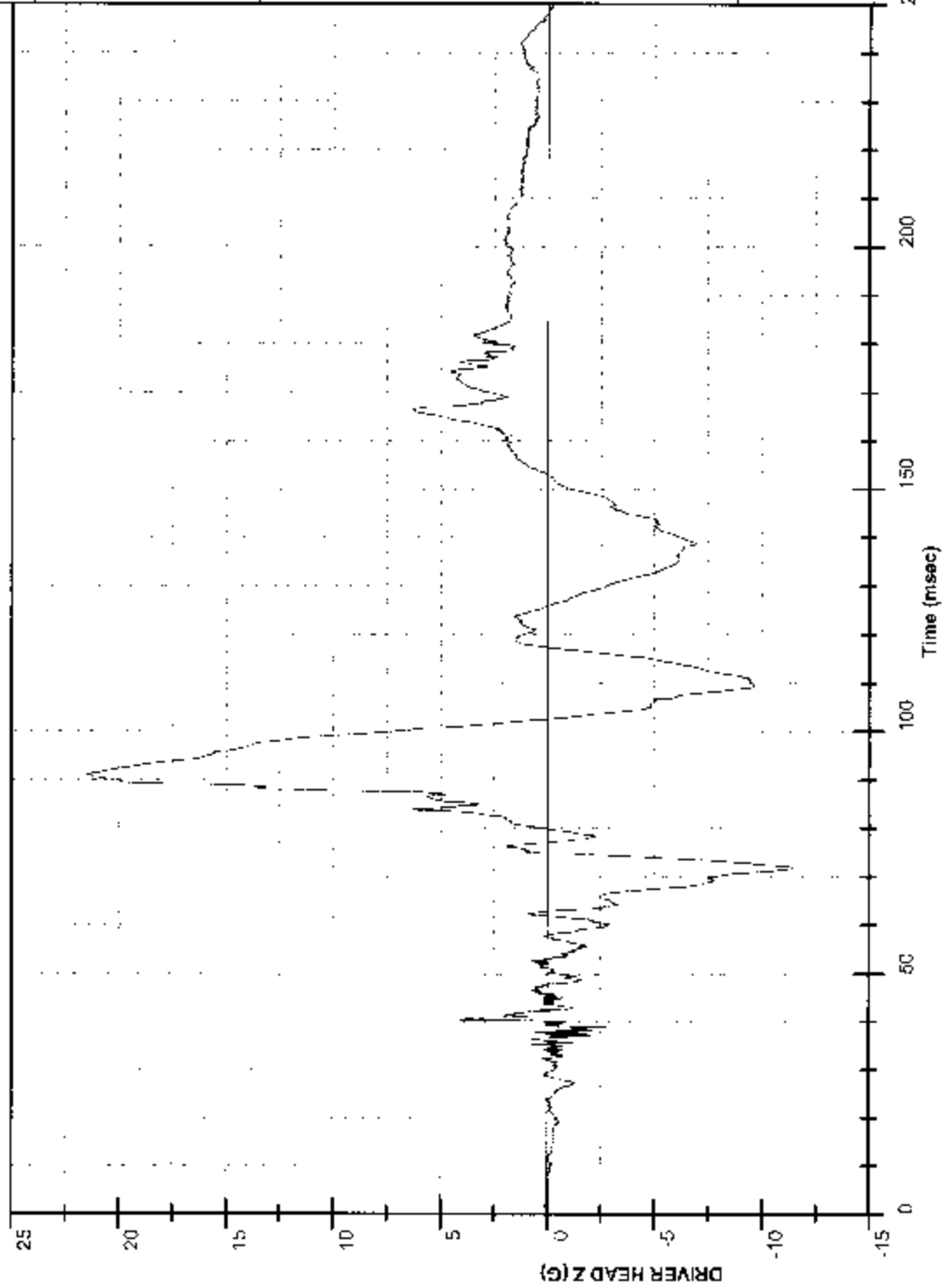
MGA Research Corp  
Accelerator Sled Facility  
5000 Warren Road,  
Burlington, WI 53105  
Ph #: 262-763-2705  
Fax #: 262-763-0934

Chn Name: **DRIVER HEAD Z**  
CFC: 1000  
File Name: **H03125AT.A08**  
Sensor S/N: **C13046**

Test Desc: **FMVSS 208 SLED**  
Component: **2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)**  
Test Number: **H03125**  
Test Date: **06/04/03**

Maximum: **21.5 G**  
Time: **91.0 msec**  
Minimum: **-11.4 G**  
Time: **71.6 msec**  
Value at T0: **-0.1 G**

Plotted By: **C. Gadberry**  
On **06.05.2003 08:45:41**



Test Desc: FMVSS 208 SLED

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

Test Number: H03125

Test Date: 06/04/03

Chn Name: DRIVER HEAD RESULTANT ACCELERATION

CFC: 1000

File Name: H03125AV.A05

Sensor S/N: C13046

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Ph #: 262-763-2705

Fax #: 262-763-0934

Maximum: 37.4 G

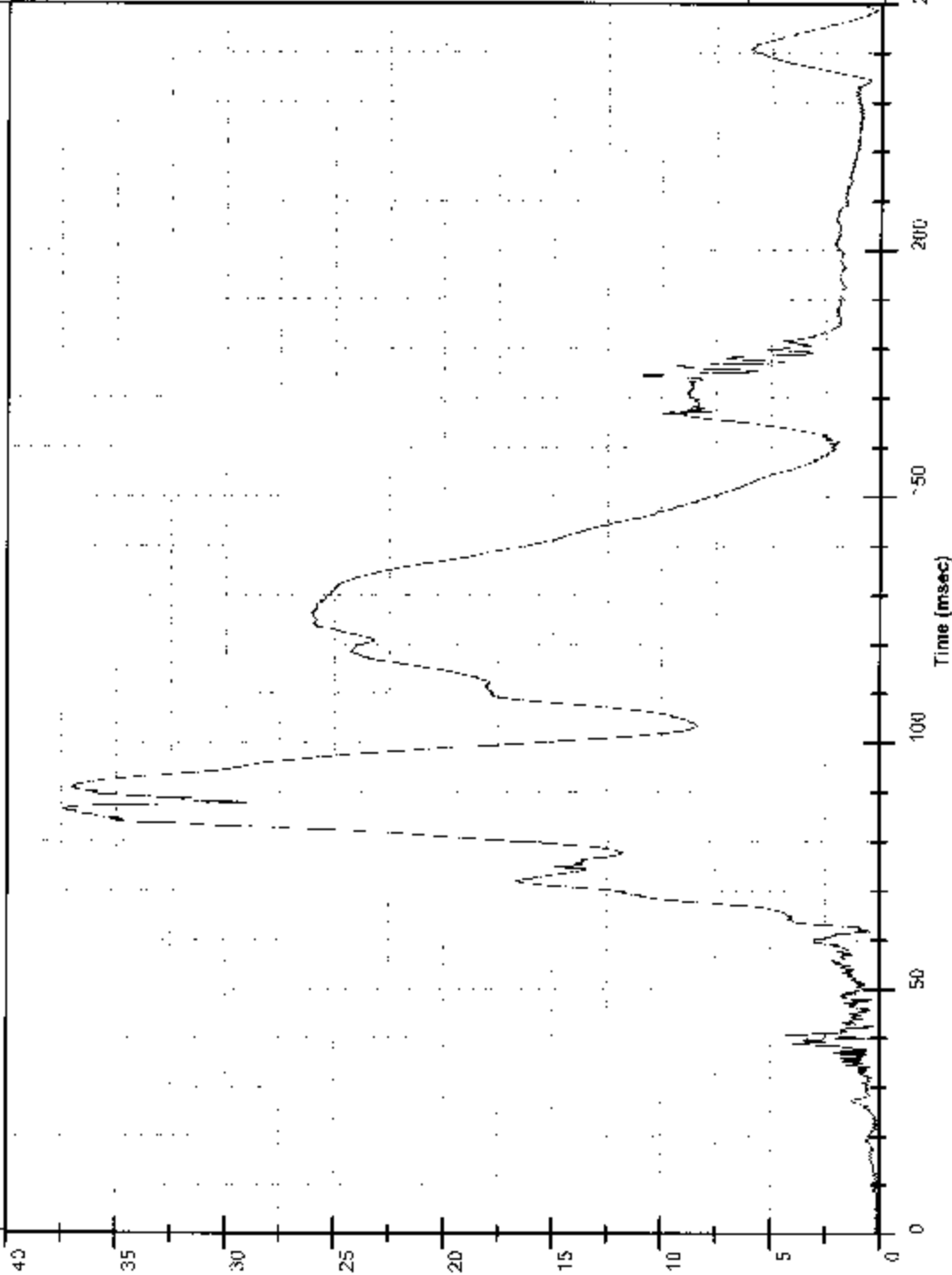
Time: 86.5 msec

Minimum: 0.0 G

Time: 0.6 msec

Value at T0: 0.2 G

DRIVER HEAD RESULTANT ACCELERATION (G)



Plotted By: C. Gadberry

On: 06.05.2003 08:45:44

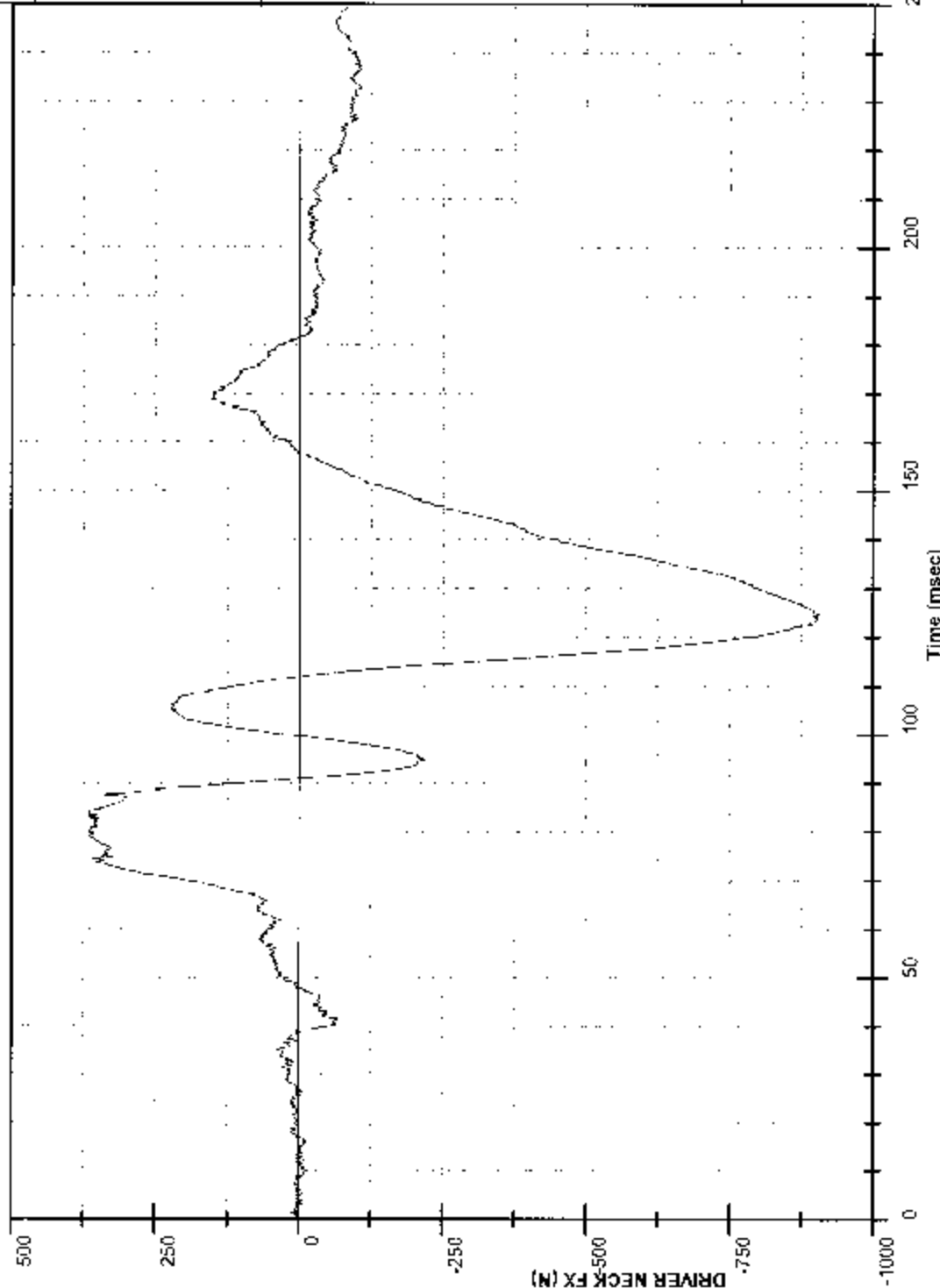
Test Desc: **FMVSS 208 SLED**  
Component: **2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)**  
TestNumber: **H03125**  
Test Date: **06/04/03**

Chn Name: **DRIVER NECK FX**  
CFC: **1000**  
File Name: **H03125FT.F12**  
Sensor S/N: **N506FX**

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5000 Warren Road,  
Burlington, WI 53105  
Ph #: 262-763-2705  
Fax #: 262-763-0934

Maximum: **366.8 N**  
Time: **82.9 msec**  
Minimum: **-906.0 N**  
Time: **124.6 msec**  
Value at T0: **-2.4 N**

Plotted By: **C. Gadberry**  
On: **06.05.2003 08:45:46**





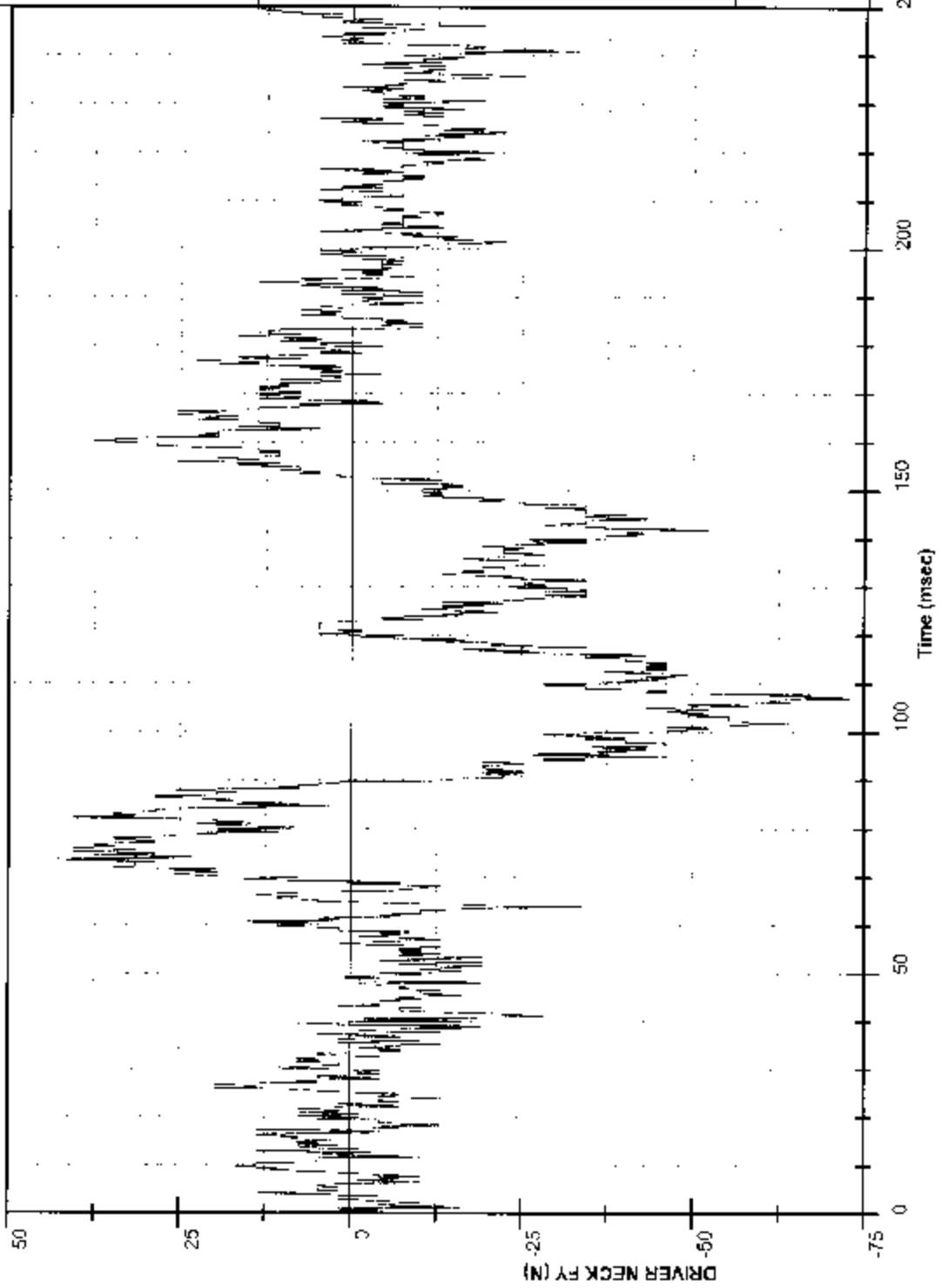
Test Desc: **FMVSS 208 SLED**  
Component: **2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)**  
Test Number: **H03125**  
Test Date: **06/04/03**

C'n Name: **DRIVER NECK FY**  
CFC: **1000**  
File Name: **H03125FT.F13**  
Sensor S/N: **N606FY**

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5000 Warren Road,  
Burlington, WI 53105  
Ph #: 262-763-2705  
Fax #: 262-763-0934

Maximum: **43.5 N**  
Time: **73.6 msec**  
Minimum: **-73.1 N**  
Time: **107.0 msec**  
Value at T0: **13.6 N**

Plotted By: **C. Gadberry**  
On: **06.05.2003 08:45:46**

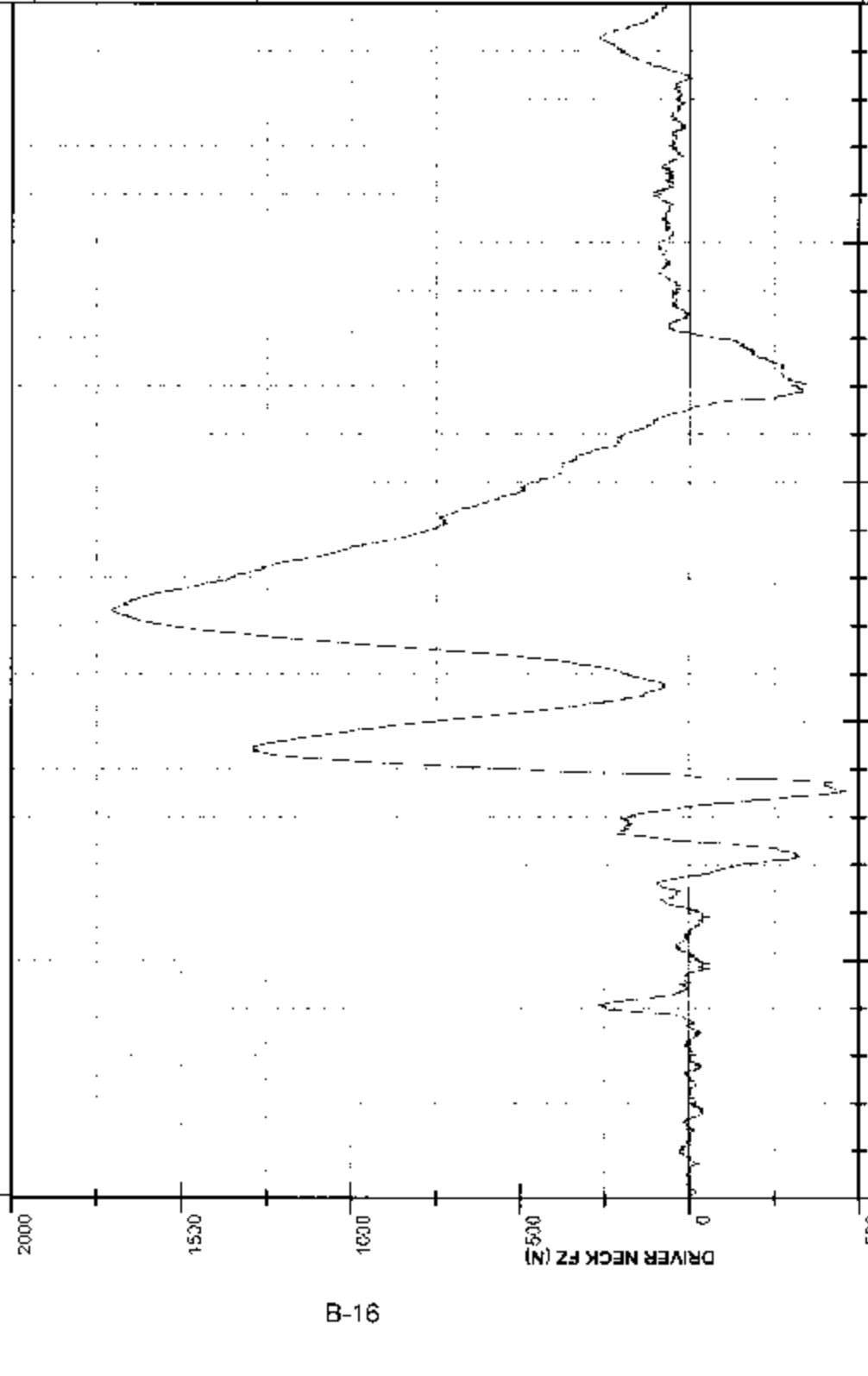


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 Burlington, WI 53105  
 Ph #: 262-763-2705  
 Fax #: 262-763-0934

**Test Desc: FMVSS 208 SLED**  
**Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35802)**  
**Test Number: H03125**  
**Test Date: 06/04/03**

**Chn Name: DRIVER NECK FZ**  
**CFC: 1000**  
**File Name: H03125FT.F14**  
**Sensor S/N: N606FZ**

**Maximum: 1,704.4 N**  
**Time: 123.1 msec**  
**Minimum: -465.3 N**  
**Time: 85.3 msec**  
**Value at TD: 5.9 N**



**Plotted By: C. Gadberry**  
**On: 06.05.2003 08:45:50**

Test Desc: **FMVSS 208 SLED**

Component: **2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)**

Test Number: **H03125**

Test Date: **06/04/03**

Chn Name: **DRIVER NECK MX**

CFC: **600**

File Name: **H03125MF.M15**

Sensor S/N: **N606MX**

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Ph #: 262-763-2705

Fax #: 262-763-0934

Maximum: **4.9 Nm**

Time: **144.1 msec**

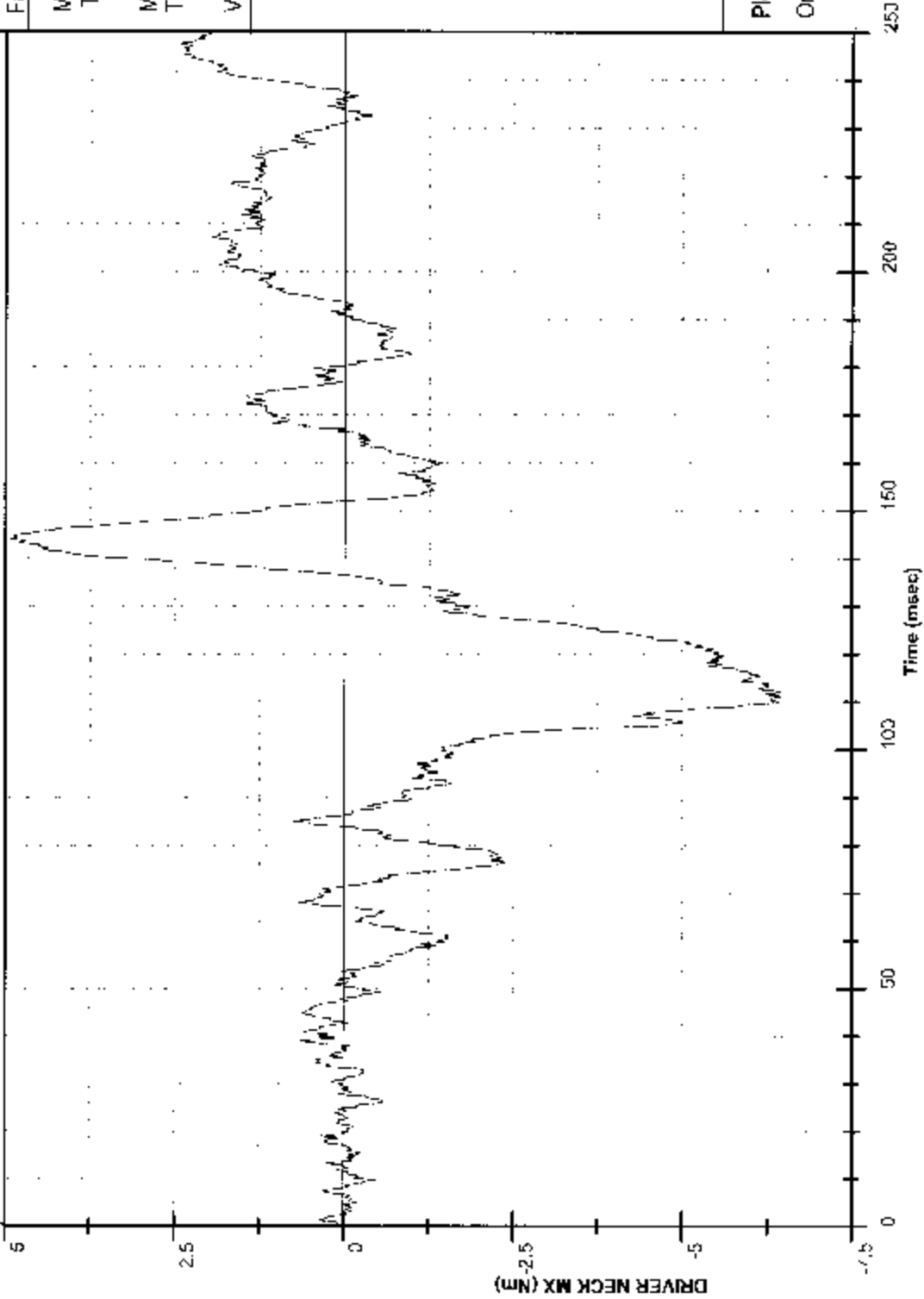
Minimum: **-6.5 Nm**

Time: **111.2 msec**

Value at T0: **-0.2 Nm**

Plotted By: **C. Gadberry**

On: **06.05.2003 08:45:52**



Test Desc: FMVSS 208 SLED

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

Test Number: H03125

Test Date: 06/04/03

Chn Name: DRIVER NECK MY

CFC: 600

File Name: H03125MF.M17

Sensor S/N: N600MY

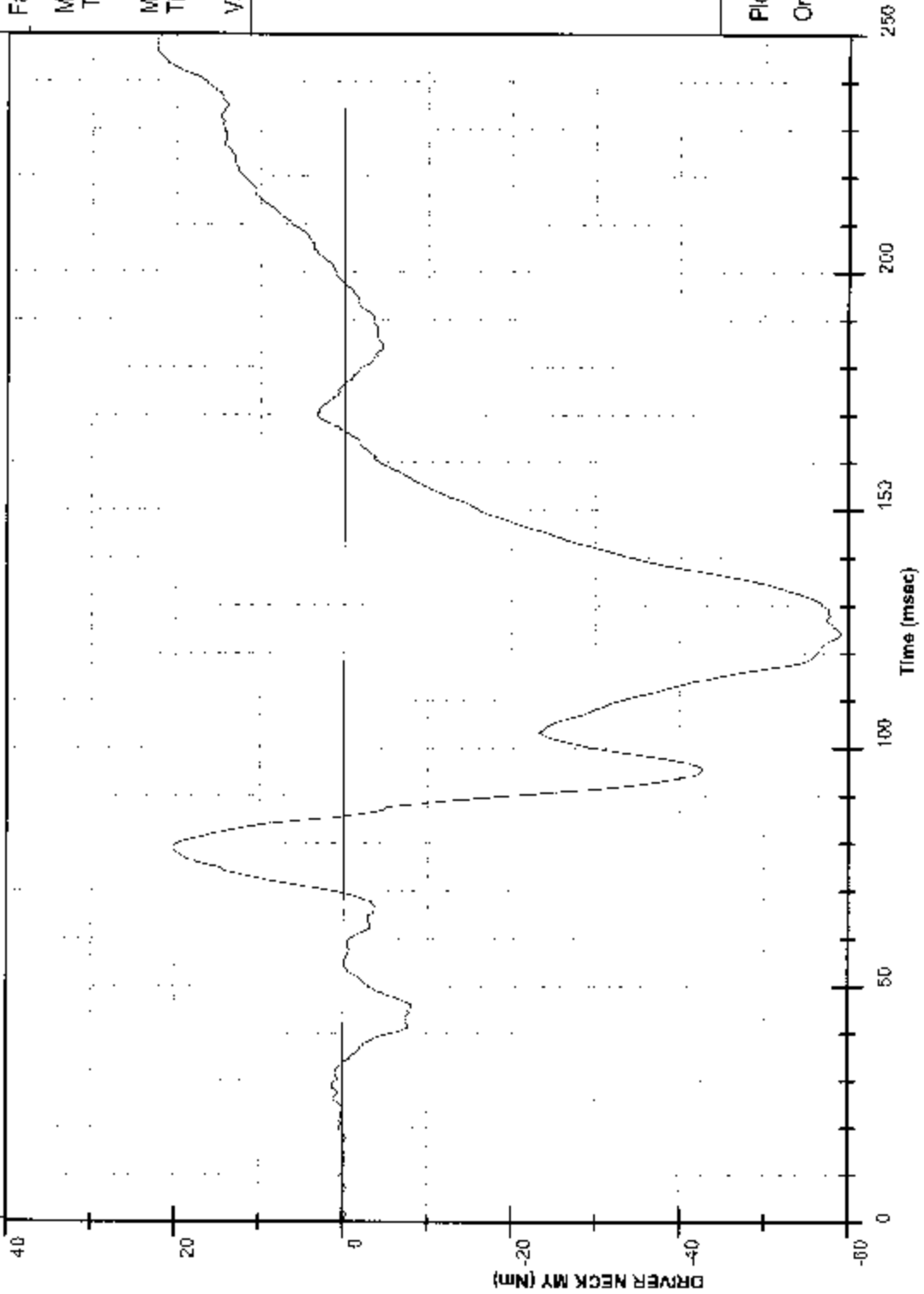
MGA Research Corp  
Accelerator Sled Facility  
5000 Warren Road,  
Burlington, WI 53105  
Ph #: 262-763-2705  
Fax #: 262-763-0934

Maximum: 22.4 Nm  
Time: 248.3 msec

Minimum: -59.2 Nm  
Time: 124.3 msec

Value at T0: -0.1 Nm

Plotted By: C. Gadberry  
On: 06.05.2003 08:45:54



Test Desc: FMVSS 208 SLED

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

Test Number: H03125

Test Date: 06/04/03

Chn Name: DRIVER NECK MZ

CFC: 600

File Name: H03125MF.M18

Sensor S/N: N606MZ

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Ph #: 262-763-2705

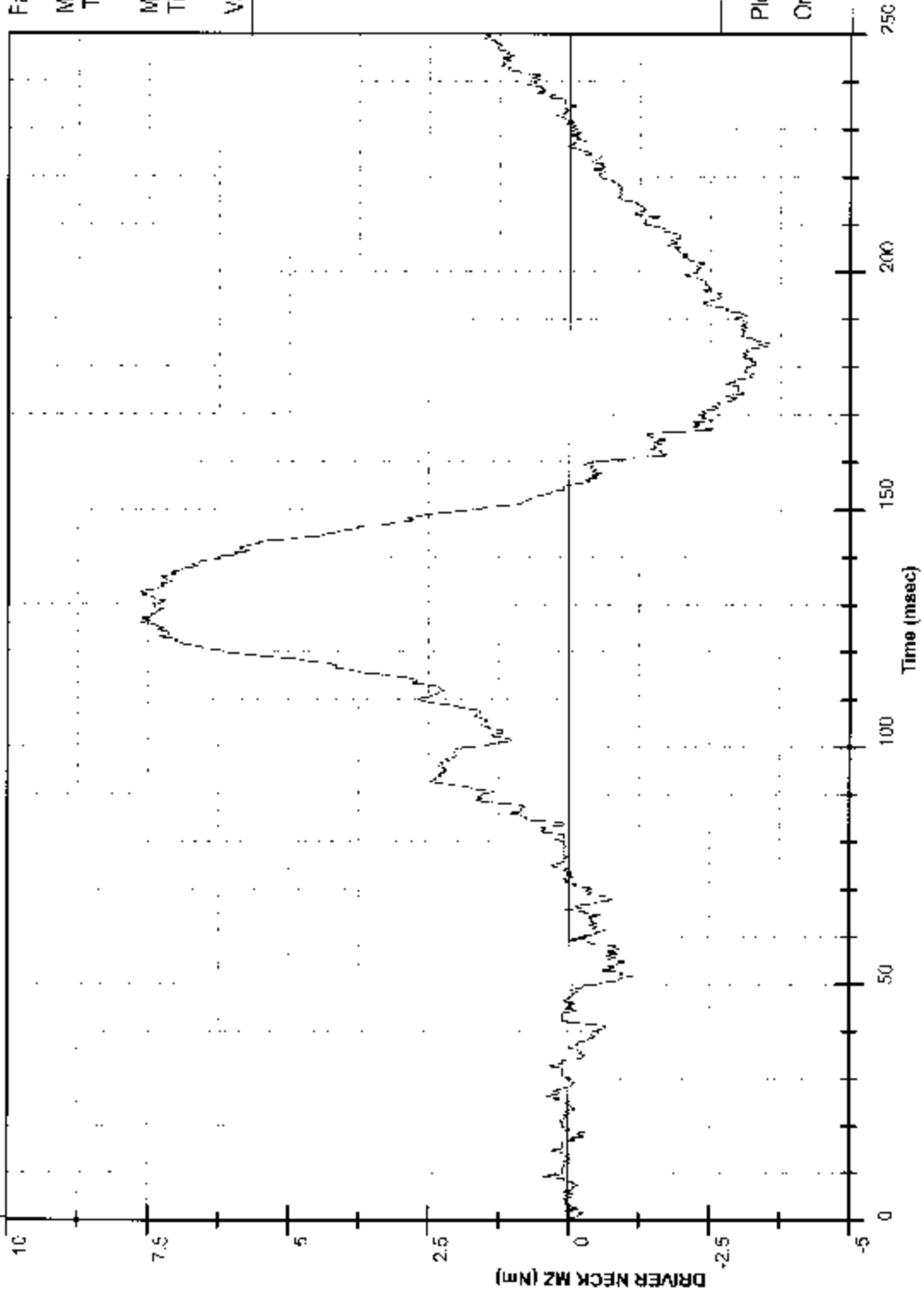
Fax #: 262-763-0934

Maximum: 7.7 Nm  
Time: 132.6 msec

Minimum: -3.5 Nm  
Time: 165.0 msec

Value at T0: 0.1 Nm

Plotted By: C. Gadberry  
On: 06.05.2003 08:45:56



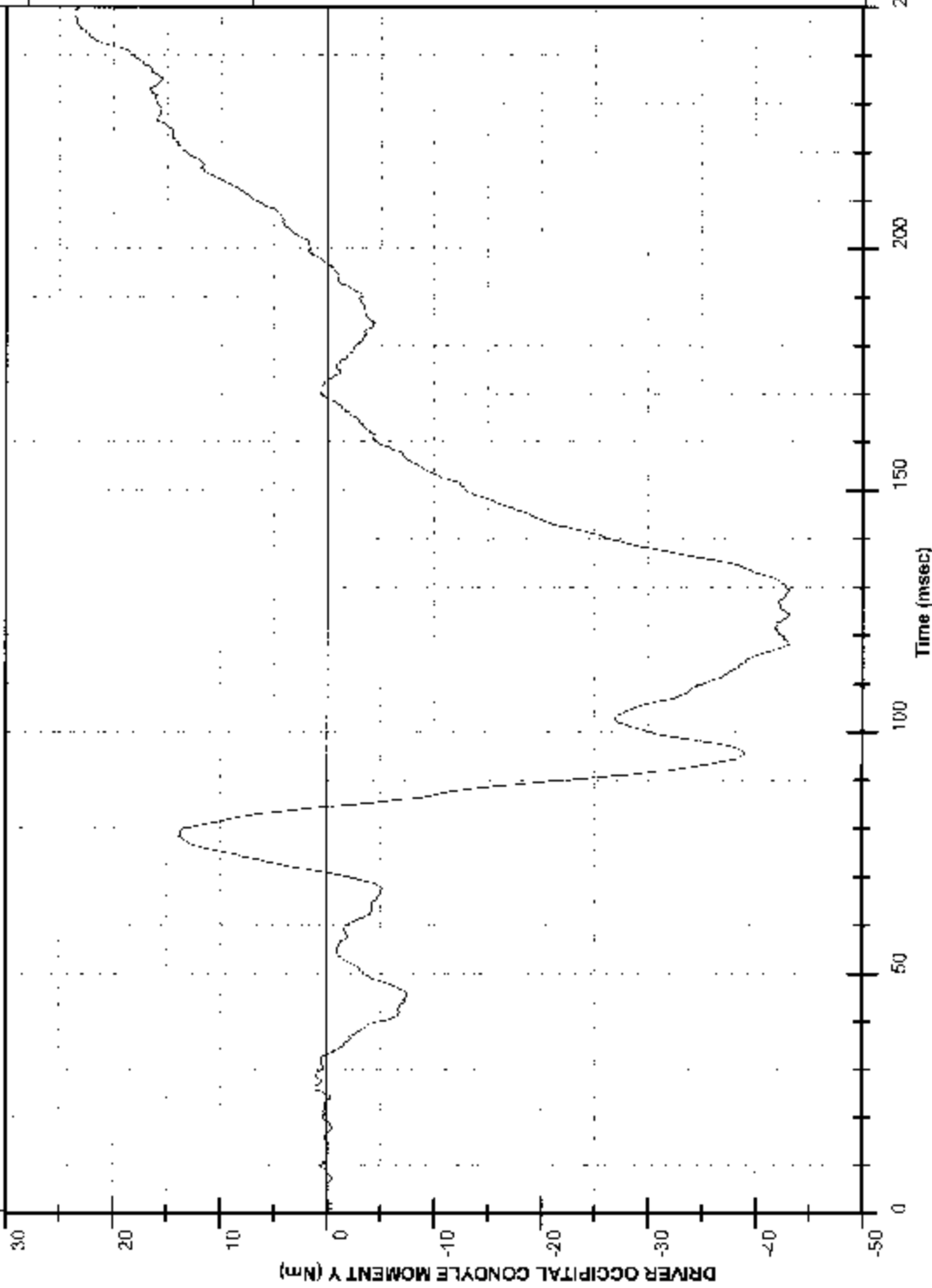
MGA Research Corp  
Accelerator Sled Facility  
5000 Warren Road.  
Burlington, WI 53105  
Ph #: 262-763-2705  
Fax #: 262-763-0934

Chn Name: **DRIVER OCCIPITAL CONDYLE MOMENT Y**  
CFC: 600  
File Name: H03125MO.M17  
Sensor S/N: N606MY

Test Desc: **FMVSS 208 SLED**  
Component: **2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)**  
Test Number: **H03125**  
Test Date: **06/04/03**

Maximum **23.7 Nm**  
Time: **248.5 msec**  
Minimum: **-43.2 Nm**  
Time: **129.3 msec**  
Value at T0: **-0.0 Nm**

Potted By: **C. Gadberry**  
On: **06.05.2003 08:45:58**



Test Desc: FMVSS 208 SLED

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

Test Number: H03125

Test Date: 06/04/03

Chn Name: DRIVER CHEST X

Cf-C: 180

File Name: H03125AF.A21

Sensor S/N: AHSN9

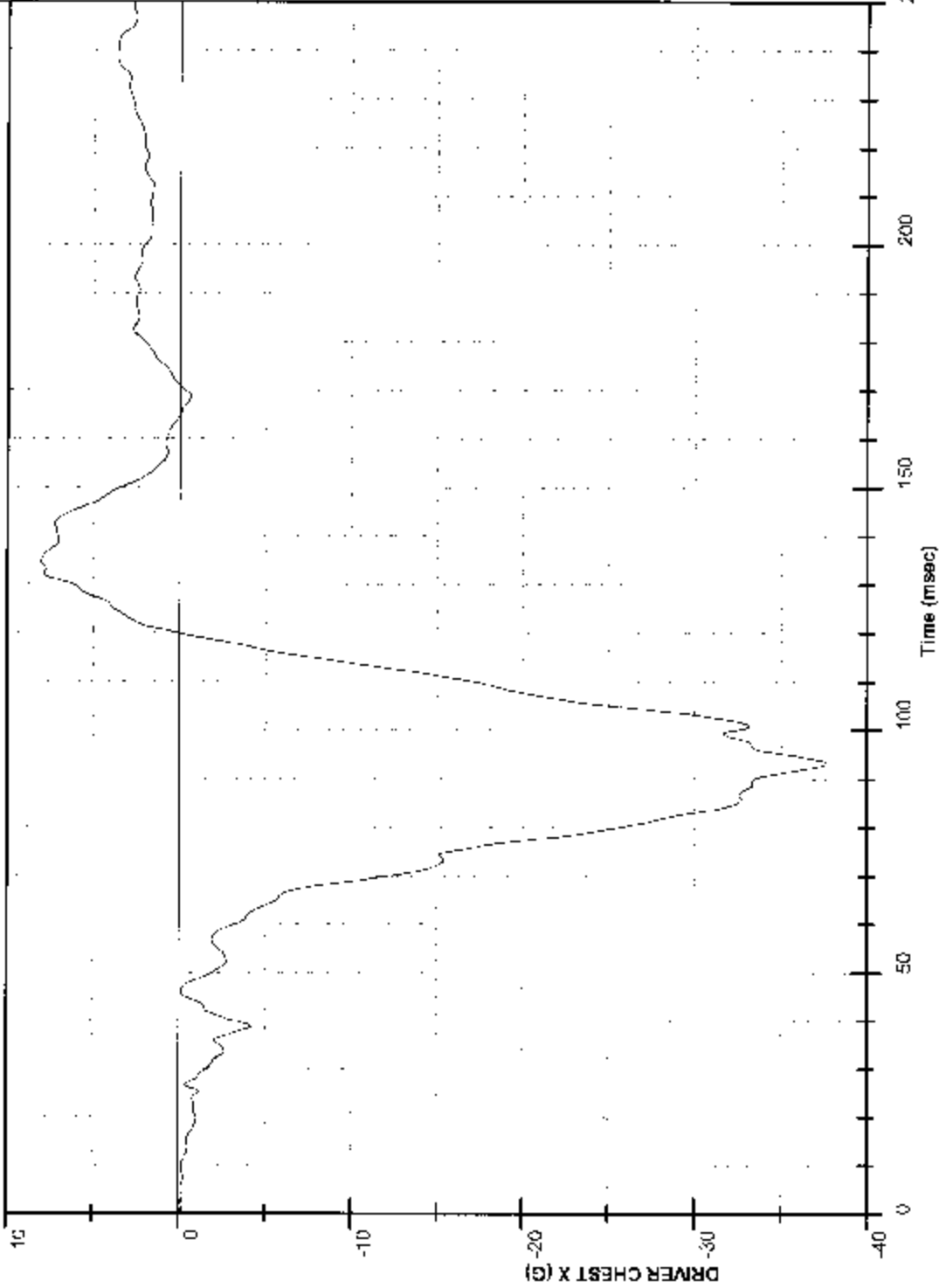
MGA Research Corp  
Accelerator Sled Facility  
5000 Warren Road,  
Burlington, WI 53105  
Ph #: 262-763-2705  
Fax #: 262-763-0934

Maximum: 8.1 G  
Time: 134.5 msec

Minimum: -37.7 G  
Time: 93.3 msec

Value at T0: -0.1 G

Plotted By: C. Gadberry  
On: 06.05.2003 08:46:00



Test Desc: FMVSS 208 SLED

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C335602)

Test Number: H03125

Test Date: 06/04/03

Chn Name DRIVER CHEST Y

CFC: 180

File Name: H03125AF.A09

Sensor S/N: AGH11

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Ph #: 262-763-2705

Fax #: 262-763-0934

Maximum: 3.4 G

Time: 119.9 msec

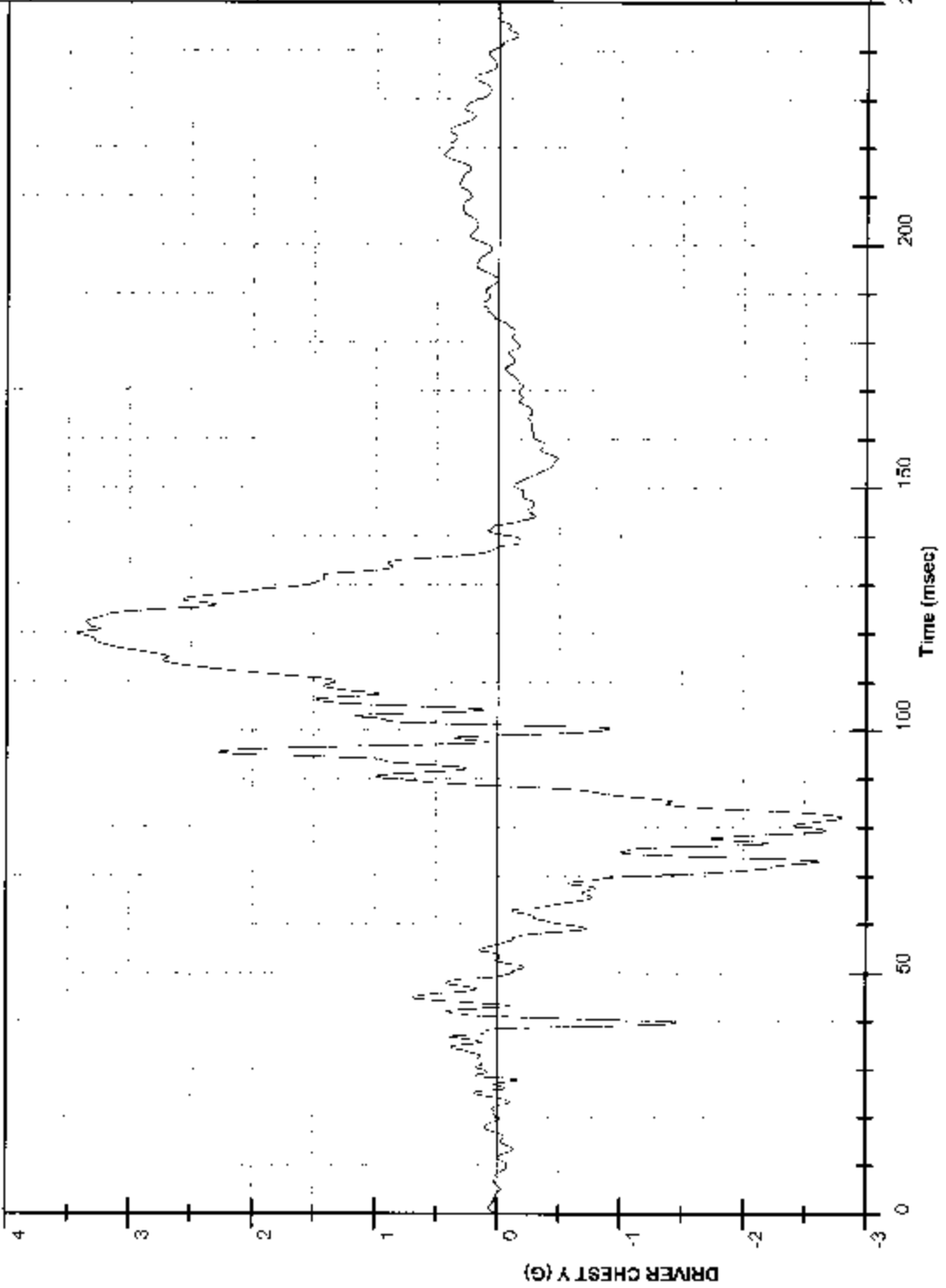
Minimum: -2.8 G

Time: 82.1 msec

Value at T0: 0.0 G

Plotted By: C. Gadberry

On: 06.05.2003 08:46:02





Test Desc: FMVSS 206 SLED

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

Test Number: H03125

Test Date: 06/04/03

Chn Name: DRIVER CHEST Z

CFC: 180

File Name: H03125AF.A23

Sensor S/N: AGH51

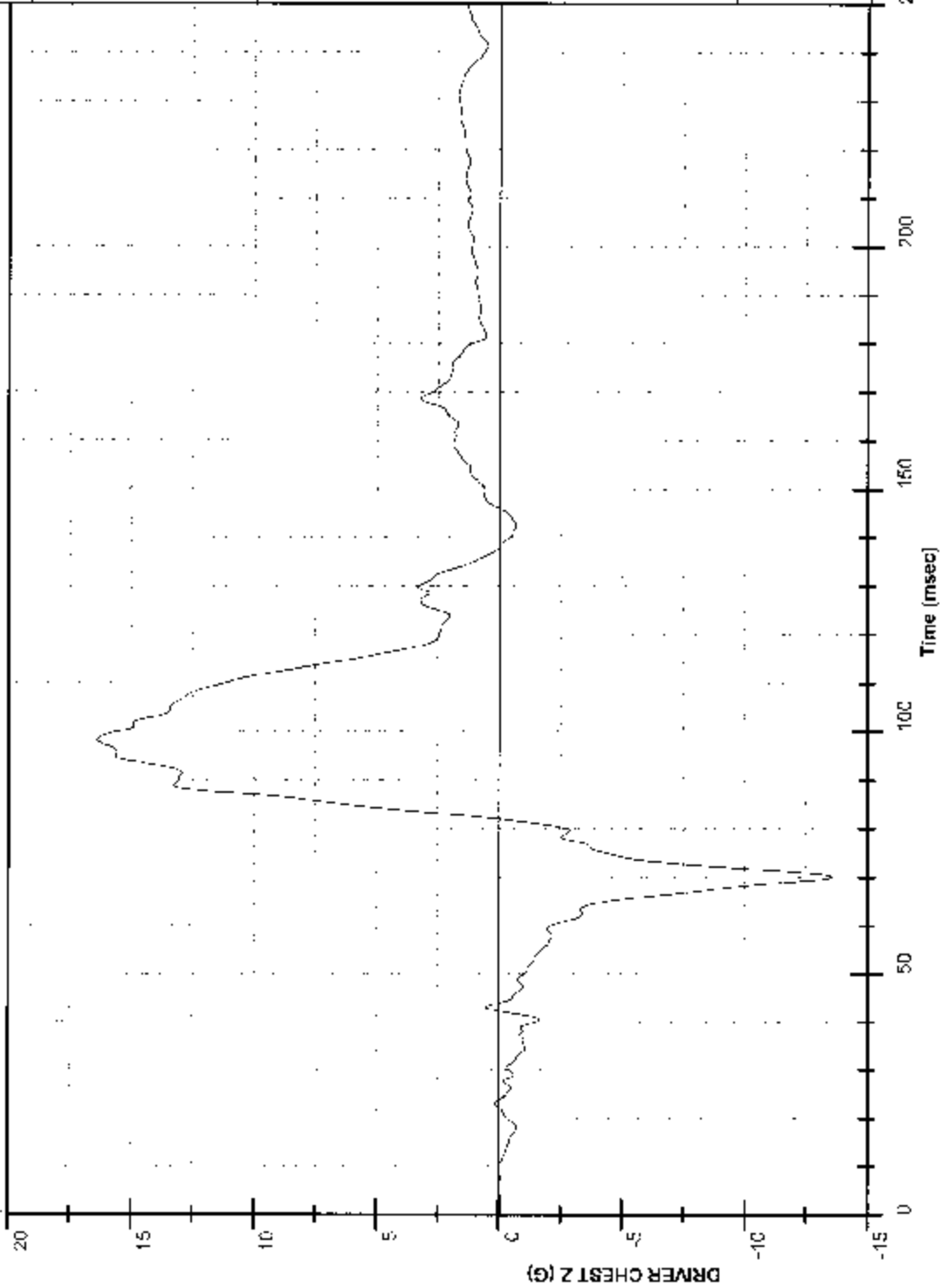
MGA Research Corp  
Accelerator Sled Facility  
5000 Warren Road,  
Burlington, WI 53105  
Ph #: 262-763-2705  
Fax #: 262-763-0934

Maximum: 16.4 G  
Time: 98.3 msec

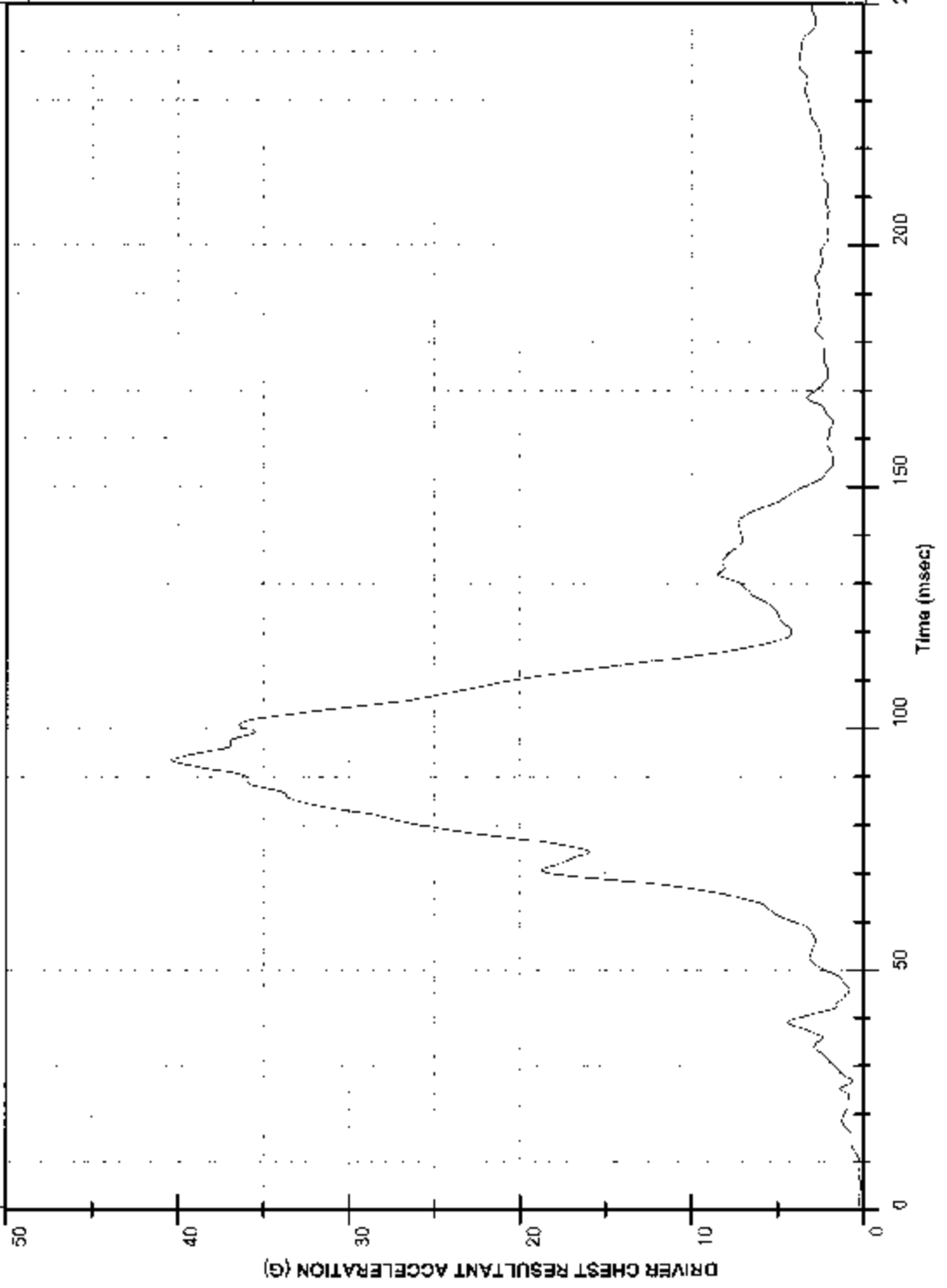
Minimum: -13.6 G  
Time: 70.1 msec

Value at T0: -0.1 G

Plotted By: C. Gadberry  
On: 06.05.2003 08:46:04



<p>Test Desc: <b>FMVSS 208 SLED</b></p> <p>Component: <b>2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)</b></p> <p>TestNumber: <b>H03125</b></p> <p>Test Date: <b>06/04/03</b></p>	<p>Chn Name: <b>DRIVER CHEST RESULTANT ACCELERATION</b></p> <p>CFC: <b>180</b></p> <p>File Name: <b>H03125AV.A09</b></p> <p>Sensor S/N: <b>AGH51</b></p>	<p>MGA Research Corp Accelerator Sled Facility 5000 Warren Road, Burlington, WI 53105 Ph #: 262-763-2705 Fax #: 262-763-0934</p>
<p>Maximum: <b>40.3 G</b> Time: <b>93.4 msec</b></p> <p>Minimum: <b>0.1 G</b> Time: <b>5.4 msec</b></p> <p>Value at TC: <b>0.2 G</b></p>		<p>Plotted By: <b>C. Gadberry</b> On: <b>06.05.2003 08:46:06</b></p>



Test Desc: FMVSS 208 SLED

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

Test Number: H03125

Test Date: 06/04/03

Chn Name: DRIVER CHEST DISP.

CFC: 600

File Name: H03125DF.D38

Sensor S/N: D403DX

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Ph #: 262-763-2705

Fax #: 262-763-0934

Maximum: 0.0 IN

Time: 11.7 msec

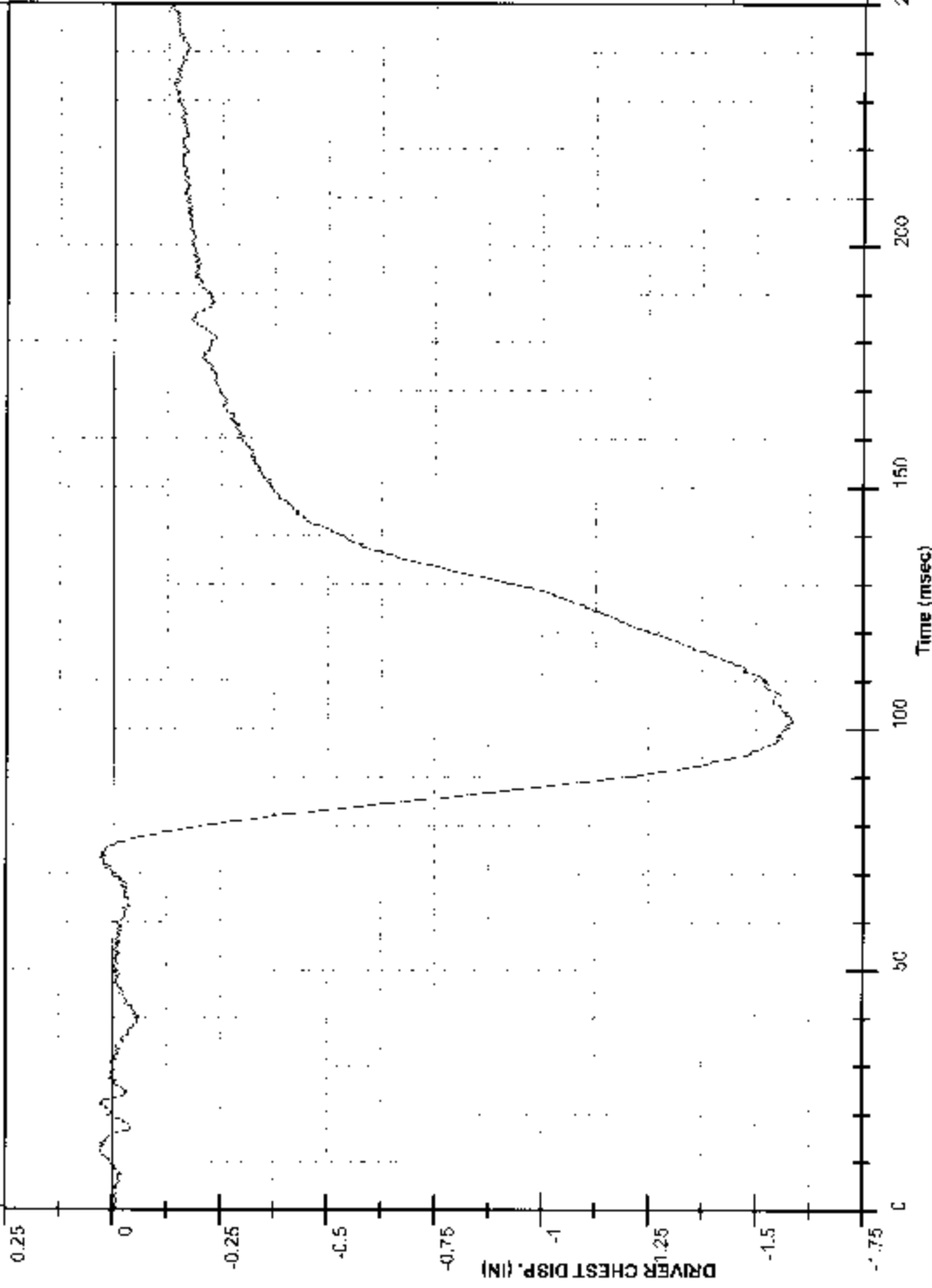
Minimum: -1.6 IN

Time: 101.8 msec

Value at T0: -0.0 IN

Plotted By C. Gauberry

On: 06.05.2003 08:46:08



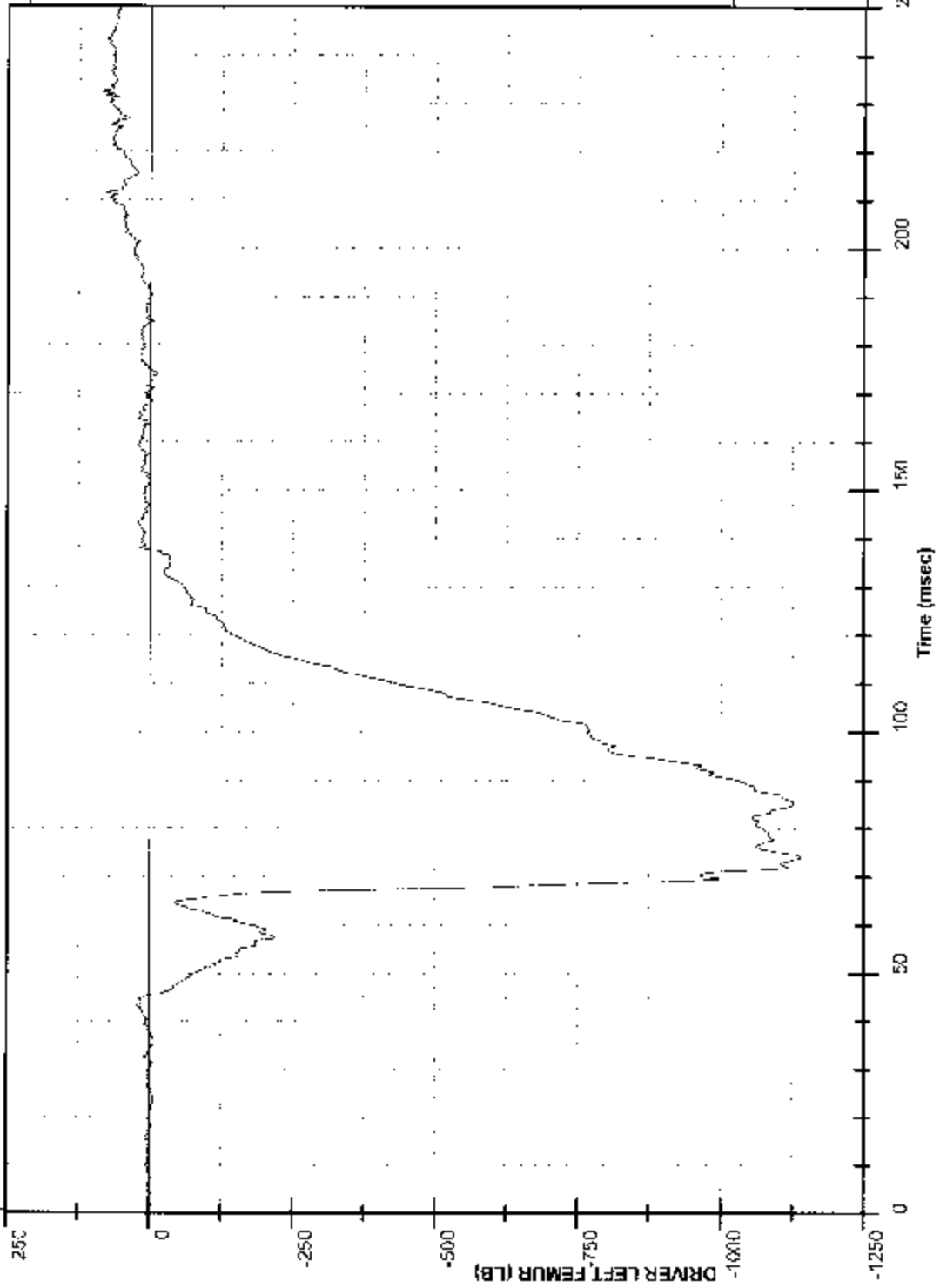
Test Desc: FMVSS 208 SLED  
Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)  
TestNumber: H03125  
Test Date: 06/04/03

Chn Name: DRIVER LEFT FEMUR  
CFC: 600  
File Name: H03125FF.F41  
Sensor S/N: 9428

MGA Research Corp  
Accelerator Sled Facility  
5000 Warren Road,  
Burlington, WI 53105  
Ph #: 262-763-2705  
Fax #: 262-763-0934

Maximum: 65.8 LB  
Time: 232.4 msec  
Minimum: -1,138.8 LB  
Time: 74.0 msec  
Value at T0: 0.4 LB

Printed By: C. Gadberry  
On: 06.05.2003 08:46:10



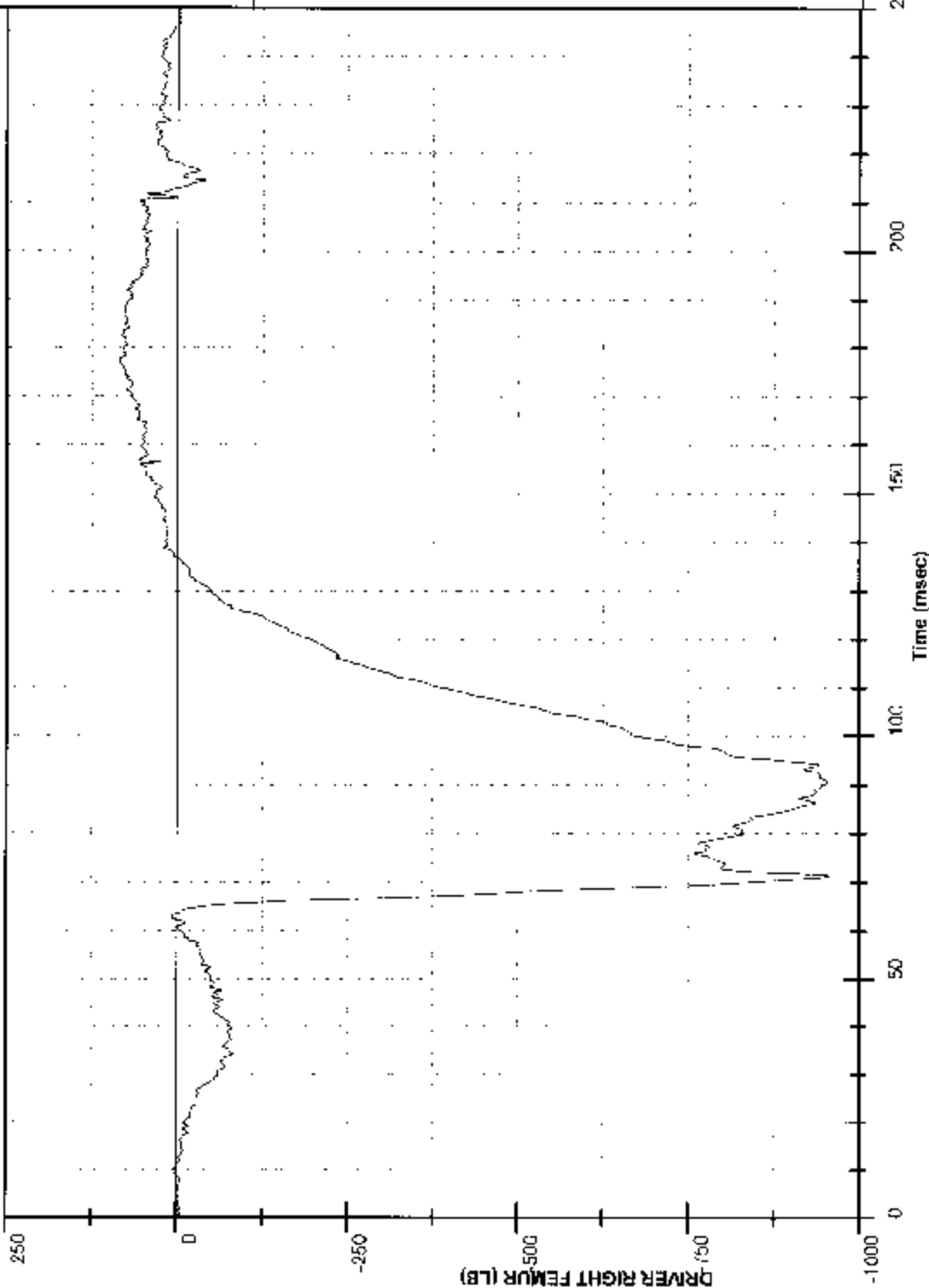
Test Desc: FMVSS 208 SLED  
Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)  
Test Number: H03125  
Test Date: 06/04/03

Chn Name: DRIVER RIGHT FEMUR  
CFC: 600  
File Name: H03125FF.F42  
Sensor S/N: 9427

MGA Research Corp  
Accelerator Sled Facility  
5000 Warren Road,  
Burlington, WI 53106  
Ph #: 262-763-2705  
Fax #: 262-763-0934

Maximum: 85.8 LB  
Time: 177.0 msec  
Minimum: -957.9 LB  
Time: 71.3 msec  
Value at T0: -2.8 LB

Plotted By: C. Gadberry  
On: 06.05.2003 08:46:13



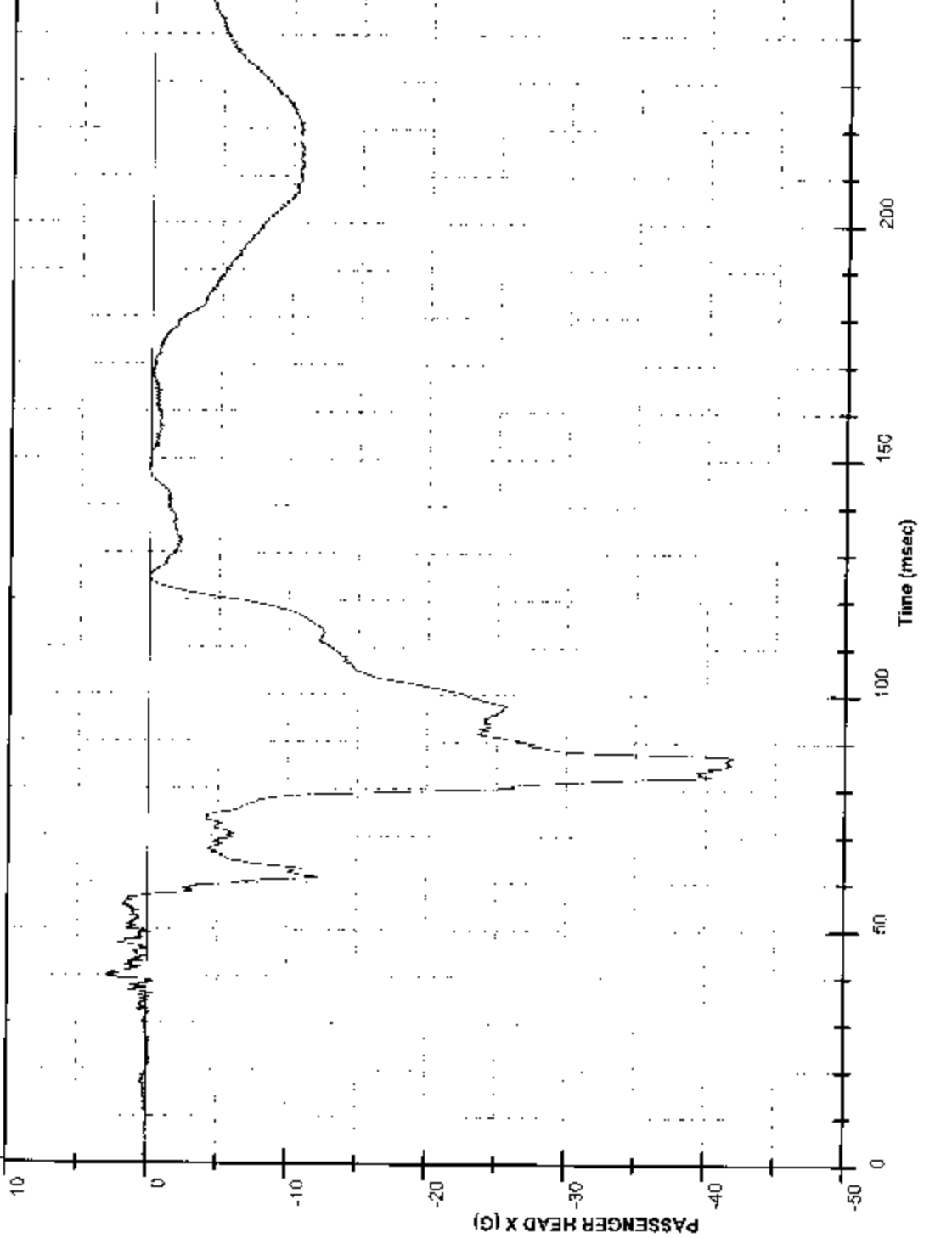
Test Desc: FMVSS 208 SLED  
Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)  
TestNumber: H03125  
Test Date: 06/04/03

Chn Name: PASSENGER HEAD X  
CFC: 1000  
File Name: H03125AT.A24  
Sensor S/N: C10727

MGA Research Corp  
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5000 Warren Road,  
Burlington, WI 53105  
Ph #: 262-763-2705  
Fax #: 262-763-0934

Maximum: 3.0 G  
Time: 40.3 msec  
Minimum: -41.9 G  
Time: 86.9 msec  
Value at T0: -0.0 G

Plotted By: C. Gadberry  
On: 06.05.2003 08:46:15



Test Desc: FMVSS 208 SLED

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

Test Number: H03125

Test Date: 06/04/03

Chn Name: PASSENGER HEAD Y

CFC: 1000

File Name: H03125AT.A25

Sensor S/N: AGH70

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Ph #: 262-763-2705

Fax #: 262-763-0934

Maximum: 2.8 G

Time: 121.0 msec

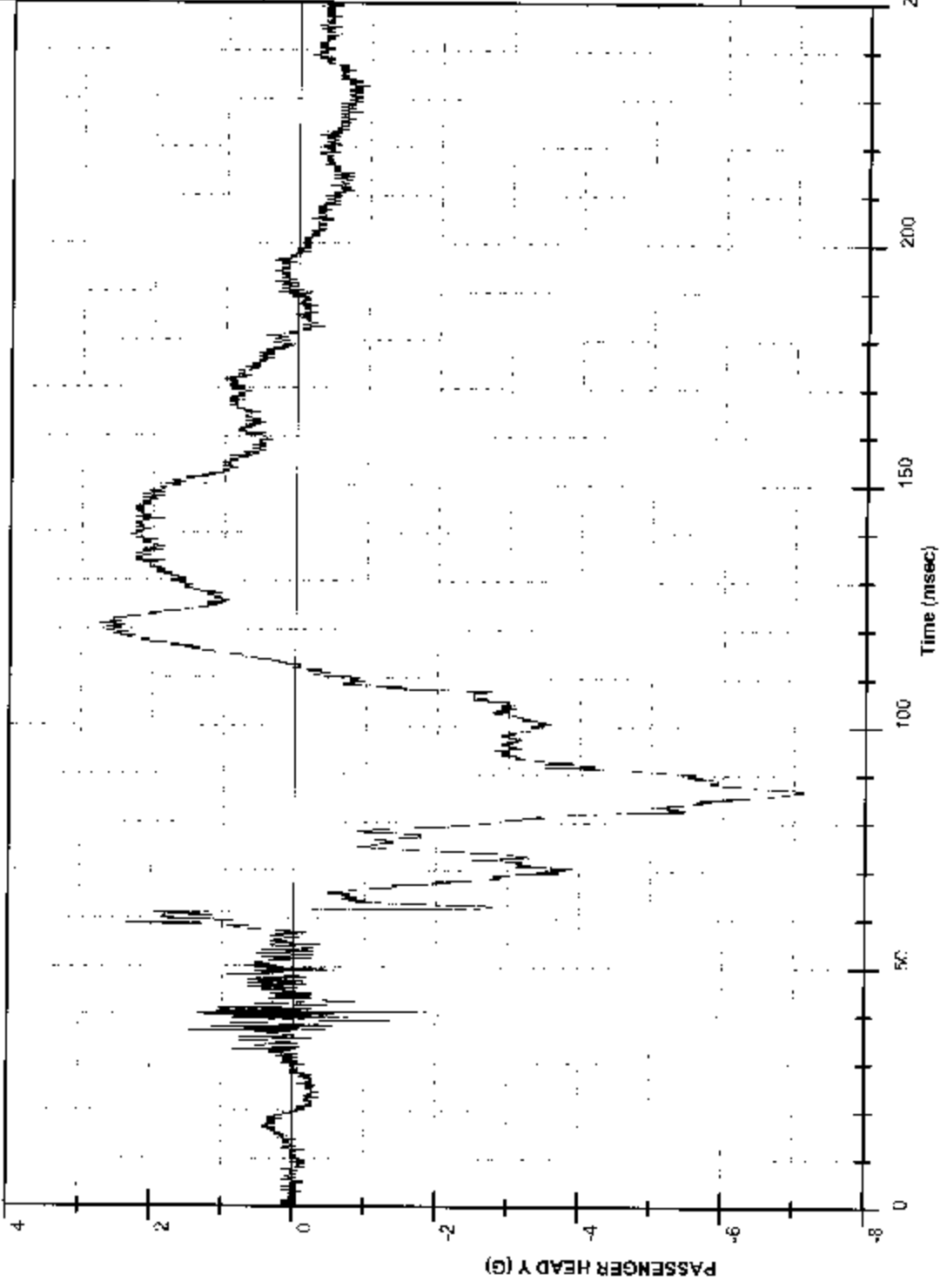
Minimum: -7.1 G

Time: 86.6 msec

Value at T0: -0.1 G

Plotted By: C. Gadberry

On: 06.05.2003 08:46:17



Test Desc: FMVSS 208 SLED

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

Test Number: H03125

Test Date: 06/04/03

Chn Name: PASSENGER HEAD Z

CFC 1000

File Name: H03125A.T.A26

Sensor S/N: AGH78

MGA Research Corp

Accelerator Sled Facility

5000 Warren Road,

Burlington, WI 53105

Ph #: 262-763-2705

Fax #: 262-763-0934

Maximum: 22.2 G

Time: 95.7 msec

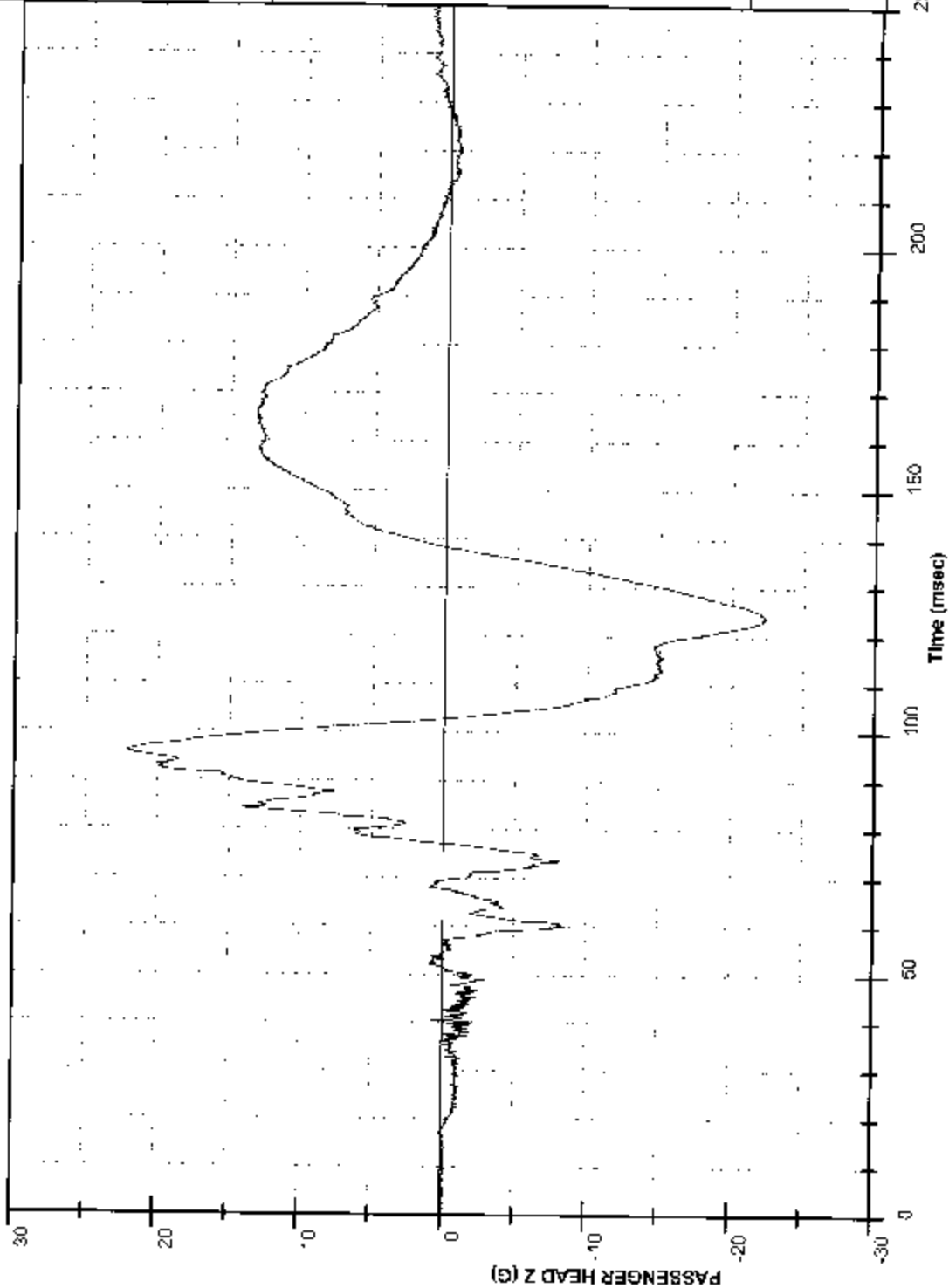
Minimum: -22.3 G

Time: 123.7 msec

Value at T0: -0.1 G

Plotted By: C. Gadberry

On: 06.05.2003 08:46:19





Test Desc: **FMVSS 208 SLED**  
 Component: **2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)**  
 Test Number: **H03125**  
 Test Date: **06/04/03**

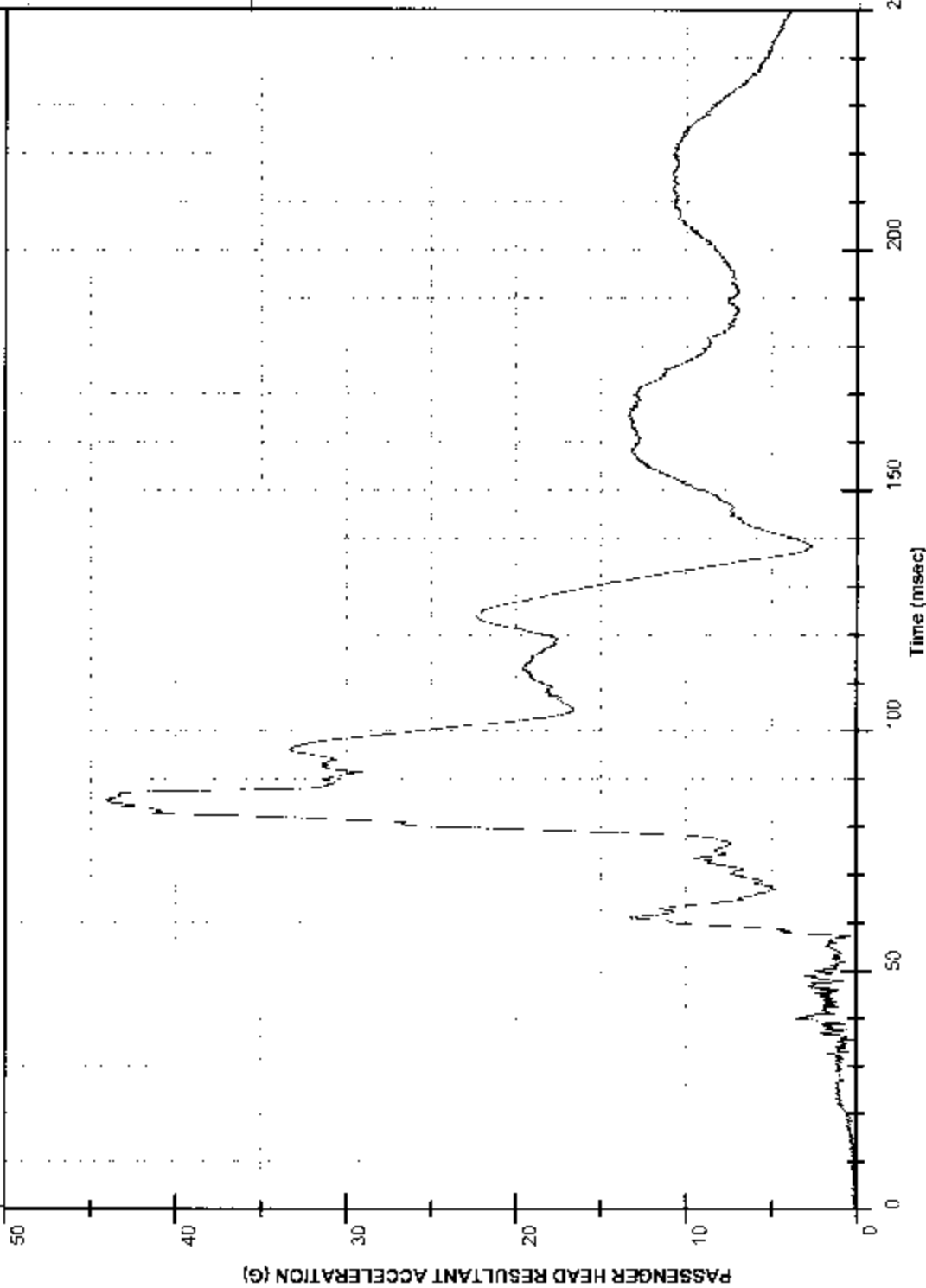
Chn Name: **PASSENGER HEAD RESULTANT ACCELERATION**  
 CFC: **1000**  
 File Name: **H03125AV.A24**  
 Sensor S/N: **AGH78**

Research Corp  
 Accelerator Sled Facility  
 5000 Warren Road,  
 Burlington, WI 53105  
 Ph #: 262-763-2705  
 Fax #: 262-763-0934

Maximum: **44.1 G**  
 Time: **85.5 msec**  
 Minimum: **0.0 G**  
 Time: **0.2 msec**  
 Value at T0: **0.1 G**

HIC VAL: 157.9  
 T1: 78.9 msec  
 T2: 130.5 msec  
 HIC36 VAL: 139.0  
 T1: 79.4 msec  
 T2: 115.4 msec  
 HIC15 VAL: 111.6  
 T1: 81.9 msec  
 T2: 96.9 msec

Plotted By: **C. Gadberry**  
 On: **08.05.2003 08:46:22**



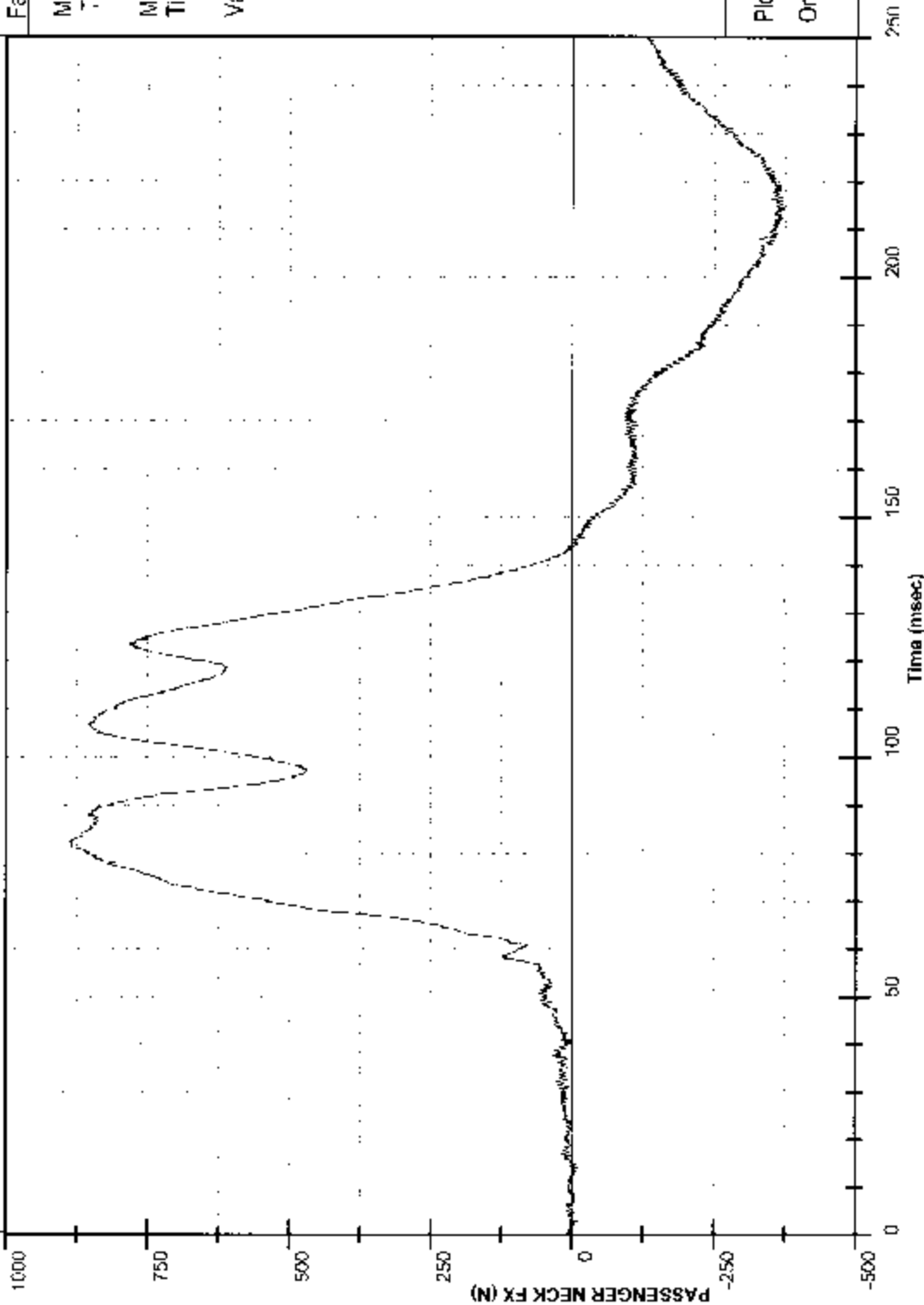
MGA Research Corp  
Accelerator Sled Facility  
5000 Warren Road,  
Burlington, WI 53105  
Ph #: 262-763-2705  
Fax #: 262-763-0934

Chn Name: PASSENGER NECK FX  
CFC: 1000  
File Name: H03125FT.F31  
Sensor S/N N252FX

Test Desc: FMVSS 208 SLED  
Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)  
Test Number: H03125  
Test Date: 06/04/03

Maximum: 888.7 N  
Time: 82.4 msec  
Minimum: -374.5 N  
Time: 214.4 msec  
Value at T0: -3.7 N

Plotted By: C. Gadberry  
On: 06.05.2003 08:46:24

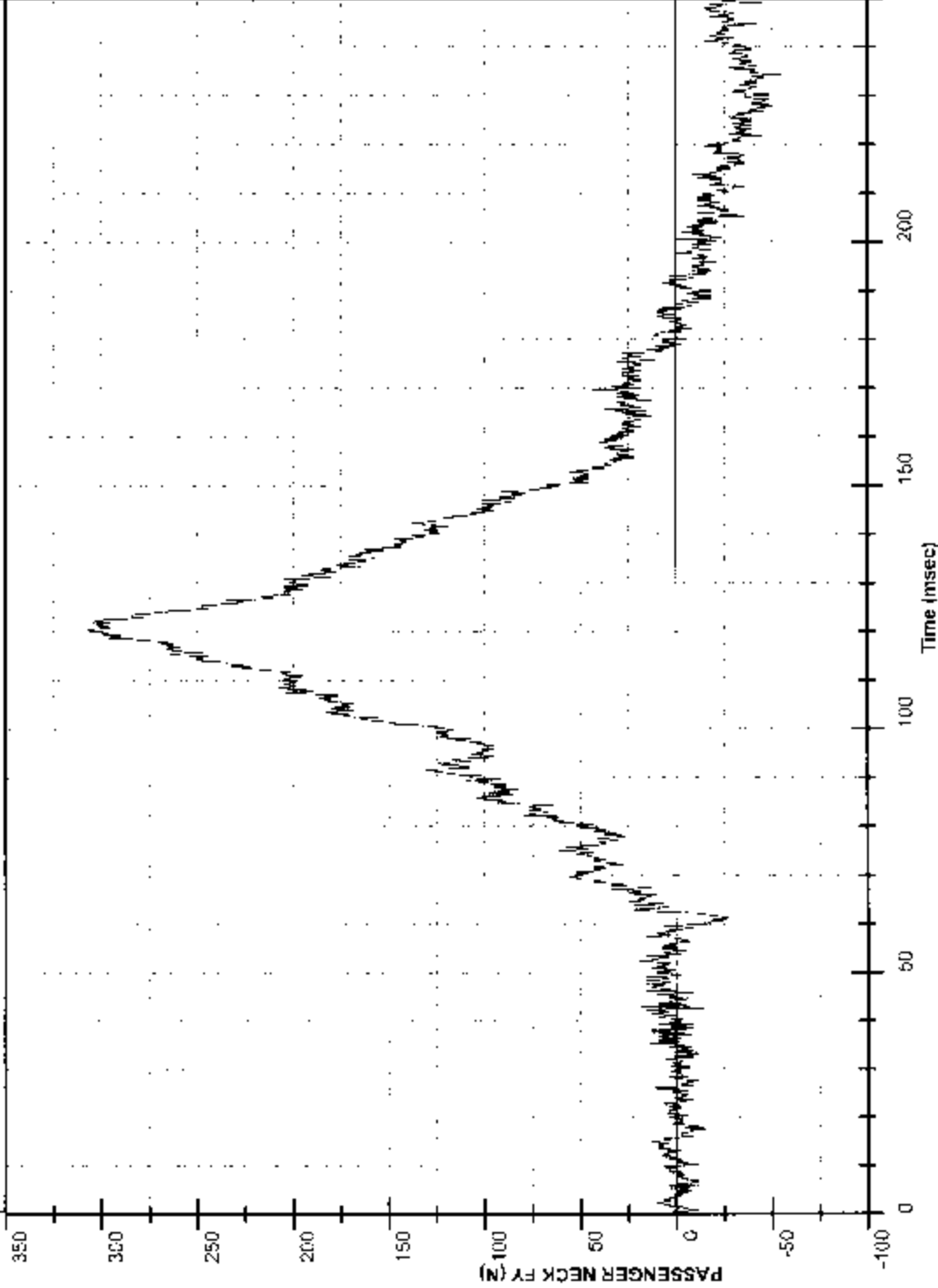


MGA Research Corp  
Accelerator Sed Facility  
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Burlington, WI 53105  
Ph #: 262-763-2705  
Fax #: 262-763-0934

Test Desc: FMVSS 208 SLED  
Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)  
Test Number: H03125  
Test Date: 06/04/03  
Chn Name: PASSENGER NECK FY  
CFC: 1000  
File Name: H03125FT.F32  
Sensor S/N: N252FY

Maximum: 308.3 N  
Time: 120.3 msec  
Minimum: -54.4 N  
Time: 234.2 msec  
Value at T0: -11.7 N

Plotted By: C. Gadberry  
On: 06.05.2003 06:46:26



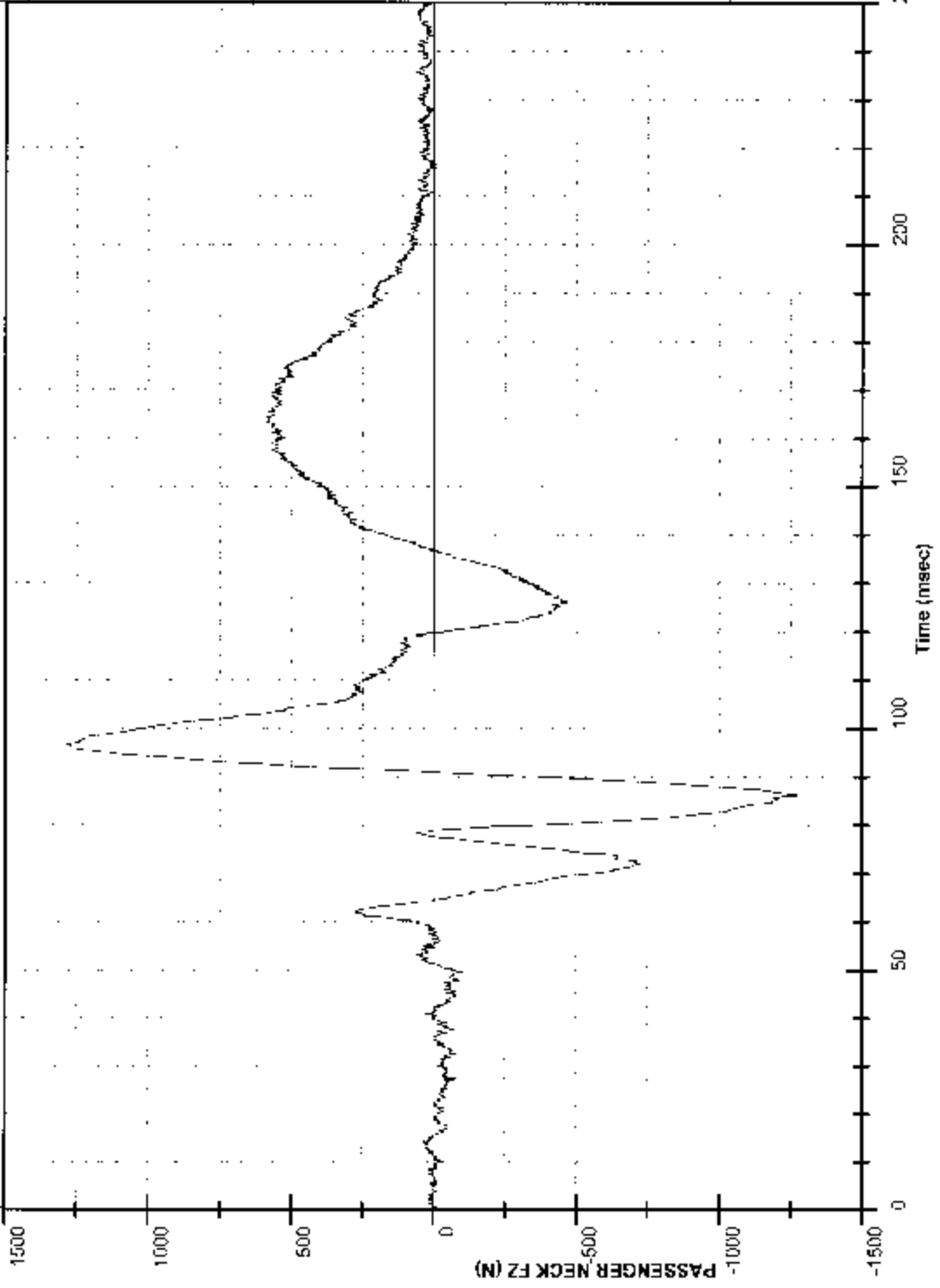
Test Desc: **FMVSS 208 SLED**  
Component: **2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)**  
Test Number: **H03125**  
Test Date: **06/04/03**

Chn Name: **PASSENGER NECK FZ**  
CFC: **1000**  
File Name: **H03125FT.F33**  
Sensor S/N: **N252FZ**

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Accelerator Sled Facility  
500C Warren Road,  
Burlington, WI 53105  
P# #: 262-763-2705  
Fax #: 262-763-0934

Maximum: **1,286.8 N**  
Time: **96.7 msec**  
Minimum: **-1,273.5 N**  
Time: **86.2 msec**  
Value at T0: **-4.4 N**

Plotted By: **C. Gadberry**  
On: **06.05.2003 08:46:28**

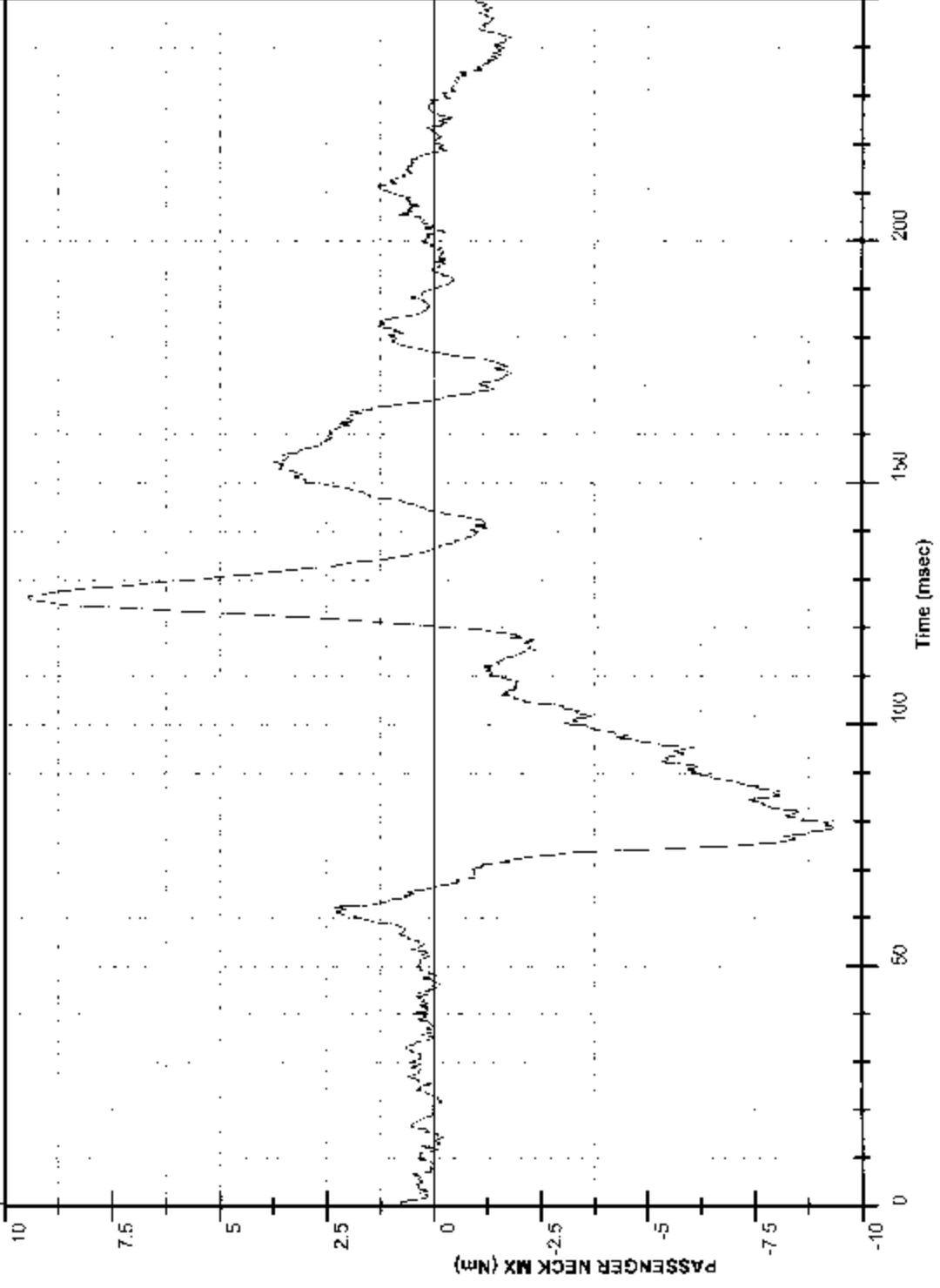


MGA Research Corp  
Accelerator Sled Facility  
5000 Warren Road,  
Burlington, WI 53105  
Ph #: 262-763-2705  
Fax #: 262-763-0934

Test Desc: **FMVSS 208 SLED**      Chn Name: **PASSENGER NECK MX**  
Component: **2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)**      CFC: **600**  
TestNumber: **H03125**      File Name: **H03125MF.M35**  
Test Date: **06/04/03**      Sensor S/N: **N252MX**

Maximum: **9.5 Nm**  
Time: **126.5 msec**  
Minimum: **-9.3 Nm**  
Time: **78.7 msec**  
Value at T0: **0.9 Nm**

Plotted By: **C. Gardberry**  
On: **06.05.2003 08:46:30**



Test Desc: **FMVSS 208 SLED**  
Component: **2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)**  
TestNumber: **H03125**  
Test Date: **06/04/03**

Chn Name: **PASSENGER NECK MY**  
CFC: **600**  
File Name: **H03125MF.M36**  
Sensor S/N: **NZ52MY**

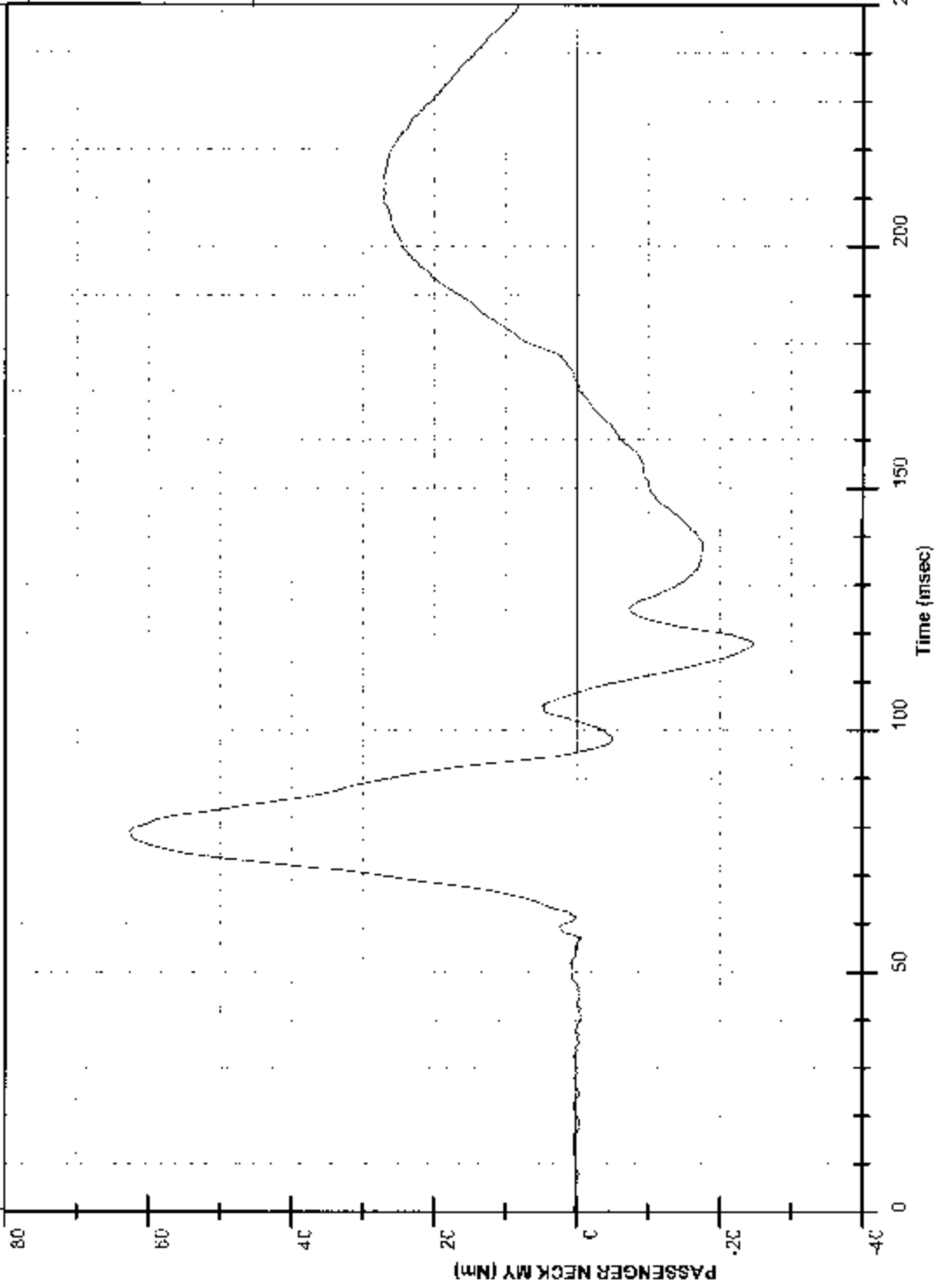
MGA Research Corp  
Accelerator Sled Facility  
5000 Warren Road,  
Burlington, WI 53105  
Ph #: 262-763-2705  
Fax #: 262-763-0934

Maximum: **62.5 Nm**  
Time: **79.0 msec**

Minimum: **-24.7 Nm**  
Time: **118.0 msec**

Value at T0: **0.3 Nm**

Plotted By: **C. Gadberry**  
On: **06.05.2003 08:46:32**

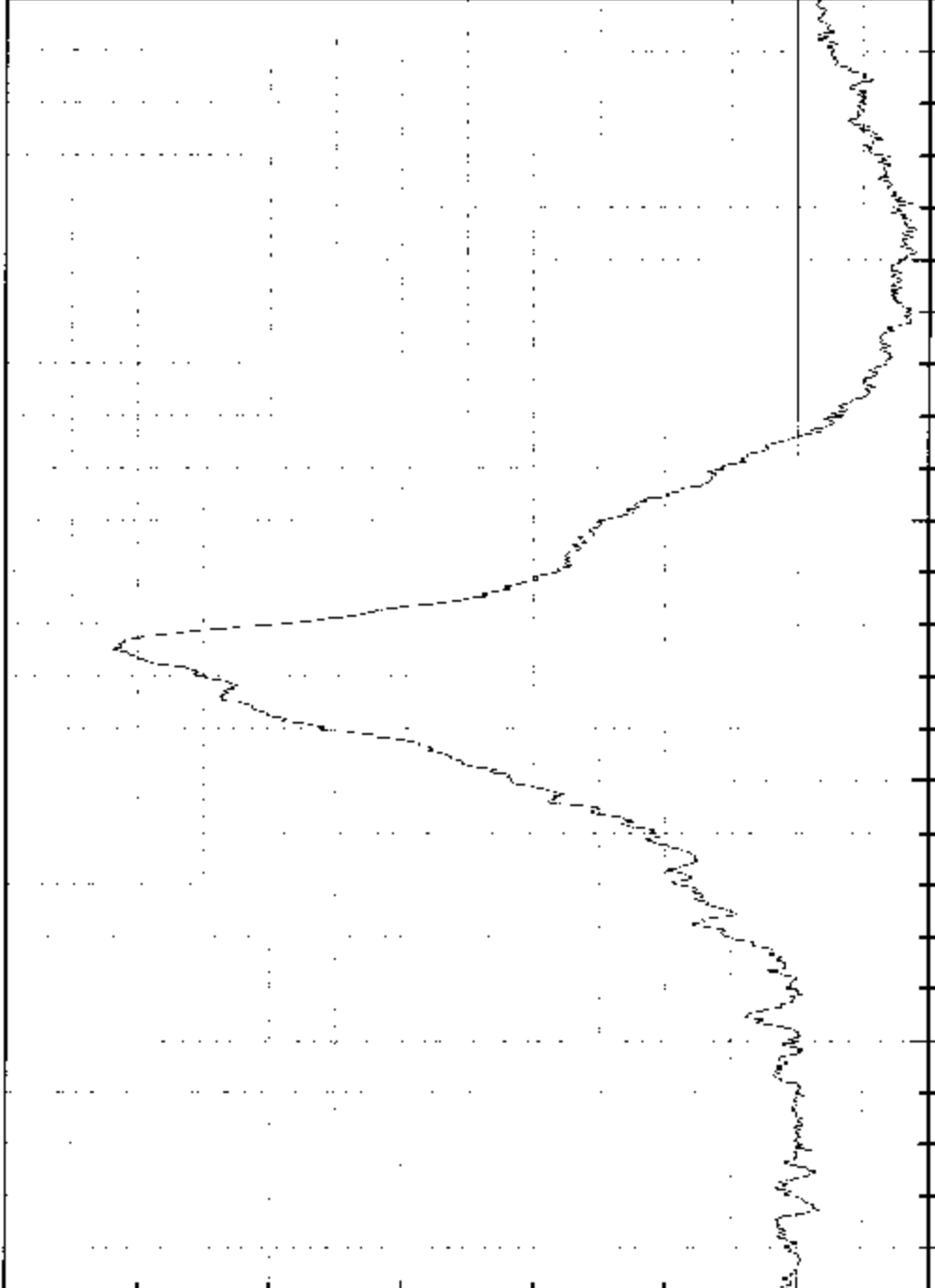


Test Desc: F1WSS 208 SLED  
Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)  
TestNumber: H03125  
Test Date 06/04/03

Chr Name: PASSENGER NECK MZ  
CFC: 600  
File Name: H03125MF.M37  
Sensor S/N: N252MZ

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Burlington, WI 53105  
Ph #: 262-763-2705  
Fax #: 262-763-0934

Maximum: 13.0 Nm  
Time: 125.1 msec  
Minimum: -2.3 Nm  
Time: 205.8 msec  
Value at T0: 0.5 Nm



Potted By: C. Gadberry  
On: 06.05.2003 08:46:34

Test Desc: FMVSS 208 SLED

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

Test Number: H03125

Test Date: 06/04/03

Chn Name: PASSENGER OCCIPITAL CONDYLE MOMENT

CFC: 600

File Name: H03125MO.M36

Sensor S/N: N252MY

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Ph #: 262-763-2705

Fax #: 262-763-0934

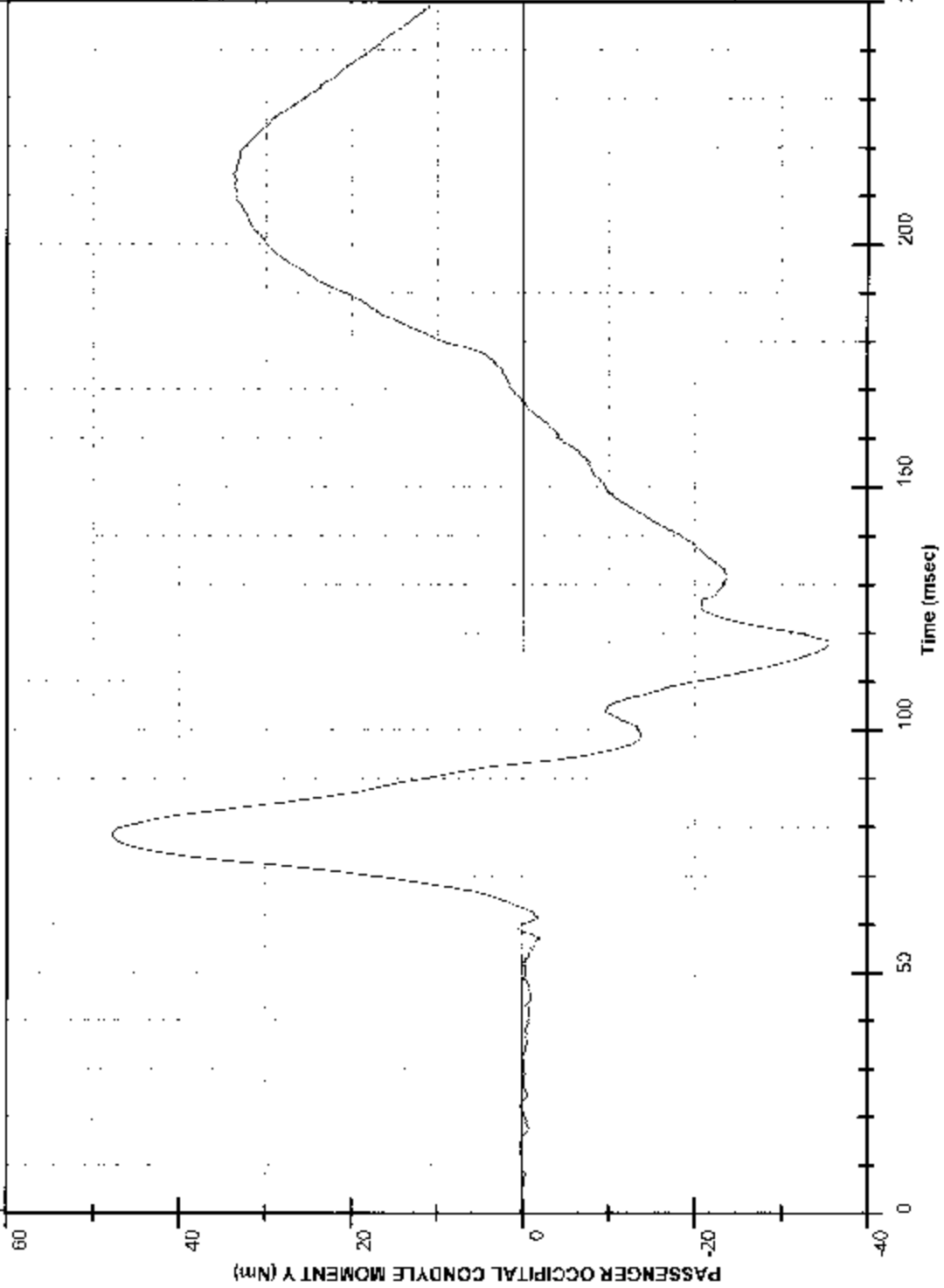
Maximum: 47.8 Nm  
Time: 78.0 msec

Minimum: -35.6 Nm  
Time: 118.0 msec

Value at T0: 0.3 Nm

Plotted By: C. Garberry

On: 06.05.2003 08:46:36





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Accelerator Sled Facility  
5000 Warren Road,  
Burlington, WI 53105  
Ph #: 262-763-2705  
Fax #: 262-763-0934

Maximum: 2.0 G  
Time: 181.0 msec

Minimum: -36.0 G  
Time: 102.1 msec

Value at T0: -0.0 G

Plotted By: C. Gadberry  
On: 06.05.2003 08:46:38

Test Desc: FMVSS 208 SLED

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

TestNumber: H03125

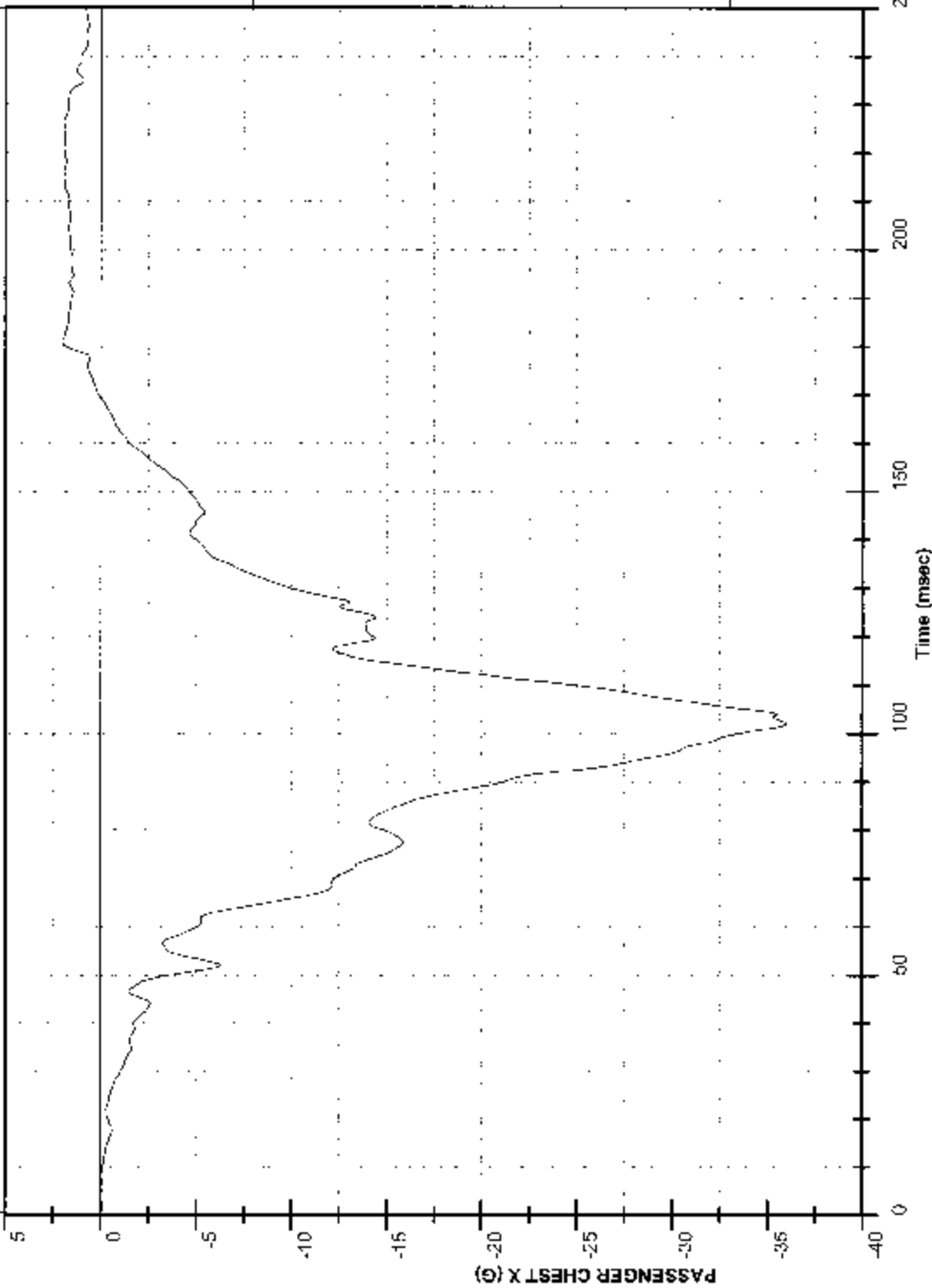
Test Date: 06/04/03

Chn Name: PASSENGER CHEST X

CFC: 180

File Name: H03125AF.A27

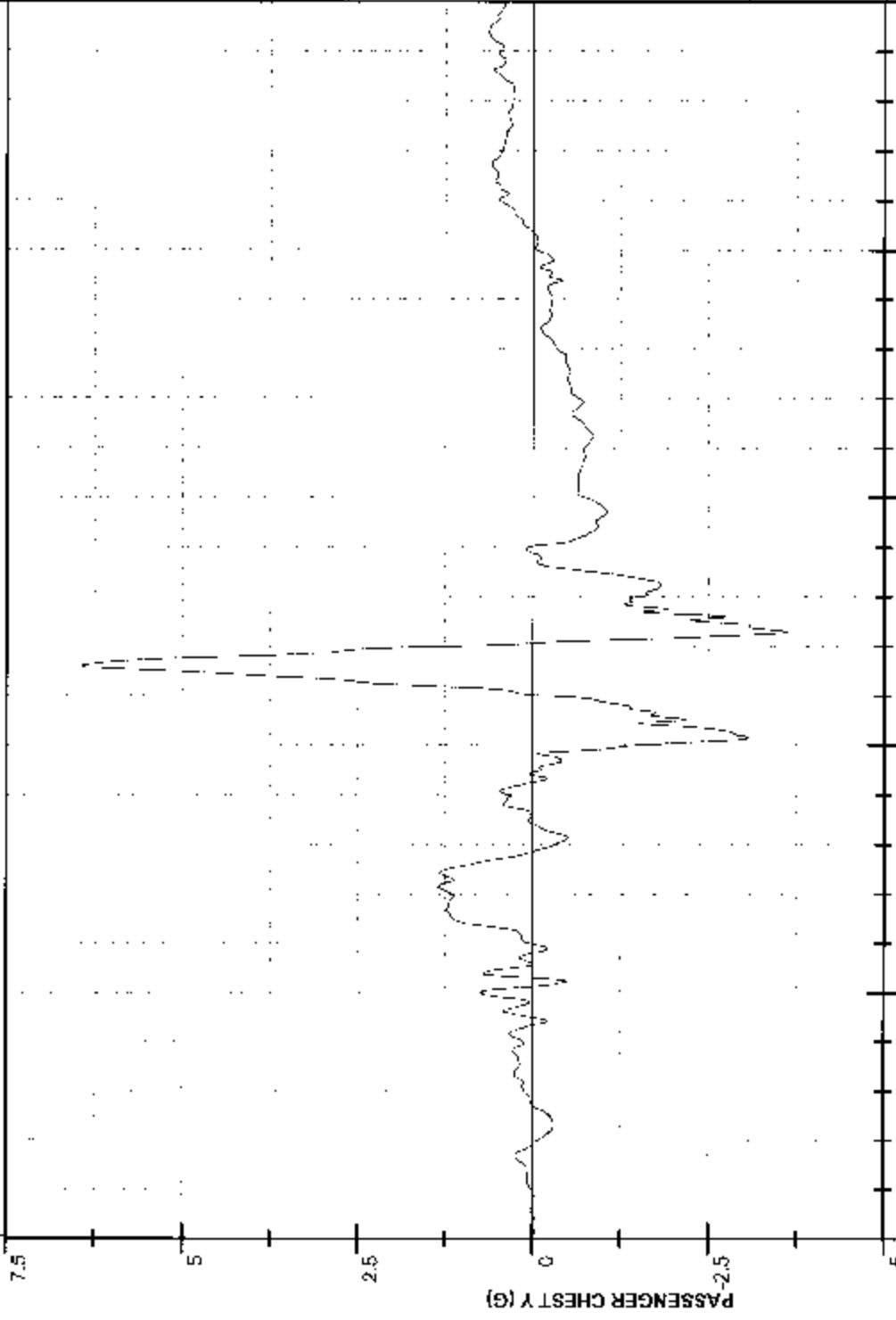
Sensor S/N: C10591



MGA Research Corp  
Accelerator Sled Facility  
5000 Warren Road.  
Burlington, WI 53105  
Ph #: 262-763-2705  
Fax #: 262-763-0934  
Maximum: **6.4 G**  
Time: **115.9 msec**  
Minimum: **-3.6 G**  
Time: **122.9 msec**  
Value at TD: **0.0 G**

Chn Name: **PASSENGER CHEST Y**  
GFC: **180**  
File Name: **H03125AF.A28**  
Sensor S/N: **C10770**

Test Desc: **FMVSS 208 SLED**  
Component: **2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)**  
Test Number: **H03125**  
Test Date: **06/04/03**



Plotted By: **C. Gadberry**  
On: **06.05.2003 08:46:40**

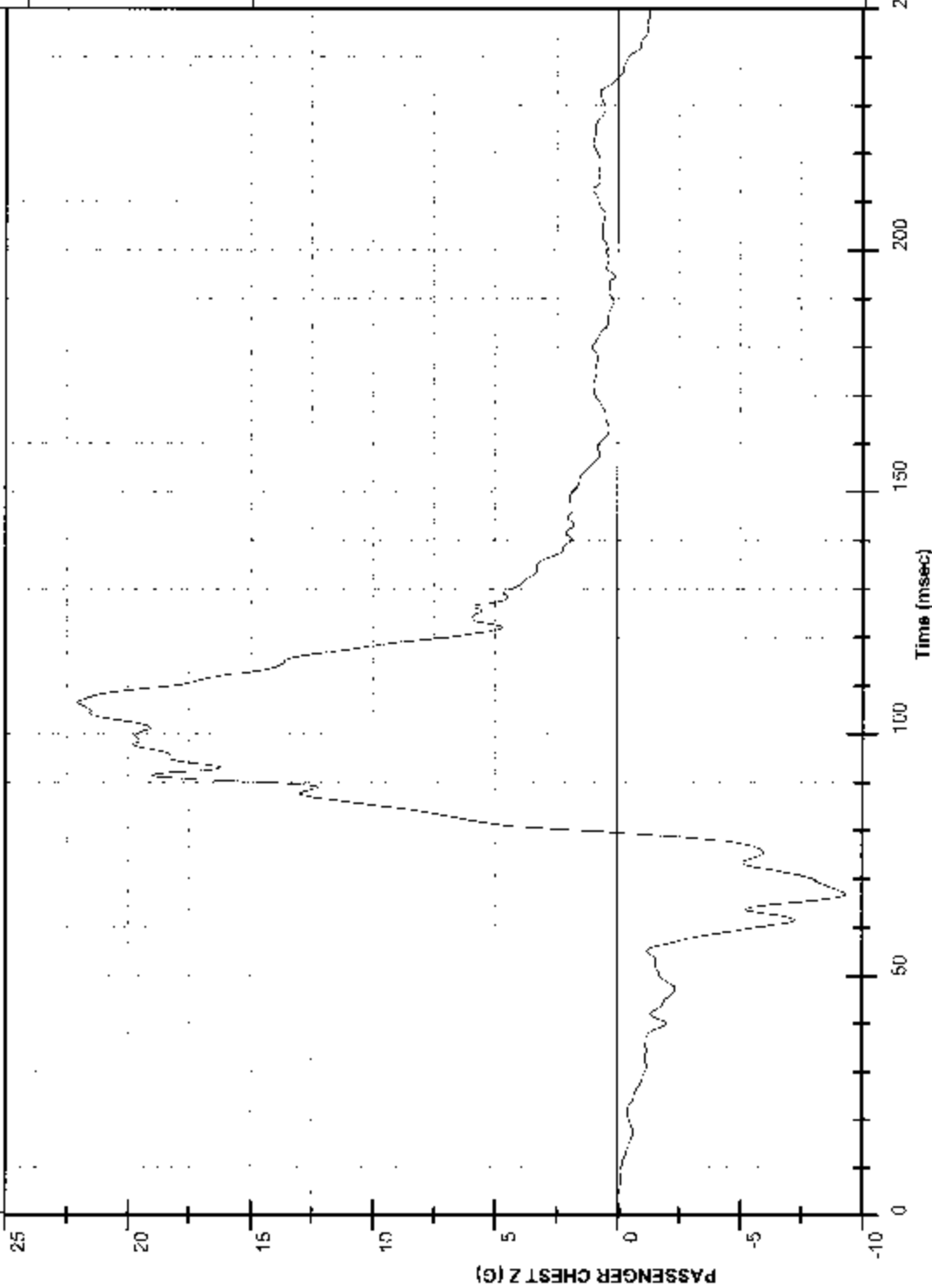
Test Desc: **FMVSS 208 SLED**  
Component: **2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)**  
Test Number: **H03125**  
Test Date: **06/04/03**

Chn Name: **PASSENGER CHEST Z**  
CFC: **180**  
File Name: **H03125AF.A29**  
Sensor S/N: **AGHT2**

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5000 Warren Road,  
Burlington, WI 53105  
Ph #: 262-763-2705  
Fax #: 262-763-0934

Maximum: **22.1 G**  
Time: **106.5 msec**  
Minimum: **-9.3 G**  
Time: **66.9 msec**  
Value at T0: **-0.1 G**

Plotted By: **C. Gadberry**  
On: **06.05.2003 08:46:42**



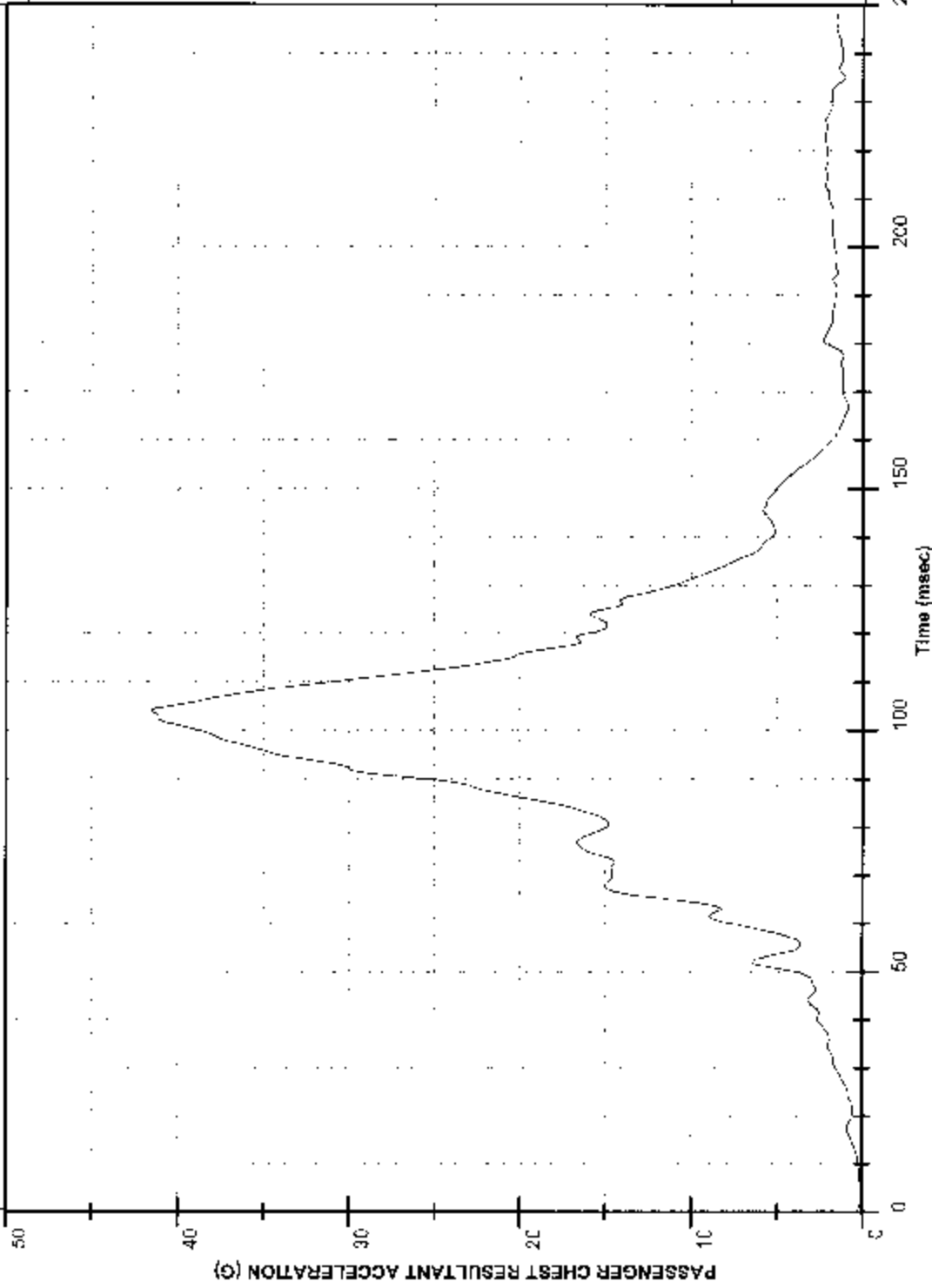
Test Desc: FMVSS 208 SLED  
Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)  
Test Number: H03125  
Test Date: 06/04/03

Crn Name: PASSENGER CHEST RESULTANT ACCELERATION  
CFC: 160  
File Name: H03125AV.A27  
Sensor S/N: AGH72

AVIA Research Corp  
Accelerator Sled Facility  
5000 Warren Road,  
Burlington, WI 53105  
Pr #: 262-763-2705  
Fax #: 262-763-0934

Maximum: 41.5 G  
Time: 104.1 msec  
Minimum: 0.1 G  
Time: 3.9 msec  
Value at T0: 0.1 G

Plotted By: C. Gadberry  
On: 06.05.2003 08:46:44

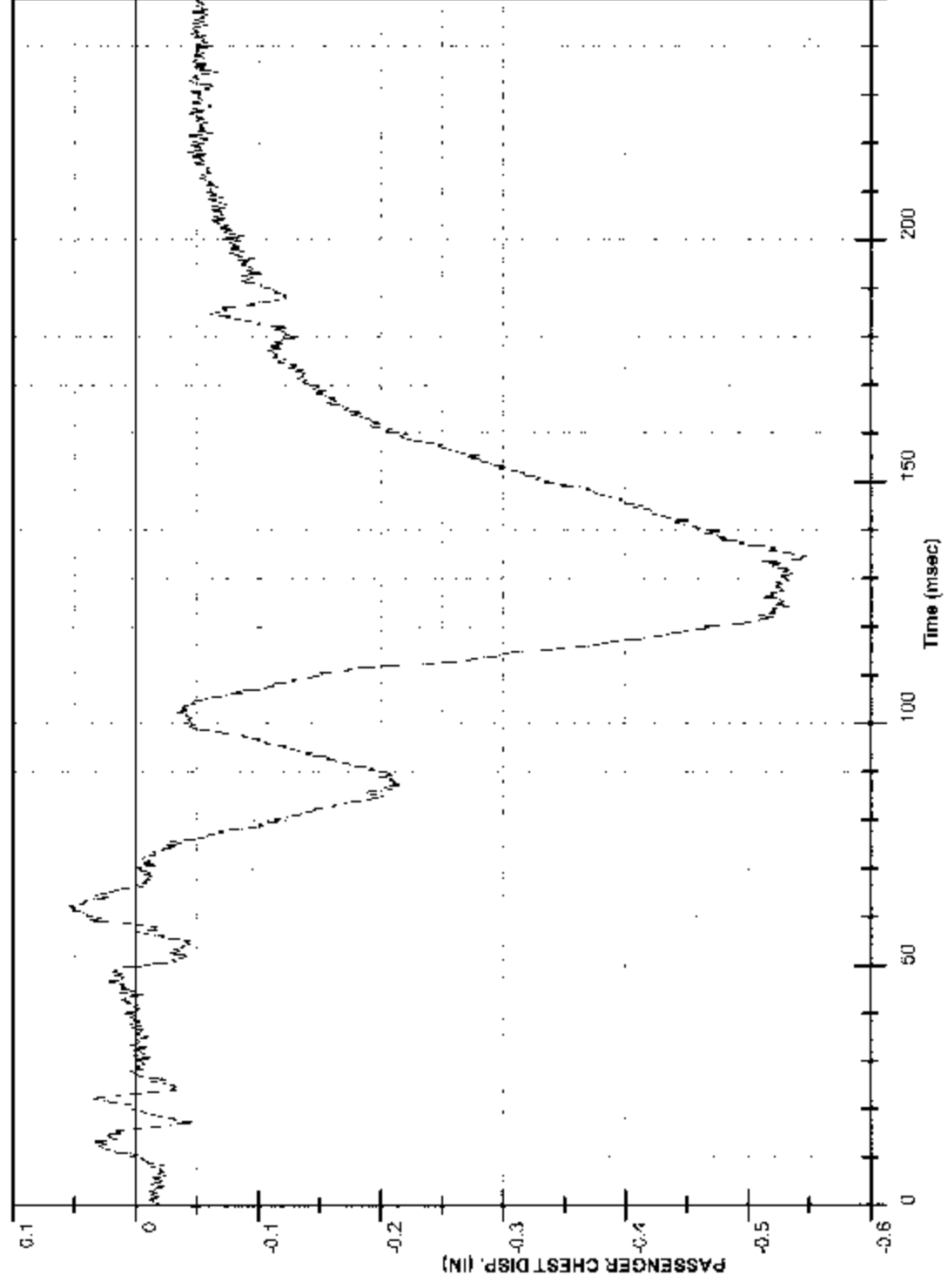


MGA Research Corp  
 Accelerator Sled Facility  
 5000 Warren Road,  
 Burlington, WI 53105  
 Ph #: 262-763-2705  
 Fax #: 262-763-0934

Test Desc: FMVSS 208 SLED  
 Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)  
 TestNumber: H03125  
 Test Date: 06/04/03

Chn Name: PASSENGER CHEST DISP.  
 CFC: 600  
 File Name: H03125DF.D39  
 Sensor S/N: D401DX

Plotted By: C. Gadberry  
 On: 06.05.2003 08:46:46



Test Desc: FMVSS 208 SLED

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

Test Number: H03125

Test Date: 06/04/03

Chn Name: PASSENGER LEFT FEMUR

CFC: 600

File Name: H03125FF.F43

Sensor S/N: 946

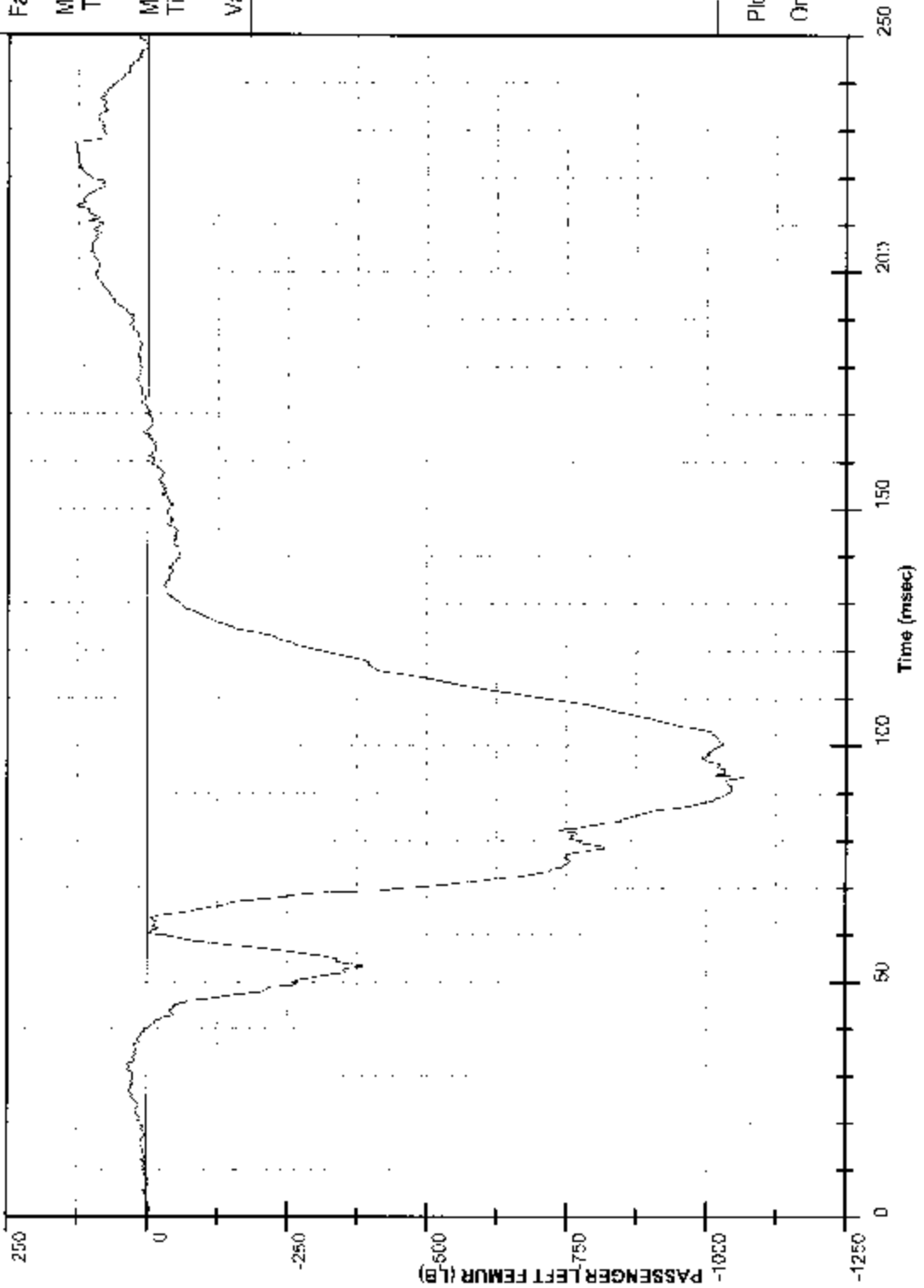
MGA Research Corp  
Accelerator Sled Facility  
5000 Warren Road,  
Burlington, WI 53105  
Ph #: 262-763-2705  
Fax #: 262-763-0934

Maximum: 132.9 LB  
Time: 227.2 msec

Minimum: -1,067.5 LB  
Time: 93.4 msec

Value at T0: 2.5 LB

Plotted By: C. Gadberry  
On: 06.05.2003 08:46:48



Test Desc: FIVSS 208 SLED

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

TestNumber: H03125

Test Date: 06/04/03

Chn Name: PASSENGER RIGHT FEMUR

CFC: 600

File Name: H03125FF.F44

Sensor S/N: 945

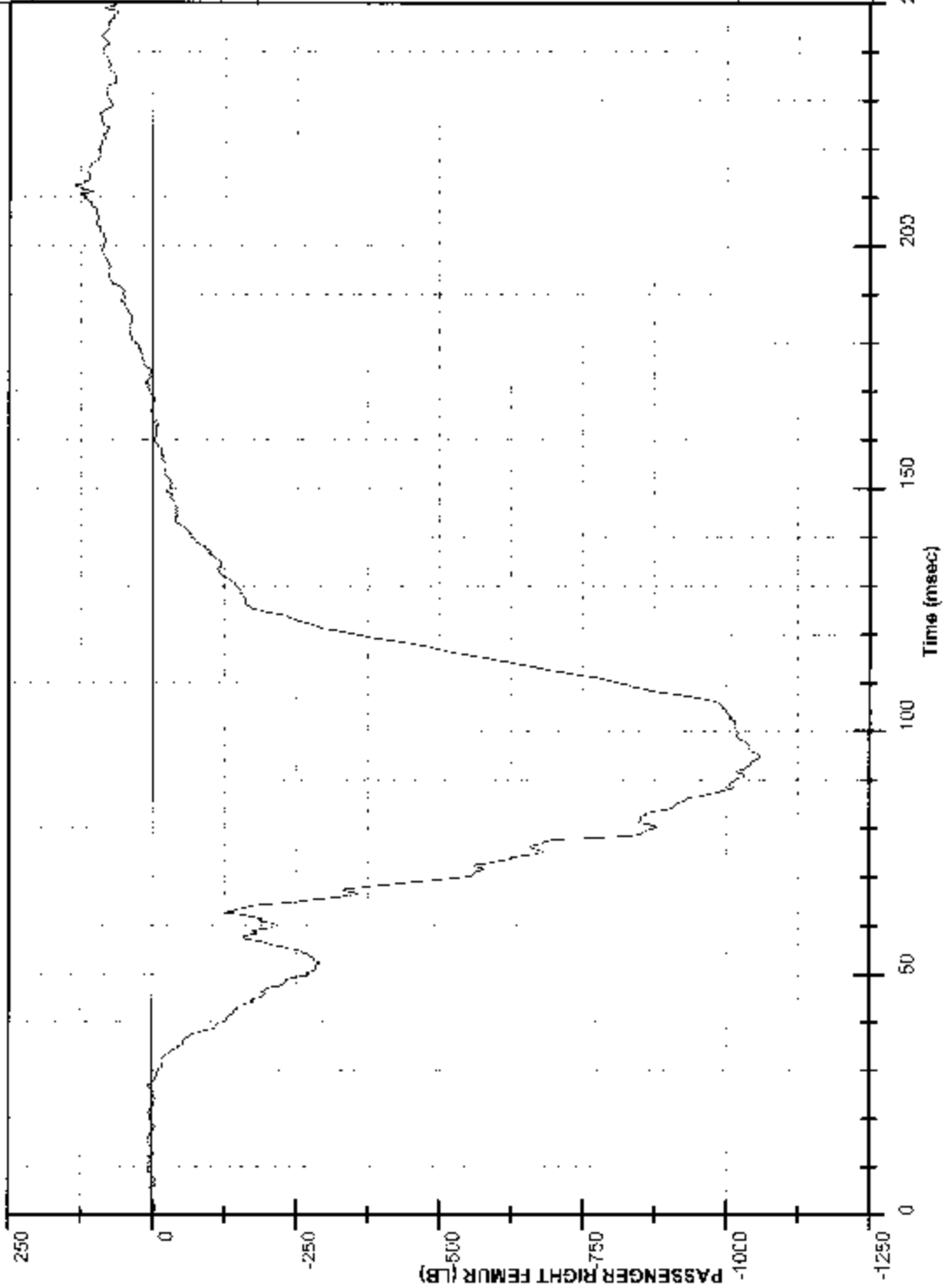
MGA Research Corp  
Accelerator Sled Facility  
5000 Warren Road,  
Burlington, WI 53105  
Ph #: 262-763-2705  
Fax #: 262-763-0934

Maximum: 137.5 LB  
Time: 212.3 msec

Minimum: -1,059.6 LB  
Time: 94.8 msec

Value at T0: 0.5 LB

Plotted By: C. Gadberry  
On: 06.05.2003 08:46:50



**APPENDIX C**  
**MANUFACTURER'S VEHICLE INFORMATION**



**NHTSA Information Request**

**NVS-221CCa  
OA:208-020916-M**

**FMVSS No. 208**

**OCCUPANT CRASH PROTECTION**

**2003 Mitsubishi Eclipse**

WE ANSWER ABOUT OVSC QUESTION FOR 2003 Mitsubishi Eclipse FMVSS 208 COMPLIANCE TEST

	OVSC QUESTION	ANSWER
1	<p>Many options are available for certification to FMVSS 208. Please identify the sections of FMVSS 208 to which the subject vehicles are certified. Provide a copy of the certification test reports for all the applicable impact tests and sled tests with respect to these sections. If the subject vehicles are certified to the low risk deployment requirements of S14, provide a copy of the certification tests. In addition, provide the test reports and any analysis used to determine the air bag inflator stages to trigger for the low risk deployment tests.</p> <p>If the subject vehicles are certified to any of the air bag suppression sections of S14, provide a representative test report for each type of suppression test. (i.e., rear facing child restraint suppression test (12-month-old dummy), 3-year-old dummy or human suppression test conducted with and without using a child restraint, 6-year-old dummy or human suppression test conducted with and without using a child restraint.) Also provide a test report for reactivation of the air bag system using a 5<sup>th</sup> percentile female.</p>	<p>Refer to our test report, XH991027.</p> <p>Vehicles are not certified according to S14.</p>
2	<p>Provide the following: (1) describe the difference between the MY 2003 air bag system and the MY 2002 air bag system, (2) explain what other restraint changes have been made, (3) explain what other vehicle changes have been made that may affect FMVSS 208 performance, and (4) describe any features that may affect occupant protection performance with respect to children and out of position occupants.</p>	<p>Item(1), (2) and (3): As for driver's air bag, passenger's air bag, steering column and seat belts, there is no change between MY 2002 and MY 2003.</p> <p>Item(4): There is no such feature.</p>
3	<p>If the subject vehicles were certified with unrestrained dummies to meet the requirements of S13, describe how to disconnect the air bags from the vehicle sensors and connect them to the triggering mechanism used in the sled test. Describe the method used in certification to determine when to trigger the air bag and the system used to trigger the air bag.</p> <p>For air bags with dual stage or multistage inflators describe when the stages are triggered and provide data to show that this is similar to what would occur in a crash of similar severity.</p>	<p>Refer to attachment 1.</p> <p>Not applicable because of single stage inflators.</p>

WE ANSWER ABOUT OVSC QUESTION FOR 2003 Mitsubishi Eclipse FMVSS 208 COMPLIANCE TEST (Cont'd)

OVSC QUESTION		ANSWER
4	For the subject vehicles certified to the advanced air bag requirements, describe how to disconnect the air bags and trigger the appropriate inflator stages for the low risk deployment tests.	Vehicles are not certified according to the advanced air bag requirements.
5	State for each safety belt system in the subject vehicles whether or not it is equipped with a tension-relieving device. Provide a copy of the information furnished in accordance with S7.4.2 if the tension-relieving device is used.	Not equipped.
6	State for each crash test: (frontal, angular, and offset) that the subject vehicles are certified as meeting whether the moveable windows and vents were opened or closed.	Windows and vents were opened.
7	Submit dummy placement measurements, including diagrams or photographs that show exactly where each measurement was taken. For the subject vehicles certified to the advanced air bag requirements provide measurements for both the 50 <sup>th</sup> percentile male and the 5 <sup>th</sup> percentile female. Enclosed is a diagram of some of OVSC's dummy measurements. Where possible, use each dimension shown in the diagram to provide the individual dummy placement measurements.	Refer to attachment 2.
8	For the subject vehicles certified to the advanced air bag requirements, provide the width of the vehicle as defined in S18.2.4, the location at which the maximum dimension was measured, and other information and measurements used to position the vehicle for the certification offset crash test at 40 percent overlap.	Vehicles are not certified according to the advanced air bag requirements.
9	For the subject vehicles certified to the advanced air bag suppression requirements, describe the test to determine air bag activation and deactivation. State whether humans or dummies were used for the suppression tests. If humans were used, provide the method to deactivate the air bag during suppression tests, identify any parts or equipment necessary for deactivation, and provide the method to assure that the same test results would be obtained if the air bag were not deactivated.	Vehicles are not certified according to the advanced air bag requirements.
10	State whether the subject vehicles have a footrest for the driver.	Equipped

WE ANSWER ABOUT OVSC QUESTION FOR 2003 Mitsubishi Eclipse FMVSS 208 COMPLIANCE TEST (Cont'd)

	OVSC QUESTION	ANSWER
11	Provide the seat positioning, steering column positioning, and fuel tank data on the enclosed form. If more than one front seating configuration, steering column or fuel tank configuration are available on this vehicle, provide separate information for each. For certification tests using the 5 <sup>th</sup> percentile female, provide the seat fore-aft position, seat height, and seat back angle used in the certification test. In addition, provide the seating reference point for each seat for the lockable seat belt requirement in S7.1.1.5.	Refer to attachment 3.
12	For the subject vehicles certified to the low risk deployment sections of the advanced air bag requirements, provide the location of the "geometric center of the opening through which the air bag deploys into the occupant compartment."	Vehicles are not certified according to the advanced air bag requirements.
13	If the subject vehicles are equipped with adjustable seat belt anchorages, provide the manufacturer's nominal design position for a 50 <sup>th</sup> percentile adult male occupant and, if certified to the advanced air bag requirements, the position for the 5 <sup>th</sup> percentile female.	Position for a 50 <sup>th</sup> percentile adult male: The lowest position of seat belt adjustable anchorage Position for the 5 <sup>th</sup> percentile female: Not applicable
14	For all tests that are performed to certify the subject vehicles to injury assessment performance requirements, provide a summary of the injury results. In addition, for crash tests, provide the measured test speed.	Refer to our test report, XH991027 and XH001129.
15	When vehicle components must be removed to obtain the proper test weight for crash tests, what components do you recommend for removal, and in what priority order do you recommend removal?	Spare tire, tool, trunk room trim and rear seat
16	If the subject vehicles use a pressure vessel to inflate the air bag, provide a copy of the test reports or engineering analysis to demonstrate that it meets all the requirements of S9.1.	Refer to our test report, XH991027.
17	If the subject vehicles use an explosive device to inflate the air bag, provide a copy of the test report or engineering analysis to demonstrate that it meets all the requirements of S9.2.	Refer to our test report, XH991027.

## TEST VEHICLE INFORMATION

Vehicle Model Year and Make: 2003 Mitsubishi  
 Vehicle Model and Body Style: Eclipse 2-door hatchback

## 1. NOMINAL DESIGN RIDING POSITION -

For adjustable driver and passenger seat backs, describe how to position the inclinometer to measure the seat back angle. Include description of the location of the adjustment latch detent if applicable.

Indicate, if applicable, how the detents are numbered (Is the first detent "0" or "1" ?). Indicate if the seat back angle is measured with the dummy in the seat.

1.1 50<sup>th</sup> percentile male

Seat back angle for driver's seat = 34.8 degrees.

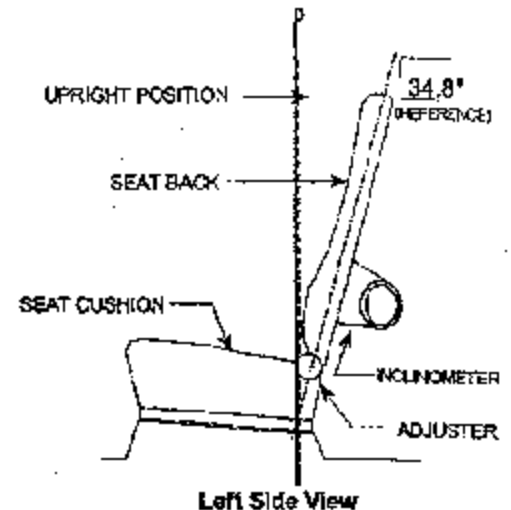
Measurement Instructions:

Adjust the seat back to be 34.8° as indicated in Attachment 3-3 or locate the seat back to be the 6th step from the first locking position as 1st step.

Seat back angle for passenger's seat = 34.8 degrees.

Measurement Instructions:

The same as driver's seat

1.2 5<sup>th</sup> percentile female

Seat back angle as tested for driver's seat = \_\_\_\_\_ degrees.

Measurement Instructions:

(Not certified according to the advanced air bag requirements)

Seat back angle as tested for passenger's seat = \_\_\_\_\_ degrees.

Measurement Instructions:

(Not certified according to the advanced air bag requirements)

## 2. SEAT FORE &amp; AFT POSITIONS -

Provide instructions for positioning the driver and front outboard passenger seat(s). For example, indicate how the detents are numbered (Is the first detent "0" or "1" ?). Provide information to locate the detent in which the seat track is to be locked.

2.1 50<sup>th</sup> percentile male

Positioning of the driver's seat:

Adjust to the 12th locking position from rearmost locking position as 1st, or adjust to 4.33 inches (110mm) from rearmost position.

The pitch to be locked is 0.39 inches (10mm) for manual slide seat.

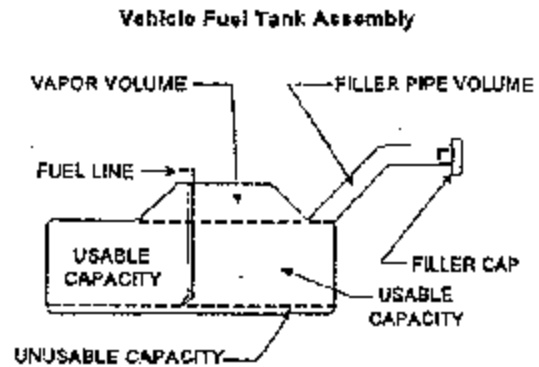
Positioning of the passenger's seat (if applicable):

The same as driver's seat.

Vehicle Model Year and Make: 2003 Mitsubishi  
 Vehicle Model and Body Style: Eclipse 2-door hatchback

**3. FUEL TANK CAPACITY DATA –**

- 3.1 A. "Usable Capacity" of standard equipment fuel tank = 16.4 gallons (62 liters).  
 B. "Usable Capacity" of optional equipment fuel tank = — gallons.  
 C. Capacity used when certification testing to requirements of FMVSS 301 = 15.4 gallons (58.3 liters).



Operational Instructions: (none)

- 3.2 Amount of Stoddard solvent added to vehicle for certification test = 15.4 gallons ( 58.3lit.).  
 3.3 Is vehicle equipped with electric fuel pump?  X  YES — NO

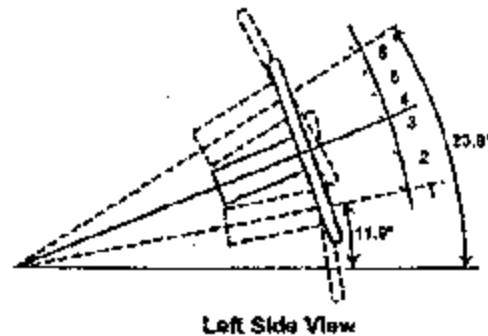
If YES, does pump normally operate when vehicle's electrical system is activated?  
The fuel pump will operate when the ignition is on (engine on) and will stop at ignition off or engine stall.

**4. STEERING COLUMN ADJUSTMENTS –**

Steering wheel and column adjustments are made so that the steering wheel hub is at the geometric center of the locus it describes when it is moved through its full range of driving positions.

If the tested vehicle has any of these adjustments, does your company use any specific procedures to determine the geometric center?

**STEERING COLUMN ASSEMBLY**



Operational Instructions:

The steering column can be locked at 6 position from 11.9deg to 23.9deg(2.4deg/1pitch). Adjust to the 3rd locking position.

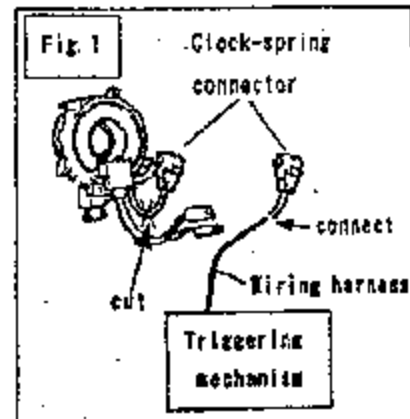
## 1. How to disconnect the air bags from vehicle sensors and connect them to the triggering mechanism.

Disconnect the negative(-) battery cable from the battery and tape the terminal to prevent accidental connection and air bags deployment.

Wait at least 90 seconds after disconnecting the battery cable before doing any further work.

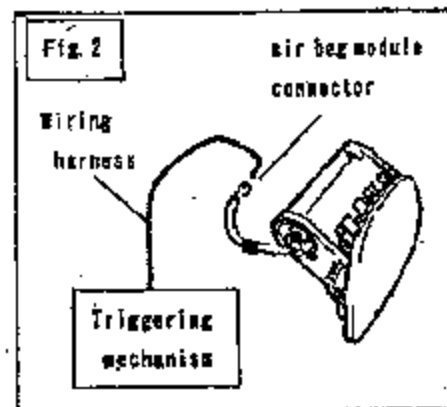
### For Driver's air bag.

- (1) Remove the air bag module according to the instruction BN-48.
- (2) Cut the midway of the clock spring to air bag module harness.
- (3) Connect the wiring harness from triggering mechanism. (Fig. 1)
- (4) Install the air bag module according to the instruction BN-50.



### For Passenger's air bag.

- (1) Remove the GLOVE BOX OUTER and GLOVE BOX INNER.  
(Refer the BN-47)
- (2) Remove the connection between the air bag module connector and the body wiring harness connector.
- (3) Connect the wiring harness from triggering mechanism.
- (4) Install the passenger's side under cover and glove box according to the inverse way of removal.



## 2. The method to determine when to trigger the air bag.

The trigger signal for air bag is determined by 20ms after the trigger signal for sled shottling.

We examined several times to meet the requirement ( $20 \pm 2$ ms after the sled G rise up to 0.5G).

AIR BAG MODULE INSTALLATION  
STEPSRequired Special Tool:  
MB990502: Scan Tool (MUT-II)

- >>A<< • PRE-INSTALLATION INSPECTION
4. AIR BAG MODULE (FRONT PASSENGER'S SIDE)
  3. GLOVE BOX INNER
  2. GLOVE BOX OUTER
  1. NEGATIVE (-) BATTERY CABLE CONNECTION
- >>E<< • POST-INSTALLATION INSPECTION

## REMOVAL SERVICE POINT

## &lt;&lt;A&gt;&gt;NEGATIVE (-) BATTERY CABLE DISCONNECTION

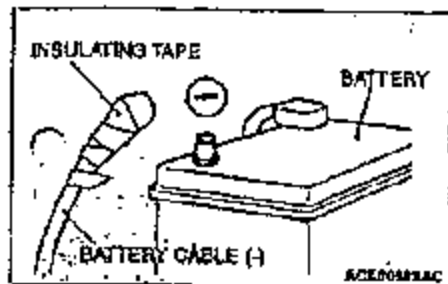
**⚠ DANGER**

Wait at least 60 seconds after disconnecting the battery cable before doing any further work. (Refer to P.8M-51.)

**⚠ WARNING**

Battery posts, terminals and related accessories contain lead and lead compounds. WASH HANDS AFTER HANDLING.

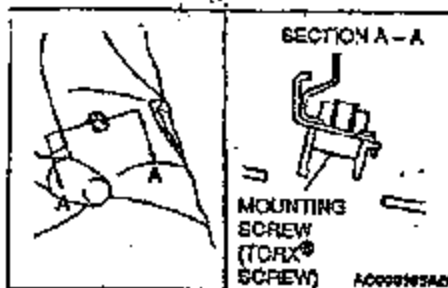
Disconnect the negative (-) battery cable from the battery and tape the terminal to prevent accidental connection and air bag(s) deployment.



## &lt;&lt;B&gt;&gt;AIR BAG MODULE REMOVAL (DRIVER'S SIDE)

NOTE: Do not remove the screws from the holders.

1. Remove the air bag module mounting screws (TORX® screws) at the sides of the steering wheel.

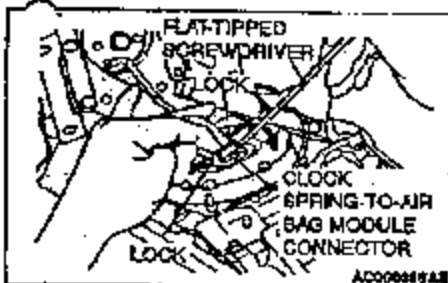
**⚠ WARNING**

The removed air bag module should be stored in a clean, dry place with the pad cover face up.

**⚠ CAUTION**

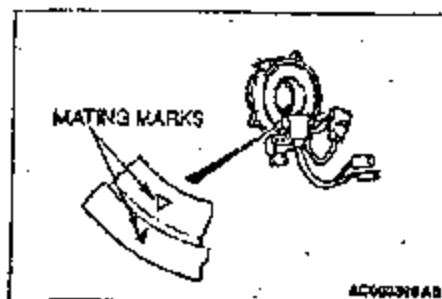
When disconnecting the air bag module-to-clock spring connector, take care not to apply excessive force to it.

2. When disconnecting the connector of the clock spring from the air bag module, press the air bag's lock toward the outer side to spread it open. Use a flat-tipped screwdriver, as shown in the figure at the left, to pry gently to remove the connector.



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## &gt;&gt;D&lt;&lt;CLOCK SPRING INSTALLATION

**⚠ WARNING**

Ensure that the clock spring's mating marks are properly aligned. If not, the steering wheel may not rotate completely during a turn, or the flat cable in the clock spring could be damaged. This would prevent normal SRS operation and possibly cause serious injury to the driver.

Align the mating marks of the clock spring. Turn the front wheels to the straight-ahead position. Then install the clock spring to the column switch.

## &lt;Mating Mark Alignment&gt;

Turn the clock spring clockwise fully. Then turn it back approximately 3 turns counterclockwise to align the mating marks.

## &gt;&gt;C&lt;&lt;STEERING WHEEL INSTALLATION

**⚠ CAUTION**

When installing the steering wheel, ensure that the harness of the clock spring does not become caught or tangled.

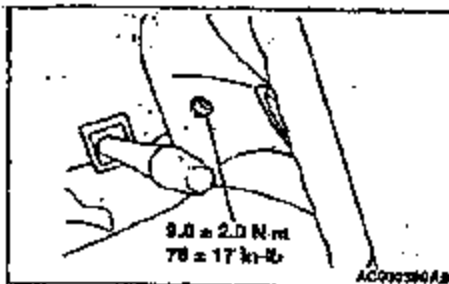
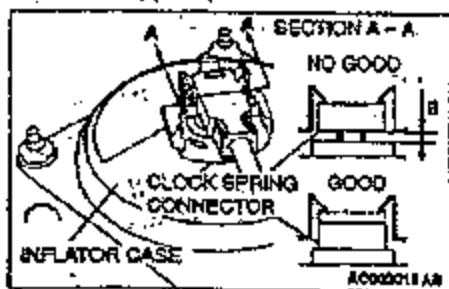
1. Before installing the steering wheel, turn the vehicle's front wheels to the straight-ahead position and align the mating marks of the clock spring.
2. After securing the steering wheel, turn the steering wheel all the way in both directions to confirm that the steering wheel rotation is normal.

## &gt;&gt;D&lt;&lt;AIR BAG MODULE INSTALLATION (DRIVER'S SIDE)

**⚠ CAUTION**

If there is a gap at place B shown in the illustration, that means the connector is not firmly inserted, i.e. not correctly connected. In such a case, insert connector to the place, where there remains no gap at place B shown in the illustration.

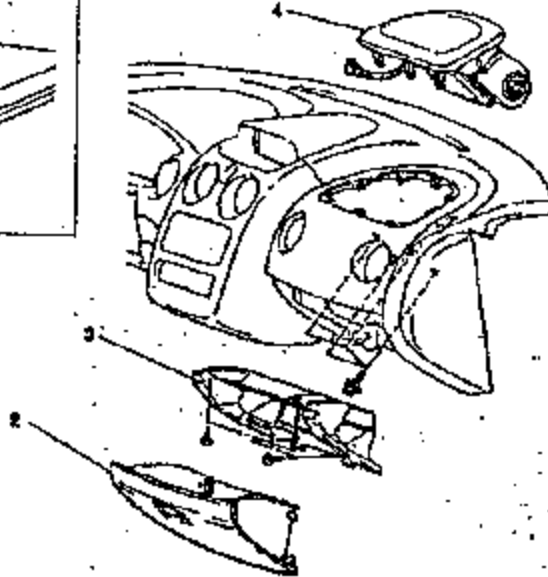
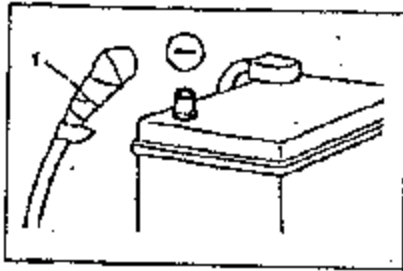
1. Connect the clock spring connector securely.



2. Tighten the air bag module mounting screws to  $9.0 \pm 2.0$  N·m ( $78 \pm 17$  in.-lb)

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REMOVAL AND INSTALLATION  
(front passenger's side)



AIR BAG MODULE REMOVAL  
STEPS

1. NEGATIVE (-) BATTERY CABLE  
CONNECTION

AIR BAG MODULE REMOVAL  
STEPS (Continued)

2. GLOVE BOX OUTER  
3. GLOVE BOX INNER  
4. AIR BAG MODULE (FRONT  
PASSENGER'S SIDE)

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