

REPORT NO. MCW-DOT-02SN10

**NEW CAR ASSESSMENT PROGRAM
SIDE IMPACT TESTING**

TOYOTA MOTOR CORPORATION
2003 TOYOTA CAMRY LE 4 DOOR SEDAN

NHTSA NUMBER: TO 5100

MEDICAL COLLEGE OF WISCONSIN
5000 WEST NATIONAL AVENUE
MILWAUKEE, WI 53295



27 June 2002

FINAL REPORT

U.S. DEPARTMENT OF TRANSPORTATION
National Highway Traffic Safety Administration
Safety Performance Standards
Office of Crashworthiness Standards
Mail Code: NPS-10
400 Seventh Street, SW, Room 5307
Washington, DC 20590

This Final Report was prepared for the U.S. Department of Transportation, National Highway Traffic Safety Administration, under Contract No. DTNH22-01-D-02003. This document is disseminated under the sponsorship of the U. S. Department of Transportation in the interest of information exchange. The United States Government assumes no liability for its content or use thereof.

Prepared By:

Michael B. Schlick, Project Engineer

Approved By:

Frank A. Pintar, Facility Director

Approval Date:

FINAL REPORT ACCEPTANCE BY:

Accepted By:

Acceptance Date:

TECHNICAL REPORT STANDARD TITLE PAGE

1. Report No. Final Copy	2. Government Accession No.	3. Recipient's Catalog No. 02SN10																			
4. Title and Subtitle Final Report of New Car Assessment Program Side Impact Test of a 2003 Toyota Camry 4 Door Sedan NHTSA No. TO 5100		5. Report Date 27 June 2002																			
		6. Performing Organization Code MCW																			
7. Author(s) John Humm, Mark Meyer		8. Performing Organization Report No. 02SN10																			
9. Performing Organization Name and Address Medical College of Wisconsin 5000 W. National Avenue Milwaukee, WI 53295		10. Work Unit No.																			
		11. Contract or Grant No. DTNH22-01-D-02003																			
12. Sponsoring Agency Name and Address U.S. Department of Transportation National Highway Traffic Safety Administration Office of Crashworthiness Standards 400 Seventh St., S.W. Room 5307 Washington, D.C. 2059		13. Type of Report and Period Covered																			
		14. Sponsoring Agency Code																			
15. Supplementary Notes																					
16. Abstract A 55/28 km/h 90° Impact Moving Deformable Barrier NCAP Side Impact Test was conducted on the subject 2003 Toyota Camry LE 4 Door Sedan in accordance with the specifications of the Office of Crashworthiness Standards Test Procedure for generation of consumer information on vehicle side crash protection. This test was conducted at the Medical College of Wisconsin Vehicle Crashworthiness Lab in Milwaukee, Wisconsin, on 27 June 2002. The impact velocity of the Moving Deformable Barrier (MDB) was 62.0 km/h, and the ambient temperature at the struck side (driver's) of the target vehicle at the time of impact was 25° C. The target vehicle post-test maximum crush was 305 mm at Level 3. The test vehicle's performance follows: <table border="1"> <thead> <tr> <th></th><th><u>DRIVER</u></th><th><u>PASSENGER</u></th></tr> </thead> <tbody> <tr> <td>Left Upper Rib Acceleration G</td><td>72.4</td><td>43.1</td></tr> <tr> <td>Left Lower Rib Acceleration G</td><td>60.6</td><td>47.6</td></tr> <tr> <td>Lower Spine Acceleration G</td><td>73.7</td><td>63.9</td></tr> <tr> <td>Thoracic Trauma Index TTI</td><td>73</td><td>56</td></tr> <tr> <td>Pelvis Acceleration G</td><td>61</td><td>71</td></tr> </tbody> </table> The doors on the struck side of the vehicle did not separate from the body at the hinges or latches, and the opposite doors did not open during the side impact event.					<u>DRIVER</u>	<u>PASSENGER</u>	Left Upper Rib Acceleration G	72.4	43.1	Left Lower Rib Acceleration G	60.6	47.6	Lower Spine Acceleration G	73.7	63.9	Thoracic Trauma Index TTI	73	56	Pelvis Acceleration G	61	71
	<u>DRIVER</u>	<u>PASSENGER</u>																			
Left Upper Rib Acceleration G	72.4	43.1																			
Left Lower Rib Acceleration G	60.6	47.6																			
Lower Spine Acceleration G	73.7	63.9																			
Thoracic Trauma Index TTI	73	56																			
Pelvis Acceleration G	61	71																			
17. Key Words New Car Assessment Program (NCAP) Side Impact MDB Side Impact Dummy (SID) NHTSA No. TO 5100		18. Distribution Statement <u>Copies of this report are available from:</u> National Highway Traffic Safety Administration Technical Reference Division, Room 5108(NAD-52) 400 Seventh Street, S.W. Washington, D.C. 20590																			
19. Security Classif.(of this report) Unclassified	20. Security Classif.(of this page) Unclassified	21. No. of Pages 227	22. Price																		

TABLE OF CONTENTS

Section		Page No.
1	PURPOSE AND TEST PROCEDURE	1-1
2	SUMMARY OF SIDE IMPACT TEST	2-1
3	SUMMARY OF TEST RESULTS	3-1
	Data Sheet 1 – General Vehicle Test Parameter Data	3-2
	Data Sheet 2 – Test Vehicle Summary	3-5
	Data Sheet 3 – Moving Deformable Barrier (MDB) Summary	3-6
	Data Sheet 4 – Post-Test Observations	3-7
4	OCCUPANT AND VEHICLE INFORMATION	4-1
	Data Sheet 5 – SID Instrumentation Data	4-2
	Data Sheet 6 – Vehicle Pre- and Post-Measurements	4-3
	Data Sheet 7 – SID Longitudinal Clearance Dimensions	4-4
	Data Sheet 8 – SID Lateral Clearance Dimensions	4-5
	Data Sheet 9 – Vehicle Side Measurements	4-6
	Data Sheet 10 – Vehicle Exterior Crush Profiles – All Levels	4-7
	Data Sheet 11 – Vehicle Damage Profile Distances	4-13
	Data Sheet 12 – Static Crush of Impactor Face	4-14
	Data Sheet 13 – Test Vehicle Accelerometer and Data Summary	4-16
	Data Sheet 14 – MDB Accelerometer Locations and Data Summary	4-19
	Data Sheet 15 – High-Speed Camera Locations and Data	4-20
5	VEHICLE FUEL SYSTEM INTEGRITY	5-1
	Data Sheet 16 – FMVSS 301 Fuel System Integrity Data	5-2
	Data Sheet 17 – FMVSS 301 Rollover Data	5-3
	APPENDIX A PHOTOGRAPHS	A-1
	APPENDIX B VEHICLE, MDB, AND SID RESPONSE DATA	B-1
	APPENDIX C SID CONFIGURATION AND VERIFICATION RESULTS	C-1
	APPENDIX D TEST EQUIPMENT LIST AND CALIBRATION INFORMATION	D-1

SECTION 1

PURPOSE AND TEST PROCEDURE

This side impact test was part of the FY02 New Car Assessment Program Side Impact Test Program, sponsored by the National Highway Traffic Safety Administration (NHTSA), under Contract No. DTNH22-01-D-02003. The purpose of this test was to evaluate side impact protection of a 2003 Toyota Camry LE 4 Door Sedan. This side impact test was conducted in accordance with the Office of Crashworthiness Standard's Laboratory Test Procedure dated May 1999.

The Medical College of Wisconsin does not endorse or certify products. The manufacturer's name appears solely for identification purposes only.

SECTION 2

SUMMARY OF SIDE IMPACT TEST

A 2003 Toyota Camry LE 4 Door Sedan was impacted on the left or driver's side by a Moving Deformable Barrier (MDB) that was moving forward in a 27° crabbed position to the tow road guidance system at a velocity of 62.0 km/h (38.5 mph). The target vehicle was stationary and positioned at an angle of 63° to the line of forward motion. The side impact test was conducted by the Medical College of Wisconsin in Milwaukee, Wisconsin, on 27 June 2002.

Two restrained Side Impact Dummies (SIDs) were placed in the driver and left rear designated seating positions, according to instructions specified in the OCWS Side Impact Laboratory Test Procedure, dated May 1999. The side impact event was documented by nine high-speed cameras, one real-time camera, and one high-speed video. Camera locations and other pertinent camera information can be found in this report.

The SIDs were instrumented with the following accelerometers.

1. Left Upper Rib (LUR) uniaxial accelerometer (Y-direction)
2. Left Lower Rib (LLR) uniaxial accelerometer (Y-direction)
3. Lower Thoracic Spine (T₁₂) uniaxial accelerometer (Y-direction)
4. Pelvic (PEV) section uniaxial accelerometer (Y-direction)
5. Head Center of Gravity triaxial accelerometers (X-, Y-, and Z-direction)

Pre- and post-test photographs of the test vehicle, the MDB, and the side impact dummies (SIDs) are included in Appendix A. Appendix B contains the vehicle, MDB, and dummy response data traces. A summary of the side impact dummy (SID) configuration and performance verification test data is shown in Appendix C. Dummy and vehicle calibration data can be found in Appendix D of this report.

The following table summarizes the results of this test.

Injury Criteria	Front SID	Rear SID
TTI (G)	73	56
PELVIS (G)	61	71
HIC36	434.5	482.6

SECTION 3
SUMMARY OF TEST RESULTS

DATA SHEET NO. 1

GENERAL VEHICLE TEST PARAMETER DATA

TEST VEHICLE INFORMATION

Year/ Make/ Model/ Body Style				<u>2003 Toyota Camry LE 4 Door Sedan</u>			
Vehicle NHTSA NO.				<u>TO 5100</u>	VIN	<u>JTDBE32KX20081506</u>	
Vehicle Body Color				<u>Green</u>	Build Date	<u>February, 2002</u>	
Engine Data	<u>4</u>	Cylinders	<u> </u>	CID	<u>2.4</u>	Liter	<u> </u> cc
Placement	<u> </u>	Longitudinal	<u>X</u>	Lateral			
Transmission	<u>5</u>	Speed	<u>X</u>	Manual	<u> </u>	Automatic	<u>X</u> Overdrive
Final Drive	<u> </u>	Rear Wheel Drive	<u>X</u>	Front Wheel Drive	<u> </u>	Four Wheel Drive	
Odometer Reading	<u>67 miles</u>	Date	<u>19 June 2002</u>				
Options	<u>X</u>	A/C	<u>X</u>	Power Steering	<u>X</u>	Power Brakes	<u>X</u> Power Windows
	<u>X</u>	Cruise Control	<u>X</u>	Tilt Wheel	<u>X</u>	Power Locks	

DATA FROM TIRE PLACARD:

Tire Pressure (at Capacity)	<u>29</u>	PSI Front
	<u>29</u>	PSI Rear
Recommended Tire Size	<u>P205 65R15</u>	
Tires on Test Vehicle	<u>P205 65R15</u>	Manufacturer <u>Goodyear</u>

TEST VEHICLE AIRBAG INFORMATION:

	<u>Frontal</u>	<u>Side-Torso</u>	<u>Side-Torso/Head</u>	<u>Side-Head</u>
Driver	Yes – Steering Wheel	None	None	None
Left Rear Passenger	None	None	None	None

VEHICLE CAPACITY DATA:

Number of Occupants:	<u>2</u>	Front	<u>3</u>	Rear	<u> </u>	3 rd Seat	<u>5</u>	Total
Type of Front Seats	<u>X</u>	Bucket	<u> </u>	Bench	<u> </u>	Split Bench		
Type of Front Seat Back	<u> </u>	Fixed	<u>X</u>	Adjustable w/	<u>X</u>	Lever	<u> </u>	Knob
Vehicle Max Capacity Loading				<u>408.0</u>	kg	(A)		
No. of Occupants X 68.04 kg				<u>340.0</u>	kg	(B)		
Cargo Capacity (A) – (B)				<u>68.0</u>	kg			

TEST VEHICLE DELIVERED WEIGHT WITH MAXIMUM FLUIDS:

Left Front	=	<u>413.7</u>	kg	Left Rear	=	<u>297.1</u>	kg
Right Front	=	<u>410.5</u>	kg	Right Rear	=	<u>293.0</u>	kg
TOTAL FRONT	=	<u>824.2</u>	kg	TOTAL REAR	=	<u>590.1</u>	kg
% Total Weight	=	<u>58.3</u>	%	%Total Weight	=	<u>41.7</u>	%
TOTAL WEIGHT	=	<u>1414.3</u>	kg				

DATA SHEET 1 (continued)**GENERAL VEHICLE TEST PARAMETER DATA**Vehicle: 2003 Toyota Camry LE 4 Door SedanNHTSA No. TO 5100**CALCULATION OF VEHICLE'S TARGET TEST WEIGHT:**

Total Test Vehicle Delivered Weight with Max Fluids	=	<u>1414.3</u>	kg	(A)
Maximum Cargo Carrying Capacity of Test Vehicle	=	<u>68.0</u>	kg	(B)
Weight of (2) instrumented Side Impact Dummies	=	<u>161.5</u>	kg	(C)
TEST VEHICLE TARGET WEIGHT	=	<u>1643.8</u>	kg	(A+B+C)

FULLY LOADED TEST VEHICLE (UDVW + 1 OR 2 SID(s) + CARGO)

Left Front	=	<u>467.5</u>	kg	Left Rear	=	<u>384.6</u>	kg
Right Front	=	<u>439.8</u>	kg	Right Rear	=	<u>351.9</u>	kg
TOTAL FRONT	=	<u>907.3</u>	kg	TOTAL REAR	=	<u>736.5</u>	kg
% Total Weight	=	<u>55.2</u>	%	%Total Weight	=	<u>44.8</u>	%
TOTAL WEIGHT	=	<u>1643.8</u>	kg				

AS TESTED WEIGHT OF TEST VEHICLE (UDVW+ 1 OR 2 SID(s)+CARGO+EQUIPMENT & INSTRUMENTATION)

Left Front	=	<u>464.5</u>	kg	Left Rear	=	<u>382.4</u>	kg
Right Front	=	<u>438.6</u>	kg	Right Rear	=	<u>350.6</u>	kg
TOTAL FRONT	=	<u>903.1</u>	kg	TOTAL REAR	=	<u>733.0</u>	kg
% Total Weight	=	<u>55.2</u>	%	%Total Weight	=	<u>44.8</u>	%
TOTAL WEIGHT	=	<u>1636.1</u>	kg				

TEST VEHICLE ATTITUDE (all dimensions in millimeters):**AS DELIVERED**

Left Front	<u>730</u>	Right Front	<u>734</u>	Left Rear	<u>724</u>	Right Rear	<u>725</u>
------------	------------	-------------	------------	-----------	------------	------------	------------

FULLY LOADED

Left Front	<u>709</u>	Right Front	<u>721</u>	Left Rear	<u>688</u>	Right Rear	<u>701</u>
------------	------------	-------------	------------	-----------	------------	------------	------------

AS TESTED

Left Front	<u>710</u>	Right Front	<u>723</u>	Left Rear	<u>690</u>	Right Rear	<u>703</u>
------------	------------	-------------	------------	-----------	------------	------------	------------

Test Vehicle Wheelbase 2710 mmAs Tested CG = 1214 mm rearward of front wheel centerline**TOTAL VEHICLE LENGTH:**

Right Side	=	<u>4485</u>	mm
Left Side	=	<u>4485</u>	mm
Centerline	=	<u>4810</u>	mm

GENERAL TEST VEHICLE PARAMETER DATA

NHTSA No. TO 5100

Diagram illustrating the components of the front seat assembly:

- DEGREES (Scale for seat back angle)
- UPRIGHT POSITION (Reference line for seat back angle)
- SEAT BACK (The adjustable part of the seat)
- INCLINOMETER (Device for measuring the seat back angle)
- SEAT CUSHION (The part of the seat where the occupant sits)
- ADJUSTER (Mechanism for adjusting the seat back angle)
- LEFT SIDEVIEW (Indicates the perspective of the diagram)
- FRONT SEAT ASSEMBLY (Overall label for the diagram)

Total Length of Adjustment Travel			240 mm
Total Number of Detents	17	Test Position	9

Seat Back Angle	89 ° relative to side sill panel
-----------------	----------------------------------

Total Length Fore/Aft Adjustment	N/A
Seat Back Adjustment Position	N/A

Mid position

Left Front	<u>Up</u>	Right Front	<u>Down</u>
Left Rear	<u>Up</u>	Right Rear	<u>Down</u>

Fuel System usable Capacity	<u>70.0 L.</u>	
Test Volume	65.1 L.	93 % usable capacity

Wheelbase	2710 mm	
Impact Point is	415 mm rearward	of front axle centerline
Actual Impact Point is	427 mm rearward	of front axle centerline

DATA SHEET 2
TEST VEHICLE SUMMARY

VEHICLE IDENTIFICATION:

Year/Make/Model/Body Style	2003 Toyota Camry LE 4 Door Sedan		
Body Color	<u>Green</u>	VIN	<u>JTDBE32KX20081506</u>
NHTSA No.	<u>TO 5100</u>	Test Date	<u>27 June 2002</u>
Overall Length	<u>4810 mm</u>	Overall Width	<u>1795 mm</u>

VEHICLE TEST WEIGHT (Pre-Test):

Left Front	=	<u>464.5</u>	kg	Left Rear	=	<u>382.4</u>	kg
Right Front	=	<u>438.6</u>	kg	Right Rear	=	<u>350.6</u>	kg
TOTAL FRONT	=	<u>903.1</u>	kg	TOTAL REAR	=	<u>733.0</u>	kg
% Total Weight	=	<u>55.2</u>	%	%Total Weight	=	<u>44.8</u>	%
TOTAL WEIGHT	=	<u>1636.1</u>	kg				
Wheelbase				=	<u>2710 mm</u>		
Longitudinal CG from Center of Front Axle				=	<u>1214 mm</u>		
Impact Angle with Respect to Impactor				=	<u>90°</u>		

ACTUAL IMPACT POINT

Actual Impact Point is 12 mm rearward of nominal impact reference line (lateral)

Actual Impact Point is 4 mm below nominal impact line (vertical)

MAXIMUM EXTERIOR STATIC CRUSH:

1. LEVEL 1	(265 mm above ground)	=	<u>126</u>	mm
2. LEVEL 2	(514 mm above ground)	=	<u>302</u>	mm
3. LEVEL 3	(641 mm above ground)	=	<u>305</u>	mm
4. LEVEL 4	(953 mm above ground)	=	<u>297</u>	mm
5. LEVEL 5	(1346 mm above ground)	=	<u>58</u>	mm

Maximum Post-Test intrusion at Level 3 is 305 mm

OCCUPANTS

	<u>Left Front Passenger</u>	<u>Left Rear Passenger</u>
Dummy Identification	<u>SID/056</u>	<u>SID/058</u>
Restraints Used	<u>3-Point Belt</u>	<u>3-Point Belt</u>

INSTRUMENTATION:

Number of Vehicle Data Channels	<u>43</u>
Number of Cameras	<u>3</u>
Onboard	<u>5</u>
Off board	<u>2</u>
MDB	<u>10</u>
TOTAL	<u>10</u>

DATA SHEET NO. 3

MOVING DEFORMABLE BARRIER (MDB) SUMMARY

Vehicle: 2003 Toyota Camry LE 4 Door Sedan

NHTSA No. TO 5100

MDB FACE MANUFACTURER AND SERIAL NUMBER:

Plascore Serial Number 059C0901-3 020C1001

POSITION OF IMPACT (MDB) ON TOW SYSTEM

Crabbed 27° to the left

MDB DETAILS:

Overall Width of Framework Carriage	=	<u>1250 mm</u>
Overall Length of MDB (incl. honeycomb impact face)	=	<u>4116 mm</u>
Wheelbase of Framework Carriage	=	<u>2578 mm</u>
Tread of Framework Carriage (Front & Rear)	=	<u>1880 mm</u>
C.G. Location Rearward of Front Axle	=	<u>1109.3 mm</u>
C.G. Location From Center Line	=	<u>-1.9 mm</u>
C.G. Location Above Ground Level	=	<u>477.2 mm</u>

MDB WEIGHT:

Left Front	=	<u>495.2</u>	kg	Left Rear	=	<u>184.8</u>	kg
Right Front	=	<u>278.0</u>	kg	Right Rear	=	<u>399.2</u>	kg
TOTAL FRONT	=	<u>773.2</u>	kg	TOTAL REAR	=	<u>584.0</u>	kg
% Total Weight	=	<u>57.0</u>	%	%Total Weight	=	<u>43.0</u>	%
TOTAL WEIGHT	=	<u>1357.2</u>	kg				

MDB IMPACT:

Impact Angle (MDB C/L to Target Vehicle)		<u>90°</u>	
Impact Speed	Primary	<u>62.0 km/h</u>	<u>38.5 mph</u>
	Secondary	<u>61.8 km/h</u>	<u>38.4 mph</u>
	On-Board	<u>62.1 km/h</u>	<u>38.6 mph</u>

MAXIMUM STATIC CRUSH OF HONEYCOMB IMPACT FACE:

1. Row A Center of Bumper	=	<u>230</u>	mm
2. Row B Top of Bumper	=	<u>98</u>	mm
3. Row C Mid-Level	=	<u>120</u>	mm
4. Row D Top of Stack	=	<u>170</u>	mm

INSTRUMENTATION:

Number of MDB Data Channels	=	<u>5</u>
-----------------------------	---	----------

DATA SHEET NO. 4**POST-TEST OBSERVATIONS**Vehicle: 2003 Toyota Camry LE 4 Door SedanNHTSA No. TO 5100**VISIBLE DUMMY CONTACT POINTS:****LEFT FRONT SID**

Head	<u>No visible contact points</u>
Upper Torso	<u>To rear of left door at window sill</u>
Lower Torso	<u>Rear of left door just above armrest</u>
Left Knee	<u>To left front door 20 mm below armrest</u>
Right Knee	<u>To left front door 120 mm below armrest</u>

LEFT REAR SID

<u>Top to upper C-pillar; Back to middle C-pillar</u>
<u>To back of rear door 20 mm below window sill</u>
<u>To back of rear door on armrest</u>
<u>To middle of rear door</u>
<u>To front of door just above armrest; 270 mm rear of B-pillar</u>

DOOR OPENING:**LEFT DOOR**

Front	<u>Closed/Inoperable/Latched</u>
Rear	<u>Closed/Inoperable/Latched</u>

RIGHT DOOR

<u>Closed/Operable/Latched</u>
<u>Closed/Operable/Latched</u>

MDB DISTANCE FROM TARGET IMPACT POINT:

Horizontal	<u>12 mm rearward</u>	Vertical	<u>4 mm below</u>
------------	-----------------------	----------	-------------------

ARM REST LOCATIONS:

Front	<u>255 mm below sill</u>
Rear	<u>270 mm below sill</u>

SEAT MOVEMENT:

Front	<u>Seat: 30 mm crush</u>	<u>Seat Back: 55 mm crush</u>
Rear	<u>Seat: 15 mm crush</u>	<u>Seat Back: 30 mm crush</u>

GLAZING DAMAGE

Windshield	<u>None</u>
Window	<u>Left front door window shattered at impact</u>

PILLAR PERFORMANCE:

<u>None Noted</u>

SILL SEPARATION

<u>None Noted</u>

AIRBAG DEPLOYMENT STATUS:

	DRIVER	FRONT PASSENGER	REAR PASSENGER
FRONT	Did not deploy	Did not deploy	N/A
SIDE	N/A	N/A	N/A

OTHER NOTABLE IMPACT EFFECTS:

<u>None</u>

SECTION 4
OCCUPANT AND VEHICLE INFORMATION

DATA SHEET 5

SID INSTRUMENTATION DATA

Vehicle: 2003 Toyota Camry LE 4 Door Sedan

NHTSA No. TO 5100

	Front Dummy ID 056 Accelerations				Rear Dummy ID 058 Accelerations			
	Max		Min		Max		Min	
	G's	msec	G's	msec	G's	msec	G's	msec
HEAD ACCELERATIONS								
Longitudinal (X)	10.9	41.9	-35.5	77.5	3.8	199.6	-16.2	51.4
Lateral (Y)	65.3	52.3	-1.1	10.0	76.0	54.7	-5.8	78.6
Vertical (Z)	27.5	42.7	-3.9	190.2	18.2	48.1	-48.5	63.0
Resultant (R)	65.5	52.3			76.7	51.0		
HIC36	434.5				482.6			
RIB ACCELERATIONS								
Upper Rib Lateral (Y)	72.4	28.1	-17.2	35.0	43.1	43.1	-3.2	173.8
Upper Rib Lateral (Y _R)	75.2	28.1	-21.2	35.0	43.5	43.1	-3.2	174.4
Lower Rib Lateral (Y)	60.6	29.4	-13.6	87.5	47.6	49.4	-10.2	70.0
Lower Rib Lateral (Y _R)	61.9	29.4	-13.9	87.5	48.1	42.5	-11.1	70.0
SPINE ACCELERATIONS								
Lower Lateral (Y)	73.7	31.2	-15.8	92.5	63.9	48.8	-9.8	75.6
Lower Lateral (Y _R)	73.0	31.2	-15.9	92.5	63.2	48.1	-9.9	76.2
PELVIS ACCELERATIONS								
Lateral (Y)	60.6	28.8	-10.3	83.1	70.9	40.6	-4.8	63.8
Lateral (Y _R)	59.4	28.8	-10.8	83.8	71.1	40.6	-4.5	63.8

REFERENCE:

Positive Direction -	Anterior/Posterior	+(X) = anterior
	Lateral	+(Y)= right
	Superior/Inferior	+(Z)= inferior
Negative Direction	Anterior/Posterior	-(X) = posterior
	Lateral	-(Y)= left
	Superior/Inferior	-(Z)= superior

All the above data (except head accelerations) has been filtered using FIR (Version 1.0; July 16, 1990)

Head Accelerations have been filtered at SAE Class 1000

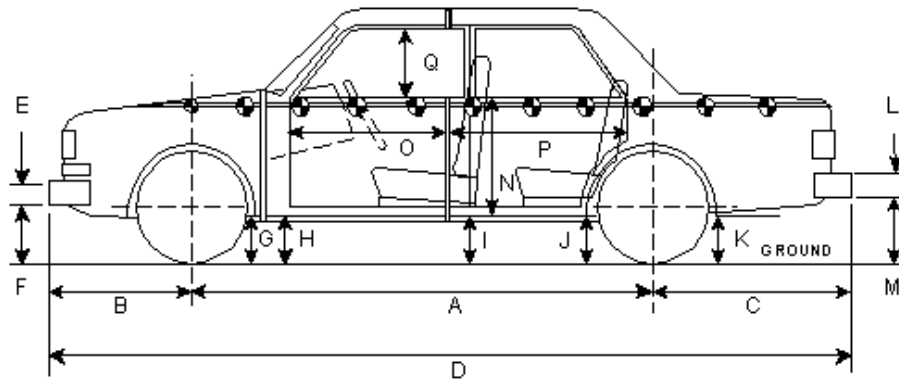
Y_R denotes redundant Y-direction accelerometer

DATA SHEET 6

VEHICLE PRE- AND POST- MEASUREMENTS

Vehicle: 2003 Toyota Camry LE 4 Door Sedan

NHTSA No. TO 5100



LEFT SIDE VIEW

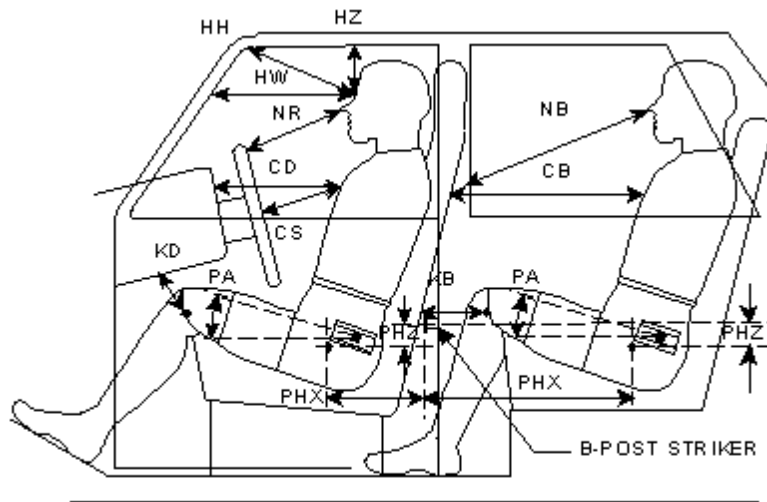
	PRE-TEST As delivered (mm)	PRE-TEST As Tested (mm)	POST-TEST (mm)	Δ CHANGE (mm)
A	2710	-	2694	-16
B	759	-	761	2
C	1016	-	1015	-1
D	4810	-	4799	-11
E	255	-	255	0
F	300	292	299	7
G	256	229	220	-9
H	260	232	310	78
I	276	250	319	69
J1	213	180	200	20
J2	290	257	286	29
K	294	252	255	3
L	218	-	219	1
M	415	371	380	9
N	720	-	647	-73
O	1125	-	1050	-75
P	967	-	918	-49
Q	468	-	422	-46
R	4485	-	4490	5
S	4485	-	4470	-15
T	1795	-	1581	-214

DATA SHEET 7

SID LONGITUDINAL CLEARANCE DIMENSIONS

Vehicle: 2003 Toyota Camry LE 4 Door Sedan

NHTSA No. TO 5100



LEFT SIDE VIEW

NOTE: All dimensions are in millimeters with tolerance of ± 3 mm

	DRIVER ID# 056	LEFT REAR PASSENGER ID# 058
HH	332	N/A
HW	602	N/A
HZ	204	196
NR/NB	417	663
CD/CB	533	601
CS	323	N/A
KDL(KDA°)/KBL(KDA°)	162 (27.5)	266 (15)
KDR(KDA°)/KBR(KDA°)	152 (25.6)	267 (17)
PA°	23.1	23.4
PHX	215	365
PHZ	238	341

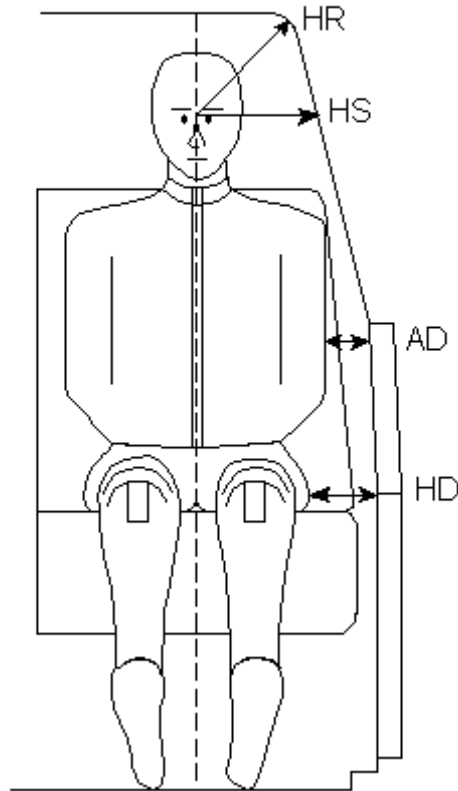
Note: 2-door vehicle shown. Rear dummy PHX & PHZ measurements for 4-door vehicle would use the C-Pillar striker as a reference point

DATASHEET 8

SID LATERAL CLEARANCE DIMENSIONS

Vehicle: 2003 Toyota Camry LE 4 Door Sedan

NHTSA No. TO 5100



NOTE: All dimensions are in millimeters with tolerance of ± 3 mm

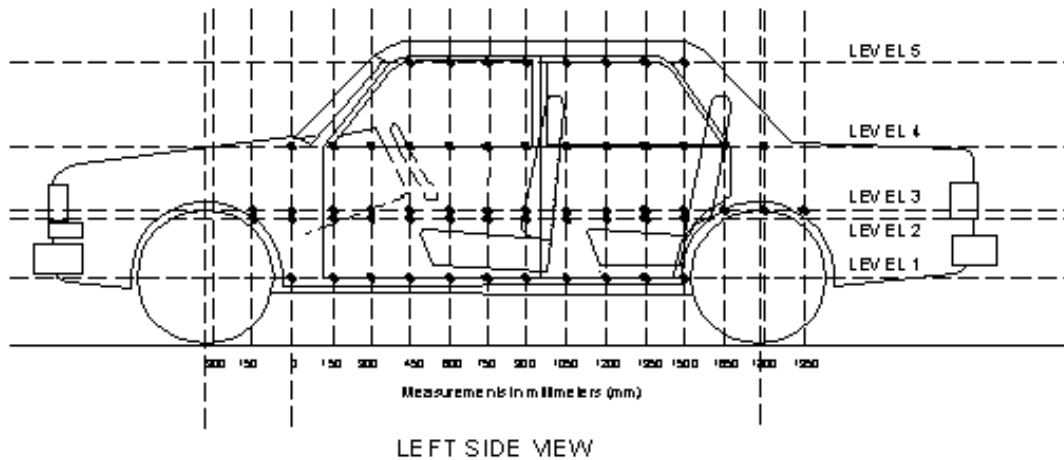
	DRIVER ID# 056	LEFT REAR PASSENGER ID# 058
HR	226	221
HS	353	0
AD	Upper 122 Lower 80	Upper 116 Lower 91
HD	151	160

DATA SHEET 9

VEHICLE SIDE MEASUREMENTS

Vehicle: 2003 Toyota Camry LE 4 Door Sedan

NHTSA No. TO 5100



LEVEL 5 = WINDOW TOP
LEVEL 4 = WINDOW SILL
LEVEL 3 = MID-DOOR
LEVEL 2 = OCCUPANT H-POINT
LEVEL 1 = AXLE CENTERLINE HEIGHT OR SILL TOP HEIGHT

MEASUREMENTS ARE TAKEN WHEN THE VEHICLE IS IN THE “AS TESTED” CONFIGURATION
Measurements along the Vertical 750 mm line as shown

Level 5 @ Window Top	1346 mm
Level 4 @ Window Sill	953 mm
Level 3 @ Mid-Door	641 mm
Level 2 @ Occupant H-Point	514 mm
Level 1 @ Axle Centerline or Sill Top Height	265 mm

DATA SHEET 10

VEHICLE EXTERIOR CRUSH PROFILES – ALL LEVELS

Vehicle: 2003 Toyota Camry LE 4 Door Sedan

NHTSA No. TO 5100

Note: All Dimensions are in millimeters with a tolerance of ± 3 mm

			DISTANCE IN MILLIMETERS (mm) FROM IMPACT POINT																											
HEIGHT			-900	-750	-600	-450	-300	-150	0	150	300	450	600	750	900	1050	1200	1350	1500	1650	1800	1950	2100	2250	2400	2550	2700	2850	3000	
LEVEL 1	265	PRE							193	195	196	197	197	198	200	202	205	207	205	201										
		POST							200	265	294	301	310	318	323	325	331	327	306	286	255									
		CRUSH							7	70	98	104	113	120	123	123	126	120	99	81	54									
LEVEL 2	514	PRE	211	176					164	166	166	166	166	165	166	166	167	168	169	172	172	165						179	187	196
		POST	211	179						179	410	426	429	431	423	417	410	469	460	441	421	382	268					193	198	204
		CRUSH		3						15	244	260	263	265	258	251	244	302	292	272	249	210	103					14	11	8
LEVEL 3	641	PRE	212	181				159	161	161	160	160	159	159	159	159	160	161	162	164	165	166	160	157	158	170	185	199	215	
		POST	223	192				178	177	382	411	430	444	430	427	427	465	460	457	429	385	306	257	214	195	193	202	211	224	
		CRUSH	11	11				19	16	221	251	270	285	271	268	268	305	299	295	265	220	140	97	57	37	23	17	12	9	
LEVEL 4	953	PRE		281	263	252	246	243	238	239	239	238	237	238	240	241	242	242	243	250	253	255	260	264	267	272	278	288	299	
		POST		280	264	257	250	253	259	266	307	352	394	426	464	502	539	514	487	440	391	347	310	275	287	282	293	298	305	
		CRUSH		-1	1	5	4	10	21	27	68	114	157	188	224	261	297	272	244	190	138	92	50	11	20	10	15	10	6	
LEVEL 5	1346	PRE										397	407	423	442	454	461	463	460	452	439	421	410	405						
		POST										407	418	447	473	498	517	520	517	510	487	452	4300	420						
		CRUSH										10	11	24	31	44	56	57	57	58	48	31	20	15						

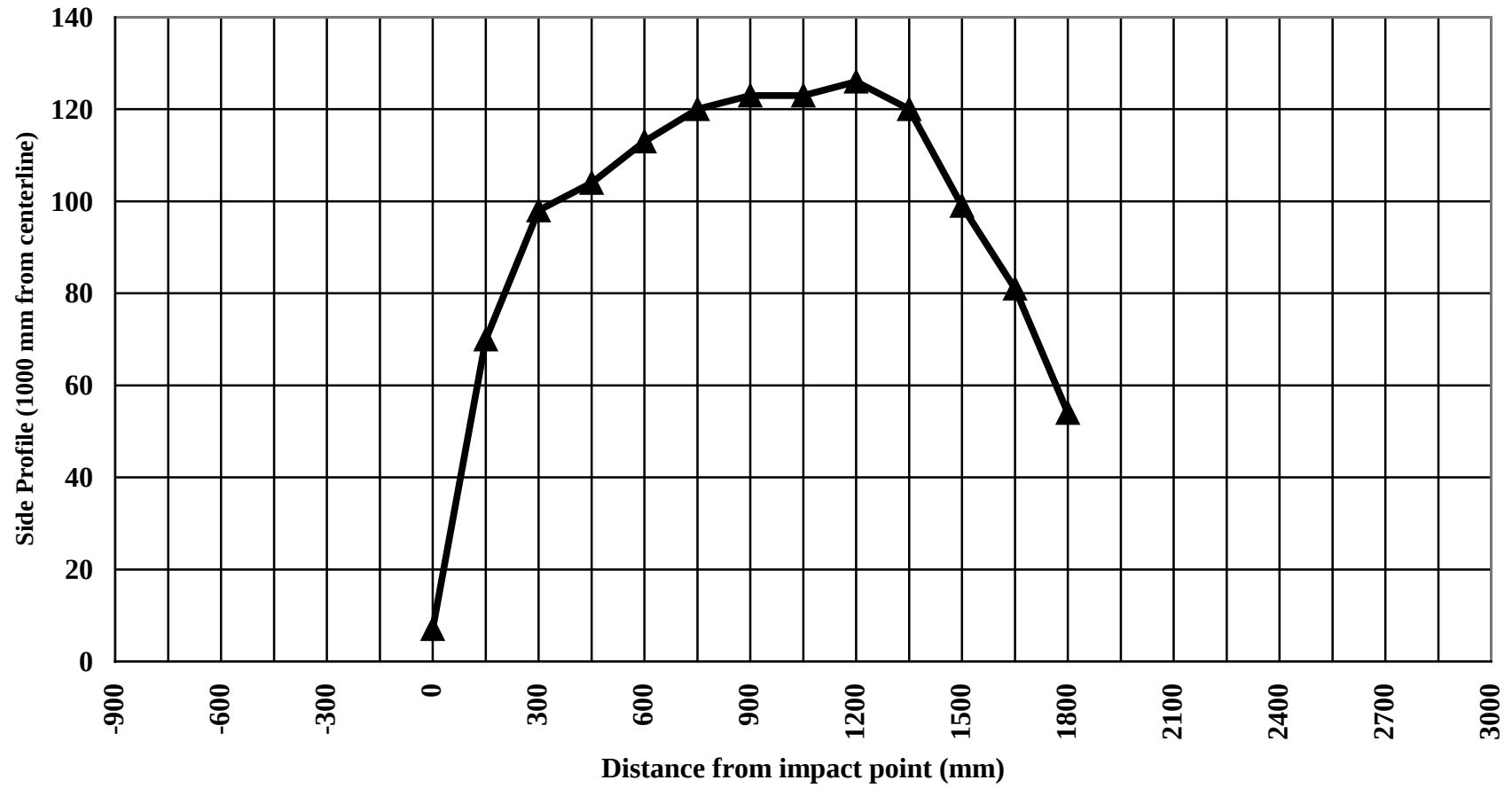
DATA SHEET 10 (continued)

VEHICLE EXTERIOR CRUSH PROFILES

Vehicle: 2003 Toyota Camry LE 4 Door Sedan

NHTSA No. TO 5100

SIDE PROFILE LEVEL 1 -265 mm above ground



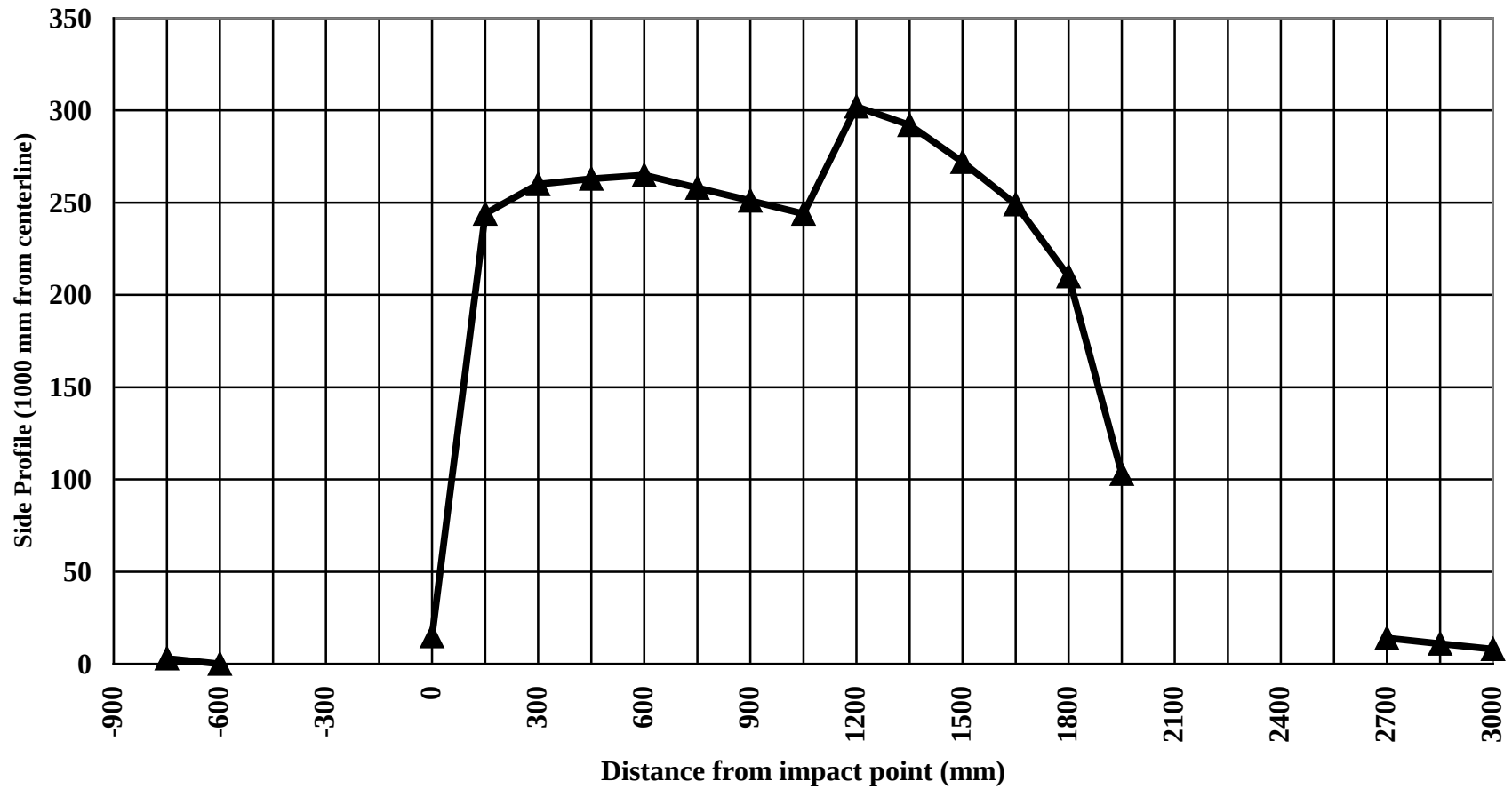
DATA SHEET 10 (continued)

VEHICLE EXTERIOR CRUSH PROFILES

Vehicle: 2003 Toyota Camry LE 4 Door Sedan

NHTSA No. TO 5100

SIDE PROFILE LEVEL 2 - 514 mm above ground



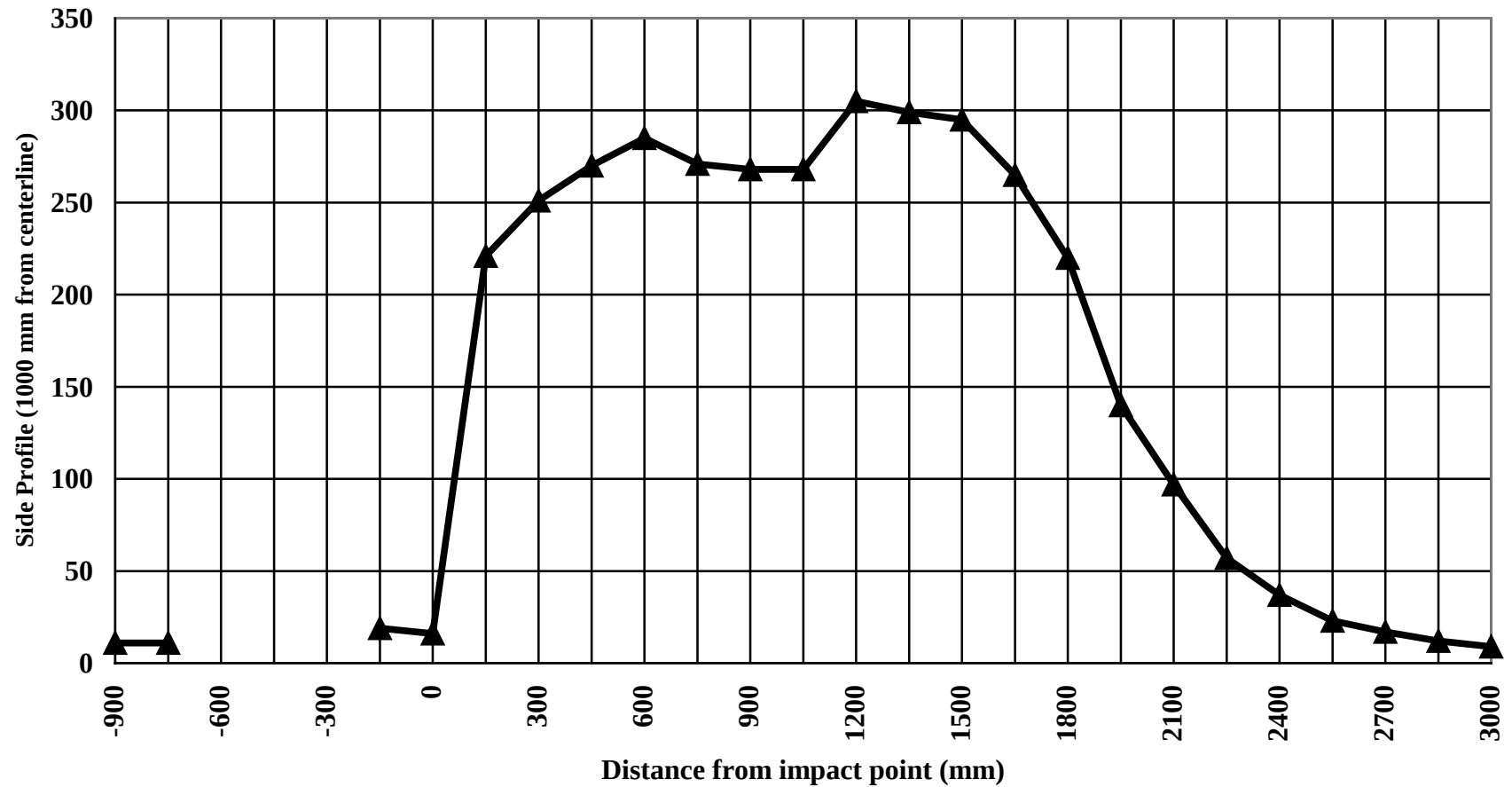
DATA SHEET 10 (continued)

VEHICLE EXTERIOR CRUSH PROFILES

Vehicle: 2003 Toyota Camry LE 4 Door Sedan

NHTSA No. TO 5100

SIDE PROFILE LEVEL 3 - 641 mm above ground



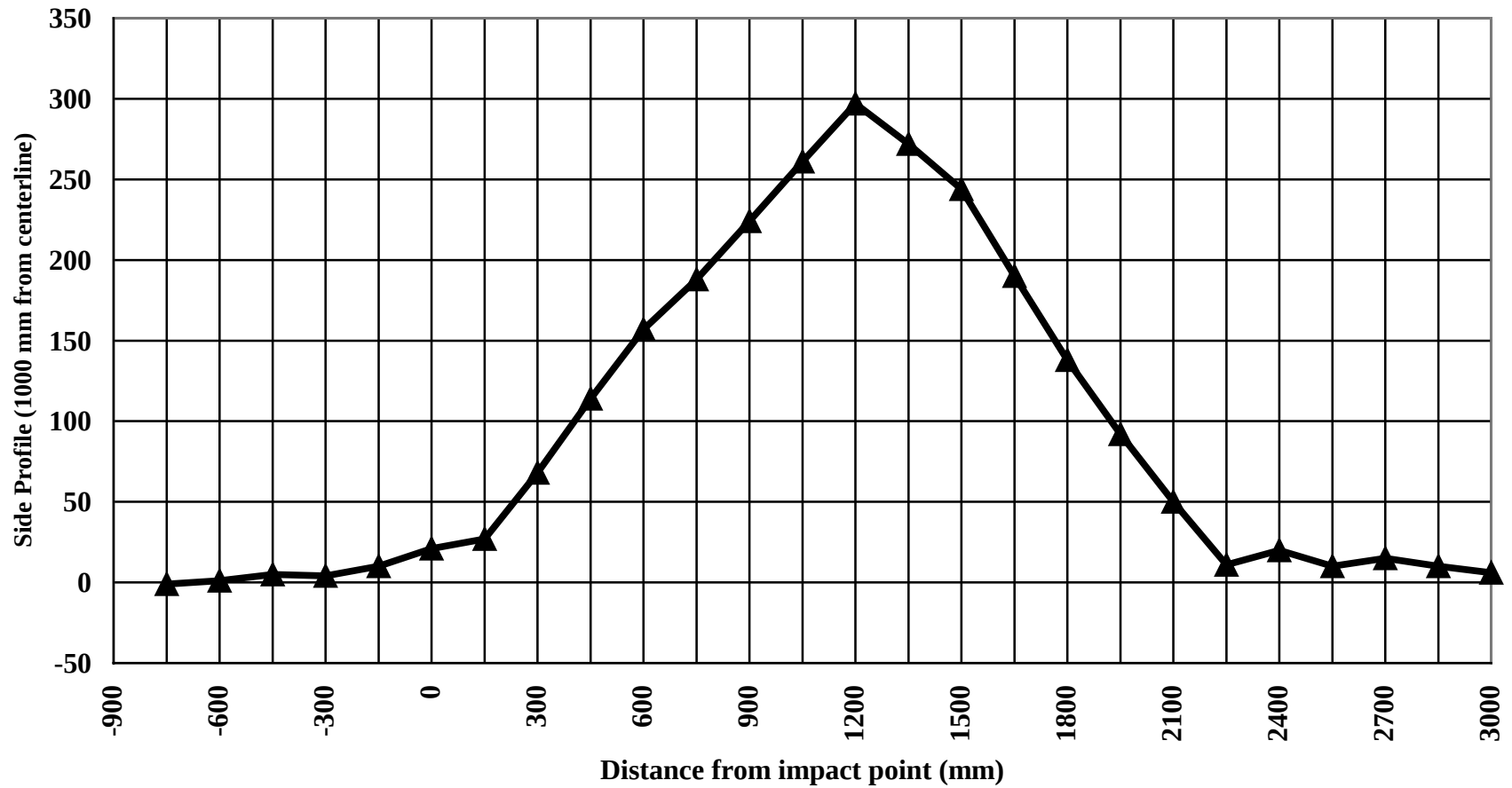
DATA SHEET 10 (continued)

VEHICLE EXTERIOR CRUSH PROFILES

Vehicle: 2003 Toyota Camry LE 4 Door Sedan

NHTSA No. TO 5100

SIDE PROFILE LEVEL 4 - 930 mm above ground



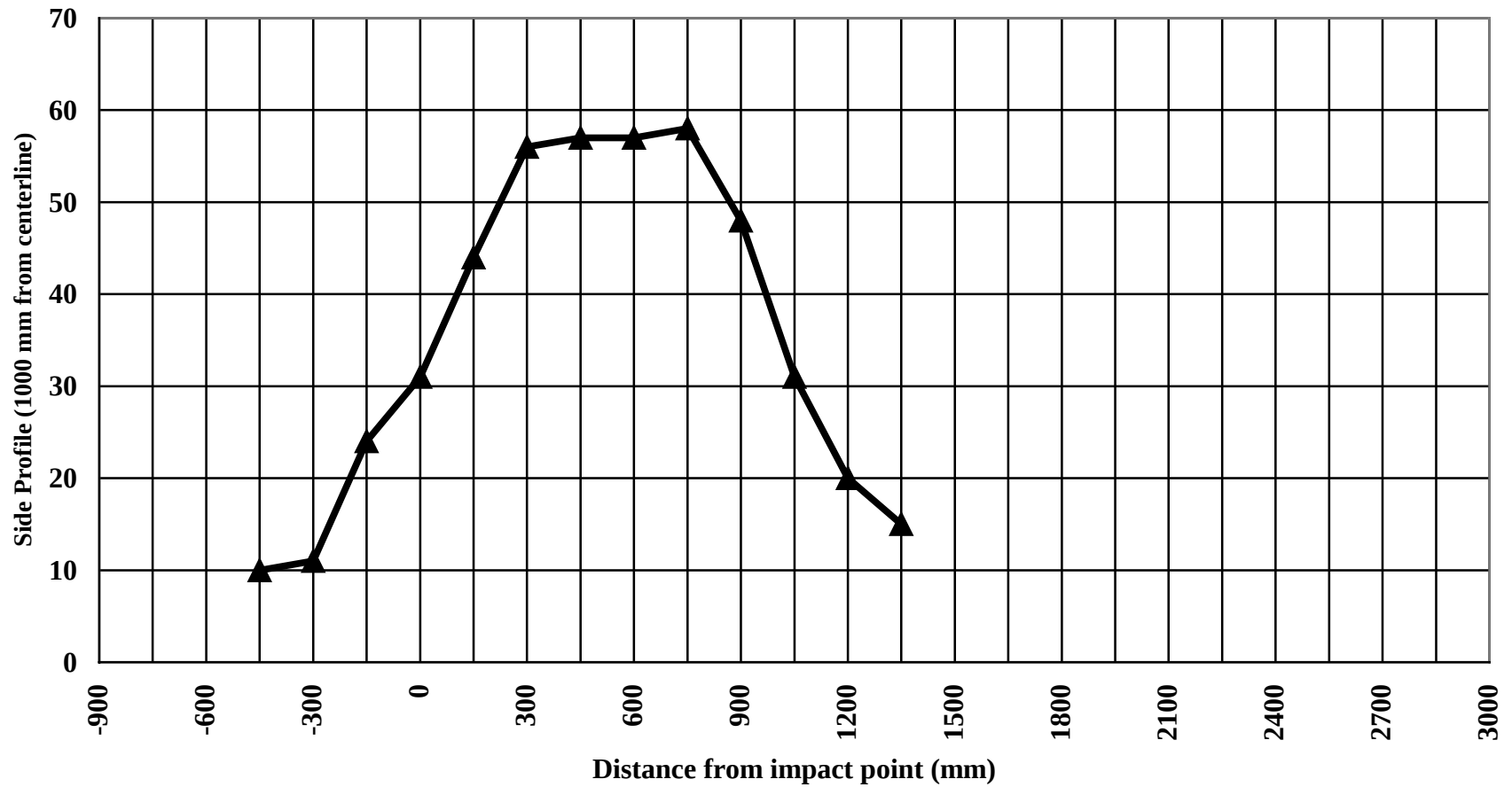
DATA SHEET 10 (continued)

VEHICLE EXTERIOR CRUSH PROFILES

Vehicle: 2003 Toyota Camry LE 4 Door Sedan

NHTSA No. TO 5100

SIDE PROFILE LEVEL 5 - 1933 mm above ground

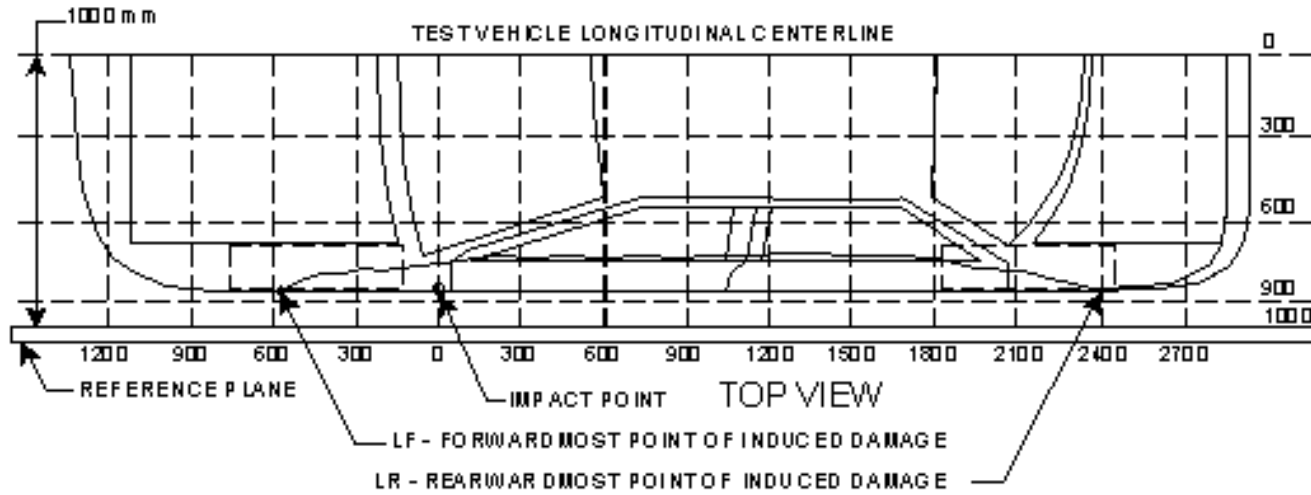


DATA SHEET 11

VEHICLE DAMAGE PROFILE DISTANCES

Vehicle: 2003 Toyota Camry LE 4 Door Sedan

NHTSA No. TO 5100



DPD MEASUREMENTS (mm)		POST-TEST (mm)	PRE-TEST (mm)	STATIC CRUSH (mm)
1	0	178	178	0
2	510	437	180	257
3	1020	431	184	247
4	1530	452	187	265
5	2040	224	192	32
6	2550	192	192	0

DATA SHEET 12

STATIC CRUSH OF IMPACTOR FACE (Grid as looking at MDB from front)

Vehicle: 2003 Toyota Camry LE 4 Door Sedan

NHTSA No. TO 5100

Note: All Dimensions are in millimeters with a tolerance of ± 3 mm

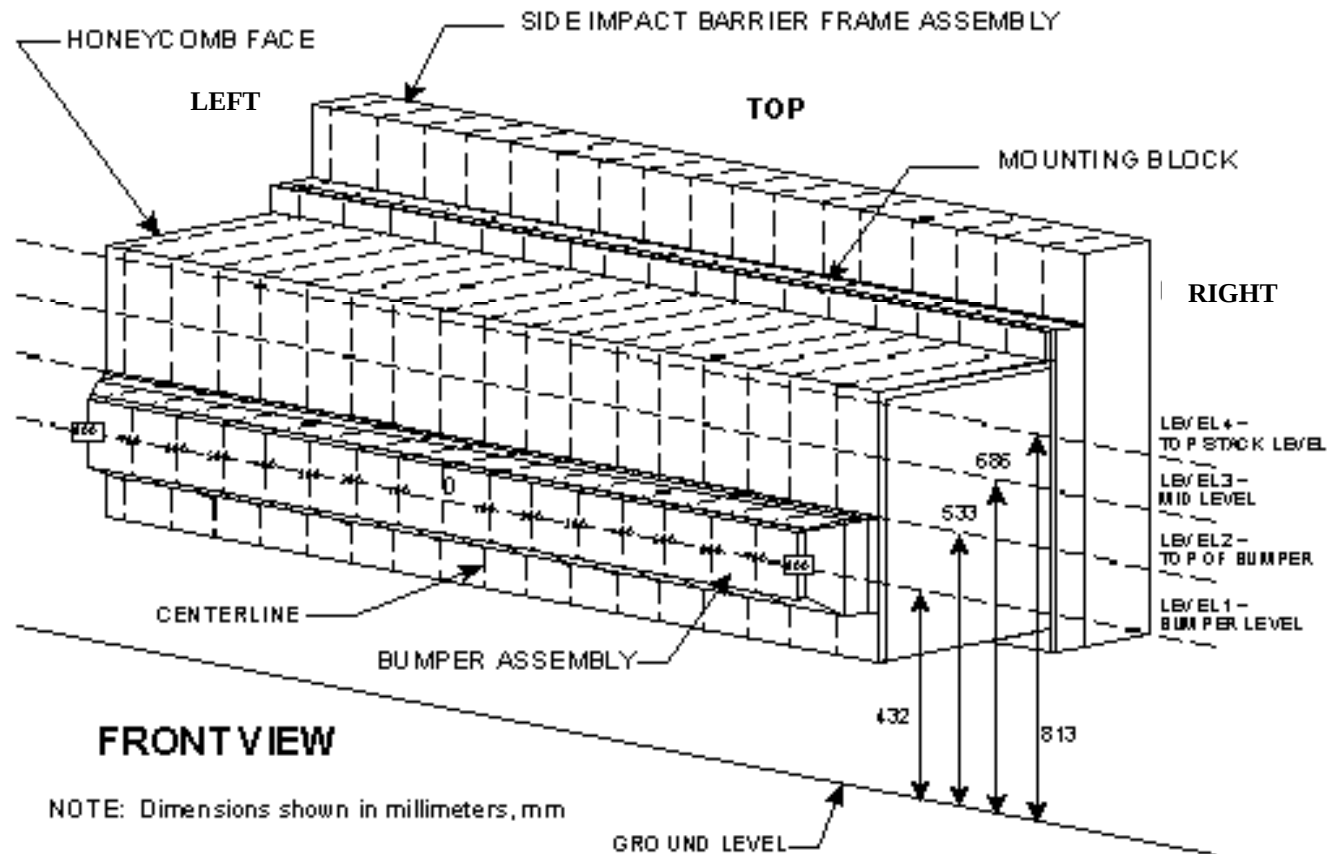
LEVEL	HEIGHT AT CL (mm)		DISTANCE LEFT OF CENTER								0	DISTANCE RIGHT OF CENTER							
			800	700	600	500	400	300	200	100		100	200	300	400	500	600	700	800
LEVEL 4 TOP STACK	810	PRE-	526	526	526	526	526	526	526	526	526	526	526	526	527	527	528	528	529
		POST-	631	591	557	539	527	535	558	553	555	560	570	578	584	601	632	667	699
		CRUSH	105	65	557	13	1	9	32	27	29	34	44	52	57	74	104	139	170
LEVEL 3 MID- LEVEL	685	PRE-	525	525	525	525	525	525	525	525	525	525	525	525	526	526	527	527	528
		POST-	629	594	567	547	543	545	562	558	547	545	547	550	555	569	585	604	648
		CRUSH	104	69	42	22	18	20	37	33	22	20	22	25	29	45	58	77	120
LEVEL 2 TOP BUMPER	560	PRE-	522	522	522	591	522	522	522	522	523	523	523	523	523	524	524	525	525
		POST-	620	614	608	522	586	584	583	586	587	592	598	604	607	610	597	612	611
		CRUSH	98	92	86	69	64	62	61	64	64	69	75	81	84	86	73	87	86
LEVEL 1 MID- BUMPER	432	PRE-	431	419	419	419	419	419	419	419	419	420	420	420	420	421	421	421	433
		POST-	661	633	617	602	591	584	581	576	575	572	570	570	567	566	567	571	588
		CRUSH	230	214	198	183	172	165	162	157	156	152	150	150	147	145	146	150	155

DATA SHEET 12 (continued)

STATIC CRUSH OF IMPACTOR FACE

Vehicle: 2003 Toyota Camry LE 4 Door Sedan

NHTSA No. TO 5100

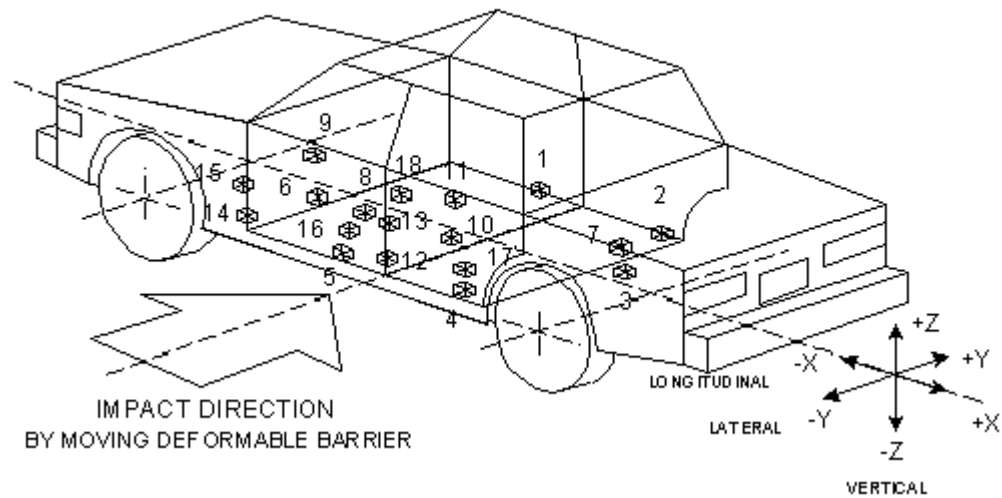


DATA SHEET 13

TEST VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 2003 Toyota Camry LE 4 Door Sedan

NHTSA No. TO 5100



1. Right Side Sill at Front Seat	10. Mid-rear of Left Rear Door
2. Right Side Sill at Rear Seat	11. Left Rear Door Upper Centerline
3. Rear Floorpan Above Axle	12. Left Lower B-Pillar
4. Left Side Sill at Rear Seat	13. Left Middle B-Pillar
5. Left Side Sill at Front Seat	14. Left Lower A-Pillar
6. Left Front Door on Centerline	15. Left Middle A-Pillar
7. Right Rear Occupant Compartment	16. Front Seat Track
8. Mid-rear of Left Front Door	17. Rear Seat Track
9. Left Front Door Upper Centerline	18. Vehicle CG

VEHICLE ACCELEROMETER LOCATIONS AND SUMMARY DATA

NHTSA No. TO 5100

Axis Origin	X – Rear Bumper	Axis Orientation	+(X) Forward
	Y – Vehicle Centerline		+(Y) Right
	Z – Middle of rear bumper		+(Z) Down

DATASHEET 13 (continued)

VEHICLE ACCELEROMETER LOCATIONS AND SUMMARY DATA

Vehicle: 2003 Toyota Camry LE 4 Door Sedan

NHTSA No. TO 5100

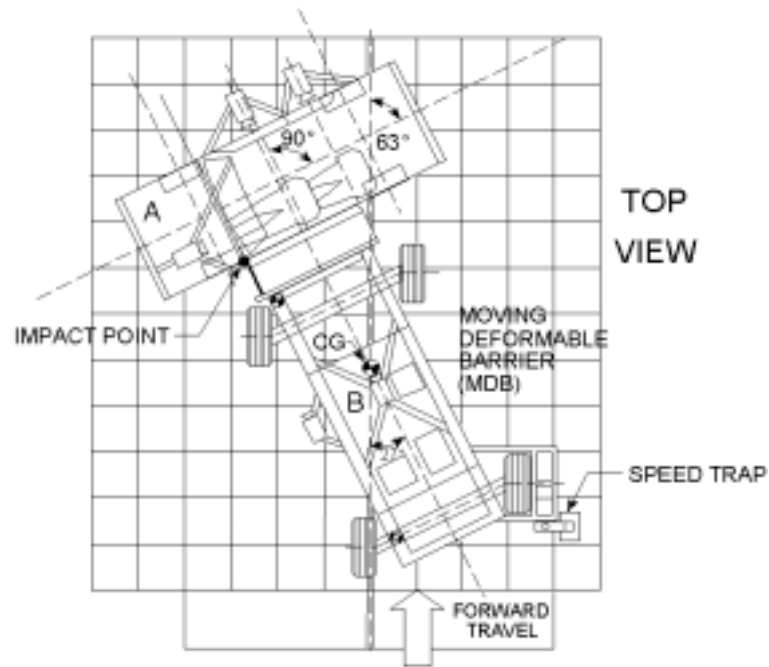
Location		Coordinates			Longitudinal (X)				Lateral (Y)				Vertical (Z)				Resultant	
		X mm	Y mm	Z mm	Max		Min		Max		Min		Max		Min		Max	
					G's	msec	G's	msec	G's	msec	G's	msec	G's	msec	G's	msec	G's	msec
11	Left Rear Door Upper Centerline	Accelerometer not requested																
12	Left Lower B-Pillar	2360	-768	1					220.4	3.0	-41.0	10.9						
13	Left Middle B-Pillar	2308	-767	-245					156.3	3.8	-42.1	30.1						
14	Left Lower A-Pillar	3315	-738	90					91.2	2.9	-26.7	38.2						
15	Left Middle A-Pillar	3294	-778	-117					46.7	-4.0	-11.6	26.9						
16	Front Seat Track	2685	-618	334					114.2	10.8	-68.3	20.3						
17	Rear Seat Track	1943	-372	328					27.9†	5.0†	-37.0†	36.8†						
18	Vehicle CG	2698	-17	304	4.6	59.3	-12.6	13.6	29.1	6.6	-2.0	152.1	15.3	14.6	-20.6	21.5	30.7	6.9

† Note: The accelerometer was observed post test to be detached from the rear seat track. The accelerometer may have come off during impact

Axis Origin	X – Rear Bumper	Axis Orientation	+(X) Forward
	Y – Vehicle Centerline		+(Y) Right
	Z – Middle of rear bumper		+(Z) Down

DATA SHEET 14

MDB ACCELEROMETER LOCATIONS AND DATA SUMMARY



Location		Coordinates			Longitudinal (X)				Lateral (Y)				Vertical (Z)				Resultant	
		X mm	Y mm	Z mm	Max		Min		Max		Min		Max		Min		Max	
					G's	msec	G's	msec	G's	msec	G's	msec	G's	msec	G's	msec	G's	msec
1	MDB Center of Gravity	1113	-1	311	1.0	173.4	-21.0	32.6	3.5	63.4	-8.6	21.7	8.0	31.3	-7.4	16.8	22.3	32.3
2	MDB Rear Frame Member	2812	-614	585	2.0	174.0	-21.8	38.2	3.9	24.0	-1.5	156.6						

Axis Origin

X – Rear Bumper
Y – Vehicle Centerline
Z – Middle of rear bumper

Axis Orientation

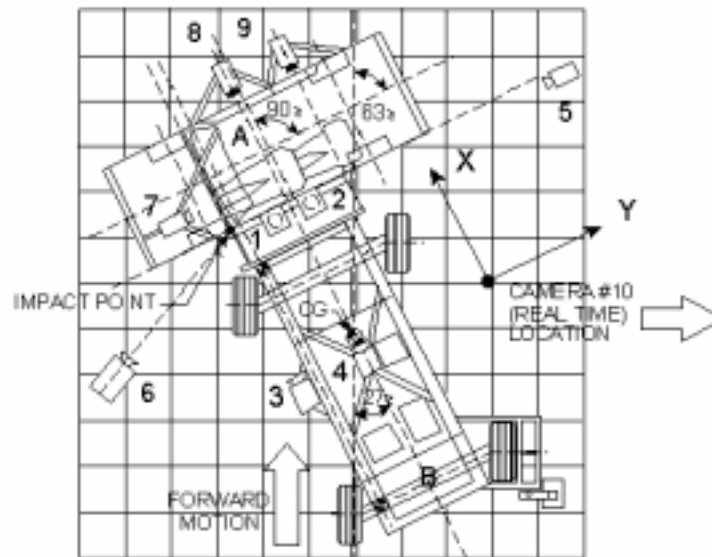
+(X) Forward
+(Y) Right
+(Z) Down

DATA SHEET 15

HIGH-SPEED CAMERA LOCATIONS AND DATA SUMMARY

Vehicle: 2003 Toyota Camry LE 4 Door Sedan

NHTSA No. TO 5100



Camera No.	View	Coordinates (mm)*			Angle wrt Horiz.	Lens (mm)	Film Speed (fps)
		X	Y	Z			
1	Overhead view of test vehicle	110	990	4663	-90	7	1000
2	Overhead close-up view of impact plane	30	305	4669	-90	12	1000
3	MDB onboard close-up view of impact point	-2333	-60	-32	0.4	13	1000
4	MDB onboard view of driver dummy	-2262	840	468	-3.9	13	1000
5	Right side ground level overall view	3900	13577	620	-4.2	45	1000
6	Left side ground level overall view	-401	-4447	820	-13.1	8	1000
7	Test vehicle onboard driver front view	840	-655	510	-15	10	1000
8	Test vehicle onboard driver side view	1510	910	340	-5	7.5	1000
9	Test vehicle onboard passenger side view	1420	1875	360	-5	7.5	1000
10	Real-time film coverage of test	-	-	-	-	-	-

* Reference: (from point of impact)
 + X = Forward
 + Y = To Right
 + Z = Upward

SECTION 5
FUEL SYSTEM INTEGRITY

DATA SHEET 16

FUEL SYSTEM INTEGRITY DATA

Vehicle: 2003 Toyota Camry LE 4 Door Sedan

NHTSA No. TO 5100

TEST REQUIREMENTS:

Drain the test vehicle's fuel system and operate the engine until the fuel system is dry. Add Stoddard solvent, which has been dyed purple, until 92-94% of the stated usable capacity is reached. Operate the engine to assure the Stoddard solvent is present throughout the entire fuel system.

TEST VEHICLE IMPACT TYPE: Side impacting Moving Deformable Barrier contacting the driver side.

FUEL SPILLAGE MEASUREMENT:

POST IMPACT TEST	TEST RESULTS	MAXIMUM ALLOWABLE
1. From impact until vehicle motion ceases	0	29.6 ml
2. For 5 minute period after vehicle motion ceases	0	147.9 ml
3. For next 25 minutes	0	29.6 ml / 1 min.

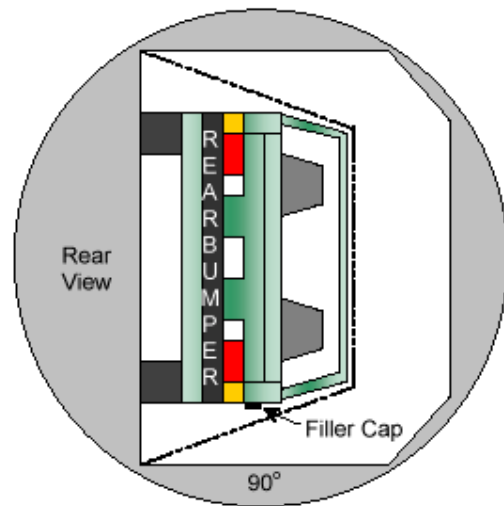
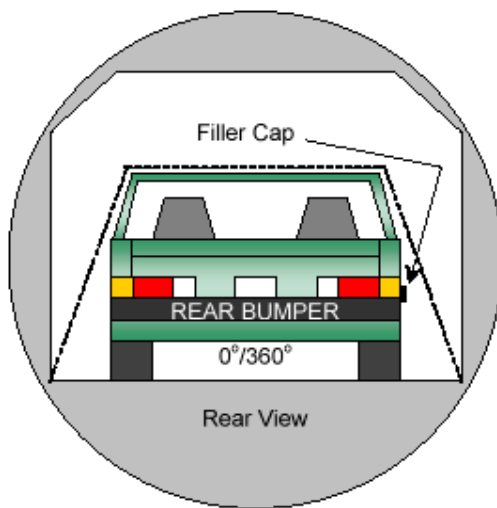
FUEL SPILLAGE LOCATION(S): None

DATA SHEET 17

ROLLOVER DATA

Vehicle: 2003 Toyota Camry LE 4 Door Sedan

NHTSA No. TO 5100



0° TO 90°

DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time	1	minutes	6	seconds
(Spec Range =1 to 3 minutes)				
FMVSS 301 Position Hold Time	5	minutes	0	seconds
TOTAL	6	minutes	6	seconds
Next whole minute interval	7	minutes		

FUEL SPILLAGE MEASUREMENT:

0° TO 90° ROTATION	TEST RESULTS	MAXIMUM ALLOWABLE
1. First 5 Minutes From Onset of Rotation	0	147.9 ml.
2. Sixth Minute From Onset of Rotation	0	29.6 ml.
3. Seventh Minute From Onset of Rotation	0	29.6 ml
4. Eighth Minute if Required	0	29.6 ml

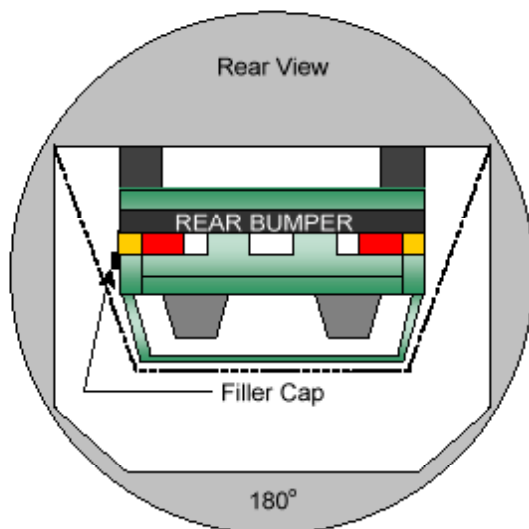
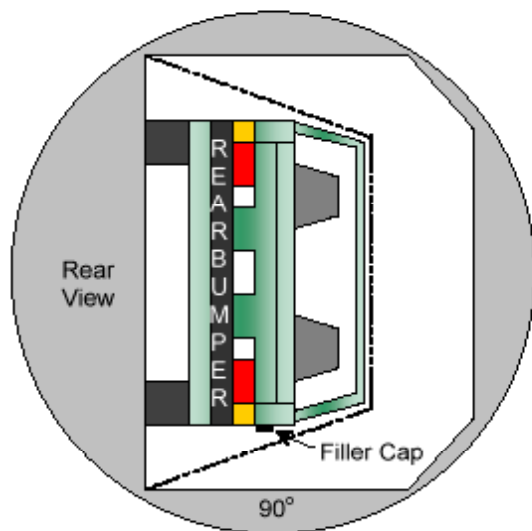
FUEL SPILLAGE LOCATION(S): None

DATA SHEET 17 (continued)

ROLLOVER VEHICLE

Vehicle: 2003 Toyota Camry LE 4 Door Sedan

NHTSA No. TO 5100



90° TO 180°

DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time	<u>1</u> minutes	<u>6</u> seconds
(Spec Range =1 to 3 minutes)		
FMVSS 301 Position Hold Time	<u>5</u> minutes	<u>0</u> seconds
TOTAL	<u>6</u> minutes	<u>6</u> seconds
Next whole minute interval	<u>7</u> minutes	

FUEL SPILLAGE MEASUREMENT:

90° TO 180° ROTATION	TEST RESULTS	MAXIMUM ALLOWABLE
1. First 5 Minutes From Onset of Rotation	0	147.9 ml.
2. Sixth Minute From Onset of Rotation	0	29.6 ml.
3. Seventh Minute From Onset of Rotation	0	29.6 ml
4. Eighth Minute if Required	0	29.6 ml

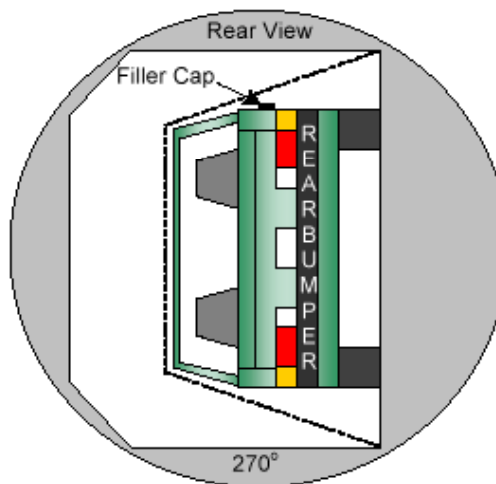
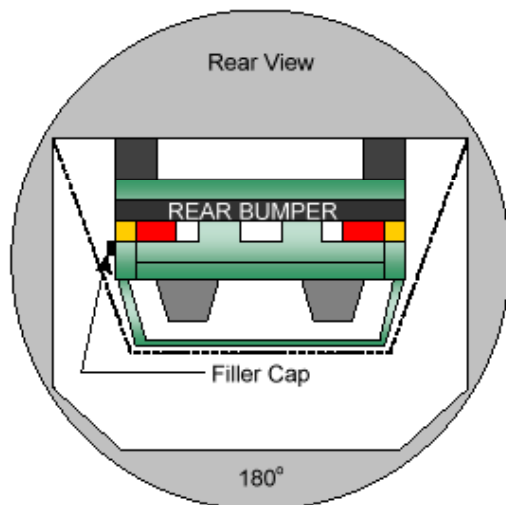
FUEL SPILLAGE LOCATION(S):

DATA SHEET 17 (continued)

ROLLOVER VEHICLE

Vehicle: 2003 Toyota Camry LE 4 Door Sedan

NHTSA No. TO 5100



180° TO 270°

DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time	1	minutes	5	seconds
(Spec Range =1 to 3 minutes)				
FMVSS 301 Position Hold Time	5	minutes	0	seconds
TOTAL	6	minutes	5	seconds
Next whole minute interval	7	minutes		

FUEL SPILLAGE MEASUREMENT:

180° TO 270° ROTATION	TEST RESULTS	MAXIMUM ALLOWABLE
1. First 5 Minutes From Onset of Rotation	0	147.9 ml.
2. Sixth Minute From Onset of Rotation	0	29.6 ml.
3. Seventh Minute From Onset of Rotation	0	29.6 ml
4. Eighth Minute From Onset of Rotation	0	29.6 ml

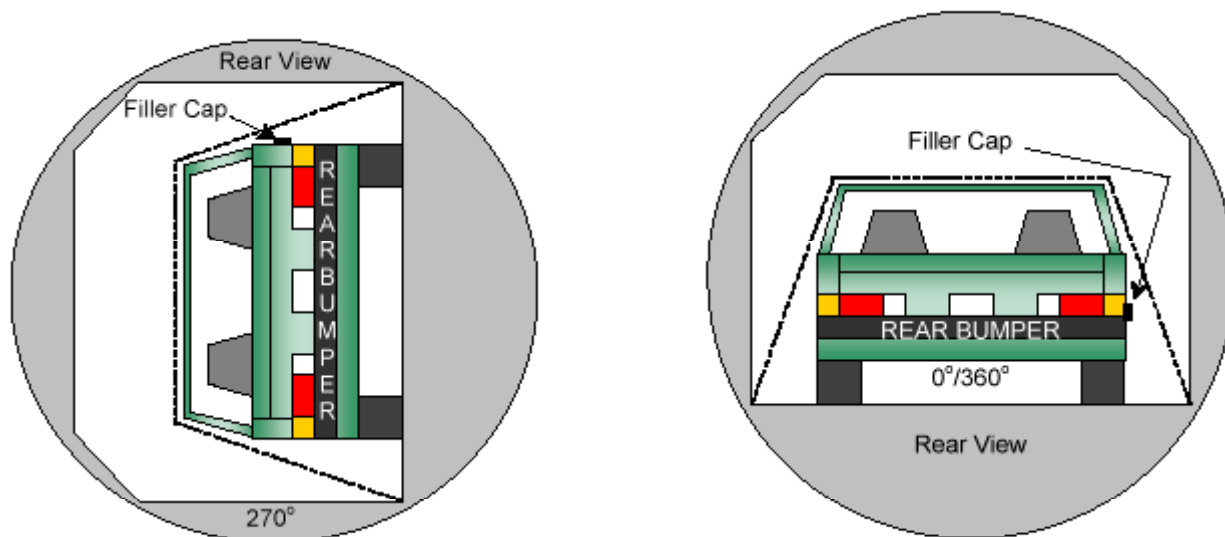
FUEL SPILLAGE LOCATION(S):

DATA SHEET 17 (continued)

ROLLOVER VEHICLE

Vehicle: 2003 Toyota Camry LE 4 Door Sedan

NHTSA No. TO 5100



270° TO 360°

DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time	<u>1</u> minutes	<u>6</u> seconds
(Spec Range =1 to 3 minutes)		
FMVSS 301 Position Hold Time	<u>5</u> minutes	<u>0</u> seconds
TOTAL	<u>6</u> minutes	<u>6</u> seconds
Next whole minute interval	<u>7</u> minutes	

FUEL SPILLAGE MEASUREMENT:

270° TO 360° ROTATION	TEST RESULTS	MAXIMUM ALLOWABLE
1. First 5 Minutes From Onset of Rotation	0	147.9 ml.
2. Sixth Minute From Onset of Rotation	0	29.6 ml.
3. Seventh Minute From Onset of Rotation	0	29.6 ml
4. Eighth Minute if Required	0	29.6 ml

FUEL SPILLAGE LOCATION(S):

APPENDIX A
PHOTOGRAPHS

TABLE OF PHOTOGRAPHS

<u>Figure</u>	<u>Photograph Title</u>	<u>Page</u>
A-1	PRE-TEST FRONTAL VIEW OF TEST VEHICLE	A-3
A-2	POST-TEST FRONTAL VIEW OF TEST VEHICLE	A-4
A-3	PRE-TEST LEFT FRONT VIEW OF TEST VEHICLE	A-5
A-4	POST-TEST LEFT FRONT VIEW OF TEST VEHICLE	A-6
A-5	PRE-TEST LEFT (IMPACTED) SIDE VIEW OF TEST VEHICLE	A-7
A-6	POST-TEST LEFT (IMPACTED) SIDE VIEW OF TEST VEHICLE	A-8
A-7	PRE-TEST LEFT REAR VIEW OF TEST VEHICLE	A-9
A-8	POST-TEST LEFT REAR VIEW OF TEST VEHICLE	A-10
A-9	PRE-TEST REAR VIEW OF TEST VEHICLE	A-11
A-10	POST-TEST REAR VIEW OF TEST VEHICLE	A-12
A-11	PRE-TEST RIGHT REAR OF TEST VEHICLE	A-13
A-12	POST-TEST RIGHT REAR OF TEST VEHICLE	A-14
A-13	PRE-TEST RIGHT SIDE VIEW OF TEST VEHICLE	A-15
A-14	POST-TEST RIGHT SIDE VIEW OF TEST VEHICLE	A-16
A-15	PRE-TEST RIGHT FRONT VIEW OF TEST VEHICLE	A-17
A-16	POST-TEST RIGHT FRONT VIEW OF TEST VEHICLE	A-18
A-17	PRE-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF FRONT SID	A-19
A-18	POST-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF FRONT SID	A-20
A-19	PRE-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF REAR SID	A-21
A-20	POST-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF REAR SID	A-22
A-21	PRE-TEST LEFT OCCUPANT COMPARTMENT VIEW OF FRONT SID	A-23
A-22	POST-TEST LEFT OCCUPANT COMPARTMENT VIEW OF FRONT SID	A-24
A-23	PRE-TEST LEFT OCCUPANT COMPARTMENT VIEW OF REAR SID	A-25
A-24	POST-TEST LEFT OCCUPANT COMPARTMENT VIEW OF REAR SID	A-26
A-25	PRE-TEST INTERIOR OF FRONT DOOR	A-27
A-26	POST-TEST INTERIOR OF FRONT DOOR SHOWING SID IMPACT LOCATIONS	A-28
A-27	PRE-TEST INTERIOR OF REAR DOOR	A-29
A-28	POST-TEST INTERIOR OF REAR DOOR SHOWING SID IMPACT LOCATIONS	A-30
A-29	PRE-TEST LEFT SIDE VIEW OF MDB IN IMPACT POSITION	A-31
A-30	POST-TEST LEFT SIDE VIEW OF MDB	A-32
A-31	PRE-TEST RIGHT SIDE VIEW OF MDB IN IMPACT POSITION	A-33
A-32	POST-TEST RIGHT SIDE VIEW OF MDB	A-34
A-33	PRE-TEST OVERHEAD VIEW OF MDB IN IMPACT POSITION	A-35
A-34	POST-TEST OVERHEAD VIEW OF MDB	A-36
A-35	PRE-TEST CLOSE UP OF IMPACT POINT TARGET SHOWING WELDING ROD	A-37
A-36	POST-TEST CLOSE-UP OF IMPACT POINT TARGET	A-38
A-37	CLOSE-UP OF VEHICLE'S CERTIFICATION LABELS	A-39
A-38	CLOSE-UP OF VEHICLE'S TIRE PLACARD LABELS	A-40
A-39	IMPACT	A-41
A-40	ROLLOVER 0 DEGREES	A-42
A-41	ROLLOVER 90 DEGREES	A-43
A-42	ROLLOVER 180 DEGREES	A-44
A-43	ROLLOVER 270 DEGREES	A-45
A-44	ROLLOVER 360 DEGREES	A-46
A-45	PRE-TEST ALUMINUM BARRIER FRONT	A-47
A-46	POST-TEST ALUMINUM BARRIER FRONT	A-48
A-47	PRE-TEST ALUMINUM BARRIER LEFT SIDE	A-49
A-48	POST-TEST ALUMINUM BARRIER LEFT SIDE	A-50
A-49	PRE-TEST ALUMINUM BARRIER RIGHT SIDE	A-51
A-50	POST-TEST ALUMINUM BARRIER RIGHT SIDE	A-52
A-51	PRE-TEST ALUMINUM BARRIER OVERHEAD	A-53
A-52	POST-TEST ALUMINUM BARRIER OVERHEAD	A-54



Figure A-1: PRE-TEST FRONTAL VIEW OF TEST VEHICLE



Figure A-2: POST-TEST FRONTAL VIEW OF TEST VEHICLE



Figure A-3: PRE-TEST LEFT FRONT VIEW OF TEST VEHICLE



Figure A-4: POST-TEST LEFT FRONT VIEW OF TEST VEHICLE



Figure A-5: PRE-TEST LEFT SIDE VIEW OF TEST VEHICLE



Figure A-6: POST-TEST LEFT SIDE VIEW OF TEST VEHICLE



Figure A-7: PRE-TEST LEFT REAR VIEW OF TEST VEHICLE



Figure A-8: POST-TEST LEFT REAR VIEW OF TEST VEHICLE



Figure A-9: PRE-TEST REAR VIEW OF TEST VEHICLE



Figure A-10: POST-TEST REAR VIEW OF TEST VEHICLE



Figure A-11 PRE-TEST RIGHT REAR VIEW OF TEST VEHICLE



Figure A-12 POST-TEST RIGHT REAR VIEW OF TEST VEHICLE



Figure A-13: PRE-TEST RIGHT SIDE VIEW OF TEST VEHICLE



Figure A-14: POST-TEST RIGHT SIDE VIEW OF TEST VEHICLE



Figure A-15: PRE-TEST FRONT RIGHT VIEW OF TEST VEHICLE



Figure A-16: POST-TEST FRONT RIGHT VIEW OF TEST VEHICLE



Figure A-17: PRE-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF FRONT SID



Figure A-18: POST-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF FRONT SID



Figure A-19: PRE-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF REAR SID



Figure A-20: POST-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF REAR SID



Figure A-21: PRE-TEST LEFT OCCUPANT COMPARTMENT VIEW OF FRONT SID



Figure A-22: POST-TEST LEFT OCCUPANT COMPARTMENT VIEW OF FRONT SID



Figure A-23: PRE-TEST LEFT OCCUPANT COMPARTMENT VIEW OF REAR SID



Figure A-24: POST-TEST LEFT OCCUPANT COMPARTMENT VIEW OF REAR SID



Figure A-25: PRE-TEST INTERIOR OF FRONT DOOR



Figure A-26: POST-TEST INTERIOR OF FRONT DOOR SHOWING SID IMPACT LOCATIONS



Figure A-27: PRE-TEST INTERIOR OF REAR DOOR



Figure A-28: POST-TEST INTERIOR OF REAR DOOR SHOWING SID IMPACT LOCATIONS



Figure A-29: PRE-TEST LEFT SIDE VIEW OF MDB IN IMPACT POSITION



Figure A-30: POST-TEST LEFT SIDE VIEW OF MDB



Figure A-31: PRE-TEST RIGHT SIDE VIEW OF MDB IN IMPACT POSITION



Figure A-32: POST-TEST FRONT RIGHT VIEW OF MDB



Figure A-33: PRE-TEST OVERHEAD VIEW OF MDB IN IMPACT POSITION



Figure A-34: POST-TEST OVERHEAD VIEW OF MDB



Figure A-35: PRE-TEST CLOSE-UP OF IMPACT POINT TARGET SHOWING WELDING ROD

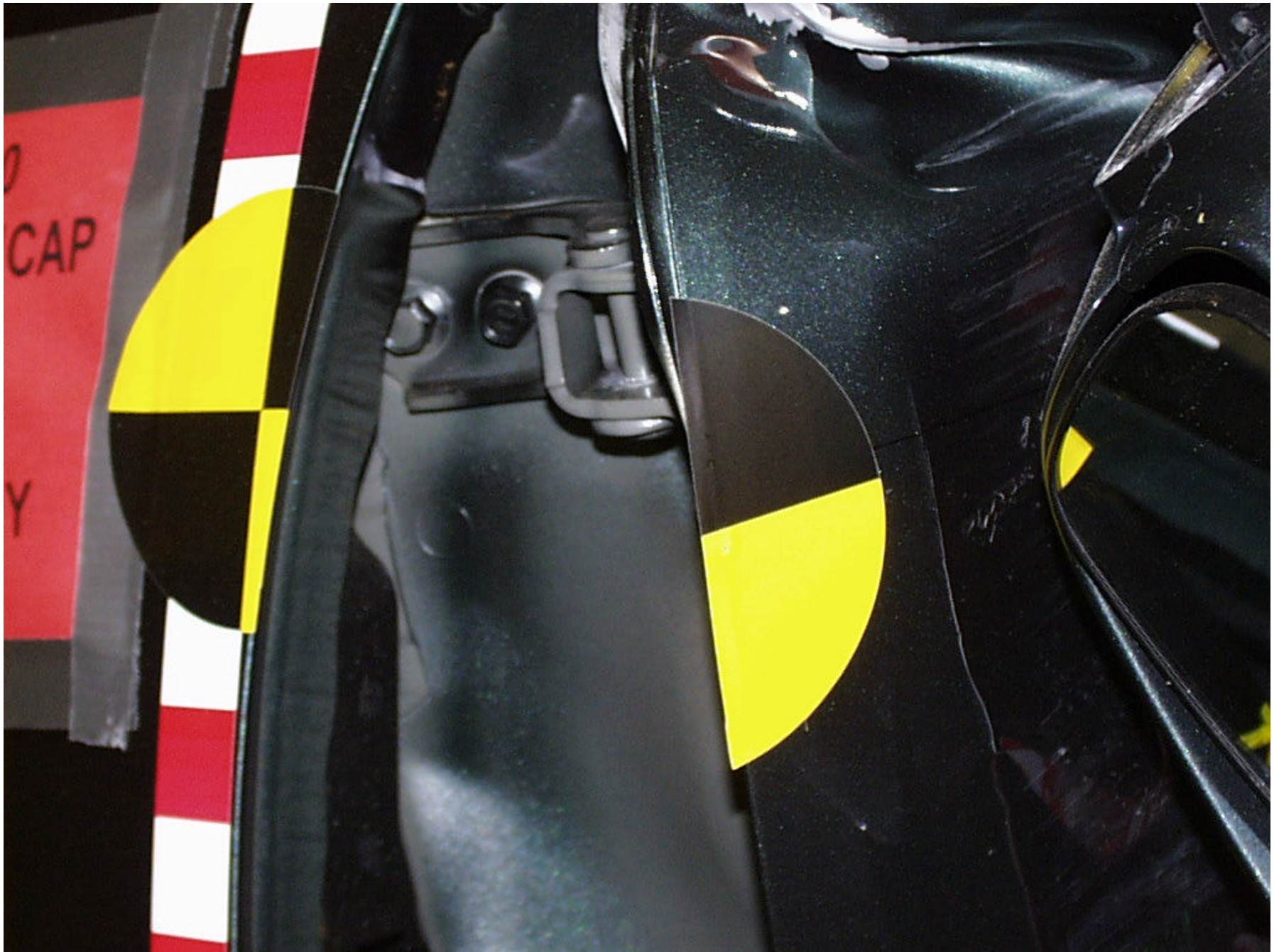


Figure A-36: POST-TEST CLOSE-UP OF IMPACT POINT TARGET



Figure A-37: CLOSE-UP OF VEHICLE'S CERTIFICATION LABELS

TIRE-LOADING INFORMATION		
VEHICLE CAPACITY WEIGHT : 410kg (900lbs)		
OCCUPANTS : FRT. 2 RR. 3 TOTAL 5		
TIRE SIZE	P205/65R15 92T, P205/65R15 92H	T145/80R16 105M
COLD TIRE PRESSURE	FRT. 200 (29), RR. 200 (29) kPa (psi)	420 kPa (60psi)
SEE OWNER'S MANUAL FOR ADDITIONAL INFORMATION		
CHARGE MAXIMALE DU VEHICULE : 410kg (900 LIVRES)		
PERSONNES : AVANT 2, ARRIERE 3 TOTAL 5		
DIMENSION DES PNEUS	P205/65R15 92T, P205/65R15 92H	T145/80R16 105M
PRESSION DE PNEUS	AVANT 200 (29), ARRIERE 200 (29) kPa (LB/PO ²)	420 kPa (60LB/PO ²)
POUR DE PLUS AMPLES DETAILS, VOIR LE MANUEL DU PROPRIETAIRE		
33560		A0

Figure A-38: CLOSE-UP OF VEHICLE'S TIRE PLACARD LABELS

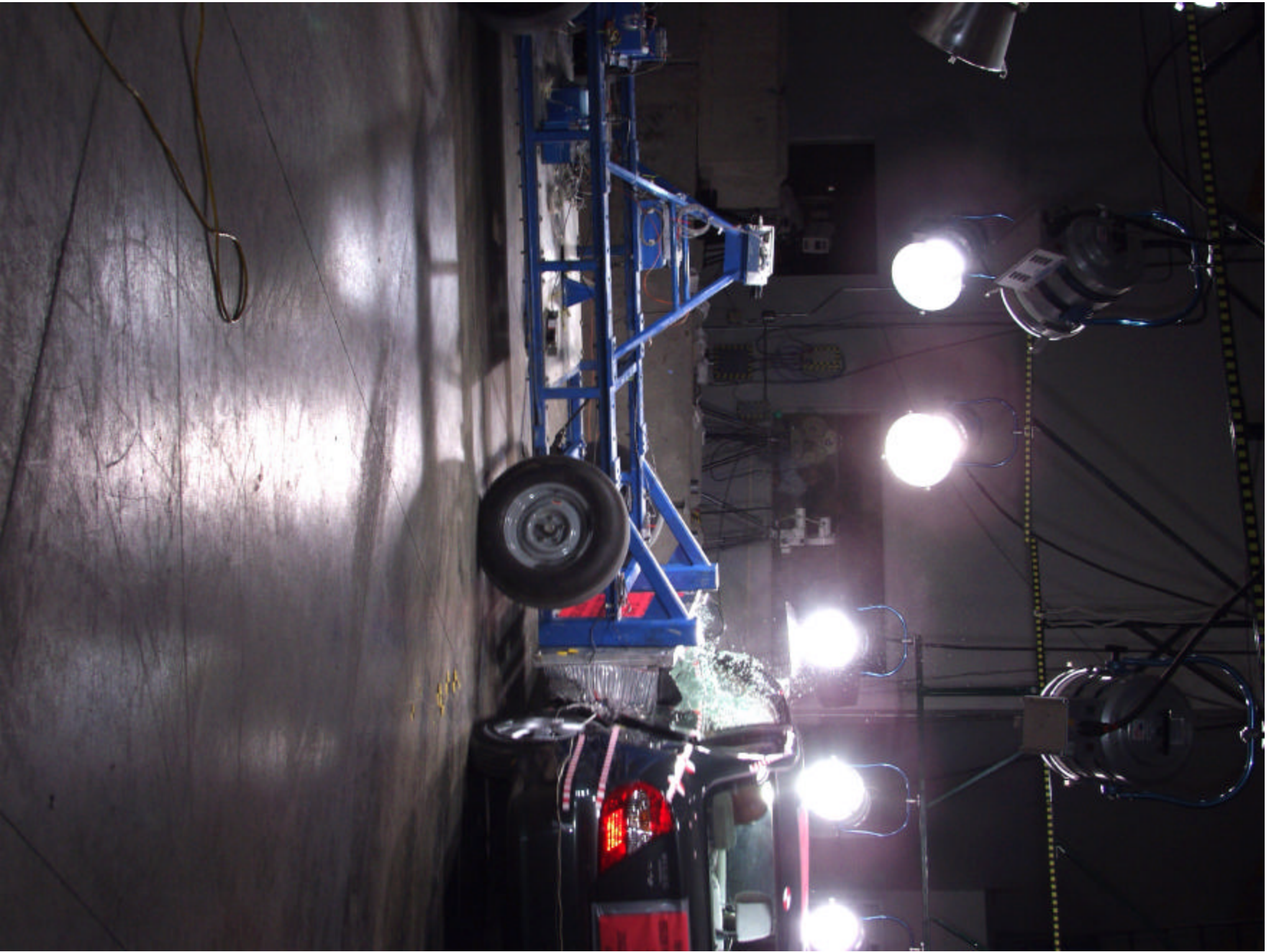


Figure A-39: IMPACT



Figure A-40: ROLLOVER 0 DEGREES

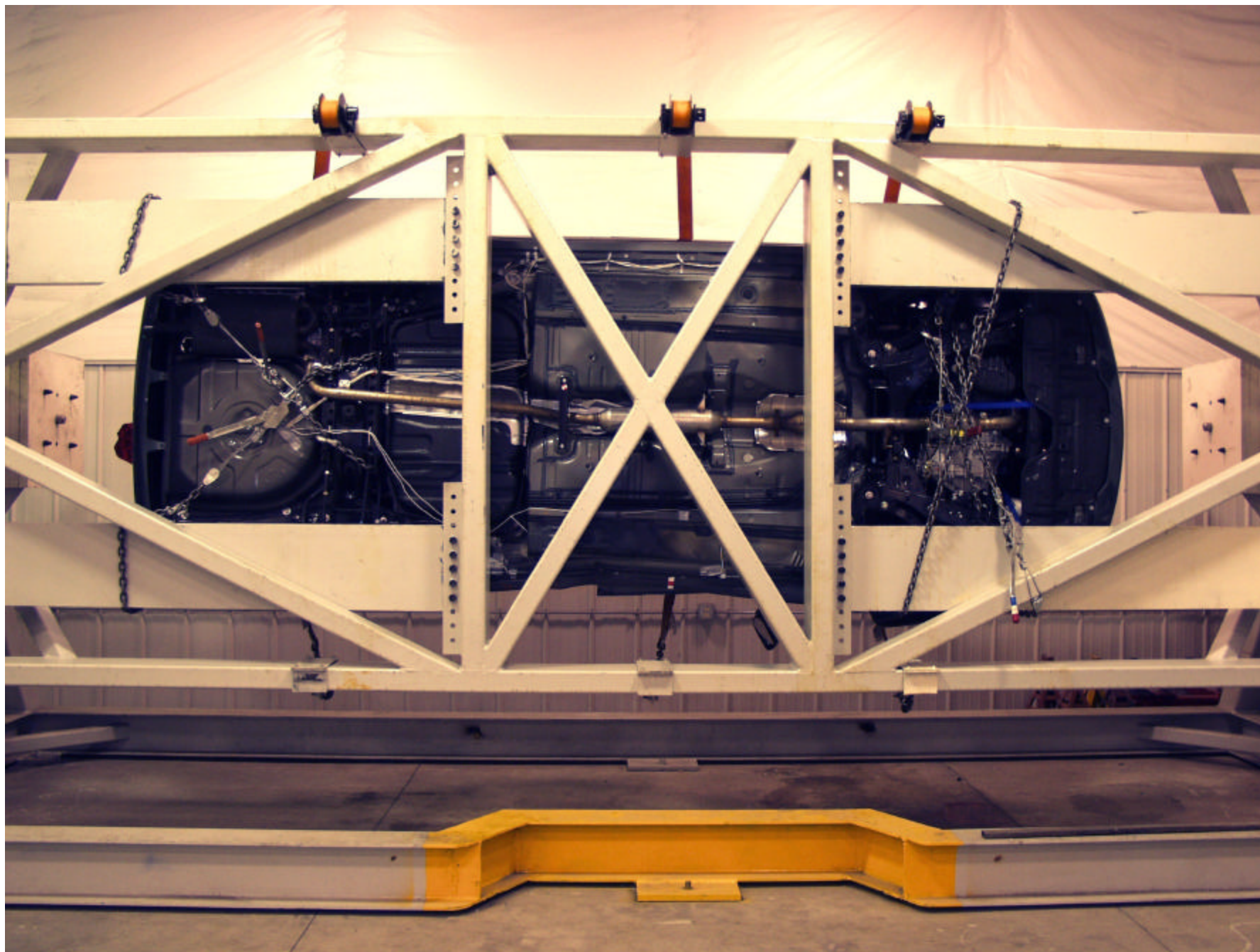


Figure A-41: ROLLOVER 90 DEGREES

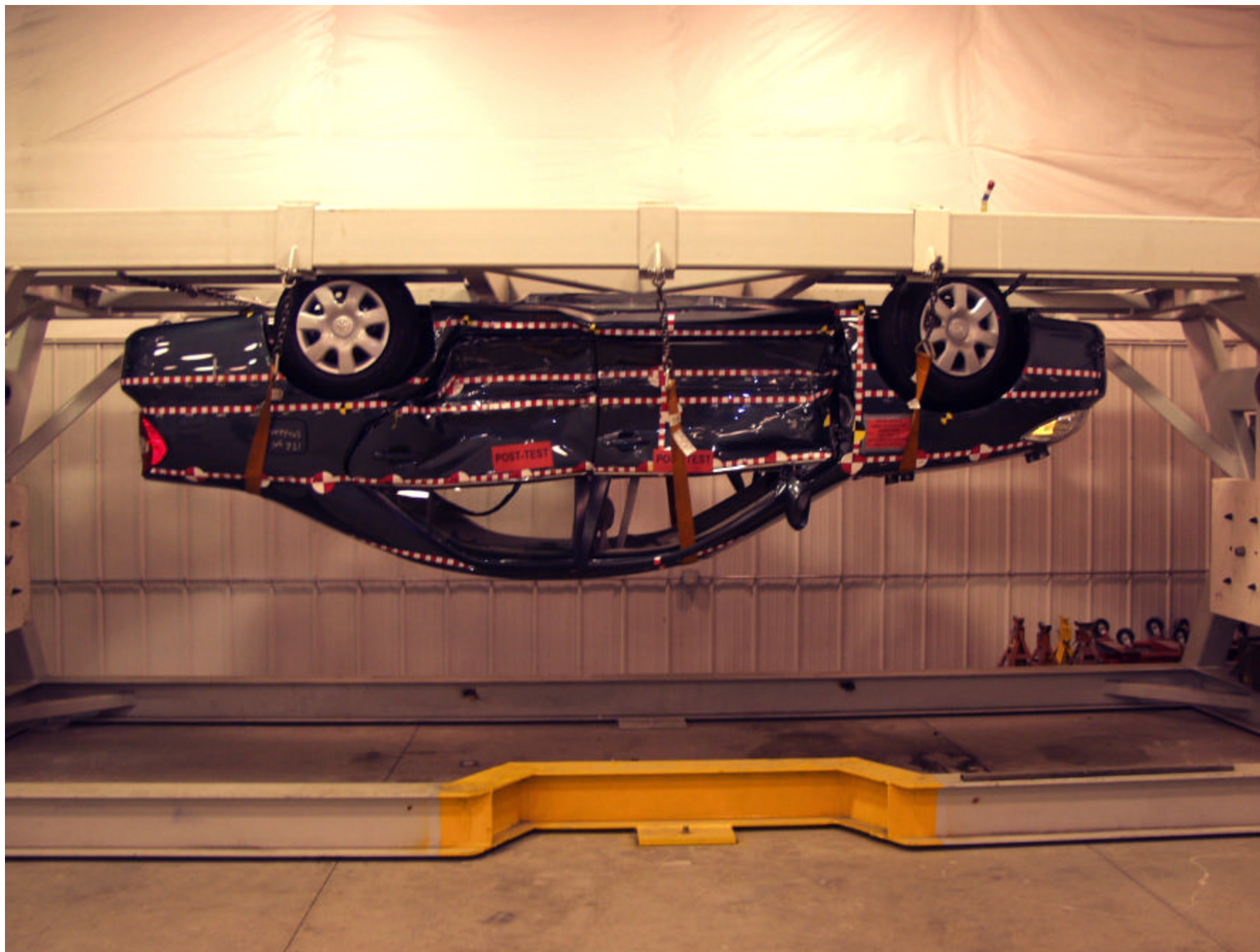


Figure A-42: ROLLOVER 180 DEGREES

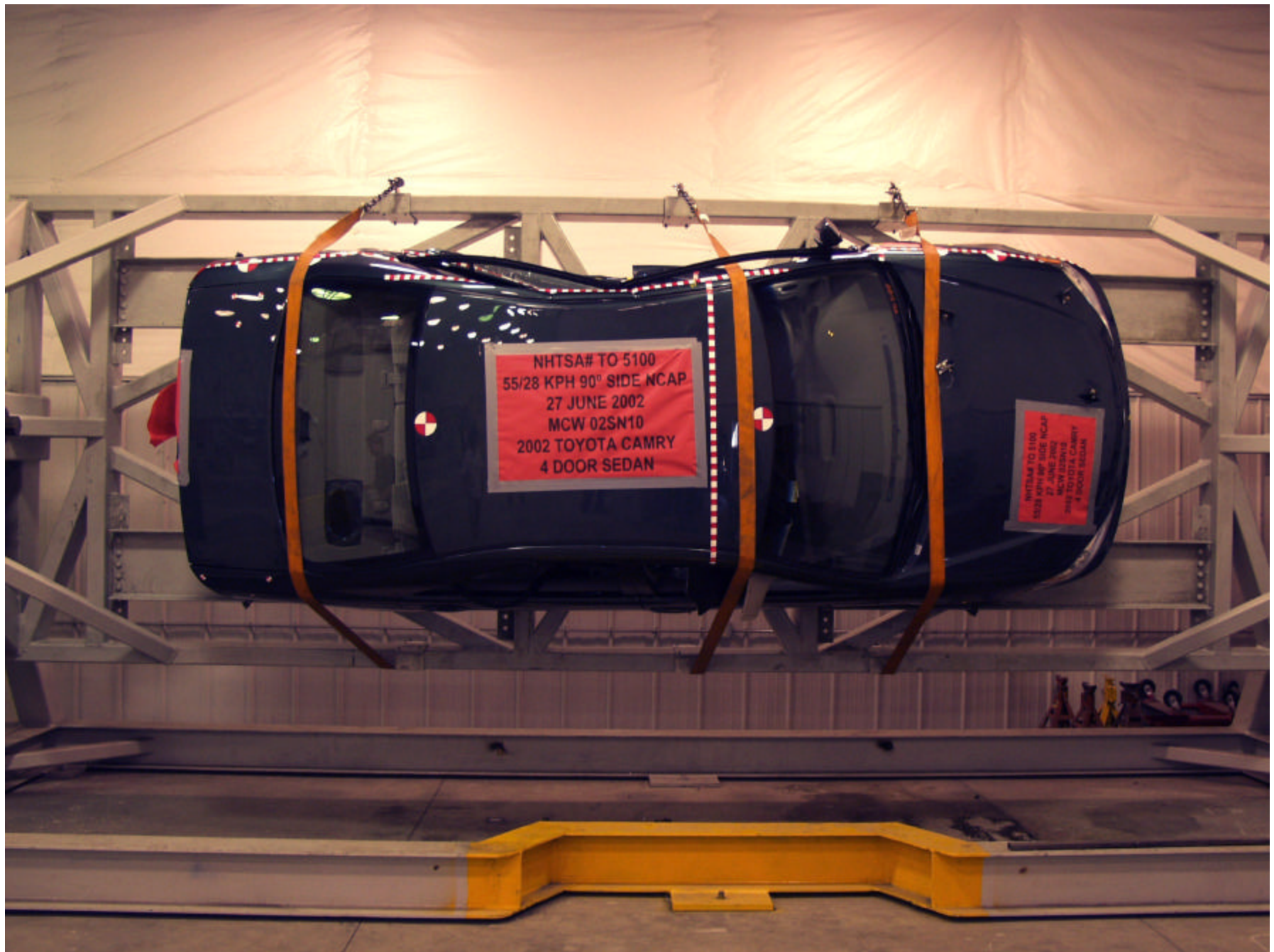


Figure A-43: ROLLOVER 270 DEGREES



Figure A-44: ROLLOVER 360 DEGREES



Figure A-45: PRE-TEST ALUMINUM BARRIER FRONT



Figure A-46: POST-TEST ALUMINUM BARRIER FRONT



Figure A-47: PRE-TEST ALUMINUM BARRIER LEFT SIDE



Figure A-48: POST-TEST ALUMINUM BARRIER LEFT SIDE



Figure A-49: PRE-TEST ALUMINUM BARRIER RIGHT SIDE



Figure A-50: POST-TEST ALUMINUM BARRIER RIGHT SIDE



Figure A-51: PRE-TEST ALUMINUM BARRIER OVERHEAD



Figure A-52: POST-TEST ALUMINUM BARRIER OVERHEAD

APPENDIX B

VEHICLE, MDB, AND SID RESPONSE DATA

TABLE OF CONTENTS

DRIVER AND PASSENGER DUMMY INSTRUMENTATION PLOTS ACCELERATION DATA – FILTER CLASS 1000, LOWER SPINE FILTER CLASS 180 INTEGRATION DATA FILTER CLASS 180

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
1	DRIVER HEAD (X) ACCELERATION	B-6
2	DRIVER HEAD (X) VELOCITY	B-7
3	DRIVER HEAD (Y) ACCELERATION	B-8
4	DRIVER HEAD (Y) VELOCITY	B-9
5	DRIVER HEAD (Z) ACCELERATION	B-10
6	DRIVER HEAD (Z) VELOCITY	B-11
7	DRIVER HEAD RESULTANT ACCELERATION	B-12
8	DRIVER UPPER RIB (Y) ACCELERATION	B-13
9	DRIVER UPPER RIB (Y) VELOCITY	B-14
10	DRIVER LOWER RIB (Y) ACCELERATION	B-15
11	DRIVER LOWER RIB (Y) VELOCITY	B-16
12	DRIVER LOWER SPINE (Y) ACCELERATION	B-17
13	DRIVER LOWER SPINE (Y) VELOCITY	B-18
14	DRIVER PELVIS (Y) ACCELERATION	B-19
15	DRIVER PELVIS (Y) VELOCITY	B-20
16	PASSENGER HEAD (X) ACCELERATION	B-21
17	PASSENGER HEAD (X) VELOCITY	B-22
18	PASSENGER HEAD (Y) ACCELERATION	B-23
19	PASSENGER HEAD (Y) VELOCITY	B-24
20	PASSENGER HEAD (Z) ACCELERATION	B-25
21	PASSENGER HEAD (Z) VELOCITY	B-26
22	PASSENGER HEAD RESULTANT ACCELERATION	B-27
23	PASSENGER UPPER RIB (Y) ACCELERATION	B-28
24	PASSENGER UPPER RIB (Y) VELOCITY	B-29
25	PASSENGER LOWER RIB (Y) ACCELERATION	B-30
26	PASSENGER LOWER RIB (Y) VELOCITY	B-31
27	PASSENGER LOWER SPINE (Y) ACCELERATION	B-32
28	PASSENGER LOWER SPINE (Y) VELOCITY	B-33
29	PASSENGER PELVIS (Y) ACCELERATION	B-34
30	PASSENGER PELVIS (Y) VELOCITY	B-35

DRIVER AND PASSENGER DUMMY INSTRUMENTATION PLOTS ACCELERATION DATA – FIR FILTERED

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
31	DRIVER UPPER RIB (Y) ACCELERATION	B-36
32	DRIVER LOWER RIB (Y) ACCELERATION	B-37
33	DRIVER LOWER SPINE (Y) ACCELERATION	B-38
34	DRIVER PELVIS (Y) ACCELERATION	B-39
35	PASSENGER UPPER RIB (Y) ACCELERATION	B-40
36	PASSENGER LOWER RIB (Y) ACCELERATION	B-41
37	PASSENGER LOWER SPINE (Y) ACCELERATION	B-42
38	PASSENGER PELVIS (Y) ACCELERATION	B-43

TEST VEHICLE INSTRUMENTATION PLOTS
ACCELERATION DATA – FILTER CLASS 60
INTEGRATION DATA – FILTER CLASS 180

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
39	RIGHT SIDE SILL AT FRONT SEAT (X) ACCELERATION	B-44
40	RIGHT SIDE SILL AT FRONT SEAT (X) VELOCITY	B-45
41	RIGHT SIDE SILL AT FRONT SEAT (Y) ACCELERATION	B-46
42	RIGHT SIDE SILL AT FRONT SEAT (Y) VELOCITY	B-47
43	RIGHT SIDE SILL AT FRONT SEAT (Z) ACCELERATION	B-48
44	RIGHT SIDE SILL AT FRONT SEAT (Z) VELOCITY	B-49
45	RIGHT SIDE SILL AT FRONT SEAT RESULTANT ACCELERATION	B-50
46	RIGHT SIDE SILL AT REAR SEAT (X) ACCELERATION	B-51
47	RIGHT SIDE SILL AT REAR SEAT (X) VELOCITY	B-52
48	RIGHT SIDE SILL AT REAR SEAT (Y) ACCELERATION	B-53
49	RIGHT SIDE SILL AT REAR SEAT (Y) VELOCITY	B-54
50	RIGHT SIDE SILL AT REAR SEAT (Z) ACCELERATION	B-55
51	RIGHT SIDE SILL AT REAR SEAT (Z) VELOCITY	B-56
52	RIGHT SIDE SILL AT REAR SEAT RESULTANT ACCELERATION	B-57
53	REAR FLOORPAN ABOVE AXLE (X) ACCELERATION	B-58
54	REAR FLOORPAN ABOVE AXLE (X) VELOCITY	B-59
55	REAR FLOORPAN ABOVE AXLE (Y) ACCELERATION	B-60
56	REAR FLOORPAN ABOVE AXLE (Y) VELOCITY	B-61
57	REAR FLOORPAN ABOVE AXLE (Z) ACCELERATION	B-62
58	REAR FLOORPAN ABOVE AXLE (Z) VELOCITY	B-63
59	REAR FLOORPAN ABOVE AXLE (Z) RESULTANT ACCELERATION	B-64
60	LEFT SIDE SILL AT REAR SEAT (Y) ACCELERATION	B-65
61	LEFT SIDE SILL AT REAR SEAT (Y) VELOCITY	B-66
62	LEFT SIDE SILL AT FRONT SEAT (Y) ACCELERATION	B-67
63	LEFT SIDE SILL AT FRONT SEAT (Y) VELOCITY	B-68
64	RIGHT REAR OCCUPANT COMPARTMENT (Y) ACCELERATION	B-69
65	RIGHT REAR OCCUPANT COMPARTMENT (Y) VELOCITY	B-70
66	LOWER B-PILLAR (Y) ACCELERATION	B-71
67	LOWER B-PILLAR (Y) VELOCITY	B-72
68	MIDDLE B-PILLAR (Y) ACCELERATION	B-73
69	MIDDLE B-PILLAR (Y) VELOCITY	B-74
70	LOWER A-PILLAR (Y) ACCELERATION	B-75
71	LOWER A-PILLAR (Y) VELOCITY	B-76
72	MIDDLE A-PILLAR (Y) ACCELERATION	B-77
73	MIDDLE A-PILLAR (Y) VELOCITY	B-78
74	FRONT SEAT TRACK (Y) ACCELERATION	B-79
75	FRONT SEAT TRACK (Y) VELOCITY	B-80
76	REAR SEAT TRACK (Y) ACCELERATION	B-81
77	REAR SEAT TRACK (Y) VELOCITY	B-82
78	VEHICLE CENTER OF GRAVITY (X) ACCELERATION	B-83
79	VEHICLE CENTER OF GRAVITY (X) VELOCITY	B-84
80	VEHICLE CENTER OF GRAVITY (Y) ACCELERATION	B-85
81	VEHICLE CENTER OF GRAVITY (Y) VELOCITY	B-86
82	VEHICLE CENTER OF GRAVITY (Z) ACCELERATION	B-87
83	VEHICLE CENTER OF GRAVITY (Z) VELOCITY	B-88
84	VEHICLE CENTER OF GRAVITY RESULTANT ACCELERATION	B-89

MDB INSTRUMENTATION PLOTS
ACCELERATION DATA – FILTER CLASS 60
INTEGRATION DATA – FILTER CLASS 180

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
85	MDB CENTER OF GRAVITY (X) ACCELERATION	B-90
86	MDB CENTER OF GRAVITY (X) VELOCITY	B-91
87	MDB CENTER OF GRAVITY (Y) ACCELERATION	B-92
88	MDB CENTER OF GRAVITY (Y) VELOCITY	B-93
89	MDB CENTER OF GRAVITY (Z) ACCELERATION	B-94
90	MDB CENTER OF GRAVITY (Z) VELOCITY	B-95
91	MDB CENTER OF GRAVITY RESULTANT ACCELERATION	B-96
92	MDB REAR (X) ACCELERATION	B-97
93	MDB REAR (X) VELOCITY	B-98
94	MDB REAR (X) ACCELERATION	B-99
95	MDB REAR (X) VELOCITY	B-100

DRIVER AND PASSENGER DUMMY INSTRUMENTATION PLOTS (REDUNDANT)
ACCELERATION DATA – FILTER CLASS 1000, LOWER SPINE FILTER CLASS 180
INTEGRATION DATA FILTER CLASS 180

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
96	DRIVER UPPER RIB (Y) ACCELERATION-REDUNDANT	B-101
97	DRIVER UPPER RIB (Y) VELOCITY-REDUNDANT	B-102
98	DRIVER LOWER RIB (Y) ACCELERATION-REDUNDANT	B-103
99	DRIVER LOWER RIB (Y) VELOCITY-REDUNDANT	B-104
100	DRIVER LOWER SPINE (Y) ACCELERATION-REDUNDANT	B-105
101	DRIVER LOWER SPINE (Y) VELOCITY-REDUNDANT	B-106
102	DRIVER PELVIS (Y) ACCELERATION-REDUNDANT	B-107
103	DRIVER PELVIS (Y) VELOCITY-REDUNDANT	B-108
104	PASSENGER UPPER RIB (Y) ACCELERATION-REDUNDANT	B-109
105	PASSENGER UPPER RIB (Y) VELOCITY-REDUNDANT	B-110
106	PASSENGER LOWER RIB (Y) ACCELERATION-REDUNDANT	B-111
107	PASSENGER LOWER RIB (Y) VELOCITY-REDUNDANT	B-112
108	PASSENGER LOWER SPINE (Y) ACCELERATION-REDUNDANT	B-113
109	PASSENGER LOWER SPINE (Y) VELOCITY-REDUNDANT	B-114
110	PASSENGER PELVIS (Y) ACCELERATION-REDUNDANT	B-115
111	PASSENGER PELVIS (Y) VELOCITY-REDUNDANT	B-116

DRIVER AND PASSENGER DUMMY INSTRUMENTATION PLOT (REDUNDANT)
ACCELERATION DATA – FIR FILTERED

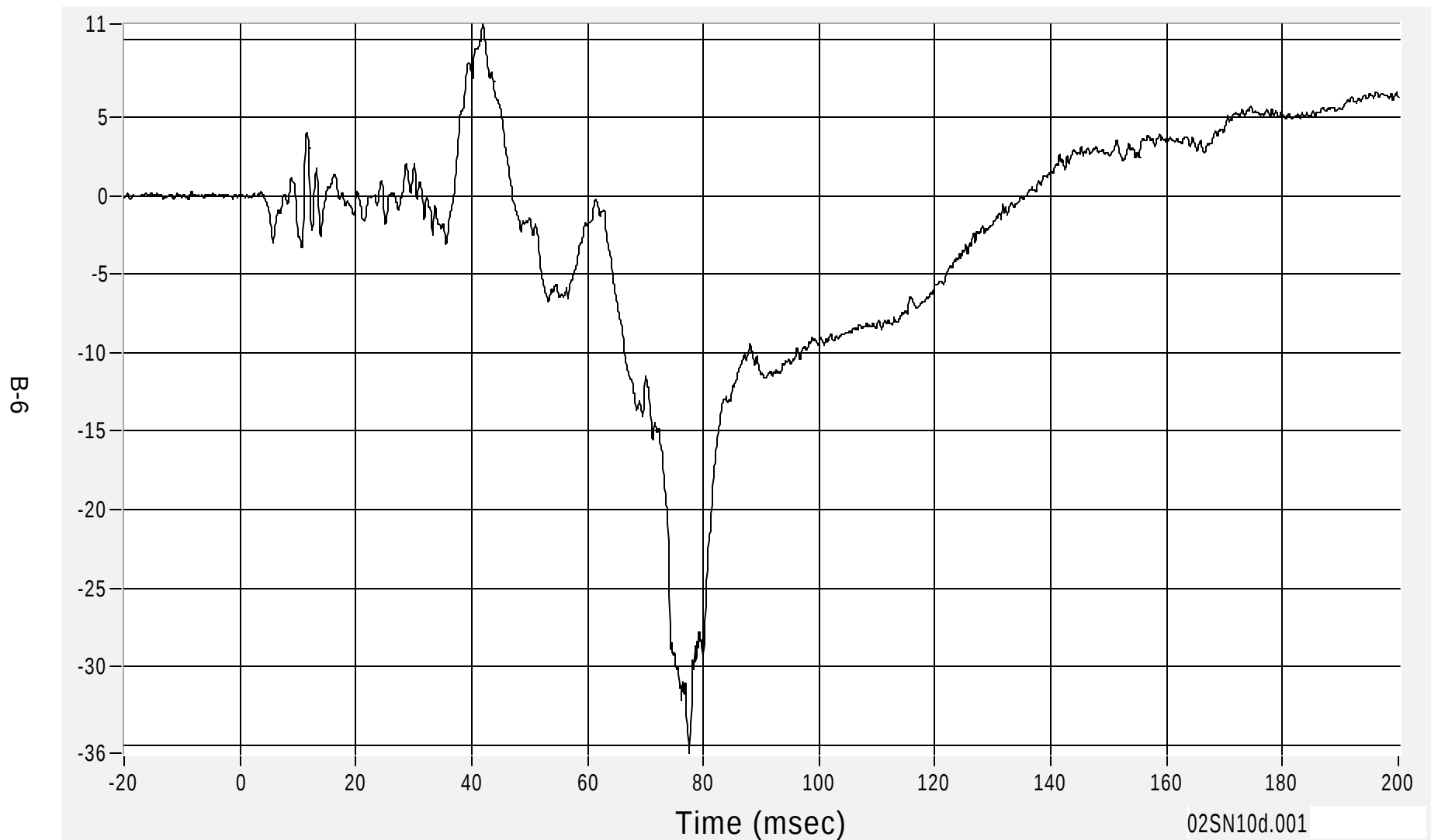
<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
112	DRIVER UPPER RIB (Y) ACCELERATION-REDUNDANT	B-117
113	DRIVER LOWER RIB (Y) ACCELERATION-REDUNDANT	B-118
114	DRIVER LOWER SPINE (Y) ACCELERATION-REDUNDANT	B-119
115	DRIVER PELVIS (Y) ACCELERATION-REDUNDANT	B-120
116	PASSENGER UPPER RIB (Y) ACCELERATION-REDUNDANT	B-121
117	PASSENGER LOWER RIB (Y) ACCELERATION-REDUNDANT	B-122
118	PASSENGER LOWER SPINE (Y) ACCELERATION-REDUNDANT	B-123
119	PASSENGER PELVIS (Y) ACCELERATION-REDUNDANT	B-124

Driver Head CG (X) Acceleration

Max 10.9 G's at 41.9 msec

Acceleration (G's) CFC1000

Min -35.5 G's at 77.5 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN
27 June 2002

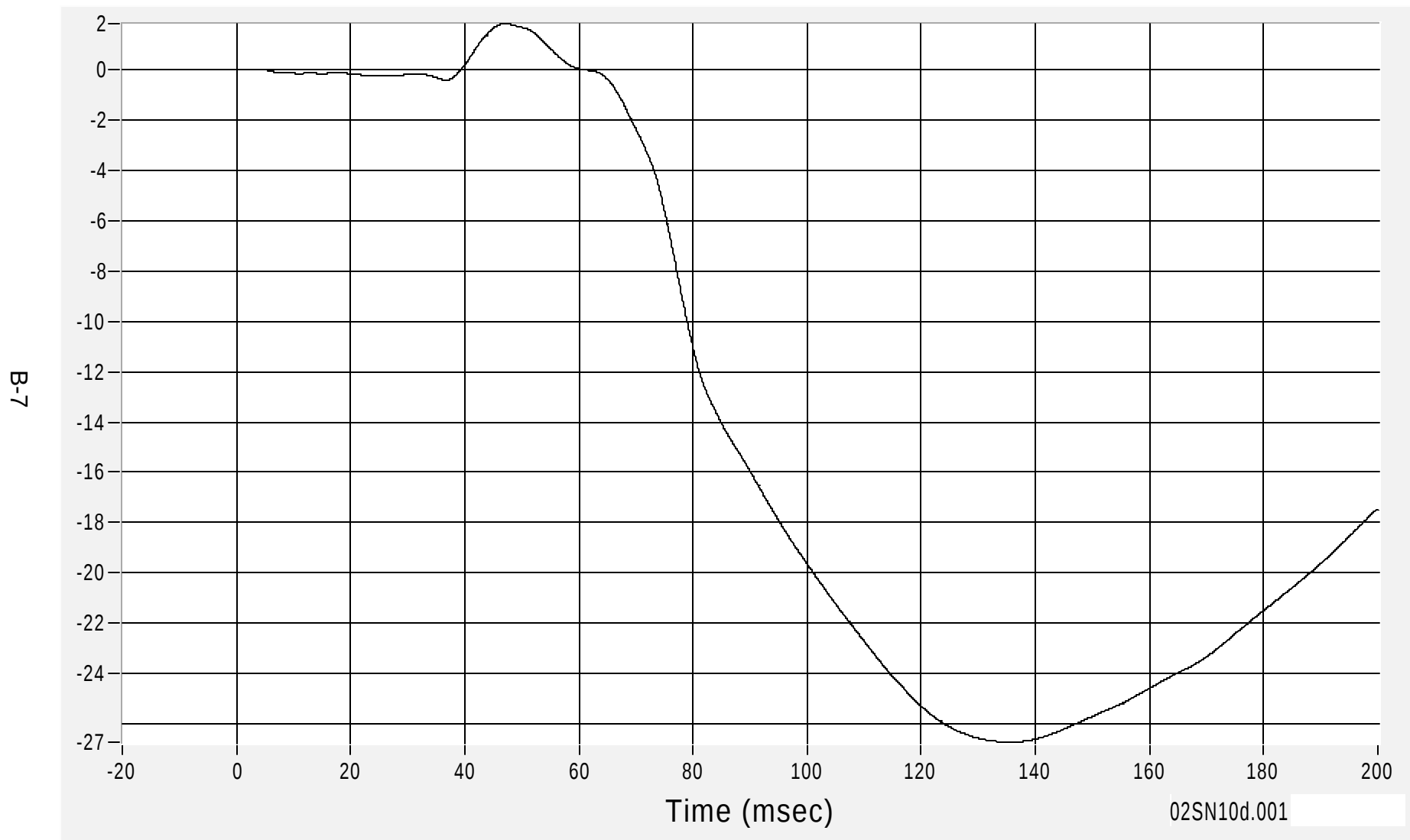
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Driver Head CG (X) Velocity

Max 1.8 km/h at 47.0 msec

Velocity (km/h) CFC180

Min -26.7 km/h at 135.5 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

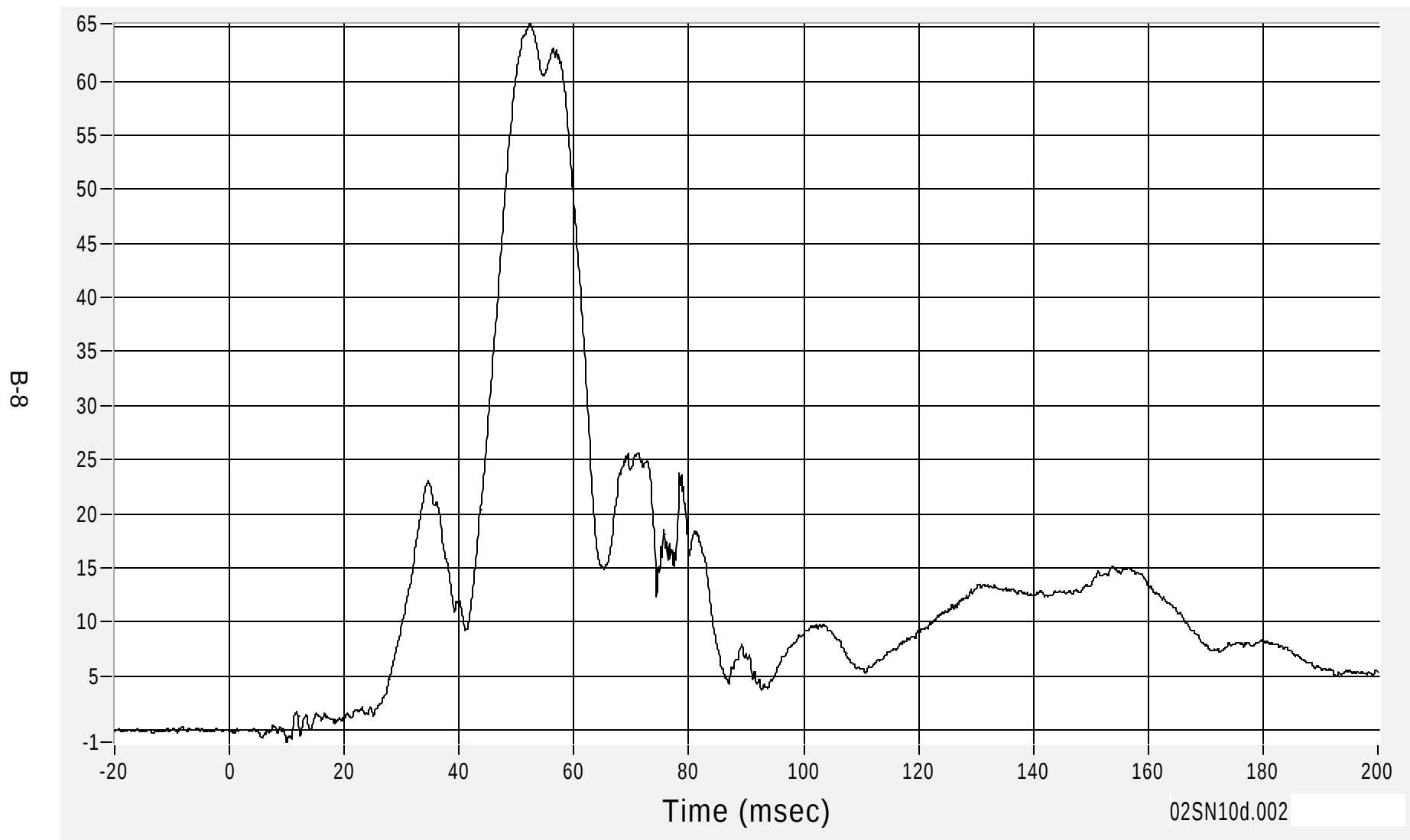
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Driver Head CG (Y) Acceleration

Max 65.3 G's at 52.3 msec

Acceleration (G's) CFC1000

Min -1.1 G's at 10.0 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN
27 June 2002

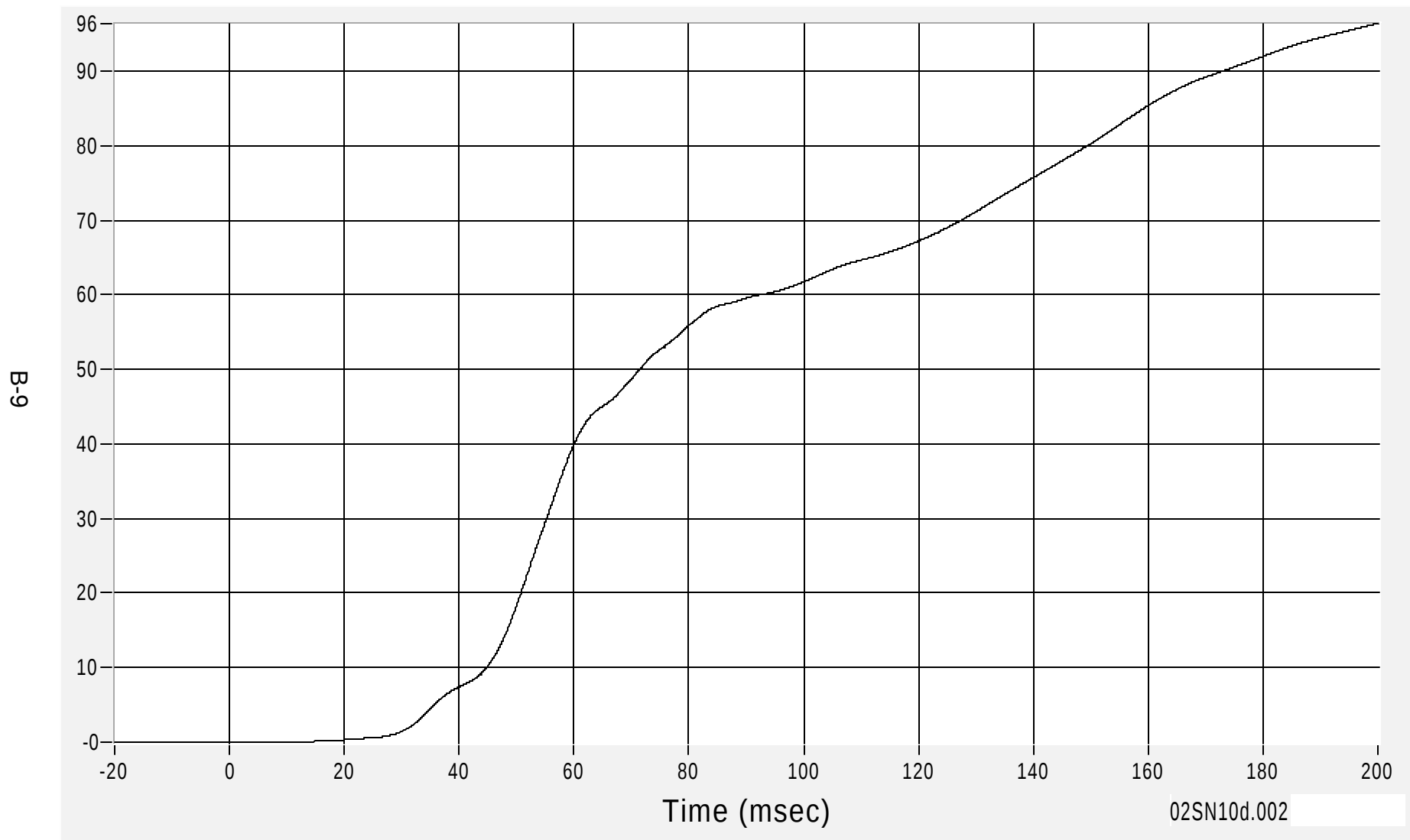
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Driver Head CG (Y) Velocity

Max 96.4 km/h at 199.9 msec

Velocity (km/h) CFC180

Min 0.0 km/h at 10.7 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

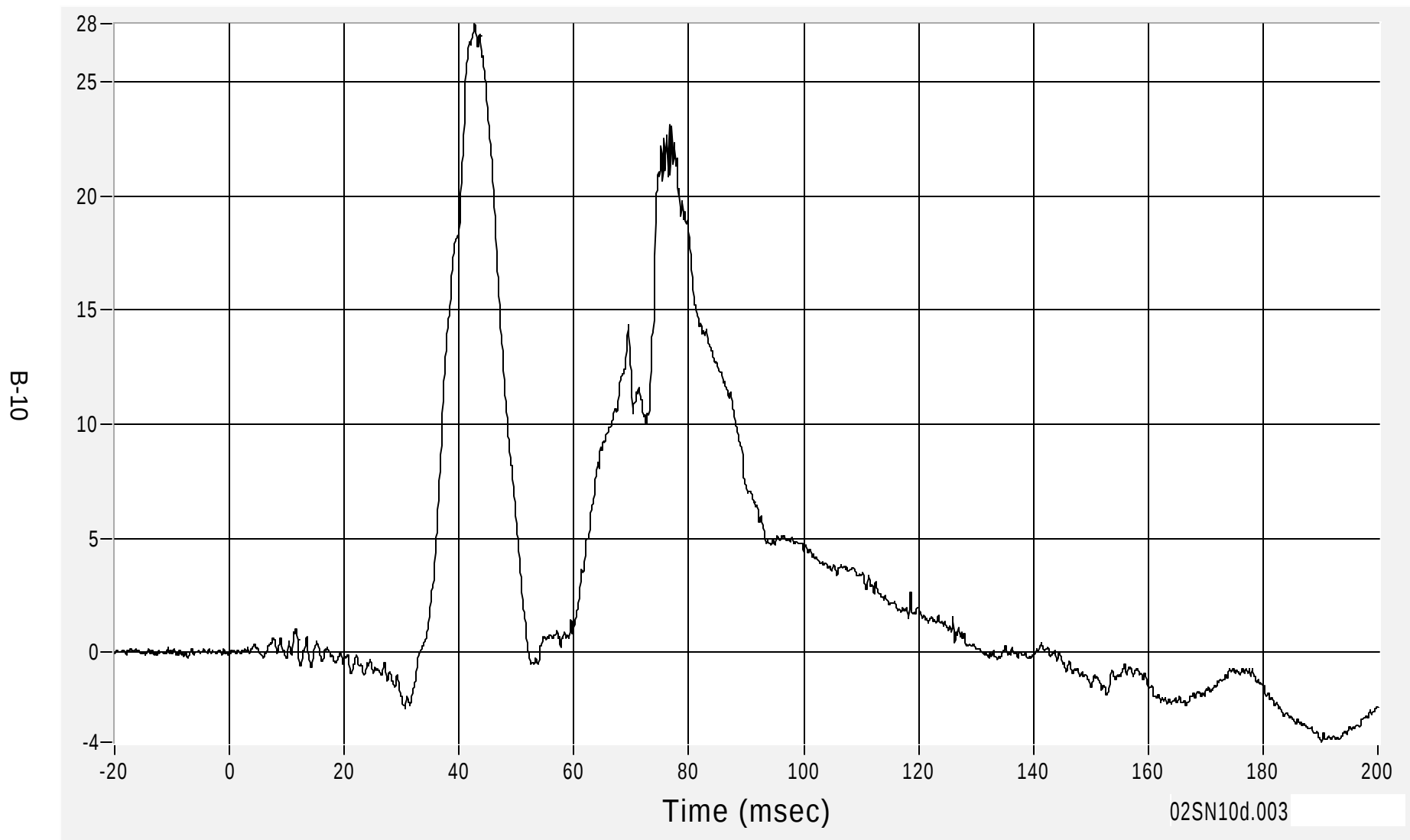
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Driver Head CG (Z) Acceleration

Max 27.5 G's at 42.7 msec

Acceleration (G's) CFC1000

Min -3.9 G's at 190.2 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

Medical College of Wisconsin
Vehicle Crashworthiness Lab

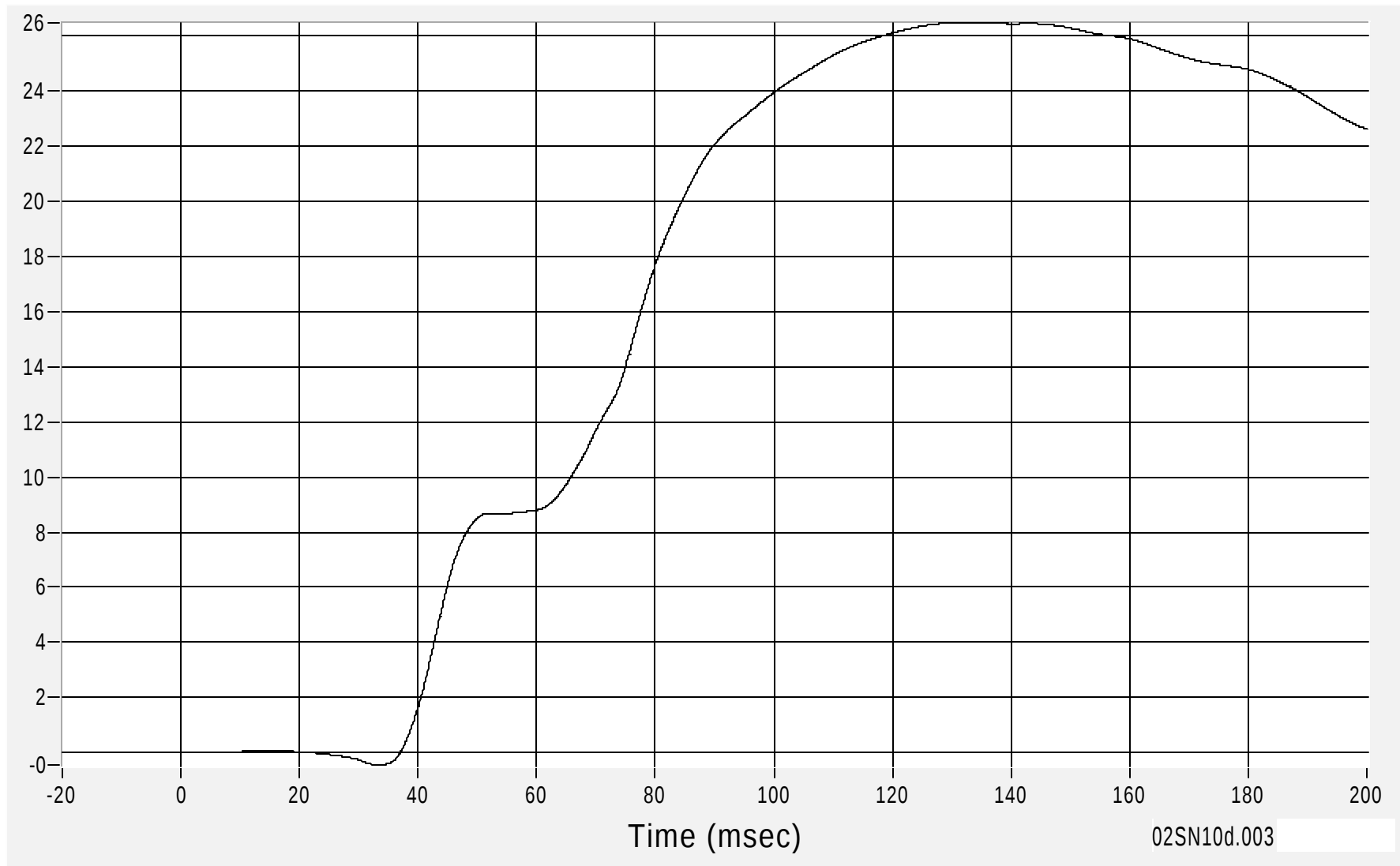
Driver Head CG (Z) Velocity

Velocity (km/h) CFC180

Max 26.5 km/h at 131.0 msec

Min -0.4 km/h at 33.3 msec

B-11



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

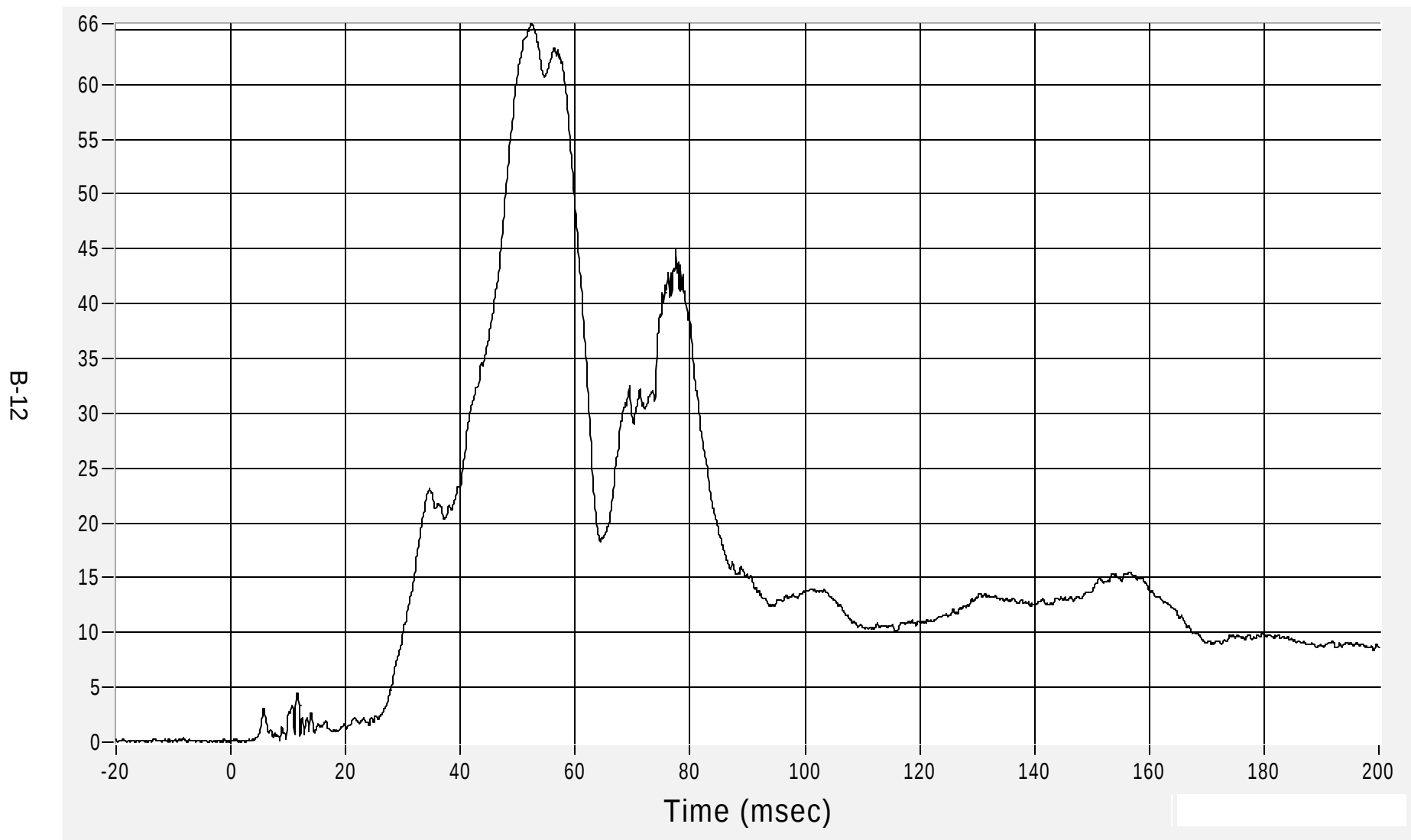
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Driver Head Resultant Acceleration

Max 65.5 G's at 52.3 msec

Acceleration (G's) CFC1000

Min 0.0 G's at 1.7 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

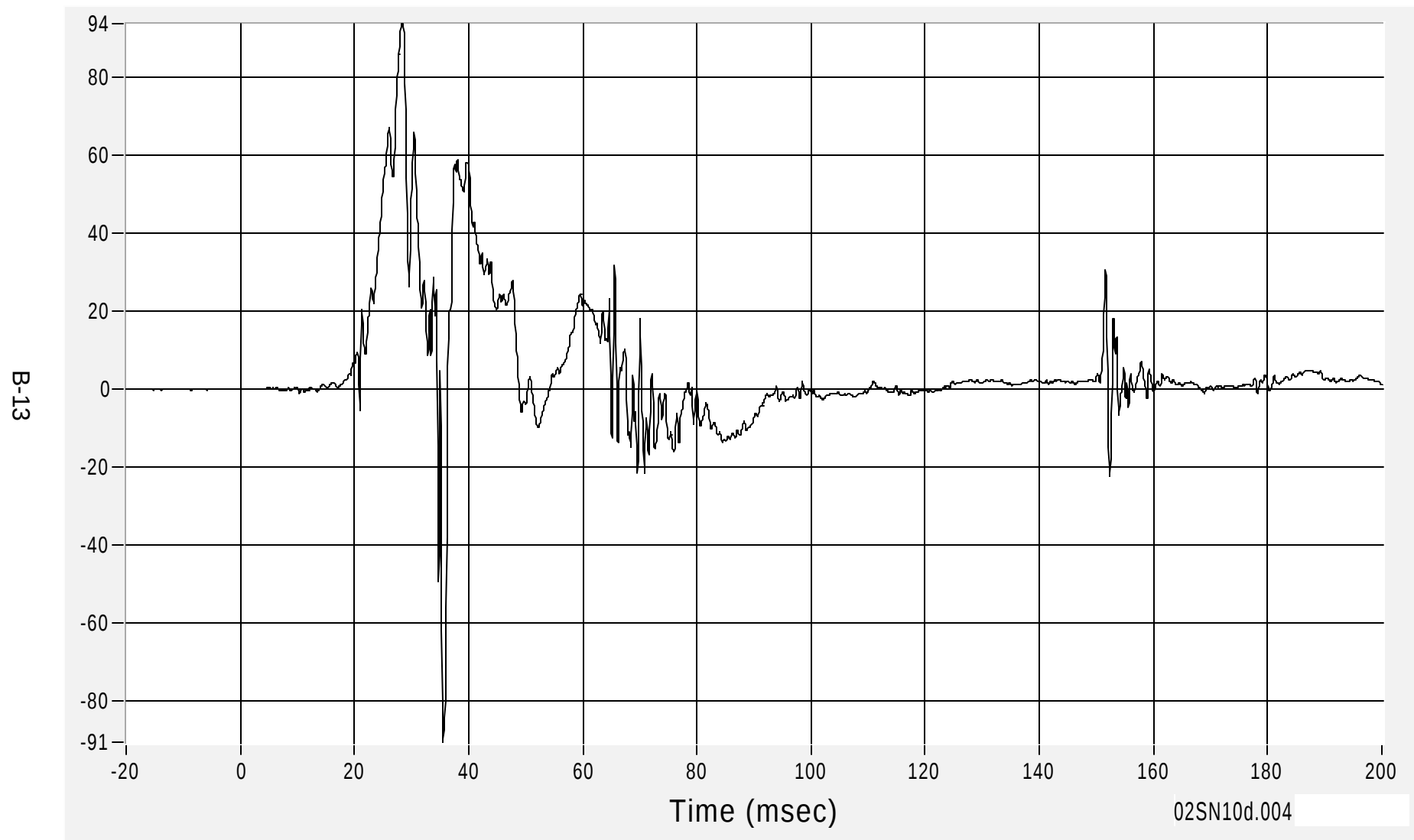
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Driver Upper Rib (Y) Acceleration

Max 93.9 G's at 28.3 msec

Min -90.6 G's at 35.5 msec

Acceleration (G's) CFC1000



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

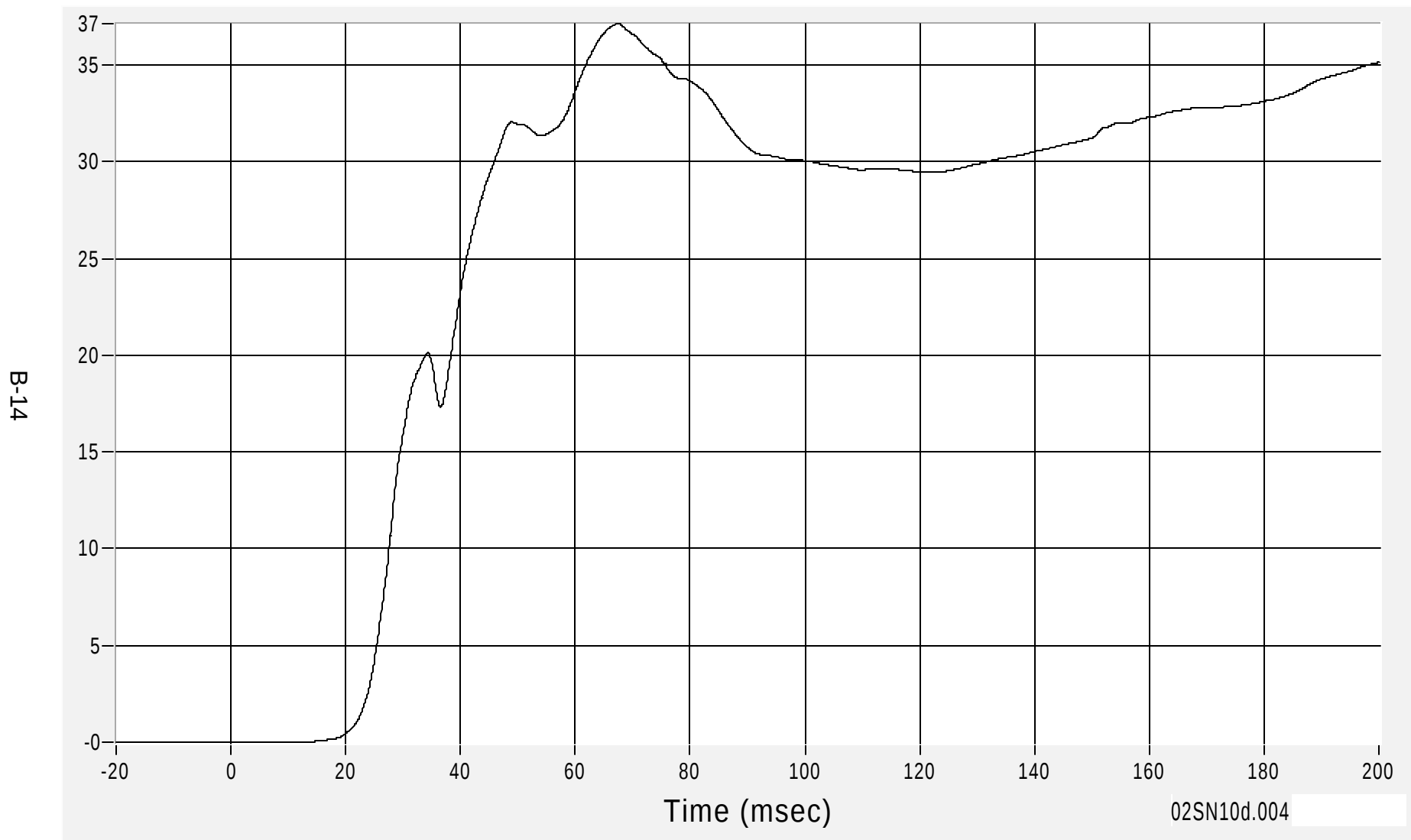
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Driver Upper Rib (Y) Velocity

Max 37.1 km/h at 67.4 msec

Velocity (km/h) CFC180

Min 0.0 km/h at 0.0 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

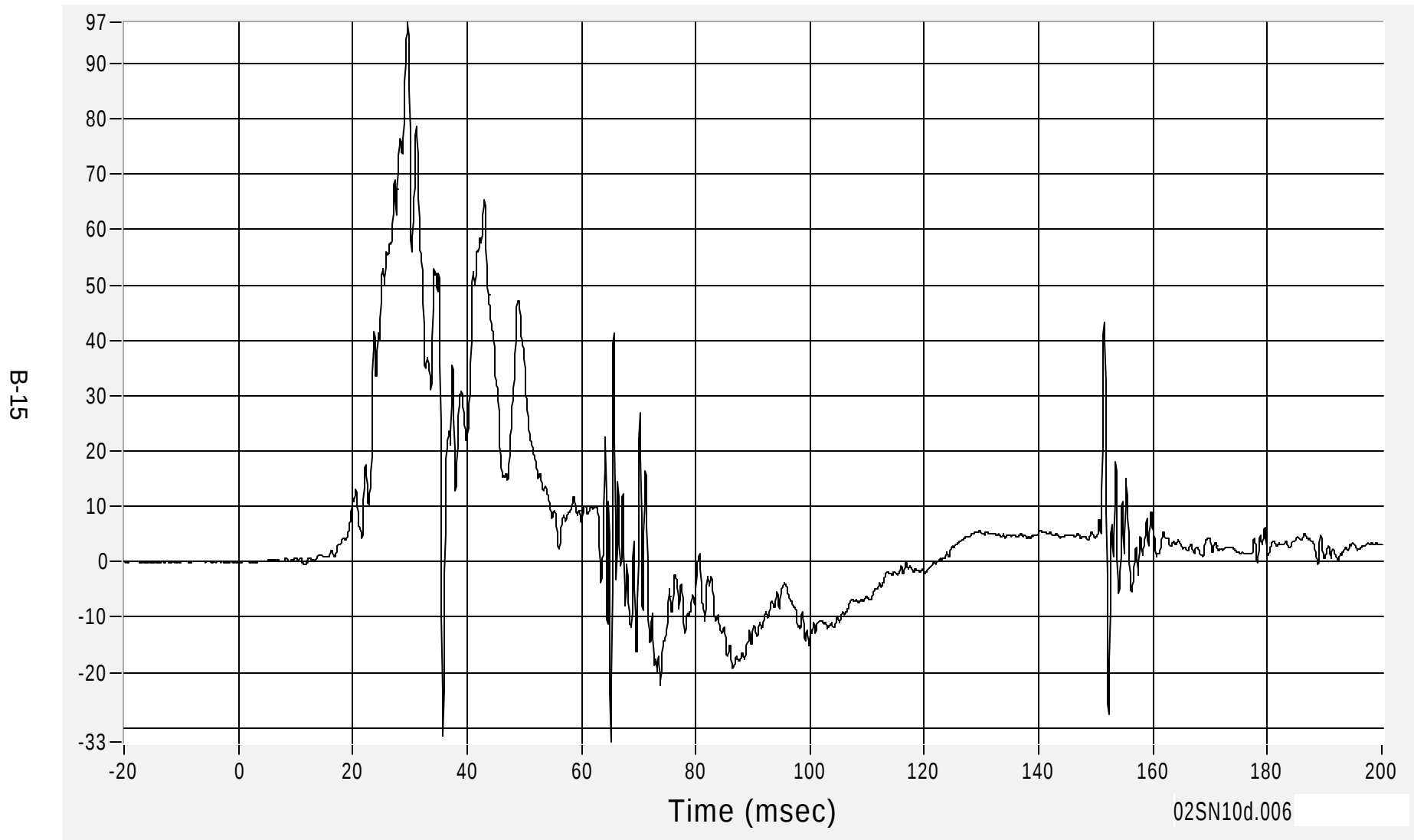
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Driver Lower Rib (Y) Acceleration

Max 97.5 G's at 29.6 msec

Min -32.6 G's at 65.1 msec

Acceleration (G's) CFC1000



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

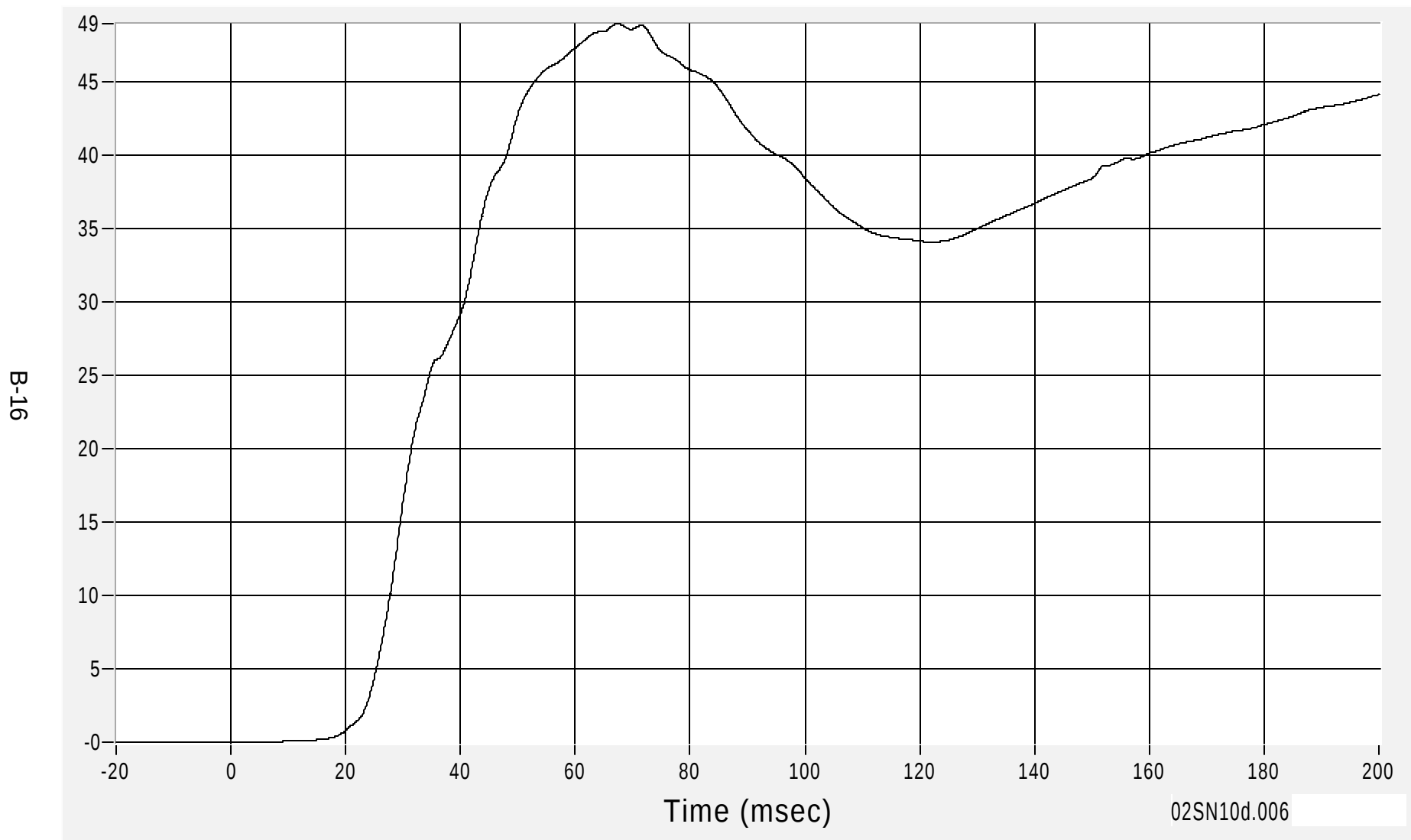
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Driver Lower Rib (Y) Velocity

Velocity (km/h) CFC180

Max 49.0 km/h at 67.4 msec

Min 0.0 km/h at 0.6 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

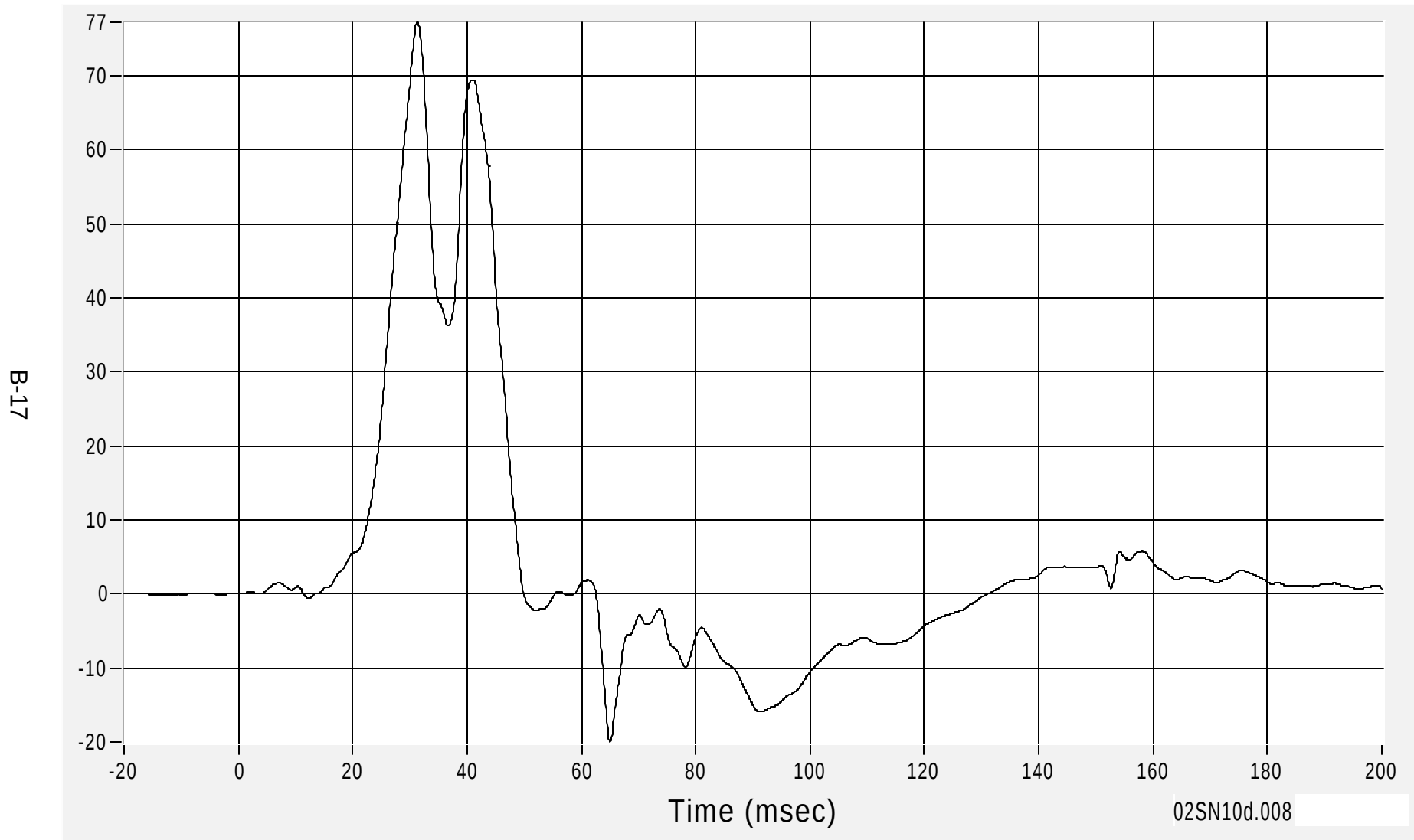
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Driver Lower Spine (Y) Acceleration

Max 77.2 G's at 31.3 msec

Min -20.0 G's at 65.0 msec

Acceleration (G's) CFC180



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

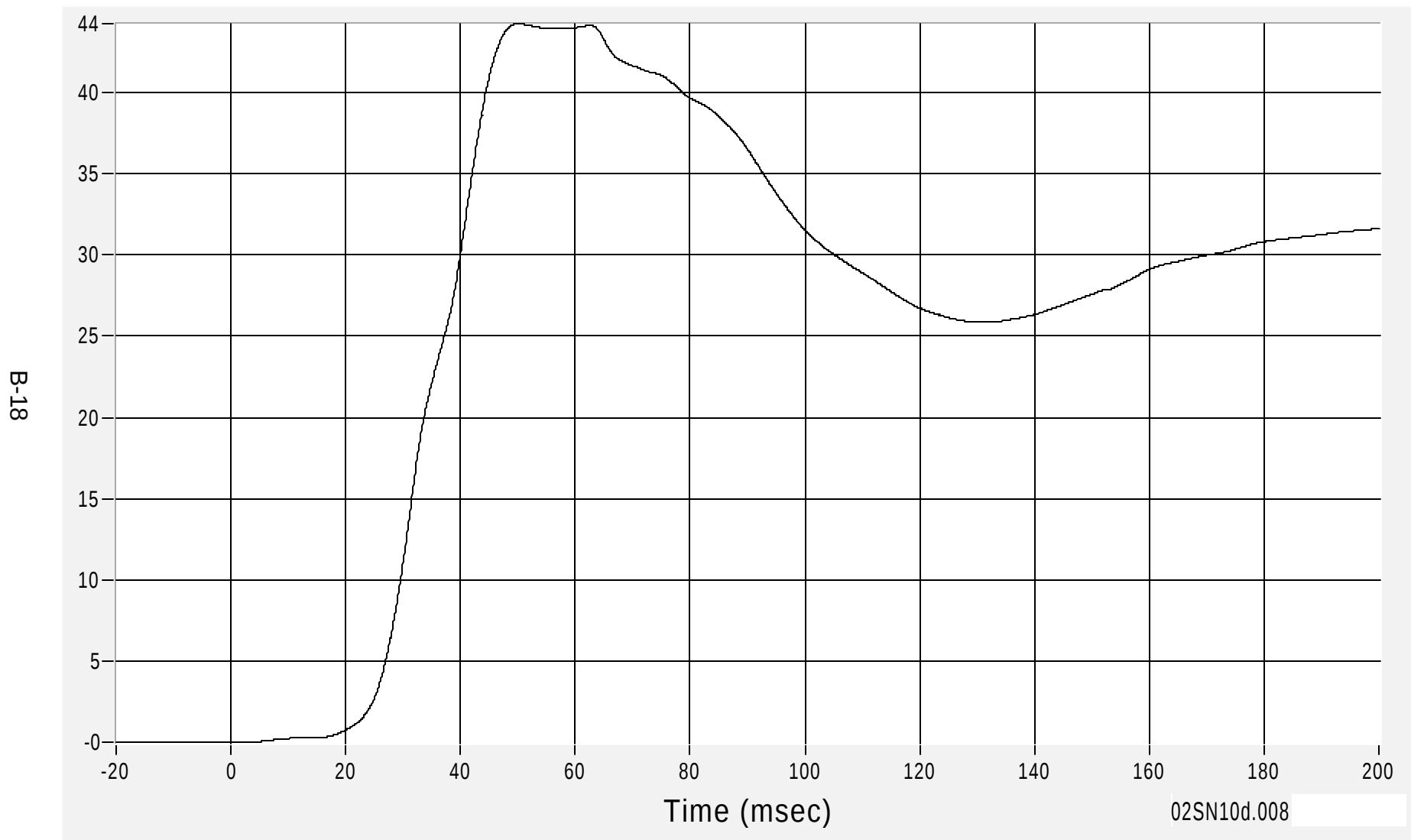
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Driver Lower Spine (Y) Velocity

Velocity (km/h) CFC180

Max 44.3 km/h at 49.9 msec

Min 0.0 km/h at 0.0 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN
27 June 2002

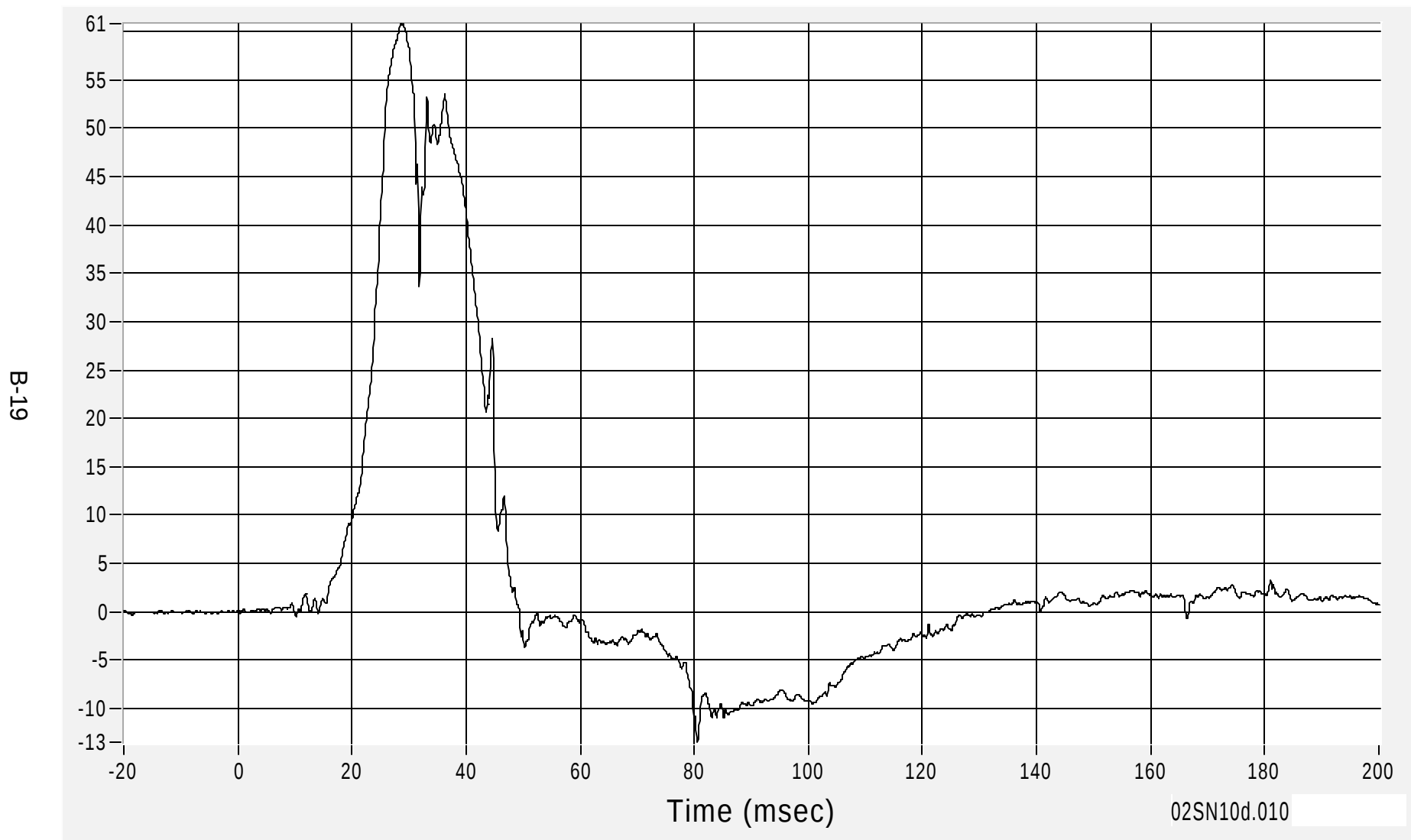
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Driver Pelvic (Y) Acceleration

Max 60.8 G's at 28.6 msec

Acceleration (G's) CFC1000

Min -13.5 G's at 80.6 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

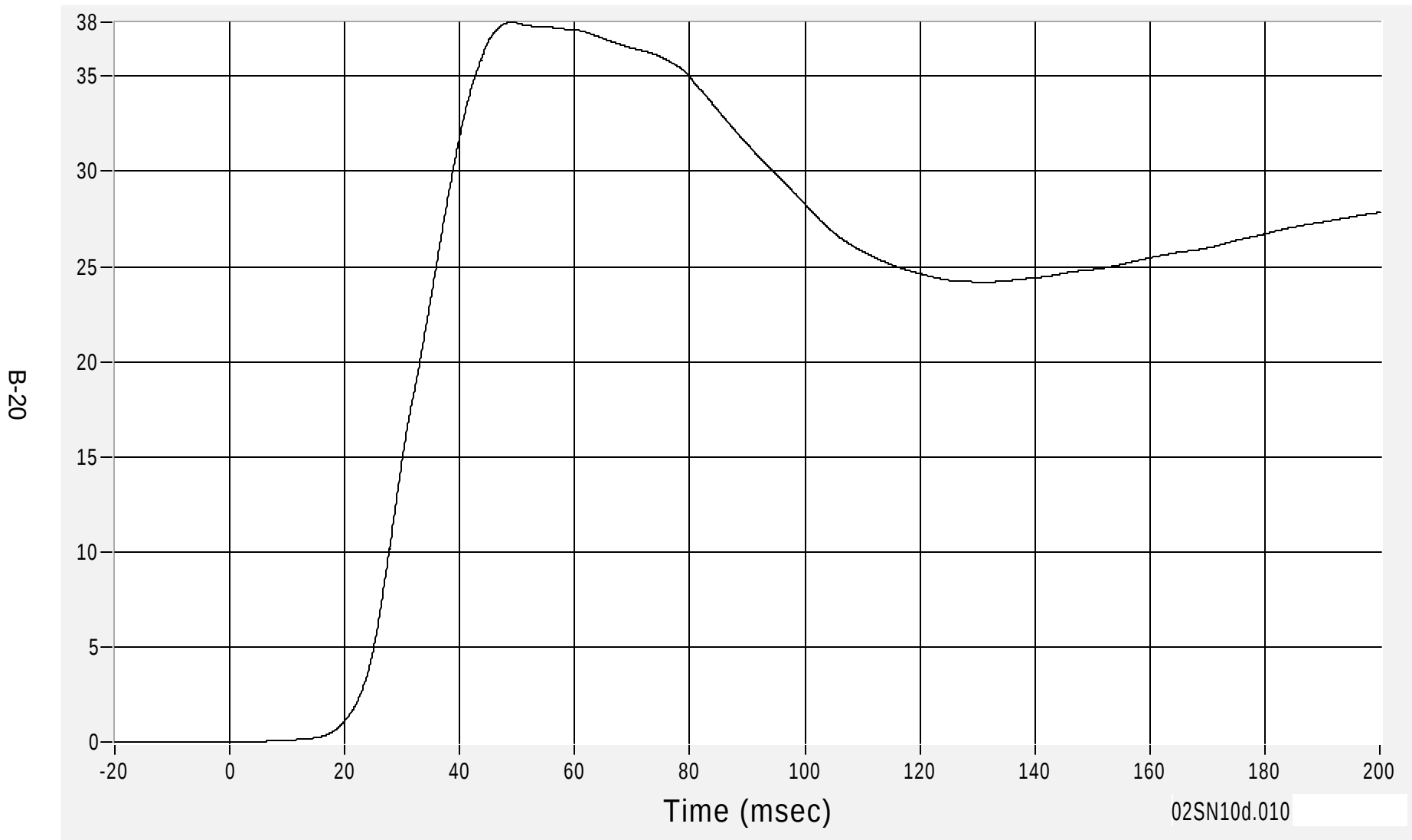
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Driver Pelvic (Y) Velocity

Velocity (km/h) CFC180

Max 37.8 km/h at 49.0 msec

Min 0.0 km/h at 0.0 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

Medical College of Wisconsin
Vehicle Crashworthiness Lab

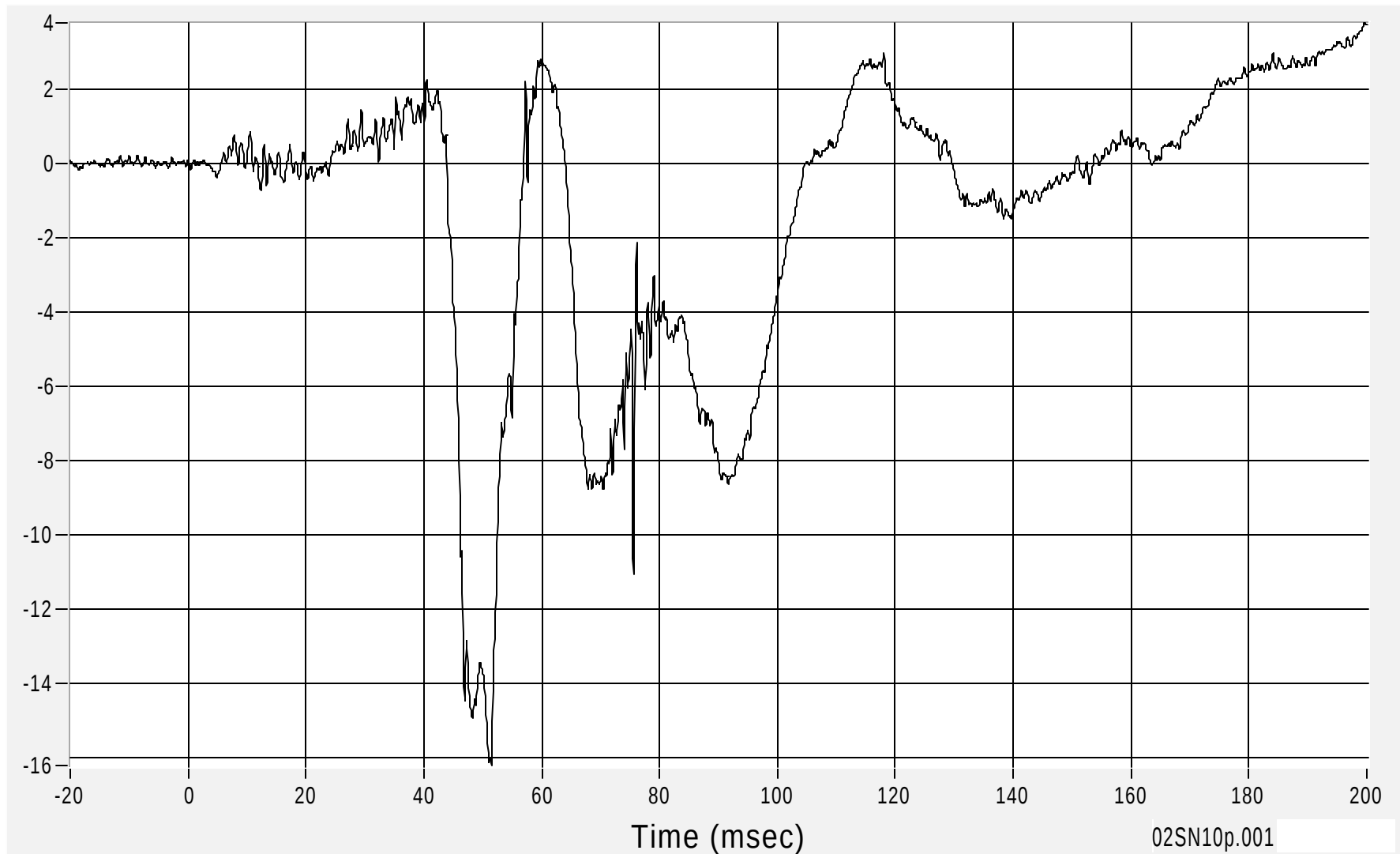
Passenger Head CG (X) Acceleration

Max 3.8 G's at 199.6 msec

Acceleration (G's) CFC1000

Min -16.2 G's at 51.4 msec

B-21



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

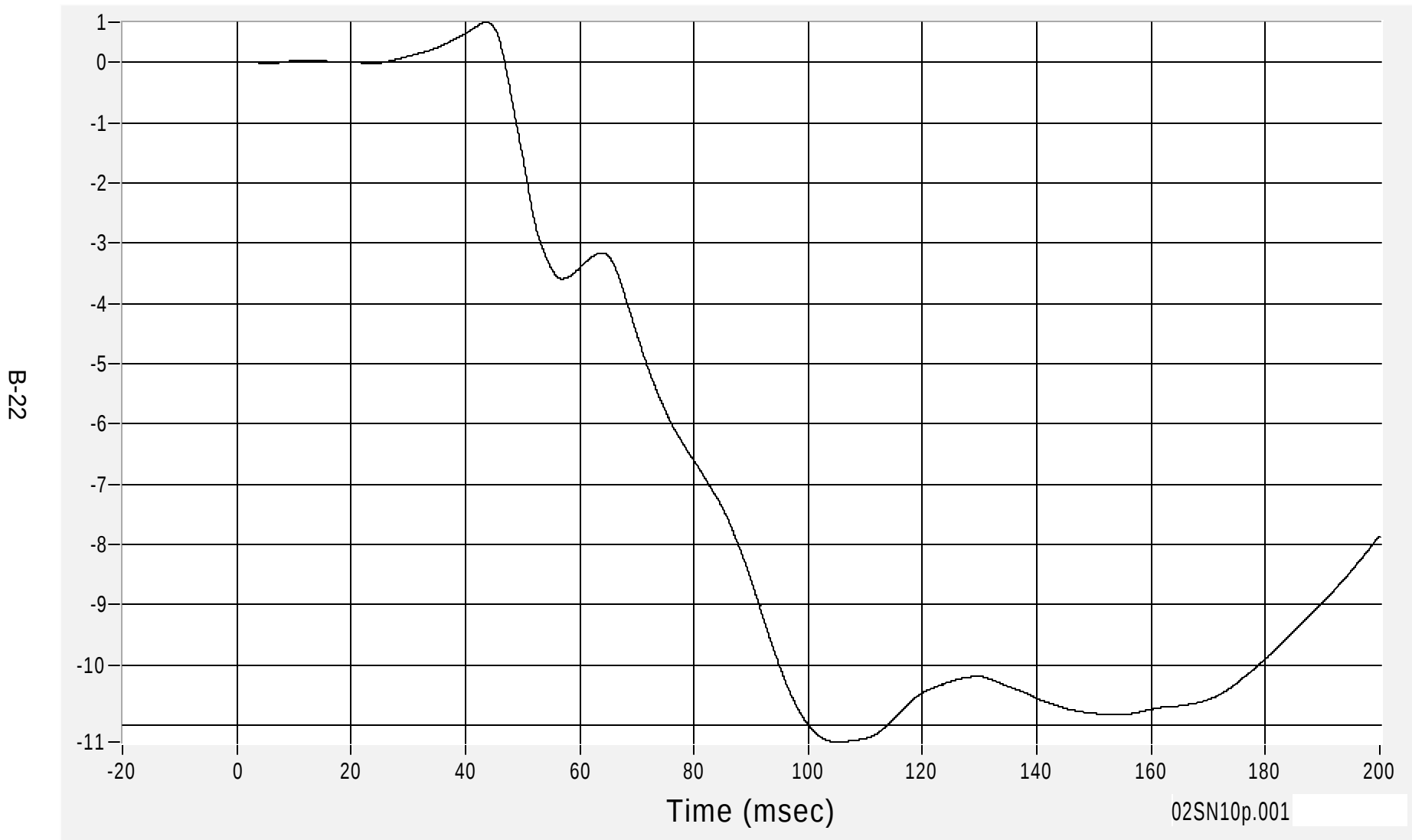
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Passenger Head CG (X) Velocity

Max 0.7 km/h at 43.7 msec

Min -11.3 km/h at 105.0 msec

Velocity (km/h) CFC180



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN
27 June 2002

Medical College of Wisconsin
Vehicle Crashworthiness Lab

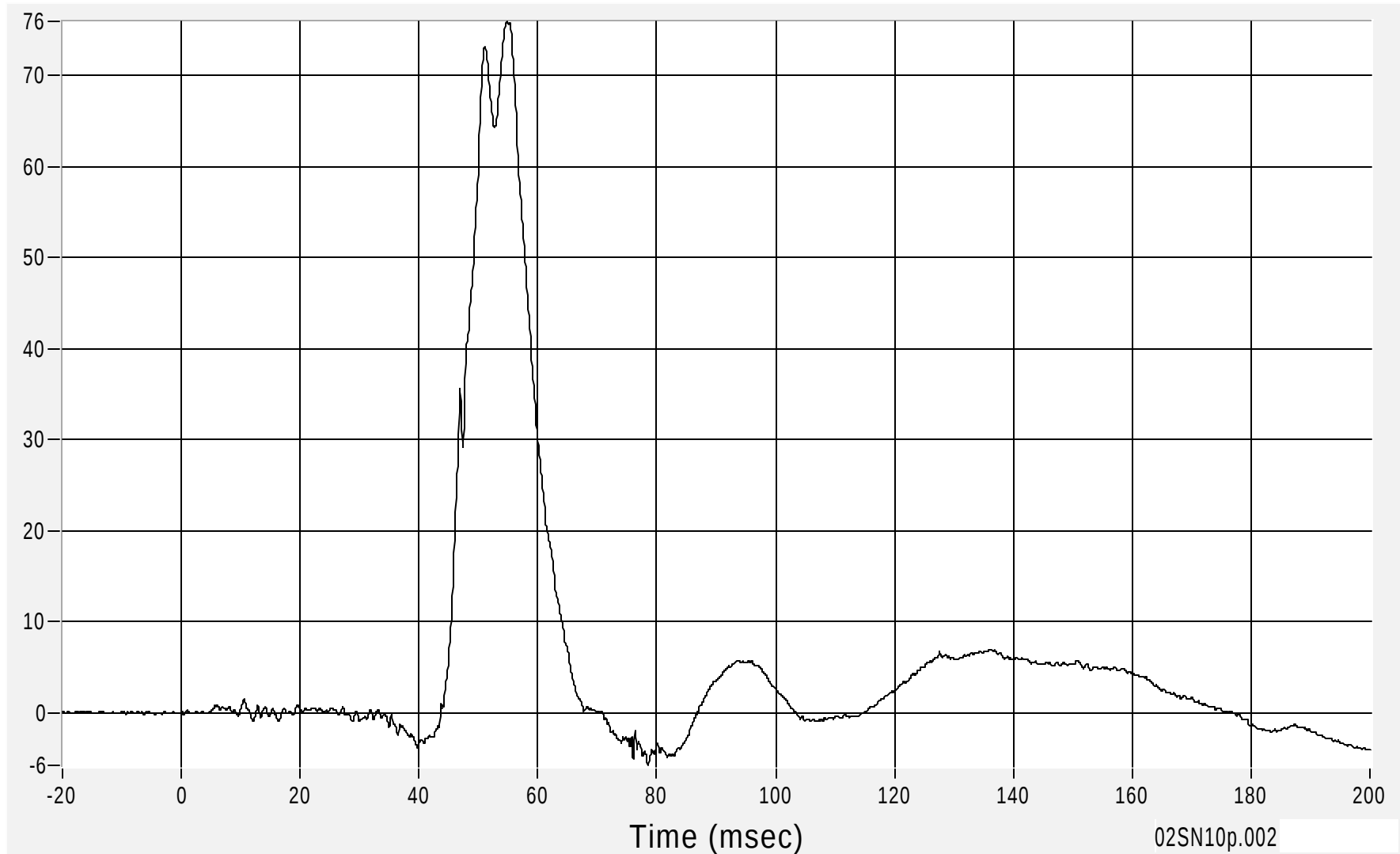
Passenger Head CG (Y) Acceleration

Max 76.0 G's at 54.7 msec

Acceleration (G's) CFC1000

Min -5.8 G's at 78.6 msec

B-23



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN
27 June 2002

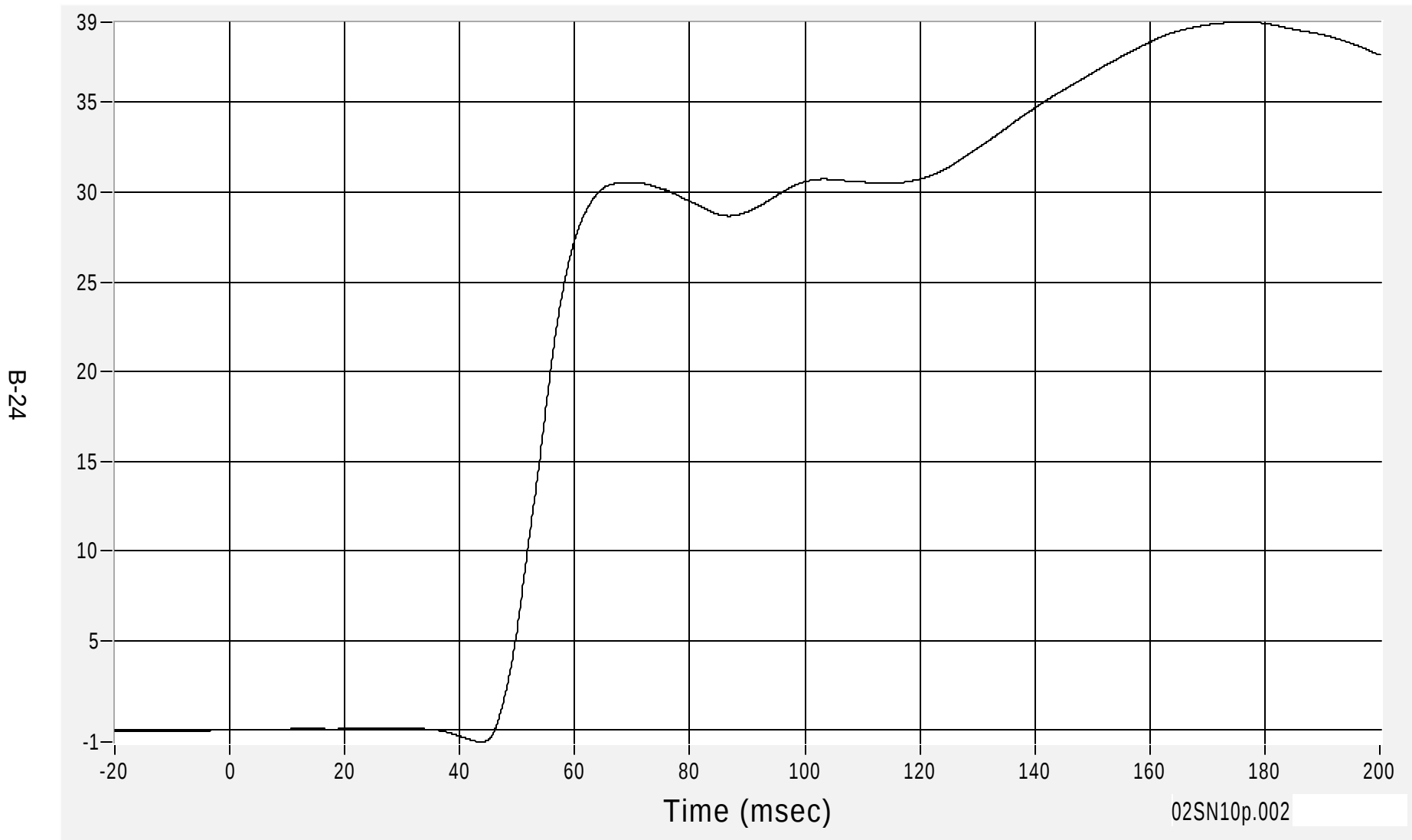
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Passenger Head CG (Y) Velocity

Max 39.5 km/h at 176.7 msec

Min -0.6 km/h at 43.8 msec

Velocity (km/h) CFC180



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

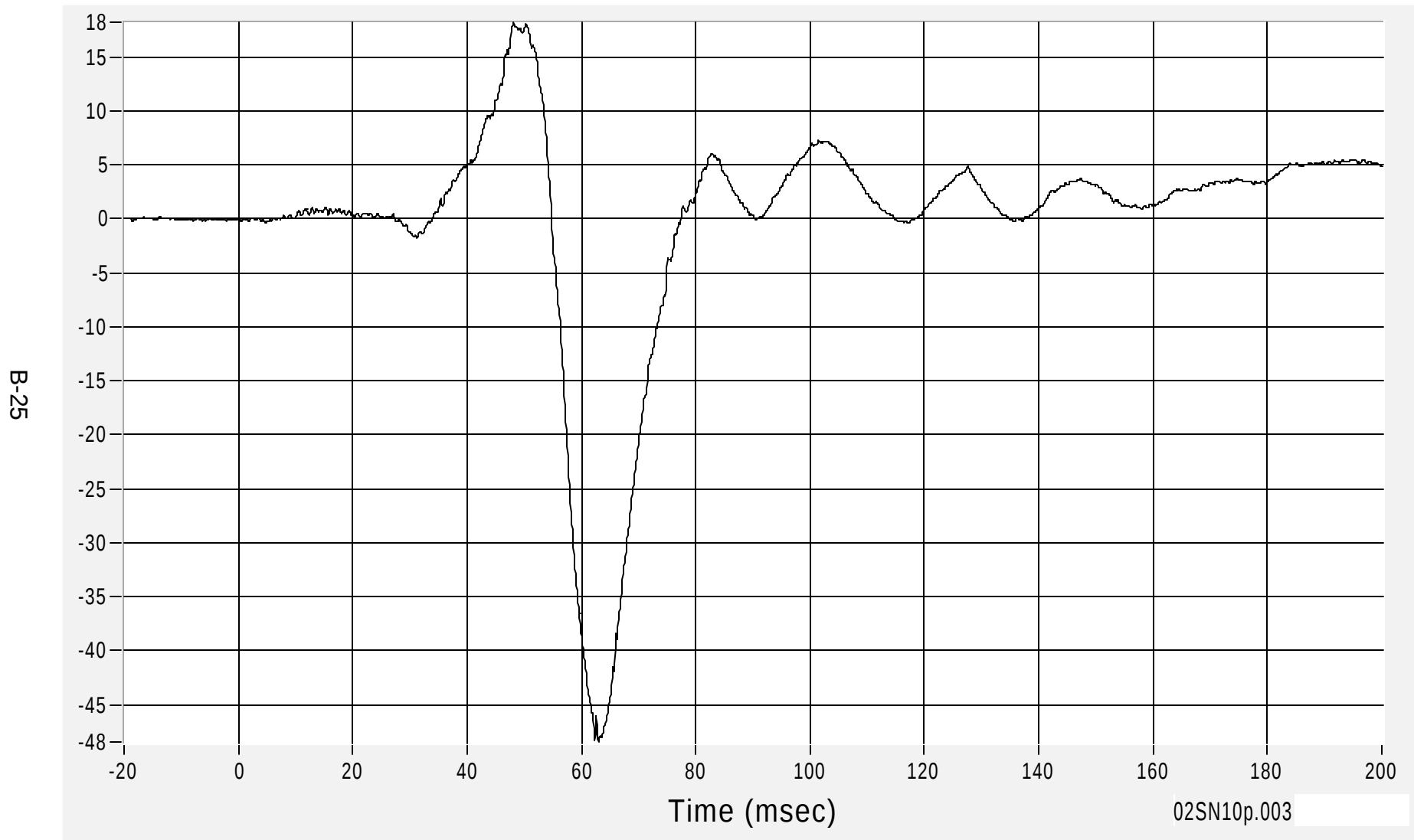
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Passenger Head CG (Z) Acceleration

Max 18.2 G's at 48.1 msec

Min -48.5 G's at 63.0 msec

Acceleration (G's) CFC1000



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

Medical College of Wisconsin
Vehicle Crashworthiness Lab

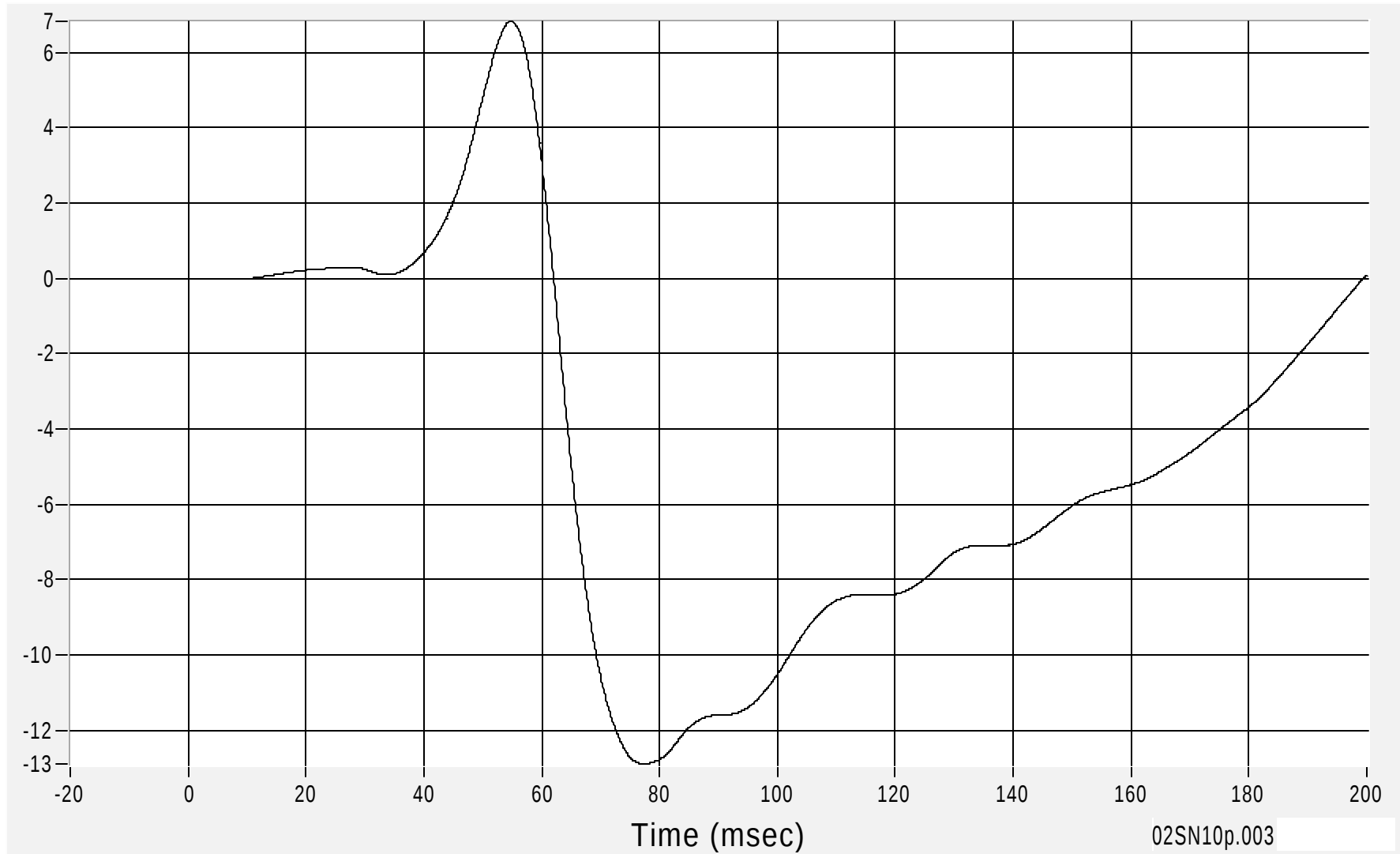
Passenger Head CG (Z) Velocity

Max 6.8 km/h at 54.7 msec

Min -12.9 km/h at 77.2 msec

Velocity (km/h) CFC180

B-26



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

Medical College of Wisconsin
Vehicle Crashworthiness Lab

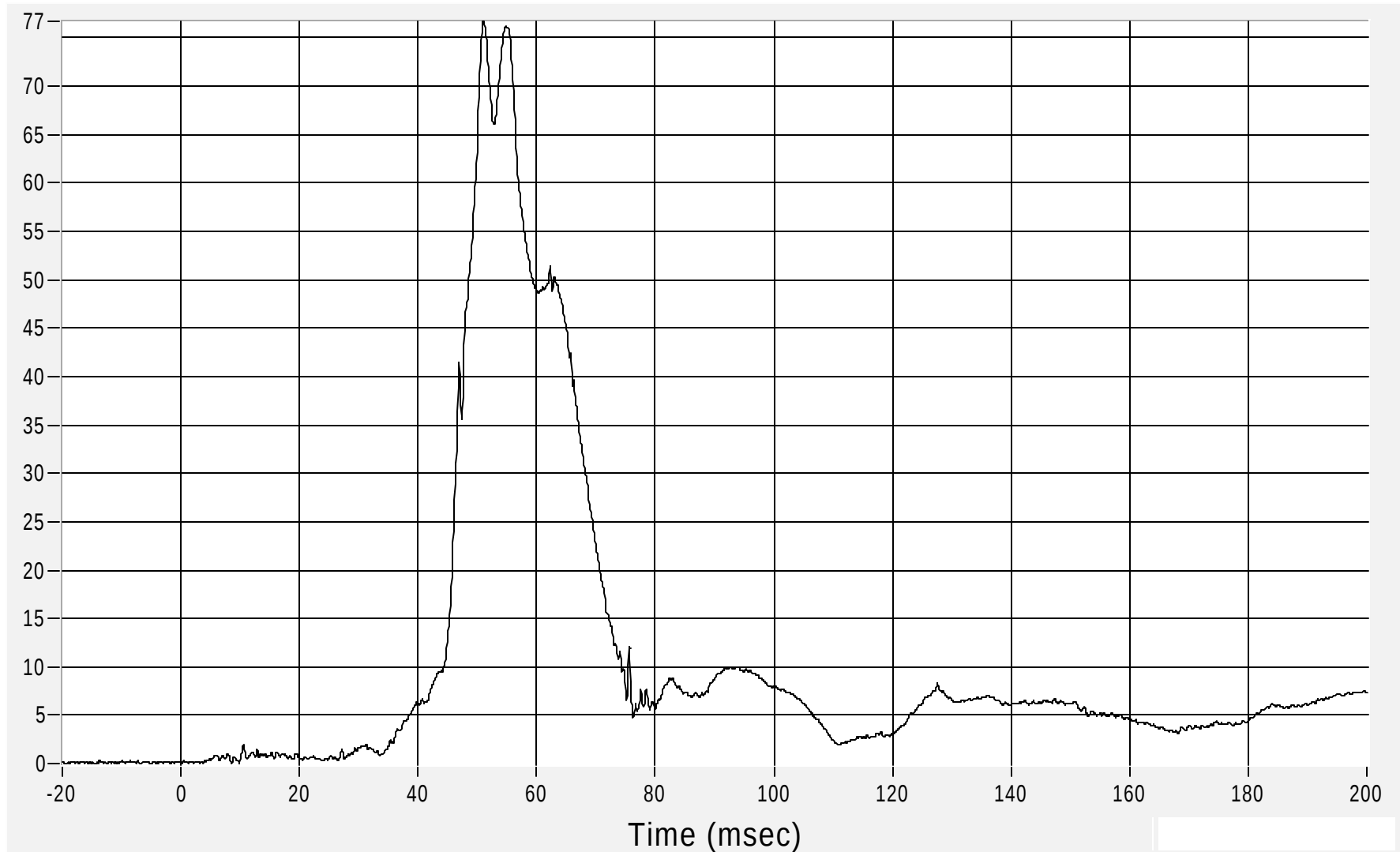
Passenger Head Resultant Acceleration

Max 76.7 G's at 51.0 msec

Acceleration (G's) CFC1000

Min 0.0 G's at 9.8 msec

B-27



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

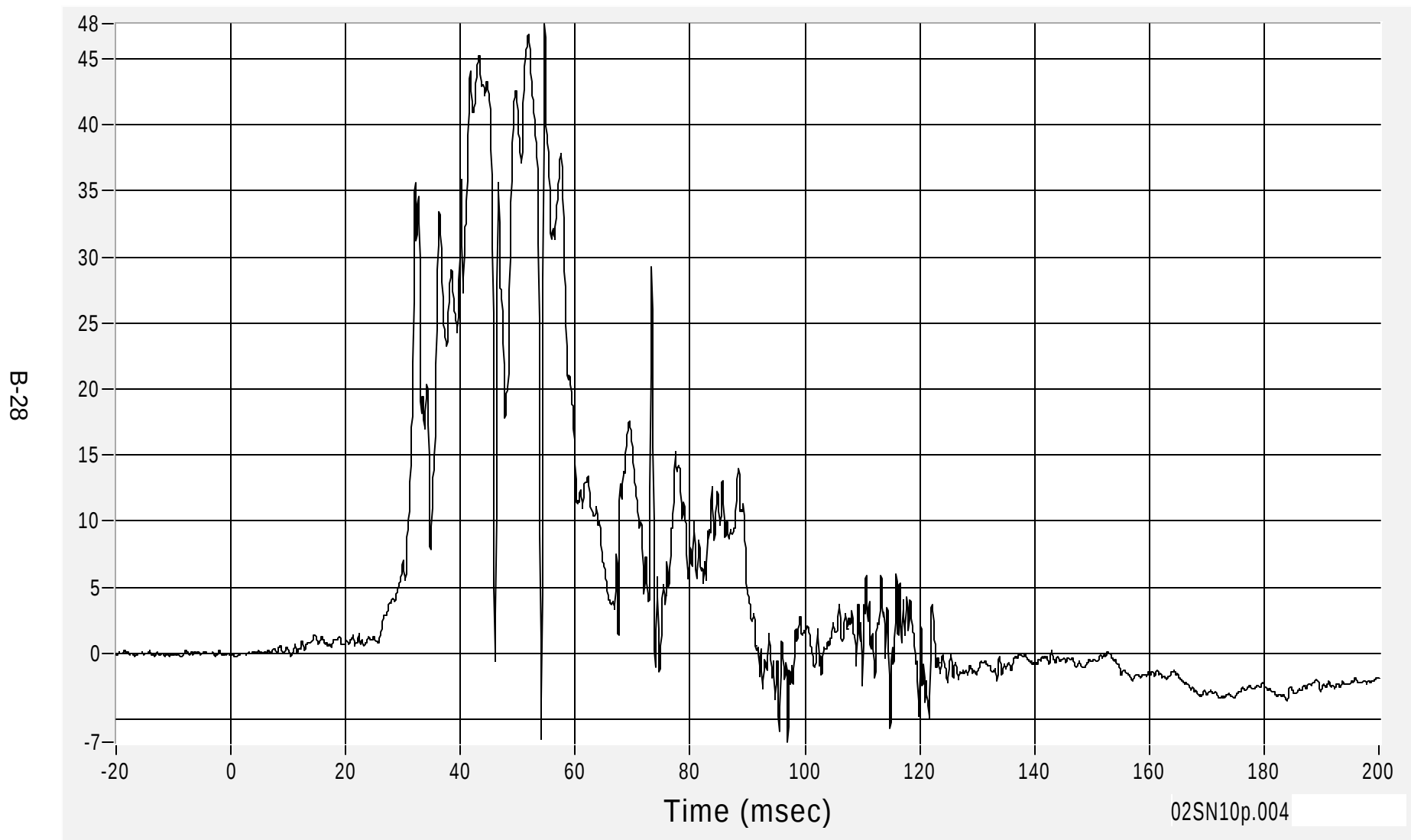
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Passenger Upper Rib (Y) Acceleration

Max 47.7 G's at 54.6 msec

Acceleration (G's) CFC1000

Min -6.7 G's at 97.0 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

Medical College of Wisconsin
Vehicle Crashworthiness Lab

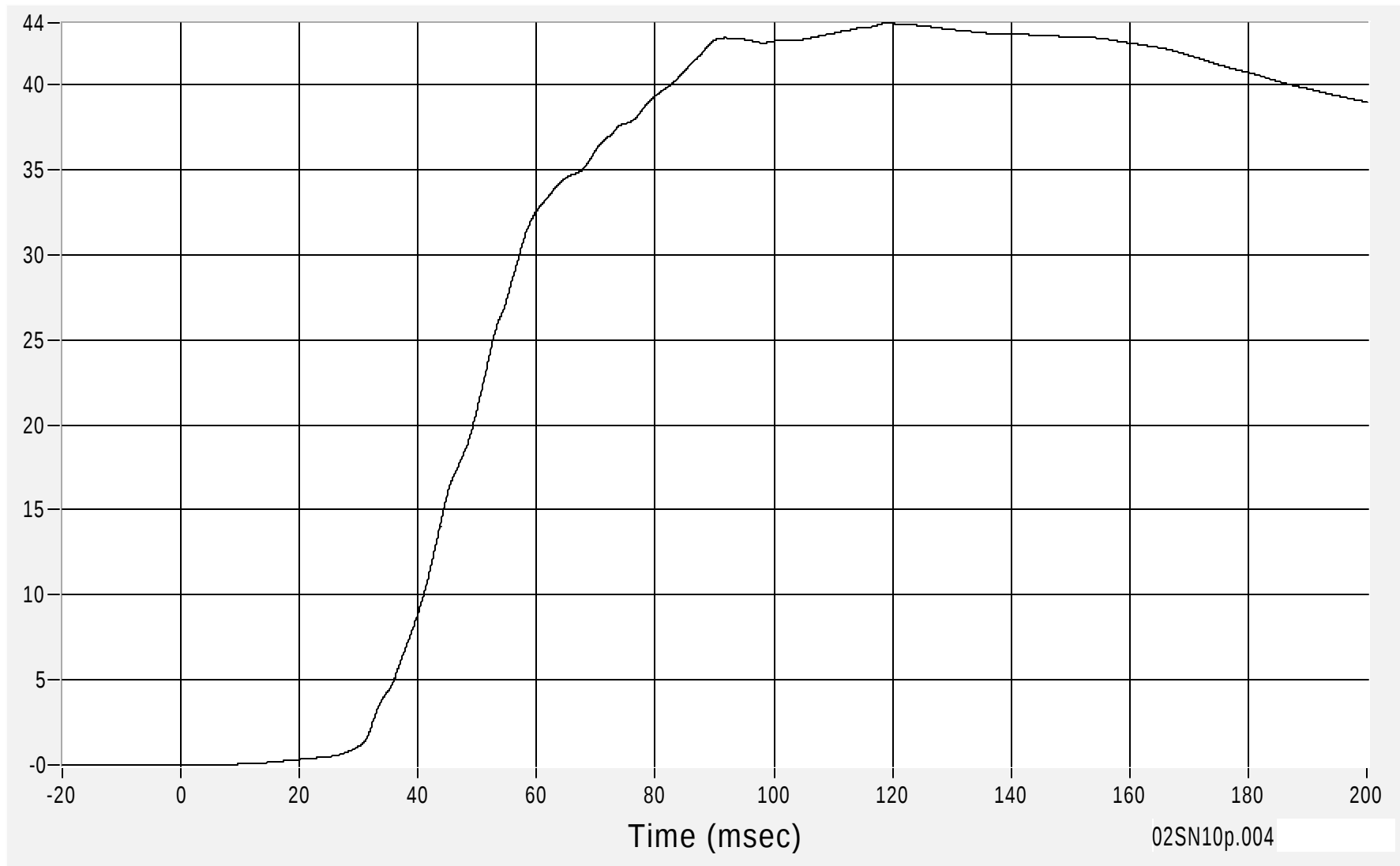
Passenger Upper Rib (Y) Velocity

Velocity (km/h) CFC180

Max 43.7 km/h at 119.2 msec

Min 0.0 km/h at 1.8 msec

B-29



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

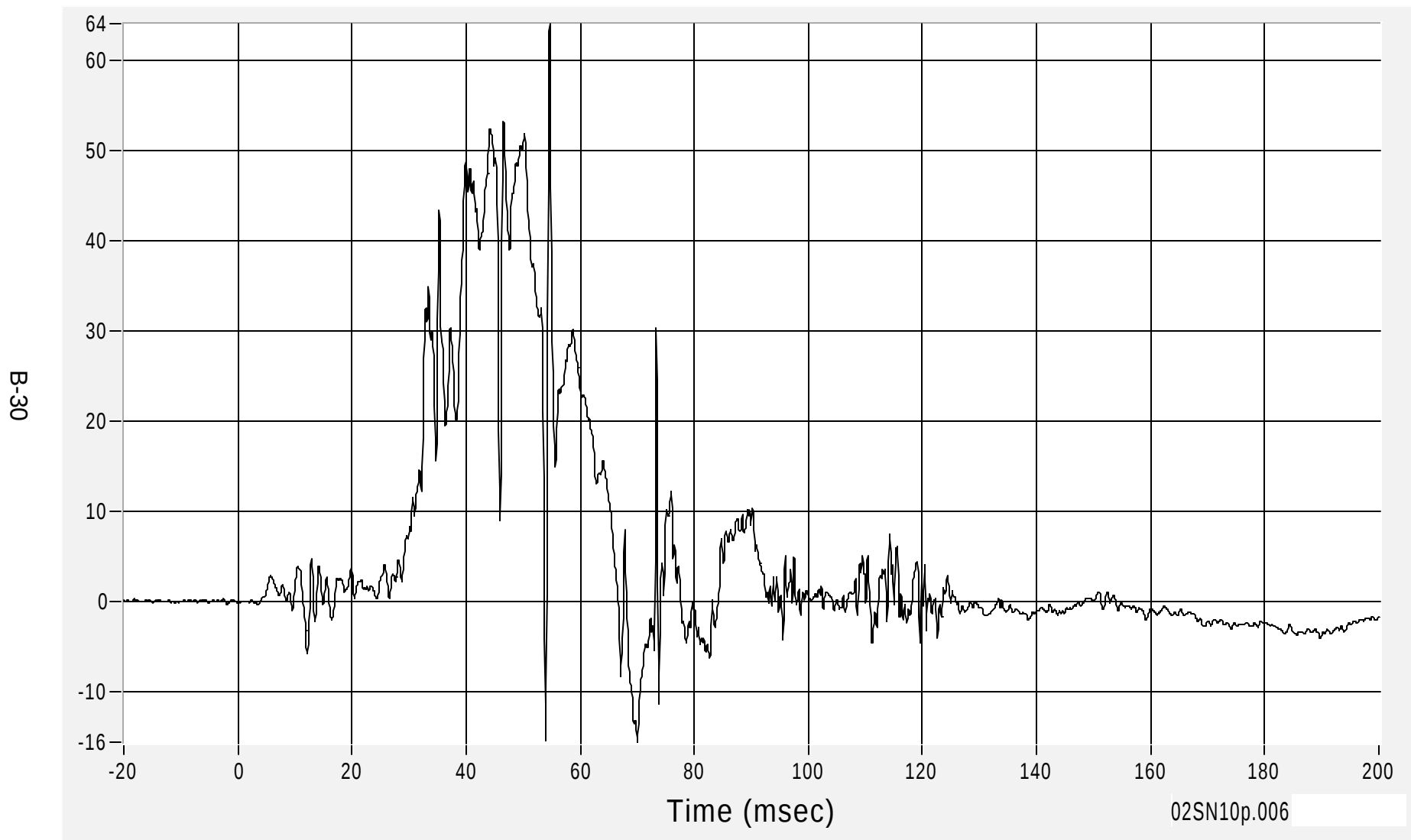
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Passenger Lower Rib (Y) Acceleration

Max 64.1 G's at 54.6 msec

Acceleration (G's) CFC1000

Min -15.6 G's at 70.0 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN
27 June 2002

Medical College of Wisconsin
Vehicle Crashworthiness Lab

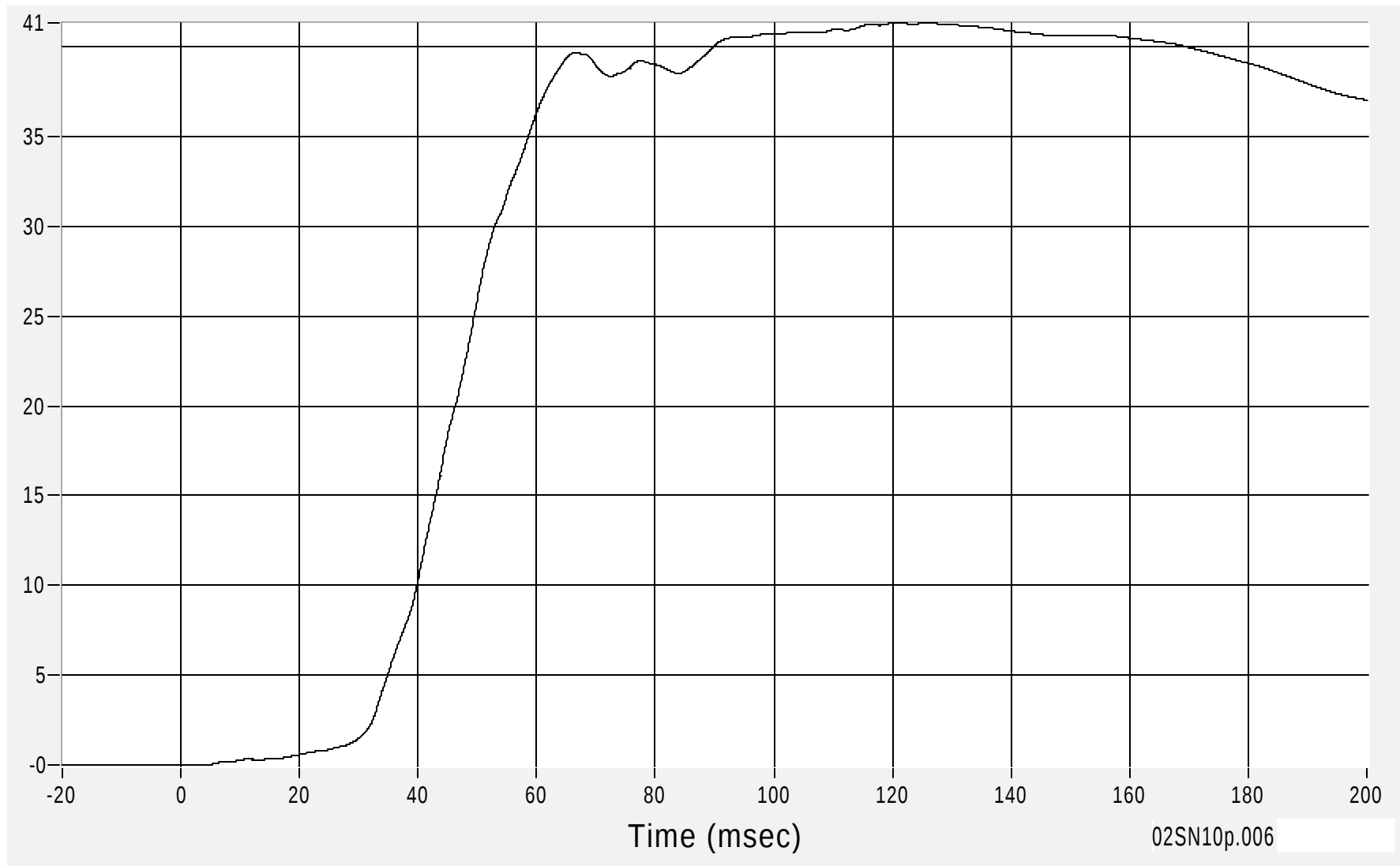
Passenger Lower Rib (Y) Velocity

Max 41.4 km/h at 125.8 msec

Velocity (km/h) CFC180

Min 0.0 km/h at 3.8 msec

B-31



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

Medical College of Wisconsin
Vehicle Crashworthiness Lab

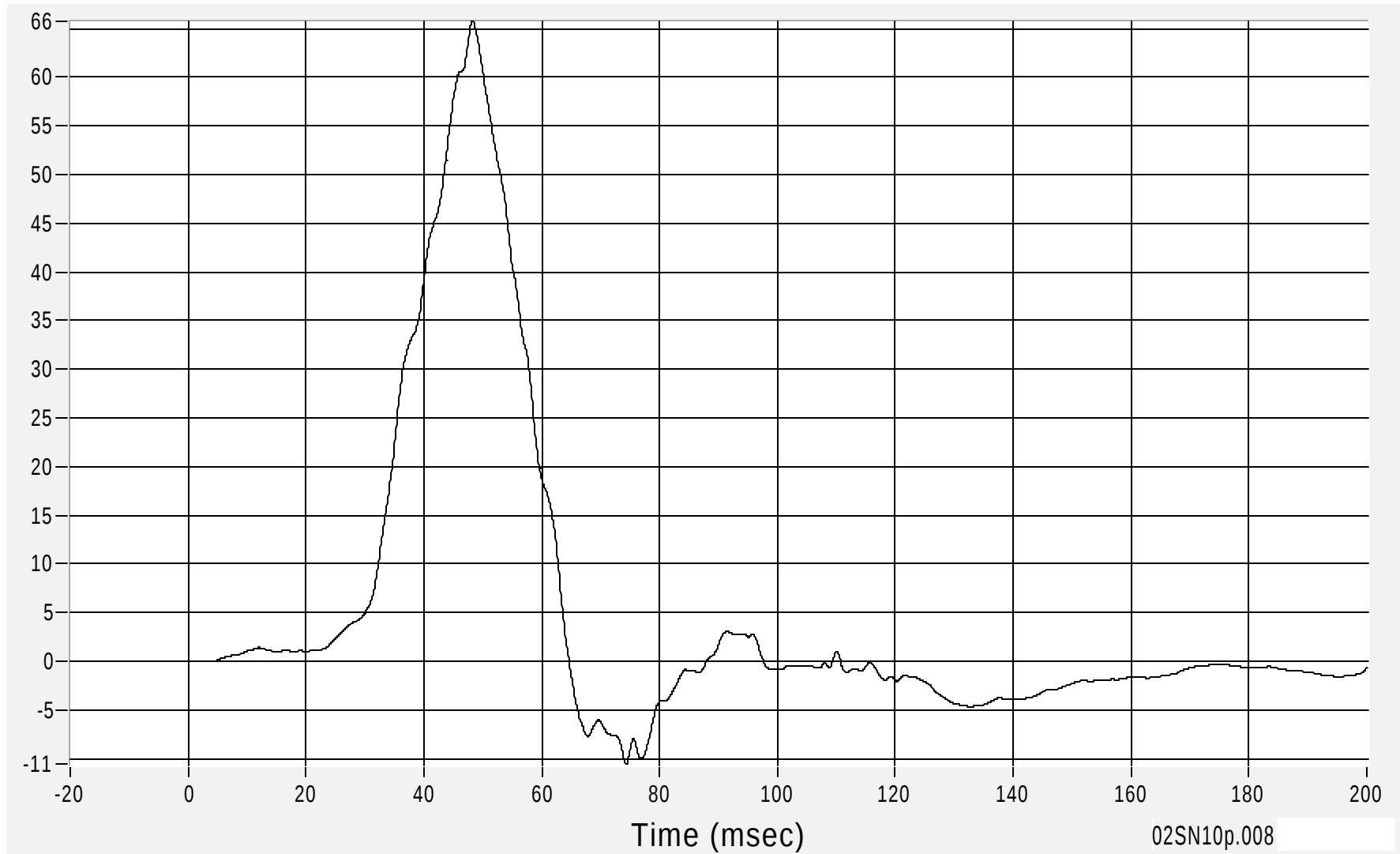
Passenger Lower Spine (Y) Acceleration

Acceleration (G's) CFC180

Max 65.8 G's at 48.2 msec

Min -10.5 G's at 74.3 msec

B-32



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

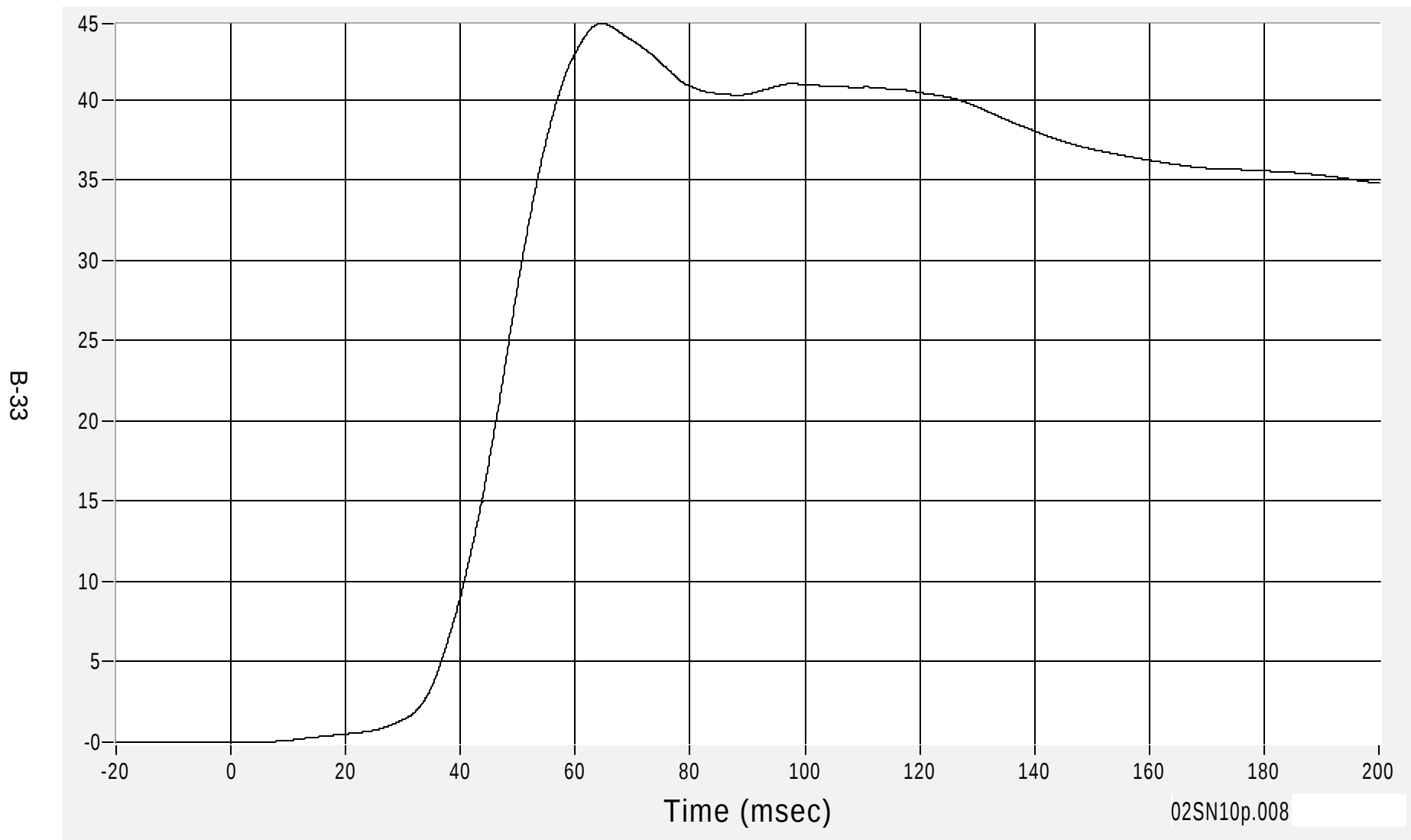
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Passenger Lower Spine (Y) Velocity

Velocity (km/h) CFC180

Max 44.7 km/h at 64.6 msec

Min 0.0 km/h at 0.0 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

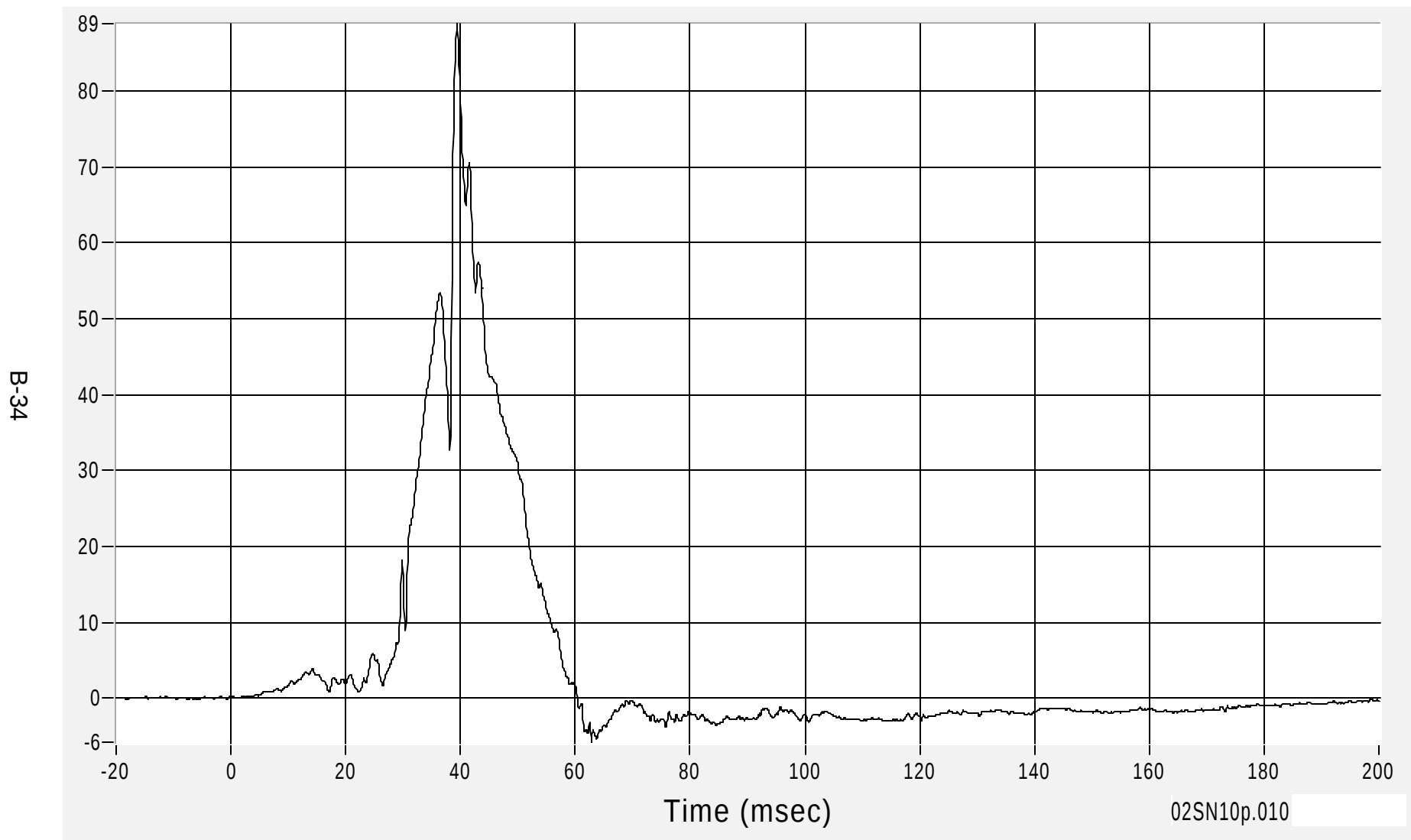
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Passenger Pelvic (Y) Acceleration

Max 88.9 G's at 39.4 msec

Acceleration (G's) CFC1000

Min -5.7 G's at 62.8 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

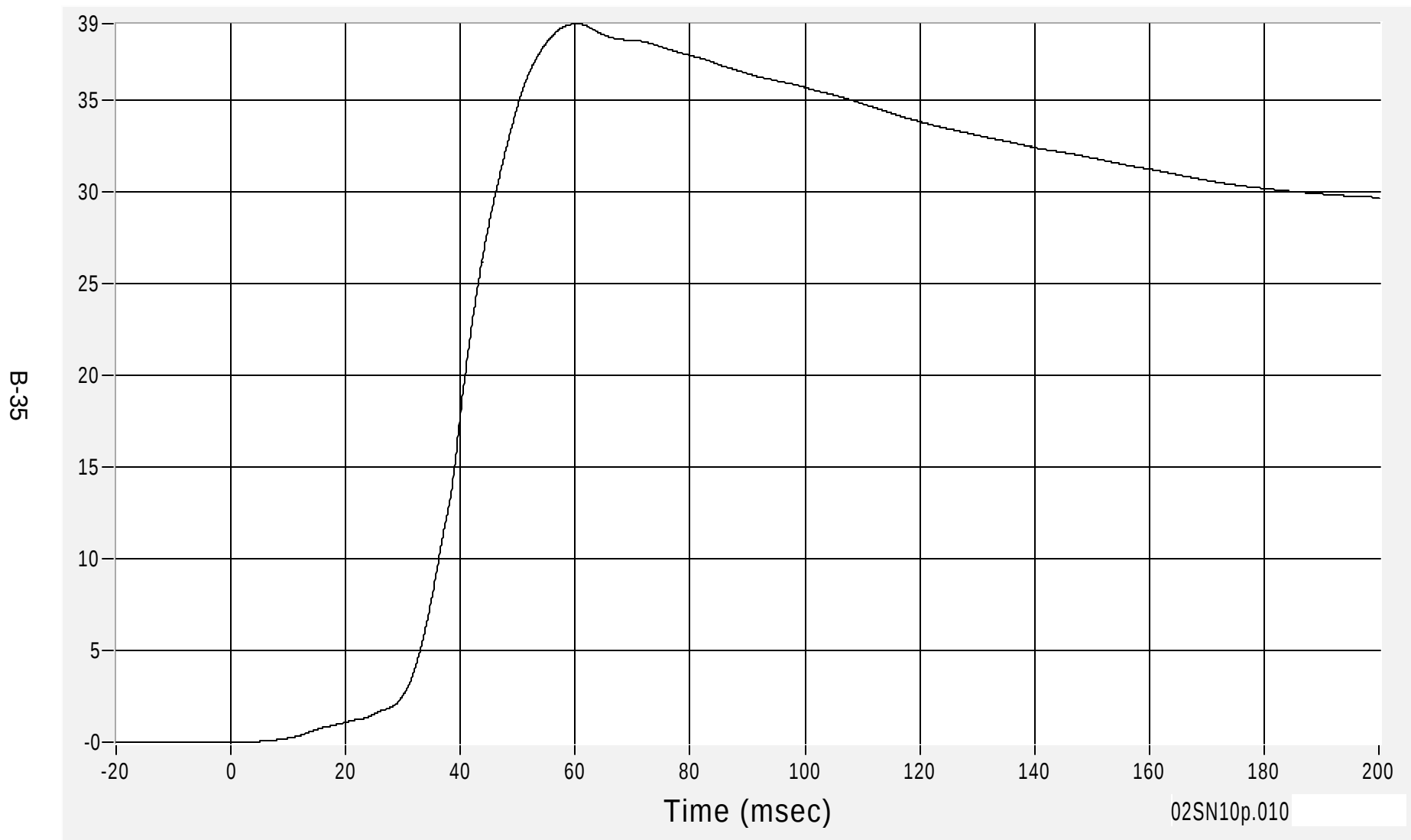
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Passenger Pelvic (Y) Velocity

Velocity (km/h) CFC180

Max 39.1 km/h at 60.3 msec

Min 0.0 km/h at 0.0 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

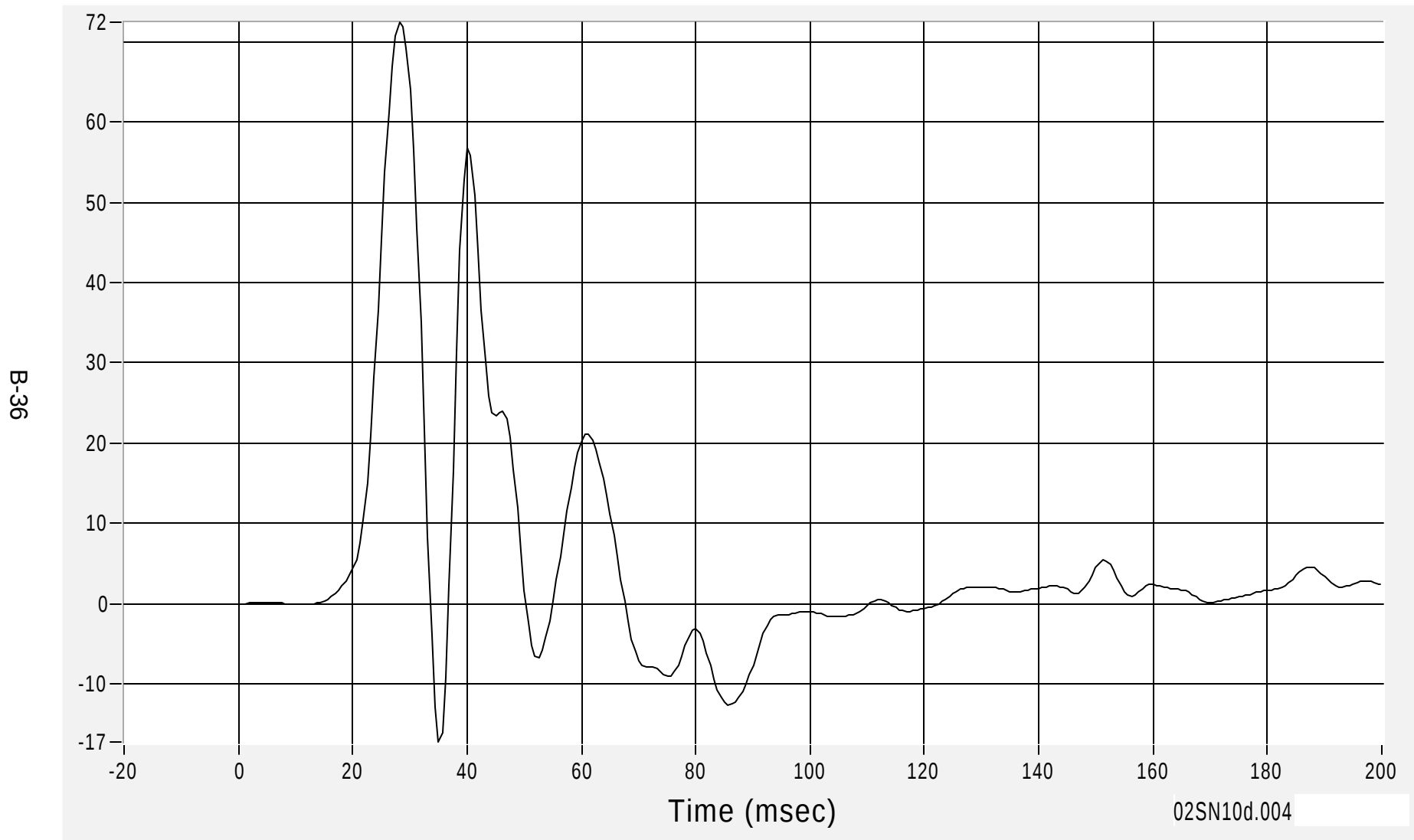
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Driver Upper Rib (Y) Acceleration

Max 72.4 G's at 28.1 msec

Min -17.2 G's at 35.0 msec

Acceleration (G's) FIR100



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

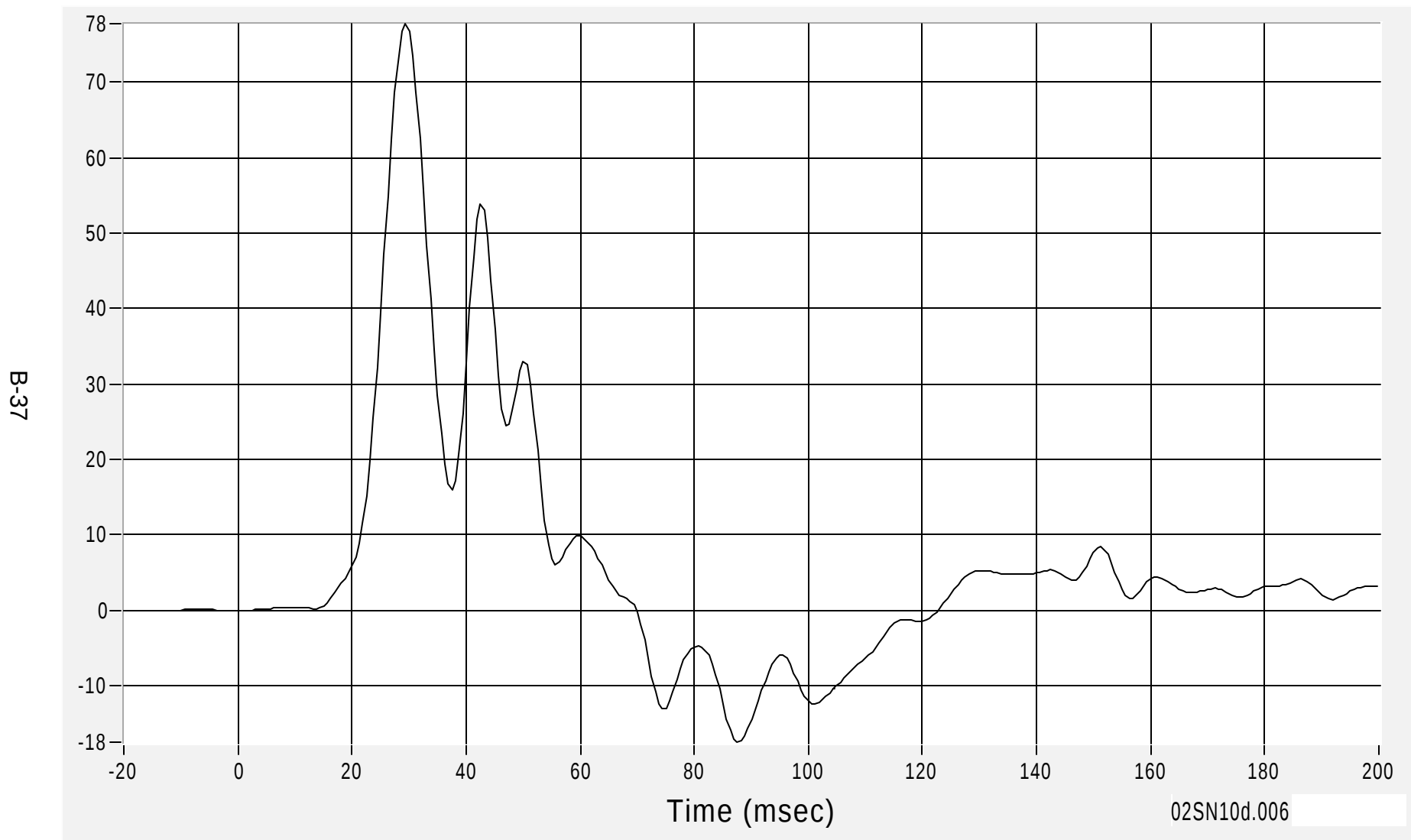
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Driver Lower Rib (Y) Acceleration

Max 77.8 G's at 29.4 msec

Acceleration (G's) FIR100

Min -17.5 G's at 87.5 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN
27 June 2002

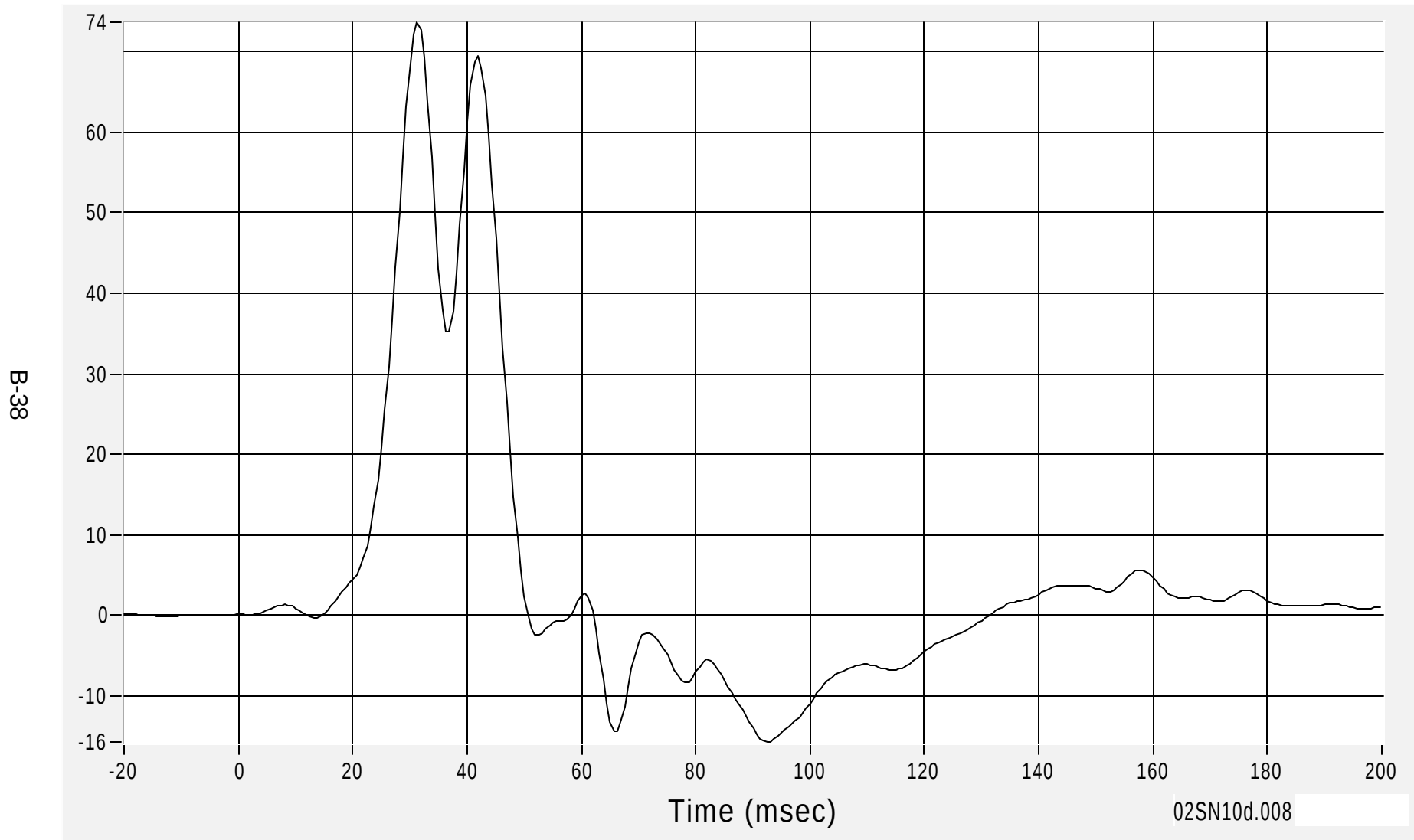
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Driver Lower Spine (Y) Acceleration

Max 73.7 G's at 31.2 msec

Acceleration (G's) FIR100

Min -15.8 G's at 92.5 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN
27 June 2002

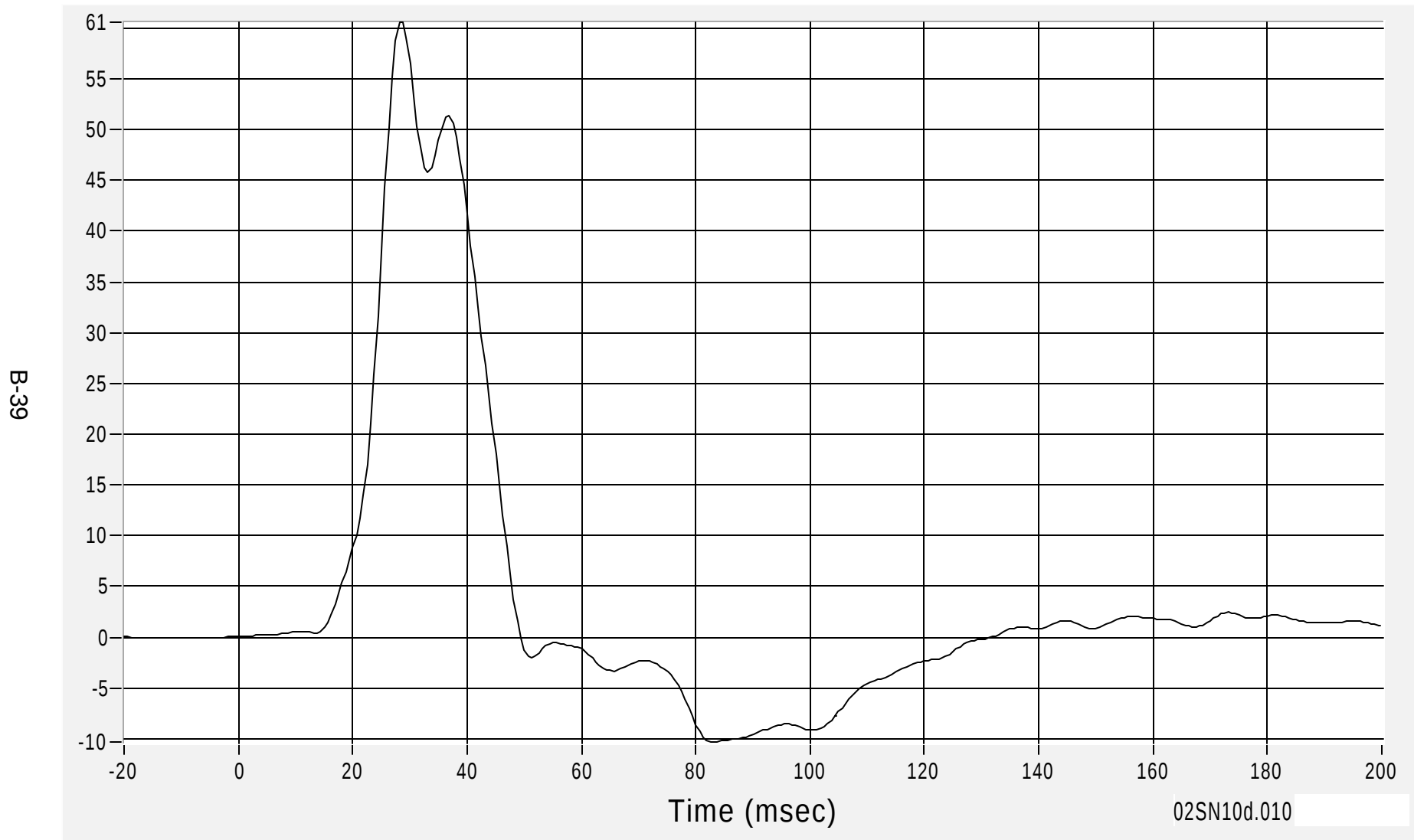
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Driver Pelvic (Y) Acceleration

Max 60.6 G's at 28.8 msec

Acceleration (G's) FIR100

Min -10.3 G's at 83.1 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

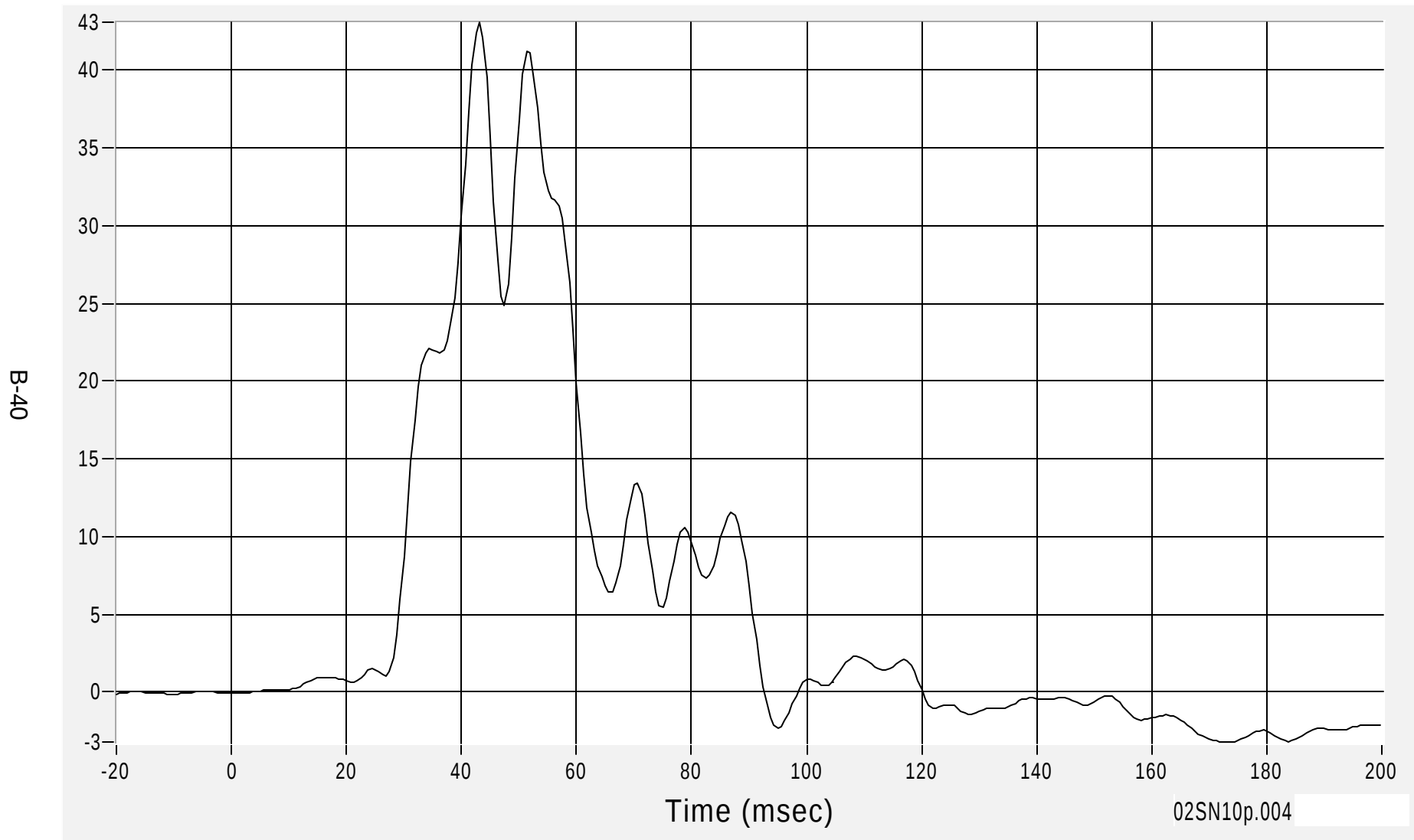
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Passenger Upper Rib (Y) Acceleration

Max 43.1 G's at 43.1 msec

Acceleration (G's) FIR100

Min -3.2 G's at 173.8 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN
27 June 2002

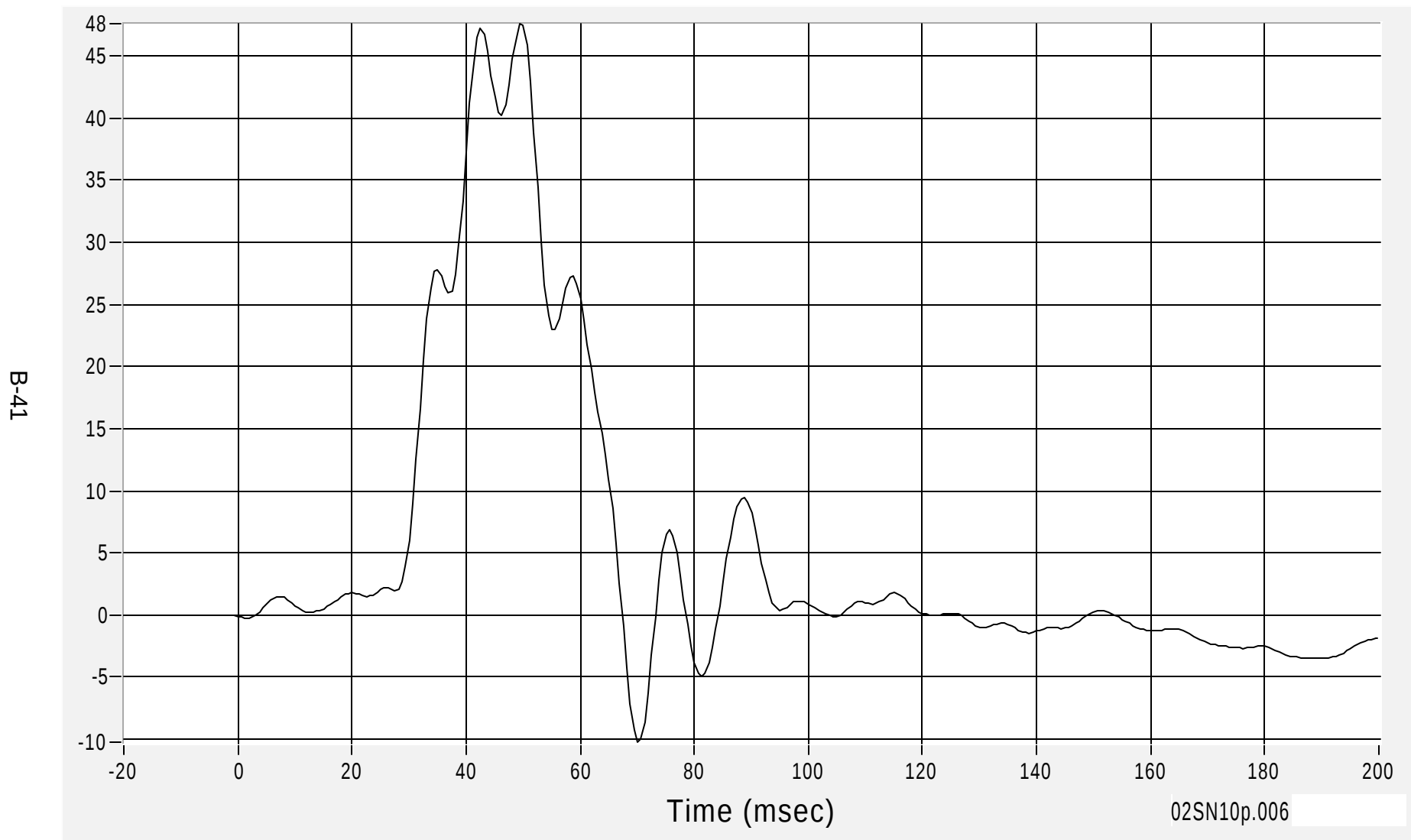
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Passenger Lower Rib (Y) Acceleration

Max 47.6 G's at 49.4 msec

Acceleration (G's) FIR100

Min -10.2 G's at 70.0 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN
27 June 2002

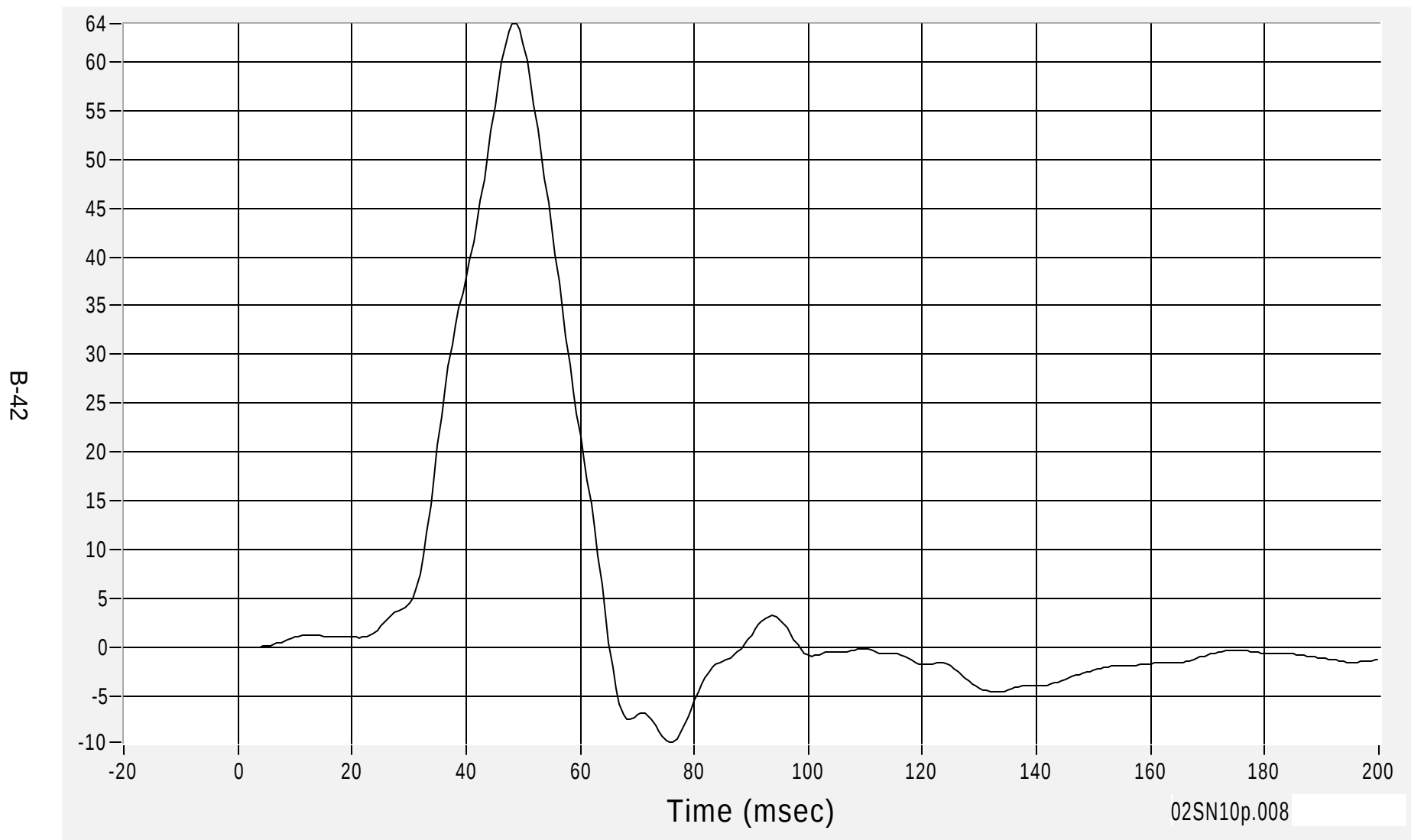
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Passenger Lower Spine (Y) Acceleration

Acceleration (G's) FIR100

Max 63.9 G's at 48.8 msec

Min -9.8 G's at 75.6 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

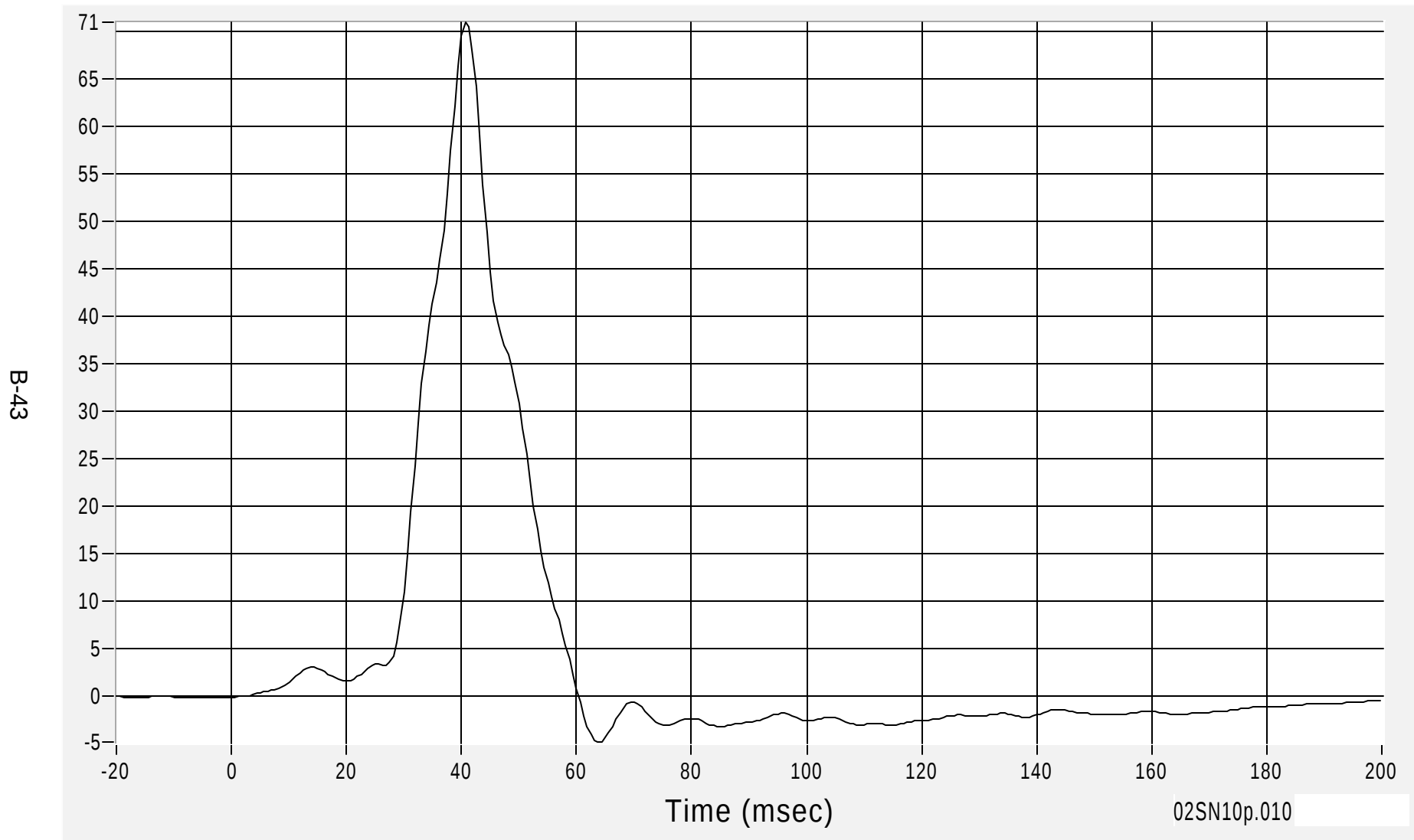
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Passenger Pelvic (Y) Acceleration

Max 70.9 G's at 40.6 msec

Acceleration (G's) FIR100

Min -4.8 G's at 63.8 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

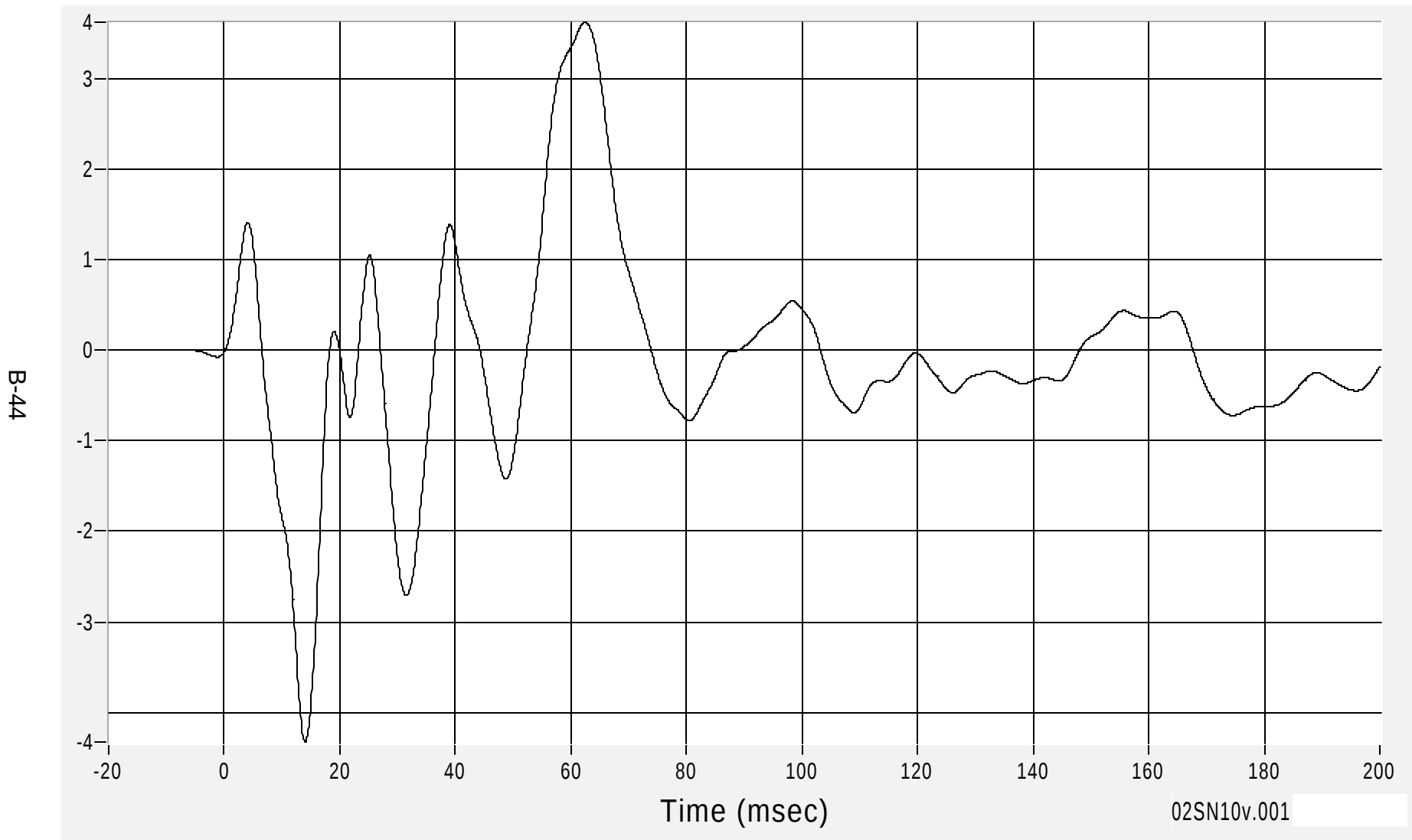
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Right Side Sill at Front Seat (X) Acceleration

Max 3.6 G's at 62.4 msec

Acceleration (G's) CFC60

Min -4.3 G's at 14.0 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN
27 June 2002

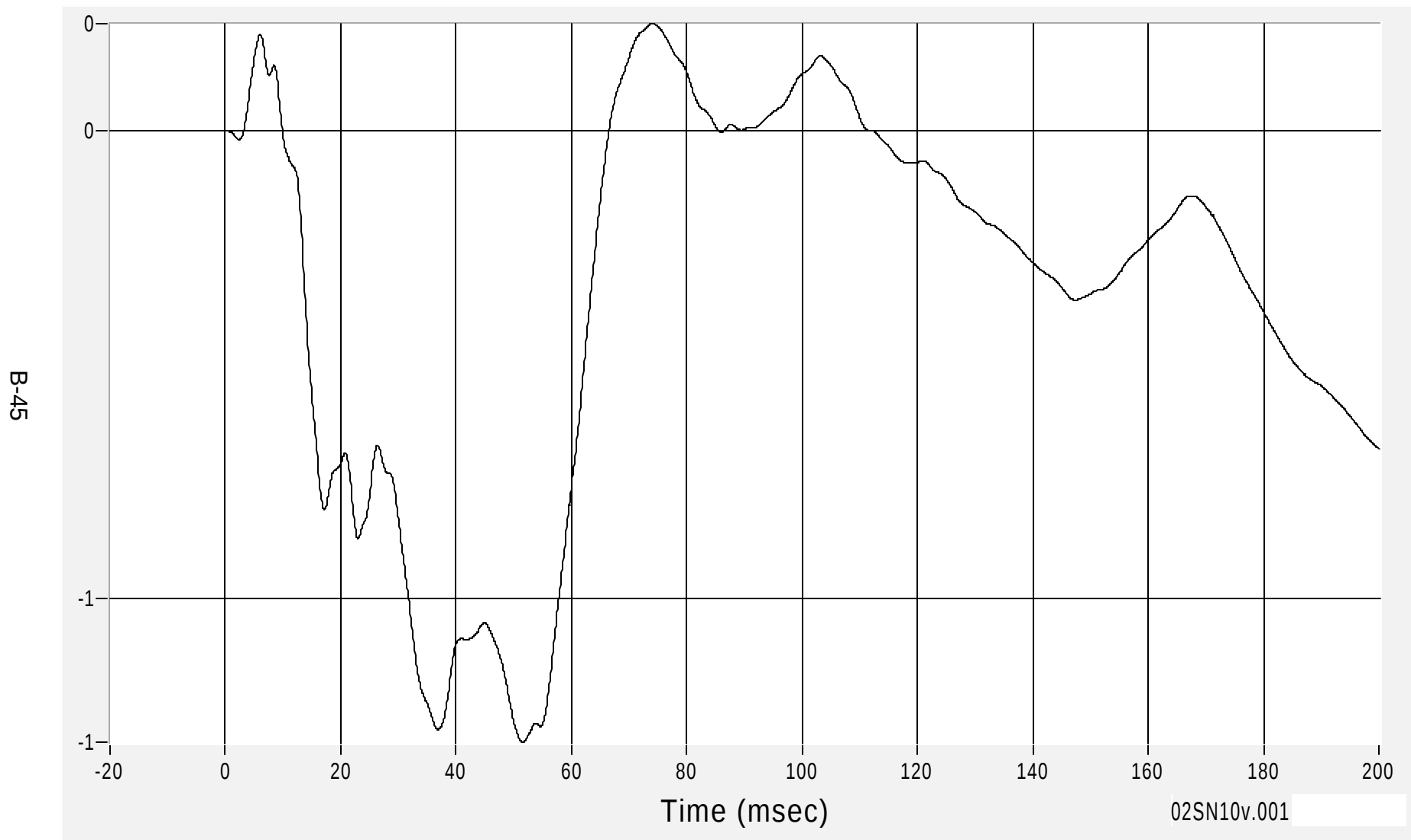
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Right Side Sill at Front Seat (X) Velocity

Max 0.2 km/h at 74.1 msec

Velocity (km/h) CFC180

Min -1.3 km/h at 51.5 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

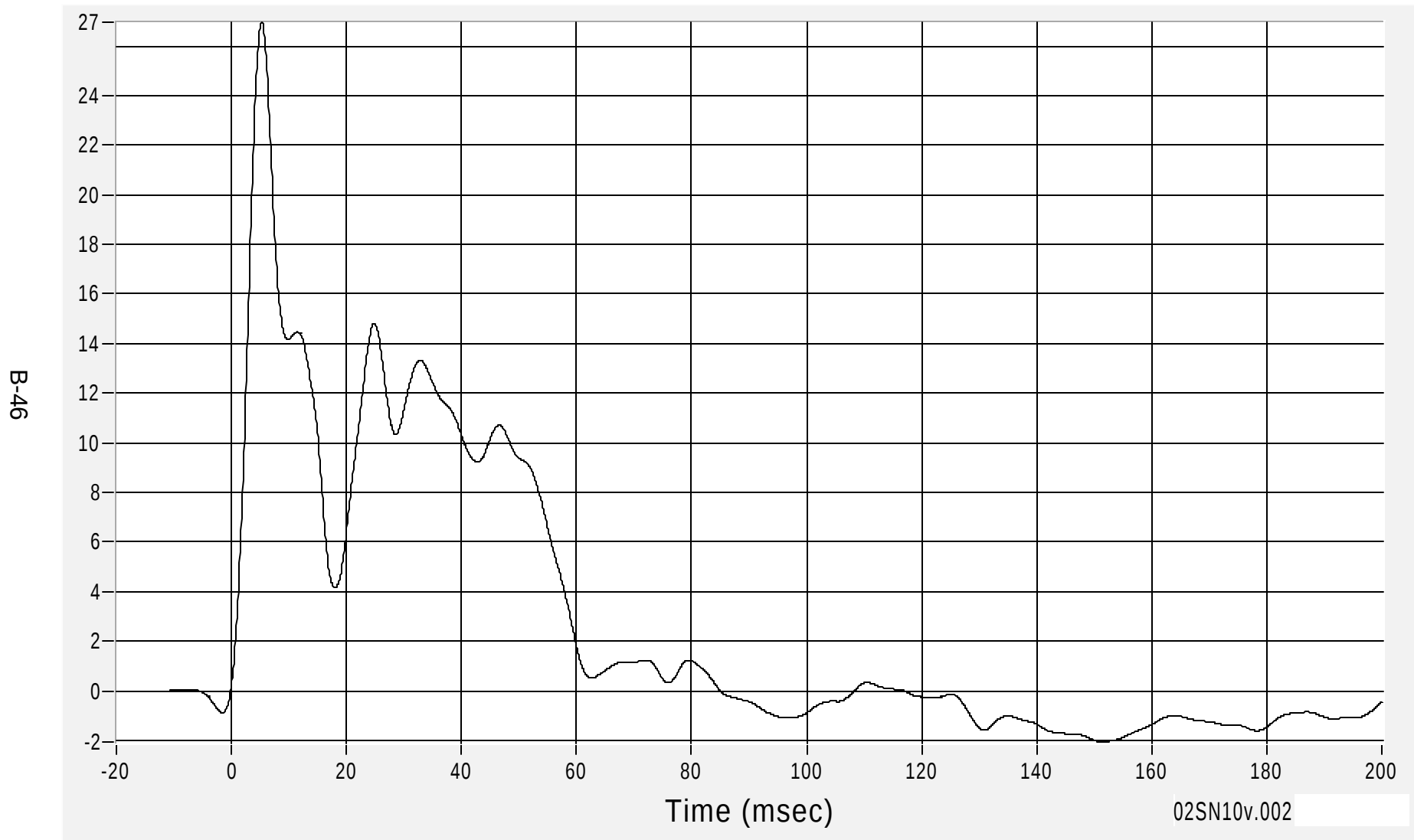
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Right Side Sill at Front Seat (Y) Acceleration

Max 27.0 G's at 5.3 msec

Acceleration (G's) CFC60

Min -2.1 G's at 151.6 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

Medical College of Wisconsin
Vehicle Crashworthiness Lab

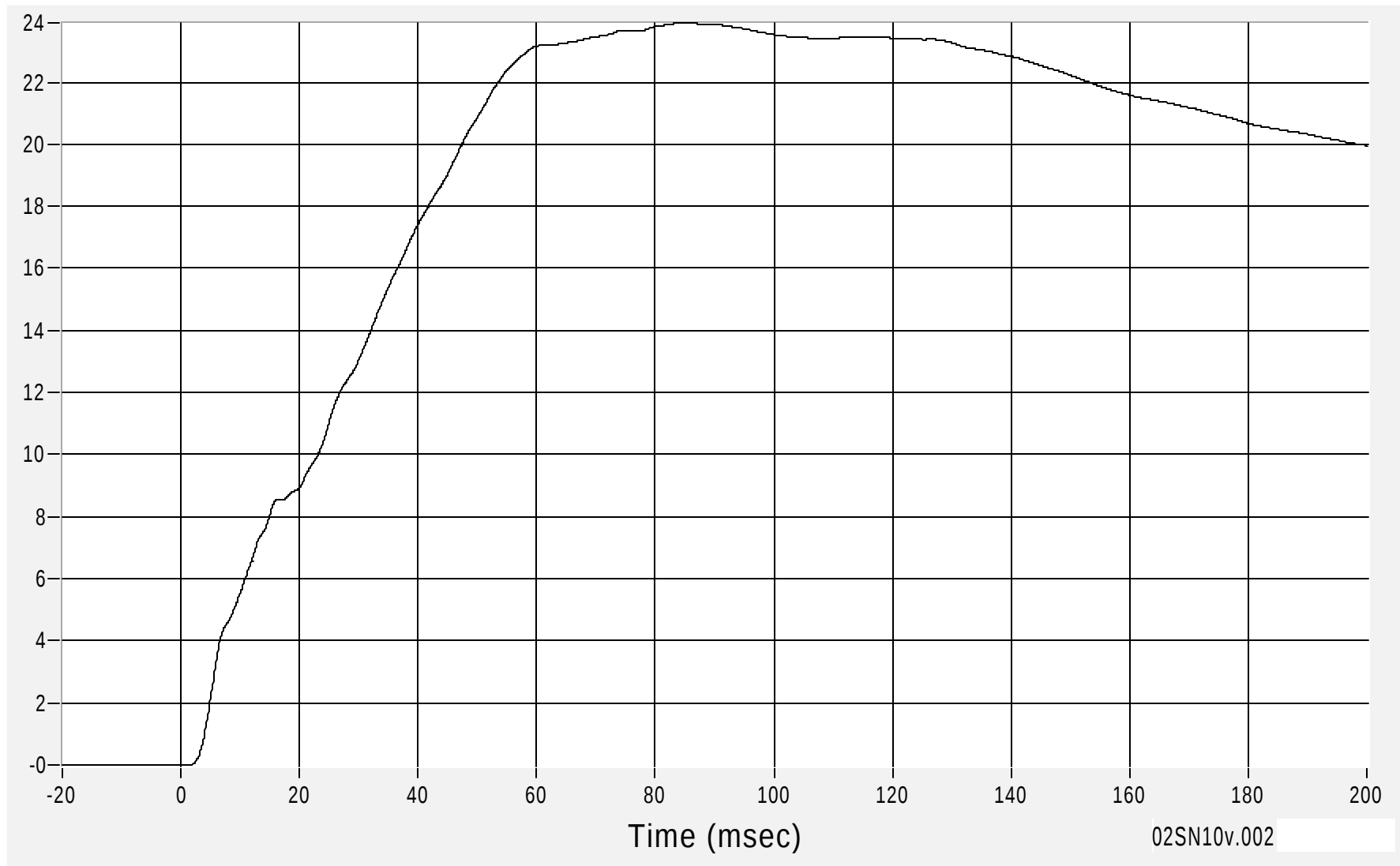
Right Side Sill at Front Seat (Y) Velocity

Velocity (km/h) CFC180

Max 23.9 km/h at 84.4 msec

Min 0.0 km/h at 1.2 msec

B-47



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

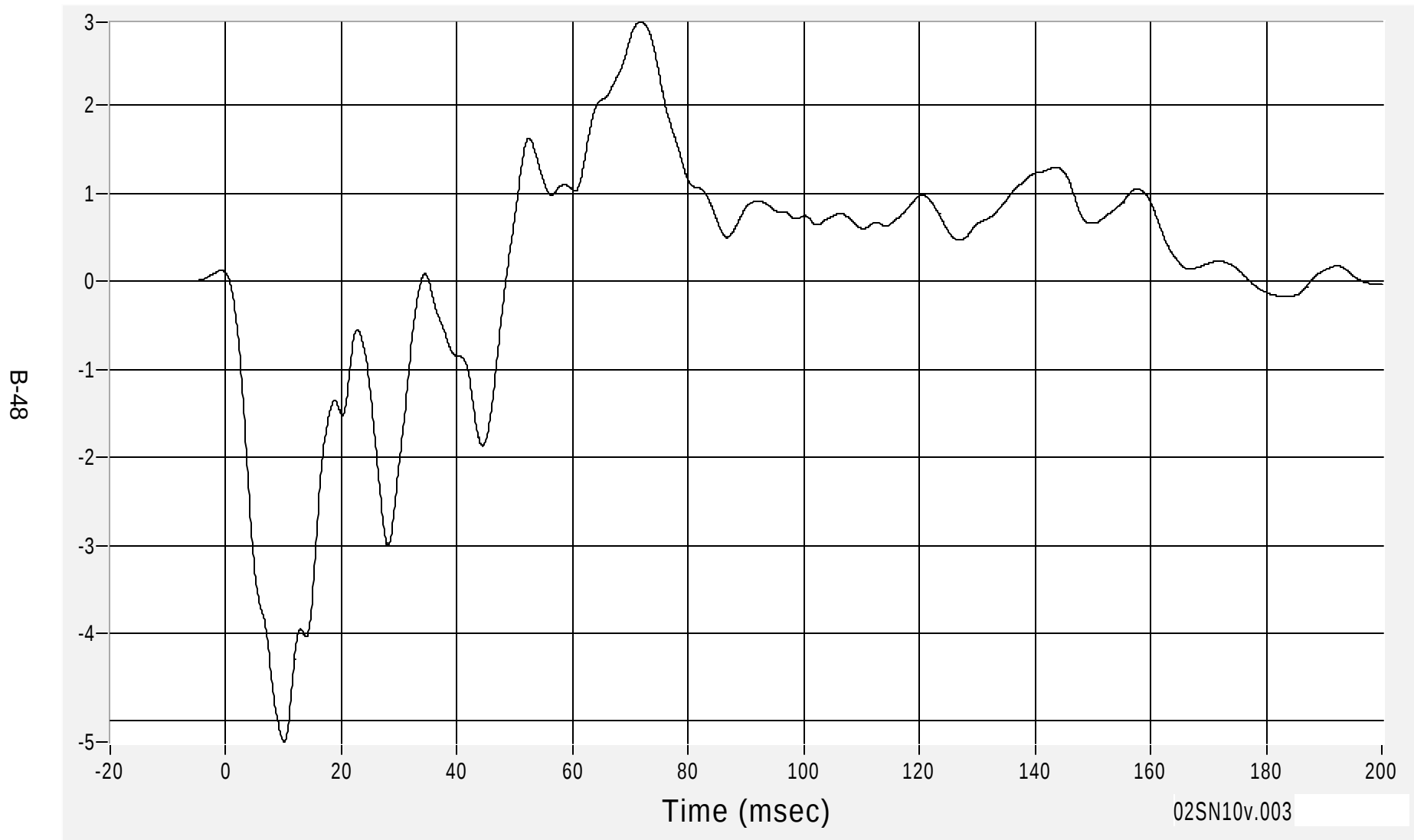
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Right Side Sill at Front Seat (Z) Acceleration

Max 2.9 G's at 71.8 msec

Acceleration (G's) CFC60

Min -5.2 G's at 10.1 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

Medical College of Wisconsin
Vehicle Crashworthiness Lab

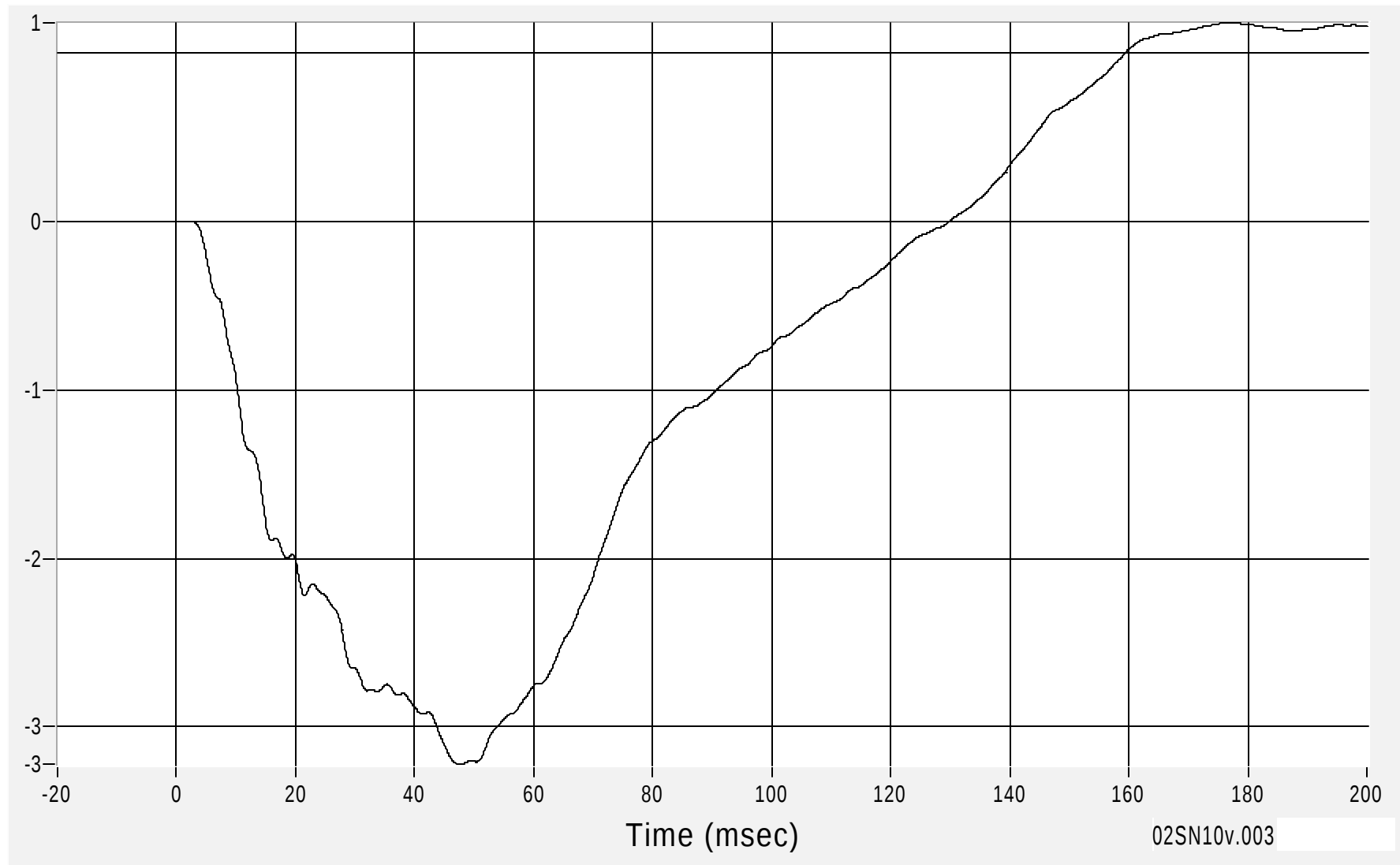
Right Side Sill at Front Seat (Z) Velocity

Max 1.2 km/h at 177.5 msec

Velocity (km/h) CFC180

Min -3.2 km/h at 47.6 msec

B-49



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

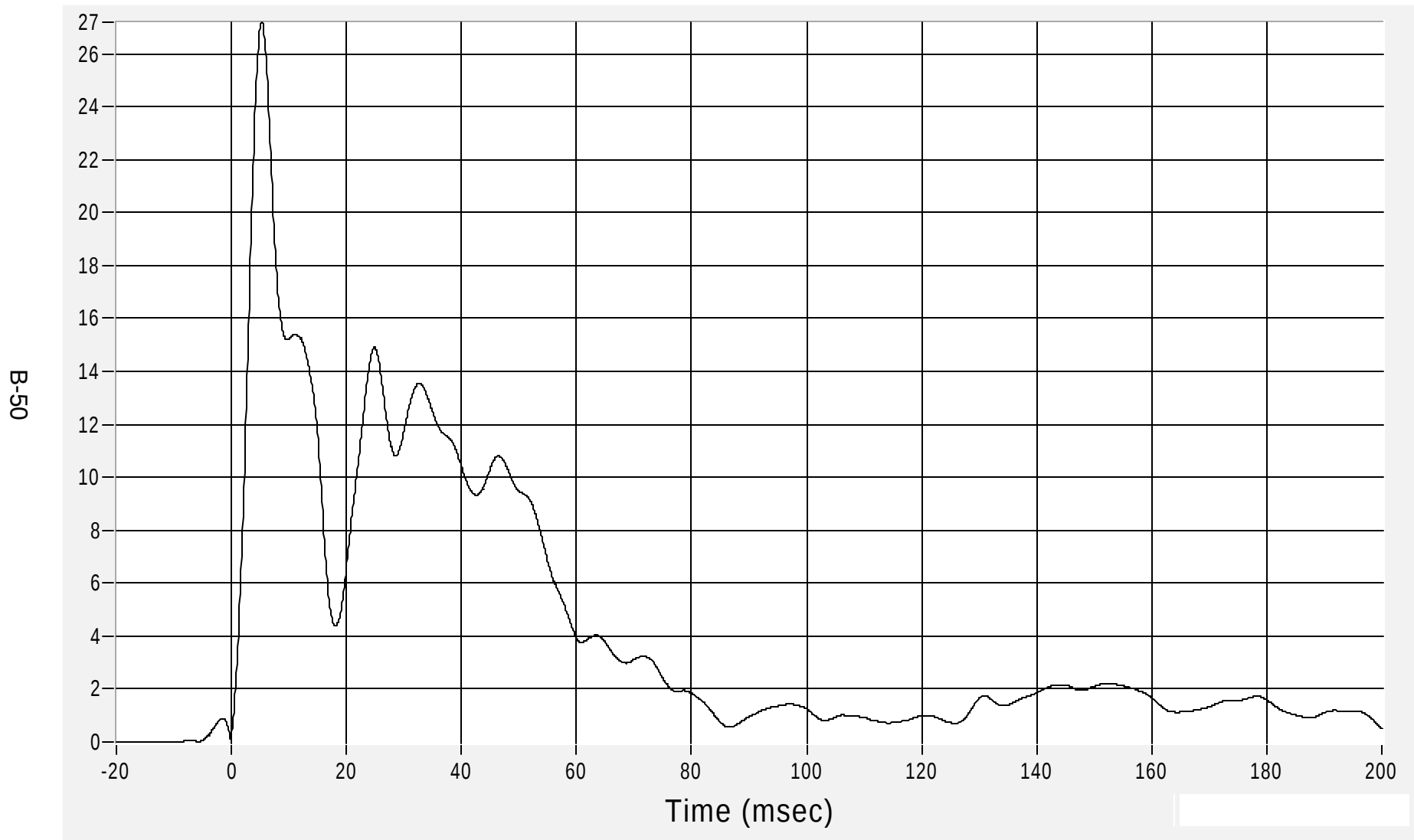
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Right Side Sill at Front Seat Resultant Acceleration

Max 27.2 G's at 5.3 msec

Acceleration (G's) CFC60

Min 0.2 G's at 0.0 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

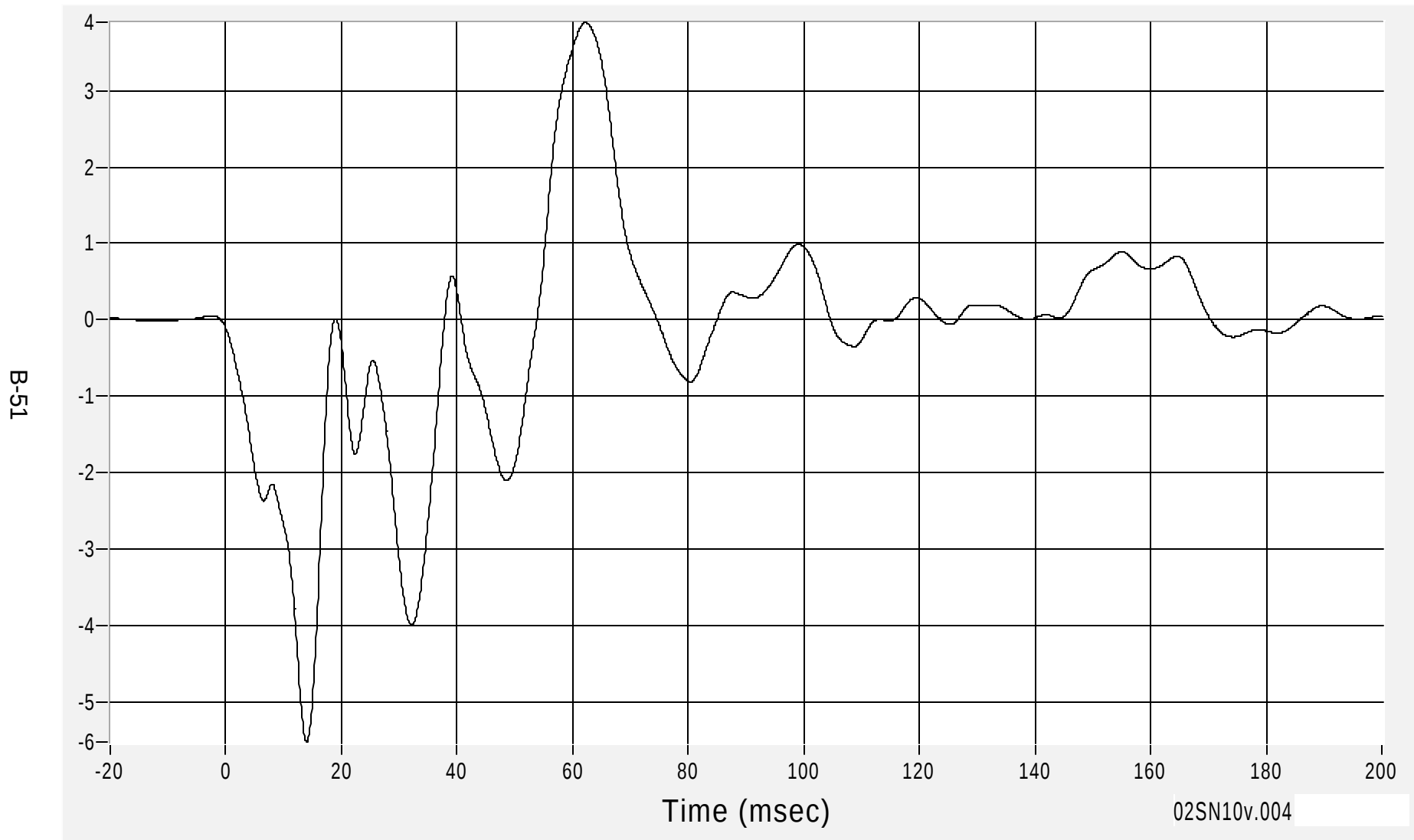
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Right Side Sill at Rear Seat (X) Acceleration

Max 3.9 G's at 62.2 msec

Acceleration (G's) CFC60

Min -5.5 G's at 14.0 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

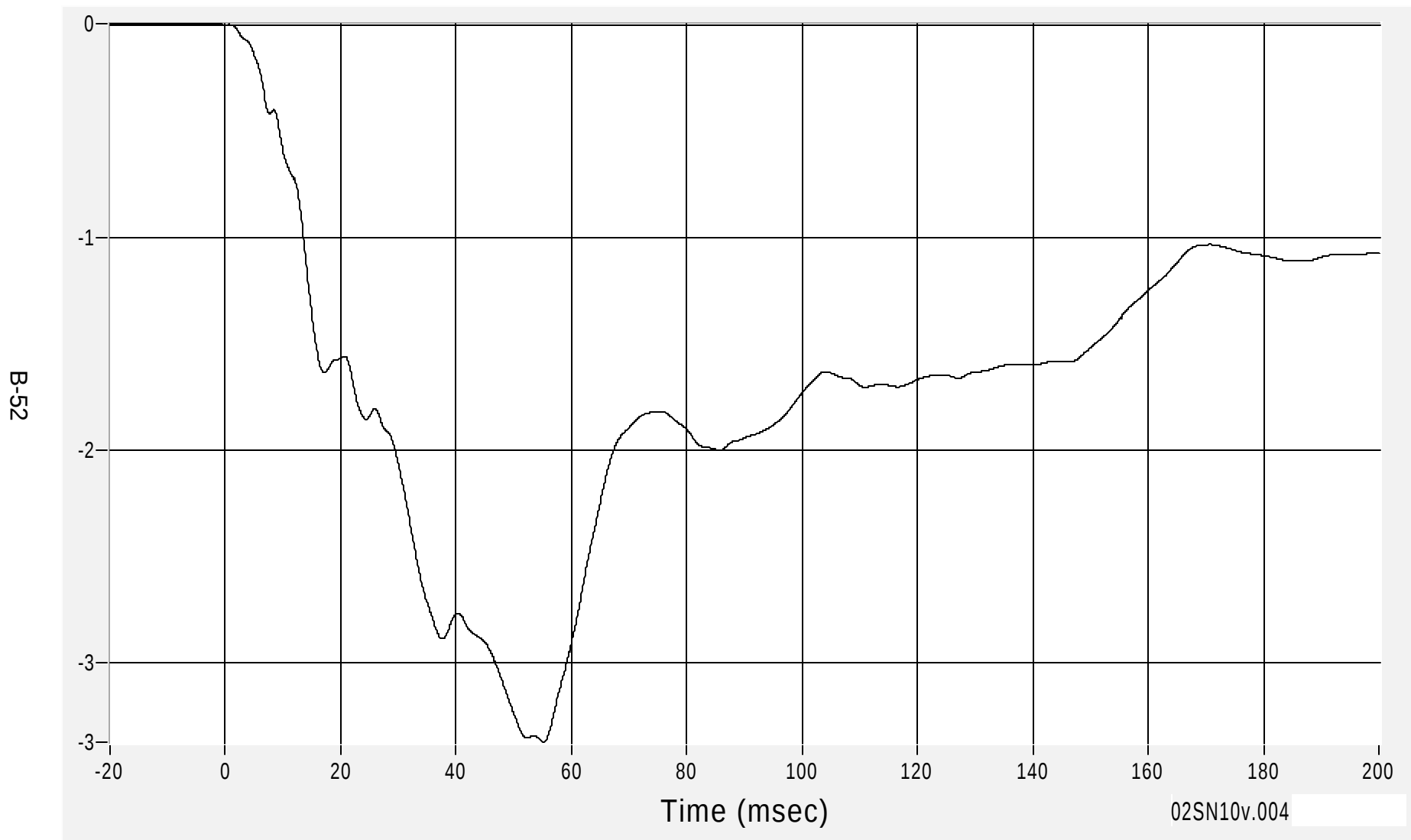
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Right Side Sill at Rear Seat (X) Velocity

Max 0.0 km/h at 0.6 msec

Velocity (km/h) CFC180

Min -3.4 km/h at 55.1 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

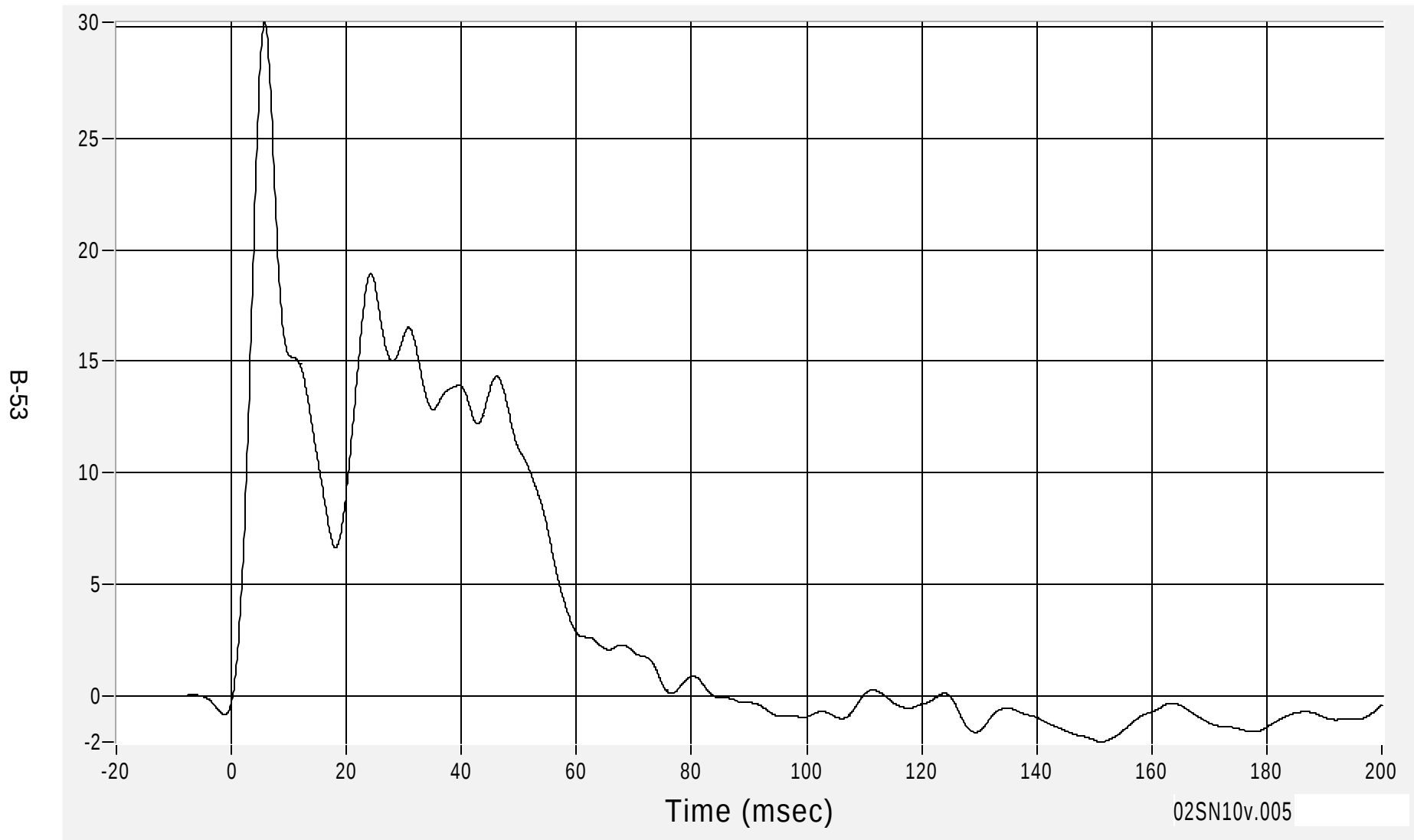
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Right Side Sill at Rear Seat (Y) Acceleration

Max 30.2 G's at 5.8 msec

Acceleration (G's) CFC60

Min -2.1 G's at 151.2 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

Medical College of Wisconsin
Vehicle Crashworthiness Lab

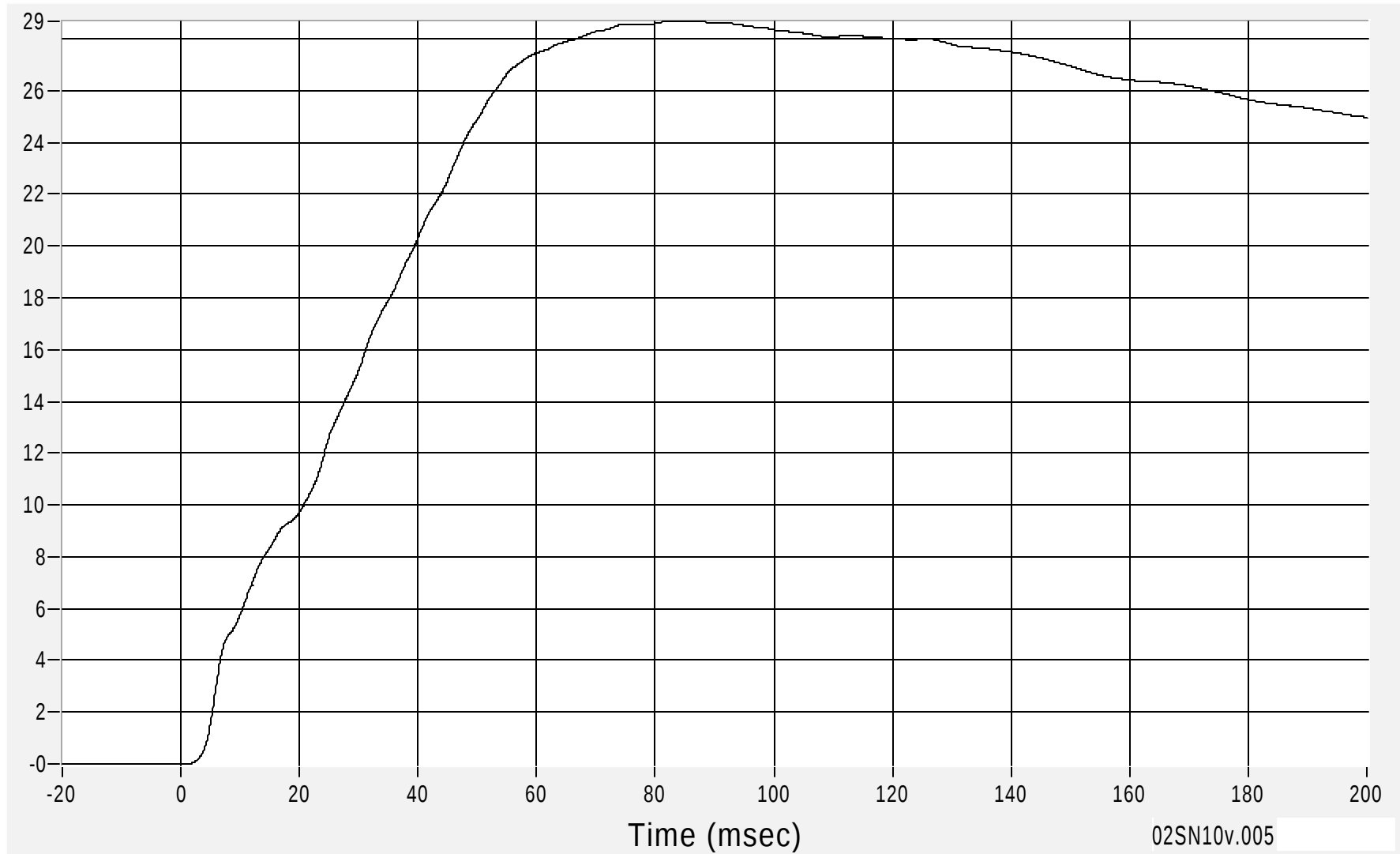
Right Side Sill at Rear Seat (Y) Velocity

Max 28.7 km/h at 82.4 msec

Min 0.0 km/h at 0.6 msec

Velocity (km/h) CFC180

B-54



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

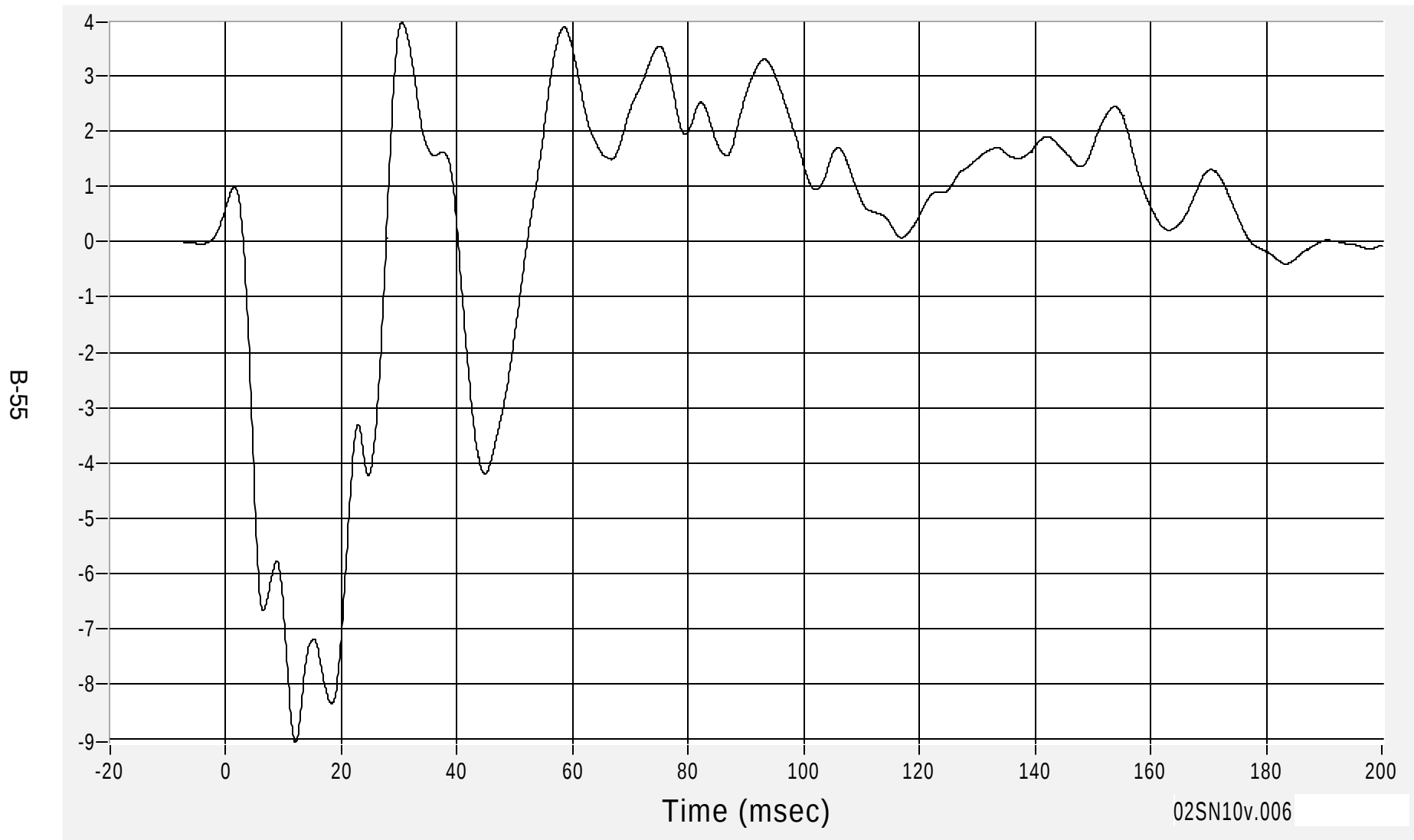
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Right Side Sill at Rear Seat (Z) Acceleration

Max 4.0 G's at 30.5 msec

Min -9.0 G's at 12.0 msec

Acceleration (G's) CFC60



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

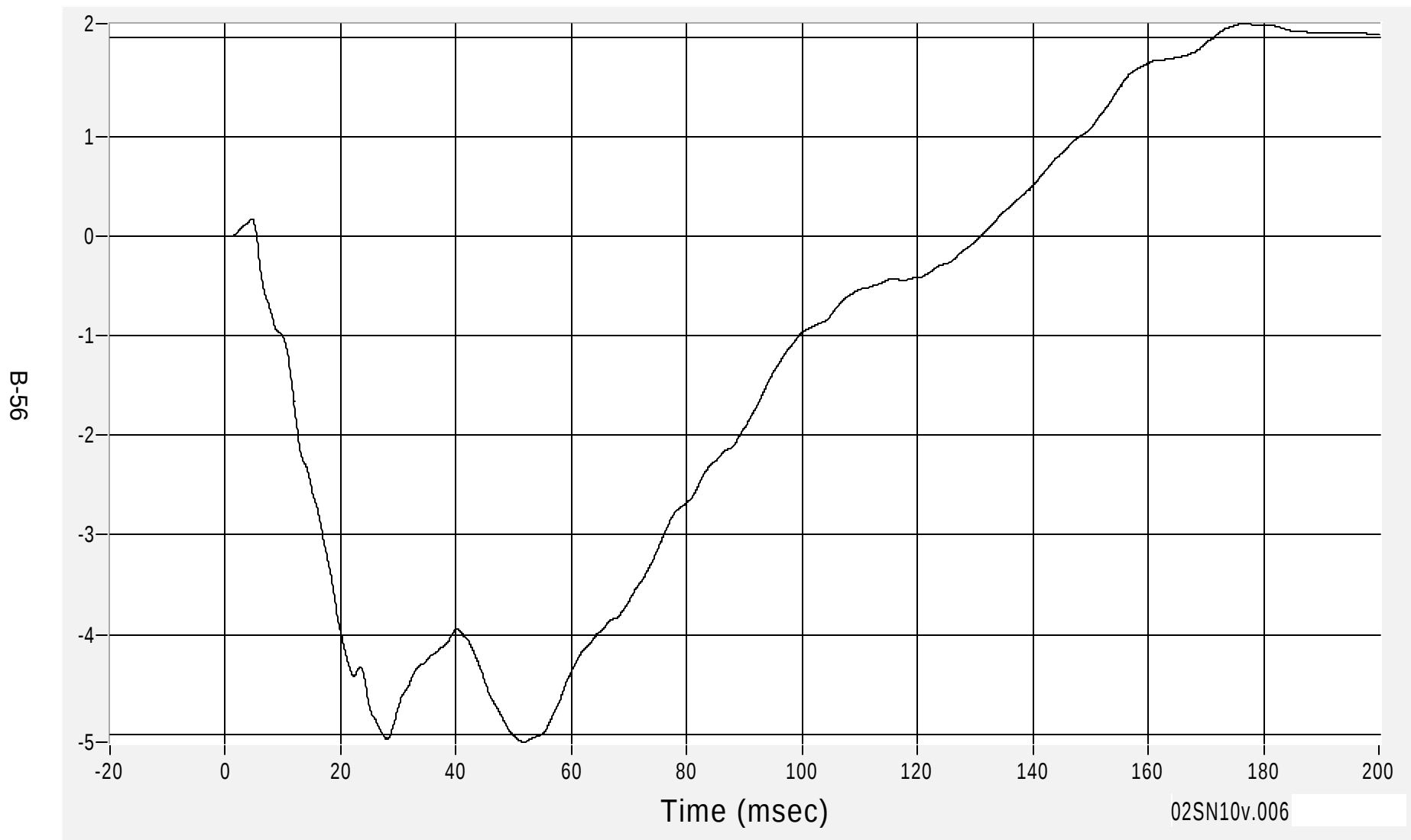
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Right Side Sill at Rear Seat (Z) Velocity

Max 2.1 km/h at 176.6 msec

Velocity (km/h) CFC180

Min -5.1 km/h at 51.7 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

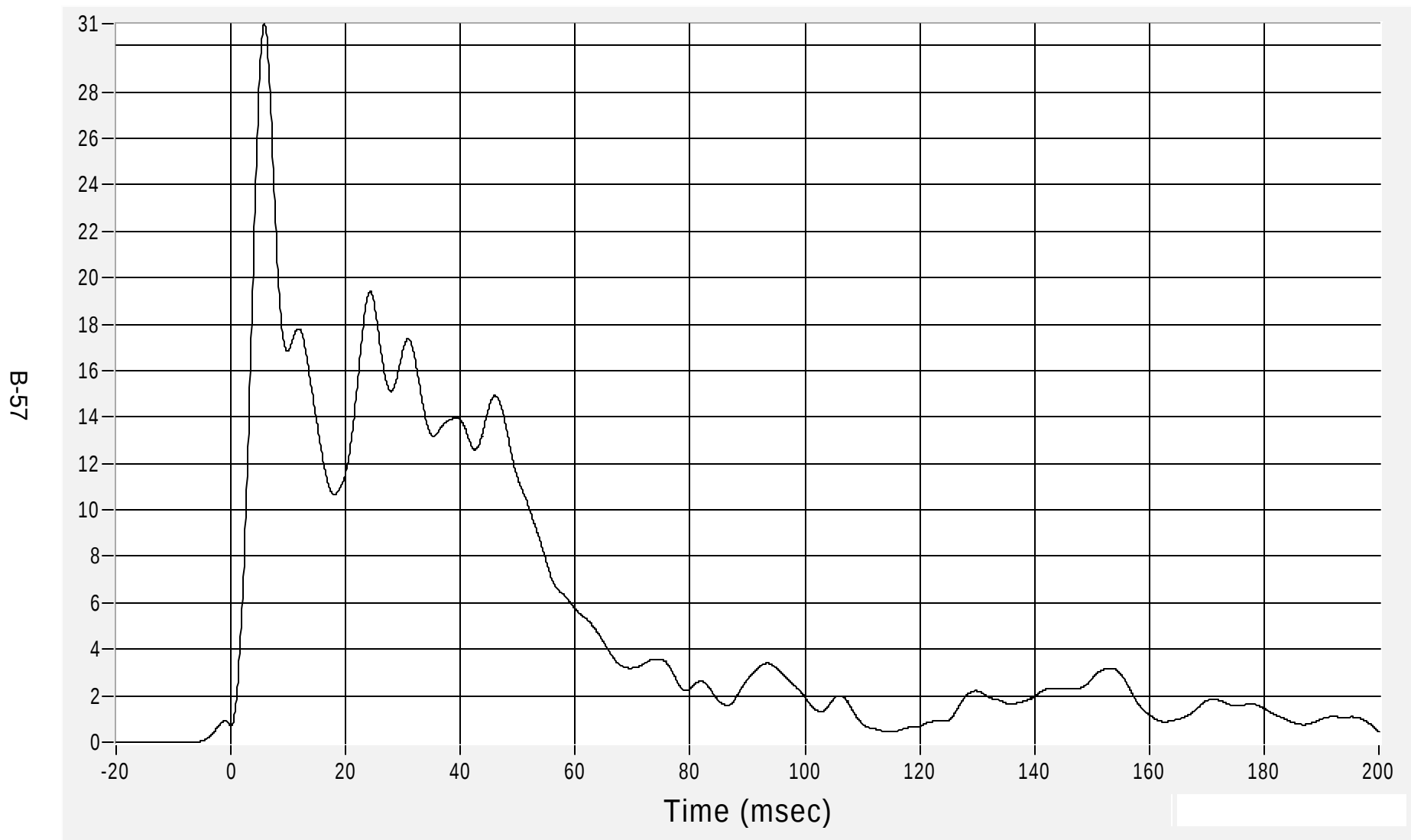
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Right Side Sill at Rear Seat Resultant Acceleration

Max 30.9 G's at 5.8 msec

Acceleration (G's) CFC60

Min 0.4 G's at 115.0 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN
27 June 2002

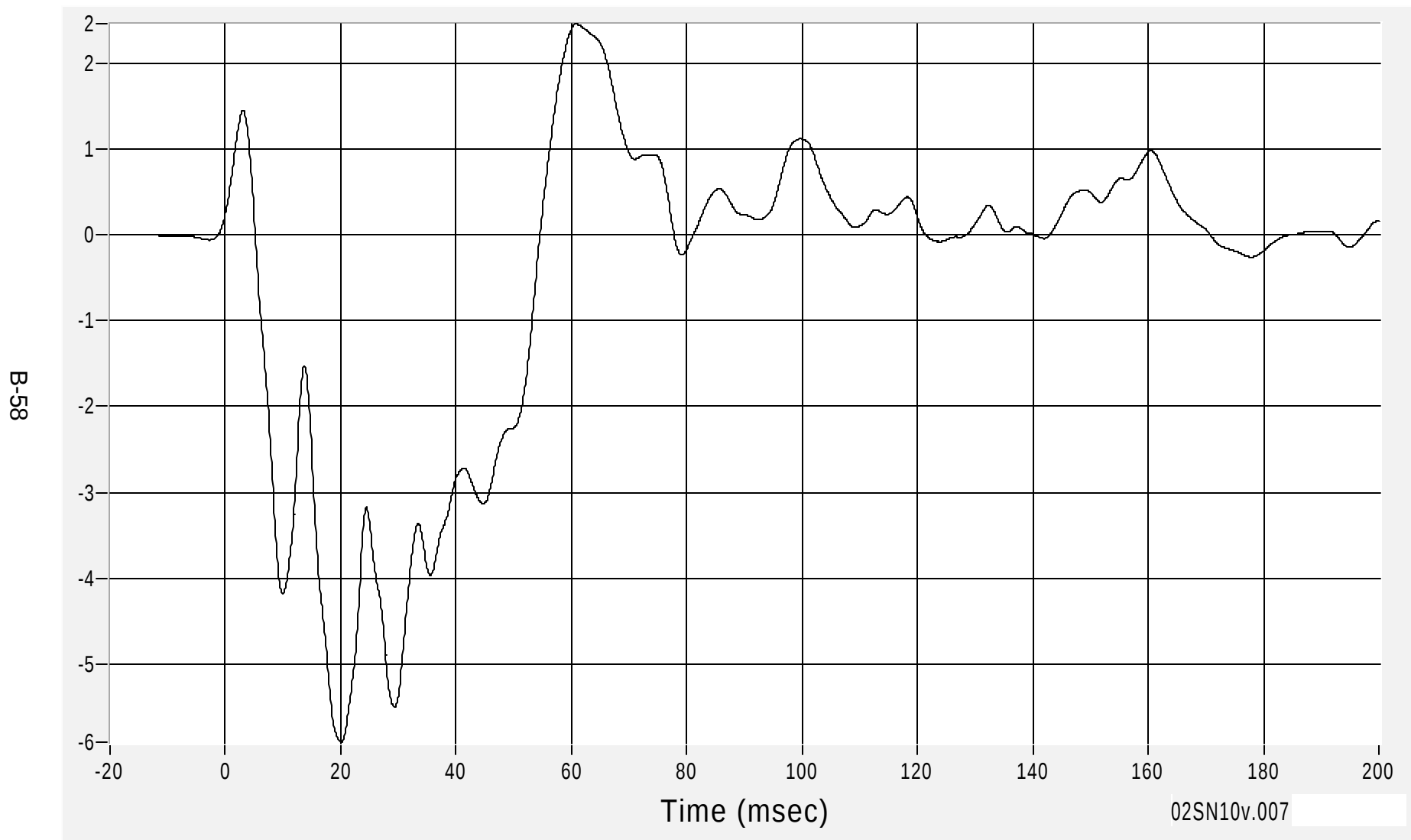
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Rear Floorpan Above Axle (X) Acceleration

Max 2.5 G's at 60.8 msec

Acceleration (G's) CFC60

Min -5.9 G's at 20.1 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

Medical College of Wisconsin
Vehicle Crashworthiness Lab

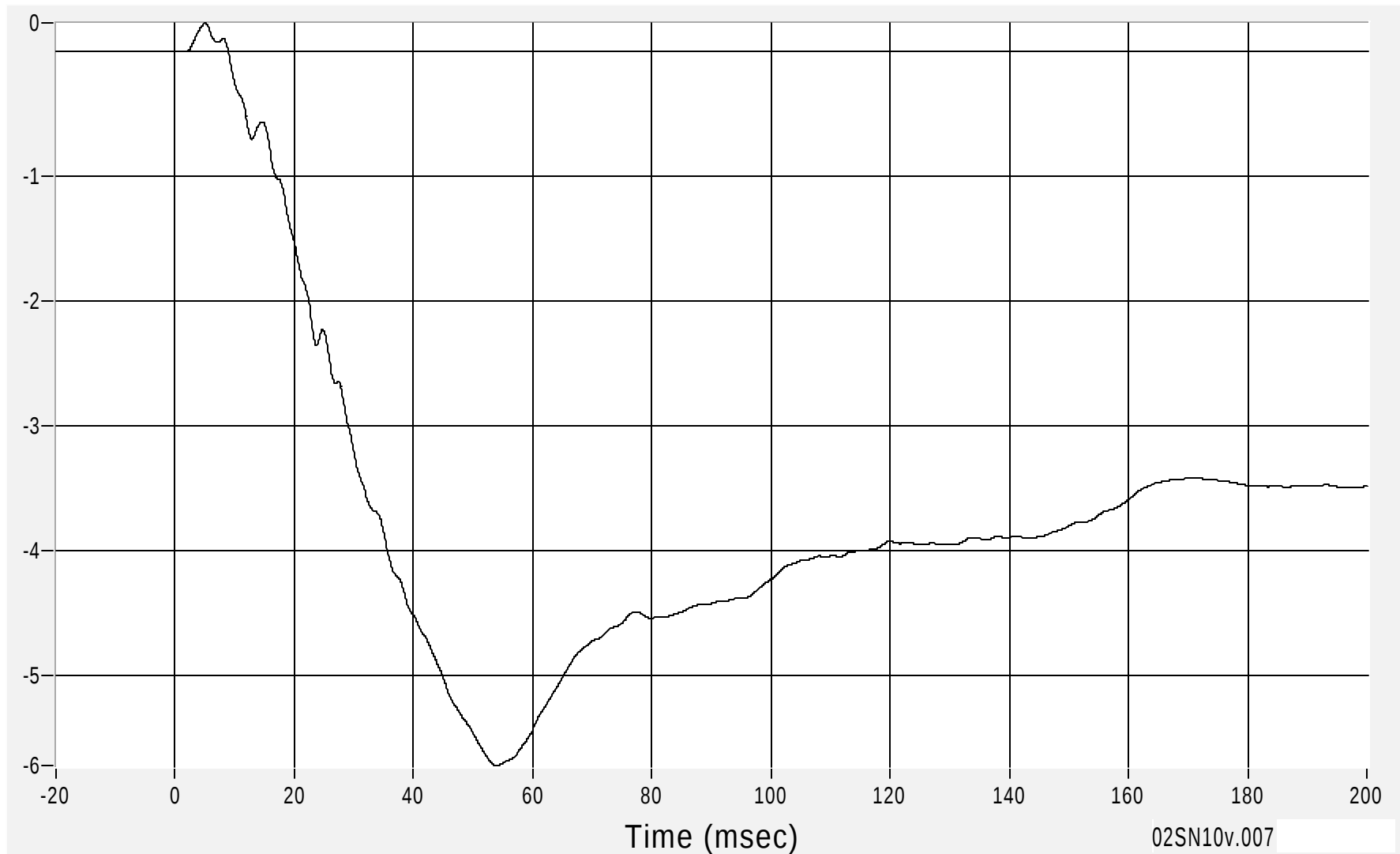
Rear Floorpan Above Axle (X) Velocity

Max 0.2 km/h at 5.0 msec

Velocity (km/h) CFC180

Min -5.7 km/h at 53.9 msec

B-59



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

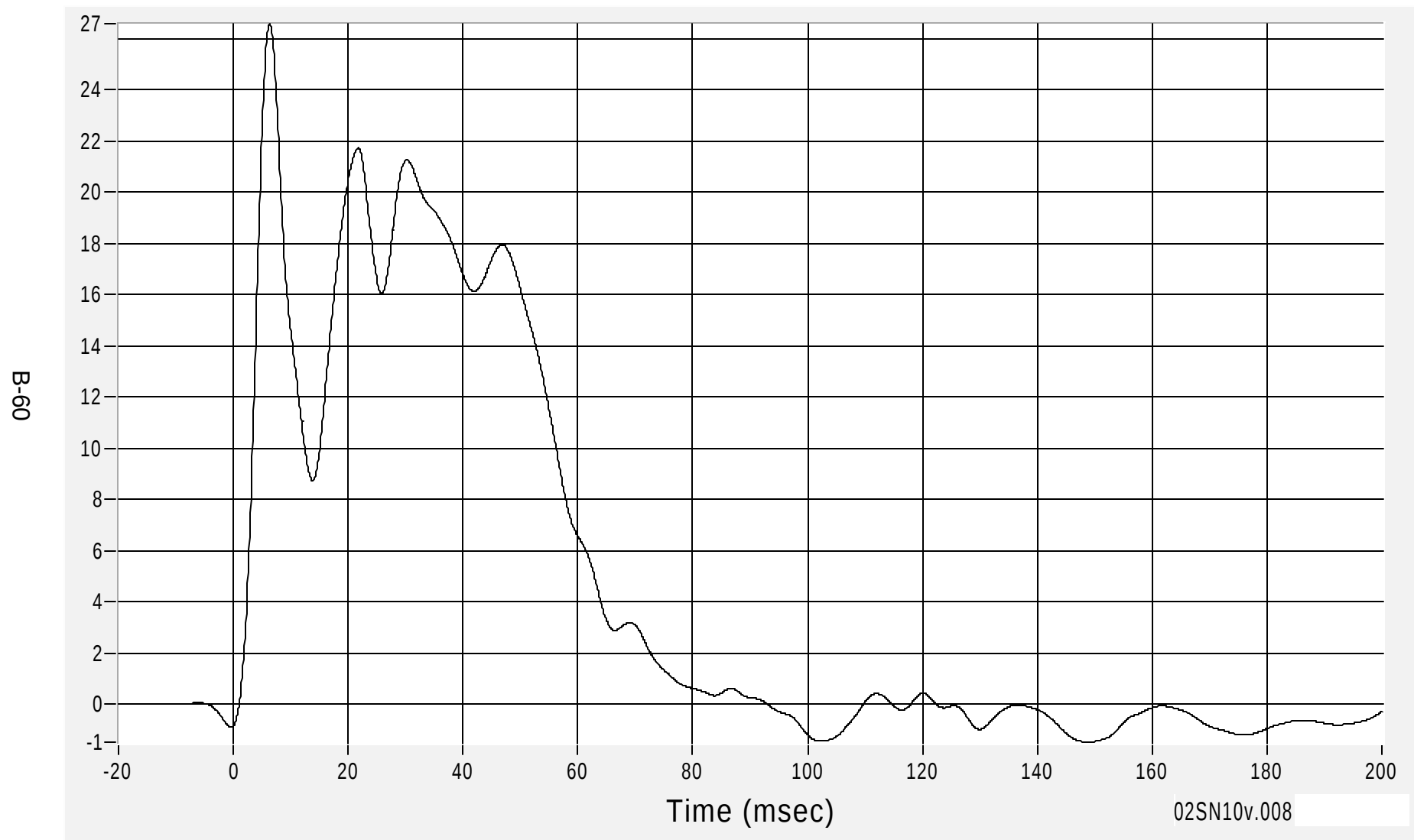
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Rear Floorpan Above Axle (Y) Acceleration

Max 26.6 G's at 6.3 msec

Min -1.5 G's at 148.9 msec

Acceleration (G's) CFC60



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

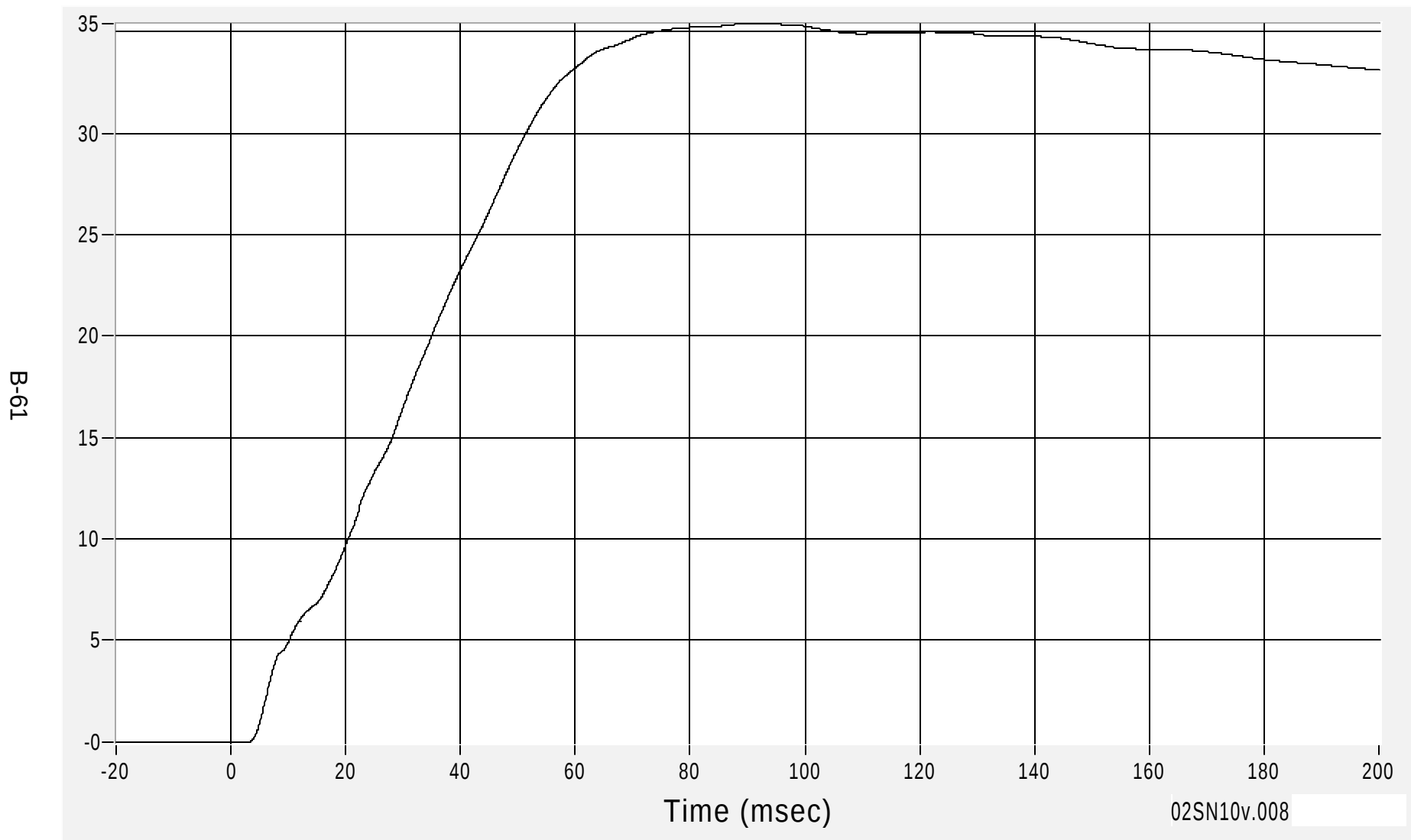
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Rear Floorpan Above Axle (Y) Velocity

Velocity (km/h) CFC180

Max 35.4 km/h at 93.0 msec

Min 0.0 km/h at 2.7 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

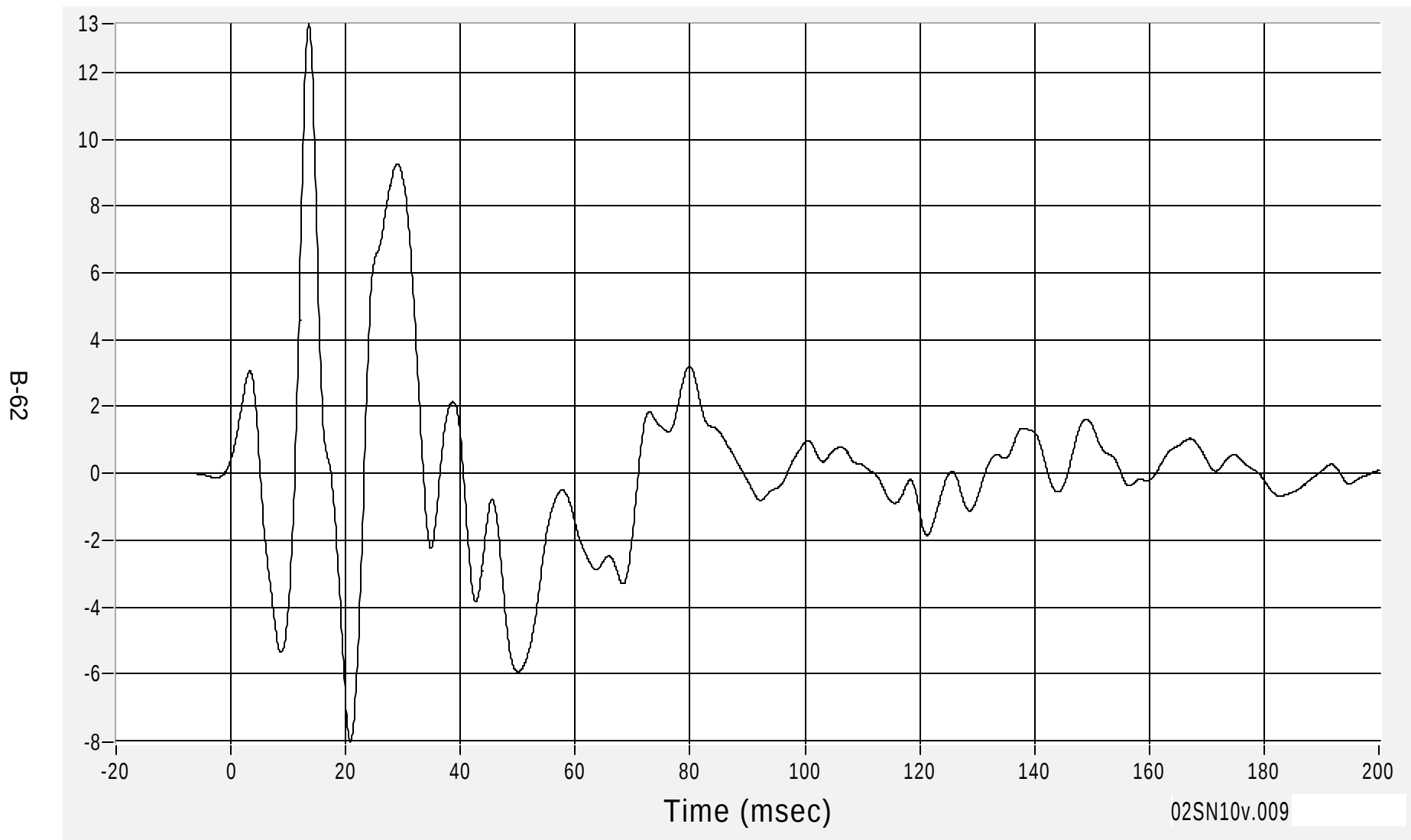
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Rear Floorpan Above Axle (Z) Acceleration

Max 13.5 G's at 13.6 msec

Acceleration (G's) CFC60

Min -8.0 G's at 20.8 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

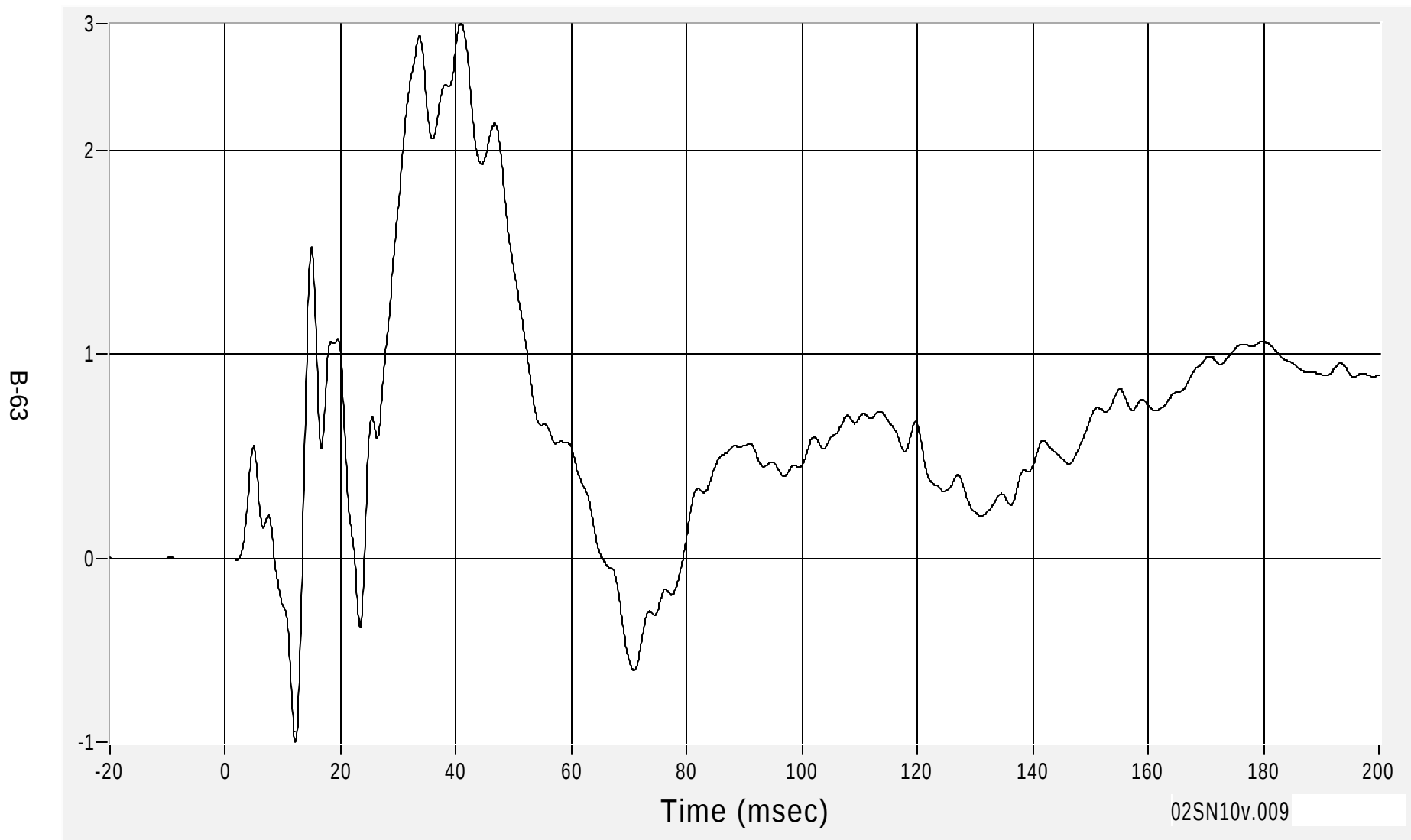
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Rear Floorpan Above Axle (Z) Velocity

Max 2.6 km/h at 40.8 msec

Velocity (km/h) CFC180

Min -0.9 km/h at 12.2 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN
27 June 2002

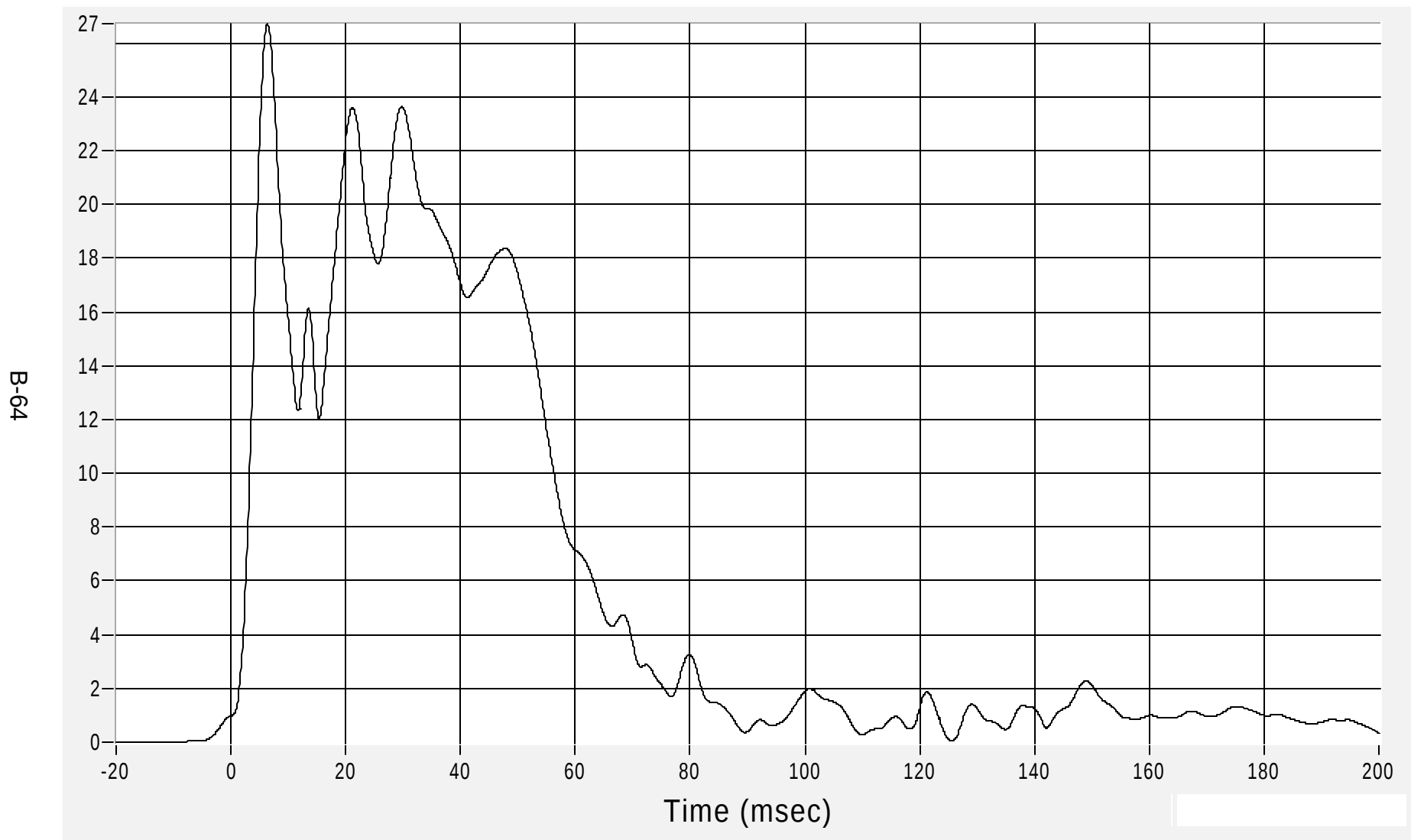
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Rear Floorpan Above Axle Resultant Acceleration

Max 26.7 G's at 6.3 msec

Acceleration (G's) CFC60

Min 0.1 G's at 125.3 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

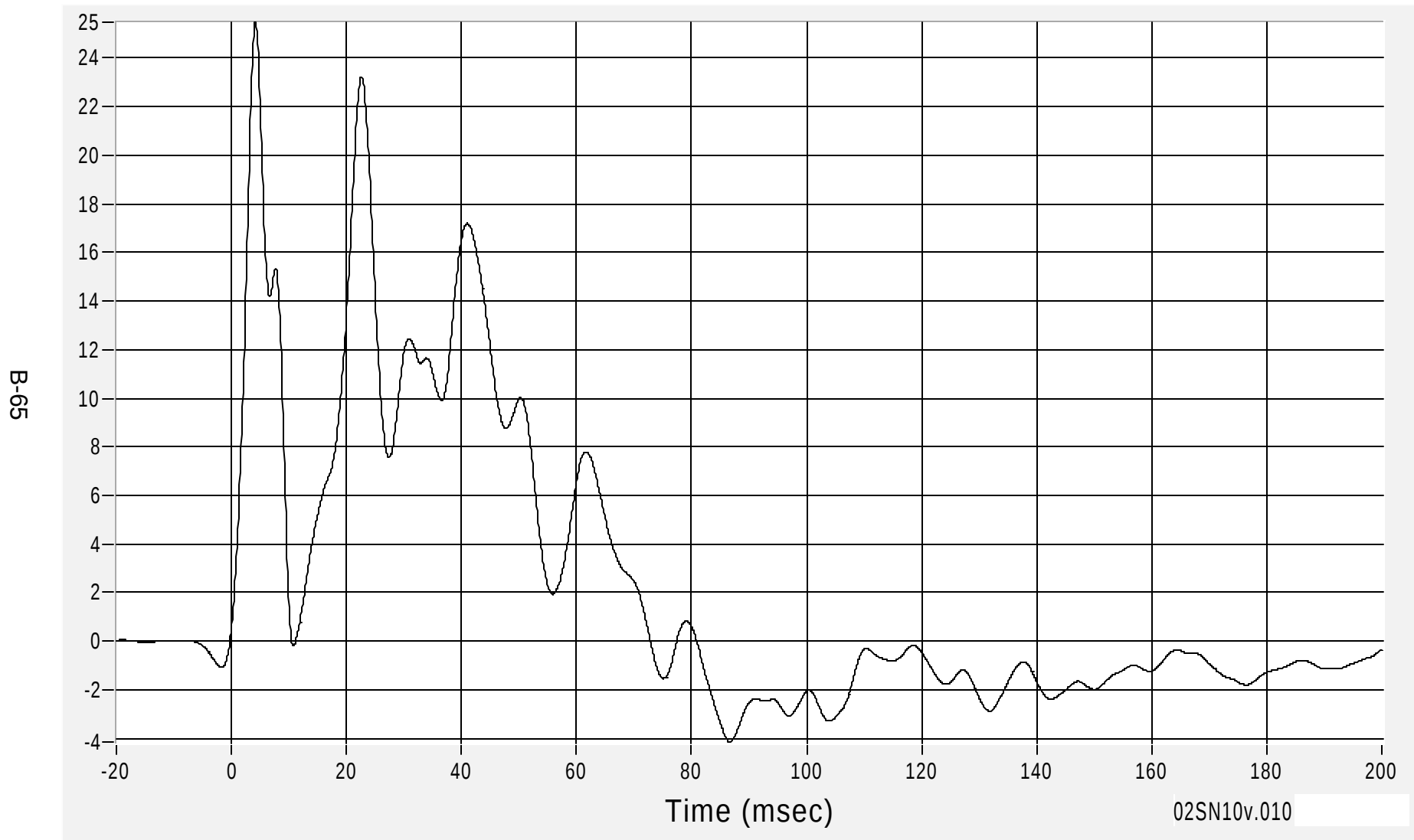
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Left Side Sill at Rear Seat (Y) Acceleration

Max 25.5 G's at 4.2 msec

Min -4.2 G's at 86.6 msec

Acceleration (G's) CFC60



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

Medical College of Wisconsin
Vehicle Crashworthiness Lab

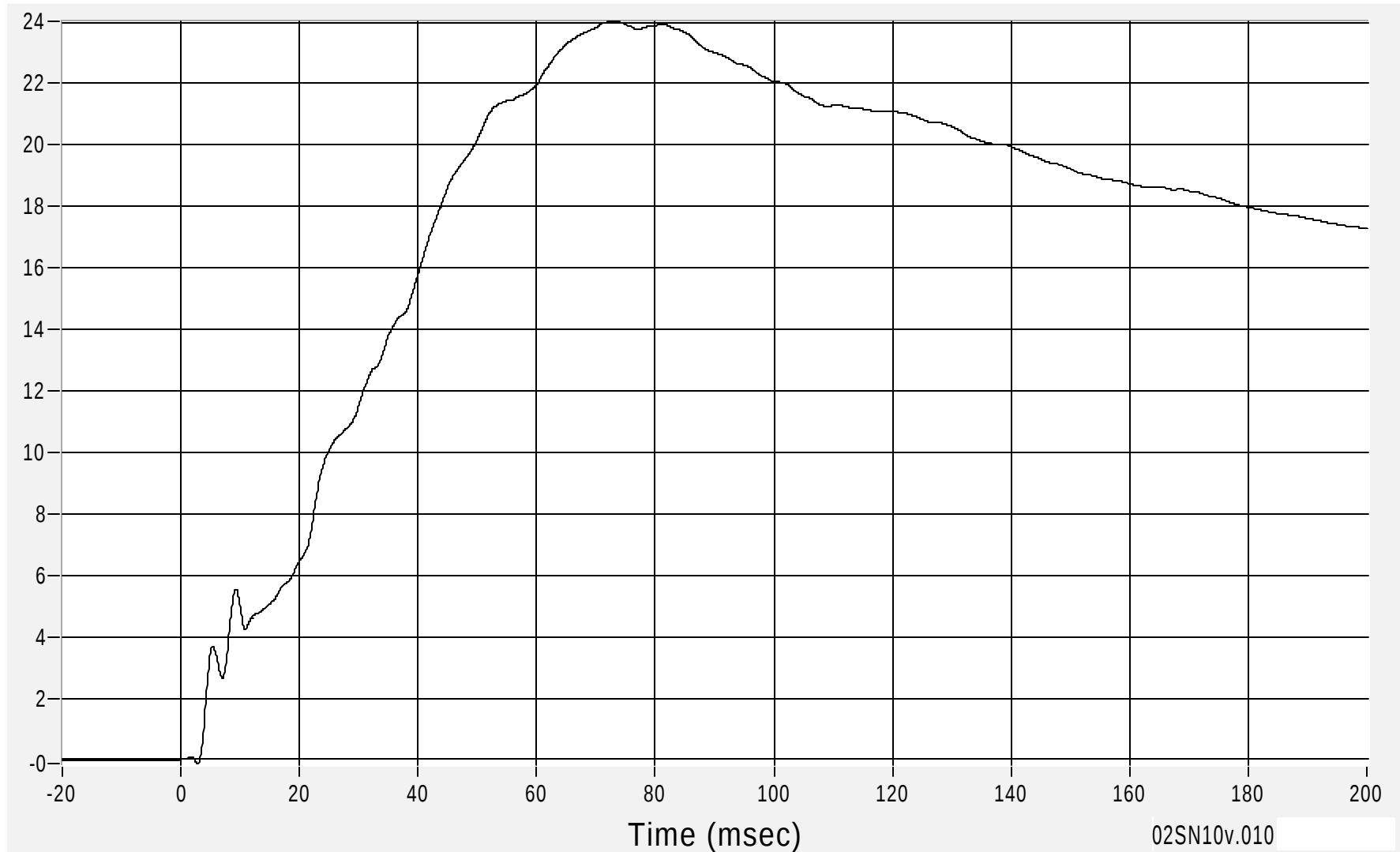
Left Side Sill at Rear Seat (Y) Velocity

Max 24.0 km/h at 72.8 msec

Min -0.1 km/h at 2.8 msec

Velocity (km/h) CFC180

B-66



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

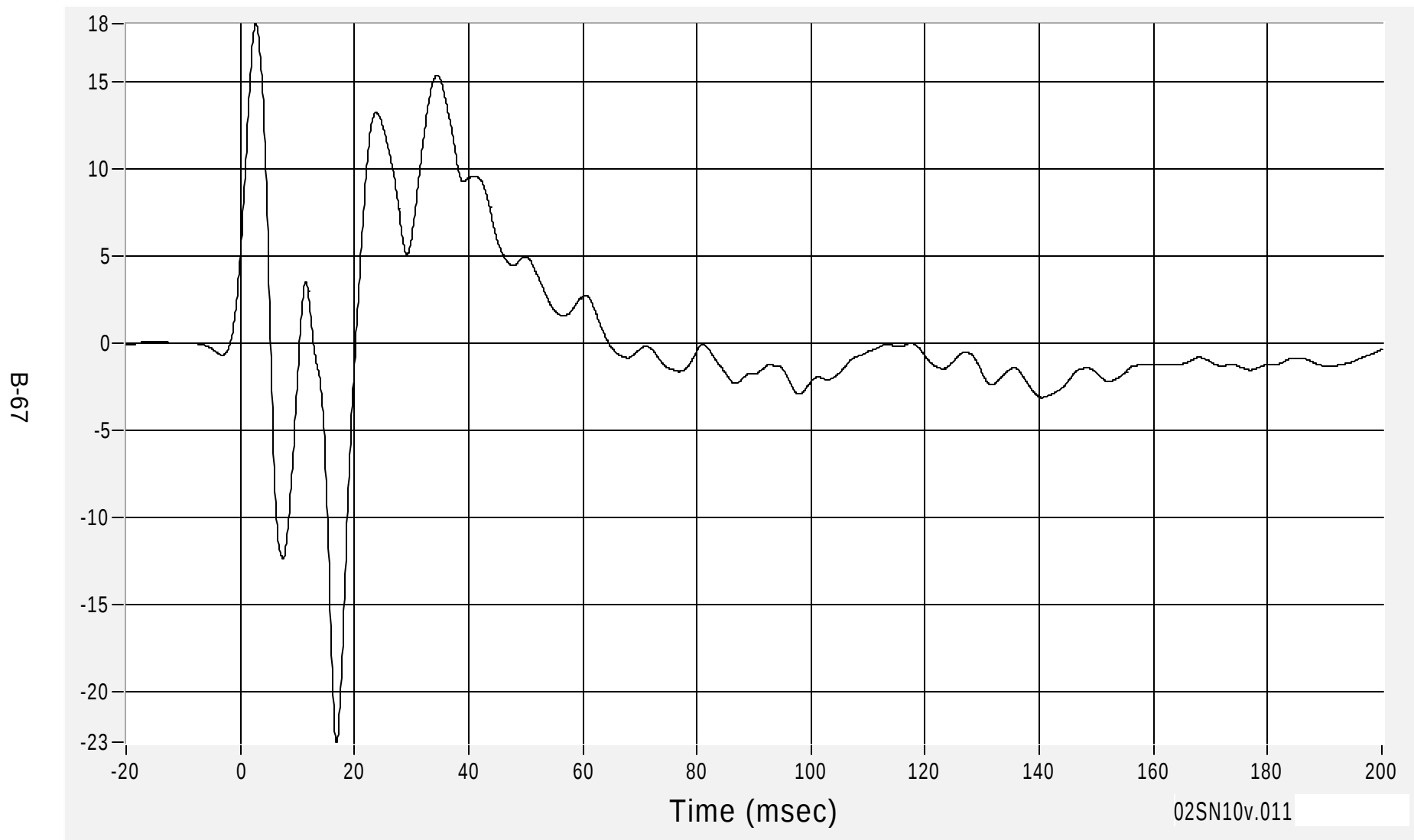
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Left Side Sill at Front Seat (Y) Acceleration

Max 18.3 G's at 2.7 msec

Min -22.9 G's at 16.9 msec

Acceleration (G's) CFC60



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

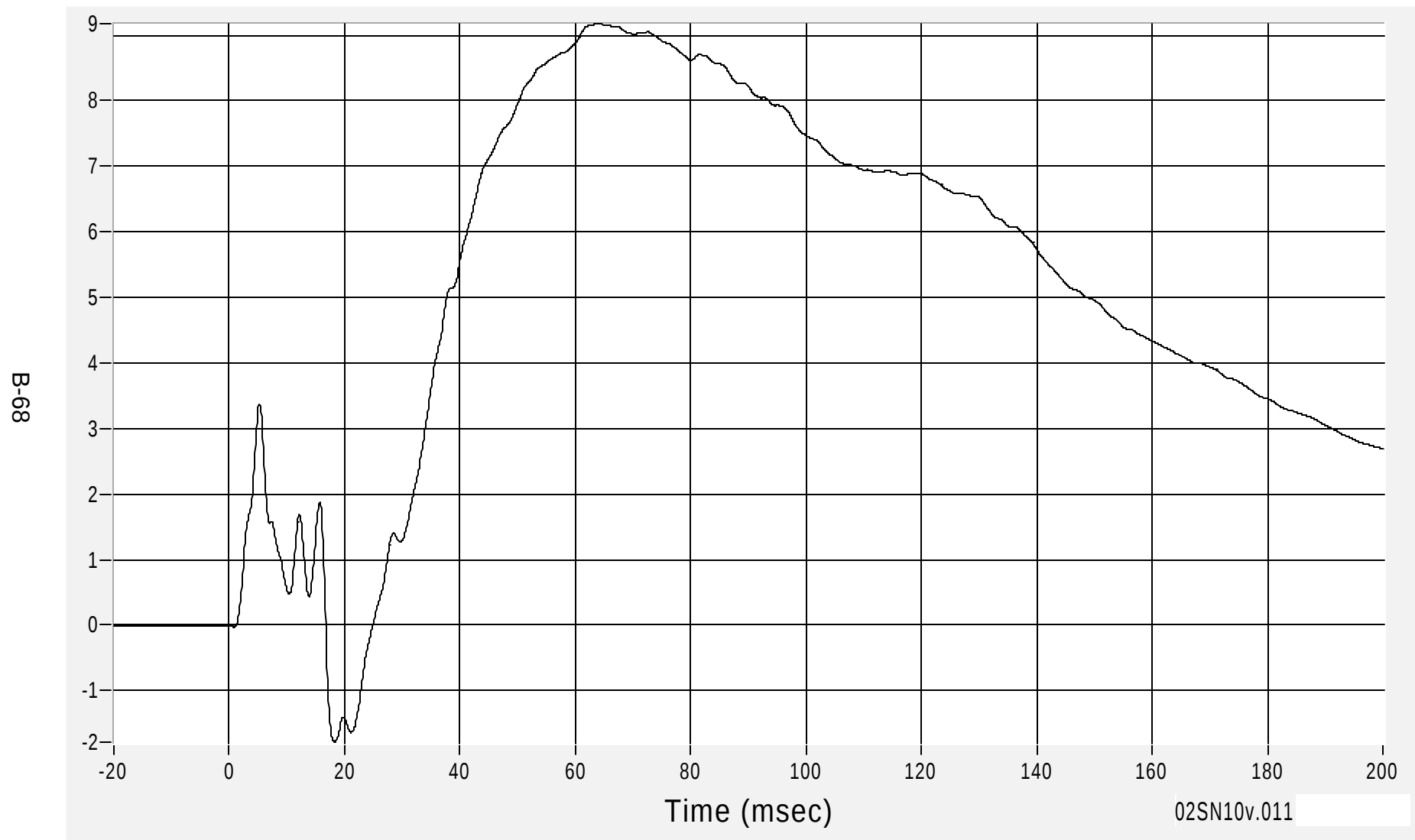
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Left Side Sill at Front Seat (Y) Velocity

Max 9.2 km/h at 64.0 msec

Velocity (km/h) CFC180

Min -1.8 km/h at 18.3 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

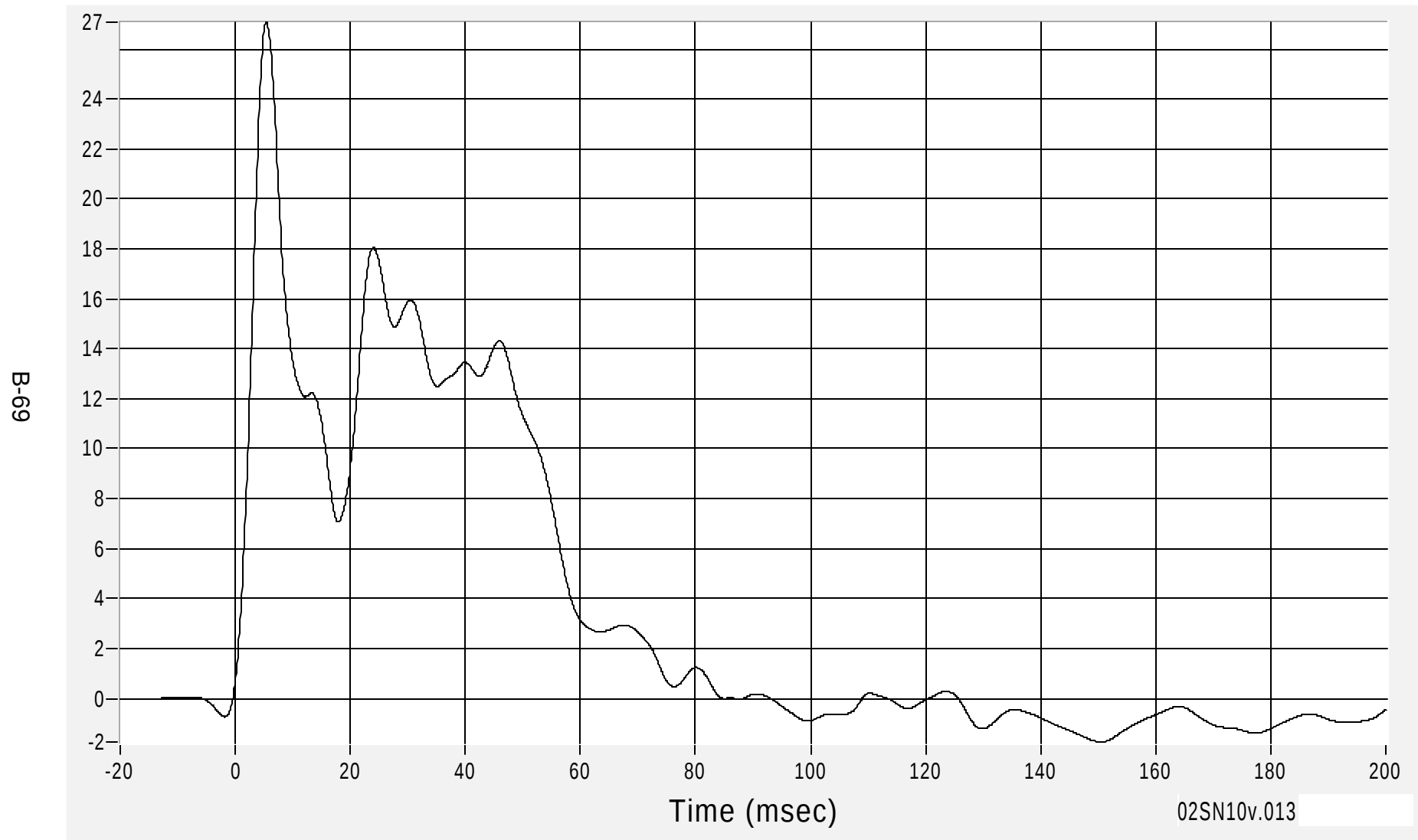
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Right Rear Occupant Compartment (Y) Acceleration

Max 27.1 G's at 5.4 msec

Acceleration (G's) CFC60

Min -1.7 G's at 150.5 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

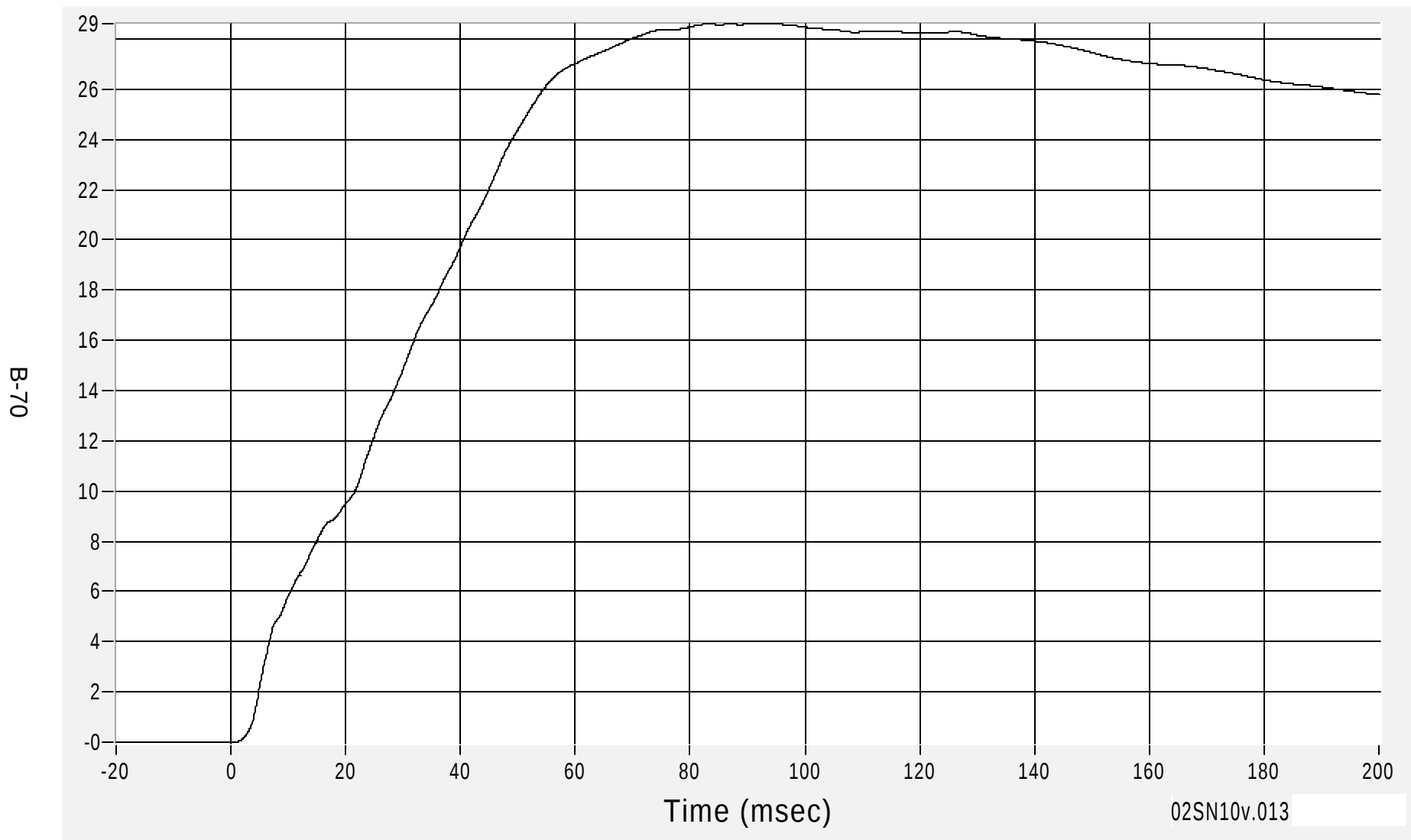
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Right Rear Occupant Compartment (Y) Velocity

Max 28.6 km/h at 92.8 msec

Min 0.0 km/h at 0.3 msec

Velocity (km/h) CFC180



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

Medical College of Wisconsin
Vehicle Crashworthiness Lab

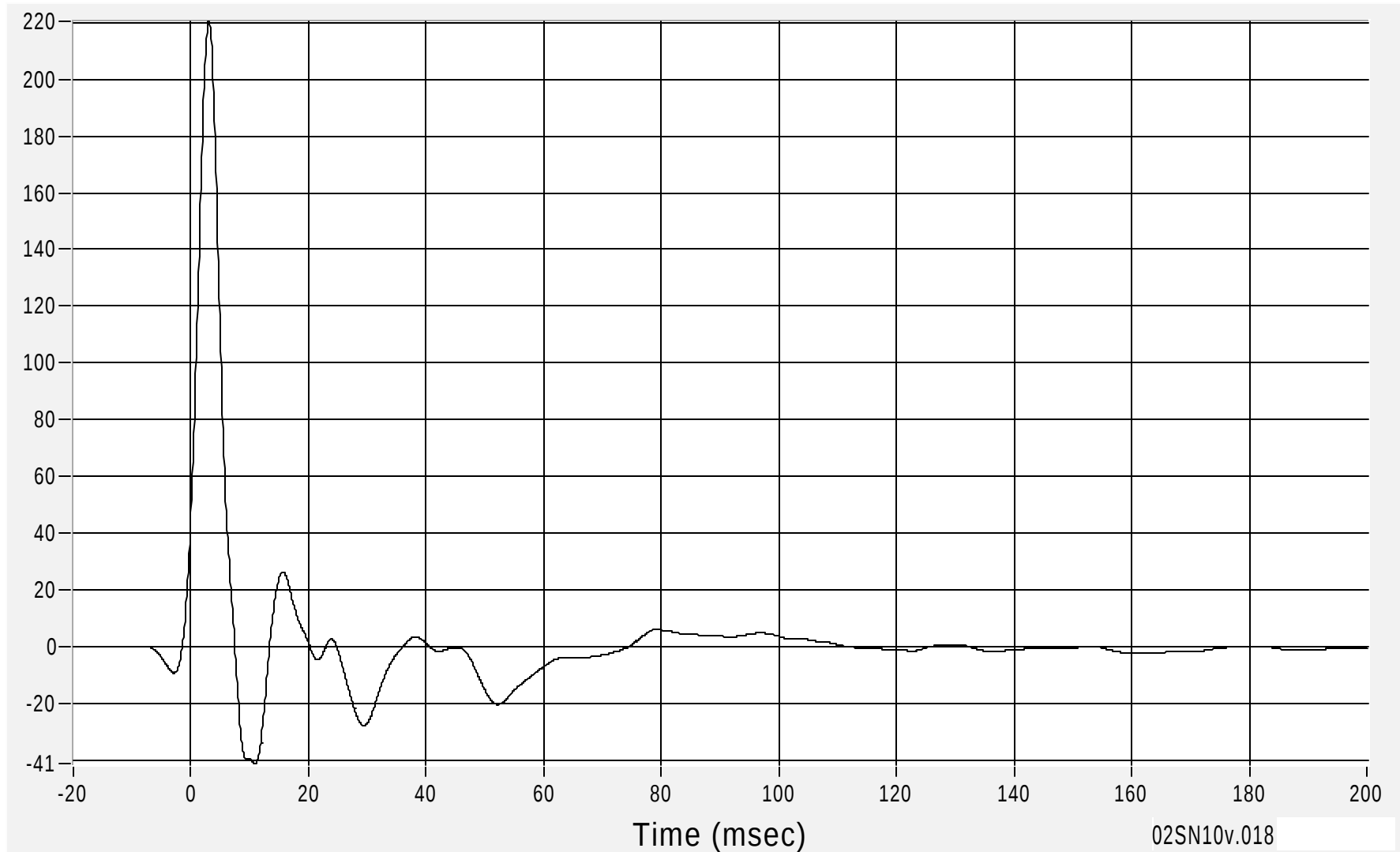
Left Lower B-Pillar (Y) Acceleration

Max 220.4 G's at 3.0 msec

Min -41.0 G's at 10.9 msec

Acceleration (G's) CFC60

B-71



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

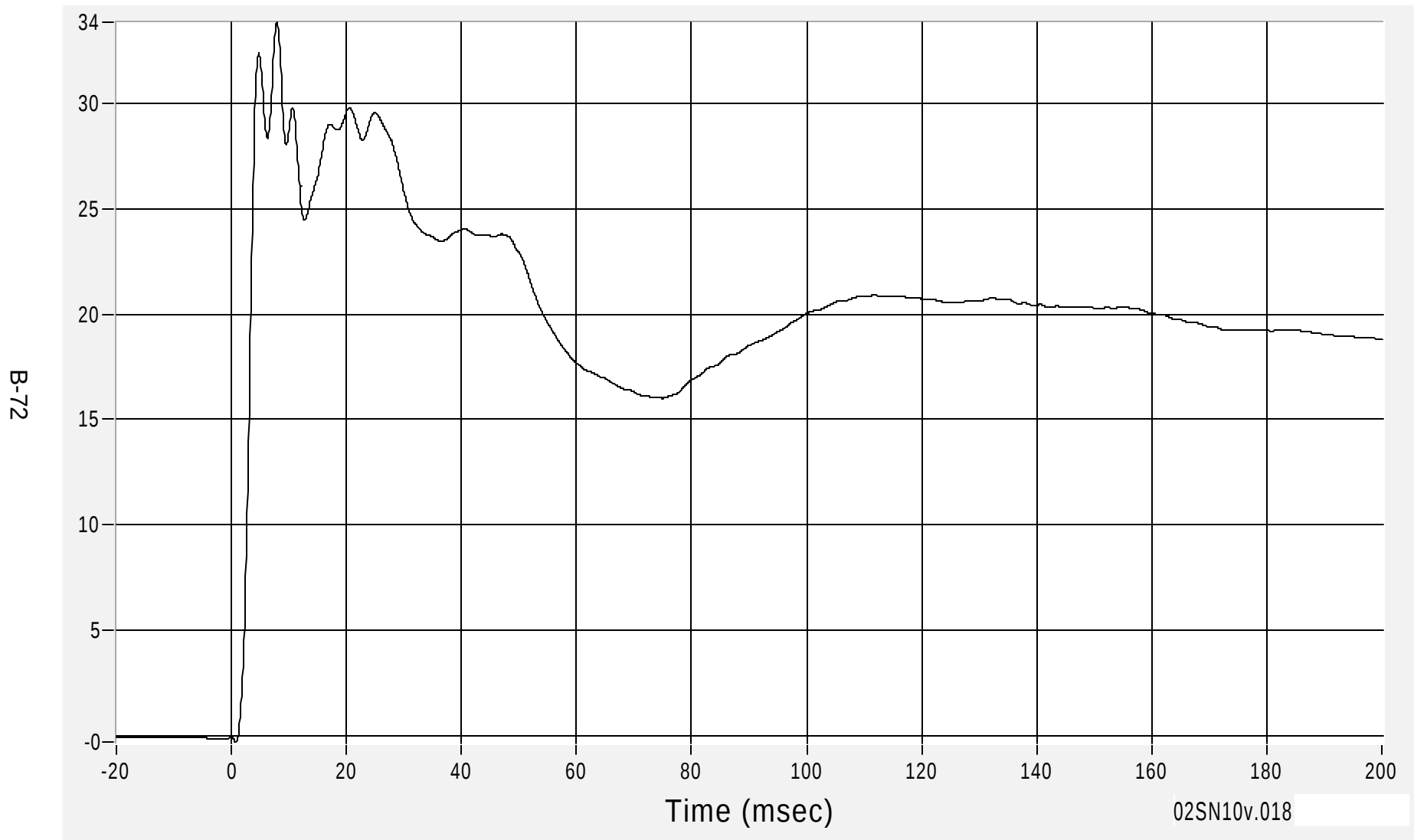
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Left Lower B-Pillar (Y) Velocity

Max 33.8 km/h at 7.9 msec

Min -0.3 km/h at 0.8 msec

Velocity (km/h) CFC180



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

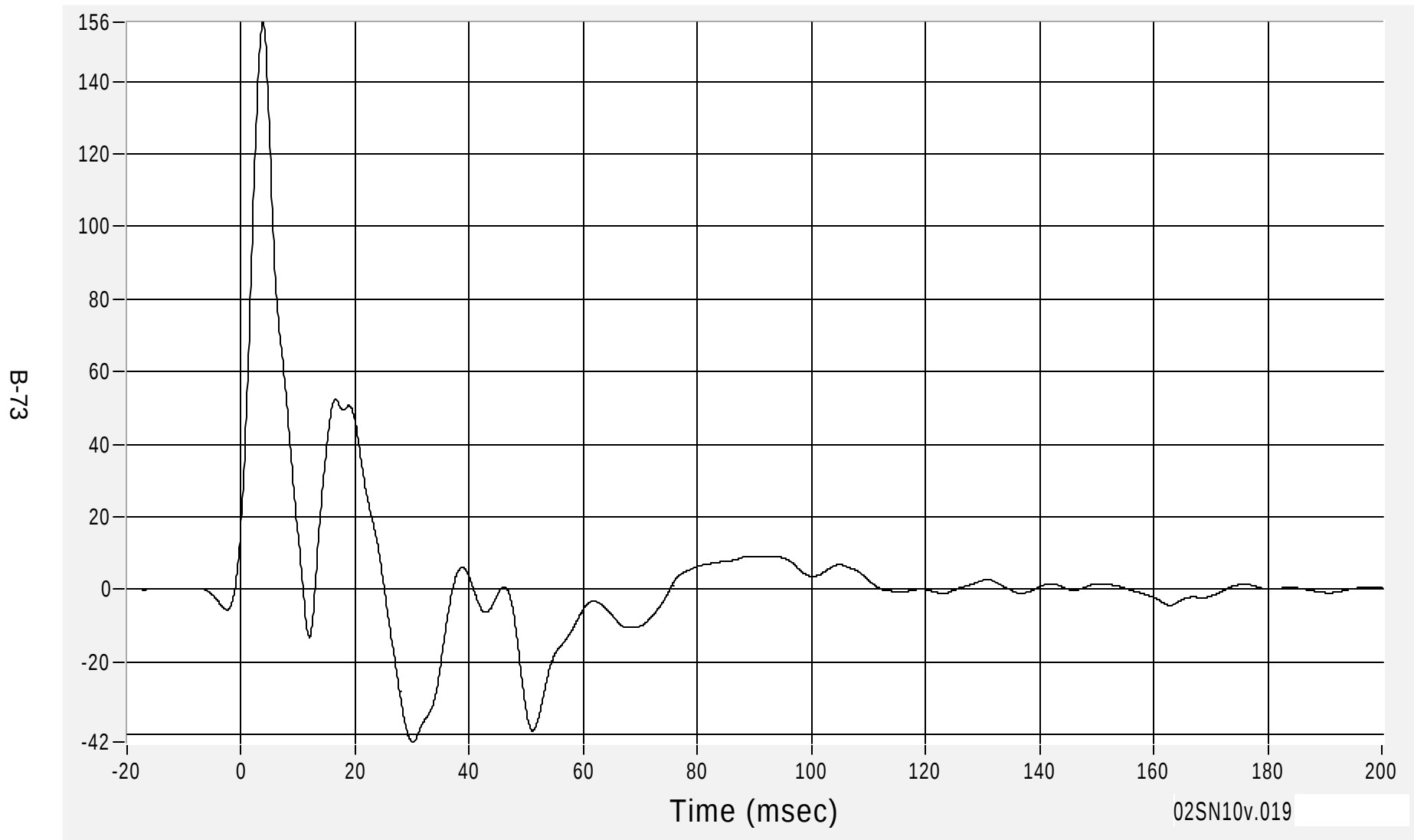
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Left Middle B-Pillar (Y) Acceleration

Max 156.3 G's at 3.8 msec

Acceleration (G's) CFC60

Min -42.1 G's at 30.1 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN
27 June 2002

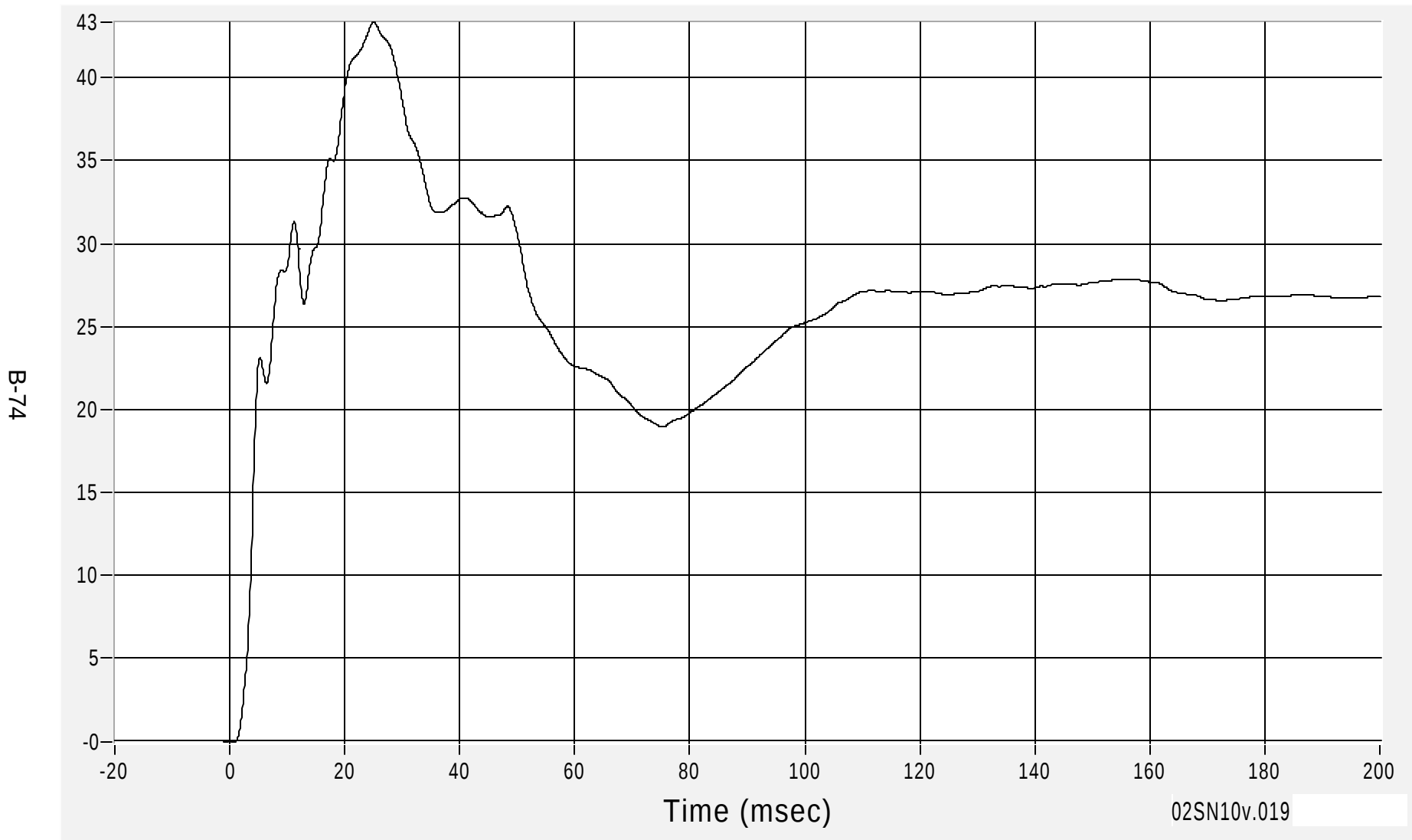
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Left Middle B-Pillar (Y) Velocity

Max 43.3 km/h at 25.0 msec

Min 0.0 km/h at 0.7 msec

Velocity (km/h) CFC180



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN
27 June 2002

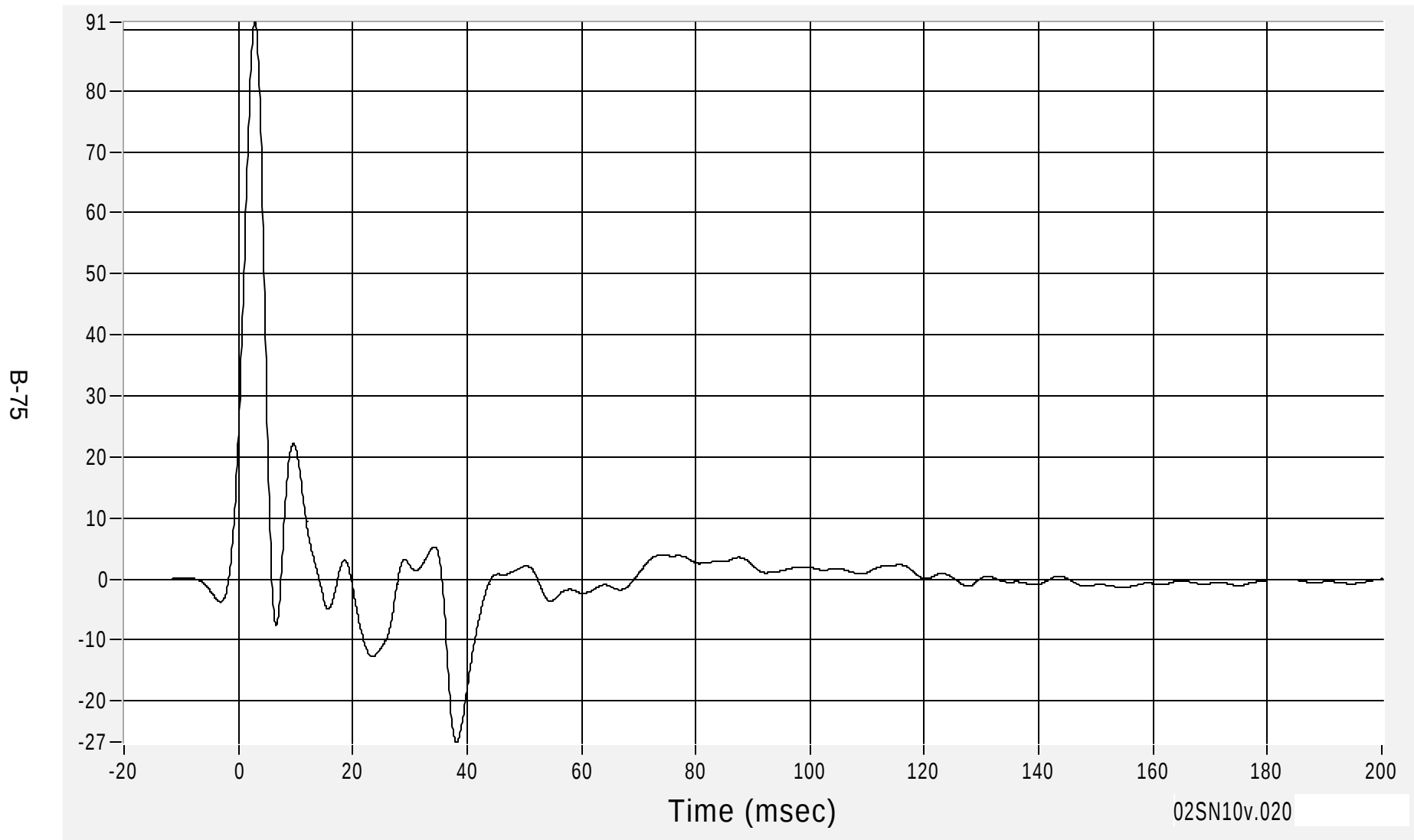
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Left Lower A-Pillar (Y) Acceleration

Max 91.2 G's at 2.9 msec

Acceleration (G's) CFC60

Min -26.7 G's at 38.2 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

Medical College of Wisconsin
Vehicle Crashworthiness Lab

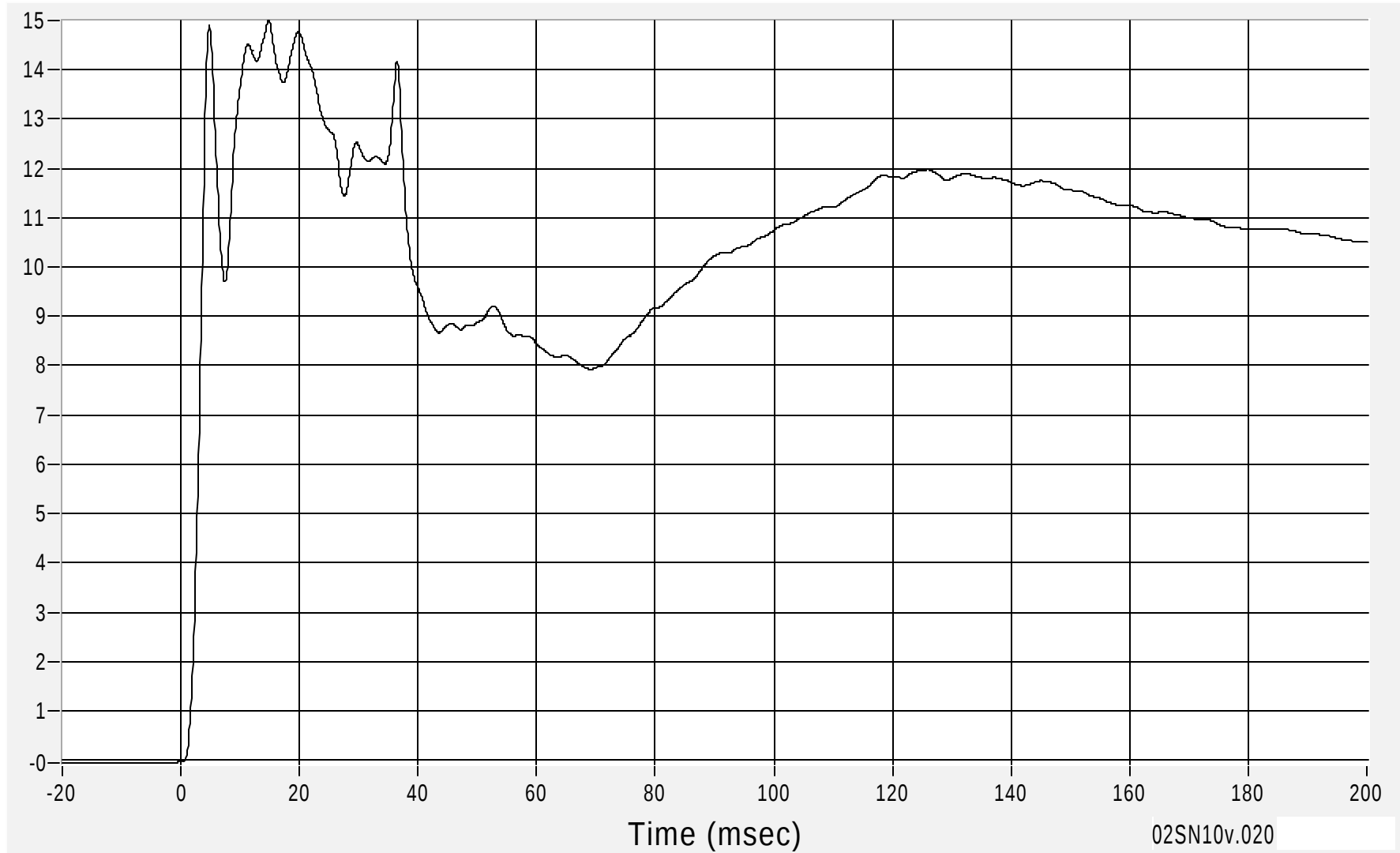
Left Lower A-Pillar (Y) Velocity

Max 15.0 km/h at 14.8 msec

Min 0.0 km/h at 0.5 msec

Velocity (km/h) CFC180

B-76



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

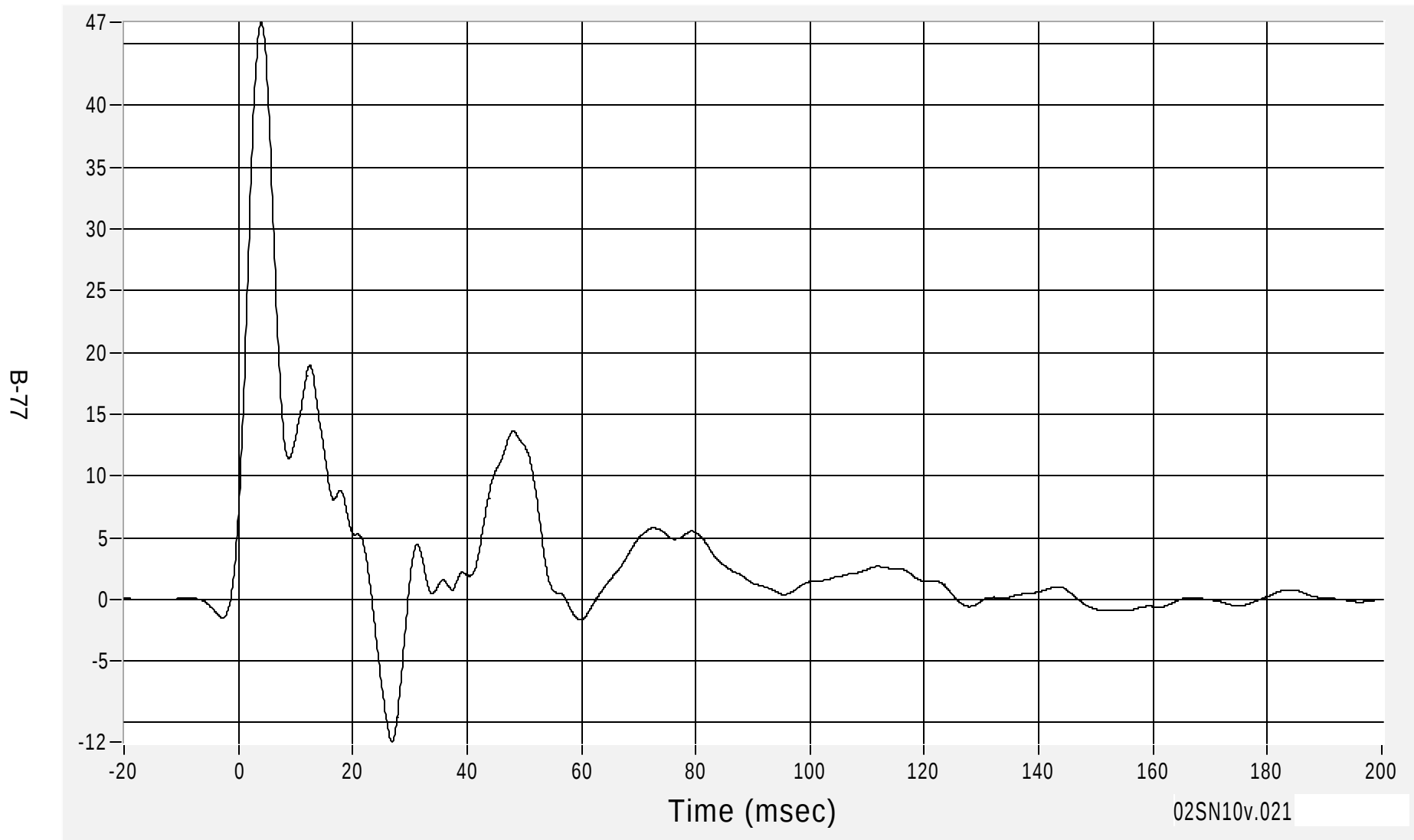
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Left Middle A-Pillar (Y) Acceleration

Max 46.7 G's at 4.0 msec

Acceleration (G's) CFC60

Min -11.6 G's at 26.9 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

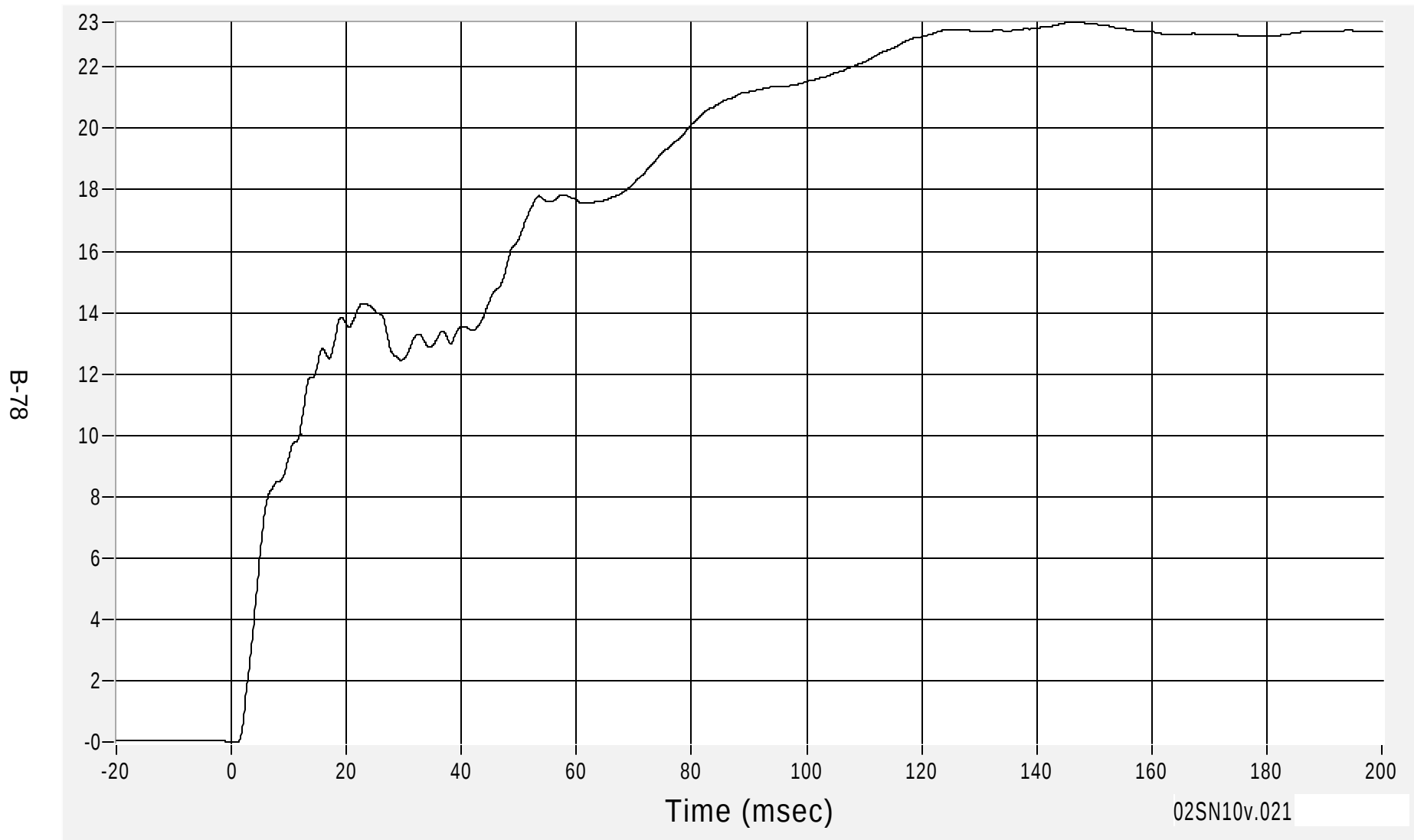
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Left Middle A-Pillar (Y) Velocity

Max 23.5 km/h at 147.4 msec

Velocity (km/h) CFC180

Min 0.0 km/h at 1.0 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

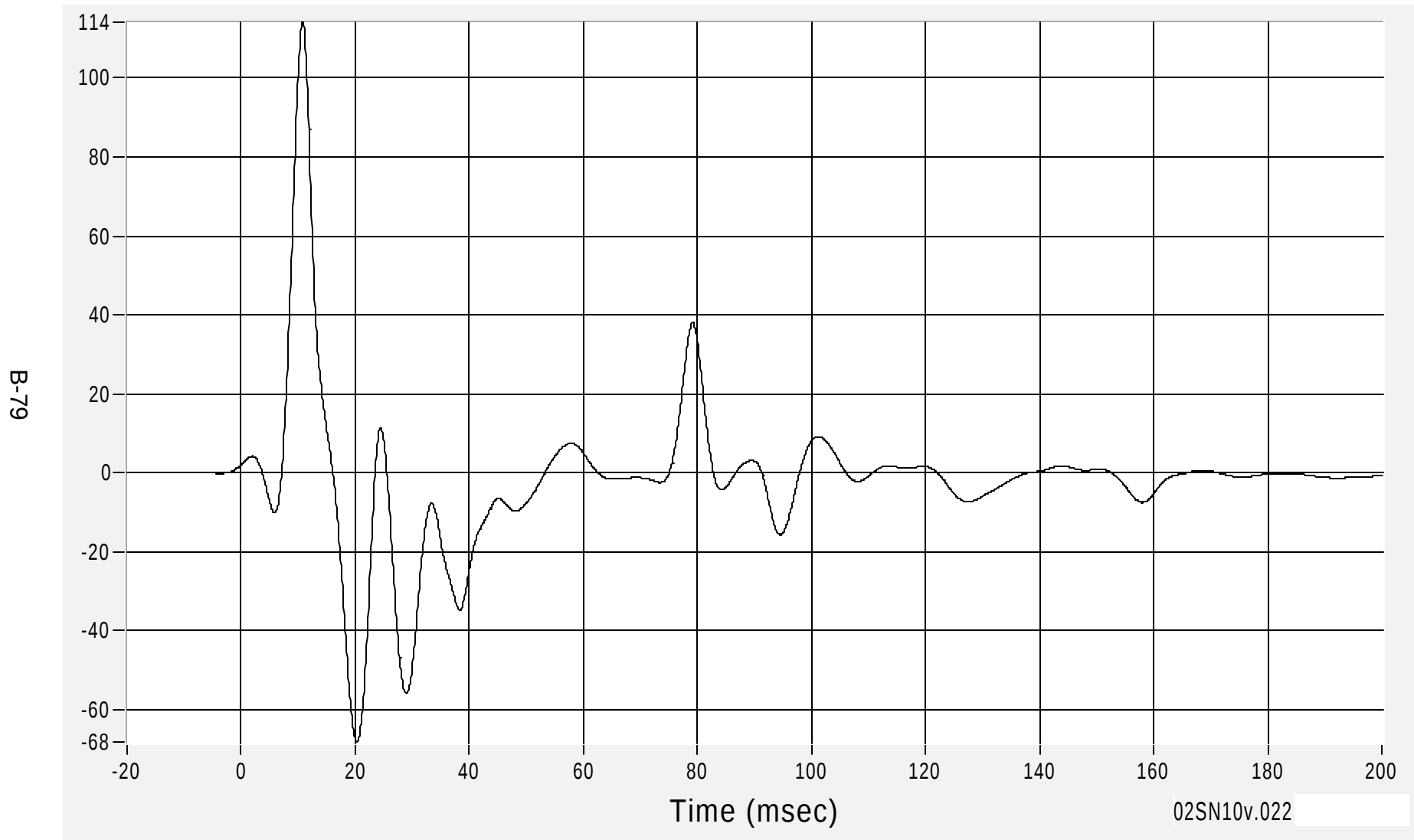
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Front Seat Track (Y) Acceleration

Max 114.2 G's at 10.8 msec

Acceleration (G's) CFC60

Min -68.3 G's at 20.3 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN
27 June 2002

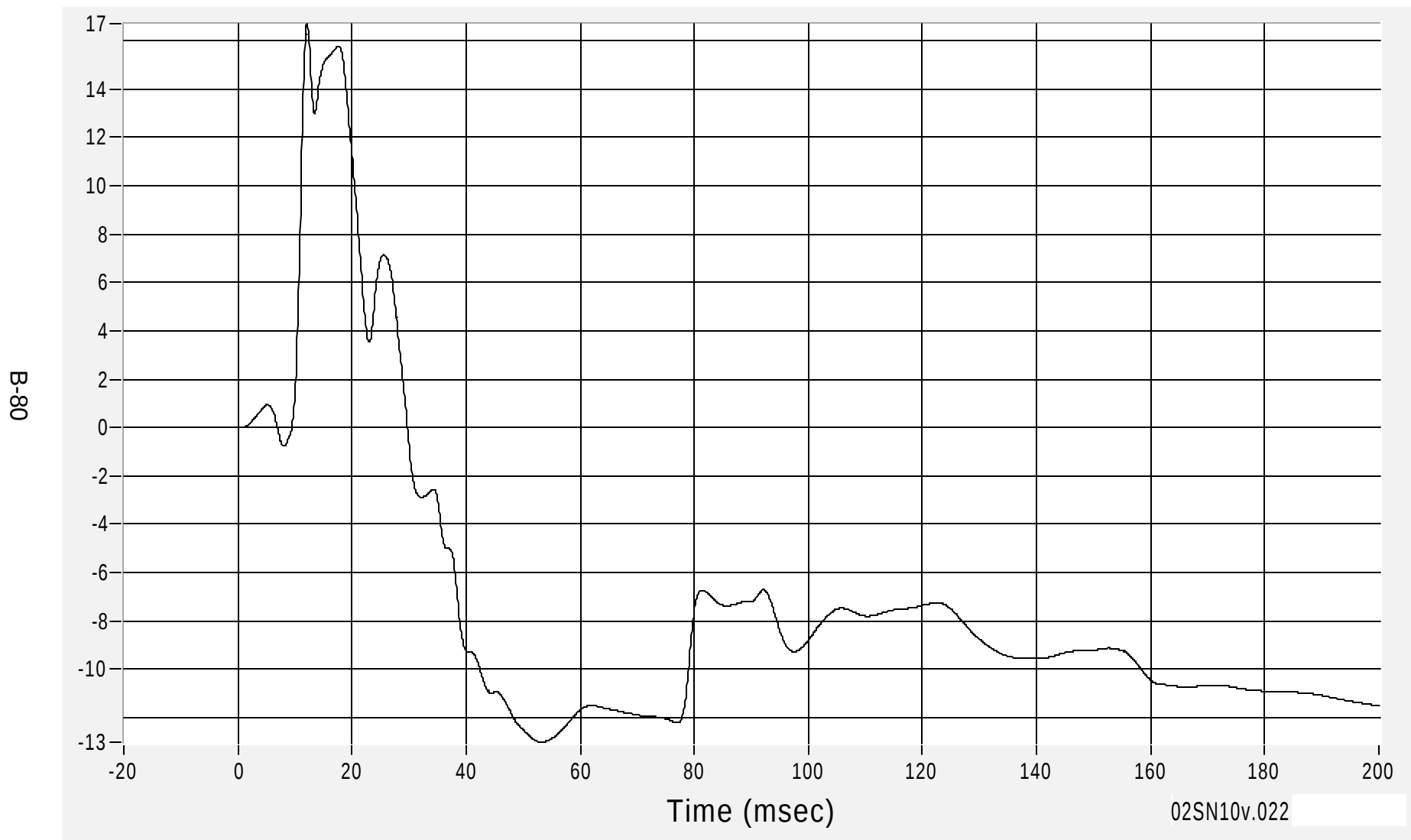
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Front Seat Track (Y) Velocity

Max 16.7 km/h at 12.1 msec

Velocity (km/h) CFC180

Min -13.0 km/h at 53.2 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

Medical College of Wisconsin
Vehicle Crashworthiness Lab

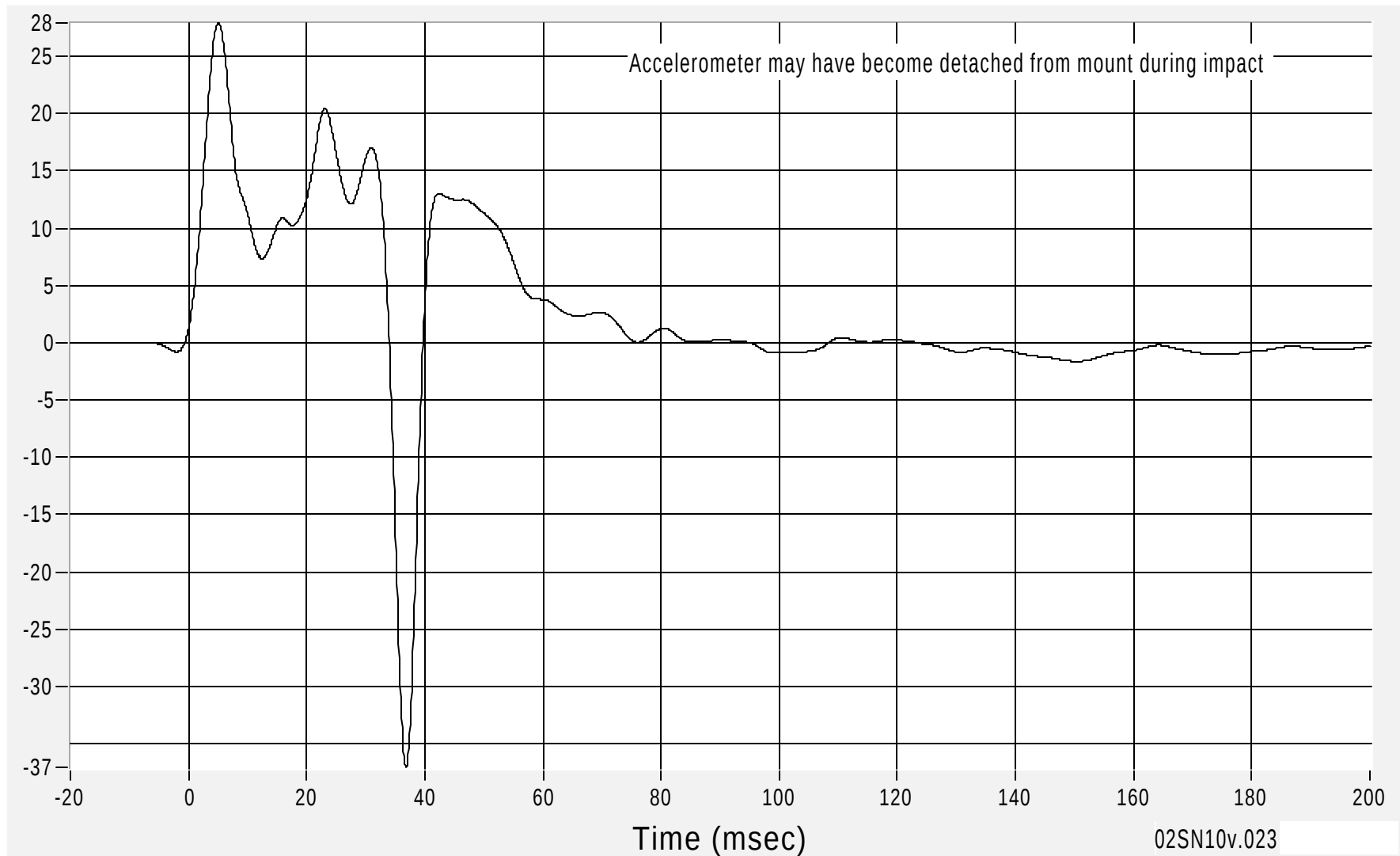
Rear Seat Track (Y) Acceleration

Max 27.9 G's at 5.0 msec

Acceleration (G's) CFC60

Min -37.0 G's at 36.8 msec

B-81



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

Medical College of Wisconsin
Vehicle Crashworthiness Lab

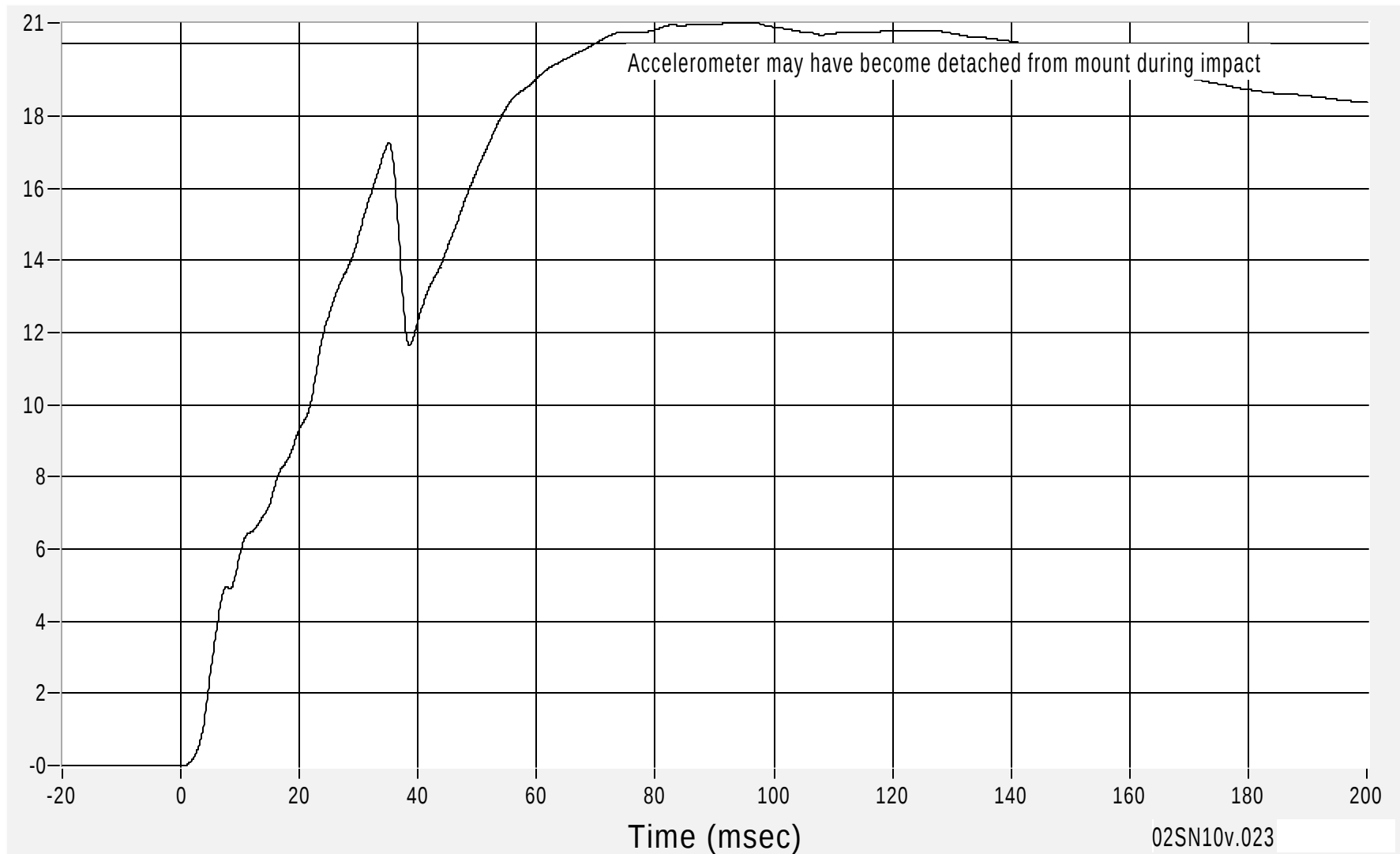
Rear Seat Track (Y) Velocity

Velocity (km/h) CFC180

Max 20.6 km/h at 96.5 msec

Min 0.0 km/h at 0.2 msec

B-82



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

Medical College of Wisconsin
Vehicle Crashworthiness Lab

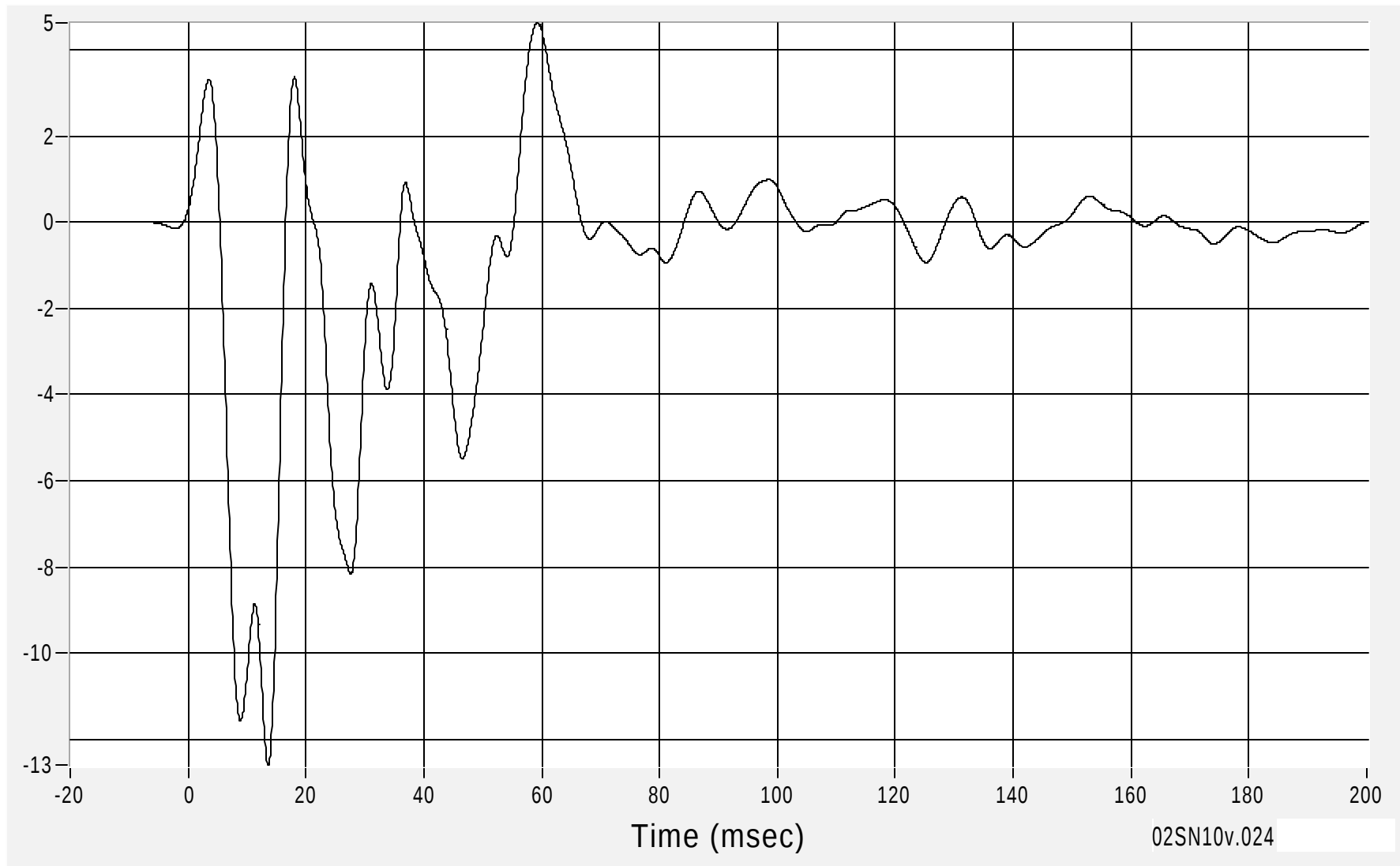
Vehicle Center of Gravity (X) Acceleration

Max 4.6 G's at 59.3 msec

Acceleration (G's) CFC60

Min -12.6 G's at 13.6 msec

B-83



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

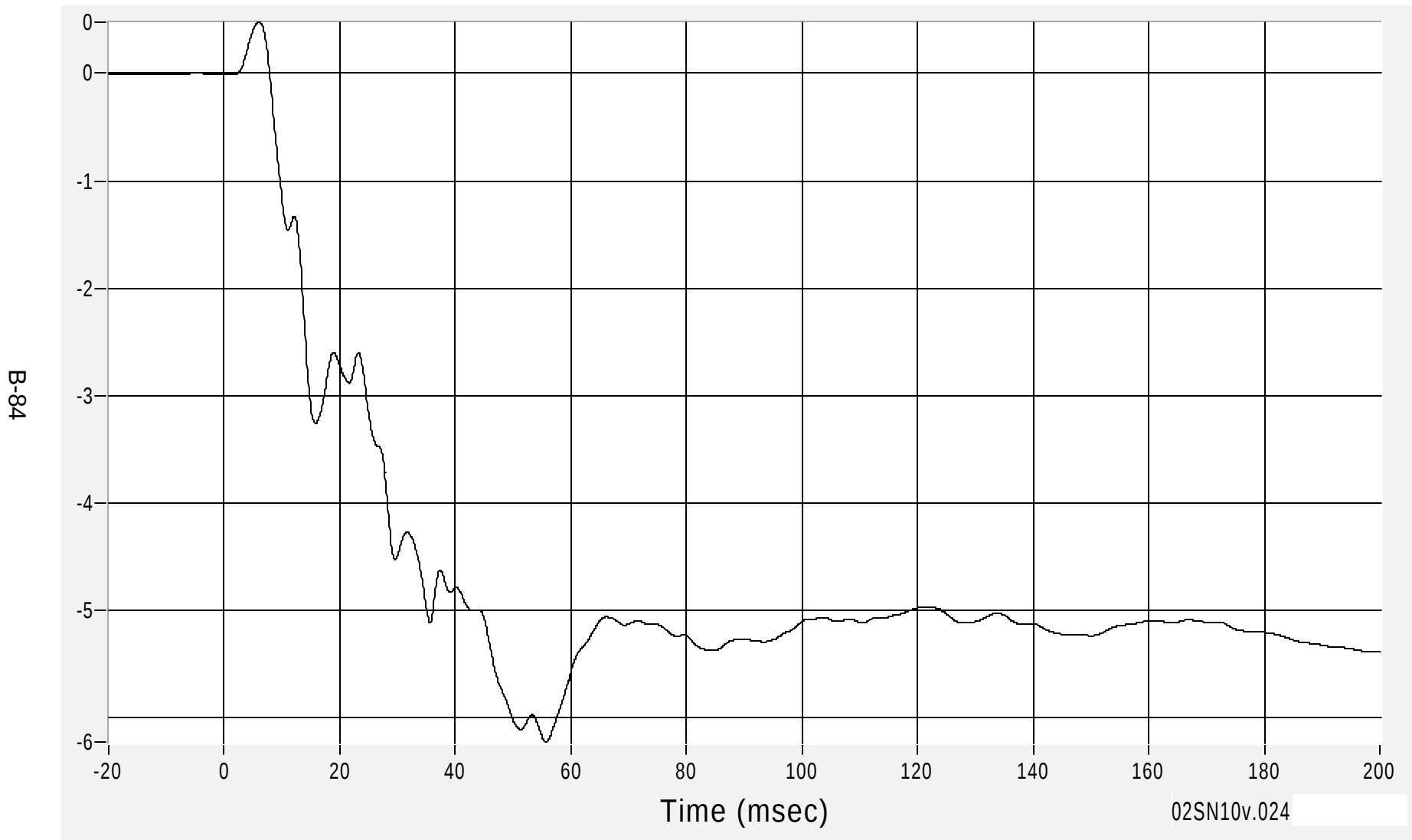
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Vehicle Center of Gravity (X) Velocity

Max 0.5 km/h at 6.1 msec

Min -6.2 km/h at 55.7 msec

Velocity (km/h) CFC180



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

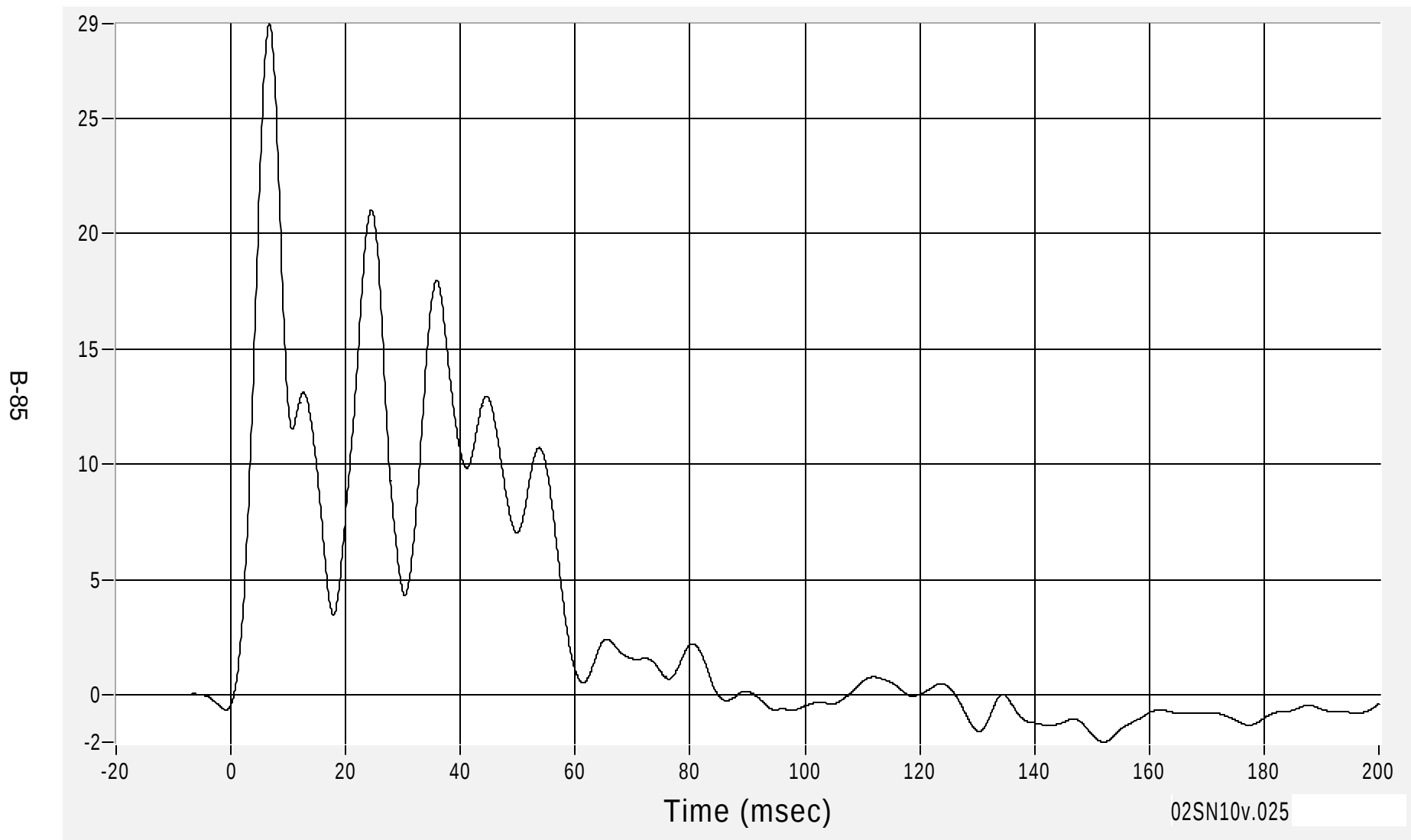
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Vehicle Center of Gravity (Y) Acceleration

Max 29.1 G's at 6.6 msec

Acceleration (G's) CFC60

Min -2.0 G's at 152.1 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

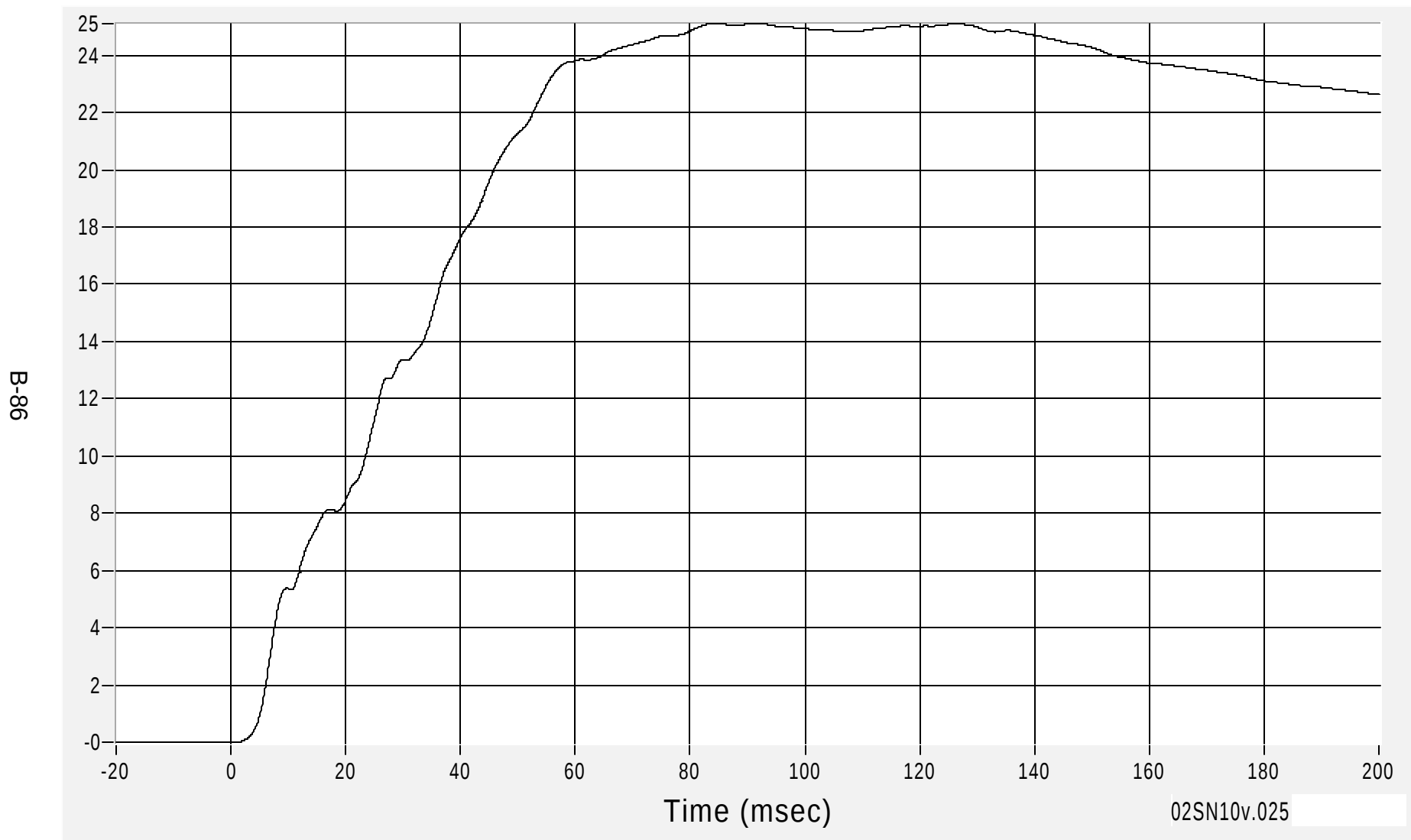
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Vehicle Center of Gravity (Y) Velocity

Max 25.1 km/h at 83.7 msec

Velocity (km/h) CFC180

Min 0.0 km/h at 0.7 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

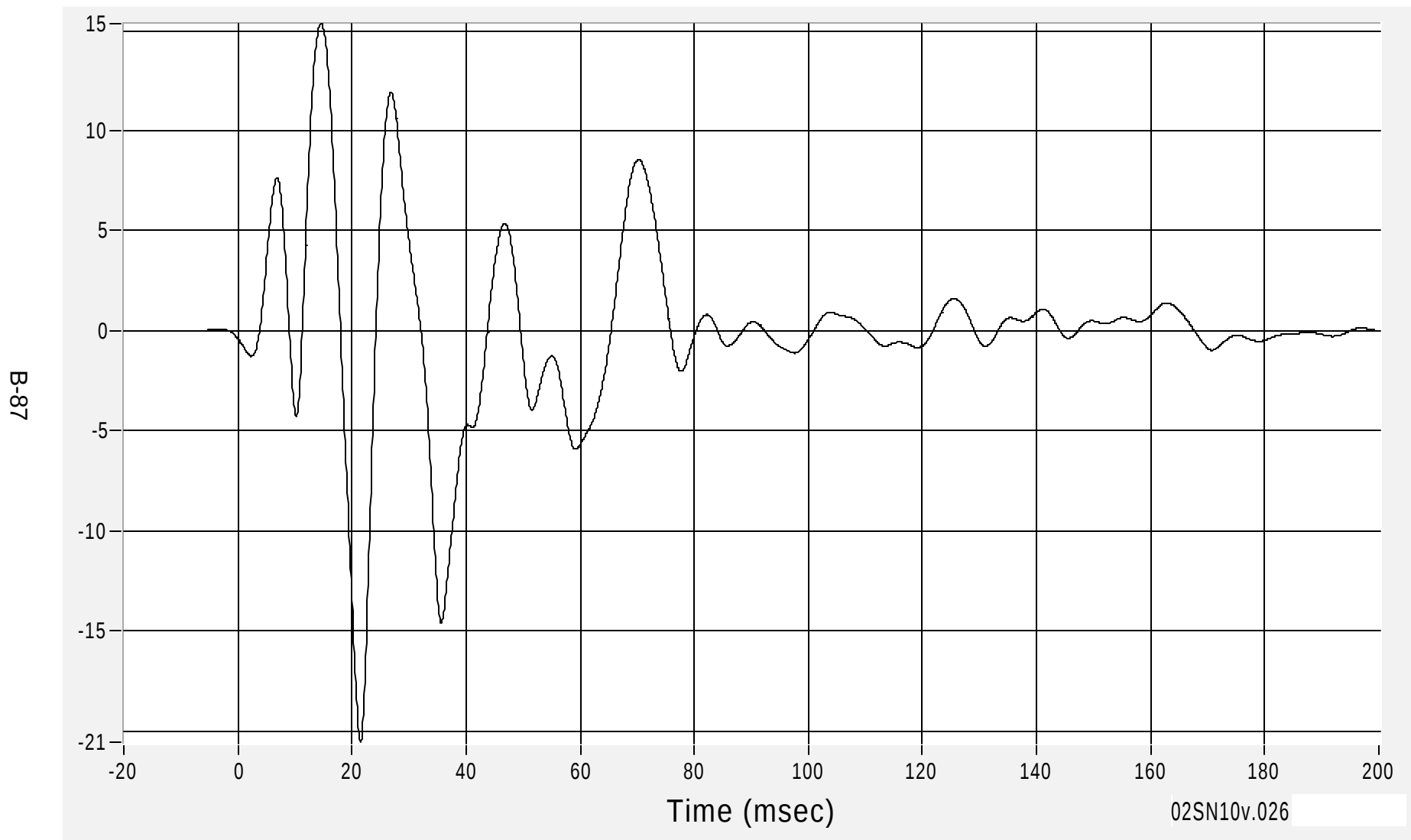
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Vehicle Center of Gravity (Z) Acceleration

Max 15.3 G's at 14.6 msec

Acceleration (G's) CFC60

Min -20.6 G's at 21.5 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN
27 June 2002

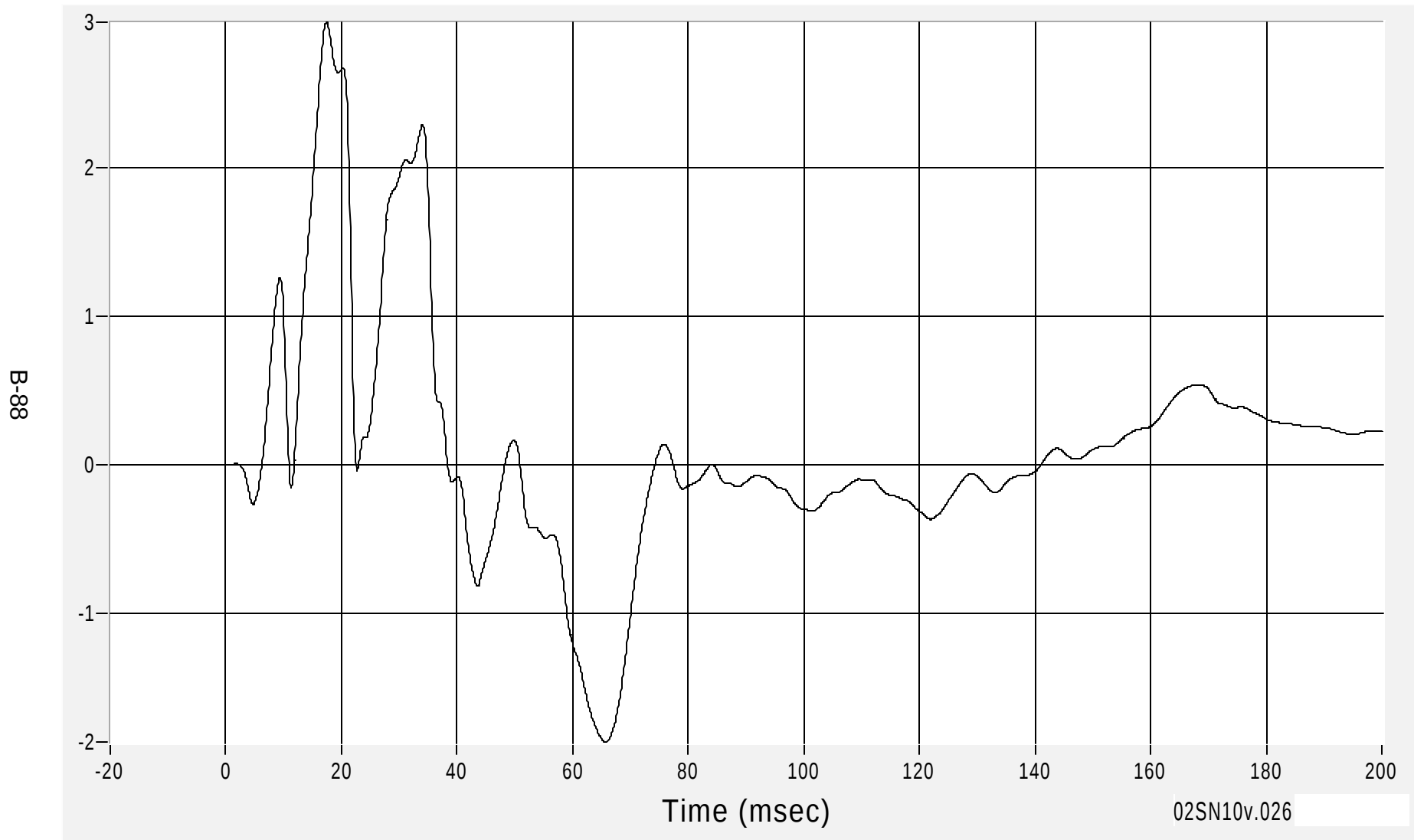
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Vehicle Center of Gravity (Z) Velocity

Max 3.0 km/h at 17.4 msec

Velocity (km/h) CFC180

Min -1.9 km/h at 65.7 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

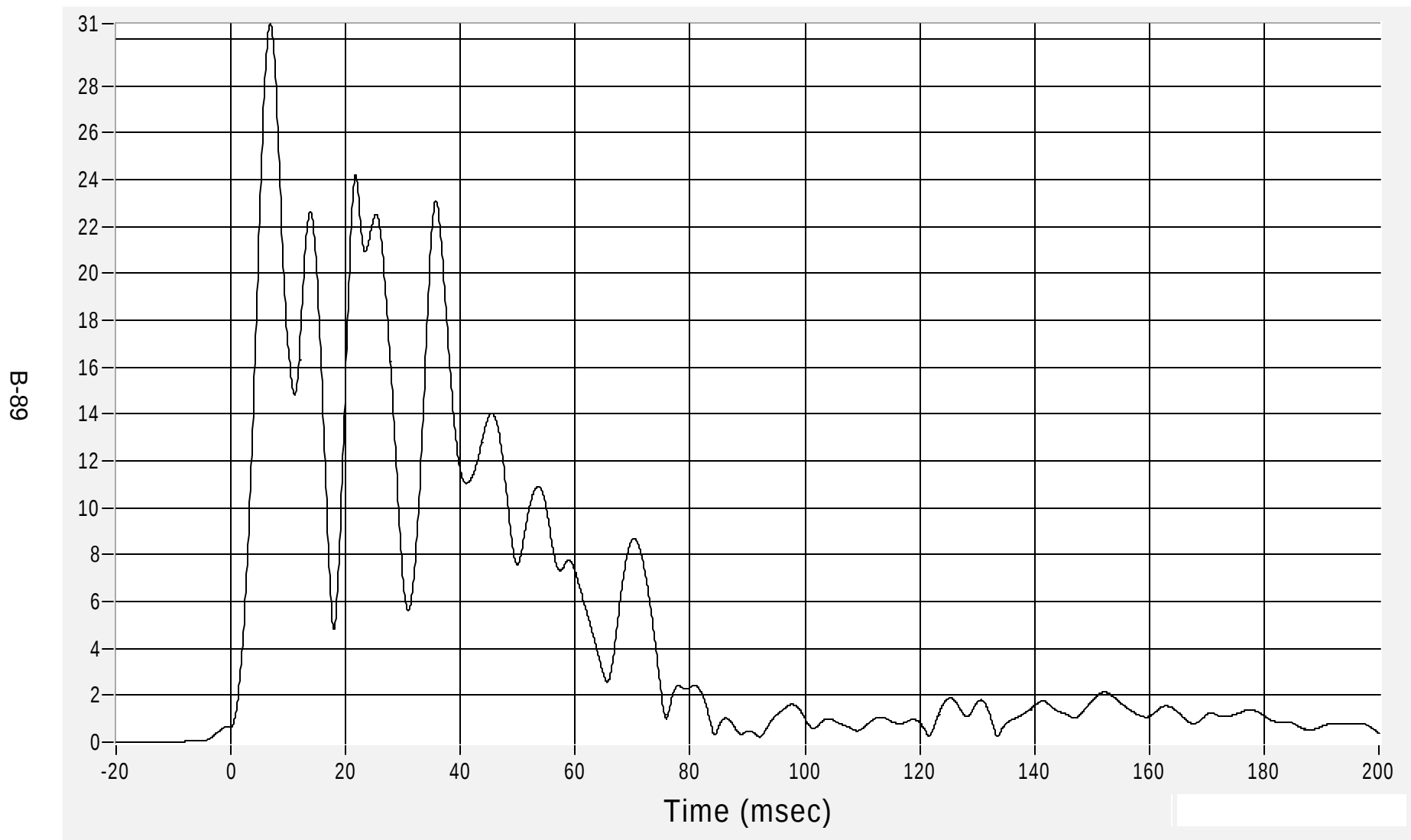
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Vehicle Center of Gravity Resultant Acceleration

Max 30.7 G's at 6.9 msec

Acceleration (G's) CFC60

Min 0.2 G's at 92.1 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

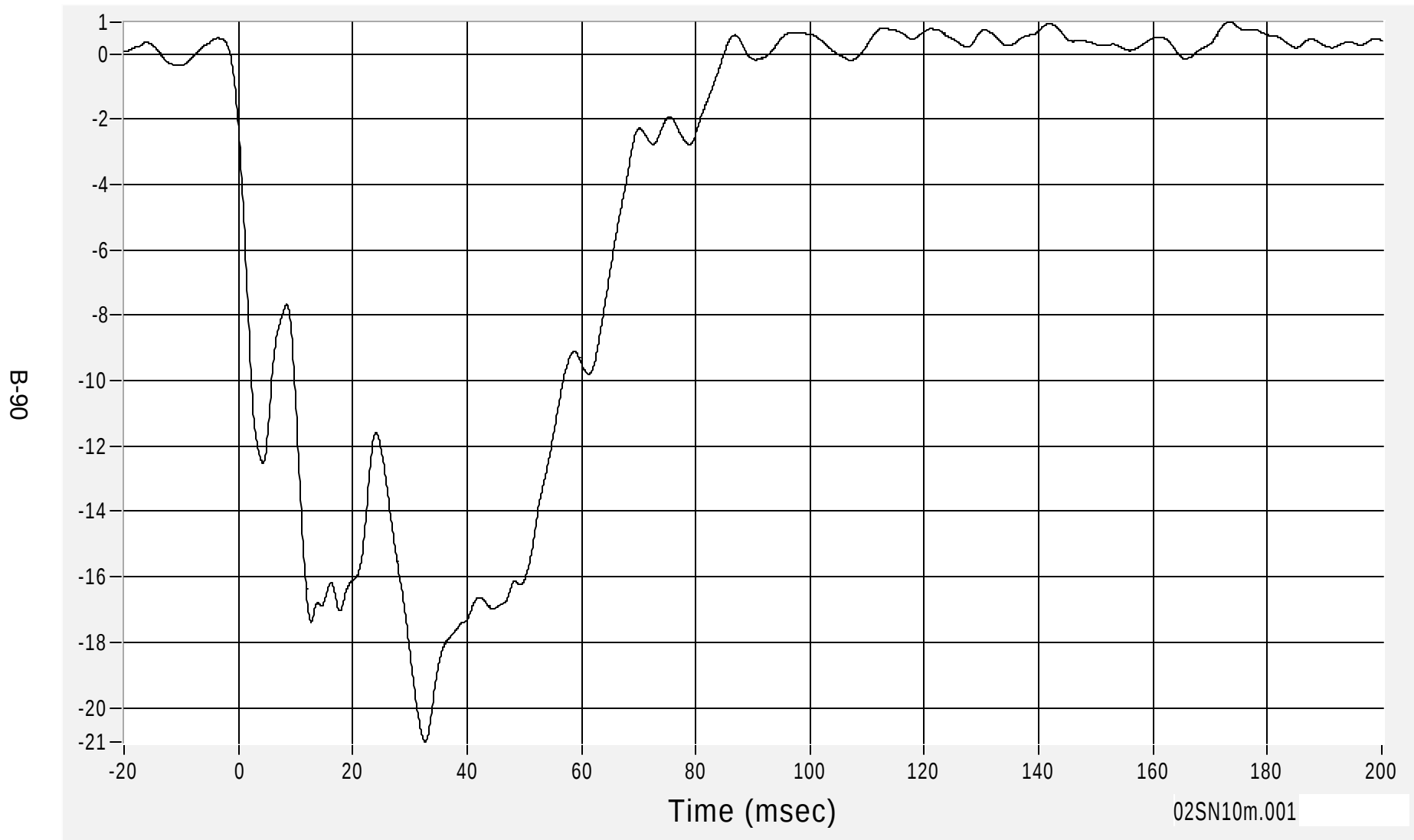
Medical College of Wisconsin
Vehicle Crashworthiness Lab

MDB Center of Gravity (X) Acceleration

Max 1.0 G's at 173.4 msec

Acceleration (G's) CFC60

Min -21.0 G's at 32.6 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN
27 June 2002

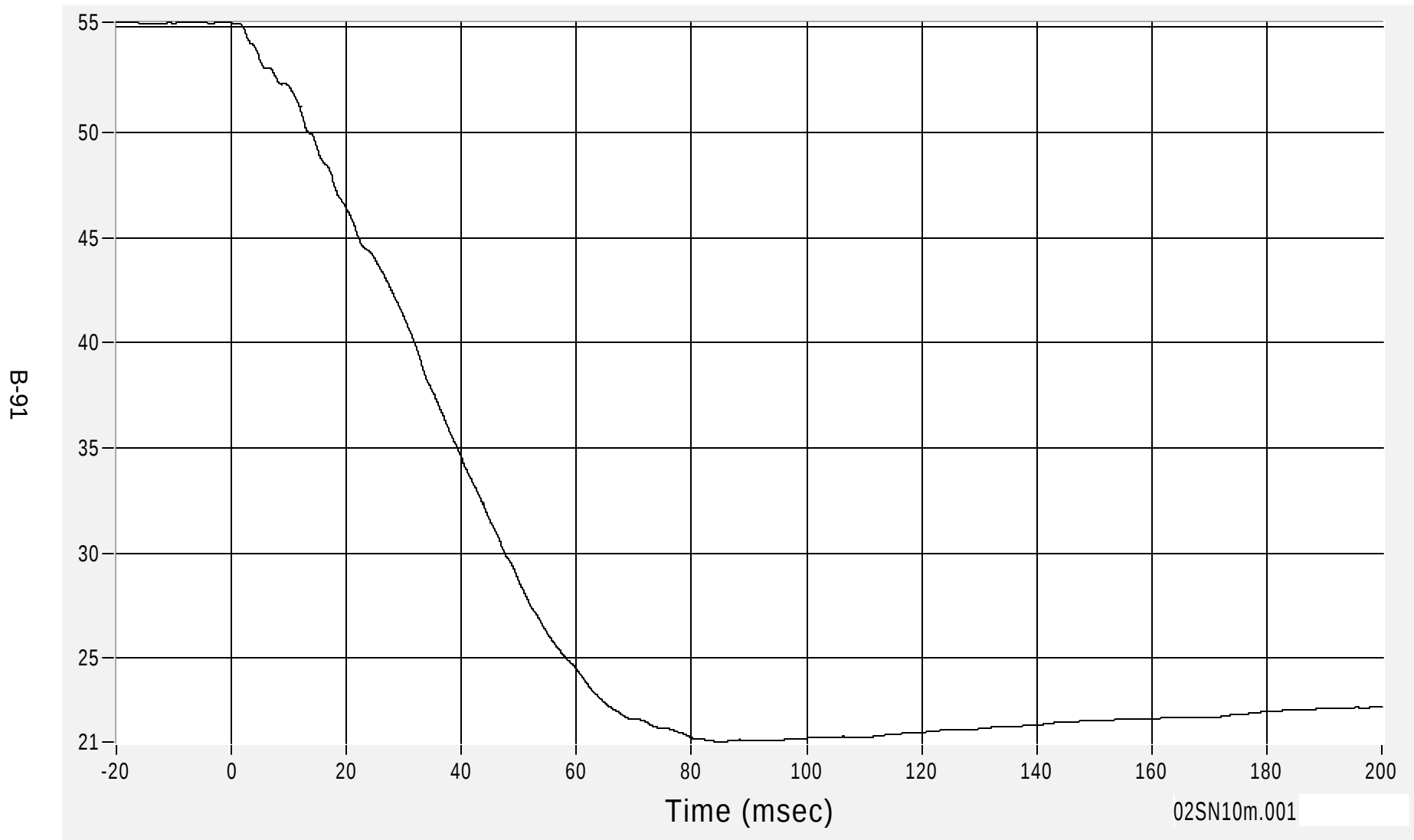
Medical College of Wisconsin
Vehicle Crashworthiness Lab

MDB Center of Gravity (X) Velocity

Velocity (km/h) CFC180

Max 55.2 km/h at 0.0 msec

Min 21.0 km/h at 85.1 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

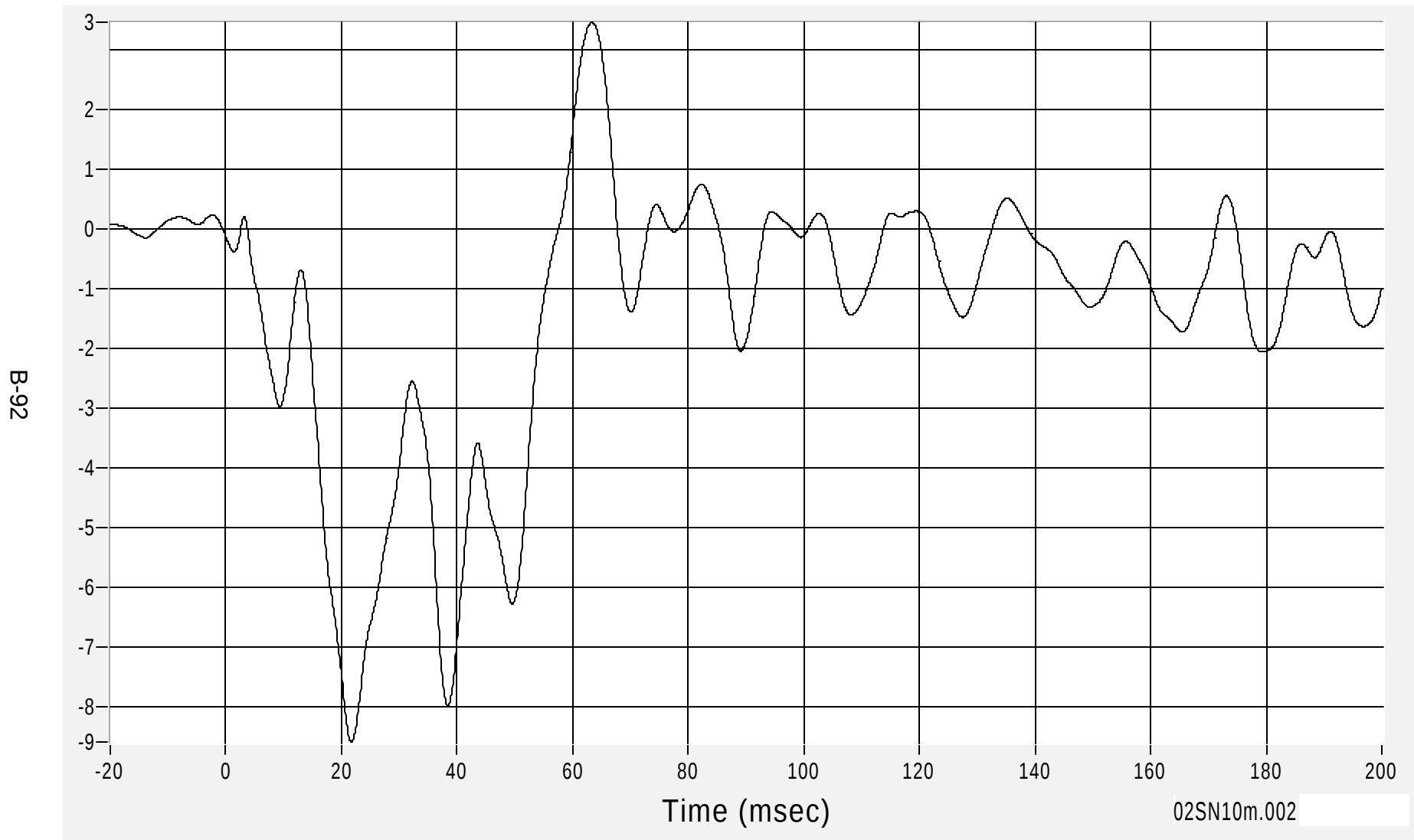
Medical College of Wisconsin
Vehicle Crashworthiness Lab

MDB Center of Gravity (Y) Acceleration

Acceleration (G's) CFC60

Max 3.5 G's at 63.4 msec

Min -8.6 G's at 21.7 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN
27 June 2002

Medical College of Wisconsin
Vehicle Crashworthiness Lab

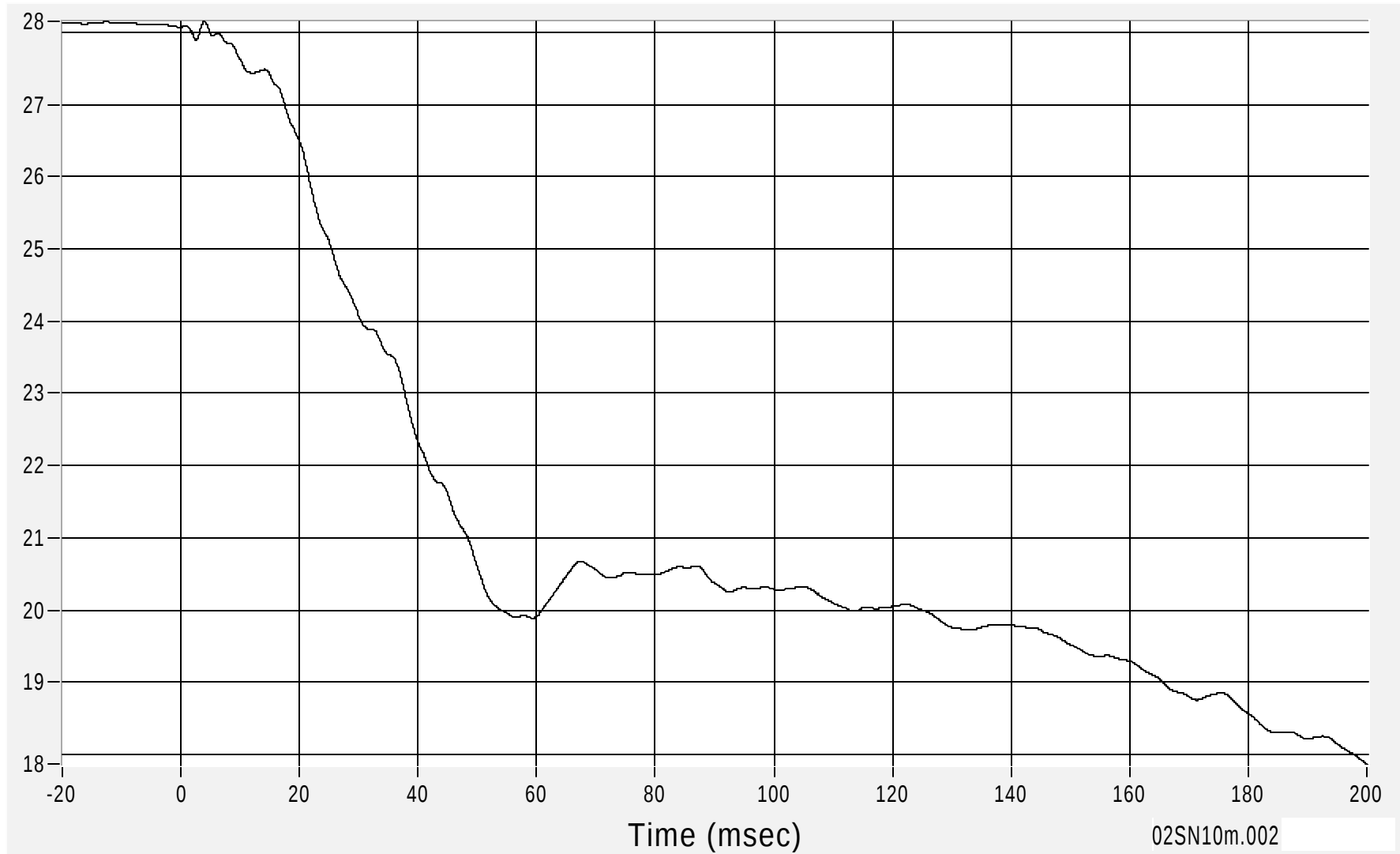
MDB Center of Gravity (Y) Velocity

Max 28.1 km/h at 3.9 msec

Min 17.9 km/h at 199.9 msec

Velocity (km/h) CFC180

B-93



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

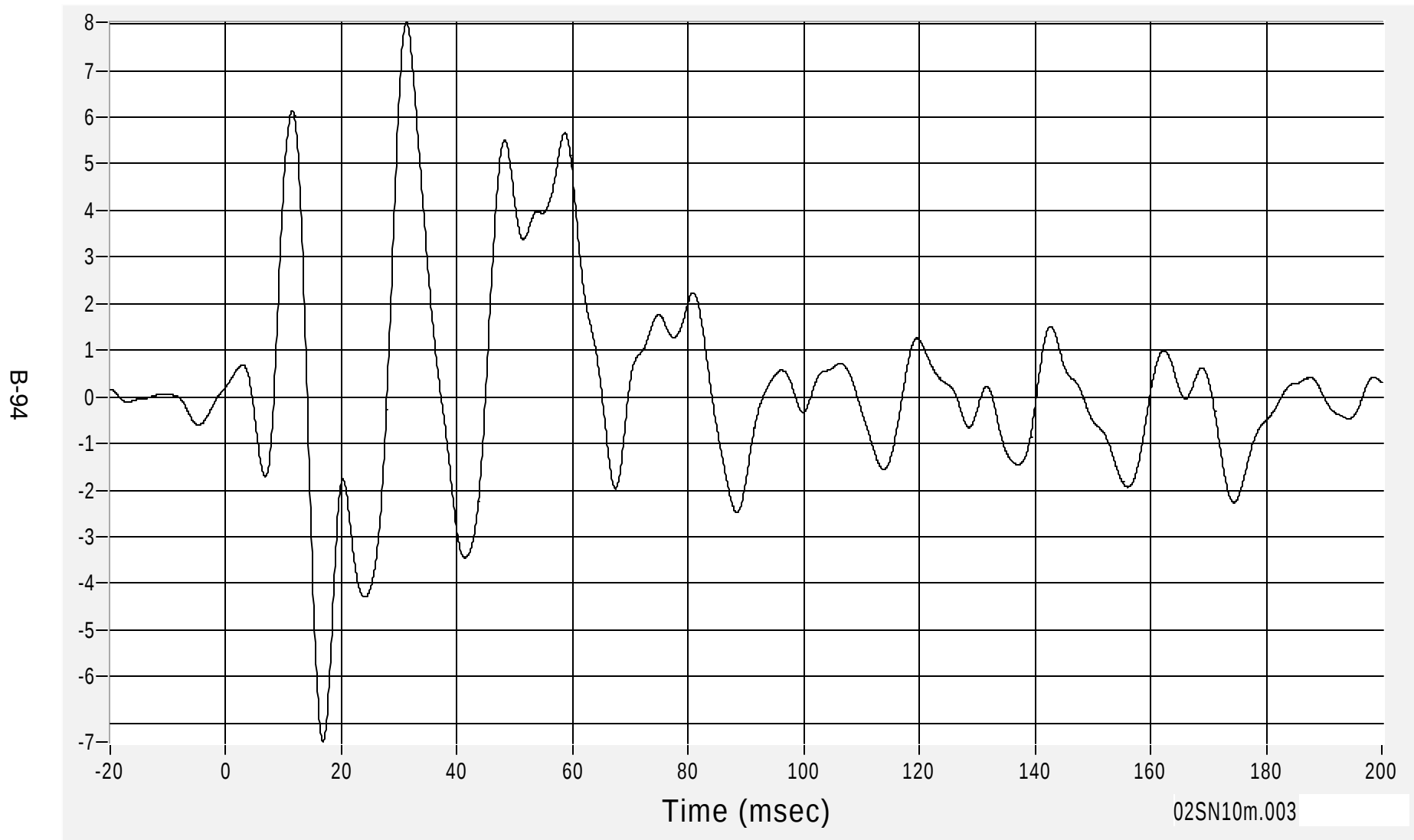
Medical College of Wisconsin
Vehicle Crashworthiness Lab

MDB Center of Gravity (Z) Acceleration

Max 8.0 G's at 31.3 msec

Acceleration (G's) CFC60

Min -7.4 G's at 16.8 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

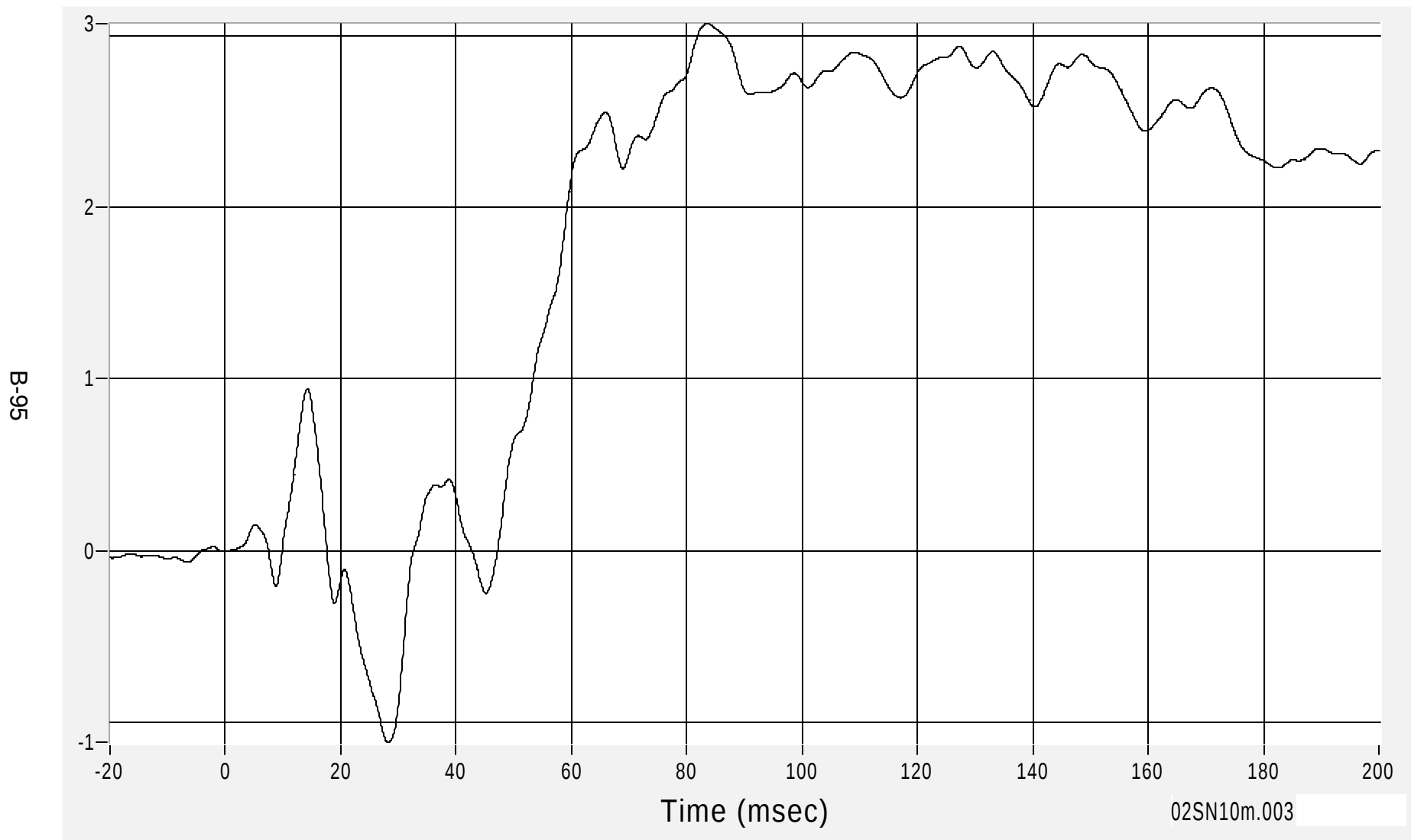
*Medical College of Wisconsin
Vehicle Crashworthiness Lab*

MDB Center of Gravity (Z) Velocity

Max 3.1 km/h at 83.6 msec

Velocity (km/h) CFC180

Min -1.1 km/h at 28.2 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

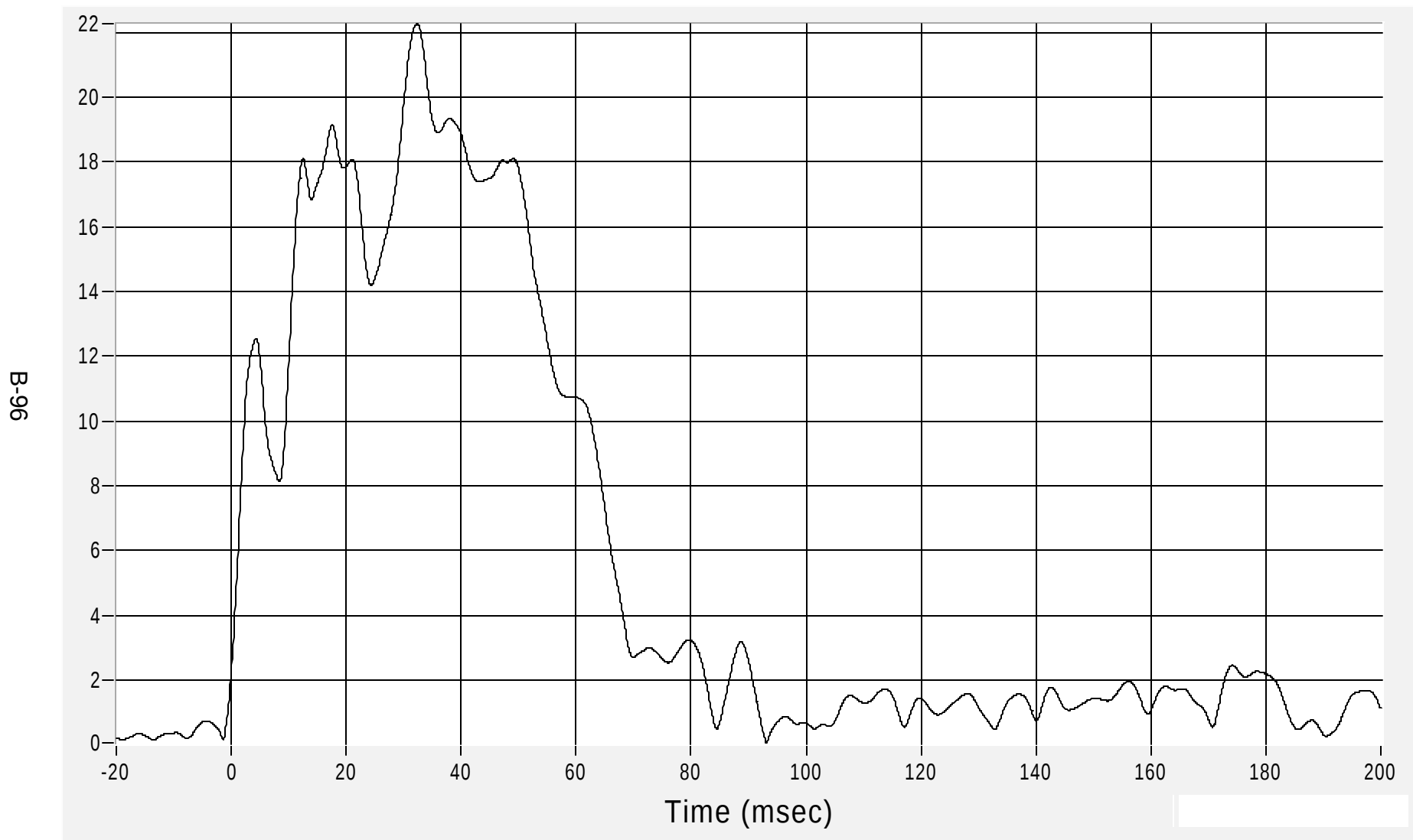
Medical College of Wisconsin
Vehicle Crashworthiness Lab

MDB Center of Gravity Resultant Acceleration

Max 22.3 G's at 32.3 msec

Acceleration (G's) CFC60

Min 0.1 G's at 93.0 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

Medical College of Wisconsin
Vehicle Crashworthiness Lab

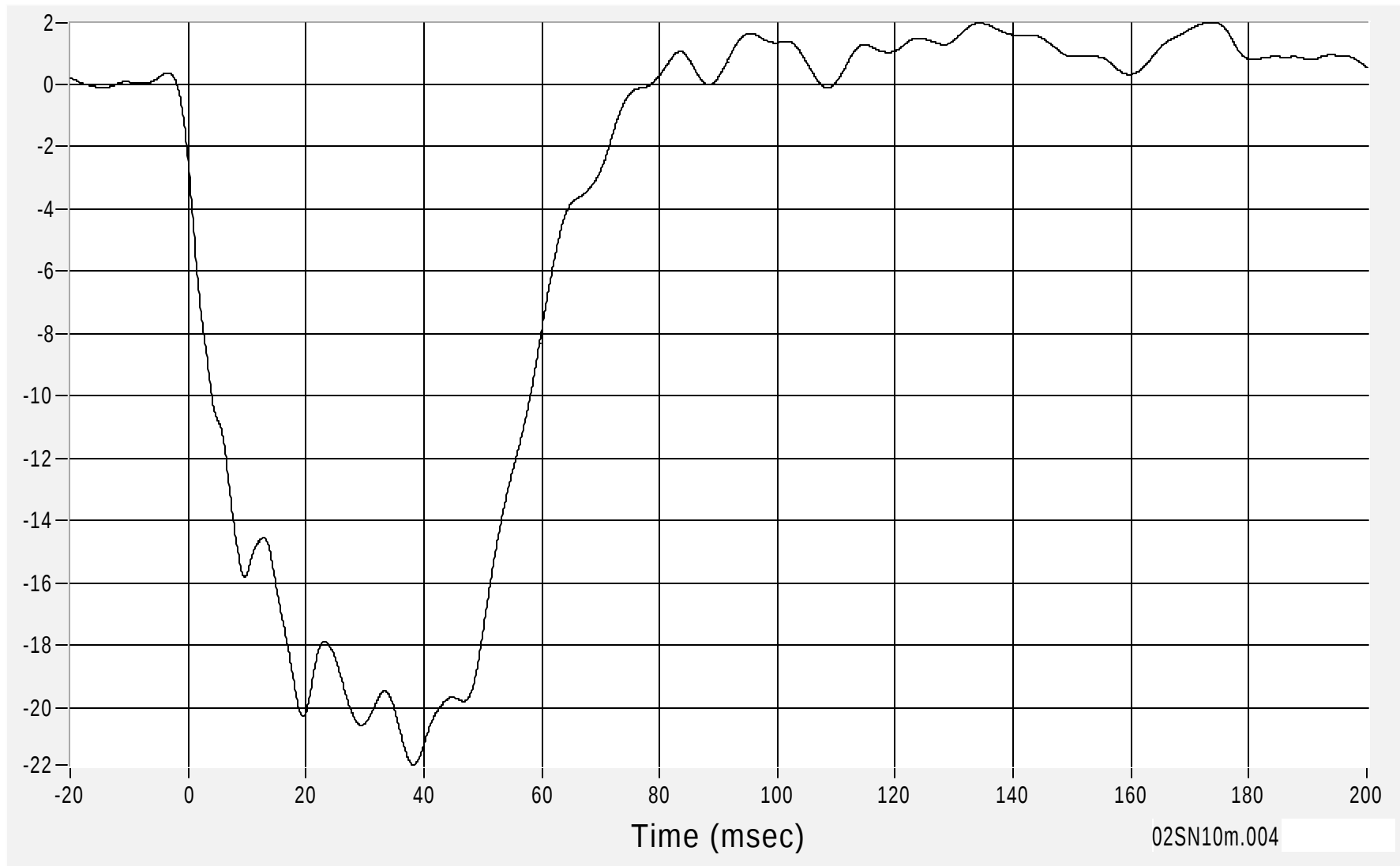
MDB Rear (X) Acceleration

Max 2.0 G's at 174.0 msec

Acceleration (G's) CFC60

Min -21.8 G's at 38.2 msec

B-97



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

Medical College of Wisconsin
Vehicle Crashworthiness Lab

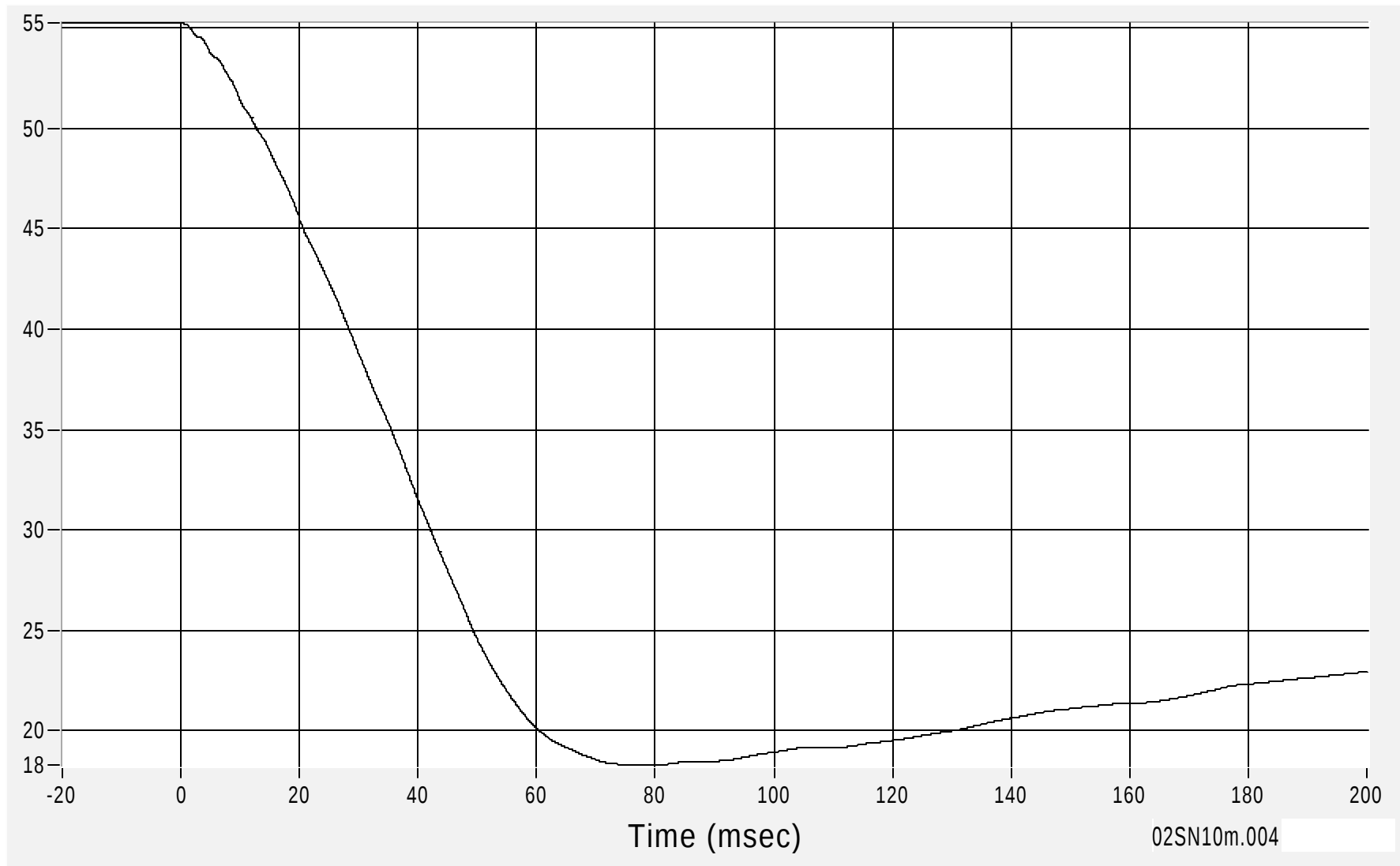
MDB Rear (X) Velocity

Max 55.2 km/h at 0.2 msec

Velocity (km/h) CFC180

Min 18.3 km/h at 79.0 msec

B-98



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

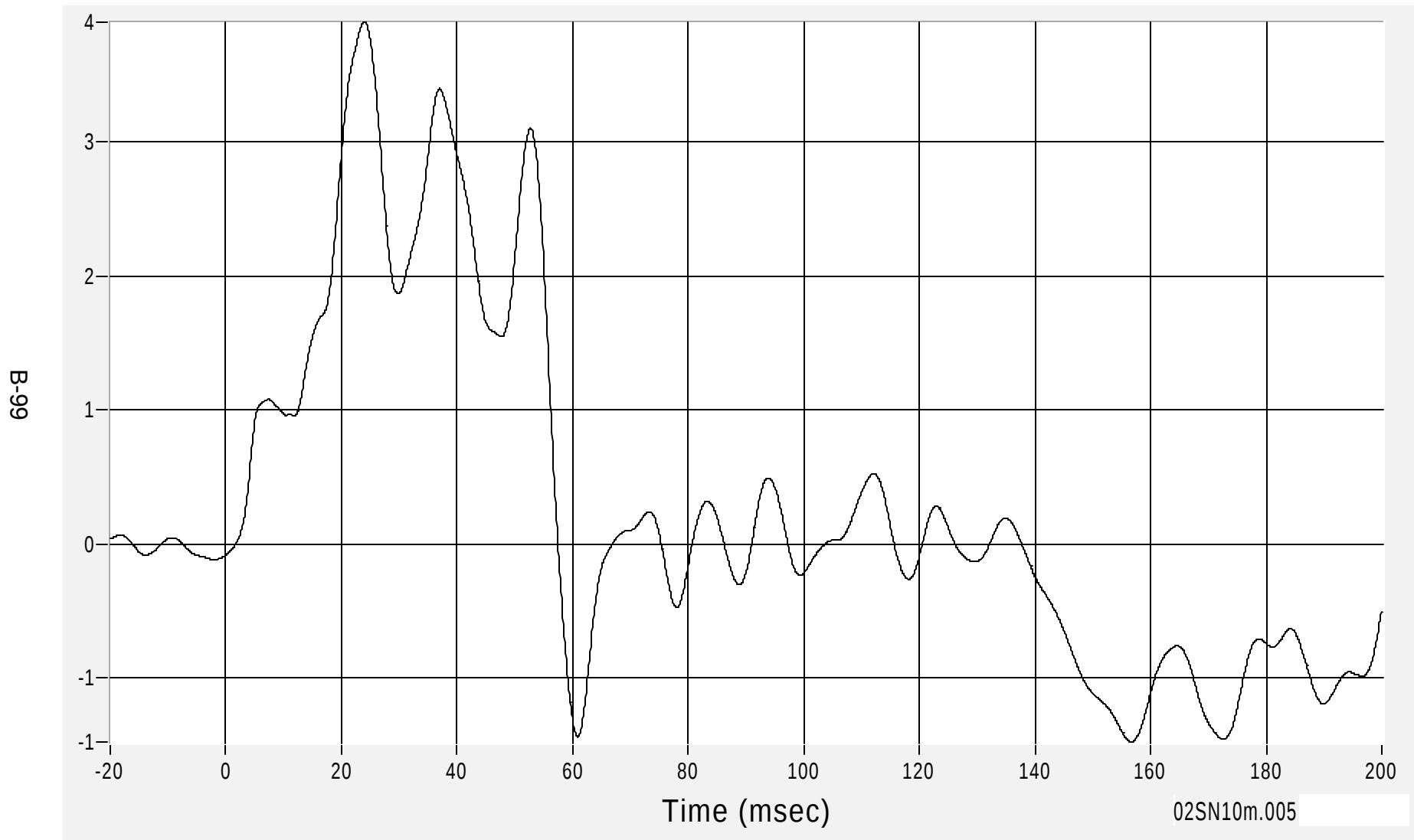
Medical College of Wisconsin
Vehicle Crashworthiness Lab

MDB Rear (Y) Acceleration

Max 3.9 G's at 24.0 msec

Acceleration (G's) CFC60

Min -1.5 G's at 156.6 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

Medical College of Wisconsin
Vehicle Crashworthiness Lab

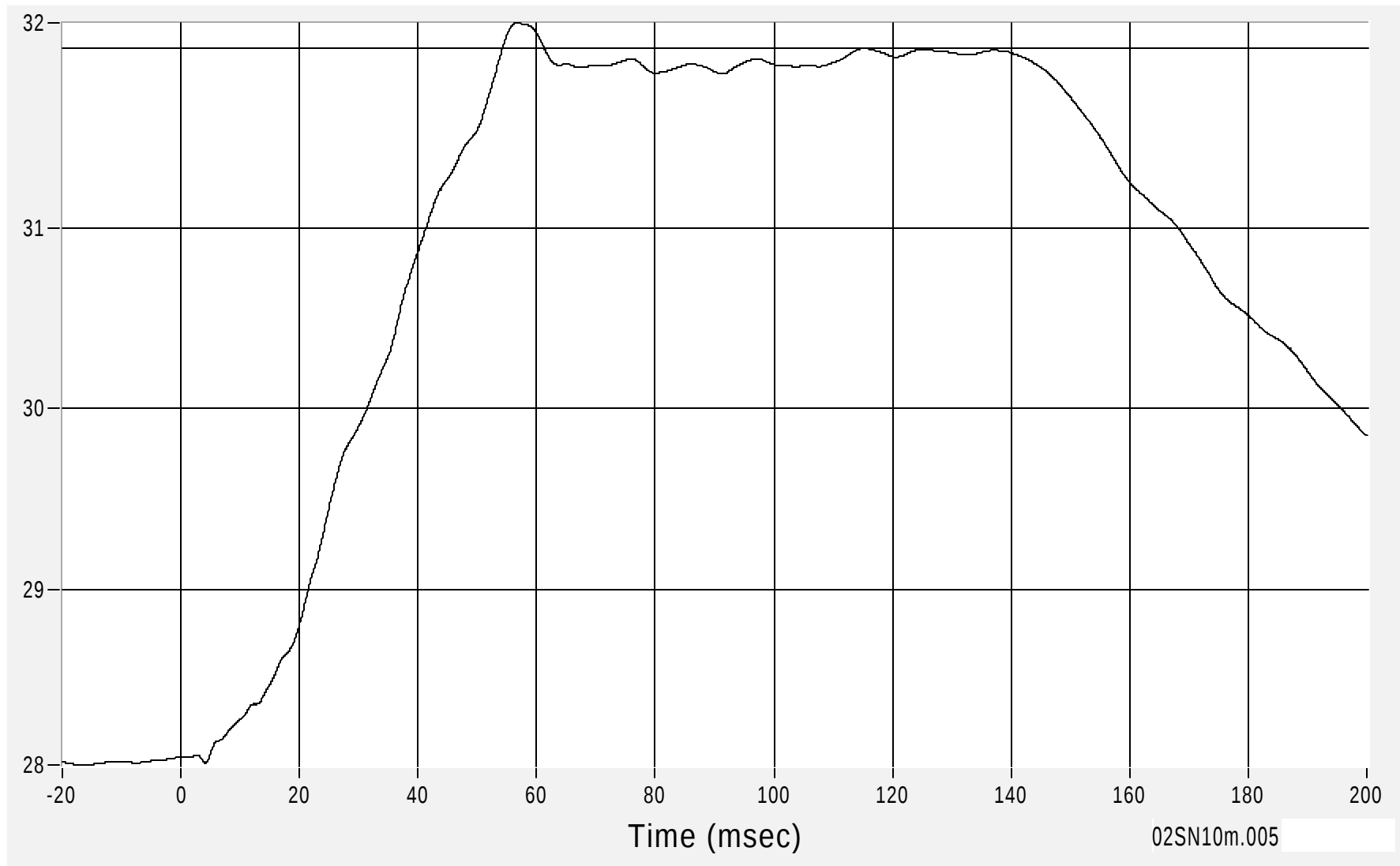
MDB Rear (Y) Velocity

Max 32.1 km/h at 56.6 msec

Velocity (km/h) CFC180

Min 28.0 km/h at 4.1 msec

B-100



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

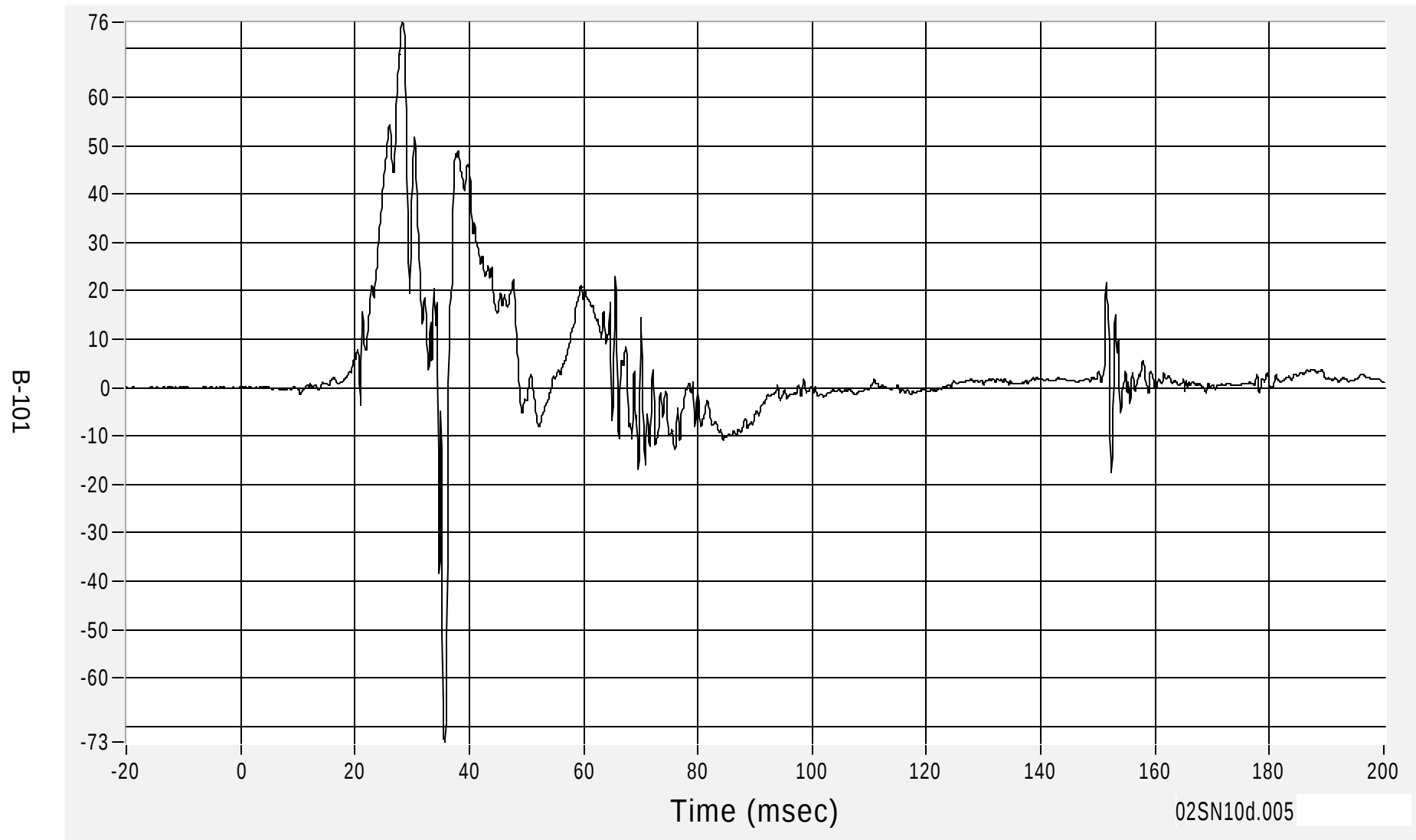
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Driver Upper Rib (Y) Acceleration - Redundant

Max 75.5 G's at 28.2 msec

Min -73.2 G's at 35.8 msec

Acceleration (G's) CFC1000



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

Medical College of Wisconsin
Vehicle Crashworthiness Lab

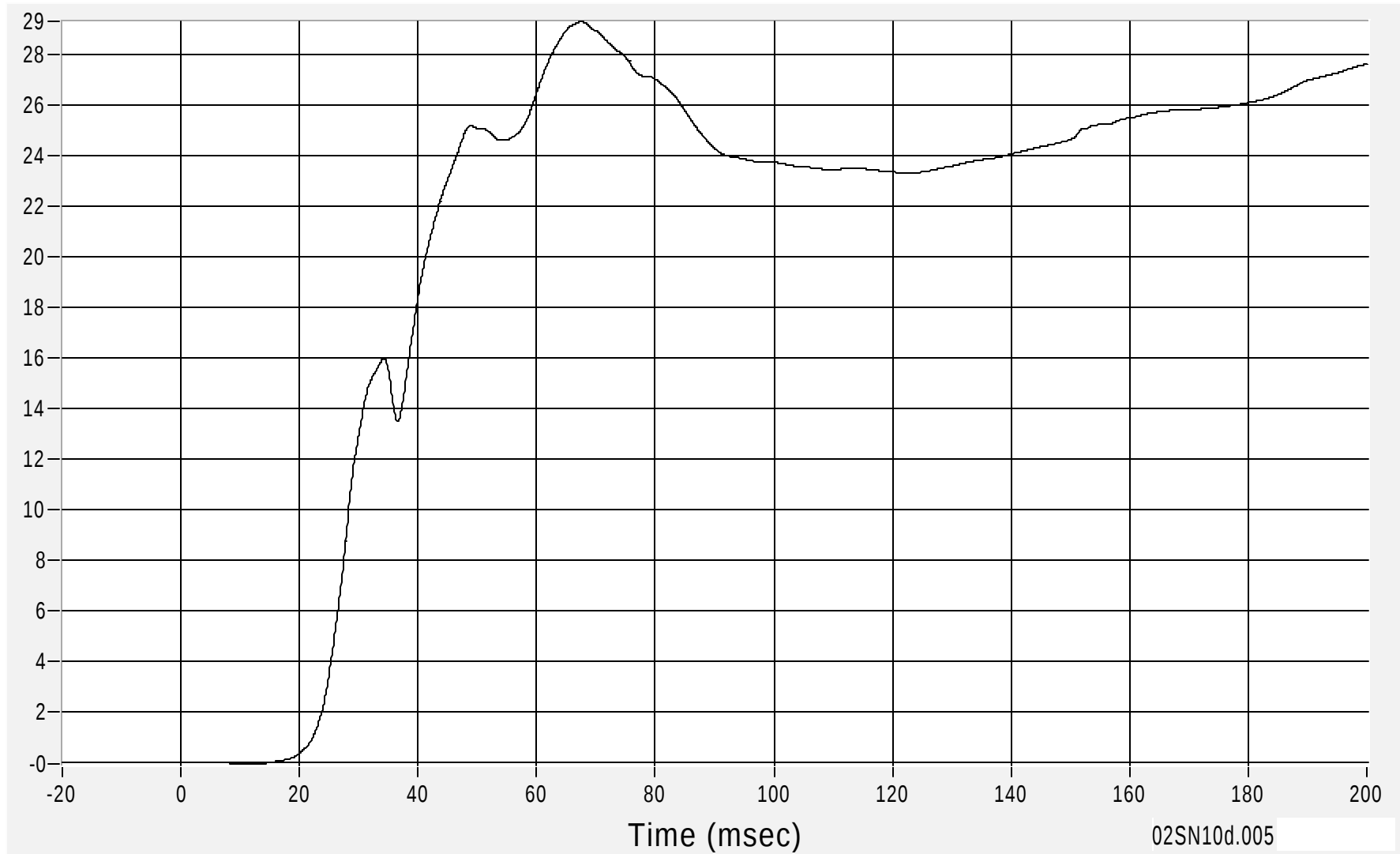
Driver Upper Rib (Y) Velocity - Redundant

Velocity (km/h) CFC180

Max 29.3 km/h at 67.5 msec

Min 0.0 km/h at 11.3 msec

B-102



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

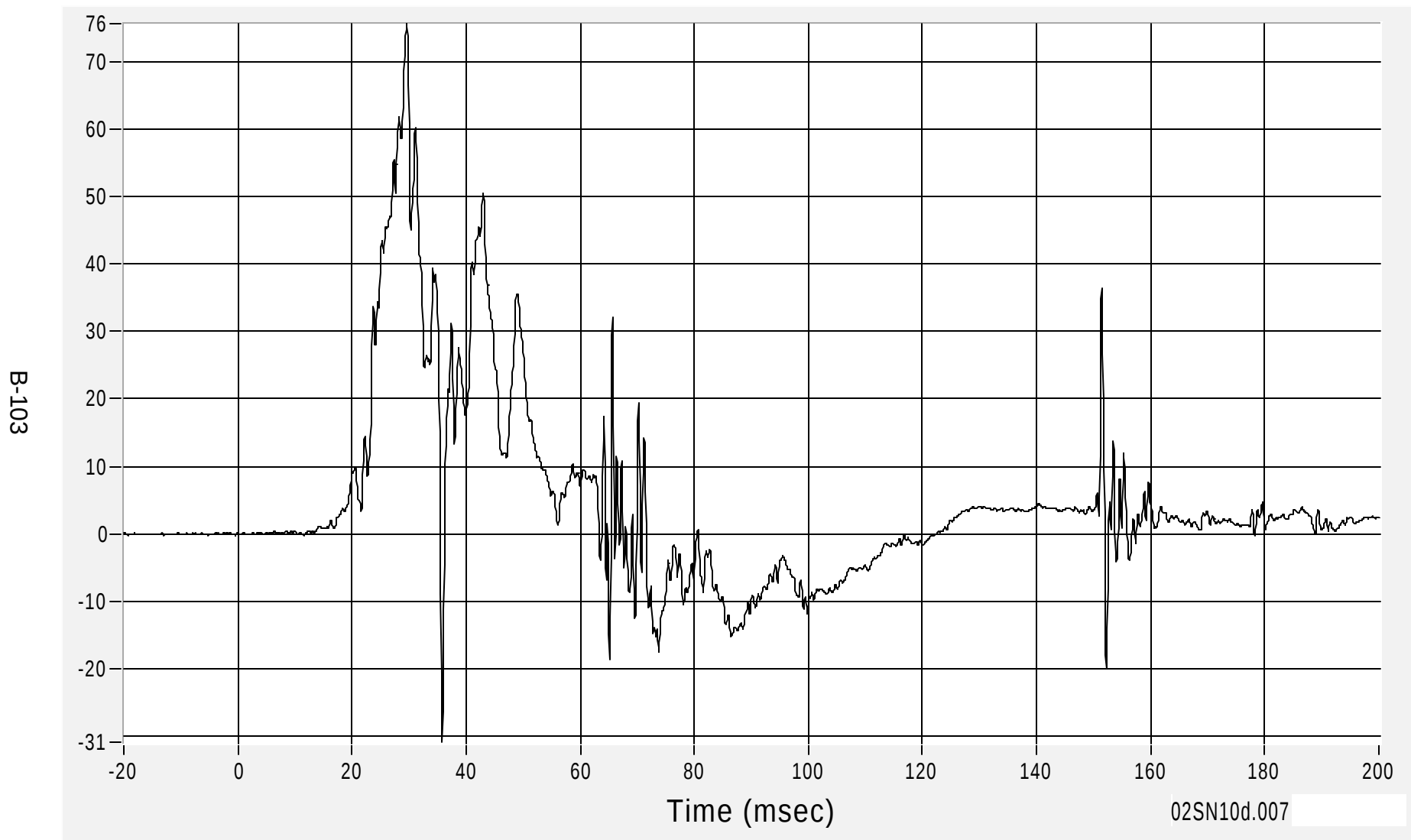
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Driver Lower Rib (Y) Acceleration - Redundant

Max 75.7 G's at 29.6 msec

Acceleration (G's) CFC1000

Min -30.9 G's at 35.8 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

Medical College of Wisconsin
Vehicle Crashworthiness Lab

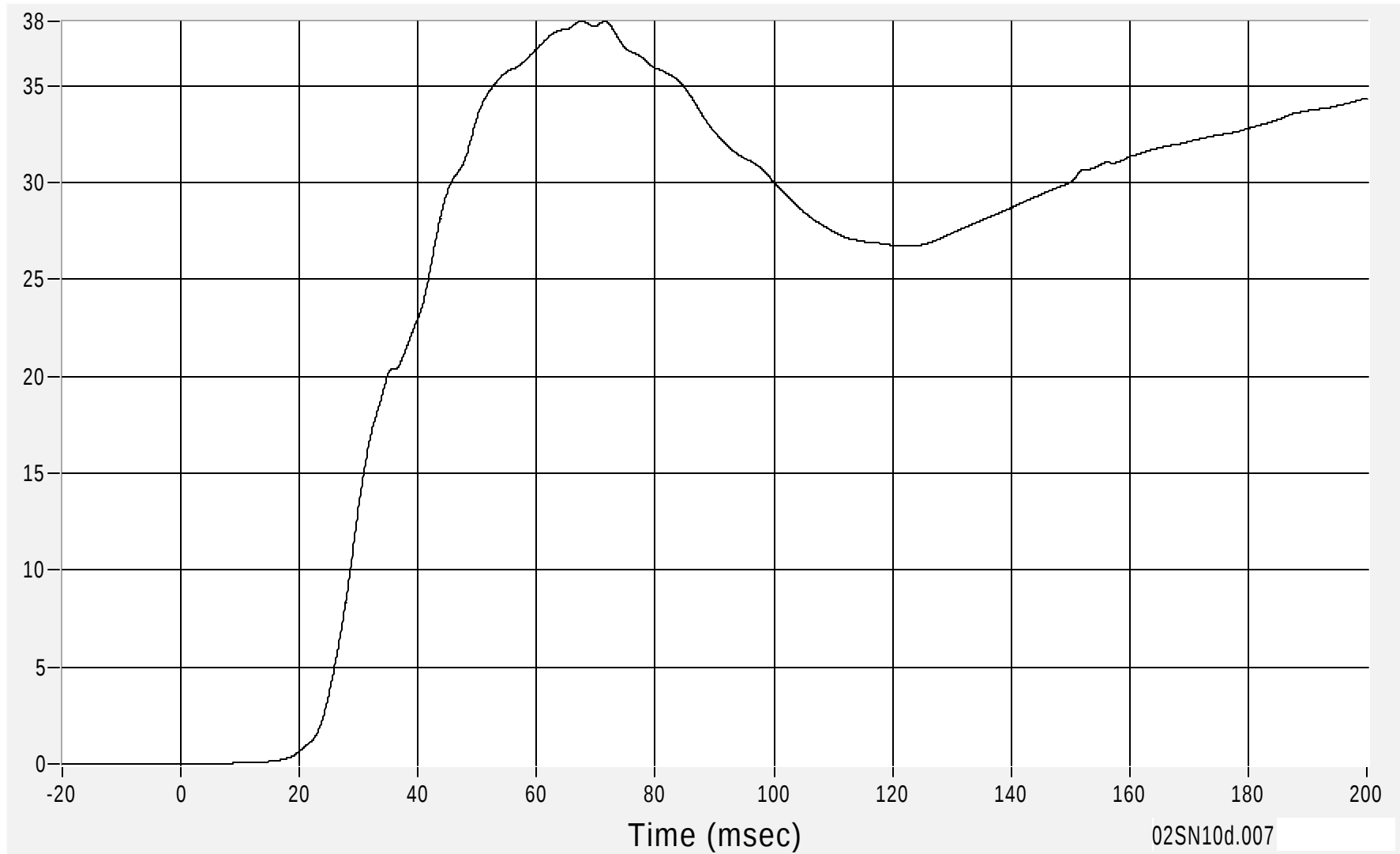
Driver Lower Rib (Y) Velocity - Redundant

Velocity (km/h) CFC180

Max 38.3 km/h at 71.4 msec

Min 0.0 km/h at 0.0 msec

B-104



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

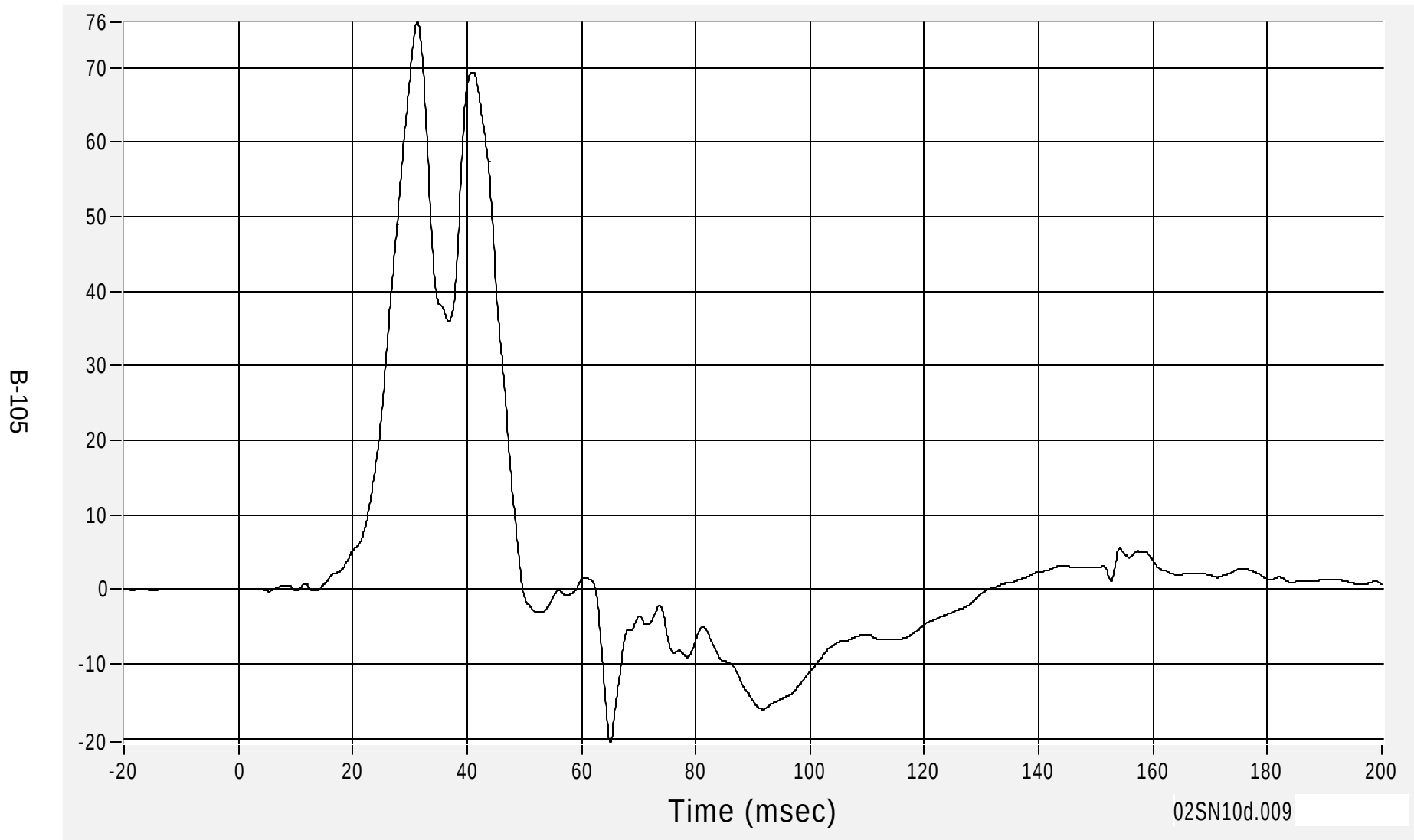
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Driver Lower Spine (Y) Acceleration - Redundant

Max 76.1 G's at 31.3 msec

Min -20.5 G's at 65.0 msec

Acceleration (G's) CFC180



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

Medical College of Wisconsin
Vehicle Crashworthiness Lab

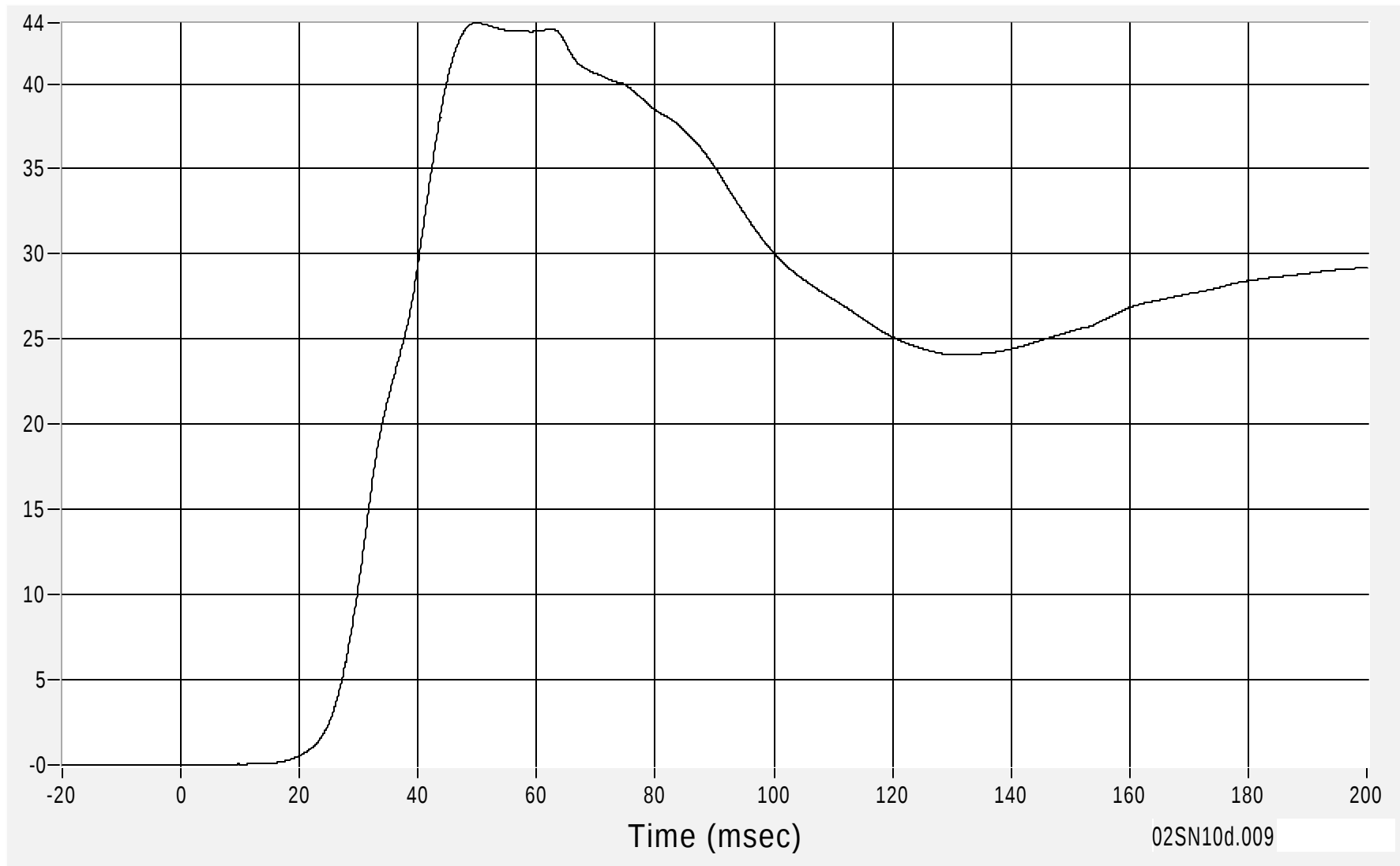
Driver Lower Spine (Y) Velocity - Redundant

Max 43.6 km/h at 49.8 msec

Velocity (km/h) CFC180

Min 0.0 km/h at 6.1 msec

B-106



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

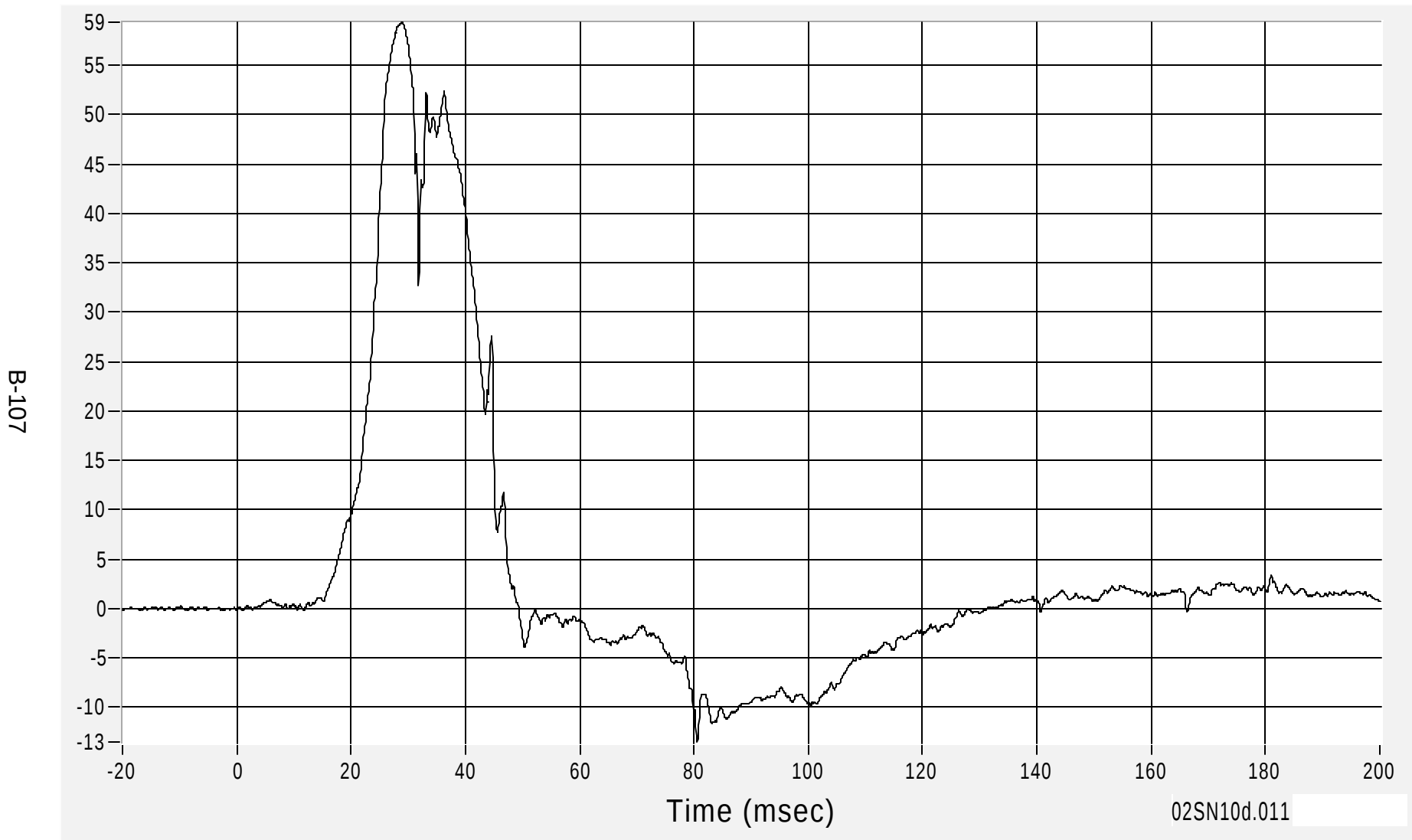
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Driver Pelvic (Y) Acceleration - Redundant

Max 59.3 G's at 29.0 msec

Min -13.5 G's at 80.6 msec

Acceleration (G's) CFC1000



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

Medical College of Wisconsin
Vehicle Crashworthiness Lab

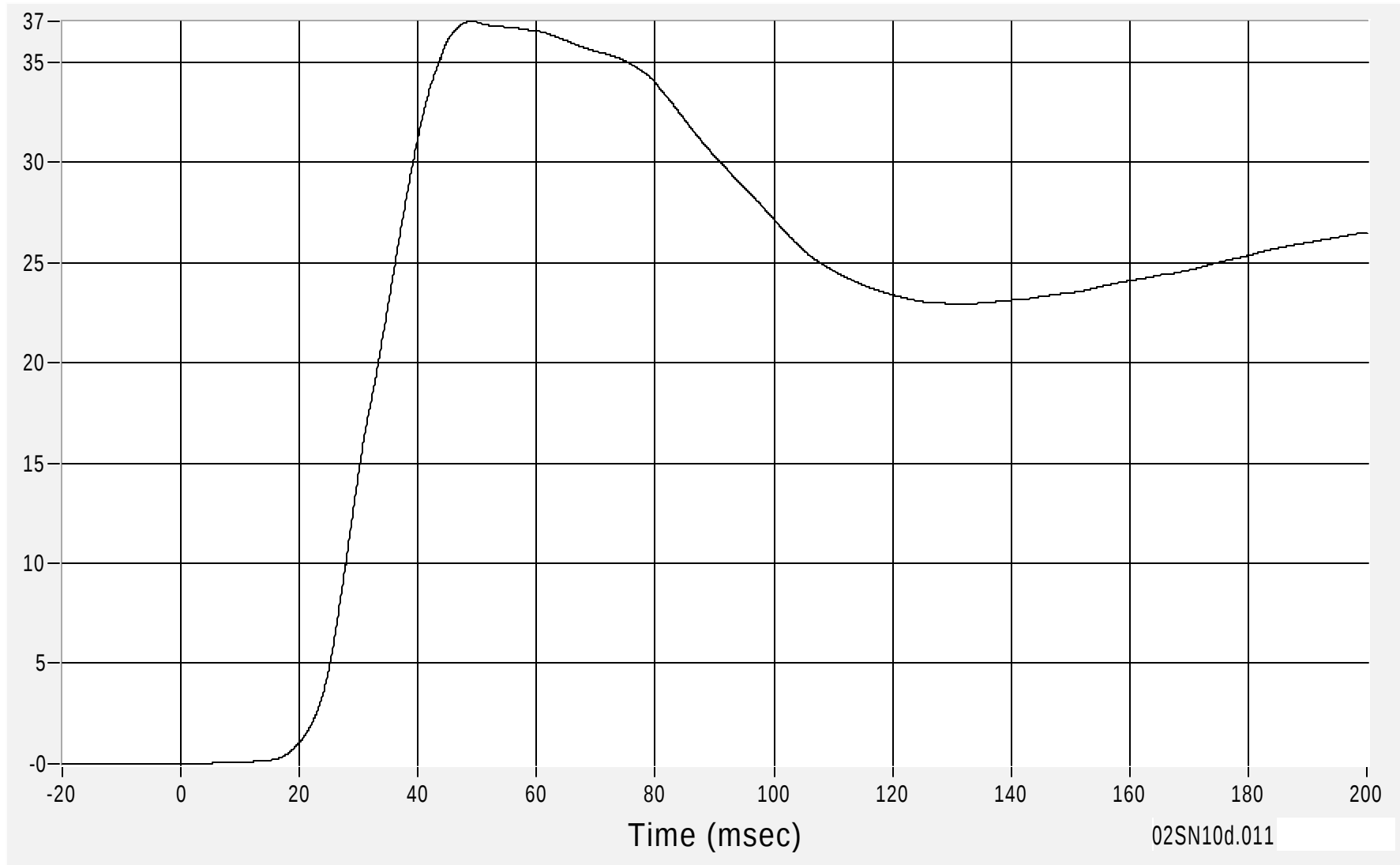
Driver Pelvic (Y) Velocity - Redundant

Velocity (km/h) CFC180

Max 37.0 km/h at 49.0 msec

Min 0.0 km/h at 1.2 msec

B-108



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

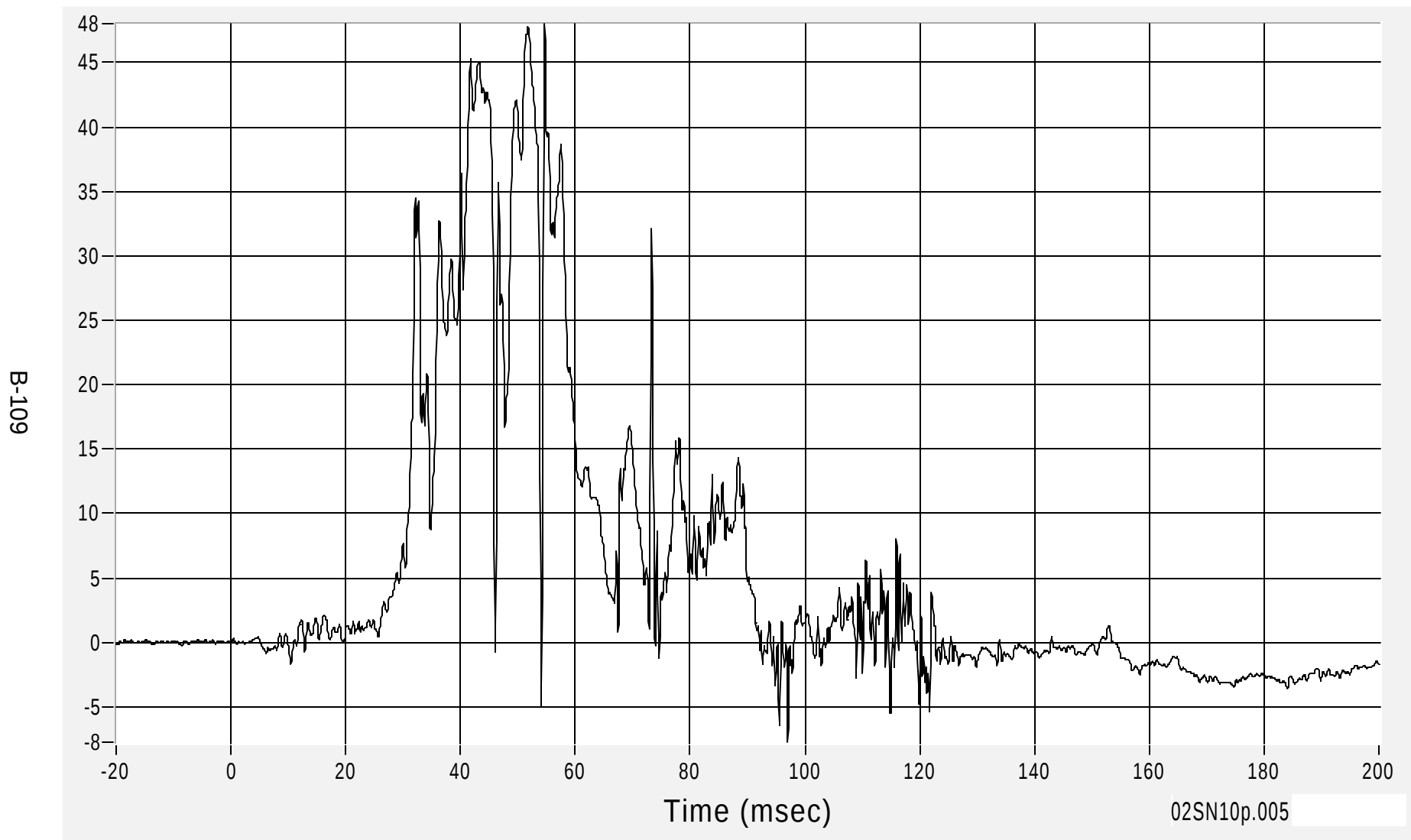
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Passenger Upper Rib (Y) Acceleration - Redundant

Max 48.0 G's at 54.6 msec

Acceleration (G's) CFC1000

Min -7.8 G's at 97.0 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

Medical College of Wisconsin
Vehicle Crashworthiness Lab

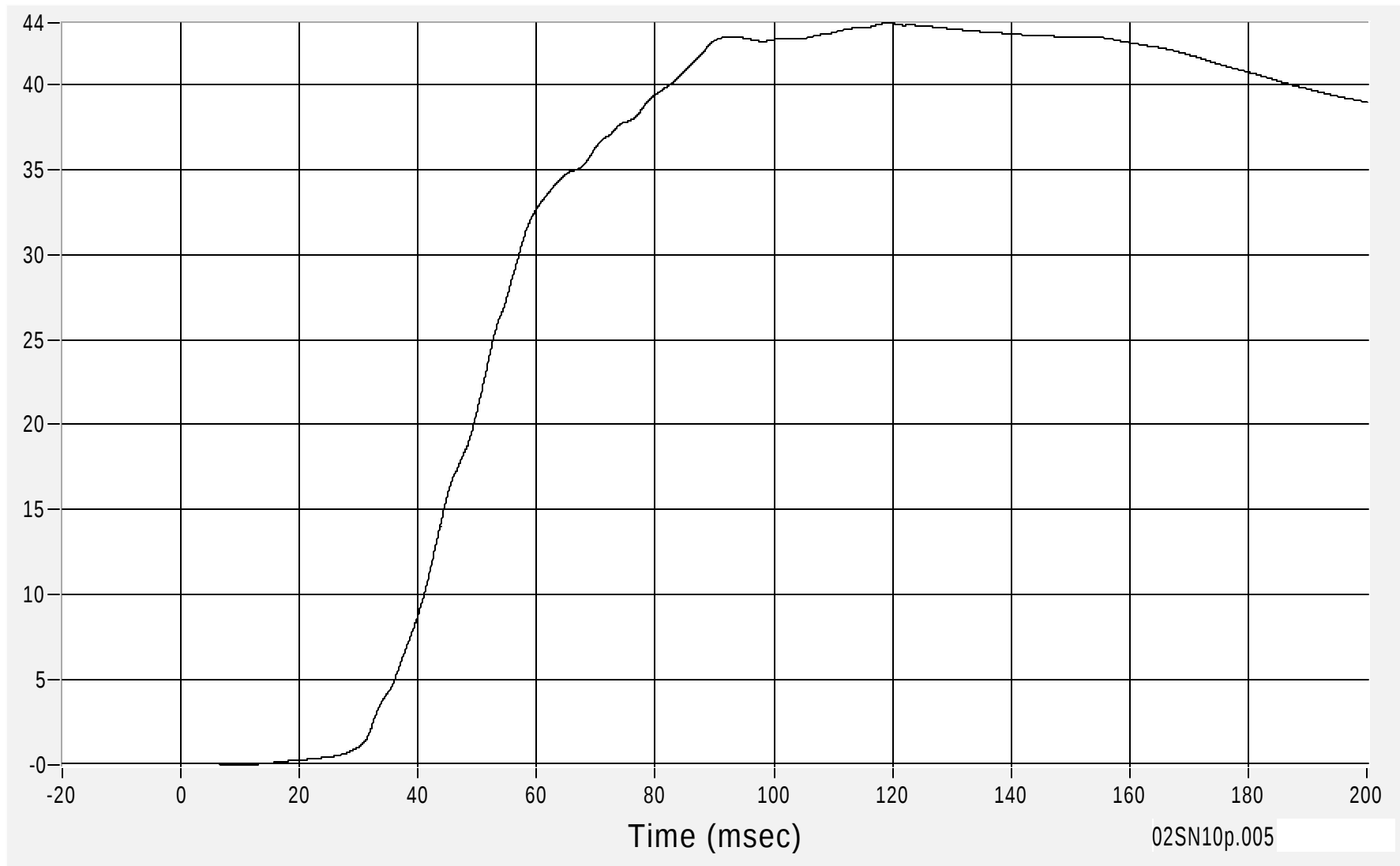
Passenger Upper Rib (Y) Velocity - Redundant

Velocity (km/h) CFC180

Max 43.7 km/h at 119.2 msec

Min 0.0 km/h at 11.1 msec

B-110



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

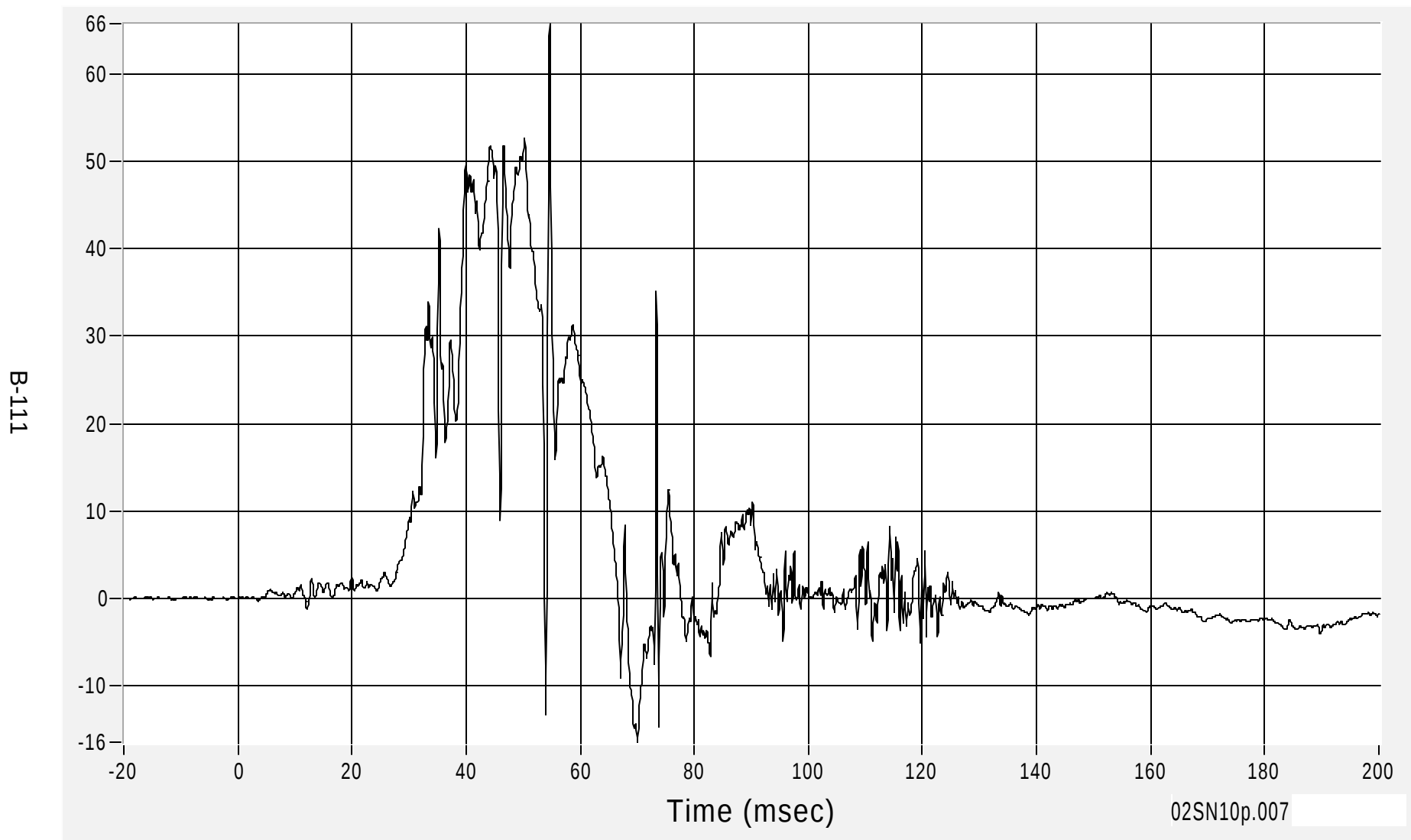
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Passenger Lower Rib (Y) Acceleration - Redundant

Max 65.7 G's at 54.6 msec

Acceleration (G's) CFC1000

Min -16.4 G's at 70.1 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

Medical College of Wisconsin
Vehicle Crashworthiness Lab

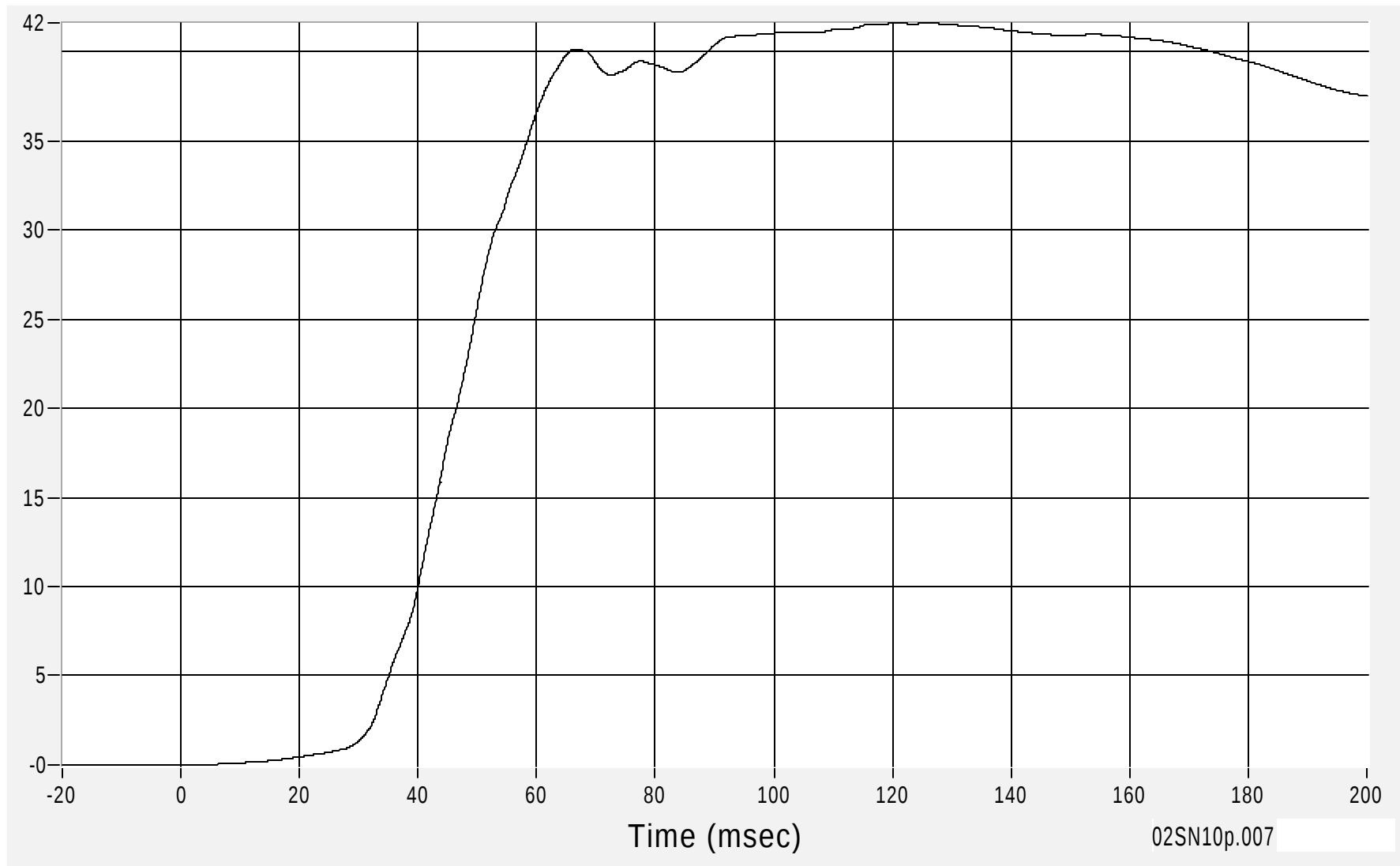
Passenger Lower Rib (Y) Velocity - Redundant

Max 41.6 km/h at 125.8 msec

Velocity (km/h) CFC180

Min 0.0 km/h at 4.0 msec

B-112



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

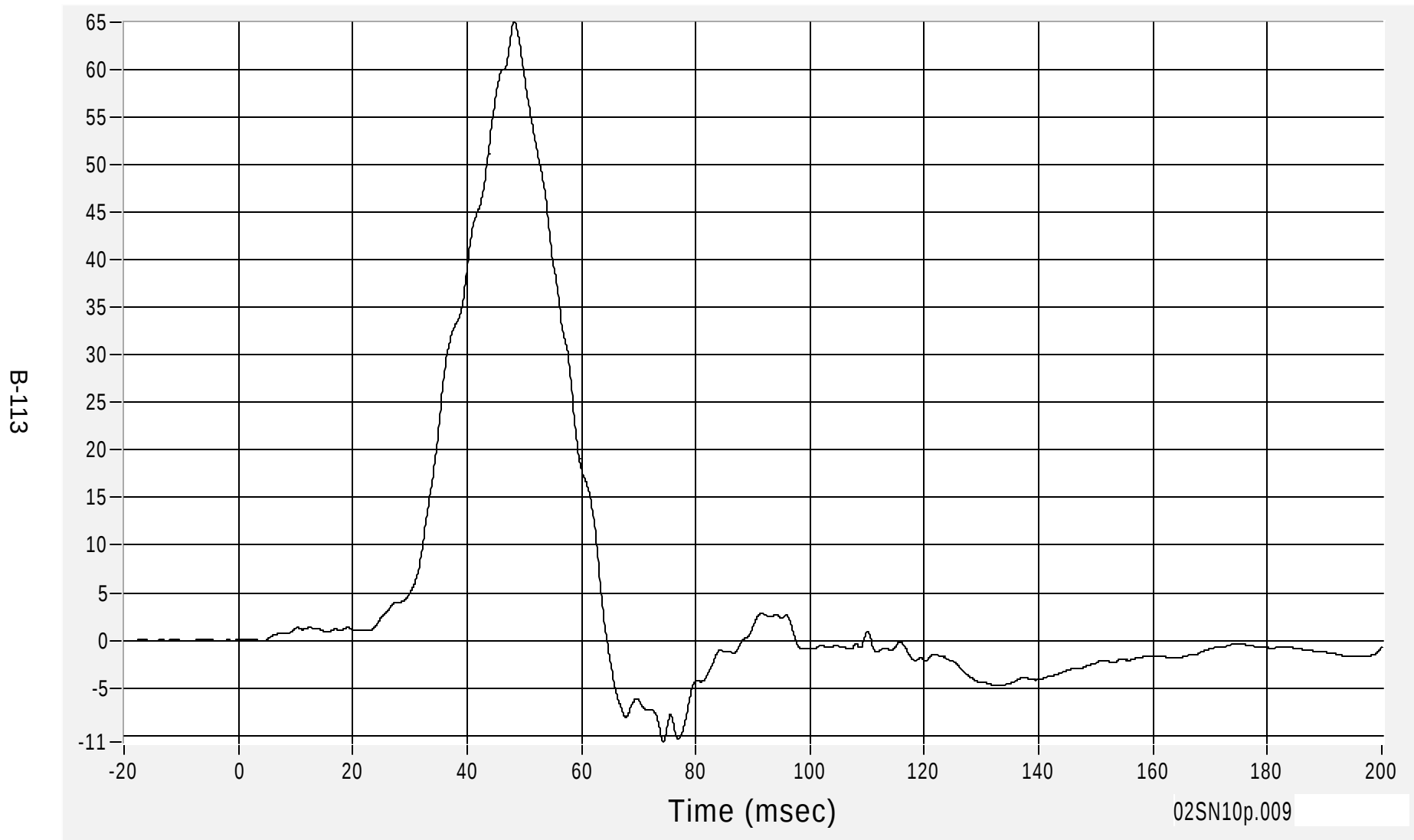
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Passenger Lower Spine (Y) Acceleration - Redundant

Max 65.1 G's at 48.2 msec

Acceleration (G's) CFC180

Min -10.7 G's at 74.3 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

Medical College of Wisconsin
Vehicle Crashworthiness Lab

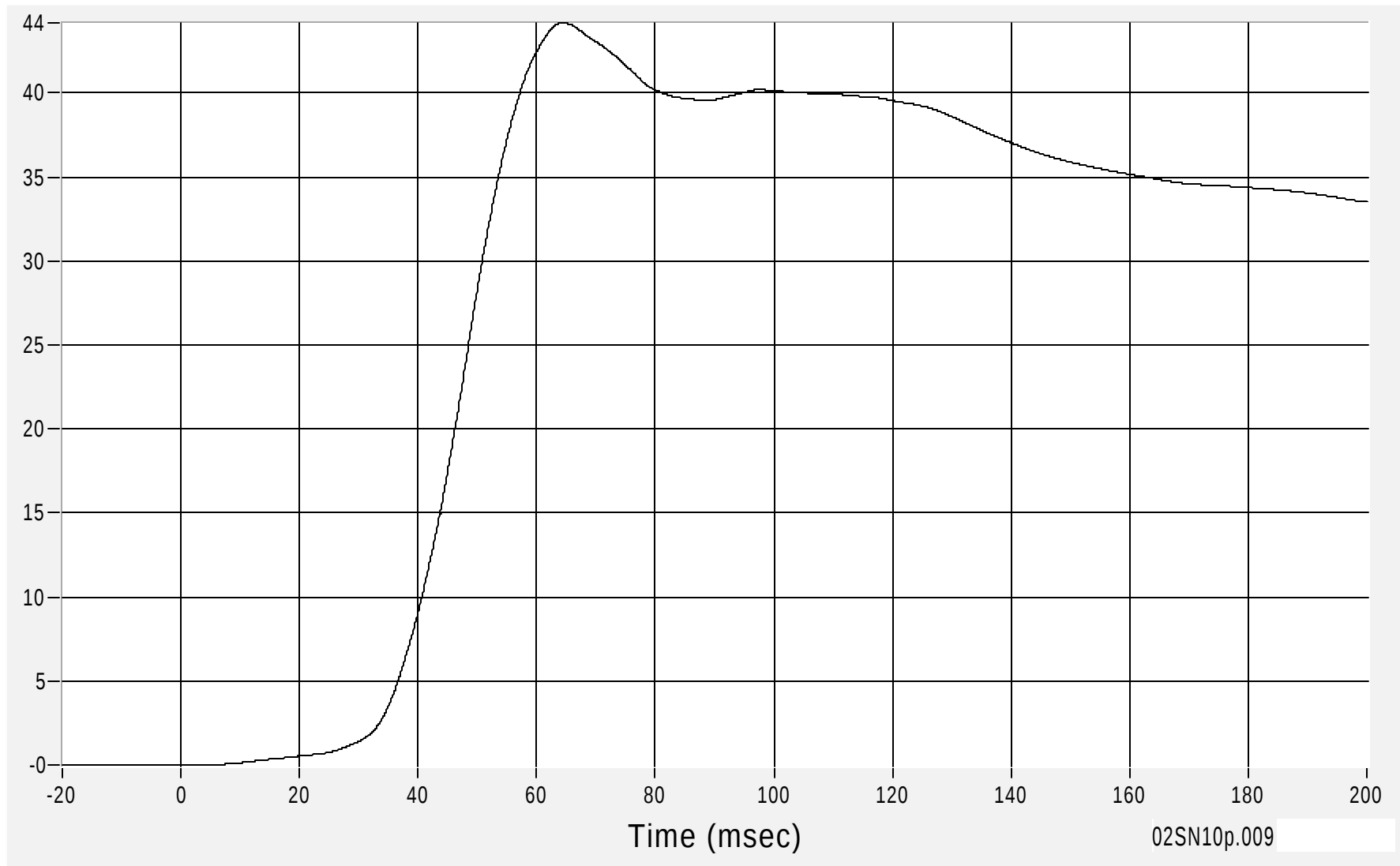
Passenger Lower Spine (Y) Velocity - Redundant

Velocity (km/h) CFC180

Max 44.2 km/h at 64.5 msec

Min 0.0 km/h at 0.0 msec

B-114



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

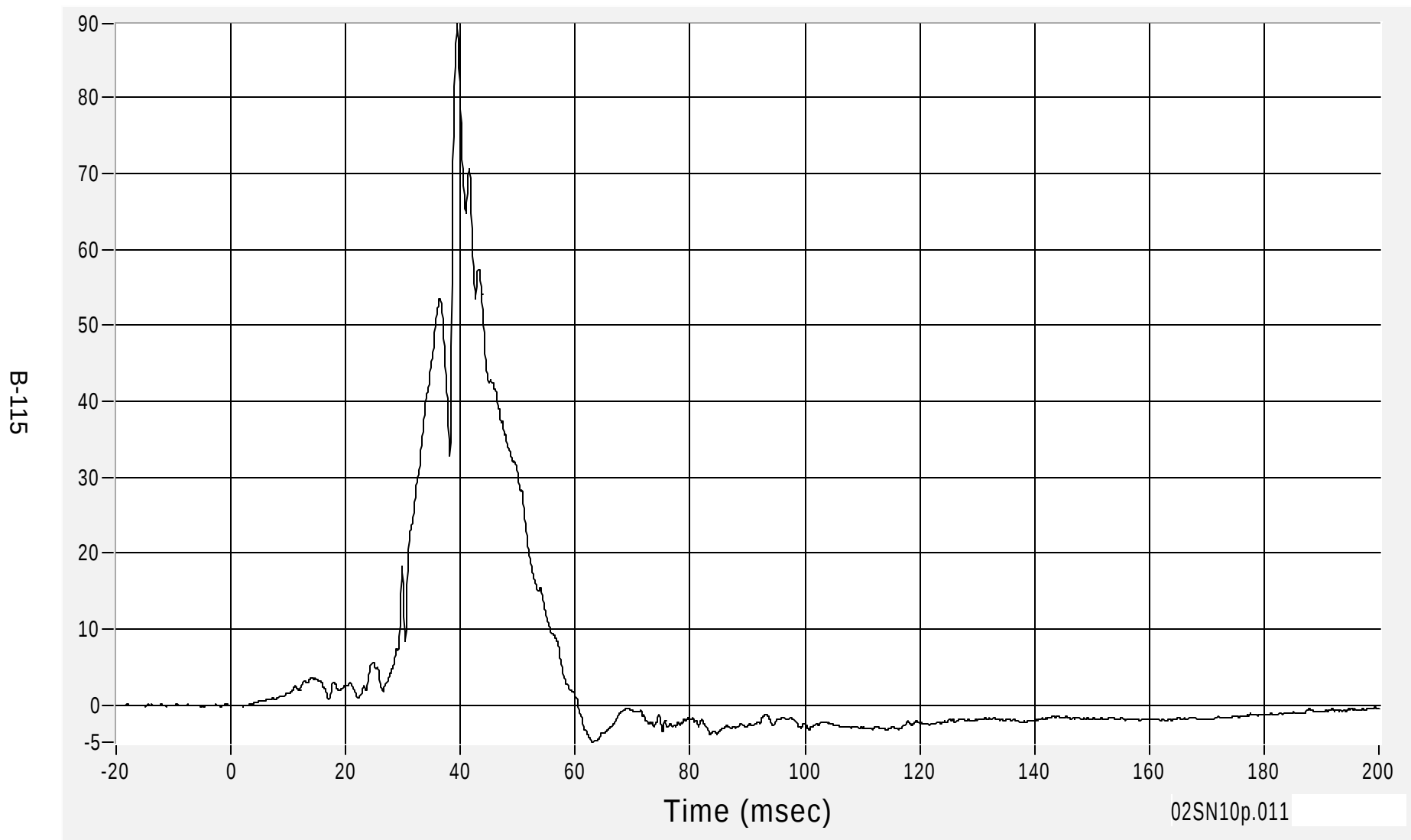
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Passenger Pelvic (Y) Acceleration - Redundant

Max 89.7 G's at 39.4 msec

Acceleration (G's) CFC1000

Min -4.9 G's at 63.1 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

Medical College of Wisconsin
Vehicle Crashworthiness Lab

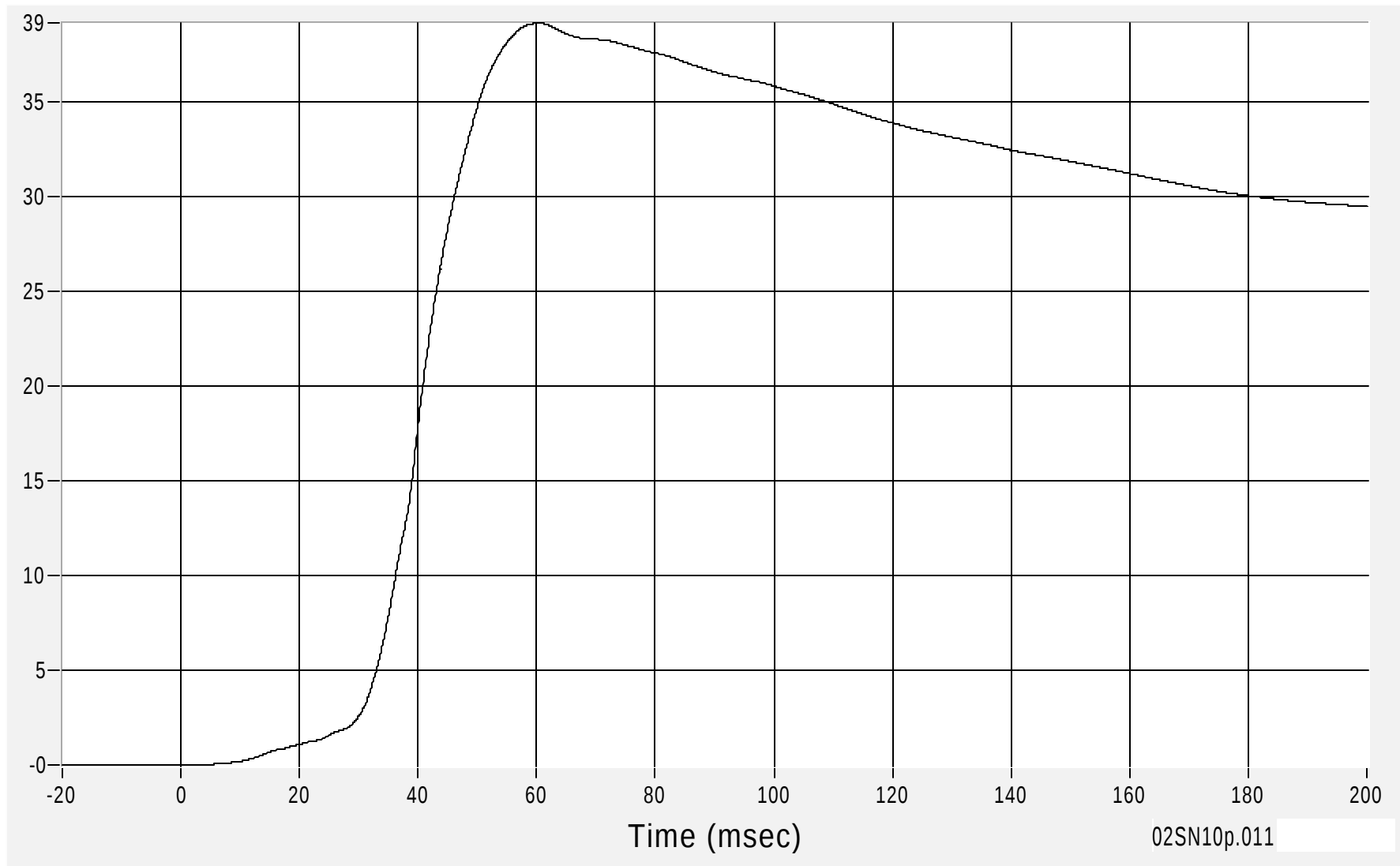
Passenger Pelvic (Y) Velocity - Redundant

Velocity (km/h) CFC180

Max 39.2 km/h at 60.4 msec

Min 0.0 km/h at 2.5 msec

B-116



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

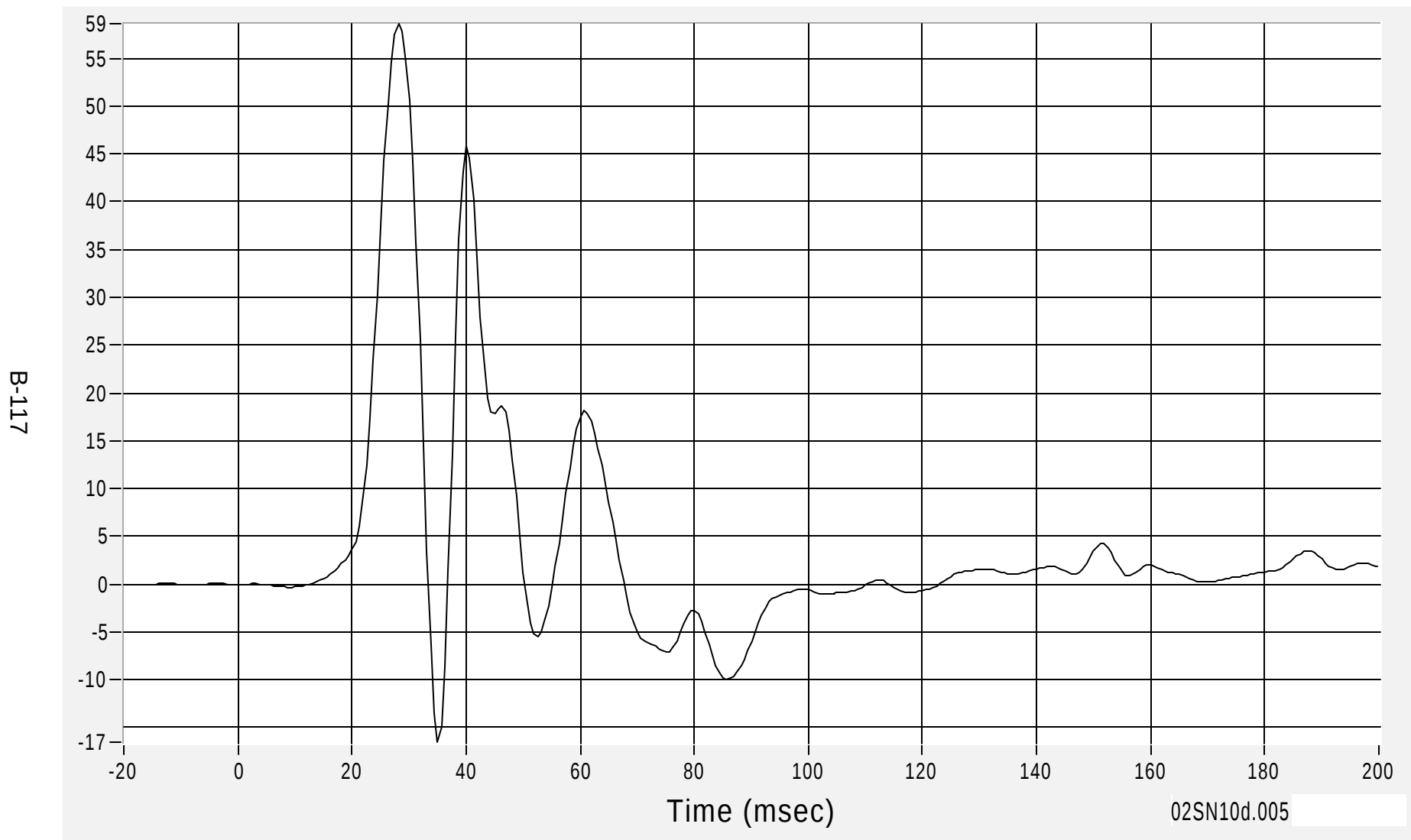
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Driver Upper Rib (Y) Acceleration - Redundant

Max 58.6 G's at 28.1 msec

Acceleration (G's) FIR100

Min -16.5 G's at 35.0 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

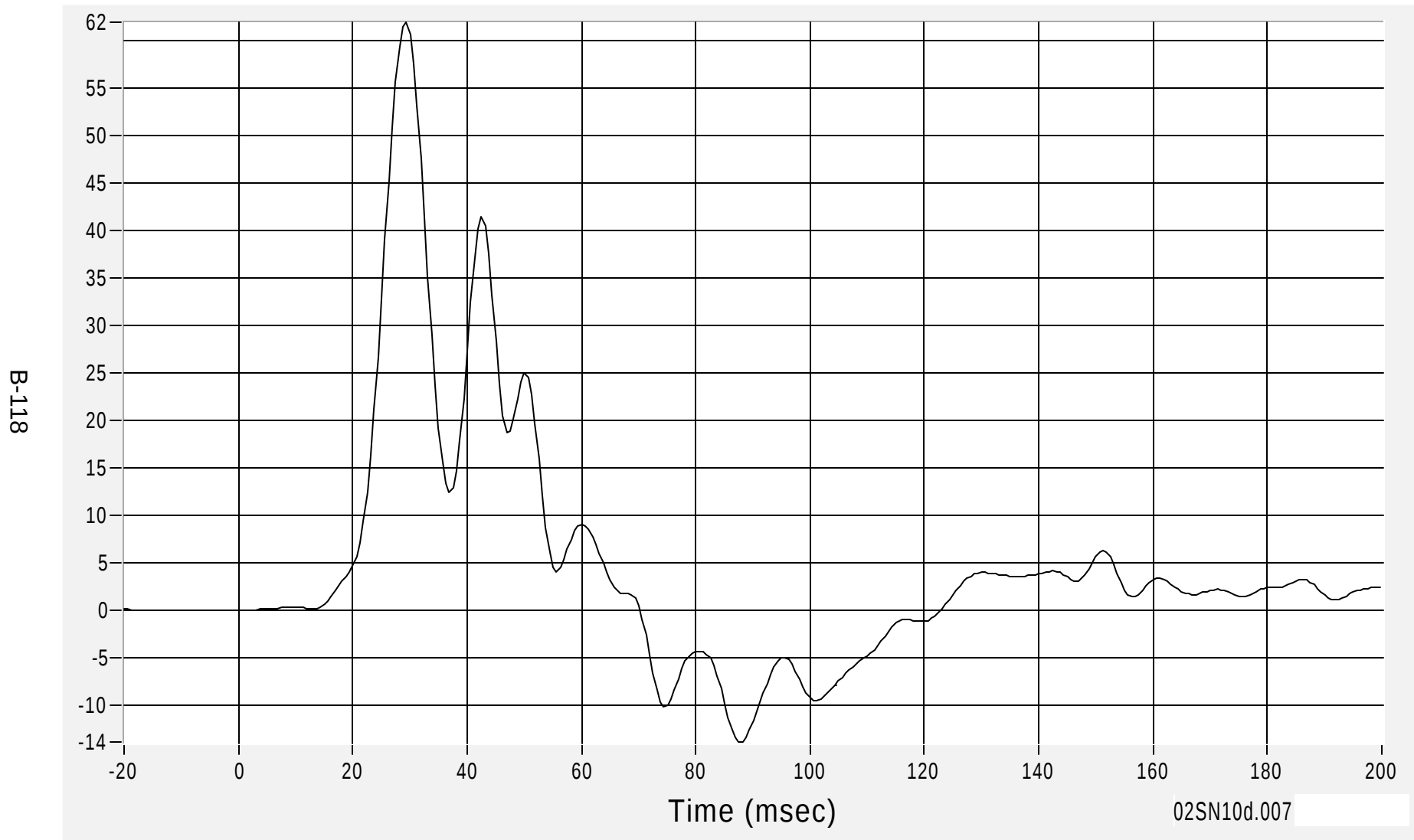
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Driver Lower Rib (Y) Acceleration - Redundant

Max 61.9 G's at 29.4 msec

Min -13.9 G's at 87.5 msec

Acceleration (G's) FIR100



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

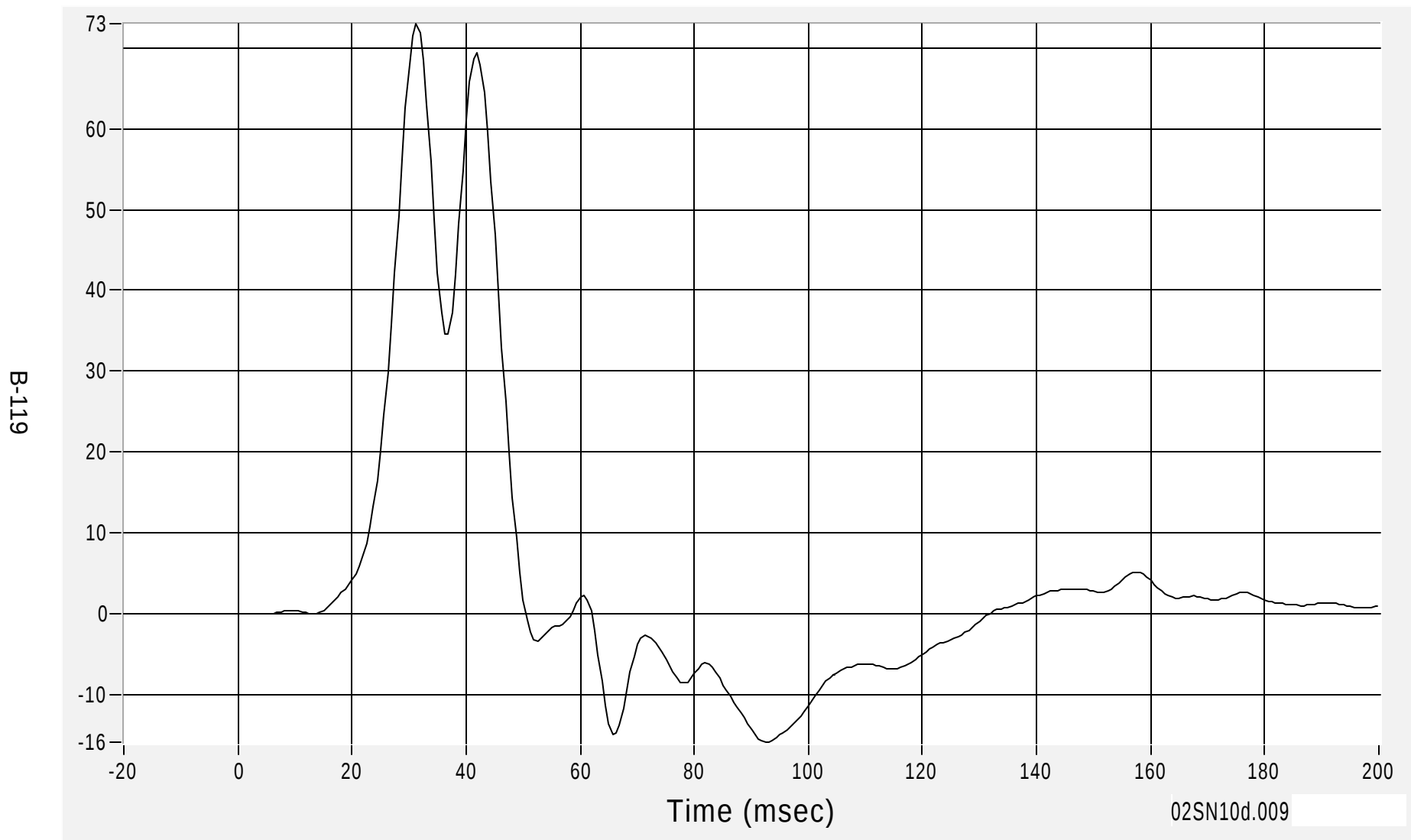
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Driver Lower Spine (Y) Acceleration - Redundant

Max 73.0 G's at 31.2 msec

Acceleration (G's) FIR100

Min -15.9 G's at 92.5 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

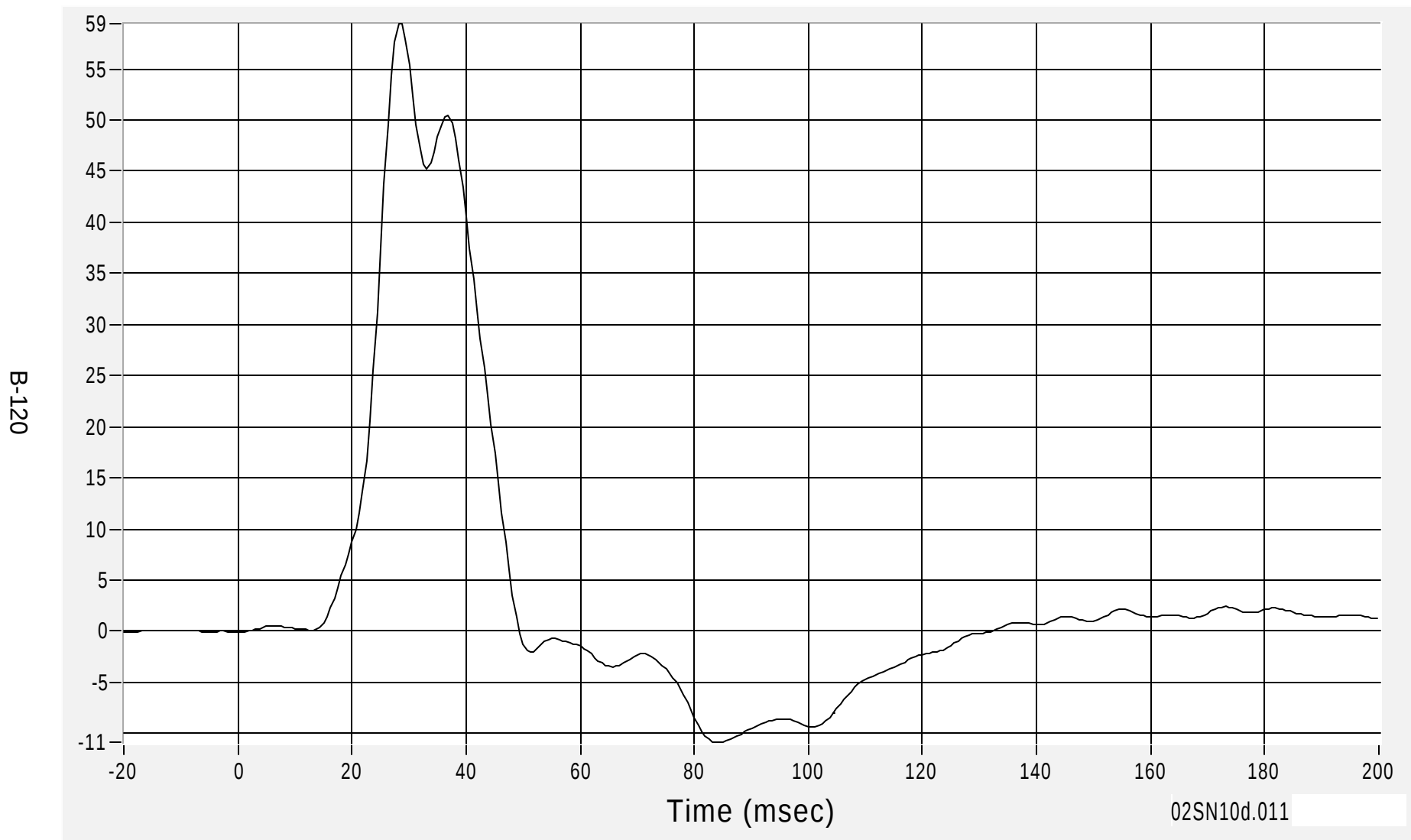
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Driver Pelvic (Y) Acceleration - Redundant

Max 59.4 G's at 28.8 msec

Min -10.8 G's at 83.8 msec

Acceleration (G's) FIR100



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

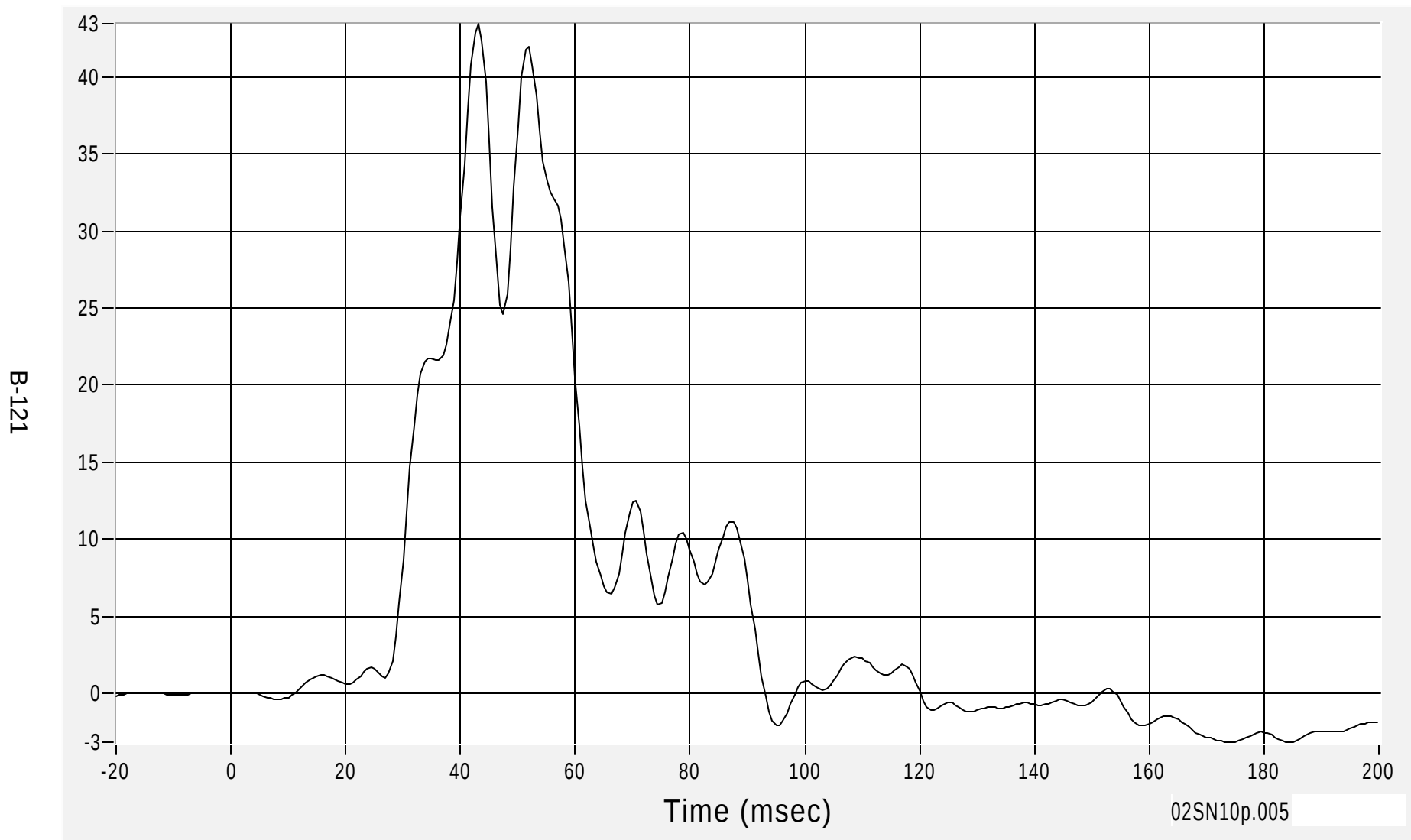
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Passenger Upper Rib (Y) Acceleration - Redundant

Max 43.5 G's at 43.1 msec

Acceleration (G's) FIR100

Min -3.2 G's at 174.4 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

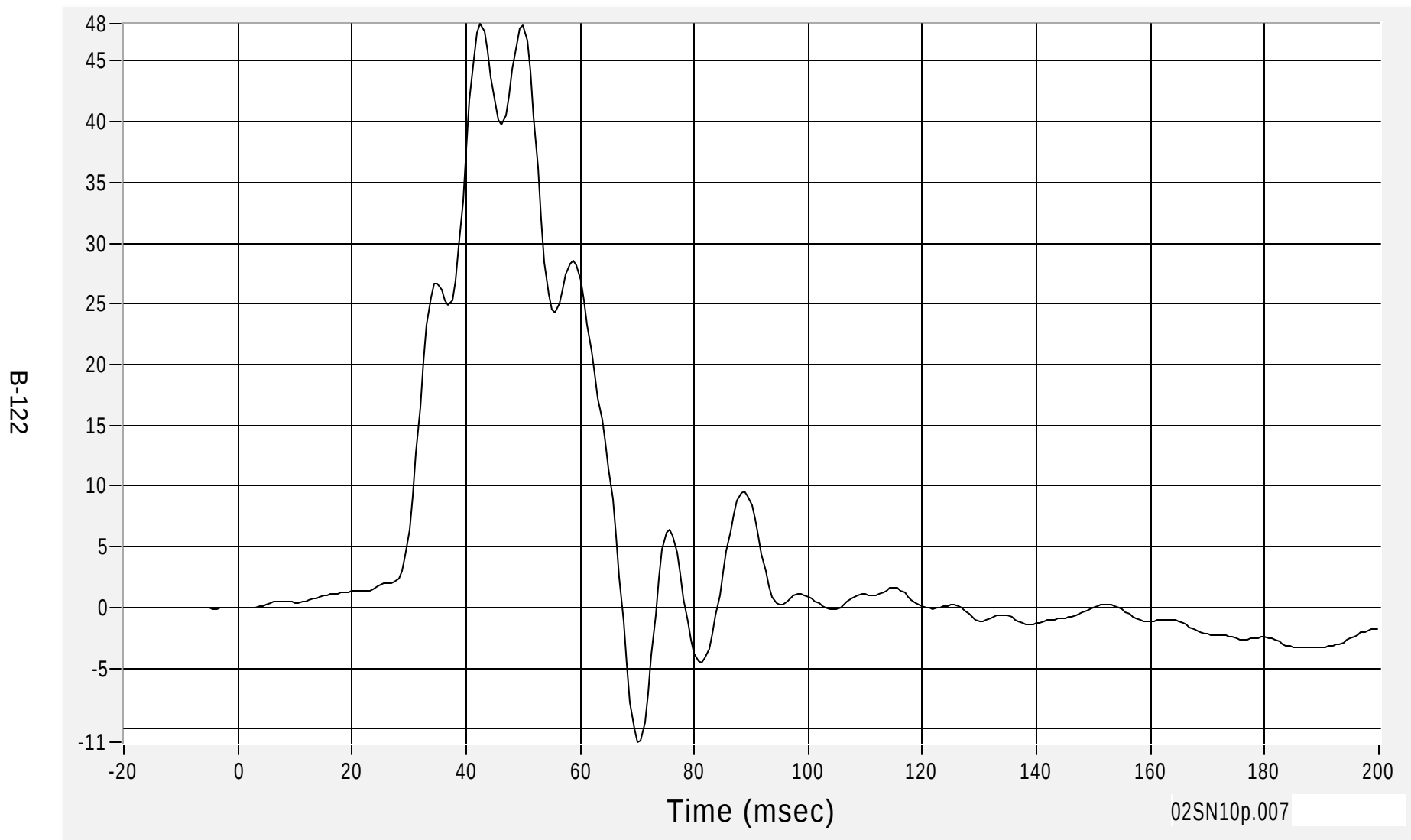
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Passenger Lower Rib (Y) Acceleration - Redundant

Max 48.1 G's at 42.5 msec

Acceleration (G's) FIR100

Min -11.1 G's at 70.0 msec



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN
27 June 2002

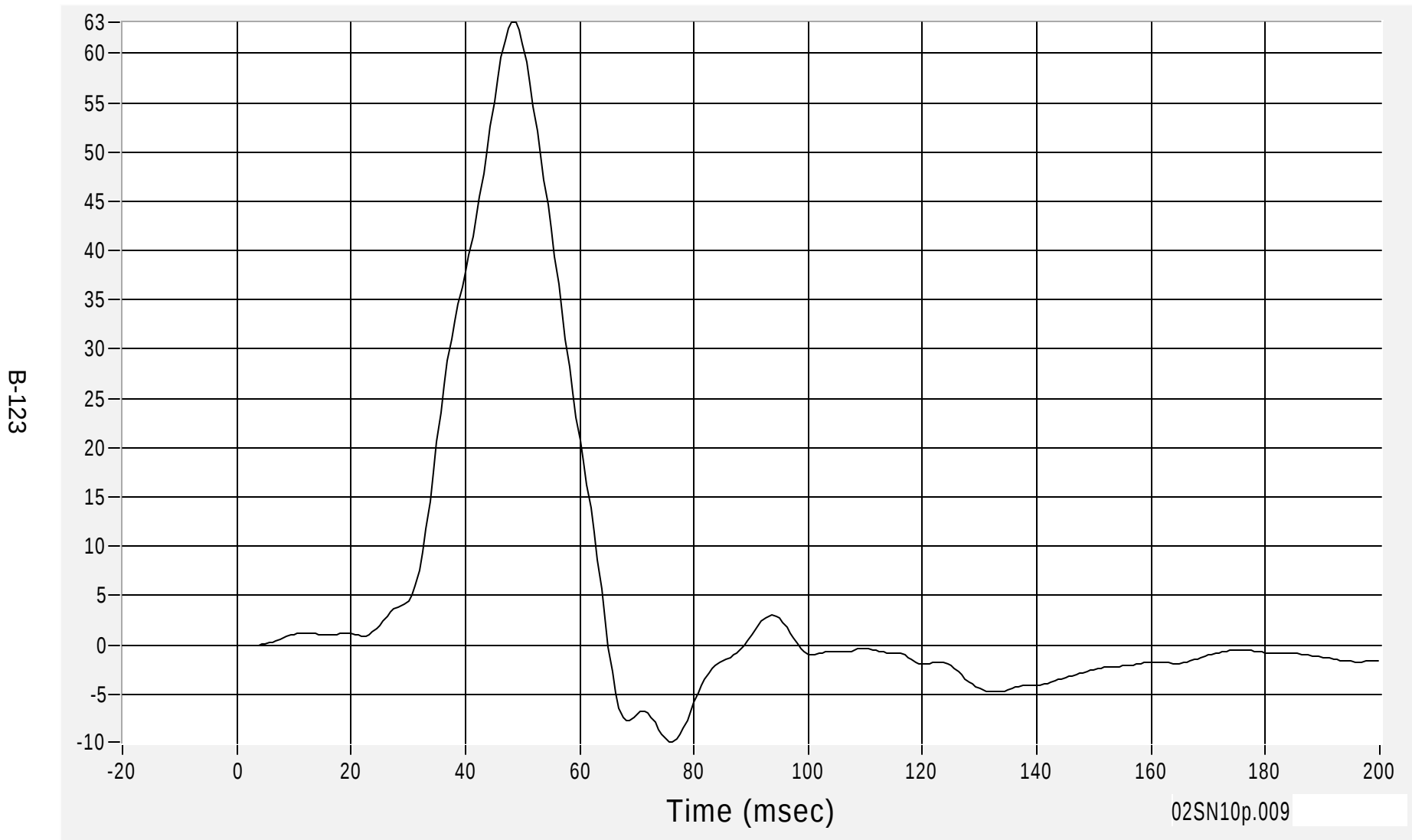
Medical College of Wisconsin
Vehicle Crashworthiness Lab

Passenger Lower Spine (Y) Acceleration - Redundant

Max 63.2 G's at 48.1 msec

Min -9.9 G's at 76.2 msec

Acceleration (G's) FIR100



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

Medical College of Wisconsin
Vehicle Crashworthiness Lab

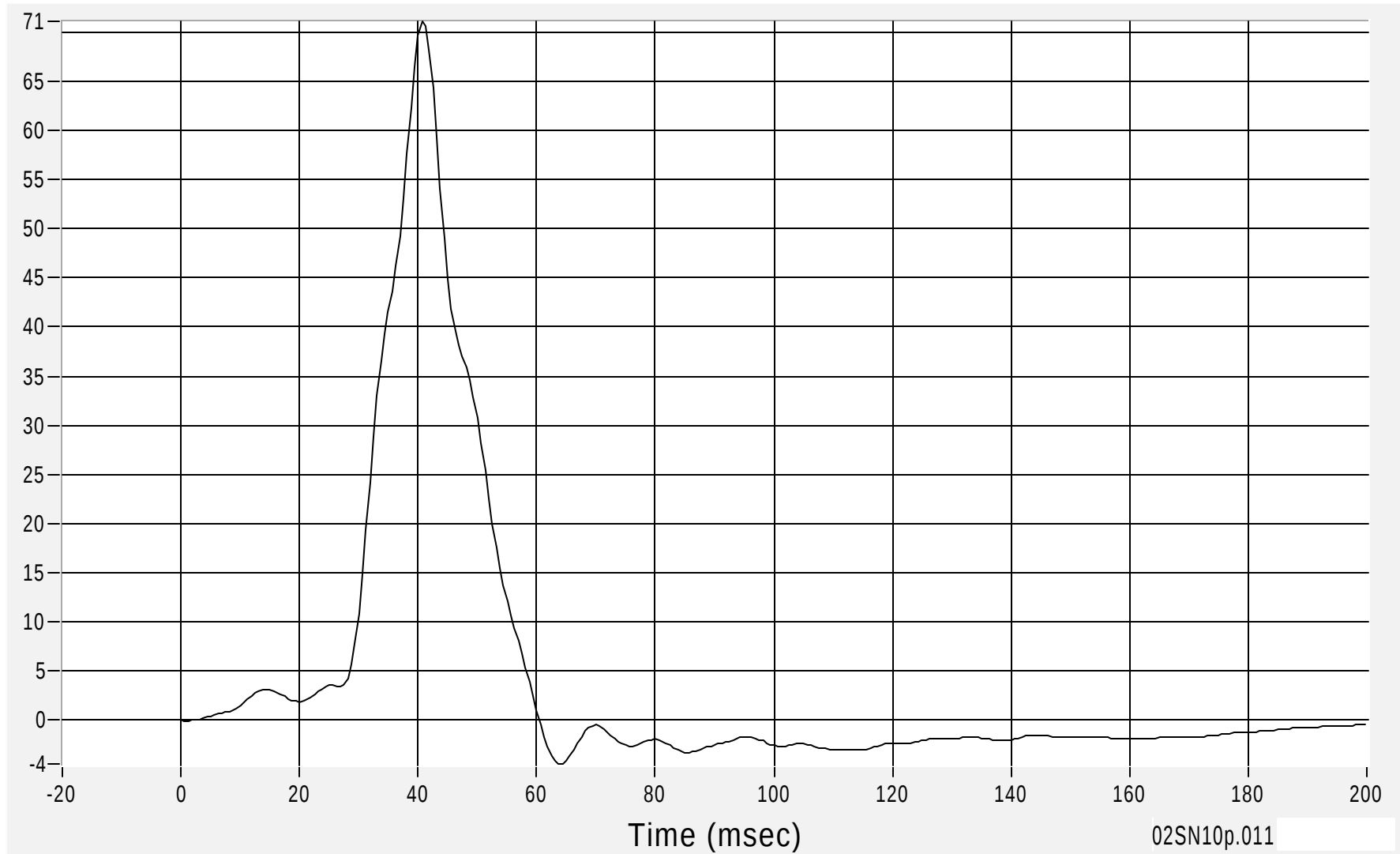
Passenger Pelvic (Y) Acceleration - Redundant

Max 71.1 G's at 40.6 msec

Acceleration (G's) FIR100

Min -4.5 G's at 63.8 msec

B-124



02SN10 - 2003 TOYOTA CAMRY 4 DOOR SEDAN

27 June 2002

Medical College of Wisconsin
Vehicle Crashworthiness Lab

APPENDIX C

SID CONFIGURATION AND VERIFICATION RESULTS

TABLE OF CONTENTS

VERIFICATION TEST RESULTS SUMMARY PRE AND POST TEST	Page No.
SUMMARY SID PRE AND POST VERIFICATION	C-3
DUMMY INSPECTION LIST PRE AND POST TEST	C-4
	C-5

**VERIFICATION TEST RESULTS SUMMARY
PRE AND POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial Number 056 Test Sequences 10 and 11

TEST	PRE		POST	
	COMMENTS	BY	COMMENTS	BY
EXTERNAL DIMENSIONS	Pass all requirements	Mark Meyer	Pass all requirements	Mark Meyer
THORACIC SHOCK ABSORBER TEST	Pass all requirements	Mark Meyer		
LATERAL THORAX IMPACT TEST	Pass all requirements	Mark Meyer	Pass all requirements	Mark Meyer
LATERAL PELVIS IMPACT TEST	Pass all requirements	Mark Meyer	Pass all requirements	Mark Meyer
ABDOMINAL COMPRESSION	Pass all requirements	Mark Meyer		
LUMBAR FLEXION	Pass all requirements	Mark Meyer		

SID Serial Number 058 Test Sequences 11 and 12

TEST	PRE		POST	
	COMMENTS	BY	COMMENTS	BY
EXTERNAL DIMENSIONS	Pass all requirements	Mark Meyer	Pass all requirements	Mark Meyer
THORACIC SHOCK ABSORBER TEST	Pass all requirements	Mark Meyer		
LATERAL THORAX IMPACT TEST	Pass all requirements	Mark Meyer	Pass all requirements	Mark Meyer
LATERAL PELVIS IMPACT TEST	Pass all requirements	Mark Meyer	Pass all requirements	Mark Meyer
ABDOMINAL COMPRESSION	Pass all requirements	Mark Meyer		
LUMBAR FLEXION	Pass all requirements	Mark Meyer		

SUMMARY
SID PRE AND POST VERIFICATION

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial Number 056 and 058

Test Sequences

10 and 11 (056)

11 and 12 (058)

TEST PARAMETER	SPECIFICATION	056		058	
		PRE	POST	PRE	POST
MEASUREMENTS					
Date	-	20Jun02	01Jul02	21Jun02	01Jul02
Sequential Test Number	-	10	11	11	12
Temperature (°C)	18.9-25.5	22.5	21.1	22.3	21.8
Relative Humidity (%)	10-70	32.0	33.1	34.3	34.2
SH – Seated Height (mm)	889-909	896	898	902	903
RH – Rib Height (mm)	501-521	506	509	513	518
HP – Hip Pivot Height (mm)	99	99/99	99/99	99/99	99/99
RD – Rib From Back Line (mm)	229-241	229	230	229	229
KH – Knee Pivot from Back Line (mm)	511-526	522/523	522/520	521/520	526/512
KV – Knee Pivot to Floor (mm)	490-505	499/500	495/502	492/495	490/490
HW – Hip Width (mm)	356-391	364	365	356	356
THORAX IMPACTS					
Date	-	21Jun02	01Jul02	22Jun02	02Jul02
Sequential Test Number	-	10	11	11	12
Temperature (°C)	18.9-25.5	22.5	21.4	21.0	22.1
Relative Humidity (%)	10-70	34.0	33.1	33.3	33.2
Probe Speed (m/s)	4.21-4.33	4.23	4.24	4.27	4.29
Upper Rib Acceleration (G)	37-46	38.8	41.1	44.1	43.6
Lower Rib Acceleration (G)	37-46	39.3	40.9	43.0	42.7
Lower Spine Acceleration (G)	15-22	17.9	19.8	20.8	20.5
PELVIS IMPACTS					
Date	-	21Jun02	01Jul02	22Jun02	02Jul02
Sequential Test Number	-	10	11	11	12
Temperature (°C)	18.9-25.5	22.7	22.1	21.5	23.3
Relative Humidity (%)	10-70	34.0	33.8	33.6	33.7
Probe Speed (m/s)	4.21-4.33	4.22	4.22	4.22	4.27
Pelvis Acceleration (G)	40-60	40.3	40.7	40.5	55.2
THORACIC SHOCK ABSORBER					
Shock Absorber ID Number	-	486	-	03130164	-
Damper Setting	1-10	6	-	5	-
Date	-	11Jun02		11Jun02	-
Sequential Test Number	-	04		04	-
Temperature	18.9-25.5	22.6	-	23.4	-
Relative Humidity	10-70	32.8	-	34.8	-
Probe Speed (m/s) Low	3.05	3.05	-	3.05	-
Force (N)	836 – 1125	1051.1	-	918.3	-
Displacement (mm)	30 – 35	32.2	-	31.0	-
Probe Speed (m/s) Middle	4.27	4.27	-	4.27	-
Force (N)	1730 – 2099	1795.9	-	2030.4	-
Displacement (mm)	32 – 37	35.6	-	34.2	-
Probe Speed (m/s) High	6.10	6.10	-	6.10	-
Force (N)	3741 – 4448	4232.9	-	4248.6	-
Displacement (mm)	33 - 40	38.1	-	36.5	-

TEST PARAMETER	SPECIFICATION	056		058	
		PRE	POST	PRE	POST
ABDOMINAL COMPRESSION					
Date	-	13Jun02	-	13Jun02	-
Sequential Test Number	-	04	-	04	-
Temperature (?C)	18.9-25.5	23.5	-	23.2	-
Relative Humidity (%)	10-70	49.8	-	48.4	-
Force at 13 mm (N)	104-162	122.8	-	128.6	-
Force at 19 mm (N)	163-221	167.9	-	182.6	-
Force at 25 mm (N)	222-280	225.9	-	241.5	-
Force at 33 mm (N)	325-391	388.5	-	368.7	-
LUMBAR FLEXION					
Date	-	12Jun02	-	12Jun02	-
Sequential Test Number	-	04	-	04	-
Temperature (?C)	18.9-25.5	24.4	-	24.6	-
Relative Humidity (%)	10-70	53.2	-	53.2	-
Force at 0? (N)	0-26.7	0	-	18.1	-
Force at 0? (N)	97.8-151.2	128.6	-	126.4	-
Force at 0? (N)	151.2-204.6	200.4	-	192.8	-
Force at 0? (N)	204.6-258	256.8	-	244.2	-
Return Angle	12 Maximum	2.1	-	1.3	-

DUMMY INSPECTION LIST**PRE AND POST TEST****CONFIGURED FOR LEFT SIDE IMPACT**

SID Serial Number 056 and 058

Test Sequences

10 and 11 (056)

11 and 12 (058)

		SID 056		SID 058	
		PRE	POST	PRE	POST
	Date	20Jun02	01Jul02	21Jun02	01Jul02
	Performed By	Mark Meyer	Mark Meyer	Mark Meyer	Mark Meyer
PART	INSPECTION	Pass	Pass	Pass	Pass
Skin	Visual	Pass	Pass	Pass	Pass
Head	Visual, Ballast, Accelerometer Mount	Pass	Pass	Pass	Pass
Neck	Visual and Palpated, Cable Torque	Pass	Pass	Pass	Pass
Spine Box	Visual, Ballast, Weldment, Accelerometer Mount	Pass	Pass	Pass	Pass
Rib Cage	Visual, Palpated, Measured, Stiffness	Pass	Pass	Pass	Pass
Sternum	Visual	Pass	Pass	Pass	Pass
Lumbar Spine	Visual	Pass	Pass	Pass	Pass
Abdomen	Visual	Pass	Pass	Pass	Pass
Pelvis	Visual, Palpated, Accelerometer Mount	Pass	Pass	Pass	Pass
Upper Legs	Visual	Pass	Pass	Pass	Pass
Knees	Visual, Stops, Inserts	Pass	Pass	Pass	Pass
Lower Legs	Visual, Range of Motion	Pass	Pass	Pass	Pass
Ankles	Visual, Range of Motion	Pass	Pass	Pass	Pass
Feet	Visual, Range of Motion	Pass	Pass	Pass	Pass
Joints	1 to 2 G Range	Pass	Pass	Pass	Pass
Other		None	None	None	None

APPENDIX D

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

TABLE OF CONTENTS

Section	Page No.
SID INSTRUMENTATION	D-3
VEHICLE INSTRUMENTATION	D-4
MDB INSTRUMENTATION	D-4

SID INSTRUMENTATION

FRONT SID NO. 056

	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
HEAD X	J32566	ENDEVCO	14Nov01
HEAD Y	J32565	ENDEVCO	14Nov01
HEAD Z	J21552	ENDEVCO	14Nov01
UPPER RIB	J21342	ENDEVCO	14Nov01
LOWER RIB	J34385	ENDEVCO	14Nov01
LOWER SPINE	J21551	ENDEVCO	14Nov01
PELVIS	J36018	ENDEVCO	14Nov01
UPPER RIB REDUNDANT	J36616	ENDEVCO	14Nov01
LOWER RIB REDUNDANT	J18553	ENDEVCO	14Nov01
LOWER SPINE REDUNDANT	J36659	ENDEVCO	14Nov01
PELVIS REDUNDANT	J19089	ENDEVCO	14Nov01

REAR SID NO. 058

	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
HEAD X	J35932	ENDEVCO	14Nov01
HEAD Y	J36031	ENDEVCO	14Nov01
HEAD Z	J35641	ENDEVCO	14Nov01
UPPER RIB	J35839	ENDEVCO	14Nov01
LOWER RIB	J32665	ENDEVCO	14Nov01
LOWER SPINE	J35937	ENDEVCO	14Nov01
PELVIS	J36603	ENDEVCO	14Nov01
UPPER RIB REDUNDANT	J36617	ENDEVCO	14Nov01
LOWER RIB REDUNDANT	J32662	ENDEVCO	14Nov01
LOWER SPINE REDUNDANT	J36614	ENDEVCO	14Nov01
PELVIS REDUNDANT	J34364	ENDEVCO	14Nov01

VEHICLE INSTRUMENTATION

	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
RIGHT FRONT SILL X	P22965	ENDEVCO	14Nov01
RIGHT FRONT SILL Y	P13846	ENDEVCO	14Nov01
RIGHT FRONT SILL Z	P22318	ENDEVCO	14Nov01
RIGHT REAR SILL X	98B98A26-D17	ENTRAN	14Nov01
RIGHT REAR SILL Y	98B98A26-D05	ENTRAN	14Nov01
RIGHT REAR SILL Z	P12825	ENDEVCO	14Nov01
REAR FLOORPAN ABOVE AXLE X	P13598	ENDEVCO	14Nov01
REAR FLOORPAN ABOVE AXLE Y	P13819	ENDEVCO	14Nov01
REAR FLOORPAN ABOVE AXLE Z	P13837	ENDEVCO	14Nov01
LEFT REAR SILL Y	P21820	ENDEVCO	14Nov01
LEFT FRONT SILL Y	P22298	ENDEVCO	14Nov01
LEFT FRONT DOOR CENTERLINE Y	N/A	N/A	N/A
RIGHT REAR OCCUPANT COMP Y	P21898	ENDEVCO	14Nov01
MID-REAR OF LEFT FRONT DOOR Y	N/A	N/A	N/A
LEFT FRONT DOOR UPPER C/L Y	N/A	N/A	N/A
MID-REAR OF LEFT REAR DOOR Y	N/A	N/A	N/A
LEFT REAR DOOR UPPER C/L Y	N/A	N/A	N/A
LEFT LOWER B-PILLAR Y	P23579	ENDEVCO	14Nov01
LEFT MIDDLE B-PILLAR Y	P21466	ENDEVCO	14Nov01
LEFT LOWER A-PILLAR Y	P13838	ENDEVCO	14Nov01
LEFT UPPER A-PILLAR	B13158	ENDEVCO	14Nov01
FRONT SEAT TRACK Y	P13868	ENDEVCO	14Nov01
REAR SEAT TRACK Y	P22539	ENDEVCO	14Nov01
VEHICLE CG X	P23573	ENDEVCO	14Nov01
VEHICLE CG Y	P13869	ENDEVCO	14Nov01
VEHICLE CG Z	P14233	ENDEVCO	14Nov01

MDB INSTRUMENTATION

MDB CG X	P19211	ENDEVCO	14Nov01
MDB CG Y	P23595	ENDEVCO	14Nov01
MDB CG Z	P19145	ENDEVCO	14Nov01
MDB REAR FRAME MEMBER X	P21151	ENDEVCO	14Nov01
MDB REAR FRAME MEMBER Y	P22978	ENDEVCO	14Nov01