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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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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.

DRIVER

PASSENGER

Dummy Type

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

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

Vehicle NHTSA No.: C35602 VIN: 4A3AC34G53E109742 Color: Black

Engine Data:

No. Cylinders: 4; CID: ; Liters: 2.4; CCs:

Placement: Longitudinal/Inline: ; Transverse/Lateral: X

Transmission Data:

Speeds: 5; Manual: X; Automatic: ; Overdrive: X

Final Drive:

Rear Wheel Drive: ; Front Wheel Drive: X; Four Wheel Drive:

Major Options:

A/C: X; Pwr. Strg.: X; Pwr. Brakes: X; Pwr. Windows: X

Pwr. Dr. Locks: X; Other:

Date Received: 5/1/03; Odometer Reading: 73 miles

Selling Dealer: Kyettner Imports, Inc., 2230 E. Moreland Blvd. Waukesha, WI 53187

REMARKS: None

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 = 16.3 gallons
Usable Capacity Figure Furnished by COTR = 16.4 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

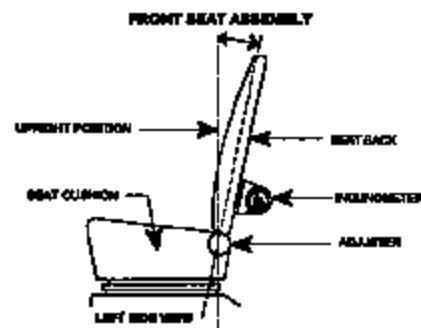
Vehicle Yr/Make/Model/Body Style: 2003/Mitsubishi/Eclipse/2 Door Hatchback

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

NOMINAL DESIGN RIDING POSITION:

Driver Seat: Seat Back Angle = 34.7°

Passenger Seat: Seat Back Angle = 34.5°



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

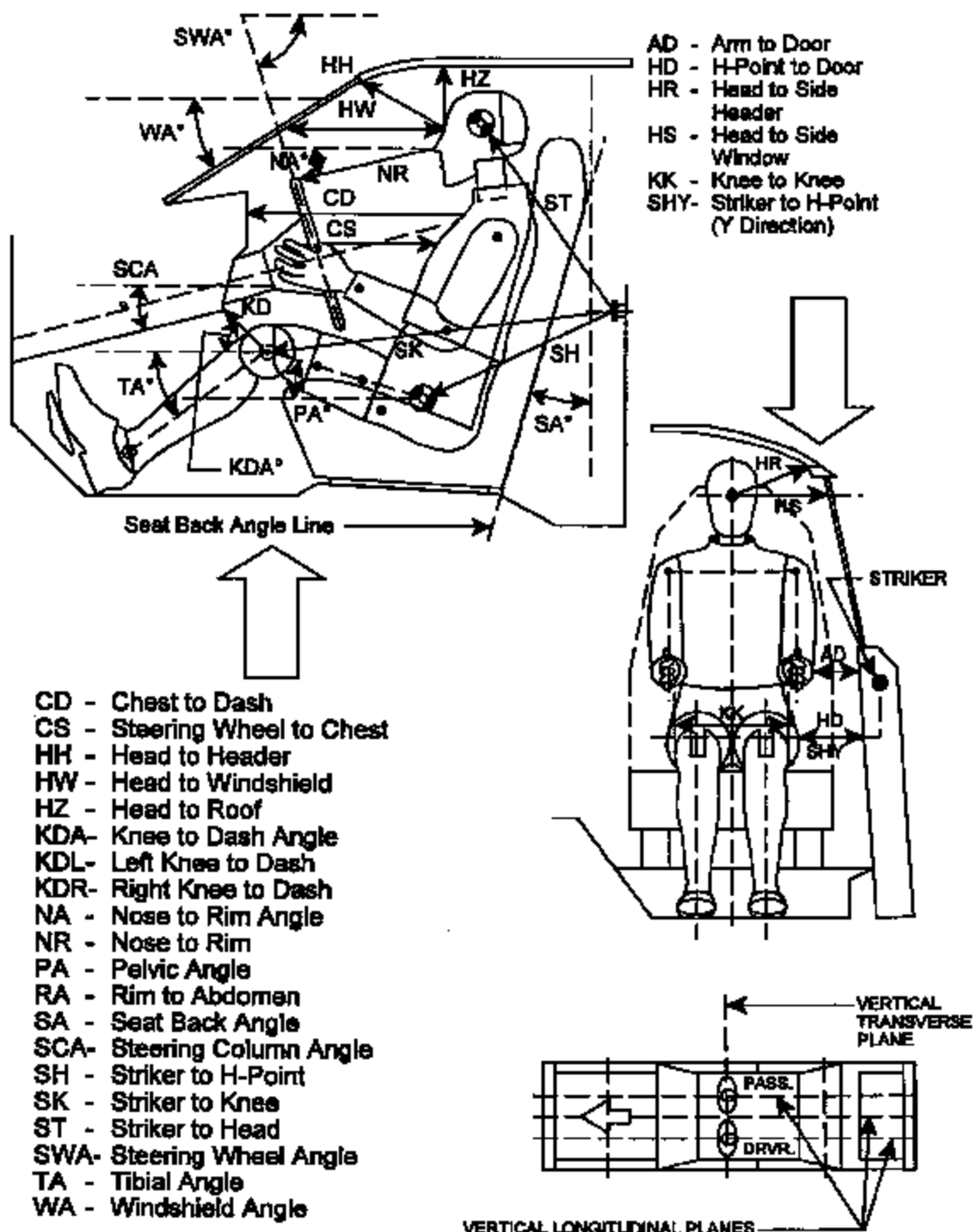
Vehicle Year/Make/Model/Body Style: 2003/Mitsubishi/Eclipse/2 Door Hatchback

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).
- *¹ **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

¹ 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.)

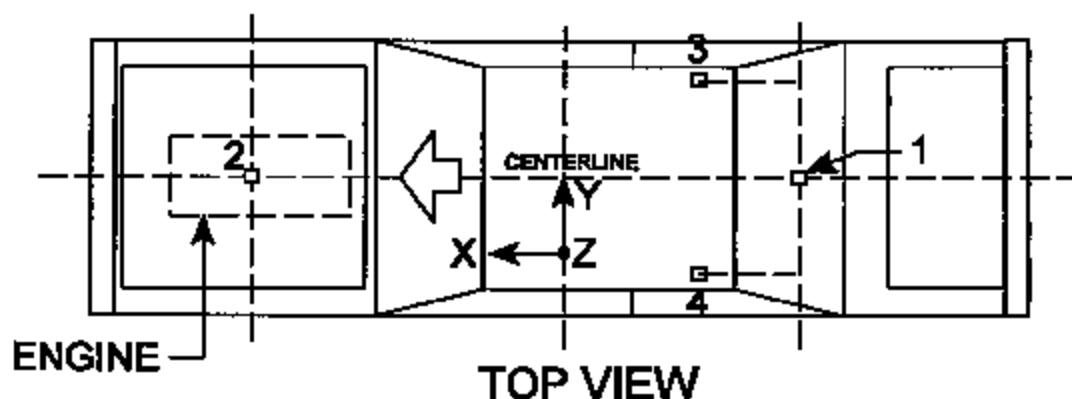
Angles

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.

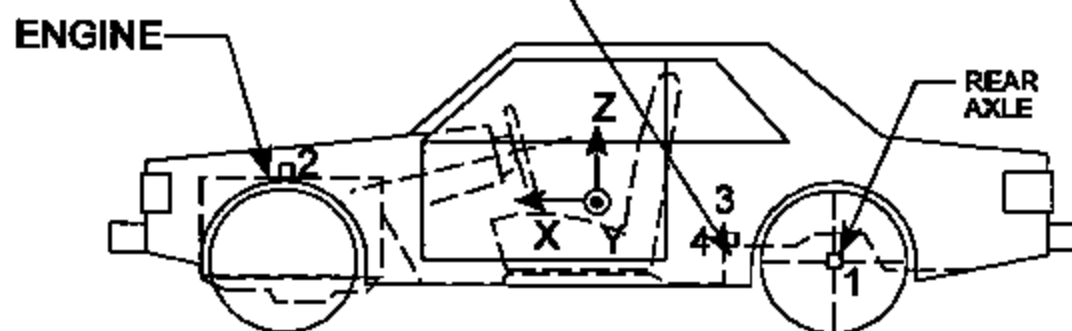
Vehicle Accelerometer Placement and Data Summary

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

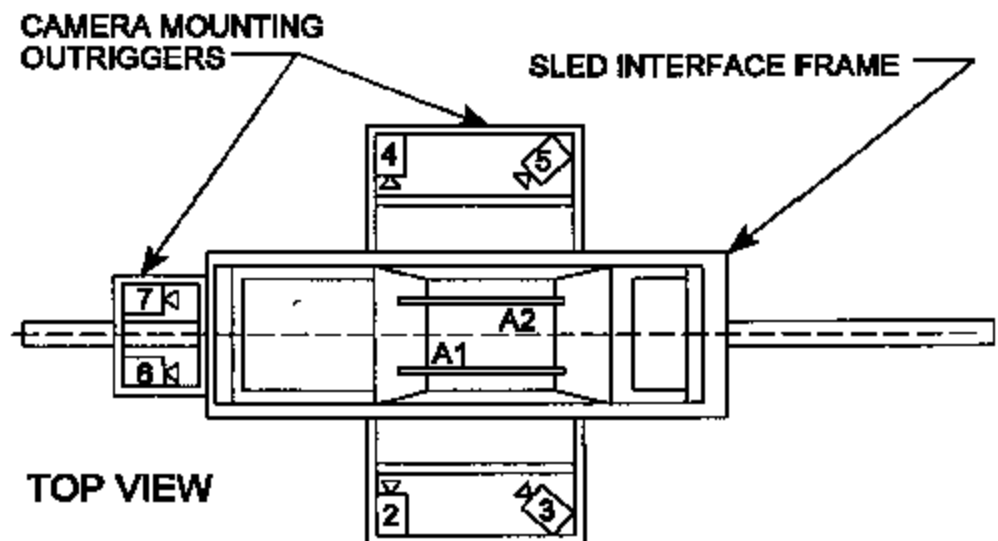
Vehicle Accelerometer Location Measurements and Data Summary

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



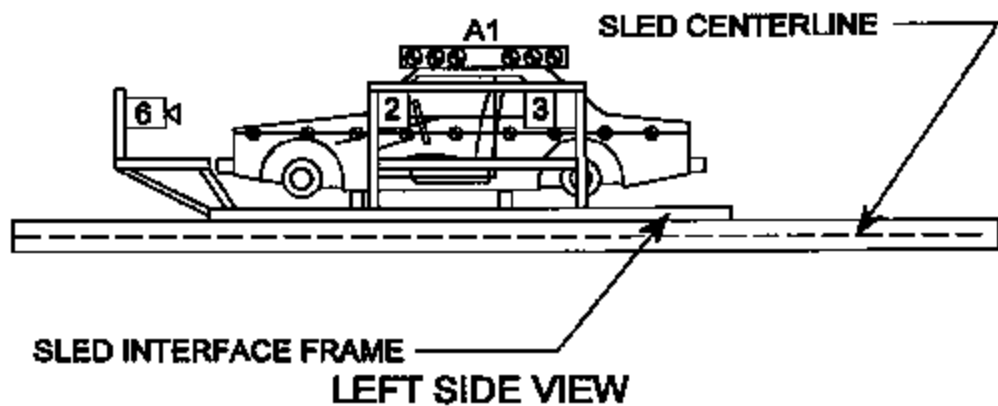
CAMERA FRAME RATES:

#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	1088
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.: C35802 : 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 (X) 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?
(X) 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?
(X) 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

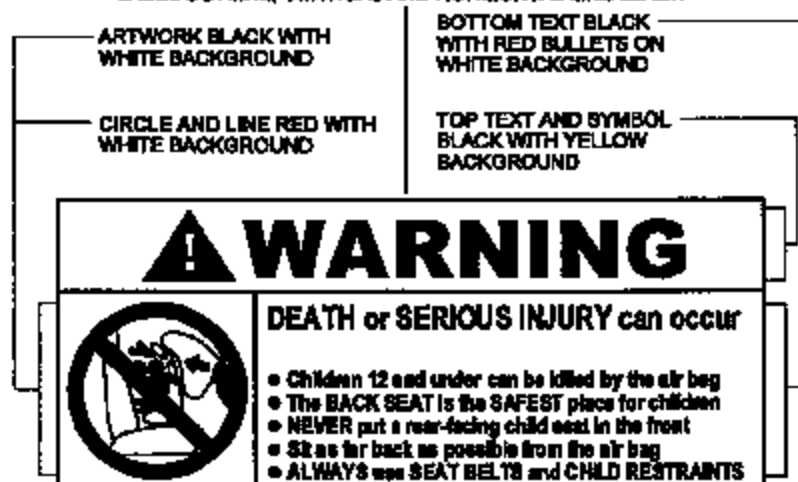


Figure 6a (S4.5.1(b)(2))

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 - | ☒ Yes-Pass | ☐ No-FAIL |
| Passenger Side - | ☐ No air bag | ☒ Yes-Pass ☐ No-FAIL |
- 4.4 Is the message white with black text? (S4.5.1(b)(2)(ii))
- | | | |
|------------------|--|---|
| Driver Side - | ☒ Yes-Pass | ☐ No-FAIL |
| Passenger Side - | ☐ No air bag | ☒ Yes-Pass ☐ No-FAIL |

Air Bag Labels Data (Cont.)

- 4.5 Is the message area at least 30 cm²? (S4.5.1(b)(2)(ii))**
Actual message area: 32.9 cm²
- | | | |
|---------------------------------|-------------|-------------|
| 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 cm²? (S4.5.1(c)(2)(I))
Actual message area: _____ cm²
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?
☒ 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))
☒ 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)(II)) to the label shown below. (S4.5.1(e))
☒ 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 cm²? (S4.5.1(e)(iii))
Actual message area: 30.6 cm² (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.

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)

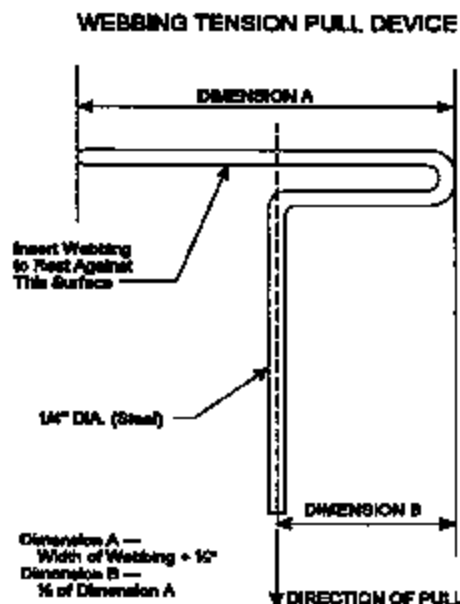


Figure 5 (S7.1.1.5(c)(4))

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

(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 = 37.9 inches

(X)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)

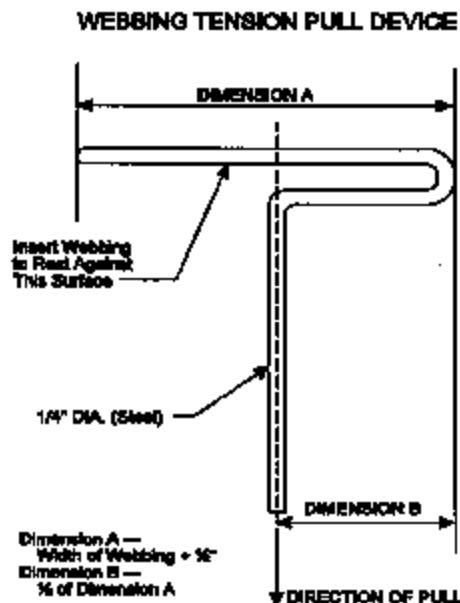


Figure 5 (S7.1.1.5(c)(4))

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)

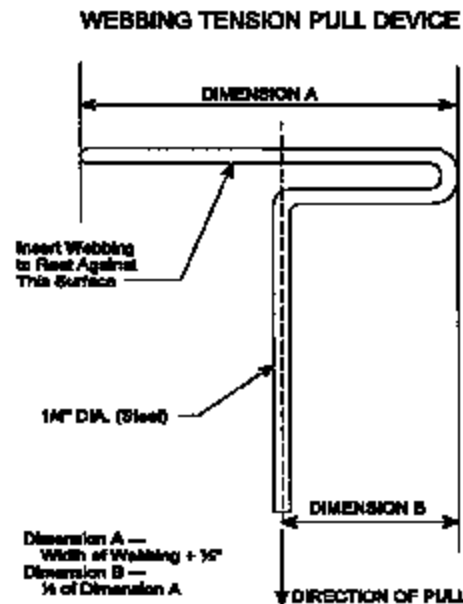


Figure 5 (S7.1.1.5(c)(4))

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
(X) 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
(X) N/A
- 1.3 If separately adjustable in a vertical direction, the seats are at the lowest position.
() Check
(X) N/A
- 1.4 Place adjustable seat backs in the manufacturer's nominal design riding position in the manner specified by the manufacturer.
() Check
(X) 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
(X) N/A
- 1.6 Place each adjustable head restraint in its highest adjustment position.
() Check
(X) 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 (87.4.4)**

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.
 - (X) 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

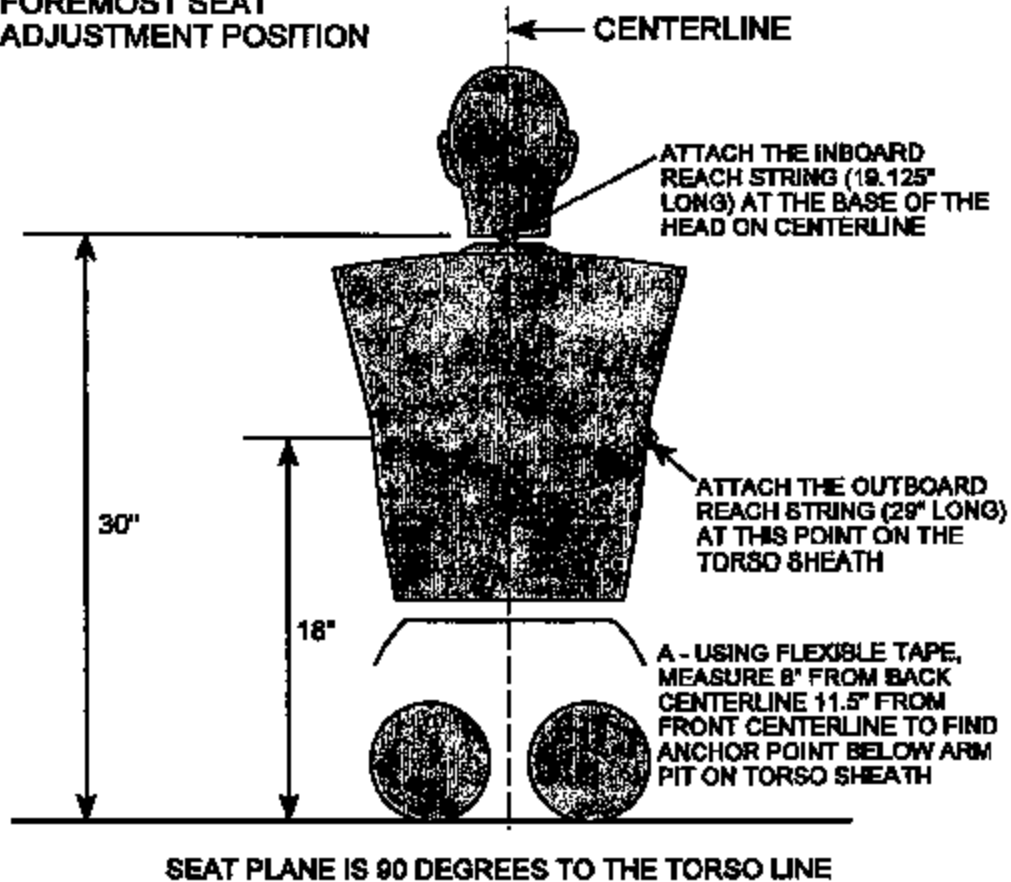
Seat Belt Comfort and Convenience Data (Cont.)

- 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**

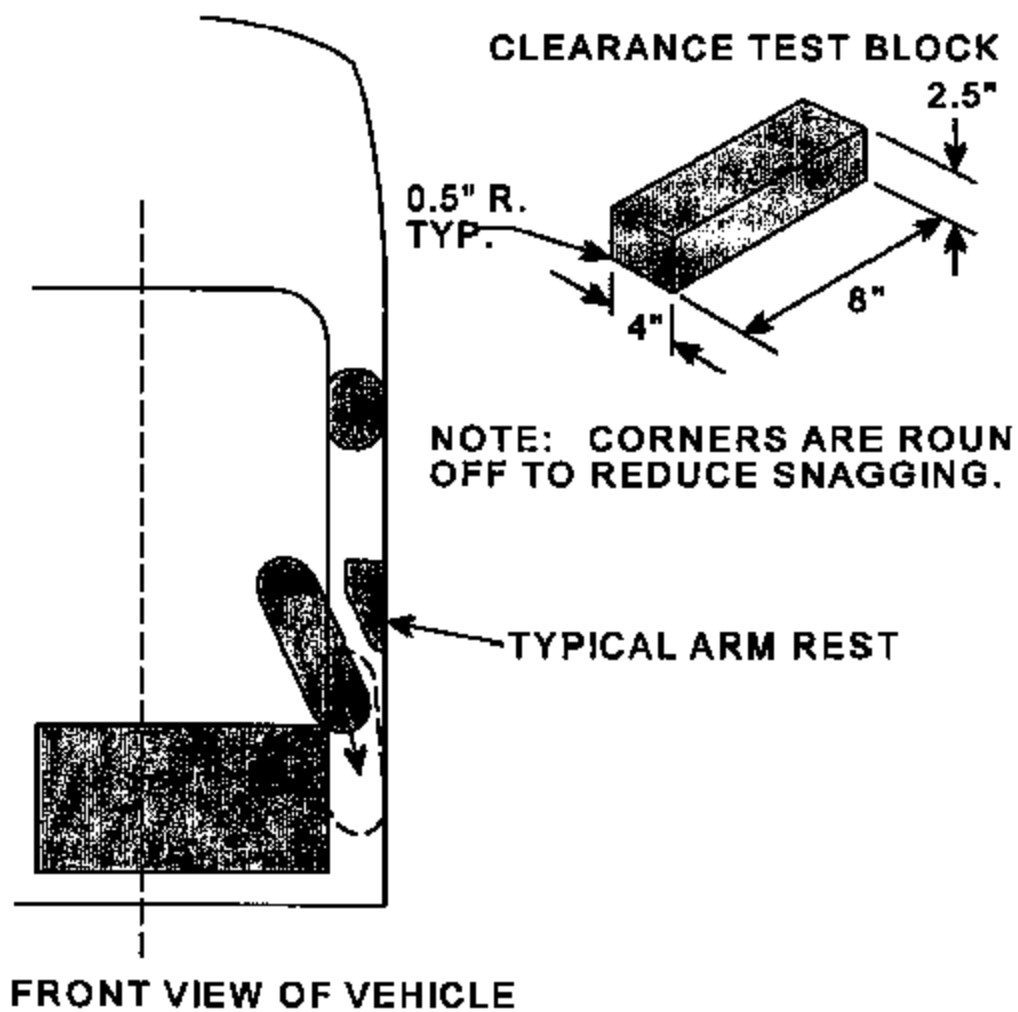
PART 572E DUMMY

**50TH PERCENTILE
DUMMY SEATED IN
FOREMOST SEAT
ADJUSTMENT POSITION**



REAR VIEW

USE OF CLEARANCE TEST BLOCK TO DETERMINE HAND/ARM ACCESS



APPENDIX A
PHOTOGRAPHS

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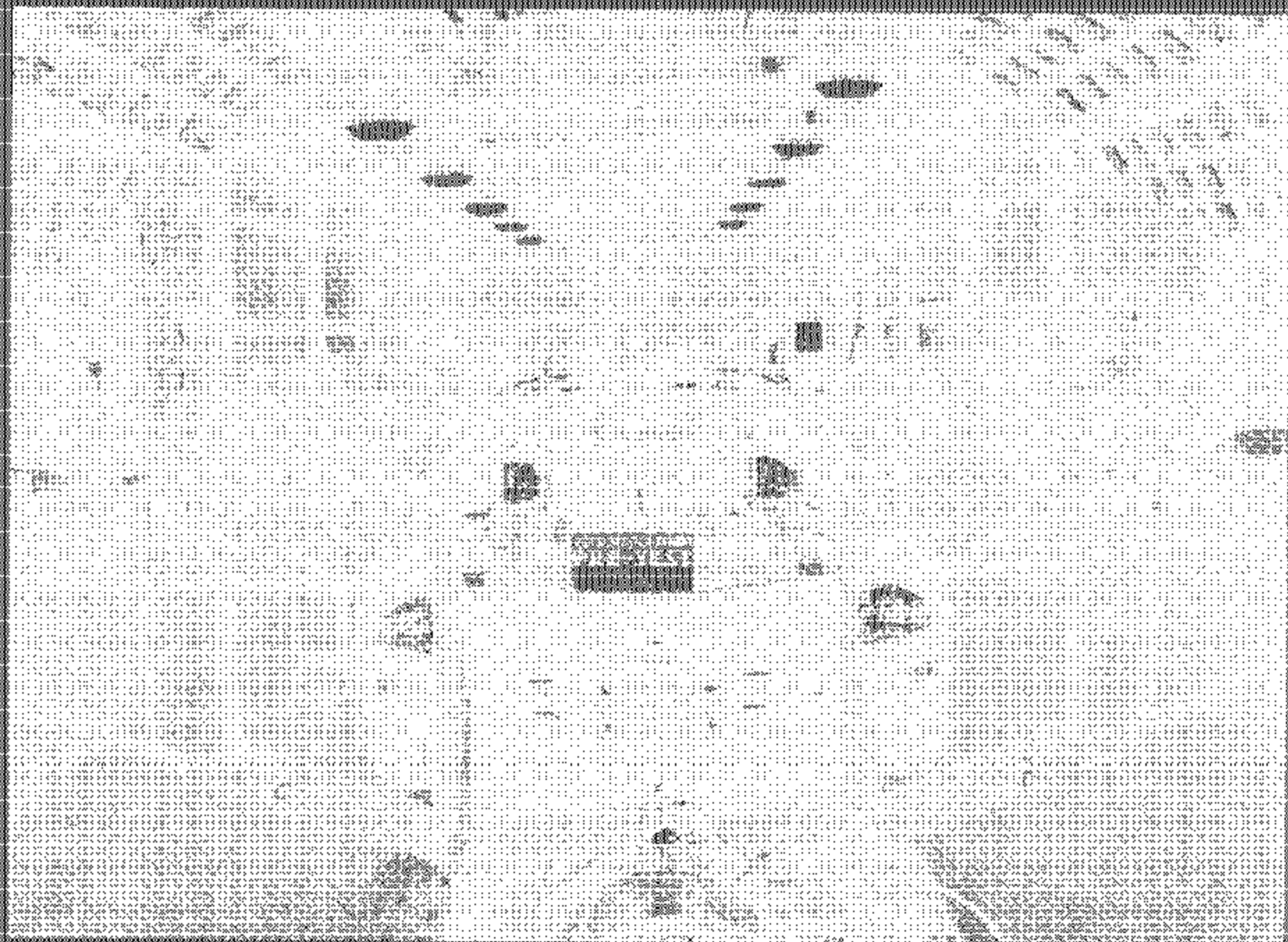
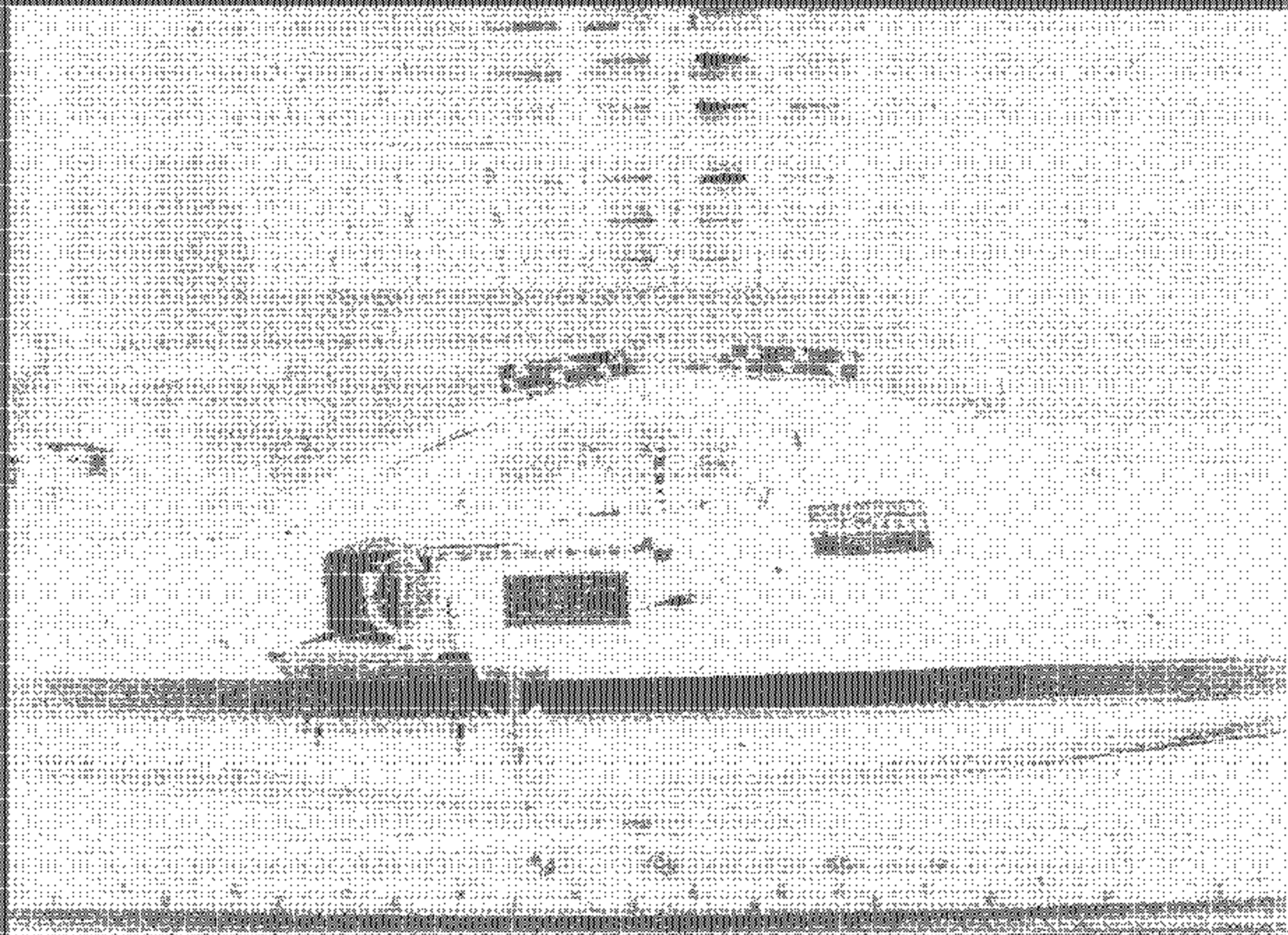
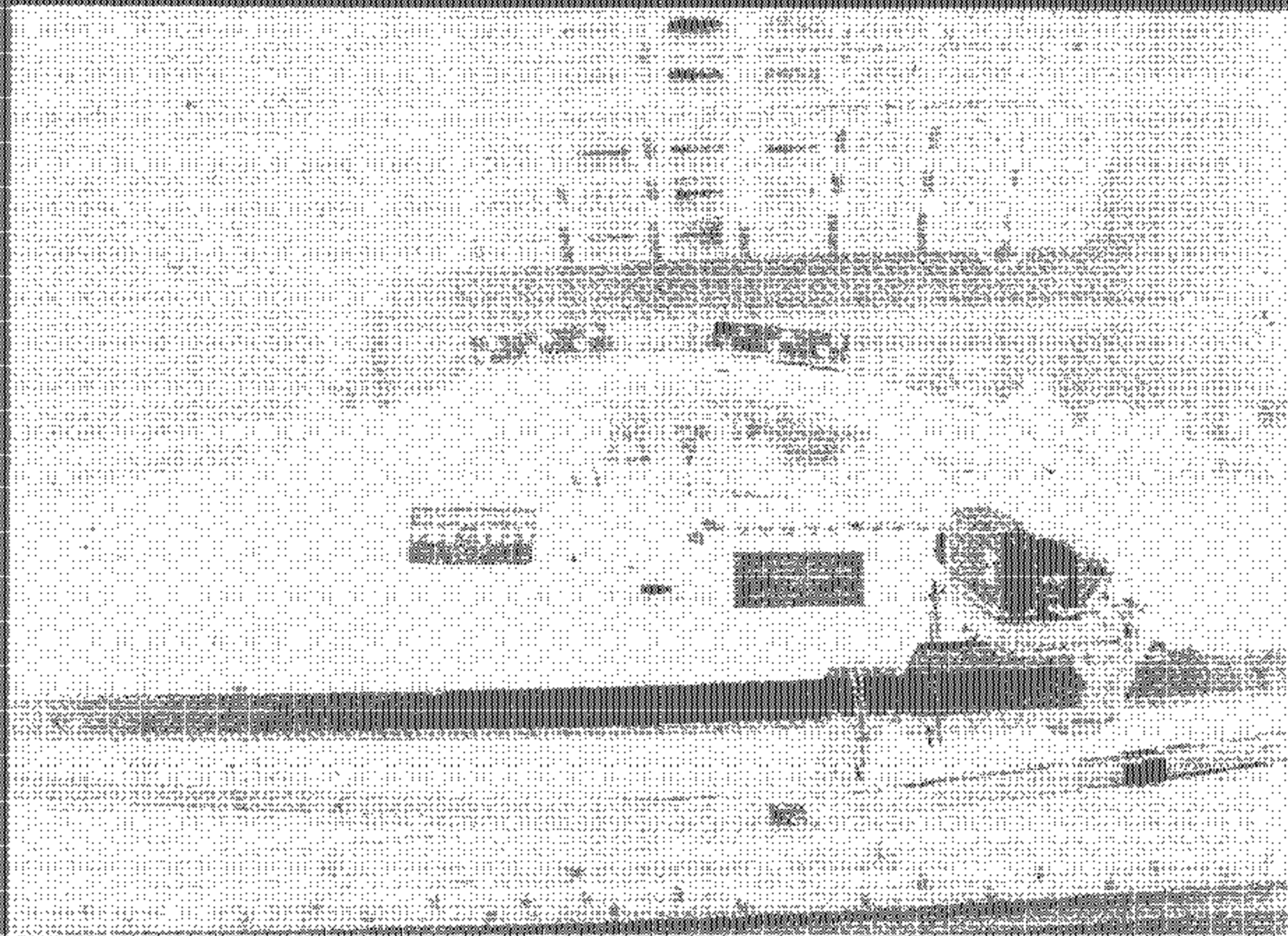


FIGURE 1000 VIEW



P76-Test Left Side View

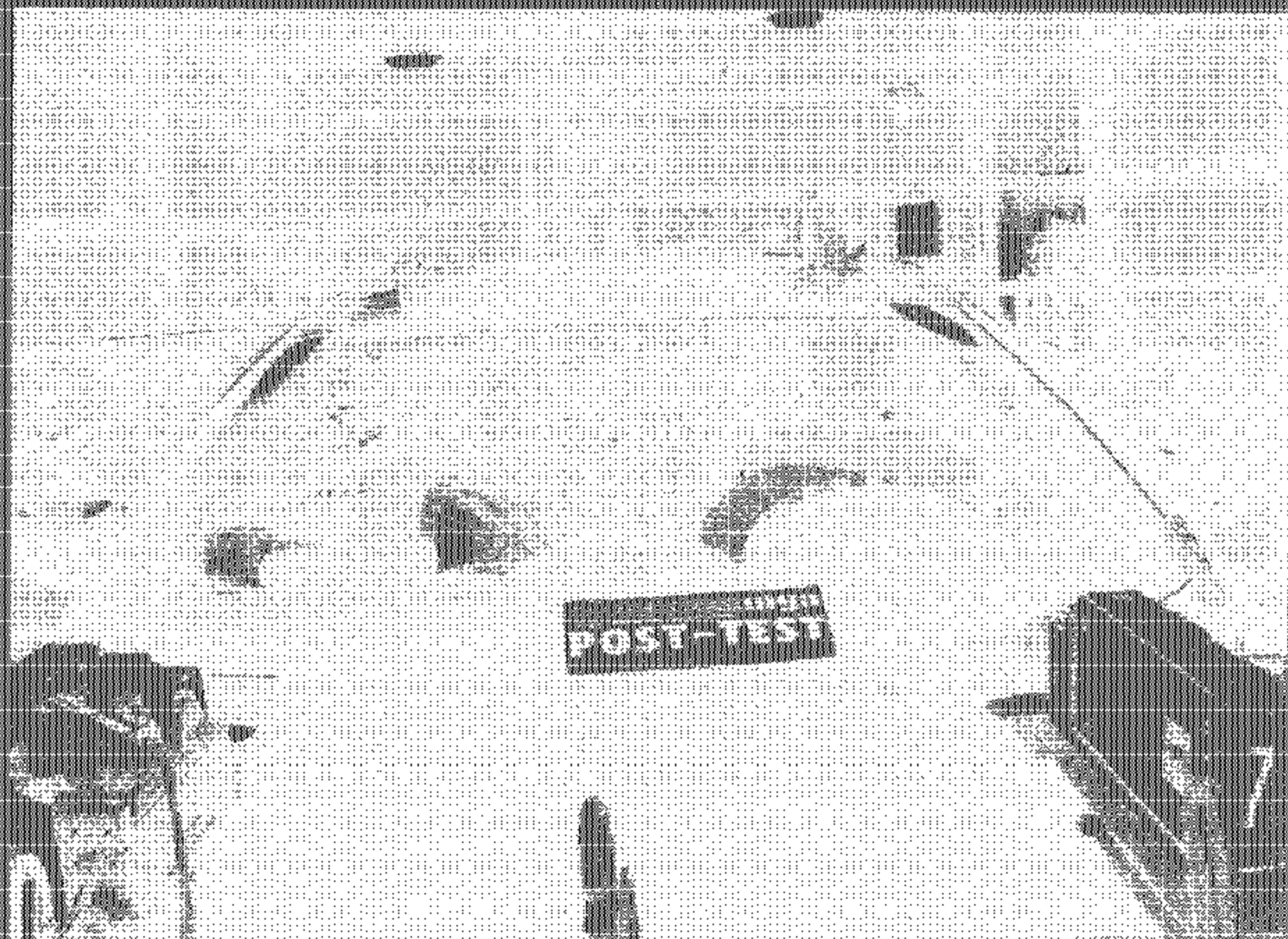
AX



Pre-Test Right Side View



PRE-TEST VIBROSPREAD VIEW

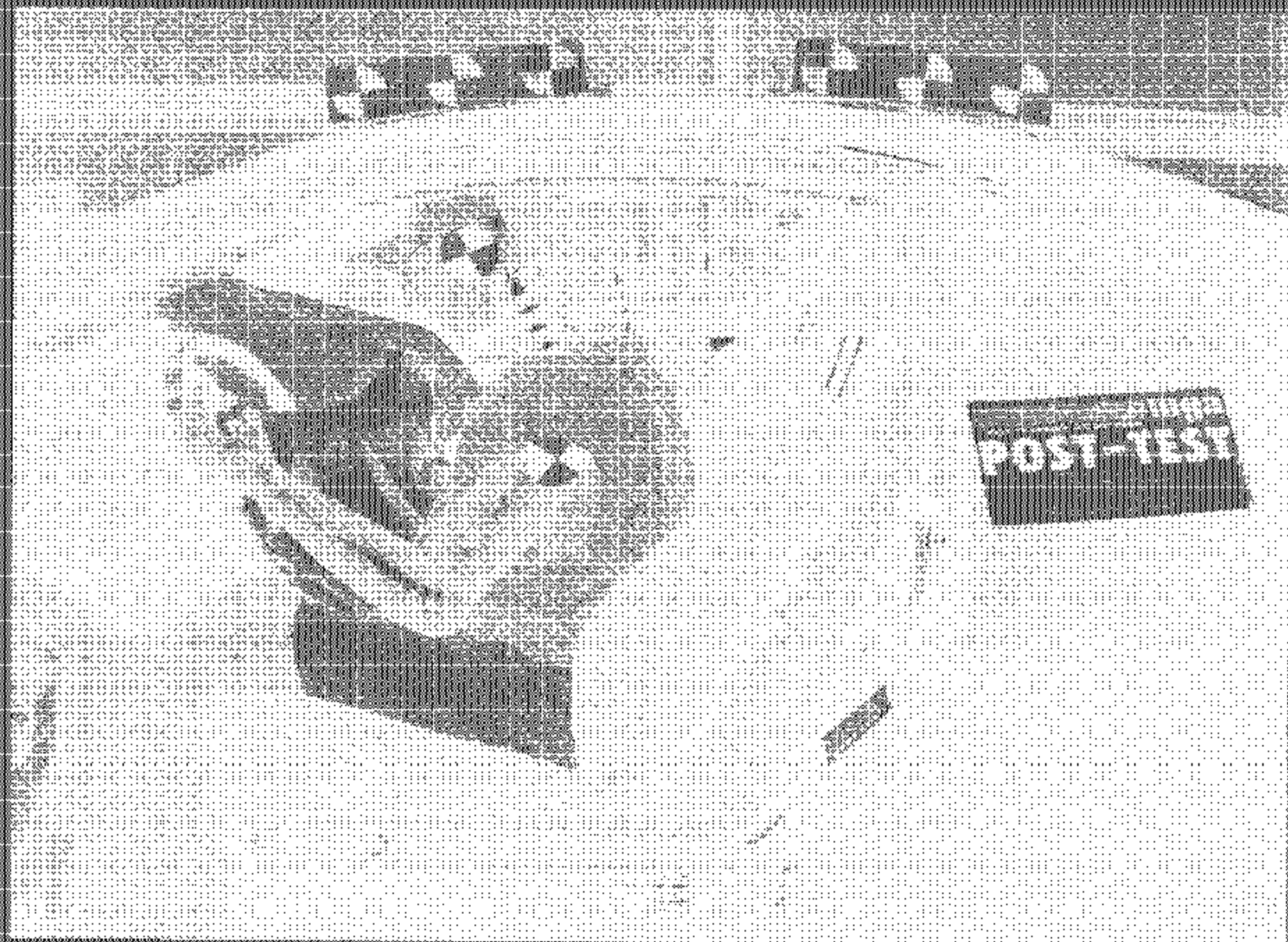


PARADE

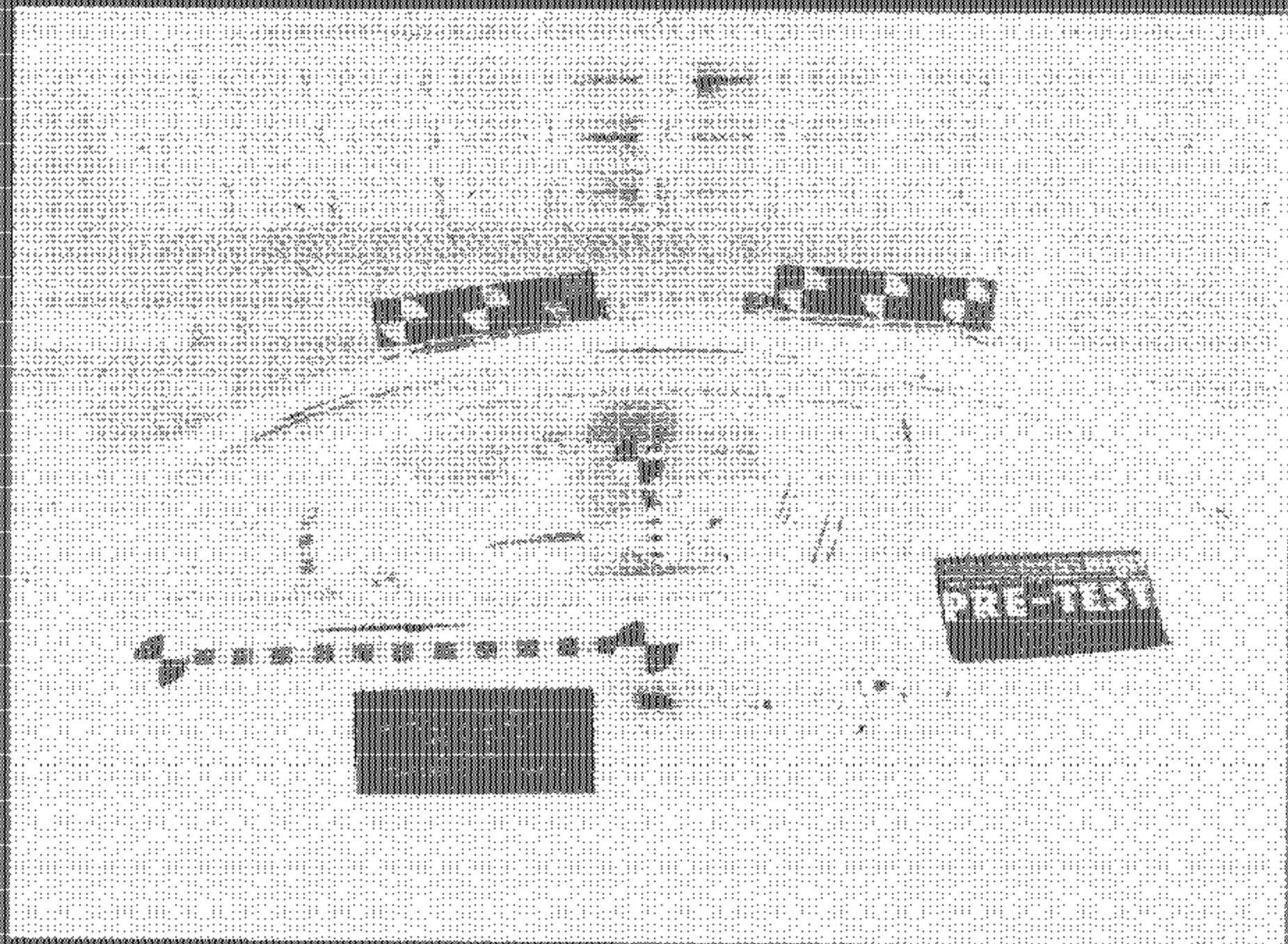
PARADE

RE-TEST

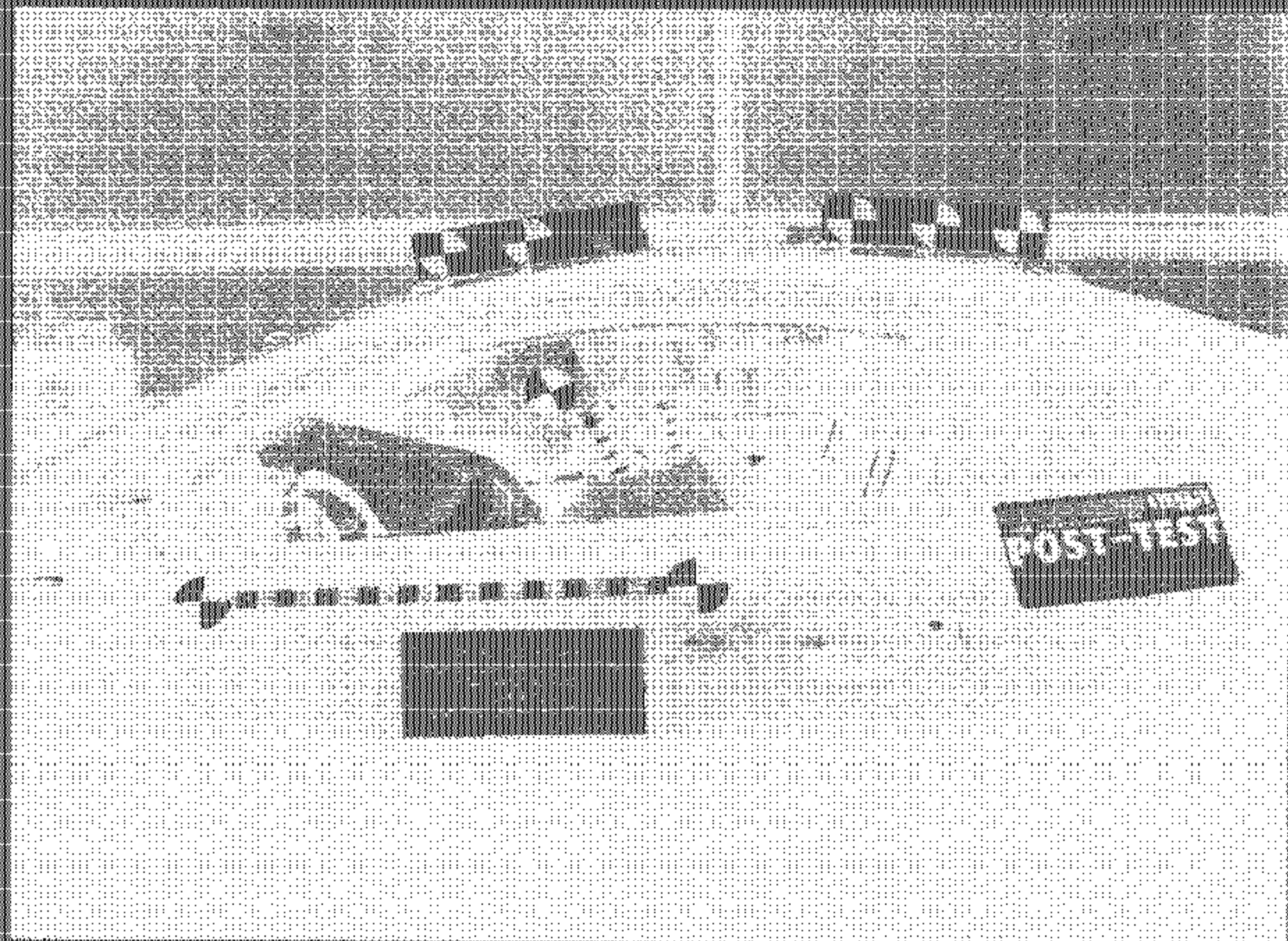
Pre-Test Driver Query Packet View (Dow) Open



Post-Test Driver Ejection Position View (Door Open)



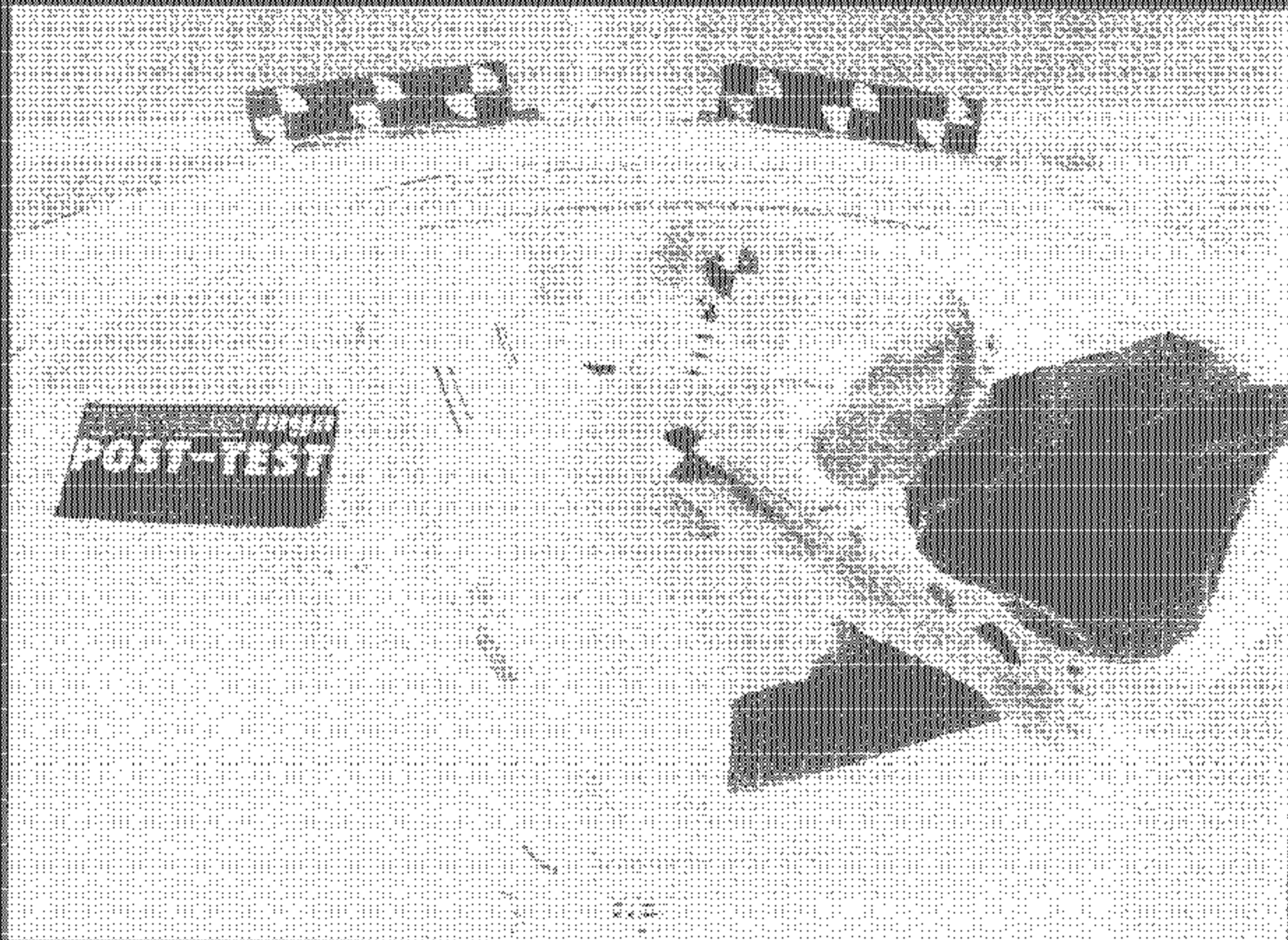
Pre-Test Driver Display Position View



Post-Test Driver's View, Position View

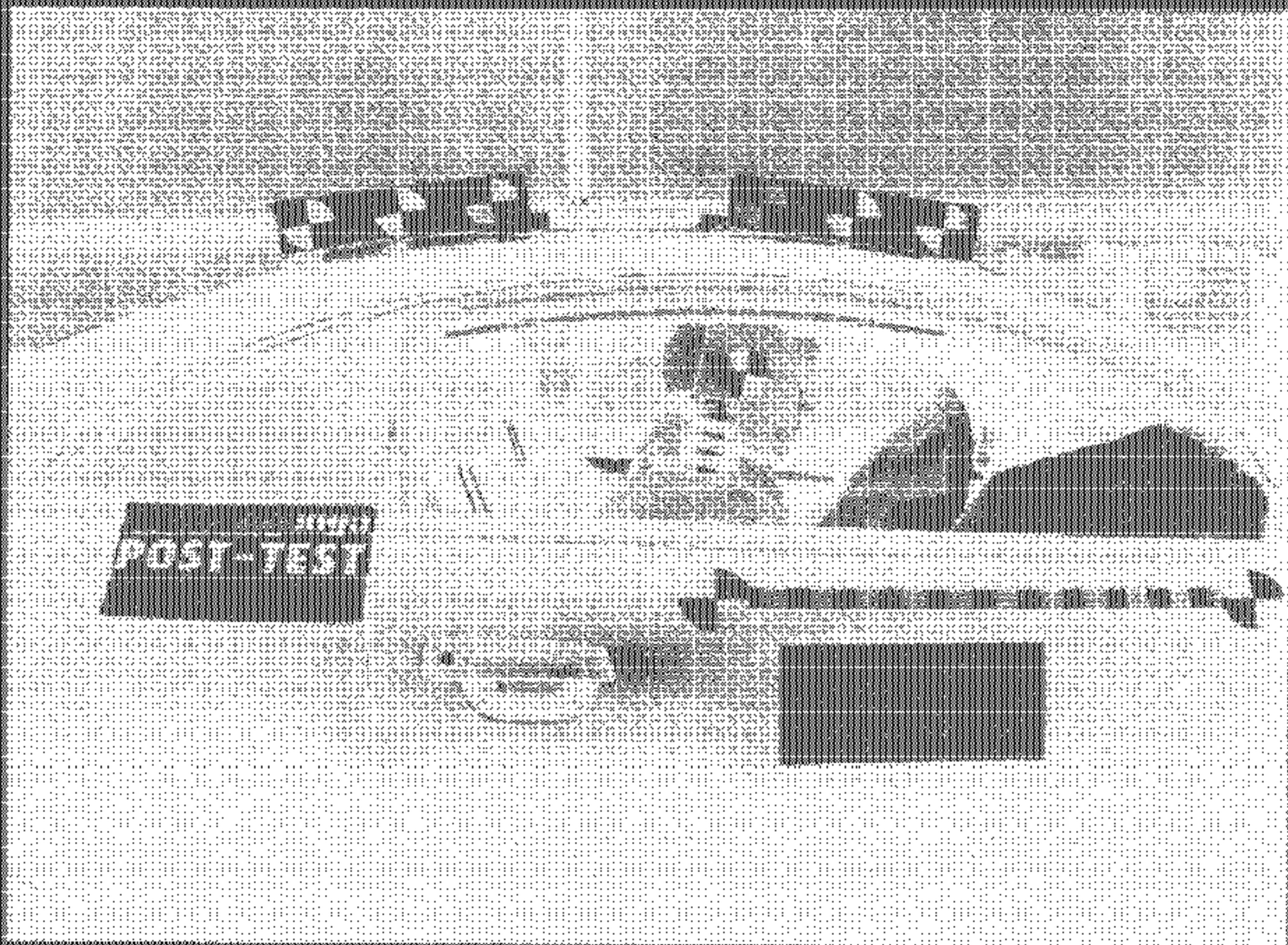


Pre-Test Passenger During Position View (Door Open)

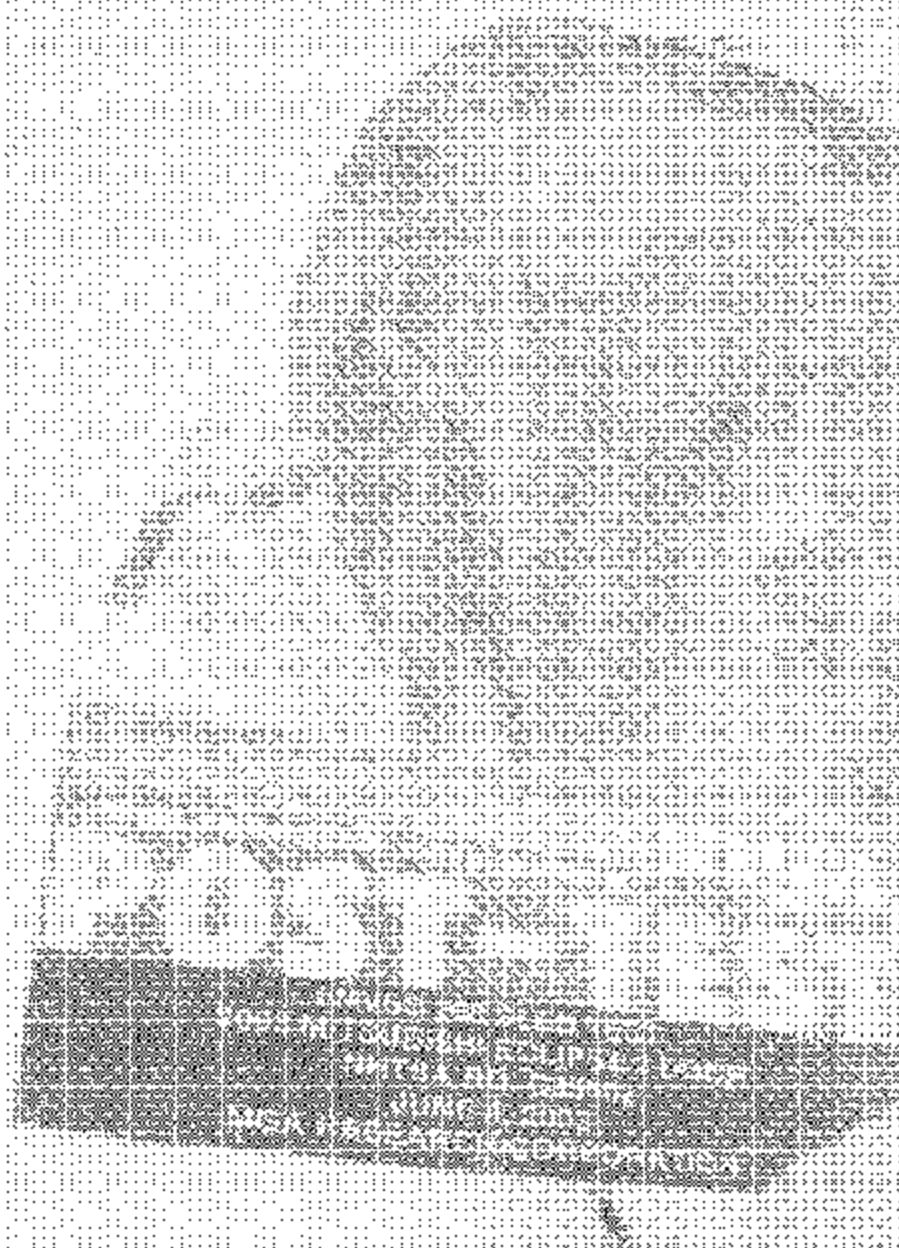


Post-Test Passenger Dummy Position View (Door Open)

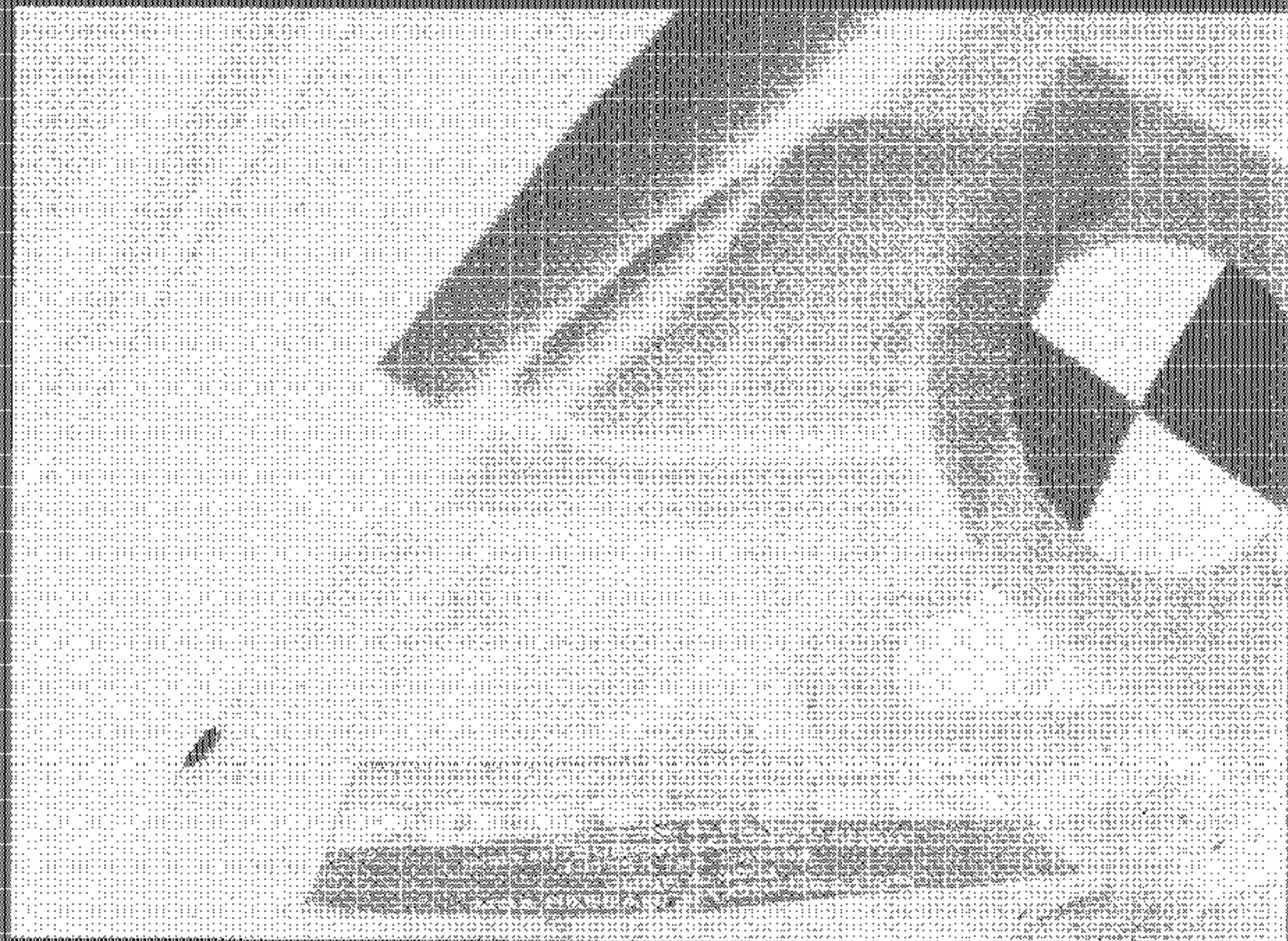
PRE-TEST



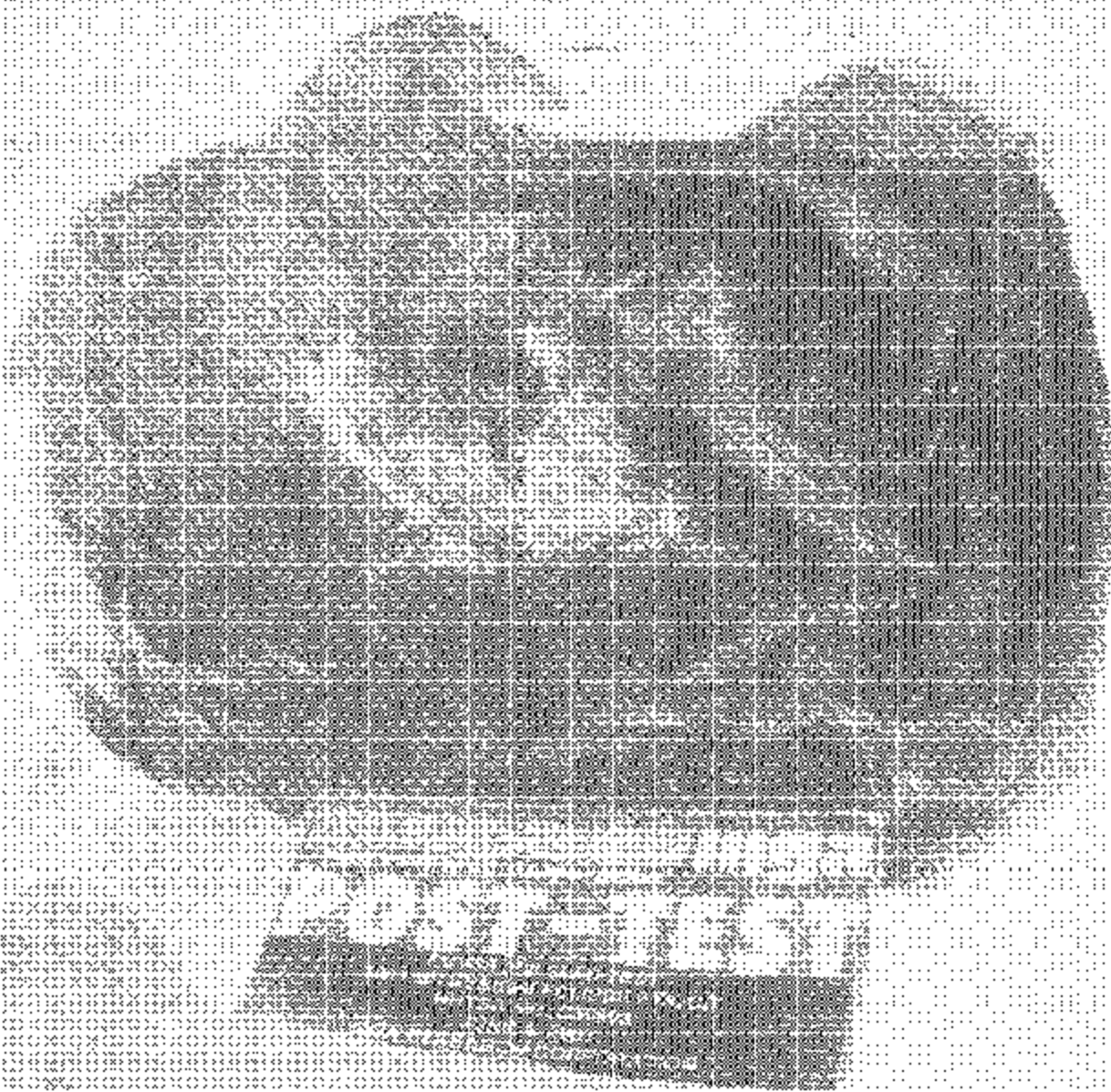
Post-Test Passenger Dormitory Position View



Post-Test Driver Damage, Armed View



Post-Ten Days Drought Near Control View (Aerial View of Forest)



Post-Test Passenger During Airbag View

DST-TEST

FMVSS 208 SUPPLEMENT
2005 MITSUBISHI ECLIPSE 2 DOOR
NH734 NO. C05602
JUNE 1, 2005
MOA RESEARCH CORPORATION



Pre-Test Over-Knee Register View



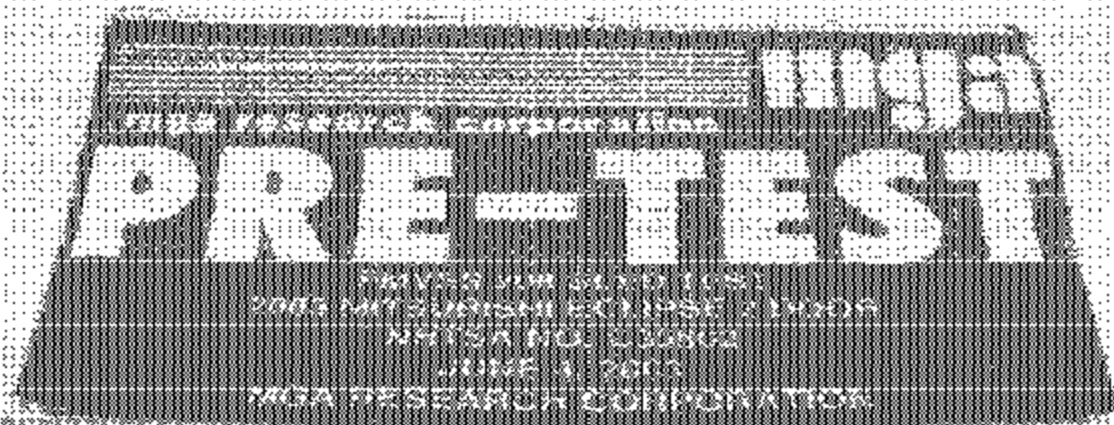
Post Test Driver Knee Bolster View



PRE-TEST PASSENGER SIDE BODY VIEW

POST-TEST

Post-Test: Presinger Knee Boster View



mpg research corporation

POST-TEST

MISSOURI STATE POLICE
2002 PONTIAC BONNEVILLE
NATEA POLICE
JUNE 4, 2002
MPG RESEARCH CORPORATION

Post-Test Driver Seat Position View

mpa research corporation

PRE-TEST

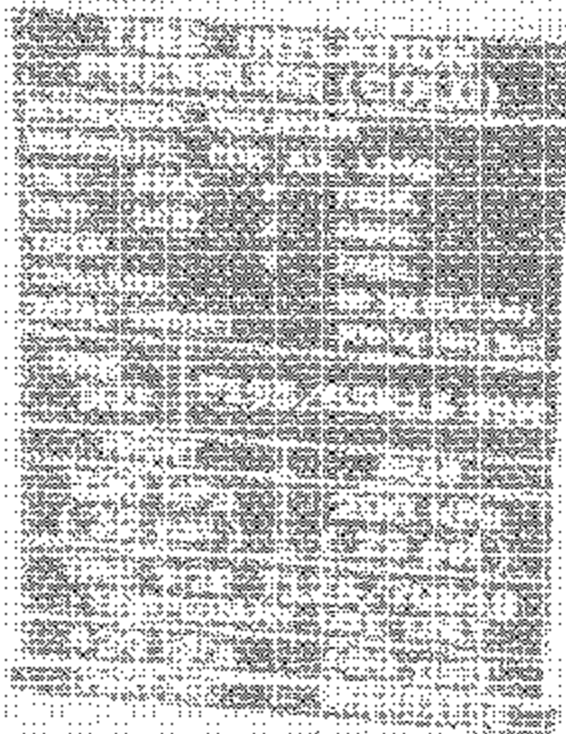
THESE DATA WERE OBTAINED
FROM A SURVEY OF 1,000
PRE-TEST SUBJECTS
JUNE 1, 1970
THESE DATA ARE NOT TO BE USED

Pre-Test Passenger Data Fashion View



Post-Test Passenger Seat Position Man





APPENDIX B

DATA PLOTS

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Test Desc: FMVSS 208 SLED

Chn Name: SLED X ACCELERATION

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

CFC: 80

TestNumber: H03125

File Name: H03125AF.A01

Test Date: 06/04/03

Sensor S/N: 764077

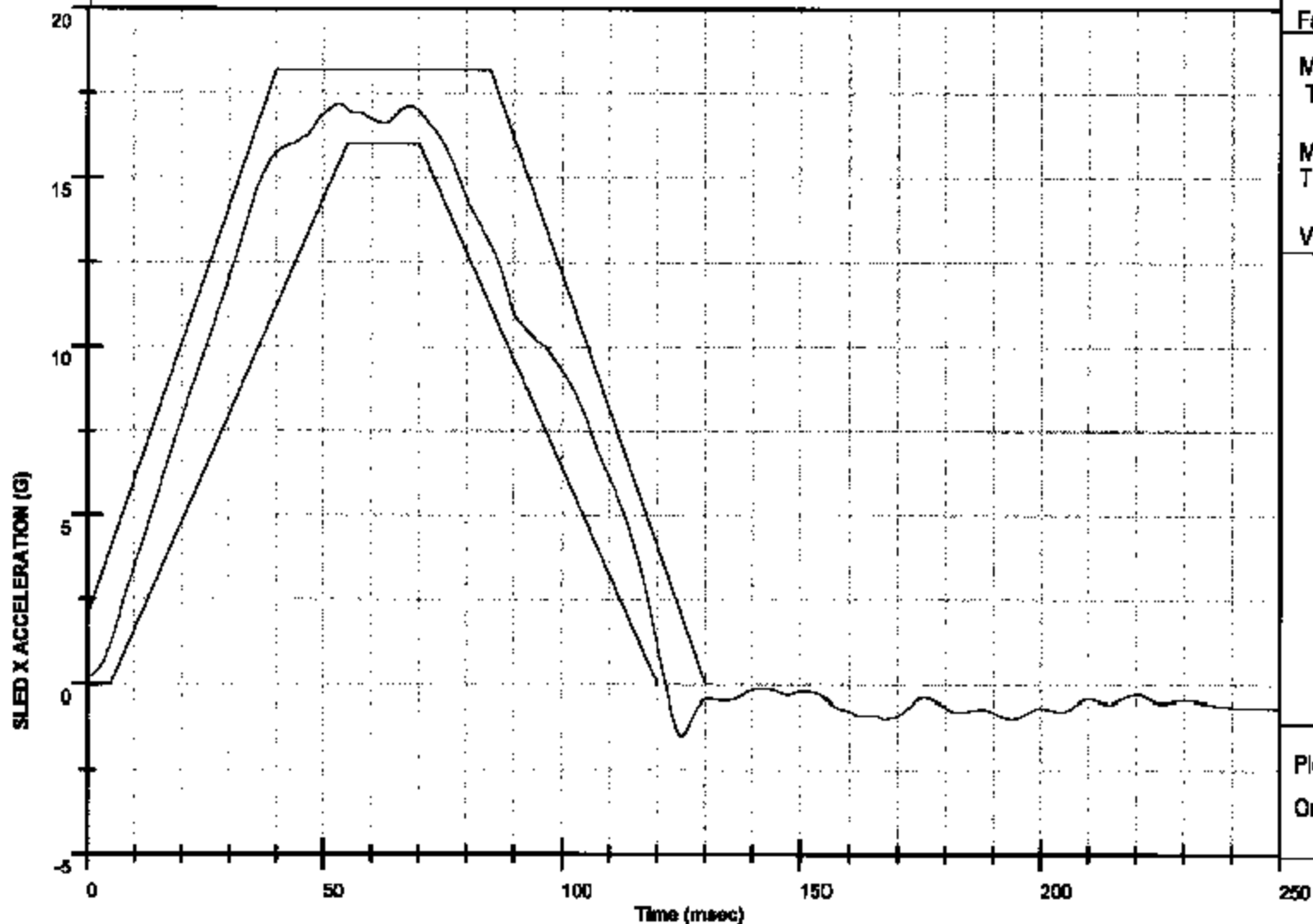
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934

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 08:45:28



Test Desc: FMVSS 208 SLED

Chn Name: SLED X VELOCITY

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

CFC: 180

Test Number: H03125

File Name: H03125A1.V01

Test Date: 06/04/03

Sensor S/N: 764077

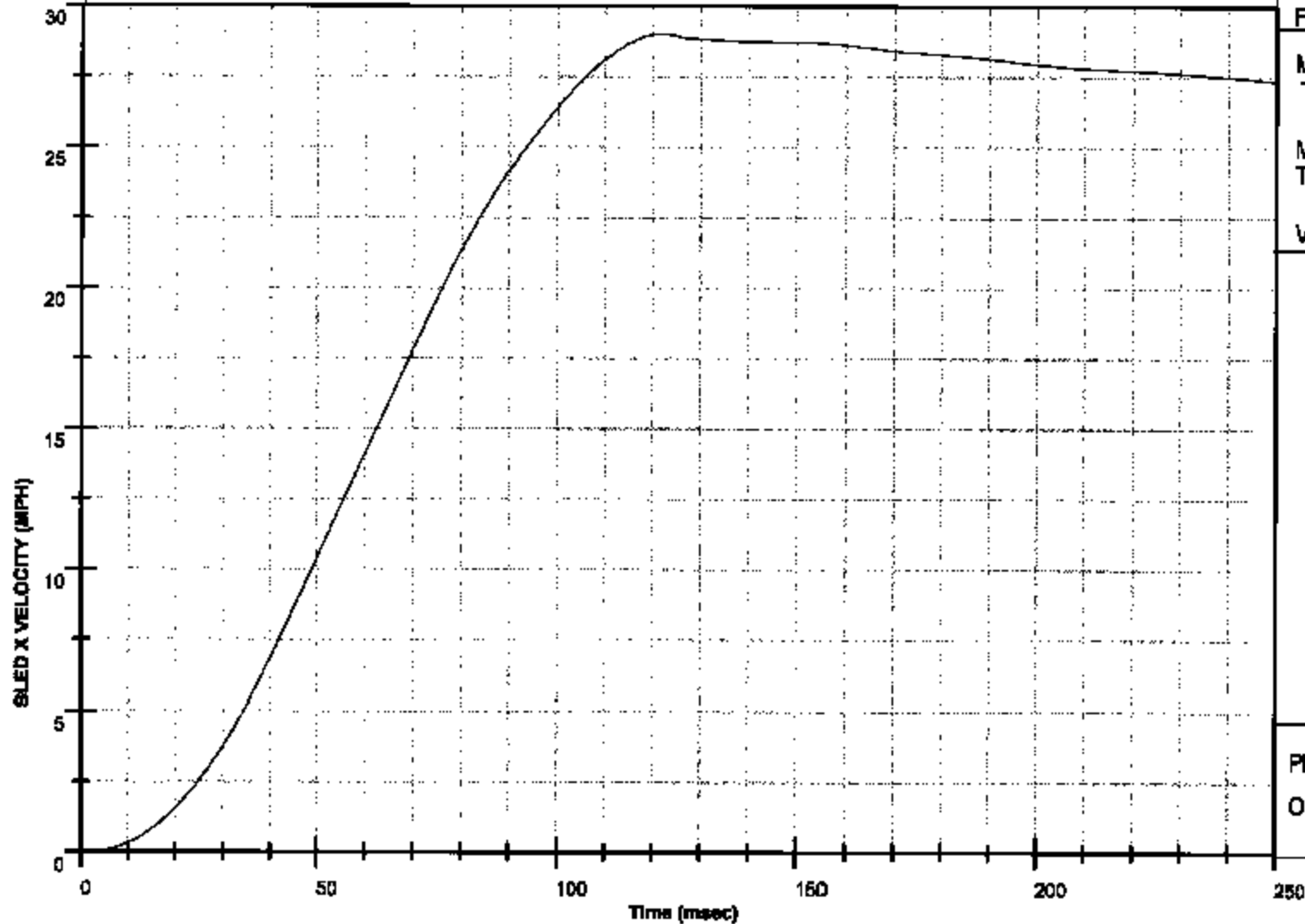
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934

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

Chn Name: SLED X DISPLACEMENT

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

CFC: 180

Test Number: H03125

File Name: H03125A1.D01

Test Date: 06/04/03

Sensor S/N: 764077

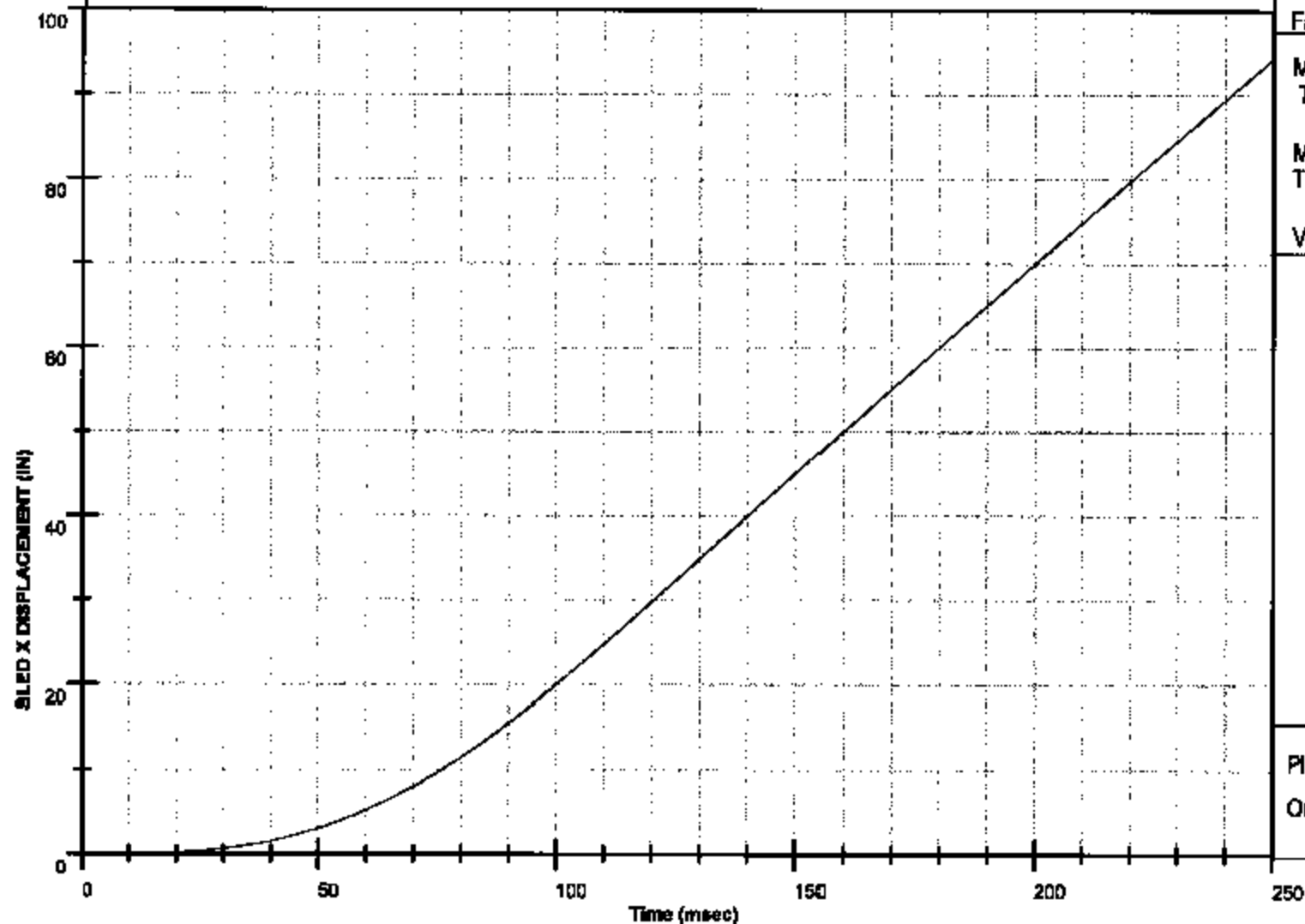
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934

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

Chn Name: 1 METER

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

CFC: 1000

TestNumber: H03125

File Name: H031250T.010

Test Date: 06/04/03

Sensor S/N: N/A

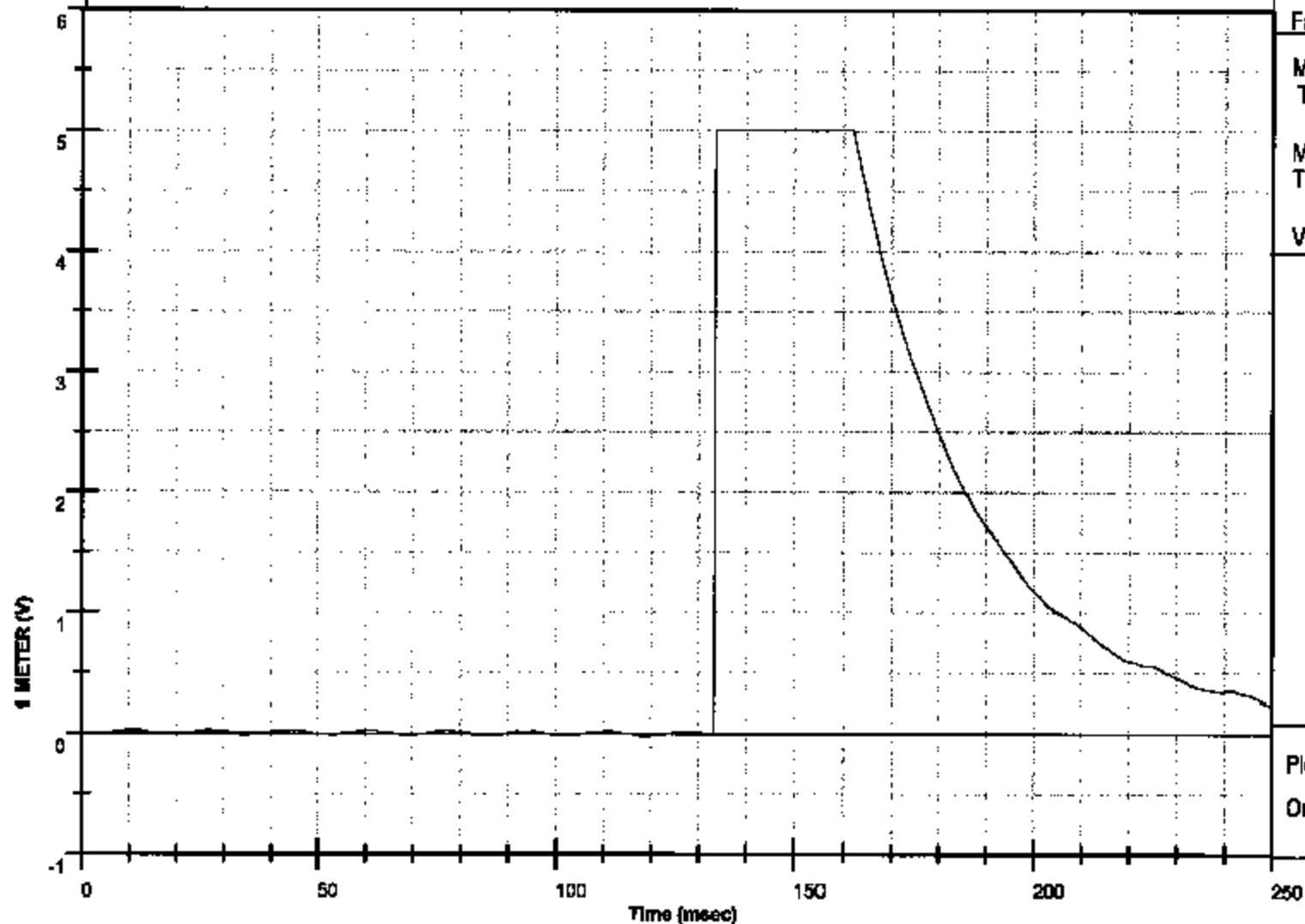
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0834

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 08:44:35



Test Desc: FMVSS 208 SLED

Chn Name: AIRBAG VOLTAGE

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

CFC: 1000

Test Number: H03125

File Name: H03125OT.047

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

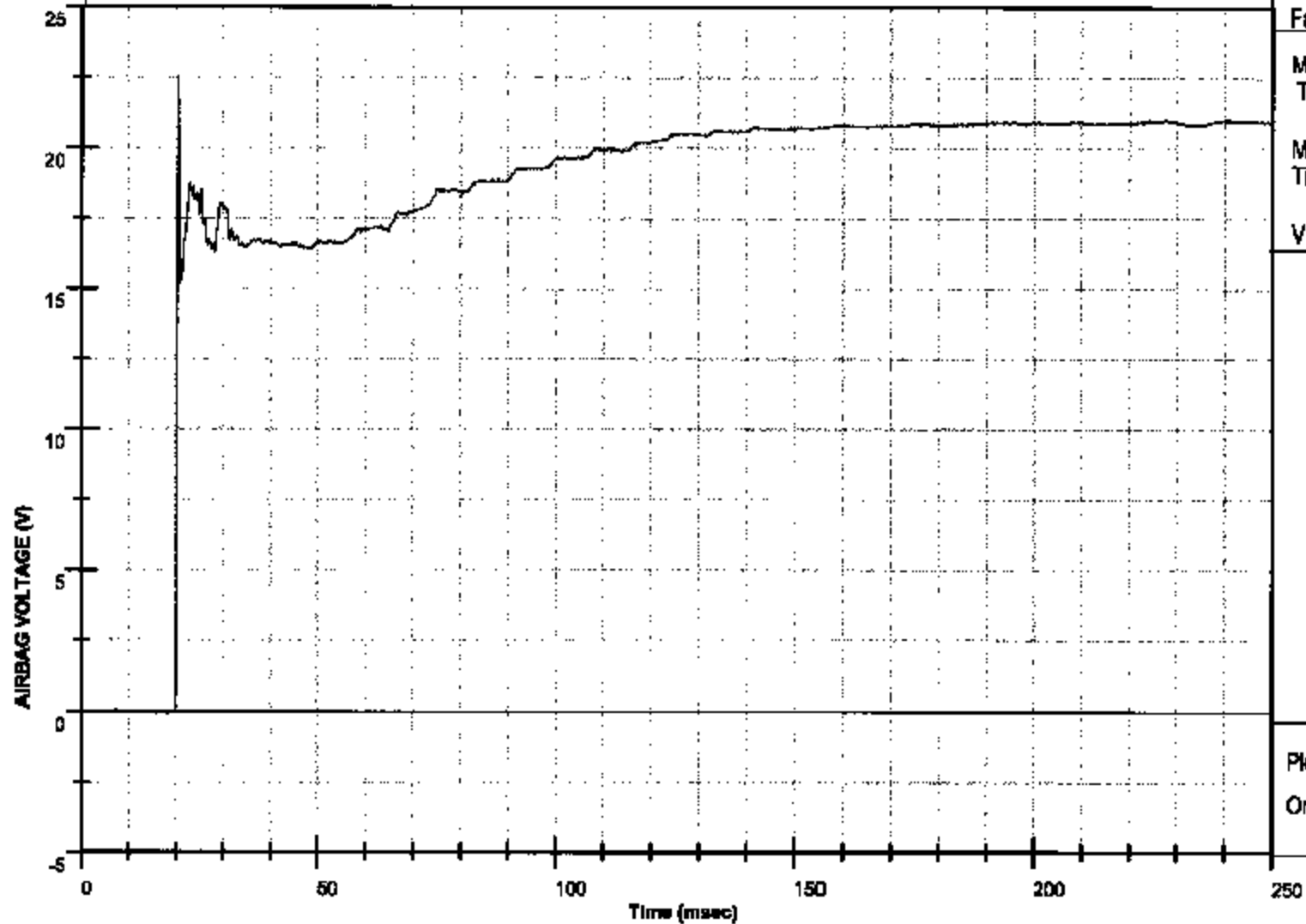
Maximum: 22.6 V
Time: 20.5 msec

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

9-B



Test Desc: FMVSS 208 SLED

Chn Name: LEFT REAR CROSSMEMBER X

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

CFC: 60

TestNumber: H03125

File Name: H03125AF.A53

Test Date: 06/04/03

Sensor S/N: G03-N11

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

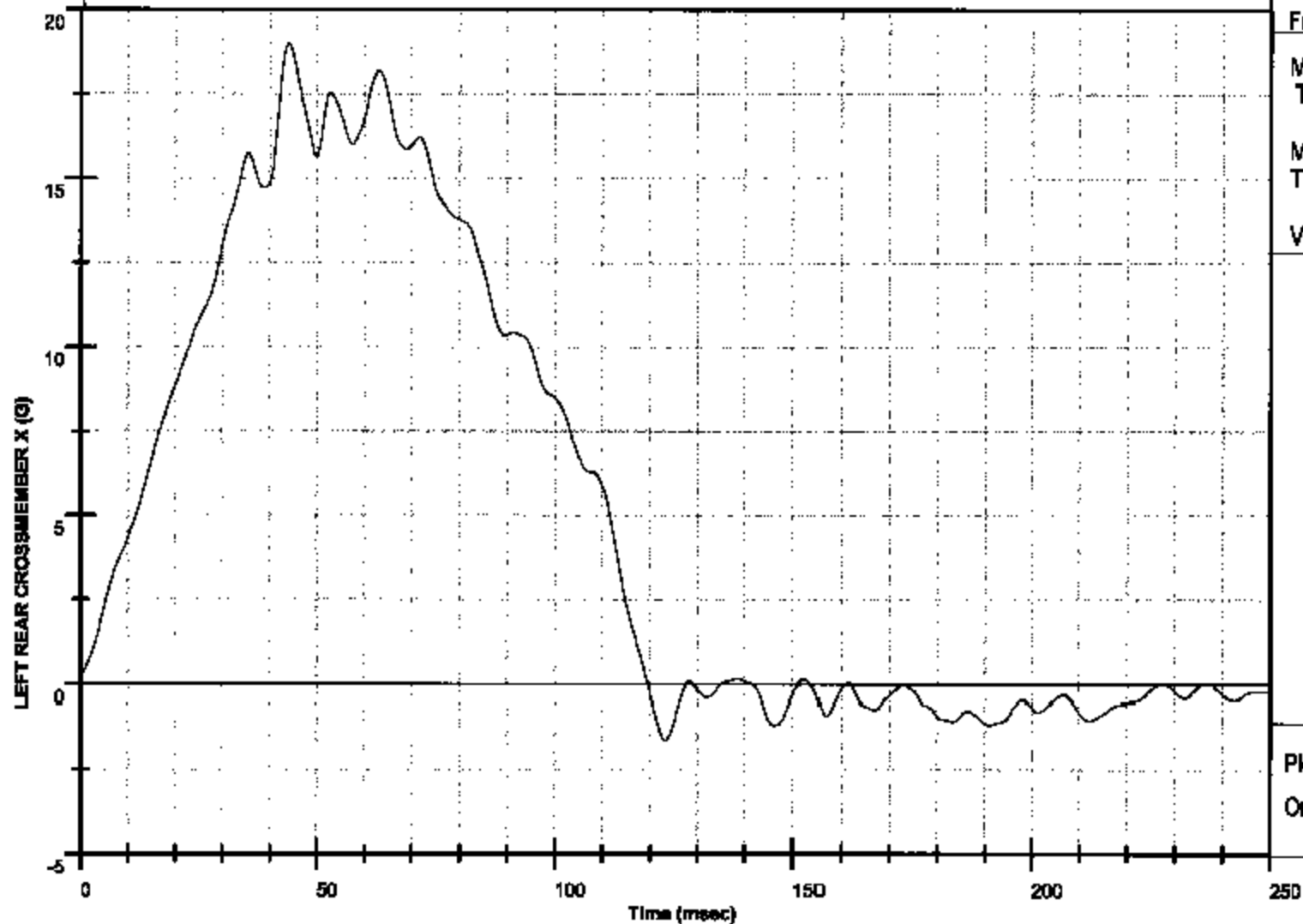
Maximum: 19.0 G
Time: 44.0 msec

Minimum: -1.6 G
Time: 123.2 msec

Value at T0: 0.3 G

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

9-B



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

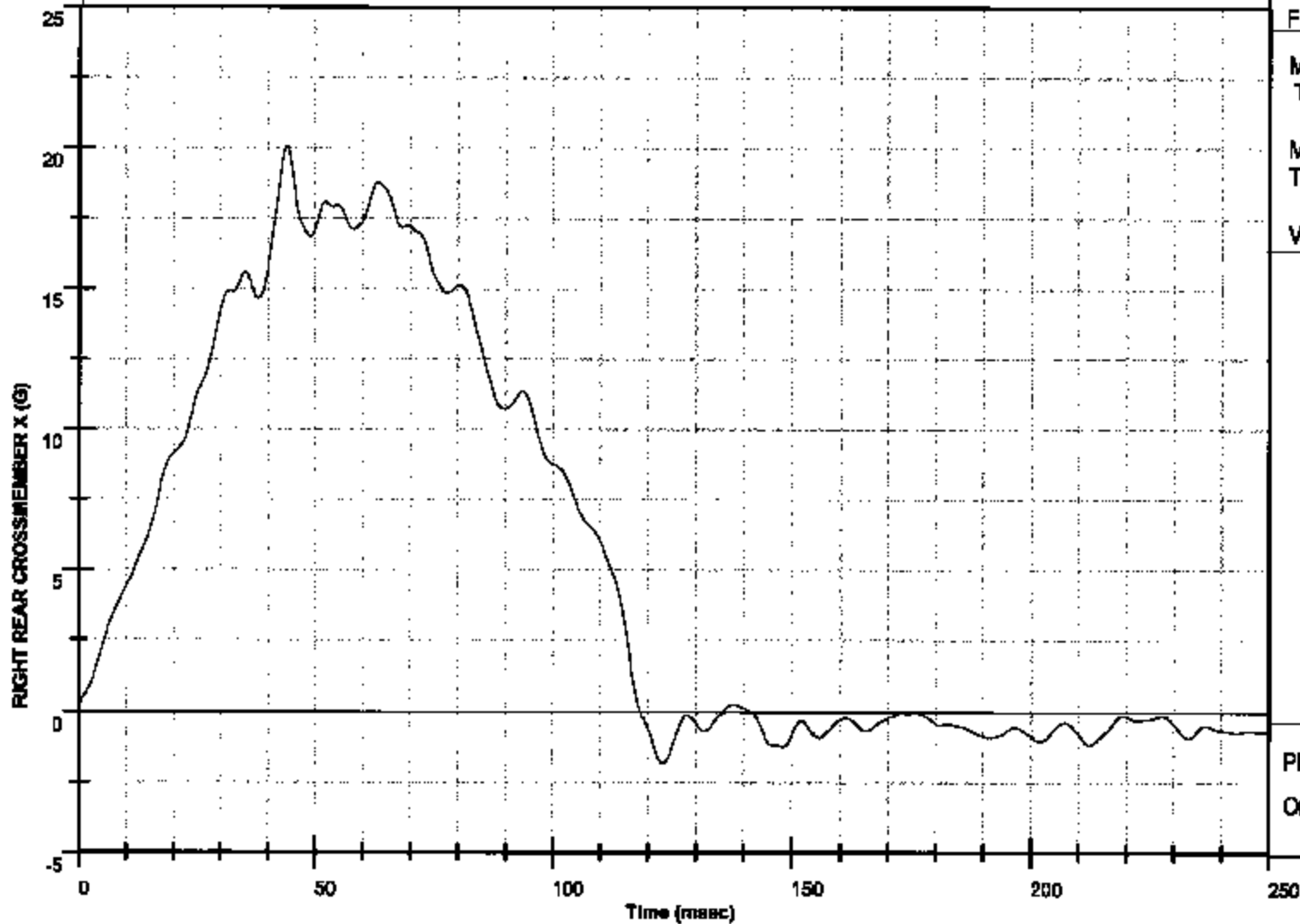
Maximum: 20.0 G
Time: 44.1 msec

Minimum: -1.8 G
Time: 123.1 msec

Value at T0: 0.3 G

Plotted By: C. Gaultberry
On: 06.05.2003 08:46:58

B-7



Test Desc: FMVSS 208 SLED

Chn Name: TOP OF ENGINE X

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

CFC: 60

Test Number: H03125

File Name: H03125AF.A51

Test Date: 06/04/03

Sensor S/N: L23-A02

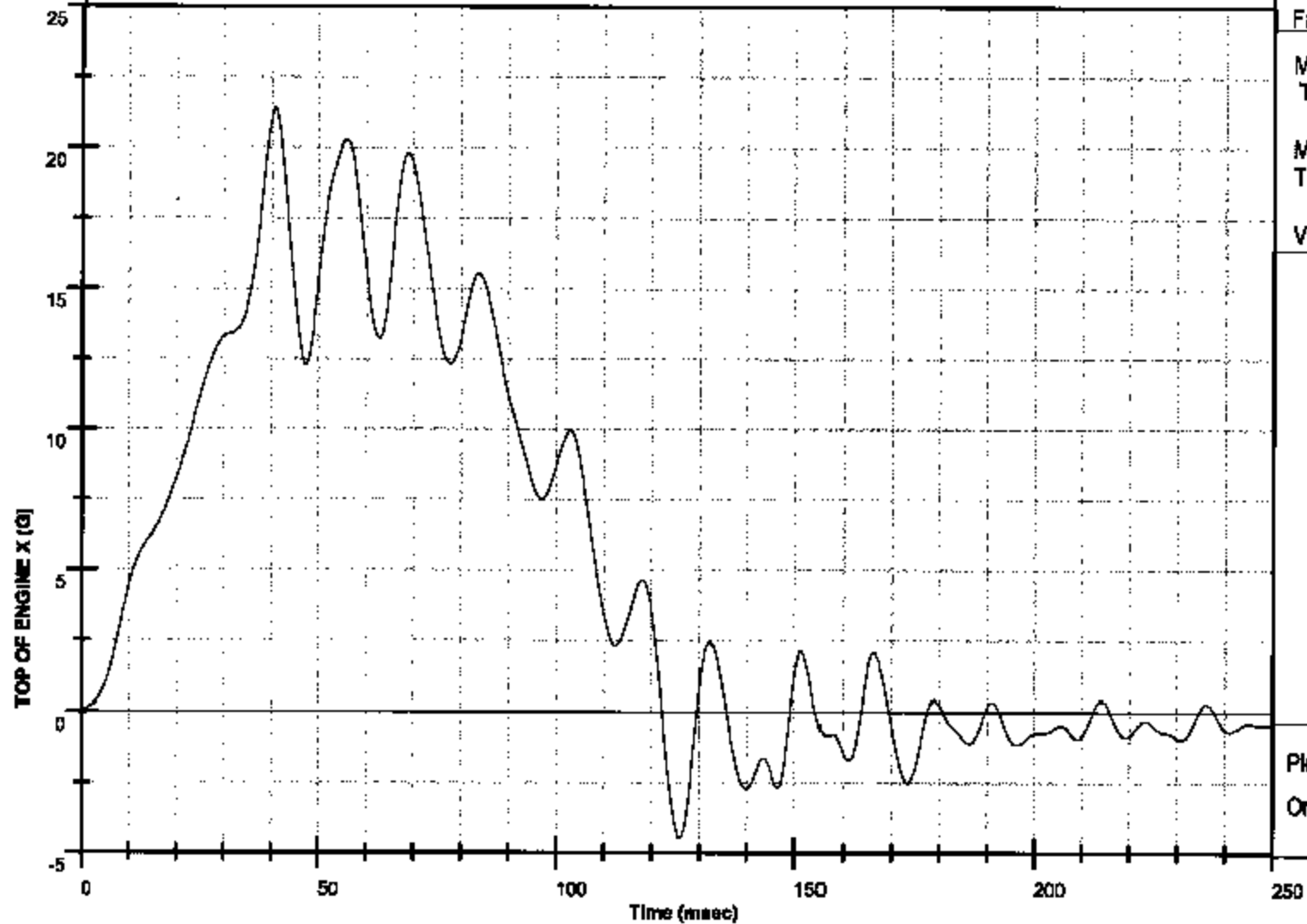
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934

Maximum: 21.4 G
Time: 40.8 msec

Minimum: -4.5 G
Time: 125.9 msec

Value at T0: 0.0 G

9-B



Plotted By: C. Gadberry
On: 06.05.2003 08:48:52

Test Desc: FMVSS 208 SLED

Chn Name: REAR AXLE X

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

CFC: 60

Test Number: H03125

File Name: H03125AF.A52

Test Date: 06/04/03

Sensor S/N: L23-A09

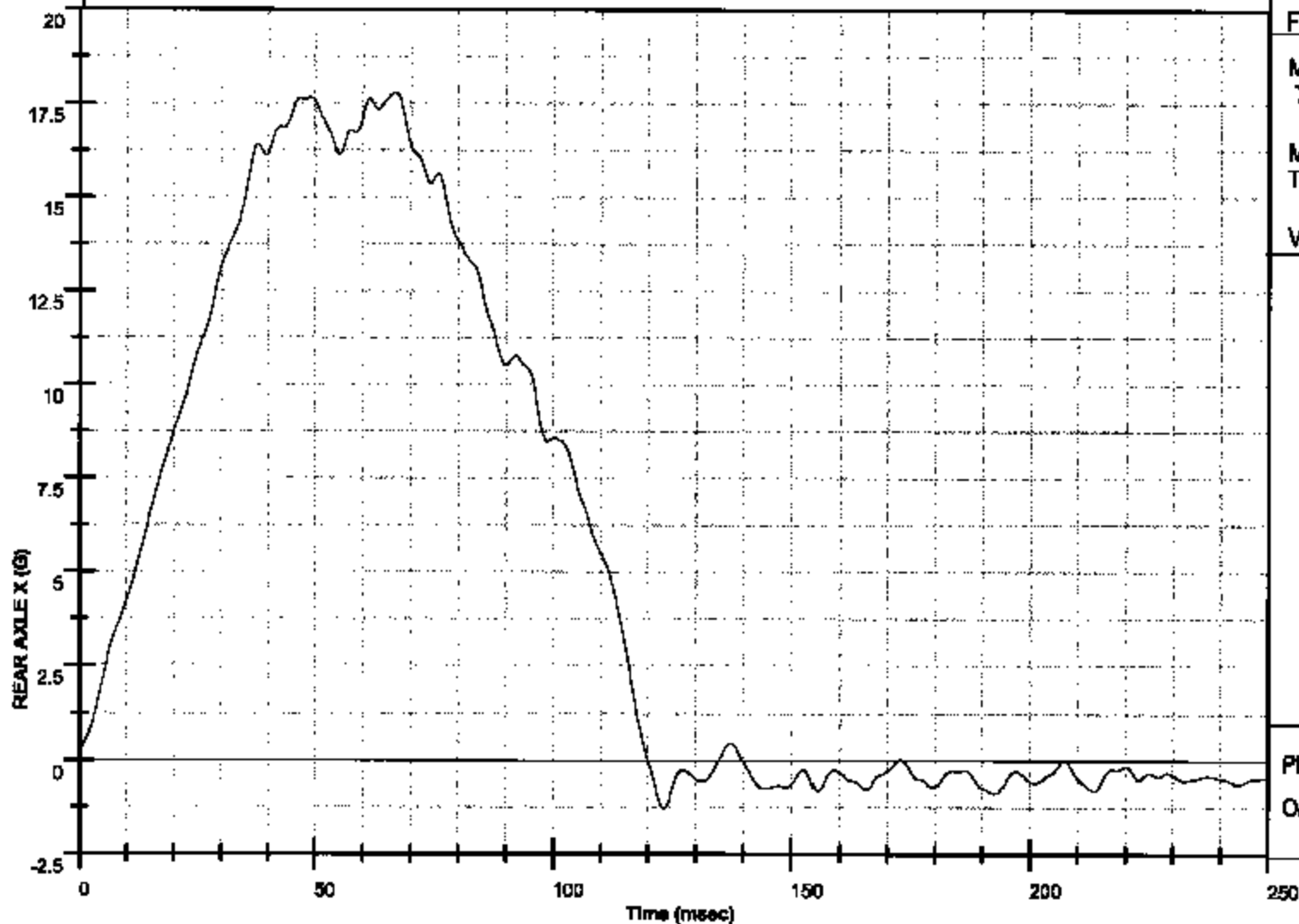
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934

Maximum: 17.8 G
Time: 68.7 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

Chn Name: DRIVER HEAD X

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

CFC: 1000

Test Number: H03125

File Name: H03125AT.A05

Test Date: 06/04/03

Sensor S/N: C10686

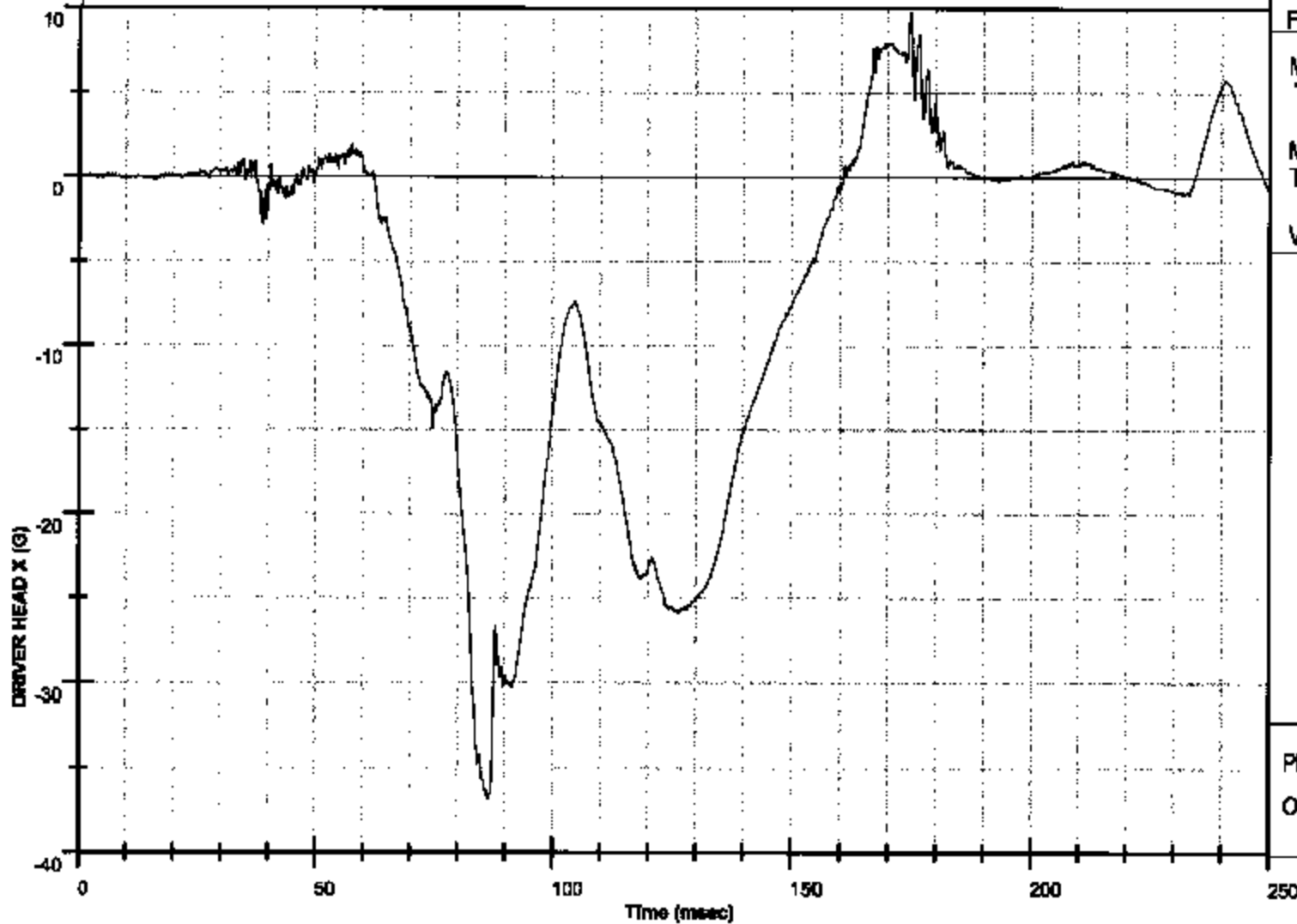
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934

Maximum: 9.8 G
Time: 174.6 msec

Minimum: -36.8 G
Time: 86.4 msec

Value at TD: 0.0 G

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



Test Desc: FMVSS 208 SLED

Chn Name: DRIVER HEAD Y

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

CFC: 1000

Test Number: H03125

File Name: H03125AT.A06

Test Date: 06/04/03

Sensor S/N: AGH74

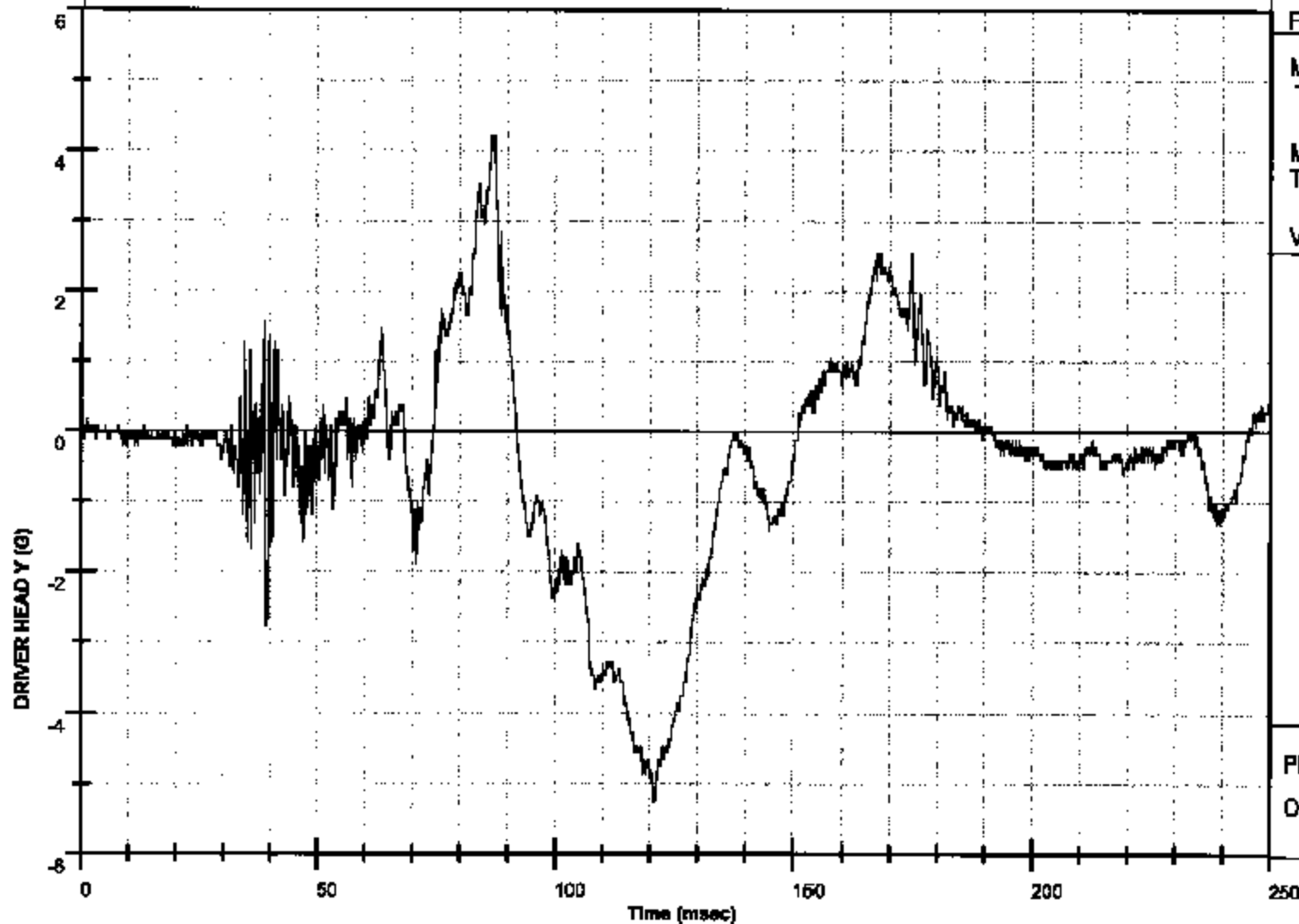
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0834

Maximum: 4.2 G
Time: 86.7 msec

Minimum: -5.3 G
Time: 120.8 msec

Value at TD: -0.2 G

Plotted By: C. Gadberry
On: 06.05.2003 08:45:38



Test Desc: FMVSS 208 SLED

Chn Name: DRIVER HEAD Z

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

CFC: 1000

Test Number: H03125

File Name: H03125AT.A08

Test Date: 06/04/03

Sensor S/N: C13046

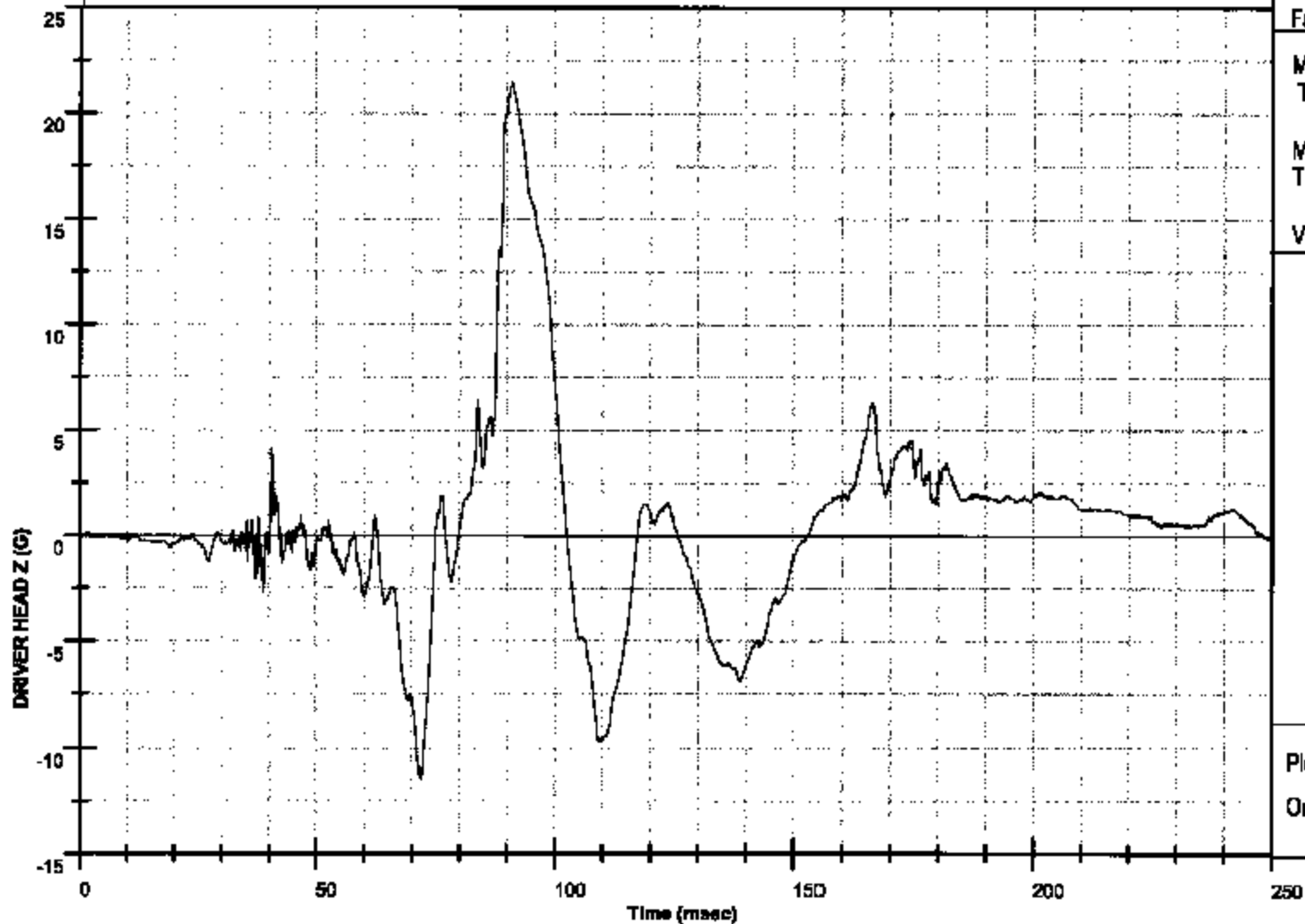
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0834

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 (C35802)

Test Number: H03125

Test Date: 06/04/03

Chn Name: DRIVER HEAD RESULTANT ACCELERATION

CFC: 1000

File Name: H03125AV.A05

Sensor S/N: C13046

MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
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 TD: 0.2 G

HIC VAL: 159.7

T1: 70.4 msec

T2: 143.9 msec

HIC36 VAL: 98.0

T1: 80.4 msec

T2: 99.4 msec

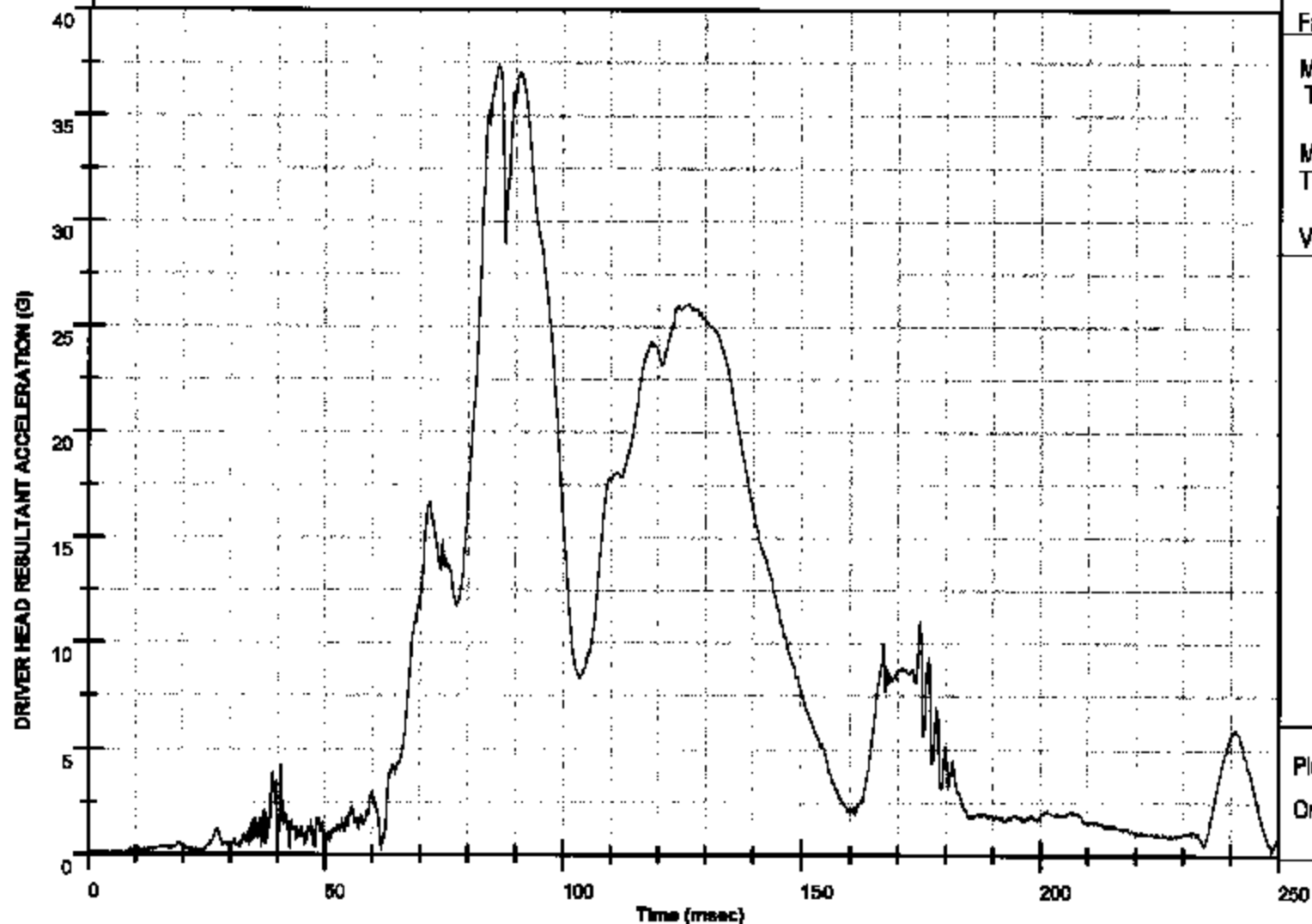
HIC15 VAL: 93.3

T1: 82.3 msec

T2: 97.3 msec

Plotted By: C. Gadberry

On: 06.05.2003 08:45:44



Test Desc: FMVSS 208 SLED

Chn Name: DRIVER NECK FX

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

CFC: 1000

TestNumber: H03125

File Name: H03125FT.F12

Test Date: 06/04/03

Sensor S/N: N606FX

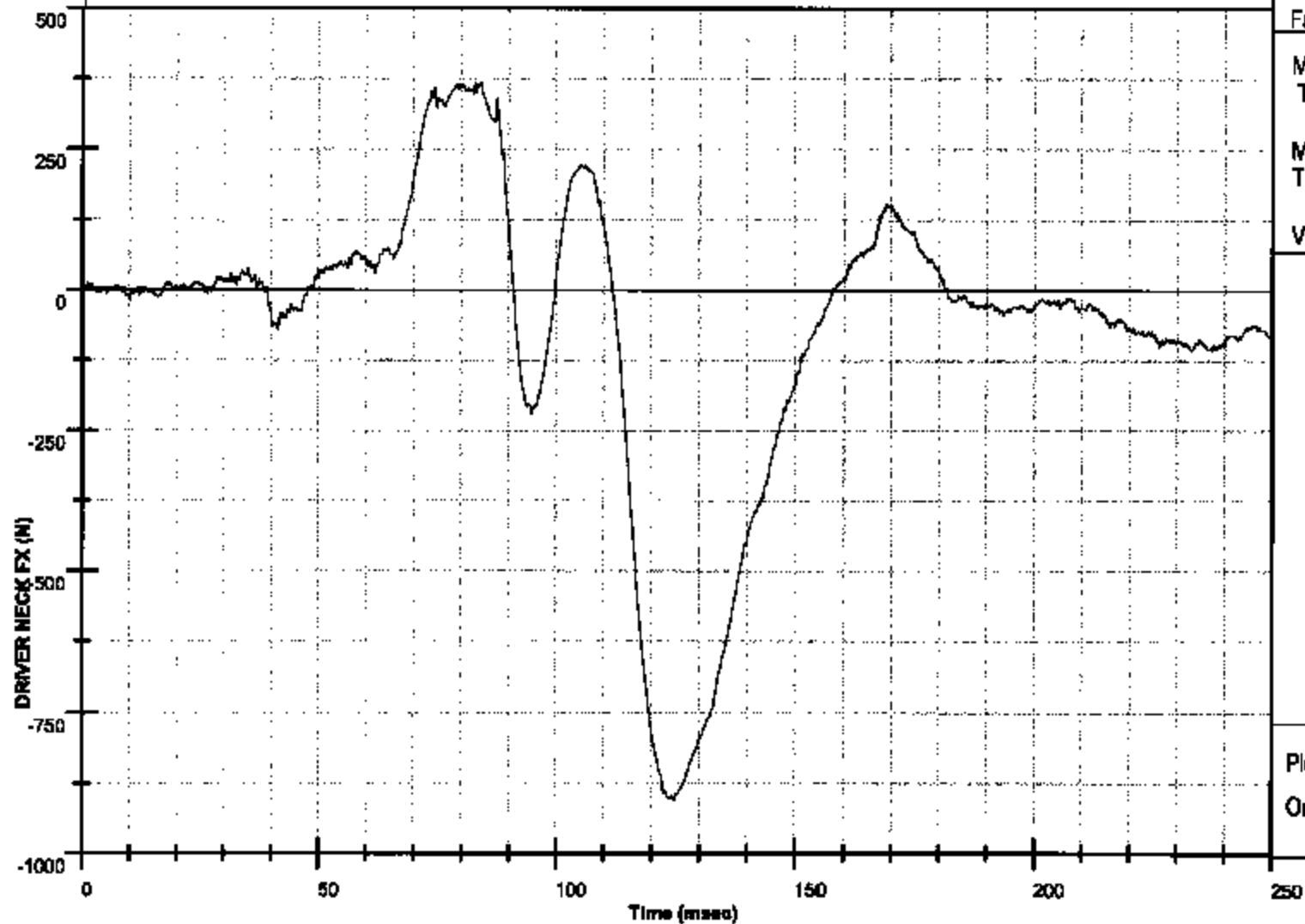
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934

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 08:45:48



Test Desc: FMVSS 208 SLED

Chn Name: DRIVER NECK FY

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

CFC: 1000

Test Number: H03125

File Name: H03125FT.F13

Test Date: 06/04/03

Sensor S/N: N606FY

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Burlington, WI 53105

Ph #: 262-763-2705

Fax #: 262-763-0934

Maximum: 43.5 N

Time: 73.6 msec

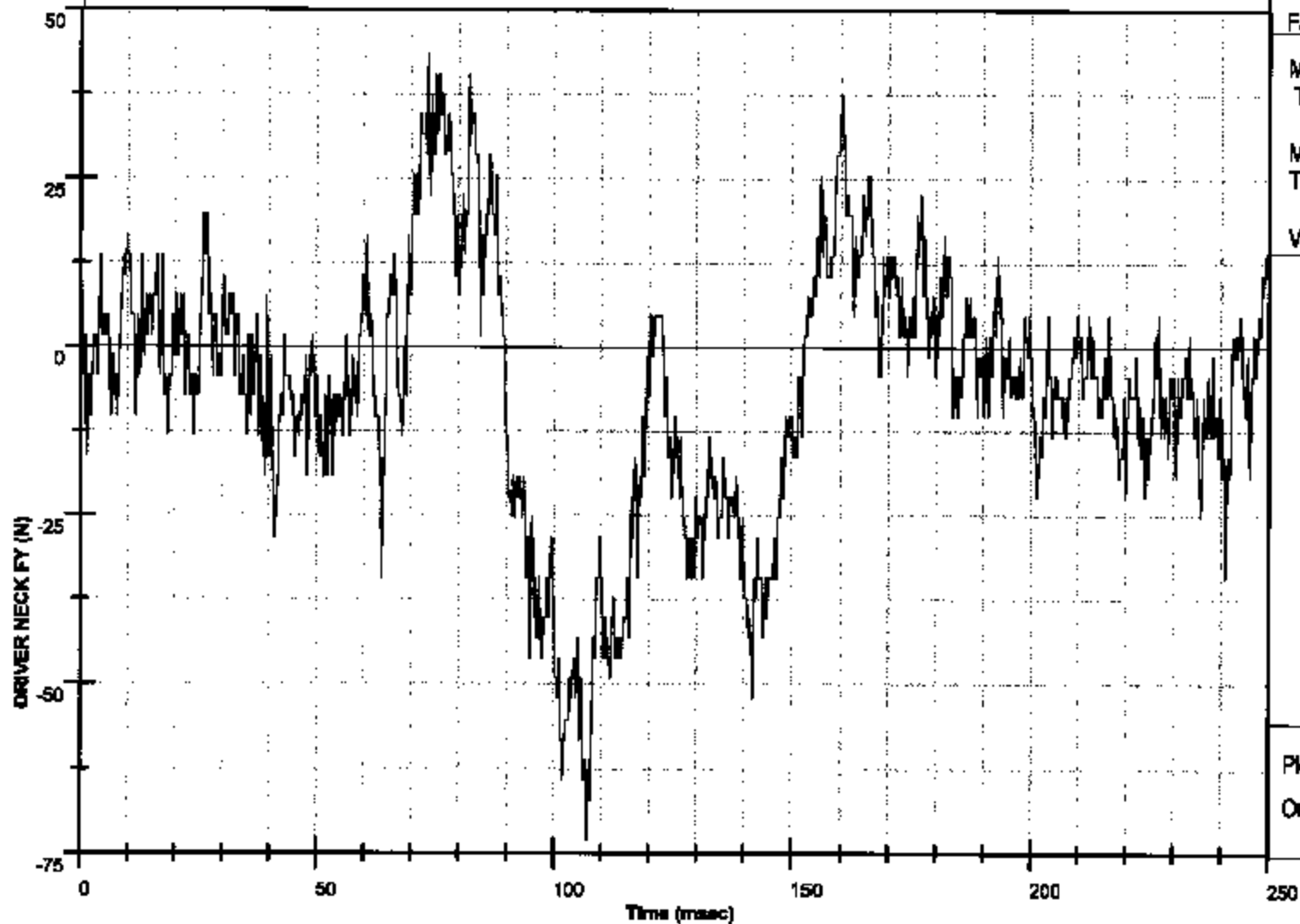
Minimum: -73.1 N

Time: 107.0 msec

Value at TC: 13.6 N

Plotted By: C. Gadberry

On: 06.05.2003 08:45:48



Test Desc: FMVSS 208 SLED

Chn Name: DRIVER NECK FZ

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

CFC: 1000

Test Number: H03125

File Name: H03125FT.F14

Test Date: 06/04/03

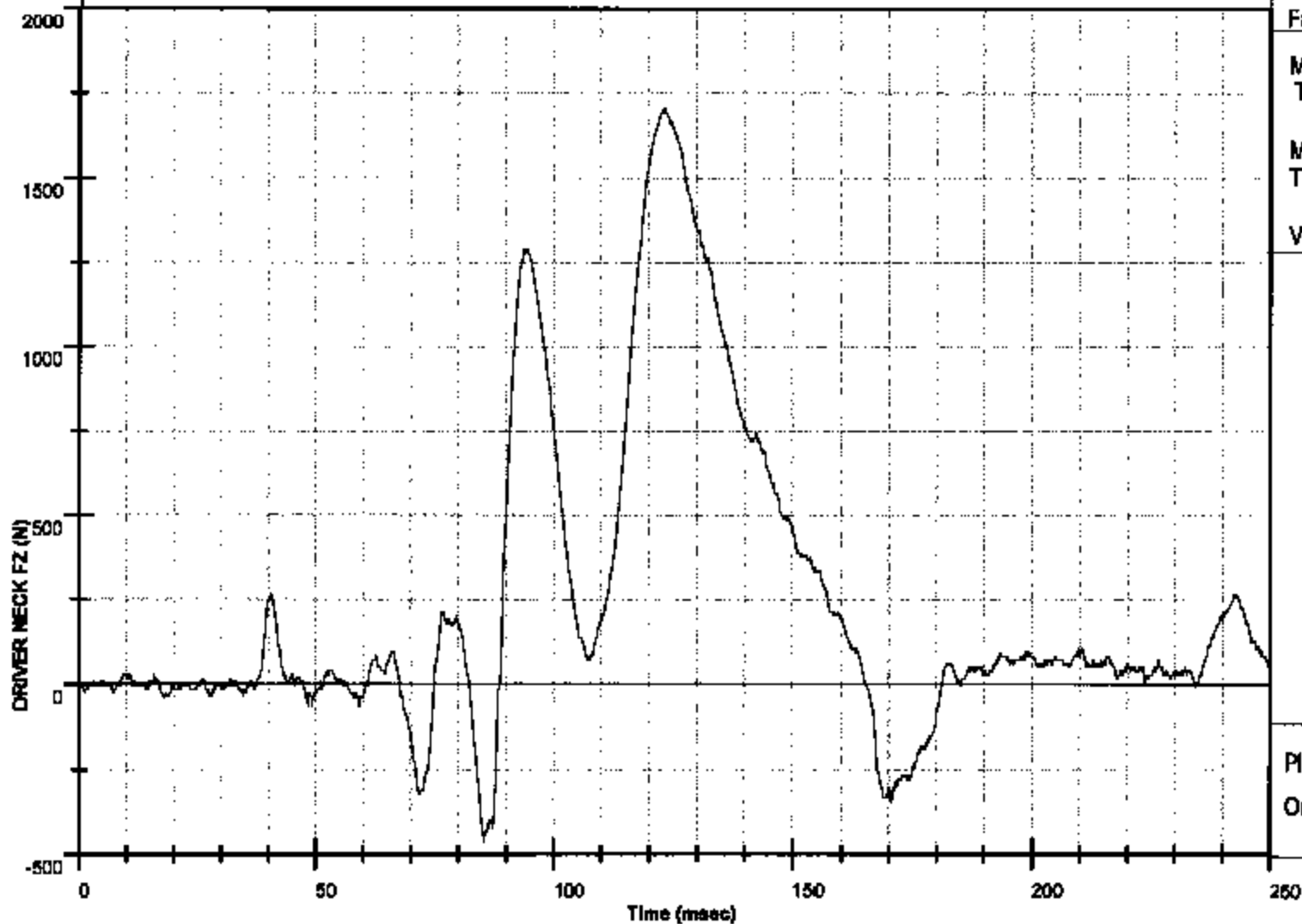
Sensor S/N: N606FZ

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

Maximum: 1,704.4 N
Time: 123.1 msec

Minimum: -465.3 N
Time: 85.3 msec

Value at T0: 5.9 N



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

Test Desc: FMVSS 208 SLED

Chn Name: DRIVER NECK MX

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

CFC: 600

TestNumber: H03125

File Name: H03125MF.M15

Test Date: 06/04/03

Sensor S/N: N606MX

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

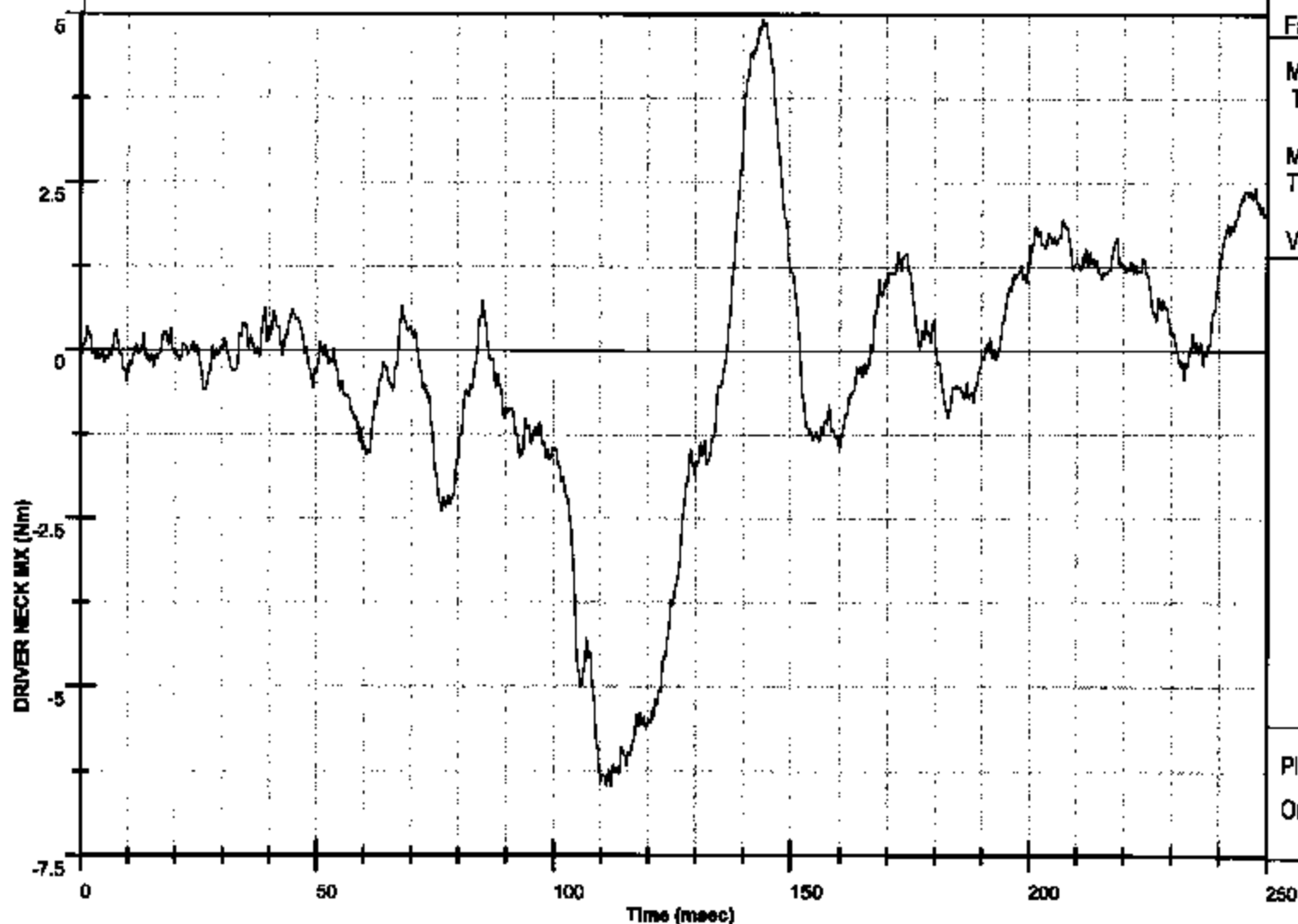
Maximum: 4.9 Nm
Time: 144.1 msec

Minimum: -6.5 Nm
Time: 111.2 msec

Value at T0: -0.2 Nm

Plotted By: C. Gedberry
On: 06.05.2003 08:45:52

B-17



Test Desc: FMVSS 208 SLED

Chn Name: DRIVER NECK MY

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35802)

CFC: 600

TestNumber: H03125

File Name: H03125MF.M17

Test Date: 06/04/03

Sensor S/N: N606MY

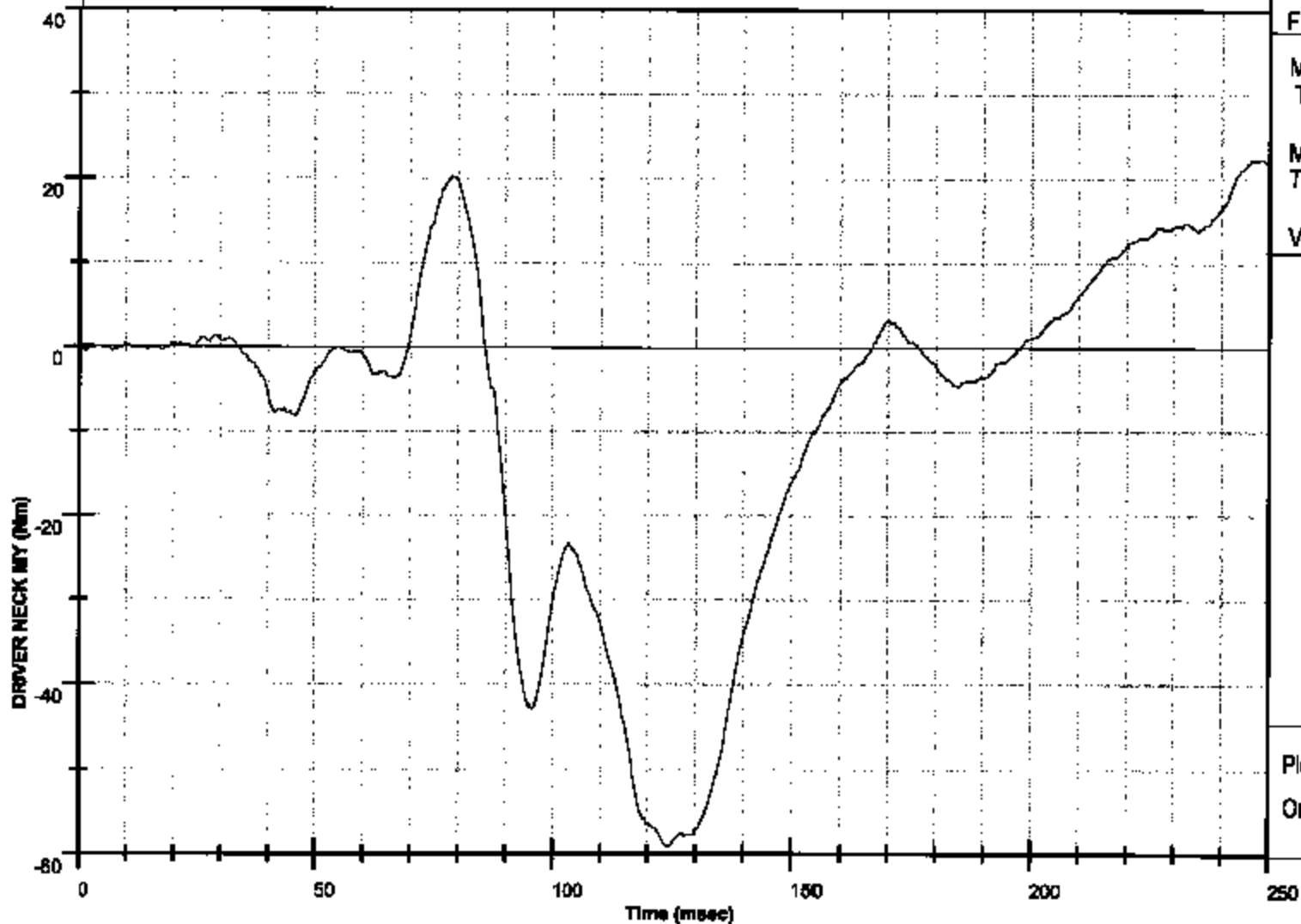
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934

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

Chn Name: DRIVER NECK MZ

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

CFC: 600

Test Number: H03125

File Name: H03125MF.M18

Test Date: 06/04/03

Sensor S/N: N606MZ

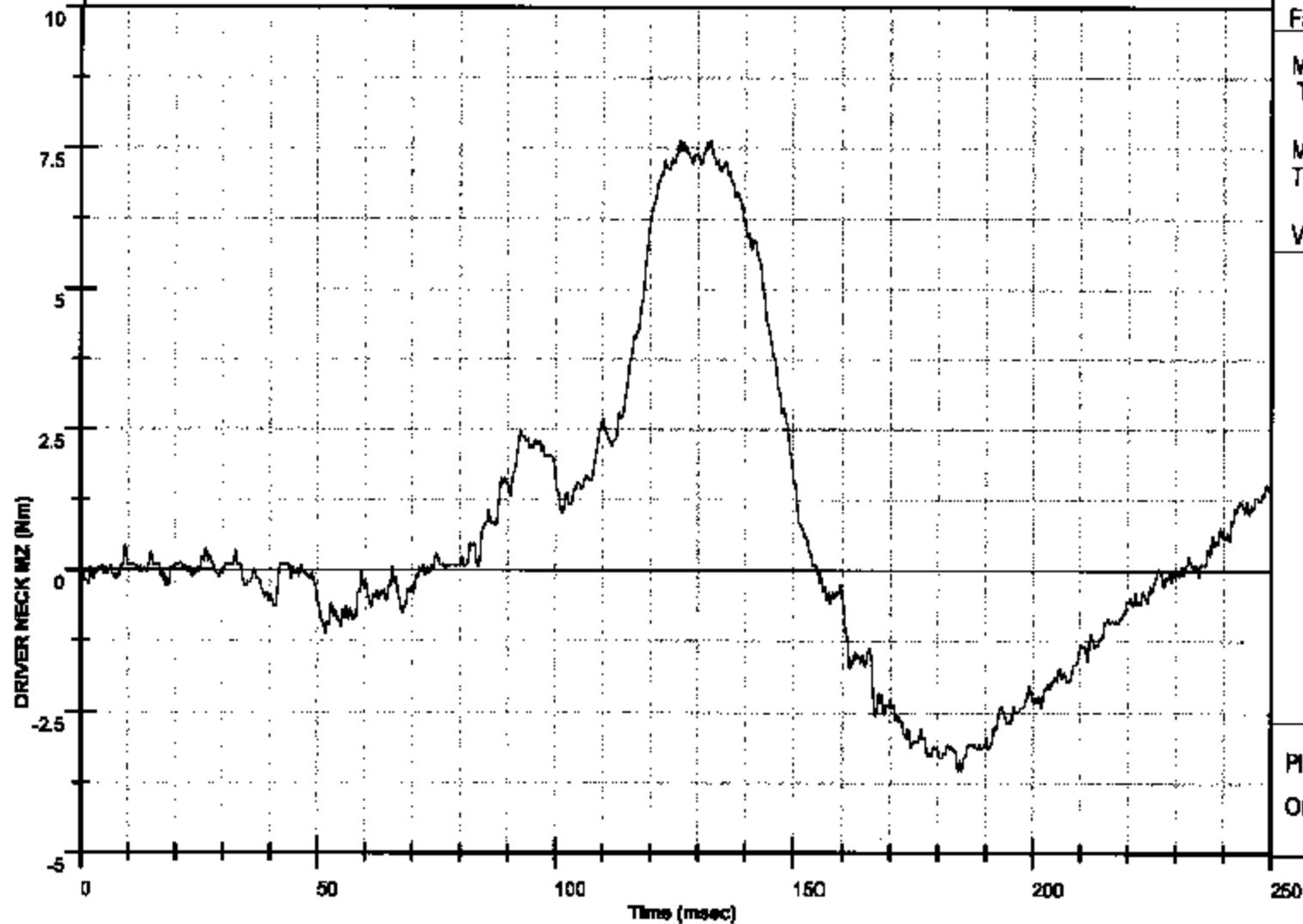
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934

Maximum: 7.7 Nm
Time: 132.6 msec

Minimum: -3.5 Nm
Time: 185.0 msec

Value at T0: 0.1 Nm

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



Test Desc: FMV85 206 SLED

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

TestNumber: H03125

Test Date: 06/04/03

Chn Name: DRIVER OCCIPITAL CONDYLE MOMENT Y

CFC: 600

File Name: H03125MO.M17

Sensor S/N: N606MY

MGA Research Corp

Accelerator Sled Facility

5000 Warren Road,

Burlington, WI 53106

Ph #: 262-763-2705

Fax #: 262-763-0934

Maximum: 23.7 Nm

Time: 248.5 msec

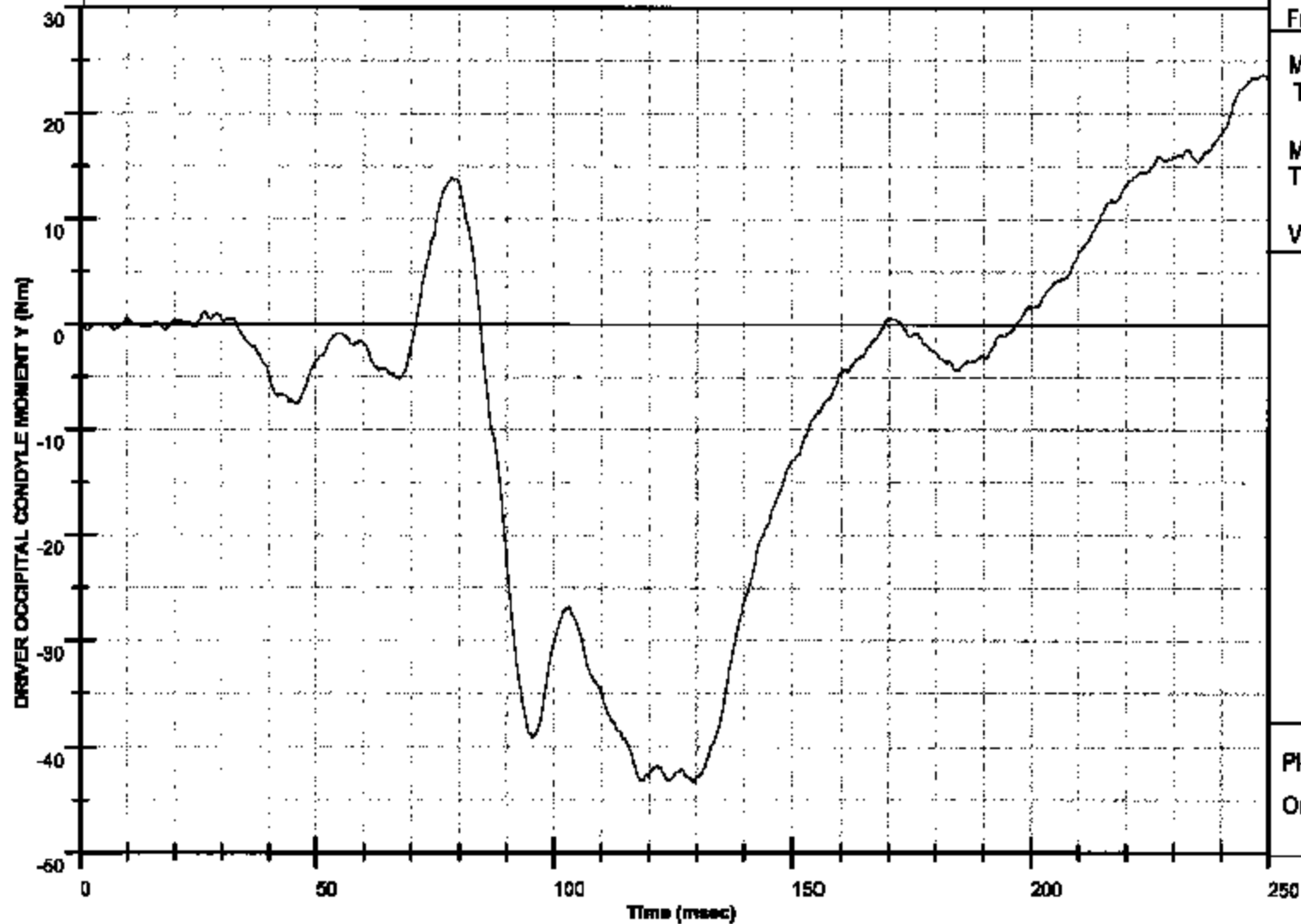
Minimum: -43.2 Nm

Time: 129.3 msec

Value at T0: -0.0 Nm

Plotted By: C. Gadberry

On: 06.05.2003 08:45:58



Test Desc: FMVSS 208 SLED

Chn Name: DRIVER CHEST X

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

CFC: 180

TestNumber: H03125

File Name: H03125AF.A21

Test Date: 06/04/03

Sensor S/N: AH5N9

MGA Research Corp

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5000 Warren Road,

Burlington, WI 53105

Ph #: 262-763-2705

Fax #: 262-763-0934

Maximum: 8.1 G

Time: 134.5 msec

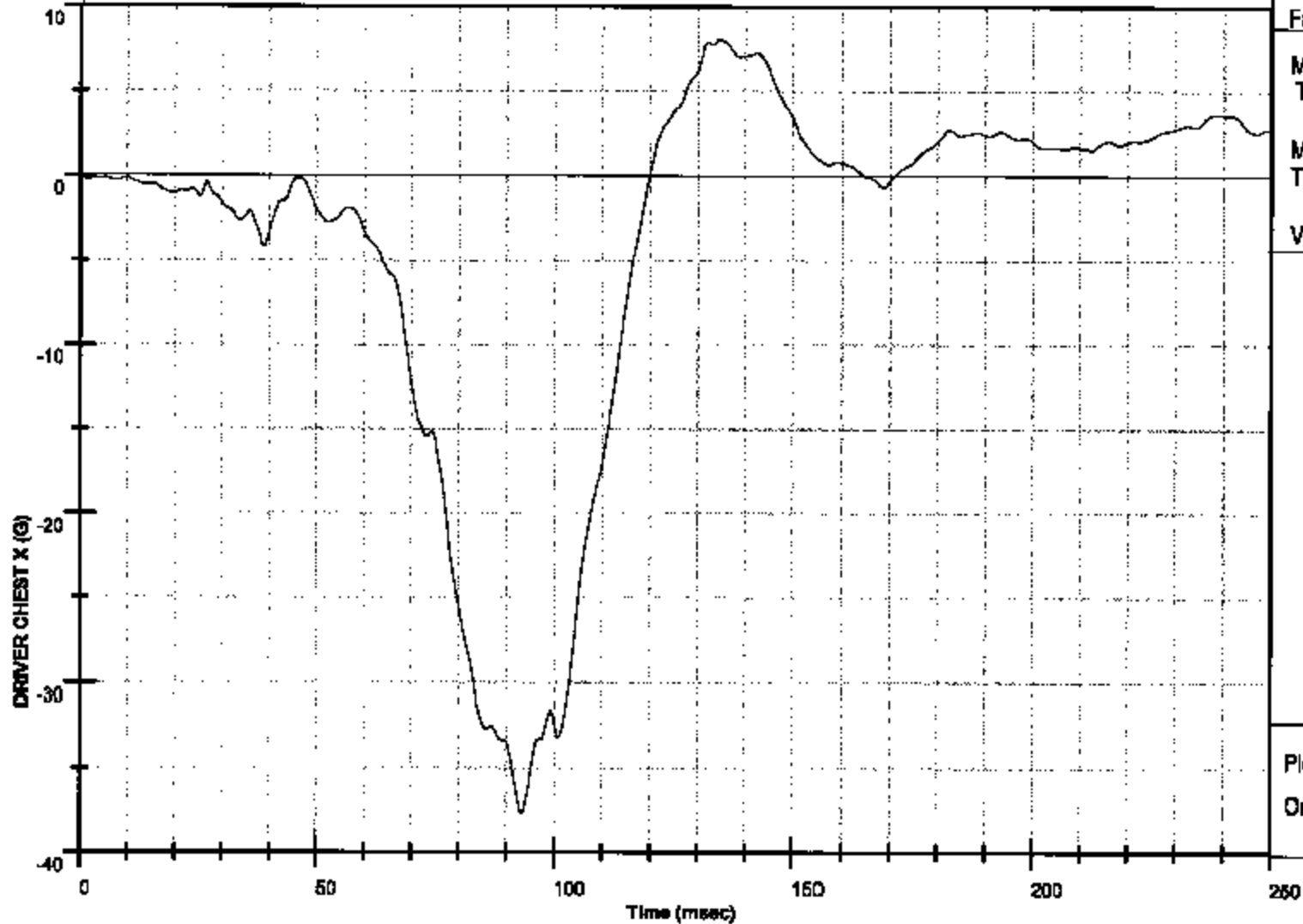
Minimum: -37.7 G

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

Chn Name: DRIVER CHEST Y

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

CFC: 180

TestNumber: H03125

File Name: H03125AF.A09

Test Date: 06/04/03

Sensor S/N: AGH11

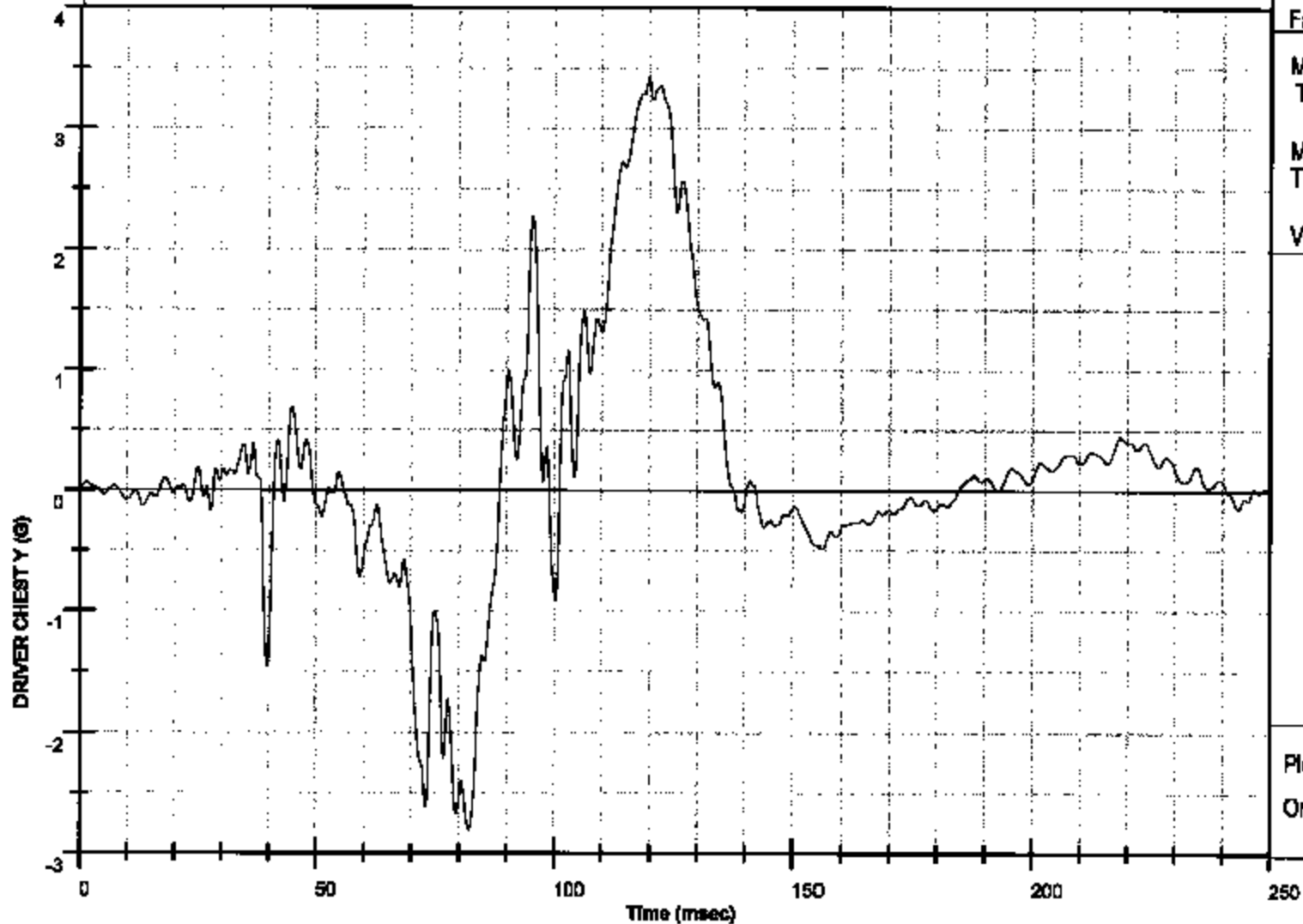
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934

Maximum: 3.4 G
Time: 119.9 msec

Minimum: -2.8 G
Time: 82.1 msec

Value at TD: 0.0 G

Plotted By: C. Gadberry
On: 06.05.2003 08:48:02



Test Desc: FMVSS 208 SLED

Chn Name: DRIVER CHEST Z

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

CFC: 180

Test Number: H03125

File Name: H03125AF.A23

Test Date: 06/04/03

Sensor S/N: AGH51

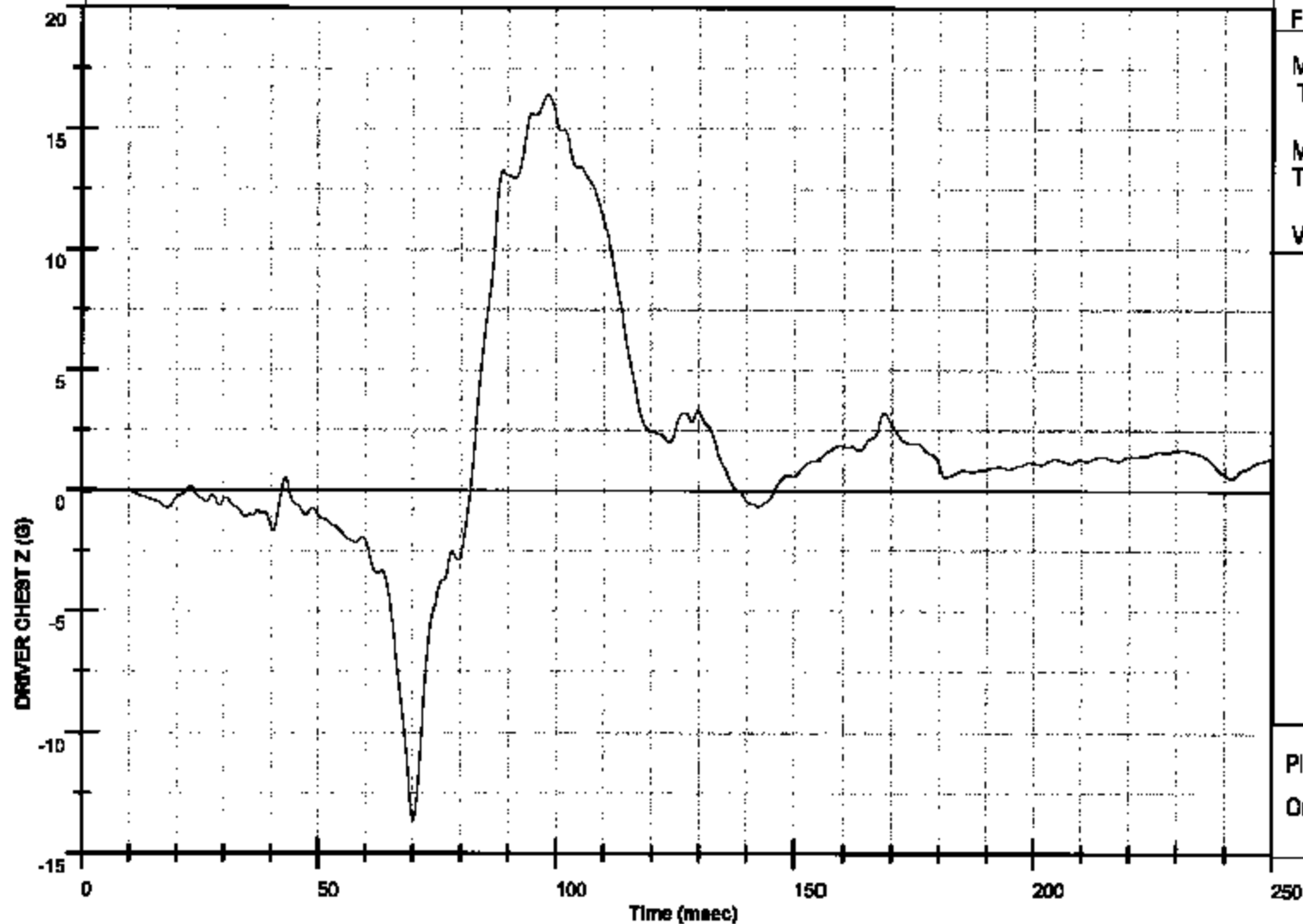
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934

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 08:48:04



Test Desc: FMVSS 208 SLED

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35802)

TestNumber: H03125

Test Date: 06/04/03

Chn Name: DRIVER CHEST RESULTANT ACCELERATION

CFC: 180

File Name: H03125AV.A09

Sensor S/N: AGH51

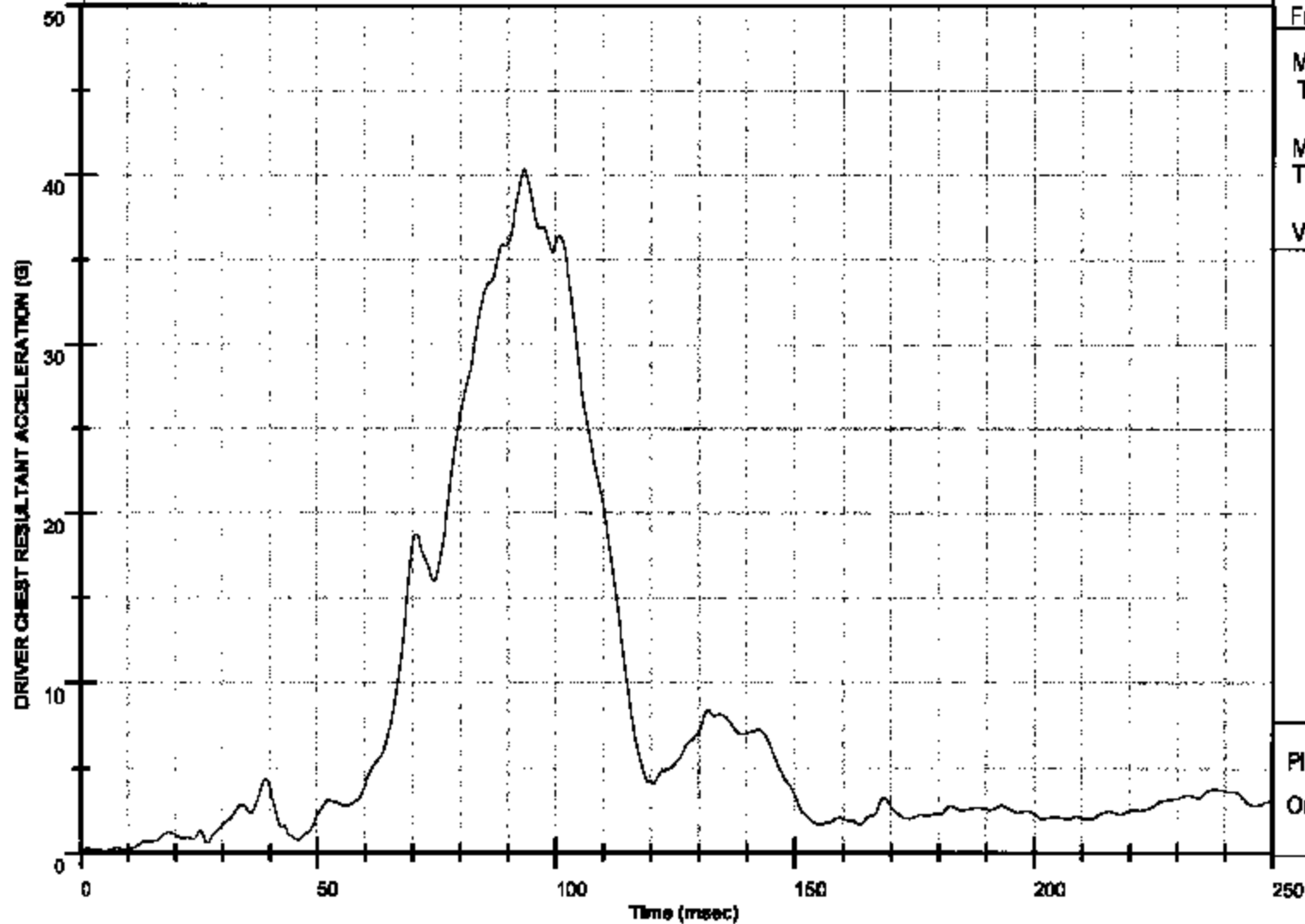
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934

Maximum: 40.3 G
Time: 93.4 msec

Minimum: 0.1 G
Time: 5.4 msec

Value at T0: 0.2 G

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



Test Desc: FMV58 208 SLED

Chn Name: DRIVER CHEST DISP.

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

CFC: 600

TestNumber: H03125

File Name: H03125DF.D38

Test Date: 06/04/03

Sensor S/N: D403DX

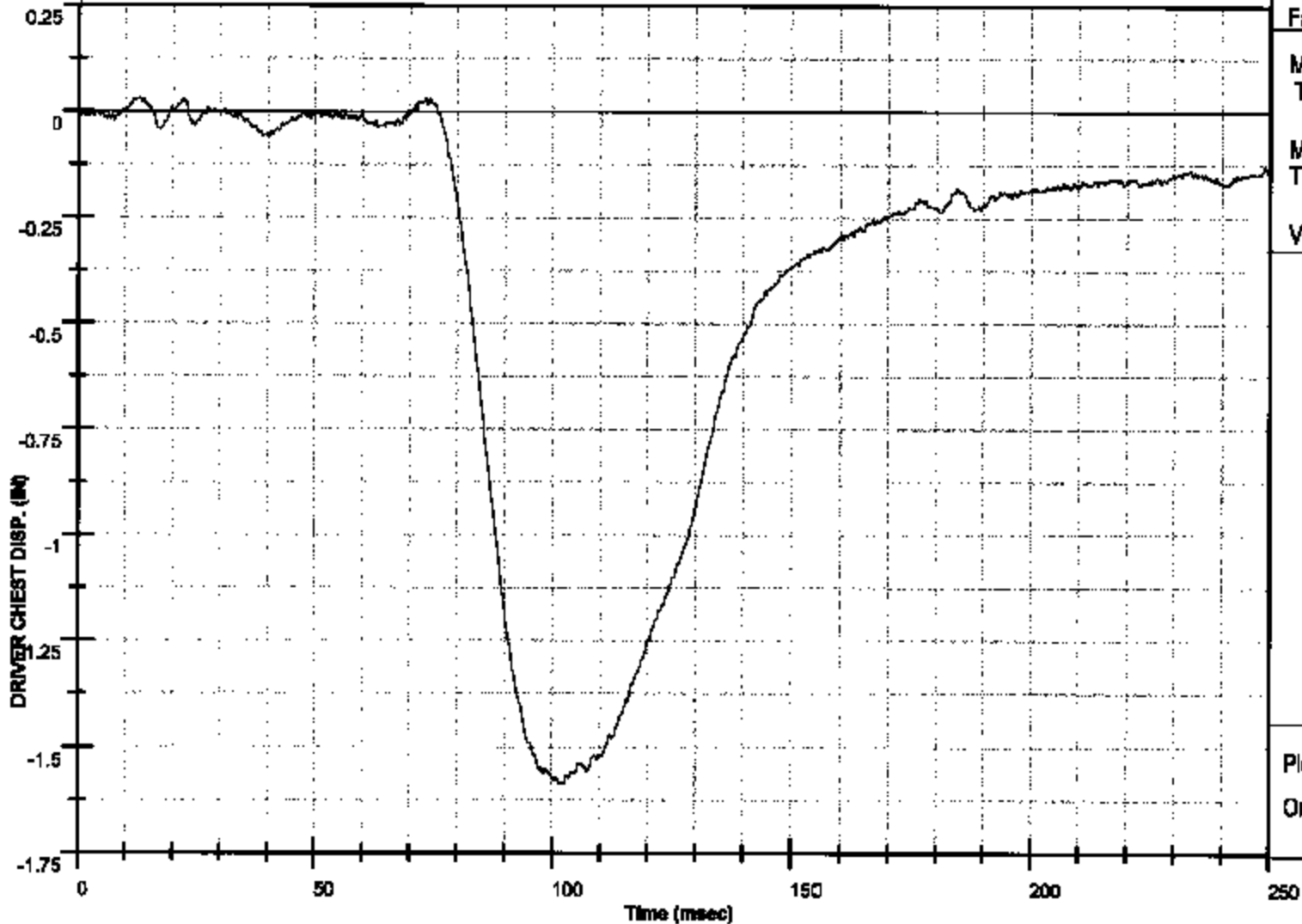
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934

Maximum: 0.0 IN
Time: 11.7 msec

Minimum: -1.6 IN
Time: 101.8 msec

Value at TD: -0.0 IN

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



Test Desc: FMVSS 208 SLED

Chn Name: DRIVER LEFT FEMUR

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

CFC: 600

Test Number: H03125

File Name: H03125FF.F41

Test Date: 06/04/03

Sensor S/N: 9428

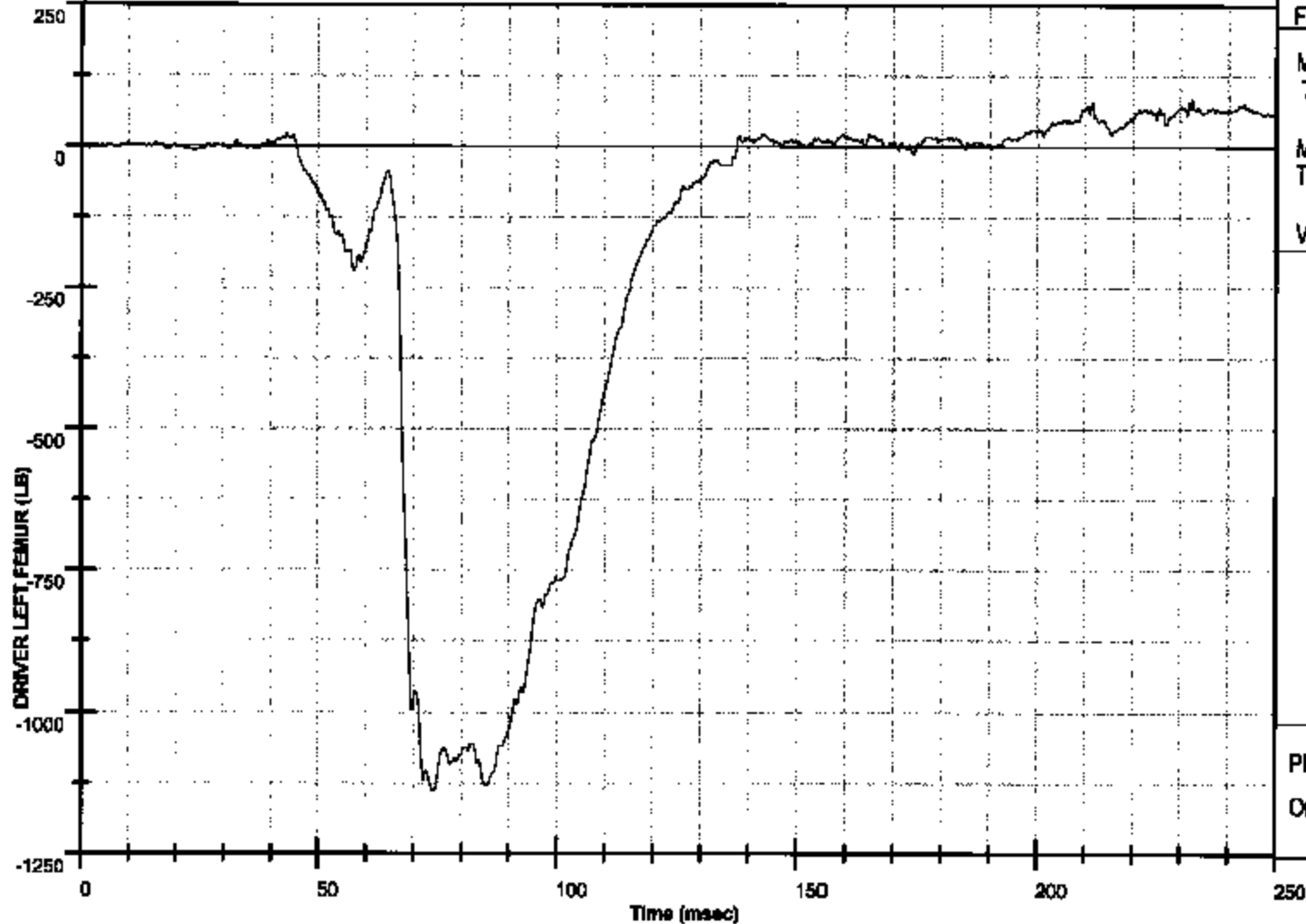
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934

Maximum: 85.8 LB
Time: 232.4 msec

Minimum: -1,138.6 LB
Time: 74.0 msec

Value at T0: 0.4 LB

Plotted By: C. Gadberry
On: 06.05.2003 08:48:10



Test Desc: FMVSS 208 SLED

Chn Name: DRIVER RIGHT FEMUR

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

CFC: 600

TestNumber: H03125

File Name: H03125FF.F42

Test Date: 06/04/03

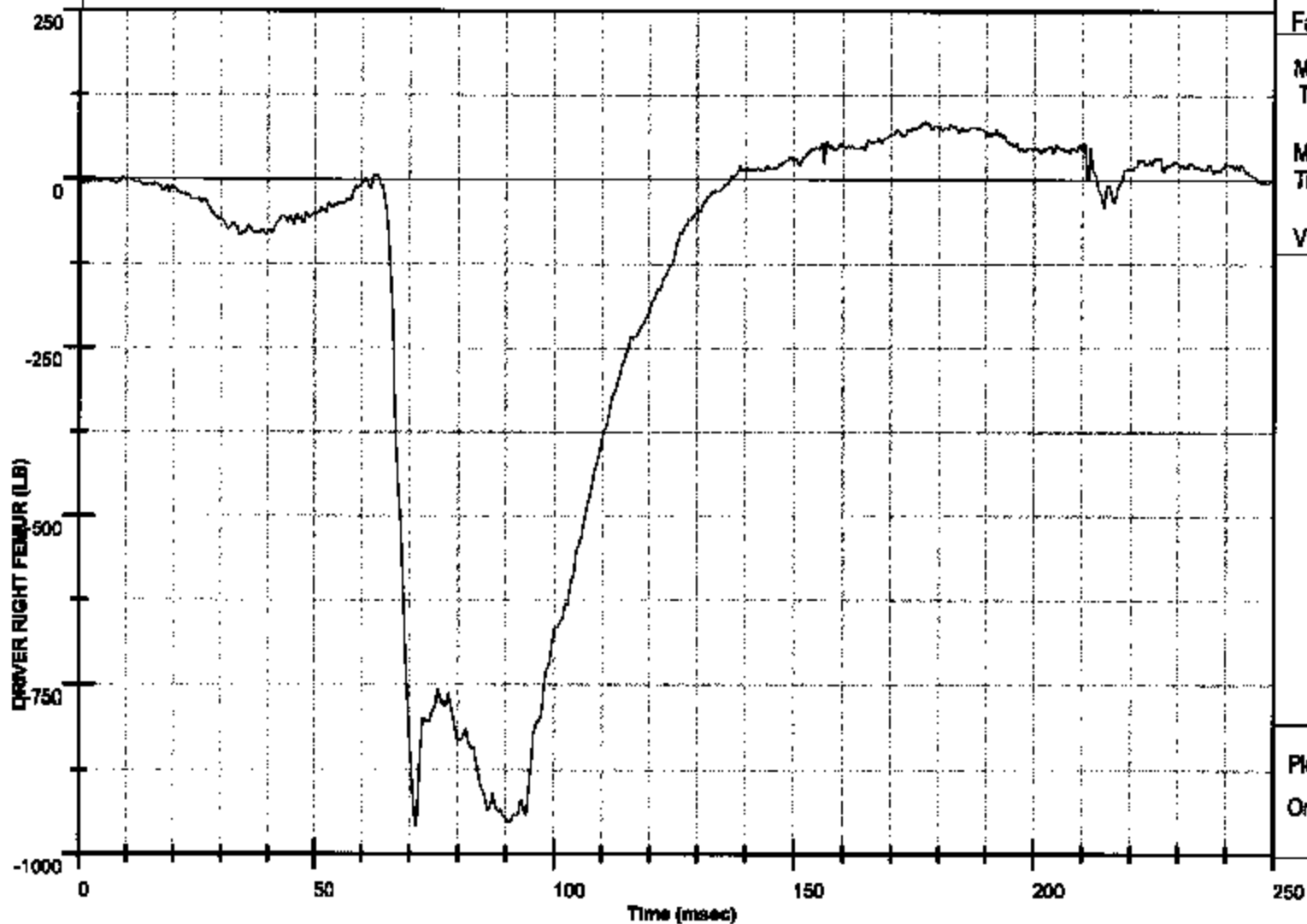
Sensor S/N: 8427

MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
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 08:48:13

Test Desc: FMVSS 208 SLED

Chn Name: PASSENGER HEAD X

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

CFC: 1000

TestNumber: H03125

File Name: H03125AT.A24

Test Date: 06/04/03

Sensor S/N: C10727

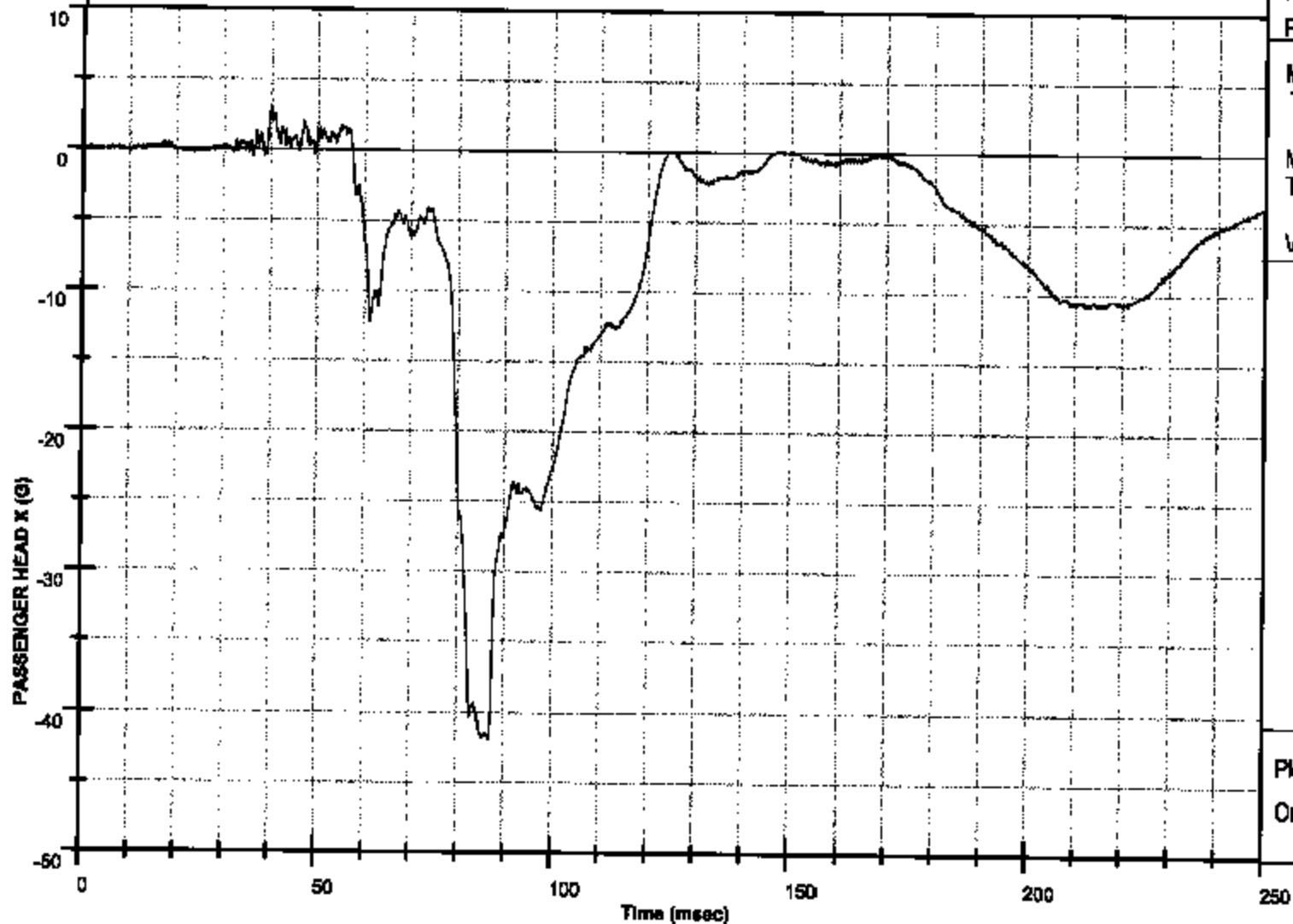
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934

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

Chn Name: PASSENGER HEAD Y

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

CFC: 1000

Test Number: H03125

File Name: H03125AT.A25

Test Date: 06/04/03

Sensor S/N: AGH70

MGA Research Corp

Accelerator Sled Facility

5000 Warren Road,

Burlington, WI 53105

Ph #: 262-763-2705

Fax #: 262-763-0934

Maximum: 2.8 G

Time: 121.0 msec

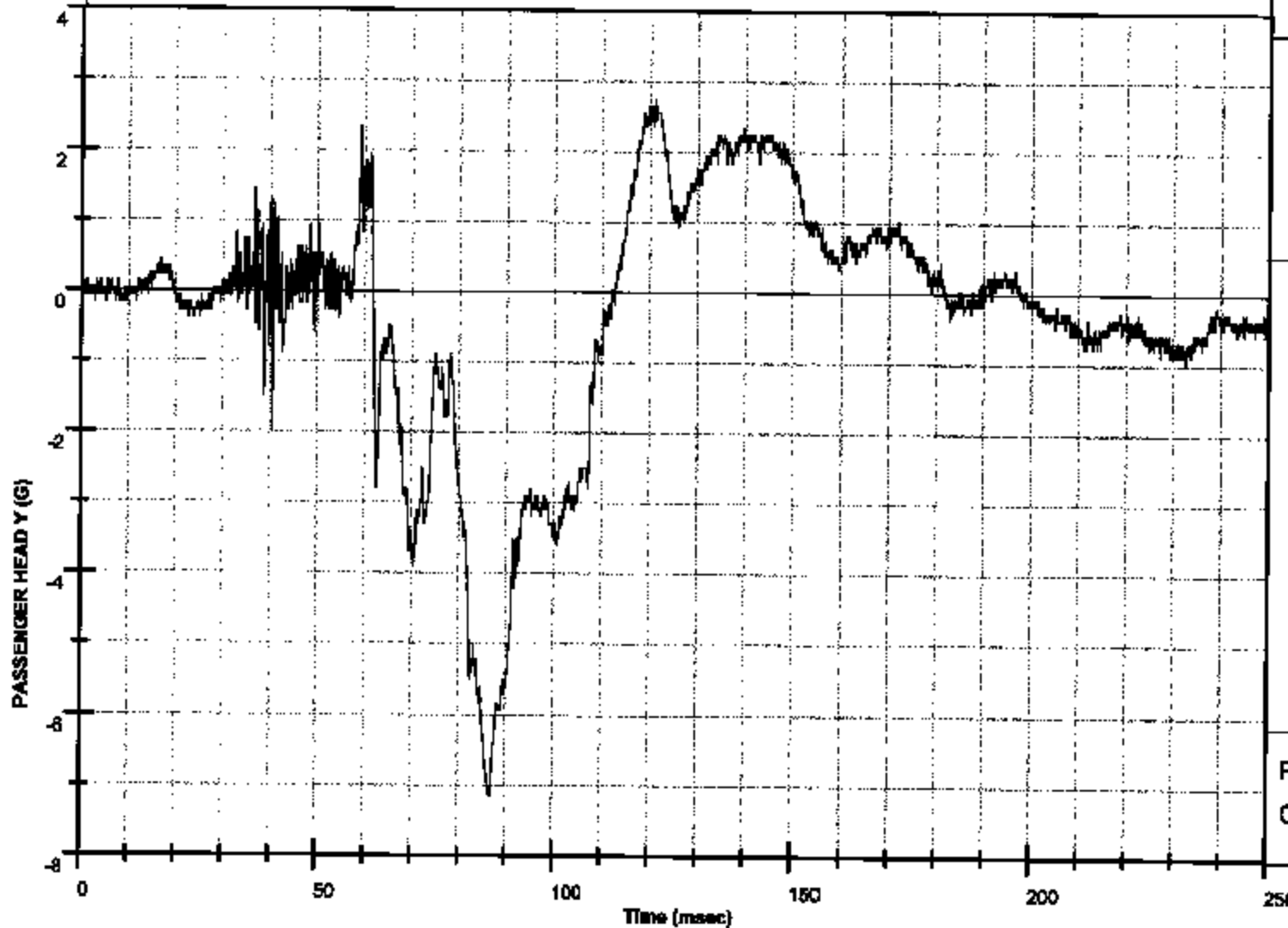
Minimum: -7.1 G

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

Chn Name: PASSENGER HEAD Z

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

CFC: 1000

Test Number: H03125

File Name: H03125AT.A26

Test Date: 06/04/03

Sensor S/N: AGH78

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

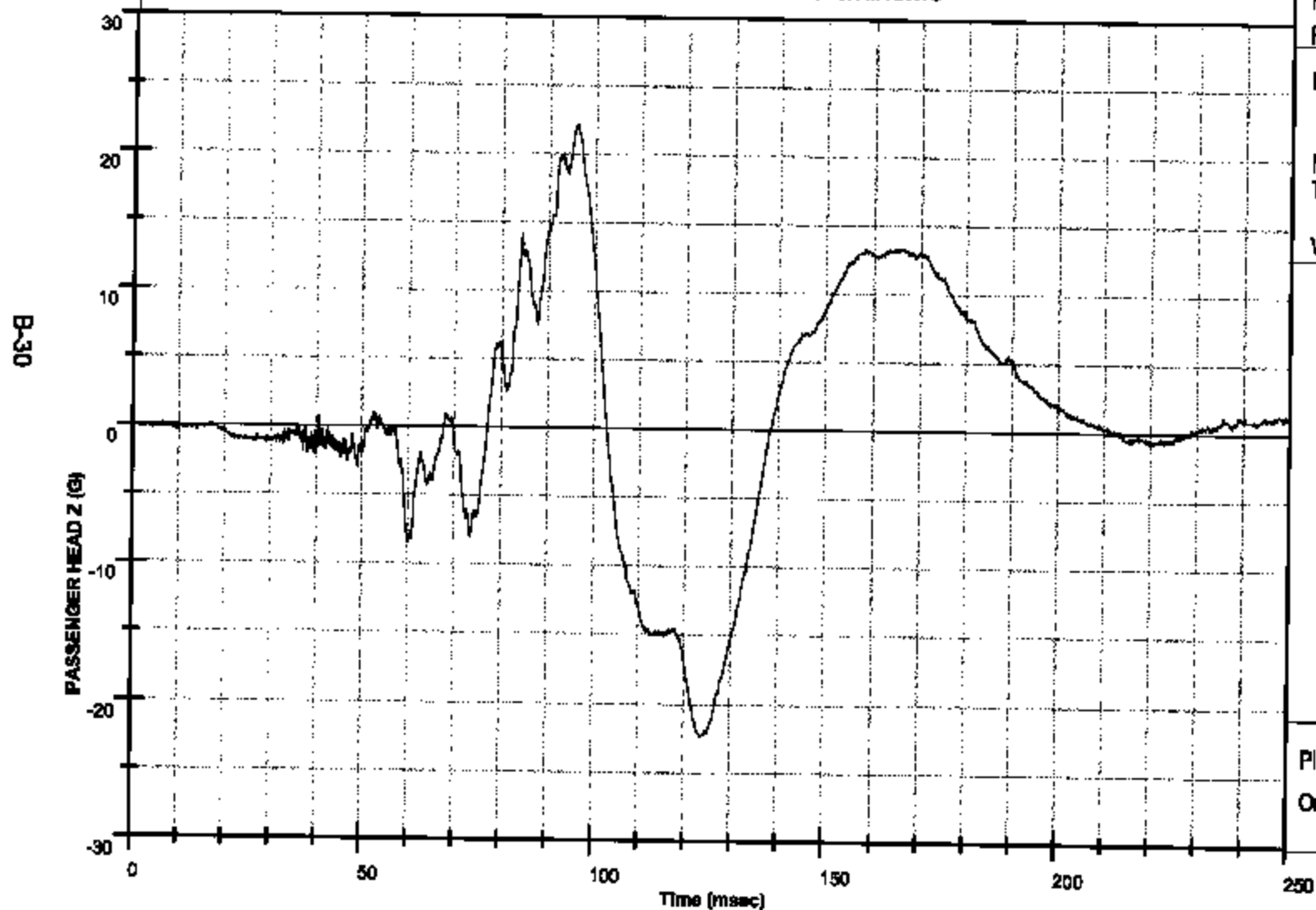
Maximum: 22.2 G
Time: 95.7 msec

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

NCA 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

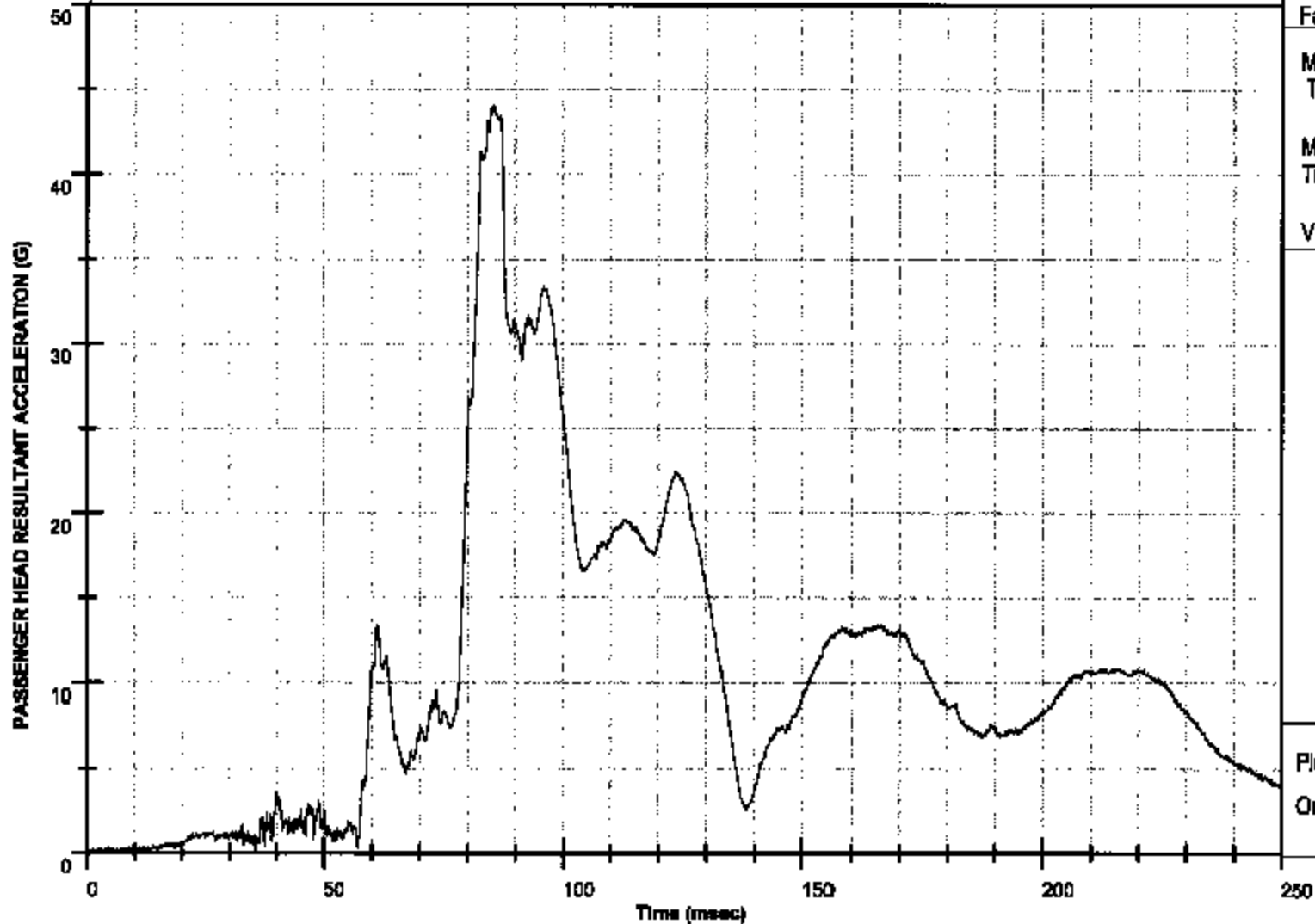
HIC15 VAL: 111.6

T1: 81.9 msec

T2: 96.9 msec

Plotted By: C. Gadberry

On: 06.05.2003 08:48:22



Test Desc: FMVSS 208 SLED

Chn Name: PASSENGER NECK FX

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

CFC: 1000

Test Number: H03125

File Name: H03125FT.F31

Test Date: 06/04/03

Sensor S/N: N252FX

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

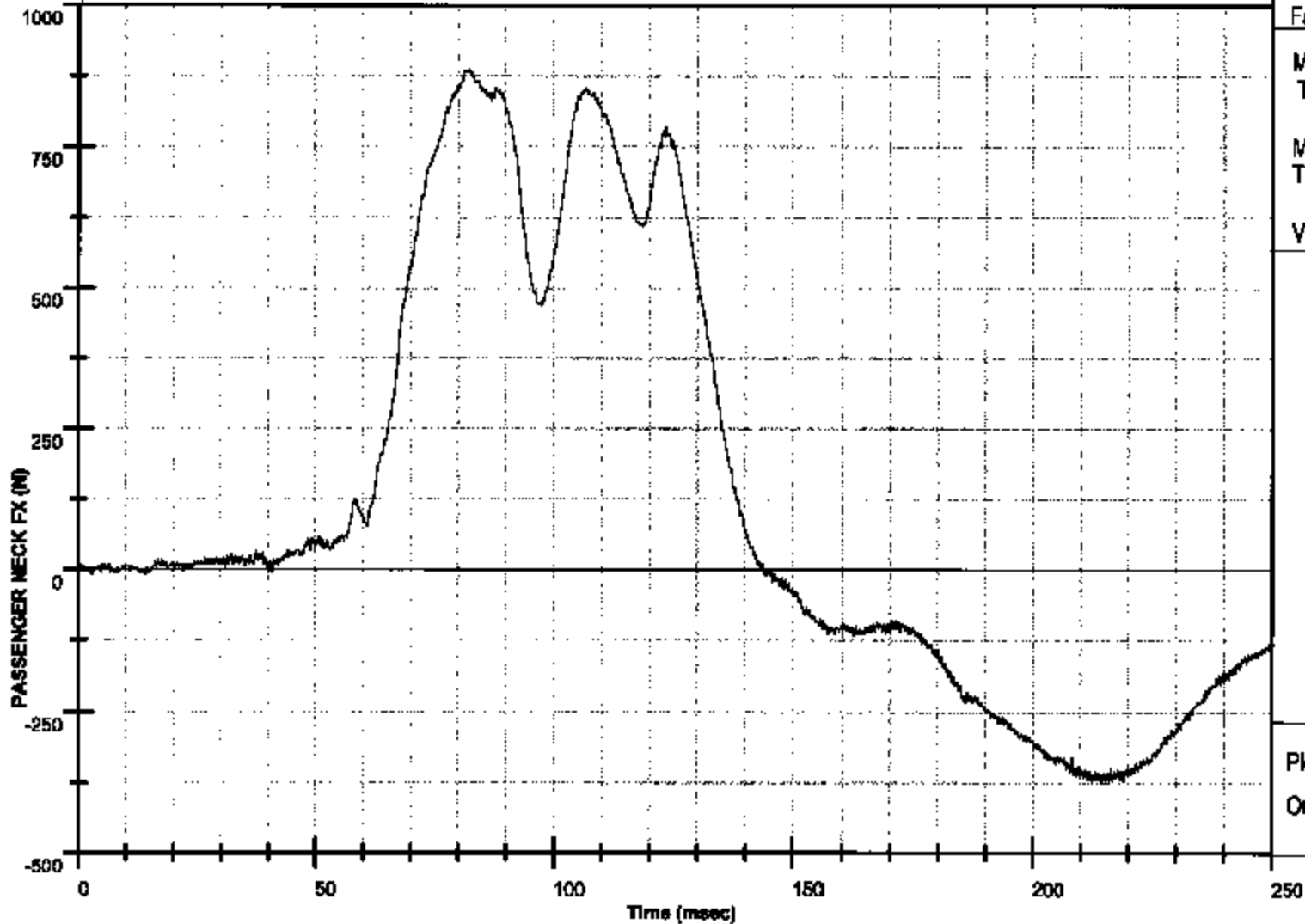
Maximum: 888.7 N
Time: 82.4 msec

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

B-32



Test Desc: FMVSS 208 SLED

Chn Name: PASSENGER NECK FY

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

CFC: 1000

TestNumber: H03125

File Name: H03125FT.F32

Test Date: 06/04/03

Sensor S/N: N252FY

MGA Research Corp

Accelerator Sled Facility

5000 Warren Road,

Burlington, WI 53105

Ph #: 262-763-2705

Fax #: 262-763-0934

Maximum: 308.3 N

Time: 120.3 msec

Minimum: -54.4 N

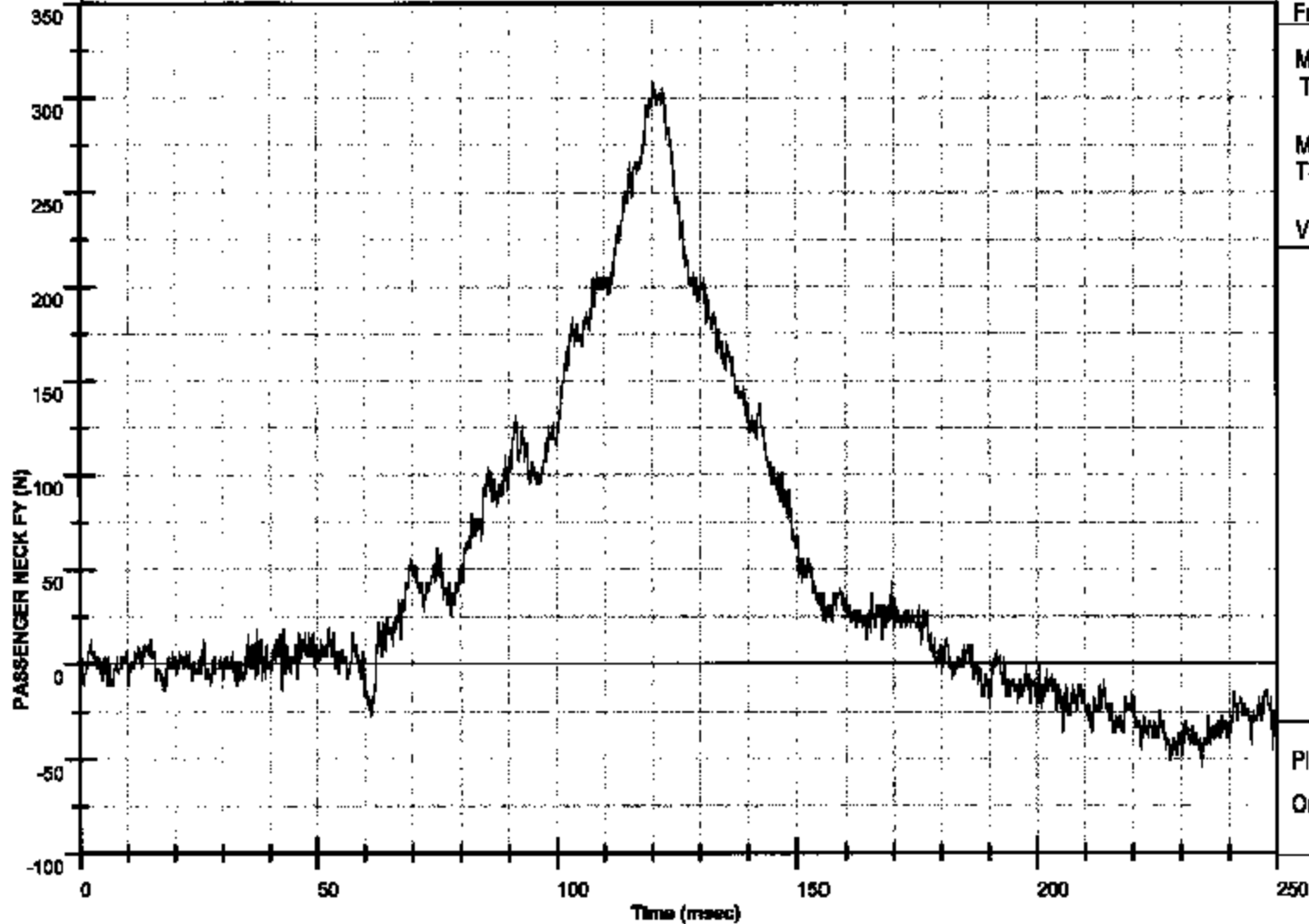
Time: 234.2 msec

Value at T0: -11.7 N

Plotted By: C. Gadberry

On: 06.05.2003 08:46:28

B-33



Test Desc: FMVSS 208 SLED

Chn Name: PASSENGER NECK FZ

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

CFC: 1000

TestNumber: H03125

File Name: H03125FT.F33

Test Date: 06/04/03

Sensor S/N: N252FZ

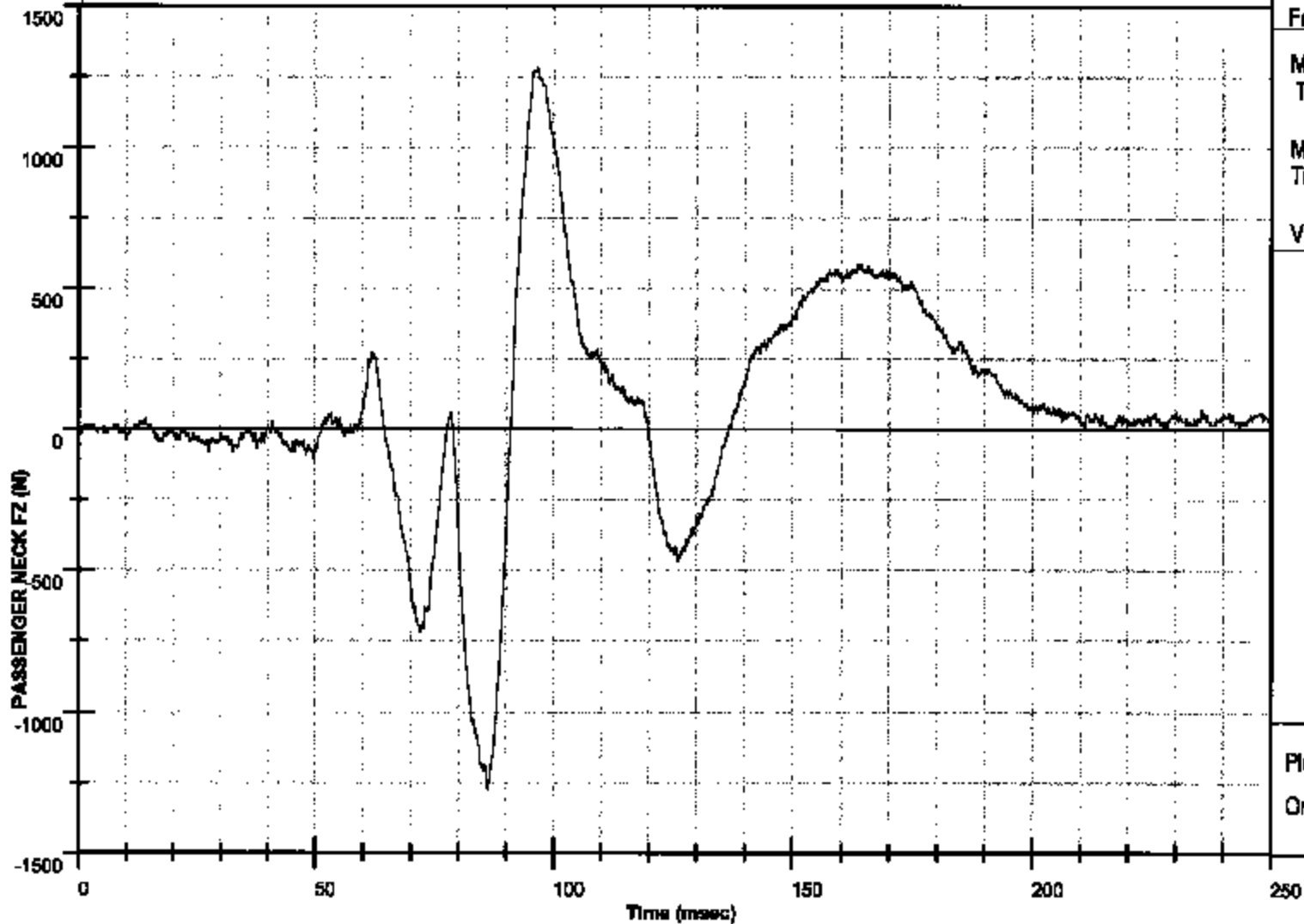
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934

Maximum: 1,286.8 N
Time: 96.7 msec

Minimum: -1,273.5 N
Time: 88.2 msec

Value at T0: -4.4 N

B-34



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

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

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

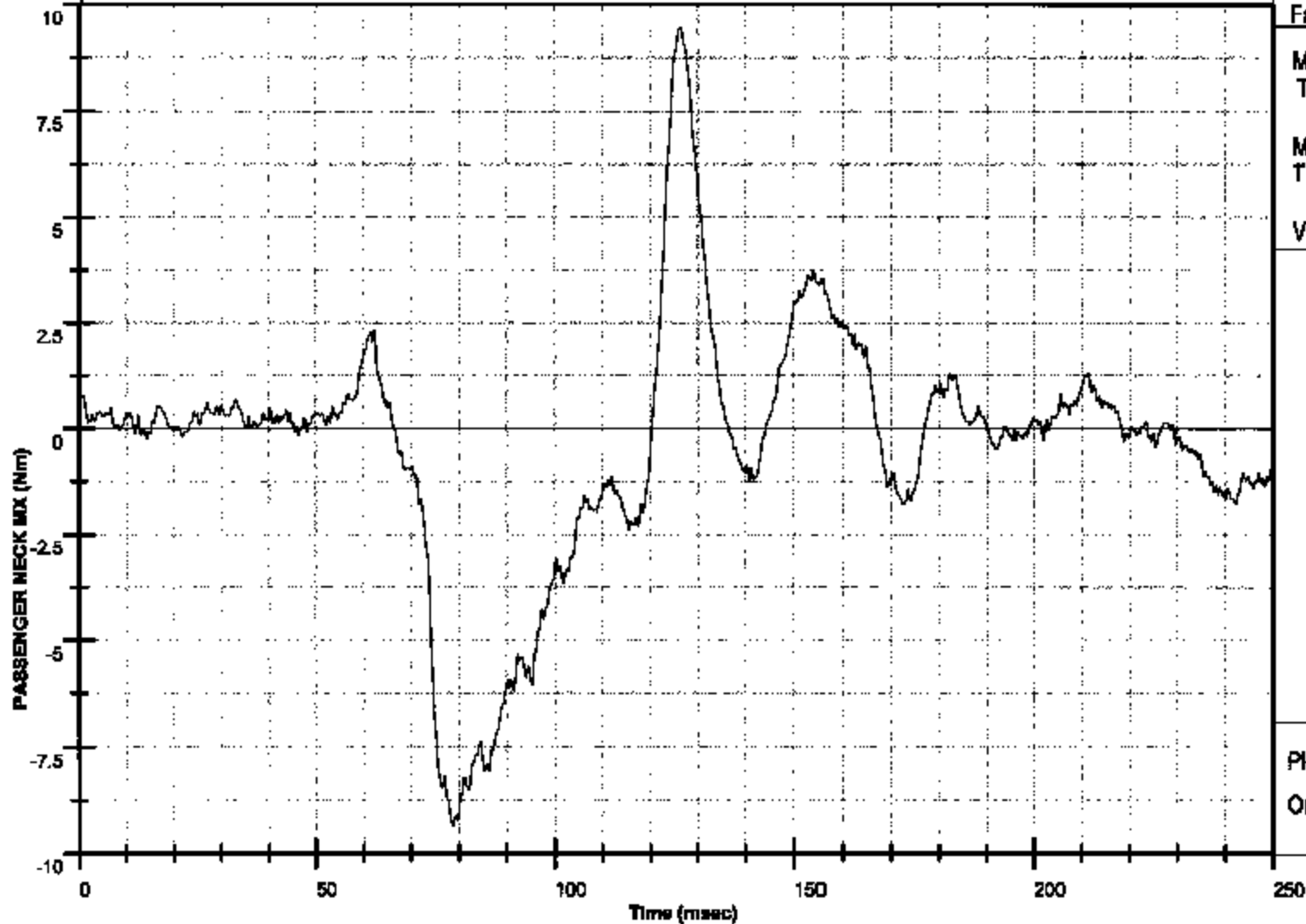
Maximum: 9.5 Nm
Time: 128.5 msec

Minimum: -9.3 Nm
Time: 78.7 msec

Value at T0: 0.9 Nm

Plotted By: C. Gadberry
On: 06.05.2003 08:48:39

B-36



Test Desc: FMVSS 208 SLED

Chn Name: PASSENGER NECK MY

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

CFC: 600

Test Number: H03125

File Name: H03125MF.M36

Test Date: 06/04/03

Sensor S/N: N252MY

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

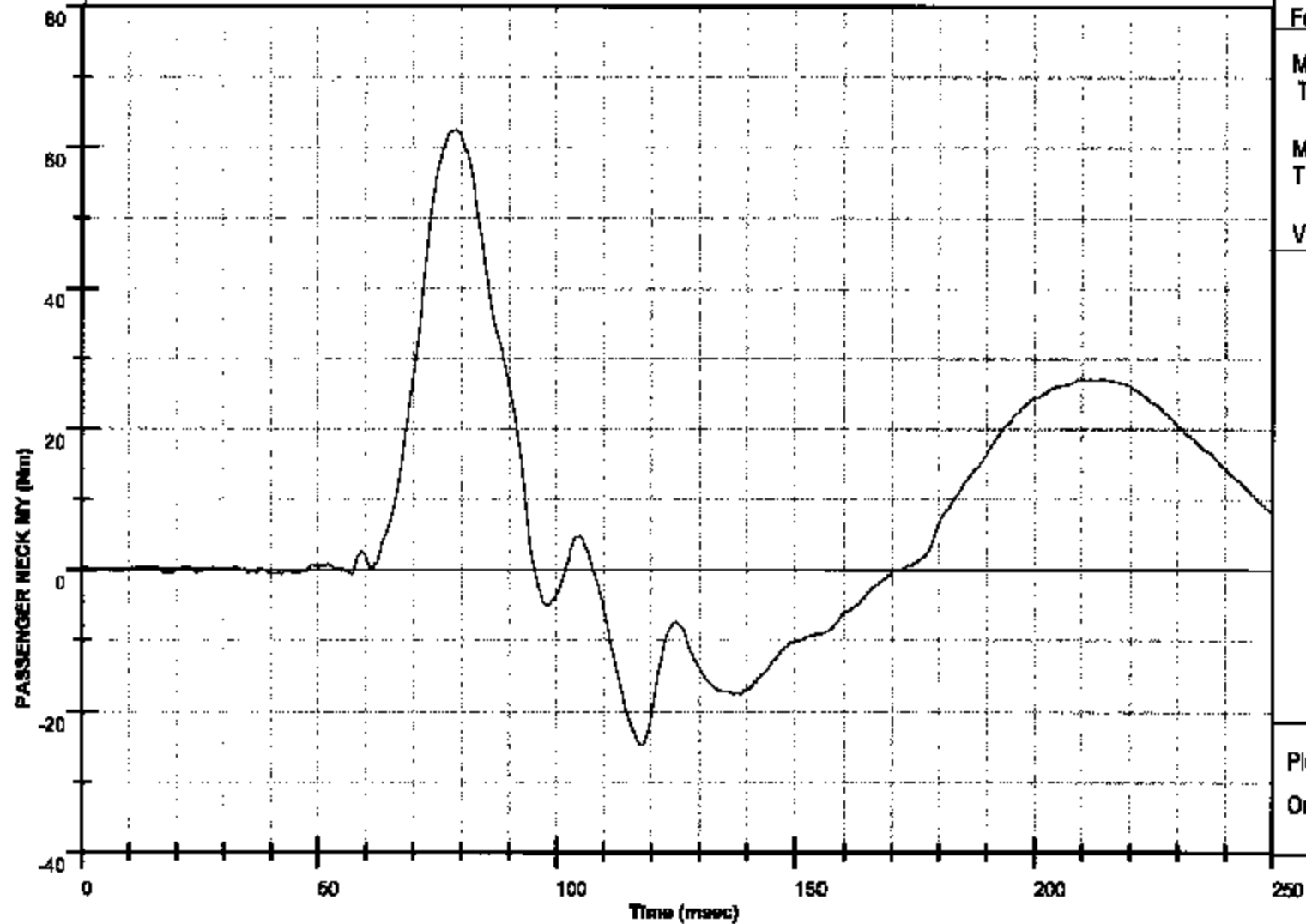
Maximum: 62.5 Nm
Time: 79.0 msec

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

B-36



Test Desc: FMVSS 208 SLED

Chn Name: PASSENGER NECK MZ

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

CFC: 600

Test Number: H03125

File Name: H03125MF.M37

Test Date: 06/04/03

Sensor S/N: N252MZ

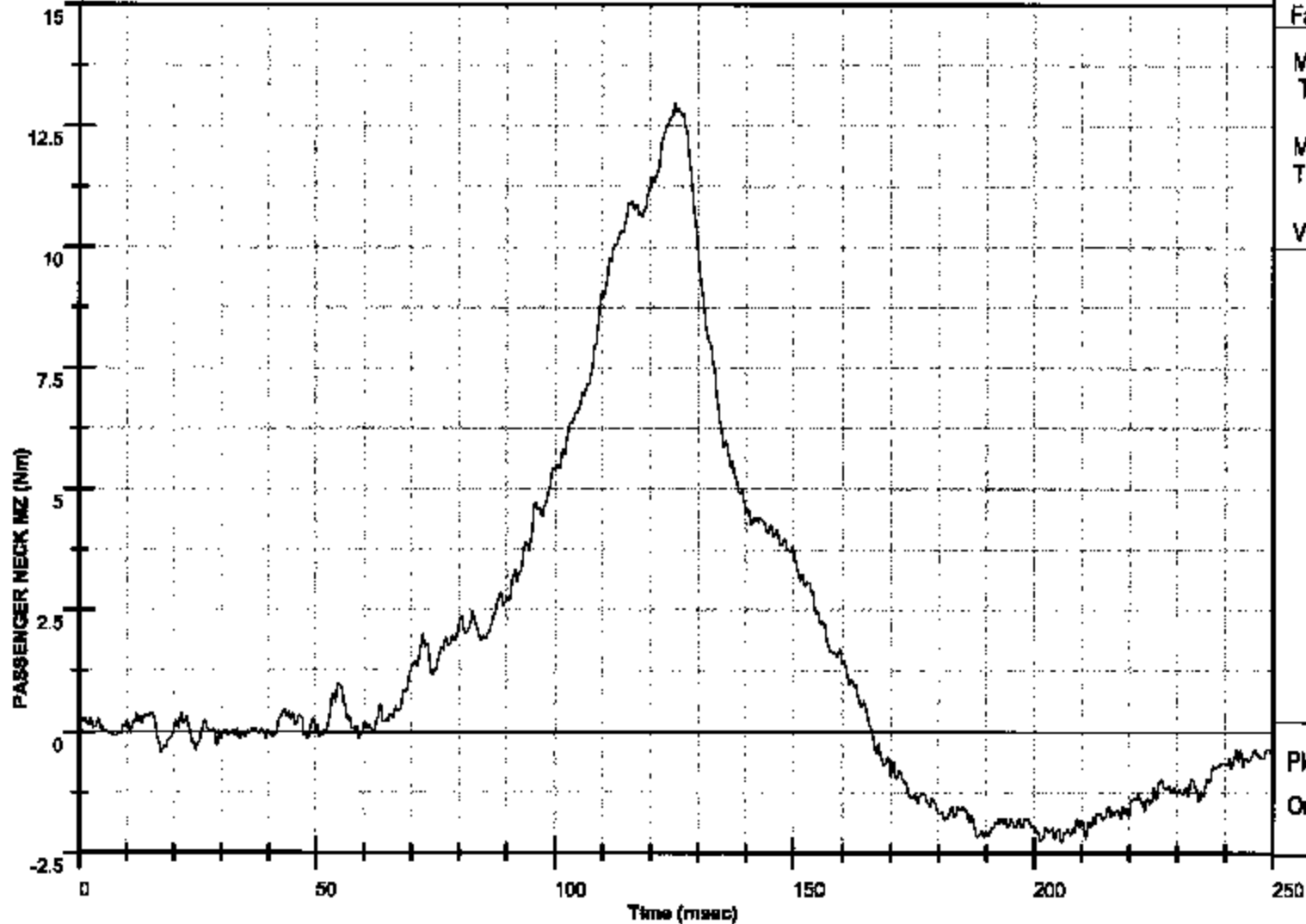
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934

Maximum: 13.0 Nm
Time: 125.1 msec

Minimum: -2.3 Nm
Time: 205.8 msec

Value at T0: 0.5 Nm

Plotted By: C. Gadberry
On: 06.05.2003 08:48:34



Test Desc: FMVSS 208 SLED

Chn Name: PASSENGER OCCIPITAL CONDYLE MOMENT Y

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

CFC: 600

TestNumber: H03125

File Name: H03125MO.M36

Test Date: 06/04/03

Sensor S/N: N252MY

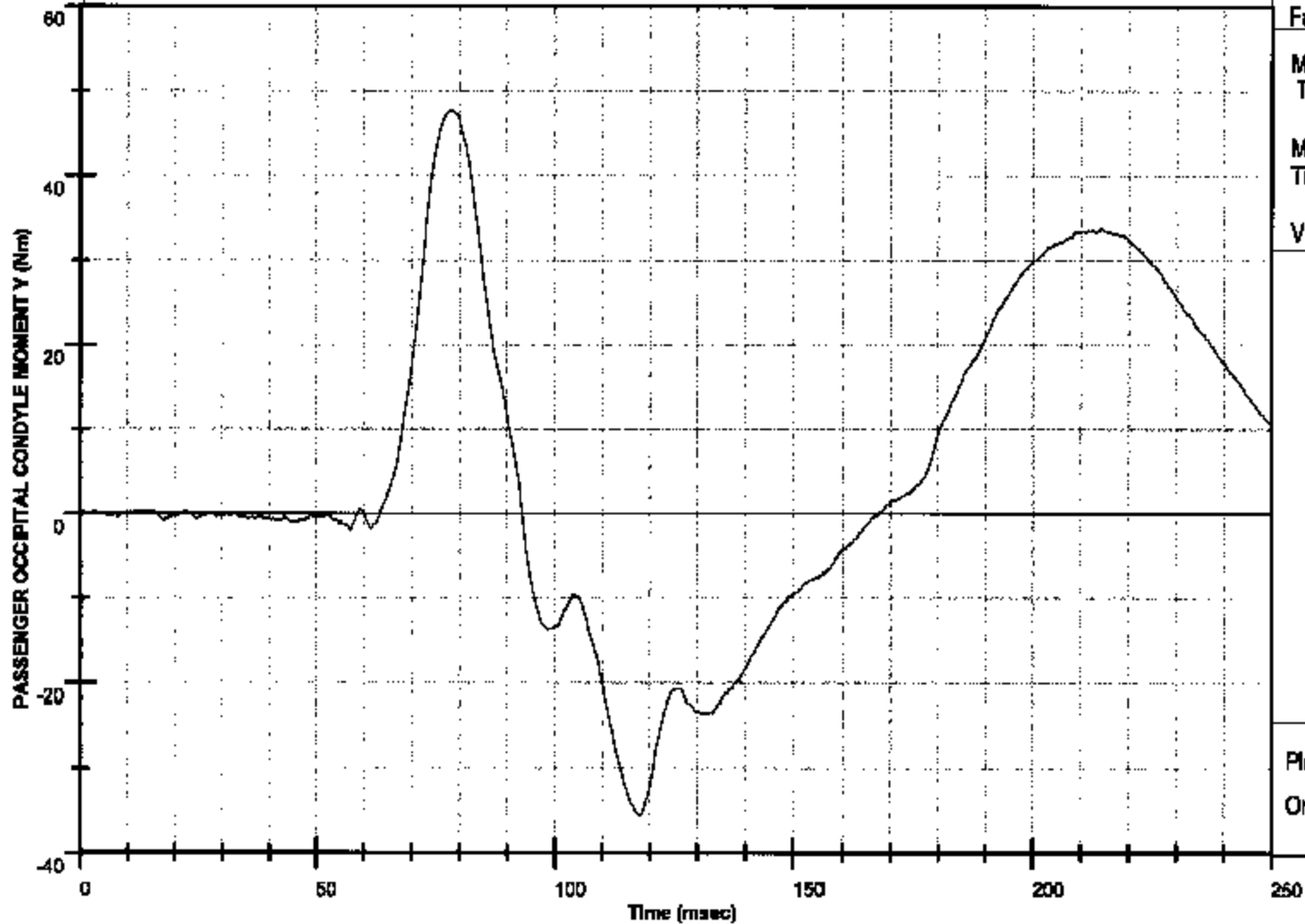
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934

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. Gadberry
On: 06.05.2003 08:44:38



Test Desc: FMVSS 208 SLED

Chn Name: PASSENGER CHEST X

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

CFC: 180

TestNumber: H03125

File Name: H03125AF.A27

Test Date: 06/04/03

Sensor S/N: C10591

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

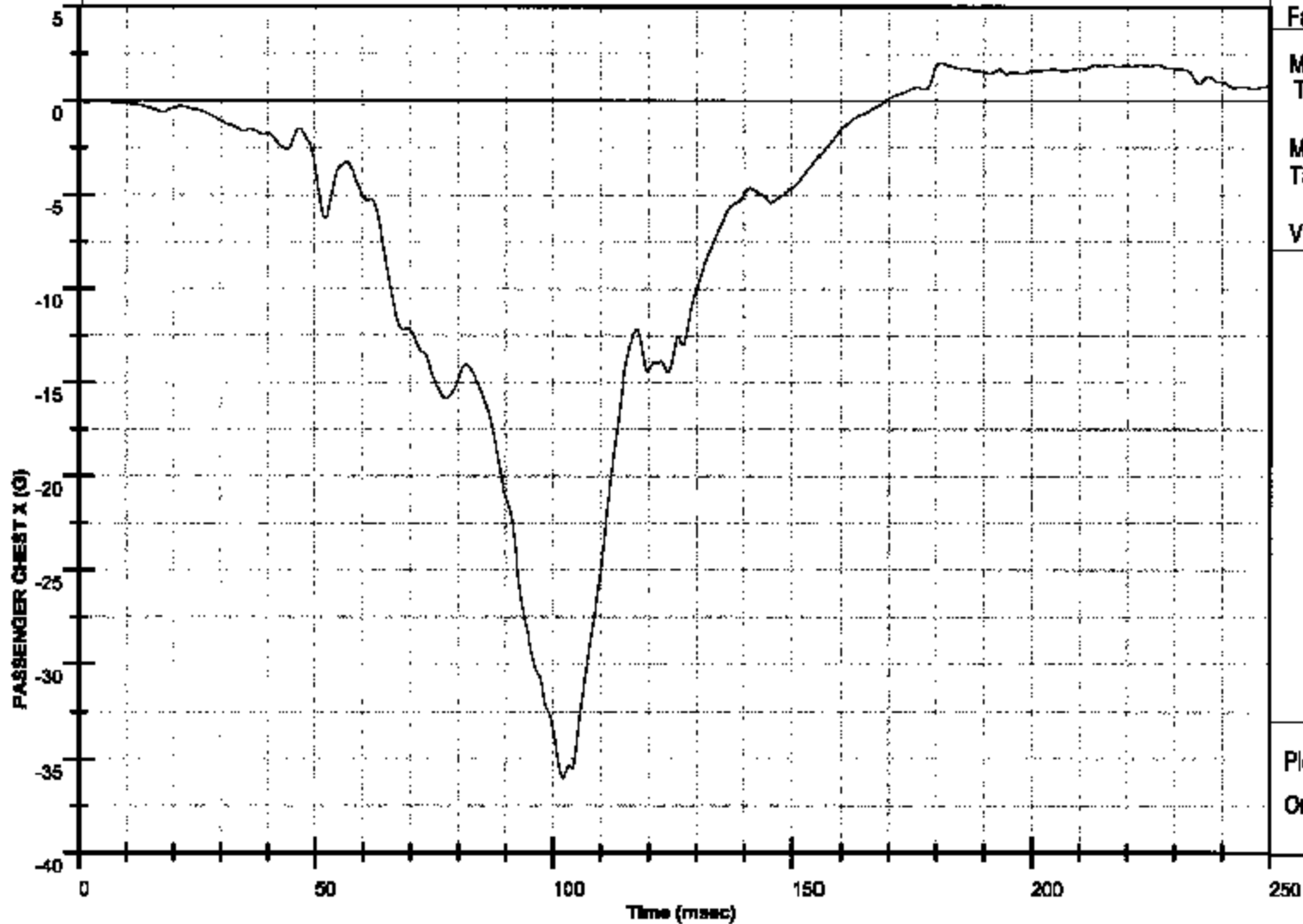
Maximum: 2.0 G
Time: 181.0 msec

Minimum: -36.0 G
Time: 102.1 msec

Value at T0: -0.0 G

Plotted By: C. Gadberry
On: 06.05.2003 08:48:38

B-39



Test Desc: FMVSS 206 SLED

Chn Name: PASSENGER CHEST Y

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

CFC: 180

TestNumber: H03125

File Name: H03125AF.A28

Test Date: 06/04/03

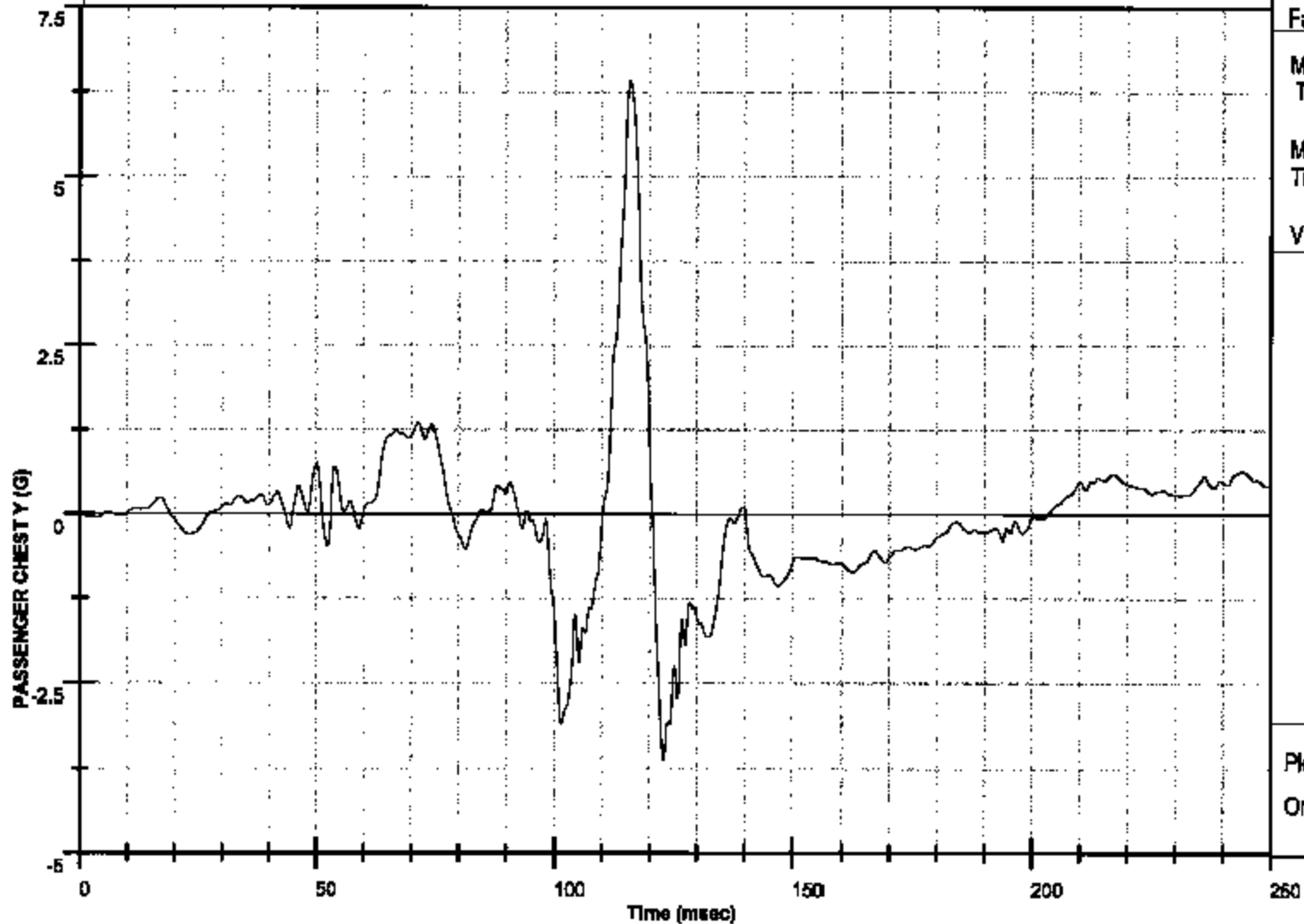
Sensor S/N: C10770

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 T0: 0.0 G



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

Test Desc: FMVSS 208 SLED

Chn Name: PASSENGER CHEST Z

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

CFC: 180

TestNumber: H03125

File Name: H03125AF.A29

Test Date: 06/04/03

Sensor S/N: AGH72

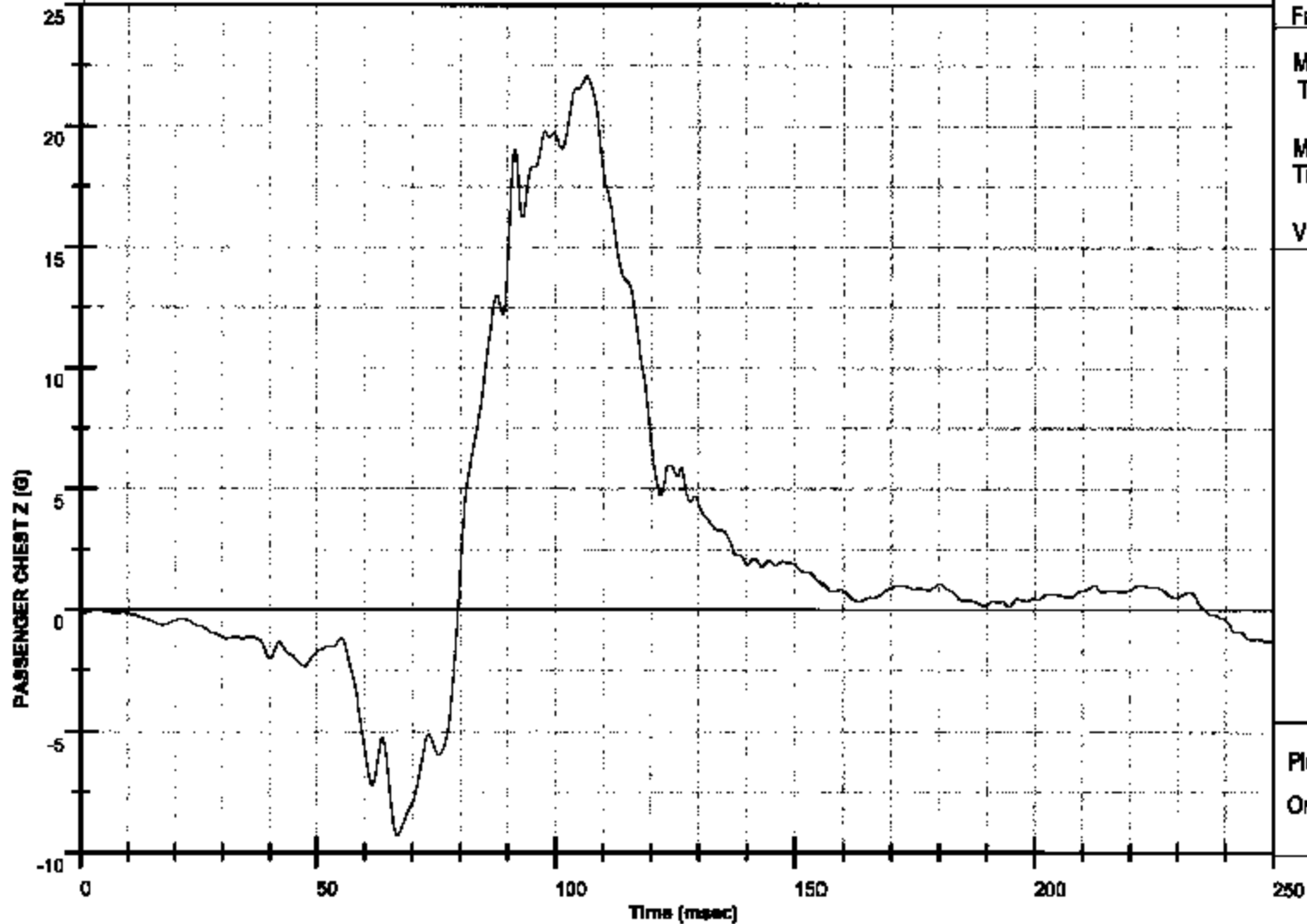
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934

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. Gadsberry
On: 06.05.2003 08:46:42



Test Desc: FMVSS 208 SLED

Chn Name: PASSENGER CHEST RESULTANT ACCELERATION

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35602)

CFC: 180

Test Number: H03125

File Name: H03125AV.A27

Test Date: 06/04/03

Sensor S/N: AGH72

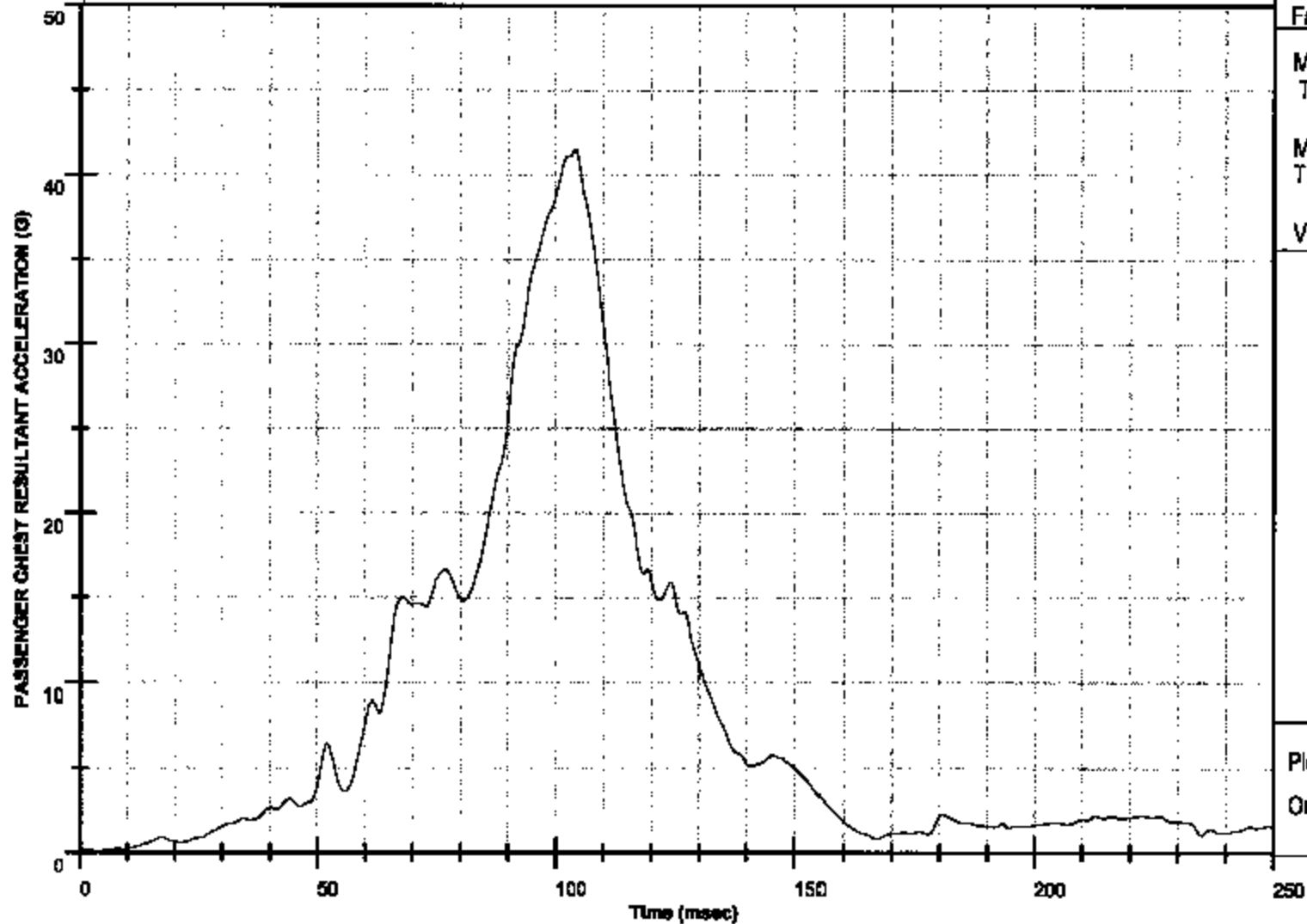
WCA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934

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. Gadoony
On: 06.05.2003 08:46:44



Test Desc: FMVSS 208 SLED

Chn Name: PASSENGER CHEST DISP.

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35802)

CFC: 600

TestNumber: H03125

File Name: H03125DF.D39

Test Date: 06/04/03

Sensor S/N:D401DX

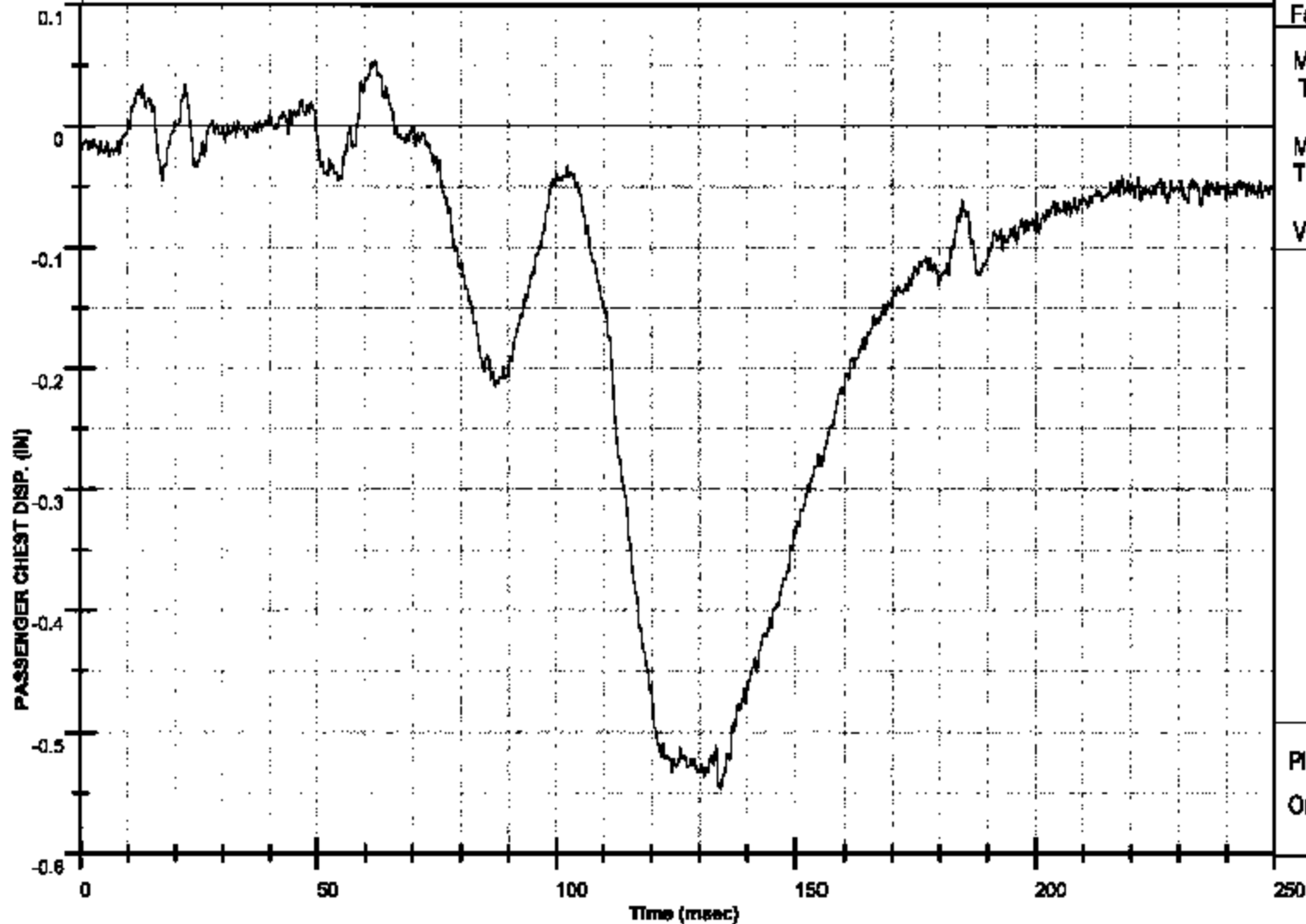
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934

Maximum: 0.1 IN
Time: 62.2 msec

Minimum: -0.5 IN
Time: 134.6 msec

Value at TD: -0.0 IN

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



Test Desc: FNVSS 208 SLED

Chn Name: PASSENGER LEFT FEMUR

Component: 2003 MITSUBISHI ECLIPSE 2 DOOR (C35802)

CFC: 600

Test Number: H03125

File Name: H03125FF.F43

Test Date: 06/04/03

Sensor S/N: 946

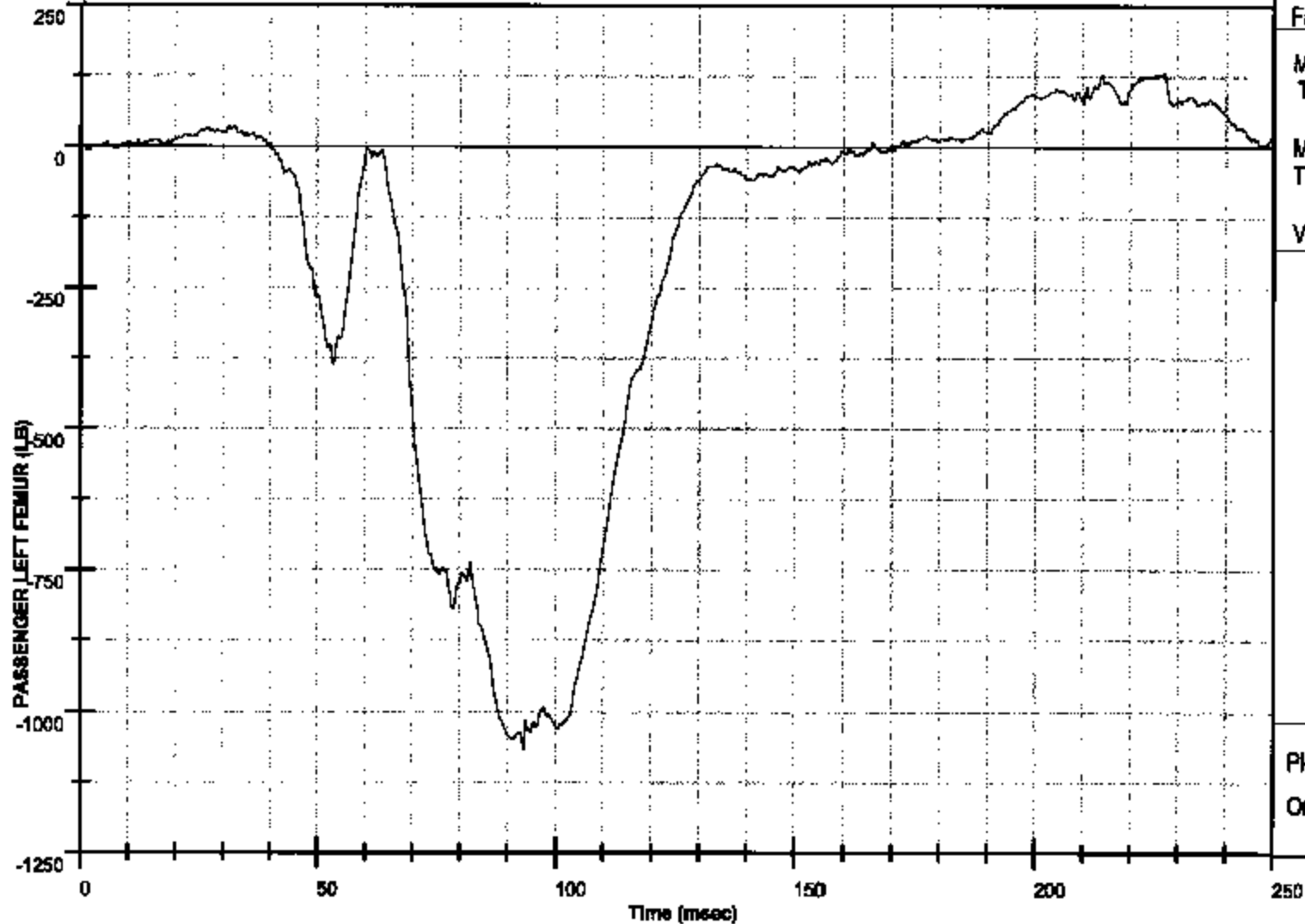
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934

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: 05.05.2003 08:46:48



Test Desc: **FMVSS 208 SLED**

Chn Name: **PASSENGER RIGHT FEMUR**

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

CFC: **600**

Test Number: **H03125**

File Name: **H03125FF.F44**

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

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**

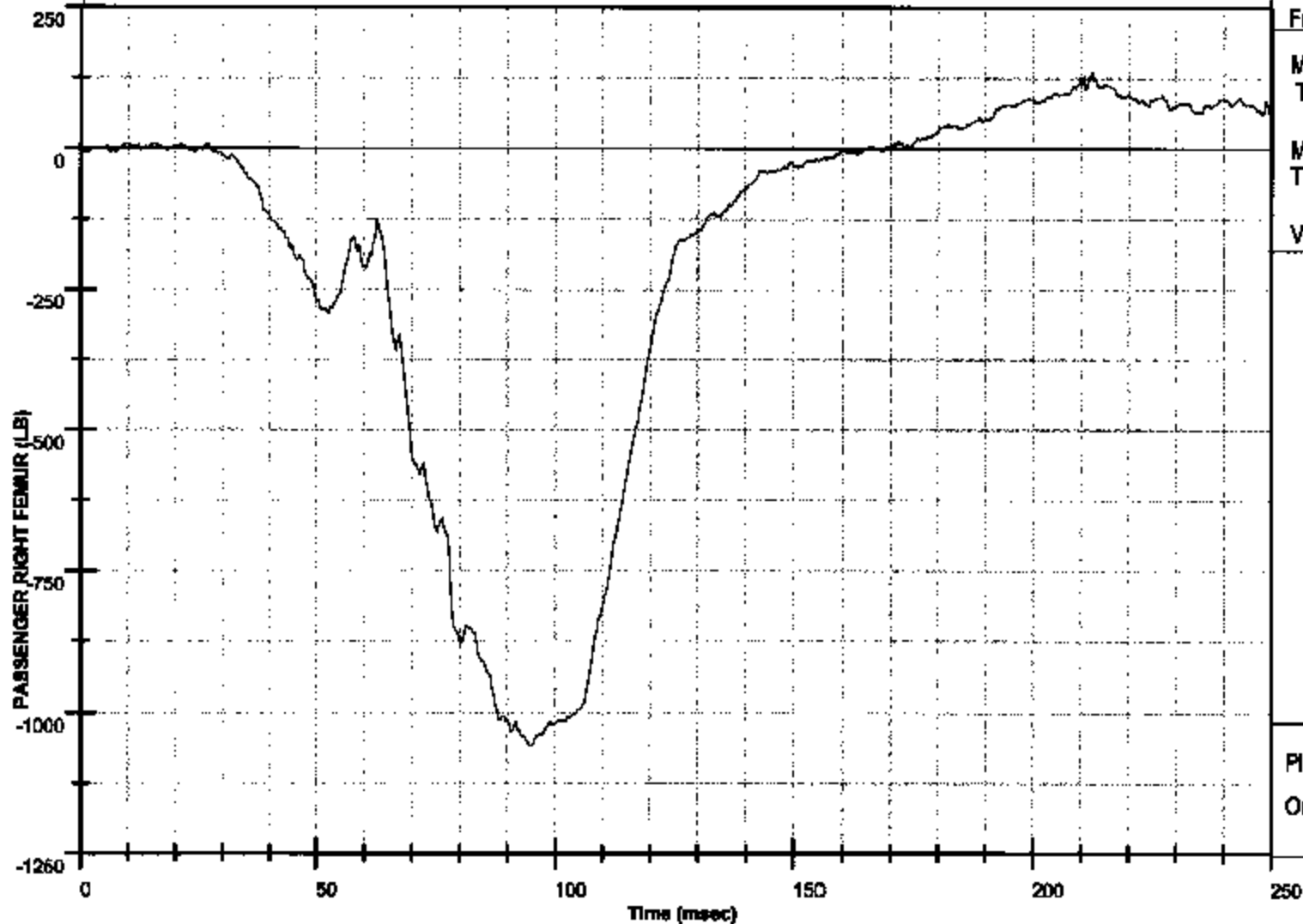
Time: **94.8 msec**

Value at TD: **0.5 LB**

Plotted By: **C. Gadberry**

On: **06.05.2003 08:46:50**

B-45



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 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. 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 5th percentile female.	Refer to our test report, XH991027. Vehicles are not certified according to S14.
2 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.	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. Item (4): There is no such feature.
3 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. 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.	Refer to attachment 1. Not applicable because of single stage inflators.

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 th percentile male and the 5 th 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 th 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 th percentile adult male occupant and, if certified to the advanced air bag requirements, the position for the 5 th percentile female.	Position for a 50 th percentile adult male: The lowest position of seat belt adjustable anchorage Position for the 5 th 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.

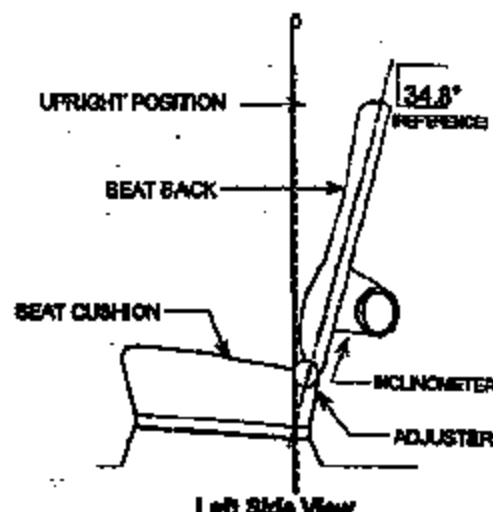
TEST VEHICLE INFORMATION

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 50th 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 5th 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 & 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 50th 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.

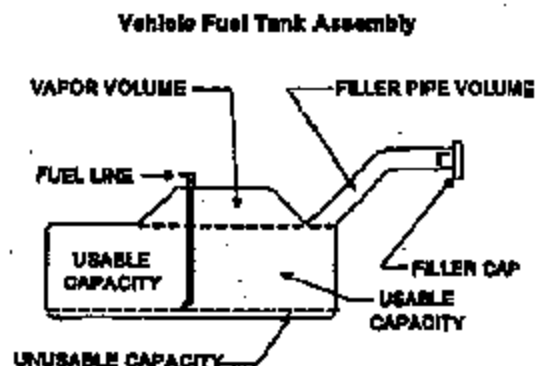
Positioning of the passenger's seat (if applicable):

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 = 15.4 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 (62.3 liters).



Operational Instructions: (none)

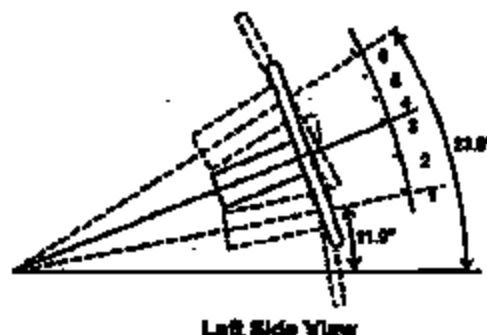
- 3.2 Amount of Stoddard solvent added to vehicle for certification test = 15.4 gallons (58.3lt).
3.3 Is vehicle equipped with electric fuel pump? x YES NO

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 COLUMN ASSEMBLY

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?

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.

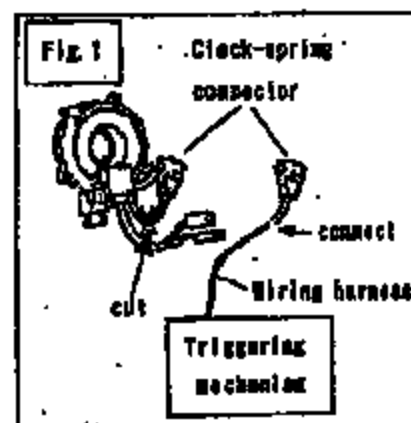
1. How to disconnect the air bags from vehicle sensors and connect them to the triggering mechanism.

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

Wait at least 60 seconds after disconnecting the battery cable before doing any further work.

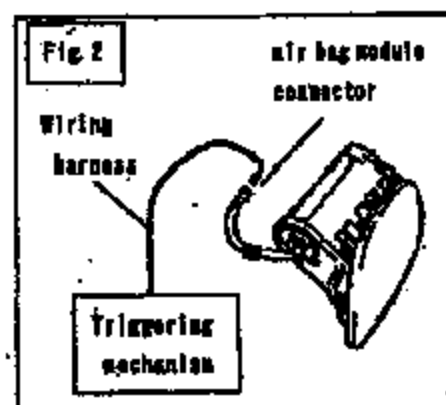
For Driver's air bag.

- (1) Remove the air bag module according to the instruction SM-41.
- (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 SM-59.



For Passenger's air bag.

- (1) Remove the GLOVE BOX OUTER and GLOVE BOX INNER.
(Refer the SM-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 used shelling.

• We examined several times to meet the requirement ($20 \pm 2ms$ after the sled & 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

<<A>>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

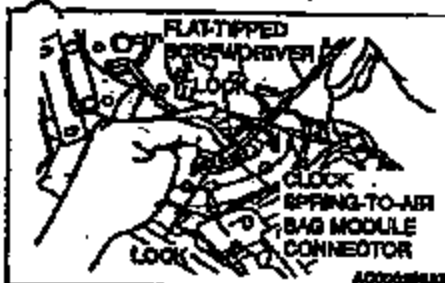
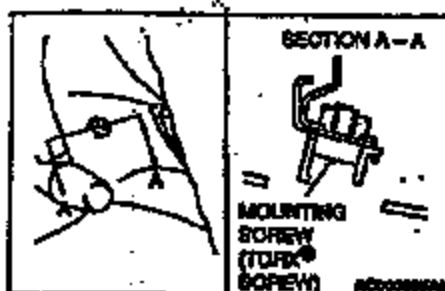
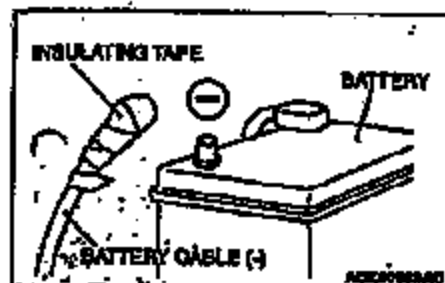
Battery posts, terminals and related accessories contain lead and lead compounds. WASH HANDS AFTER HANDLING.

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

<>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.



>>B<<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.

<Mating Mark Alignment>

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

>>C<<STEERING WHEEL INSTALLATION

⚠ CAUTION

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

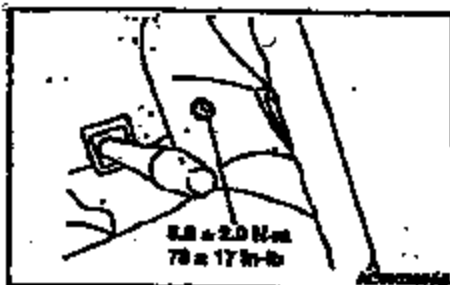
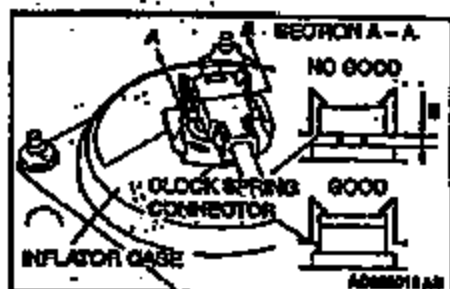
1. Before installing the steering wheel, turn the vehicle's front wheels to the straight-ahead position and align the mating marks of the clock spring.
2. After securing the steering wheel, turn the steering wheel all the way in both directions to confirm that the steering wheel rotation is normal.

>>D<<AIR BAG MODULE INSTALLATION (DRIVER'S SIDE)

⚠ CAUTION

If there is 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.

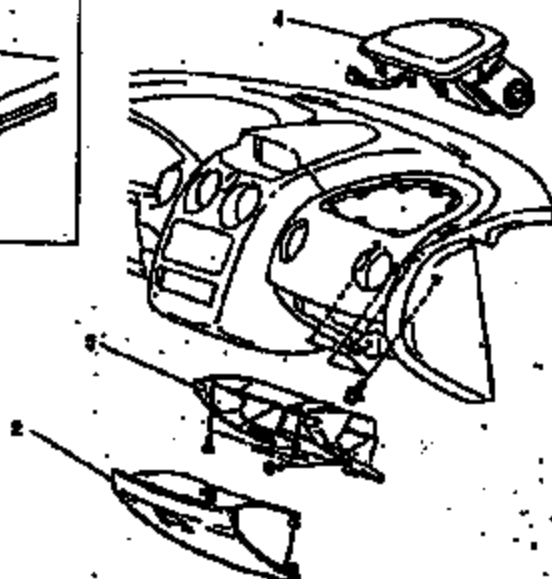
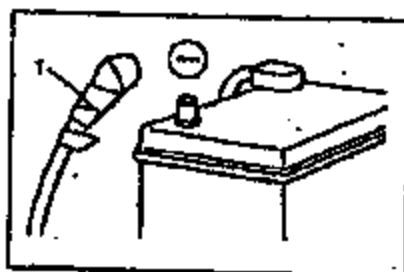
1. Connect the clock spring connector securely.



2. Tighten the air bag module mounting screws to 5.8 ± 2.0 N·m (78 ± 17 in-lb)

TSS Revision

REMOVAL AND INSTALLATION
(front passenger's side)



**AIR BAG MODULE REMOVAL
STEPS**

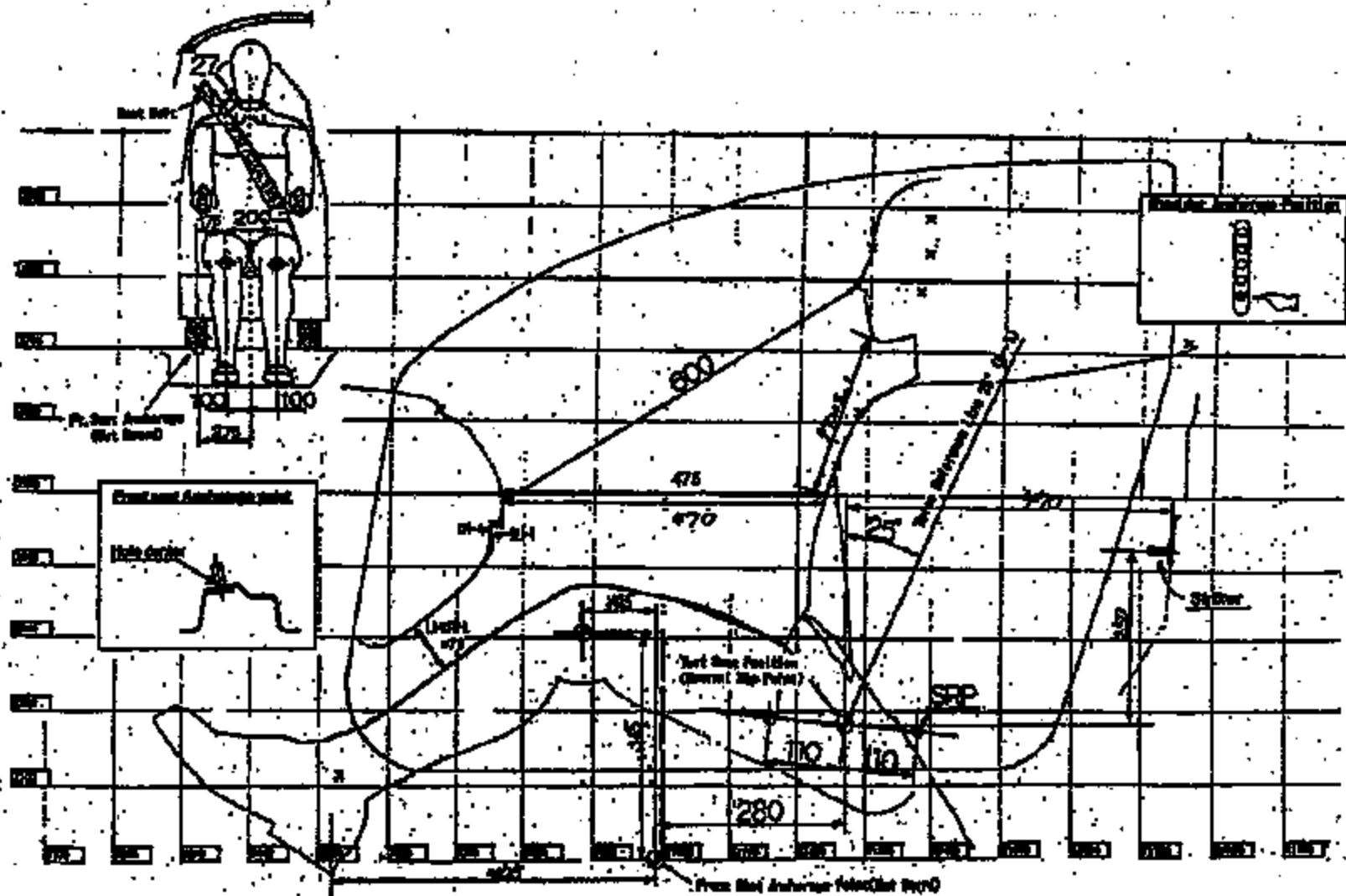
1. NEGATIVE (-) BATTERY CABLE
CONNECTION

**AIR BAG MODULE REMOVAL
STEPS (Continued)**

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

TSE Revision

Frontal Impact Dummy Position for Passenger's Side



How to measure the seat back angle.

