V3353

REPORT NO. 208-MGA-2000-06

SAFETY COMPLIANCE SLED TESTING FOR FMVSS 208 OCCUPANT CRASH PROTECTION

Ford Motor Company
2000 Ford Focus 4 Door
NHTSA NO. CY0210

MGA RESEARCH CORPORATION
5000 WARREN ROAD
BURLINGTON, WI 53105

Test Date: May 5, 2000

Report Date: May 8, 2000

FINAL REPORT

Prepared For:
U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
SAFETY ASSURANCE
OFFICE OF VEHICLE SAFETY COMPLIANCE
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400 SEVENTH STREET, S.W., ROOM 6115
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PREPARED BY: _____
Chad Gadberry, Project Engineer
MGA Research Corporation

APPROVED BY: _____ DATE: 5/25/00
David Winkelbauer, Facility Director
MGA Research Corporation

Technicians:
Cyndie Clausen
Chris Kulis
Tim Michnay
Doug Miller
Chris Novak
Kurt Range
John Slatner
John Wistert

Secretary: Donna M. Janovicz

FINAL REPORT ACCEPTED BY:

_____
Contracting Officer's Technical Representative (COTR)
NHTSA, Office of Vehicle Safety Compliance

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		14. Sponsoring Agency Code NSA-30	
15. Supplementary Notes			
16. Abstract A compliance test (sled test) was conducted on the subject 2000 Ford Focus 4 Door 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:			
17. Key Words Compliance Testing Safety Engineering FMVSS 208S		18. Distribution Statement Copies of this report are available from: NHTSA Technical Reference Division, Room 5108, (NAD-40) 400 Seventh Street, S.W. Washington, D.C. 20590 Telephone No. (202) 366-4946	
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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). The purpose of this test was to determine if the subject vehicle, a 2000 Ford Focus 4 Door, NHTSA No. CY0210, meets the performance requirements of FMVSS 208, "Occupant Crash Protection," in the impact simulation sled test mode.

Test Procedure

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

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

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

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

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

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

Test Results Summary

This FMVSS 208 compliance sled test was conducted at MGA Research Corporation on May 5, 2000.

The test vehicle, a 2000 Ford Focus 4 Door, NHTSA No. CY0210, 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	209	297
Chest g	60 g	35.9 g	32.1 g
Chest displacement	3 inches	0.8 in	0.4 in
Left Femur	2250 lb	1149 lb	1042 lb
Right Femur	2250 lb	1161 lb	597 lb
Neck Extension	57 Nm	1.4 Nm	9.7 Nm
Neck Flexion	190 Nm	51.7 Nm	35.4 Nm
Neck Tension	3300 N	**	1034 N
Neck Compression	4000 N	**	752 N
Neck Shear	3100 N	932 N	931 N

** - No valid data collected

The vehicle also appears to meet the other FMVSS 208 requirements for which it was tested, excluding the absence of an airbag warning label on the steering wheel hub or dash. 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 16.9 g with an integrated velocity change of 29.3 mph. After filtering the acceleration signal to Channel Class 60, the airbag system was triggered 19.8 milliseconds after 0.5 g acceleration.

INCLUDE DISCUSSION OF LOST CHANNELS OR OTHER TEST ISSUES.

No valid data was collected from the Driver Neck Force Z channel.

Sled Test Summary

Vehicle NHTSA No.: CY0210 Test Mode: FMVSS 208 SLED TEST

Vehicle Yr/Make/Model/Body Style: 2000/Ford/Focus/4 Door

Test Date: May 5, 2000 Time: 11:50 a.m. Temp: 72°F

Vehicle Test Weight: 3129 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 inches shift;	0 inches shift
Seat Back Failure -	No	No

VISIBLE DUMMY CONTACT POINTS:	**DRIVER**	**PASSENGER**
Head	airbag/sun visor/roof	airbag/sun visor
Chest	airbag	airbag
Left Knee	knee bolster	glove box
Right Knee	knee bolster	glove box

General Test And Vehicle Parameter Data

Vehicle Yr/Make/Model/Body Style: 2000/Ford/Focus/4 Door

Vehicle NHTSA No.: CY0210 VIN: 1FAFP33P3YW236785 Color: Silver

Engine Data:

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

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

Transmission Data:

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

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, tinted glass

Date Received: 4/3/00 ; Odometer Reading: 101 miles

Selling Dealer: Hults Ford Mercury, Inc., Stoughton, WI 53589

REMARKS: None

General Test And Vehicle Parameter Data (Cont.)

DATA FROM VEHICLE'S CERTIFICATION LABEL:

Vehicle Manufactured By: Ford Motor Company

Date of Manufacture: Jan. 2000 ; VIN: 1FAFP33P3YW236785

GVWR: 3640 lbs; GAWR Front: 1984 lbs.

GAWR Rear: 1745 lbs.

DATA FROM TIRE PLACARD:

Tire Pressure with Maximum Capacity Vehicle Load:

FRONT: 32 psi REAR: 32 psi

Recommended Tire Size: P175/70R14, P185/65R14, or P195/60R15 ;

Recommended Cold Tire Pressure:

FRONT: 32 psi REAR: 32 psi

Size of Tires on Test Vehicle: P185/65R14

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) = 880 lbs.

No. Of Occupants x 150 lbs = 750 lbs.

Rated Cargo/Luggage Weight (RCWL) = 130 lbs. (Difference)

General Test And Vehicle Parameter Data (Cont.)

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

Right Front =	806 lbs.	Right Rear =	537 lbs.
Left Front =	792 lbs.	Left Rear =	520 lbs.
TOTAL FRONT =	1598 lbs.	TOTAL REAR =	1057 lbs.
% Total Weight =	60.1 %	% Total Weight =	39.8 %

TOTAL DELIVERED WEIGHT = 2655 lbs.

WEIGHT OF FULLY LOADED TEST VEHICLE WITH TWO DUMMIES AND 130 POUNDS OF CARGO WEIGHT:

Right Front =	893 lbs.	Right Rear =	688 lbs.
Left Front =	874 lbs.	Left Rear =	674 lbs.
TOTAL FRONT =	1767 lbs.	TOTAL REAR =	1362 lbs.
% Total Weight =	56.5 %	% Total Weight =	43.5 %

TOTAL WEIGHT = 3129 lbs.

TEST VEHICLE ATTITUDE: (all measurements in degrees)

AS DELIVERED DOOR SILL ANGLE:	0.3° nose down
AS TESTED DOOR SILL ANGLE:	0.3° nose down
FULLY LOADED DOOR SILL ANGLE:	0.3° nose down

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:	HT00050501
NHTSA number:	CY0210
Test date:	May 5, 2000
Test time:	11:50 a.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:	29.3 mph
Specified integrated velocity range:	28 to 30 mph

Sled Carriage Acceleration:

Acceleration:	16.9 g
Specified Acceleration Range:	16.0 - 18.2 g

Sled Carriage Acceleration Duration:

Time from T-0 (-0.5 g) to 0.0 g:	124.6 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: 2000/Ford/Focus/4 Door

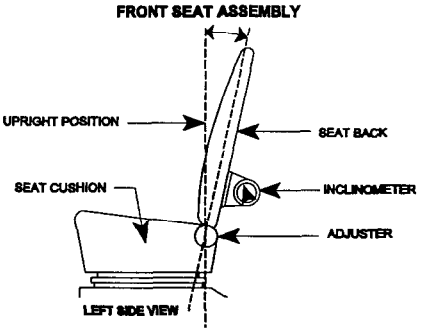
Vehicle NHTSA No.: CY0210 Test Date: May 5, 2000

NOMINAL DESIGN RIDING POSITION:

Driver Seat: Seat Back Angle = 16.6°*

Passenger Seat: Seat Back Angle = 16.5°*

* - As measured at headrest post



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 position was non-adjustable.

Dummy Positioning Measurement Table

Vehicle Year/Make/Model/Body Style: 2000/Ford/Focus/4 Door

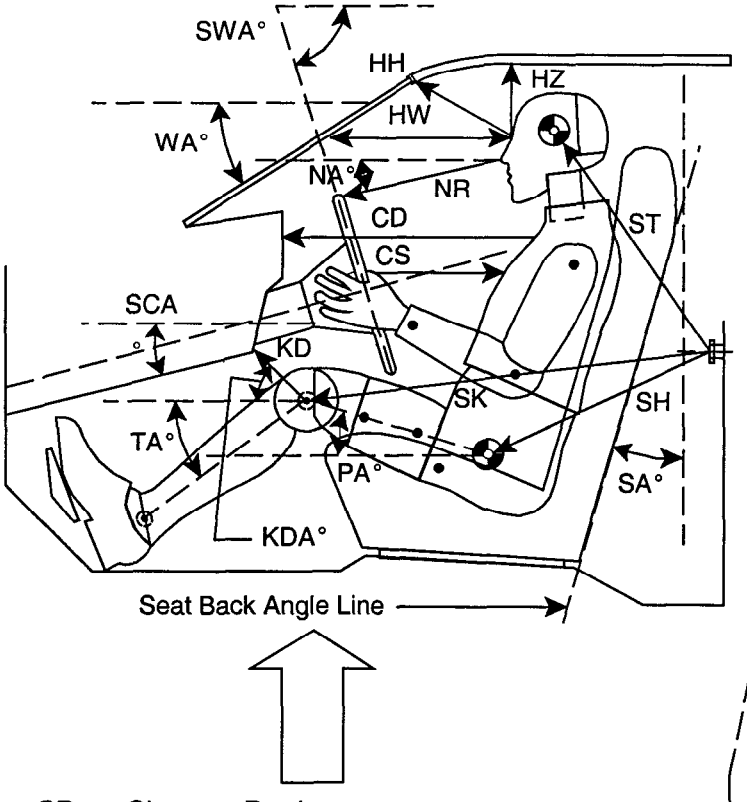
Vehicle NHTSA No.: CY0210 Test Date: May 5, 2000

	DRIVER (Serial #312)	PASSENGER (Serial #340)
WA°	27.9°	
SWA°	24.4°	N/A
SCA°	24.5°	N/A
SA°*	16.6°	16.5°
HZ	8.3	6.9
HH	14.4	13.7
HW	26.4	24.7
HR	9.9	8.7
NR	17.4 Angle (NA°) 8.6°	N/A
CD	21.7	20.8
CS	13.6	N/A
RA	8.6	N/A
KDL	6.5 Angle (KDA°) 8.6°	7.0
KDR	6.5	6.9 Angle (KDA°) 16.2°
PA°	24.4°	22.9°
TA°	49.5°	40.2°
KK	11.7	10.0
ST	20.0 Angle 1.2°	21.4 Angle 2.6°
SK	21.7 Angle 91.8°	22.2 Angle 91.6°
SH	8.2 Angle 122.8°	7.5 Angle 117.6°
SHY	9.2	9.1
HS	12.0	11.7
HD	3.8	3.7
AD	3.6	3.5

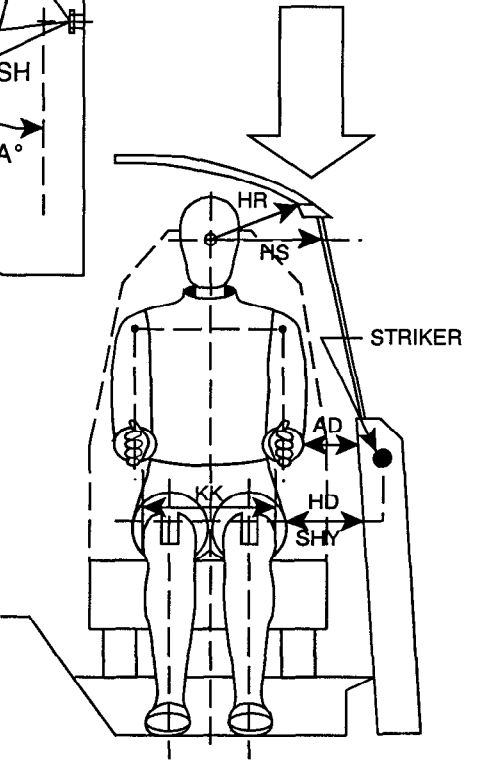
* - Measured at headrest post

Dummy Positioning Measurement Locations

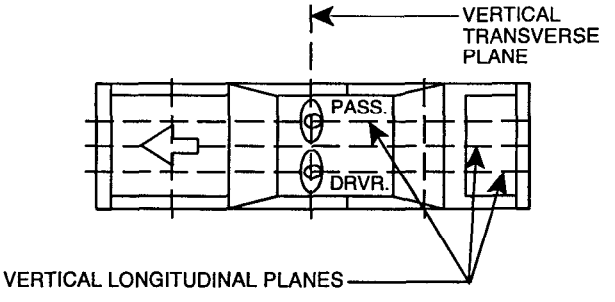
DUMMY MEASUREMENT FOR FRONT SEAT PASSENGERS



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

Description of Dummy Measurements (Cont.)

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

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

HS — Head to Side Window, taken from the point where the dummy's nose meets his forehead (between his eyes) to the outside of the side window. In order to make this measurement, roll the window down to the exact height which allows a level measurement. Use a level. See photograph.

* AD — Arm to Door, taken from the outer surface of the elbow pivot bolt on a Hybrid II dummy to the first point it hits on the door. In the case of a Hybrid III dummy, measure from the bolt on the outer biceps. When a SID is used make the measurement from the center of the bottom of the arm segment where it meets the dummy's torso.

* HD — H-point to Door, taken from the H-point on the dummy to the closest point on the door. Use a level.

* HR — Head to Side Header, measure the shortest distance from the point where the dummy's nose meets his forehead (between his eyes) to the side edge of the header just above the window frame, directly adjacent to the dummy.

SHY — Striker to H-point, taken from a rod rigidly connected to the forward most center point on the striker to the H-point. Use a level. See photograph.

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

* Measurement used in Data Tape Reference Guide

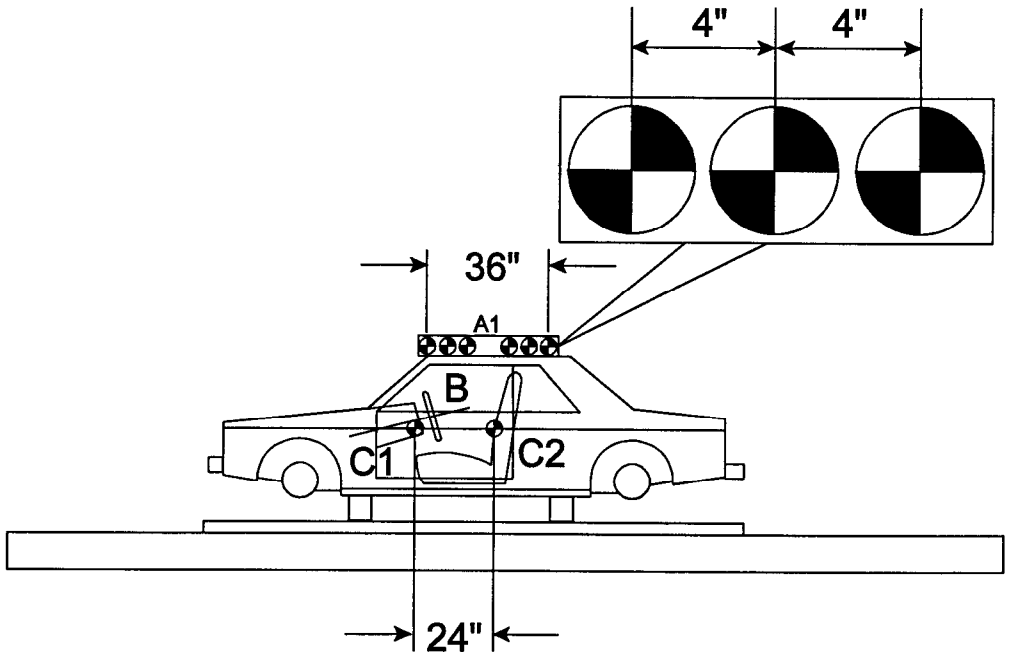
Description of Dummy Measurements (Cont.)

Angles

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

Vehicle Targeting Measurements

REFERENCE PHOTO TARGETS

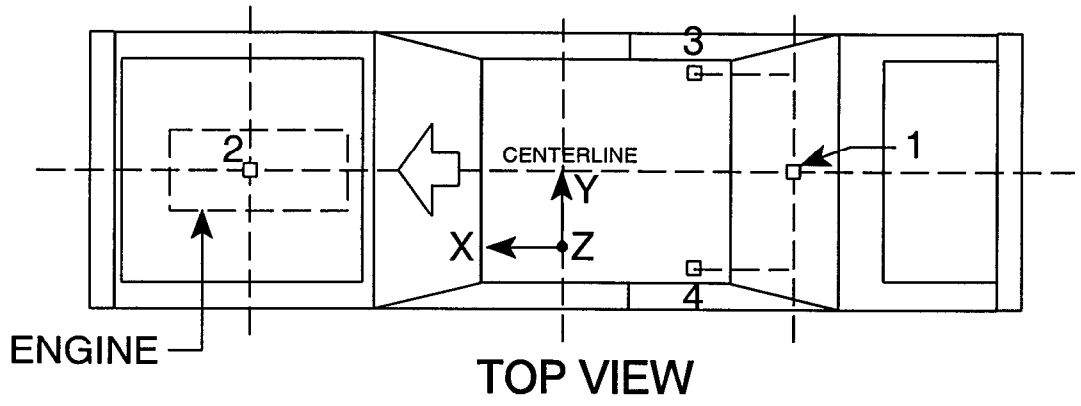


LEFT SIDE VIEW

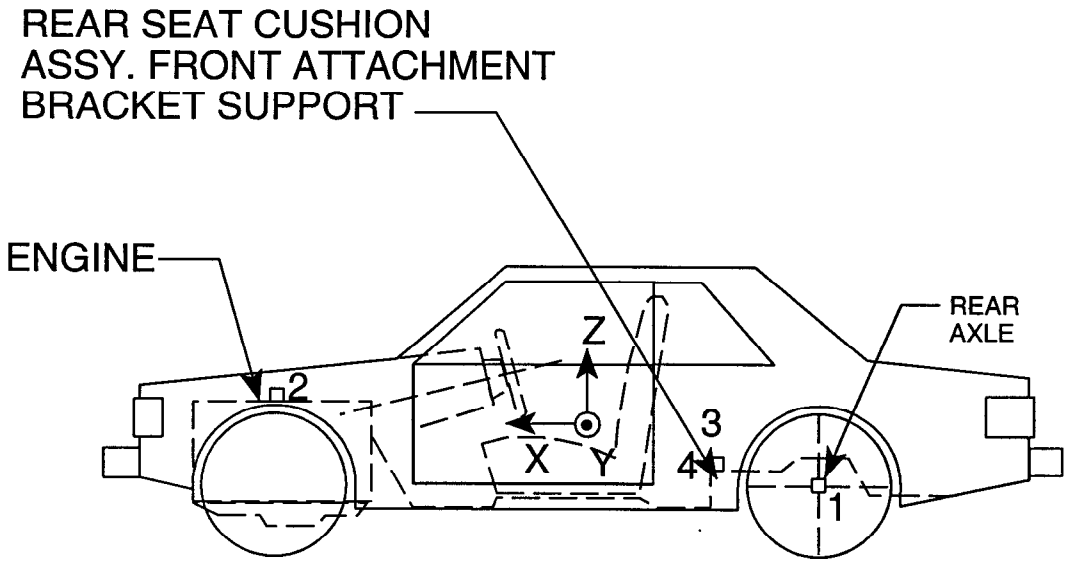
Vehicle Accelerometer Placement and Data Summary

Vehicle Year/Make/Model/Body Style: 2000/Ford/Focus/4 Door

Vehicle NHTSA No.: CY0210 Test Date: May 5, 2000



TOP VIEW



LEFT SIDE VIEW

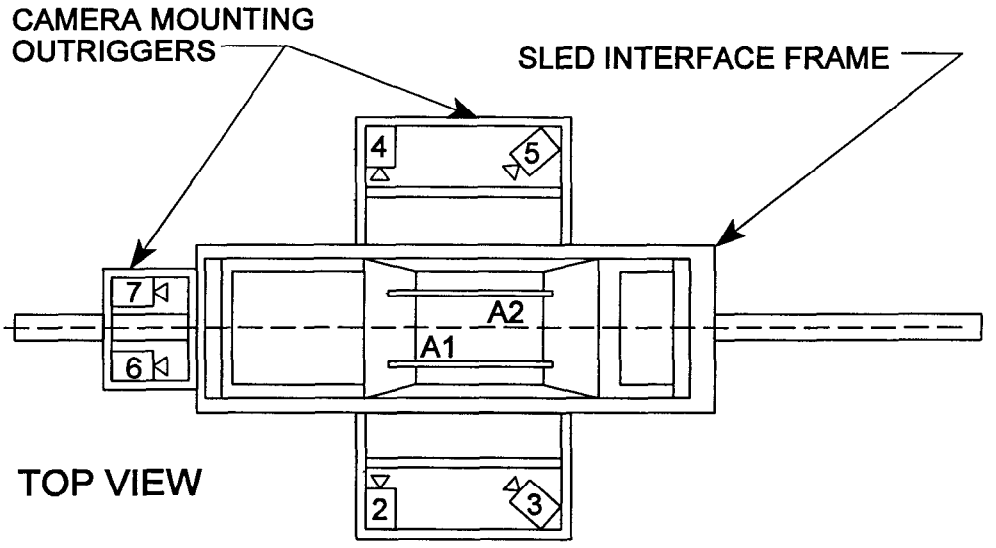
Vehicle Accelerometer Location Measurements and Data Summary

Vehicle Year/Make/Model/Body Style: 2000/Ford/Focus/4 Door

Vehicle NHTSA No.: CY0210 Test Date: May 5, 2000

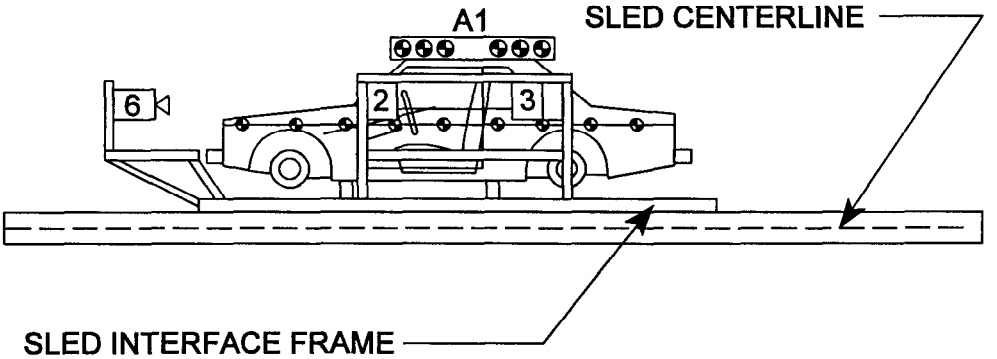
No.	Location	X (in)	Y (in)	Positive Direction		Negative Direction	
				Value	Time (msec)	Value	Time (msec)
	Sled Primary Longitudinal	67.0	0	16.9 g	56	-1.3 g	168
	Sled Redundant Longitudinal	114.0	0	16.7 g	56	-1.6 g	128
	Sled Velocity Measured Integrated	67.0	0	29.3 mph	125	--	--
1	Rear Axle Longitudinal	30.9	0	19.5 g	52	-1.3 g	172
2	Top Engine Longitudinal	135.4	0	19.3 g	53	-1.4 g	164
3	Right Rear Seat Member Longitudinal	71.6	27.3	18.2 g	54	-1.5 g	128
4	Left Rear Seat Member Longitudinal	71.6	27.3	18.9 g	73	-2.9 g	134

Camera Positions



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	76.0	97.6	57.1	90	72.8	13	1042
3	Onboard Driver Angle	109.1	97.6	66.9			13	1026
4	Onboard Passenger	73.6	101.2	57.5	90	72.8	13	909
5	Onboard Passenger Angle	107.9	98.0	68.1			13	870
6	Onboard Windshield Driver	47.6	13.4	61.8			13	803
7	Onboard Windshield Passenger	47.6	13.4	62.3			13	1010

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: 2000/Ford/Focus/4 Door

Vehicle NHTSA No.: CY0210 Test Date: May 5, 2000

MAXIMUM ACCELERATION VALUES: (g's)	DRIVER DUMMY #312	PASSENGER DUMMY #340
Head Channel X	-46.3	-43.1
Head Channel Y	14.4	-23.7
Head Channel Z	21.4	25.8
HEAD RESULTANT	49.6	48.4
Chest Channel X	-34.7	-29.7
Chest Channel Y	9.5	-7.5
Chest Channel Z	13.0	18.4
CHEST RESULTANT	36.8	32.9

HEAD INJURY CRITERIA (HIC) VALUES:

HIC	209	297
t_1 = (msec)	97.4	97.0
t_2 = (msec)	133.4	133.0

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

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

CLIP	35.9	32.1
t_1 = (msec)	94.4	93.8
t_2 = (msec)	97.5	96.9
CHEST DEFLECTION (in)	0.8	0.4

Occupant Injury Data (Cont.)

MAX. COMPRESSIVE FEMUR FORCES:	DRIVER DUMMY #312	PASSENGER DUMMY #340
Left Side (lbs)	1149	1042
Right Side (lbs)	1161	597

NECK INJURY CRITERIA:

Peak Flexion Bending Moment about the Occipital Condyle (N-m)	51.7	35.4
Peak Extension Bending Moment about the Occipital Condyle (N-m)	1.4	9.7
Peak Axial Tension (N)	**	1034
Peak Axial Compression (N)	**	752
Peak Fore Shear (N)	932	931
Peak Aft Shear (N)	223	64

** - No valid data collected

Seat Belt Warning System Data

Vehicle Year/Make/Model/Body Style: 2000/Ford/Focus/4 Door

NHTSA No.: CY0210 ; Technician: Chad Gadberry ; Date: April 19, 2000

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

A. With occupant in driver's position and lap belt in stowed position and ignition switch placed in "Start/On" position:

A.1 S7.3(a)(1)
Time duration of audible warning signal = 6 seconds
(4 to 8 seconds)

Time duration of reminder light operation = >60 seconds
(no less than 60 seconds)

A.2 S7.3(a)(2)
Time duration of audible warning signal = ____ seconds
(4 to 8 seconds)(see 49 USCS @ 30124)

Time duration of reminder light operation = ____ seconds
(4 to 8 seconds)

B. With occupant in driver's position and lap belt in use and ignition switch placed in "Start/On" position:

B.1 S7.3(a)(1)
Time duration of audible warning signal = 0 seconds
(audible warning not required)

Time duration of reminder light operation = 0 seconds
(reminder light not required)

B.2 S7.3(a)(2)
Time duration of audible warning signal = ____ seconds
(audible warning not required)

Time duration of reminder light operation = ____ seconds
(4 to 8 seconds)

C. Note wording of visual warning:
Fasten seat belt _____
Fasten Belt _____
Symbol 101 X

Readiness Indicator

Vehicle Year/Make/Model/Body Style: 2000/Ford/Focus/4 Door

NHTSA No.: CY0210 ; Technician: Chad Gadberry ; Date: April 19, 2000

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: 2000/Ford/Focus/4 Door

NHTSA No.: CY0210 ; Technician: Chad Gadberry ; Date: April 19, 2000

1. Air bag maintenance label and owner's manual instructions (S4.5.1(a)):

   1.1. Does the manufacturer recommend periodic maintenance or replacement of the airbag? ( )Yes, go to 1.2 (X) No, go to 2

   1.2. Does the vehicle have a maintenance or replacement label?
   ( )Yes-Pass ( ) **No-FAIL**

   1.3. Does the label contain one of the following?
   ( )Yes-Pass ( ) **No-FAIL**
   ( ) Schedule on label specifies month and year (Date:_____)
   ( ) Schedule on label specifies vehicle mileage (Mileage:_____)
   ( ) Schedule on label specifies interval measured from date on certification label (Date:_____)

   1.4. Is the label permanently affixed within the passenger compartment?
   ( )Yes-Pass ( ) **No-FAIL**

   1.5. Is the label lettered in English?
   ( )Yes-Pass ( ) **No-FAIL**

   1.6. Is the label in block capitals and numerals?
   ( )Yes-Pass ( ) **No-FAIL**

   1.7. Are the letters and numerals at least 3/32 inches high?
   ( )Yes-Pass ( ) **No-FAIL**

   1.8. Does the owner's manual set forth the recommended schedule for maintenance or replacement? ( )Yes-Pass ( ) **No-FAIL**

2. Does the owner's manual (S4.5.1(f)):

   2.1 Include a description of the vehicle's airbag system in an easily understandable format? (X)Yes-Pass ( ) **No-FAIL**

   2.2 Include a statement that the vehicle is equipped with an airbag and a lap/shoulder belt at the front outboard seating positions?
   (X)Yes-Pass ( ) **No-FAIL**

Air Bag Labels Data (Cont.)

2.3 Include a statement that the air bag is a supplemental restraint at the front outboard seating positions?

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

2.4 Emphasize that all occupants, including the driver, should always wear their seat belts whether or not an airbag is also provided at their seating positions to minimize the risk of severe injury or death in the event of a crash?

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

2.5 Provide any necessary precautions regarding the proper positioning of occupants, including children, at seating positions equipped with air bags to insure maximum safety protection for those occupants?

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

2.6 Explain that no objects should be placed over or near the air bag on the steering wheel or on the instrument panel, because any such objects could cause harm if the vehicle is in a crash severe enough to cause the air bag to inflate?

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

3. Does the vehicle:

3.1. Provide an automatic means to ensure that the airbag does not deploy when a child seat or child with a total mass of 30 kg or less is present on the front outboard passenger? ( )Yes (X) No

3.2. Incorporate sensors, other than or in addition to weight sensors, which automatically prevent the passenger air bag from deploying in situations in which it might have an adverse effect on infants in rear-facing child seats, and unbelted or improperly belted children? ( )Yes (X) No

3.3. Have a passenger air bag designed to deploy in a manner that does not create a risk of serious injury to infants in rear-facing child seats, and unbelted or improperly belted children? ( )Yes (X) No

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

4. Sun Visor Warning Label

4.1. Is the label permanently affixed (may be permanent marking or molding) to either side of the sunvisor at each front outboard seating position with an airbag? (S4.5.1(b)(2))

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

Passenger Side - ( ) N/A (X)Yes-Pass ( ) **No-FAIL**

Air Bag Labels Data (Cont.)

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

4.2.1 **Dual air bags:** ( ) Not Applicable
Driver Side - (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?
( ) Not Applicable
Driver Side - ( )Yes-Pass ( ) **No-FAIL**

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

DEATH or SERIOUS INJURY can occur.
• Sit as far back as possible from the air bag.
• ALWAYS use SEAT BELTS and CHILD RESTRAINTS
• The BACK SEAT is the SAFEST place for children.

( ) Not Applicable
Driver Side - ( )Yes-Pass ( ) **No-FAIL**

Air Bag Labels Data (Cont.)

SUN VISOR LABEL VISIBLE WHEN VISOR IS IN DOWN POSITION

LABEL OUTLINE, VERTICAL AND HORIZONTAL LINE BLACK

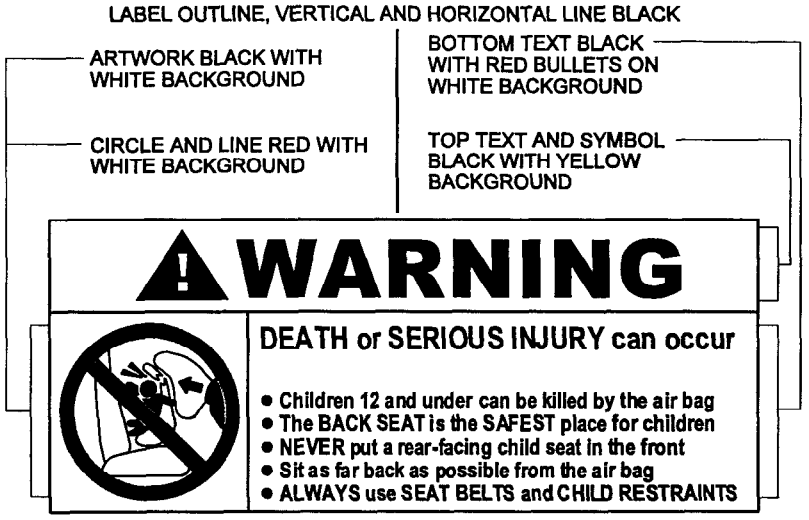


Figure 6a (S4.5.1(b)(2))

SUN VISOR LABEL VISIBLE WHEN VISOR IS IN DOWN POSITION

LABEL OUTLINE, VERTICAL AND HORIZONTAL LINE BLACK

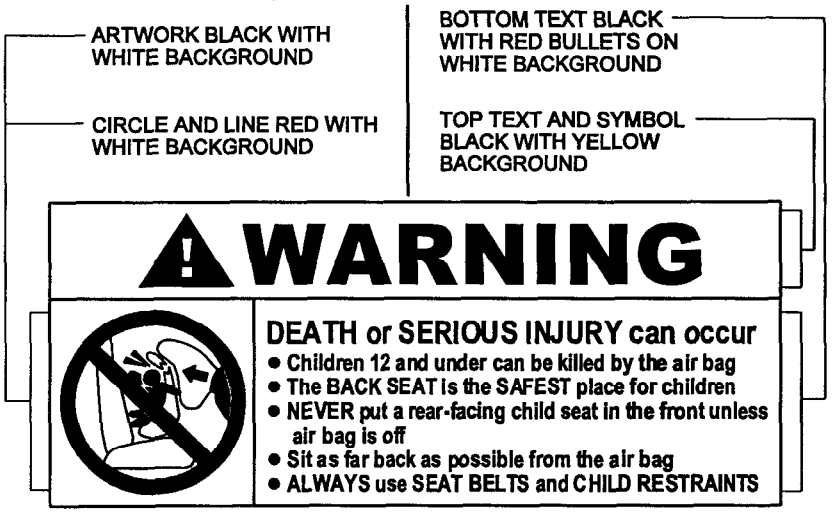


Figure 6b (S4.5.1(b)(2))

4.3 Is the label heading area yellow with the word "warning" and the alert symbol in black? (S4.5.1(b)(2)(i)) Driver Side - (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**

Air Bag Labels Data (Cont.)

4.5 Is the message area at least 30 cm^2? (S4.5.1(b)(2)(ii))
Actual message area: 49 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	( ) **No-FAIL**
Passenger Side -	( )No air bag	( )Yes-Pass	( ) **No-FAIL**

5.3 Is the message area black with yellow text? (S4.5.1(c)(2)(i))

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

Air Bag Labels Data (Cont.)

5.4 Is the message area at least 20 cm^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**

SUN VISOR LABEL VISIBLE WHEN VISOR IS IN UP POSITION

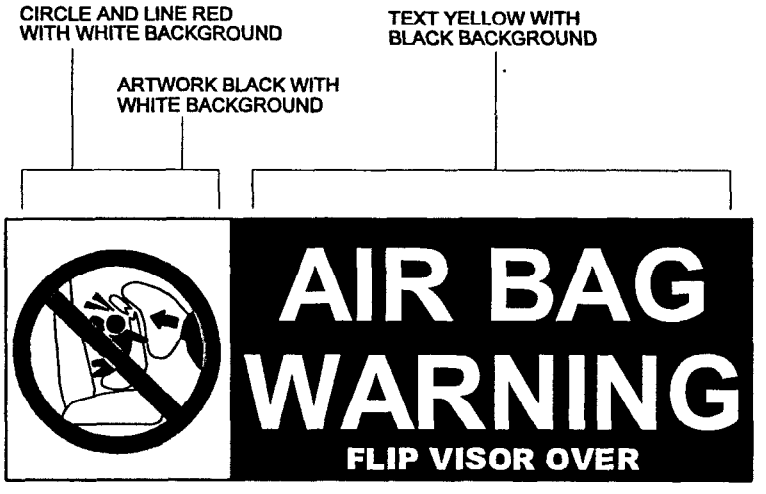


Figure 6c (S4.5.1(c)(2))

6. Label On the Dash

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

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

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

* It is not known whether the label was removed by the dealer, by a potential customer, or not installed at all. Therefore, it is not marked as a pass or fail.

Air Bag Labels Data (Cont.)

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

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

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

REMOVABLE LABEL ON DASH

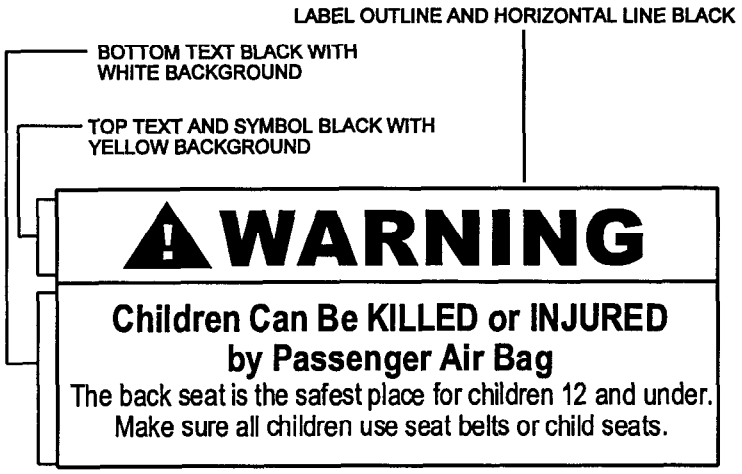


Figure 7 (S4.5.1(e))

Rear Outboard Seating Position Seat Belt Data

Vehicle Year/Make/Model/Body Style: 2000/Ford/Focus/4 Door

NHTSA No.: CY0210 ; Technician: Chad Gadberry ; Date: April 19, 2000

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: 2000/Ford/Focus/4 Door

NHTSA No.: CY0210 ; Technician: Chad Gadberry ; Date: April 19, 2000

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

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

Designated Seating Position (DSP): Right front

1. Record the seating position. Fully rearward
(S7.1.1.5(c)(1))
(Any position is acceptable.)

2. Buckle the seat belt. (S7.1.1.5(c)(1))

3. Complete any procedures recommended in the vehicle owner's manual to activate any locking feature. (S7.1.1.5(c)(1))

4. Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT have to be attached by the vehicle user to the seat belt webbing, retractor, or any other part of the vehicle. (S7.1.1.5(a))

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

5. Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT require inverting, twisting or deforming of the belt webbing. (S7.1.1.5(a))

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

6. Does the vehicle user need to take some action to activate the locking feature on the lap belt portion of the seat belt in any forward-facing seat or seat that can be adjusted to forward-facing? (X)Yes, go to 6.1 ( ) No, go to 7.

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

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

7. Locate a reference point A on the seat belt buckle. (S7.1.1.5(c)(2))

Lap Belt Lockability Data (Cont.)

8. Locate a reference point B on the attachment hardware or retractor assembly at the other end of the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))

9. Adjust the lap belt or lap belt portion of the seat belt assembly according to any procedures recommended in the vehicle owner's manual to activate any locking feature so that the webbing between points A and B is at the maximum length allowed by the belt system. (S7.1.1.5(c)(2))

10. Measure and record the distance between points A and B along the longitudinal centerline of the webbing for the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))

    Measured distance between A and B is 68 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

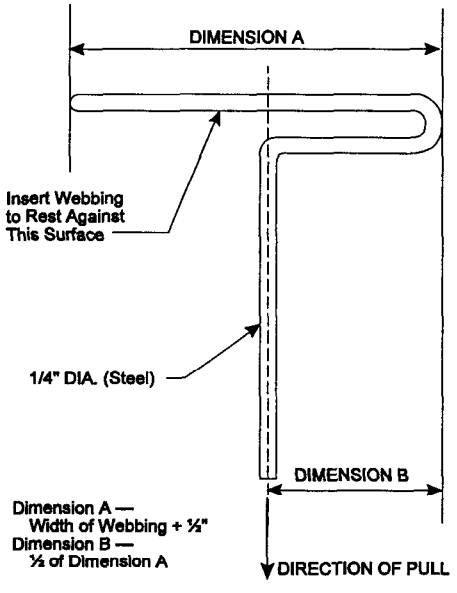


Figure 5 (S7.1.1.5(c)(4))

Lap Belt Lockability Data (Cont.)

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

    Measured distance between A and B is 17.5 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 19 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 = 1.5 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 = 49 inches (X)Yes-Pass ( ) **No-FAIL**

REMARKS: None

Lap Belt Lockability Data

Vehicle Year/Make/Model/Body Style: 2000/Ford/Focus/4 Door

NHTSA No.: CY0210 ; Technician: Chad Gadberry ; Date: April 19, 2000

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

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

Designated Seating Position (DSP): Left rear

1. Record the seating position. Non-adjustable
(S7.1.1.5(c)(1))
(Any position is acceptable.)

2. Buckle the seat belt. (S7.1.1.5(c)(1))

3. Complete any procedures recommended in the vehicle owner's manual to activate any locking feature. (S7.1.1.5(c)(1))

4. Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT have to be attached by the vehicle user to the seat belt webbing, retractor, or any other part of the vehicle. (S7.1.1.5(a))

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

5. Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT require inverting, twisting or deforming of the belt webbing. (S7.1.1.5(a))

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

6. Does the vehicle user need to take some action to activate the locking feature on the lap belt portion of the seat belt in any forward-facing seat or seat that can be adjusted to forward-facing? (X)Yes, go to 6.1 ( ) No, go to 7.

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

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

7. Locate a reference point A on the seat belt buckle. (S7.1.1.5(c)(2))

Lap Belt Lockability Data (Cont.)

8. Locate a reference point B on the attachment hardware or retractor assembly at the other end of the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))

9. Adjust the lap belt or lap belt portion of the seat belt assembly according to any procedures recommended in the vehicle owner's manual to activate any locking feature so that the webbing between points A and B is at the maximum length allowed by the belt system. (S7.1.1.5(c)(2))

10. Measure and record the distance between points A and B along the longitudinal centerline of the webbing for the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))

    Measured distance between A and B is 63 inches.

11. Readjust the belt system so that the webbing between points A and B is at any length that is 5 inches or more shorter than the maximum length of the webbing. (S7.1.1.5(c)(3))

12. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal. (S7.1.1.5(c)(4))

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

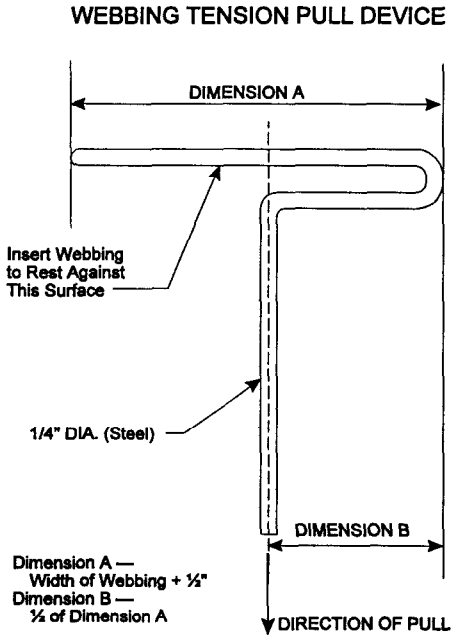


Figure 5 (S7.1.1.5(c)(4))

Lap Belt Lockability Data (Cont.)

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

Measured distance between A and B is 17.5 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 19 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 = 1.5 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 = 44 inches (X)Yes-Pass ( ) **No-FAIL**

REMARKS: None

Lap Belt Lockability Data

Vehicle Year/Make/Model/Body Style: 2000/Ford/Focus/4 Door

NHTSA No.: CY0210 ; Technician: Chad Gadberry ; Date: April 19, 2000

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))

Lap Belt Lockability Data (Cont.)

8. Locate a reference point B on the attachment hardware or retractor assembly at the other end of the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))

9. Adjust the lap belt or lap belt portion of the seat belt assembly according to any procedures recommended in the vehicle owner's manual to activate any locking feature so that the webbing between points A and B is at the maximum length allowed by the belt system. (S7.1.1.5(c)(2))

10. Measure and record the distance between points A and B along the longitudinal centerline of the webbing for the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))

    Measured distance between A and B is 63 inches.

11. Readjust the belt system so that the webbing between points A and B is at any length that is 5 inches or more shorter than the maximum length of the webbing. (S7.1.1.5(c)(3))

12. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal. (S7.1.1.5(c)(4))

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

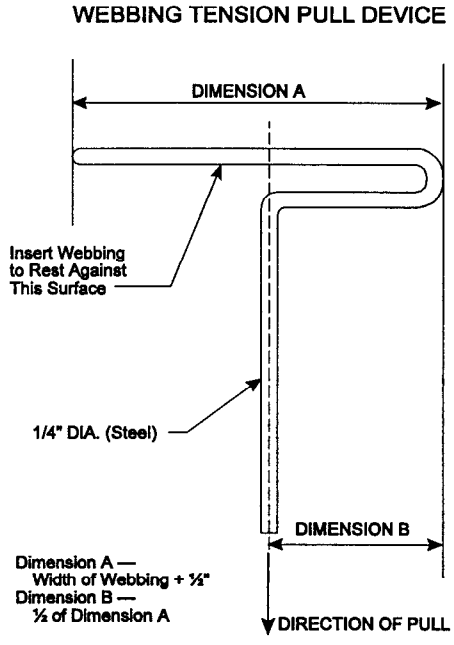


Figure 5 (S7.1.1.5(c)(4))

Lap Belt Lockability Data (Cont.)

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

Measured distance between A and B is 17.5 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 19 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 = 1.5 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 = 44 inches (X)Yes-Pass ( ) **No-FAIL**

REMARKS: None

Lap Belt Lockability Data

Vehicle Year/Make/Model/Body Style: 2000/Ford/Focus/4 Door

NHTSA No.: CY0210 ; Technician: Chad Gadberry ; Date: April 19, 2000

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

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

Designated Seating Position (DSP): Right rear

1. Record the seating position. Non-adjustable
(S7.1.1.5(c)(1))
(Any position is acceptable.)

2. Buckle the seat belt. (S7.1.1.5(c)(1))

3. Complete any procedures recommended in the vehicle owner's manual to activate any locking feature. (S7.1.1.5(c)(1))

4. Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT have to be attached by the vehicle user to the seat belt webbing, retractor, or any other part of the vehicle. (S7.1.1.5(a))

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

5. Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT require inverting, twisting or deforming of the belt webbing. (S7.1.1.5(a))

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

6. Does the vehicle user need to take some action to activate the locking feature on the lap belt portion of the seat belt in any forward-facing seat or seat that can be adjusted to forward-facing? (X)Yes, go to 6.1 ( ) No, go to 7.

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

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

7. Locate a reference point A on the seat belt buckle. (S7.1.1.5(c)(2))

Lap Belt Lockability Data (Cont.)

8. Locate a reference point B on the attachment hardware or retractor assembly at the other end of the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))

9. Adjust the lap belt or lap belt portion of the seat belt assembly according to any procedures recommended in the vehicle owner's manual to activate any locking feature so that the webbing between points A and B is at the maximum length allowed by the belt system. (S7.1.1.5(c)(2))

10. Measure and record the distance between points A and B along the longitudinal centerline of the webbing for the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))

    Measured distance between A and B is 63 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

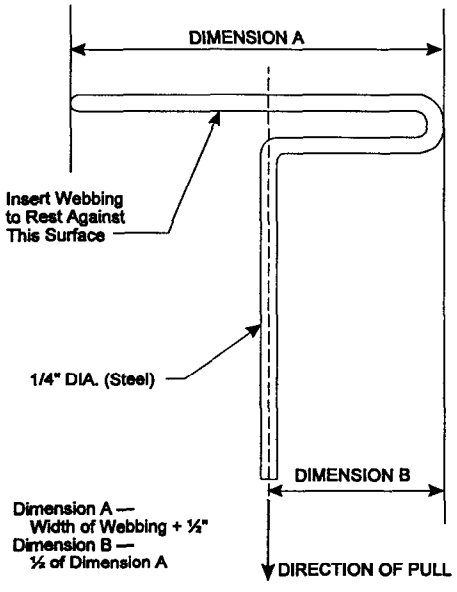


Figure 5 (S7.1.1.5(c)(4))

Lap Belt Lockability Data (Cont.)

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

Measured distance between A and B is 17.5 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 19 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 = 1.5 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 = 44 inches (X)Yes-Pass ( ) **No-FAIL**

REMARKS: None

Seat Belt Comfort and Convenience Data

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

Test Vehicle NHTSA No.:CY0210

Vehicle Model Year/Make/Model/Body Style: 2000/Ford/Focus/4 Door

Designated Seating Position Tested: Left rear

Date of Comfort/Convenience Check: April 19, 2000

Technician Performing Check: Chad Gadberry

GVWR: 3640 lb

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

1.1 Does the vehicle incorporate a webbing tension-relieving device?

( ) Yes - go to latchplate access
(X) No - continue with this check sheet

1.2 Adjustable seats are in adjustment position midway between the forward most and rearmost positions. If an adjustment position does not exist midway between the forward most and rearmost positions, the next closest adjustment position to the rear of the midpoint is used. (S8.1.2)

( ) Check
(X) N/A

1.3 If separately adjustable in a vertical direction, the seats are at the lowest position.

( ) Check
(X) N/A

1.4 Place adjustable seat backs in the manufacturer's nominal design riding position in the manner specified by the manufacturer.

( ) Check
(X) N/A

1.5 Place any adjustable anchorages at the manufacturer's nominal design position for a 50th percentile adult male (50M) occupant. This information will be furnished by the COTR.

( ) Check
(X) N/A

1.6 Place each adjustable head restraint in its highest adjustment position.

( ) Check
(X) N/A

Seat Belt Comfort and Convenience Data (Cont.)

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

( ) Check
(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 0.5 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.

Seat Belt Comfort and Convenience Data

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

Test Vehicle NHTSA No.:CY0210

Vehicle Model Year/Make/Model/Body Style: 2000/Ford/Focus/4 Door

Designated Seating Position Tested: Center rear

Date of Comfort/Convenience Check: April 19, 2000

Technician Performing Check: Chad Gadberry

GVWR: 3640 lb

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

1.1 Does the vehicle incorporate a webbing tension-relieving device?
( ) Yes - go to latchplate access
(X) No - continue with this check sheet

1.2 Adjustable seats are in adjustment position midway between the forward most and rearmost positions. If an adjustment position does not exist midway between the forward most and rearmost positions, the next closest adjustment position to the rear of the midpoint is used. (S8.1.2)
( ) Check
(X) N/A

1.3 If separately adjustable in a vertical direction, the seats are at the lowest position.
( ) Check
(X) N/A

1.4 Place adjustable seat backs in the manufacturer's nominal design riding position in the manner specified by the manufacturer.
( ) Check
(X) N/A

1.5 Place any adjustable anchorages at the manufacturer's nominal design position for a 50th percentile adult male (50M) occupant. This information will be furnished by the COTR.
( ) Check
(X) N/A

1.6 Place each adjustable head restraint in its highest adjustment position.
( ) Check
(X) N/A

Seat Belt Comfort and Convenience Data (Cont.)

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

( ) Check
(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 0.4 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.

Seat Belt Comfort and Convenience Data

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

Test Vehicle NHTSA No.:CY0210

Vehicle Model Year/Make/Model/Body Style: 2000/Ford/Focus/4 Door

Designated Seating Position Tested: Right rear

Date of Comfort/Convenience Check: April 19, 2000

Technician Performing Check: Chad Gadberry

GVWR: 3640 lb

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

1.1 Does the vehicle incorporate a webbing tension-relieving device?
( ) Yes - go to latchplate access
(X) No - continue with this check sheet

1.2 Adjustable seats are in adjustment position midway between the forward most and rearmost positions. If an adjustment position does not exist midway between the forward most and rearmost positions, the next closest adjustment position to the rear of the midpoint is used. (S8.1.2)
( ) Check
(X) N/A

1.3 If separately adjustable in a vertical direction, the seats are at the lowest position.
( ) Check
(X) N/A

1.4 Place adjustable seat backs in the manufacturer's nominal design riding position in the manner specified by the manufacturer.
( ) Check
(X) N/A

1.5 Place any adjustable anchorages at the manufacturer's nominal design position for a 50th percentile adult male (50M) occupant. This information will be furnished by the COTR.
( ) Check
(X) N/A

1.6 Place each adjustable head restraint in its highest adjustment position.
( ) Check
(X) N/A

Seat Belt Comfort and Convenience Data (Cont.)

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

( ) Check
(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 0.5 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.

Seat Belt Comfort and Convenience Data (Cont.)

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

Test Vehicle NHTSA No.:CY0210

Vehicle Model Year/Make/Model/Body Style: 2000/Ford/Focus/4 Door

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**

Seat Belt Comfort and Convenience Data (Cont.)

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

Test Vehicle NHTSA No.:CY0210

Vehicle Model Year/Make/Model/Body Style: 2000/Ford/Focus/4 Door

Designated Seating Position Tested: **Not applicable - passenger car**

Date of Comfort/Convenience Check:_____

Technician Performing Check:_____

GVWR: _____

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

3.1 Is the vehicle a passenger car or walk-in van-type vehicle?

( )Yes If yes, go to seat belt guides and hardware.
( ) No

3.2 Adjustable seats are in the adjustment position midway between the forward most and rearmost positions. If an adjustment position does not exist midway between the forward most and rearmost positions, the next closest adjustment position to the rear of the midpoint is used. (S8.1.2)

( ) Check

3.3 If separately adjustable in a vertical direction, the seats are at the lowest position.

( ) Check

3.4 Place adjustable seat backs in the manufacturer's nominal design riding position in the manner specified by the manufacturer.

( ) Check

3.5 Place any adjustable anchorages at the manufacturer's nominal design position for a 50th percentile adult male (50M) occupant. This information will be furnished by the COTR.

( ) Check

3.6 Place each adjustable head restraint in its highest adjustment position.

( ) Check

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

( ) Check

Seat Belt Comfort and Convenience Data (Cont.)

3.8 Use anthropomorphic test dummies whose arms have been removed and position the dummies in the front outboard designated seating positions according to instructions in Appendix B.

( ) Check

3.9 Restrain the dummies using the belt systems for the position being tested.

( ) Check

3.10 Stow outboard armrests which are capable of being stowed.

( ) Check

3.11 Check the statement that applies to this test vehicle:

(A) The torso and lap belt webbing of the seat belt system automatically retracts to a stowed position when the adjacent vehicle door is in an open position and the seat belt latch plate is released.

( ) Pass

(B) The torso and lap belt webbing of the seat belt system automatically retracts when the seat belt latch plate is released.

( ) Pass

(C) Neither A or B apply.

( ) **FAIL**

3.12 With the webbing and hardware in the stowed position are the webbing and hardware prevented from being pinched when the door is closed?

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

3.13 If this test vehicle has an open body (without doors) and has a seat belt system with a tension-relieving device, does the belt system fully retract when the tension-relieving device is deactivated?

( ) N/A
( ) Yes - Pass
( ) **No - FAIL**

Seat Belt Comfort and Convenience Data (Cont.)

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

Test Vehicle NHTSA No.:CY0210

Vehicle Model Year/Make/Model/Body Style: 2000/Ford/Focus/4 Door

Designated Seating Position Tested: Left rear

Date of Comfort/Convenience Check: April 19, 2000

Technician Performing Check: Chad Gadberry

GVWR: 3640 lb

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

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

A. Seats whose seat cushions are movable so that the seat back serves a function other than seating (S7.4.6.1(b))

B. Seats which are removable.

C. Seats which are movable so that the space formerly occupied by the seat can be used for a secondary function.

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

4.1 Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back?

( )Yes - Go to 4.2.
(X) No - this form is complete

4.2 Does one of the following three parts, the seat belt latch plate, the buckle, or the seat belt webbing, stay on top of or above the seat cushion under normal conditions (i.e., conditions other than when belt hardware is intentionally pushed behind the seat by a vehicle occupant)?

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

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

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

Seat Belt Comfort and Convenience Data (Cont.)

4.4 The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the following events occur in order:

(A) The belt is completely retracted or, if the belt is nonretractable, the belt is unlatched. ( ) Check

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

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

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

4.5 Is the inboard receptacle end of the seat belt assembly, installed in the outboard designated seating position, accessible with the center arm rest in any position to which it can be adjusted (without moving the armrest)?
( ) Yes - Pass
( ) **No - FAIL**

Seat Belt Comfort and Convenience Data (Cont.)

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

Test Vehicle NHTSA No.:CY0210

Vehicle Model Year/Make/Model/Body Style: 2000/Ford/Focus/4 Door

Designated Seating Position Tested: Center rear

Date of Comfort/Convenience Check: April 19, 2000

Technician Performing Check: Chad Gadberry

GVWR: 3640 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**

Seat Belt Comfort and Convenience Data (Cont.)

4.4 The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the following events occur in order:

(A) The belt is completely retracted or, if the belt is nonretractable, the belt is unlatched. (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**

Seat Belt Comfort and Convenience Data (Cont.)

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

Test Vehicle NHTSA No.:CY0210

Vehicle Model Year/Make/Model/Body Style: 2000/Ford/Focus/4 Door

Designated Seating Position Tested: Right rear

Date of Comfort/Convenience Check: April 19, 2000

Technician Performing Check: Chad Gadberry

GVWR: 3640 lb

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

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

A. Seats whose seat cushions are movable so that the seat back serves a function other than seating (S7.4.6.1(b))

B. Seats which are removable.

C. Seats which are movable so that the space formerly occupied by the seat can be used for a secondary function.

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

4.1 Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back?

( )Yes - Go to 4.2.
(X) No - this form is complete

4.2 Does one of the following three parts, the seat belt latch plate, the buckle, or the seat belt webbing, stay on top of or above the seat cushion under normal conditions (i.e., conditions other than when belt hardware is intentionally pushed behind the seat by a vehicle occupant)?

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

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

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

Seat Belt Comfort and Convenience Data (Cont.)

4.4 The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the following events occur in order:

(A) The belt is completely retracted or, if the belt is nonretractable, the belt is unlatched. ( ) Check

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

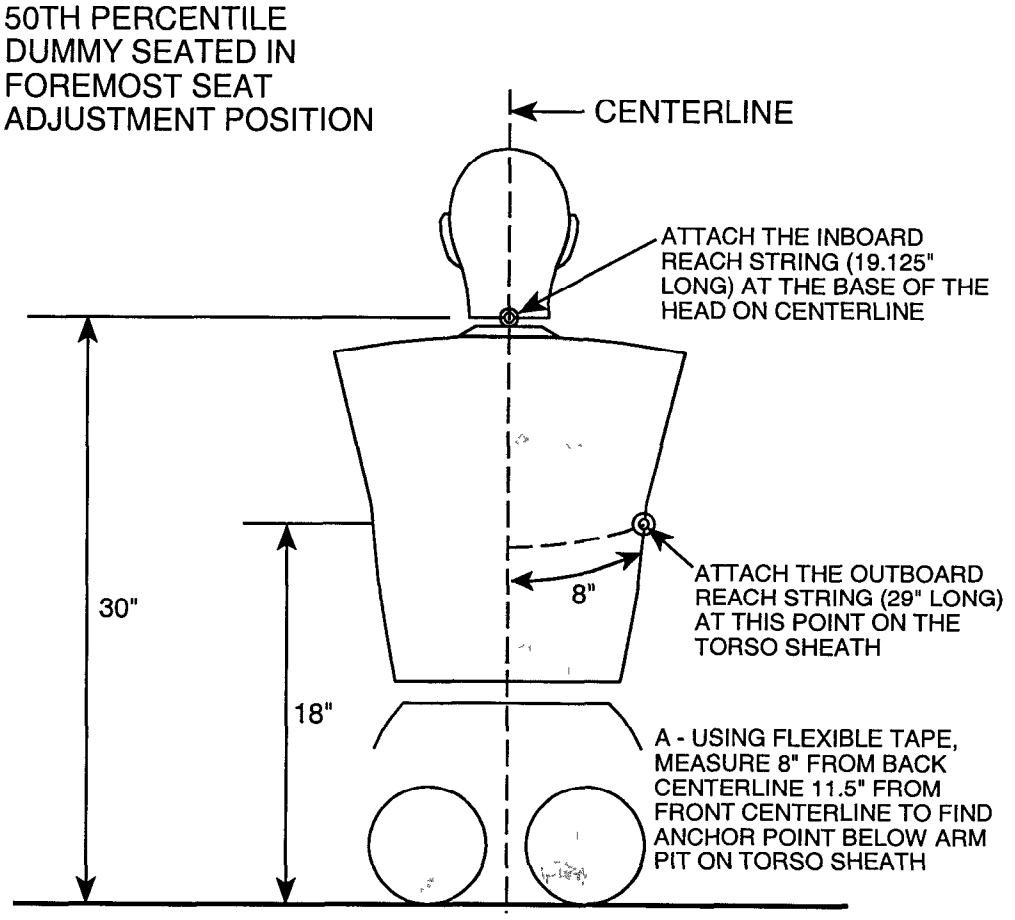
(C) The seat back, if foldable, is folded forward as far as possible and then moved backward into position.
( ) Check

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

4.5 Is the inboard receptacle end of the seat belt assembly, installed in the outboard designated seating position, accessible with the center arm rest in any position to which it can be adjusted (without moving the armrest)?
( ) Yes - Pass
( ) **No - FAIL**

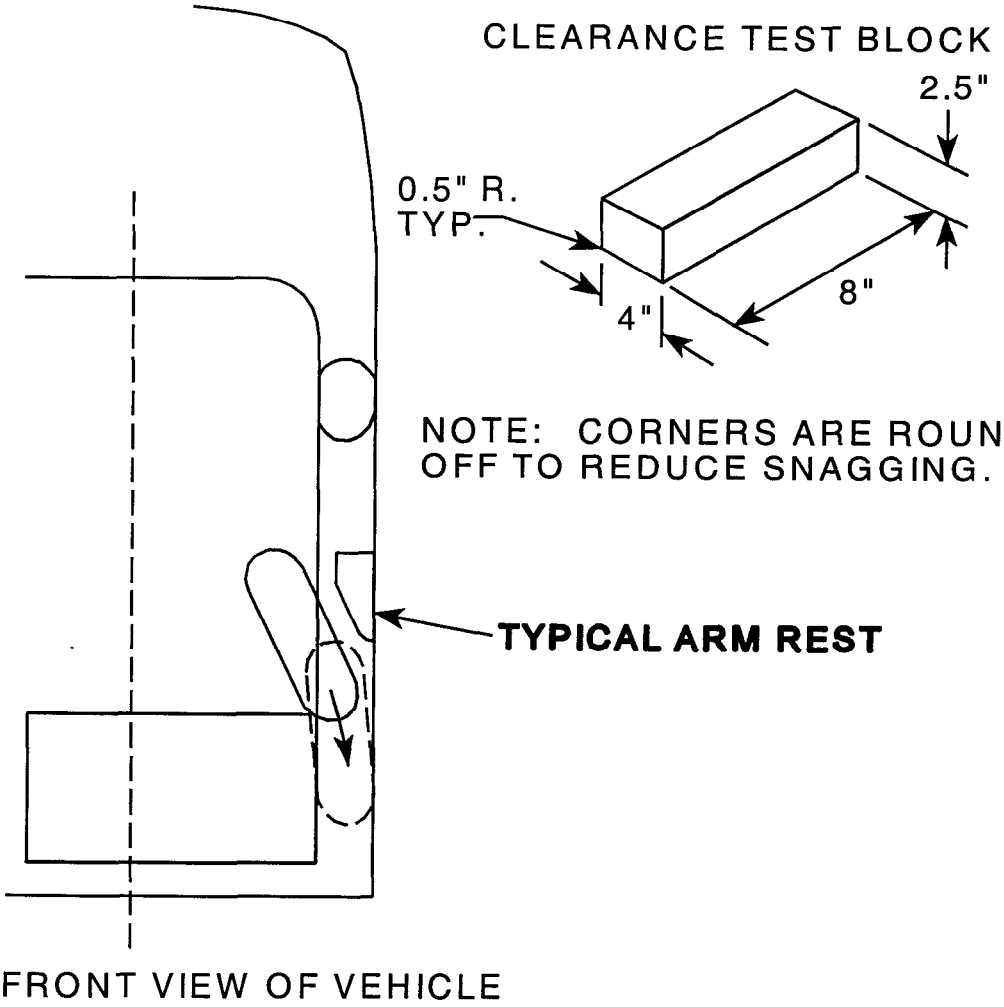
LOCATION OF ANCHORING POINTS FOR LATCHPLATE REACH LIMITING CHAINS OR STRINGS TO TEST FOR LATCHPLATE ACCESSIBILITY

PART 572E DUMMY



REAR VIEW

USE OF CLEARANCE TEST BLOCK TO DETERMINE HAND/ARM ACCESS



APPENDIX A
PHOTOGRAPHS

TABLE OF PHOTOGRAPHS

Photo No. A-1 - Pre-Test Frontal View

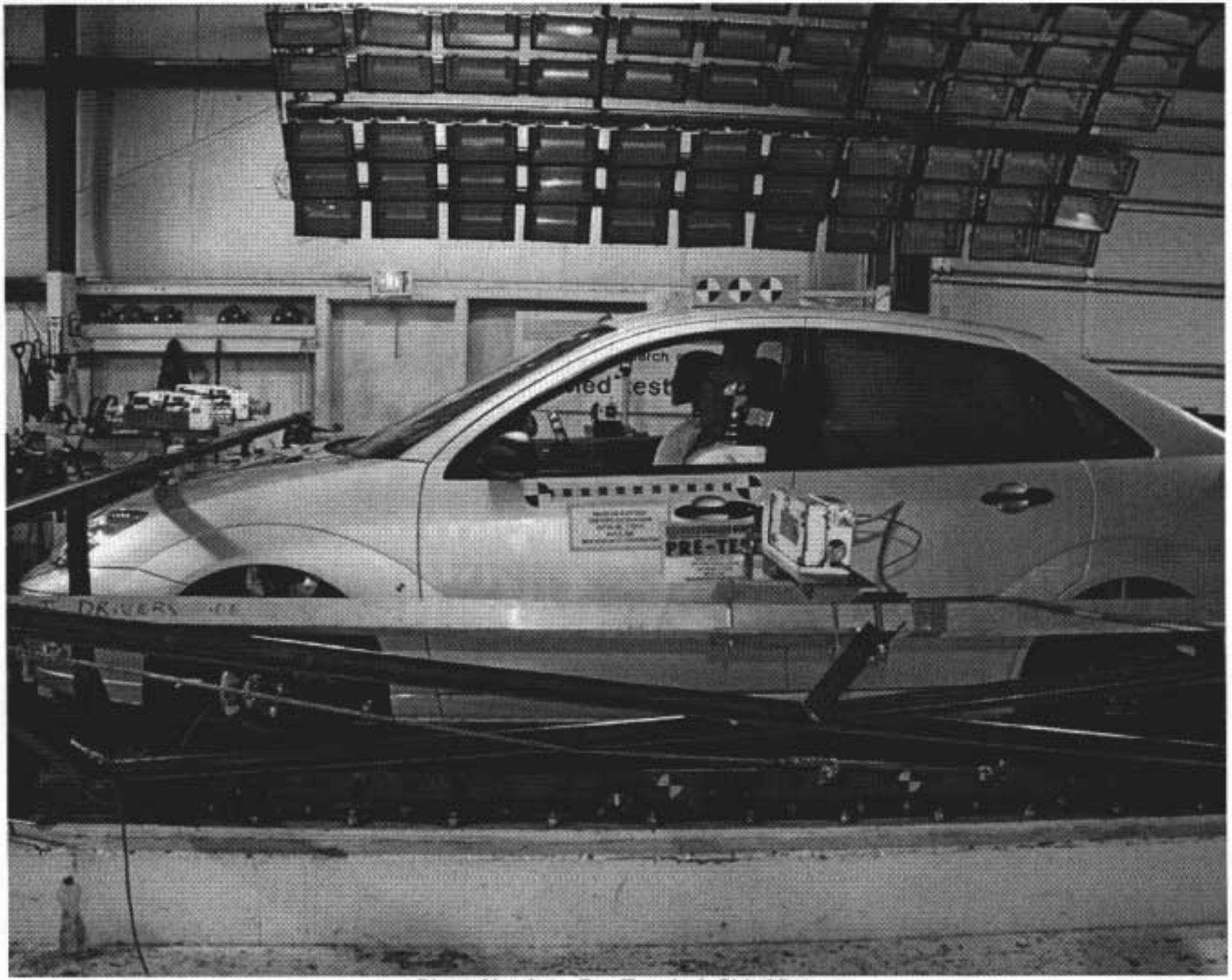


Photo No. A-2 - Pre-Test Left Side View

Photo No. A-3 - Pre-Test Right Side View

Photo No. A-4 - Pre-Test Windshield View

A4

Photo No. A-5 - Post-Test Windshield View

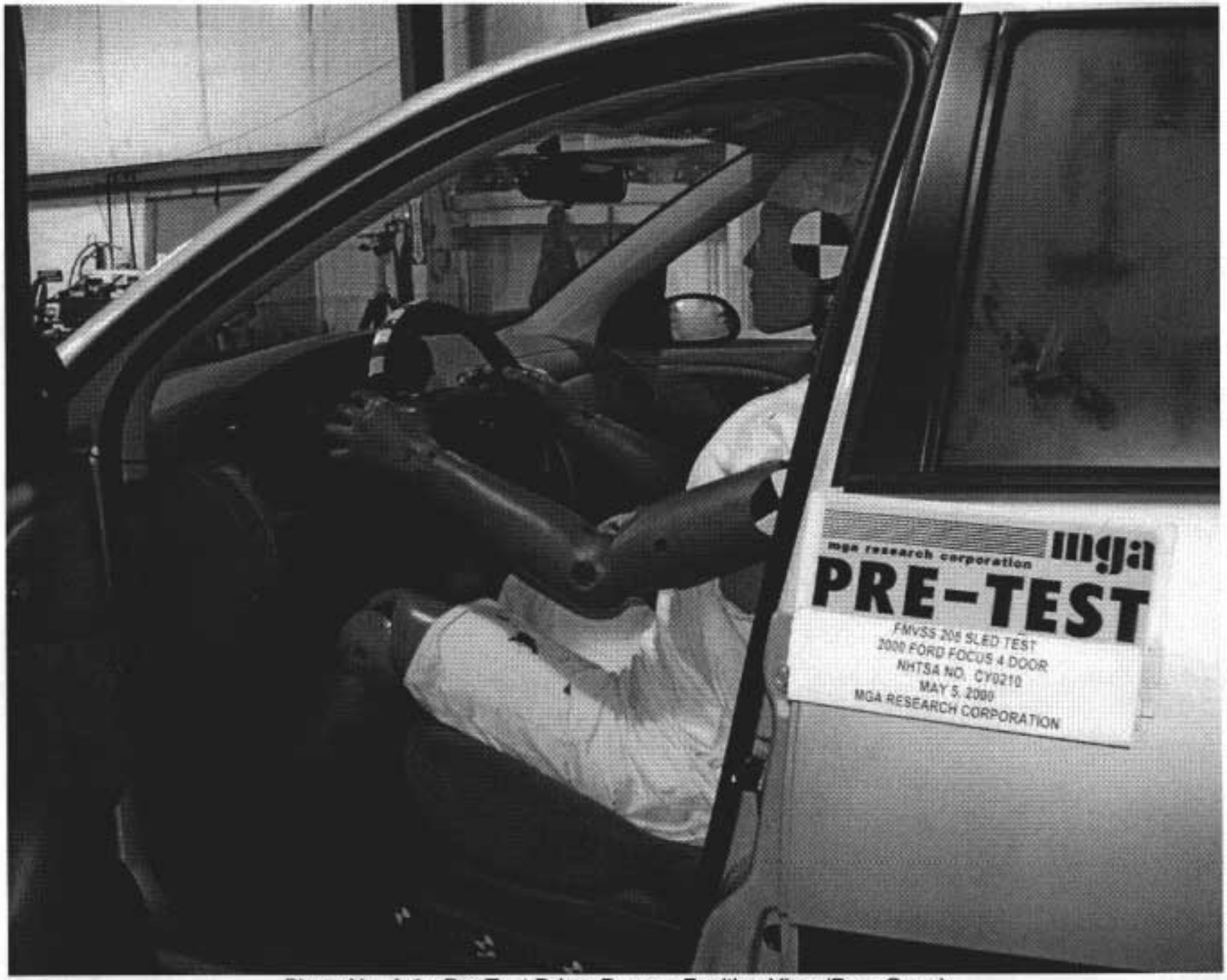


Photo No. A-6 - Pre-Test Driver Dummy Position View (Door Open)

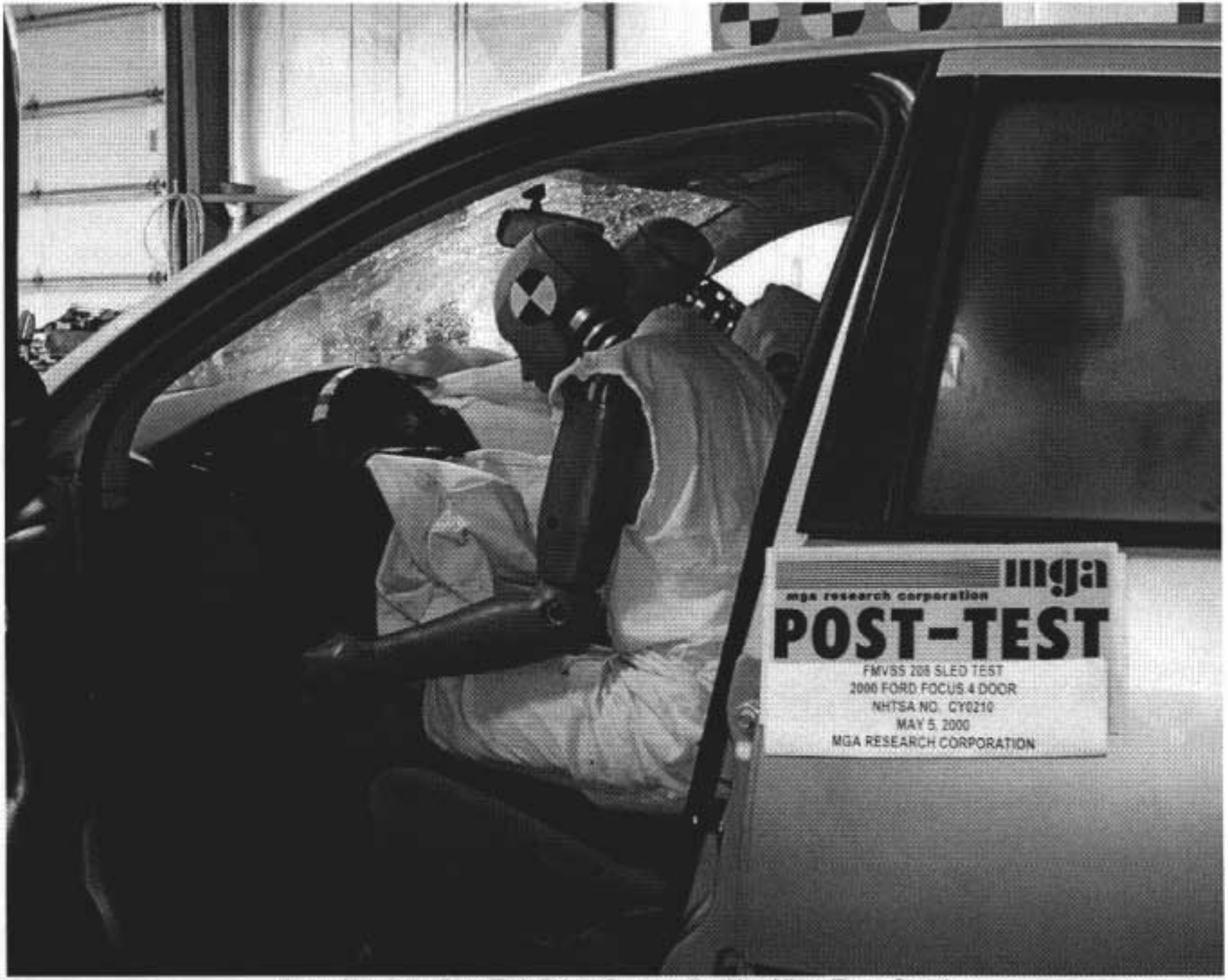


Photo No. A-7 - Post-Test Driver Dummy Position View (Door Open)

Photo No. A-8 - Pre-Test Driver Dummy Position View

Photo No. A-9 - Post-Test Driver Dummy Position View

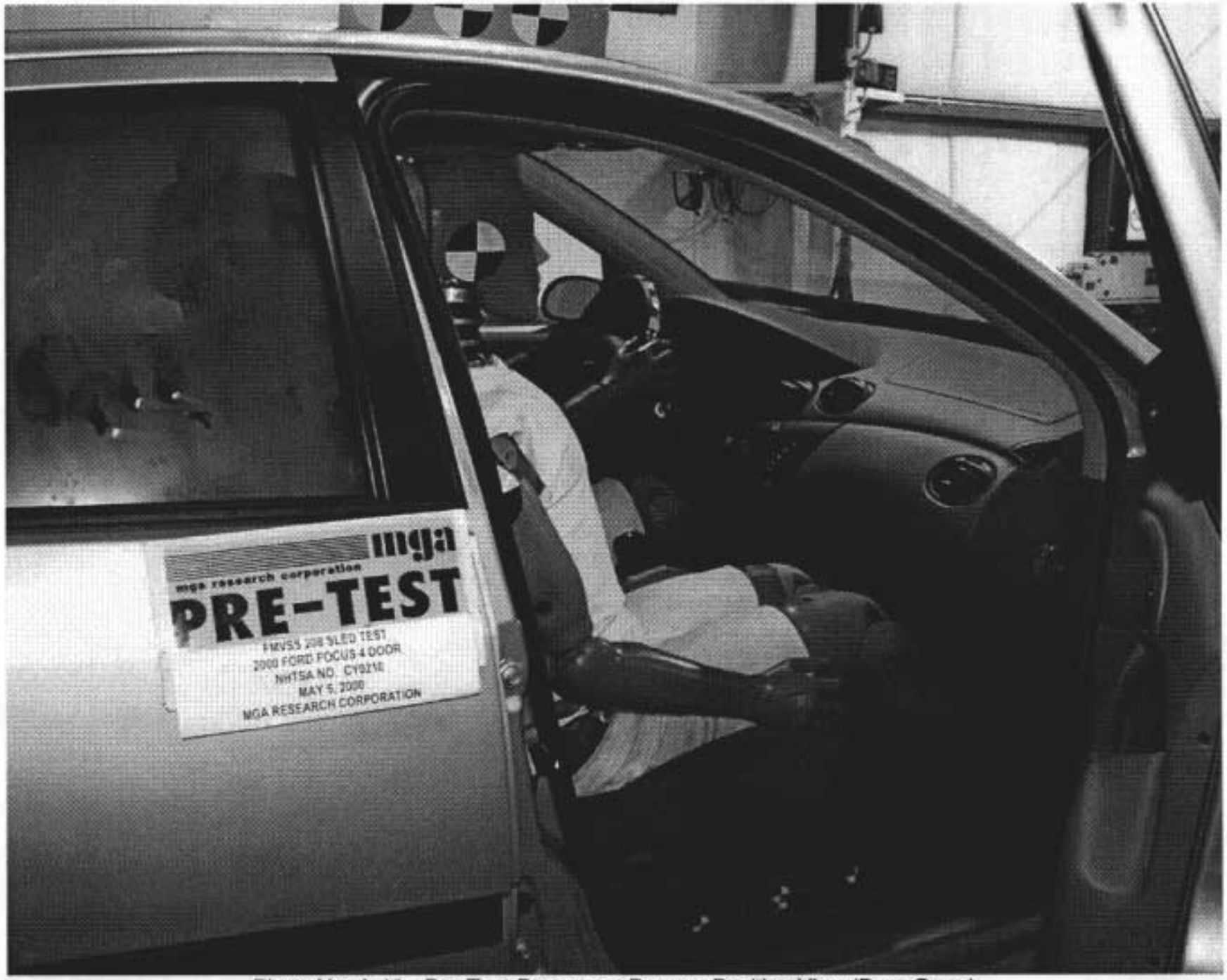


Photo No. A-10 - Pre-Test Passenger Dummy Position View (Door Open)

Photo No. A-11 - Post-Test Passenger Dummy Position View (Door Open)

Photo No. A-12 - Pre-Test Passenger Dummy Position View

Photo No. A-13 - Post-Test Passenger Dummy Position View

Photo No. A-14 - Post-Test Driver Airbag View

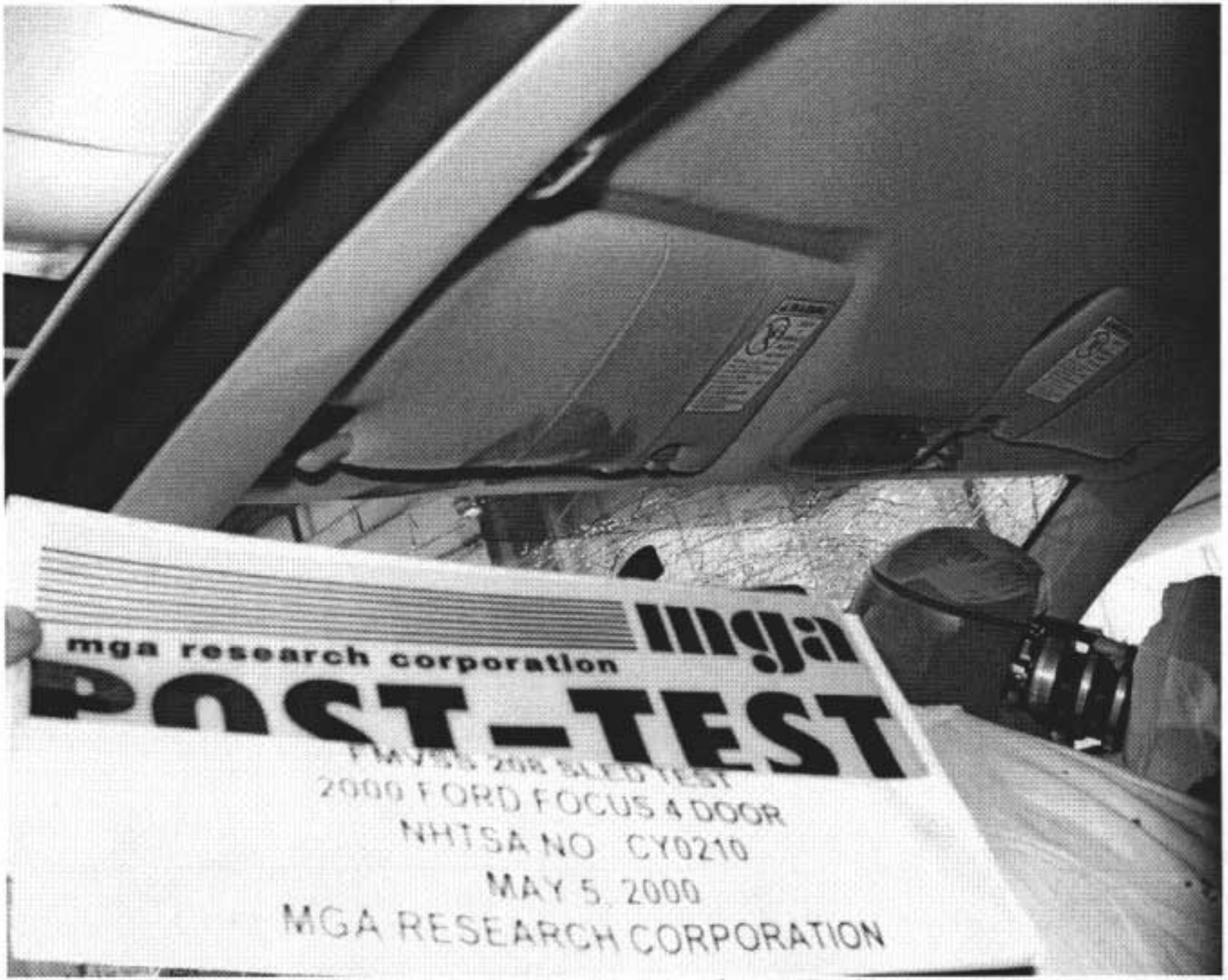


Photo No. A-15 - Post-Test Driver Head Contact View (visor)

Photo No. A-16 - Post-Test Passenger Dummy Airbag View

Photo No. A-17 - Post-Test Passenger Dummy Head Contact View (visor)

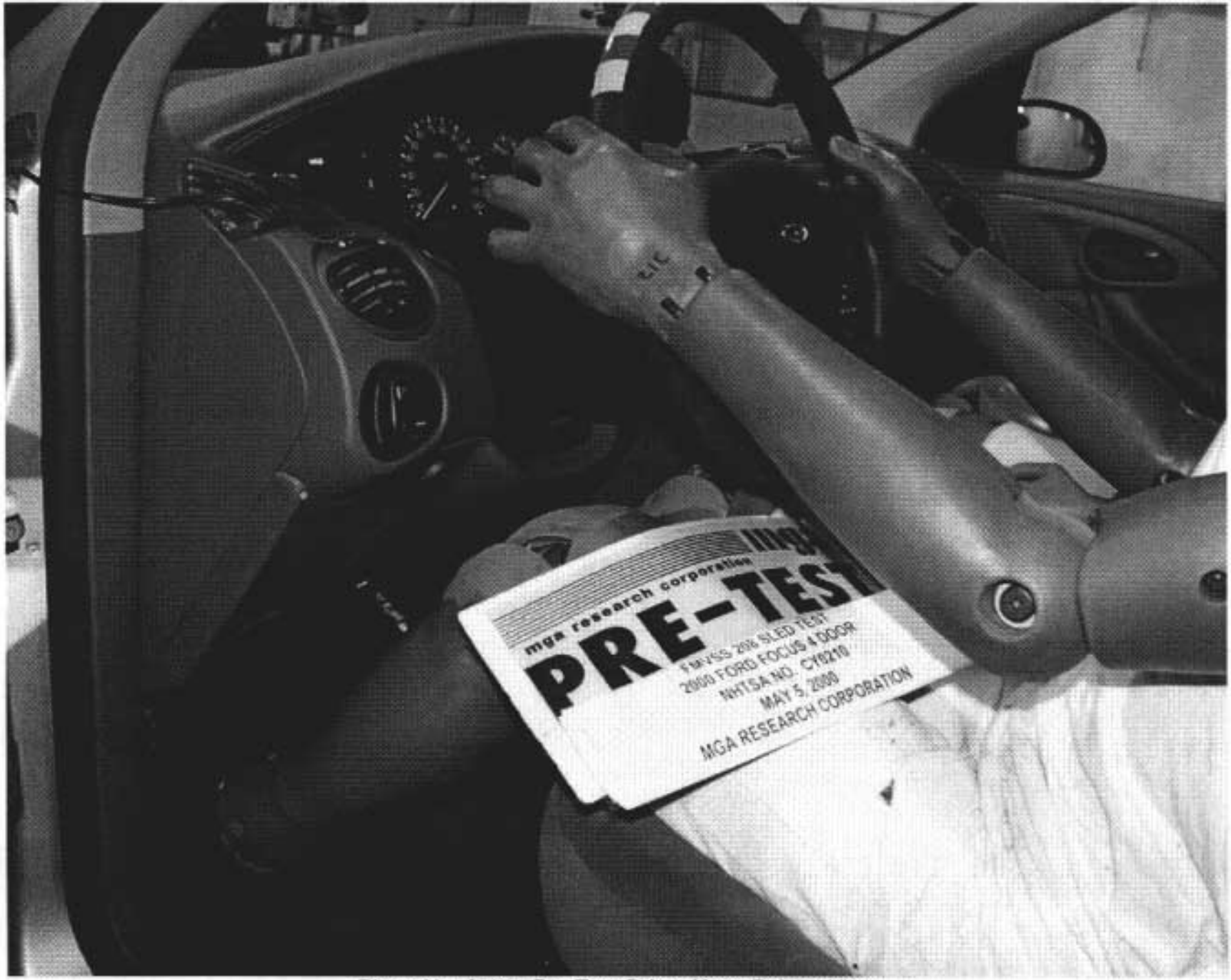


Photo No. A-18 - Pre-Test Driver Knee Bolster View

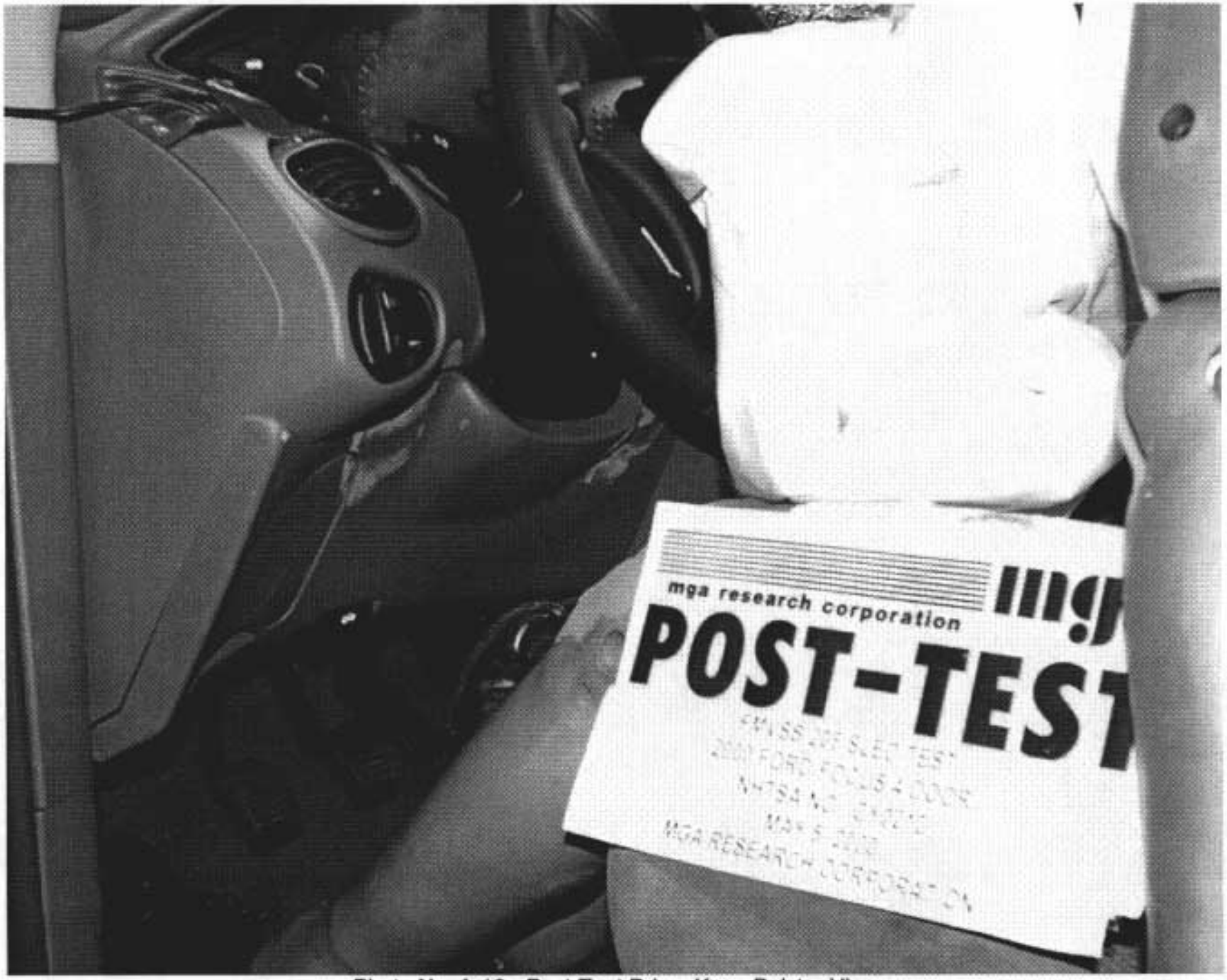


Photo No. A-19 - Post-Test Driver Knee Bolster View

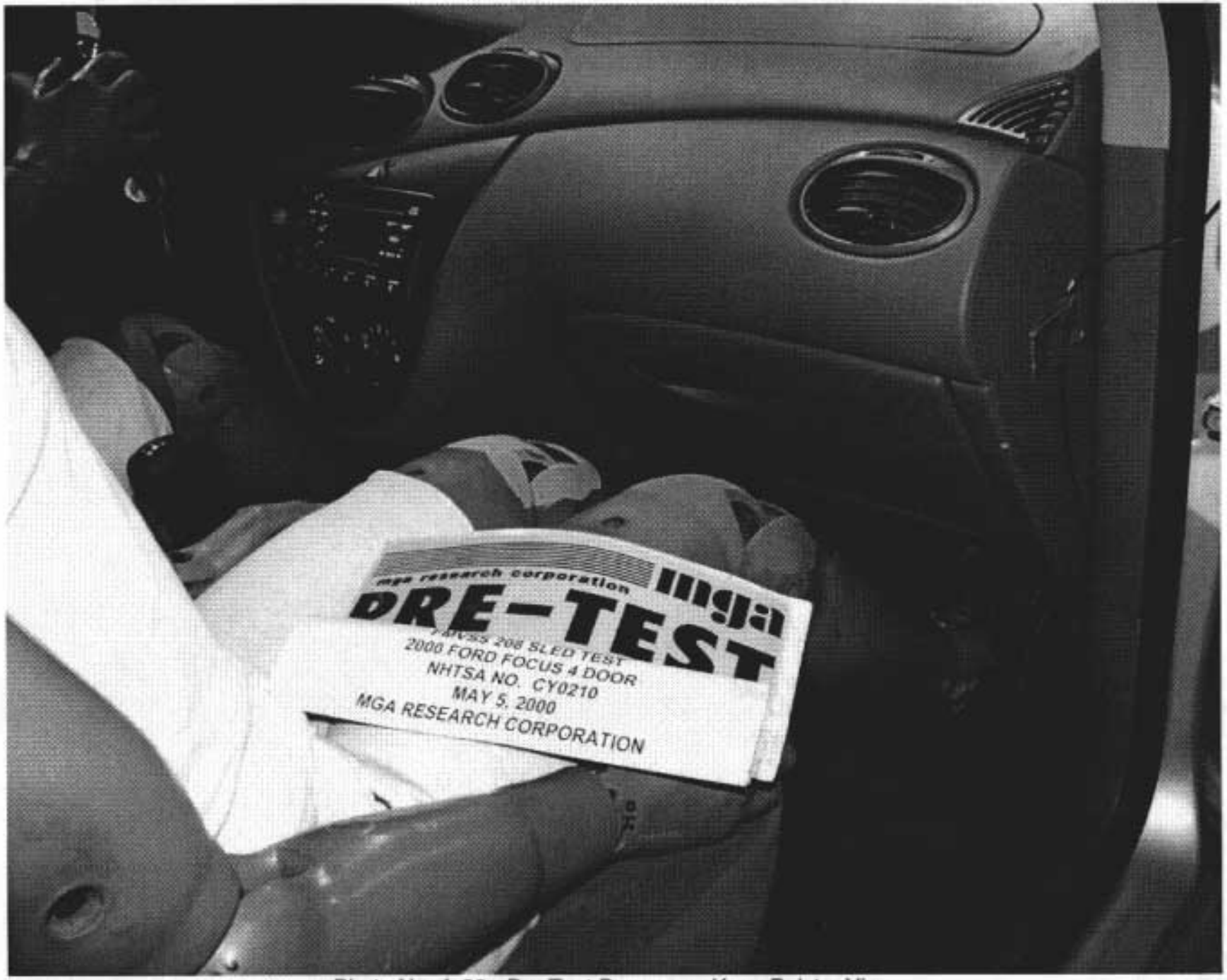


Photo No. A-20 - Pre-Test Passenger Knee Bolster View

Photo No. A-21 - Post-Test Passenger Knee Bolster View

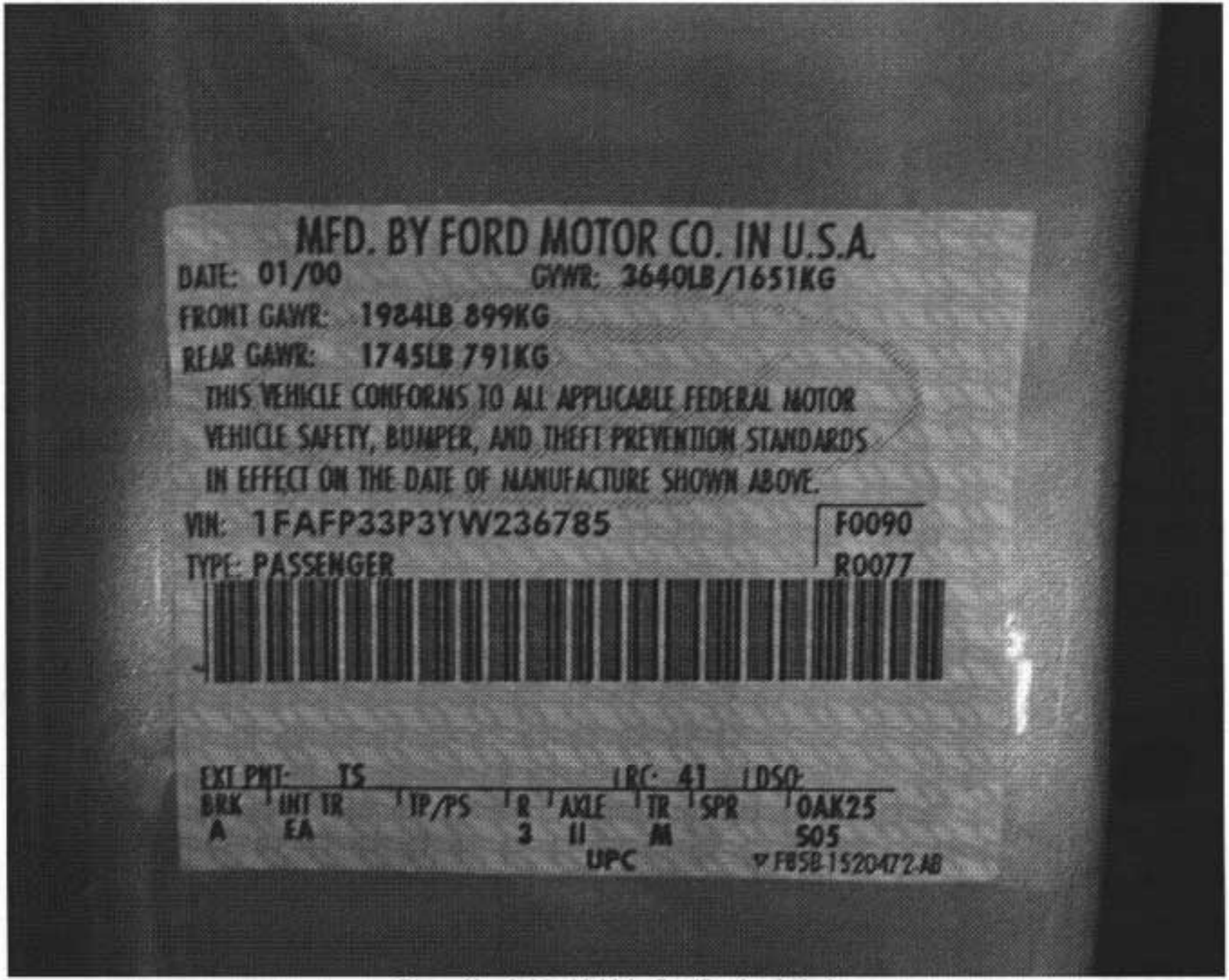
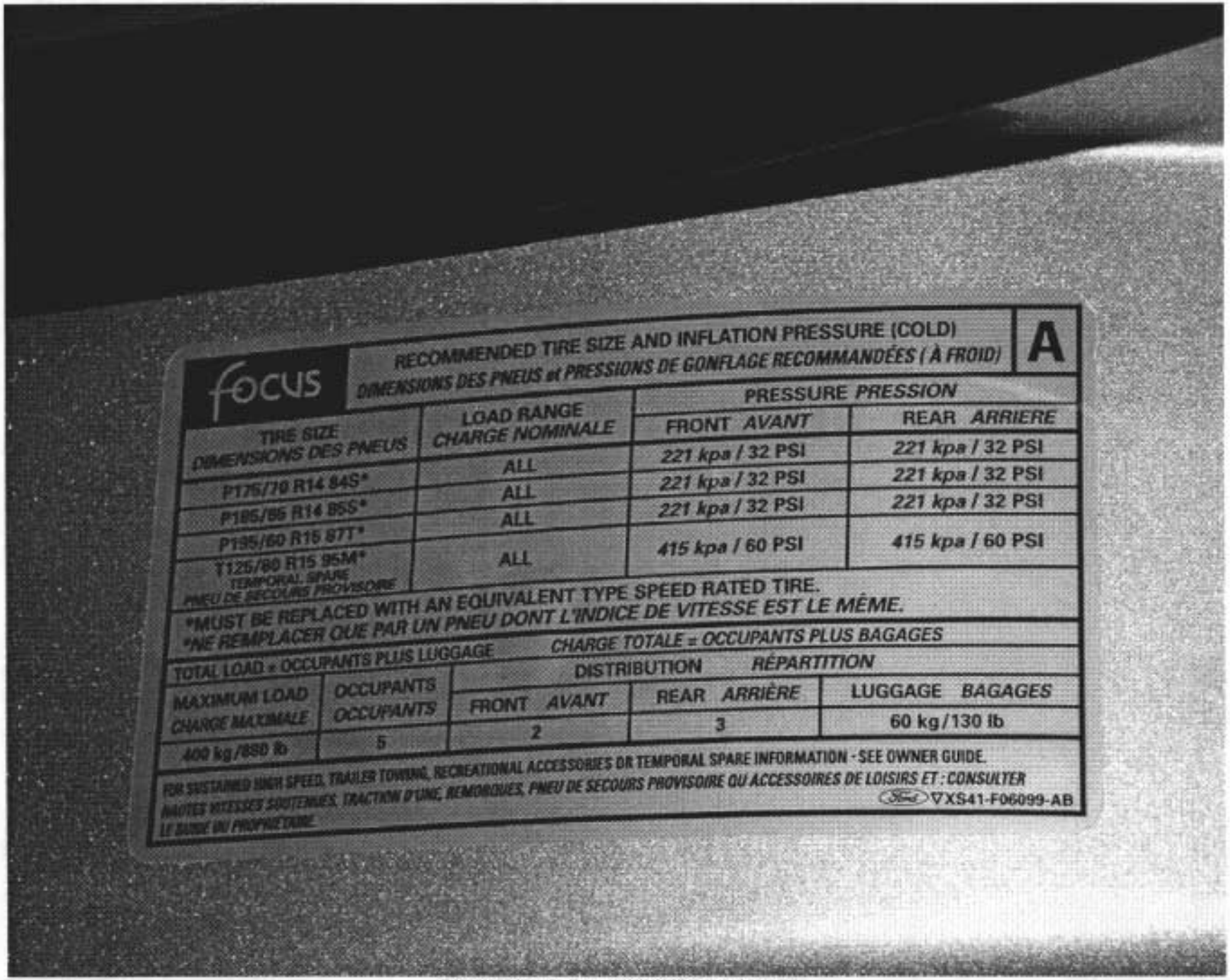


Photo No. A-22 - Vehicle Certification Label



focus

RECOMMENDED TIRE SIZE AND INFLATION PRESSURE (COLD)
DIMENSIONS DES PNEUS et PRESSIONS DE GONFLAGE RECOMMANDÉES (À FROID)

A

TIRE SIZE *DIMENSIONS DES PNEUS*	LOAD RANGE *CHARGE NOMINALE*	PRESSURE *PRESSION* FRONT *AVANT*	PRESSURE *PRESSION* REAR *ARRIERE*
P175/70 R14 84S*	ALL	221 kpa / 32 PSI	221 kpa / 32 PSI
P195/65 R14 85S*	ALL	221 kpa / 32 PSI	221 kpa / 32 PSI
P195/60 R15 87T*	ALL	221 kpa / 32 PSI	221 kpa / 32 PSI
T125/80 R15 95M* TEMPORAL SPARE *PNEU DE SECOURS PROVISOIRE*	ALL	415 kpa / 60 PSI	415 kpa / 60 PSI

*MUST BE REPLACED WITH AN EQUIVALENT TYPE SPEED RATED TIRE.
**NE REMPLACER QUE PAR UN PNEU DONT L'INDICE DE VITESSE EST LE MÊME.*

TOTAL LOAD = OCCUPANTS PLUS LUGGAGE *CHARGE TOTALE = OCCUPANTS PLUS BAGAGES*

MAXIMUM LOAD *CHARGE MAXIMALE*	OCCUPANTS *OCCUPANTS*	DISTRIBUTION *RÉPARTITION* FRONT *AVANT*	REAR *ARRIÈRE*	LUGGAGE *BAGAGES*
400 kg/880 lb	5	2	3	60 kg/130 lb

FOR SUSTAINED HIGH SPEED, TRAILER TOWING, RECREATIONAL ACCESSORIES OR TEMPORAL SPARE INFORMATION - SEE OWNER GUIDE.
HAUTES VITESSES SOUTENUES, TRACTION D'UNE REMORQUES, PNEU DE SECOURS PROVISOIRE OU ACCESSOIRES DE LOISIRS ET : CONSULTER LE GUIDE DU PROPRIÉTAIRE.

Ford 7XS41-F06099-AB

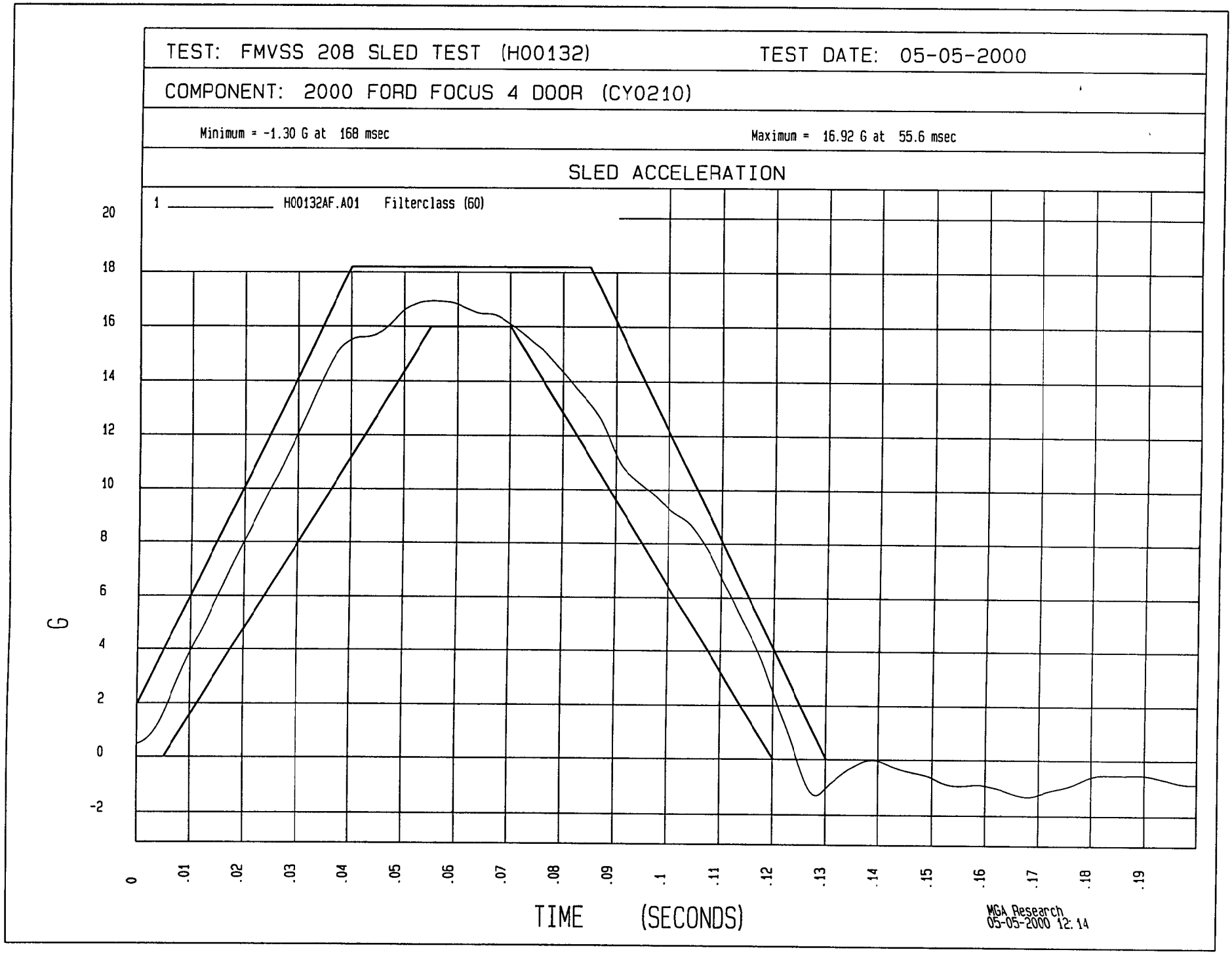
Photo No. A-23 - FMVSS 110 Label

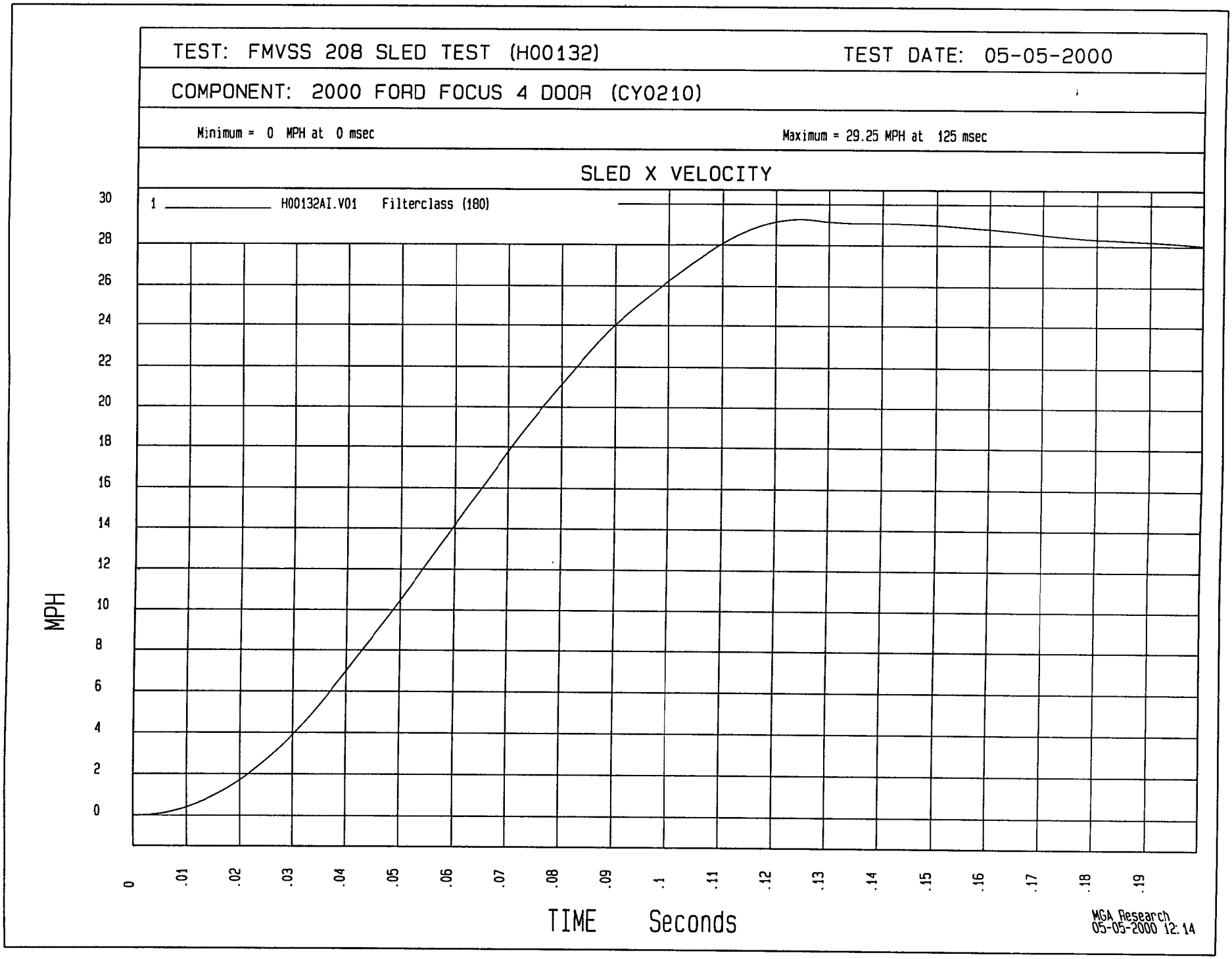
APPENDIX B
DATA PLOTS

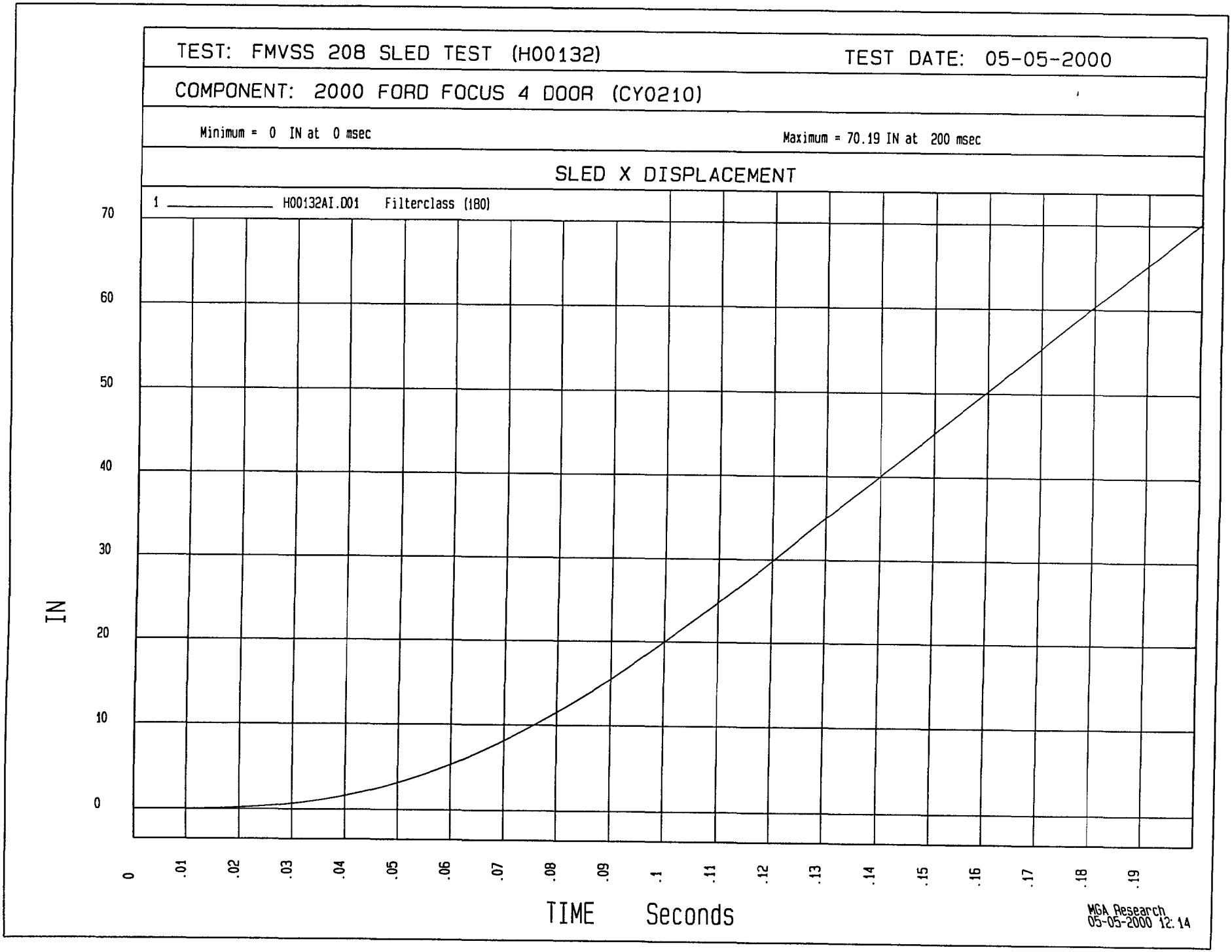
TABLE OF DATA PLOTS

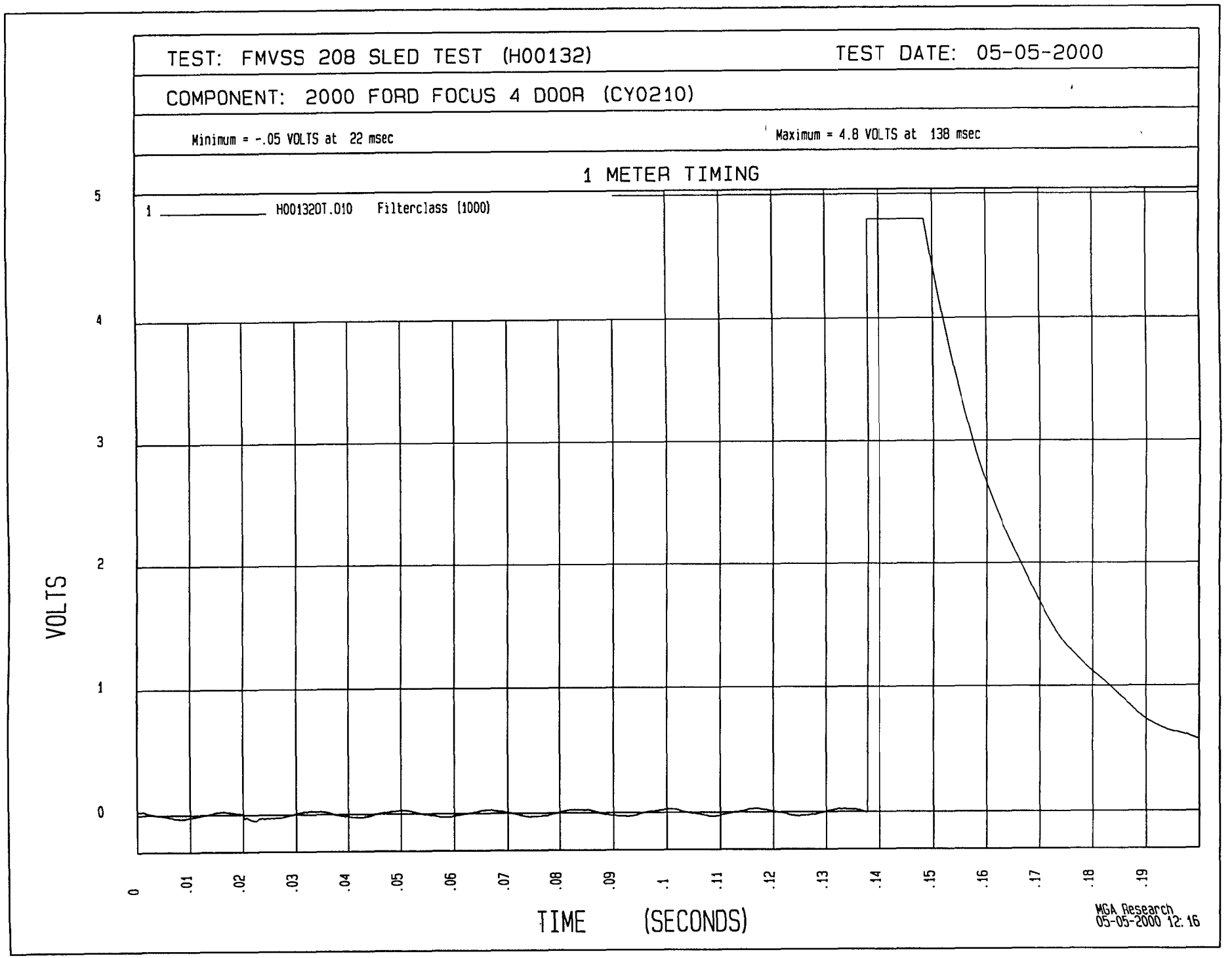
* - No Valid Data Collected

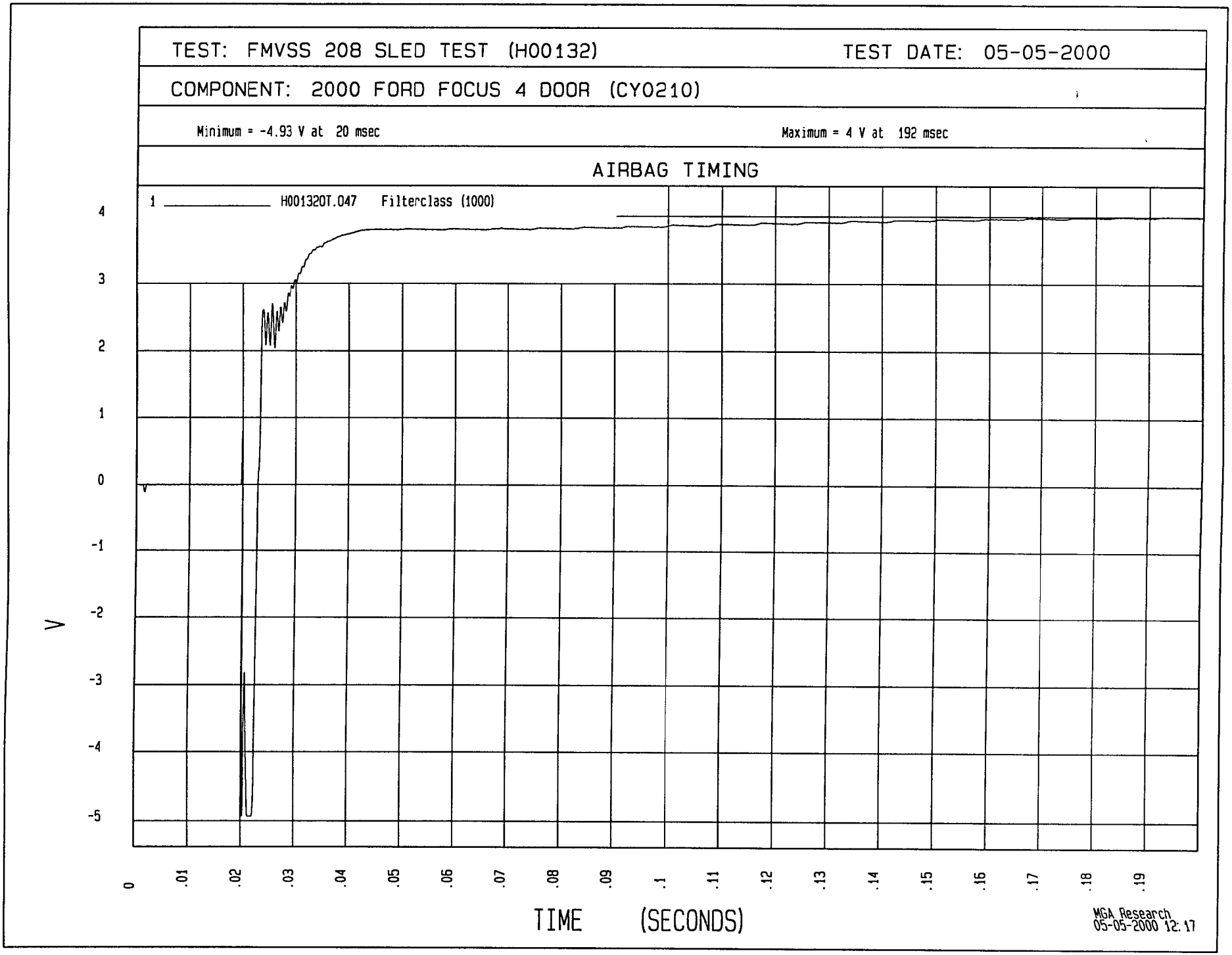
TABLE OF DATA PLOTS (Cont.)

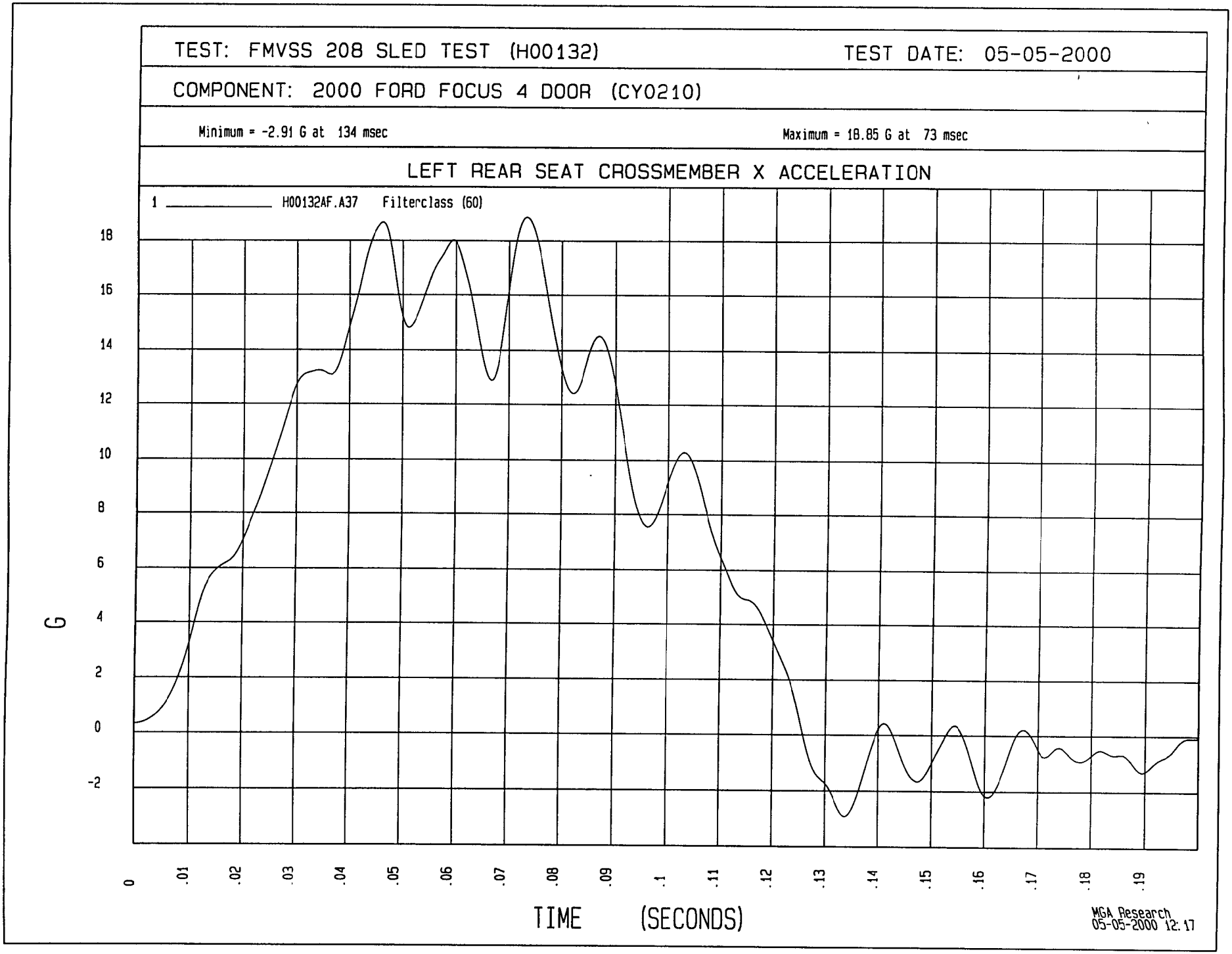

TEST: FMVSS 208 SLED TEST (H00132)
TEST DATE: 05-05-2000
COMPONENT: 2000 FORD FOCUS 4 DOOR (CY0210)
Minimum = -1.30 G at 168 msec
Maximum = 16.92 G at 55.6 msec
SLED ACCELERATION
1 H00132AF.A01 Filterclass (60)
G
20
18
16
14
12
10
8
6
4
2
0
-2
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
05-05-2000 12:14

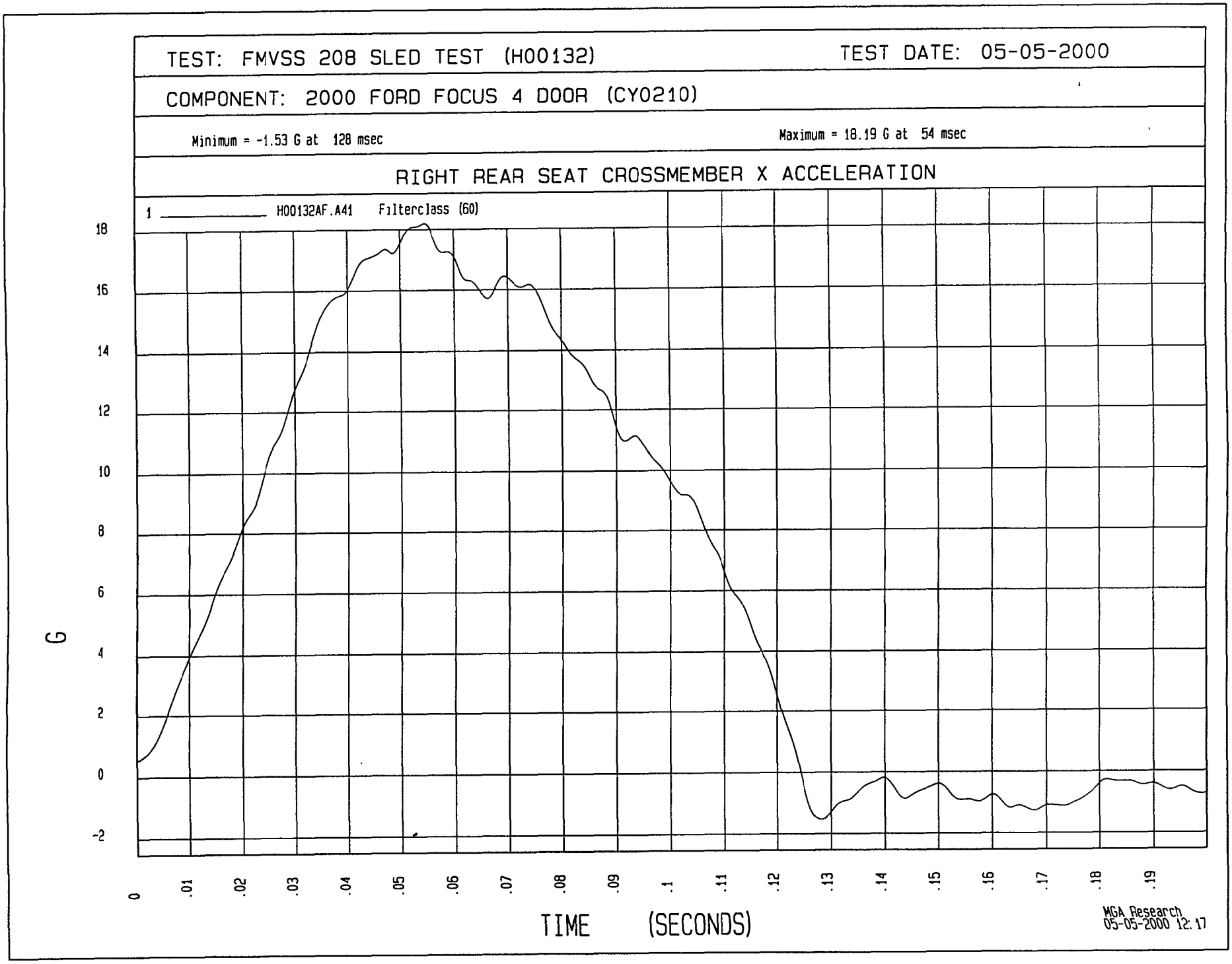

TEST: FMVSS 208 SLED TEST (H00132)
TEST DATE: 05-05-2000
COMPONENT: 2000 FORD FOCUS 4 DOOR (CY0210)
Minimum = 0 MPH at 0 msec
Maximum = 29.25 MPH at 125 msec
SLED X VELOCITY
1 H00132AI.V01 Filterclass (180)
MPH
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME Seconds
MGA Research
05-05-2000 12:14

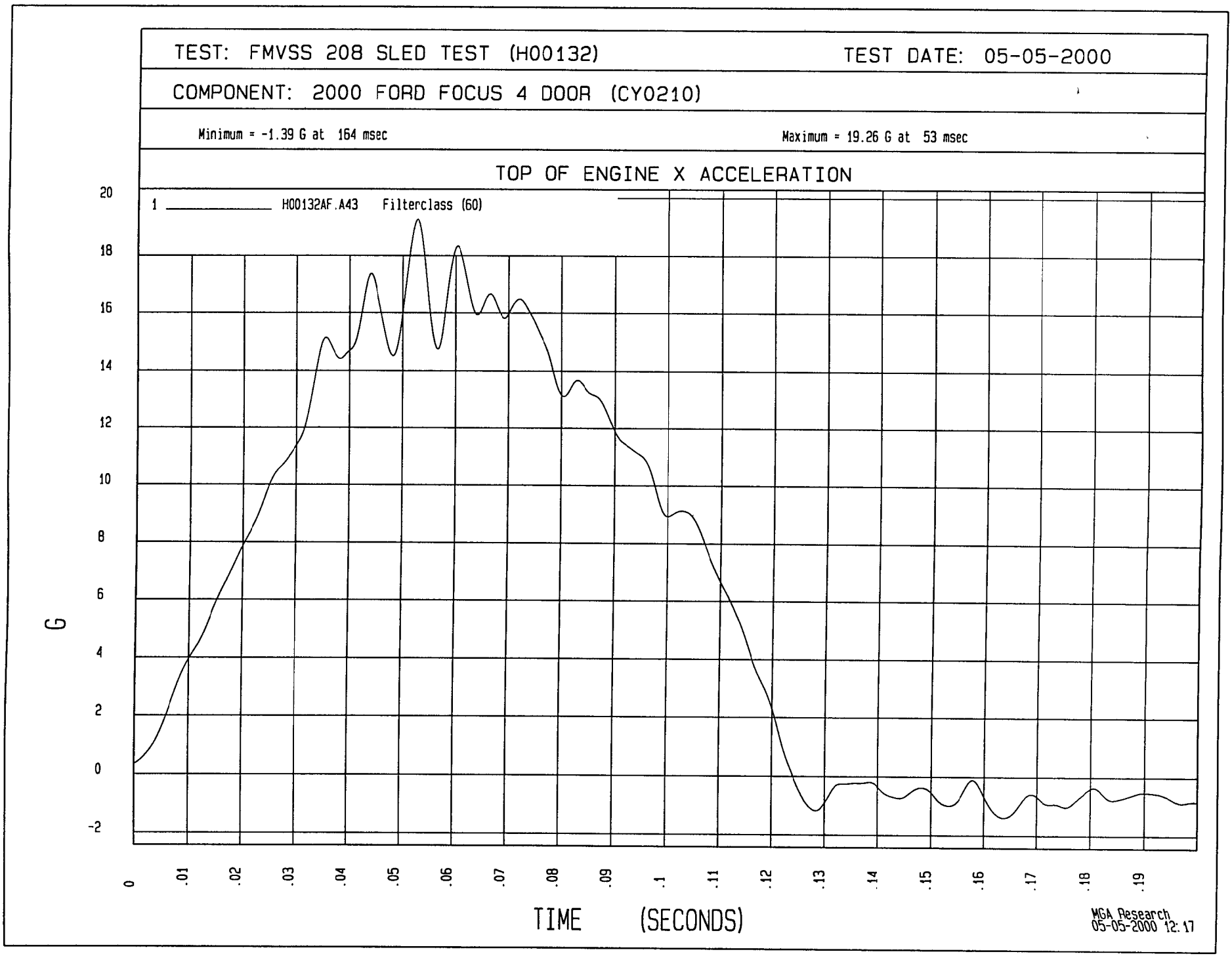

TEST: FMVSS 208 SLED TEST (H00132)
TEST DATE: 05-05-2000
COMPONENT: 2000 FORD FOCUS 4 DOOR (CY0210)
Minimum = 0 IN at 0 msec
Maximum = 70.19 IN at 200 msec
SLED X DISPLACEMENT
1 H00132AI.D01 Filterclass (180)
IN
70
60
50
40
30
20
10
0
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME Seconds
MGA Research
05-05-2000 12:14

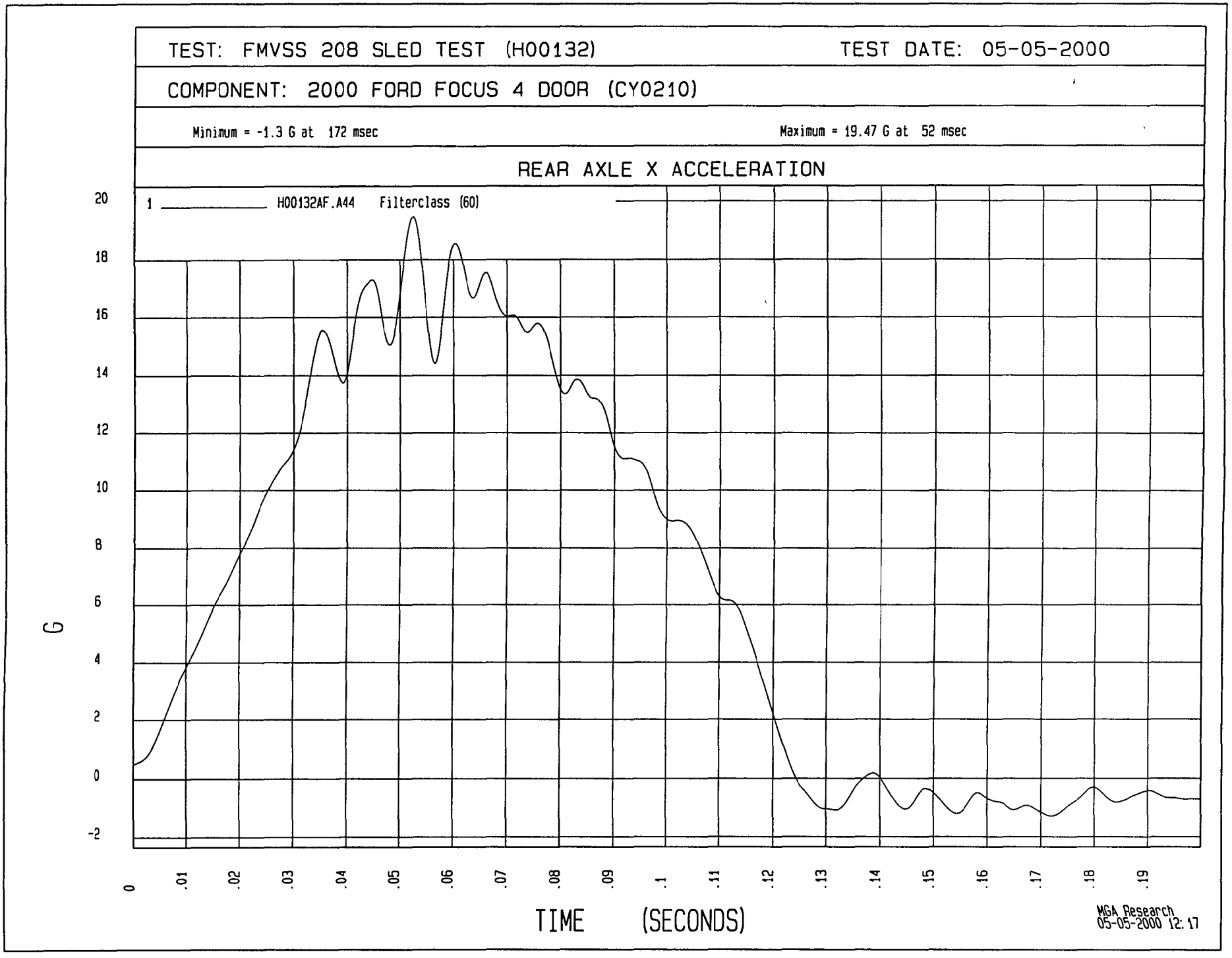

TEST: FMVSS 208 SLED TEST (H00132)
TEST DATE: 05-05-2000
COMPONENT: 2000 FORD FOCUS 4 DOOR (CY0210)
Minimum = -.05 VOLTS at 22 msec
Maximum = 4.8 VOLTS at 138 msec
1 METER TIMING
1 H001320T.010 Filterclass (1000)
VOLTS
5
4
3
2
1
0
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
05-05-2000 12:16

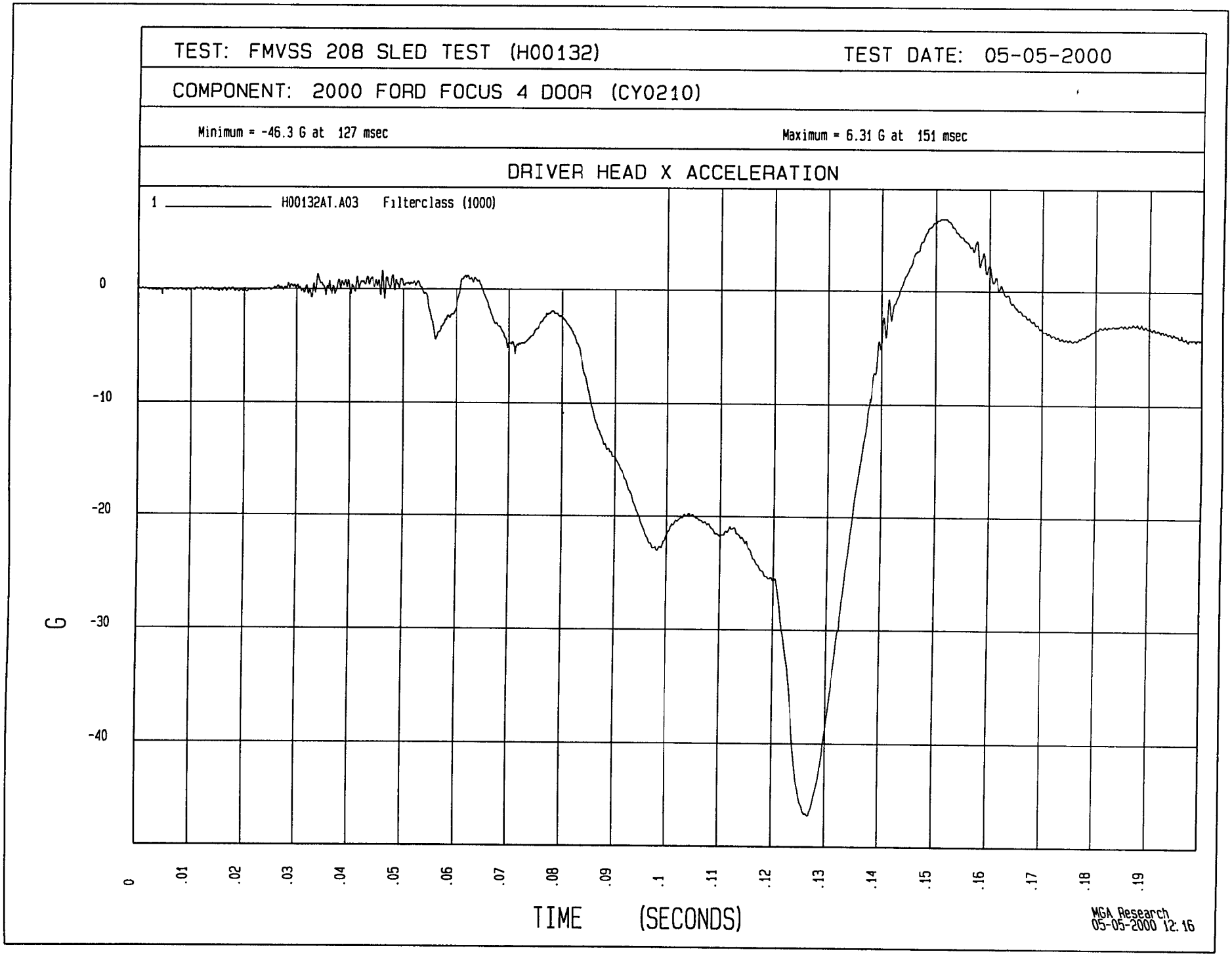

TEST: FMVSS 208 SLED TEST (H00132)
TEST DATE: 05-05-2000
COMPONENT: 2000 FORD FOCUS 4 DOOR (CY0210)
Minimum = -4.93 V at 20 msec
Maximum = 4 V at 192 msec
AIRBAG TIMING
1 H001320T.047 Filterclass (1000)
V
4
3
2
1
0
-1
-2
-3
-4
-5
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
05-05-2000 12:17

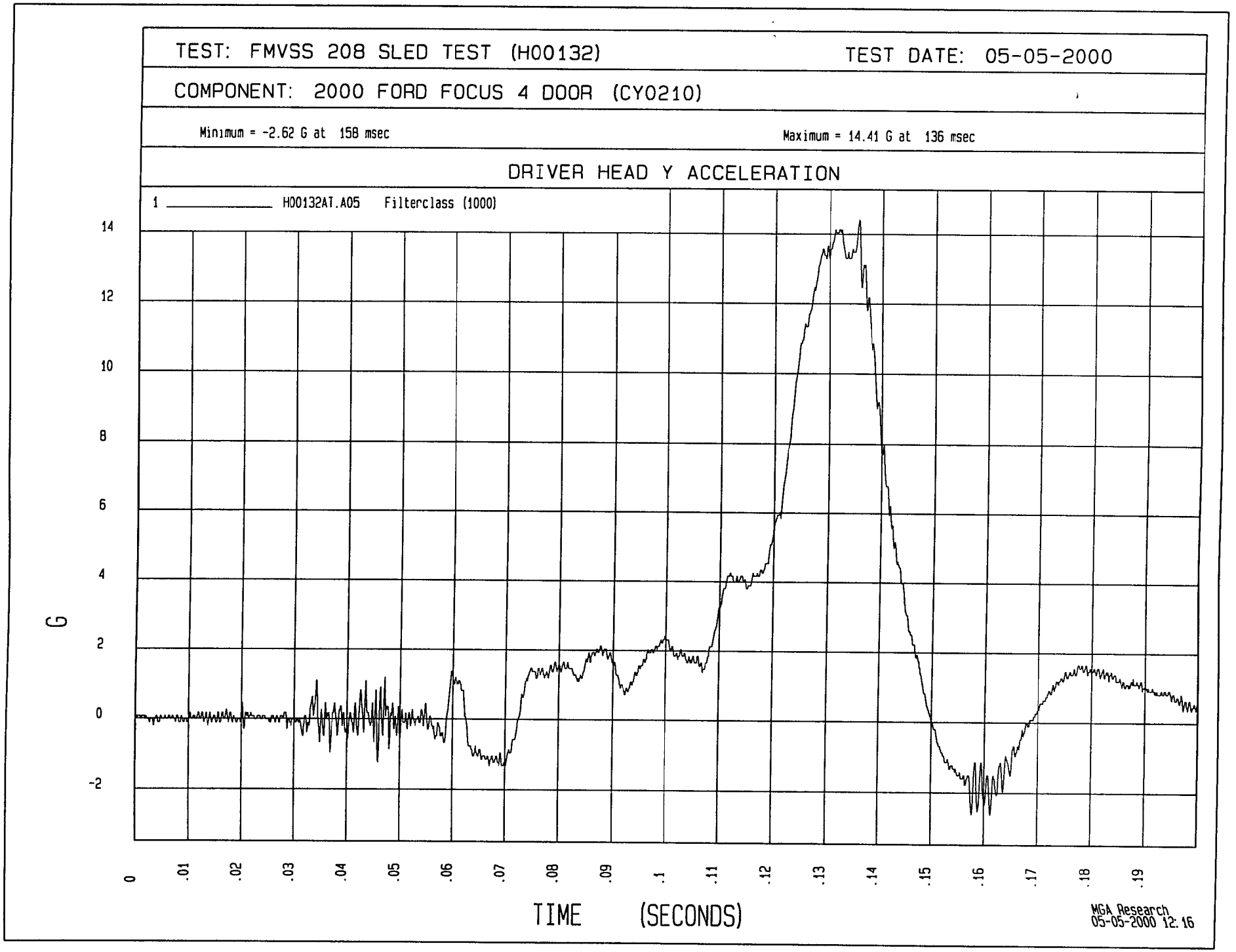

TEST: FMVSS 208 SLED TEST (H00132)
TEST DATE: 05-05-2000
COMPONENT: 2000 FORD FOCUS 4 DOOR (CY0210)
Minimum = -2.91 G at 134 msec
Maximum = 18.85 G at 73 msec
LEFT REAR SEAT CROSSMEMBER X ACCELERATION
1 H00132AF.A37 Filterclass (60)
G
18
16
14
12
10
8
6
4
2
0
-2
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
05-05-2000 12:17

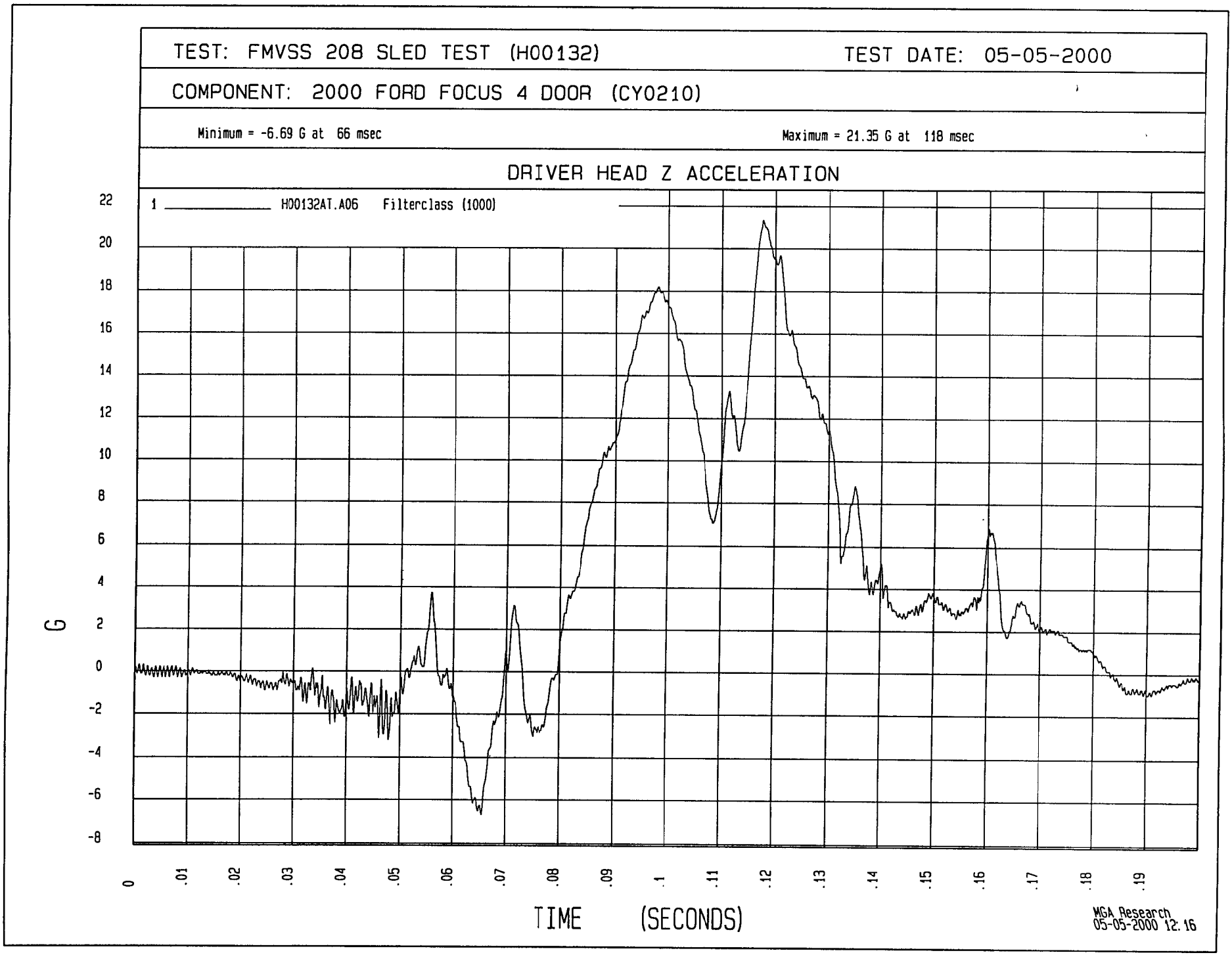

TEST: FMVSS 208 SLED TEST (H00132)
TEST DATE: 05-05-2000
COMPONENT: 2000 FORD FOCUS 4 DOOR (CY0210)
Minimum = -1.53 G at 128 msec
Maximum = 18.19 G at 54 msec
RIGHT REAR SEAT CROSSMEMBER X ACCELERATION
1 H00132AF.A41 Filterclass (60)
G
18
16
14
12
10
8
6
4
2
0
-2
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
05-05-2000 12:17

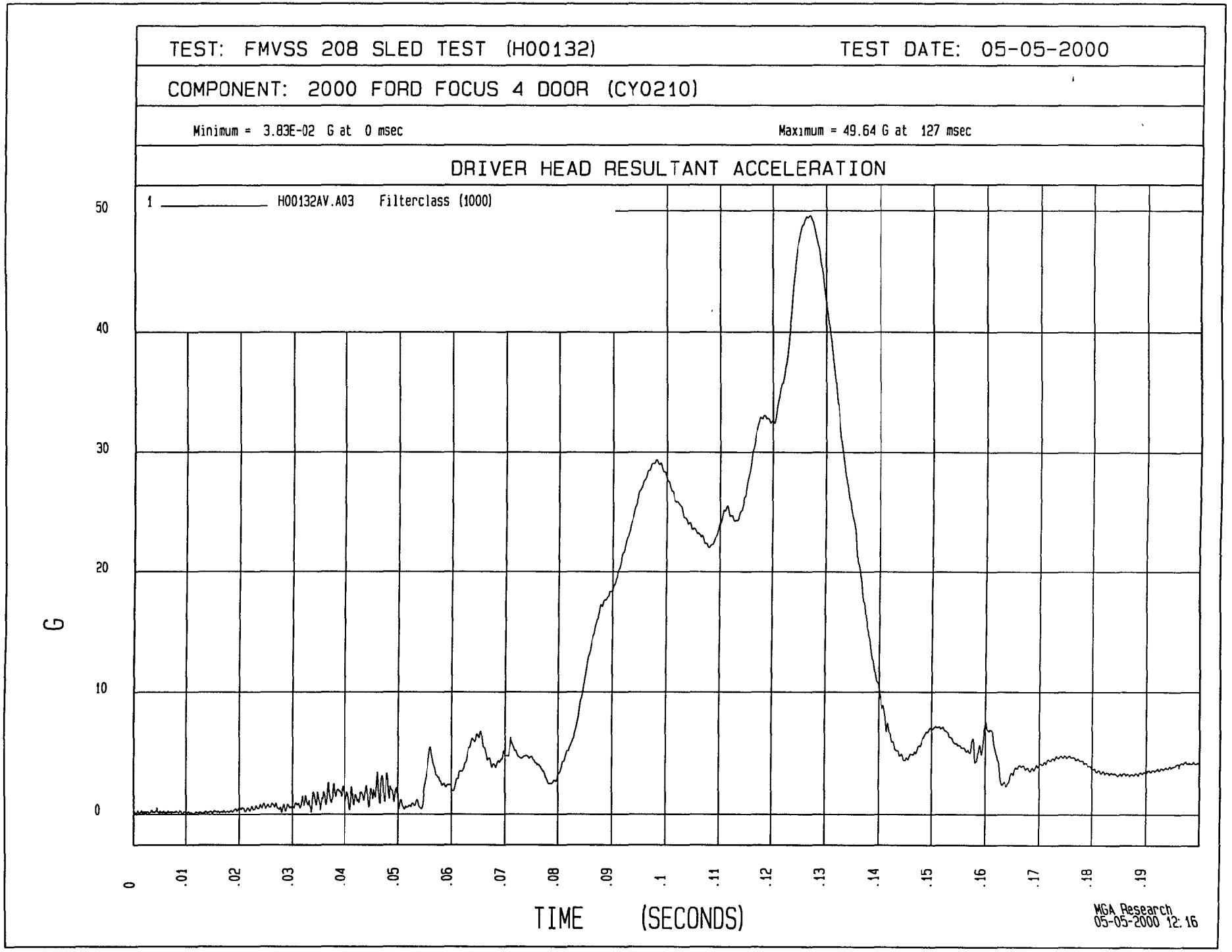

TEST: FMVSS 208 SLED TEST (H00132)
TEST DATE: 05-05-2000
COMPONENT: 2000 FORD FOCUS 4 DOOR (CY0210)
Minimum = -1.39 G at 164 msec
Maximum = 19.26 G at 53 msec
TOP OF ENGINE X ACCELERATION
1 H00132AF.A43 Filterclass (60)
G
20
18
16
14
12
10
8
6
4
2
0
-2
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
05-05-2000 12:17

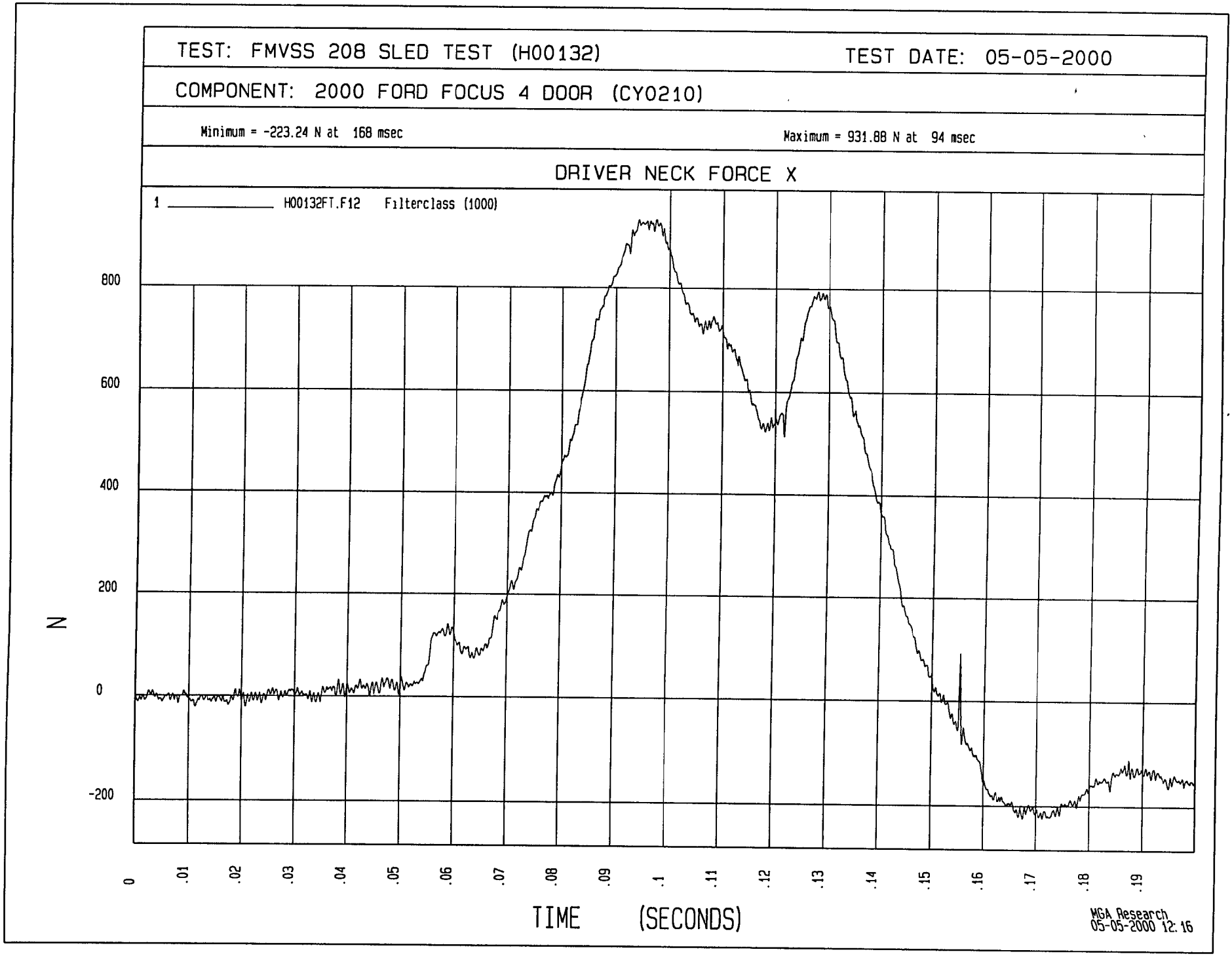

TEST: FMVSS 208 SLED TEST (H00132)
TEST DATE: 05-05-2000
COMPONENT: 2000 FORD FOCUS 4 DOOR (CY0210)
Minimum = -1.3 G at 172 msec
Maximum = 19.47 G at 52 msec
REAR AXLE X ACCELERATION
1 H00132AF.A44 Filterclass (60)
20
18
16
14
12
10
8
6
4
2
0
-2
G
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
05-05-2000 12:17

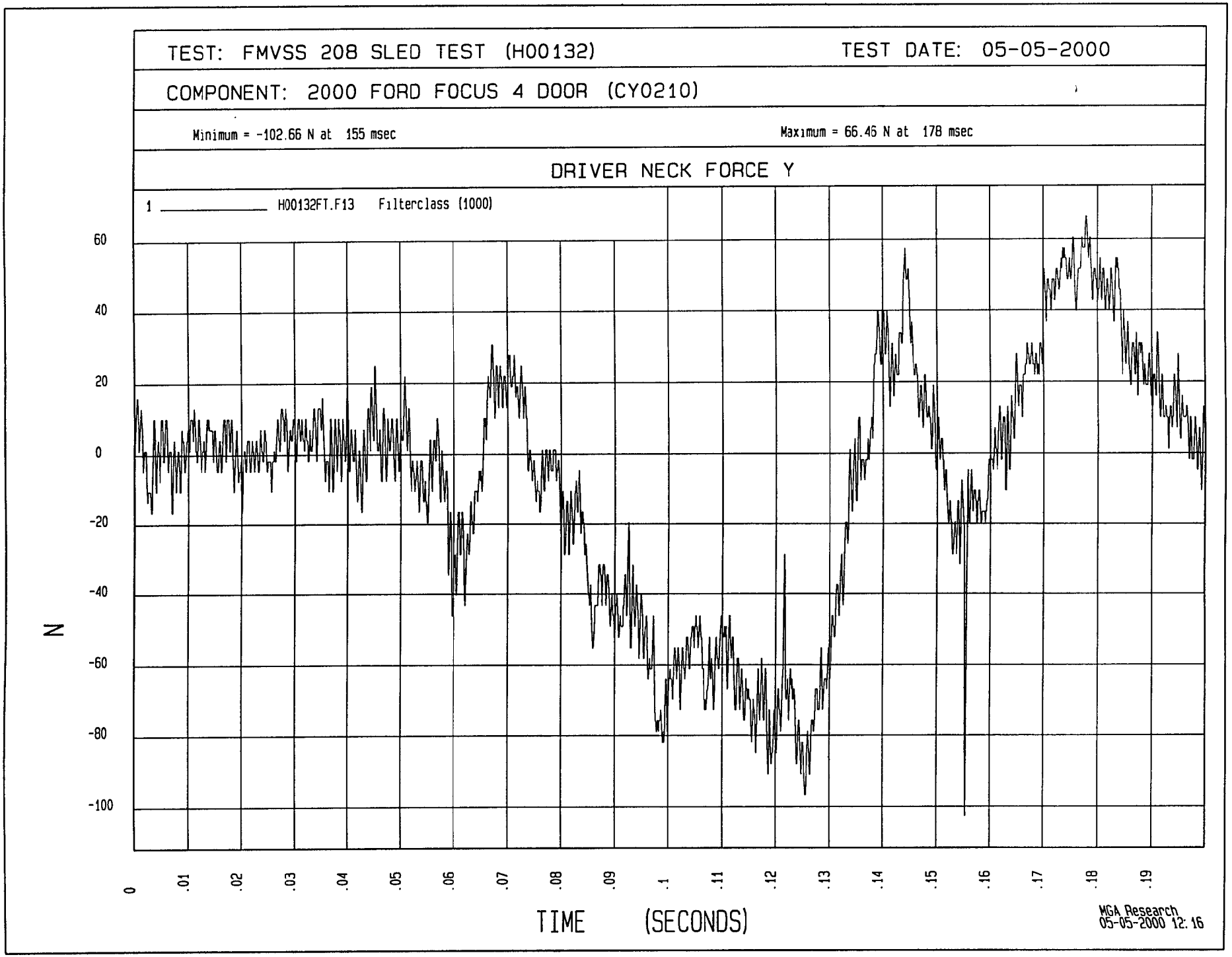

TEST: FMVSS 208 SLED TEST (H00132)
TEST DATE: 05-05-2000
COMPONENT: 2000 FORD FOCUS 4 DOOR (CY0210)
Minimum = -46.3 G at 127 msec
Maximum = 6.31 G at 151 msec
DRIVER HEAD X ACCELERATION
1 H00132AT.A03 Filterclass (1000)
0
-10
-20
-30
-40
G
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
05-05-2000 12:16


TEST: FMVSS 208 SLED TEST (H00132)
TEST DATE: 05-05-2000
COMPONENT: 2000 FORD FOCUS 4 DOOR (CY0210)
Minimum = -2.62 G at 158 msec
Maximum = 14.41 G at 136 msec
DRIVER HEAD Y ACCELERATION
1 H00132AT.A05 Filterclass (1000)
14
12
10
8
6
4
2
0
-2
G
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
05-05-2000 12:16


TEST: FMVSS 208 SLED TEST (H00132)
TEST DATE: 05-05-2000
COMPONENT: 2000 FORD FOCUS 4 DOOR (CY0210)
Minimum = -6.69 G at 66 msec
Maximum = 21.35 G at 118 msec
DRIVER HEAD Z ACCELERATION
1 H00132AT.A06 Filterclass (1000)
22
20
18
16
14
12
10
8
6
4
2
0
-2
-4
-6
-8
G
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
05-05-2000 12:16

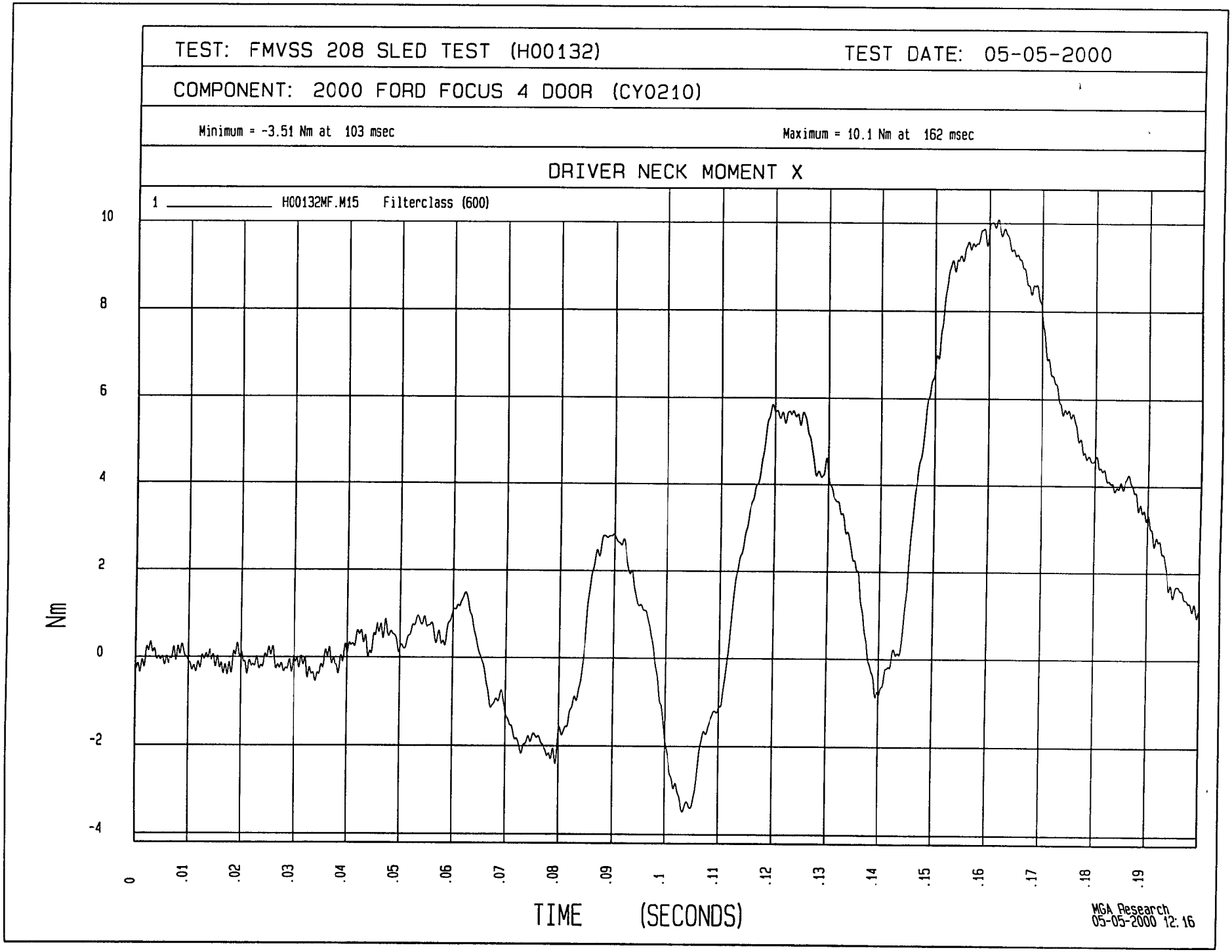

TEST: FMVSS 208 SLED TEST (H00132)
TEST DATE: 05-05-2000
COMPONENT: 2000 FORD FOCUS 4 DOOR (CY0210)
Minimum = 3.83E-02 G at 0 msec
Maximum = 49.64 G at 127 msec
DRIVER HEAD RESULTANT ACCELERATION
1 H00132AV.A03 Filterclass (1000)
G
50
40
30
20
10
0
0 .01 .02 .03 .04 .05 .06 .07 .08 .09 .1 .11 .12 .13 .14 .15 .16 .17 .18 .19
TIME (SECONDS)
MGA Research
05-05-2000 12:16

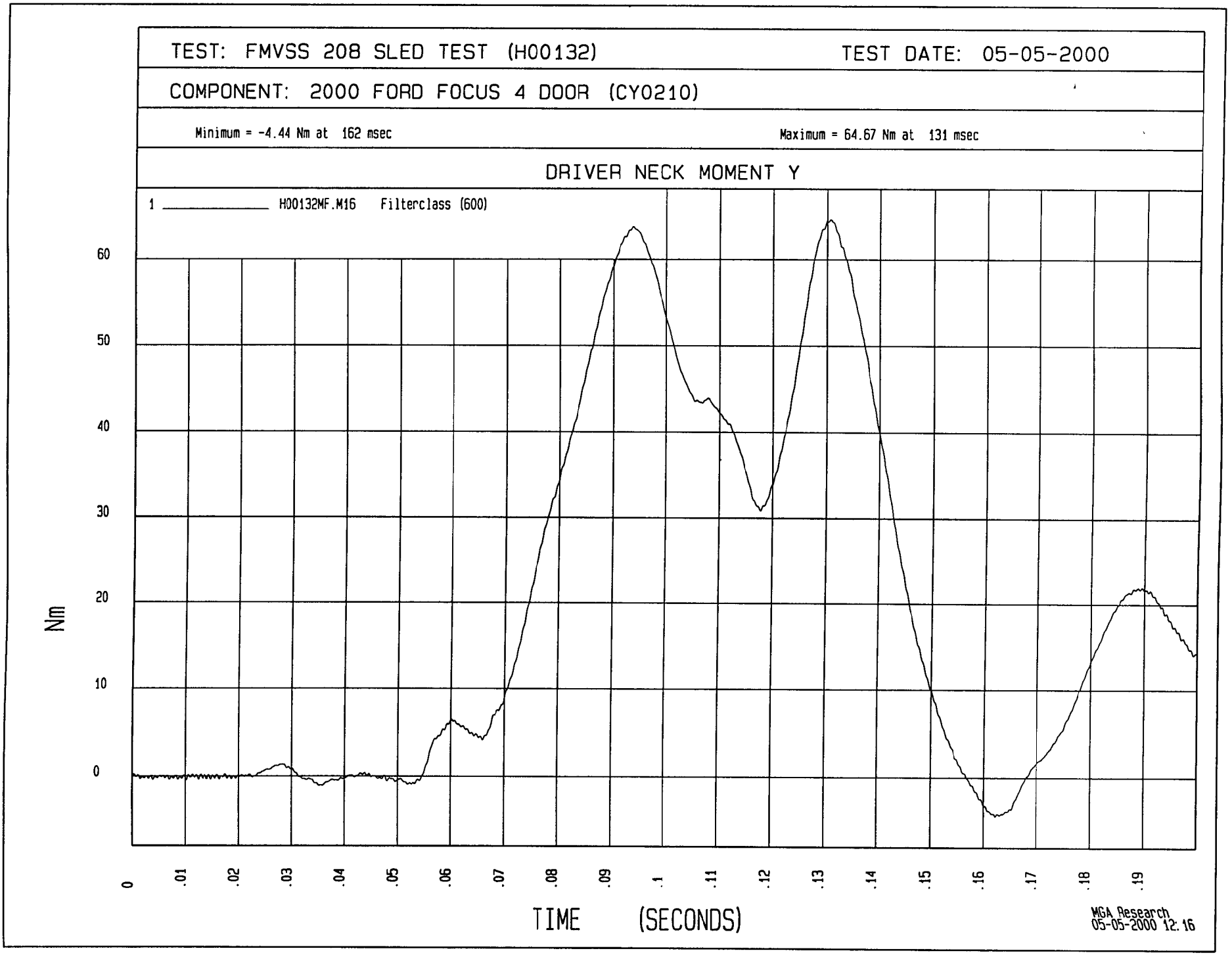

TEST: FMVSS 208 SLED TEST (H00132)
TEST DATE: 05-05-2000
COMPONENT: 2000 FORD FOCUS 4 DOOR (CY0210)
Minimum = -223.24 N at 168 msec
Maximum = 931.88 N at 94 msec
DRIVER NECK FORCE X
1 H00132FT.F12 Filterclass (1000)
800
600
400
200
0
-200
N
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
05-05-2000 12:16

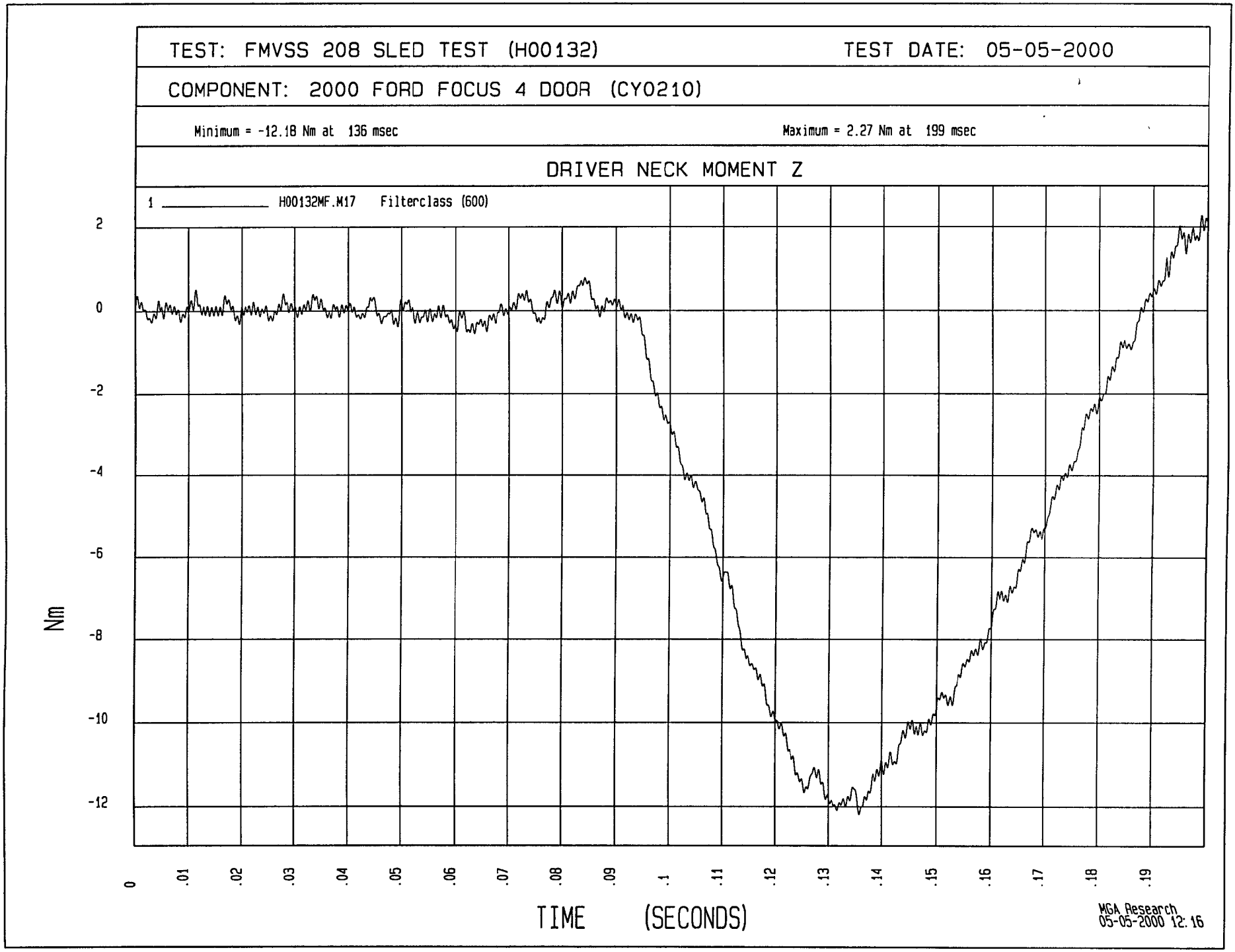

TEST: FMVSS 208 SLED TEST (H00132)
TEST DATE: 05-05-2000
COMPONENT: 2000 FORD FOCUS 4 DOOR (CY0210)
Minimum = -102.66 N at 155 msec
Maximum = 66.46 N at 178 msec
DRIVER NECK FORCE Y
1 H00132FT.F13 Filterclass (1000)
60
40
20
0
-20
-40
-60
-80
-100
N
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
05-05-2000 12:16

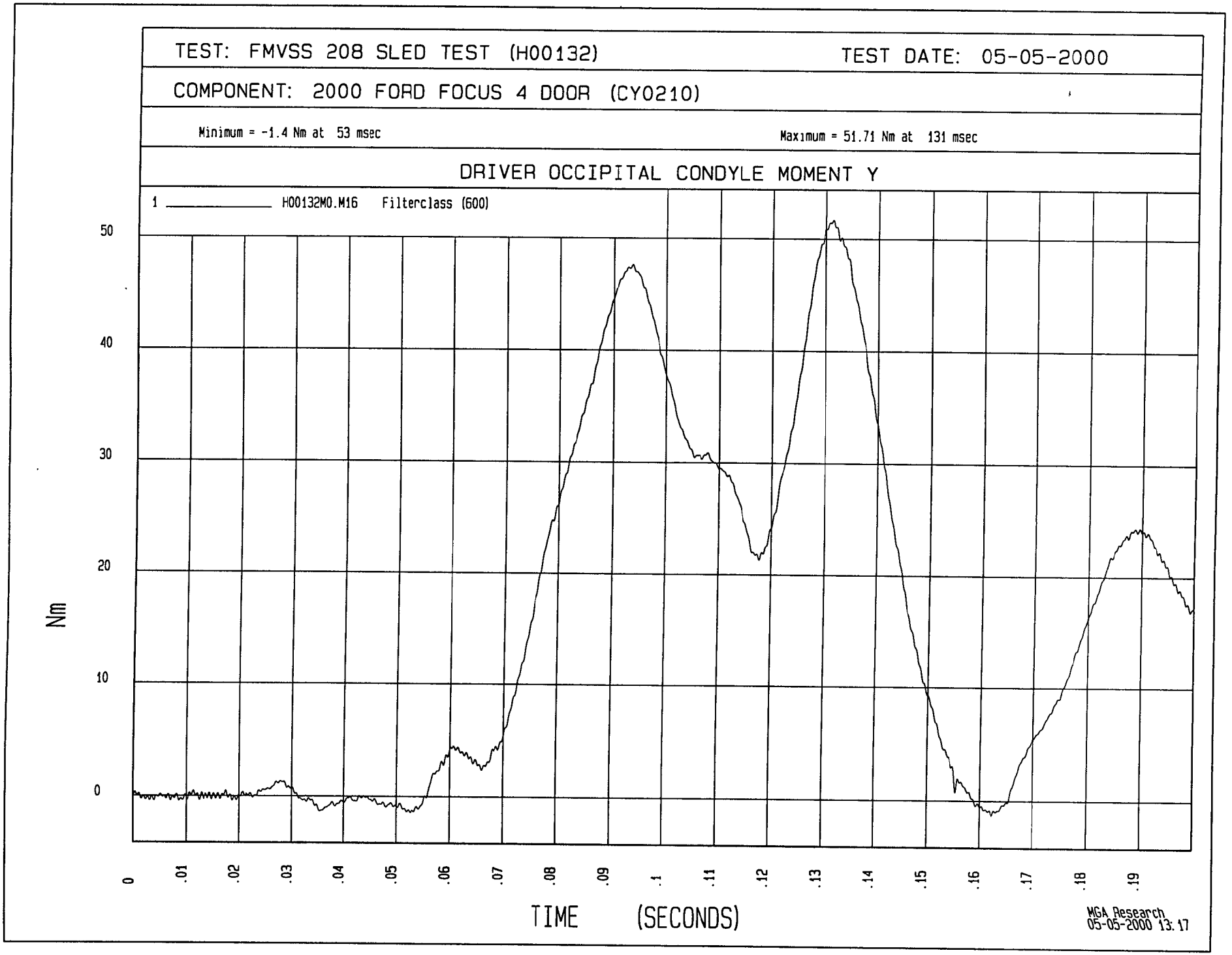
DRIVER NECK FORCE Z ACCELERATION VS. TIME

NO VALID DATA COLLECTED


TEST: FMVSS 208 SLED TEST (H00132)
TEST DATE: 05-05-2000
COMPONENT: 2000 FORD FOCUS 4 DOOR (CY0210)
Minimum = -3.51 Nm at 103 msec
Maximum = 10.1 Nm at 162 msec
DRIVER NECK MOMENT X
1 H00132MF.M15 Filterclass (600)
Nm
10
8
6
4
2
0
-2
-4
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
05-05-2000 12:16


TEST: FMVSS 208 SLED TEST (H00132)
TEST DATE: 05-05-2000
COMPONENT: 2000 FORD FOCUS 4 DOOR (CY0210)
Minimum = -4.44 Nm at 162 msec
Maximum = 64.67 Nm at 131 msec
DRIVER NECK MOMENT Y
1 H00132MF.M16 Filterclass (600)
Nm
60
50
40
30
20
10
0
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
05-05-2000 12:16


TEST: FMVSS 208 SLED TEST (H00132)
TEST DATE: 05-05-2000
COMPONENT: 2000 FORD FOCUS 4 DOOR (CY0210)
Minimum = -12.18 Nm at 136 msec
Maximum = 2.27 Nm at 199 msec
DRIVER NECK MOMENT Z
1 H00132MF.M17 Filterclass (600)
2
0
-2
-4
-6
-8
-10
-12
Nm
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
05-05-2000 12:16


TEST: FMVSS 208 SLED TEST (H00132)
TEST DATE: 05-05-2000
COMPONENT: 2000 FORD FOCUS 4 DOOR (CY0210)
Minimum = -1.4 Nm at 53 msec
Maximum = 51.71 Nm at 131 msec
DRIVER OCCIPITAL CONDYLE MOMENT Y
1 H00132M0.M16 Filterclass (600)
Nm
50
40
30
20
10
0
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
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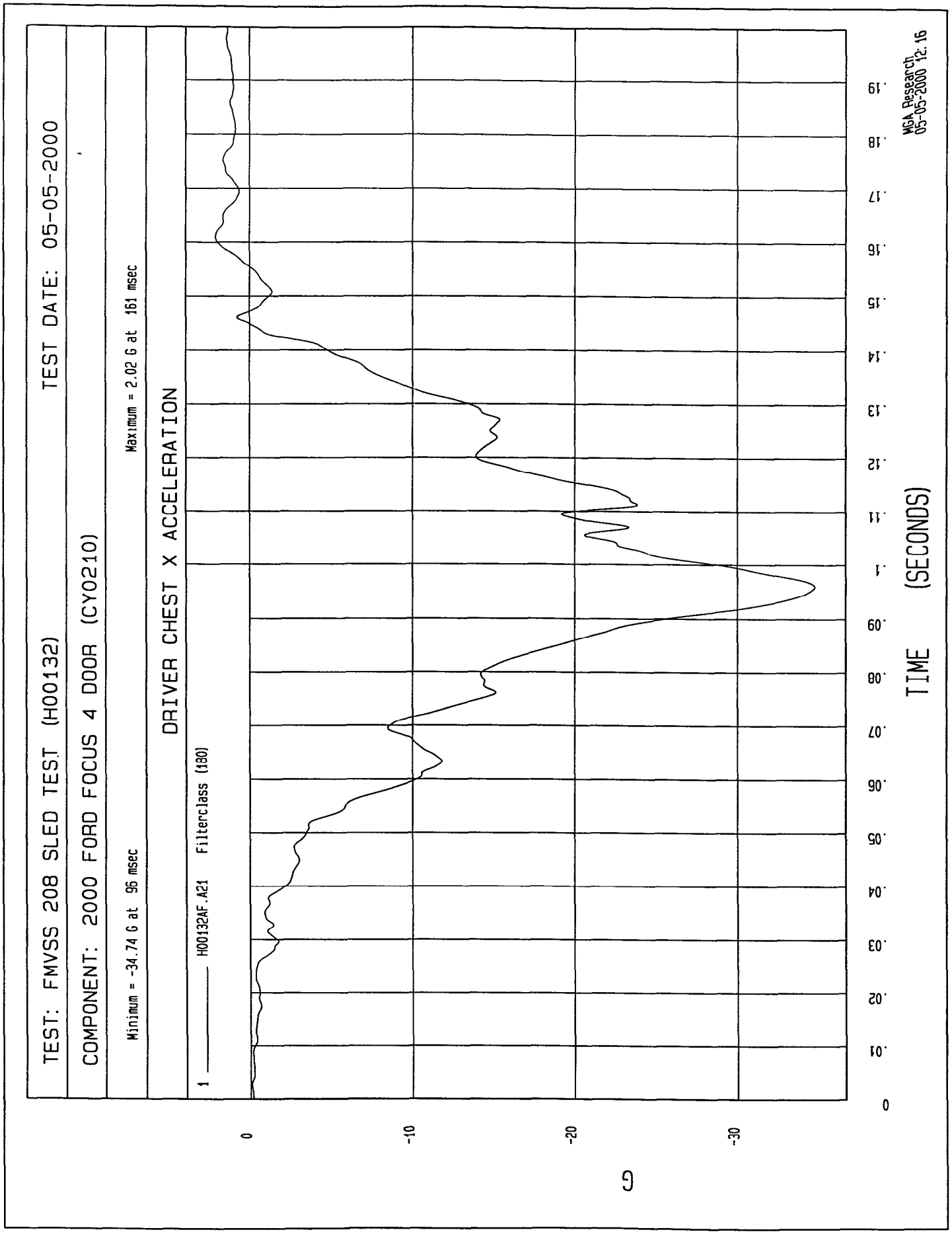
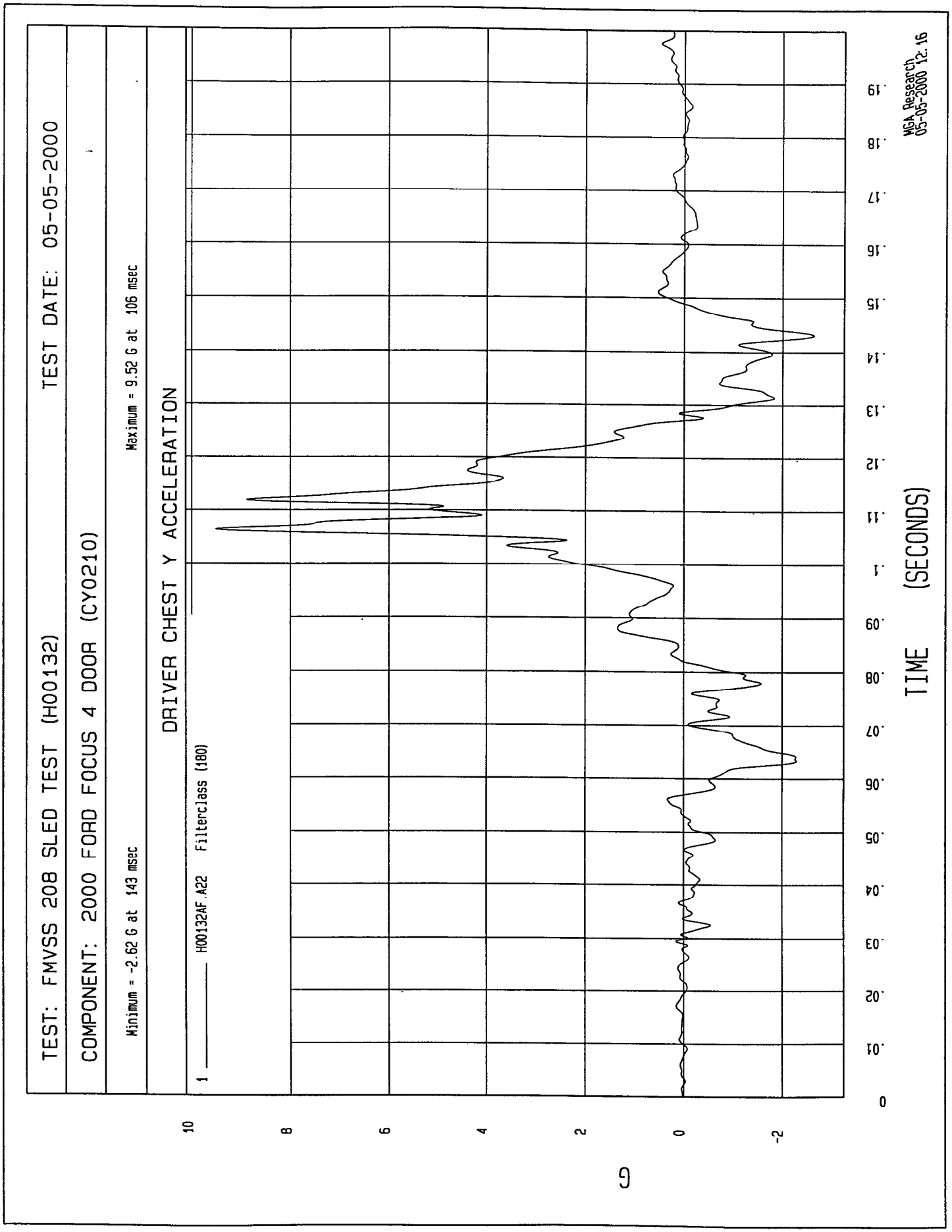
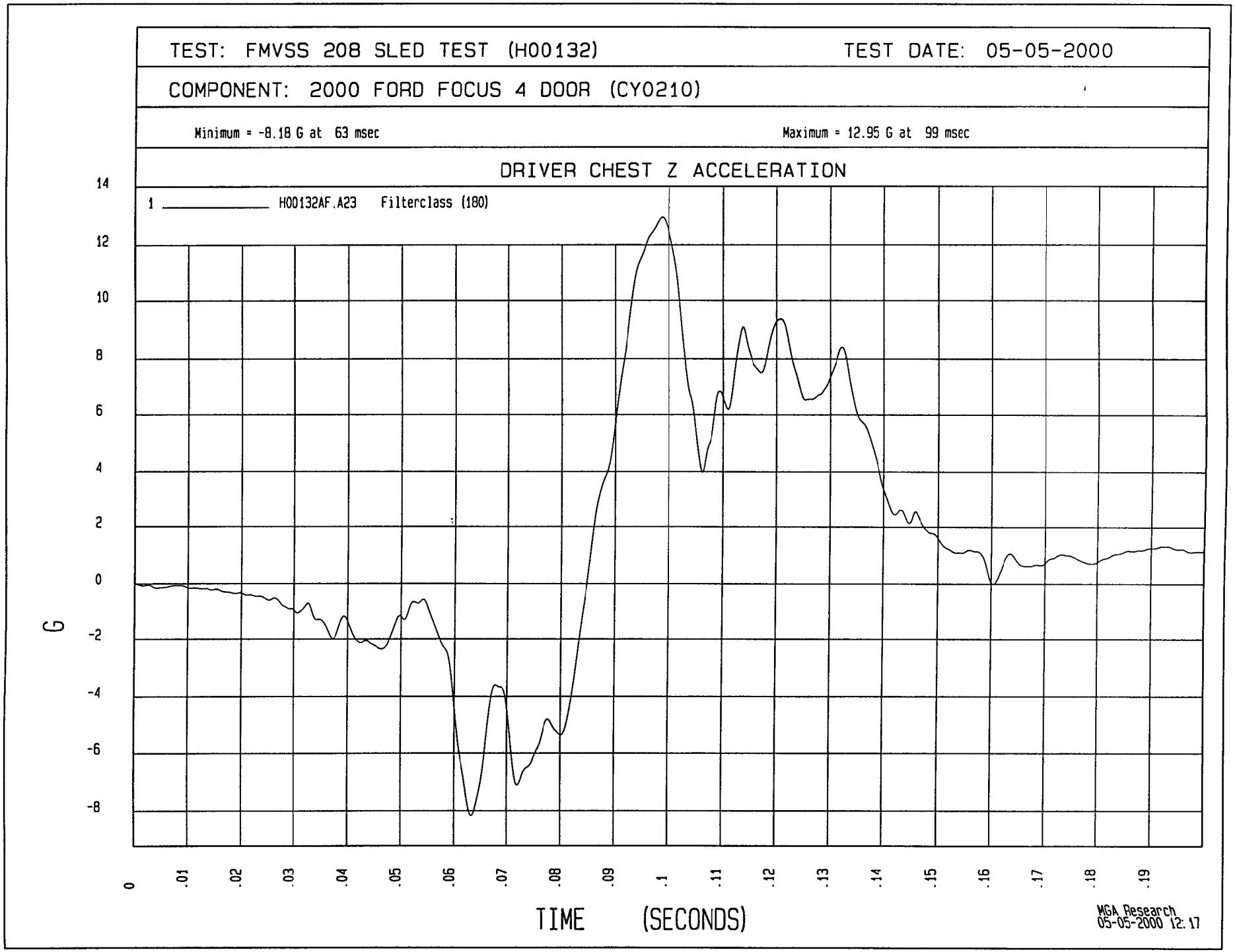
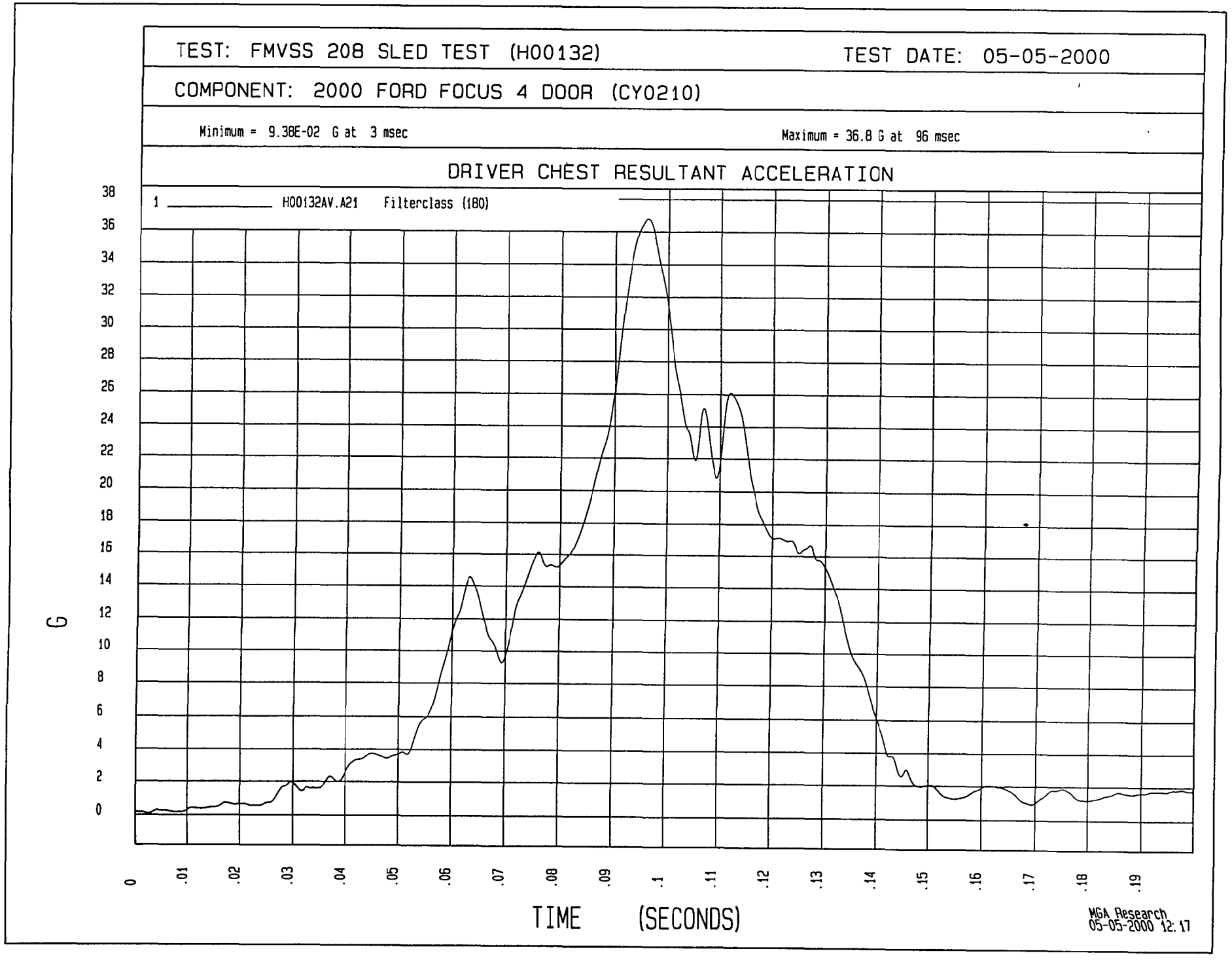
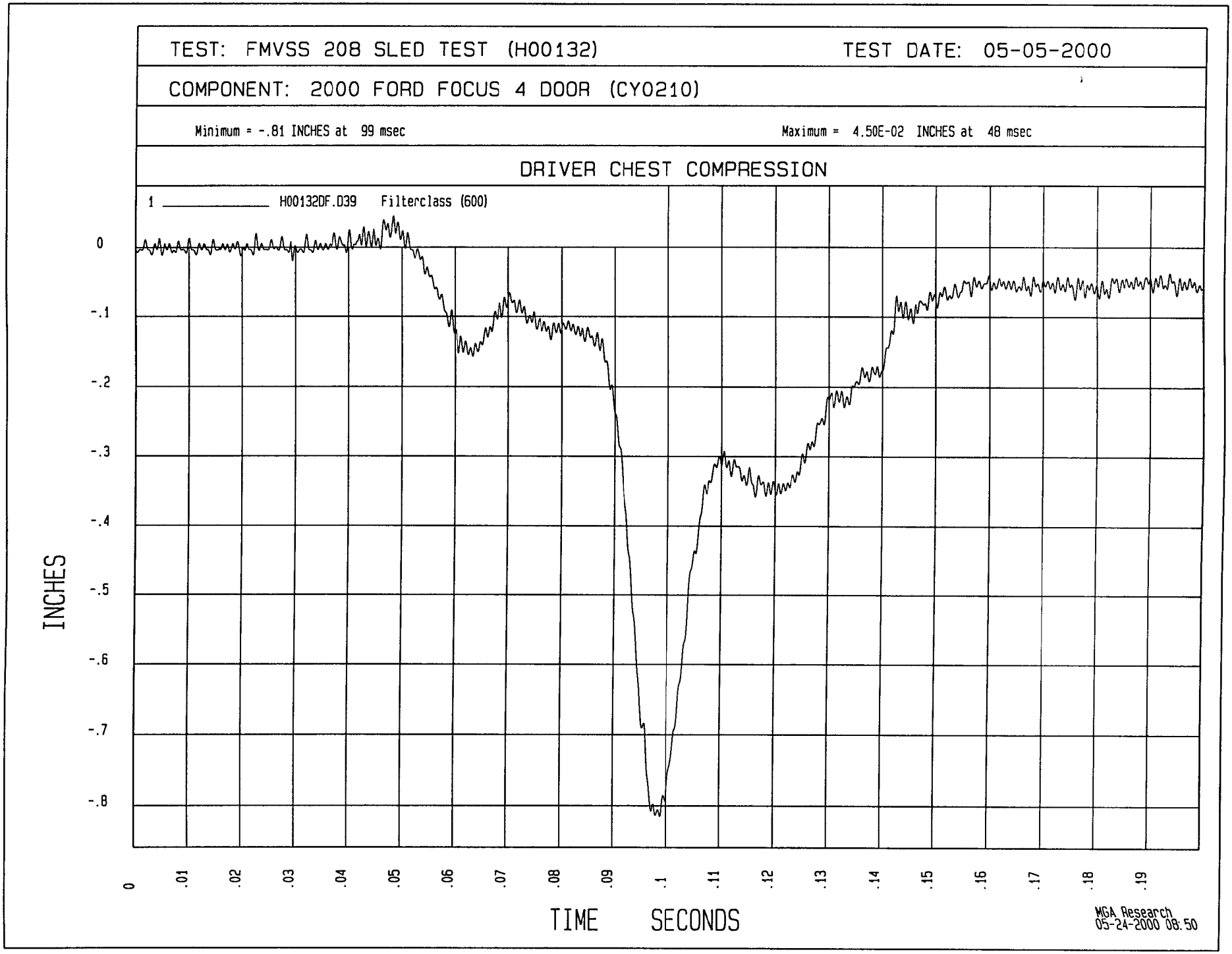
.19
TIME (SECONDS)
MGA Research
05-05-2000 13:17

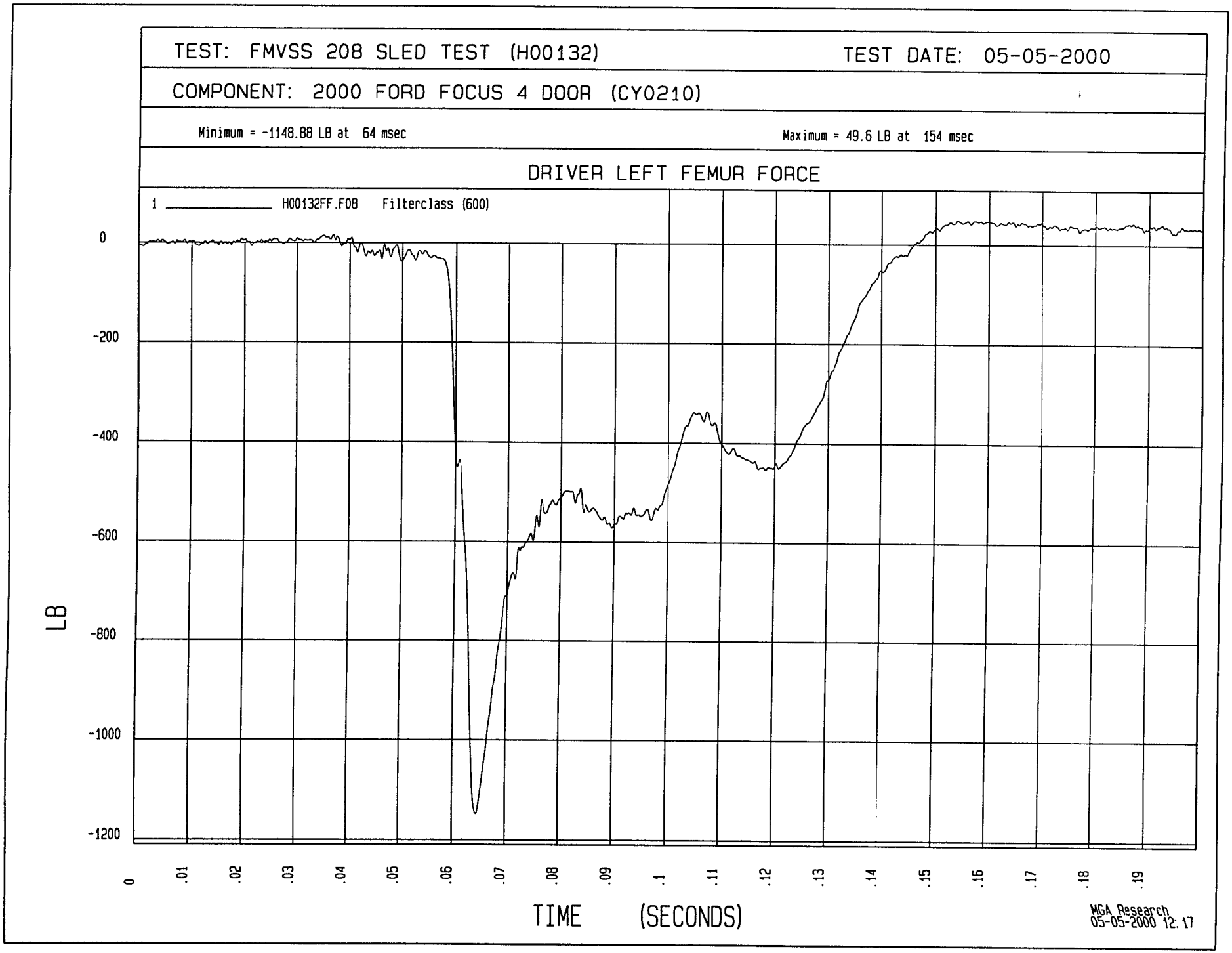

TEST: FMVSS 208 SLED TEST (H00132)
TEST DATE: 05-05-2000
COMPONENT: 2000 FORD FOCUS 4 DOOR (CY0210)
Minimum = -34.74 G at 96 msec
Maximum = 2.02 G at 161 msec
DRIVER CHEST X ACCELERATION
1 _____ H00132AF.A21 Filterclass (180)
MGA Research
05-05-2000 12:16
G
0
-10
-20
-30
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)

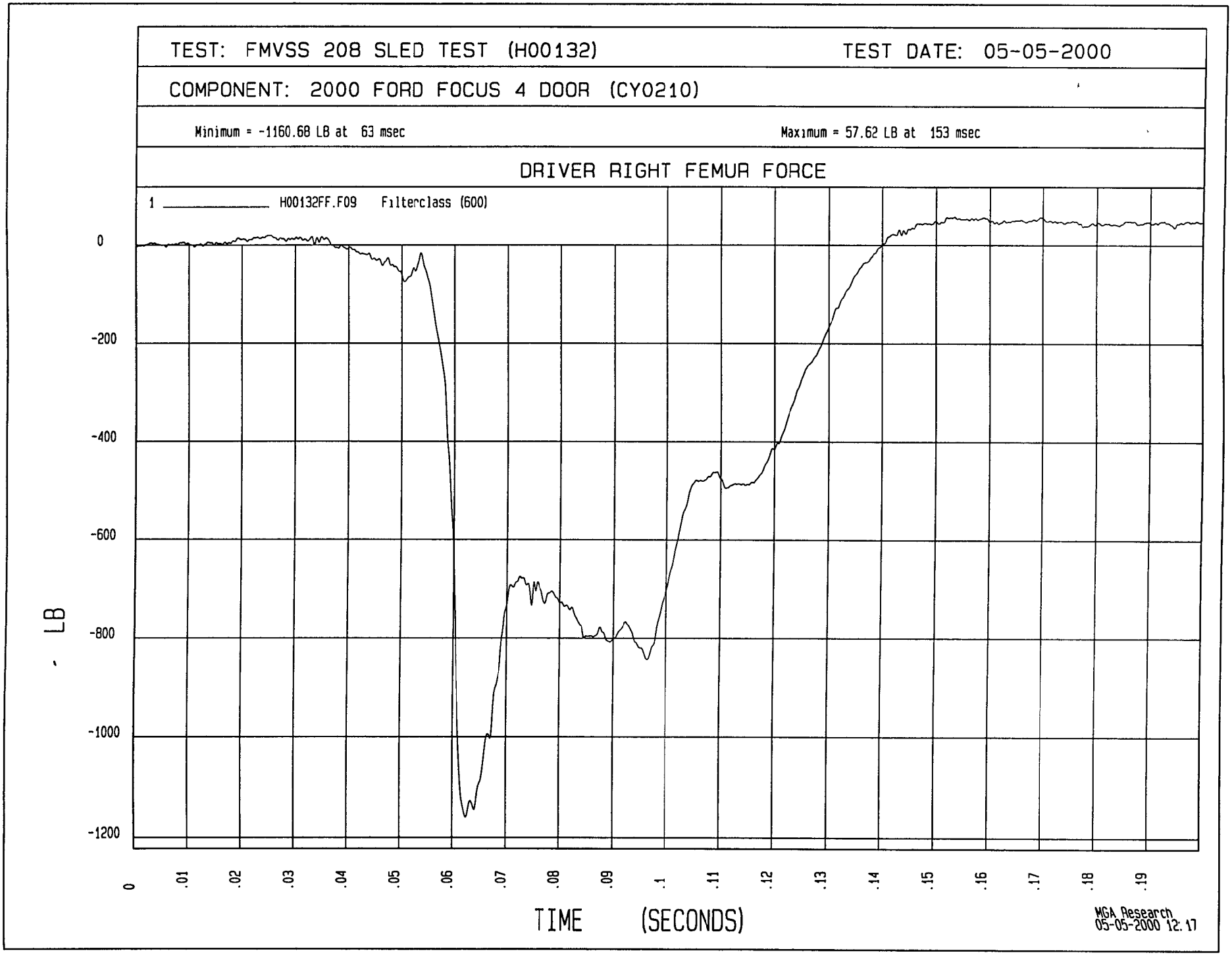

TEST: FMVSS 208 SLED TEST (H00132)
TEST DATE: 05-05-2000
COMPONENT: 2000 FORD FOCUS 4 DOOR (CY0210)
Minimum = -2.62 G at 143 msec
Maximum = 9.52 G at 106 msec
DRIVER CHEST Y ACCELERATION
1 H00132AF.A22 Filterclass (180)
10
8
6
4
2
0
-2
G
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
05-05-2000 12:16

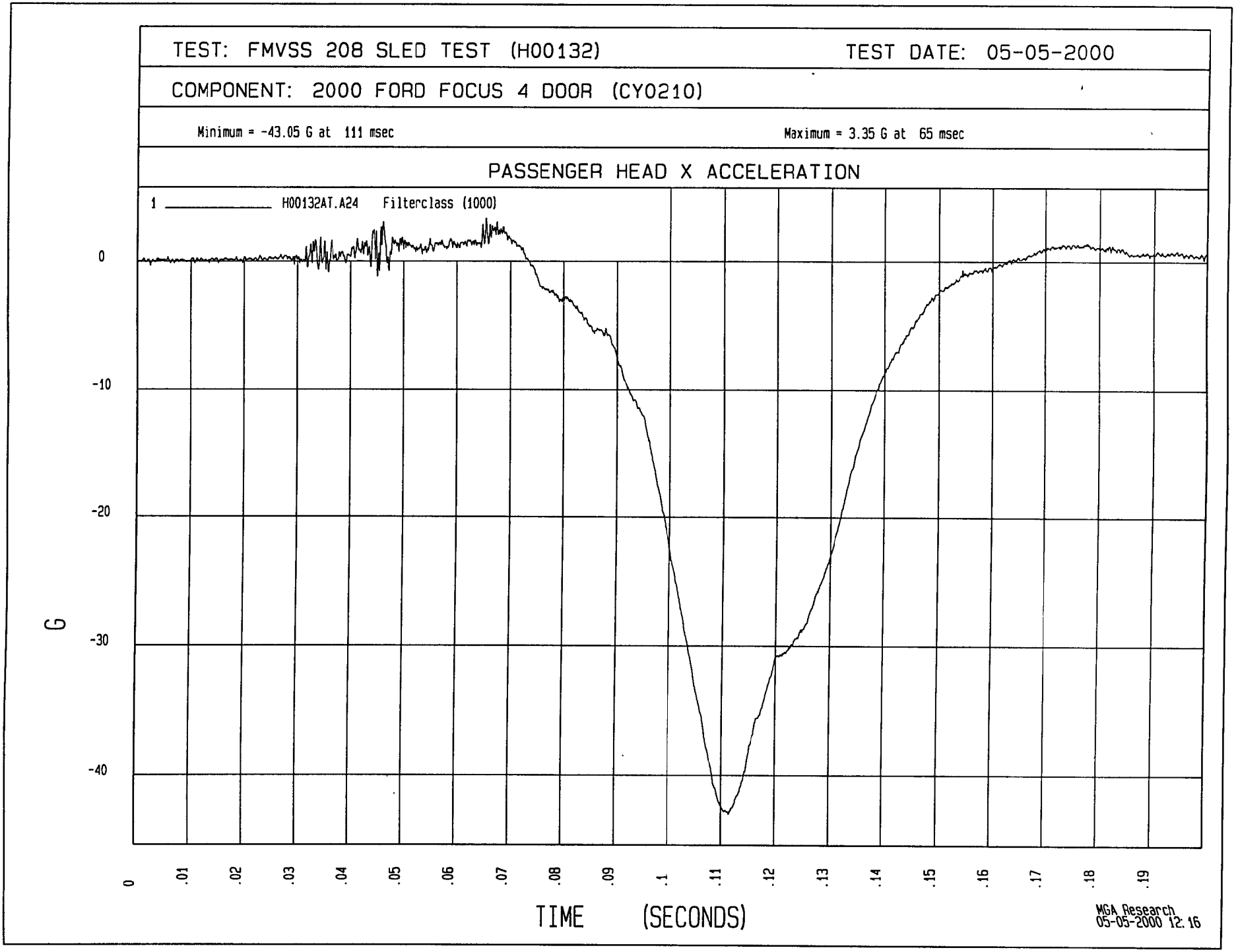

TEST: FMVSS 208 SLED TEST (H00132)
TEST DATE: 05-05-2000
COMPONENT: 2000 FORD FOCUS 4 DOOR (CY0210)
Minimum = -8.18 G at 63 msec
Maximum = 12.95 G at 99 msec
DRIVER CHEST Z ACCELERATION
1 H00132AF.A23 Filterclass (180)
14
12
10
8
6
4
2
0
-2
-4
-6
-8
G
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
05-05-2000 12:17

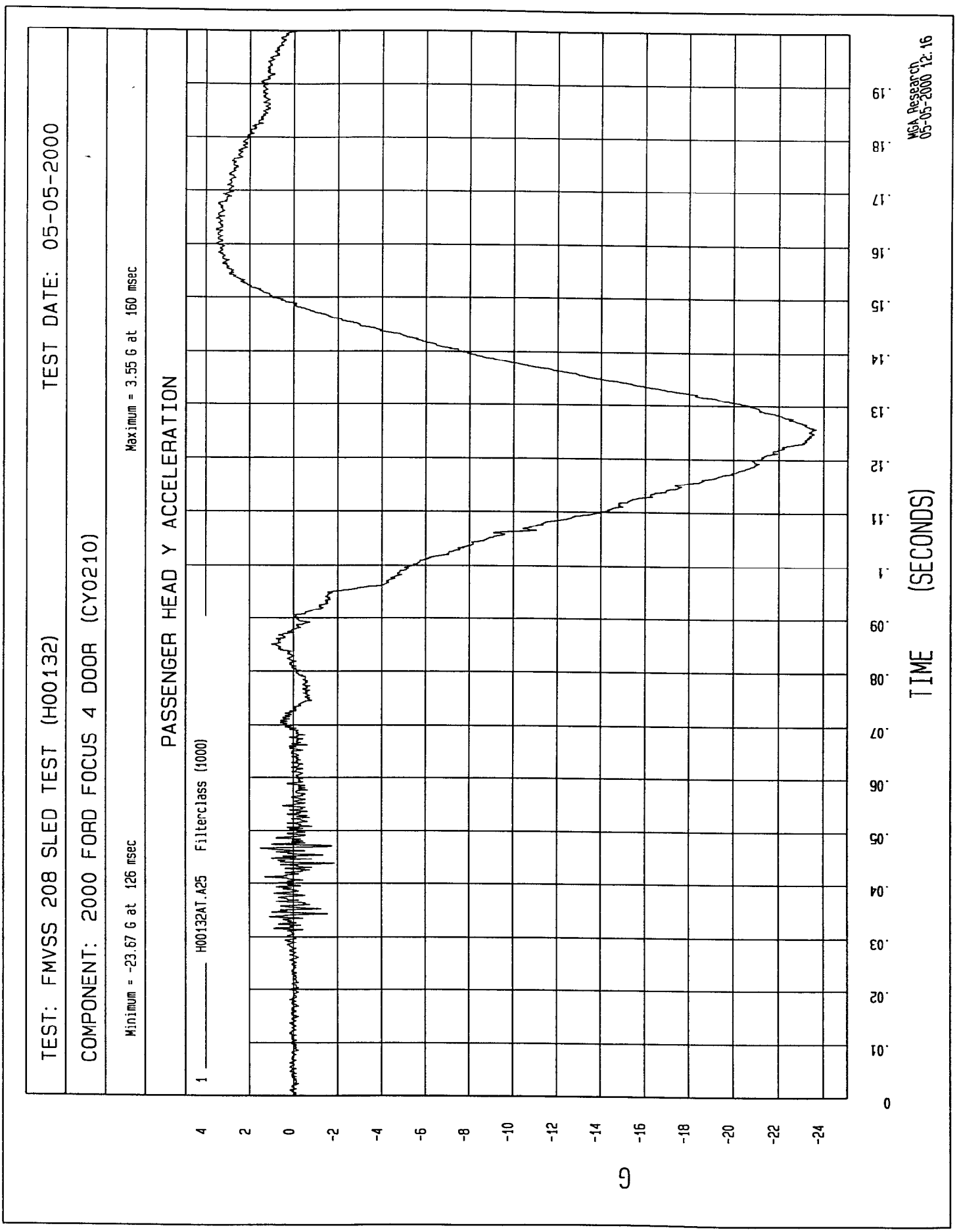

TEST: FMVSS 208 SLED TEST (H00132)
TEST DATE: 05-05-2000
COMPONENT: 2000 FORD FOCUS 4 DOOR (CY0210)
Minimum = 9.38E-02 G at 3 msec
Maximum = 36.8 G at 96 msec
DRIVER CHEST RESULTANT ACCELERATION
1 H00132AV.A21 Filterclass (180)
G
38
36
34
32
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
05-05-2000 12:17

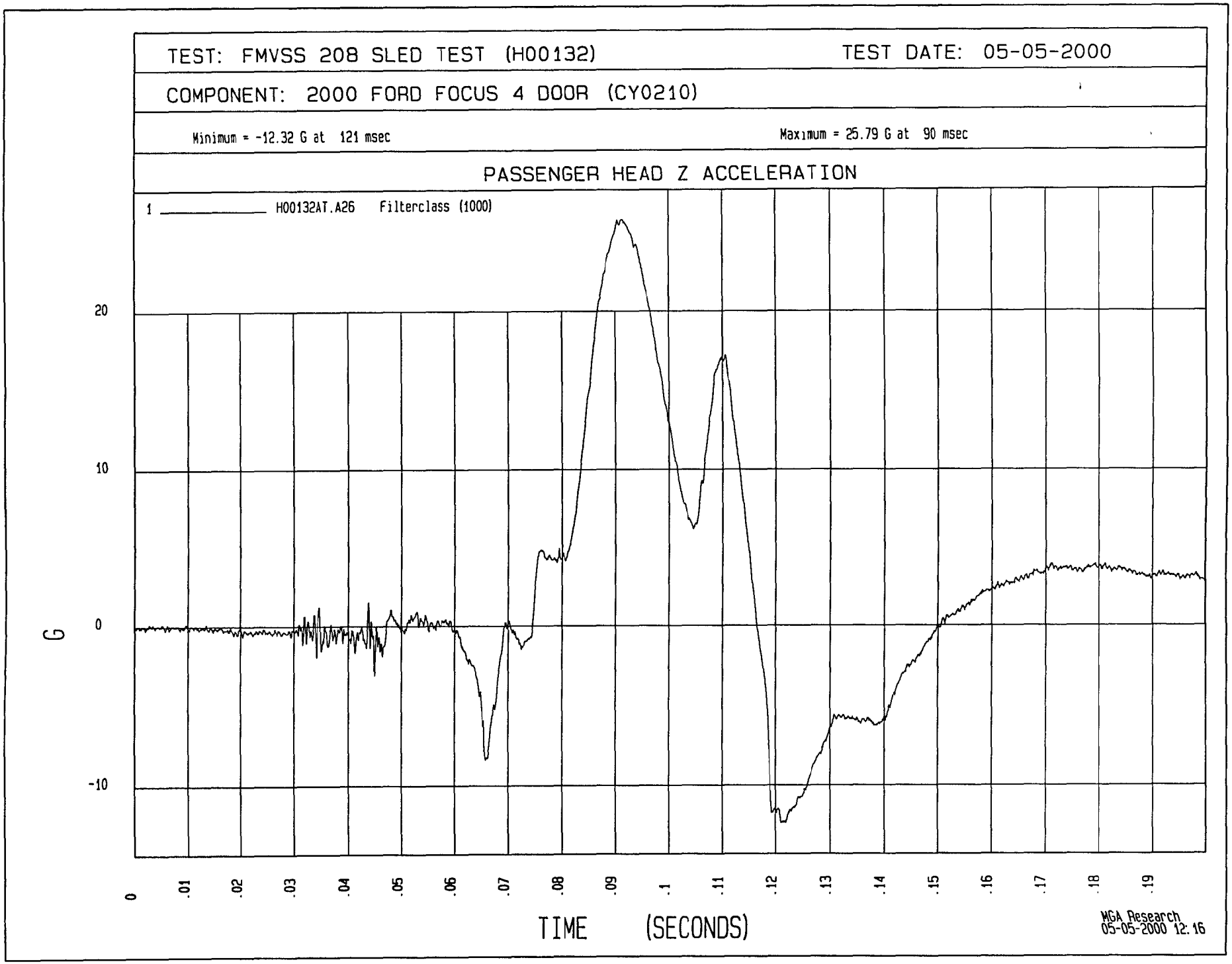

TEST: FMVSS 208 SLED TEST (H00132)
TEST DATE: 05-05-2000
COMPONENT: 2000 FORD FOCUS 4 DOOR (CY0210)
Minimum = -.81 INCHES at 99 msec
Maximum = 4.50E-02 INCHES at 48 msec
DRIVER CHEST COMPRESSION
1 H00132DF.D39 Filterclass (600)
INCHES
0
-.1
-.2
-.3
-.4
-.5
-.6
-.7
-.8
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME SECONDS
MGA Research
05-24-2000 08:50

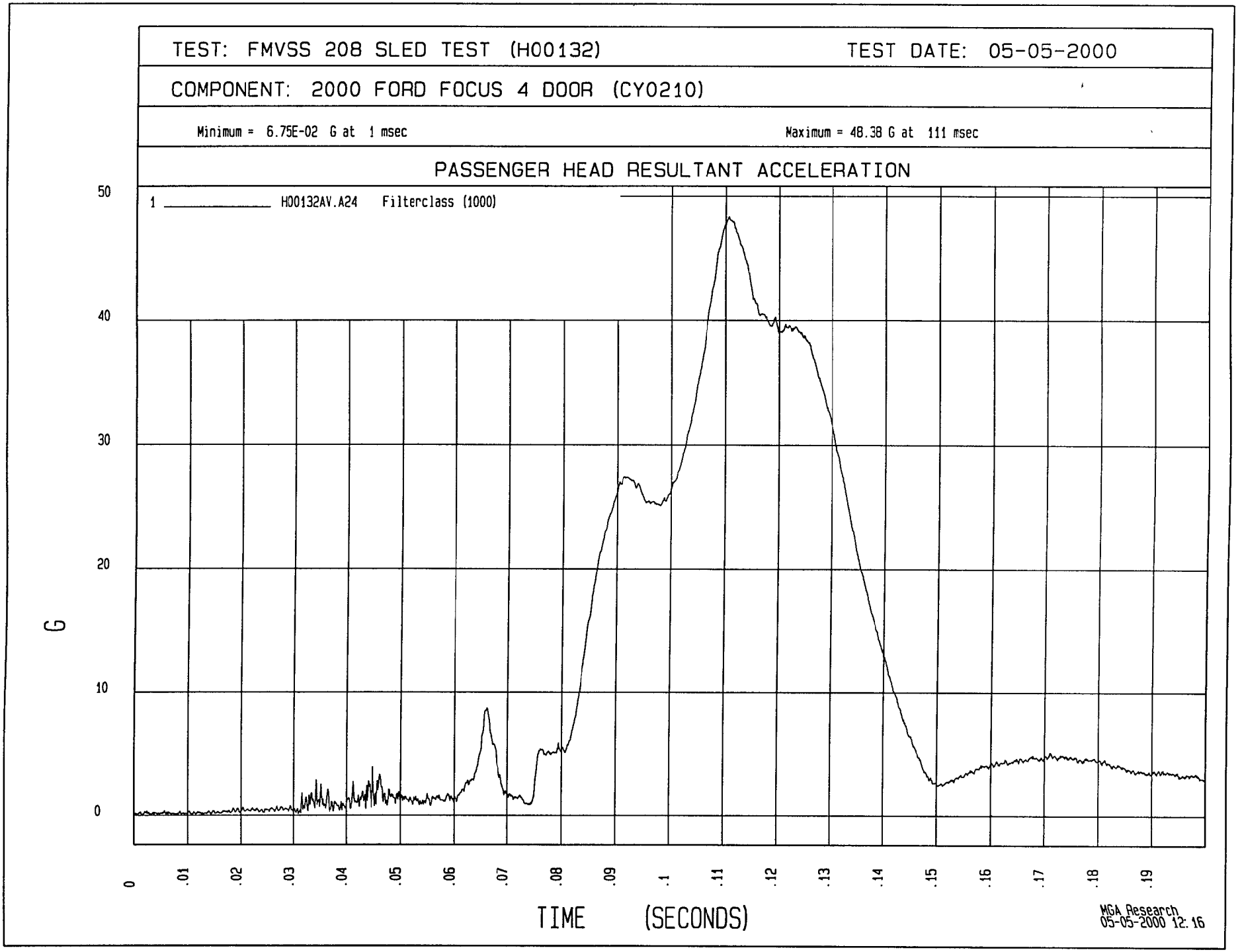

TEST: FMVSS 208 SLED TEST (H00132)
TEST DATE: 05-05-2000
COMPONENT: 2000 FORD FOCUS 4 DOOR (CY0210)
Minimum = -1148.88 LB at 64 msec
Maximum = 49.6 LB at 154 msec
DRIVER LEFT FEMUR FORCE
1 H00132FF.F08 Filterclass (600)
0
-200
-400
-600
-800
-1000
-1200
LB
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
05-05-2000 12:17

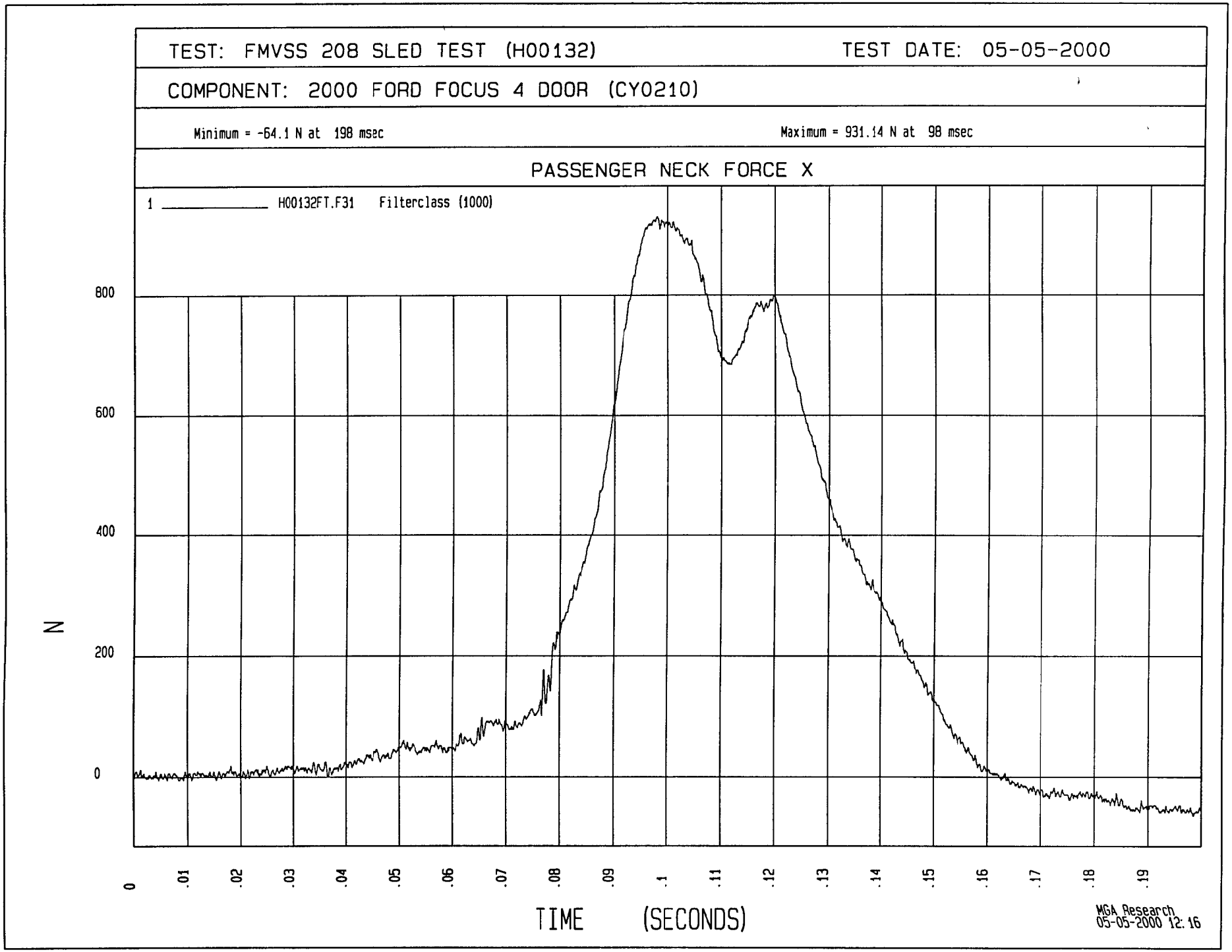

TEST: FMVSS 208 SLED TEST (H00132)
TEST DATE: 05-05-2000
COMPONENT: 2000 FORD FOCUS 4 DOOR (CY0210)
Minimum = -1160.68 LB at 63 msec
Maximum = 57.62 LB at 153 msec
DRIVER RIGHT FEMUR FORCE
1 H00132FF.F09 Filterclass (600)
0
-200
-400
-600
-800
-1000
-1200
- LB
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
05-05-2000 12:17

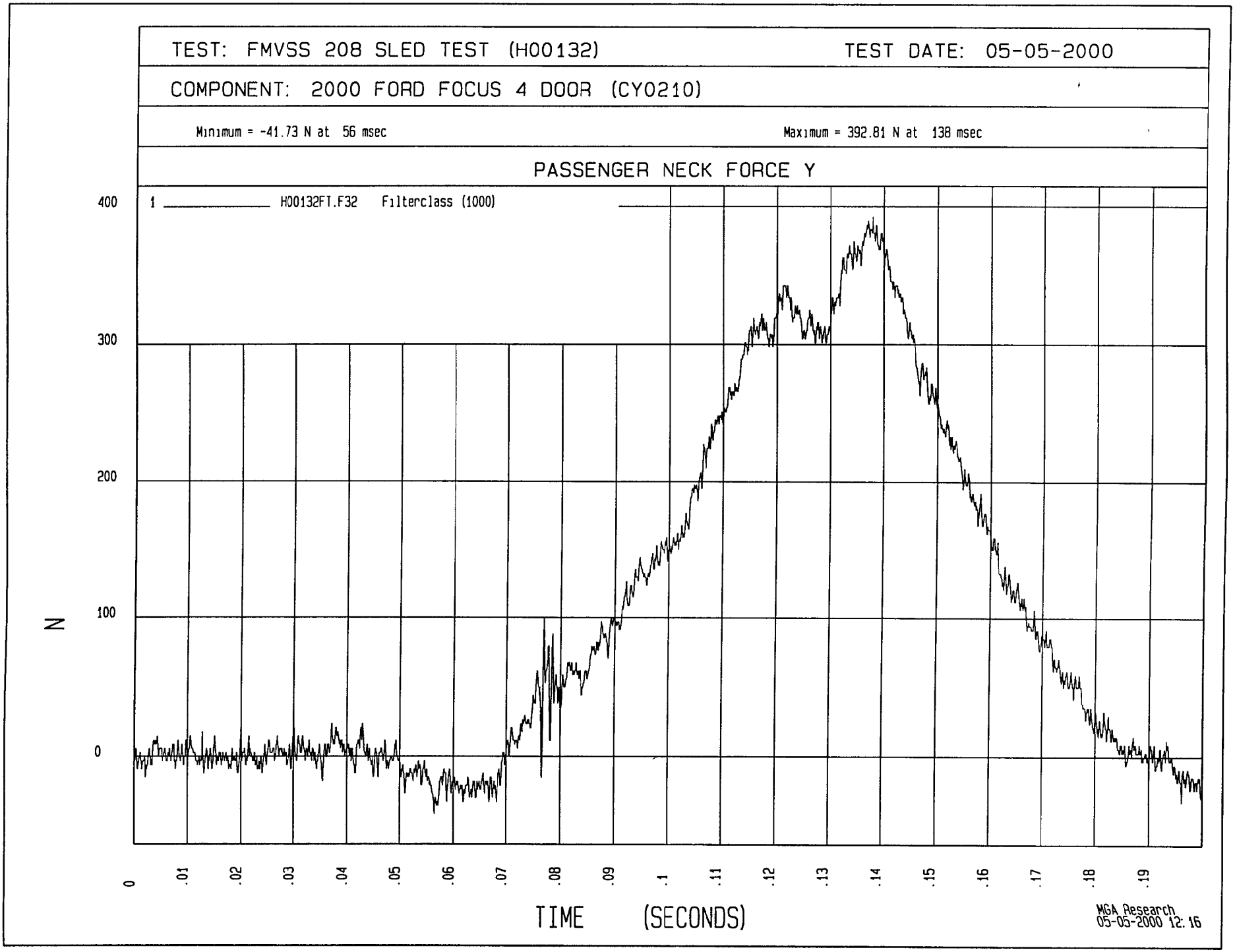

TEST: FMVSS 208 SLED TEST (H00132)
TEST DATE: 05-05-2000
COMPONENT: 2000 FORD FOCUS 4 DOOR (CY0210)
Minimum = -43.05 G at 111 msec
Maximum = 3.35 G at 65 msec
PASSENGER HEAD X ACCELERATION
1 H00132AT.A24 Filterclass (1000)
0
-10
-20
-30
-40
G
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
05-05-2000 12:16

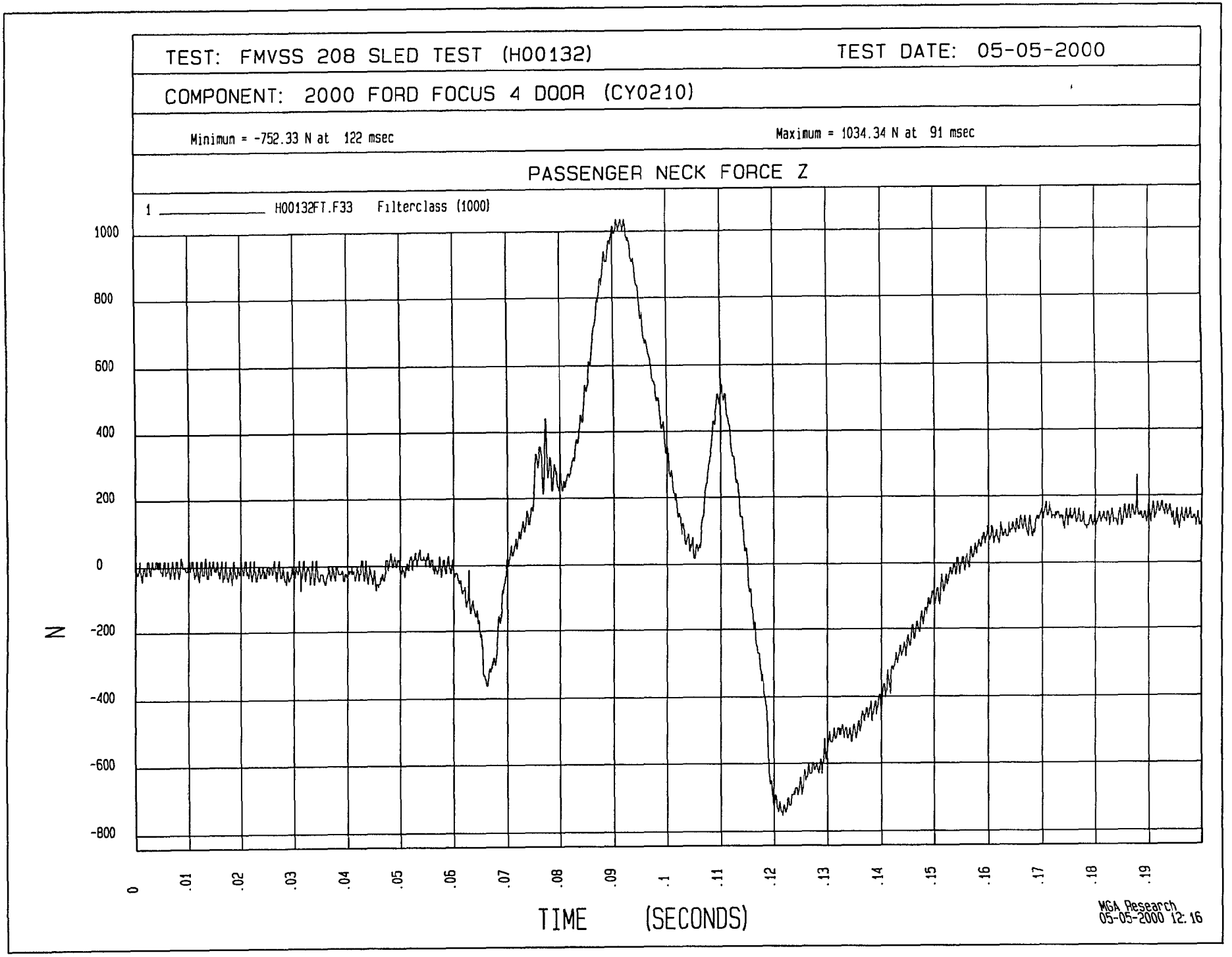

TEST: FMVSS 208 SLED TEST (H00132)
TEST DATE: 05-05-2000
COMPONENT: 2000 FORD FOCUS 4 DOOR (CY0210)
Minimum = -23.67 G at 126 msec
Maximum = 3.55 G at 160 msec
PASSENGER HEAD Y ACCELERATION
1 H00132AT.A25 Filterclass (1000)
4
2
0
-2
-4
-6
-8
-10
-12
-14
-16
-18
-20
-22
-24
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
05-05-2000 12:16

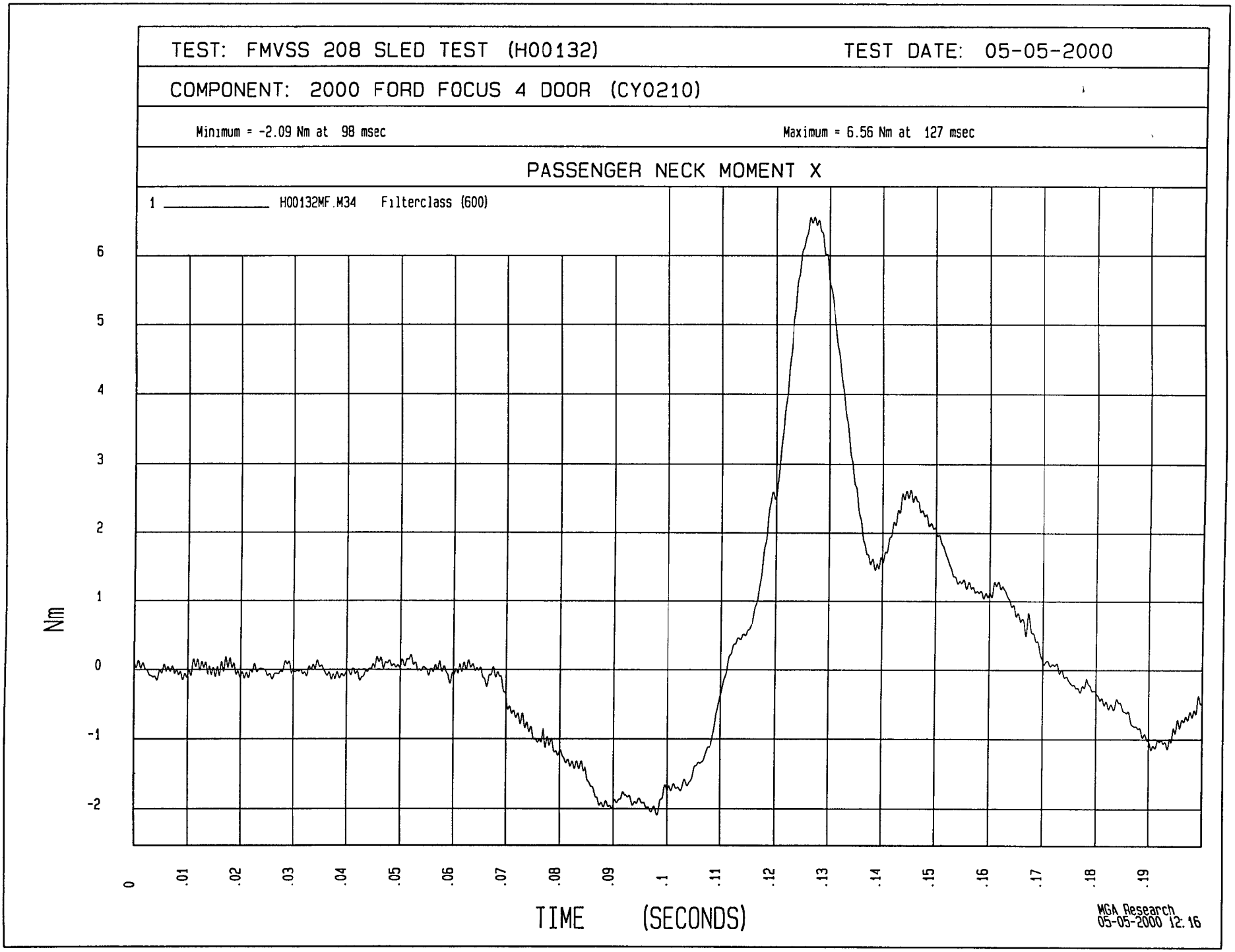

TEST: FMVSS 208 SLED TEST (H00132)
TEST DATE: 05-05-2000
COMPONENT: 2000 FORD FOCUS 4 DOOR (CY0210)
Minimum = -12.32 G at 121 msec
Maximum = 25.79 G at 90 msec
PASSENGER HEAD Z ACCELERATION
1 H00132AT.A26 Filterclass (1000)
20
10
0
-10
G
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
05-05-2000 12:16

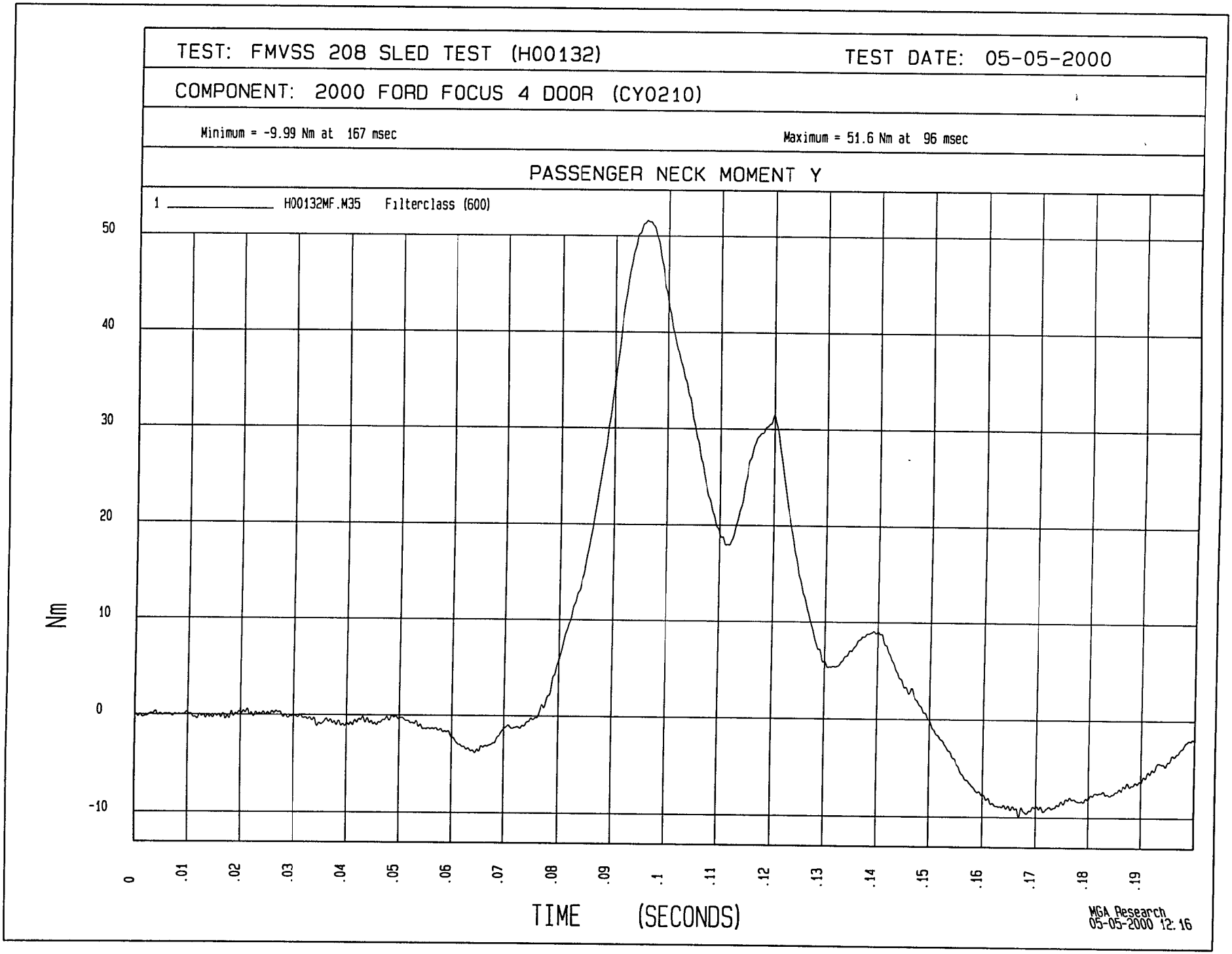

TEST: FMVSS 208 SLED TEST (H00132)
TEST DATE: 05-05-2000
COMPONENT: 2000 FORD FOCUS 4 DOOR (CY0210)
Minimum = 6.75E-02 G at 1 msec
Maximum = 48.38 G at 111 msec
PASSENGER HEAD RESULTANT ACCELERATION
1 H00132AV.A24 Filterclass (1000)
G
50
40
30
20
10
0
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
05-05-2000 12:16

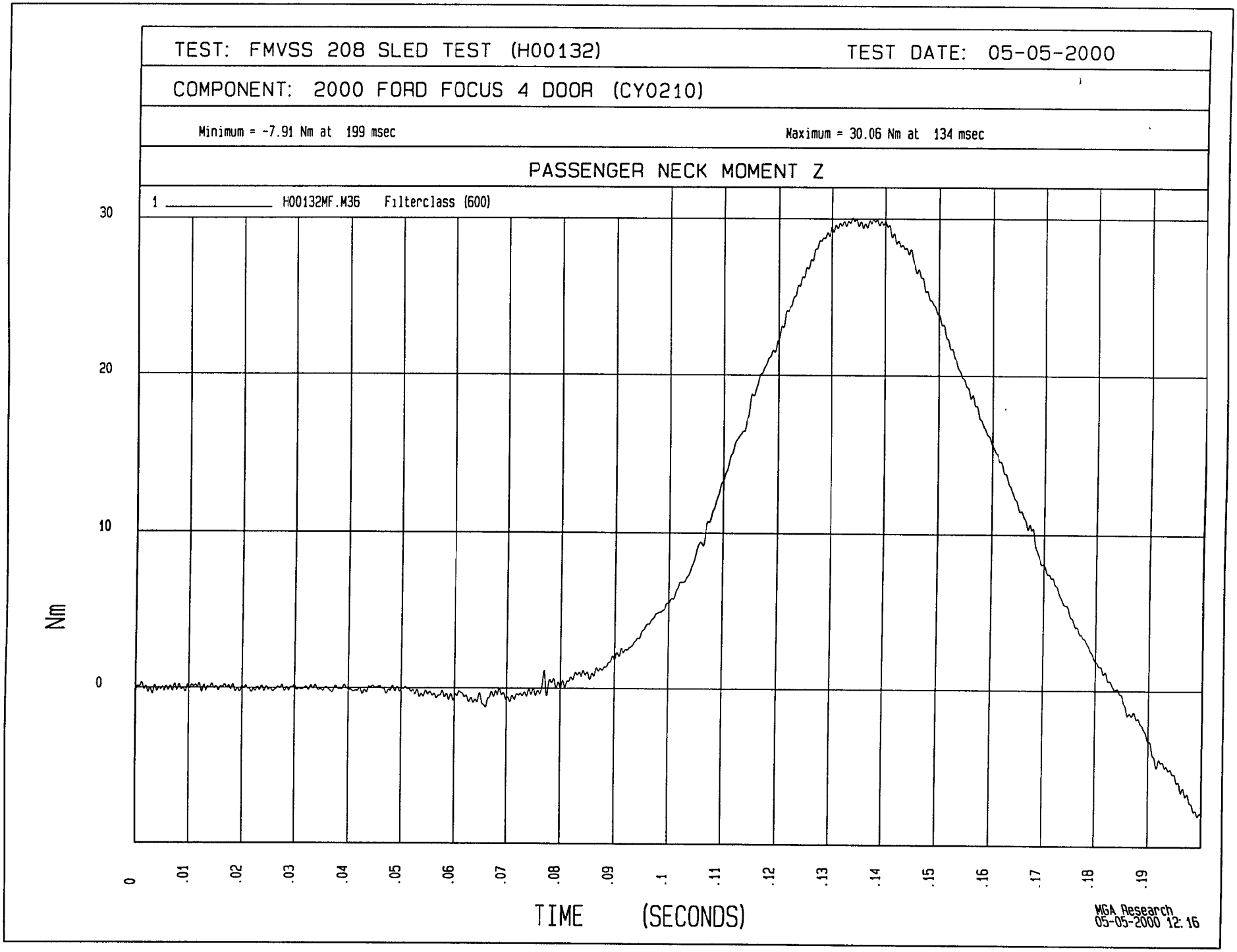

TEST: FMVSS 208 SLED TEST (H00132)
TEST DATE: 05-05-2000
COMPONENT: 2000 FORD FOCUS 4 DOOR (CY0210)
Minimum = -64.1 N at 198 msec
Maximum = 931.14 N at 98 msec
PASSENGER NECK FORCE X
1 H00132FT.F31 Filterclass (1000)
N
800
600
400
200
0
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
05-05-2000 12:16

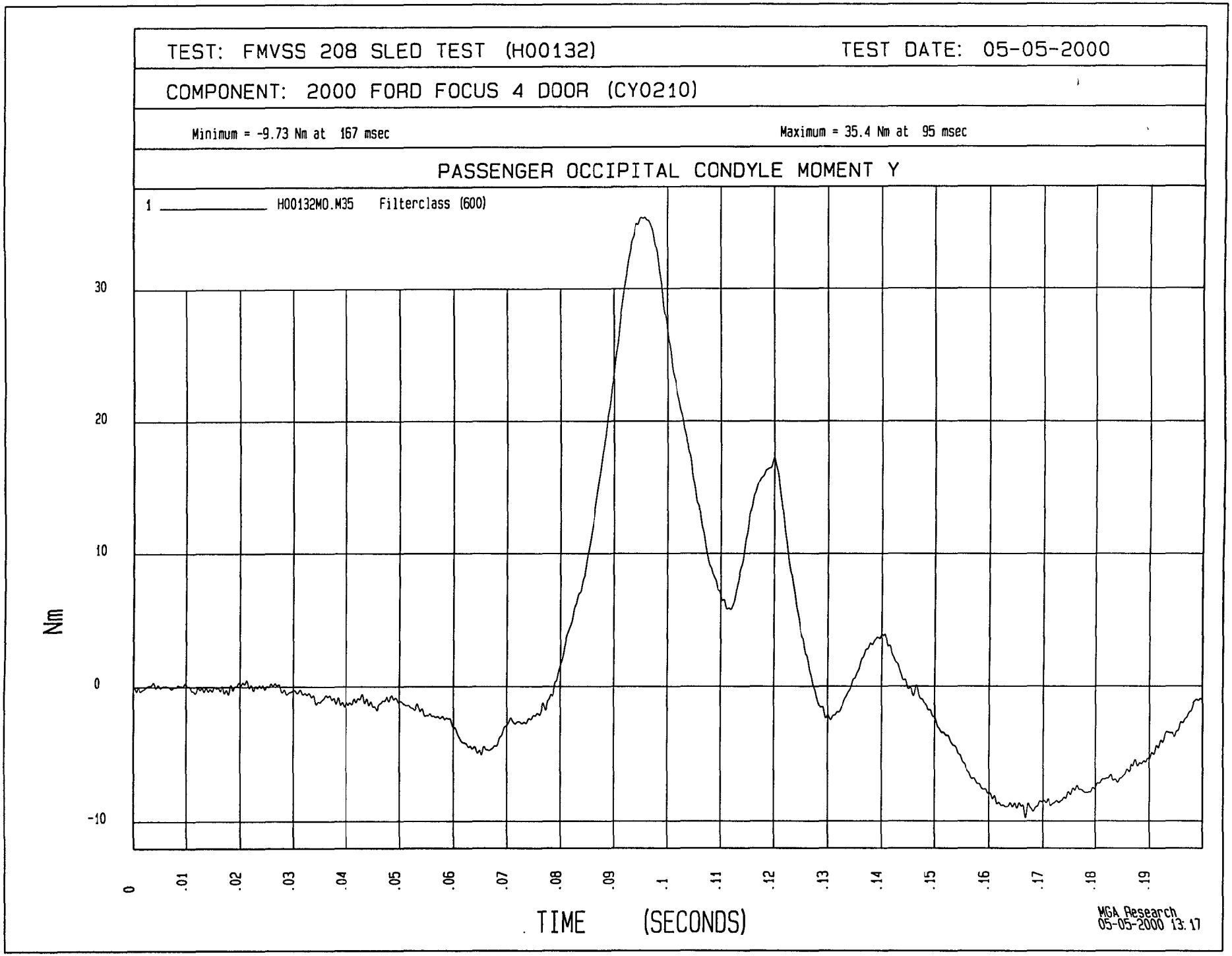

TEST: FMVSS 208 SLED TEST (H00132)
TEST DATE: 05-05-2000
COMPONENT: 2000 FORD FOCUS 4 DOOR (CY0210)
Minimum = -41.73 N at 56 msec
Maximum = 392.81 N at 138 msec
PASSENGER NECK FORCE Y
1 H00132FT.F32 Filterclass (1000)
400
300
200
100
0
N
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
05-05-2000 12:16

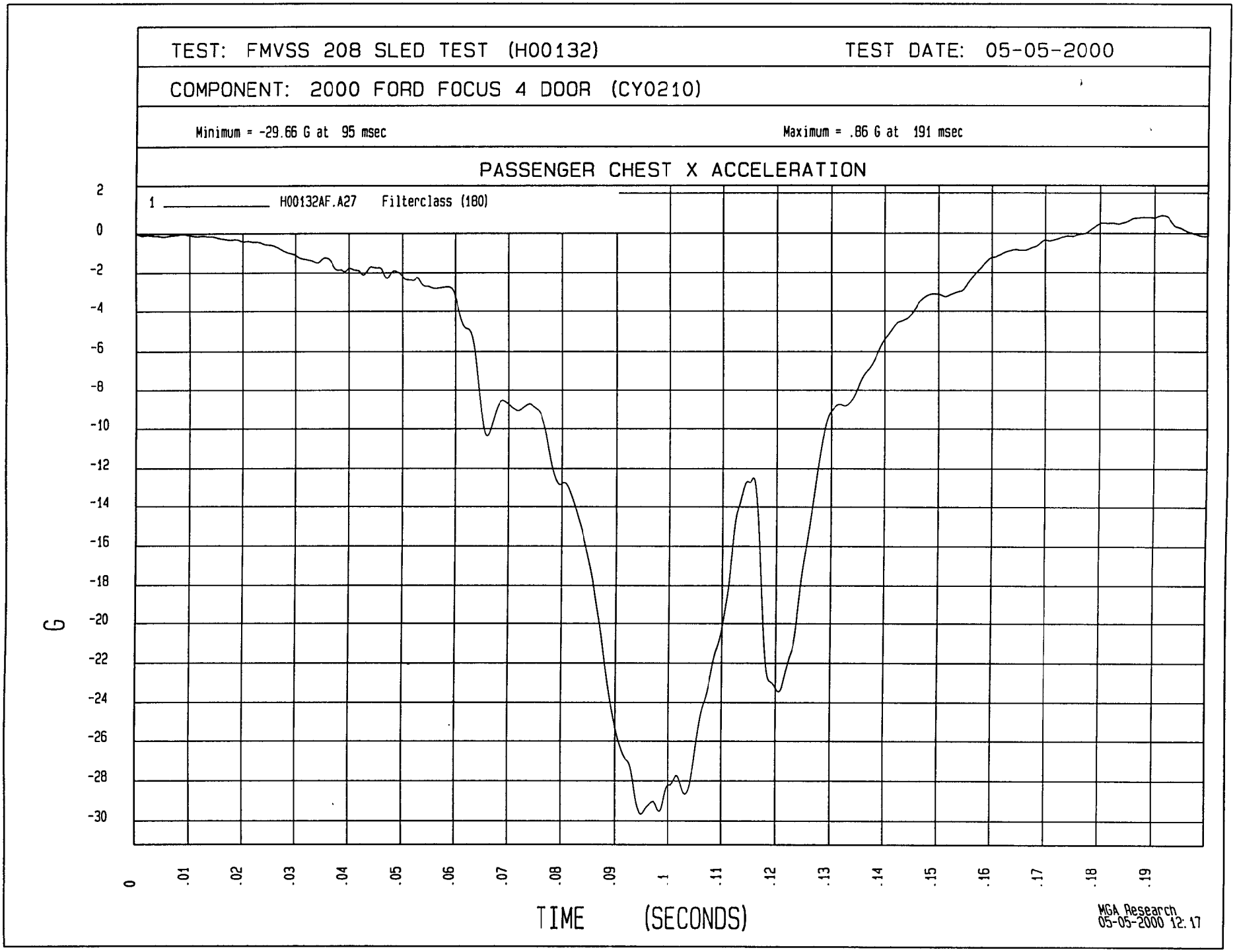

TEST: FMVSS 208 SLED TEST (H00132)
TEST DATE: 05-05-2000
COMPONENT: 2000 FORD FOCUS 4 DOOR (CY0210)
Minimum = -752.33 N at 122 msec
Maximum = 1034.34 N at 91 msec
PASSENGER NECK FORCE Z
1 H00132FT.F33 Filterclass (1000)
1000
800
600
400
200
0
-200
-400
-600
-800
N
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
05-05-2000 12:16

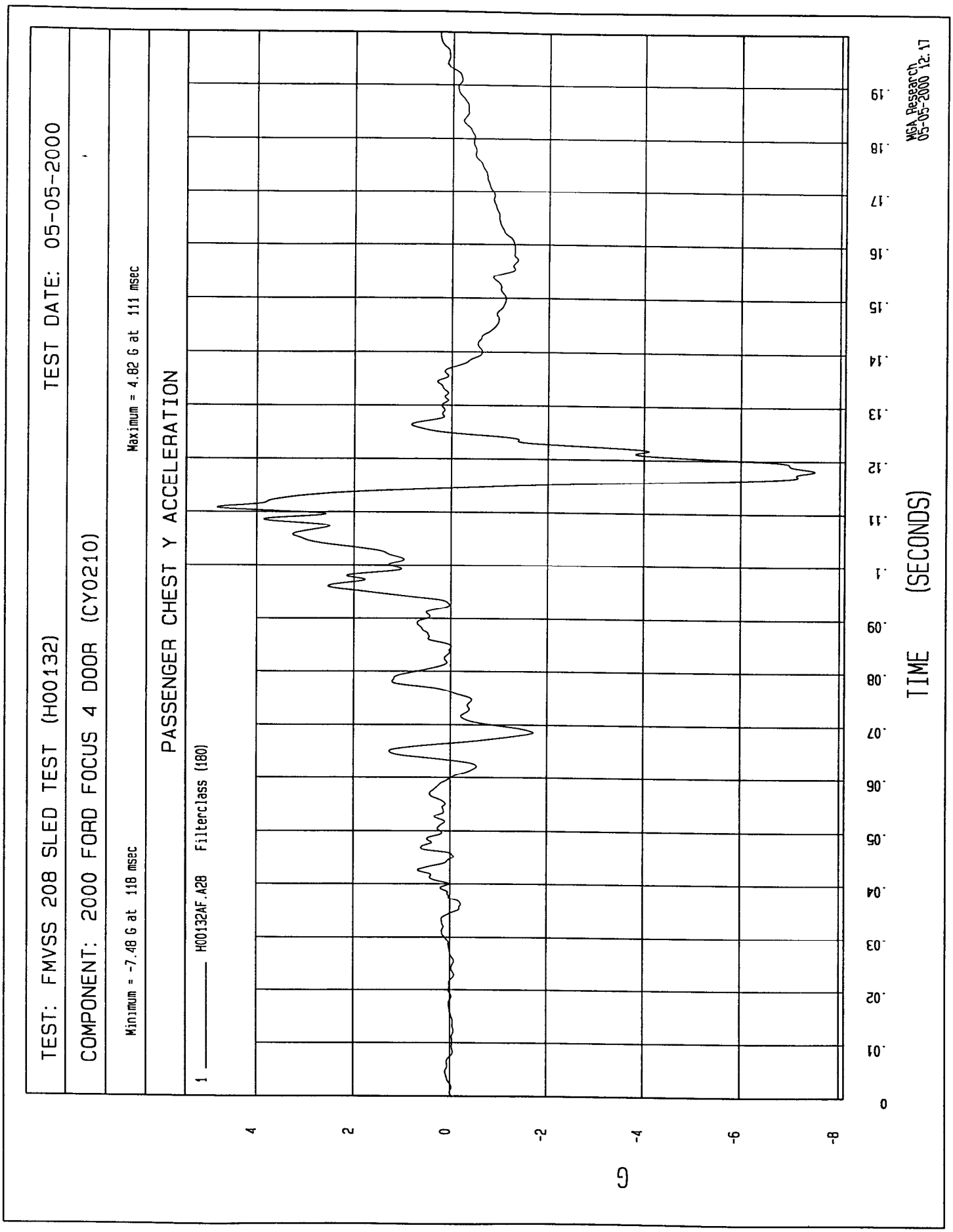

TEST: FMVSS 208 SLED TEST (H00132)
TEST DATE: 05-05-2000
COMPONENT: 2000 FORD FOCUS 4 DOOR (CY0210)
Minimum = -2.09 Nm at 98 msec
Maximum = 6.56 Nm at 127 msec
PASSENGER NECK MOMENT X
1 H00132MF.M34 Filterclass (600)
Nm
6
5
4
3
2
1
0
-1
-2
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
05-05-2000 12:16

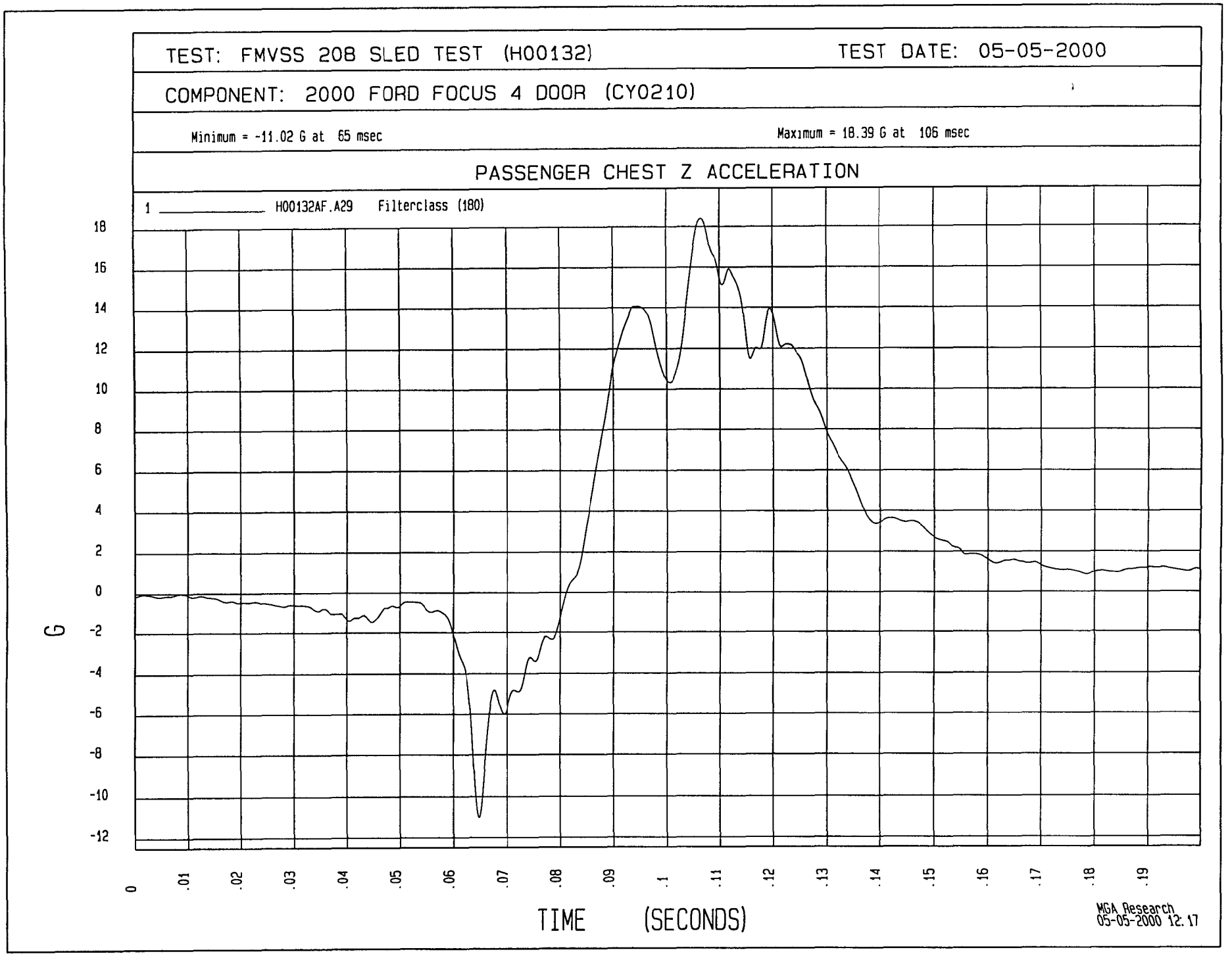

TEST: FMVSS 208 SLED TEST (H00132)
TEST DATE: 05-05-2000
COMPONENT: 2000 FORD FOCUS 4 DOOR (CY0210)
Minimum = -9.99 Nm at 167 msec
Maximum = 51.6 Nm at 96 msec
PASSENGER NECK MOMENT Y
1 H00132MF.M35 Filterclass (600)
50
40
30
20
10
0
-10
Nm
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
05-05-2000 12:16

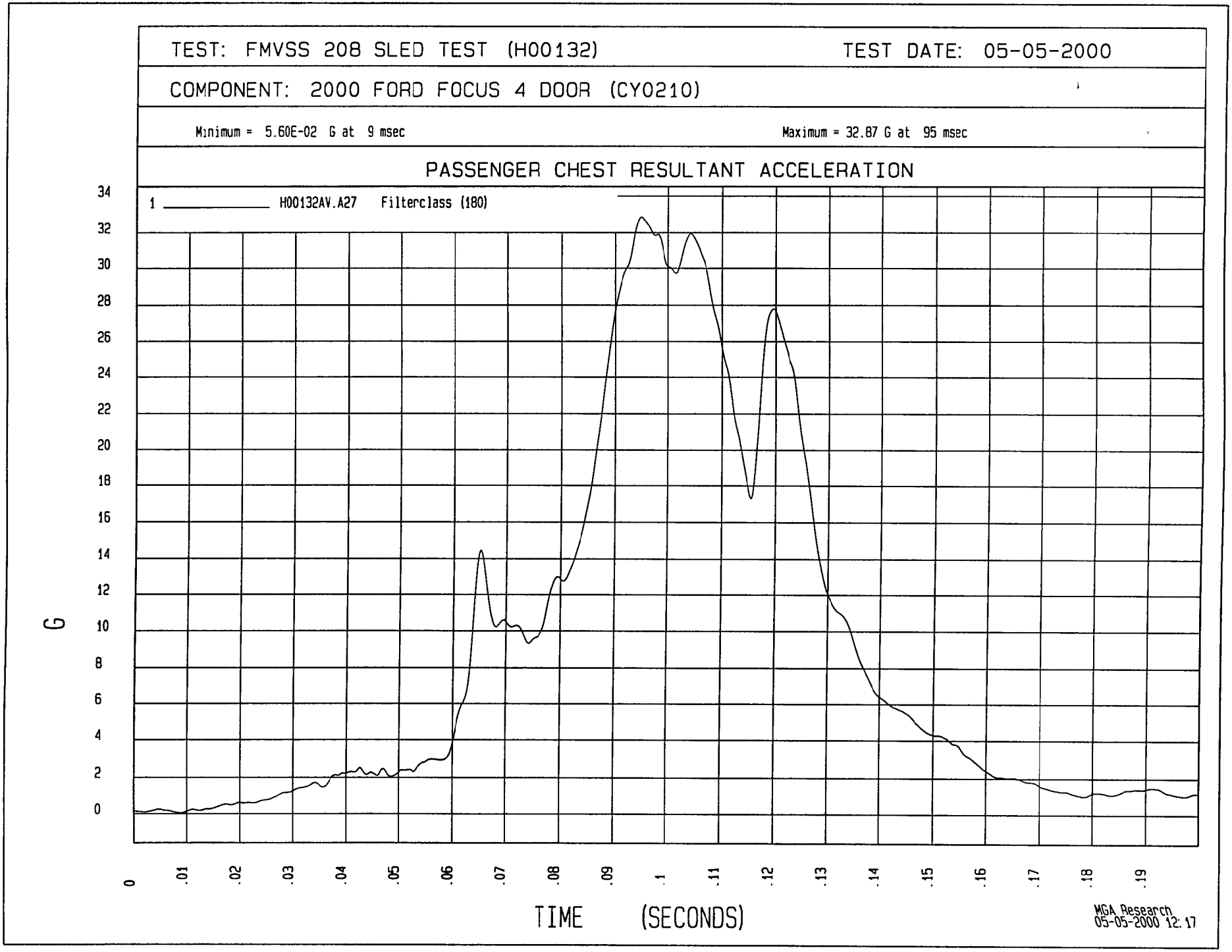

TEST: FMVSS 208 SLED TEST (H00132)
TEST DATE: 05-05-2000
COMPONENT: 2000 FORD FOCUS 4 DOOR (CY0210)
Minimum = -7.91 Nm at 199 msec
Maximum = 30.06 Nm at 134 msec
PASSENGER NECK MOMENT Z
1 H00132MF.M36 Filterclass (600)
30
20
10
0
Nm
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
05-05-2000 12:16


TEST: FMVSS 208 SLED TEST (H00132)
TEST DATE: 05-05-2000
COMPONENT: 2000 FORD FOCUS 4 DOOR (CY0210)
Minimum = -9.73 Nm at 167 msec
Maximum = 35.4 Nm at 95 msec
PASSENGER OCCIPITAL CONDYLE MOMENT Y
1 H00132M0.M35 Filterclass (600)
30
20
10
0
-10
Nm
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
05-05-2000 13:17


TEST: FMVSS 208 SLED TEST (H00132)
TEST DATE: 05-05-2000
COMPONENT: 2000 FORD FOCUS 4 DOOR (CY0210)
Minimum = -29.66 G at 95 msec
Maximum = .86 G at 191 msec
PASSENGER CHEST X ACCELERATION
1 H00132AF.A27 Filterclass (180)
2
0
-2
-4
-6
-8
-10
-12
-14
-16
-18
-20
-22
-24
-26
-28
-30
G
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
05-05-2000 12:17


TEST: FMVSS 208 SLED TEST (H00132)
TEST DATE: 05-05-2000
COMPONENT: 2000 FORD FOCUS 4 DOOR (CY0210)
Minimum = -7.48 G at 118 msec
Maximum = 4.82 G at 111 msec
PASSENGER CHEST Y ACCELERATION
1 _____ H00132AF.A2B Filterclass (180)
G
4
2
0
-2
-4
-6
-8
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
05-05-2000 12:17


TEST: FMVSS 208 SLED TEST (H00132)
TEST DATE: 05-05-2000
COMPONENT: 2000 FORD FOCUS 4 DOOR (CY0210)
Minimum = -11.02 G at 65 msec
Maximum = 18.39 G at 106 msec
PASSENGER CHEST Z ACCELERATION
1 H00132AF.A29 Filterclass (180)
18
16
14
12
10
8
6
4
2
0
-2
-4
-6
-8
-10
-12
G
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
05-05-2000 12:17


TEST: FMVSS 208 SLED TEST (H00132)
TEST DATE: 05-05-2000
COMPONENT: 2000 FORD FOCUS 4 DOOR (CY0210)
Minimum = 5.60E-02 G at 9 msec
Maximum = 32.87 G at 95 msec
PASSENGER CHEST RESULTANT ACCELERATION
1 H00132AV.A27 Filterclass (180)
G
34
32
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
0
.01
.02
.03
.04
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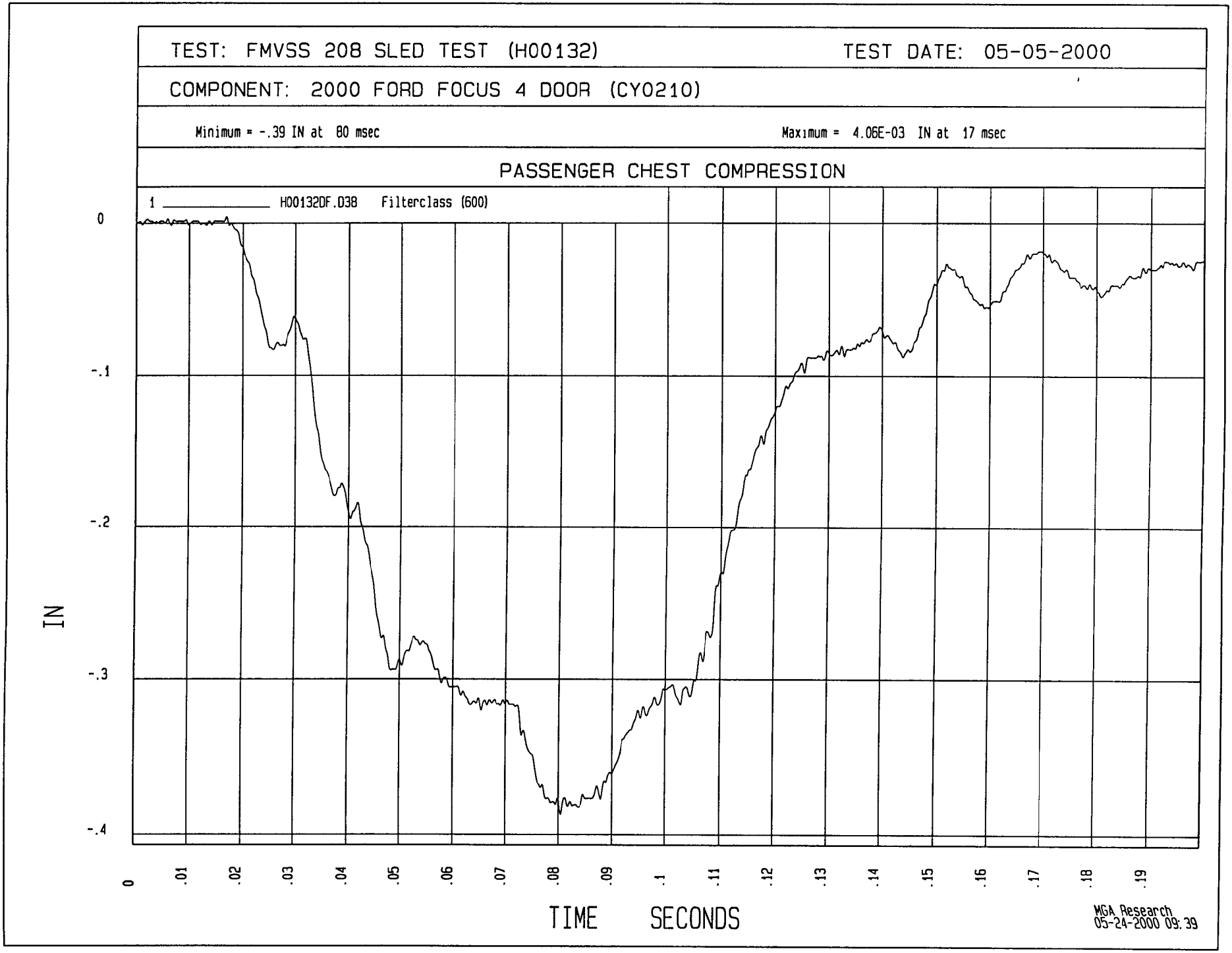
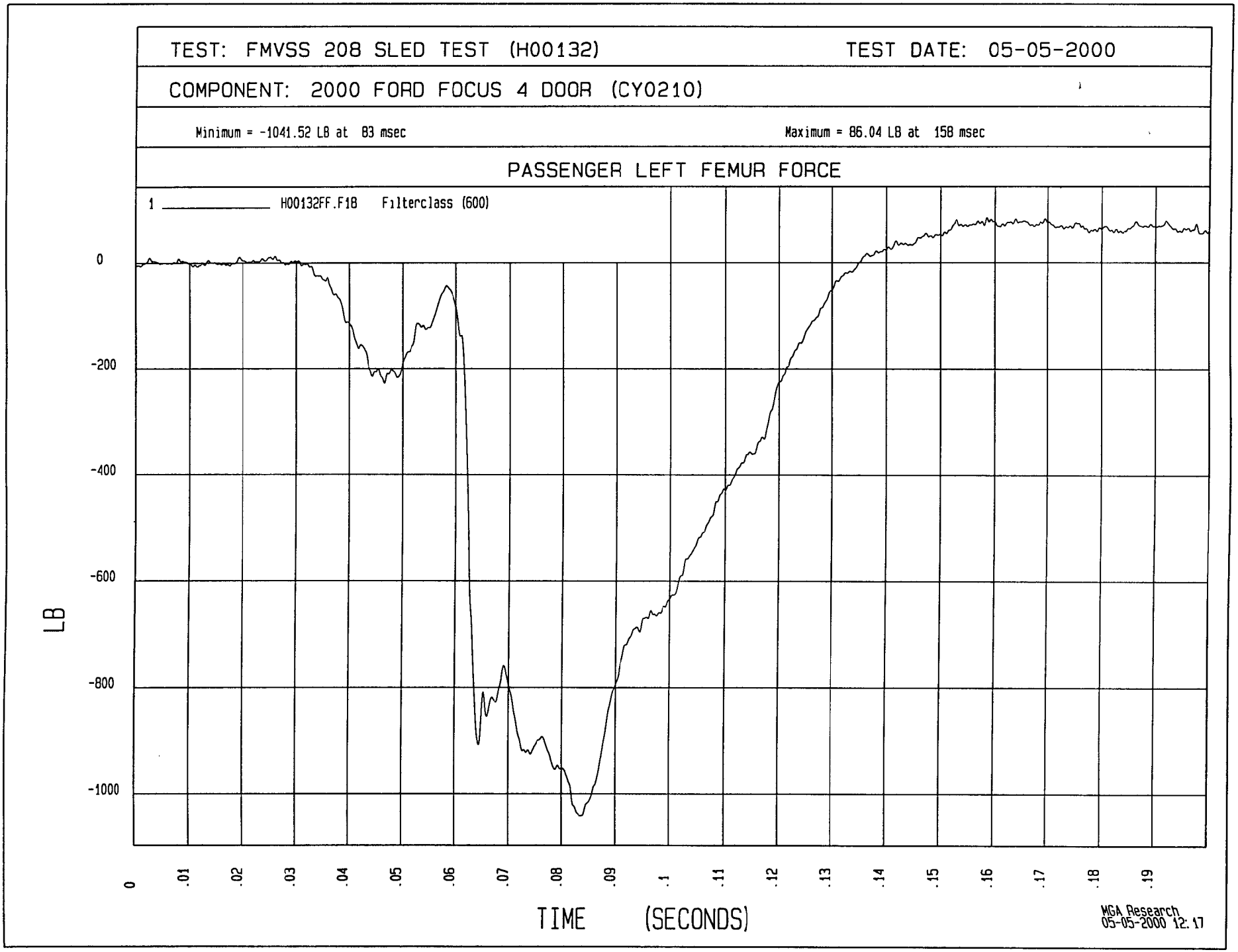
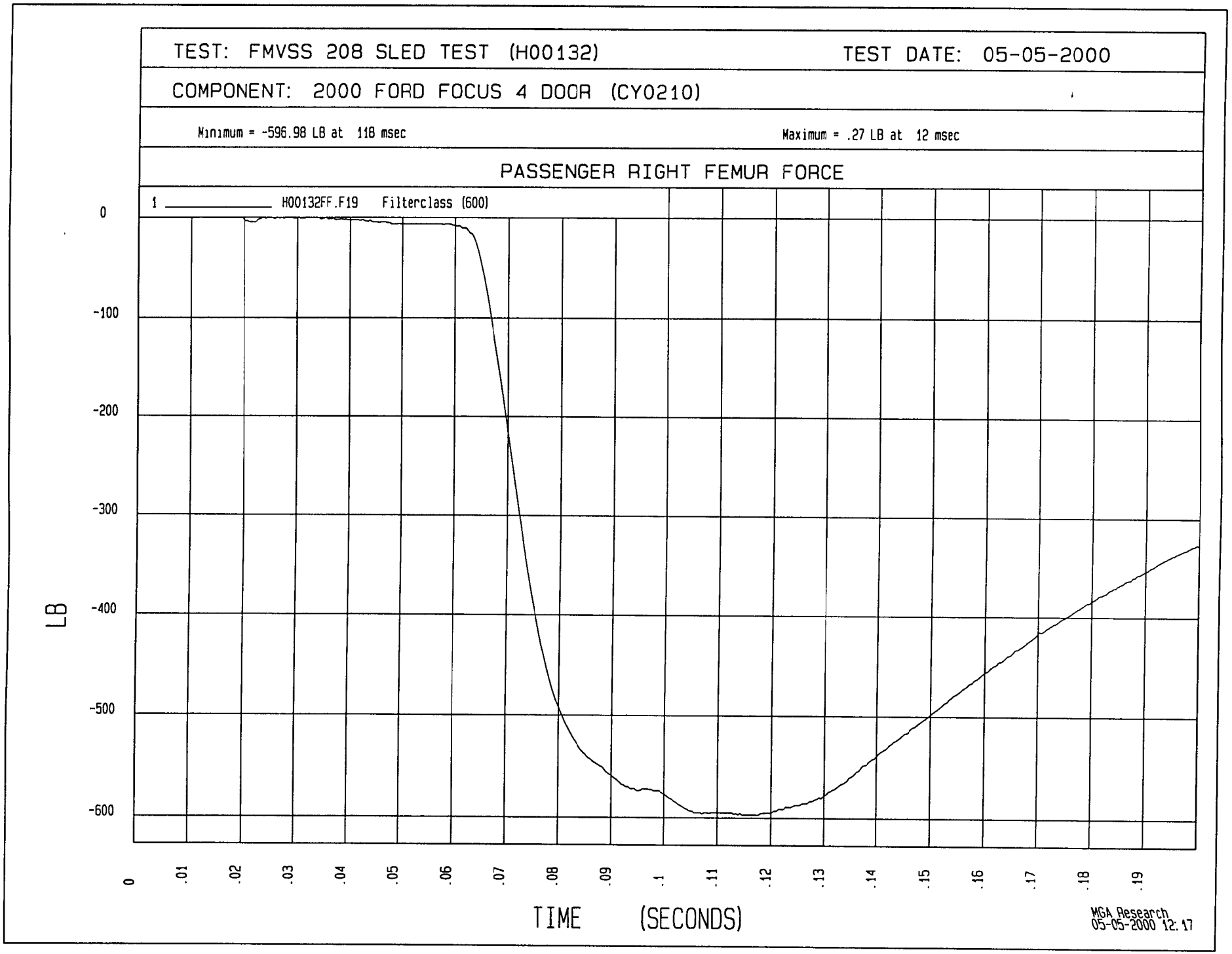
TIME (SECONDS)
MGA Research
05-05-2000 12:17


TEST: FMVSS 208 SLED TEST (H00132)
TEST DATE: 05-05-2000
COMPONENT: 2000 FORD FOCUS 4 DOOR (CY0210)
Minimum = -.39 IN at 80 msec
Maximum = 4.06E-03 IN at 17 msec
PASSENGER CHEST COMPRESSION
1 H00132DF.038 Filterclass (600)
0
-.1
-.2
-.3
-.4
IN
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME SECONDS
MGA Research
05-24-2000 09:39


TEST: FMVSS 208 SLED TEST (H00132)
TEST DATE: 05-05-2000
COMPONENT: 2000 FORD FOCUS 4 DOOR (CY0210)
Minimum = -1041.52 LB at 83 msec
Maximum = 86.04 LB at 158 msec
PASSENGER LEFT FEMUR FORCE
1 H00132FF.F18 Filterclass (600)
0
-200
-400
-600
-800
-1000
LB
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
05-05-2000 12:17


TEST: FMVSS 208 SLED TEST (H00132)
TEST DATE: 05-05-2000
COMPONENT: 2000 FORD FOCUS 4 DOOR (CY0210)
Minimum = -596.98 LB at 118 msec
Maximum = .27 LB at 12 msec
PASSENGER RIGHT FEMUR FORCE
1 H00132FF.F19 Filterclass (600)
0
-100
-200
-300
-400
-500
-600
LB
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
05-05-2000 12:17

APPENDIX C

MANUFACTURER'S VEHICLE INFORMATION

L. W. Camp
Director
Automotive Safety Office
Environmental And Safety Engineering

Ford Motor Company
330 Town Center Drive
Dearborn, Michigan 48126 USA

December 23, 1999

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

Dear Ms. Jacobs:

Subject: NSA-31CCa/OA:208991029G for FMVSS 208
Information on a 2000 Model Year Ford Focus

This is in response to your letter of November 5, 1999, requesting information for possible compliance surveillance testing of the 2000 Model Year Ford Focus to the requirements of Federal Motor Vehicle Safety Standard (FMVSS) No. 208, "Occupant Crash Protection".

The 2000 Model Year Ford Focus passenger car is new for the 2000 Model Year. Ford Motor Company is listing each request followed by our response to it.

Request No. 1

"Please inform OVSC if the air bag restraint system is certified to meet the requirements of S4.1.5.1(a)(1)or S13. If the air bags were installed to meet the requirements of S4.1.5.1(a)(1) please provide a copy of the certification test reports for the frontal/angular barrier impact tests of the automatic restraint system with the manual safety belts unfastened and fastened.

If the air bags were installed to meet the requirements of S13 please provide a copy of the certification test reports for the frontal/angular barrier impact tests of the automatic restraint system with the manual safety belts fastened and the certification test reports for the sled test using only the automatic restraint system."

Response

The airbag restraint systems for all 2000 Model Year Ford Focus vehicles meet the requirements of S13 of FMVSS 208. Attachment I contains a summary and copies of those portions of the final test report, relevant to the requirements of FMVSS No. 208 for Crash Test 2388: a 90 degree front fixed barrier impact test for the automatic restraint system with the manual safety belts fastened and for Crash Test 2428: a 30 degree front angular left fixed barrier impact test for the automatic restraint system with the manual safety belts fastened. Attachment II contains a summary of those portions of the final test report, relevant to the requirements of FMVSS No. 208, for Sled Test Numbers 5483, 5501, and 5409: dynamic sled tests utilizing a rigid sled test of a "body-in-white" simulating the Ford Focus and using only the automatic restraint system.

Ford relied on the information provided in Attachments I and II of this response to demonstrate compliance of the 2000 Model Year Ford Focus equipped with driver and right front passenger airbag restraint systems with the requirements of S4.1.5.1(a)(1) and S13 of FMVSS No. 208.

Request No. 2

"If this is a new design vehicle/model, describe any features that might affect performance with respect to children and out of position occupants.

If this is not a new design vehicle/model provide the following (1) state when the air bag was depowered, (2) describe the difference between the MY 2000 air bag system and the MY 1999 air bag system, (3) explain what other restraint changes have been made, and (4) explain what other vehicle changes have been made that might have affected FMVSS 208 performance. Explain which changes might affect performance with respect to children and out of position occupants."

Response

The 2000 Model Year Ford Focus is a new vehicle designed to meet FMVSS 208 requirements.

The airbag system consists of new depowered driver's and passenger's airbags.

The front seat restraint system consists of new 3 point belts with retractors that employ a load limiter feature and B-pillar

seat belt height adjusters. There is a child seat locking feature on the passenger side.

The rear seat restraint system consists of new 3 point belts in three rear seat positions with a child seat locking feature.

Request No. 3

"State if these vehicles have crash event recorders. If yes, explain any procedures needed for the sled or barrier crash event to be recorded. In addition, explain how to retrieve the crash event data from the recorder."

Response

The 2000 Model Year Ford Focus utilizes an Electronic Crash Sensor (ECS) module which, as one of its functions, records crash acceleration data. To accomplish this function, electrical power must be maintained to the ECS throughout the crash event. The ECS would need to be returned to Ford for retrieval of the acceleration data.

Request No. 4

"If the vehicle was certified with unrestrained dummies to meet the requirements of S 13, 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 more advanced air bag systems, explain how the triggering of the air bag system in the sled test is different from the triggering of the air bag in a crash, For example, if a multistage inflator is used, explain whether the stages are fired simultaneously in the sled test but fired in a staggered sequence in a similar crash situation."

Response

The air bag was disconnected by locating the squib wires going into the air bag and unhooking the connector between the vehicle wiring harness and the air bag. The squib wires were then connected to an extension cable which supplies the firing current from the Programmable Time Fire Unit located in the Hyge sled control room. This 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. The time delay between T=0 and air bag deployment has been determined to be 20 msec. (An accelerometer is used on the sled to actually trigger T=0 when an acceleration of 0.5g is attained on the sled.)

The 2000 Model Year Ford Focus does not contain an advanced air bag system.

Request No. 5

"State for any safety belt system in this vehicle 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

Tension-relieving devices are not used in 2000 Model Year Ford Focus safety belt systems.

Request No. 6

"FMVSS No. 208, S8.1.5 allows the manufacturer the option of having movable vehicle windows and vents placed in the closed position. State whether the vehicle's movable windows and vents were opened or closed for the certification tests."

Response

The positions of moveable windows in fixed barrier crash impact tests, which were relied upon as a basis for certification to FMVSS 208 of 2000 Model Year Ford Focus vehicles, were with all moveable windows and vents fully open for 90 degree perpendicular frontal impacts to facilitate photography, and in the fully closed position for all 30 degree front angular impacts. Ford prefers that the windows be in the closed (up) position for NHTSA testing.

Request No. 7

Submit dummy placement measurements, including diagrams or photographs which show exactly where measurements were taken. Enclosed is a diagram of some of OVSC's dummy measurements. Where possible, use the dimension shown in the diagram to provide the individual dummy placement measurements.
State whether the vehicle has a foot rest for the driver.

Response

Attachment III contains dummy placement measurements applicable to the 2000 Model Year Focus.

The 2000 Model Year Ford Focus has a foot rest for the driver.

Request No. 8

"Provide the seat positioning, steering column positioning, and fuel tank data on the enclosed form. If more than one front seating, steering column or fuel tank configuration are available on this vehicle, provide separate information for each. In addition, provide the seating reference point for each seat for the lockable seat belt requirement in S7.1.1.5."

Response

Attachment VI contains the NHTSA form 1 enclosed with your letter, completed with the requested seat positioning, steering column positioning, and fuel tank data applicable to FMVSS No. 208 testing of the 2000 Model Year Ford Focus.

Attachment V contains a copy of a drawing showing the requested seating reference point information for the 2000 Model Year Ford Focus.

Request No. 9

"If the vehicle is equipped with adjustable seat belt anchorages, provide the manufacturer's nominal design position for a 50th percentile adult male occupant."

Response

The 2000 Model Year Ford Focus vehicles are equipped with adjustable seat belt anchorages. The nominal design position of the D-ring for the 50th percentile adult male occupant is in the mid position.

Request No. 10

"For barrier tests provide the speed at impact, vehicle test weight, and resulting injury criteria (i.e., HIC, chest acceleration, chest compression, and femur loads) recorded for all certification tests conducted to meet the requirements of S4.1.5.1(a)(1). For sled tests provide the resulting injury criteria (i.e., HIC, chest acceleration, chest compression, femur loads, and neck moments and forces) recorded for all certification test conducted to meet the requirements of S13."

Response

This information is included in a Test Report Summary found in Attachments I and II.

Request No. 11

"When vehicle components must be removed to obtain the proper test weight for the barrier test, what components do you recommend for removal and in what priority order do you recommend removal?"

Response

The following is a suggested list of items which may be removed from the test vehicle for the barrier test. The list below is in order of removal priority:

- ◊ Spare Tire
- ◊ Deck lid
- ◊ Back seat
- ◊ Bumper
- ◊ Interior trim from B-pillar rearward
- ◊ Rear exhaust system

All onboard instrumentation should be included in the vehicle test weight.

Request No. 12

"If the vehicle uses 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 2000 MY Ford Focus vehicles do not use pressure vessels to inflate the air bags.

Request No. 13

"If the vehicle uses an explosive device to inflate the air bag, provide a copy of the test report or engineering analysis to demonstrate that it meets all requirements of S9.2."

Response

The 2000 Model Year Ford Focus driver and passenger air bag systems comply with S9.2 of FMVSS No. 208. The engineering analyses and the related test reports demonstrating compliance are being forwarded from our Small Vehicle Center in Europe and will be forwarded to the agency upon receipt.

Request No. 14

"Explain any leakage that has occurred from the onboard vapor recovery system pressure relief valve during any frontal impact development or certification testing performed by or for Ford Motor Company. If any leakage occurred, include the amount. Describe the method used to collect fluid from the onboard vapor recovery system pressure relief valve for the period from impact until motion of the vehicle has ceased."

Response No.14

A review of the test reports used both for the development and demonstration of compliance of the 2000 Model Year Ford Focus indicates that no leakage occurred during any frontal impact barrier crash testing performed by or for Ford Motor Company.

If you have any questions, please call me.

Very truly yours,

Roger Holmes
for

L. W. Camp

Attachments

Test Report/Versuchsbericht
European Product Group/Testing Activity

Boreham [ ] Dunton [ ] Lommel [ ] Merkenich [X]

Report No./Bericht-Nr.:- ZA9411 Page No./Blatt-Nr.:- 3 of 6

Date/Datum:- 03.05.1999

Insert Red or Black ERRM Stamp
Roter oder Schwarzer ERRM Stempel Einsetzen

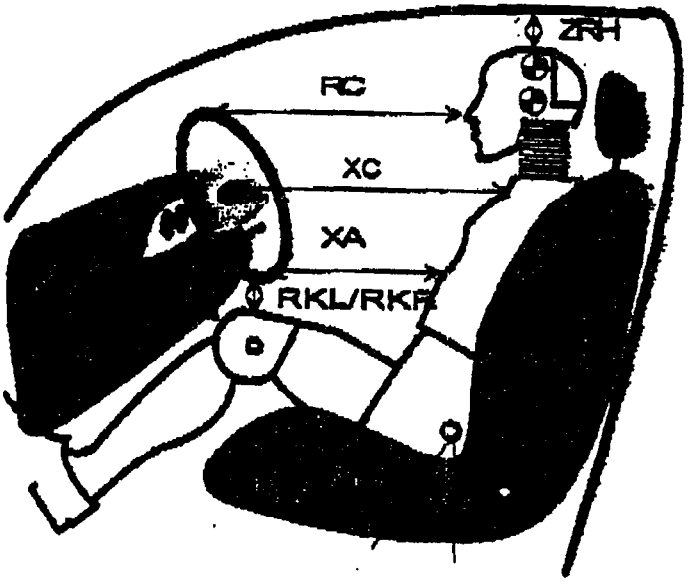
4.3 Dummy Measurement before Test

ZRH:	106
RC:	410
XC:	382
XA:	232
PKL:	97
PKR:	92
RKL:	72
RKR:	60

Knee spread: 253
Pelvis angle: 24°
(permissible 22.5±2.5°)

with loadcell yes

Driver

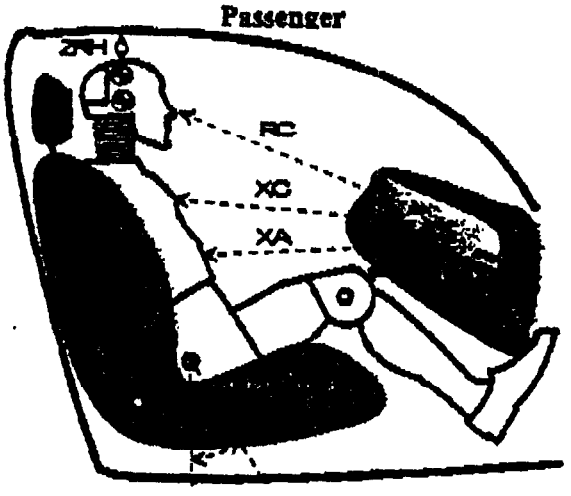


ZRH:	106
RC:	653
XC:	605
XA:	442
PKL:	85
PKR:	87

Knee spread: 200
Pelvis angle: 24.5°
(permissible 22.5±2.5°)

with loadcell yes

Passenger

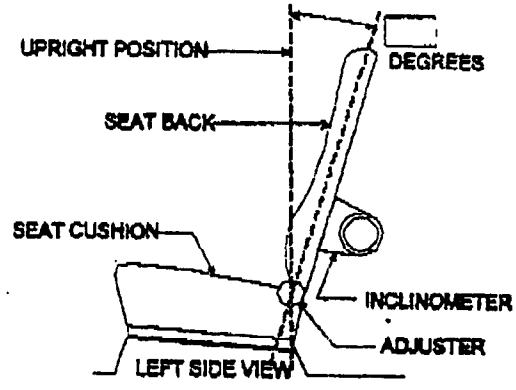


All Data in mm

TEST VEHICLE INFORMATION

V hicle Model Year and Make: **2000 Model Year Ford**
Vehicle Model and Body Style: **Focus 3 Door**

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 = **24°**.
Measurement Instructions:
1) Tilt the seat back fully forward. 2) With the headrest fully extended, place an inclinometer on the headrest support bar (coming out of the seat back). 3) Zero the inclinometer. 4) Recline the seat so that the inclinometer now reads 16°. The torso angle is now set to 24°.



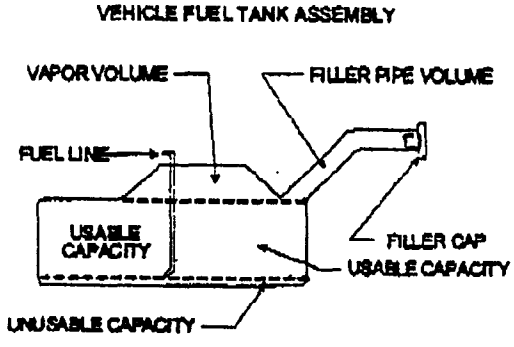
Seat back angle for passenger's seat = **25°**.
Measurement Instructions:
The rear seat has no angle adjustment. It is set at 25° from vertical.

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:
Set the manual seat track for 3 open seat track windows to the rear (Middle of seat track travel). Adjustable seat height to be set at middle position.

Position of the passenger's seat (if applicable):
Same as 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 = **N/A** gallons.
C. Capacity used when certification testing to requirements of FMVSS 301 = **12.55 gallons.**



3.2 Amount of Stoddard solvent added to vehicle for certification test = 12.55 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

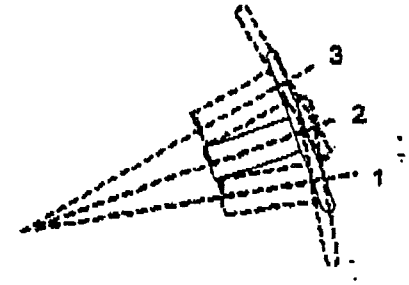
Operational Instructions:
With the ignition on, the fuel pump runs for a maximum of 3 seconds to build up fuel pressure. The fuel pump operated during engine operation.

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:

Set up the steering wheel hub in mid position the following measurements were conducted with an adjustable steering column:
Measure the steering wheel hub coordinate in the following positions:

- Steering column fully forward , up nad down positions
- Steering column fully rearward, up and down positions

Calculate the geometric mid point for these 4 positions and use this for the steering wheel hub position.

5. SEATING REFERENCE POINT (SRP) –

Provide drawing which shows the driver's SRP location.

Drawing SK-YS41-54563-BA provides the requested information (a copy will be provided with the response). Additionally, I am including a copy of Form 4 Provided in Ford's response OA-135 990909 dated 7 October 1999 provides the information in a more convenient form.

6. FUEL TANK LOCATION –

Provide drawing which shows the undercarriage view of the vehicle.