

REPORT NUMBER: SNCAP-CAL-04-05

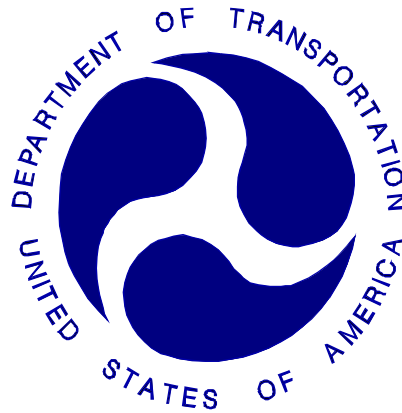
**NEW CAR ASSESSMENT PROGRAM
SIDE IMPACT TEST**

FUJI HEAVY INDUSTRIES LTD.
2005 SUBARU OUTBACK
MPV

NHTSA NUMBER: M55501

GENERAL DYNAMICS TEST NUMBER: 8765-SNCAP-05

ADVANCED INFORMATION ENGINEERING SERVICES
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August 4, 2004

FINAL REPORT

U. S. DEPARTMENT OF TRANSPORTATION
National Highway Traffic Safety Administration
Rulemaking
Office of Crashworthiness Standards
Mail Code: NVS-111
400 Seventh Street, SW, Room No. 5313
Washington, DC 20590

This Final Test Report was prepared for the U.S. Department of Transportation, National Highway Traffic Safety Administration, under Contract No. DTNH22-98-D-02001. 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 contents or use thereof.

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Acceptance Date:

TECHNICAL REPORT STANDARD TITLE PAGE

1. Report No. SNCAP-CAL-04-05	2. Government Accession No.	3. Recipient's Catalog No.																															
4. Title and Subtitle Final Report of new Car Assessment Program Side Impact Testing of a 2005 Subaru Outback MPV NHTSA No.: M55501		5. Report Date August 4, 2004																															
		6. Performing Organization Code CAL																															
7. Author(s) Lawrence Q. Valvo, Project Engineer David J. Travale, Program Manager		8. Performing Organization Report No. 8765-SNCAP-05																															
9. Performing Organization Name and Address General Dynamics Transportation Sciences Center P.O. Box 400 Buffalo, New York 14225		10. Work Unit No.																															
		11. Contract or Grant No. DTNH22-03-D-22005																															
12. Sponsoring Agency Name and Address U.S. Department of Transportation National Highway Traffic Safety Administration Office of Crashworthiness Standards Mail Code: NVS-111 400 Seventh SW, Room 5313 Washington, D.C. 20590		13. Type of Report and Period Covered Final Report, August 2004																															
		14. Sponsoring Agency Code NVS-111																															
15. Supplementary Notes																																	
16. Abstract A 55/28 kph 90° Impact Moving Deformable Barrier NCAP Side Impact Test was conducted on the subject 2005 Subaru Outback MPV in accordance with the specifications of the Office of Crashworthiness Standards Test Procedure for the generation of consumer information on vehicle side crash protection. This test was conducted at the General Dynamics Advanced Information Engineering Services Crash Test Facility in Buffalo, New York, on August 4, 2004. The impact velocity of the Moving Deformable Barrier (MDB) was 61.80 kph, and the ambient temperature at the struck (driver's) side of the target vehicle at the time of impact was 21.1°C. The target vehicle post-test maximum crush was 240 mm at level 3. The test or target vehicle's performance is given below: <table border="0"> <thead> <tr> <th></th> <th><u>Front SID H3</u></th> <th></th> <th><u>Rear SID H3</u></th> <th></th> </tr> </thead> <tbody> <tr> <td>Left Upper Rib Acceleration:</td> <td>25.1</td> <td>g's</td> <td>52.2</td> <td>g's</td> </tr> <tr> <td>Left Lower Rib Acceleration:</td> <td>23.6</td> <td>g's</td> <td>50.6</td> <td>g's</td> </tr> <tr> <td>Lower Spine Acceleration:</td> <td>43.1</td> <td>g's</td> <td>55.4</td> <td>g's</td> </tr> <tr> <td>Thoracic Trauma Index (TTI):</td> <td>34</td> <td>g's</td> <td>54</td> <td>g's</td> </tr> <tr> <td>Pelvis Acceleration (PEV):</td> <td>54</td> <td>g's</td> <td>51</td> <td>g's</td> </tr> </tbody> </table> The two 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>Front SID H3</u>		<u>Rear SID H3</u>		Left Upper Rib Acceleration:	25.1	g's	52.2	g's	Left Lower Rib Acceleration:	23.6	g's	50.6	g's	Lower Spine Acceleration:	43.1	g's	55.4	g's	Thoracic Trauma Index (TTI):	34	g's	54	g's	Pelvis Acceleration (PEV):	54	g's	51	g's
	<u>Front SID H3</u>		<u>Rear SID H3</u>																														
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17. Key Words New Car Assessment Program (NCAP) Side Impact MDB Side Impact Dummy Hybrid III (SID H3)		18. Distribution Statement <u>Copies of this report are available from:</u> National Highway Traffic Safety Administration Technical Reference Division Room 5111 (NAD-52) 400 Seventh St., S.W. Washington, D.C. 20590 Telephone No. (202) 366-4946 ATTN: Robert Hornicle																															
19. Security Classification of Report UNCLASSIFIED	20. Security Classification of Page UNCLASSIFIED	21. No. of Pages 284	22. Price																														

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SECTION 1

PURPOSE AND TEST PROCEDURE

This side impact test is part of the FY2004 New Car Assessment Program Side Impact Protection sponsored by the National Highway Traffic Safety Administration (NHTSA) under Contract No. DTNH22-03-D-22005. The purpose of this test was to generate comparative side impact performance in a 2005 Subaru Outback MPV. The test was conducted in accordance with the Office of Crashworthiness Standards' Laboratory Test Procedure dated July 1997.

SECTION 2

SUMMARY OF SIDE IMPACT TEST

A 2005 Subaru Outback MPV was impacted on the left or driver's side by a Moving Deformable Barrier (MDB) which was moving forward in a 27° crabbed position to the monorail at a velocity of 61.80 kph (38.4 mph). The target vehicle was stationary and was positioned at an angle of 63° to the line of forward motion. The side impact test was conducted by the General Dynamics Advanced Information Engineering Services in Buffalo, New York on August 4, 2004. Pre- and post-test photographs of the test vehicle, the moving deformable barrier (MDB), and the Side Impact Hybrid III Dummies (SID H3s) are included in Appendix A.

Two restrained Side Impact Hybrid III Dummies (SID H3s) were placed in the driver (Pos. #1) and left rear (Pos. #4) designated seating positions according to the instructions specified in the OCWS Side Impact Laboratory Test Procedure which is dated July, 1997. The side impact test was documented by one real-time camera and 10 high-speed cameras. Camera locations and other pertinent camera information are included in this report.

The SID H3s were instrumented with the following accelerometers:

1. Left Upper Rib (LUR) uniaxial and redundant accelerometer (Y-direction)
2. Left Lower Rib (LLR) uniaxial and redundant accelerometer (Y-direction)
3. Lower Thoracic Spine (T₁₂) uniaxial and redundant accelerometer (Y-direction)
4. Pelvic (PEV) section uniaxial and redundant accelerometer (Y-direction)
5. Head triaxial accelerometers (X-, Y- and Z-direction)
6. Upper neck force and moment (X-, Y and Z-direction) load cells

A summary of the Side Impact Hybrid III Dummy (SID H3) configuration and verification test data can be found in Appendix C. A total of 65 channels of data were recorded. Appendix B contains the vehicle, MDB and dummy response data traces.

The following table summarizes the results of the test.

Injury Criteria	Front SID H3	Rear SID H3
TTI (g)	34	54
PEV (g)	54	51

AIR BAG DEPLOYMENT STATUS

	DRIVER	FRONT PASSENGER	REAR PASSENGER
Front Air Bag	No	No	N/A
Knee Bolster Bag	N/A	N/A	N/A
Side Air Bag	Yes	No	N/A
Side Curtain Bag	Yes	No	Yes

AUTOMATIC DOOR LOCK SUMMARY

ADL Equipped Test Vehicle:	No
ADL Activation Status:	N/A
Struck Side Door Lock Condition:	Unlocked

SECTION 3

SUMMARY OF TEST RESULTS

DATA SHEET 1

GENERAL TEST AND VEHICLE PARAMETER DATA

TEST VEHICLE INFORMATION:

Year/Make/Model/Body Style: 2005 Subaru Outback MPV

Vehicle Body Color: Black VIN: 4S4BP61C857302047

Vehicle NHTSA No.: M55501 Month & Year of Manufacture: 03/04

Engine Data: 4 Cylinders; - CID; 2.5 Liters; - cc

Engine Placement: X Longitudinal; or - Lateral

Transmission: 4 Speed; - Manual; X Automatic; X Overdrive

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

Odometer Reading 48 km

Supplemental Airbag Restraints:

Front Occupant: X Frontal; - Knee; X Side; X Curtain

Rear Occupant: - Frontal; - Knee; - Side; X Curtain

Options:

- ADL; X A/C; X Power Steering; X Power Brakes; X Power Windows

DATA FROM TIRE PLACARD

Recommended Tire Size: P225/60R16

*Recommended Cold Tire Pressure: 220 kPa FRONT; 210 kPa REAR

DATA FROM TIRE SIDEWALL:

Size of Tires on Test Vehicle: P225/60R16 97H ; Manufacturer: Bridgestone Potenza

Tire Pressure with Maximum Capacity Vehicle Load: Front: 300 kPa; Rear: 300 kPa

Treadwear: 360 ; Traction: A ; Temperature: A

VEHICLE CAPACITY DATA:

Number of Occupants: 2 Front; 3 Rear; - 3rd Seat; 5 Total

Type of Front Seats: X Bucket; - Bench; - Split Bench

Type of Front Seat Back: - Fixed; X Adjustable with X Lever or - Knob

Vehicle Max Capacity Loading = 408 kg (A)

No. of Occupants x 68.04 kg. = 340.2 kg (B)

Vehicle Cargo Capacity = 67.8 kg (A-B)

TEST VEHICLE DELIVERED WEIGHT WITH MAXIMUM FLUIDS:

Left Front = 422.0 kg Left Rear = 375.0 kg

Right Front = 430.0 kg Right Rear = 340.0 kg

TOTAL FRONT = 852.0 kg TOTAL REAR = 715.0 kg

% of Total Weight = 54.4% % % of Total Weight = 45.6 %

TOTAL WEIGHT = 1567.0 kg

* Tire pressure used in test.

DATA SHEET 1 (continued)**GENERAL TEST VEHICLE PARAMETER DATA**Vehicle: 2005 Subaru Outback MPVNHTSA No. M55501**CALCULATION OF VEHICLE'S TARGET TEST WEIGHT:**

Total Test Vehicle Delivered Weight with Max. Fluids	=	<u>1567.0</u>	kg (A)
Maximum Cargo Carrying Capacity of Test Vehicle	=	<u>67.8</u>	kg (B)
Weight of instrumented SID H3 Dummies (2 X 81.2 kg)	=	<u>162.4</u>	kg (C)
TEST VEHICLE TARGET WEIGHT:	=	<u>1797.2</u>	kg (A+B+C)

FULLY LOADED TEST VEHICLE (UDVW + 2 SID H3(s) + CARGO):

Left Front	=	<u>469.0</u>	kg	Left Rear	=	<u>484.0</u>	kg
Right Front	=	<u>441.0</u>	kg	Right Rear	=	<u>406.0</u>	kg
TOTAL FRONT	=	<u>910.0</u>	kg	TOTAL REAR	=	<u>890.0</u>	kg
% of Total Weight	=	<u>50.6%</u>	%	% of Total Weight	=	<u>49.4%</u>	%
TOTAL TEST WEIGHT =		<u>1800.0</u>	kg				

AS TESTED WEIGHT OF TEST VEHICLE (1 OR 2 SID H3(s) + CARGO + EQUIPMENT & INSTRUMENTATION):

Left Front	=	<u>467.0</u>	kg	Left Rear	=	<u>468.0</u>	kg
Right Front	=	<u>438.5</u>	kg	Right Rear	=	<u>415.5</u>	kg
TOTAL FRONT	=	<u>905.5</u>	kg	TOTAL REAR	=	<u>883.5</u>	kg
% of Total Weight	=	<u>50.6%</u>	%	% of Total Weight	=	<u>49.4%</u>	%
TOTAL TEST WEIGHT =		<u>1789.0</u>	kg				

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

Left Front	<u>760</u>	Right Front	<u>764</u>	Left Rear	<u>768</u>	Right Rear	<u>774</u>
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FULLY LOADED:

Left Front	<u>745</u>	Right Front	<u>759</u>	Left Rear	<u>738</u>	Right Rear	<u>754</u>
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READY FOR TEST:

Left Front	<u>748</u>	Right Front	<u>759</u>	Left Rear	<u>738</u>	Right Rear	<u>754</u>
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Test Vehicle Wheelbase: 2675 millimetersC.G. = 1321 millimeters rearward of front wheel centerline**TOTAL VEHICLE LENGTH:**

Right Side =	<u>4690</u>	millimeters
Left Side =	<u>4687</u>	millimeters
Centerline =	<u>4800</u>	millimeters

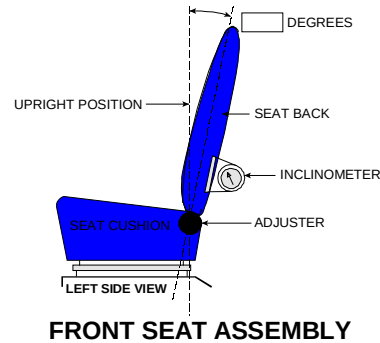
DATA SHEET 1 (continued)

GENERAL TEST VEHICLE PARAMETER DATA

Vehicle: 2005 Subaru Outback MPV

NHTSA No. M55501

Nominal Design Riding Position for adjustable driver and passenger seat backs. Please describe how to position the inclinometer to measure the seat back angle. Include description of the location of the adjustment latch detent, if applicable.



FRONT SEAT CUSHION PLACEMENT: Mid-position (118 mm forward of the rearmost position)

Total Length of Adjustment Travel: 236 millimeters

Total Number of Adjustment Positions or Detents: Infinite (power seat)

FRONT SEAT BACK ADJUSTMENT POSITION: Positioned 14.0 degrees back from its most upright position.

Seat Back Torso Angle: 22.5 degrees (H-point machine backpan angle)

SECOND POSITION SEAT:

Total Length of Fore/Aft Adjustment Travel: 0 millimeters

Seat Back Adjustment Position: Fixed

ADJUSTABLE STEERING COLUMN POSITION: Mid-position

WINDOW POSITIONS: Left Front: Closed Left Rear: Closed

Right Front: Open Right Rear: Open

Note: Windows will be in closed position on struck side of test vehicle and in open position on opposite side.

AUTOMATIC DOOR LOCKS: Is test vehicle equipped with ADLs? - Yes X No

Does vehicle owner's manual describe how to deactivate ADLs? - Yes - No X N/A

Comments: None

AMOUNT OF STODDARD SOLVENT IN FUEL TANK:

64 liters (Fuel Tank Usable Capacity)

59.1 liters used for test (92%-94% of Fuel Tank Usable Capacity)

LOCATION OF IMPACT POINT ON TEST VEHICLE SIDE TO BE IMPACTED:

Wheelbase = 2675 millimeters

Impact Point is 397.7 millimeters rearward of front axle centerline

(which is 940 millimeters forward of the wheelbase midpoint)

Actual Impact Point is 394.7 millimeters rearward of front axle centerline

DATA SHEET 2

TEST VEHICLE SUMMARY OF RESULTS

VEHICLE IDENTIFICATION:

Vehicle Year/Make/Model: 2005 Subaru Outback

Body Style: MPV

VIN: 4S4BP61C857302047

NHTSA No.: M55501

Test Date: August 4, 2004

Overall Length = 4800 millimeters; Overall Width = 1741 millimeters

VEHICLE TEST WEIGHT (Pre-Test):

Left Front = 467.0 kg Left Rear = 468.0 kg

Right Front = 438.5 kg Right Rear = 415.5 kg

TOTAL FRONT = 905.5 kg TOTAL REAR = 883.5 kg

TOTAL VEHICLE WEIGHT 1789.0 kg

Wheelbase = 2675 millimeters

Longitudinal C.G. from Center of Front Axle = 1321 millimeters

Impact Angle with Respect to Impactor = 90 degrees

ACTUAL IMPACT POINT

Actual Impact Point is 3 mm forward of nominal impact ref. line (Lateral)

Actual Impact Point is 2 mm above nominal impact point (Vertical)

MAXIMUM EXTERIOR STATIC CRUSH:

1. LEVEL 1 (111 mm above ground) = 91 millimeters

2. LEVEL 2 (344 mm above ground) = 201 millimeters

3. LEVEL 3 (474 mm above ground) = 240 millimeters

4. LEVEL 4 (715 mm above ground) = 159 millimeters

5. LEVEL 5 (1234 mm above ground) = 14 millimeters

Maximum Post-Test Intrusion = 240 millimeters

OCCUPANTS:

Front Passenger:

Rear Passenger:

Dummy Identification SID H3/269

SID H3/270

Restraints Used 3-point seat belt, side airbag,
side head curtain airbag

3-point seat belt, side head curtain
airbag

INSTRUMENTATION:

Number of Vehicle Data Channels: = 26

Number of Cameras: Onboard = 3

Offboard = 8

TOTAL = 11

DATA SHEET 3

MOVING DEFORMABLE BARRIER (MDB) SUMMARY

Vehicle: 2005 Subaru Outback MPV

NHTSA No. M55501

MDB FACE MANUFACTURER AND SERIAL NUMBER:

Plascore: 233B0104; 068B0304-4

POSITION OF IMPACT (MDB) ON MONORAIL:

Crabbed 27° to left

MDB DETAILS:

Overall Width of Framework Carriage	=	<u>1250</u>	millimeters
Overall Length of MDB (incl. honeycomb impact face)	=	<u>4120</u>	millimeters
Wheelbase of Framework Carriage	=	<u>2590</u>	millimeters
Tread of Framework Carriage (Front & Rear)	=	<u>1875</u>	millimeters
C.G. Location Rearward of Front Axle	=	<u>1104</u>	millimeters

MDB WEIGHT:

Left Front	=	<u>409.5</u>	kg	Left Rear	=	<u>281.5</u>	kg
Right Front	=	<u>372.5</u>	kg	Right Rear	=	<u>299.0</u>	kg
TOTAL FRONT	=	<u>782.0</u>	kg	TOTAL REAR	=	<u>580.5</u>	kg
TOTAL MDB WEIGHT	=	<u>1362.5</u>	kg				
Impact Angle (MDB C/L to Target Vehicle C/L)	=	<u>90</u>	degrees				
Impact Speed	=	<u>61.80</u>	kph				

MAXIMUM STATIC CRUSH OF HONEYCOMB IMPACT FACE:

1. Row A at Center of Bumper Level	=	<u>210</u>	millimeters
2. Row B at Top of Bumper Level	=	<u>149</u>	millimeters
3. Row C at Mid Level	=	<u>113</u>	millimeters
4. Row D at Top of Stack Level	=	<u>139</u>	millimeters

INSTRUMENTATION:

Number of MDB Data Channels	=	<u>5</u>
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DATA SHEET 4**POST-TEST OBSERVATIONS**Vehicle: 2005 Subaru Outback MPVNHTSA No. M55501TEST DUMMY INFORMATION AND CONTACT POINTS:

DESCRIPTION	FRONT SEAT	REAR SEAT
ATD Type/Serial No.	SID H3/269	SID H3/270
Head Contact:	Left side of head to side curtain airbag	Left side of head to roof header trim and side curtain airbag
Upper Torso Contact:	Left arm to side airbag	Left arm to C-pillar trim and door trim above arm rest
Lower Torso Contact:	Pelvis to door trim below side airbag	Pelvis to door trim below arm rest
Left Knee Contact:	Left knee to door trim	Left knee to door trim
Right Knee Contact:	Right knee to left knee	Right knee to left knee

POST TEST DOOR OPENING AND SEAT TRACK INFORMATION

DESCRIPTION	FRONT	REAR
Left Side Doors	Closed / Latched / Inoperable	Closed / Latched / Inoperable
Right Side Doors	Closed / Latched / Operable	Closed / Latched / Operable
Hatch/Other Door	-	Closed / Latched / Operable
Seat Movement (mm)	0	-
Seat Back Failure	None	None

POST TEST STRUCTURAL OBSERVATIONS

CRITICAL AREAS OF PERFORMANCE	
Pillar Performance	No visible tears or separations
Sill Separation	None
Windshield Damage	None
Window Damage	Left front and left rear door windows shattered during the event
Other Notable Effects	None

AIR BAG DEPLOYMENT STATUS:

	DRIVER	FRONT PASSENGER	REAR PASSENGER
Front Air Bag	No	No	N/A
Knee Bolster Bag	N/A	N/A	N/A
Side Air Bag	Yes	No	N/A
Side Curtain Bag	Yes	No	Yes

MDB LEFT EDGE IMPACT DATA

Measured Parameter	Units	Requirement	Value
Horizontal Offset	mm	± 50 mm	3 mm forward of target
Vertical Offset	mm	± 20 mm	2 mm above target

SECTION 4

OCCUPANT AND VEHICLE INFORMATION

DATA SHEET 5

SID H3 INSTRUMENTATION DATA

Vehicle: 2005 Subaru Outback MPV

NHTSA No. M55501

		Front Dummy ID# 269				Rear Dummy ID# 270			
		Pos. Direction		Neg. Direction		Pos. Direction		Neg. Direction	
		Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)
HEAD ACCELERATIONS:									
Longitudinal	X	4.0	112.4	-17.9	60.4	9.9	116.4	-15.8	58.5
Lateral	Y	26.4	43.1	-1.5	16.5	51.9	57.8	-11.0	107.8
Vertical	Z	6.6	30.8	-8.1	57.7	17.1	103.5	-28.8	69.8
Resultant	R	27.9	43.5	-	-	54.0	56.7	-	-
HIC		98.6				238.0			
NECK FORCES:									
Longitudinal	X	204.8	186.8	-424.6	76.8	31.9†	46.8	-17.2†	48.5
Lateral	Y	37.7	104.5	-145.0	34.2	308.9	173.1	-1180.1	71.6
Vertical	Z	196.5	31.3	-611.4	58.4	593.4	103.2	-1382.4	69.9
Resultant	R	638.8	74.4	-	-	1806.7†	70.2	-	-
NECK MOMENTS:									
X		48.6	55.2	-12.5	107.7	46.7	66.9	-12.5	186.2
Y		20.1	174.9	-19.4	62.3	46.3	70.3	-17.7	137.6
Z		11.9	105.0	-8.5	33.6	1.6	44.3	-45.2	72.8
Resultant	R	51.4	55.2	-	-	75.6	69.6	-	-
RIB ACCELERATIONS:									
Upper Rib Lateral	Y	25.1	27.5	-5.6	108.7	52.2	53.7	-32.0	100.6
Upper Rib Lateral	Y(R)	25.8	26.9	-5.8	108.7	51.6	53.7	-8.4	115.0
Lower Rib Lateral	Y	23.6	26.2	-5.5	108.1	50.6	53.7	-15.7	105.0
Lower Rib Lateral	Y(R)	24.6	26.2	-5.5	108.1	51.3	53.7	-34.2	100.0
SPINE ACCELERATIONS:									
Lower Lateral	Y	43.1	31.3	-7.3	63.7	55.4	55.0	-8.8	81.3
Lower Lateral	Y(R)	42.3	31.3	-7.7	63.1	55.1	55.0	-8.5	81.3
PELVIC ACCELERATIONS:									
Lateral	Y	54.0	34.4	-5.5	63.7	50.9	46.2	-4.7	104.4
Lateral	Y(R)	53.9	34.4	-5.5	64.4	50.1	46.2	-4.7	104.4

REFERENCE: Positive Direction: Longitudinal (X) = forward; Lateral (Y) = to right; Vertical (Z) = down

Note: Rib, Spine and Pelvis data has been FIR filtered, Y(R) denotes redundant Y direction accelerometer.

Head Accelerations and Neck Forces are filtered at SAE Class 1000, Neck Moments are filtered at SAE Class 600.

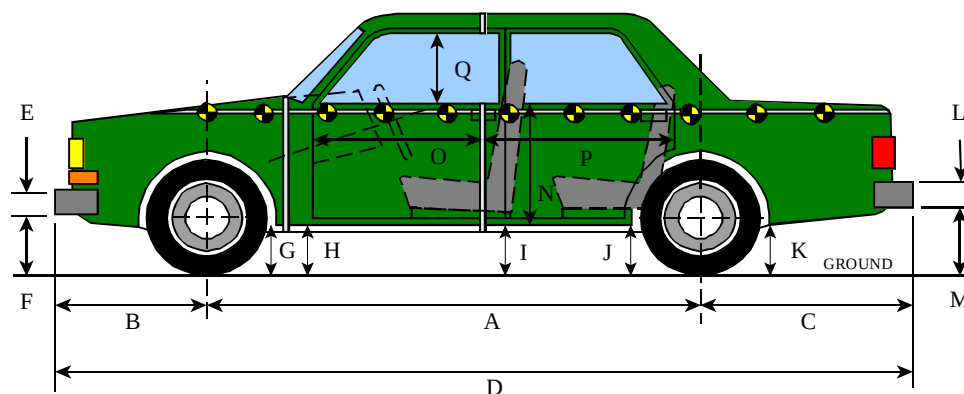
† P4 Neck Fx data is questionable.

DATA SHEET 6

VEHICLE SIDE MEASUREMENTS

Vehicle: 2005 Subaru Outback MPV

NHTSA No. M55501



LEFT SIDE VIEW

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

	PRE-TEST (as delivered)	PRE-TEST (as tested)	POST-TEST (as tested)	Δ CHANGE
A	2675	2675	2667	-8
B	990	990	1003	13
C	1135	1135	1126	-9
D	4800	4800	4796	-4
E	318	-	318	0
F	269	266	321	55
G	206	191	198	7
H	265	248	233	-15
I	276	251	256	5
J1	258	231	272	41
J2	279	251	259	8
K	315	283	302	19
L	236	-	236	0
M	384	353	366	13
N	661	-	645	-16
O	752	-	706	-46
P	1150	-	1074	-76
Q	447	-	469	22
R	4690	-	4679	-11
S	4687	-	4689	2
T	1741	-	1639	-102

D = Length at Centerline

T = Width at B-Pillar

E&L = Bumper Thickness

J1 = To Pinch Weld

R = Right Side Length

J2 = To Sill

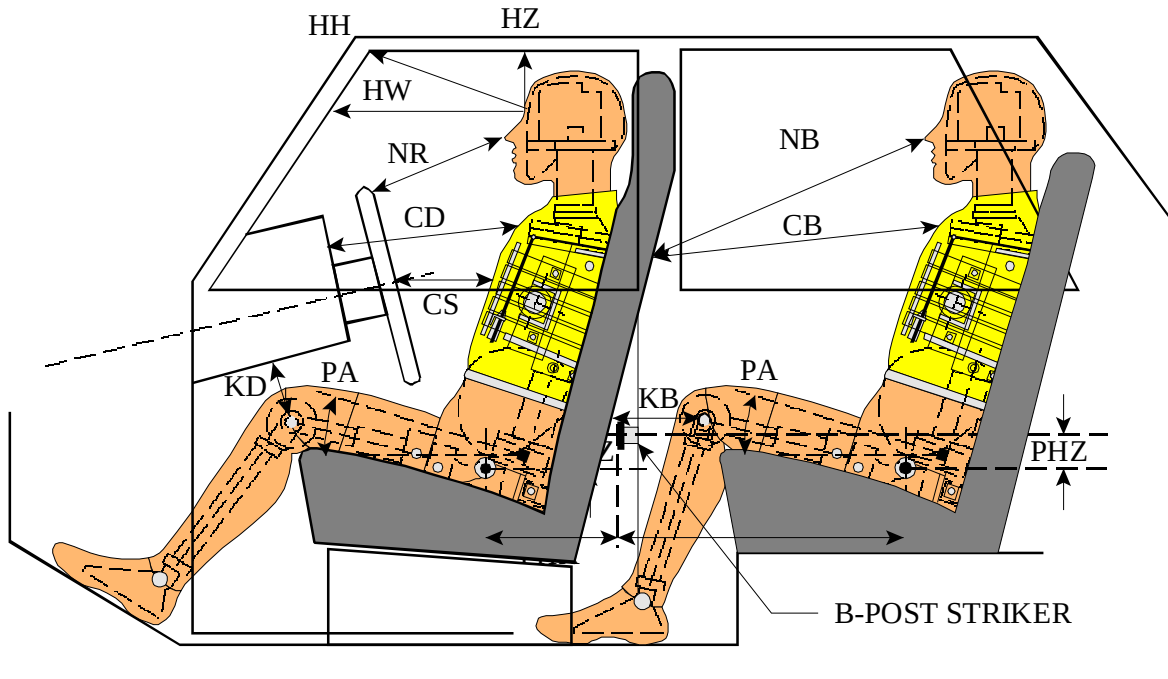
S = Left Side Length

DATA SHEET 7

SID H3 LONGITUDINAL CLEARANCE DIMENSIONS

Vehicle: 2005 Subaru Outback MPV

NHTSA No. M55501



NOTE: 2-DOOR VEHICLE SHOWN.
REAR DUMMY PHX & PHZ
MEASUREMENTS FOR A 4-DOOR
VEHICLE WOULD USE THE C-POST
STRIKER AS A REFERENCE POINT

LEFT SIDE VIEW

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

	DRIVER ID# 269	LEFT REAR PASS. ID# 270
HH	389	N/A
HW	660	N/A
HZ	184	185
NR/NB	470	628
CD/CB	541	550
CS	302	N/A
KDL(KDA°)/KBL(KDA°)	163 / (39 °)	182 / (33 °)
KDR(KBA°)/KBR(KBA°)	184 / (39 °)	185 / (33 °)
PA°	23.8°	23.6°
PHX	191	235
PHZ	124	279

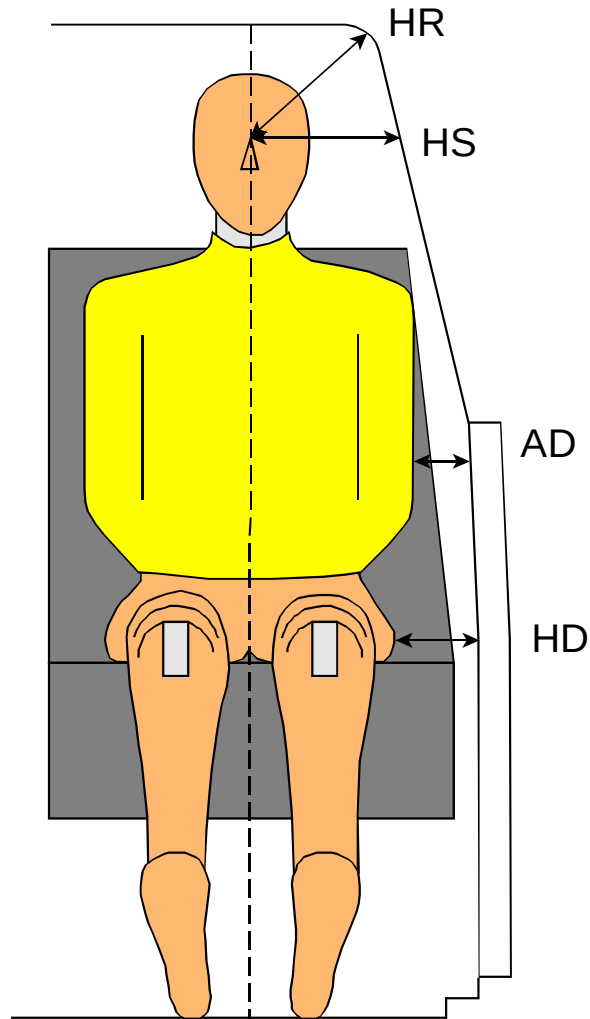
Note: 2-door vehicle shown. Rear dummy PHX & PHZ measurements for 4-door vehicle would use the C-post striker as a reference point.

DATA SHEET 8

SID H3 LATERAL CLEARANCE DIMENSIONS

Vehicle: 2005 Subaru Outback MPV

NHTSA No. M55501



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

	DRIVER ID # 269				LEFT REAR PASS. ID # 270			
HR	194				185			
HS	323				244 (to C-pillar)			
AD*	LOWER:	112	UPPER:	96	LOWER:	143	UPPER:	121
HD	142				192			

* Lower measurement is taken laterally at the center of the lower rib accelerometer height from the SID H3 arm to the closest part of the vehicle side.

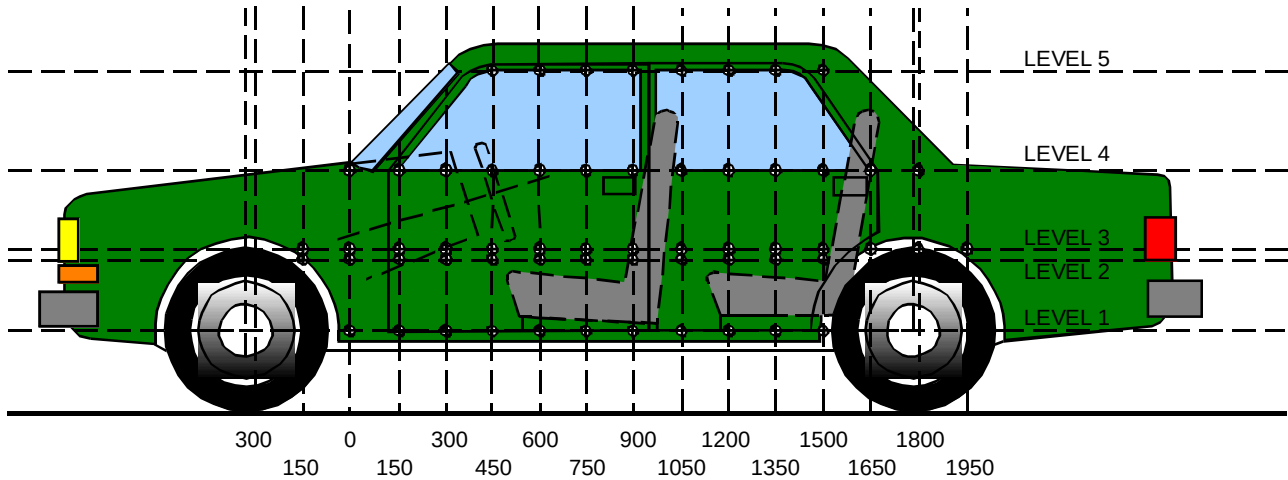
Upper measurement is taken laterally at the center of the upper rib accelerometer height from the SID H3 arm to the closest part of the vehicle side.

DATA SHEET 9

VEHICLE SIDE MEASUREMENTS

Vehicle: 2005 Subaru Outback MPV

NHTSA No. M55501



LEFT SIDE VIEW

NOTE: All measurements are in millimeters (mm)

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 Shown Above:

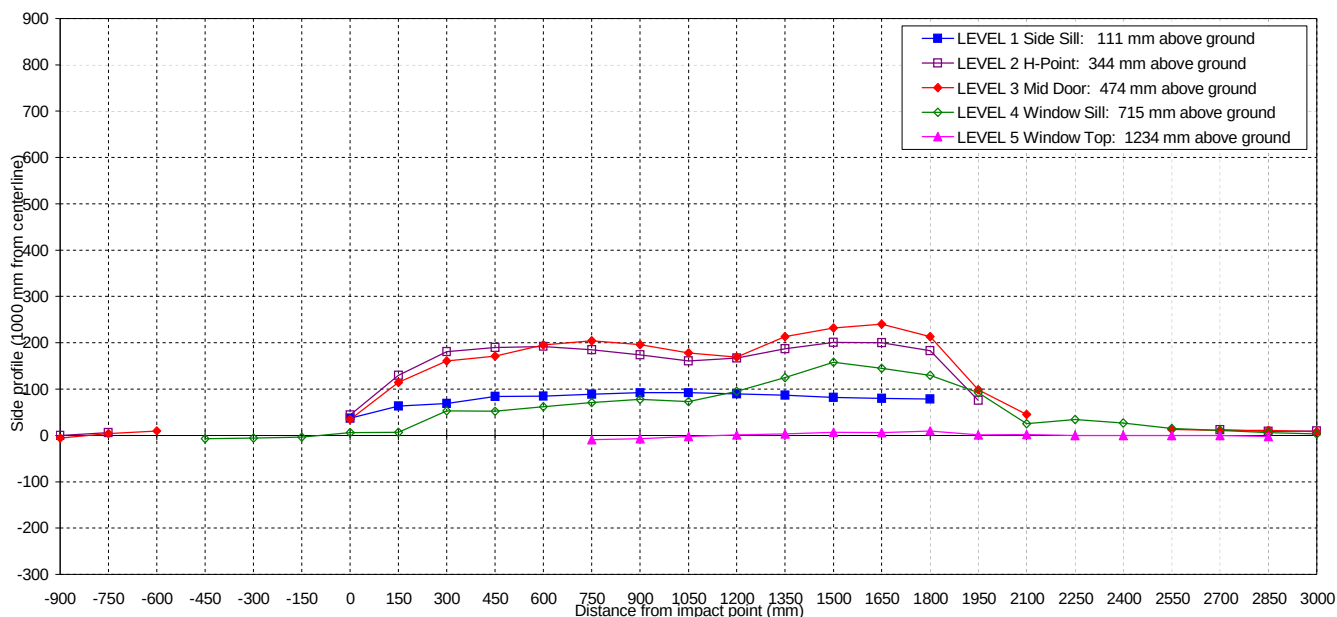
Level 5 @ Window Top	=	<u>1234</u>	millimeters
Level 4 @ Window Sill	=	<u>715</u>	millimeters
Level 3 @ Mid Door	=	<u>474</u>	millimeters
Level 2 @ Occupant H-Point	=	<u>344</u>	millimeters
Level 1 @ Axle Centerline Height (or Sill Top Height)	=	<u>111</u>	millimeters

DATA SHEET 10

VEHICLE EXTERIOR CRUSH PROFILES - ALL LEVELS

Vehicle: 2005 Subaru Outback MPV

NHTSA No. M55501



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

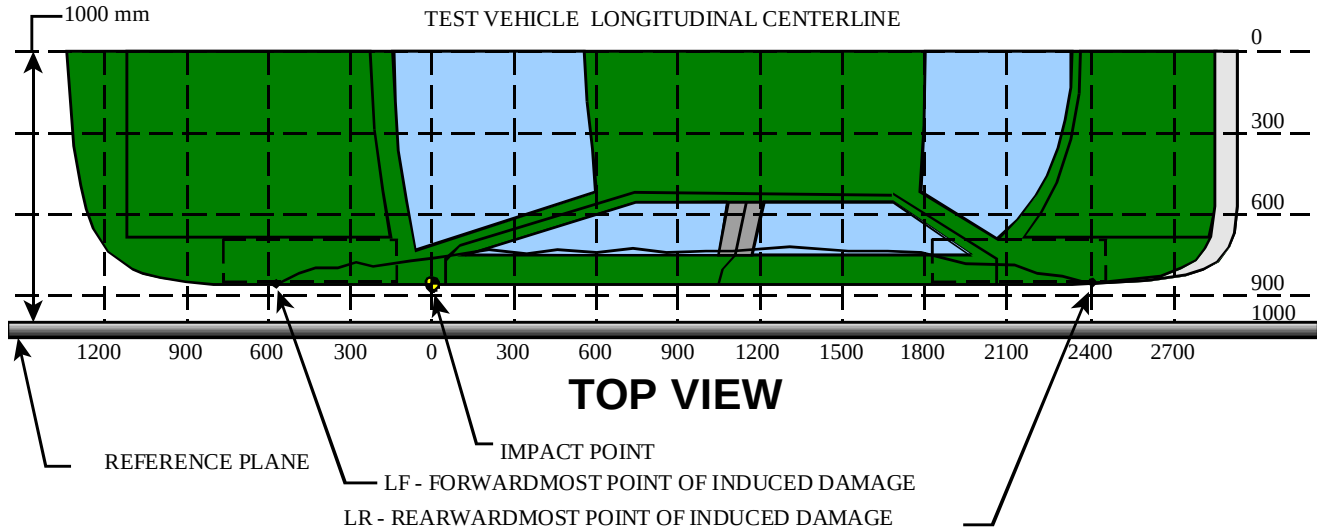
			DISTANCE IN MILLIMETERS (mm) FROM IMPACT POINT																											
LEVEL	HEIGHT (mm)		-900	-750	-600	-450	-300	-150	0	150	300	450	600	750	900	1050	1200	1350	1500	1650	1800	1950	2100	2250	2400	2550	2700	2850	3000	
LEVEL 1 SIDE SILL	111	PRE	--	--	--	--	--	--	142	194	193	193	192	190	191	191	191	192	190	189	178	--	--	--	--	--	--	--	--	--
		POST	--	--	--	--	--	--	179	258	262	277	276	278	282	282	280	277	270	266	255	--	--	--	--	--	--	--	--	--
		CRUSH	N/A	N/A	N/A	N/A	N/A	N/A	37	64	69	84	84	88	91	91	89	85	80	77	77	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEVEL 2 H POINT	344	PRE	200	146	--	--	--	--	141	164	162	161	162	160	160	160	161	160	159	159	159	134	--	--	--	--	160	182	193	
		POST	203	155	--	--	--	--	187	295	345	352	355	346	334	321	328	346	360	358	341	209	--	--	--	--	169	188	200	
		CRUSH	3	9	N/A	N/A	N/A	N/A	46	131	183	191	193	186	174	161	167	186	201	199	182	75	N/A	N/A	N/A	N/A	9	6	7	
LEVEL 3 MID DOOR	474	PRE	228	186	133	--	--	--	157	154	153	153	153	152	153	151	151	153	153	154	152	138	128	--	--	140	176	191	207	
		POST	226	194	146	--	--	--	194	270	316	326	349	357	350	329	320	366	385	394	364	237	172	--	--	151	185	199	212	
		CRUSH	-2	8	13	N/A	N/A	N/A	37	116	163	173	196	205	197	178	169	213	232	240	212	99	44	N/A	N/A	11	9	8	5	
LEVEL 4 WINDOW SILL	715	PRE	--	--	--	270	244	229	212	202	193	185	180	173	173	172	171	170	169	171	174	162	174	179	185	194	203	216	239	
		POST	--	--	--	267	243	229	222	212	249	240	244	247	254	247	268	296	328	317	305	255	200	213	212	208	213	221	241	
		CRUSH	N/A	N/A	N/A	-3	-1	0	10	10	56	55	64	74	81	75	97	126	159	146	131	93	26	34	27	14	10	5	2	
LEVEL 5 WINDOW TOP	1234	PRE	--	--	--	--	--	--	--	--	--	--	--	720	460	440	436	436	434	438	441	445	450	459	471	488	517	600	--	
		POST	--	--	--	--	--	--	--	--	--	--	--	716	459	443	442	444	445	448	455	450	455	462	473	490	519	600	--	
		CRUSH	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-4	-1	3	6	8	11	10	14	5	5	3	2	2	2	0	N/A	

DATA SHEET 11

VEHICLE DAMAGE PROFILE DISTANCES

Vehicle: 2005 Subaru Outback MPV

NHTSA No. M55501



MEASUREMENT CONVENTIONS:
Forward of the impact point (towards front of vehicle) is considered negative (—).
Rearward of the impact point (toward rearend of vehicle) is considered positive (+).

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

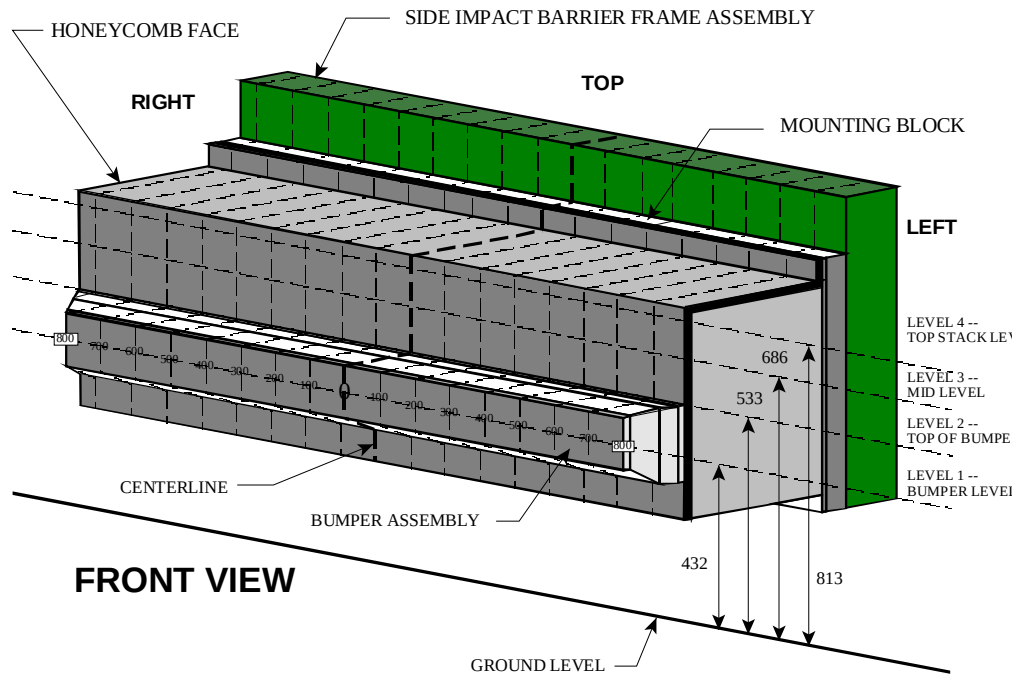
DPD MEASUREMENTS		POST TEST (mm)	PRETEST (mm)	STATIC CRUSH (mm)
1	(LR = 2950 mm)	199	189	10
2	2350	212	183	29
3	1750	375	153	222
4	1150	323	151	172
5	550	353	162	191
6	(LF = -50 mm)	220	218	2

DATA SHEET 12

EXTERIOR STATIC CRUSH FOR IMPACTOR FACE

Vehicle: 2005 Subaru Outback MPV

NHTSA No. M55501



NOTE: Dimensions are shown in millimeters, mm

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

			DISTANCE RIGHT OF CENTER (mm)											DISTANCE LEFT OF CENTER (mm)							
LEVEL	HEIGHT AT CL (mm)*		800	700	600	500	400	300	200	100	0	100	200	300	400	500	600	700	800		
LEVEL 4 TOP STACK	813	PRE	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619		
		POST	685	658	647	649	668	702	740	717	687	676	681	689	696	706	717	727	758		
		CRUSH	66	39	28	30	49	83	121	98	68	57	62	70	77	87	98	108	139		
LEVEL 3 MID LEVEL	686	PRE	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619		
		POST	690	664	649	655	661	677	702	698	672	659	655	654	657	667	681	700	732		
		CRUSH	71	45	30	36	42	58	83	79	53	40	36	35	38	48	62	81	113		
LEVEL 2 TOP BUMPER	533	PRE	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619		
		POST	768	761	752	748	737	732	726	724	715	711	710	709	702	698	698	700	718		
		CRUSH	149	142	133	129	118	113	107	105	96	92	91	90	83	79	79	81	99		
LEVEL 1 MID BUMPER	432	PRE	535	519	518	518	518	518	518	518	518	518	518	518	518	518	518	519	535		
		POST	745	722	710	697	690	690	682	678	673	667	663	659	656	652	654	661	679		
		CRUSH	210	203	192	179	172	172	164	160	155	149	145	141	138	134	136	142	144		

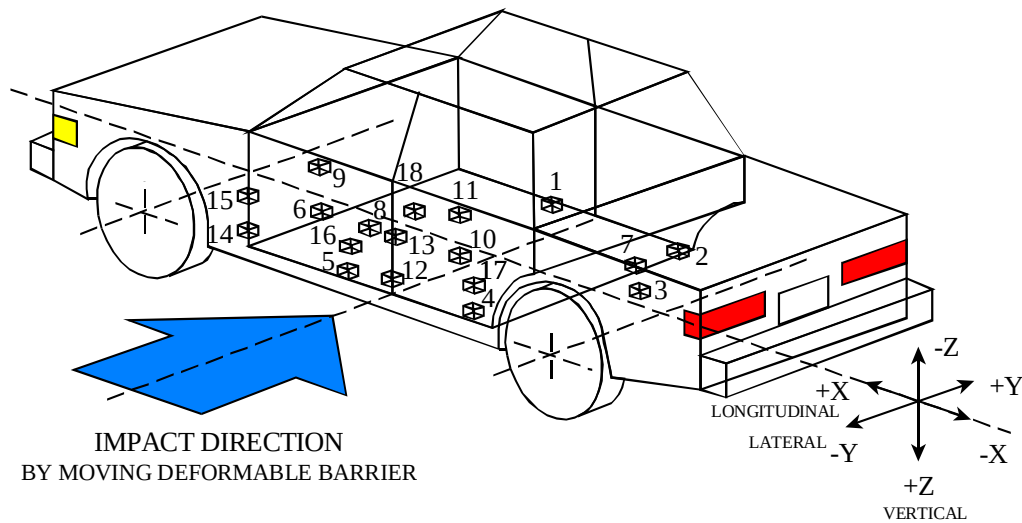
*Heights measured above ground level.

DATA SHEET 13

TEST VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 2005 Subaru Outback MPV

NHTSA No. M55501



- 1-Right Side Sill @ Front Seat
- 2-Right Side Sill @ Rear Seat
- 3-Rear Floorpan Above Axle
- 4-Left Side Sill @ Rear Seat
- 5-Left Side Sill @ Front Seat
- 6-Left Front Door on Centerline
- 7-Right Rear Occupant Compartment
- 8-Midrear of Left Front Door
- 9-Left Front Door Upper Centerline

- 10-Midrear of Left Rear Door
- 11-Left Rear Door Upper Centerline
- 12-Left Lower B-Pillar
- 13-Left Middle B-Pillar
- 14-Left Lower A-Pillar
- 15-Left Middle A-Pillar
- 16-Front Seat Track
- 17-Rear Seat Track
- 18-Vehicle CG

DATA SHEET 13 (continued)

VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 2005 Subaru Outback MPV

NHTSA No. M55501

Accel. No.	Location	Coordinates (mm)±3 mm				Long. (x)		Lat. (y)		Vert. (z)		Resultant	
						Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)
		X*	Y*	Z*									
1	Right Side Sill at Front Seat	2974	678	-76	pos. neg.	3.3 -4.9	58.7 10.8	27.2 -2.7	19.3 75.8	5.1 -4.1	22.1 6.8	27.5 -	19.2 -
2	Right Side Sill at Rear Seat	2057	666	-89	pos. neg.	3.9 -3.6	58.9 17.7	29.6 -5.1	21.4 93.2	4.6 -12.2	29.5 23.0	31.8 -	21.5 -
3	Rear Floorpan Above Axle	1223	-45	-429	pos. neg.	4.9 -4.2	55.9 31.7	25.7 -2.2	6.2 90.1	7.1 -10.5	23.1 39.3	26.8 -	6.0 -
4	Left Side Sill at Rear Seat	3058	-642	-171	pos. neg.	- -	- -	131.3 -34.2	4.3 25.7	- -	- -	- -	- -
5	Left Side Sill at Front Seat	2096	-641	-114	pos. neg.	- -	- -	184.1 -110.2	5.3 10.3	- -	- -	- -	- -
6	Left Front Door on Centerline	2722	-683	-518	pos. neg.	- -	- -	134.0 -97.0	17.7 23.7	- -	- -	- -	- -
7	Right Rear Occupant Compartment	2163	431	-51	pos. neg.	- -	- -	24.0 -3.2	19.9 90.9	- -	- -	- -	- -
8	Midrear of Left Front Door	2375	-682	-574	pos. neg.	- -	- -	107.4 -172.2	3.9 10.0	- -	- -	- -	- -
9	Left Front Door Upper Centerline	2687	-687	-760	pos. neg.	- -	- -	213.4 -119.7	17.6 22.0	- -	- -	- -	- -
10	Midrear of Left Rear Door	1547	-684	-569	Pos. neg.	- -	- -	137.8 -100.5	21.1 29.7	- -	- -	- -	- -
11	Left Rear Door Upper Centerline	1780	-680	-788	pos. neg.	- -	- -	125.0 -122.3	18.7 25.2	- -	- -	- -	- -

*Reference: X - Rear Bumper (+ Forward)

Y - Vehicle Centerline (+ To Right) Z - Ground Level (+ Down)

**Accelerometer was not requested by COTR.

4-11

8765-SNCAP-05

DATA SHEET 13 (continued)

VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 2005 Subaru Outback MPV

NHTSA No. M55501

Accel. No.	Location	Coordinates (mm)±3 mm				Long. (x)		Lat. (y)		Vert. (z)		Resultant	
						Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)
		X*	Y*	Z*									
12	Left Lower B-Pillar	2288	-631	-260	pos.	-	-	211.1	6.0	-	-	-	-
					neg.	-	-	-177.7	10.2	-	-	-	-
13	Left Middle B-Pillar	2235	-646	-733	pos.	-	-	132.3	11.7	-	-	-	-
					neg.	-	-	-149.9	8.2	-	-	-	-
14	Left Lower A-Pillar	3314	-622	-297	pos.	-	-	141.1	5.6	-	-	-	-
					neg.	-	-	-134.1	16.3	-	-	-	-
15	Left Middle A-Pillar	3153	-642	-815	pos.	-	-	36.5	7.8	-	-	-	-
					neg.	-	-	-10.7	43.8	-	-	-	-
16	Front Seat Track	2418	-579	-140	pos.	-	-	56.8	14.6	-	-	-	-
					neg.	-	-	-8.2	19.1	-	-	-	-
17	Rear Seat Track	1218	-512	-549	pos.	-	-	37.2	13.7	-	-	-	-
					neg.	-	-	-9.4	17.4	-	-	-	-
18	Vehicle CG	2479	87	-336	pos.	12.4	25.0	45.4	22.2	24.6	19.8	49.0	20.6
					neg.	-20.2	34.5	-14.7	29.3	-25.6	8.9	-	-

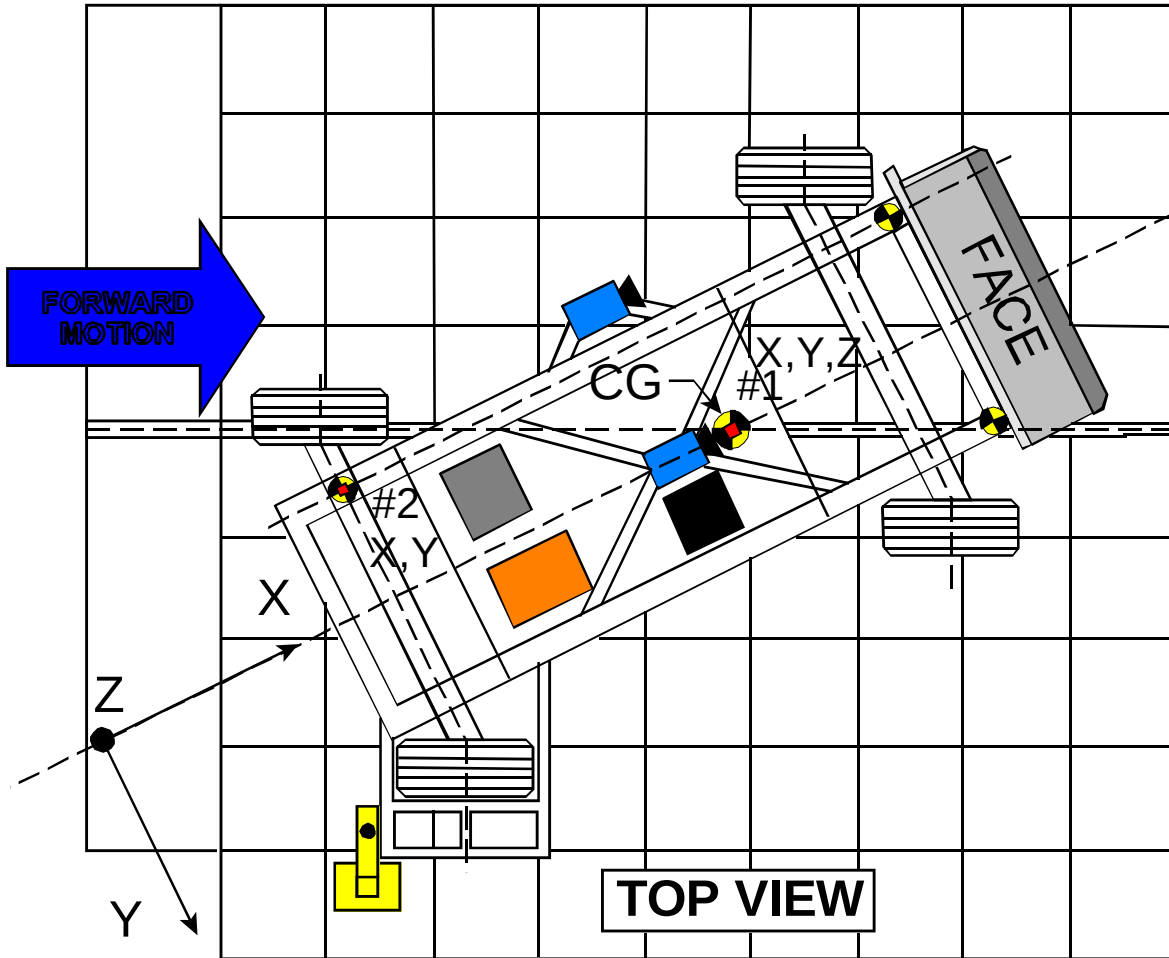
*Reference: X - Rear Bumper (+ Forward) Y - Vehicle Centerline (+ To Right) Z - Ground Level (+ Down)

DATA SHEET 14

MDB ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 2005 Subaru Outback MPV

NHTSA No. M55501



Accel. No.	Location	Coordinates (millimeters)			Pos. Direct.		Neg. Direct.	
		X*	Y*	Z*	Max (g)	Time (msec)	Max (g)	Time (msec)
1	MDB Center of Gravity							
	Longitudinal... X	1859	0	-330	1.4	100.2	-20.7	34.8
	Lateral..... Y				3.5	63.2	-7.1	38.4
	Vertical..... Z				18.4	13.4	-17.8	19.0
	Resultant..... R				25.6	19.1	-	-
2	Rear Frame Member							
	Longitudinal... X	386	-660	-660	1.9	93.8	-24.4	39.3
	Lateral..... Y				3.1	18.1	-2.2	65.9

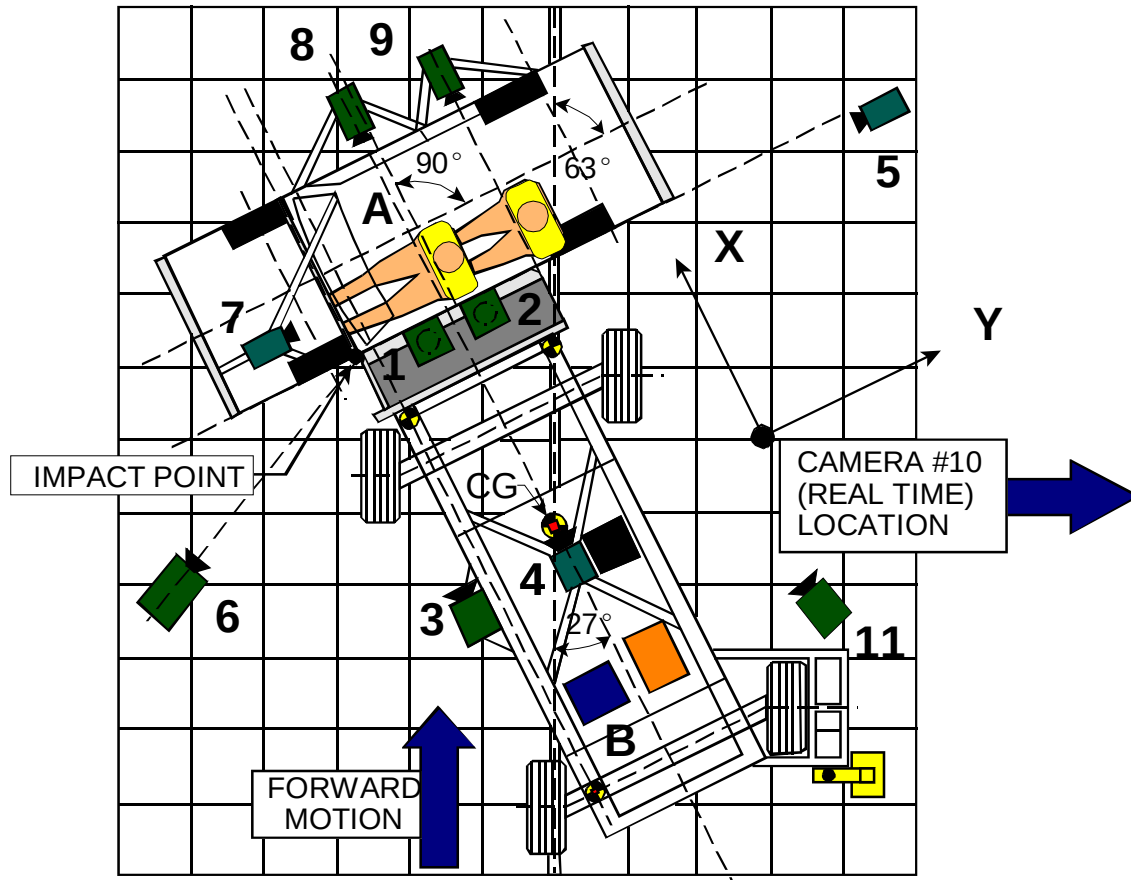
*Reference: X = Rear Bumper (+ Forward)
Y = Vehicle Centerline (+ To Right)
Z = Ground Level (+ Down)
All measurements accurate to within ± 3 mm.

DATA SHEET 15

HIGH SPEED CAMERA LOCATIONS AND DATA SUMMARY

Vehicle: 2005 Subaru Outback MPV

NHTSA No. M55501



Camera No.	View	Coordinates (millimeters)			Angle (deg.)	Lens (mm)	Film Speed (fps)
		X*	Y*	Z*			
1†	Overhead view of test vehicle	72	812	-4880	-90	8	†
2	Overhead closeup view of impact plane	195	855	-4880	-90	12.5	1045
3	MDB onboard closeup view of impact point	-1470	0	-847	0	13	1005
4	MDB onboard view of driver dummy	-1140	838	-1586	-17	7.5	1000
5	Right side ground level overall view	150	8762	-1066	-2.0	25	985
6	Left side ground level overall view	-1843	-1593	-1086	-7.6	13	1010
7	Test vehicle onboard driver front view	496	-421	-1281	-8.9	13	1005
8	Test vehicle onboard driver side view	1696	800	-1129	-11.3	8	1000
9	Test vehicle onboard passenger side view	1696	1650	-1143	-12.6	8	1000
10	Real time film coverage of test	-	-	-	-	-	24
11	Secondary impact point view	3686	3681	-1109	-2.1	25	1000

* Reference (from point of impact); all measurements accurate to within ± 6 mm.

X = (Impact Point) + Forward

Y = (Impact Point) + To Right

Z = (Ground Level) + Down

† Not available, film broke.

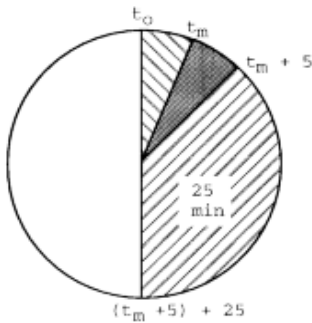
SECTION 5

FUEL SYSTEM INTEGRITY

FMVSS 301 FUEL SYSTEM INTEGRITY DATA

- Frontal (48.28 kph)
- Oblique (48.28 kph) with ° barrier face first
contacting the side
(driver/passenger)
- Rear Moving Barrier (48.28 kph)
- Lateral Moving Barrier (32.19 kph)
- X Side Impact Moving Deformable Barrier (62.0 kph)
contacting the driver side side
(driver/passenger)

FUEL SPILLAGE MEASUREMENT:



1. From impact until vehicle motion ceases
2. For five minute period after vehicle motion ceases
3. For next 25 minutes

ACTUAL	MAX ALLOWED
0 g	28 g
0 g	142 g
0 g	28 g/1 min.

SOLVENT SPILLAGE DETAILS:

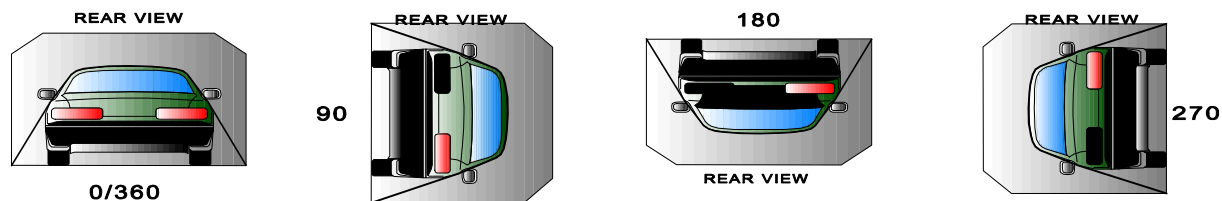
None

DATA SHEET 17

ROLLOVER DATA

Vehicle: 2005 Subaru Outback MPV

NHTSA No.: M55501



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Stage	Rotation Time (spec. 1 -3 min)				FMVSS 301 Hold Time		Total Time				Next Whole Minute Interval	
0° - 90°	1	minutes	14	seconds	5	minutes	6	minutes	14	seconds	7	minutes
90° - 180°	1	minutes	7	seconds	5	minutes	6	minutes	7	seconds	7	minutes
180°-270°	1	minutes	6	seconds	5	minutes	6	minutes	6	seconds	7	minutes
270°-360°	1	minutes	15	seconds	5	minutes	6	minutes	15	seconds	7	minutes

II. FMVSS 301 REQUIREMENTS: (Maximum allowable solvent spillage):

First 5 minutes from onset of rotation	6th min.	7th min.	8th min. (if required)
142 g	28 g	28 g	28 g

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

Rollover Stage	First 5 minutes from onset of rotation (g)	6th min. (g)	7th min. (g)	8th min. (if required) (g)
0° - 90°	0	0	0	-
90° - 180°	0	0	0	-
180°-270°	0	0	0	-
270°-360°	0	0	0	-

Note: Record spillage for whole minute intervals only as determined above.

IV. SOLVENT SPILLAGE LOCATION(S):

Rollover Stage	Spillage Location
0° - 90°	None
90° - 180°	None
180°-270°	None
270°-360°	None

APPENDIX A

PHOTOGRAPHS

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Figure A- 27	PRE-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF REAR SID H3	A- 29
Figure A- 28	POST-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF REAR SID H3	A- 30
Figure A- 29	PRE-TEST LEFT OCCUPANT COMPARTMENT VIEW OF FRONT SID H3	A- 31
Figure A- 30	POST-TEST LEFT OCCUPANT COMPARTMENT VIEW OF FRONT SID H3	A- 32
Figure A- 31	PRE-TEST LEFT OCCUPANT COMPARTMENT VIEW OF REAR SID H3	A- 33
Figure A- 32	POST-TEST LEFT OCCUPANT COMPARTMENT VIEW OF REAR SID H3	A- 34
Figure A- 33	PRE-TEST INTERIOR OF FRONT DOOR	A- 35
Figure A- 34	POST-TEST INTERIOR OF FRONT DOOR SHOWING SID H3 IMPACT LOCATIONS	A- 36
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Figure A- 38	PRE-TEST RIGHT SIDE VIEW OF MDB WITH IMPACTOR FACE IN POSITION	A- 40
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Figure A- 41	CLOSE-UP VIEW OF VEHICLE'S TIRE PLACARD LABEL	A- 43
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Figure A- 43	ROLLOVER 90 DEGREES	A- 45
Figure A- 44	ROLLOVER 180 DEGREES	A- 46
Figure A- 45	ROLLOVER 270 DEGREES	A- 47
Figure A- 46	ROLLOVER 360 DEGREES	A- 48



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 REAR VIEW OF TEST VEHICLE



Figure A-4 POST-TEST REAR VIEW OF TEST VEHICLE



Figure A-5 PRE-TEST IMPACTED SIDE VIEW OF TEST VEHICLE



Figure A-6 POST-TEST IMPACTED SIDE VIEW OF TEST VEHICLE



Figure A-7 PRE-TEST LEFT FRONT VIEW OF TEST VEHICLE



Figure A-8 POST-TEST LEFT FRONT VIEW OF TEST VEHICLE



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



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



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



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



Figure A-13 PRE-TEST RIGHT REAR VIEW OF TEST VEHICLE

PHOTOGRAPH NOT AVAILABLE

Figure A-14 POST-TEST RIGHT REAR VIEW OF TEST VEHICLE



Figure A-15 PRE-TEST FRONTAL VIEW OF IMPACTOR FACE



Figure A-16 POST-TEST FRONTAL VIEW OF IMPACTOR FACE



Figure A-17 PRE-TEST LEFT SIDE VIEW OF IMPACTOR FACE



Figure A-18 POST-TEST LEFT SIDE VIEW OF IMPACTOR FACE



Figure A-19 PRE-TEST RIGHT SIDE VIEW OF IMPACTOR FACE



Figure A-20 POST-TEST RIGHT SIDE VIEW OF IMPACTOR FACE



Figure A-21 PRE-TEST TOP VIEW OF IMPACTOR FACE



Figure A-22 POST-TEST TOP VIEW OF IMPACTOR FACE

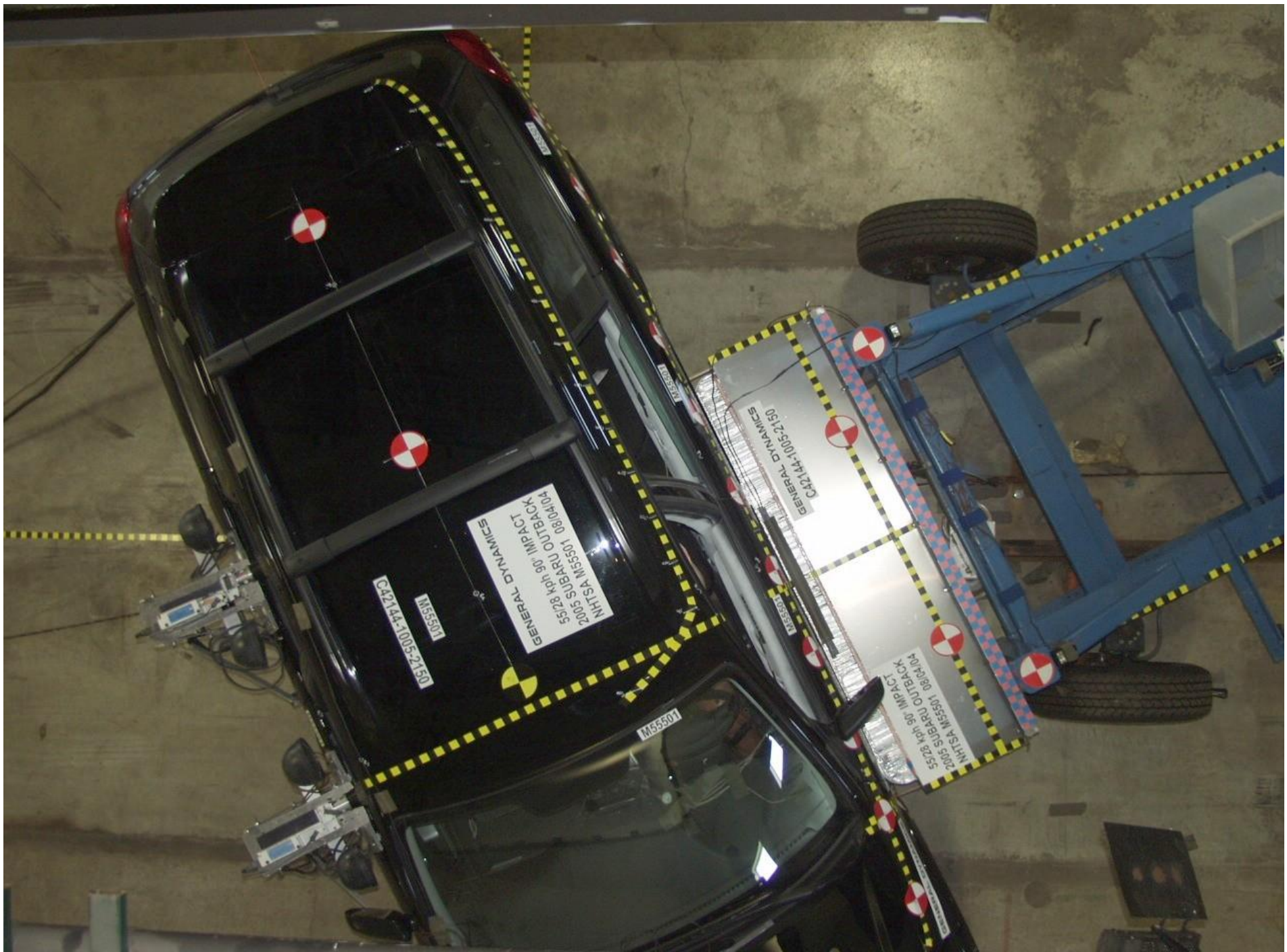


Figure A-23 PRE-TEST OVERHEAD VIEW OF ALIGNED MDB AND VEHICLE

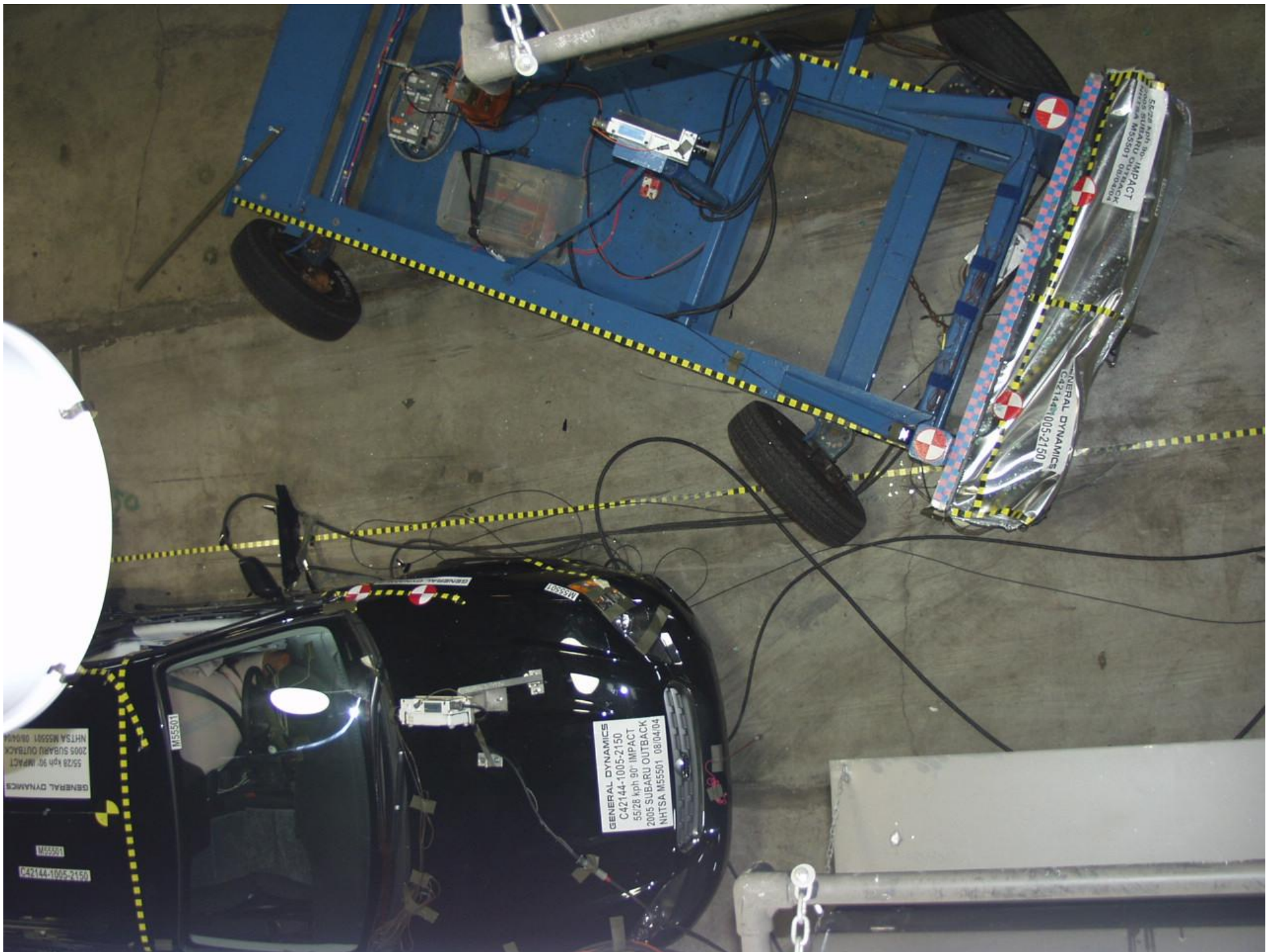


Figure A-24 POST-TEST OVERHEAD VIEW OF MDB AND VEHICLE



Figure A-25 PRE-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF FRONT SID H3



Figure A-26 POST-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF FRONT SID H3



Figure A-27 PRE-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF REAR SID H3



Figure A-28 POST-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF REAR SID H3



Figure A-29 PRE-TEST LEFT OCCUPANT COMPARTMENT VIEW OF FRONT SID H3



Figure A-30 POST-TEST LEFT OCCUPANT COMPARTMENT VIEW OF FRONT SID H3



Figure A-31 PRE-TEST LEFT OCCUPANT COMPARTMENT VIEW OF REAR SID H3



Figure A-32 POST-TEST LEFT OCCUPANT COMPARTMENT VIEW OF REAR SID H3



Figure A-33 PRE-TEST INTERIOR OF FRONT DOOR



Figure A-34 POST-TEST INTERIOR OF FRONT DOOR SHOWING SID H3 IMPACT LOCATIONS



Figure A-35 PRE-TEST INTERIOR OF REAR DOOR



Figure A-36 POST-TEST INTERIOR OF REAR DOOR SHOWING SID H3 IMPACT LOCATIONS



Figure A-37 PRE-TEST LEFT SIDE VIEW OF MDB WITH IMPACTOR FACE IN POSITION



Figure A-38 PRE-TEST RIGHT SIDE VIEW OF MDB WITH IMPACTOR FACE IN POSITION



Figure A-39 POST-TEST CLOSE-UP VIEW OF IMPACT POINT TARGET

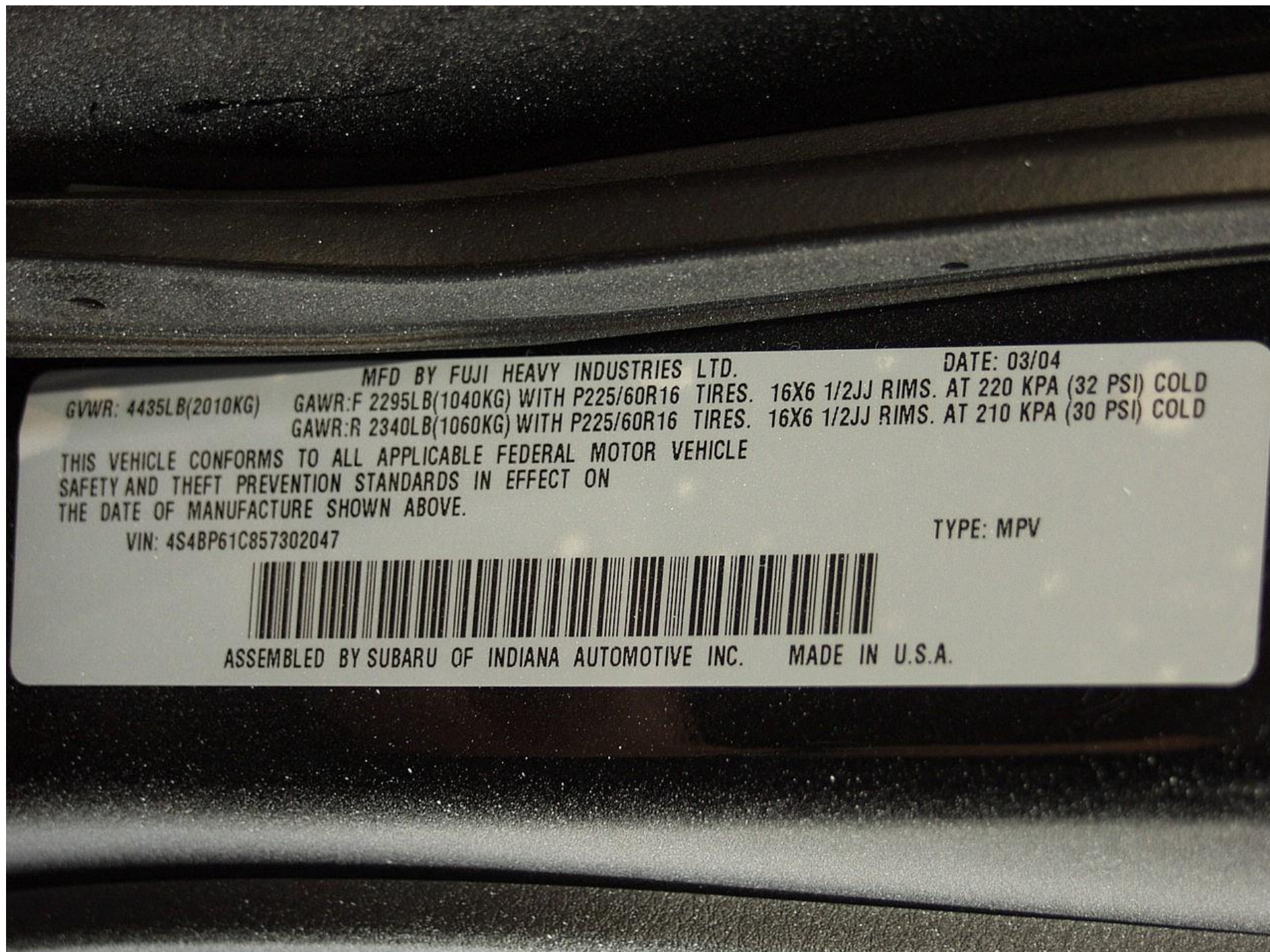


Figure A-40 CLOSE-UP VIEW OF VEHICLE'S CERTIFICATION LABEL



Figure A-41 CLOSE-UP VIEW OF VEHICLE'S TIRE PLACARD LABEL



Figure A-42 IMPACT PHOTO



Figure A-43 ROLLOVER 90 DEGREES

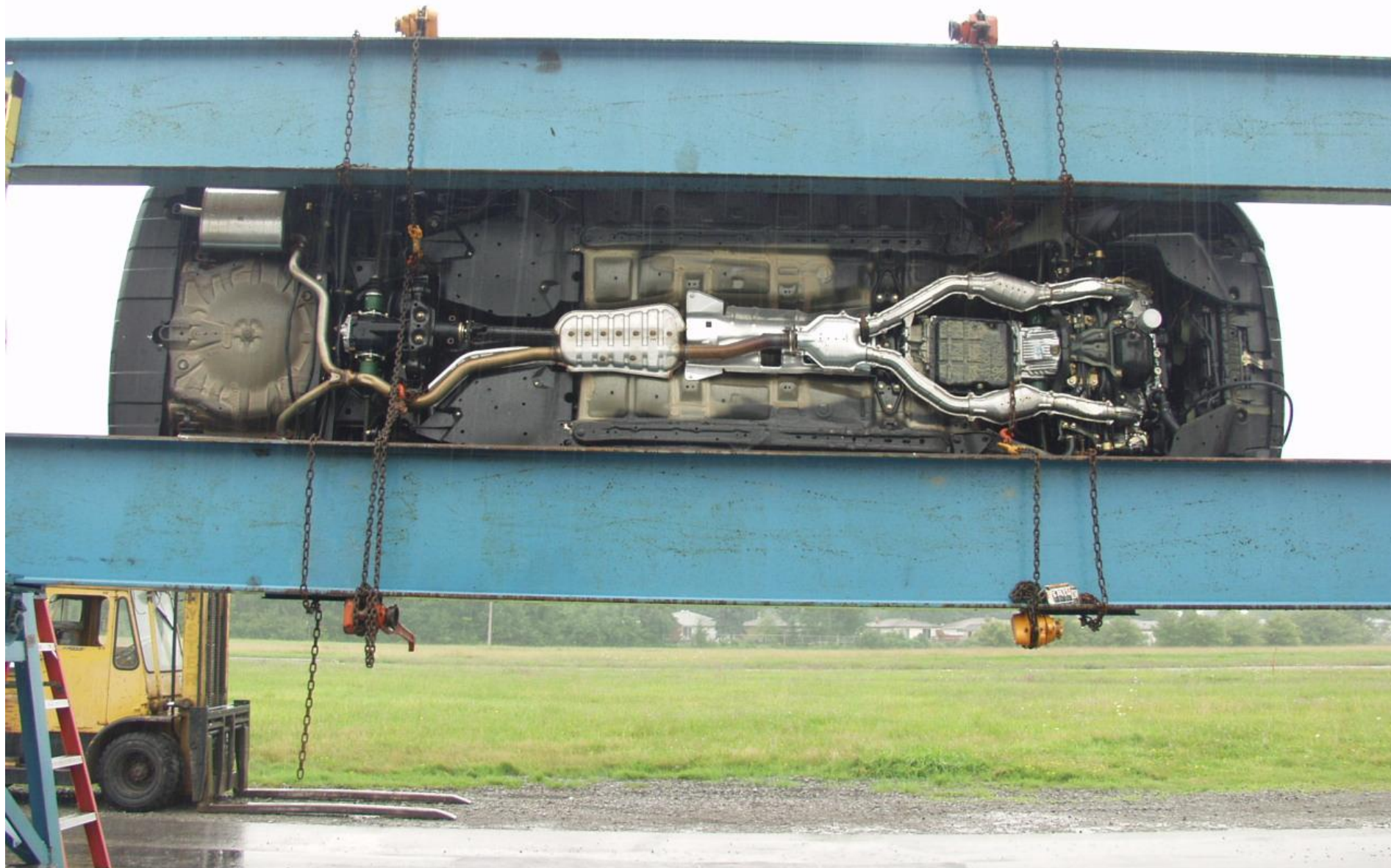


Figure A-44 ROLLOVER 180 DEGREES



Figure A-45 ROLLOVER 270 DEGREES



Figure A-46 ROLLOVER 360 DEGREES

APPENDIX B

VEHICLE, MDB AND SID HYBRID III RESPONSE DATA

TABLE OF DATA PLOTS

DRIVER AND PASSENGER DUMMY INSTRUMENTATION PLOTS

ACCELERATION, FORCE AND MOMENT 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 VS TIME	B- 6
2	DRIVER HEAD (X) VELOCITY VS TIME	B- 7
3	DRIVER HEAD (Y) ACCELERATION VS TIME	B- 8
4	DRIVER HEAD (Y) VELOCITY VS TIME	B- 9
5	DRIVER HEAD (Z) ACCELERATION VS TIME	B- 10
6	DRIVER HEAD (Z) VELOCITY VS TIME	B- 11
7	DRIVER HEAD RESULTANT ACCELERATION VS TIME	B- 12
8	DRIVER UPPER NECK (X) FORCE VS TIME	B- 13
9	DRIVER UPPER NECK (Y) FORCE VS TIME	B- 14
10	DRIVER UPPER NECK (Z) FORCE VS TIME	B- 15
11	DRIVER UPPER NECK RESULTANT FORCE VS TIME	B- 16
12	DRIVER UPPER NECK (X) MOMENT VS TIME	B- 17
13	DRIVER UPPER NECK (Y) MOMENT VS TIME	B- 18
14	DRIVER UPPER NECK (Z) MOMENT VS TIME	B- 19
15	DRIVER UPPER NECK RESULTANT MOMENT VS TIME	B- 20
16	DRIVER UPPER RIB (Y) ACCELERATION VS TIME	B- 21
17	DRIVER UPPER RIB (Y) VELOCITY VS TIME	B- 22
18	DRIVER LOWER RIB (Y) ACCELERATION VS TIME	B- 23
19	DRIVER LOWER RIB (Y) VELOCITY VS TIME	B- 24
20	DRIVER LOWER SPINE (Y) ACCELERATION VS TIME	B- 25
21	DRIVER LOWER SPINE (Y) VELOCITY VS TIME	B- 26
22	DRIVER PELVIC (Y) ACCELERATION VS TIME	B- 27
23	DRIVER PELVIC (Y) VELOCITY VS TIME	B- 28
24	PASSENGER HEAD (X) ACCELERATION VS TIME	B- 29
25	PASSENGER HEAD (X) VELOCITY VS TIME	B- 30
26	PASSENGER HEAD (Y) ACCELERATION VS TIME	B- 31
27	PASSENGER HEAD (Y) VELOCITY VS TIME	B- 32
28	PASSENGER HEAD (Z) ACCELERATION VS TIME	B- 33
29	PASSENGER HEAD (Z) VELOCITY VS TIME	B- 34
30	PASSENGER HEAD RESULTANT ACCELERATION VS TIME	B- 35
31	PASSENGER UPPER NECK (X) FORCE VS TIME	B- 36
32	PASSENGER UPPER NECK (Y) FORCE VS TIME	B- 37
33	PASSENGER UPPER NECK (Z) FORCE VS TIME	B- 38
34	PASSENGER UPPER NECK RESULTANT FORCE VS TIME	B- 39
35	PASSENGER UPPER NECK (X) MOMENT VS TIME	B- 40
36	PASSENGER UPPER NECK (Y) MOMENT VS TIME	B- 41
37	PASSENGER UPPER NECK (Z) MOMENT VS TIME	B- 42
38	PASSENGER UPPER NECK RESULTANT MOMENT VS TIME	B- 43
39	PASSENGER UPPER RIB (Y) ACCELERATION VS TIME	B- 44
40	PASSENGER UPPER RIB (Y) VELOCITY VS TIME	B- 45
41	PASSENGER LOWER RIB (Y) ACCELERATION VS TIME	B- 46
42	PASSENGER LOWER RIB (Y) VELOCITY VS TIME	B- 47
43	PASSENGER LOWER SPINE (Y) ACCELERATION VS TIME	B- 48
44	PASSENGER LOWER SPINE (Y) VELOCITY VS TIME	B- 49
45	PASSENGER PELVIC (Y) ACCELERATION VS TIME	B- 50
46	PASSENGER PELVIC (Y) VELOCITY VS TIME	B- 51

DRIVER & PASSENGER DUMMY INSTRUMENTATION PLOTS

ACCELERATION DATA - FIR FILTERED

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
47	DRIVER UPPER RIB (Y) ACCELERATION VS TIME	B- 52
48	DRIVER LOWER RIB (Y) ACCELERATION VS TIME	B- 53
49	DRIVER LOWER SPINE (Y) ACCELERATION VS TIME	B- 54
50	DRIVER PELVIC (Y) ACCELERATION VS TIME	B- 55
51	PASSENGER UPPER RIB (Y) ACCELERATION VS TIME	B- 56
52	PASSENGER LOWER RIB (Y) ACCELERATION VS TIME	B- 57
53	PASSENGER LOWER SPINE (Y) ACCELERATION VS TIME	B- 58
54	PASSENGER PELVIC (Y) ACCELERATION VS TIME	B- 59

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>
55	RIGHT SIDE SILL AT FRONT SEAT (X) ACCELERATION VS TIME	B- 60
56	RIGHT SIDE SILL AT FRONT SEAT (X) VELOCITY VS TIME	B- 61
57	RIGHT SIDE SILL AT FRONT SEAT (Y) ACCELERATION VS TIME	B- 62
58	RIGHT SIDE SILL AT FRONT SEAT (Y) VELOCITY VS TIME	B- 63
59	RIGHT SIDE SILL AT FRONT SEAT (Z) ACCELERATION VS TIME	B- 64
60	RIGHT SIDE SILL AT FRONT SEAT (Z) VELOCITY VS TIME	B- 65
61	RIGHT SIDE SILL AT FRONT SEAT RESULTANT ACCELERATION VS TIME	B- 66
62	RIGHT SIDE SILL AT REAR SEAT (X) ACCELERATION VS TIME	B- 67
63	RIGHT SIDE SILL AT REAR SEAT (X) VELOCITY VS TIME	B- 68
64	RIGHT SIDE SILL AT REAR SEAT (Y) ACCELERATION VS TIME	B- 69
65	RIGHT SIDE SILL AT REAR SEAT (Y) VELOCITY VS TIME	B- 70
66	RIGHT SIDE SILL AT REAR SEAT (Z) ACCELERATION VS TIME	B- 71
67	RIGHT SIDE SILL AT REAR SEAT (Z) VELOCITY VS TIME	B- 72
68	RIGHT SIDE SILL AT REAR SEAT RESULTANT ACCELERATION VS TIME	B- 73
69	REAR FLOORPAN ABOVE AXLE (X) ACCELERATION VS TIME	B- 74
70	REAR FLOORPAN ABOVE AXLE (X) VELOCITY VS TIME	B- 75
71	REAR FLOORPAN ABOVE AXLE (Y) ACCELERATION VS TIME	B- 76
72	REAR FLOORPAN ABOVE AXLE (Y) VELOCITY VS TIME	B- 77
73	REAR FLOORPAN ABOVE AXLE (Z) ACCELERATION VS TIME	B- 78
74	REAR FLOORPAN ABOVE AXLE (Z) VELOCITY VS TIME	B- 79
75	REAR FLOORPAN ABOVE AXLE RESULTANT ACCELERATION VS TIME	B- 80
76	LEFT SIDE SILL AT REAR SEAT (Y) ACCELERATION VS TIME	B- 81
77	LEFT SIDE SILL AT REAR SEAT (Y) VELOCITY VS TIME	B- 82
78	LEFT SIDE SILL AT FRONT SEAT (Y) ACCELERATION VS TIME	B- 83
79	LEFT SIDE SILL AT FRONT SEAT (Y) VELOCITY VS TIME	B- 84
80	LEFT FRONT DOOR ON CENTERLINE (Y) ACCELERATION VS TIME	B- 85
81	LEFT FRONT DOOR ON CENTERLINE (Y) VELOCITY VS TIME	B- 86
82	RIGHT REAR OCCUPANT COMPARTMENT (Y) ACCELERATION VS TIME	B- 87
83	RIGHT REAR OCCUPANT COMPARTMENT (Y) VELOCITY VS TIME	B- 88
84	MID REAR OF LEFT FRONT DOOR (Y) ACCELERATION VS TIME	B- 89
85	MID REAR OF LEFT FRONT DOOR (Y) VELOCITY VS TIME	B- 90
86	LEFT FRONT DOOR UPPER CENTERLINE (Y) ACCELERATION VS TIME	B- 91
87	LEFT FRONT DOOR UPPER CENTERLINE (Y) VELOCITY VS TIME	B- 92
88	MID REAR OF LEFT REAR DOOR (Y) ACCELERATION VS TIME	B- 93
89	MID REAR OF LEFT REAR DOOR (Y) VELOCITY VS TIME	B- 94
90	LEFT REAR DOOR UPPER CENTERLINE (Y) ACCELERATION VS TIME	B- 95
91	LEFT REAR DOOR UPPER CENTERLINE (Y) VELOCITY VS TIME	B- 96
92	LOWER B-POST (Y) ACCELERATION VS TIME	B- 97
93	LOWER B-POST (Y) VELOCITY VS TIME	B- 98
94	UPPER B-POST (Y) ACCELERATION VS TIME	B- 99
95	UPPER B-POST (Y) VELOCITY VS TIME	B- 100
96	LOWER A-POST (Y) ACCELERATION VS TIME	B- 101

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>
97	LOWER A-POST (Y) VELOCITY VS TIME	B- 102
98	UPPER A-POST (Y) ACCELERATION VS TIME	B- 103
99	UPPER A-POST (Y) VELOCITY VS TIME	B- 104
100	FRONT SEAT TRACK (Y) ACCELERATION VS TIME	B- 105
101	FRONT SEAT TRACK (Y) VELOCITY VS TIME	B- 106
102	REAR SEAT TRACK (Y) ACCELERATION VS TIME	B- 107
103	REAR SEAT TRACK (Y) VELOCITY VS TIME	B- 108
104	VEHICLE CENTER OF GRAVITY (X) ACCELERATION VS TIME	B- 109
105	VEHICLE CENTER OF GRAVITY (X) VELOCITY VS TIME	B- 110
106	VEHICLE CENTER OF GRAVITY (Y) ACCELERATION VS TIME	B- 111
107	VEHICLE CENTER OF GRAVITY (Y) VELOCITY ACCELERATION VS TIME	B- 112
108	VEHICLE CENTER OF GRAVITY (Z) ACCELERATION VS TIME	B- 113
109	VEHICLE CENTER OF GRAVITY (Z) VELOCITY VS TIME	B- 114
110	VEHICLE CENTER OF GRAVITY RESULTANT ACCELERATION VS TIME	B- 115

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>
111	MDB CENTER OF GRAVITY (X) ACCELERATION VS TIME	B- 116
112	MDB CENTER OF GRAVITY (X) VELOCITY VS TIME	B- 117
113	MDB CENTER OF GRAVITY (Y) ACCELERATION VS TIME	B- 118
114	MDB CENTER OF GRAVITY (Y) VELOCITY VS TIME	B- 119
115	MDB CENTER OF GRAVITY (Z) ACCELERATION VS TIME	B- 120
116	MDB CENTER OF GRAVITY (Z) VELOCITY VS TIME	B- 121
117	MDB CENTER OF GRAVITY RESULTANT ACCELERATION VS TIME	B- 122
118	MDB REAR (X) ACCELERATION VS TIME	B- 123
119	MDB REAR (X) VELOCITY VS TIME	B- 124
120	MDB REAR (Y) ACCELERATION VS TIME	B- 125
121	MDB REAR (Y) VELOCITY VS TIME	B- 126

DRIVER & 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>
122	DRIVER UPPER RIB (Y) ACCELERATION VS TIME	B- 127
123	DRIVER UPPER RIB (Y) VELOCITY VS TIME	B- 128
124	DRIVER LOWER RIB (Y) ACCELERATION VS TIME	B- 129
125	DRIVER LOWER RIB (Y) VELOCITY VS TIME	B- 130
126	DRIVER LOWER SPINE (Y) ACCELERATION VS TIME	B- 131
127	DRIVER LOWER SPINE (Y) VELOCITY VS TIME	B- 132
128	DRIVER PELVIC (Y) ACCELERATION VS TIME	B- 133
129	DRIVER PELVIC (Y) VELOCITY VS TIME	B- 134
130	PASSENGER UPPER RIB (Y) ACCELERATION VS TIME	B- 135
131	PASSENGER UPPER RIB (Y) VELOCITY VS TIME	B- 136
132	PASSENGER LOWER RIB (Y) ACCELERATION VS TIME	B- 137
133	PASSENGER LOWER RIB (Y) VELOCITY VS TIME	B- 138
134	PASSENGER LOWER SPINE (Y) ACCELERATION VS TIME	B- 139
135	PASSENGER LOWER SPINE (Y) VELOCITY VS TIME	B- 140
136	PASSENGER PELVIC (Y) ACCELERATION VS TIME	B- 141
137	PASSENGER PELVIC (Y) VELOCITY VS TIME	B- 142

DRIVER & PASSENGER DUMMY INSTRUMENTATION PLOTS (REDUNDANT)
ACCELERATION DATA - FIR FILTERED

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
138	DRIVER UPPER RIB (Y) ACCELERATION VS TIME	B- 143
139	DRIVER LOWER RIB (Y) ACCELERATION VS TIME	B- 144
140	DRIVER LOWER SPINE (Y) ACCELERATION VS TIME	B- 145
141	DRIVER PELVIC (Y) ACCELERATION VS TIME	B- 146
142	PASSENGER UPPER RIB (Y) ACCELERATION VS TIME	B- 147
143	PASSENGER LOWER RIB (Y) ACCELERATION VS TIME	B- 148
144	PASSENGER LOWER SPINE (Y) ACCELERATION VS TIME	B- 149
145	PASSENGER PELVIC (Y) ACCELERATION VS TIME	B- 150

2004 SNCAP Test 5 - 2005 Subaru Outback

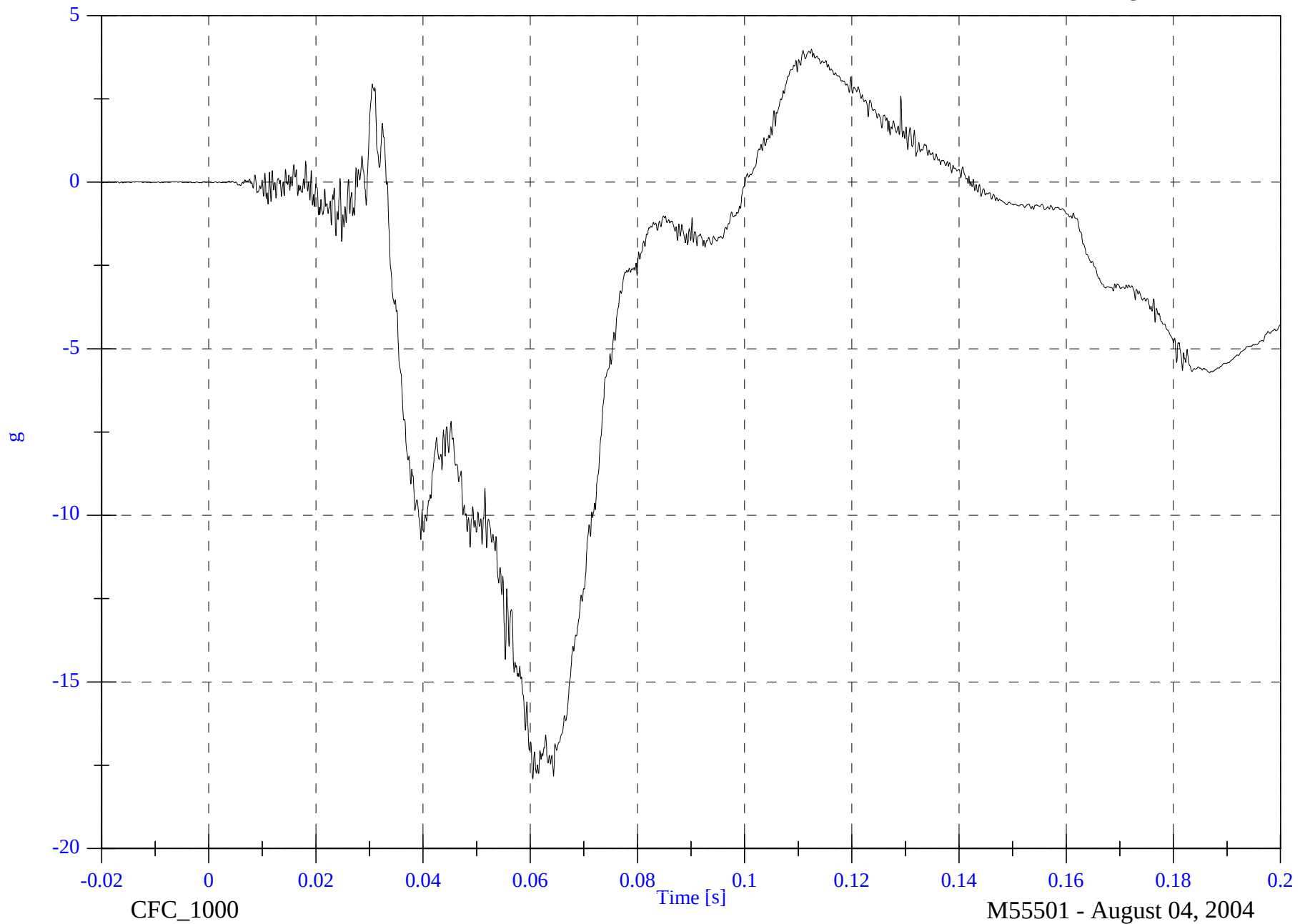
V2P1 Head x

Max: 4.0 [g] at 0.112 [s]

Min: -17.9 [g] at 0.060 [s]

B-6

8725-SNCAP-05

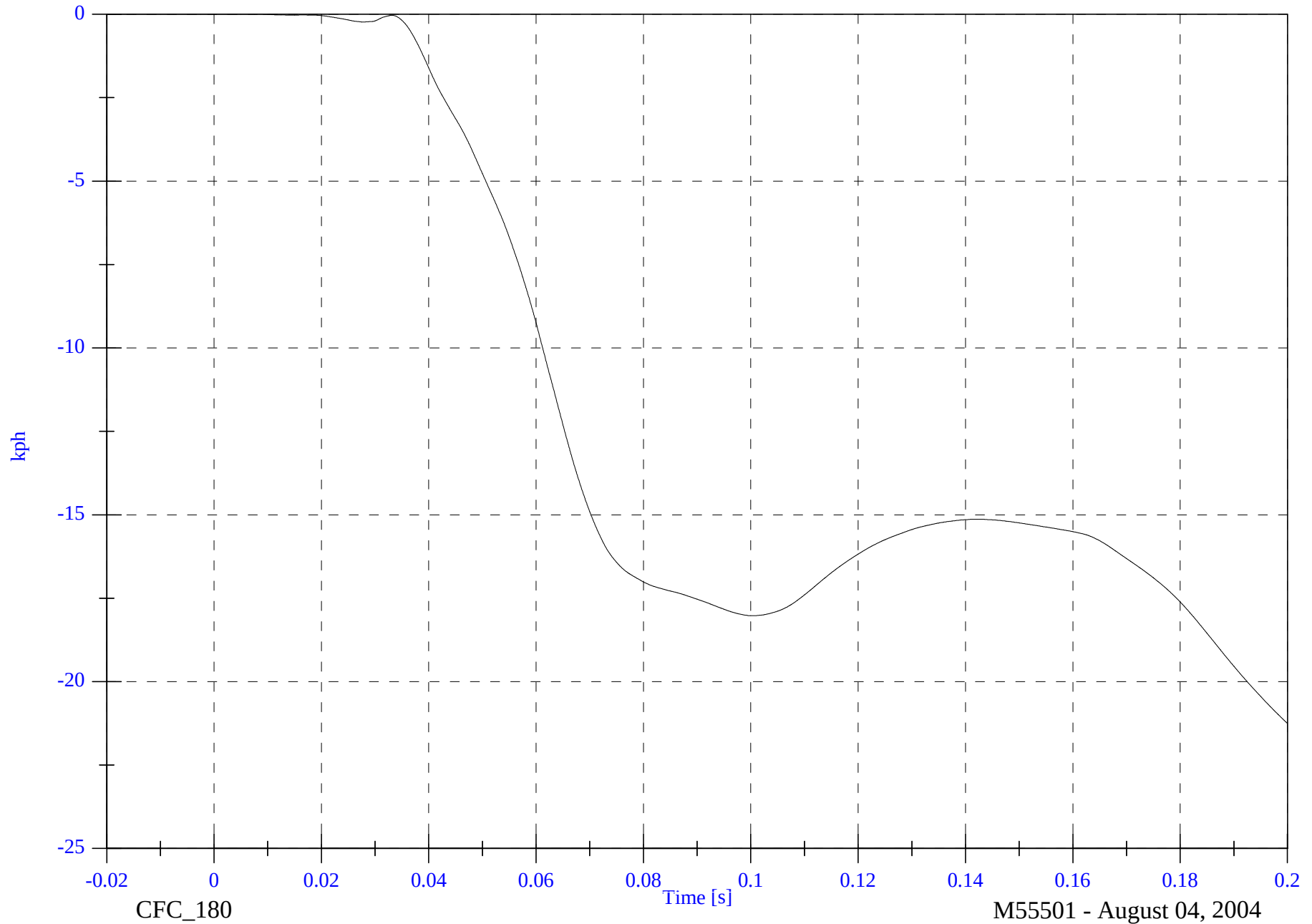


2004 SNCAP Test 5 - 2005 Subaru Outback

V2P1 Head x Velocity

Max: 0.0 [kph] at -0.005 [s]

Min: -21.2 [kph] at 0.200 [s]



B-7

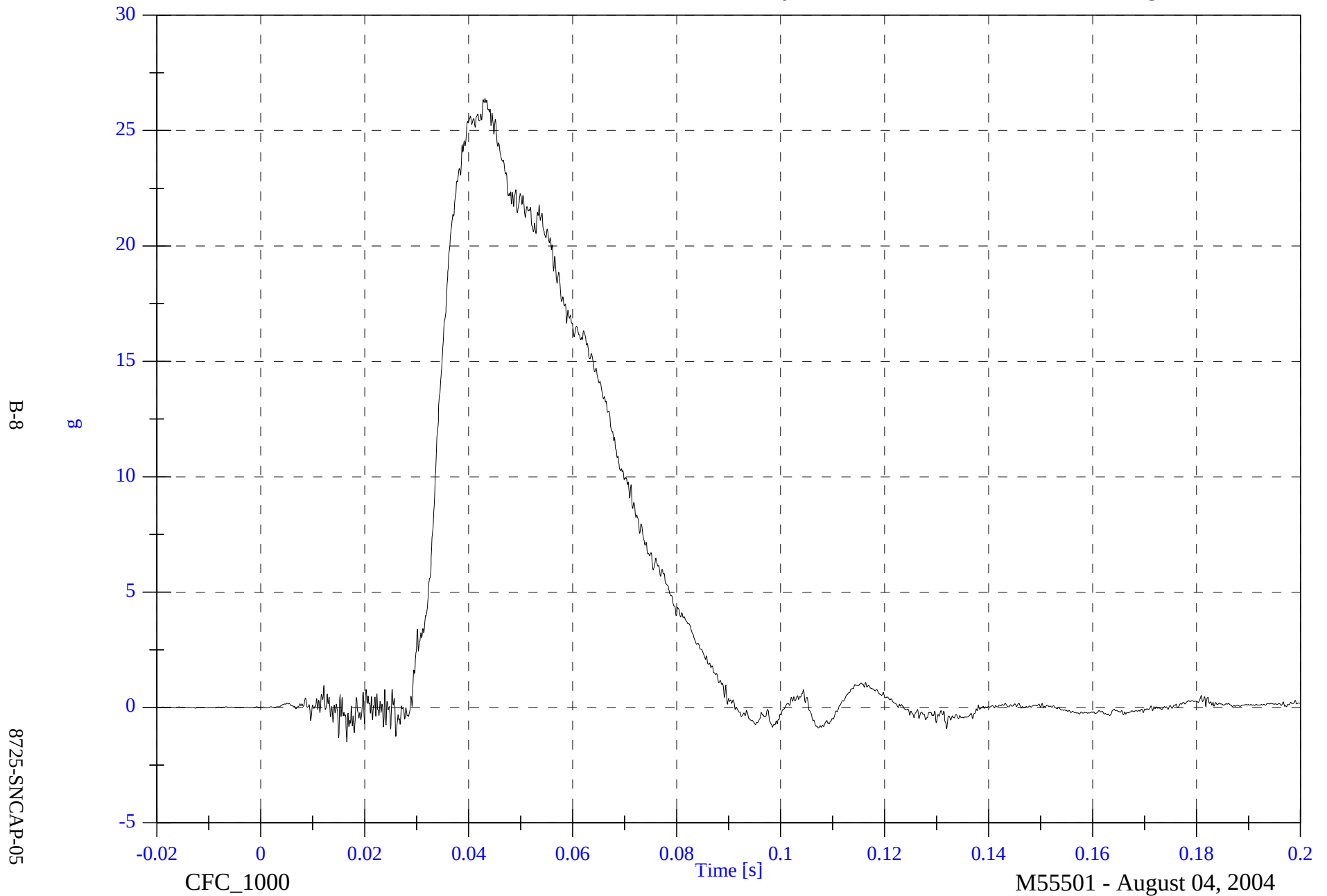
8725-SNCAP-05

2004 SNCAP Test 5 - 2005 Subaru Outback

V2P1 Head y

Max: 26.4 [g] at 0.043 [s]

Min: -1.5 [g] at 0.017 [s]

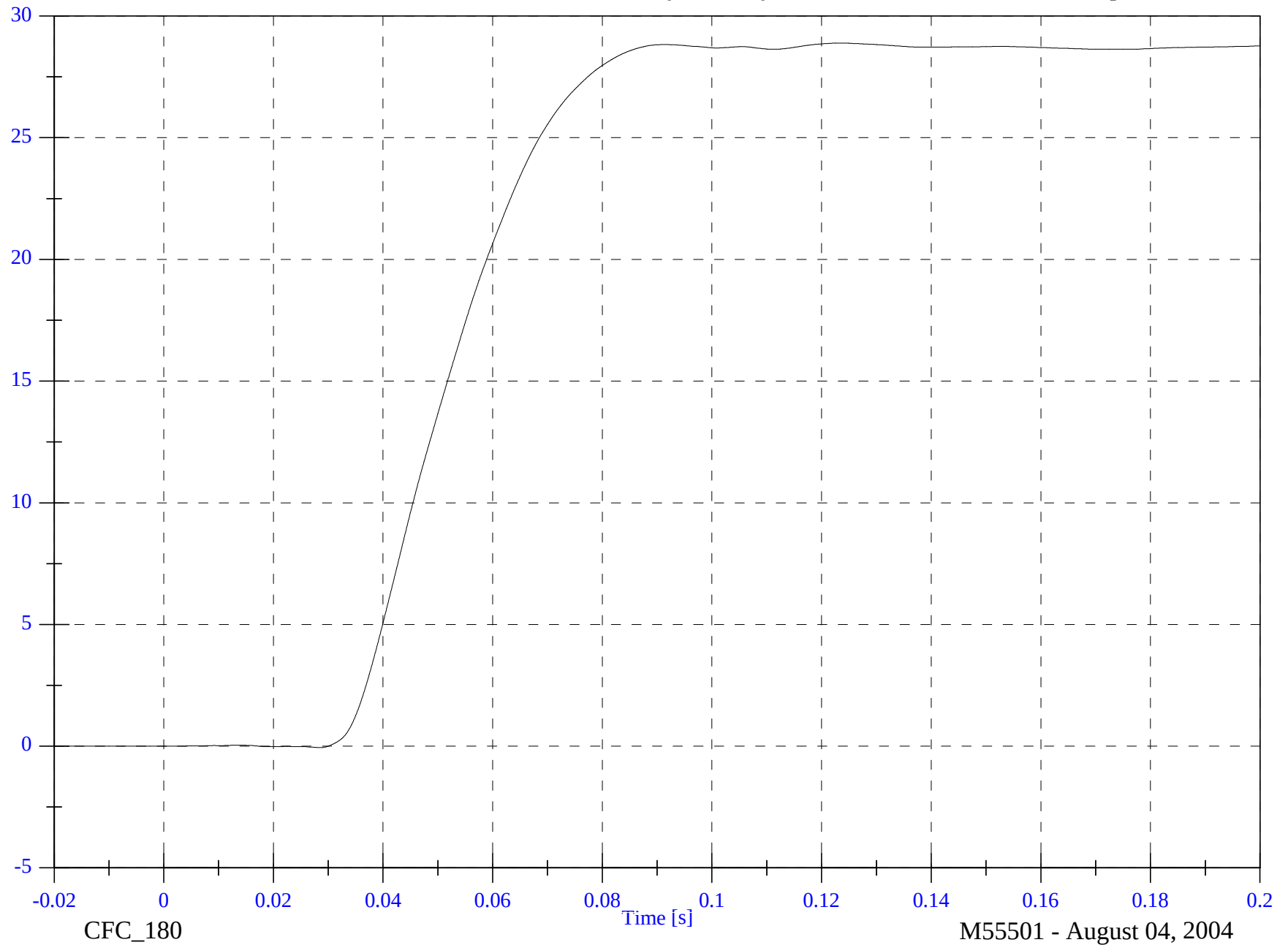


2004 SNCAP Test 5 - 2005 Subaru Outback

V2P1 Head y Velocity

Max: 28.9 [kph] at 0.124 [s]

Min: -0.1 [kph] at 0.029 [s]



B-9

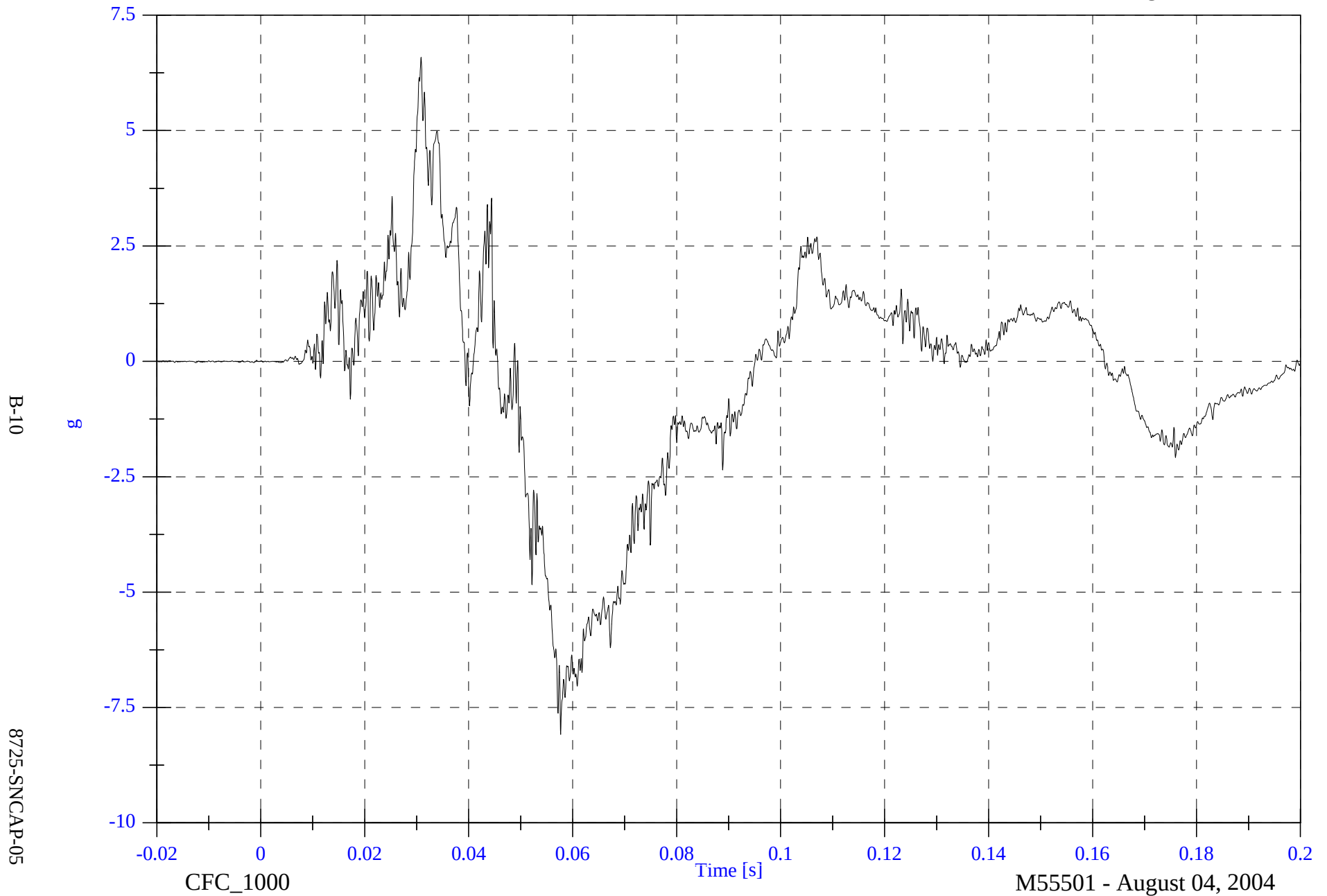
8725-SNCAP-05

2004 SNCAP Test 5 - 2005 Subaru Outback

V2P1 Head z

Max: 6.6 [g] at 0.031 [s]

Min: -8.1 [g] at 0.058 [s]



2004 SNCAP Test 5 - 2005 Subaru Outback

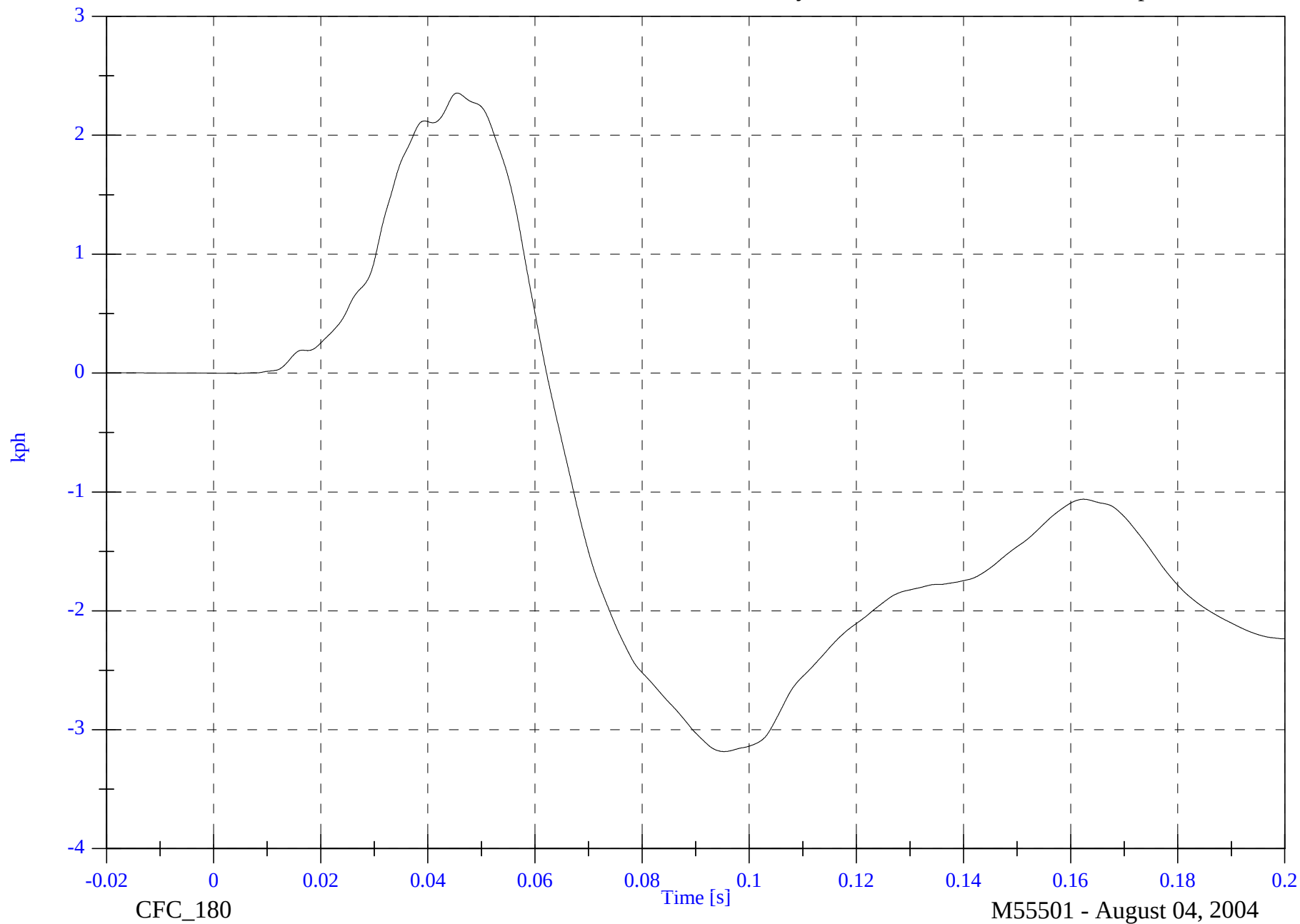
V2P1 Head z Velocity

Max: 2.4 [kph] at 0.045 [s]

Min: -3.2 [kph] at 0.095 [s]

B-11

8725-SNCAP-05



2004 SNCAP Test 5 - 2005 Subaru Outback

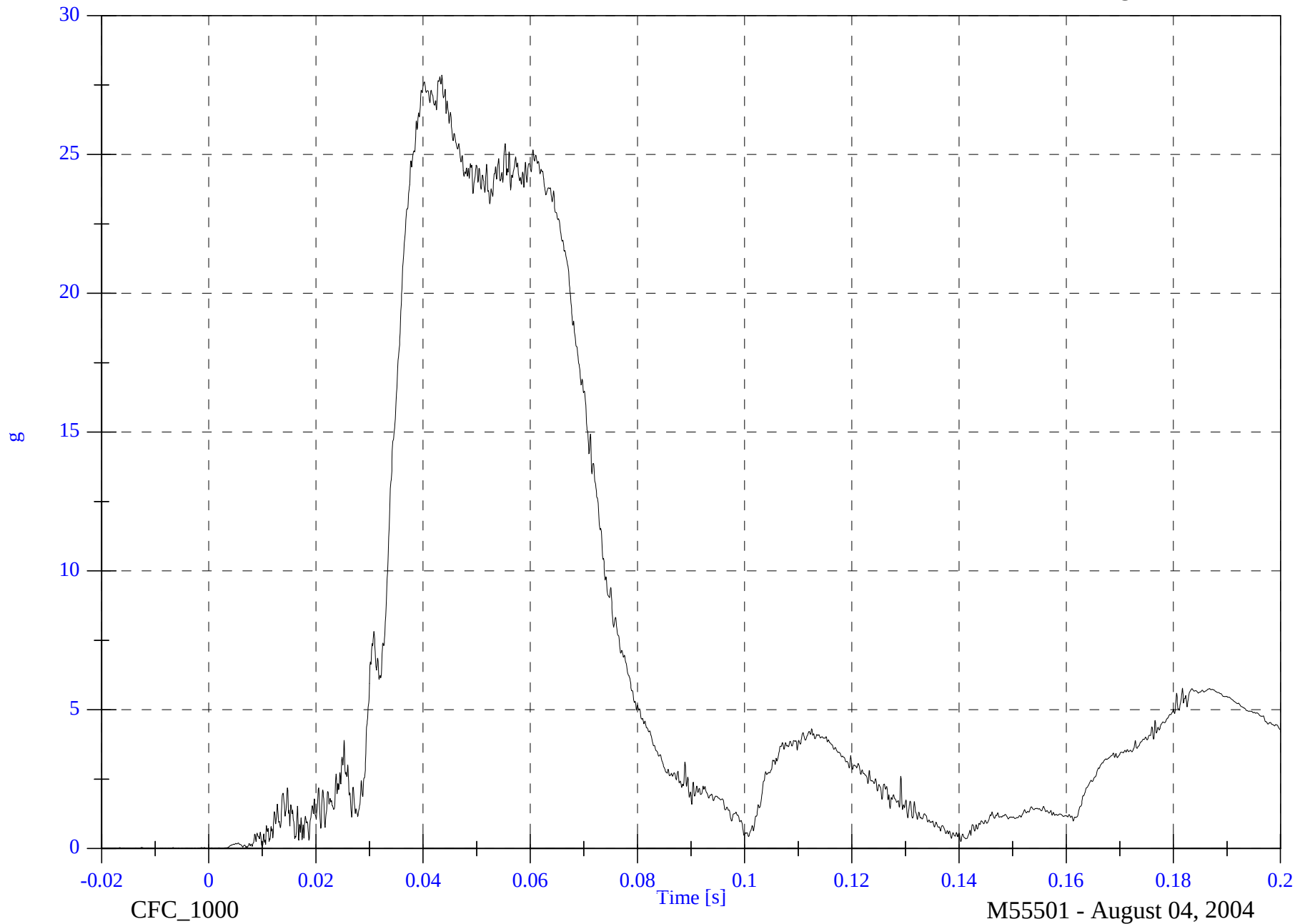
V2P1 Head Resultant

Max: 27.9 [g] at 0.043 [s]

Min: 0.0 [g] at -0.014 [s]

B-12

8725-SNCAP-05

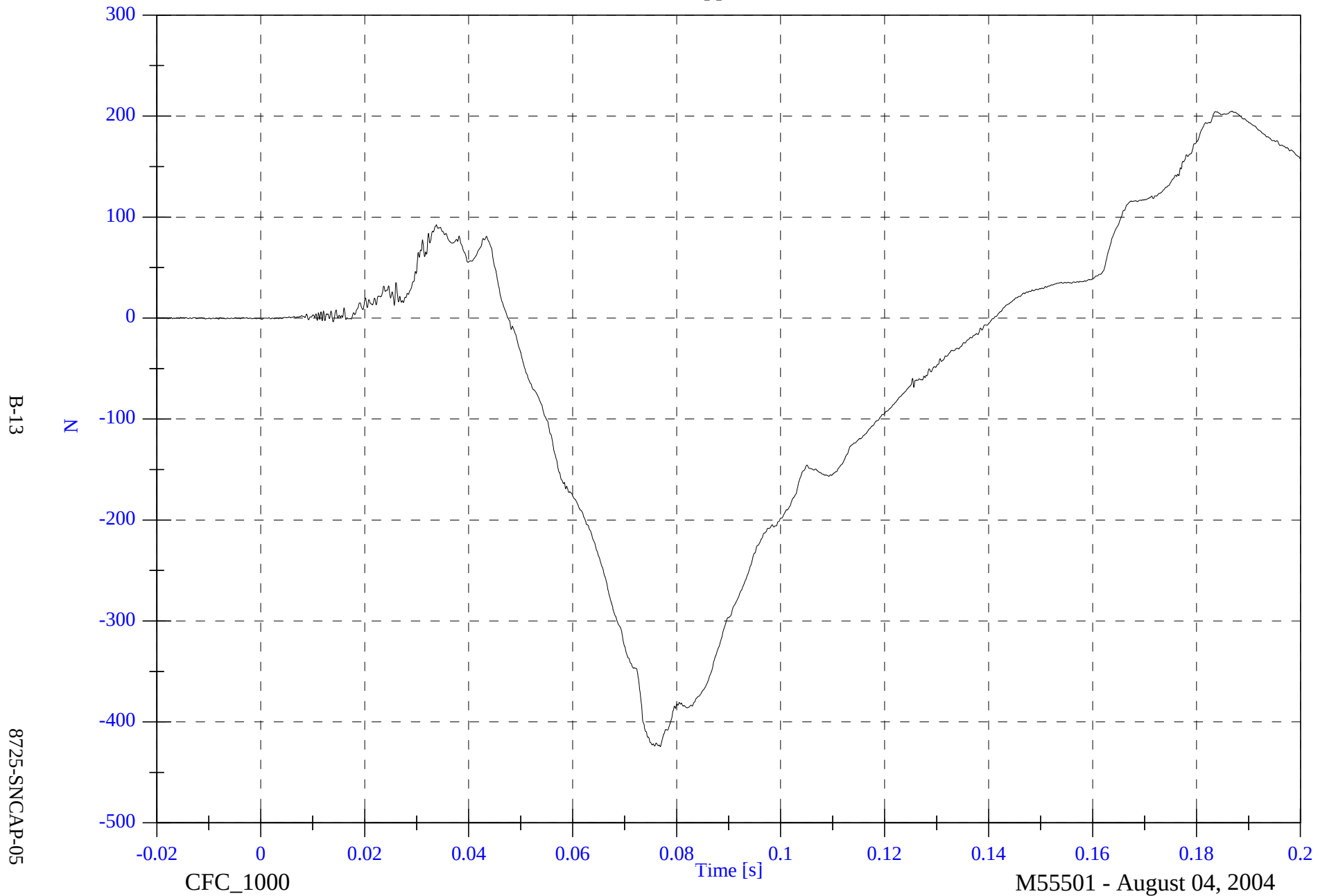


2004 SNCAP Test 5 - 2005 Subaru Outback

V2P1 Upper Neck Fx

Max: 204.8 [N] at 0.187 [s]

Min: -424.6 [N] at 0.077 [s]

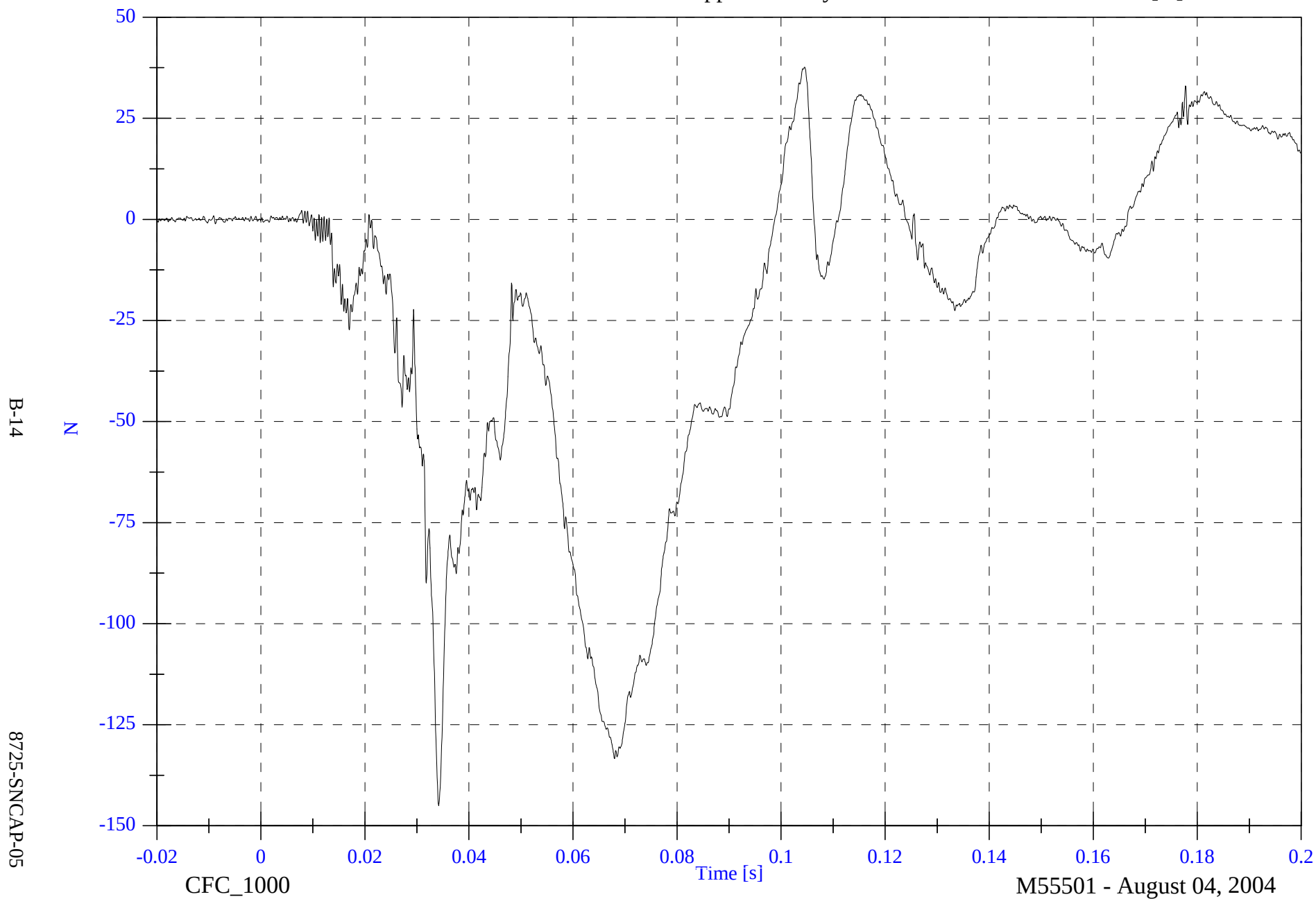


2004 SNCAP Test 5 - 2005 Subaru Outback

V2P1 Upper Neck Fy

Max: 37.7 [N] at 0.105 [s]

Min: -145.0 [N] at 0.034 [s]

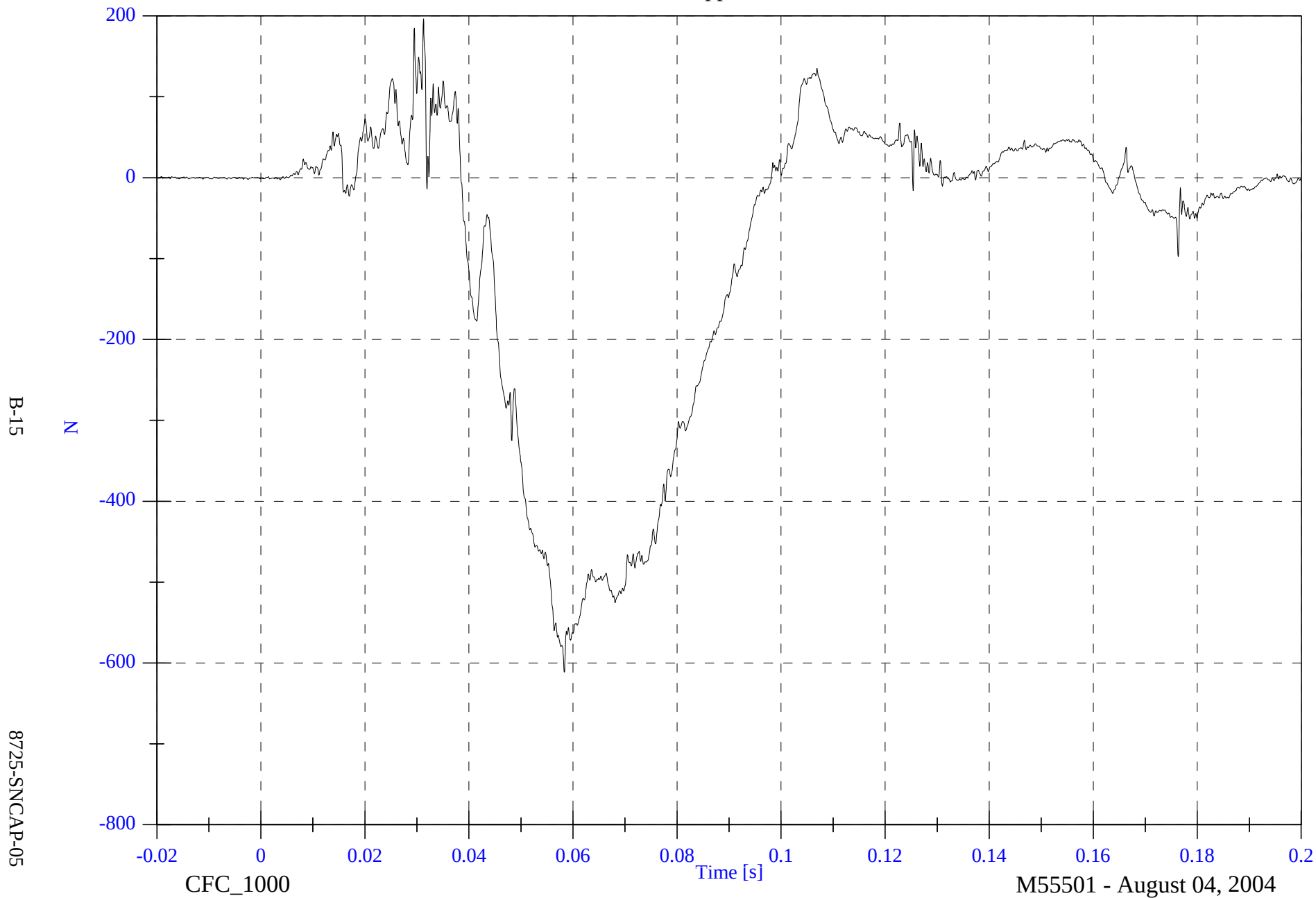


2004 SNCAP Test 5 - 2005 Subaru Outback

V2P1 Upper Neck Fz

Max: 196.5 [N] at 0.031 [s]

Min: -611.4 [N] at 0.058 [s]



2004 SNCAP Test 5 - 2005 Subaru Outback

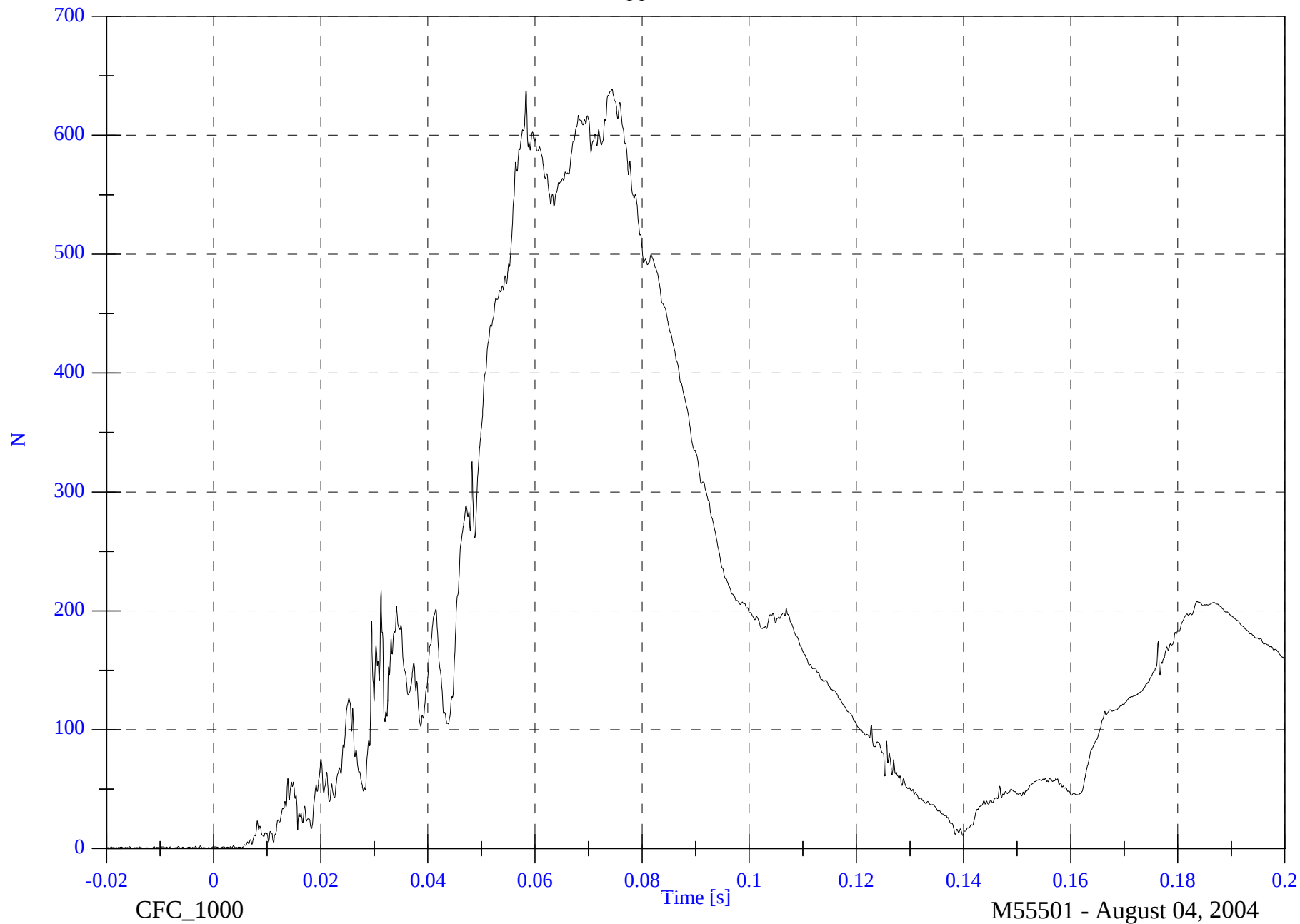
V2P1 Upper Neck F Resultant

Max: 638.8 [N] at 0.074 [s]

Min: 0.1 [N] at -0.003 [s]

B-16

8725-SNCAP-05



2004 SNCAP Test 5 - 2005 Subaru Outback

V2P1 Upper Neck Mx

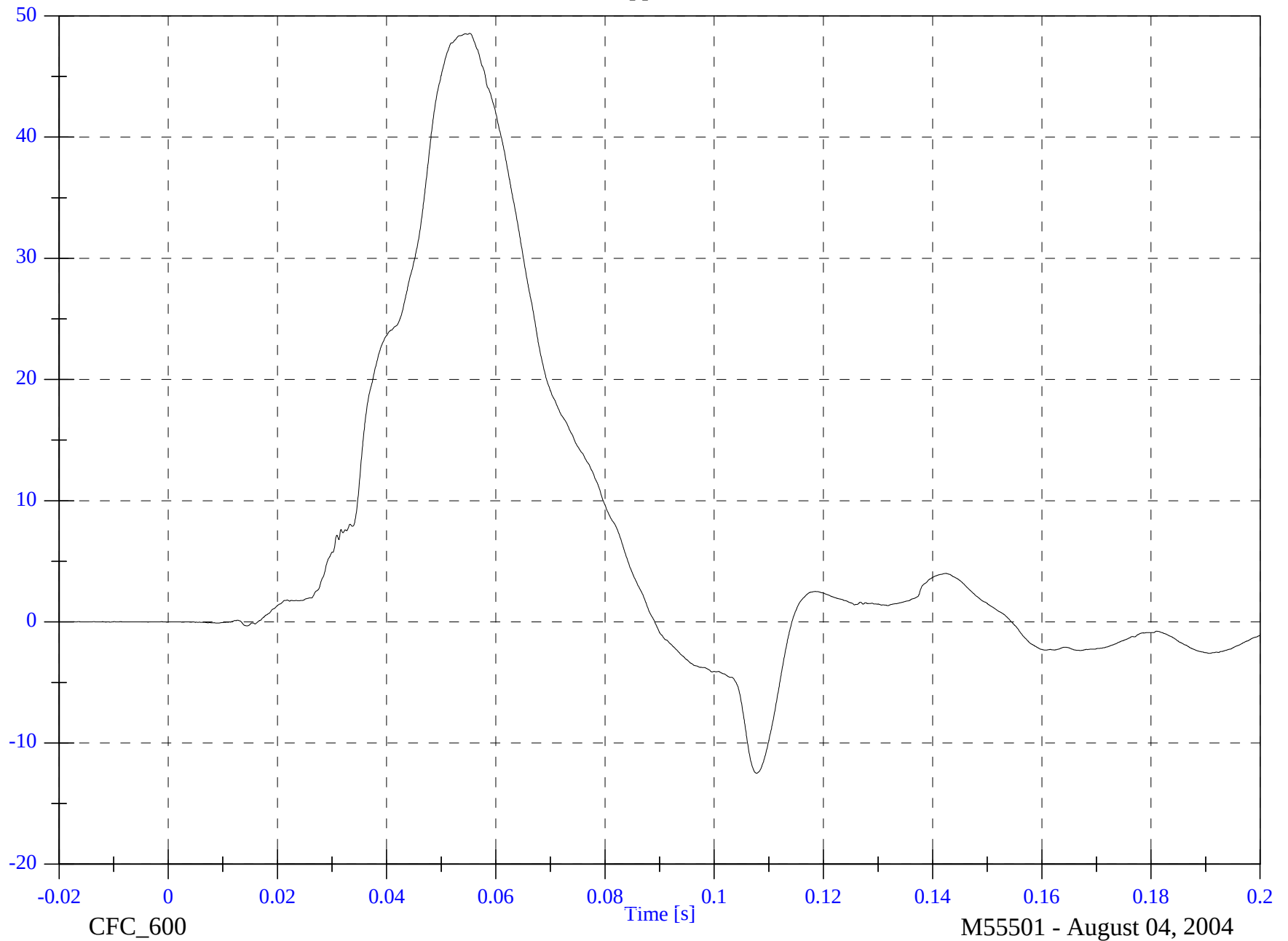
Max: 48.6 [N-m] at 0.055 [s]

Min: -12.5 [N-m] at 0.108 [s]

B-17

N-m

8725-SNCAP-05



2004 SNCAP Test 5 - 2005 Subaru Outback

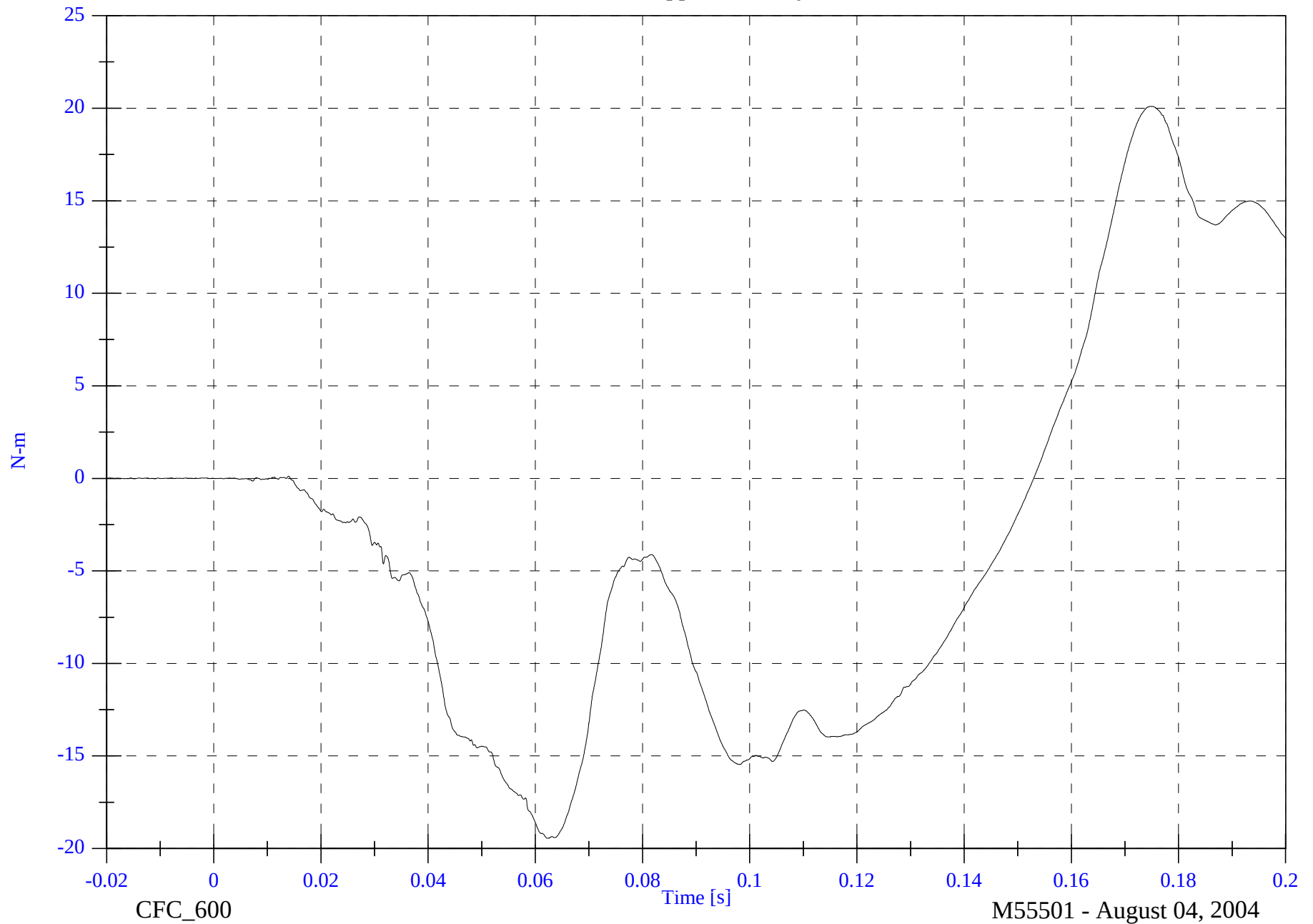
V2P1 Upper Neck My

Max: 20.1 [N-m] at 0.175 [s]

Min: -19.4 [N-m] at 0.062 [s]

B-18

8725-SNCAP-05



2004 SNCAP Test 5 - 2005 Subaru Outback

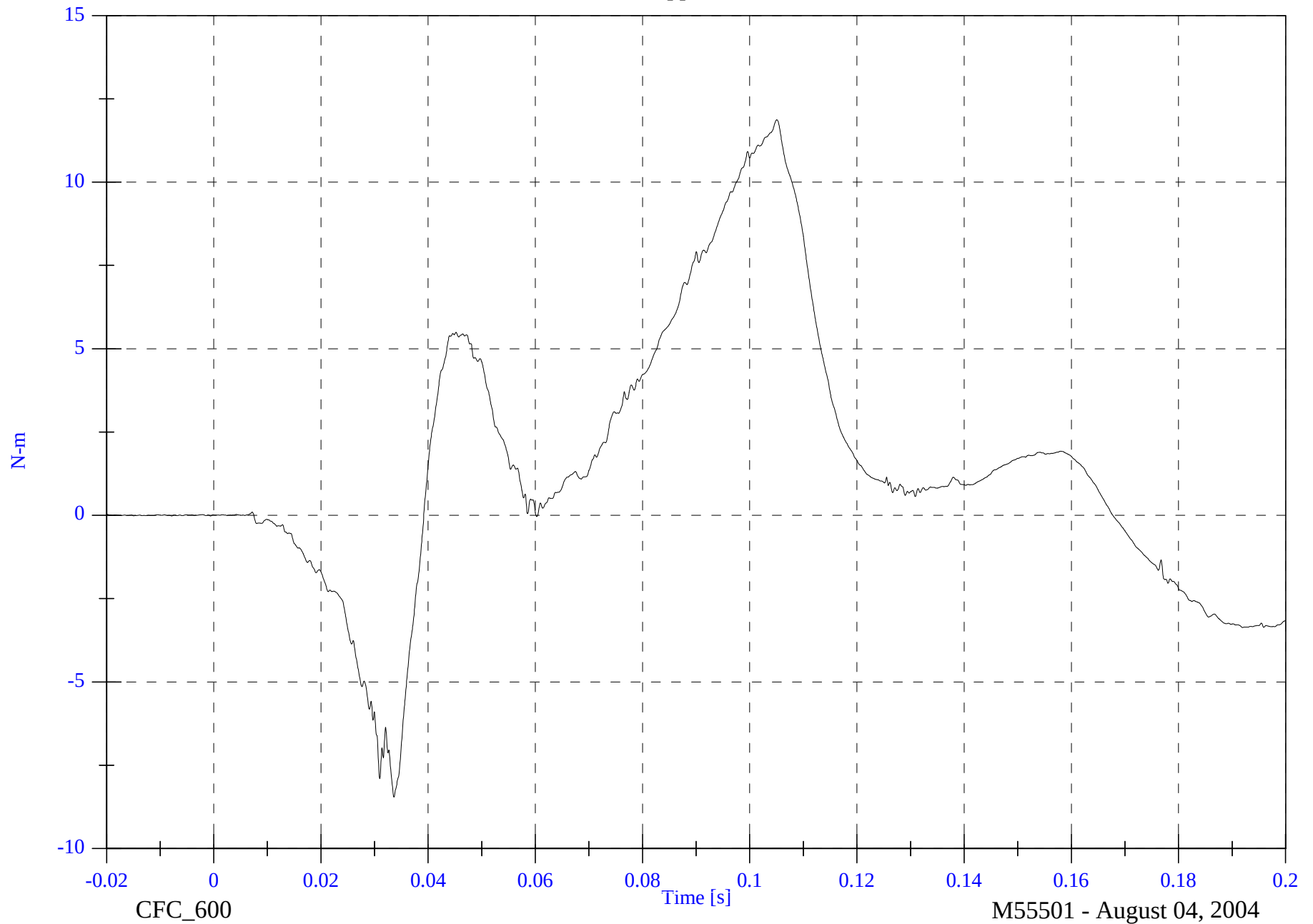
V2P1 Upper Neck Mz

Max: 11.9 [N-m] at 0.105 [s]

Min: -8.5 [N-m] at 0.034 [s]

B-19

8725-SNCAP-05



2004 SNCAP Test 5 - 2005 Subaru Outback

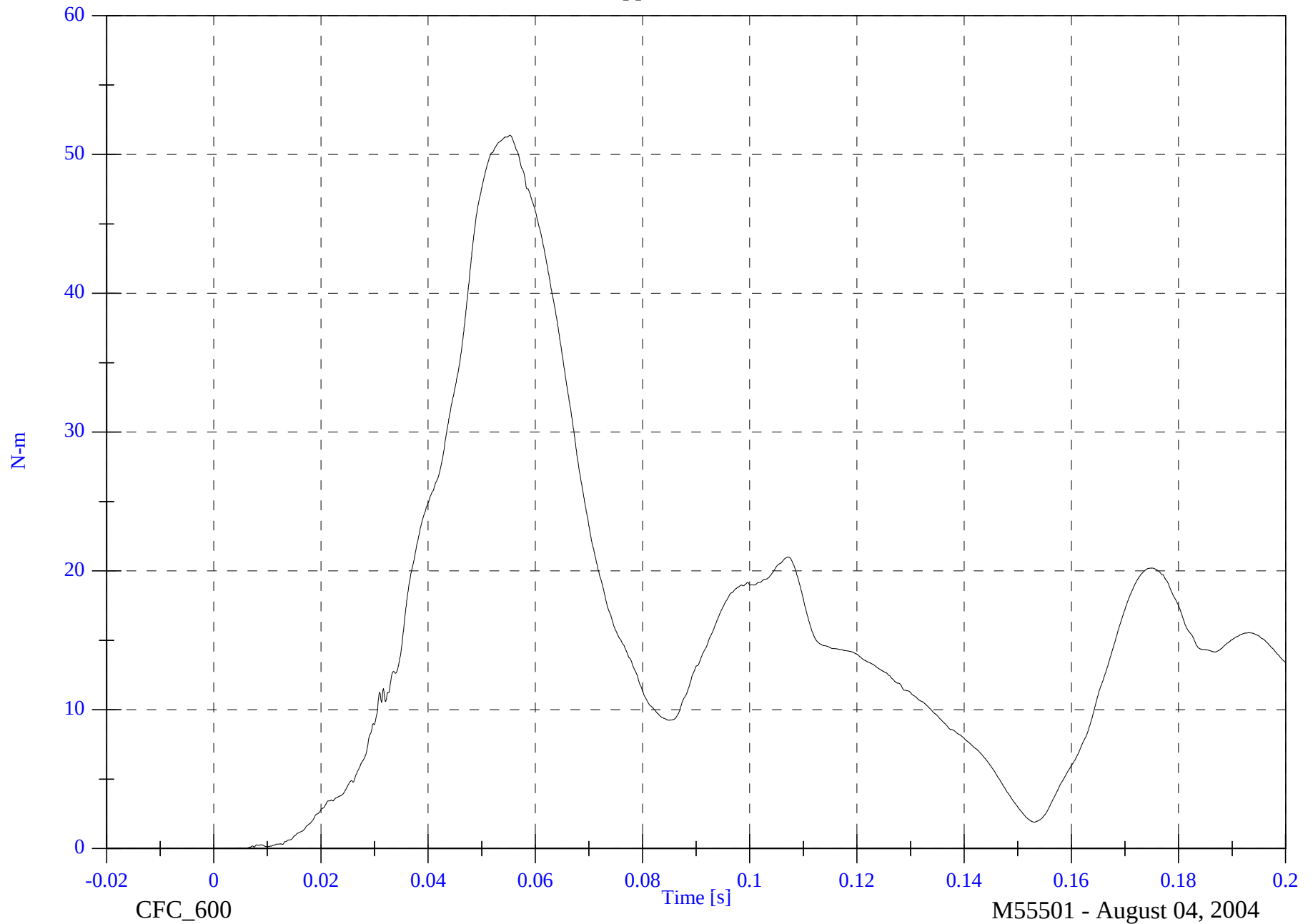
V2P1 Upper Neck M Resultant

Max: 51.4 [N-m] at 0.055 [s]

Min: 0.0 [N-m] at -0.014 [s]

B-20

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2004 SNCAP Test 5 - 2005 Subaru Outback

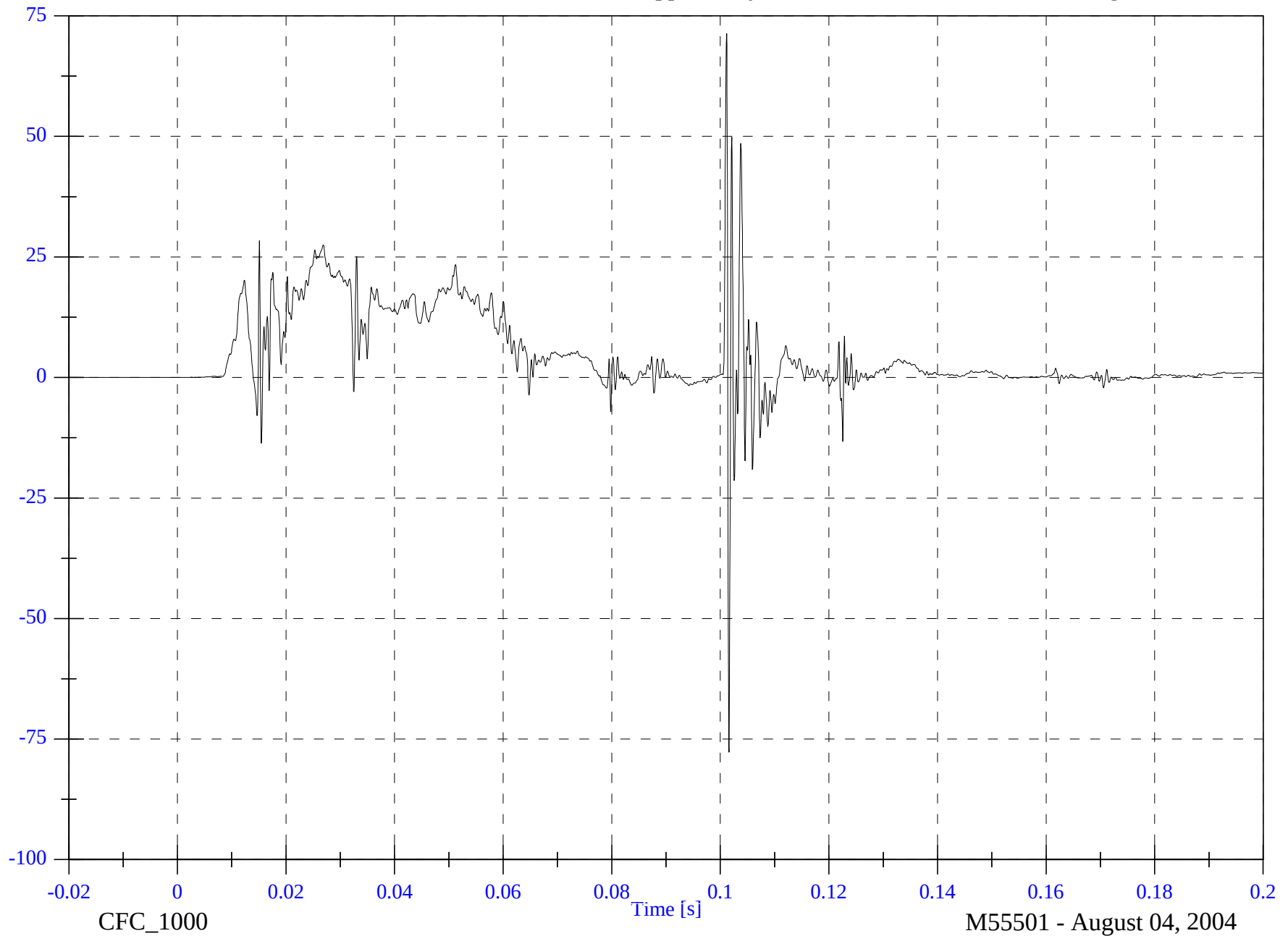
V2P1 Upper Rib y

Max: 71.3 [g] at 0.101 [s]

Min: -77.7 [g] at 0.102 [s]

B-21

8725-SNCAP-05

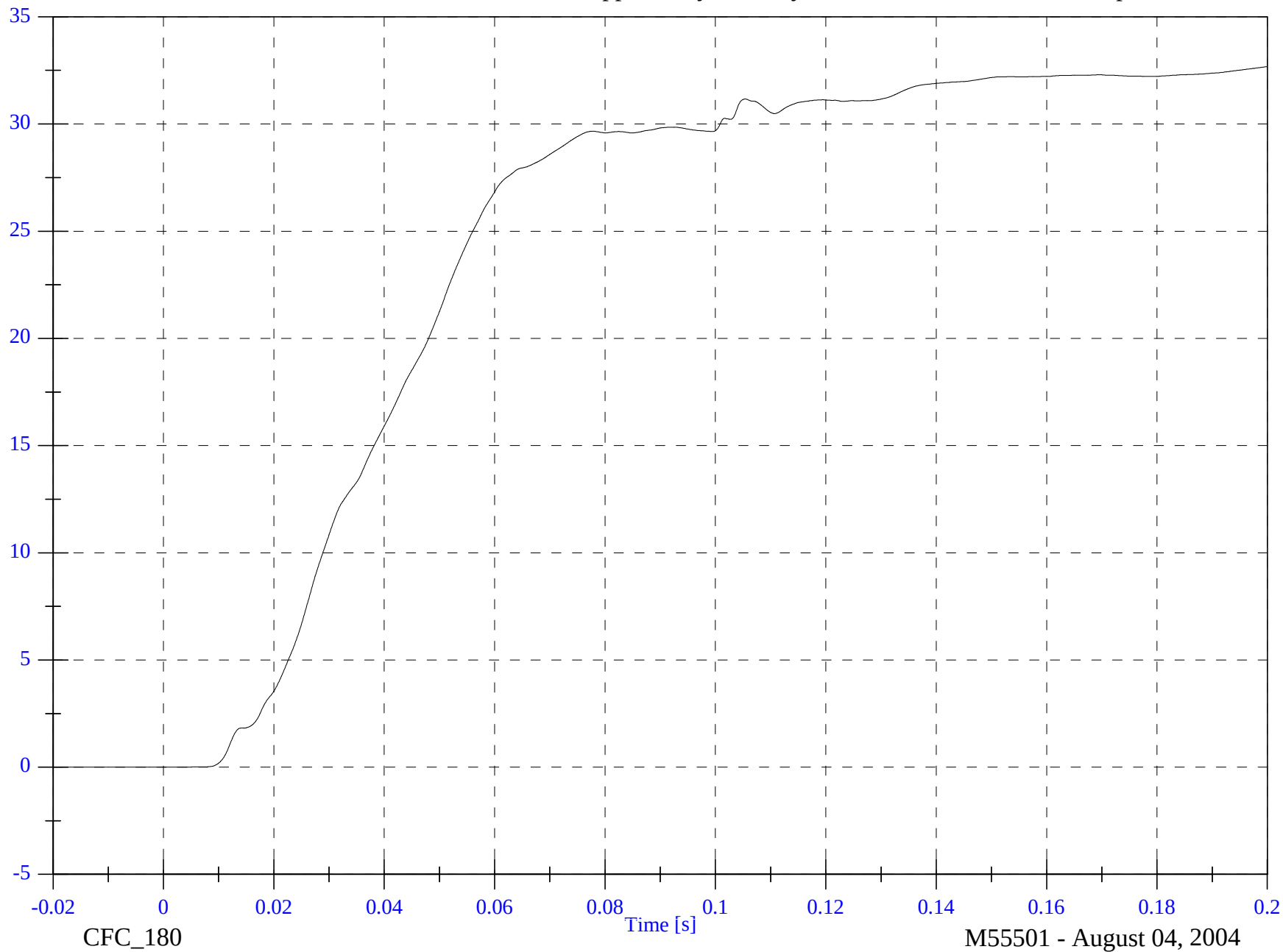


2004 SNCAP Test 5 - 2005 Subaru Outback

V2P1 Upper Rib y Velocity

Max: 32.7 [kph] at 0.200 [s]

Min: -0.0 [kph] at -0.020 [s]



B-22

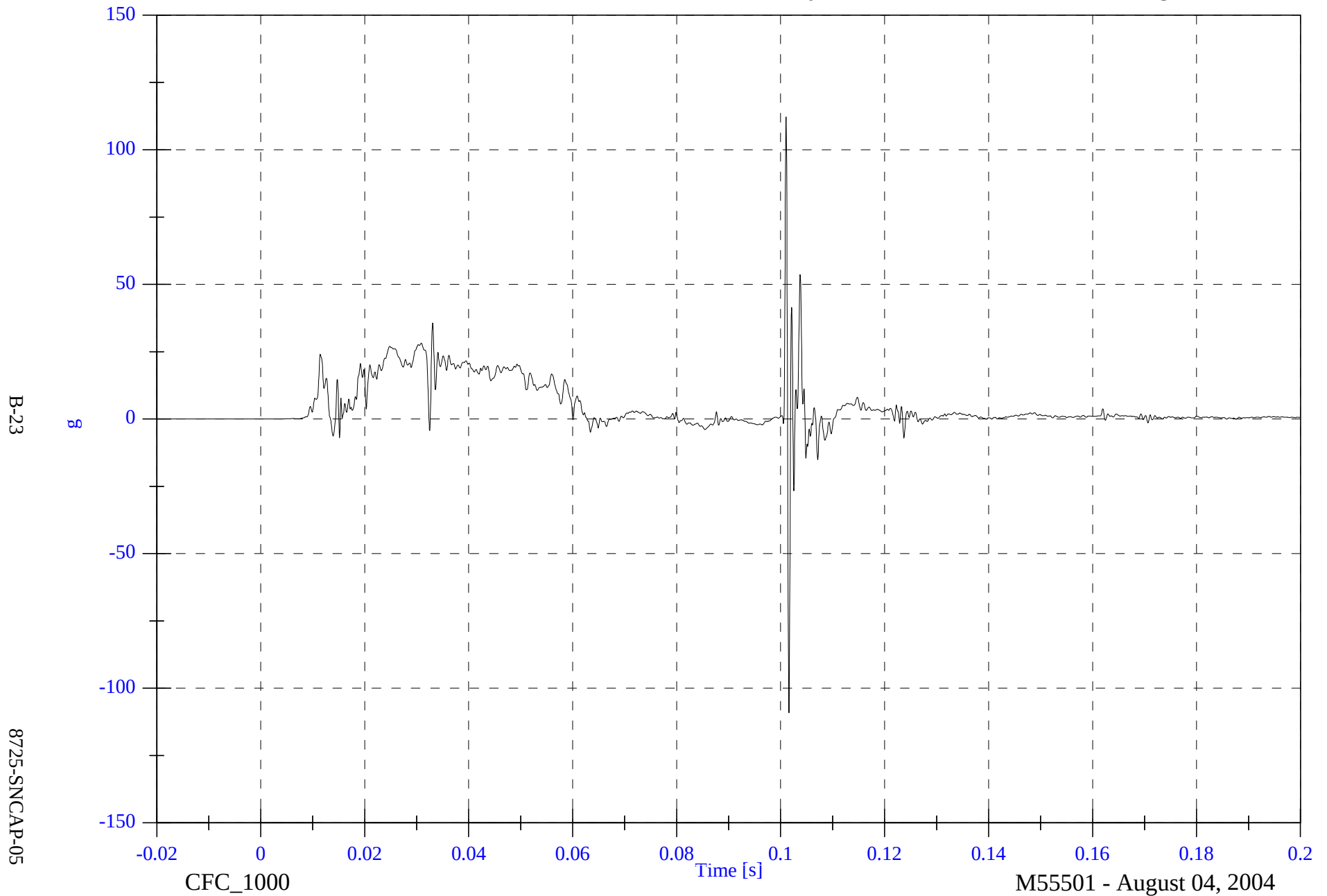
8725-SNCAP-05

2004 SNCAP Test 5 - 2005 Subaru Outback

V2P1 Lower Rib y

Max: 112.2 [g] at 0.101 [s]

Min: -109.1 [g] at 0.102 [s]

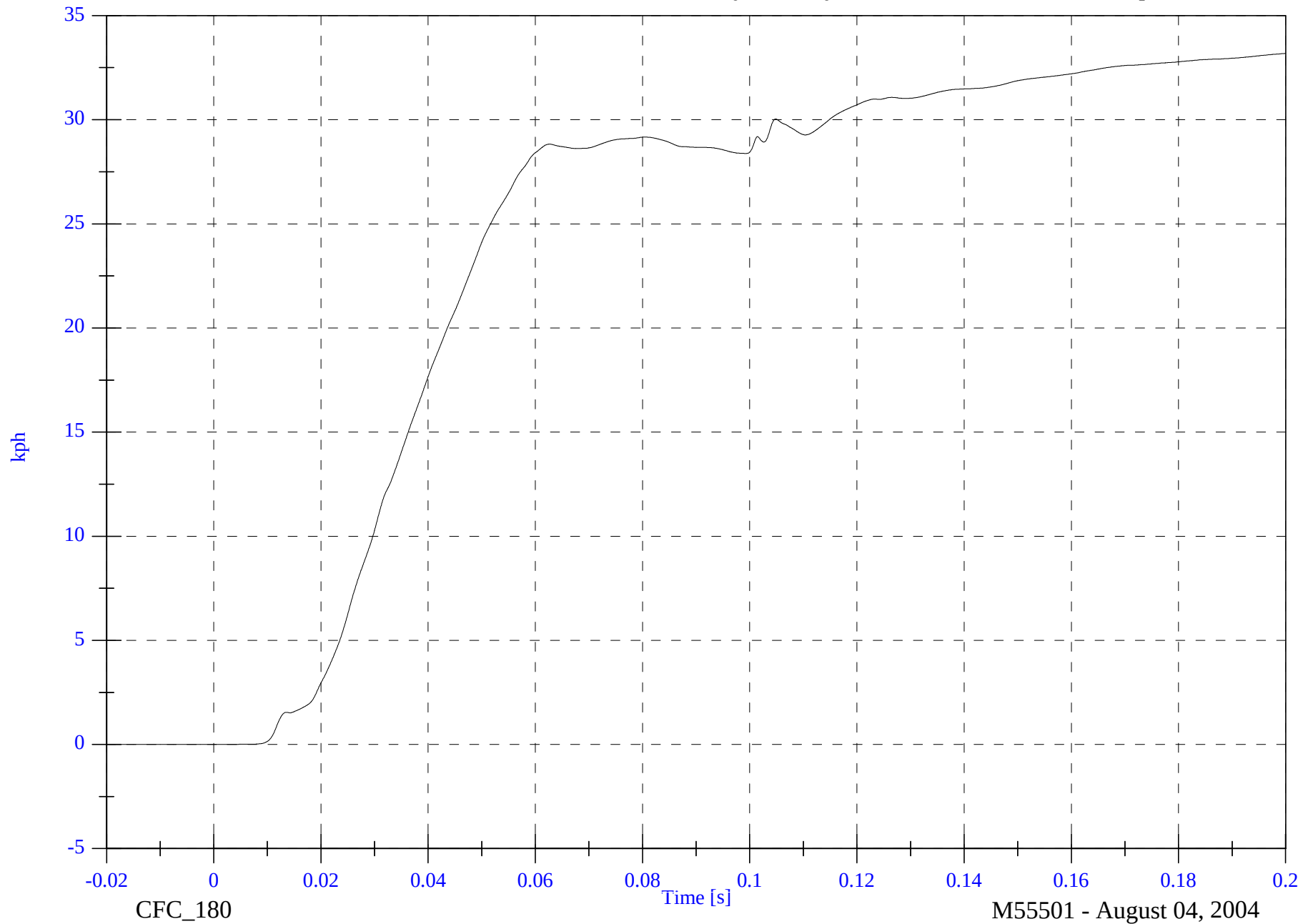


2004 SNCAP Test 5 - 2005 Subaru Outback

V2P1 Lower Rib y Velocity

Max: 33.2 [kph] at 0.200 [s]

Min: -0.0 [kph] at -0.020 [s]



B-24

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2004 SNCAP Test 5 - 2005 Subaru Outback

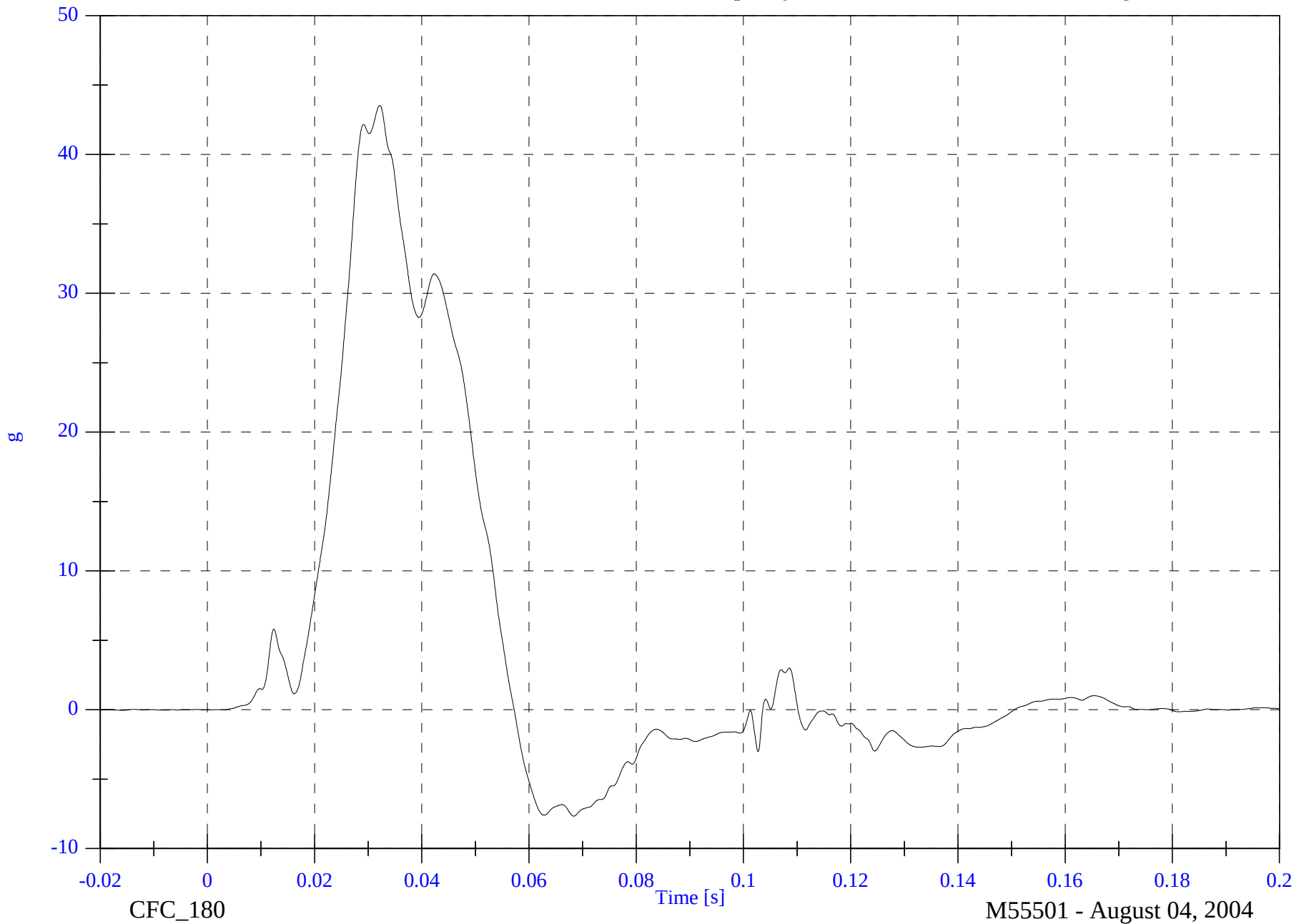
V2P1 Lower Spine y

Max: 43.5 [g] at 0.032 [s]

Min: -7.7 [g] at 0.068 [s]

B-25

8725-SNCAP-05

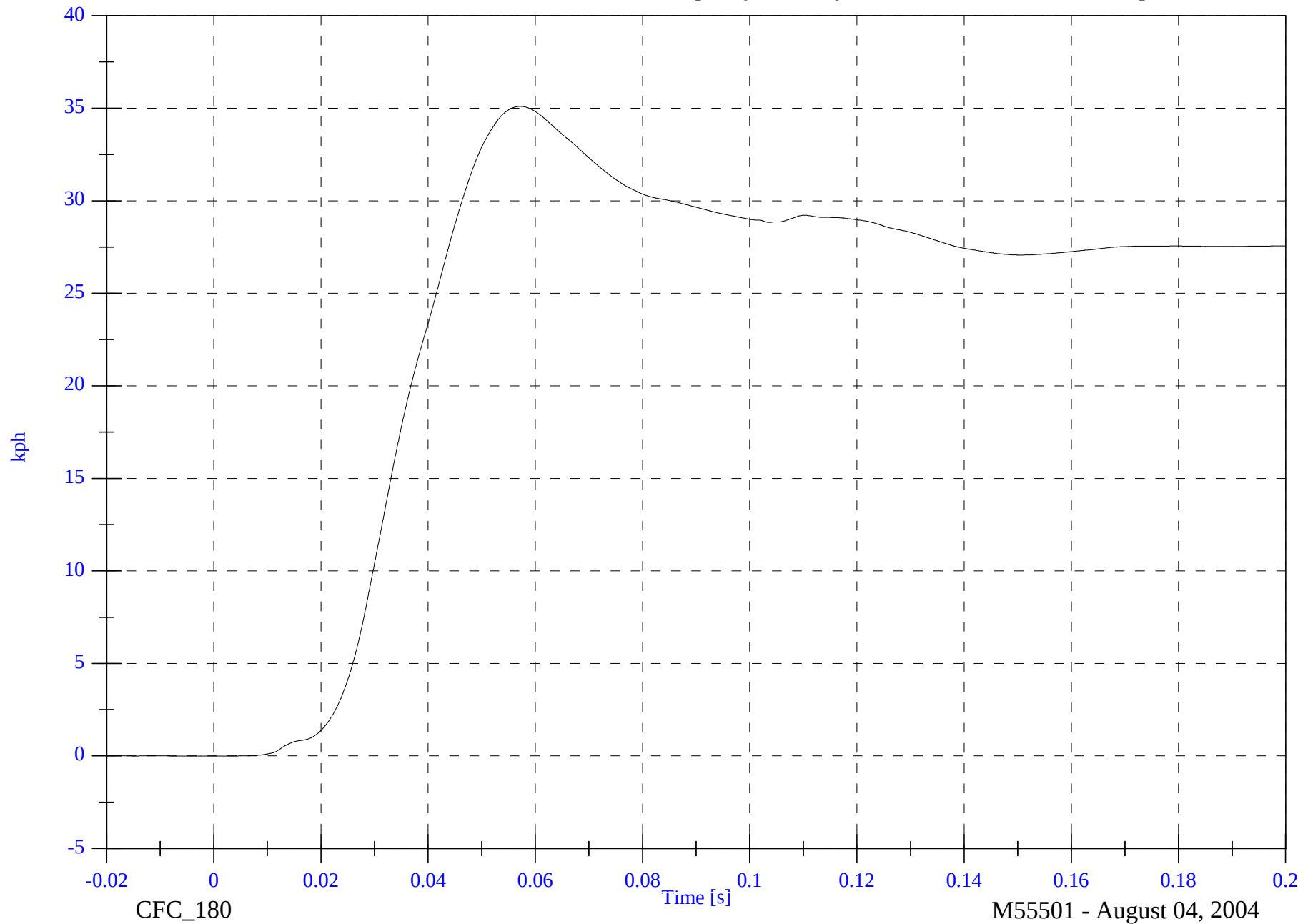


2004 SNCAP Test 5 - 2005 Subaru Outback

V2P1 Lower Spine y Velocity

Max: 35.1 [kph] at 0.057 [s]

Min: -0.0 [kph] at 0.001 [s]



B-26

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2004 SNCAP Test 5 - 2005 Subaru Outback

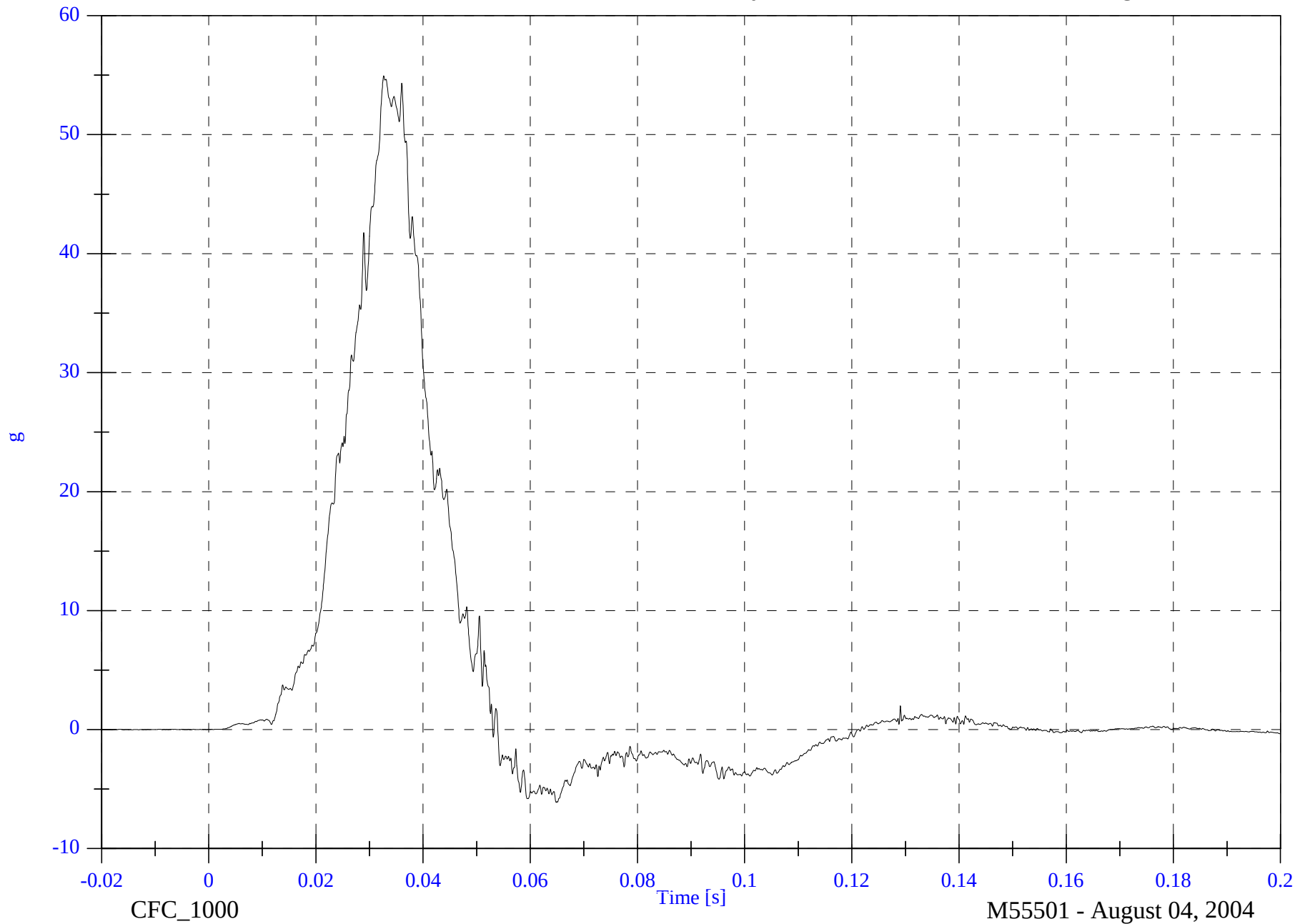
V2P1 Pelvic y

Max: 54.9 [g] at 0.033 [s]

Min: -6.1 [g] at 0.065 [s]

B-27

8725-SNCAP-05

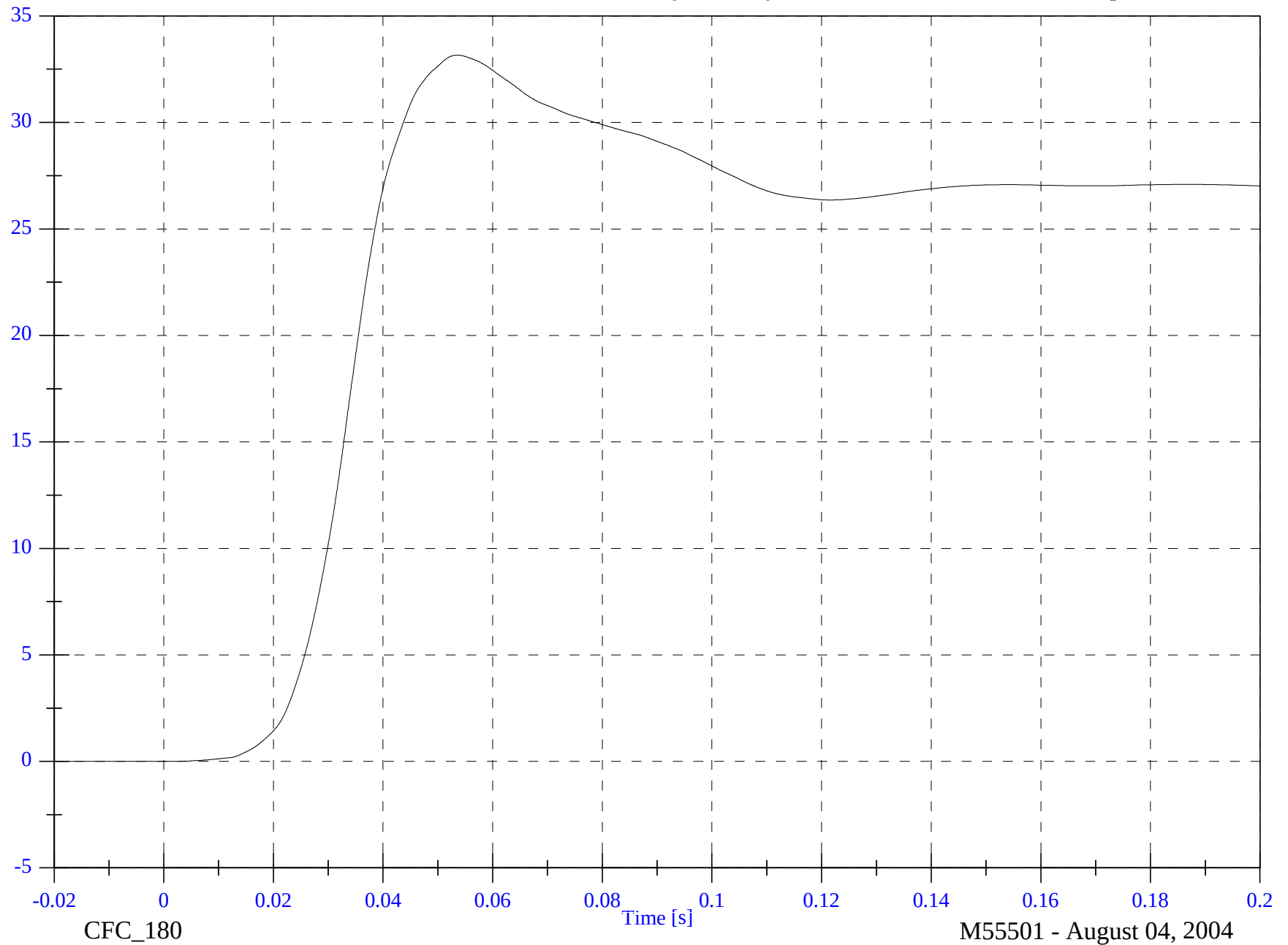


2004 SNCAP Test 5 - 2005 Subaru Outback

V2P1 Pelvic y Velocity

Max: 33.2 [kph] at 0.054 [s]

Min: -0.0 [kph] at -0.020 [s]



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2004 SNCAP Test 5 - 2005 Subaru Outback

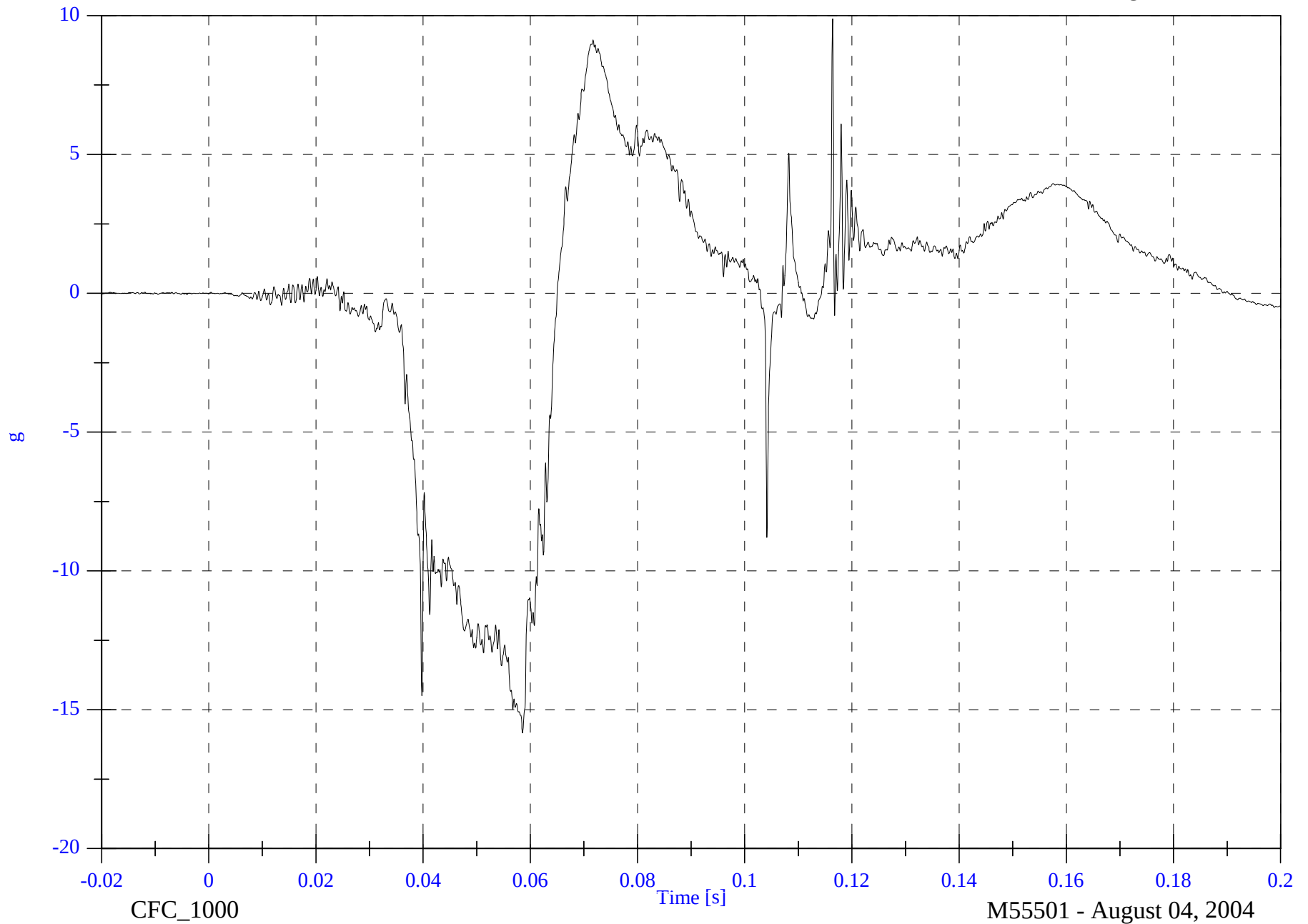
V2P4 Head x

Max: 9.9 [g] at 0.116 [s]

Min: -15.8 [g] at 0.059 [s]

B-29

8725-SNCAP-05

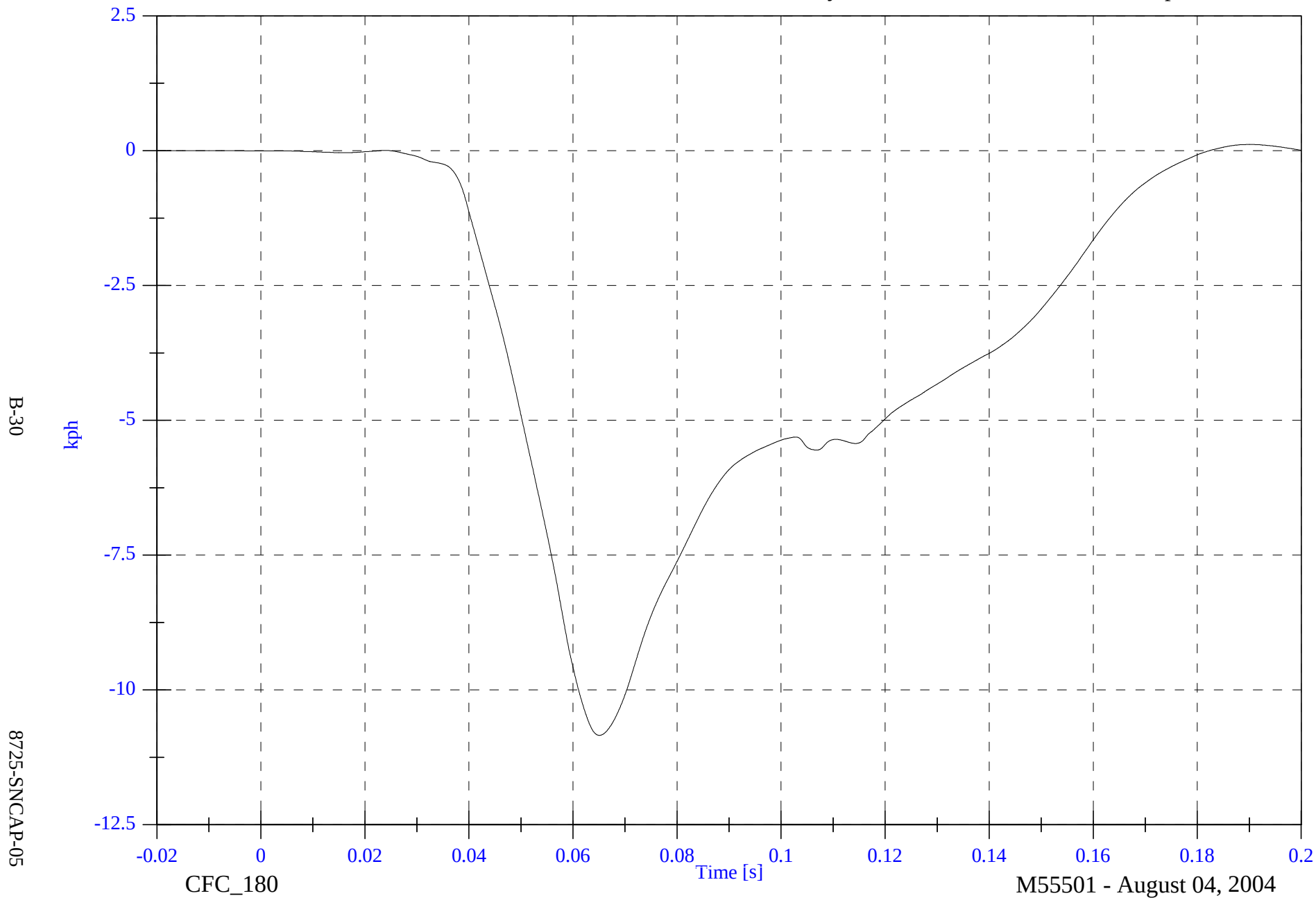


2004 SNCAP Test 5 - 2005 Subaru Outback

V2P4 Head x Velocity

Max: 0.1 [kph] at 0.190 [s]

Min: -10.8 [kph] at 0.065 [s]



2004 SNCAP Test 5 - 2005 Subaru Outback

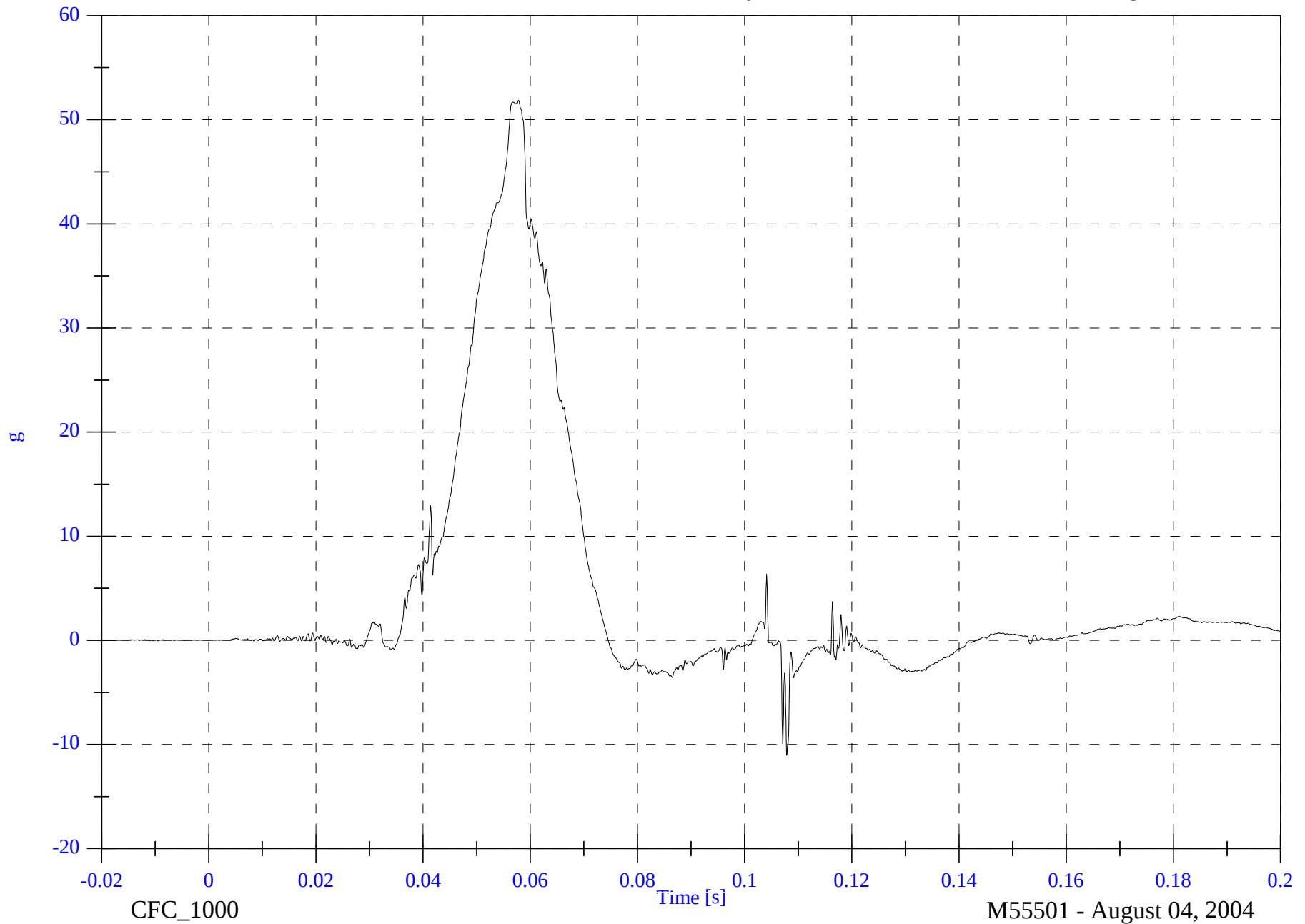
V2P4 Head y

Max: 51.9 [g] at 0.058 [s]

Min: -11.0 [g] at 0.108 [s]

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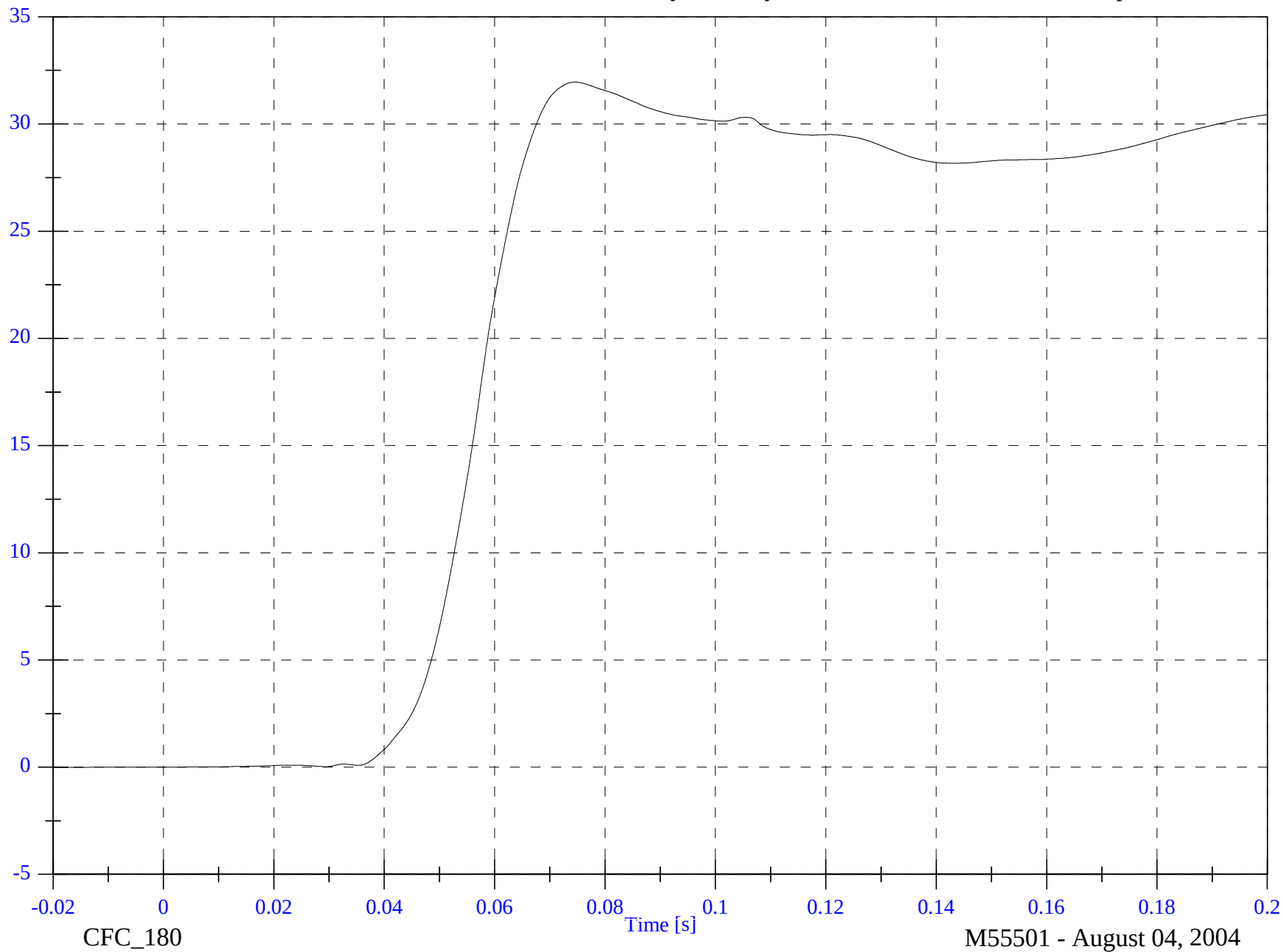


2004 SNCAP Test 5 - 2005 Subaru Outback

V2P4 Head y Velocity

Max: 32.0 [kph] at 0.075 [s]

Min: -0.0 [kph] at -0.020 [s]



B-32

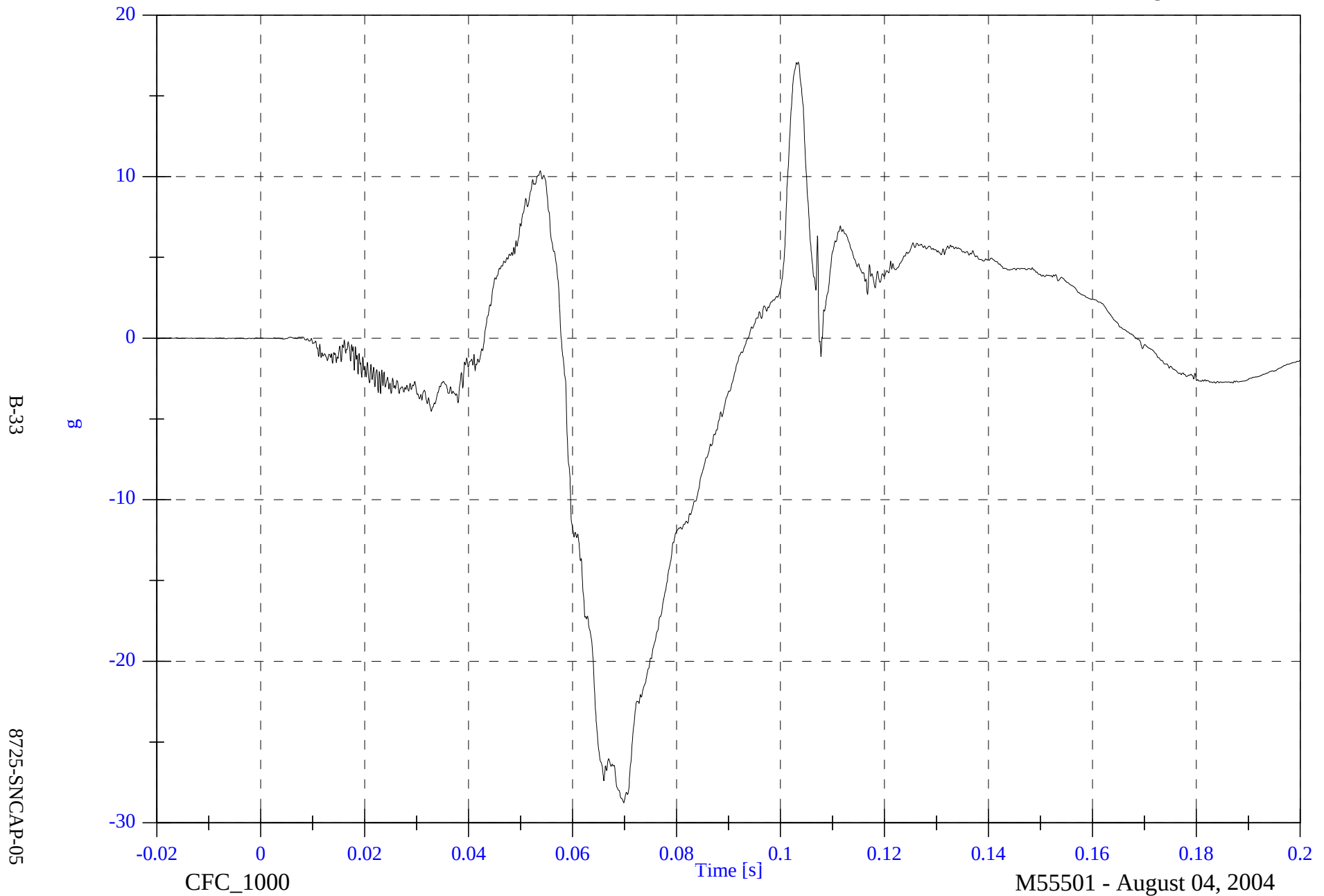
8725-SNCAP-05

2004 SNCAP Test 5 - 2005 Subaru Outback

V2P4 Head z

Max: 17.1 [g] at 0.103 [s]

Min: -28.8 [g] at 0.070 [s]

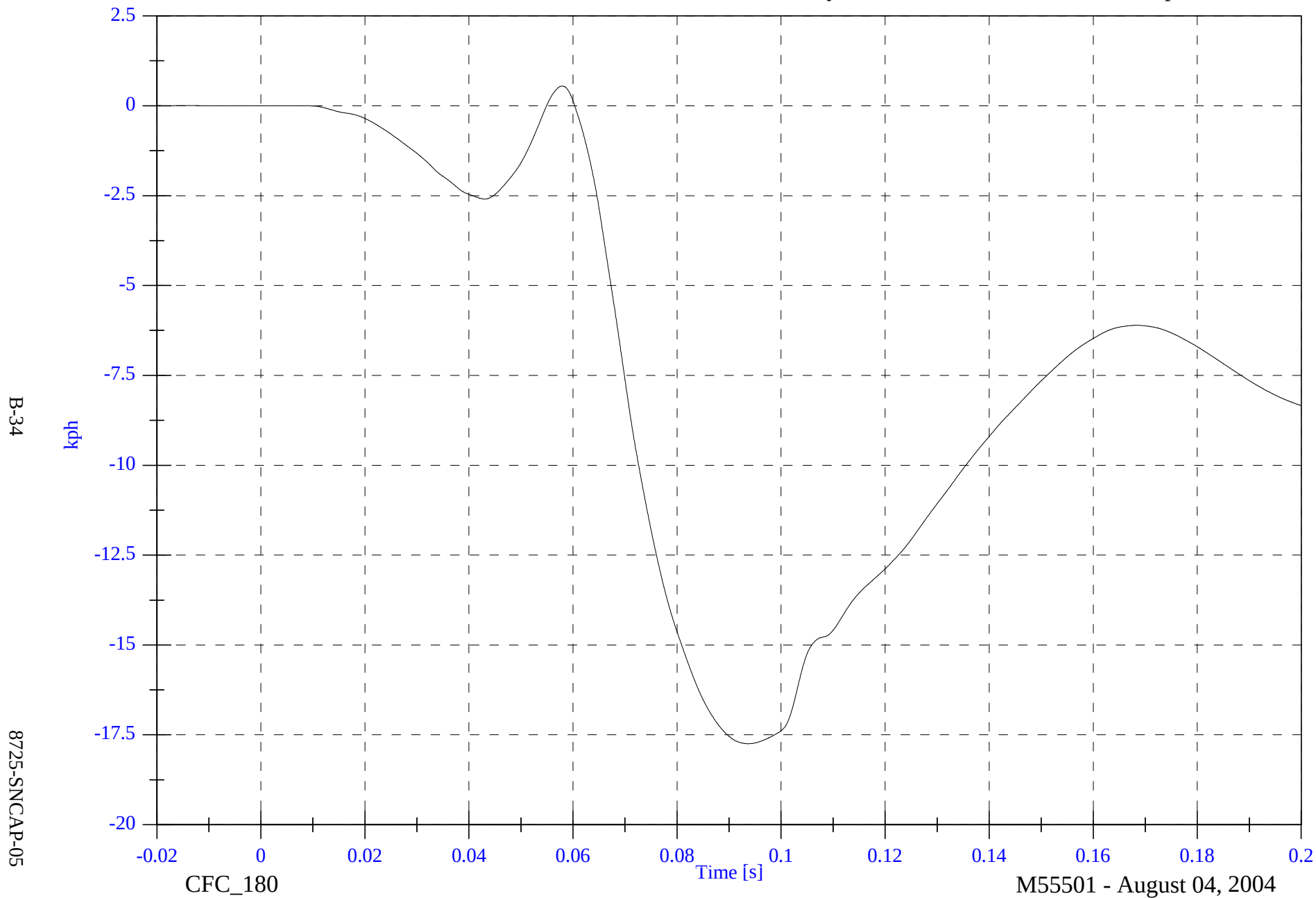


2004 SNCAP Test 5 - 2005 Subaru Outback

V2P4 Head z Velocity

Max: 0.5 [kph] at 0.058 [s]

Min: -17.7 [kph] at 0.094 [s]



2004 SNCAP Test 5 - 2005 Subaru Outback

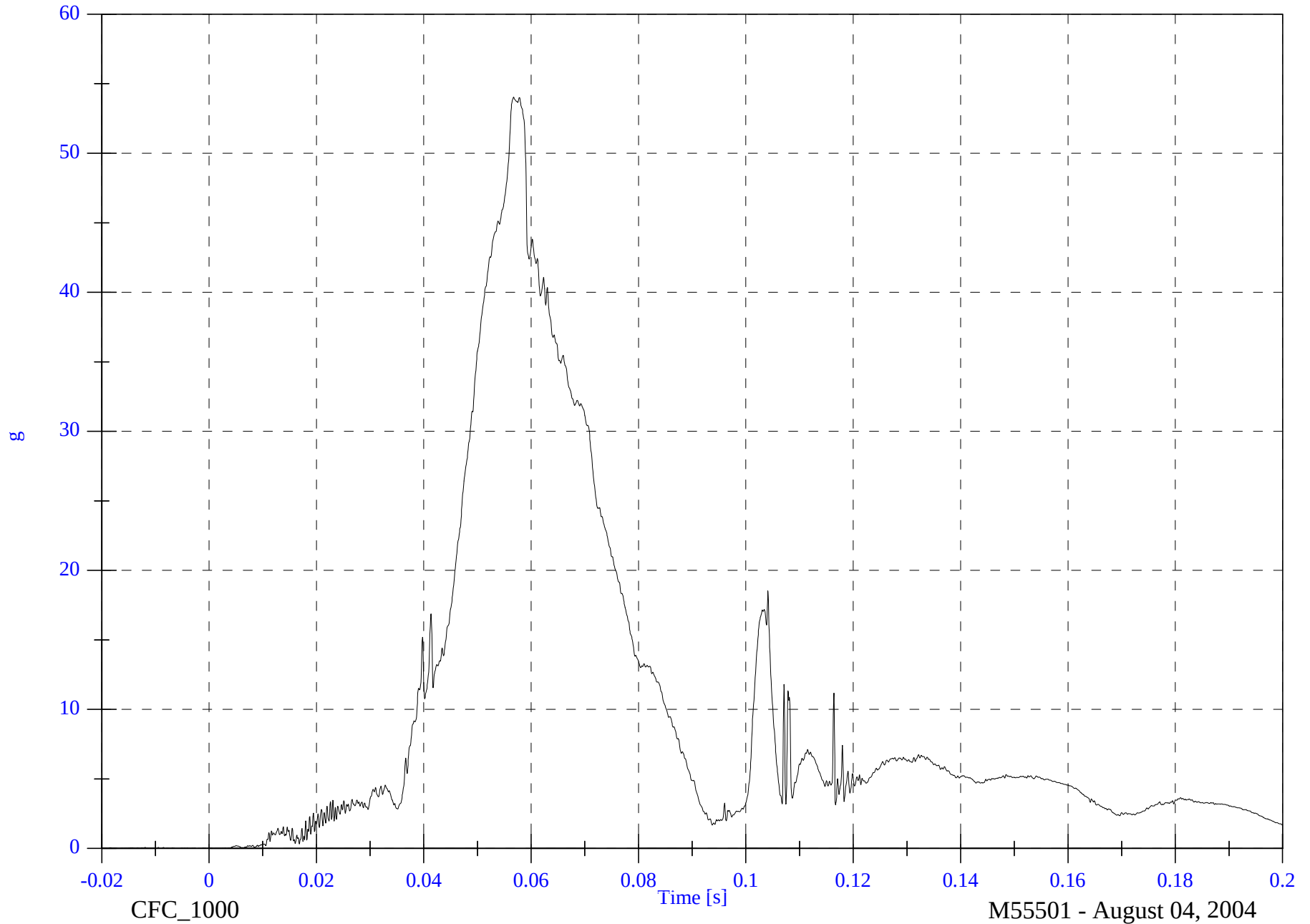
V2P4 Head Resultant

Max: 54.0 [g] at 0.057 [s]

Min: 0.0 [g] at 0.001 [s]

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2004 SNCAP Test 5 - 2005 Subaru Outback

V2P4 Upper Neck Fx

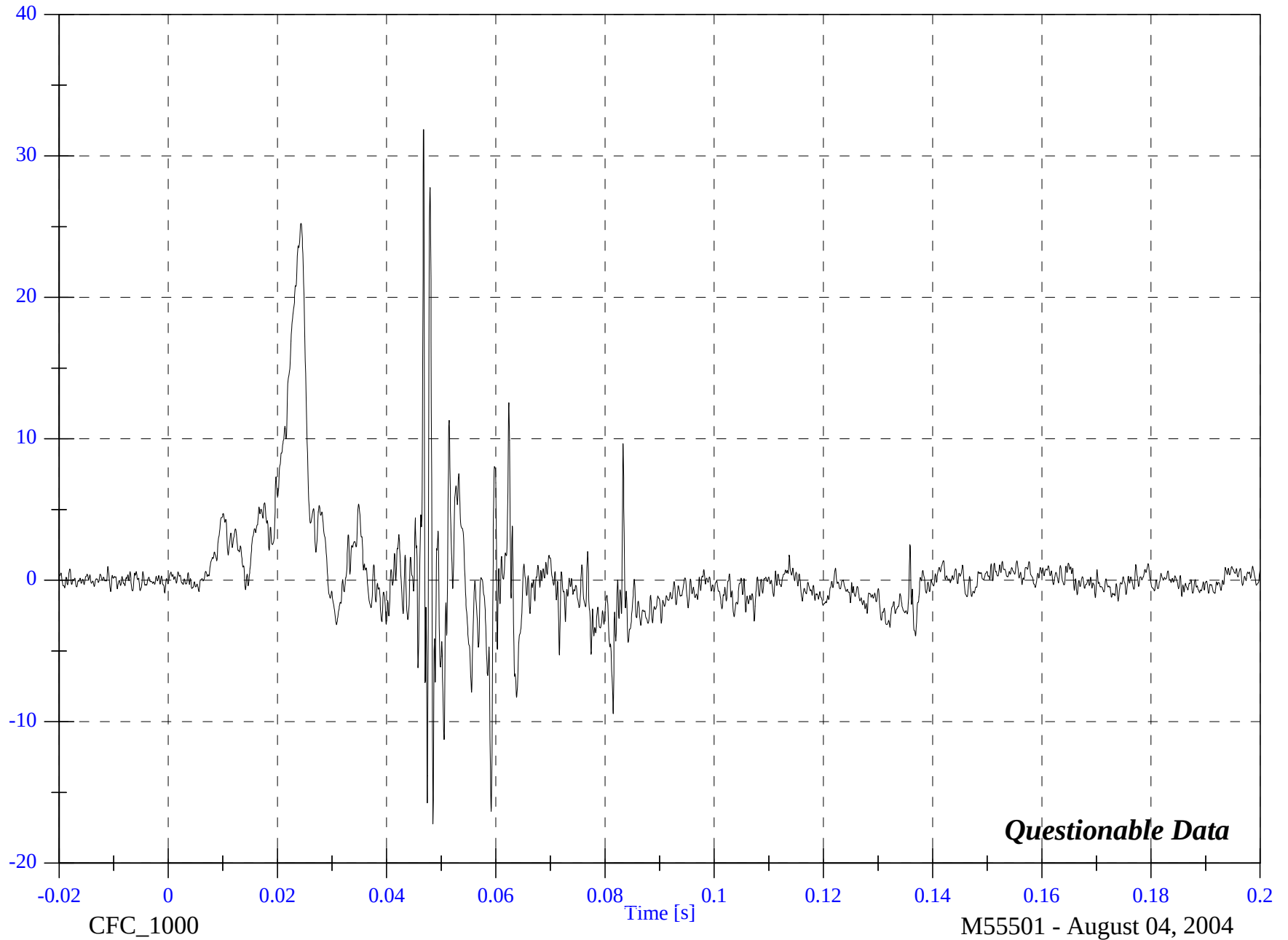
Max: 31.9 [N] at 0.047 [s]

Min: -17.2 [N] at 0.048 [s]

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N

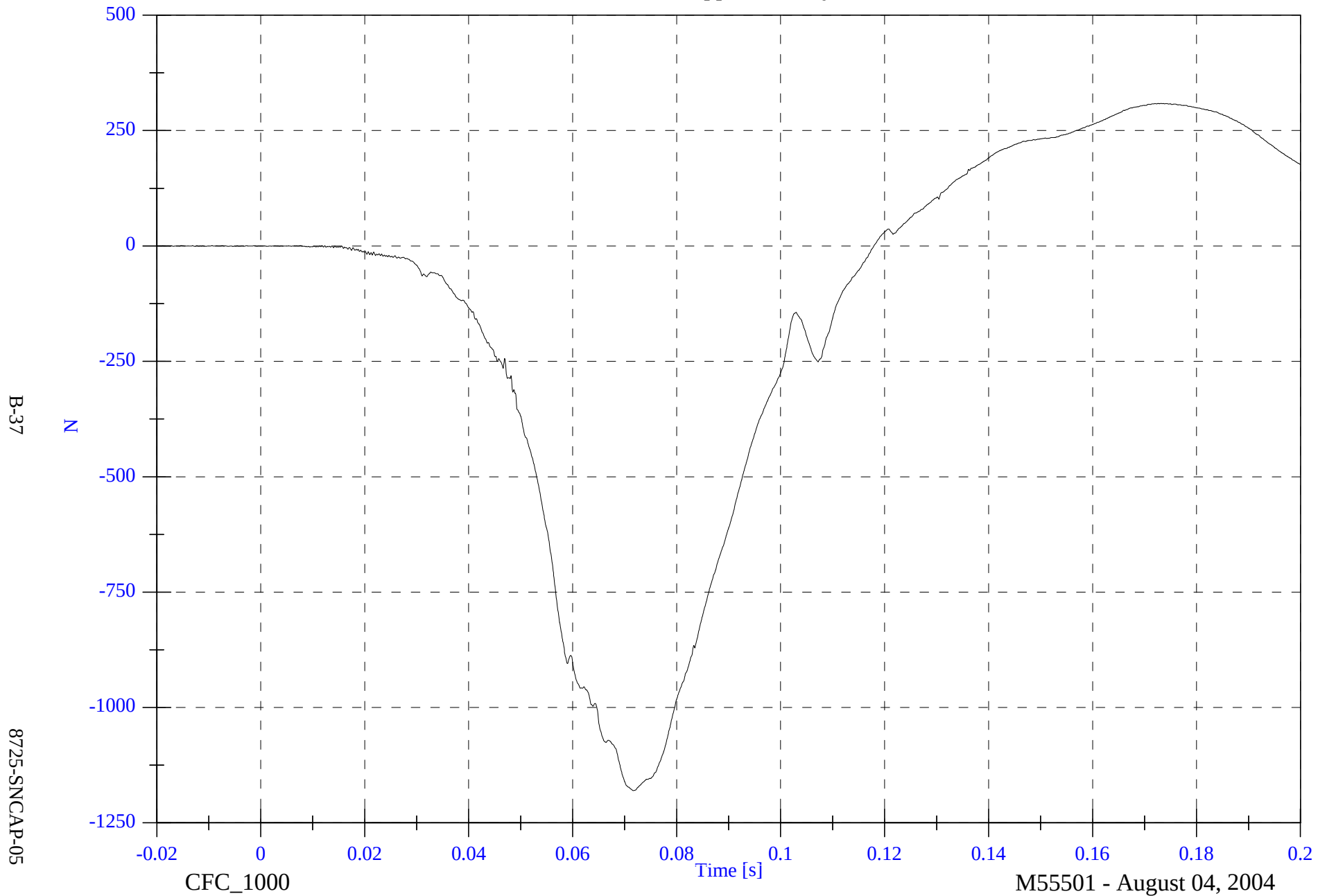


2004 SNCAP Test 5 - 2005 Subaru Outback

V2P4 Upper Neck Fy

Max: 308.9 [N] at 0.173 [s]

Min: -1180.1 [N] at 0.072 [s]

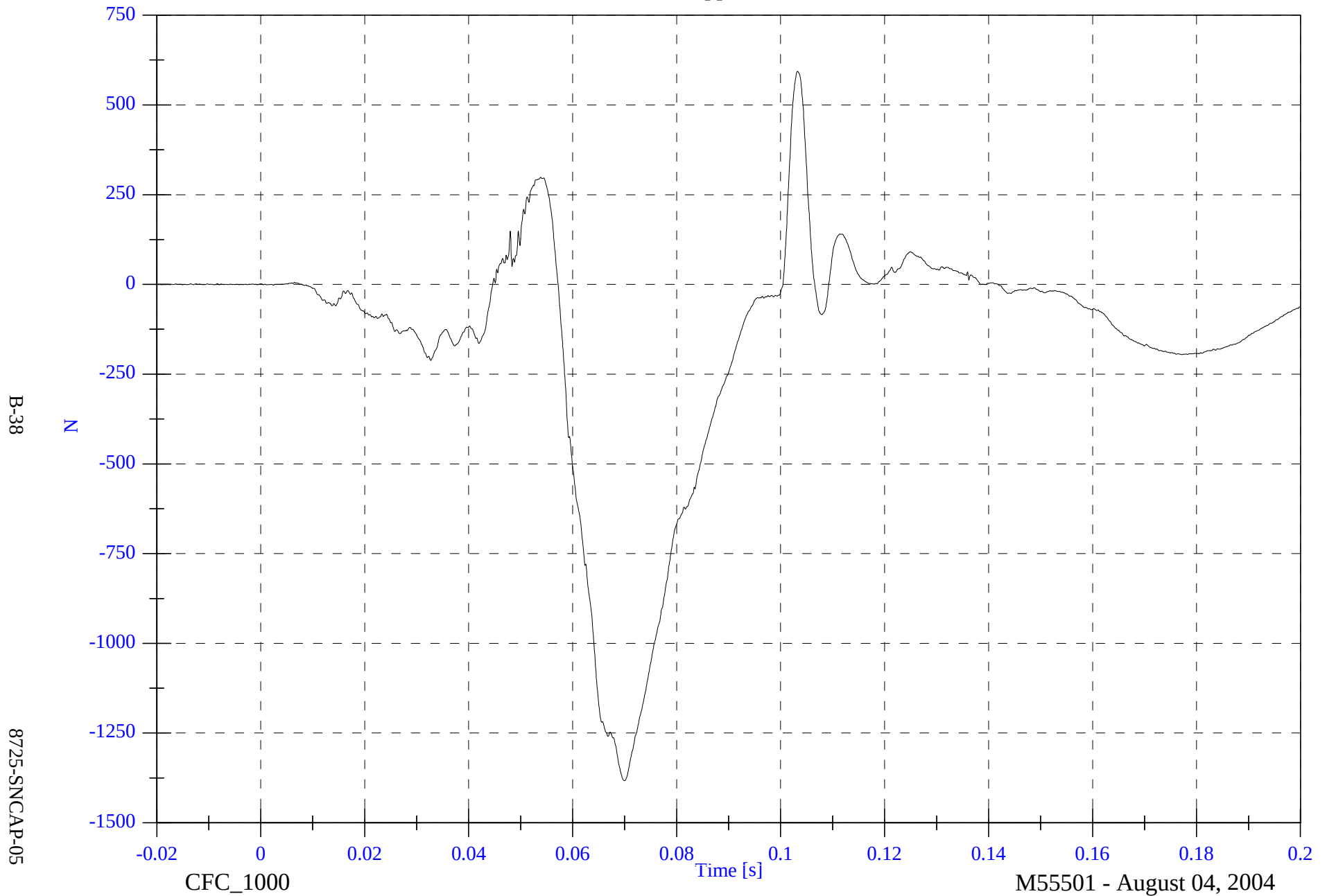


2004 SNCAP Test 5 - 2005 Subaru Outback

V2P4 Upper Neck Fz

Max: 593.4 [N] at 0.103 [s]

Min: -1382.4 [N] at 0.070 [s]



2004 SNCAP Test 5 - 2005 Subaru Outback

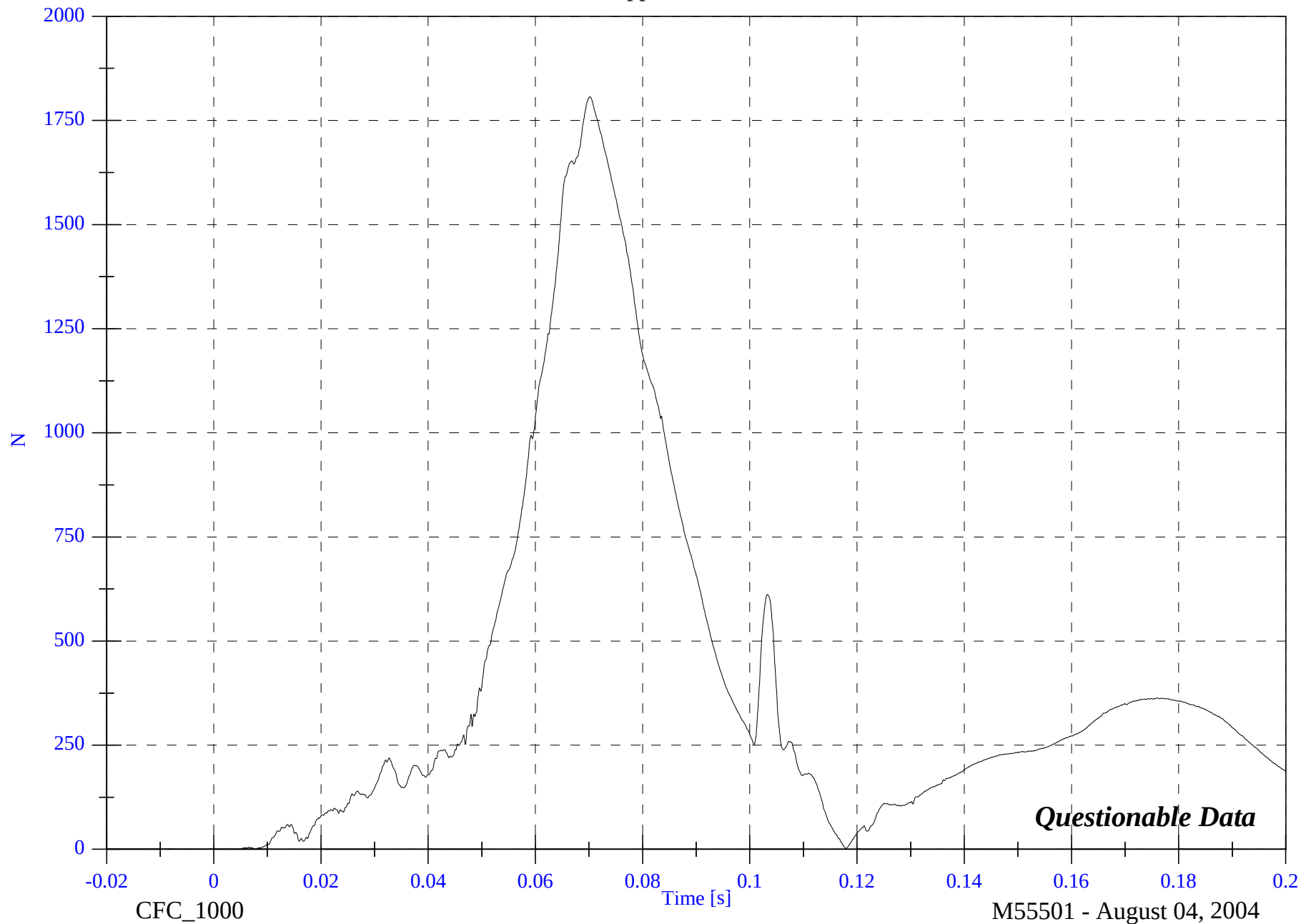
V2P4 Upper Neck F Resultant

Max: 1806.7 [N] at 0.070 [s]

Min: 0.1 [N] at -0.017 [s]

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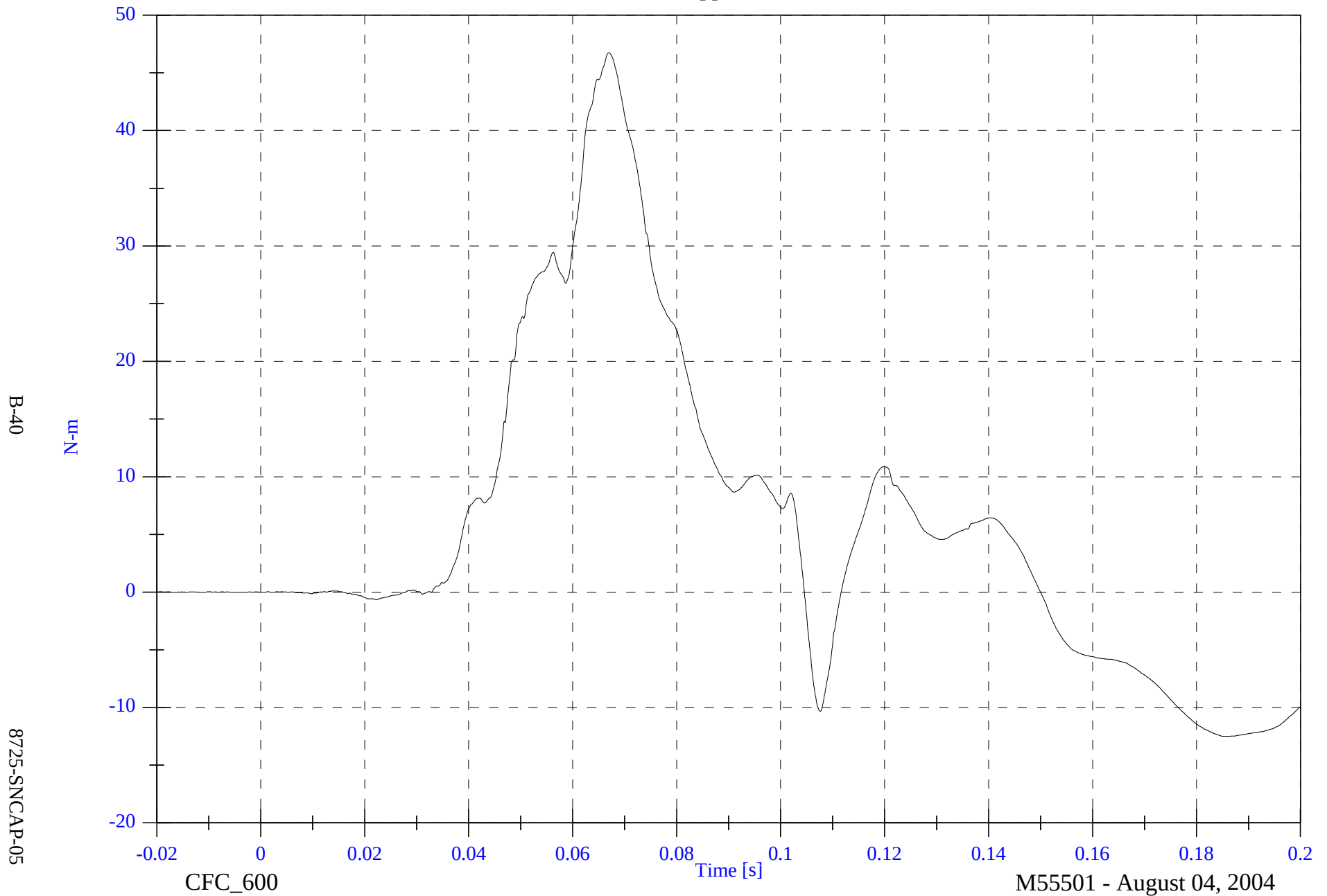


2004 SNCAP Test 5 - 2005 Subaru Outback

V2P4 Upper Neck Mx

Max: 46.7 [N-m] at 0.067 [s]

Min: -12.5 [N-m] at 0.186 [s]



2004 SNCAP Test 5 - 2005 Subaru Outback

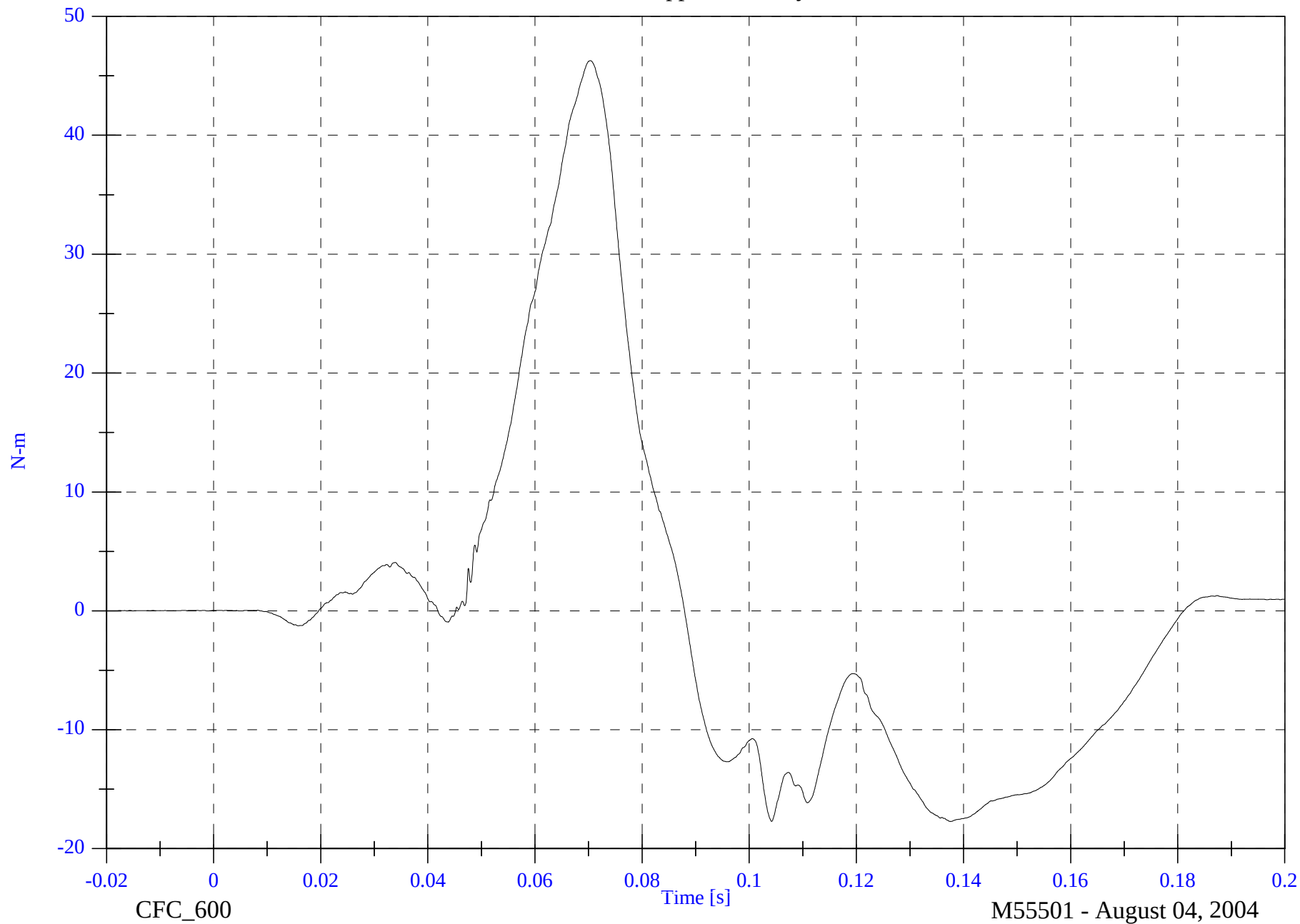
V2P4 Upper Neck My

Max: 46.3 [N-m] at 0.070 [s]

Min: -17.7 [N-m] at 0.138 [s]

B-41

8725-SNCAP-05

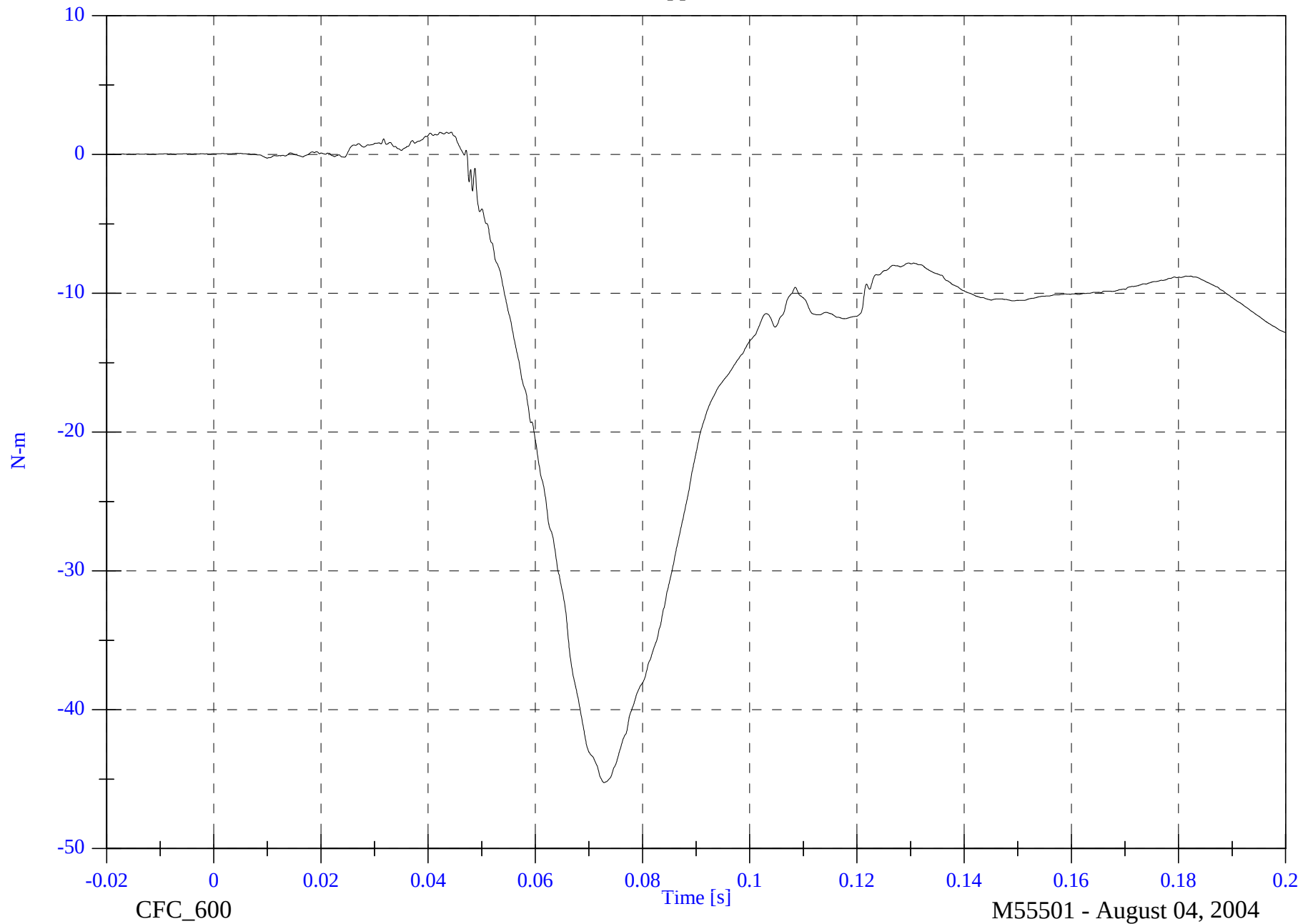


2004 SNCAP Test 5 - 2005 Subaru Outback

V2P4 Upper Neck Mz

Max: 1.6 [N-m] at 0.044 [s]

Min: -45.2 [N-m] at 0.073 [s]



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CFC_600

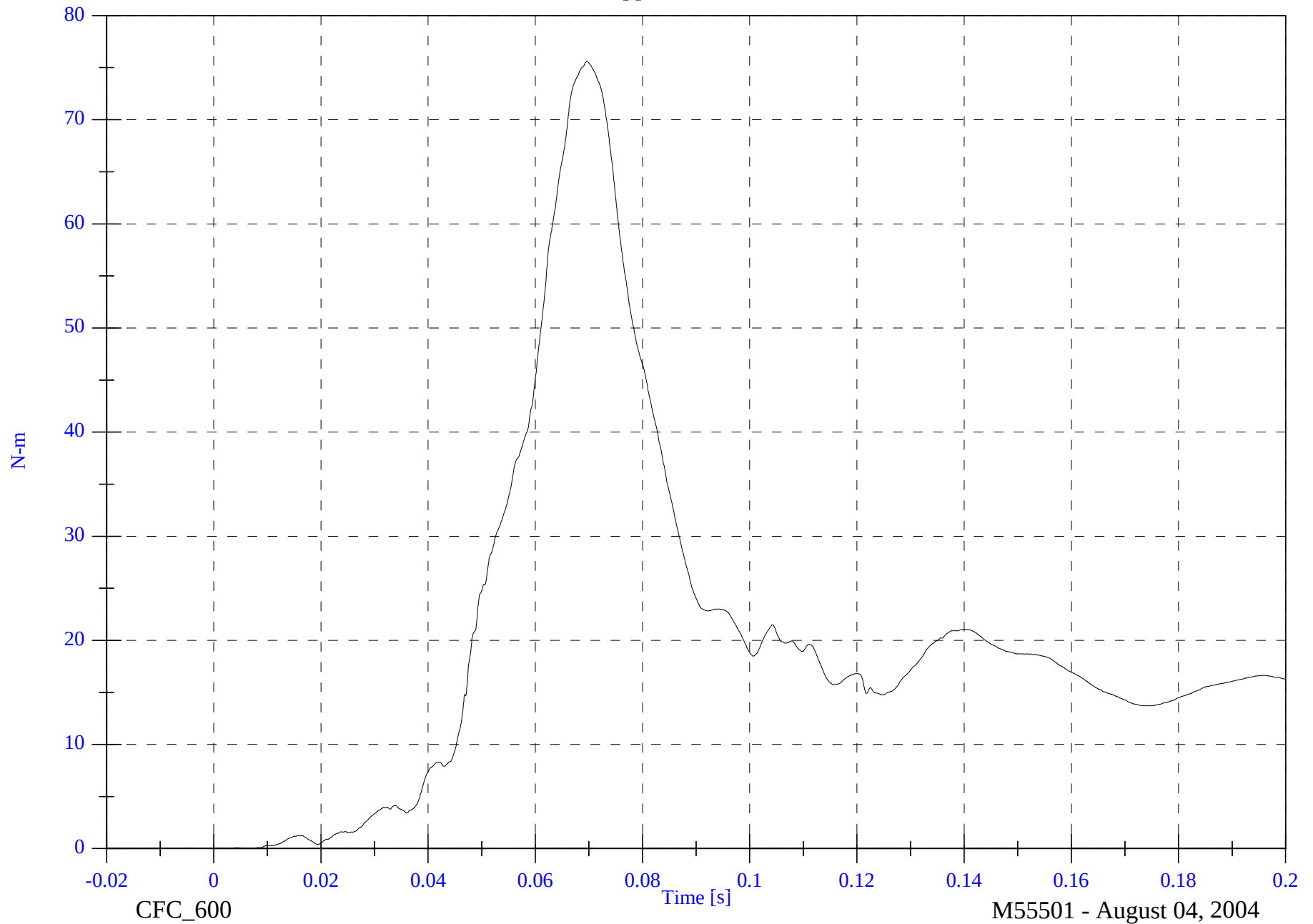
M55501 - August 04, 2004

2004 SNCAP Test 5 - 2005 Subaru Outback

V2P4 Upper Neck M Resultant

Max: 75.6 [N-m] at 0.070 [s]

Min: 0.0 [N-m] at -0.018 [s]



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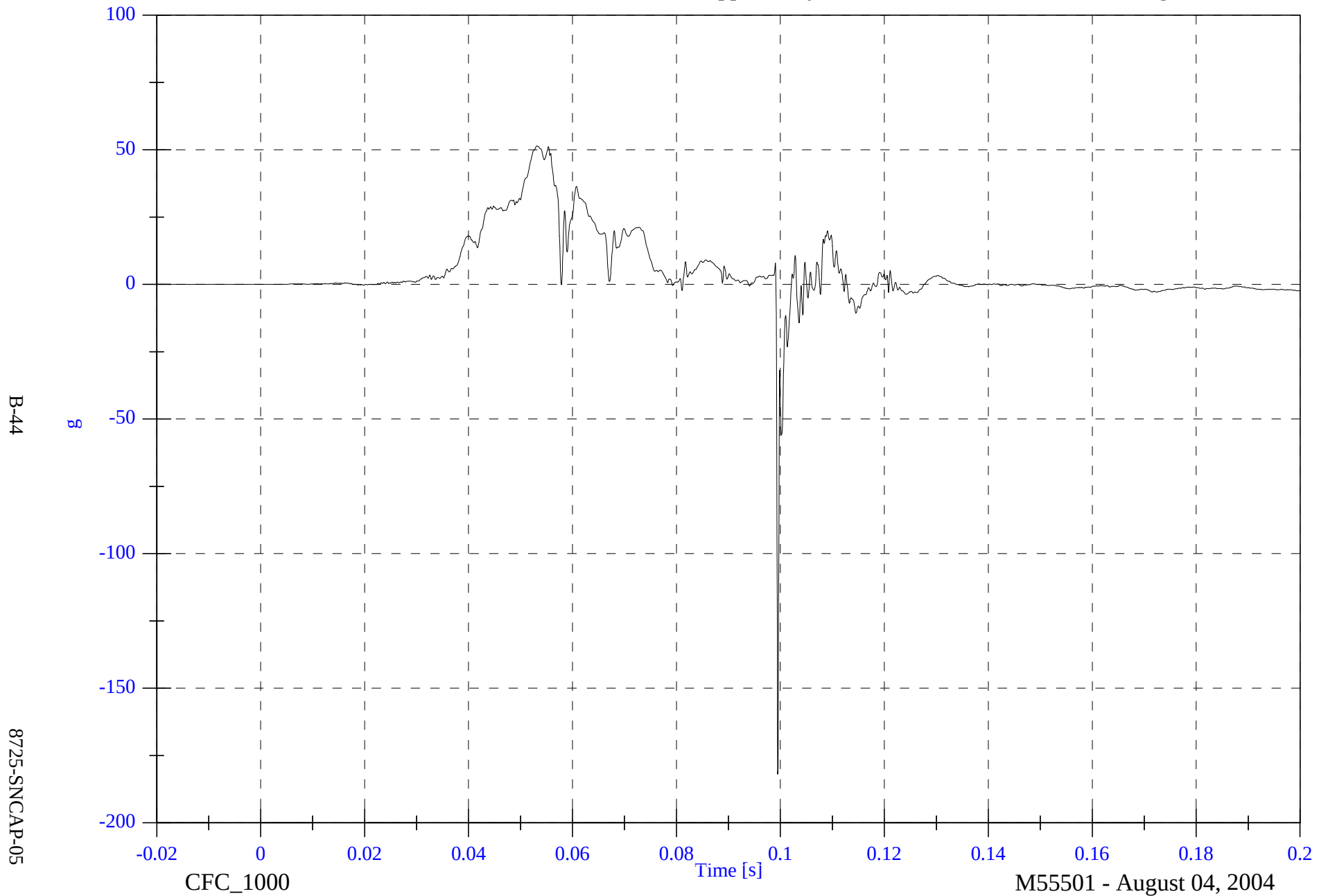
CFC_600

M55501 - August 04, 2004

2004 SNCAP Test 5 - 2005 Subaru Outback

V2P4 Upper Rib y

Max: 51.4 [g] at 0.053 [s]
Min: -181.9 [g] at 0.100 [s]

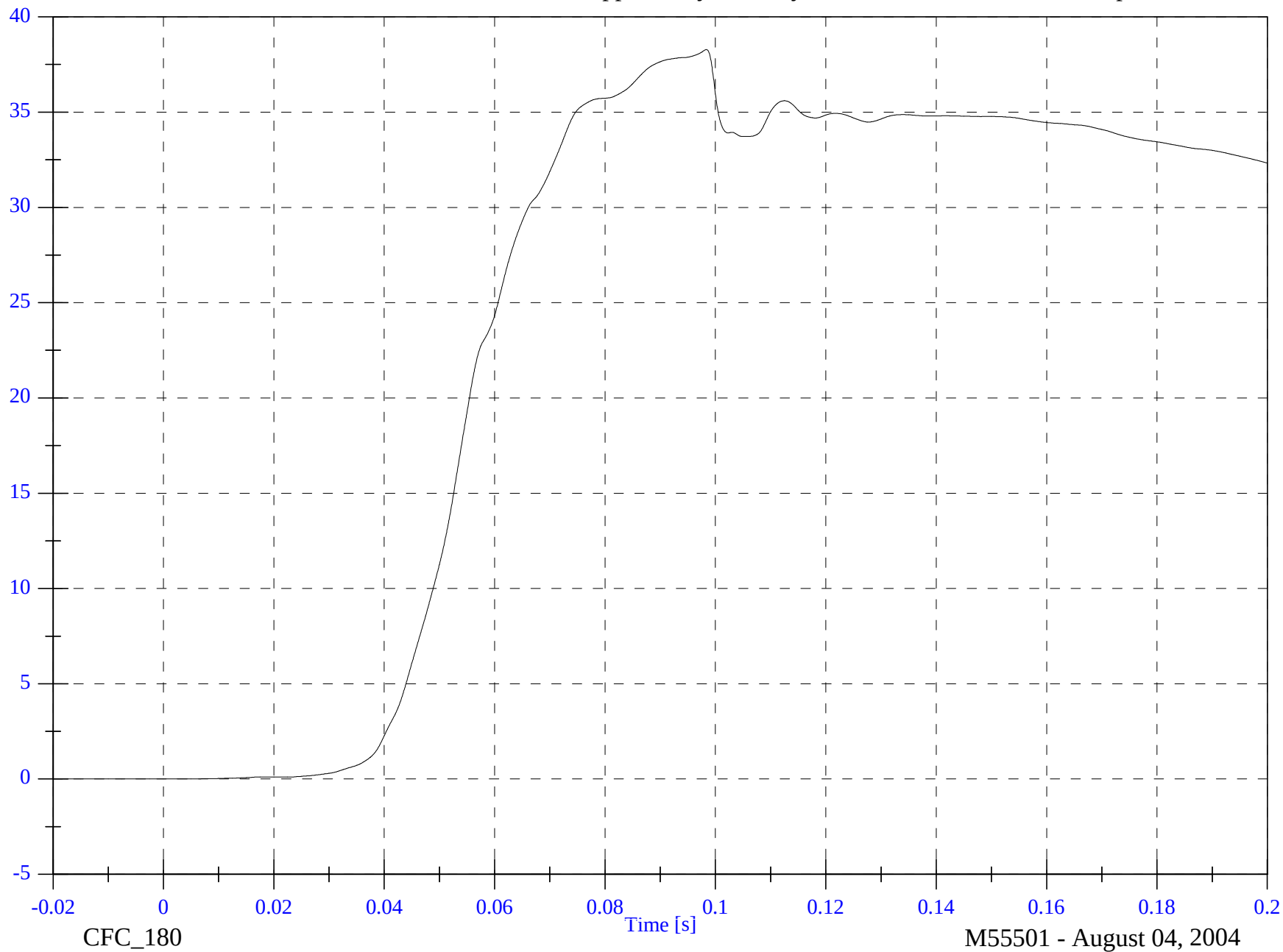


2004 SNCAP Test 5 - 2005 Subaru Outback

V2P4 Upper Rib y Velocity

Max: 38.3 [kph] at 0.098 [s]

Min: -0.0 [kph] at -0.012 [s]



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2004 SNCAP Test 5 - 2005 Subaru Outback

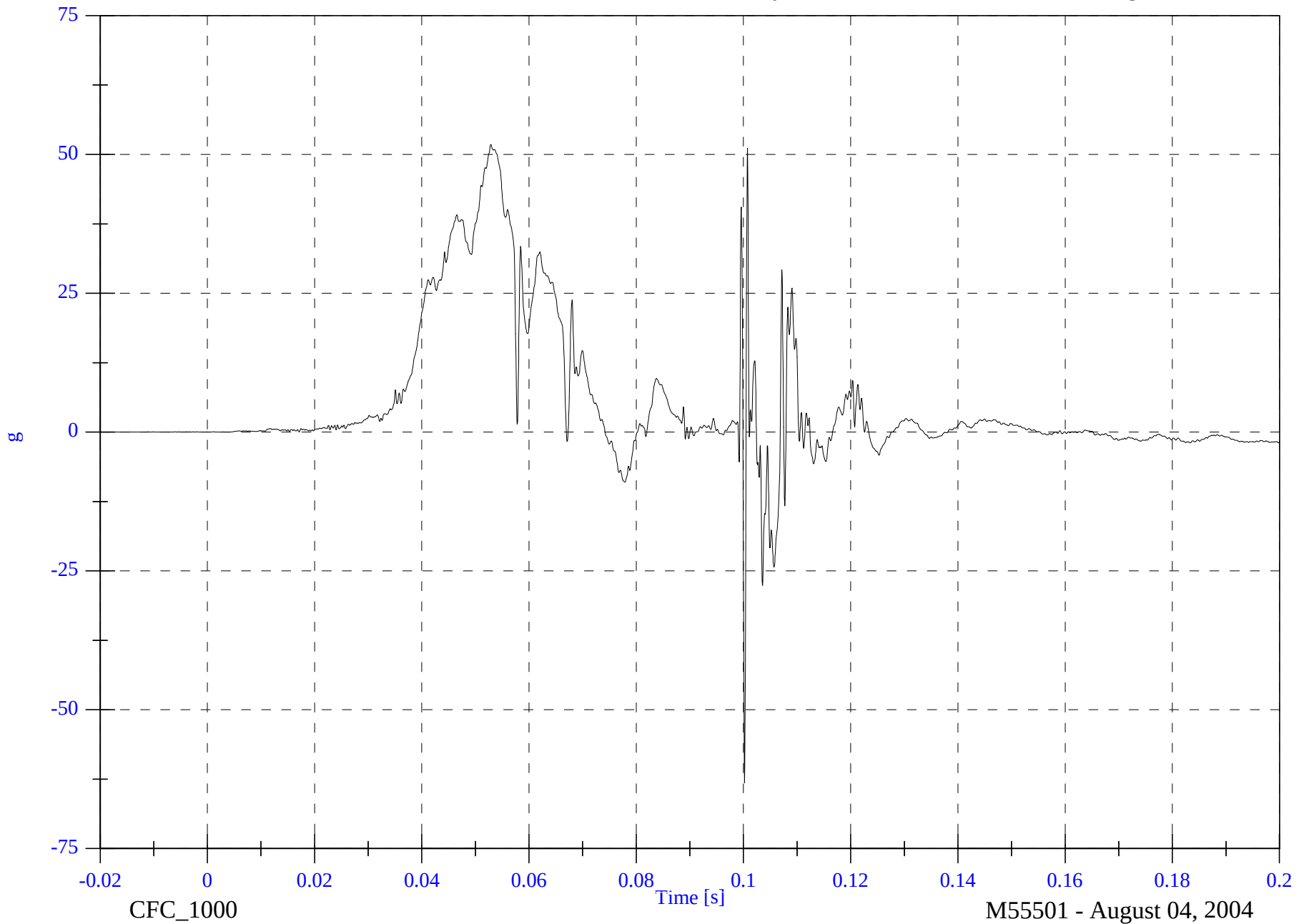
V2P4 Lower Rib y

Max: 51.8 [g] at 0.053 [s]

Min: -63.2 [g] at 0.100 [s]

B-46

8725-SNCAP-05

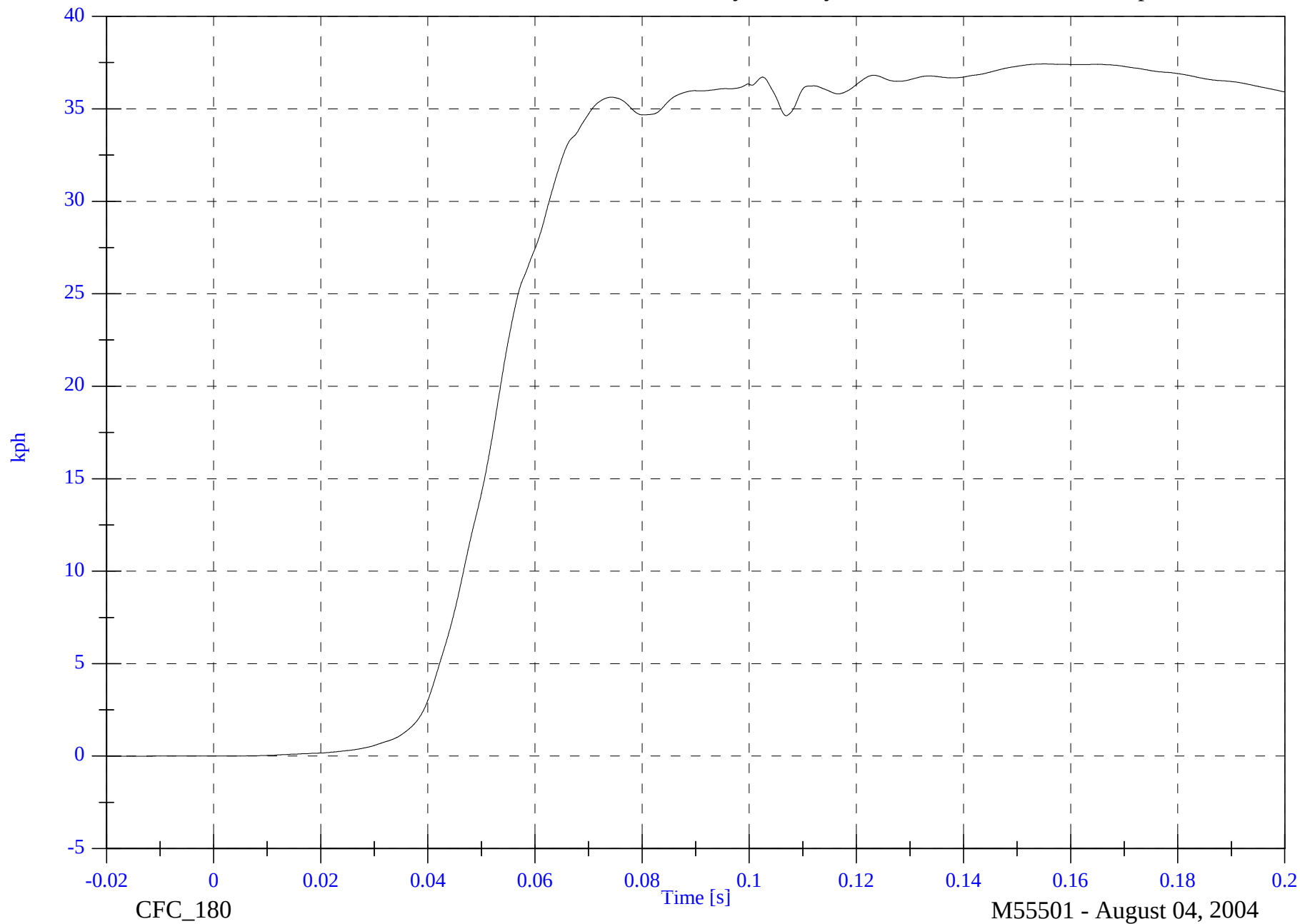


2004 SNCAP Test 5 - 2005 Subaru Outback

V2P4 Lower Rib y Velocity

Max: 37.4 [kph] at 0.155 [s]

Min: -0.0 [kph] at -0.020 [s]



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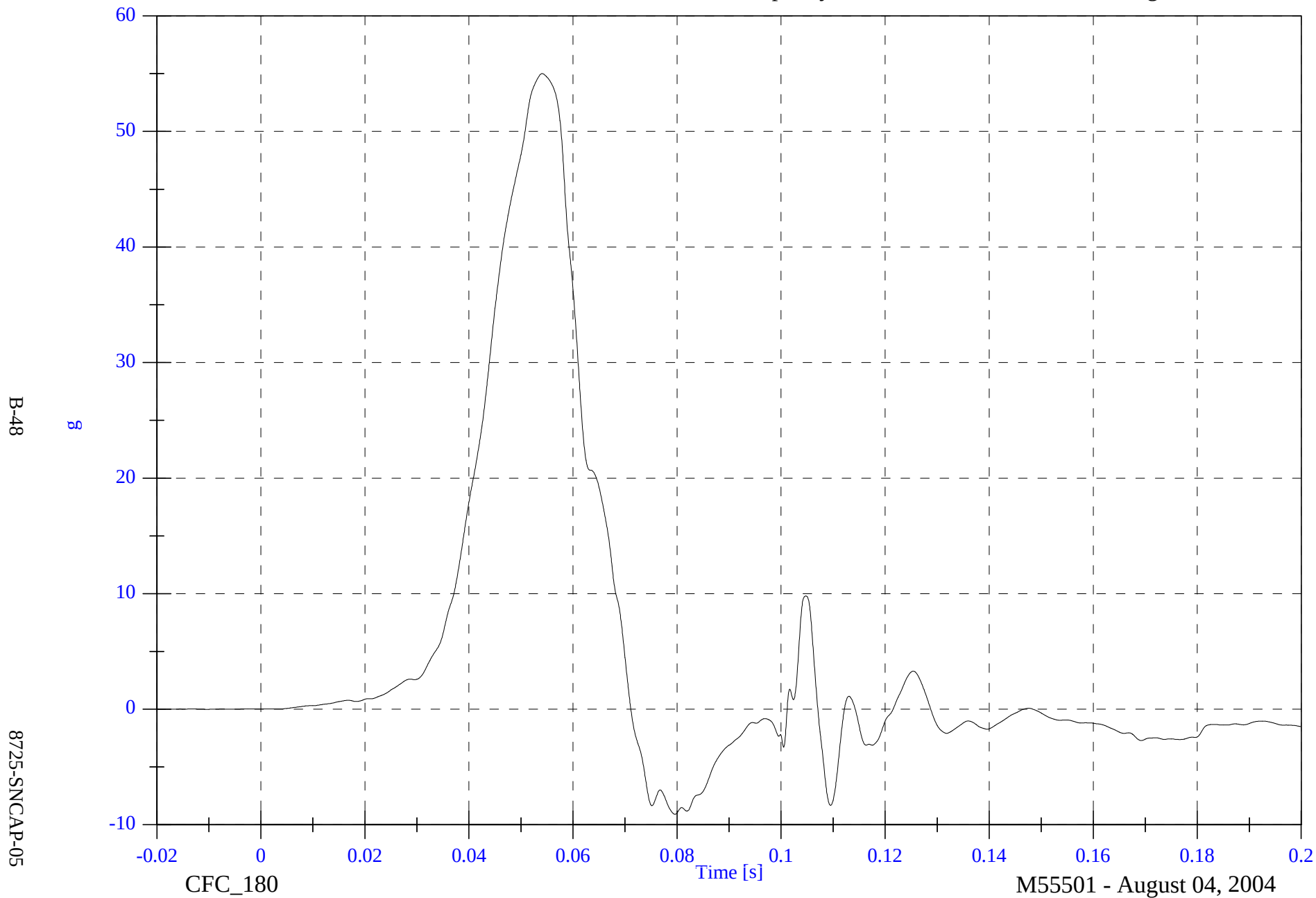
8725-SNCAP-05

2004 SNCAP Test 5 - 2005 Subaru Outback

V2P4 Lower Spine y

Max: 55.0 [g] at 0.054 [s]

Min: -9.1 [g] at 0.080 [s]



2004 SNCAP Test 5 - 2005 Subaru Outback

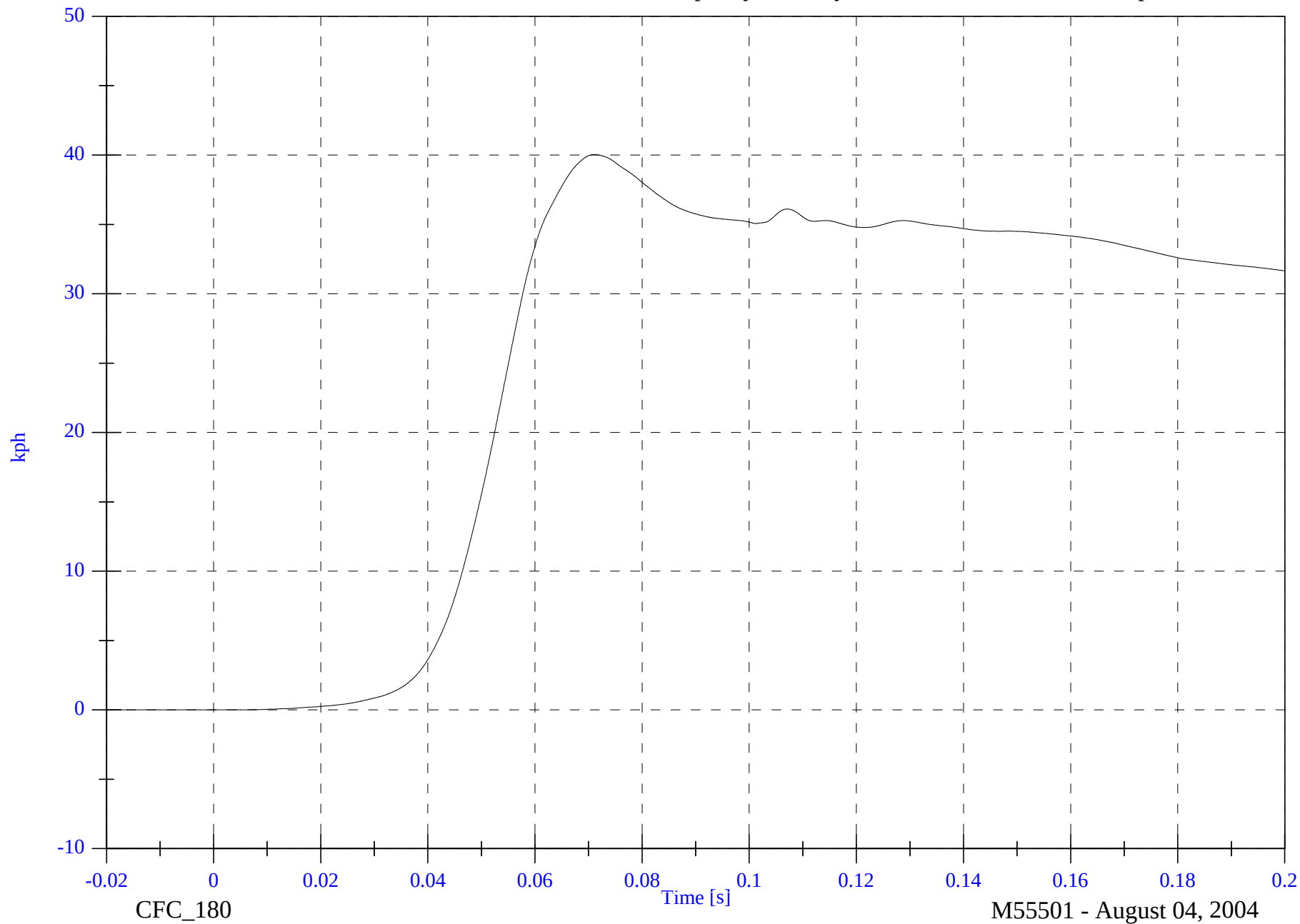
V2P4 Lower Spine y Velocity

Max: 40.0 [kph] at 0.071 [s]

Min: -0.0 [kph] at -0.020 [s]

B-49

8725-SNCAP-05

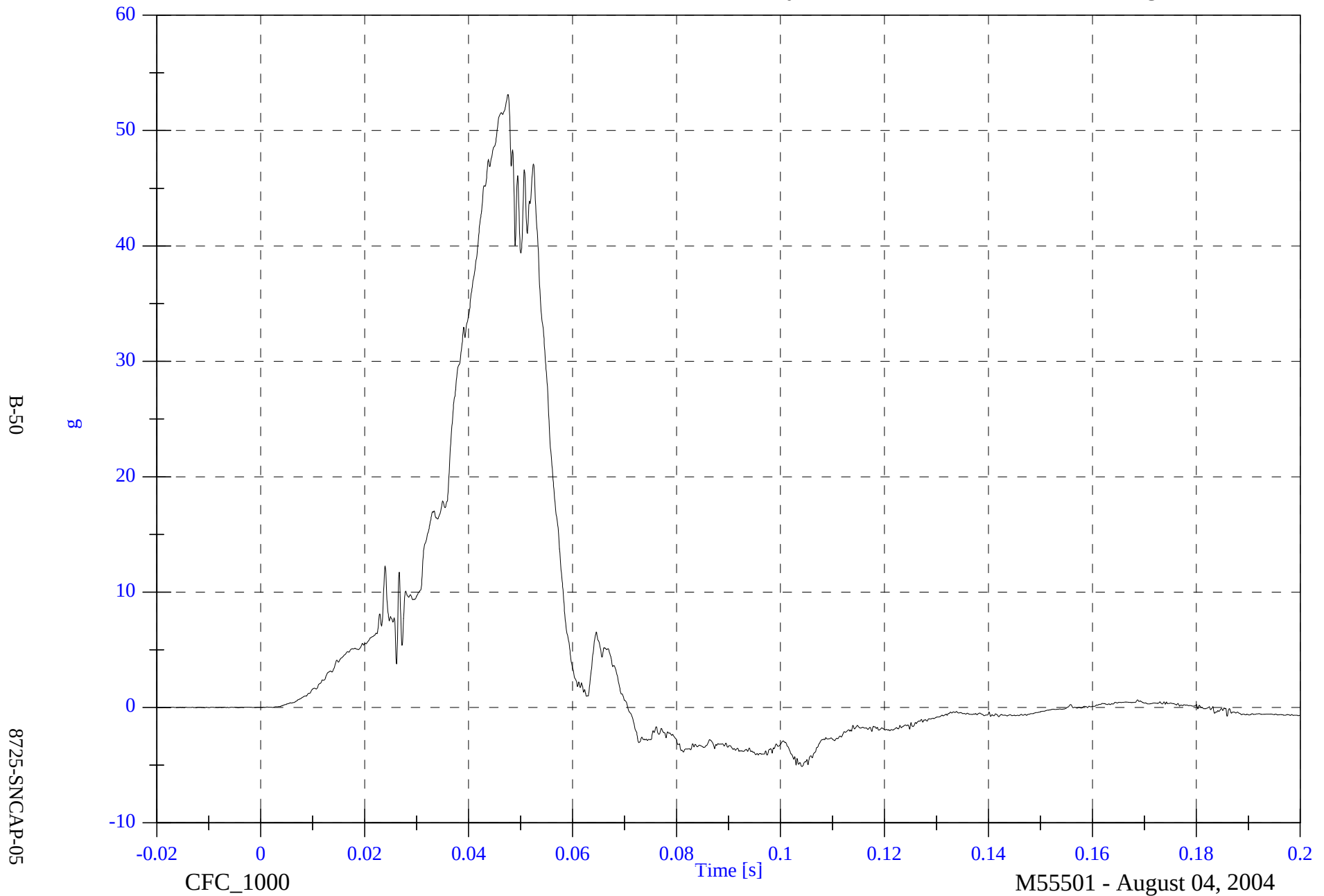


2004 SNCAP Test 5 - 2005 Subaru Outback

V2P4 Pelvic y

Max: 53.1 [g] at 0.048 [s]

Min: -5.1 [g] at 0.104 [s]

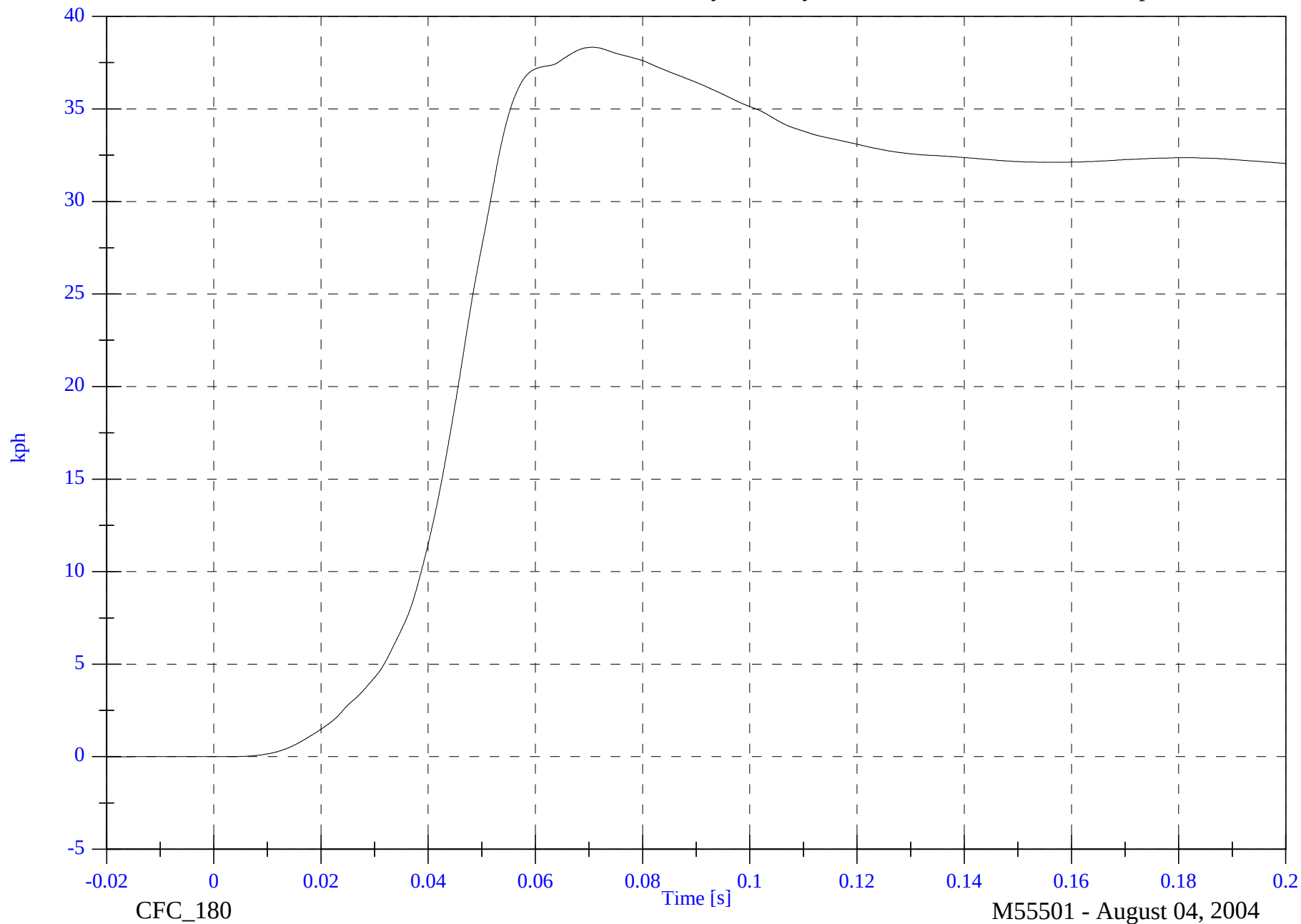


2004 SNCAP Test 5 - 2005 Subaru Outback

V2P4 Pelvic y Velocity

Max: 38.3 [kph] at 0.071 [s]

Min: -0.0 [kph] at -0.018 [s]



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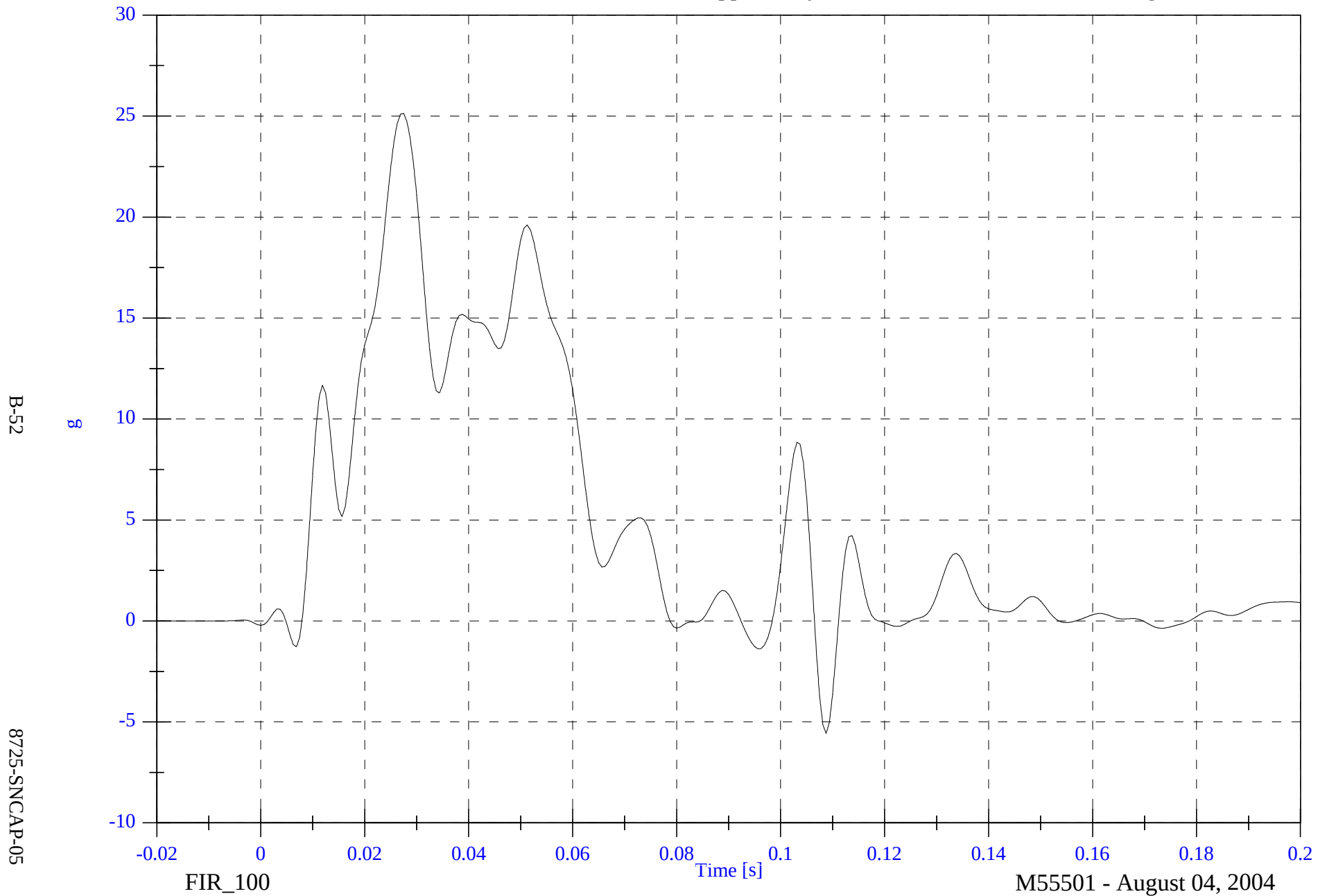
8725-SNCAP-05

2004 SNCAP Test 5 - 2005 Subaru Outback

V2P1 Upper Rib y

Max: 25.1 [g] at 0.027 [s]

Min: -5.6 [g] at 0.109 [s]

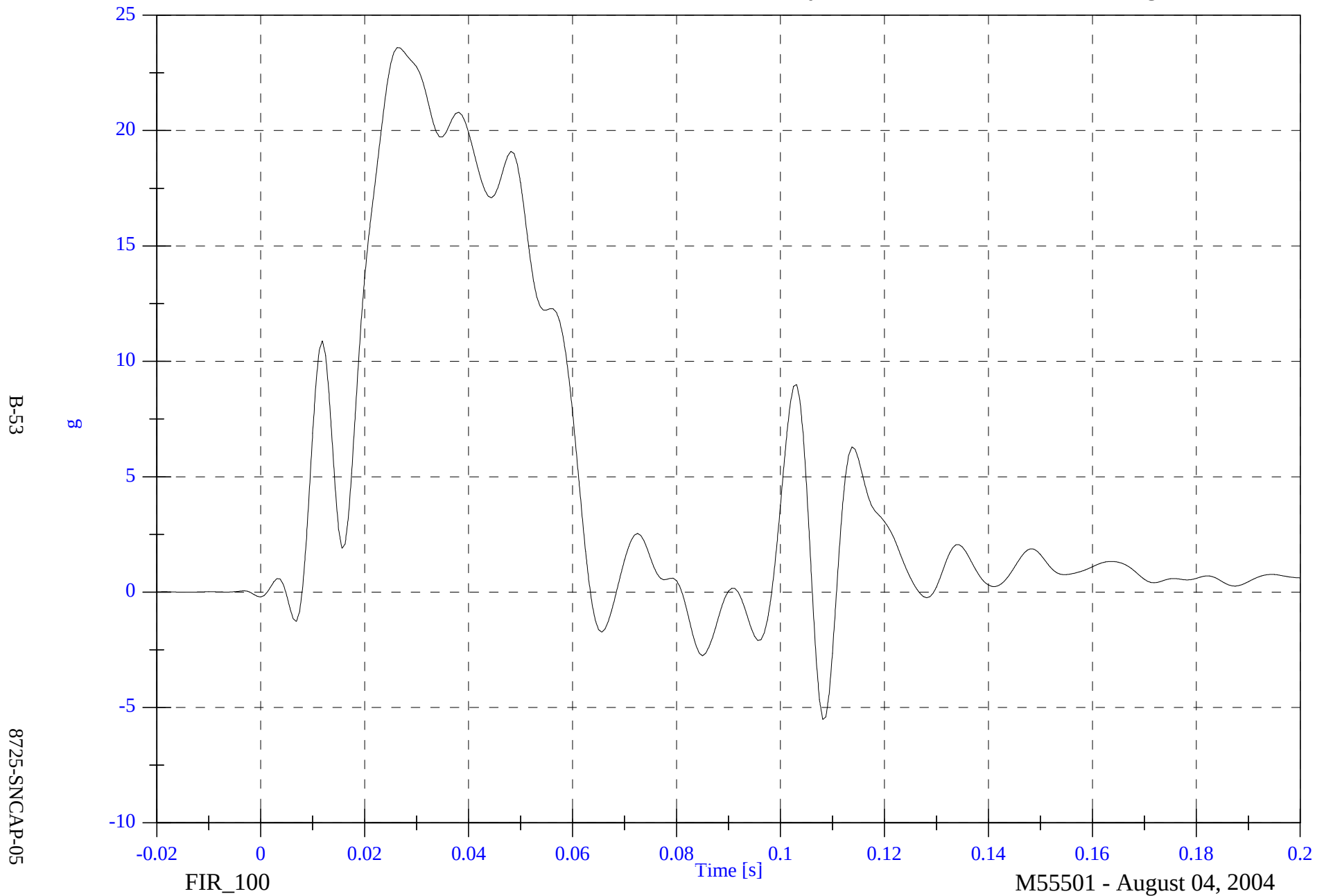


2004 SNCAP Test 5 - 2005 Subaru Outback

V2P1 Lower Rib y

Max: 23.6 [g] at 0.026 [s]

Min: -5.5 [g] at 0.108 [s]



2004 SNCAP Test 5 - 2005 Subaru Outback

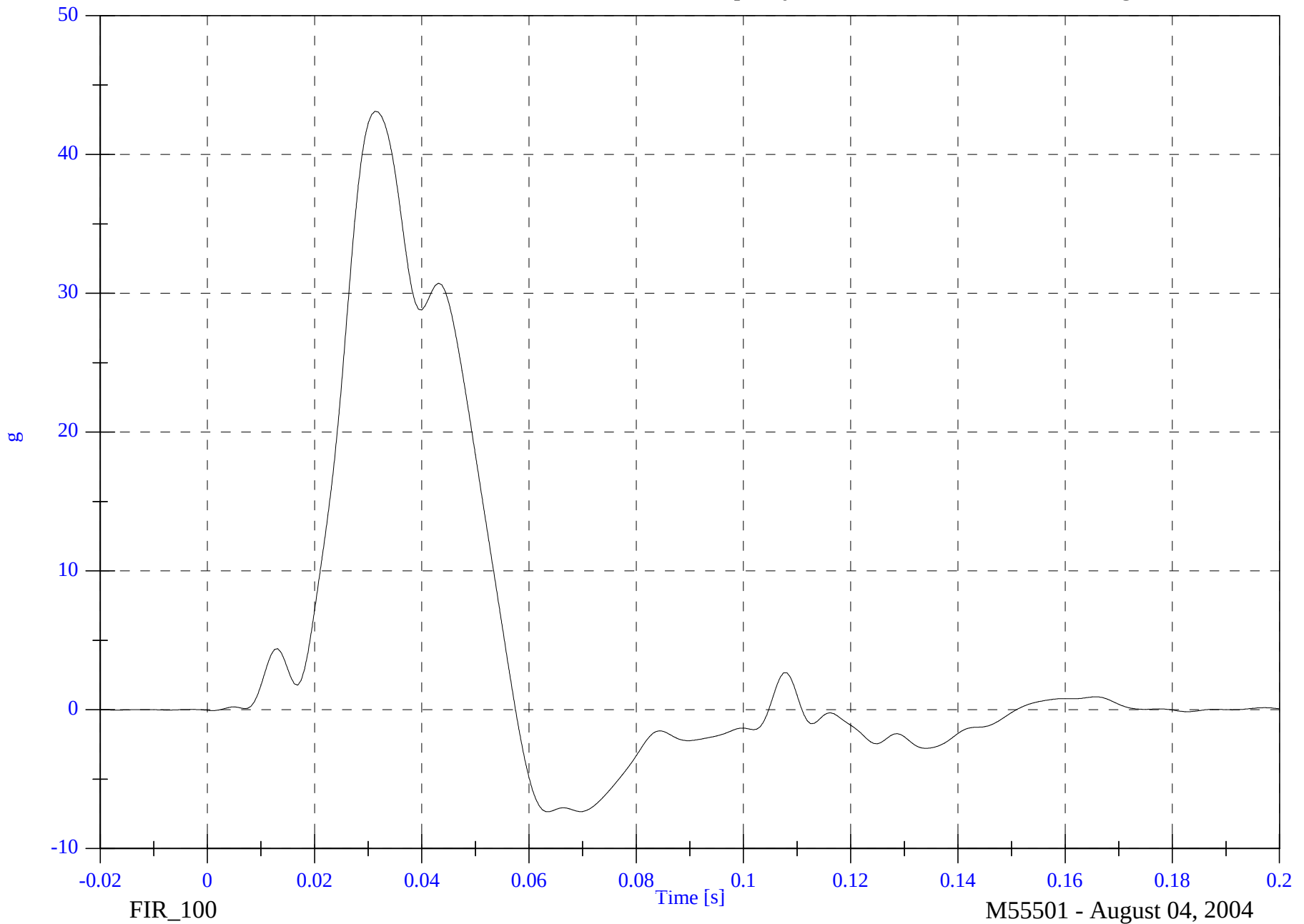
V2P1 Lower Spine y

Max: 43.1 [g] at 0.031 [s]

Min: -7.3 [g] at 0.064 [s]

B-54

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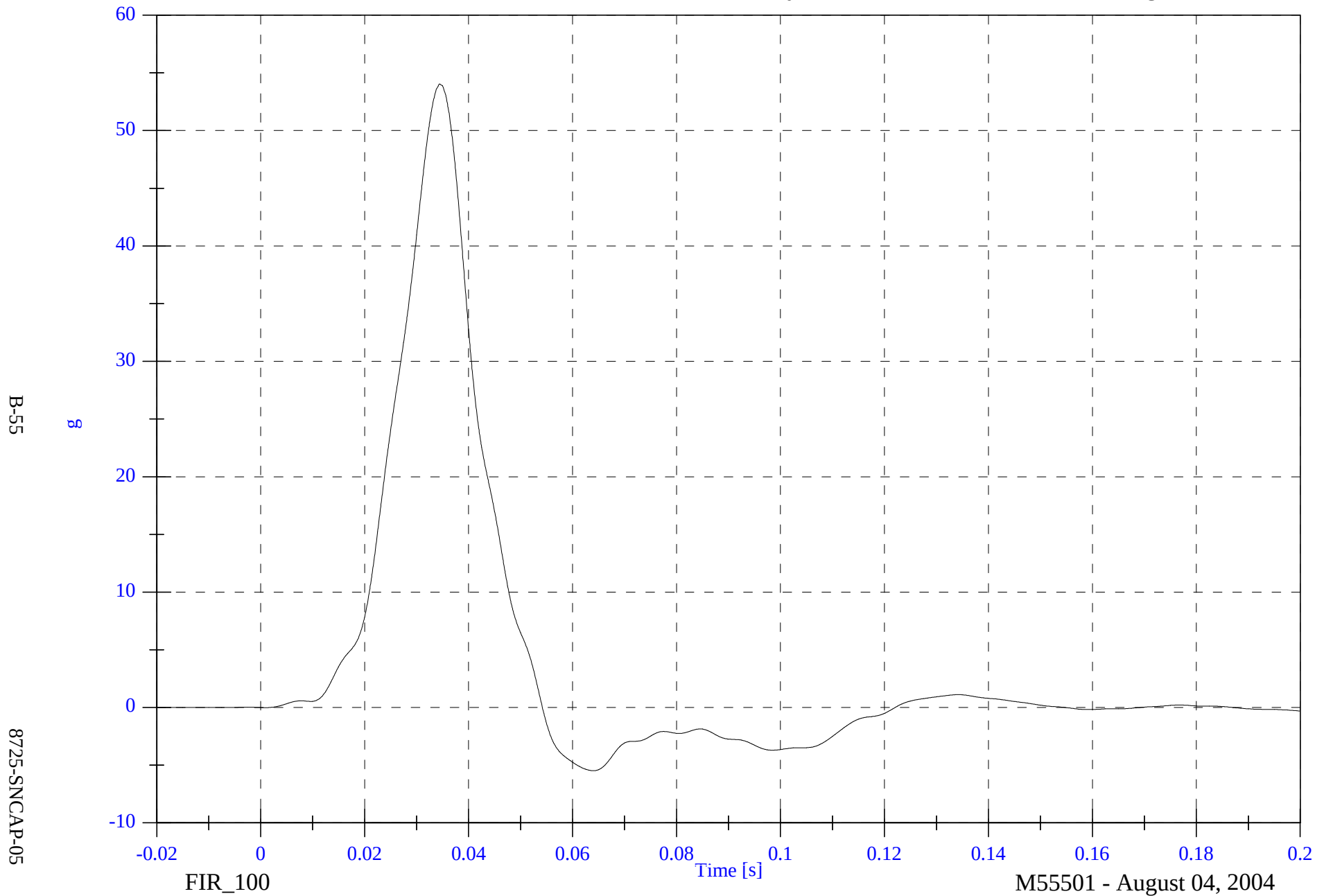


2004 SNCAP Test 5 - 2005 Subaru Outback

V2P1 Pelvic y

Max: 54.0 [g] at 0.034 [s]

Min: -5.5 [g] at 0.064 [s]

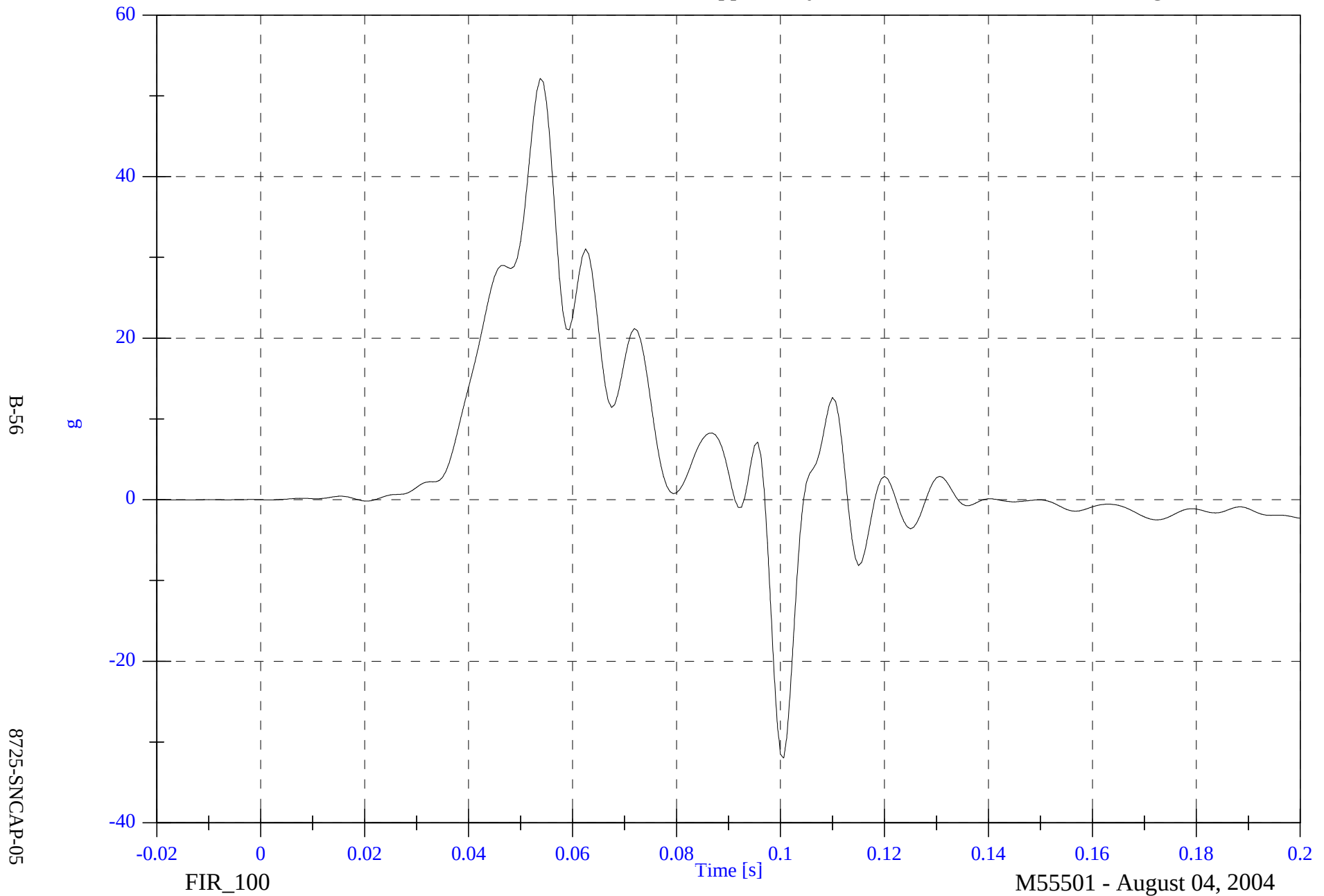


2004 SNCAP Test 5 - 2005 Subaru Outback

V2P4 Upper Rib y

Max: 52.2 [g] at 0.054 [s]

Min: -32.0 [g] at 0.101 [s]



2004 SNCAP Test 5 - 2005 Subaru Outback

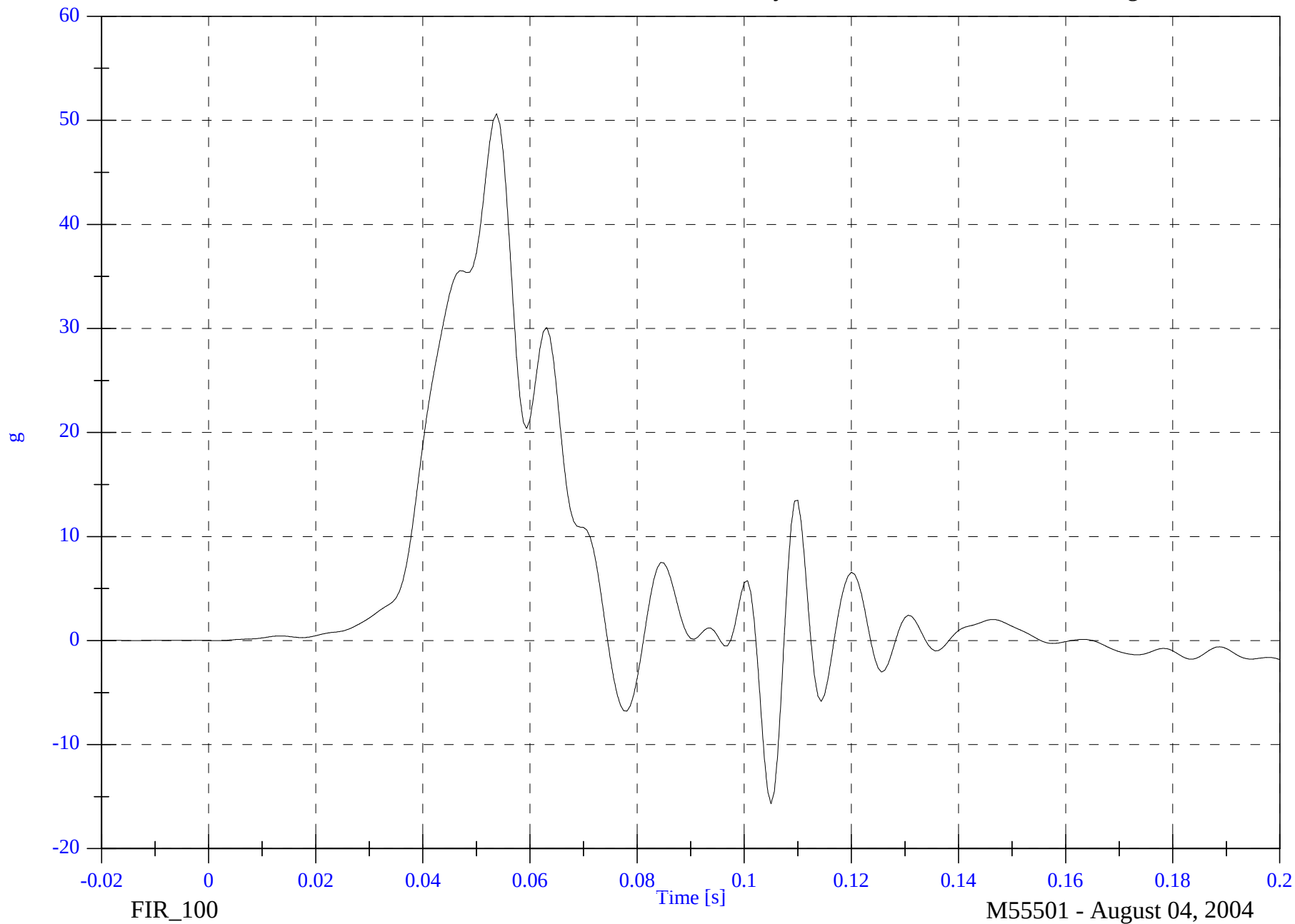
V2P4 Lower Rib y

Max: 50.6 [g] at 0.054 [s]

Min: -15.7 [g] at 0.105 [s]

B-57

8725-SNCAP-05

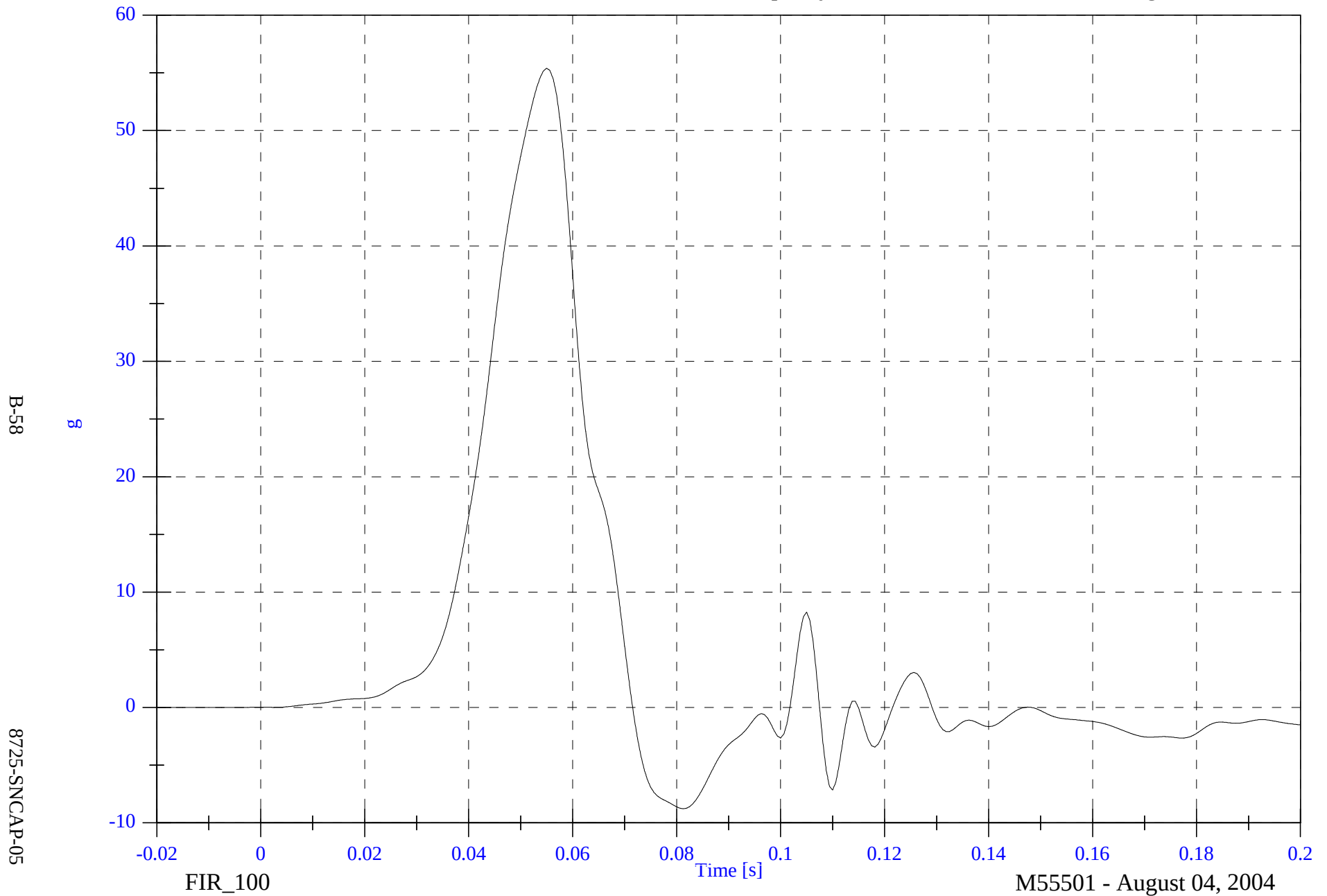


2004 SNCAP Test 5 - 2005 Subaru Outback

V2P4 Lower Spine y

Max: 55.4 [g] at 0.055 [s]

Min: -8.8 [g] at 0.081 [s]

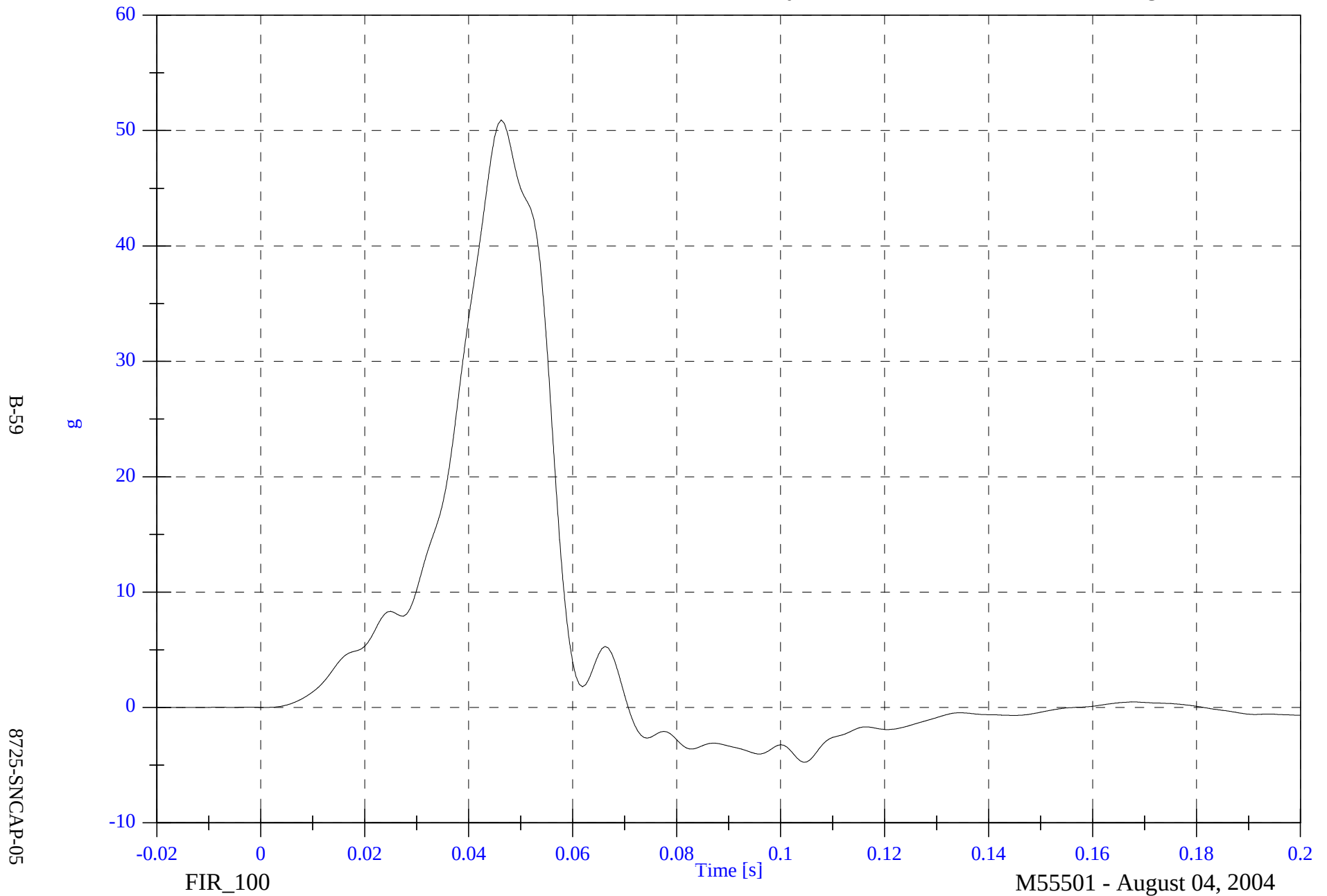


2004 SNCAP Test 5 - 2005 Subaru Outback

V2P4 Pelvic y

Max: 50.9 [g] at 0.046 [s]

Min: -4.7 [g] at 0.104 [s]



2004 SNCAP Test 5 - 2005 Subaru Outback

V2A1 Right Front Sill X

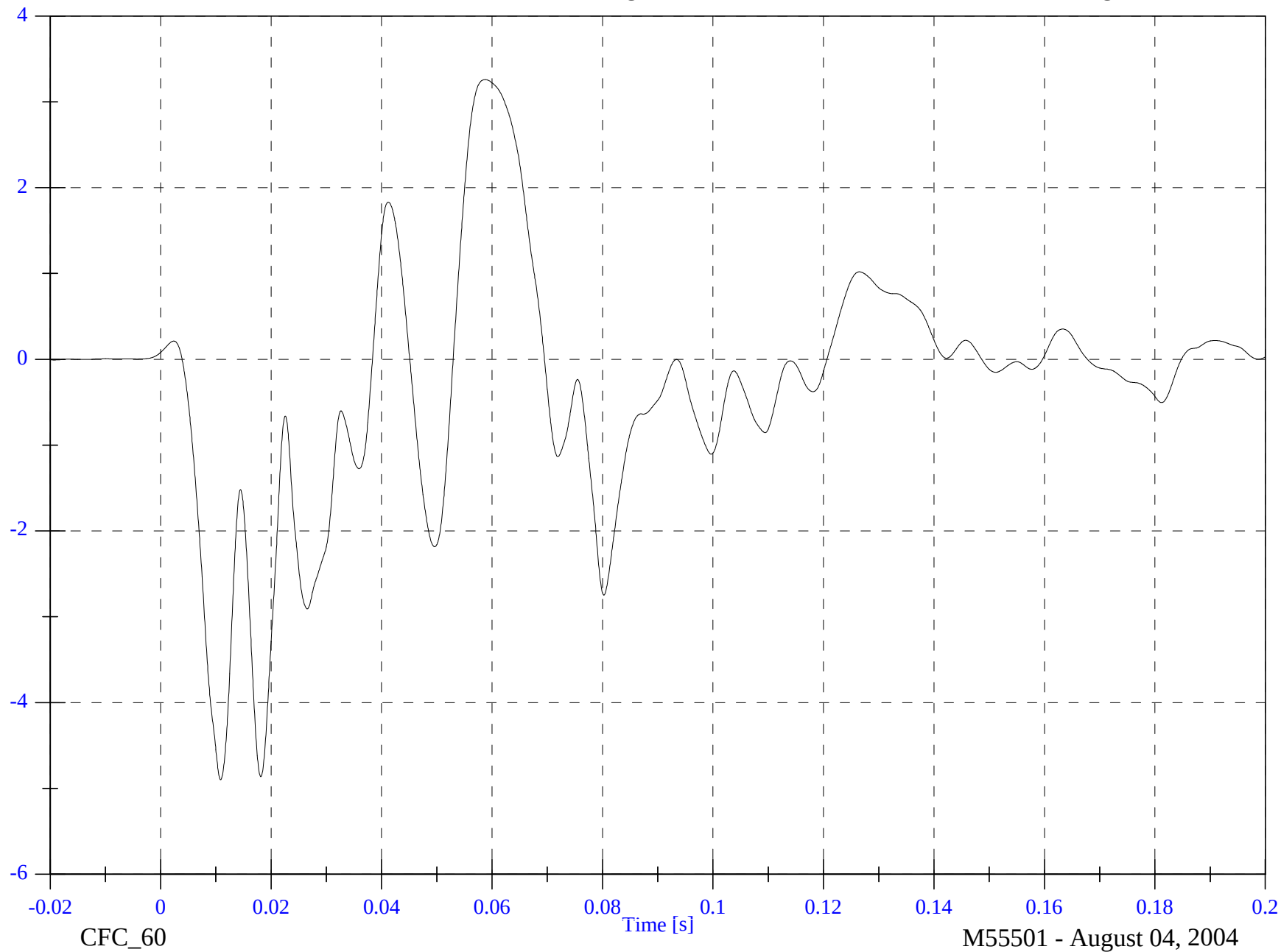
Max: 3.3 [g] at 0.059 [s]

Min: -4.9 [g] at 0.011 [s]

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g

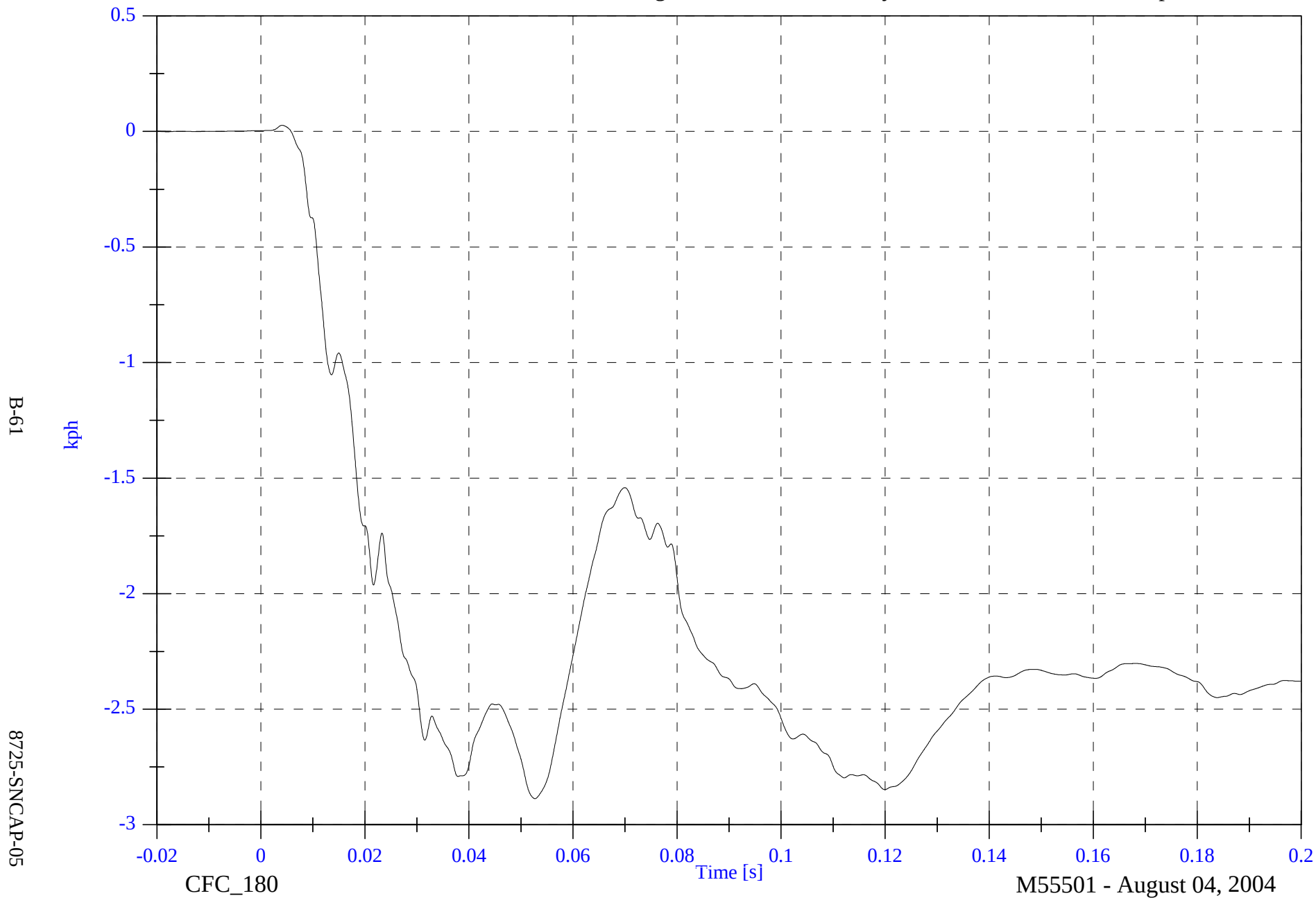


2004 SNCAP Test 5 - 2005 Subaru Outback

V2A1 Right Front Sill X Velocity

Max: 0.0 [kph] at 0.004 [s]

Min: -2.9 [kph] at 0.053 [s]

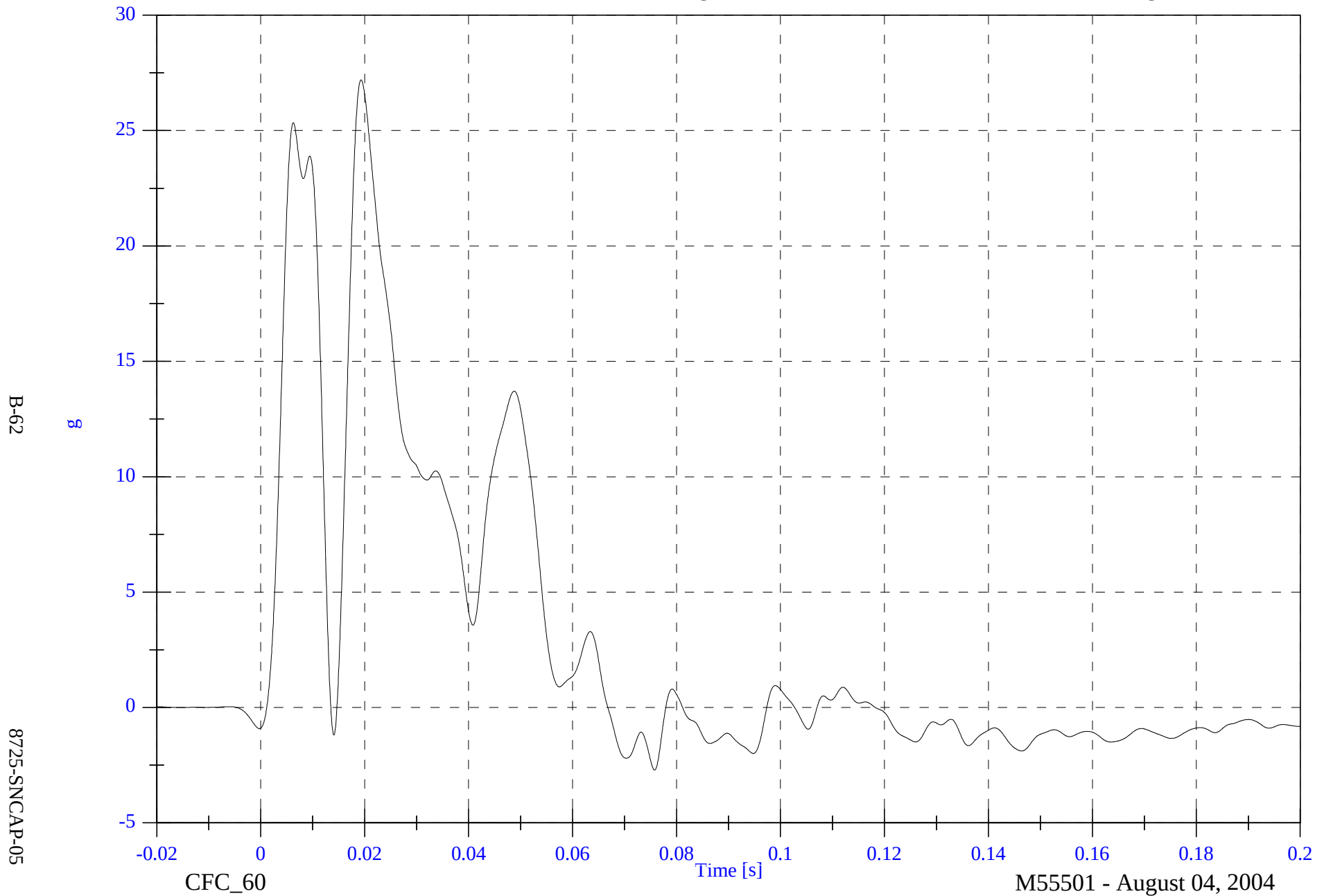


2004 SNCAP Test 5 - 2005 Subaru Outback

V2A1 Right Front Sill Y

Max: 27.2 [g] at 0.019 [s]

Min: -2.7 [g] at 0.076 [s]

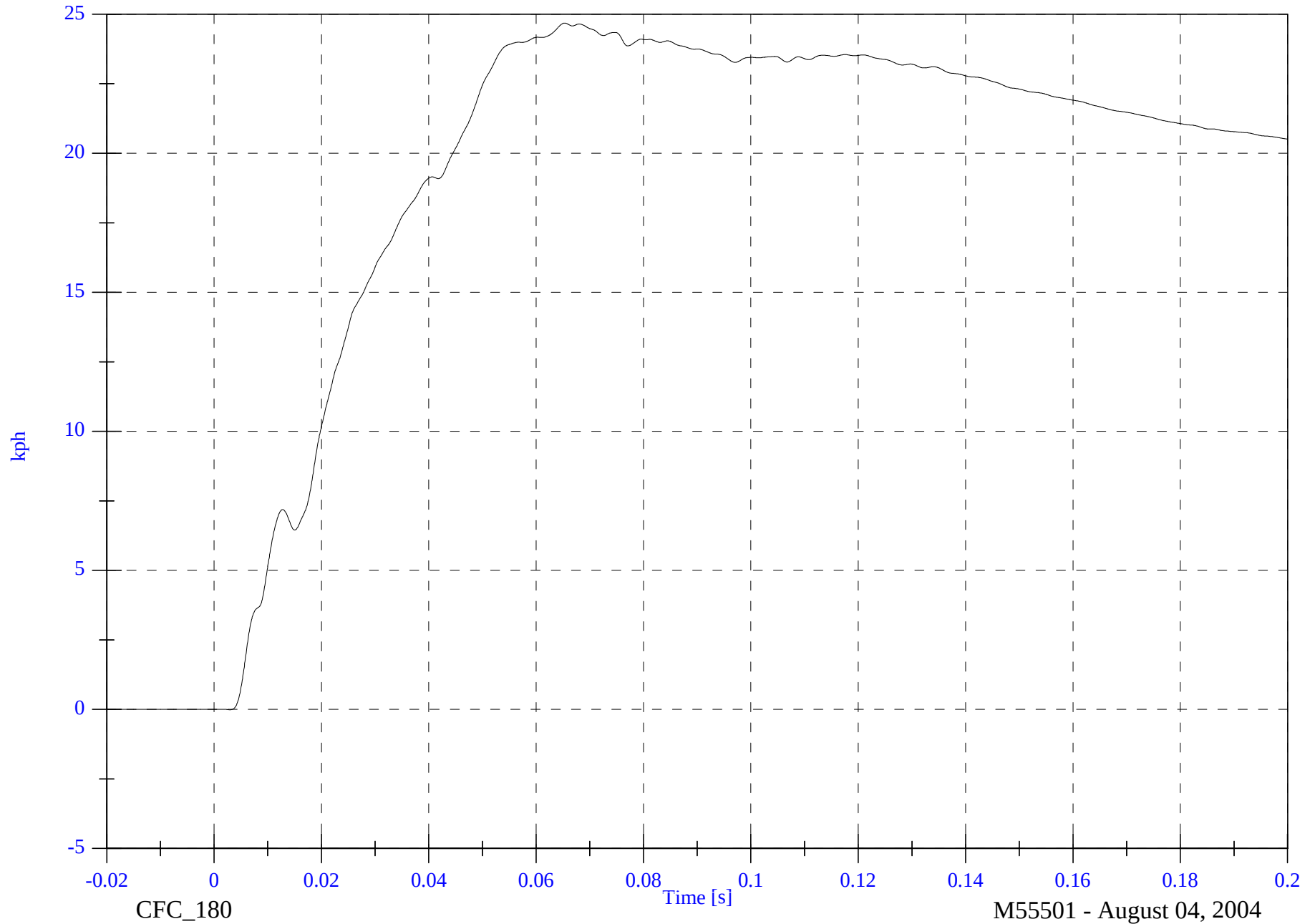


2004 SNCAP Test 5 - 2005 Subaru Outback

V2A1 Right Front Sill Y Velocity

Max: 24.7 [kph] at 0.065 [s]

Min: -0.0 [kph] at 0.003 [s]



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2004 SNCAP Test 5 - 2005 Subaru Outback

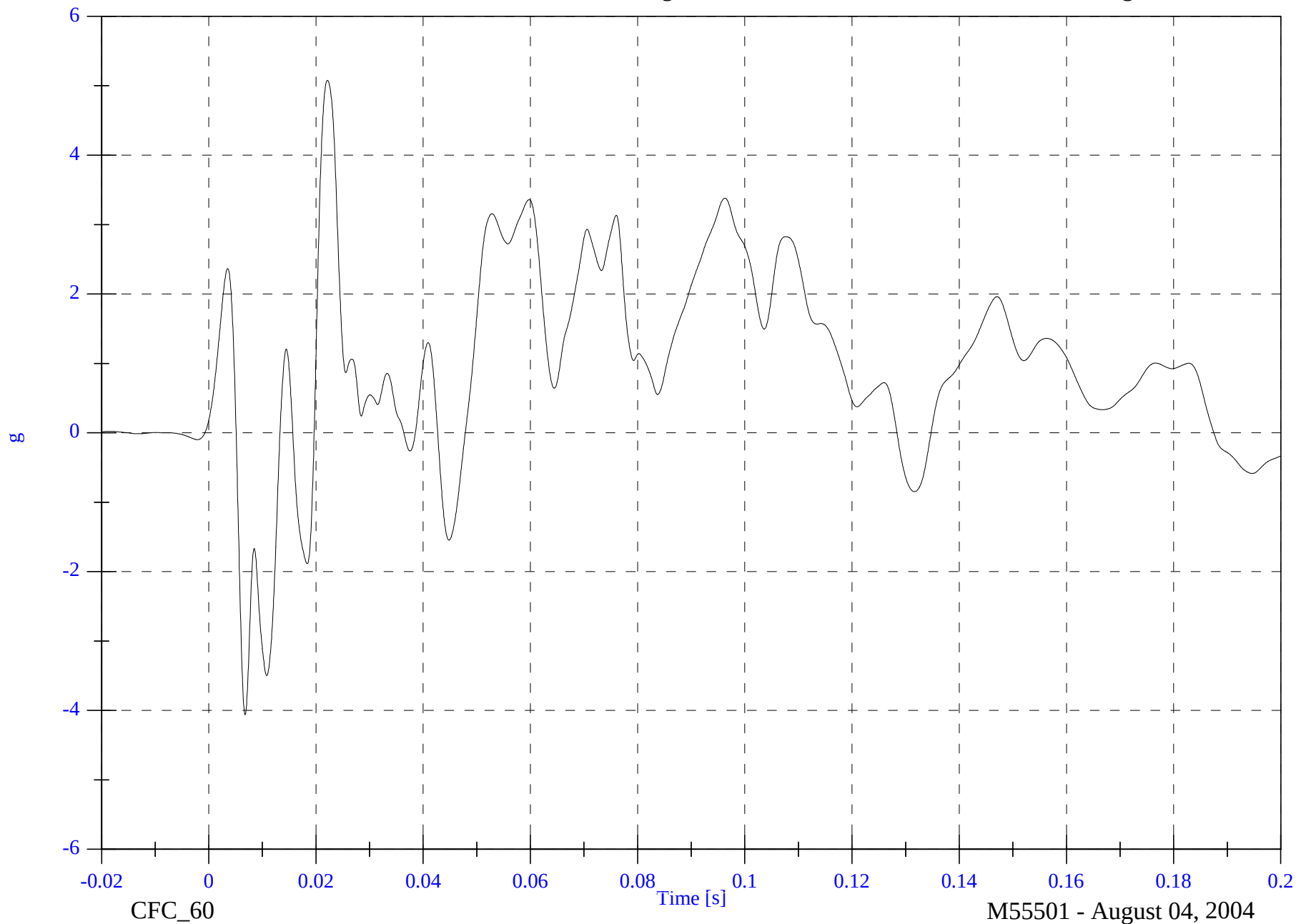
V2A1 Right Front Sill Z

Max: 5.1 [g] at 0.022 [s]

Min: -4.1 [g] at 0.007 [s]

B-64

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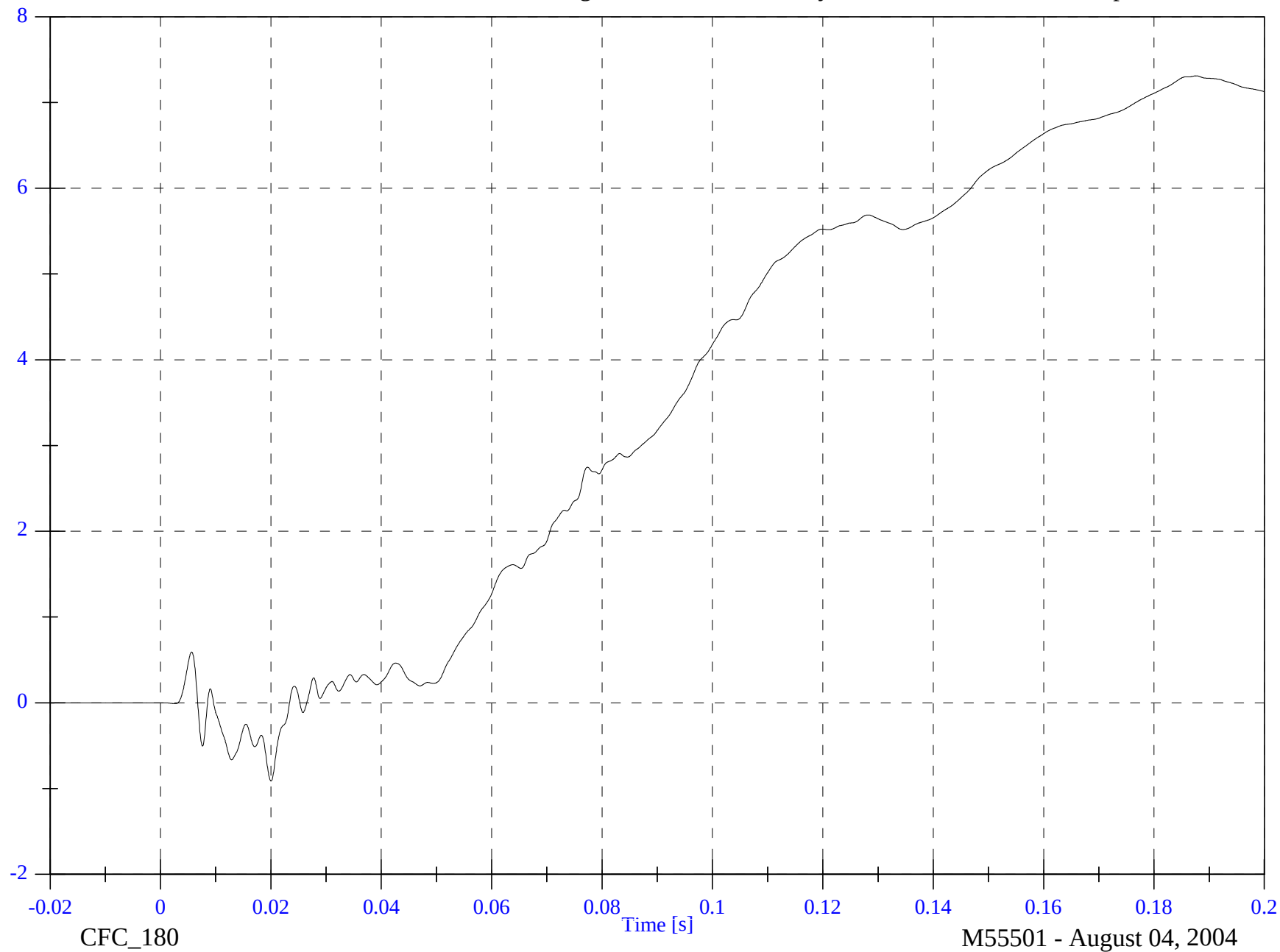


2004 SNCAP Test 5 - 2005 Subaru Outback

V2A1 Right Front Sill Z Velocity

Max: 7.3 [kph] at 0.188 [s]

Min: -0.9 [kph] at 0.020 [s]



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2004 SENCAP Test 5 - 2005 Subaru Outback

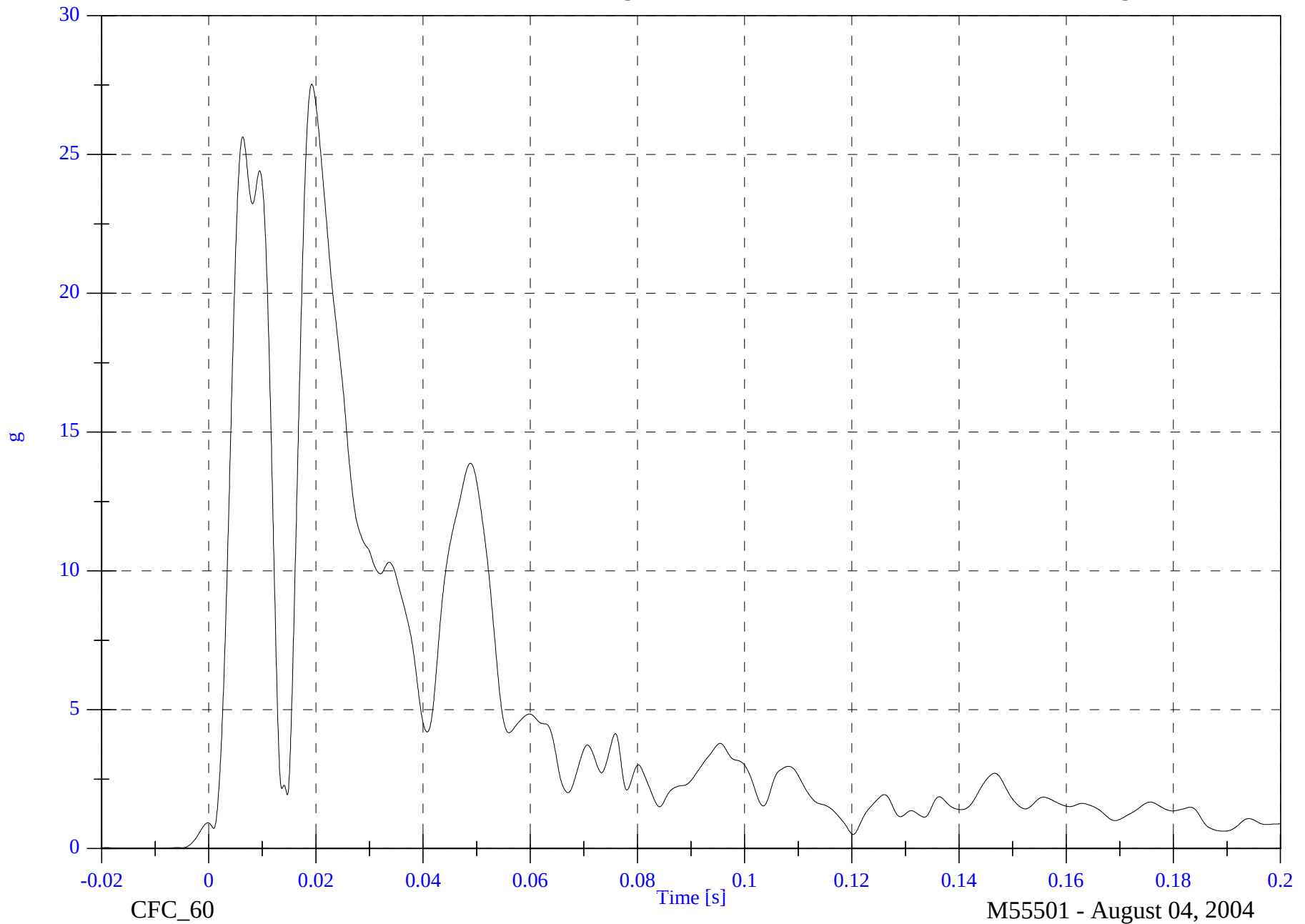
V2A1 Right Front Sill Resultant

Max: 27.5 [g] at 0.019 [s]

Min: 0.0 [g] at -0.015 [s]

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2004 SNCAP Test 5 - 2005 Subaru Outback

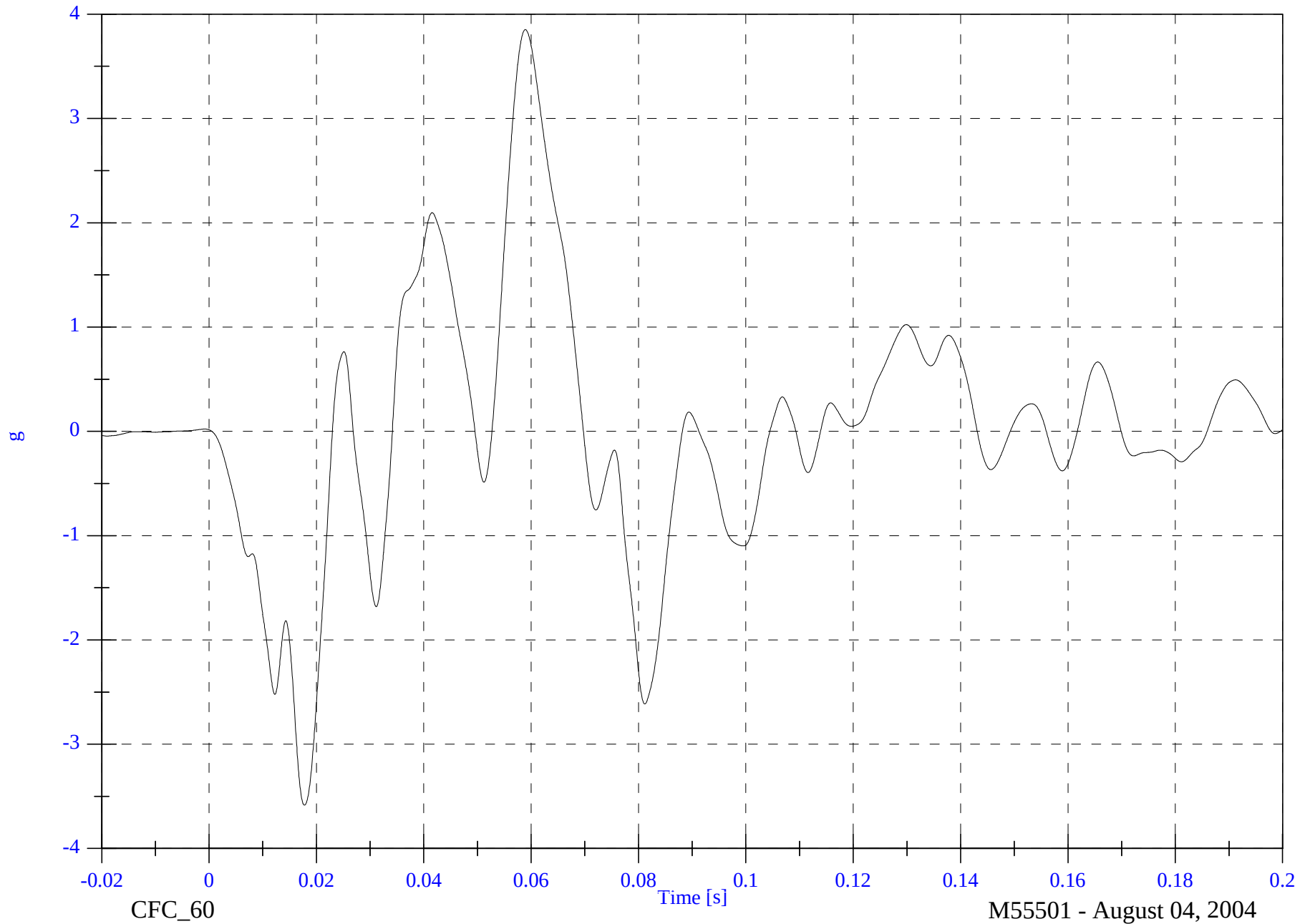
V2A2 Right Rear Sill X

Max: 3.9 [g] at 0.059 [s]

Min: -3.6 [g] at 0.018 [s]

B-67

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2004 SNCAP Test 5 - 2005 Subaru Outback

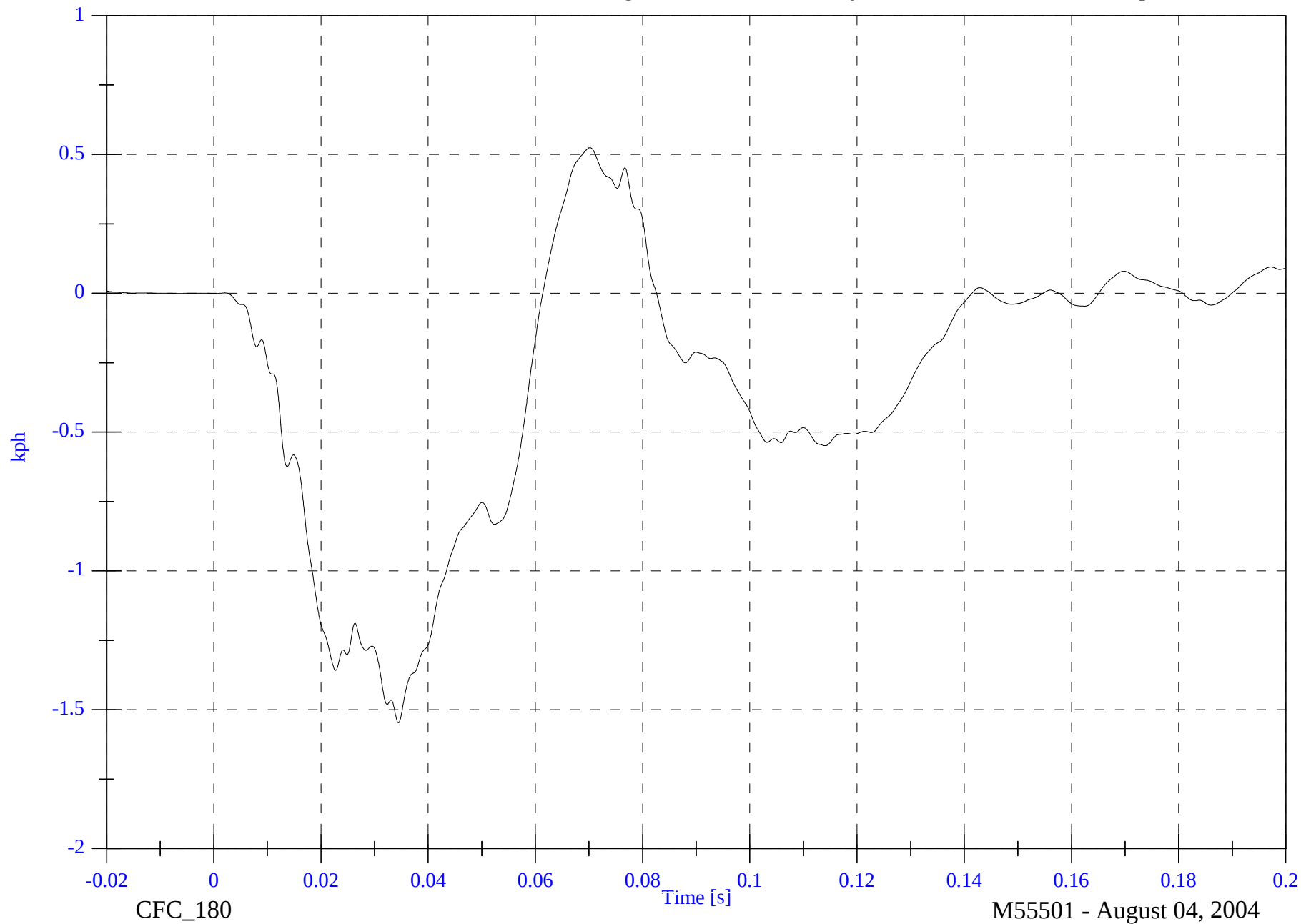
V2A2 Right Rear Sill X Velocity

Max: 0.5 [kph] at 0.070 [s]

Min: -1.5 [kph] at 0.034 [s]

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2004 SNCAP Test 5 - 2005 Subaru Outback

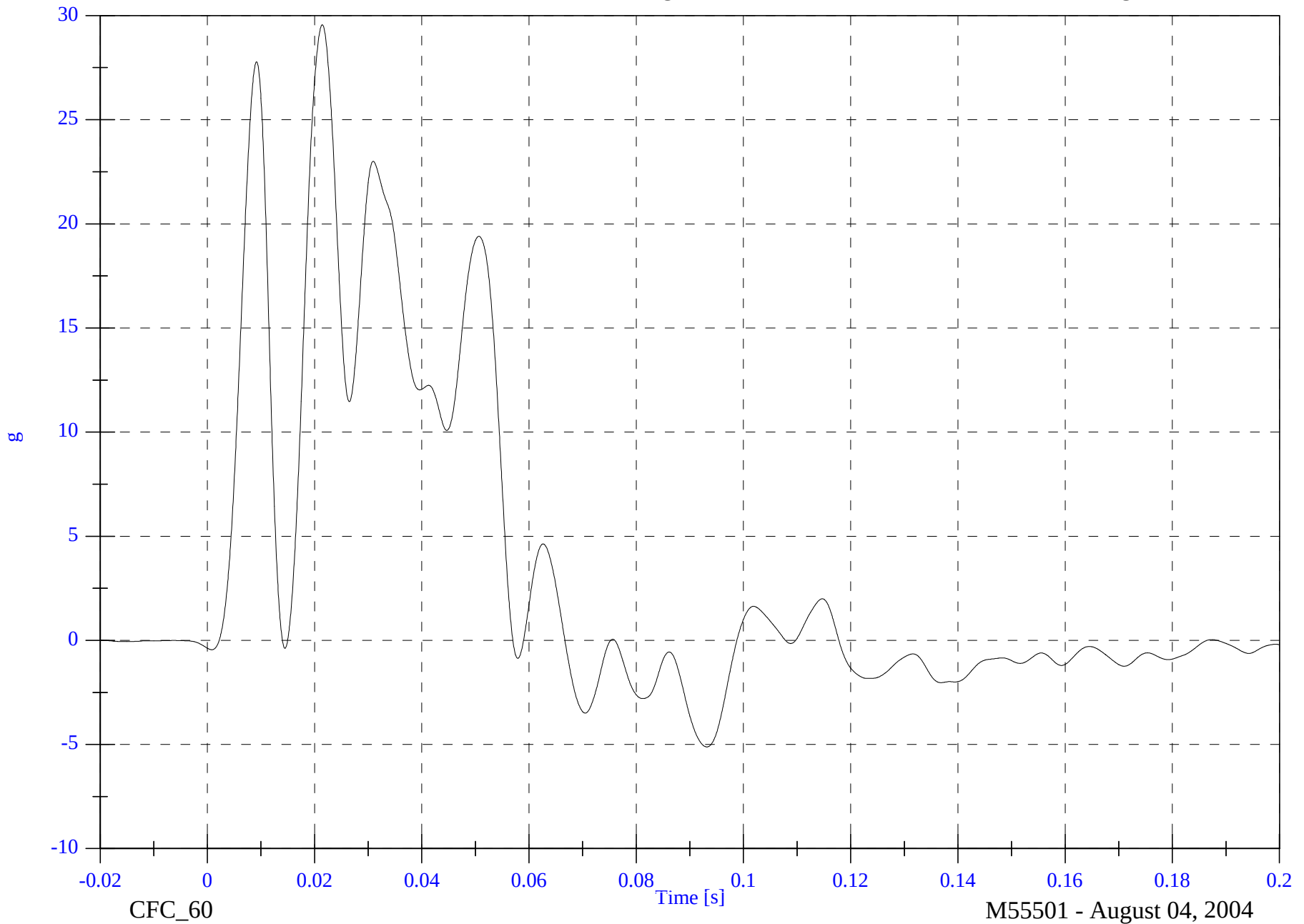
V2A2 Right Rear Sill Y

Max: 29.6 [g] at 0.021 [s]

Min: -5.1 [g] at 0.093 [s]

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2004 SNCAP Test 5 - 2005 Subaru Outback

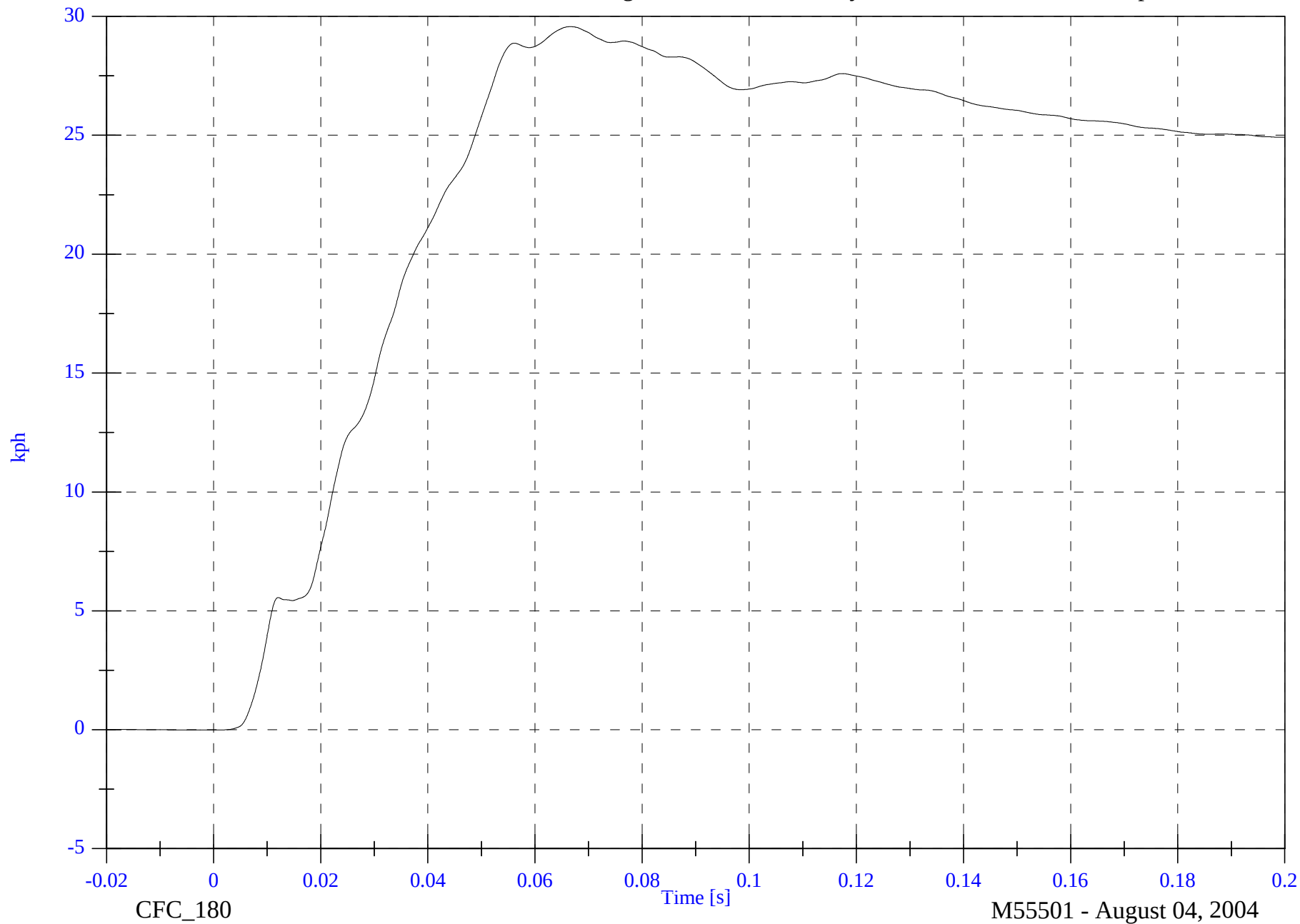
V2A2 Right Rear Sill Y Velocity

Max: 29.6 [kph] at 0.067 [s]

Min: -0.0 [kph] at -0.003 [s]

B-70

8725-SNCAP-05

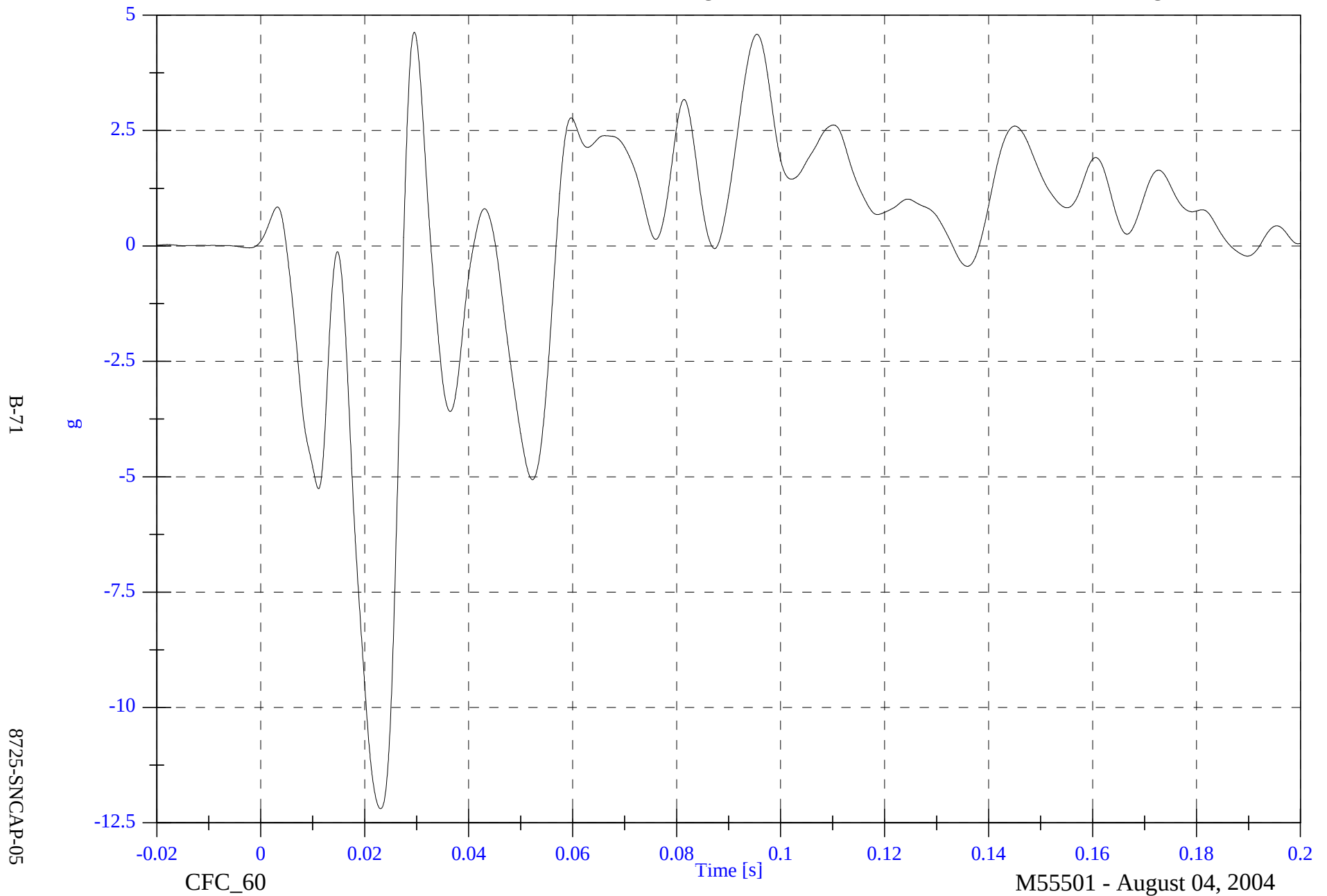


2004 SNCAP Test 5 - 2005 Subaru Outback

V2A2 Right Rear Sill Z

Max: 4.6 [g] at 0.030 [s]

Min: -12.2 [g] at 0.023 [s]



2004 SNCAP Test 5 - 2005 Subaru Outback

V2A2 Right Rear Sill Z Velocity

Max: 1.2 [kph] at 0.198 [s]

Min: -5.5 [kph] at 0.057 [s]



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2004 SNCAP Test 5 - 2005 Subaru Outback

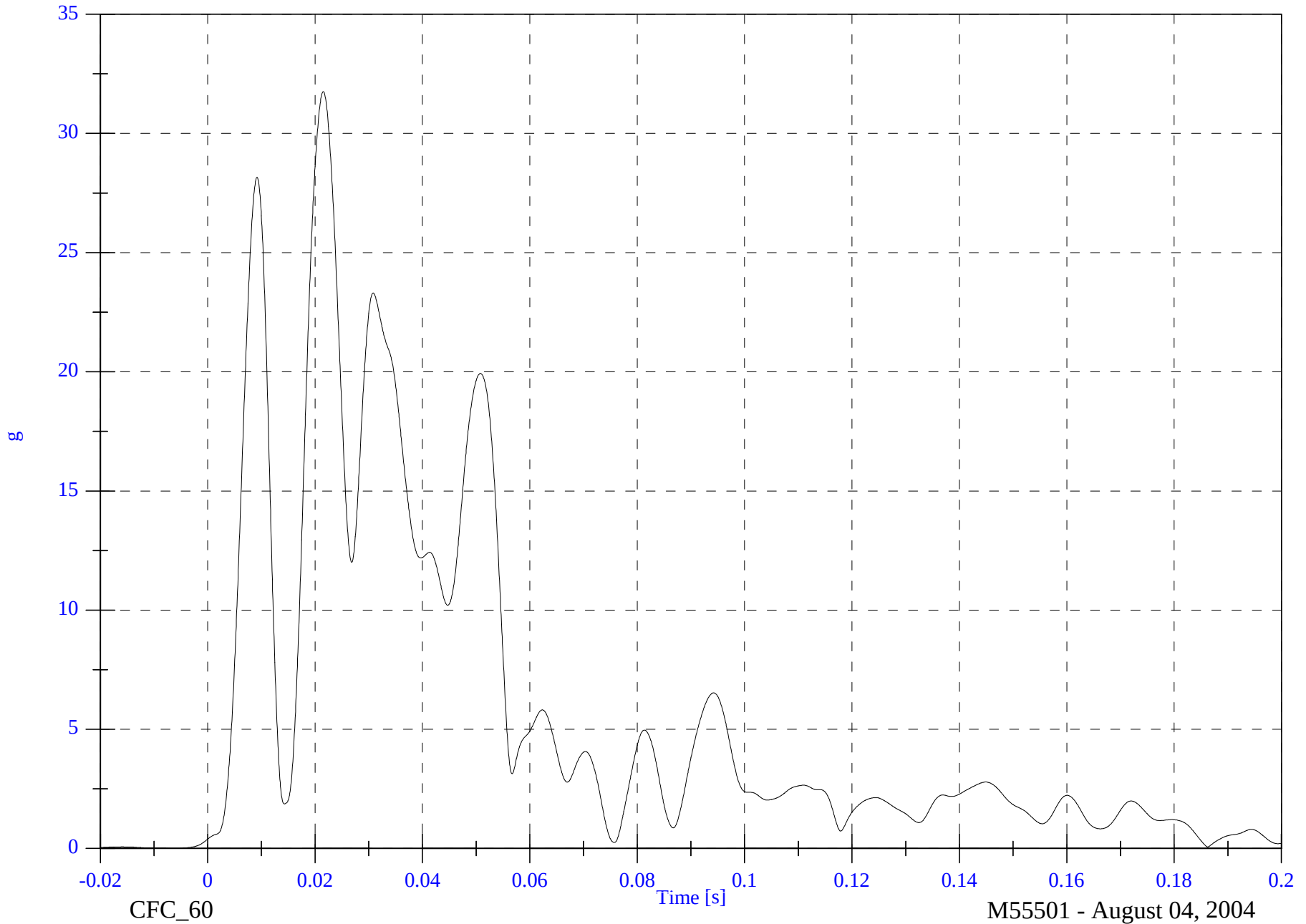
V2A2 Right Rear Sill Resultant

Max: 31.8 [g] at 0.021 [s]

Min: 0.0 [g] at -0.006 [s]

B-73

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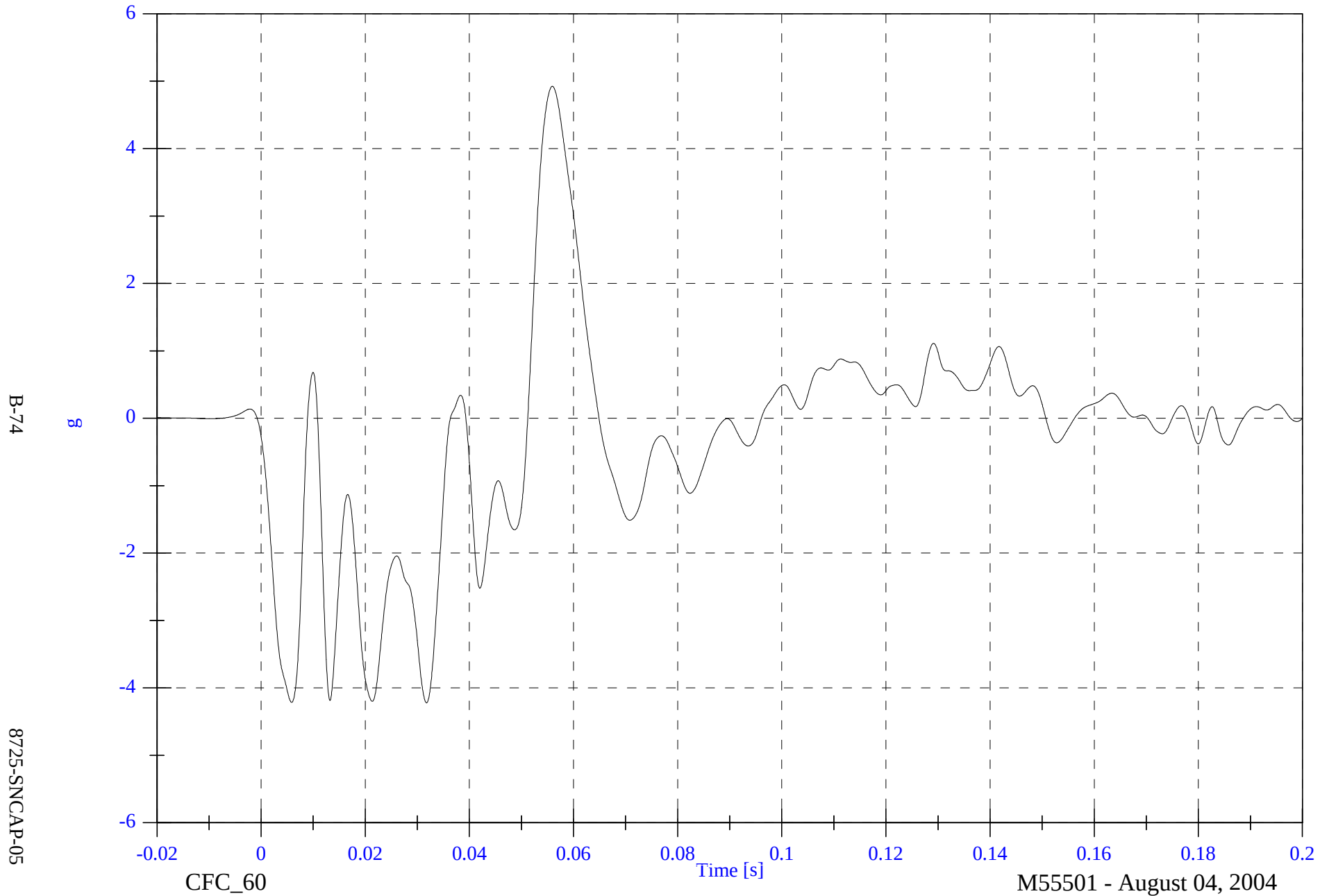


2004 SNCAP Test 5 - 2005 Subaru Outback

V2A3 Rear Floorpan X

Max: 4.9 [g] at 0.056 [s]

Min: -4.2 [g] at 0.032 [s]



2004 SNCAP Test 5 - 2005 Subaru Outback

V2A3 Rear Floorpan X Velocity

Max: 0.0 [kph] at 0.001 [s]

Min: -3.9 [kph] at 0.051 [s]

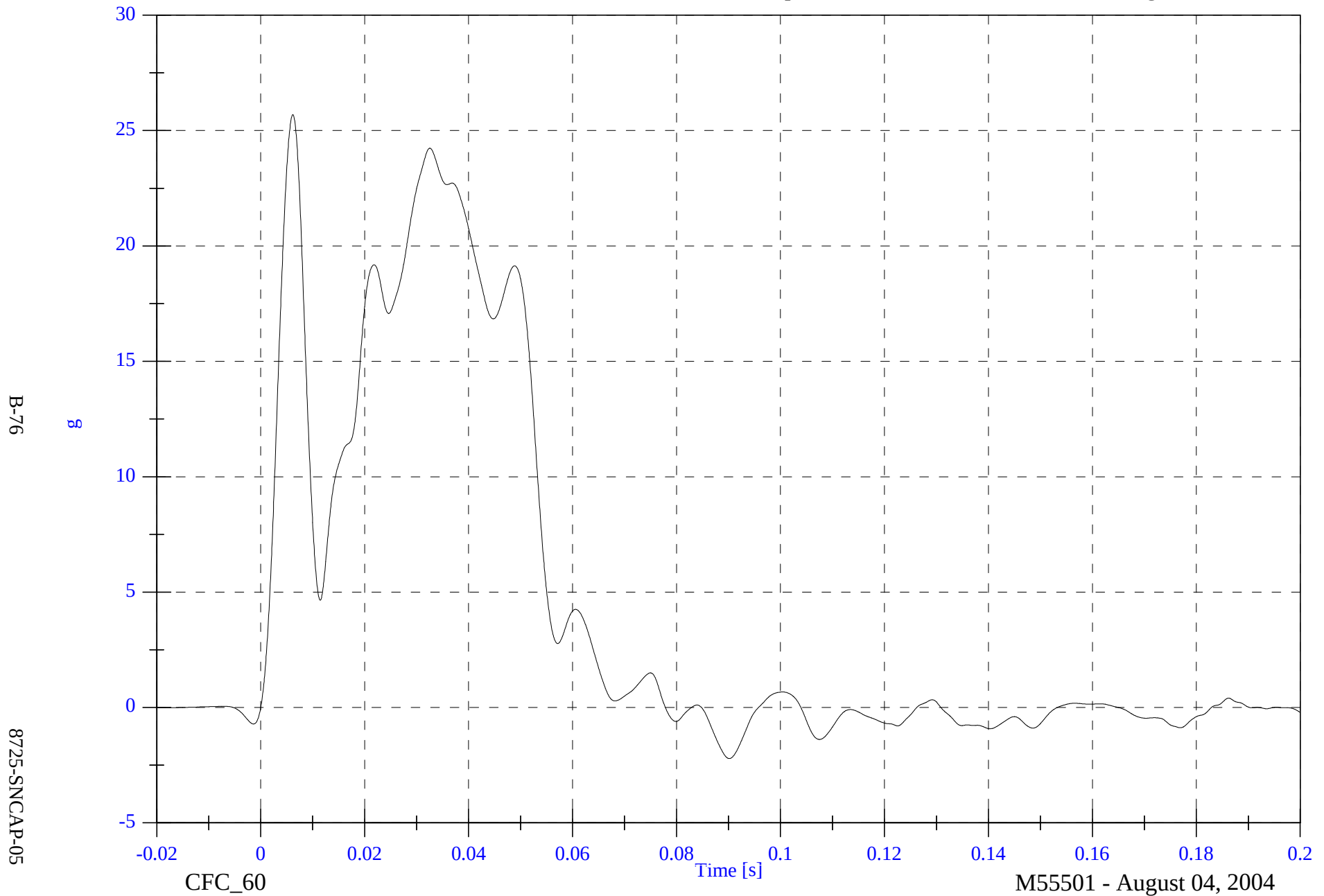


2004 SNCAP Test 5 - 2005 Subaru Outback

V2A3 Rear Floorpan Y

Max: 25.7 [g] at 0.006 [s]

Min: -2.2 [g] at 0.090 [s]

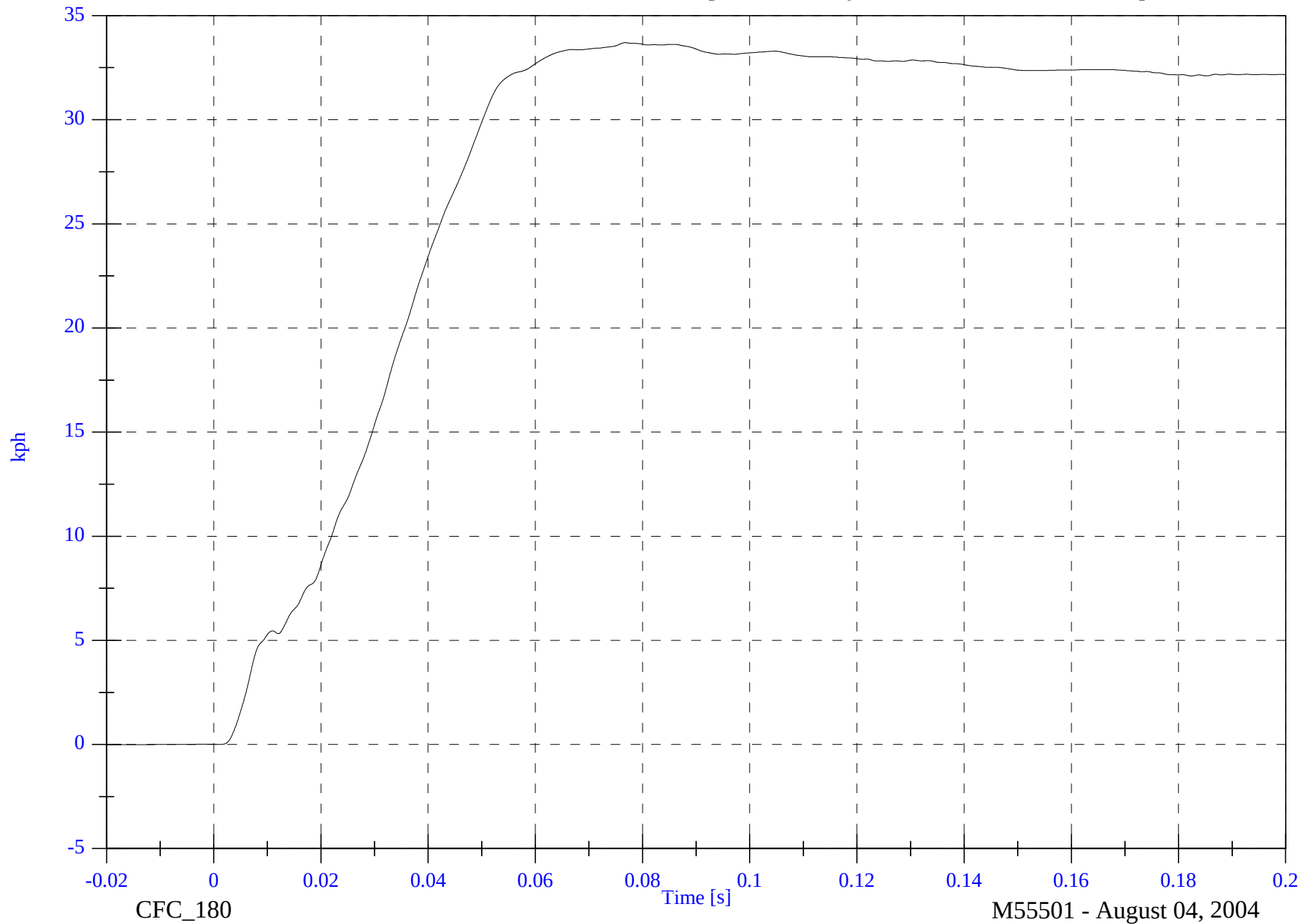


2004 SNCAP Test 5 - 2005 Subaru Outback

V2A3 Rear Floorpan Y Velocity

Max: 33.7 [kph] at 0.077 [s]

Min: -0.0 [kph] at -0.016 [s]



B-77

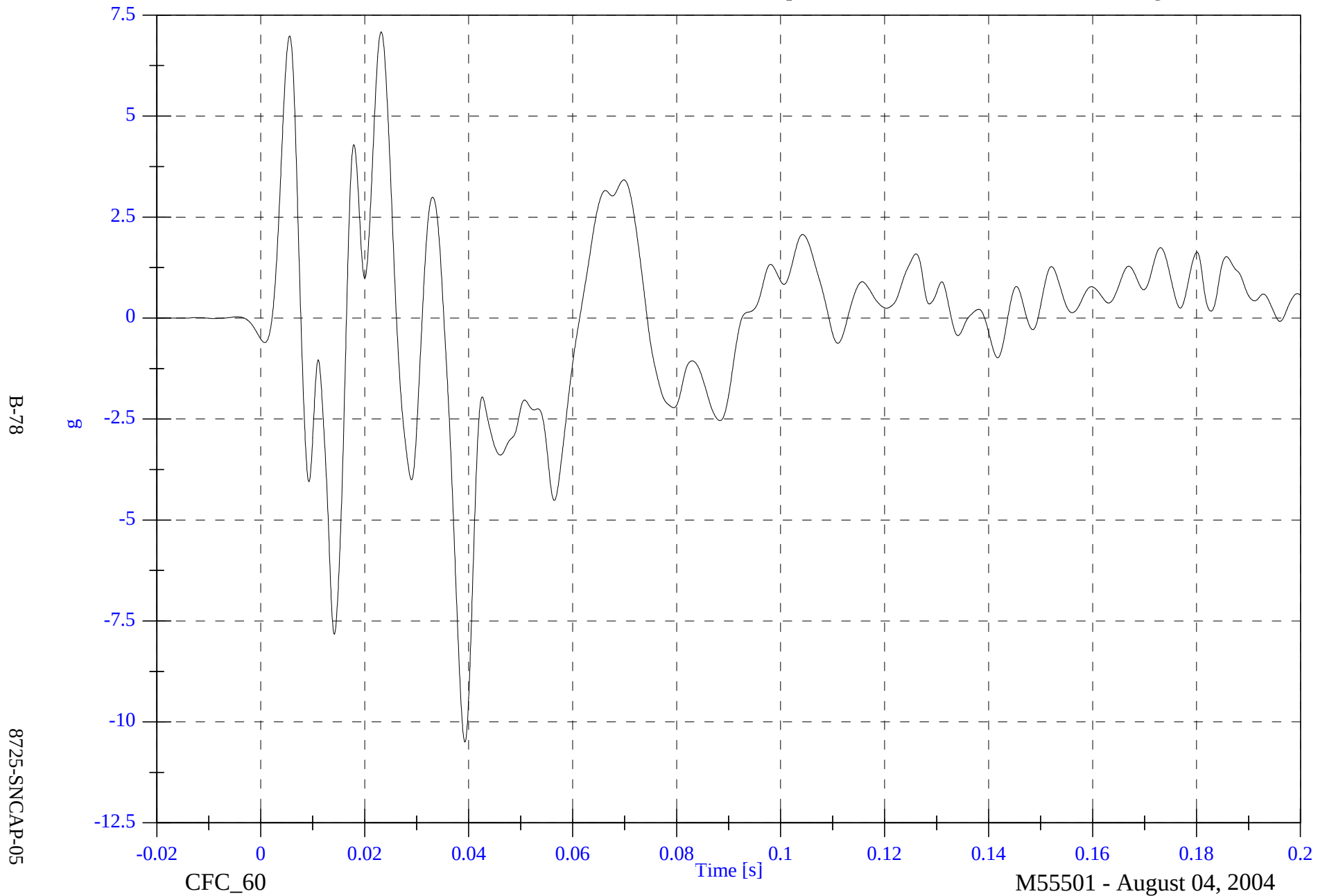
8725-SNCAP-05

2004 SNCAP Test 5 - 2005 Subaru Outback

V2A3 Rear Floorpan Z

Max: 7.1 [g] at 0.023 [s]

Min: -10.5 [g] at 0.039 [s]



2004 SNCAP Test 5 - 2005 Subaru Outback

V2A3 Rear Floorpan Z Velocity

Max: 1.0 [kph] at 0.007 [s]

Min: -2.7 [kph] at 0.092 [s]



2004 SENCAP Test 5 - 2005 Subaru Outback

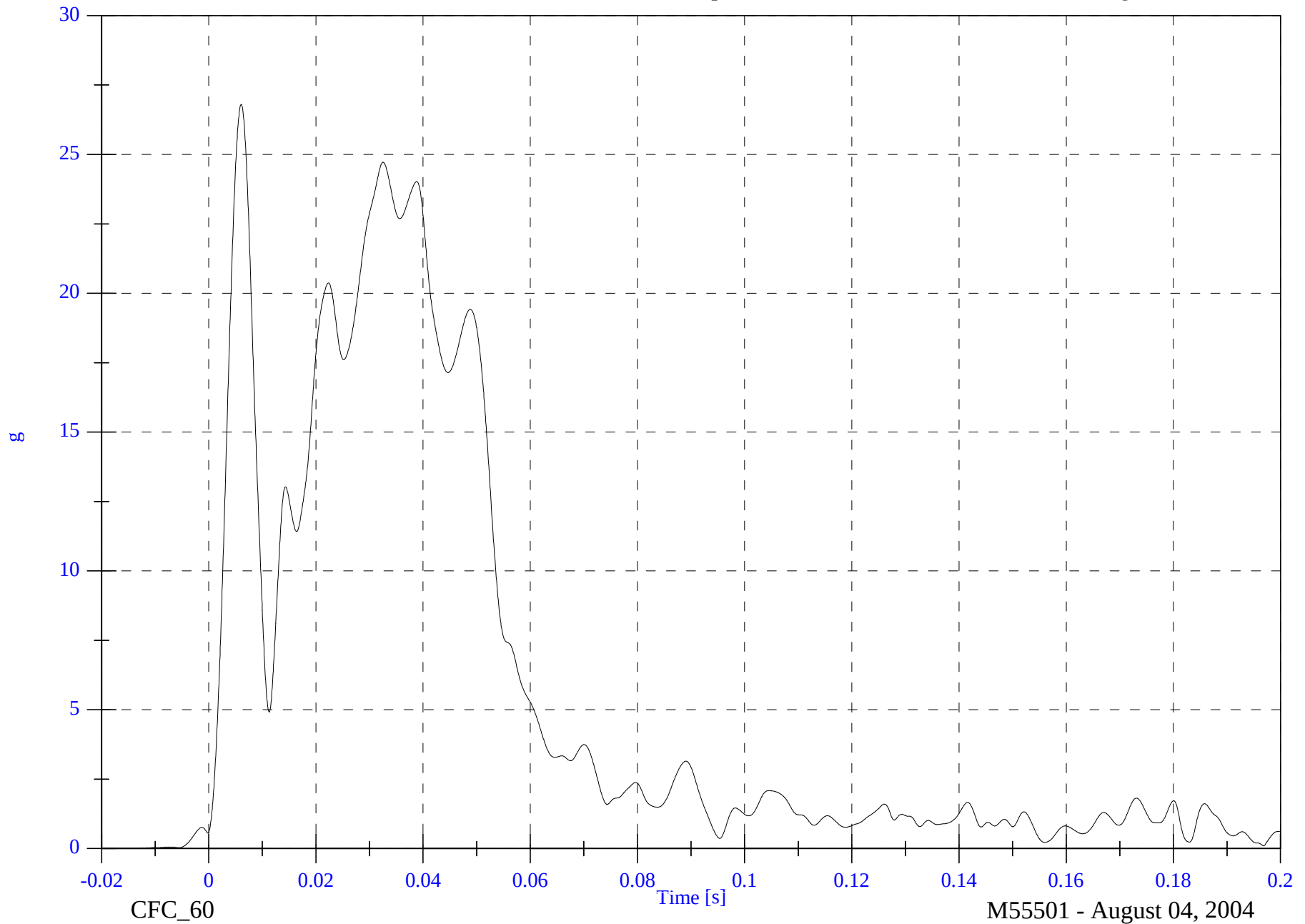
V2A3 Rear Floorpan Resultant

Max: 26.8 [g] at 0.006 [s]

Min: 0.0 [g] at -0.015 [s]

B-80

8725-SENCAP-05



2004 SNCAP Test 5 - 2005 Subaru Outback

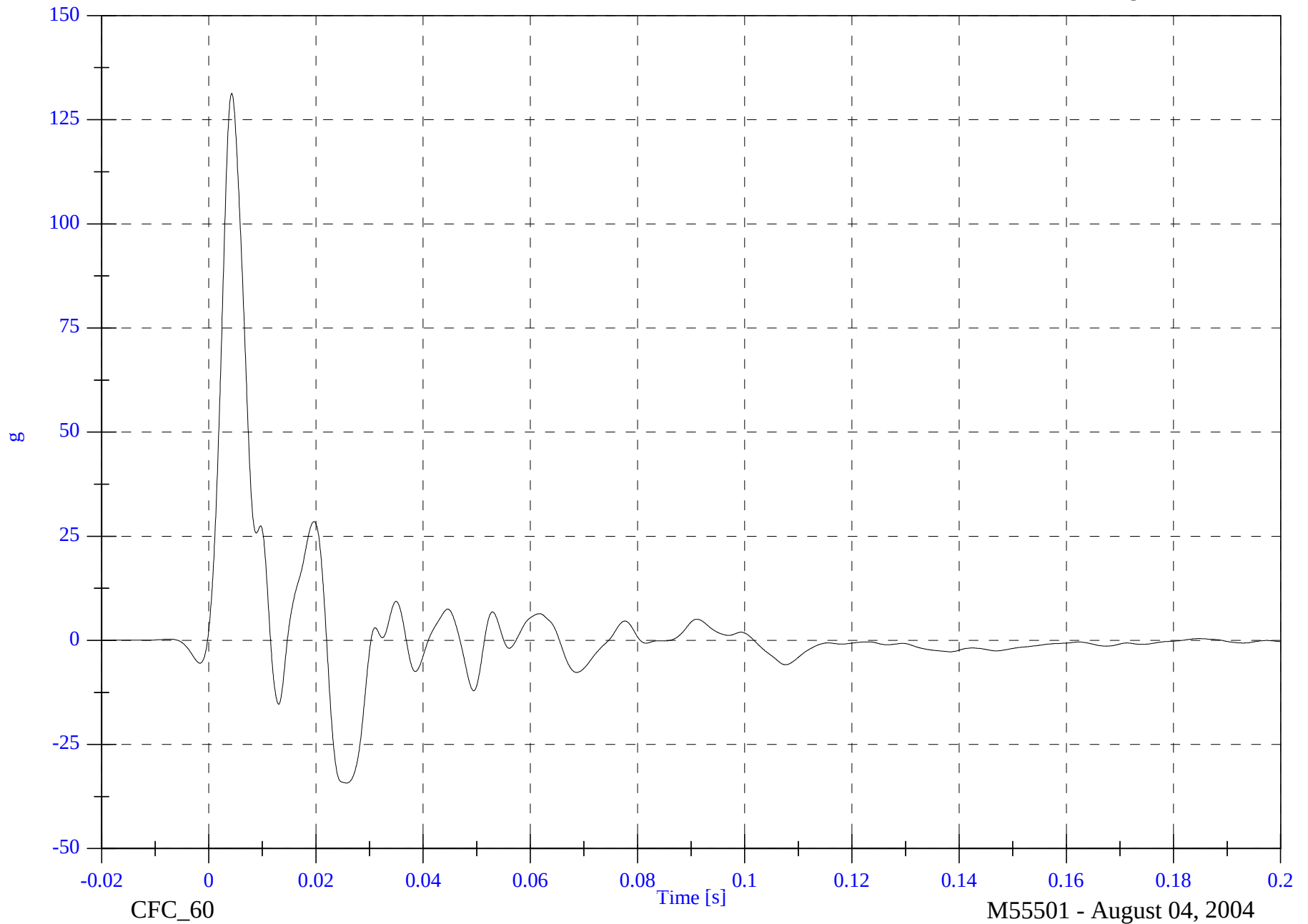
V2A4 Left Rear Sill Y

Max: 131.3 [g] at 0.004 [s]

Min: -34.2 [g] at 0.026 [s]

B-81

8725-SNCAP-05



2004 SNCAP Test 5 - 2005 Subaru Outback

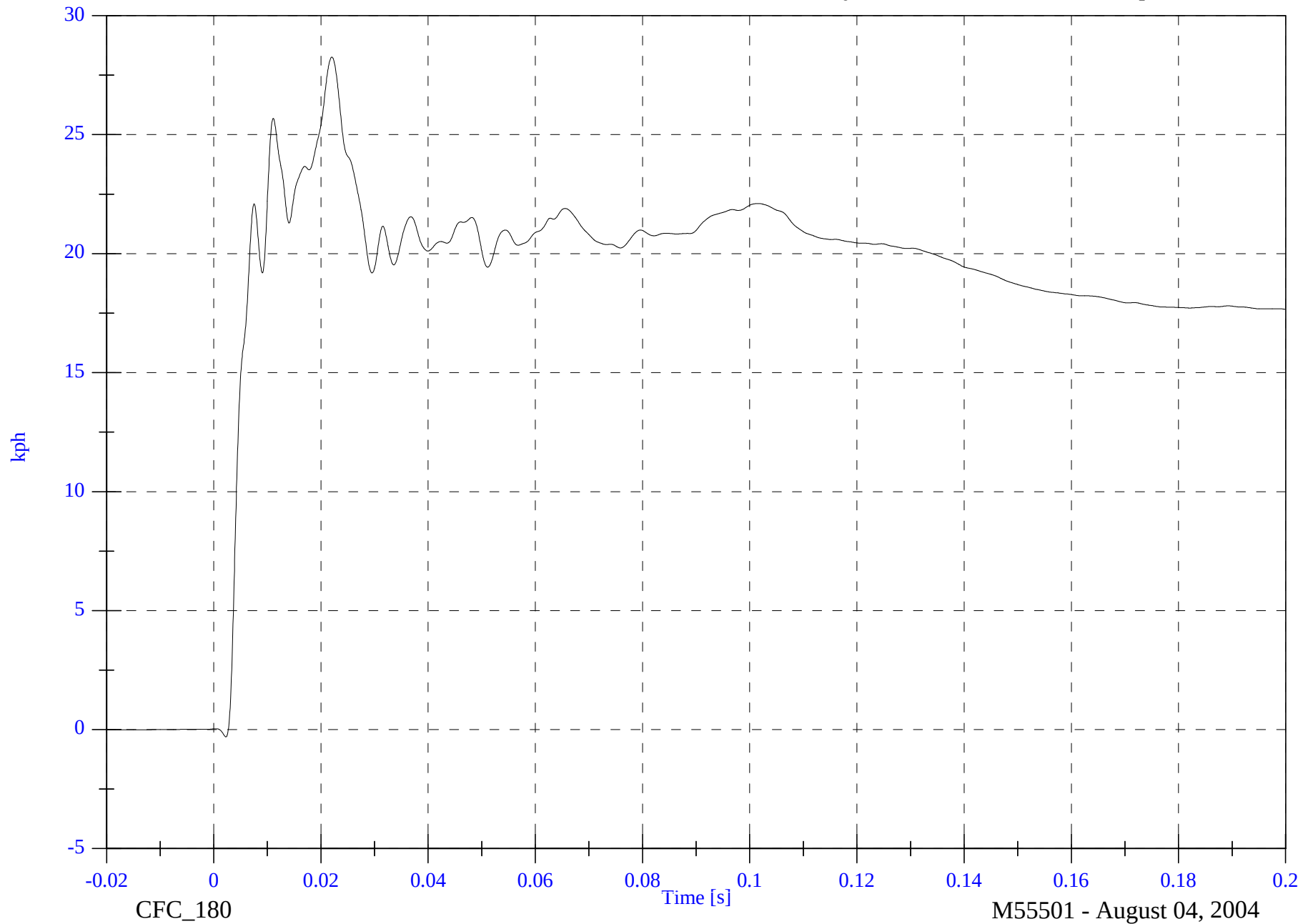
V2A4 Left Rear Sill Y Velocity

Max: 28.3 [kph] at 0.022 [s]

Min: -0.3 [kph] at 0.002 [s]

B-82

8725-SNCAP-05

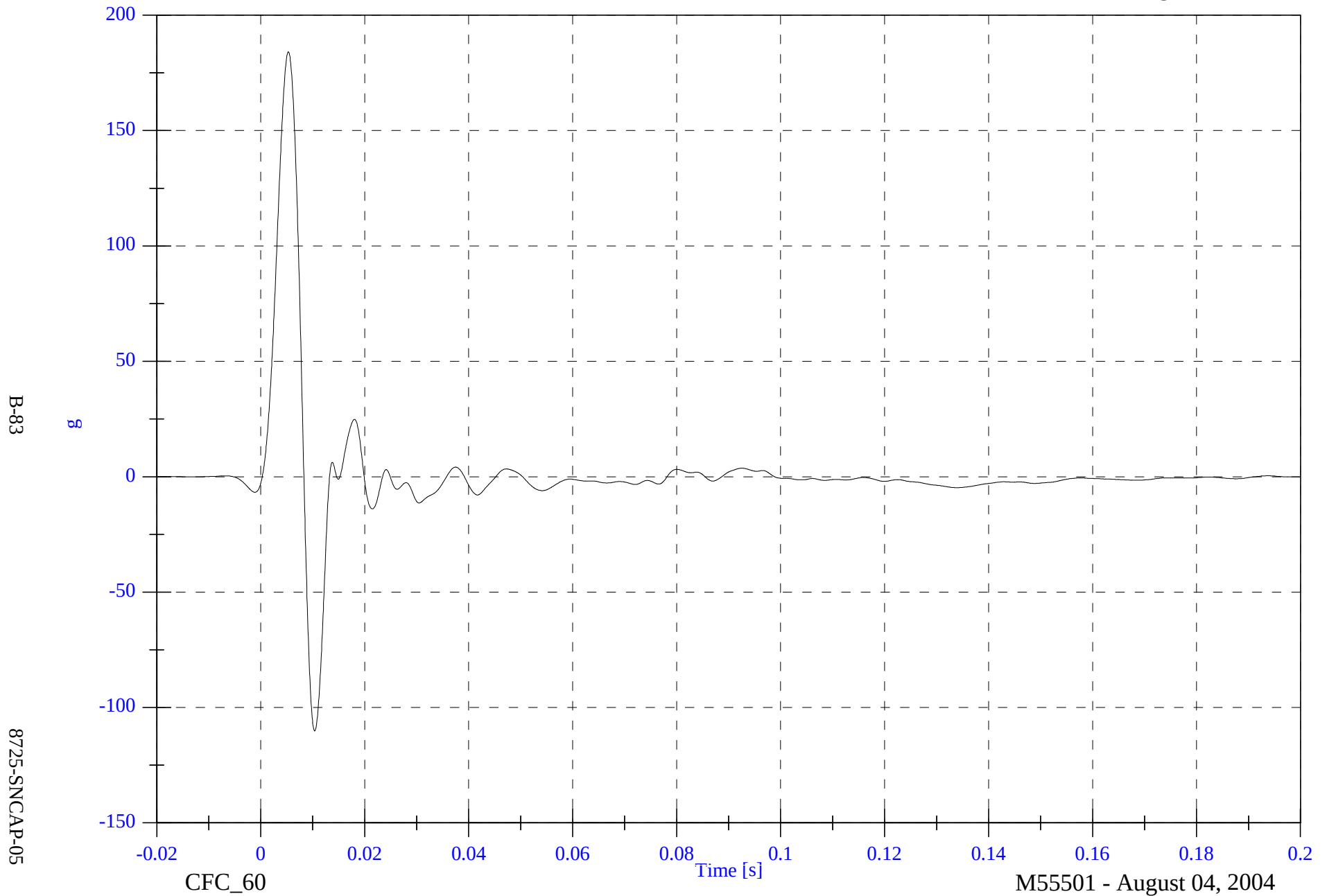


2004 SNCAP Test 5 - 2005 Subaru Outback

V2A5 Left Front Sill Y

Max: 184.1 [g] at 0.005 [s]

Min: -110.2 [g] at 0.010 [s]

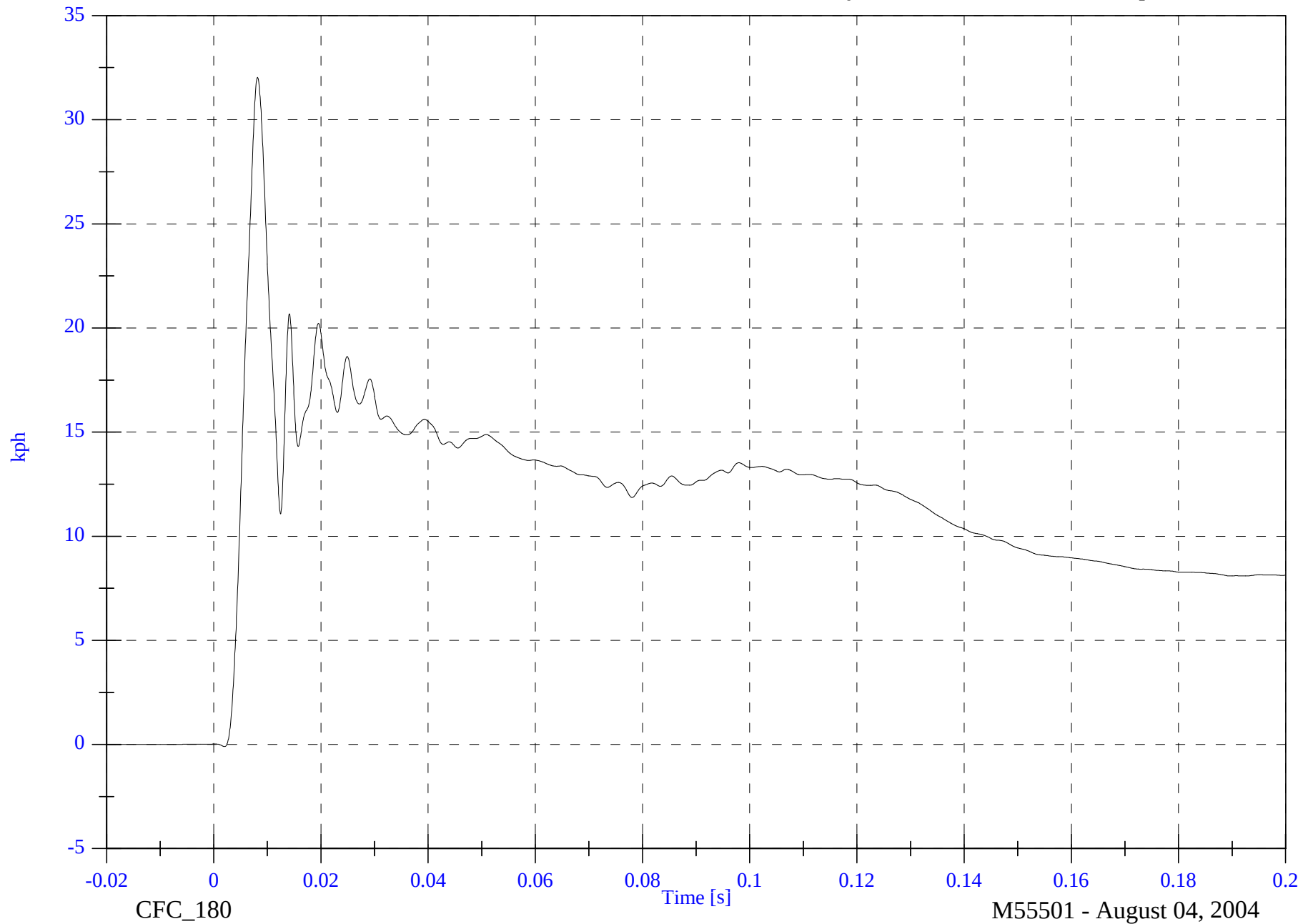


2004 SNCAP Test 5 - 2005 Subaru Outback

V2A5 Left Front Sill Y Velocity

Max: 32.0 [kph] at 0.008 [s]

Min: -0.1 [kph] at 0.002 [s]



B-84

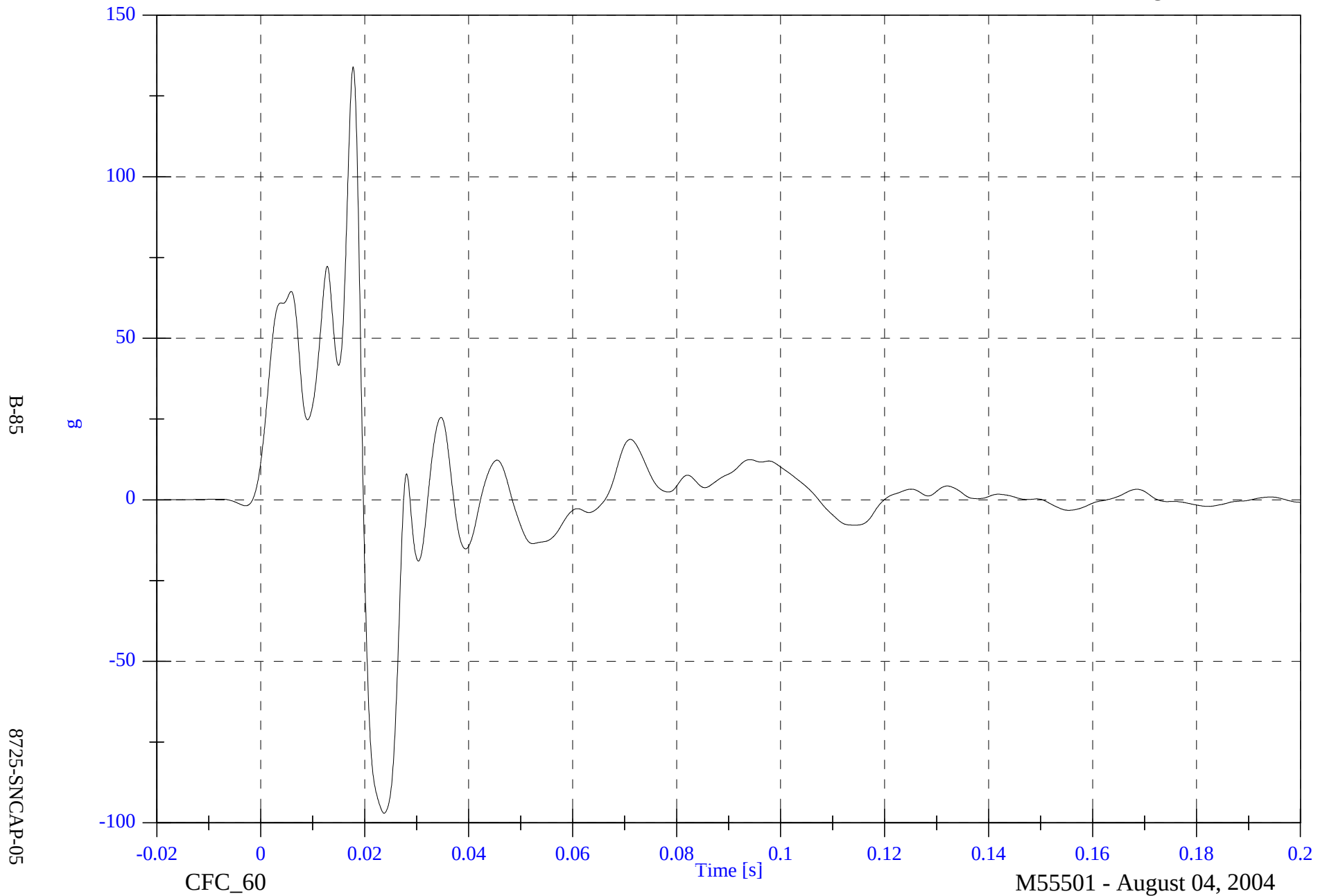
8725-SNCAP-05

2004 SENCAP Test 5 - 2005 Subaru Outback

V2A6 Left Front Door C/L Y

Max: 134.0 [g] at 0.018 [s]

Min: -97.0 [g] at 0.024 [s]



2004 SNCAP Test 5 - 2005 Subaru Outback

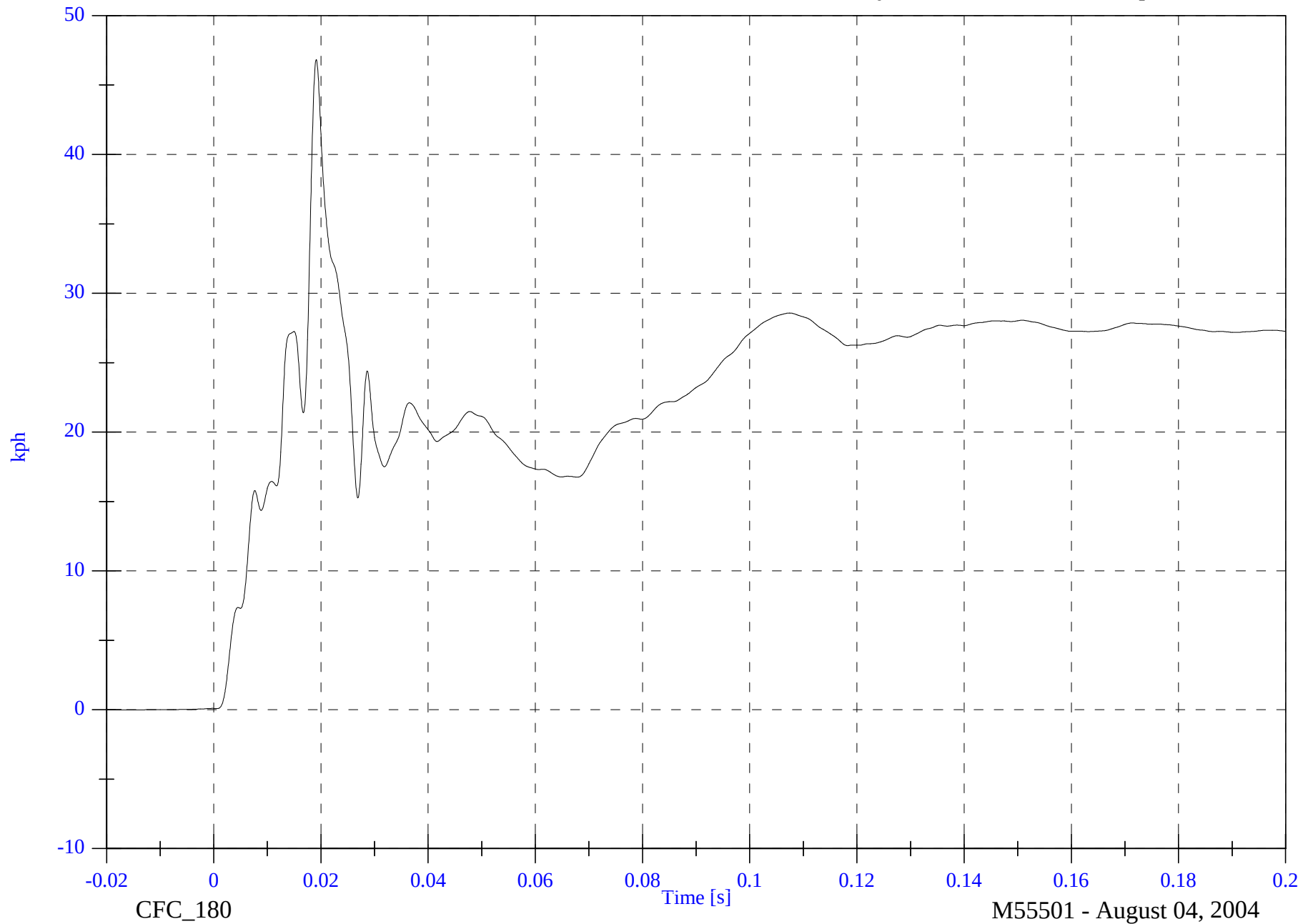
V2A6 Left Front Door C/L Y Velocity

Max: 46.8 [kph] at 0.019 [s]

Min: -0.0 [kph] at -0.018 [s]

B-86

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2004 SNCAP Test 5 - 2005 Subaru Outback

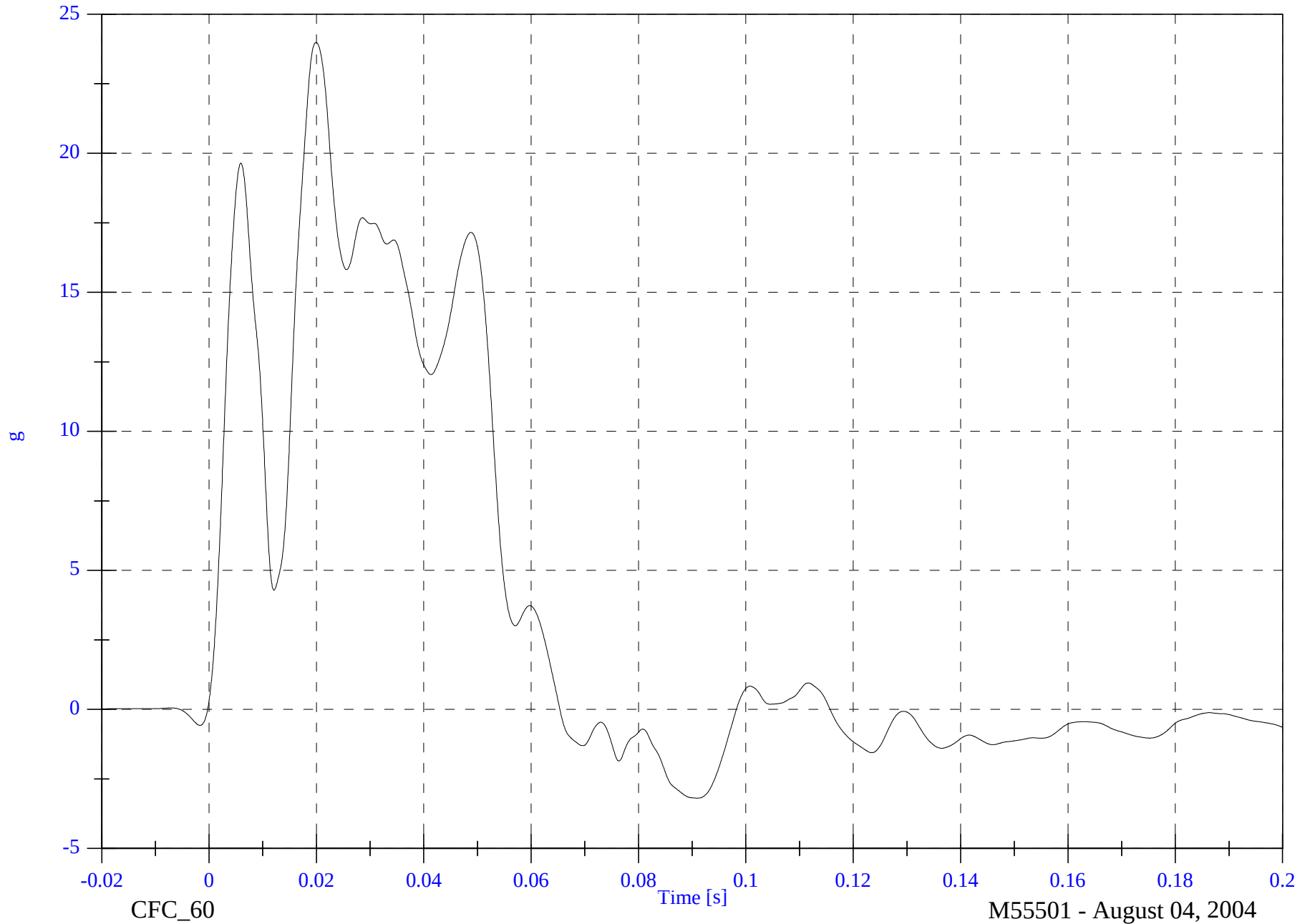
V2A7 Right Rear Compartment Y

Max: 24.0 [g] at 0.020 [s]

Min: -3.2 [g] at 0.091 [s]

B-87

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2004 SNCAP Test 5 - 2005 Subaru Outback

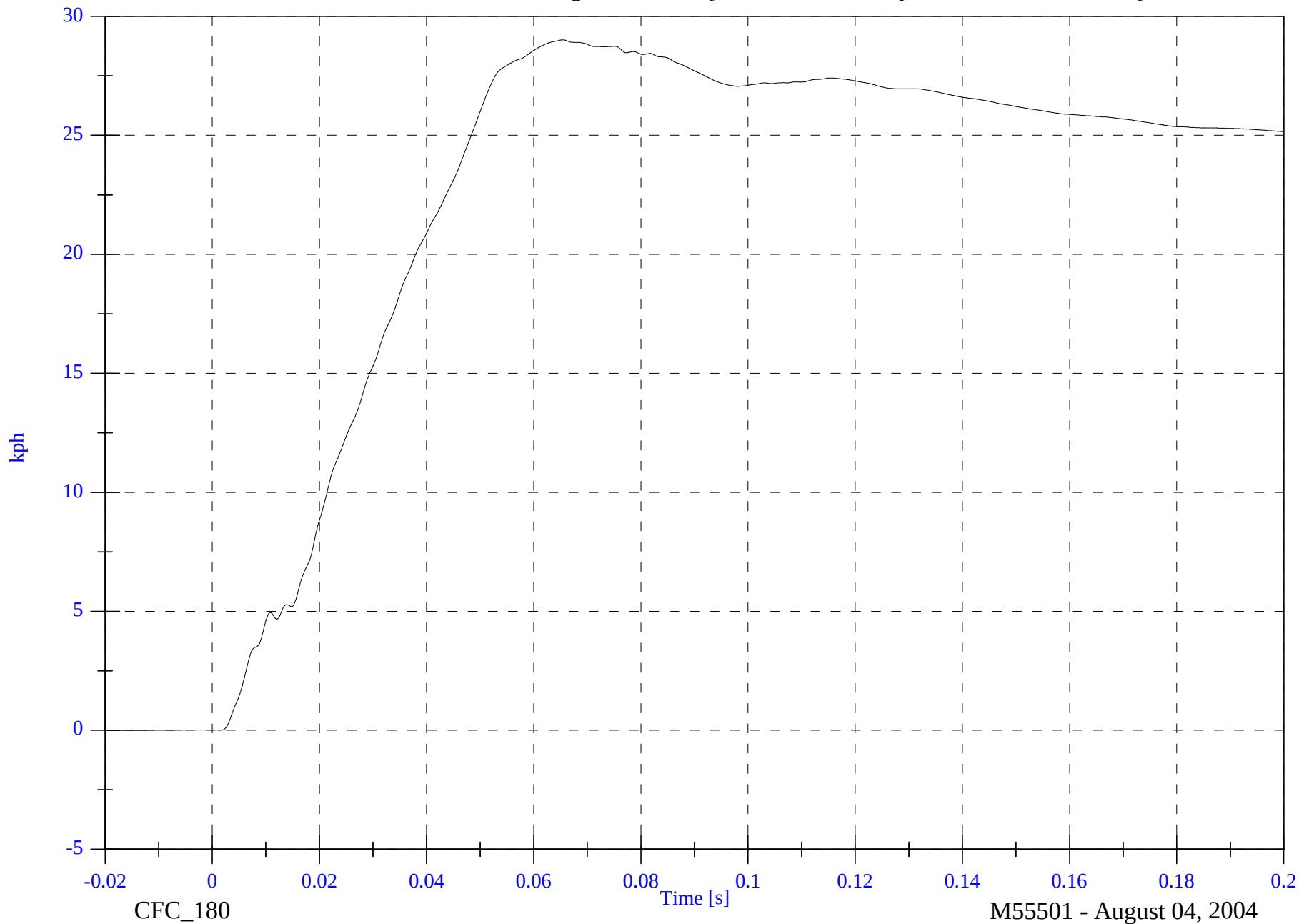
V2A7 Right Rear Compartment Y Velocity

Max: 29.0 [kph] at 0.065 [s]

Min: -0.0 [kph] at -0.020 [s]

B-88

8725-SNCAP-05

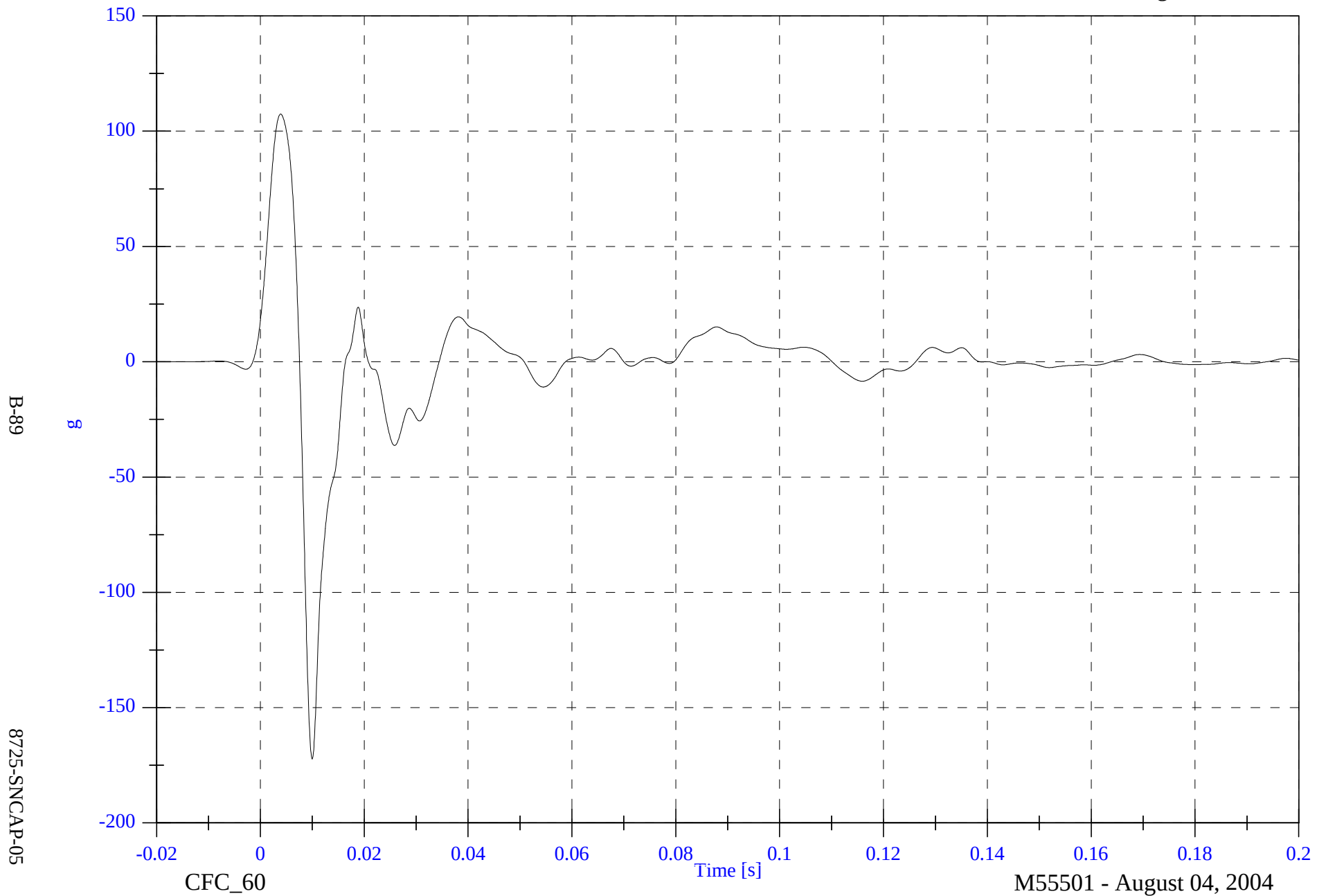


2004 SNCAP Test 5 - 2005 Subaru Outback

V2A8 Left Front Door Midrear Y

Max: 107.4 [g] at 0.004 [s]

Min: -172.2 [g] at 0.010 [s]



2004 SNCAP Test 5 - 2005 Subaru Outback

V2A8 Left Front Door Midrear Y Velocity

Max: 25.3 [kph] at 0.009 [s]

Min: -13.1 [kph] at 0.035 [s]

B-90

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2004 SNCAP Test 5 - 2005 Subaru Outback

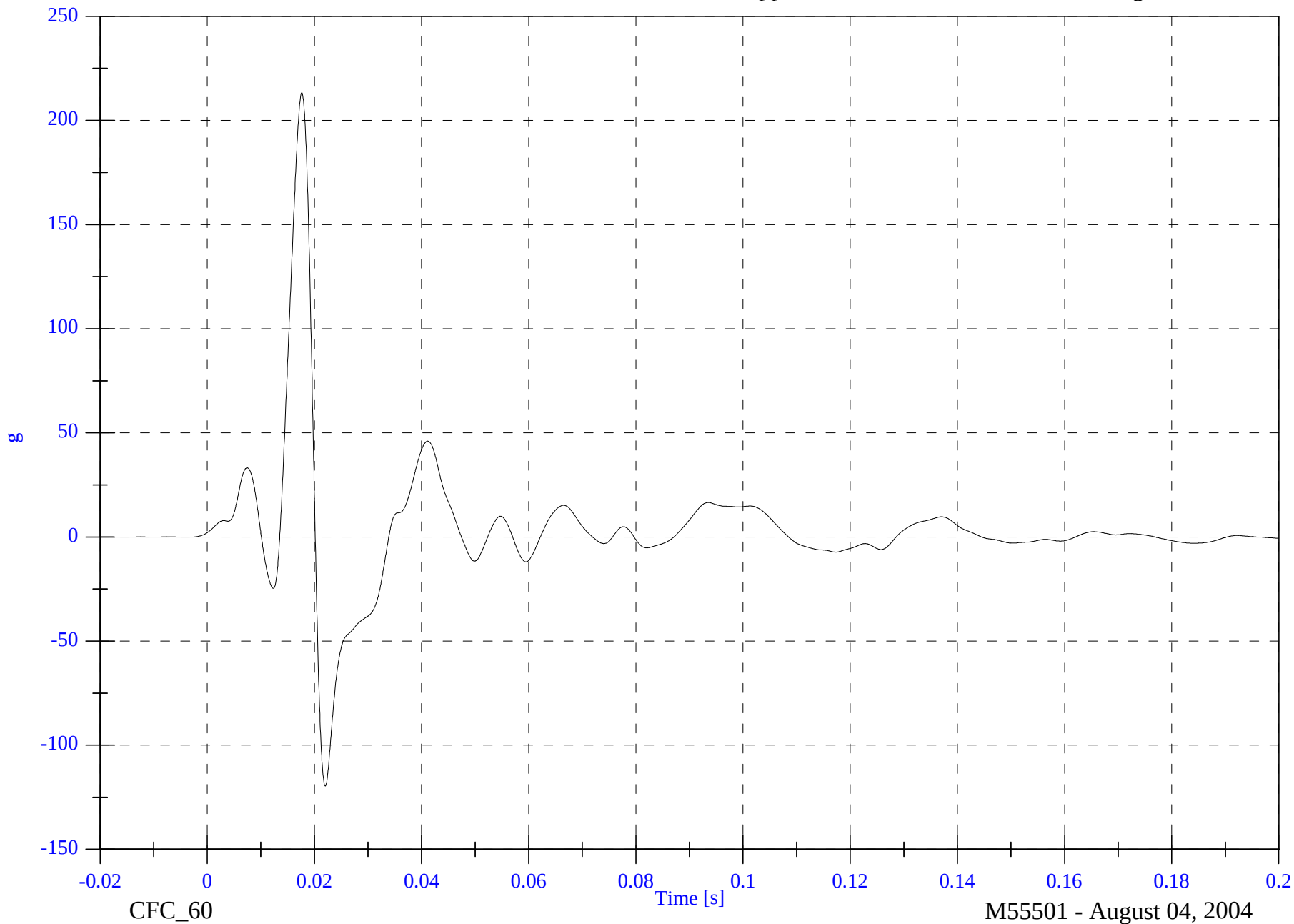
V2A9 Left Front Door Upper C/L Y

Max: 213.4 [g] at 0.018 [s]

Min: -119.7 [g] at 0.022 [s]

B-91

8725-SNCAP-05



2004 SNCAP Test 5 - 2005 Subaru Outback

V2A9 Left Front Door Upper C/L Y Velocity

Max: 39.9 [kph] at 0.020 [s]

Min: -0.0 [kph] at -0.020 [s]



B-92

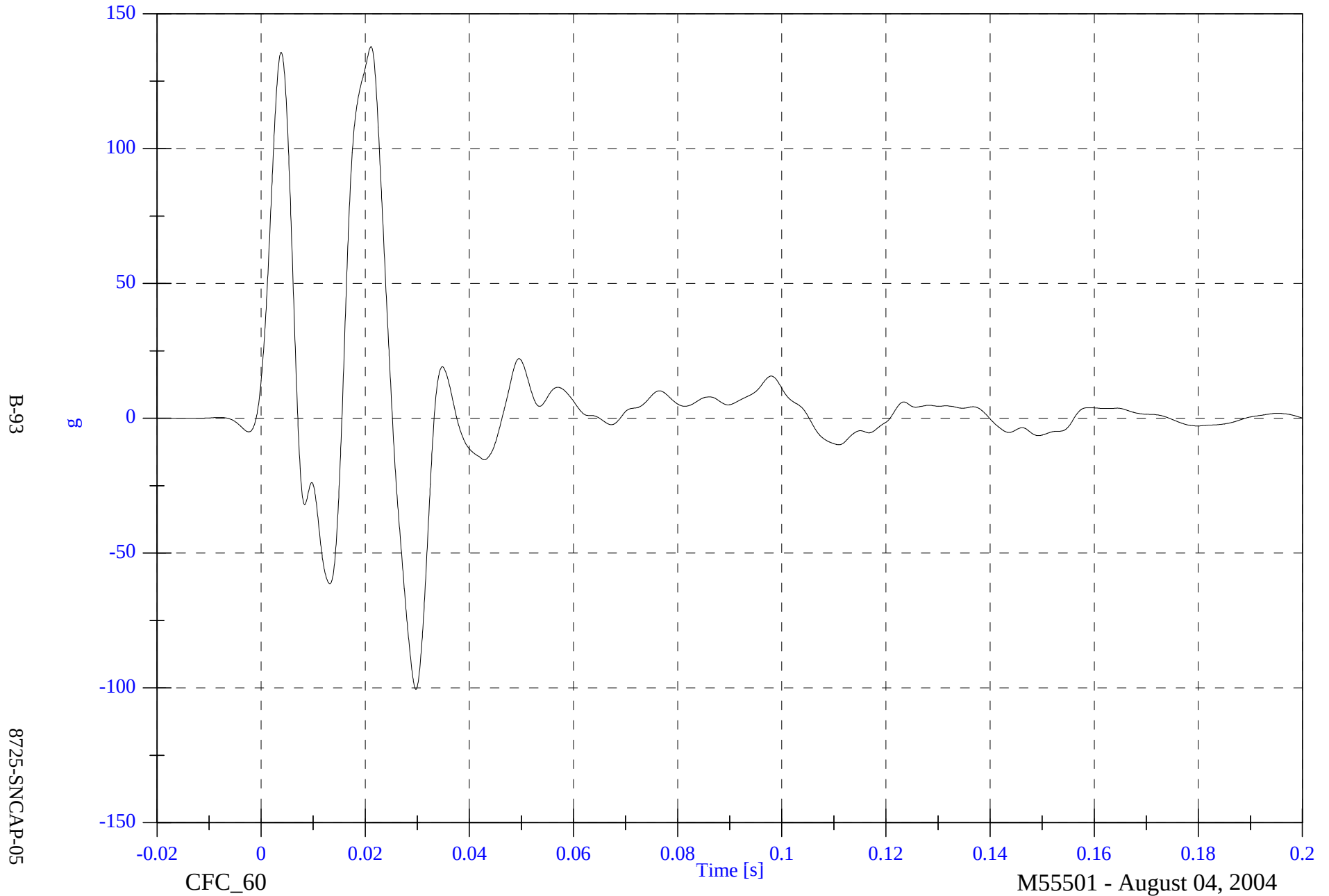
8725-SNCAP-05

2004 SNCAP Test 5 - 2005 Subaru Outback

V2A10 Left Rear Door Midrear Y

Max: 137.8 [g] at 0.021 [s]

Min: -100.5 [g] at 0.030 [s]



2004 SNCAP Test 5 - 2005 Subaru Outback

V2A10 Left Rear Door Midrear Y Velocity

Max: 39.8 [kph] at 0.025 [s]

Min: -0.0 [kph] at 0.001 [s]



B-94

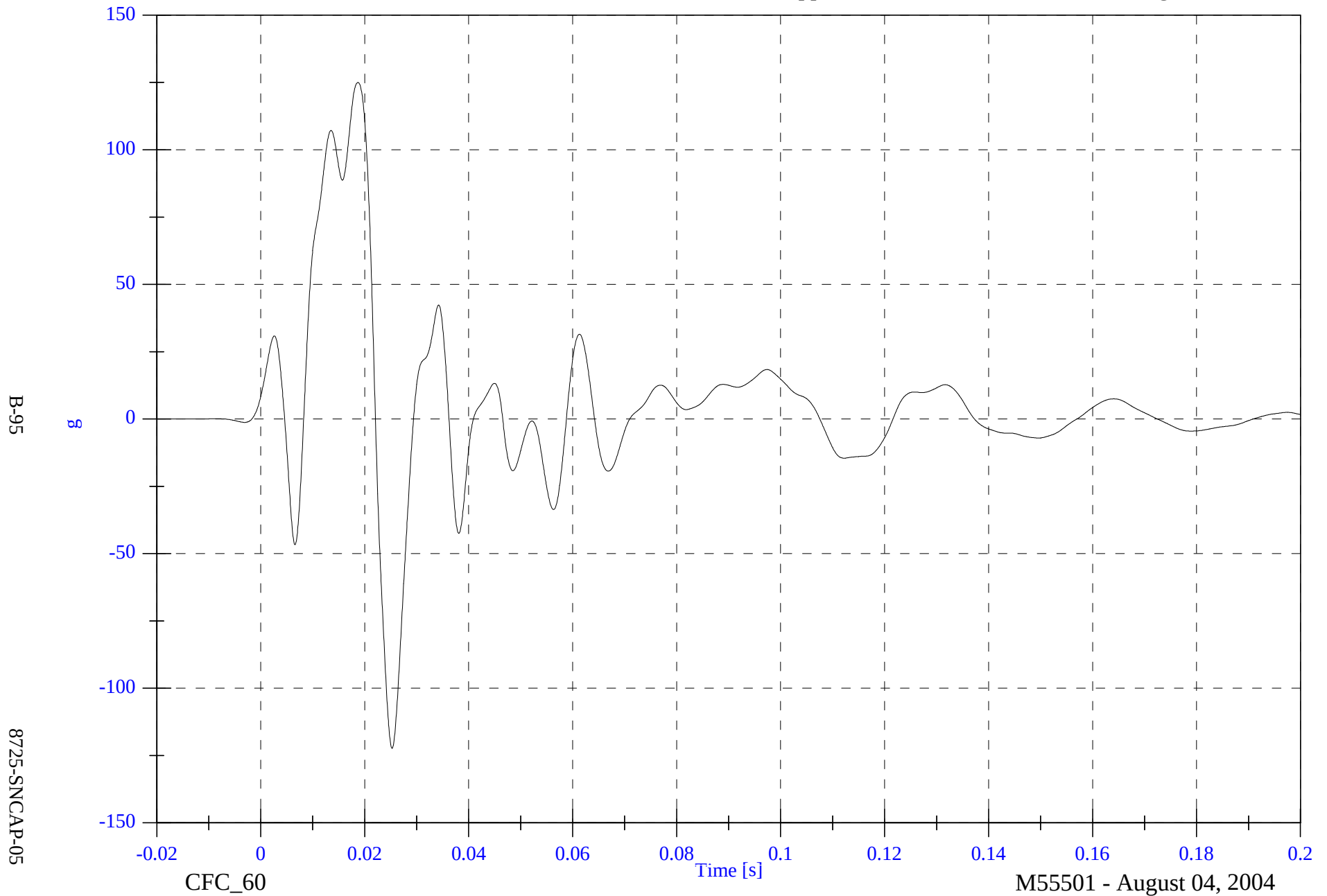
8725-SNCAP-05

2004 SNCAP Test 5 - 2005 Subaru Outback

V2A11 Left Rear Door Upper C/L Y

Max: 125.0 [g] at 0.019 [s]

Min: -122.3 [g] at 0.025 [s]



2004 SNCAP Test 5 - 2005 Subaru Outback

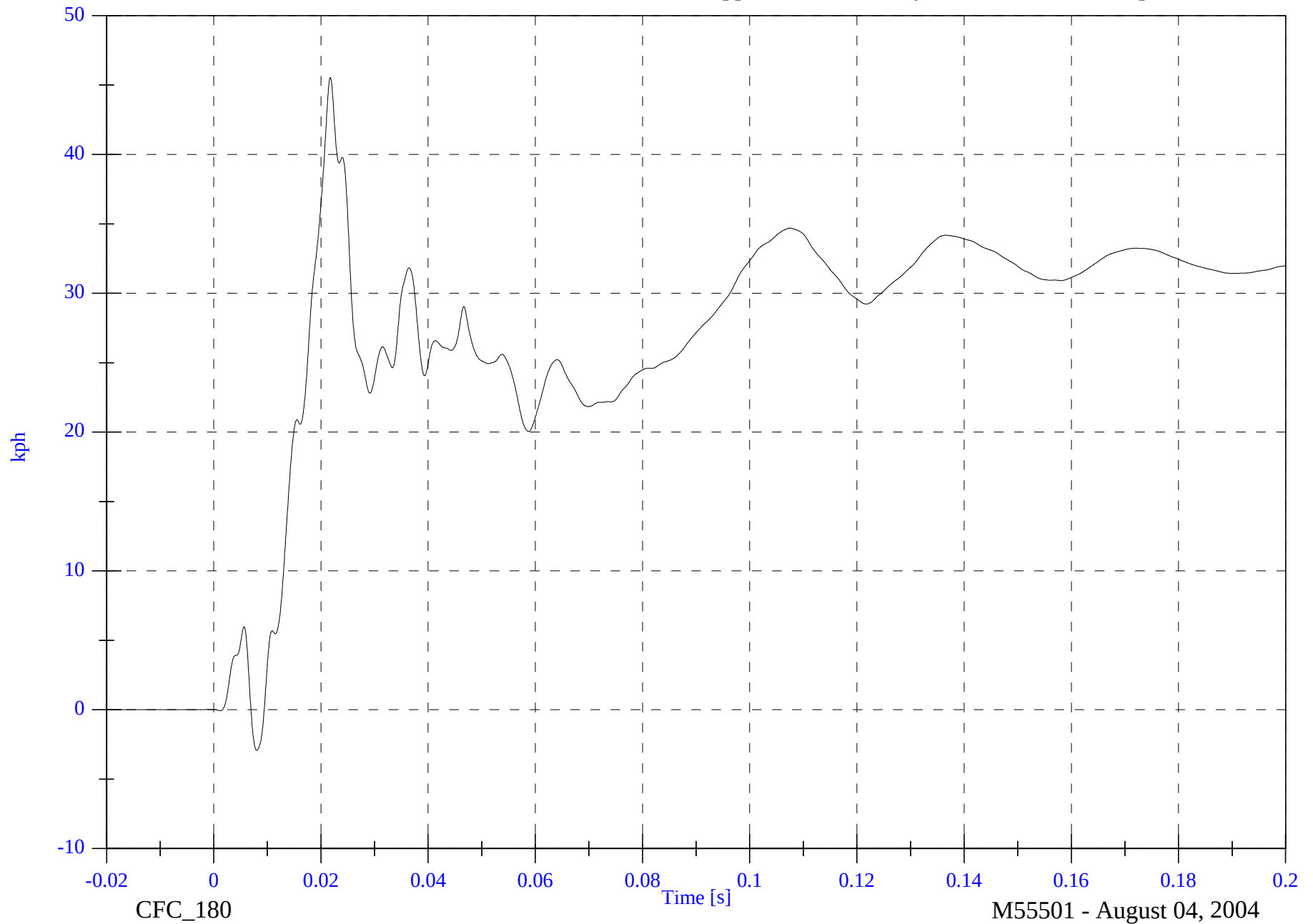
V2A11 Left Rear Door Upper C/L Y Velocity

Max: 45.5 [kph] at 0.022 [s]

Min: -2.9 [kph] at 0.008 [s]

B-96

8725-SNCAP-05

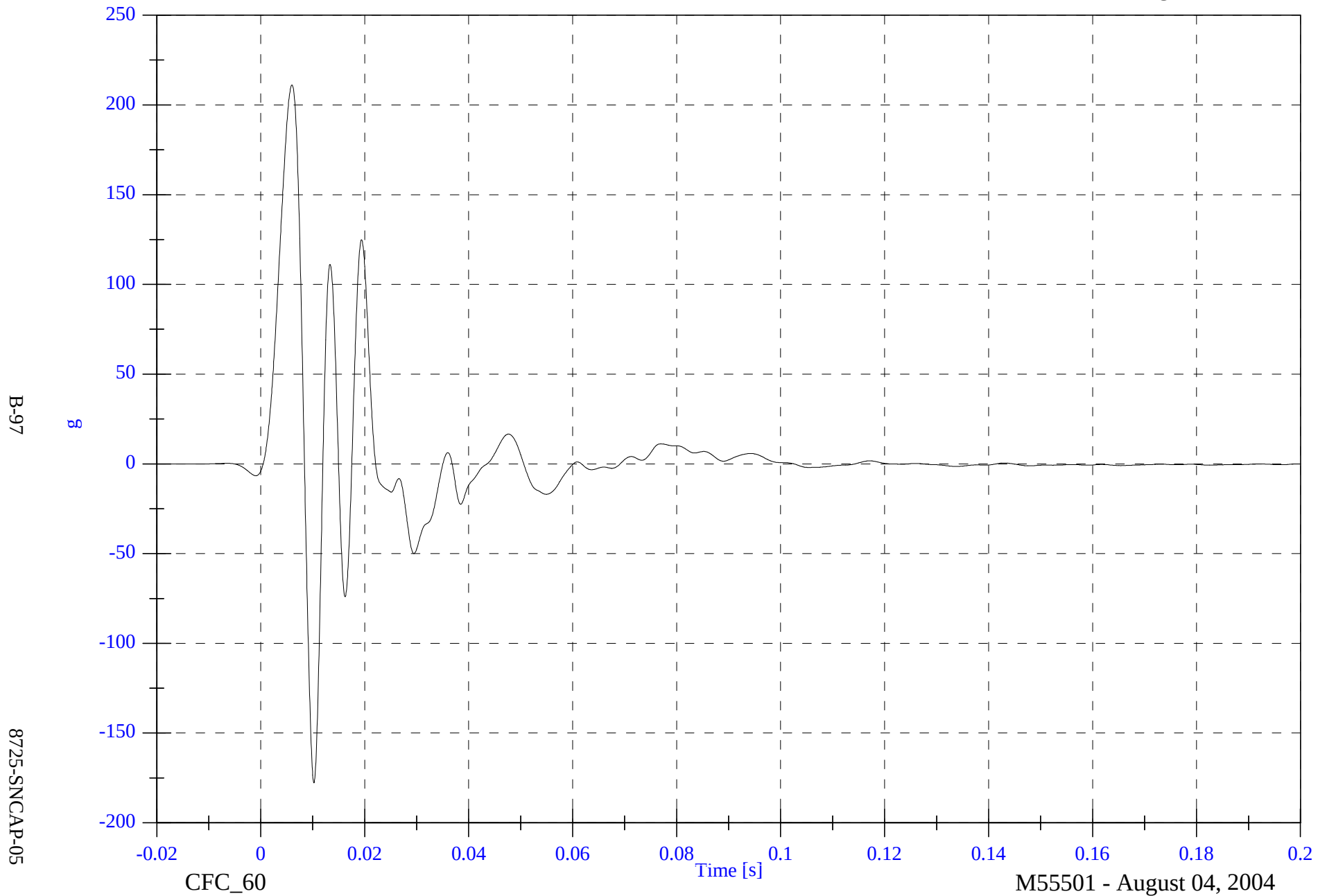


2004 SNCAP Test 5 - 2005 Subaru Outback

V2A12 Left Lower B Post Y

Max: 211.1 [g] at 0.006 [s]

Min: -177.7 [g] at 0.010 [s]



2004 SNCAP Test 5 - 2005 Subaru Outback

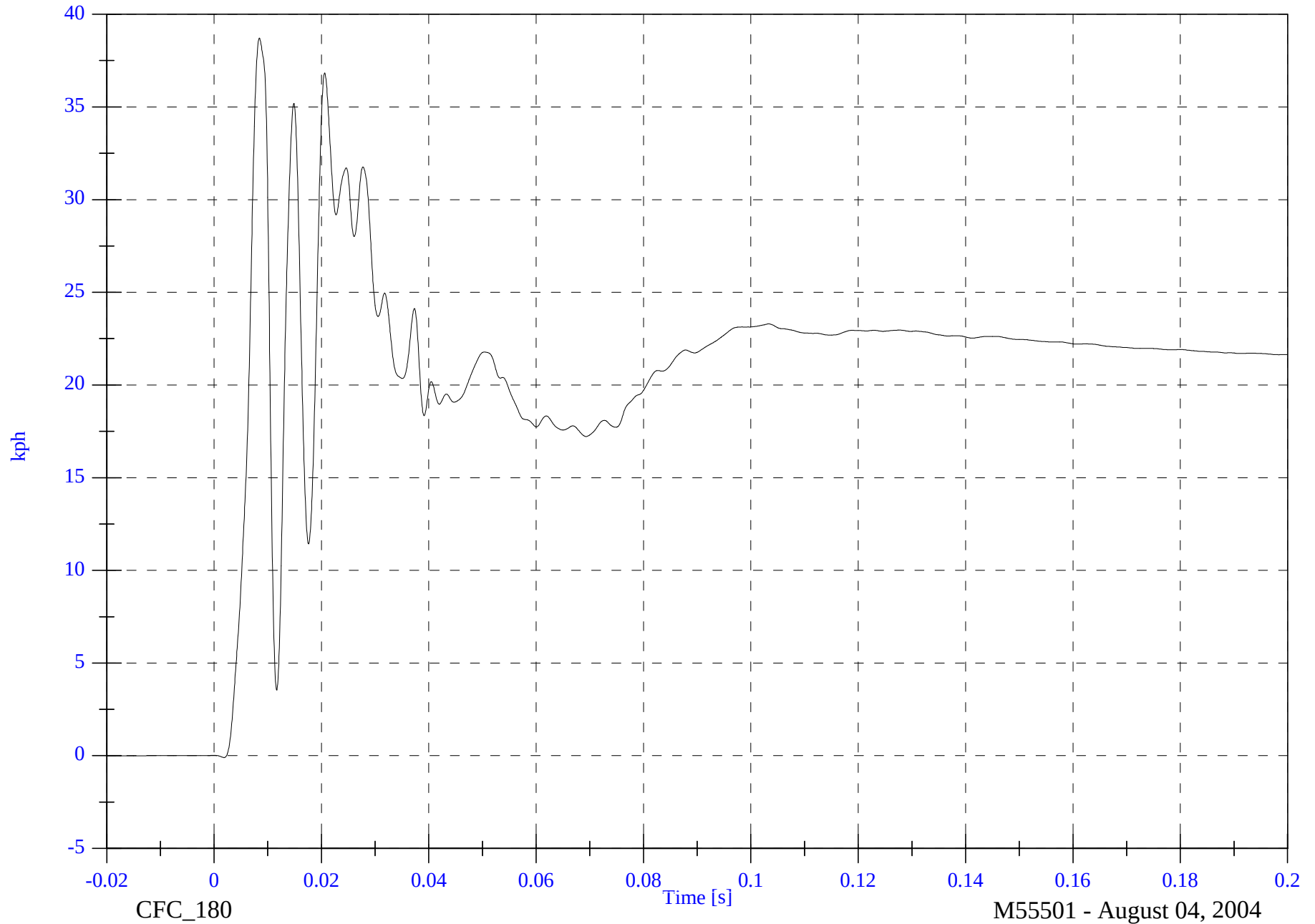
V2A12 Left Lower B Post Y Velocity

Max: 38.7 [kph] at 0.008 [s]

Min: -0.1 [kph] at 0.002 [s]

B-98

8725-SNCAP-05

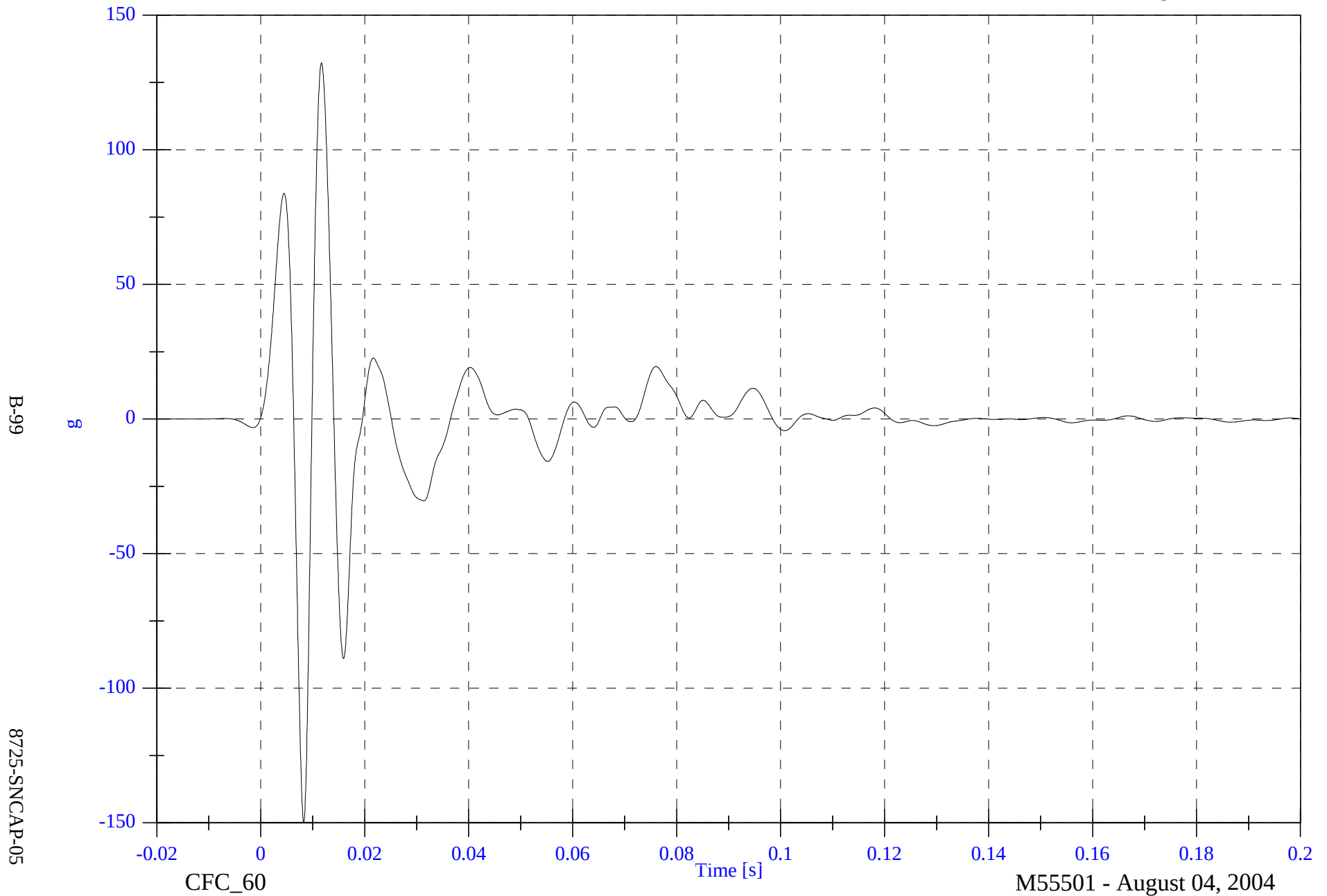


2004 SNCAP Test 5 - 2005 Subaru Outback

V2A13 Left Mid B Post Y

Max: 132.3 [g] at 0.012 [s]

Min: -149.9 [g] at 0.008 [s]

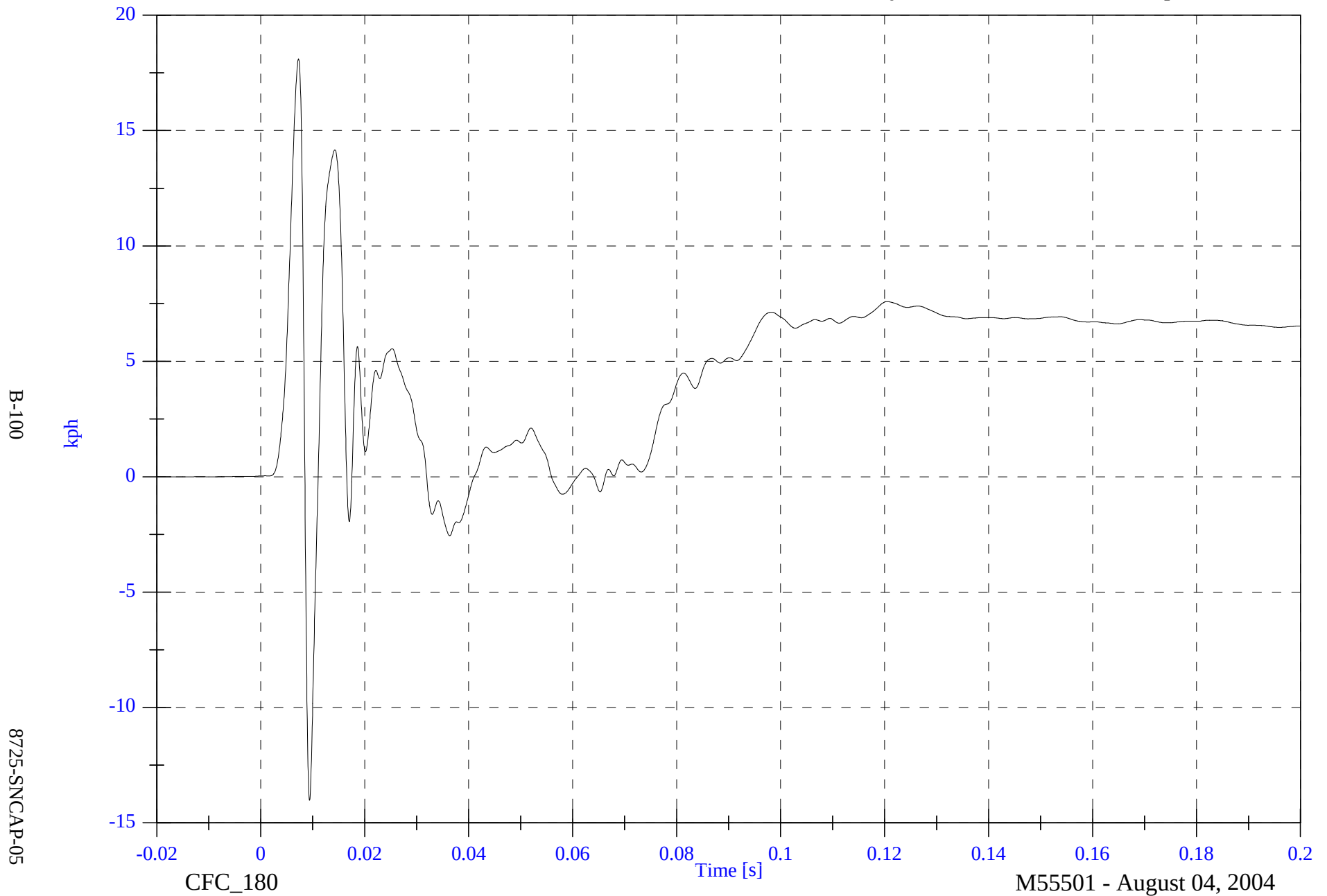


2004 SNCAP Test 5 - 2005 Subaru Outback

V2A13 Left Mid B Post Y Velocity

Max: 18.1 [kph] at 0.007 [s]

Min: -14.0 [kph] at 0.009 [s]

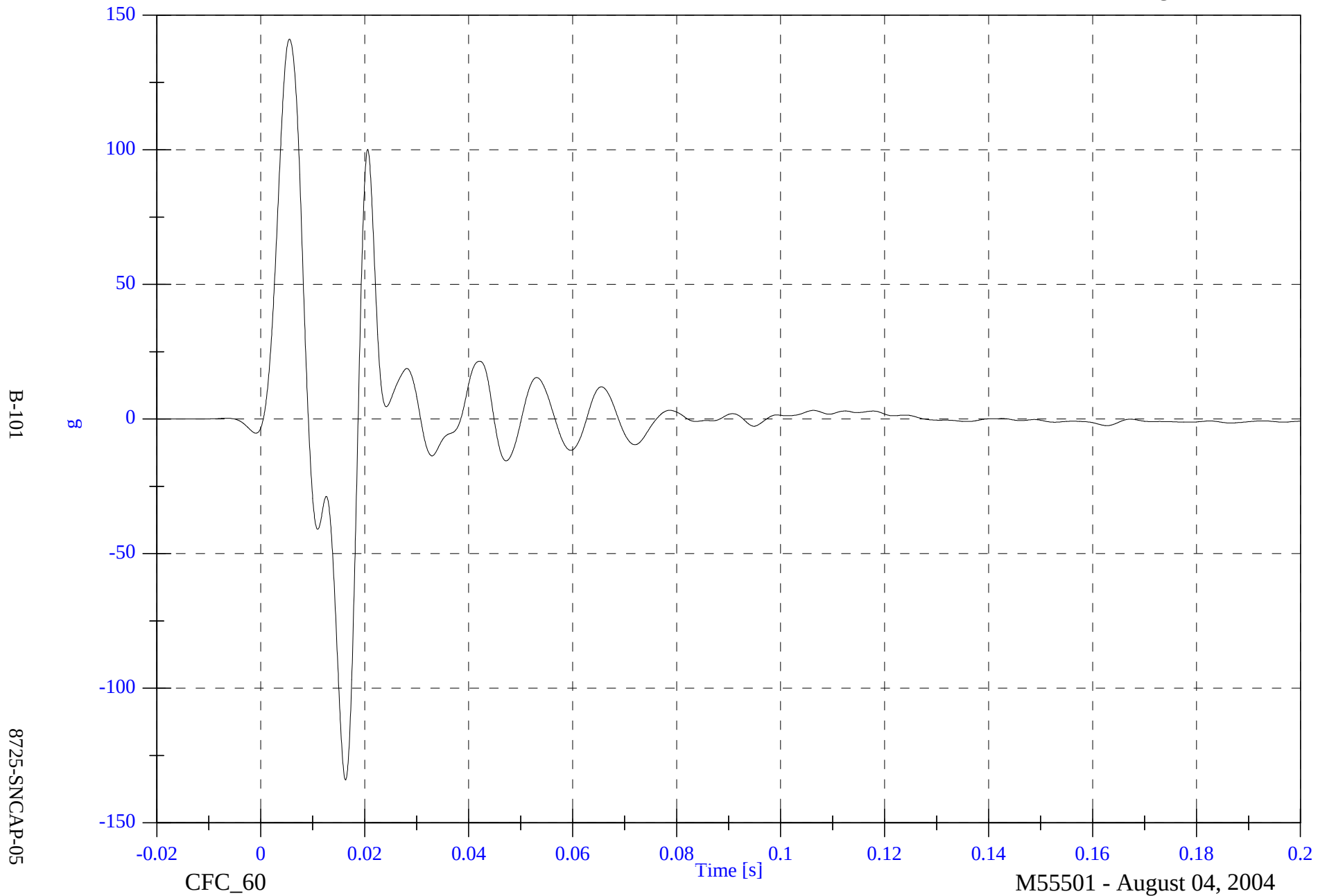


2004 SNCAP Test 5 - 2005 Subaru Outback

V2A14 Left Lower A Post Y

Max: 141.1 [g] at 0.006 [s]

Min: -134.1 [g] at 0.016 [s]

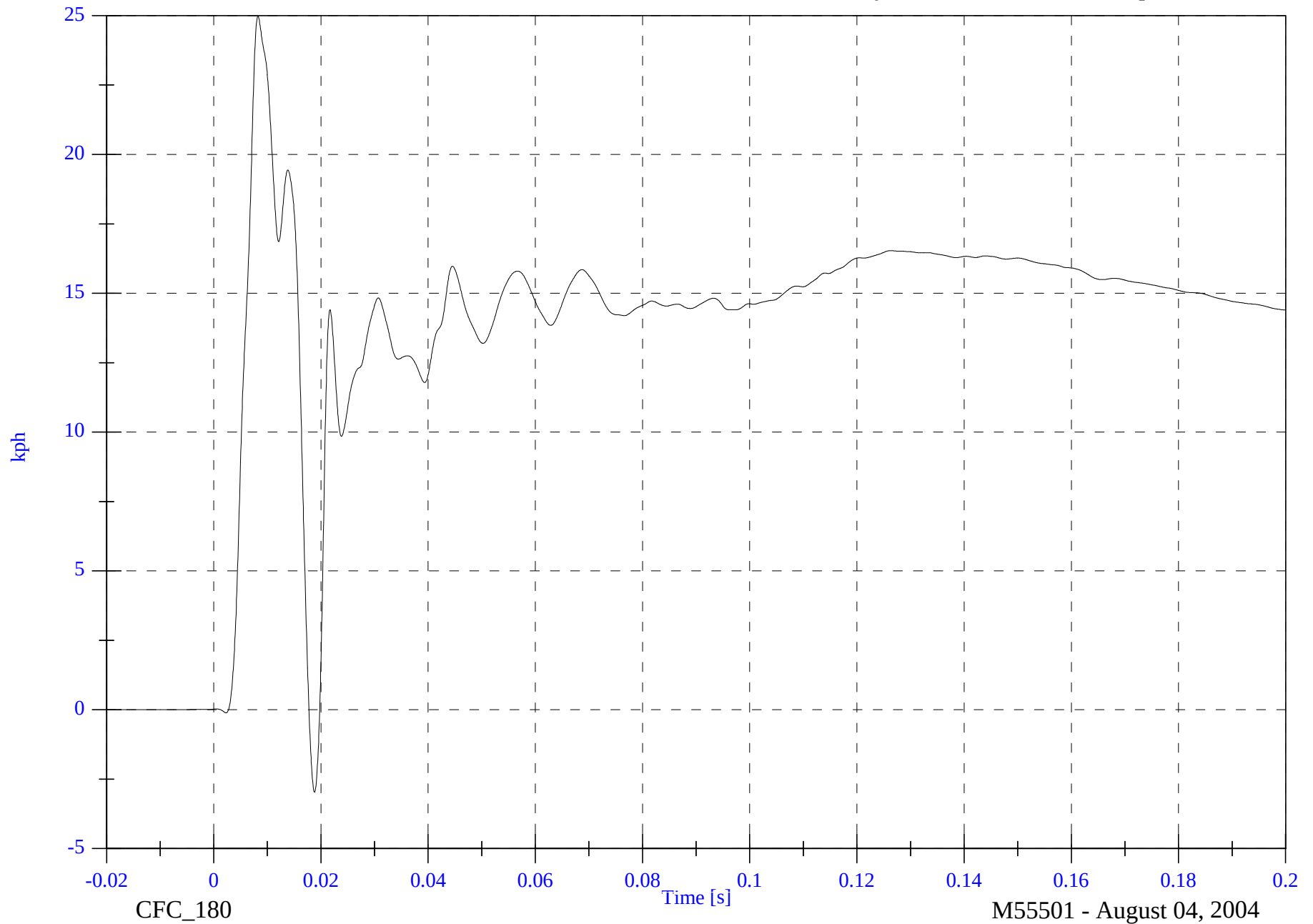


2004 SNCAP Test 5 - 2005 Subaru Outback

V2A14 Left Lower A Post Y Velocity

Max: 25.0 [kph] at 0.008 [s]

Min: -3.0 [kph] at 0.019 [s]



B-102

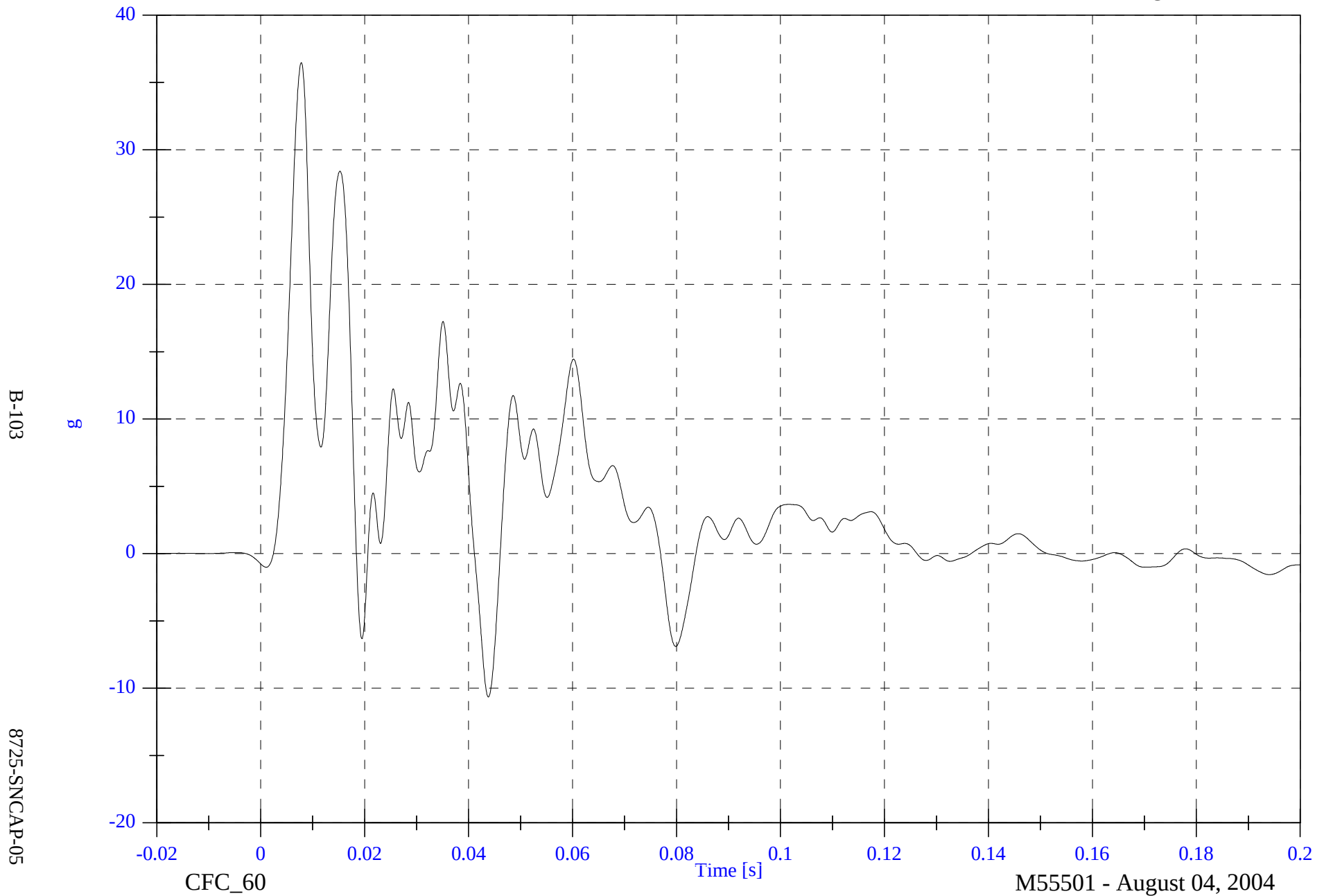
8725-SNCAP-05

2004 SNCAP Test 5 - 2005 Subaru Outback

V2A15 Left Mid A Post Y

Max: 36.5 [g] at 0.008 [s]

Min: -10.7 [g] at 0.044 [s]



2004 SNCAP Test 5 - 2005 Subaru Outback

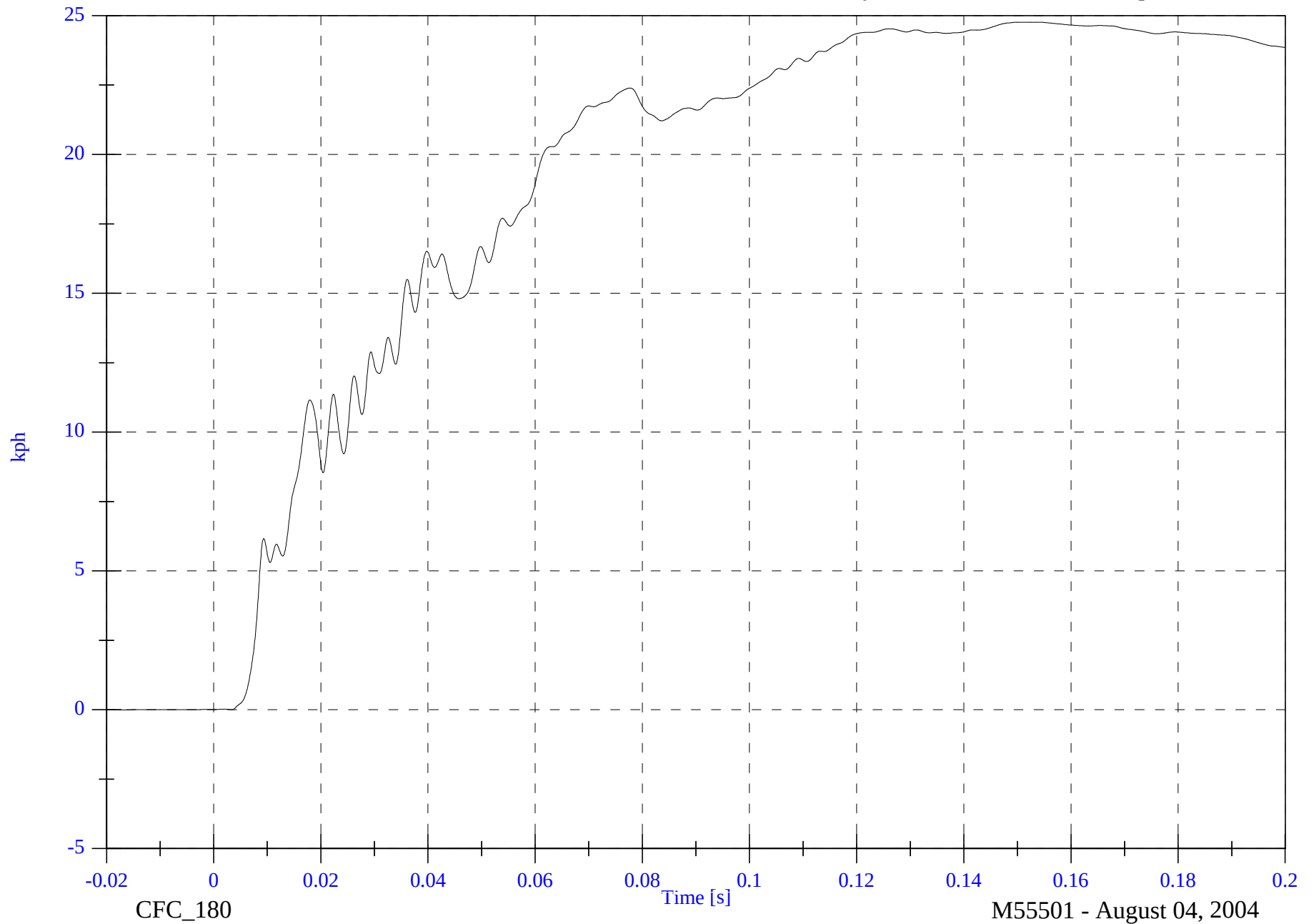
V2A15 Left Mid A Post Y Velocity

Max: 24.8 [kph] at 0.150 [s]

Min: -0.0 [kph] at -0.020 [s]

B-104

8725-SNCAP-05

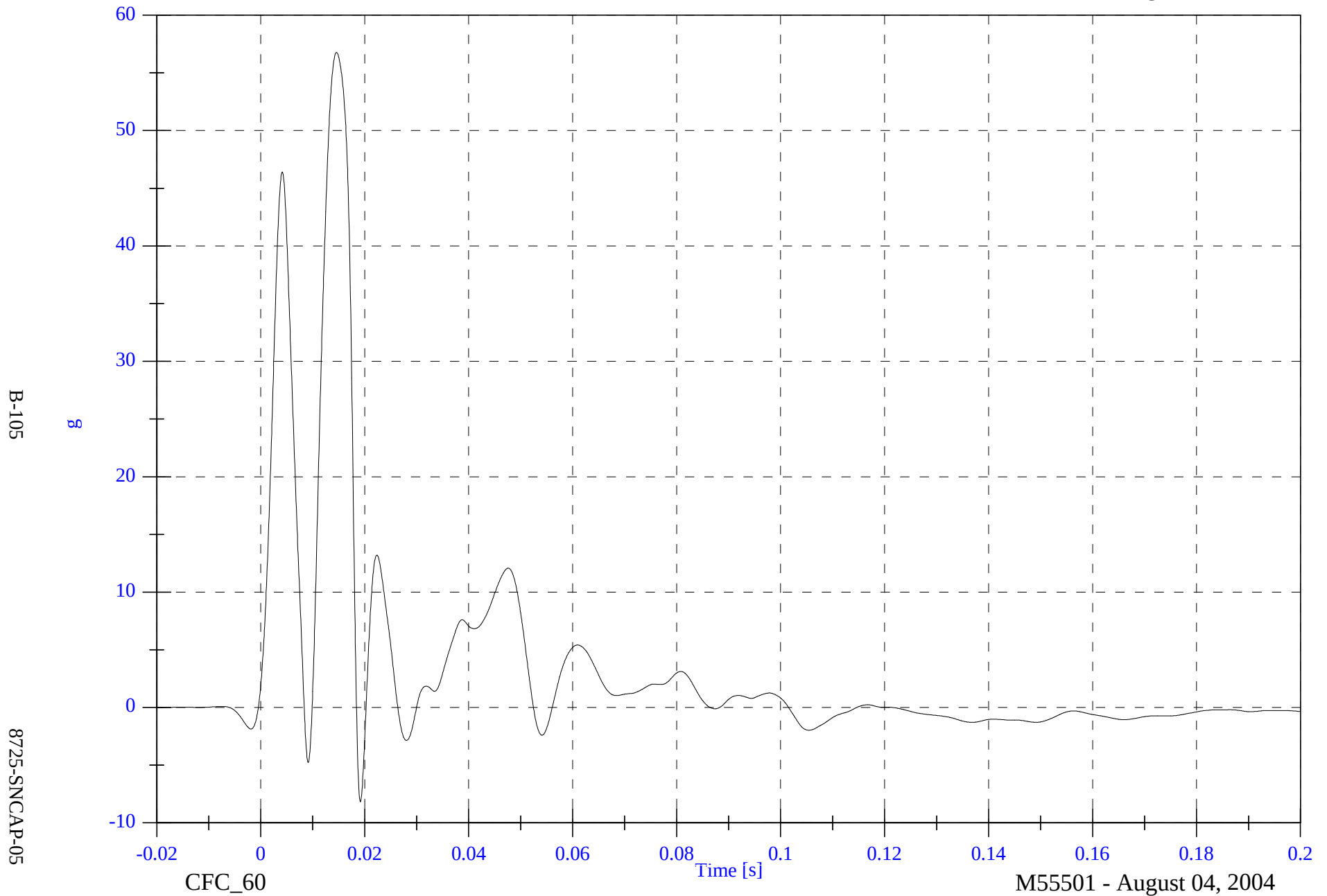


2004 SNCAP Test 5 - 2005 Subaru Outback

V2A16 Front Seat Track Y

Max: 56.8 [g] at 0.015 [s]

Min: -8.2 [g] at 0.019 [s]



2004 SNCAP Test 5 - 2005 Subaru Outback

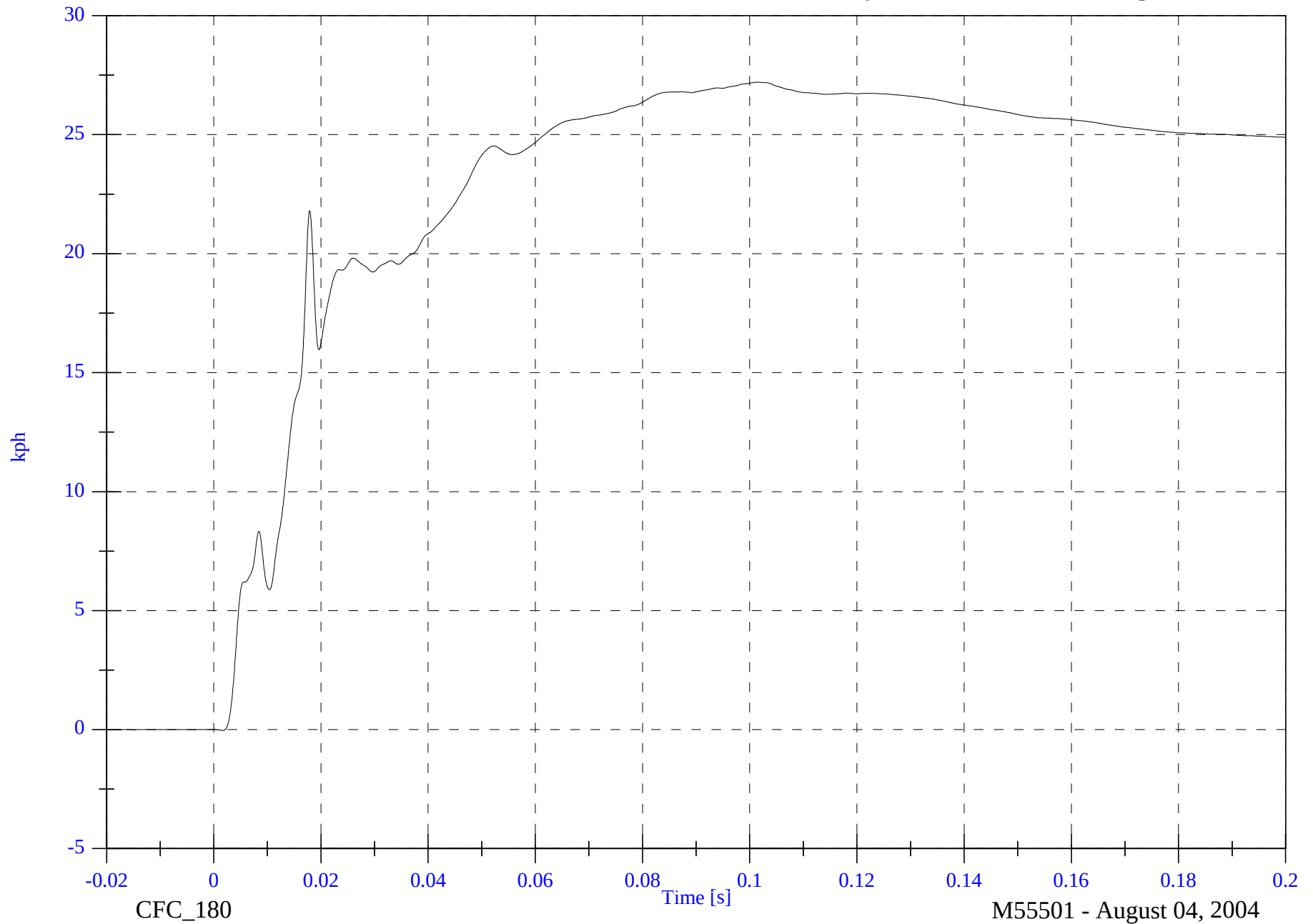
V2A16 Front Seat Track Y Velocity

Max: 27.2 [kph] at 0.101 [s]

Min: -0.0 [kph] at 0.002 [s]

B-106

8725-SNCAP-05

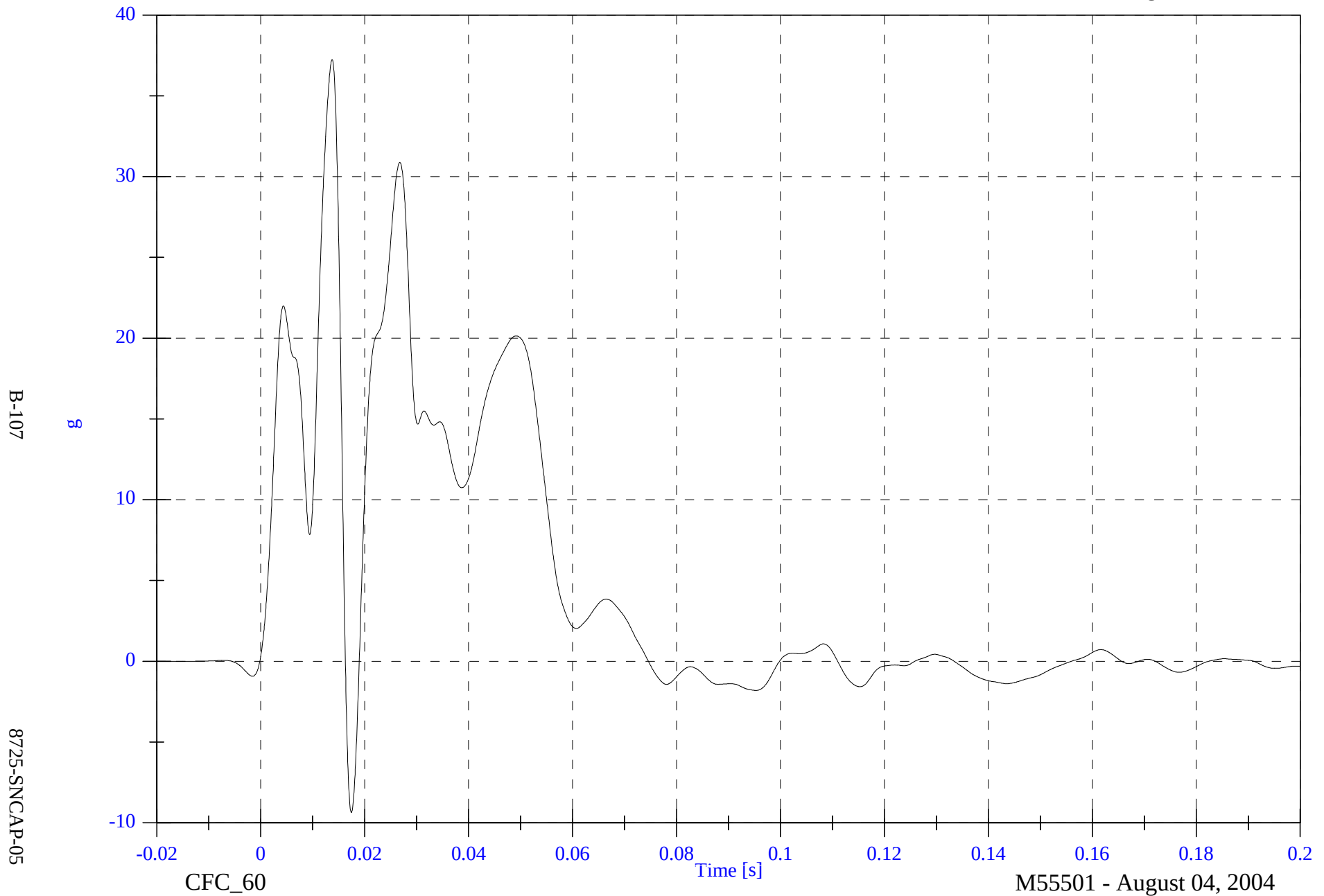


2004 SNCAP Test 5 - 2005 Subaru Outback

V2A17 Rear Seat Track Y

Max: 37.2 [g] at 0.014 [s]

Min: -9.4 [g] at 0.017 [s]

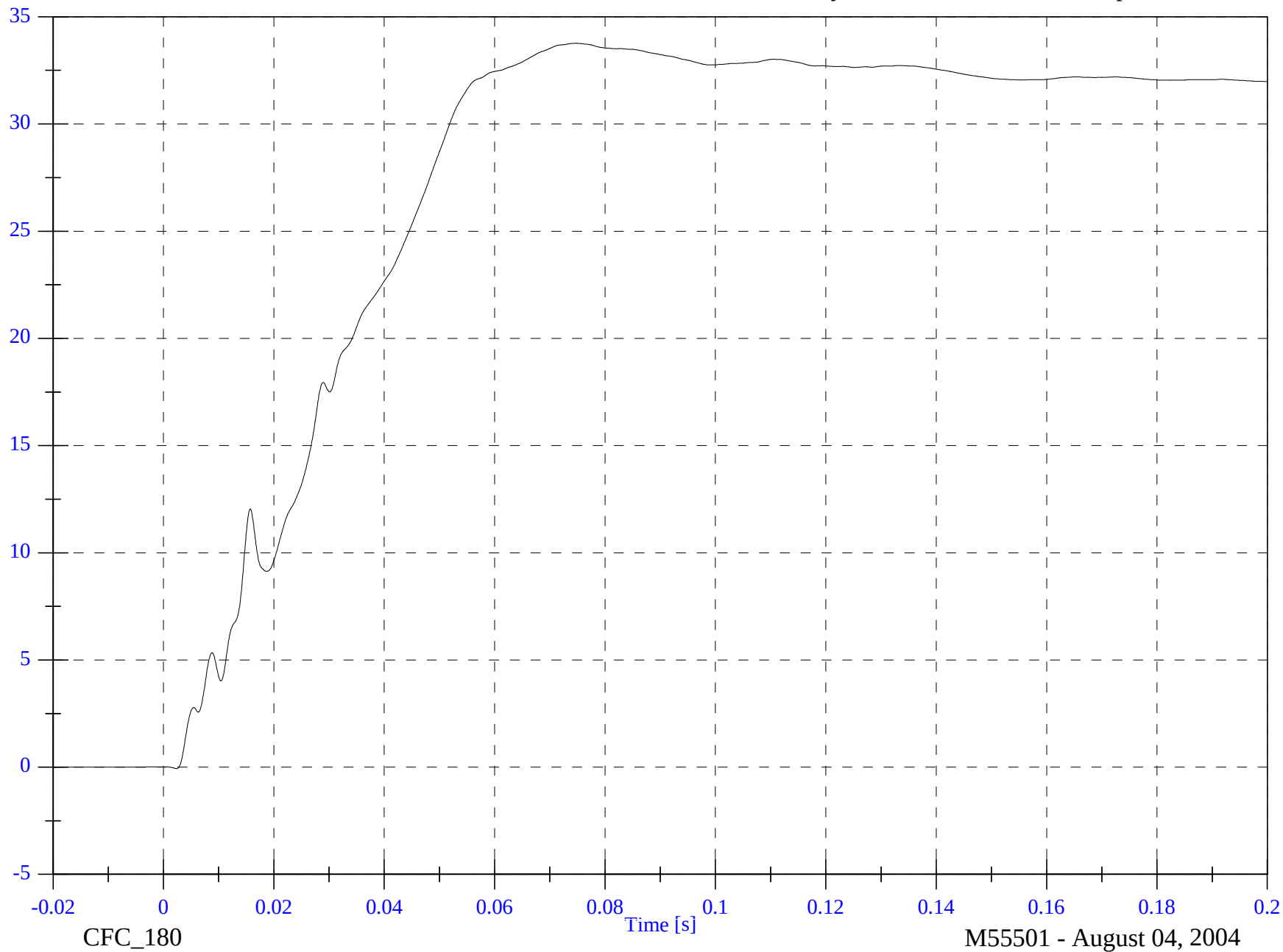


2004 SNCAP Test 5 - 2005 Subaru Outback

V2A17 Rear Seat Track Y Velocity

Max: 33.8 [kph] at 0.075 [s]

Min: -0.1 [kph] at 0.002 [s]



B-108

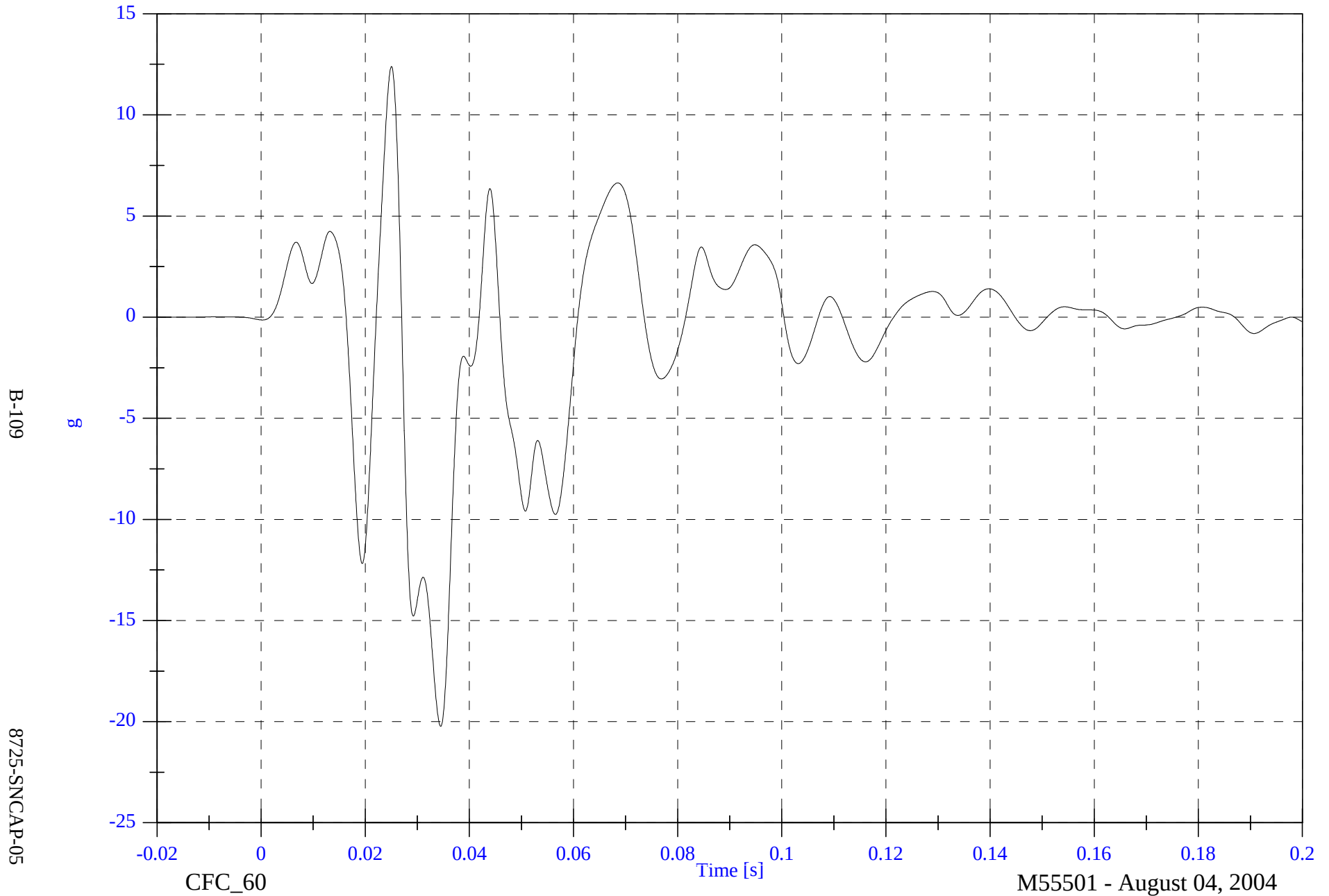
8725-SNCAP-05

2004 SNCAP Test 5 - 2005 Subaru Outback

V2A18 Target CG X

Max: 12.4 [g] at 0.025 [s]

Min: -20.2 [g] at 0.034 [s]

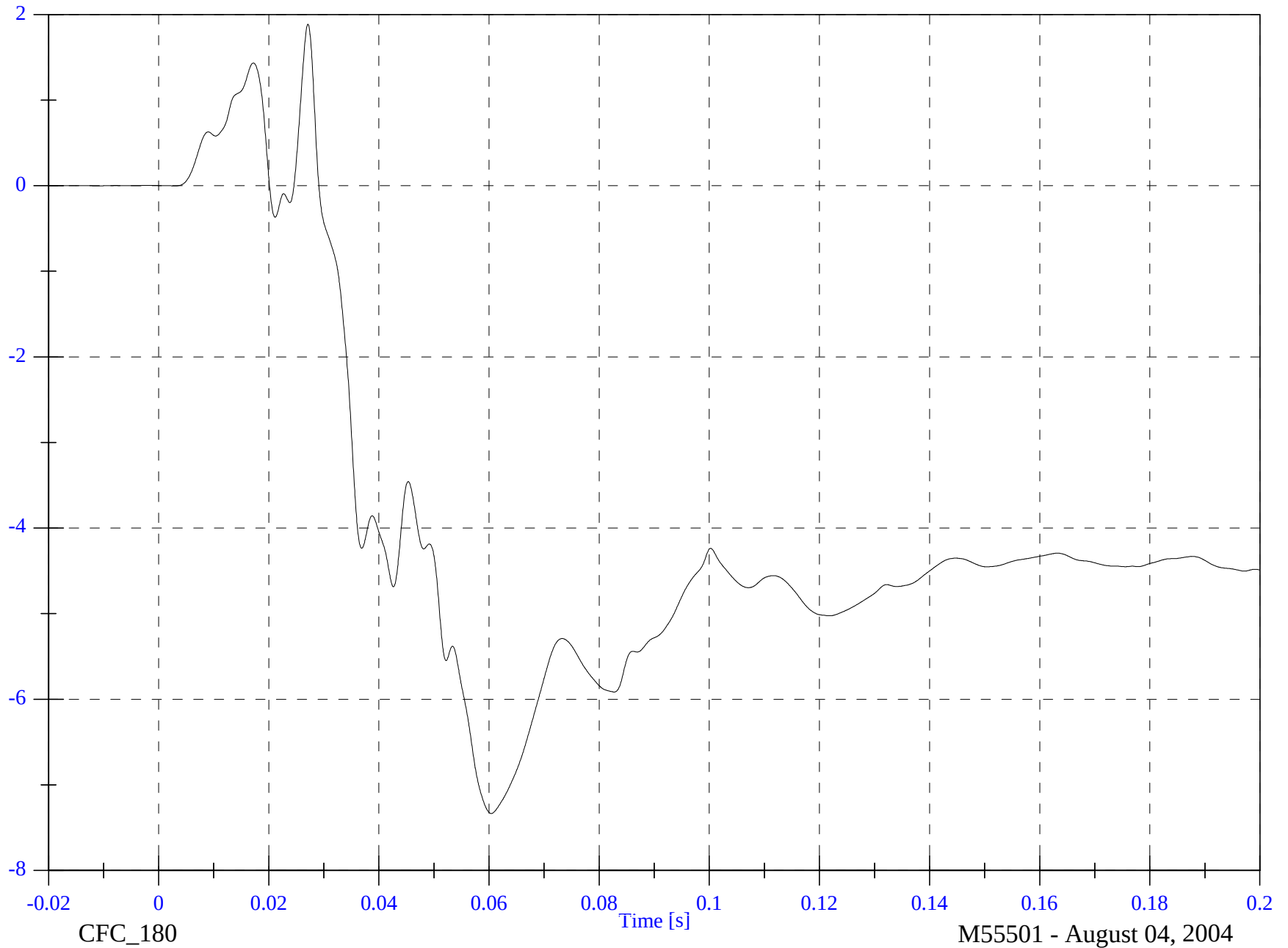


2004 SNCAP Test 5 - 2005 Subaru Outback

V2A18 Target CG X Velocity

Max: 1.9 [kph] at 0.027 [s]

Min: -7.3 [kph] at 0.060 [s]



B-110

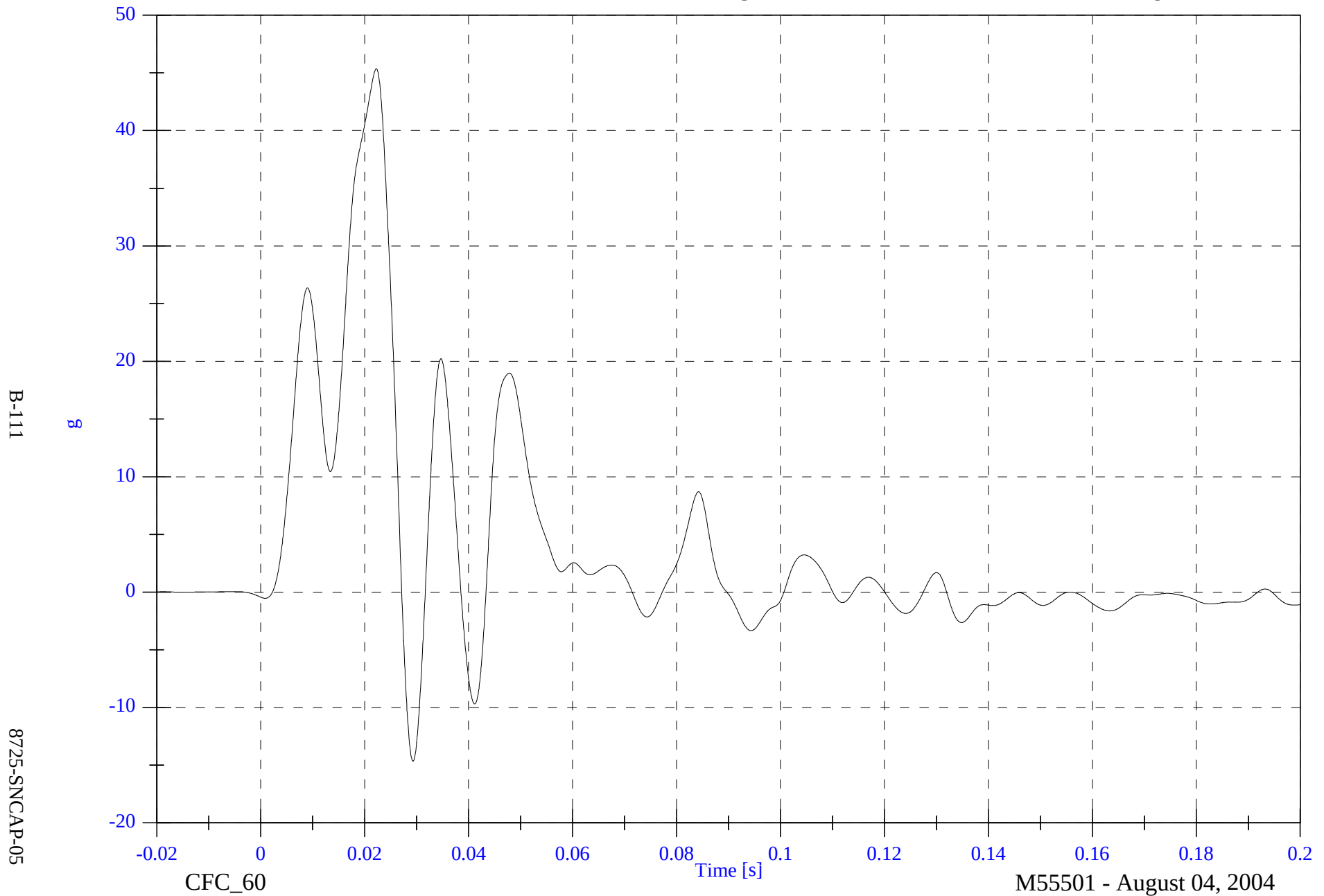
8725-SNCAP-05

2004 SNCAP Test 5 - 2005 Subaru Outback

V2A18 Target CG Y

Max: 45.4 [g] at 0.022 [s]

Min: -14.7 [g] at 0.029 [s]

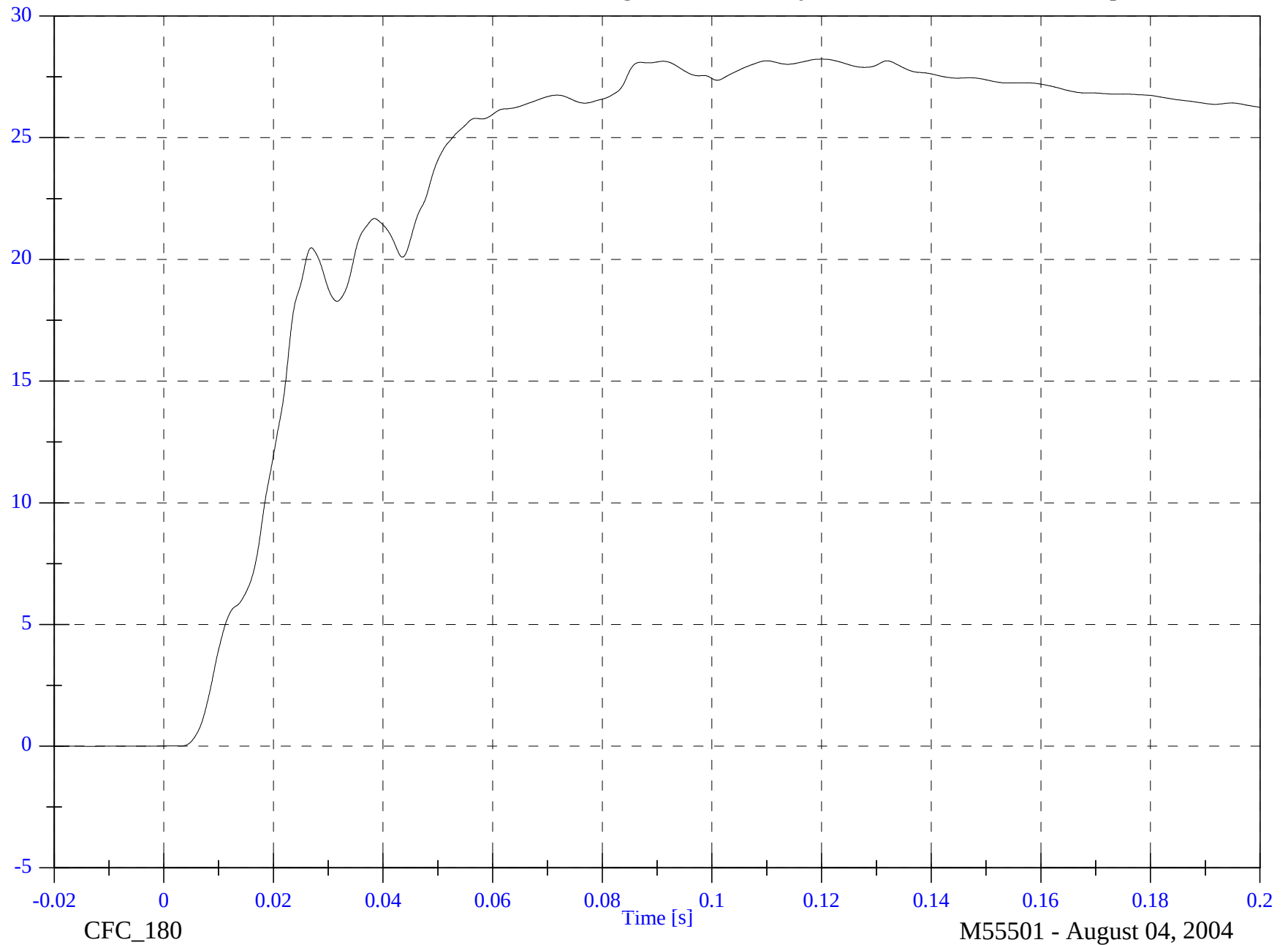


2004 SNCAP Test 5 - 2005 Subaru Outback

V2A18 Target CG Y Velocity

Max: 28.2 [kph] at 0.120 [s]

Min: -0.0 [kph] at -0.020 [s]



B-112

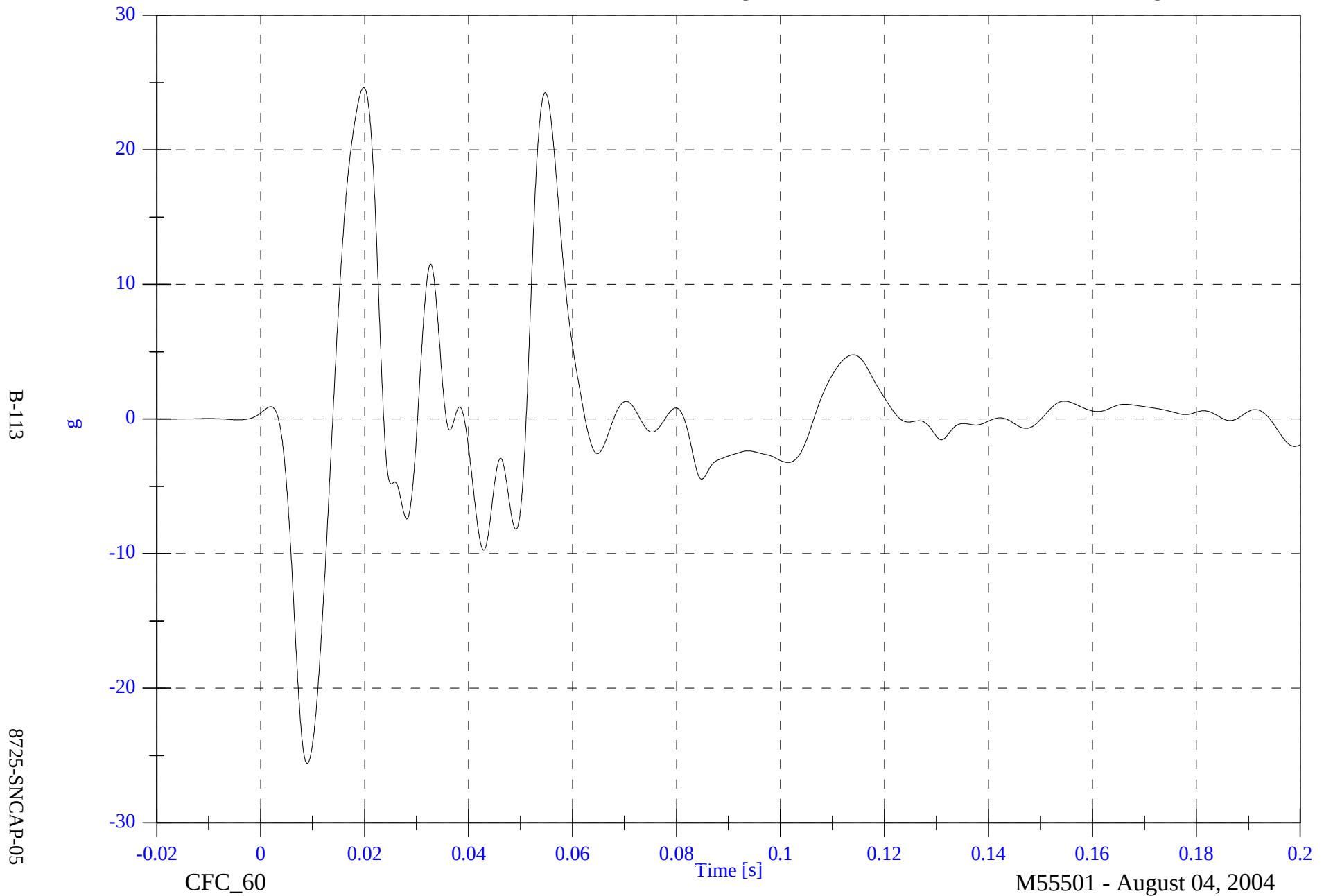
8725-SNCAP-05

2004 SNCAP Test 5 - 2005 Subaru Outback

V2A18 Target CG Z

Max: 24.6 [g] at 0.020 [s]

Min: -25.6 [g] at 0.009 [s]



2004 SNCAP Test 5 - 2005 Subaru Outback

V2A18 Target CG Z Velocity

Max: 3.3 [kph] at 0.062 [s]

Min: -5.3 [kph] at 0.014 [s]



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2004 SNCAP Test 5 - 2005 Subaru Outback

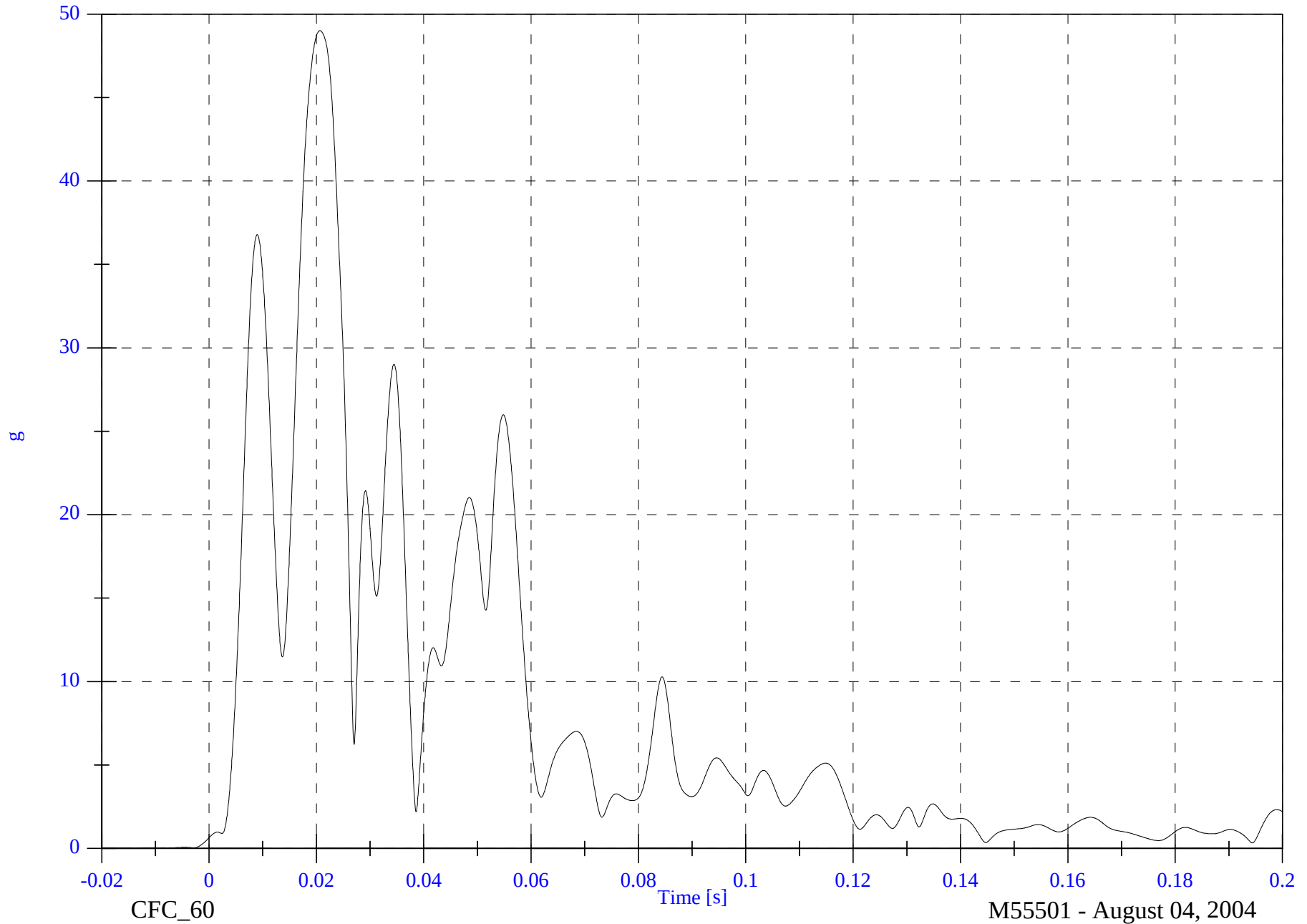
V2A18 Target CG Resultant

Max: 49.0 [g] at 0.021 [s]

Min: 0.0 [g] at -0.014 [s]

B-115

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2004 SNCAP Test 5 - 2005 Subaru Outback

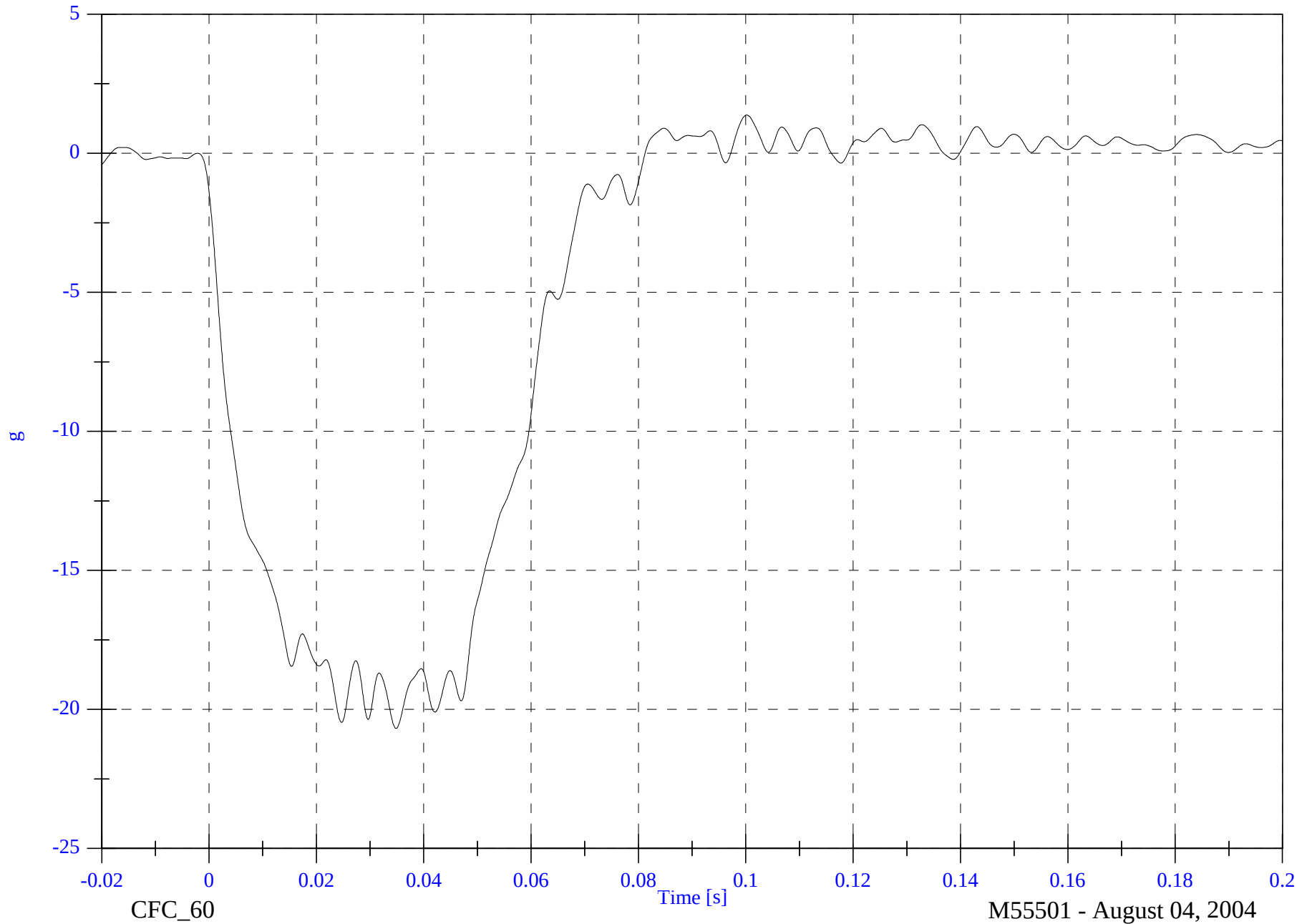
V1 Moving Barrier CG X

Max: 1.4 [g] at 0.100 [s]

Min: -20.7 [g] at 0.035 [s]

B-116

8725-SNCAP-05

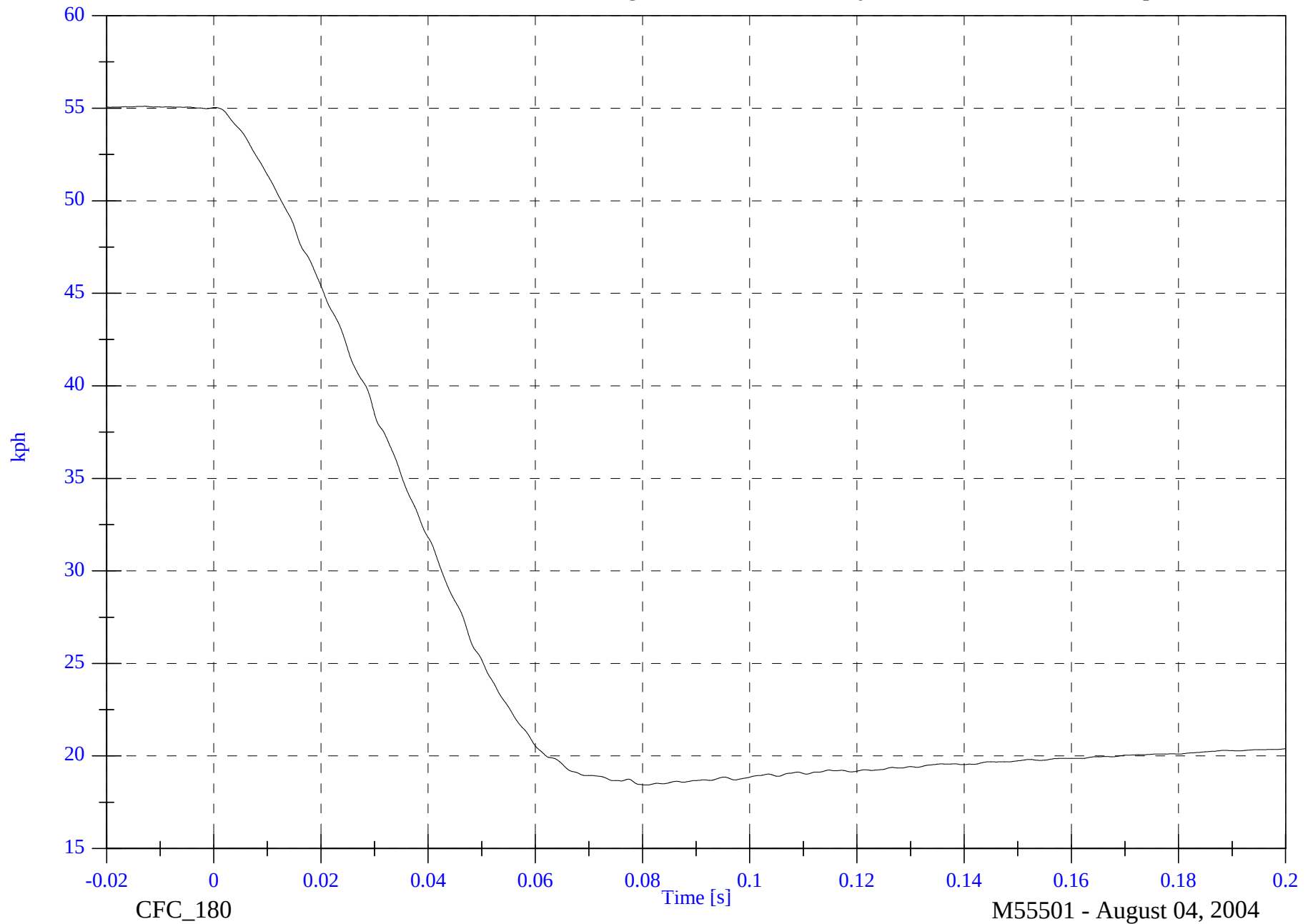


2004 SNCAP Test 5 - 2005 Subaru Outback

V1 Moving Barrier CG X Velocity

Max: 55.1 [kph] at -0.013 [s]

Min: 18.4 [kph] at 0.081 [s]



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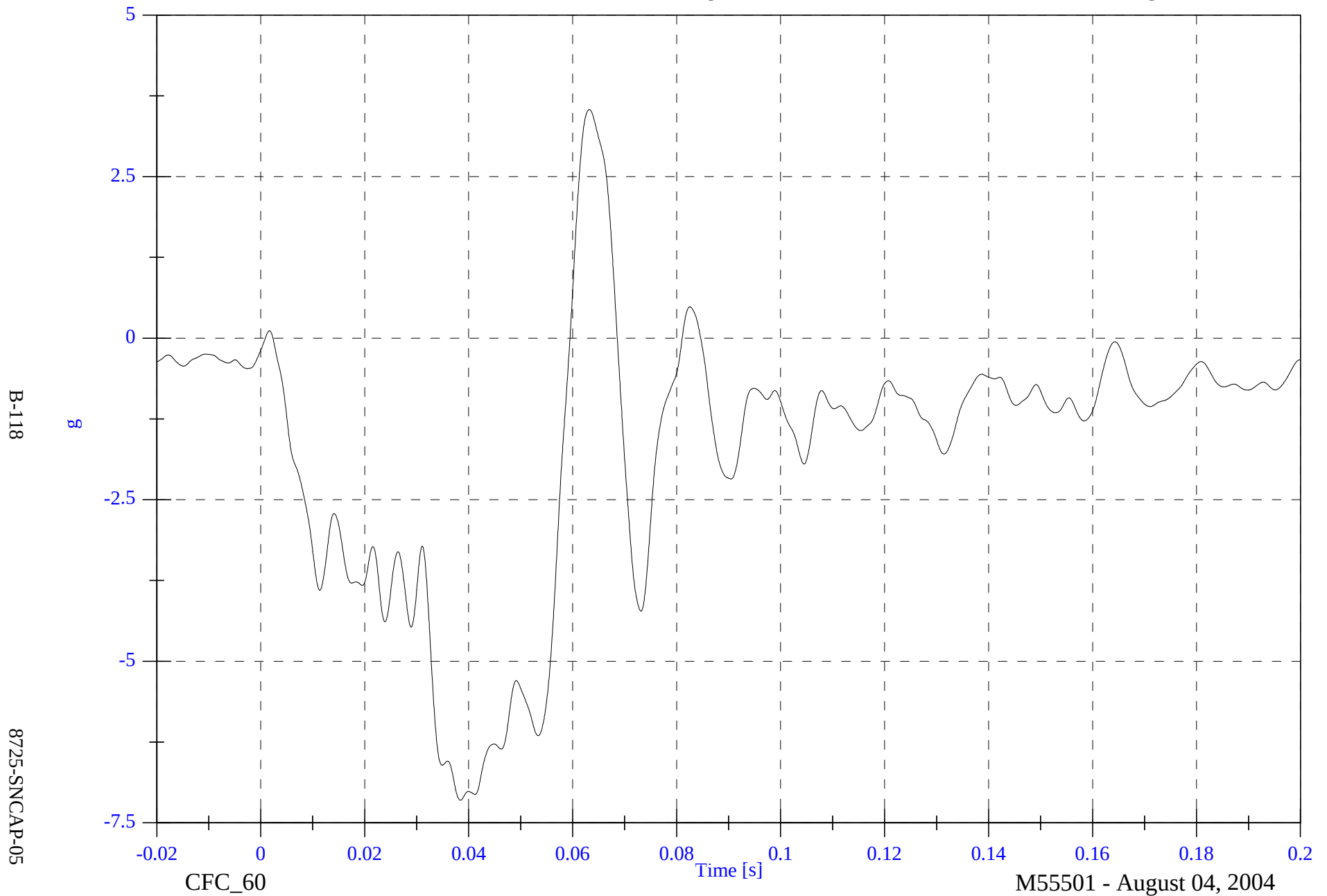
8725-SNCAP-05

2004 SNCAP Test 5 - 2005 Subaru Outback

V1 Moving Barrier CG Y

Max: 3.5 [g] at 0.063 [s]

Min: -7.1 [g] at 0.038 [s]



2004 SNCAP Test 5 - 2005 Subaru Outback

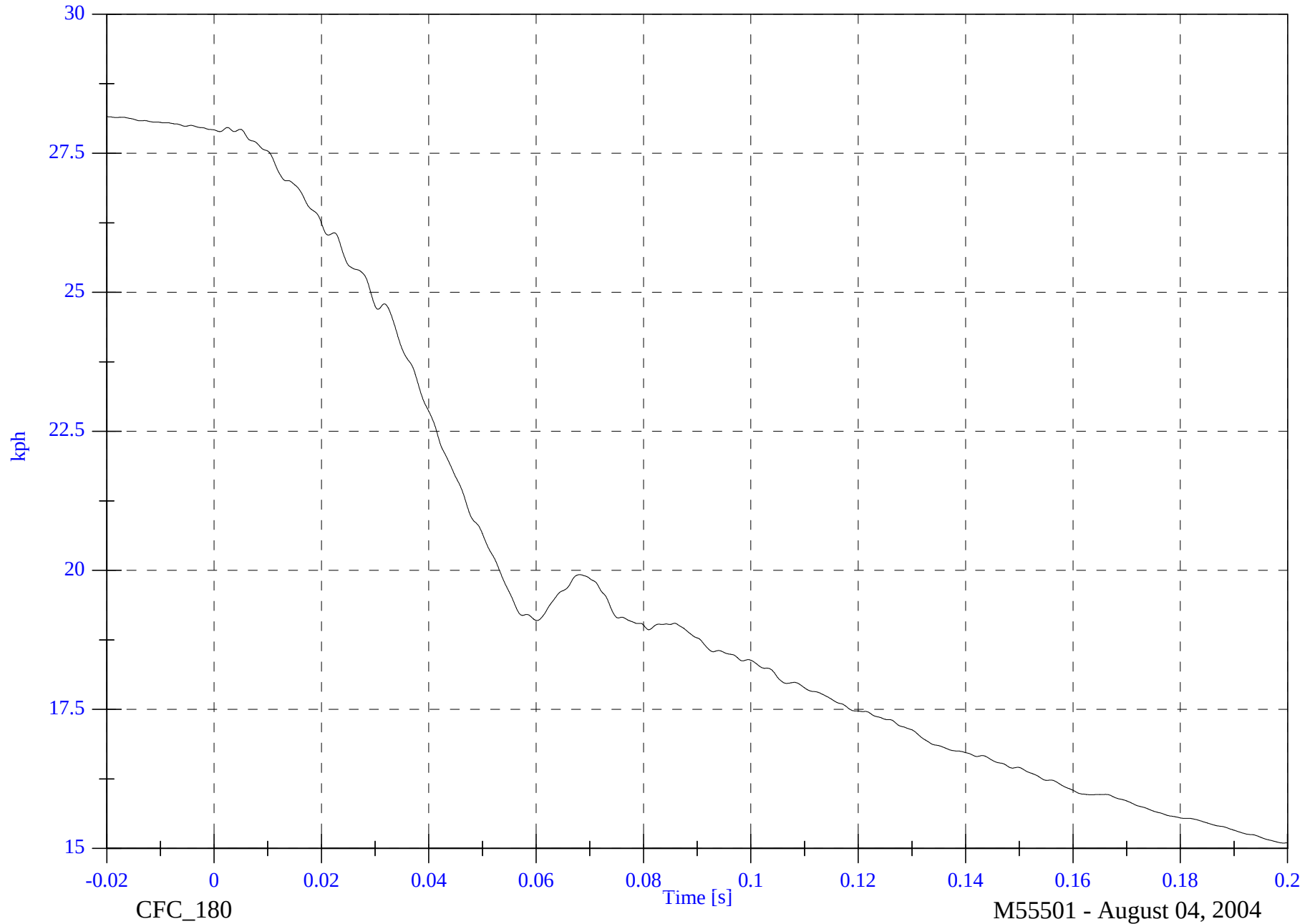
V1 Moving Barrier CG Y Velocity

Max: 28.2 [kph] at -0.020 [s]

Min: 15.1 [kph] at 0.199 [s]

B-119

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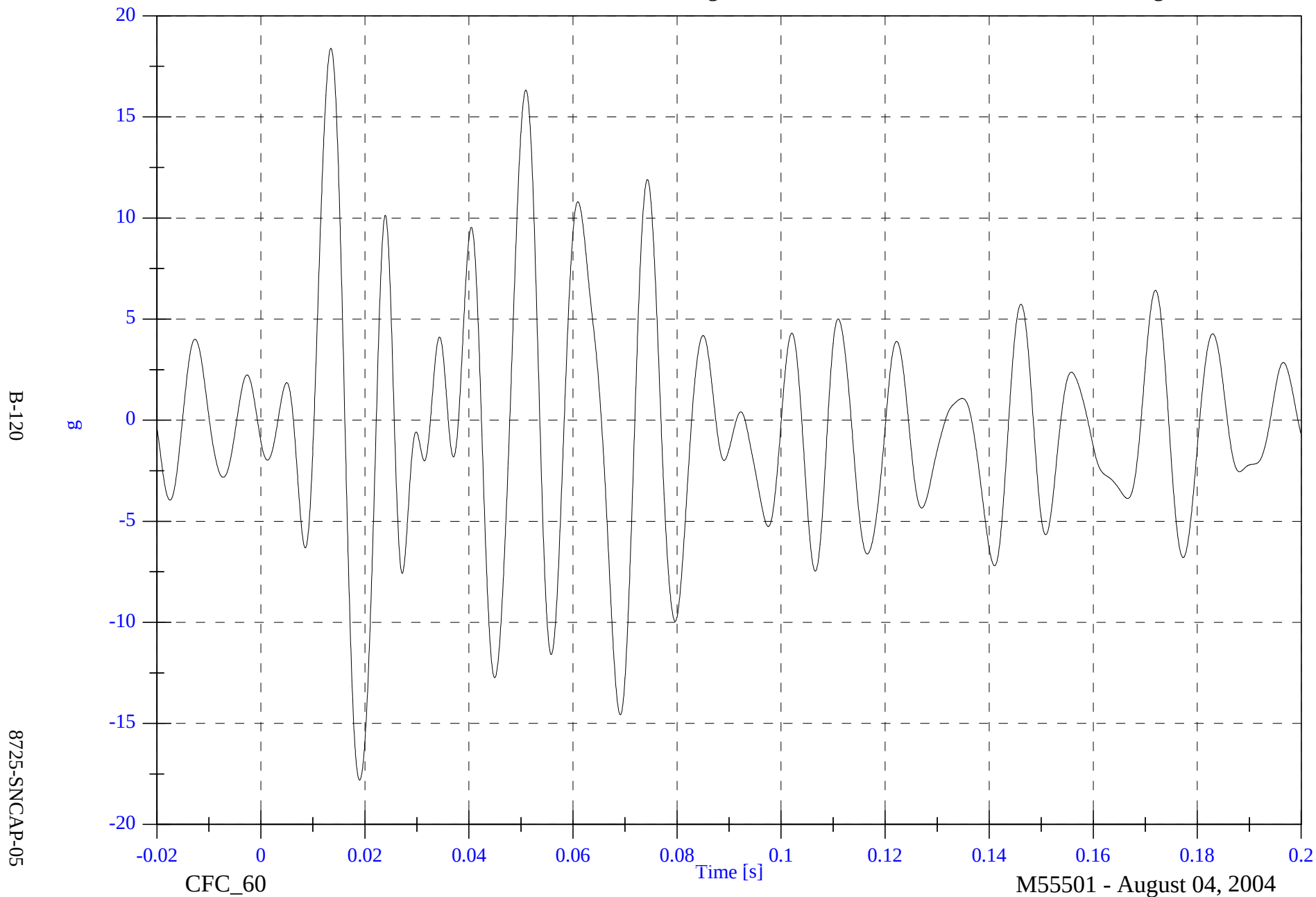


2004 SNCAP Test 5 - 2005 Subaru Outback

V1 Moving Barrier CG Z

Max: 18.4 [g] at 0.013 [s]

Min: -17.8 [g] at 0.019 [s]

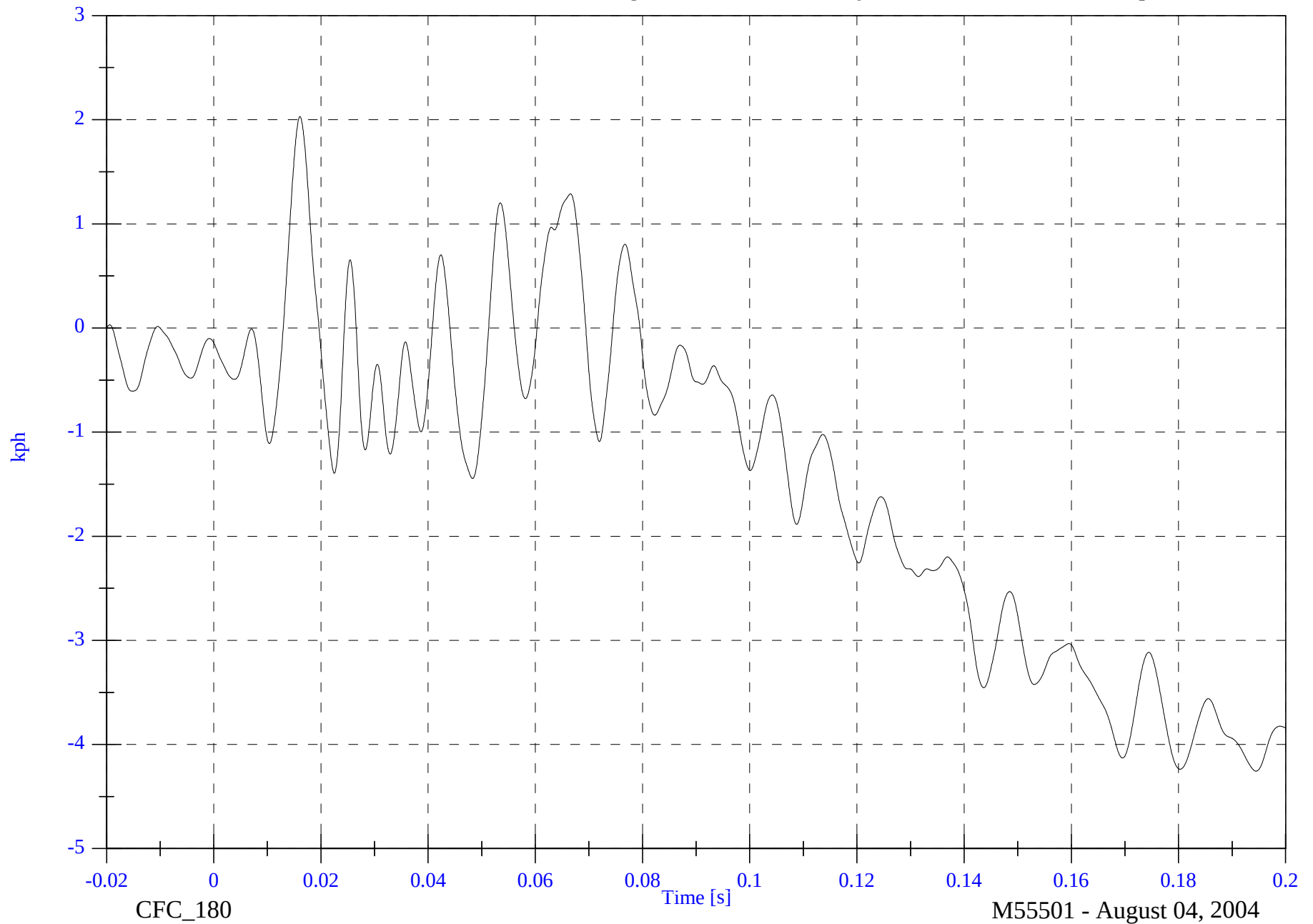


2004 SNCAP Test 5 - 2005 Subaru Outback

V1 Moving Barrier CG Z Velocity

Max: 2.0 [kph] at 0.016 [s]

Min: -4.3 [kph] at 0.194 [s]



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2004 SNCAP Test 5 - 2005 Subaru Outback

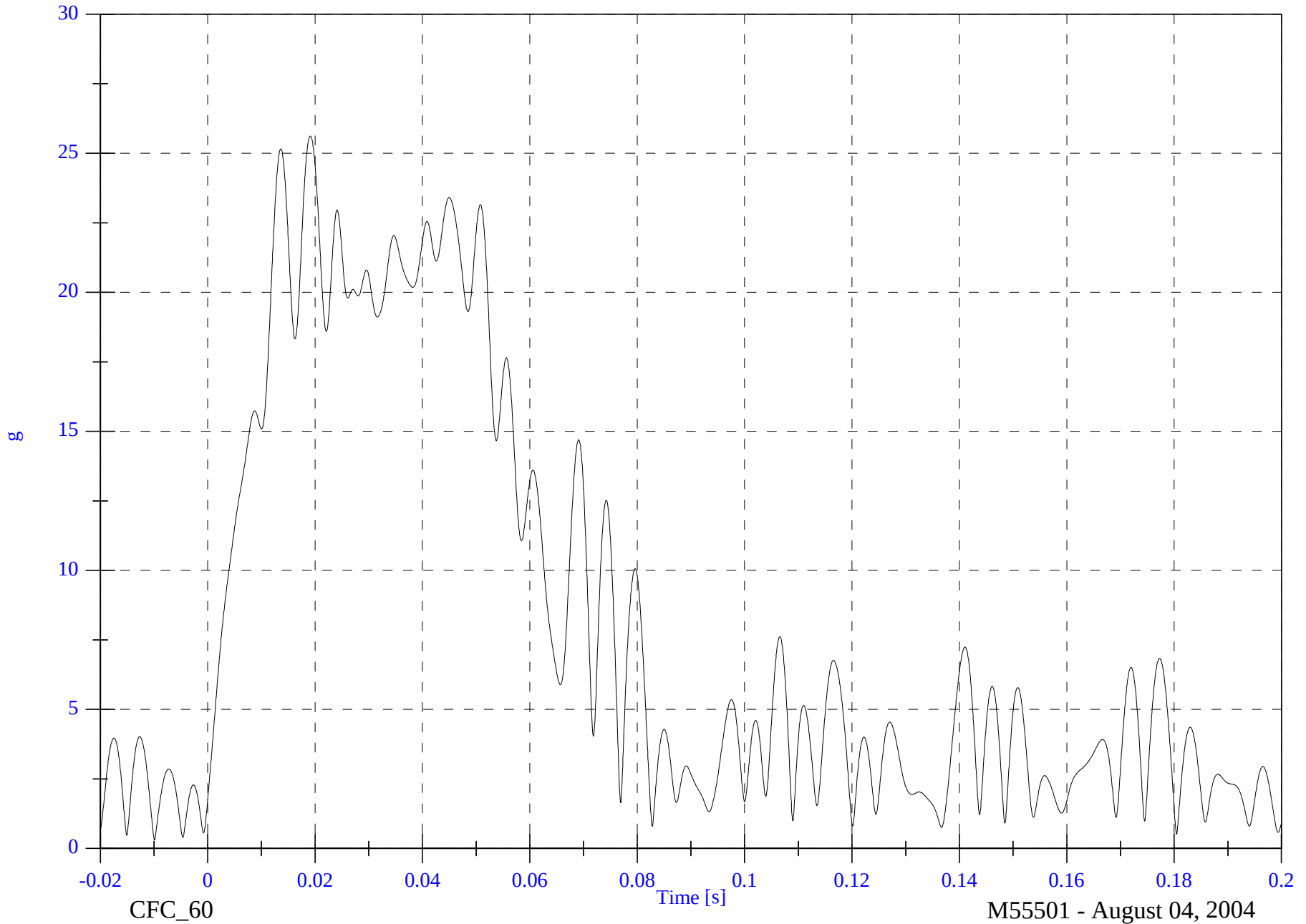
V1 Moving Barrier CG Resultant

Max: 25.6 [g] at 0.019 [s]

Min: 0.3 [g] at -0.010 [s]

B-122

8725-SNCAP-05

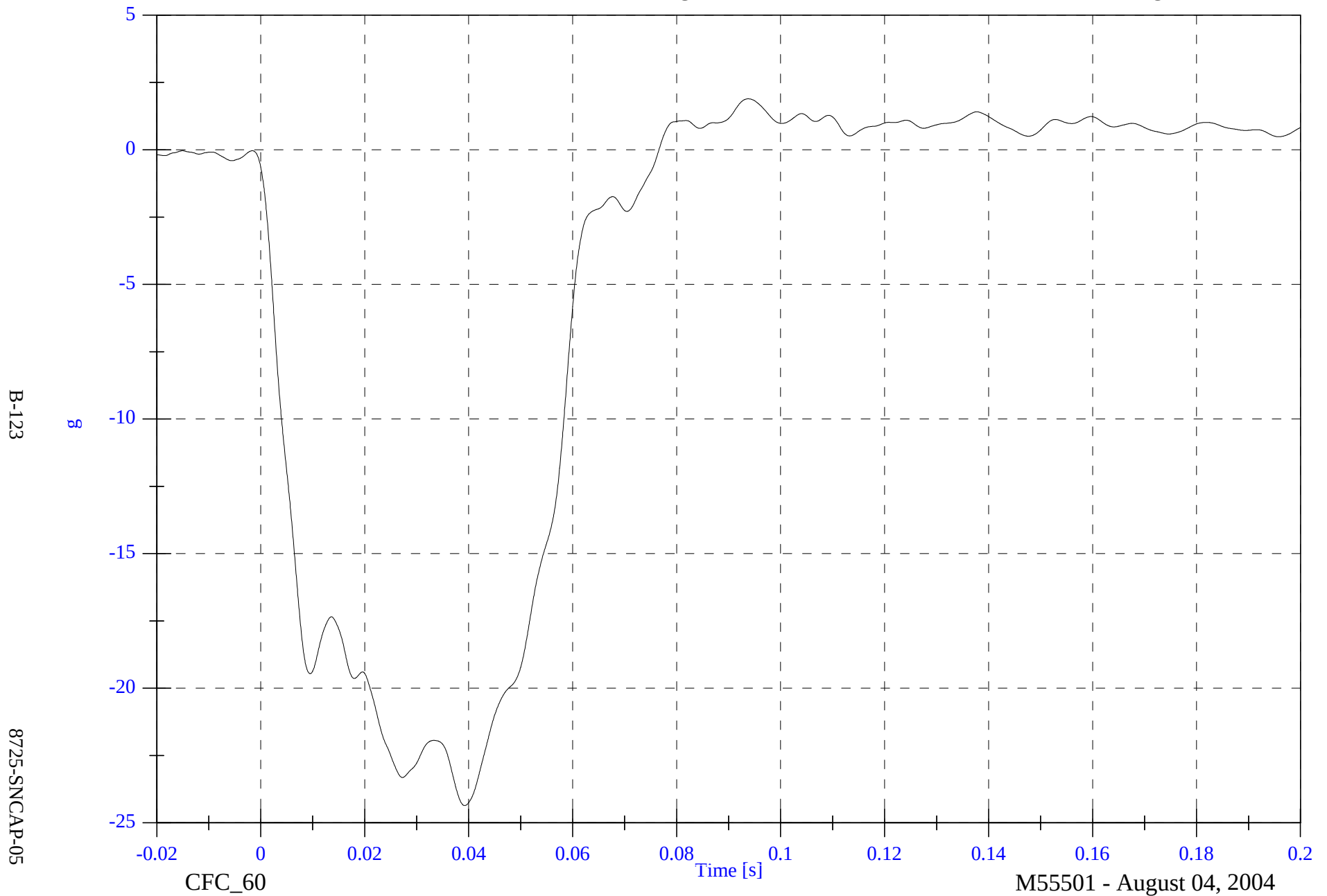


2004 SNCAP Test 5 - 2005 Subaru Outback

V1 Moving Barrier Left Rail X

Max: 1.9 [g] at 0.094 [s]

Min: -24.4 [g] at 0.039 [s]

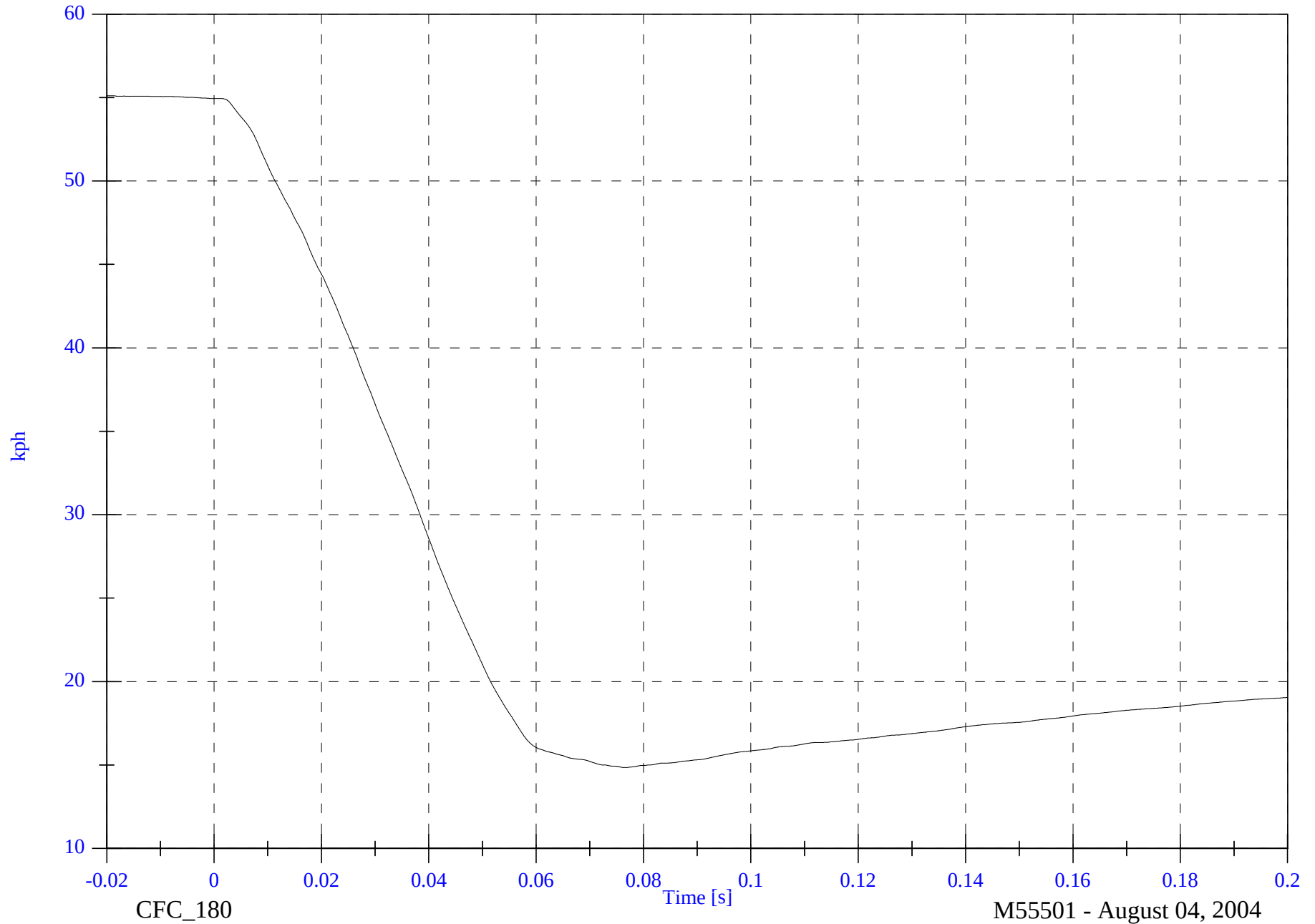


2004 SNCAP Test 5 - 2005 Subaru Outback

V1 Moving Barrier Left Rail X Velocity

Max: 55.1 [kph] at -0.019 [s]

Min: 14.9 [kph] at 0.077 [s]



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8725-SNCAP-05

CFC_180

M55501 - August 04, 2004

2004 SNCAP Test 5 - 2005 Subaru Outback

V1 Moving Barrier Left Rail Y

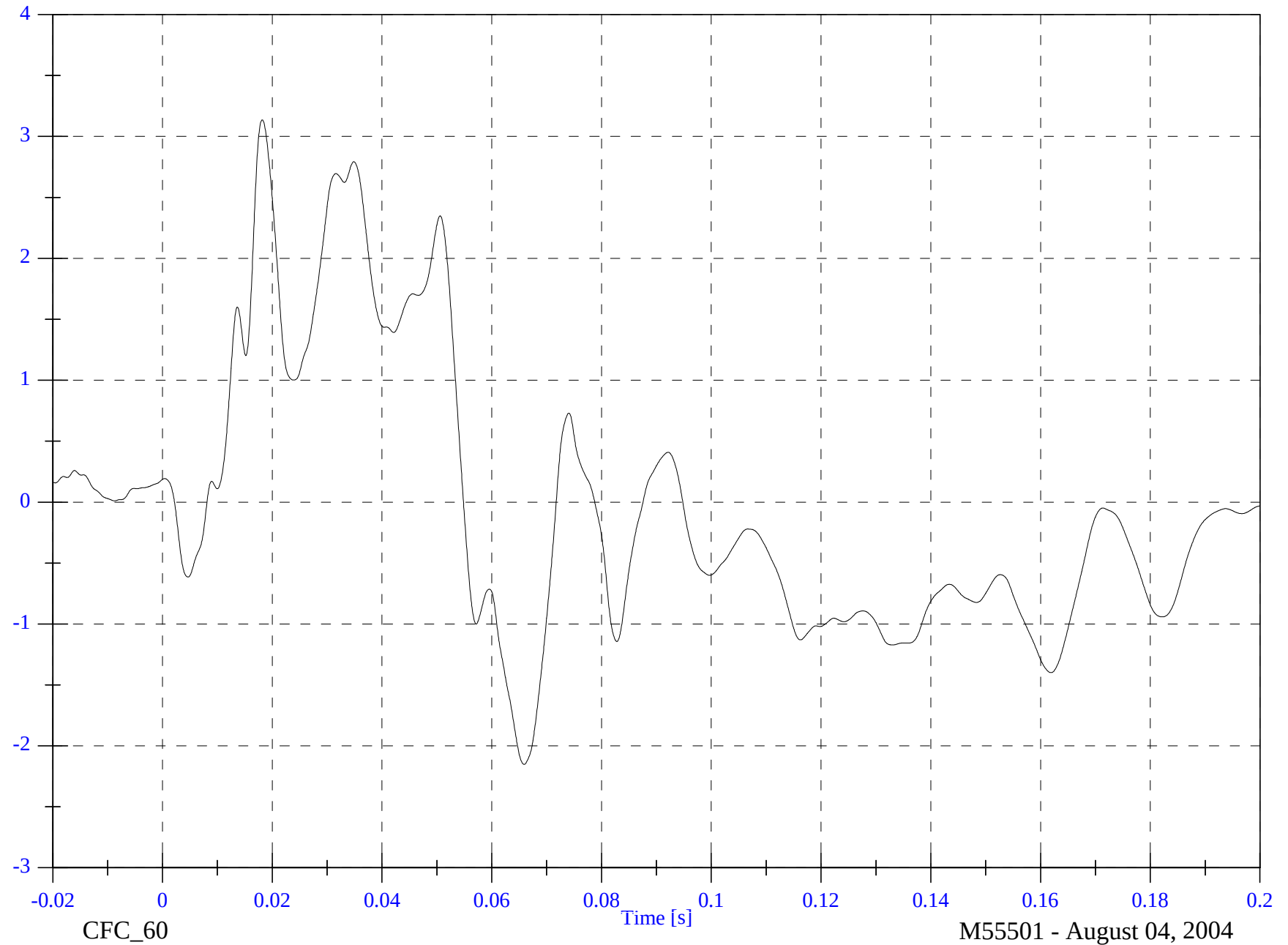
Max: 3.1 [g] at 0.018 [s]

Min: -2.2 [g] at 0.066 [s]

B-125

8725-SNCAP-05

g

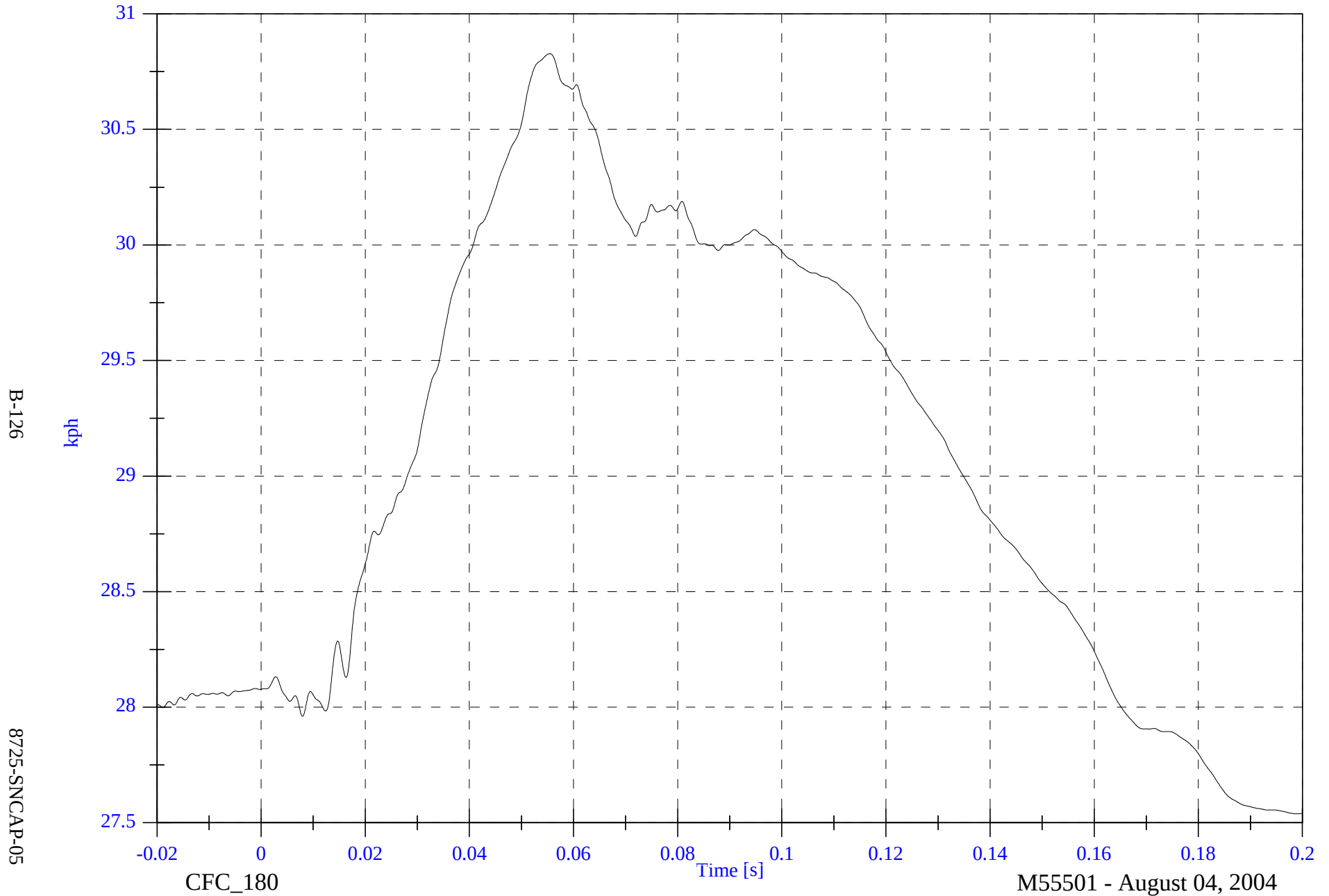


2004 SNCAP Test 5 - 2005 Subaru Outback

V1 Moving Barrier Left Rail Y Velocity

Max: 30.8 [kph] at 0.055 [s]

Min: 27.5 [kph] at 0.199 [s]



2004 SNCAP Test 5 - 2005 Subaru Outback

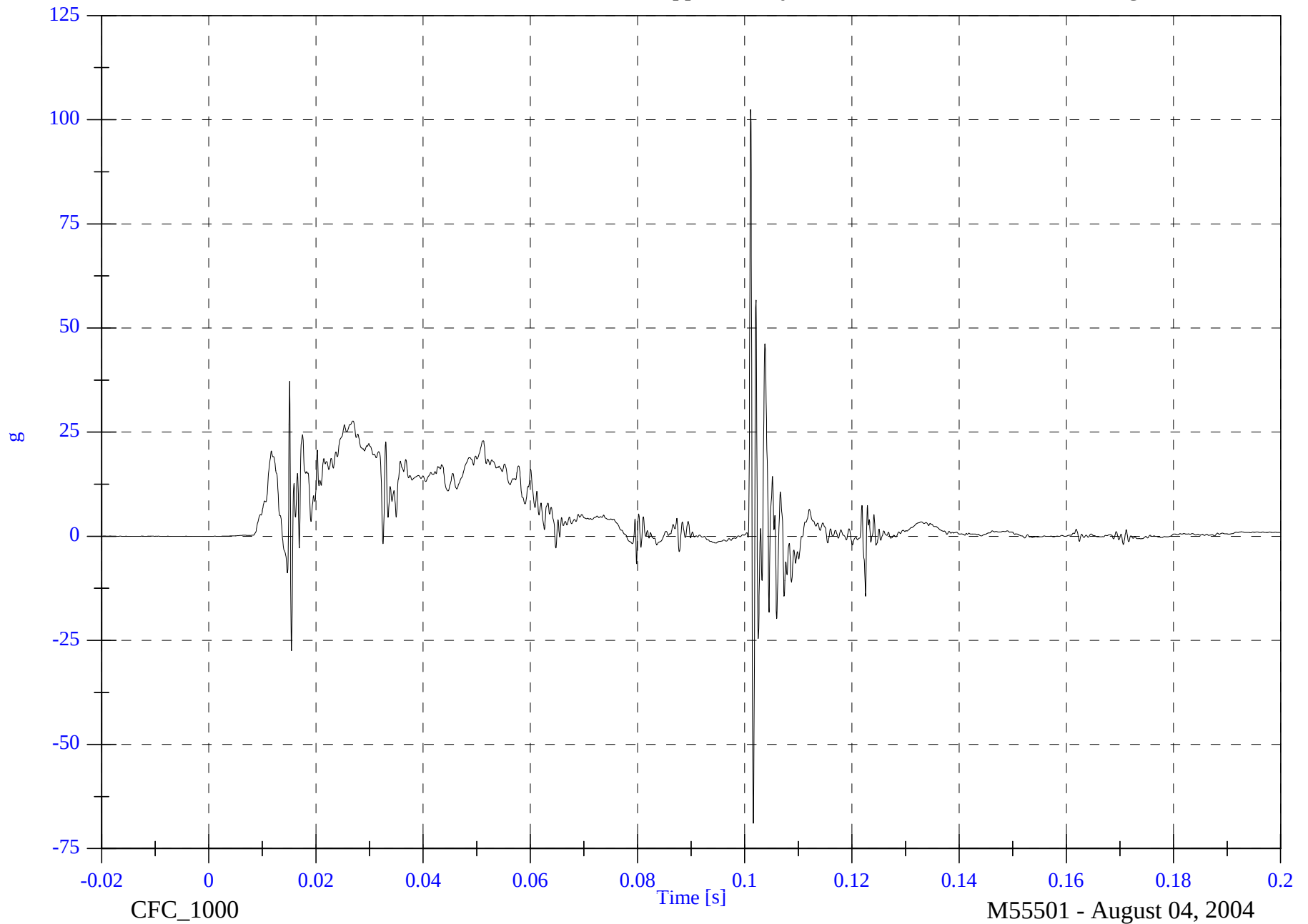
V2P1 Upper Rib Ry

Max: 102.4 [g] at 0.101 [s]

Min: -68.9 [g] at 0.102 [s]

B-127

8725-SNCAP-05

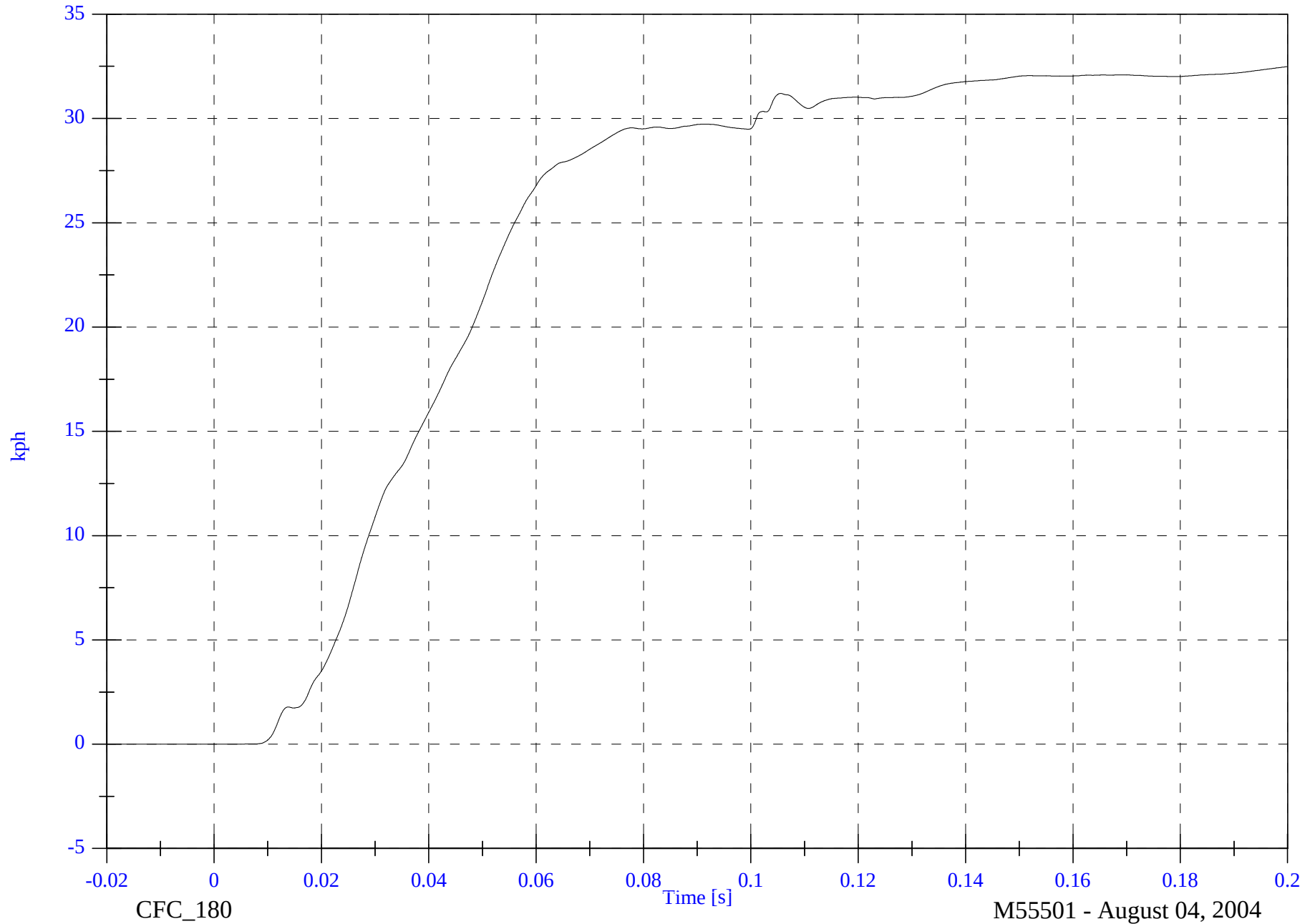


2004 SNCAP Test 5 - 2005 Subaru Outback

V2P1 Upper Rib Ry Velocity

Max: 32.5 [kph] at 0.200 [s]

Min: -0.0 [kph] at 0.001 [s]



B-128

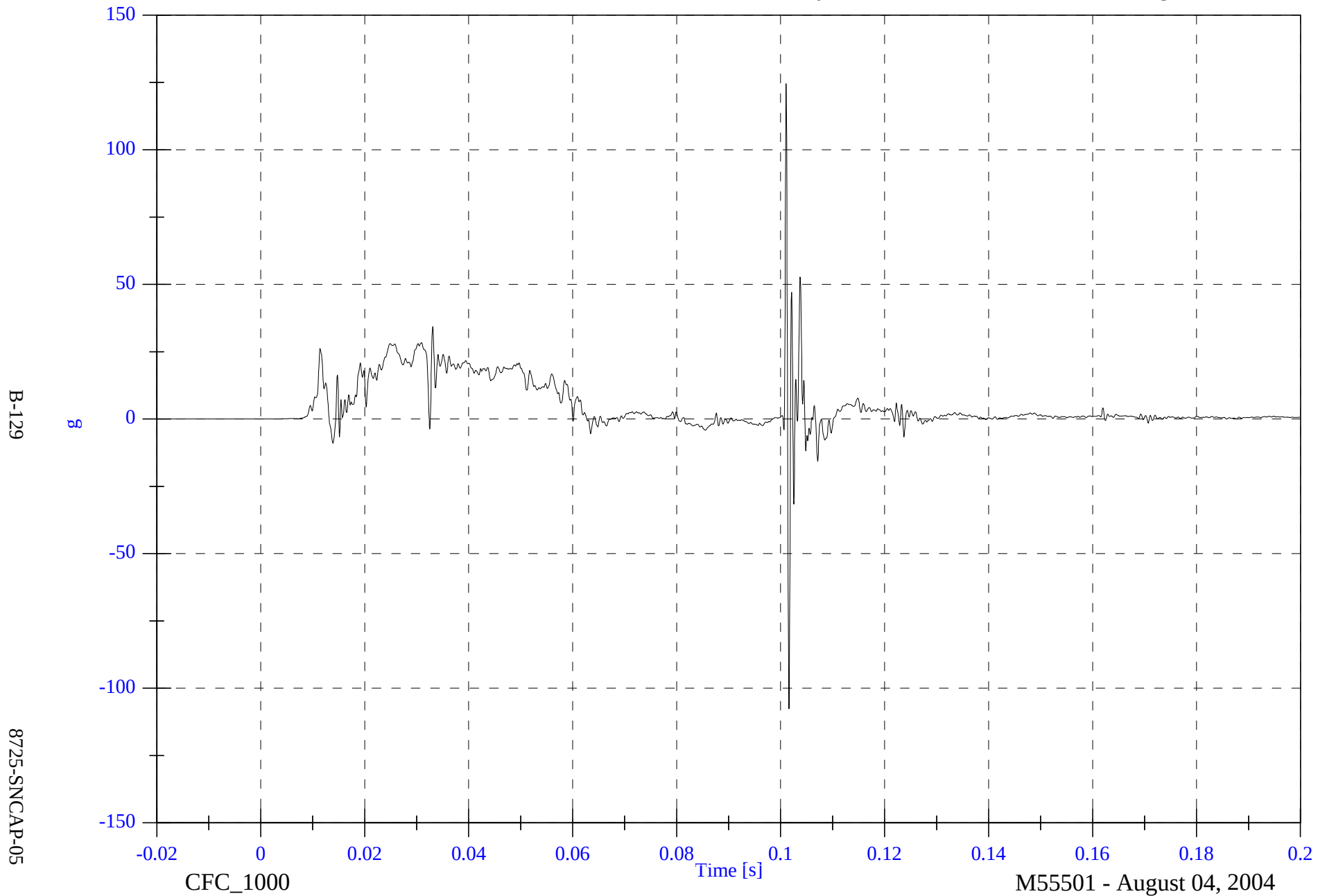
8725-SNCAP-05

2004 SNCAP Test 5 - 2005 Subaru Outback

V2P1 Lower Rib Ry

Max: 124.5 [g] at 0.101 [s]

Min: -107.7 [g] at 0.102 [s]

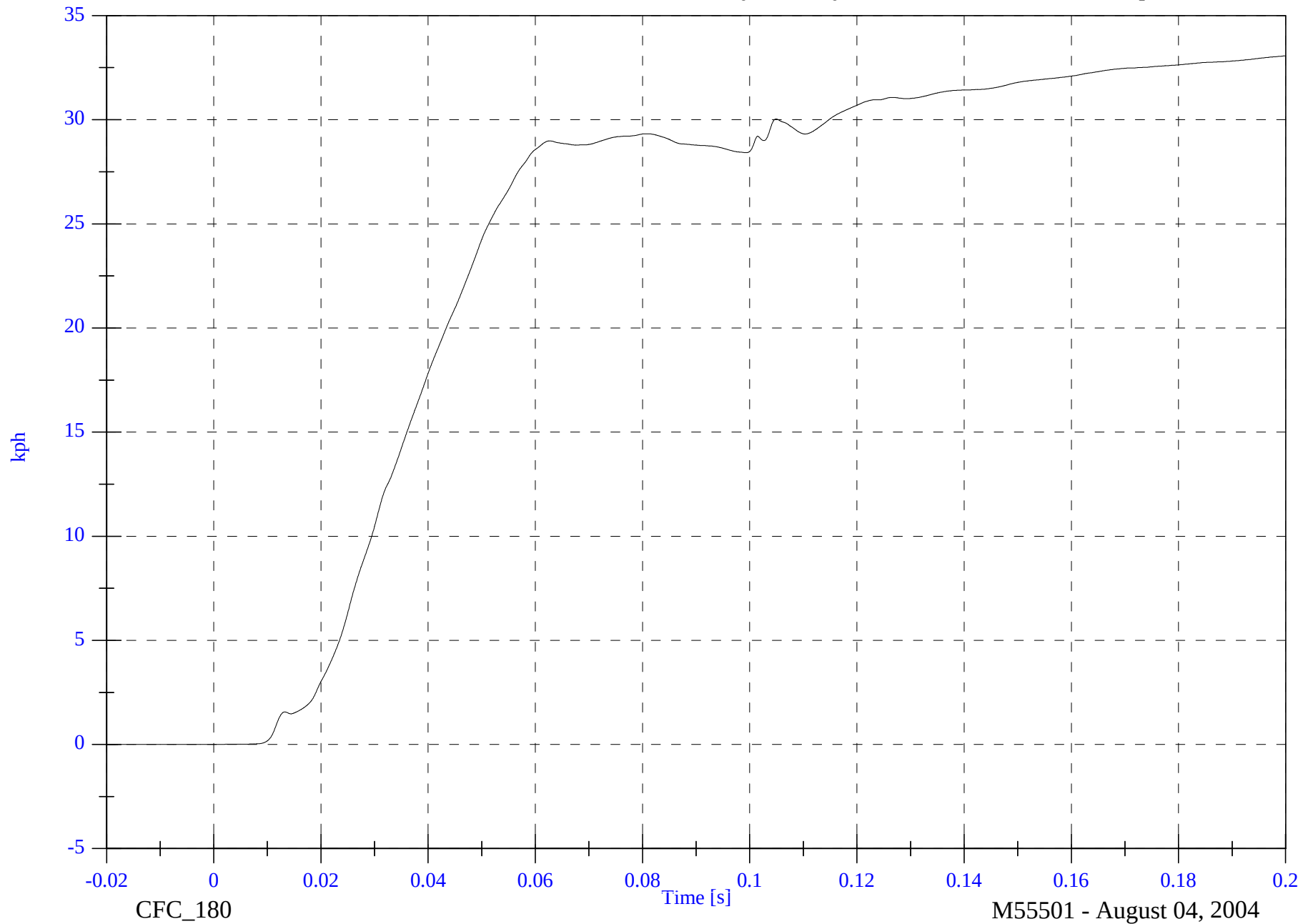


2004 SNCAP Test 5 - 2005 Subaru Outback

V2P1 Lower Rib Ry Velocity

Max: 33.1 [kph] at 0.200 [s]

Min: -0.0 [kph] at -0.020 [s]



B-130

8725-SNCAP-05

2004 SNCAP Test 5 - 2005 Subaru Outback

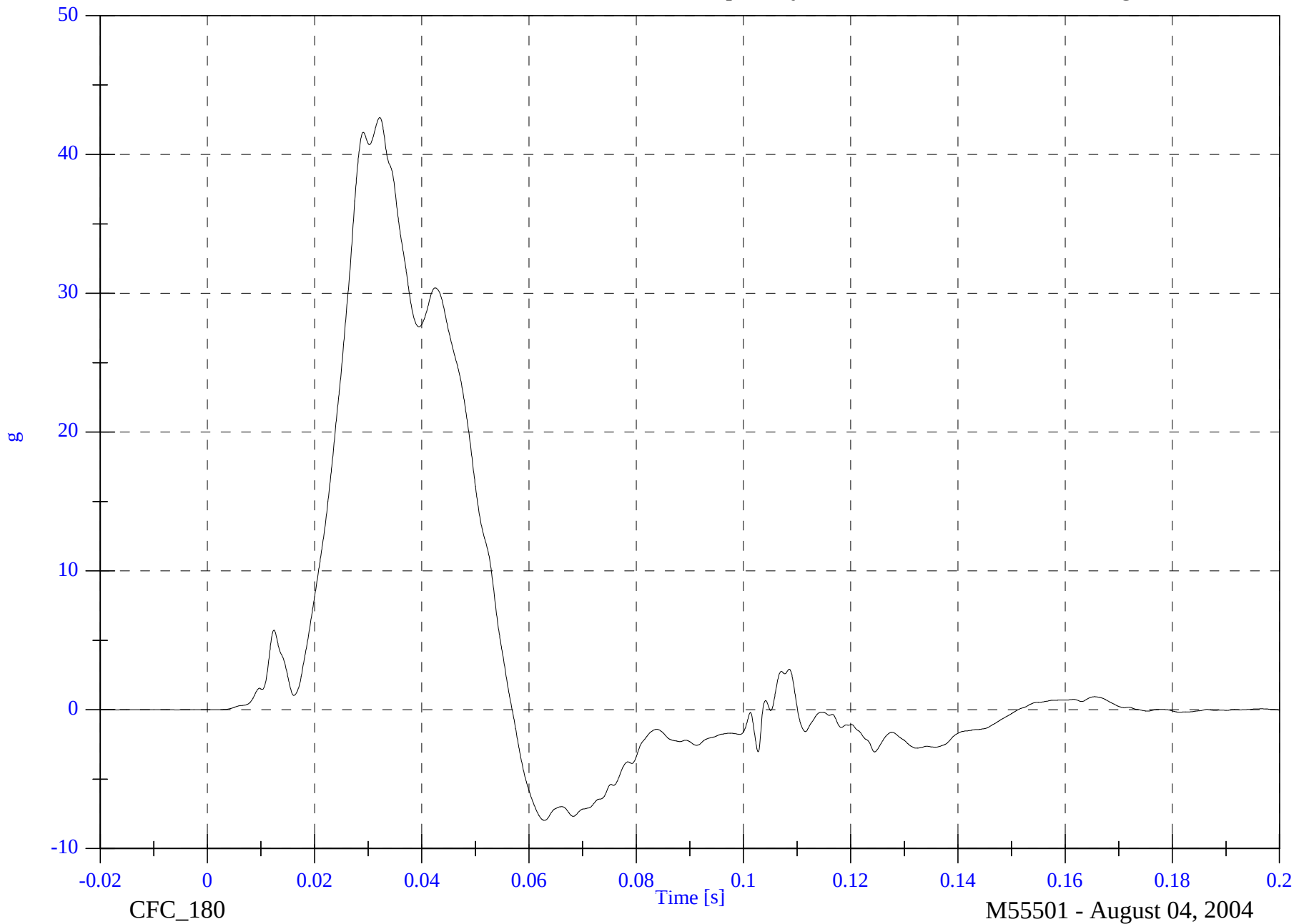
V2P1 Lower Spine Ry

Max: 42.7 [g] at 0.032 [s]

Min: -8.0 [g] at 0.063 [s]

B-131

8725-SNCAP-05

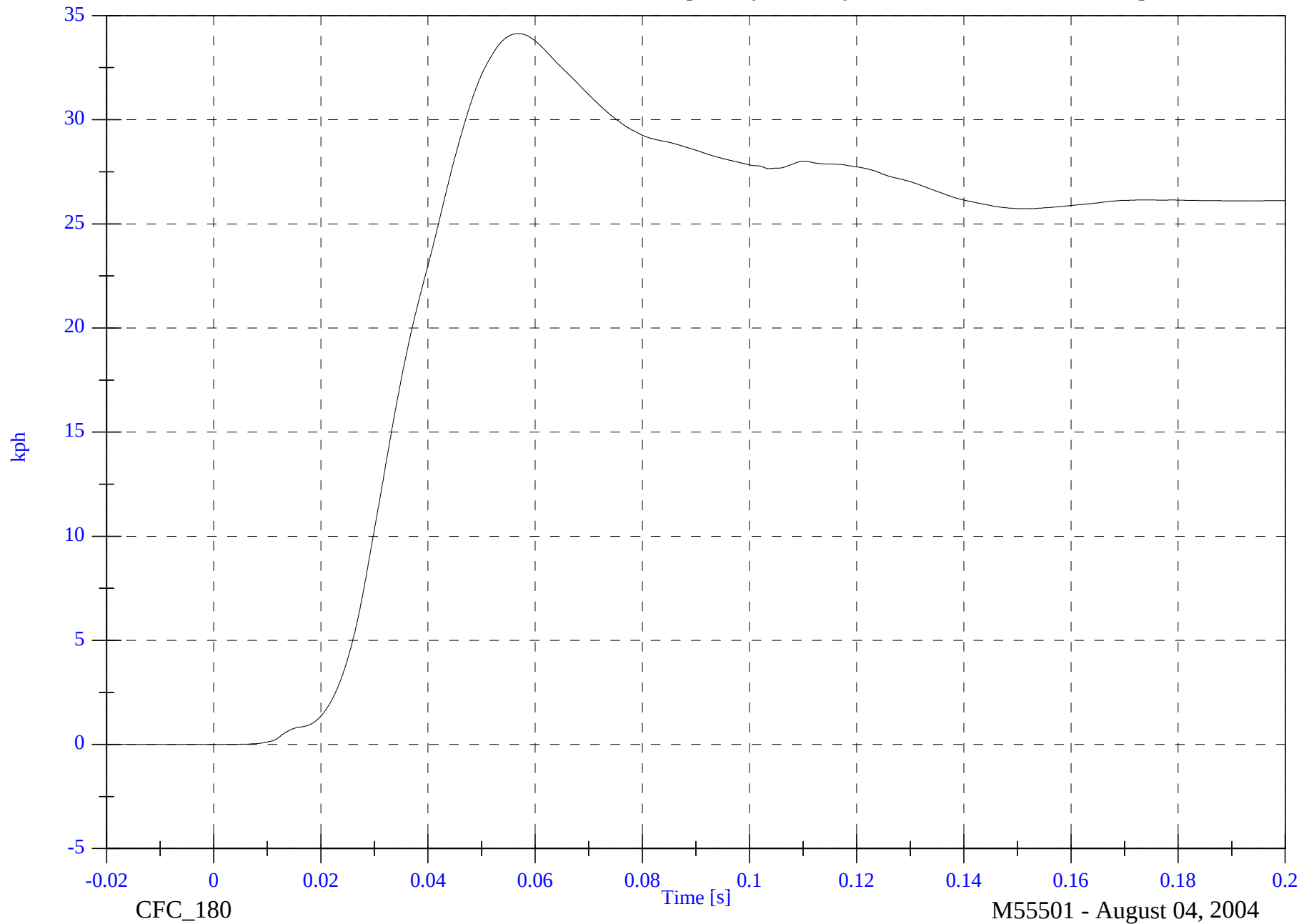


2004 SNCAP Test 5 - 2005 Subaru Outback

V2P1 Lower Spine Ry Velocity

Max: 34.1 [kph] at 0.057 [s]

Min: -0.0 [kph] at -0.016 [s]



B-132

8725-SNCAP-05

2004 SNCAP Test 5 - 2005 Subaru Outback

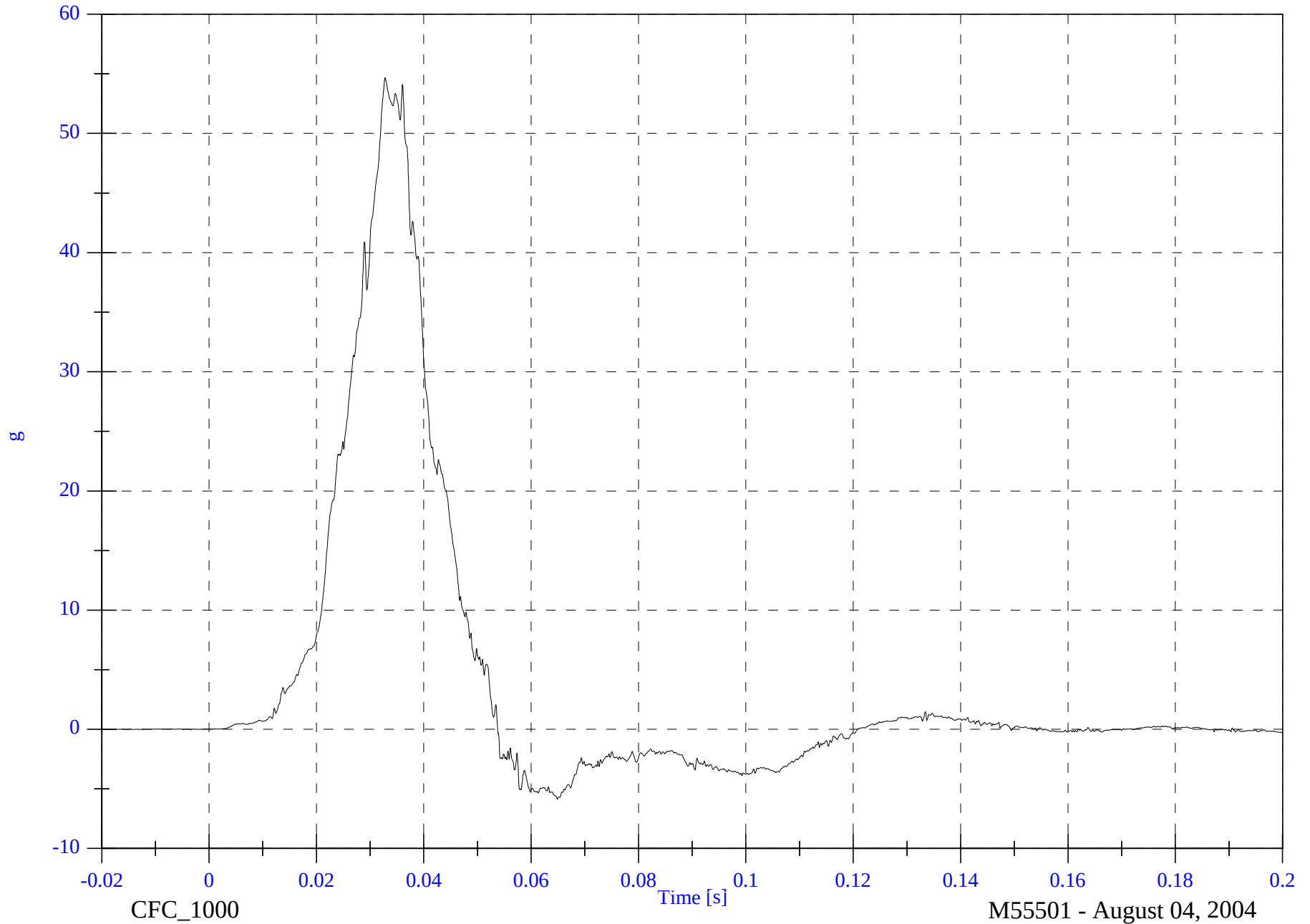
V2P1 Pelvic Ry

Max: 54.7 [g] at 0.033 [s]

Min: -5.9 [g] at 0.065 [s]

B-133

8725-SNCAP-05

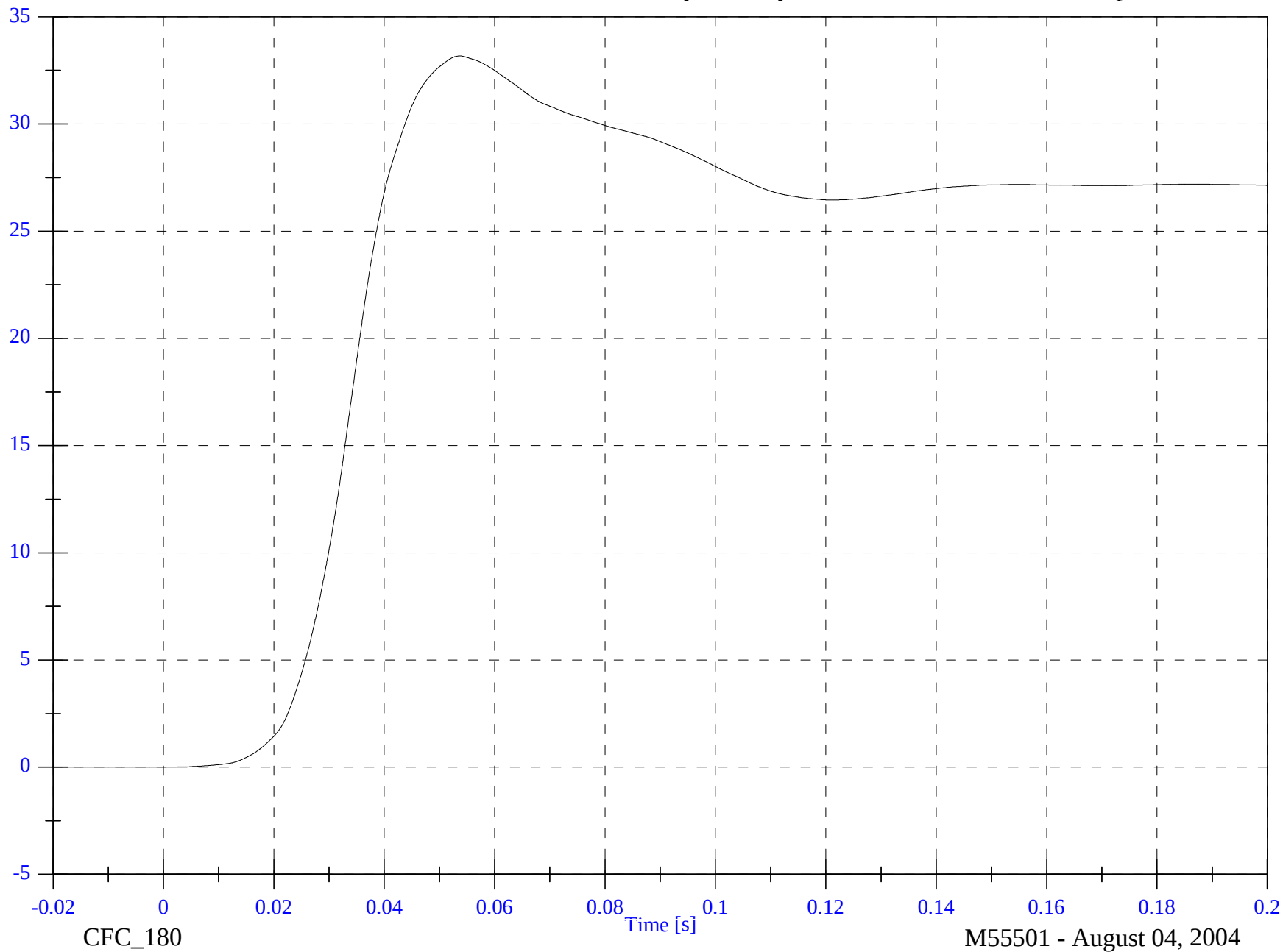


2004 SNCAP Test 5 - 2005 Subaru Outback

V2P1 Pelvic Ry Velocity

Max: 33.2 [kph] at 0.054 [s]

Min: -0.0 [kph] at -0.020 [s]



B-134

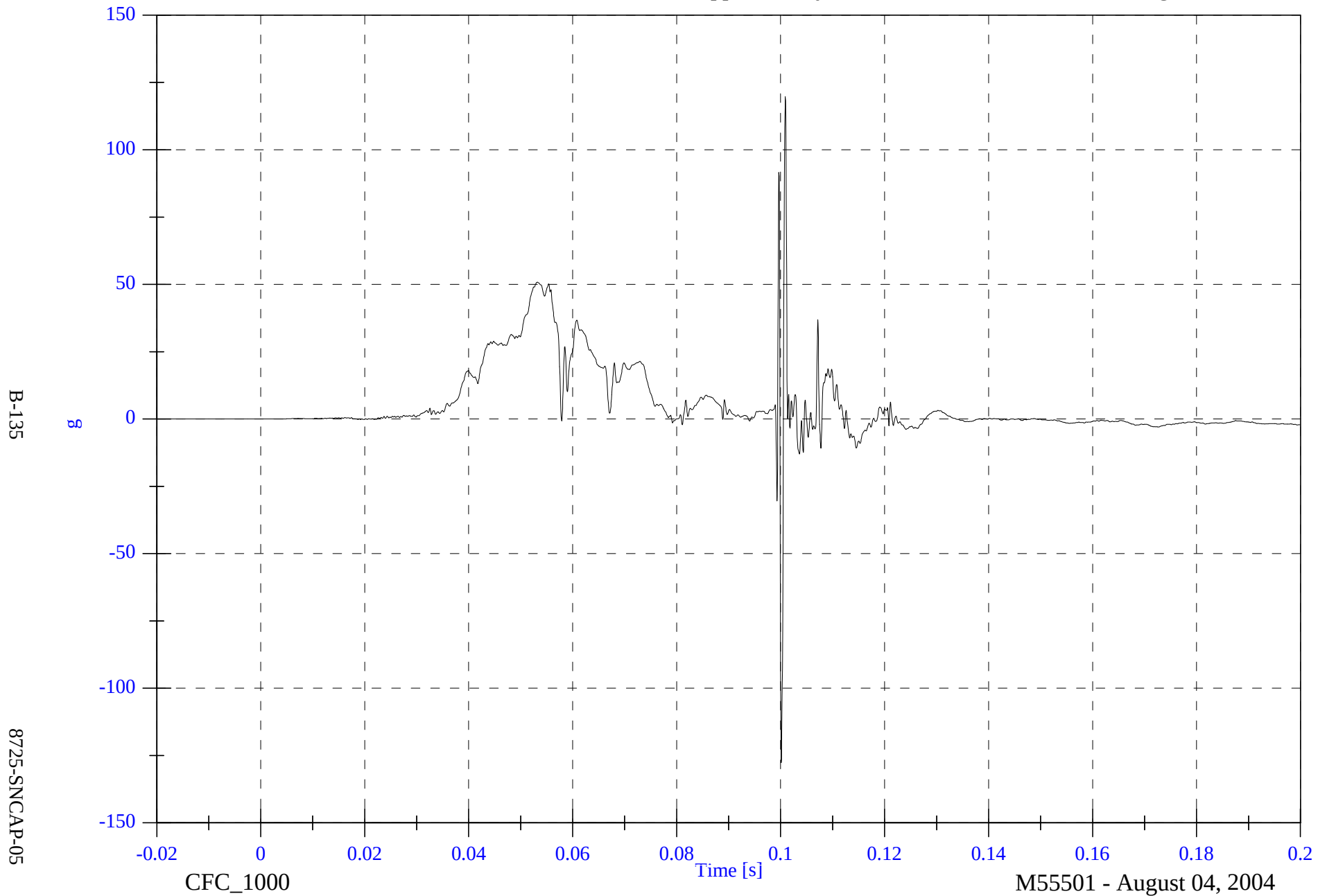
8725-SNCAP-05

2004 SNCAP Test 5 - 2005 Subaru Outback

V2P4 Upper Rib Ry

Max: 119.7 [g] at 0.101 [s]

Min: -127.7 [g] at 0.100 [s]

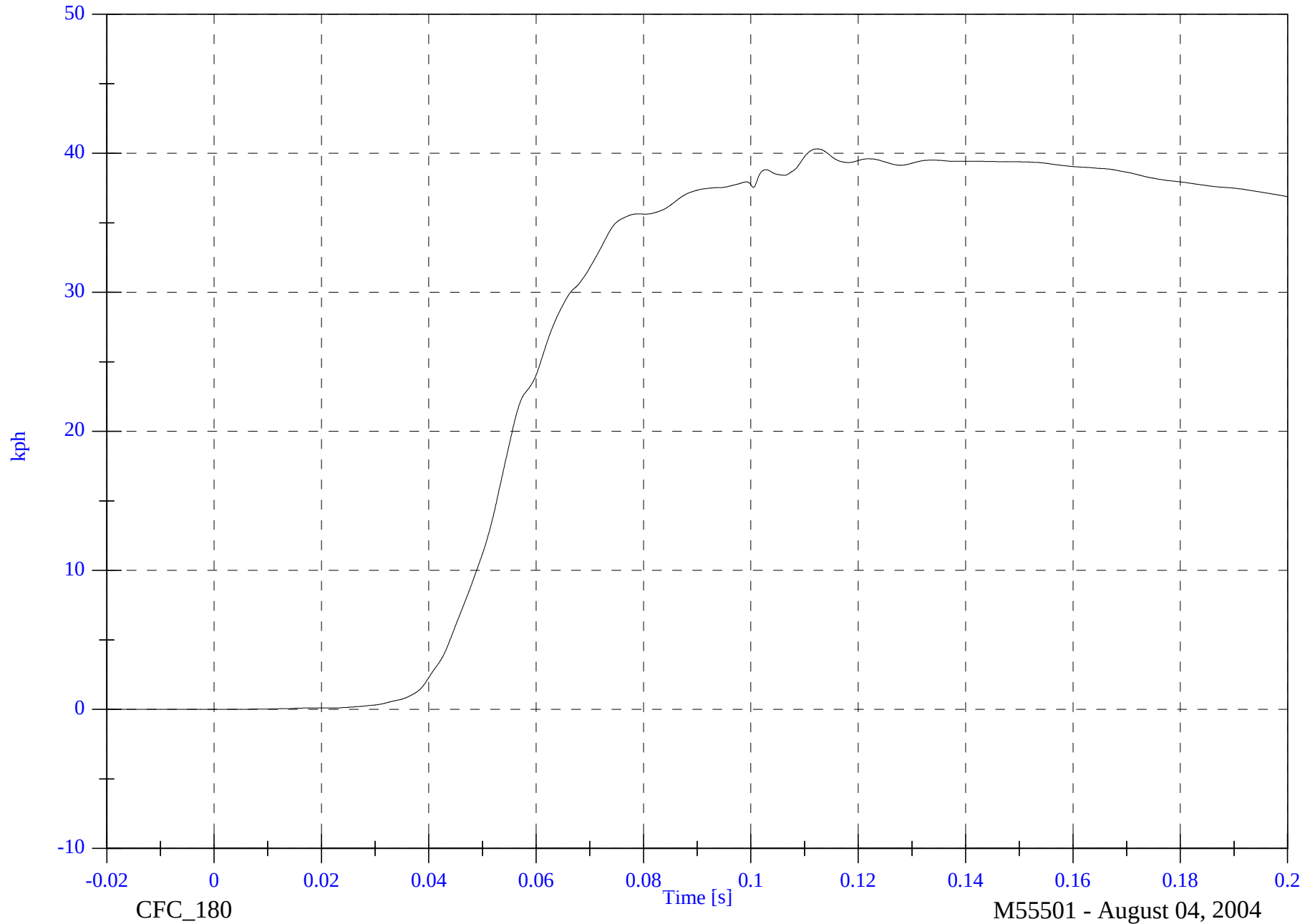


2004 SNCAP Test 5 - 2005 Subaru Outback

V2P4 Upper Rib Ry Velocity

Max: 40.3 [kph] at 0.112 [s]

Min: -0.0 [kph] at -0.020 [s]



B-136

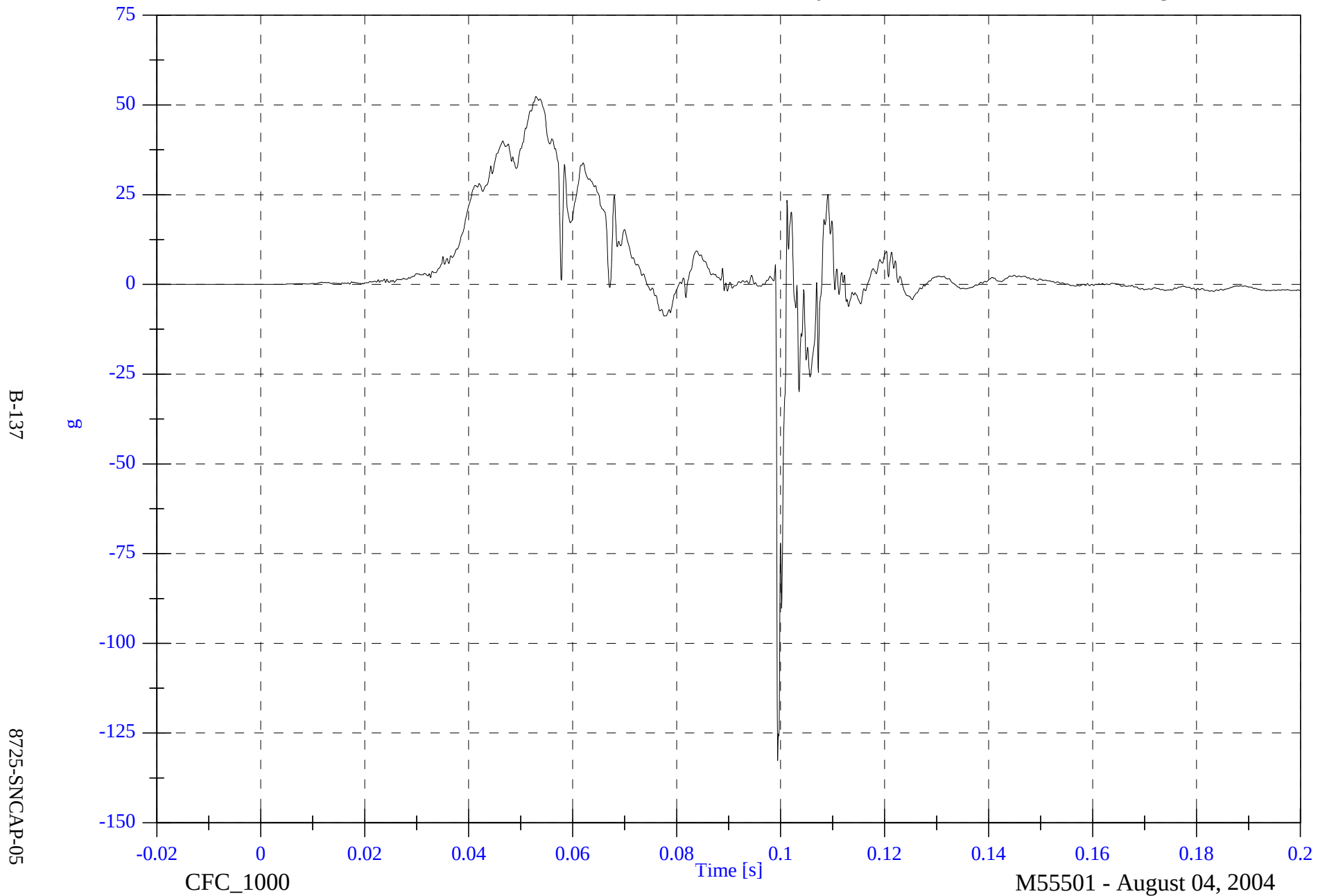
8725-SNCAP-05

2004 SNCAP Test 5 - 2005 Subaru Outback

V2P4 Lower Rib Ry

Max: 52.4 [g] at 0.053 [s]

Min: -132.6 [g] at 0.099 [s]



2004 SNCAP Test 5 - 2005 Subaru Outback

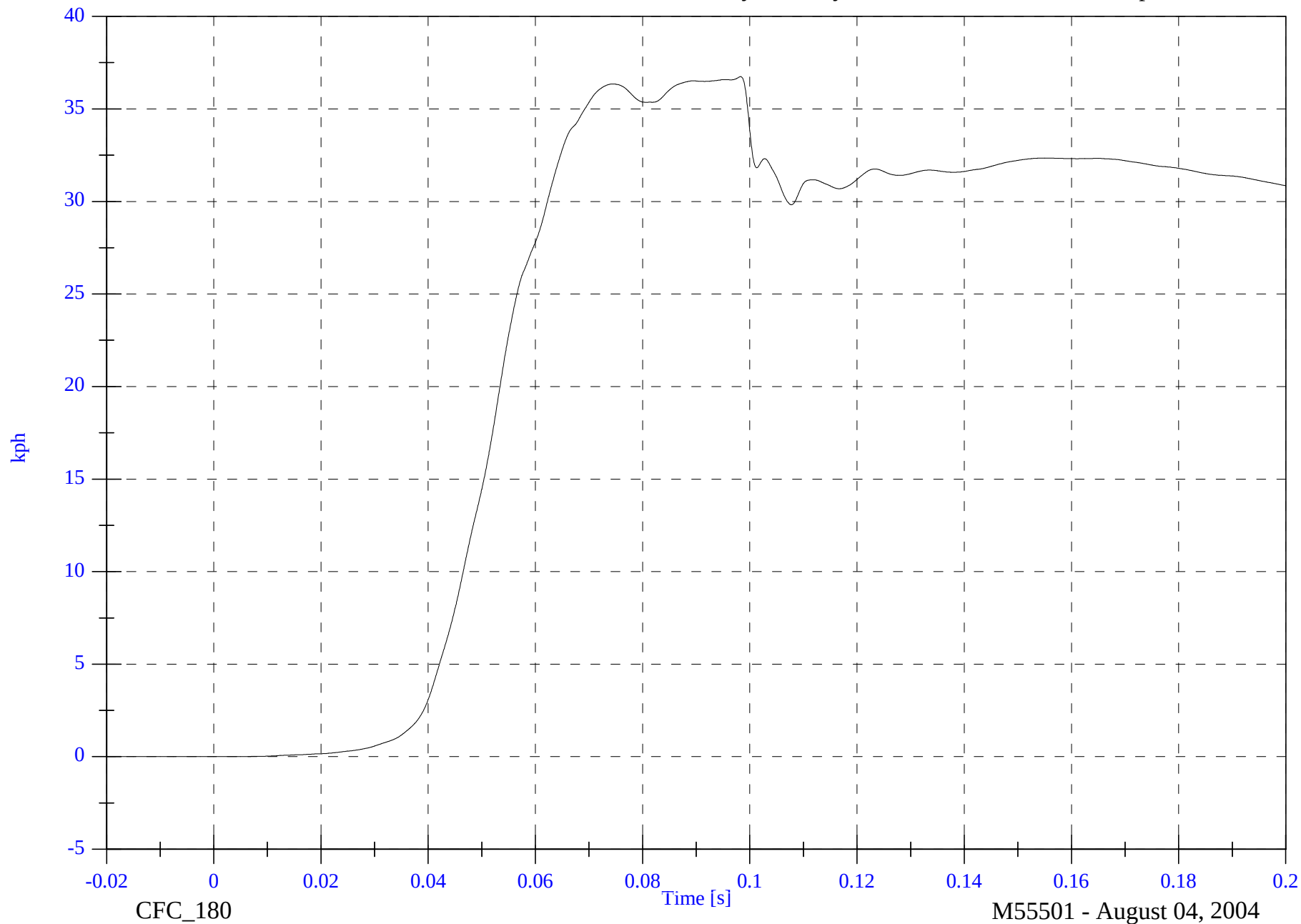
V2P4 Lower Rib Ry Velocity

Max: 36.7 [kph] at 0.098 [s]

Min: -0.0 [kph] at -0.013 [s]

B-138

8725-SNCAP-05

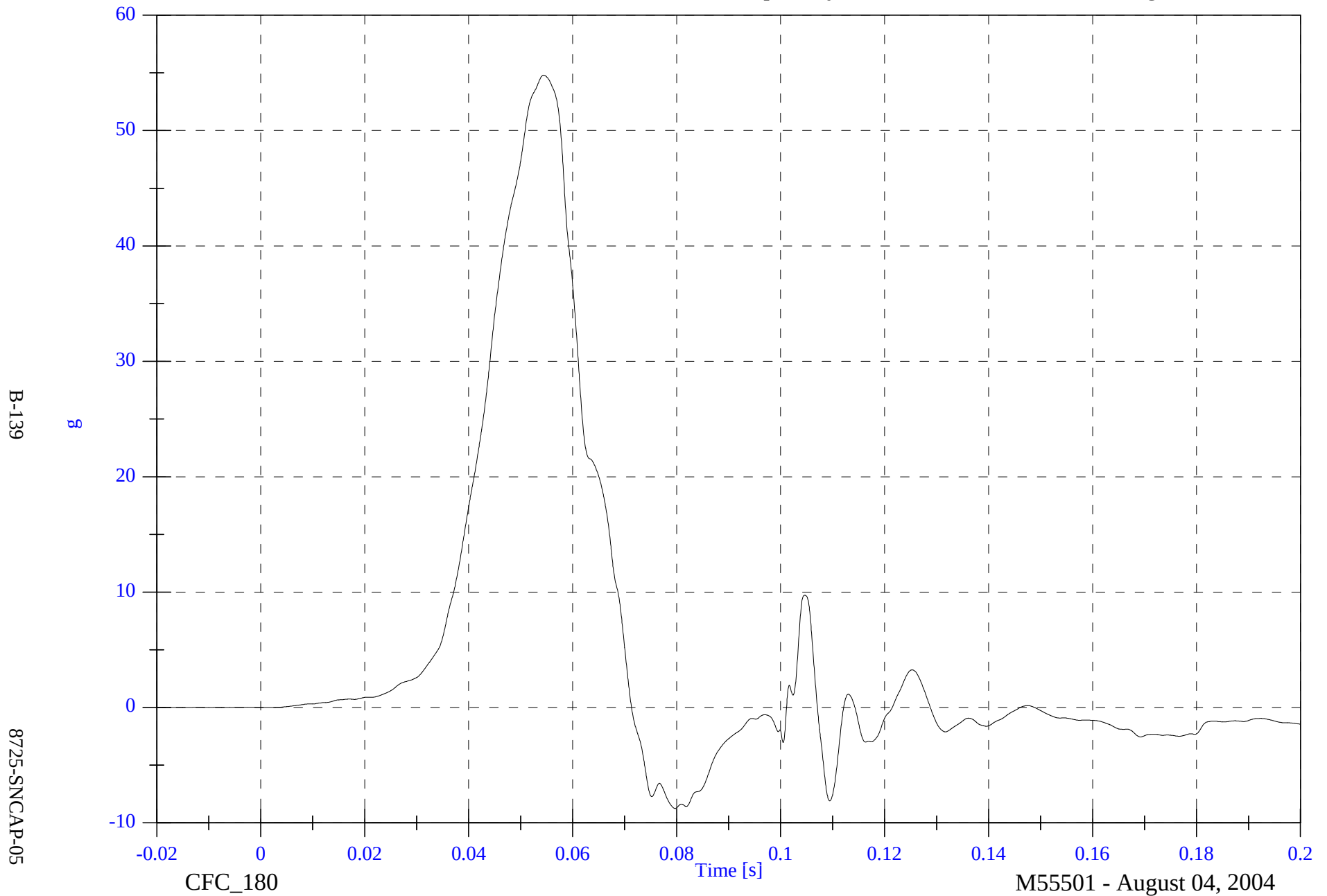


2004 SNCAP Test 5 - 2005 Subaru Outback

V2P4 Lower Spine Ry

Max: 54.8 [g] at 0.054 [s]

Min: -8.8 [g] at 0.080 [s]

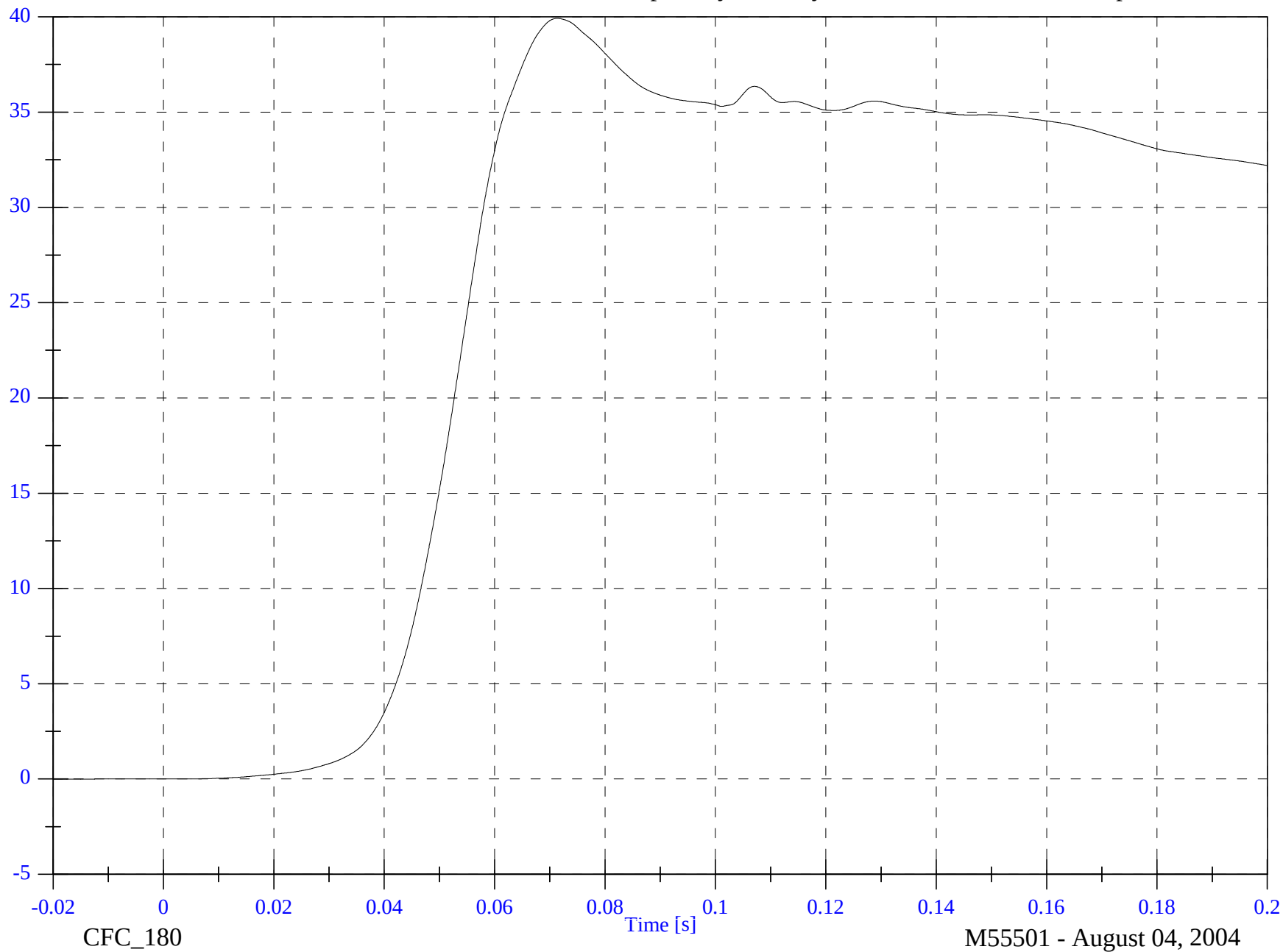


2004 SNCAP Test 5 - 2005 Subaru Outback

V2P4 Lower Spine Ry Velocity

Max: 39.9 [kph] at 0.071 [s]

Min: -0.0 [kph] at -0.020 [s]



B-140

8725-SNCAP-05

2004 SNCAP Test 5 - 2005 Subaru Outback

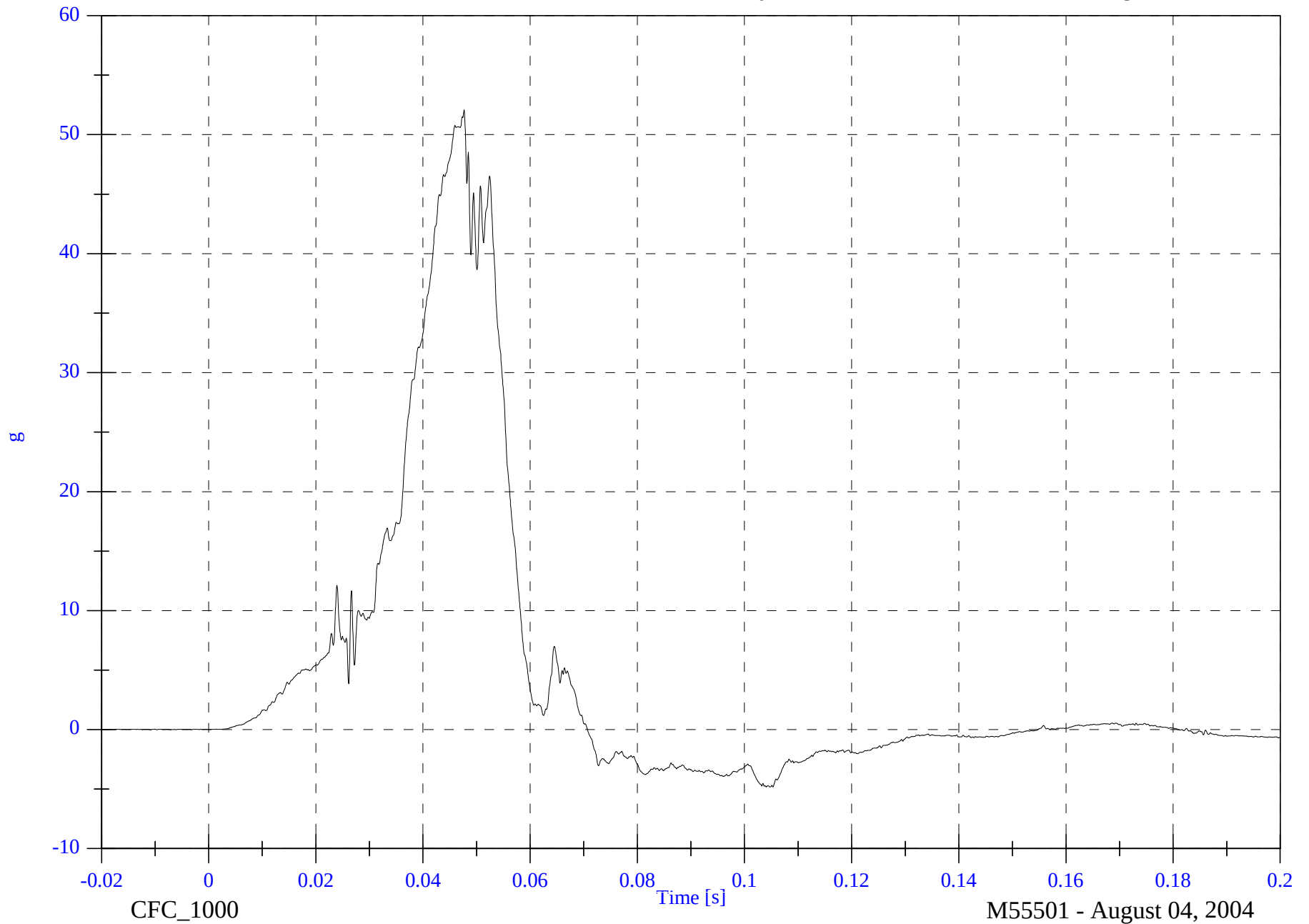
V2P4 Pelvic Ry

Max: 52.1 [g] at 0.048 [s]

Min: -4.8 [g] at 0.105 [s]

B-141

8725-SNCAP-05

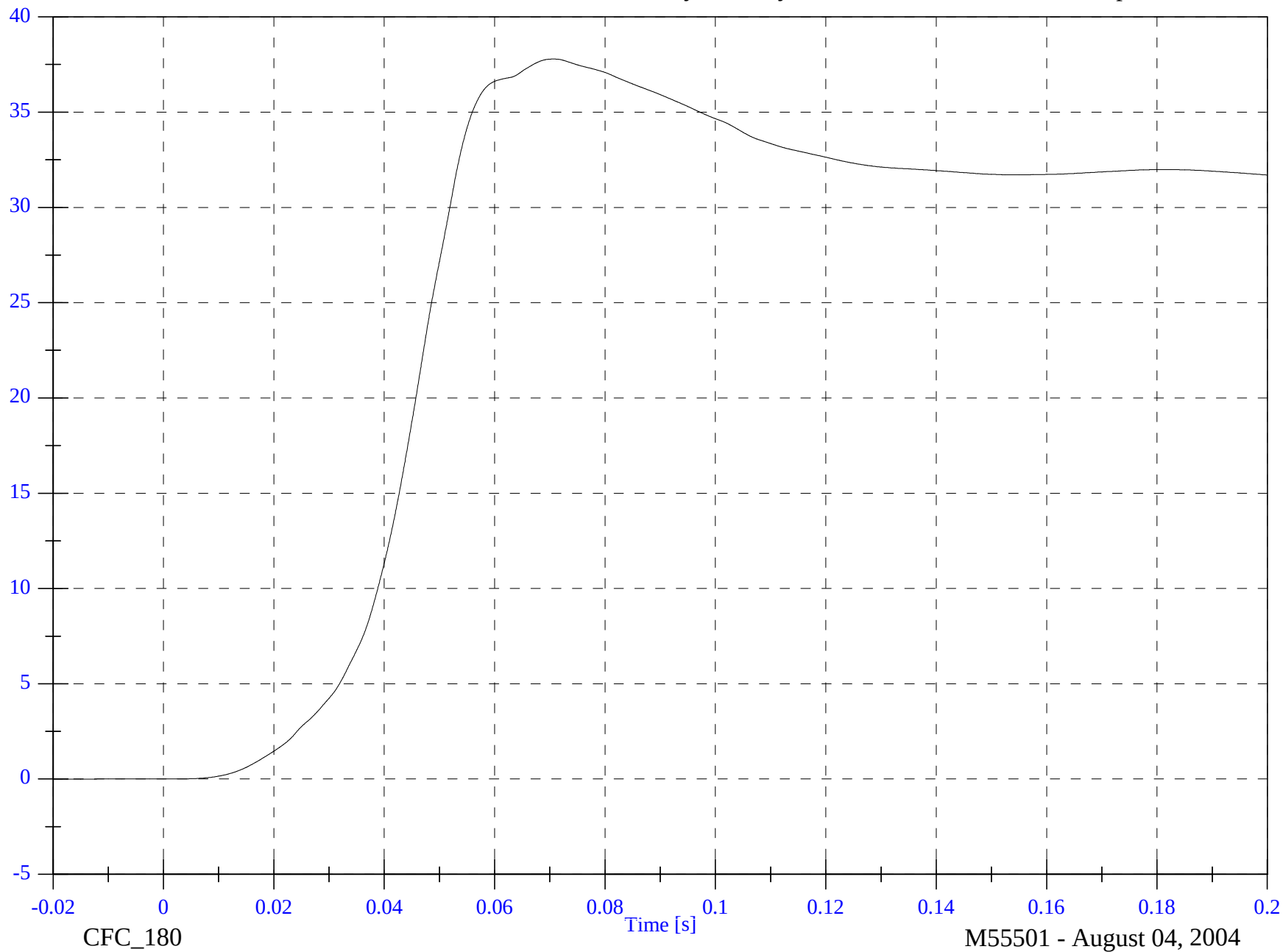


2004 SNCAP Test 5 - 2005 Subaru Outback

V2P4 Pelvic Ry Velocity

Max: 37.8 [kph] at 0.071 [s]

Min: -0.0 [kph] at -0.019 [s]



B-142

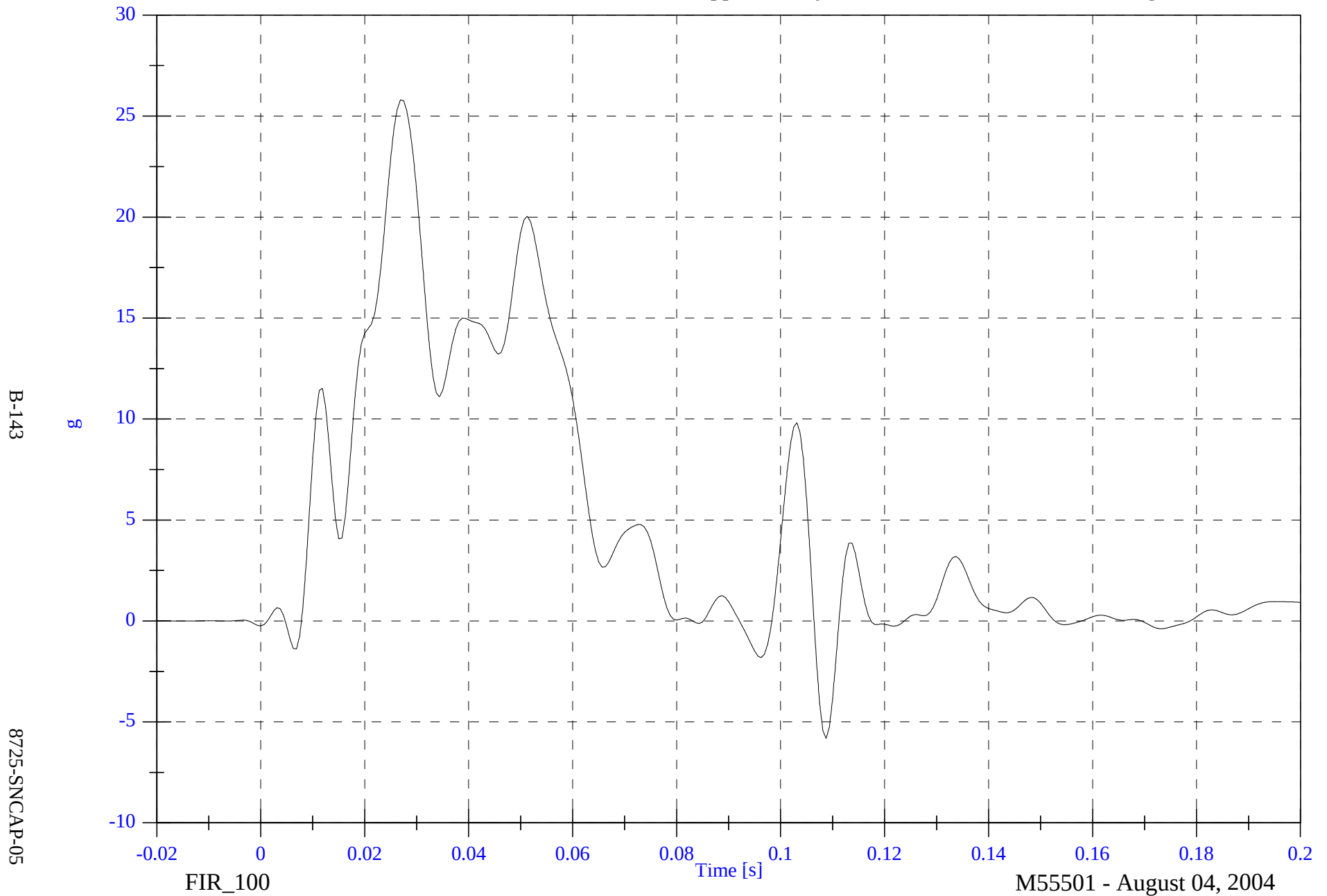
8725-SNCAP-05

2004 SNCAP Test 5 - 2005 Subaru Outback

V2P1 Upper Rib Ry

Max: 25.8 [g] at 0.027 [s]

Min: -5.8 [g] at 0.109 [s]

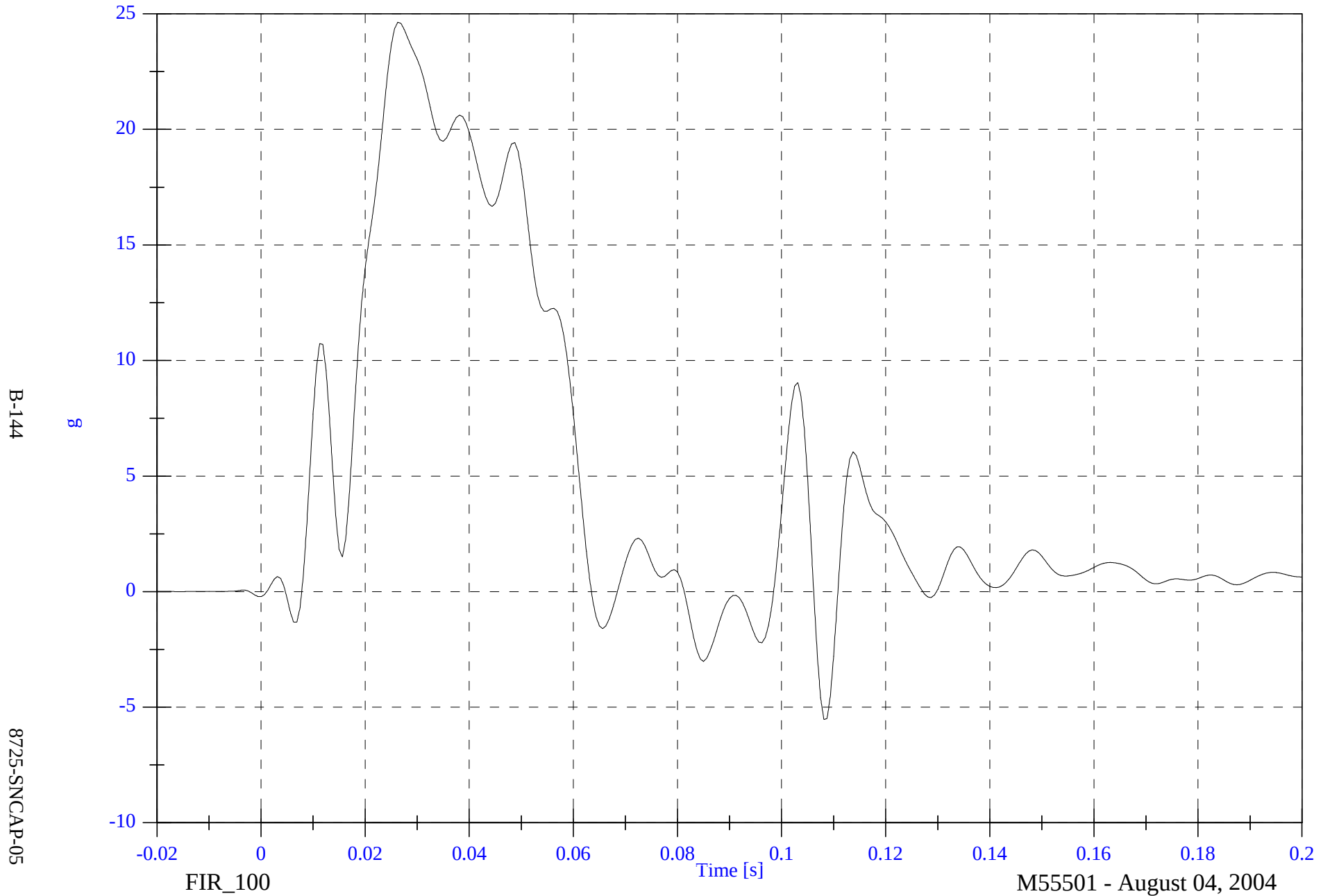


2004 SNCAP Test 5 - 2005 Subaru Outback

V2P1 Lower Rib Ry

Max: 24.6 [g] at 0.026 [s]

Min: -5.5 [g] at 0.108 [s]



2004 SNCAP Test 5 - 2005 Subaru Outback

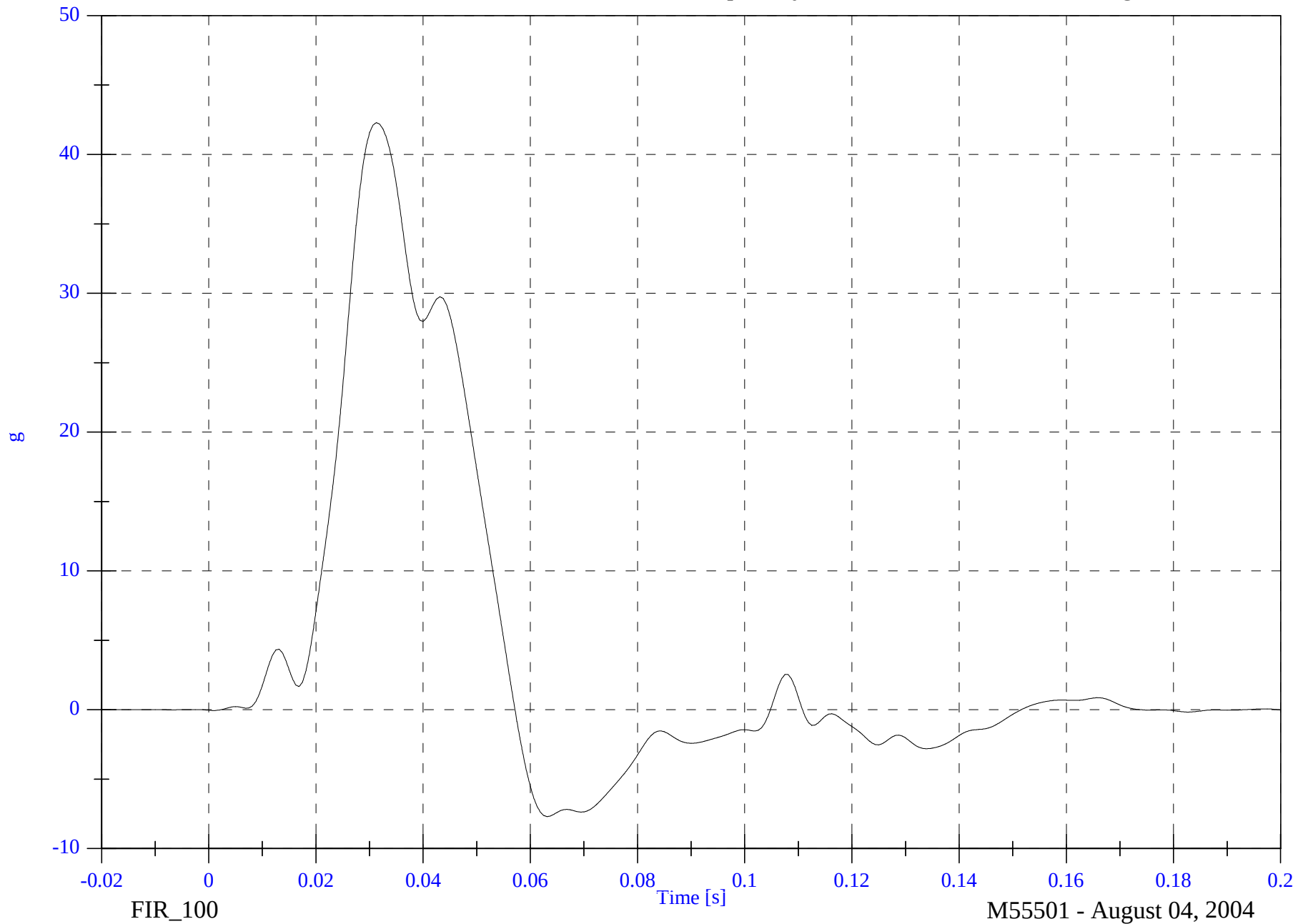
V2P1 Lower Spine Ry

Max: 42.3 [g] at 0.031 [s]

Min: -7.7 [g] at 0.063 [s]

B-145

8725-SNCAP-05



2004 SNCAP Test 5 - 2005 Subaru Outback

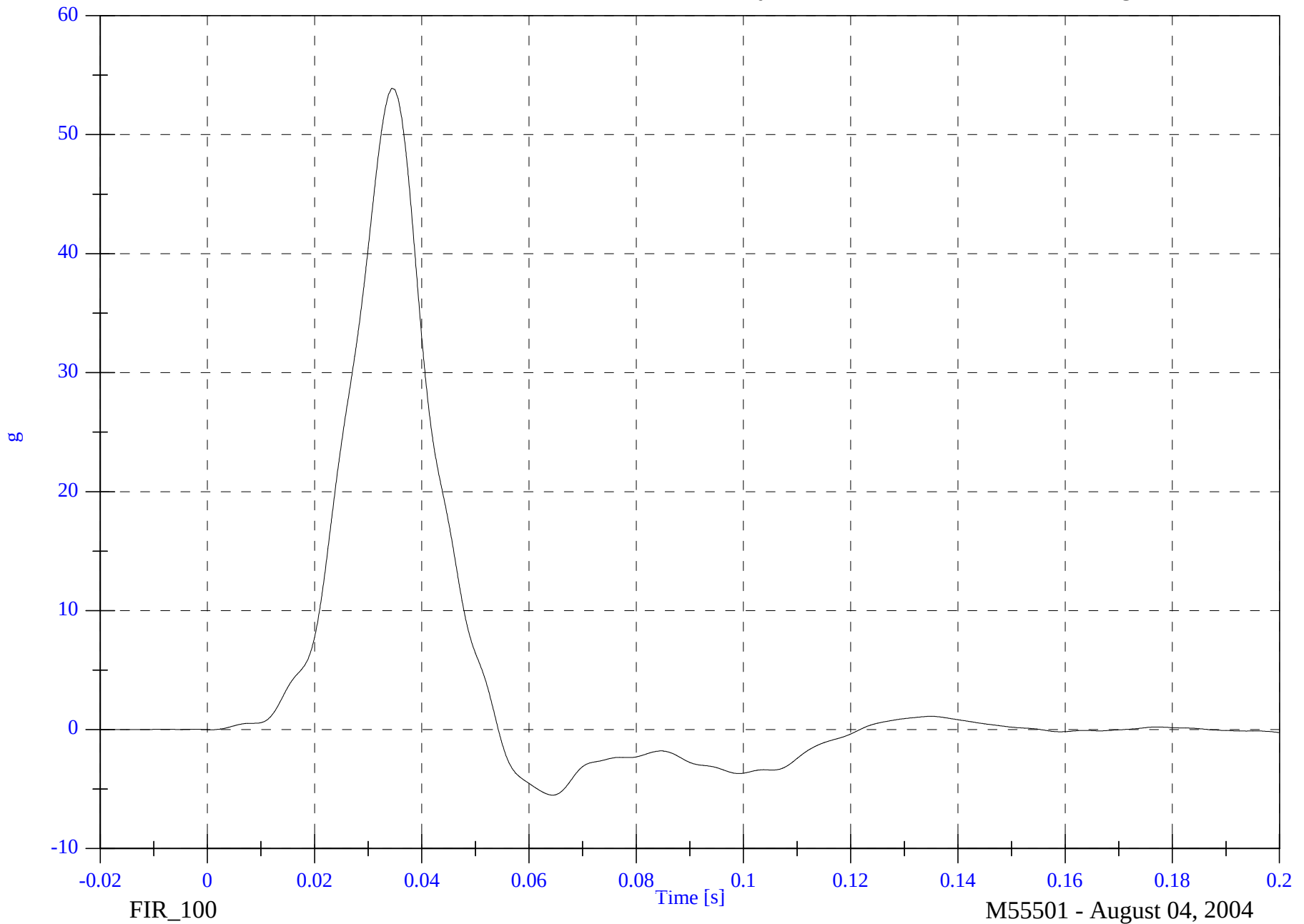
V2P1 Pelvic Ry

Max: 53.9 [g] at 0.034 [s]

Min: -5.5 [g] at 0.064 [s]

B-146

8725-SNCAP-05

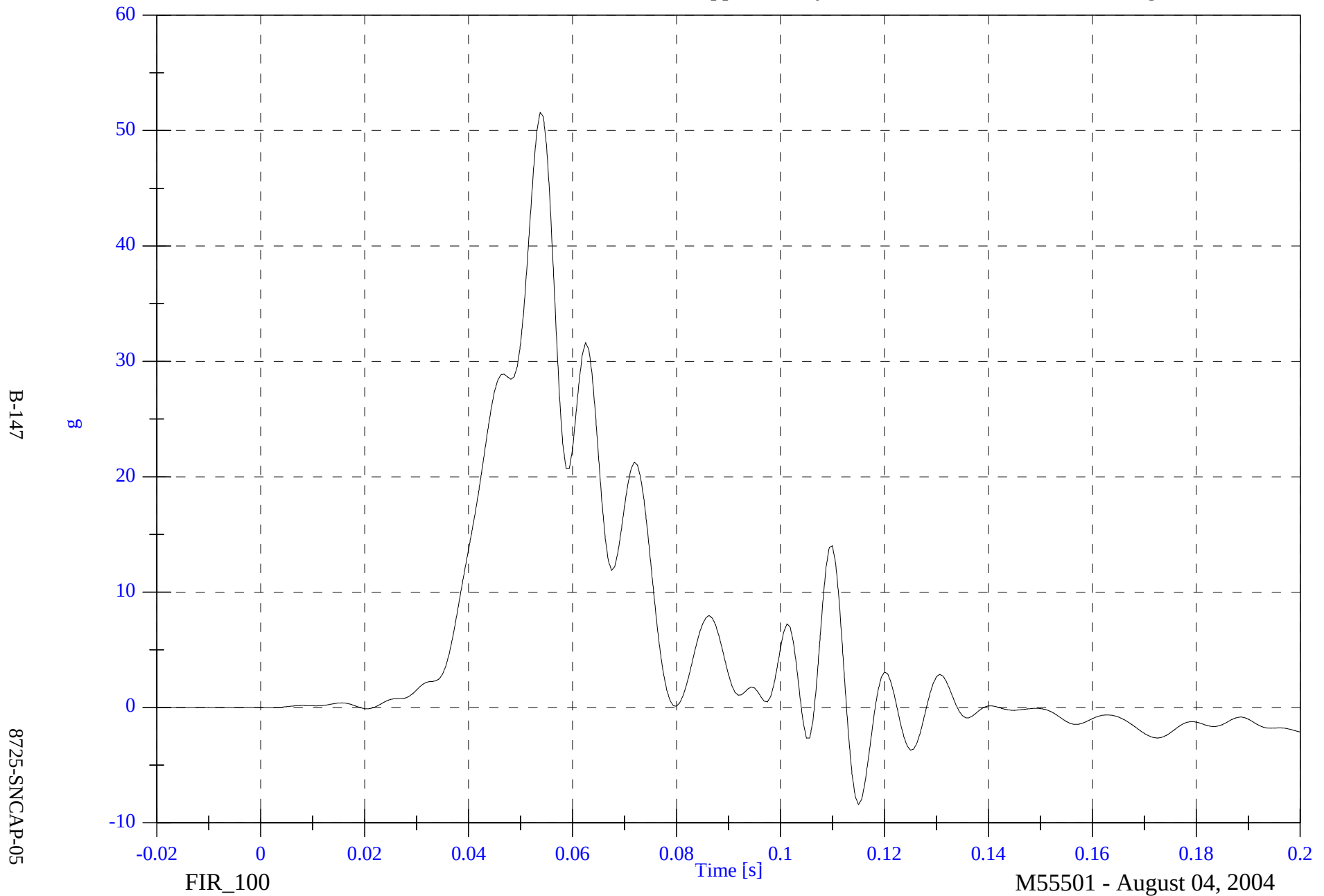


2004 SNCAP Test 5 - 2005 Subaru Outback

V2P4 Upper Rib Ry

Max: 51.6 [g] at 0.054 [s]

Min: -8.4 [g] at 0.115 [s]

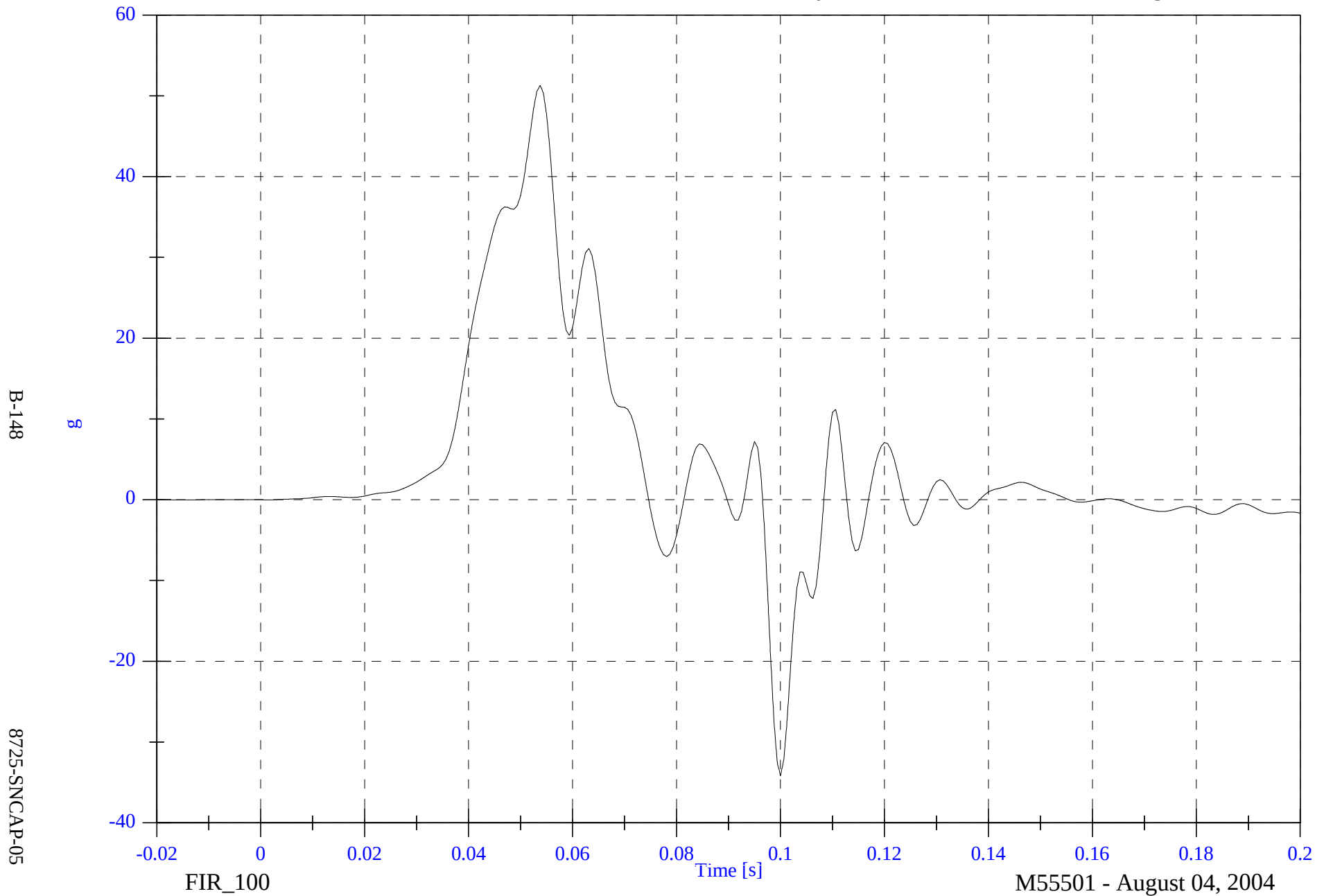


2004 SNCAP Test 5 - 2005 Subaru Outback

V2P4 Lower Rib Ry

Max: 51.3 [g] at 0.054 [s]

Min: -34.2 [g] at 0.100 [s]



2004 SNCAP Test 5 - 2005 Subaru Outback

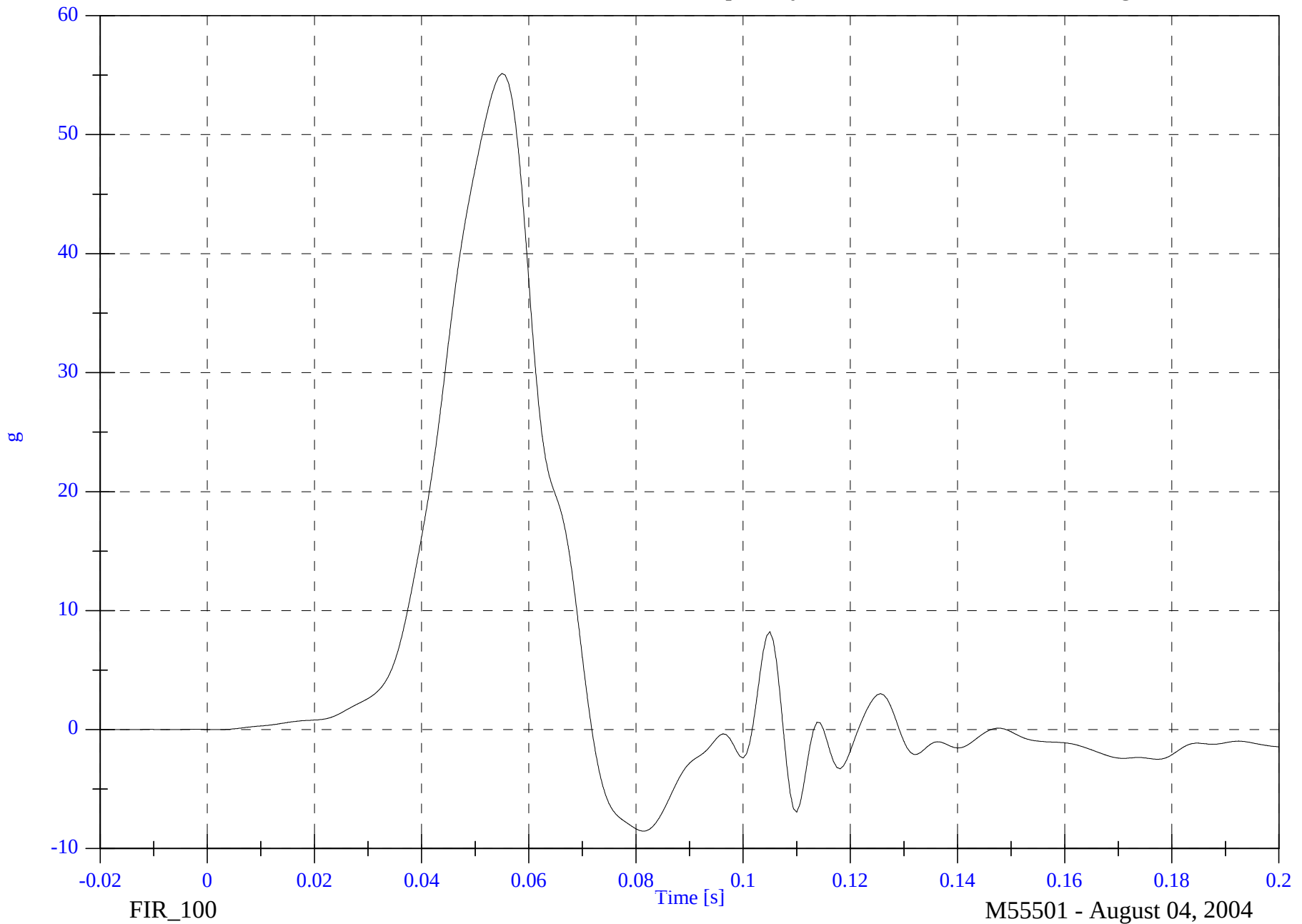
V2P4 Lower Spine Ry

Max: 55.1 [g] at 0.055 [s]

Min: -8.5 [g] at 0.081 [s]

B-149

8725-SNCAP-05

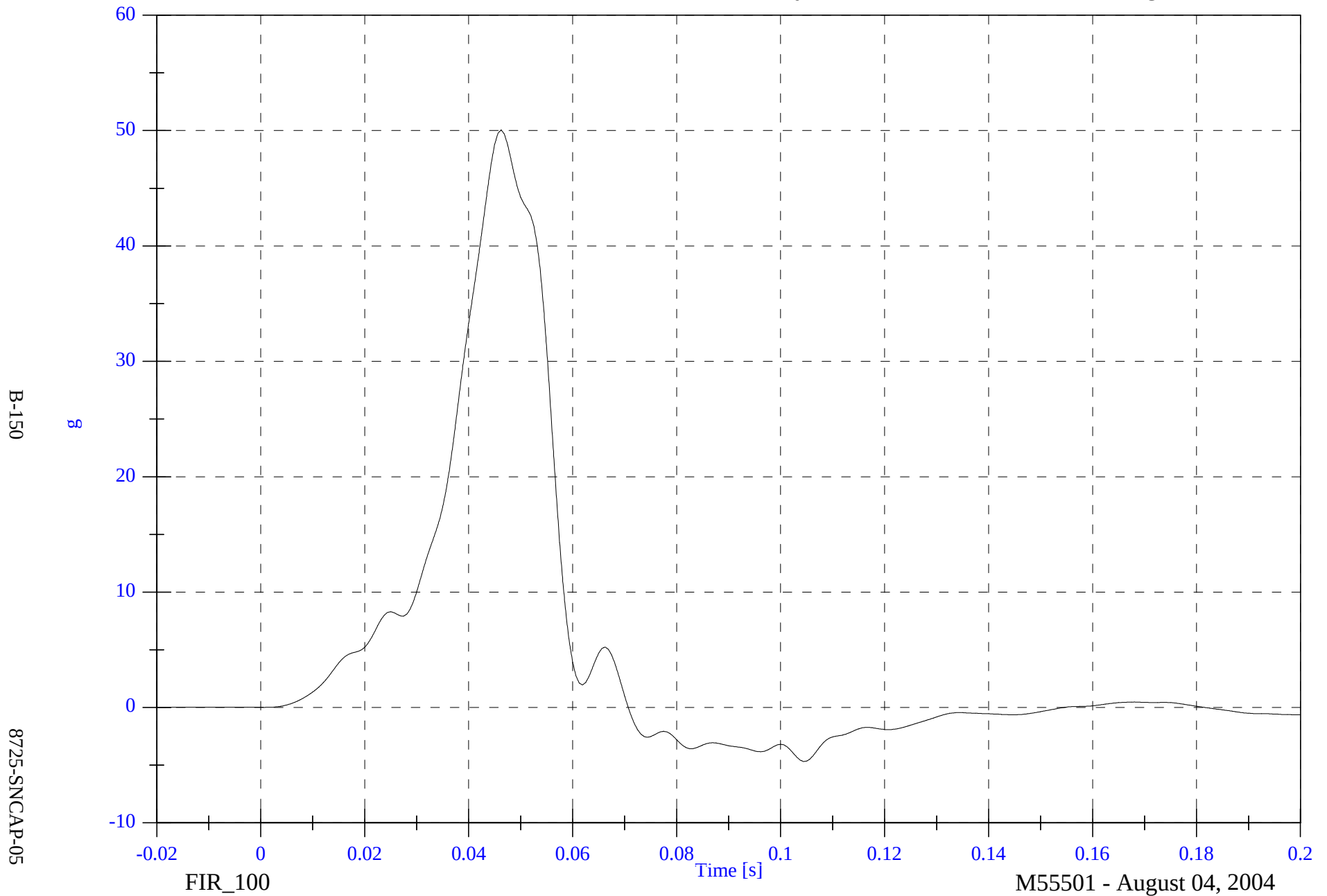


2004 SNCAP Test 5 - 2005 Subaru Outback

V2P4 Pelvic Ry

Max: 50.1 [g] at 0.046 [s]

Min: -4.7 [g] at 0.104 [s]



APPENDIX C

SID HYBRID III CONFIGURATION AND PERFORMANCE VERIFICATION DATA

SUMMARY
SID H3 PRE & POST TEST CALIBRATION
CONFIGURED FOR LEFT SIDE IMPACT

Date: 7/26/2004; 7/26/2004

Sequential Test Number:

1.1, 1.1

Laboratory Technician:

B. Swiecicki

TEST PARAMETER	SPECIFICATION	SID H3 269 NO.:		SID H3 270 NO.:	
		PRE TEST	POST TEST	PRE TEST	POST TEST
SH- Seated Height (mm)	889 - 909	904	904	902	902
RH- Rib Height (mm)	501 - 521	505	505	505	505
HP- Hip Pivot Height (mm)	99 ref.	99	99	99	99
RD- Rib from Back Line (mm)	229 - 241	234	234	234	234
KV- Knee Pivot from Back Line (mm)	511 - 526	518	518	513	513
SW- Knee Pivot to Floor (mm)	490 - 505	495	495	495	495
HW- Hip Width (mm)	356 - 391	378	381	378	378
THORAX IMPACTS					
TEMPERATURE (°C)	18.9 - 25.5	21.1	21.1	21.1	21.1
RELATIVE HUMIDITY (%)	10 -70	36.0	37.0	36.0	43.0
PROBE SPEED (m/s)	4.27 - 4.33	4.32	4.27	4.32	4.27
UPPER RIB (g's)	37 - 46	38.17	39.15	43.18	49.79†
LOWER RIB (g's)	37 - 46	37.08	38.47	43.12	47.17†
LOWER SPINE (g's)	15 -22	19.76	20.69	21.44	23.14†
PELVIS IMPACT					
TEMPERATURE (°C)	18.9 - 25.5	21.1	21.1	21.1	21.1
RELATIVE HUMIDITY (%)	10 - 70	36.0	37.0	36.0	37.0
PROBE SPEED (m/s)	4.27 - 4.33	4.27	4.28	4.33	4.30
PELVIS (g's)	40 -60	51.06	52.58	54.75	45.83

REMARKS: † Did not pass post test certification requirements.

CALIBRATION TEST RESULTS

PRE-TEST

SID H3 NO.: 269

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 269 Sequential Test Number: 1
Date: 7/26/2004 Laboratory Technician: B. Swiecicki

TEST	COMMENTS
EXTERNAL DIMENSIONS	Passed all requirements.
THORACIC SHOCK ABSORBER TEST	Passed all requirements.
LATERAL THORAX IMPACT TEST	Passed all requirements.
LATERAL PELVIS IMPACT TEST	Passed all requirements.
HEAD DROP TEST*	Passed all requirements.
LATERAL NECK BEND TEST*	Passed all requirements.
ABDOMINAL COMPRESSION TEST*	Passed all requirements.
LUMBAR FLEXION TEST*	Passed all requirements.

* Test not required for SID certification.

REMARKS: None

**EXTERNAL DIMENSIONS
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 269 Sequential Test Number: 1
Date: 7/26/2004 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 – 909	904
RH- Rib Height (mm)	502 – 520	505
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 – 241	234
KH- Knee Pivot from Back Line (mm)	511 – 526	518
KV- Knee Pivot to Floor (mm)	490 – 505	495
HW- Hip Width (mm)	356 - 391	378

REMARKS: None

Shock Impact - Low (3.05 m/s)

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

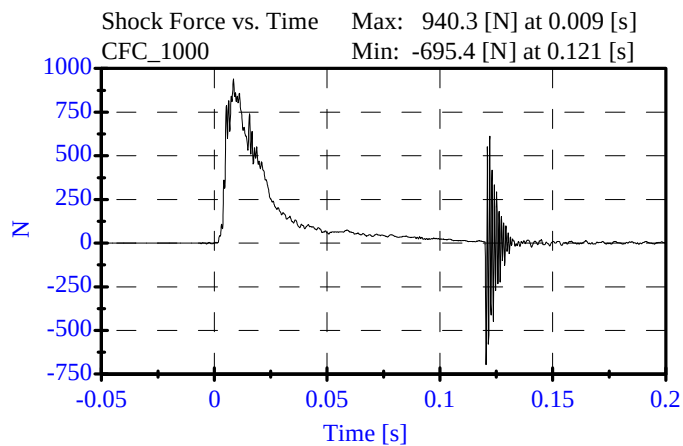
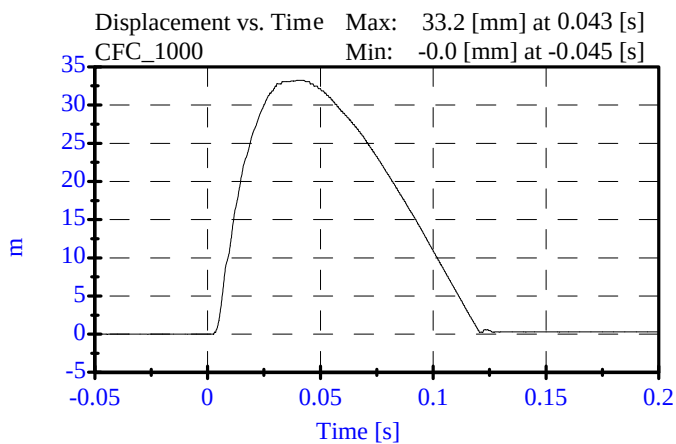
ATD Serial No: 269

Date: 07-23-04

Sequential Test Number: 1 File: 269SL 07-23-04

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	40.00 %	Passed
Displacement:	30.00-35.00 mm	33.24 mm	Passed
Maximum Force:	836.00-1125.00 N	940.32 N	Passed
Impact Test Velocity:	3.05 m/s		
Damper Identification:	269		
Damper Setting:	5		



Shock Impact - Med (4.27 m/s)

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

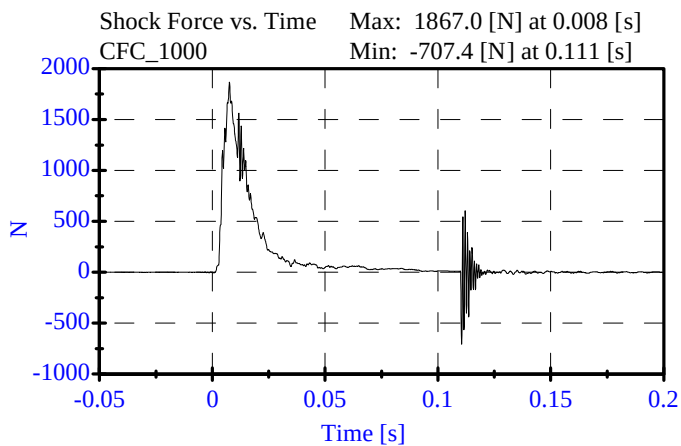
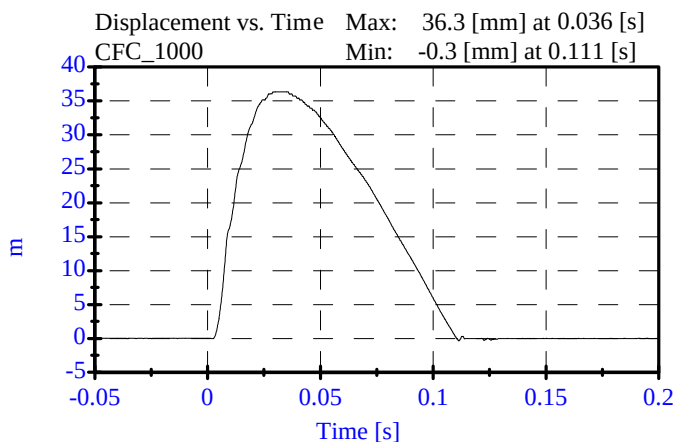
ATD Serial No: 269

Date: 07-23-04

Sequential Test Number: 1 File: 269SM 07-23-04

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	40.00 %	Passed
Displacement:	32.00-37.00 mm	36.33 mm	Passed
Maximum Force:	1730.00-2099.00 N	1866.97 N	Passed
Impact Test Velocity:	4.27 m/s		
Damper Identification:	269		
Damper Setting:	5		



Shock Impact - High (6.10 m/s)

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

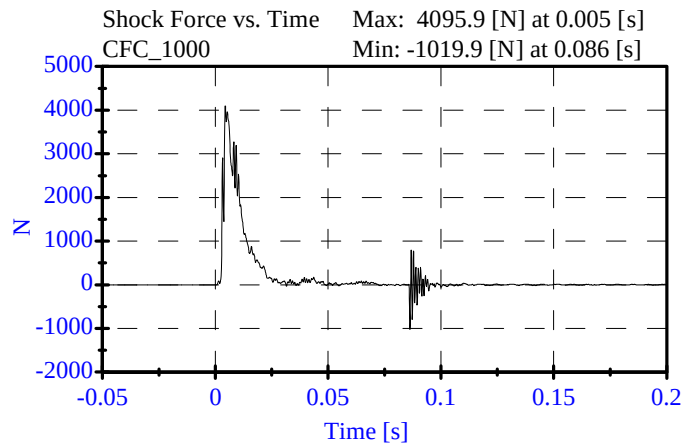
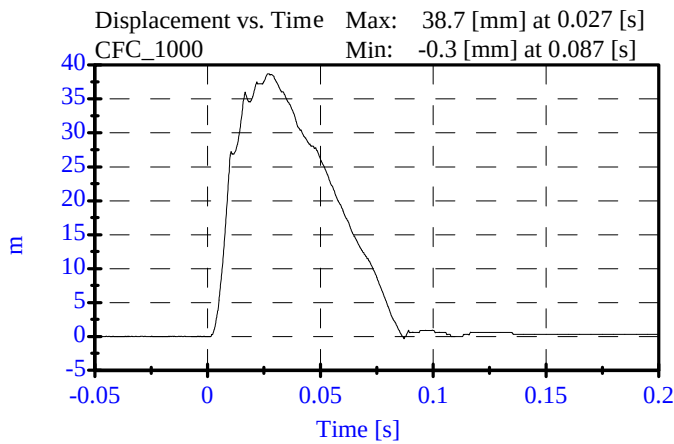
ATD Serial No: 269

Date: 07-23-04

Sequential Test Number: 1 File: 269SH6 07-23-04

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	40.00 %	Passed
Displacement:	33.00-40.00 mm	38.71 mm	Passed
Maximum Force:	3741.00-4448.00 N	4095.92 N	Passed
Impact Test Velocity:	6.10 m/s		
Damper Identification:	269		
Damper Setting:	5		

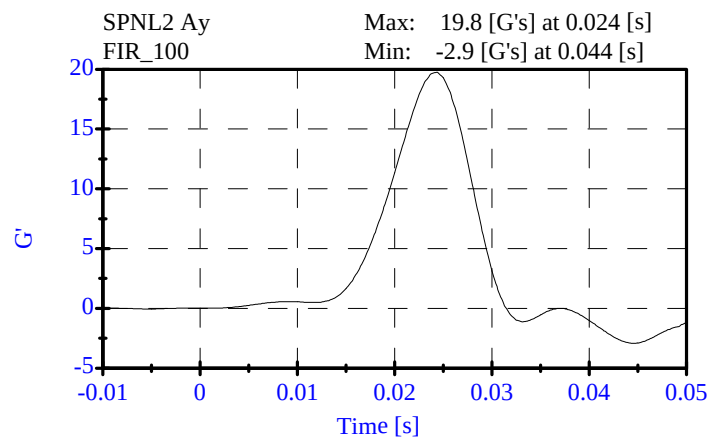
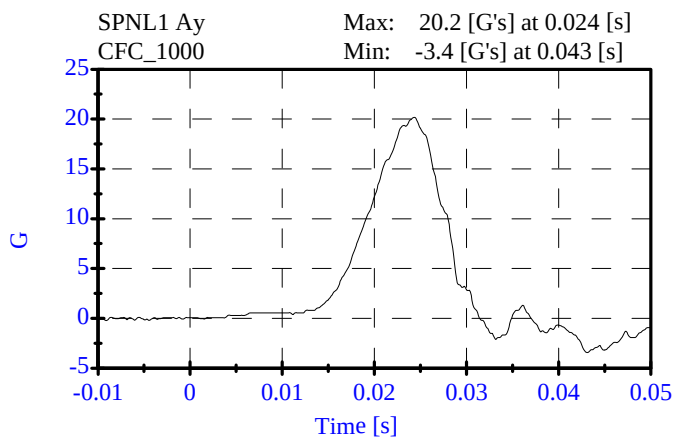
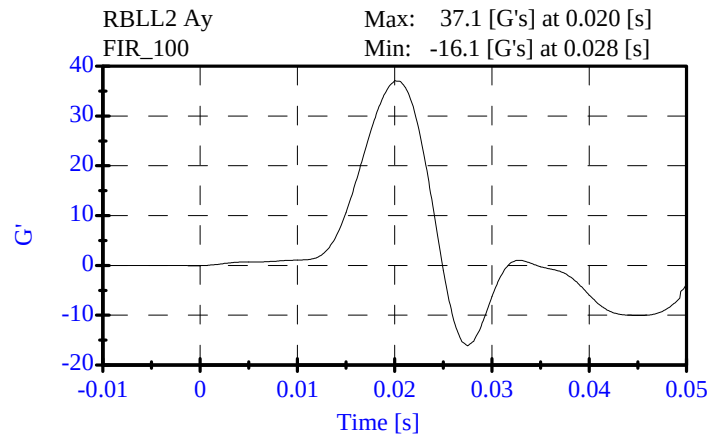
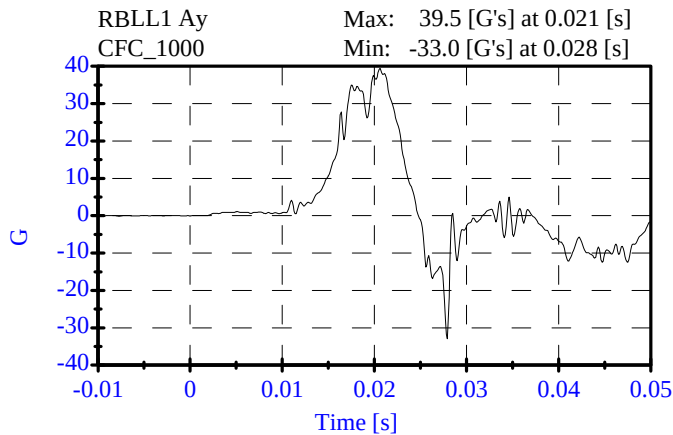
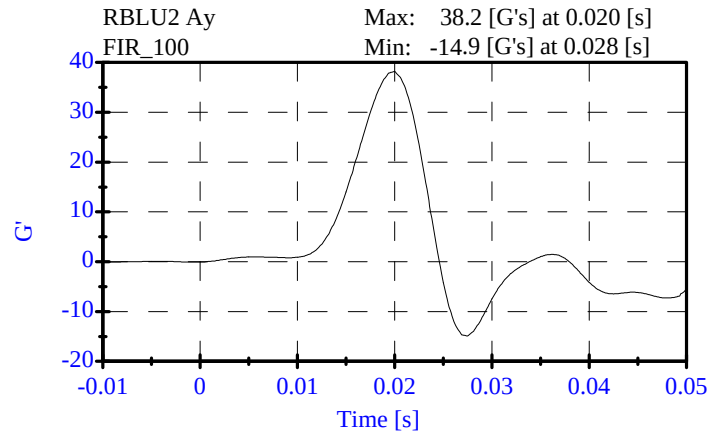
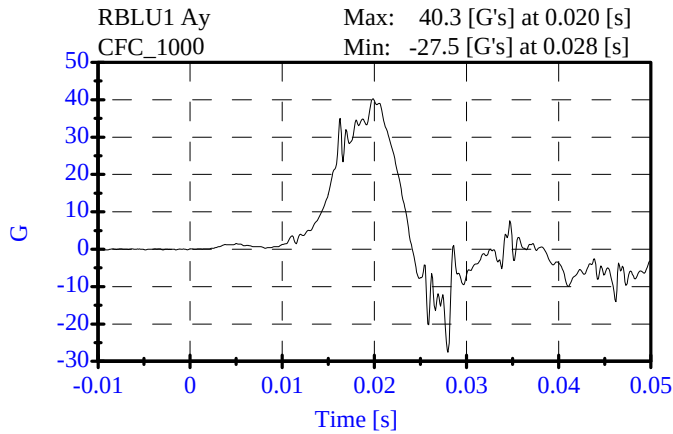


Thorax Impact
PRE TEST
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
Date: 07-26-04

Sequential Test Number: 1 File: 269T1 07-26-04
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	36.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.32 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	38.17 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	37.08 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	19.76 G's	Passed

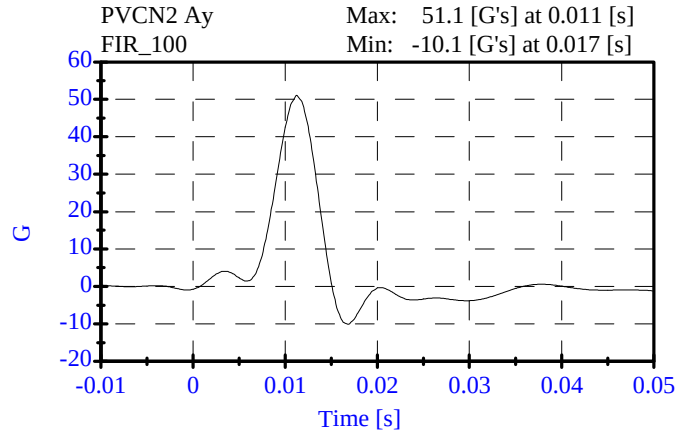
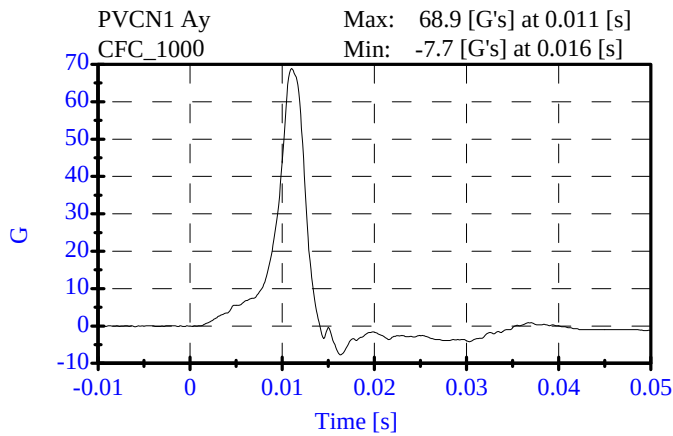


Pelvic Impact
PRE TEST
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
Date: 07-26-04

Sequential Test Number: 1 File: 269P 07-26-04
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	36.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.27 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	51.06 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.4 ms	Passed



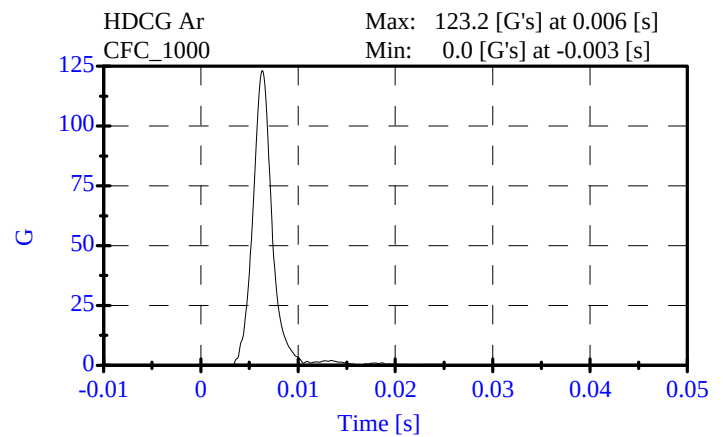
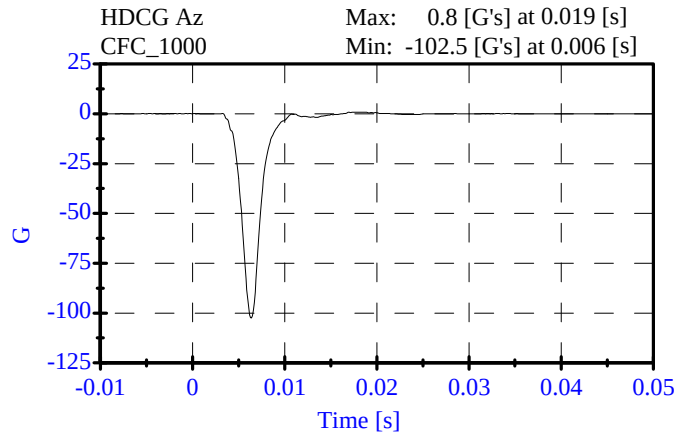
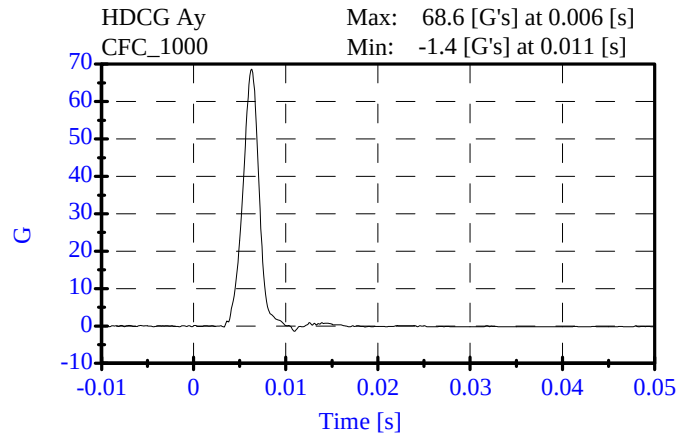
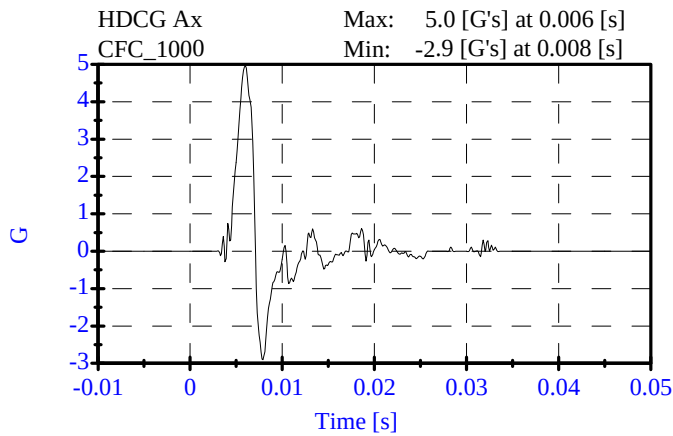
Head Drop PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
Date: 07-21-04

Sequential Test Number: 1 File: 269H1 07-21-04
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.6 C	21.1 C	Passed
Lab Humidity:	10-70 %	33.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	123.22 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	4.96 Gs	Passed
Curve PerCent NonModal:	< 15%	1.61 %	Passed



**Neck Test
PRE TEST**

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
Date: 07-22-04

Sequential Test Number: 1 File: 269N 07-22-04
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	20.6-22.2 C	21.1 C	Passed
Lab Humidity:	10-70 %	37.00 %	Passed
Impact Velocity:	6.89- 7.13 m/s	7.01 m/s	Passed
PENDULUM DELTA V			
Delta V at 10 ms:	1.96- 2.55 m/s	2.04 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.23 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	6.05 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	7.03 m/s	Passed
D PLANE ROTATION			
Maximum Rotation:	66.0-82.0 Deg	68.86 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	58.60 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	73.00- 88.00 N-m	86.99 N-m	Passed
Occipital Moment Decay:	49.0-64.0 ms	49.20 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	2.0-16.0 ms	10.10 ms	Passed

Neck Test
PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

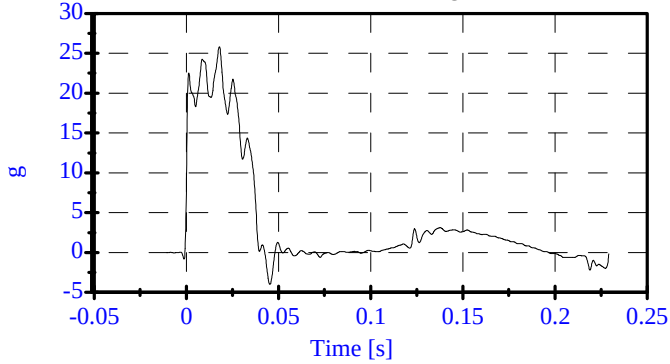
ATD Serial No: 269

Date: 07-22-04

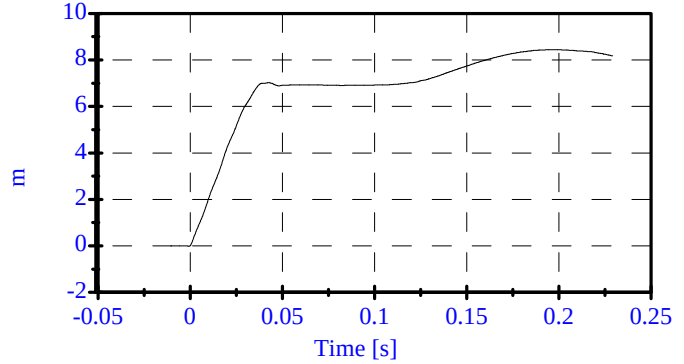
Sequential Test Number: 1 File: 269N 07-22-04

Laboratory Technician: B. Swiecicki

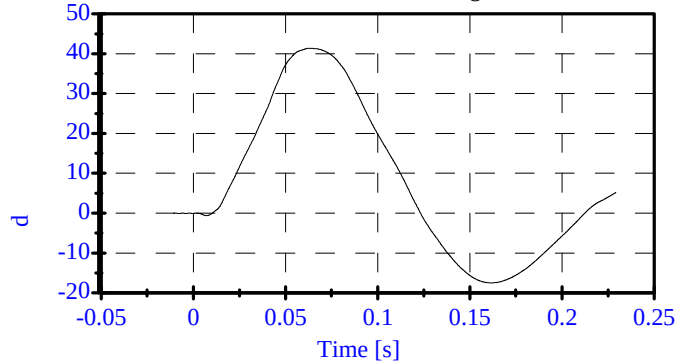
Pend Ax
CFC_180
Max: 25.8 [g's] at 0.018 [s]
Min: -4.0 [g's] at 0.045 [s]



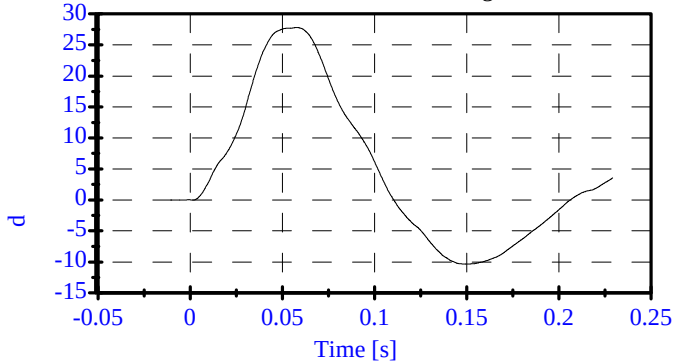
Pend Vx
CFC_180
Max: 8.4 [m/s] at 0.197 [s]
Min: -0.0 [m/s] at -0.001 [s]



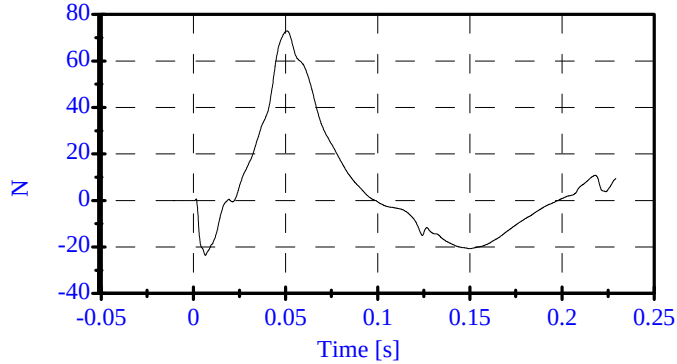
Head Rot
CFC_180
Max: 41.4 [degrees] at 0.063 [s]
Min: -17.5 [degrees] at 0.162 [s]



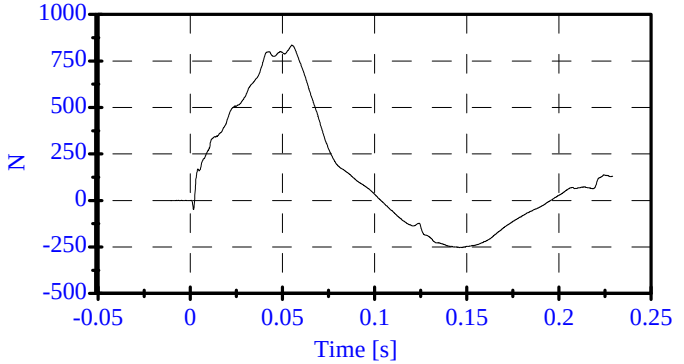
Arm Rot
CFC_180
Max: 27.8 [degrees] at 0.058 [s]
Min: -10.3 [degrees] at 0.149 [s]



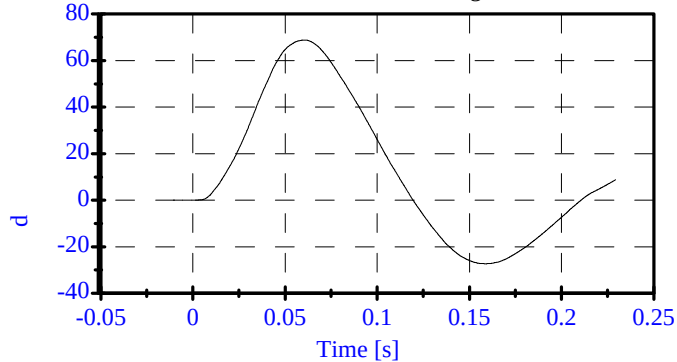
Neck Mx
CFC_600
Max: 73.0 [N-m] at 0.051 [s]
Min: -23.6 [N-m] at 0.006 [s]



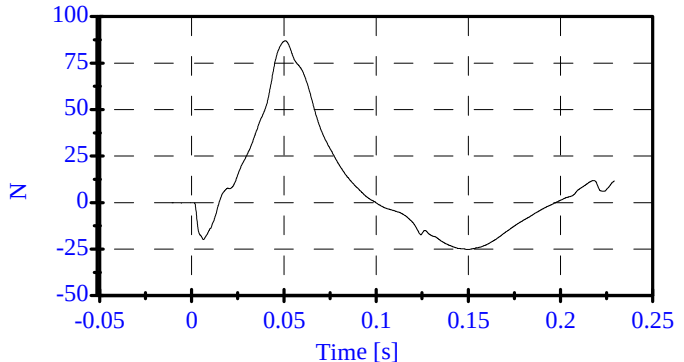
Neck Fy
CFC_1000
Max: 834.4 [N] at 0.055 [s]
Min: -253.4 [N] at 0.146 [s]



Tot Rot
CFC_180
Max: 68.9 [degrees] at 0.061 [s]
Min: -27.3 [degrees] at 0.159 [s]



Mocx
Max: 87.0 [N-m] at 0.051 [s]
Min: -25.1 [N-m] at 0.149 [s]



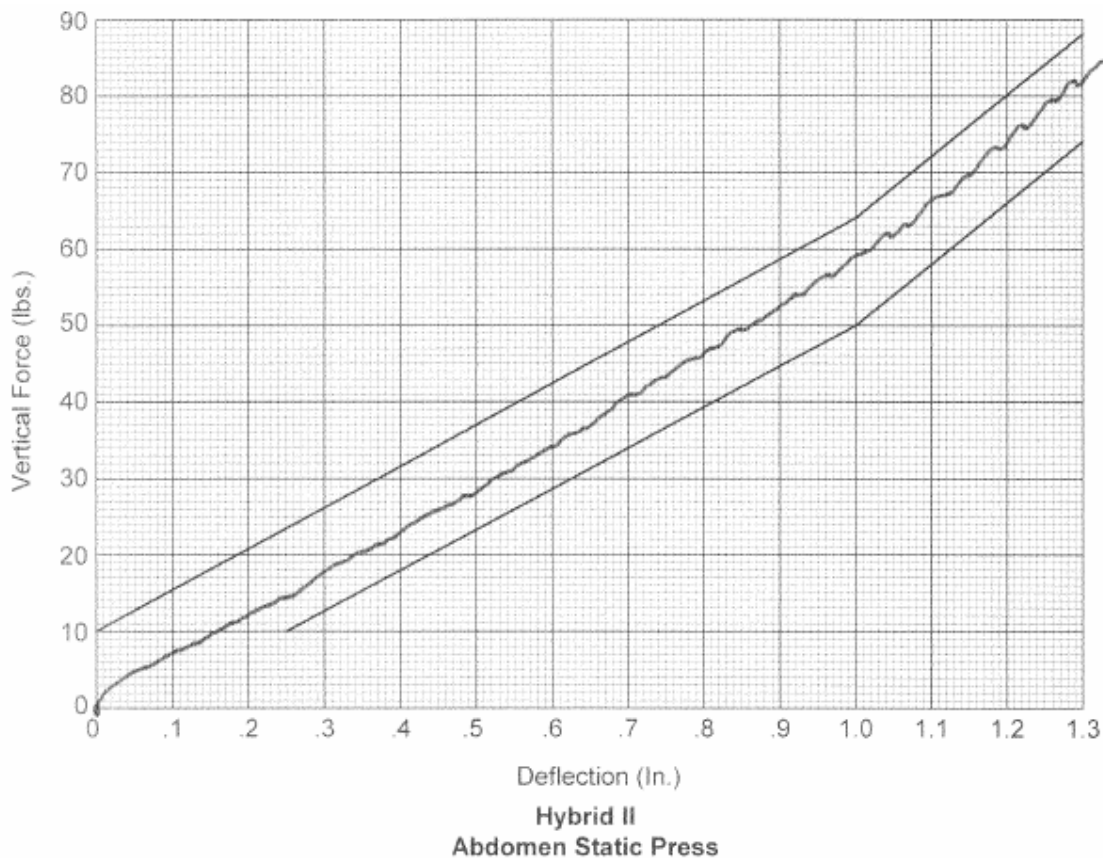
**ABDOMINAL COMPRESSION TEST
PRE-TEST**

(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 269	Sequential Test Number: 1	
Date: 7/26/2004	Laboratory Technician: B. Swiecicki	

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	35
FORCE @ 13 mm (N)	104 - 162	124.6
FORCE @ 19 mm (N)	163 - 221	192.2
FORCE @ 25 mm (N)	222 - 280	262.9
FORCE @ 33 mm (N)	325 - 391	363.9



FM-052-CERT-008-R00

PC32/D52 ISO Forms

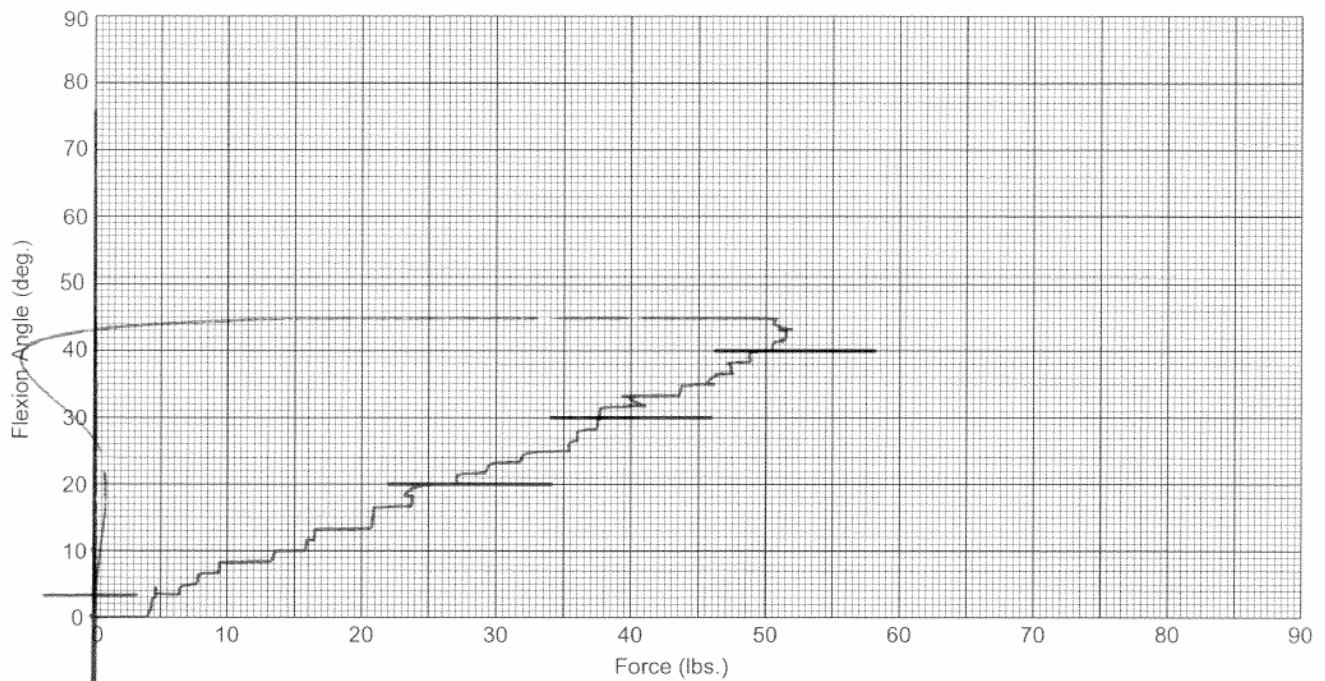
REMARKS: None

LUMBAR FLEXION TEST
PRE-TEST
(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: <u>269</u>	Sequential Test Number: <u>1</u>	
Date: <u>7/26/2004</u>	Laboratory Technician: <u>B. Swiecicki</u>	

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	35
FORCE @ 0° (N)	0 - 26.7	0.0
FORCE @ 20° (N)	97.8 - 151.2	114.3
FORCE @ 30° (N)	151.2 - 204.6	167.3
FORCE @ 40° (N)	204.6 - 258	220.6
RETURN ANGLE	12° max.	3.3



Hybrid II Lumbar Spine Flexion Test

FM-052-CERT-005-R00

PC32/D52 ISO Forms

REMARKS: None

PRE-TEST DUMMY INSPECTION LIST

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 269	Sequential Test Number: 1	
Date: 7/26/2004	Laboratory Technician: B. Swiecicki	

PART	ITEMS CHECKED	COMMENTS
SKIN	VISUAL INSPECTION	OK
HEAD	VISUAL, BALLAST, ACCELEROMETER MOUNT	OK
NECK	VISUAL, CABLE TORQUE	OK
SPINE BOX	VISUAL, BALLAST, WELDMENT, ACCELEROMETER MOUNT	OK
RIB CAGE	VISUAL, MEASURE, STIFFENERS	OK
STERNUM	VISUAL	OK
LUMBAR SPINE	VISUAL	OK
ABDOMEN	VISUAL	OK
PELVIS	VISUAL, PALPATE, ACCELEROMETER MOUNT	OK
UPPER LEGS	VISUAL	OK
KNEES	VISUAL, STOPS, INSERTS	OK
LOWER LEGS	VISUAL, RANGE OF MOTION	OK
ANKLES	VISUAL, RANGE OF MOTION	OK
FEET	VISUAL, RANGE OF MOTION	OK
JOINTS	1 TO 2 g RANGE	OK
OTHER	NONE	-

REMARKS: None

CALIBRATION TEST RESULTS

PRE-TEST

SID H3 NO.: 270

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 270 Sequential Test Number: 1
Date: 7/26/2004 Laboratory Technician: B. Swiecicki

TEST	COMMENTS
EXTERNAL DIMENSIONS	Passed all requirements.
THORACIC SHOCK ABSORBER TEST	Passed all requirements.
LATERAL THORAX IMPACT TEST	Passed all requirements.
LATERAL PELVIS IMPACT TEST	Passed all requirements.
HEAD DROP TEST*	Passed all requirements.
LATERAL NECK BEND TEST*	Passed all requirements.
ABDOMINAL COMPRESSION TEST*	Passed all requirements.
LUMBAR FLEXION TEST*	Passed all requirements.

* Test not required for SID certification.

REMARKS: None

**EXTERNAL DIMENSIONS
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 270 Sequential Test Number: 1
Date: 7/26/2004 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	902
RH- Rib Height (mm)	502 - 520	505
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	234
KH- Knee Pivot from Back Line (mm)	511 - 526	513
KV- Knee Pivot to Floor (mm)	490 - 505	495
HW- Hip Width (mm)	356 - 391	378

REMARKS: None

Shock Impact - Low (3.05 m/s)

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

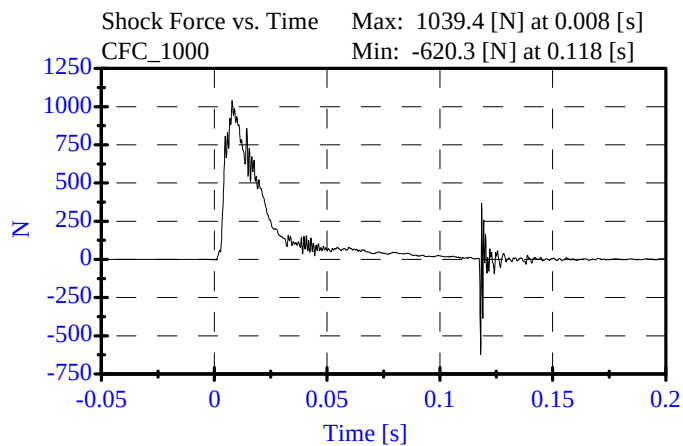
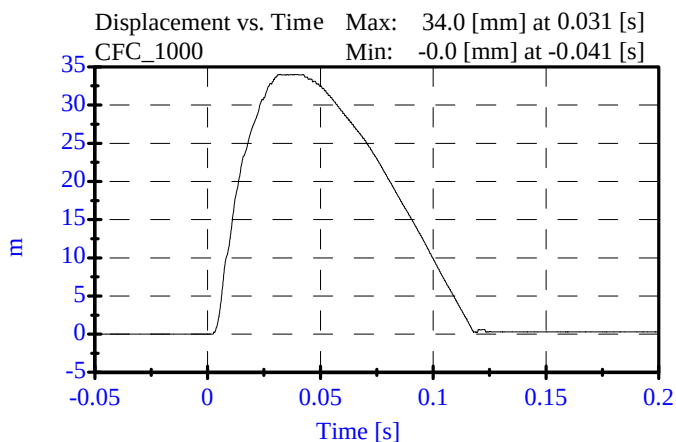
ATD Serial No: 270

Date: 07-23-04

Sequential Test Number: 1 File: 270SL 07-23-04

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	40.00 %	Passed
Displacement:	30.00-35.00 mm	34.00 mm	Passed
Maximum Force:	836.00-1125.00 N	1039.45 N	Passed
Impact Test Velocity:	3.05 m/s		
Damper Identification:	270		
Damper Setting:	5		



Shock Impact - Med (4.27 m/s)

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

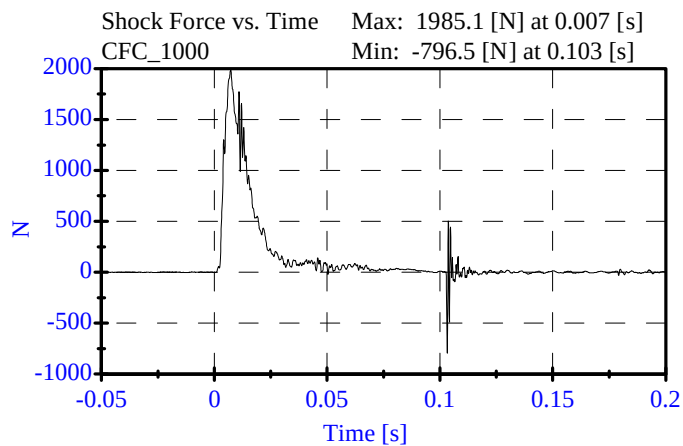
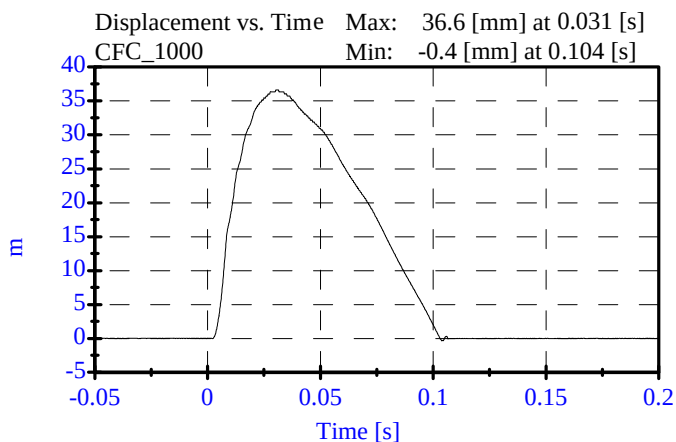
ATD Serial No: 270

Date: 07-23-04

Sequential Test Number: 1 File: 270SM 07-23-04

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	40.00 %	Passed
Displacement:	32.00-37.00 mm	36.64 mm	Passed
Maximum Force:	1730.00-2099.00 N	1985.06 N	Passed
Impact Test Velocity:	4.27 m/s		
Damper Identification:	270		
Damper Setting:	5		



Shock Impact - High (6.10 m/s)

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

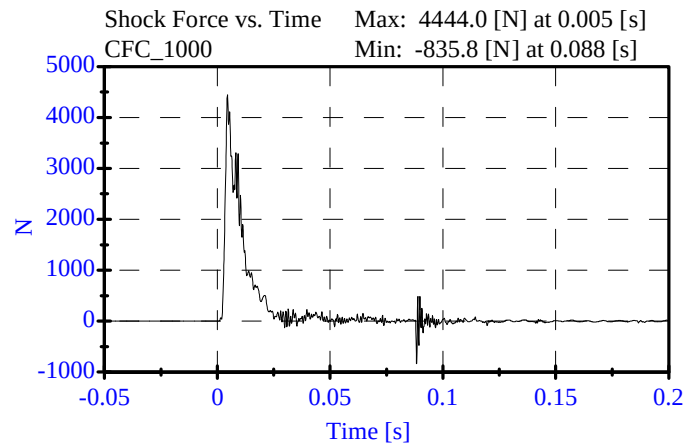
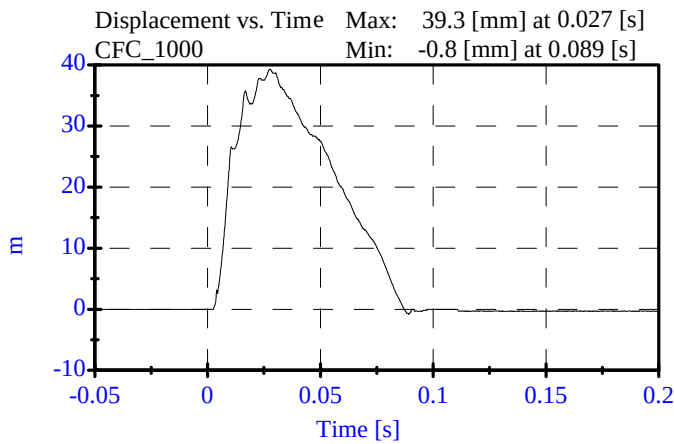
ATD Serial No: 270

Date: 07-23-04

Sequential Test Number: 1 File: 270SH 07-23-04

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	40.00 %	Passed
Displacement:	33.00-40.00 mm	39.29 mm	Passed
Maximum Force:	3741.00-4448.00 N	4444.01 N	Passed
Impact Test Velocity:	6.10 m/s		
Damper Identification:	270		
Damper Setting:	5		

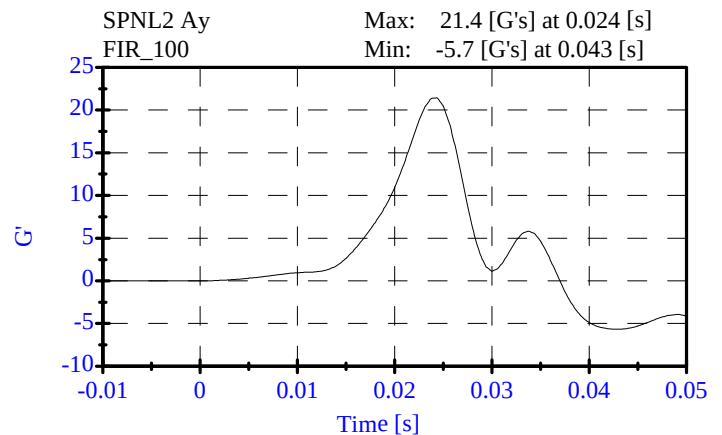
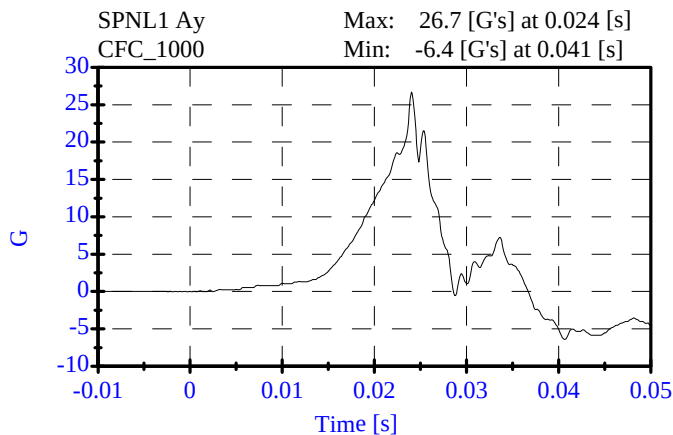
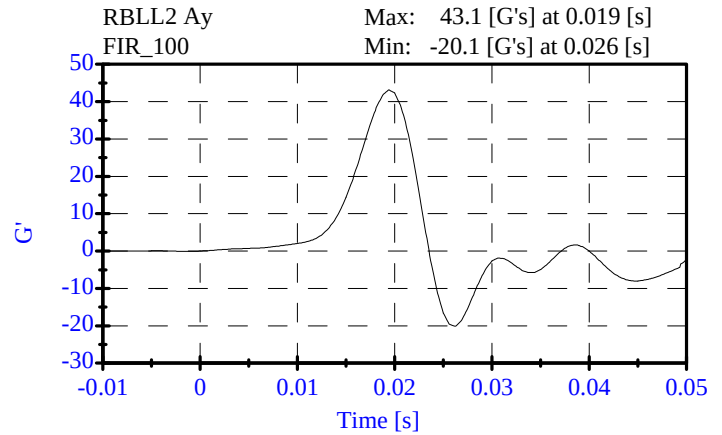
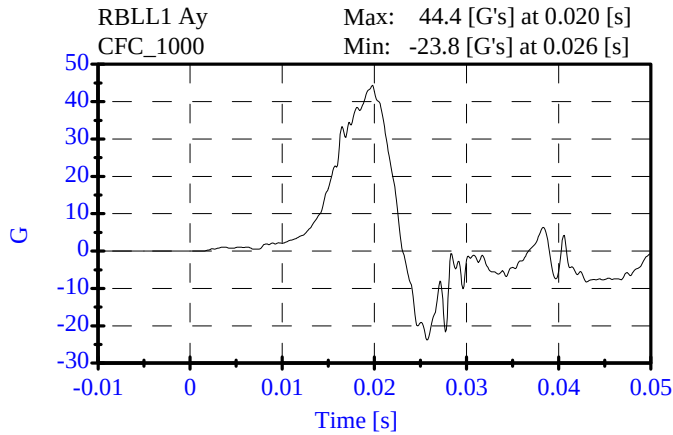
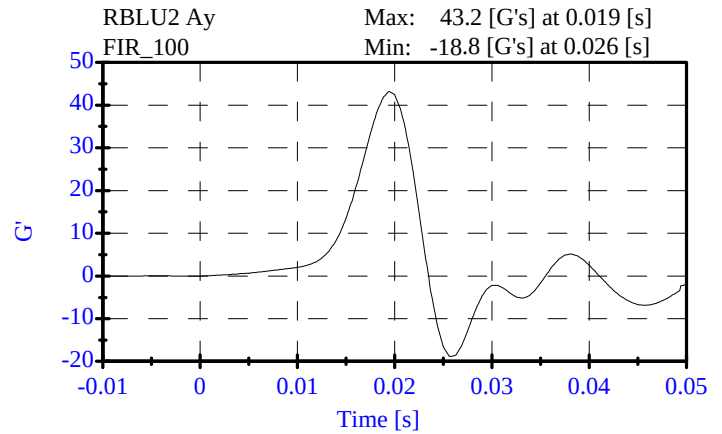
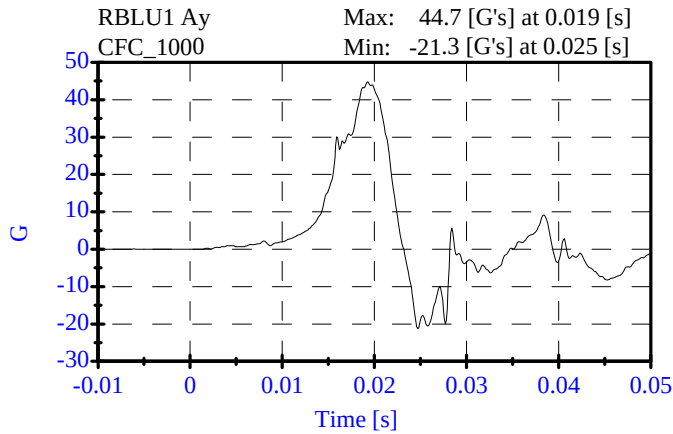


Thorax Impact
PRE TEST
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: 07-26-04

Sequential Test Number: 1 File: 270T 07-26-04
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	36.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.32 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	43.18 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	43.12 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	21.44 G's	Passed



Pelvic Impact

PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

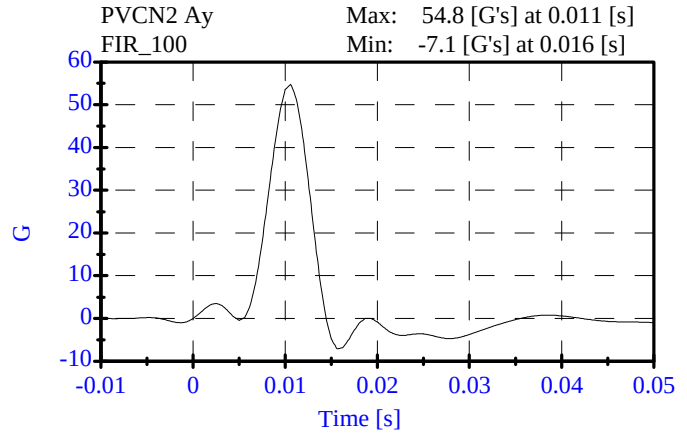
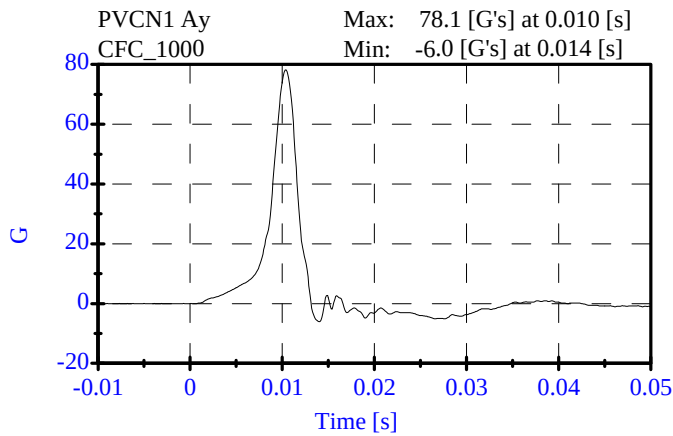
ATD Serial No: 270

Date: 07-26-04

Sequential Test Number: 1 File: 270P 07-26-04

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	36.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.33 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	54.75 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.5 ms	Passed



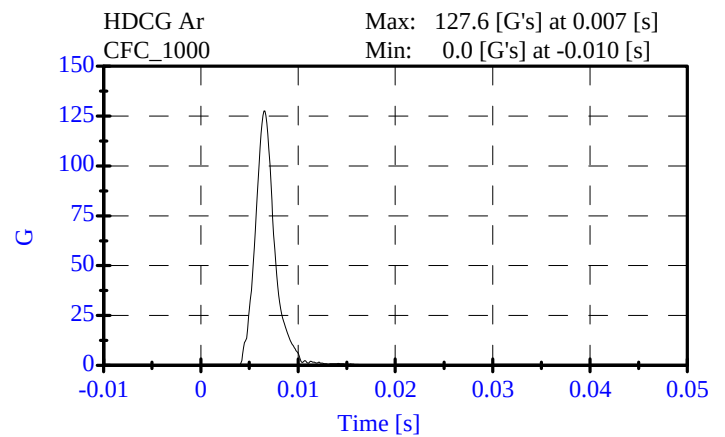
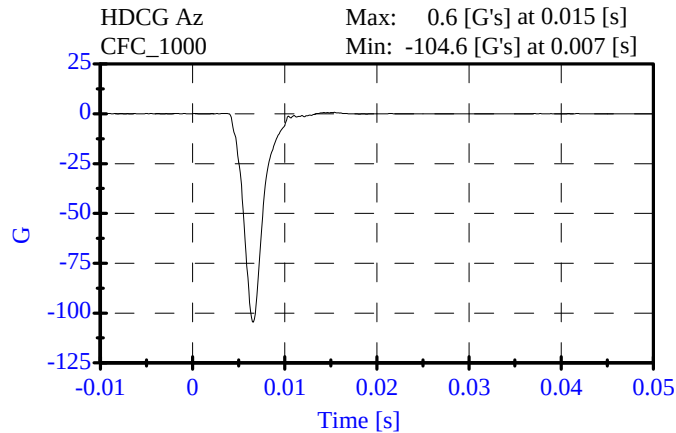
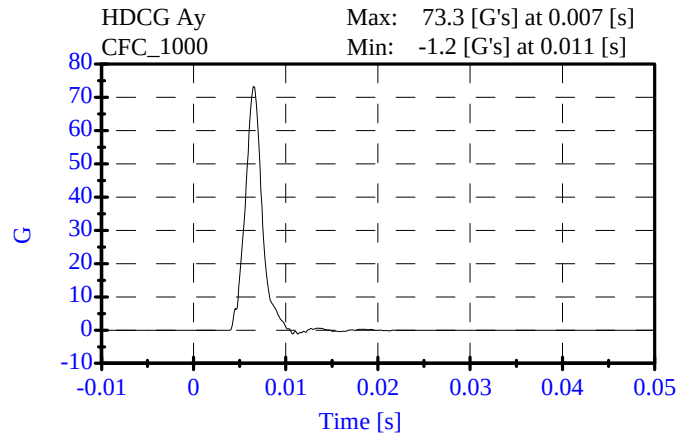
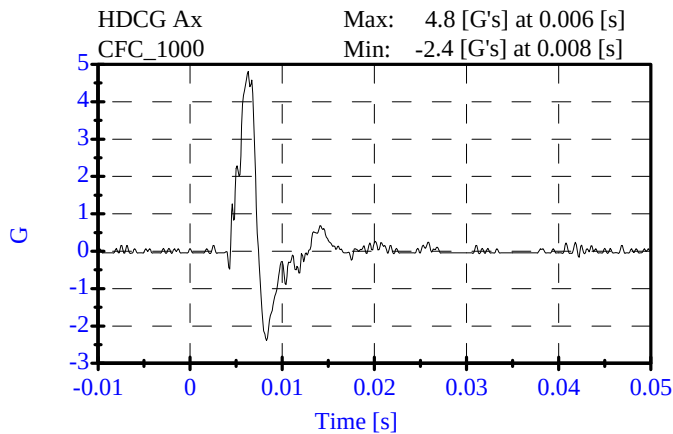
Head Drop PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: 07-21-04

Sequential Test Number: 1 File: 270H1 07-21-04
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.6 C	21.1 C	Passed
Lab Humidity:	10-70 %	33.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	127.63 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	4.81 Gs	Passed
Curve PerCent NonModal:	< 15%	1.86 %	Passed



Neck Test
PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: 07-22-04

Sequential Test Number: 1 File: 270N 07-22-04
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	20.6-22.2 C	21.1 C	Passed
Lab Humidity:	10-70 %	37.00 %	Passed
Impact Velocity:	6.89- 7.13 m/s	7.01 m/s	Passed
PENDULUM DELTA V			
Delta V at 10 ms:	1.96- 2.55 m/s	2.04 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.21 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	6.05 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	7.00 m/s	Passed
D PLANE ROTATION			
Maximum Rotation:	66.0-82.0 Deg	72.73 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	60.50 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	73.00- 88.00 N-m	86.67 N-m	Passed
Occipital Moment Decay:	49.0-64.0 ms	51.40 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	2.0-16.0 ms	10.00 ms	Passed

Neck Test
PRE TEST

CONFIGURED FOR LEFT SIDE IMPACT

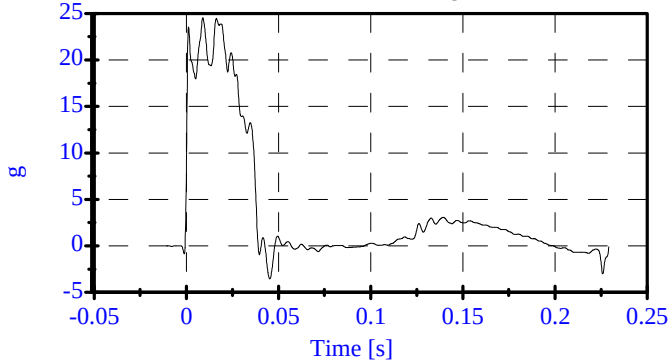
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Date: 07-22-04

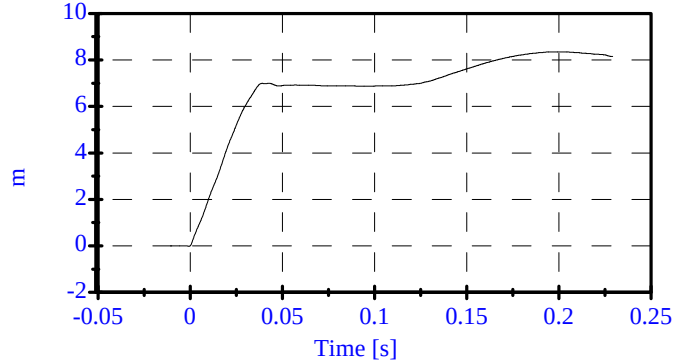
Sequential Test Number: 1 File: 270N 07-22-04

Laboratory Technician: B. Swiecicki

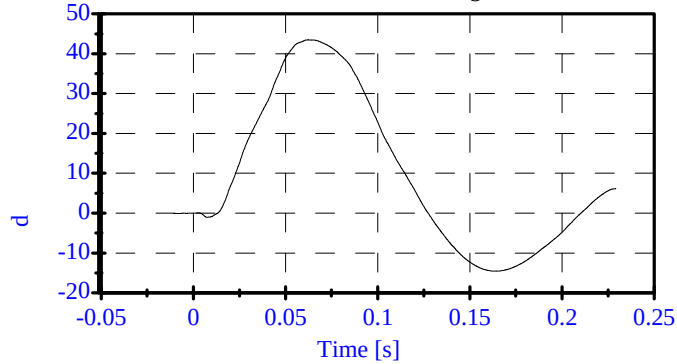
Pend Ax
CFC_180
Max: 24.6 [g's] at 0.009 [s]
Min: -3.5 [g's] at 0.045 [s]



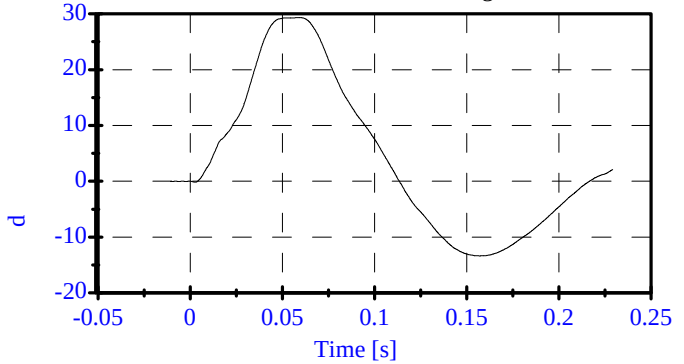
Pend Vx
CFC_180
Max: 8.3 [m/s] at 0.200 [s]
Min: -0.0 [m/s] at -0.001 [s]



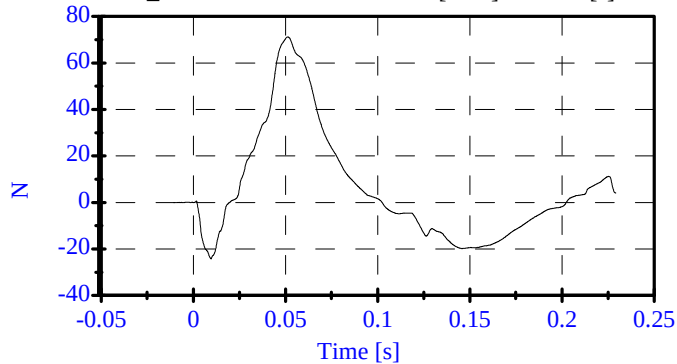
Head Rot
CFC_180
Max: 43.5 [degrees] at 0.062 [s]
Min: -14.5 [degrees] at 0.164 [s]



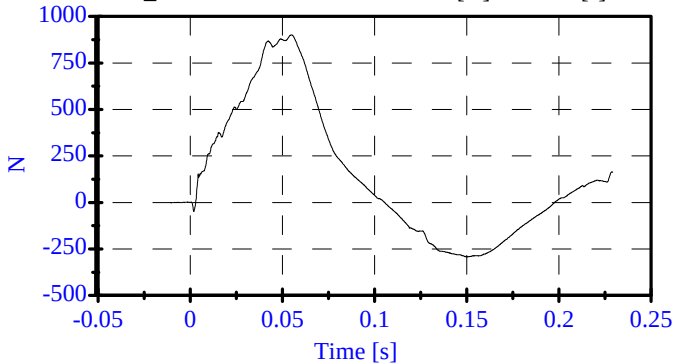
Arm Rot
CFC_180
Max: 29.4 [degrees] at 0.059 [s]
Min: -13.4 [degrees] at 0.157 [s]



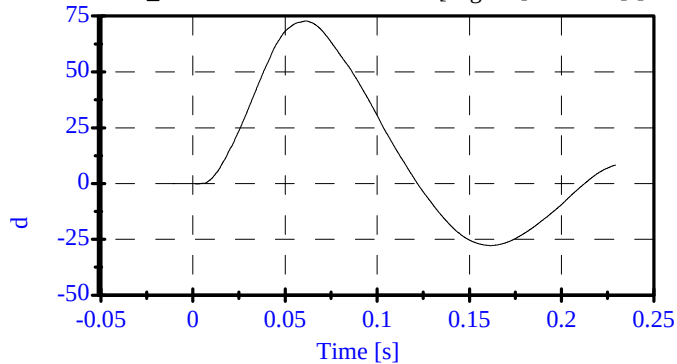
Neck Mx
CFC_600
Max: 71.2 [N-m] at 0.051 [s]
Min: -24.3 [N-m] at 0.010 [s]



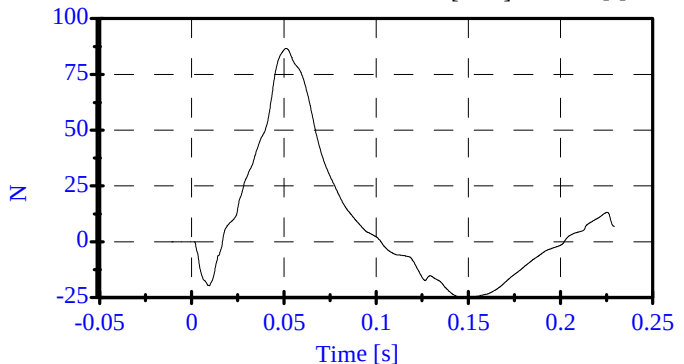
Neck Fy
CFC_1000
Max: 900.8 [N] at 0.055 [s]
Min: -292.9 [N] at 0.150 [s]



Tot Rot
CFC_180
Max: 72.7 [degrees] at 0.061 [s]
Min: -27.7 [degrees] at 0.162 [s]



Mocx
Max: 86.7 [N-m] at 0.051 [s]
Min: -24.9 [N-m] at 0.146 [s]



**ABDOMINAL COMPRESSION TEST
PRE-TEST**

(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 270

Date: 7/26/2004

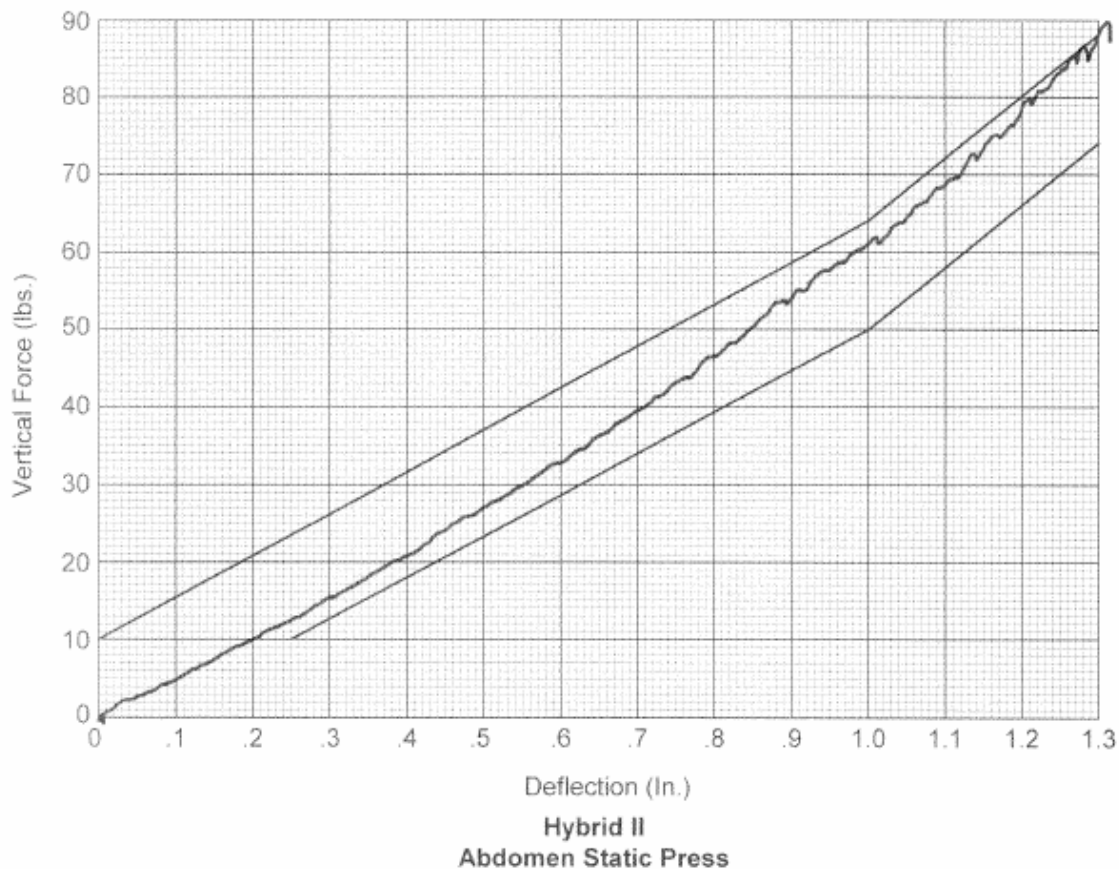
Sequential Test Number:

Laboratory Technician:

1

B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	35
FORCE @ 13 mm (N)	104 - 162	120.1
FORCE @ 19 mm (N)	163 - 221	191.7
FORCE @ 25 mm (N)	222 - 280	271.8
FORCE @ 33 mm (N)	325 - 391	391.0



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PC32052 ISO Forms

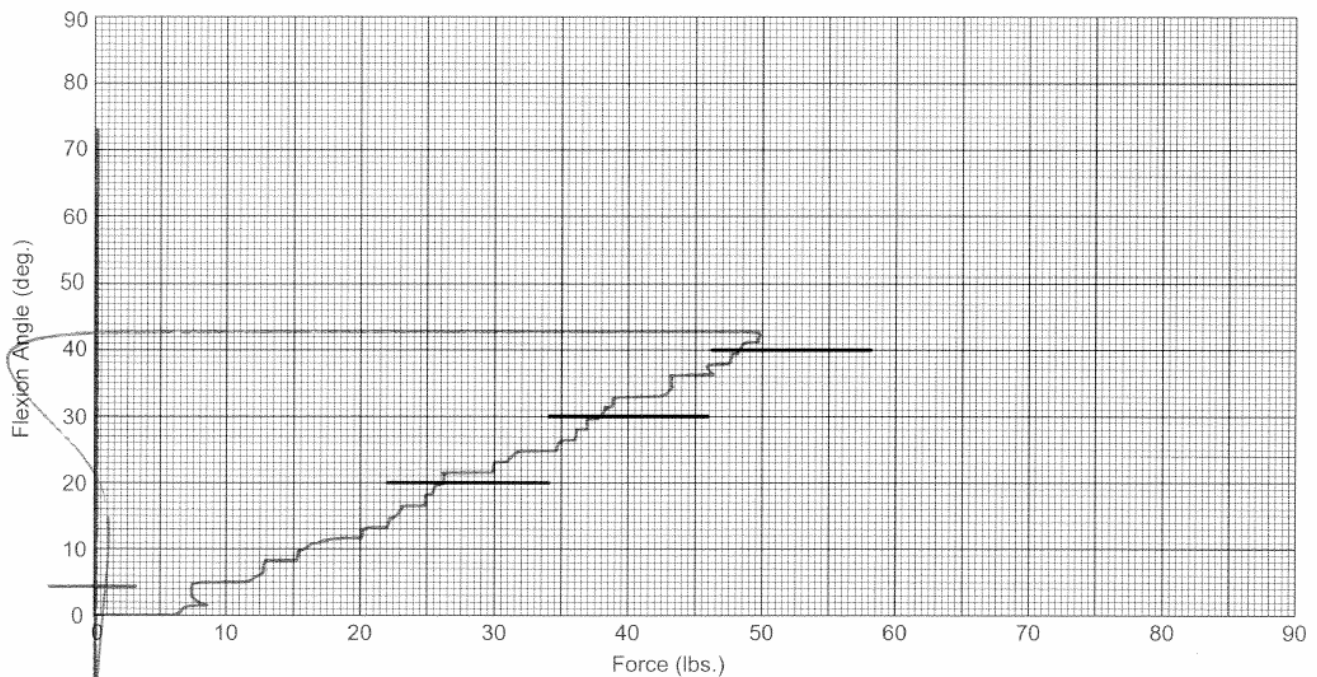
REMARKS: None

LUMBAR FLEXION TEST
PRE-TEST
(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 270	Sequential Test Number: 1	
Date: 7/26/2004	Laboratory Technician: B. Swiecicki	

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	35
FORCE @ 0° (N)	0 - 26.7	0.0
FORCE @ 20° (N)	97.8 - 151.2	116.8
FORCE @ 30° (N)	151.2 - 204.6	168.6
FORCE @ 40° (N)	204.6 - 258	214.6
RETURN ANGLE	12° max.	4.2



Hybrid II Lumbar Spine Flexion Test

FM-052-CERT-005-R00

PC32/D52 ISO Forms

REMARKS: None

PRE-TEST DUMMY INSPECTION LIST

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 270	Sequential Test Number: 1
Date: 7/26/2004	Laboratory Technician: B. Swiecicki

PART	ITEMS CHECKED	COMMENTS
SKIN	VISUAL INSPECTION	OK
HEAD	VISUAL, BALLAST, ACCELEROMETER MOUNT	OK
NECK	VISUAL, CABLE TORQUE	OK
SPINE BOX	VISUAL, BALLAST, WELDMENT, ACCELEROMETER MOUNT	OK
RIB CAGE	VISUAL, MEASURE, STIFFENERS	OK
STERNUM	VISUAL	OK
LUMBAR SPINE	VISUAL	OK
ABDOMEN	VISUAL	OK
PELVIS	VISUAL, PALPATE, ACCELEROMETER MOUNT	OK
UPPER LEGS	VISUAL	OK
KNEES	VISUAL, STOPS, INSERTS	OK
LOWER LEGS	VISUAL, RANGE OF MOTION	OK
ANKLES	VISUAL, RANGE OF MOTION	OK
FEET	VISUAL, RANGE OF MOTION	OK
JOINTS	1 TO 2 g RANGE	OK
OTHER	NONE	-

REMARKS: None

CALIBRATION TEST RESULTS

POST TEST

SID H3 NO.: 269

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 269 Sequential Test Number: 1
Date: 8/12/2004 Laboratory Technician: B. Swiecicki

TEST	COMMENTS
EXTERNAL DIMENSIONS	Passed all requirements.
LATERAL THORAX IMPACT TEST	Did not pass requirements for Upper Rib, Lower Rib, and Lower Spine acceleration.
LATERAL PELVIS IMPACT TEST	Passed all requirements.
HEAD DROP TEST*	Passed all requirements.
LATERAL NECK BEND TEST*	Did not pass requirements for Maximum Occipital Moment and Occipital Moment Decay.
ABDOMINAL COMPRESSION TEST*	Passed all requirements.
LUMBAR FLEXION TEST*	Passed all requirements.

* Test not required for SID certification.

REMARKS: None

**EXTERNAL DIMENSIONS
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 269 Sequential Test Number: 1
Date: 8/12/2004 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	904
RH- Rib Height (mm)	502 - 520	505
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	234
KH- Knee Pivot from Back Line (mm)	511 - 526	518
KV- Knee Pivot to Floor (mm)	490 - 505	495
HW- Hip Width (mm)	356 - 391	381

REMARKS: None

Thorax Impact POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

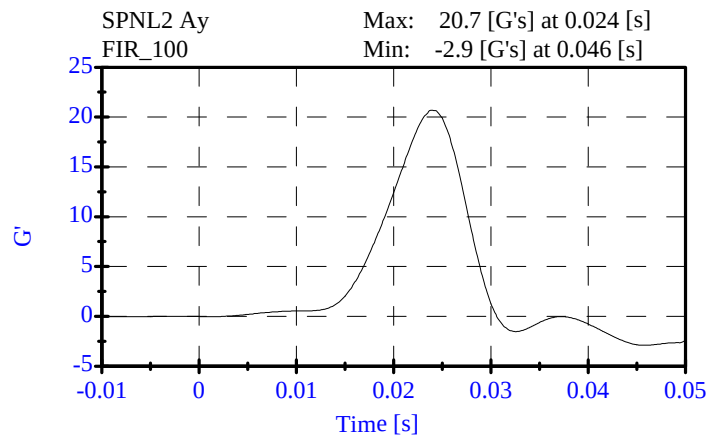
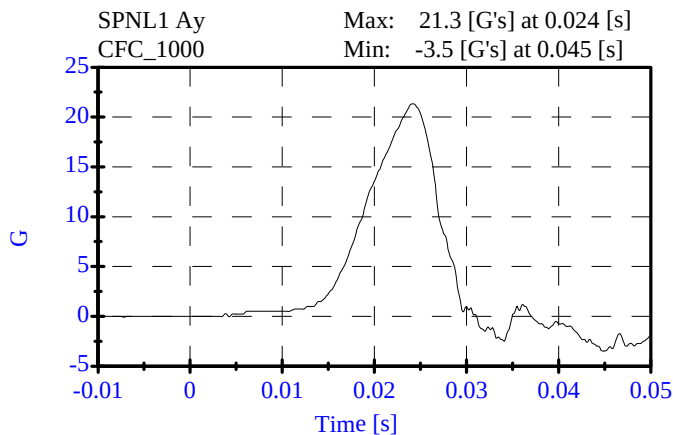
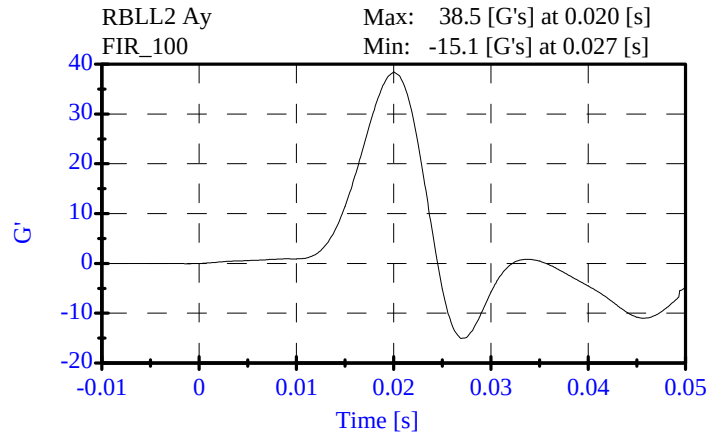
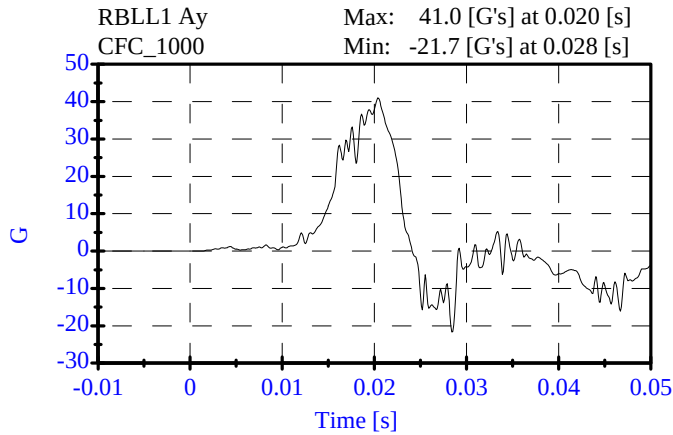
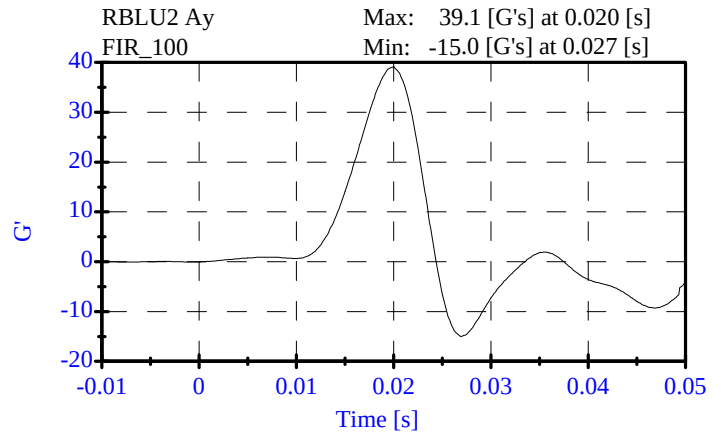
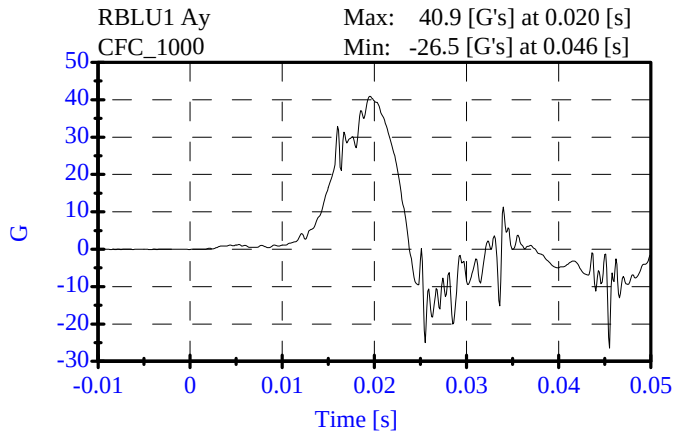
ATD Serial No: 269

Date: 08-11-04

Sequential Test Number: 1 File: 269T2 08-11-04

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	37.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.27 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	39.15 G's	Passed
Lower Rib Acceleration:	37.00-46.00 G's	38.47 G's	Passed
Lower Spine Acceleration:	15.00-22.00 G's	20.69 G's	Passed



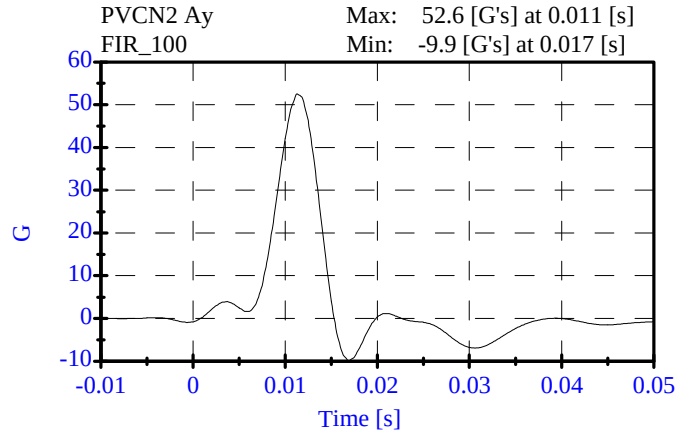
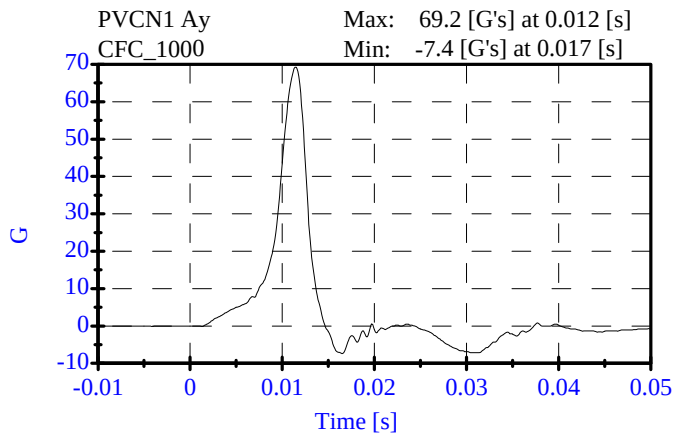
Pelvic Impact POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
Date: 08-11-04

Sequential Test Number: 1 File: 269P 08-11-04
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	37.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.28 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	52.58 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.5 ms	Passed



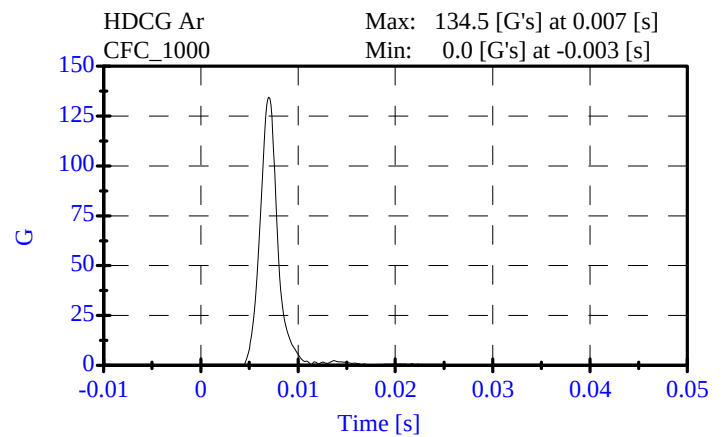
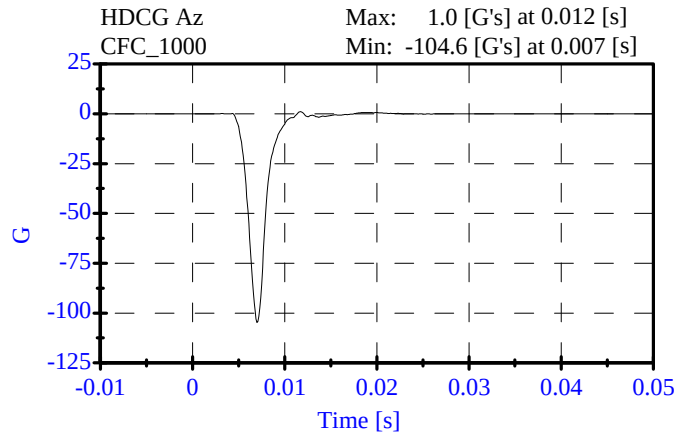
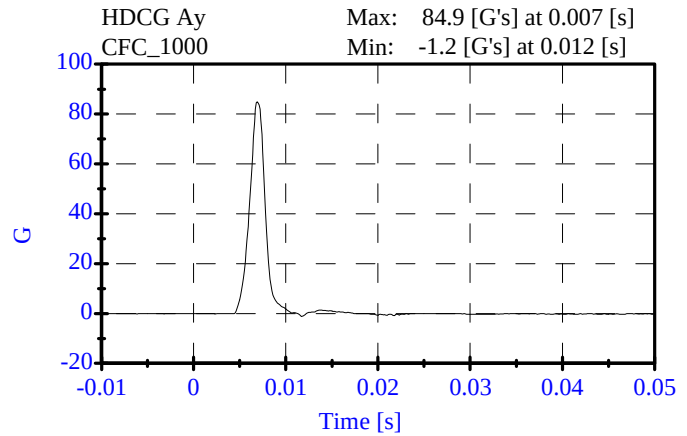
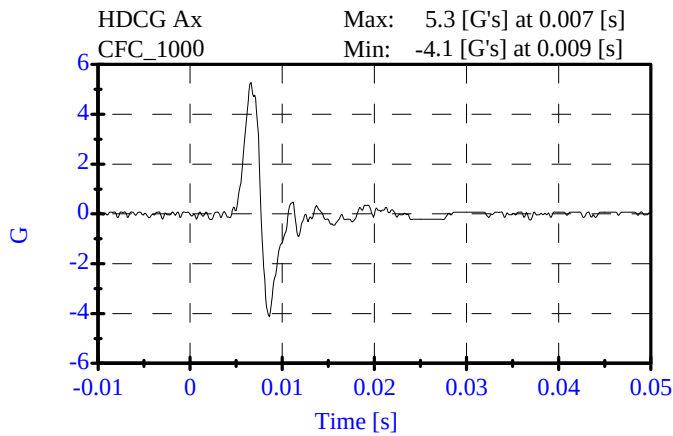
Head Drop POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
Date: 08-09-04

Sequential Test Number: 1 File: 269H1 08-09-04
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.6 C	21.1 C	Passed
Lab Humidity:	10-70 %	29.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	134.49 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	5.27 Gs	Passed
Curve PerCent NonModal:	< 15%	1.75 %	Passed



**Neck Test
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 269
Date: 08-10-04

Sequential Test Number: 1 File: 269N 08-10-04
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	20.6-22.2 C	21.1 C	Passed
Lab Humidity:	10-70 %	44.00 %	Passed
Impact Velocity:	6.89- 7.13 m/s	7.01 m/s	Passed
PENDULUM DELTA V			
Delta V at 10 ms:	1.96- 2.55 m/s	1.96 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.15 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	6.06 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	7.30 m/s	Passed
D PLANE ROTATION			
Maximum Rotation:	66.0-82.0 Deg	70.72 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	58.10 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	73.00- 88.00 N-m	95.65 N-m	Failed
Occipital Moment Decay:	49.0-64.0 ms	47.90 ms	Failed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	2.0-16.0 ms	8.70 ms	Passed

Neck Test
POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

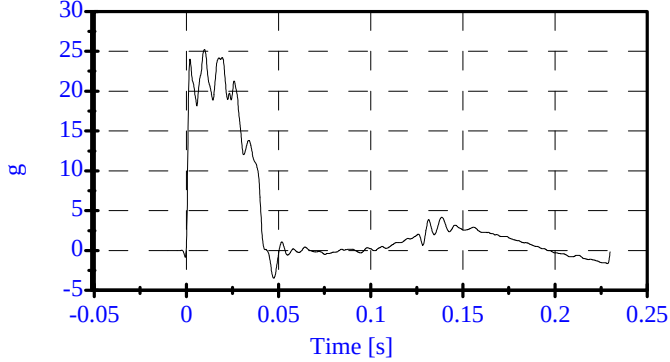
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Date: 08-10-04

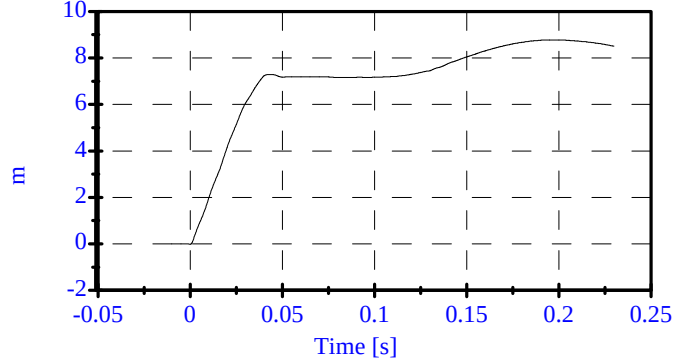
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Laboratory Technician: B. Swiecicki

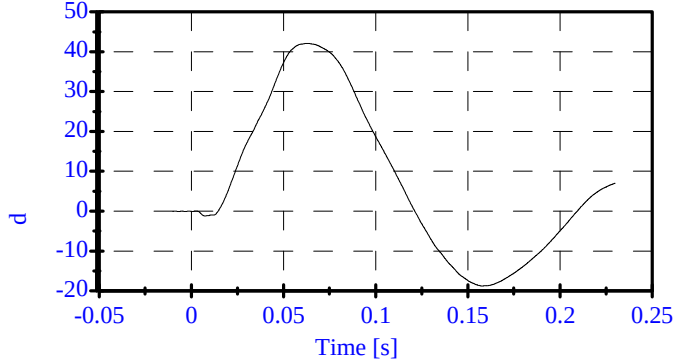
Pend Ax
CFC_180
Max: 25.2 [g's] at 0.010 [s]
Min: -3.5 [g's] at 0.047 [s]



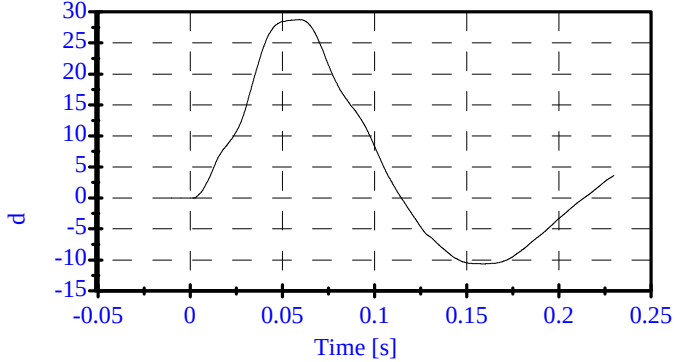
Pend Vx
CFC_180
Max: 8.8 [m/s] at 0.197 [s]
Min: -0.0 [m/s] at -0.000 [s]



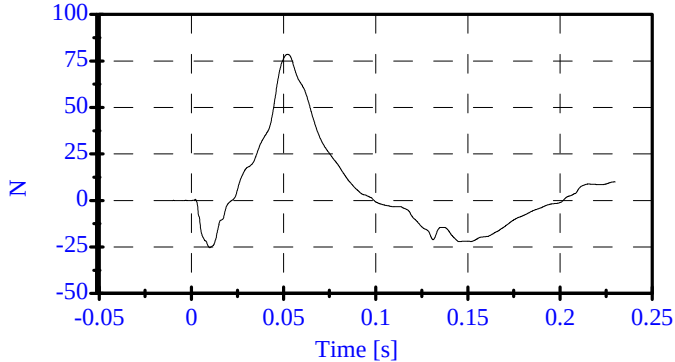
Head Rot
CFC_180
Max: 42.1 [degrees] at 0.063 [s]
Min: -18.7 [degrees] at 0.158 [s]



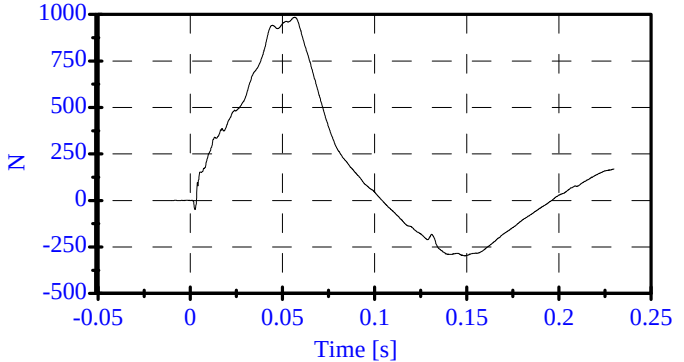
Arm Rot
CFC_180
Max: 28.8 [degrees] at 0.059 [s]
Min: -10.7 [degrees] at 0.159 [s]



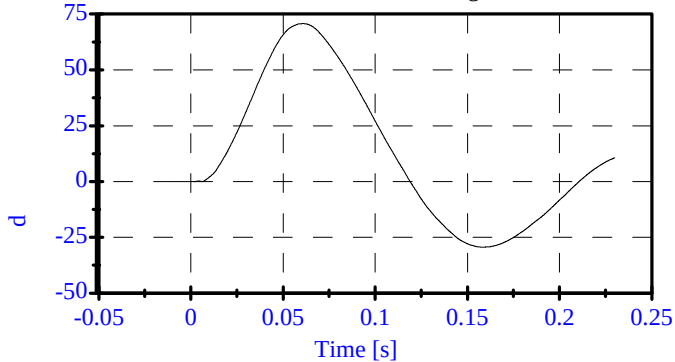
Neck Mx
CFC_600
Max: 78.5 [N-m] at 0.052 [s]
Min: -25.5 [N-m] at 0.010 [s]



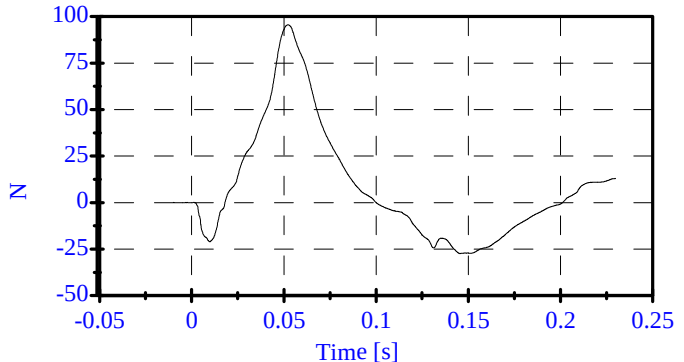
Neck Fy
CFC_1000
Max: 984.6 [N] at 0.057 [s]
Min: -298.2 [N] at 0.149 [s]



Tot Rot
CFC_180
Max: 70.7 [degrees] at 0.061 [s]
Min: -29.4 [degrees] at 0.158 [s]



Mocx
Max: 95.6 [N-m] at 0.052 [s]
Min: -27.3 [N-m] at 0.146 [s]



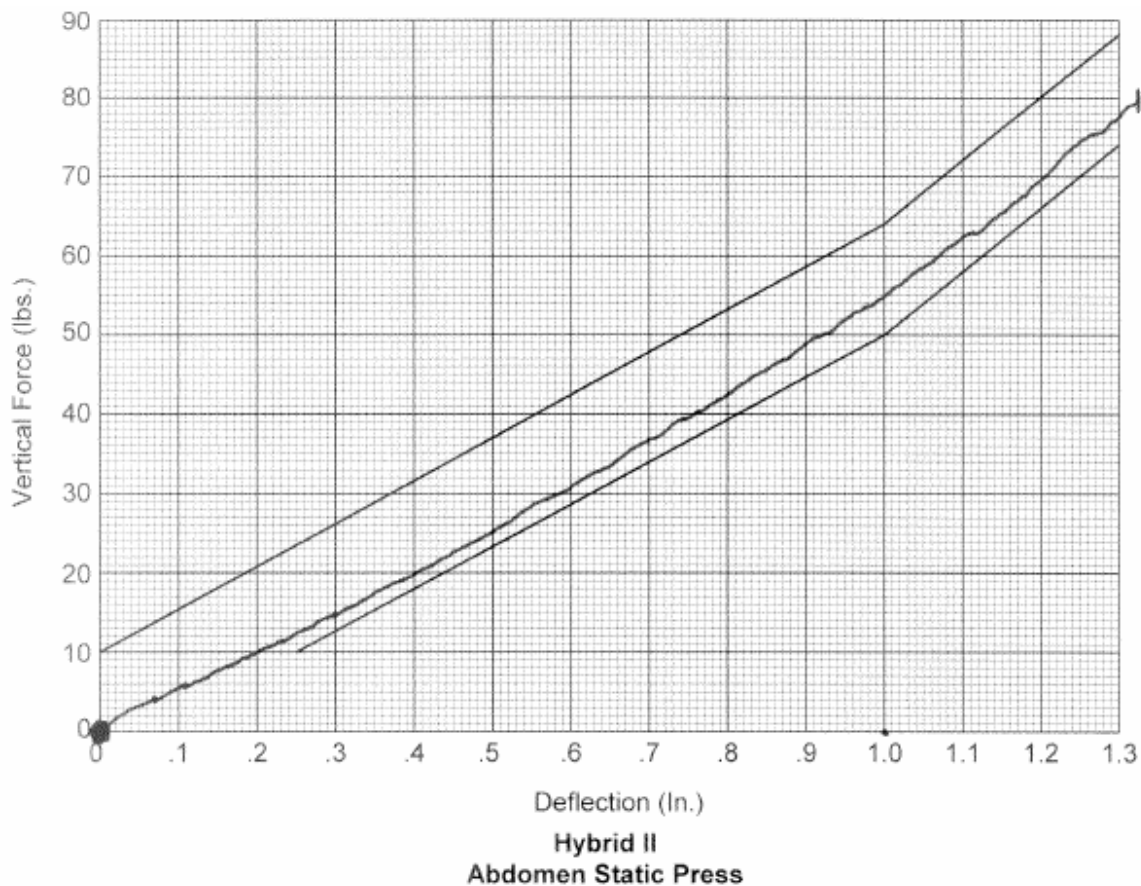
**ABDOMINAL COMPRESSION TEST
POST TEST**

(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: <u>269</u>	Sequential Test Number: <u>1</u>	
Date: <u>8/12/2004</u>	Laboratory Technician: <u>B. Swiecicki</u>	

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	32
FORCE @ 13 mm (N)	104 - 162	112.1
FORCE @ 19 mm (N)	163 - 221	175.7
FORCE @ 25 mm (N)	222 - 280	244.2
FORCE @ 33 mm (N)	325 - 391	344.3



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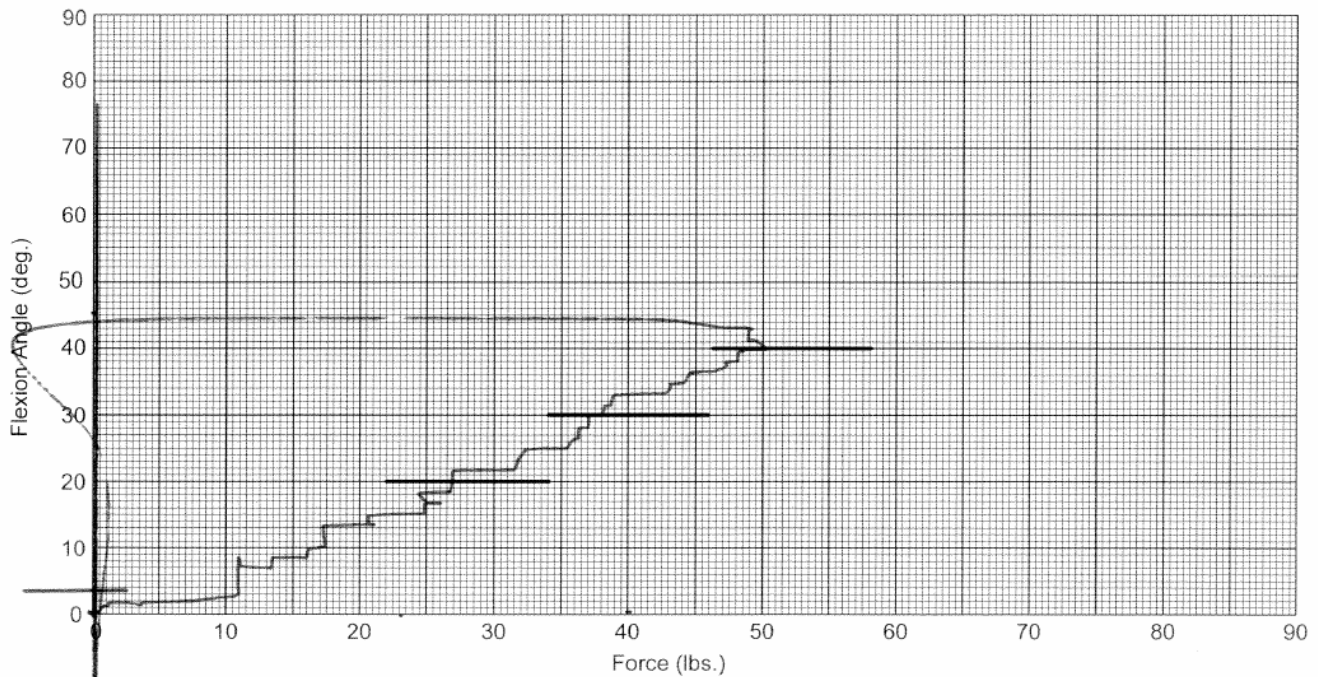
REMARKS: None

LUMBAR FLEXION TEST
POST TEST
(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: <u>269</u>	Sequential Test Number: <u>1</u>	
Date: <u>8/11/2004</u>	Laboratory Technician: <u>B. Swiecicki</u>	

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	36
FORCE @ 0° (N)	0 - 26.7	0.0
FORCE @ 20° (N)	97.8 - 151.2	119.2
FORCE @ 30° (N)	151.2 - 204.6	164.6
FORCE @ 40° (N)	204.6 - 258	219.7
RETURN ANGLE	12° max.	3.6°



Hybrid II Lumbar Spine Flexion Test

FM-052-CERT-005-R00

PC32/D52 ISO Forms

REMARKS: None

POST TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 269	Sequential Test Number: 1	
Date: 8/12/2004	Laboratory Technician: B. Swiecicki	

PART	ITEMS CHECKED	COMMENTS
SKIN	VISUAL INSPECTION	OK
HEAD	VISUAL, BALLAST, ACCELEROMETER MOUNT	OK
NECK	VISUAL, CABLE TORQUE	OK
SPINE BOX	VISUAL, BALLAST, WELDMENT, ACCELEROMETER MOUNT	OK
RIB CAGE	VISUAL, MEASURE, STIFFENERS	OK
STERNUM	VISUAL	OK
LUMBAR SPINE	VISUAL	OK
ABDOMEN	VISUAL	OK
PELVIS	VISUAL, PALPATE, ACCELEROMETER MOUNT	OK
UPPER LEGS	VISUAL	OK
KNEES	VISUAL, STOPS, INSERTS	OK
LOWER LEGS	VISUAL, RANGE OF MOTION	OK
ANKLES	VISUAL, RANGE OF MOTION	OK
FEET	VISUAL, RANGE OF MOTION	OK
JOINTS	1 TO 2 g RANGE	OK
OTHER	NONE	-

REMARKS: None

CALIBRATION TEST RESULTS

POST TEST

SID H3 NO.: 270

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 270 Sequential Test Number: 1
Date: 8/12/2004 Laboratory Technician: B. Swiecicki

TEST	COMMENTS
EXTERNAL DIMENSIONS	Passed all requirements.
LATERAL THORAX IMPACT TEST	Passed all requirements.
LATERAL PELVIS IMPACT TEST	Passed all requirements.
HEAD DROP TEST*	Passed all requirements.
LATERAL NECK BEND TEST*	Did not pass requirements for Maximum Occipital Moment.
ABDOMINAL COMPRESSION TEST*	Passed all requirements.
LUMBAR FLEXION TEST*	Passed all requirements.

* Test not required for SID certification.

REMARKS: None

**EXTERNAL DIMENSIONS
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 270 Sequential Test Number: 1
Date: 8/12/2004 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	902
RH- Rib Height (mm)	502 - 520	505
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	234
KH- Knee Pivot from Back Line (mm)	511 - 526	513
KV- Knee Pivot to Floor (mm)	490 - 505	495
HW- Hip Width (mm)	356 - 391	378

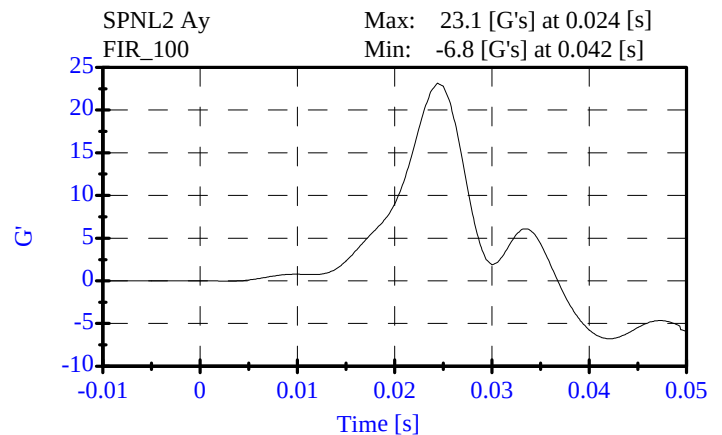
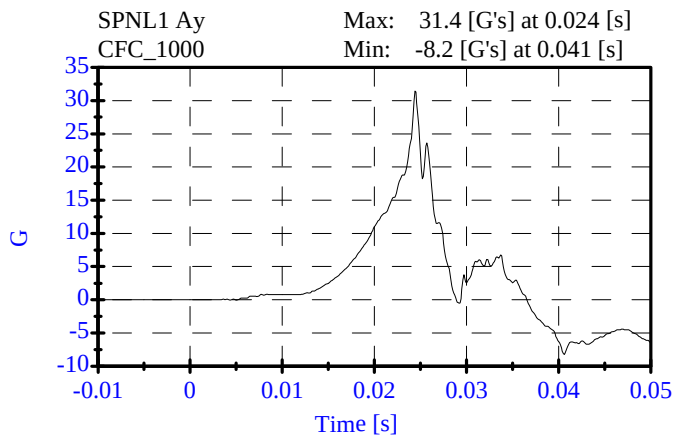
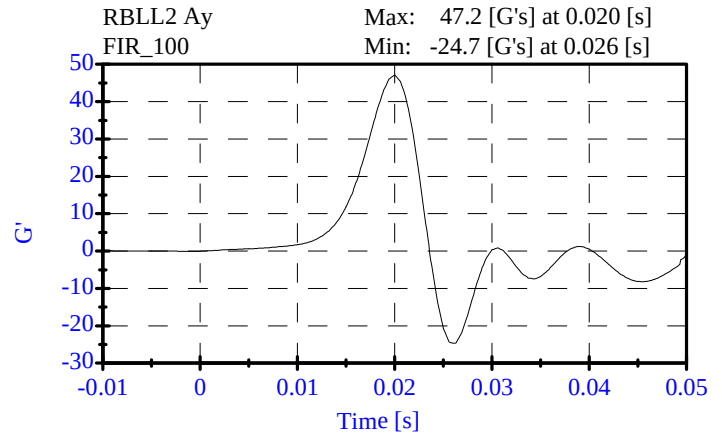
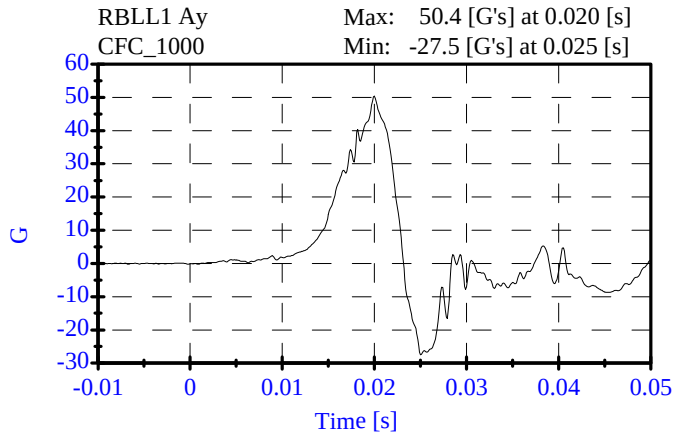
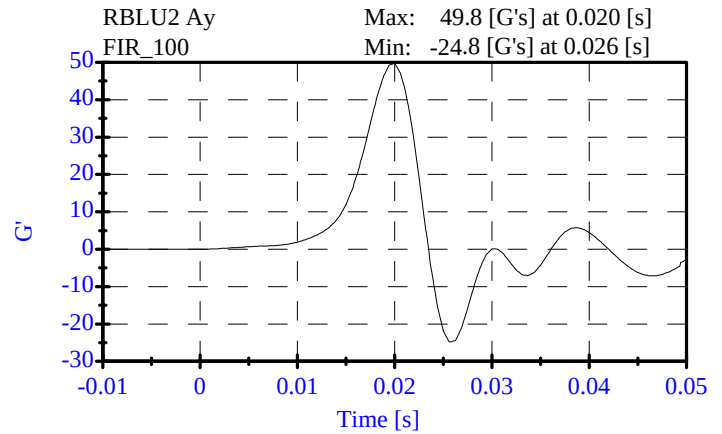
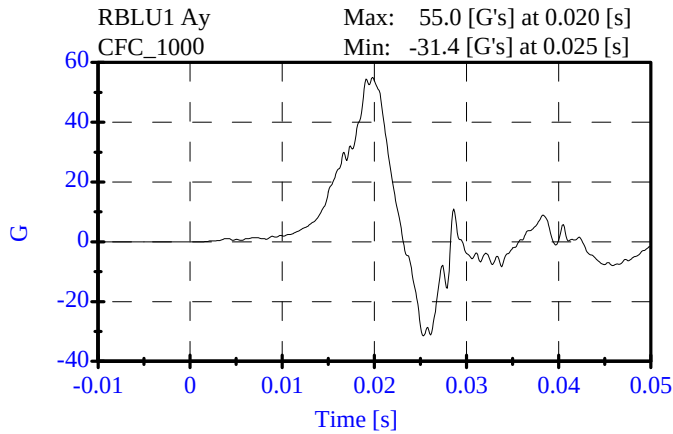
REMARKS: None

Thorax Impact
POST TEST
CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: 08-10-04

Sequential Test Number: 1 File: 270T 08-10-04
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	43.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.27 m/s	Passed
Upper Rib Acceleration:	37.00-46.00 G's	49.79 G's	Failed
Lower Rib Acceleration:	37.00-46.00 G's	47.17 G's	Failed
Lower Spine Acceleration:	15.00-22.00 G's	23.14 G's	Failed



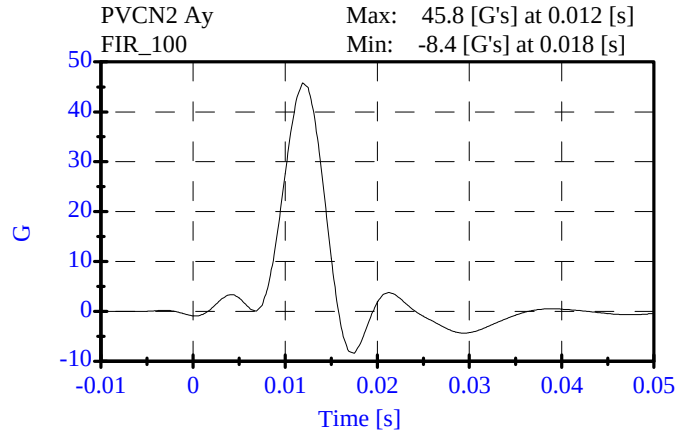
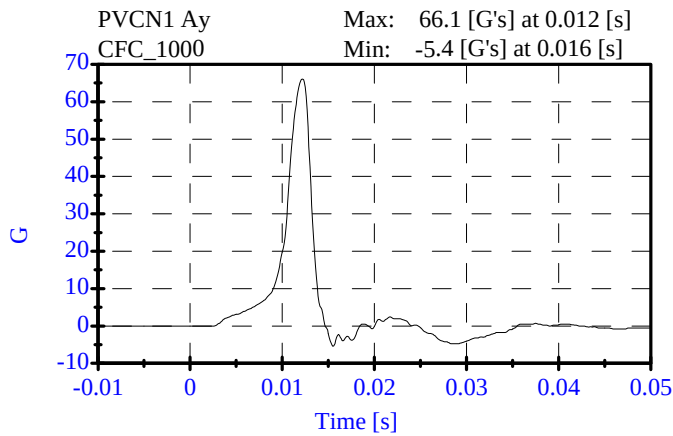
Pelvic Impact POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: 08-11-04

Sequential Test Number: 1 File: 270P 08-11-04
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	37.00 %	Passed
Probe Velocity:	4.27- 4.33 m/s	4.30 m/s	Passed
Pelvis Y Acceleration:	40.00-60.00 G's	45.83 G's	Passed
Time Above 20 Gs	3.0-7.0 ms	5.0 ms	Passed



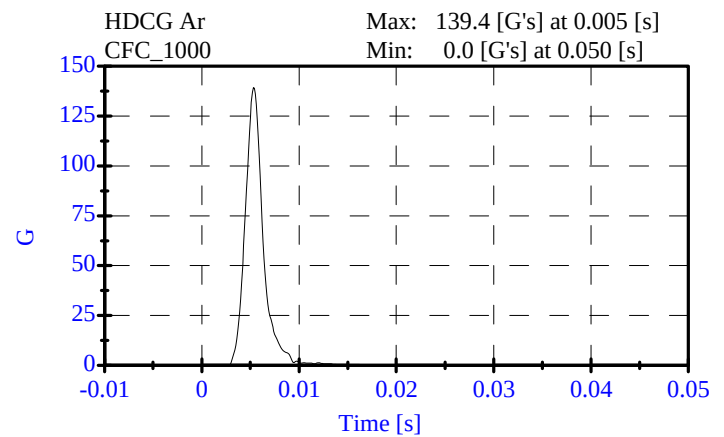
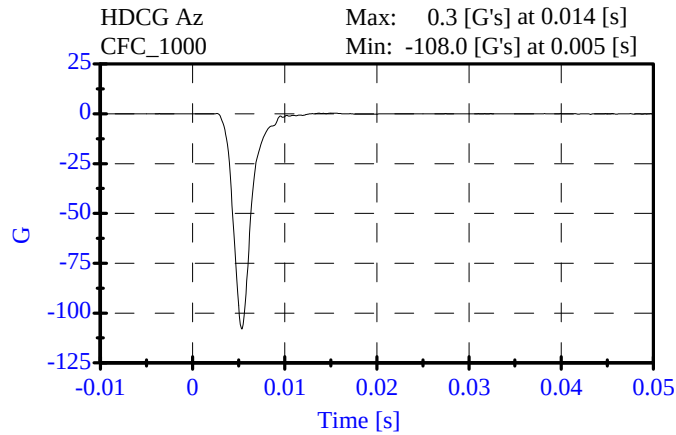
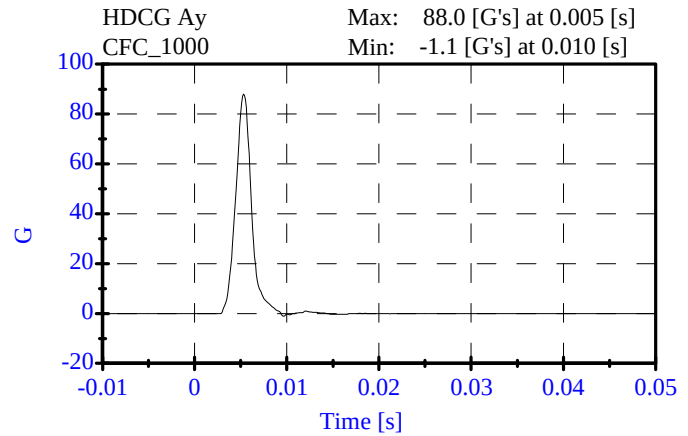
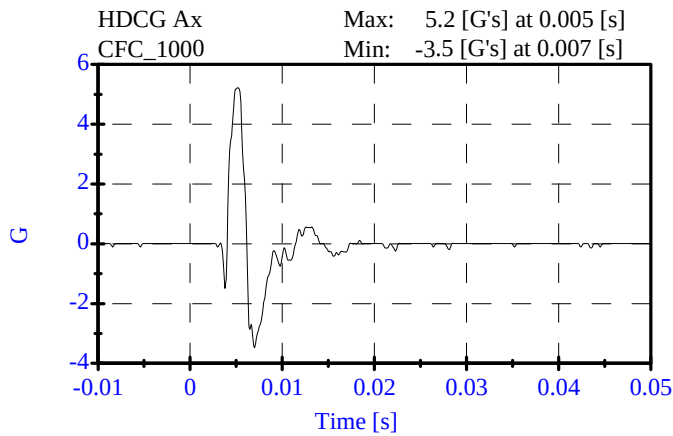
Head Drop POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: 08-09-04

Sequential Test Number: 1 File: 270H1 08-09-04
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS	STATUS
Lab Temperature:	18.9-25.6 C	21.1 C	Passed
Lab Humidity:	10-70 %	29.00 %	Passed
Peak Resultant Accel.:	120-150 Gs	139.40 Gs	Passed
Peak Lateral Accel.:	15 Gs Max	5.23 Gs	Passed
Curve PerCent NonModal:	< 15%	1.52 %	Passed



**Neck Test
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

ATD Serial No: 270
Date: 08-10-04

Sequential Test Number: 1 File: 270N3 08-10-04
Laboratory Technician: B. Swiecicki

<u>TEST PARAMETER</u>	<u>SPECIFICATION</u>	<u>TEST RESULTS</u>	<u>STATUS</u>
Lab Temperature:	20.6-22.2 C	21.1 C	Passed
Lab Humidity:	10-70 %	44.00 %	Passed
Impact Velocity:	6.89- 7.13 m/s	7.01 m/s	Passed
PENDULUM DELTA V			
Delta V at 10 ms:	1.96- 2.55 m/s	1.99 m/s	Passed
Delta V at 20 ms:	4.12- 5.10 m/s	4.19 m/s	Passed
Delta V at 30 ms:	5.73- 7.01 m/s	6.10 m/s	Passed
Delta V between 40-70 ms:	6.27- 7.64 m/s	7.28 m/s	Passed
D PLANE ROTATION			
Maximum Rotation:	66.0-82.0 Deg	74.19 Deg	Passed
Rotation Angle Decay:	58.0-67.0 ms	58.80 ms	Passed
MOMENT ABOUT THE OCCIPITAL CONDYLE			
Max Occipital Moment:	73.00- 88.00 N-m	94.30 N-m	Failed
Occipital Moment Decay:	49.0-64.0 ms	49.50 ms	Passed
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT			
Moment to Rotation Peak:	2.0-16.0 ms	8.50 ms	Passed

Neck Test
POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

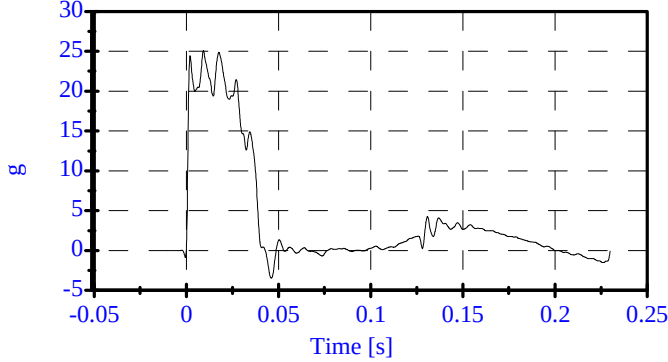
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Date: 08-10-04

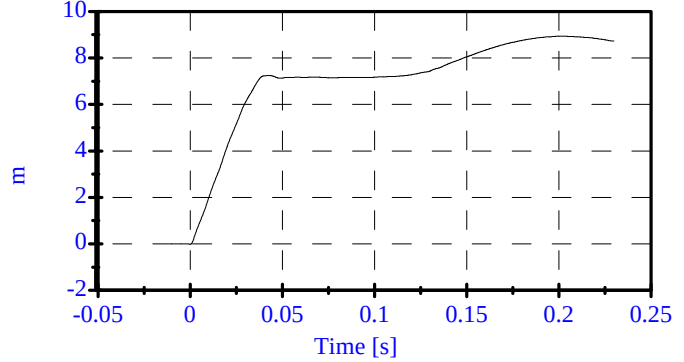
Sequential Test Number: 1 File: 270N3 08-10-04

Laboratory Technician: B. Swiecicki

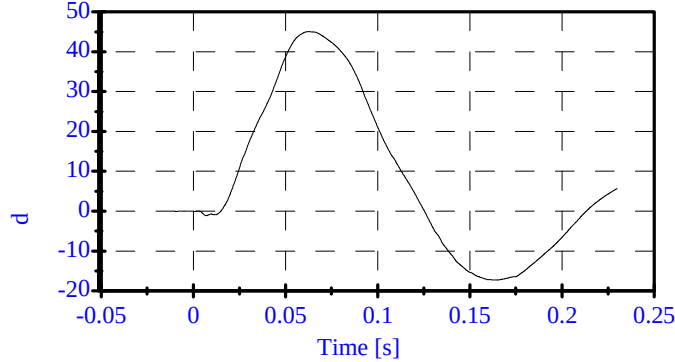
Pend Ax
CFC_180
Max: 25.1 [g's] at 0.009 [s]
Min: -3.5 [g's] at 0.046 [s]



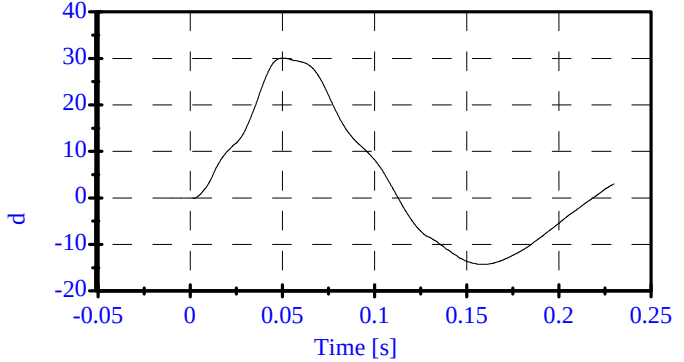
Pend Vx
CFC_180
Max: 8.9 [m/s] at 0.200 [s]
Min: -0.0 [m/s] at 0.000 [s]



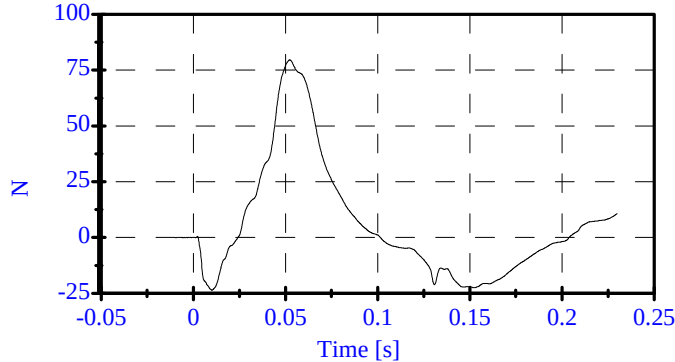
Head Rot
CFC_180
Max: 45.1 [degrees] at 0.063 [s]
Min: -17.3 [degrees] at 0.165 [s]



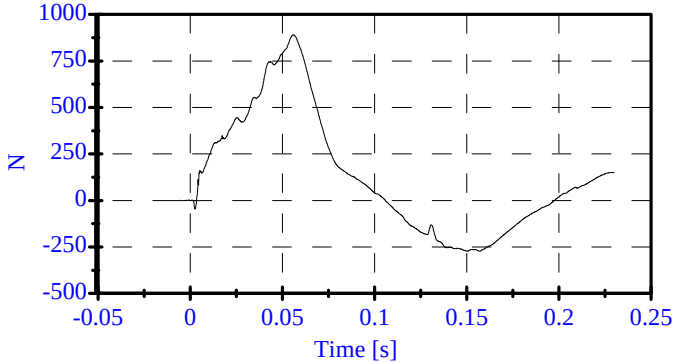
Arm Rot
CFC_180
Max: 30.1 [degrees] at 0.050 [s]
Min: -14.3 [degrees] at 0.157 [s]



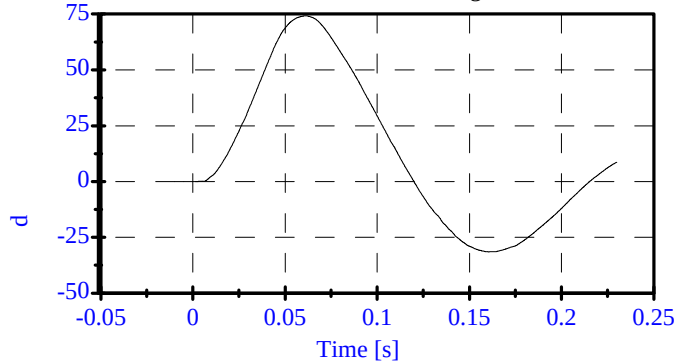
Neck Mx
CFC_600
Max: 79.7 [N-m] at 0.052 [s]
Min: -23.5 [N-m] at 0.010 [s]



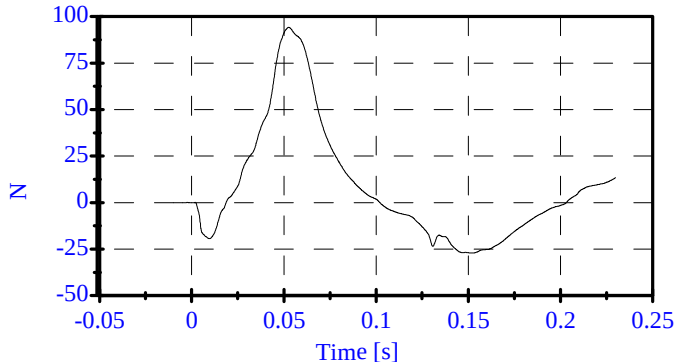
Neck Fy
CFC_1000
Max: 890.7 [N] at 0.056 [s]
Min: -273.2 [N] at 0.150 [s]



Tot Rot
CFC_180
Max: 74.2 [degrees] at 0.061 [s]
Min: -31.4 [degrees] at 0.161 [s]



Mocx
Max: 94.3 [N-m] at 0.053 [s]
Min: -27.1 [N-m] at 0.152 [s]



**ABDOMINAL COMPRESSION TEST
POST TEST**

(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 270

Date: 8/12/2004

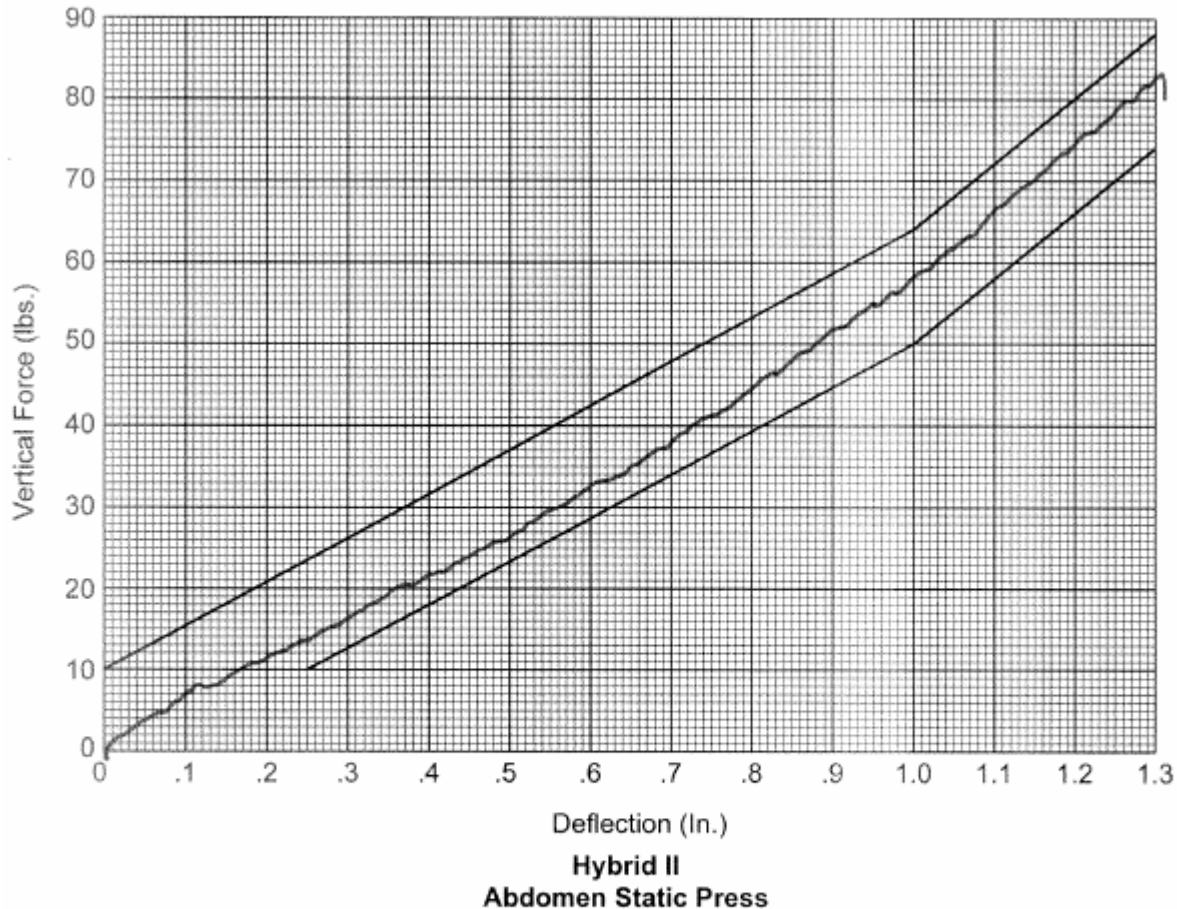
Sequential Test Number:

Laboratory Technician:

1

B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	32
FORCE @ 13 mm (N)	104 - 162	117.0
FORCE @ 19 mm (N)	163 - 221	183.3
FORCE @ 25 mm (N)	222 - 280	258.9
FORCE @ 33 mm (N)	325 - 391	367.0



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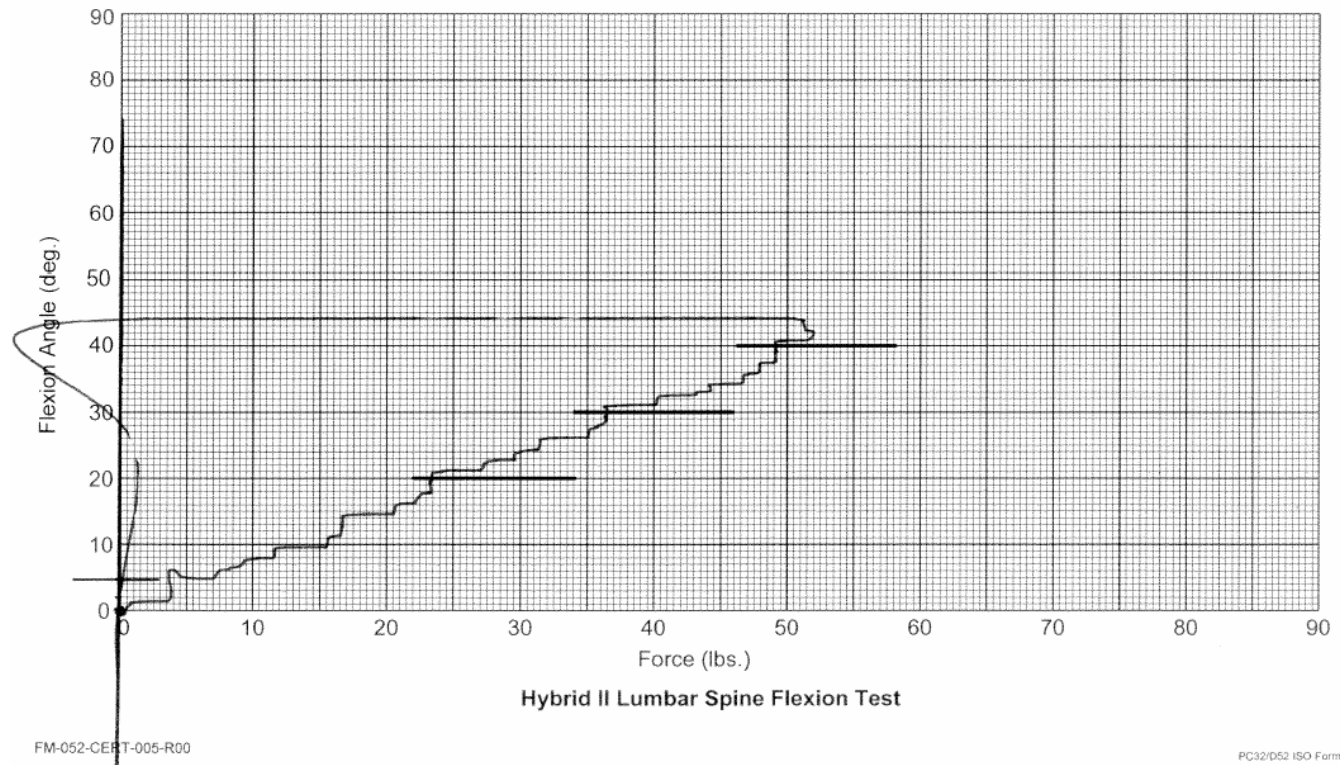
REMARKS: None

LUMBAR FLEXION TEST
POST TEST
 (Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: <u>270</u>	Sequential Test Number: <u>1</u>	
Date: <u>8/11/2004</u>	Laboratory Technician: <u>B. Swiecicki</u>	

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	36
FORCE @ 0° (N)	0 - 26.7	0.0
FORCE @ 20° (N)	97.8 - 151.2	103.6
FORCE @ 30° (N)	151.2 - 204.6	161.9
FORCE @ 40° (N)	204.6 - 258	218.4
RETURN ANGLE	12° max.	4.8°



REMARKS: None

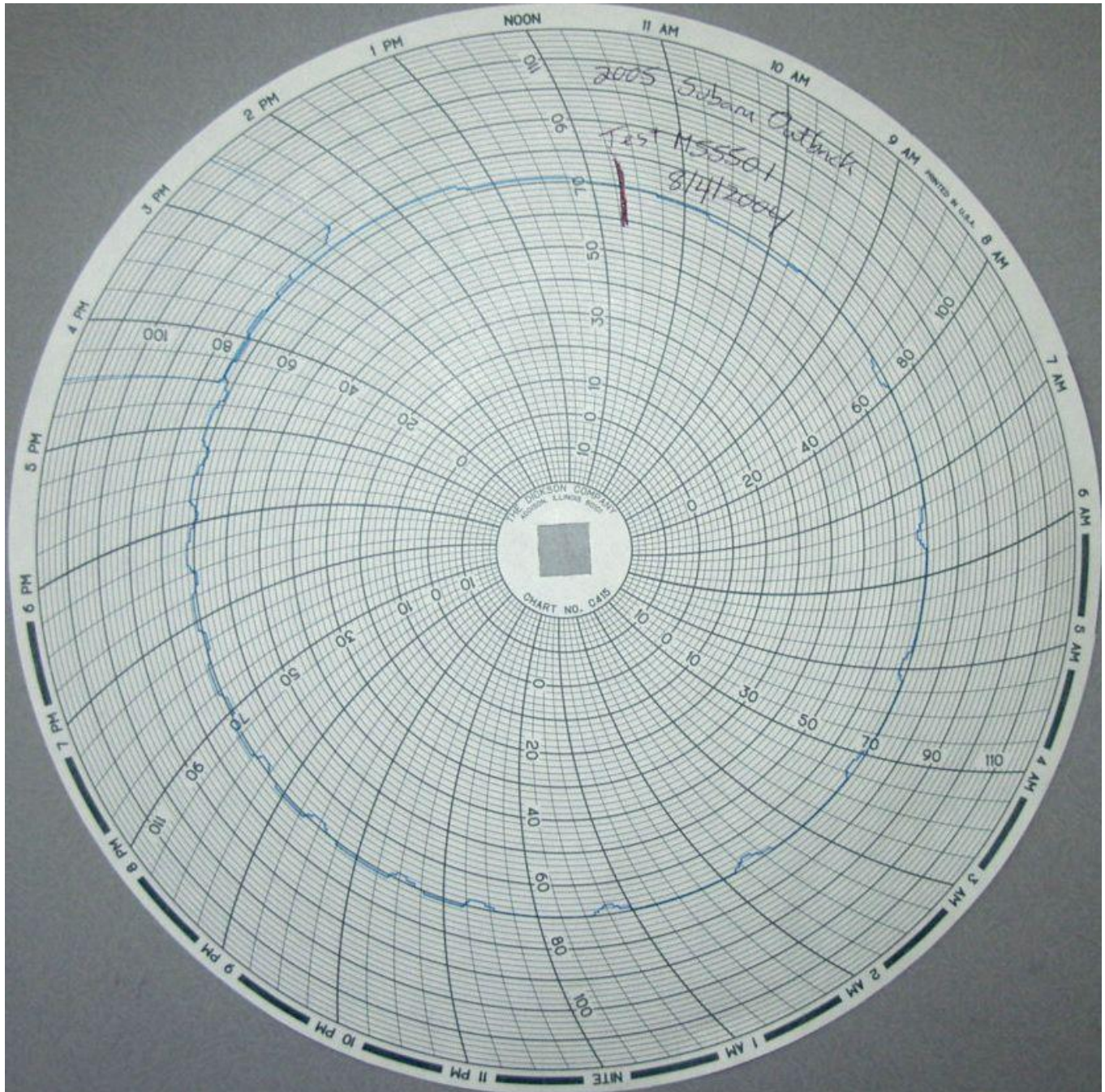
POST TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 270 Sequential Test Number: 1
Date: 8/12/2004 Laboratory Technician: B. Swiecicki

PART	ITEMS CHECKED	COMMENTS
SKIN	VISUAL INSPECTION	OK
HEAD	VISUAL, BALLAST, ACCELEROMETER MOUNT	OK
NECK	VISUAL, CABLE TORQUE	OK
SPINE BOX	VISUAL, BALLAST, WELDMENT, ACCELEROMETER MOUNT	OK
RIB CAGE	VISUAL, MEASURE, STIFFENERS	OK
STERNUM	VISUAL	OK
LUMBAR SPINE	VISUAL	OK
ABDOMEN	VISUAL	OK
PELVIS	VISUAL, PALPATE, ACCELEROMETER MOUNT	OK
UPPER LEGS	VISUAL	OK
KNEES	VISUAL, STOPS, INSERTS	OK
LOWER LEGS	VISUAL, RANGE OF MOTION	OK
ANKLES	VISUAL, RANGE OF MOTION	OK
FEET	VISUAL, RANGE OF MOTION	OK
JOINTS	1 TO 2 g RANGE	OK
OTHER	NONE	-

REMARKS: None

TEMPERATURE TRACE



APPENDIX D

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

SID INSTRUMENTATION

	FRONT SID NO.: 269		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
HEAD AX	AC-P16597	ENDEVCO	3/18/2004
HEAD AY	AC-P17236	ENDEVCO	3/18/2004
HEAD AZ	AC-P12587	ENDEVCO	3/18/2004
UPPER NECK FX	LC-440FX	DENTON	8/18/2003
UPPER NECK FY	LC-440FY	DENTON	8/18/2003
UPPER NECK FZ	LC-440FZ	DENTON	8/18/2003
UPPER NECK MX	LC-440MX	DENTON	8/18/2003
UPPER NECK MY	LC-440MY	DENTON	8/18/2003
UPPER NECK MZ	LC-440MZ	DENTON	8/18/2003
UPPER RIB	AC-P16628	ENDEVCO	3/17/2004
LOWER RIB	AC-P32224	ENDEVCO	2/24/2004
LOWER SPINE	AC-P23940	ENDEVCO	3/31/2004
PELVIS	AC-P23178	ENDEVCO	3/17/2004
UPPER RIB REDUNDANT	AC-P32204	ENDEVCO	2/24/2004
LOWER RIB REDUNDANT	AC-P16625	ENDEVCO	3/18/2004
LOWER SPINE REDUNDANT	AC-P18741	ENDEVCO	3/17/2004
PELVIS REDUNDANT	AC-P16616	ENDEVCO	3/17/2004

	REAR SID NO.: 270		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
HEAD AX	AC-P16845	ENDEVCO	7/19/2004
HEAD AY	AC-P23788	ENDEVCO	7/19/2004
HEAD AZ	AC-P21393	ENDEVCO	7/19/2004
UPPER NECK FX	LC-205FX	DENTON	8/18/2003
UPPER NECK FY	LC-205FY	DENTON	8/18/2003
UPPER NECK FZ	LC-205FZ	DENTON	8/18/2003
UPPER NECK MX	LC-205MX	DENTON	8/18/2003
UPPER NECK MY	LC-205MY	DENTON	8/18/2003
UPPER NECK MZ	LC-205MZ	DENTON	8/18/2003
UPPER RIB	AC-P18524	ENDEVCO	3/25/2004
LOWER RIB	AC-P18533	ENDEVCO	7/19/2004
LOWER SPINE	AC-P18514	ENDEVCO	3/25/2004
PELVIS	AC-P18519	ENDEVCO	3/30/2004
UPPER RIB REDUNDANT	AC-P18528	ENDEVCO	3/25/2004
LOWER RIB REDUNDANT	AC-P18518	ENDEVCO	3/25/2004
LOWER SPINE REDUNDANT	AC-P18688	ENDEVCO	3/25/2004
PELVIS REDUNDANT	AC-P18531	ENDEVCO	3/30/2004

REMARKS: None

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

VEHICLE AND MDB INSTRUMENTATION

	VEHICLE AND MDB INSTRUMENTS		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
RIGHT FRONT SILL (X)	AC-P23873	ENDEVCO	7/28/2004
RIGHT FRONT SILL (Y)	AC-J31034	ENDEVCO	7/28/2004
RIGHT FRONT SILL (Z)	AC-P19246	ENDEVCO	7/28/2004
RIGHT REAR SILL (X)	AC-J37980	ENDEVCO	3/22/2004
RIGHT REAR SILL (Y)	AC-J38127	ENDEVCO	3/22/2004
RIGHT REAR SILL (Z)	AC-J37854	ENDEVCO	3/22/2004
REAR FLOORPAN ABOVE AXLE (X)	AC-P16575	ENDEVCO	3/17/2004
REAR FLOORPAN ABOVE AXLE (Y)	AC-P21135	ENDEVCO	3/18/2004
REAR FLOORPAN ABOVE AXLE (Z)	AC-P14388	ENDEVCO	3/18/2004
LEFT REAR SILL (Y)	AC-B11408	ENDEVCO	3/31/2004
LEFT FRONT SILL (Y)	AC-9440-006	GS SENSORS	6/9/2004
LEFT FRONT DOOR CENTERLINE (Y)	AC-J30041	ENDEVCO	4/29/2004
RIGHT REAR SEAT OCCUPANT COMP. (Y)	AC-F53	ICS	3/1/2004
MID REAR OF LEFT FRONT DOOR (Y)	AC-J33843	ENDEVCO	3/22/2004
LEFT FRONT DOOR UPPER C/L (Y)	AC-J33071	ENDEVCO	4/29/2004
MID REAR OF LEFT REAR DOOR (Y)	AC-P18948	ENDEVCO	7/20/2004
LEFT REAR DOOR UPPER C/L (Y)	AC-P32222	ENDEVCO	7/19/2004
LOWER LEFT B- PILLAR (Y)	AC-P32288	ENDEVCO	7/19/2004
MIDDLE LEFT B-PILLAR (Y)	AC-P23926	ENDEVCO	7/20/2004
LOWER LEFT A-PILLAR (Y)	AC-9440-011	GS SENSORS	6/9/2004
UPPER LEFT A-PILLAR (Y)	AC-J32787	ENDEVCO	4/29/2004
FRONT SEAT TRACK (Y)	AC-P23804	ENDEVCO	7/20/2004
REAR SEAT TRACK (Y)	AC-P18728	ENDEVCO	5/5/2004
VEHICLE CG (X)	AC-P23939	ENDEVCO	3/22/2004
VEHICLE CG (Y)	AC-P23993	ENDEVCO	3/22/2004
VEHICLE CG (Z)	AC-P23999	ENDEVCO	3/22/2004
MDB CG (X)	AC-C16433	ENDEVCO	2/12/2004
MDB CG (Y)	AC-C16416	ENDEVCO	2/12/2004
MDB CG (Z)	AC-C16499	ENDEVCO	2/12/2004
MDB REAR FRAME MEMBER (X)	AC-C14948	ENDEVCO	2/12/2004
MDB REAR FRAME MEMBER (Y)	AC-C16680	ENDEVCO	2/12/2004

REMARKS: None