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REPORT NO. 208-MGA-2003-004

SAFETY COMPLIANCE SLED TESTING FOR FMVSS 208 OCCUPANT CRASH PROTECTION

Ford Motor Company
2003 Ford Focus 3 Door Hatchback
NHTSA NO. C30207

MGA RESEARCH CORPORATION
5000 WARREN ROAD
BURLINGTON, WI 53105

Test Date: April 29, 2003

Report Date: May 6, 2003

FINAL REPORT

Prepared For:
U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
ENFORCEMENT
OFFICE OF VEHICLE SAFETY COMPLIANCE
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15. Supplementary Notes

16. Abstract

A compliance test (sled test) was conducted on the subject 2003 Ford Focus 3 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:

The airbag warning label was not located on the dashboard or steering wheel hub. The label was instead located on the gear shift lever. (S4.5.1(e)(1))

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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 Ford Focus 3 Door Hatchback, NHTSA No. C30207, 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-nine (39) 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 April 29, 2003.

The test vehicle, a 2003 Ford Focus 3 Door Hatchback, NHTSA No. C30207, 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 #312)	Passenger (Serial #340)
HIC	1000	261	174
Chest g	60 g	35.6 g	33.3 g
Chest displacement	3 in.	0.4 in.	0.3 in.
Left Femur	2250 lb	1218 lb	1055 lb
Right Femur	2250 lb	1127 lb	1312 lb
Neck Extension	57 Nm	14.2 Nm	17.2 Nm
Neck Flexion	190 Nm	20.5 Nm	37.6 Nm
Neck Tension	3300 N	1464 N	852 N
Neck Compression	4000 N	1107 N	993 N
Neck Shear	3100 N	1041 N	843 N

The vehicle also appears to meet the other FMVSS 208 requirements for which it was tested, except for the airbag warning label, which was located on the gear shift lever rather than the dashboard or steering wheel hub. 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 17.7 g with an integrated velocity change of 29.6 mph. After filtering the acceleration signal to Channel Class 60, the airbag system's first stages were triggered 21.0 milliseconds after 0.5 g acceleration, and the driver and passenger second stages were triggered at 31.1 and 41.2 milliseconds, respectively.

INCLUDE DISCUSSION OF LOST CHANNELS OR OTHER TEST ISSUES.

- No valid data was collected on the Left Rear Crossmember X Acceleration channel.
- No valid data was collected on the Right Rear Crossmember X Acceleration channel after approximately 79 milliseconds.

Sled Test Summary

Vehicle NHTSA No.: C30207 Test Mode: FMVSS 208 SLED TEST

Vehicle Yr/Make/Model/Body Style: 2003/Ford/Focus/3 Door Hatchback

Test Date: April 29, 2003 Time: 1:20 p.m. Temp: 72°F

Vehicle Test Weight: 3045 lbs.

DUMMY INFO.	**DRIVER**	**PASSENGER**
Dummy Type	Part 572E	Part 572E
Serial Number	312	340
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	Airbag/sun visor
Chest	Airbag	Airbag
Left Knee	Knee bolster/instrument panel	Glove box
Right Knee	Knee bolster/instrument panel	Glove box

General Test And Vehicle Parameter Data

Vehicle Yr/Make/Model/Body Style: 2003/Ford/Focus/3 Door Hatchback

Vehicle NHTSA No.: C30207 VIN: 3FAFP313X3R123332 Color: Black

Engine Data:

No. Cylinders: 4 ; CID:___; Liters: 2.0 ; 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:____

Pwr. Dr. Locks:____; Other: Rear defogger

Date Received: 3/26/03 ; Odometer Reading: 59 miles

Selling Dealer: Geneva Lakes Ford, Inc., P.O. Box 177, W2542 Hwy. 120, Lake Geneva, WI 53147

REMARKS: None

General Test And Vehicle Parameter Data (Cont.)

DATA FROM VEHICLE'S CERTIFICATION LABEL:

Vehicle Manufactured By: Ford Motor Company

Date of Manufacture: 11/02 ; VIN: 3FAFP313X3R123332

GVWR: 3665 lbs; GAWR Front: 1975 lbs.

GAWR Rear: 1690 lbs.

DATA FROM TIRE PLACARD:

Tire Pressure with Maximum Capacity Vehicle Load:

FRONT: 32 psi REAR: 32 psi

Recommended Tire Size: P195/60R15 87T

Recommended Cold Tire Pressure:

FRONT: 32 psi REAR: 32 psi

Size of Tires on Test Vehicle: P195/60R15 87T

Type of Spare Tire: T125/80R15 ; Space Saver: X ; Standard: ____

Vehicle Capacity Data:

Type of Front Seats: X Bucket; __Bench; __Split Bench

Number of Occupants: 2 Front; 3 Rear; __3rd Seat; 5 TOTAL

REMARKS: None

VEHICLE CAPACITY WEIGHT (VCW) = 827 lbs.

No. Of Occupants x 150 lbs = 750 lbs.

Rated Cargo/Luggage Weight (RCWL) = 77 lbs. (Difference)

General Test And Vehicle Parameter Data (Cont.)

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

Right Front =	800 lbs.	Right Rear =	507 lbs.
Left Front =	819 lbs.	Left Rear =	498 lbs.
TOTAL FRONT =	1619 lbs.	TOTAL REAR =	1005 lbs.
% Total Weight =	61.7 %	% Total Weight =	38.3 %

TOTAL DELIVERED WEIGHT = 2624 lbs.

WEIGHT OF FULLY LOADED TEST VEHICLE WITH TWO DUMMIES (344 LB) AND 77 POUNDS OF CARGO WEIGHT:

Right Front =	888 lbs.	Right Rear =	628 lbs.
Left Front =	901 lbs.	Left Rear =	628 lbs.
TOTAL FRONT =	1789 lbs.	TOTAL REAR =	1256 lbs.
% Total Weight =	58.8 %	% Total Weight =	41.2 %

TOTAL WEIGHT = 3045 lbs.

TEST VEHICLE ATTITUDE: (all measurements in degrees)

AS DELIVERED DOOR SILL ANGLE:	0.2° nose down
AS TESTED DOOR SILL ANGLE:	0.2° nose down
FULLY LOADED DOOR SILL ANGLE:	0.2° nose up

FUEL SYSTEM DATA:

Fuel System Capacity From Owner's Manual = 13.2 gallons

Usable Capacity Figure Furnished by COTR = 13.2 gallons

REMARKS: None

Post-Impact Data

Test number:	HT03042901
NHTSA number:	C30207
Test date:	April 29, 2003
Test time:	1:20 p.m.
Test type:	FMVSS 208 Compliance Sled Test
Impact angle:	0°
Ambient Temperature at Impact Area:	72°F
Temperature in Occupant Compartment:	72°F

Impact Velocity:

Integrated velocity from the integration of the entire sled acceleration:	29.6 mph
Specified integrated velocity range:	28 to 30 mph

Sled Carriage Acceleration:

Acceleration:	17.7 g
Specified Acceleration Range:	16.0 - 18.2 g

Sled Carriage Acceleration Duration:

Time from T-0 (-0.5 g) to 0.0 g:	123.0 msec
Specified Acceleration Duration:	120.0 to 130.0 msec

The sled acceleration corridor was achieved.

Seat and Steering Column Positioning Data

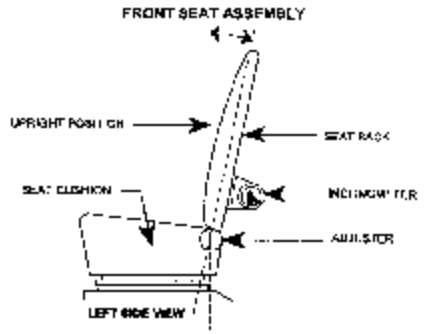
Vehicle Yr/Make/Model/Body Style: 2003/Ford/Focus/3 Door Hatchback

Vehicle NHTSA No.: C30207 Test Date: April 29, 2003

NOMINAL DESIGN RIDING POSITION:

Driver Seat: Seat Back Angle = 24°

Passenger Seat: Seat Back Angle = 24°



SEAT FORE AND AFT POSITIONS:

Driver Seat: The seat track had a total position movement of 17 notches and was positioned 8 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 17 notches and was positioned 8 notches rearward from the foremost position with the forward most locking position as zero.

STEERING COLUMN ADJUSTMENTS:

The steering column was not adjustable.

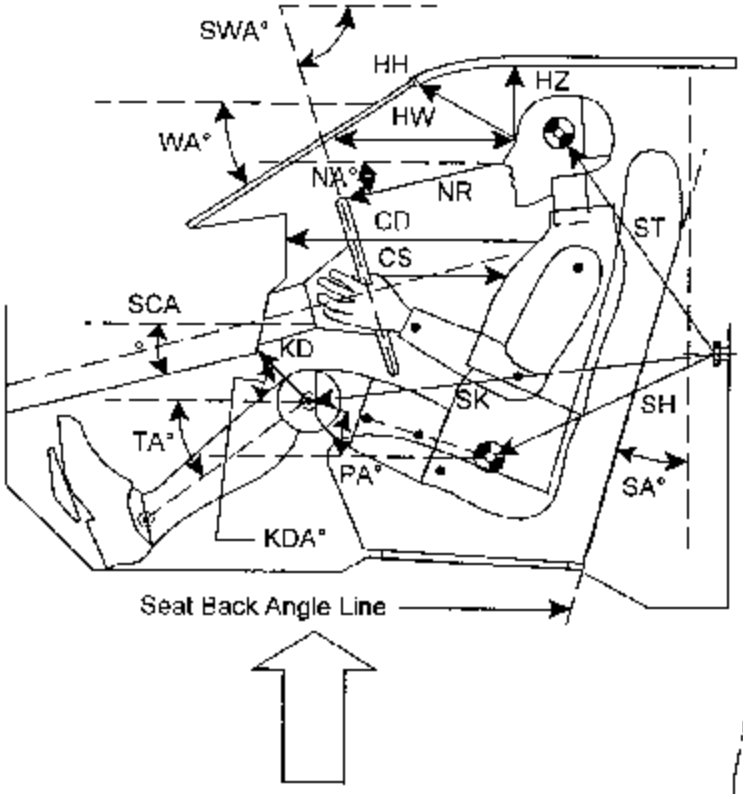
Dummy Positioning Measurement Table

Vehicle Year/Make/Model/Body Style: 2003/Ford/Focus/3 Door Hatchback

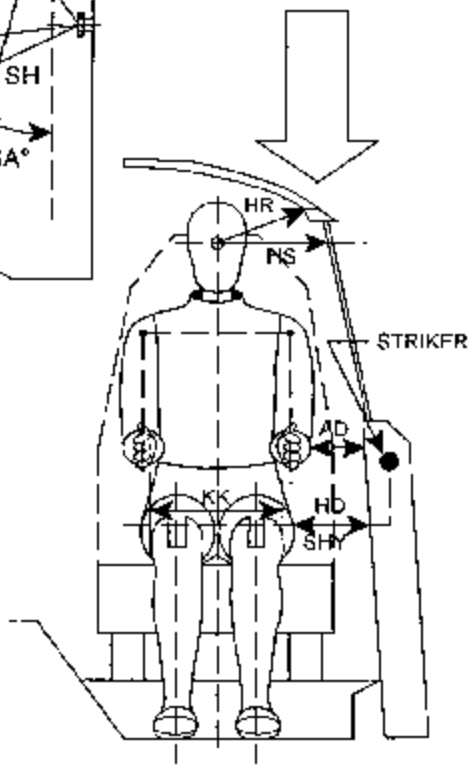
Vehicle NHTSA No.: C30207 Test Date: April 29, 2003

	DRIVER (Serial #312)	PASSENGER (Serial #340)
WA°	28.4°	
SWA°	67.4°	
SCA°	23.4°	
SA°	24°	24°
HZ	7.4	6.5
HH	13.5	13.6
HW	24.0	23.1
HR	8.1	7.0
NR	16.9 Angle (NA°) 12.6°	
CD	21.4	20.9
CS	13.1	
RA	8.9	
KDL	7.3 Angle (KDA°) 0.0°	6.9
KDR	7.6	7.7 Angle (KDA°) 0.0°
PA°	23.4°	24.3°
TA°	44.0°	44.4°
KK	13.3	10.6
ST	24.1 Angle 32.6°	23.8 Angle 27.5°
SK	32.2 Angle 91.0°	33.3 Angle 91.9°
SH	18.3 Angle 106.1°	17.7 Angle 104.2°
SHY	9.5	9.8
HS	12.0	11.5
HD	4.0	4.2
AD	4.0	4.0

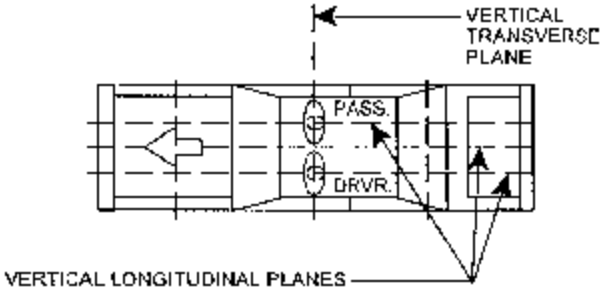
DUMMY MEASUREMENT FOR FRONT SEAT PASSENGERS



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



CD - Chest to Dash
CS - Steering Wheel to Chest
HH - Head to Header
HW - Head to Windshield
HZ - Head to Roof
KDA- Knee to Dash Angle
KDL- Left Knee to Dash
KDR- Right Knee to Dash
NA - Nose to Rim Angle
NR - Nose to Rim
PA - Pelvic Angle
RA - Rim to Abdomen
SA - Seat Back Angle
SCA- Steering Column Angle
SH - Striker to H-Point
SK - Striker to Knee
ST - Striker to Head
SWA- Steering Wheel Angle
TA - Tibial Angle
WA - Windshield Angle



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

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.

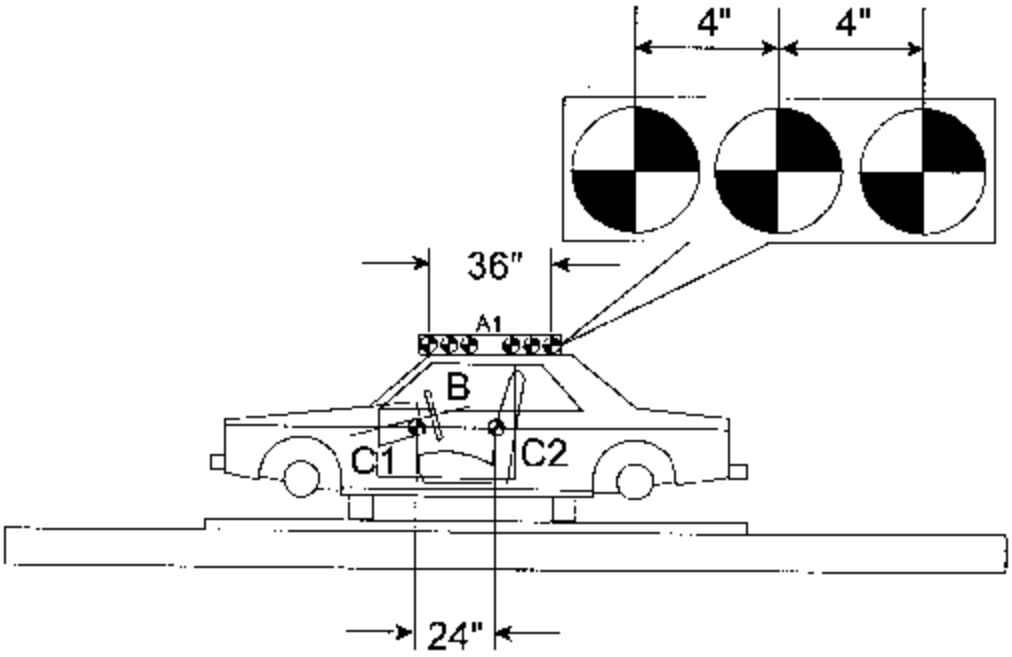
KK Knee to Knee, for Hybrid II dummies measure the distance between knee pivot bolt head outer surfaces. For Hybrid III dummies measure the distance between the outboard knee clevis flange surfaces. (This measurement may not be exactly transverse)

* Measurement used in Data Tape Reference Guide

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.

REFERENCE PHOTO TARGETS

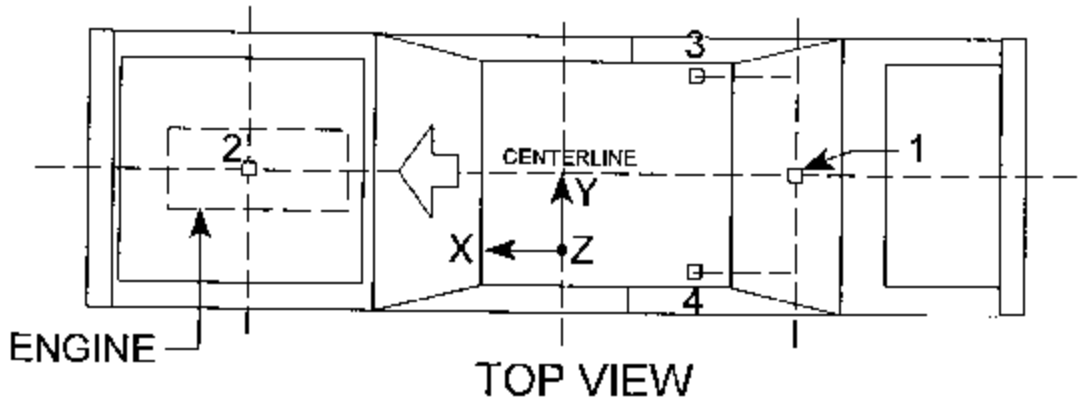


LEFT SIDE VIEW

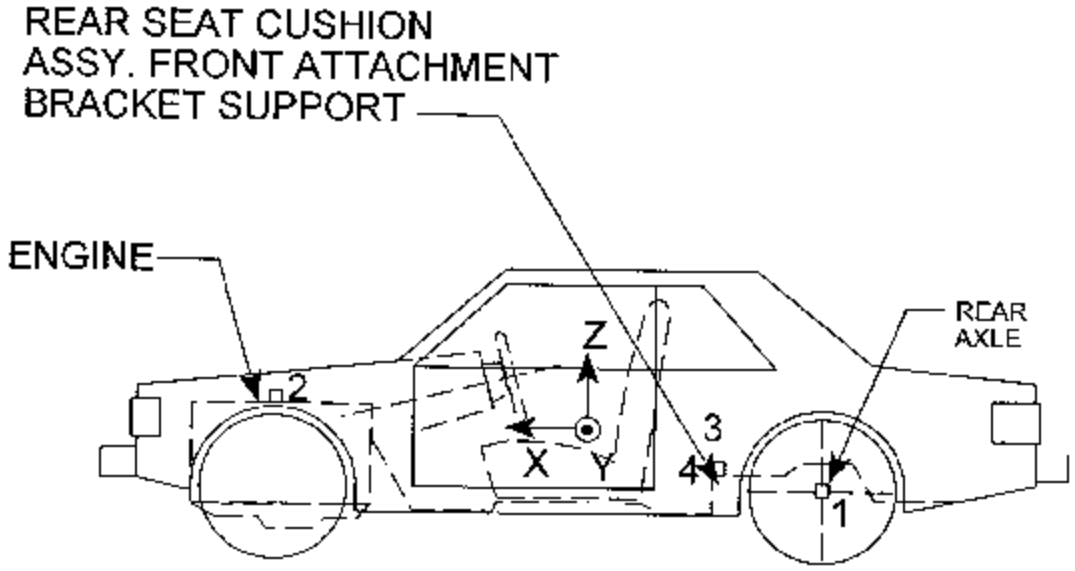
Vehicle Accelerometer Placement and Data Summary

Vehicle Year/Make/Model/Body Style: 2003/Ford/Focus/3 Door Hatchback

Vehicle NHTSA No.: C30207 Test Date: April 29, 2003



TOP VIEW



LEFT SIDE VIEW

Vehicle Accelerometer Location Measurements and Data Summary

Vehicle Year/Make/Model/Body Style: 2003/Ford/Focus/3 Door Hatchback

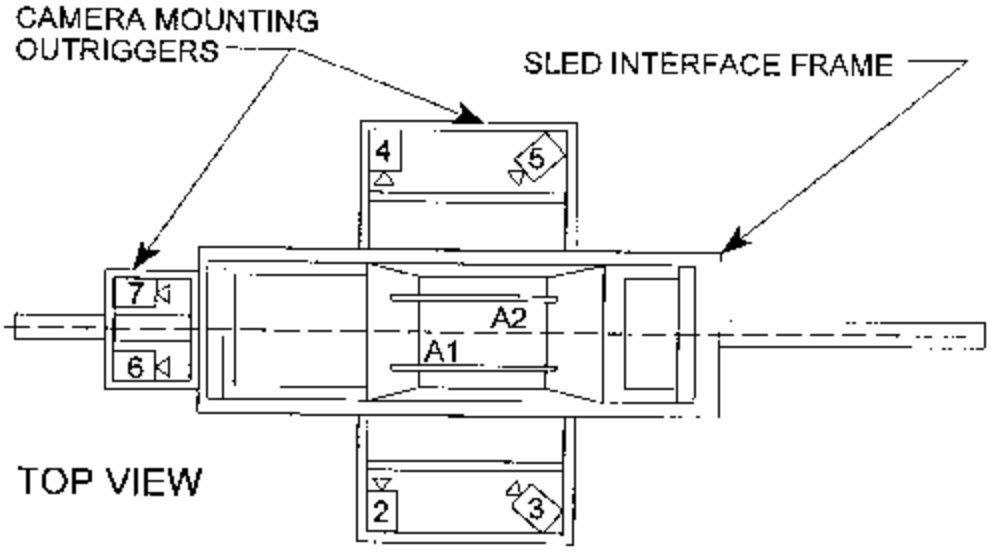
Vehicle NHTSA No.: C30207 Test Date: April 29, 2003

No.	Location	X (in)	Y (in)	Positive Direction		Negative Direction	
				Value	Time (msec)	Value	Time (msec)
	Sled Primary Longitudinal	67.0	0	17.7 g	59	-1.5 g	127
	Sled Redundant Longitudinal	67.0	4.0	17.9 g	59	-1.3 g	127
	Sled Velocity Measured Integrated	67.0	0	29.6 mph	123	--	--
1	Rear Axle Longitudinal	24.0	0	18.1 g	60	-2.0 g	128
2	Top Engine Longitudinal	143.0	0	20.2 g	45	-2.2 g	173
3	Right Rear Seat Member Longitudinal*	63.0	15.0	18.9 g	50	0.3 g	0
4	Left Rear Seat Member Longitudinal	63.0	15.0	**	**	**	**

* - No valid data collected after approximately 79 msec.

** - No valid data collected

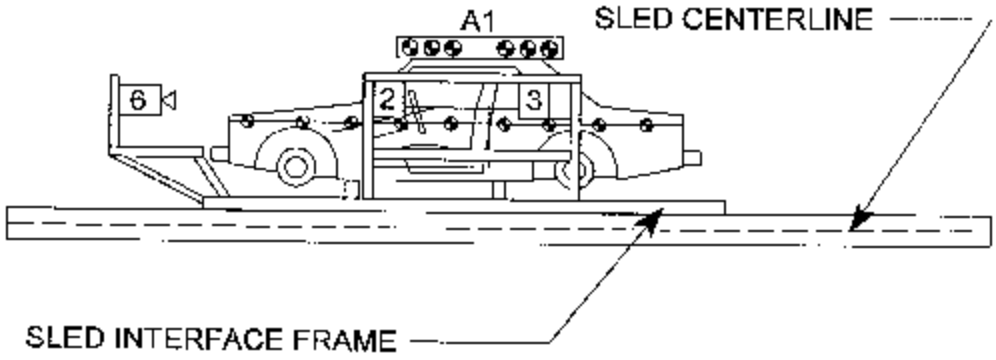
Camera Positions



TOP VIEW

CAMERA FRAME RATES:
#1 = 24 fps
All Others = 1,000 fps

1 REAL TIME CAMERA



LEFT SIDE VIEW

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	1010
3	Onboard Driver Angle	150.9	91.1	47.8			13	952
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	1020
6	Onboard Windshield Driver	18.3	14.1	42.9			13	1005
7	Onboard Windshield Passenger	18.3	13.9	42.9			13	866

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/Ford/Focus/3 Door Hatchback

Vehicle NHTSA No.: C30207 Test Date: April 29, 2003

MAXIMUM ACCELERATION VALUES: (g's)	DRIVER DUMMY #312	PASSENGER DUMMY #340
Head Channel X	-68.0	-26.5
Head Channel Y	21.1	-22.5
Head Channel Z	-41.7	-27.7
HEAD RESULTANT	70.6	33.9
Chest Channel X	-32.8	-32.9
Chest Channel Y	7.6	-6.7
Chest Channel Z	19.0	17.6
CHEST RESULTANT	36.7	34.5

HEAD INJURY CRITERIA (HIC) VALUES:

HIC	261	174
t_1 = (msec)	114.4	92.7
t_2 = (msec)	132.0	128.7

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

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

CLIP	35.6	33.3
t_1 = (msec)	116.5	96.4
t_2 = (msec)	119.5	99.4
CHEST DEFLECTION (in)	0.4	0.3

Occupant Injury Data (Cont.)

MAX. COMPRESSIVE FEMUR FORCES:	DRIVER DUMMY #312	PASSENGER DUMMY #340
Left Side (lbs)	1218	1055
Right Side (lbs)	1127	1312

NECK INJURY CRITERIA:

Peak Flexion Bending Moment about the Occipital Condyle (N-m)	20.5	37.6
Peak Extension Bending Moment about the Occipital Condyle (N-m)	14.2	17.2
Peak Axial Tension (N)	1464	852
Peak Axial Compression (N)	1107	993
Peak Fore Shear (N)	1041	843
Peak Aft Shear (N)	172	291

Seat Belt Warning System Data

Vehicle Year/Make/Model/Body Style: 2003/Ford/Focus/3 Door Hatchback

NHTSA No.: C30207 ; Technician: Chad Gadberry ; Date: April 2, 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 = 65 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/Ford/Focus/3 Door Hatchback

NHTSA No.: C30207 ; Technician: Chad Gadberry ; Date: April 2, 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: Left side 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/Ford/Focus/3 Door Hatchback

NHTSA No.: C30207 ; Technician: Chad Gadberry ; Date: April 2, 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**

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**

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 -	(X)Yes-Pass	( ) **No-FAIL**
Passenger Side -	(X)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?

(X) 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.

(X) Not Applicable

Driver Side -	( )Yes-Pass	( ) **No-FAIL**

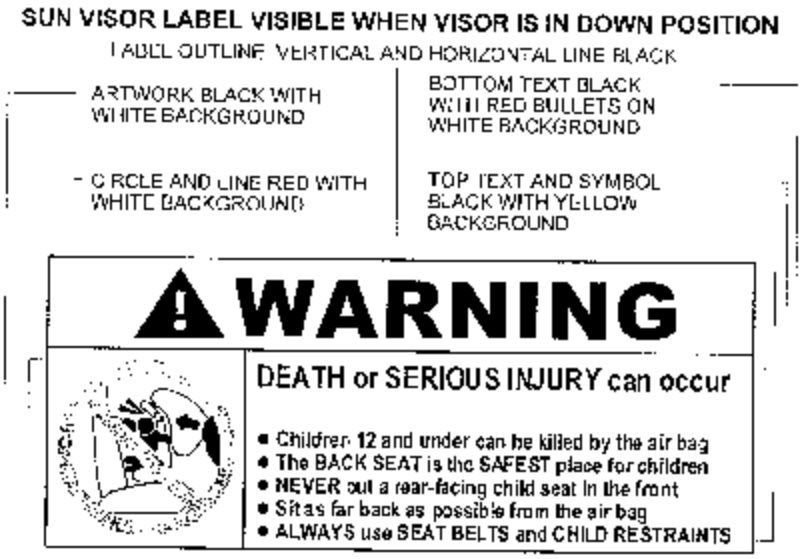


Figure 6a (S4.5.1(b)(2))

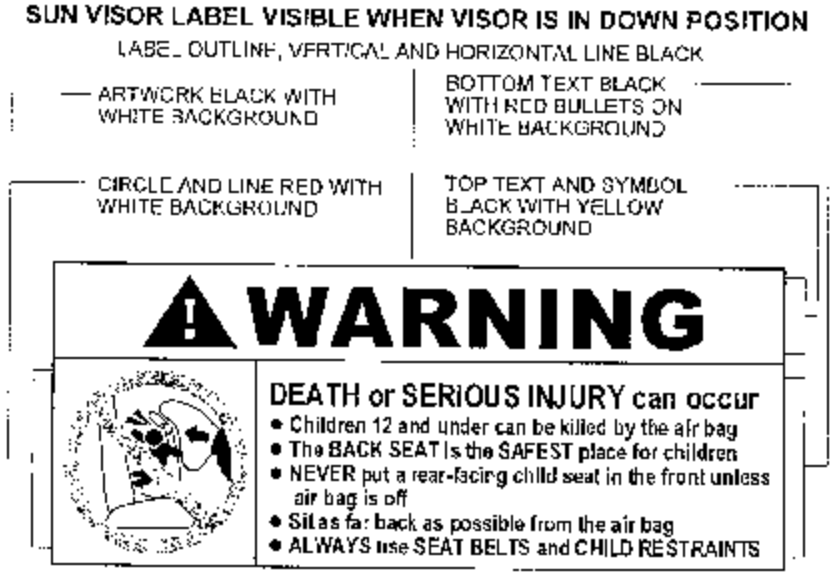


Figure 6b (S4.5.1(b)(2))

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 -		(X)Yes-Pass	( ) **No-FAIL**
Passenger Side -	( ) No air bag	(X)Yes-Pass	( ) **No-FAIL**

4.4 Is the message white with black text? (S4.5.1(b)(2)(ii))

Driver Side -		(X)Yes-Pass	( ) **No-FAIL**
Passenger Side -	( ) No air bag	(X)Yes-Pass	( ) **No-FAIL**

4.5 Is the message area at least 30 cm^2? (S4.5.1(b)(2)(ii))
Actual message area: 30.6 cm^2

	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: 30 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**

5.4 Is the message area at least 20 cm^2? (S4.5.1(c)(2)(i))
Actual message area: _____ cm^2
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**

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

6. Label On the Dash

6.1 Does the vehicle have a passenger side air bag?
(X)Yes ( ) No, check sheet is complete.

6.2 Does the vehicle have a label on the dash or steering wheel hub? (S4.5.1(e))
( )Yes-Pass (X) **No-FAIL***

* Label was attached to the gear shift lever with an elastic cord.

6.3 Does the label conform in content (vehicles without back seats may omit the statement: "The back seat is the safest place for children 12 and under." (S4.5.1(e)(iii)) to the label shown below. (S4.5.1(e))
(X)Yes-Pass ( ) **No-FAIL**

6.4 Is the heading area yellow with the word "warning" and the alert symbol in black? (S4.5.1(e)(i)) (X)Yes-Pass ( ) **No-FAIL**

6.5 Is the message white with black text? (S4.5.1(e)(ii)) (X)Yes-Pass ( ) **No-FAIL**

6.6 Is the message area at least 30 cm^2? (S4.5.1(e)(ii))
Actual message area: 50.5 cm^2
(X)Yes-Pass ( )**No-FAIL**

REMOVABLE LABEL ON DASH

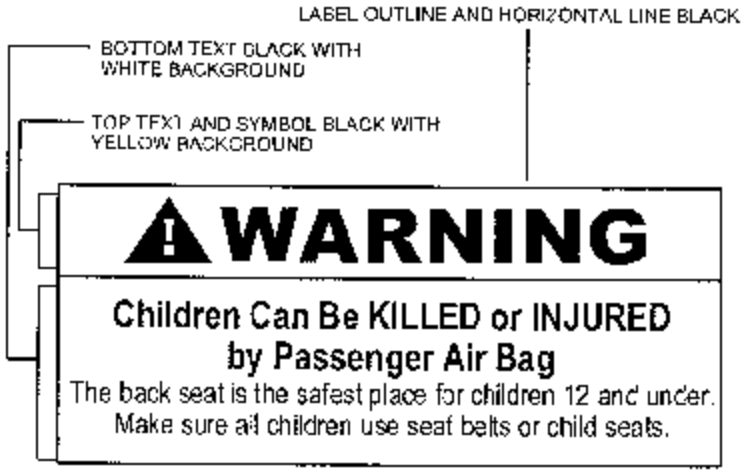


Figure 7 (S4.5.1(e))

Rear Outboard Seating Position Seat Belt Data

Vehicle Year/Make/Model/Body Style: 2003/Ford/Focus/3 Door Hatchback

NHTSA No.: C30207 ; Technician: Chad Gadberry : Date: April 2, 2003

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

(X)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/Ford/Focus/3 Door Hatchback

NHTSA No.: C30207 ; Technician: Chad Gadberry ; Date: April 2, 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))

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 72.9 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)

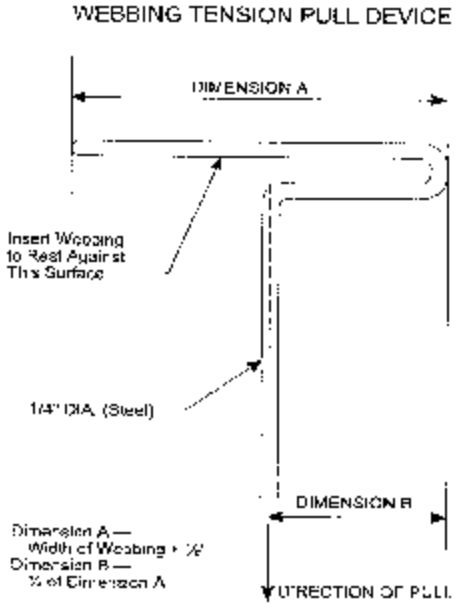


Figure 5 (S7.1.1.5(c)(4))

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 34.6 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 35.0 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 = 0.4 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/Ford/Focus/3 Door Hatchback

NHTSA No.: C30207 ; Technician: Chad Gadberry ; Date: April 2, 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))

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 69.8 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)

WEBBING TENSION PULL DEVICE

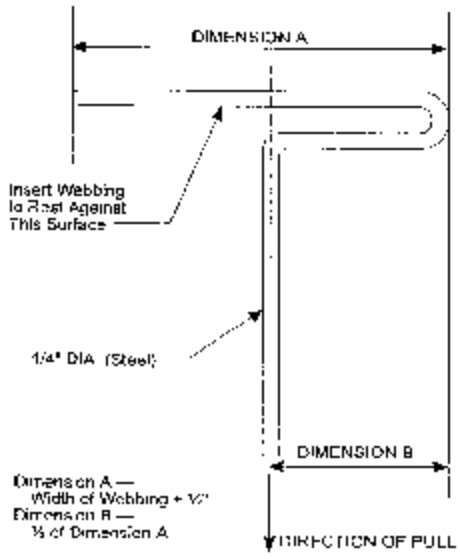


Figure 5 (S7.1.1.5(c)(4))

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 39.1 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 40.1 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 = 1.0 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 = 29.7 inches (X)Yes-Pass ( ) **No-FAIL**

REMARKS: None

Lap Belt Lockability Data (Cont.)

Vehicle Year/Make/Model/Body Style: 2003/Ford/Focus/3 Door Hatchback

NHTSA No.: C30207 ; Technician: Chad Gadberry ; Date: April 2, 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): Center 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))

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 68.2 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)

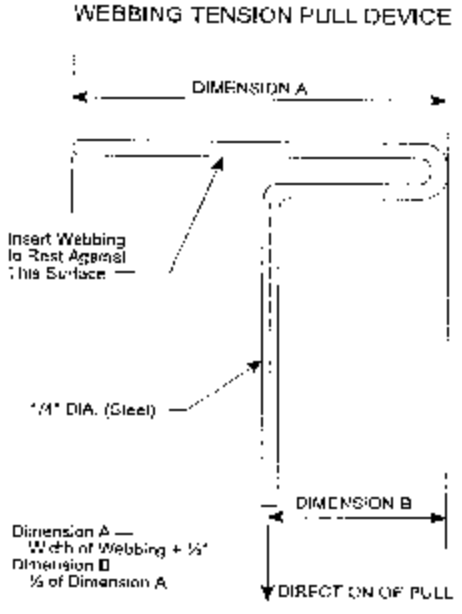


Figure 5 (S7.1.1.5(c)(4))

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 30.7 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 31.9 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 = 1.2 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 = 36.3 inches (X)Yes-Pass ( ) **No-FAIL**

REMARKS: None

Lap Belt Lockability Data (Cont.)

Vehicle Year/Make/Model/Body Style: 2003/Ford/Focus/3 Door Hatchback

NHTSA No.: C30207 ; Technician: Chad Gadberry ; Date: April 2, 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))

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 71.0 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)

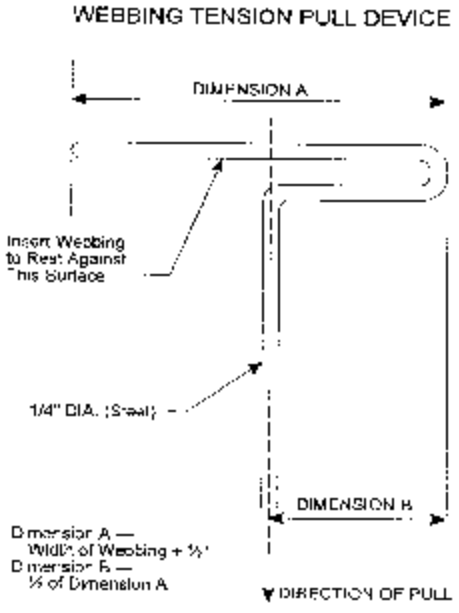


Figure 5 (S7.1.1.5(c)(4))

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 _ 37.3 _ 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 _ 38.3 _ 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 = _ 1.0 _ 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 = _ 32.7 _ inches (X)Yes-Pass ( ) **No-FAIL**

REMARKS: None

1. BELT CONTACT FORCE (S7.4.3)

Test Vehicle NHTSA No.:C30207

Vehicle Model Year/Make/Model/Body Style: 2003/Ford/Focus/3 Door Hatchback

Designated Seating Position Tested: Left Rear

Date of Comfort/Convenience Check: April 2, 2003

Technician Performing Check: Chad Gadberry

GVWR: 3665 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

1.7 Adjustable lumbar supports are positioned so that the lumbar support is in its lowest adjustment position. (S8.1.3)

( ) Check
(X) N/A

1.8 Position the test dummies according to dummy position placement instructions in Appendix B.

(X) 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 0.7 lb.

(X) 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.

1. BELT CONTACT FORCE (S7.4.3)

Test Vehicle NHTSA No.: C30207

Vehicle Model Year/Make/Model/Body Style: 2003/Ford/Focus/3 Door Hatchback

Designated Seating Position Tested: Center Rear

Date of Comfort/Convenience Check: April 2, 2003

Technician Performing Check: Chad Gadberry

GVWR: 3665 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

1.7 Adjustable lumbar supports are positioned so that the lumbar support is in its lowest adjustment position. (S8.1.3)

( ) Check
(X) N/A

1.8 Position the test dummies according to dummy position placement instructions in Appendix B.

(X) 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 0.7 lb.

(X) 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.

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

Test Vehicle NHTSA No.: C30207

Vehicle Model Year/Make/Model/Body Style: 2003/Ford/Focus/3 Door Hatchback

Designated Seating Position Tested: Right Rear

Date of Comfort/Convenience Check: April 2, 2003

Technician Performing Check: Chad Gadberry

GVWR: 3665 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

1.7 Adjustable lumbar supports are positioned so that the lumbar support is in its lowest adjustment position. (S8.1.3)

( ) Check
(X) N/A

1.8 Position the test dummies according to dummy position placement instructions in Appendix B.

(X) 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 0.7 lb.

(X) 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.

2. LATCHPLATE ACCESS (S7.4.4)

Test Vehicle NHTSA No.:C30207

Vehicle Model Year/Make/Model/Body Style: 2003/Ford/Focus/3 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 envelop 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**

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

Test Vehicle NHTSA No.: C30207

Vehicle Model Year/Make/Model/Body Style: 2003/Ford/Focus/3 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

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**

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

Test Vehicle NHTSA No.: C30207

Vehicle Model Year/Make/Model/Body Style: 2003/Ford/Focus/3 Door Hatchback

Designated Seating Position Tested: Left Rear

Date of Comfort/Convenience Check: April 2, 2003

Technician Performing Check: Chad Gadberry

GVWR: 3665 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**

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**

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

Test Vehicle NHTSA No.:C30207

Vehicle Model Year/Make/Model/Body Style: 2003/Ford/Focus/3 Door Hatchback

Designated Seating Position Tested: Center Rear

Date of Comfort/Convenience Check: April 2, 2003

Technician Performing Check: Chad Gadberry

GVWR: 3665 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?

(X)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)?

(X)Yes - Pass
( ) **No - FAIL**

4.3 Are the remaining two seat belt parts accessible under normal conditions?

(X)Yes - Pass
( ) **No - FAIL**

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. (X) Check

(B) The seat is moved to any position to which it is designed to be adjusted.
(X) Check

(C) The seat back, if foldable, is folded forward as far as possible and then moved backward into position.
(X) Check

(X)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)?
(X) Yes - Pass
( ) **No - FAIL**

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

Test Vehicle NHTSA No.: C30207

Vehicle Model Year/Make/Model/Body Style: 2003/Ford/Focus/3 Door Hatchback

Designated Seating Position Tested: Right Rear

Date of Comfort/Convenience Check: April 2, 2003

Technician Performing Check: Chad Gadberry

GVWR: 3665 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**

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

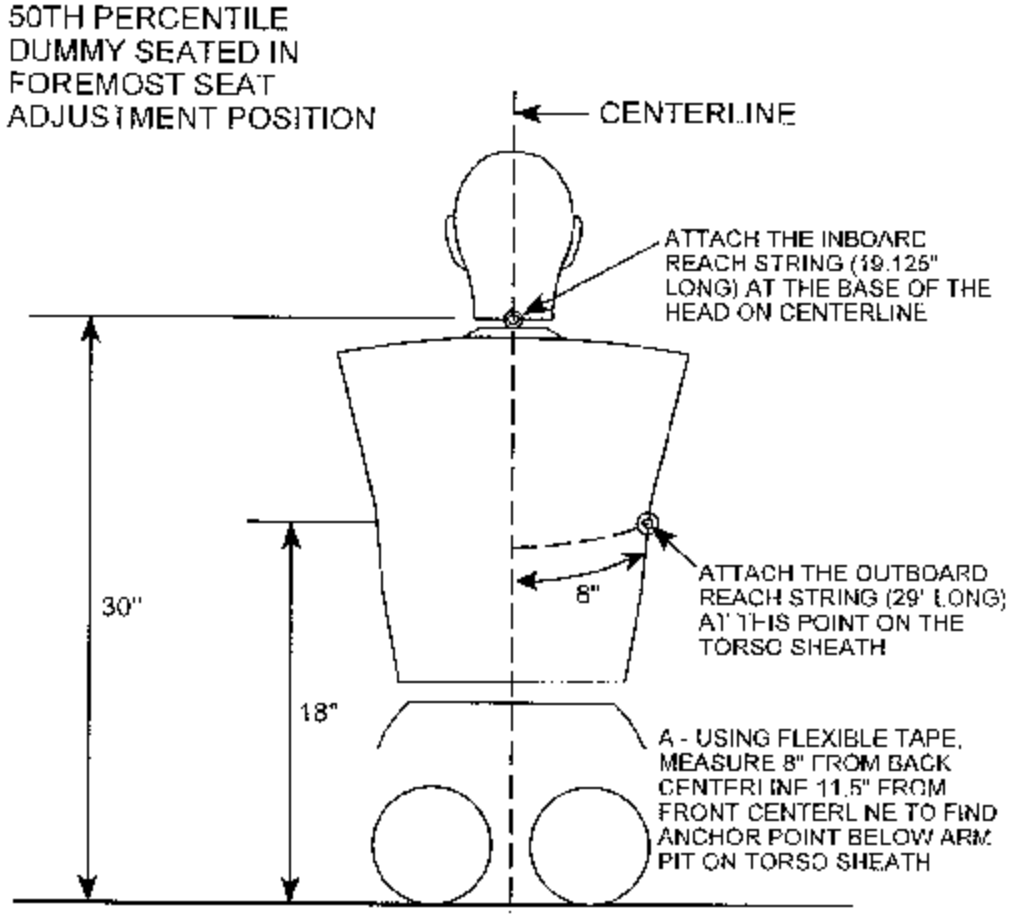
(C) The seat back, if foldable, is folded forward as far as possible and then moved backward into position.
( ) Check

( )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

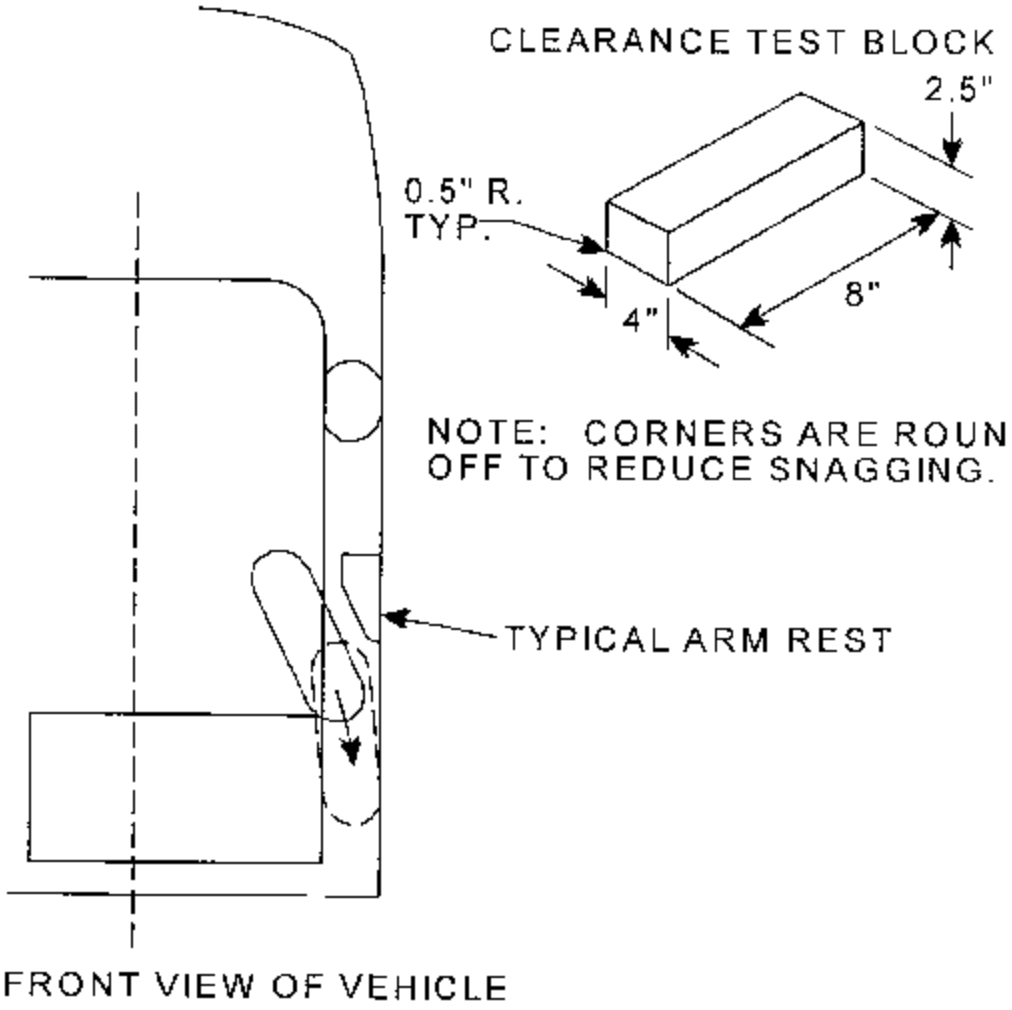
PART 572E DUMMY



SEAT PLANE IS 90 DEGREES TO THE TORSO LINE

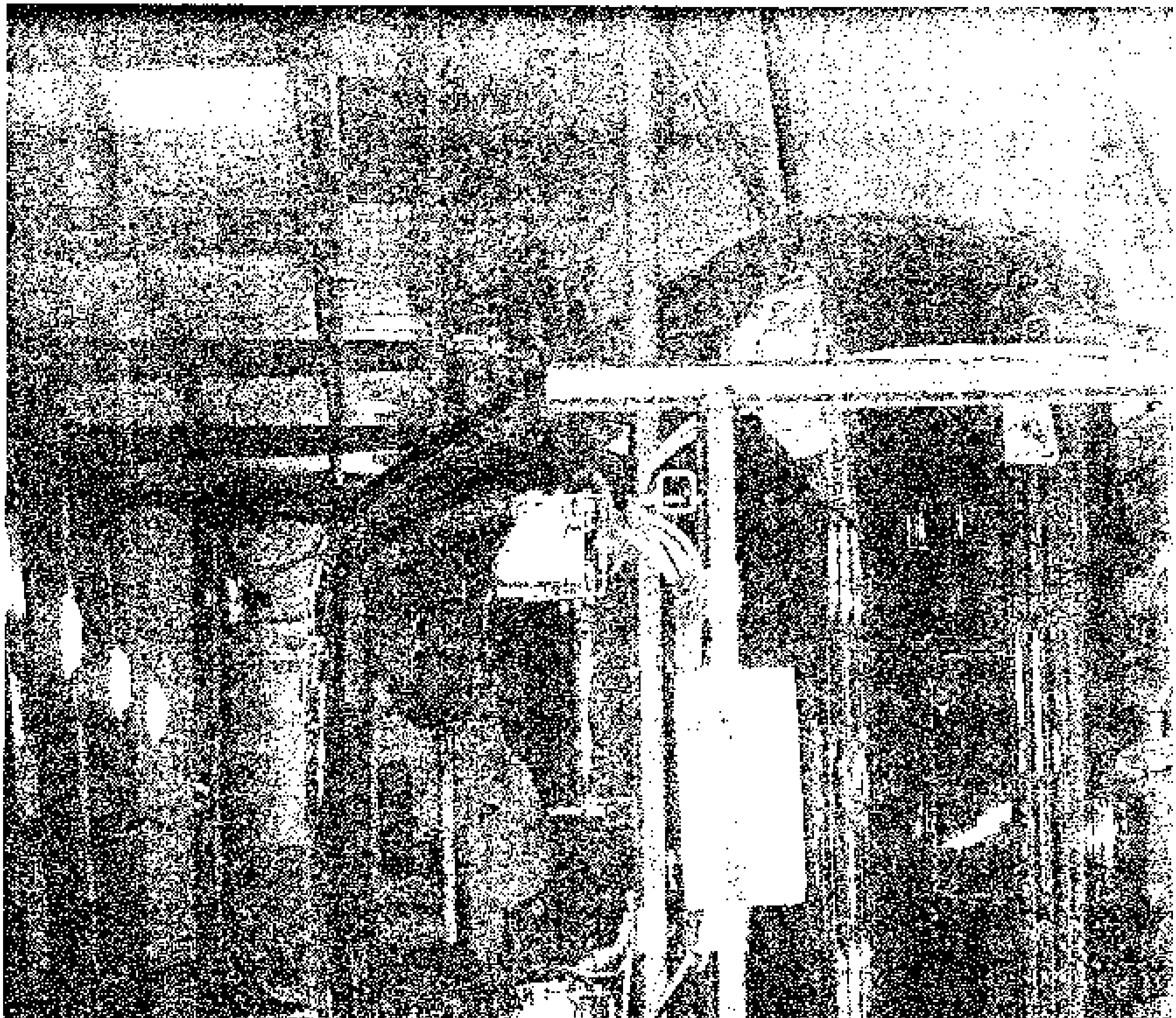
REAR VIEW

USE OF CLEARANCE TEST BLOCK TO DETERMINE HAND/ARM ACCESS

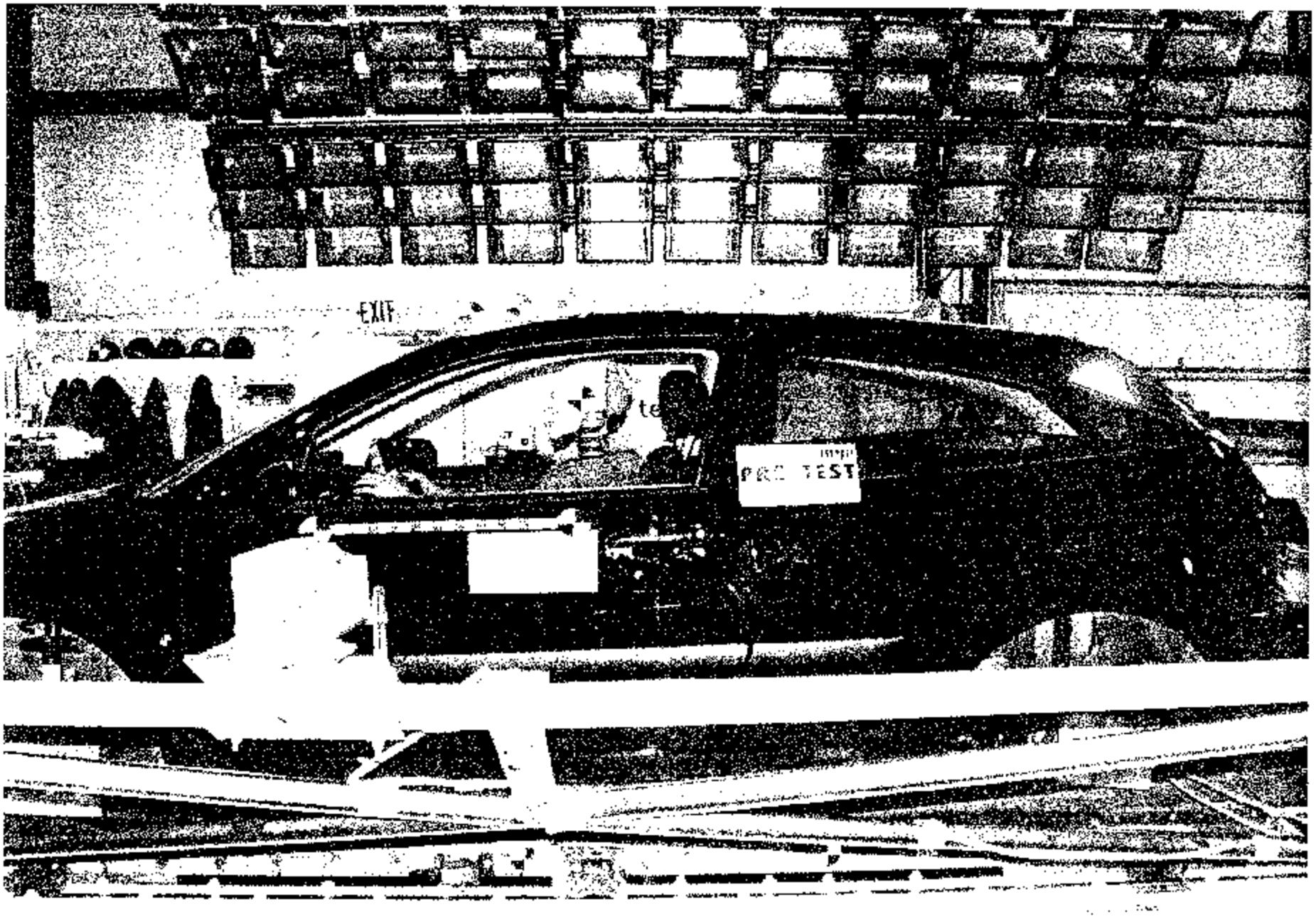


APPENDIX A
PHOTOGRAPHS

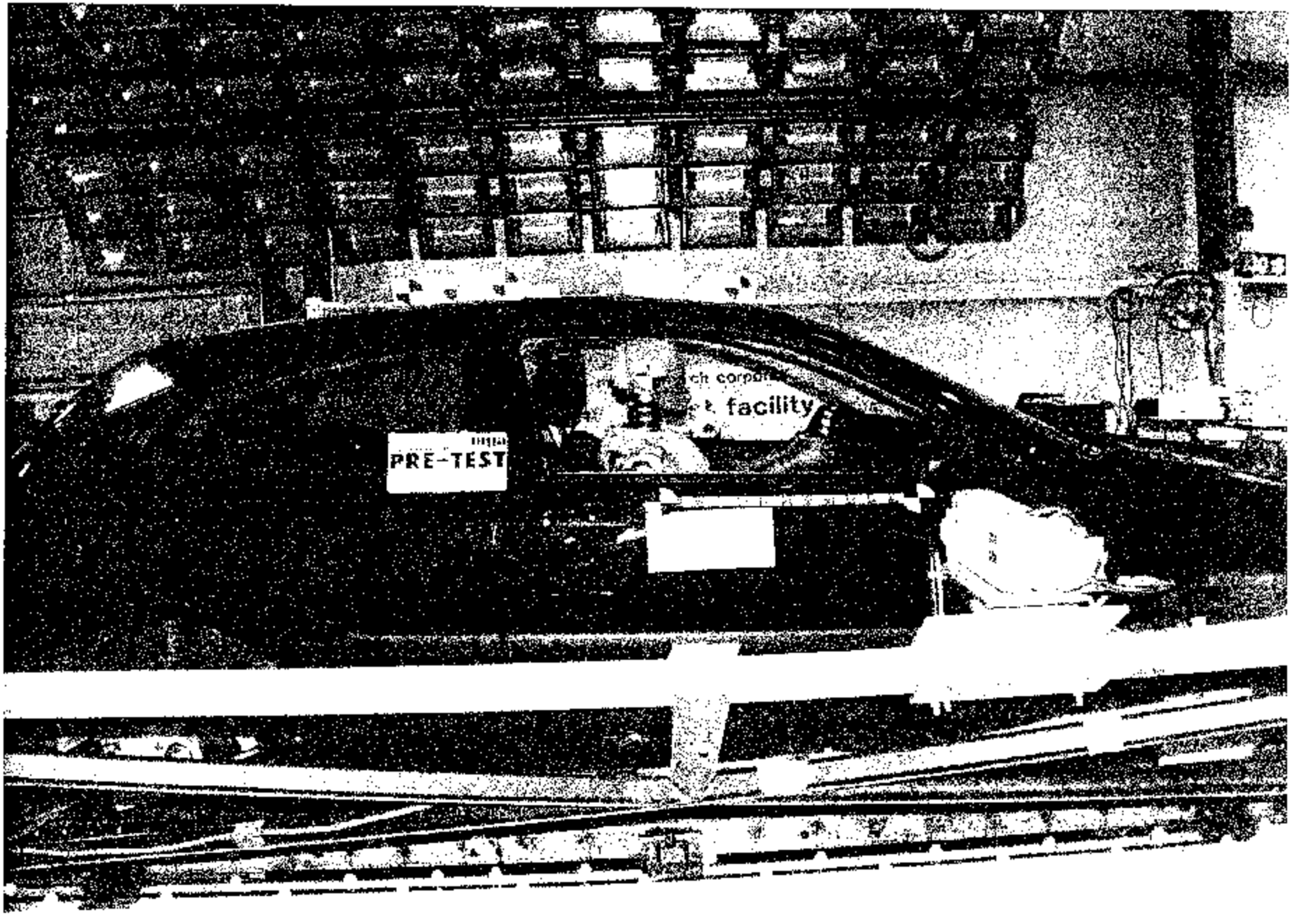
TABLE OF PHOTOGRAPHS



Pre-Test Frontal View

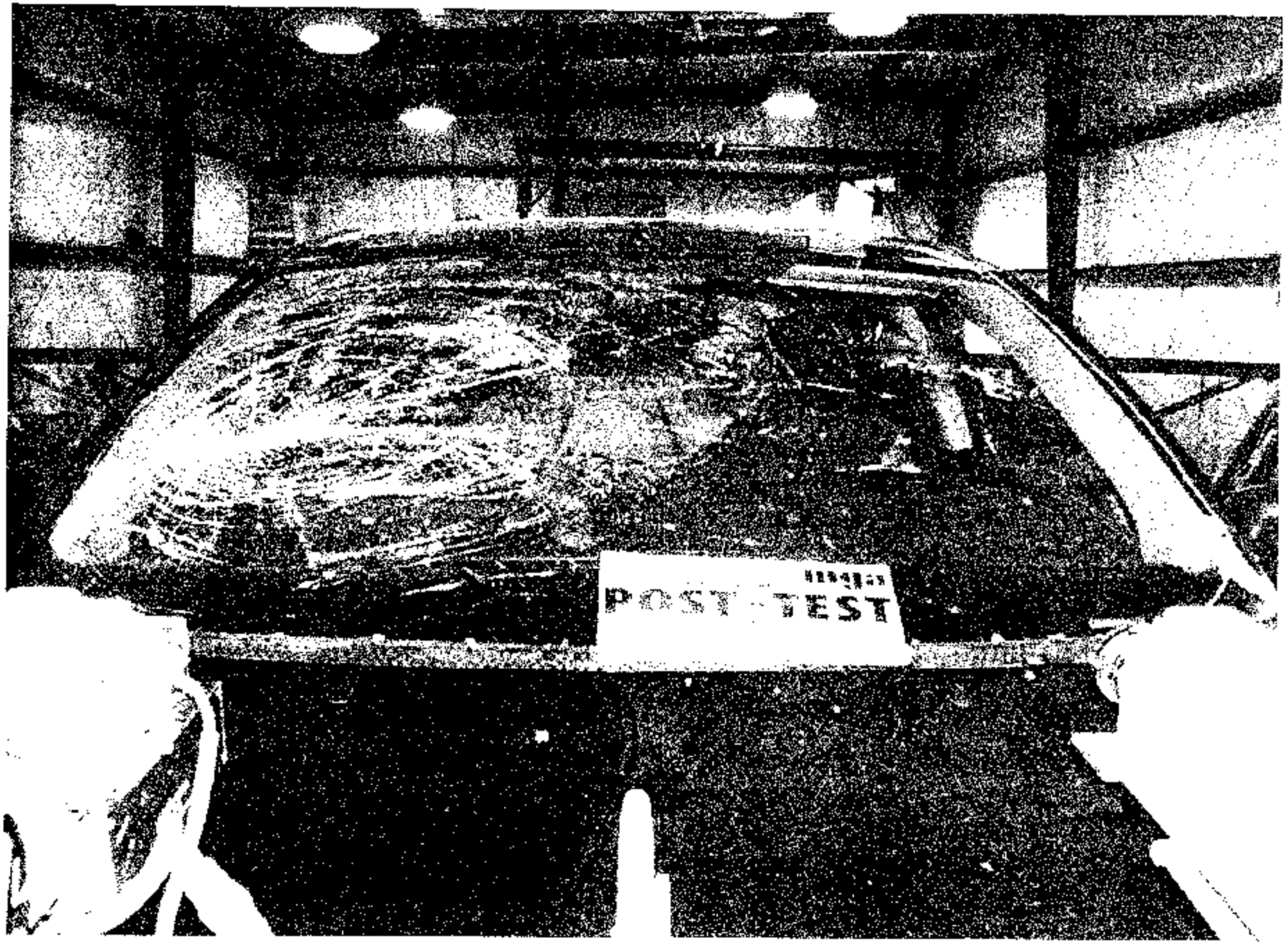


Pre-Test Left Side View



Pre-Test Right Side View

Pre-Test Windshield View



Post-Test Windshield View

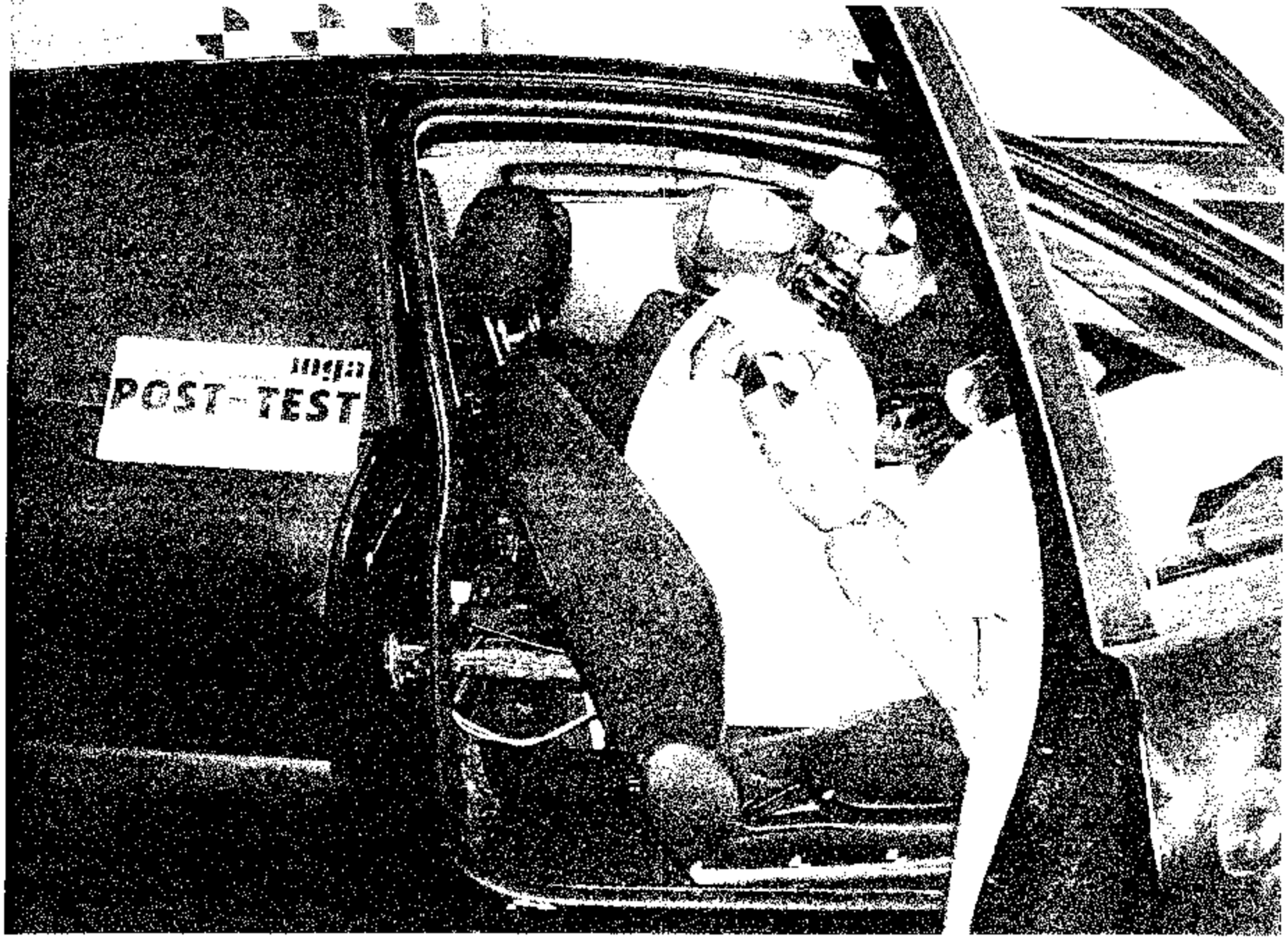
Pre-Test Driver Dummy Position View (Door Open)

Post-Test Driver Dummy Position View (Door Open)

Pre-Test Driver Dummy Position View

Post-Test Driver Dummy Position View

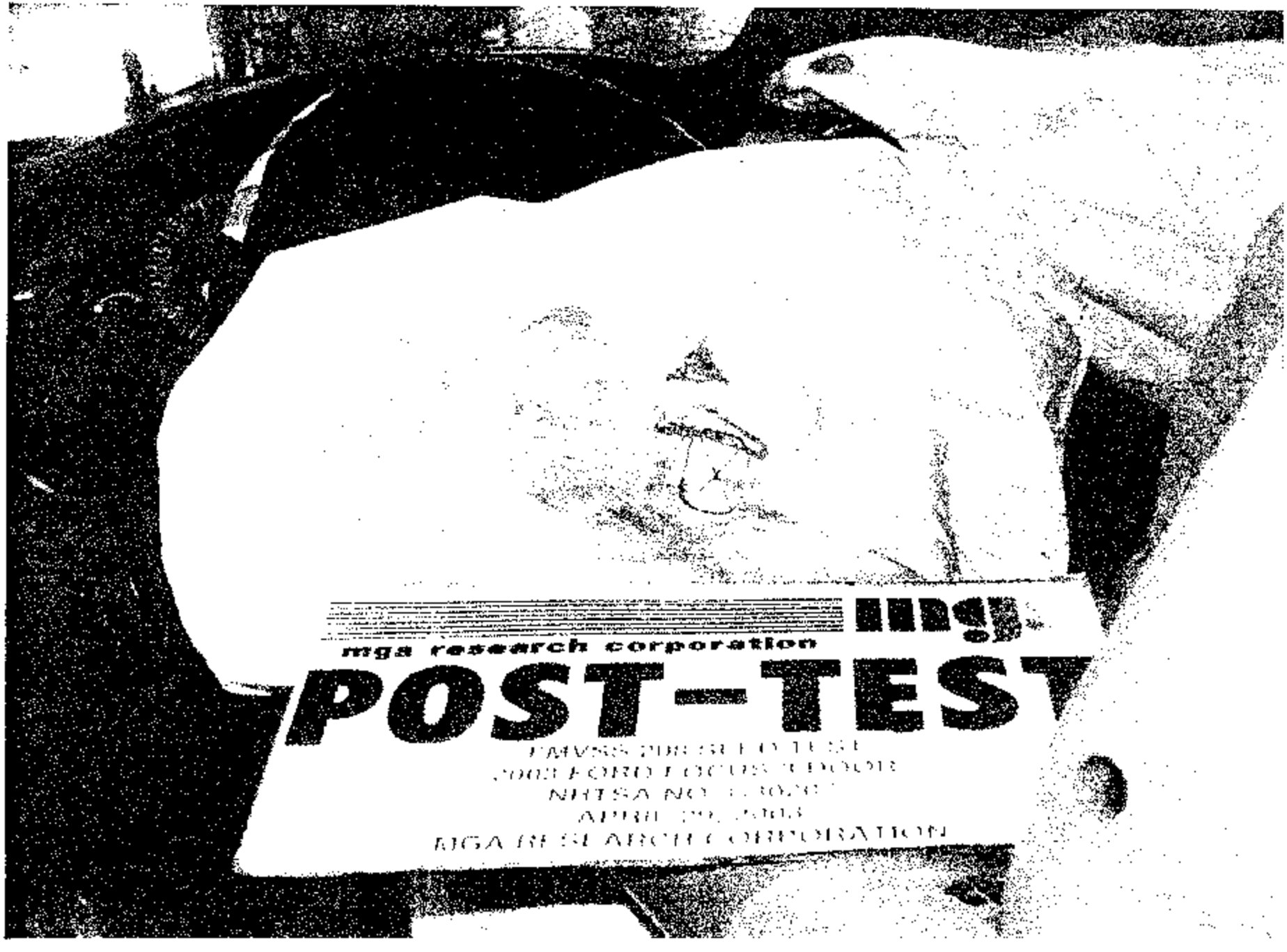
Pre-Test Passenger Dummy Position View (Door Open)



Post-Test Passenger Dummy Position View (Door Open)

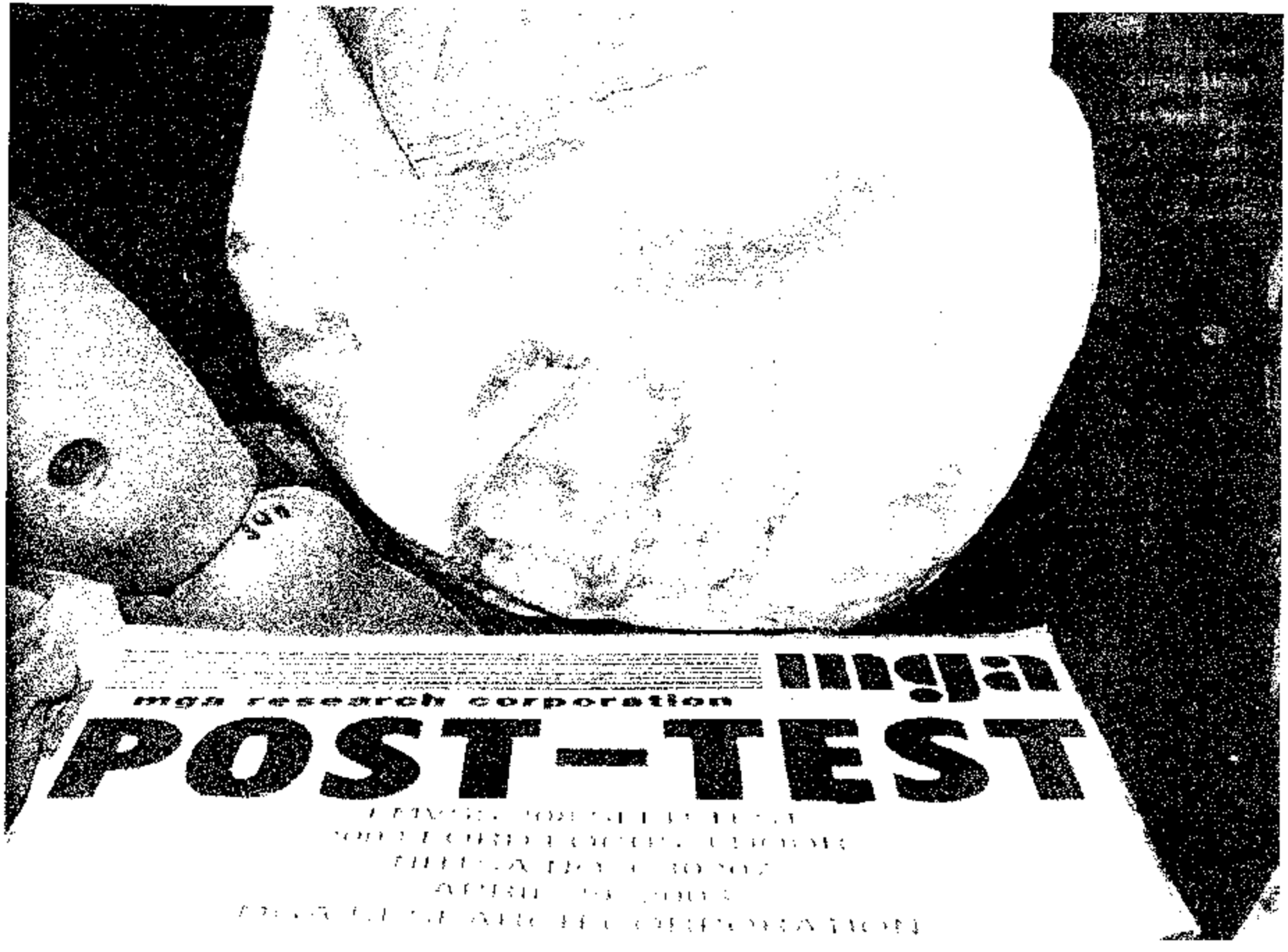
Pre-Test Passenger Dummy Position View

Post-Test Passenger Dummy Position View

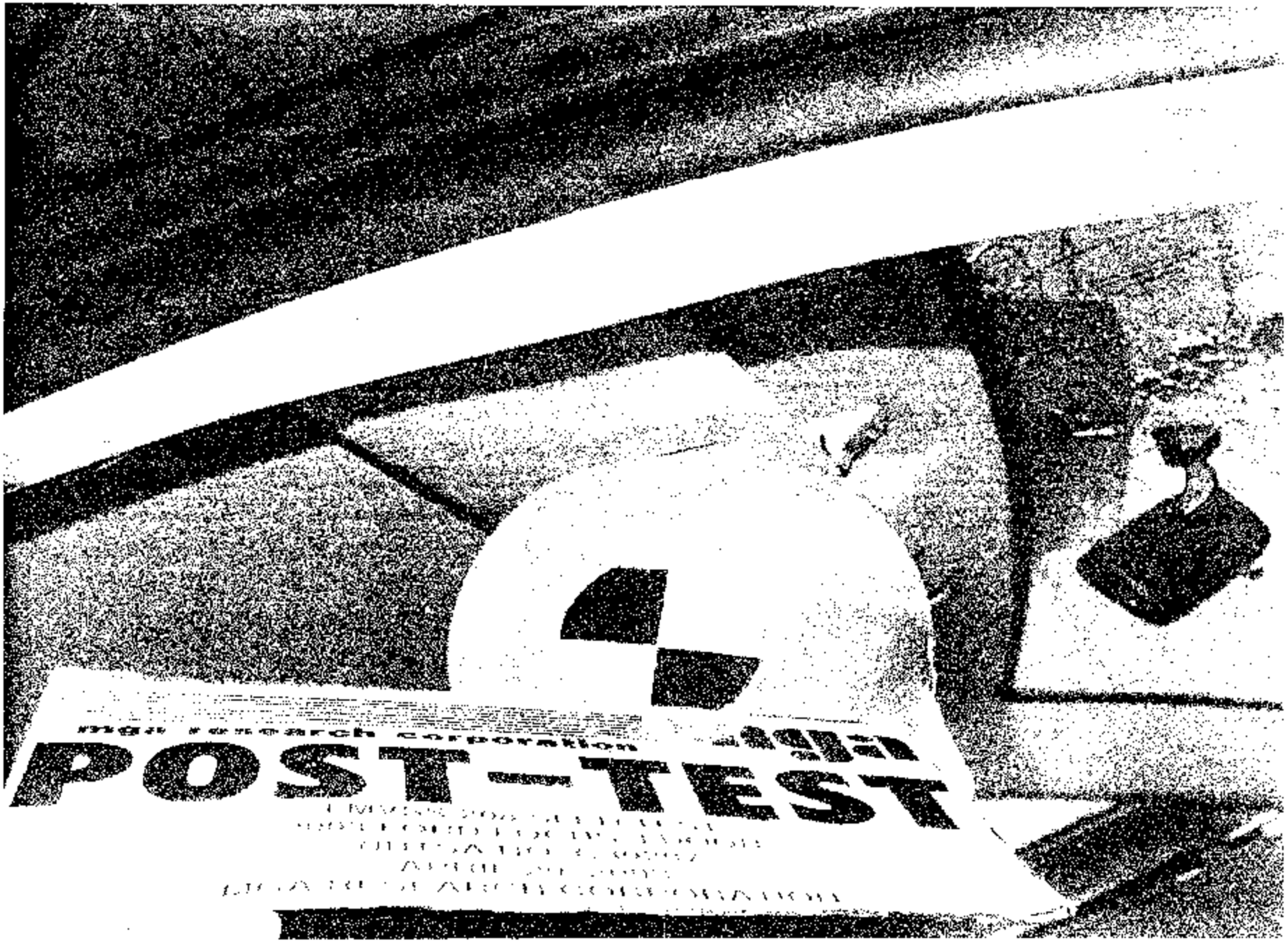


Post Test Driver Dummy Airbag View

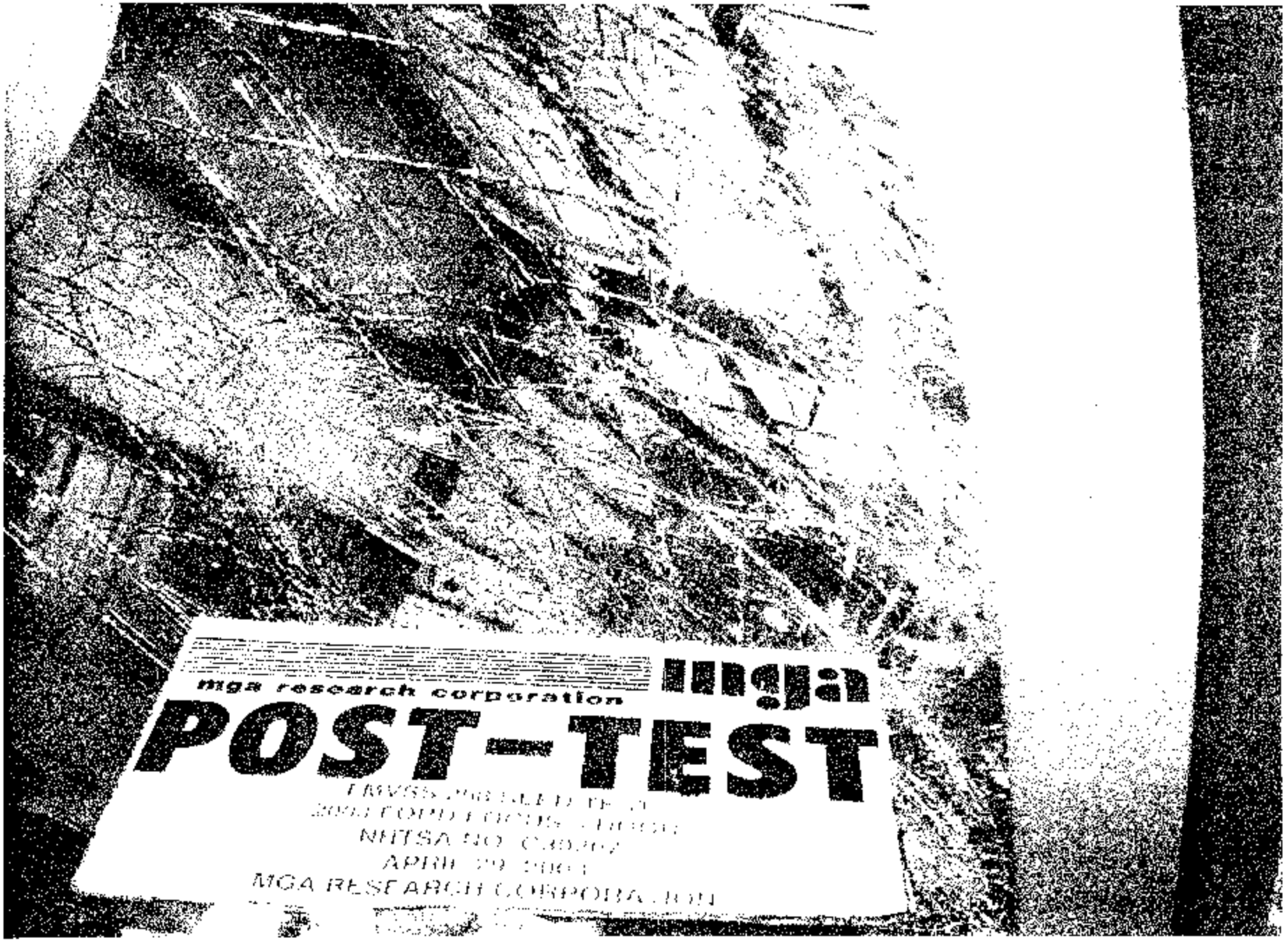
Post-Test Driver Dummy Head Contact View (windshield)



Post-Test Passenger Dummy Airbag View



Post-Test Passenger Dummy Head Contact View (visor)

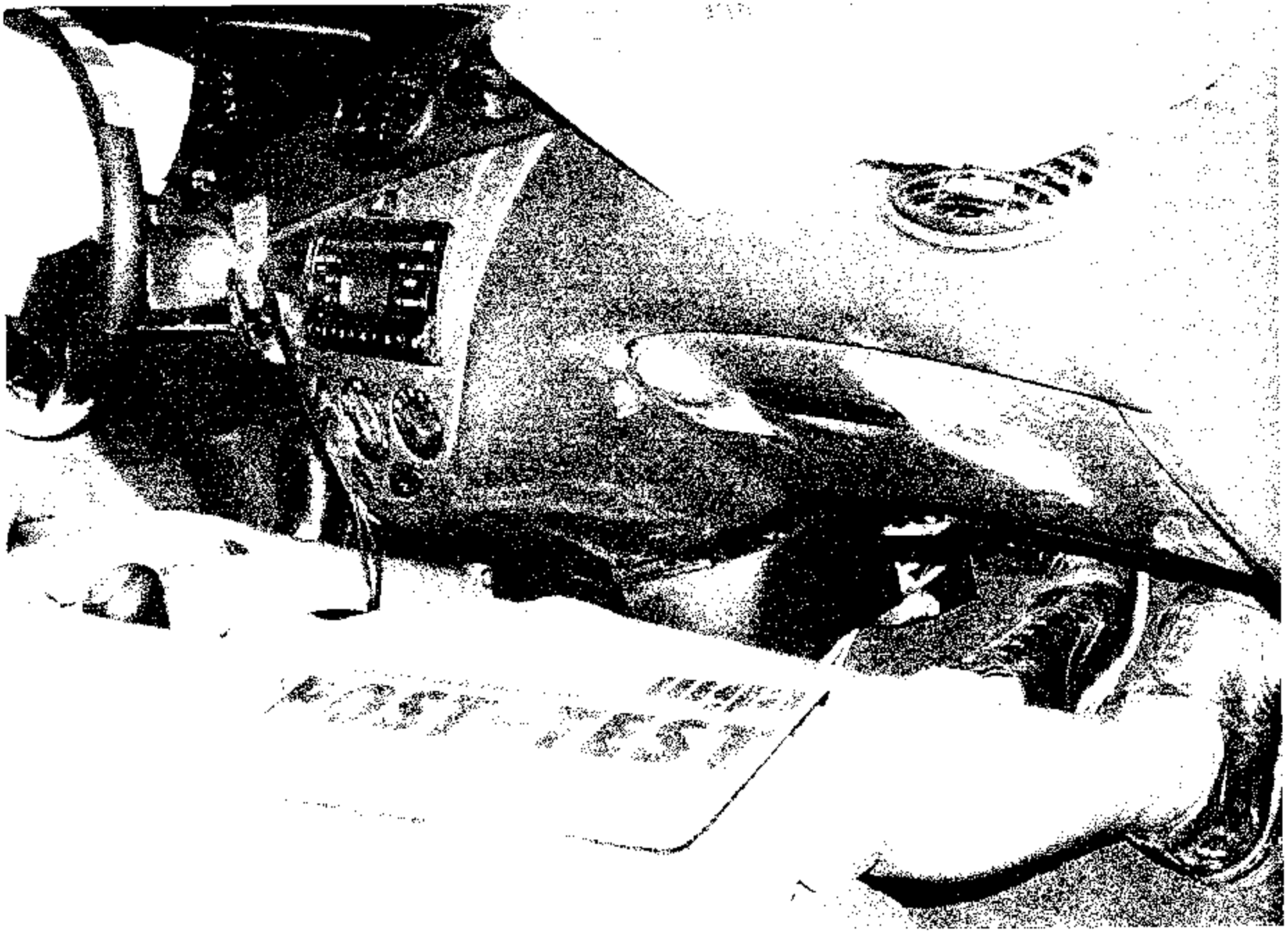


Post-Test Passenger Dummy Head Contact View (windshield)

Pre-Test Driver Knee Bolster View

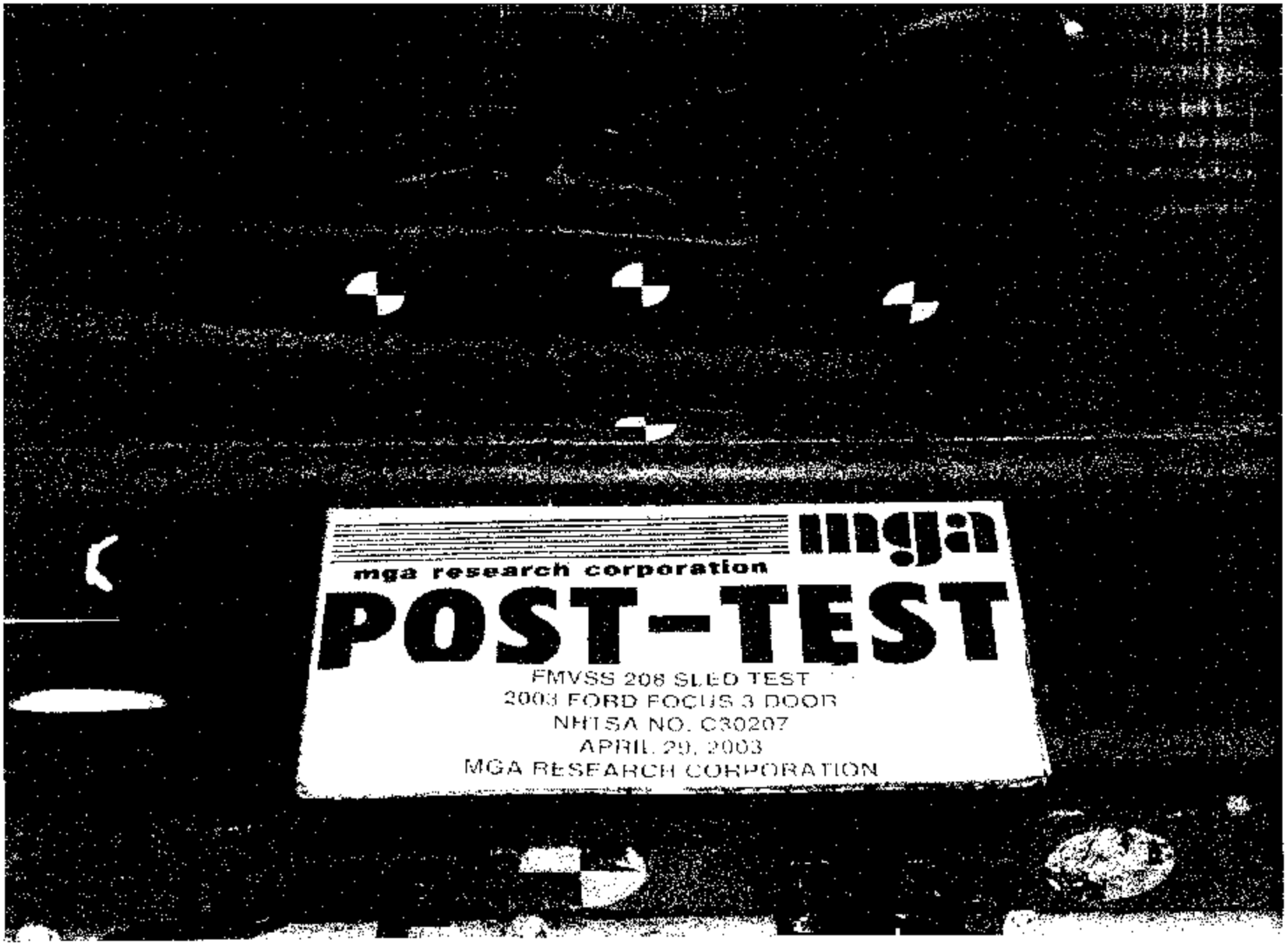
Post-Test Driver Knee Bolster View

Pre-Test Passenger Knee Bolster View

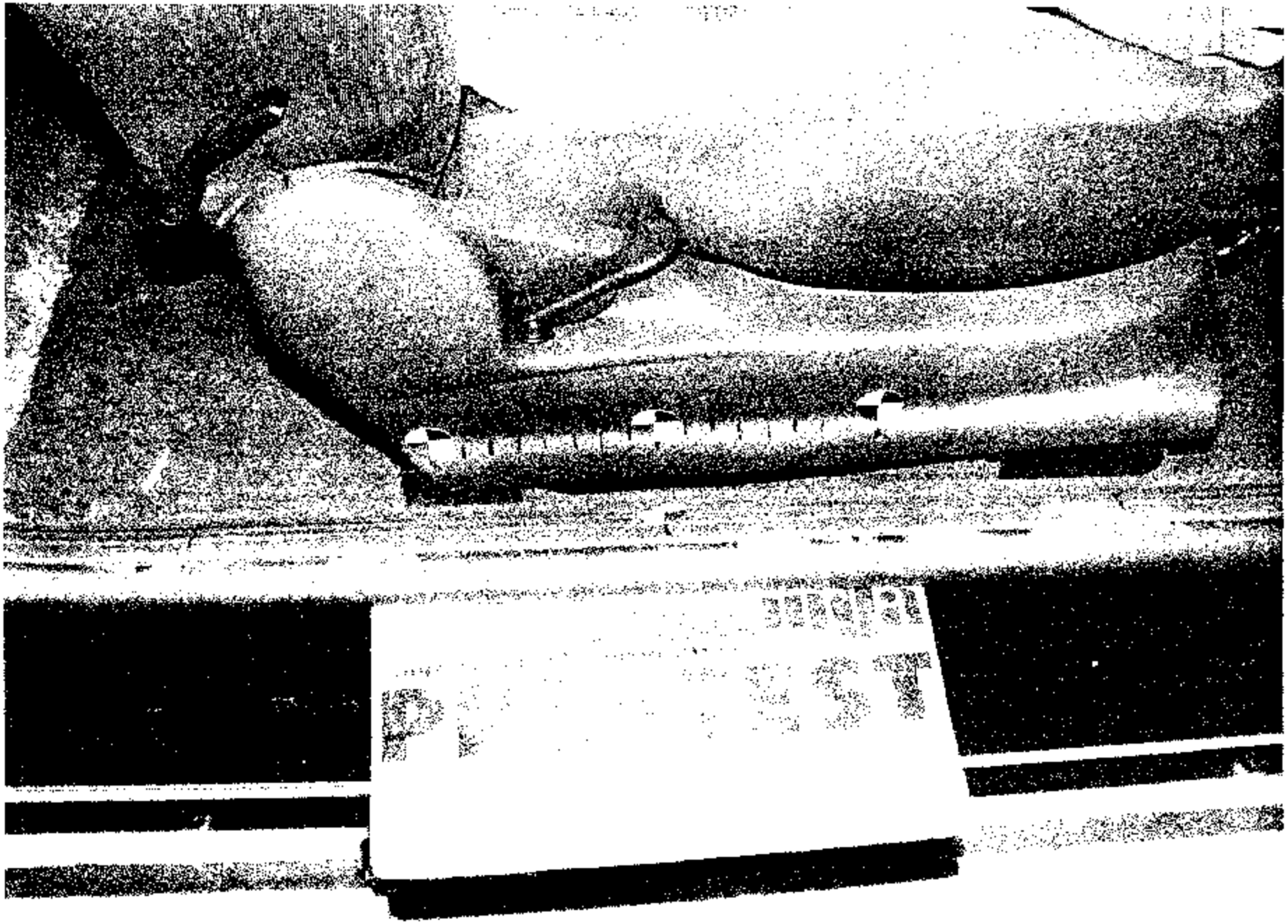


Post-Test Passenger Knee Bolster View

Pre-Test Driver Seat Position View

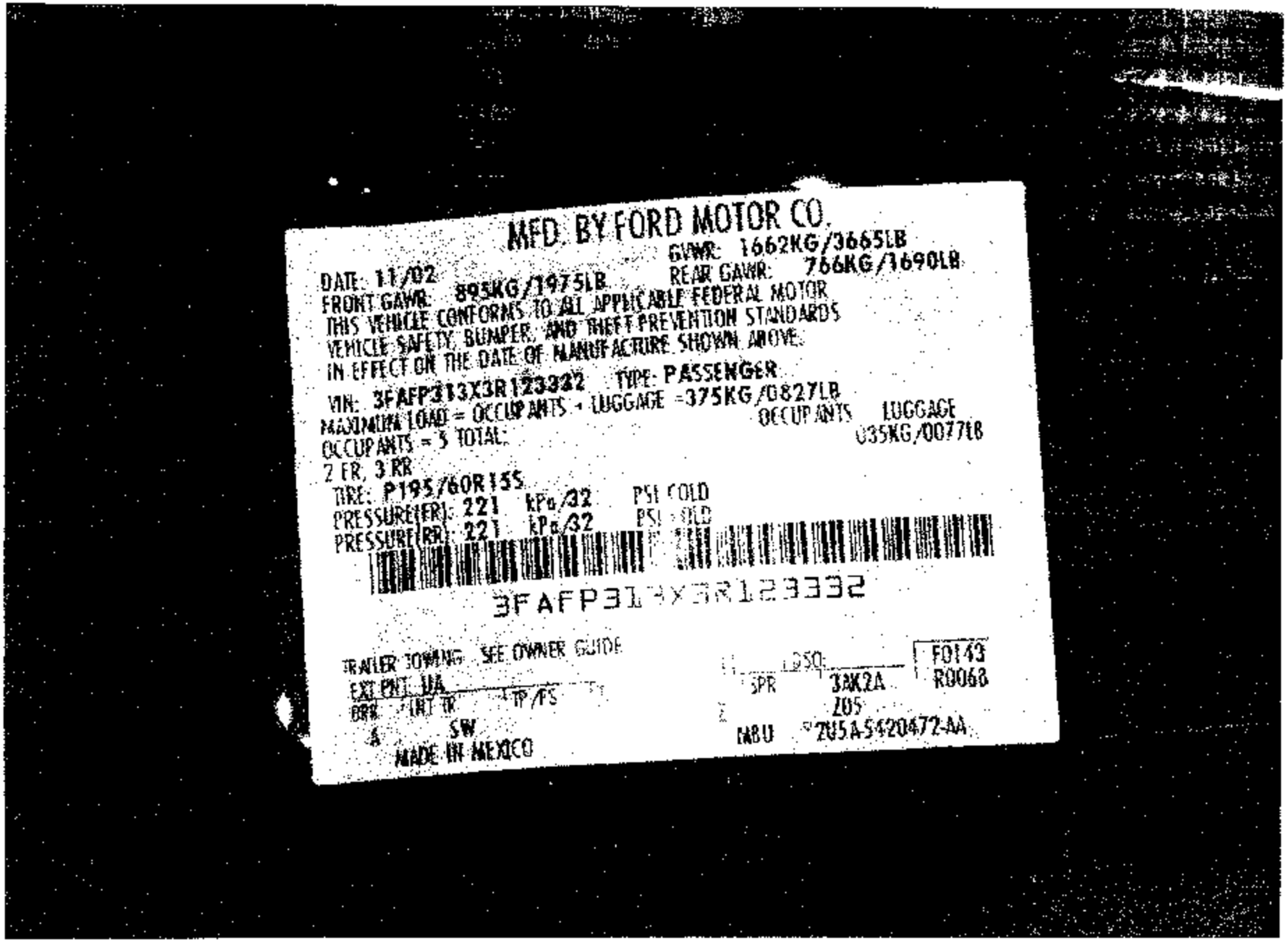


Post-Test Driver Seat Position View



Pre-Test Passenger Seat Position View

Post-Test Passenger Seat Position View

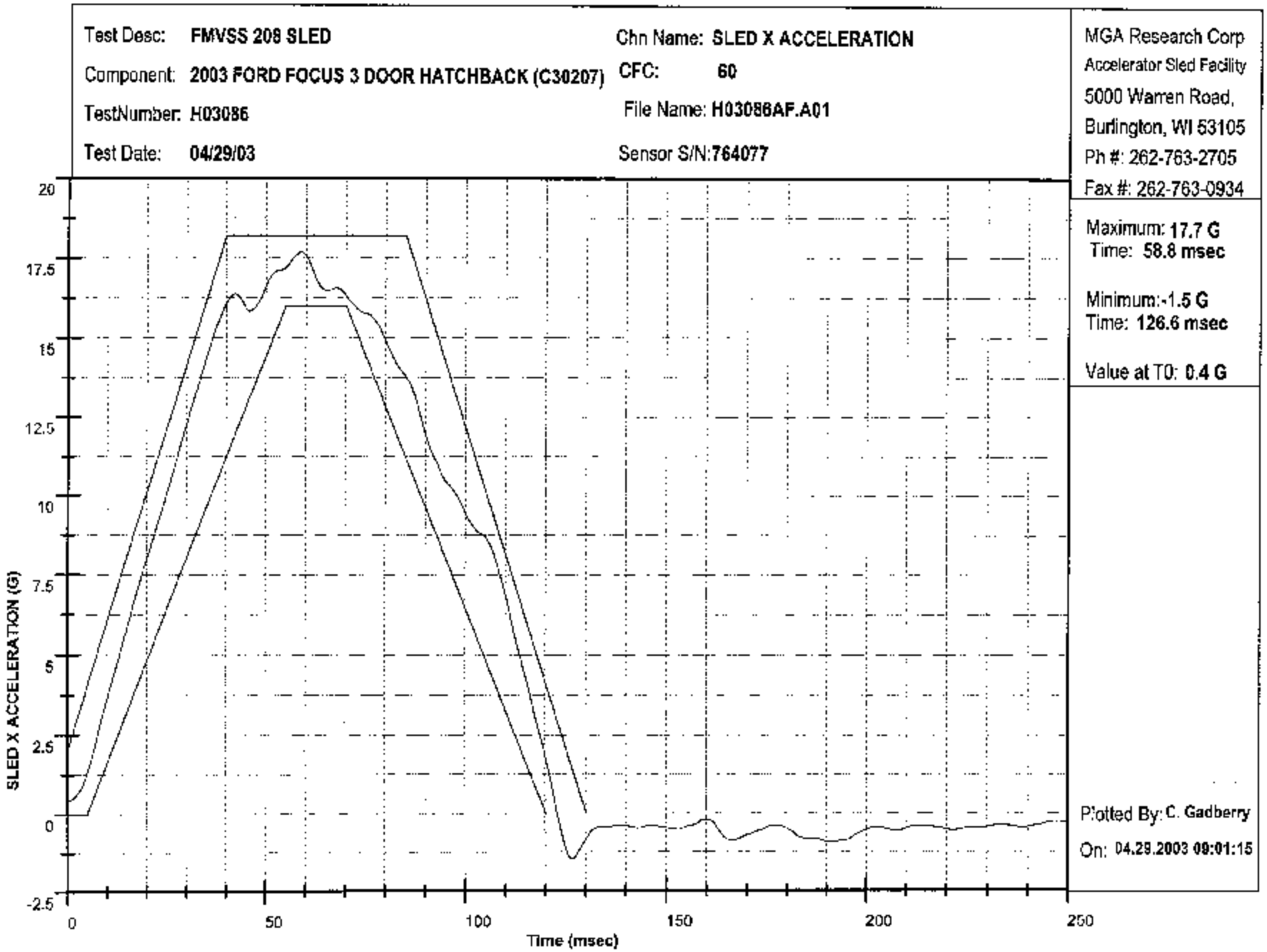


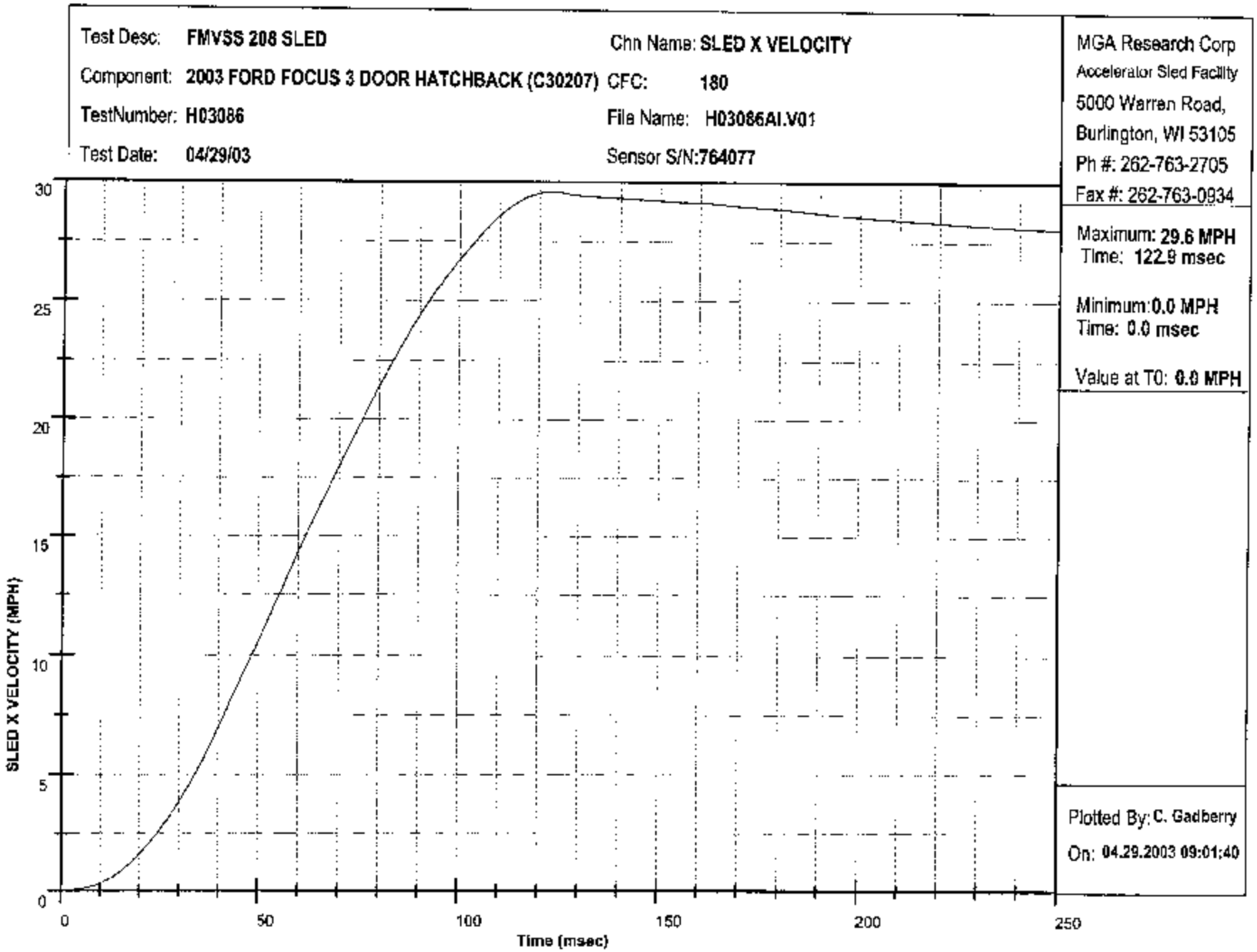
Vehicle Certification Label and FMVSS 110 Label

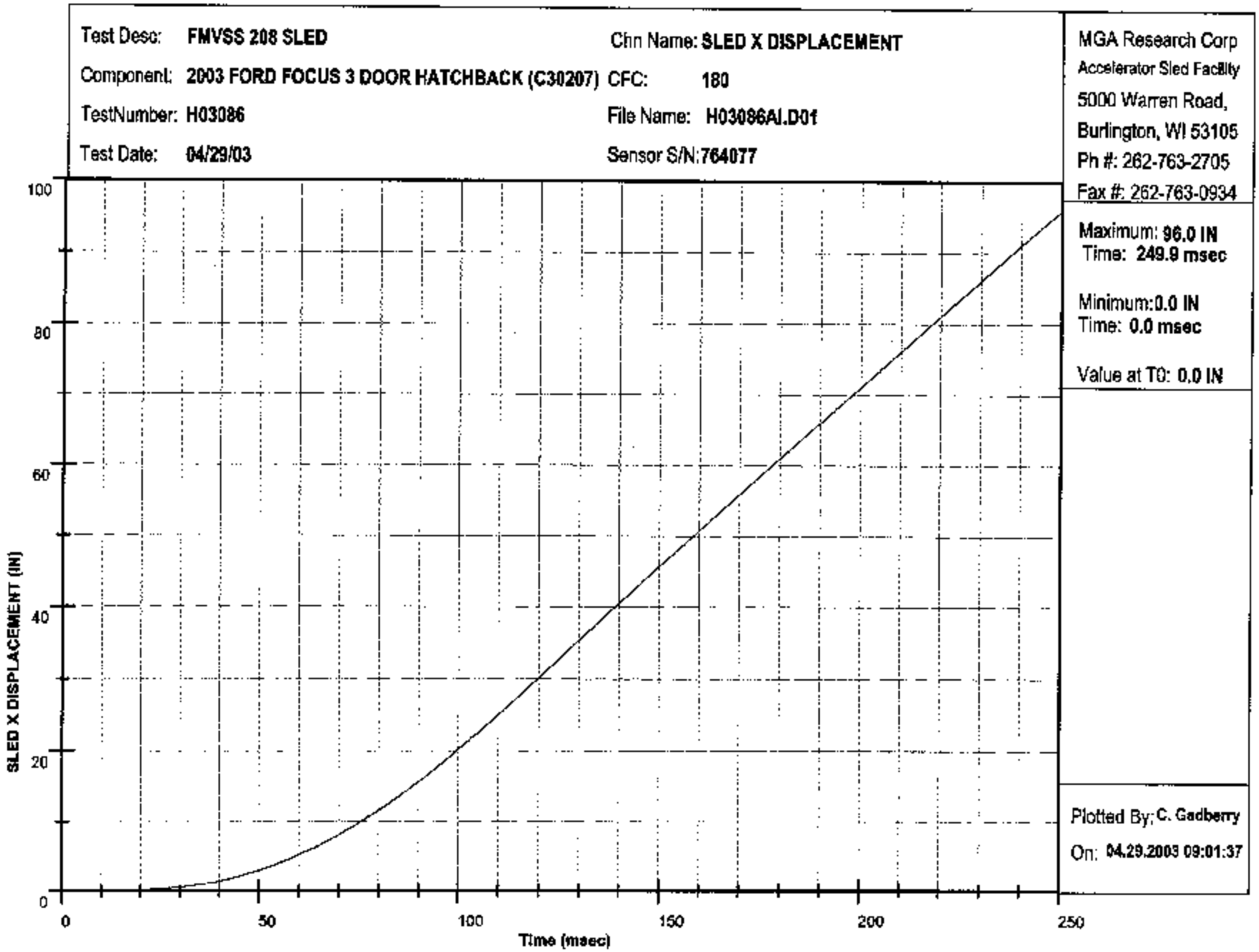
APPENDIX B
DATA PLOTS

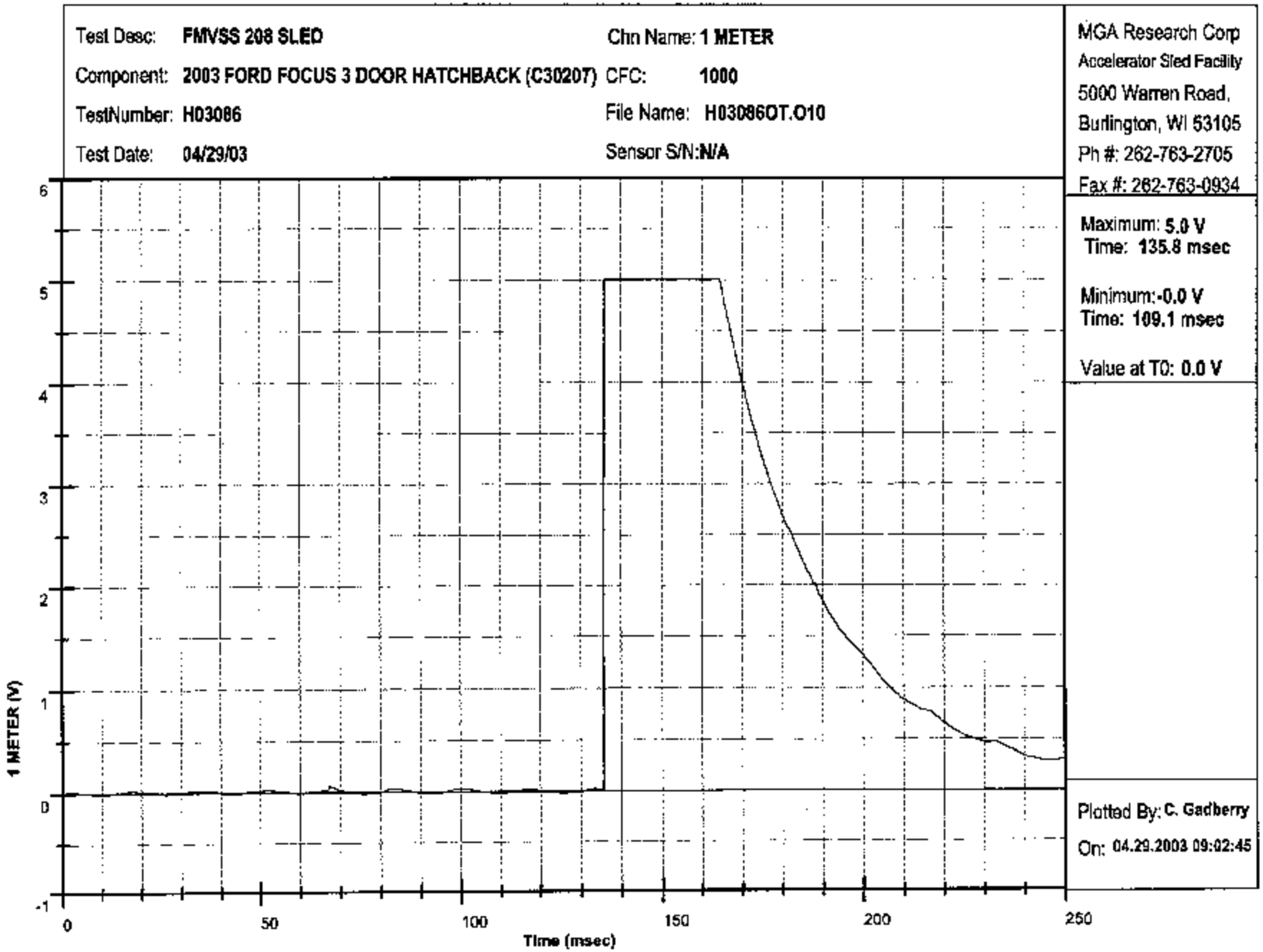
TABLE OF DATA PLOTS

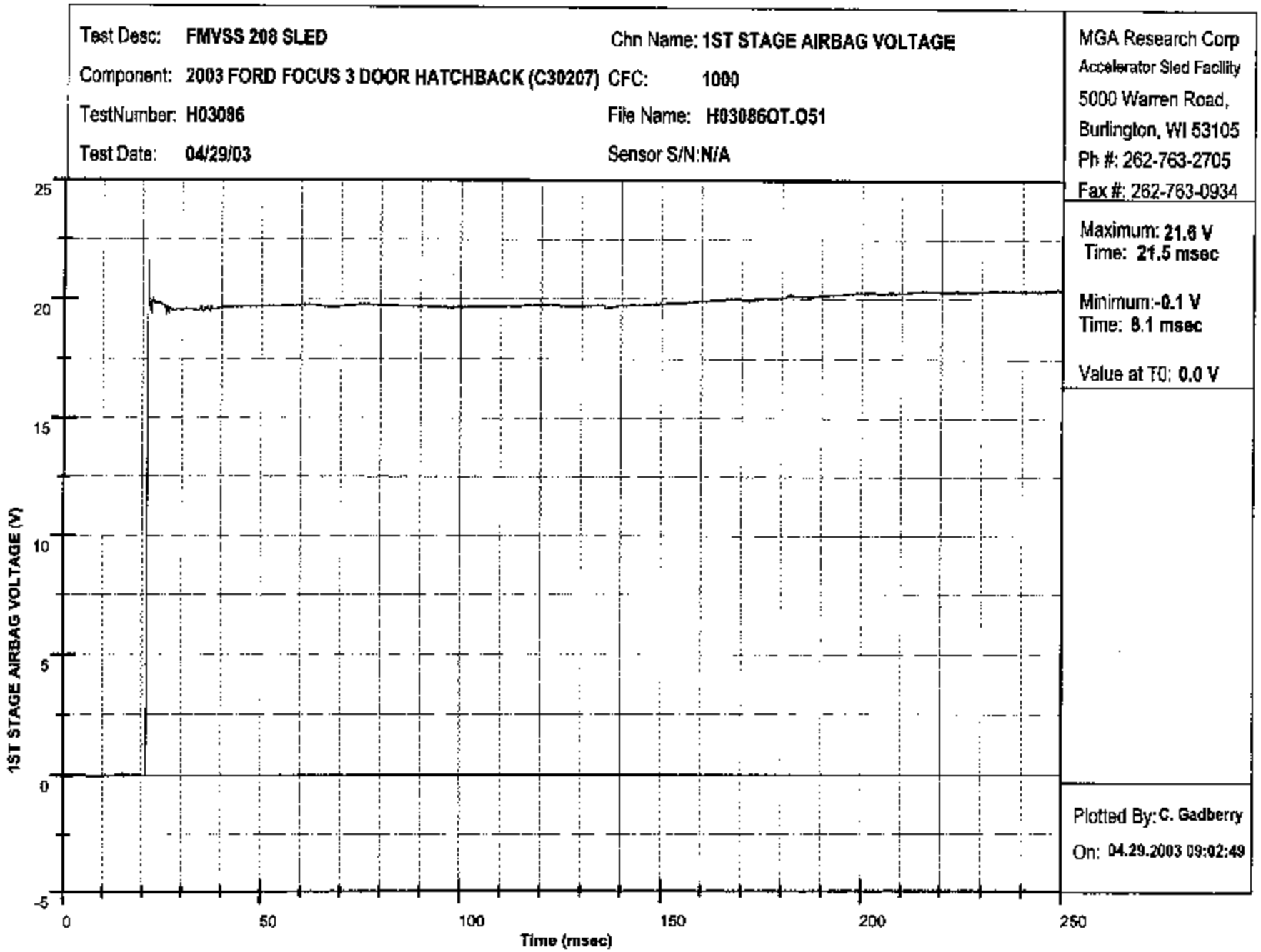
TABLE OF DATA PLOTS (Cont.)

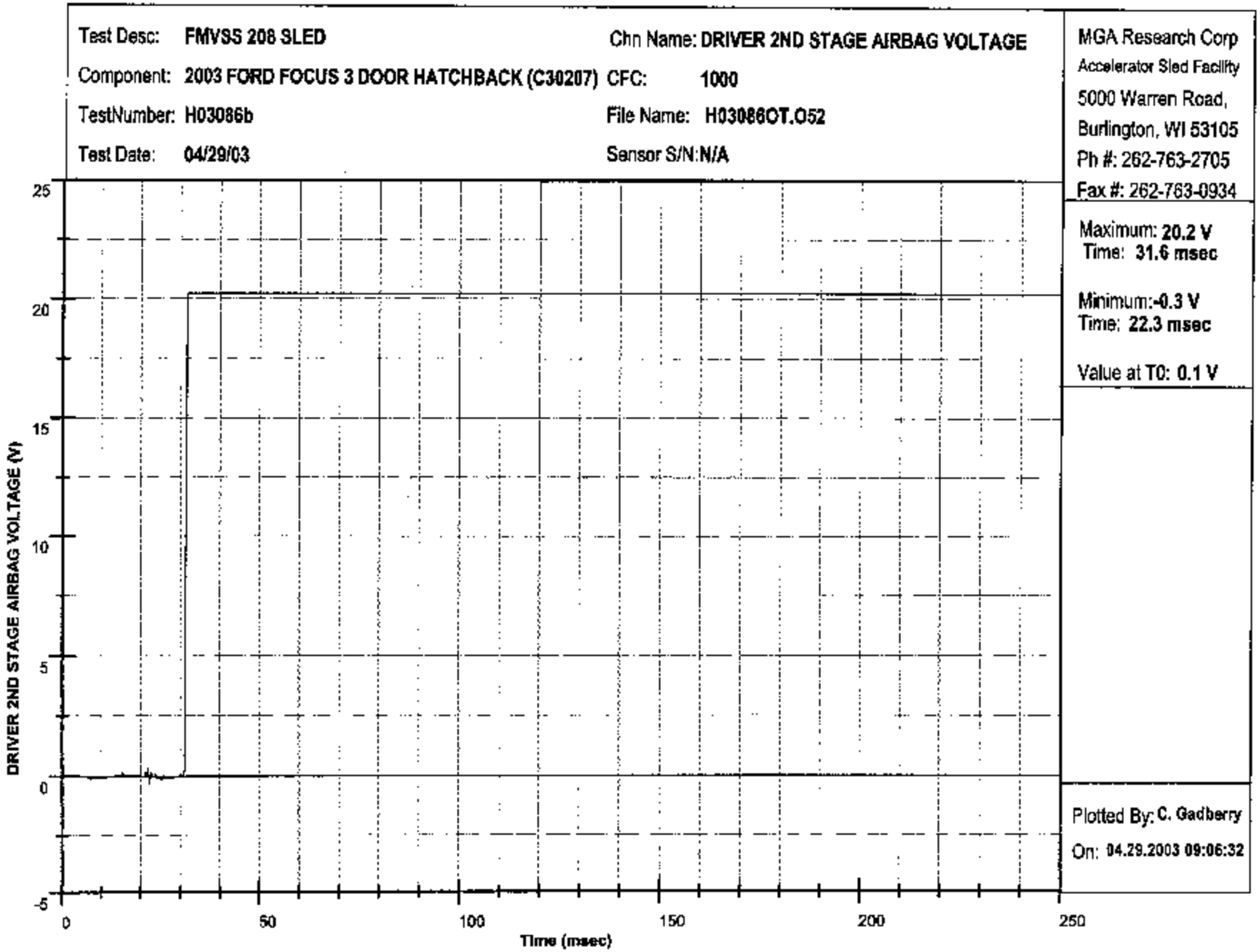

Test Desc: FMVSS 208 SLED
Component: 2003 FORD FOCUS 3 DOOR HATCHBACK (C30207)
TestNumber: H03086
Test Date: 04/29/03
Chn Name: SLED X ACCELERATION
CFC: 60
File Name: H03086AF.A01
Sensor S/N:764077
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934
Maximum: 17.7 G
Time: 58.8 msec
Minimum:-1.5 G
Time: 126.6 msec
Value at T0: 0.4 G
Plotted By: C. Gadberry
On: 04.29.2003 09:01:15
SLED X ACCELERATION (G)
Time (msec)
20
17.5
15
12.5
10
7.5
5
2.5
0
-2.5
0
50
100
150
200
250

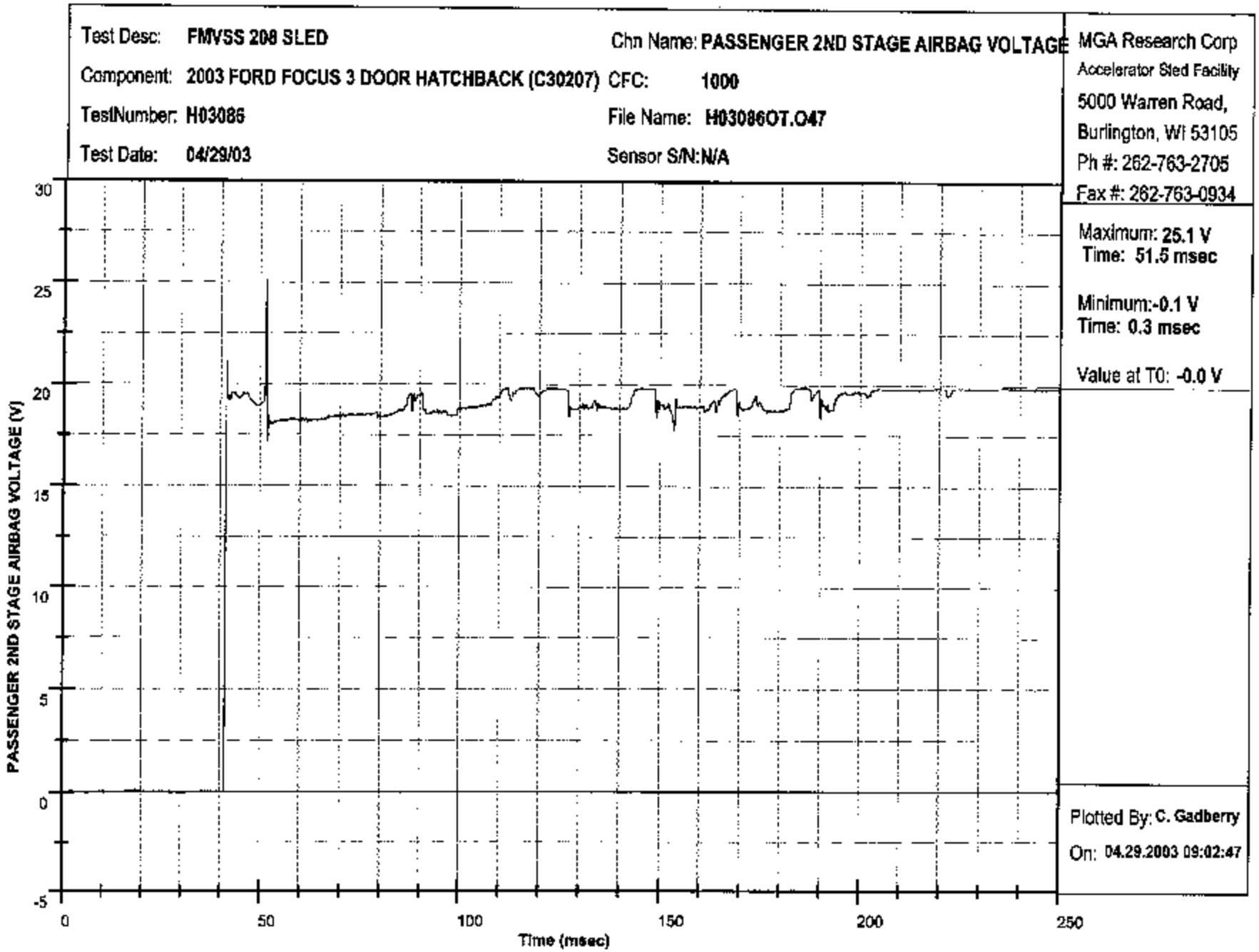

Test Desc: FMVSS 208 SLED
Chn Name: SLED X VELOCITY
Component: 2003 FORD FOCUS 3 DOOR HATCHBACK (C30207)
CFC: 180
TestNumber: H03086
File Name: H03086AI.V01
Test Date: 04/29/03
Sensor S/N:764077
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934
Maximum: 29.6 MPH
Time: 122.9 msec
Minimum: 0.0 MPH
Time: 0.0 msec
Value at T0: 0.0 MPH
Plotted By: C. Gadberry
On: 04.29.2003 09:01:40
SLED X VELOCITY (MPH)
Time (msec)
0
5
10
15
20
25
30
0
50
100
150
200
250


Test Desc: FMVSS 208 SLED
Chn Name: SLED X DISPLACEMENT
Component: 2003 FORD FOCUS 3 DOOR HATCHBACK (C30207)
CFC: 180
TestNumber: H03086
File Name: H03086AI.D01
Test Date: 04/29/03
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: 96.0 IN
Time: 249.9 msec
Minimum:0.0 IN
Time: 0.0 msec
Value at T0: 0.0 IN
Plotted By: C. Gadberry
On: 04.29.2003 09:01:37
SLED X DISPLACEMENT (IN)
Time (msec)
0
20
40
60
80
100
0
50
100
150
200
250


Test Desc: FMVSS 208 SLED
Chn Name: 1 METER
Component: 2003 FORD FOCUS 3 DOOR HATCHBACK (C30207)
CFC: 1000
TestNumber: H03086
File Name: H03086OT.O10
Test Date: 04/29/03
Sensor S/N:N/A
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934
Maximum: 5.0 V
Time: 135.8 msec
Minimum:-0.0 V
Time: 109.1 msec
Value at T0: 0.0 V
Plotted By: C. Gadberry
On: 04.29.2003 09:02:45
1 METER (V)
Time (msec)
6
5
4
3
2
1
0
-1
0
50
100
150
200
250

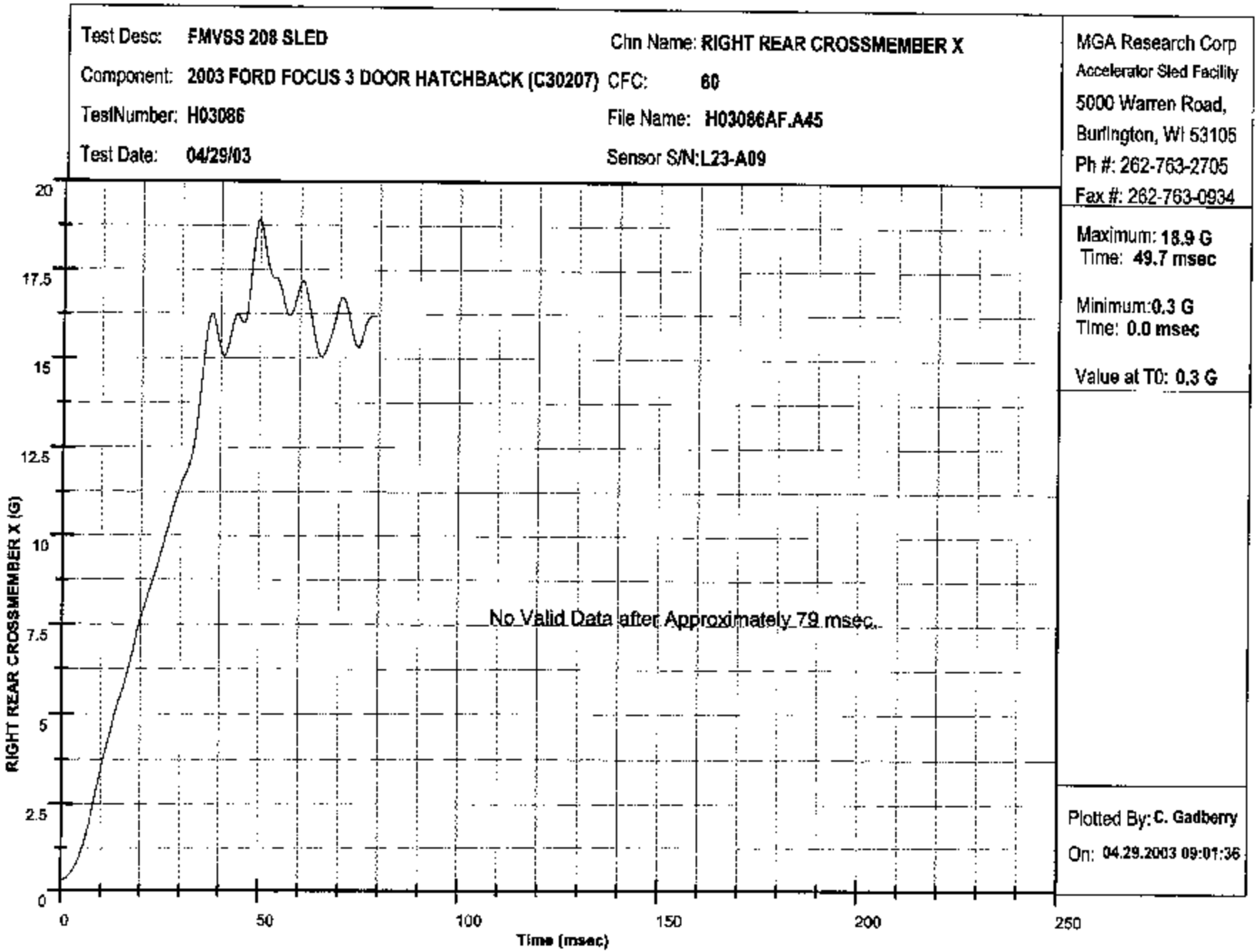

Test Desc: FMVSS 208 SLED
Chn Name: 1ST STAGE AIRBAG VOLTAGE
Component: 2003 FORD FOCUS 3 DOOR HATCHBACK (C30207)
CFC: 1000
TestNumber: H03086
File Name: H03086OT.O51
Test Date: 04/29/03
Sensor S/N:N/A
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934
Maximum: 21.6 V
Time: 21.5 msec
Minimum:-0.1 V
Time: 8.1 msec
Value at T0: 0.0 V
Plotted By: C. Gadberry
On: 04.29.2003 09:02:49
1ST STAGE AIRBAG VOLTAGE (V)
25
20
15
10
5
0
-5
0
50
100
150
200
250
Time (msec)

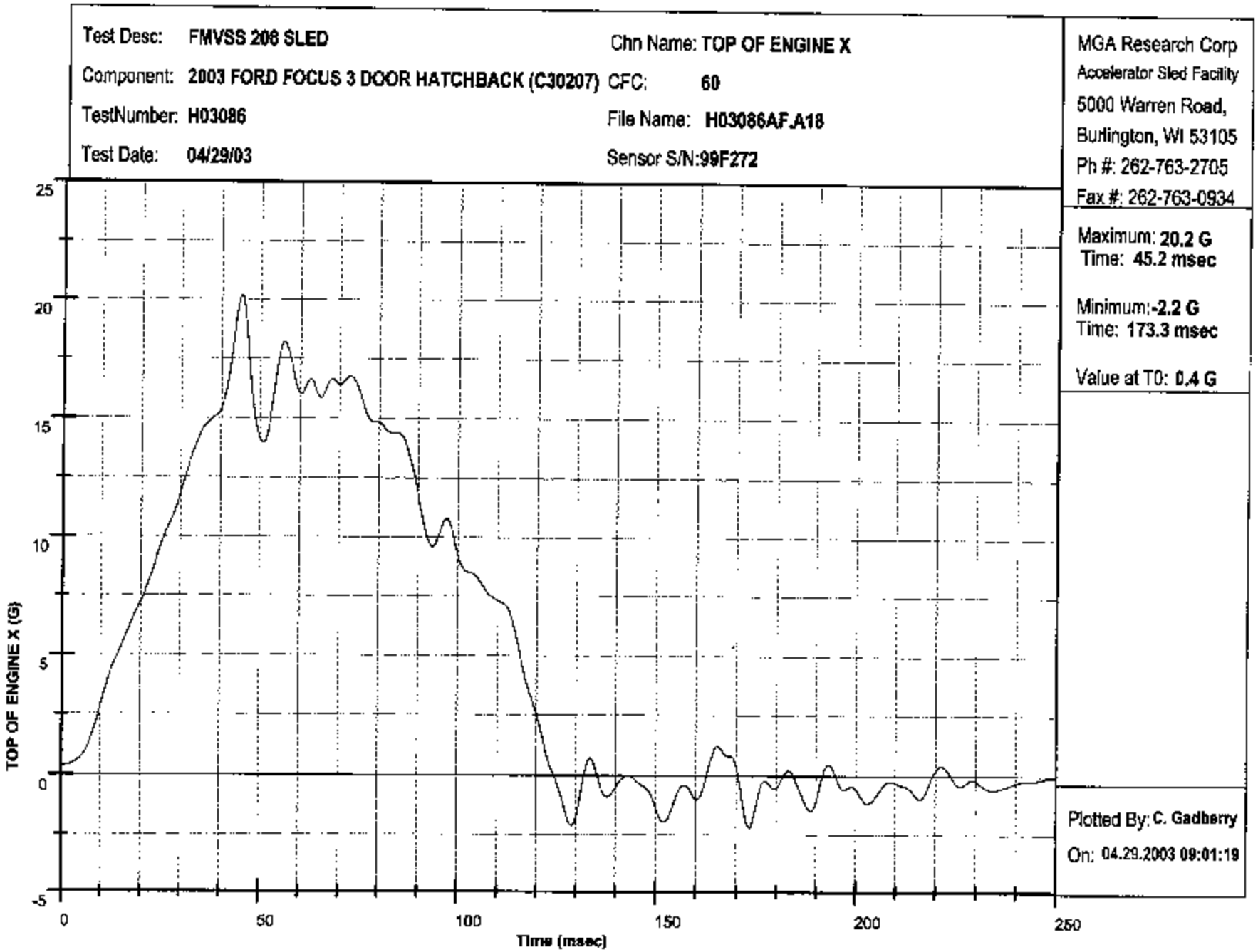

Test Desc: FMVSS 208 SLED
Chn Name: DRIVER 2ND STAGE AIRBAG VOLTAGE
Component: 2003 FORD FOCUS 3 DOOR HATCHBACK (C30207)
CFC: 1000
TestNumber: H03086b
File Name: H03086OT.O52
Test Date: 04/29/03
Sensor S/N:N/A
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934
Maximum: 20.2 V
Time: 31.6 msec
Minimum:-0.3 V
Time: 22.3 msec
Value at T0: 0.1 V
Plotted By: C. Gadberry
On: 04.29.2003 09:06:32
DRIVER 2ND STAGE AIRBAG VOLTAGE (V)
25
20
15
10
5
0
-5
0
50
100
150
200
250
Time (msec)

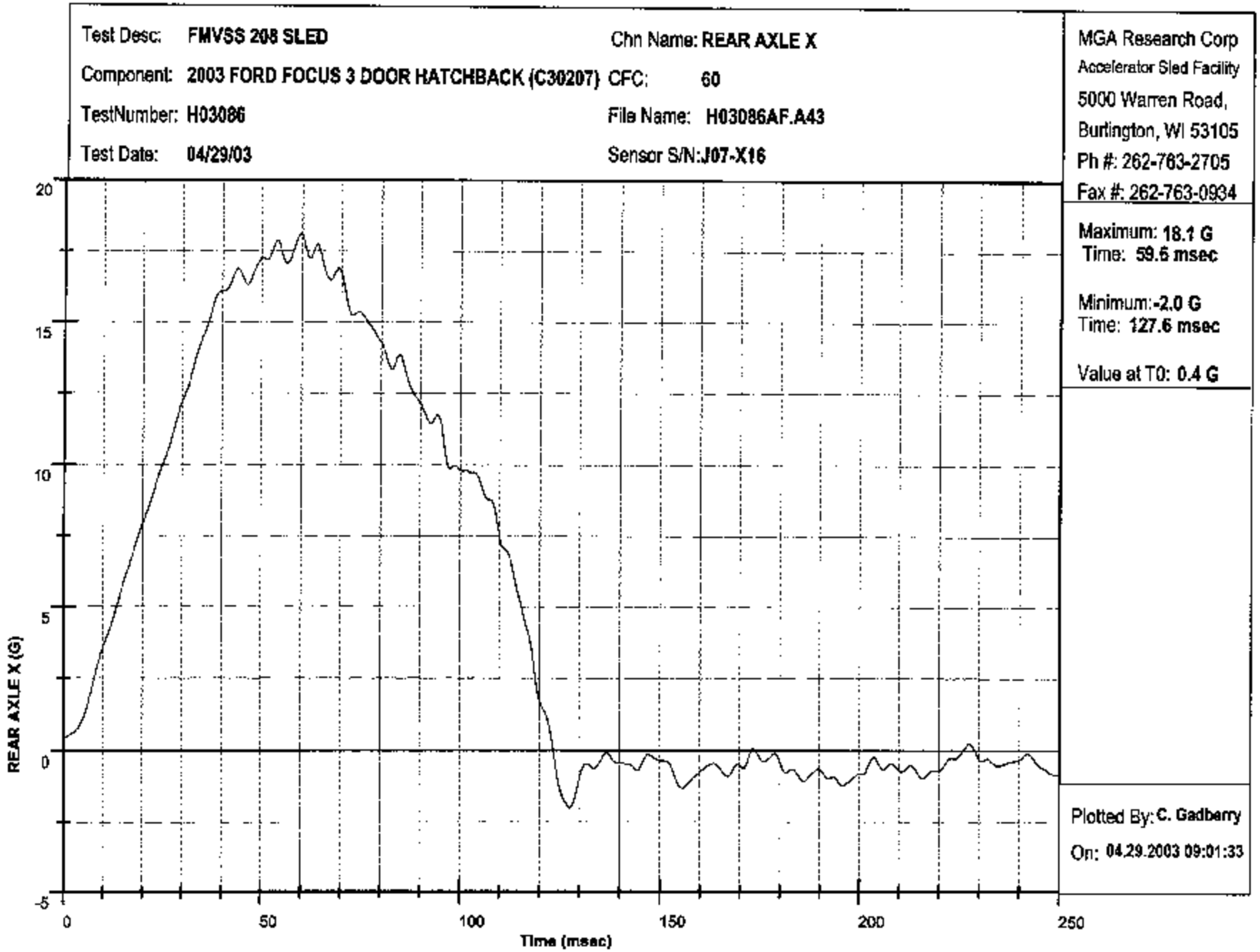

Test Desc: FMVSS 208 SLED
Chn Name: PASSENGER 2ND STAGE AIRBAG VOLTAGE
Component: 2003 FORD FOCUS 3 DOOR HATCHBACK (C30207)
CFC: 1000
TestNumber: H03086
File Name: H03086OT.O47
Test Date: 04/29/03
Sensor S/N:N/A
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934
Maximum: 25.1 V
Time: 51.5 msec
Minimum:-0.1 V
Time: 0.3 msec
Value at T0: -0.0 V
Plotted By: C. Gadberry
On: 04.29.2003 09:02:47
PASSENGER 2ND STAGE AIRBAG VOLTAGE (V)
30
25
20
15
10
5
0
-5
0
50
100
150
200
250
Time (msec)

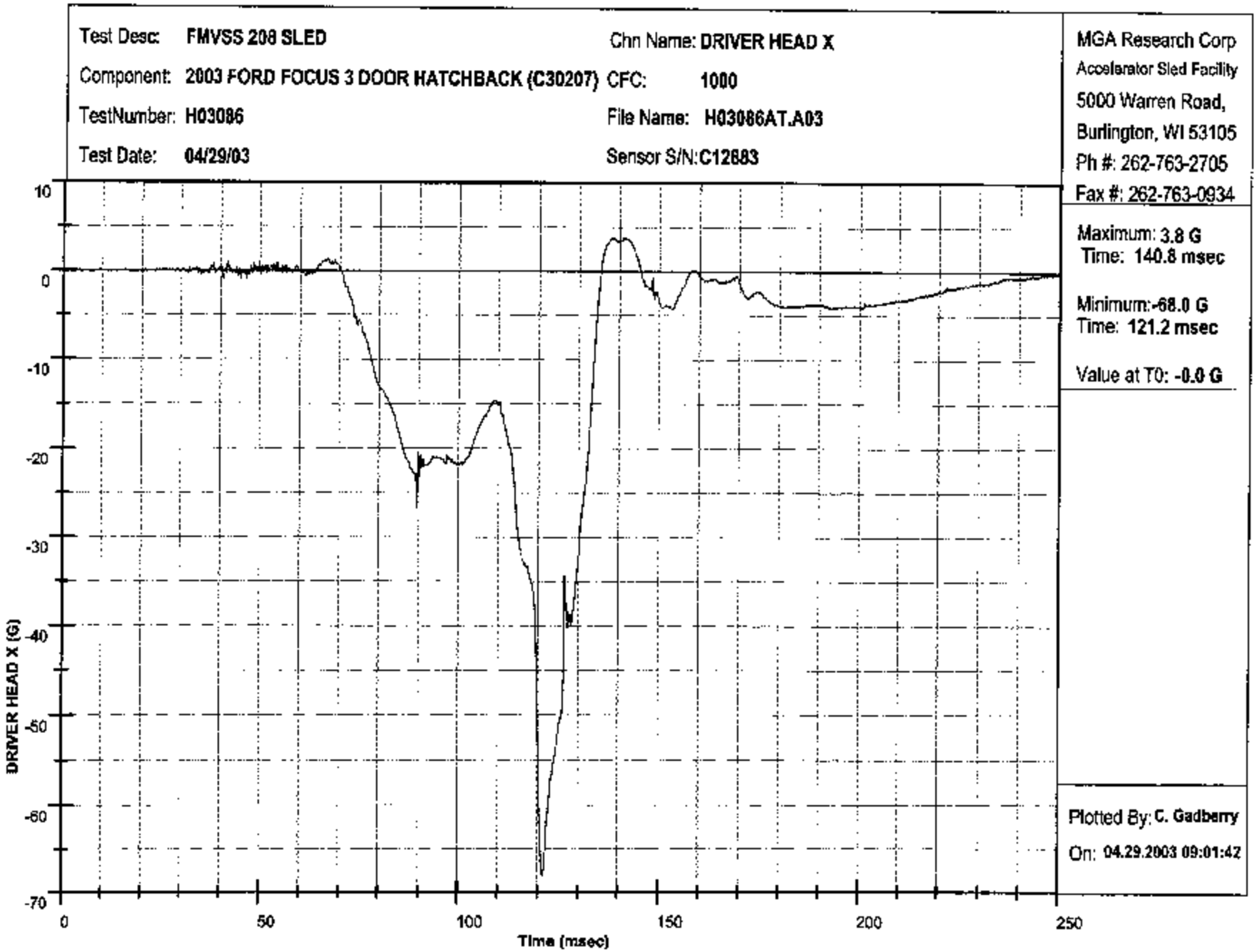
LEFT REAR SEAT CROSSMEMBER X ACCELERATION VS. TIME

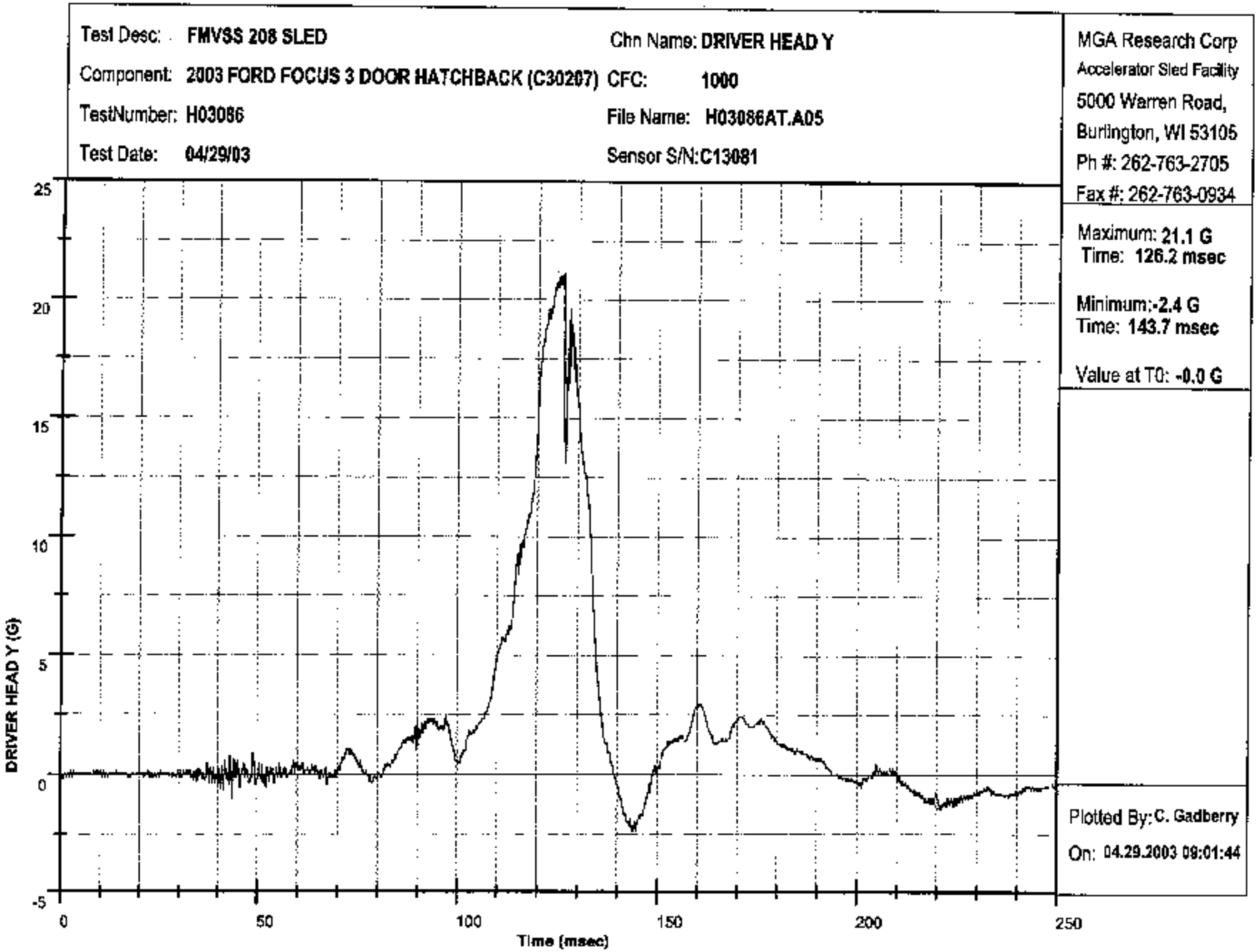
NO VALID DATA COLLECTED

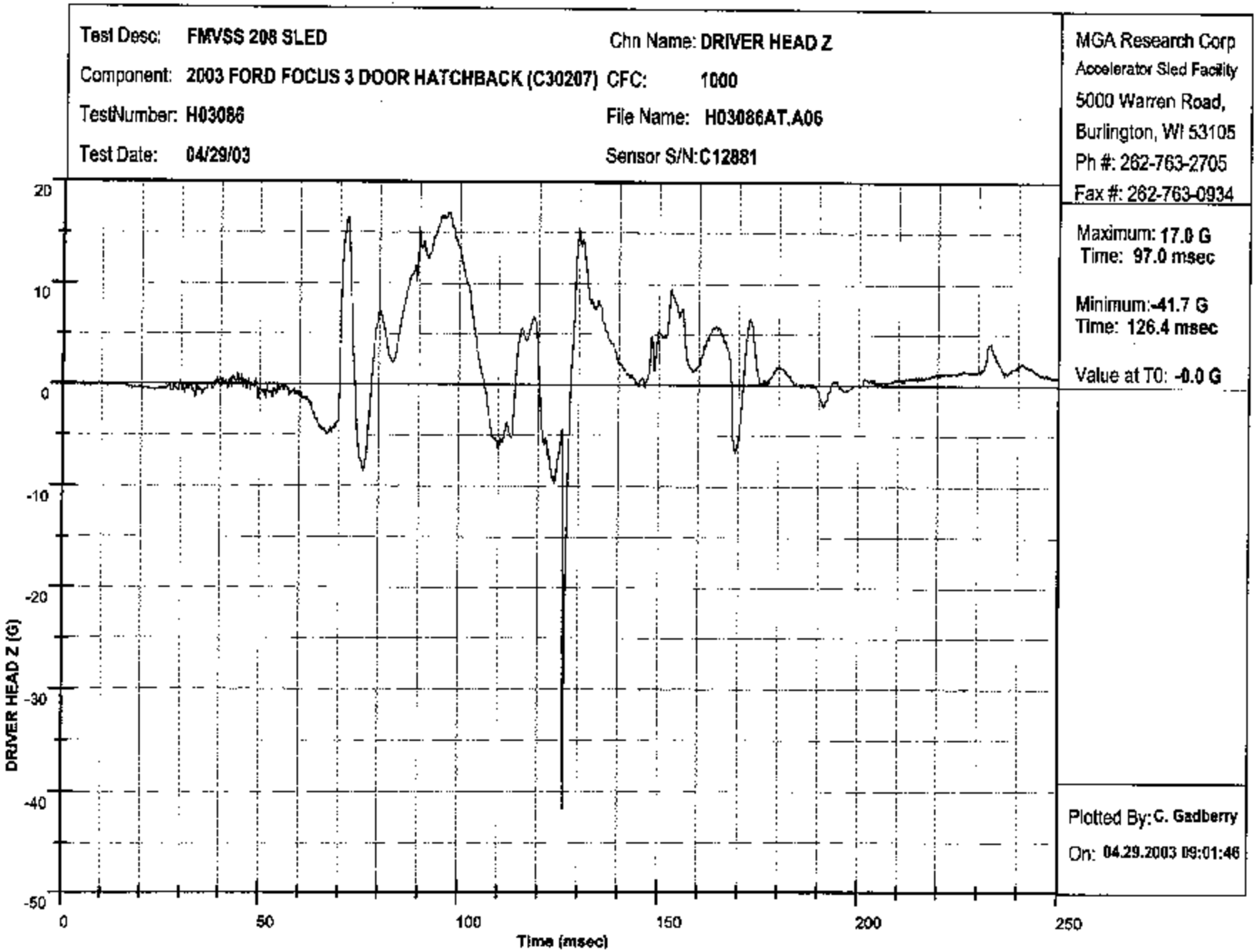

Test Desc: FMVSS 208 SLED
Component: 2003 FORD FOCUS 3 DOOR HATCHBACK (C30207)
TestNumber: H03086
Test Date: 04/29/03
Chn Name: RIGHT REAR CROSSMEMBER X
CFC: 60
File Name: H03086AF.A45
Sensor S/N:L23-A09
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934
Maximum: 18.9 G
Time: 49.7 msec
Minimum: 0.3 G
Time: 0.0 msec
Value at T0: 0.3 G
No Valid Data after Approximately 79 msec.
Plotted By: C. Gadberry
On: 04.29.2003 09:01:36
RIGHT REAR CROSSMEMBER X (G)
Time (msec)
0
2.5
5
7.5
10
12.5
15
17.5
20
0
50
100
150
200
250

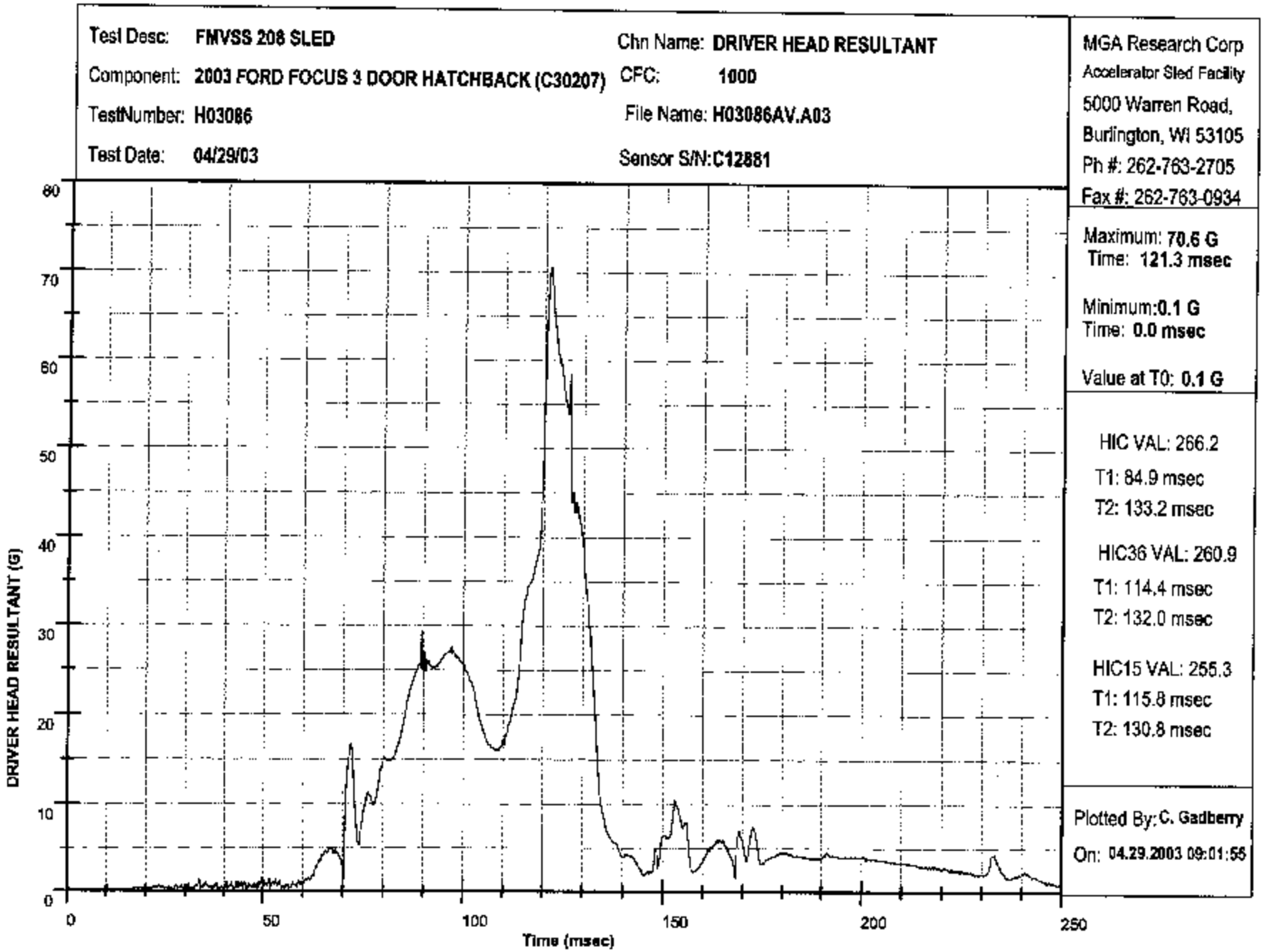

Test Desc: FMVSS 208 SLED
Component: 2003 FORD FOCUS 3 DOOR HATCHBACK (C30207)
TestNumber: H03086
Test Date: 04/29/03
Chn Name: TOP OF ENGINE X
CFC: 60
File Name: H03086AF.A18
Sensor S/N:99F272
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934
Maximum: 20.2 G
Time: 45.2 msec
Minimum: -2.2 G
Time: 173.3 msec
Value at T0: 0.4 G
Plotted By: C. Gadberry
On: 04.29.2003 09:01:19
TOP OF ENGINE X (G)
Time (msec)
25
20
15
10
5
0
-5
0
50
100
150
200
250

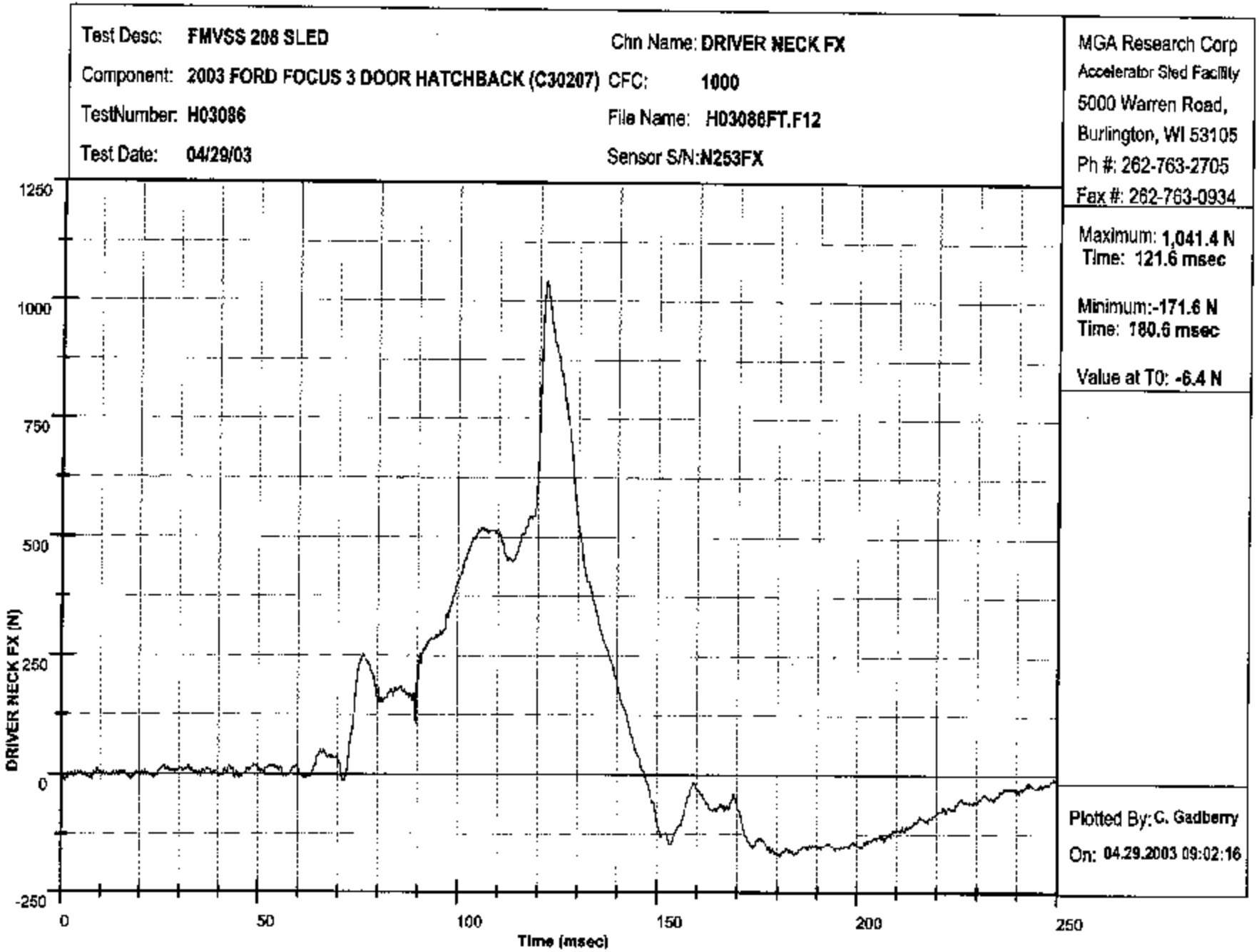

Test Desc: FMVSS 208 SLED
Component: 2003 FORD FOCUS 3 DOOR HATCHBACK (C30207)
TestNumber: H03086
Test Date: 04/29/03
Chn Name: REAR AXLE X
CFC: 60
File Name: H03086AF.A43
Sensor S/N:J07-X16
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934
Maximum: 18.1 G
Time: 59.5 msec
Minimum: -2.0 G
Time: 127.6 msec
Value at T0: 0.4 G
Plotted By: C. Gadberry
On: 04.29.2003 09:01:33
REAR AXLE X (G)
20
15
10
5
0
-5
0
50
100
150
200
250
Time (msec)

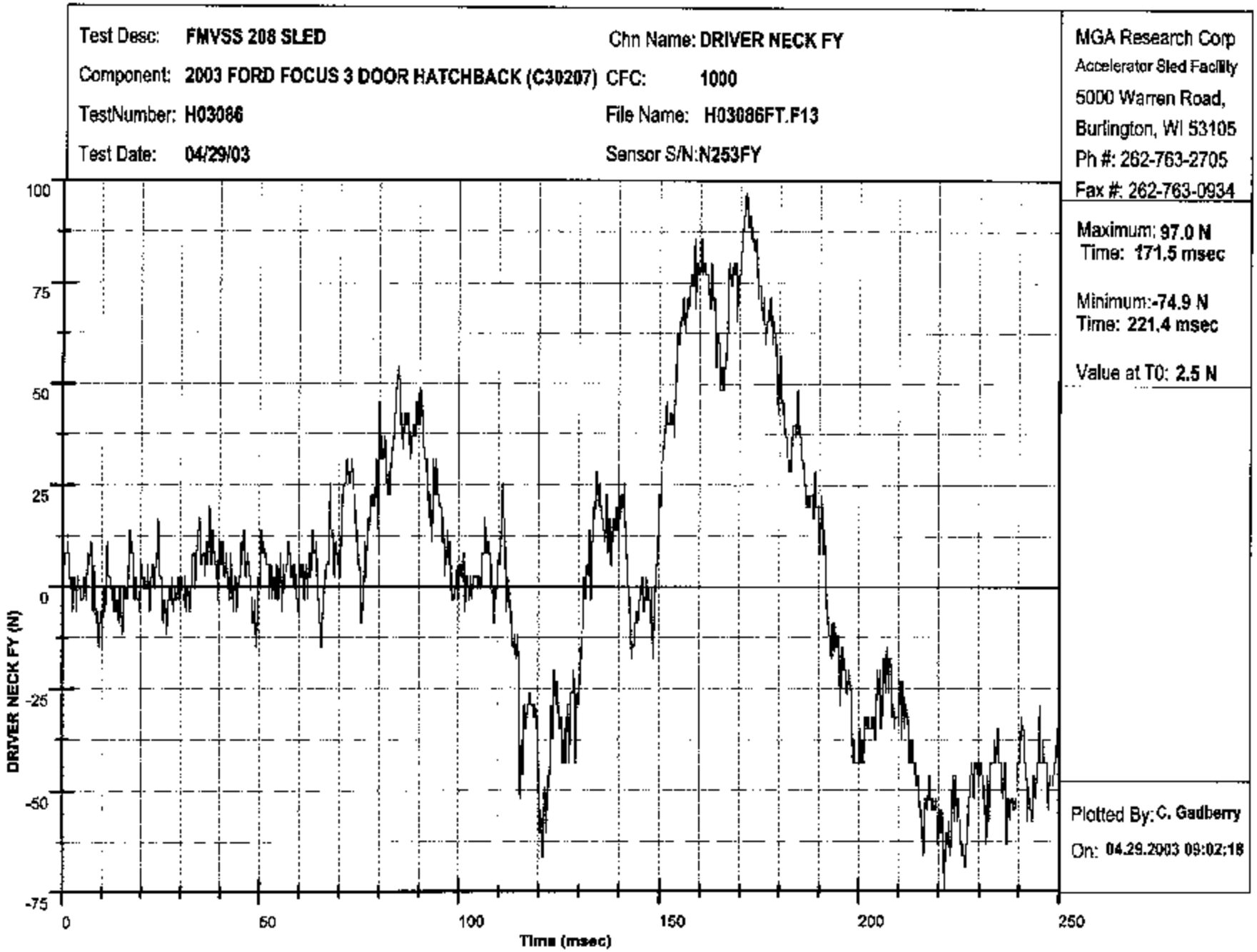

Test Desc: FMVSS 208 SLED
Chn Name: DRIVER HEAD X
Component: 2003 FORD FOCUS 3 DOOR HATCHBACK (C30207)
CFC: 1000
TestNumber: H03086
File Name: H03086AT.A03
Test Date: 04/29/03
Sensor S/N:C12683
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934
Maximum: 3.8 G
Time: 140.8 msec
Minimum:-68.0 G
Time: 121.2 msec
Value at T0: -0.0 G
Plotted By: C. Gadberry
On: 04.29.2003 09:01:42
DRIVER HEAD X (G)
10
0
-10
-20
-30
-40
-50
-60
-70
0
50
100
150
200
250
Time (msec)

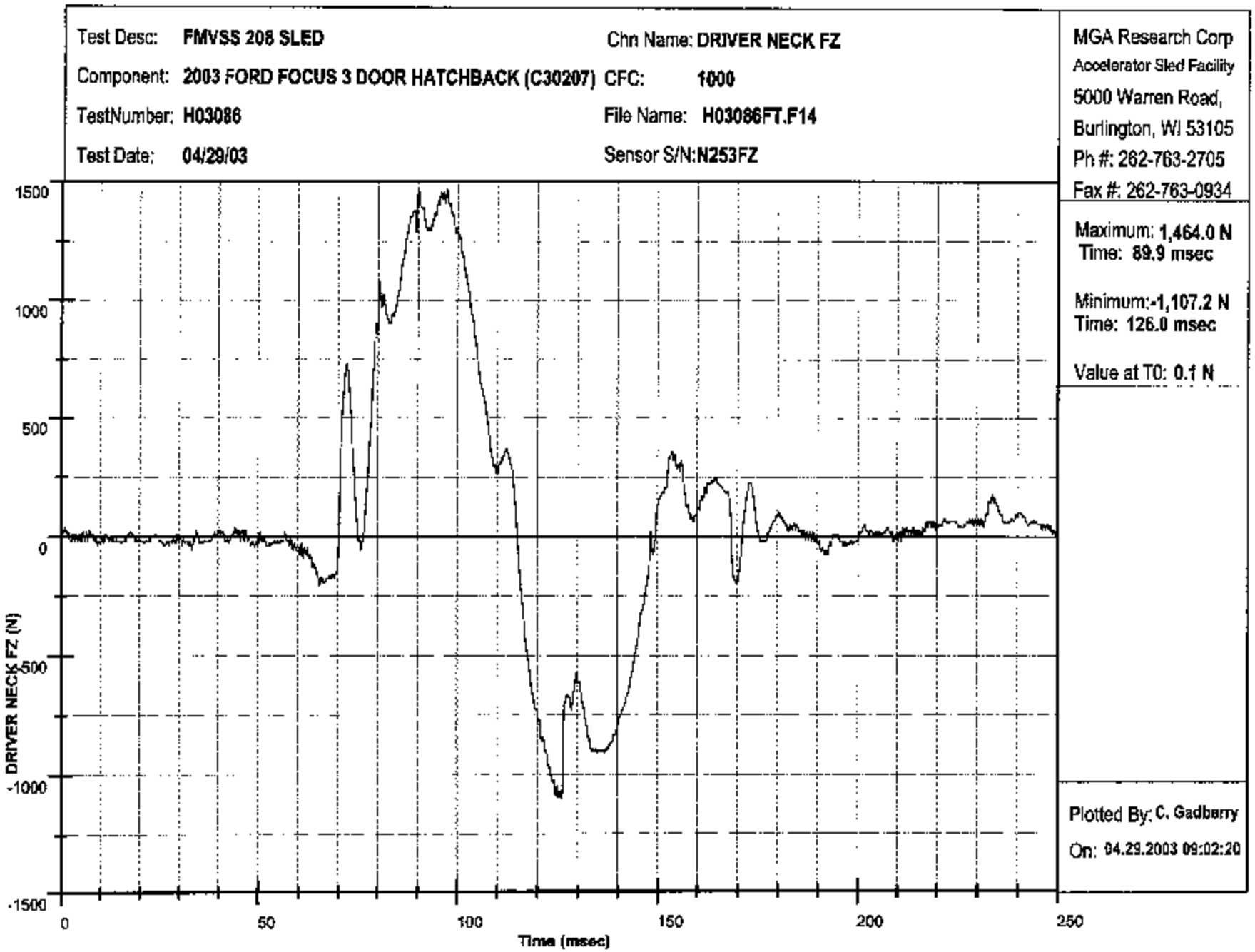

Test Desc: FMVSS 208 SLED
Component: 2003 FORD FOCUS 3 DOOR HATCHBACK (C30207)
TestNumber: H03086
Test Date: 04/29/03
Chn Name: DRIVER HEAD Y
CFC: 1000
File Name: H03086AT.A05
Sensor S/N:C13081
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934
Maximum: 21.1 G
Time: 126.2 msec
Minimum:-2.4 G
Time: 143.7 msec
Value at T0: -0.0 G
Plotted By:C. Gadberry
On: 04.29.2003 09:01:44
DRIVER HEAD Y (G)
Time (msec)
25
20
15
10
5
0
-5
0
50
100
150
200
250

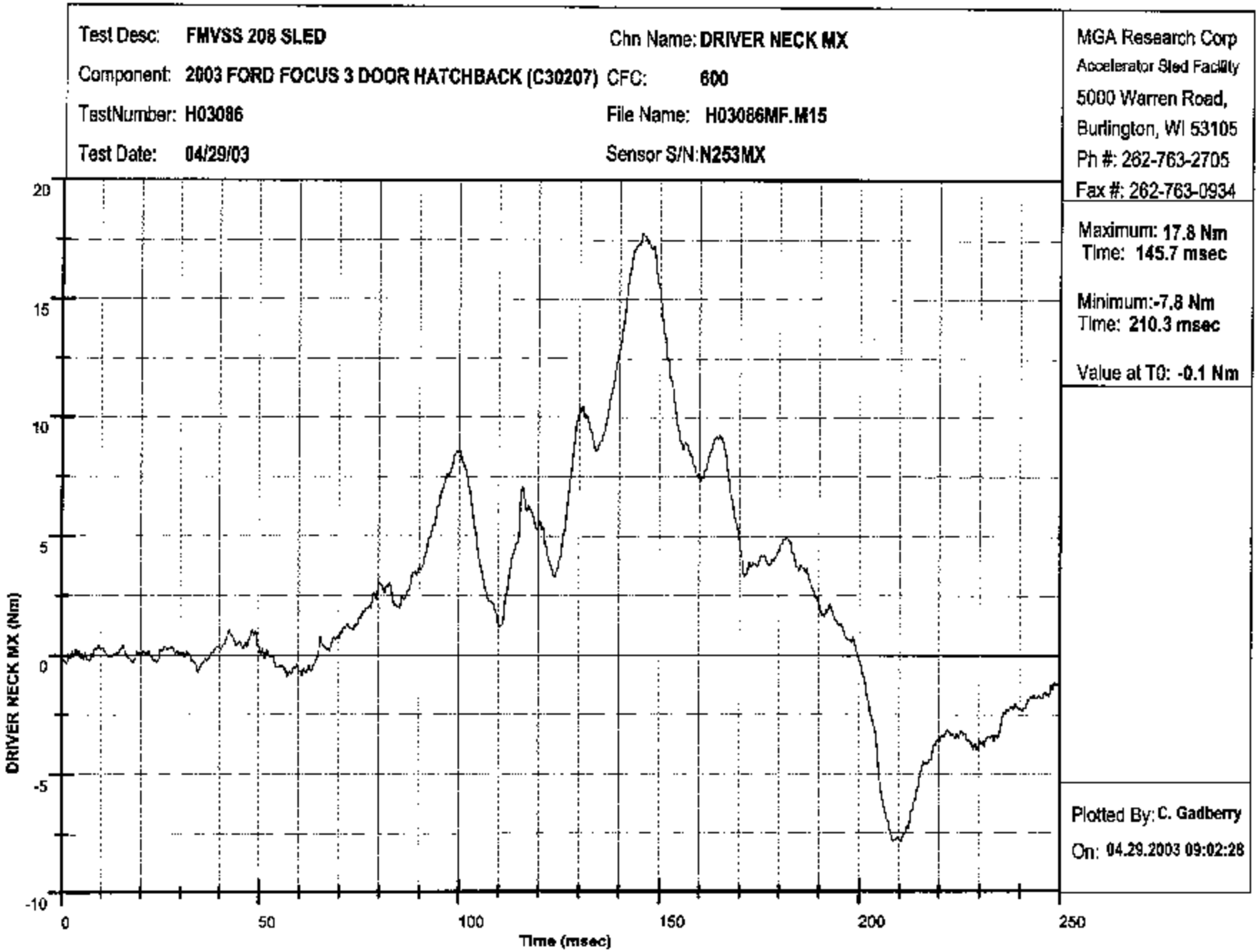

Test Desc: FMVSS 208 SLED
Chn Name: DRIVER HEAD Z
Component: 2003 FORD FOCUS 3 DOOR HATCHBACK (C30207)
CFC: 1000
TestNumber: H03086
File Name: H03086AT.A06
Test Date: 04/29/03
Sensor S/N:C12881
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934
Maximum: 17.0 G
Time: 97.0 msec
Minimum:-41.7 G
Time: 126.4 msec
Value at T0: -0.0 G
Plotted By: C. Gadberry
On: 04.29.2003 09:01:46
DRIVER HEAD Z (G)
Time (msec)
20
10
0
-10
-20
-30
-40
-50
0
50
100
150
200
250

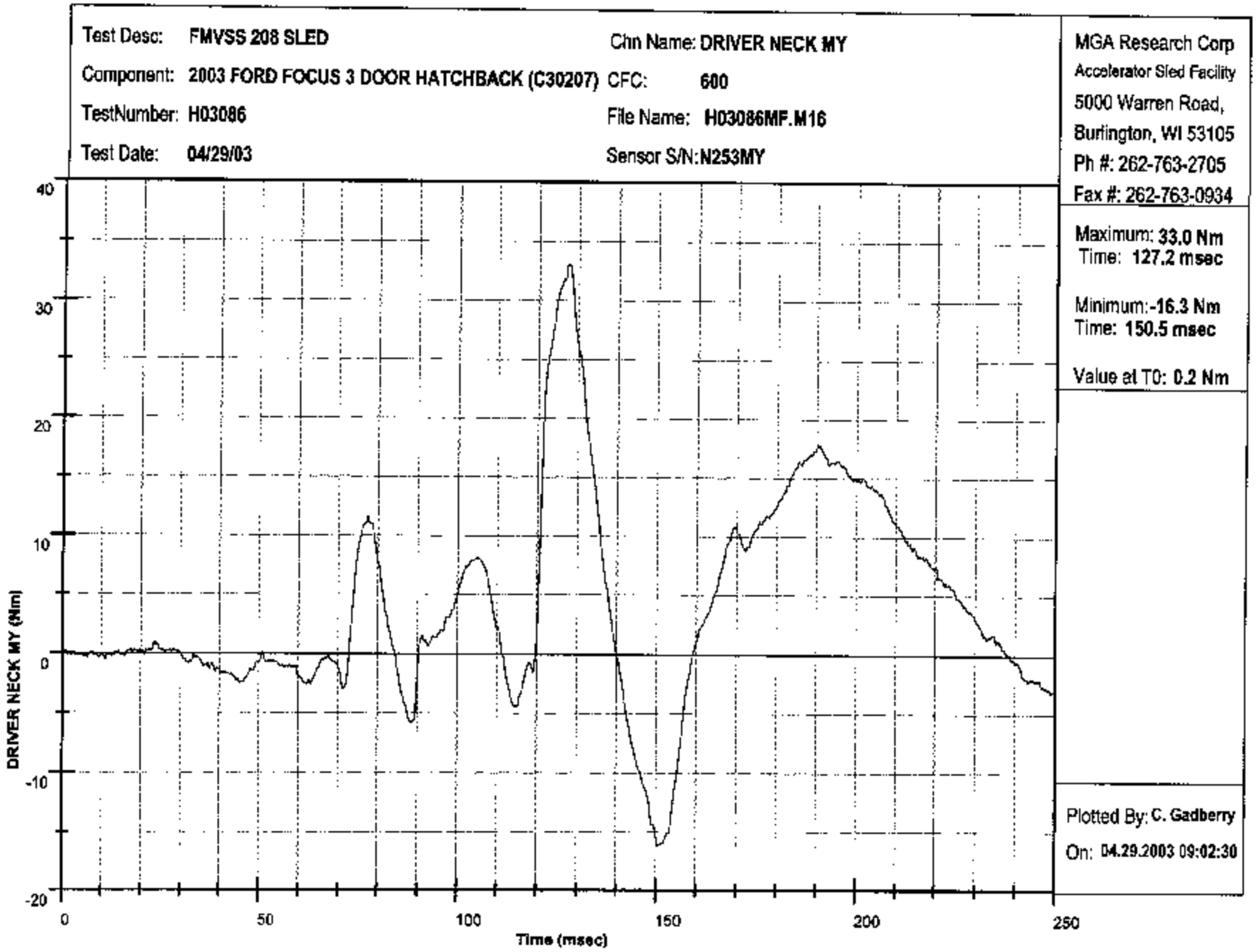

Test Desc: FMVSS 208 SLED
Component: 2003 FORD FOCUS 3 DOOR HATCHBACK (C30207)
TestNumber: H03086
Test Date: 04/29/03
Chn Name: DRIVER HEAD RESULTANT
CFC: 1000
File Name: H03086AV.A03
Sensor S/N:C12881
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934
Maximum: 70.6 G
Time: 121.3 msec
Minimum:0.1 G
Time: 0.0 msec
Value at T0: 0.1 G
HIC VAL: 266.2
T1: 84.9 msec
T2: 133.2 msec
HIC36 VAL: 260.9
T1: 114.4 msec
T2: 132.0 msec
HIC15 VAL: 255.3
T1: 115.8 msec
T2: 130.8 msec
Plotted By: C. Gadberry
On: 04.29.2003 09:01:55
DRIVER HEAD RESULTANT (G)
Time (msec)
0
10
20
30
40
50
60
70
80
0
50
100
150
200
250

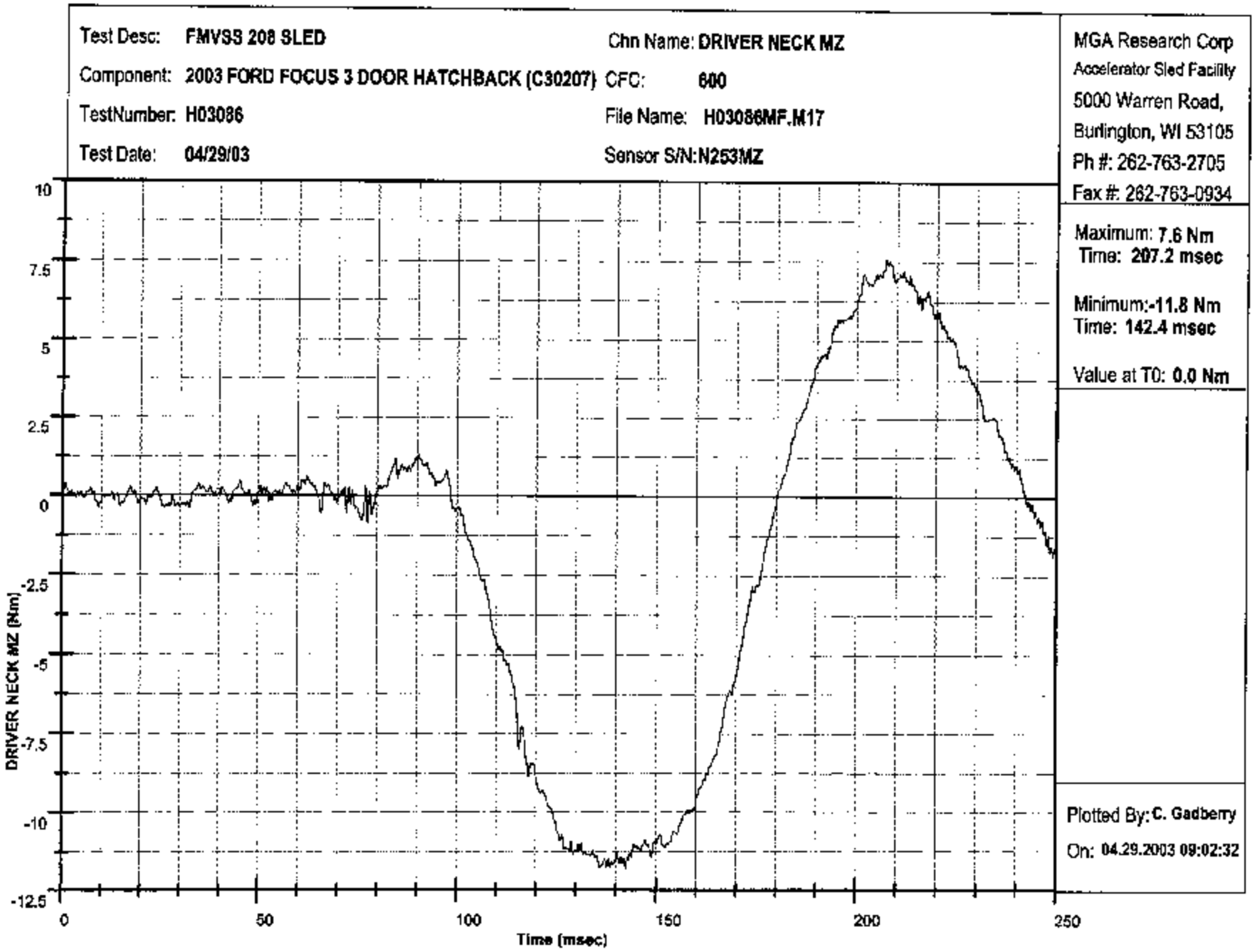

Test Desc: FMVSS 208 SLED
Component: 2003 FORD FOCUS 3 DOOR HATCHBACK (C30207)
TestNumber: H03086
Test Date: 04/29/03
Chn Name: DRIVER NECK FX
CFC: 1000
File Name: H03086FT.F12
Sensor S/N:N253FX
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934
Maximum: 1,041.4 N
Time: 121.6 msec
Minimum:-171.6 N
Time: 180.6 msec
Value at T0: -6.4 N
Plotted By: C. Gadberry
On: 04.29.2003 09:02:16
DRIVER NECK FX (N)
1250
1000
750
500
250
0
-250
0
50
100
150
200
250
Time (msec)

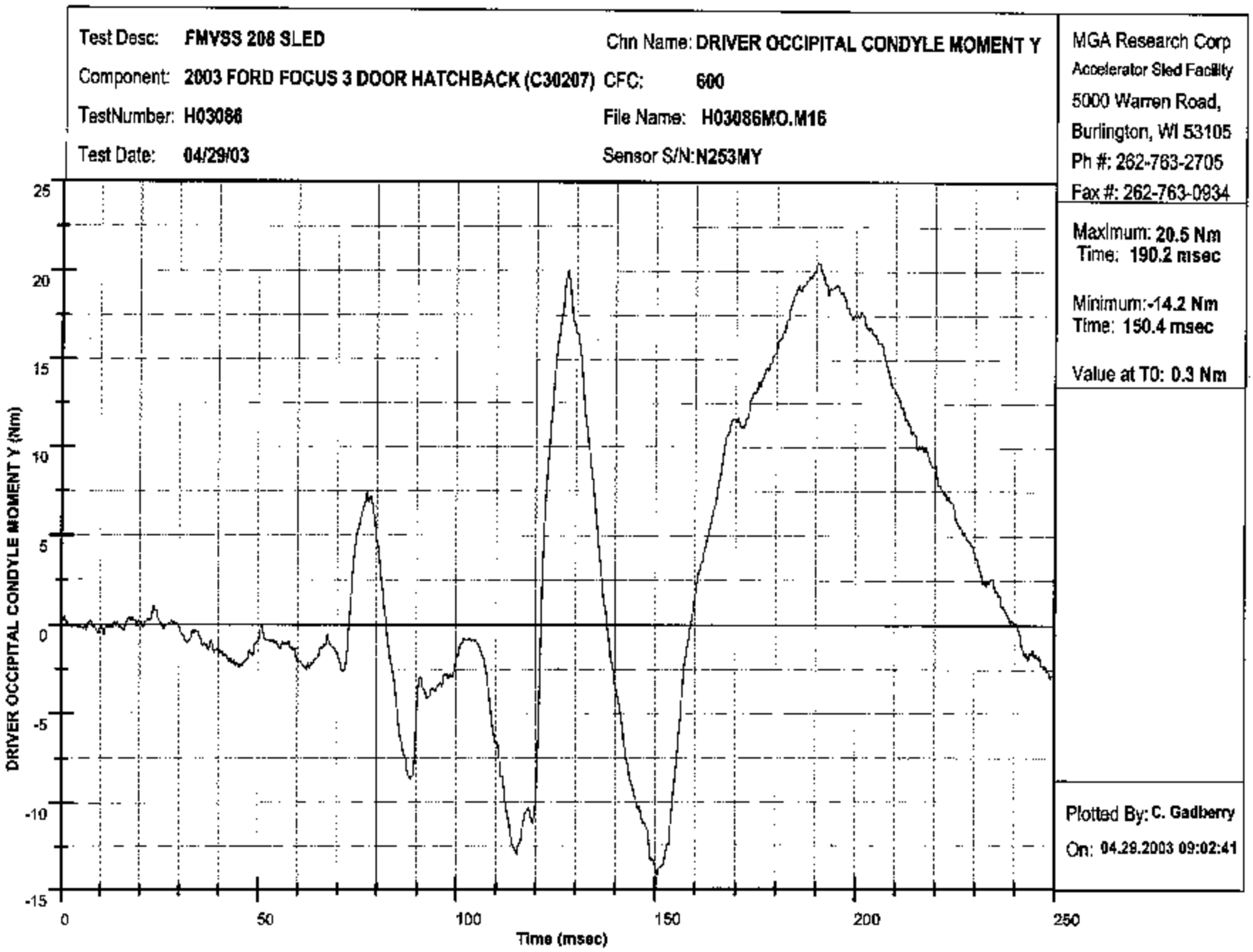

Test Desc: FMVSS 208 SLED
Component: 2003 FORD FOCUS 3 DOOR HATCHBACK (C30207)
TestNumber: H03086
Test Date: 04/29/03
Chn Name: DRIVER NECK FY
CFC: 1000
File Name: H03086FT.F13
Sensor S/N:N253FY
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934
Maximum: 97.0 N
Time: 171.5 msec
Minimum:-74.9 N
Time: 221.4 msec
Value at T0: 2.5 N
Plotted By: C. Gadberry
On: 04.29.2003 09:02:18
DRIVER NECK FY (N)
100
75
50
25
0
-25
-50
-75
0
50
100
150
200
250
Time (msec)

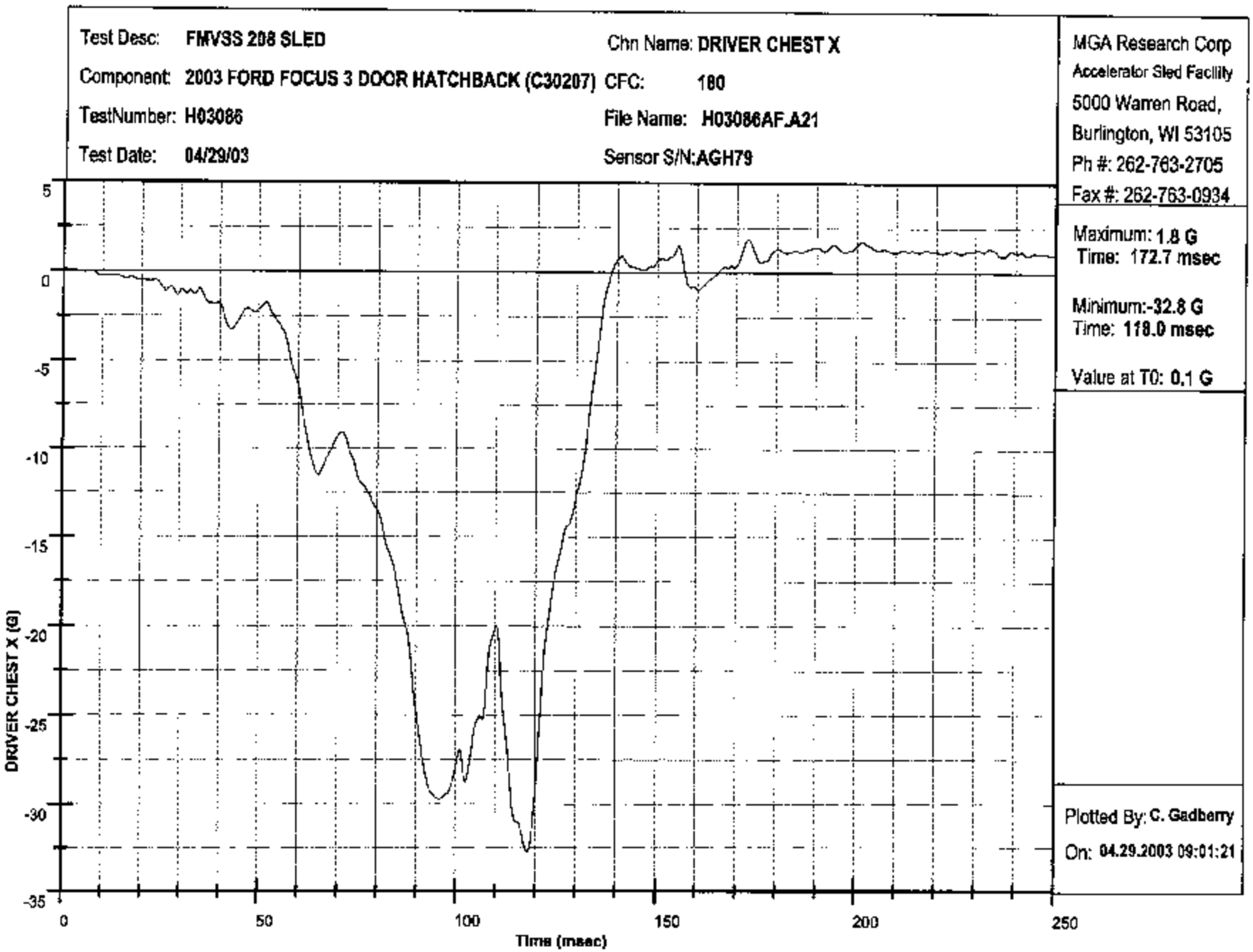

Test Desc: FMVSS 208 SLED
Component: 2003 FORD FOCUS 3 DOOR HATCHBACK (C30207)
TestNumber: H03086
Test Date: 04/29/03
Chn Name: DRIVER NECK FZ
CFC: 1000
File Name: H03086FT.F14
Sensor S/N:N253FZ
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934
Maximum: 1,464.0 N
Time: 89.9 msec
Minimum:-1,107.2 N
Time: 126.0 msec
Value at T0: 0.1 N
Plotted By: C. Gadberry
On: 04.29.2003 09:02:20
DRIVER NECK FZ (N)
1500
1000
500
0
-500
-1000
-1500
0
50
100
150
200
250
Time (msec)

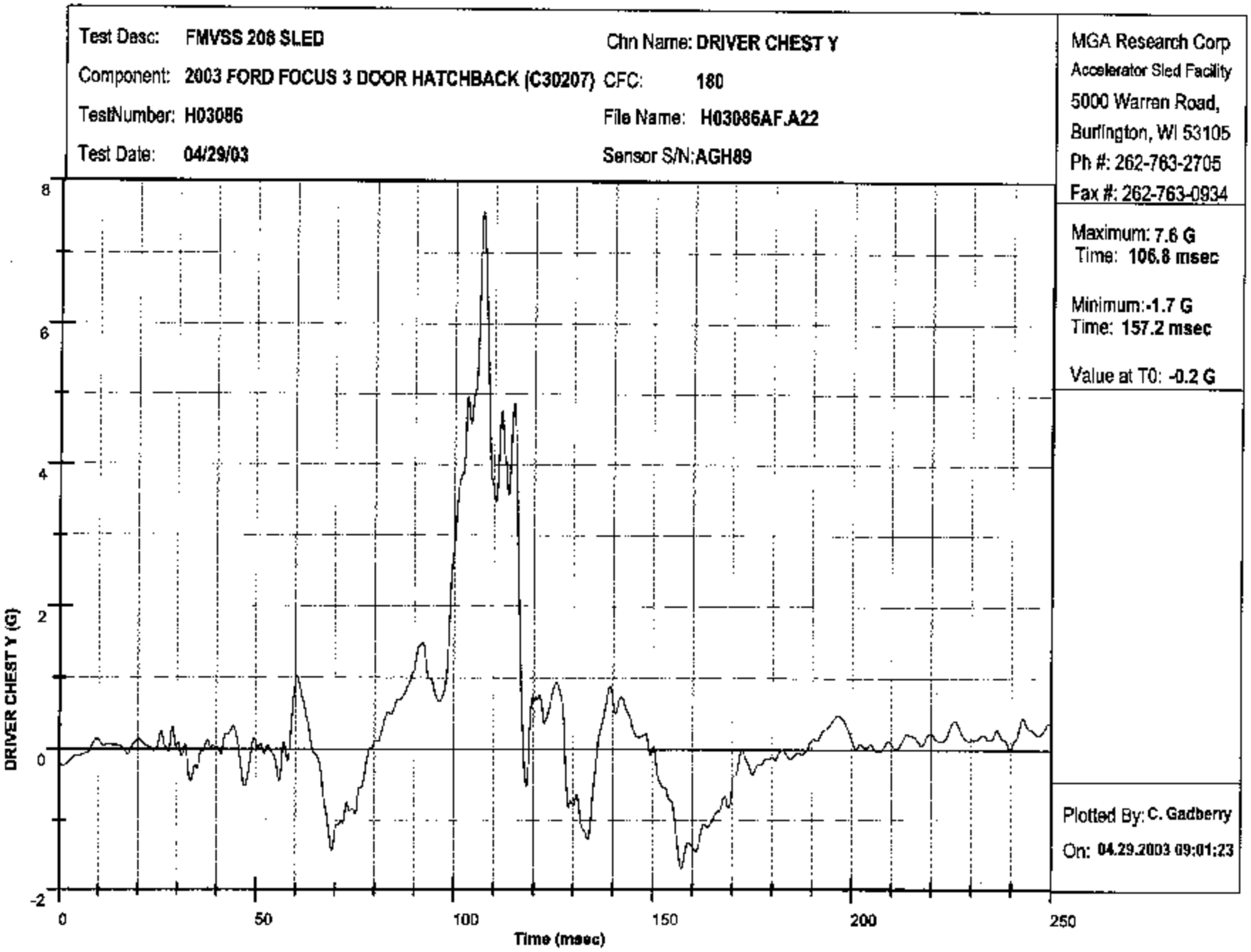

Test Desc: FMVSS 208 SLED
Component: 2003 FORD FOCUS 3 DOOR HATCHBACK (C30207)
TestNumber: H03086
Test Date: 04/29/03
Chn Name: DRIVER NECK MX
CFC: 600
File Name: H03086MF.M15
Sensor S/N: N253MX
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934
Maximum: 17.8 Nm
Time: 145.7 msec
Minimum: -7.8 Nm
Time: 210.3 msec
Value at T0: -0.1 Nm
Plotted By: C. Gadberry
On: 04.29.2003 09:02:28
DRIVER NECK MX (Nm)
Time (msec)
20
15
10
5
0
-5
-10
0
50
100
150
200
250

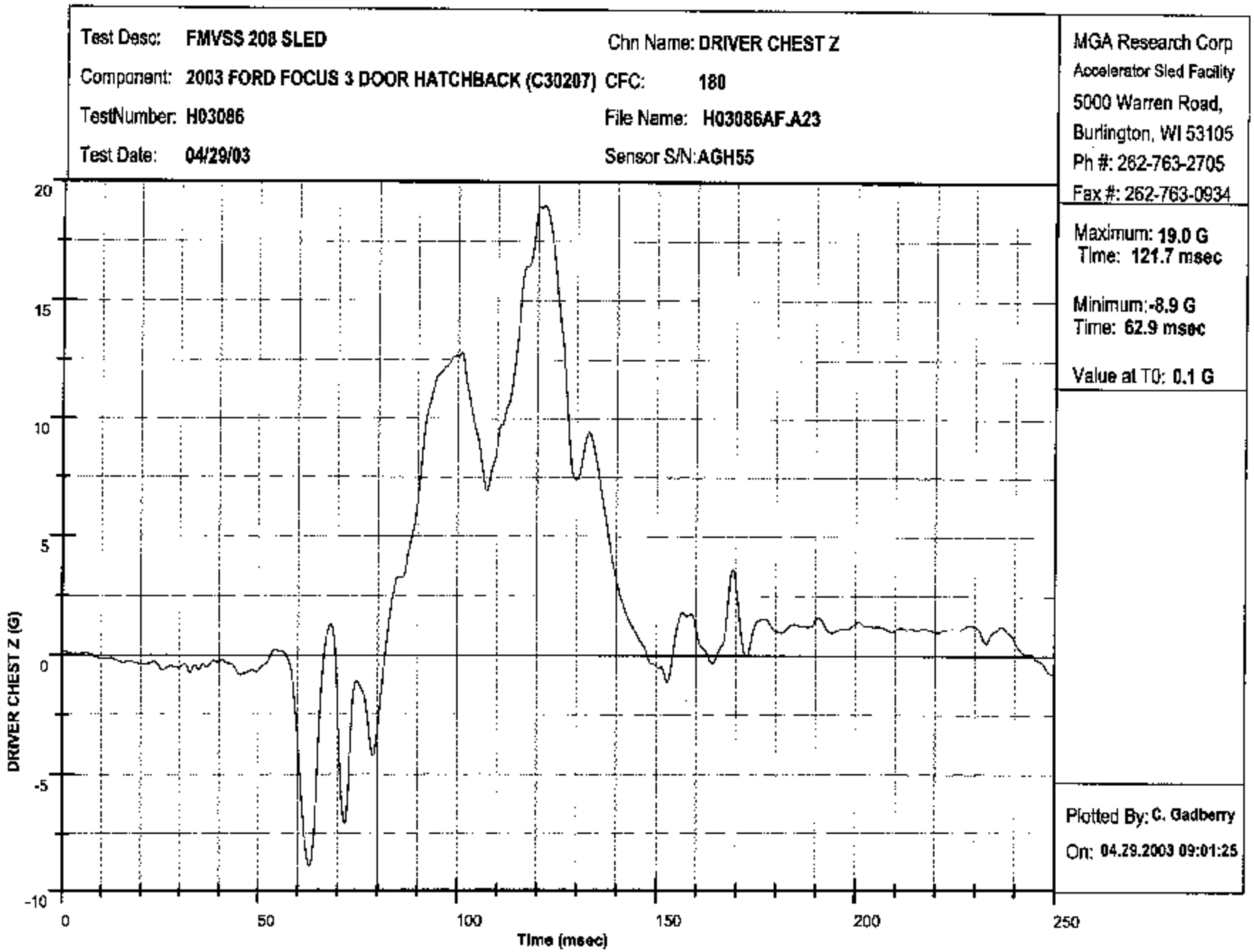

Test Desc: FMVSS 208 SLED
Component: 2003 FORD FOCUS 3 DOOR HATCHBACK (C30207)
TestNumber: H03086
Test Date: 04/29/03
Chn Name: DRIVER NECK MY
CFC: 600
File Name: H03086MF.M16
Sensor S/N:N253MY
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934
Maximum: 33.0 Nm
Time: 127.2 msec
Minimum: -16.3 Nm
Time: 150.5 msec
Value at T0: 0.2 Nm
Plotted By: C. Gadberry
On: 04.29.2003 09:02:30
DRIVER NECK MY (Nm)
Time (msec)
40
30
20
10
0
-10
-20
0
50
100
150
200
250

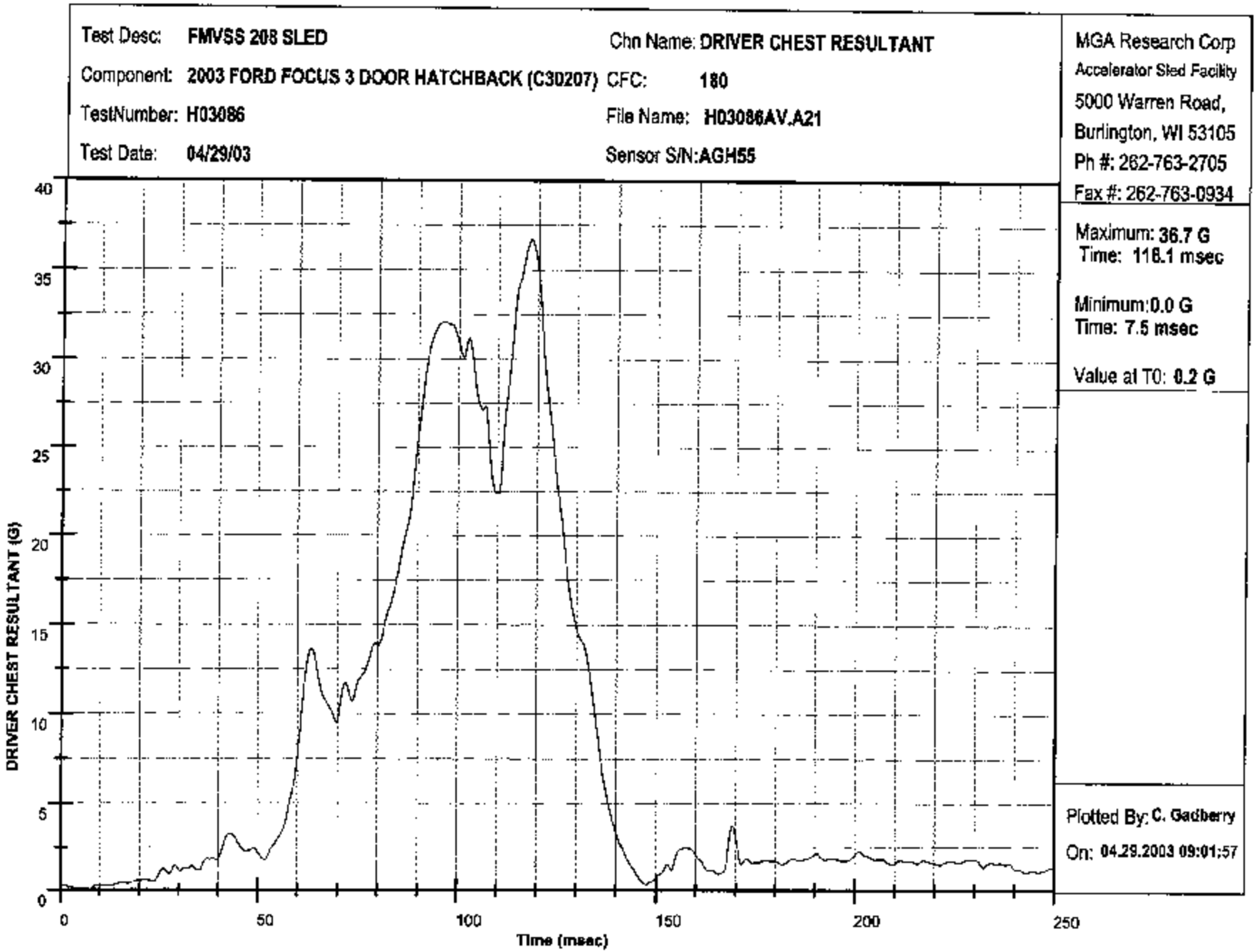

Test Desc: FMVSS 208 SLED
Chn Name: DRIVER NECK MZ
Component: 2003 FORD FOCUS 3 DOOR HATCHBACK (C30207)
CFC: 600
TestNumber: H03086
File Name: H03086MF.M17
Test Date: 04/29/03
Sensor S/N:N253MZ
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934
Maximum: 7.6 Nm
Time: 207.2 msec
Minimum:-11.8 Nm
Time: 142.4 msec
Value at T0: 0.0 Nm
Plotted By: C. Gadberry
On: 04.29.2003 09:02:32
DRIVER NECK MZ (Nm)
10
7.5
5
2.5
0
-2.5
-5
-7.5
-10
-12.5
0
50
100
150
200
250
Time (msec)

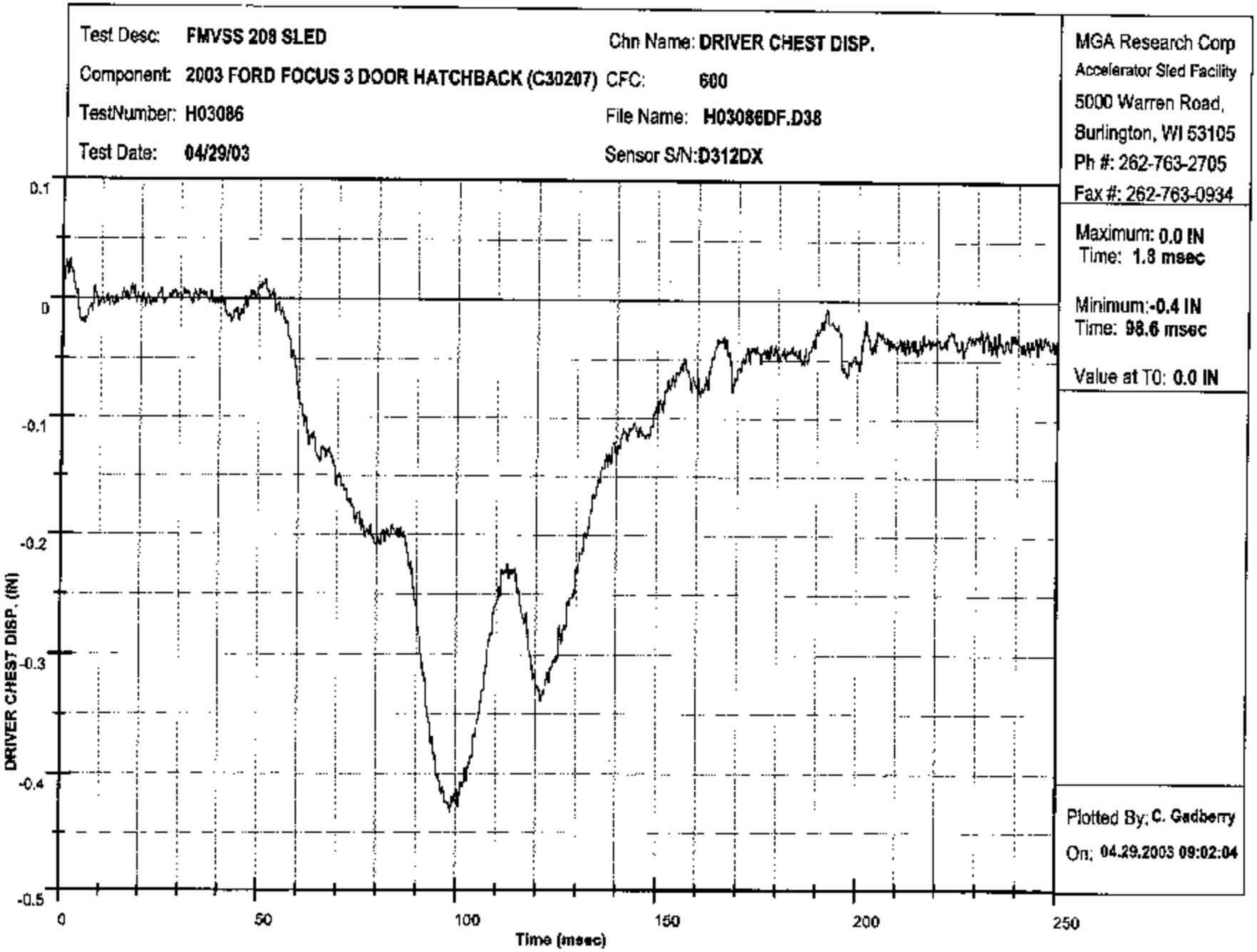

Test Desc: FMVSS 208 SLED
Chn Name: DRIVER OCCIPITAL CONDYLE MOMENT Y
Component: 2003 FORD FOCUS 3 DOOR HATCHBACK (C30207)
CFC: 600
TestNumber: H03086
File Name: H03086MO.M16
Test Date: 04/29/03
Sensor S/N:N253MY
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934
Maximum: 20.5 Nm
Time: 190.2 msec
Minimum: -14.2 Nm
Time: 150.4 msec
Value at T0: 0.3 Nm
Plotted By: C. Gadberry
On: 04.29.2003 09:02:41
DRIVER OCCIPITAL CONDYLE MOMENT Y (Nm)
25
20
15
10
5
0
-5
-10
-15
0
50
100
150
200
250
Time (msec)

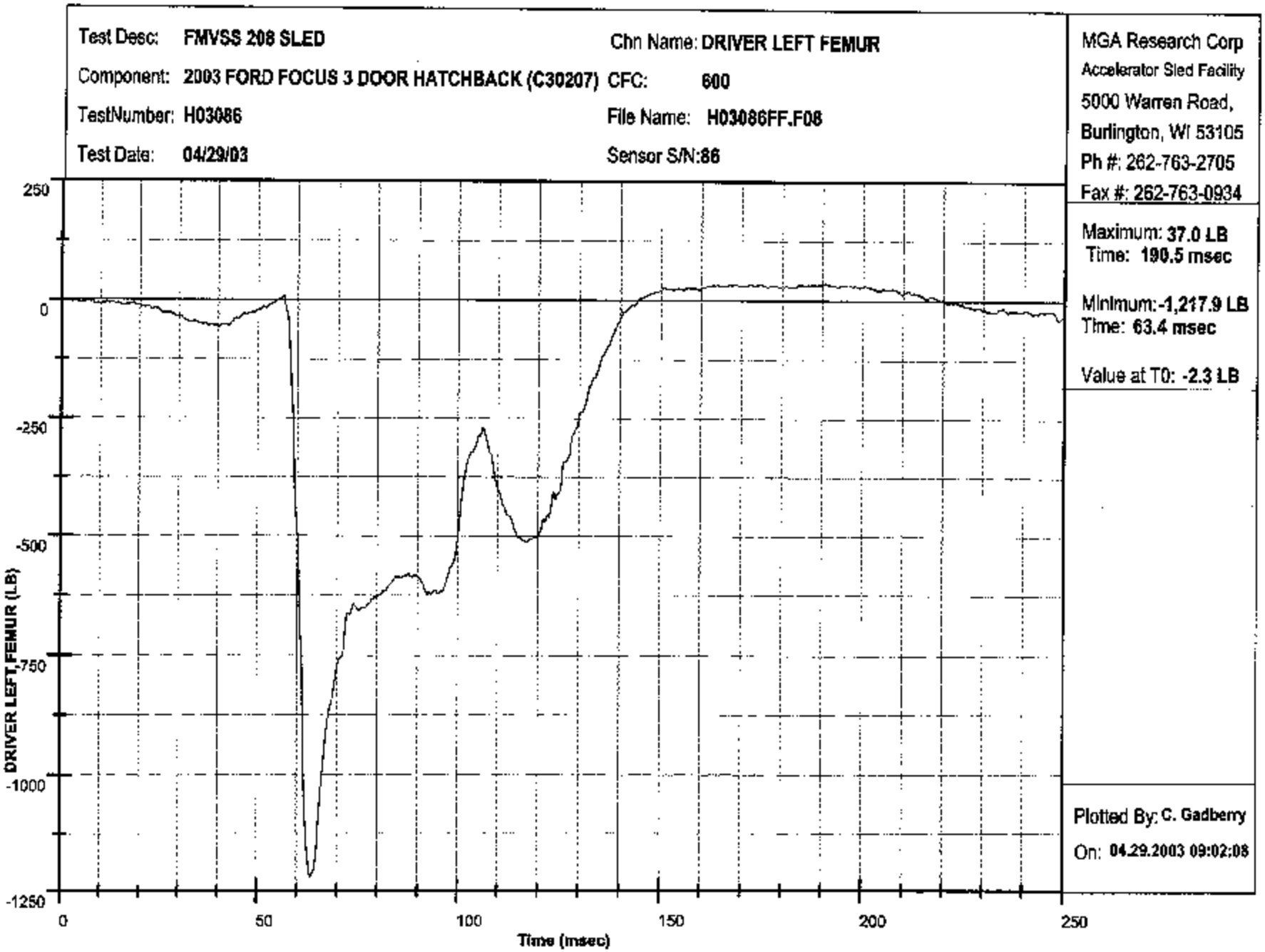

Test Desc: FMVSS 208 SLED
Component: 2003 FORD FOCUS 3 DOOR HATCHBACK (C30207)
TestNumber: H03086
Test Date: 04/29/03
Chn Name: DRIVER CHEST X
CFC: 180
File Name: H03086AF.A21
Sensor S/N:AGH79
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934
Maximum: 1.8 G
Time: 172.7 msec
Minimum:-32.8 G
Time: 118.0 msec
Value at T0: 0.1 G
Plotted By: C. Gadberry
On: 04.29.2003 09:01:21
DRIVER CHEST X (G)
5
0
-5
-10
-15
-20
-25
-30
-35
0
50
100
150
200
250
Time (msec)

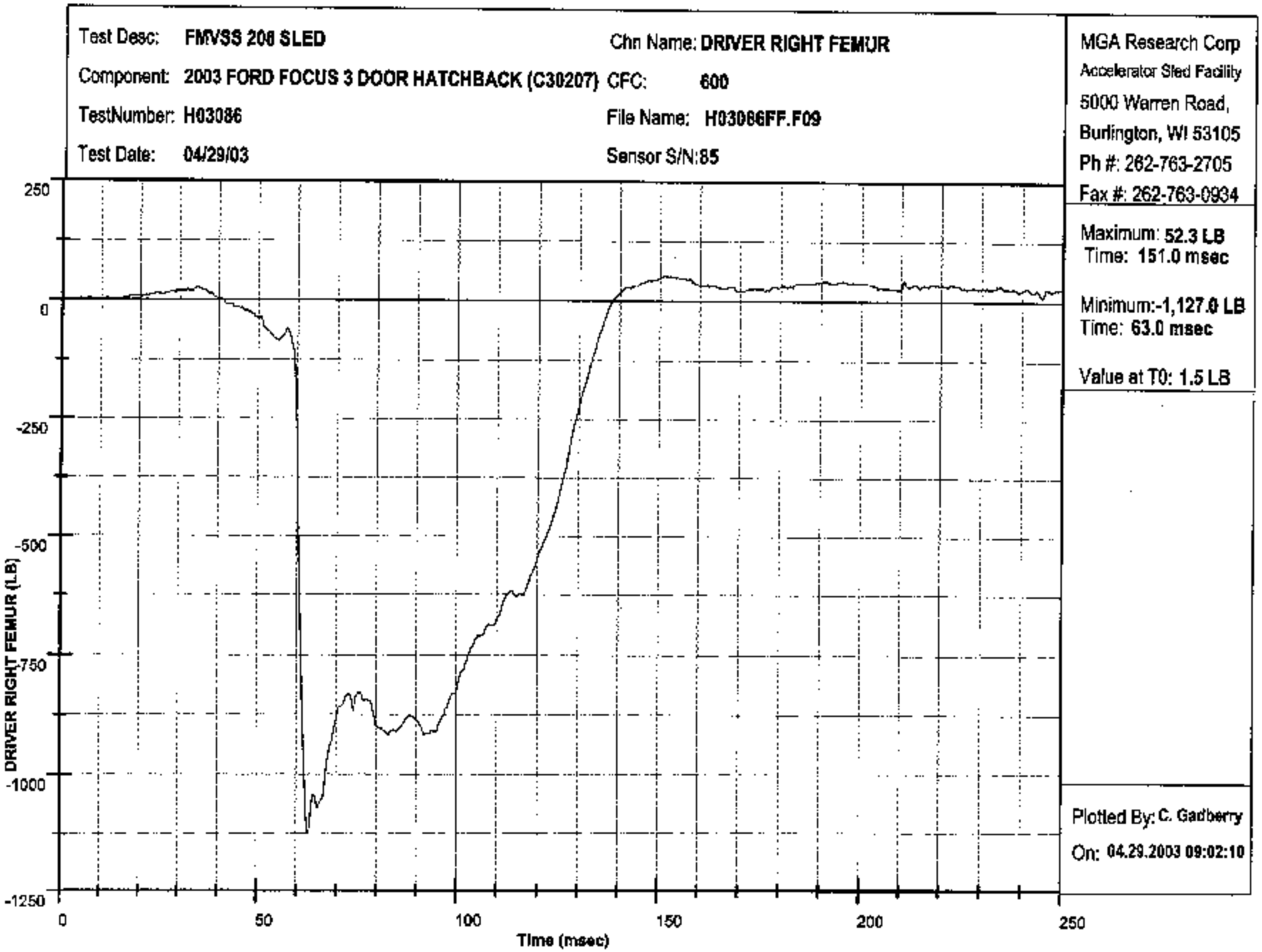

Test Desc: FMVSS 208 SLED
Chn Name: DRIVER CHEST Y
Component: 2003 FORD FOCUS 3 DOOR HATCHBACK (C30207)
CFC: 180
TestNumber: H03086
File Name: H03086AF.A22
Test Date: 04/29/03
Sensor S/N:AGH89
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934
Maximum: 7.6 G
Time: 106.8 msec
Minimum:-1.7 G
Time: 157.2 msec
Value at T0: -0.2 G
Plotted By: C. Gadberry
On: 04.29.2003 09:01:23
DRIVER CHEST Y (G)
8
6
4
2
0
-2
0
50
100
150
200
250
Time (msec)

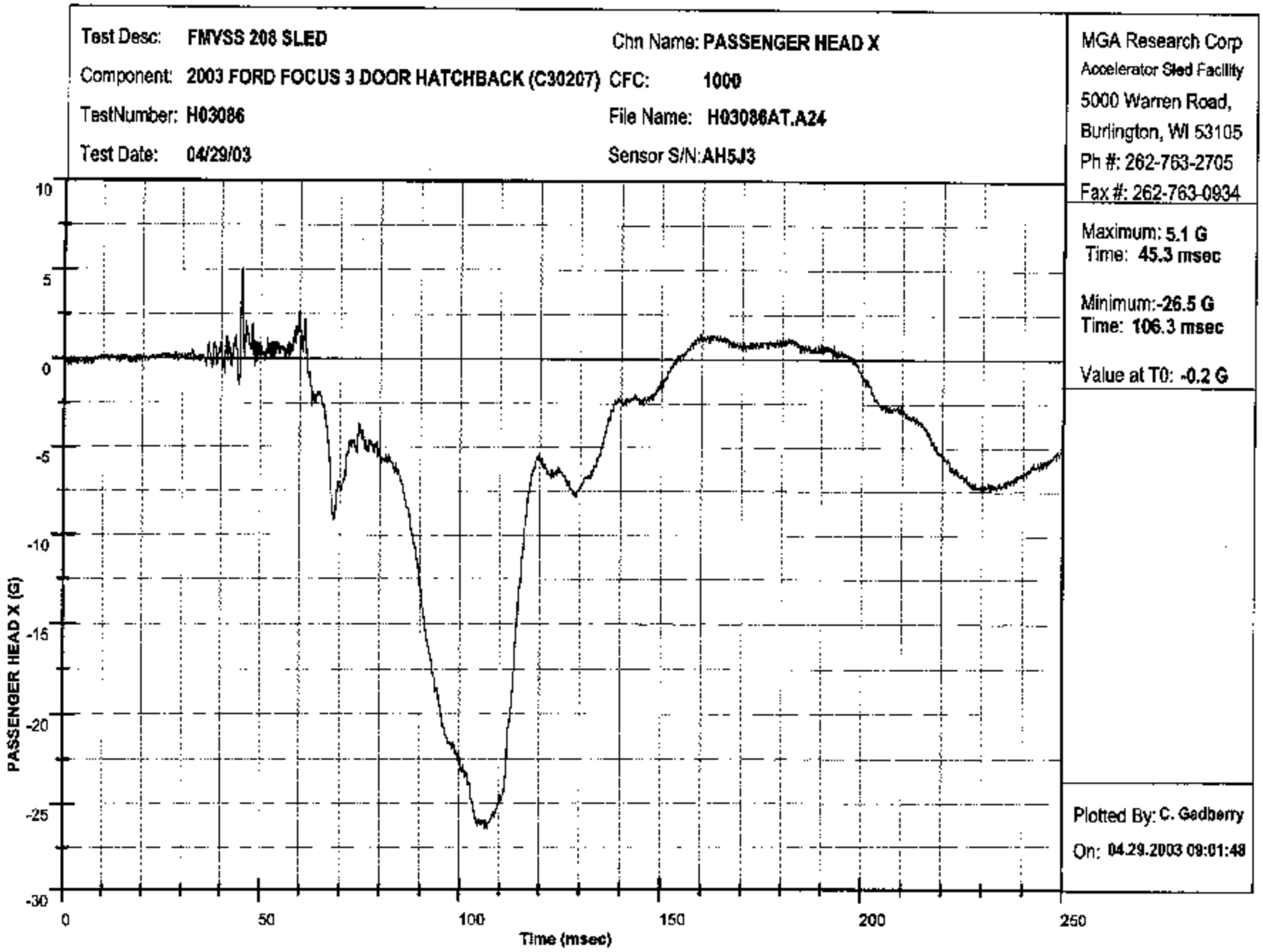

Test Desc: FMVSS 208 SLED
Chn Name: DRIVER CHEST Z
Component: 2003 FORD FOCUS 3 DOOR HATCHBACK (C30207)
CFC: 180
TestNumber: H03086
File Name: H03086AF.A23
Test Date: 04/29/03
Sensor S/N:AGH55
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934
Maximum: 19.0 G
Time: 121.7 msec
Minimum: -8.9 G
Time: 62.9 msec
Value at T0: 0.1 G
Plotted By: C. Gadberry
On: 04.29.2003 09:01:25
DRIVER CHEST Z (G)
Time (msec)
20
15
10
5
0
-5
-10
0
50
100
150
200
250

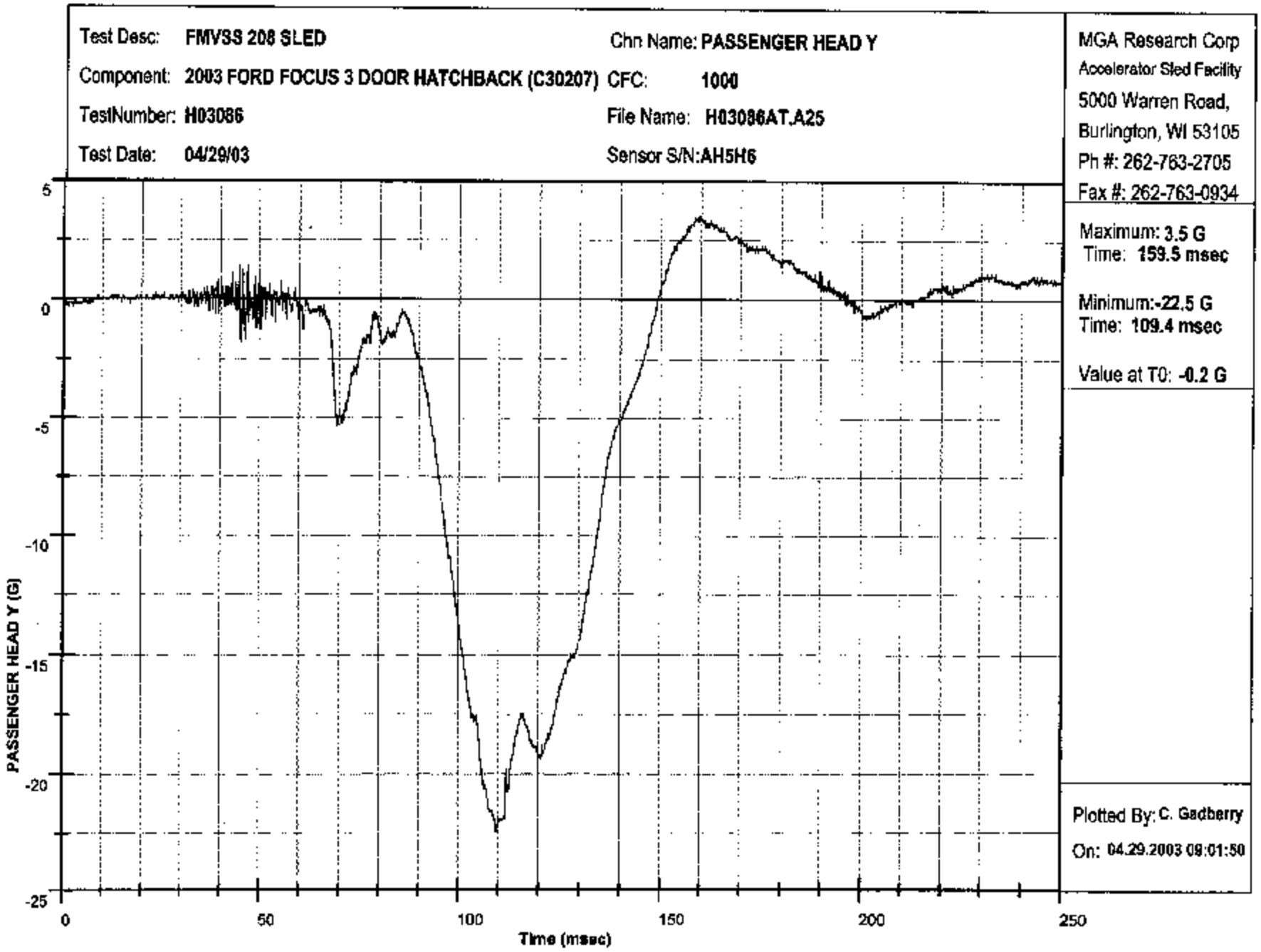

Test Desc: FMVSS 208 SLED
Component: 2003 FORD FOCUS 3 DOOR HATCHBACK (C30207)
TestNumber: H03086
Test Date: 04/29/03
Chn Name: DRIVER CHEST RESULTANT
CFC: 180
File Name: H03086AV.A21
Sensor S/N:AGH55
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934
Maximum: 36.7 G
Time: 116.1 msec
Minimum:0.0 G
Time: 7.5 msec
Value at T0: 0.2 G
Plotted By: C. Gadberry
On: 04.29.2003 09:01:57
DRIVER CHEST RESULTANT (G)
Time (msec)
0
5
10
15
20
25
30
35
40
0
50
100
150
200
250

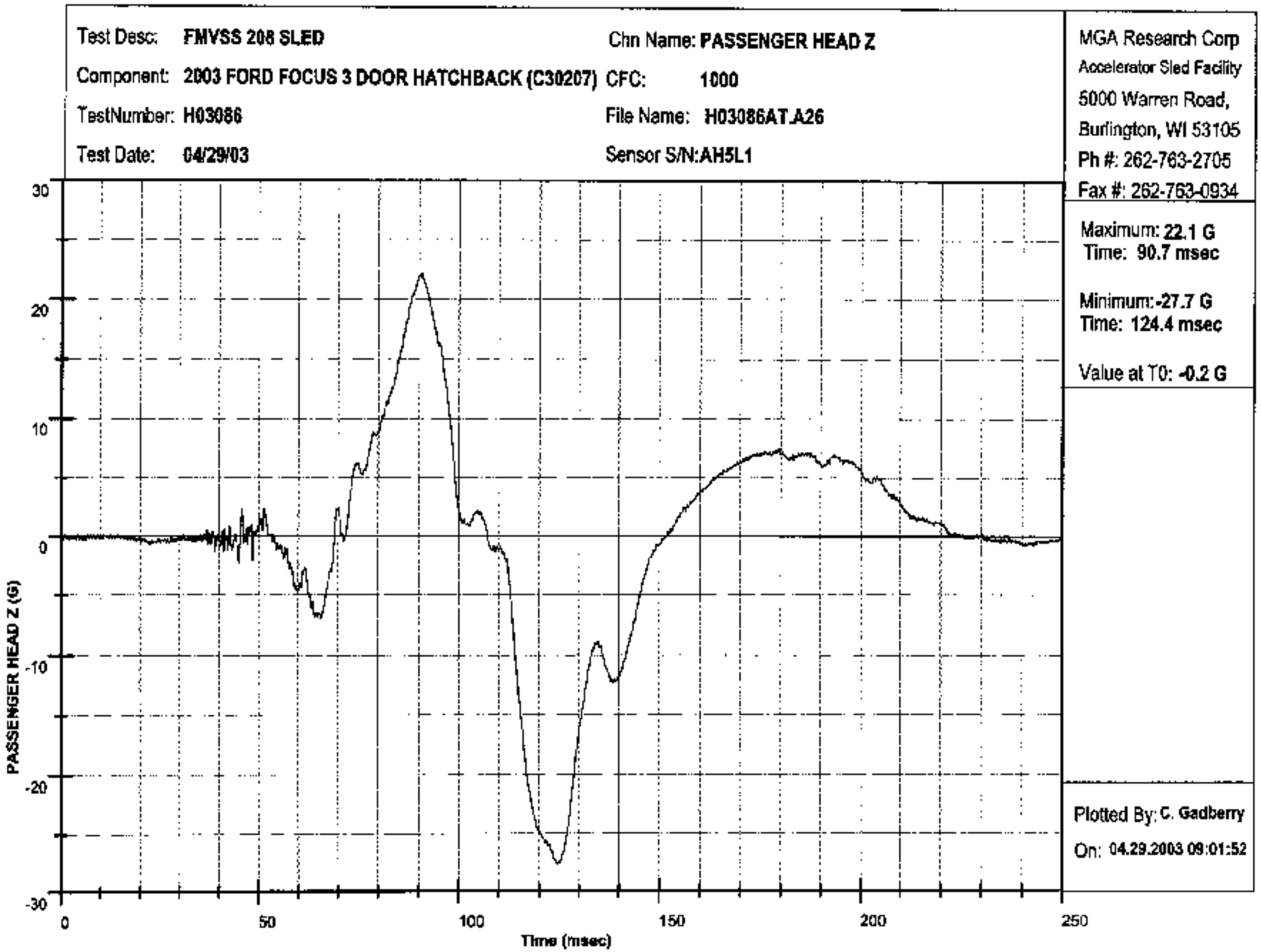

Test Desc: FMVSS 208 SLED
Chn Name: DRIVER CHEST DISP.
Component: 2003 FORD FOCUS 3 DOOR HATCHBACK (C30207)
CFC: 600
TestNumber: H03086
File Name: H03086DF.D38
Test Date: 04/29/03
Sensor S/N:D312DX
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934
Maximum: 0.0 IN
Time: 1.8 msec
Minimum:-0.4 IN
Time: 98.6 msec
Value at T0: 0.0 IN
Plotted By: C. Gadberry
On: 04.29.2003 09:02:04
DRIVER CHEST DISP. (IN)
0.1
0
-0.1
-0.2
-0.3
-0.4
-0.5
0
50
100
150
200
250
Time (msec)

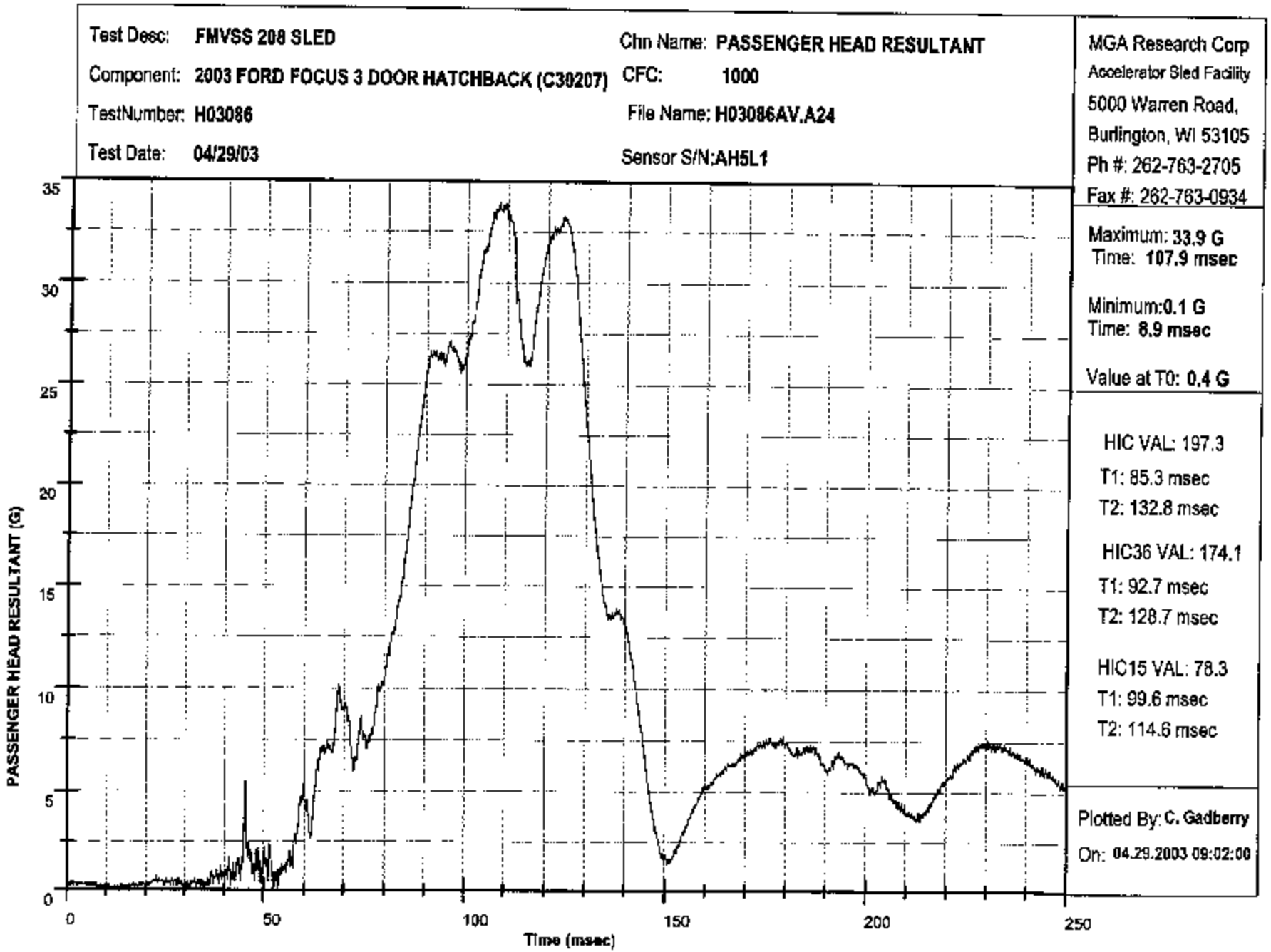

Test Desc: FMVSS 208 SLED
Chn Name: DRIVER LEFT FEMUR
Component: 2003 FORD FOCUS 3 DOOR HATCHBACK (C30207)
CFC: 600
TestNumber: H03086
File Name: H03086FF.F08
Test Date: 04/29/03
Sensor S/N:86
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934
Maximum: 37.0 LB
Time: 190.5 msec
Minimum: -1,217.9 LB
Time: 63.4 msec
Value at T0: -2.3 LB
Plotted By: C. Gadberry
On: 04.29.2003 09:02:08
DRIVER LEFT,FEMUR (LB)
250
0
-250
-500
-750
-1000
-1250
0
50
100
150
200
250
Time (msec)

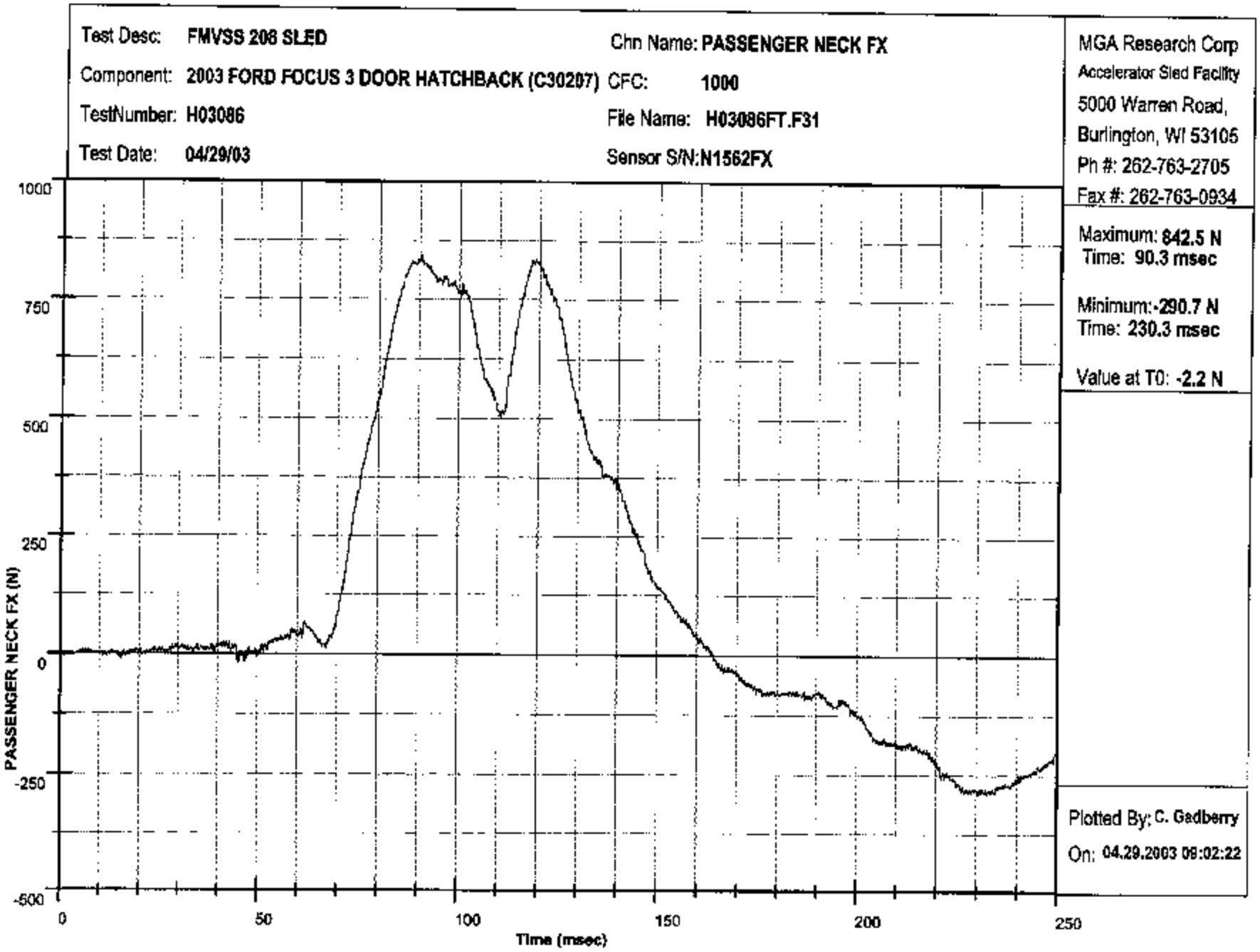

Test Desc: FMVSS 208 SLED
Chn Name: DRIVER RIGHT FEMUR
Component: 2003 FORD FOCUS 3 DOOR HATCHBACK (C30207)
CFC: 600
TestNumber: H03086
File Name: H03086FF.F09
Test Date: 04/29/03
Sensor S/N:85
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934
Maximum: 52.3 LB
Time: 151.0 msec
Minimum:-1,127.0 LB
Time: 63.0 msec
Value at T0: 1.5 LB
Plotted By: C. Gadberry
On: 04.29.2003 09:02:10
DRIVER RIGHT FEMUR (LB)
250
0
-250
-500
-750
-1000
-1250
0
50
100
150
200
250
Time (msec)

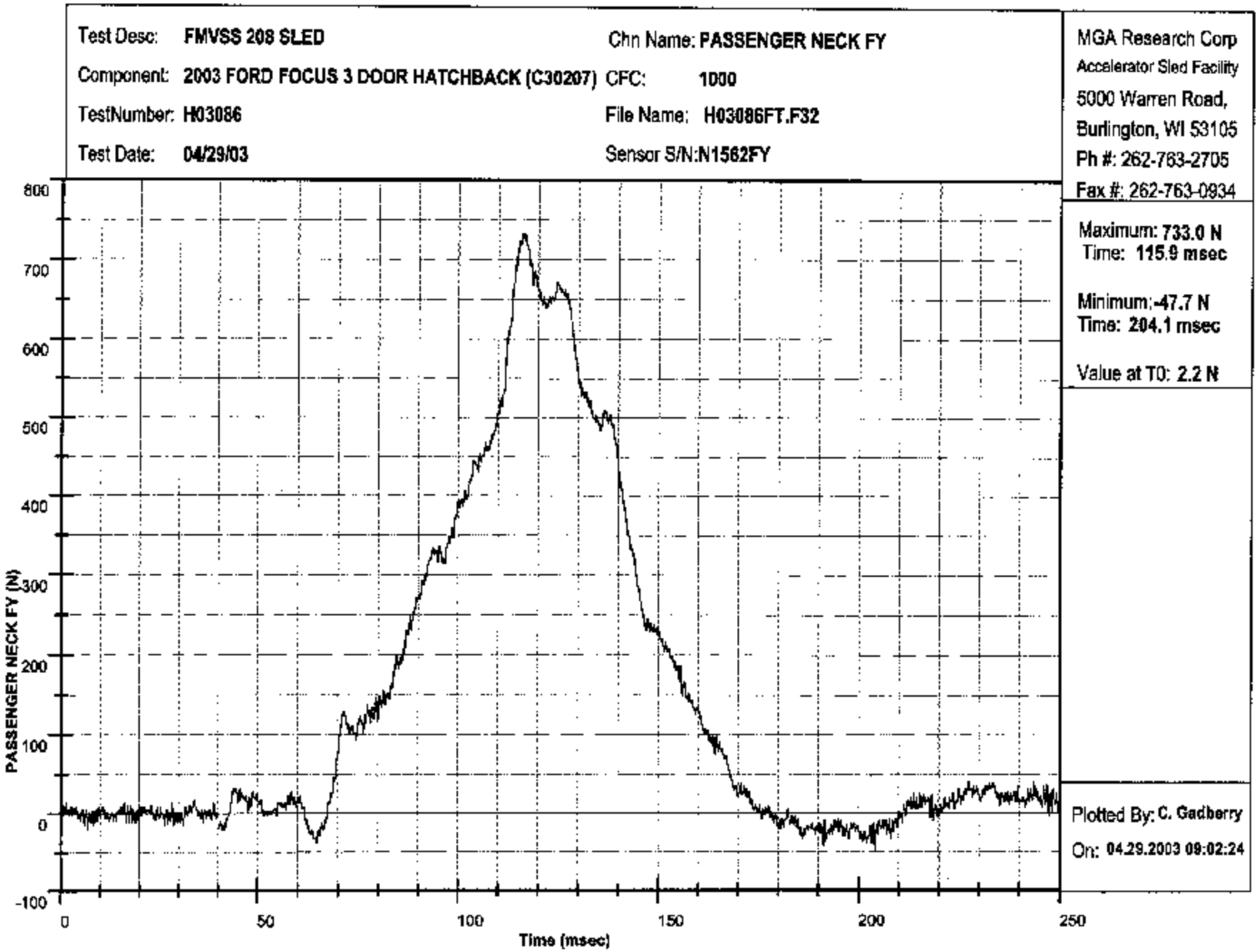

Test Desc: FMVSS 208 SLED
Chn Name: PASSENGER HEAD X
Component: 2003 FORD FOCUS 3 DOOR HATCHBACK (C30207)
CFC: 1000
TestNumber: H03086
File Name: H03086AT.A24
Test Date: 04/29/03
Sensor S/N:AH5J3
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934
Maximum: 5.1 G
Time: 45.3 msec
Minimum: -26.5 G
Time: 106.3 msec
Value at T0: -0.2 G
Plotted By: C. Gedberry
On: 04.29.2003 09:01:48
PASSENGER HEAD X (G)
Time (msec)
10
5
0
-5
-10
-15
-20
-25
-30
0
50
100
150
200
250

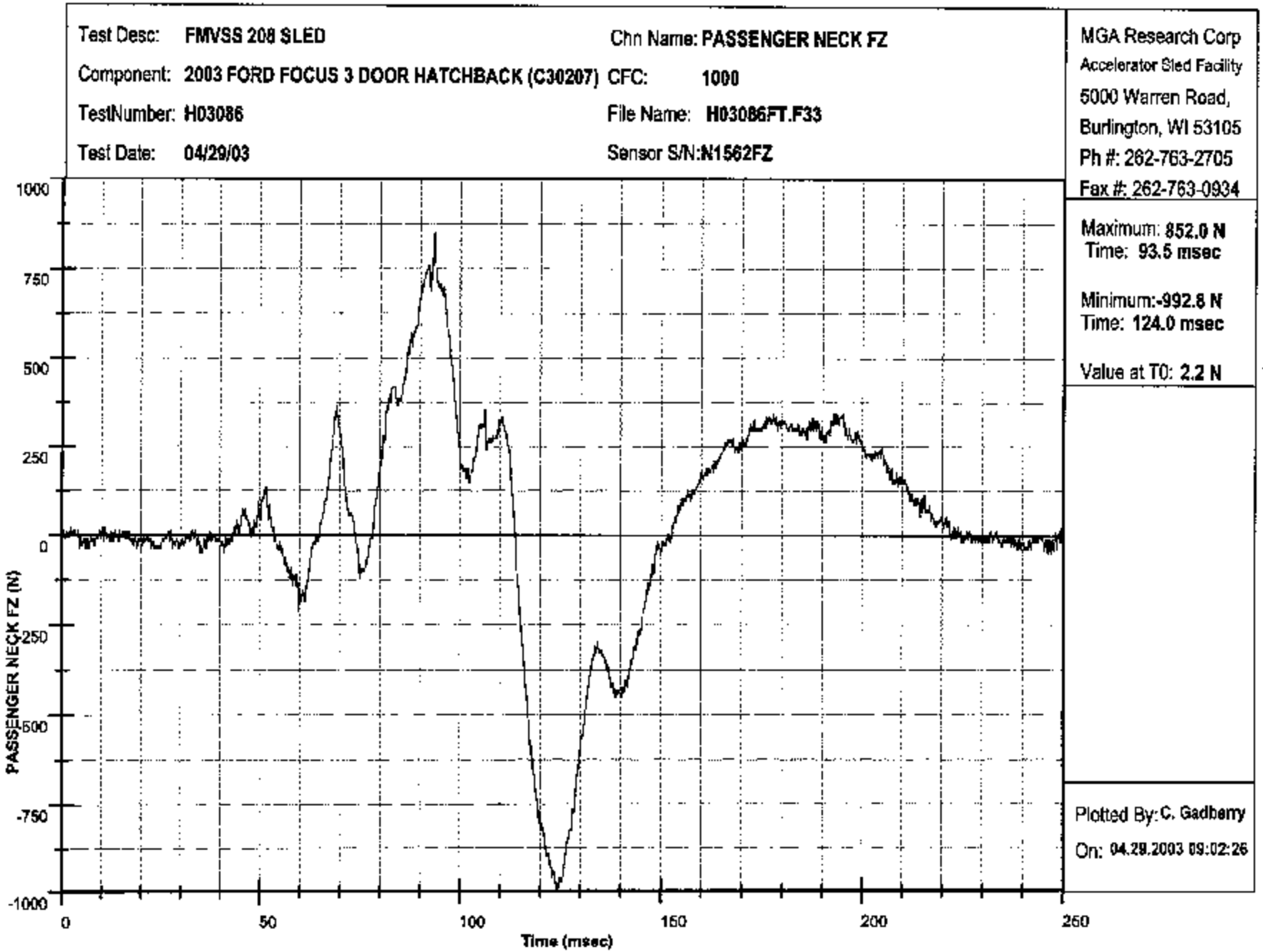

Test Desc: FMVSS 208 SLED
Component: 2003 FORD FOCUS 3 DOOR HATCHBACK (C30207)
TestNumber: H03086
Test Date: 04/29/03
Chn Name: PASSENGER HEAD Y
CFC: 1000
File Name: H03086AT.A25
Sensor S/N:AH5H6
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934
Maximum: 3.5 G
Time: 159.5 msec
Minimum:-22.5 G
Time: 109.4 msec
Value at T0: -0.2 G
Plotted By: C. Gadberry
On: 04.29.2003 09:01:50
PASSENGER HEAD Y (G)
5
0
-5
-10
-15
-20
-25
0
50
100
150
200
250
Time (msec)

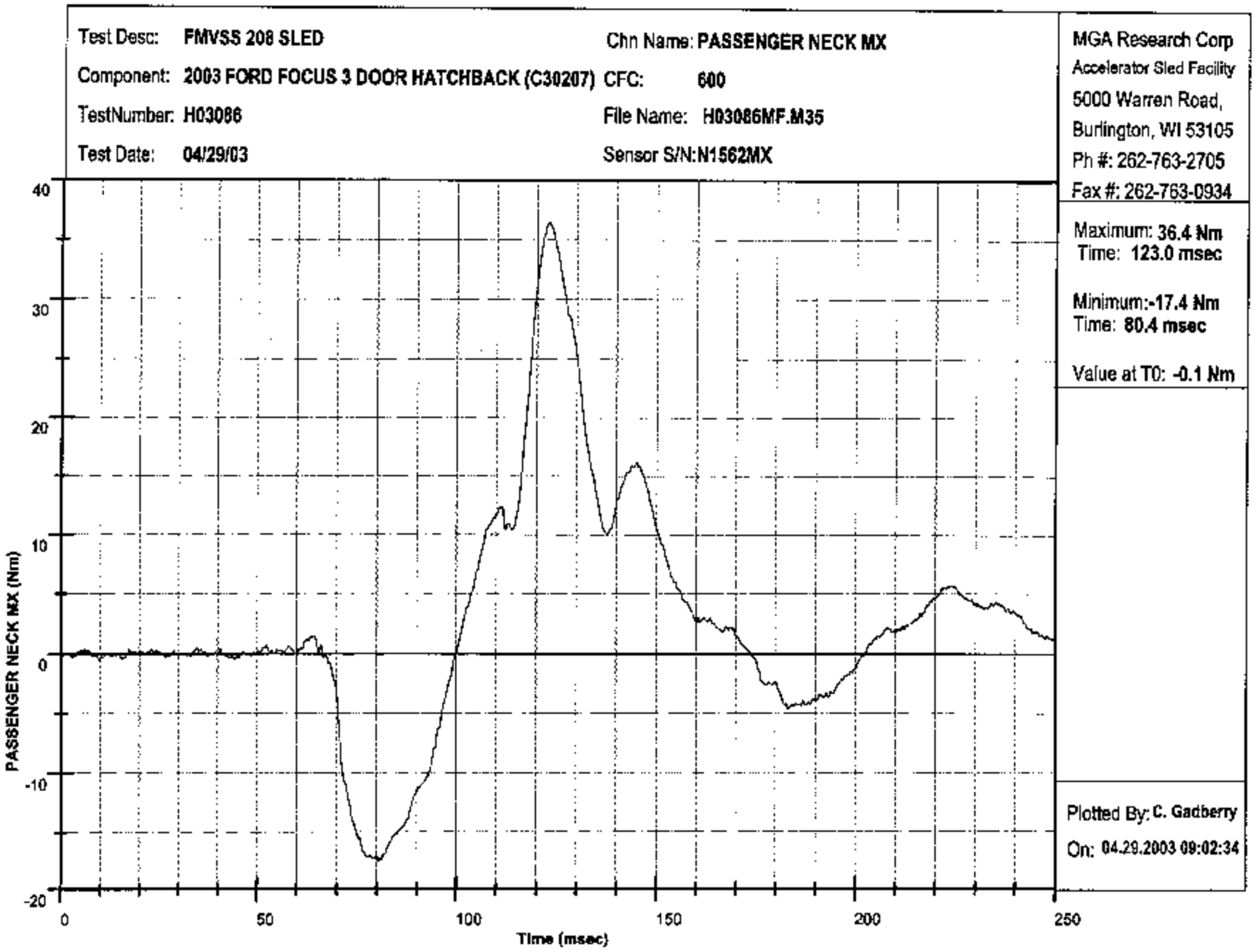

Test Desc: FMVSS 208 SLED
Chn Name: PASSENGER HEAD Z
Component: 2003 FORD FOCUS 3 DOOR HATCHBACK (C30207)
CFC: 1000
TestNumber: H03086
File Name: H03086AT.A26
Test Date: 04/29/03
Sensor S/N:AH5L1
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934
Maximum: 22.1 G
Time: 90.7 msec
Minimum: -27.7 G
Time: 124.4 msec
Value at T0: -0.2 G
Plotted By: C. Gadberry
On: 04.29.2003 09:01:52
PASSENGER HEAD Z (G)
30
20
10
0
-10
-20
-30
0
50
100
150
200
250
Time (msec)

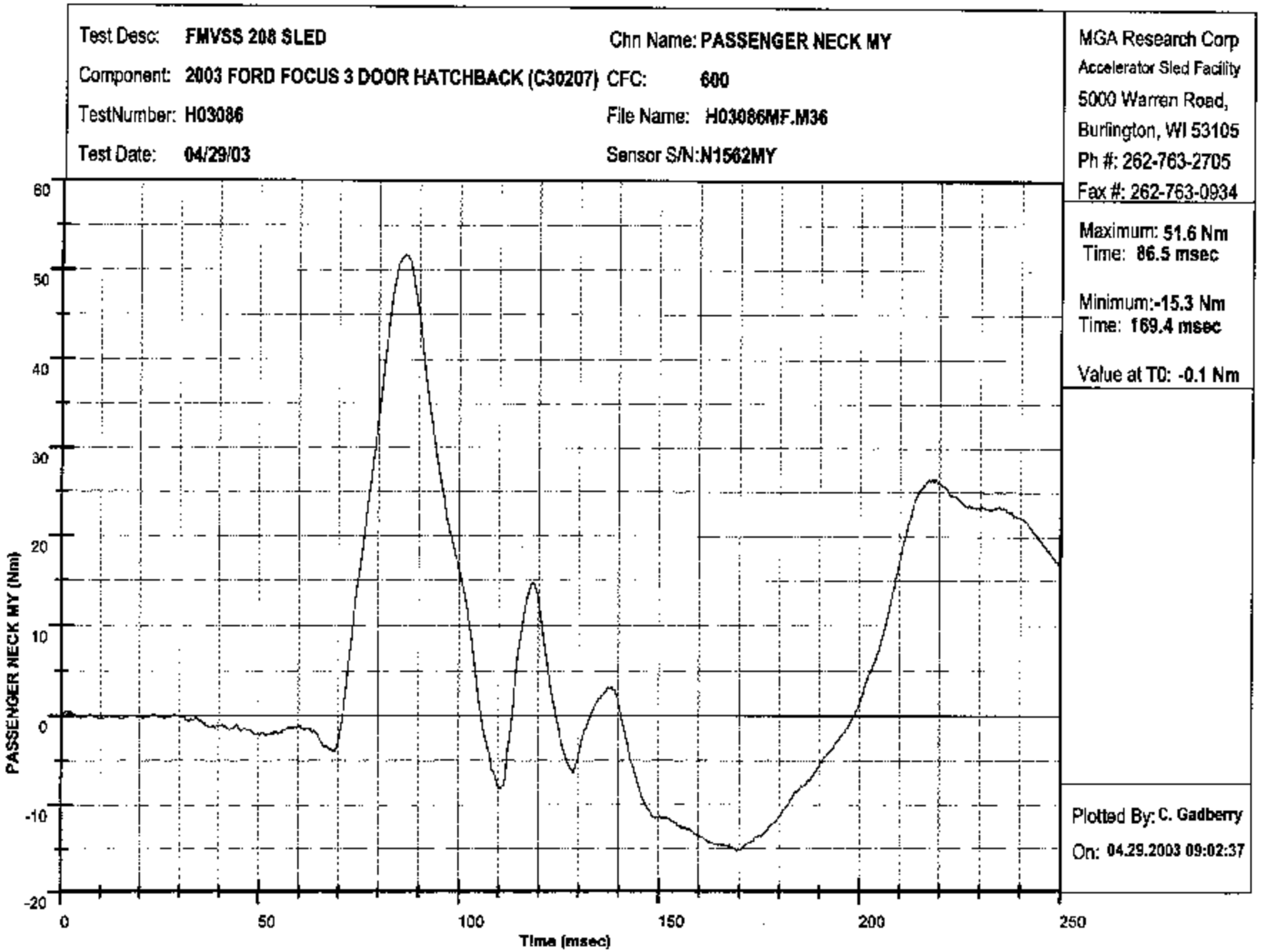

Test Desc: FMVSS 208 SLED
Component: 2003 FORD FOCUS 3 DOOR HATCHBACK (C30207)
TestNumber: H03086
Test Date: 04/29/03
Chn Name: PASSENGER HEAD RESULTANT
CFC: 1000
File Name: H03086AV.A24
Sensor S/N:AH5L1
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934
Maximum: 33.9 G
Time: 107.9 msec
Minimum:0.1 G
Time: 8.9 msec
Value at T0: 0.4 G
HIC VAL: 197.3
T1: 85.3 msec
T2: 132.8 msec
HIC36 VAL: 174.1
T1: 92.7 msec
T2: 128.7 msec
HIC15 VAL: 78.3
T1: 99.6 msec
T2: 114.6 msec
Plotted By: C. Gadberry
On: 04.29.2003 09:02:00
PASSENGER HEAD RESULTANT (G)
0
5
10
15
20
25
30
35
0
50
100
150
200
250
Time (msec)

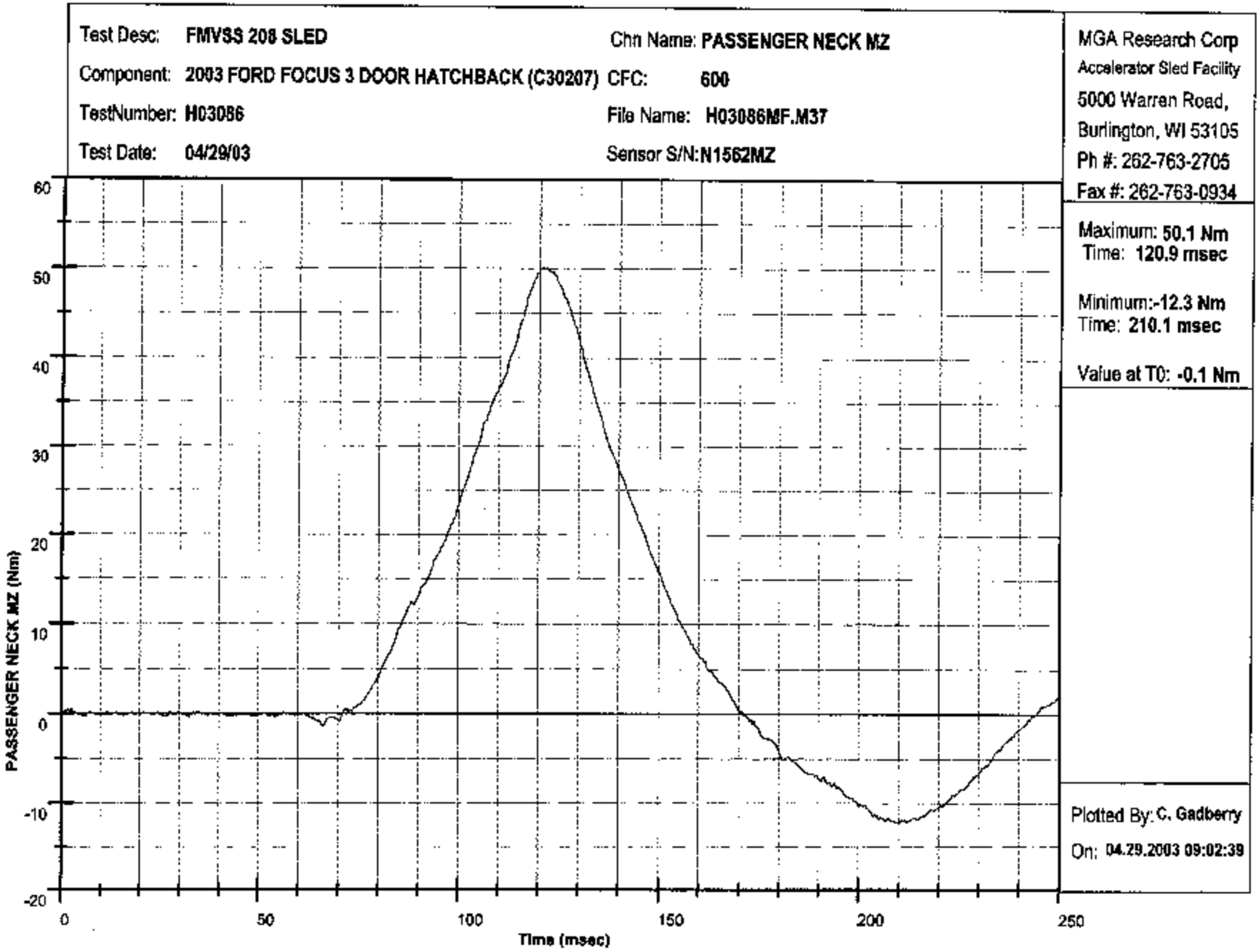

Test Desc: FMVSS 208 SLED
Component: 2003 FORD FOCUS 3 DOOR HATCHBACK (C30207)
TestNumber: H03086
Test Date: 04/29/03
Chn Name: PASSENGER NECK FX
CFC: 1000
File Name: H03086FT.F31
Sensor S/N:N1562FX
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934
Maximum: 842.5 N
Time: 90.3 msec
Minimum: -290.7 N
Time: 230.3 msec
Value at T0: -2.2 N
Plotted By: C. Gadberry
On: 04.29.2003 09:02:22
PASSENGER NECK FX (N)
1000
750
500
250
0
-250
-500
0
50
100
150
200
250
Time (msec)

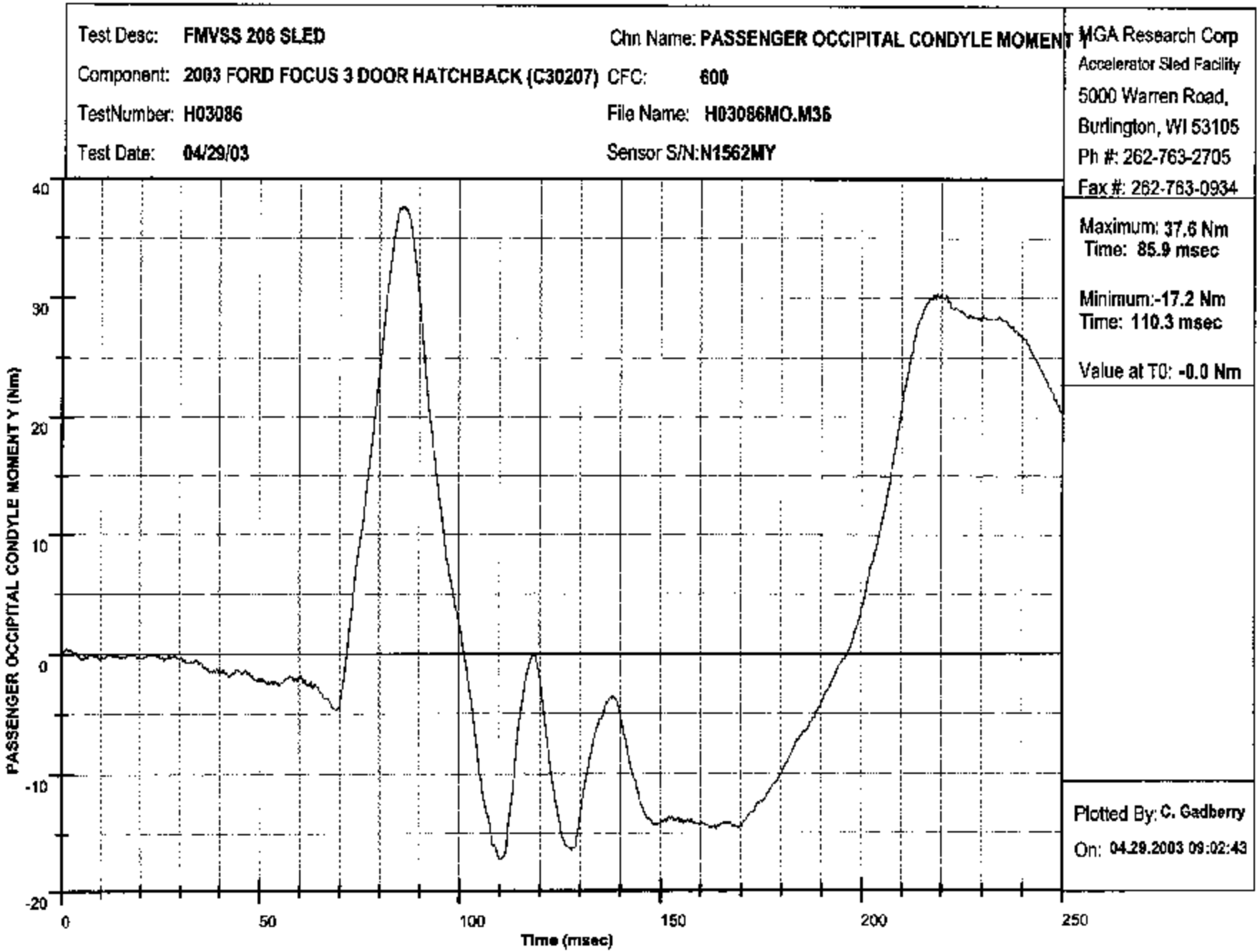

Test Desc: FMVSS 208 SLED
Chn Name: PASSENGER NECK FY
Component: 2003 FORD FOCUS 3 DOOR HATCHBACK (C30207)
CFC: 1000
TestNumber: H03086
File Name: H03086FT.F32
Test Date: 04/29/03
Sensor S/N:N1562FY
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934
Maximum: 733.0 N
Time: 115.9 msec
Minimum: -47.7 N
Time: 204.1 msec
Value at T0: 2.2 N
Plotted By: C. Gadberry
On: 04.29.2003 09:02:24
PASSENGER NECK FY (N)
800
700
600
500
400
300
200
100
0
-100
0
50
100
150
200
250
Time (msec)

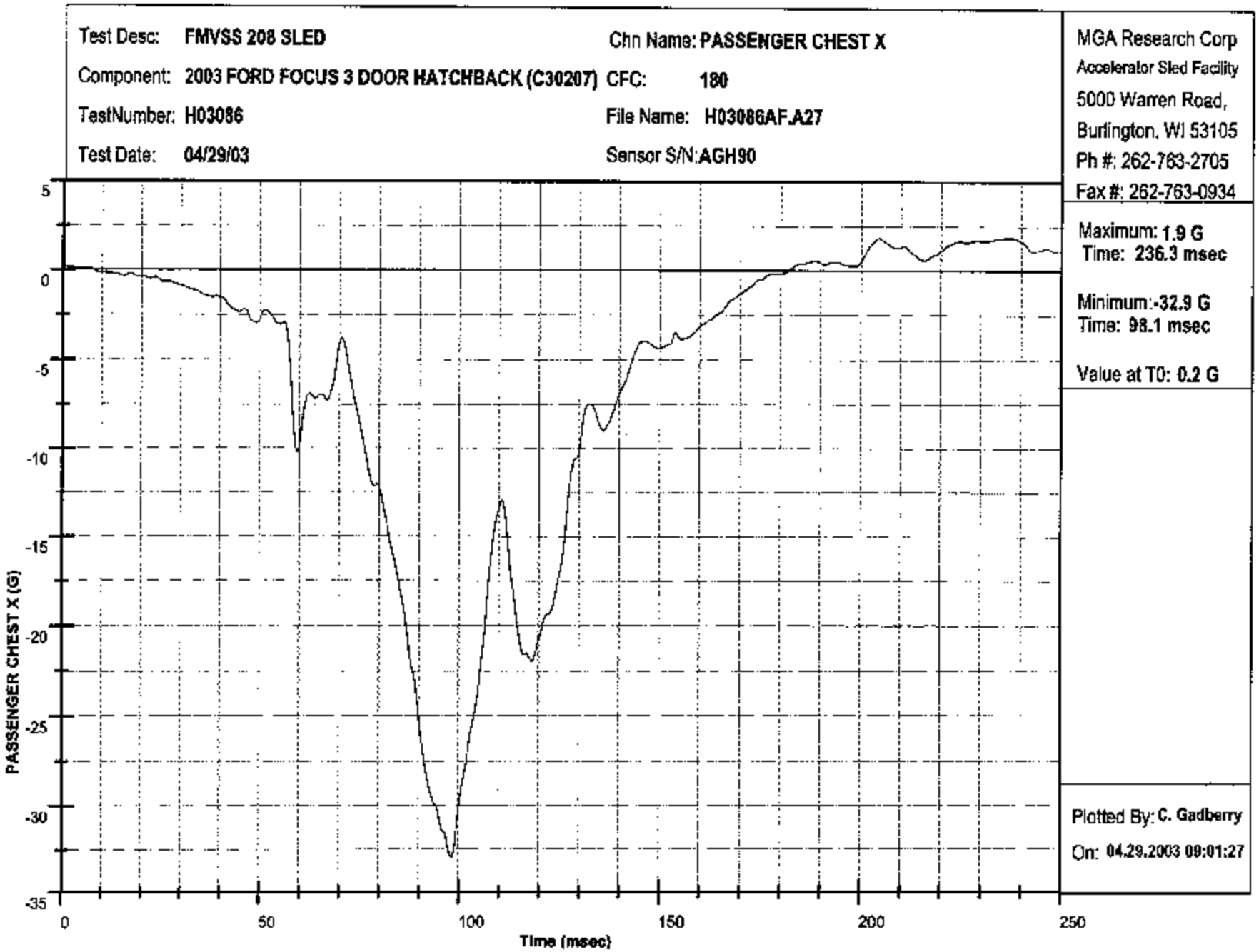

Test Desc: FMVSS 208 SLED
Chn Name: PASSENGER NECK FZ
Component: 2003 FORD FOCUS 3 DOOR HATCHBACK (C30207)
CFC: 1000
TestNumber: H03086
File Name: H03086FT.F33
Test Date: 04/29/03
Sensor S/N:N1562FZ
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934
Maximum: 852.0 N
Time: 93.5 msec
Minimum:-992.8 N
Time: 124.0 msec
Value at T0: 2.2 N
Plotted By:C. Gadbery
On: 04.29.2003 09:02:26
PASSENGER NECK FZ (N)
1000
750
500
250
0
-250
-500
-750
-1000
0
50
100
150
200
250
Time (msec)

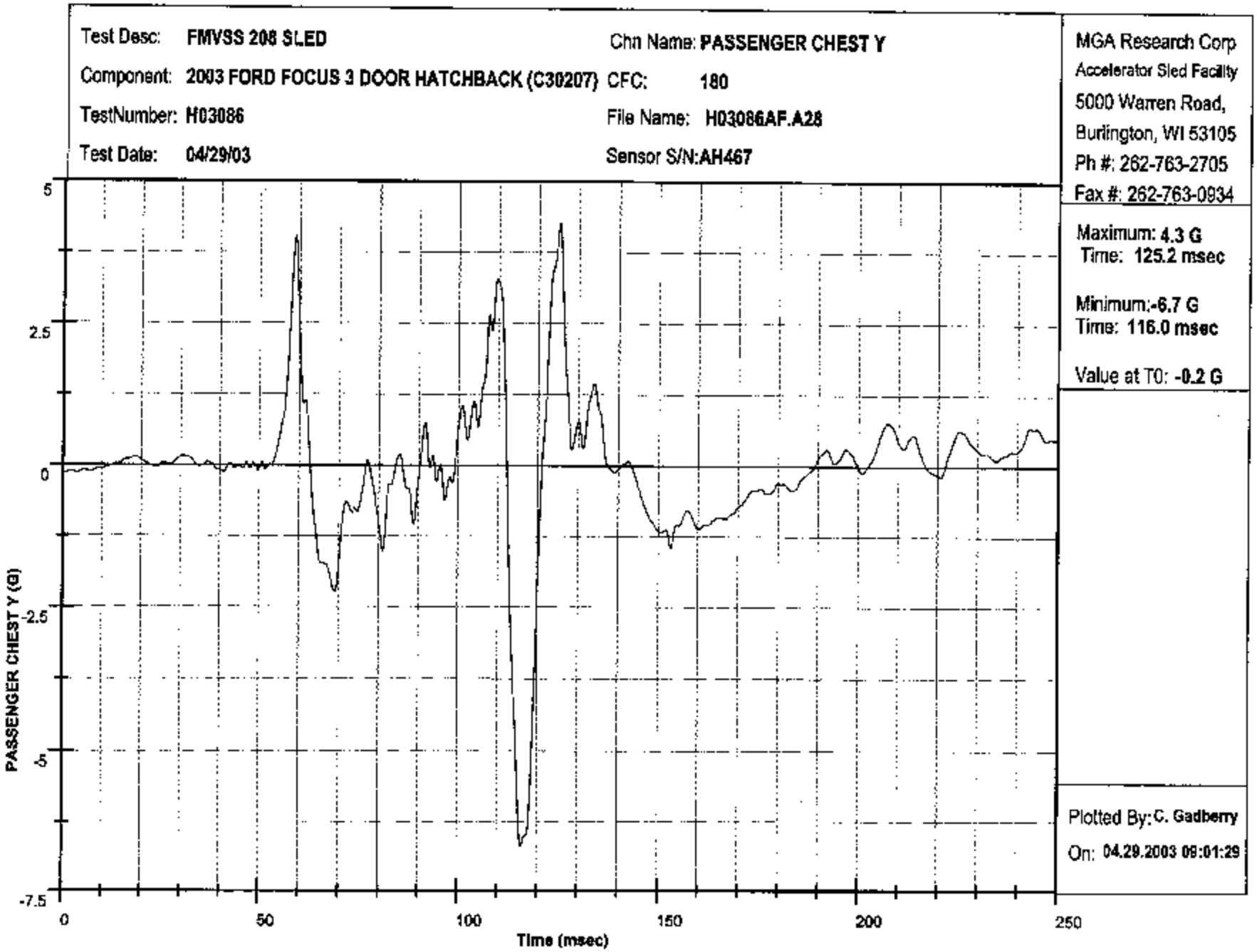

Test Desc: FMVSS 208 SLED
Component: 2003 FORD FOCUS 3 DOOR HATCHBACK (C30207)
TestNumber: H03086
Test Date: 04/29/03
Chn Name: PASSENGER NECK MX
CFC: 600
File Name: H03086MF.M35
Sensor S/N:N1562MX
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934
Maximum: 36.4 Nm
Time: 123.0 msec
Minimum:-17.4 Nm
Time: 80.4 msec
Value at T0: -0.1 Nm
Plotted By: C. Gadberry
On: 04.29.2003 09:02:34
PASSENGER NECK MX (Nm)
Time (msec)
40
30
20
10
0
-10
-20
0
50
100
150
200
250

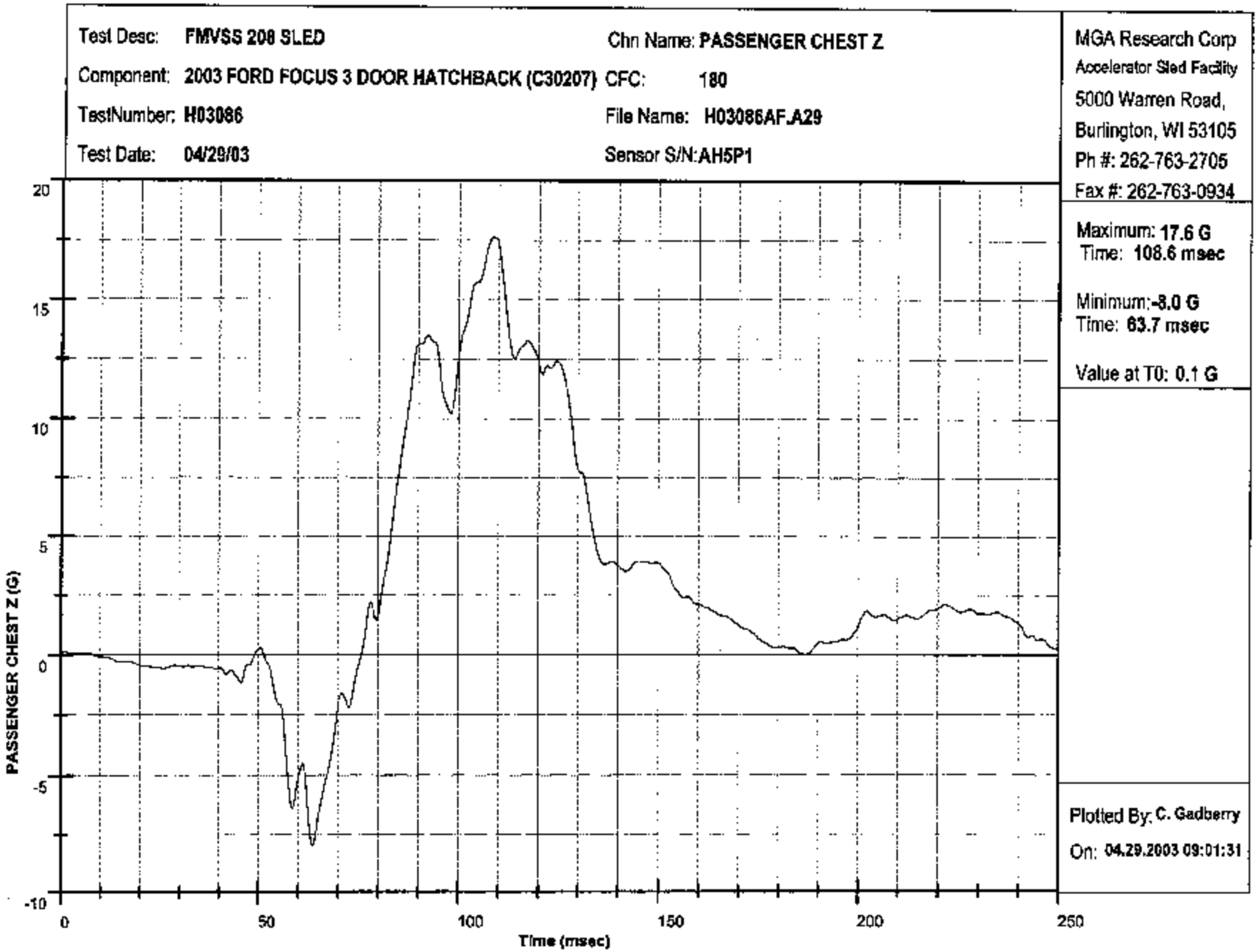

Test Desc: FMVSS 208 SLED
Chn Name: PASSENGER NECK MY
Component: 2003 FORD FOCUS 3 DOOR HATCHBACK (C30207)
CFC: 600
TestNumber: H03086
File Name: H03086MF.M36
Test Date: 04/29/03
Sensor S/N:N1562MY
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934
Maximum: 51.6 Nm
Time: 86.5 msec
Minimum:-15.3 Nm
Time: 169.4 msec
Value at T0: -0.1 Nm
Plotted By: C. Gadberry
On: 04.29.2003 09:02:37
PASSENGER NECK MY (Nm)
60
50
40
30
20
10
0
-10
-20
0
50
100
150
200
250
Time (msec)

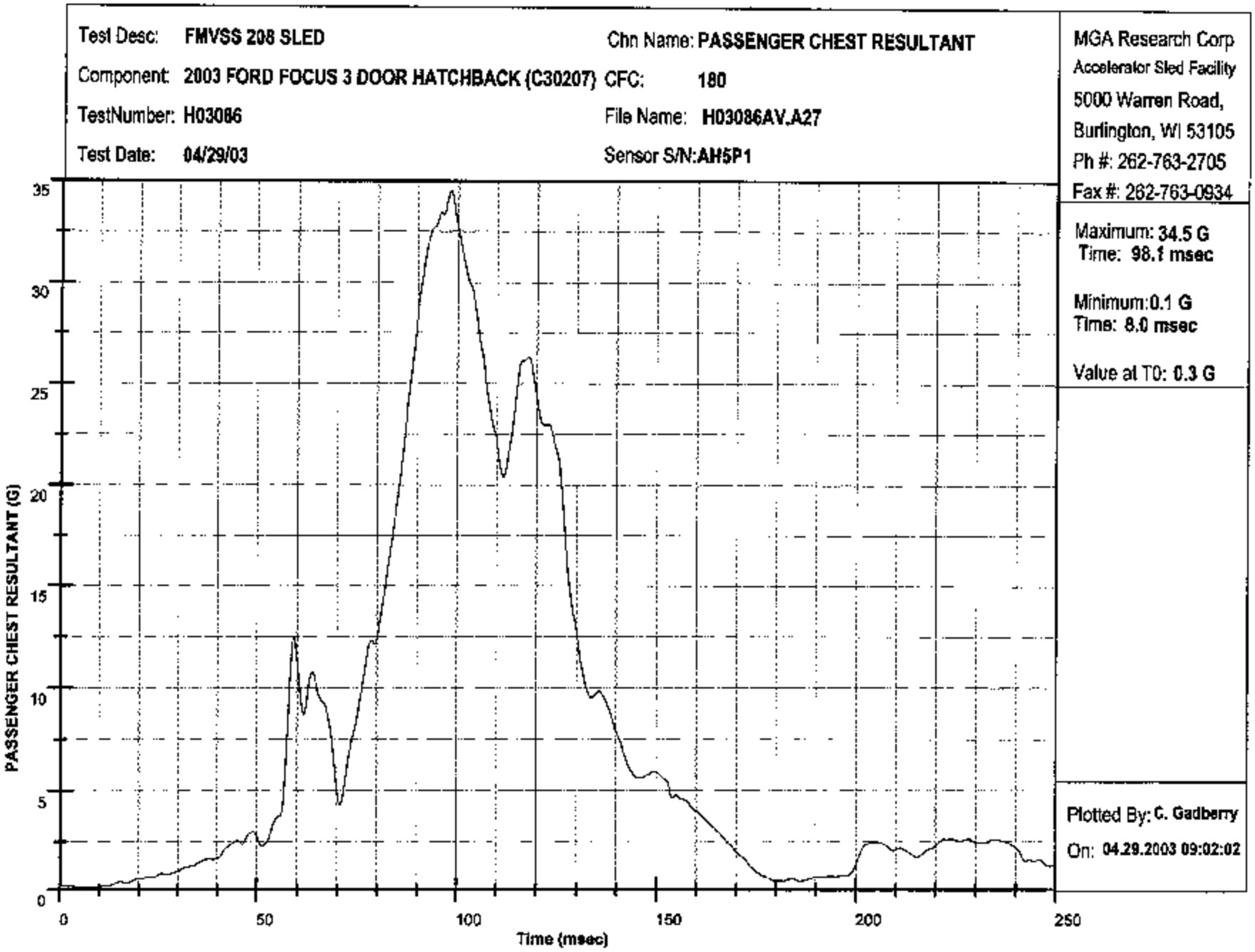

Test Desc: FMVSS 208 SLED
Chn Name: PASSENGER NECK MZ
Component: 2003 FORD FOCUS 3 DOOR HATCHBACK (C30207)
CFC: 600
TestNumber: H03086
File Name: H03086MF.M37
Test Date: 04/29/03
Sensor S/N:N1562MZ
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934
Maximum: 50.1 Nm
Time: 120.9 msec
Minimum:-12.3 Nm
Time: 210.1 msec
Value at T0: -0.1 Nm
Plotted By: C. Gadberry
On: 04.29.2003 09:02:39
PASSENGER NECK MZ (Nm)
60
50
40
30
20
10
0
-10
-20
0
50
100
150
200
250
Time (msec)

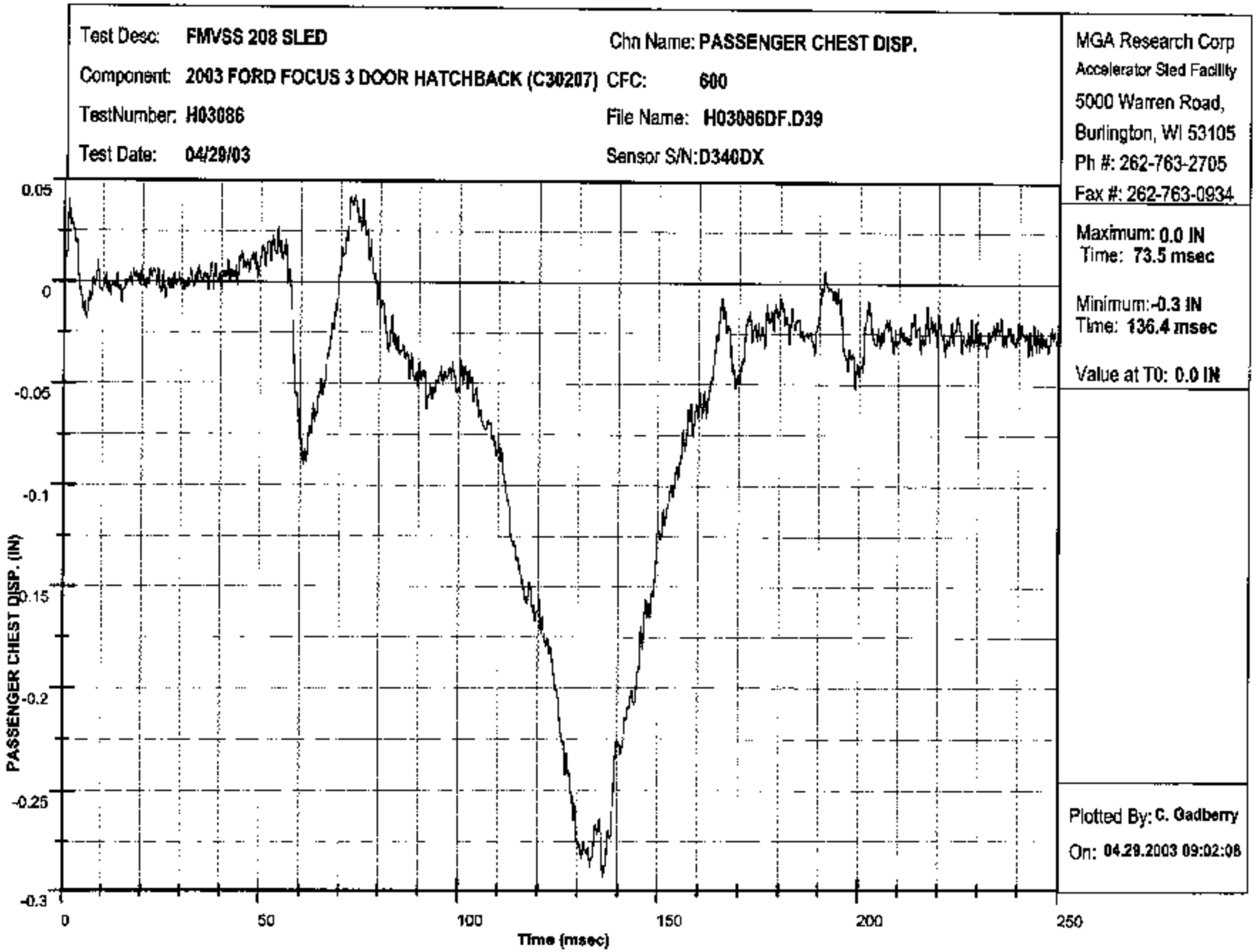

Test Desc: FMVSS 206 SLED
Chn Name: PASSENGER OCCIPITAL CONDYLE MOMENT Y
Component: 2003 FORD FOCUS 3 DOOR HATCHBACK (C30207)
CFC: 600
TestNumber: H03086
File Name: H03086MO.M36
Test Date: 04/29/03
Sensor S/N:N1562MY
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934
Maximum: 37.6 Nm
Time: 85.9 msec
Minimum:-17.2 Nm
Time: 110.3 msec
Value at T0: -0.0 Nm
Plotted By: C. Gadberry
On: 04.29.2003 09:02:43
PASSENGER OCCIPITAL CONDYLE MOMENT Y (Nm)
40
30
20
10
0
-10
-20
0
50
100
150
200
250
Time (msec)

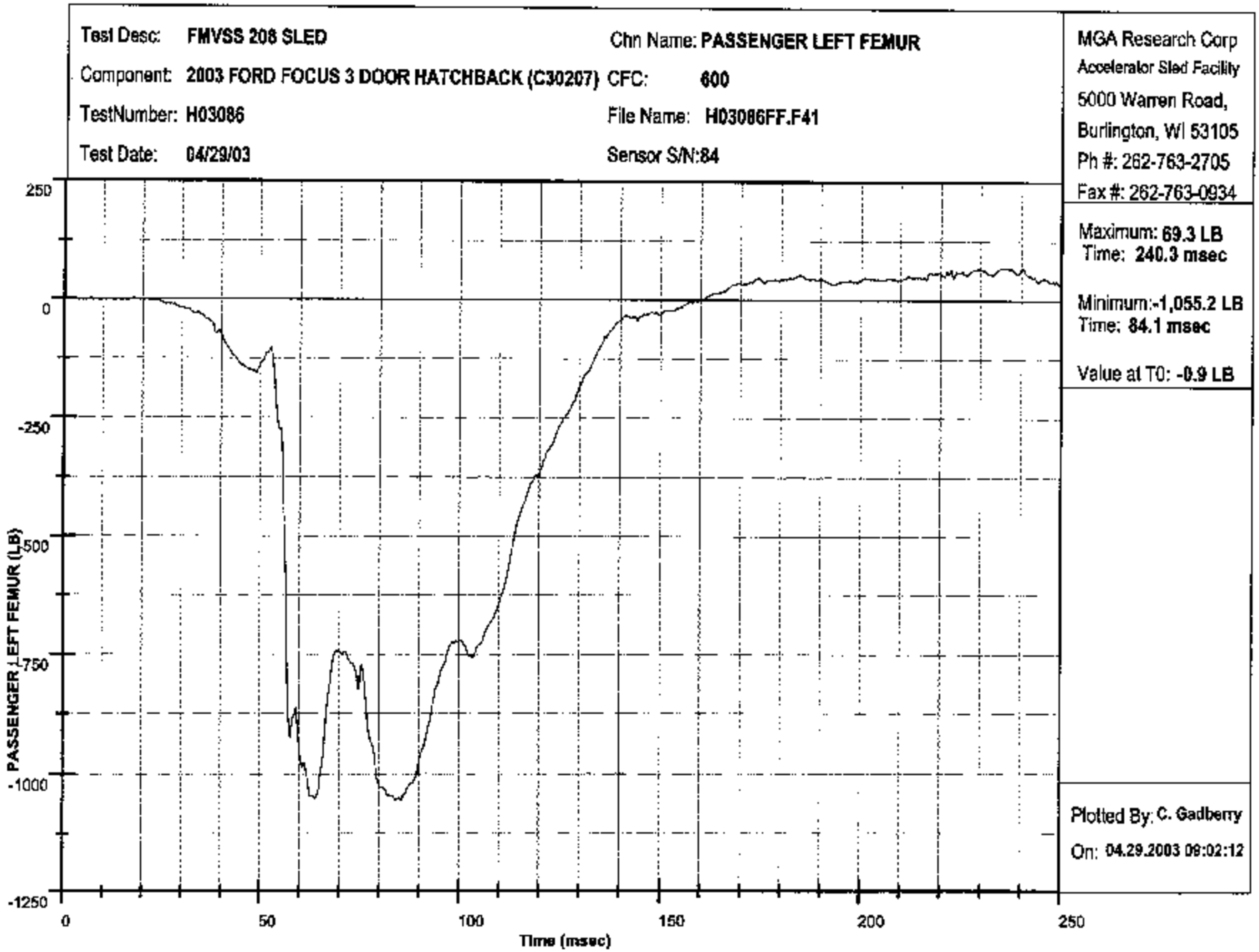

Test Desc: FMVSS 208 SLED
Chn Name: PASSENGER CHEST X
Component: 2003 FORD FOCUS 3 DOOR HATCHBACK (C30207)
CFC: 180
TestNumber: H03086
File Name: H03086AF.A27
Test Date: 04/29/03
Sensor S/N:AGH90
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934
Maximum: 1.9 G
Time: 236.3 msec
Minimum: -32.9 G
Time: 98.1 msec
Value at T0: 0.2 G
Plotted By: C. Gadberry
On: 04.29.2003 09:01:27
PASSENGER CHEST X (G)
5
0
-5
-10
-15
-20
-25
-30
-35
0
50
100
150
200
250
Time (msec)

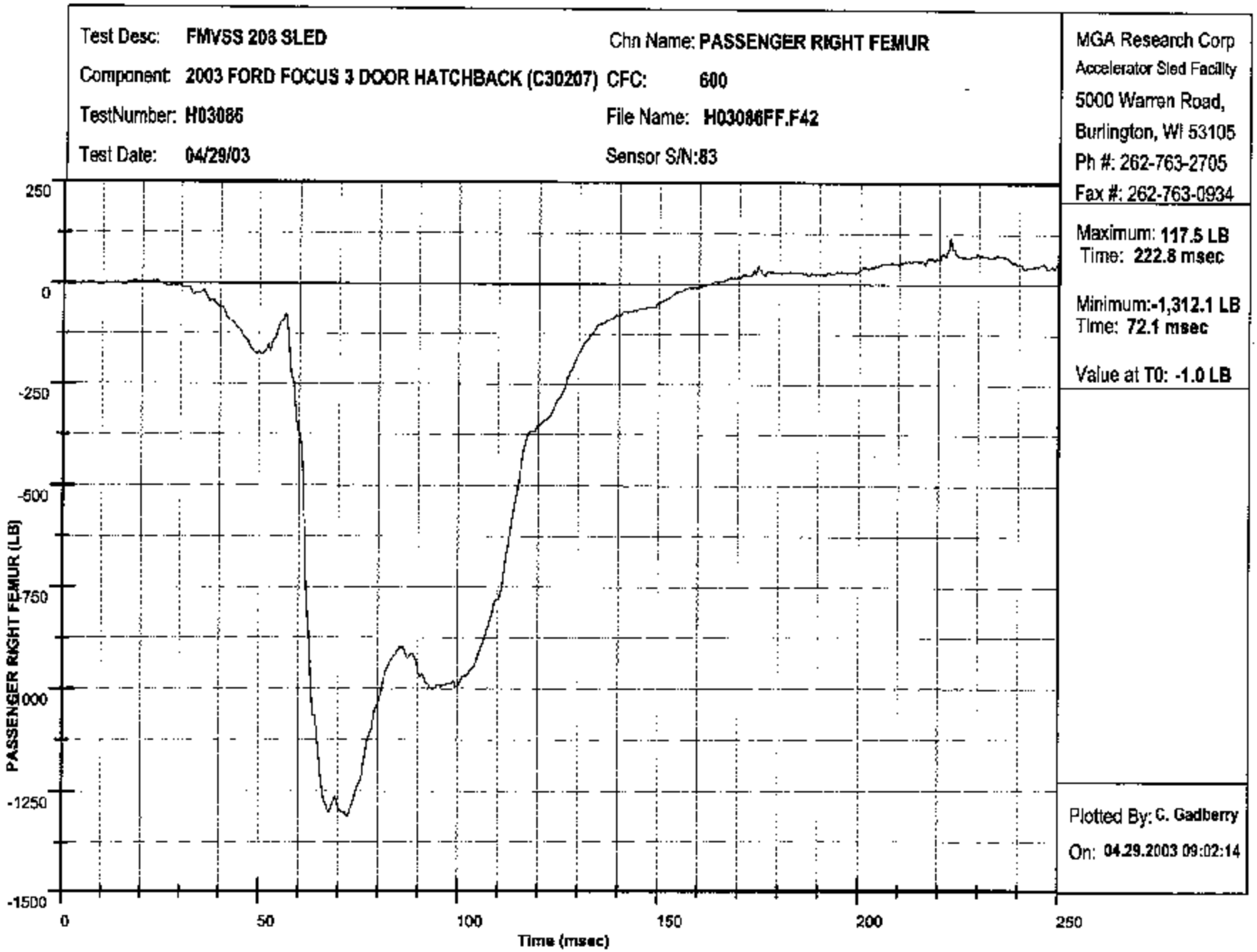

Test Desc: FMVSS 208 SLED
Chn Name: PASSENGER CHEST Y
Component: 2003 FORD FOCUS 3 DOOR HATCHBACK (C30207)
CFC: 180
TestNumber: H03086
File Name: H03086AF.A28
Test Date: 04/29/03
Sensor S/N:AH467
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934
Maximum: 4.3 G
Time: 125.2 msec
Minimum:-6.7 G
Time: 116.0 msec
Value at T0: -0.2 G
Plotted By: C. Gadberry
On: 04.29.2003 09:01:29
PASSENGER CHEST Y (G)
5
2.5
0
-2.5
-5
-7.5
0
50
100
150
200
250
Time (msec)


Test Desc: FMVSS 208 SLED
Chn Name: PASSENGER CHEST Z
Component: 2003 FORD FOCUS 3 DOOR HATCHBACK (C30207)
CFC: 180
TestNumber: H03086
File Name: H03086AF.A29
Test Date: 04/29/03
Sensor S/N:AH5P1
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934
Maximum: 17.6 G
Time: 108.6 msec
Minimum: -8.0 G
Time: 63.7 msec
Value at T0: 0.1 G
Plotted By: C. Gadberry
On: 04.29.2003 09:01:31
PASSENGER CHEST Z (G)
20
15
10
5
0
-5
-10
0
50
100
150
200
250
Time (msec)


Test Desc: FMVSS 208 SLED
Chn Name: PASSENGER CHEST RESULTANT
Component: 2003 FORD FOCUS 3 DOOR HATCHBACK (C30207)
CFC: 180
TestNumber: H03086
File Name: H03086AV.A27
Test Date: 04/29/03
Sensor S/N:AH5P1
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934
Maximum: 34.5 G
Time: 98.1 msec
Minimum:0.1 G
Time: 8.0 msec
Value at T0: 0.3 G
Plotted By: C. Gadberry
On: 04.29.2003 09:02:02
PASSENGER CHEST RESULTANT (G)
Time (msec)
0
5
10
15
20
25
30
35
0
50
100
150
200
250


Test Desc: FMVSS 208 SLED
Chn Name: PASSENGER CHEST DISP.
Component: 2003 FORD FOCUS 3 DOOR HATCHBACK (C30207)
CFC: 600
TestNumber: H03086
File Name: H03086DF.D39
Test Date: 04/29/03
Sensor S/N:D340DX
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: 73.5 msec
Minimum: -0.3 IN
Time: 136.4 msec
Value at T0: 0.0 IN
Plotted By: C. Gadberry
On: 04.29.2003 09:02:08
PASSENGER CHEST DISP. (IN)
0.05
0
-0.05
-0.1
-0.15
-0.2
-0.25
-0.3
0
50
100
150
200
250
Time (msec)


Test Desc: FMVSS 208 SLED
Chn Name: PASSENGER LEFT FEMUR
Component: 2003 FORD FOCUS 3 DOOR HATCHBACK (C30207)
CFC: 600
TestNumber: H03086
File Name: H03086FF.F41
Test Date: 04/29/03
Sensor S/N:84
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934
Maximum: 69.3 LB
Time: 240.3 msec
Minimum:-1,055.2 LB
Time: 84.1 msec
Value at T0: -0.9 LB
Plotted By: C. Gadberry
On: 04.29.2003 09:02:12
PASSENGER LEFT FEMUR (LB)
250
0
-250
-500
-750
-1000
-1250
0
50
100
150
200
250
Time (msec)


Test Desc: FMVSS 208 SLED
Component: 2003 FORD FOCUS 3 DOOR HATCHBACK (C30207)
TestNumber: H03086
Test Date: 04/29/03
Chn Name: PASSENGER RIGHT FEMUR
CFC: 600
File Name: H03086FF.F42
Sensor S/N:83
MGA Research Corp
Accelerator Sled Facility
5000 Warren Road,
Burlington, WI 53105
Ph #: 262-763-2705
Fax #: 262-763-0934
Maximum: 117.5 LB
Time: 222.8 msec
Minimum:-1,312.1 LB
Time: 72.1 msec
Value at T0: -1.0 LB
Plotted By: C. Gadberry
On: 04.29.2003 09:02:14
PASSENGER RIGHT FEMUR (LB)
250
0
-250
-500
-750
-1000
-1250
-1500
0
50
100
150
200
250
Time (msec)

APPENDIX C

MANUFACTURER'S VEHICLE INFORMATION

Ford Motor Company

Automotive Safety Office
Environmental and Safety Engineering

November 6, 2002

Ms. Marilynne Jacobs, Director
Office of Vehicle Safety Compliance
National Highway Traffic Safety Administration
400 Seventh Street, S. W.
Washington, DC 20590

Dear Ms. Jacobs:

Subject: FMVSS 208 Compliance Test Information Request—2003 Model Year Focus

Reference: NSA-221CCa/OA-208-020916-W

This is in response to your September 27, 2002 letter requesting information for possible agency compliance surveillance testing of the 2003 model year Ford Focus to the requirements of Federal Motor Vehicles Safety Standard (FMVSS) No. 208, "Occupant Crash Protection."

Ford Motor Company (Ford) is listing each request followed by our response to it.

Request 1

> Many options are available for certifications to FMVSS No. 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.

Response

The 2003 Focus is designed to meet section S5.1.1(a) for belted barrier crash requirements and section S13 for unbelted sled test requirements of FMVSS No. 208. Appendix A contains a copy of the complete test report for a representative 90° Front Fixed Barrier Impact Test

(Crash Test No. 12227) including photographs and data plots as well as summary test reports for Crash Test Nos. 12202 and12228, which are used as a basis to demonstrate compliance. Appendix B contains copies of two representative sled test reports (Sled Test Run Numbers H106A2 and H106A3) and photographs associated with these unbelted tests.

Ford relied on the information provided in Appendices A and B of this response as a basis to demonstrate compliance of 2003 Focus vehicles equipped with driver and right front passenger air bag restraint systems to the requirements of FMVSS No. 208.

Request 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.

Response

The 2003 Focus is a carryover design from the 2002 Focus. The 2003 Focus is equipped with load-limiting retractors and pretensioners that are carryover from the 2000 Focus. No restraint changes or other vehicle changes were made that affect the performance requirements of FMVSS 208. The load-limiting retractors and pretensioners, driver seat position sensor, and dual stage air bags may improve occupant protection performance with respect to children and out of position occupants.

Request 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.

Response

The process followed by the Ford test facility for the 2003 Focus is described below:

Each of the air bags was disconnected by locating the squib wires going into the air bag, and then unhooking the connector between the vehicle wiring harness and the air bag. The squib wires were then connected to an extension cable that supplies the firing current from the Programmable Time Fire Unit located in the Hyge sled control room. Appendix C contains a description of the process used to disconnect the air bags from the vehicle sensors and to connect them to the triggering mechanism used in the sled test. The system has an arming circuit and variable time delay (adjustable to 0.1 msec) which starts counting once time zero (T=0) has been triggered. At 20 msec after T=0, the Programmable Time Fire Unit sends current through the extension cable and into the air bag squib.

The Programmable Time Fire Unit has the capability of supplying between 12.0 and 12.5 volts with a momentary peak current draw of 20 amps. In testing conducted by Ford, the typical current draw is 3 to 6 amps. An accelerometer is used on the sled to actually trigger T=0 when an acceleration of 0.5g is attained on the sled.

The firing strategy for the sled tests conducted for the Focus were:

Driver side: 20 msec 1st stage; 30 msec 2nd stage
Passenger side: 20 msec 1st stage; 40 msec 2nd stage

All fire times were measured from T=0.

Request 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.

Response

The subject vehicles are not certified to the advanced air bag requirements.

Request 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.

Response

The 2003 Focus does not use tension-relieving devices for the driver or front passenger safety belt systems.

Request 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.

Response

The 2003 Focus vehicles were tested with all moveable windows full down. There are no vents on this vehicle.

Request 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 50th percentile male and the 5th 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.

Response

The dummy placement measurements for the 2003 Focus are provided in Appendix D.

Request 8

For the subject vehicles certified to the advanced air bag requirements, provide the width of the vehicle as defined in S16.2.4, 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.

Response

The subject vehicles are not certified to the advanced air bag requirements.

Request 9

For the subject vehicles certified to the advanced air bag suppression requirements, describe the telltale 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 do 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.

Response

The subject vehicles are not certified to the advanced air bag requirements.

Request 10

State whether the subject vehicles have a footrest for the driver.

Response

The 2003 Focus is equipped with a driver side outboard footrest.

Request 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 5th 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.

Response

Appendix E contains the completed form with the requested information. The seating reference point information is also provided in Appendix E.

Request 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."

Response

The subject vehicles are not certified to the advanced air bag requirements.

Request 13

If the subject vehicles are equipped with adjustable seat belt anchorages, provide the manufacturer's nominal design position for a 50th percentile adult male occupant and, if certified to the advanced air bag requirements, the position for the 5th percentile female.

Response

The driver and passenger D-rings are positioned one notch below the up most position when testing 50th percentile dummies. The subject vehicles are not certified to the advanced air bag requirements.

Request 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.

Response

Ford is providing the requested information for all certification barrier tests and sled tests for the 2003 Focus in summary tables in Appendix F.

Request 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?

Response

The following components are removed in the order listed to compensate for the added weight of test equipment. It is assumed that the second row seats and the trim panels rearward of the B-pillar have been removed to facilitate test equipment.

Rear Bumper
Spare Tire
Spare Tire Carrier
Rear lift gate glass
Rear lift gate
Exhaust rearward of the catalytic converters

Request 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.

Response

The 2003 Focus does not use a pressure vessel to inflate the driver side or passenger side air bags.

Request 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.

Response

The 2003 Focus uses carryover 2002 Focus explosive devises to inflate the driver side and passenger side air bags. Ford has provided copies of the test reports that document compliance with S9.2 in Appendix G.

If you have any further questions, please contact me.

Sincerely,

R. A. Nevi

Attachments

Airbag Firing Process.

1. Observing the warnings, remove 1st and 2nd stage AC electrical connectors from the passenger airbag module, by following the Passenger Airbag Module (40 701 0) Removal and Installation procedure – ***Removal*** - Steps 1 to 9.

2. Replace the 1st and 2nd stage AC connectors with DC 1st and 2nd stage connectors - DC connectors can be supplied by Ford if required.

3. Replace the passenger airbag module, by following the Passenger Airbag Module (40 701 0) Removal and Installation procedure – ***Installation*** - Steps 2 to 11.

4. When the all test parts are assembled - Continuity of both the Passenger airbag module 1st and 2nd stage DC leads and airbag squib circuit's, are checked using a low output voltage meter. Resistance values in the order of 2.5 ohms +/- 0.3 ohms are expected through each loop. Values measured outside these tolerances need to be investigated.

5. Similarly the Driver Airbag Module (40 700 0) Removal and Installation Procedure should be followed, when replacing the driver airbag module AC connectors with DC connectors.

6. The passenger airbag 1st stage squib is colored green. The Passenger airbag 2nd stage squib is colored violet.

7. The driver airbag 1st stage squib is colored black. The driver airbag 2nd stage squib is colored green.

8. The passenger airbag module should be fired with a delay of 20ms between 1st and 2nd stage.

9. The driver airbag module should be fired with a delay of 10ms between 1st and 2nd stage.

Passenger Air Bag Module (40 701 0)

Removal

WARNING: To avoid accidental deployment, the air bag control module backup power supply must be depleted. Wait at least one minute after disconnecting the battery ground cable(s) before commencing any repair or adjustment to the supplemental restraint system (SRS), or any component(s) adjacent to the SRS sensors. Failure to follow these instructions may result in personal injury.

WARNING: Always wear safety glasses when working on an air bag equipped vehicle and when handling an air bag module. Failure to follow this instruction may result in personal injury.

WARNING: To minimize the possibility of premature deployment, do not use radio key code savers when working on the supplemental restraint system. Failure to follow this instruction may result in personal injury.

WARNING: To minimize the possibility of injury in the event of premature deployment, always carry a live air bag module with the bag and trim cover pointed away from the body. Failure to follow this instruction may result in personal injury.

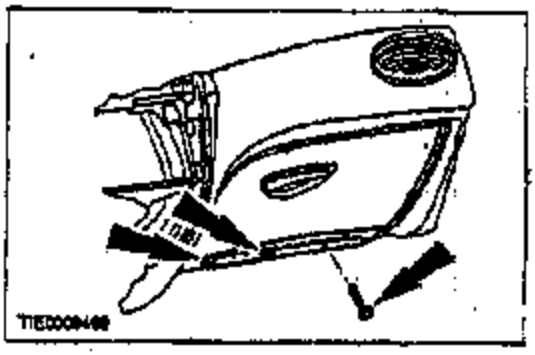
WARNING: To minimize the possibility of premature deployment, live air bag modules must only be placed on work benches which have been ground bonded and with the trim cover facing up. Failure to follow these instructions may result in personal injury.

WARNING: Never probe the electrical connectors of air bag modules or any other supplemental restraint system component. Failure to follow this instruction may result in personal injury.

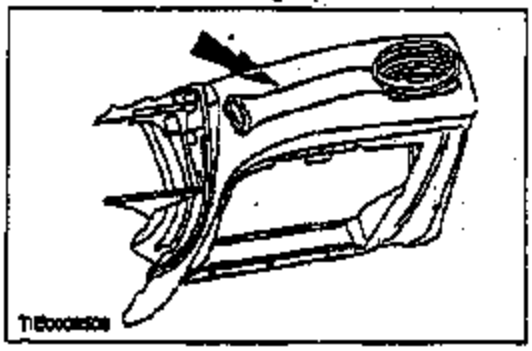
WARNING: Painting over the driver air bag module trim cover or instrument panel could lead to deterioration of the trim cover and air bags. Do not for any reason attempt to paint discolored or damaged air bag module trim covers or instrument panel. Install a new component. Failure to follow this instruction may result in injury.

1. **Disconnect the battery ground cable. For additional information, refer to Section 414-01.**

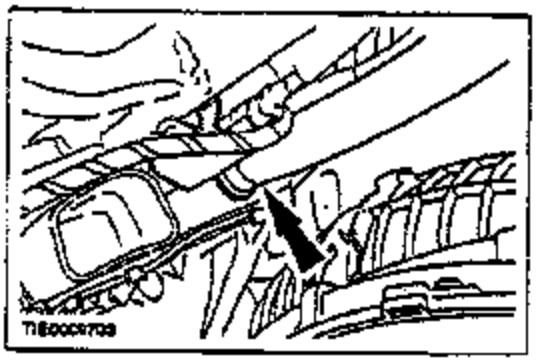
2. **Remove the glove compartment.**



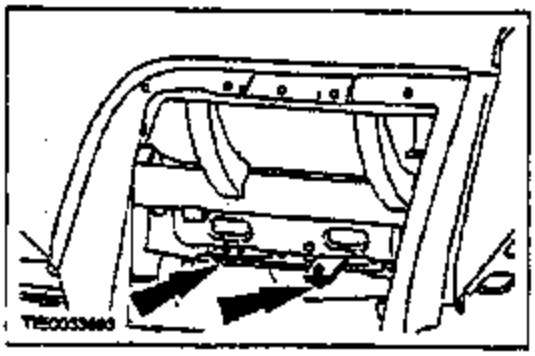
3. **Remove the ventilation pipe.**
   - **Detach the retaining clip.**



4. Detach the demister pipe from the heater housing.

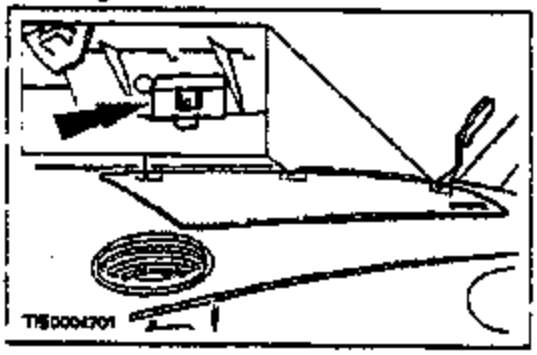


5. Remove the passenger air bag module trim cover retaining bolts.



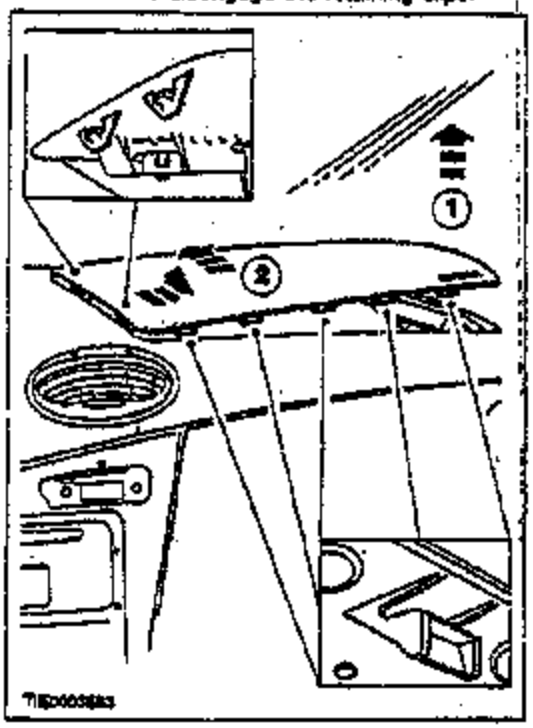
6. Detach the passenger air bag module trim cover from the instrument panel.

- Use a trim tool to carefully release the retaining clips, starting at the front outer edge.

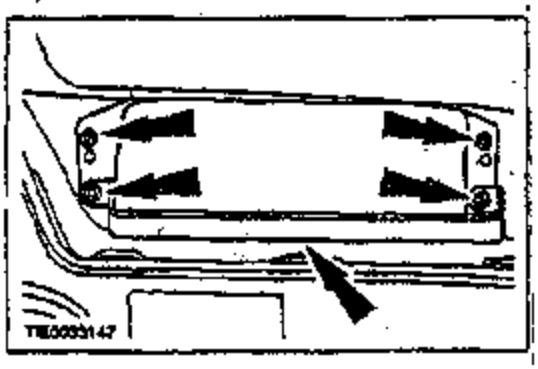


7. Remove the passenger air bag module trim cover.

1. Lift the outer edge.
2. Lift the cover moving it towards the windshield to disengage the retaining clips.



8. Detach the passenger air bag module and reinforcement bracket from the instrument panel.

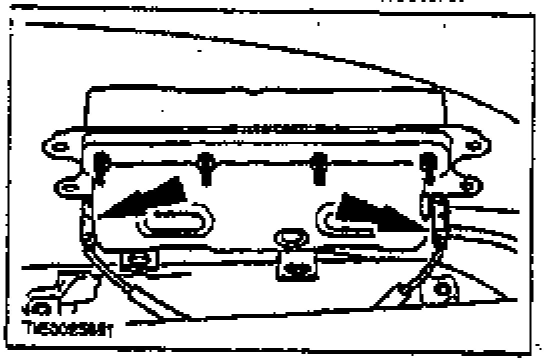


9. NOTE: It may be necessary to use a pair of pointed nose pliers to release the electrical

connector locking tangs.

Remove the passenger air bag module.

- Disconnect the electrical connectors.



10. WARNING: A new instrument panel must be installed following a passenger air bag deployment. Failure to follow this instruction may result in personal injury.

NOTE: If a new passenger air bag module is being installed as a result of the existing passenger air bag module being unserviceable, do not install a new instrument panel.

Remove the instrument panel if necessary. For additional information, refer to Section 501-12.

Installation

WARNING: Always wear safety glasses when working on an air bag equipped vehicle and when handling an air bag module. Failure to follow this instruction may result in personal injury.

WARNING: To minimize the possibility of injury in the event of premature deployment, always carry a live air bag with the bag and trim cover pointed away from the body. Failure to follow this instruction may result in personal injury.

WARNING: To minimize the possibility of premature deployment, live air bag modules must only be placed on work benches which have been ground bonded and with the trim cover facing up. Failure to follow these instructions may result in personal injury.

WARNING: Never probe the electrical connectors of air bag modules or any other supplemental restraint system component. Failure to follow this instruction may result in personal injury.

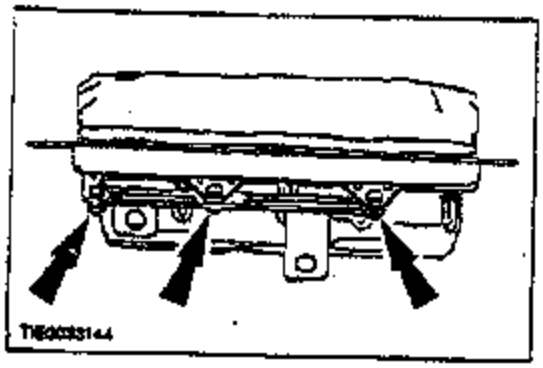
WARNING: Painting over the driver air bag module trim cover or instrument panel could lead to deterioration of the trim cover and air bags. Do not for any reason attempt to paint discolored or damaged air bag module trim covers or instrument panel. Install a new component. Failure to follow this instruction may result in injury.

1. WARNING: A new instrument panel must be installed following a passenger air bag deployment. Failure to follow this instruction may result in personal injury.

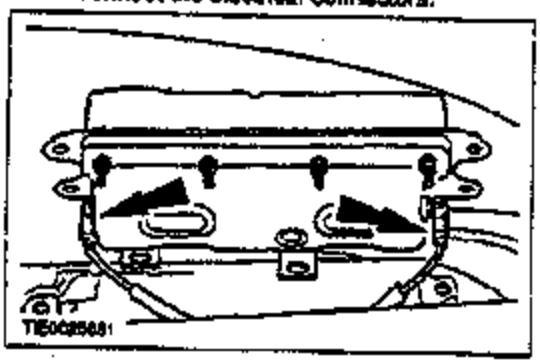
NOTE: If a new passenger air bag module is being installed as a result of the existing passenger air bag module being unserviceable, do not install a new instrument panel.

Install a new instrument panel if necessary. For additional information, refer to Section 501-12.

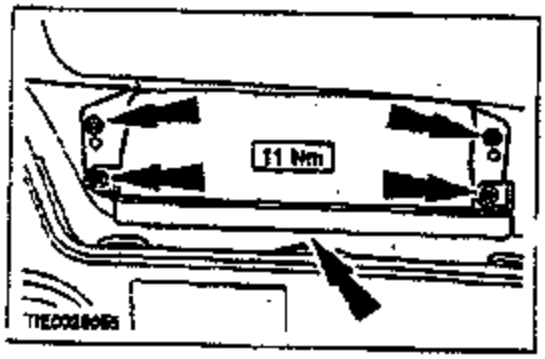
2. If the original passenger air bag is to be installed, loosen the passenger air bag module floating bracket retaining nuts.



3. Install the passenger air bag module.
   - Connect the electrical connectors.

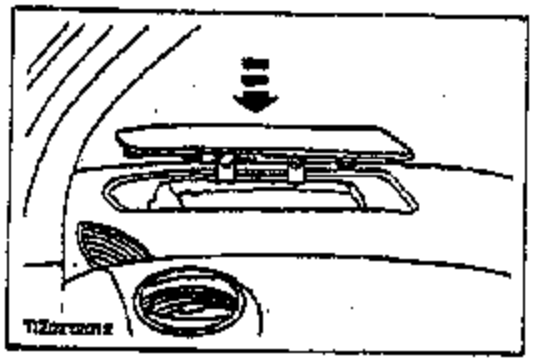


4. Attach the passenger air bag module and reinforcement bracket to the instrument panel.



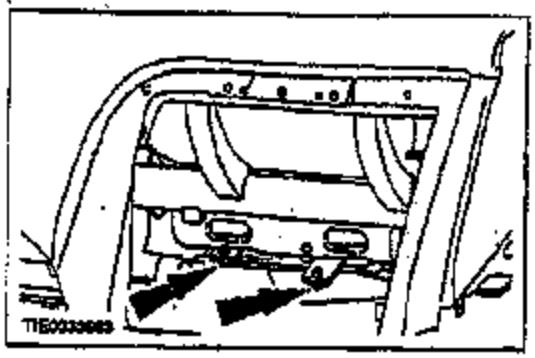
5. NOTE: Feed the trim cover brackets down through the passenger air bag module and floating bracket.

   Install the passenger air bag module trim cover.



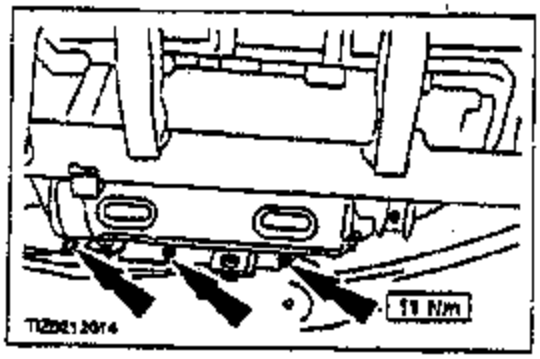
6. NOTE: Do not fully tighten the passenger air bag module trim cover retaining bolts at this stage.

   Install the passenger air bag module trim cover retaining bolts.

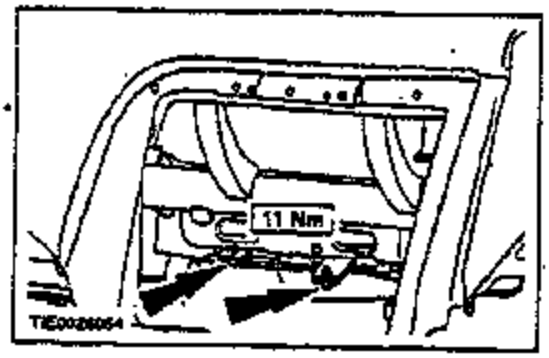


7. CAUTION: Make sure that all the passenger air bag module trim cover retaining clips are correctly engaged and that the trim cover is flush with instrument panel.

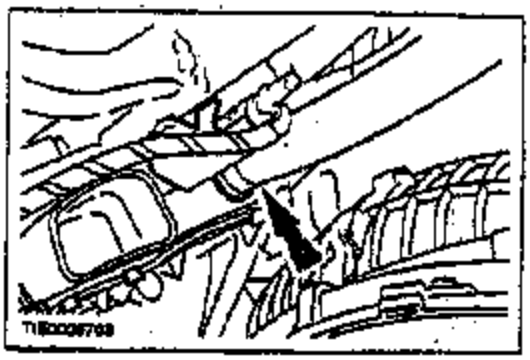
   Tighten the passenger air bag module floating bracket retaining bolts.



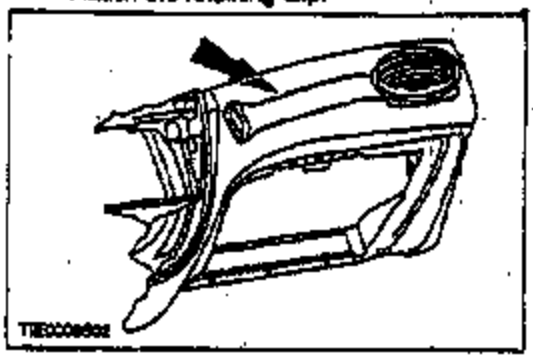
8. Tighten the passenger air bag module trim cover retaining bolts.



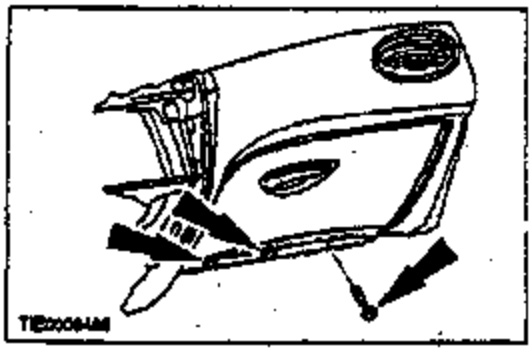
9. Attach the demister pipe to the heater housing.



10. Install the ventilation pipe.
    - Attach the retaining clip.



11. Install the glove compartment.



12. Connect the battery ground cable. For additional information, refer to Section 414-01.

Driver Air Bag Module (40 700 0)

Removal

WARNING: To avoid accidental deployment, the air bag control module backup power supply must be depleted. Wait at least one minute after disconnecting the battery ground cable(s) before commencing any repair or adjustment to the supplemental restraint system (SRS), or any component(s) adjacent to the SRS sensors. Failure to follow these instructions may result in personal injury

WARNING: Always wear safety glasses when working on an air bag equipped vehicle and when handling an air bag module. Failure to follow this instruction may result in personal injury.

WARNING: To minimize the possibility of premature deployment, do not use radio key code savers when working on the supplemental restraint system. Failure to follow this instruction may result in personal injury.

WARNING: To minimize the possibility of injury in the event of premature deployment, always carry a live air bag module with the bag and trim cover pointed away from the body. Failure to follow this instruction may result in personal injury.

WARNING: To minimize the possibility of premature deployment, live air bag modules must only be placed on work benches which have been ground bonded and with the trim cover facing up. Failure to follow these instructions may result in personal injury.

WARNING: Never probe the electrical connectors of air bag modules or any other supplemental restraint system component. Failure to follow this instruction may result in personal injury.

WARNING: Painting over the driver air bag module trim cover or instrument panel could lead to deterioration of the trim cover and air bags. Do not for any reason attempt to paint discolored or damaged air bag module trim covers or instrument panel. Install a new component. Failure to follow this instruction may result in personal injury.

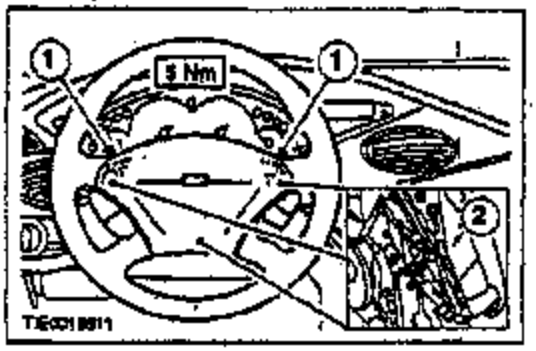
1. Disconnect the battery ground cable. For additional information, refer to Section 414-01.

2. CAUTION: To prevent damage to the driver air bag module, wiring harness or steering wheel do not insert any tool between the driver air bag module and the steering wheel.

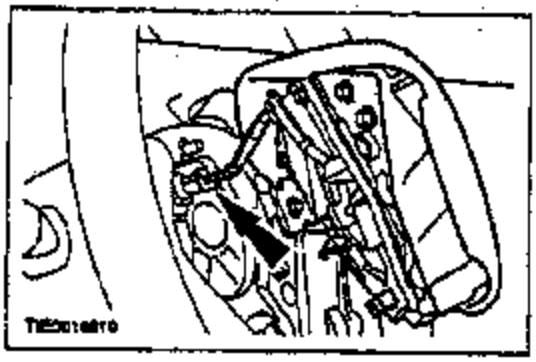
NOTE: Turn the steering wheel to access the air bag module captive bolts.

Detach the driver air bag module from the steering wheel.

1. Undo the captive bolts.
2. Detach the driver air bag module retaining clips.



3. Remove the driver air bag module.
   - Disconnect the driver air bag module electrical connector.



Installation

1. WARNING: Always wear safety glasses when working on an air bag equipped vehicle and when handling an air bag module. Failure to follow this instruction may result in personal injury.

WARNING: To minimize the possibility of injury in the event of premature deployment, always carry a live air bag module with the bag and trim cover pointed away from the body. Failure to follow this instruction may result in personal injury.

WARNING: To minimize the possibility of premature deployment, live air bag modules must only be placed on work benches which have been ground bonded and with the trim cover facing up. Failure to follow these instructions may result in personal injury.

WARNING: Never probe the electrical connectors of air bag modules or any other supplemental restraint system component. Failure to follow this instruction may result in personal injury.

WARNING: Painting over the driver air bag module trim cover or instrument panel could lead to deterioration of the trim cover and air bags. Do not for any reason attempt to paint discolored or damaged air bag module trim covers or instrument panel. Install a new component. Failure to follow this instruction may result in personal injury.

WARNING: The driver air bag module should only be inverted long enough for the horn switch contact plate to be installed. Handle with extreme care making sure that, if for any reason this procedure is interrupted, the driver air bag module is turned the correct way up, with the trim cover side uppermost. Failure to follow these instructions may result in personal injury.

To install, reverse the removal procedure.

Dummy Measurements for Front Seat Passengers
Crash Test 12227 (90 degree Front Fixed Barrier)

Driver

NR- Nose to Rim	450 mm
CS- Steering Wheel to Chest	238 mm
KDL- Knee to Dash	102 mm
KDR- Knee to Dash	102 mm

Passenger

NR- Nose to Rim	599 mm
CS- Steering Wheel to Chest	503 mm
KDL- Knee to Dash	102 mm
KDR- Knee to Dash	99 mm

Dummy Measurments in pre Test Position

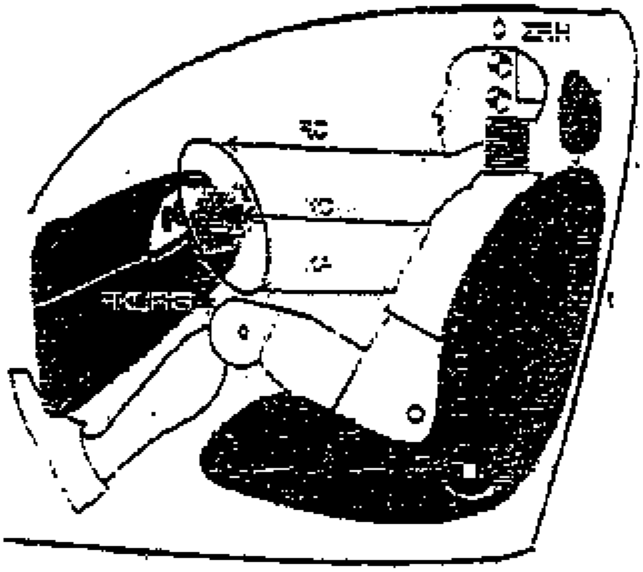
Test Report No.: ____________

Vehicle No.: ____________

Test No.: ____________

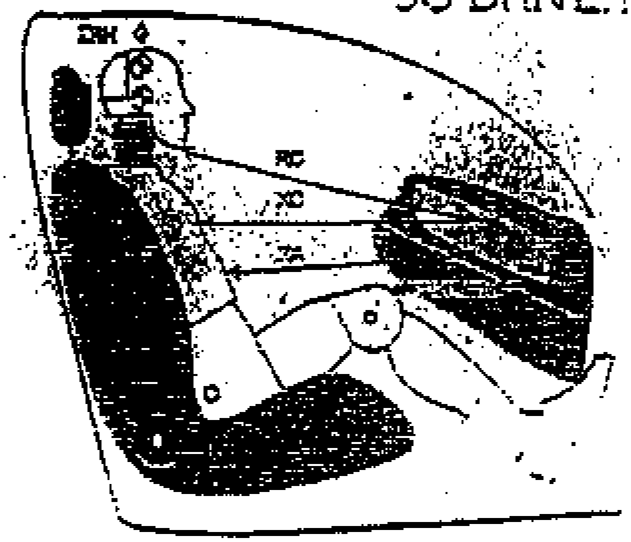
DRIVER

ZRH: ____________
RC: 380 mm
XC: 180 mm
XA: 205 mm
RKL: 100 mm
RKR: 110 mm
sat/st
H-Point inner X: ____________
H-Point outer X: ____________
H-Point inner Z: ____________
H-Point outer Z: ____________
Knee distance: ____________
Pelvis angle: 24°



CO DRIVER

ZRH: ____________
RC: 695 mm
XC: 625 mm
XA: 425 mm
RKL: 50 mm
RKR: 70 mm
sat/st
H-Point inner X: ____________
H-Point outer X: ____________
H-Point inner Z: ____________
H-Point outer Z: ____________
Knee distance: ____________
Pelvis angle: 24°

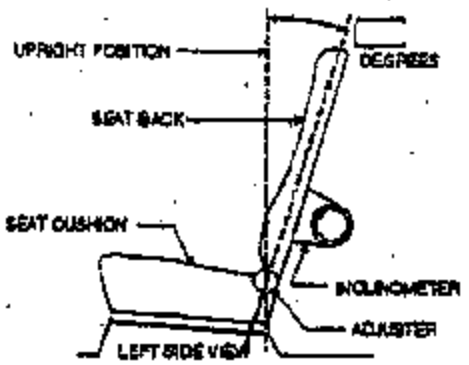


all dimensions in [mm]

TEST VEHICLE INFORMATION

Vehicle Model Year and Make: 2003 Focus
Vehicle Model and Body Style: North American Focus

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.
Seat back angle for driver's seat =24deg.
Measurement instructions:
Seat back angle is measured and adjusted with the manikin in the seat



Seat back angle for passenger's seat =24 deg.
Measurement instructions:

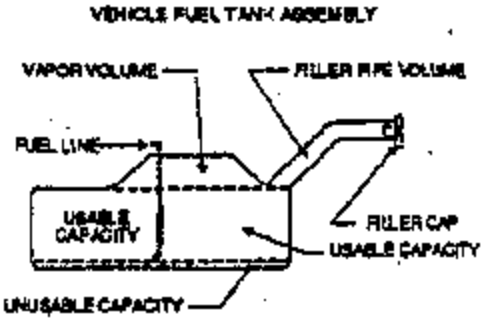
See above

2. SEAT FORE AND AFT POSITIONS –
Provide instructions for positioning the driver and front outboard passenger seat(s) in the center of fore and aft travel. For example, provide information to locate the detent in which the seat track is to be locked.
Position of the driver's seat:
Notch rear ward of geometric mid position is used.
Seat height: Fully down is used with headrest in fully up position.

Position of the passenger's seat (if applicable):
See above

3. FUEL TANK CAPACITY DATA –

3.1. A. "Usable Capacity" of standard equipment fuel tank = 13.2 gallons.
B. "Usable Capacity" of optional equipment fuel tank = _____ gallons.
C. Capacity used when certification testing to requirements of FMVSS 301 = _____ gallons.
Operational Instructions:



FORM 1

3.2 Amount of Stoddard solvent added to vehicle for certification test = 12.3 gallons.

3.3 Is vehicle equipped with electric fuel pump? X YES _____ NO

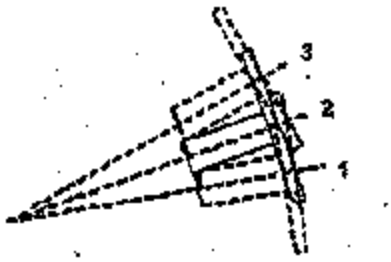
If YES, does pump normally operate when vehicle's electrical system is activated?
X YES _____ NO

4. STEERING COLUMN ADJUSTMENTS –

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

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

STEERING COLUMN ASSEMBLY



LEFT SIDE VIEW

Operational instructions:

Geometric mid is calculated from fully up, fully forward and fully rearward, fully down, fully forward, fully rearward; mid position

X=2680, y=338, z=1093

5. SEATING REFERENCE POINT (SRP) –

Provide drawing which shows the driver's SRP location.

6. FUEL TANK LOCATION –

Provide drawing which shows the undercarriage view of the vehicle.

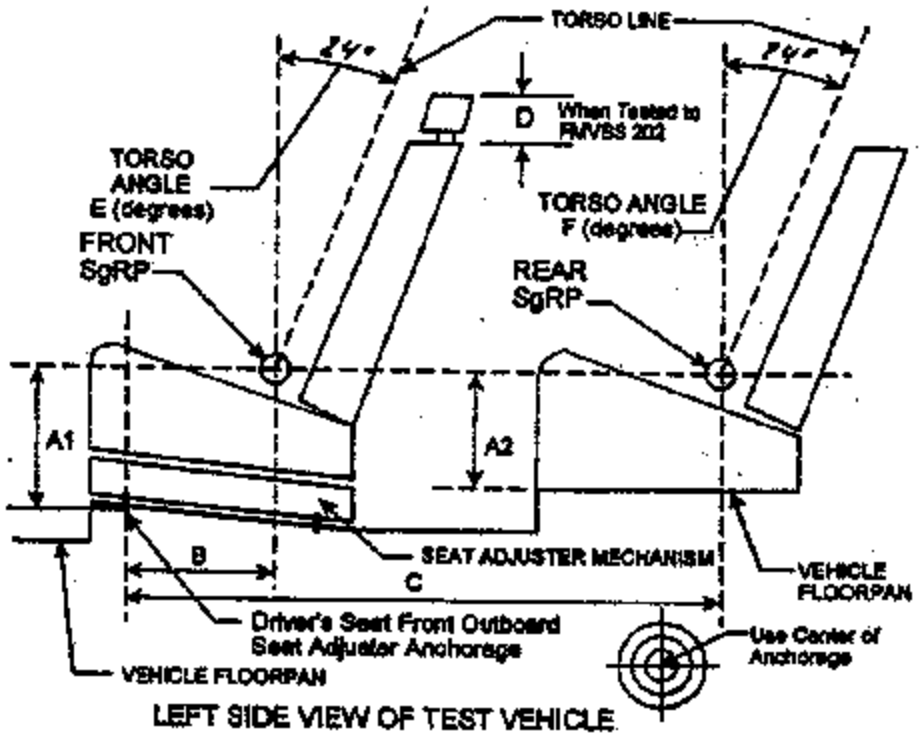
7. Dummy Measurements for front Seat Passengers

Crash Test 12227 (90° Front Fixed Barrier)

<u>Driver</u>	
NR – Nose to Rim	450mm
CS – Steering Wheel to Chest	238mm
KDL – Knee to Dash	102mm
KDR – Knee to Dash	102mm
<u>Passenger</u>	
NR – Nose to Rim	599mm
CS – Steering Wheel to Chest	503mm
KDL – Knee to Dash	102mm
KDR – Knee to Dash	99mm

SEAT REFERENCE POINT (SRP) AND TORSO ANGLE DATA
FOR FMVSS 201, 202, 203, 207 & 210
(All dimensions in inches)

Model Year: _____; Make: Ford ; Model: C170 (Focus)
Body Style: All Seat Style: All

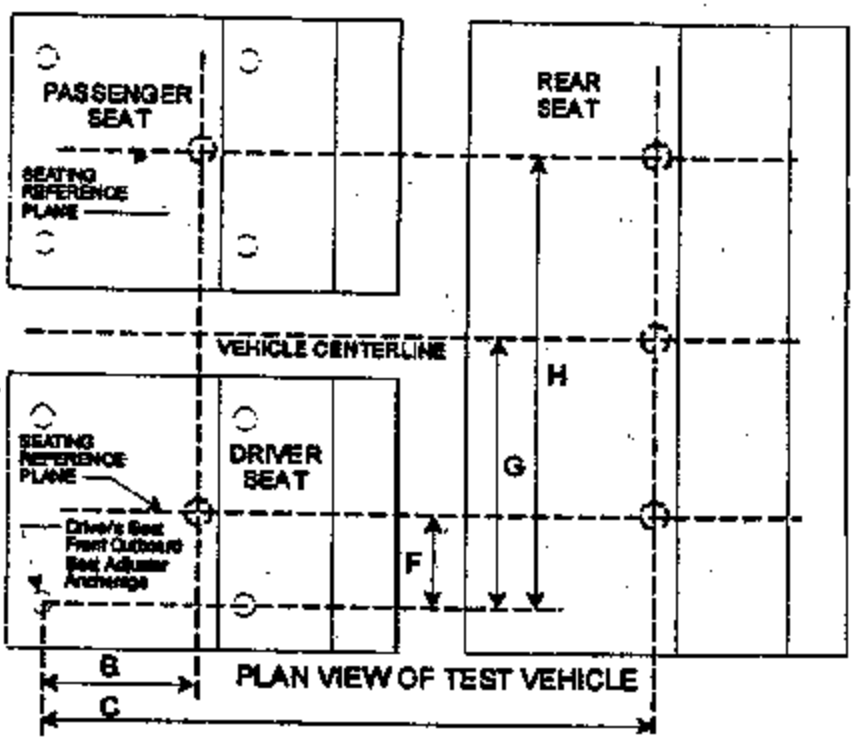


LEFT SIDE VIEW OF TEST VEHICLE

DIMENSION	FRONT, A1	REAR, A2
A	258 mm	
B	366 mm	
C	1151 mm	
D		
E	_____	
F	_____	

SEATING REFERENCE POINT (SRP) AND TORSO ANGLE DATA FOR FMVSS 201, 202, 203, 207 & 210
(All dimensions in inches)

Model Year: _____; Make: Ford Model: C170 (Focus)
Body Style: All Seat Style: All



B	366mm
C	1151mm
F*	249mm
G	594mm
H*	939mm

* Provide all dimensions needed to locate SRP.