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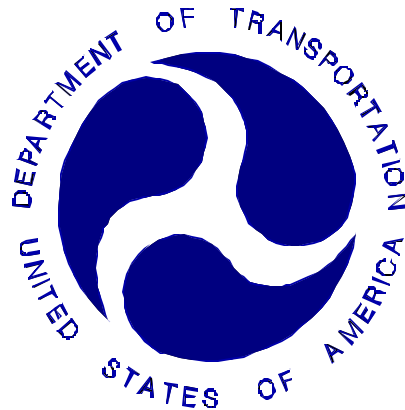
**SAFETY COMPLIANCE TESTING FOR FMVSS 214
SIDE IMPACT PROTECTION
INDICANT**

NISSAN MOTOR COMPANY, LTD.
2003 NISSAN MURANO
MPV

NHTSA NUMBER: C35200

VERIDIAN ENGINEERING TEST NUMBER: 8675-F214-05

VERIDIAN ENGINEERING
TRANSPORTATION SCIENCES CENTER
P.O. BOX 400
BUFFALO, NEW YORK 14225



April 15, 2003

FINAL REPORT

U. S. DEPARTMENT OF TRANSPORTATION
National Highway Traffic Safety Administration
Safety Assurance
Office of Vehicle Safety Compliance
400 Seventh Street, SW
Room 6111 (NVS-220)
Washington, DC 20590

This Final Test Report was prepared for the U.S. Department of Transportation, National Highway Traffic Safety Administration, under Contract No. DTNH22-02-D-01114. This publication is distributed by the U.S. Department of Transportation, National Highway Traffic Safety Administration, in the interest of information exchange. The opinions, findings and conclusions expressed in this publication are those of the author(s) and not necessarily those of the Department of Transportation or the National Highway Traffic Safety Administration. The United States Government assumes no liability for its contents or use thereof. If trade or manufactures' names or products are mentioned, it is only because they are considered essential to the object of the publication and should not be construed as an endorsement. The United States Government does not endorse products or manufacturers.

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				14. Sponsoring Agency Code NVS-221																															
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16. Abstract <p>A 55/28 kph 90⁰ Side Impact (Moving Deformable Barrier) Indicant Test was conducted on the subject Nissan Murano MPV. This test was performed at the New Car Assessment Program (NCAP) target test velocity of 62.0 kph, which is 8 kph faster than the target velocity required by the Office of Vehicle Safety Compliance's Laboratory Test Procedure (TP-214D-06, dated July 26, 2001). This test was conducted at the Veridian Engineering Crash Test Facility in Buffalo, New York, on April 15, 2003.</p> <p>The impact velocity of the Moving Deformable Barrier (MDB) was 62.0 kph, and the ambient temperature at the struck (driver's) side of the target vehicle at the time of impact was 20⁰C. The target vehicle post-test maximum crush was 350 mm at level 3.</p> <p>The test or target vehicle's performance is given below:</p> <table border="0"> <thead> <tr> <th></th> <th align="center"><u>Front SID H3</u></th> <th></th> <th align="center"><u>Rear SID H3</u></th> <th></th> </tr> </thead> <tbody> <tr> <td>Left Upper Rib Acceleration:</td> <td align="center">21.3</td> <td align="center">g's</td> <td align="center">63.6</td> <td align="center">g's</td> </tr> <tr> <td>Left Lower Rib Acceleration:</td> <td align="center">37.3</td> <td align="center">g's</td> <td align="center">52.5</td> <td align="center">g's</td> </tr> <tr> <td>Lower Spine Acceleration:</td> <td align="center">50.4</td> <td align="center">g's</td> <td align="center">58.7</td> <td align="center">g's</td> </tr> <tr> <td>Thoracic Trauma Index (TTI):</td> <td align="center">44</td> <td align="center">g's</td> <td align="center">61</td> <td align="center">g's</td> </tr> <tr> <td>Pelvis Acceleration (PEV):</td> <td align="center">86</td> <td align="center">g's</td> <td align="center">94</td> <td align="center">g's</td> </tr> </tbody> </table> <p>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.</p>							<u>Front SID H3</u>		<u>Rear SID H3</u>		Left Upper Rib Acceleration:	21.3	g's	63.6	g's	Left Lower Rib Acceleration:	37.3	g's	52.5	g's	Lower Spine Acceleration:	50.4	g's	58.7	g's	Thoracic Trauma Index (TTI):	44	g's	61	g's	Pelvis Acceleration (PEV):	86	g's	94	g's
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17. Key Words Compliance Testing Side Impact Protection FMVSS 214 Side Impact Dummy (SID HIII)			18. Distribution Statement <u>Copies of this report are available from</u> National Highway Traffic Safety Administration Technical Reference Division (TIS) Room 5108 (NPO-230) 400 Seventh St., S.W. Washington, D.C. 20590 Telephone No. (202) 366-4946																																
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SECTION 1

PURPOSE AND TEST PROCEDURE

This side impact test is part of the FMVSS 214 Side Impact Protection Compliance Test Program sponsored by the National Highway Traffic Safety Administration (NHTSA) under Contract No. DTNH22-02-D-01114. The purpose of this indicant test was to evaluate side impact protection in a 2003 Nissan Murano MPV when tested at the New Car Assessment Program (NCAP) target test velocity of 62.0 kph, which is 8 kph faster than the target velocity required by the Office of Vehicle Safety Compliance's Laboratory Test Procedure (TP-214D-06, dated July 26, 2001).

SECTION 2

SUMMARY OF SIDE IMPACT TEST

This Side Impact Protection Indicant Test was performed at the New Car Assessment Program (NCAP) target test velocity of 62.0 kph, which is 8 kph faster than the target velocity required by the Office of Vehicle Safety Compliance's Laboratory Test Procedure (TP-214D-06, dated July 26, 2001).

A 2003 Nissan Murano 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 62.0 kph (38.5 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 Veridian Engineering Transportation Sciences Center in Buffalo, New York on April 15, 2003. 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 9 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. Nine Axis Array Heads (NAAH)
6. Head triaxial accelerometers (X-, Y- and Z-direction)
7. 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 72 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)	44	61
PEV (g)	86	94

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

SECTION 3

SUMMARY OF TEST RESULTS

DATA SHEET 1

GENERAL TEST AND VEHICLE PARAMETER DATA

TEST VEHICLE INFORMATION:

Year/Make/Model/Body Style: 2003 Nissan Murano MPV

Vehicle Body Color: Gold VIN: JN8AZ08T43W101802

Vehicle NHTSA No.: C35200 Month & Year of Manufacture: _____

Engine Data: 6 Cylinders; - CID; 3.5 Liters; - cc

Engine Placement: - Longitudinal; or X Lateral

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

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

Odometer Reading 84 km

Supplemental Airbag Restraints:

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

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

Options: X A/C; X Power Steering; X Power Brakes; X Power Windows

DATA FROM TIRE PLACARD

Recommended Tire Size: P235/65R18

* Recommended Cold Tire Pressure: 230 kPa FRONT; 230 kPa REAR

DATA FROM TIRE SIDEWALL:

Size of Tires on Test Vehicle: P235/65R18 104T ; Manufacturer: Goodyear

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; 0 3rd Seat; 5 Total

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

Type of Rear Seats: - Bucket; - Bench; X Split Bench; X Contoured

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

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

Vehicle Max Capacity Loading = 390 kg (A)

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

Vehicle Cargo Capacity = 49.8 kg (A-B)

TEST VEHICLE DELIVERED WEIGHT WITH MAXIMUM FLUIDS:

Left Front = 520.5 kg Left Rear = 361.0 kg

Right Front = 529.5 kg Right Rear = 343.5 kg

TOTAL FRONT = 1050.0 kg TOTAL REAR = 704.5 kg

% of Total Weight = 59.8% % % of Total Weight = 40.2 %

TOTAL WEIGHT = 1754.5 kg

* Tire pressure used in test.

DATA SHEET 1 (continued)

GENERAL TEST VEHICLE PARAMETER DATA

Vehicle: 2003 Nissan Murano MPV

NHTSA No. C35200

CALCULATION OF VEHICLE'S TARGET TEST WEIGHT:

Total Test Vehicle Delivered Weight with Max. Fluids = 1754.5 kg (A)
Maximum Cargo Carrying Capacity of Test Vehicle = 49.8 kg (B)
Weight of instrumented SID H3 Dummies (2 X 81.2 kg) = 162.4 kg (C)
TEST VEHICLE TARGET WEIGHT: = 1966.7 kg (A+B+C)

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

Left Front = 579.5 kg Left Rear = 450.5 kg
Right Front = 533.0 kg Right Rear = 404.5 kg
TOTAL FRONT = 1112.5 kg TOTAL REAR = 855.0 kg
% of Total Weight = 56.5% % % of Total Weight = 43.5% %
TOTAL TEST WEIGHT = 1967.5 kg

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

Left Front = 573.5 kg Left Rear = 447.5 kg
Right Front = 539.5 kg Right Rear = 397.5 kg
TOTAL FRONT = 1113.0 kg TOTAL REAR = 845.0 kg
% of Total Weight = 56.8% % % of Total Weight = 43.2% %
TOTAL TEST WEIGHT = 1958 kg

TEST VEHICLE ATTITUDE (all dimensions in millimeters):

AS DELIVERED:

Left Front 854 Right Front 850 Left Rear 864 Right Rear 871

FULLY LOADED:

Left Front 835 Right Front 839 Left Rear 832 Right Rear 849

READY FOR TEST:

Left Front 837 Right Front 841 Left Rear 839 Right Rear 849

Test Vehicle Wheelbase: 2826 millimeters

C.G. = 1219.6 millimeters rearward of front wheel centerline

TOTAL VEHICLE LENGTH:

Right Side = 4580 millimeters
Left Side = 4580 millimeters
Centerline = 4775 millimeters

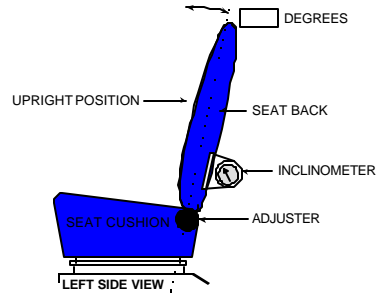
DATA SHEET 1 (continued)

GENERAL TEST VEHICLE PARAMETER DATA

Vehicle: 2003 Nissan Murano MPV

NHTSA No. C35200

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 ASSEMBLY

FRONT SEAT CUSHION PLACEMENT: Mid position (120 mm)

Total Length of Adjustment Travel: 240 millimeters

Total Number of Adjustment Positions or Detents: Electronic

FRONT SEAT BACK ADJUSTMENT POSITION: 9th notch rearward

Seat Back Torso Angle: 21 degrees

SECOND POSITION SEAT:

Total Length of Fore/Aft Adjustment Travel: 0 millimeters

Seat Back Adjustment Position: 25° (4th notch)

ADJUSTABLE STEERING COLUMN POSITION: _____

WINDOW POSITIONS: Left Front: Closed Left Rear: Closed

Right Front: Open Right Rear: Removed

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

AMOUNT OF STODDARD SOLVENT IN FUEL TANK:

82.1 liters (Fuel Tank Usable Capacity)

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

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

Wheelbase = 2826 millimeters

Impact Point is 473 millimeters rearward of front axle centerline
(which is 940 millimeters forward of the wheelbase midpoint)

Actual Impact Point is 468 millimeters rearward of front axle centerline

DATA SHEET 2

TEST VEHICLE SUMMARY OF RESULTS

VEHICLE IDENTIFICATION:

Vehicle Year/Make/Model: 2003 Nissan Murano

Body Style: MPV

VIN: JN8AZ08T43W101802

NHTSA No.: C35200

Test Date: April 15, 2003

Overall Length = 4775 millimeters; Overall Width = 1860 millimeters

VEHICLE TEST WEIGHT (Pre-Test):

Left Front = 573.5 kg Left Rear = 447.5 kg

Right Front = 539.5 kg Right Rear = 397.5 kg

TOTAL FRONT = 1113.0 kg TOTAL REAR = 845.0 kg

TOTAL VEHICLE WEIGHT 1958.0 kg

Wheelbase = 2826 millimeters

Longitudinal C.G. from Center of Front Axle = 1219.6 millimeters

Impact Angle with Respect to Impactor = 90 degrees

ACTUAL IMPACT POINT

Actual Impact Point is 5 mm forward of nominal impact ref. line (Lateral)

Actual Impact Point is 11 mm below nominal impact point (Vertical)

MAXIMUM EXTERIOR STATIC CRUSH:

1. LEVEL 1 (414 mm above ground) = 286 millimeters

2. LEVEL 2 (694 mm above ground) = 345 millimeters

3. LEVEL 3 (758 mm above ground) = 350 millimeters

4. LEVEL 4 (1024 mm above ground) = 279 millimeters

5. LEVEL 5 (1581 mm above ground) = 21 millimeters

Maximum Post-Test Intrusion = 350 millimeters

OCCUPANTS:

Front Passenger:

Rear Passenger:

Dummy Identification SID H3/015

SID H3/016

Restraints Used Three-Point, Safety Belt, Side Airbag, Side Curtain Bag

Three-Point, Safety Belt, Side Curtain Bag

INSTRUMENTATION:

Number of Vehicle Data Channels: = 21

Number of Cameras: Onboard = 3

 Offboard = 7

 TOTAL = 10

DATA SHEET 3

MOVING DEFORMABLE BARRIER (MDB) SUMMARY

Vehicle: 2003 Nissan Murano MPV

NHTSA No. C35200

MDB FACE MANUFACTURER AND SERIAL NUMBER:

Plascore Inc. 028C0103-1 023B1102

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>62.0</u>	kph				

MAXIMUM STATIC CRUSH OF HONEYCOMB IMPACT FACE:

1. Row A at Center of Bumper Level	=	<u>155</u>	millimeters
2. Row B at Top of Bumper Level	=	<u>85</u>	millimeters
3. Row C at Mid Level	=	<u>90</u>	millimeters
4. Row D at Top of Stack Level	=	<u>142</u>	millimeters

INSTRUMENTATION:

Number of MDB Data Channels	=	<u>5</u>
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DATA SHEET 4

POST-TEST OBSERVATIONS

Vehicle: 2003 Nissan Murano MPV

NHTSA No. C35200

TEST DUMMY INFORMATION AND CONTACT POINTS:

DESCRIPTION	FRONT SEAT	REAR SEAT
ATD Type/Serial No.	SID H3/015	SID H3/016
Head Contact:	The side and the top of the head to the side curtain bag.	The side and the top of the head to the side curtain bag.
Upper Torso Contact:	Side Airbag	Door Trim Panel
Lower Torso Contact:	Side Airbag	Door Trim Panel
Left Knee Contact:	Door Trim Panel	Door Trim Panel
Right Knee Contact:	Left Knee	Left Knee

POST TEST DOOR OPENING AND SEAT TRACK INFORMATION

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

POST TEST STRUCTURAL OBSERVATIONS

CRITICAL AREAS OF PERFORMANCE	
Pillar Performance	A- and B-pillars moved inboard during the event with no visible tears or separations
Sill Separation	No visible tears or separations
Windshield Damage	None
Window Damage	Rear side glass shattered upon impact
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	5 mm forward
Vertical Offset	mm	? 20 mm	11 mm below

SECTION 4

OCCUPANT AND VEHICLE INFORMATION

DATA SHEET 5

SID H3 INSTRUMENTATION DATA

Vehicle: 2003 Nissan Murano MPV

NHTSA No. C35200

	Front Dummy ID# 015				Rear Dummy ID# 016			
	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:								
NAAH X Arm Y	18.0	70.3	-2.9	34.2	96.2	62.6	-20.5	83.0
NAAH X Arm Z	18.5	50.2	-7.6	89.5	23.2	99.7	-45.7	64.1
NAAH Y Arm X	3.1	39.1	-20.9	66.5	20.5	102.2	-14.7	64.5
NAAH Y Arm Z	16.8	50.0	-4.5	77.5	20.4	40.9	-55.6	64.4
NAAH Z Arm X	4.6	196.7	-21.4	85.3	24.6	102.7	-26.0	63.3
NAAH Z Arm Y	24.2	71.1	-3.2	38.5	96.6	64.6	-22.4	83.0
Longitudinal X	3.3	40.4	-17.2	73.7	16.3	105.6	-17.2	64.3
Lateral Y	23.3	61.5	-1.5	11.6	84.6	63.0	-14.6	101.0
Vertical Z	11.9	50.2	-1.4	23.0	24.6	41.0	-40.0	64.3
Resultant R	28.0	66.3	0.0	-3.4	94.8	64.3	0.0	3.7
HIC	88.7				553.3			
NECK FORCES:								
Longitudinal X	119.6	41.0	-542.3	74.2	456.2	64.3	-196.8	113.6
Lateral Y	378.0	62.9	-47.9	35.8	123.6	151.6	-1584.5	65.2
Vertical Z	593.5	50.1	-157.9	126.5	987.6	41.1	-870.8	62.0
Resultant R	662.5	69.7	0.1	-15.0	1800.3	65.2	0.1	-13.5
NECK MOMENTS:								
X	15.1	79.6	-32.9	48.2	26.7	68.5	-45.9	56.7
Y	36.6	89.8	-31.1	62.0	27.5	66.7	-40.8	113.6
Z	28.9	84.9	-6.9	33.1	8.9	159.2	-42.7	78.6
Resultant R	46.4	89.3	0.0	-11.8	56.9	81.4	0.0	-20.0
RIB ACCELERATIONS:								
Upper Rib Lateral Y	21.3	46.9	-2.2	111.2	63.6	51.3	-8.6	100.0
Upper Rib Lateral Y(R)	45.1	51.2	-2.0	90.6	62.2	51.2	-10.9	100.0
Lower Rib Lateral Y	37.3	48.8	-7.9	70.6	52.5	48.8	-15.7	100.0
Lower Rib Lateral Y(R)	42.6	49.4	-8.3	70.7	52.3	48.8	-14.5	100.0
SPINE ACCELERATIONS:								
Lower Lateral Y	50.4	38.2	-8.8	68.8	58.7	43.1	-25.6	144.4
Lower Lateral Y(R)	50.1	38.2	**	**	57.7	43.2	-10.7	70.0
PELVIC ACCELERATIONS:								
Lateral Y	86.1	33.1	-20.7	53.8	93.8	37.5	-11.8	61.9
Lateral Y(R)	87.7	33.1	-21.0	53.8	91.7	37.5	-11.8	61.9

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.

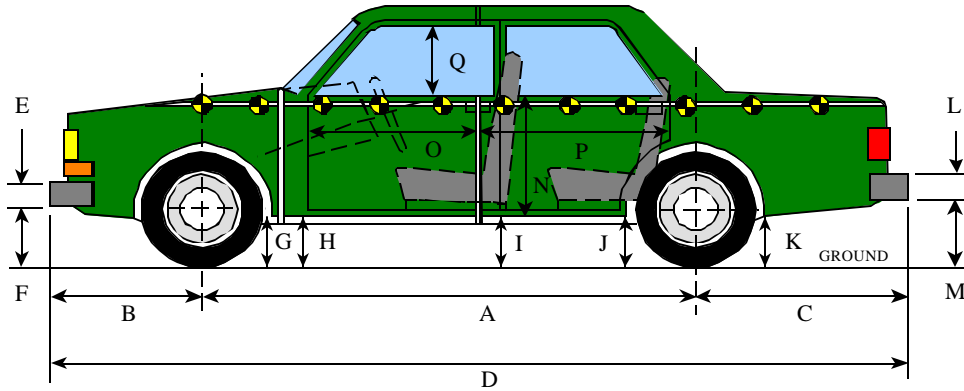
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DATA SHEET 6

VEHICLE SIDE MEASUREMENTS

Vehicle: 2003 Nissan Murano MPV

NHTSA No. C35200



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)	▼ CHANGE
A	2825	2826	2800	-26
B	995	-	1025	30
C	955	-	950	-5
D	4775	-	4775	0
E	150	-	150	0
F	595	590	608	18
G	309	309	330	21
H	315	315	337	22
I	317	306	343	37
J1	321	297	356	59
J2	337	313	374	61
K	420	387	407	20
L	220	-	220	0
M	565	530	550	20
N	786	-	774	-12
O	845	-	722	-123
P	1191	-	1136	-55
Q	469	-	494	25
R	4580	-	4580	0
S	4580	-	4555	-25
T	1860	-	1600	-260

D = Length at Centerline
T = Width at B-Pillar

E&L = Bumper Thickness
J1 = To Pinch Weld

R = Right Side Length
J2 = To Sill

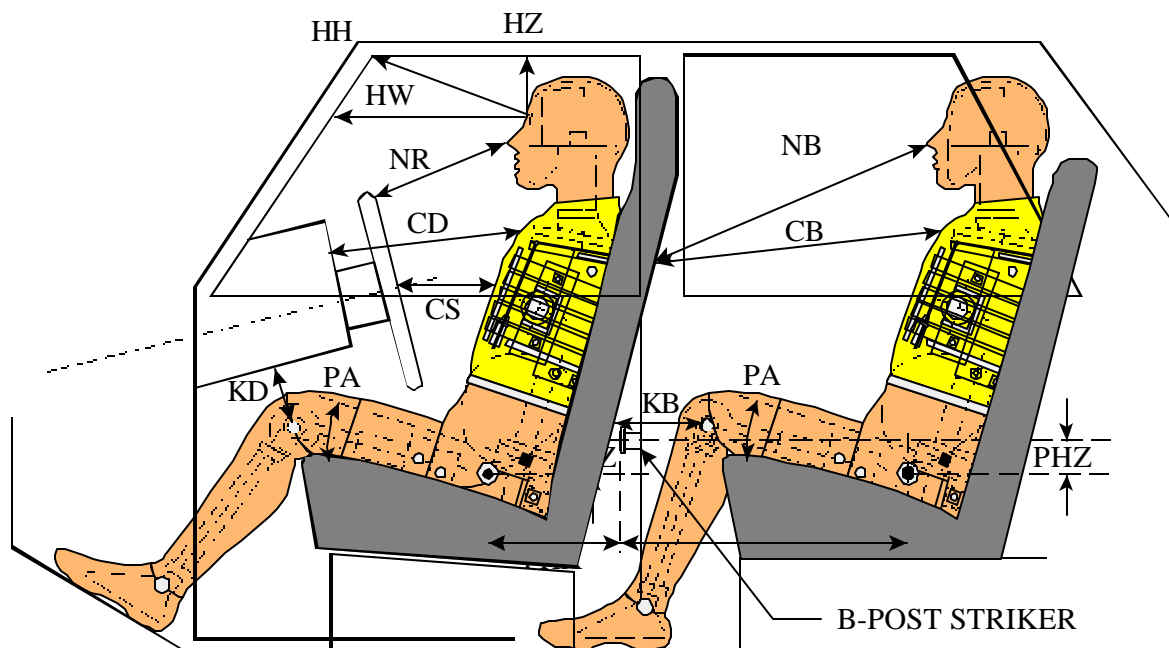
S = Left Side Length

DATA SHEET 7

SID H3 LONGITUDINAL CLEARANCE DIMENSIONS

Vehicle: 2003 Nissan Murano MPV

NHTSA No. C35200



LEFT SIDE VIEW

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

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

	DRIVER ID# 015	LEFT REAR PASS. ID# 016
HH	531	N/A
HW	837	N/A
HZ	206	220
NR/NB	532	700
CD/CB	616	588
CS	350	N/A
KDL(KDA°)/KBL(KDA°)	231 / (24 °)	228 / (27 °)
KDR(KBA°)/KBR(KBA°)	224 / (27 °)	236 / (26 °)
PA°	24.2	23.1
PHX	223	248
PHZ	97	229

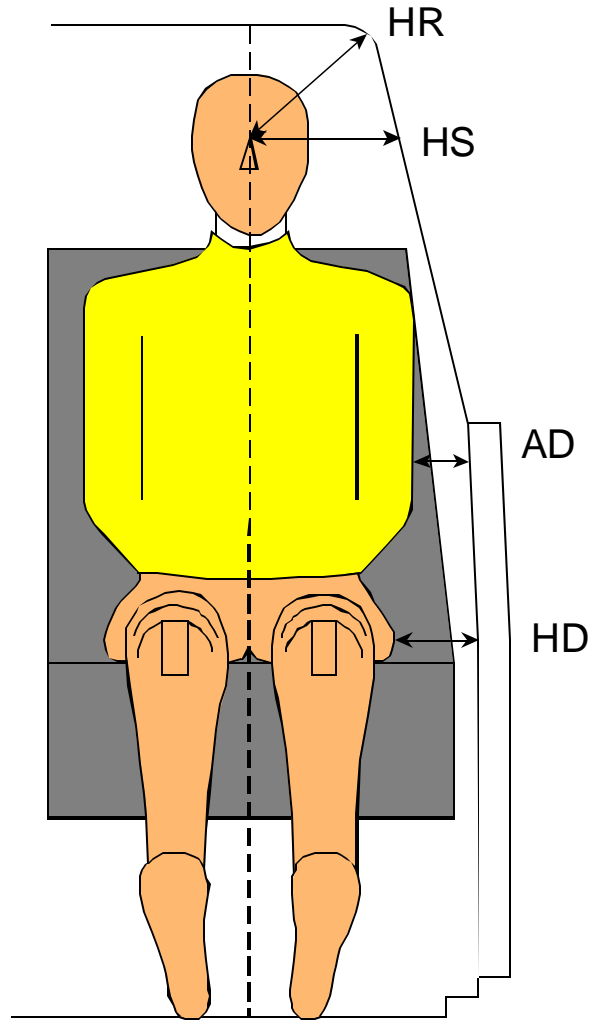
Note: 2-door vehicle shown. Rear dummy PHX & PHZ measurements for 4-door vehicle would use the C-post striker as a reference point.

DATA SHEET 8

SID H3 LATERAL CLEARANCE DIMENSIONS

Vehicle: 2003 Nissan Murano MPV

NHTSA No. C35200



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

	DRIVER ID # 015		LEFT REAR PASS. ID # 016	
HR	210		234	
HS	330		266	
AD*	LOWER: 126	UPPER: 128	LOWER: 130	UPPER: 127
HD	155		190	

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

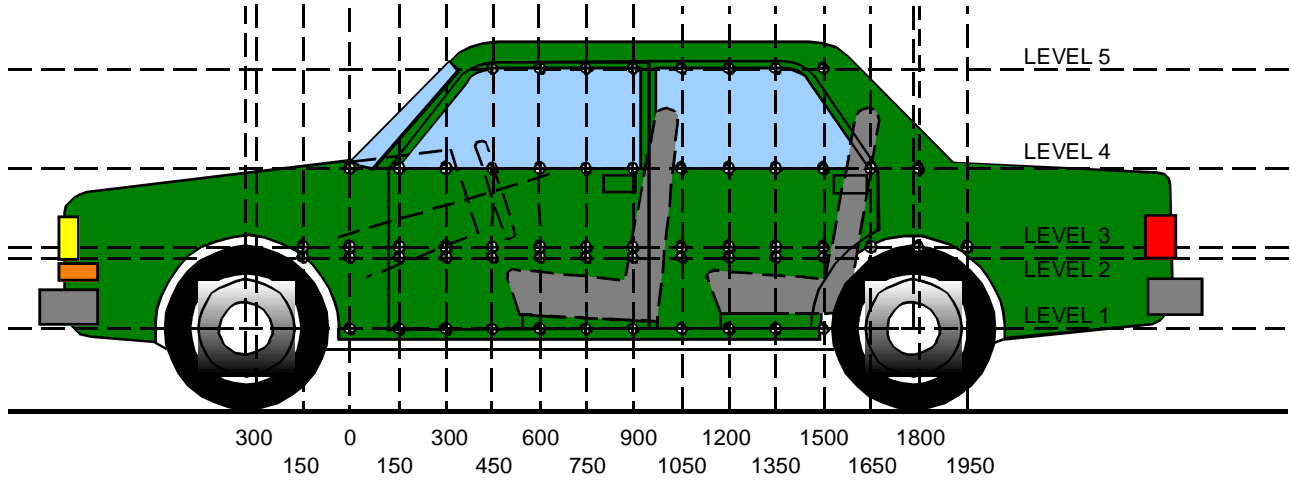
Upper measurement is taken laterally at the center of the upper rib accelerometer height from the SID H3 arm segment to the closest part of the vehicle side.

DATA SHEET 9

VEHICLE SIDE MEASUREMENTS

Vehicle: 2003 Nissan Murano MPV

NHTSA No. C35200



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:

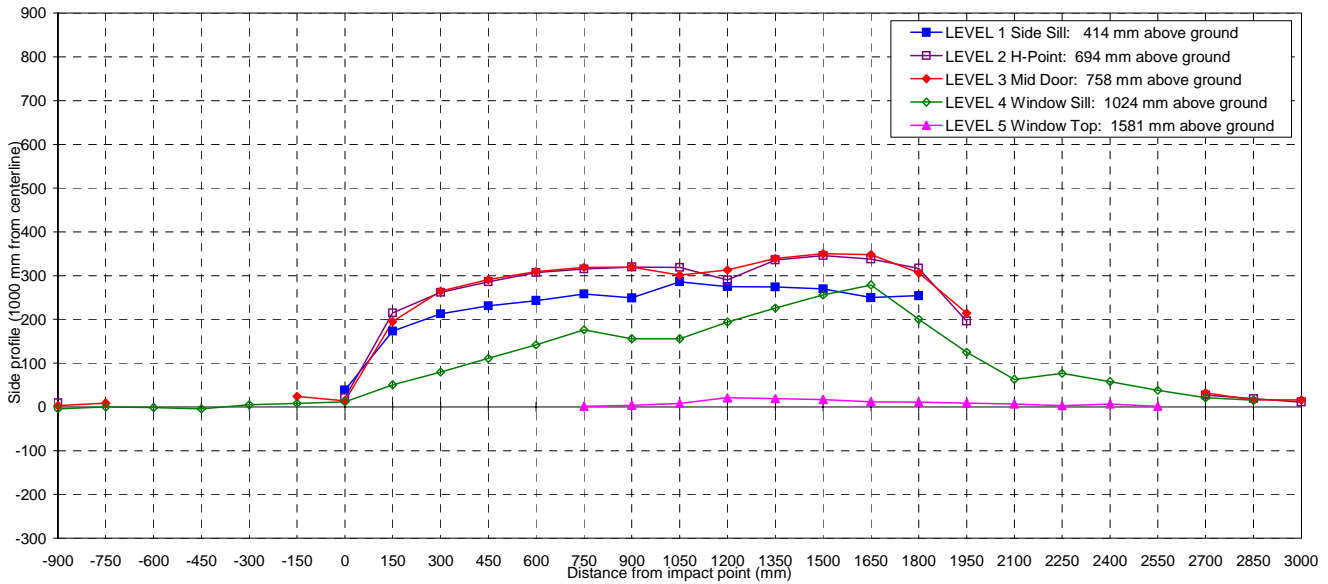
Level 5 @ Window Top	=	<u>1581</u>	millimeters
Level 4 @ Window Sill	=	<u>1024</u>	millimeters
Level 3 @ Mid Door	=	<u>758</u>	millimeters
Level 2 @ Occupant H-Point	=	<u>694</u>	millimeters
Level 1 @ Axle Centerline Height (or Sill Top Height)	=	<u>414</u>	millimeters

DATA SHEET 10

VEHICLE EXTERIOR CRUSH PROFILES - ALL LEVELS

Vehicle: 2003 Nissan Murano MPV

NHTSA No. C35200



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

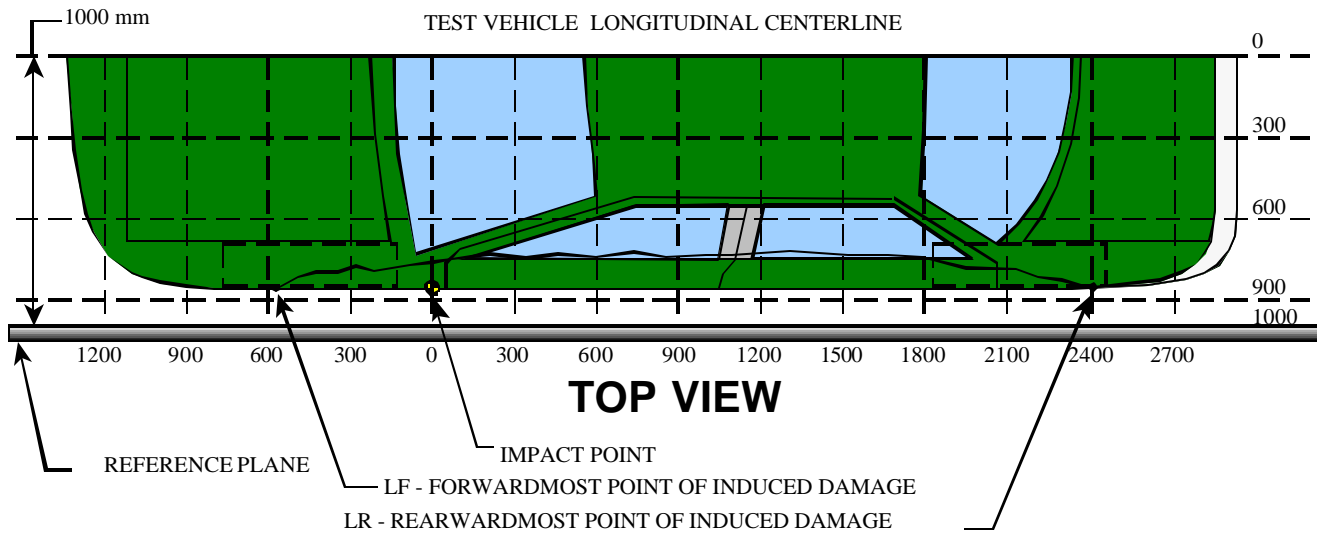
LEVEL	HEIGHT (mm)		DISTANCE IN MILLIMETERS (mm) FROM IMPACT POINT																											
			-900	-750	-600	-450	-300	-150	0	150	300	450	600	750	900	1050	1200	1350	1500	1650	1800	1950	2100	2250	2400	2550	2700	2850	3000	
LEVEL 1 SIDE SILL	414	PRE	--	--	--	--	--	97	150	143	139	135	128	145	121	126	135	132	138	87	--	--	--	--	--	--	--	--	--	
		POST	--	--	--	--	--	134	323	355	370	377	385	393	407	401	408	401	387	341	--	--	--	--	--	--	--	--	--	
		CRUSH	N/A	N/A	N/A	N/A	N/A	37	173	212	231	242	257	248	286	275	273	269	249	254	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
LEVEL 2 H POINT	694	PRE	128	--	--	--	--	96	96	91	87	83	81	79	76	75	75	76	78	77	62	--	--	--	--	--	55	90	119	
		POST	136	--	--	--	--	116	310	352	373	390	395	399	394	365	410	421	416	394	259	--	--	--	--	--	82	109	131	
		CRUSH	8	N/A	N/A	N/A	N/A	20	214	261	286	307	314	320	318	290	335	345	338	317	197	N/A	N/A	N/A	N/A	N/A	27	19	12	
LEVEL 3 MID DOOR	758	PRE	148	88	--	--	71	92	89	83	81	77	75	73	71	69	69	67	67	70	61	--	--	--	--	50	92	118		
		POST	151	96	--	--	95	106	283	348	371	385	394	393	372	380	408	417	415	376	276	--	--	--	--	83	108	134		
		CRUSH	3	8	N/A	N/A	24	14	194	265	290	308	319	320	301	311	339	350	348	306	215	N/A	N/A	N/A	N/A	33	16	16		
LEVEL 4 WINDOW SILL	1024	PRE	444	303	245	210	175	153	137	123	113	103	94	88	85	82	78	76	75	76	77	77	77	74	76	79	88	115	--	
		POST	439	303	244	206	179	160	148	173	192	213	235	263	239	237	271	301	331	355	277	203	141	152	134	118	110	131	--	
		CRUSH	-5	0	-1	-4	4	7	11	50	79	110	141	175	154	155	193	225	256	279	200	126	64	78	58	39	22	16	N/A	
LEVEL 5 WINDOW TOP	1581	PRE	--	--	--	--	--	--	--	--	--	--	477	371	364	355	355	355	356	356	358	366	375	386	416	--	--	--		
		POST	--	--	--	--	--	--	--	--	--	--	479	374	372	376	374	372	374	372	368	367	367	373	378	393	418	--	--	
		CRUSH	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2	3	8	21	19	17	12	11	9	7	3	7	2	N/A	N/A	N/A		

DATA SHEET 11

VEHICLE DAMAGE PROFILE DISTANCES

Vehicle: 2003 Nissan Murano MPV

NHTSA No. C35200



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.

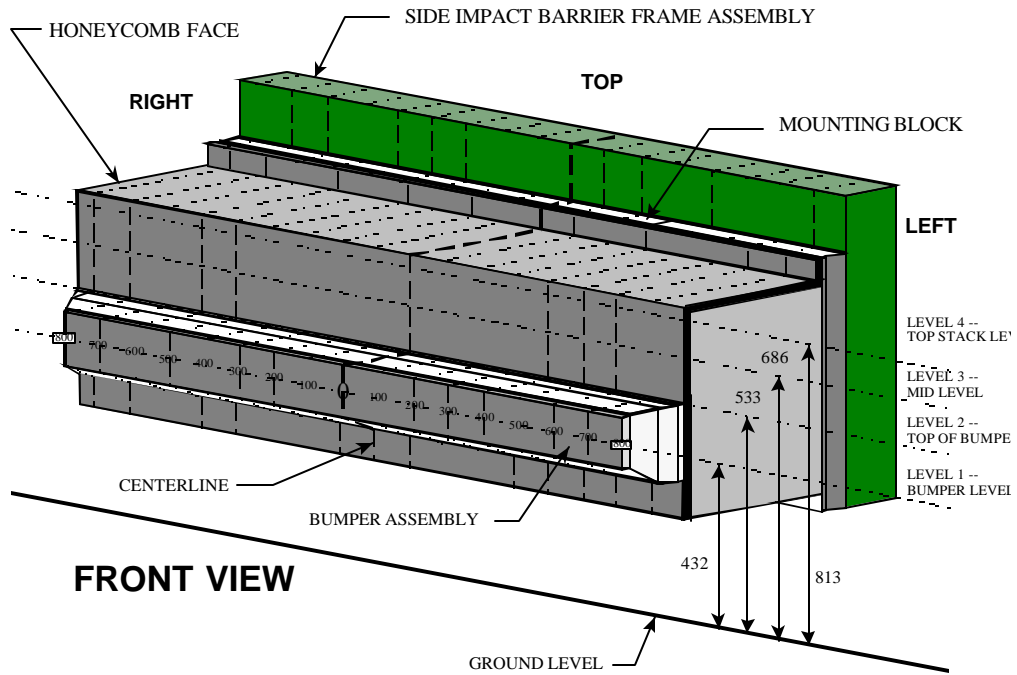
DPD MEASUREMENTS		POST TEST (mm)	PRETEST (mm)	STATIC CRUSH (mm)
1	(LR = <u>2850</u> mm)	159	144	15
2	2205	166	93	73
3	1560	423	74	349
4	915	395	75	320
5	270	329	76	253
6	(LF = <u>-375</u> mm)	166	166	0

DATA SHEET 12

EXTERIOR STATIC CRUSH FOR IMPACTOR FACE

Vehicle: 2003 Nissan Murano MPV

NHTSA No. C35200



NOTE: Dimensions are shown in millimeters, mm

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

LEVEL	HEIGHT AT CL (mm)*		DISTANCE RIGHT OF CENTER (mm)									DISTANCE LEFT OF CENTER (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	
		POST	663	635	627	630	640	666	689	669	652	651	655	658	661	679	691	715	761
		CRUSH	44	16	8	11	21	47	70	50	33	32	36	39	42	60	72	96	142
LEVEL 3 MID LEVEL	686	PRE	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	
		POST	650	632	622	623	631	644	662	643	632	628	628	629	636	646	663	683	709
		CRUSH	31	13	3	4	12	25	43	24	13	9	9	10	17	27	44	64	90
LEVEL 2 TOP BUMPER	533	PRE	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	
		POST	704	684	677	674	672	671	669	670	671	672	672	674	678	682	683	687	694
		CRUSH	85	65	58	55	53	52	50	51	52	53	53	55	59	63	64	68	75
LEVEL 1 MID BUMPER	432	PRE	535	519	518	518	518	518	518	518	518	518	518	518	518	518	519	535	
		POST	686	663	650	646	649	648	649	652	653	653	655	659	664	664	666	674	686
		CRUSH	151	144	132	128	131	130	131	134	135	135	137	141	146	146	148	155	151

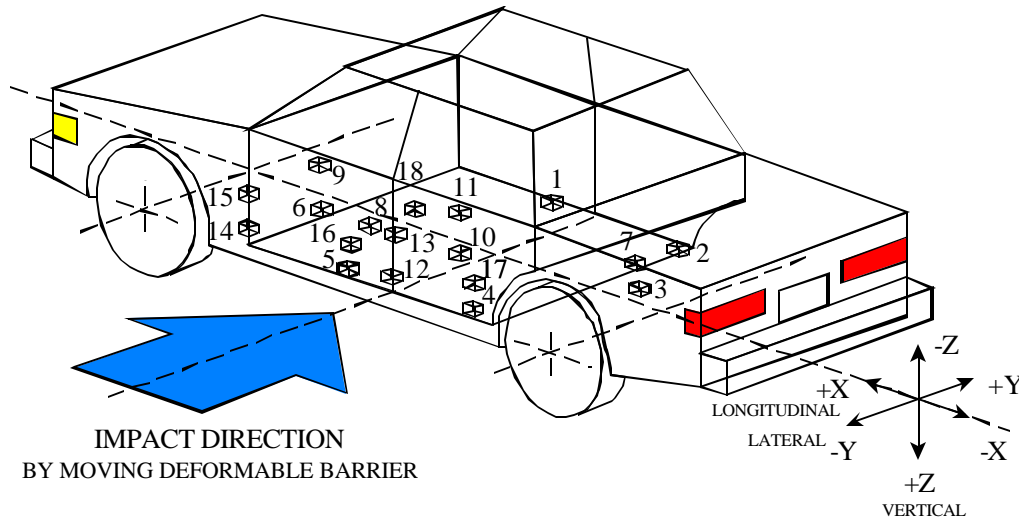
*Heights measured above ground level.

DATA SHEET 13

TEST VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 2003 Nissan Murano MPV

NHTSA No. C35200



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

DATA SHEET 13 (continued)

VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 2003 Nissan Murano MPV

NHTSA No. C35200

Accel. No.	Location	Coordinates (mm)±3 mm				Long. (x)		Lat. (y)		Vert. (z)		Resultant	
		X*	Y*	Z*		Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)
1	Right Side Sill at Front Seat	3060	718	-438	pos.	3.5	55.7	25.0	7.4	5.8	78.6	27.0	7.7
					neg.	-5.5	9.4	-2.2	152.9	-10.6	9.0	0.0	-14.2
2	Right Side Sill at Rear Seat	2006	672	-372	pos.	3.4	56.1	24.7	7.3	5.5	103.3	25.1	7.2
					neg.	-4.5	9.3	-2.2	152.9	-8.0	17.4	0.0	-18.3
3	Rear Floorpan Above Axle	1439	19	-600	pos.	3.8	63.7	24.2	6.4	9.9	9.2	25.4	6.3
					neg.	-8.2	5.2	-2.0	84.2	-7.4	14.4	0.0	-19.9
4	Left Side Sill at Rear Seat	2024	-714	-348	pos.	-	-	142.3	5.6	-	-	-	-
					neg.	-	-	-22.9	17.6	-	-	-	-
5	Left Side Sill at Front Seat	3086	-663	-386	pos.	-	-	109.6	5.8	-	-	-	-
					neg.	-	-	-18.5	11.0	-	-	-	-
6	Left Front Door on Centerline	-	-	-	pos.	-	-	**	**	-	-	-	-
					neg.	-	-	**	**	-	-	-	-
7	Right Rear Occupant Compartment	2009	394	-343	pos.	-	-	24.2	6.6	-	-	-	-
					neg.	-	-	-2.3	100.2	-	-	-	-
8	Midrear of Left Front Door	-	-	-	pos.	-	-	**	**	-	-	-	-
					neg.	-	-	**	**	-	-	-	-
9	Left Front Door Upper Centerline	-	-	-	pos.	-	-	**	**	-	-	-	-
					neg.	-	-	**	**	-	-	-	-
10	Midrear of Left Rear Door	-	-	-	Pos.	-	-	**	**	-	-	-	-
					neg.	-	-	**	**	-	-	-	-
11	Left Rear Door Upper Centerline	-	-	-	pos.	-	-	**	**	-	-	-	-
					neg.	-	-	**	**	-	-	-	-

*Reference: X - Rear Bumper (+ Forward)

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

**Accelerometer was not requested by COTR.

4-11

8675-F214-05

DATA SHEET 13 (continued)

VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 2003 Nissan Murano MPV

NHTSA No. C35200

Accel. No.	Location	Coordinates (mm)±3 mm				Long. (x)		Lat. (y)		Vert. (z)		Resultant	
		X*	Y*	Z*		Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)
12	Left Lower B-Pillar	2195	-703	-436	pos.	-	-	167.3	6.7	-	-	-	-
					neg.	-	-	-217.2	20.8	-	-	-	-
13	Left Middle B-Pillar	2106	-741	-1156	pos.	-	-	130.6	10.5	-	-	-	-
					neg.	-	-	-42.0	17.0	-	-	-	-
14	Left Lower A-Pillar	3317	-712	-470	pos.	-	-	57.3	5.9	-	-	-	-
					neg.	-	-	-16.5	33.5	-	-	-	-
15	Left Middle A-Pillar	3261	-695	-1128	pos.	-	-	31.2	11.6	-	-	-	-
					neg.	-	-	-8.7	30.2	-	-	-	-
16	Front Seat Track	2278	-611	-325	pos.	-	-	§	§	-	-	-	-
					neg.	-	-	§	§	-	-	-	-
17	Rear Seat Track	1770	-489	-388	pos.	-	-	38.3	26.3	-	-	-	-
					neg.	-	-	-13.4	33.8	-	-	-	-
18	Vehicle CG	2649	30	-601	pos.	10.9	16.2	92.9	25.1	21.6	21.2	92.9	25.1
					neg.	-22.2	34.2	-15.6	32.4	-23.0	38.1	0.0	-10.7

*Reference: X - Rear Bumper (+ Forward)

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

§ - Data is Clipped

4-12

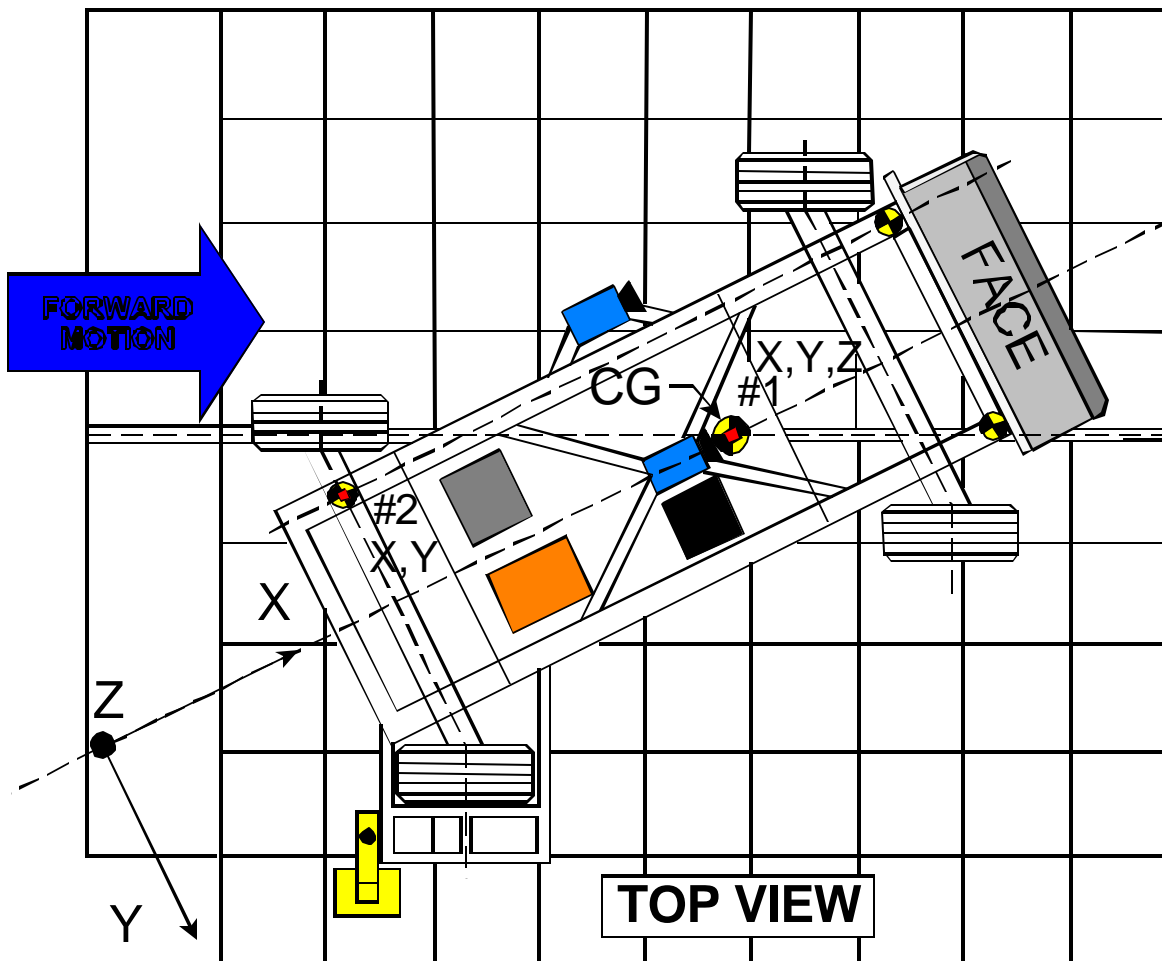
8675-F214-05

DATA SHEET 14

MDB ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 2003 Nissan Murano MPV

NHTSA No. C35200



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	1.1	100.2	-18.4	41.0
	Lateral..... Y				†	†	†	†
	Vertical..... Z				9.7	11.9	-13.5	16.5
	Resultant..... R				†	†	†	†
2	Rear Frame Member							
	Longitudinal... X	386	-660	-660	1.8	96.0	-20.0	25.4
	Lateral..... Y				2.2	68.4	-5.2	33.1

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

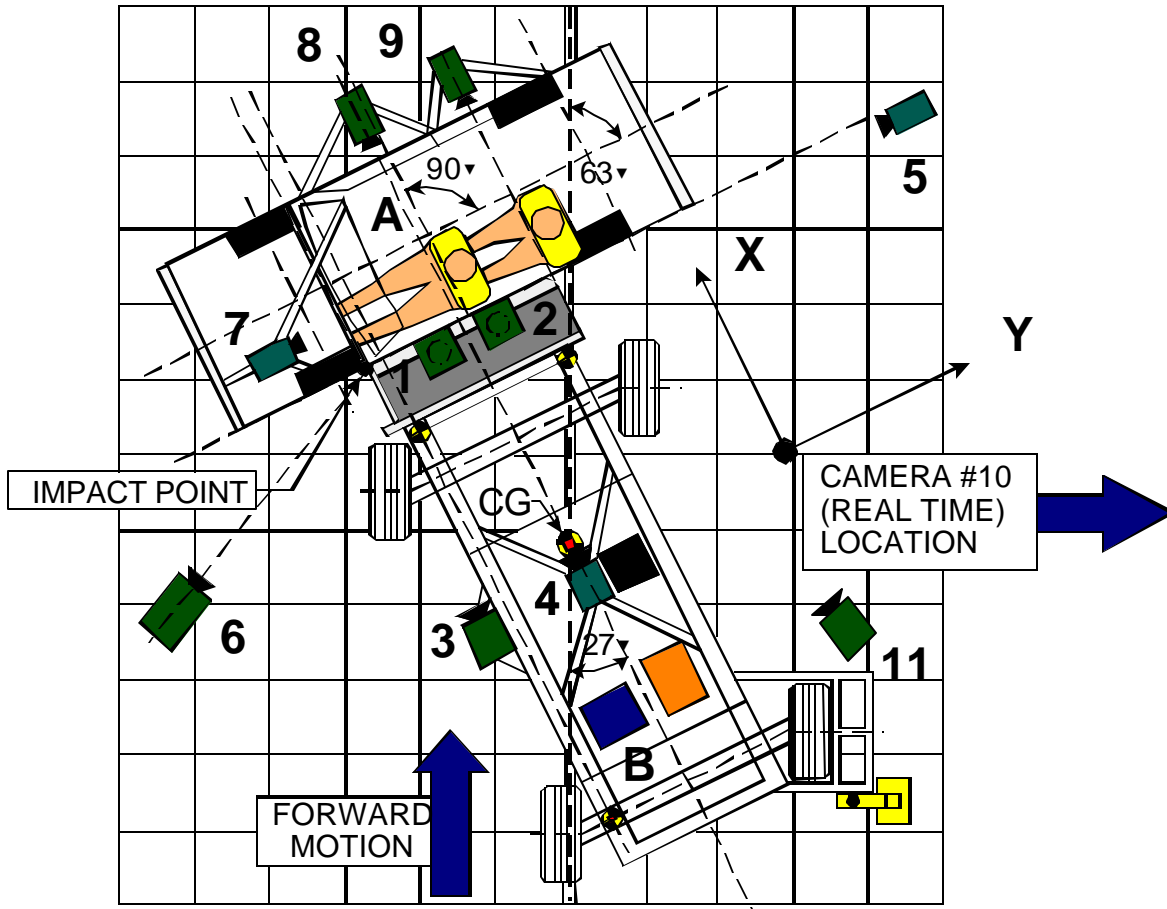
† - Data is Questionable

DATA SHEET 15

HIGH SPEED CAMERA LOCATIONS AND DATA SUMMARY

Vehicle: 2003 Nissan Murano MPV

NHTSA No. C35200



Camera No.	View	Coordinates (millimeters)			Angle (deg.)	Lens (mm)	Film Speed (fps)
		X*	Y*	Z*			
1	Overhead view of test vehicle	300	905	-4880	-90	8	1005
2	Overhead closeup view of impact plane	45	744	-4880	-90	12.5	1010
3	MDB onboard closeup view of impact point	-1470	0	-847	0	13	1010
4	MDB onboard view of driver dummy	-1140	838	-1586	-17	7.5	1020
5	Right side ground level overall view	34	9333	-1090	-3	25	1020
6	Left side ground level overall view	-1974	-1249	-1063	-5	13	1005
7	Test vehicle onboard driver front view	508	-585	-1422	-10	13	895
8	Test vehicle onboard driver side view	1901	745	-1216	-5	8	1020
9	Test vehicle onboard passenger side view	1922	1595	-1285	-8	8	1010
10	Real time film coverage of test	-	-	-	-	-	24

* 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

SECTION 5

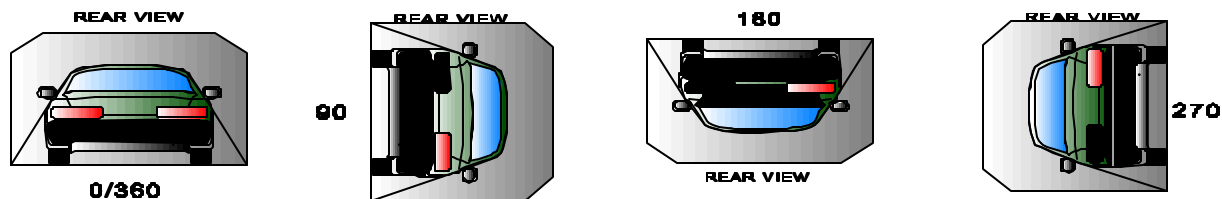
FUEL SYSTEM INTEGRITY

DATA SHEET 17

ROLLOVER DATA

Vehicle: 2003 Nissan Murano MPV

NHTSA No.: C35200



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	
	1	minutes	13	seconds	5	minutes	6	minutes	13	seconds	7	minutes
0° - 90°	1	minutes	06	seconds	5	minutes	6	minutes	6	seconds	7	minutes
90° - 180°	1	minutes	02	seconds	5	minutes	6	minutes	2	seconds	7	minutes
180°-270°	1	minutes	10	seconds	5	minutes	6	minutes	10	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	N/A
90° - 180°	0	0	0	N/A
180°-270°	0	0	0	N/A
270°-360°	0	0	0	N/A

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

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Figure A- 31	PRE-TEST LEFT OCCUPANT COMPARTMENT VIEW OF REAR SID H3	A- 33
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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



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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



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



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



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



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



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



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



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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

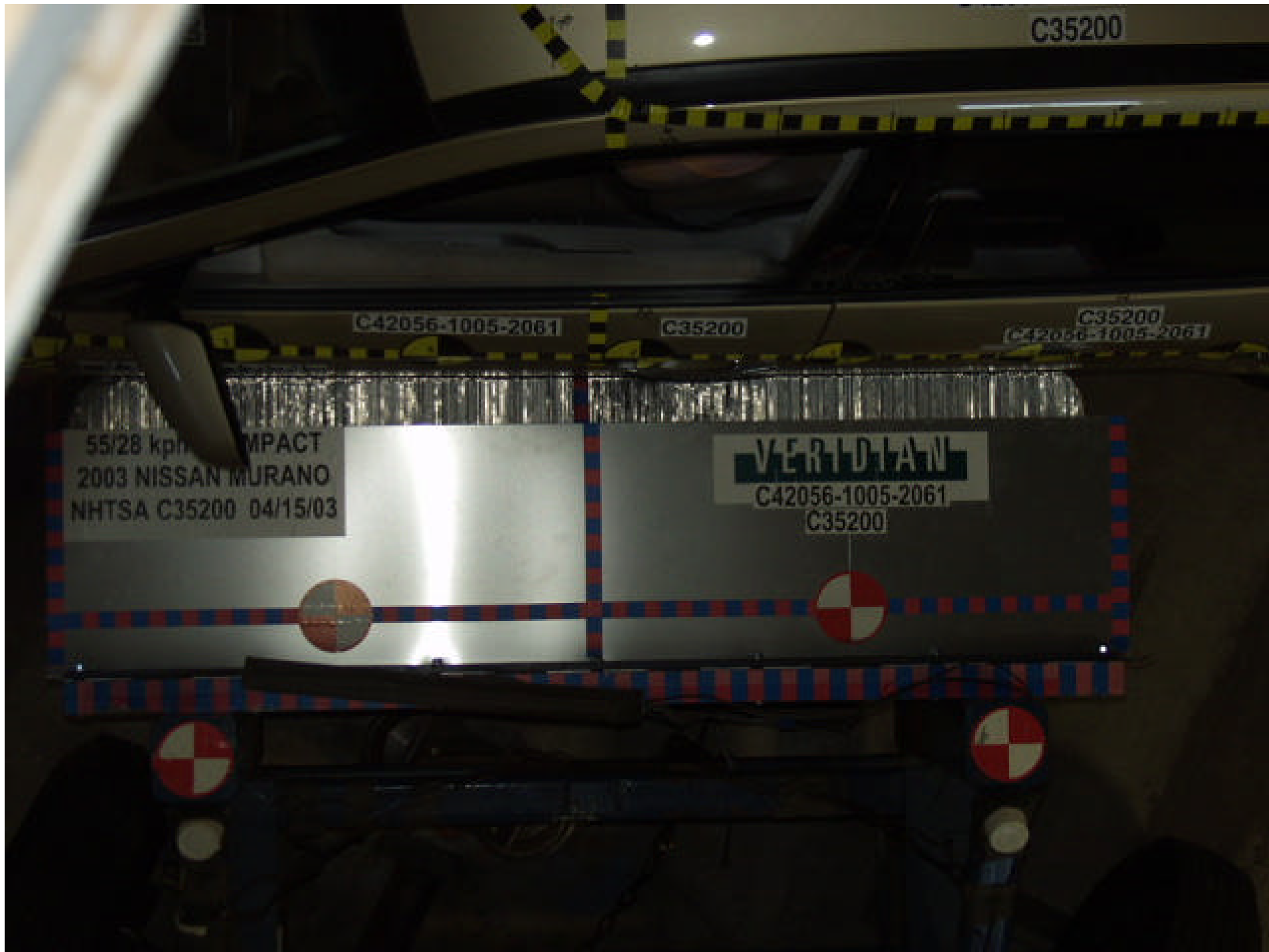


Figure A-21 PRE-TEST TOP VIEW OF IMPACTOR FACE



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



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



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



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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



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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



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Figure A-33 PRE-TEST INTERIOR OF FRONT DOOR



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



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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

MANUFACTURED BY
NISSAN MOTOR CO.,LTD.

DATE 11/02
GVWR/PNBV 4858 LBS.
GAWR/PNBE FR. 2601 LBS.
WITH P235/65R18 TIRES,
18x7½ RIMS. AT 33 PSI
COLD SINGLE
GAWR/PNBE RR. 2403 LBS.
WITH P235/65R18 TIRES,
18x7½ RIMS. AT 33 PSI
COLD SINGLE

THIS VEHICLE CONFORMS
TO ALL APPLICABLE FED-
ERAL MOTOR VEHICLE SA-
FETY AND THEFT PREVEN-
TION STANDARDS IN EFF-
ECT ON THE DATE OF MA-
NUFACTURE SHOWN ABOVE.

JN8AZ08T43W101802

MPV

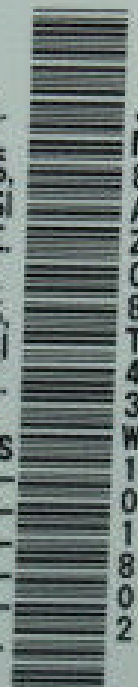


Figure A-40 CLOSE-UP VIEW OF VEHICLE'S CERTIFICATION LABEL



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

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

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>
36	PASSENGER HEAD 9 ARRAY X ARM (Y) ACCELERATION VS TIME	B- 42
37	PASSENGER HEAD 9 ARRAY X ARM (Y) VELOCITY VS TIME	B- 43
38	PASSENGER HEAD 9 ARRAY X ARM (Z) ACCELERATION VS TIME	B- 44
39	PASSENGER HEAD 9 ARRAY X ARM (Z) VELOCITY VS TIME	B- 45
40	PASSENGER HEAD 9 ARRAY Y ARM (X) ACCELERATION VS TIME	B- 46
41	PASSENGER HEAD 9 ARRAY Y ARM (X) VELOCITY VS TIME	B- 47
42	PASSENGER HEAD 9 ARRAY Y ARM (Z) ACCELERATION VS TIME	B- 48
43	PASSENGER HEAD 9 ARRAY Y ARM (Z) VELOCITY VS TIME	B- 49
44	PASSENGER HEAD 9 ARRAY Z ARM (X) ACCELERATION VS TIME	B- 50
45	PASSENGER HEAD 9 ARRAY Z ARM (X) VELOCITY VS TIME	B- 51
46	PASSENGER HEAD 9 ARRAY Z ARM (Y) ACCELERATION VS TIME	B- 52
47	PASSENGER HEAD 9 ARRAY Z ARM (Y) VELOCITY VS TIME	B- 53
48	PASSENGER HEAD (X) ACCELERATION VS TIME	B- 54
49	PASSENGER HEAD (X) VELOCITY VS TIME	B- 55
50	PASSENGER HEAD (Y) ACCELERATION VS TIME	B- 56
51	PASSENGER HEAD (Y) VELOCITY VS TIME	B- 57
52	PASSENGER HEAD (Z) ACCELERATION VS TIME	B- 58
53	PASSENGER HEAD (Z) VELOCITY VS TIME	B- 59
54	PASSENGER HEAD RESULTANT ACCELERATION VS TIME	B- 60
55	DRIVER UPPER NECK (X) FORCE VS TIME	B- 61
56	DRIVER UPPER NECK (Y) FORCE VS TIME	B- 62
57	DRIVER UPPER NECK (Z) FORCE VS TIME	B- 63
58	DRIVER UPPER NECK RESULTANT FORCE VS TIME	B- 64
59	DRIVER UPPER NECK (X) MOMENT VS TIME	B- 65
60	DRIVER UPPER NECK (Y) MOMENT VS TIME	B- 66
61	DRIVER UPPER NECK (Z) MOMENT VS TIME	B- 67
62	DRIVER UPPER NECK RESULTANT MOMENT VS TIME	B- 68
63	PASSENGER UPPER RIB (Y) ACCELERATION VS TIME	B- 69
64	PASSENGER UPPER RIB (Y) VELOCITY VS TIME	B- 70
65	PASSENGER LOWER RIB (Y) ACCELERATION VS TIME	B- 71
66	PASSENGER LOWER RIB (Y) VELOCITY VS TIME	B- 72
67	PASSENGER LOWER SPINE (Y) ACCELERATION VS TIME	B- 73
68	PASSENGER LOWER SPINE (Y) VELOCITY VS TIME	B- 74
69	PASSENGER PELVIC (Y) ACCELERATION VS TIME	B- 75
70	PASSENGER PELVIC (Y) VELOCITY VS TIME	B- 76

DRIVER & PASSENGER DUMMY INSTRUMENTATION PLOTS
 ACCELERATION DATA - FIR FILTERED

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
71	DRIVER UPPER RIB (Y) ACCELERATION VS TIME	B- 77
72	DRIVER LOWER RIB (Y) ACCELERATION VS TIME	B- 78
73	DRIVER LOWER SPINE (Y) ACCELERATION VS TIME	B- 79
74	DRIVER PELVIC (Y) ACCELERATION VS TIME	B- 80
75	PASSENGER UPPER RIB (Y) ACCELERATION VS TIME	B- 81
76	PASSENGER LOWER RIB (Y) ACCELERATION VS TIME	B- 82
77	PASSENGER LOWER SPINE (Y) ACCELERATION VS TIME	B- 83
78	PASSENGER PELVIC (Y) ACCELERATION VS TIME	B- 84

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>
79	RIGHT SIDE SILL AT FRONT SEAT (X) ACCELERATION VS TIME	B- 85
80	RIGHT SIDE SILL AT FRONT SEAT (X) VELOCITY VS TIME	B- 86
81	RIGHT SIDE SILL AT FRONT SEAT (Y) ACCELERATION VS TIME	B- 87
82	RIGHT SIDE SILL AT FRONT SEAT (Y) VELOCITY VS TIME	B- 88
83	RIGHT SIDE SILL AT FRONT SEAT (Z) ACCELERATION VS TIME	B- 89
84	RIGHT SIDE SILL AT FRONT SEAT (Z) VELOCITY VS TIME	B- 90
85	RIGHT SIDE SILL AT FRONT SEAT RESULTANT ACCELERATION VS TIME	B- 91
86	RIGHT SIDE SILL AT REAR SEAT (X) ACCELERATION VS TIME	B- 92
87	RIGHT SIDE SILL AT REAR SEAT (X) VELOCITY VS TIME	B- 93
88	RIGHT SIDE SILL AT REAR SEAT (Y) ACCELERATION VS TIME	B- 94
89	RIGHT SIDE SILL AT REAR SEAT (Y) VELOCITY VS TIME	B- 95
90	RIGHT SIDE SILL AT REAR SEAT (Z) ACCELERATION VS TIME	B- 96
91	RIGHT SIDE SILL AT REAR SEAT (Z) VELOCITY VS TIME	B- 97
92	RIGHT SIDE SILL AT REAR SEAT RESULTANT ACCELERATION VS TIME	B- 98
93	REAR FLOORPAN ABOVE AXLE (X) ACCELERATION VS TIME	B- 99
94	REAR FLOORPAN ABOVE AXLE (X) VELOCITY VS TIME	B- 100
95	REAR FLOORPAN ABOVE AXLE (Y) ACCELERATION VS TIME	B- 101
96	REAR FLOORPAN ABOVE AXLE (Y) VELOCITY VS TIME	B- 102
97	REAR FLOORPAN ABOVE AXLE (Z) ACCELERATION VS TIME	B- 103
98	REAR FLOORPAN ABOVE AXLE (Z) VELOCITY VS TIME	B- 104
99	REAR FLOORPAN ABOVE AXLE RESULTANT ACCELERATION VS TIME	B- 105
100	LEFT SIDE SILL AT REAR SEAT (Y) ACCELERATION VS TIME	B- 106
101	LEFT SIDE SILL AT REAR SEAT (Y) VELOCITY VS TIME	B- 107
102	LEFT SIDE SILL AT FRONT SEAT (Y) ACCELERATION VS TIME	B- 108
103	LEFT SIDE SILL AT FRONT SEAT (Y) VELOCITY VS TIME	B- 109
104	RIGHT REAR OCCUPANT COMPARTMENT (Y) ACCELERATION VS TIME	B- 110
105	RIGHT REAR OCCUPANT COMPARTMENT (Y) VELOCITY VS TIME	B- 111
106	LOWER B-POST (Y) ACCELERATION VS TIME	B- 112
107	LOWER B-POST (Y) VELOCITY VS TIME	B- 113
108	UPPER B-POST (Y) ACCELERATION VS TIME	B- 114
109	UPPER B-POST (Y) VELOCITY VS TIME	B- 115
110	LOWER A-POST (Y) ACCELERATION VS TIME	B- 116
111	LOWER A-POST (Y) VELOCITY VS TIME	B- 117
112	UPPER A-POST (Y) ACCELERATION VS TIME	B- 118
113	UPPER A-POST (Y) VELOCITY VS TIME	B- 119
114	FRONT SEAT TRACK (Y) ACCELERATION VS TIME	B- 120
115	FRONT SEAT TRACK (Y) VELOCITY VS TIME	B- 121
116	REAR SEAT TRACK (Y) ACCELERATION VS TIME	B- 122
117	REAR SEAT TRACK (Y) VELOCITY VS TIME	B- 123

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>
118	VEHICLE CENTER OF GRAVITY (X) ACCELERATION VS TIME	B- 124
119	VEHICLE CENTER OF GRAVITY (X) VELOCITY VS TIME	B- 125
120	VEHICLE CENTER OF GRAVITY (Y) ACCELERATION VS TIME	B- 126
121	VEHICLE CENTER OF GRAVITY (Y) VELOCITY ACCELERATION VS TIME	B- 127
122	VEHICLE CENTER OF GRAVITY (Z) ACCELERATION VS TIME	B- 128
123	VEHICLE CENTER OF GRAVITY (Z) VELOCITY VS TIME	B- 129
124	VEHICLE CENTER OF GRAVITY RESULTANT ACCELERATION VS TIME	B- 130

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>
125	MDB CENTER OF GRAVITY (X) ACCELERATION VS TIME	B- 131
126	MDB CENTER OF GRAVITY (X) VELOCITY VS TIME	B- 132
127	MDB CENTER OF GRAVITY (Y) ACCELERATION VS TIME	B- 133
128	MDB CENTER OF GRAVITY (Y) VELOCITY VS TIME	B- 134
129	MDB CENTER OF GRAVITY (Z) ACCELERATION VS TIME	B- 135
130	MDB CENTER OF GRAVITY (Z) VELOCITY VS TIME	B- 136
131	MDB CENTER OF GRAVITY RESULTANT ACCELERATION VS TIME	B- 137
132	MDB REAR (X) ACCELERATION VS TIME	B- 138
133	MDB REAR (X) VELOCITY VS TIME	B- 139
134	MDB REAR (Y) ACCELERATION VS TIME	B- 140
135	MDB REAR (Y) VELOCITY VS TIME	B- 141

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>
136	DRIVER UPPER RIB (Y) ACCELERATION VS TIME	B- 142
137	DRIVER UPPER RIB (Y) VELOCITY VS TIME	B- 143
138	DRIVER LOWER RIB (Y) ACCELERATION VS TIME	B- 144
139	DRIVER LOWER RIB (Y) VELOCITY VS TIME	B- 145
140	DRIVER LOWER SPINE (Y) ACCELERATION VS TIME	B- 146
141	DRIVER LOWER SPINE (Y) VELOCITY VS TIME	B- 147
142	DRIVER PELVIC (Y) ACCELERATION VS TIME	B- 148
143	DRIVER PELVIC (Y) VELOCITY VS TIME	B- 149
144	PASSENGER UPPER RIB (Y) ACCELERATION VS TIME	B- 150
145	PASSENGER UPPER RIB (Y) VELOCITY VS TIME	B- 151
146	PASSENGER LOWER RIB (Y) ACCELERATION VS TIME	B- 152
147	PASSENGER LOWER RIB (Y) VELOCITY VS TIME	B- 153
148	PASSENGER LOWER SPINE (Y) ACCELERATION VS TIME	B- 154
149	PASSENGER LOWER SPINE (Y) VELOCITY VS TIME	B- 155
150	PASSENGER PELVIC (Y) ACCELERATION VS TIME	B- 156
151	PASSENGER PELVIC (Y) VELOCITY VS TIME	B- 157

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

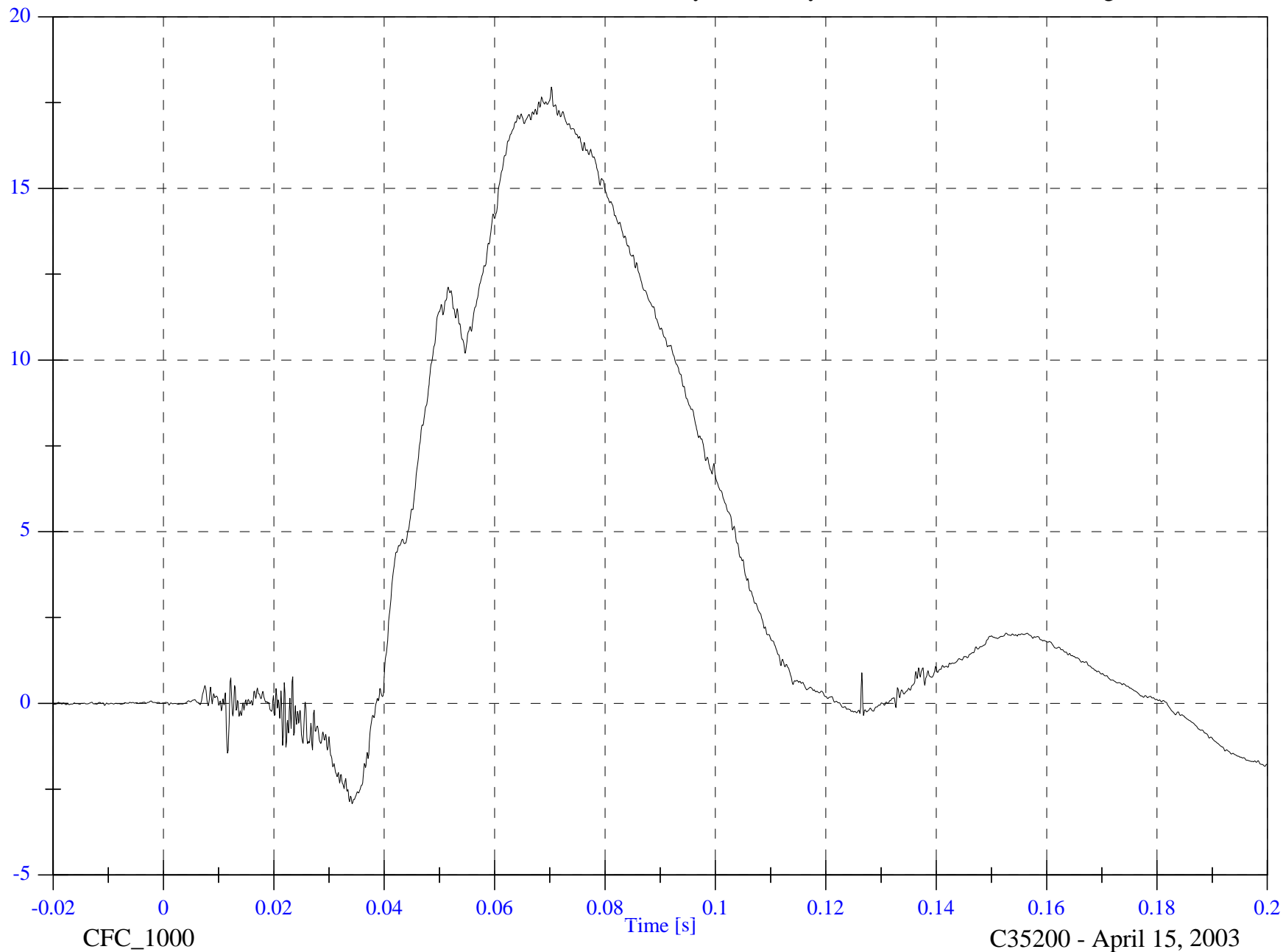
<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
152	DRIVER UPPER RIB (Y) ACCELERATION VS TIME	B- 158
153	DRIVER LOWER RIB (Y) ACCELERATION VS TIME	B- 159
154	DRIVER LOWER SPINE (Y) ACCELERATION VS TIME	B- 160
155	DRIVER PELVIC (Y) ACCELERATION VS TIME	B- 161
156	PASSENGER UPPER RIB (Y) ACCELERATION VS TIME	B- 162
157	PASSENGER LOWER RIB (Y) ACCELERATION VS TIME	B- 163
158	PASSENGER LOWER SPINE (Y) ACCELERATION VS TIME	B- 164
159	PASSENGER PELVIC (Y) ACCELERATION VS TIME	B- 165

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P1 Head 9 Array X Arm Ay

Max: 18.0 [g] at 0.070 [s]

Min: -2.9 [g] at 0.034 [s]



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8675-F214-05

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

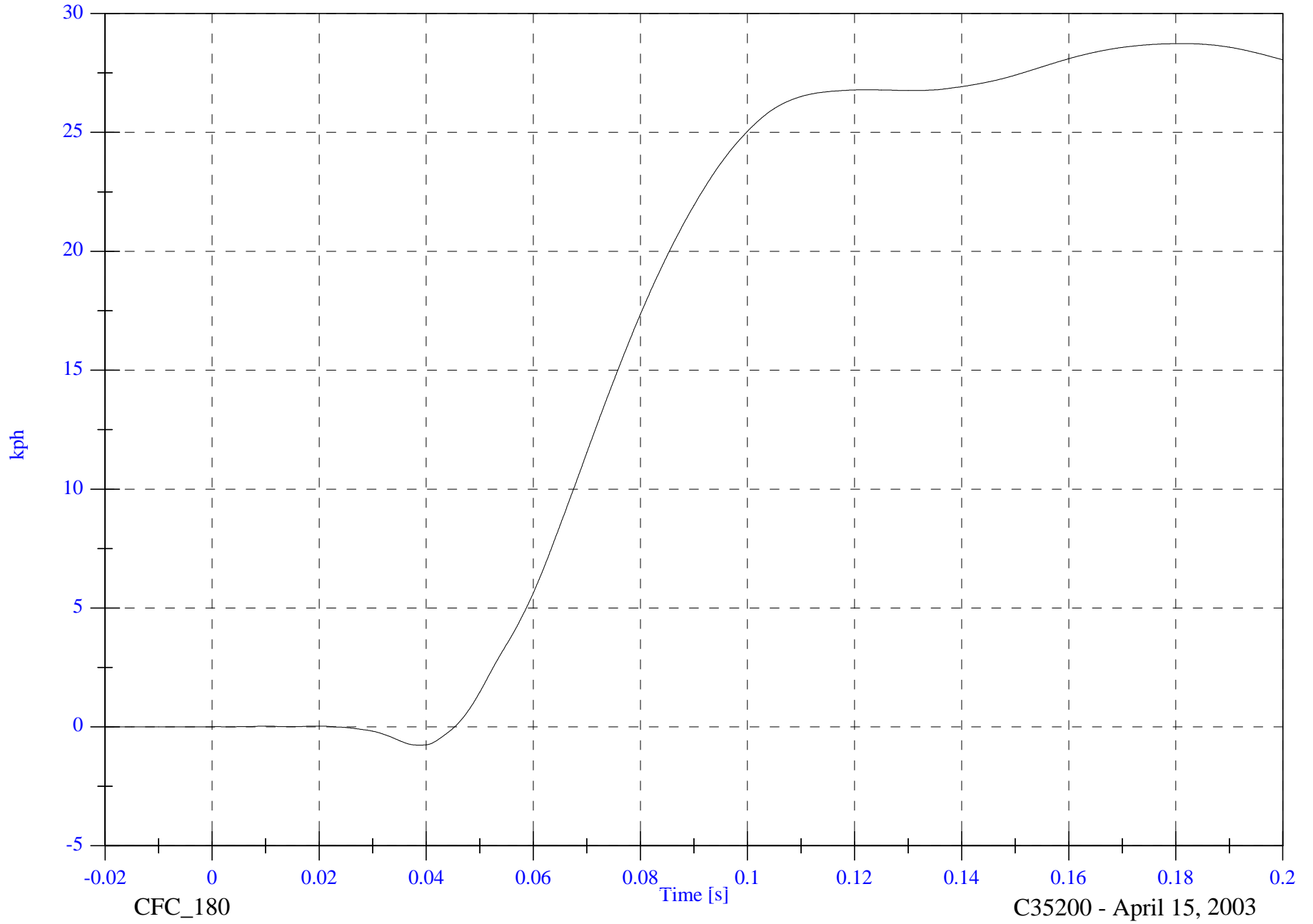
V2P1 Head 9 Array X Arm Ay Velocity

Max: 28.7 [kph] at 0.182 [s]

Min: -0.8 [kph] at 0.039 [s]

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8675-F214-05



CFC_180

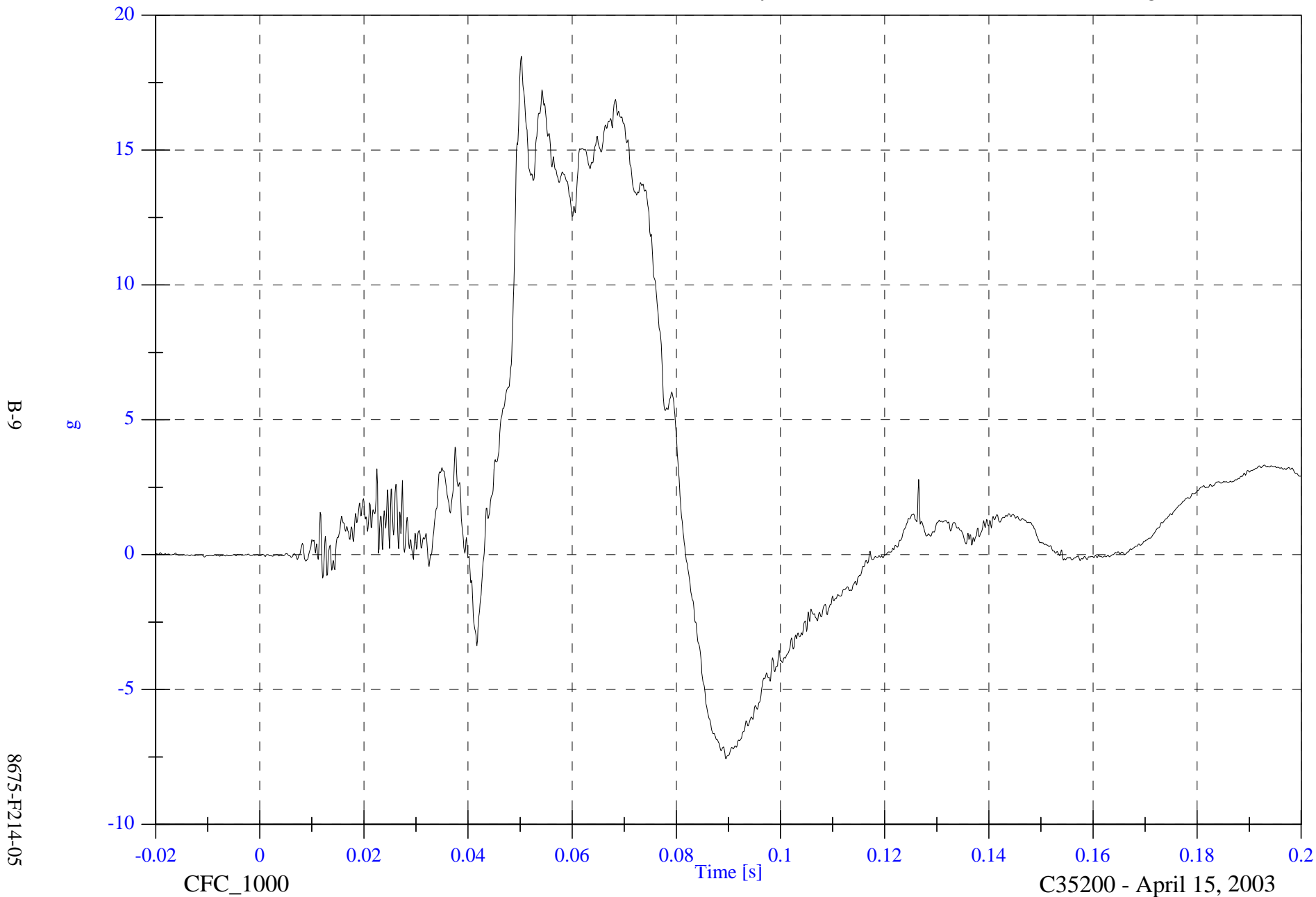
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P1 Head 9 Array X Arm Az

Max: 18.5 [g] at 0.050 [s]

Min: -7.6 [g] at 0.090 [s]

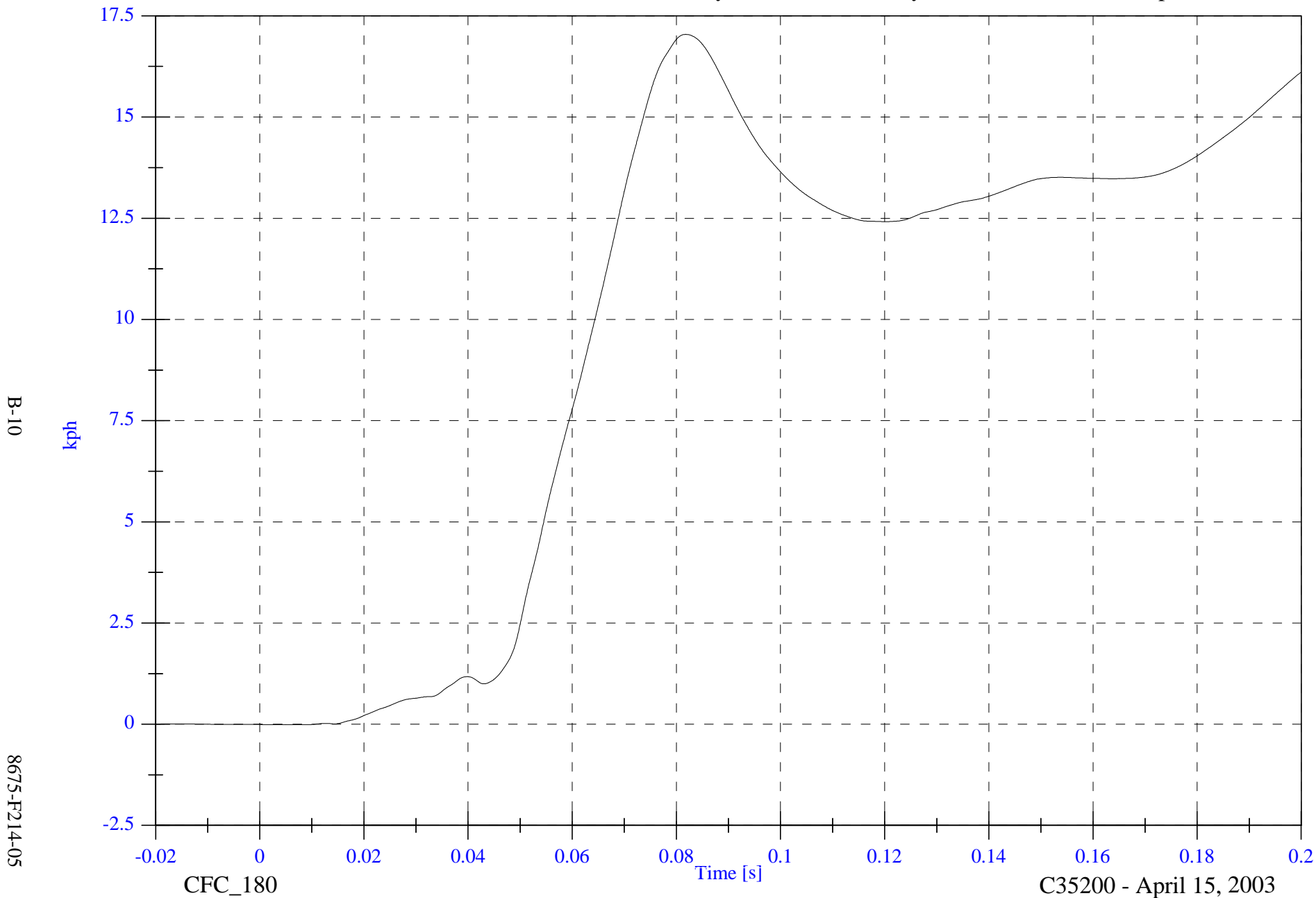


2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P1 Head 9 Array X Arm Az Velocity

Max: 17.0 [kph] at 0.082 [s]

Min: -0.0 [kph] at 0.007 [s]



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CFC_180

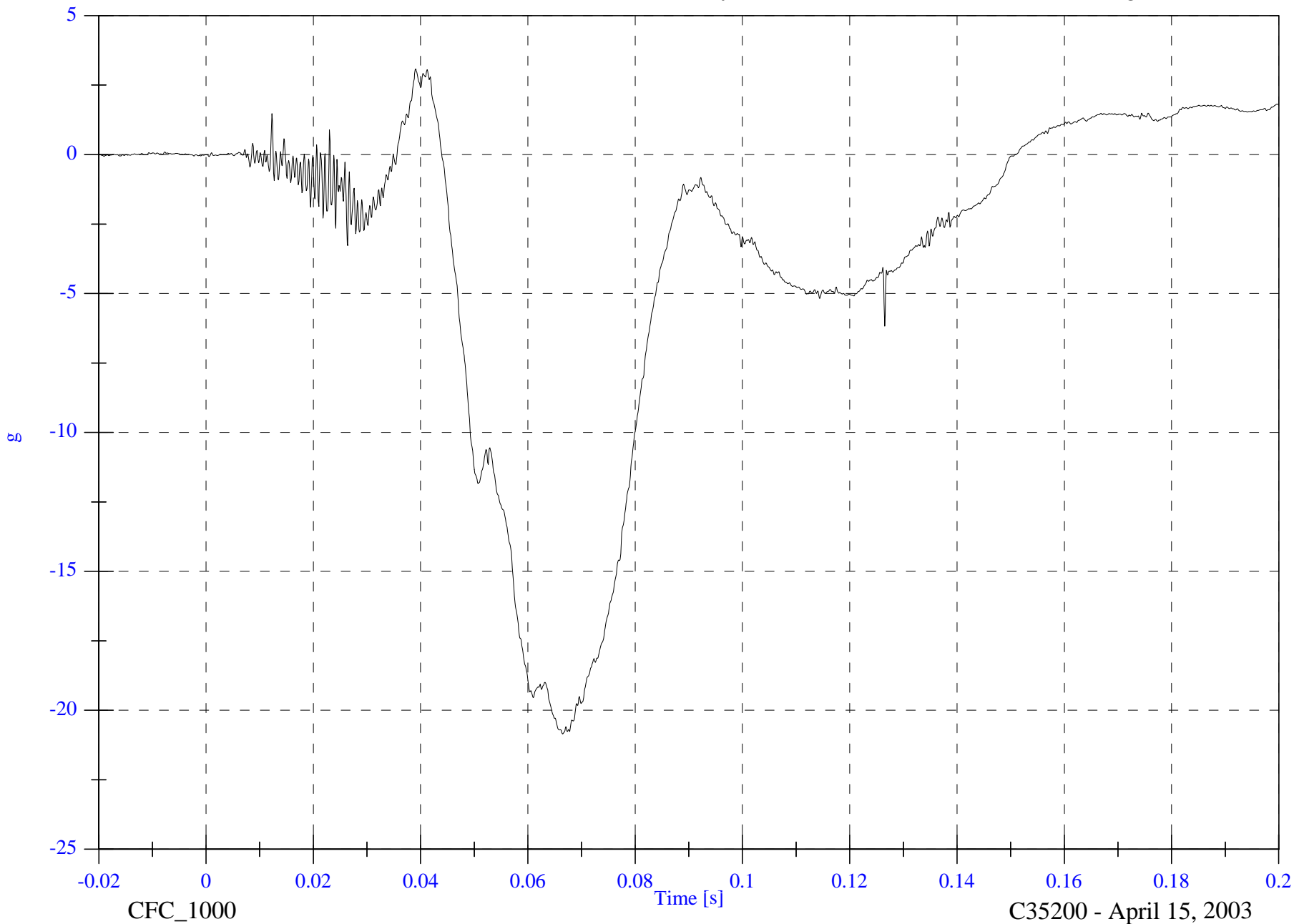
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P1 Head 9 Array Y Arm Ax

Max: 3.1 [g] at 0.039 [s]

Min: -20.9 [g] at 0.067 [s]



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CFC_1000

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

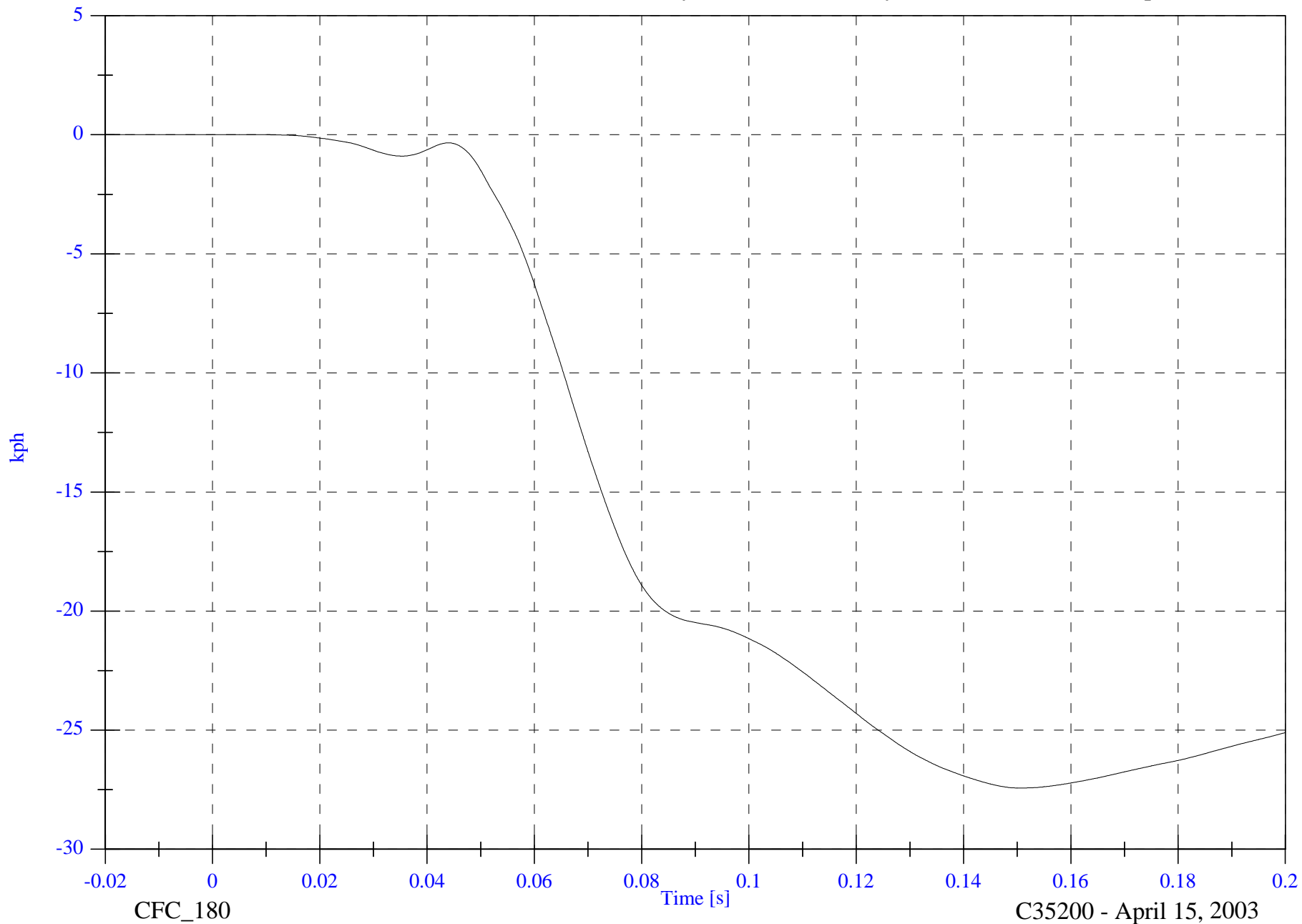
V2P1 Head 9 Array Y Arm Ax Velocity

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

Min: -27.4 [kph] at 0.151 [s]

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8675-F214-05



CFC_180

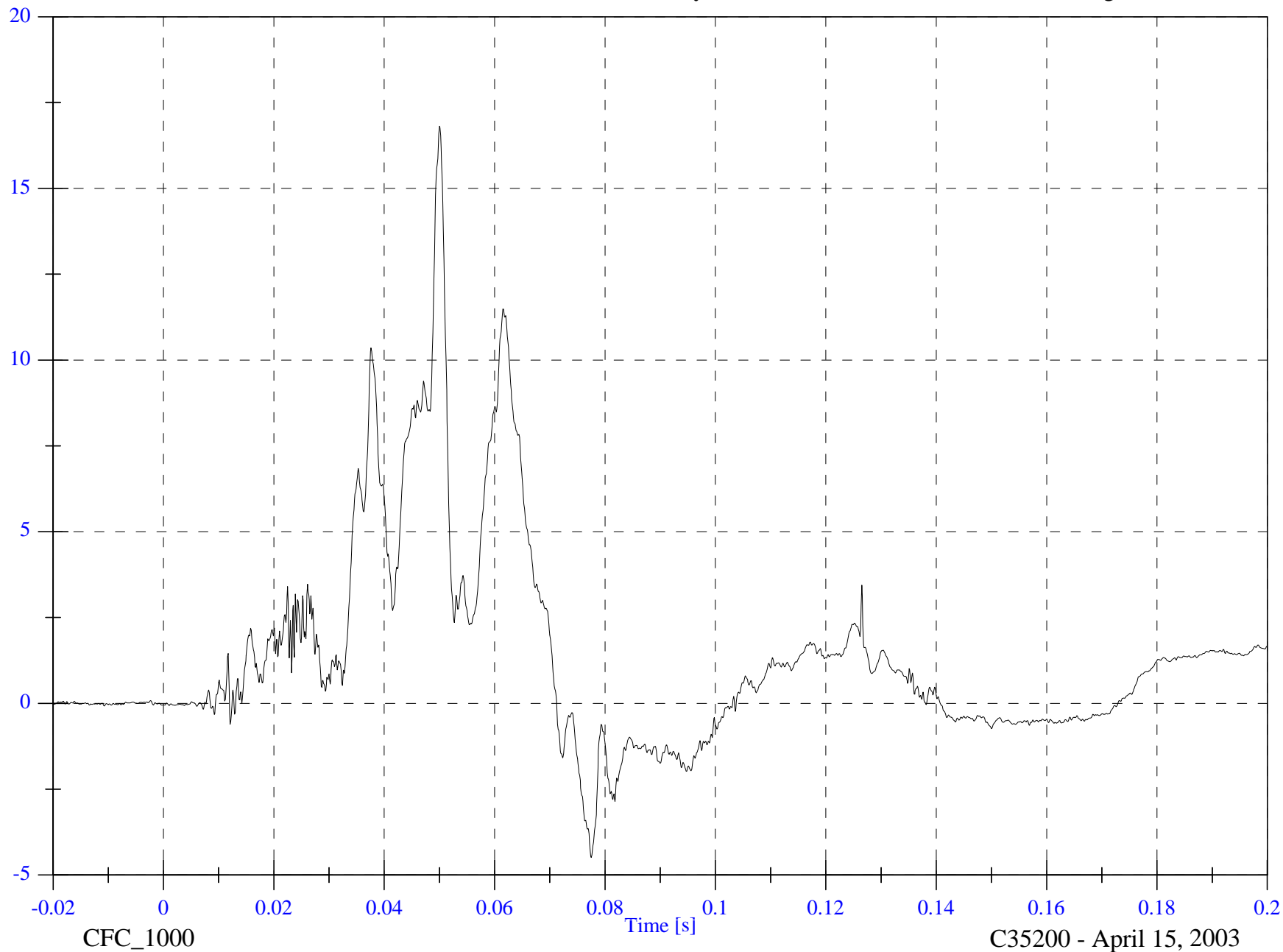
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P1 Head 9 Array Y Arm Az

Max: 16.8 [g] at 0.050 [s]

Min: -4.5 [g] at 0.077 [s]



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CFC_1000

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

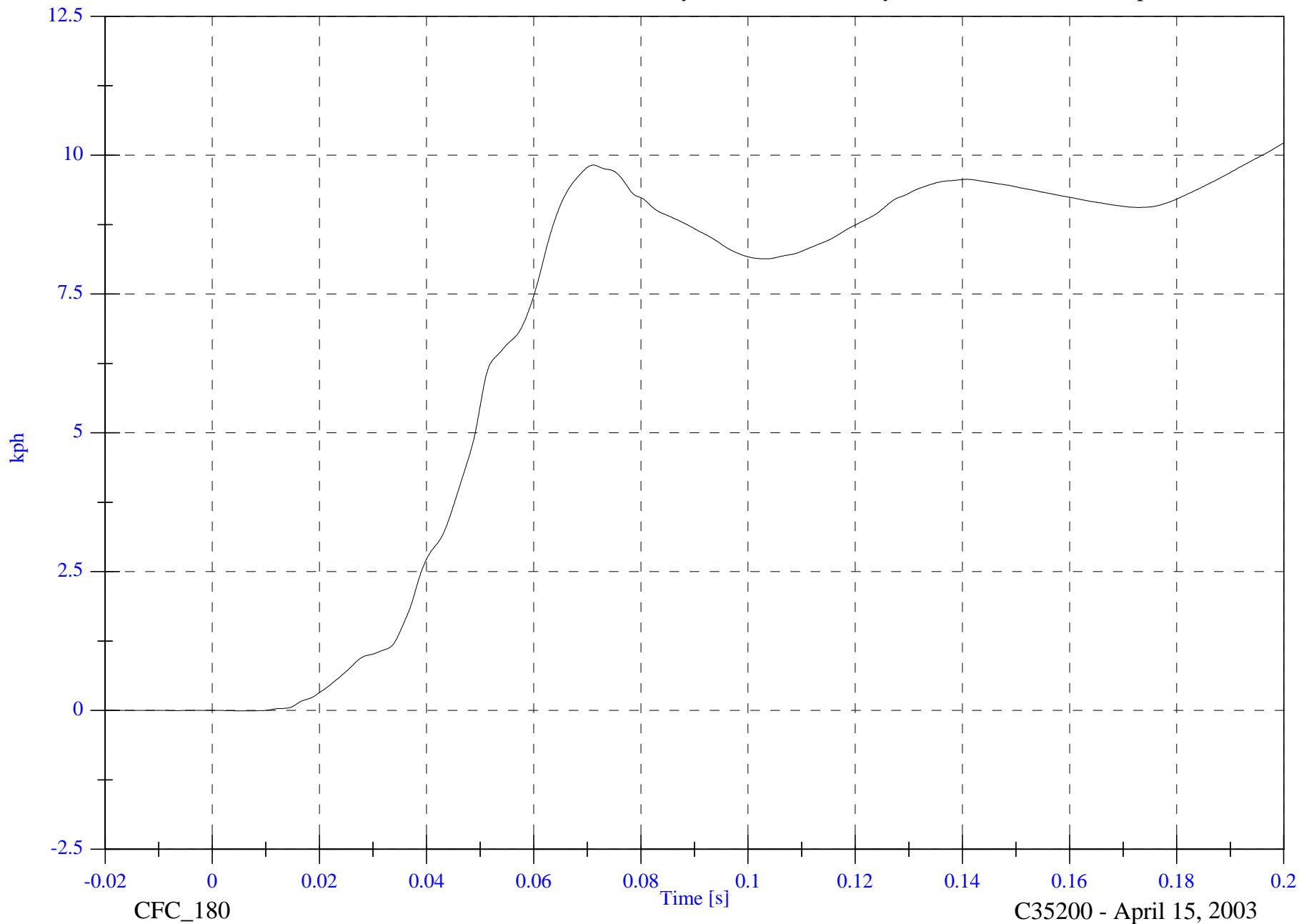
V2P1 Head 9 Array Y Arm Az Velocity

Max: 10.2 [kph] at 0.200 [s]

Min: -0.0 [kph] at 0.007 [s]

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8675-F214-05



CFC_180

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

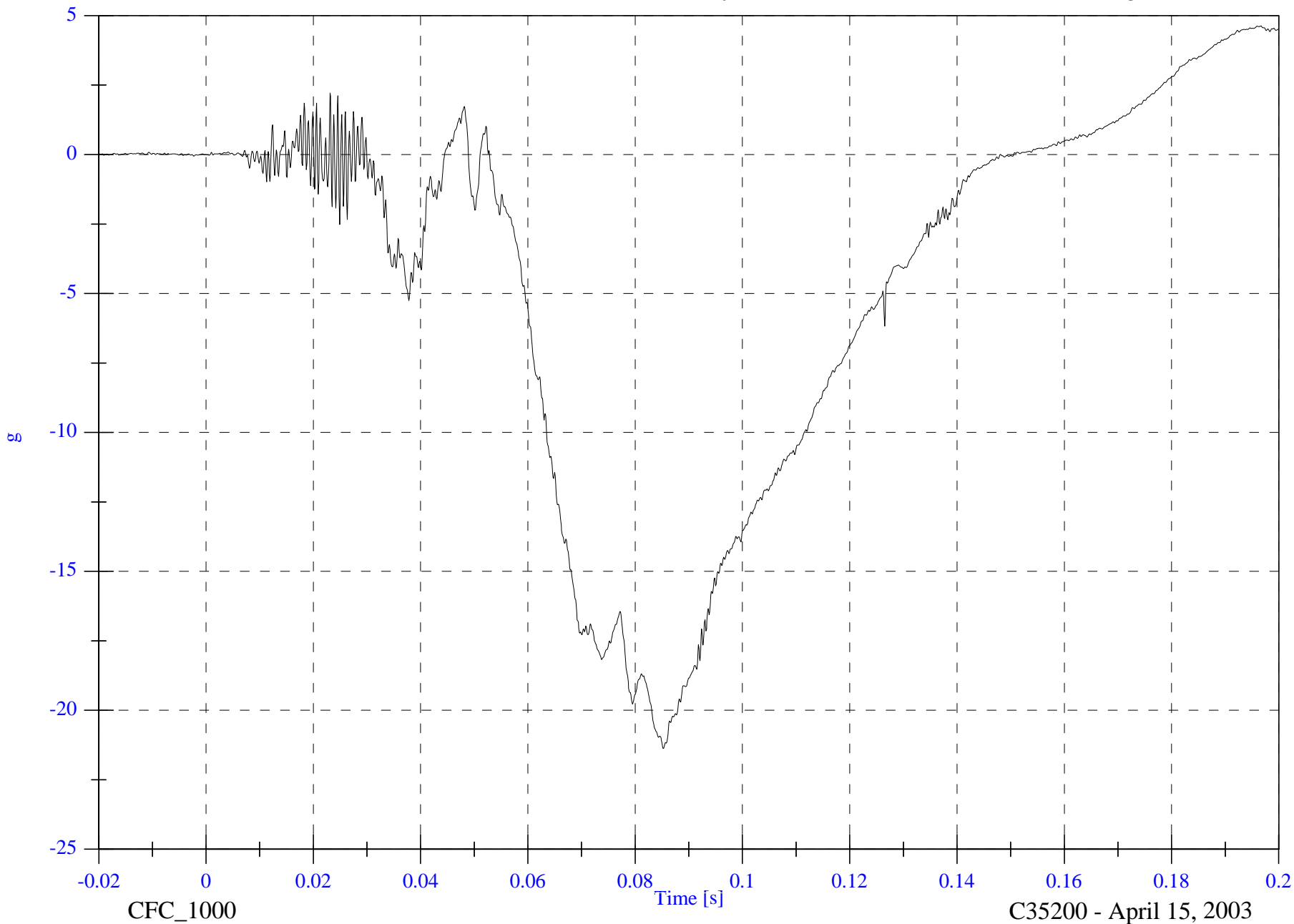
V2P1 Head 9 Array Z Arm Ax

Max: 4.6 [g] at 0.197 [s]

Min: -21.4 [g] at 0.085 [s]

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8675-F214-05



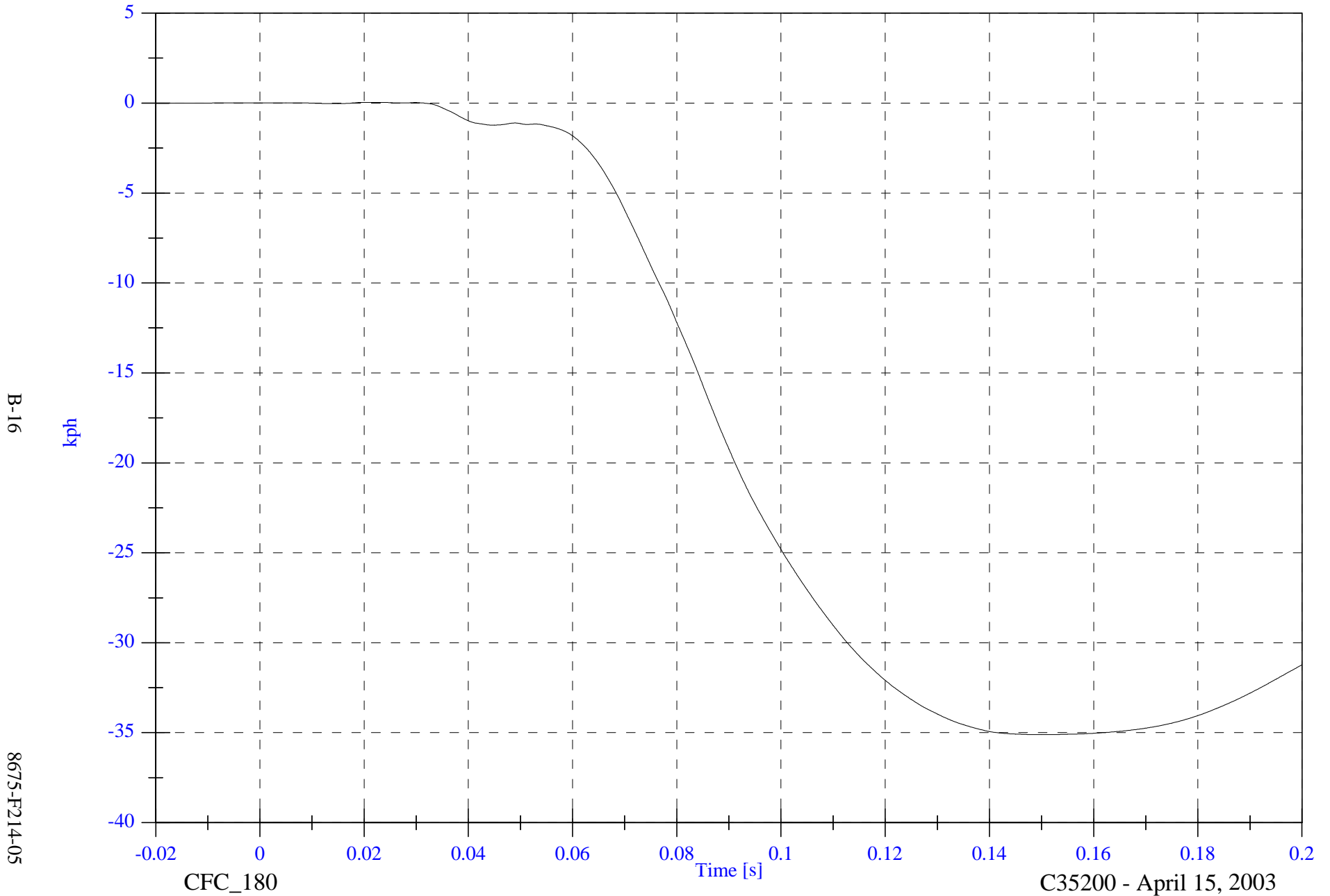
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P1 Head 9 Array Z Arm Ax Velocity

Max: 0.0 [kph] at 0.021 [s]

Min: -35.1 [kph] at 0.151 [s]



B-16

8675-F214-05

CFC_180

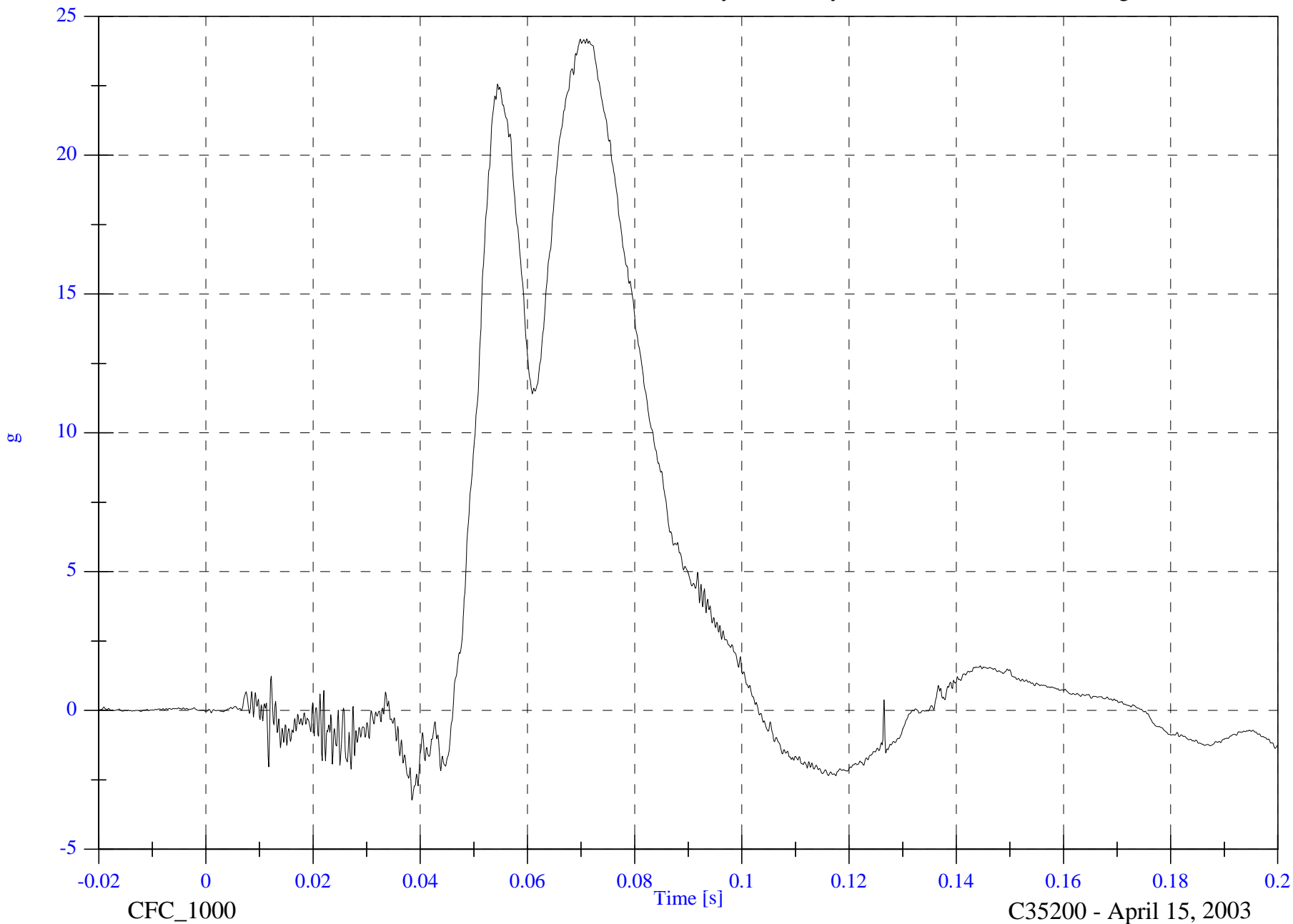
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P1 Head 9 Array Z Arm Ay

Max: 24.2 [g] at 0.071 [s]

Min: -3.2 [g] at 0.039 [s]



B-17

8675-F214-05

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

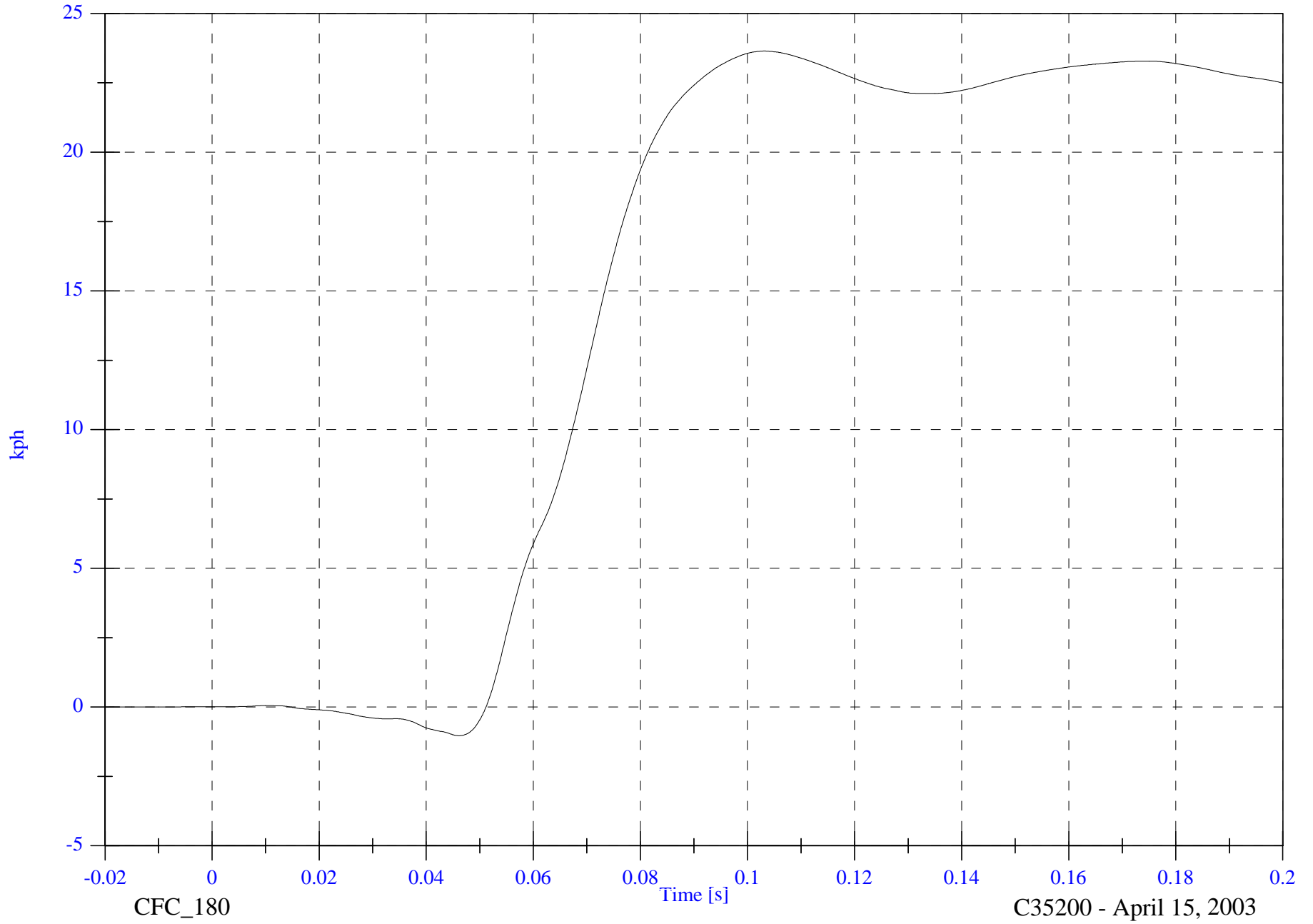
V2P1 Head 9 Array Z Arm Ay Velocity

Max: 23.6 [kph] at 0.103 [s]

Min: -1.0 [kph] at 0.046 [s]

B-18

8675-F214-05



CFC_180

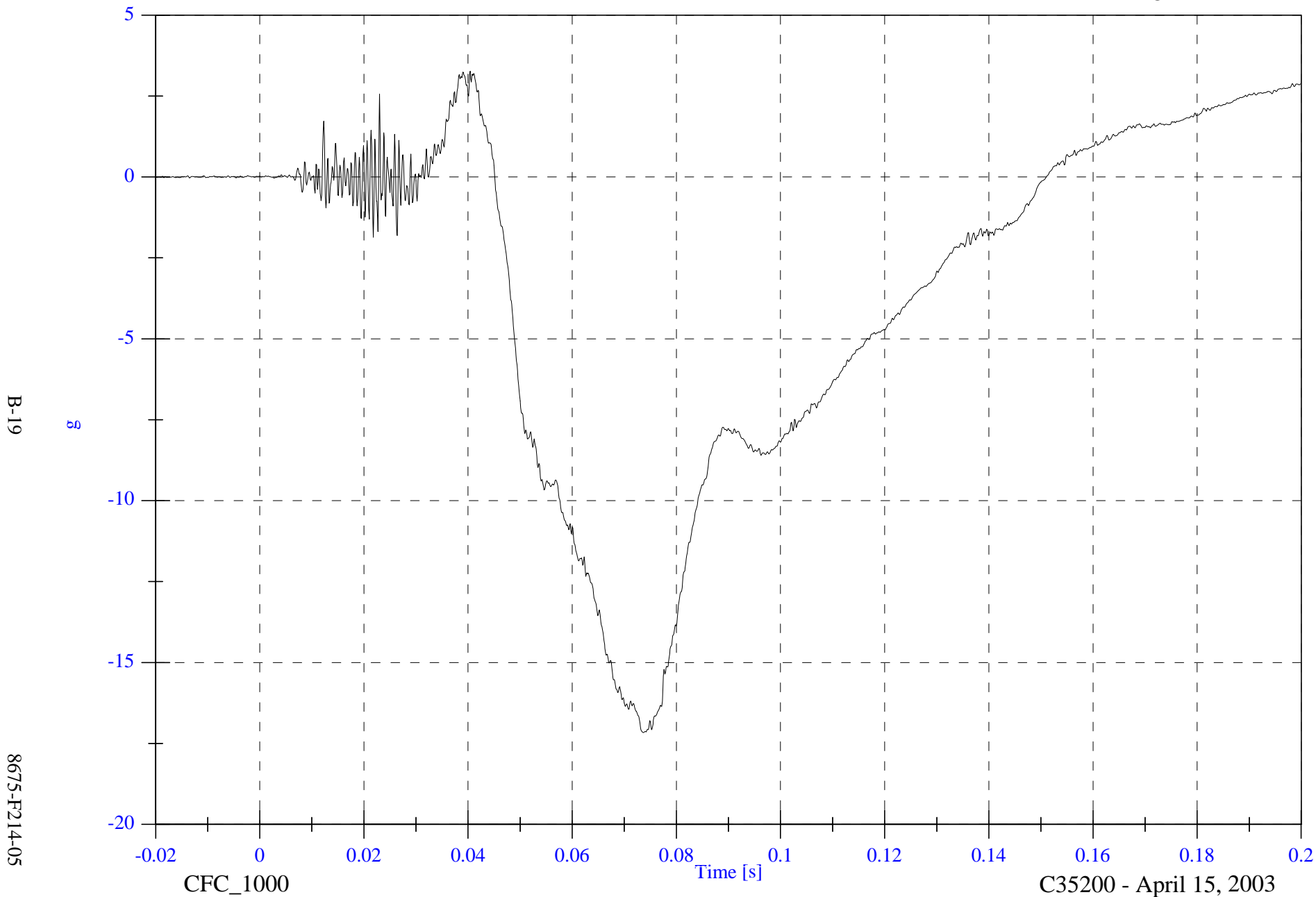
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P1 Head x

Max: 3.3 [g] at 0.040 [s]

Min: -17.2 [g] at 0.074 [s]



2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

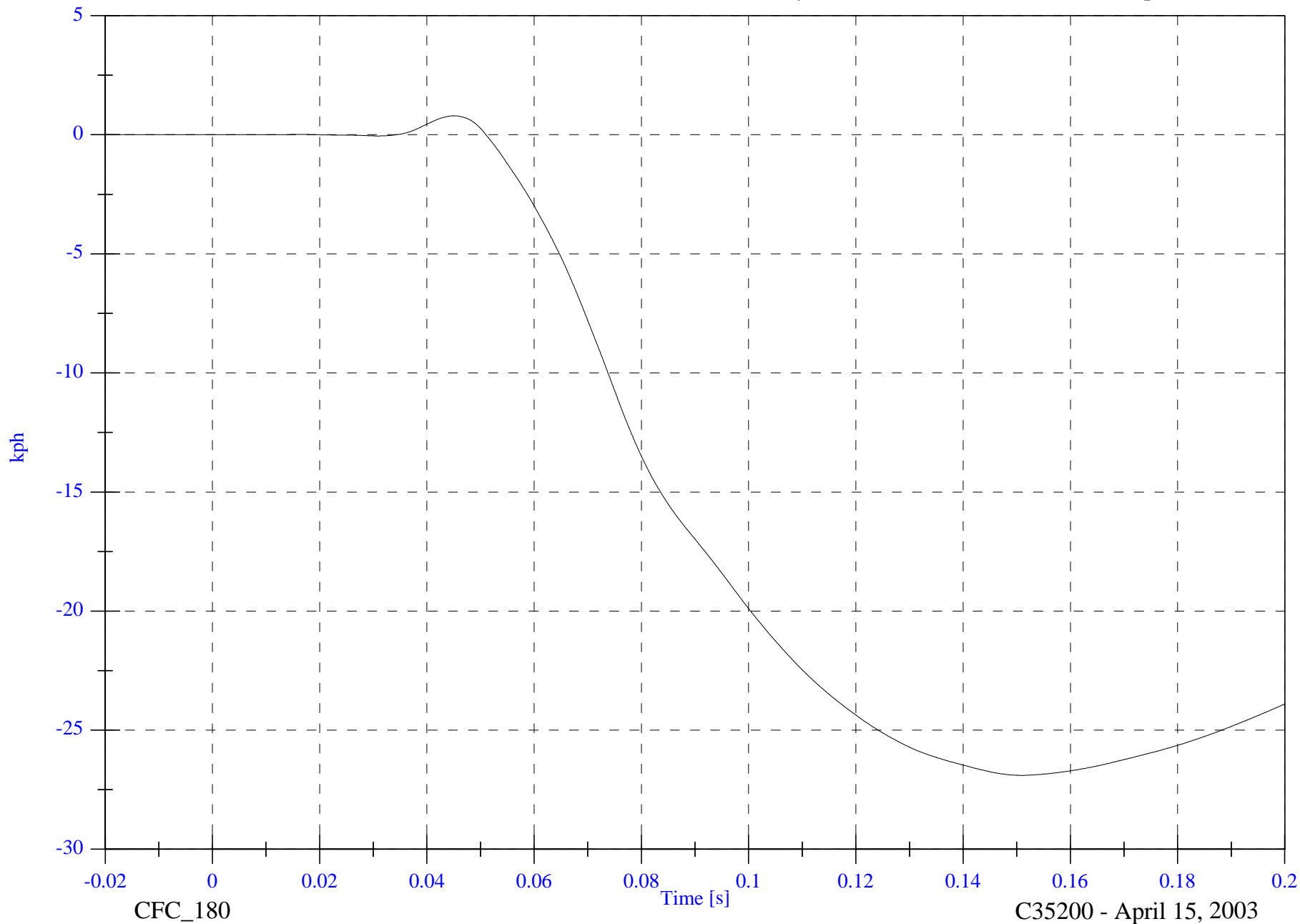
V2P1 Head x Velocity

Max: 0.8 [kph] at 0.045 [s]

Min: -26.9 [kph] at 0.151 [s]

B-20

8675-F214-05



CFC_180

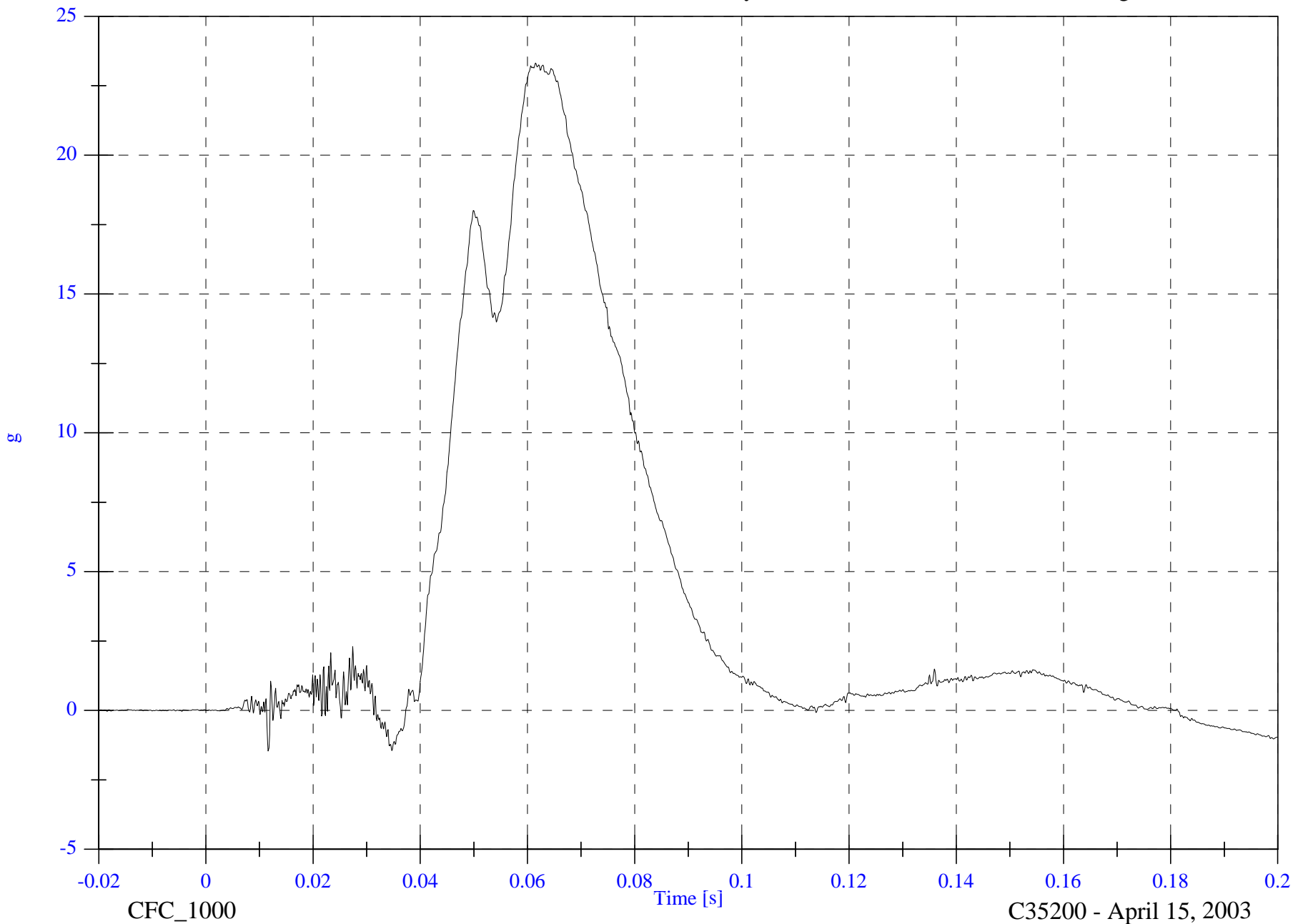
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 23.3 [g] at 0.062 [s]

V2P1 Head y

Min: -1.5 [g] at 0.012 [s]



B-21

8675-F214-05

CFC_1000

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

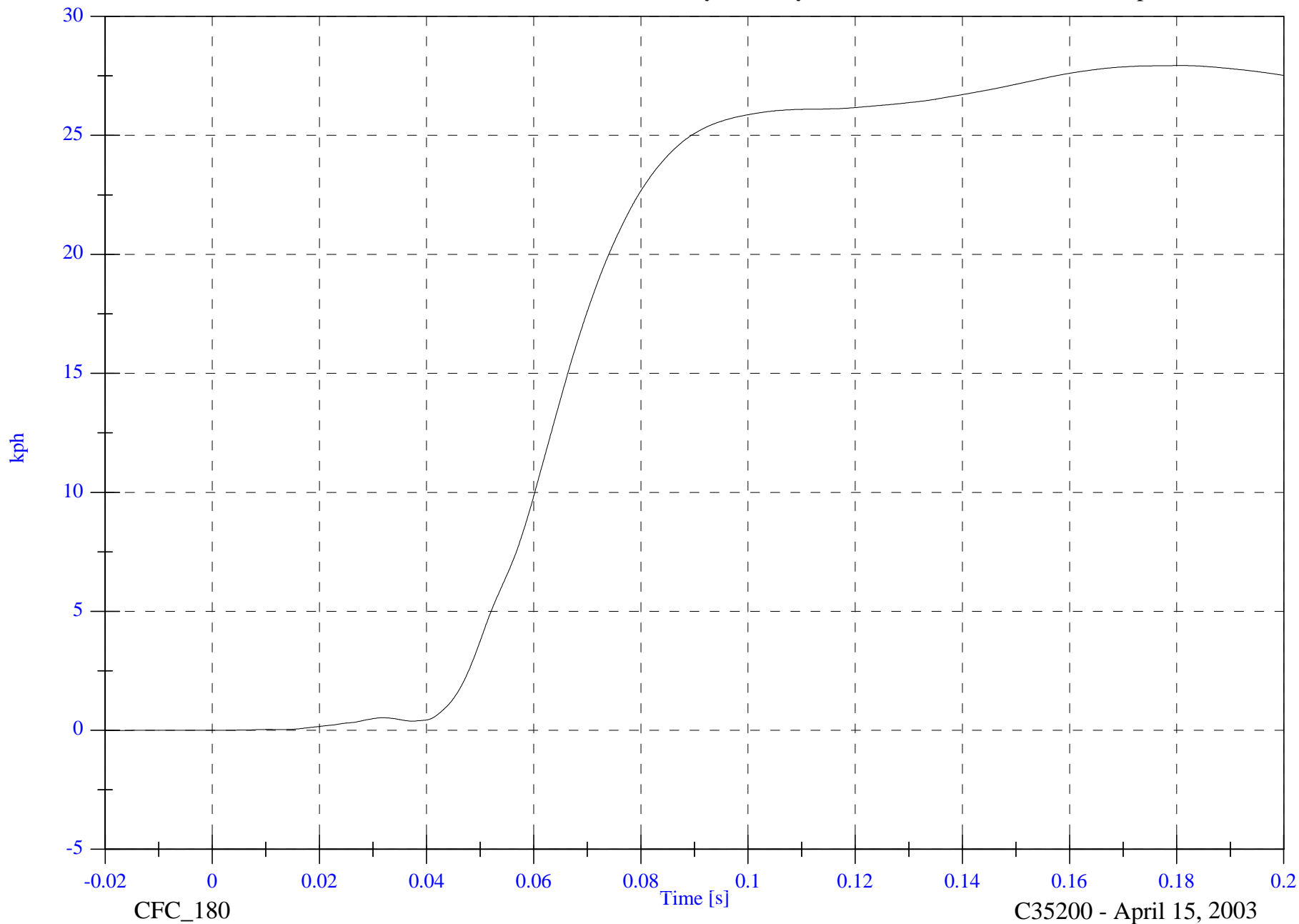
V2P1 Head y Velocity

Max: 27.9 [kph] at 0.181 [s]

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

B-22

8675-F214-05



CFC_180

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

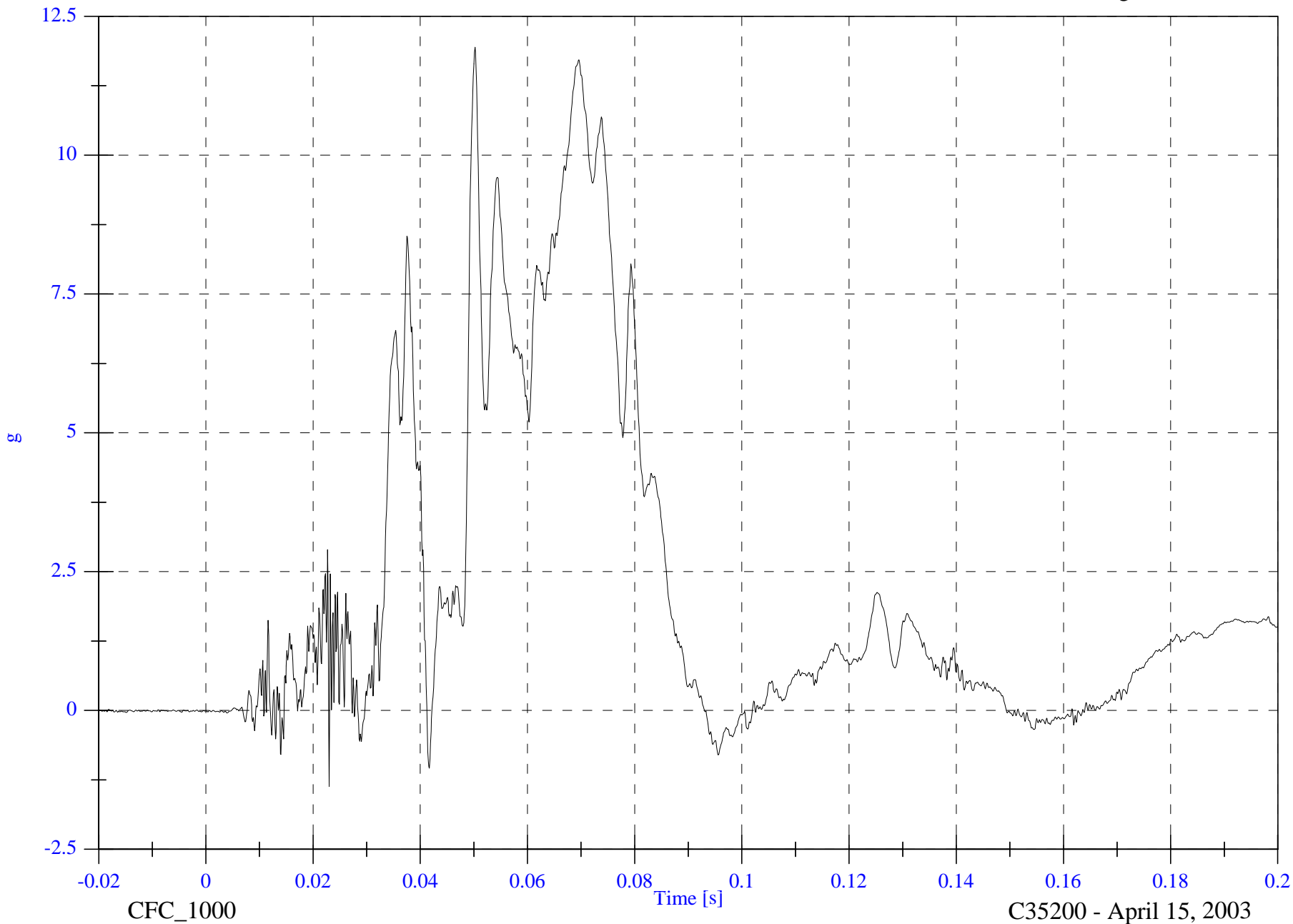
Max: 11.9 [g] at 0.050 [s]

V2P1 Head z

Min: -1.4 [g] at 0.023 [s]

B-23

8675-F214-05



CFC_1000

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

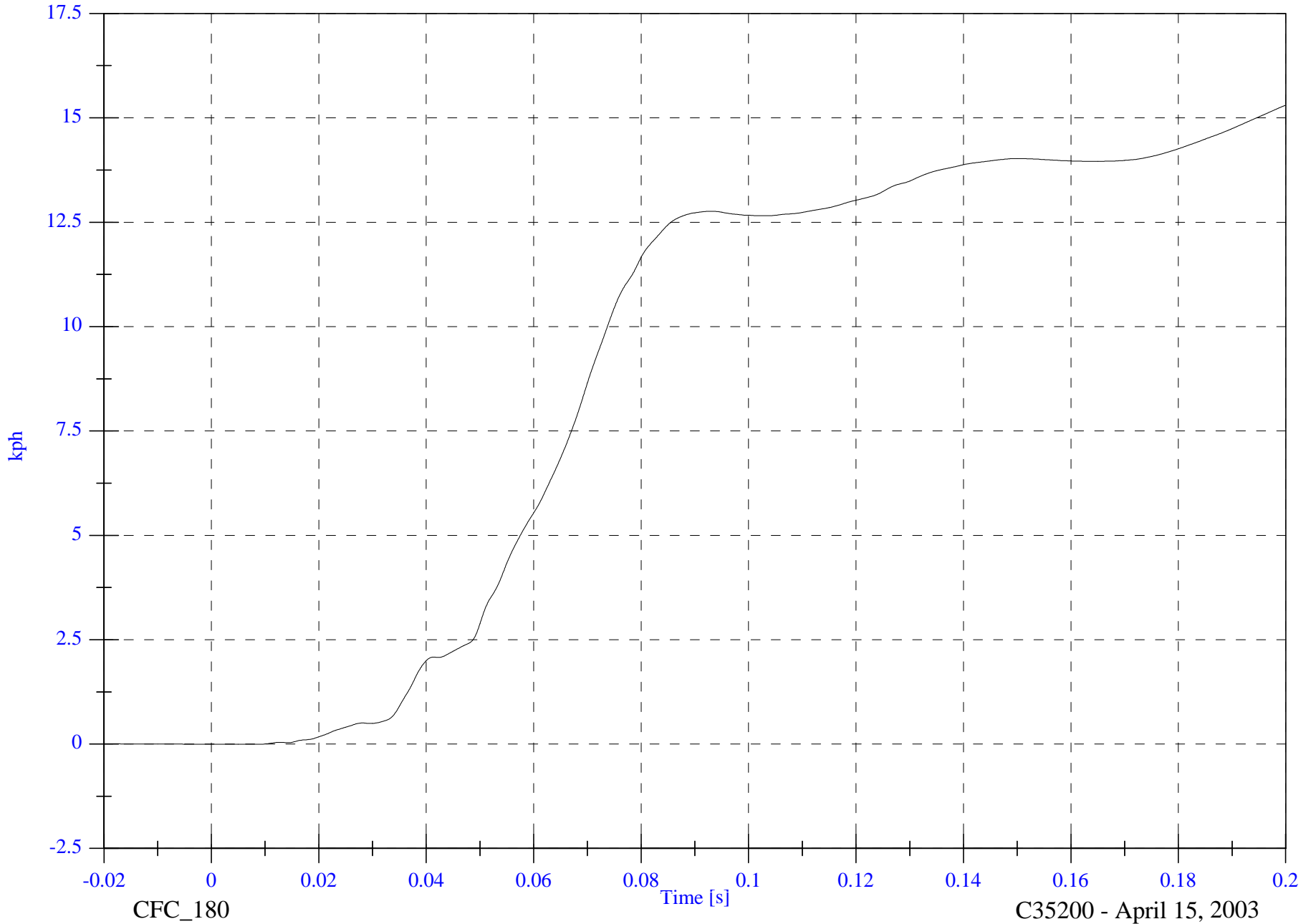
V2P1 Head z Velocity

Max: 15.3 [kph] at 0.200 [s]

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

B-24

8675-F214-05



CFC_180

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

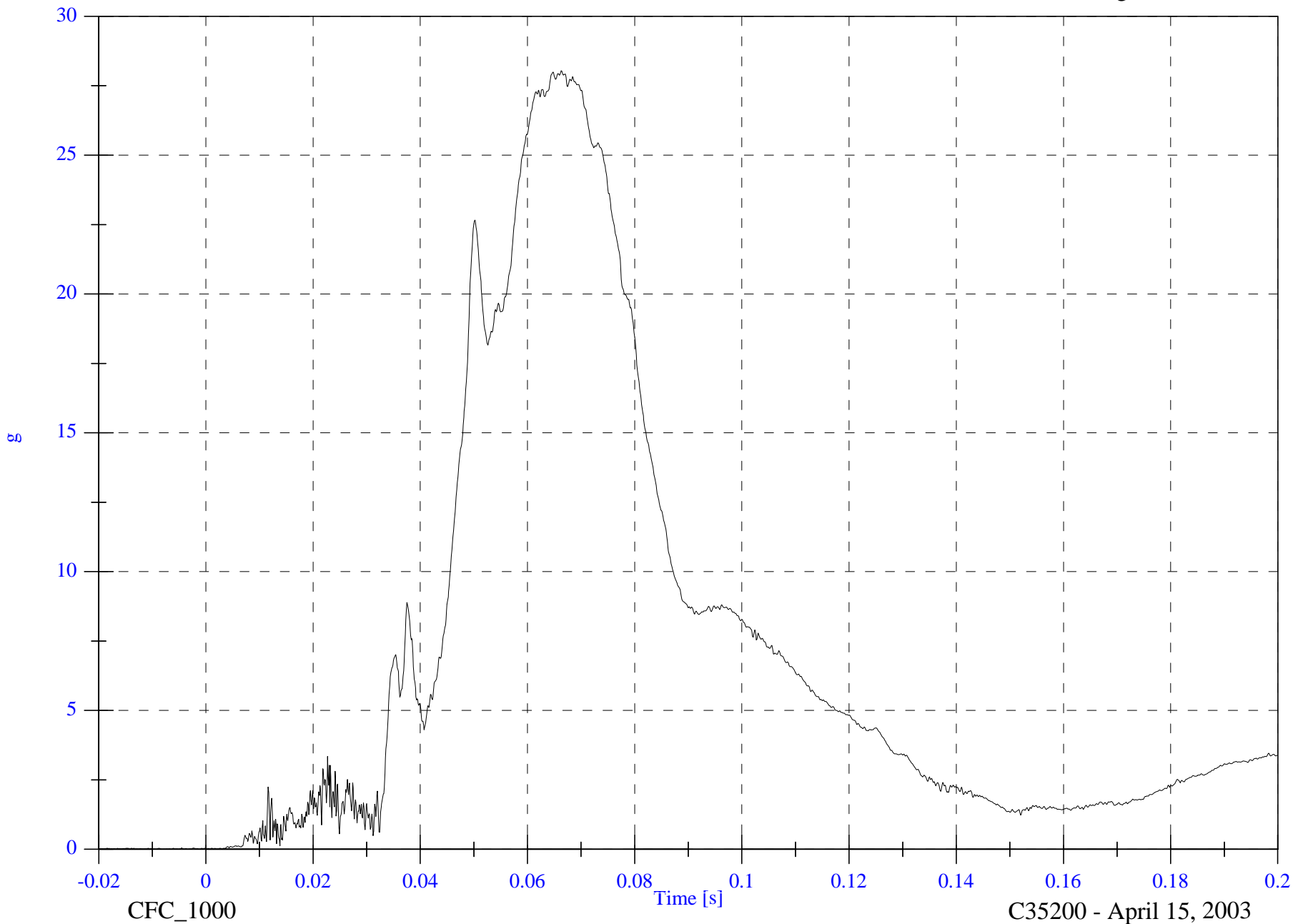
V2P1 Head Resultant

Max: 28.0 [g] at 0.066 [s]

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

B-25

8675-F214-05



CFC_1000

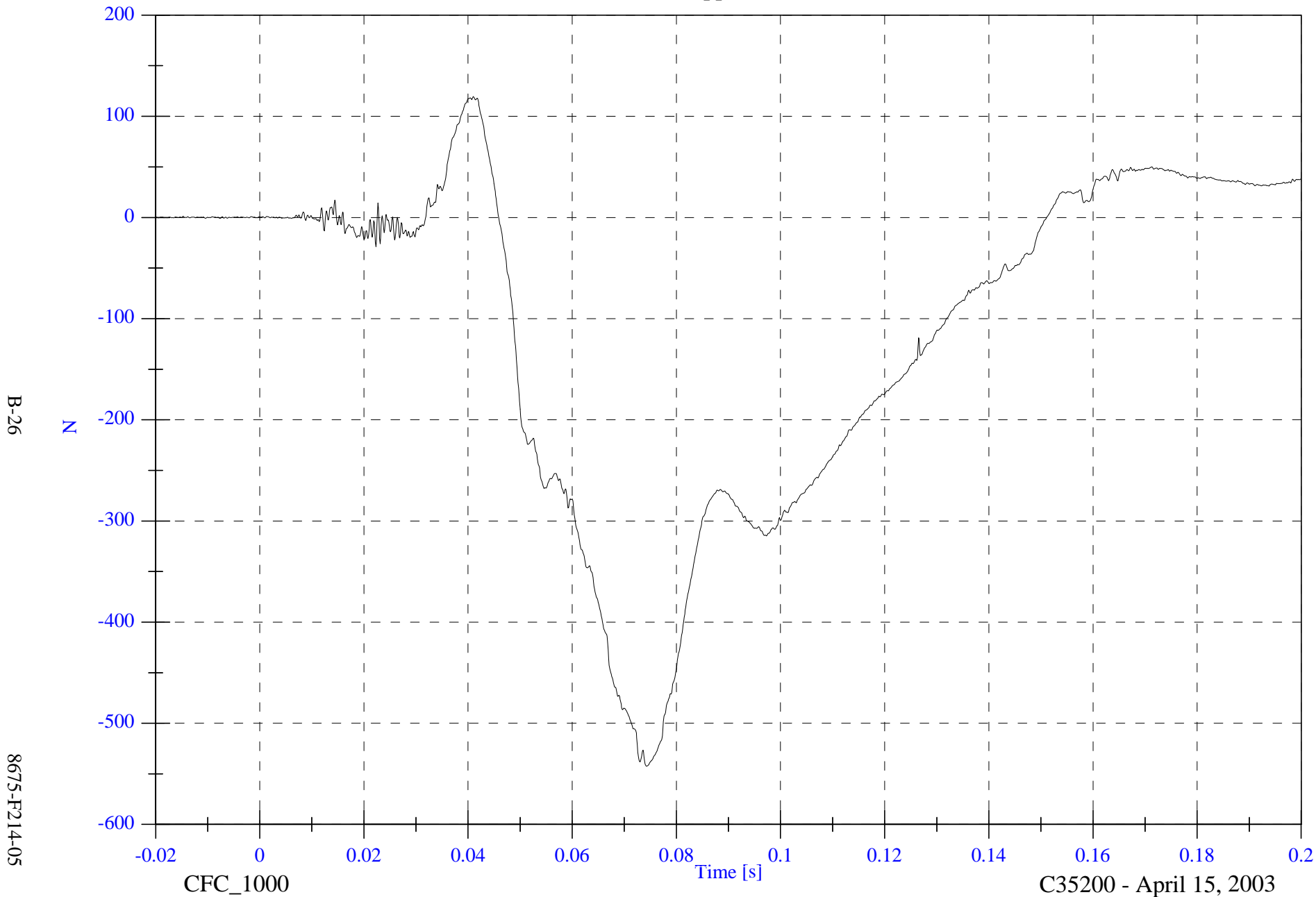
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 119.6 [N] at 0.041 [s]

V2P1 Upper Neck Fx

Min: -542.3 [N] at 0.074 [s]



B-26

8675-F214-05

CFC_1000

Time [s]

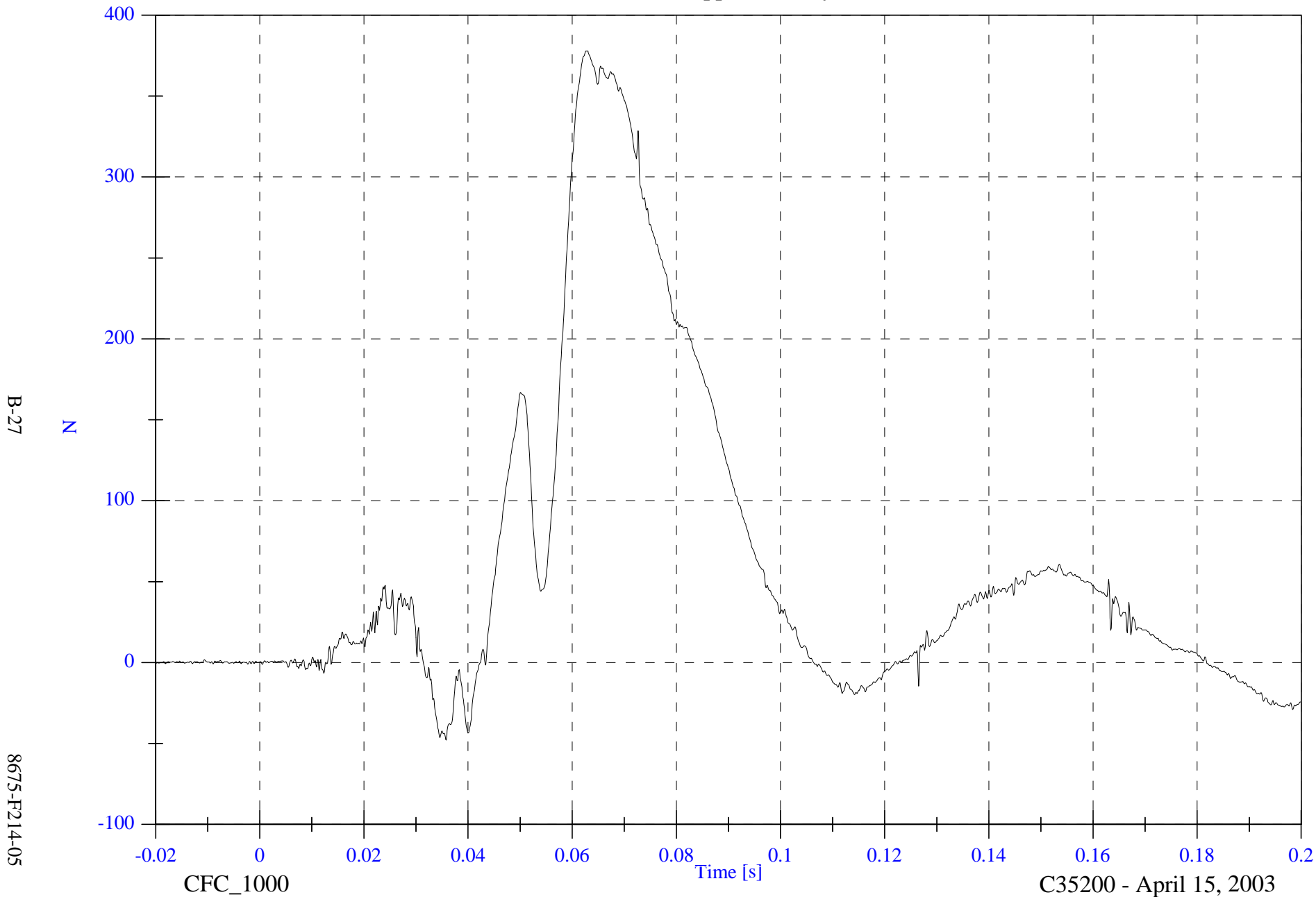
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P1 Upper Neck Fy

Max: 378.0 [N] at 0.063 [s]

Min: -47.9 [N] at 0.036 [s]

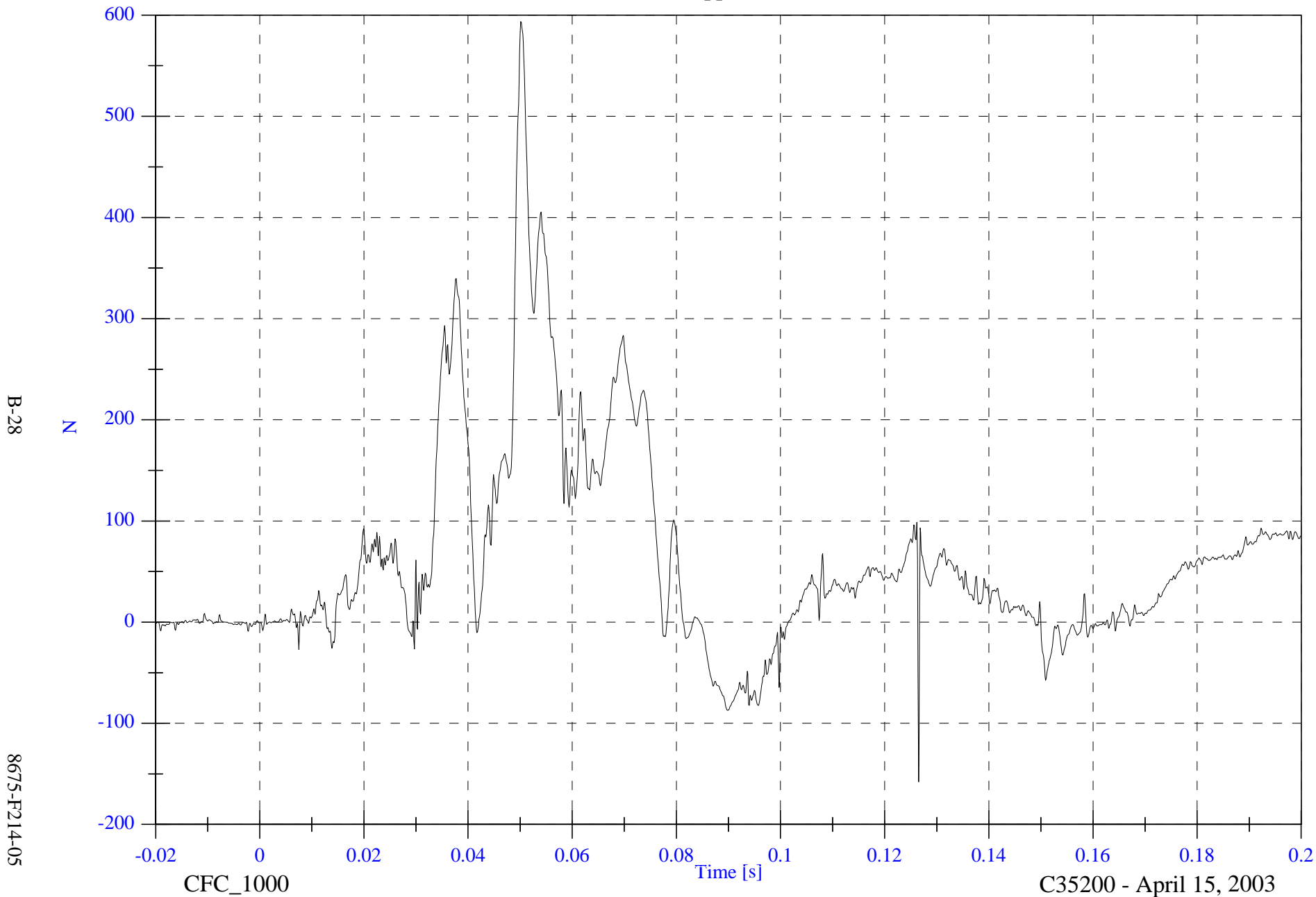


2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 593.5 [N] at 0.050 [s]

V2P1 Upper Neck Fz

Min: -157.9 [N] at 0.126 [s]



B-28

8675-F214-05

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

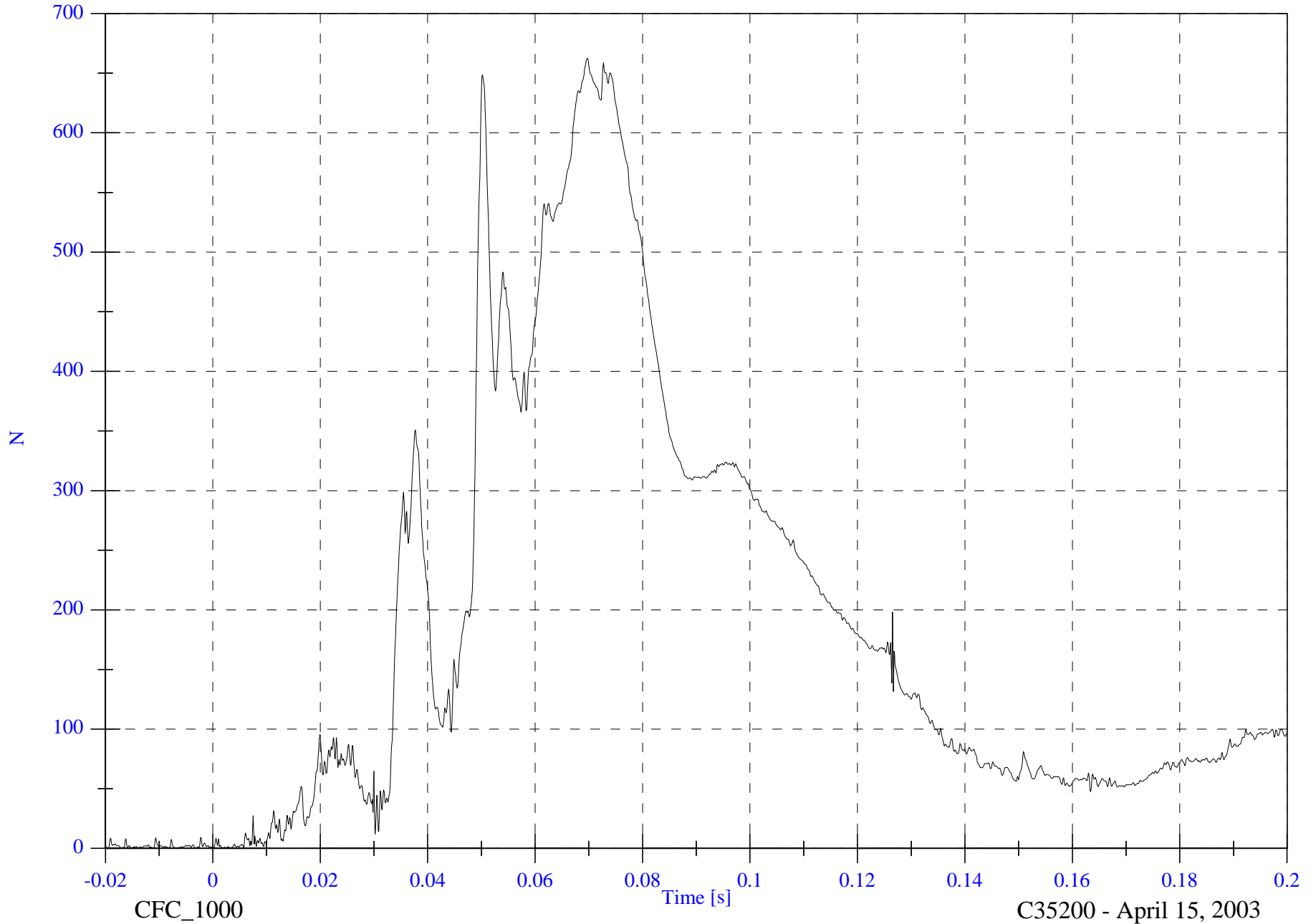
V2P1 Upper Neck F Resultant

Max: 662.5 [N] at 0.070 [s]

Min: 0.1 [N] at -0.015 [s]

B-29

8675-F214-05



C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

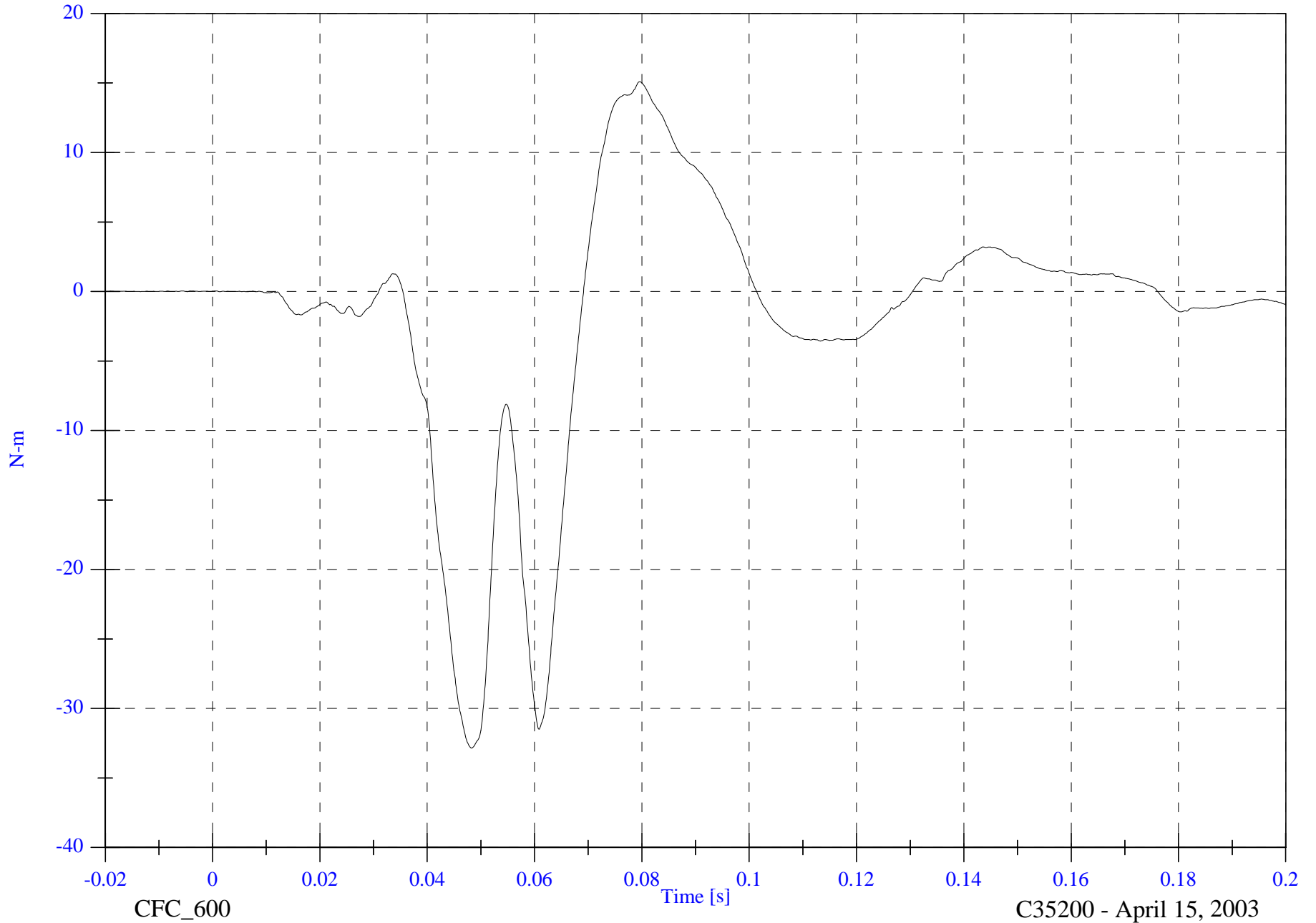
V2P1 Upper Neck Mx

Max: 15.1 [N-m] at 0.080 [s]

Min: -32.9 [N-m] at 0.048 [s]

B-30

8675-F214-05



CFC_600

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

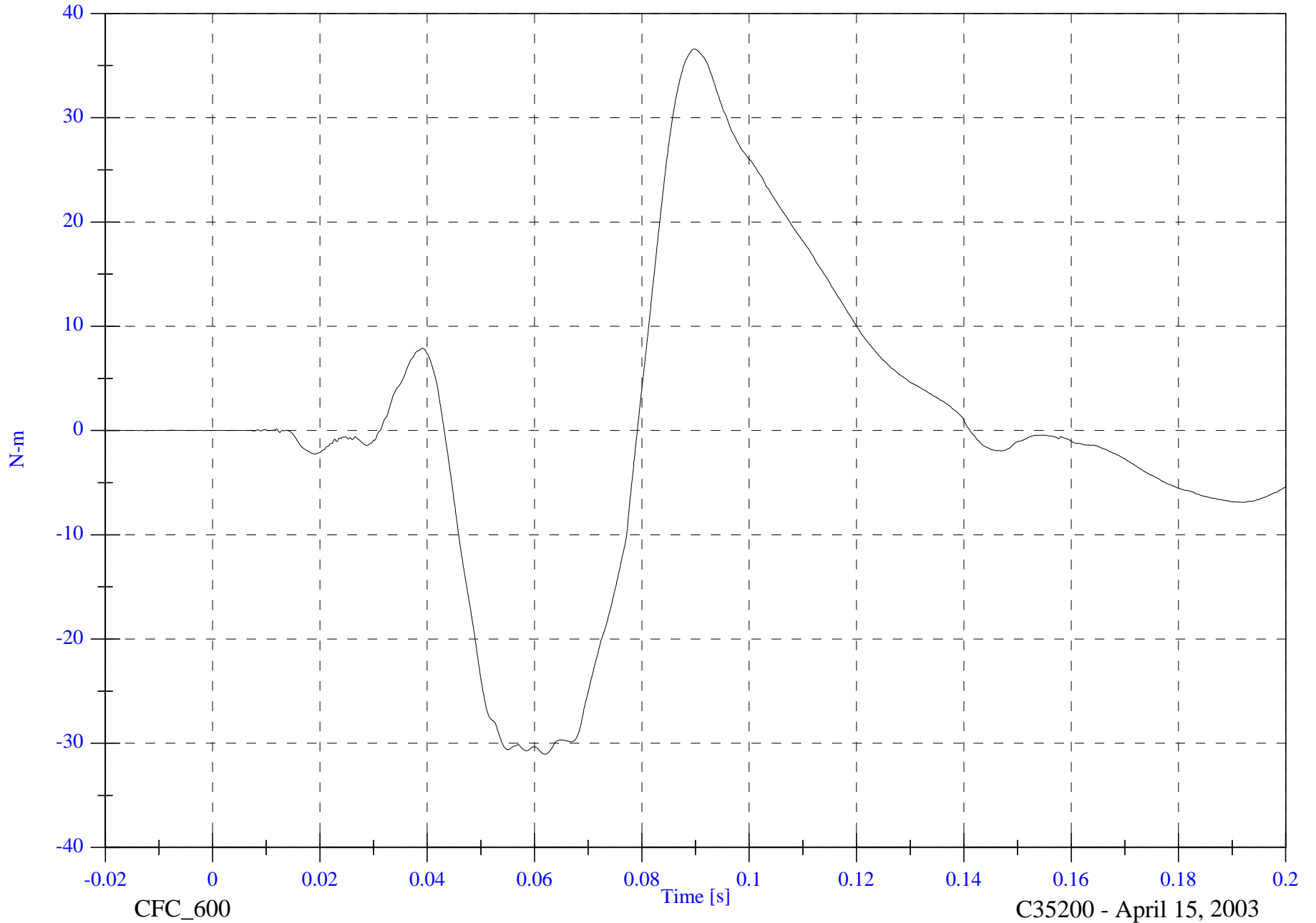
V2P1 Upper Neck My

Max: 36.6 [N-m] at 0.090 [s]

Min: -31.1 [N-m] at 0.062 [s]

B-31

8675-F214-05



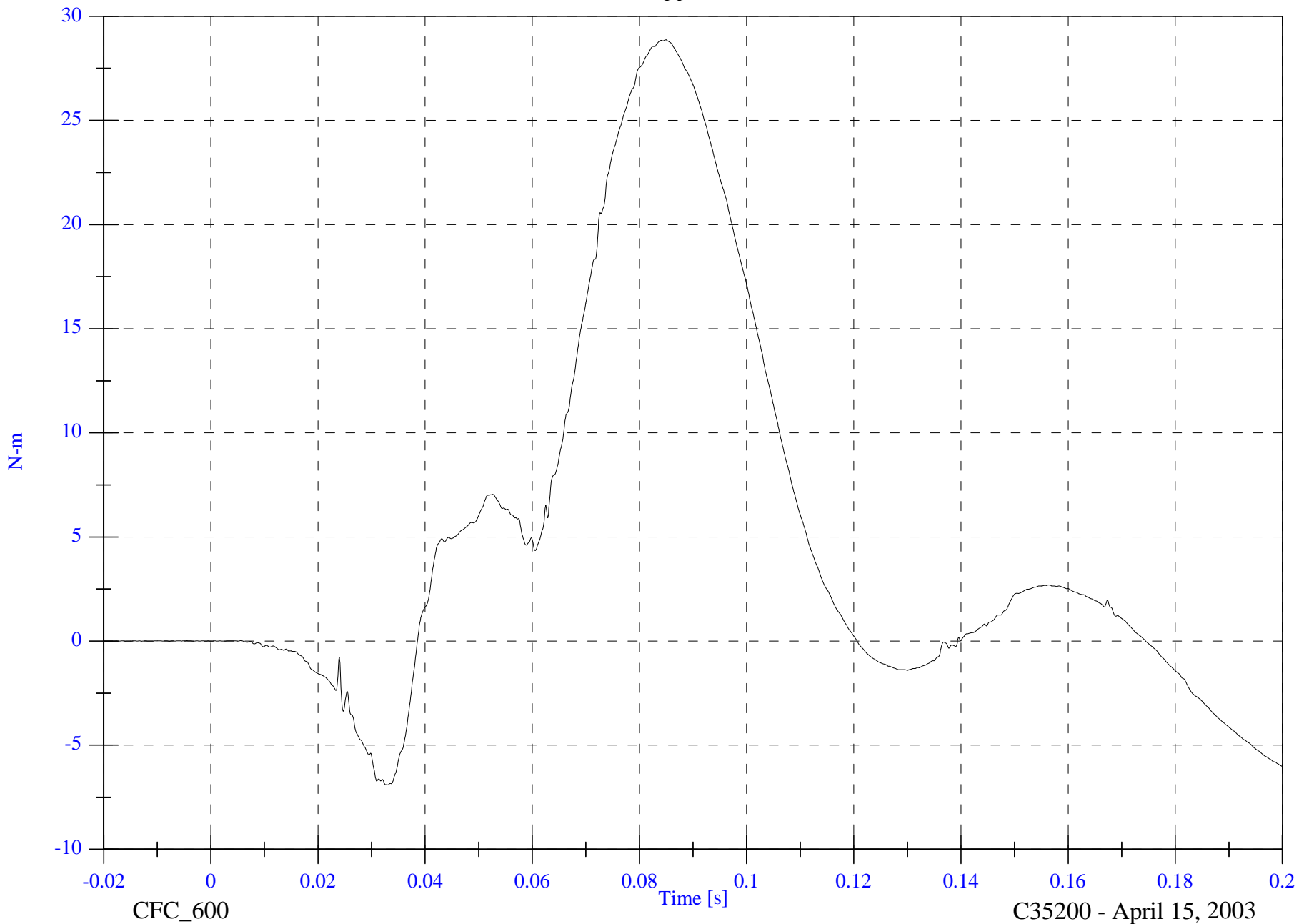
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 28.9 [N-m] at 0.085 [s]

V2P1 Upper Neck Mz

Min: -6.9 [N-m] at 0.033 [s]



B-32

8675-F214-05

CFC_600

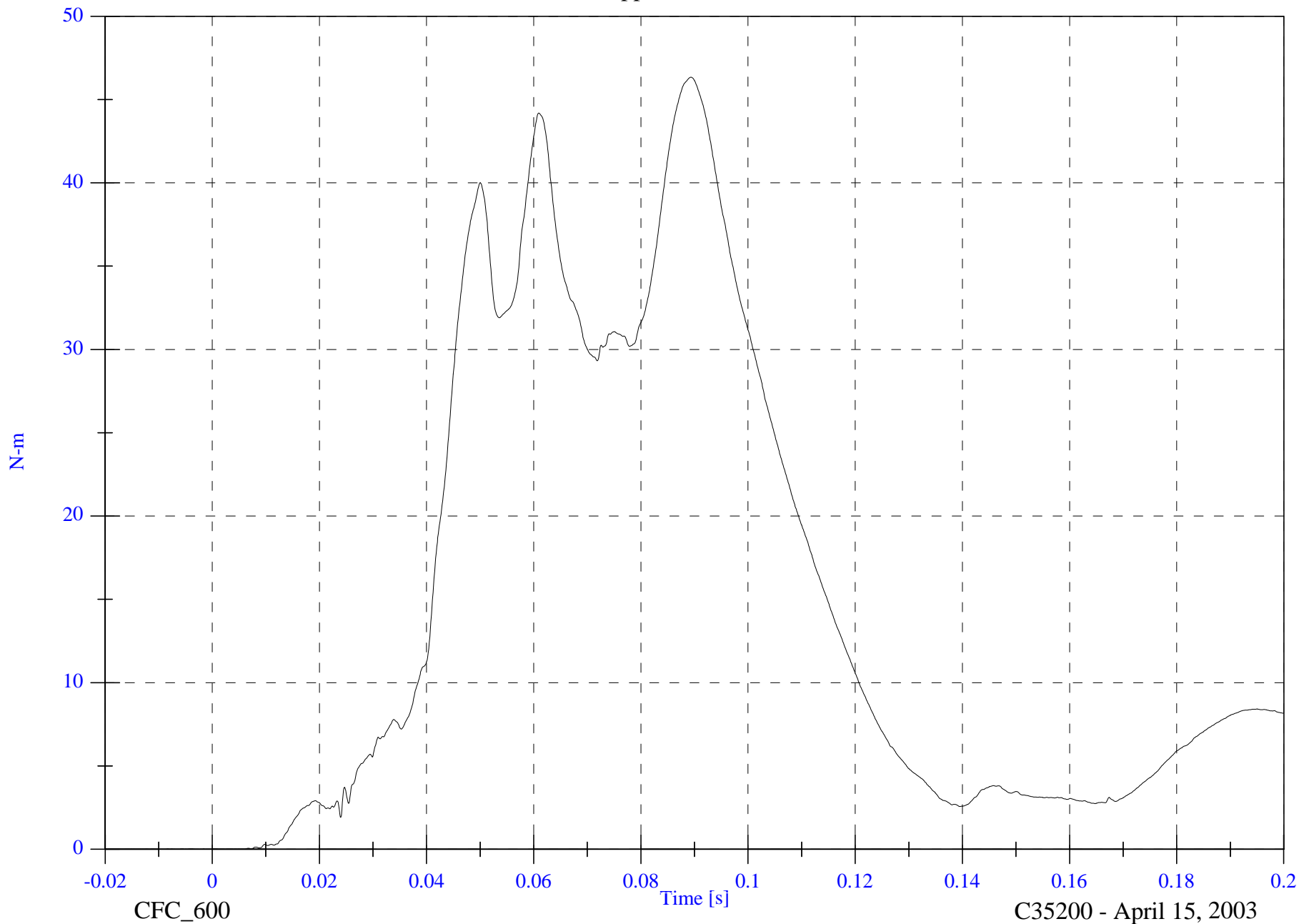
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P1 Upper Neck M Resultant

Max: 46.4 [N-m] at 0.089 [s]

Min: 0.0 [N-m] at -0.012 [s]



B-33

8675-F214-05

CFC_600

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

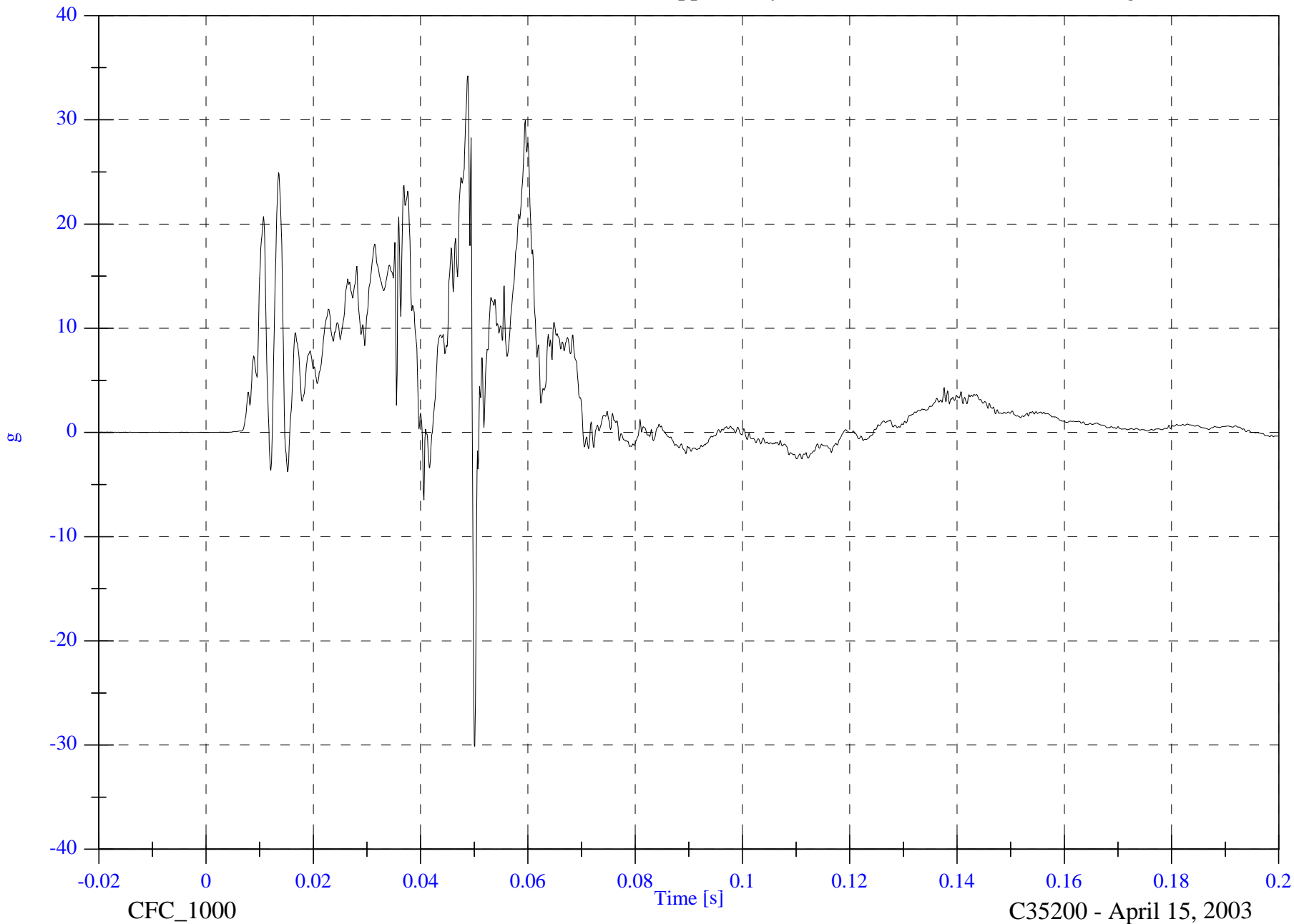
V2P1 Upper Rib y

Max: 34.2 [g] at 0.049 [s]

Min: -30.1 [g] at 0.050 [s]

B-34

8675-F214-05



C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

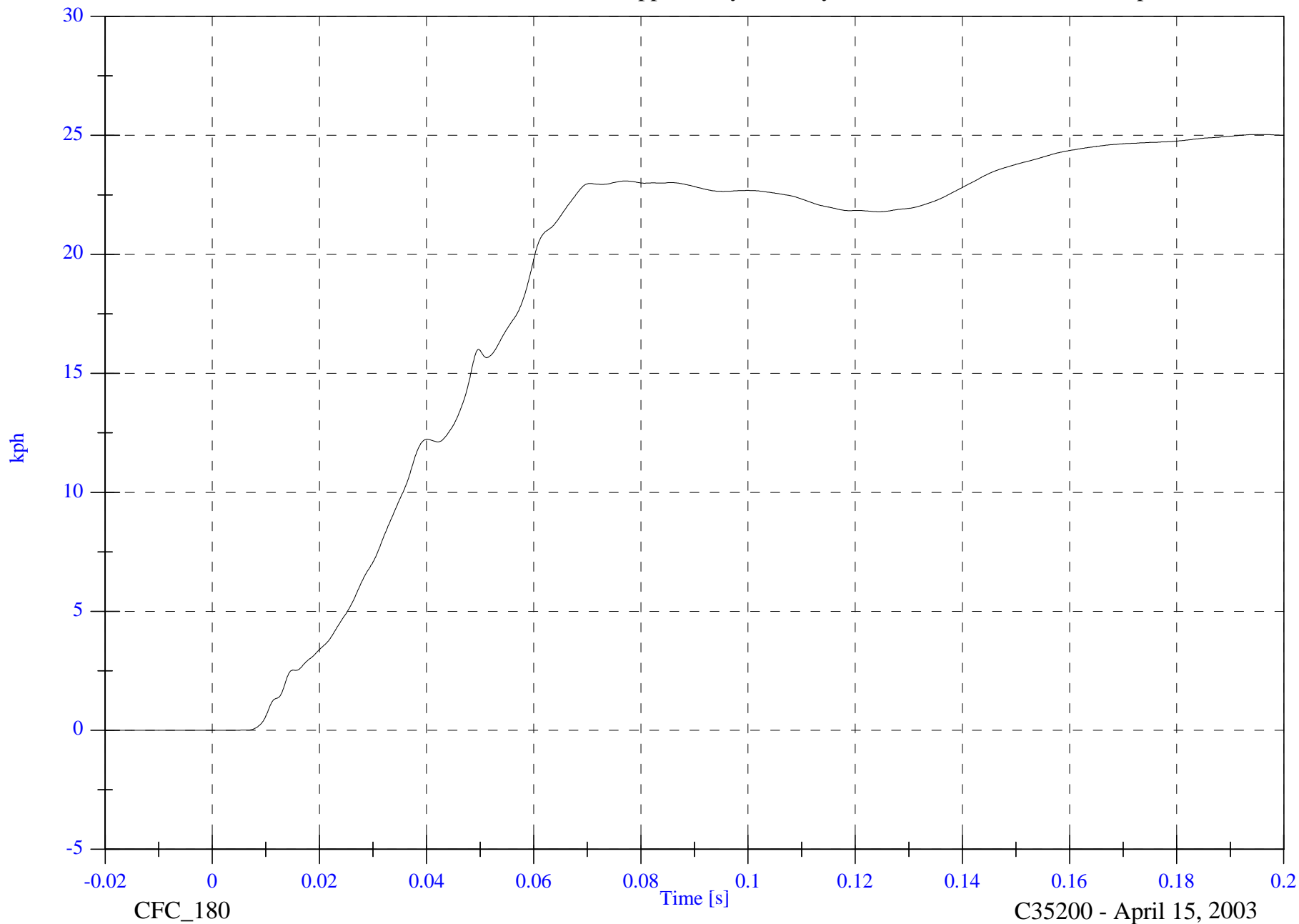
V2P1 Upper Rib y Velocity

Max: 25.0 [kph] at 0.195 [s]

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

B-35

8675-F214-05



CFC_180

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

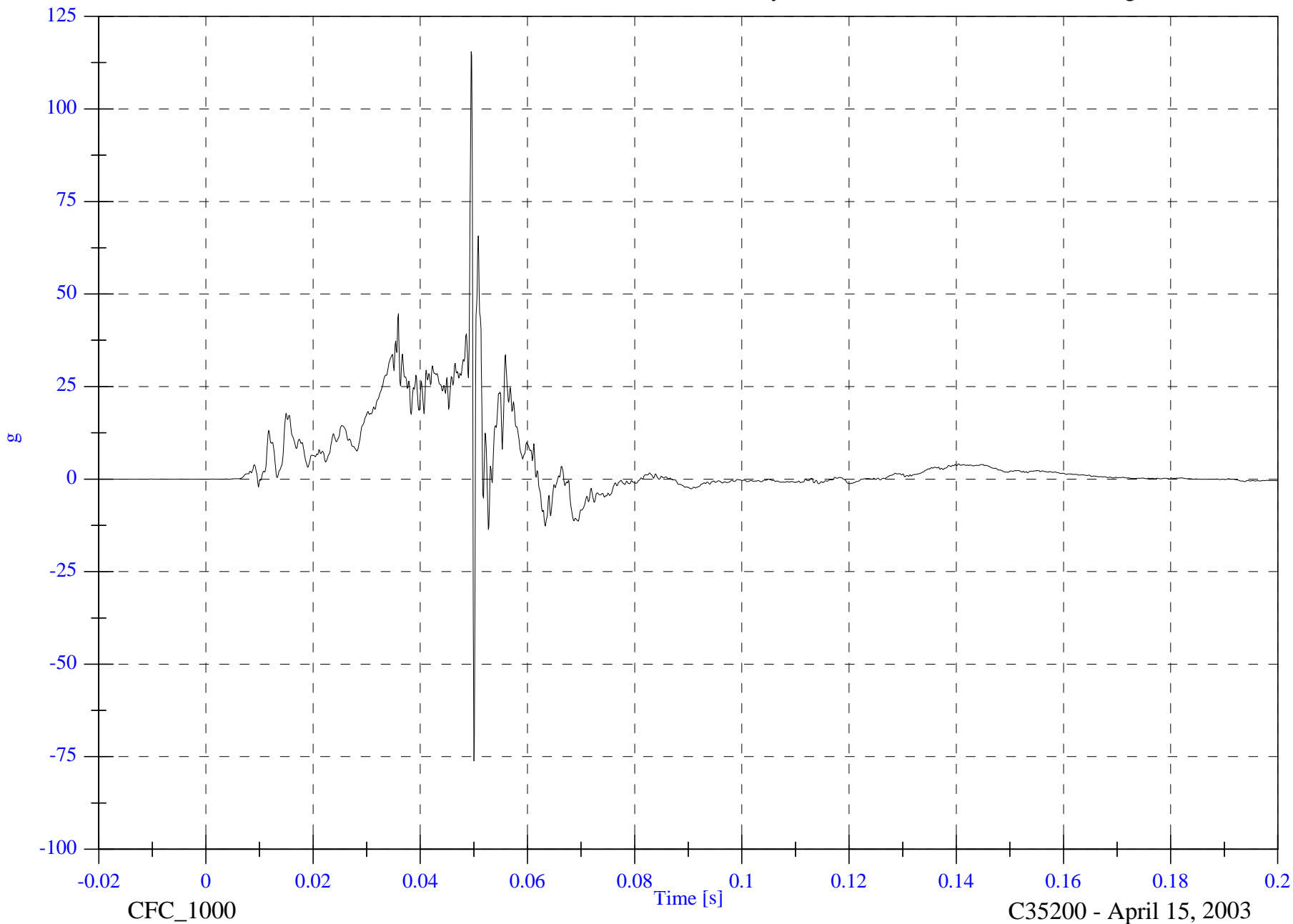
V2P1 Lower Rib y

Max: 115.5 [g] at 0.049 [s]

Min: -76.1 [g] at 0.050 [s]

B-36

8675-F214-05

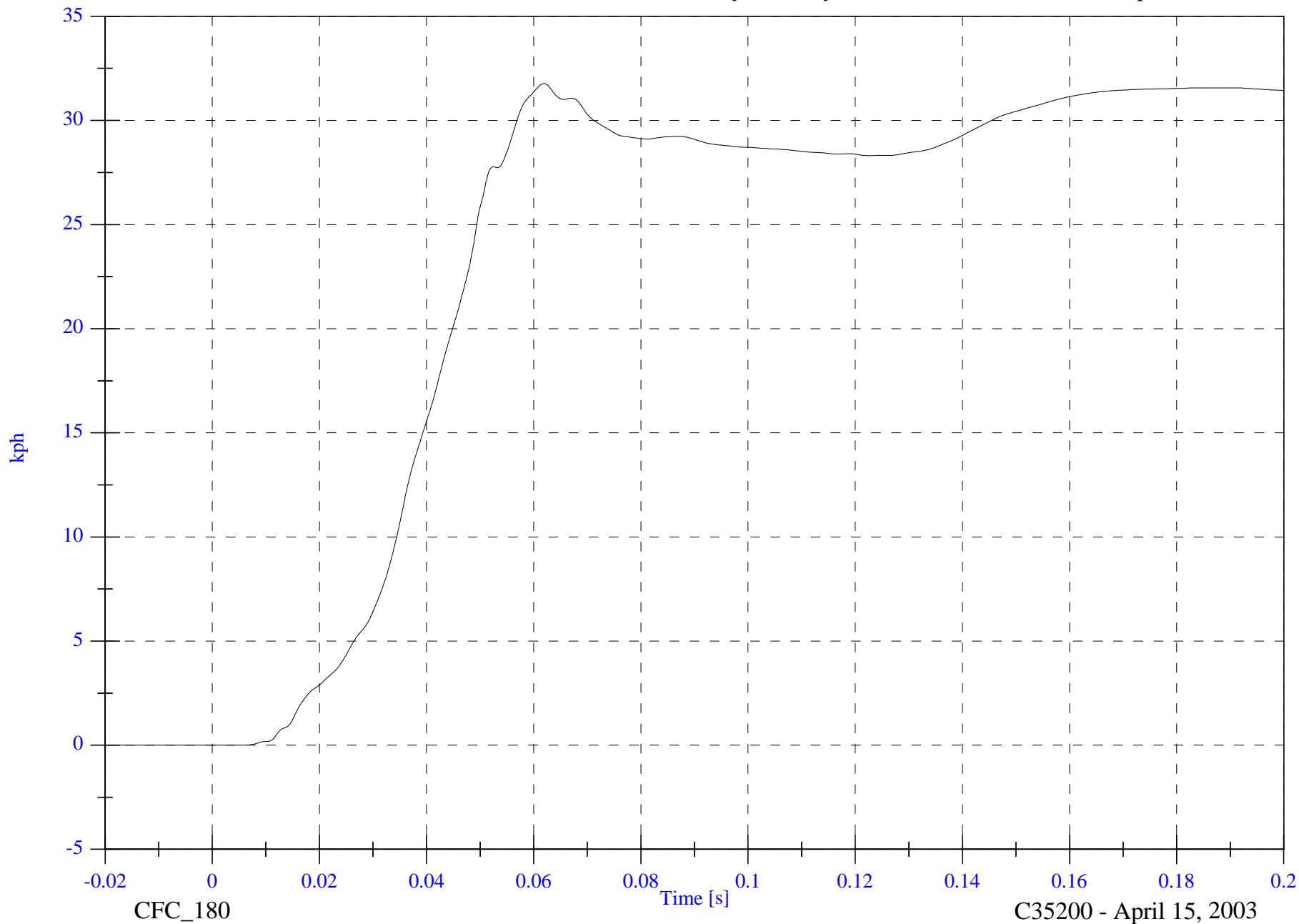


2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 31.8 [kph] at 0.062 [s]

V2P1 Lower Rib y Velocity

Min: -0.0 [kph] at -0.017 [s]



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8675-F214-05

CFC_180

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P1 Lower Spine y

Max: 51.2 [g] at 0.038 [s]

Min: -9.2 [g] at 0.068 [s]

B-38

8675-F214-05



CFC_180

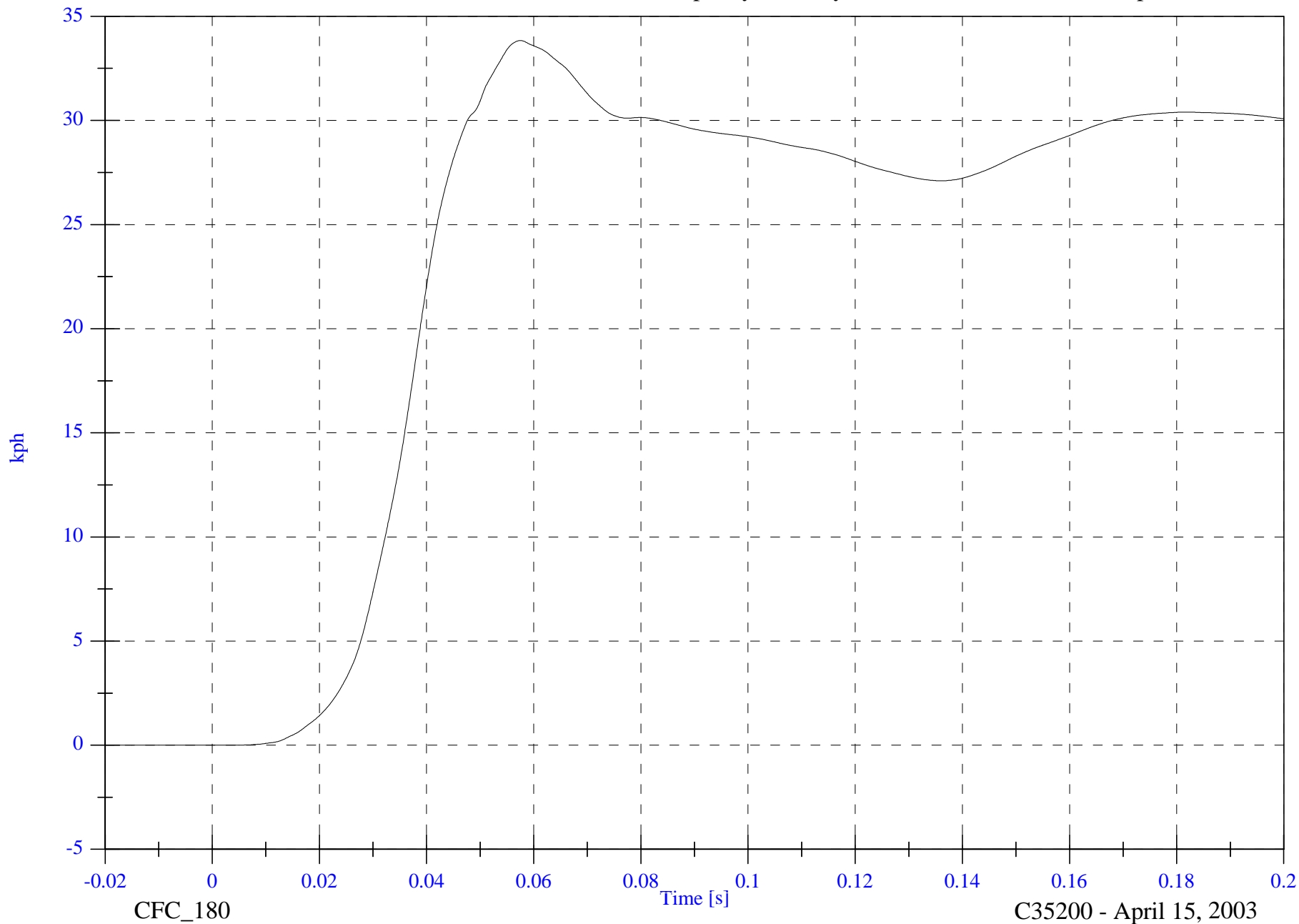
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P1 Lower Spine y Velocity

Max: 33.8 [kph] at 0.057 [s]

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



B-39

8675-F214-05

CFC_180

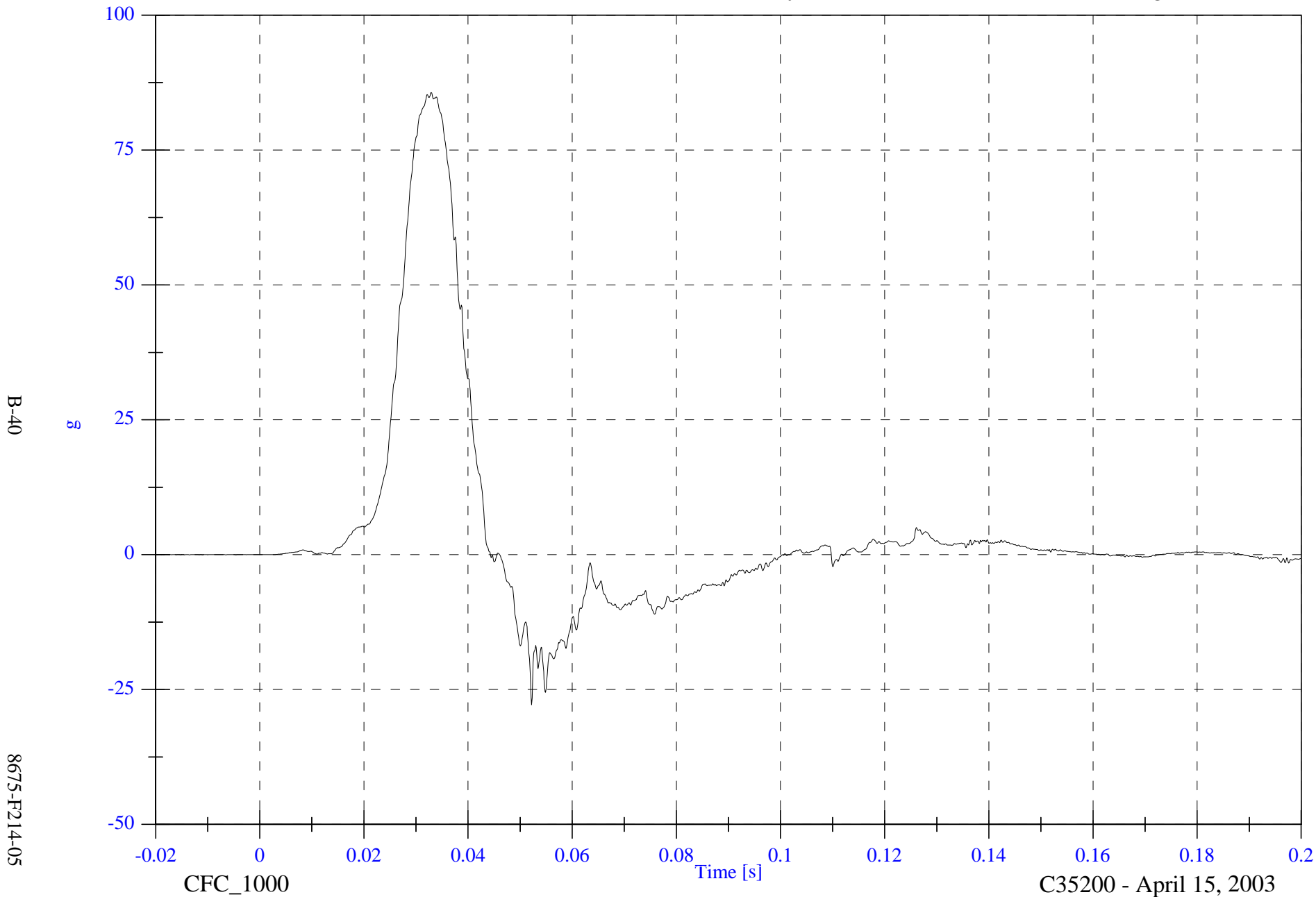
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P1 Pelvic y

Max: 85.7 [g] at 0.033 [s]

Min: -27.8 [g] at 0.052 [s]



B-40

8675-F214-05

CFC_1000

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

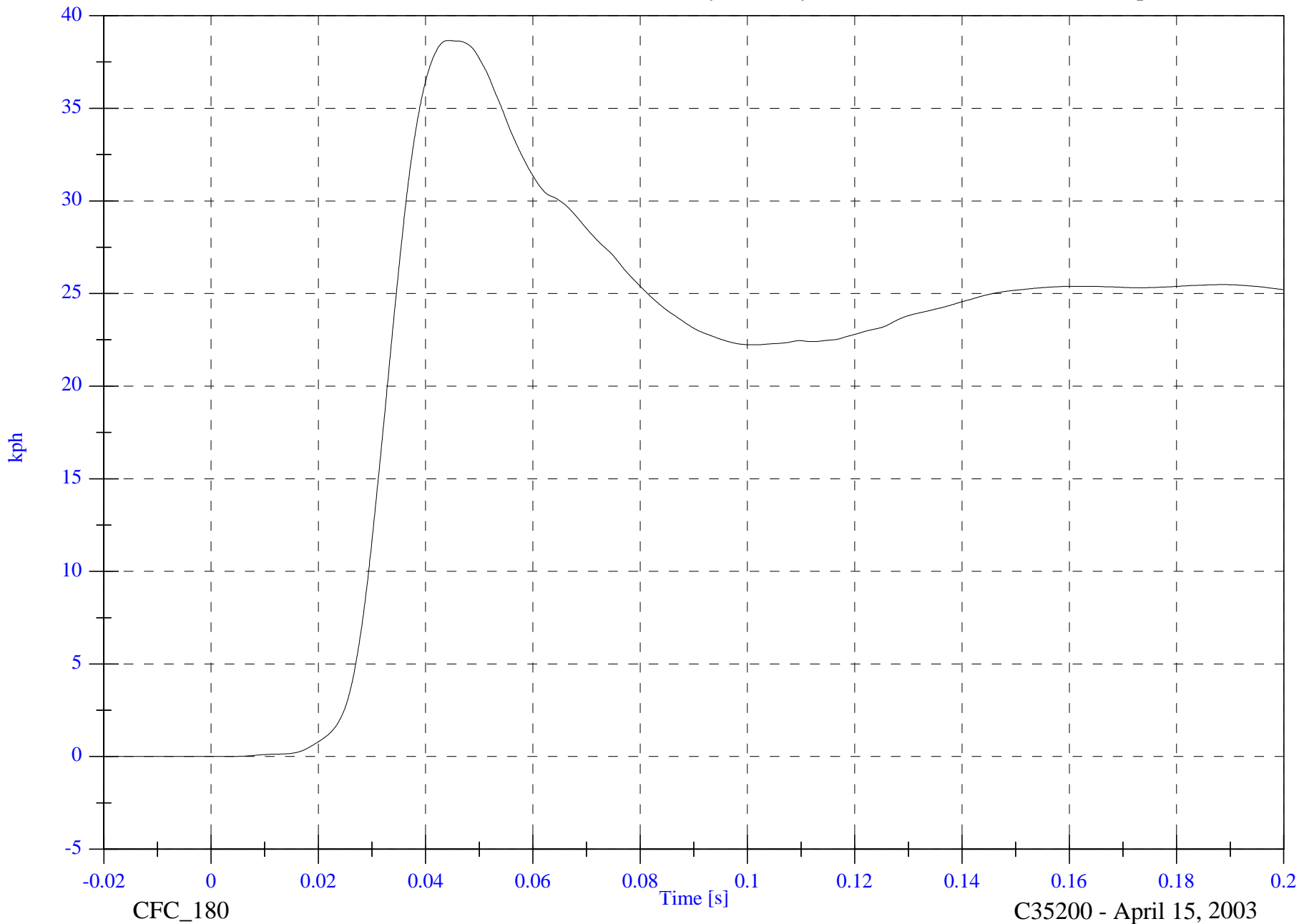
Max: 38.7 [kph] at 0.044 [s]

V2P1 Pelvic y Velocity

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

B-41

8675-F214-05



CFC_180

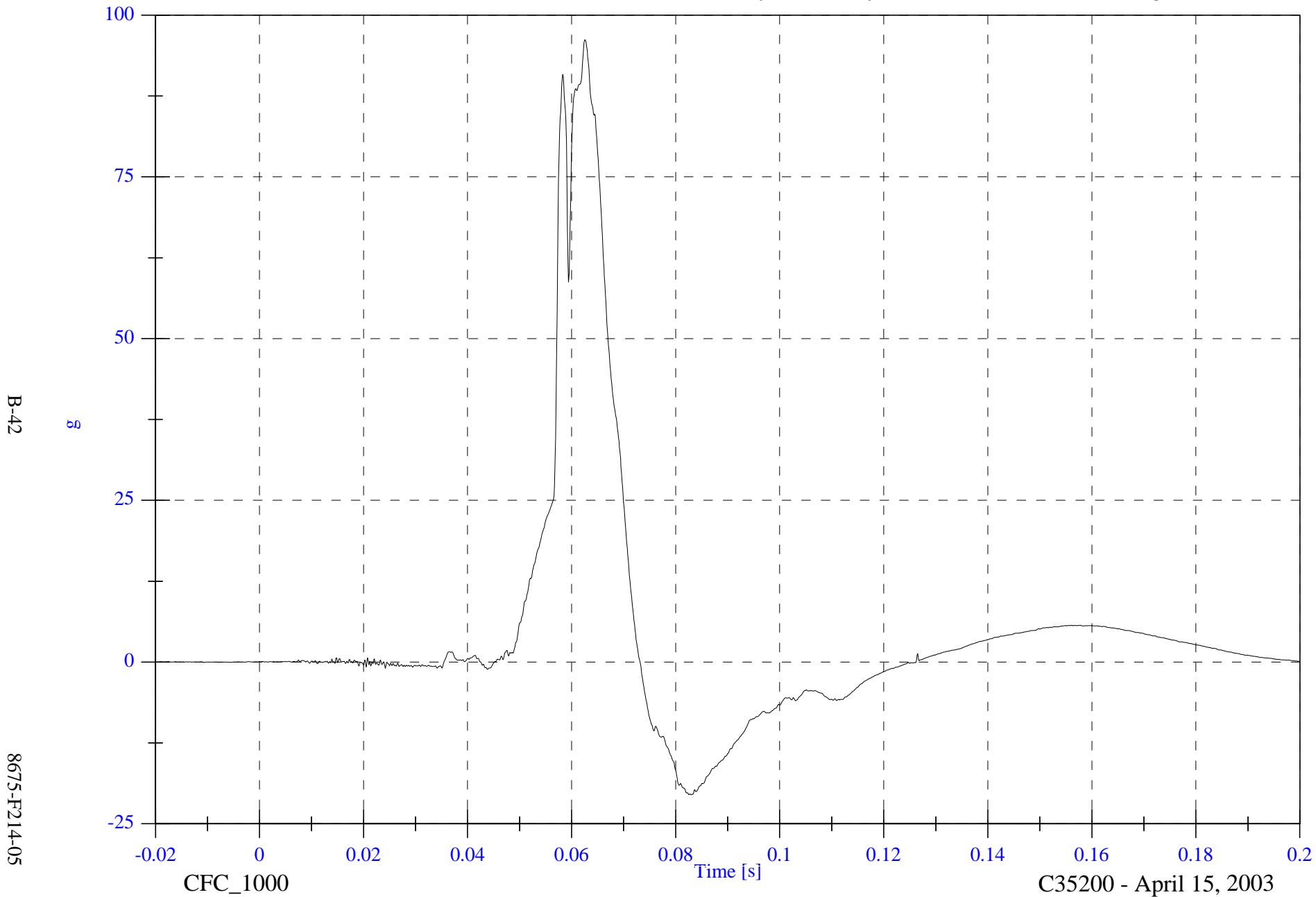
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P4 Head 9 Array X Arm Ay

Max: 96.2 [g] at 0.063 [s]

Min: -20.5 [g] at 0.083 [s]



B-42

8675-F214-05

CFC_1000

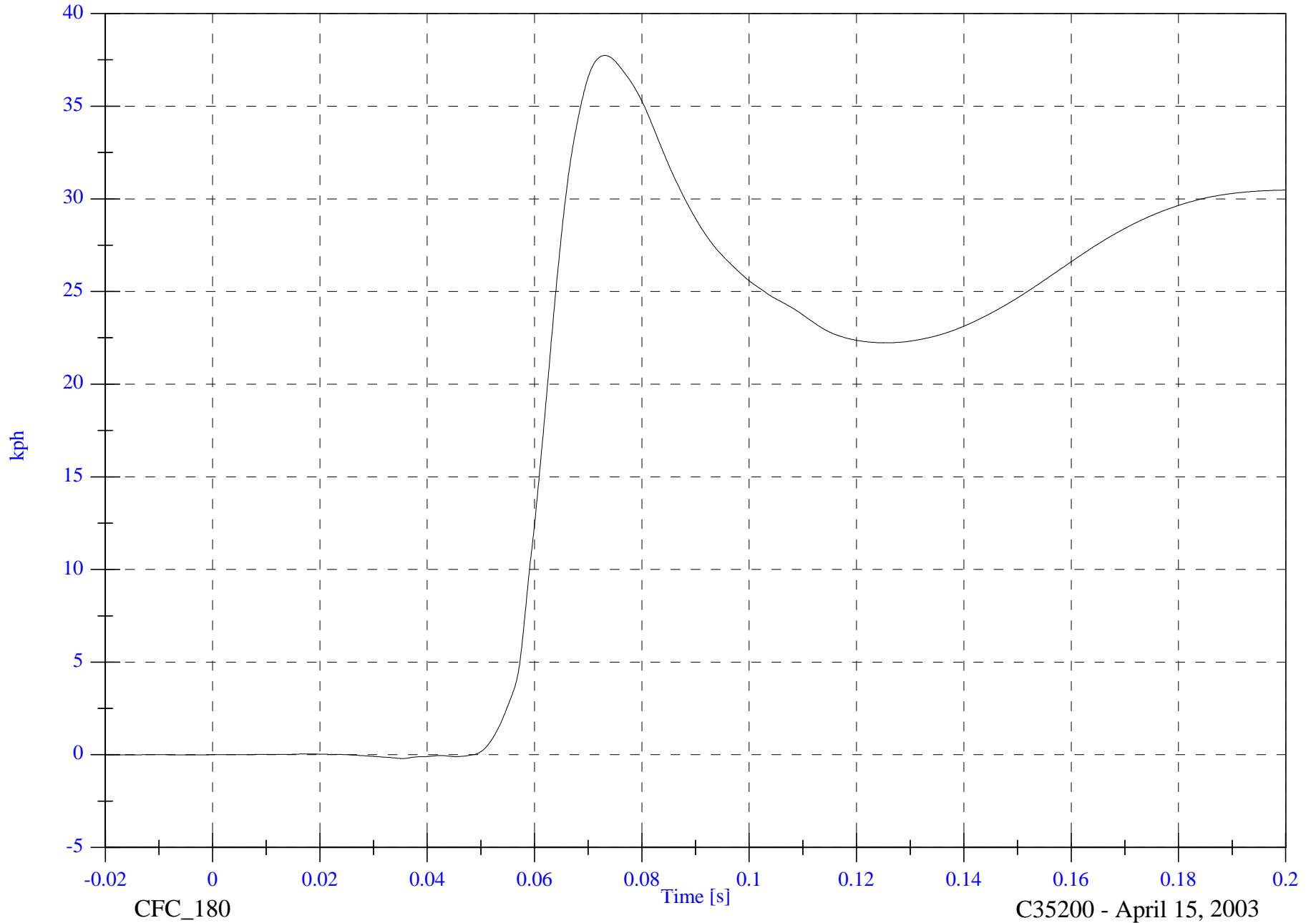
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P4 Head 9 Array X Arm Ay Velocity

Max: 37.7 [kph] at 0.073 [s]

Min: -0.2 [kph] at 0.035 [s]



B-43

8675-F214-05

CFC_180

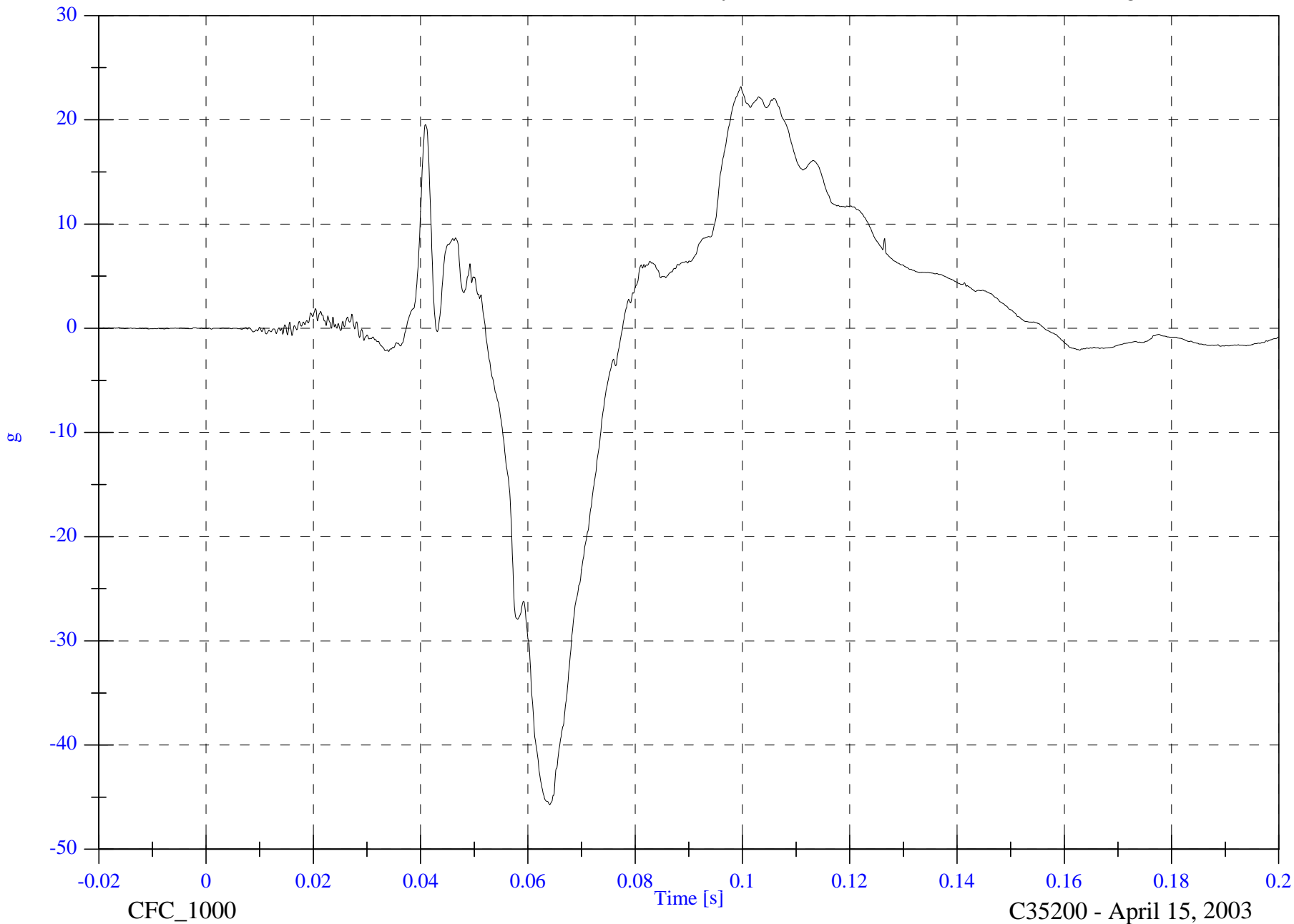
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P4 Head 9 Array X Arm Az

Max: 23.2 [g] at 0.100 [s]

Min: -45.7 [g] at 0.064 [s]



B-44

8675-F214-05

CFC_1000

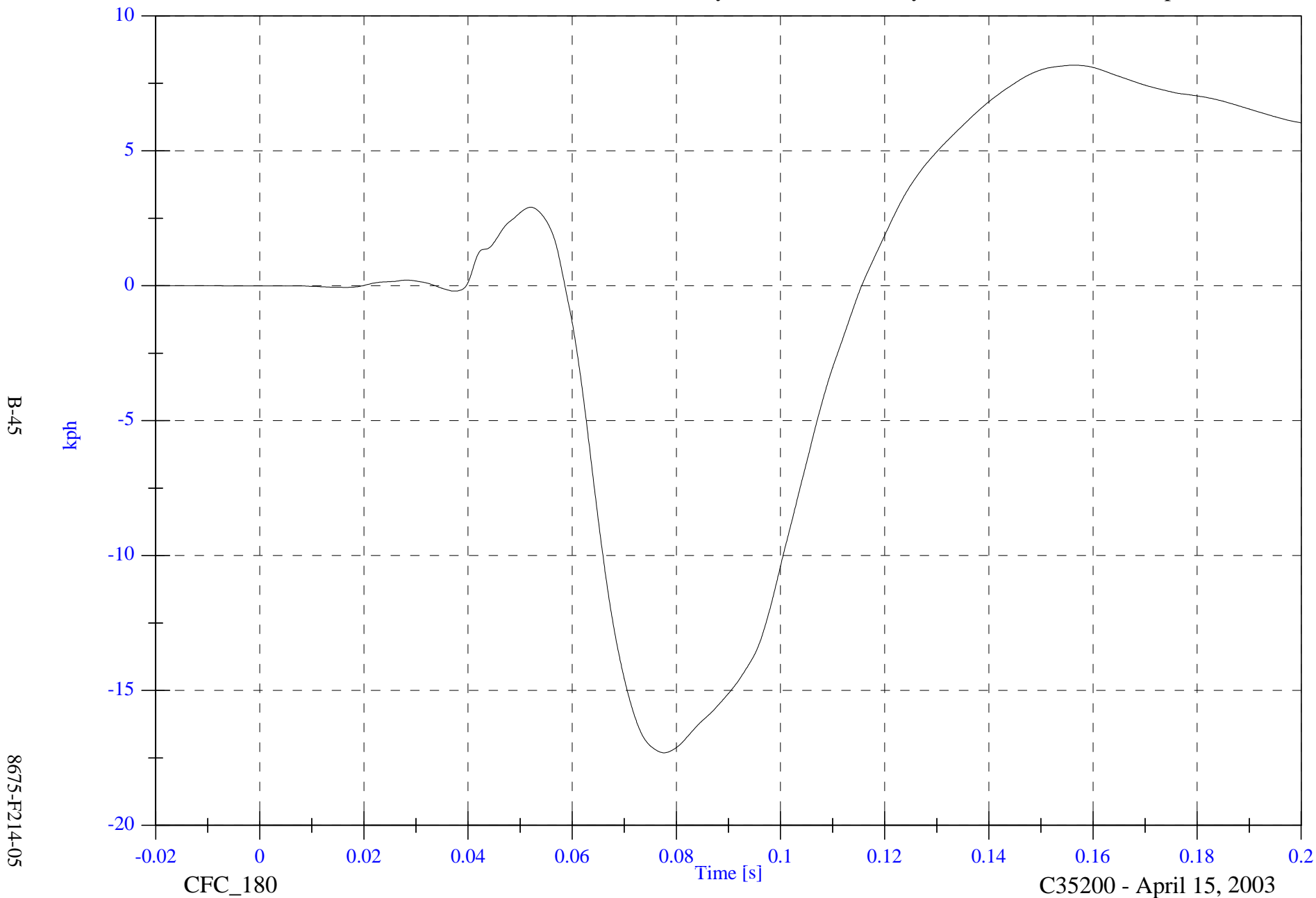
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P4 Head 9 Array X Arm Az Velocity

Max: 8.2 [kph] at 0.156 [s]

Min: -17.3 [kph] at 0.078 [s]



B-45

8675-F214-05

CFC_180

Time [s]

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

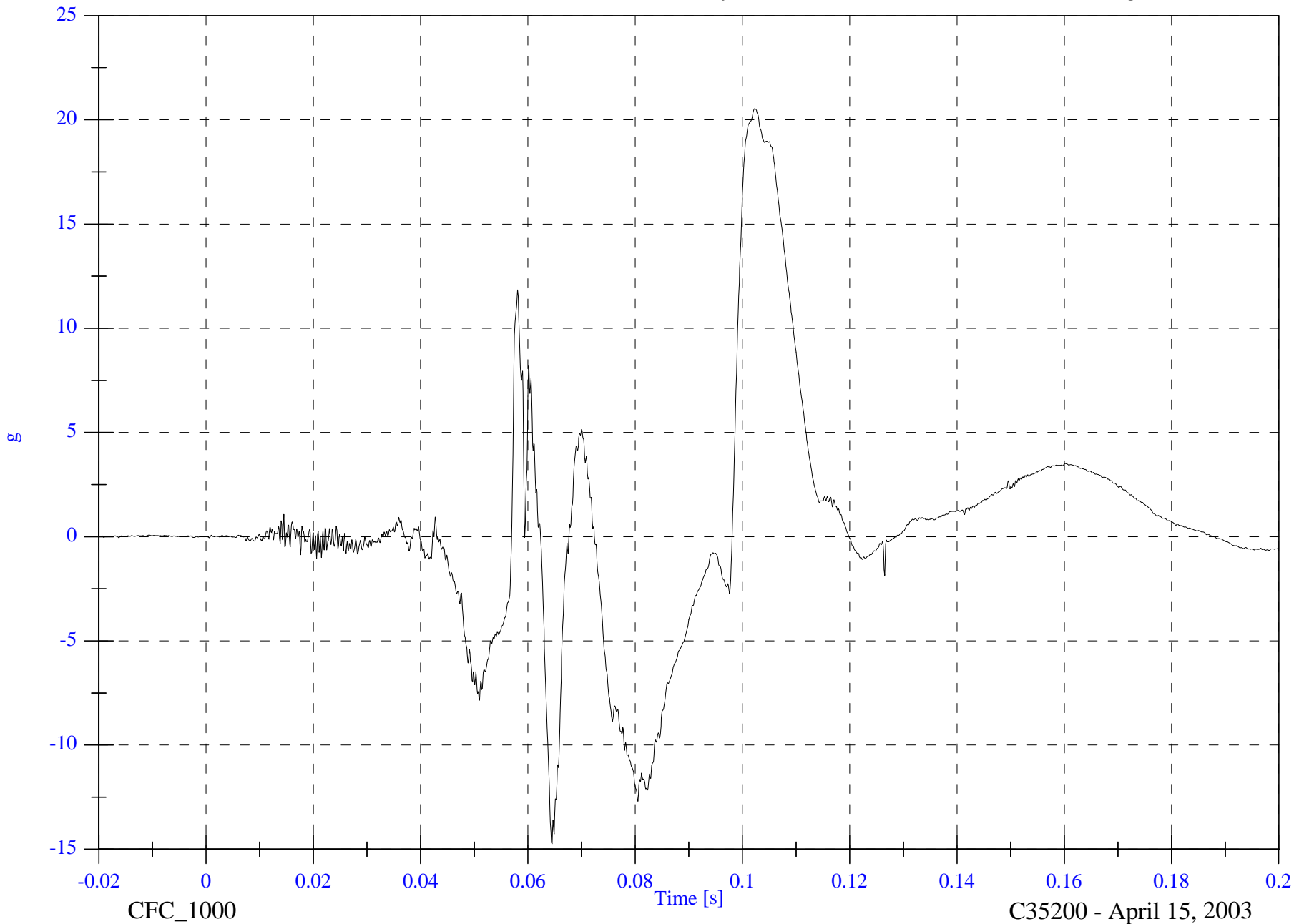
V2P4 Head 9 Array Y Arm Ax

Max: 20.5 [g] at 0.102 [s]

Min: -14.7 [g] at 0.064 [s]

B-46

8675-F214-05

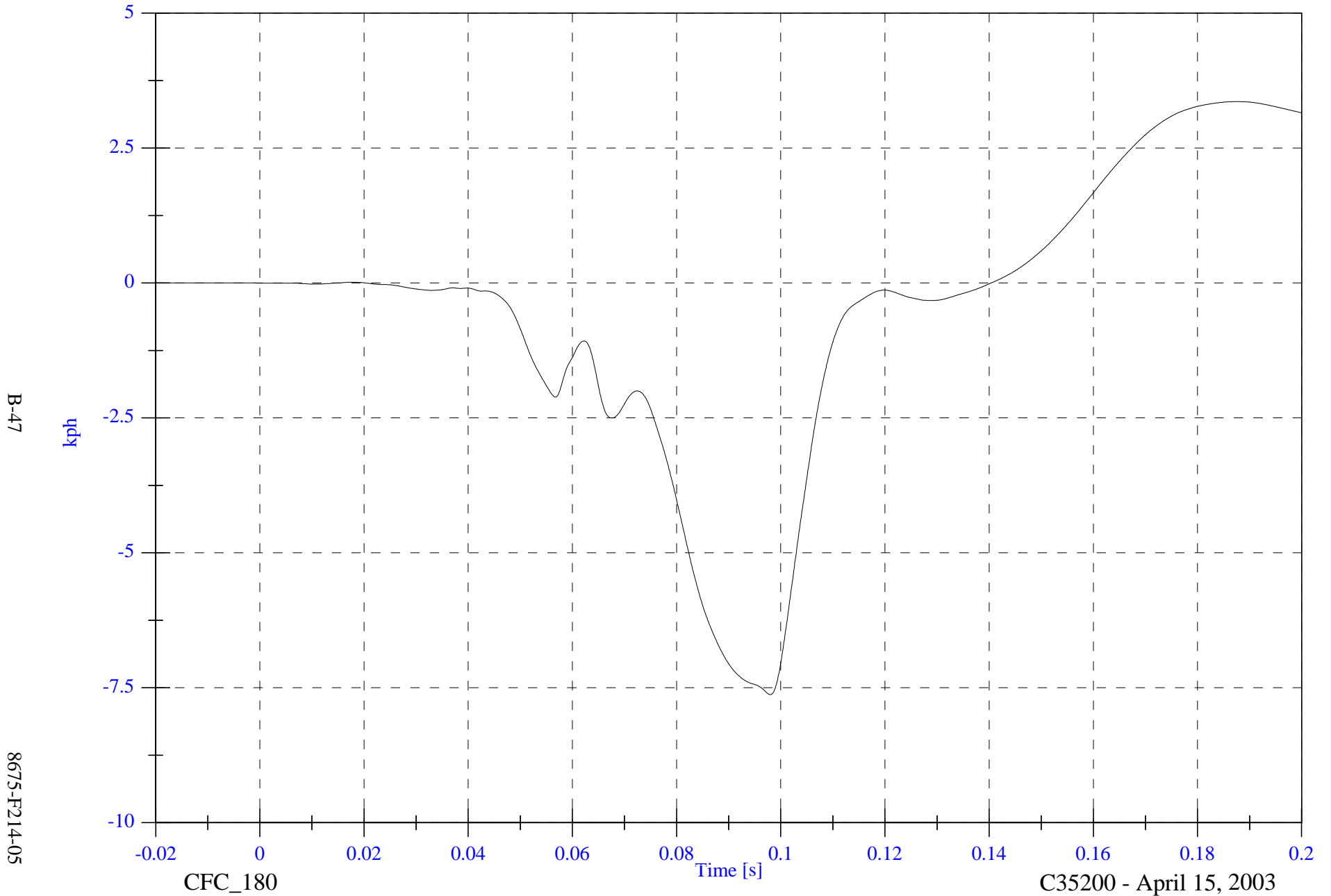


2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P4 Head 9 Array Y Arm Ax Velocity

Max: 3.4 [kph] at 0.187 [s]

Min: -7.6 [kph] at 0.098 [s]



B-47

8675-F214-05

CFC_180

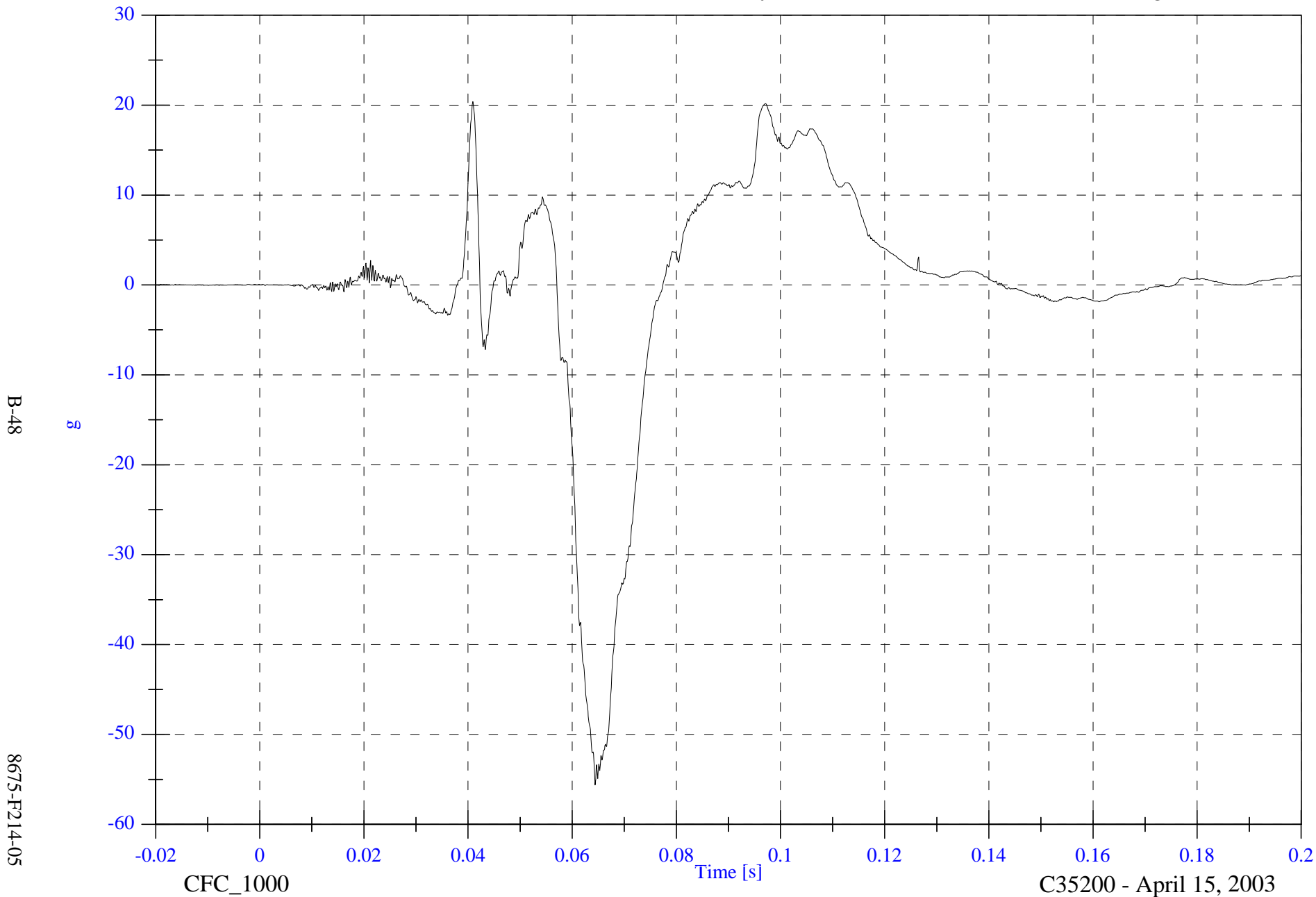
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P4 Head 9 Array Y Arm Az

Max: 20.4 [g] at 0.041 [s]

Min: -55.6 [g] at 0.064 [s]



B-48

8675-F214-05

CFC_1000

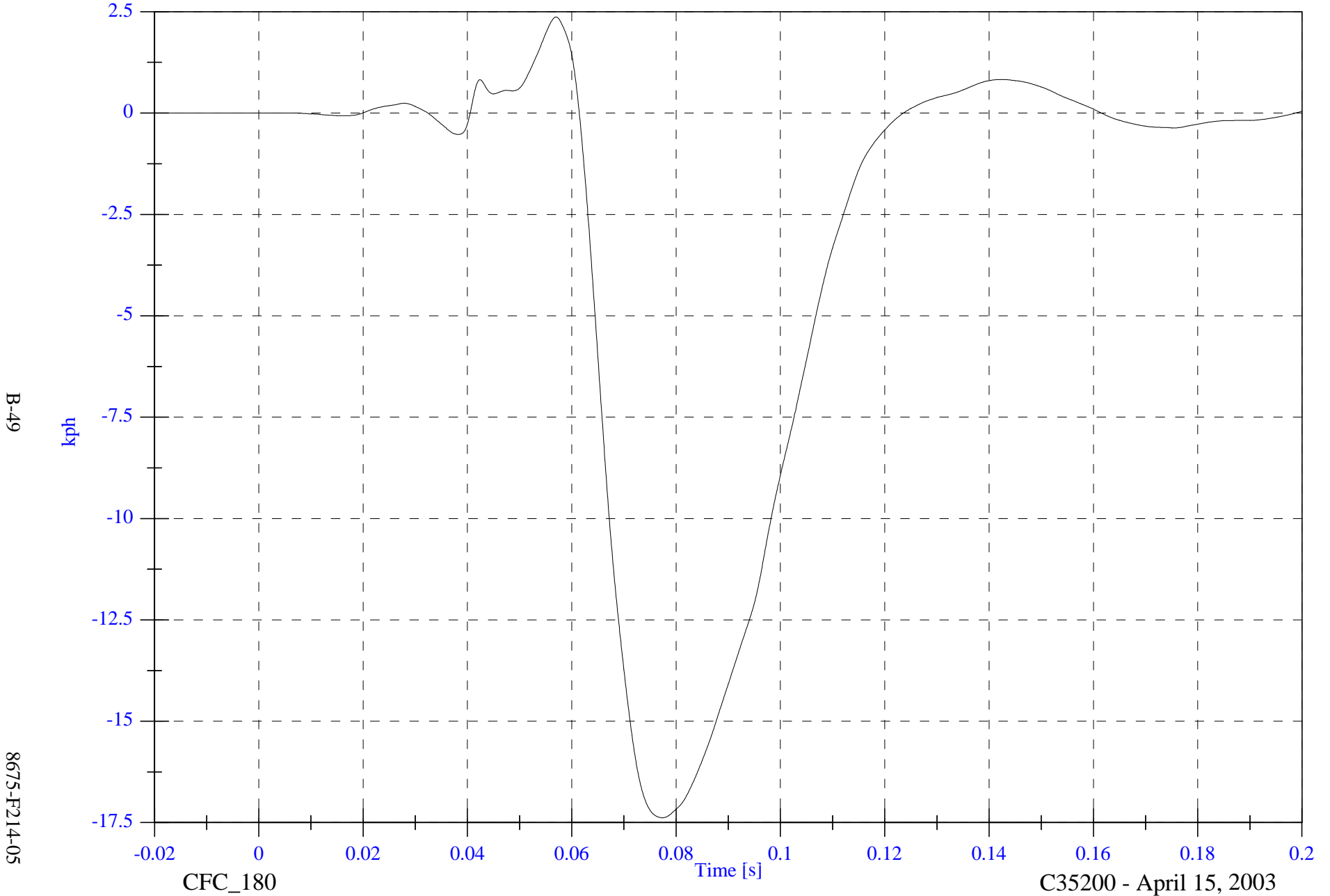
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P4 Head 9 Array Y Arm Az Velocity

Max: 2.4 [kph] at 0.057 [s]

Min: -17.4 [kph] at 0.077 [s]

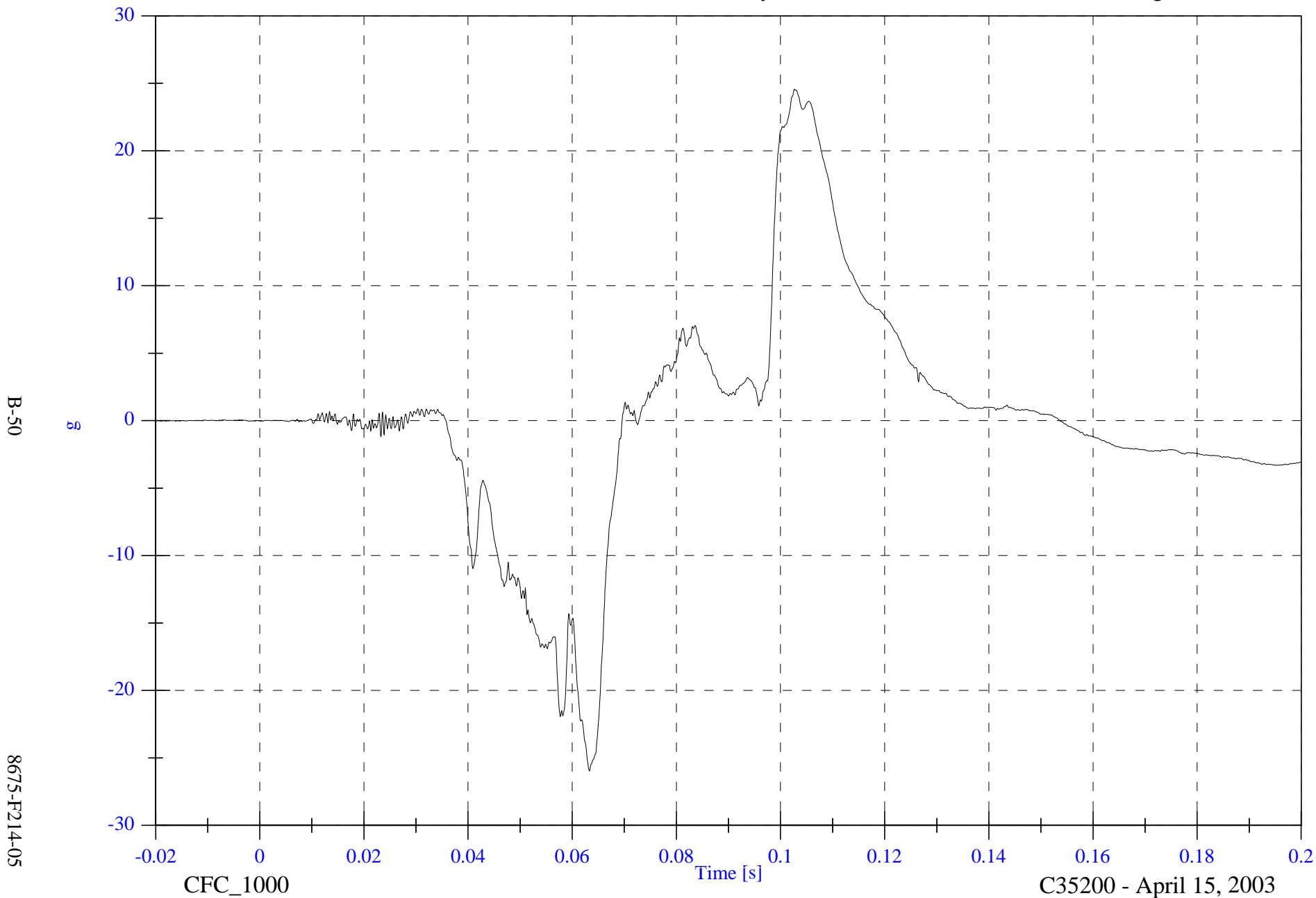


2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P4 Head 9 Array Z Arm Ax

Max: 24.6 [g] at 0.103 [s]

Min: -26.0 [g] at 0.063 [s]



2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

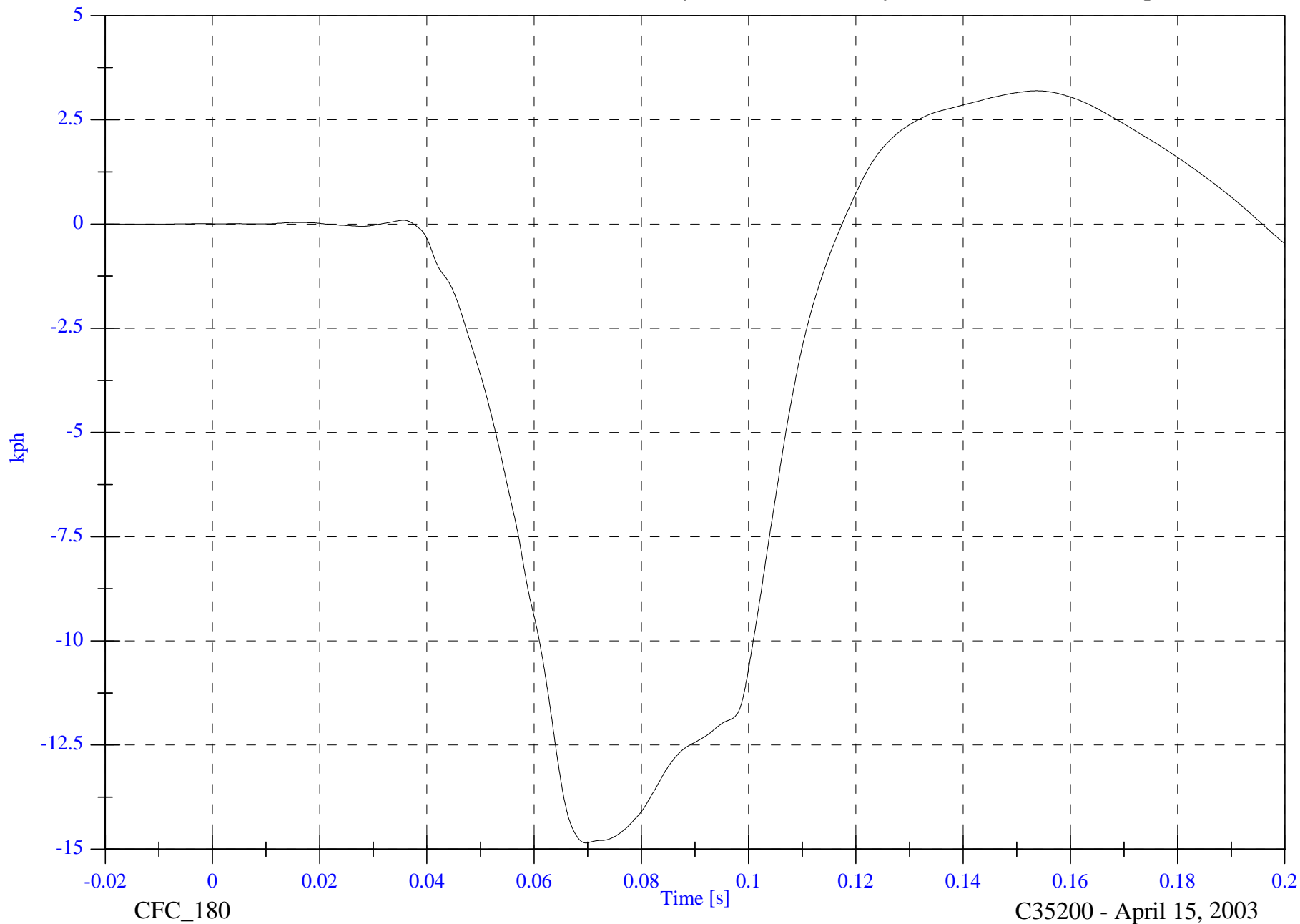
V2P4 Head 9 Array Z Arm Ax Velocity

Max: 3.2 [kph] at 0.154 [s]

Min: -14.8 [kph] at 0.070 [s]

B-51

8675-F214-05



CFC_180

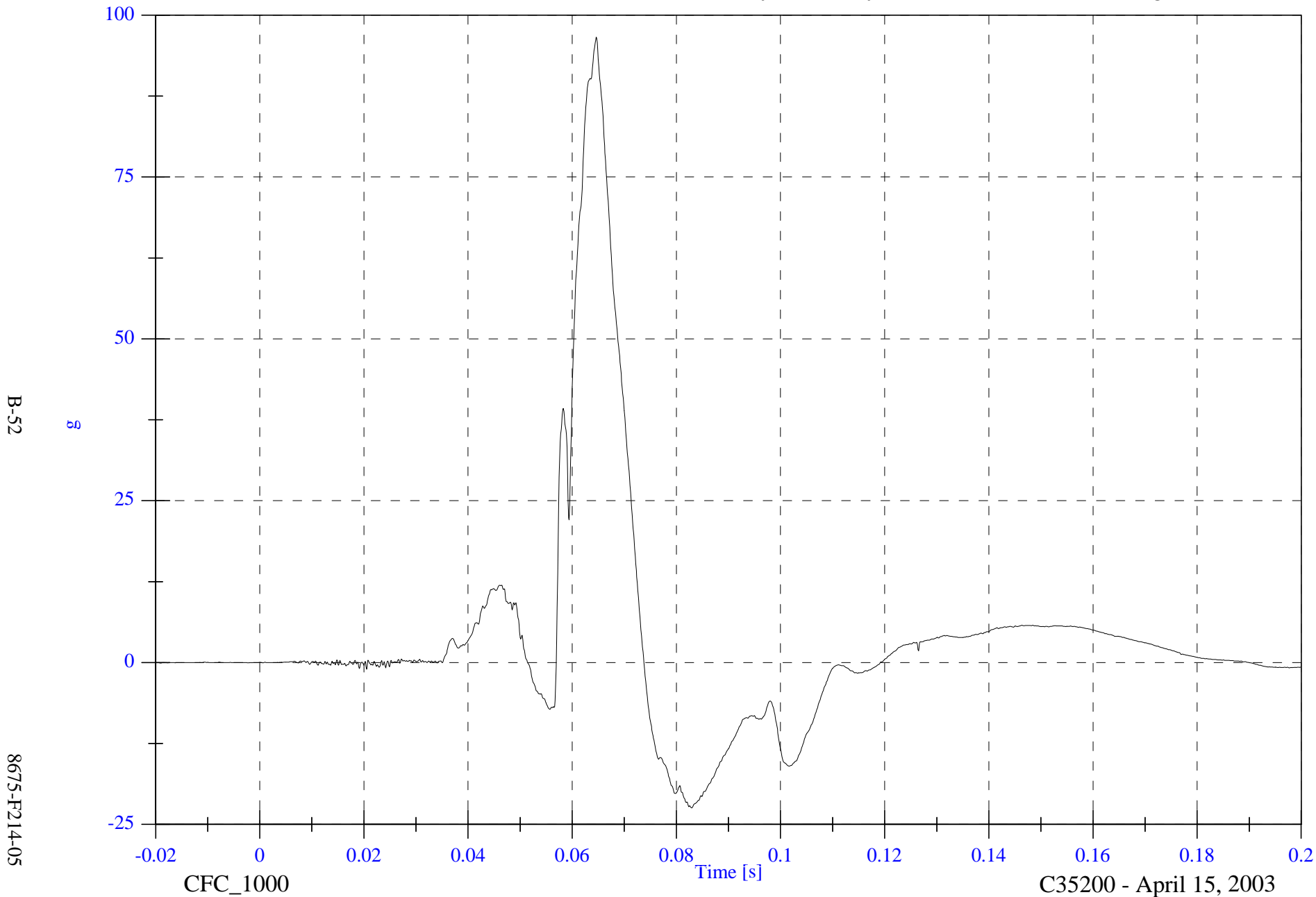
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P4 Head 9 Array Z Arm Ay

Max: 96.6 [g] at 0.065 [s]

Min: -22.4 [g] at 0.083 [s]

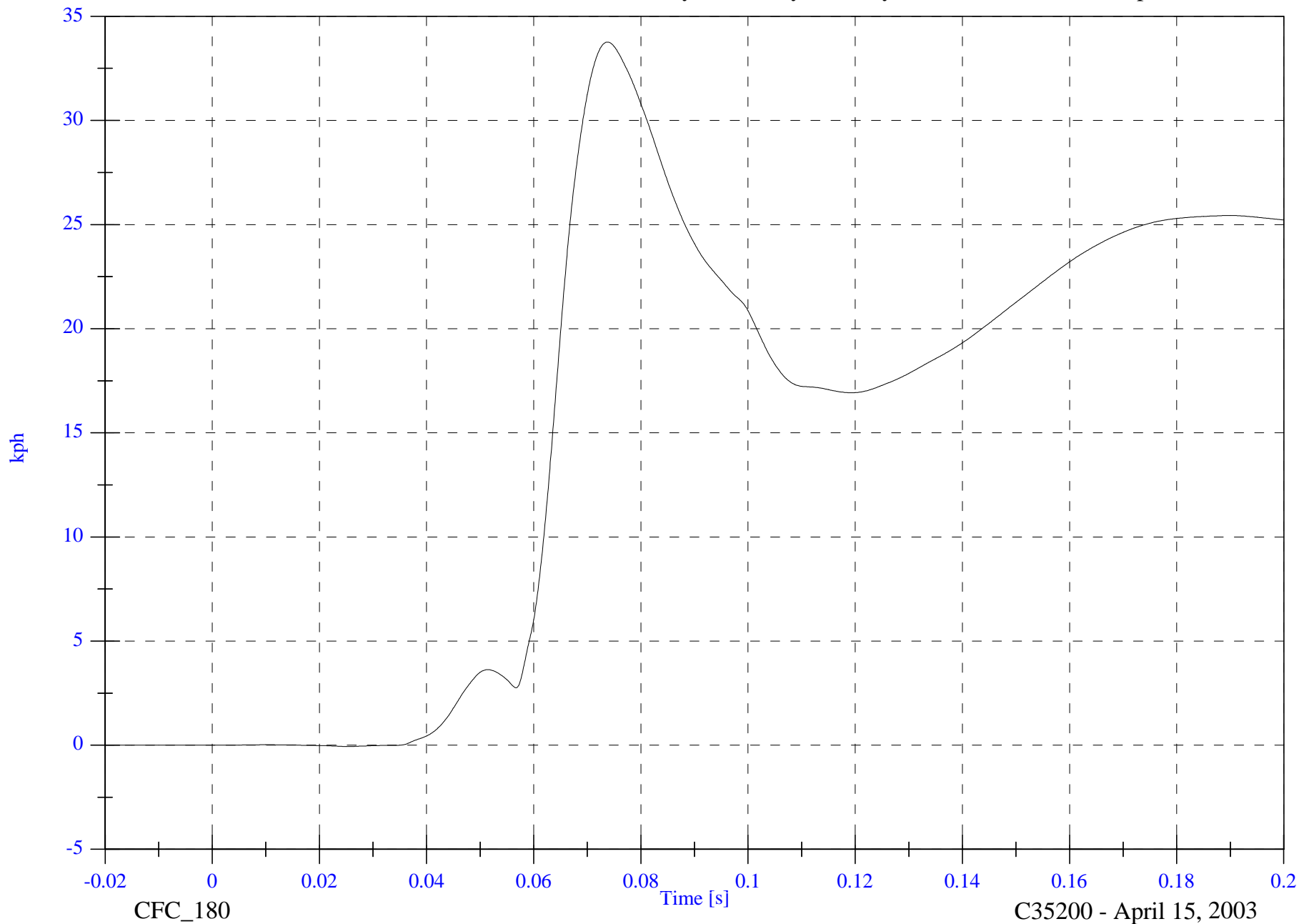


2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P4 Head 9 Array Z Arm Ay Velocity

Max: 33.8 [kph] at 0.074 [s]

Min: -0.1 [kph] at 0.025 [s]



B-53

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CFC_180

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

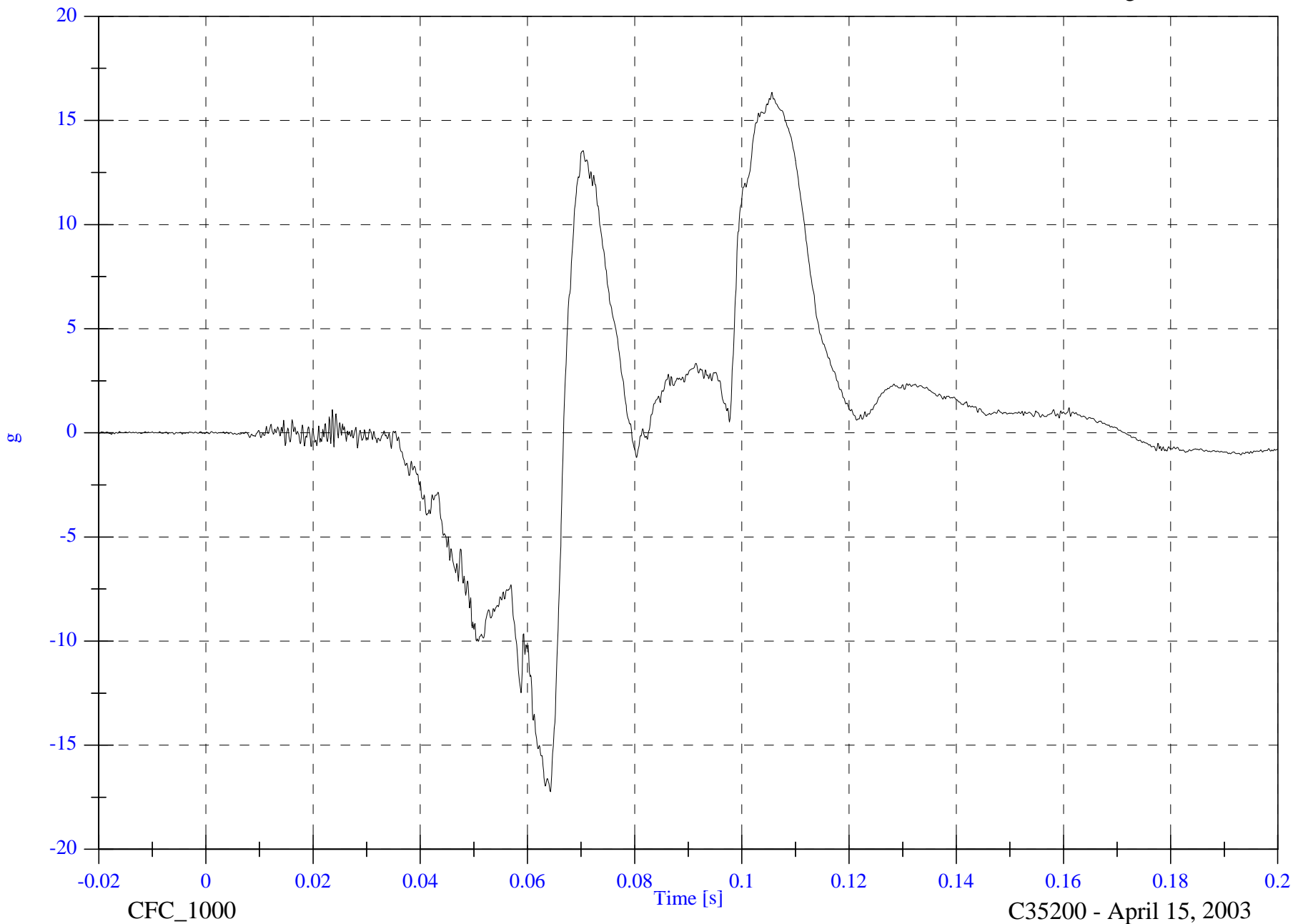
V2P4 Head x

Max: 16.3 [g] at 0.106 [s]

Min: -17.2 [g] at 0.064 [s]

B-54

8675-F214-05



C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

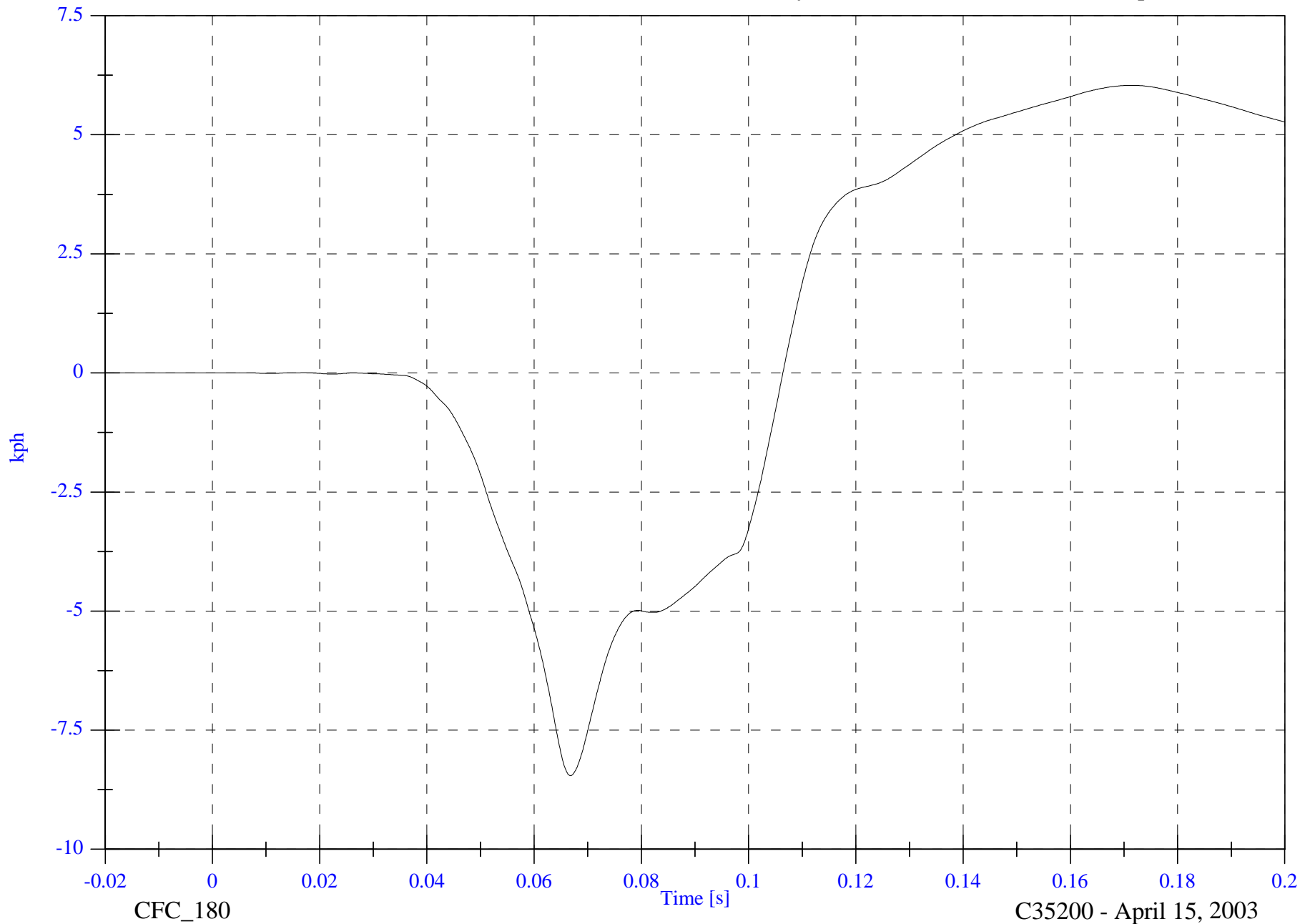
V2P4 Head x Velocity

Max: 6.0 [kph] at 0.171 [s]

Min: -8.5 [kph] at 0.067 [s]

B-55

8675-F214-05



CFC_180

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

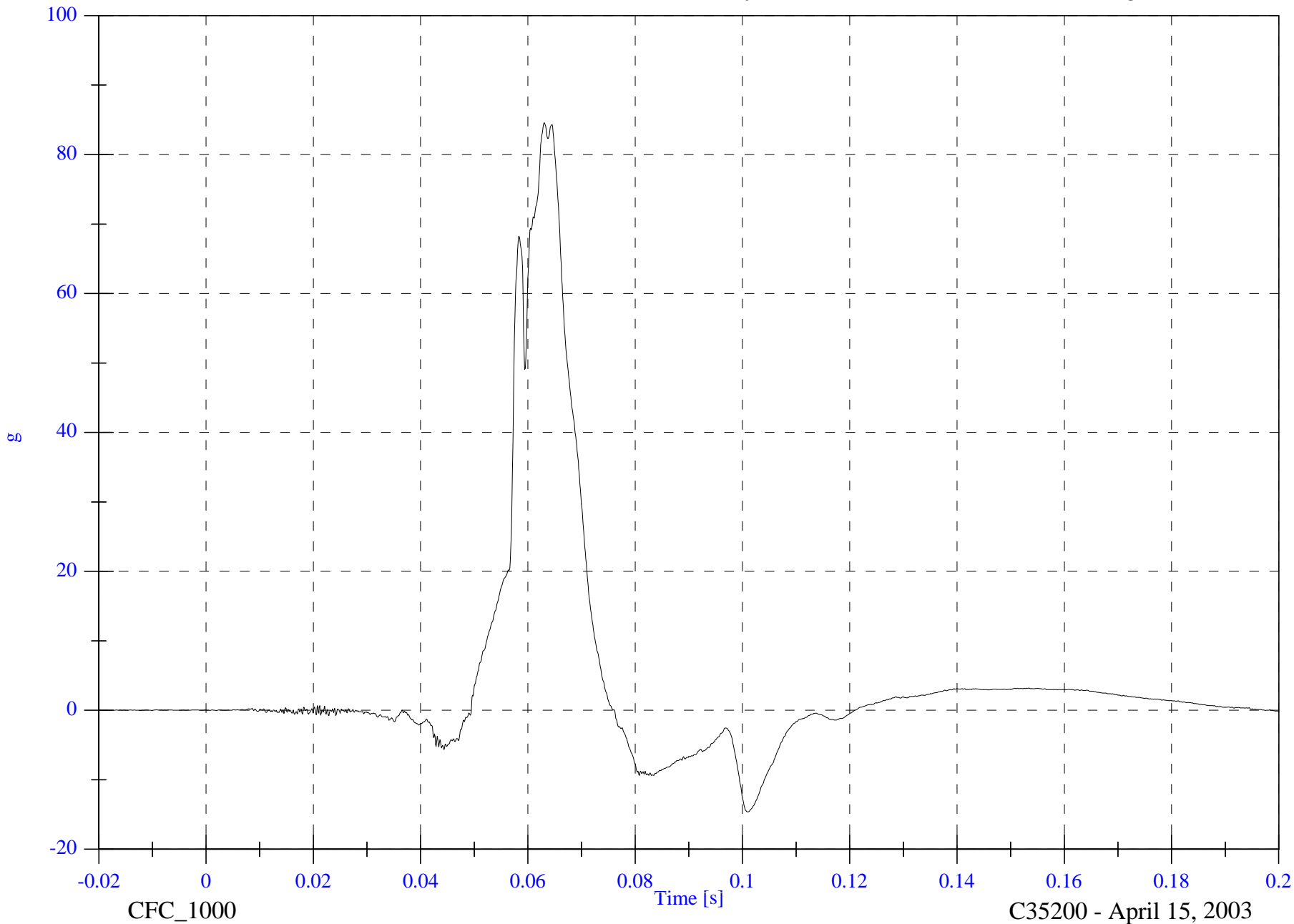
V2P4 Head y

Max: 84.6 [g] at 0.063 [s]

Min: -14.6 [g] at 0.101 [s]

B-56

8675-F214-05



CFC_1000

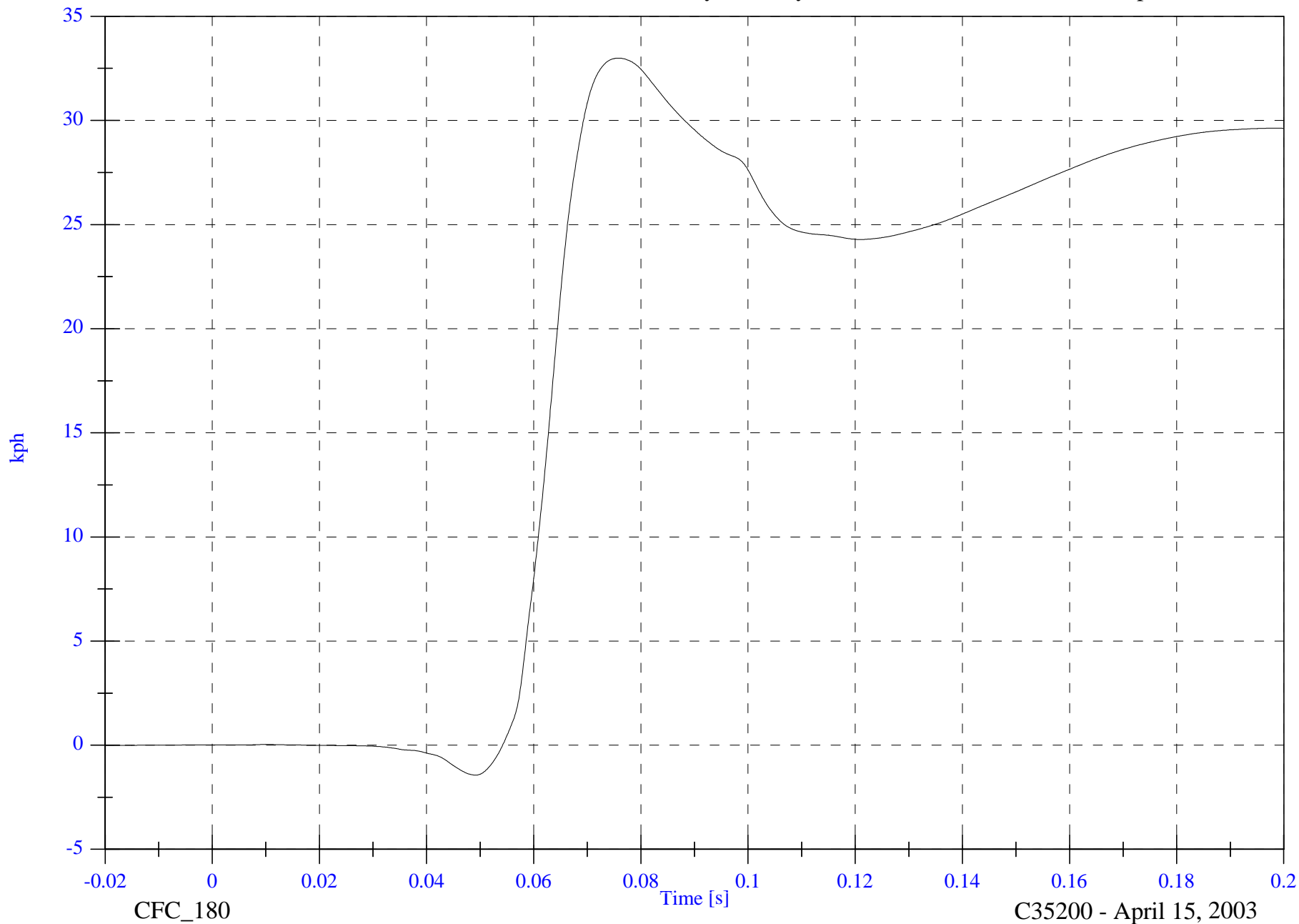
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 33.0 [kph] at 0.076 [s]

V2P4 Head y Velocity

Min: -1.4 [kph] at 0.049 [s]



B-57

8675-F214-05

CFC_180

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

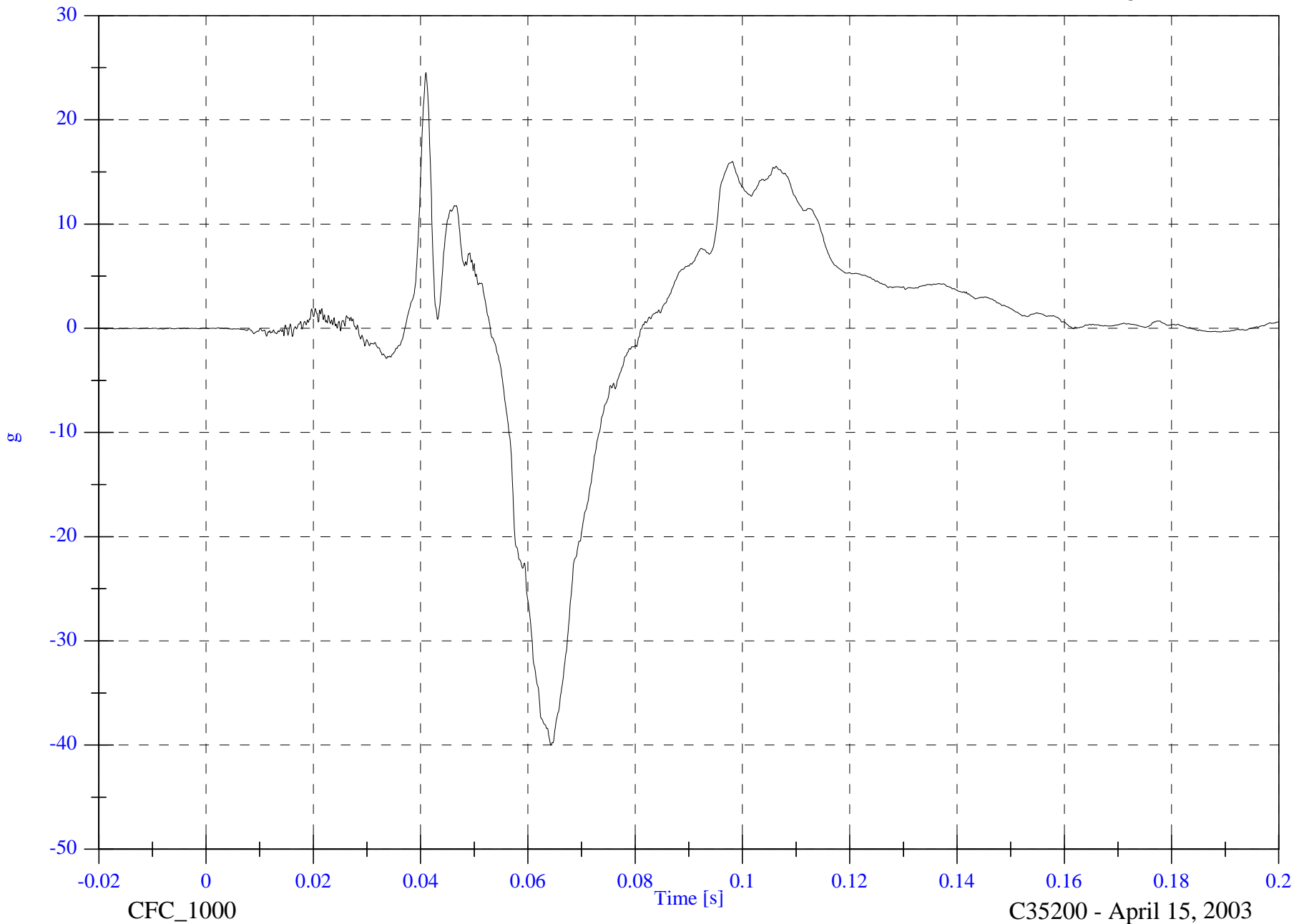
V2P4 Head z

Max: 24.6 [g] at 0.041 [s]

Min: -40.0 [g] at 0.064 [s]

B-58

8675-F214-05



C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

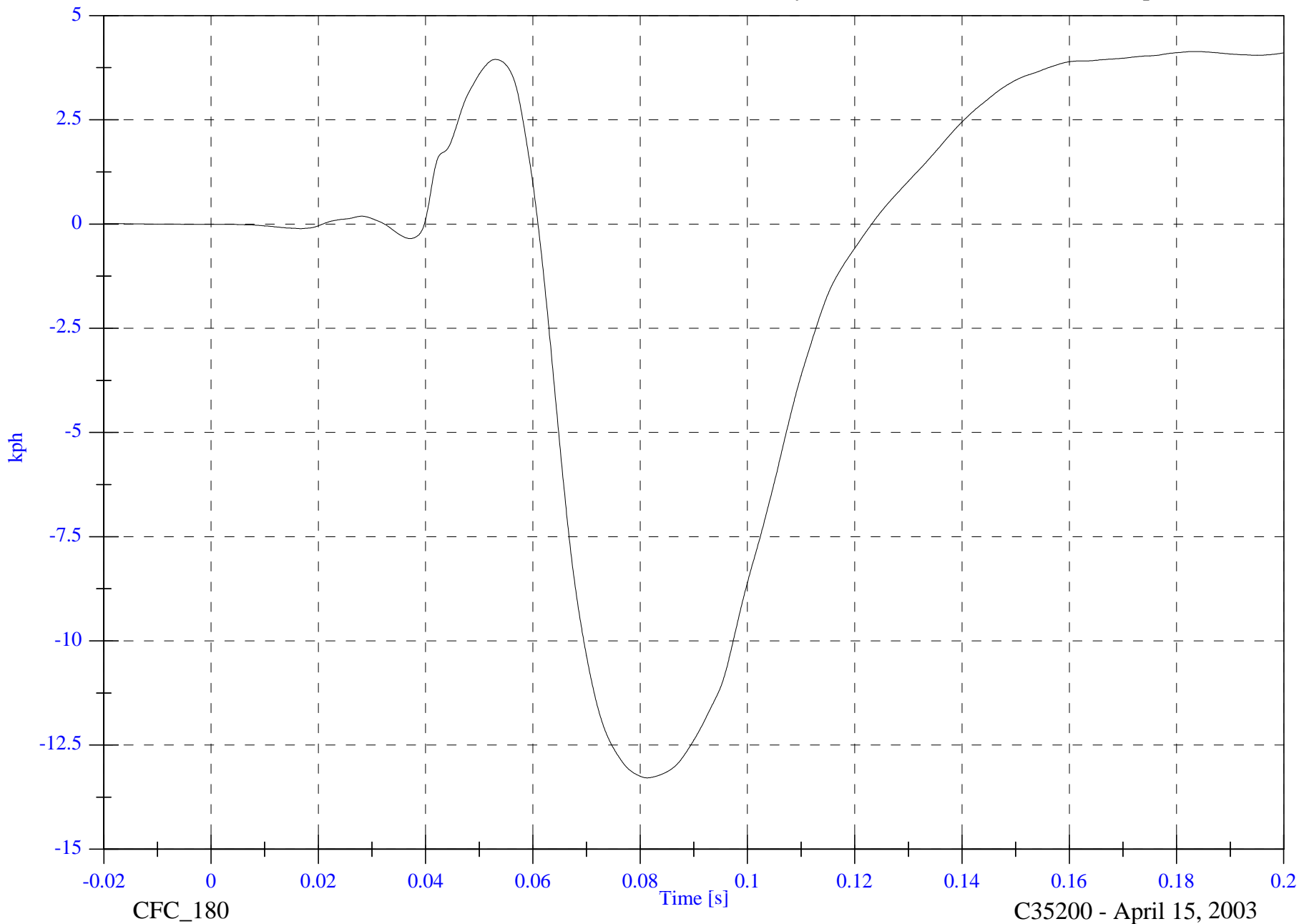
V2P4 Head z Velocity

Max: 4.1 [kph] at 0.184 [s]

Min: -13.3 [kph] at 0.081 [s]

B-59

8675-F214-05



CFC_180

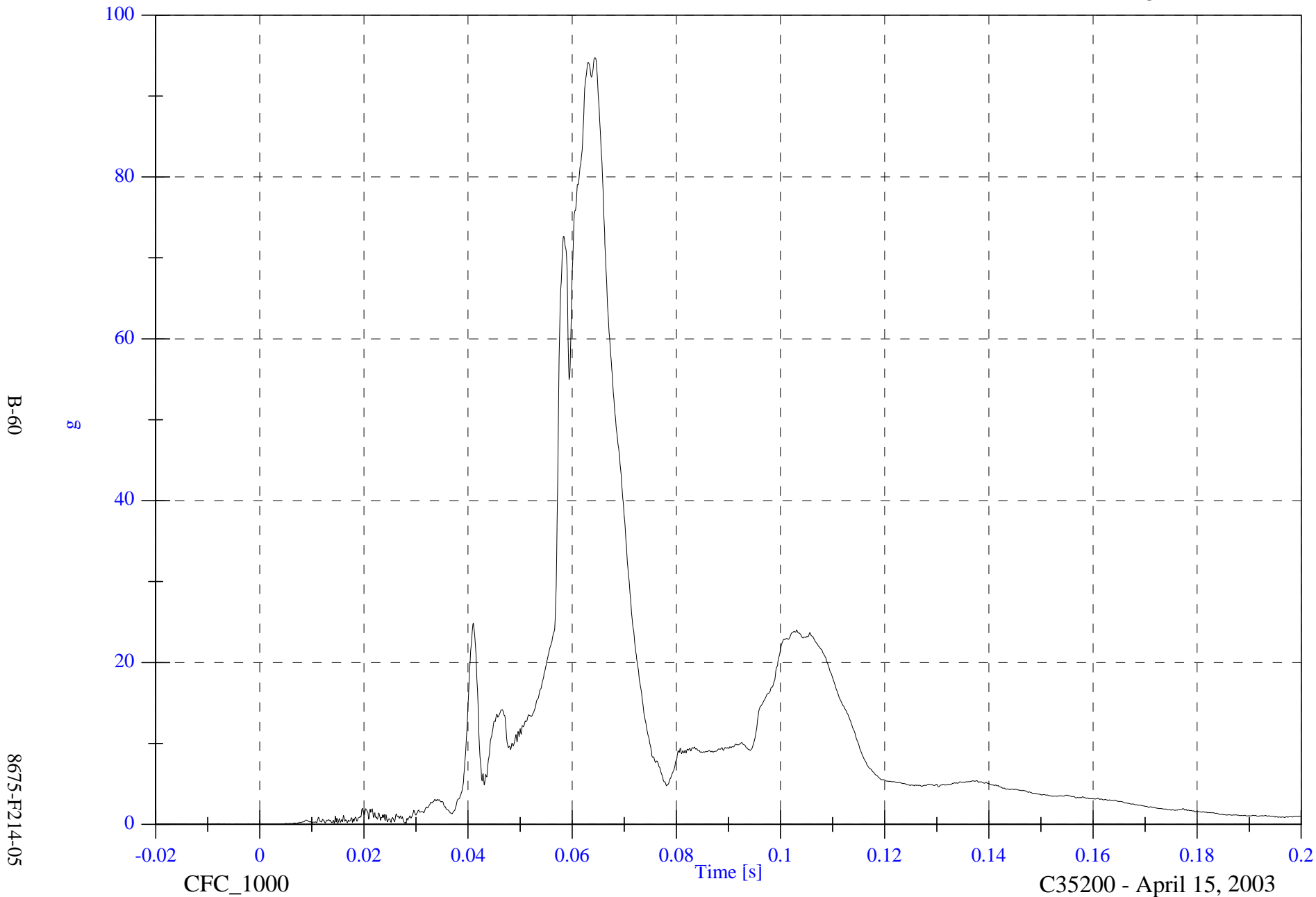
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P4 Head Resultant

Max: 94.8 [g] at 0.064 [s]

Min: 0.0 [g] at 0.004 [s]



B-60

8675-F214-05

CFC_1000

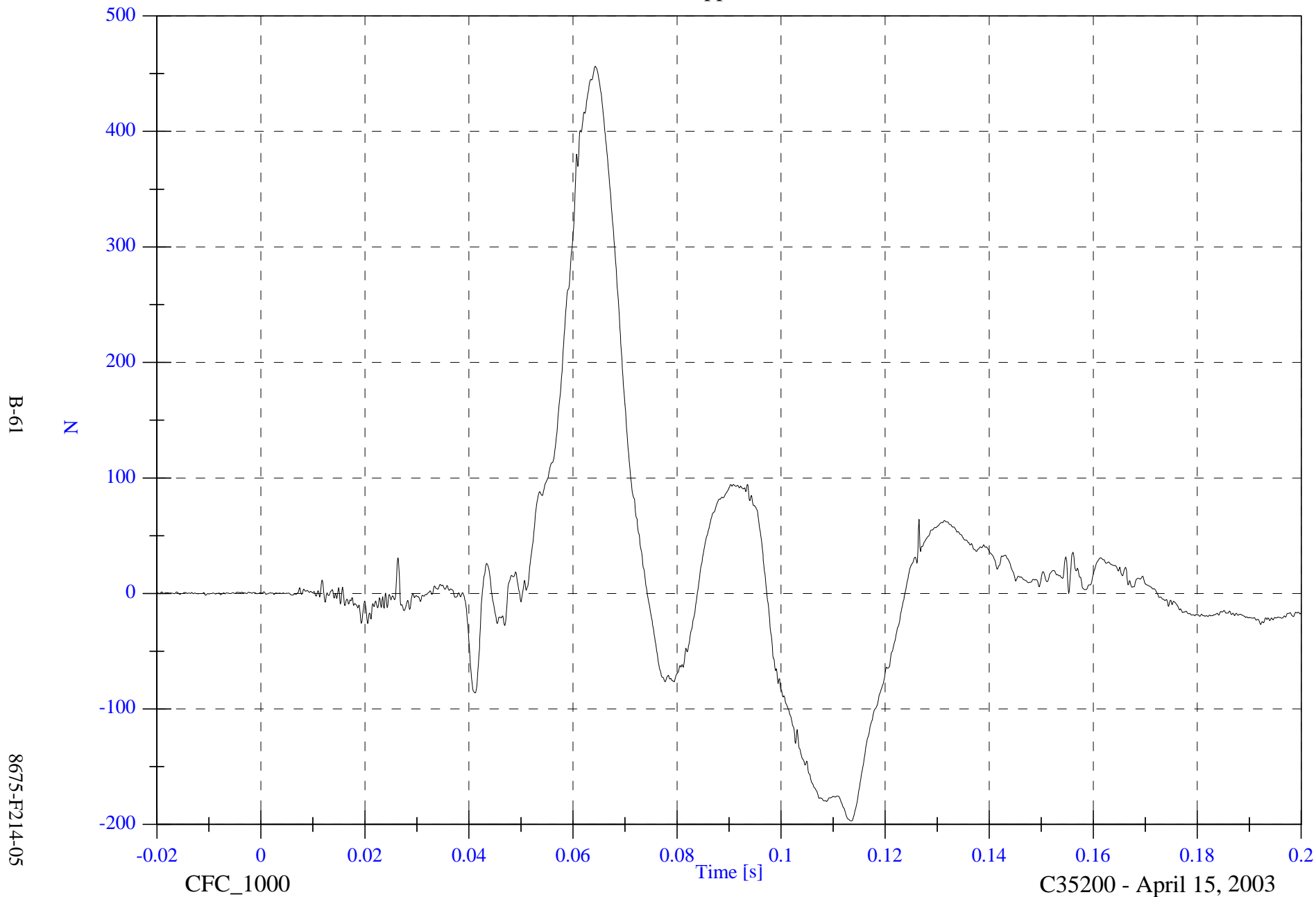
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 456.2 [N] at 0.064 [s]

V2P4 Upper Neck Fx

Min: -196.8 [N] at 0.114 [s]

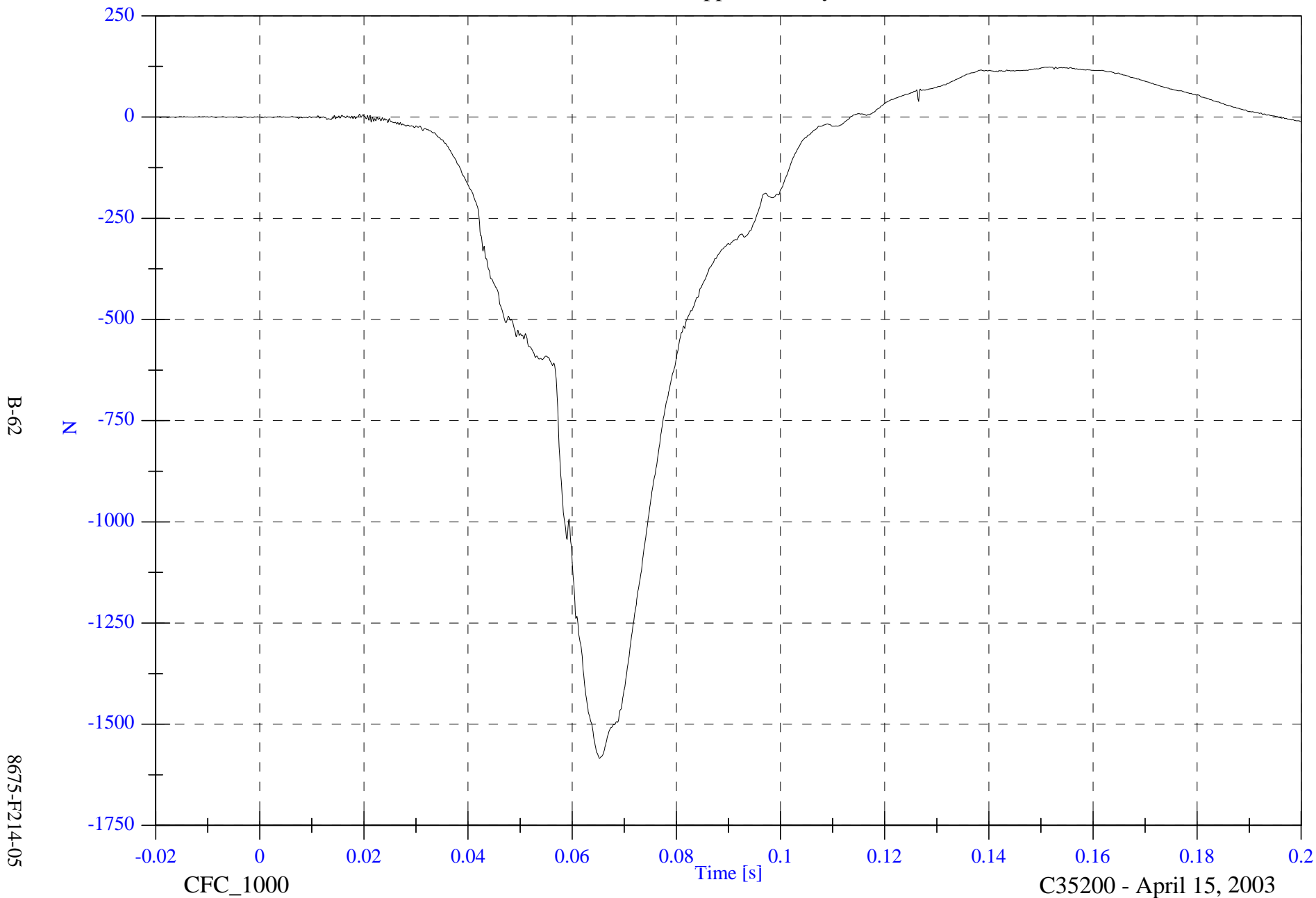


2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P4 Upper Neck Fy

Max: 123.6 [N] at 0.152 [s]

Min: -1584.5 [N] at 0.065 [s]



B-62

8675-F214-05

CFC_1000

Time [s]

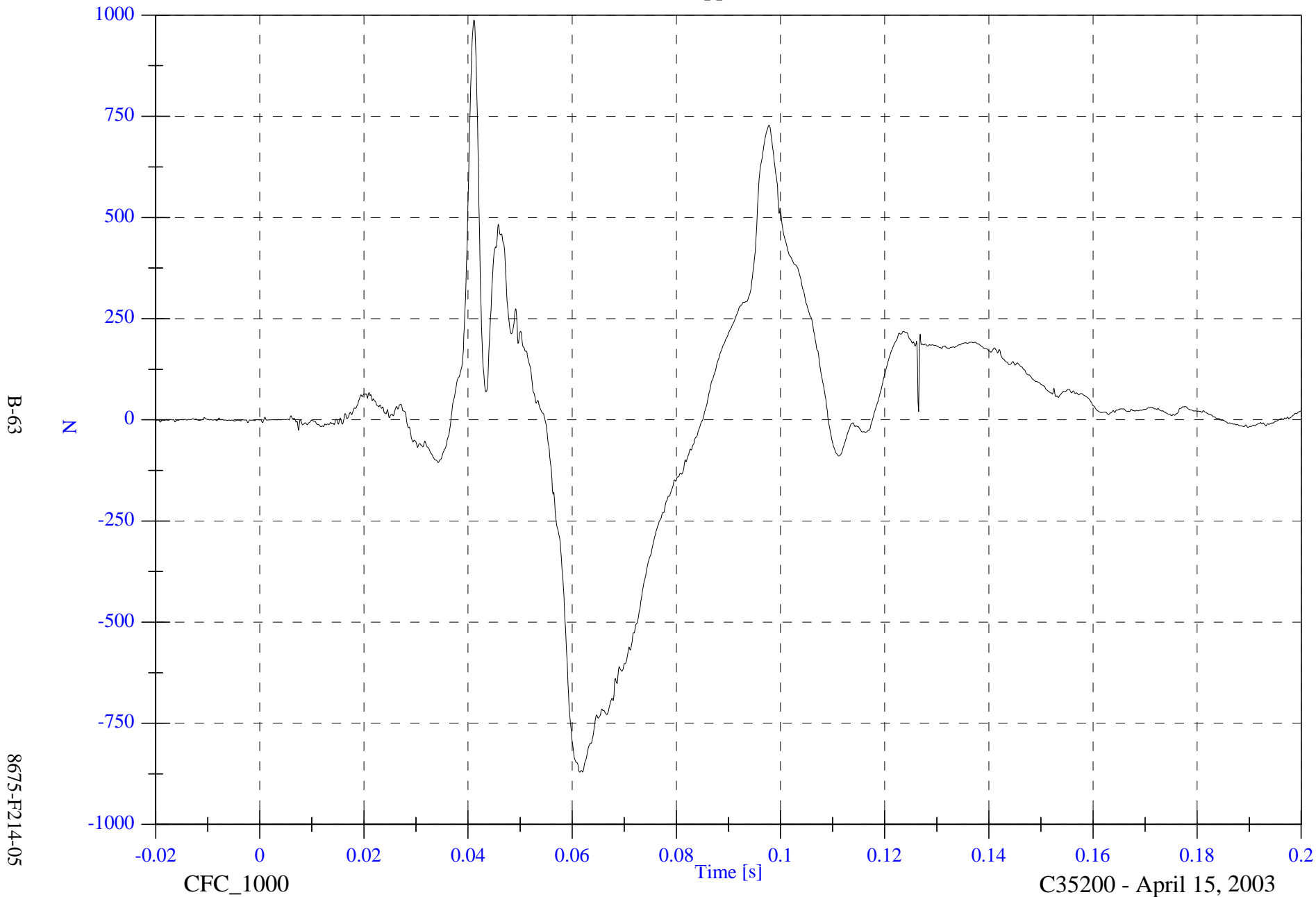
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 987.6 [N] at 0.041 [s]

V2P4 Upper Neck Fz

Min: -870.8 [N] at 0.062 [s]



B-63

8675-F214-05

CFC_1000

Time [s]

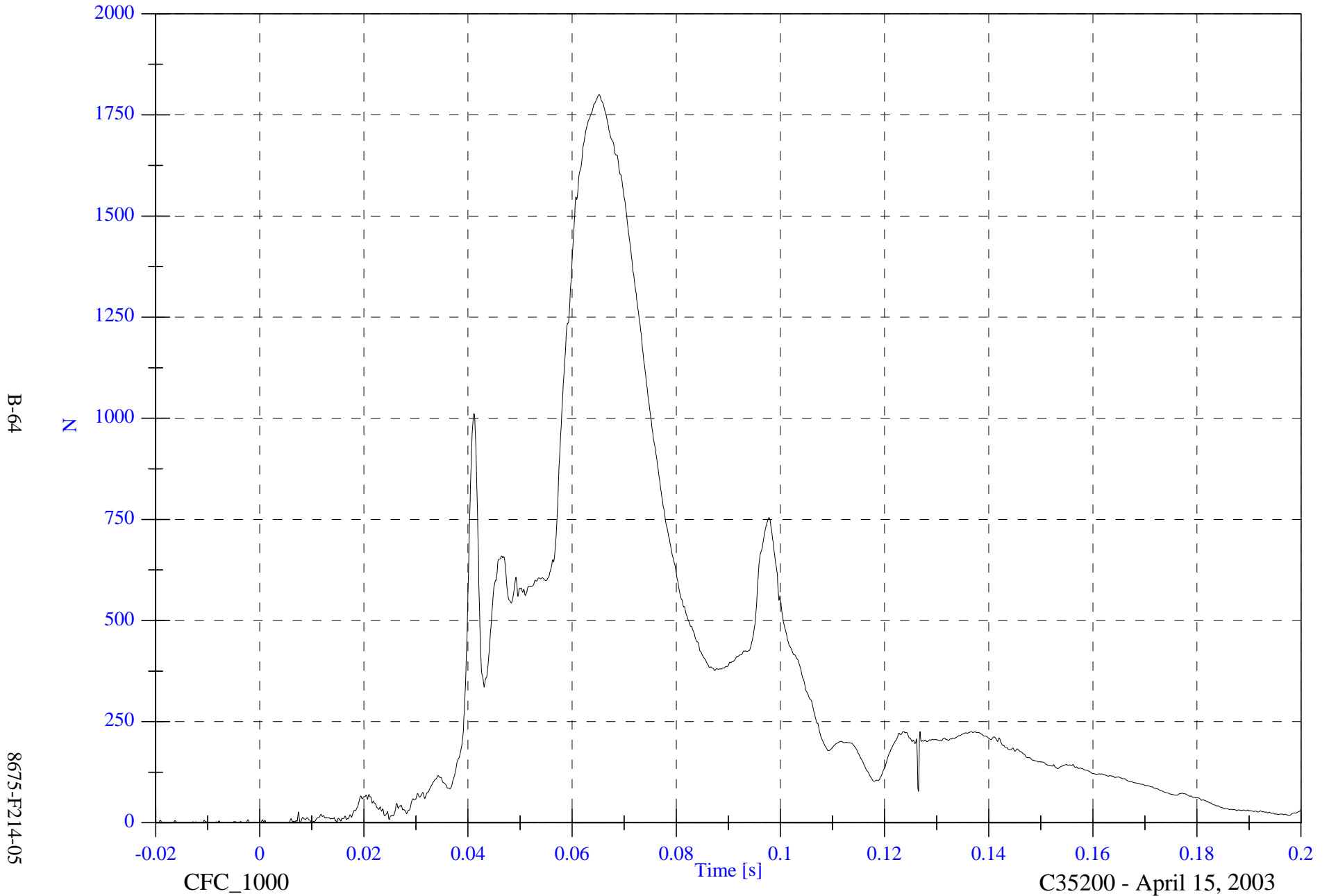
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P4 Upper Neck F Resultant

Max: 1800.3 [N] at 0.065 [s]

Min: 0.1 [N] at -0.013 [s]



B-64

8675-F214-05

CFC_1000

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

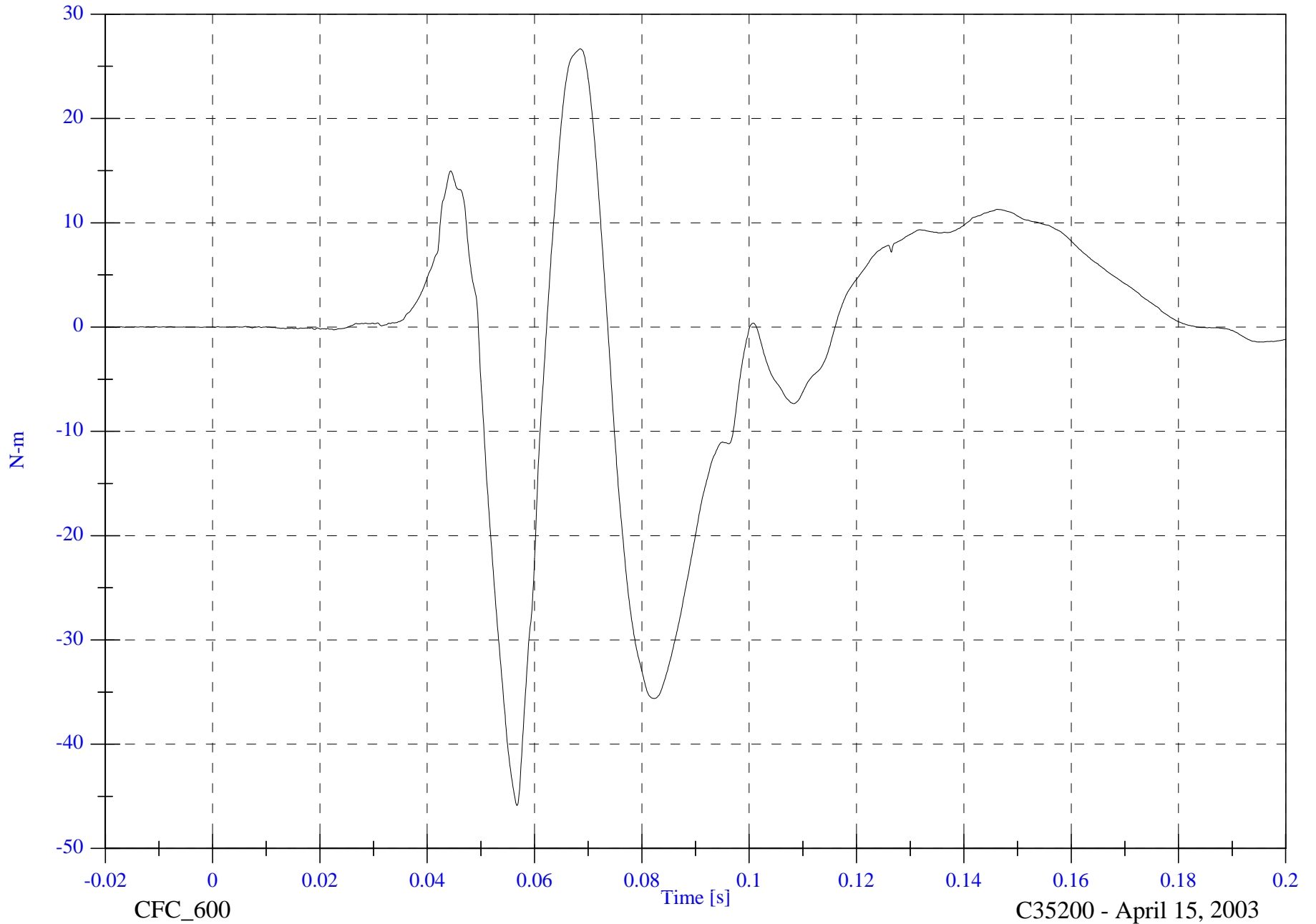
V2P4 Upper Neck Mx

Max: 26.7 [N-m] at 0.068 [s]

Min: -45.9 [N-m] at 0.057 [s]

B-65

8675-F214-05



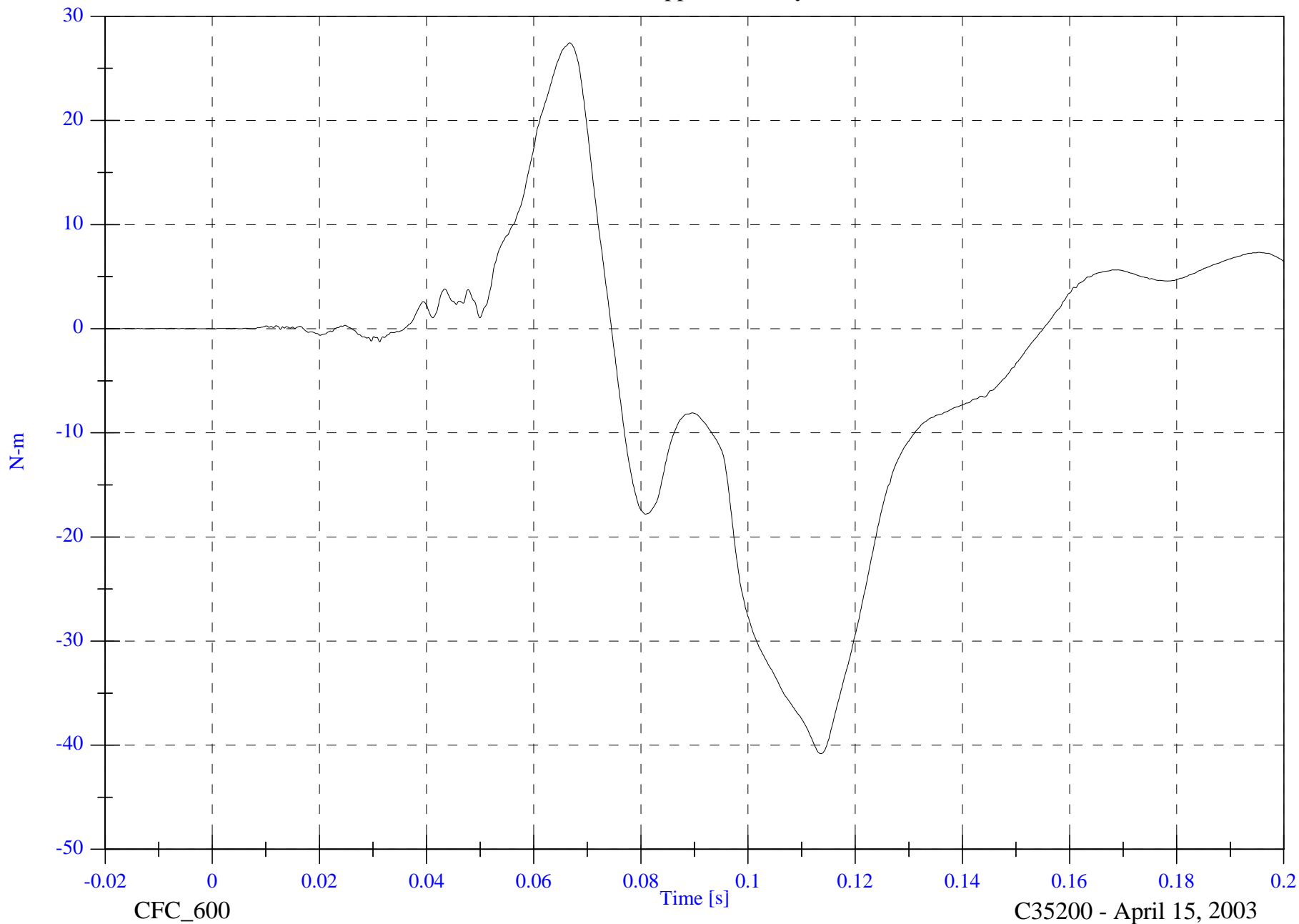
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P4 Upper Neck My

Max: 27.5 [N-m] at 0.067 [s]

Min: -40.8 [N-m] at 0.114 [s]



B-66

8675-F214-05

CFC_600

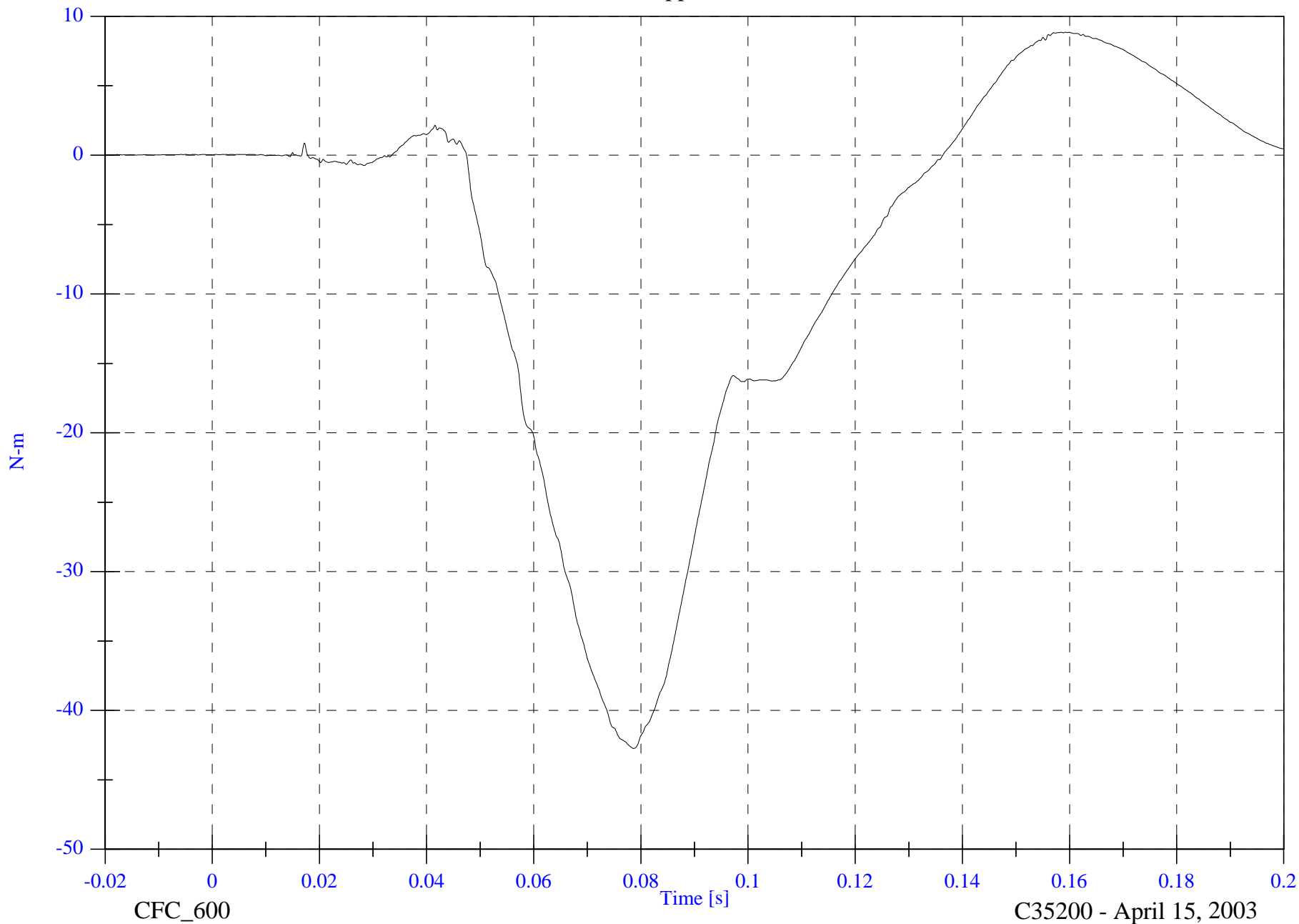
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P4 Upper Neck Mz

Max: 8.9 [N-m] at 0.159 [s]

Min: -42.7 [N-m] at 0.079 [s]



B-67

8675-F214-05

CFC_600

Time [s]

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

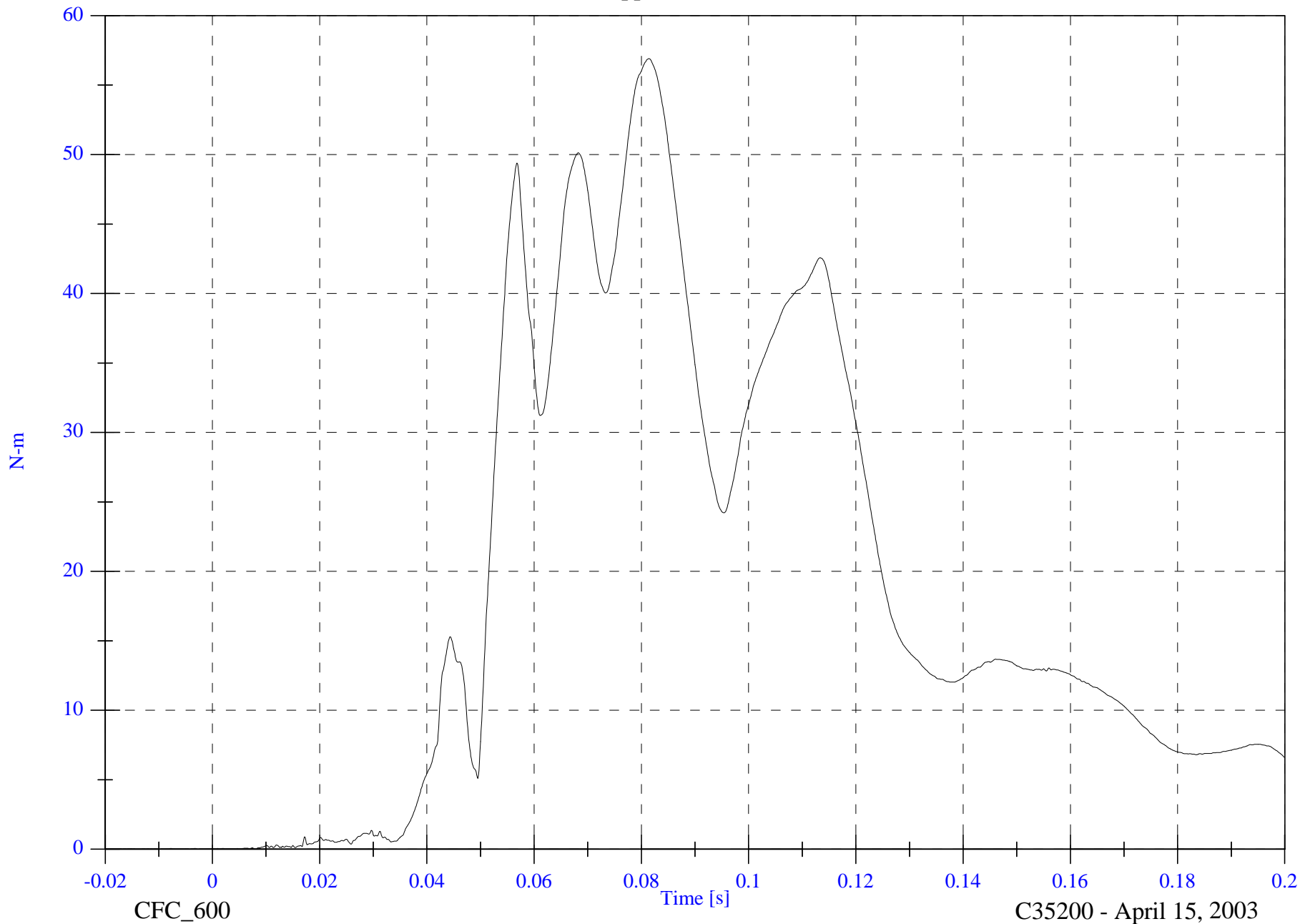
V2P4 Upper Neck M Resultant

Max: 56.9 [N-m] at 0.081 [s]

Min: 0.0 [N-m] at -0.020 [s]

B-68

8675-F214-05



CFC_600

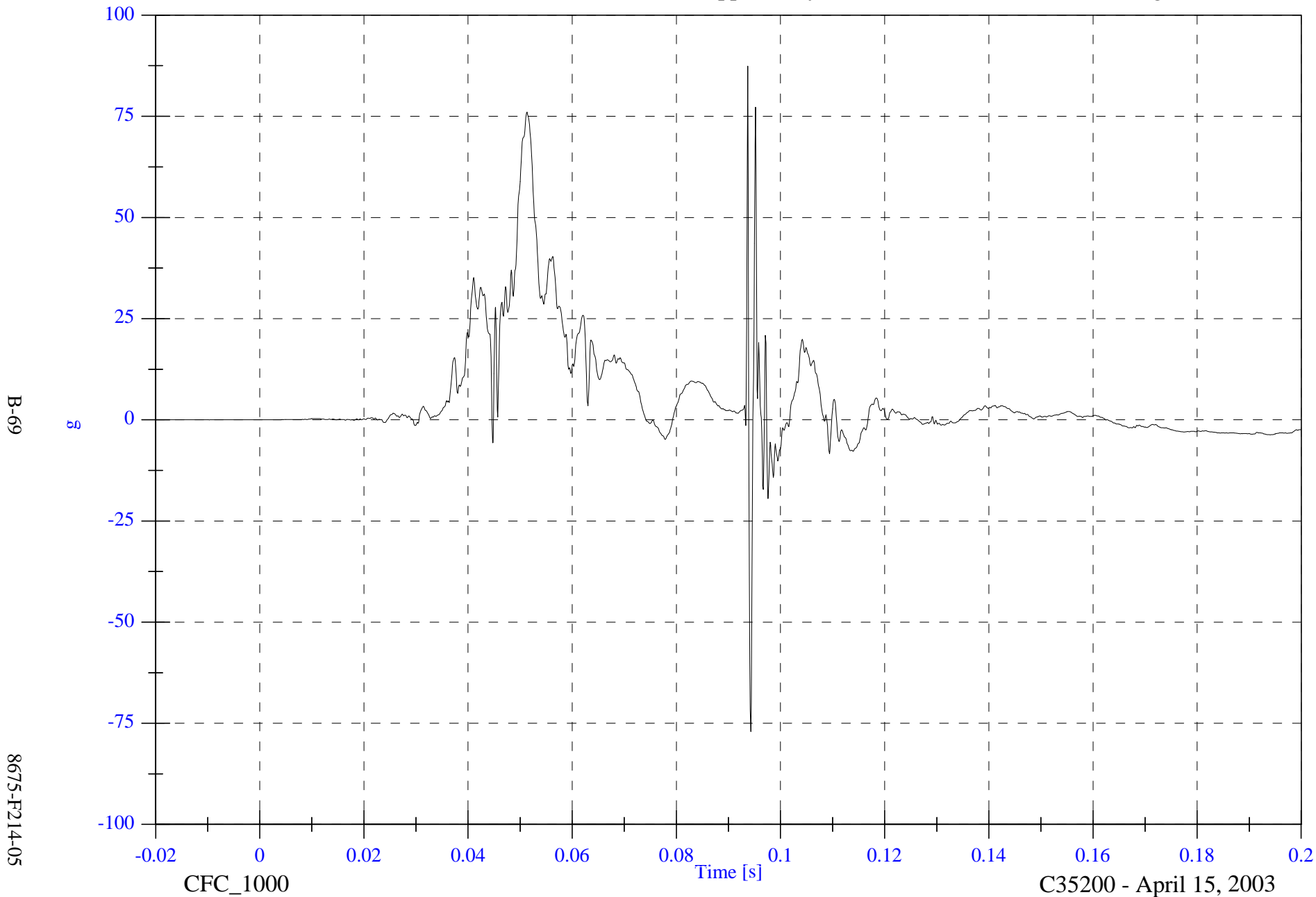
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P4 Upper Rib y

Max: 87.4 [g] at 0.094 [s]

Min: -77.1 [g] at 0.094 [s]



B-69

8675-F214-05

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

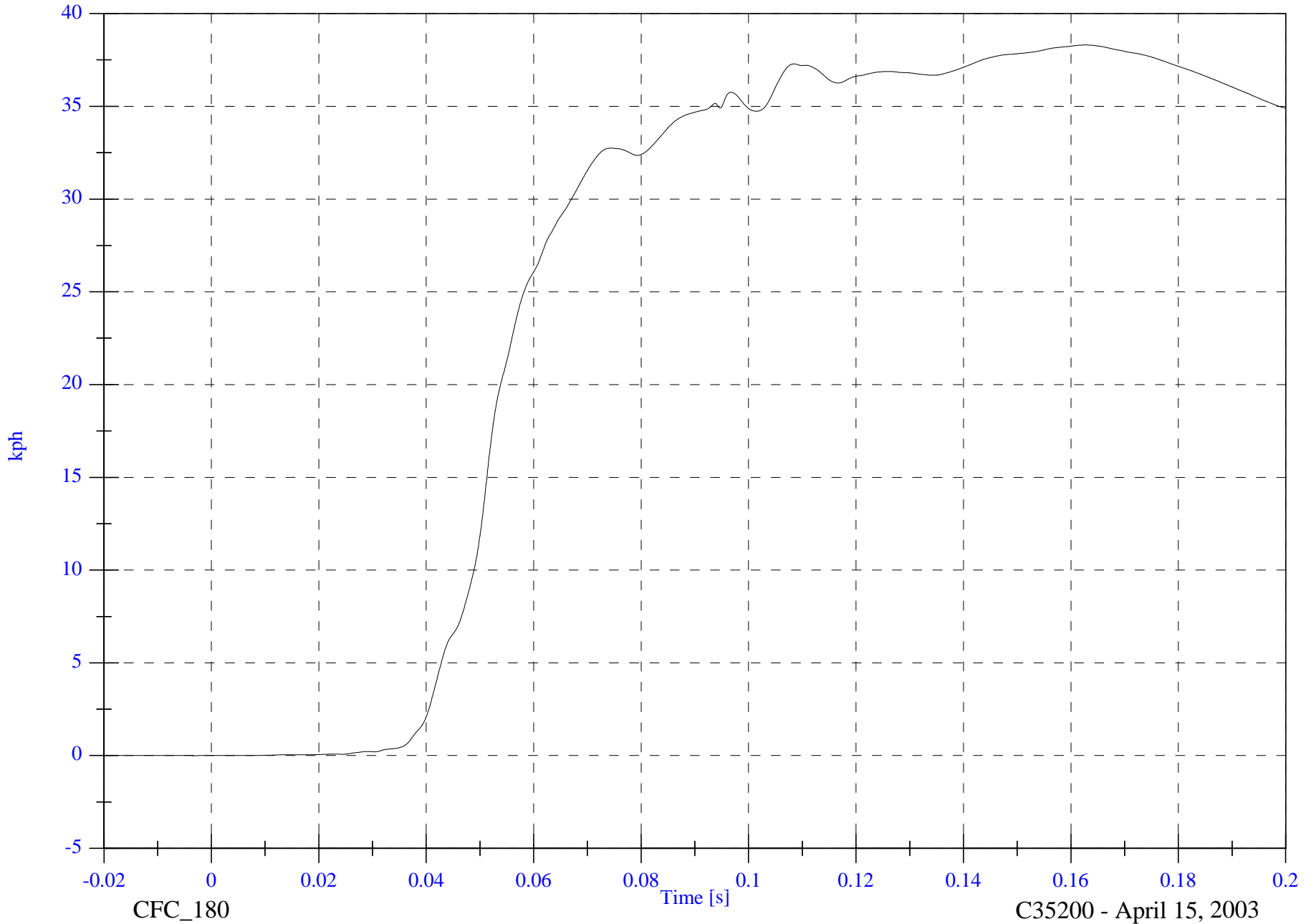
V2P4 Upper Rib y Velocity

Max: 38.3 [kph] at 0.163 [s]

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

B-70

8675-F214-05



CFC_180

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

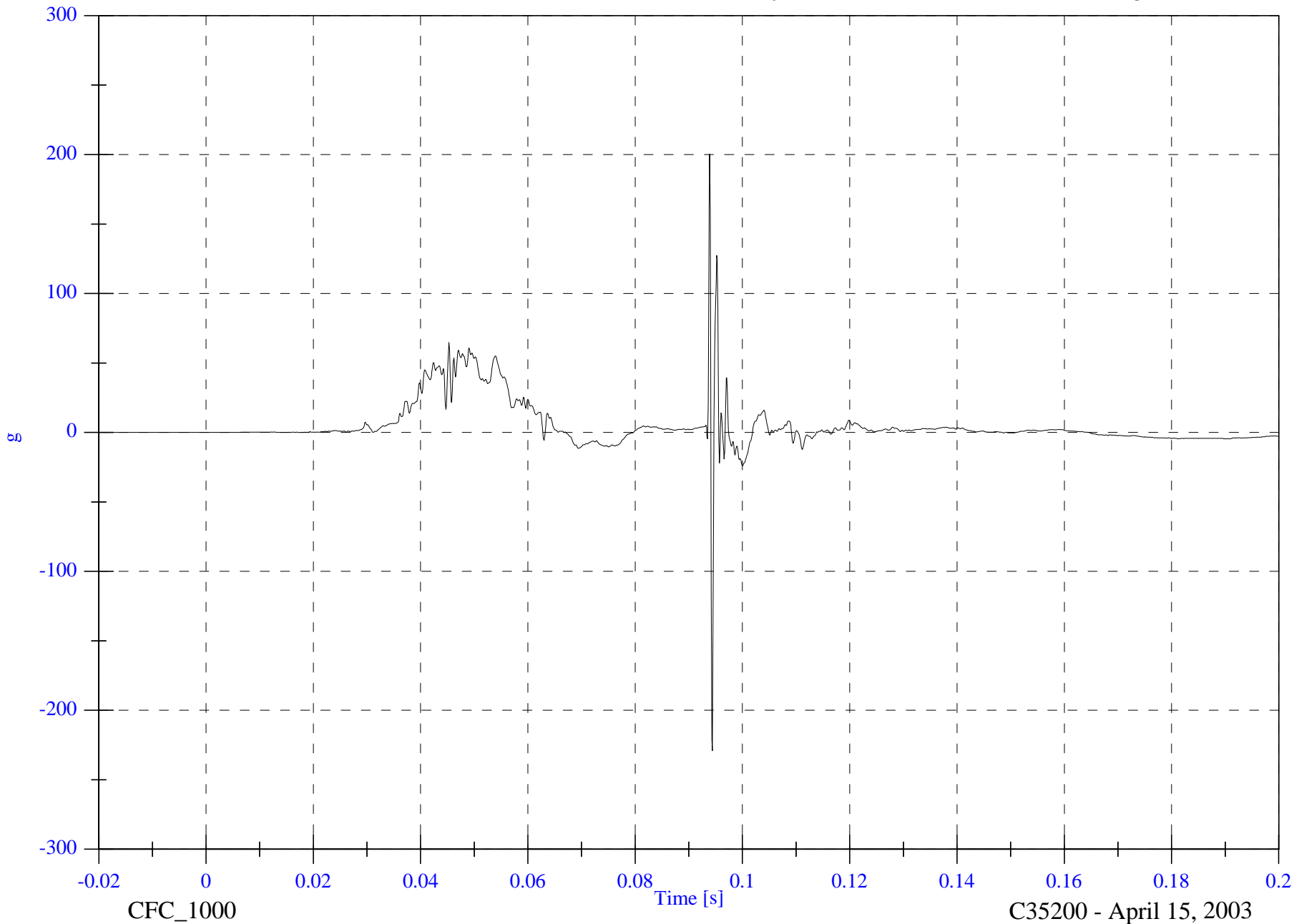
V2P4 Lower Rib y

Max: 200.3 [g] at 0.094 [s]

Min: -229.1 [g] at 0.094 [s]

B-71

8675-F214-05



2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

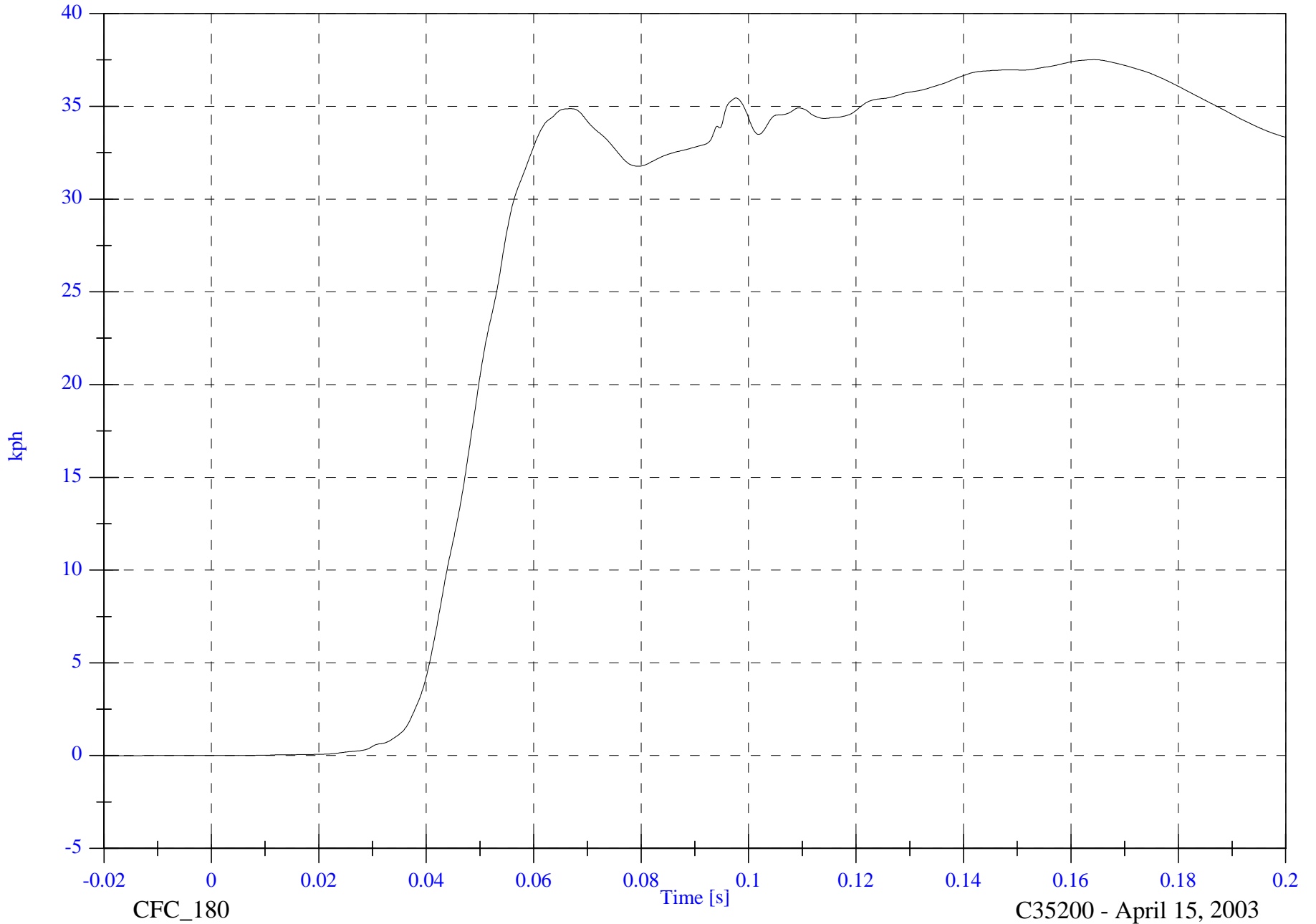
V2P4 Lower Rib y Velocity

Max: 37.5 [kph] at 0.164 [s]

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

B-72

8675-F214-05



CFC_180

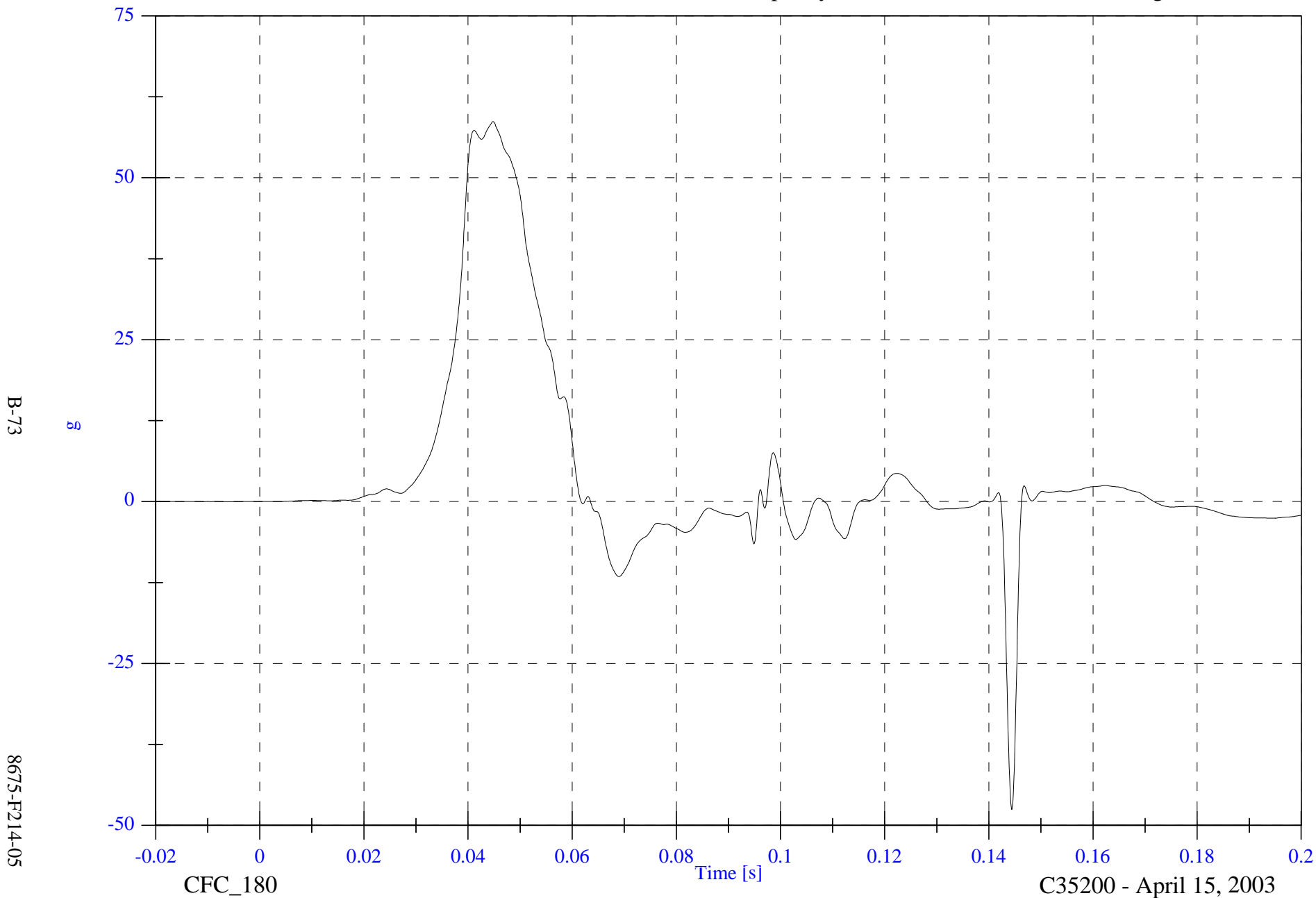
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P4 Lower Spine y

Max: 58.7 [g] at 0.045 [s]

Min: -47.5 [g] at 0.144 [s]



2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

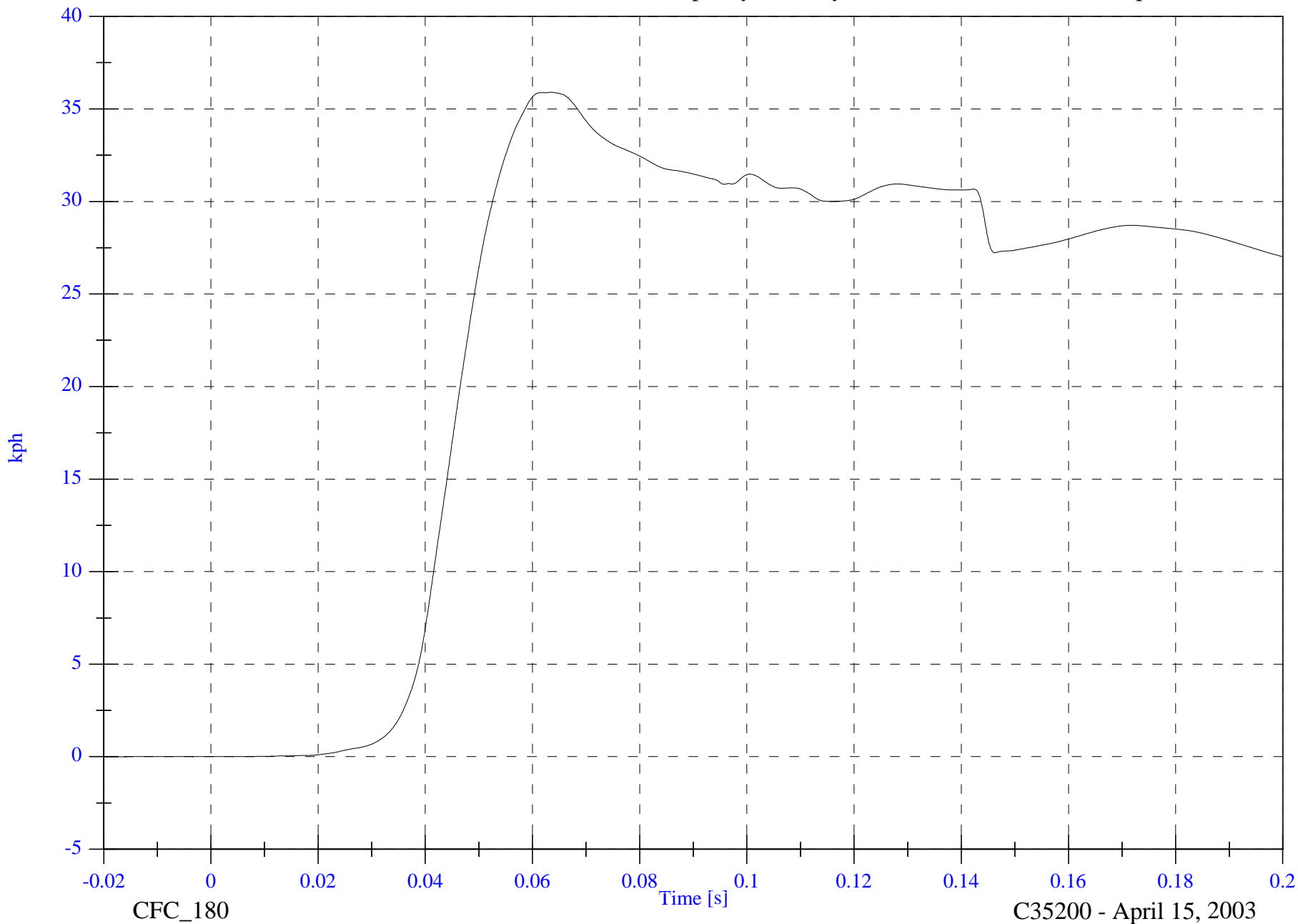
V2P4 Lower Spine y Velocity

Max: 35.9 [kph] at 0.063 [s]

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

B-74

8675-F214-05



CFC_180

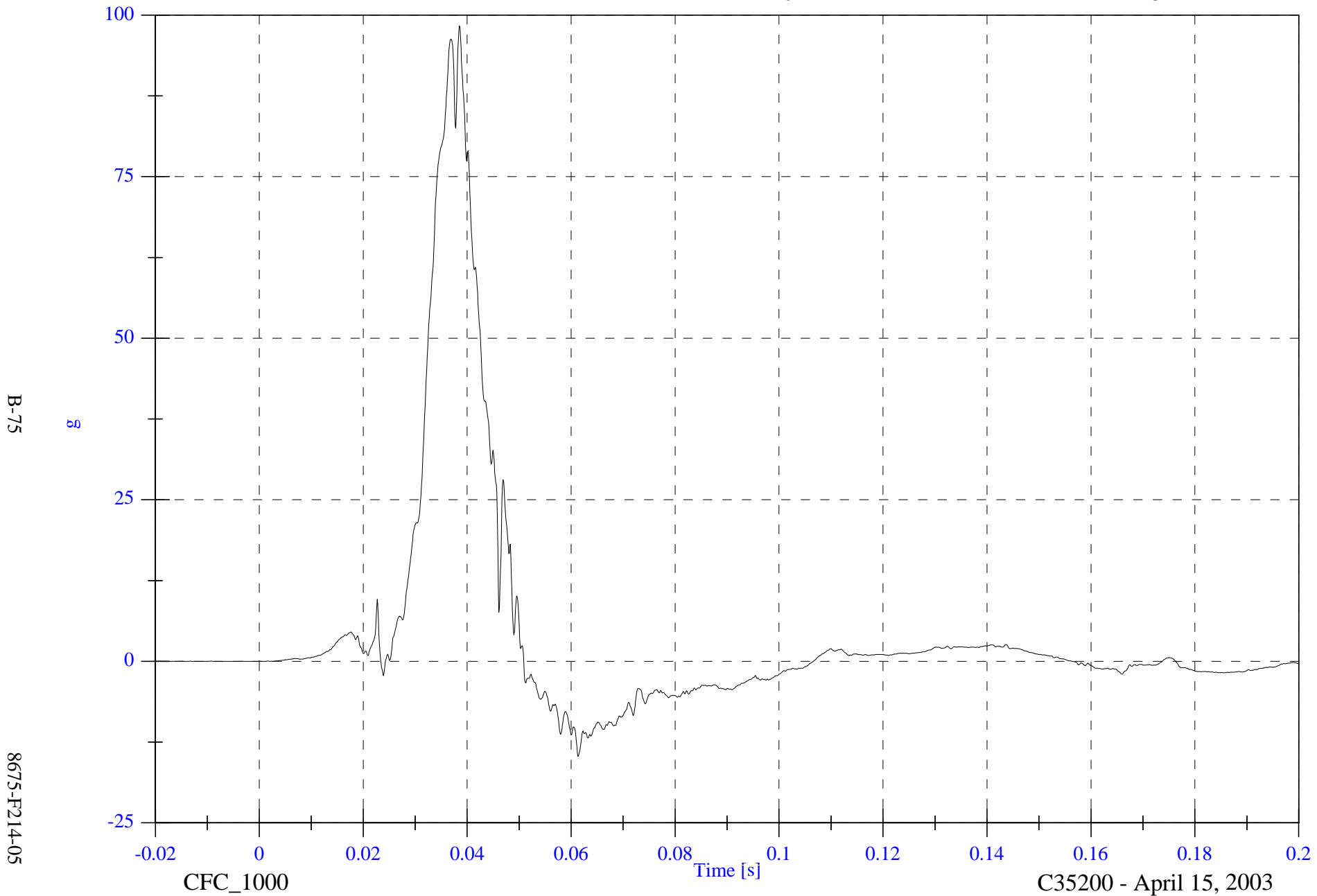
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P4 Pelvic y

Max: 98.4 [g] at 0.039 [s]

Min: -14.7 [g] at 0.061 [s]



2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

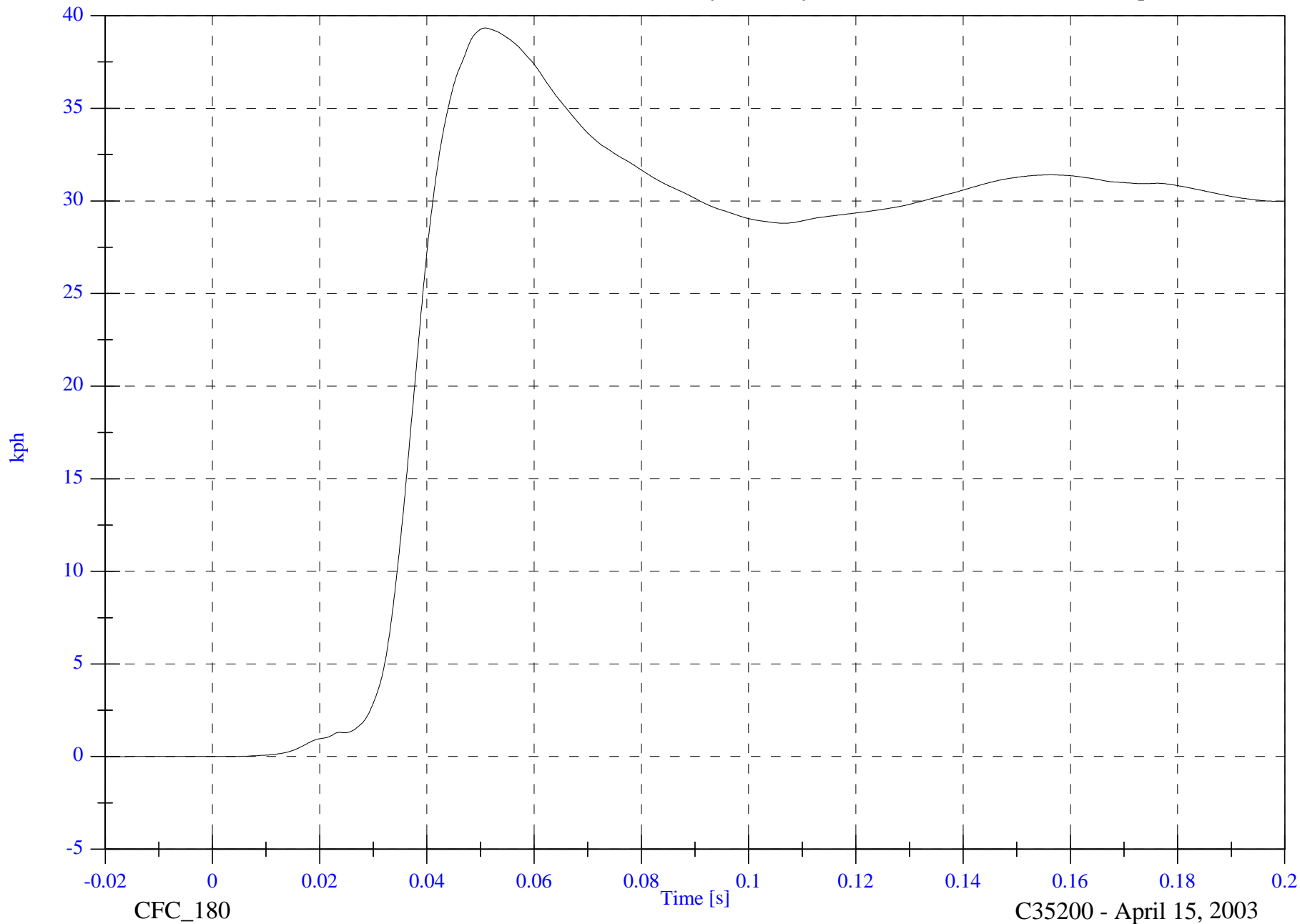
V2P4 Pelvic y Velocity

Max: 39.3 [kph] at 0.051 [s]

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

B-76

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CFC_180

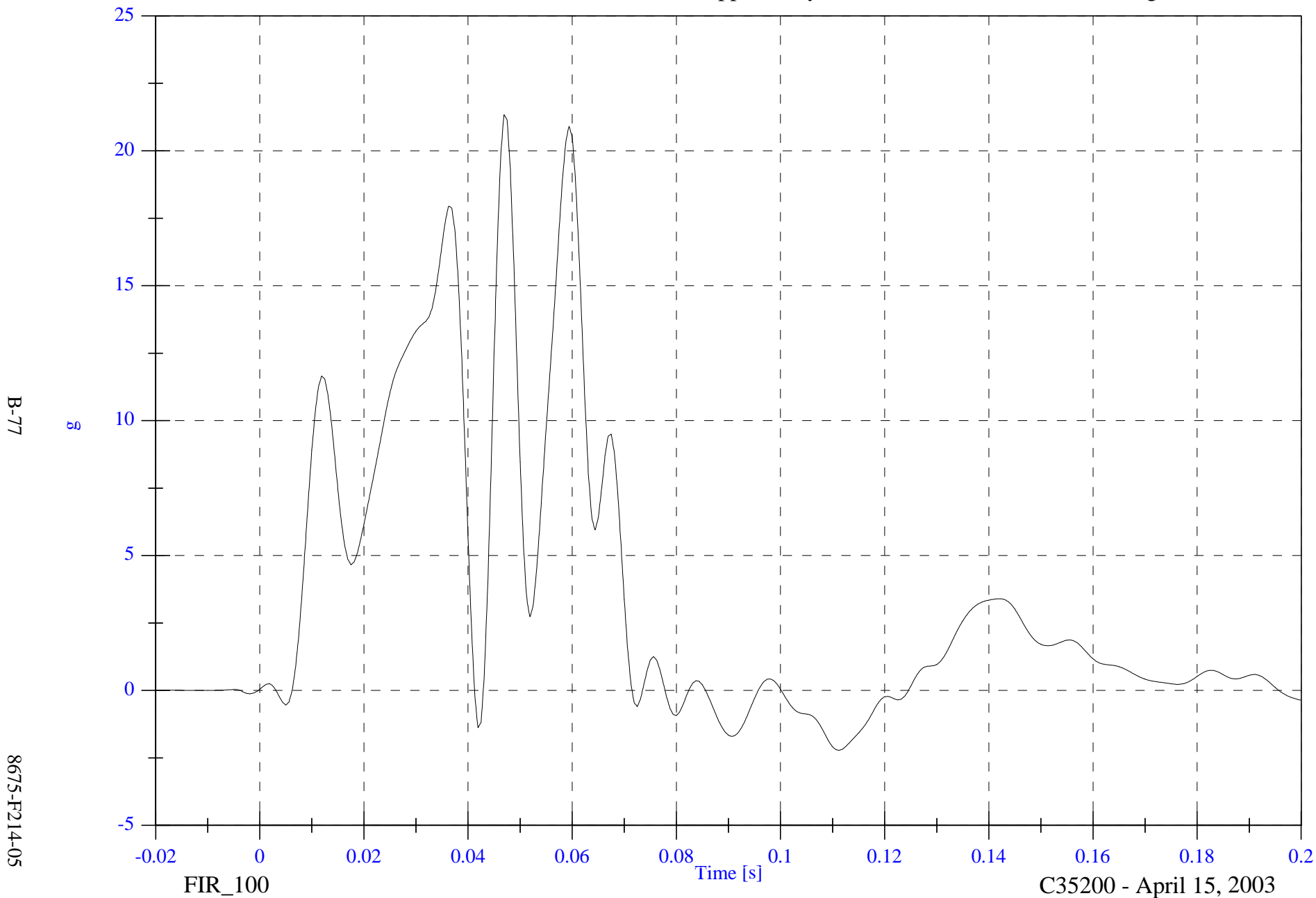
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P1 Upper Rib y

Max: 21.3 [g] at 0.047 [s]

Min: -2.2 [g] at 0.111 [s]



B-77

8675-F214-05

FIR_100

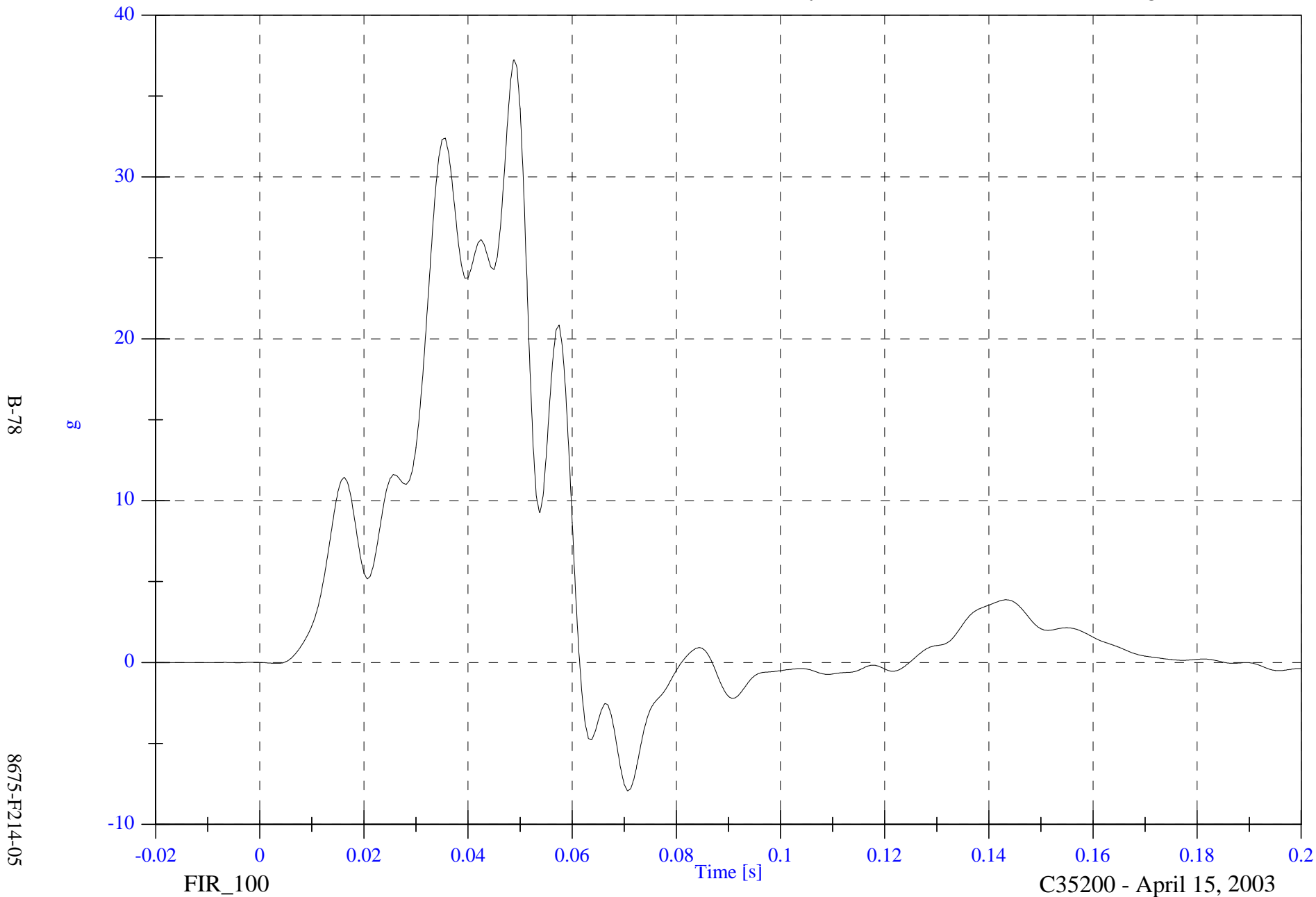
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P1 Lower Rib y

Max: 37.3 [g] at 0.049 [s]

Min: -7.9 [g] at 0.071 [s]



B-78

8675-F214-05

FIR_100

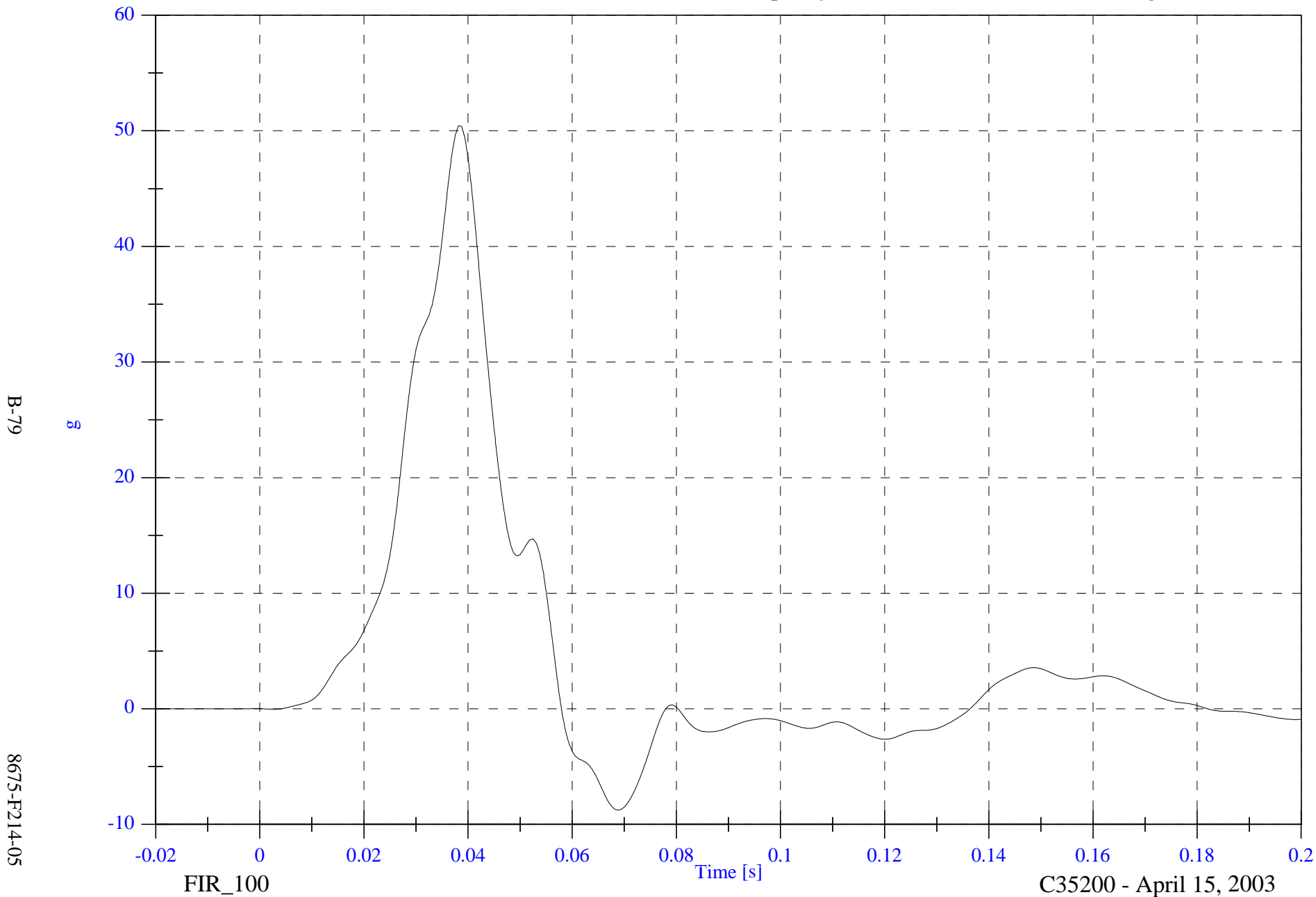
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P1 Lower Spine y

Max: 50.4 [g] at 0.038 [s]

Min: -8.8 [g] at 0.069 [s]



B-79

8675-F214-05

FIR_100

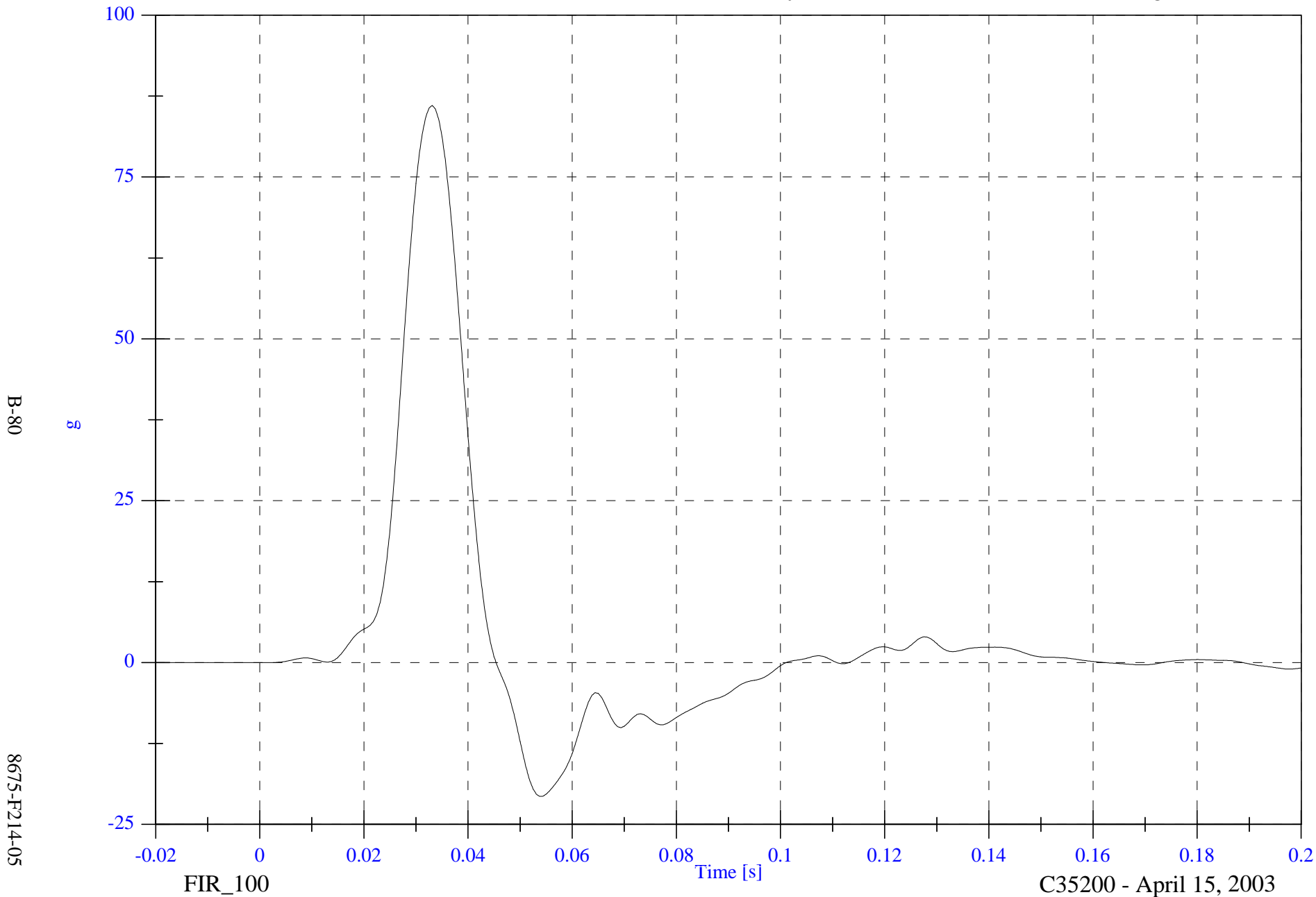
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P1 Pelvic y

Max: 86.1 [g] at 0.033 [s]

Min: -20.7 [g] at 0.054 [s]



B-80

8675-F214-05

FIR_100

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

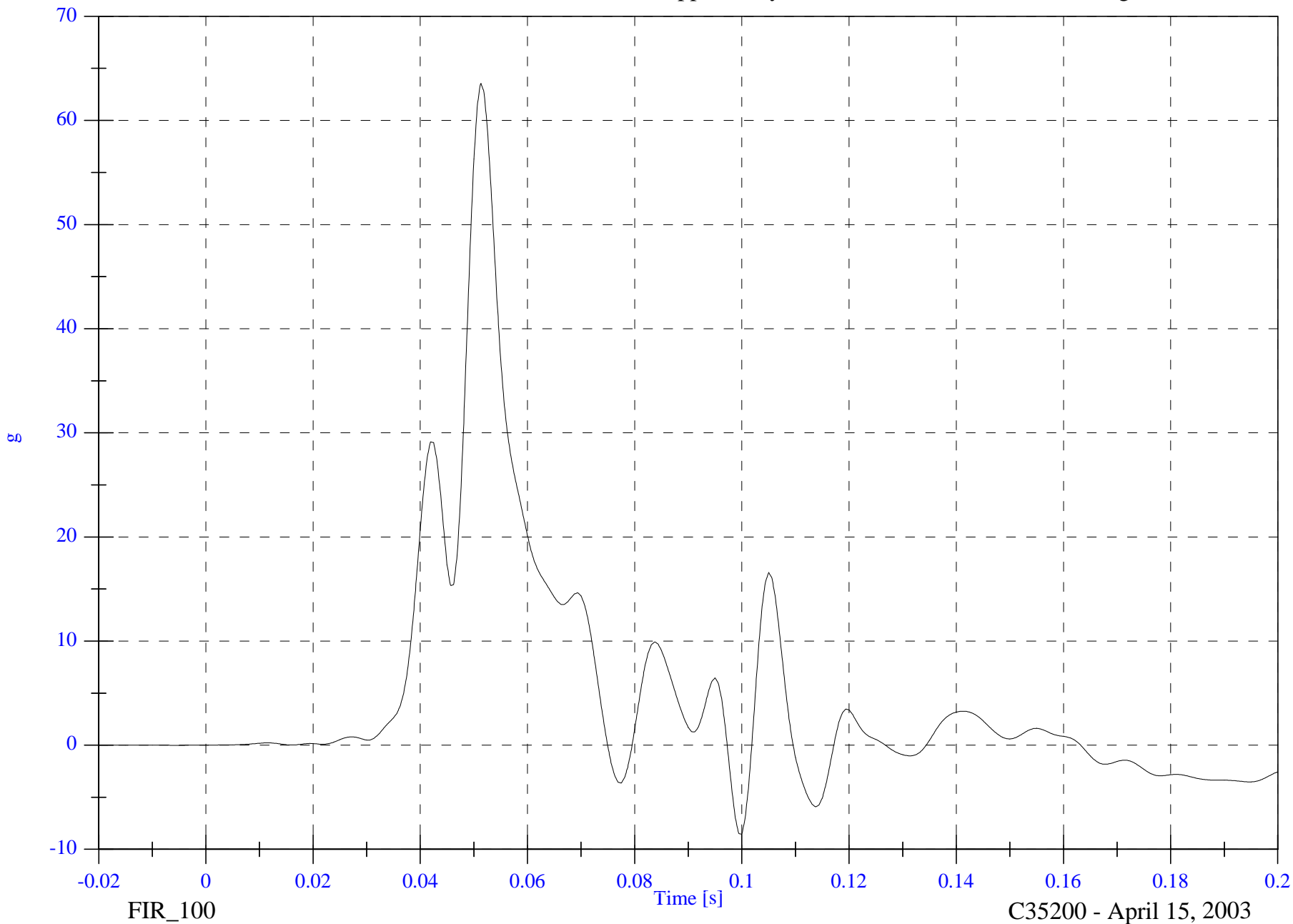
V2P4 Upper Rib y

Max: 63.6 [g] at 0.051 [s]

Min: -8.6 [g] at 0.100 [s]

B-81

8675-F214-05



C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

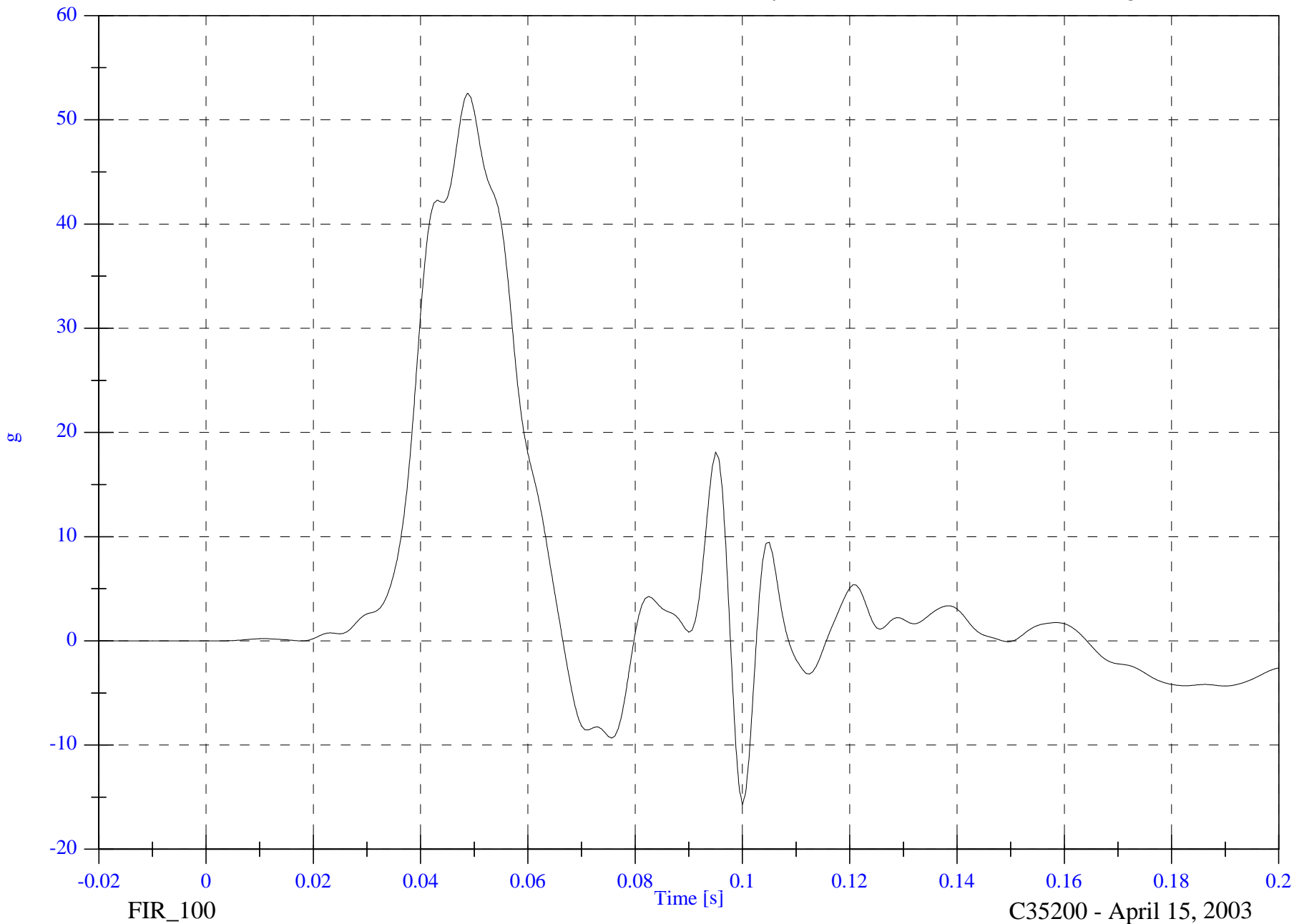
V2P4 Lower Rib y

Max: 52.5 [g] at 0.049 [s]

Min: -15.7 [g] at 0.100 [s]

B-82

8675-F214-05



FIR_100

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

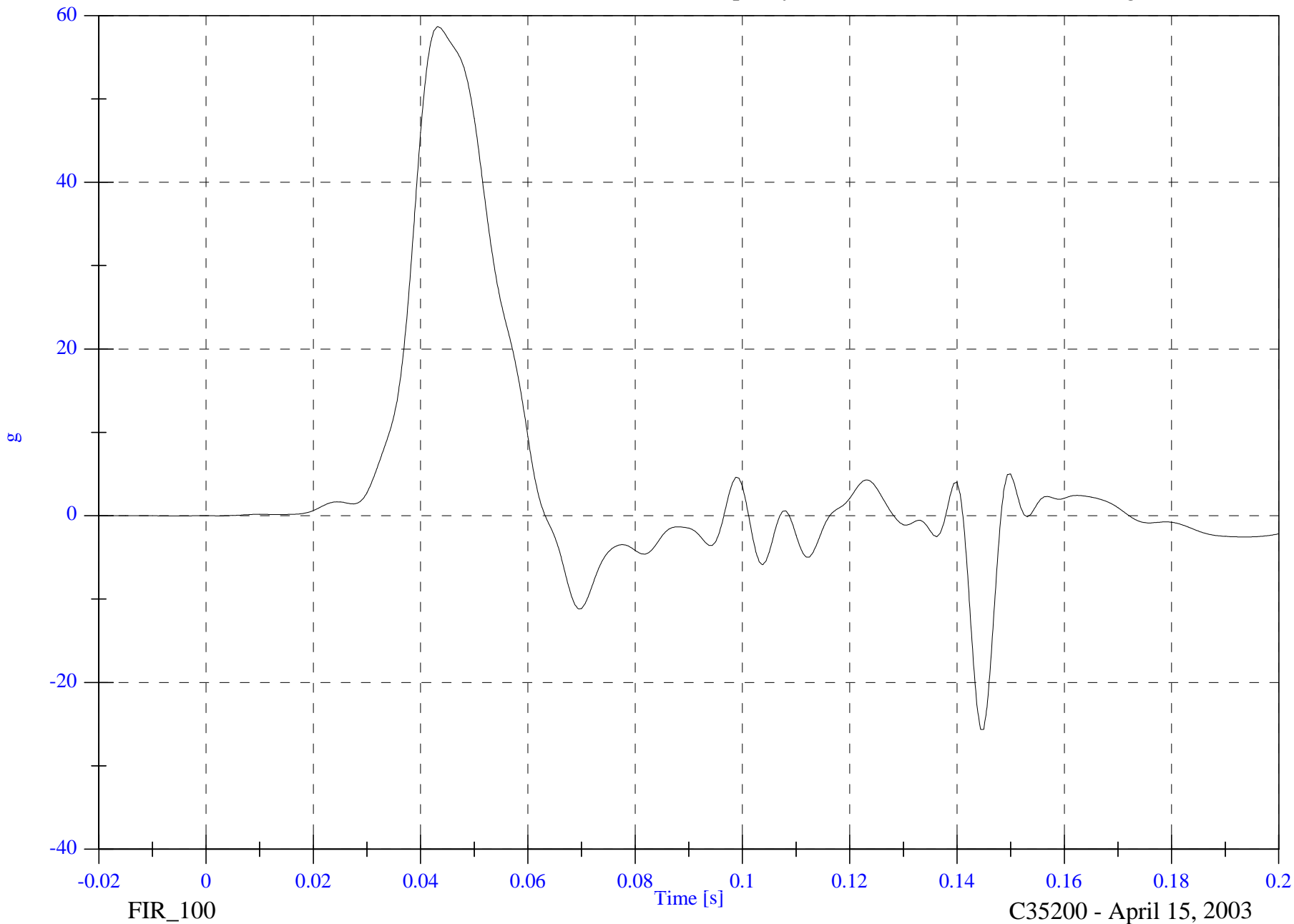
V2P4 Lower Spine y

Max: 58.7 [g] at 0.043 [s]

Min: -25.6 [g] at 0.144 [s]

B-83

8675-F214-05

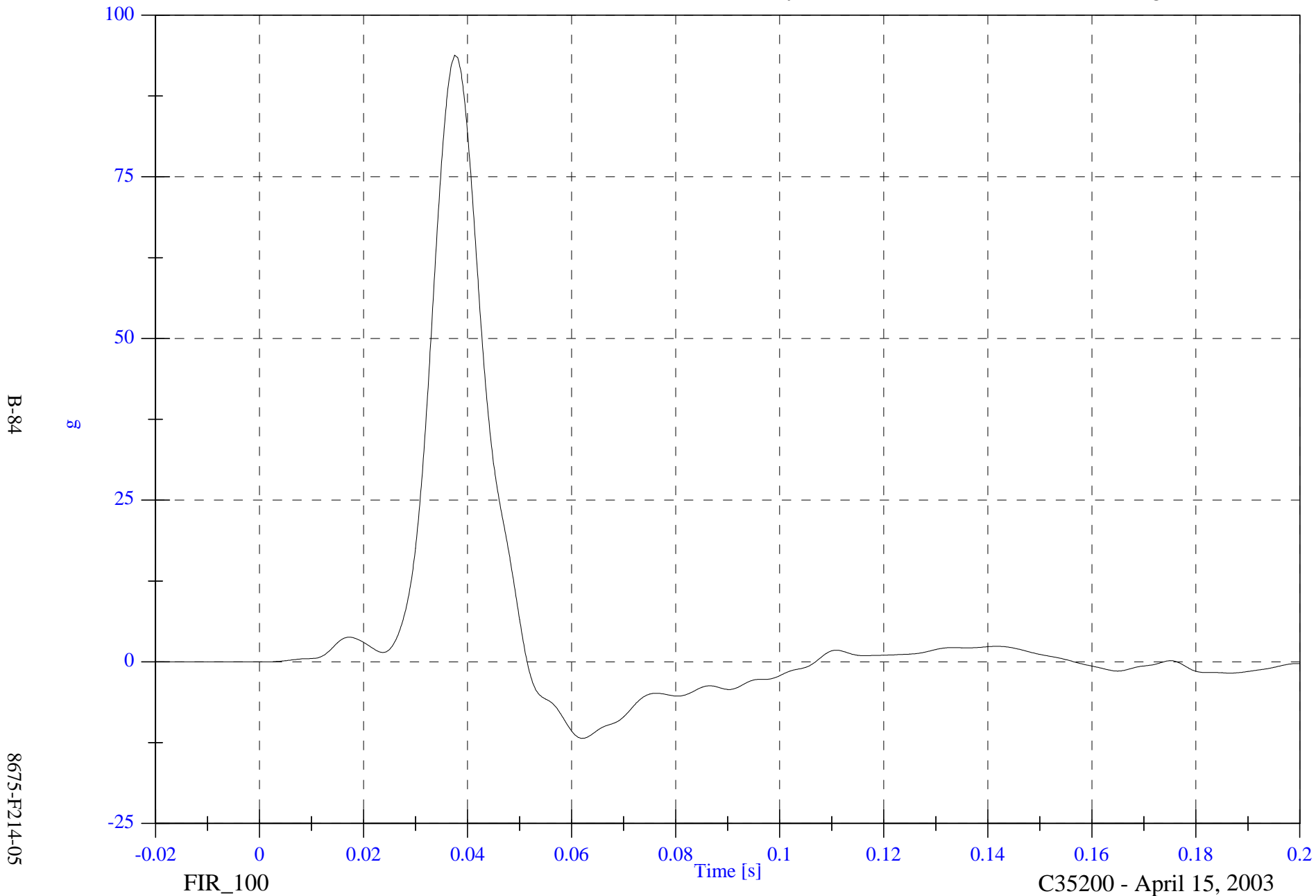


2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P4 Pelvic y

Max: 93.8 [g] at 0.037 [s]

Min: -11.8 [g] at 0.062 [s]

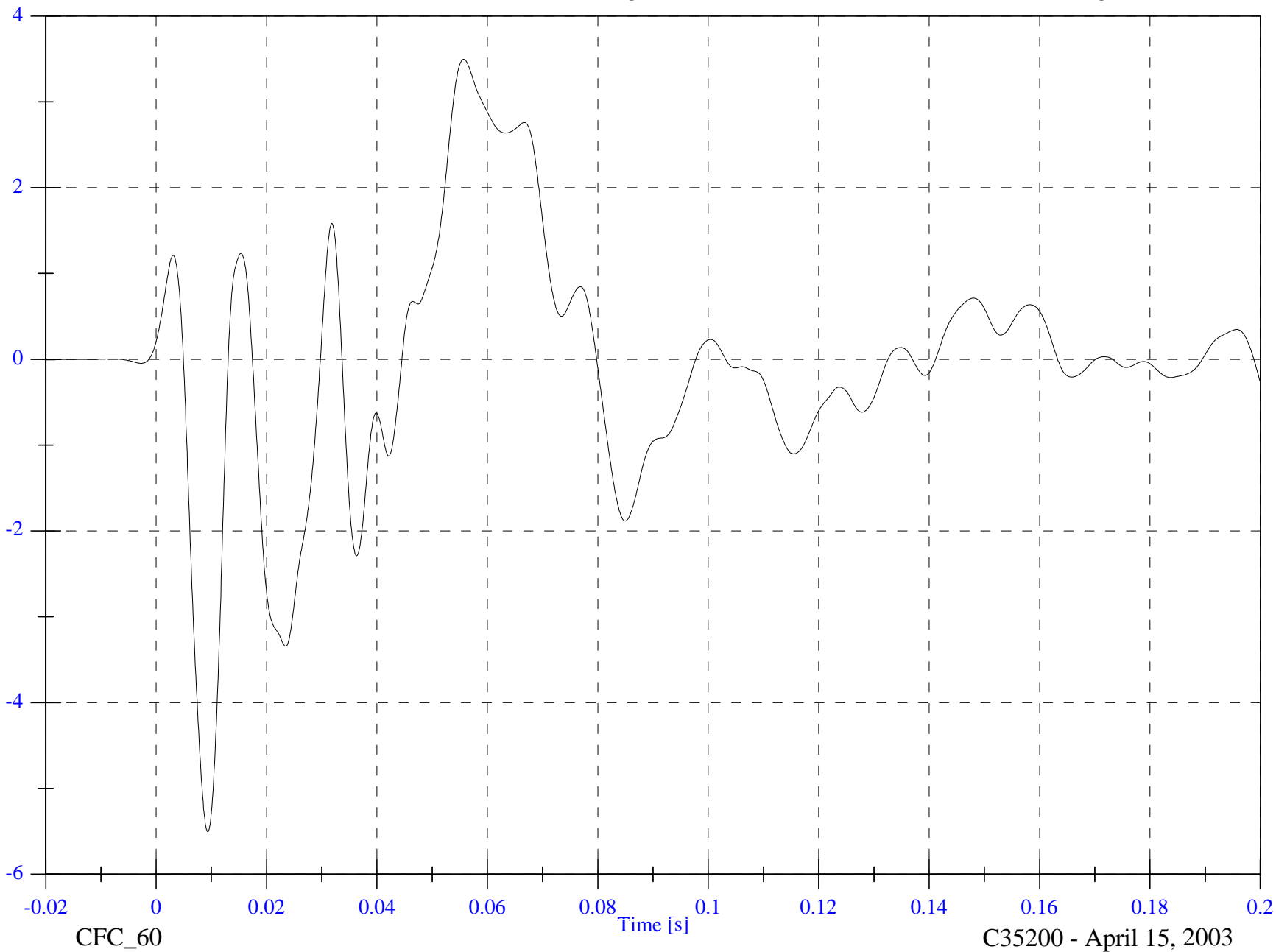


2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2 A1 Right Front Sill x

Max: 3.5 [g] at 0.056 [s]

Min: -5.5 [g] at 0.009 [s]



B-85

g

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CFC_60

Time [s]

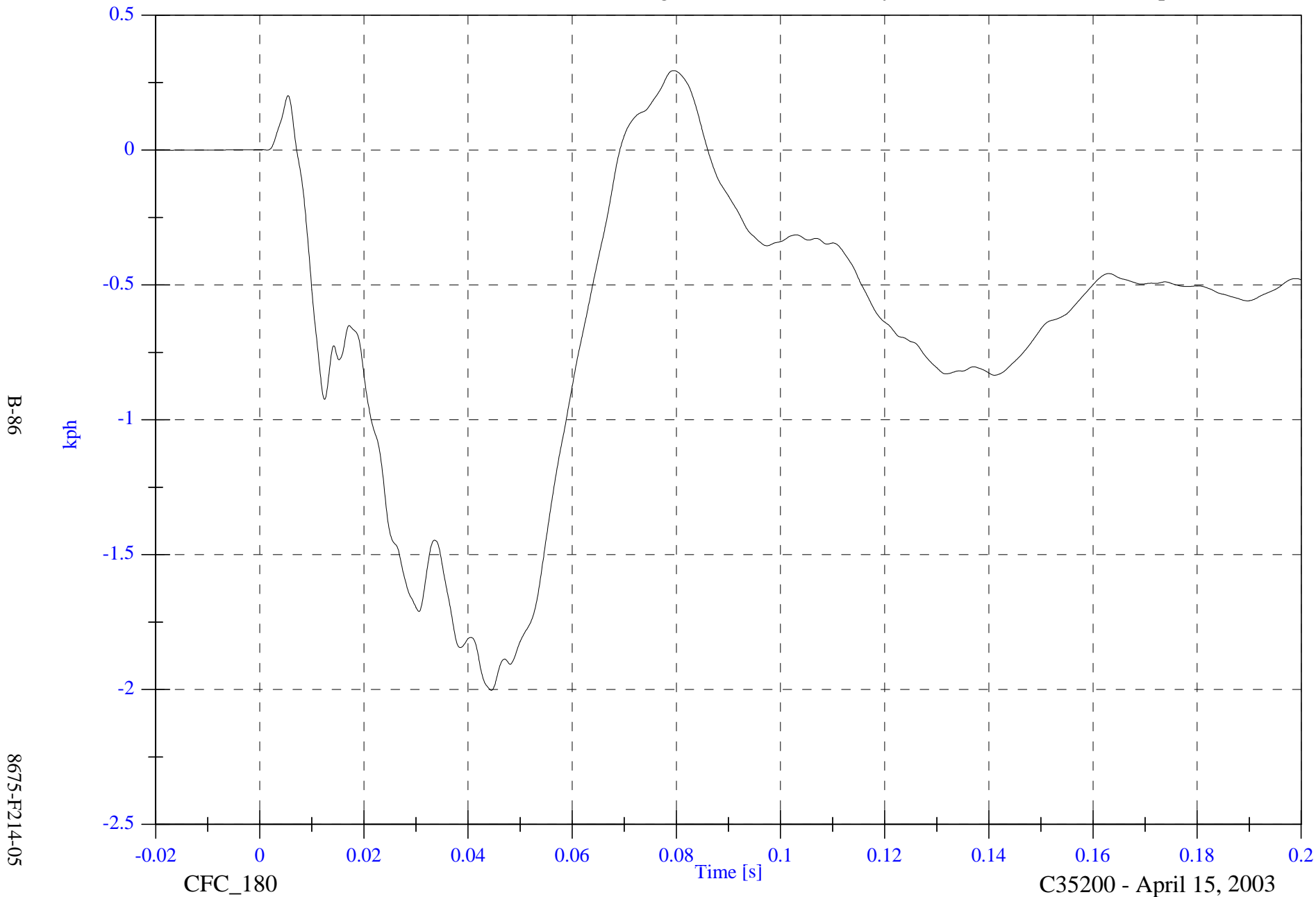
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2 A1 Right Front Sill x Velocity

Max: 0.3 [kph] at 0.079 [s]

Min: -2.0 [kph] at 0.044 [s]



B-86

8675-F214-05

CFC_180

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

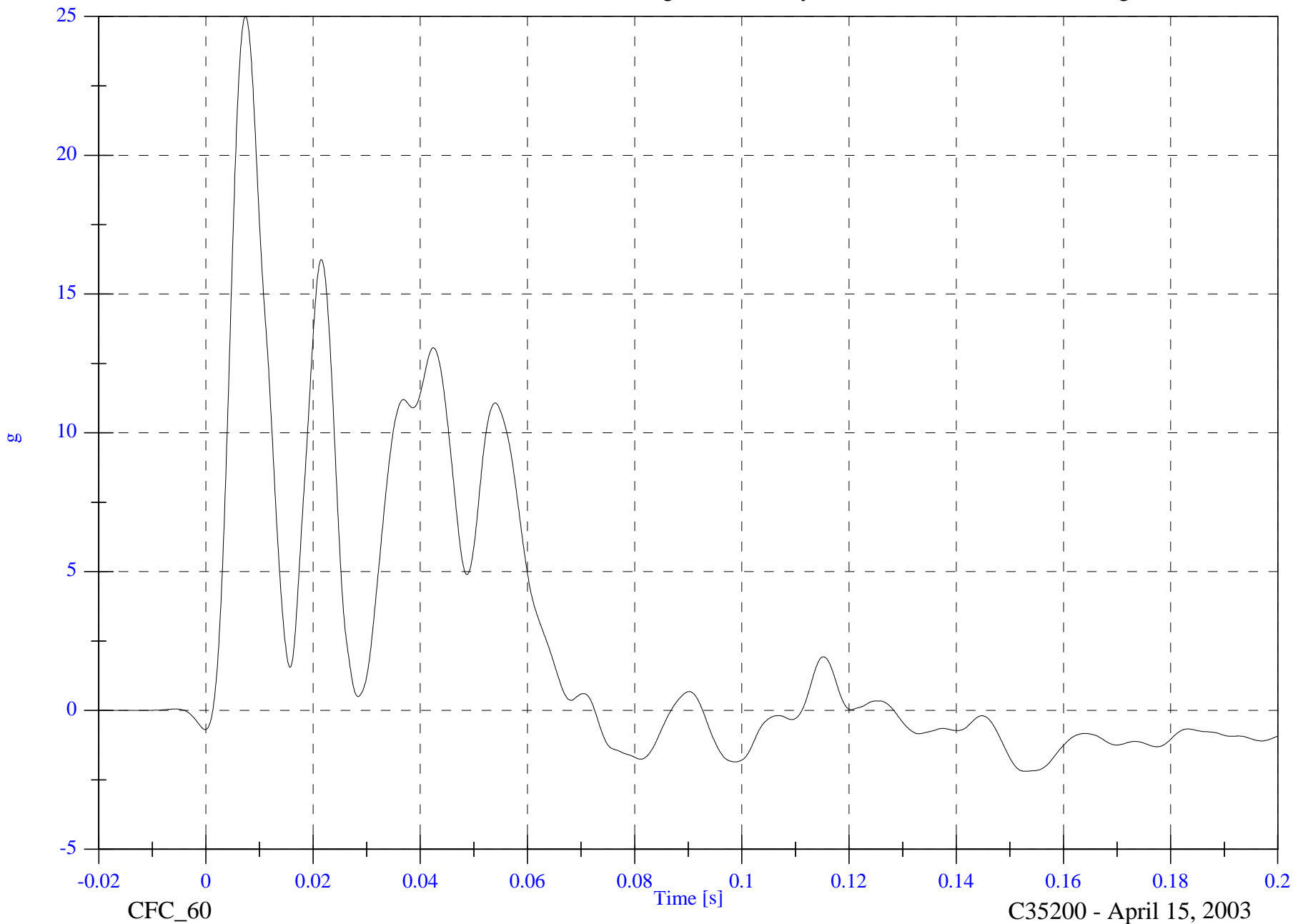
V2 A1 Right Front Sill y

Max: 25.0 [g] at 0.007 [s]

Min: -2.2 [g] at 0.153 [s]

B-87

8675-F214-05



2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

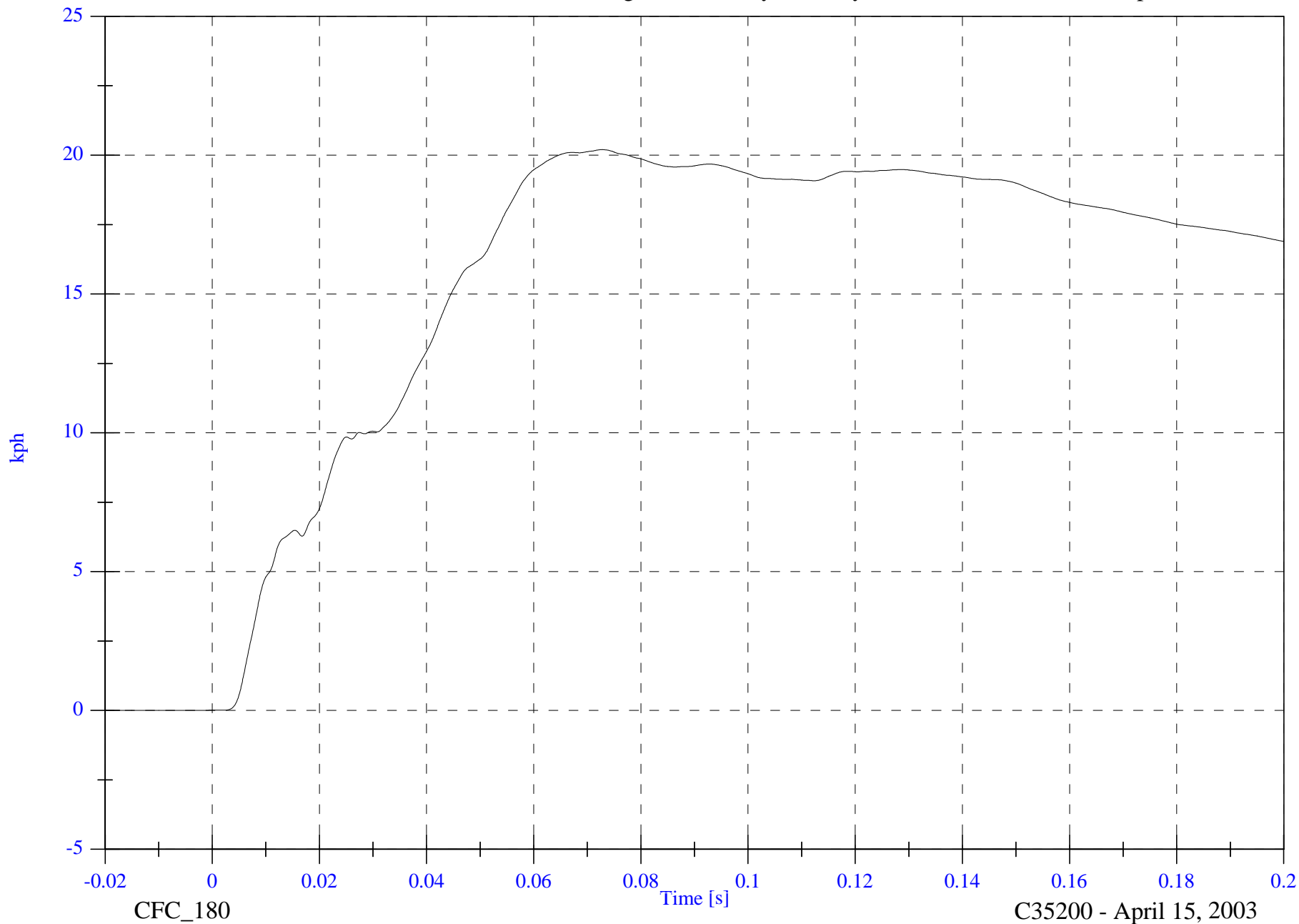
V2 A1 Right Front Sill y Velocity

Max: 20.2 [kph] at 0.073 [s]

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

B-88

8675-F214-05



CFC_180

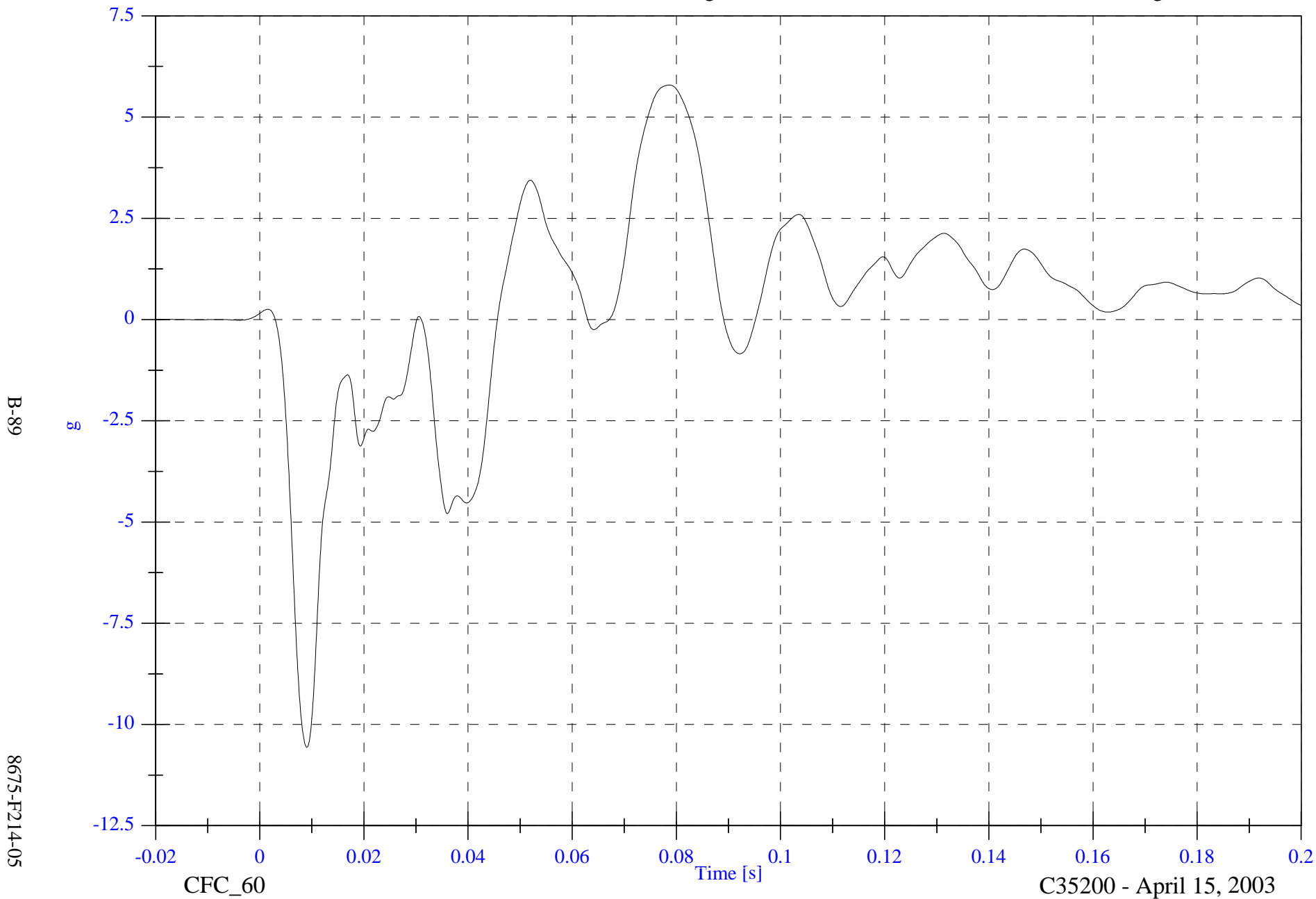
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 5.8 [g] at 0.079 [s]

V2 A1 Right Front Sill z

Min: -10.6 [g] at 0.009 [s]



B-89

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CFC_60

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

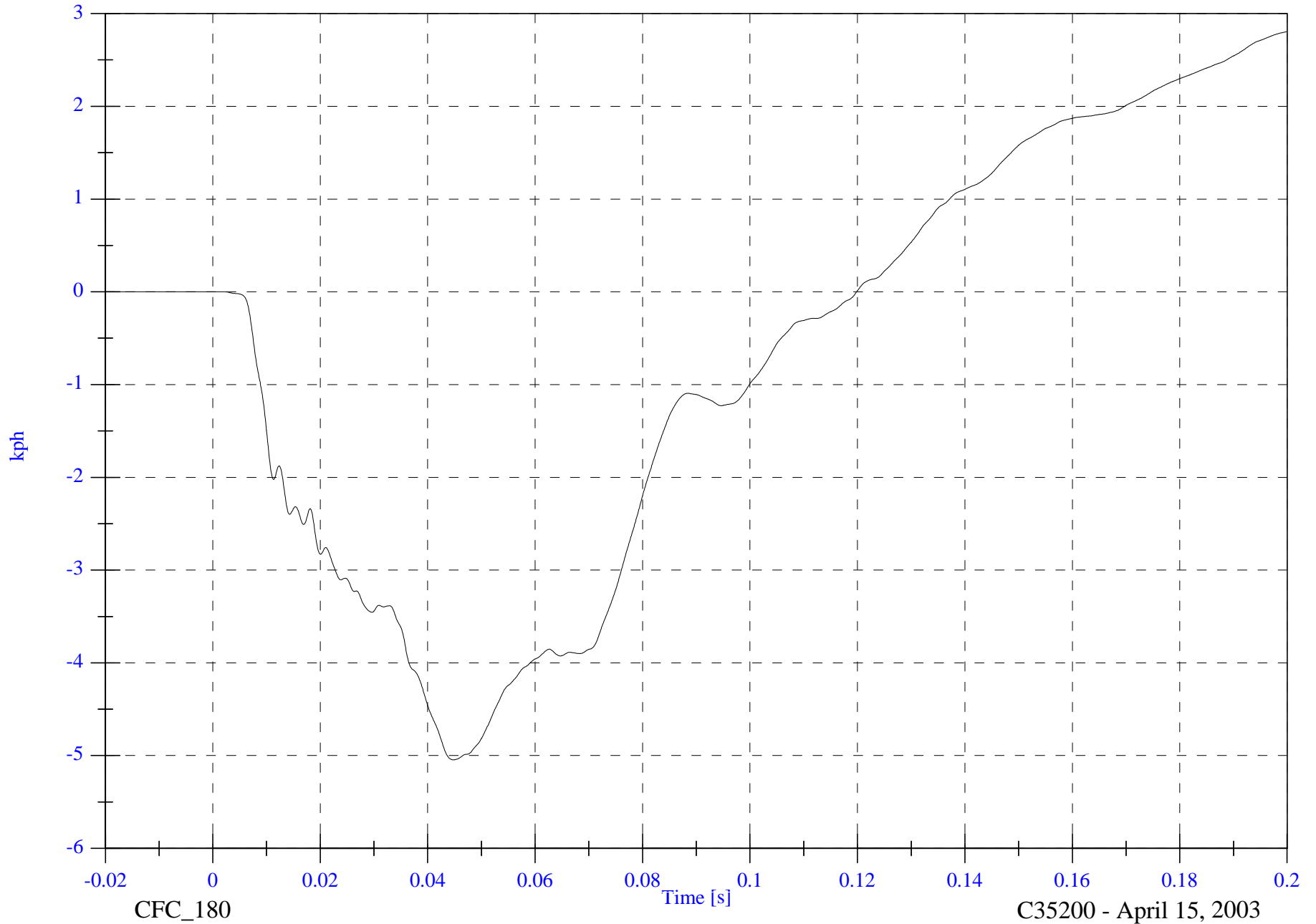
V2 A1 Right Front Sill z Velocity

Max: 2.8 [kph] at 0.200 [s]

Min: -5.0 [kph] at 0.045 [s]

B-90

8675-F214-05



CFC_180

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

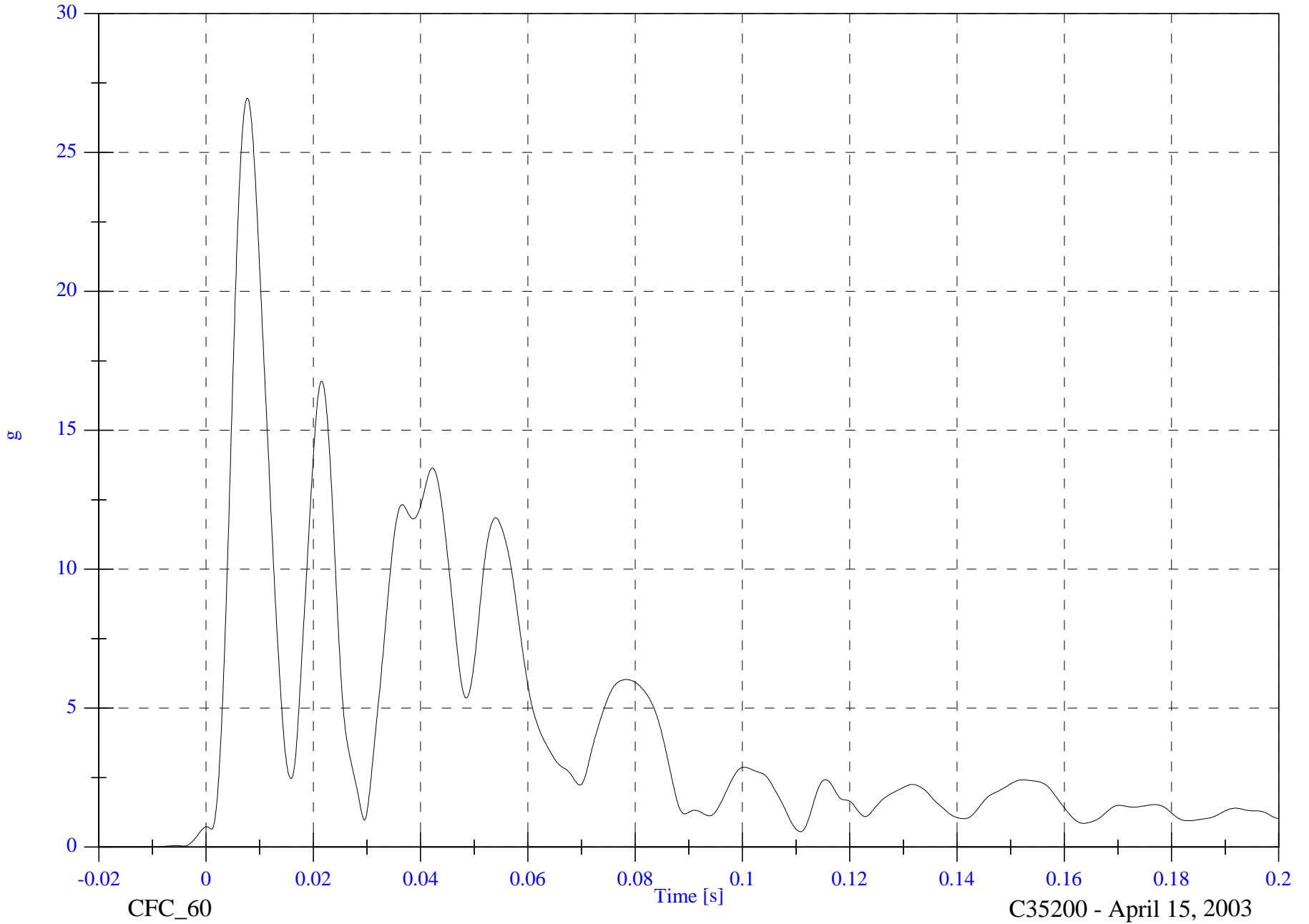
V2 A1 Right Front Sill Resultant

Max: 27.0 [g] at 0.008 [s]

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

B-91

8675-F214-05



C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

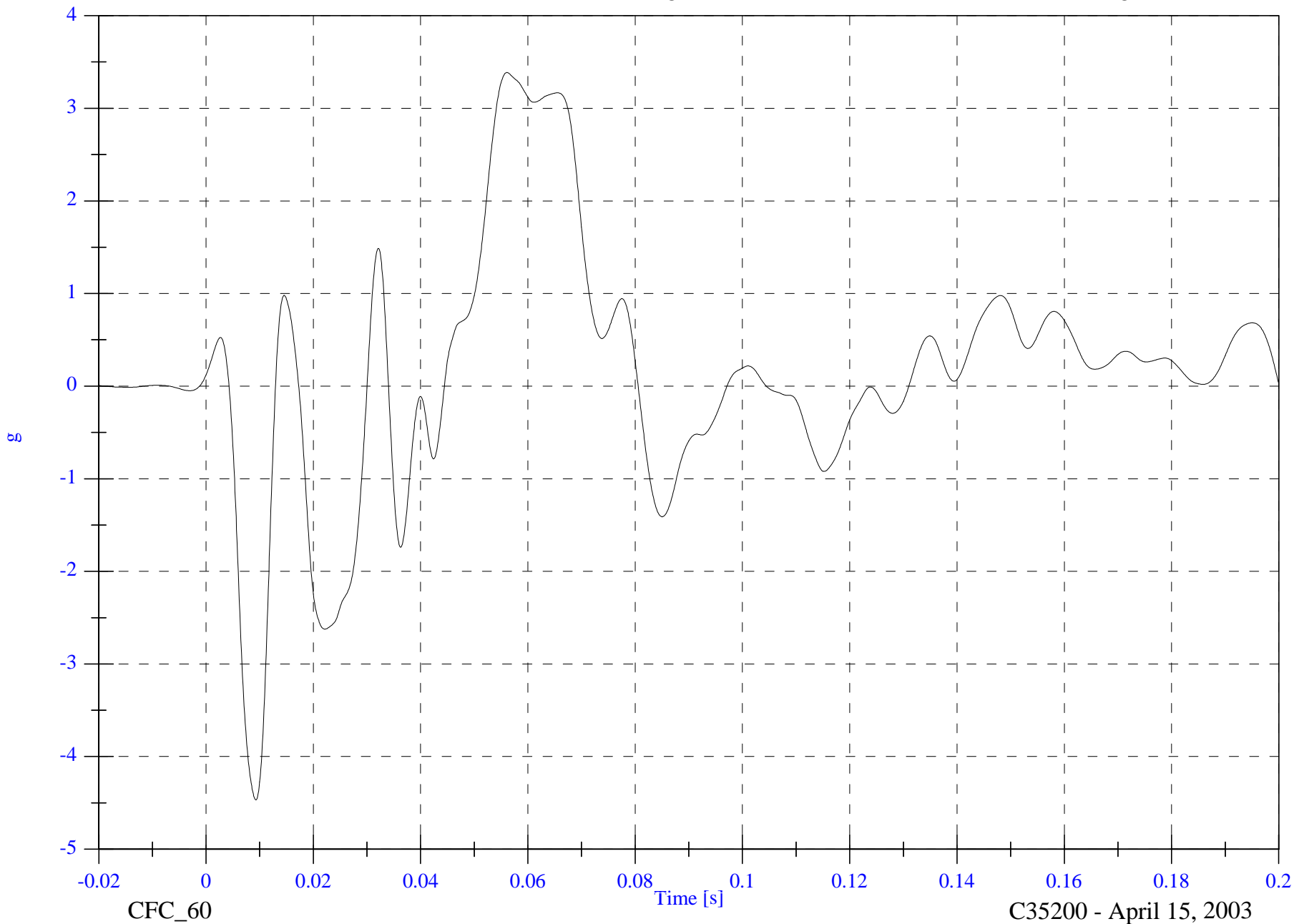
V2 A2 Right Rear Sill x

Max: 3.4 [g] at 0.056 [s]

Min: -4.5 [g] at 0.009 [s]

B-92

8675-F214-05



CFC_60

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

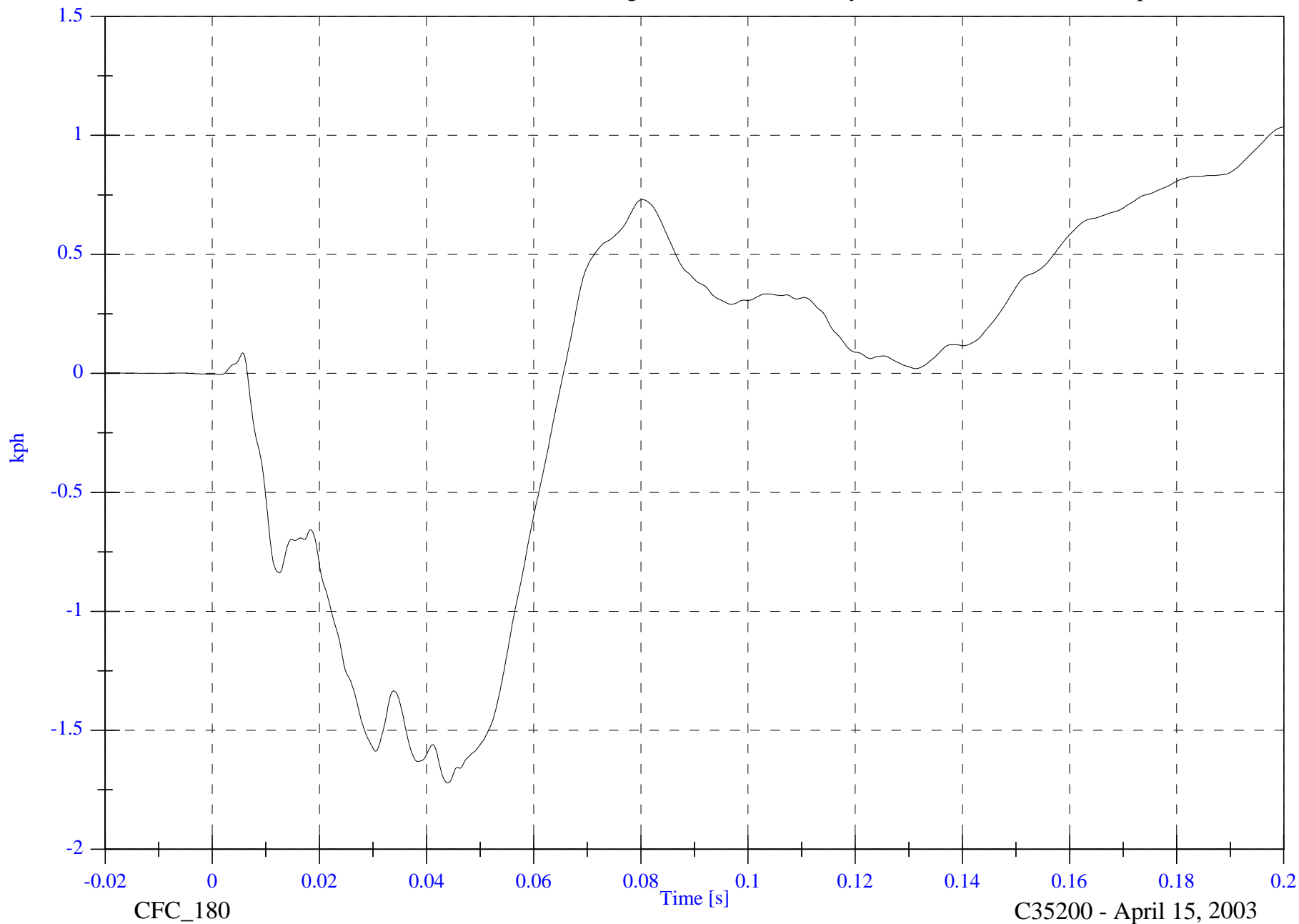
V2 A2 Right Rear Sill x Velocity

Max: 1.0 [kph] at 0.200 [s]

Min: -1.7 [kph] at 0.044 [s]

B-93

8675-F214-05



CFC_180

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

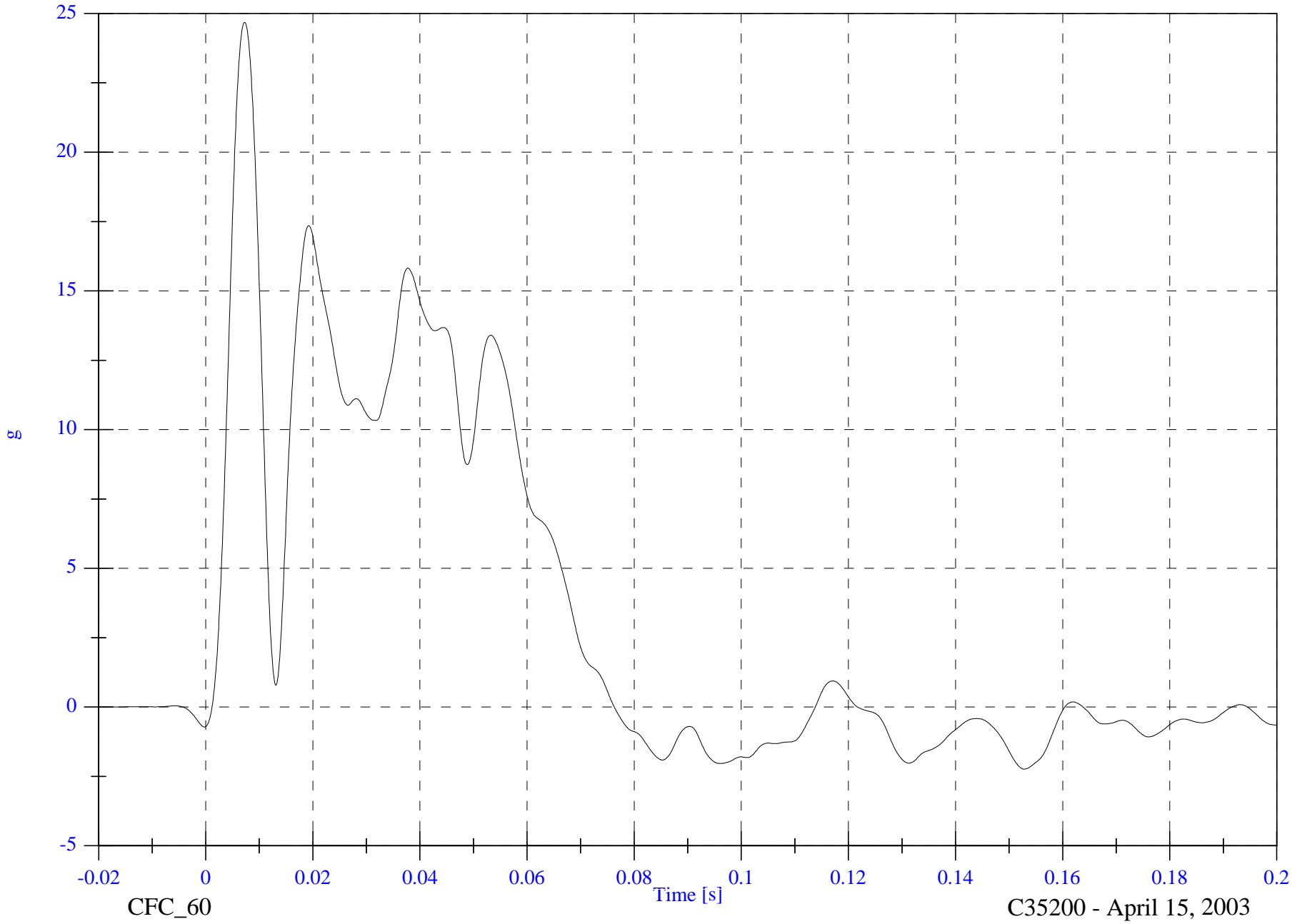
V2 A2 Right Rear Sill y

Max: 24.7 [g] at 0.007 [s]

Min: -2.2 [g] at 0.153 [s]

B-94

8675-F214-05



2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

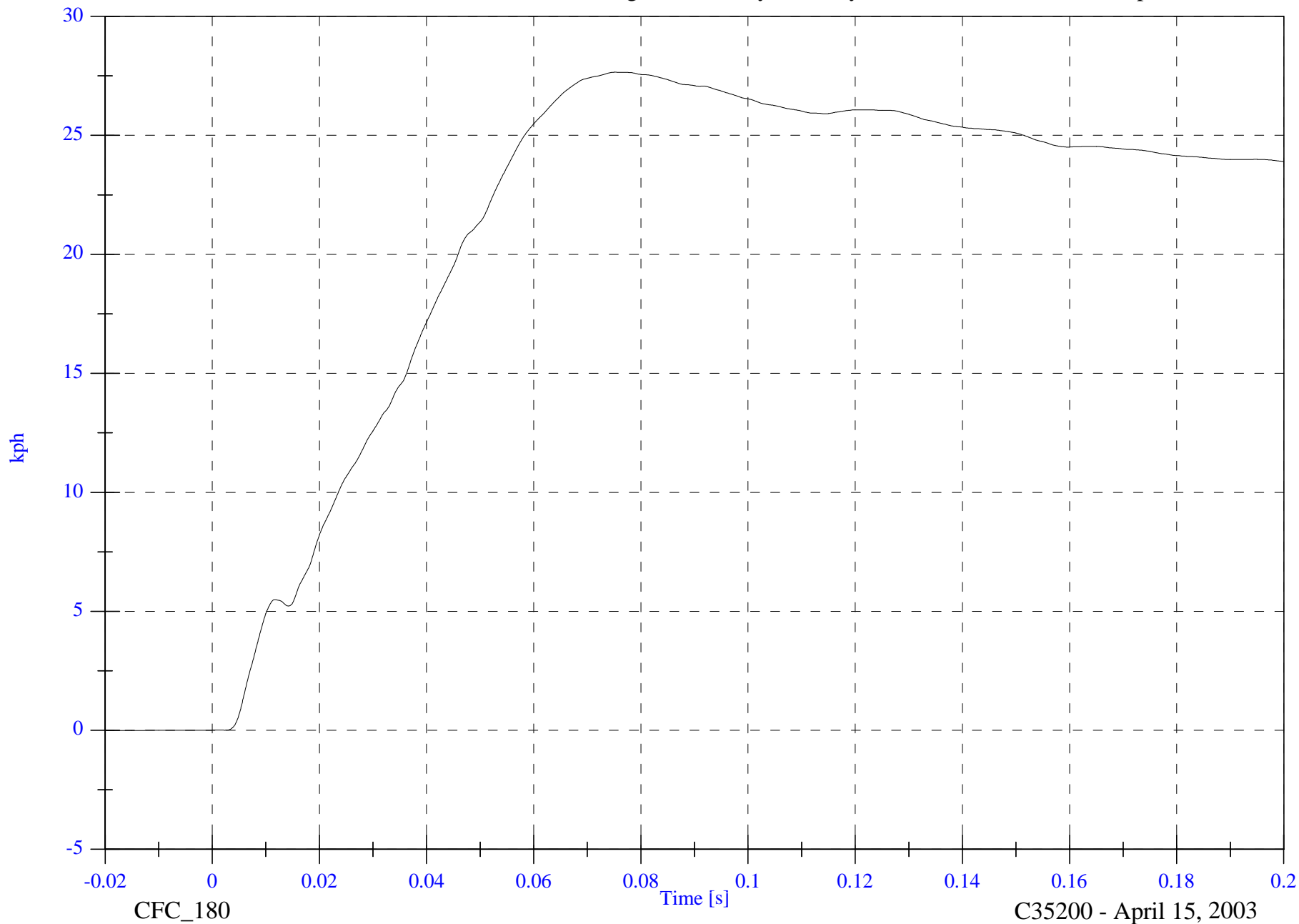
V2 A2 Right Rear Sill y Velocity

Max: 27.7 [kph] at 0.075 [s]

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

B-95

8675-F214-05



CFC_180

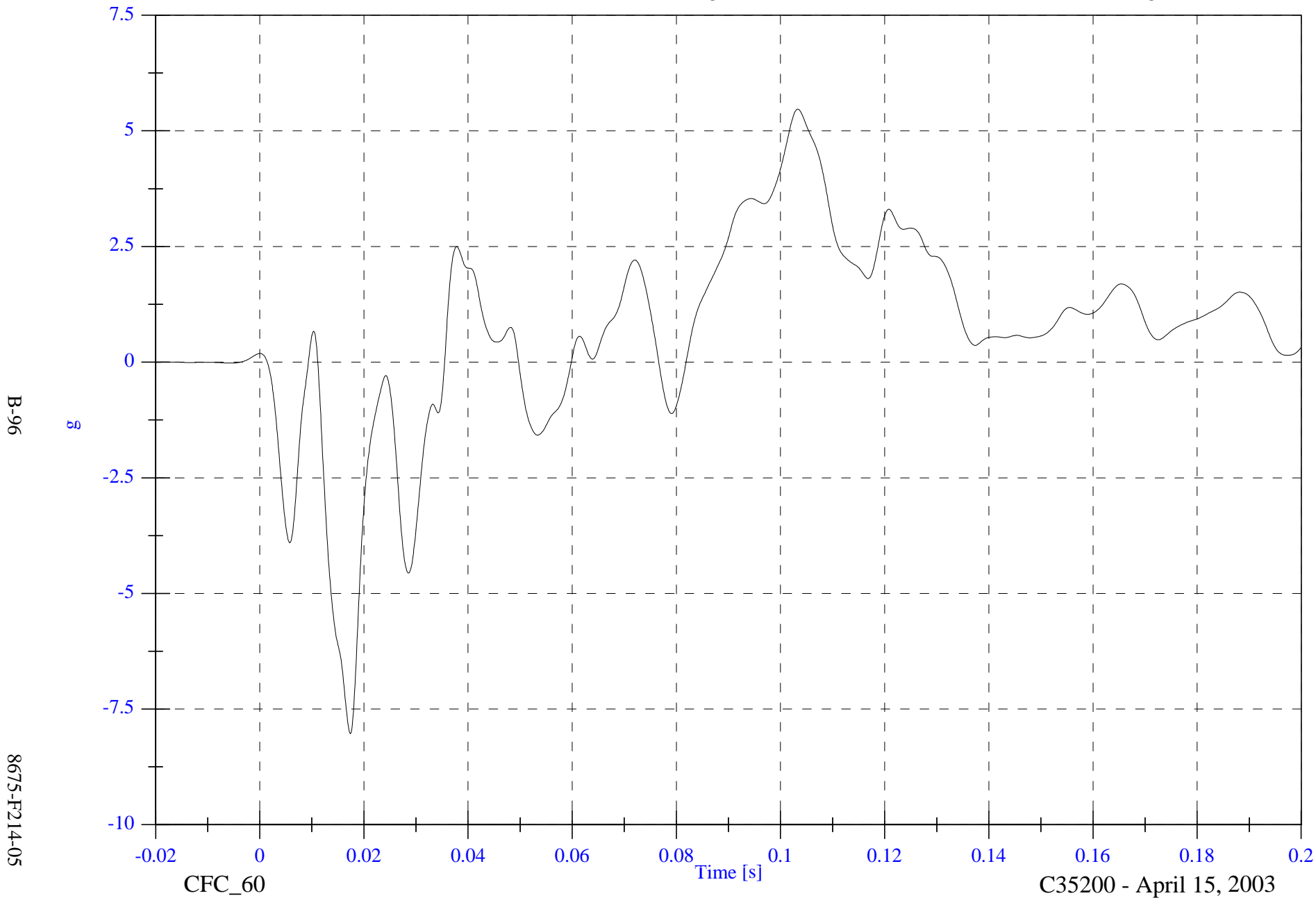
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2 A2 Right Rear Sill z

Max: 5.5 [g] at 0.103 [s]

Min: -8.0 [g] at 0.017 [s]



B-96

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CFC_60

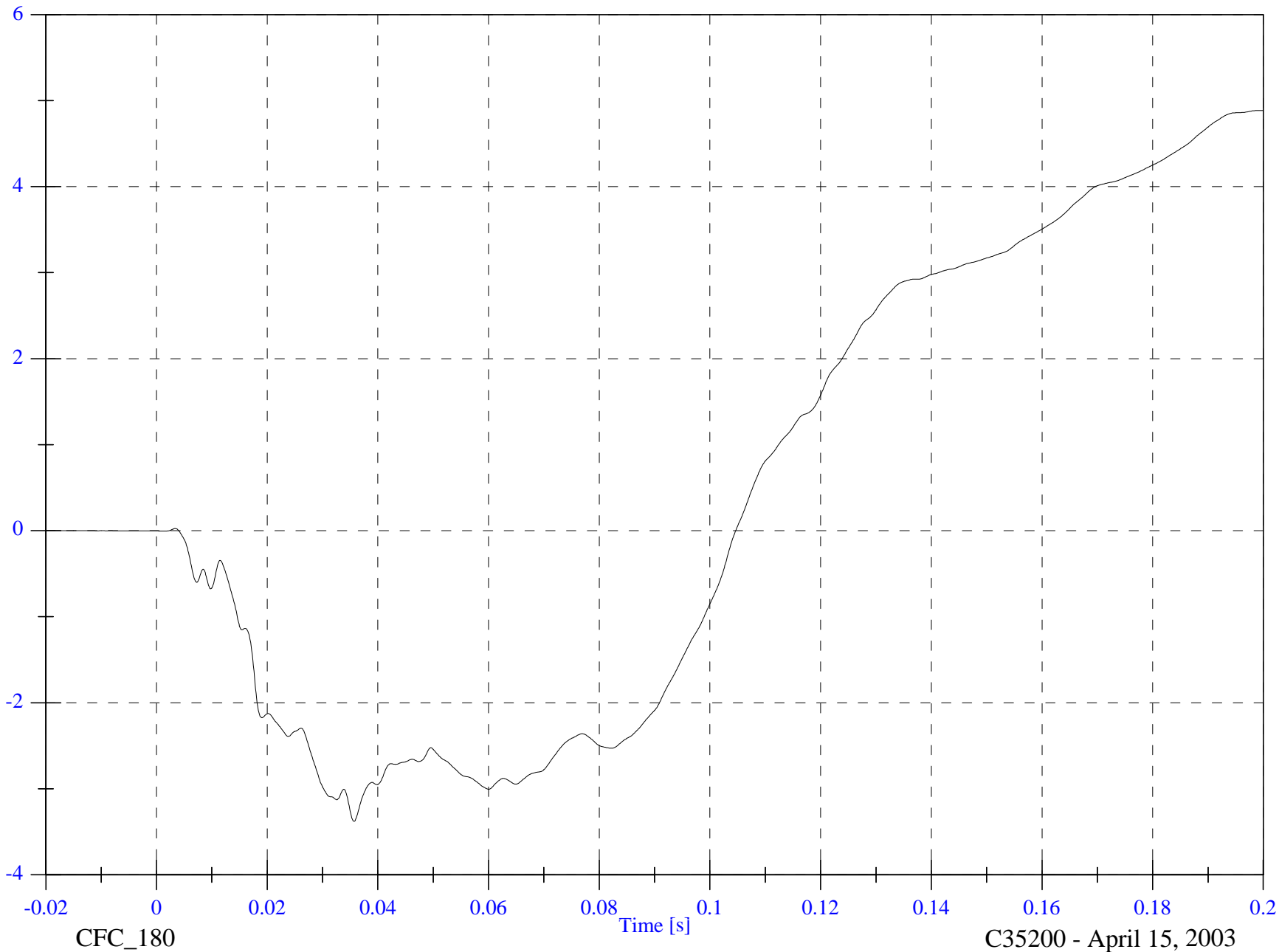
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2 A2 Right Rear Sill z Velocity

Max: 4.9 [kph] at 0.200 [s]

Min: -3.4 [kph] at 0.036 [s]



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CFC_180

Time [s]

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

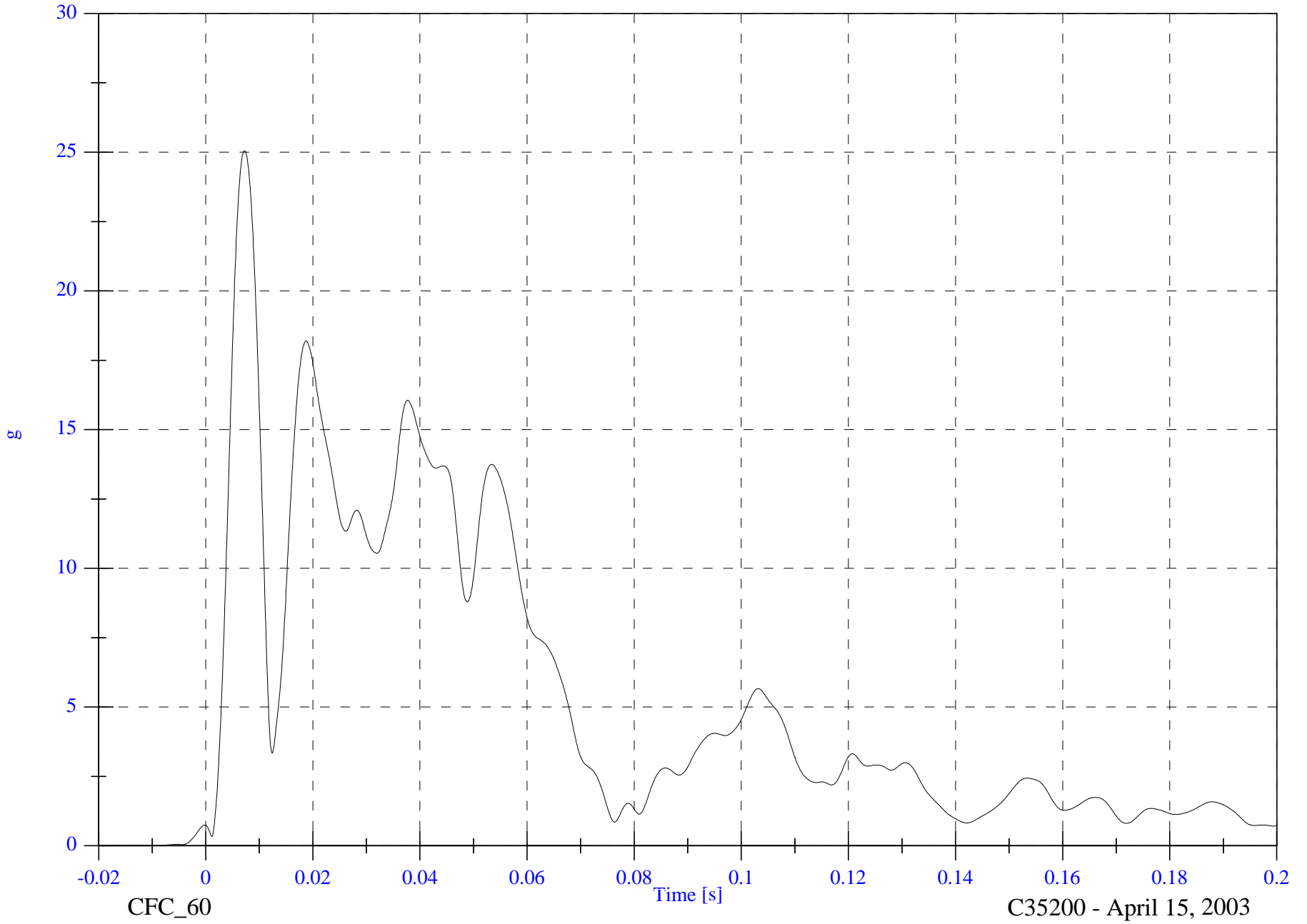
V2 A2 Right Rear Sill Resultant

Max: 25.1 [g] at 0.007 [s]

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

B-98

8675-F214-05

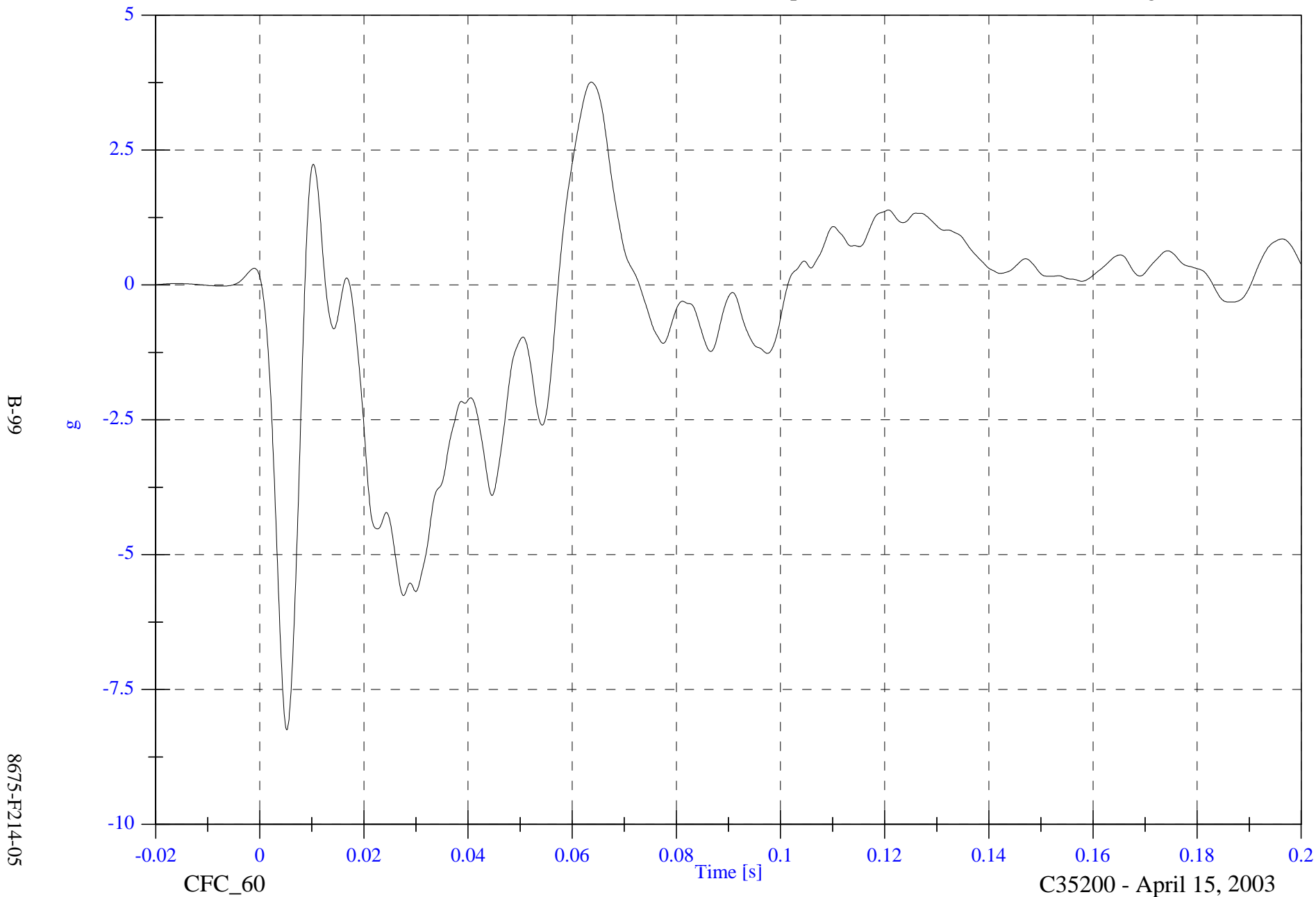


2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2 A3 Rear Floorpan x

Max: 3.8 [g] at 0.064 [s]

Min: -8.2 [g] at 0.005 [s]



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CFC_60

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2 A3 Rear Floorpan x Velocity

Max: 0.0 [kph] at 0.001 [s]

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

B-100

8675-F214-05



C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

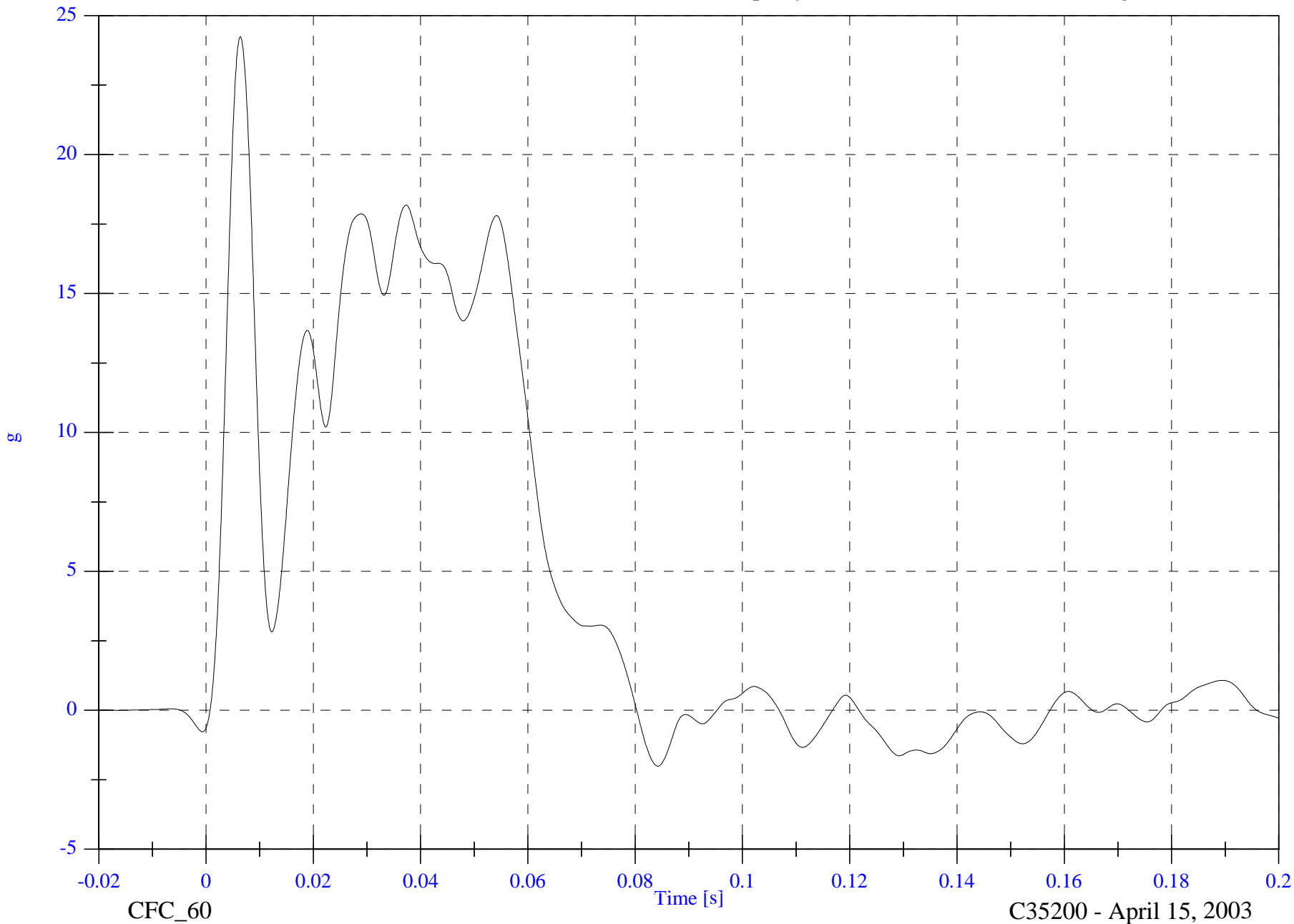
V2 A3 Rear Floorpan y

Max: 24.2 [g] at 0.006 [s]

Min: -2.0 [g] at 0.084 [s]

B-101

8675-F214-05



CFC_60

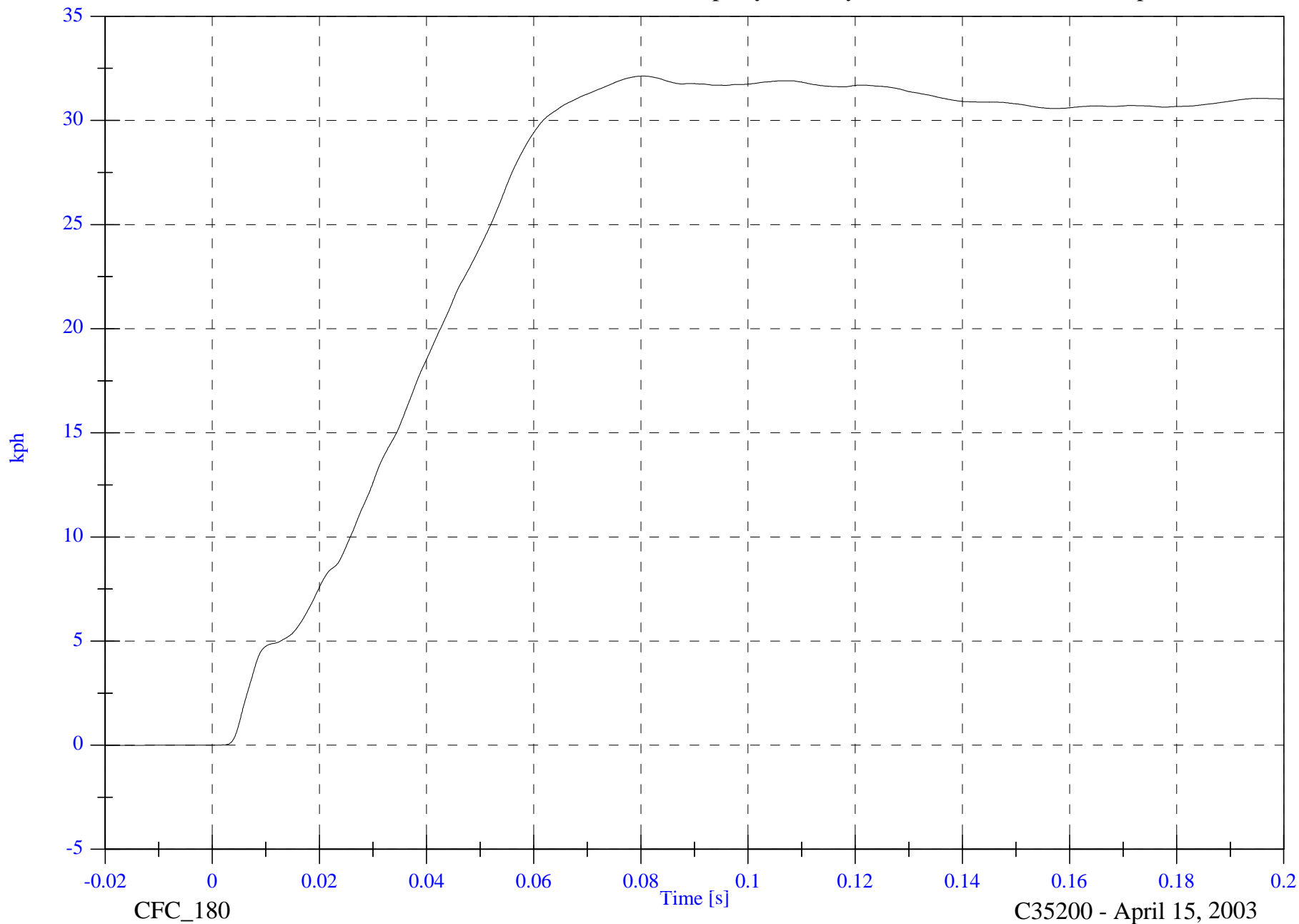
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2 A3 Rear Floorpan y Velocity

Max: 32.1 [kph] at 0.081 [s]

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



B-102

8675-F214-05

CFC_180

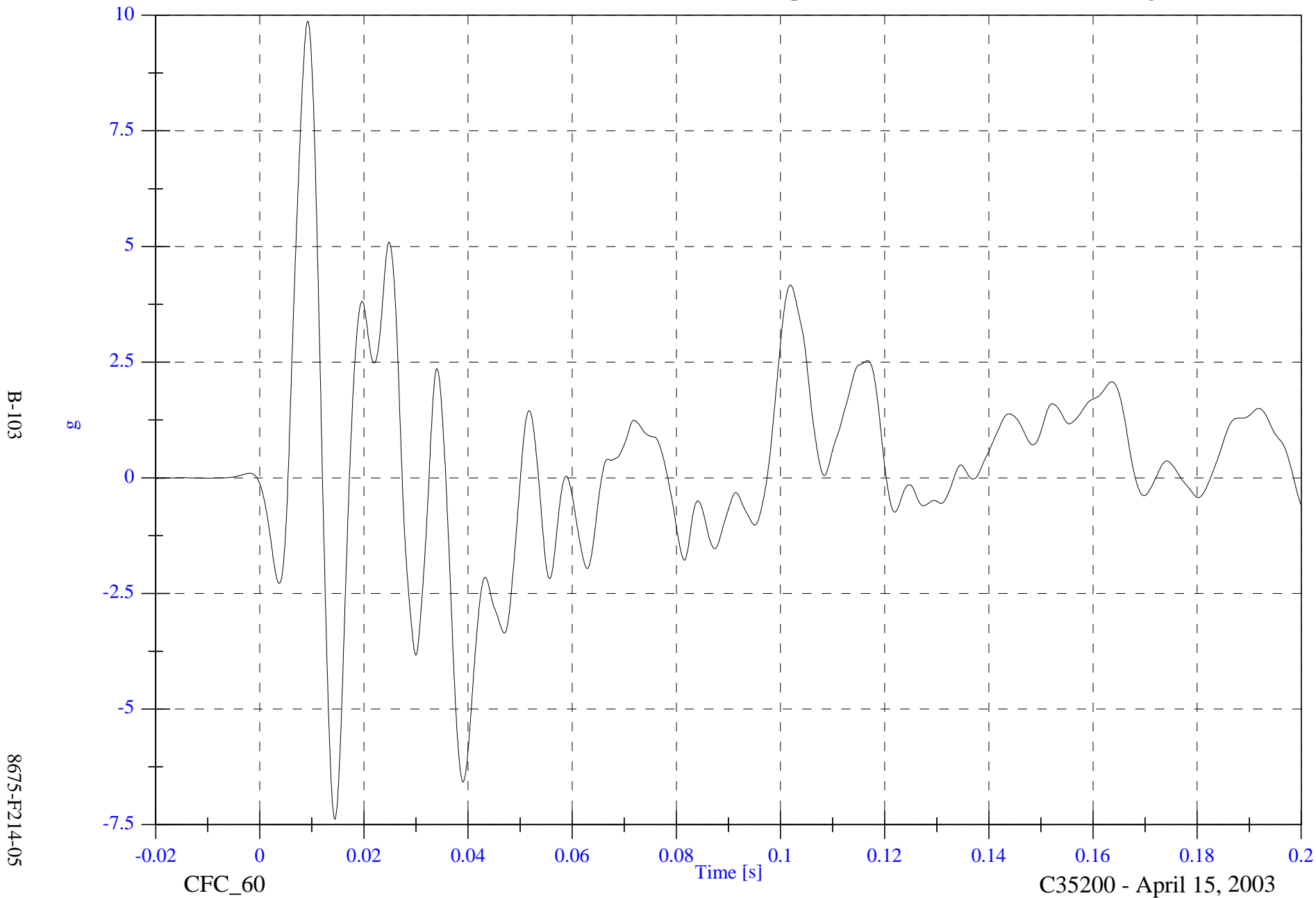
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2 A3 Rear Floorpan z

Max: 9.9 [g] at 0.009 [s]

Min: -7.4 [g] at 0.014 [s]



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8675-F214-05

CFC_60

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

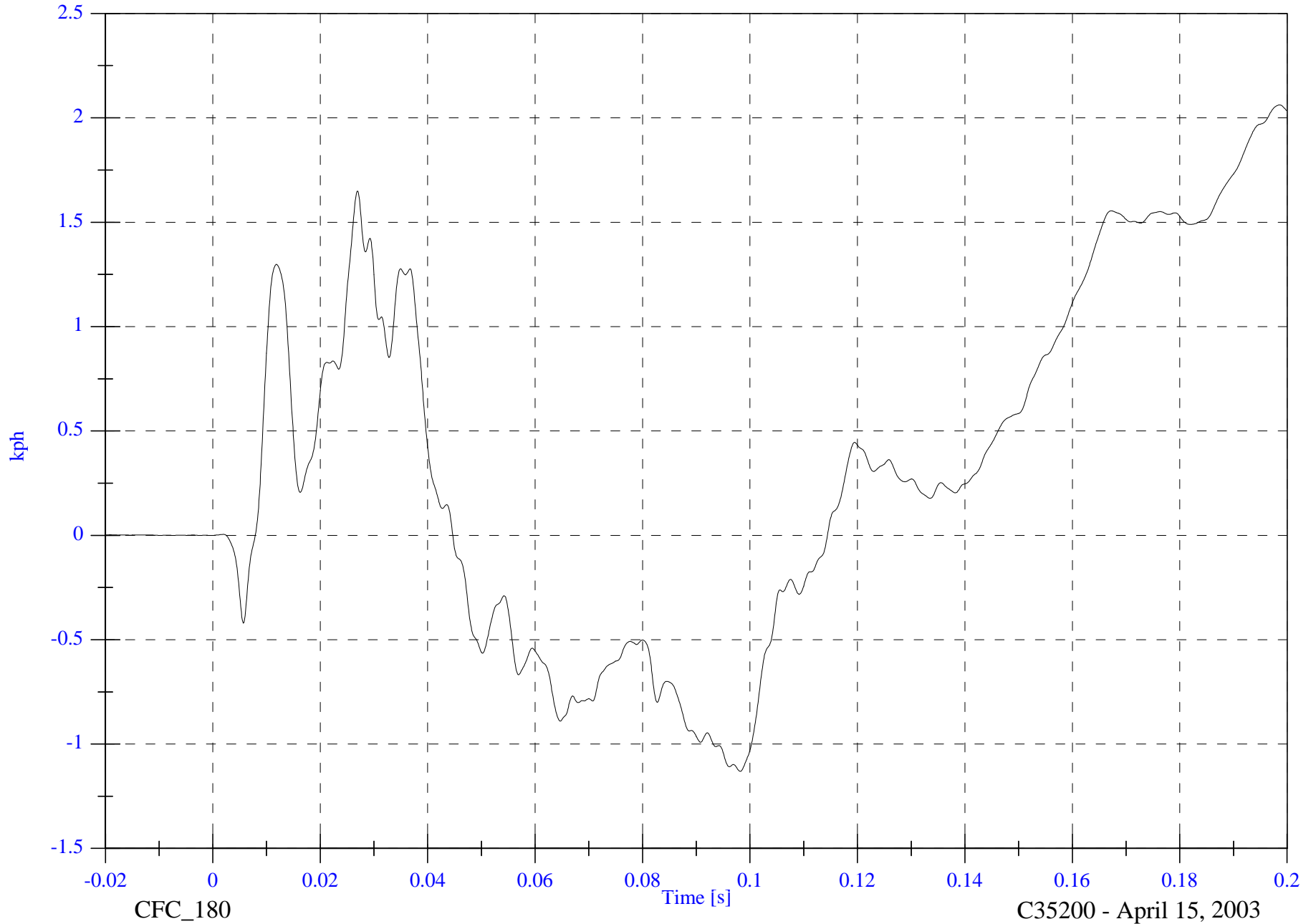
V2 A3 Rear Floorpan z Velocity

Max: 2.1 [kph] at 0.199 [s]

Min: -1.1 [kph] at 0.098 [s]

B-104

8675-F214-05



CFC_180

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

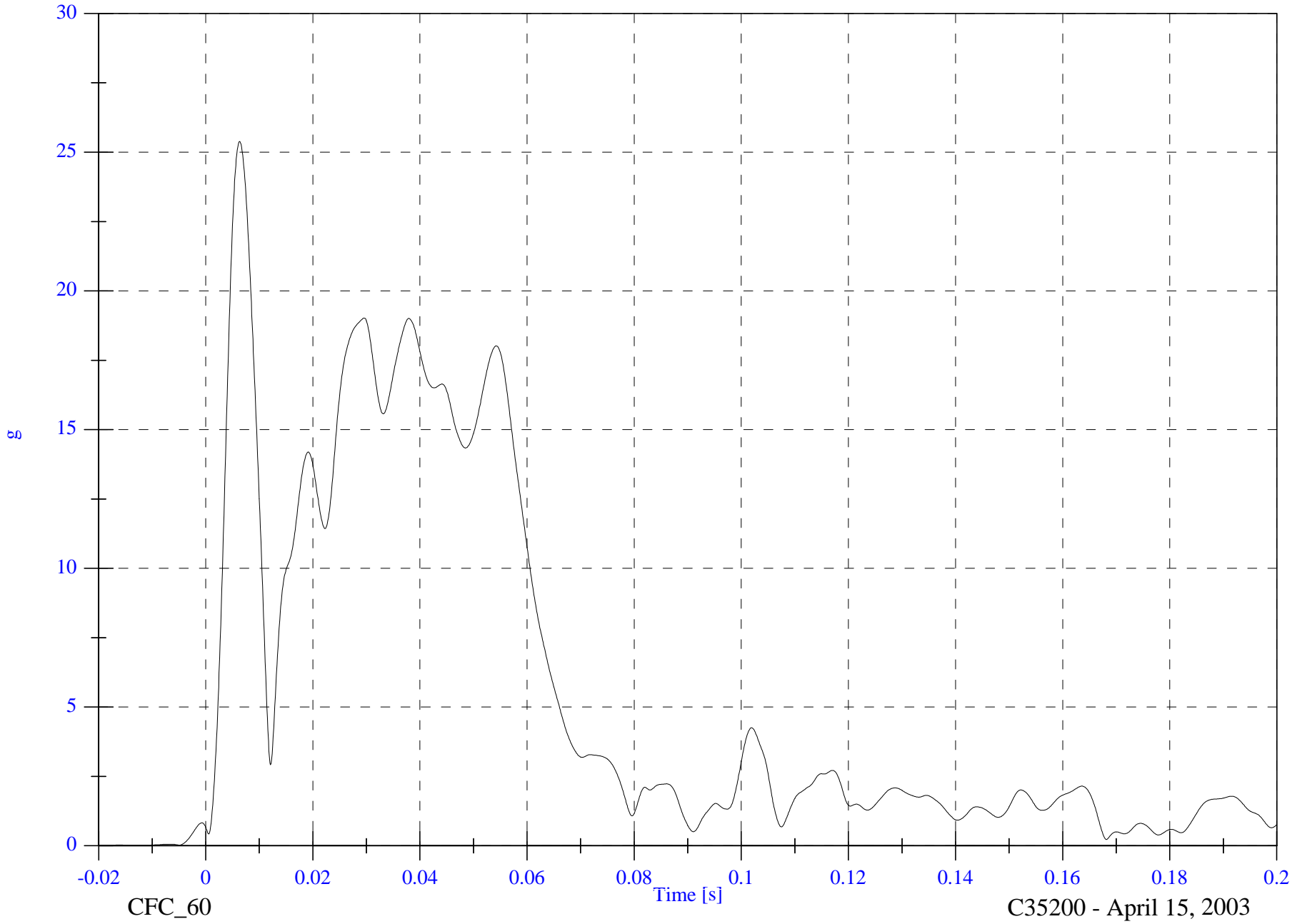
V2 A3 Rear Floorpan Resultant

Max: 25.4 [g] at 0.006 [s]

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

B-105

8675-F214-05



C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

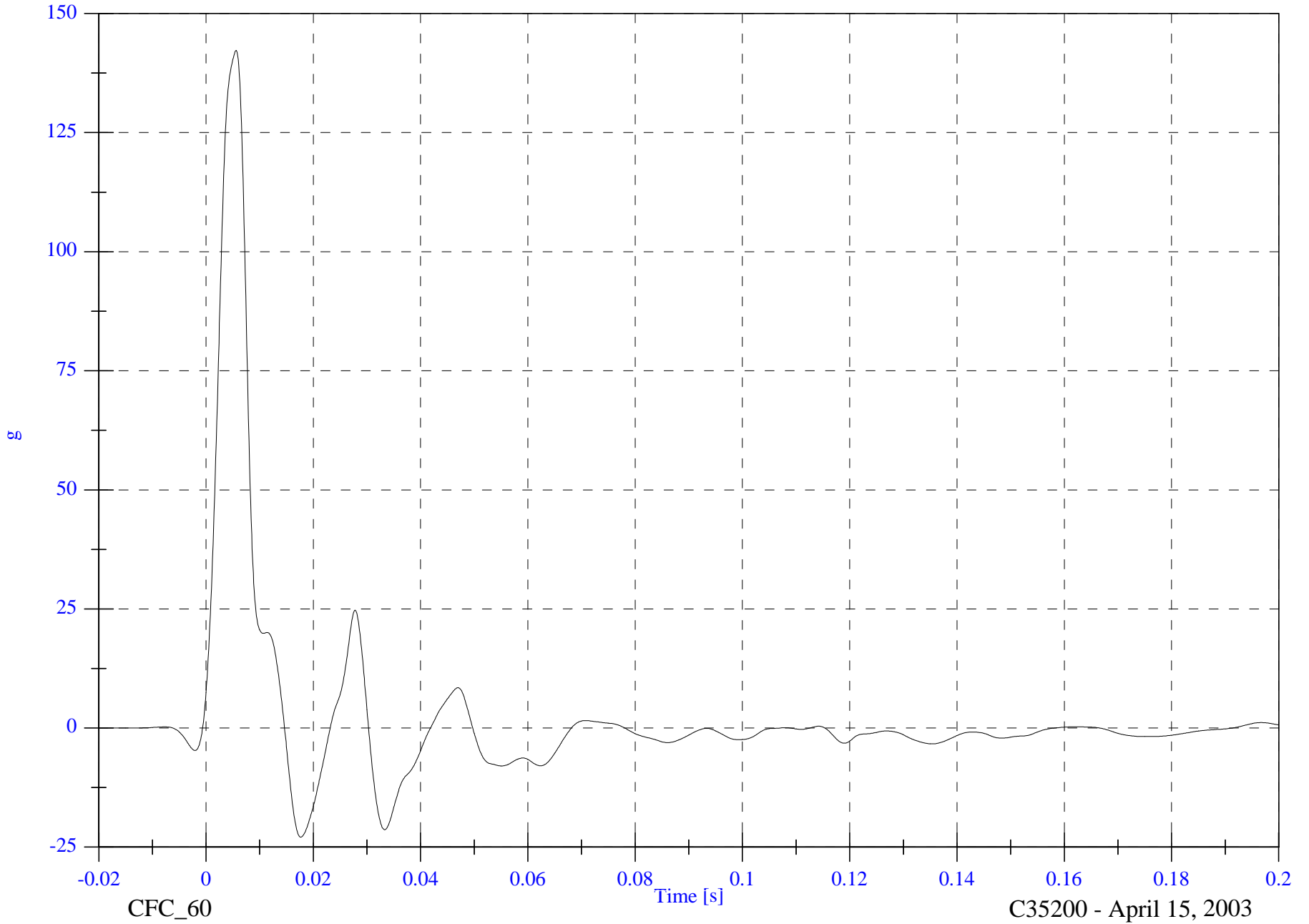
V2 A4 Left Rear Sill y

Max: 142.3 [g] at 0.006 [s]

Min: -22.9 [g] at 0.018 [s]

B-106

8675-F214-05



CFC_60

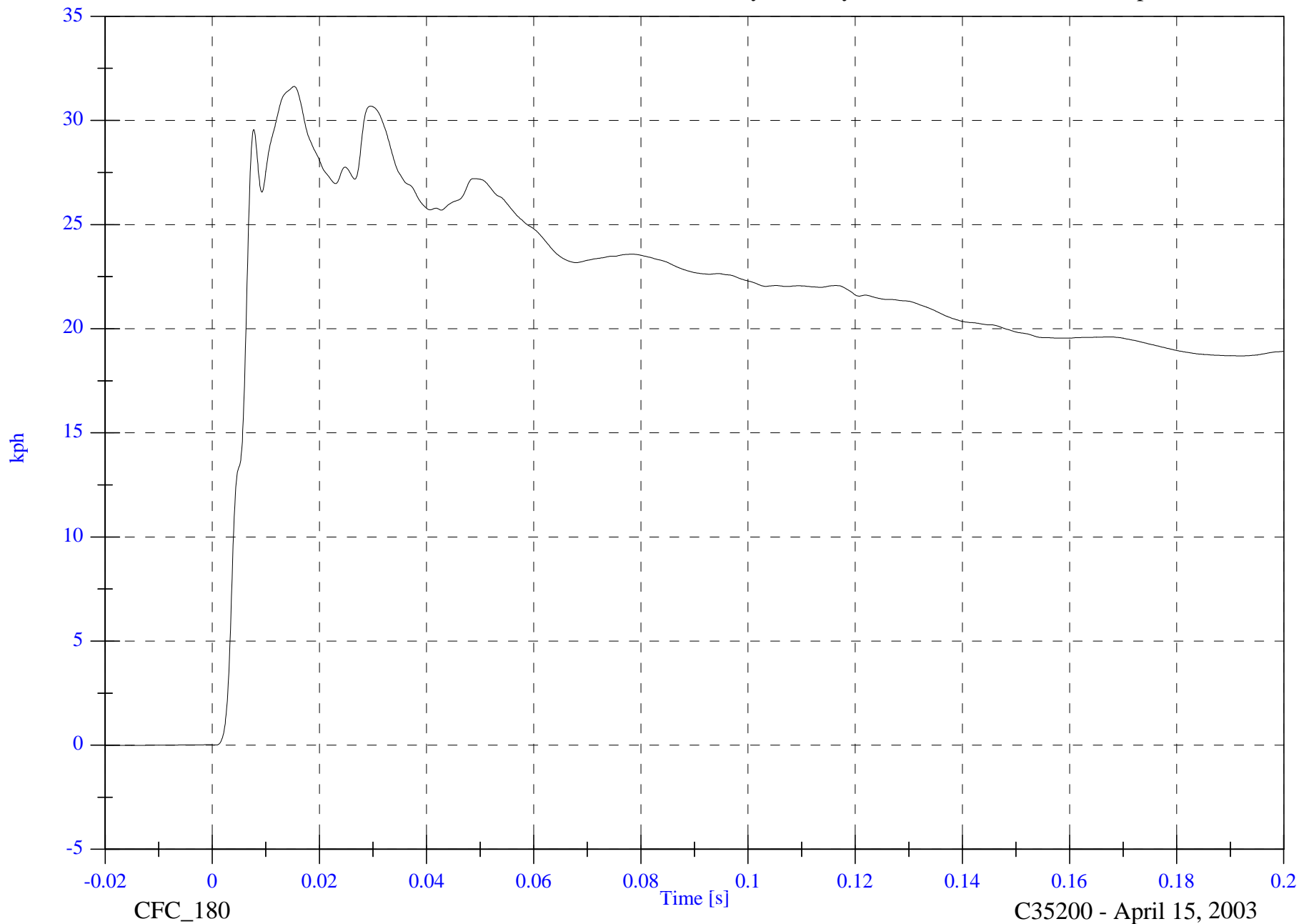
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 31.6 [kph] at 0.015 [s]

V2 A4 Left Rear Sill y Velocity

Min: -0.0 [kph] at -0.017 [s]



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8675-F214-05

CFC_180

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

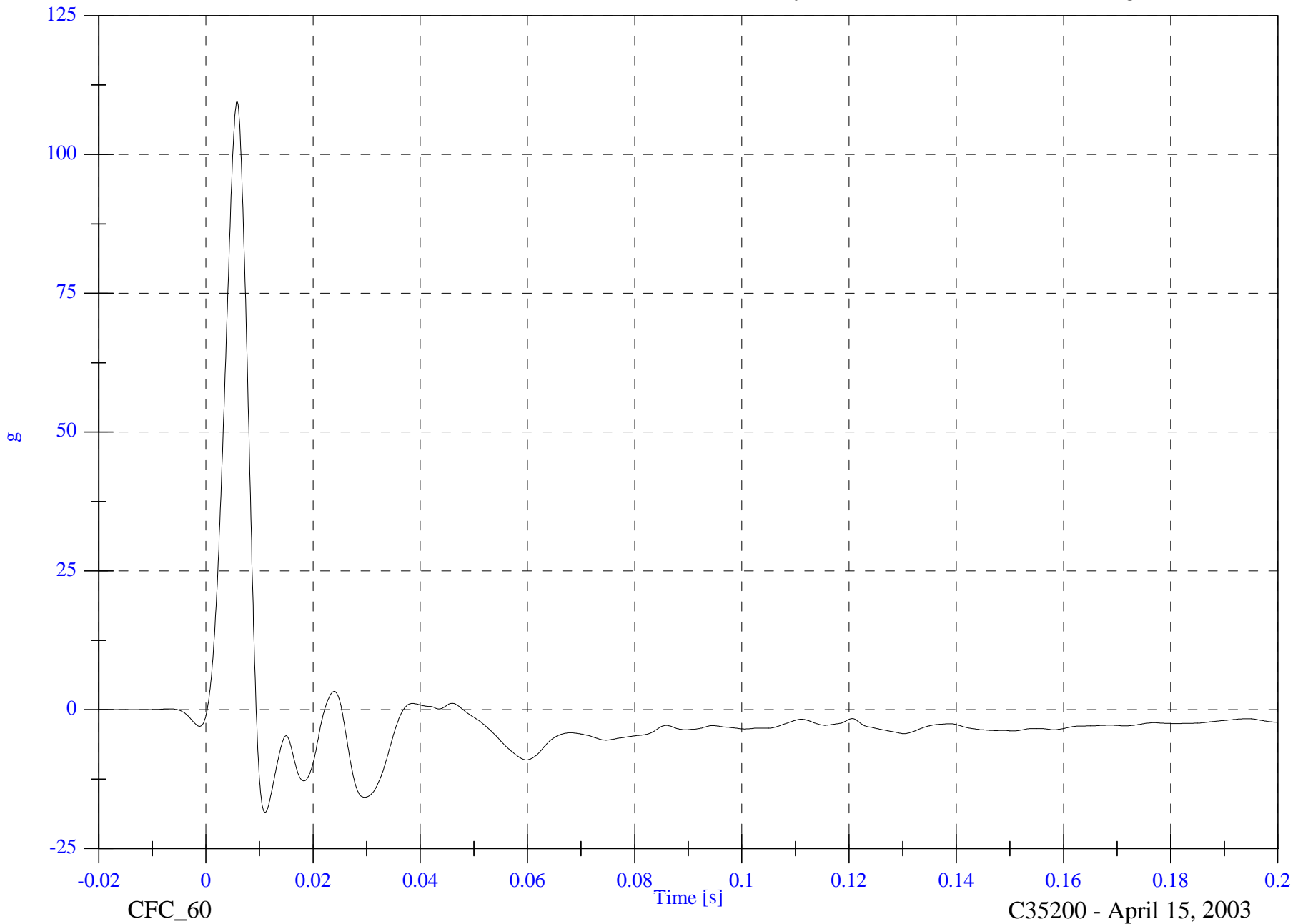
V2 A5 Left Front Sill y

Max: 109.6 [g] at 0.006 [s]

Min: -18.5 [g] at 0.011 [s]

B-108

8675-F214-05



CFC_60

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

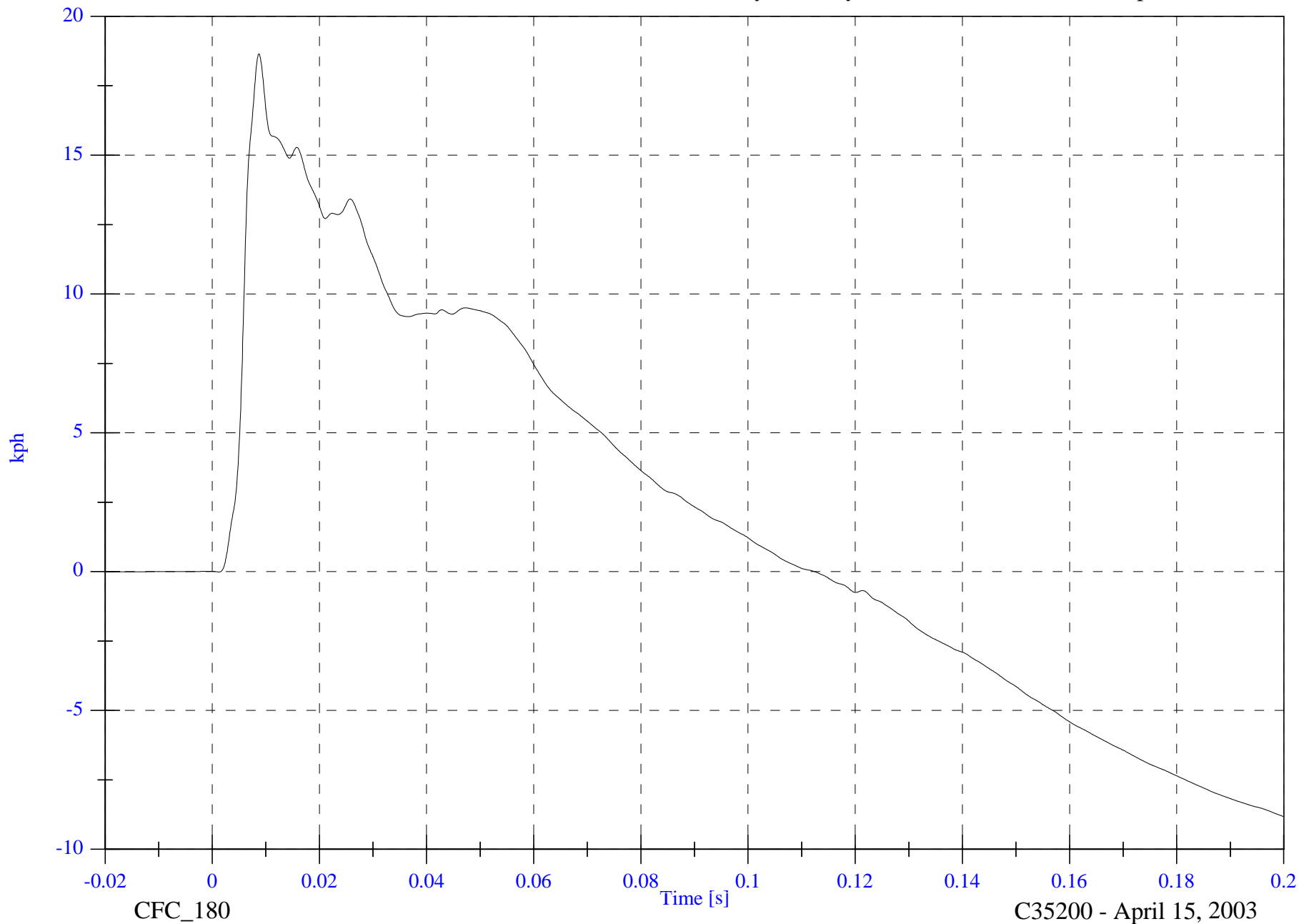
V2 A5 Left Front Sill y Velocity

Max: 18.7 [kph] at 0.009 [s]

Min: -8.8 [kph] at 0.200 [s]

B-109

8675-F214-05



CFC_180

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

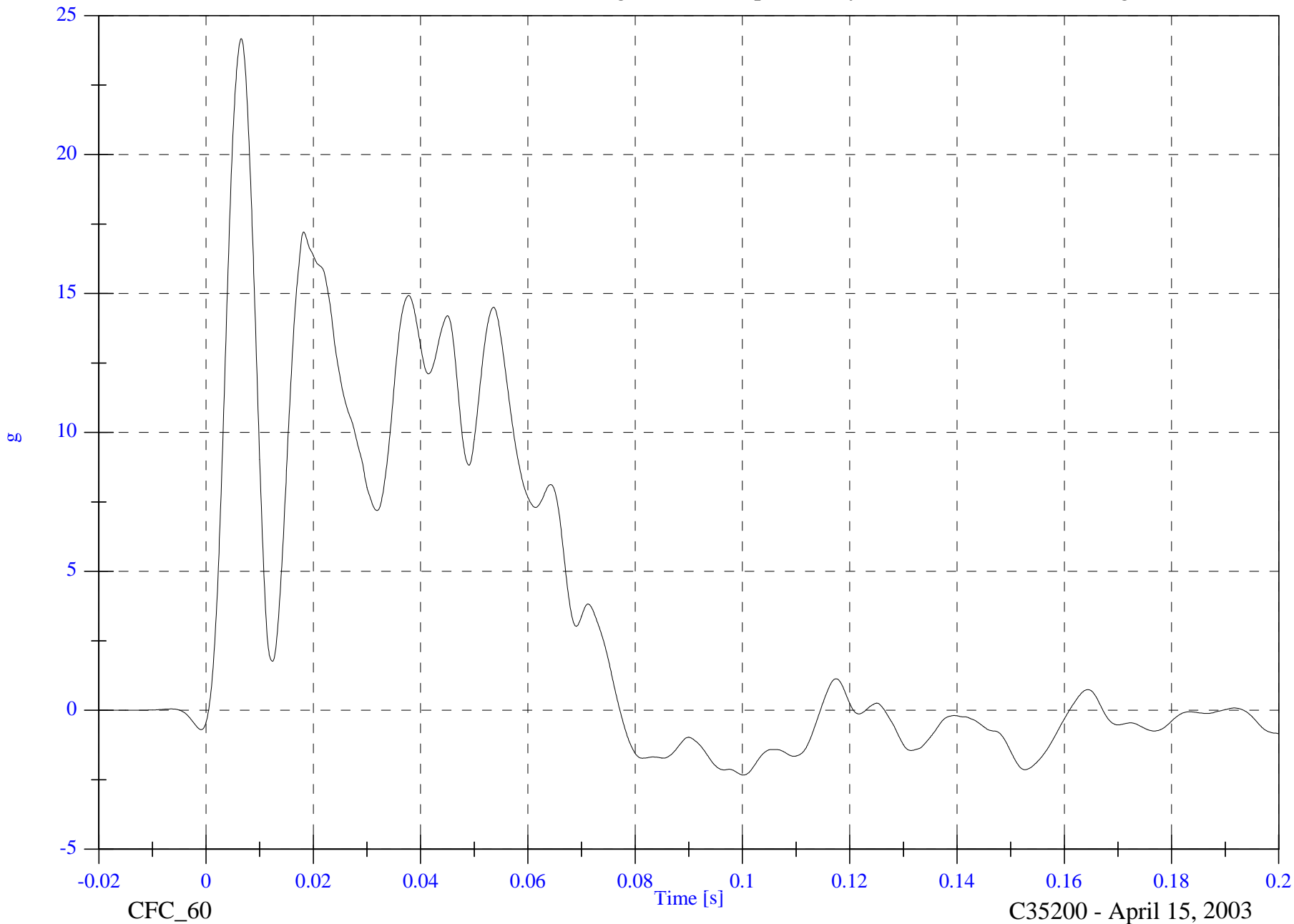
V2 A7 Right Rear Compartment y

Max: 24.2 [g] at 0.007 [s]

Min: -2.3 [g] at 0.100 [s]

B-110

8675-F214-05



C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

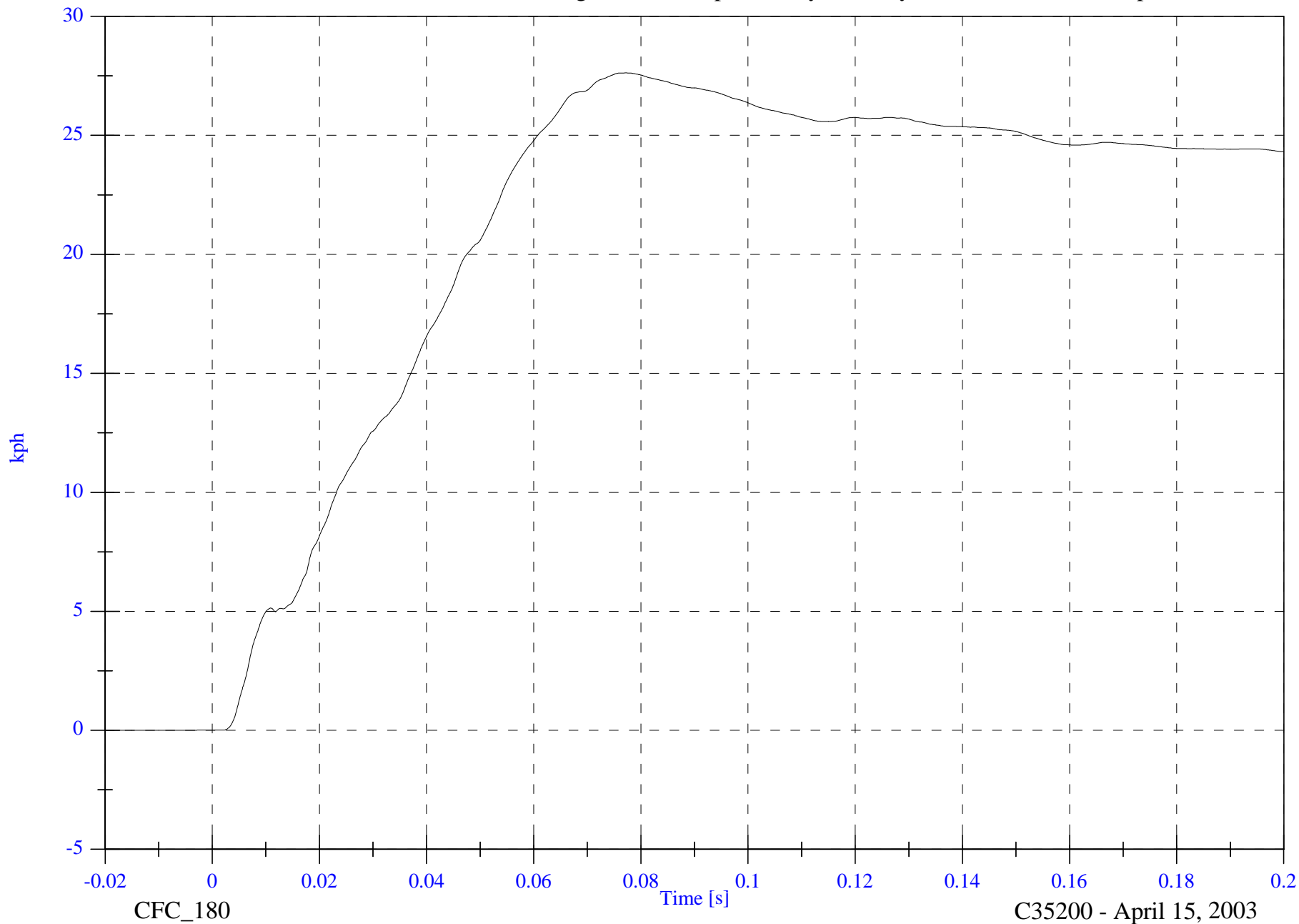
V2 A7 Right Rear Compartment y Velocity

Max: 27.6 [kph] at 0.077 [s]

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

B-111

8675-F214-05



CFC_180

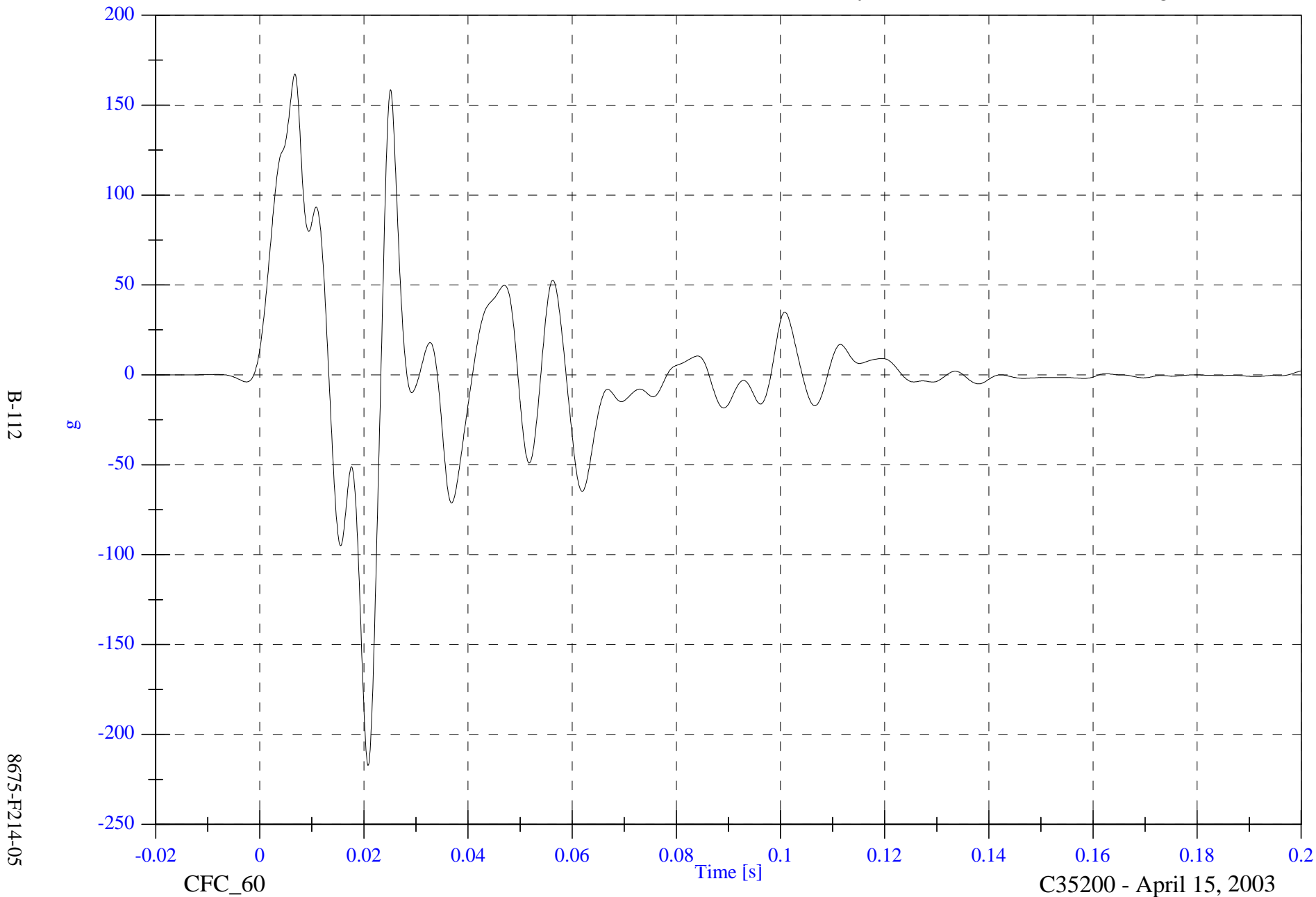
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2 A12 Left Lower B Post y

Max: 167.3 [g] at 0.007 [s]

Min: -217.2 [g] at 0.021 [s]



2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

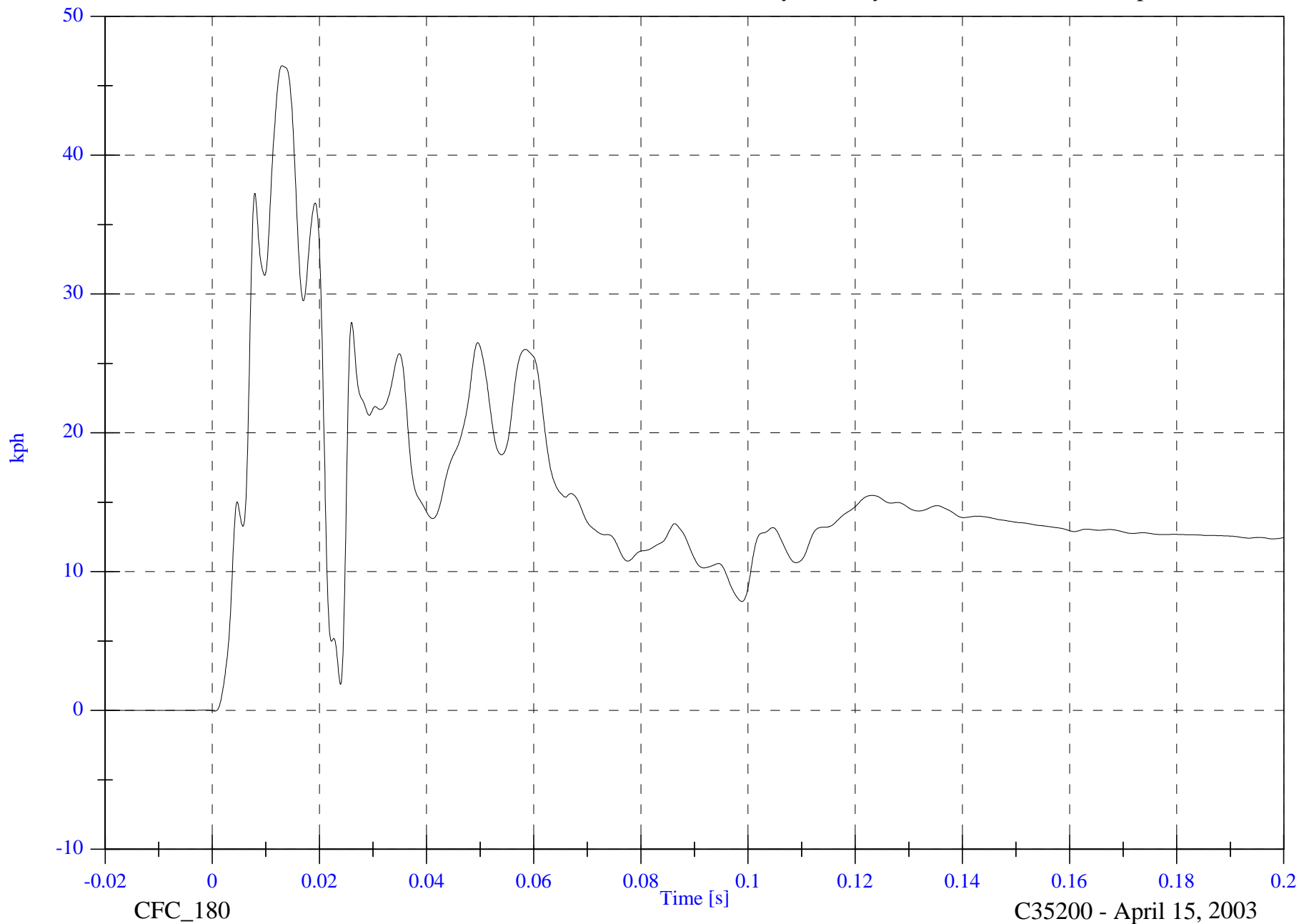
Max: 46.5 [kph] at 0.013 [s]

V2 A12 Left Lower B Post y Velocity

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

B-113

8675-F214-05



CFC_180

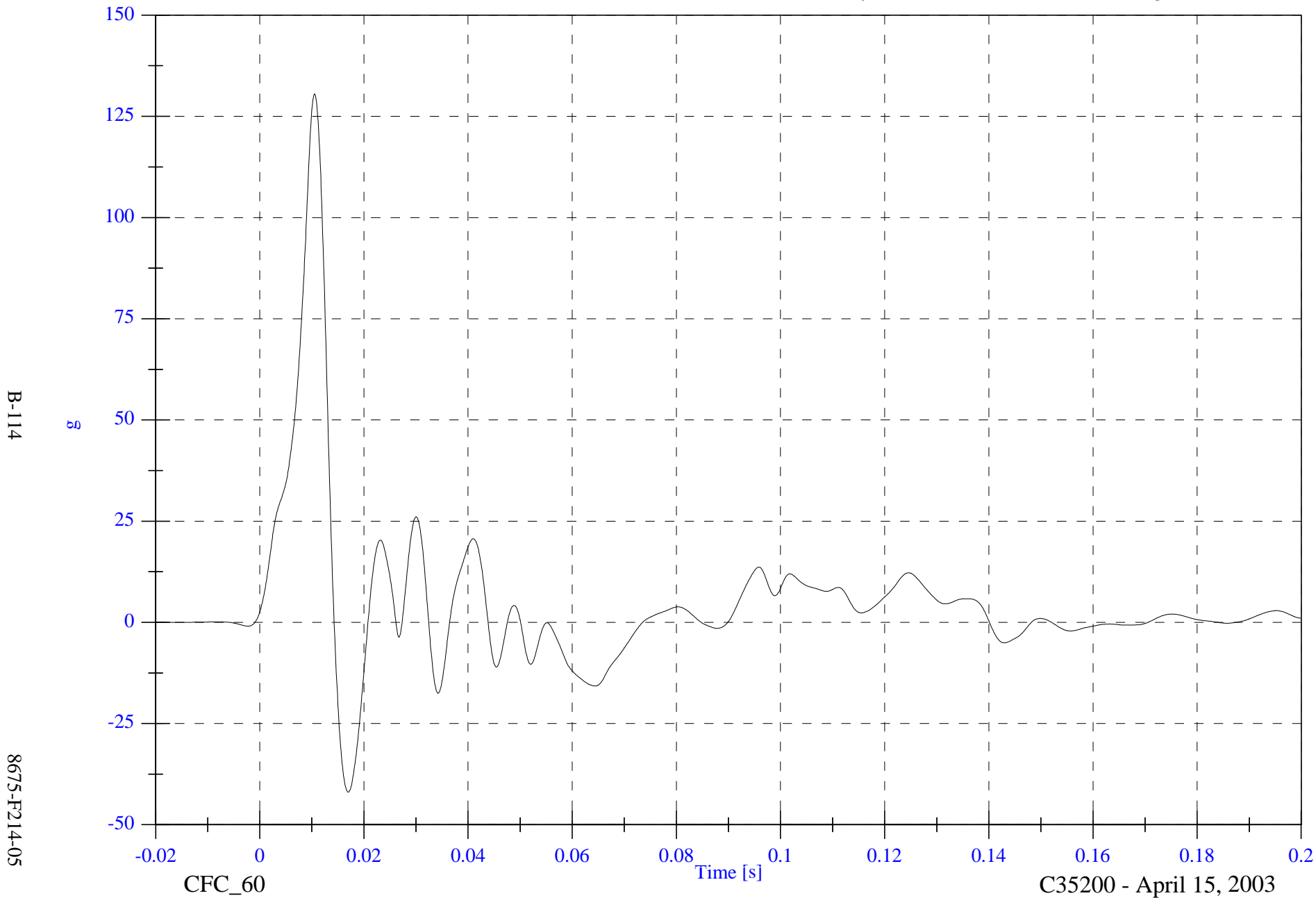
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2 A13 Left Middle B Post y

Max: 130.6 [g] at 0.010 [s]

Min: -42.0 [g] at 0.017 [s]



2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 35.7 [kph] at 0.140 [s]

V2 A13 Left Middle B Post y Velocity

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

B-115

8675-F214-05



CFC_180

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

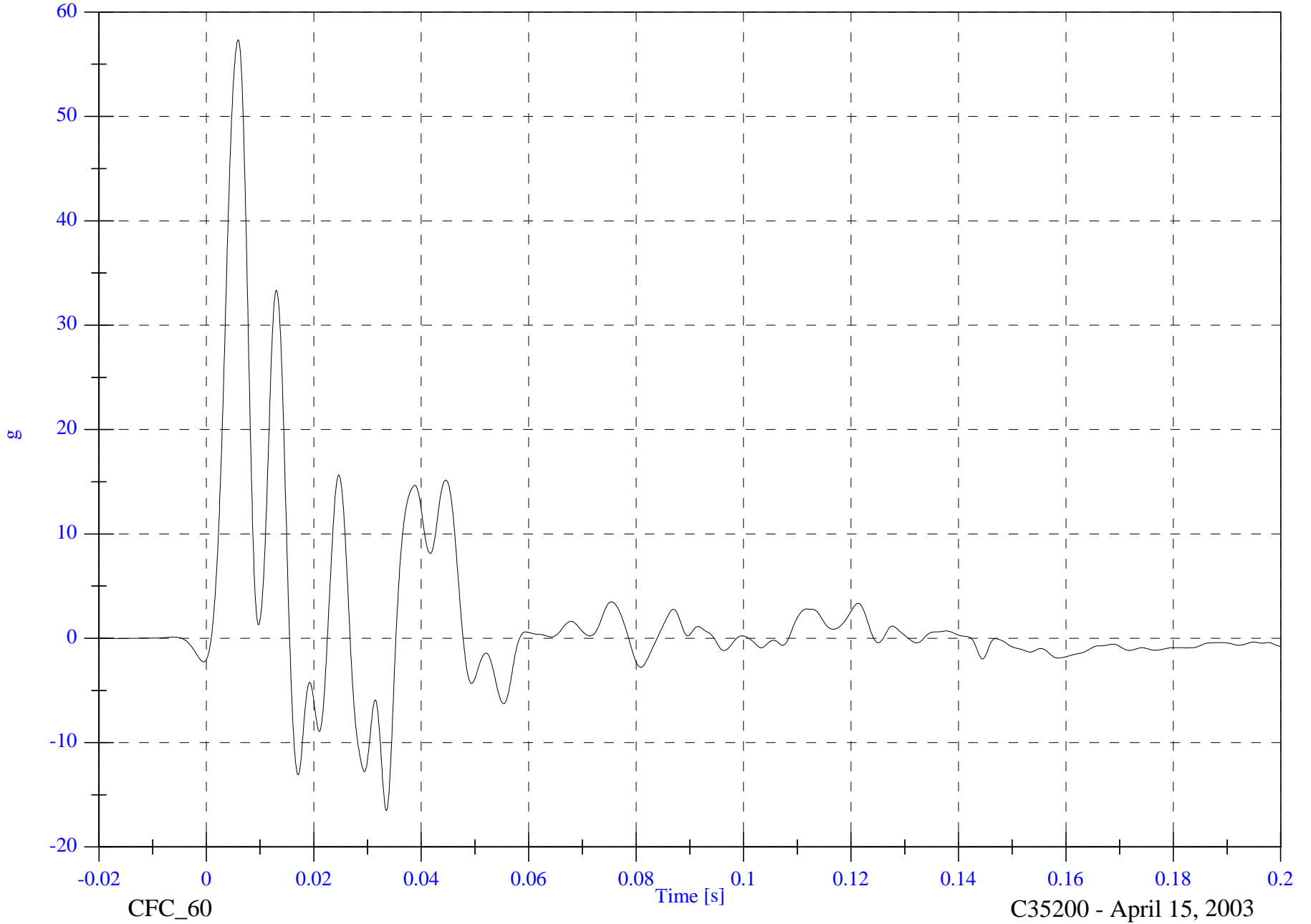
V2 A14 Left Lower A Post y

Max: 57.3 [g] at 0.006 [s]

Min: -16.5 [g] at 0.034 [s]

B-116

8675-F214-05



C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

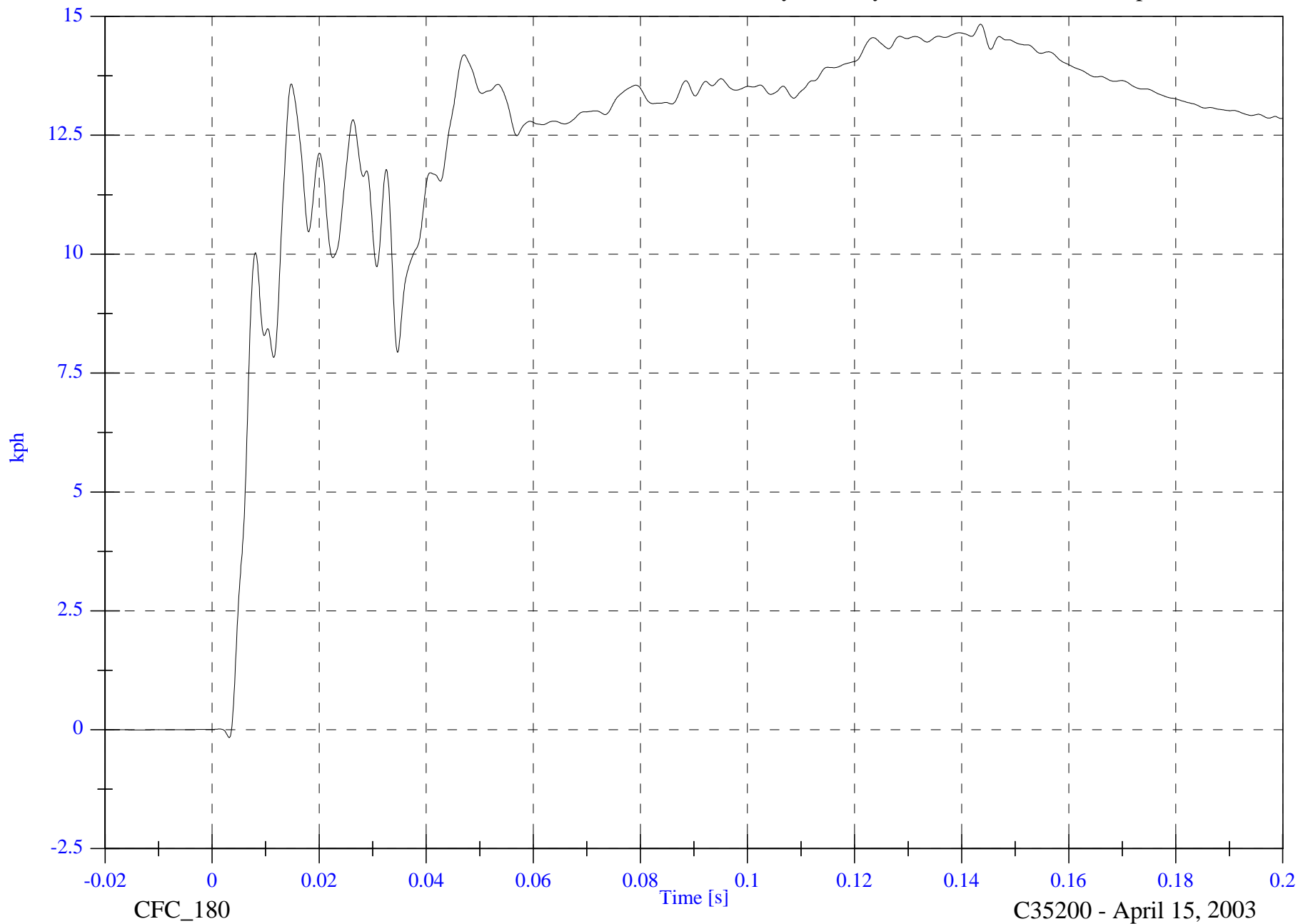
Max: 14.8 [kph] at 0.143 [s]

V2 A14 Left Lower A Post y Velocity

Min: -0.2 [kph] at 0.003 [s]

B-117

8675-F214-05



CFC_180

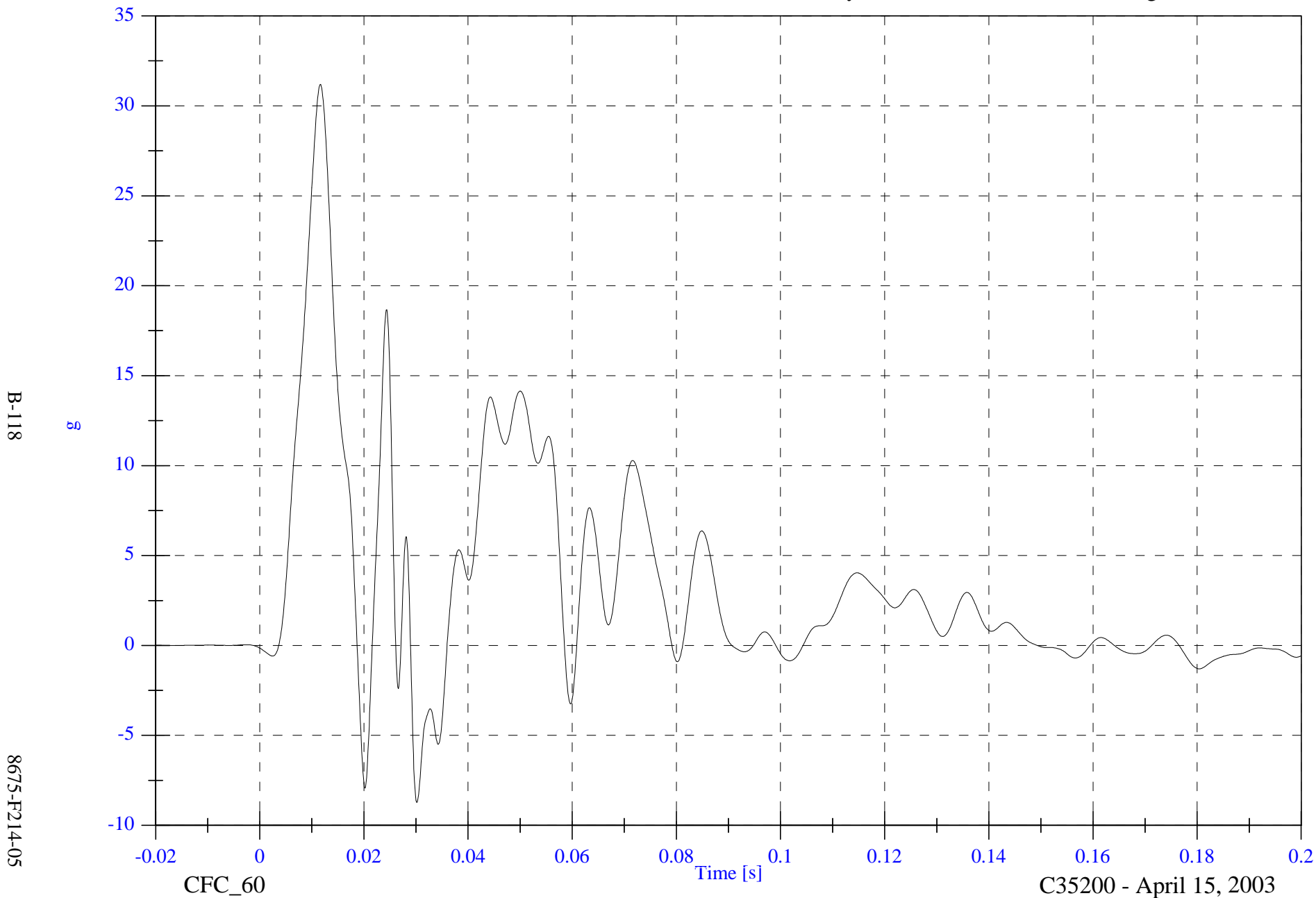
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2 A15 Left Mid A Post y

Max: 31.2 [g] at 0.012 [s]

Min: -8.7 [g] at 0.030 [s]



2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

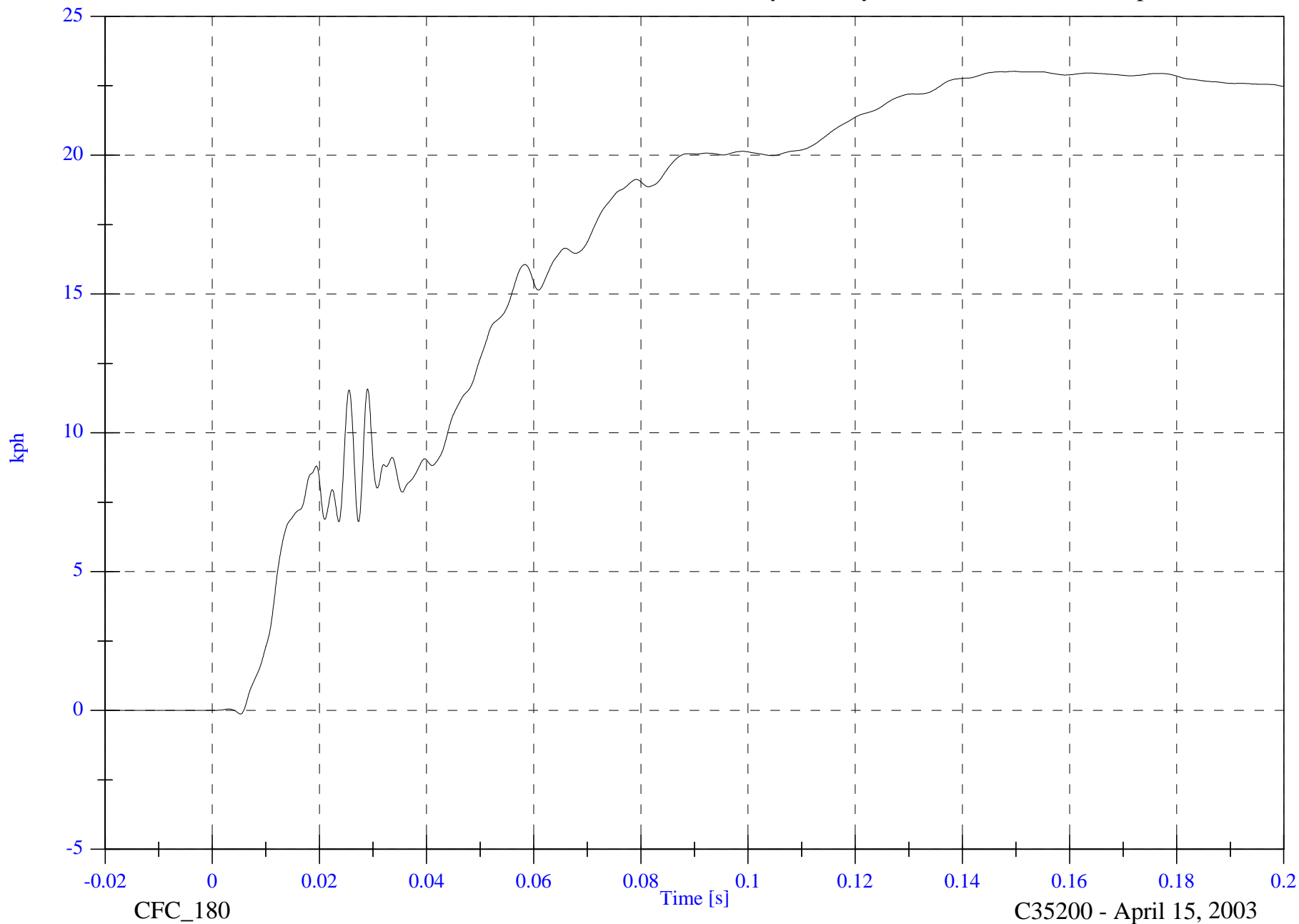
V2 A15 Left Mid A Post y Velocity

Max: 23.0 [kph] at 0.150 [s]

Min: -0.1 [kph] at 0.005 [s]

B-119

8675-F214-05



CFC_180

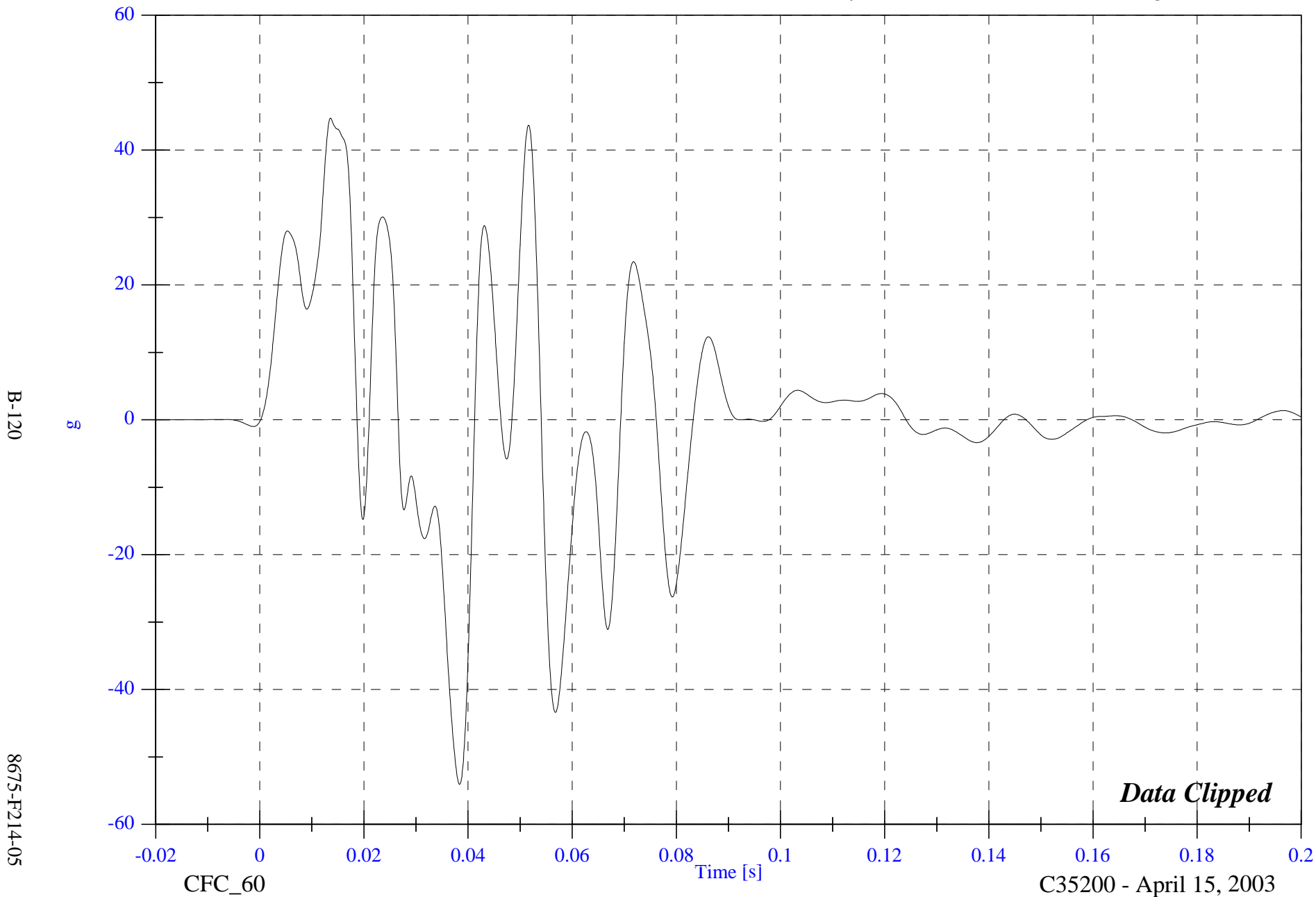
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 44.8 [g] at 0.014 [s]

V2 A16 Front Seat Track y

Min: -54.1 [g] at 0.038 [s]



B-120

8675-F214-05

CFC_60

Time [s]

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

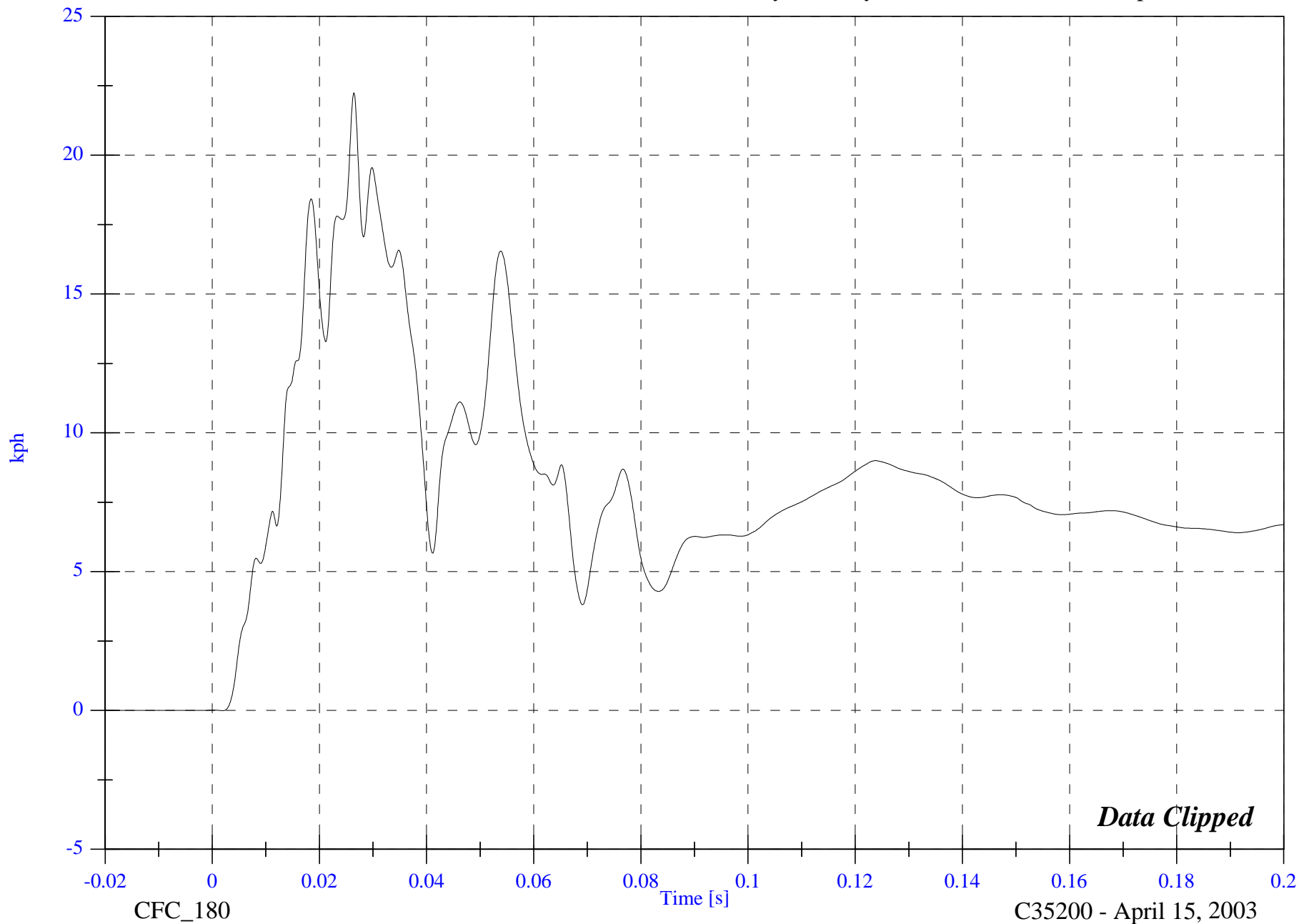
V2 A16 Front Seat Track y Velocity

Max: 22.2 [kph] at 0.026 [s]

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

B-121

8675-F214-05



Data Clipped

CFC_180

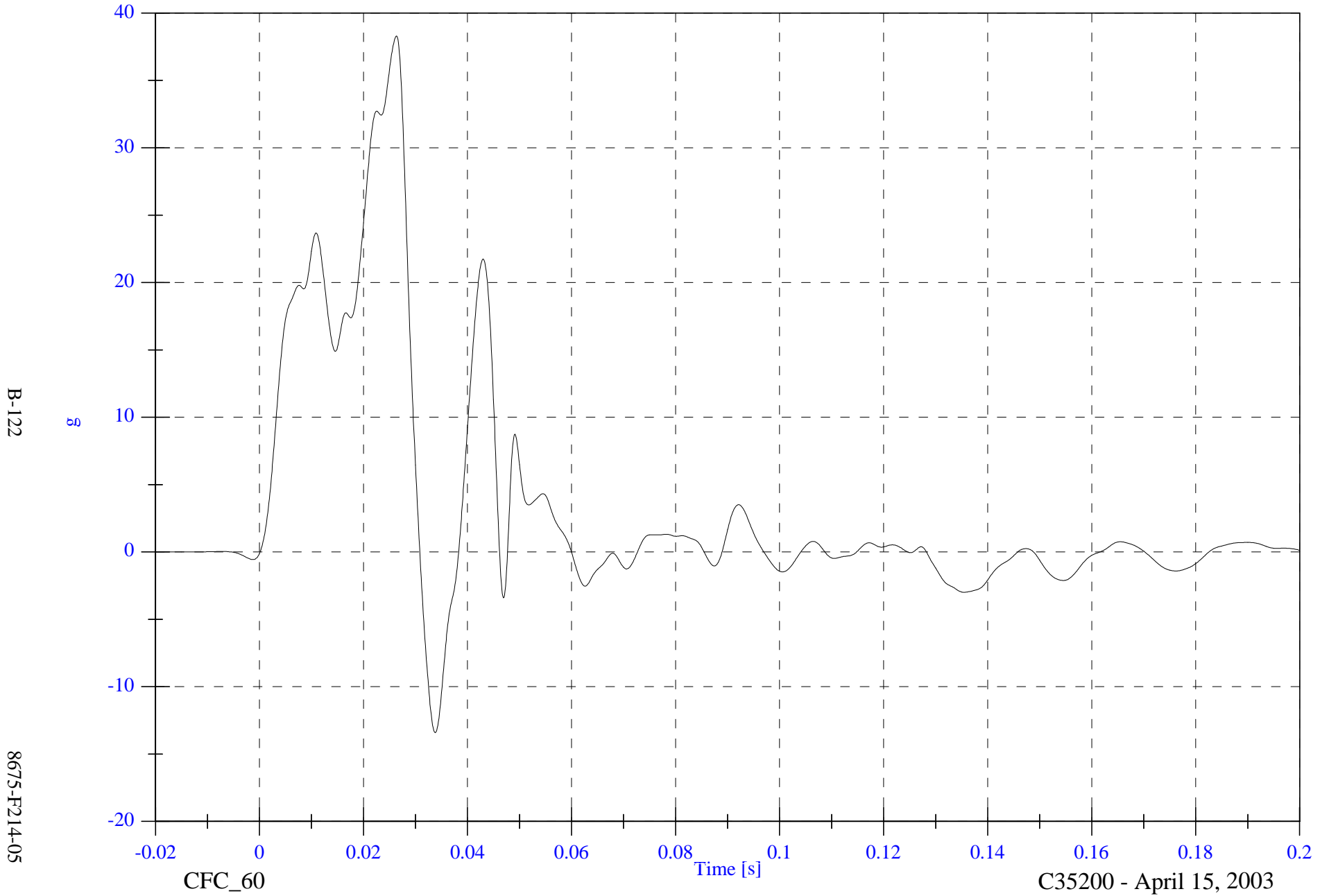
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 38.3 [g] at 0.026 [s]

V2 A17 Rear Seat Track y

Min: -13.4 [g] at 0.034 [s]

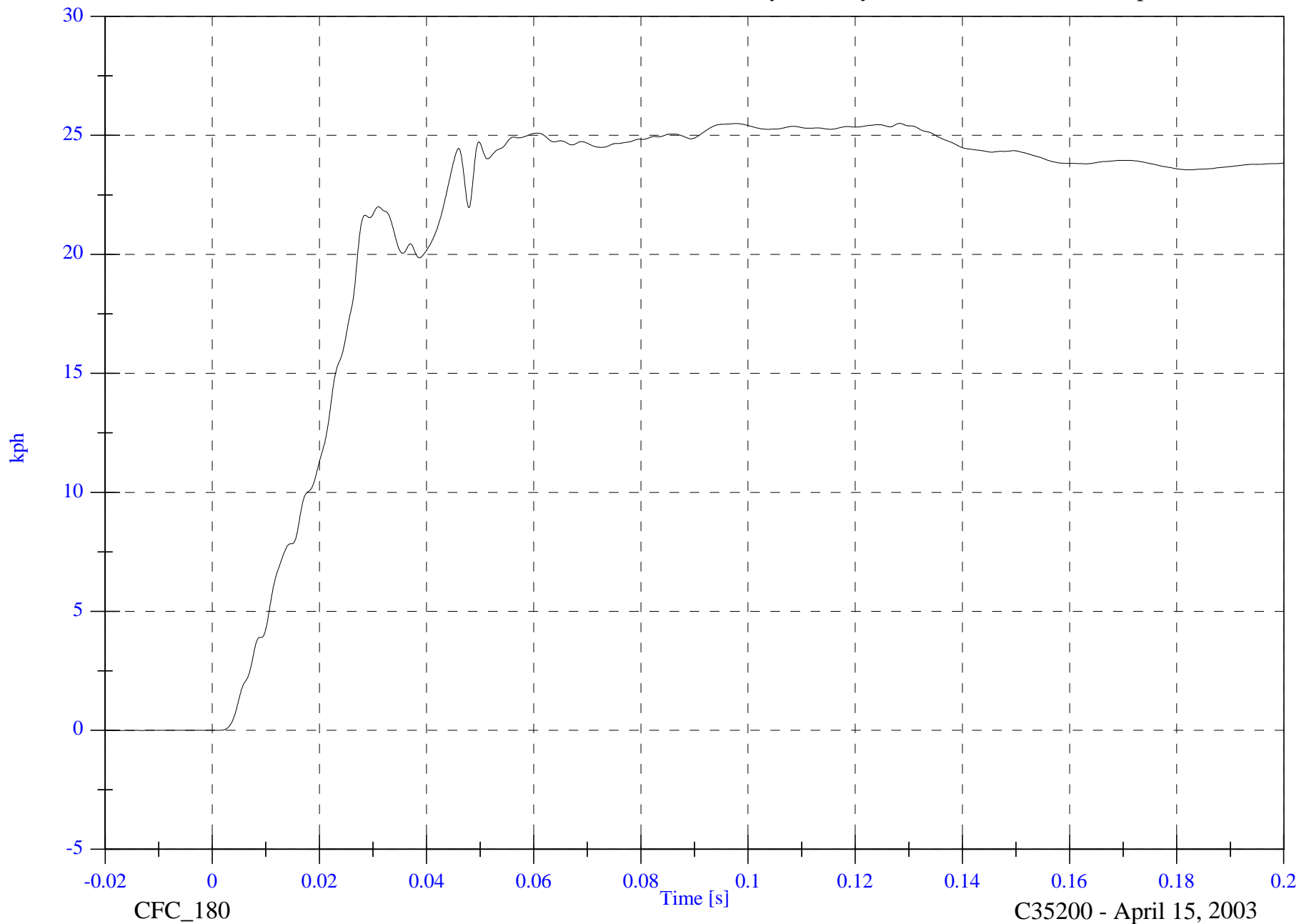


2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2 A17 Rear Seat Track y Velocity

Max: 25.5 [kph] at 0.128 [s]

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



B-123

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CFC_180

Time [s]

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

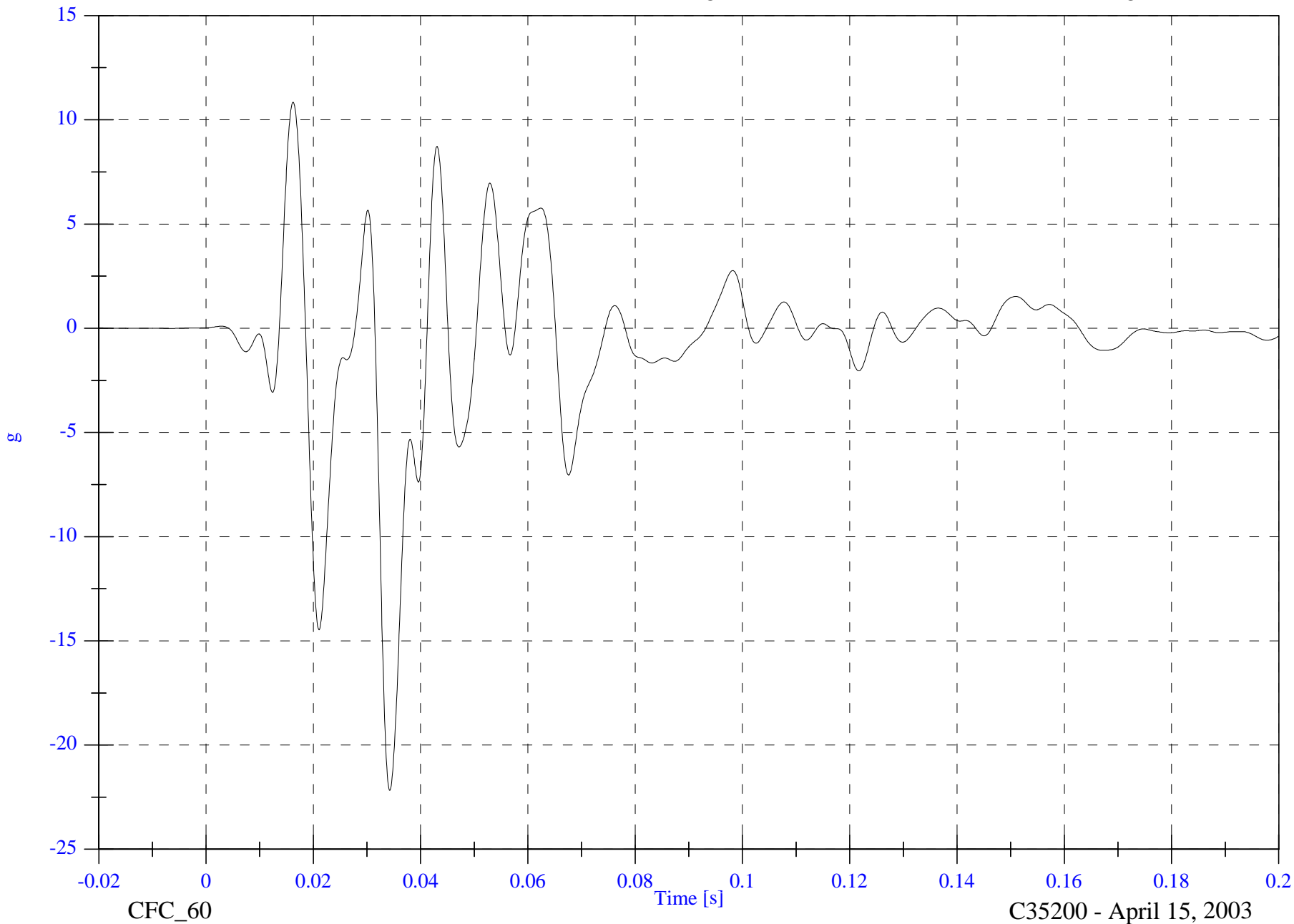
V2 A18 Target CG x

Max: 10.9 [g] at 0.016 [s]

Min: -22.2 [g] at 0.034 [s]

B-124

8675-F214-05



CFC_60

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

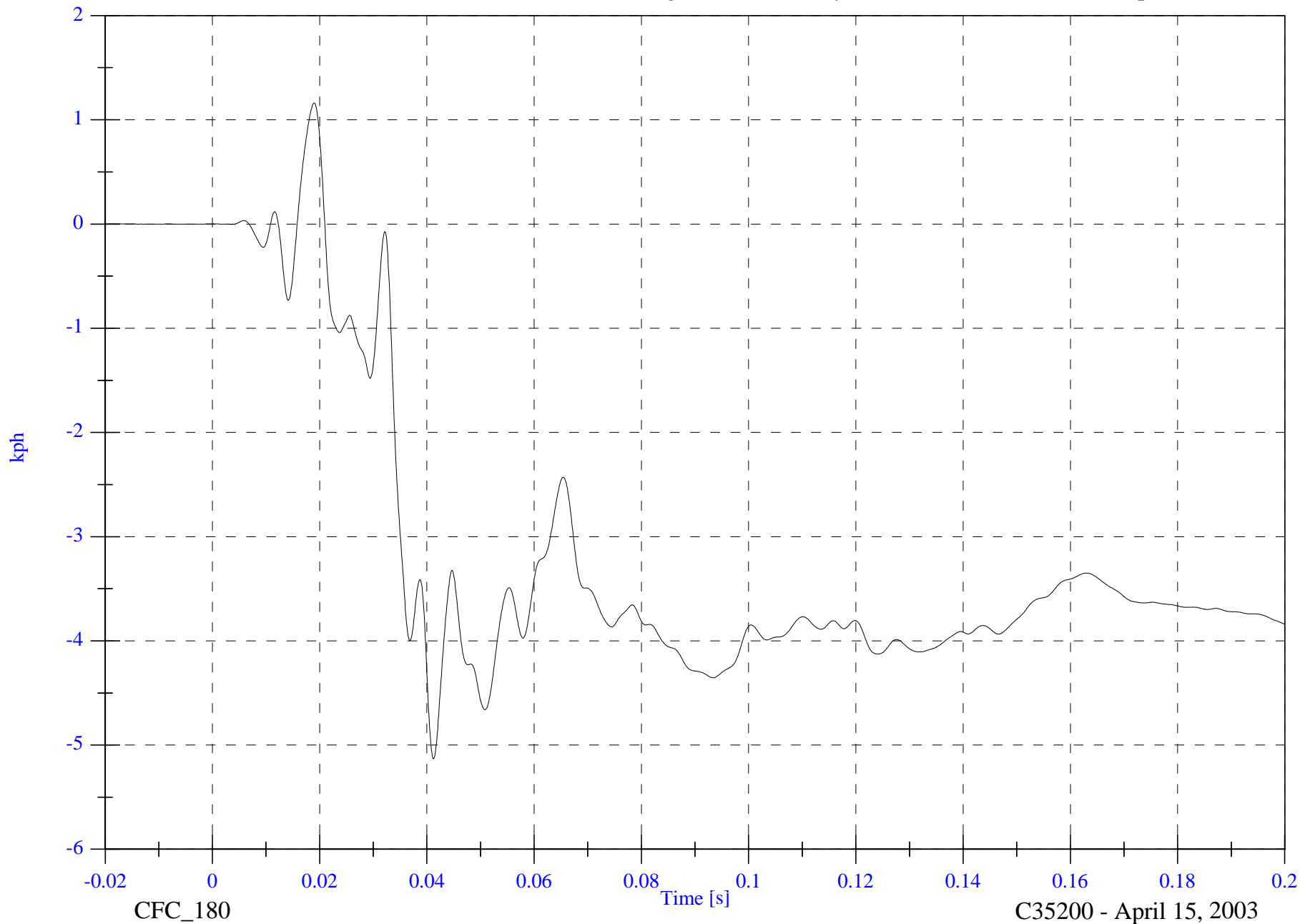
V2 A18 Target CG x Velocity

Max: 1.2 [kph] at 0.019 [s]

Min: -5.1 [kph] at 0.041 [s]

B-125

8675-F214-05



CFC_180

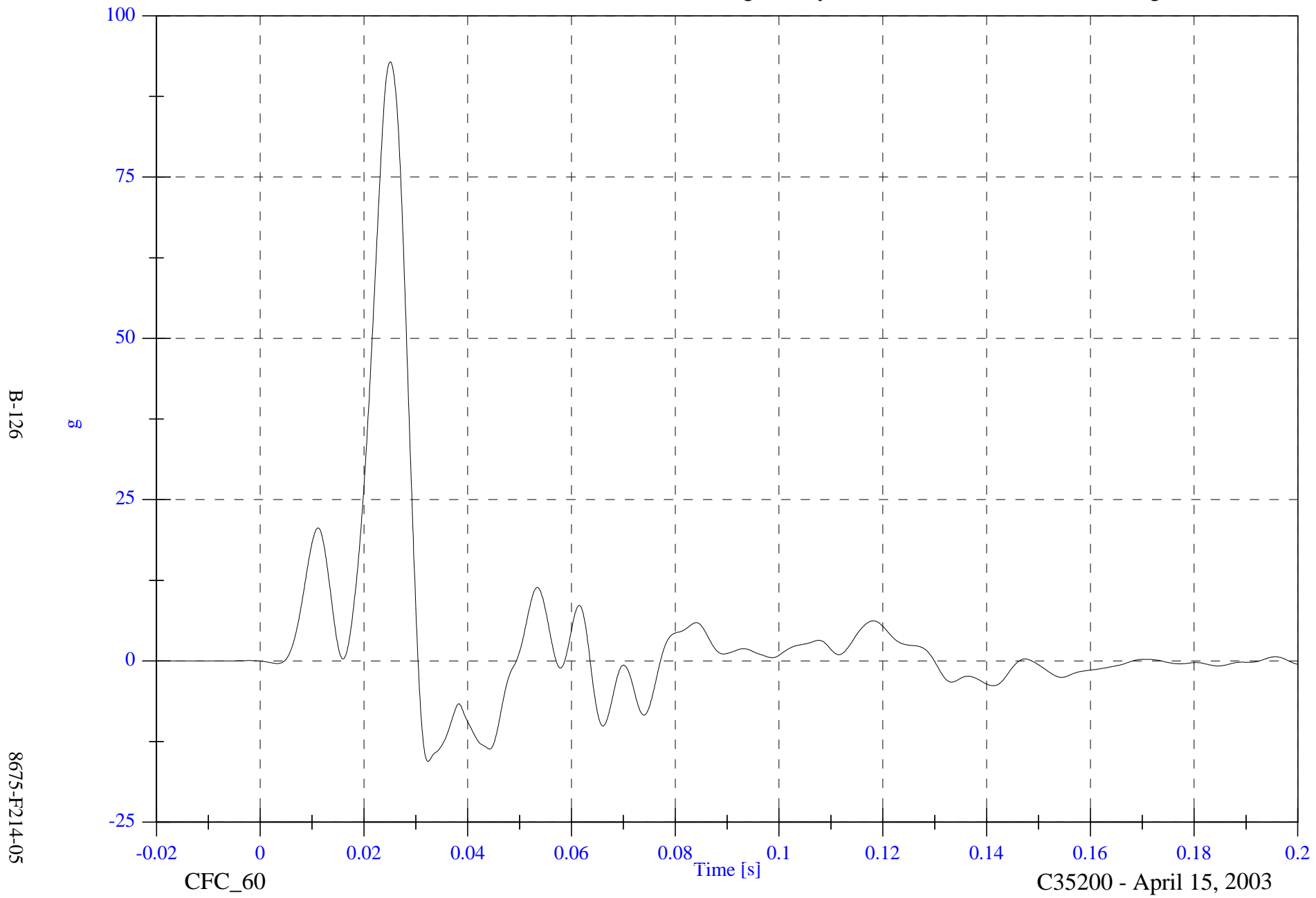
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2 A18 Target CG y

Max: 92.9 [g] at 0.025 [s]

Min: -15.6 [g] at 0.032 [s]



2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2 A18 Target CG y Velocity

Max: 27.8 [kph] at 0.030 [s]

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

B-127

8675-F214-05



CFC_180

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

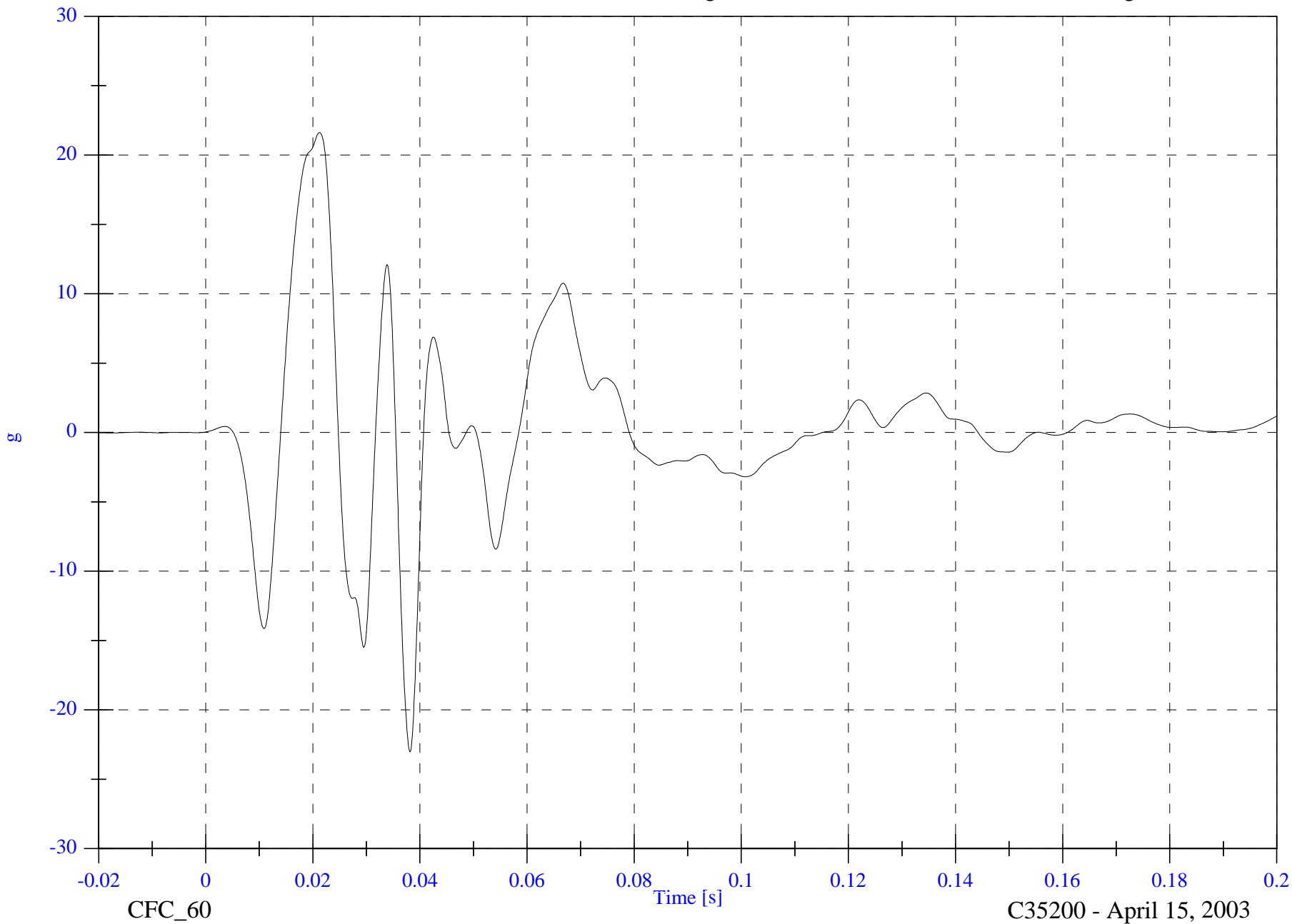
V2 A18 Target CG z

Max: 21.6 [g] at 0.021 [s]

Min: -23.0 [g] at 0.038 [s]

B-128

8675-F214-05



C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

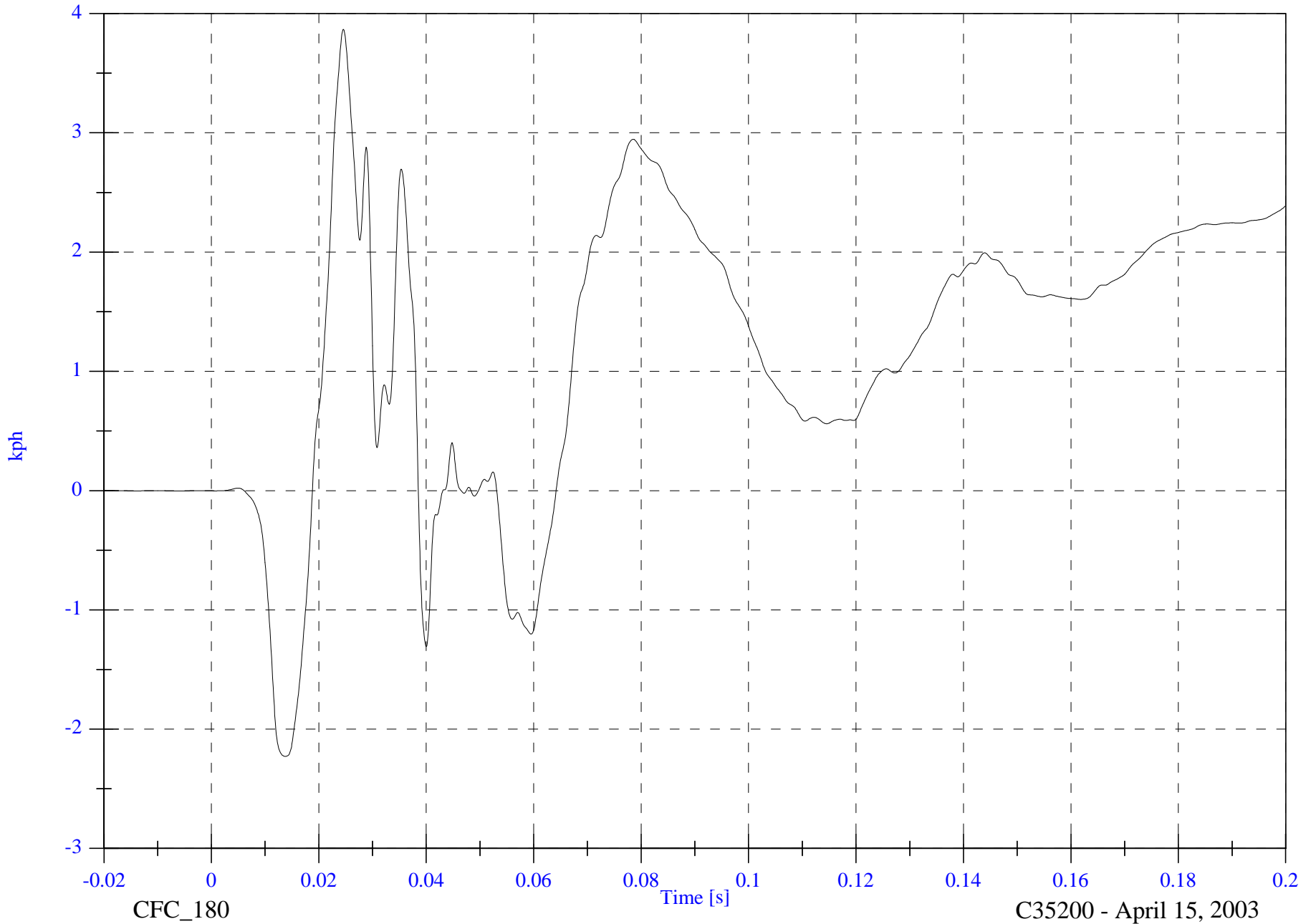
V2 A18 Target CG z Velocity

Max: 3.9 [kph] at 0.025 [s]

Min: -2.2 [kph] at 0.014 [s]

B-129

8675-F214-05



CFC_180

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

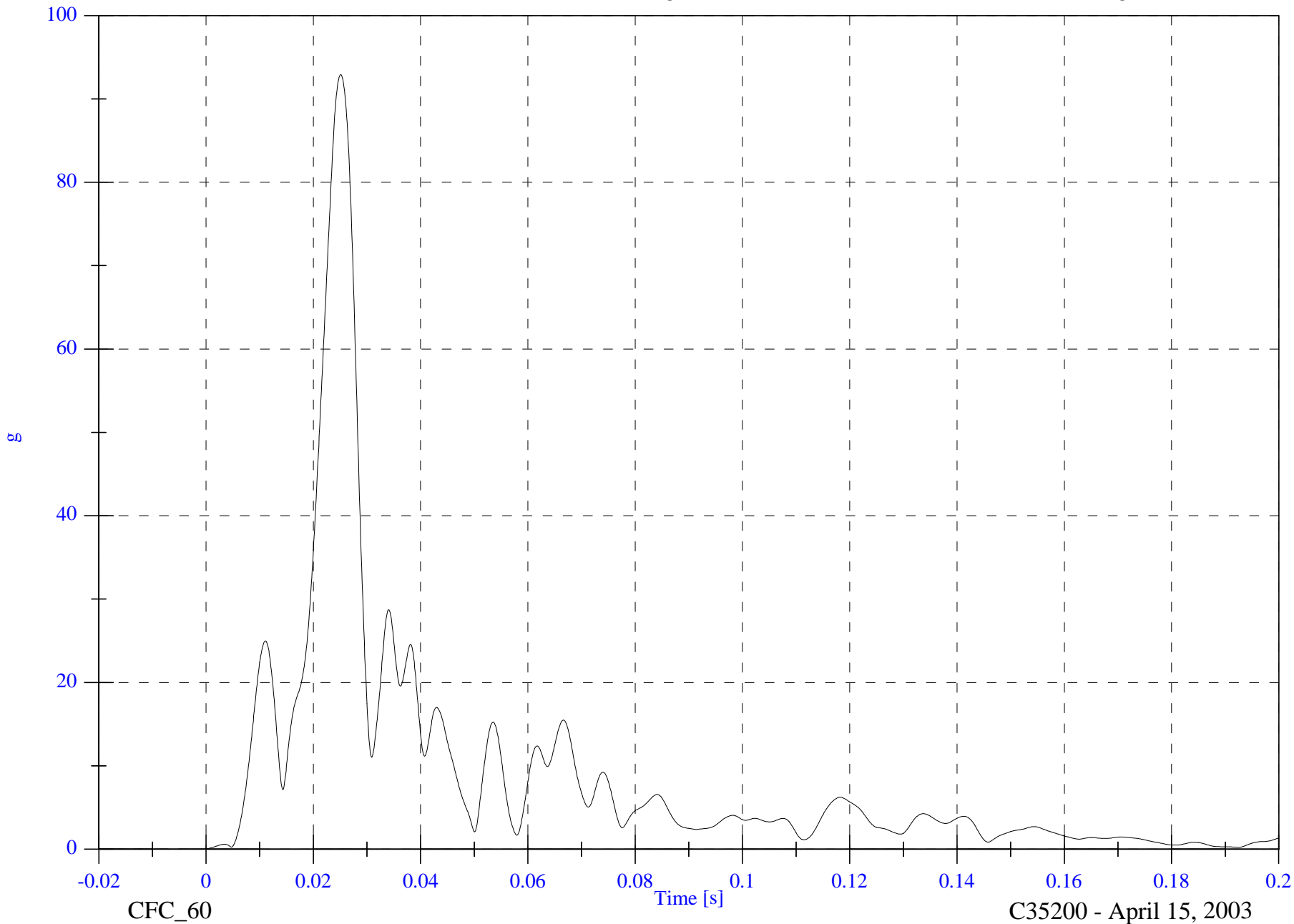
V2 A18 Target CG Resultant

Max: 92.9 [g] at 0.025 [s]

Min: 0.0 [g] at -0.011 [s]

B-130

8675-F214-05



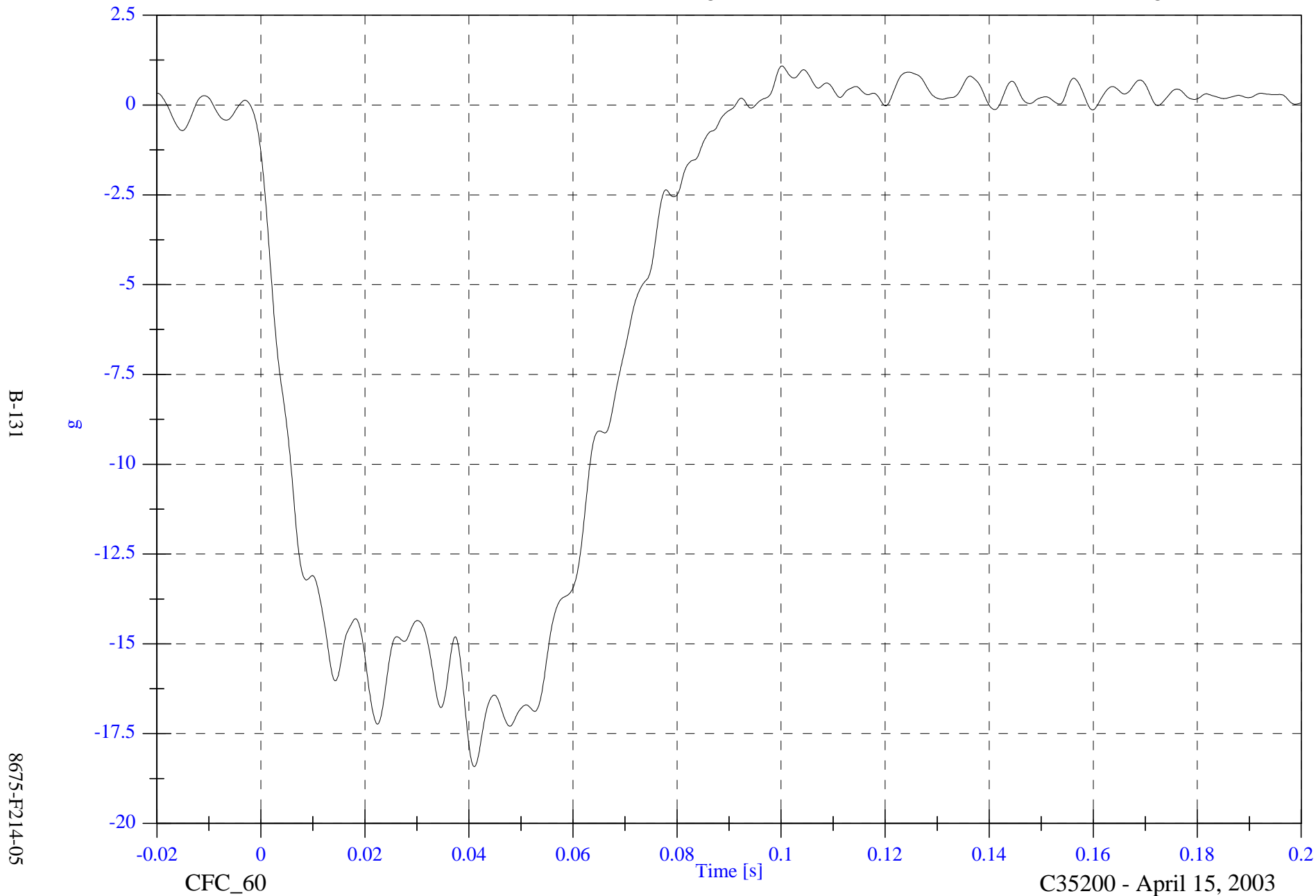
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V1 Moving Barrier CG X

Max: 1.1 [g] at 0.100 [s]

Min: -18.4 [g] at 0.041 [s]

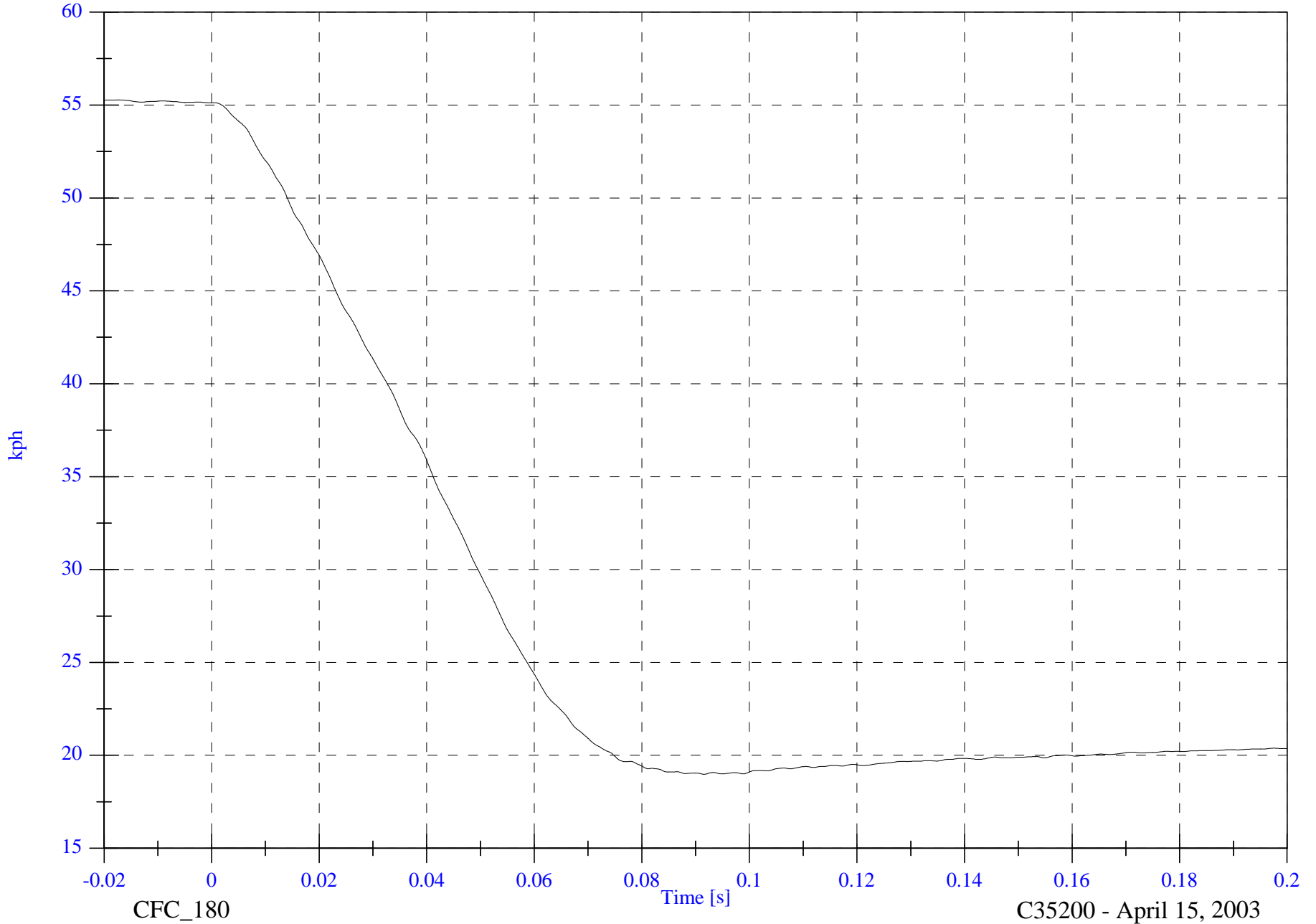


2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 55.3 [kph] at -0.017 [s]

V1 Moving Barrier CG X Velocity

Min: 19.0 [kph] at 0.092 [s]



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CFC_180

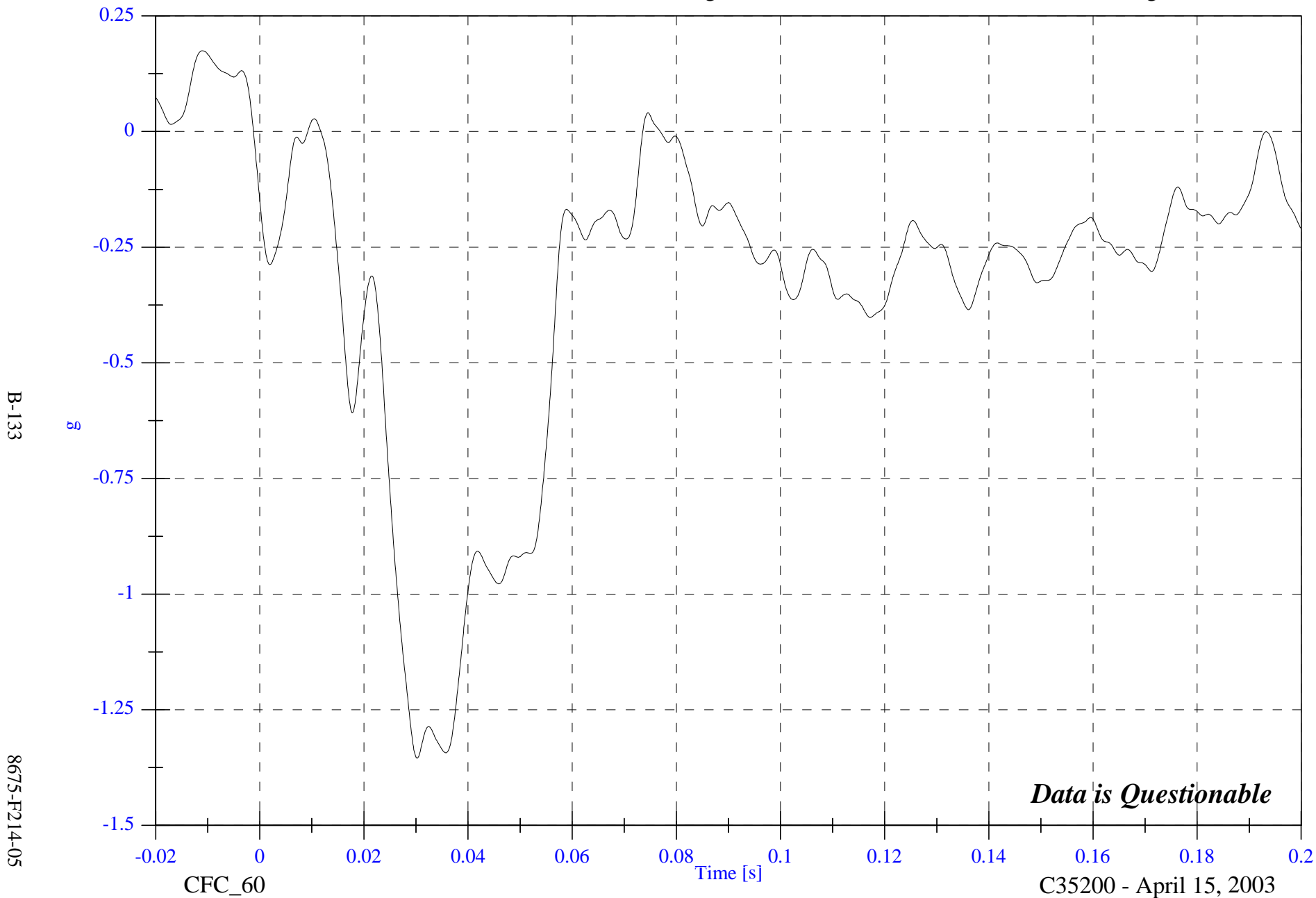
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V1 Moving Barrier CG Y

Max: 0.2 [g] at -0.011 [s]

Min: -1.4 [g] at 0.030 [s]



B-133

8675-F214-05

CFC_60

Data is Questionable

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

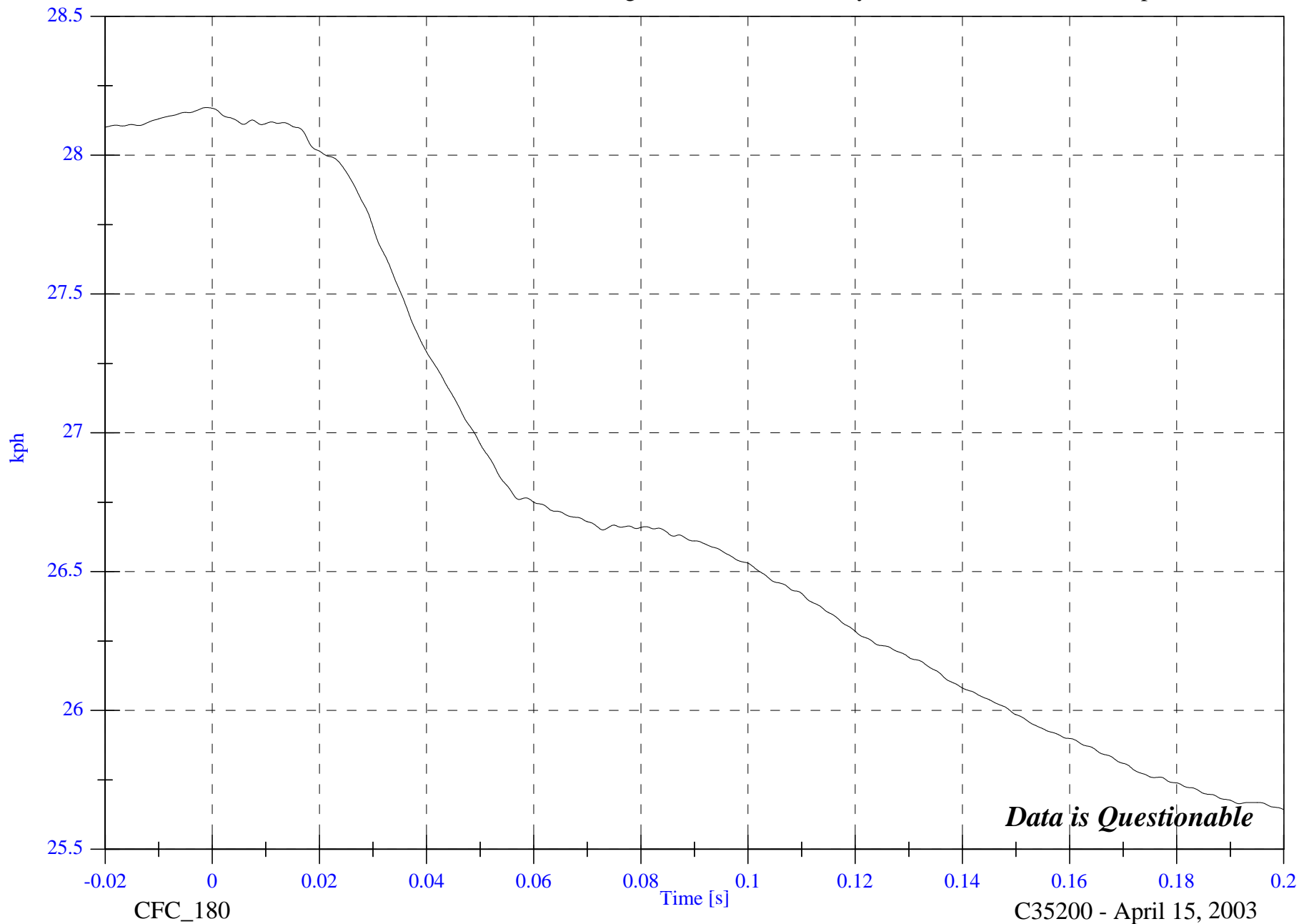
Max: 28.2 [kph] at -0.001 [s]

V1 Moving Barrier CG Y Velocity

Min: 25.6 [kph] at 0.200 [s]

B-134

8675-F214-05



Data is Questionable

CFC_180

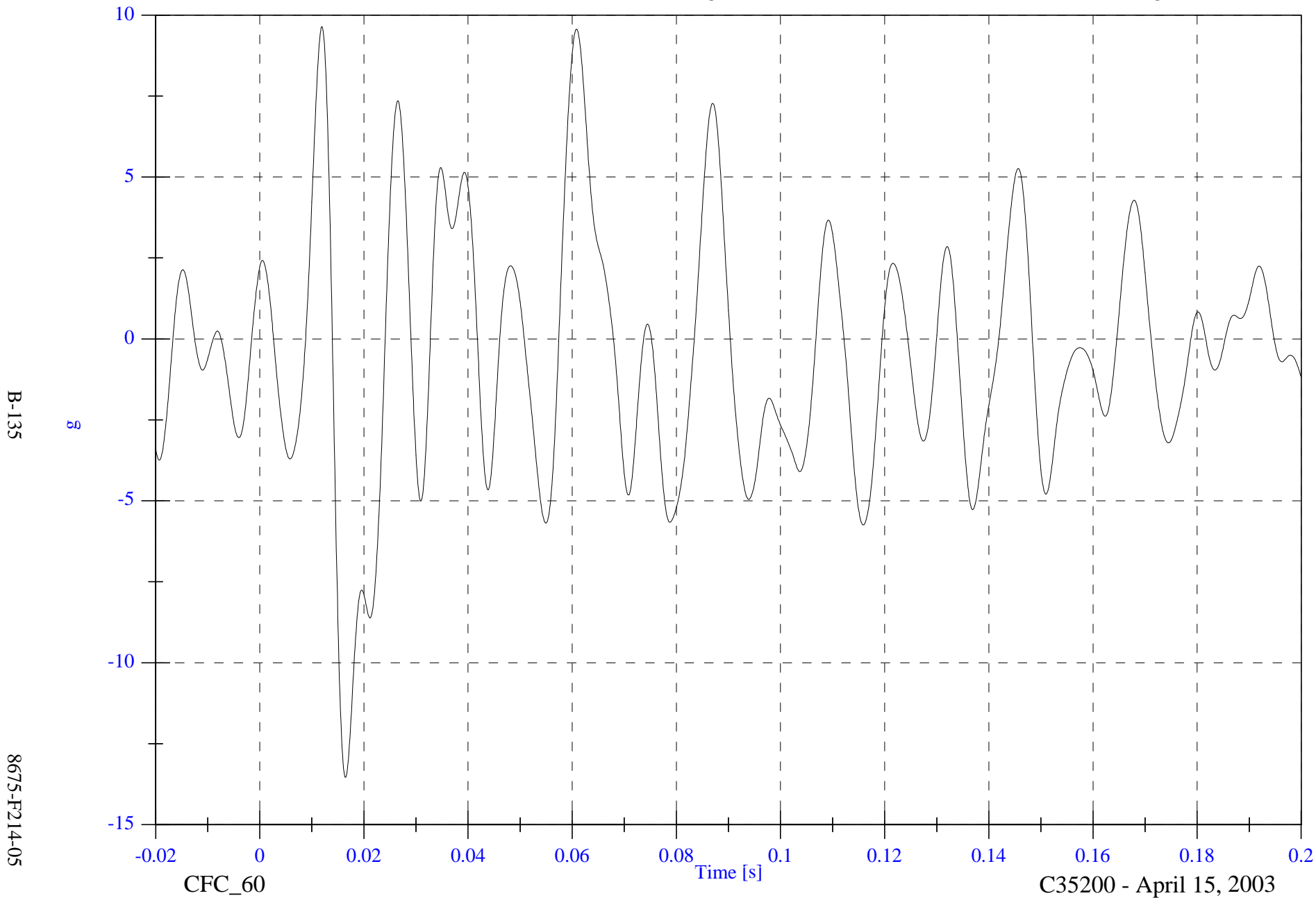
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V1 Moving Barrier CG Z

Max: 9.7 [g] at 0.012 [s]

Min: -13.5 [g] at 0.016 [s]



B-135

8675-F214-05

CFC_60

Time [s]

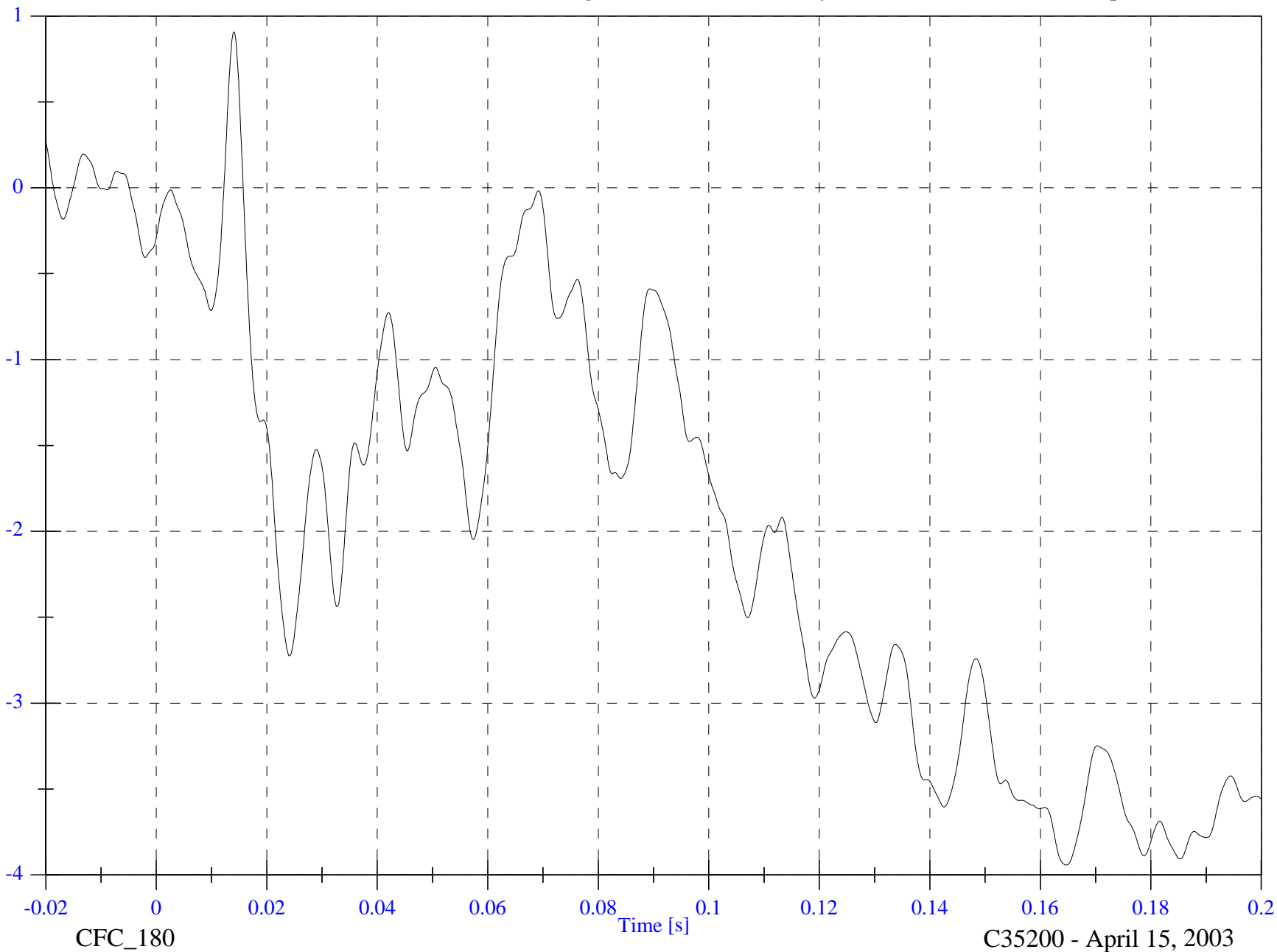
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 0.9 [kph] at 0.014 [s]

V1 Moving Barrier CG Z Velocity

Min: -3.9 [kph] at 0.165 [s]



B-136

8675-F214-05

CFC_180

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

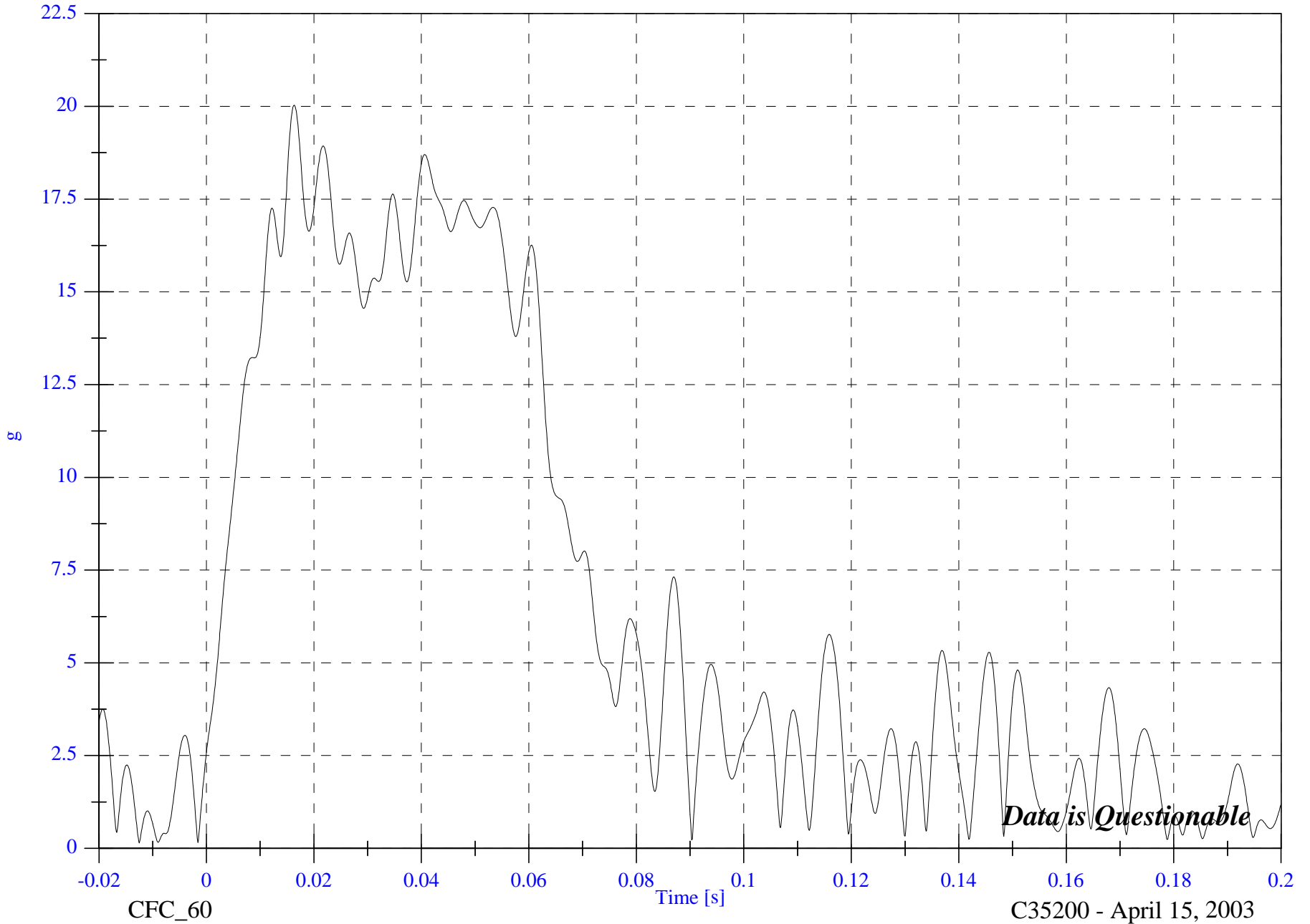
V1 Moving Barrier CG Resultant

Max: 20.0 [g] at 0.016 [s]

Min: 0.1 [g] at -0.013 [s]

B-137

8675-F214-05



Data is Questionable

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V1 Moving Barrier Left Rail X

Max: 1.8 [g] at 0.096 [s]

Min: -20.0 [g] at 0.025 [s]



B-138

8675-F214-05

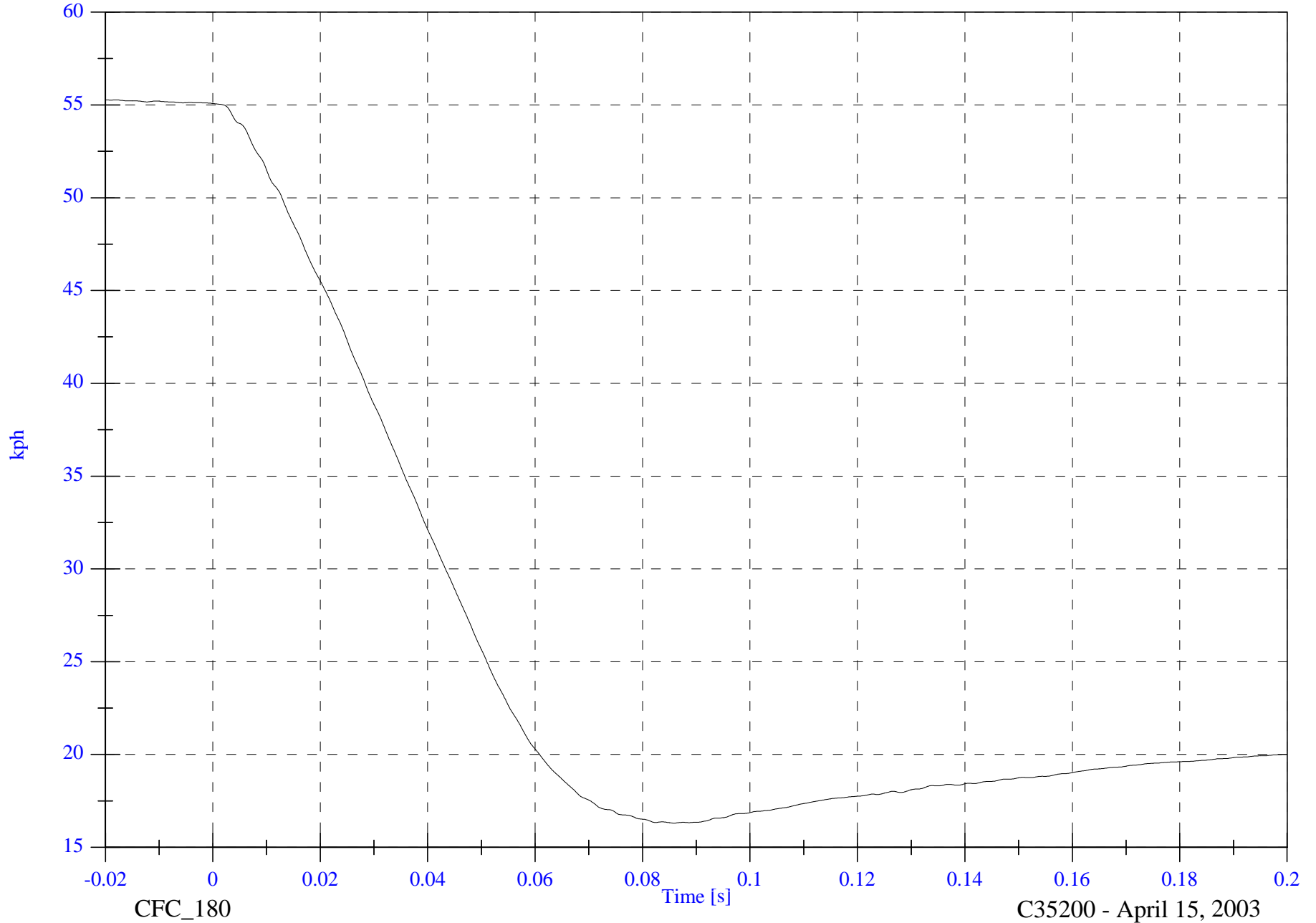
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 55.3 [kph] at -0.020 [s]

V1 Moving Barrier Left Rail X Velocity

Min: 16.3 [kph] at 0.086 [s]



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8675-F214-05

CFC_180

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V1 Moving Barrier Left Rail Y

Max: 2.2 [g] at 0.068 [s]

Min: -5.2 [g] at 0.033 [s]



B-140

8675-F214-05

CFC_60

Time [s]

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

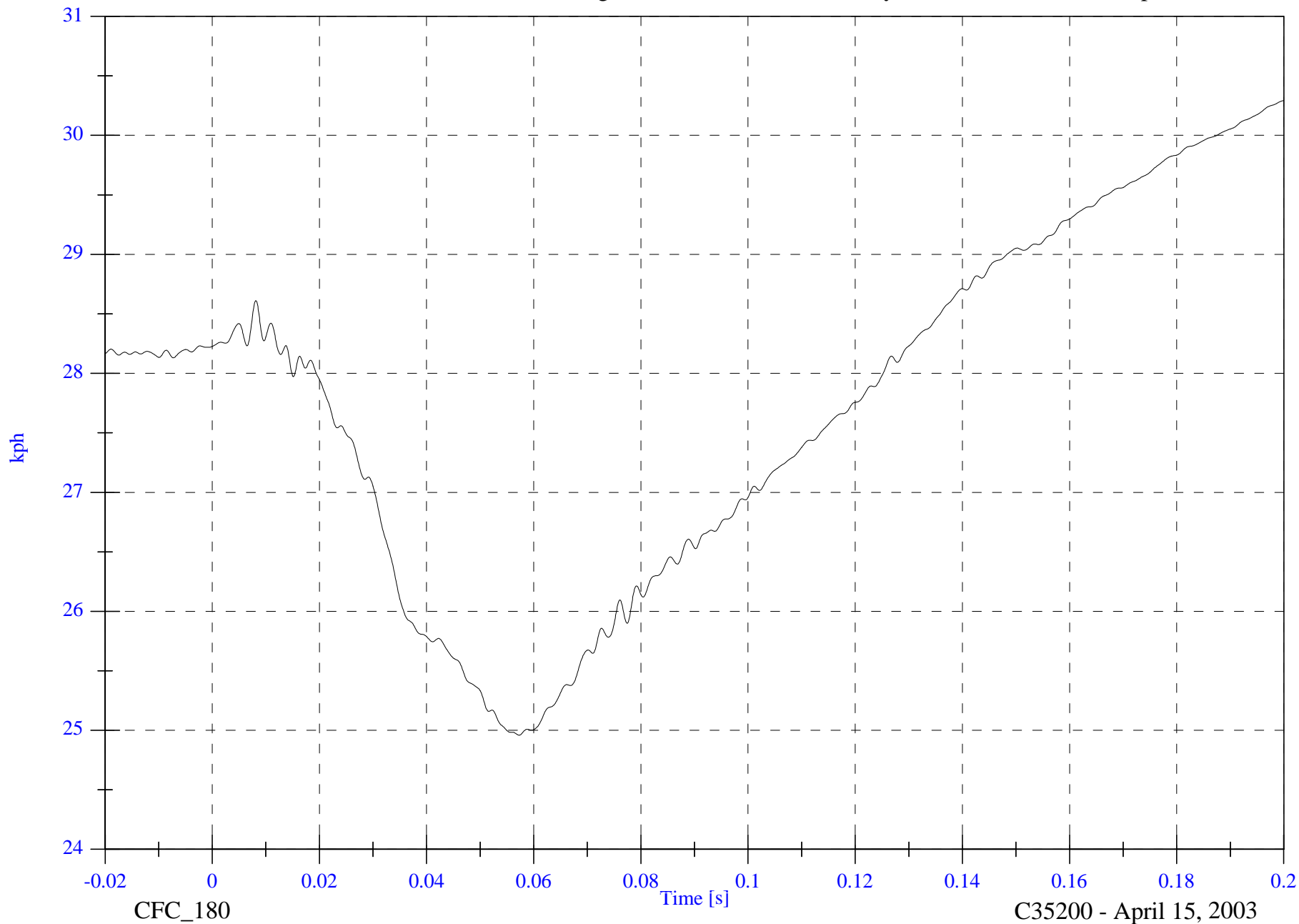
Max: 30.3 [kph] at 0.200 [s]

V1 Moving Barrier Left Rail Y Velocity

Min: 25.0 [kph] at 0.057 [s]

B-141

8675-F214-05



CFC_180

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

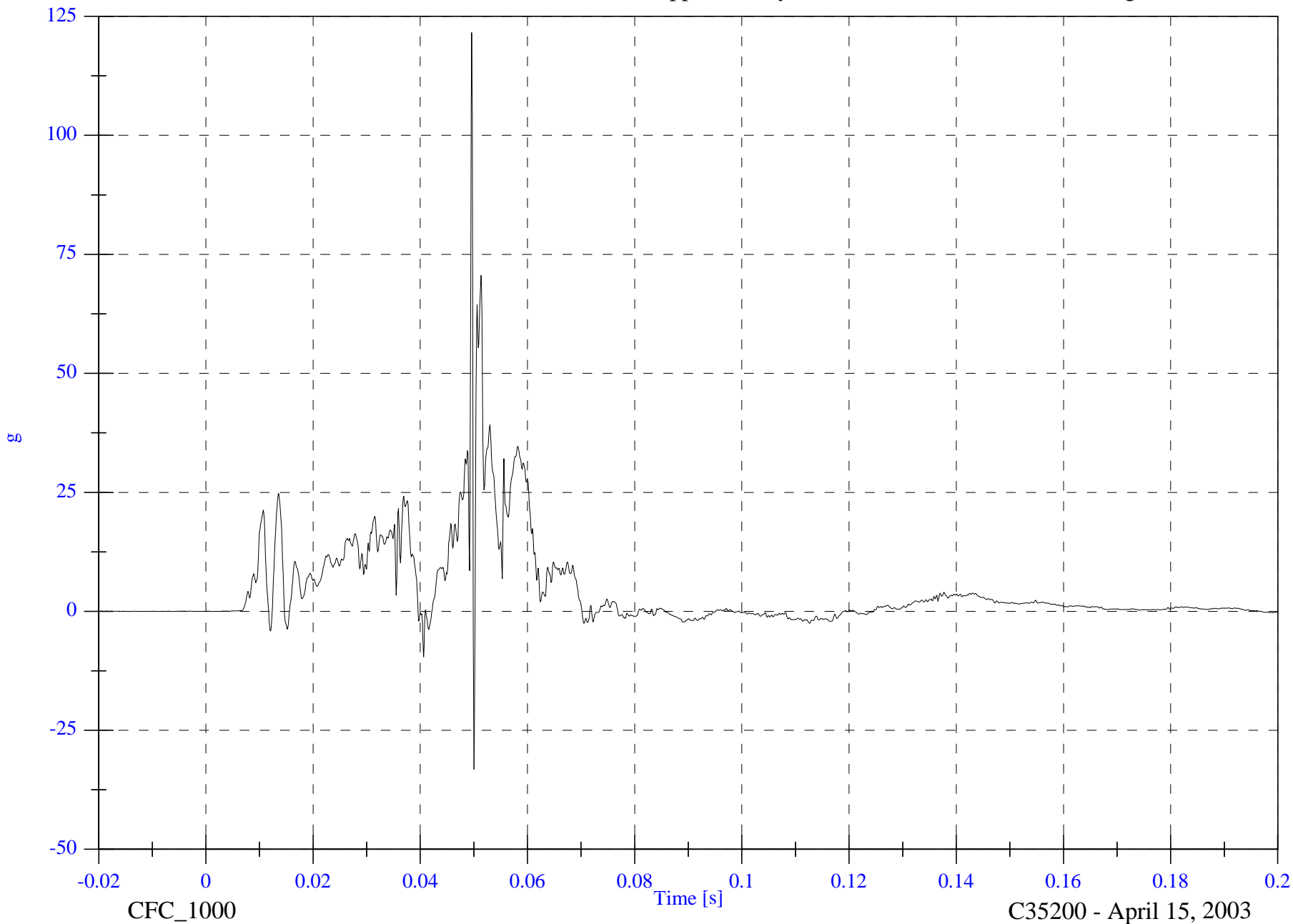
V2P1 Upper Rib Ry

Max: 121.6 [g] at 0.050 [s]

Min: -33.2 [g] at 0.050 [s]

B-142

8675-F214-05

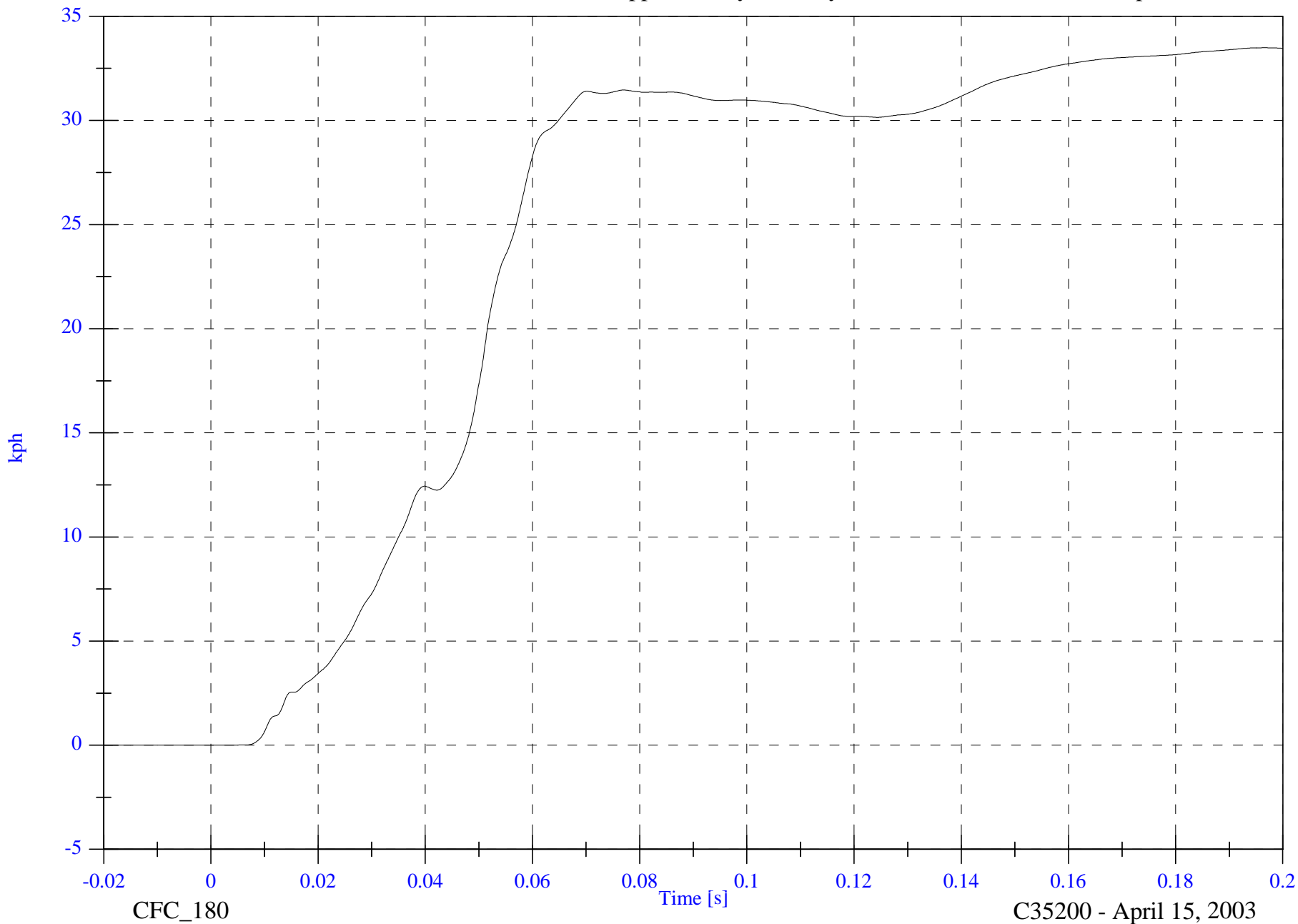


2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 33.5 [kph] at 0.197 [s]

V2P1 Upper Rib Ry Velocity

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



B-143

8675-F214-05

CFC_180

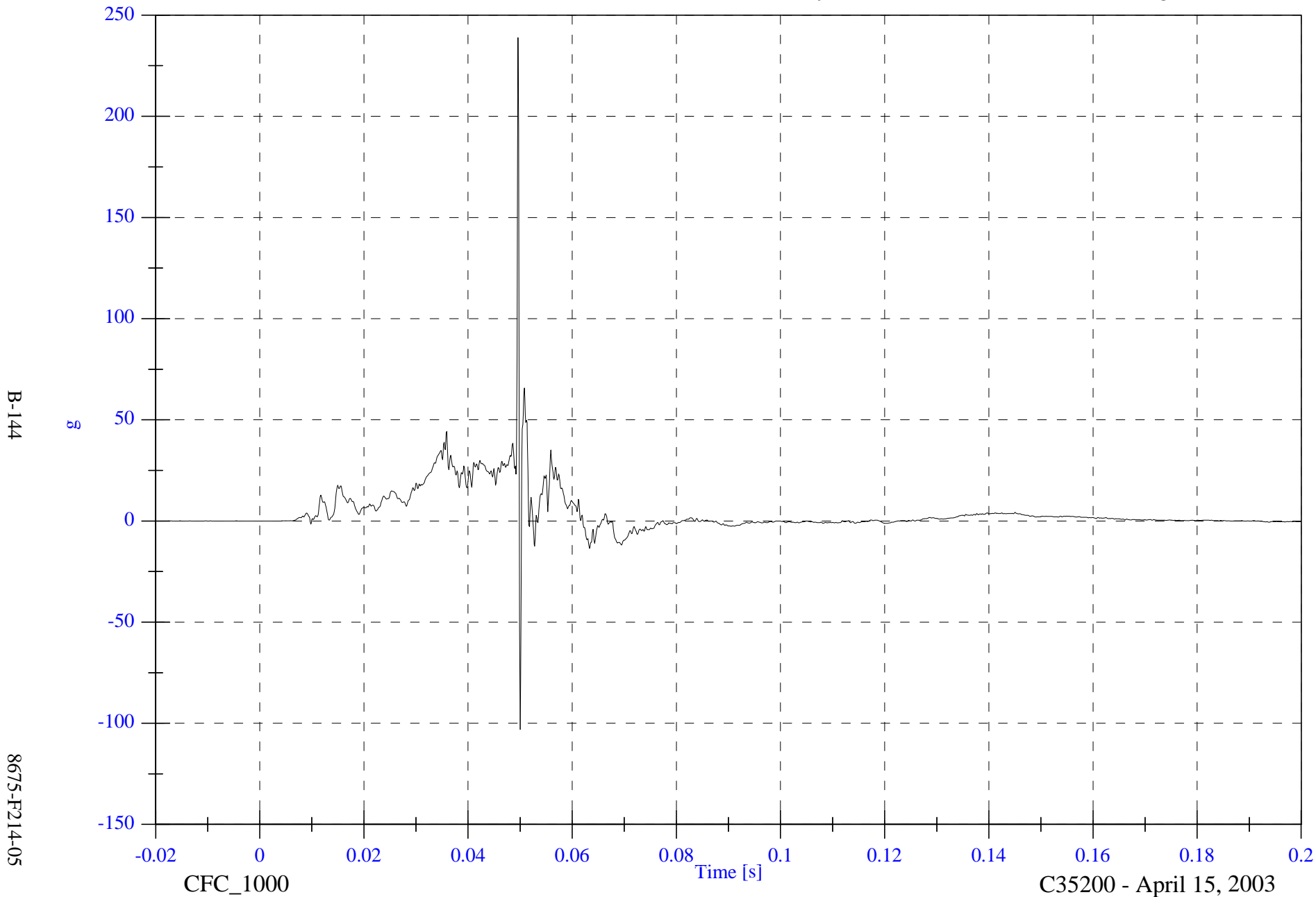
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P1 Lower Rib Ry

Max: 238.9 [g] at 0.050 [s]

Min: -103.1 [g] at 0.050 [s]



B-144

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CFC_1000

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

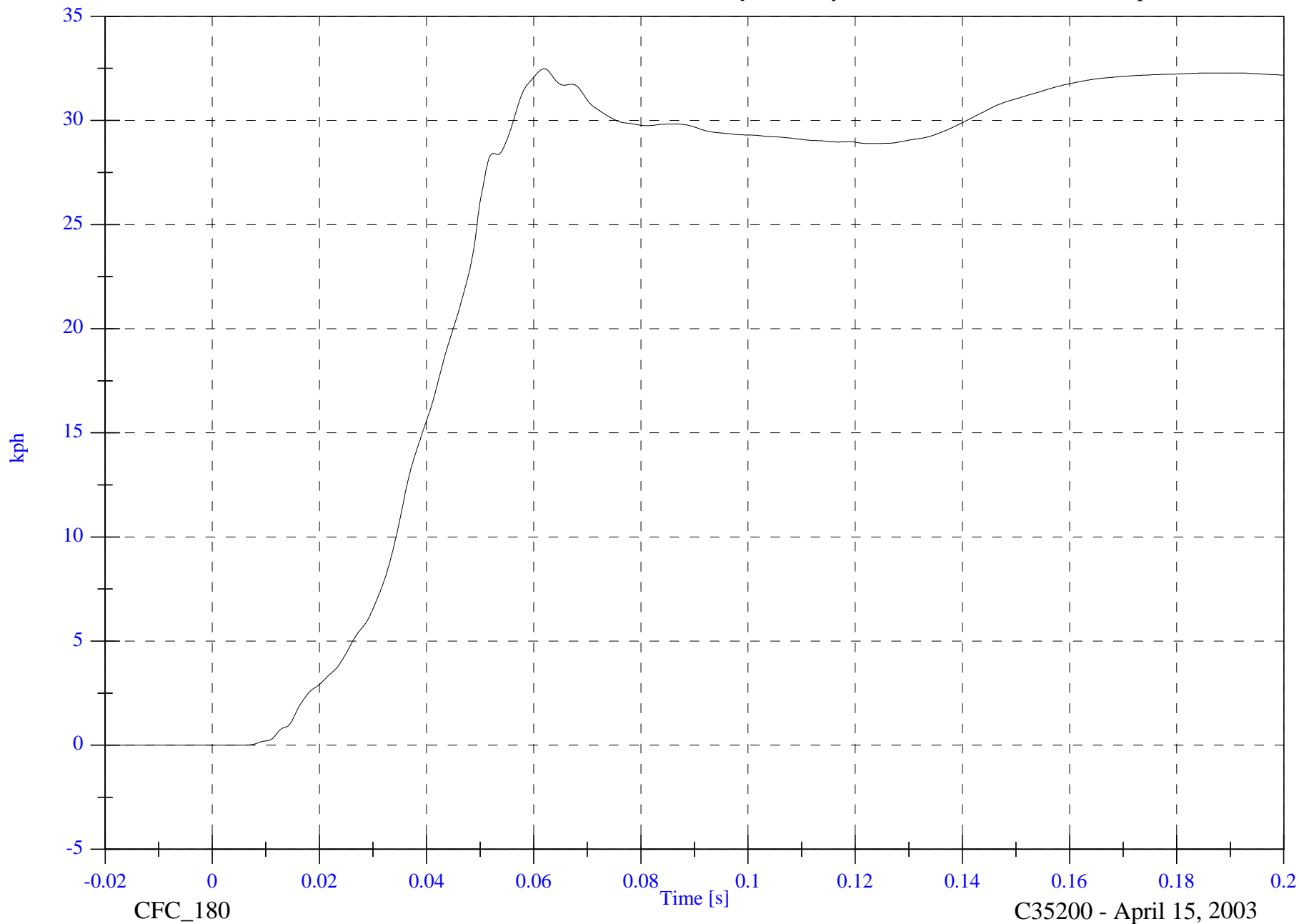
Max: 32.5 [kph] at 0.062 [s]

V2P1 Lower Rib Ry Velocity

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

B-145

8675-F214-05



CFC_180

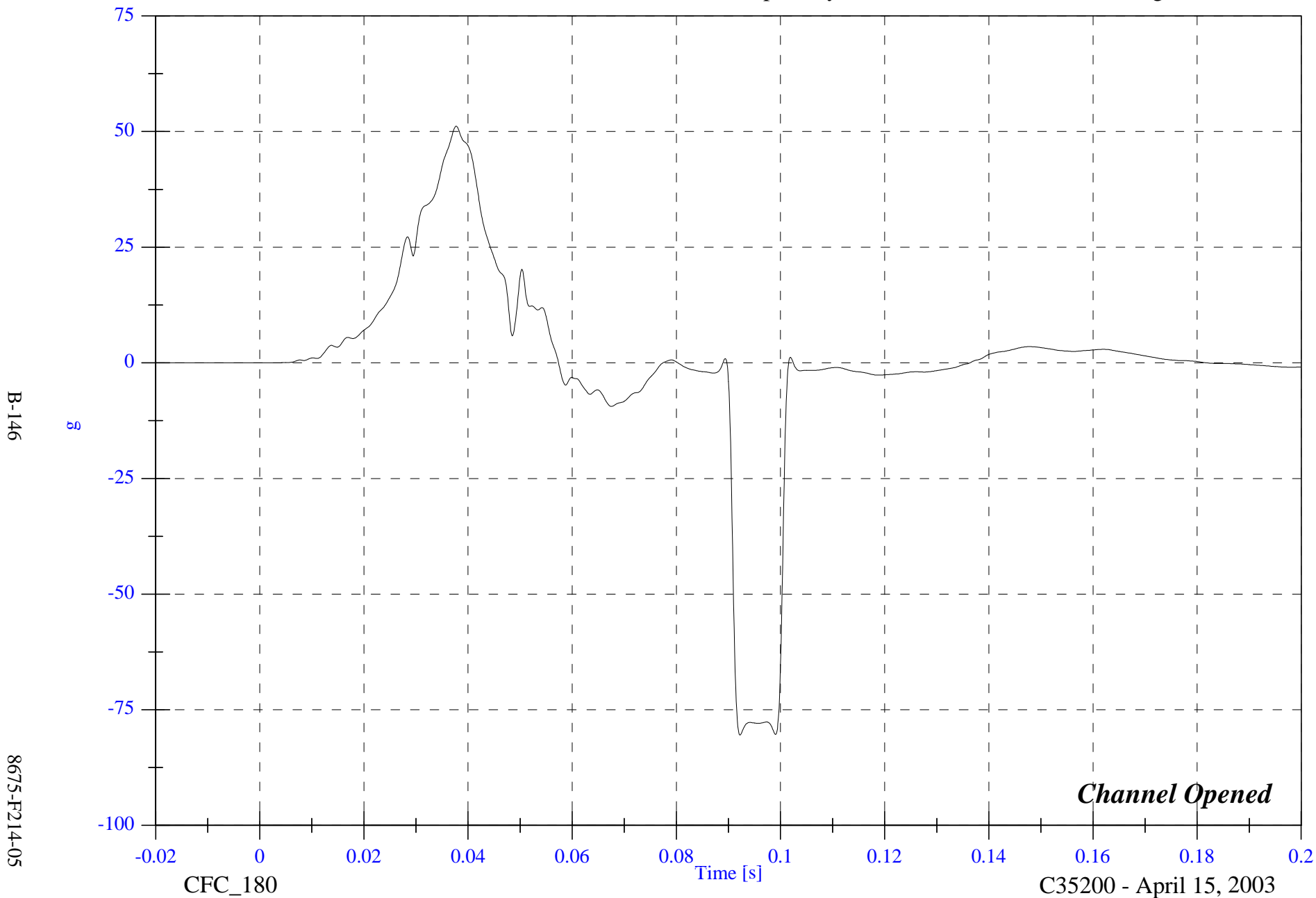
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P1 Lower Spine Ry

Max: 51.2 [g] at 0.038 [s]

Min: -80.5 [g] at 0.092 [s]



2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

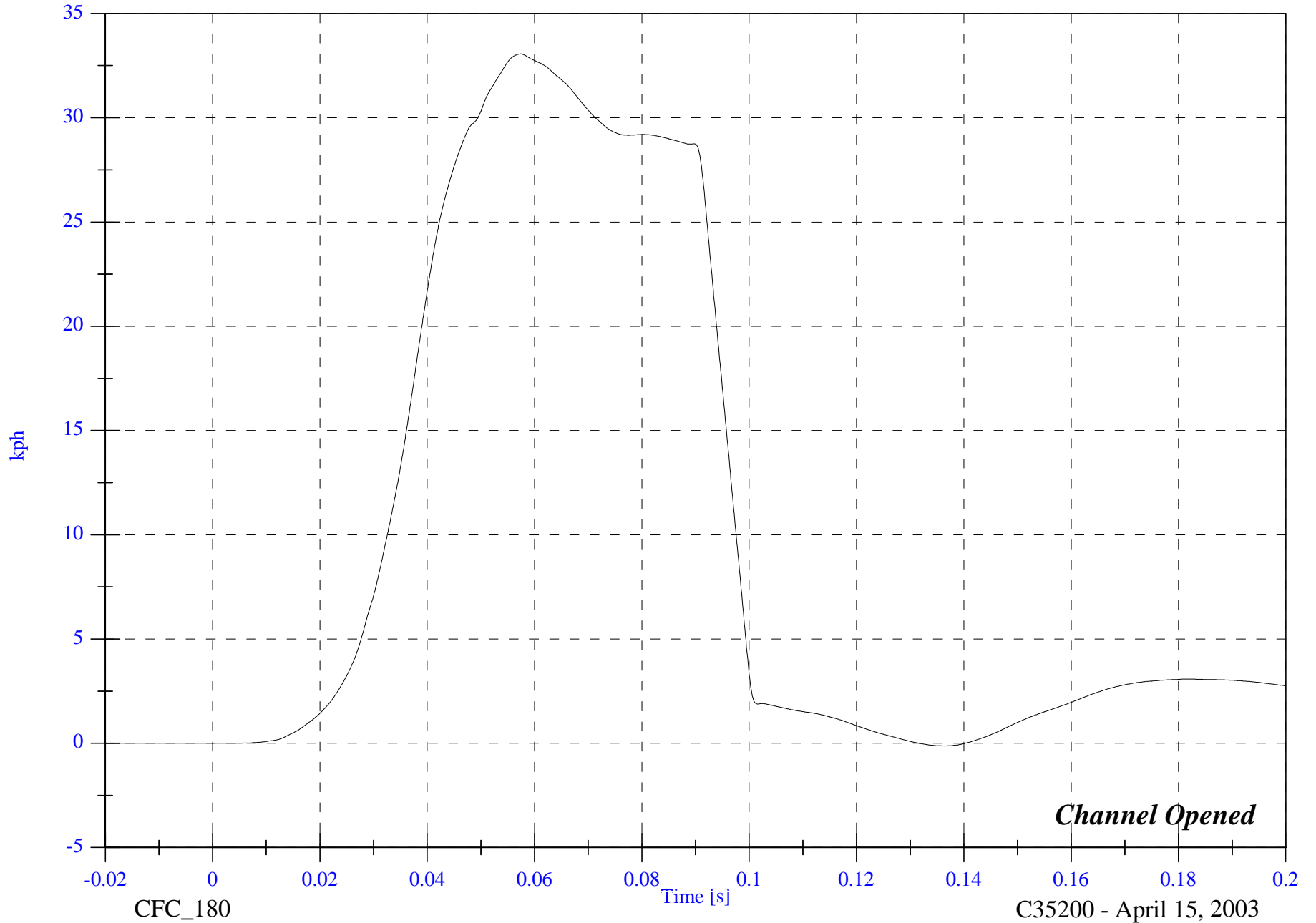
V2P1 Lower Spine Ry Velocity

Max: 33.1 [kph] at 0.057 [s]

Min: -0.1 [kph] at 0.136 [s]

B-147

8675-F214-05



CFC_180

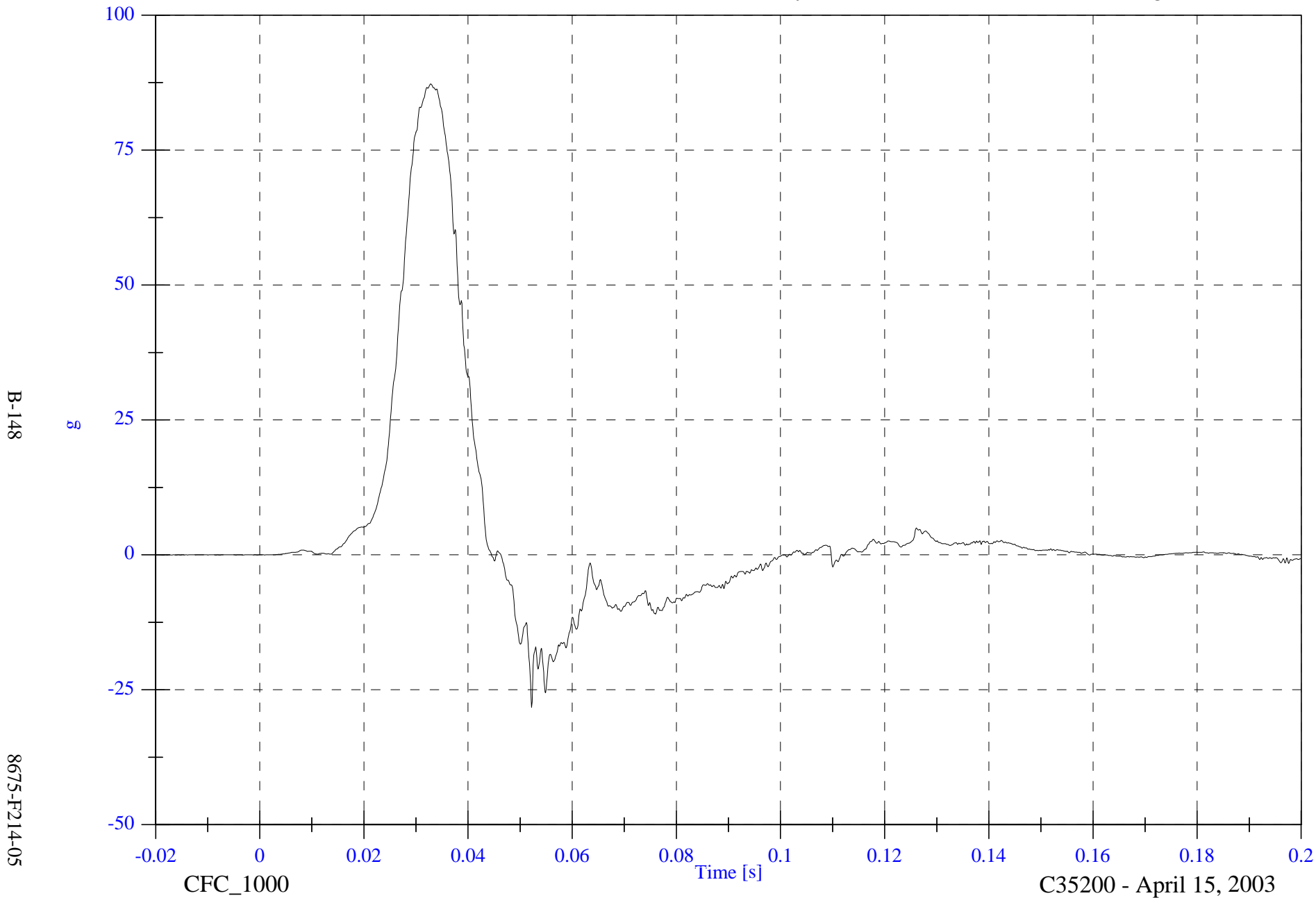
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P1 Pelvic Ry

Max: 87.3 [g] at 0.033 [s]

Min: -28.2 [g] at 0.052 [s]



2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

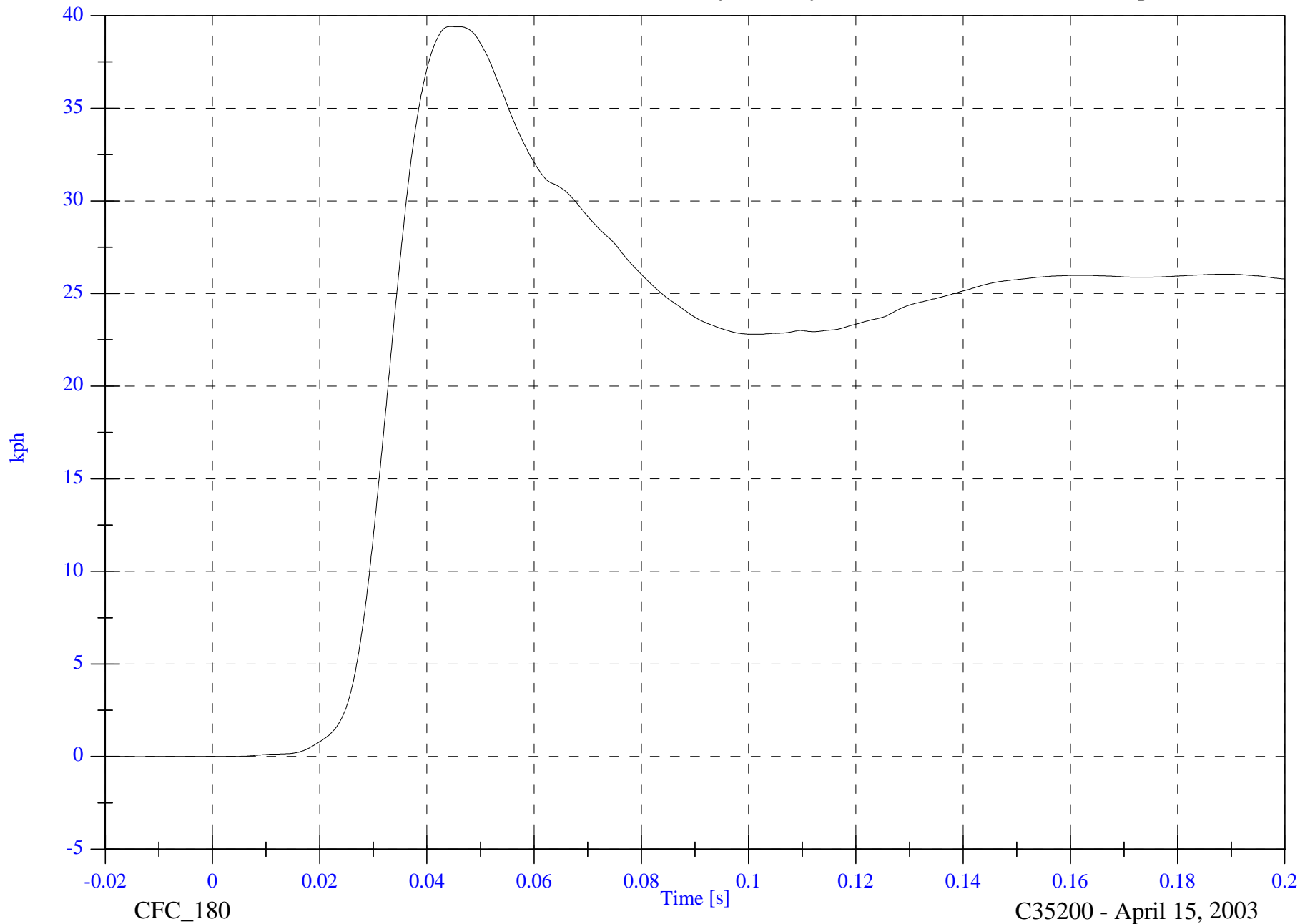
Max: 39.4 [kph] at 0.044 [s]

V2P1 Pelvic Ry Velocity

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

B-149

8675-F214-05



CFC_180

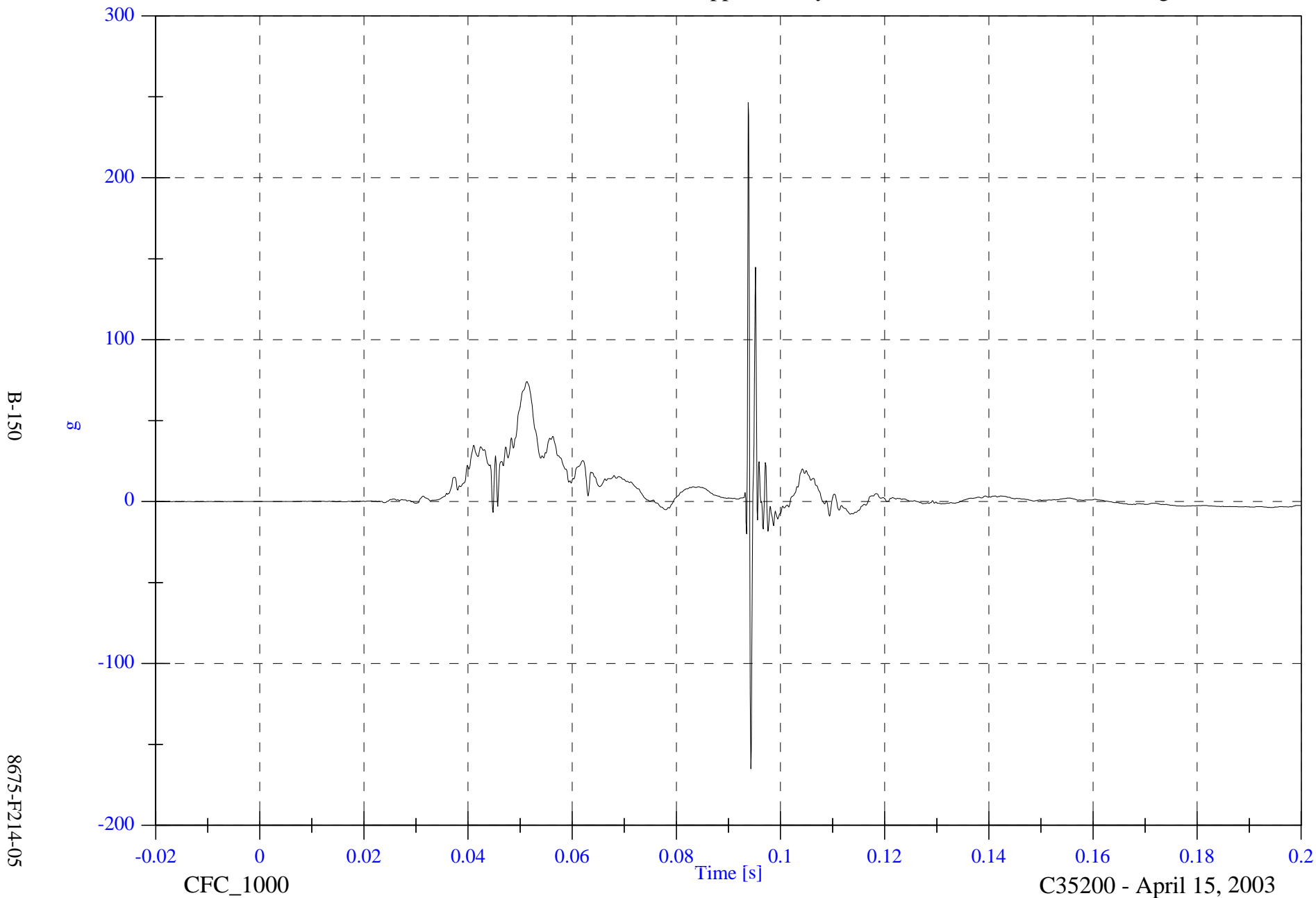
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P4 Upper Rib Ry

Max: 246.4 [g] at 0.094 [s]

Min: -165.1 [g] at 0.094 [s]



B-150

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CFC_1000

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

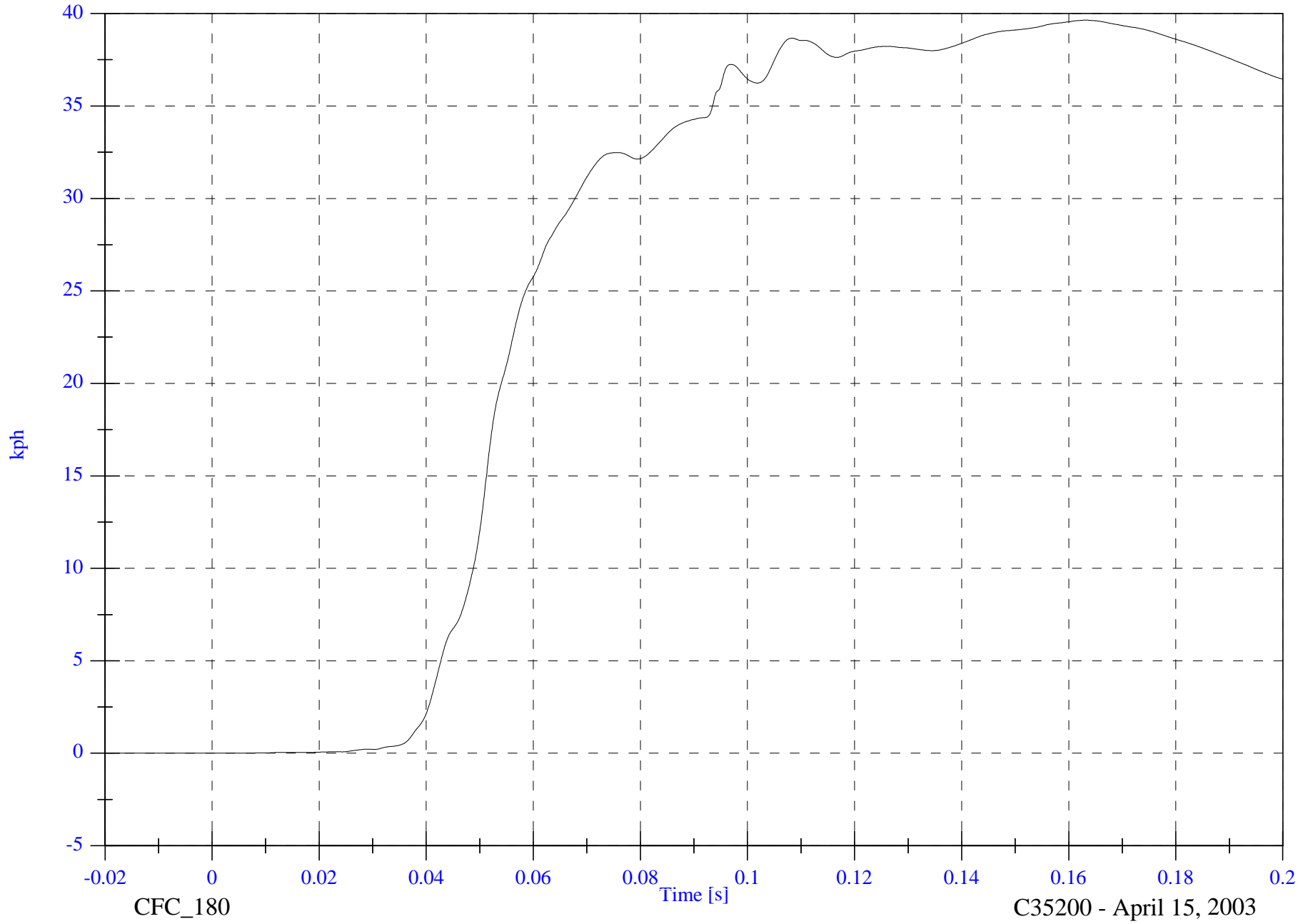
V2P4 Upper Rib Ry Velocity

Max: 39.6 [kph] at 0.163 [s]

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

B-151

8675-F214-05



CFC_180

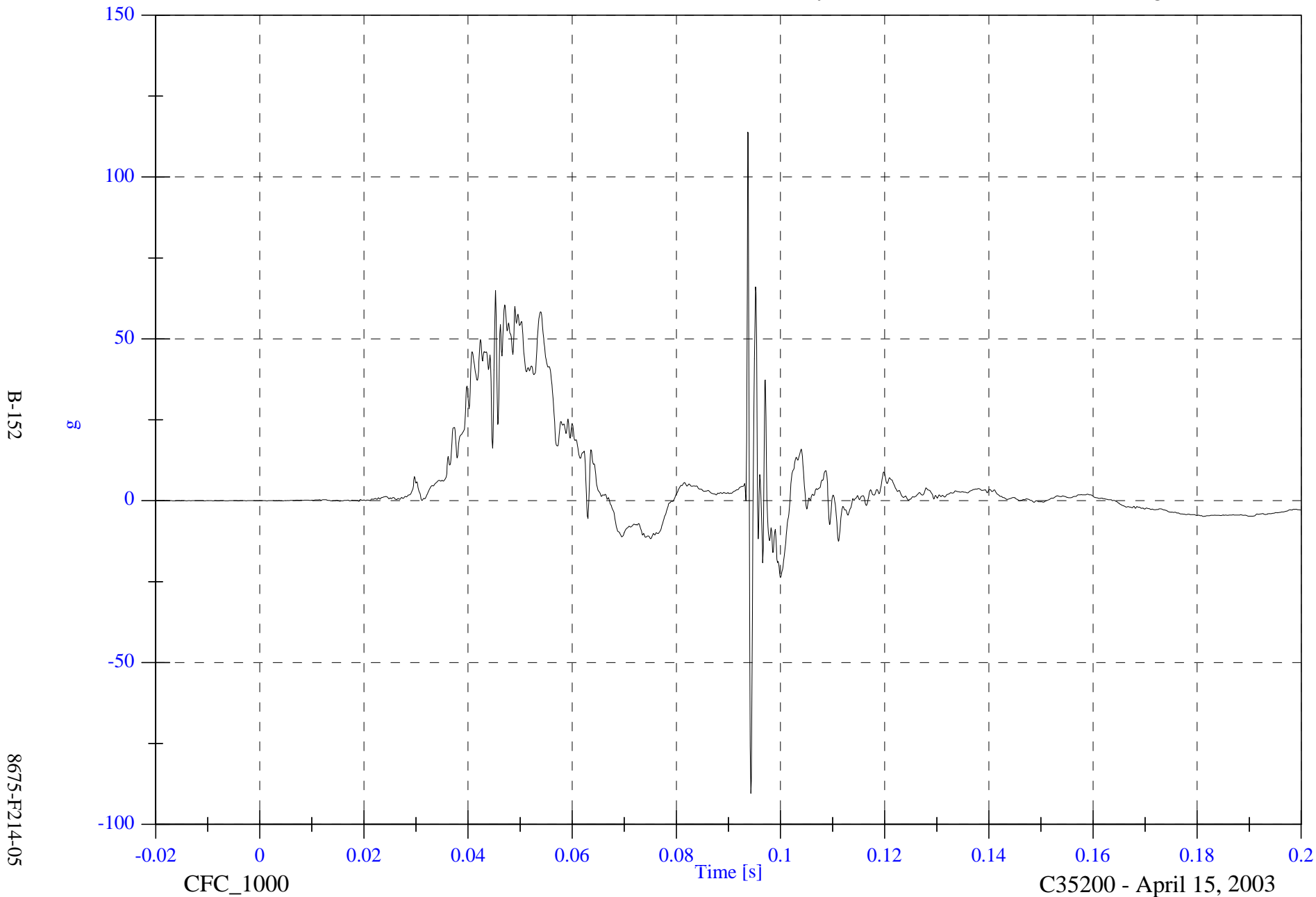
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P4 Lower Rib Ry

Max: 113.9 [g] at 0.094 [s]

Min: -90.4 [g] at 0.094 [s]



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CFC_1000

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

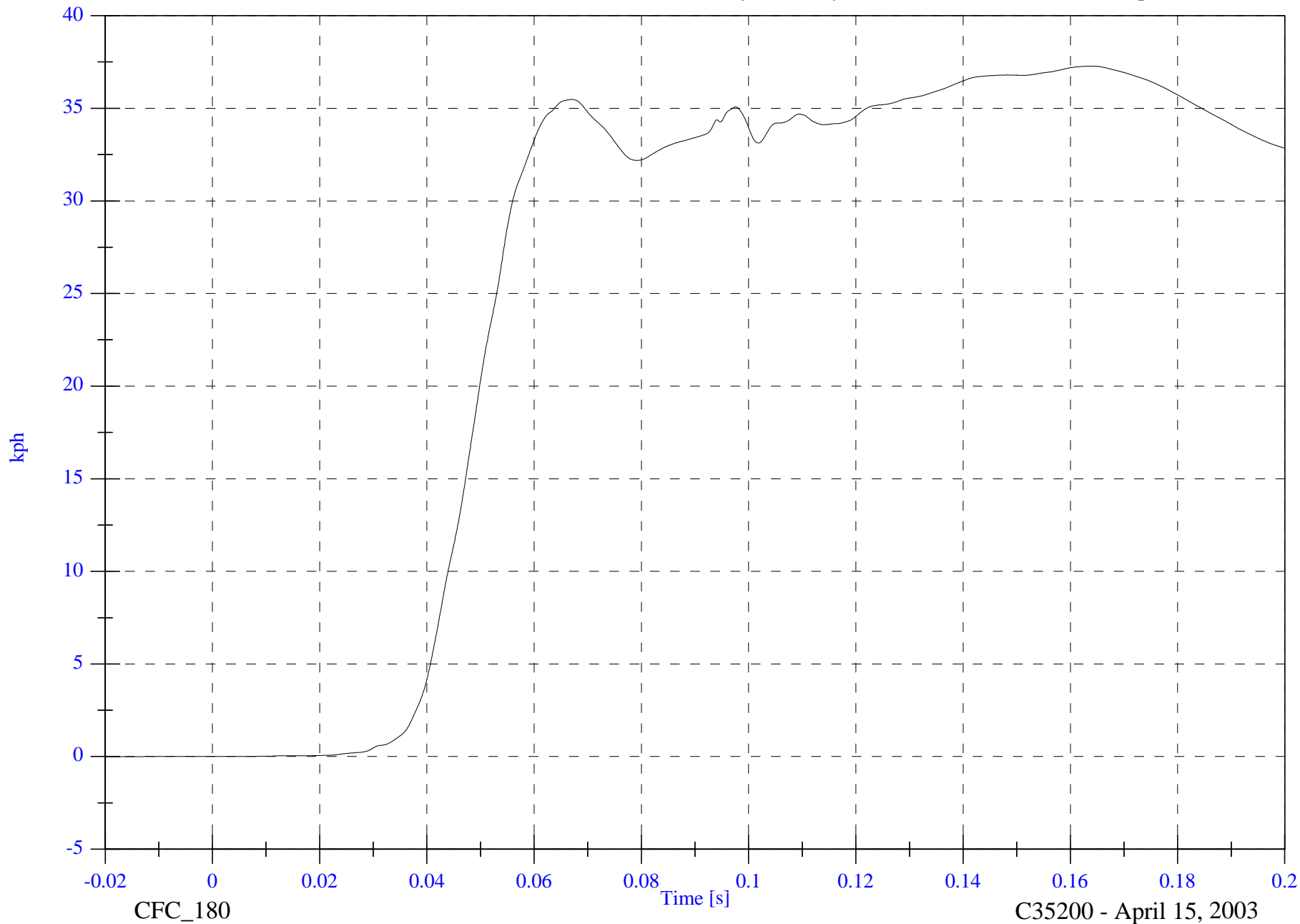
V2P4 Lower Rib Ry Velocity

Max: 37.3 [kph] at 0.164 [s]

Min: -0.0 [kph] at -0.017 [s]

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CFC_180

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

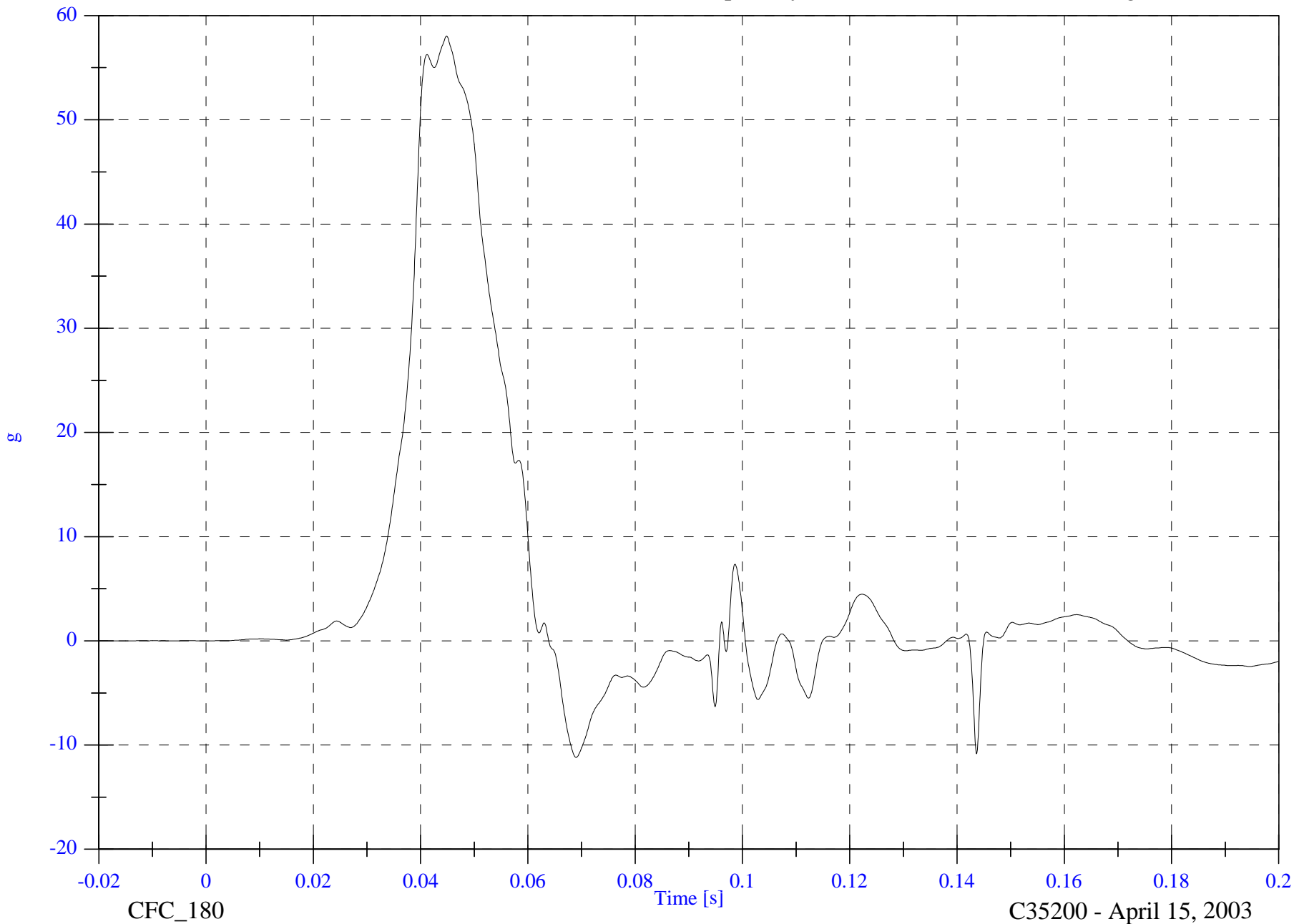
V2P4 Lower Spine Ry

Max: 58.1 [g] at 0.045 [s]

Min: -11.2 [g] at 0.069 [s]

B-154

8675-F214-05



CFC_180

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

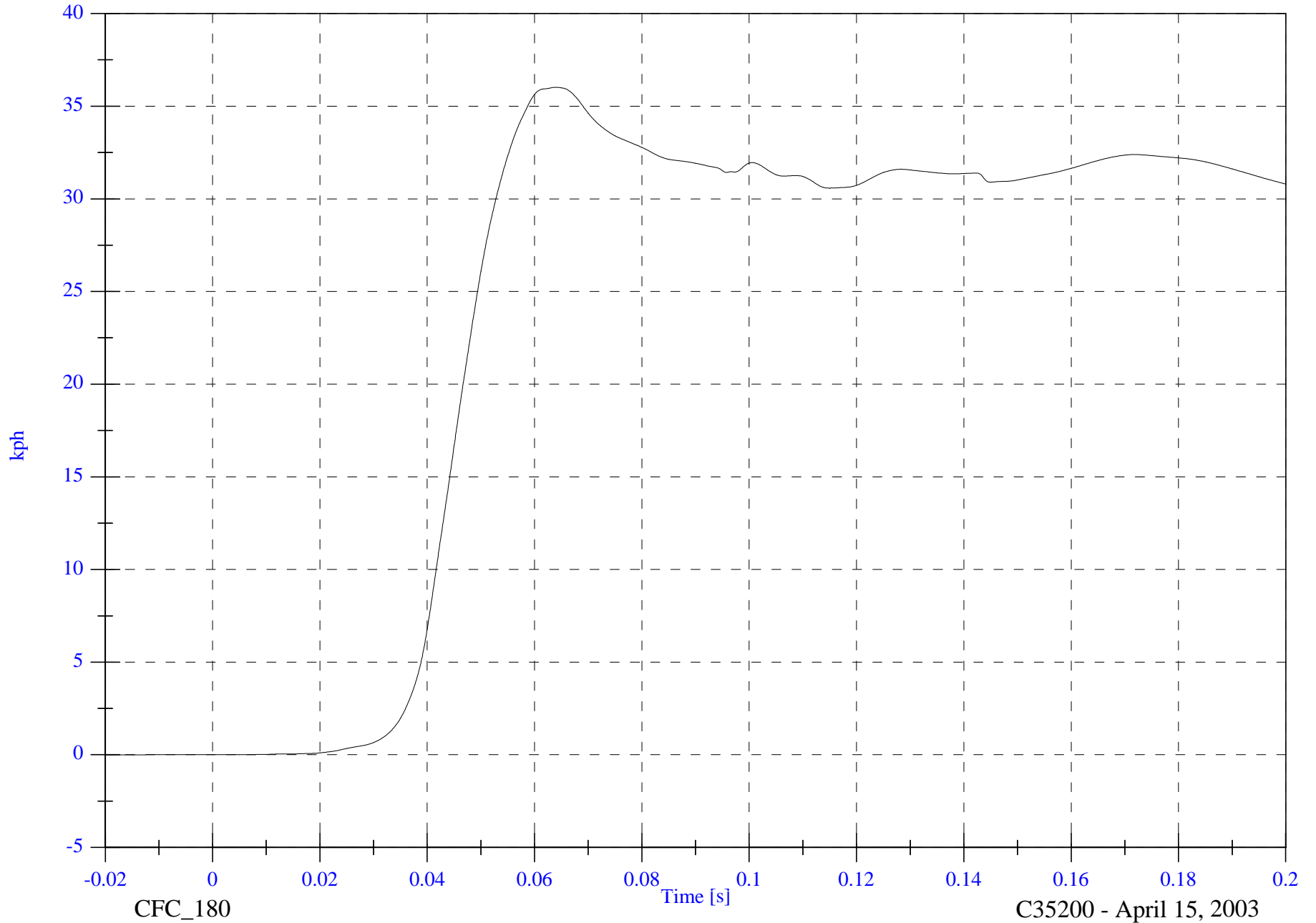
V2P4 Lower Spine Ry Velocity

Max: 36.0 [kph] at 0.064 [s]

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

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CFC_180

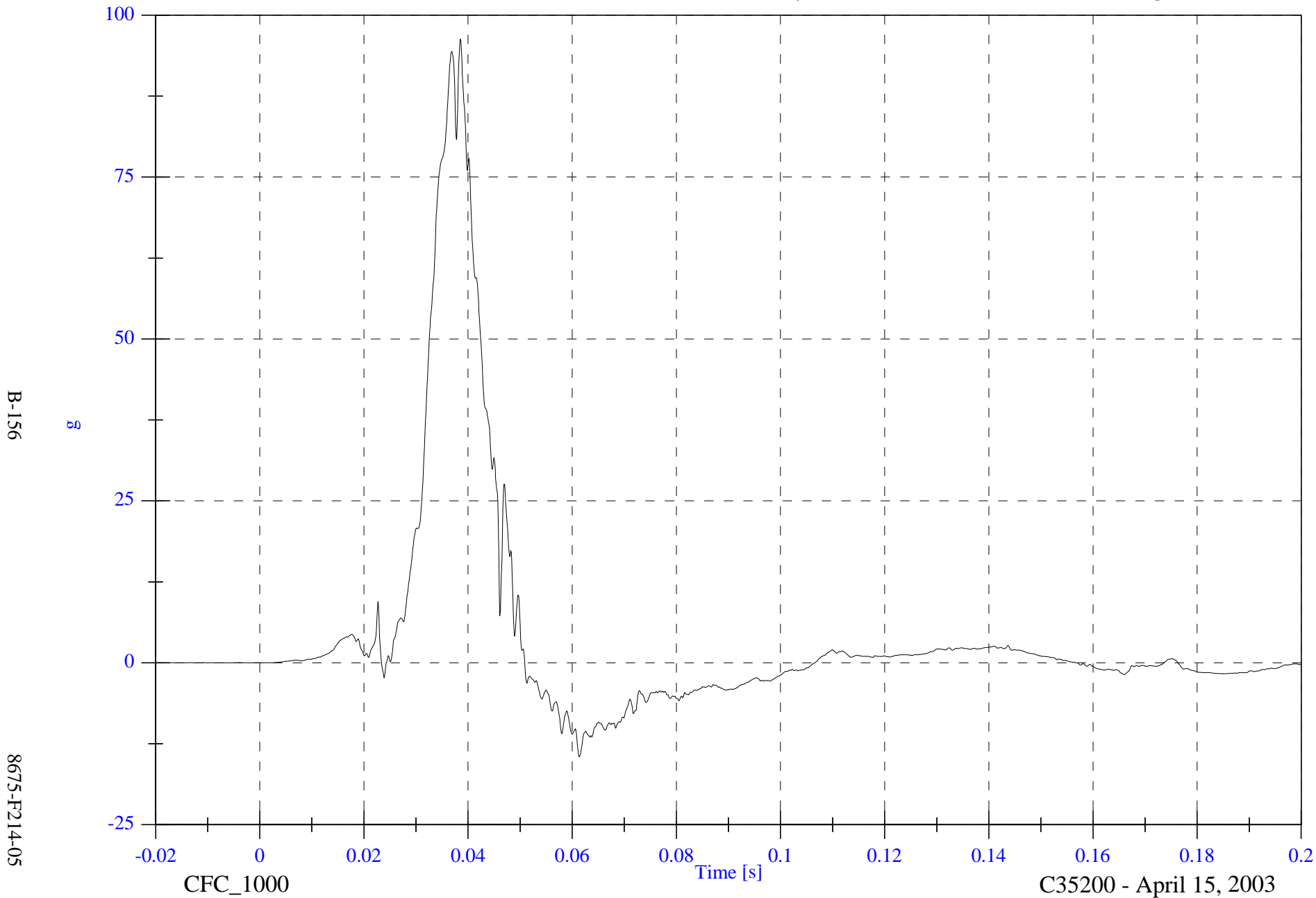
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P4 Pelvic Ry

Max: 96.3 [g] at 0.039 [s]

Min: -14.5 [g] at 0.061 [s]



2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

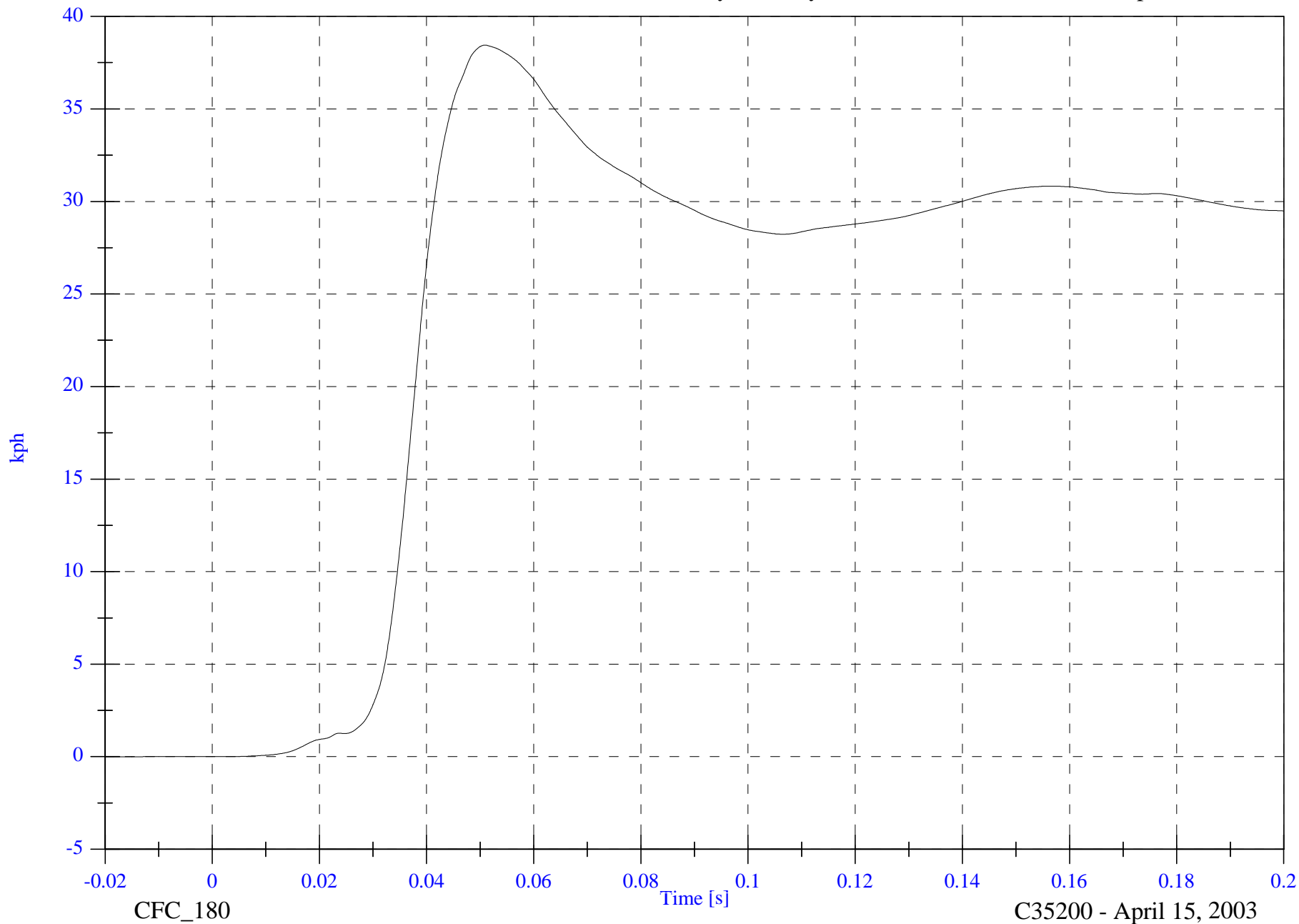
Max: 38.4 [kph] at 0.051 [s]

V2P4 Pelvic Ry Velocity

Min: -0.0 [kph] at -0.017 [s]

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CFC_180

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

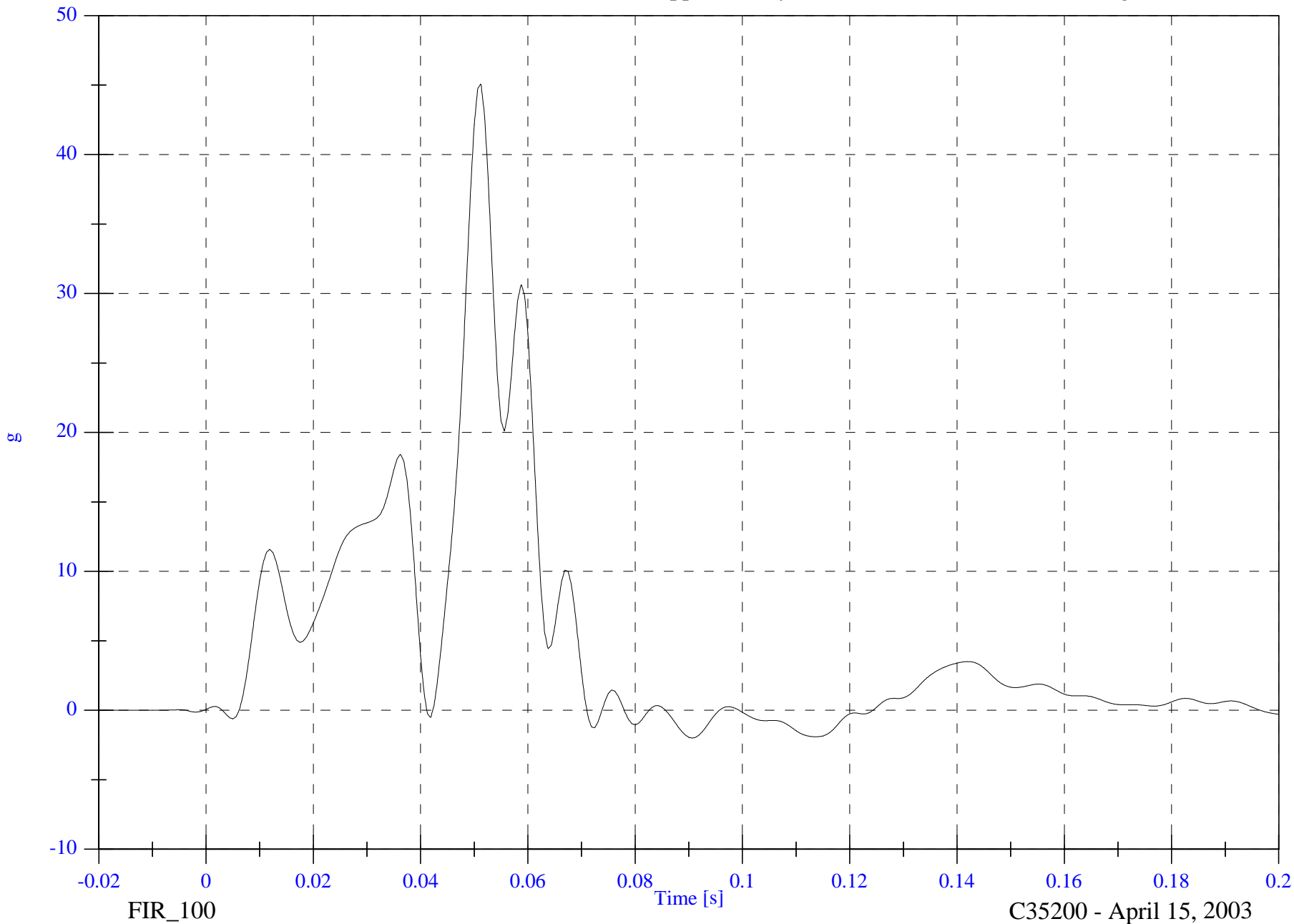
V2P1 Upper Rib Ry

Max: 45.1 [g] at 0.051 [s]

Min: -2.0 [g] at 0.091 [s]

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8675-F214-05



FIR_100

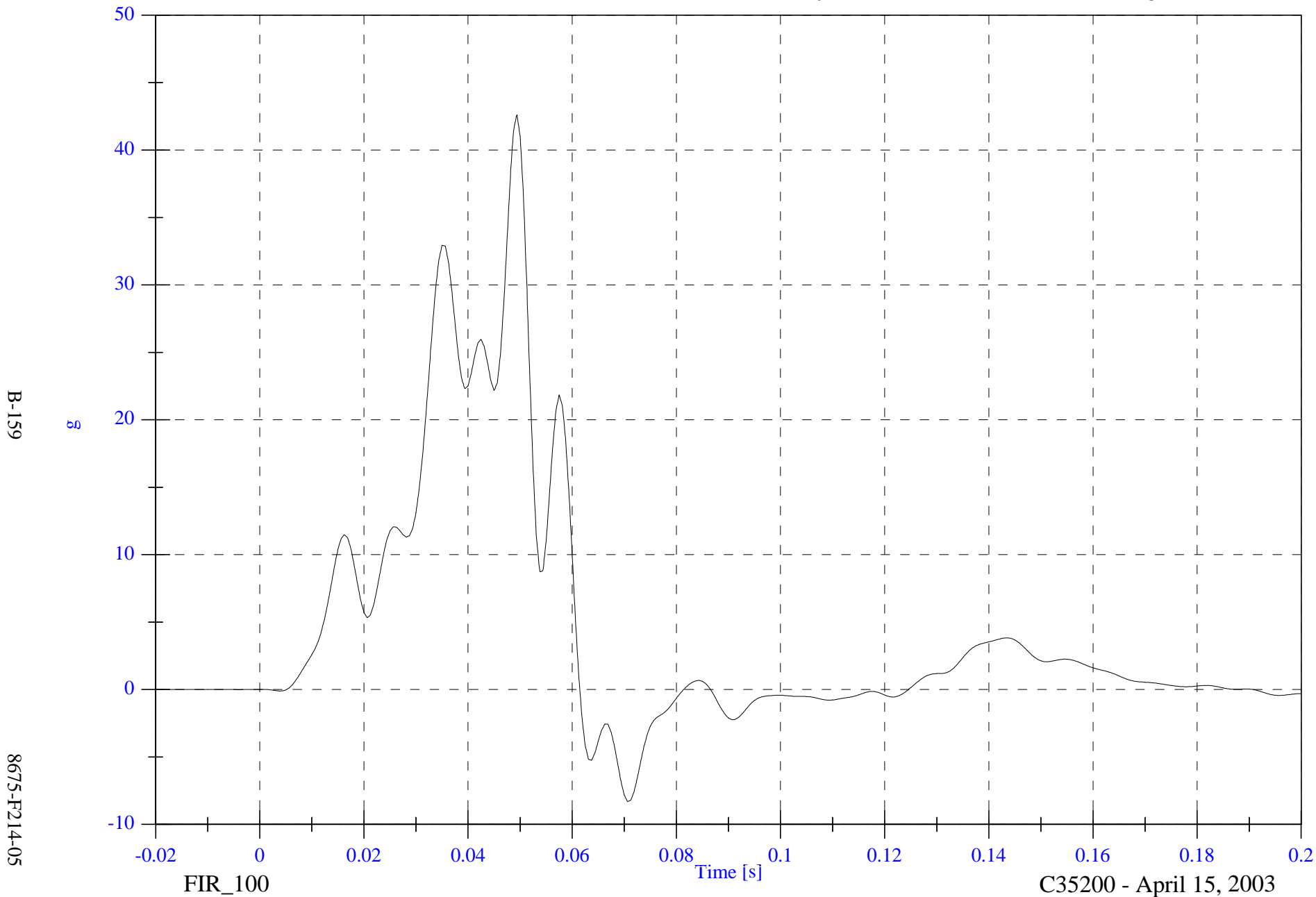
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P1 Lower Rib Ry

Max: 42.6 [g] at 0.049 [s]

Min: -8.3 [g] at 0.071 [s]



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8675-F214-05

FIR_100

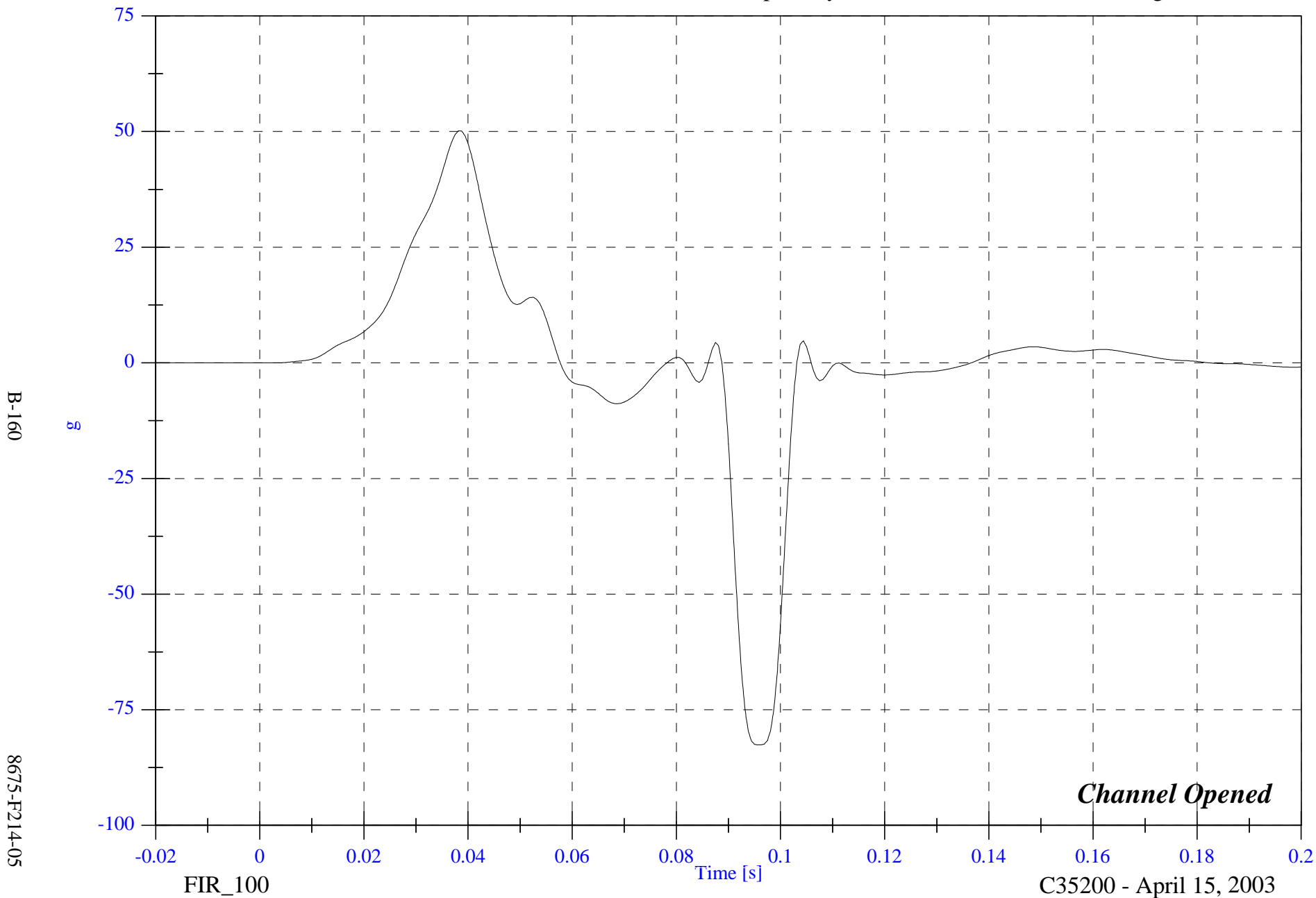
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P1 Lower Spine Ry

Max: 50.1 [g] at 0.038 [s]

Min: -82.6 [g] at 0.096 [s]



B-160

8675-F214-05

Channel Opened

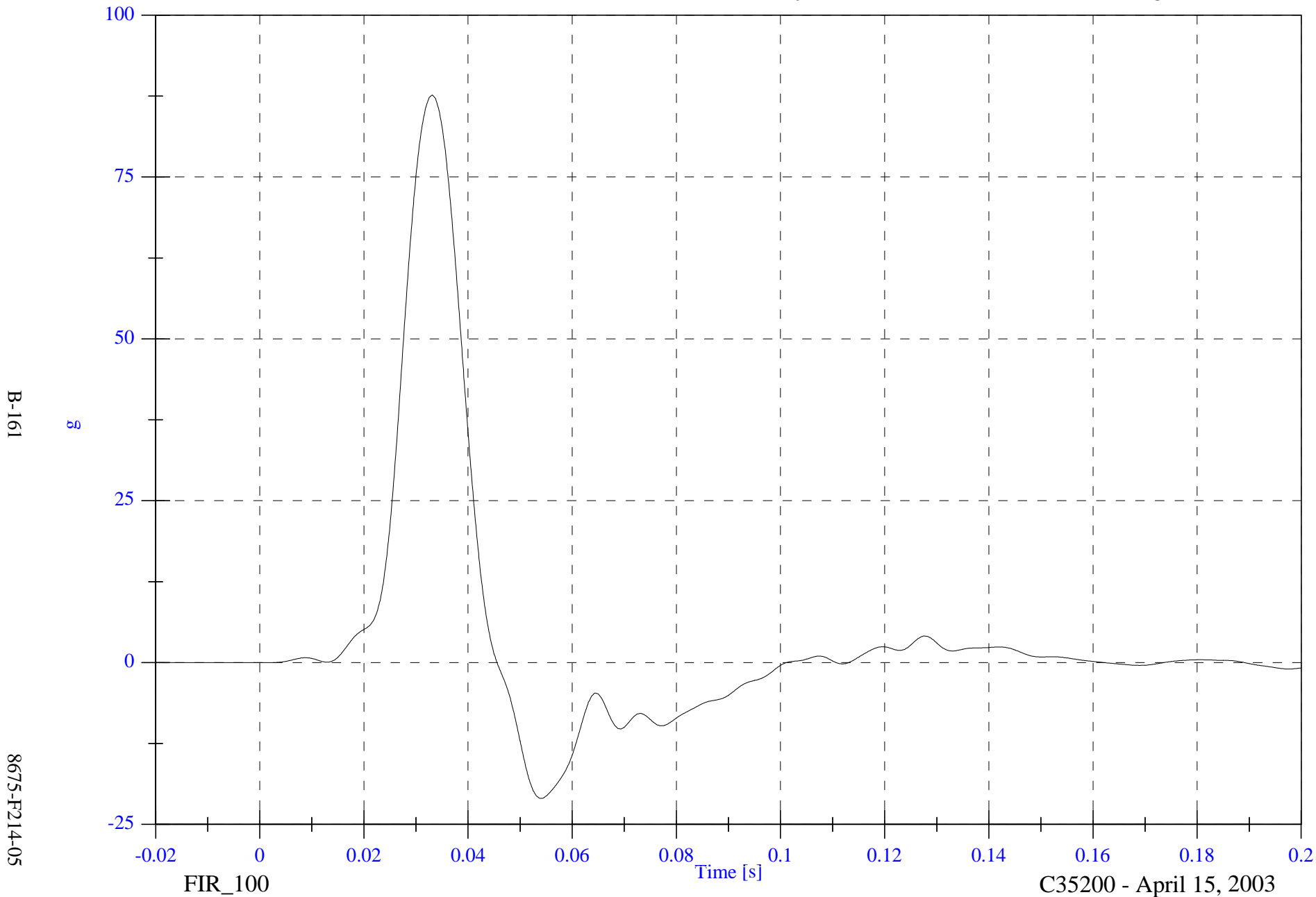
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P1 Pelvic Ry

Max: 87.7 [g] at 0.033 [s]

Min: -21.0 [g] at 0.054 [s]



B-161

8675-F214-05

FIR_100

Time [s]

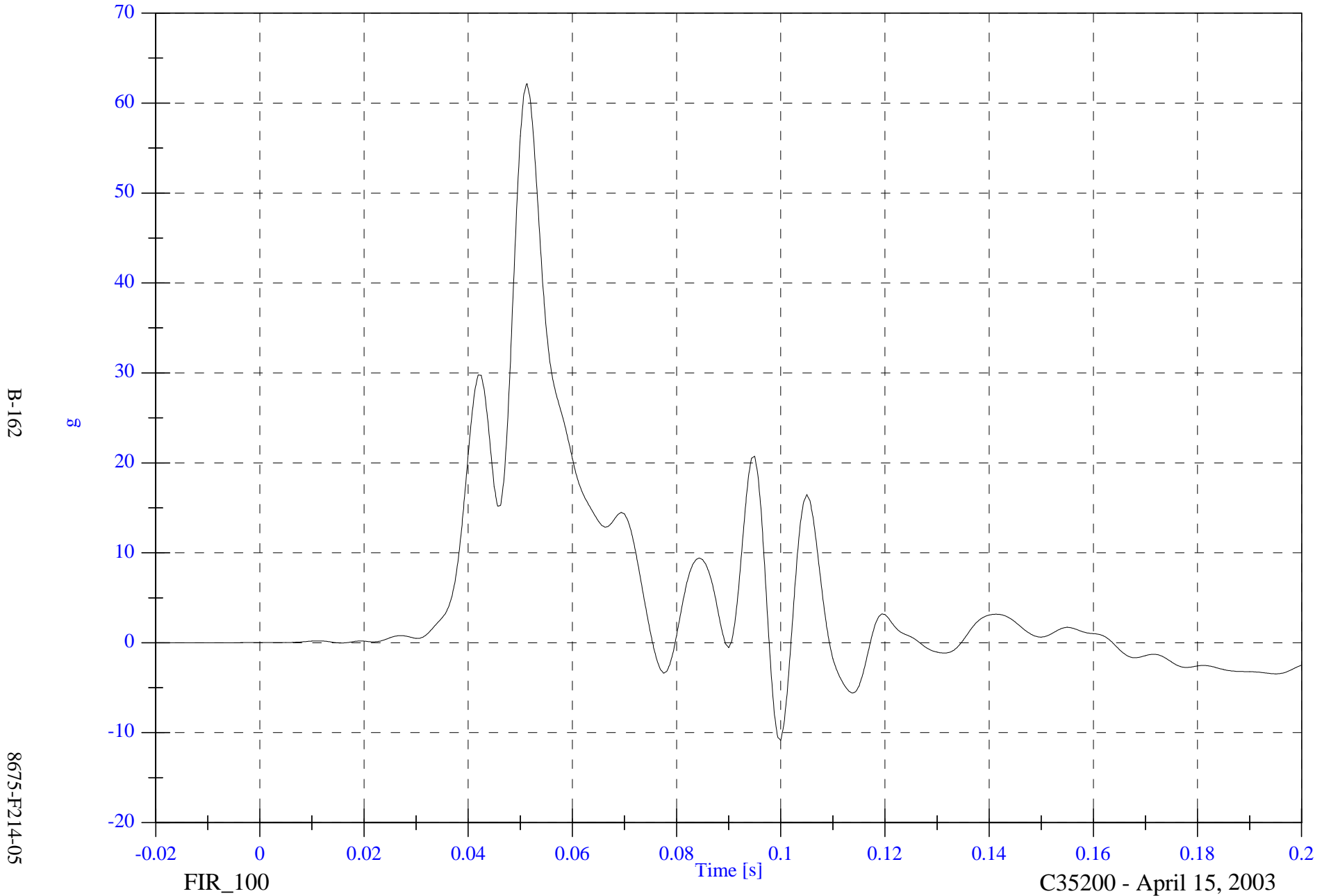
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P4 Upper Rib Ry

Max: 62.2 [g] at 0.051 [s]

Min: -10.9 [g] at 0.100 [s]



B-162

8675-F214-05

FIR_100

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

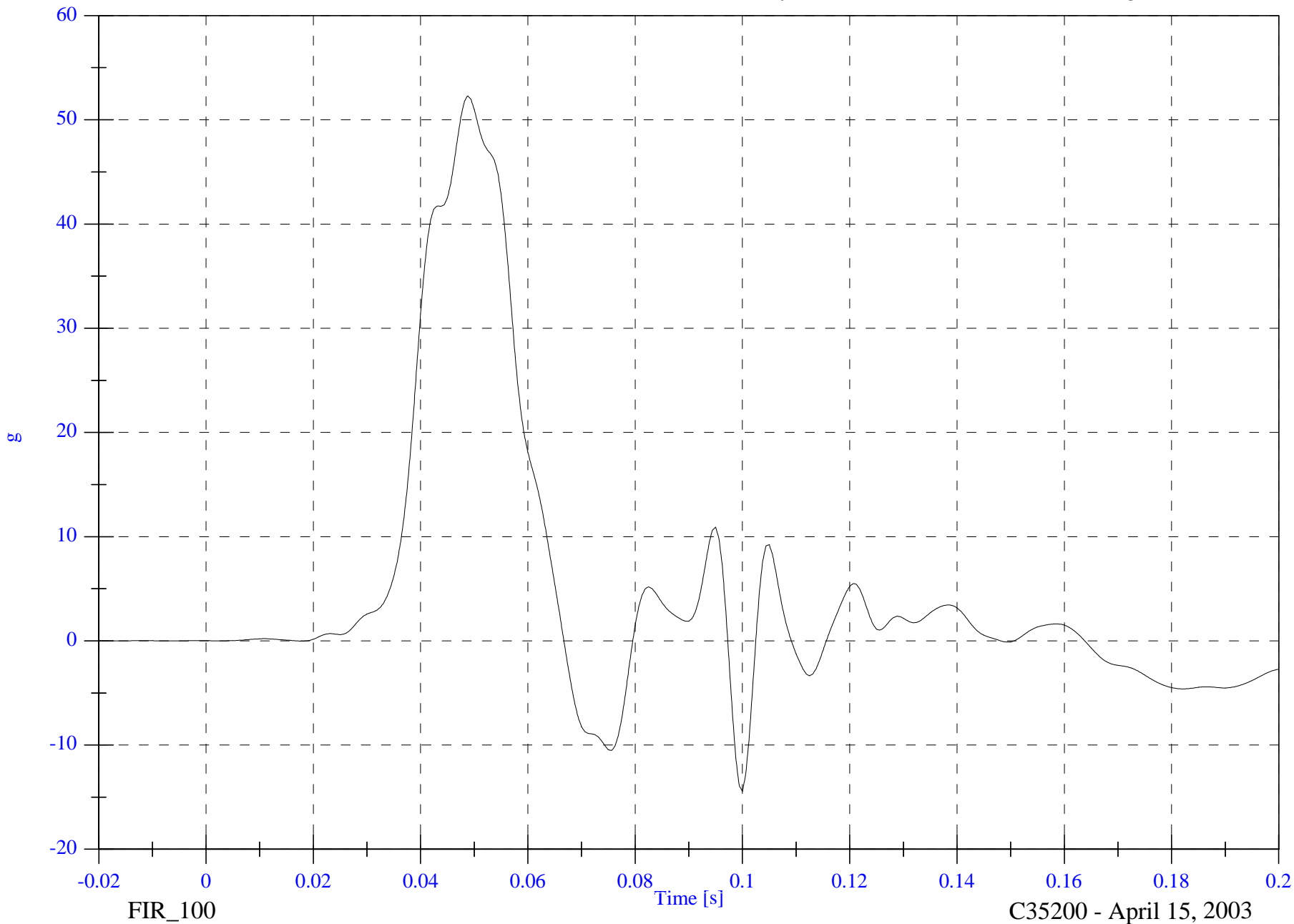
V2P4 Lower Rib Ry

Max: 52.3 [g] at 0.049 [s]

Min: -14.5 [g] at 0.100 [s]

B-163

8675-F214-05



C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

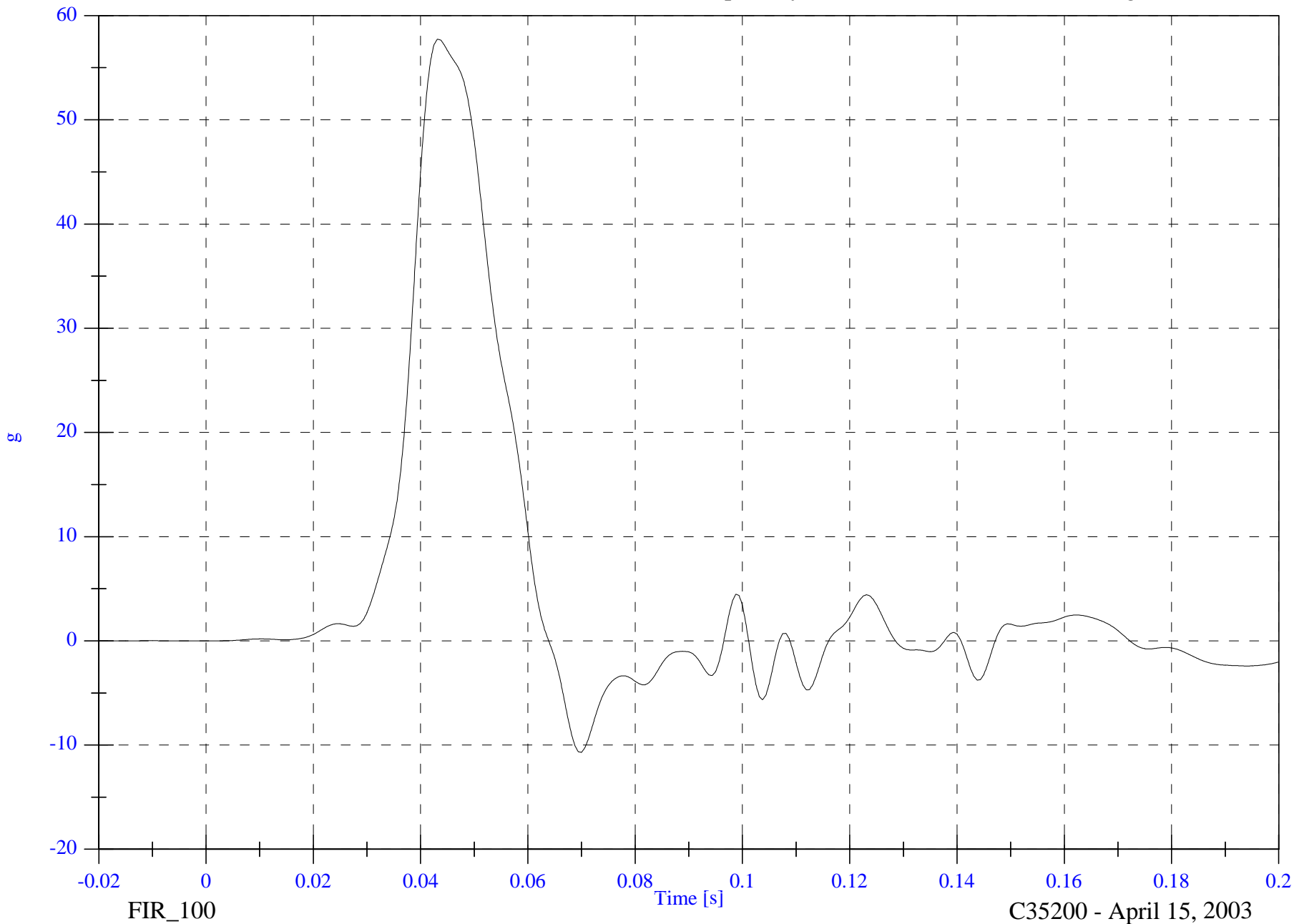
V2P4 Lower Spine Ry

Max: 57.7 [g] at 0.043 [s]

Min: -10.7 [g] at 0.070 [s]

B-164

8675-F214-05



FIR_100

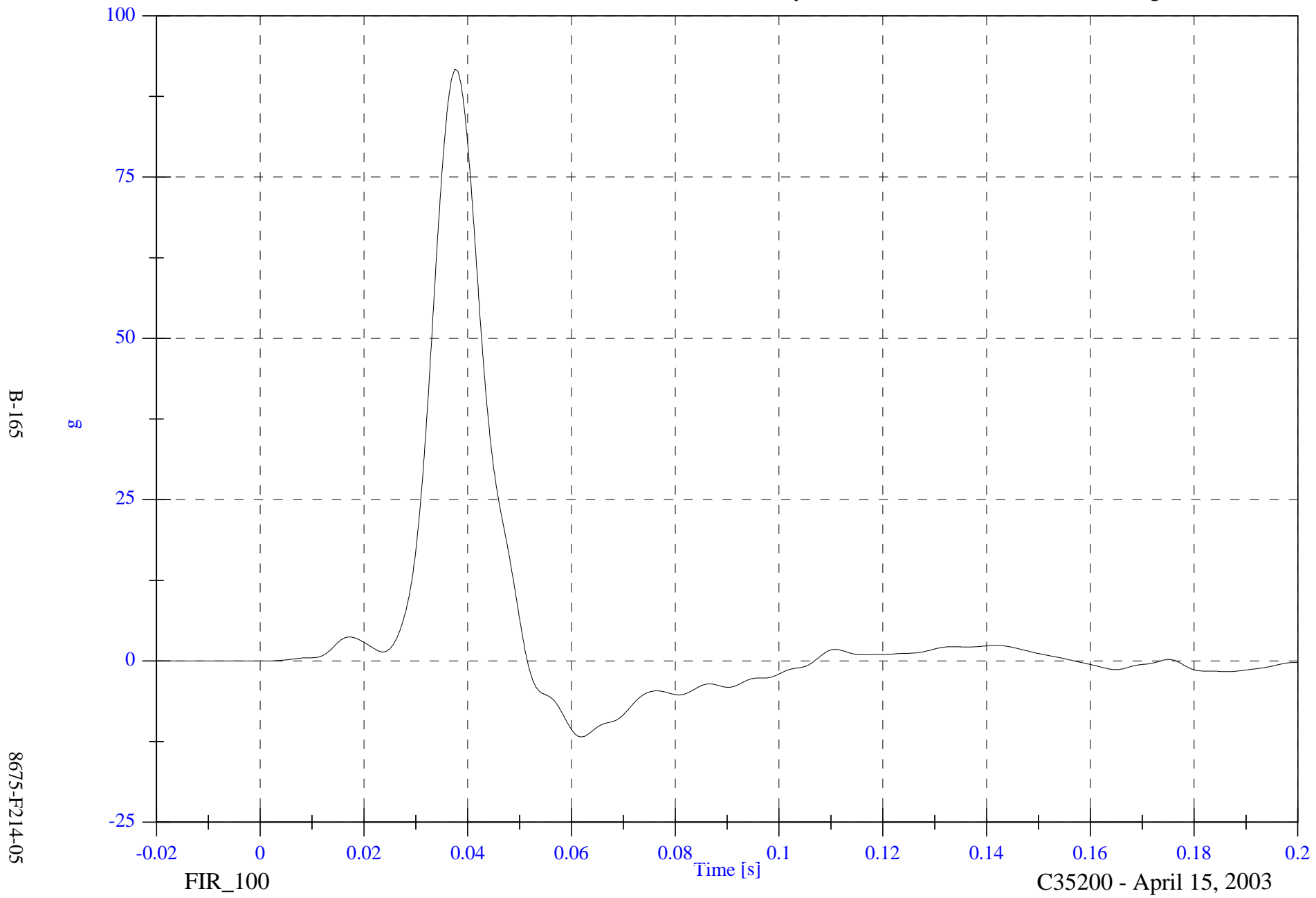
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P4 Pelvic Ry

Max: 91.7 [g] at 0.037 [s]

Min: -11.8 [g] at 0.062 [s]



B-165

8675-F214-05

FIR_100

C35200 - April 15, 2003

APPENDIX C

SID HYBRID III CONFIGURATION AND PERFORMANCE VERIFICATION DATA

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

Date: April 4, 2003; April 17, 2003

Sequential Test Number:

4;5

Laboratory Technician:

B. Swiecicki

TEST PARAMETER	SPECIFICATION	SID H3 015		SID H3 016	
		PRE TEST	POST TEST	PRE TEST	POST TEST
SH- Seated Height (mm)	889 - 909	902	902	902	899
RH- Rib Height (mm)	501 - 521	511	511	513	513
HP- Hip Pivot Height (mm)	99 ref.	99	99	99	99
RD- Rib from Back Line (mm)	229 - 241	239	239	239	239
KV- Knee Pivot from Back Line (mm)	511 - 526	521	521	521	521
SW- Knee Pivot to Floor (mm)	490 - 505	493	495	495	495
HW- Hip Width (mm)	356 - 391	381	371	371	368
THORAX IMPACTS					
TEMPERATURE (°C)	18.9 - 25.5	21.1	21.1	21.1	21.1
RELATIVE HUMIDITY (%)	10 - 70	31.00	33	31.00	35
PROBE SPEED (m/s)	4.27 - 4.33	4.28	4.32	4.27	4.27
UPPER RIB (g's)	37 - 46	41.83	40.23	42.43	45.95
LOWER RIB (g's)	37 - 46	38.49	40.05	40.05	41.51
LOWER SPINE (g's)	15 - 22	18.75	20.25	20.37	21.93
PELVIS IMPACT					
TEMPERATURE (°C)	18.9 - 25.5	21.1	21.1	21.1	21.1
RELATIVE HUMIDITY (%)	10 - 70	32.00	33	34.0	35
PROBE SPEED (m/s)	4.27 - 4.33	4.28	4.29	4.27	4.28
PELVIS (g's)	40 - 60	40.27	40.64	45.33	47.79

REMARKS: None

CALIBRATION TEST RESULTS

PRE-TEST

SID H3 NO.: 015

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 015 Sequential Test Number: 4
Date: April 4, 2003 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.: 015 Sequential Test Number: 4
Date: April 4, 2003 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 – 909	902
RH- Rib Height (mm)	502 – 520	511
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 – 241	239
KH- Knee Pivot from Back Line (mm)	511 – 526	521
KV- Knee Pivot to Floor (mm)	490 – 505	493
HW- Hip Width (mm)	356 - 391	381

REMARKS: None

**THORACIC SHOCK ABSORBER TESTS
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 015 Sequential Test Number: 4
 Date: February 3, 2003 Laboratory Technician: B. Swiecicki

DAMPER IDENTIFICATION: _____

TEST PARAMETER		SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)		18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)		10 - 70	29.00
VELOCITY 3.05 m/s	FORCE (N)	836 - 1125	1122.40
	DISPLACEMENT (mm)	30 - 35	30.16
VELOCITY 4.27 m/s	FORCE (N)	1730 - 2099	2063.48
	DISPLACEMENT (mm)	32 - 37	35.62
VELOCITY 6.10 m/s	FORCE (N)	3741 - 4448	4399.67
	DISPLACEMENT (mm)	33 - 40	38.49

DAMPER SETTING: 5

REMARKS: None

015 Shock Low at 3.05 m/s

Low Part 572F Shock Absorber Impact

Calibration Date:

02-03-03

Serial No:

015

Work File:

015SL 2-03-03

-----TEST RESULTS-----

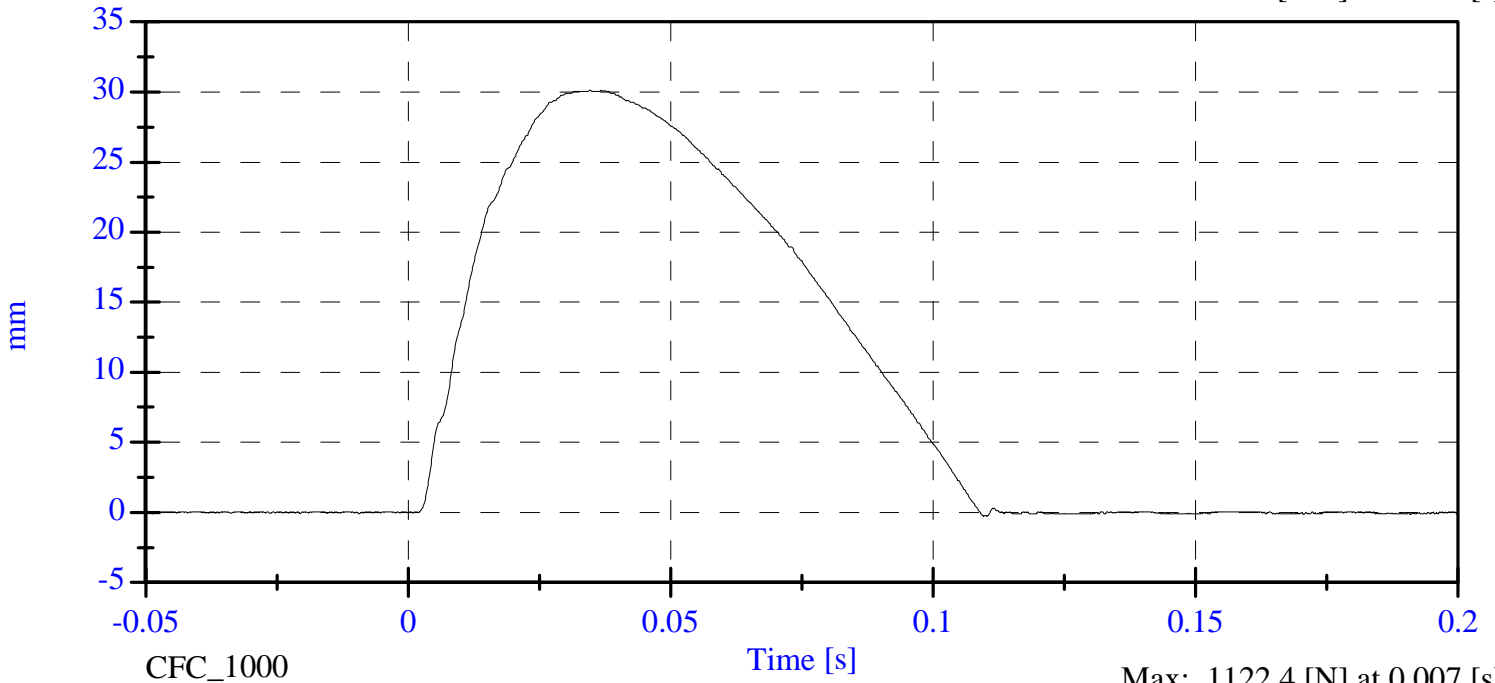
<u>TEST CONDITION</u>	<u>PARAMETERS</u>	<u>RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	29.00 %	Passed
Displacement:	30.00-35.00 mm	30.16 mm	Passed
Maximum Force:	836.00-1125.00 N	1122.40 N	Passed

015 Shock Low

Displacement vs. Time

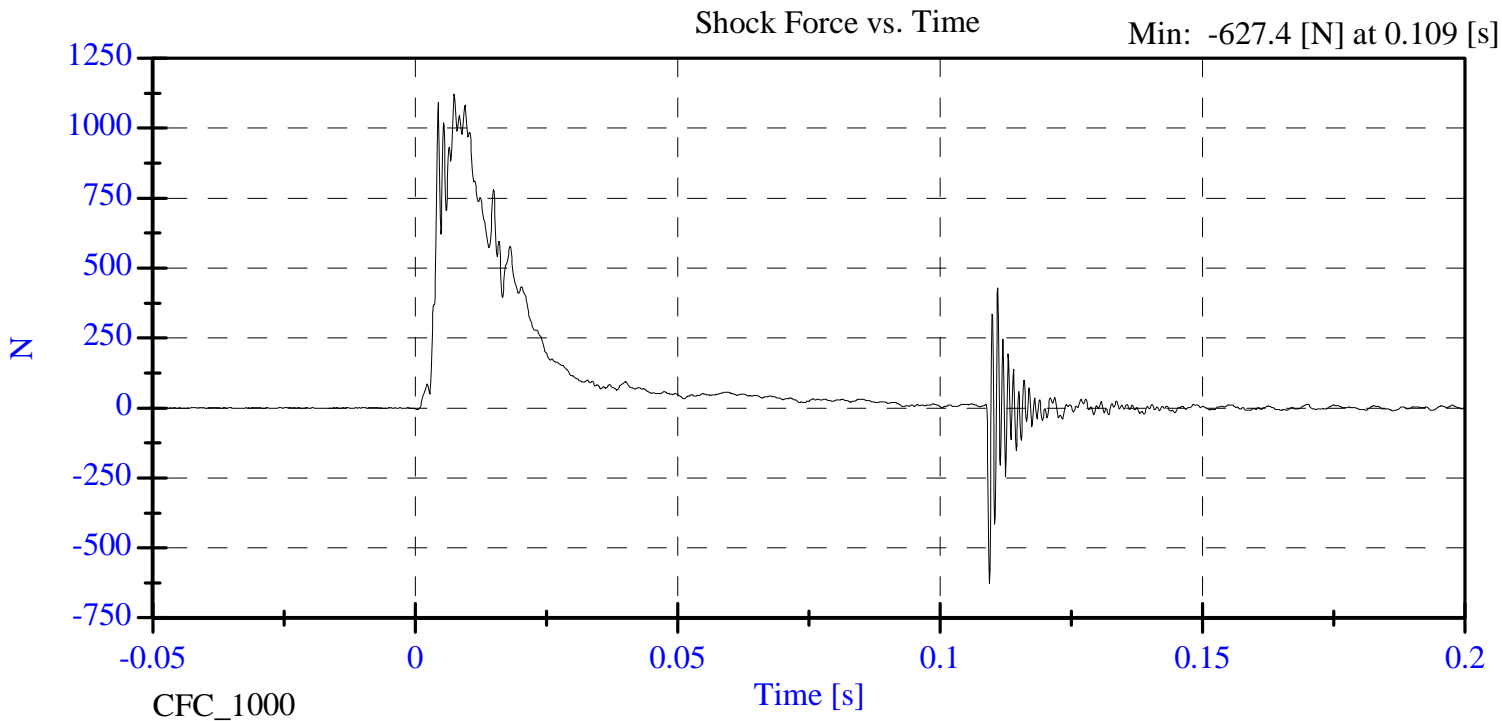
Max: 30.2 [mm] at 0.035 [s]

Min: -0.3 [mm] at 0.110 [s]



Max: 1122.4 [N] at 0.007 [s]

Min: -627.4 [N] at 0.109 [s]



015 Shock Medium at 4.27 m/s

Medium Part 572F Shock Absorber Impact

Calibration Date:

02-03-03

Serial No: 015

Work File:

015SM1 2-03-03

-----TEST RESULTS-----

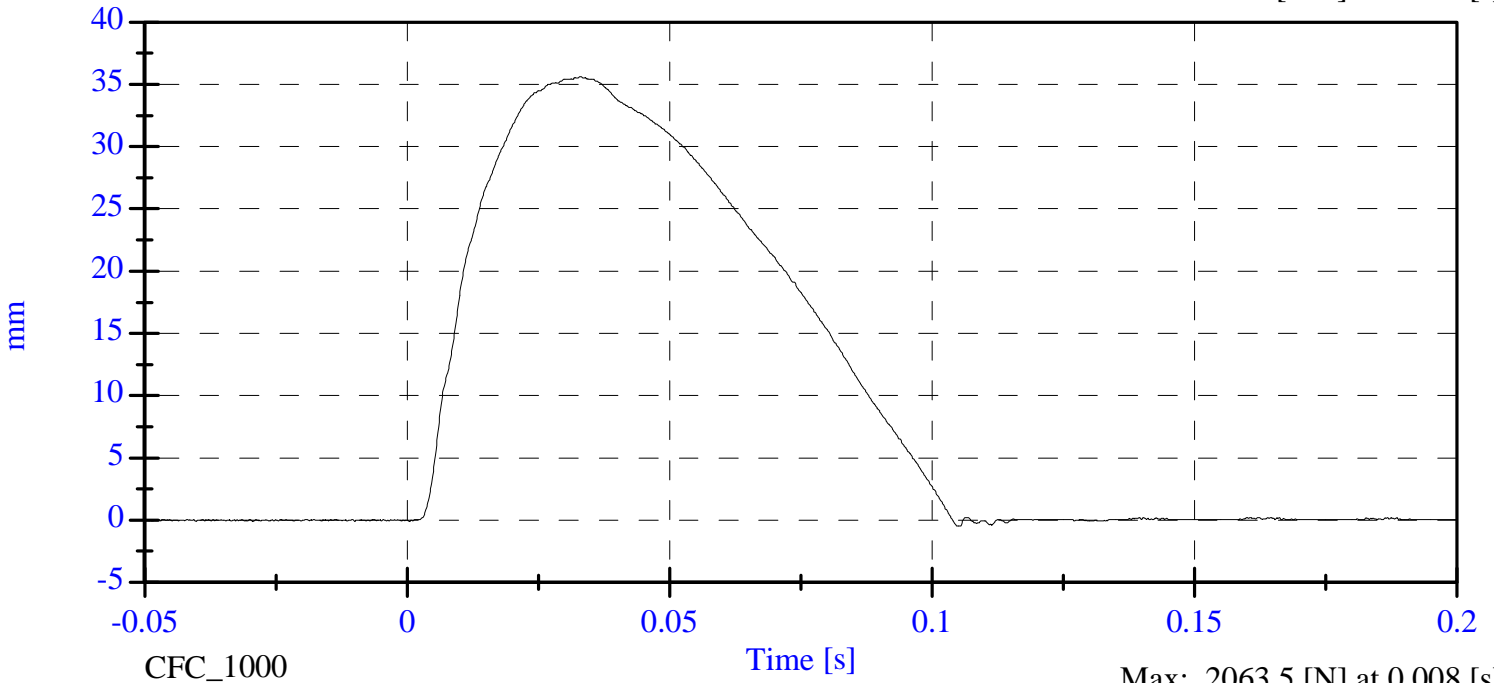
<u>TEST CONDITION</u>	<u>PARAMETERS</u>	<u>RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	29.00 %	Passed
Displacement:	32.00-37.00 mm	35.62 mm	Passed
Maximum Force:	1730.00-2099.00 N	2063.48 N	Passed

015 Shock Medium

Displacement vs. Time

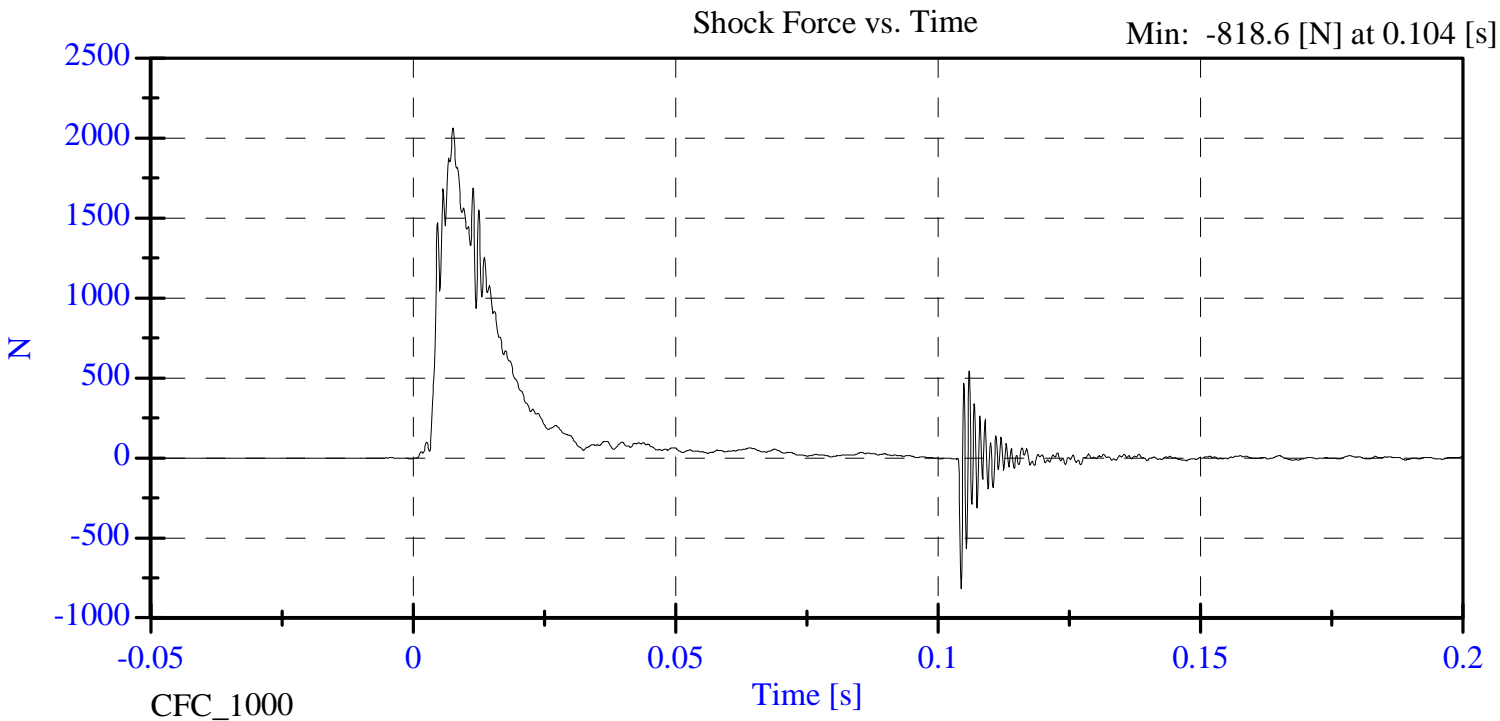
Max: 35.6 [mm] at 0.033 [s]

Min: -0.5 [mm] at 0.105 [s]



Max: 2063.5 [N] at 0.008 [s]

Min: -818.6 [N] at 0.104 [s]



015 Shock High at 6.10 m/s

High Part 572F Shock Absorber Impact

Calibration Date:

02-03-03

Serial No: 015

Work File:

015SH 2-03-03

-----TEST RESULTS-----

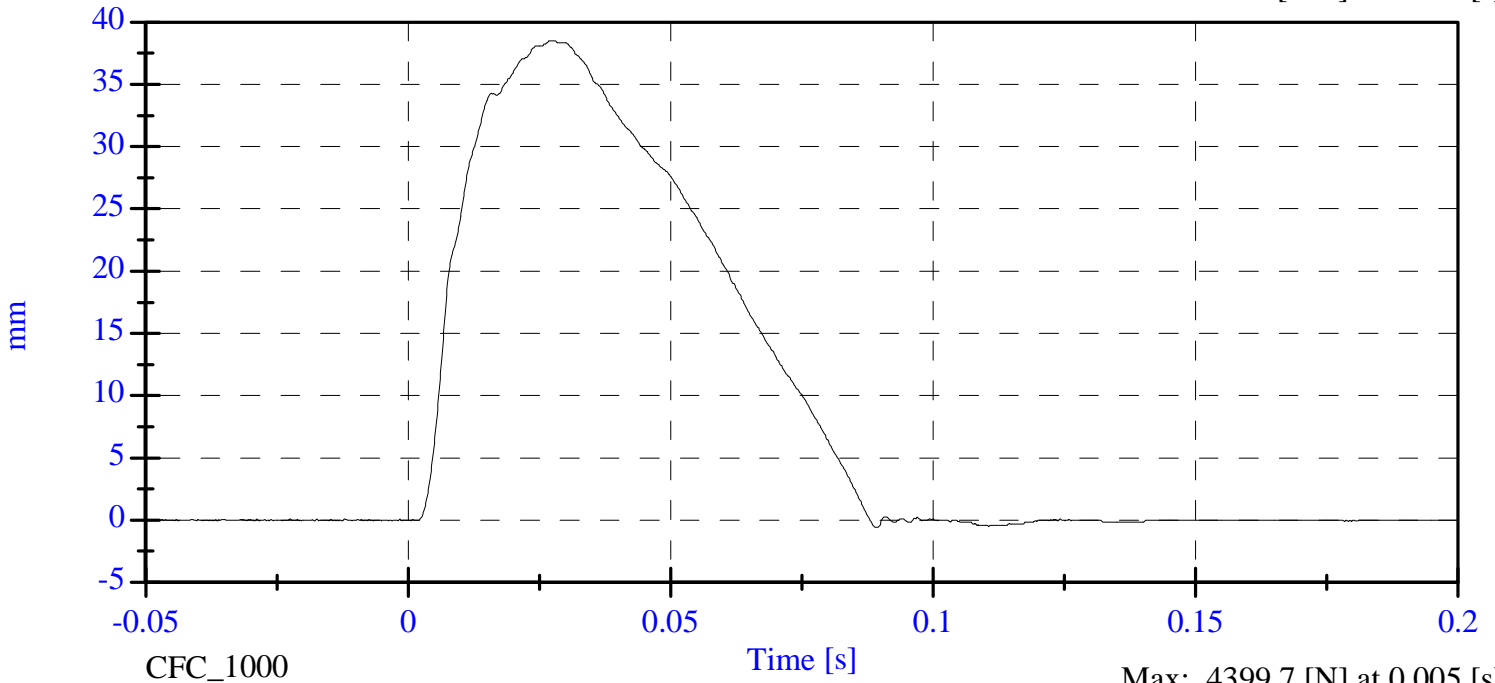
<u>TEST CONDITION</u>	<u>PARAMETERS</u>	<u>RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	29.00 %	Passed
Displacement:	33.00-40.00 mm	38.49 mm	Passed
Maximum Force:	3741.00-4448.00 N	4399.67 N	Passed

015 Shock High

Displacement vs. Time

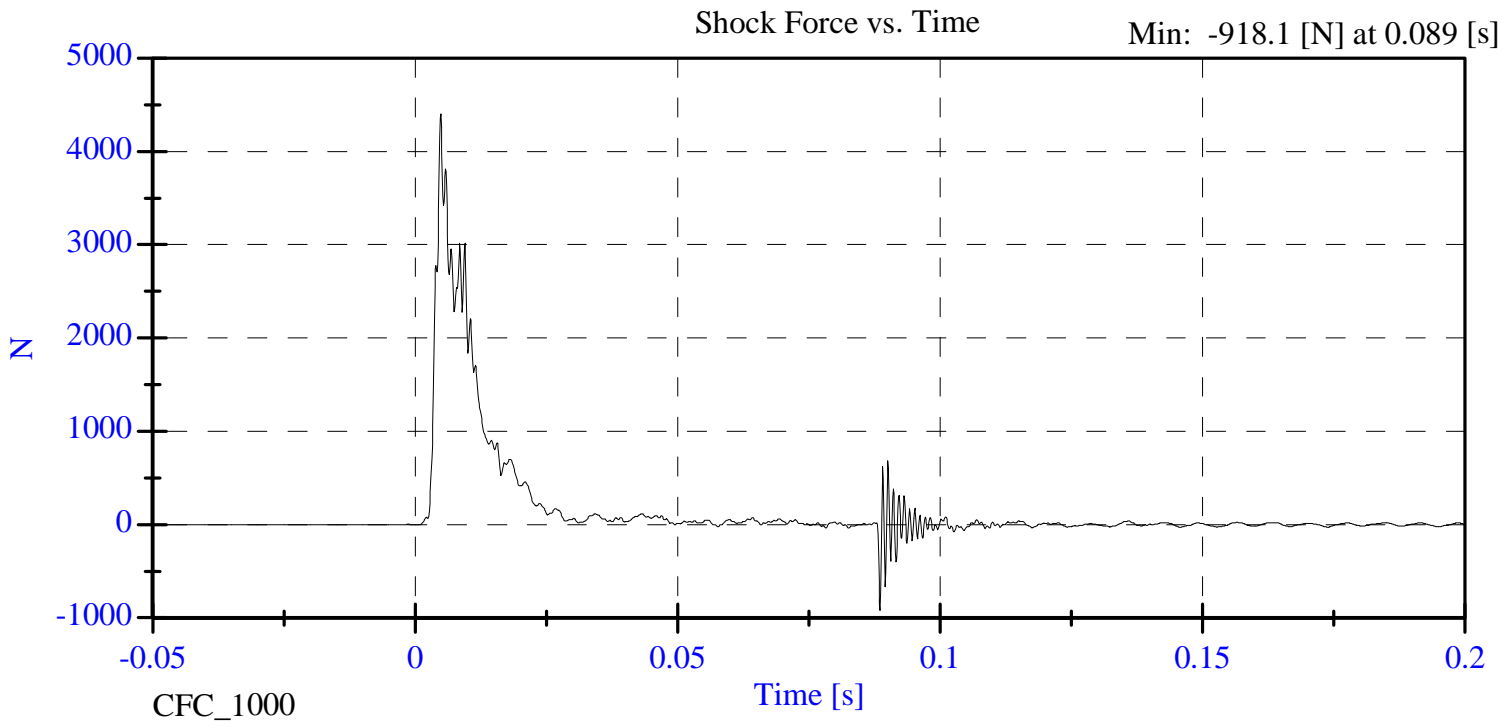
Max: 38.5 [mm] at 0.028 [s]

Min: -0.6 [mm] at 0.089 [s]



Max: 4399.7 [N] at 0.005 [s]

Min: -918.1 [N] at 0.089 [s]



**LATERAL THORAX IMPACT TEST
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 015 Sequential Test Number: 4
Date: April 4, 2003 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	31.00
PROBE SPEED (m/s)	4.27 - 4.33	4.28
UPPER RIB (g's)	37 - 46	41.83
LOWER RIB (g's)	37 - 46	38.49
LOWER SPINE (g's)	15 - 22	18.75

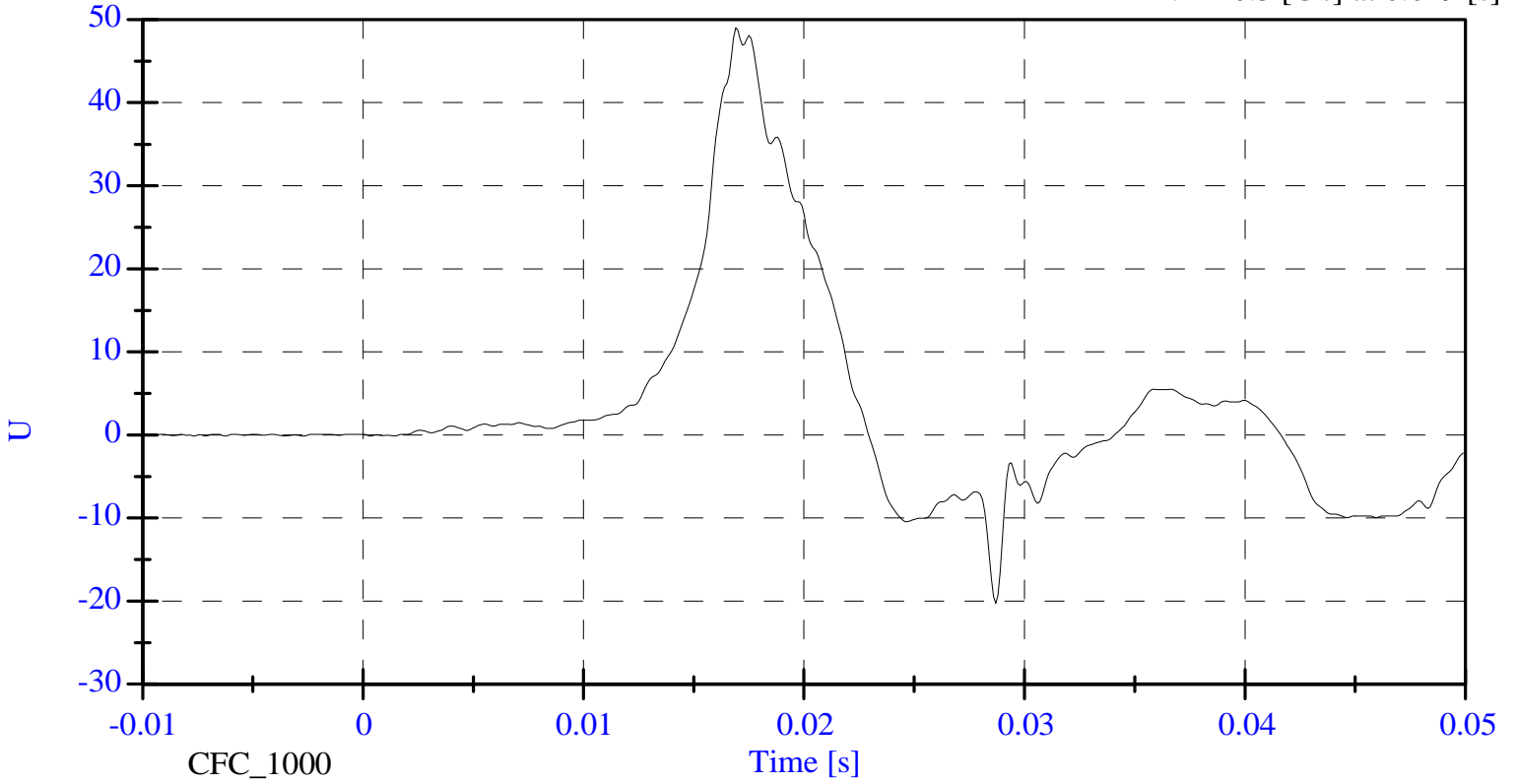
REMARKS: None

Thorax Impact

Max: 49.0 [G's] at 0.017 [s]

Min: -20.3 [G's] at 0.029 [s]

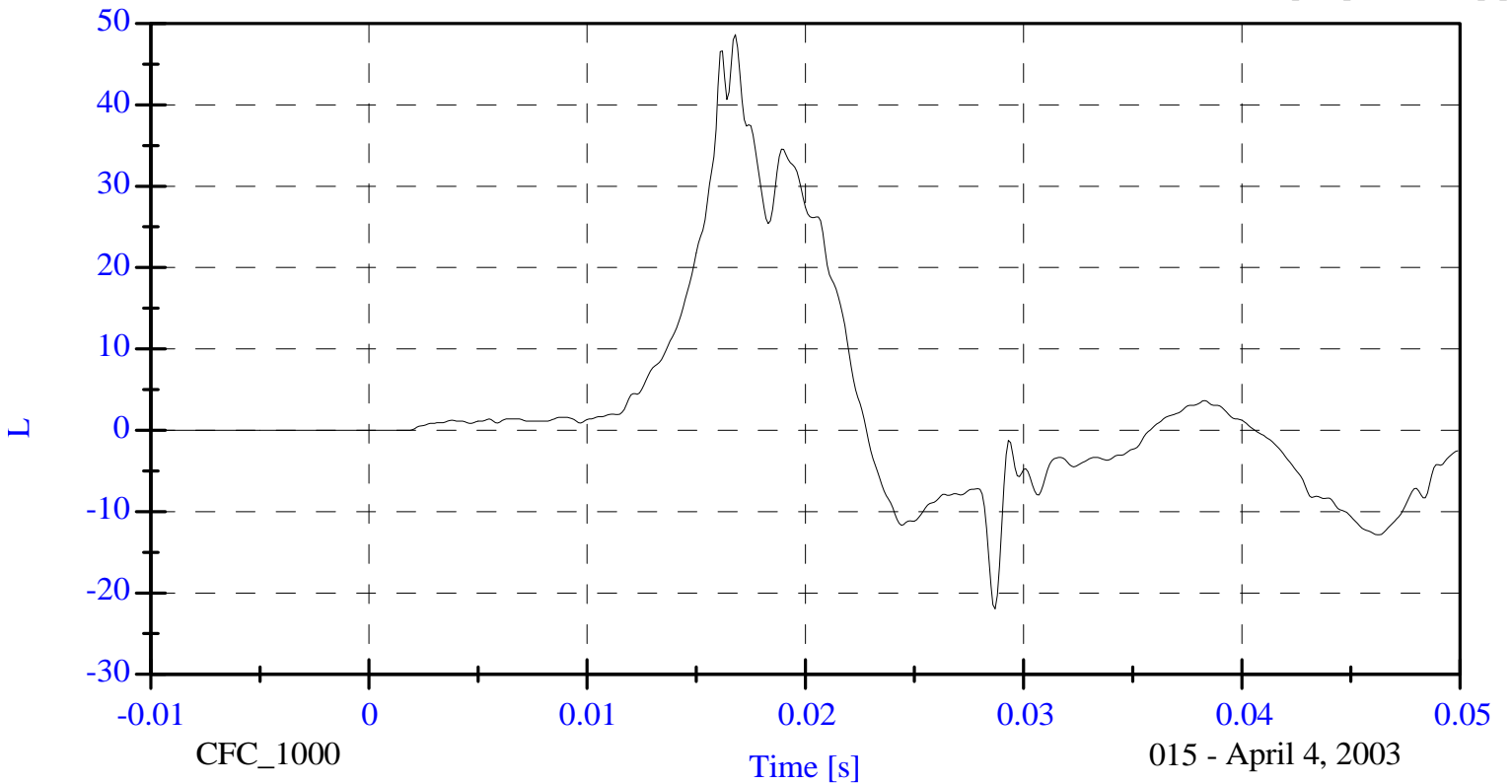
Upper Rib Y Acceleration



Max: 48.7 [G's] at 0.017 [s]

Min: -22.0 [G's] at 0.029 [s]

Lower Rib Y Acceleration



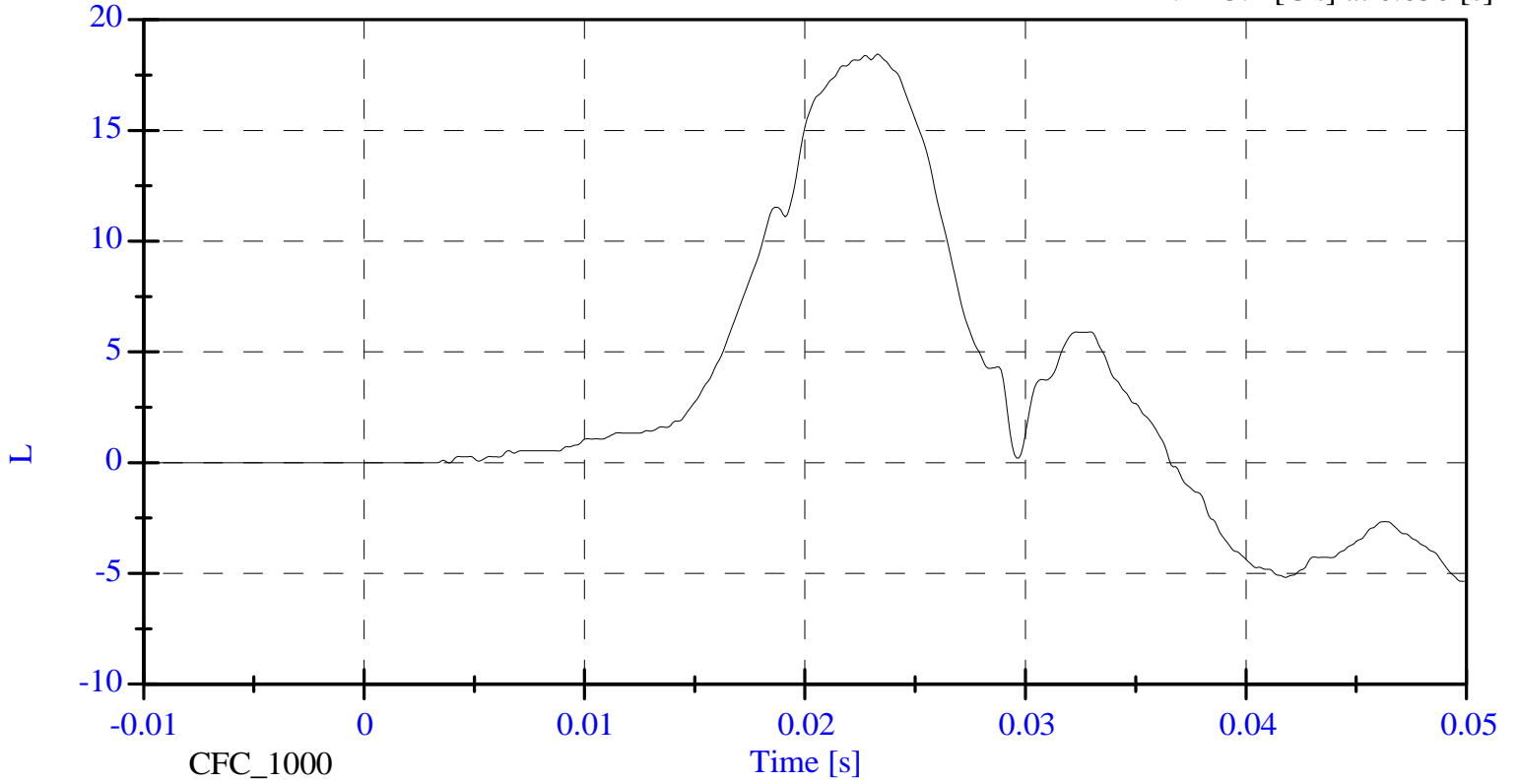
015 - April 4, 2003

Thorax Impact

Lower Spine Y Acceleration

Max: 18.4 [G's] at 0.023 [s]

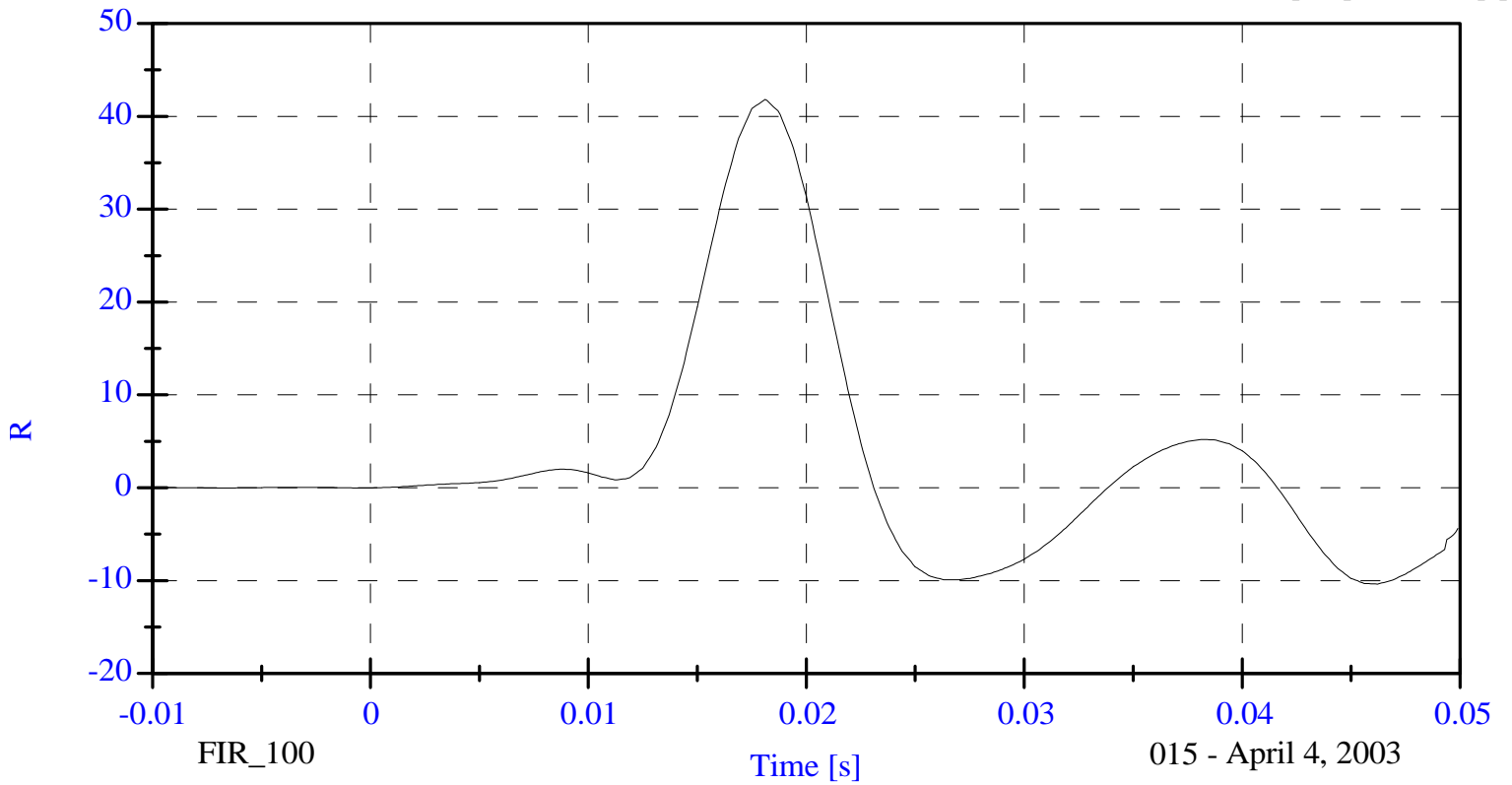
Min: -5.4 [G's] at 0.050 [s]



Upper Rib Y Acceleration

Max: 41.8 [G's] at 0.018 [s]

Min: -10.4 [G's] at 0.046 [s]

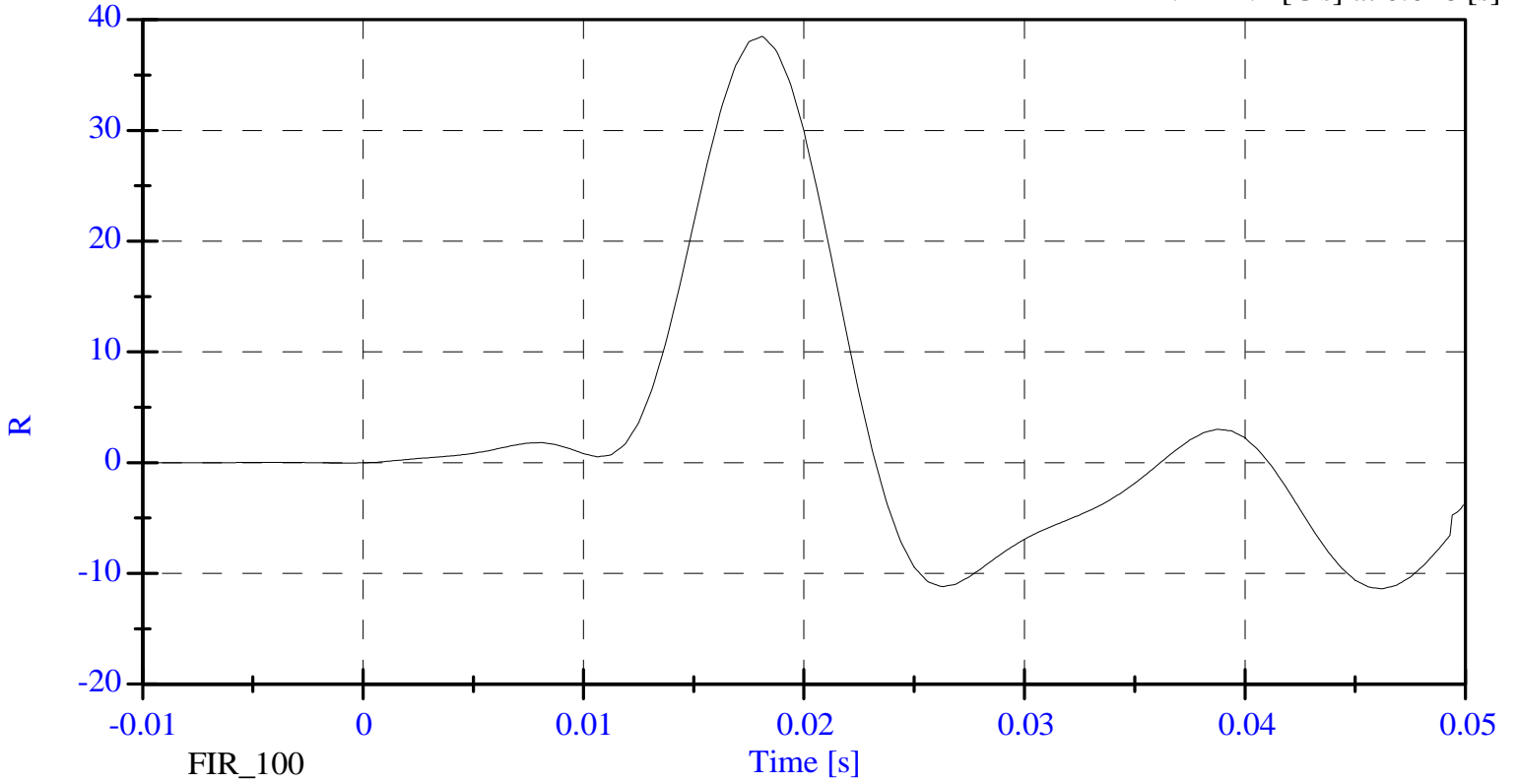


Thorax Impact

Max: 38.5 [G's] at 0.018 [s]

Min: -11.4 [G's] at 0.046 [s]

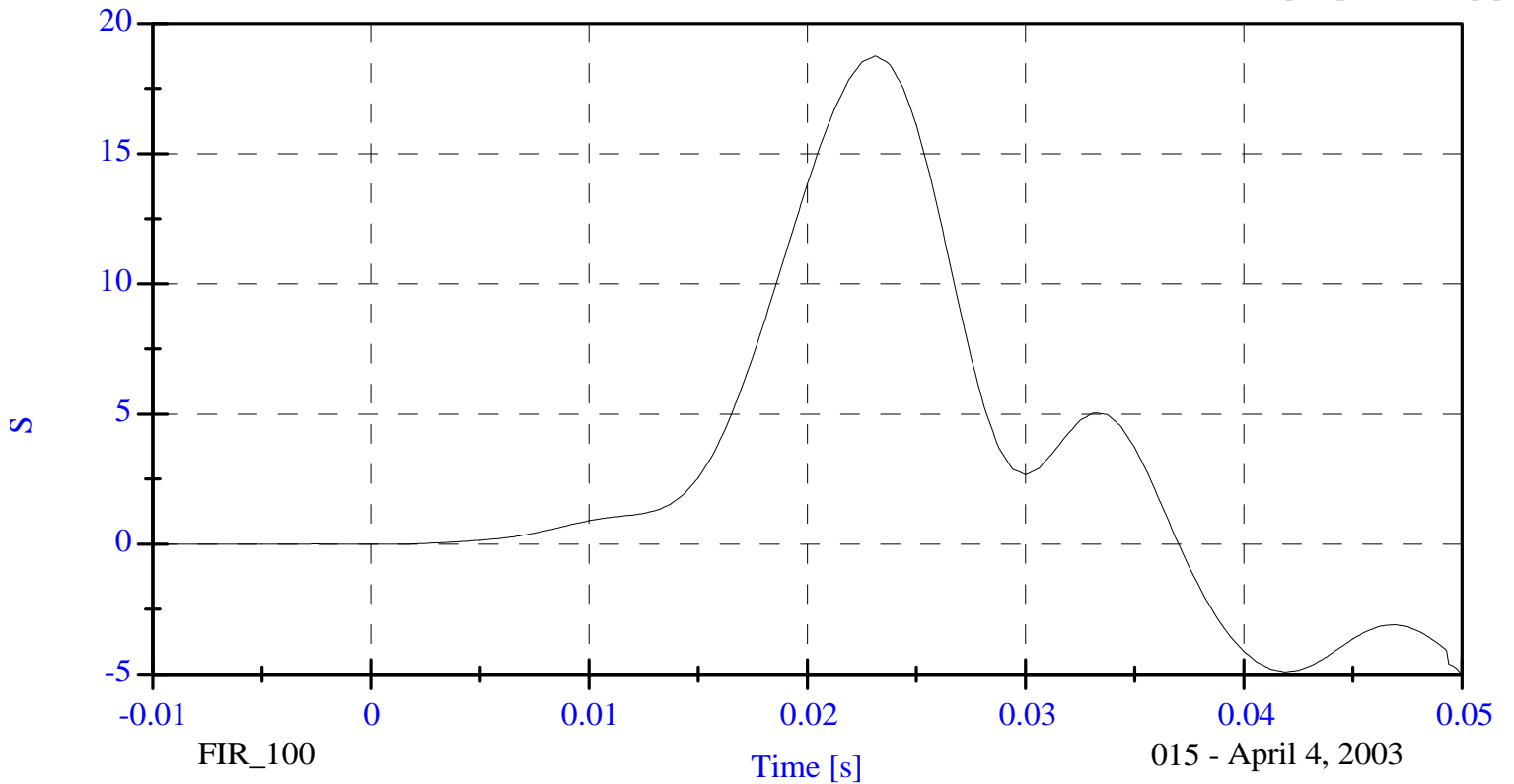
Lower Rib Y Acceleration



Max: 18.8 [G's] at 0.023 [s]

Min: -4.9 [G's] at 0.050 [s]

Lower Spine Y Acceleration



015 - April 4, 2003

**LATERAL PELVIS IMPACT TEST
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 015 Sequential Test Number: 4
Date: April 4, 2003 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	32.00
PROBE SPEED (m/s)	4.27 - 4.33	4.28
PELVIS ACCELERATION (g's)	40 - 60	40.27

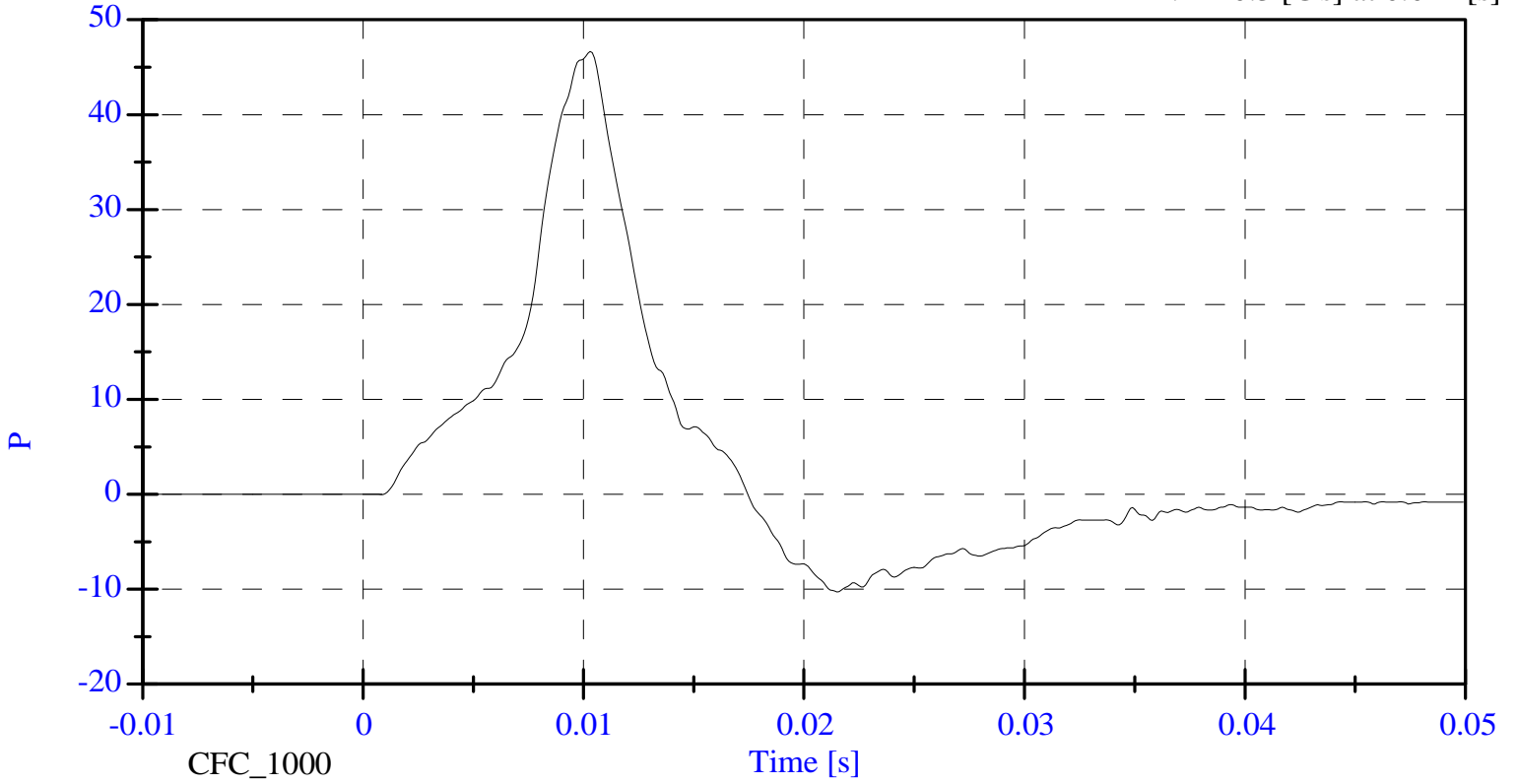
REMARKS: None

Pelvic Impact

Max: 46.7 [G's] at 0.010 [s]

Min: -10.3 [G's] at 0.022 [s]

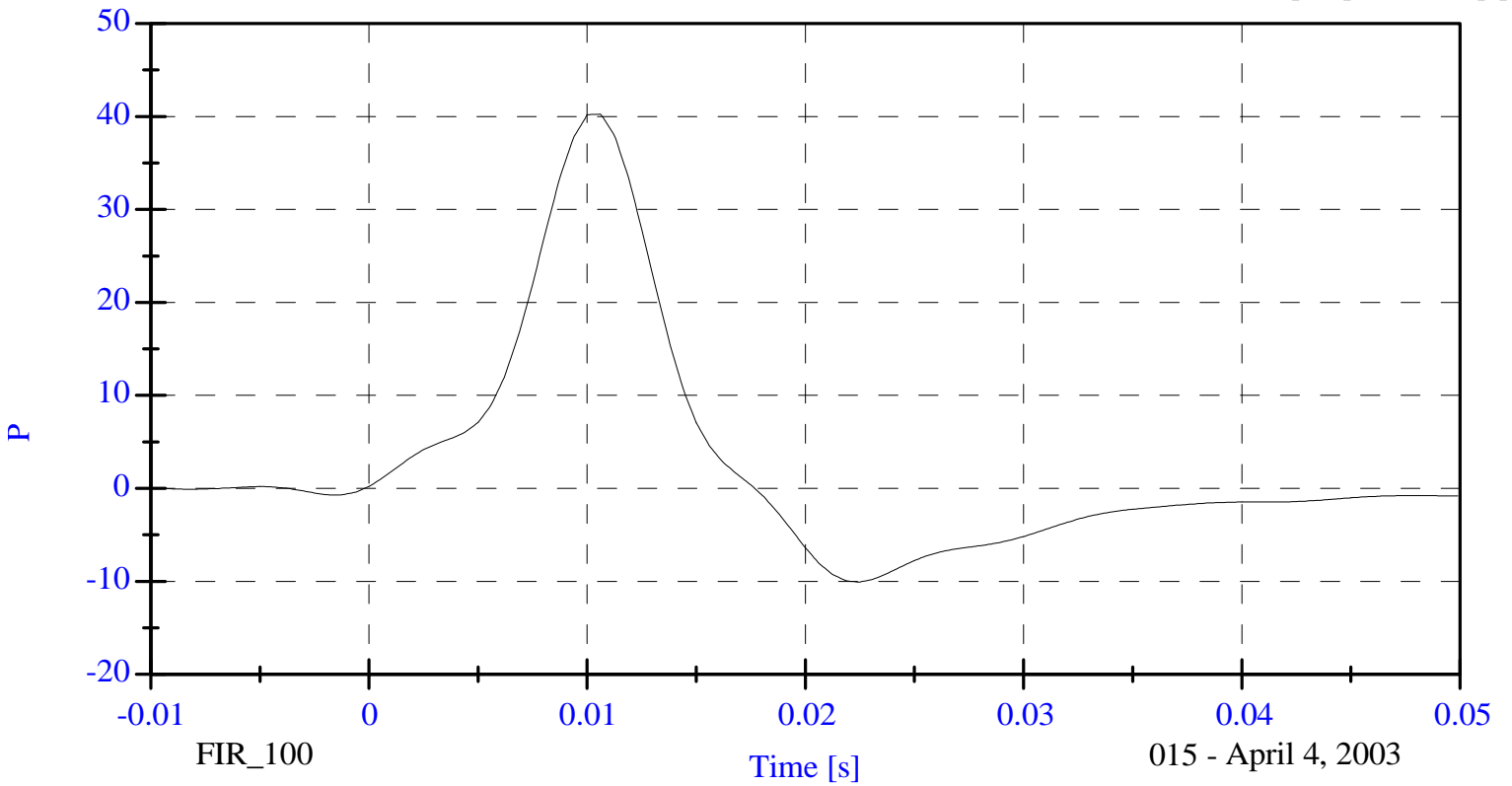
Pelvis Acceleration



Max: 40.3 [G's] at 0.011 [s]

Min: -10.1 [G's] at 0.023 [s]

Pelvis Y Acceleration



015 - April 4, 2003

**HEAD DROP TEST
PRE-TEST**
(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 015 Sequential Test Number: 4
Date: April 9, 2003 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	20.6 – 22.2	21.7
RELATIVE HUMIDITY (%)	10 – 70	35.00
PEAK RESULTANT ACCELERATION (Gs)	120 – 150	131.57
PEAK LATERAL ACCELERATION (Gs)	Not to Exceed 15	8.49
CURVE PERCENT NONMODAL (%)	< 15	3.35

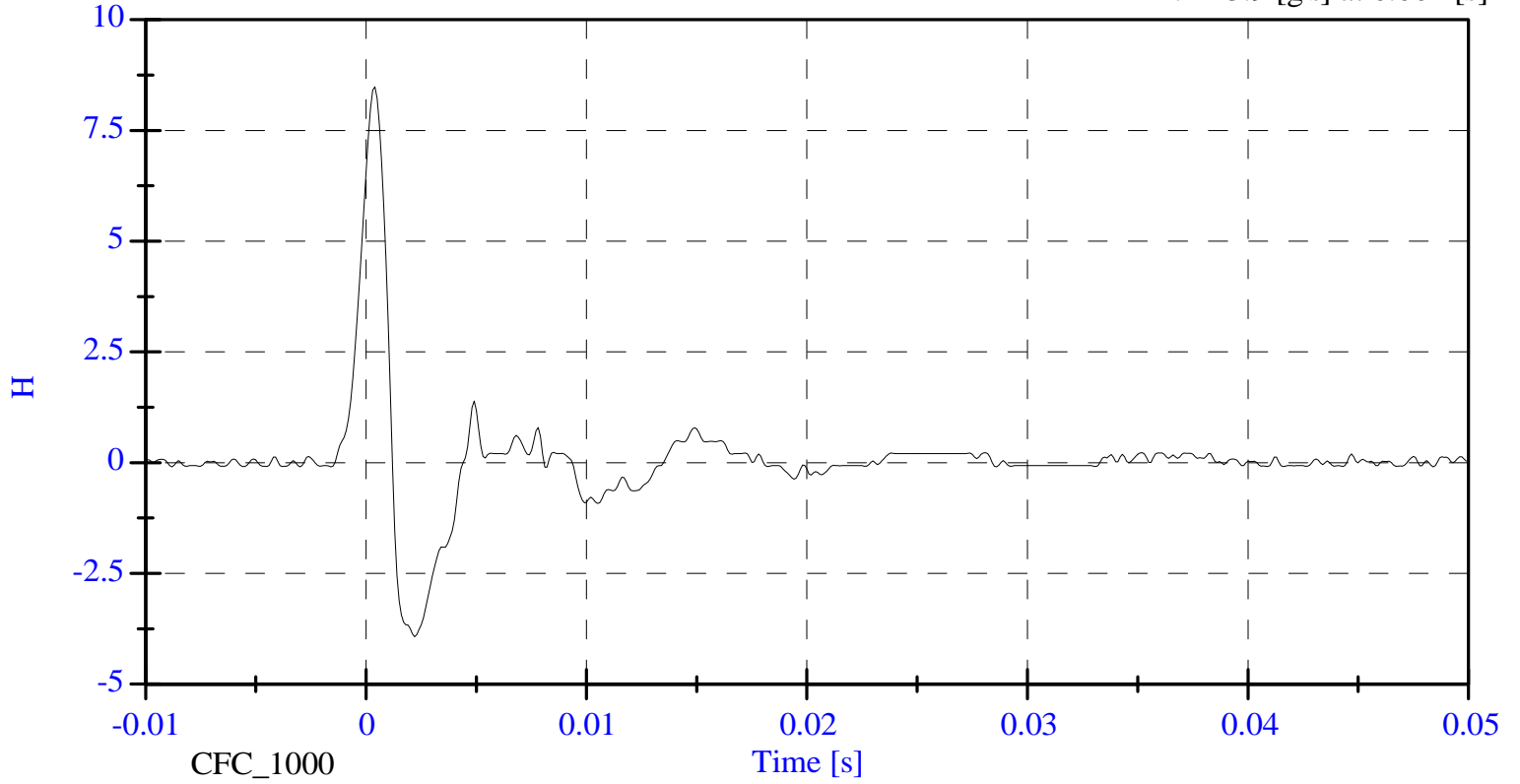
REMARKS: None

Head Drop

Head X Acceleration

Max: 8.5 [g's] at 0.000 [s]

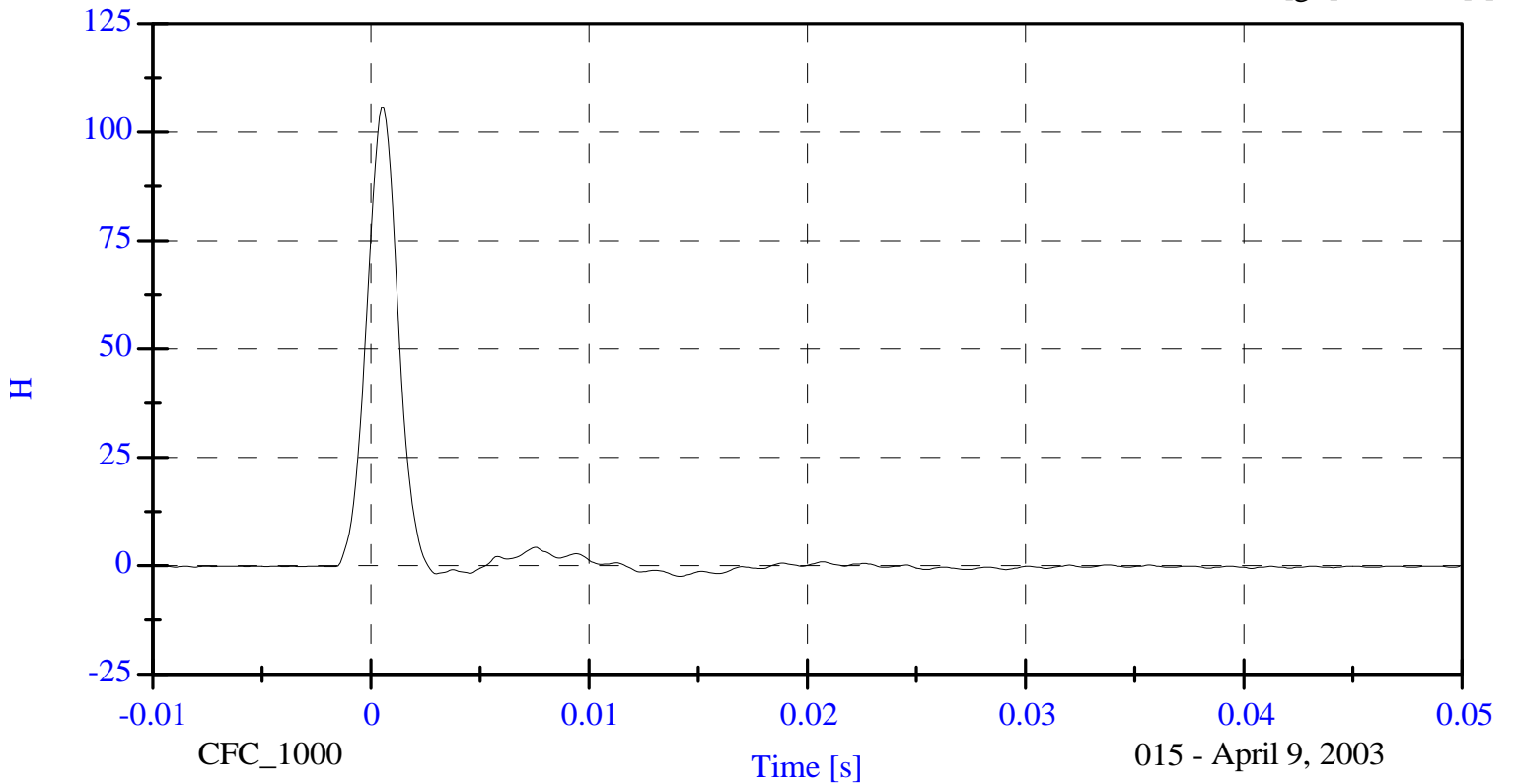
Min: -3.9 [g's] at 0.002 [s]



Head Y Acceleration

Max: 105.8 [g's] at 0.001 [s]

Min: -2.4 [g's] at 0.014 [s]



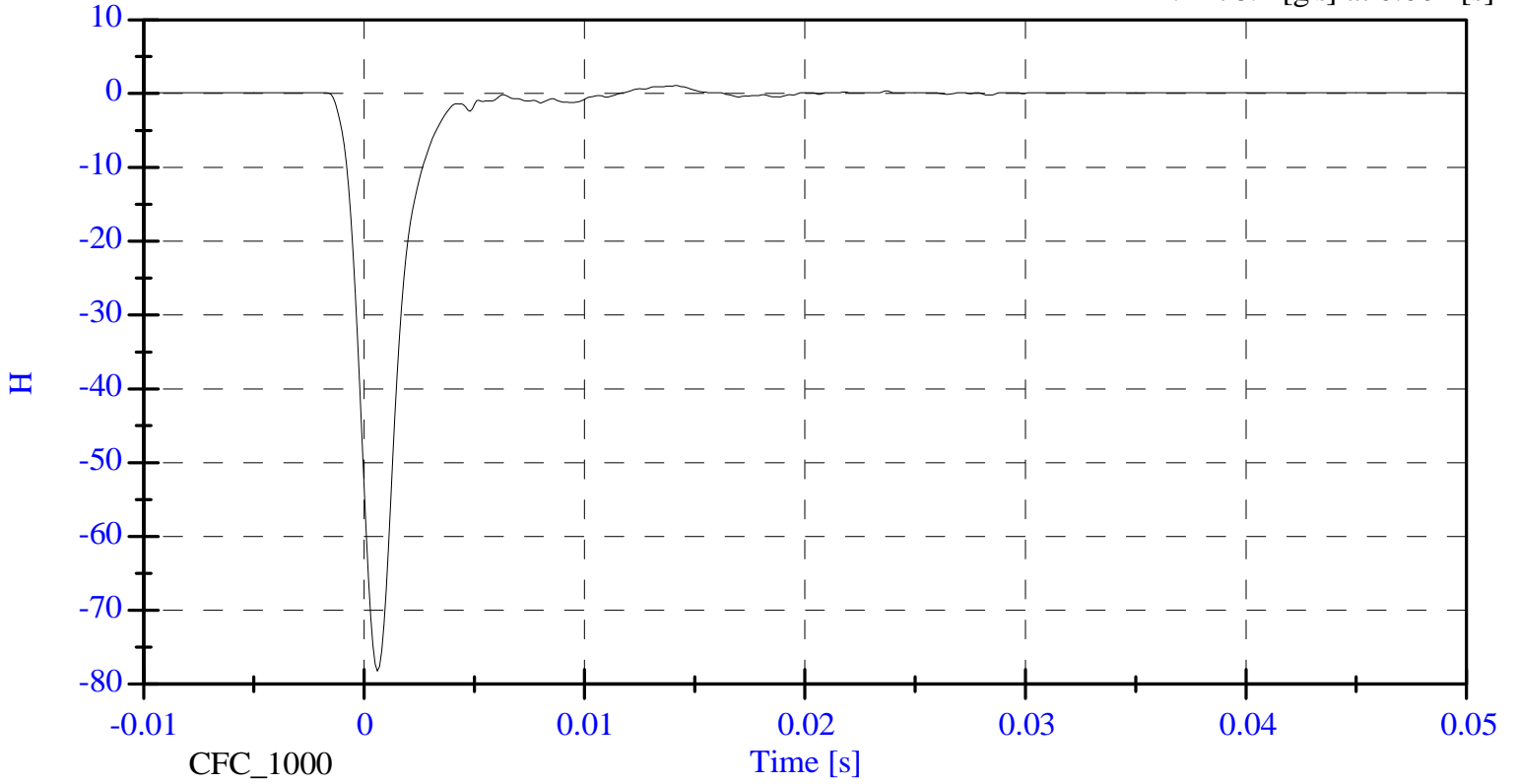
015 - April 9, 2003

Head Drop

Head Z Acceleration

Max: 1.1 [g's] at 0.014 [s]

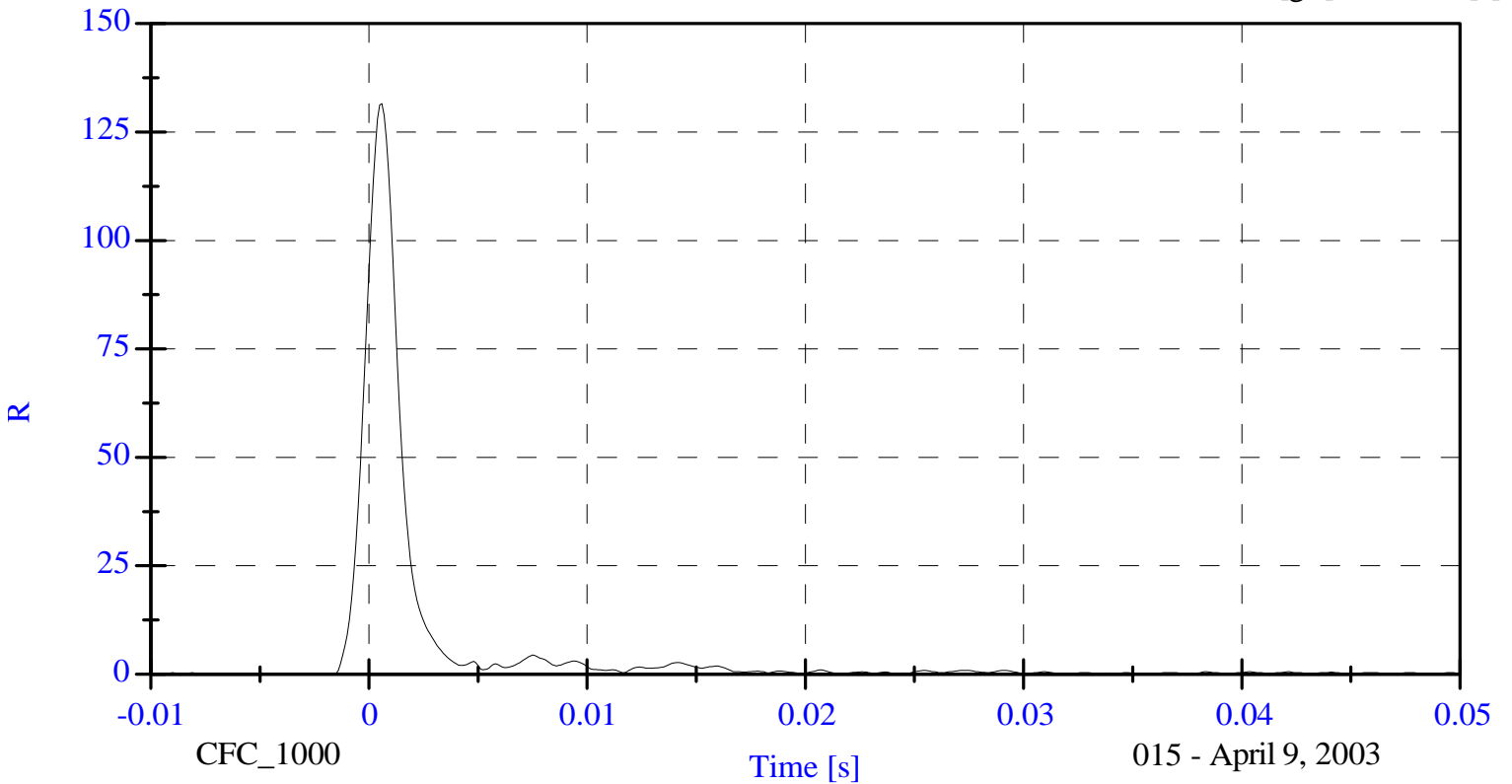
Min: -78.2 [g's] at 0.001 [s]



Head Resultant

Max: 131.6 [g's] at 0.001 [s]

Min: 0.1 [g's] at -0.010 [s]



015 - April 9, 2003

**LATERAL NECK BENDING TEST
PRE-TEST**
(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 015 Sequential Test Number: 4
Date: April 2 2003 Laboratory Technician: B. Swiecicki

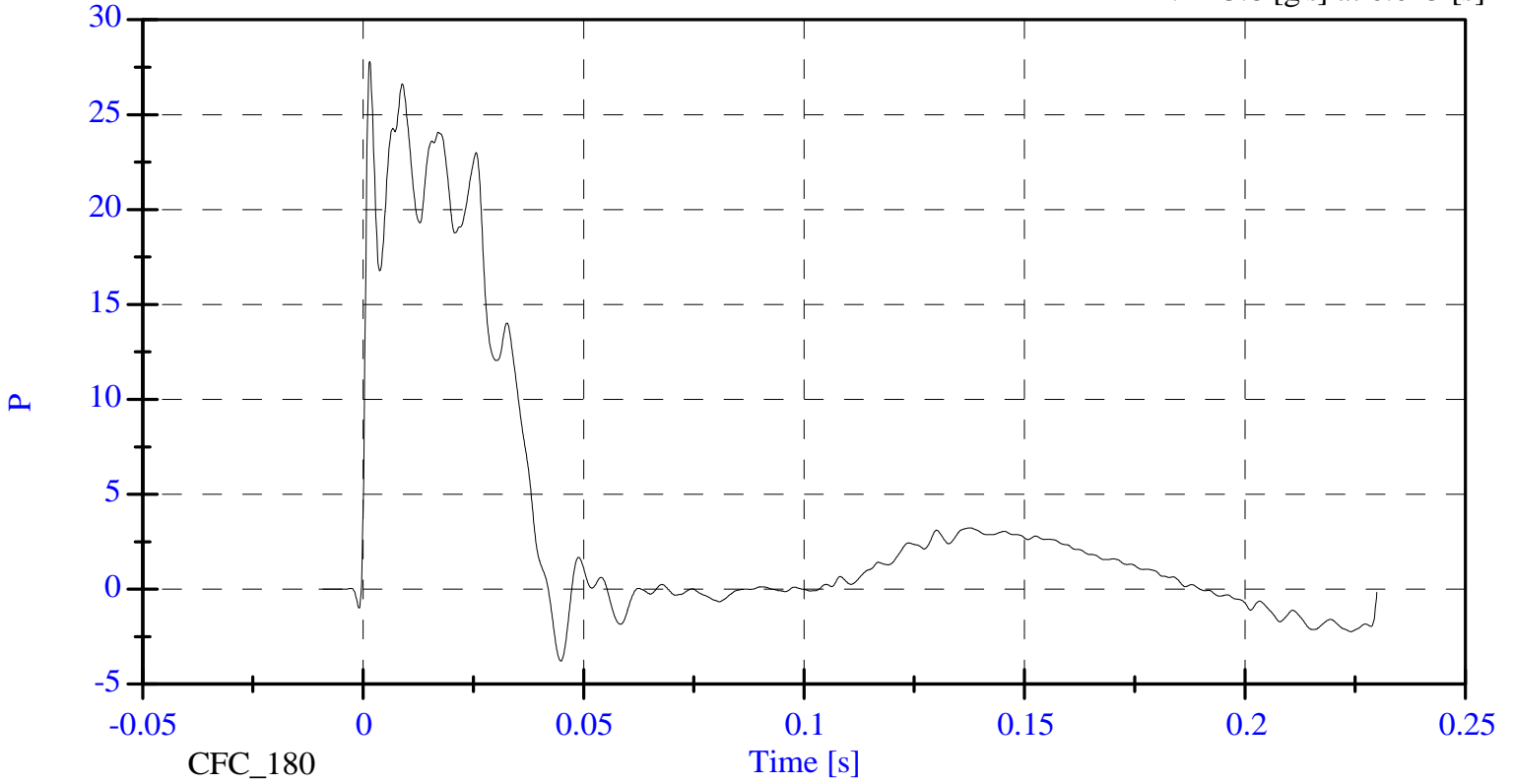
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	20.6 - 22.2	20.7
RELATIVE HUMIDITY (%)	10 - 70	36.00
IMPACT VELOCITY (m/s)	6.89 – 7.13	7.02
PENDULUM DELTA V		
DELTA V @ 10 ms (m/s)	1.96 – 2.55	2.17
DELTA V @ 20 ms (m/s)	4.12 – 5.10	4.35
DELTA V @ 30 ms (m/s)	5.73 – 7.01	6.17
DELTA V @ 40-70 ms (m/s)	6.27 – 7.64	7.10
D PLANE ROTATION		
MAXIMUM ROTATION (deg)	64 – 78	67.94
ROT. ANGLE TIME to ZERO (ms)	50 – 70	58.20
MOMENT ABOUT THE OCCIPITAL CONDYLE		
MAX OCCIPITAL MOMENT (Nm)	88 – 108	88.34
OCCIPITAL MOMENT DECAY (ms)	40.0 – 60.0	48.50
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT		
ROTATION wrt MOMENT (ms)	0 – 20	7.10

REMARKS: None

Max: 27.8 [g's] at 0.002 [s]

Min: -3.8 [g's] at 0.045 [s]

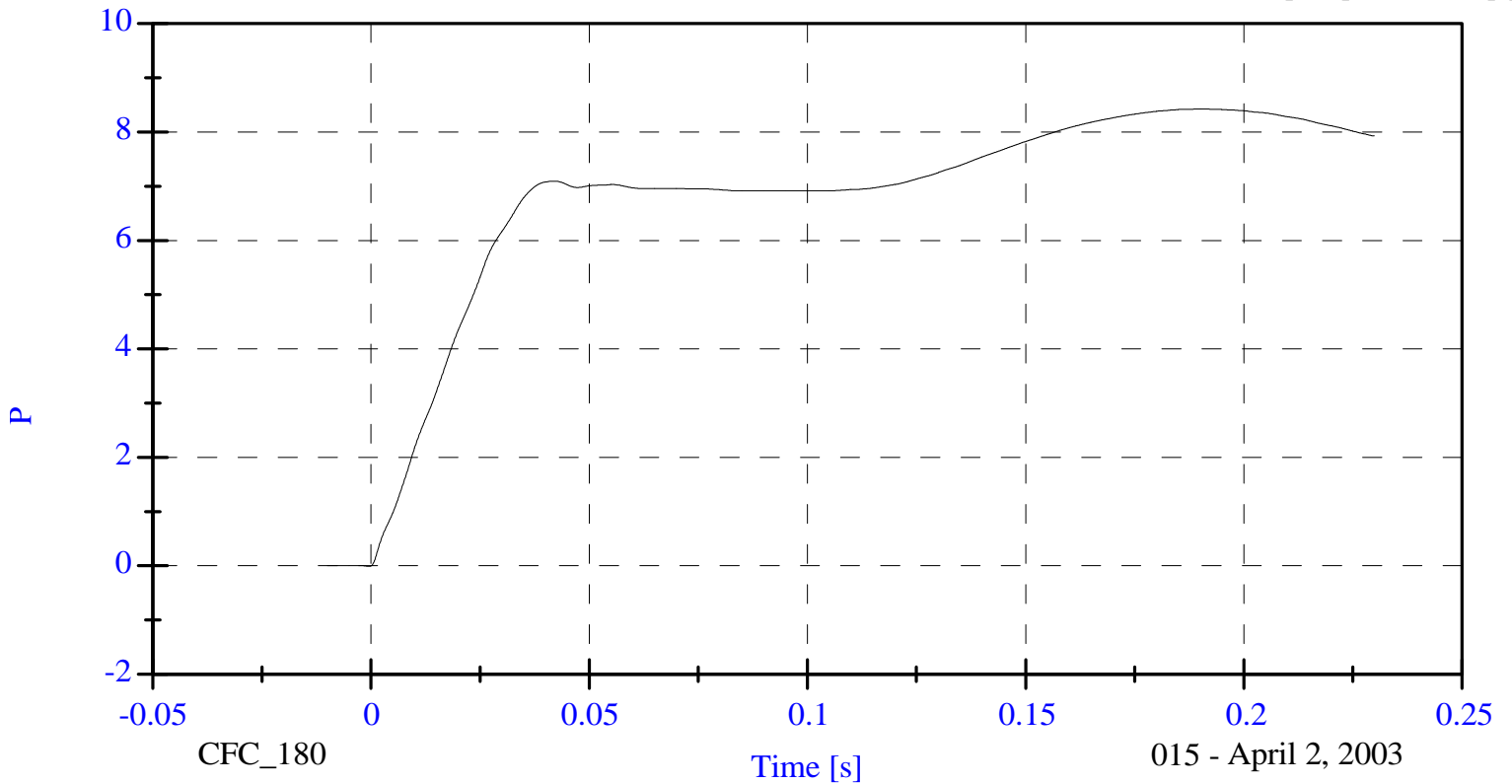
Pendulum Acceleration



Max: 8.4 [m/s] at 0.190 [s]

Min: -0.0 [m/s] at -0.000 [s]

Pendulum Velocity

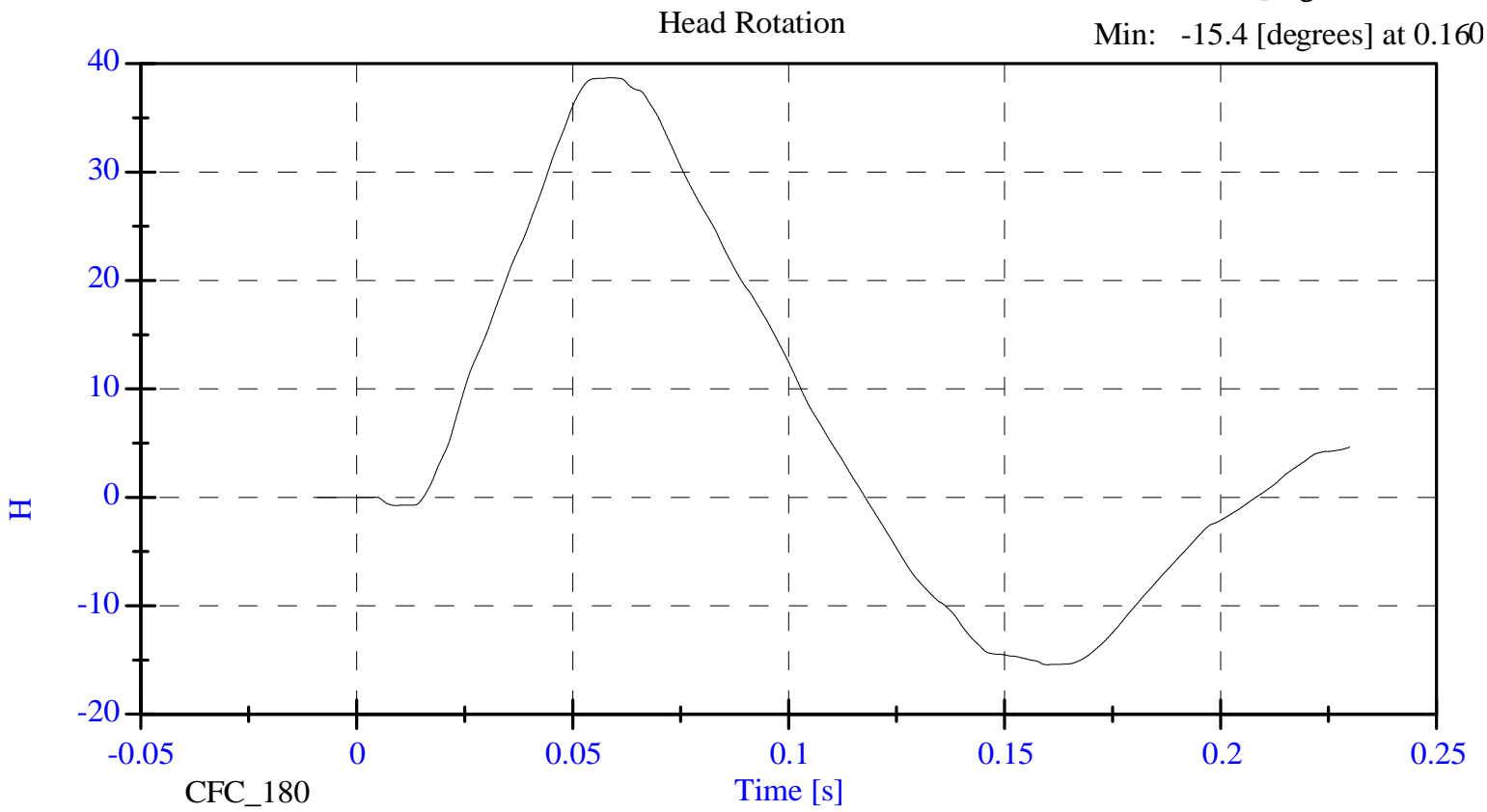


015 - April 2, 2003

Neck Test

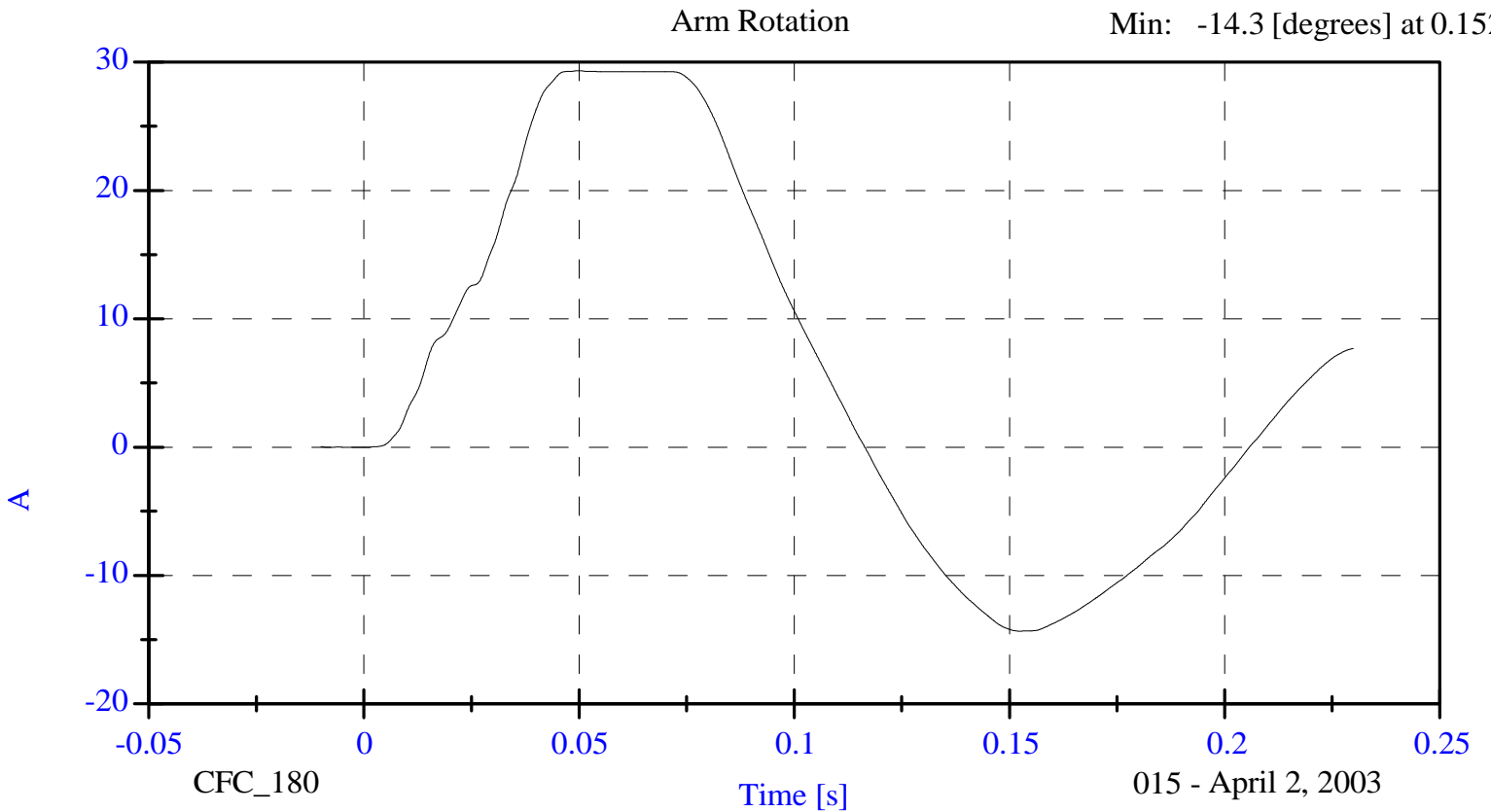
Max: 38.7 [degrees] at 0.059

Min: -15.4 [degrees] at 0.160



Max: 29.3 [degrees] at 0.050

Min: -14.3 [degrees] at 0.152

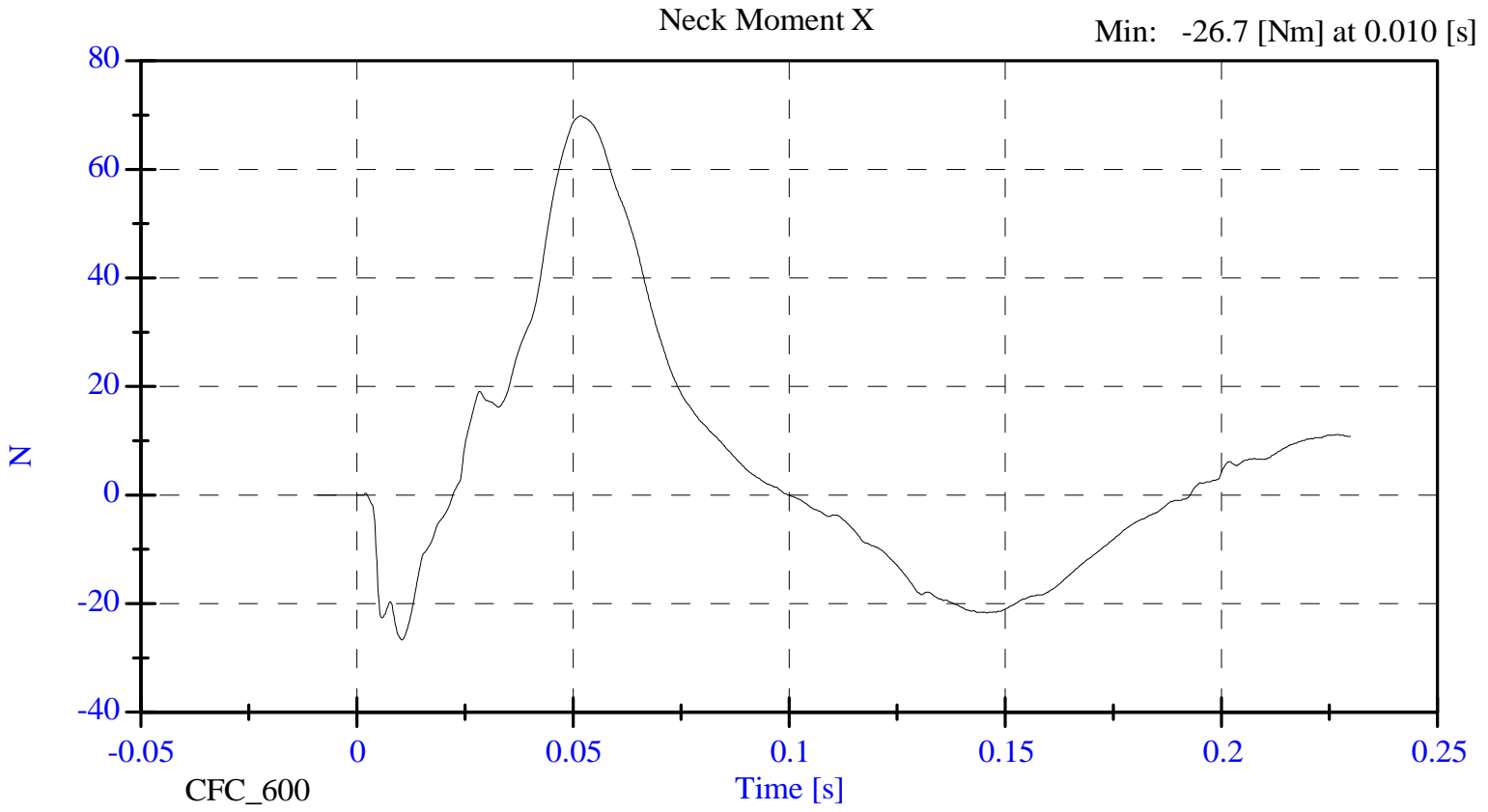


015 - April 2, 2003

Neck Test

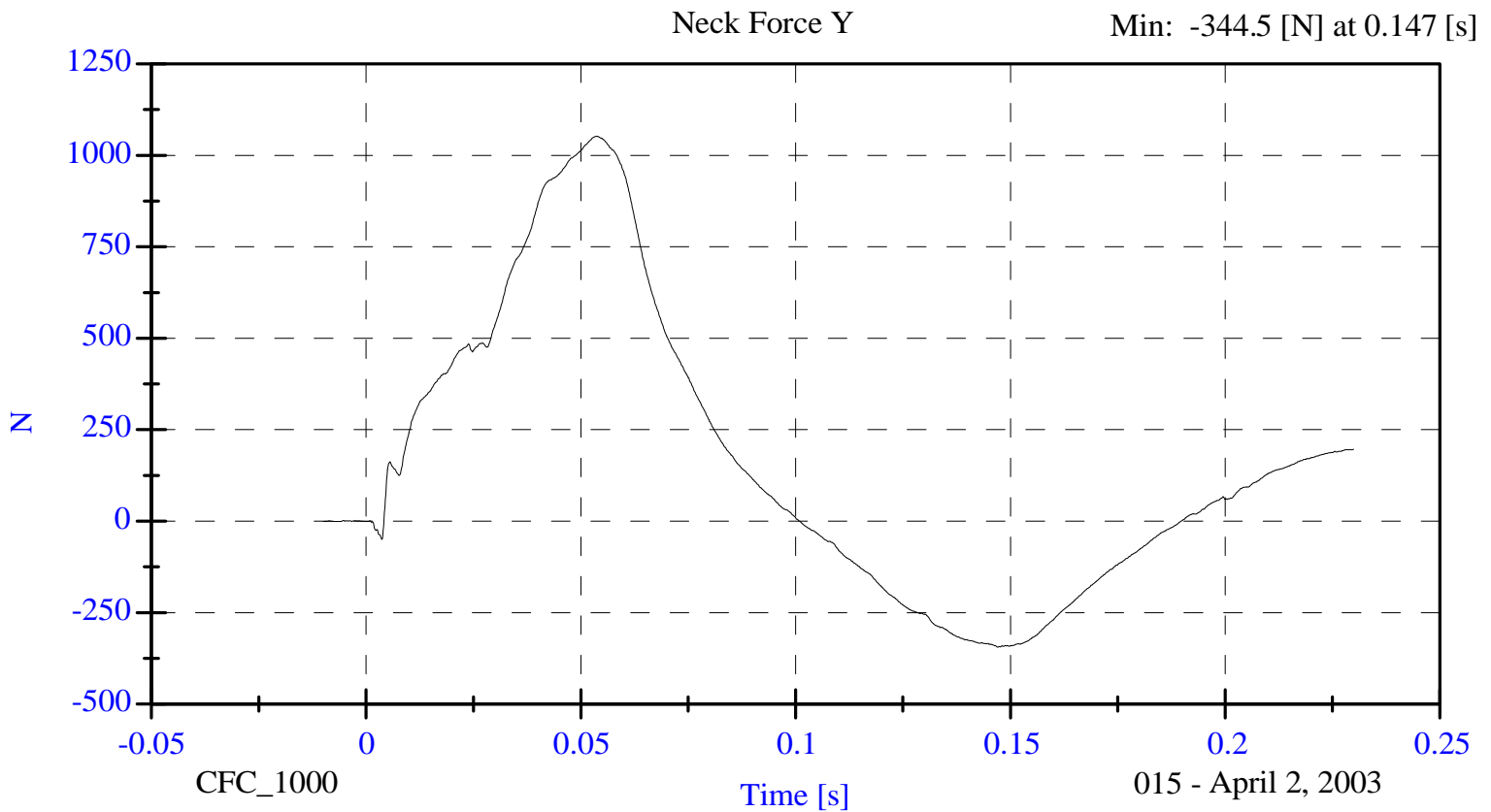
Max: 69.9 [Nm] at 0.052 [s]

Min: -26.7 [Nm] at 0.010 [s]



Max: 1052.2 [N] at 0.054 [s]

Min: -344.5 [N] at 0.147 [s]

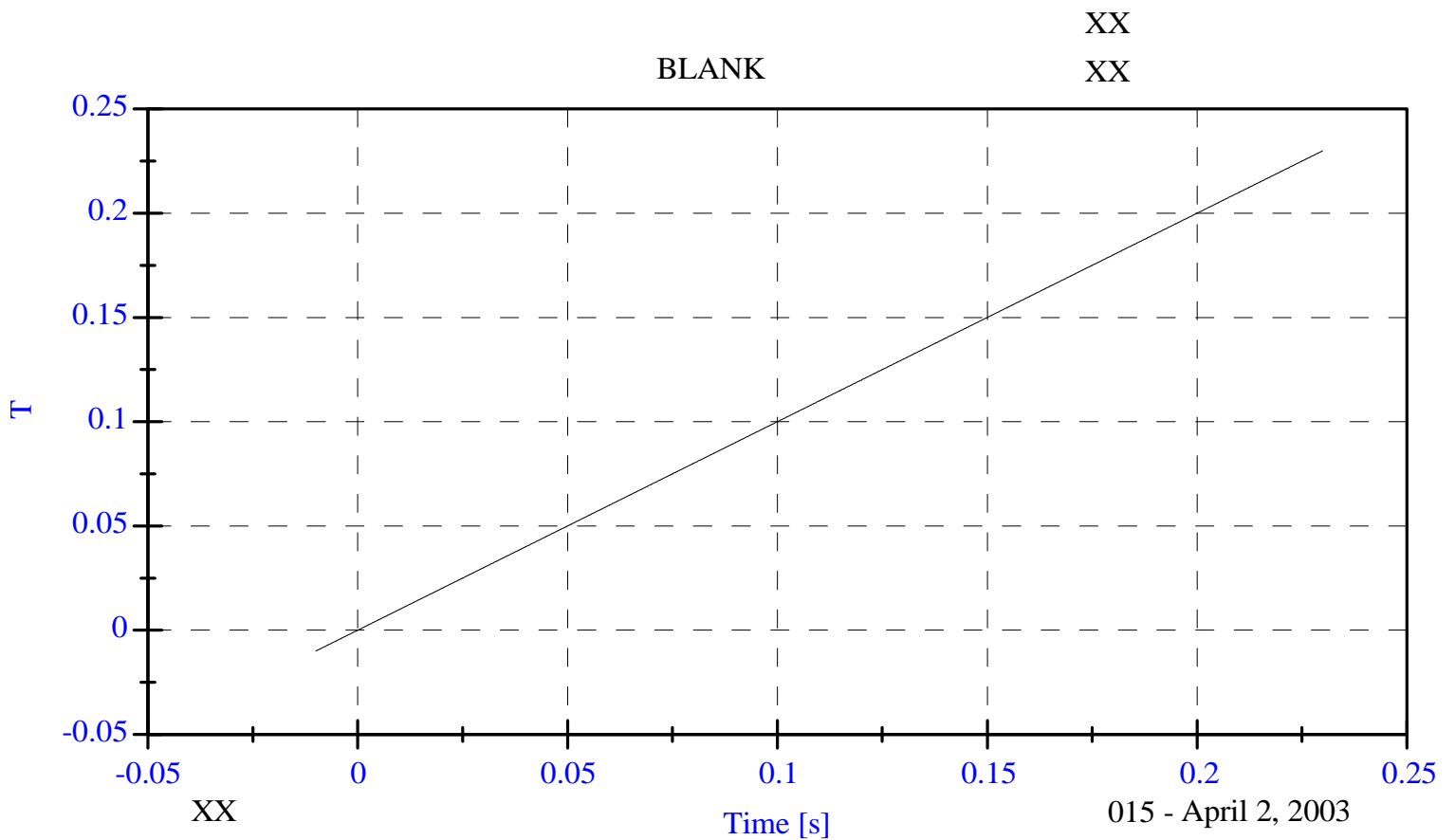
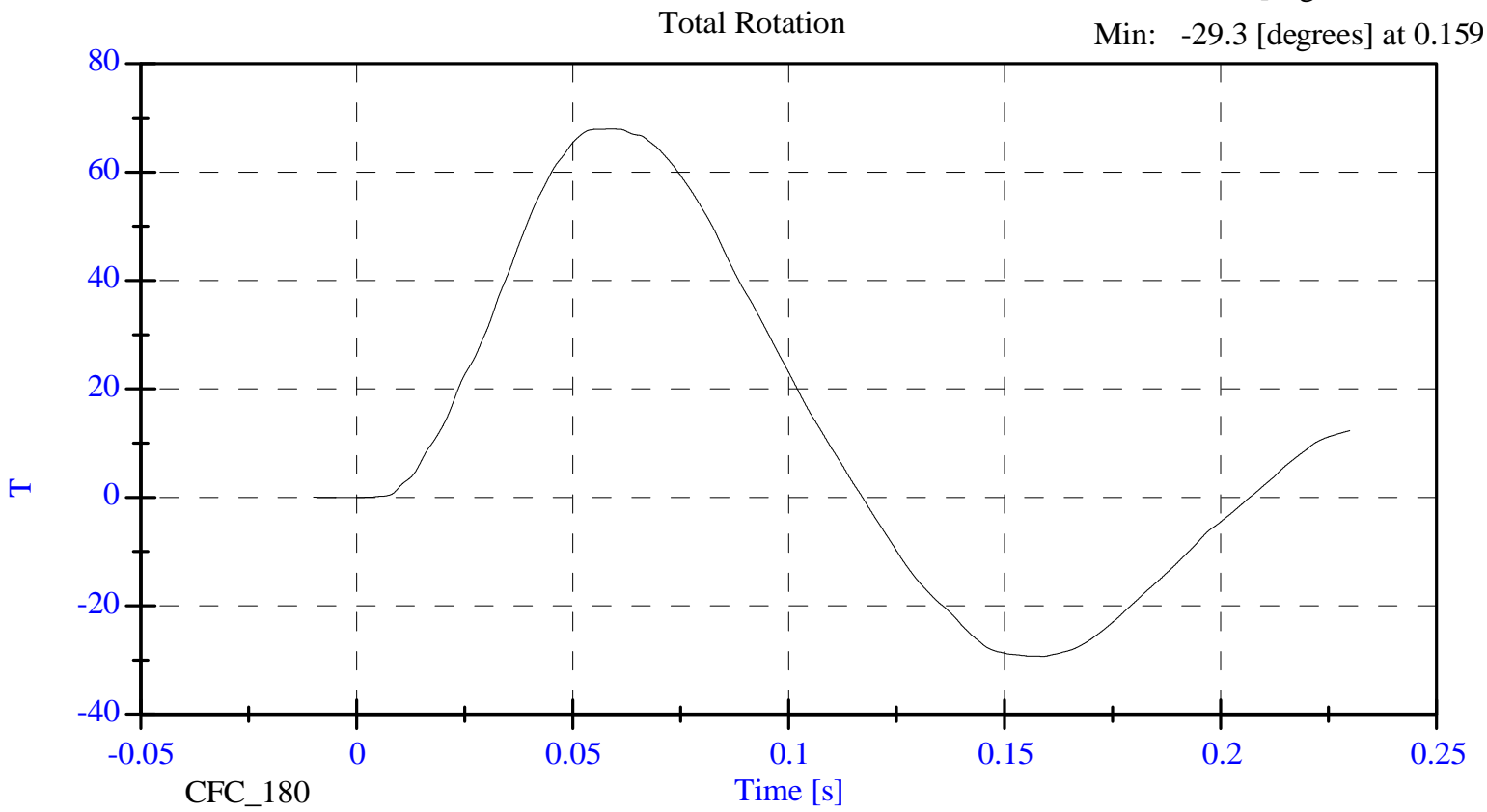


015 - April 2, 2003

Neck Test

Max: 67.9 [degrees] at 0.059

Min: -29.3 [degrees] at 0.159



**ABDOMINAL COMPRESSION TEST
PRE-TEST**

(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 015 Sequential Test Number: 4
Date: April 4, 2003 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	20.7
RELATIVE HUMIDITY (%)	10 - 70	31.00
FORCE @ 13 mm (N)	104 - 162	115.7
FORCE @ 19 mm (N)	163 - 221	177.9
FORCE @ 25 mm (N)	222 - 280	249.1
FORCE @ 33 mm (N)	325 - 391	364.8

REMARKS: None

Dummy S/N 015

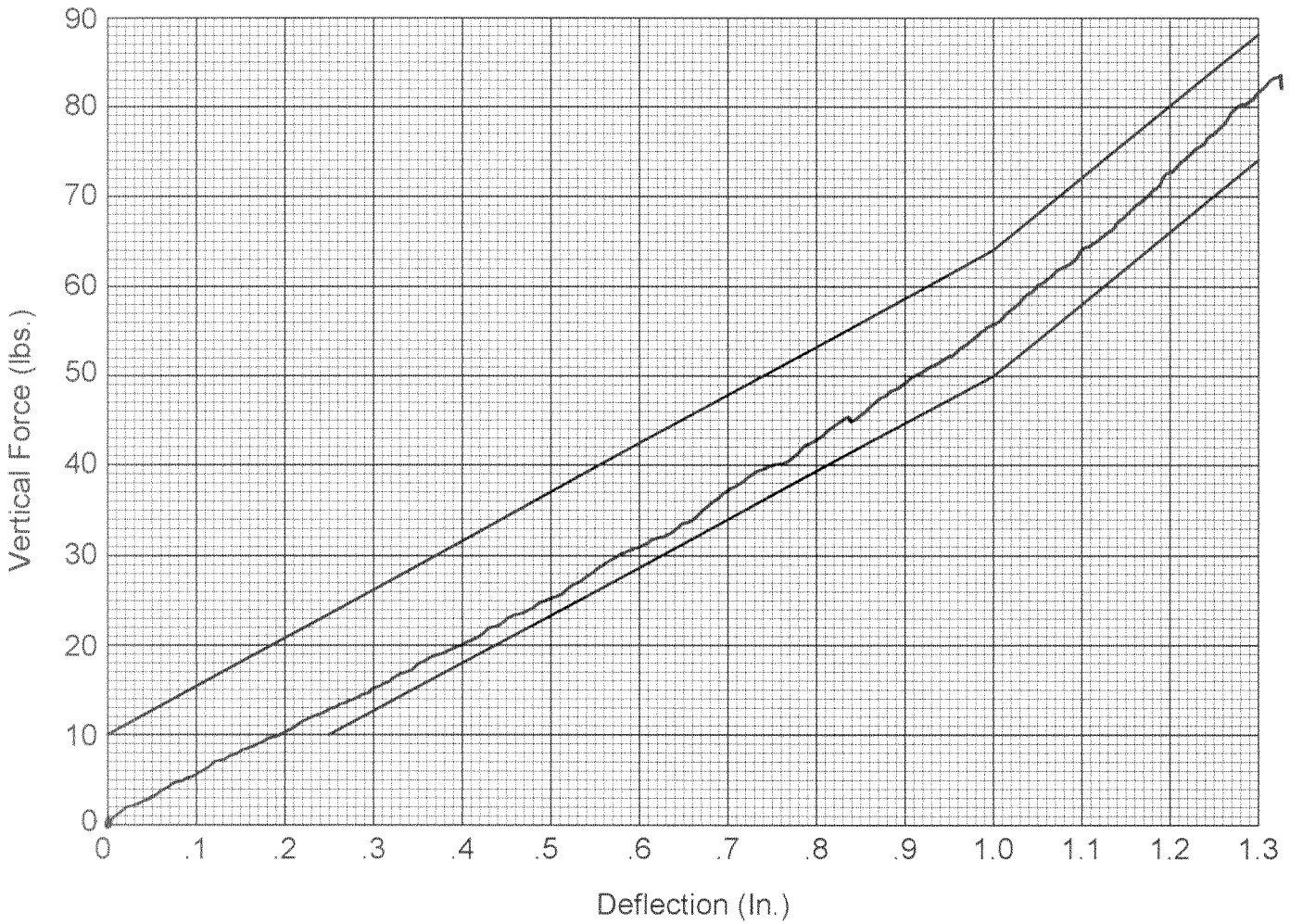
W/A _____

Date 4-4-03

Performed By [Signature]

Temp. 70°

Humidity 31%



Hybrid II
Abdomen Static Press

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

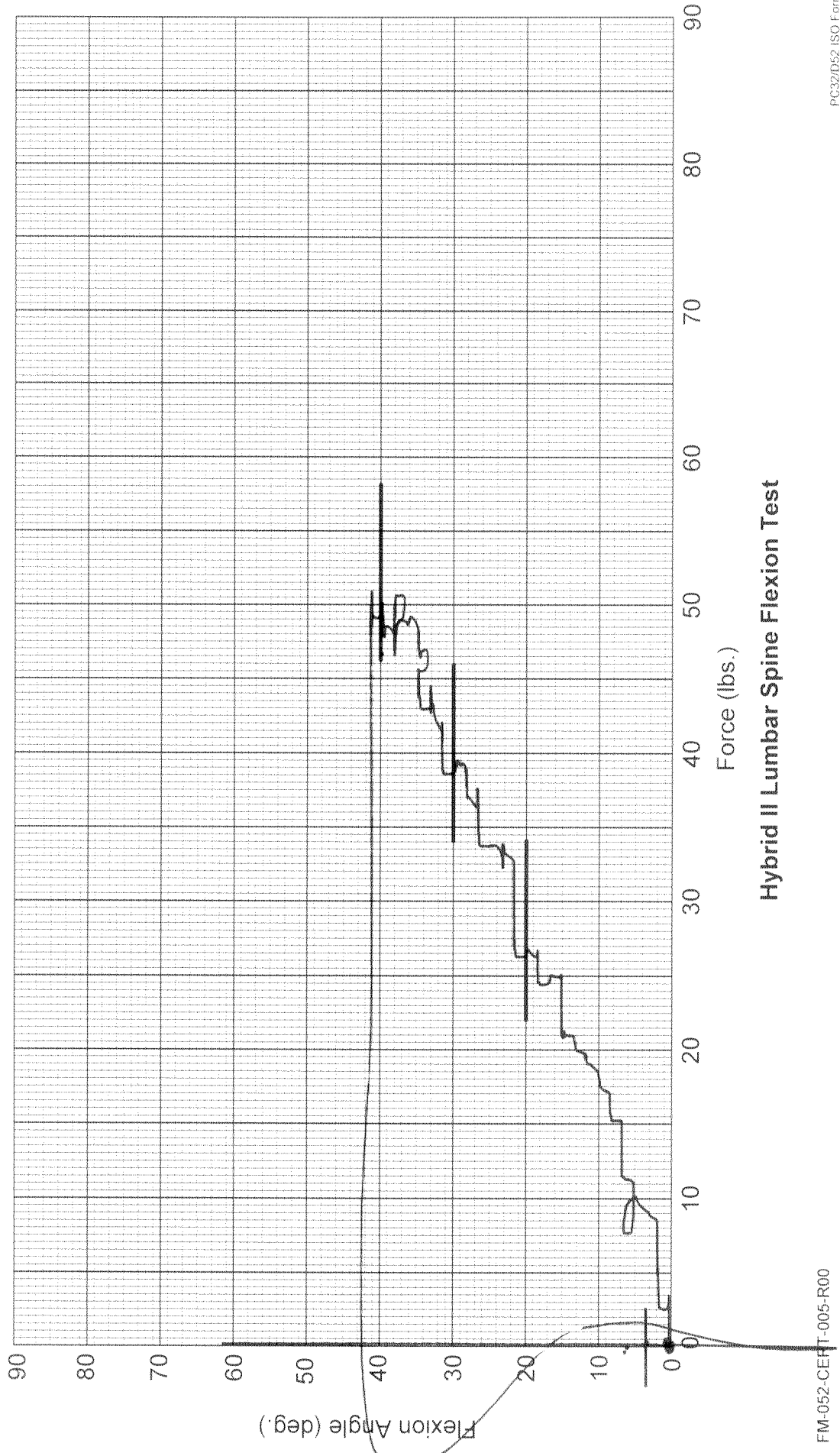
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 015 Sequential Test Number: 4
 Date: April 4, 2003 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	20.7
RELATIVE HUMIDITY (%)	10 - 70	31.0
FORCE @ 0° (N)	0 - 26.7	0.0
FORCE @ 20° (N)	97.8 - 151.2	117.9
FORCE @ 30° (N)	151.2 - 204.6	171.3
FORCE @ 40° (N)	204.6 - 258	219.1
RETURN ANGLE	12° max.	4.5°

REMARKS: None

Dummy S/N 015
 W/A _____
 Date 4-4-03
 Performed By [Signature]
 Temp. 70°
 Humidity 31%



Hybrid II Lumbar Spine Flexion Test

PRE-TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 015 Sequential Test Number: 4
 Date: April 4, 2003 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.: 016

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 016 Sequential Test Number: 4
Date: April 4, 2003 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.: 016 Sequential Test Number: 4
Date: April 4, 2003 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	902
RH- Rib Height (mm)	502 - 520	513
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	239
KH- Knee Pivot from Back Line (mm)	511 - 526	521
KV- Knee Pivot to Floor (mm)	490 - 505	495
HW- Hip Width (mm)	356 - 391	371

REMARKS: None

**THORACIC SHOCK ABSORBER TESTS
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 016 Sequential Test Number: 4
 Date: February 3, 2003 Laboratory Technician: B. Swiecicki

DAMPER IDENTIFICATION: _____

TEST PARAMETER		SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)		18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)		10 - 70	29.00
VELOCITY 3.05 m/s	FORCE (N)	836 - 1125	951.92
	DISPLACEMENT (mm)	30 - 35	34.41
VELOCITY 4.27 m/s	FORCE (N)	1730 - 2099	1877.47
	DISPLACEMENT (mm)	32 - 37	36.94
VELOCITY 6.10 m/s	FORCE (N)	3741 - 4448	4426.58
	DISPLACEMENT (mm)	33 - 40	39.14

DAMPER SETTING: 5

REMARKS: None

016 Shock Low at 3.05 m/s

Low Part 572F Shock Absorber Impact

Calibration Date: 02-03-03

Serial No: 016

Work File: 016SL 2-03-03

-----TEST RESULTS-----

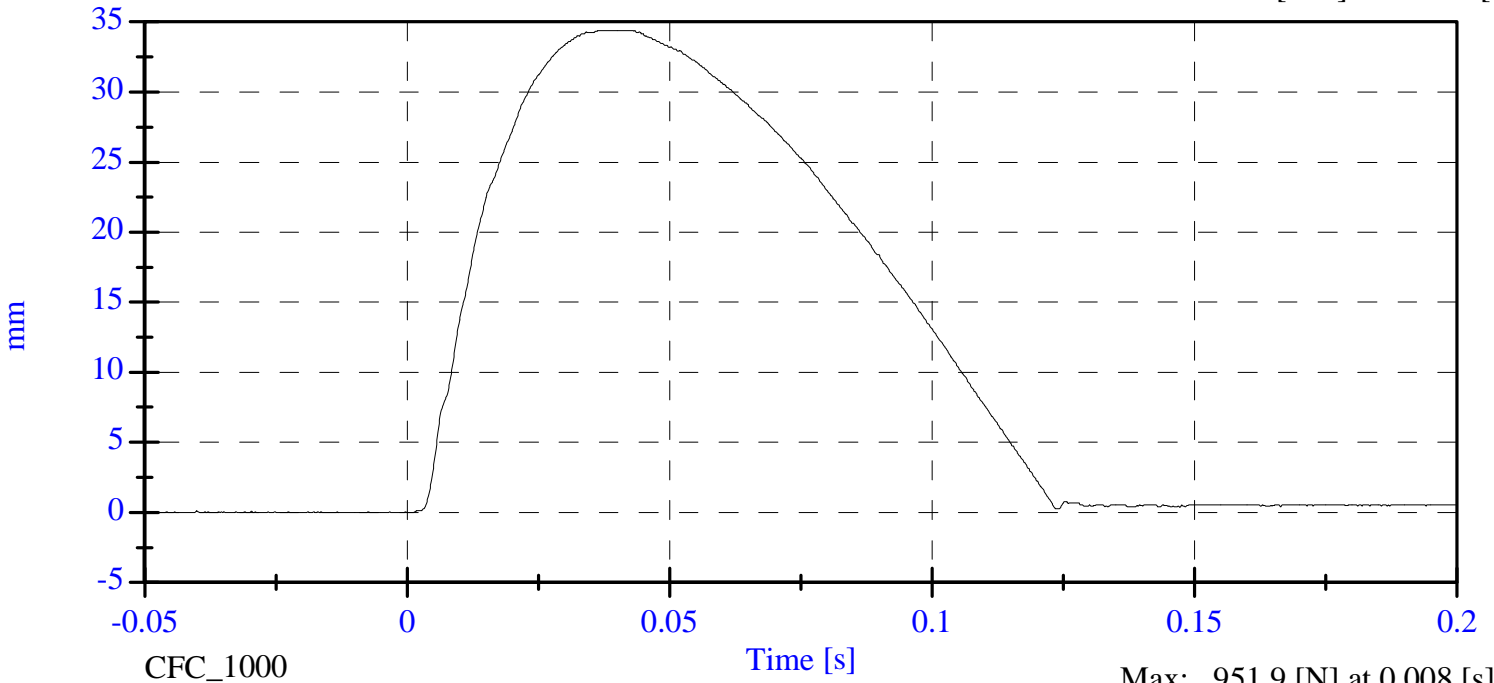
<u>TEST CONDITION</u>	<u>PARAMETERS</u>	<u>RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	29.00 %	Passed
Displacement:	30.00-35.00 mm	34.41 mm	Passed
Maximum Force:	836.00-1125.00 N	951.92 N	Passed

016 Shock Low

Displacement vs. Time

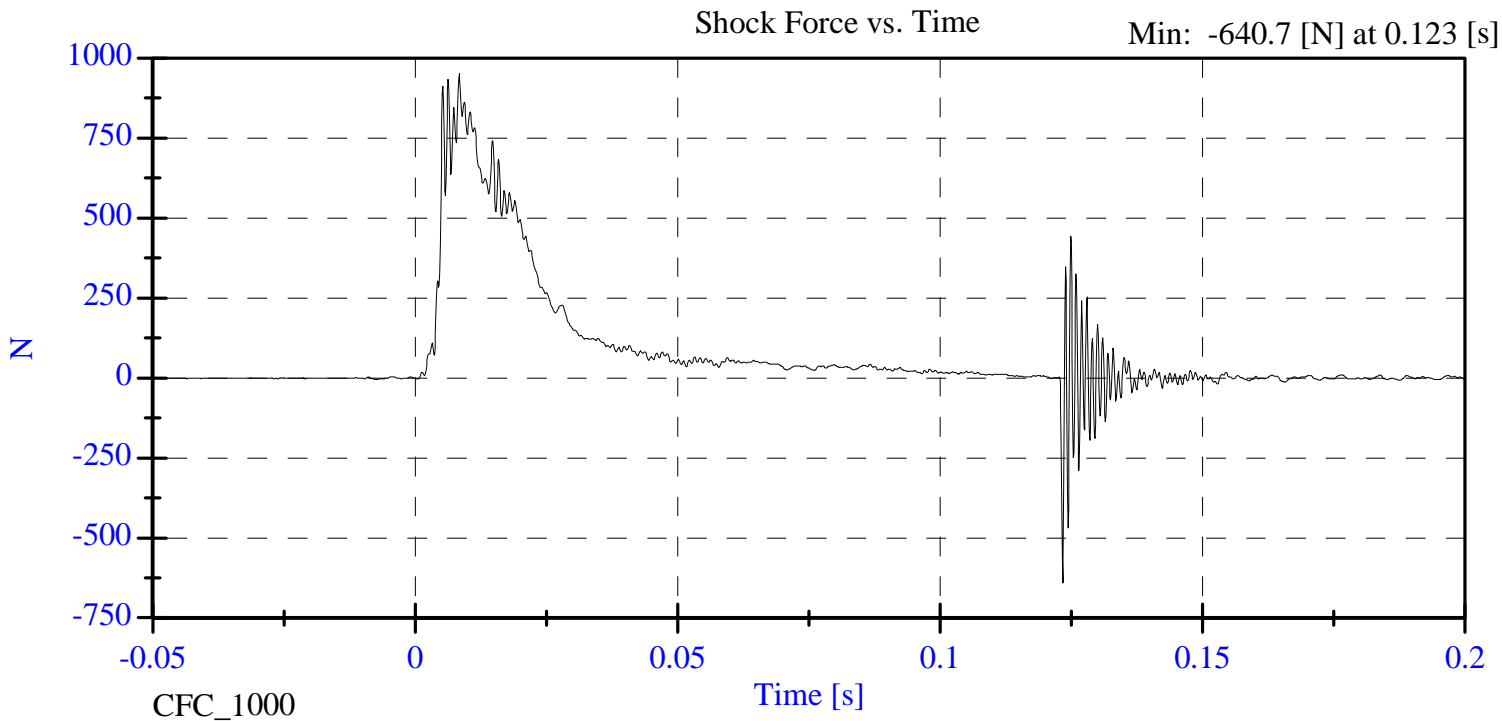
Max: 34.4 [mm] at 0.037 [s]

Min: -0.0 [mm] at -0.029 [s]



Max: 951.9 [N] at 0.008 [s]

Min: -640.7 [N] at 0.123 [s]



016 Shock Medium at 4.27 m/s

Medium Part 572F Shock Absorber Impact

Calibration Date: 02-03-03

Serial No: 016

Work File: 016SM 2-03-03

-----TEST RESULTS-----

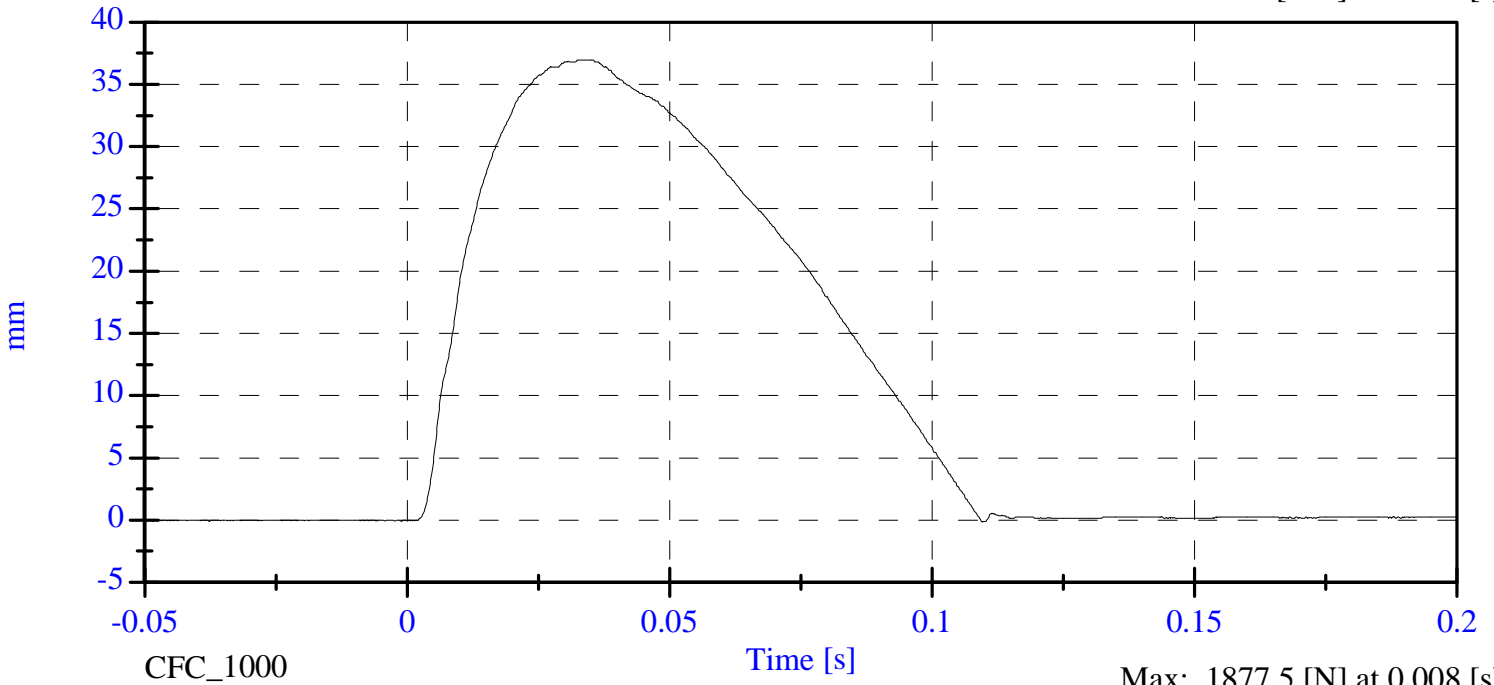
<u>TEST CONDITION</u>	<u>PARAMETERS</u>	<u>RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	29.00 %	Passed
Displacement:	32.00-37.00 mm	36.94 mm	Passed
Maximum Force:	1730.00-2099.00 N	1877.47 N	Passed

016 Shock Medium

Displacement vs. Time

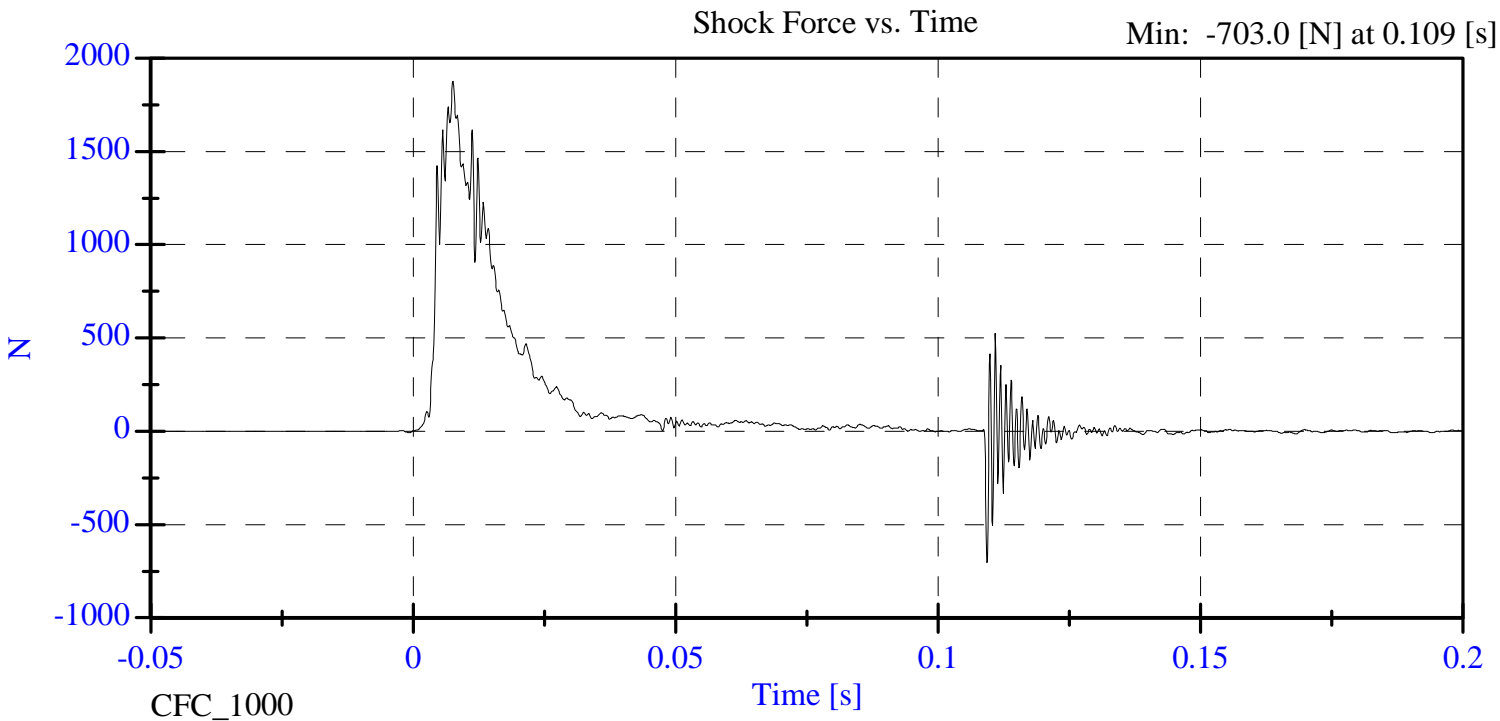
Max: 36.9 [mm] at 0.033 [s]

Min: -0.1 [mm] at 0.110 [s]



Max: 1877.5 [N] at 0.008 [s]

Min: -703.0 [N] at 0.109 [s]



016 Shock High at 6.10 m/s

High Part 572F Shock Absorber Impact

Calibration Date:

02-03-03

Serial No: 016

Work File:

016SH 2-03-03

-----TEST RESULTS-----

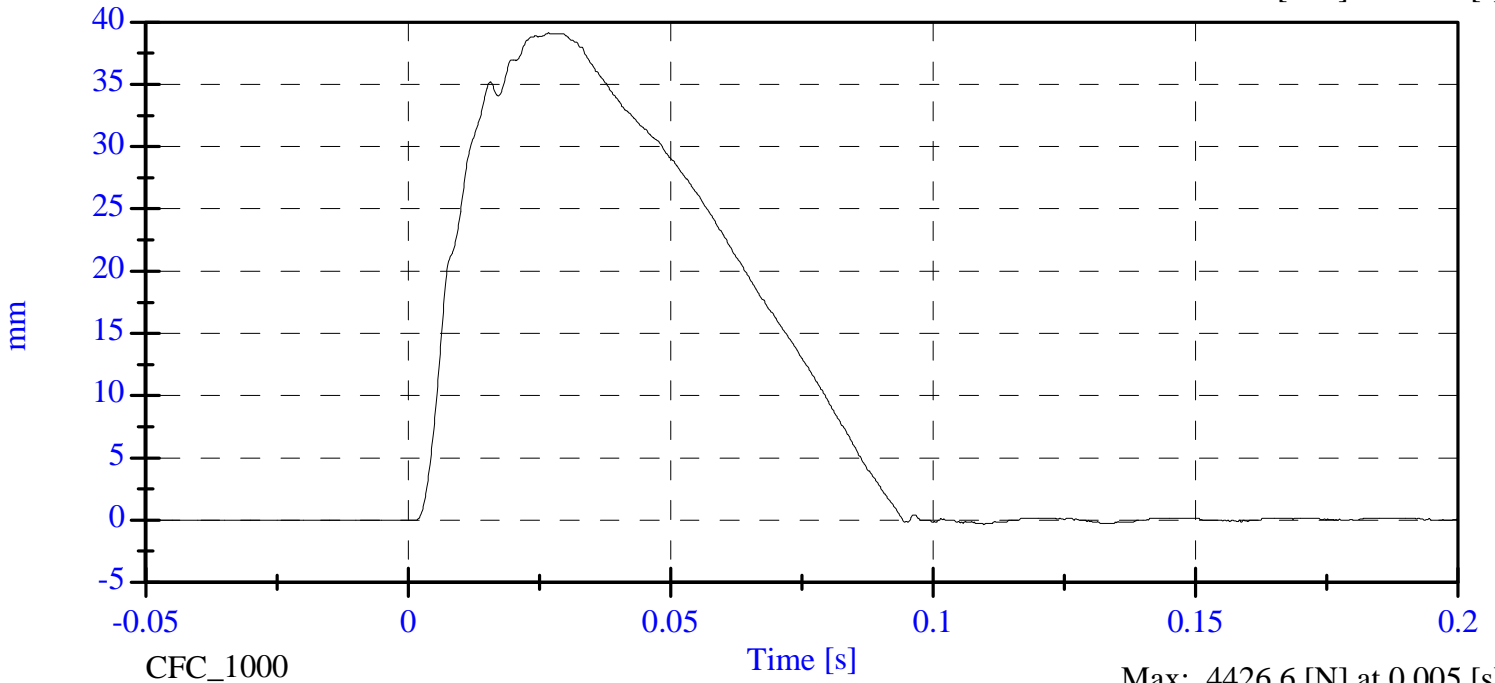
<u>TEST CONDITION</u>	<u>PARAMETERS</u>	<u>RESULTS</u>	<u>STATUS</u>
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	29.00 %	Passed
Displacement:	33.00-40.00 mm	39.14 mm	Passed
Maximum Force:	3741.00-4448.00 N	4426.58 N	Passed

016 Shock High

Displacement vs. Time

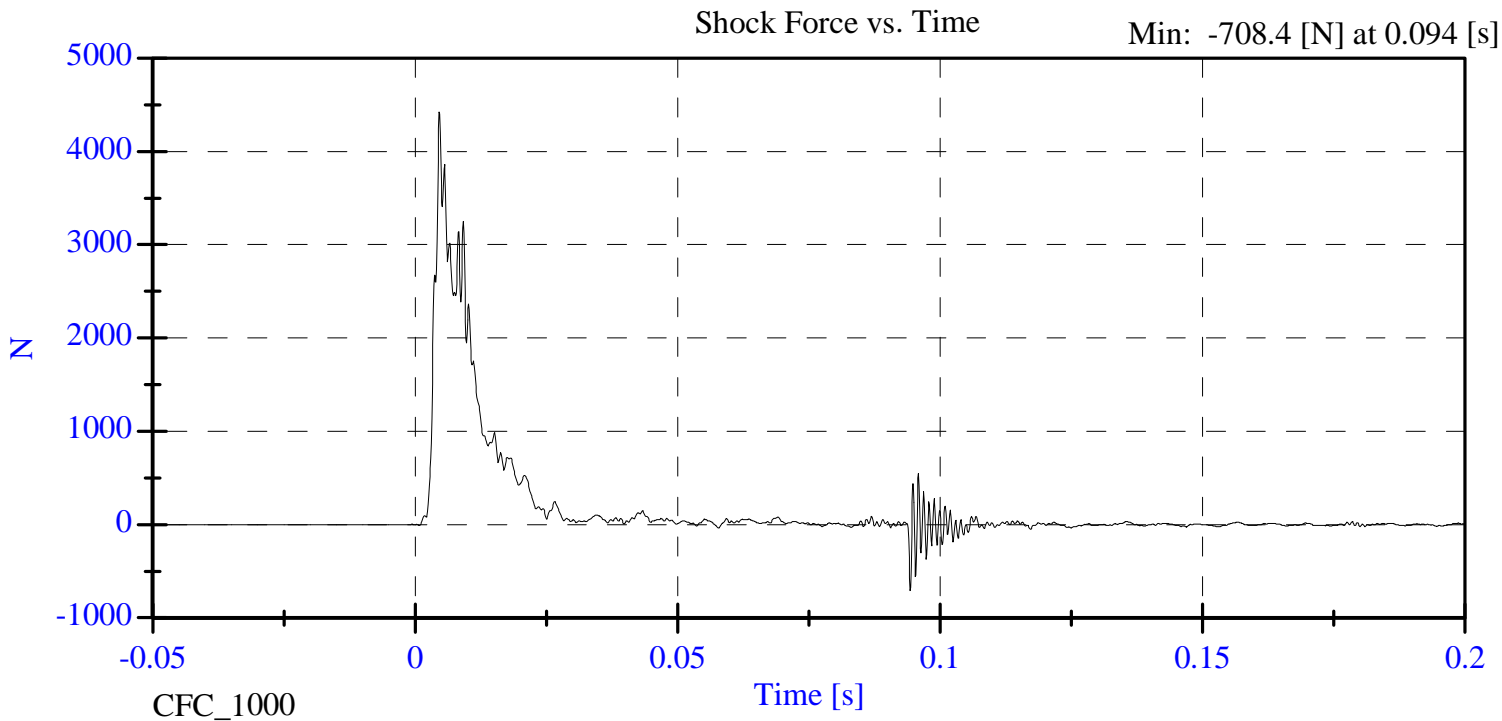
Max: 39.1 [mm] at 0.027 [s]

Min: -0.3 [mm] at 0.110 [s]



Max: 4426.6 [N] at 0.005 [s]

Min: -708.4 [N] at 0.094 [s]



**LATERAL THORAX IMPACT TEST
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 016 Sequential Test Number: 4
Date: April 4, 2003 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	31.00
PROBE SPEED (m/s)	4.27 - 4.33	4.27
UPPER RIB (g's)	37 - 46	42.43
LOWER RIB (g's)	37 - 46	40.05
LOWER SPINE (g's)	15 - 22	20.37

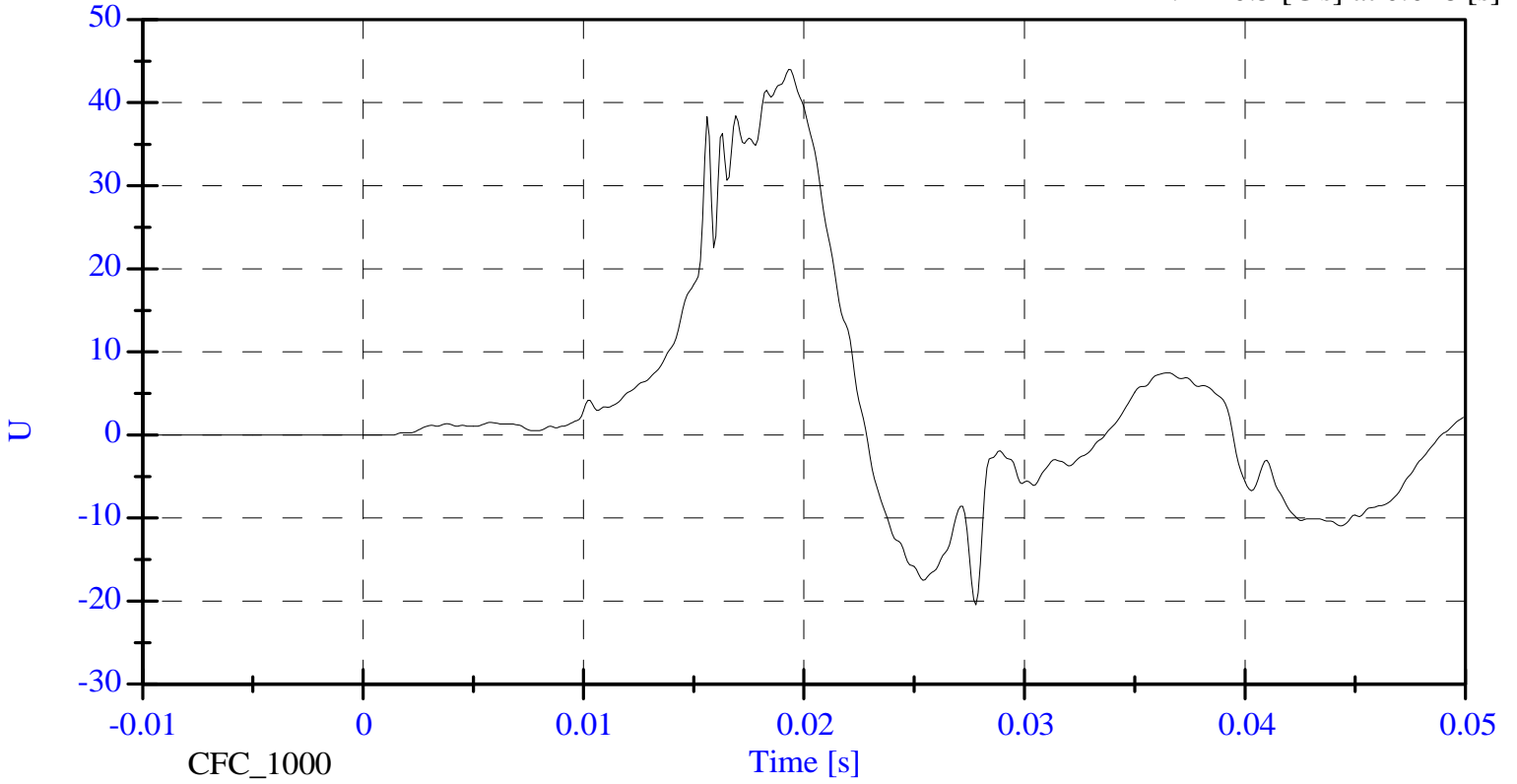
REMARKS: None

Thorax Impact

Max: 44.0 [G's] at 0.019 [s]

Min: -20.5 [G's] at 0.028 [s]

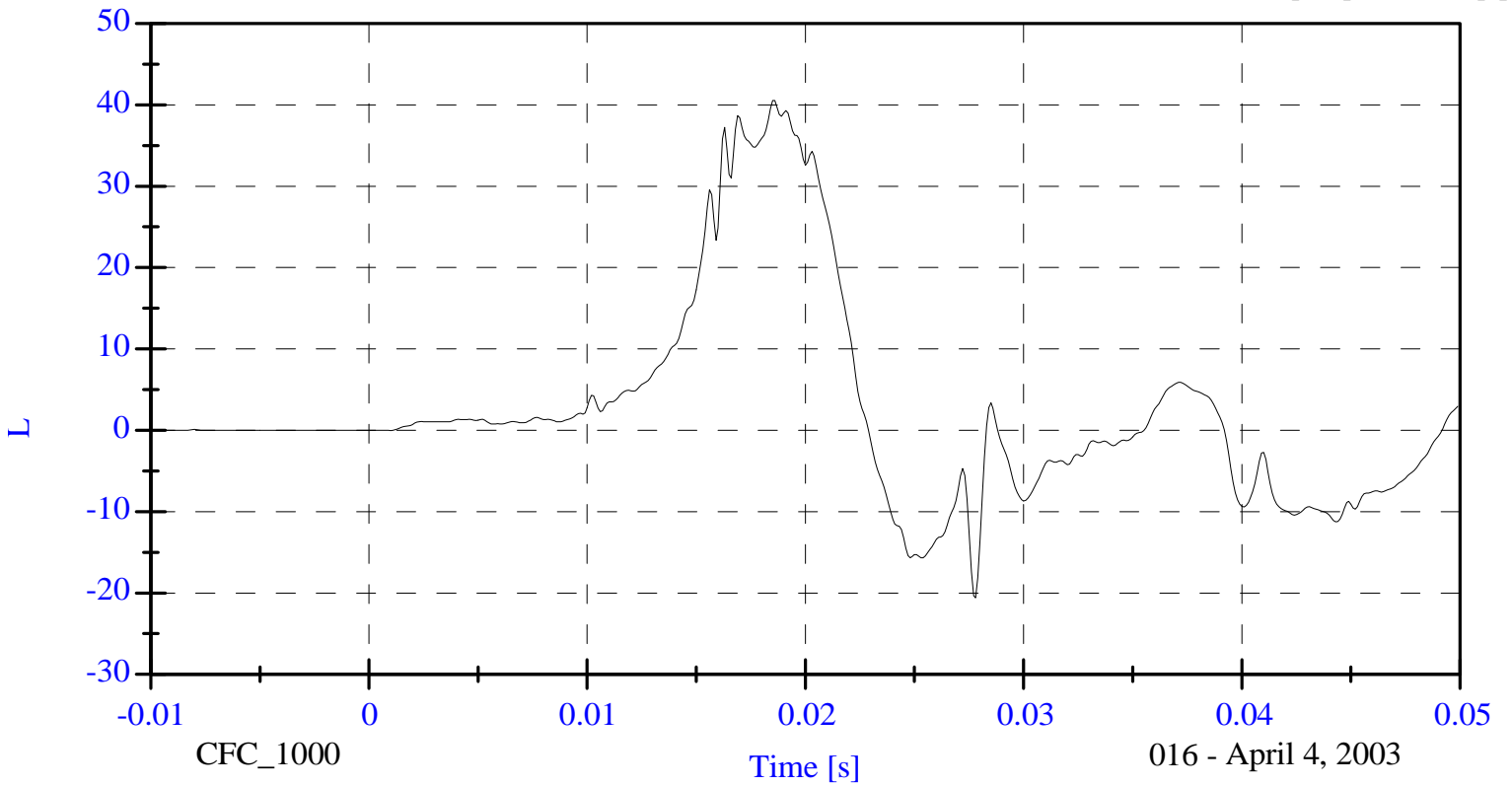
Upper Rib Y Acceleration



Max: 40.6 [G's] at 0.019 [s]

Min: -20.6 [G's] at 0.028 [s]

Lower Rib Y Acceleration

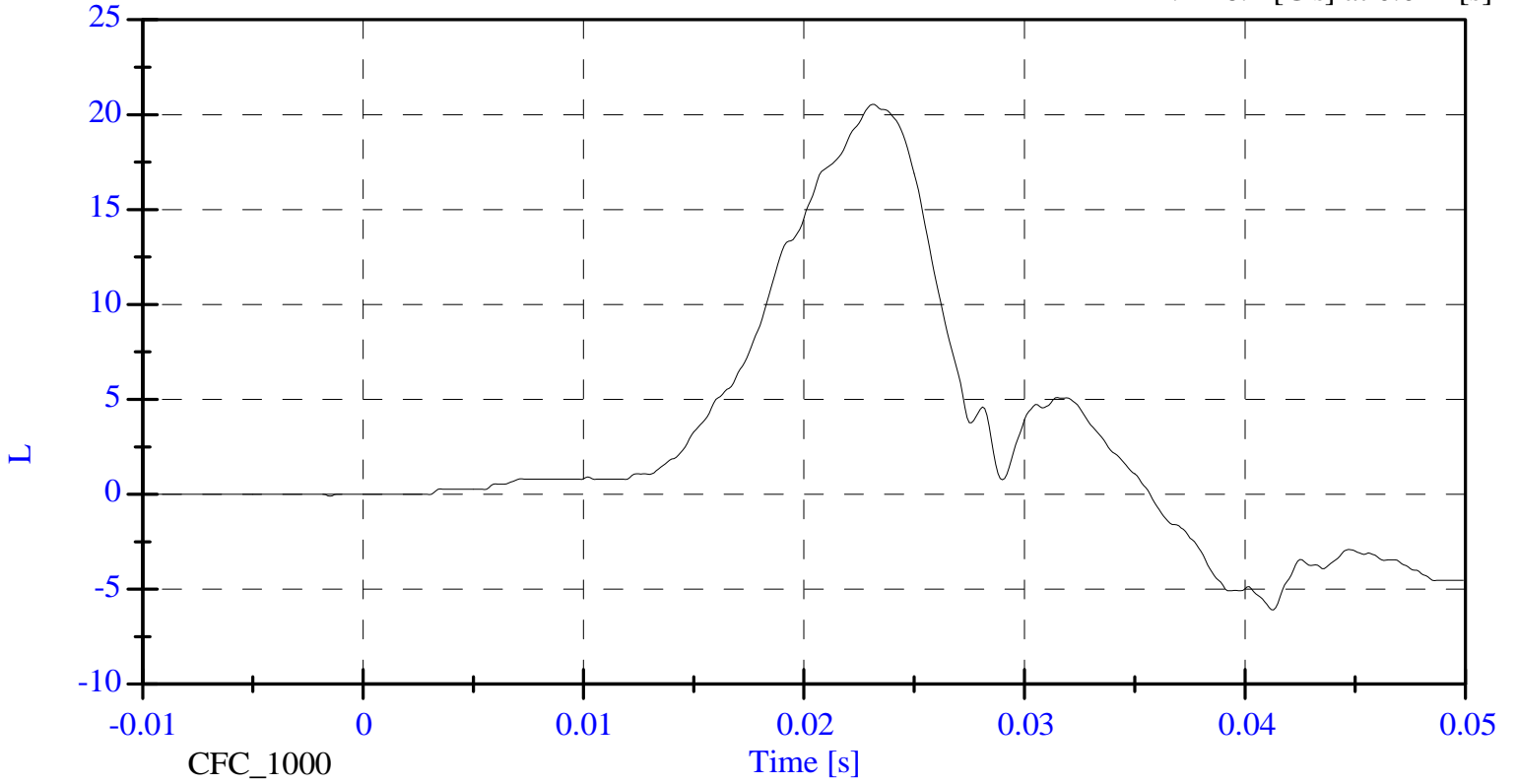


016 - April 4, 2003

Lower Spine Y Acceleration

Max: 20.6 [G's] at 0.023 [s]

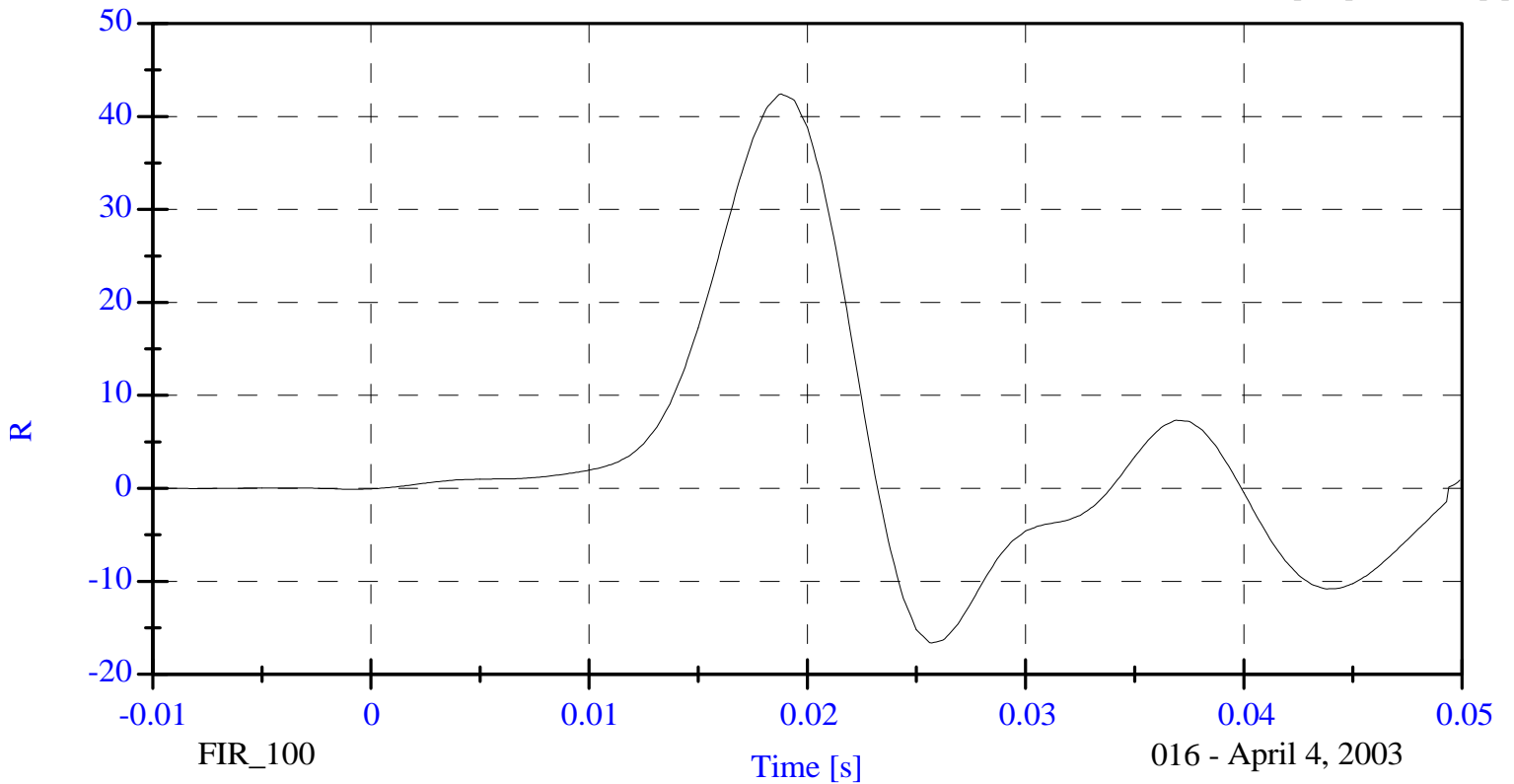
Min: -6.1 [G's] at 0.041 [s]



Upper Rib Y Acceleration

Max: 42.4 [G's] at 0.019 [s]

Min: -16.6 [G's] at 0.026 [s]



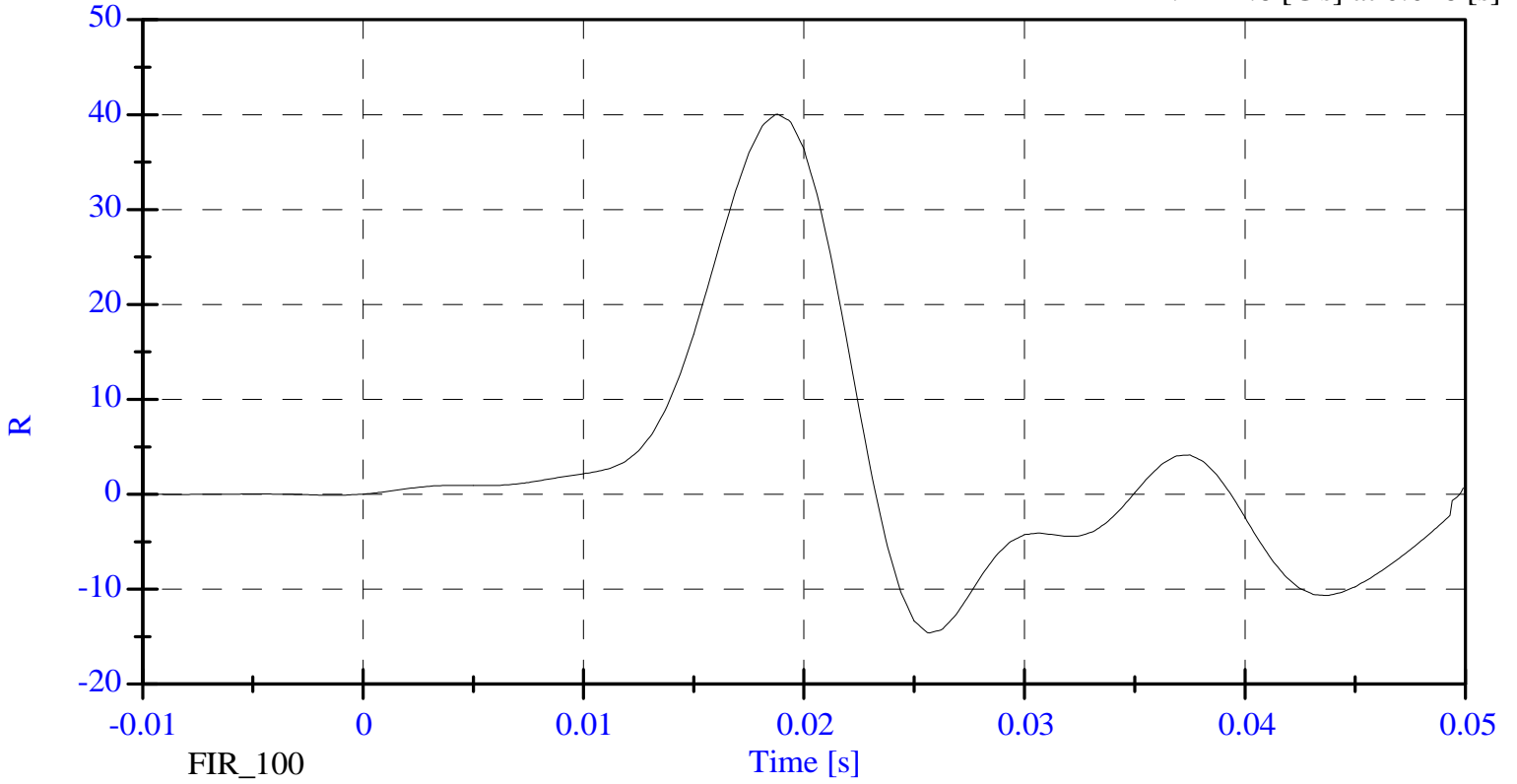
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Thorax Impact

Max: 40.0 [G's] at 0.019 [s]

Min: -14.6 [G's] at 0.026 [s]

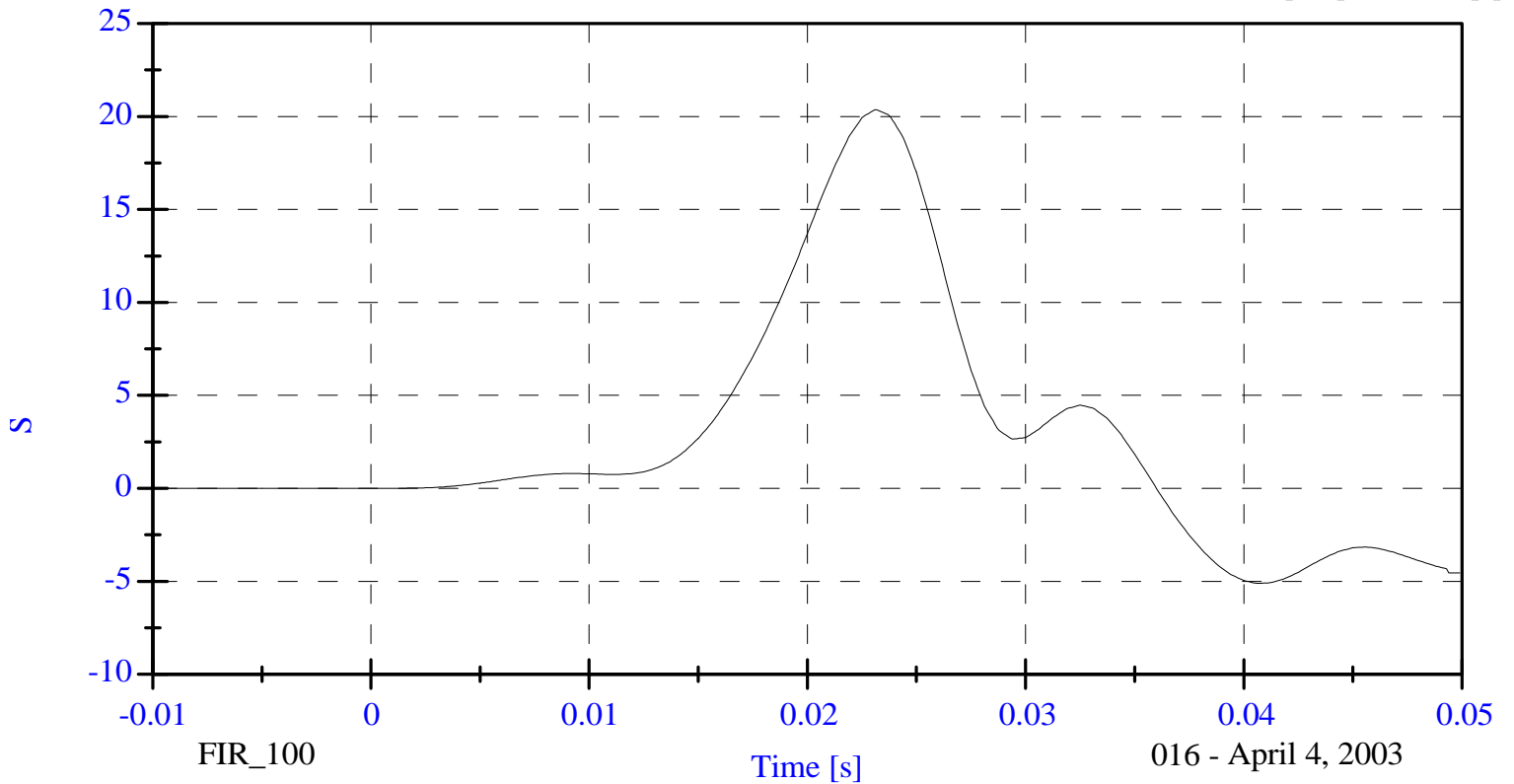
Lower Rib Y Acceleration



Max: 20.4 [G's] at 0.023 [s]

Min: -5.1 [G's] at 0.041 [s]

Lower Spine Y Acceleration



016 - April 4, 2003

**LATERAL PELVIS IMPACT TEST
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 016 Sequential Test Number: 4
Date: April 4, 2003 Laboratory Technician: B. Swiecicki

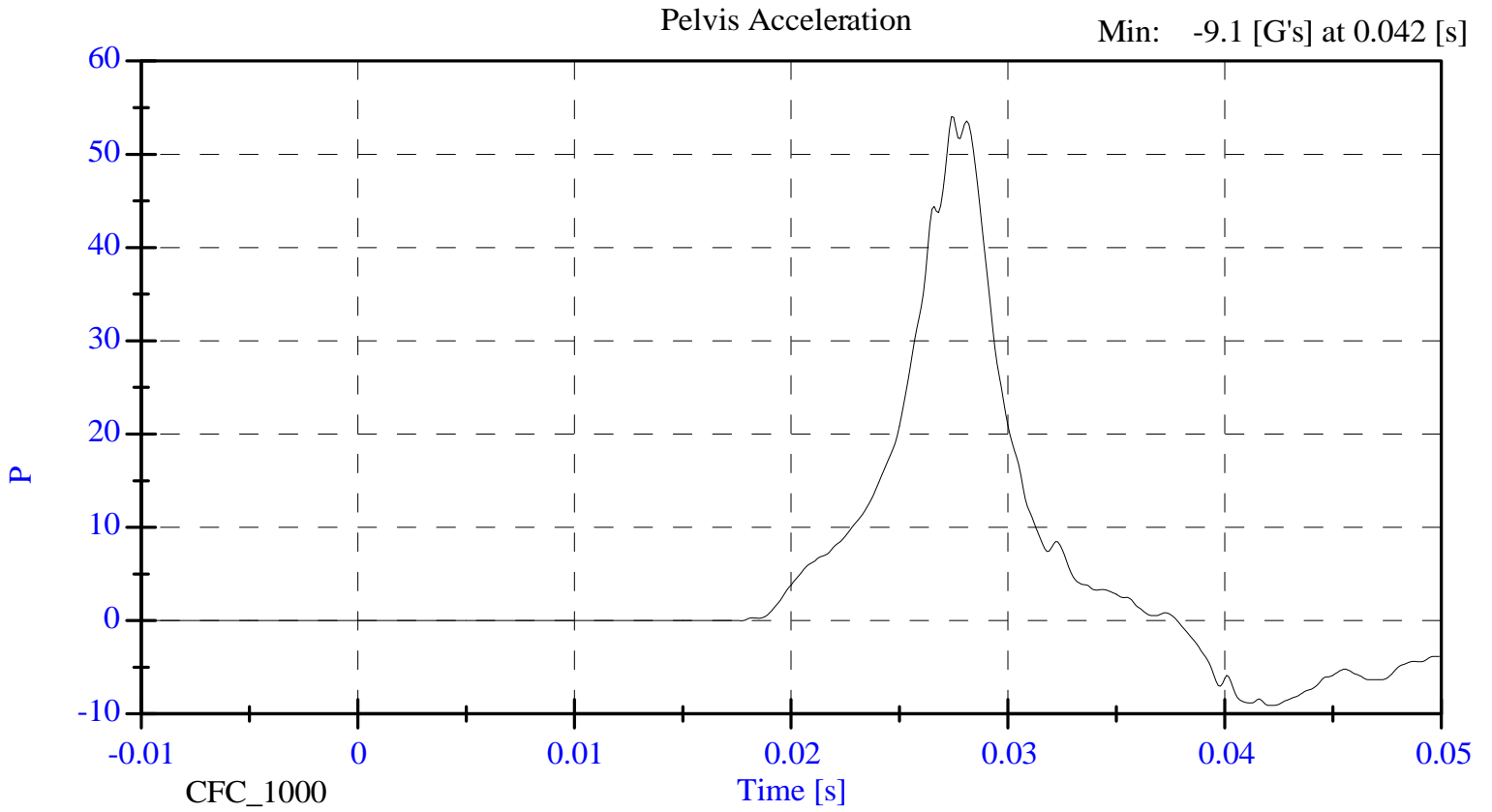
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	34.0
PROBE SPEED (m/s)	4.27 - 4.33	4.27
PELVIS ACCELERATION (g's)	40 - 60	45.33

REMARKS: None

Pelvis Impact

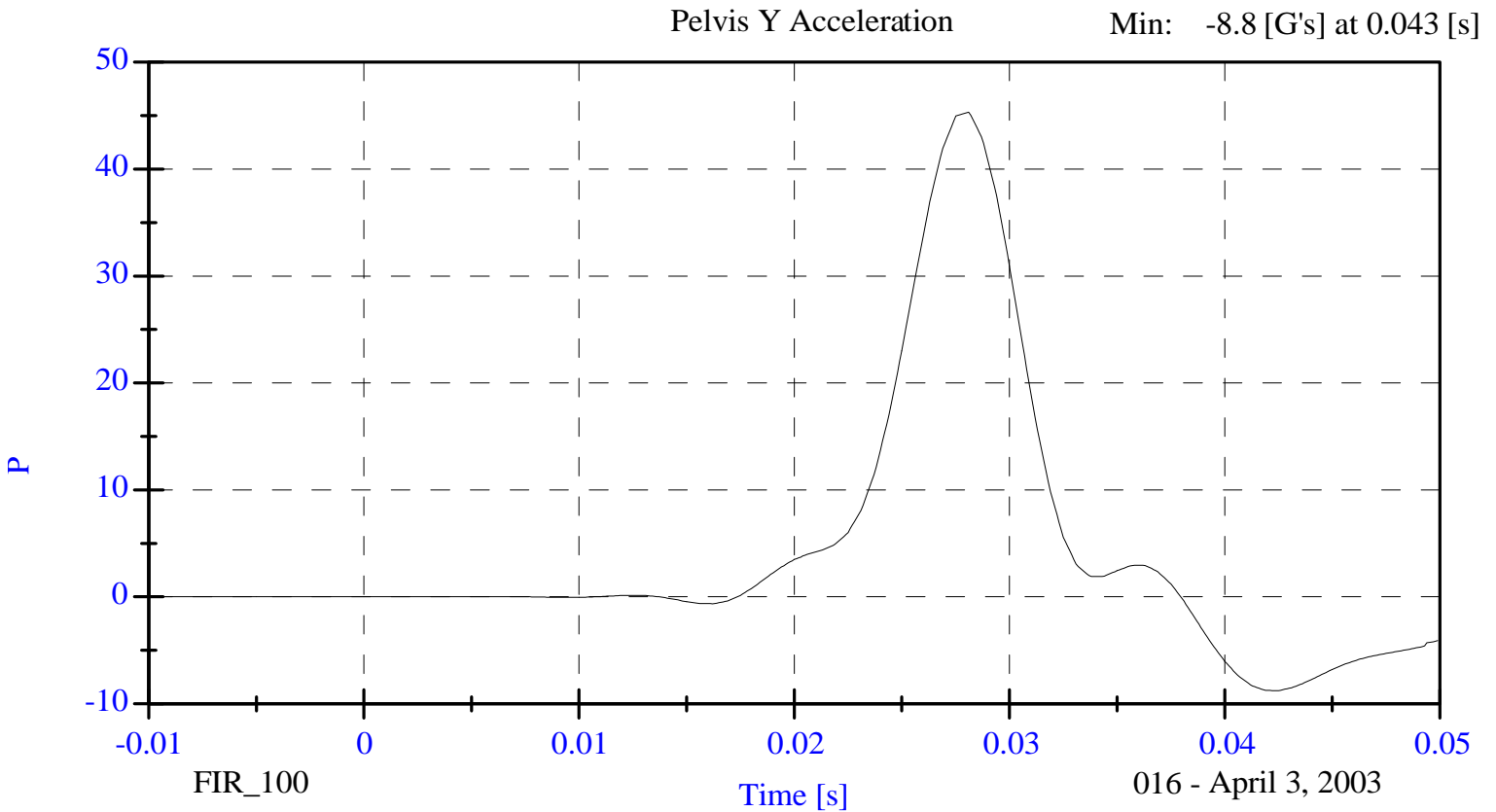
Max: 54.0 [G's] at 0.027 [s]

Min: -9.1 [G's] at 0.042 [s]



Max: 45.3 [G's] at 0.028 [s]

Min: -8.8 [G's] at 0.043 [s]



**HEAD DROP TEST
PRE-TEST**
(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 016 Sequential Test Number: 4
Date: April 9, 2003 Laboratory Technician: B. Swiecicki

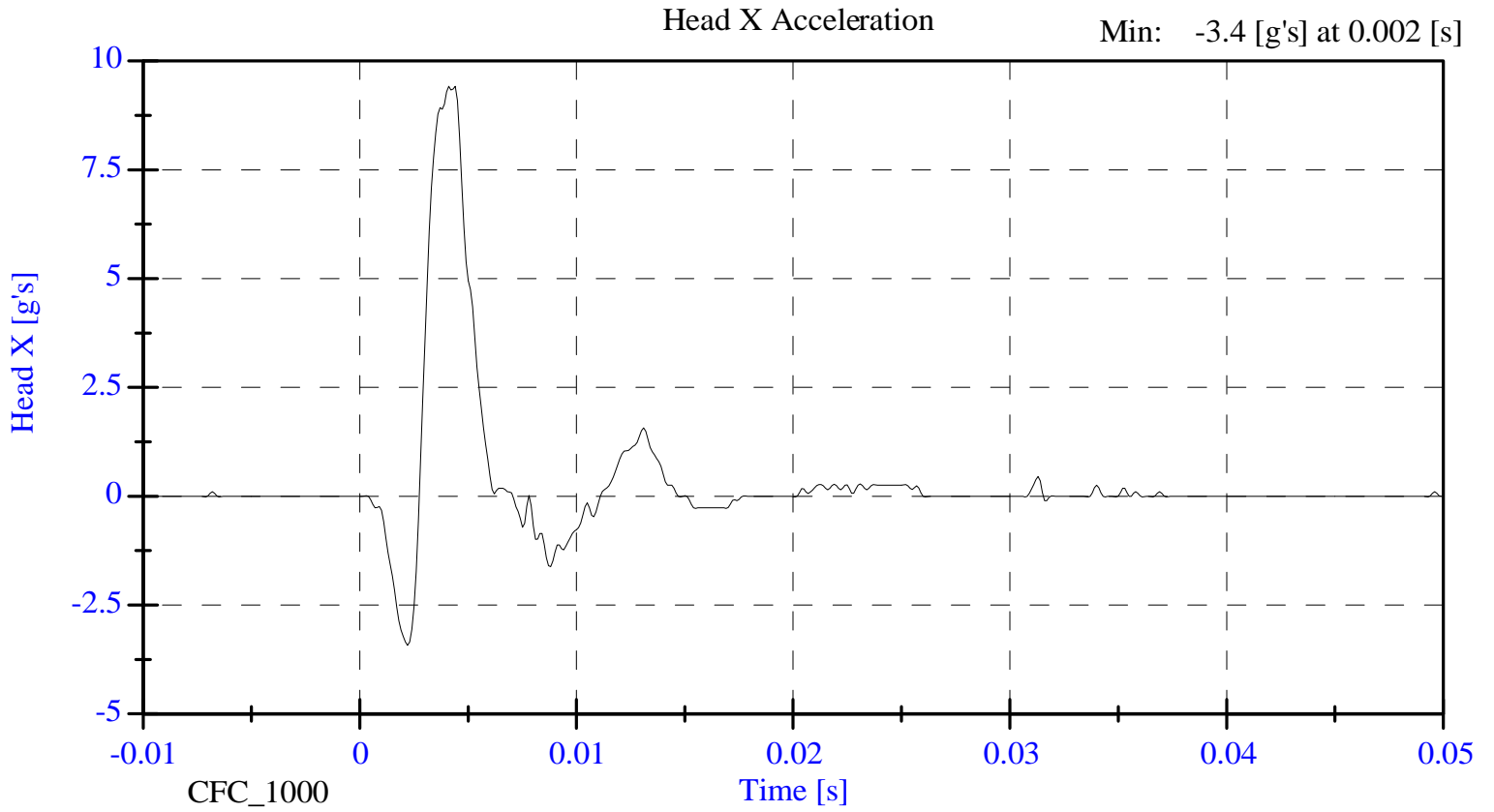
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	20.6 – 22.2	21.7
RELATIVE HUMIDITY (%)	10 – 70	34.00
PEAK RESULTANT ACCELERATION (Gs)	120 – 150	138.7
PEAK LATERAL ACCELERATION (Gs)	Not to Exceed 15	9.42
CURVE PERCENT NONMODAL (%)	< 15	2.25

REMARKS: None

261 Head Drop

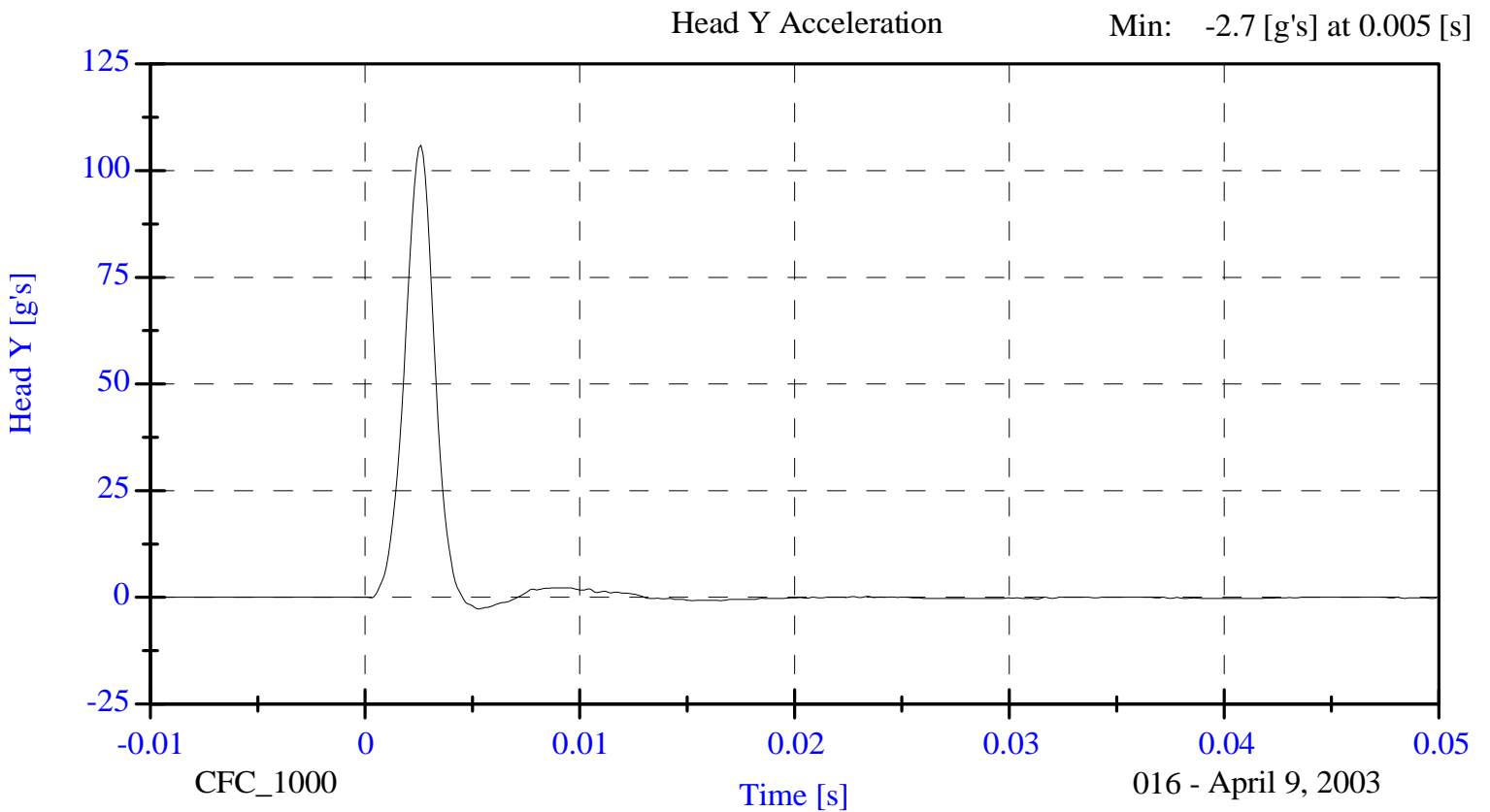
Max: 9.4 [g's] at 0.004 [s]

Min: -3.4 [g's] at 0.002 [s]



Max: 105.9 [g's] at 0.003 [s]

Min: -2.7 [g's] at 0.005 [s]



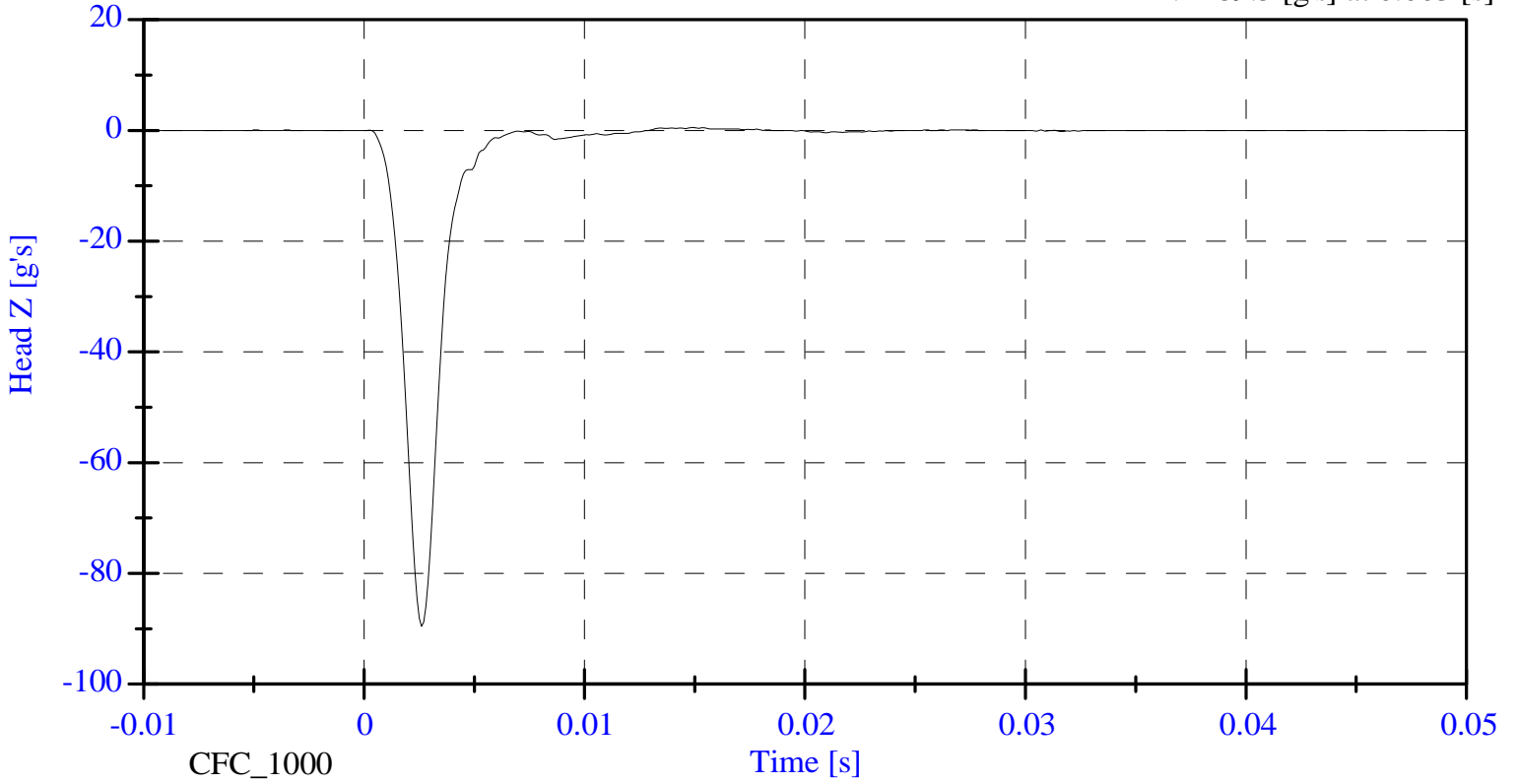
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261 Head Drop

Head Z Acceleration

Max: 0.5 [g's] at 0.015 [s]

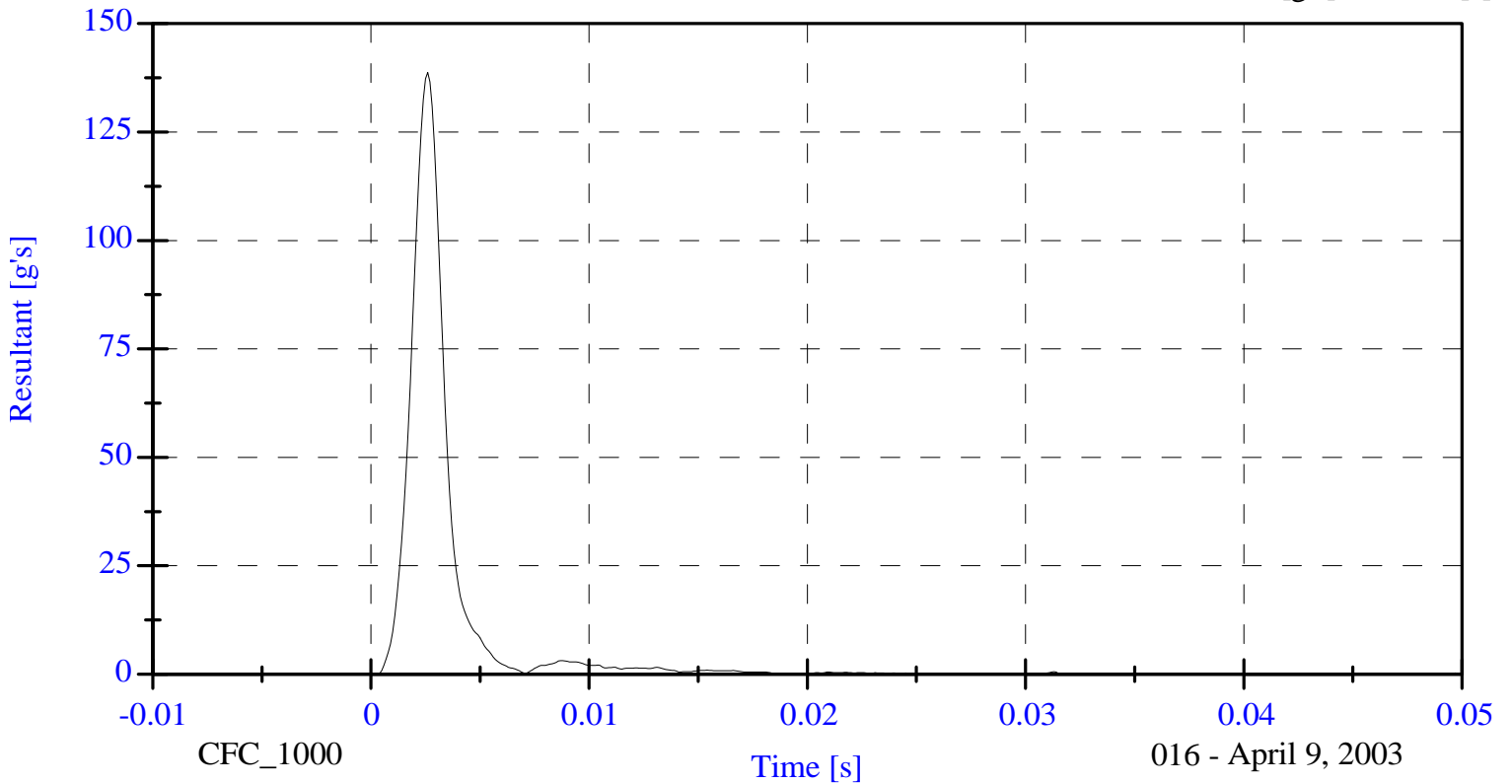
Min: -89.5 [g's] at 0.003 [s]



Head Resultant

Max: 138.7 [g's] at 0.003 [s]

Min: 0.0 [g's] at 0.033 [s]



016 - April 9, 2003

**LATERAL NECK BENDING TEST
PRE-TEST**
(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 016 Sequential Test Number: 4
Date: April 2 2003 Laboratory Technician: B. Swiecicki

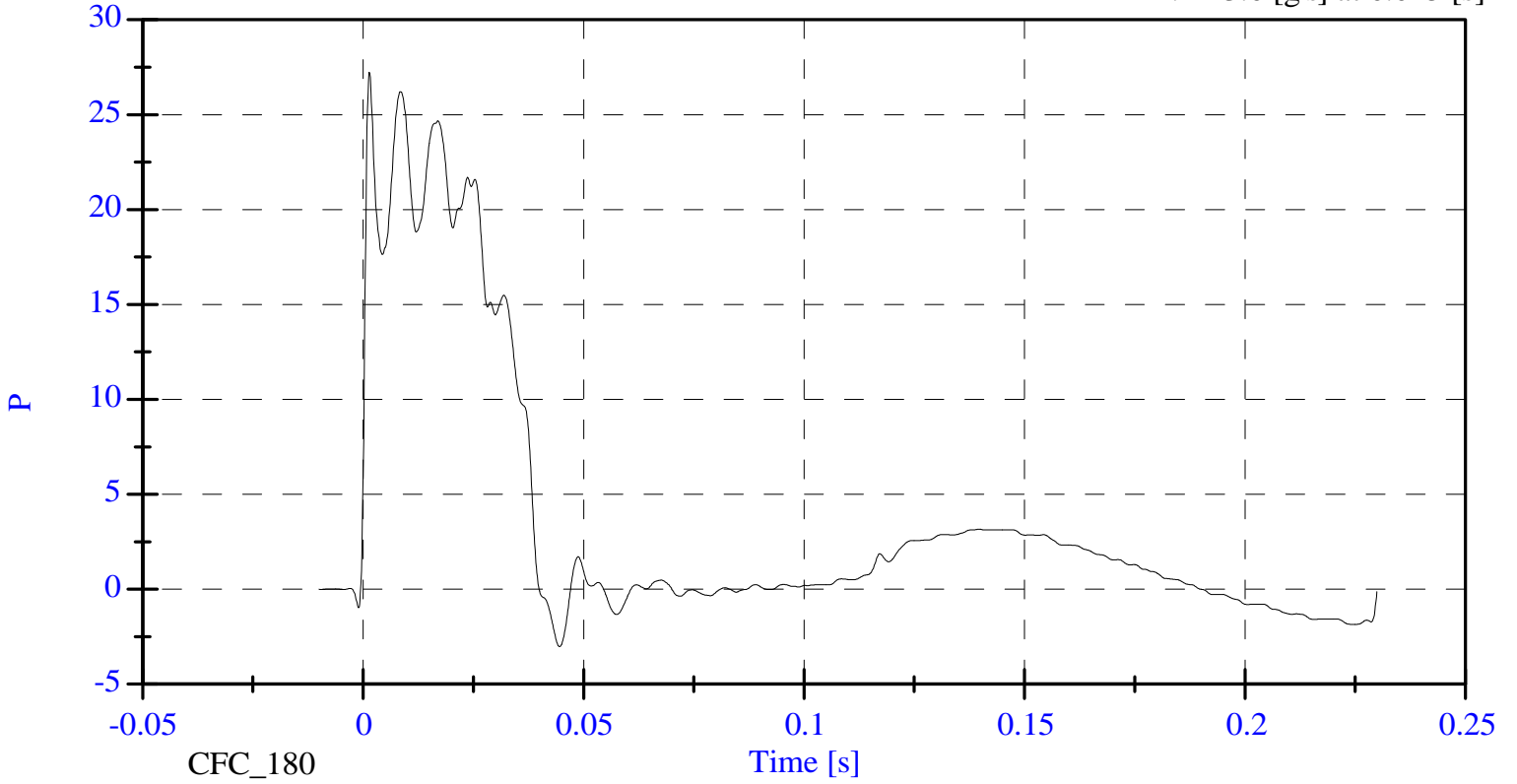
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	20.6 - 22.2	20.7
RELATIVE HUMIDITY (%)	10 - 70	34.00
IMPACT VELOCITY (m/s)	6.89 – 7.13	7.01
PENDULUM DELTA V		
DELTA V @ 10 ms (m/s)	1.96 – 2.55	2.15
DELTA V @ 20 ms (m/s)	4.12 – 5.10	4.29
DELTA V @ 30 ms (m/s)	5.73 – 7.01	6.15
DELTA V @ 40-70 ms (m/s)	6.27 – 7.64	7.20
D PLANE ROTATION		
MAXIMUM ROTATION (deg)	64 – 78	69.48
ROT. ANGLE TIME to ZERO (ms)	50 – 70	57.60
MOMENT ABOUT THE OCCIPITAL CONDYLE		
MAX OCCIPITAL MOMENT (Nm)	88 – 108	88.49
OCCIPITAL MOMENT DECAY (ms)	40.0 – 60.0	47.50
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT		
ROTATION wrt MOMENT (ms)	0 – 20	7.90

REMARKS: None

Max: 27.2 [g's] at 0.001 [s]

Min: -3.0 [g's] at 0.045 [s]

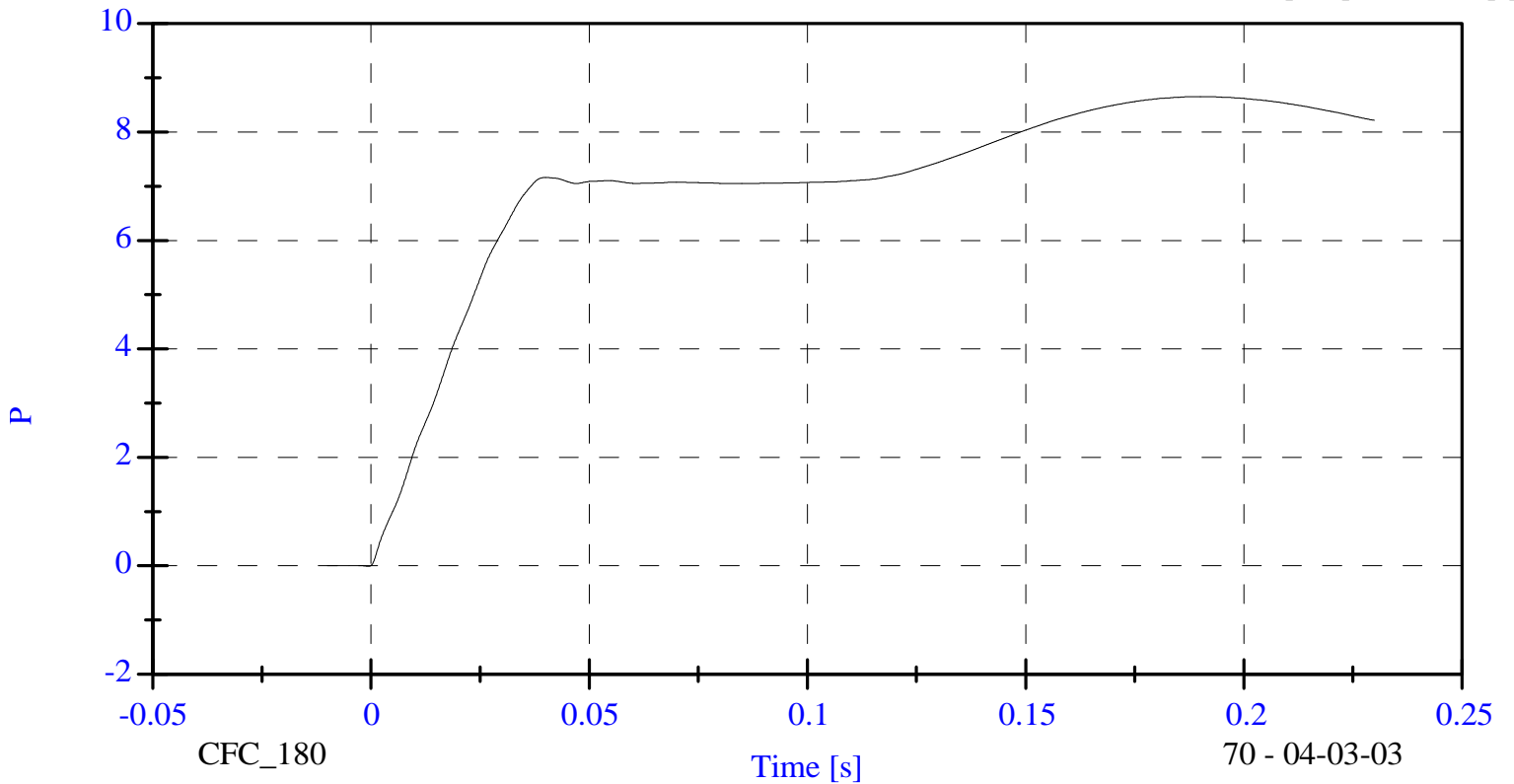
Pendulum Acceleration



Max: 8.7 [m/s] at 0.190 [s]

Min: -0.0 [m/s] at -0.001 [s]

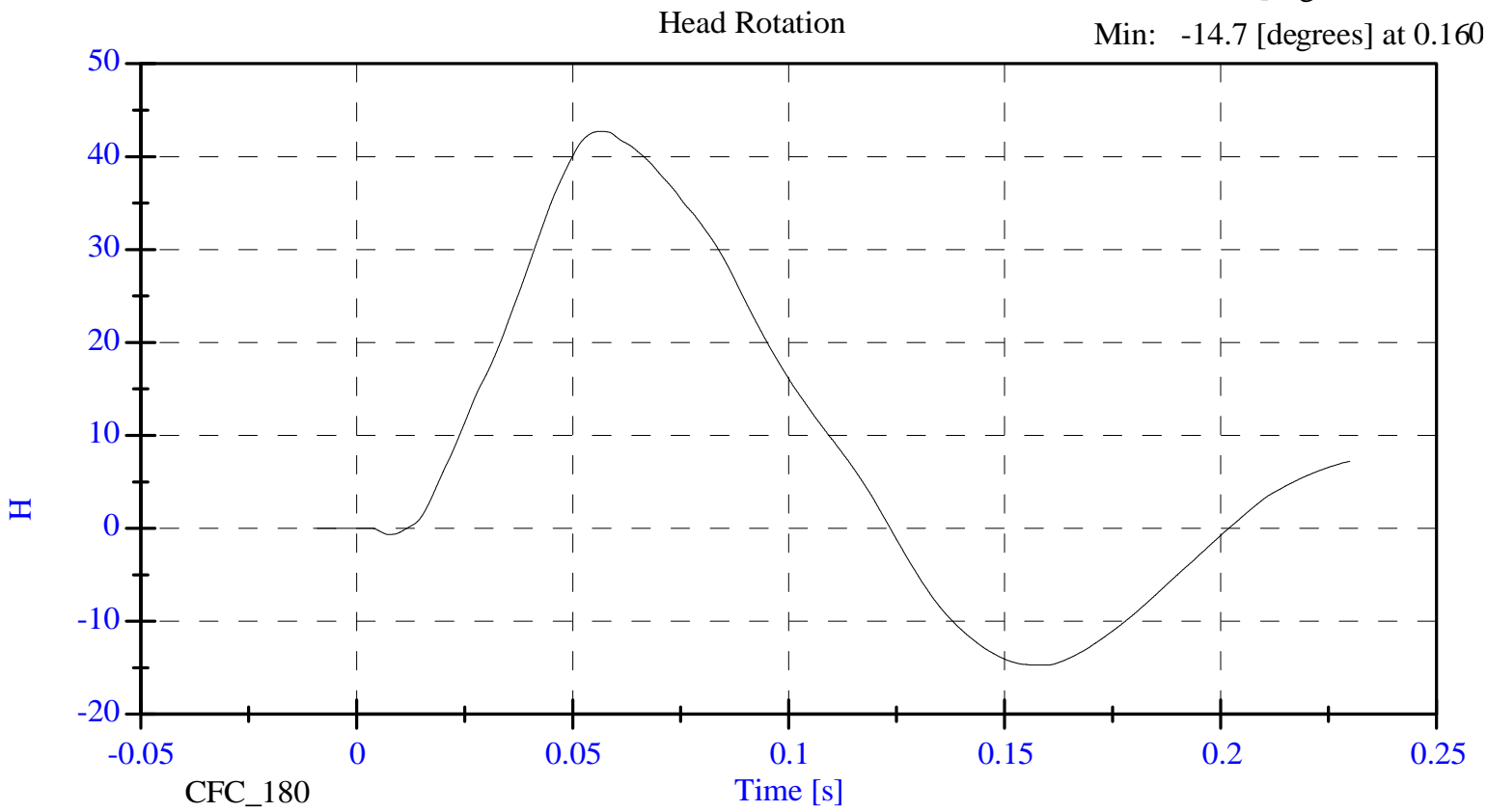
Pendulum Velocity



Neck Test

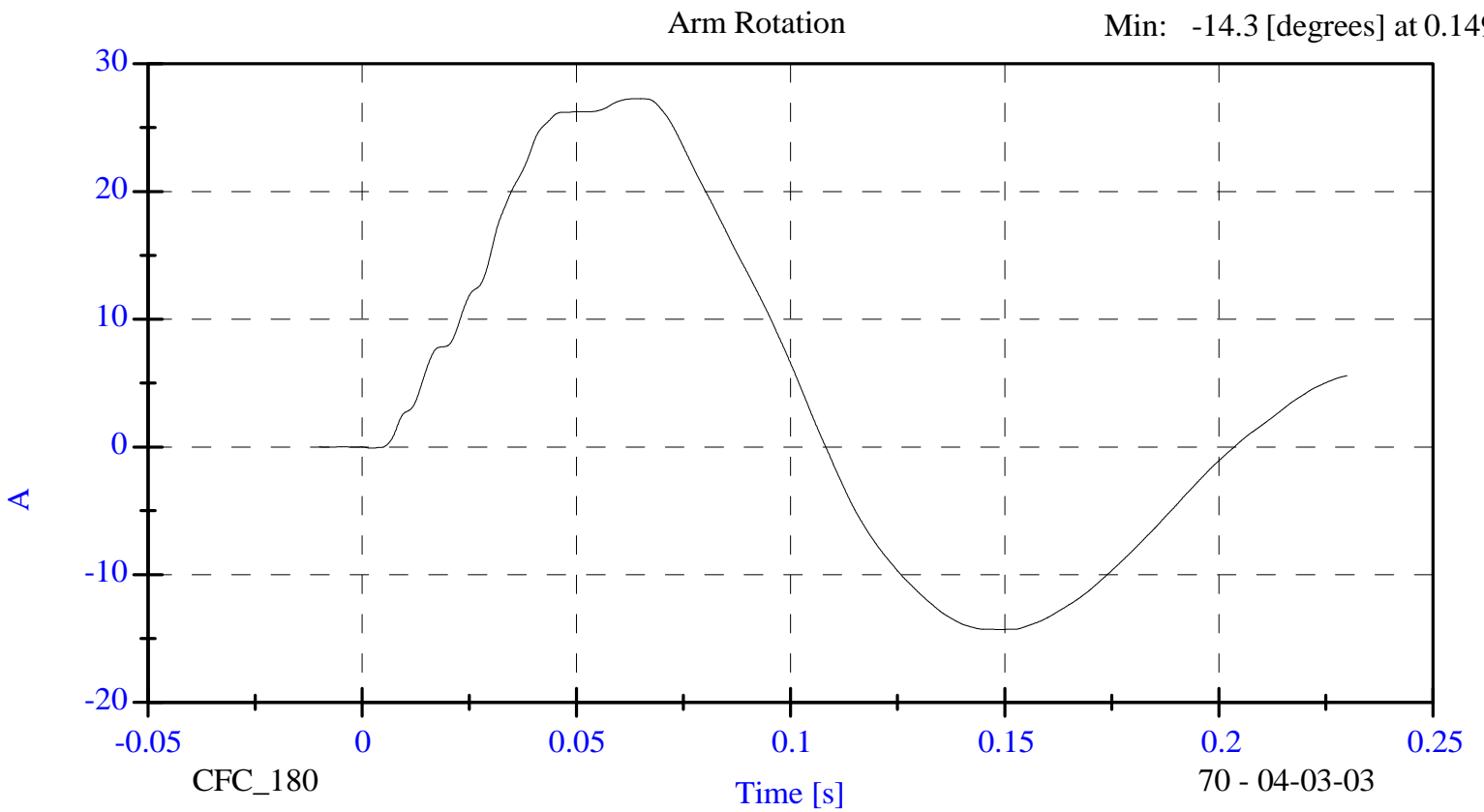
Max: 42.7 [degrees] at 0.056

Min: -14.7 [degrees] at 0.160



Max: 27.3 [degrees] at 0.065

Min: -14.3 [degrees] at 0.149

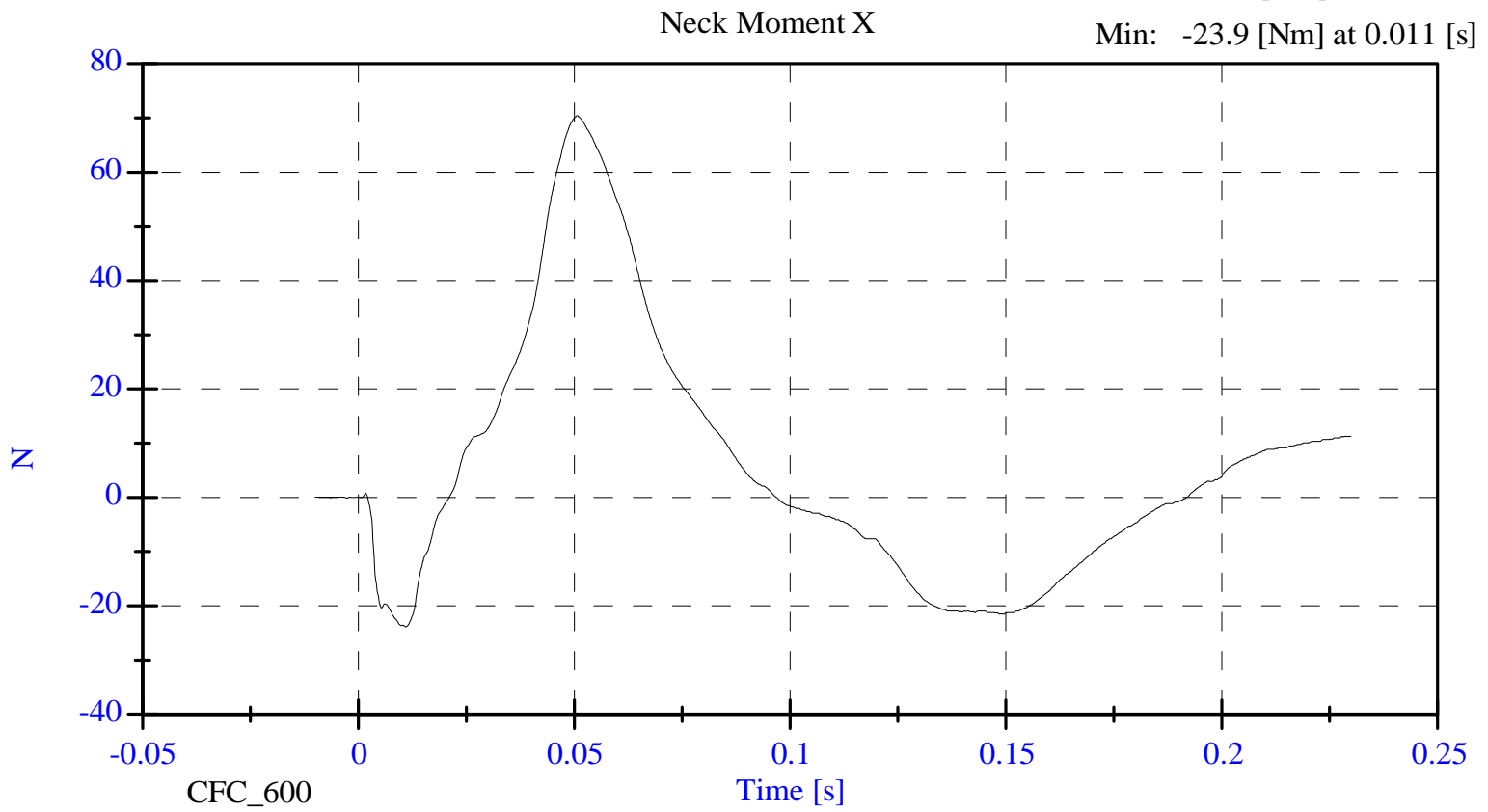


70 - 04-03-03

Neck Test

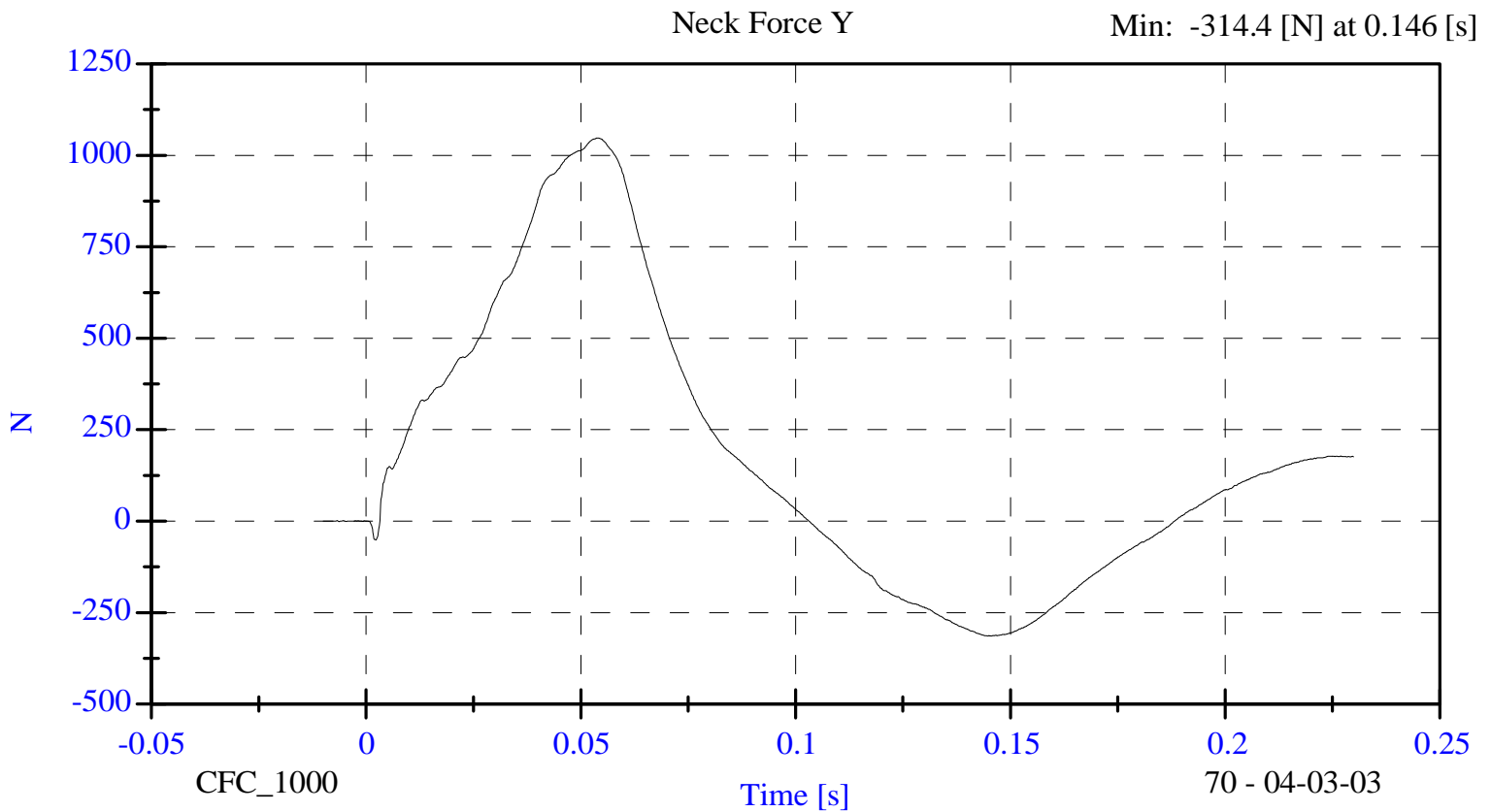
Max: 70.4 [Nm] at 0.051 [s]

Min: -23.9 [Nm] at 0.011 [s]



Max: 1047.6 [N] at 0.054 [s]

Min: -314.4 [N] at 0.146 [s]

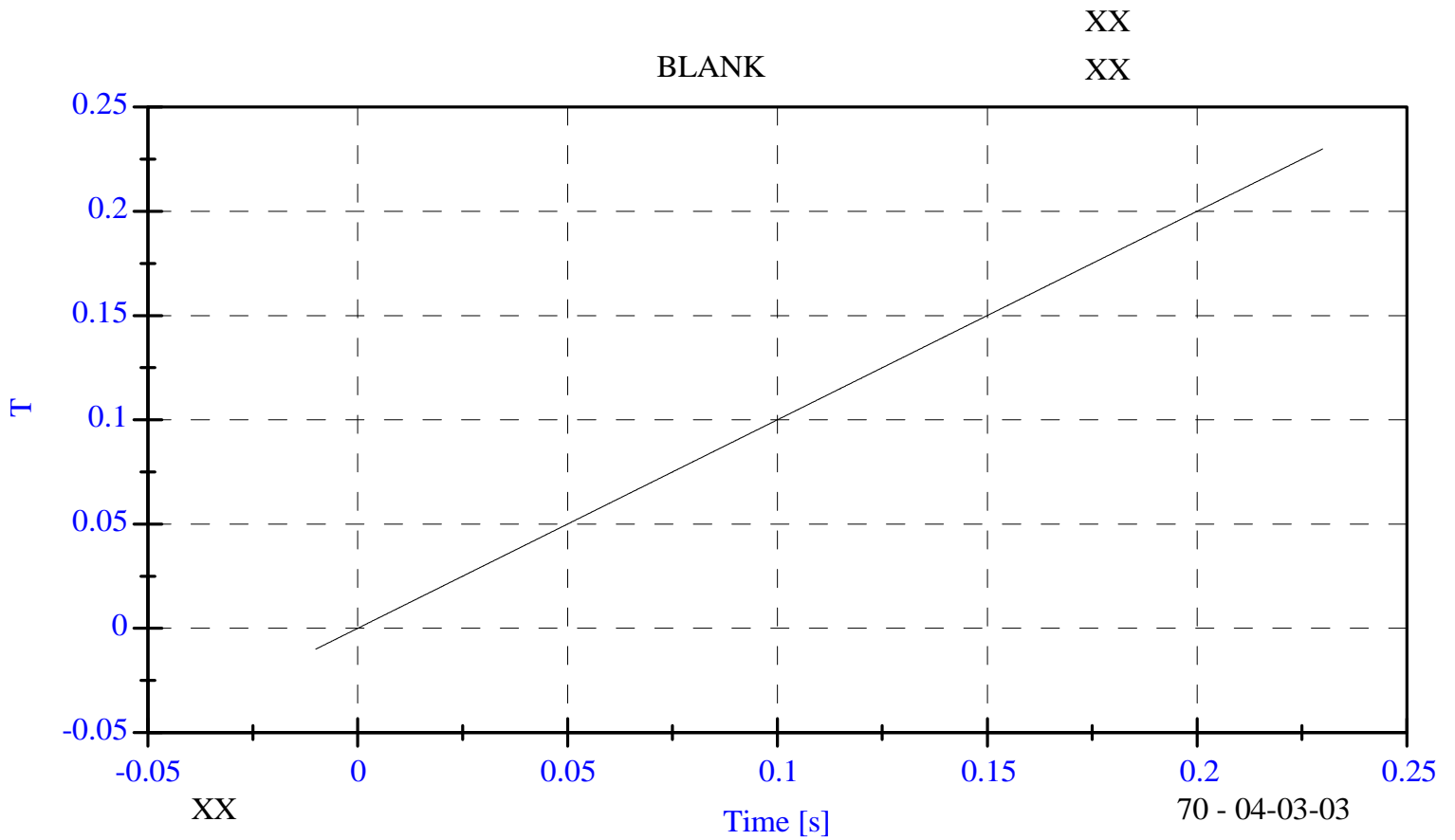
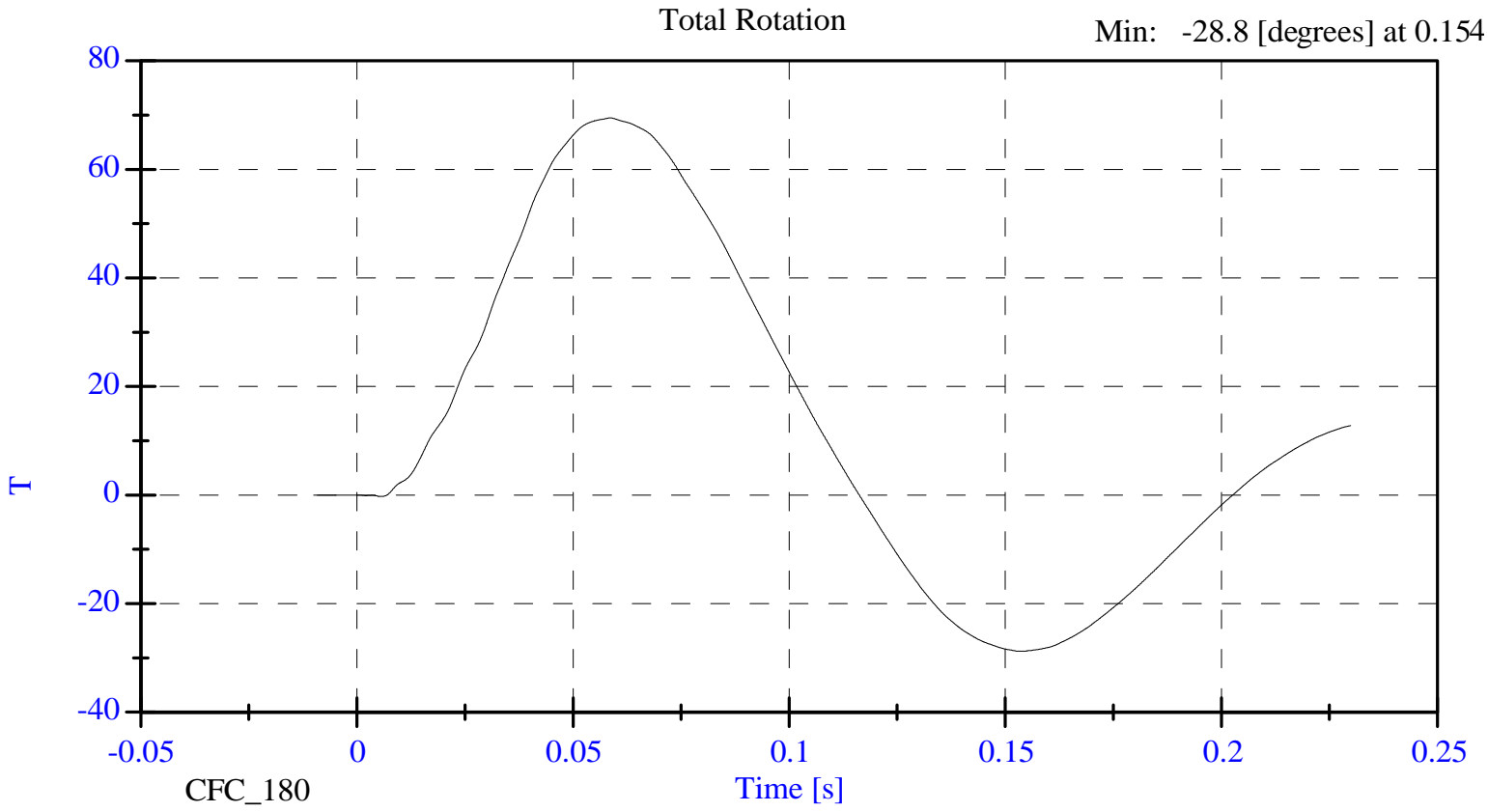


70 - 04-03-03

Neck Test

Max: 69.5 [degrees] at 0.059

Min: -28.8 [degrees] at 0.154



**ABDOMINAL COMPRESSION TEST
PRE-TEST**

(Test not required for SID certification)

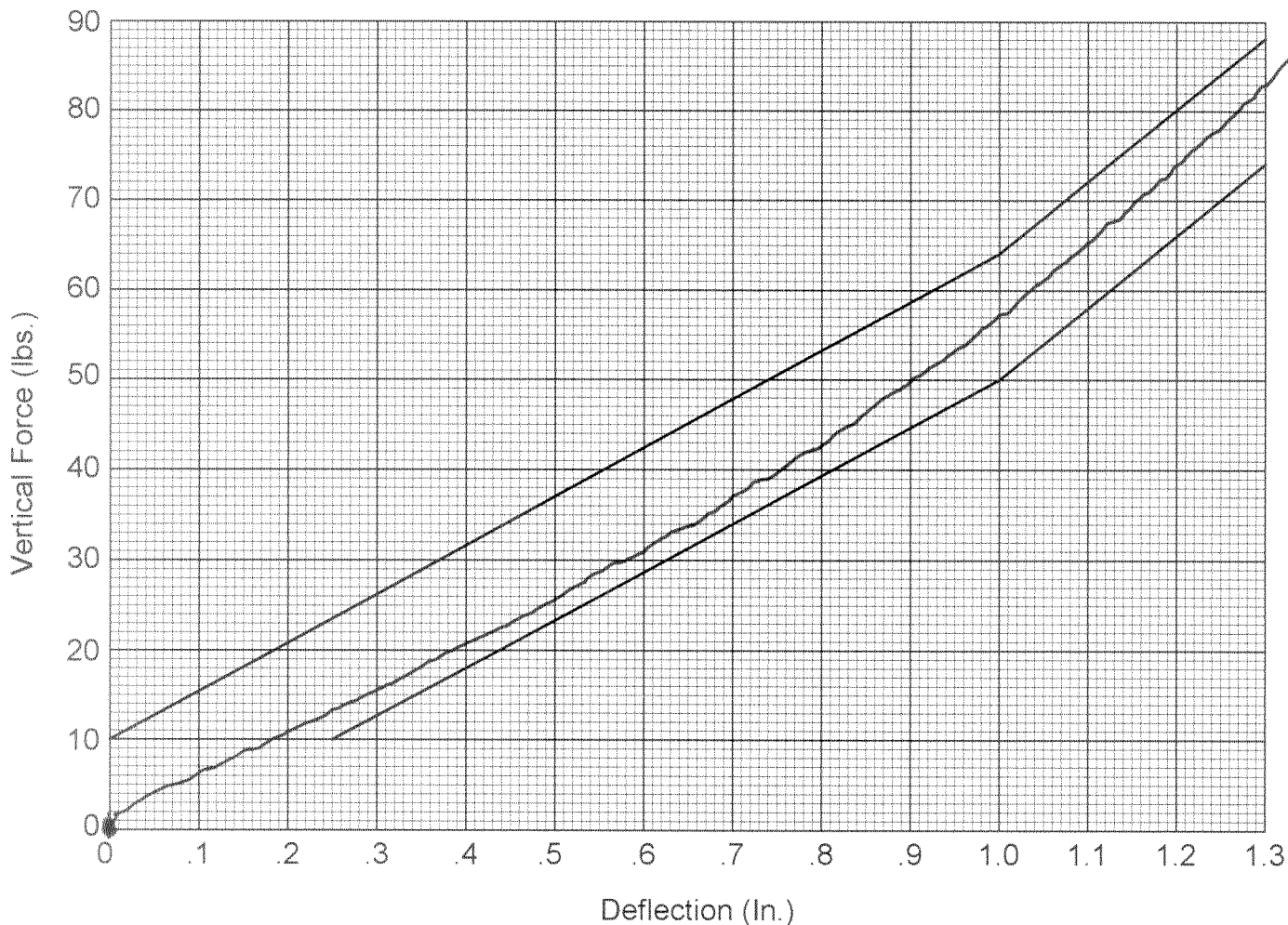
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 016 Sequential Test Number: 4
Date: April 4, 2003 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	20.7
RELATIVE HUMIDITY (%)	10 - 70	31.0
FORCE @ 13 mm (N)	104 - 162	119.2
FORCE @ 19 mm (N)	163 - 221	177.9
FORCE @ 25 mm (N)	222 - 280	254.4
FORCE @ 33 mm (N)	325 - 391	369.2

REMARKS: None

Dummy S/N 016
W/A _____
Date 4-4-03
Performed By [Signature]
Temp. 70°
Humidity 31%



**Hybrid II
Abdomen Static Press**

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

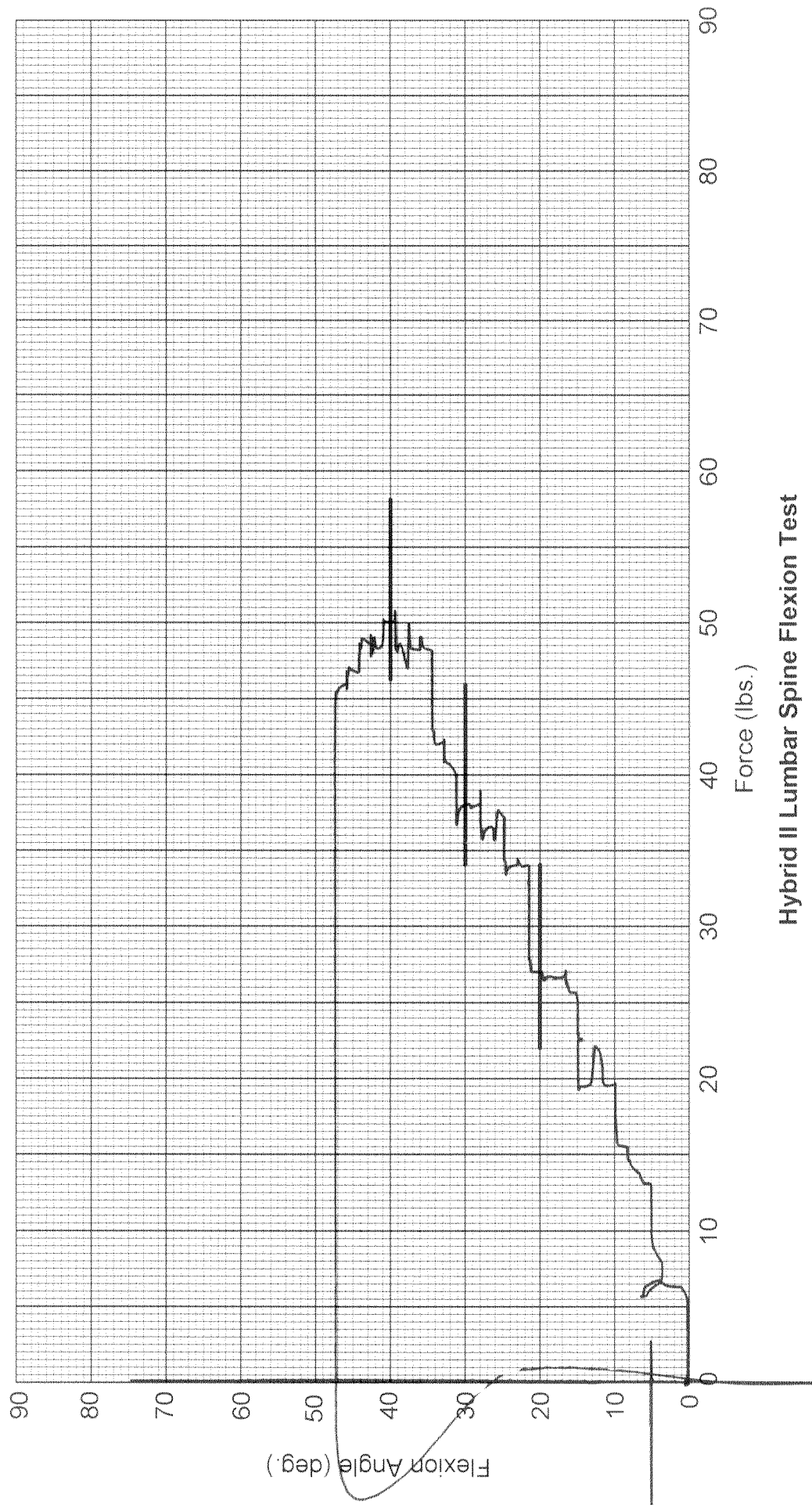
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 016 Sequential Test Number: 4
 Date: April 4, 2003 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	20.7
RELATIVE HUMIDITY (%)	10 - 70	31.0
FORCE @ 0° (N)	0 - 26.7	0.0
FORCE @ 20° (N)	97.8 - 151.2	117.9
FORCE @ 30° (N)	151.2 - 204.6	169.0
FORCE @ 40° (N)	204.6 - 258	222.4
RETURN ANGLE	12° max.	5°

REMARKS: None

Dummy S/N 016
 W/A _____
 Date 4-4-03
 Performed By [Signature]
 Temp. 70°
 Humidity 31%



Hybrid II Lumbar Spine Flexion Test

PRE-TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 016 Sequential Test Number: 4
 Date: April 4, 2003 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.: 015

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 015 Sequential Test Number: 5
Date: April 17, 2003 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*	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
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 015 Sequential Test Number: 5
Date: April 17, 2003 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	902
RH- Rib Height (mm)	502 - 520	511
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	239
KH- Knee Pivot from Back Line (mm)	511 - 526	521
KV- Knee Pivot to Floor (mm)	490 - 505	495
HW- Hip Width (mm)	356 - 391	371

REMARKS: None

**LATERAL THORAX IMPACT TEST
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 015 Sequential Test Number: 5
Date: April 17, 2003 Laboratory Technician: B. Swiecicki

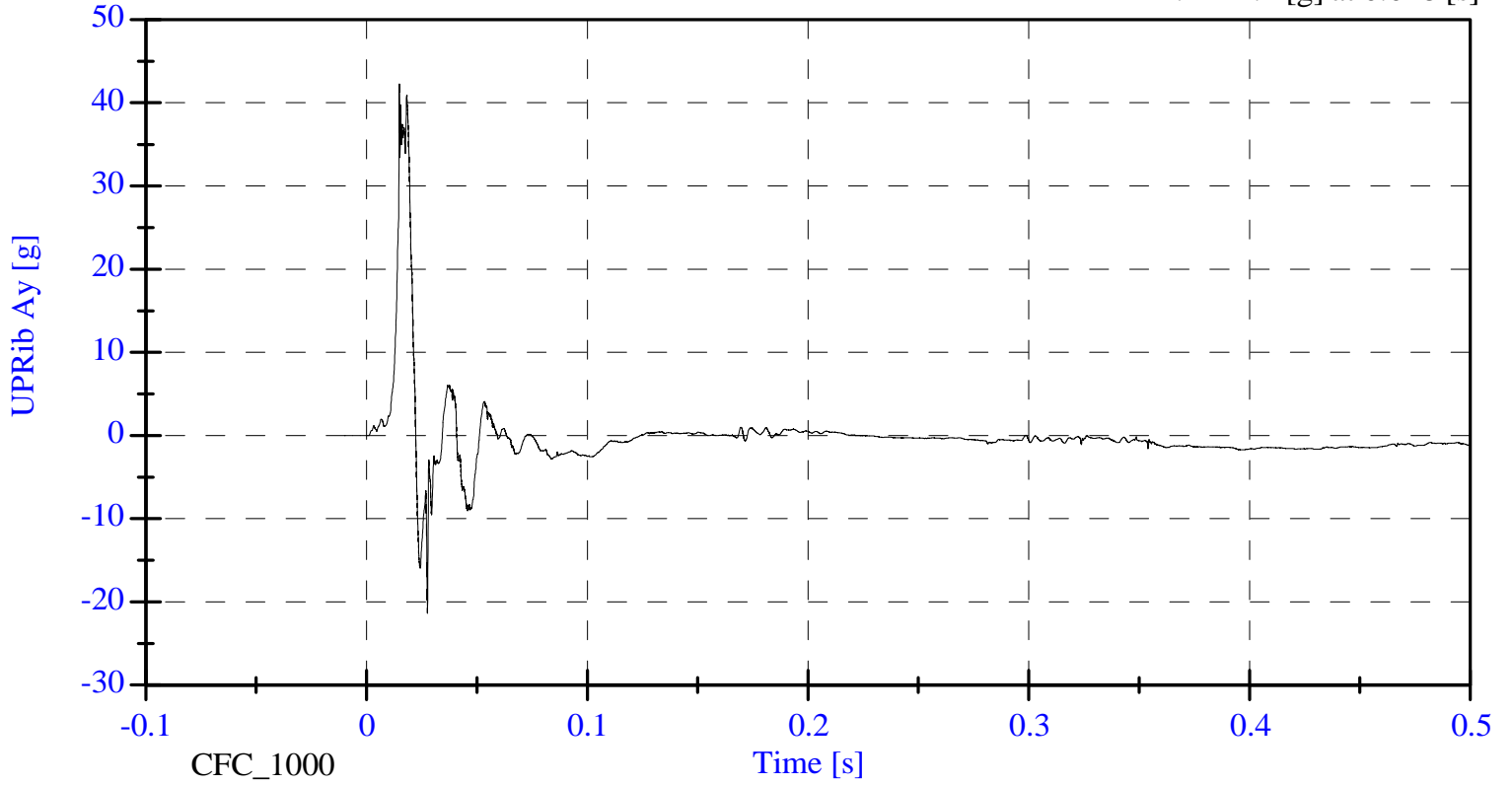
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	33.00
PROBE SPEED (m/s)	4.27 - 4.33	4.32
UPPER RIB (g's)	37 - 46	40.23
LOWER RIB (g's)	37 - 46	40.05
LOWER SPINE (g's)	15 - 22	20.25

REMARKS: None

Max: 42.3 [g] at 0.015 [s]

Min: -21.4 [g] at 0.028 [s]

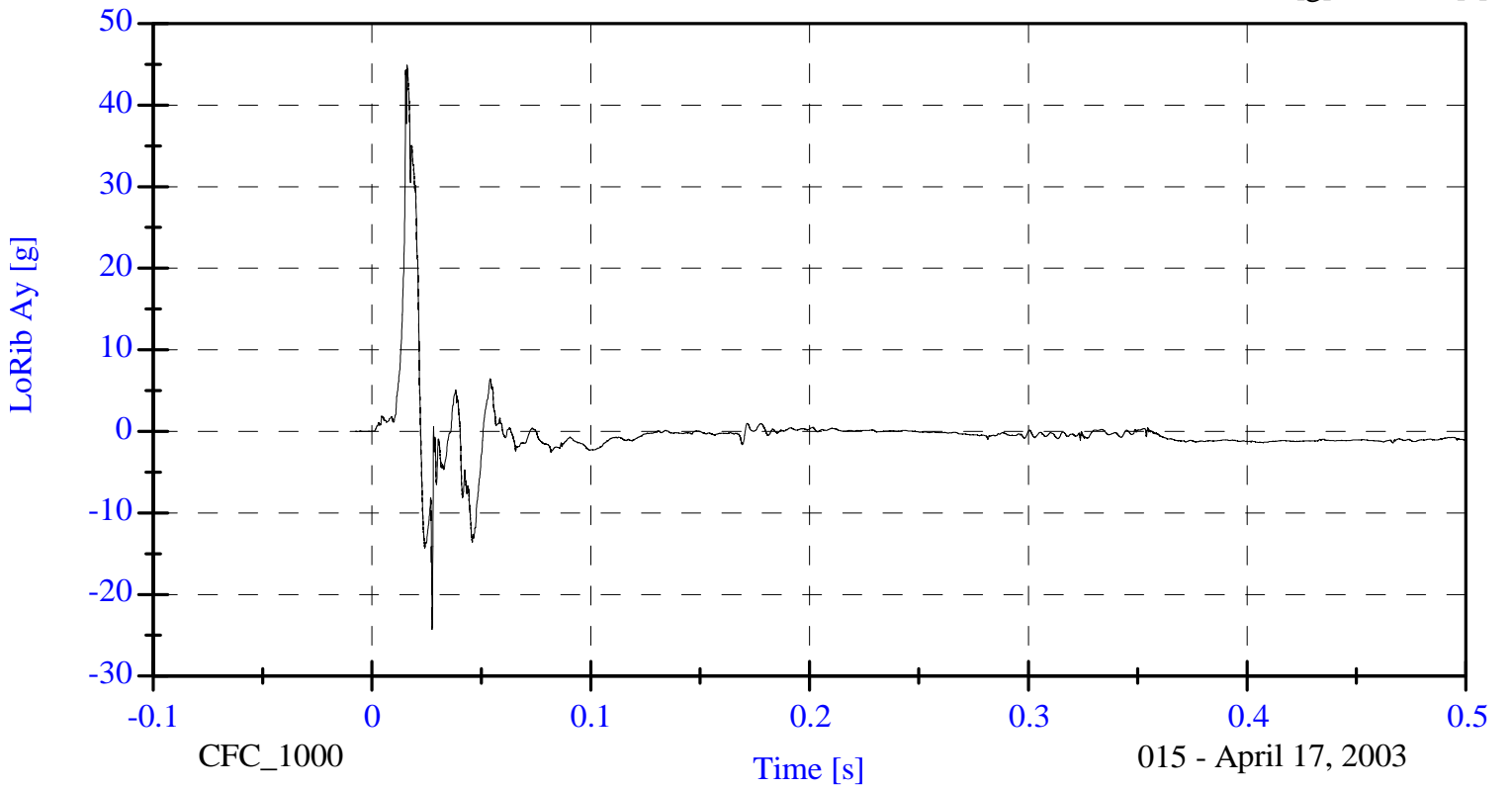
Upper Rib Y Acceleration



Max: 44.9 [g] at 0.016 [s]

Min: -24.3 [g] at 0.028 [s]

Lower Rib Y Acceleration

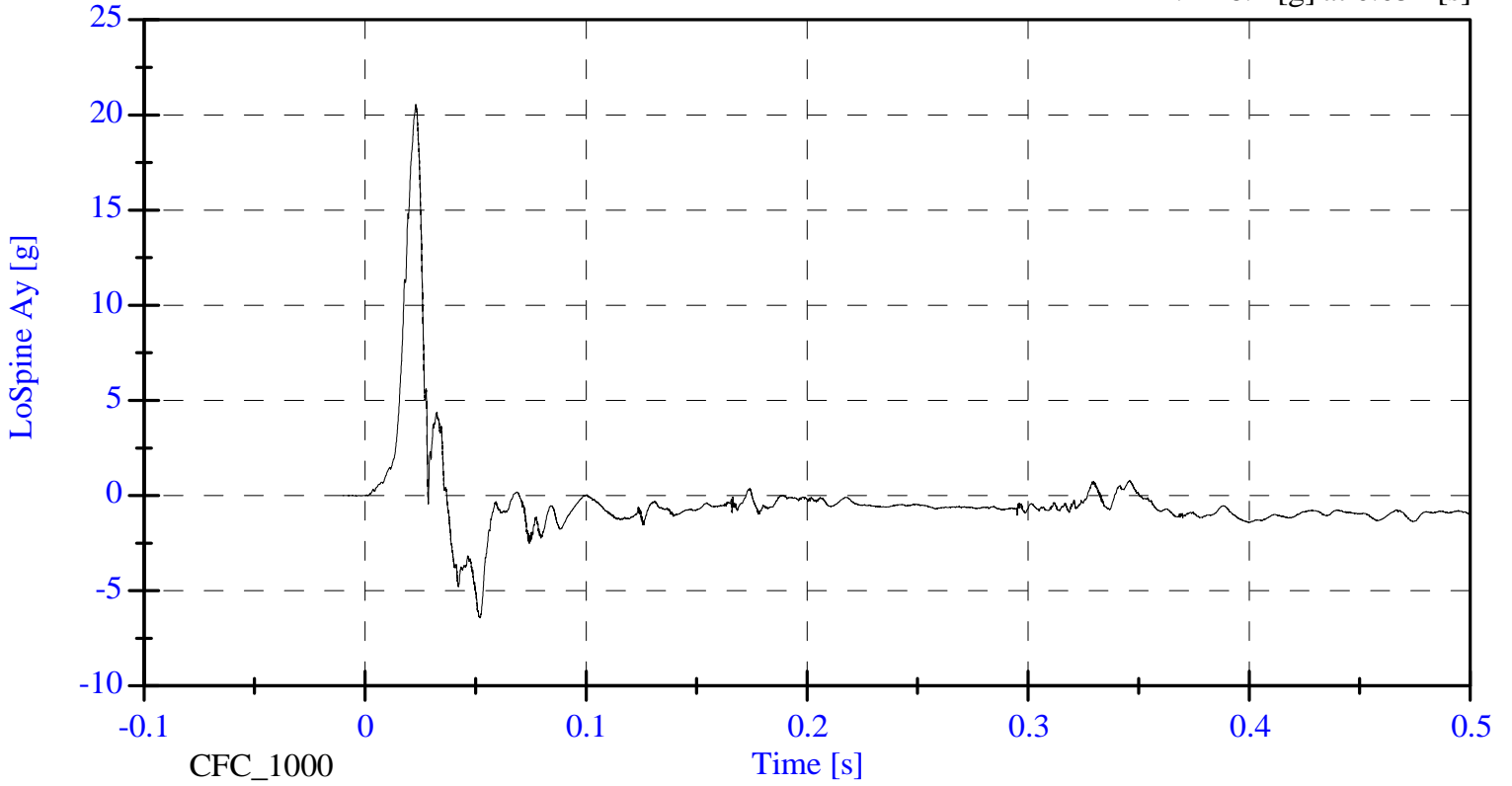


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Max: 20.6 [g] at 0.023 [s]

Lower Spine Y Acceleration

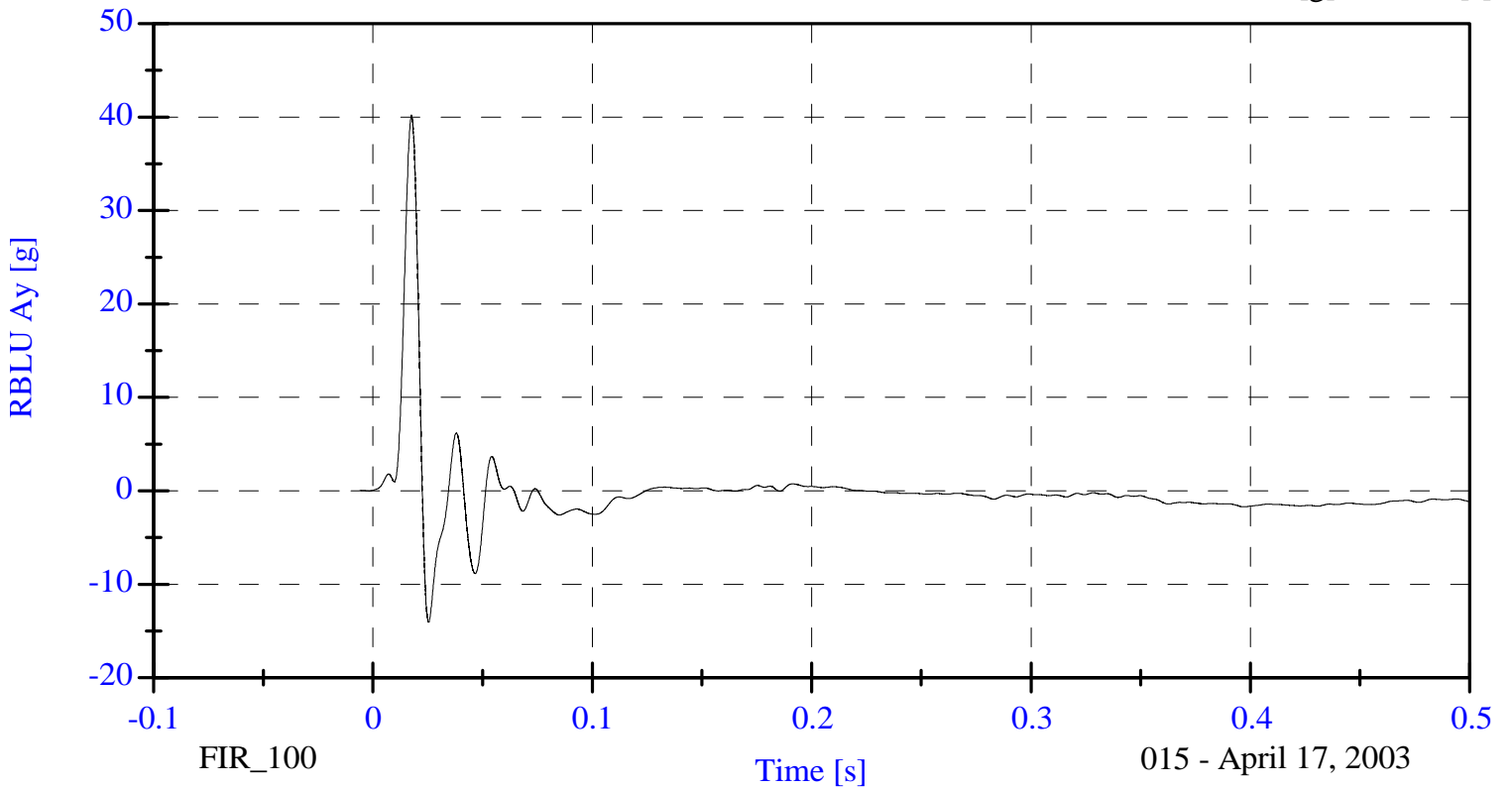
Min: -6.4 [g] at 0.052 [s]



Max: 40.2 [g] at 0.017 [s]

Upper Rib Y Acceleration

Min: -14.1 [g] at 0.026 [s]

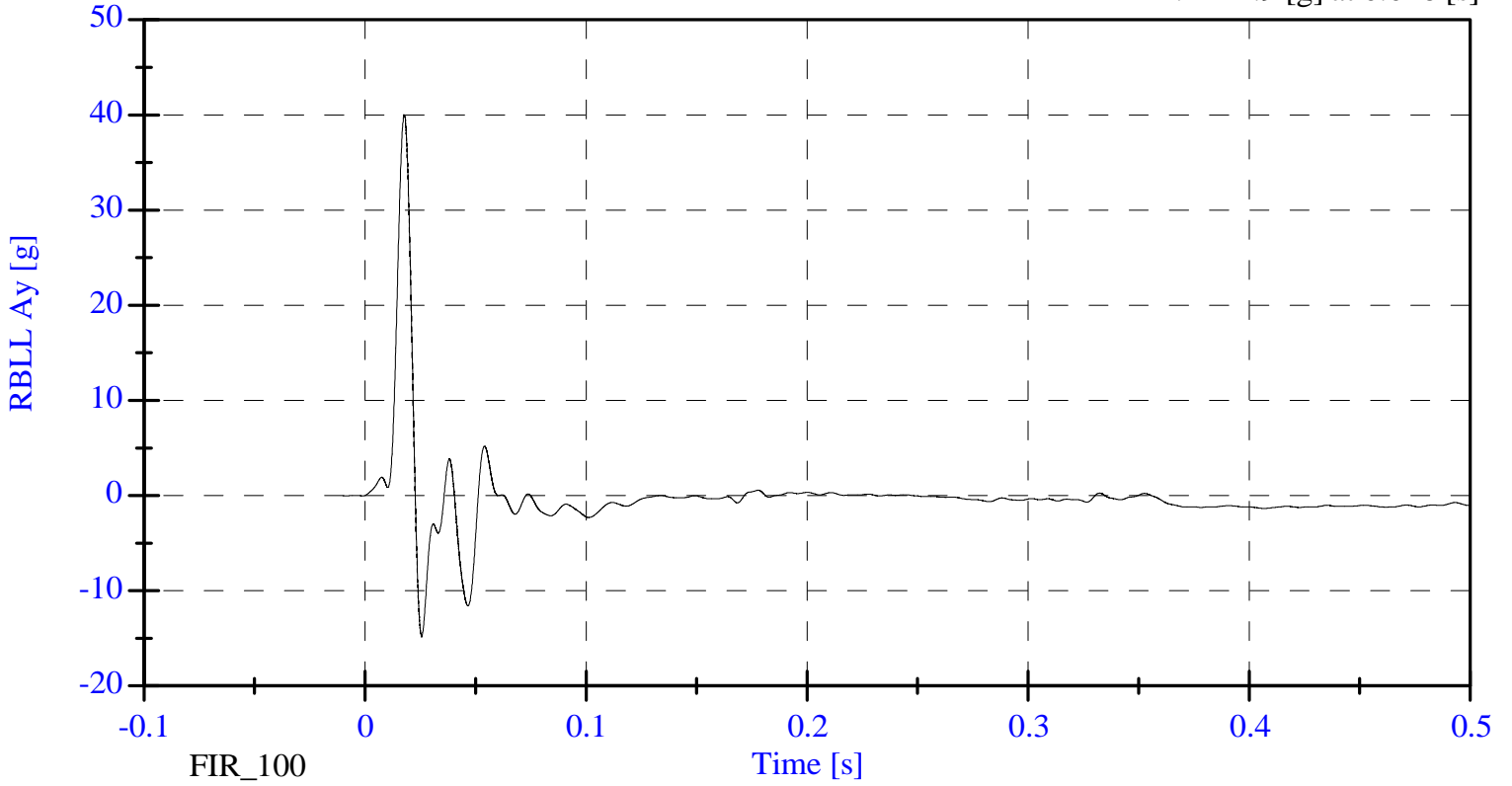


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Max: 40.1 [g] at 0.017 [s]

Min: -14.9 [g] at 0.026 [s]

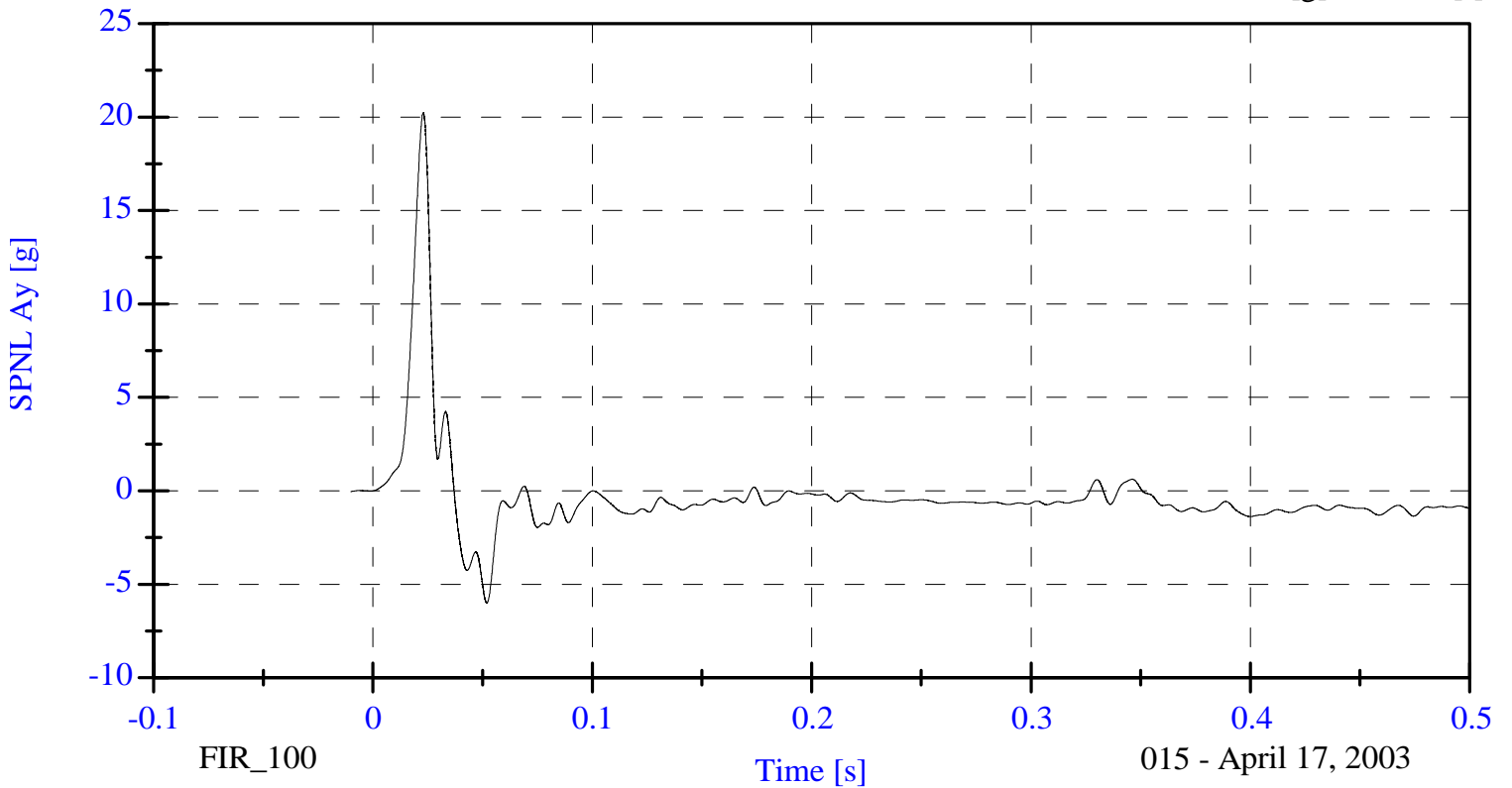
Lower Rib Y Acceleration



Max: 20.3 [g] at 0.023 [s]

Min: -6.0 [g] at 0.052 [s]

Lower Spine Y Acceleration



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**LATERAL PELVIS IMPACT TEST
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 015 Sequential Test Number: 5
Date: April 17, 2003 Laboratory Technician: B. Swiecicki

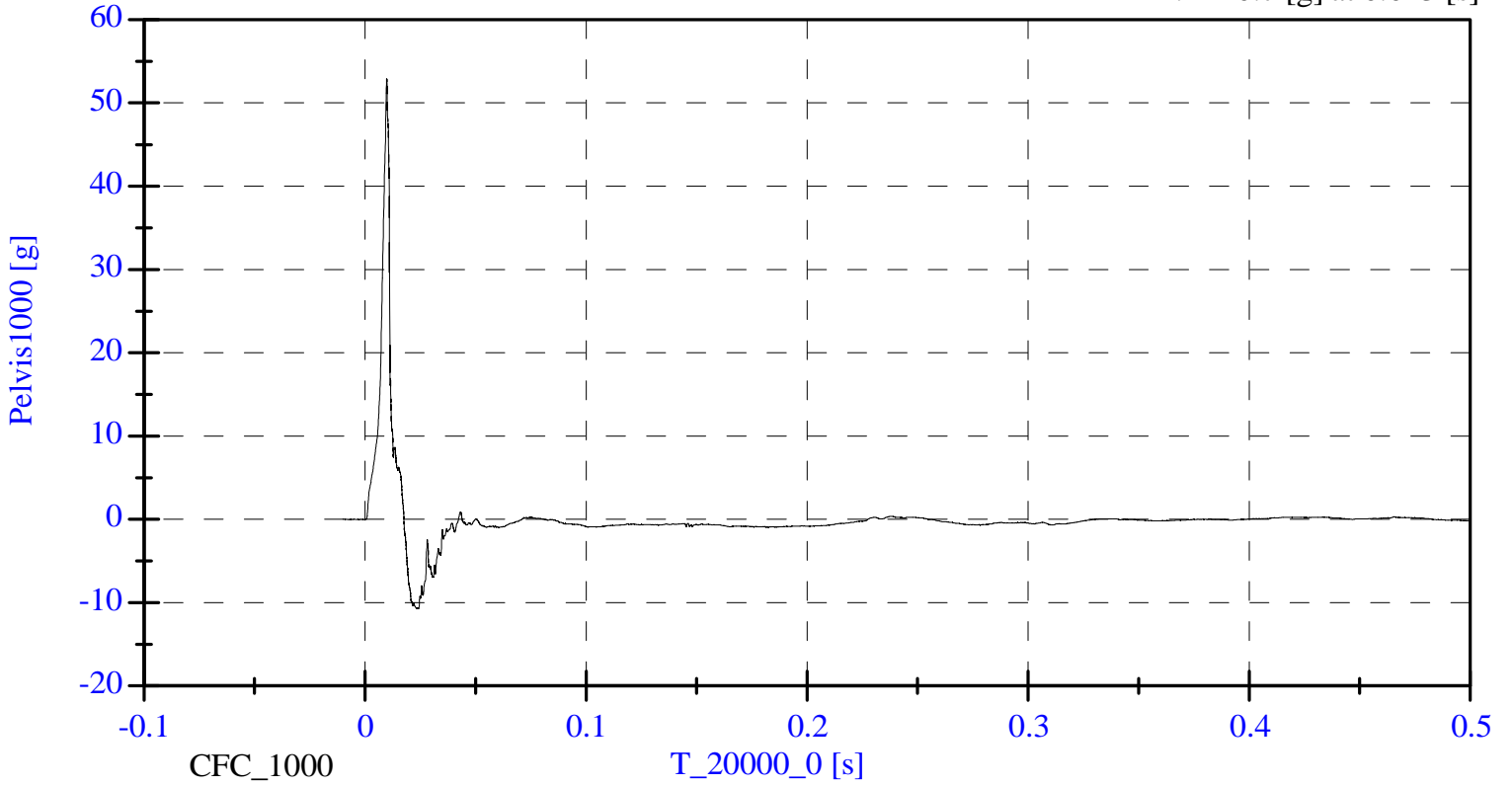
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	33.00
PROBE SPEED (m/s)	4.27 - 4.33	4.29
PELVIS ACCELERATION (g's)	40 - 60	40.64

REMARKS: None

Max: 52.9 [g] at 0.010 [s]

Min: -10.7 [g] at 0.023 [s]

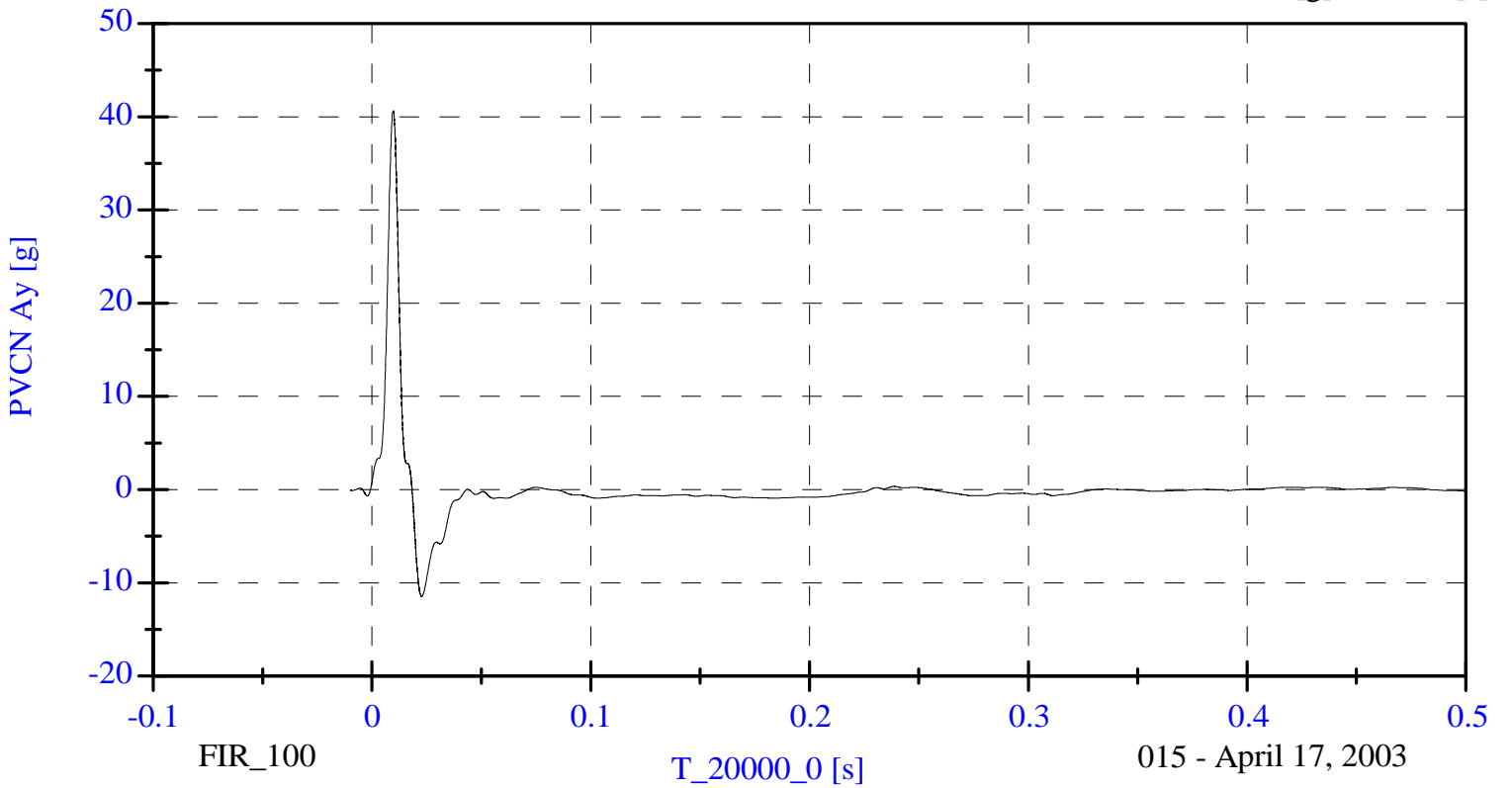
Pelvis Acceleration



Max: 40.6 [g] at 0.010 [s]

Min: -11.5 [g] at 0.022 [s]

Pelvis Y Acceleration



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**HEAD DROP TEST
POST-TEST**
(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 015 Sequential Test Number: 5
Date: April 16, 2003 Laboratory Technician: B. Swiecicki

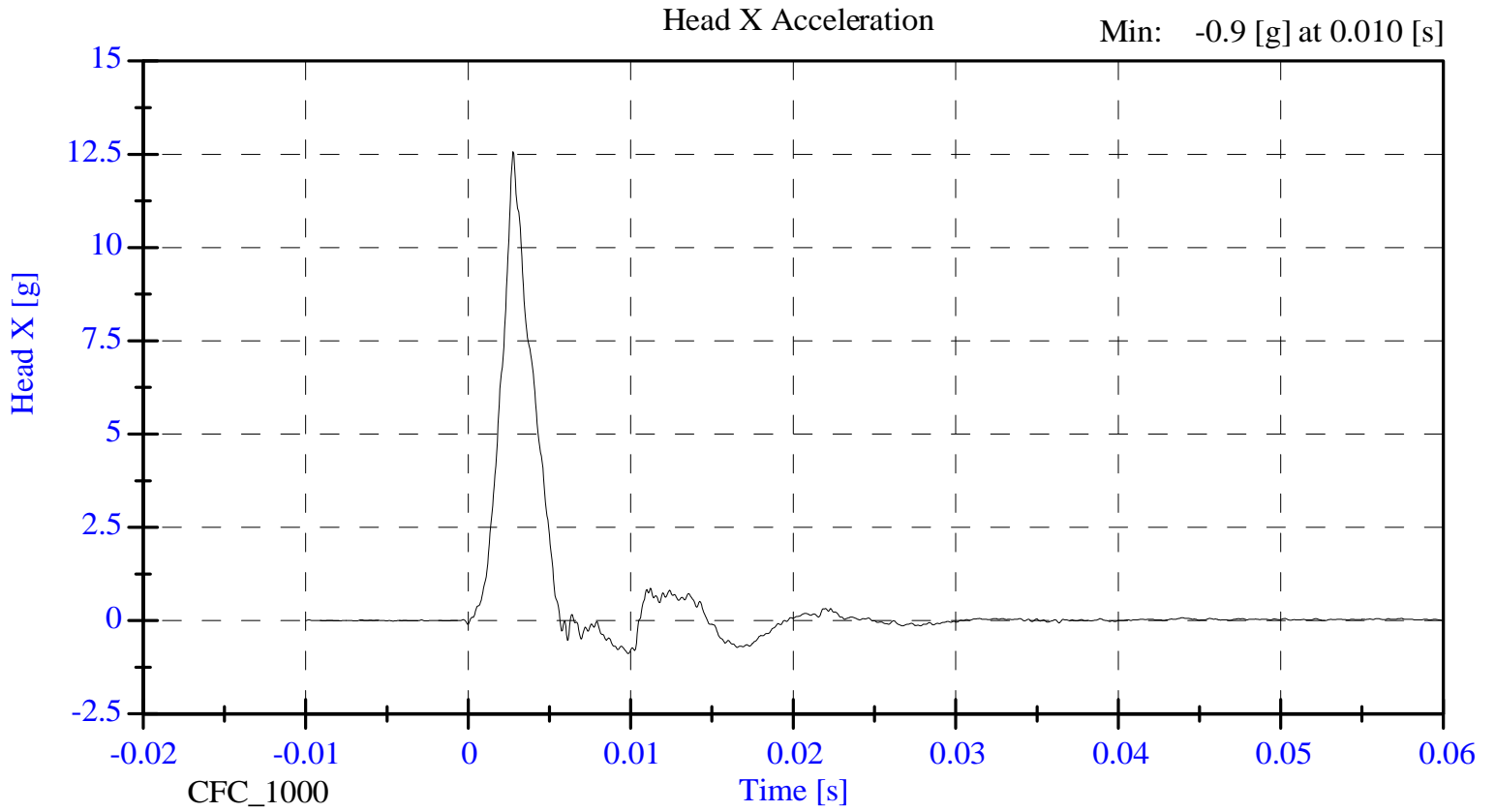
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	20.6 – 22.2	20.7
RELATIVE HUMIDITY (%)	10 – 70	30.00
PEAK RESULTANT ACCELERATION (Gs)	120 – 150	137.68
PEAK LATERAL ACCELERATION (Gs)	Not to Exceed 15	12.57
CURVE PERCENT NONMODAL (%)	< 15	3.70

REMARKS: None

SID HYIII 9AAU Head Drop

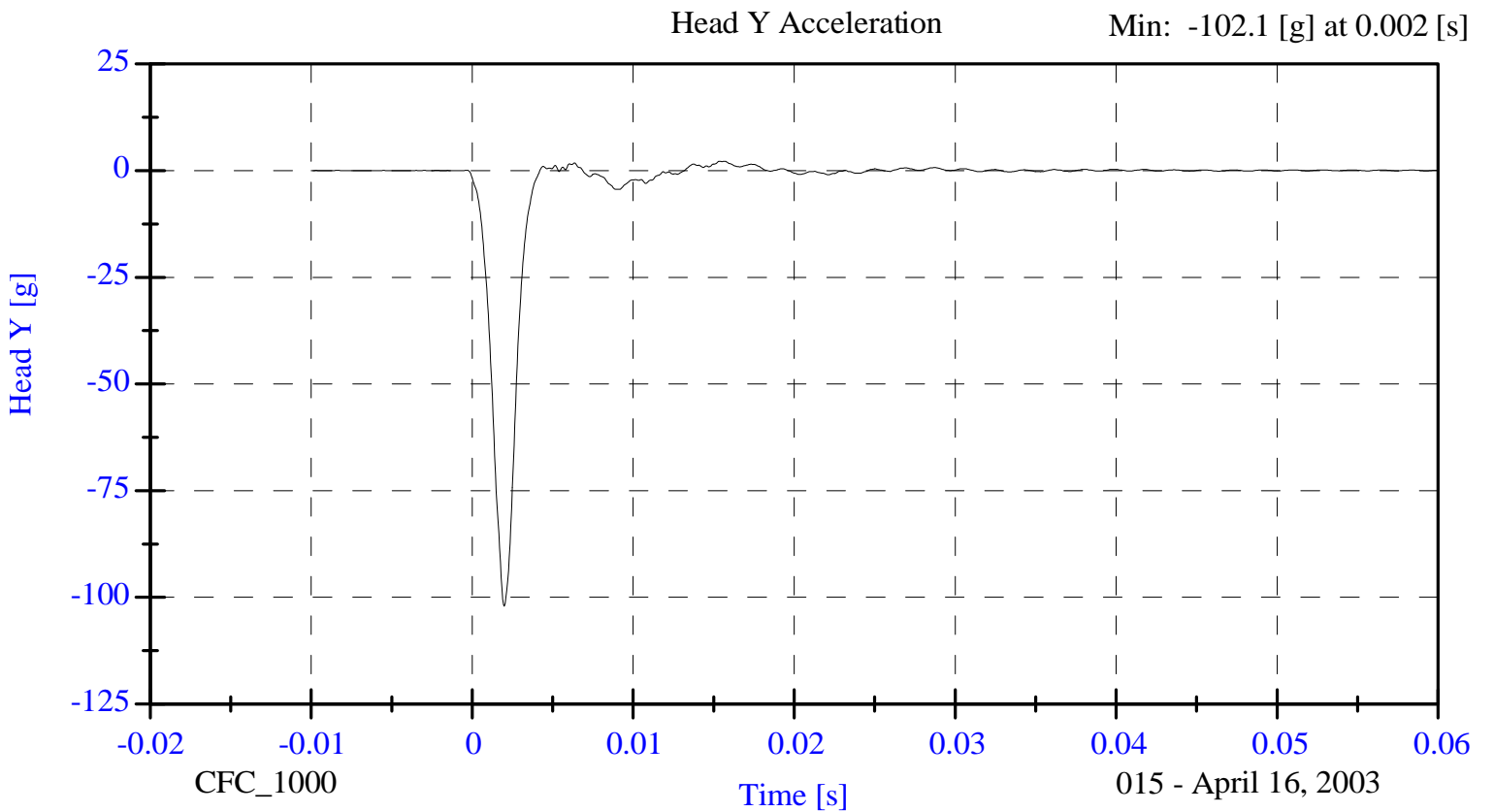
Max: 12.6 [g] at 0.003 [s]

Min: -0.9 [g] at 0.010 [s]



Max: 2.2 [g] at 0.015 [s]

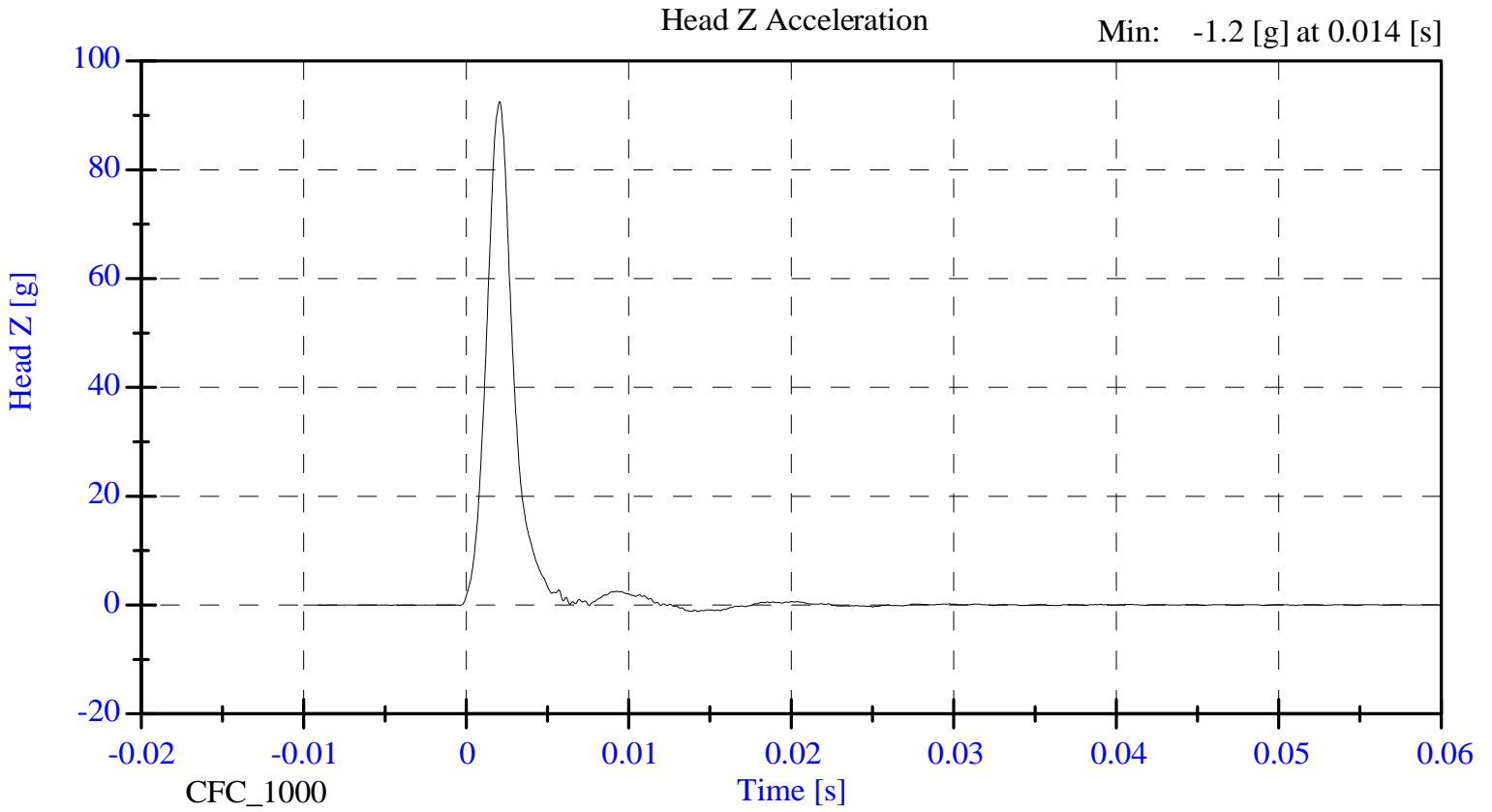
Min: -102.1 [g] at 0.002 [s]



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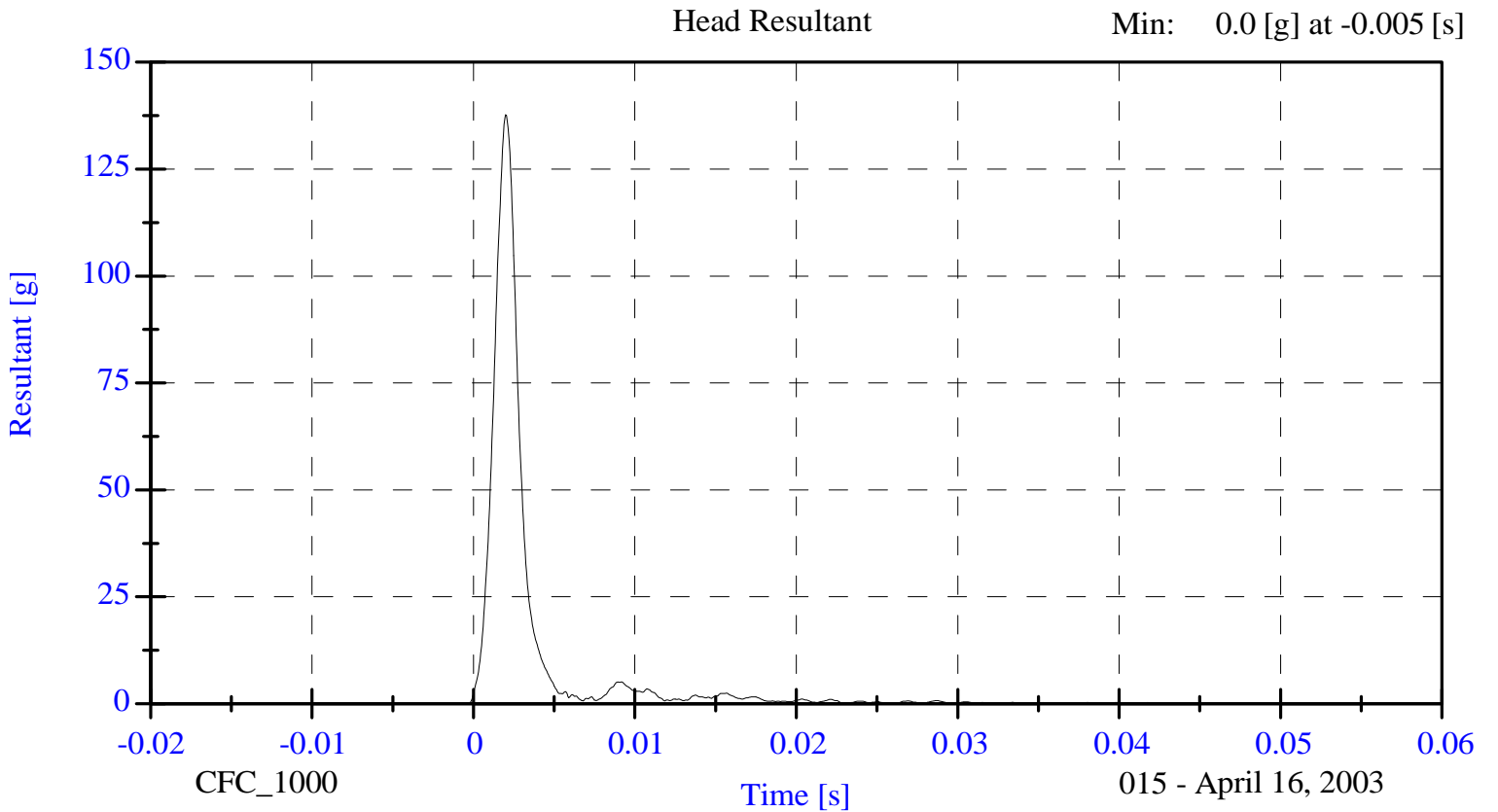
Max: 92.5 [g] at 0.002 [s]

Min: -1.2 [g] at 0.014 [s]



Max: 137.7 [g] at 0.002 [s]

Min: 0.0 [g] at -0.005 [s]



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**LATERAL NECK BENDING TEST
POST-TEST**
(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 015 Sequential Test Number: 5
Date: April 17, 2003 Laboratory Technician: B. Swiecicki

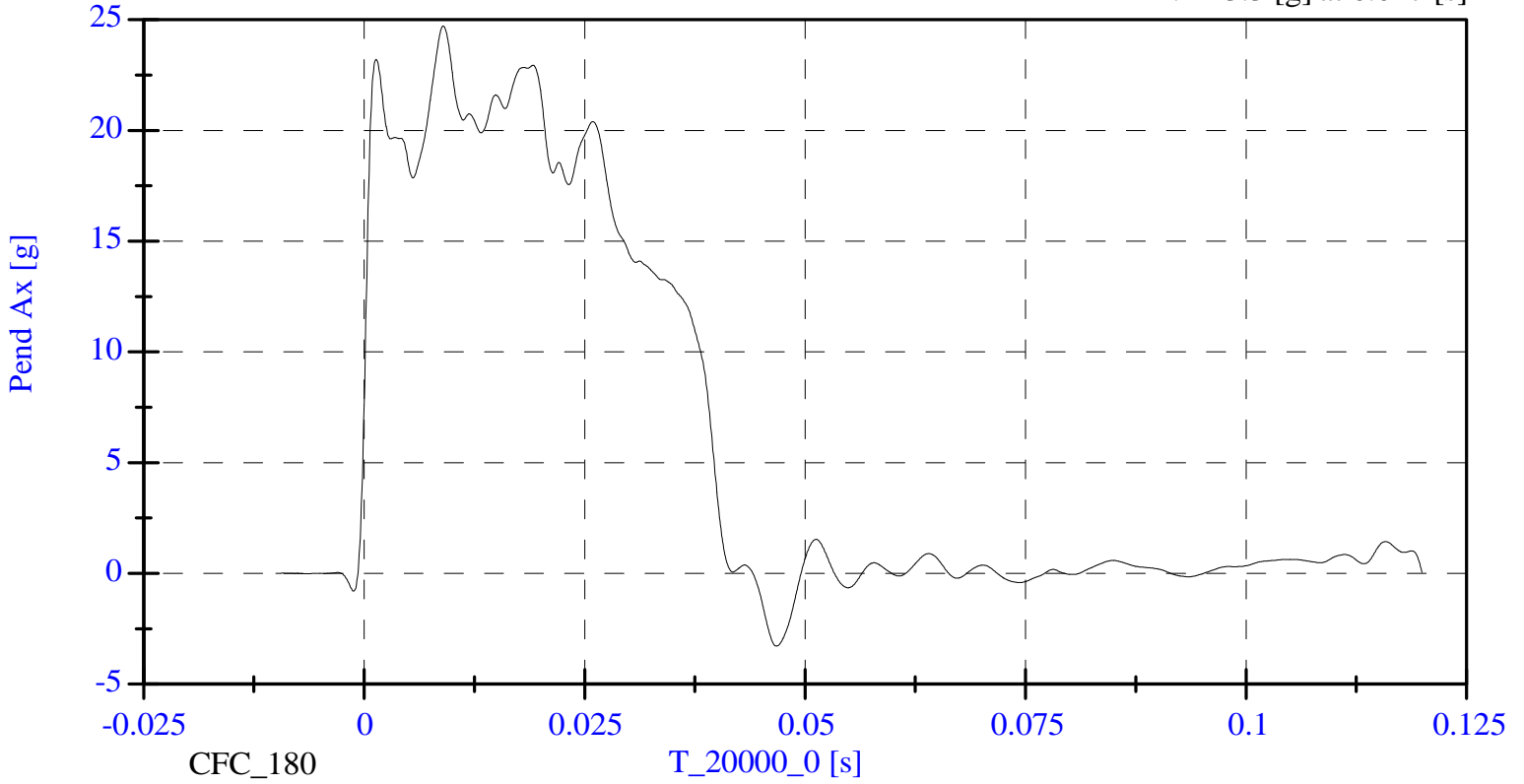
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	20.6 - 22.2	20.7
RELATIVE HUMIDITY (%)	10 - 70	33.00
IMPACT VELOCITY (m/s)	6.89 - 7.13	23.20
PENDULUM DELTA V		
DELTA V @ 10 ms (m/s)	1.96 - 2.55	2.02
DELTA V @ 20 ms (m/s)	4.12 - 5.10	4.13
DELTA V @ 30 ms (m/s)	5.73 - 7.01	5.91
DELTA V @ 40-70 ms (m/s)	6.27 - 7.64	7.24
D PLANE ROTATION		
MAXIMUM ROTATION (deg)	64 - 78	68.09
ROT. ANGLE TIME to ZERO (ms)	50 - 70	59.45
MOMENT ABOUT THE OCCIPITAL CONDYLE		
MAX OCCIPITAL MOMENT (Nm)	88 - 108	91.39
OCCIPITAL MOMENT DECAY (ms)	40.0 - 60.0	50.50
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT		
ROTATION wrt MOMENT (ms)	0 - 20	8.15

REMARKS: None

Max: 24.7 [g] at 0.009 [s]

Min: -3.3 [g] at 0.047 [s]

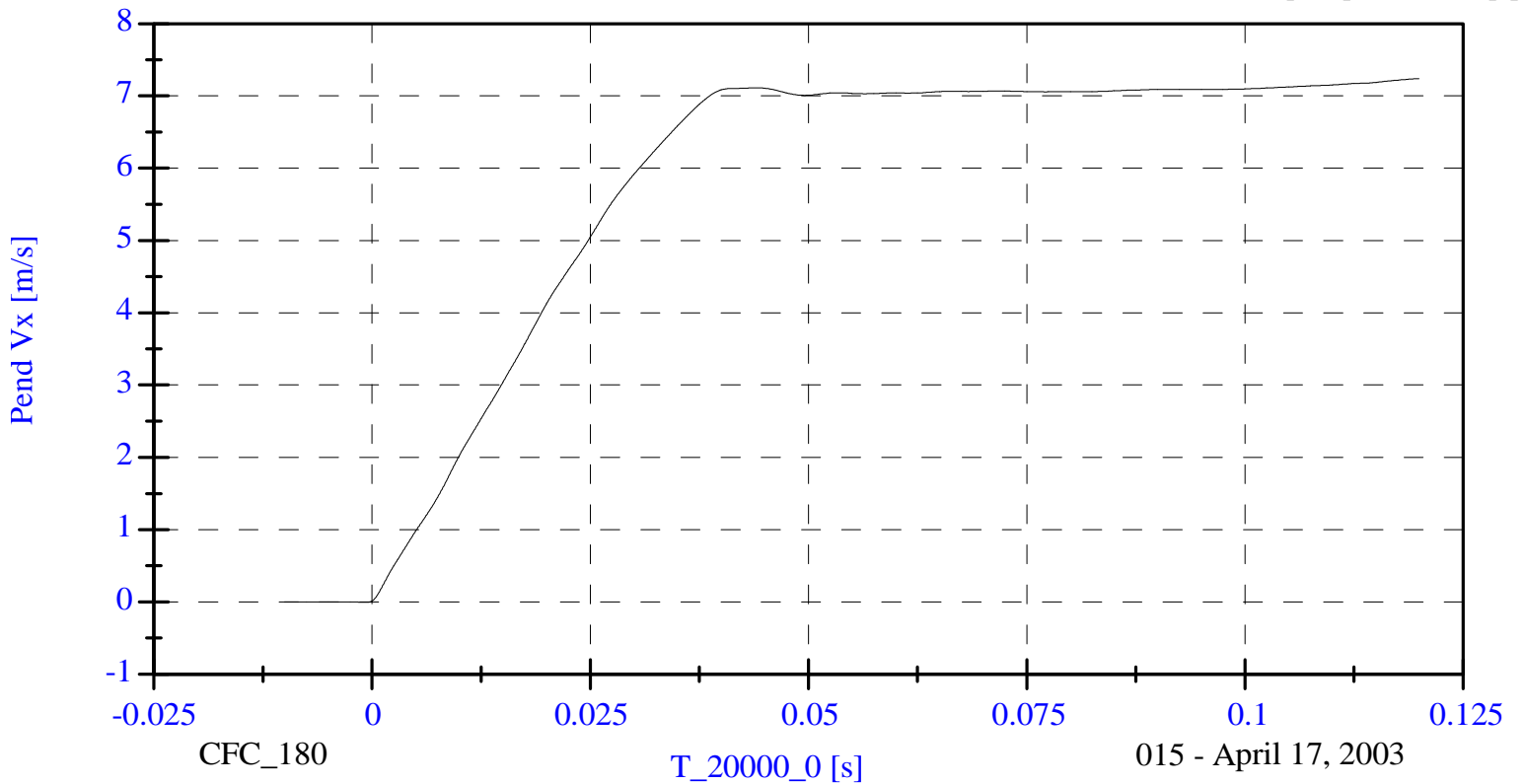
Pendulum Acceleration



Max: 7.2 [m/s] at 0.120 [s]

Min: -0.0 [m/s] at -0.001 [s]

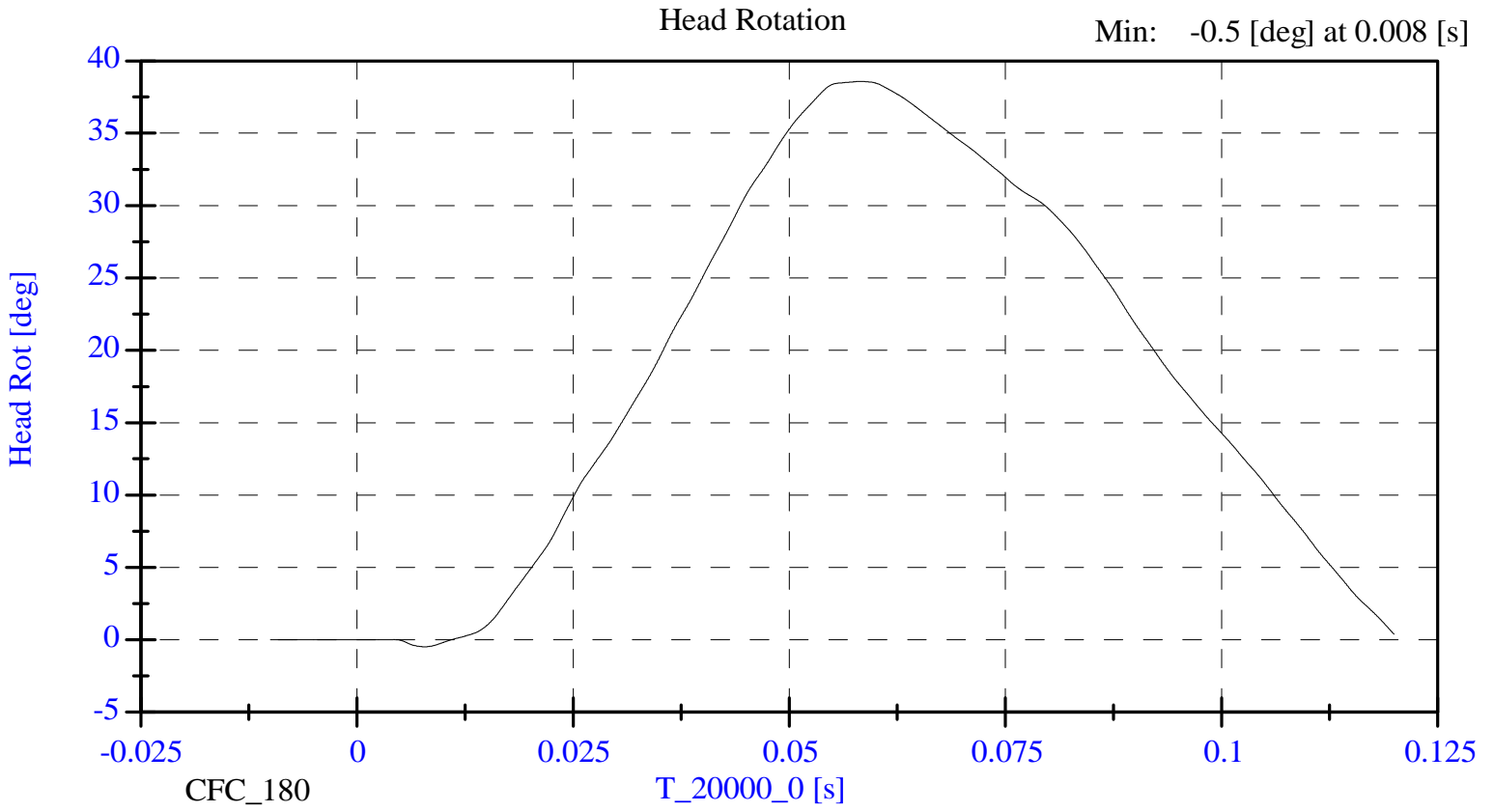
Pendulum Velocity



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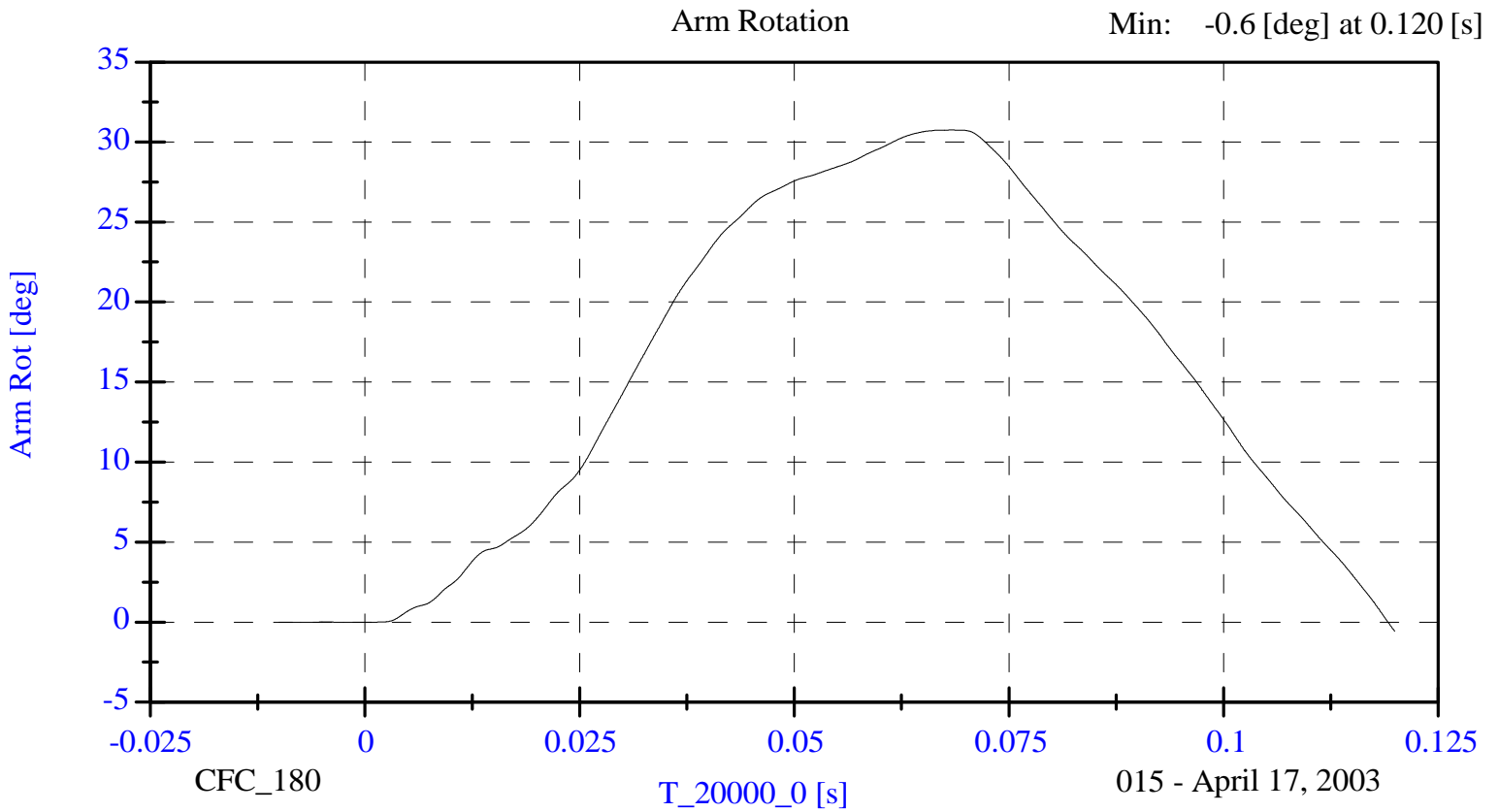
Max: 38.6 [deg] at 0.058 [s]

Min: -0.5 [deg] at 0.008 [s]



Max: 30.8 [deg] at 0.068 [s]

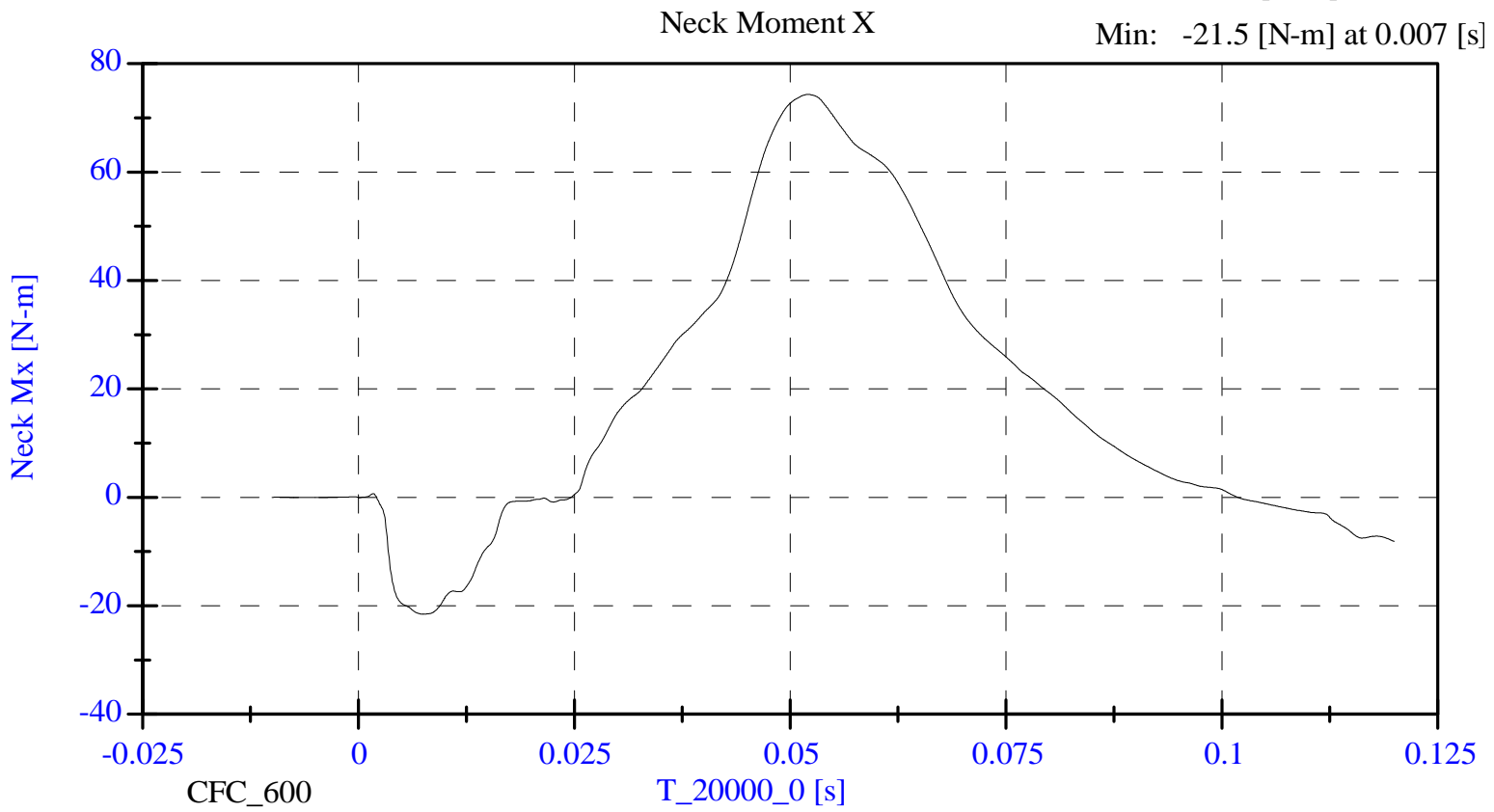
Min: -0.6 [deg] at 0.120 [s]



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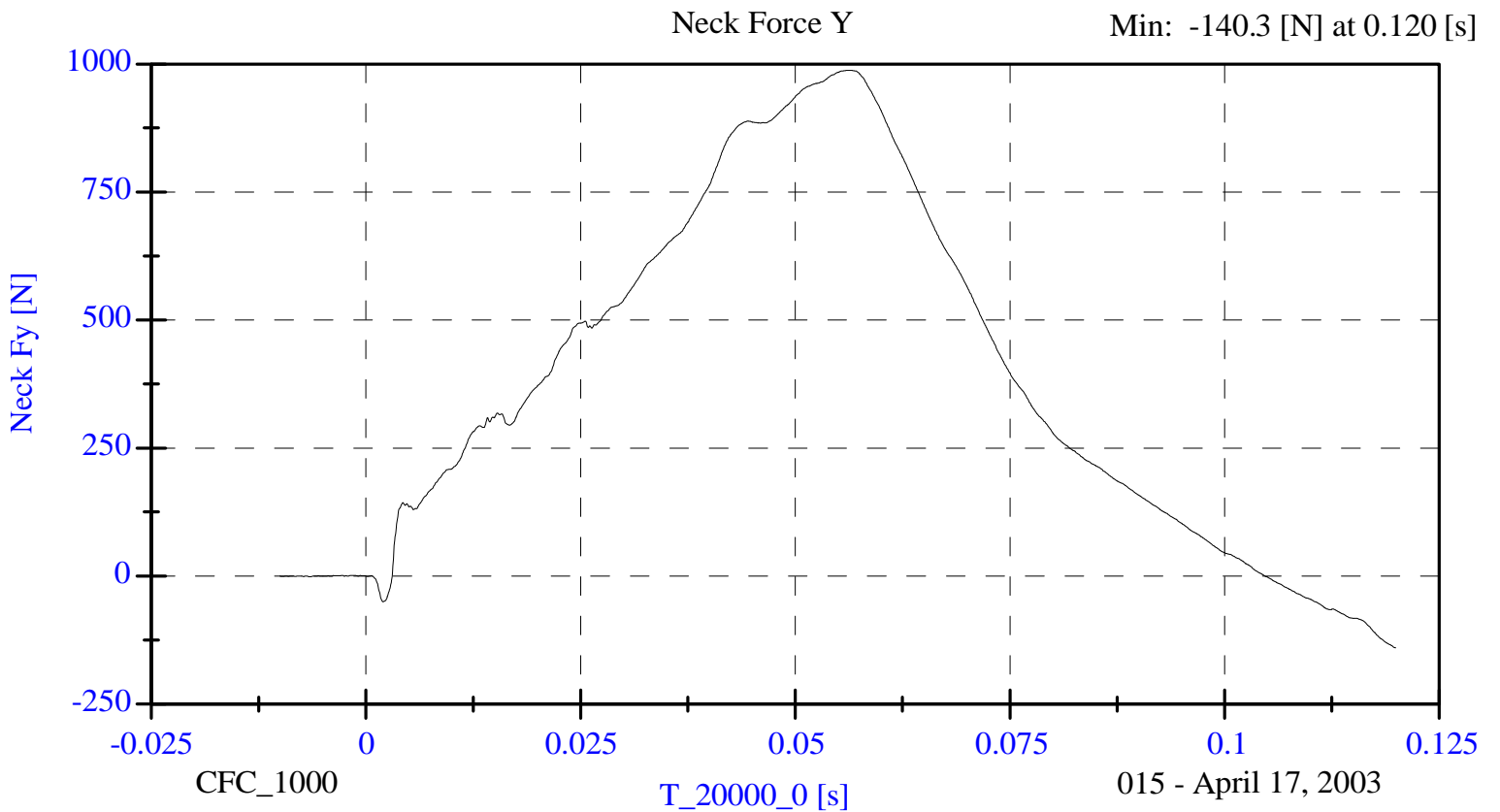
Max: 74.3 [N-m] at 0.052 [s]

Min: -21.5 [N-m] at 0.007 [s]



Max: 987.6 [N] at 0.056 [s]

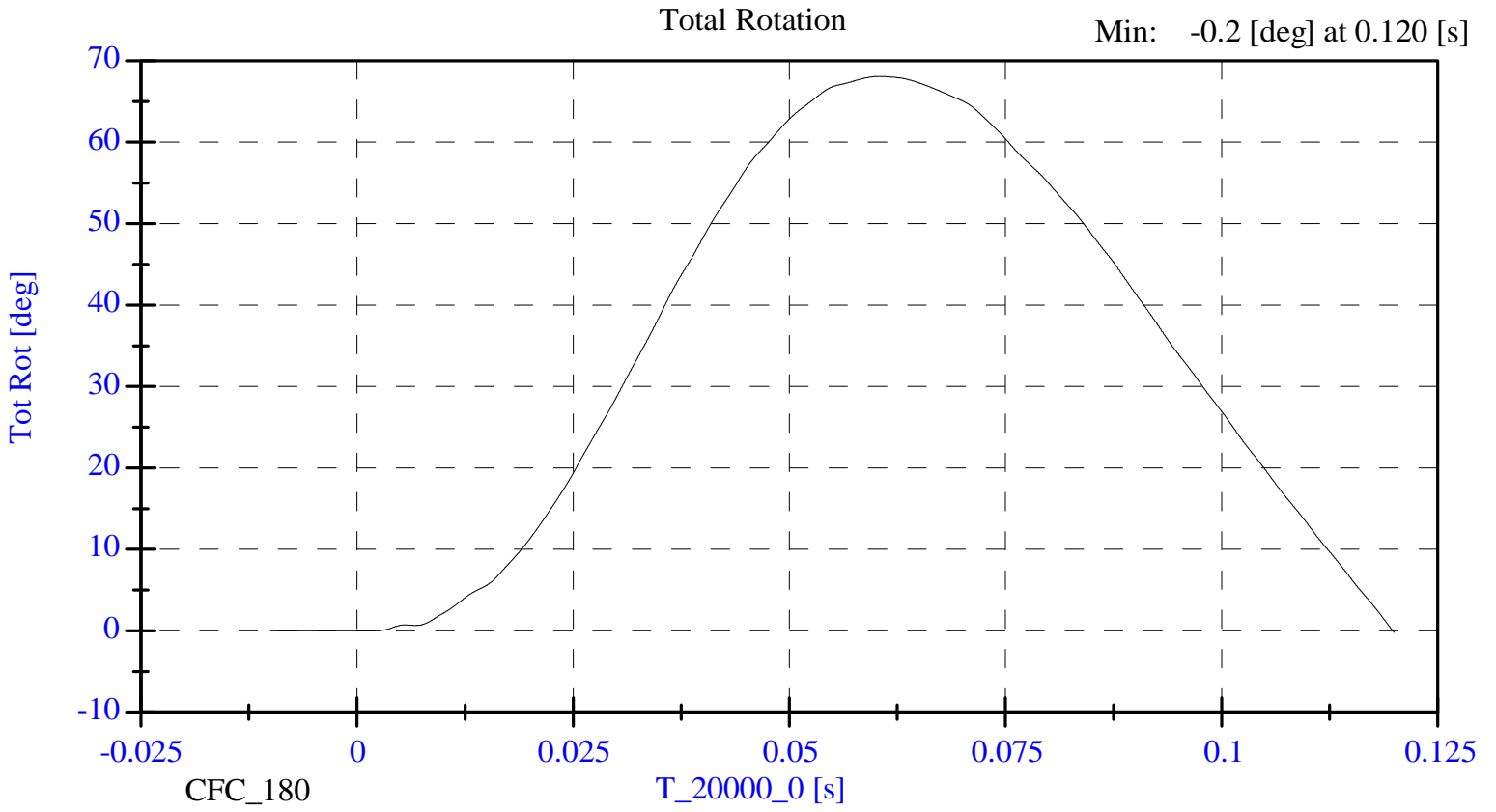
Min: -140.3 [N] at 0.120 [s]



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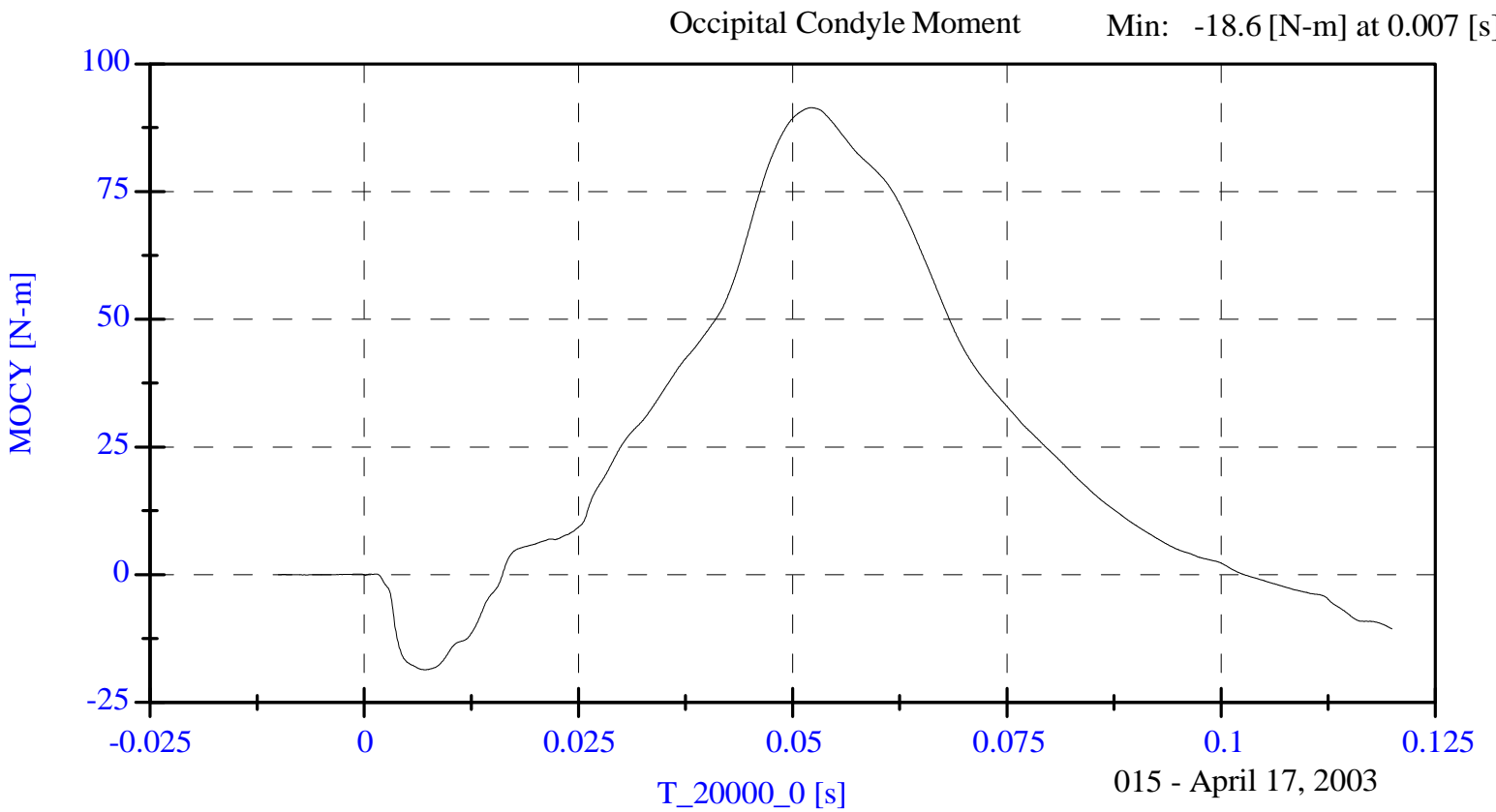
Max: 68.1 [deg] at 0.060 [s]

Min: -0.2 [deg] at 0.120 [s]



Max: 91.4 [N-m] at 0.052 [s]

Min: -18.6 [N-m] at 0.007 [s]



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**ABDOMINAL COMPRESSION TEST
POST TEST**

(Test not required for SID certification)

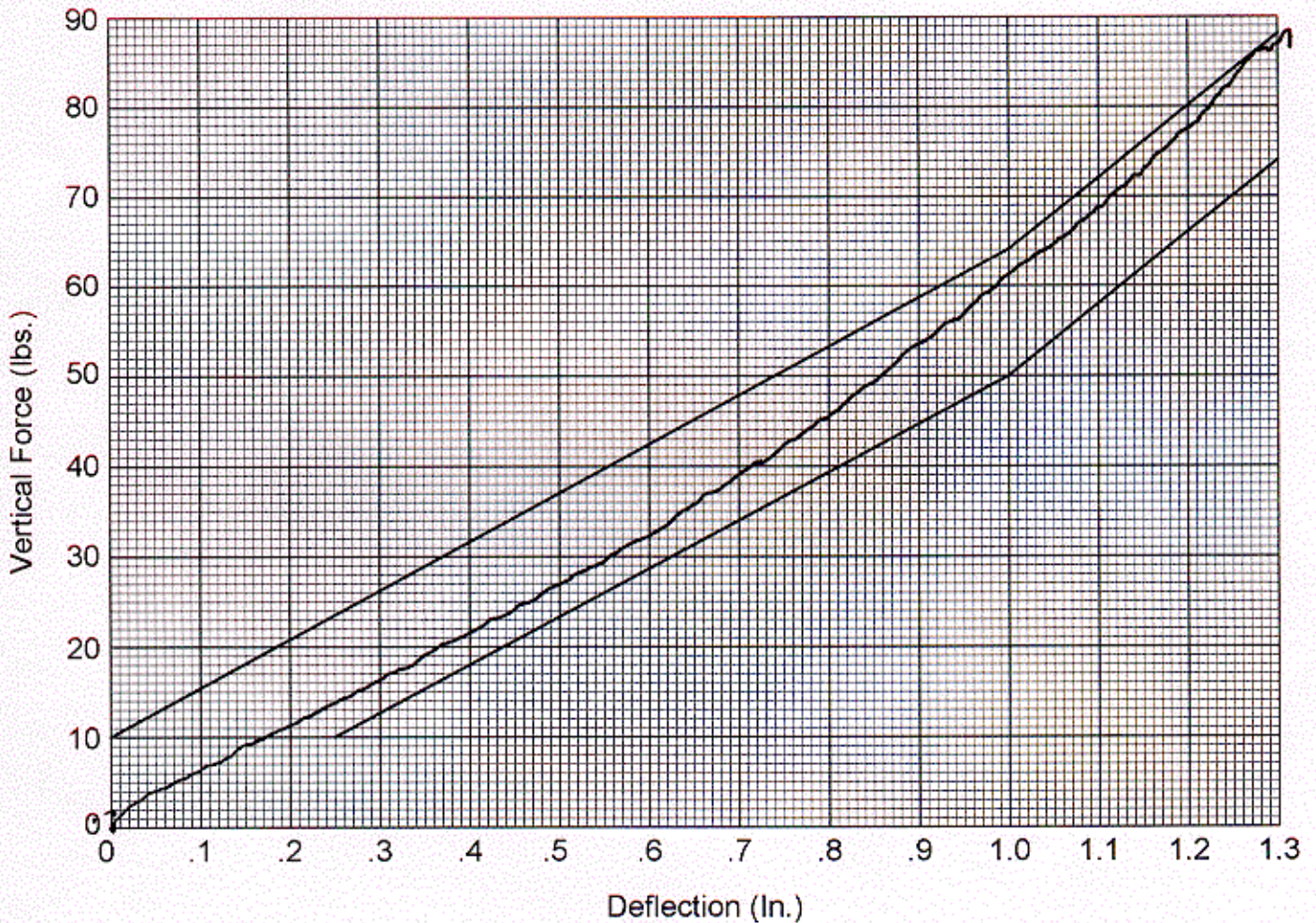
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 015 Sequential Test Number: 5
Date: April 17, 2003 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	33.0
FORCE @ 13 mm (N)	104 - 162	119.7
FORCE @ 19 mm (N)	163 - 221	187.7
FORCE @ 25 mm (N)	222 - 280	272.2
FORCE @ 33 mm (N)	325 - 391	387.0

REMARKS: None

Dummy S/N 015
W/A _____
Date 4-17-05
Performed By [Signature]
Temp. 70°
Humidity 33%



**Hybrid II
Abdomen Static Press**

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

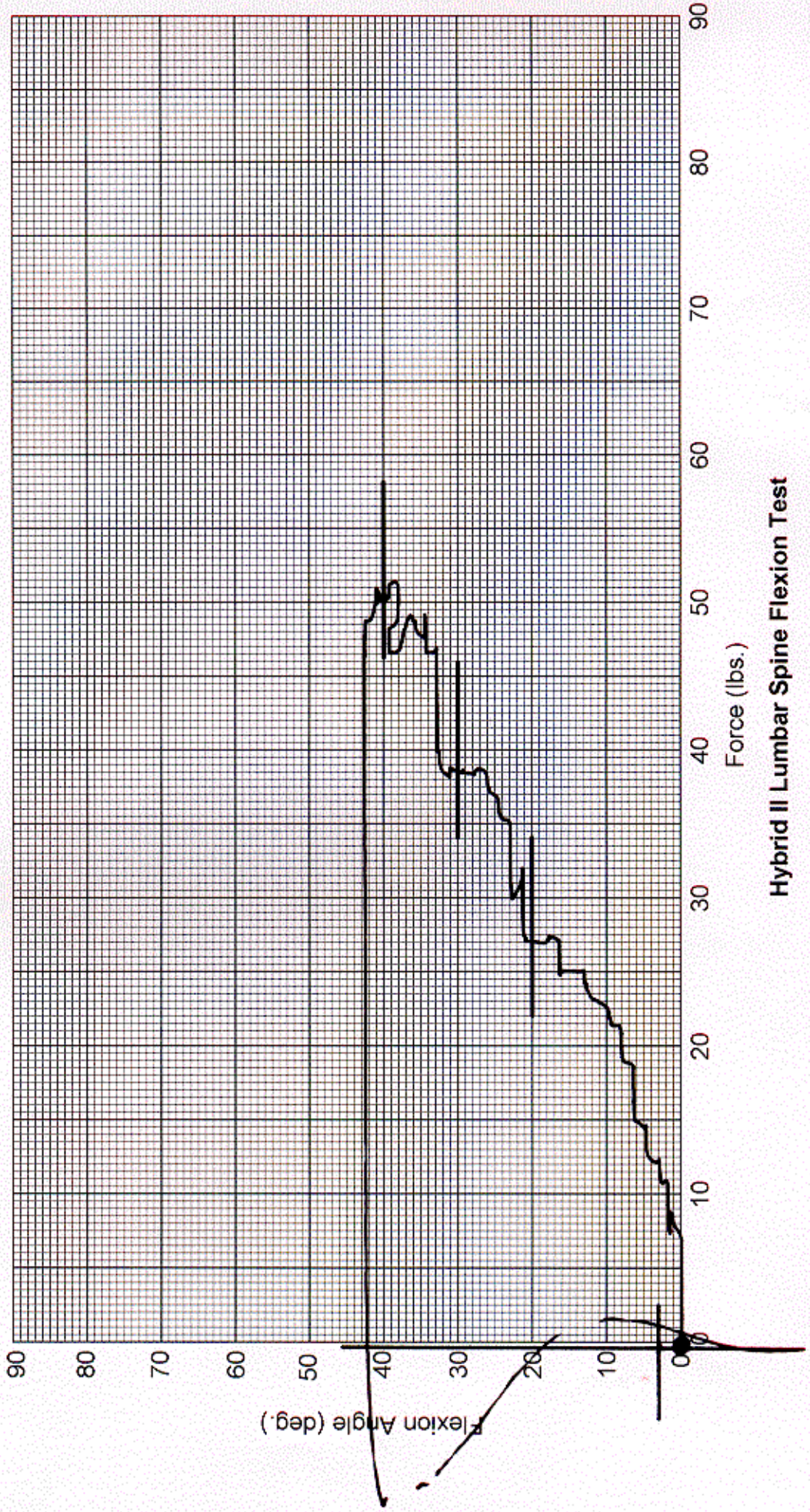
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 015 Sequential Test Number: 5
Date: April 17, 2003 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	33.0
FORCE @ 0° (N)	0 - 26.7	0.0
FORCE @ 20° (N)	97.8 - 151.2	120.5
FORCE @ 30° (N)	151.2 - 204.6	171.7
FORCE @ 40° (N)	204.6 - 258	223.3
RETURN ANGLE	12° max.	3°

REMARKS: None

Dummy S/N 015
 W/A _____
 Date 4-17-03
 Performed By [Signature]
 Temp. 70°
 Humidity 33%



Hybrid II Lumbar Spine Flexion Test

POST TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 015 Sequential Test Number: 5
 Date: April 17, 2003 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.: 016

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 016 Sequential Test Number: 5
Date: April 17, 2003 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*	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
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 016 Sequential Test Number: 5
Date: April 17, 2003 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	899
RH- Rib Height (mm)	502 - 520	513
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	239
KH- Knee Pivot from Back Line (mm)	511 - 526	521
KV- Knee Pivot to Floor (mm)	490 - 505	495
HW- Hip Width (mm)	356 - 391	368

REMARKS: None

**LATERAL THORAX IMPACT TEST
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 016 Sequential Test Number: 5
Date: April 17, 2003 Laboratory Technician: B. Swiecicki

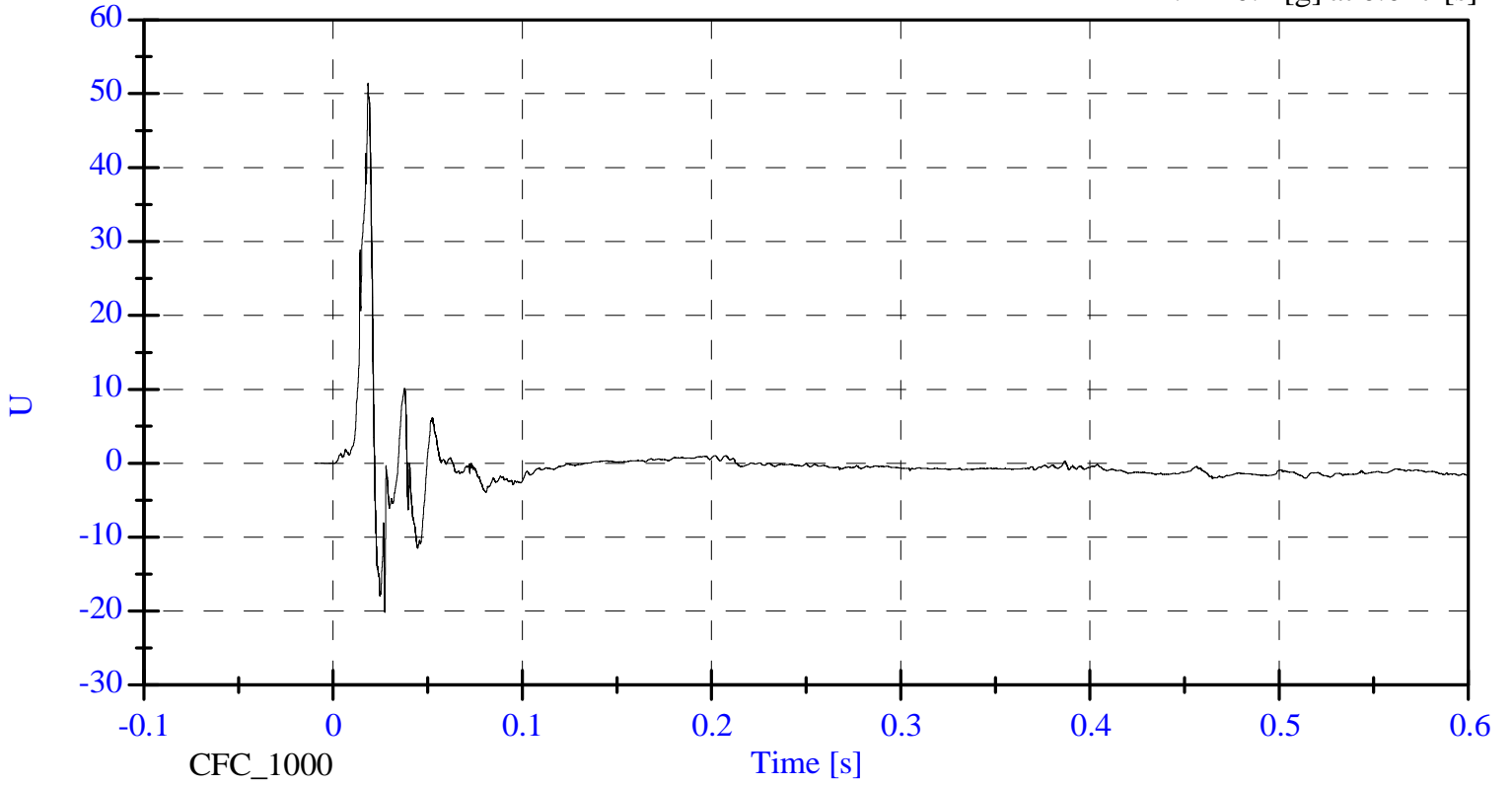
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	35.0
PROBE SPEED (m/s)	4.27 - 4.33	4.27
UPPER RIB (g's)	37 - 46	45.95
LOWER RIB (g's)	37 - 46	41.51
LOWER SPINE (g's)	15 - 22	21.93

REMARKS: None

Max: 51.4 [g] at 0.018 [s]

Min: -20.2 [g] at 0.027 [s]

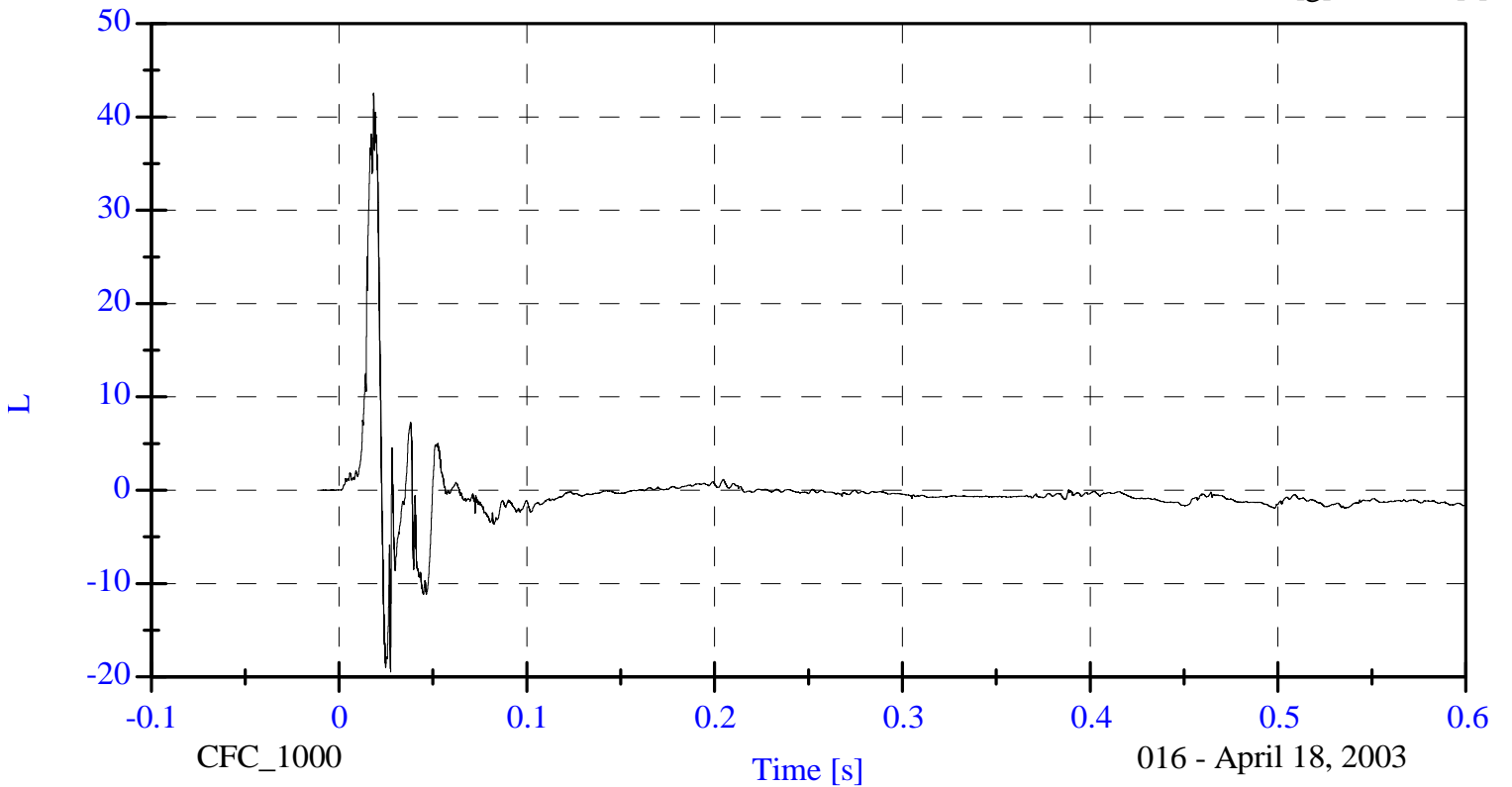
Upper Rib Y Acceleration



Max: 42.6 [g] at 0.018 [s]

Min: -19.5 [g] at 0.027 [s]

Lower Rib Y Acceleration

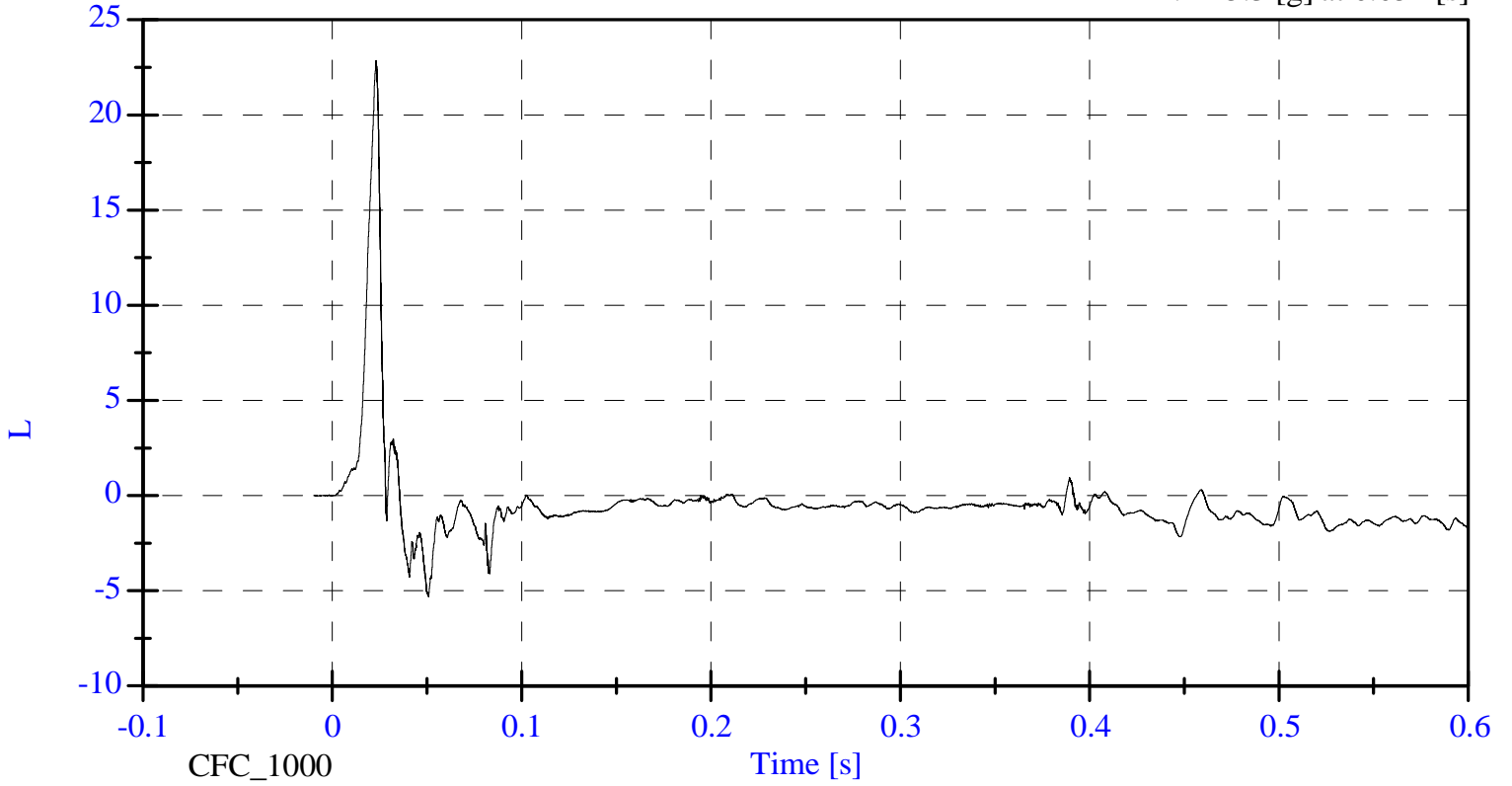


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Max: 22.9 [g] at 0.023 [s]

Min: -5.3 [g] at 0.051 [s]

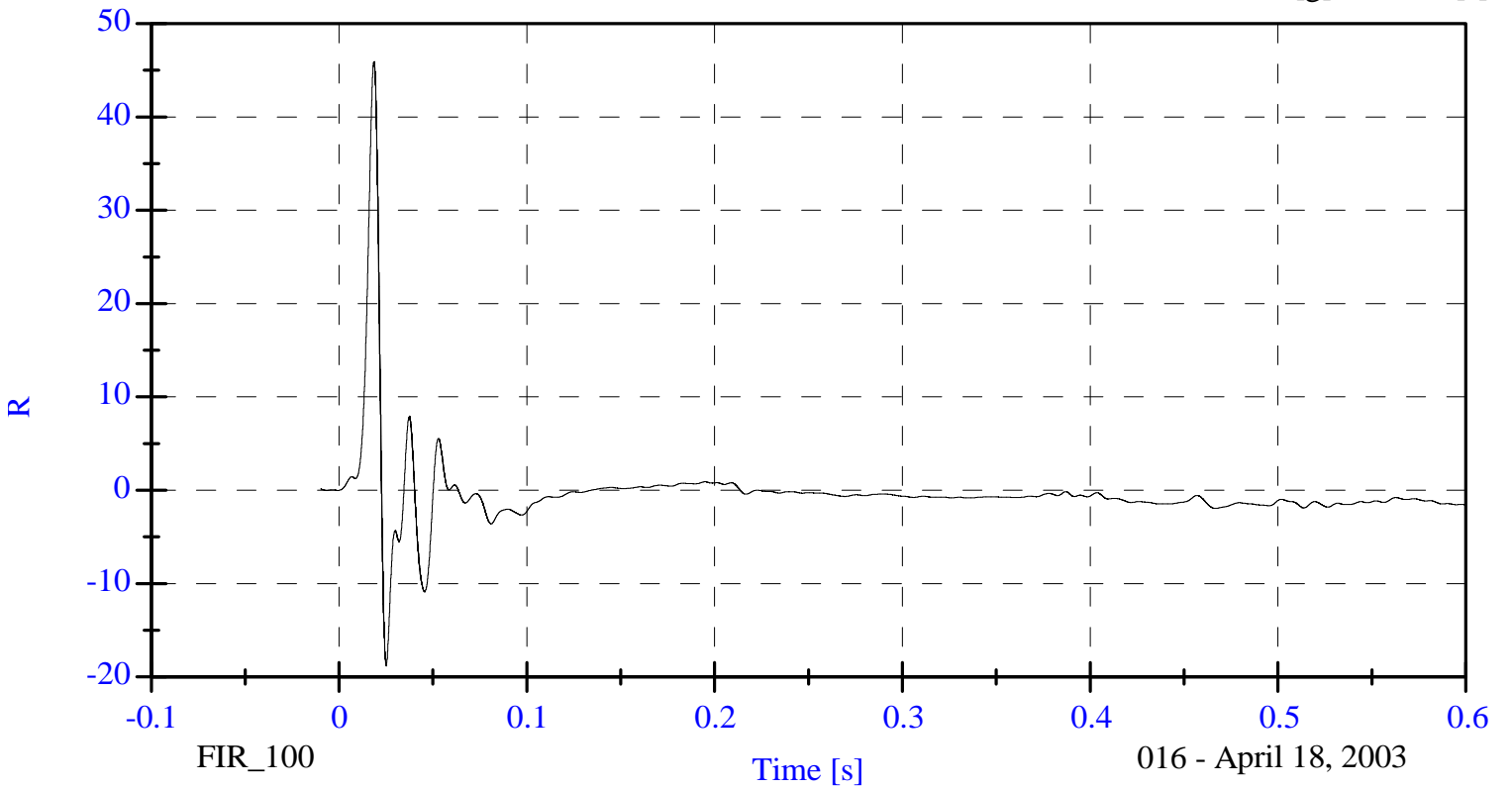
Lower Spine Y Acceleration



Max: 45.9 [g] at 0.019 [s]

Min: -18.9 [g] at 0.025 [s]

Upper Rib Y Acceleration

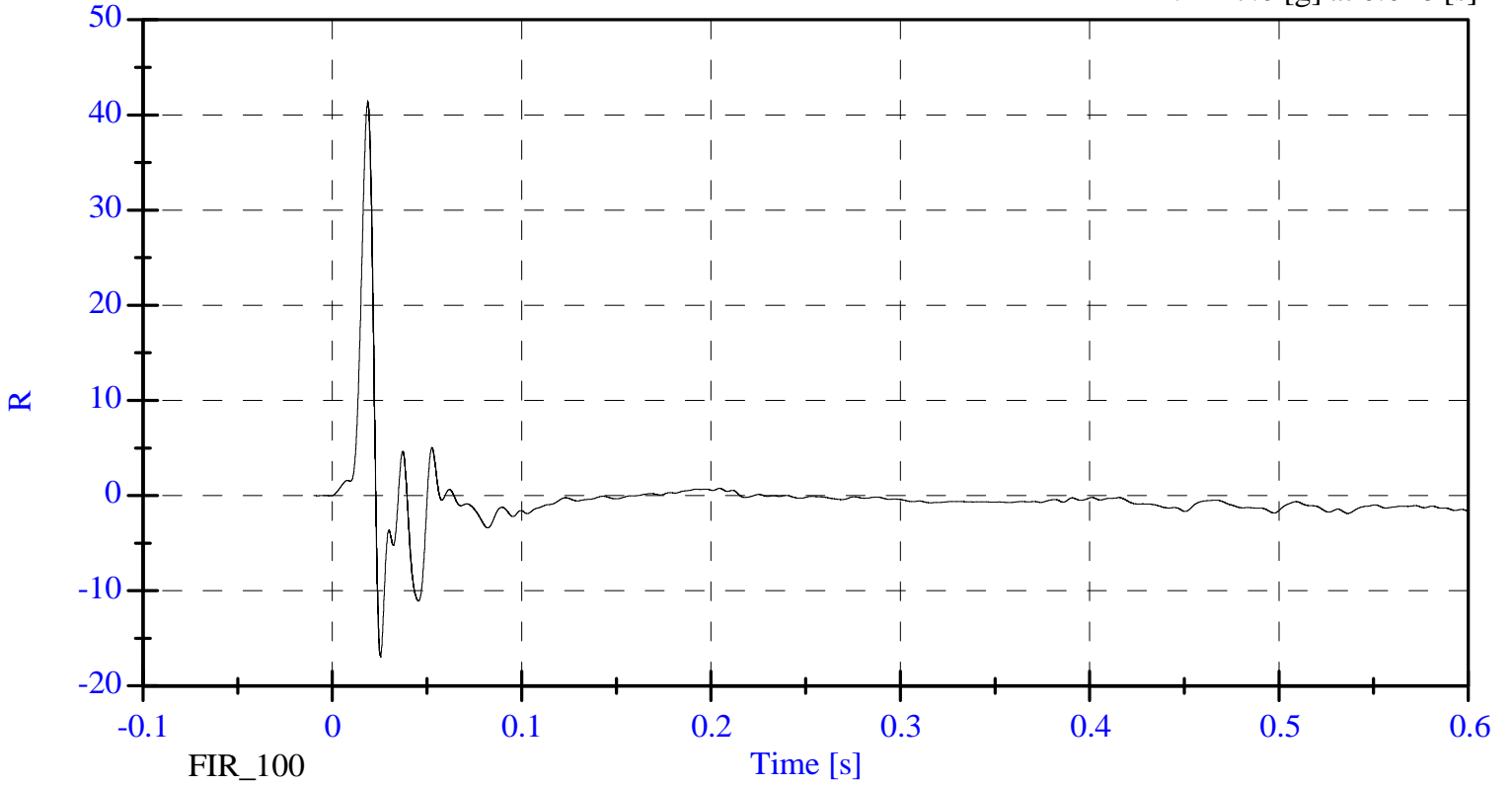


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Max: 41.5 [g] at 0.019 [s]

Min: -17.0 [g] at 0.026 [s]

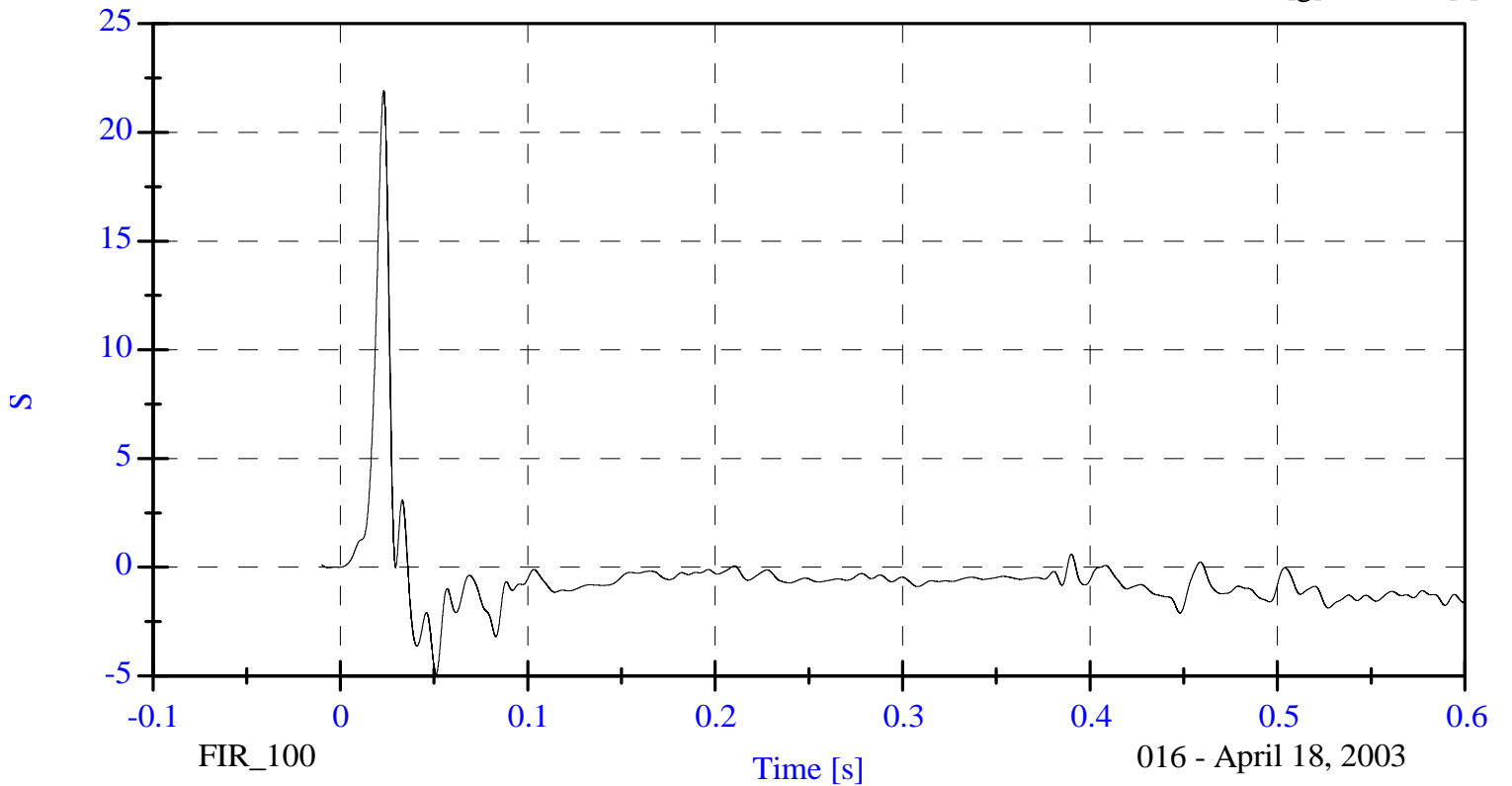
Lower Rib Y Acceleration



Max: 21.9 [g] at 0.023 [s]

Min: -4.9 [g] at 0.051 [s]

Lower Spine Y Acceleration



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**LATERAL PELVIS IMPACT TEST
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 016 Sequential Test Number: 5
Date: April 17, 2003 Laboratory Technician: B. Swiecicki

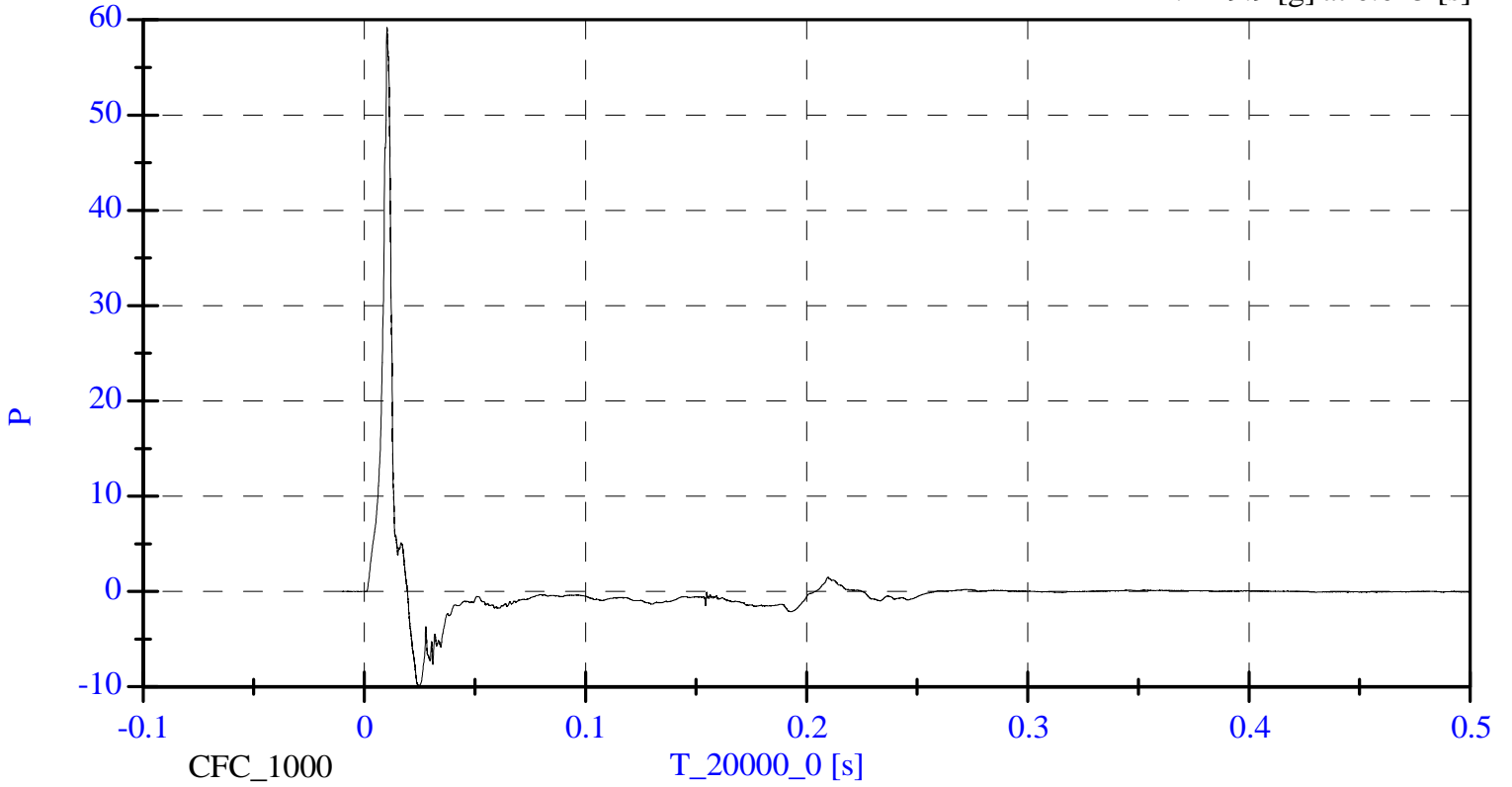
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	35.0
PROBE SPEED (m/s)	4.27 - 4.33	4.28
PELVIS ACCELERATION (g's)	40 - 60	47.79

REMARKS: None

Max: 59.2 [g] at 0.010 [s]

Min: -9.9 [g] at 0.025 [s]

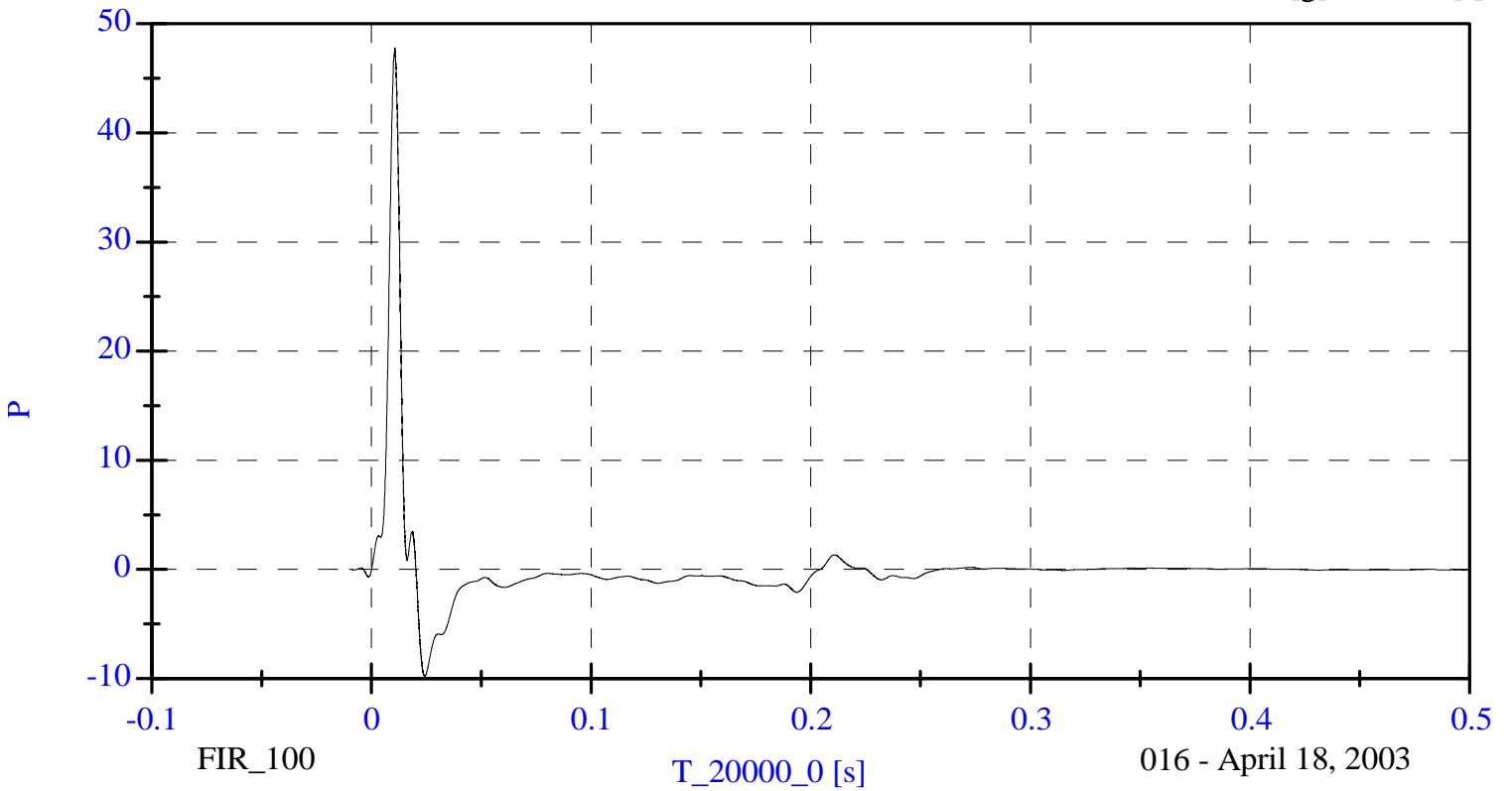
Pelvis Acceleration



Max: 47.8 [g] at 0.011 [s]

Min: -9.8 [g] at 0.024 [s]

Pelvis Y Acceleration



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**HEAD DROP TEST
POST-TEST**
(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 016 Sequential Test Number: 5
Date: April 16, 2003 Laboratory Technician: B. Swiecicki

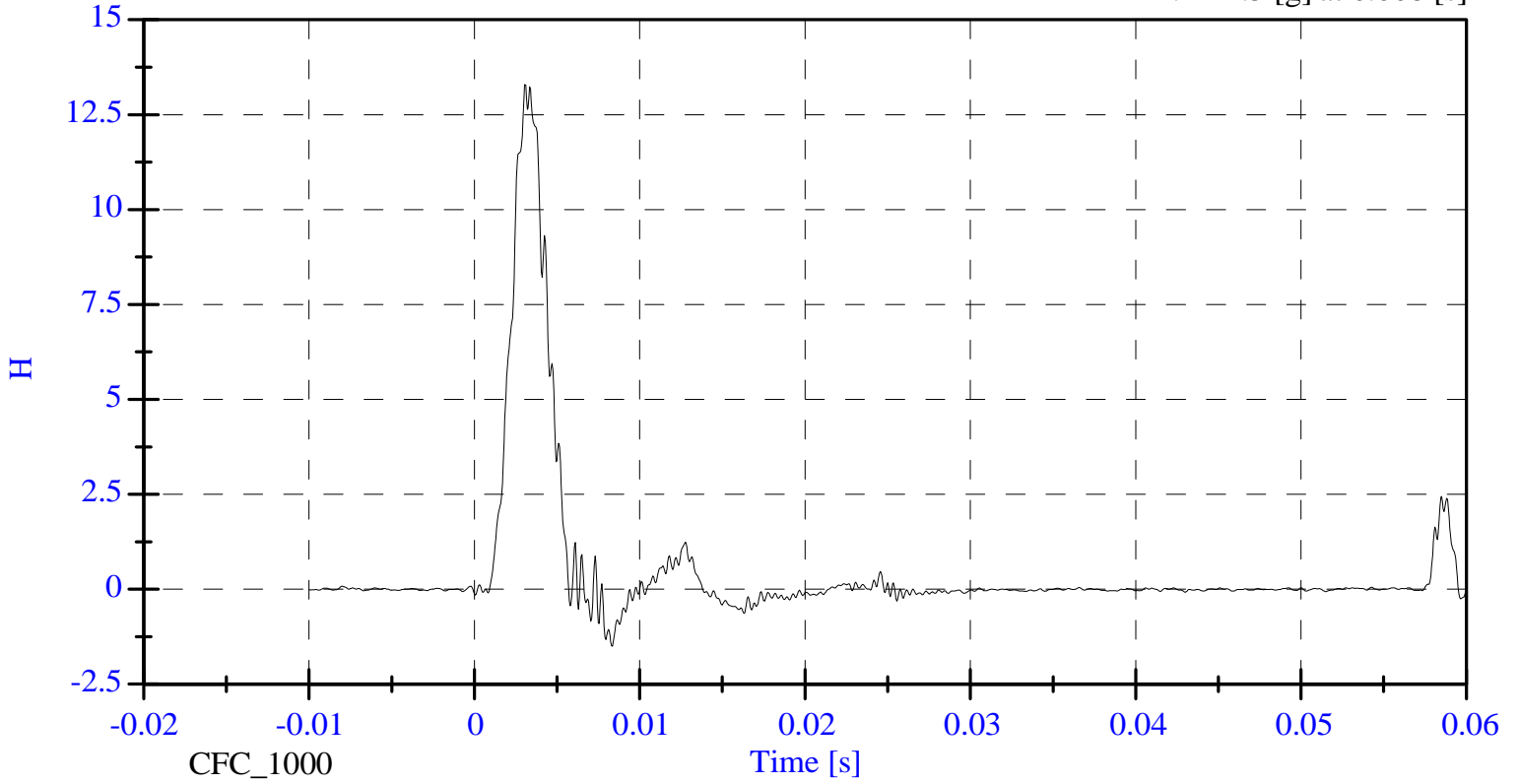
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	20.6 – 22.2	20.7
RELATIVE HUMIDITY (%)	10 – 70	30.00
PEAK RESULTANT ACCELERATION (Gs)	120 – 150	135.07
PEAK LATERAL ACCELERATION (Gs)	Not to Exceed 15	13.29
CURVE PERCENT NONMODAL (%)	< 15	6.83

REMARKS: None

Max: 13.3 [g] at 0.003 [s]

Min: -1.5 [g] at 0.008 [s]

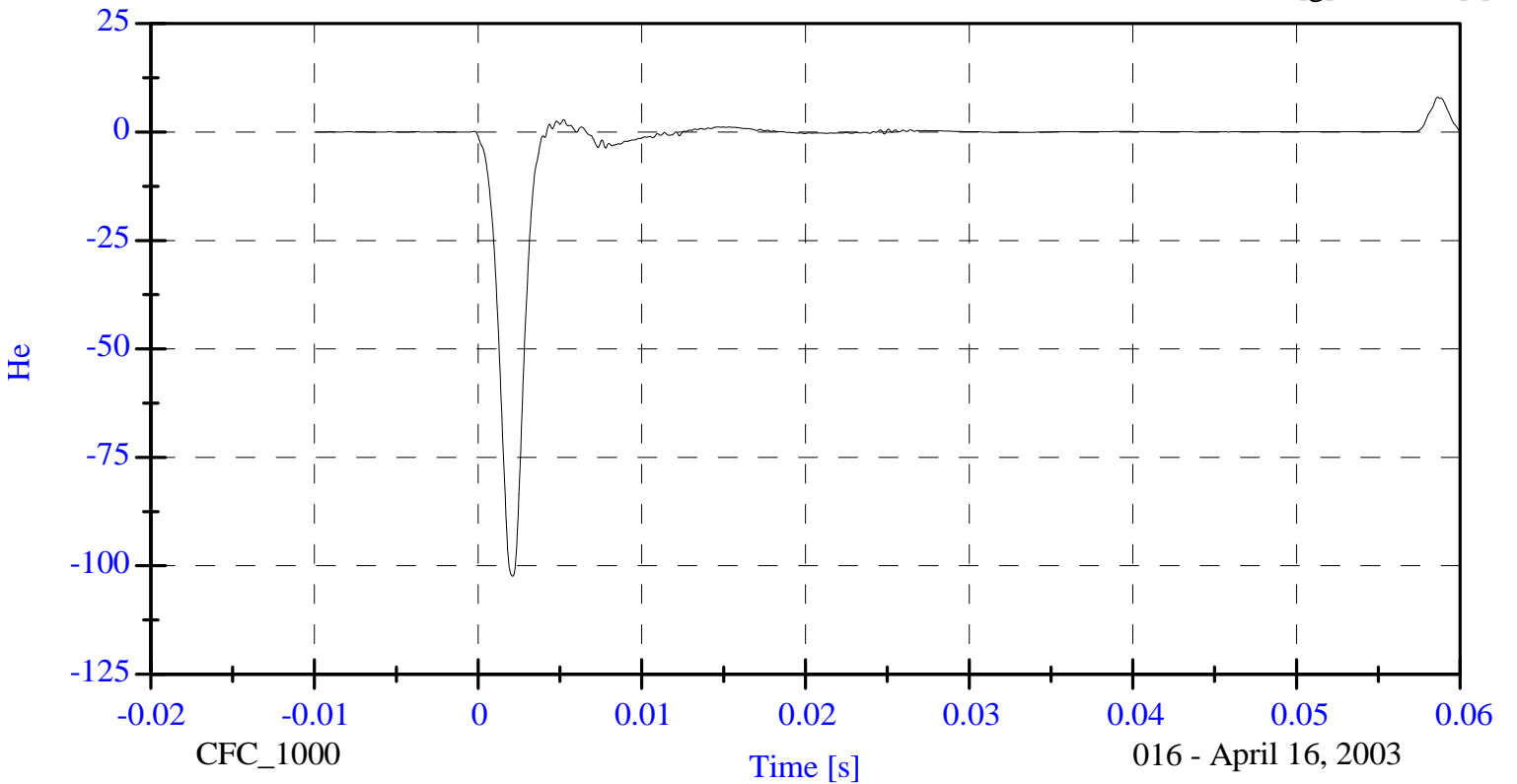
Head X Acceleration



Max: 8.0 [g] at 0.059 [s]

Min: -102.4 [g] at 0.002 [s]

Head Y Acceleration



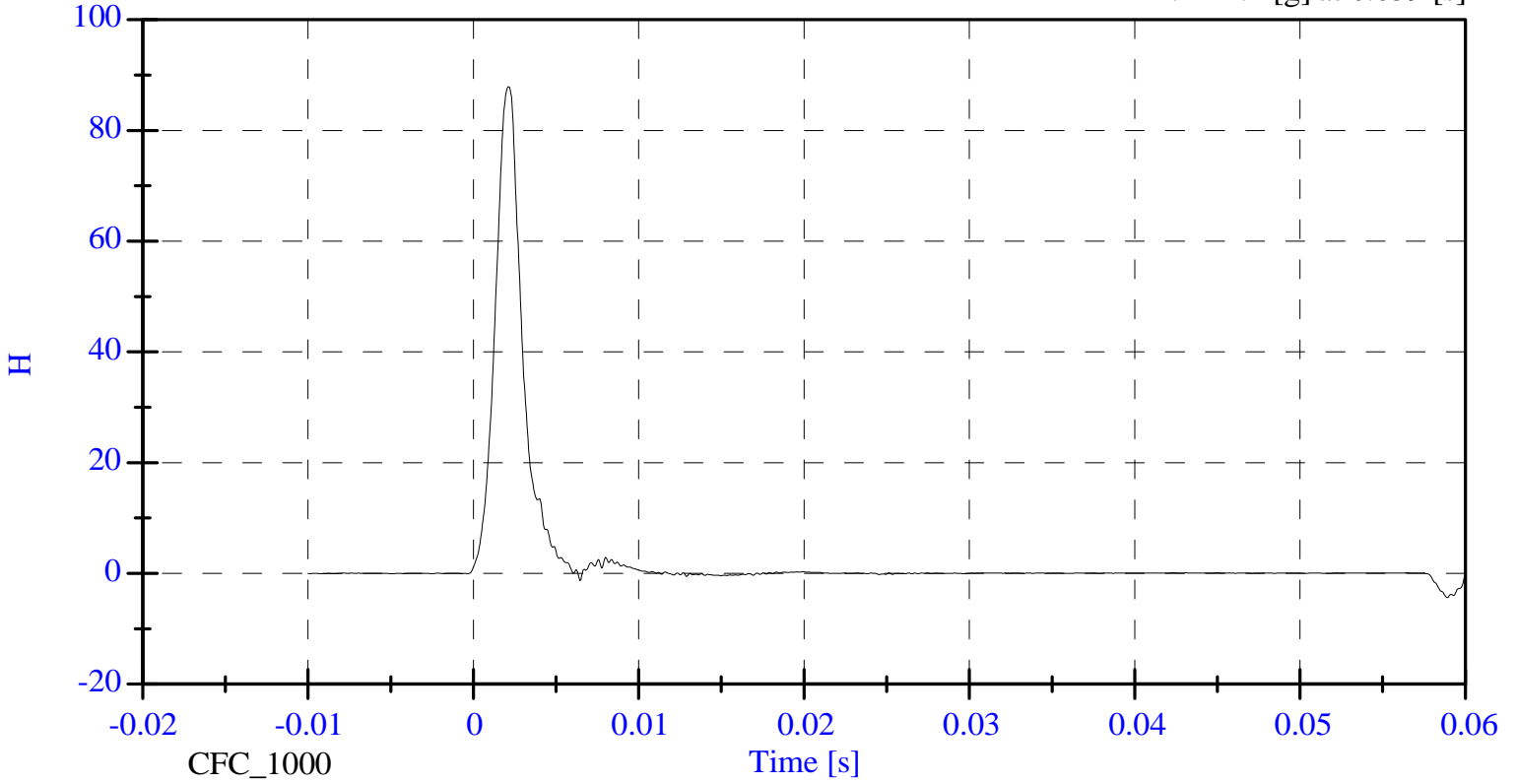
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SID HYIII 9AAU Head Drop

Max: 87.9 [g] at 0.002 [s]

Min: -4.4 [g] at 0.059 [s]

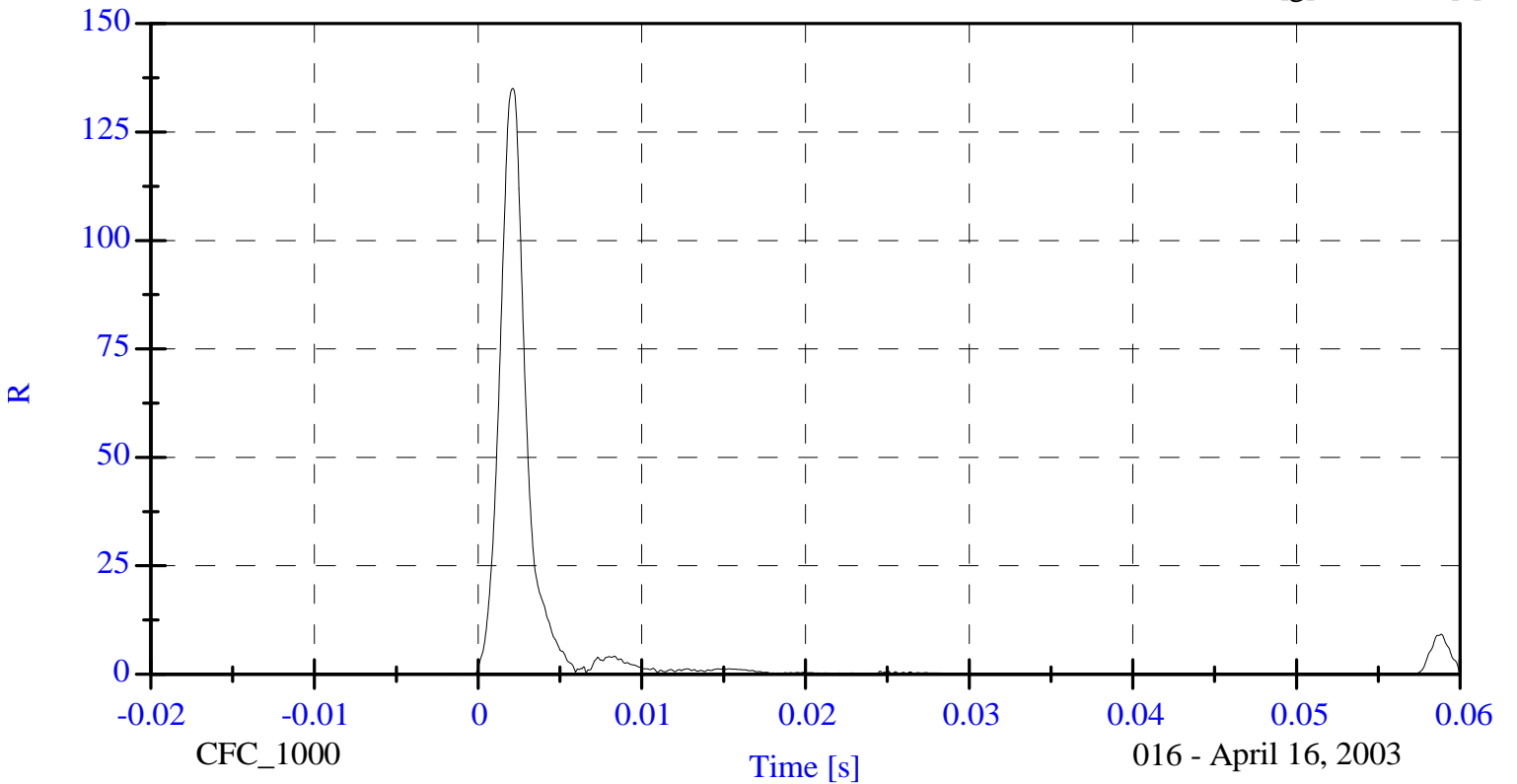
Head Z Acceleration



Max: 135.1 [g] at 0.002 [s]

Min: 0.0 [g] at -0.005 [s]

Head Resultant



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**LATERAL NECK BENDING TEST
POST-TEST**
(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 016 Sequential Test Number: 5
Date: April 17, 2003 Laboratory Technician: B. Swiecicki

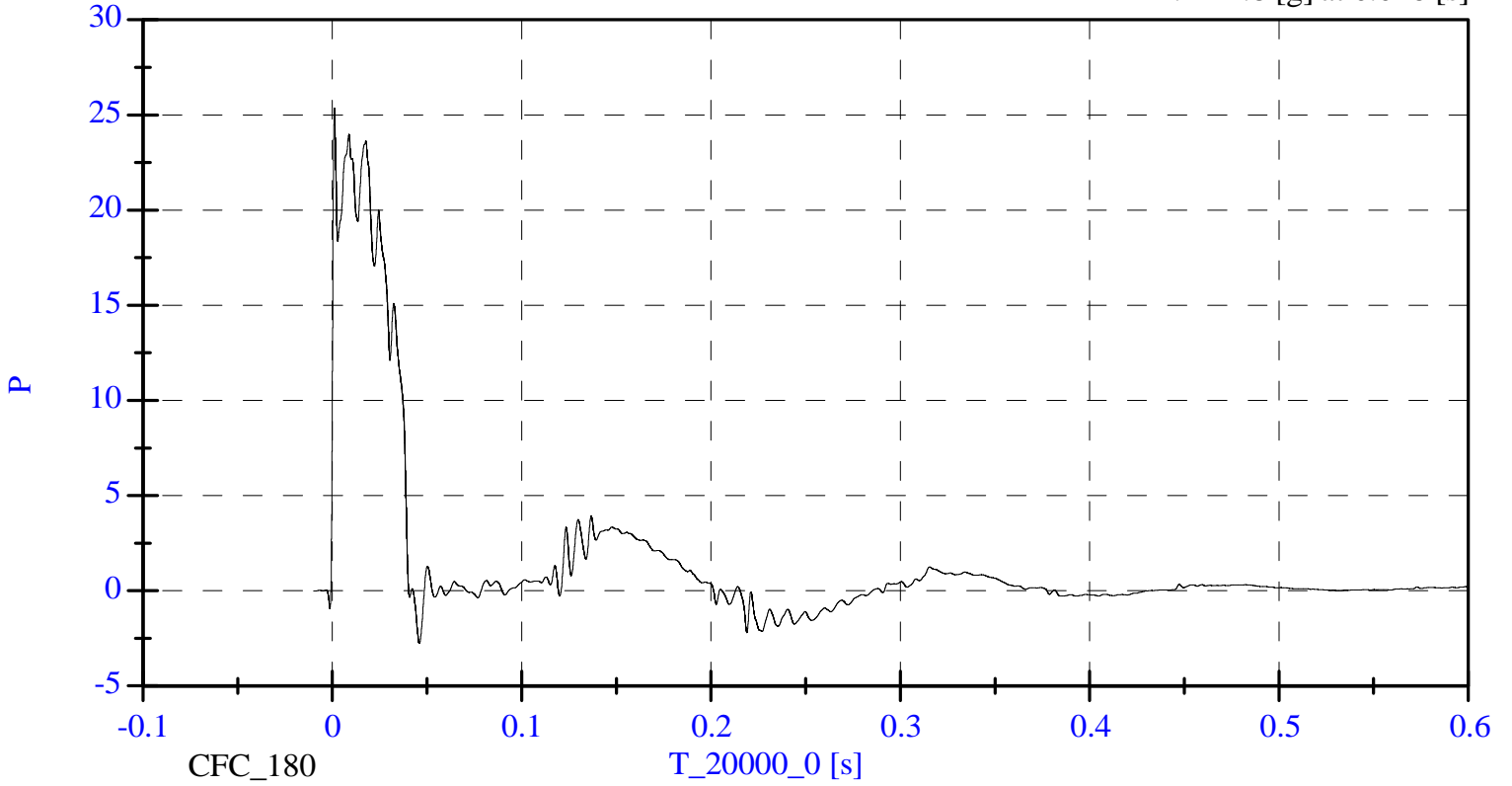
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	20.6 - 22.2	21.1
RELATIVE HUMIDITY (%)	10 - 70	33.0
IMPACT VELOCITY (m/s)	6.89 - 7.13	6.94
PENDULUM DELTA V		
DELTA V @ 10 ms (m/s)	1.96 - 2.55	2.12
DELTA V @ 20 ms (m/s)	4.12 - 5.10	4.26
DELTA V @ 30 ms (m/s)	5.73 - 7.01	5.99
DELTA V @ 40-70 ms (m/s)	6.27 - 7.64	7.16
D PLANE ROTATION		
MAXIMUM ROTATION (deg)	64 - 78	71.91
ROT. ANGLE TIME to ZERO (ms)	50 - 70	60.95
MOMENT ABOUT THE OCCIPITAL CONDYLE		
MAX OCCIPITAL MOMENT (Nm)	88 - 108	88.76
OCCIPITAL MOMENT DECAY (ms)	40.0 - 60.0	51.85
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT		
ROTATION wrt MOMENT (ms)	0 - 20	8.70

REMARKS: None

Max: 25.4 [g] at 0.001 [s]

Min: -2.8 [g] at 0.046 [s]

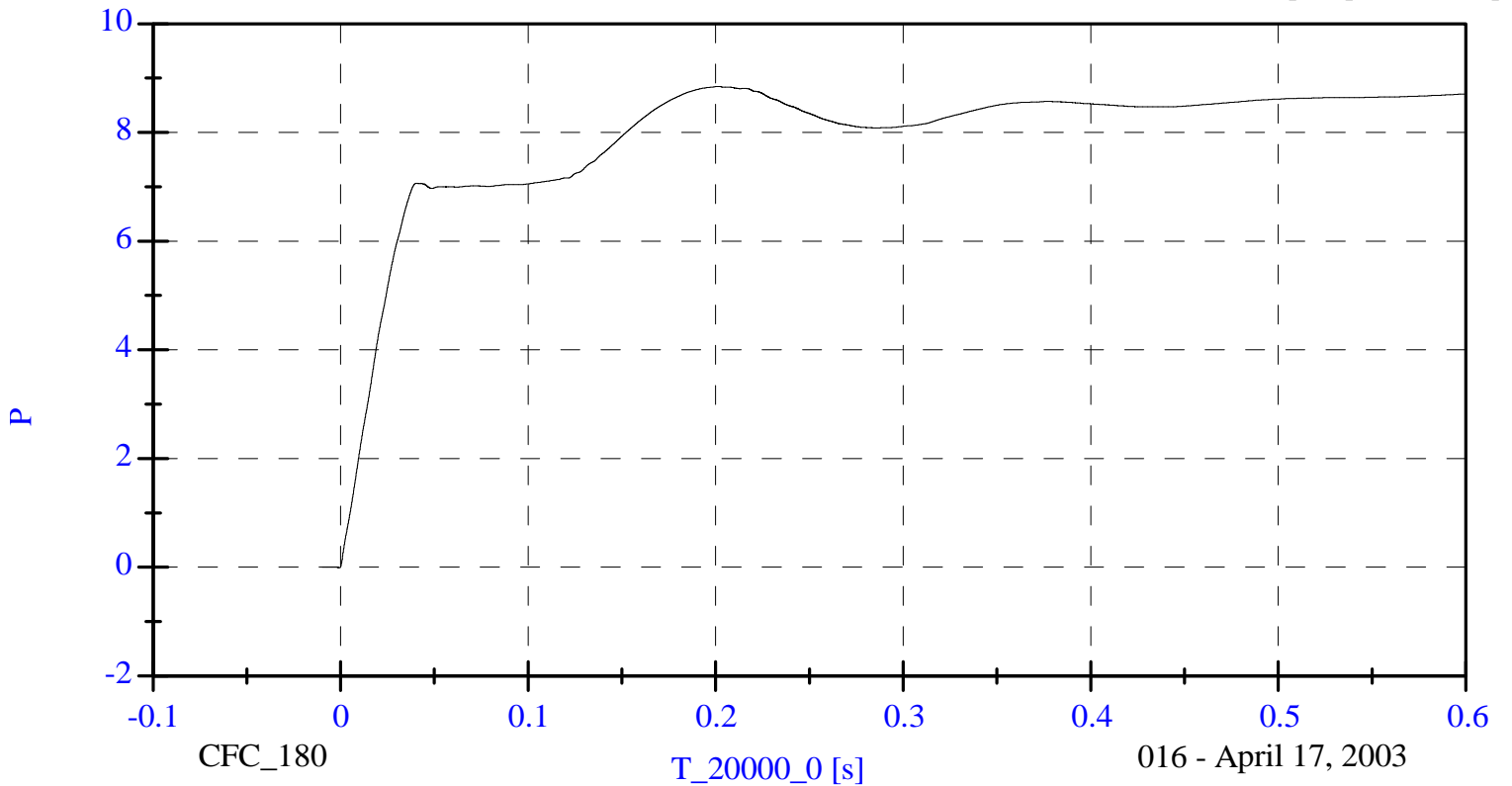
Pendulum Acceleration



Max: 8.8 [m/s] at 0.201 [s]

Min: -0.0 [m/s] at -0.001 [s]

Pendulum Velocity

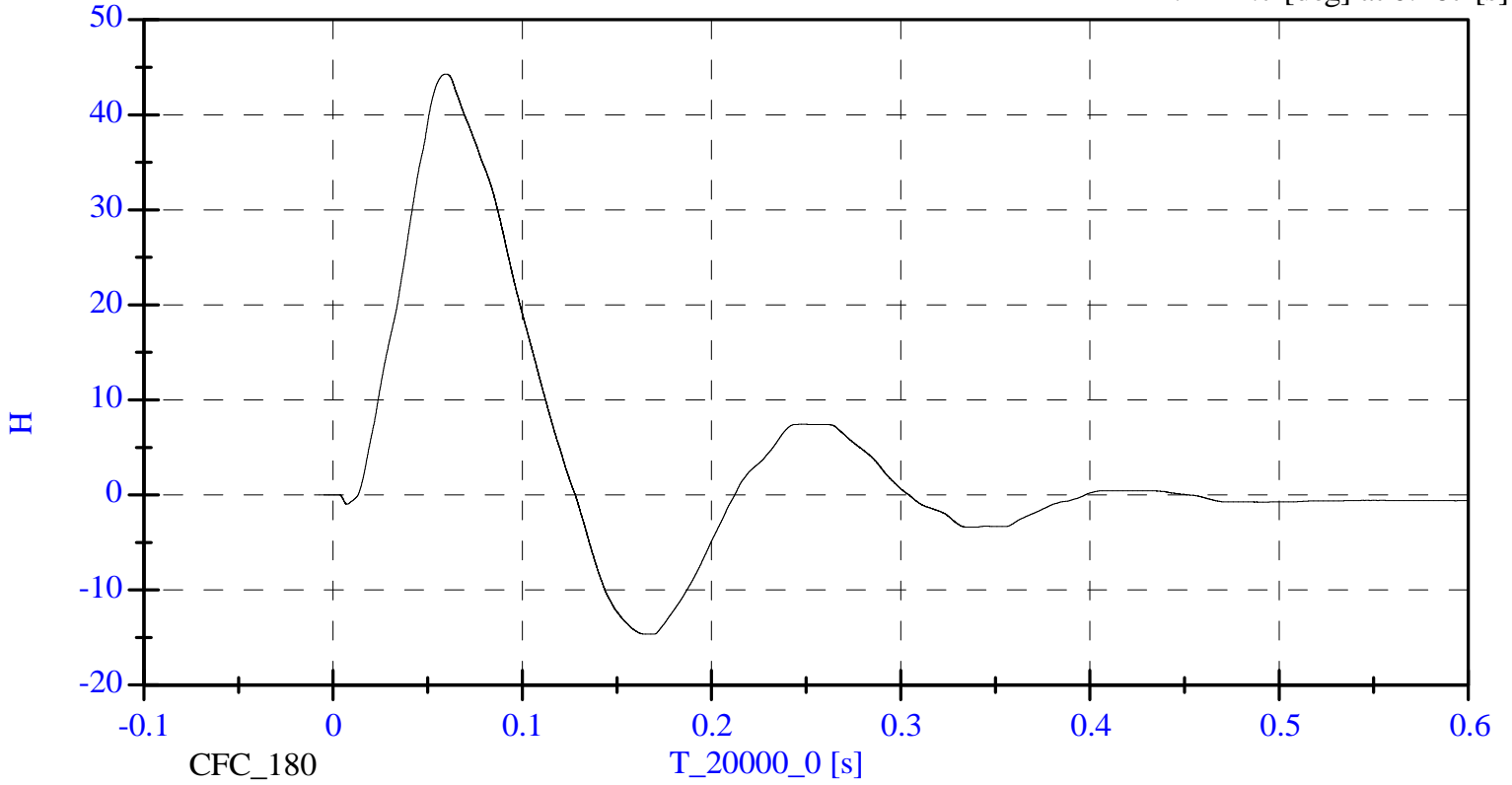


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Max: 44.3 [deg] at 0.060 [s]

Min: -14.7 [deg] at 0.167 [s]

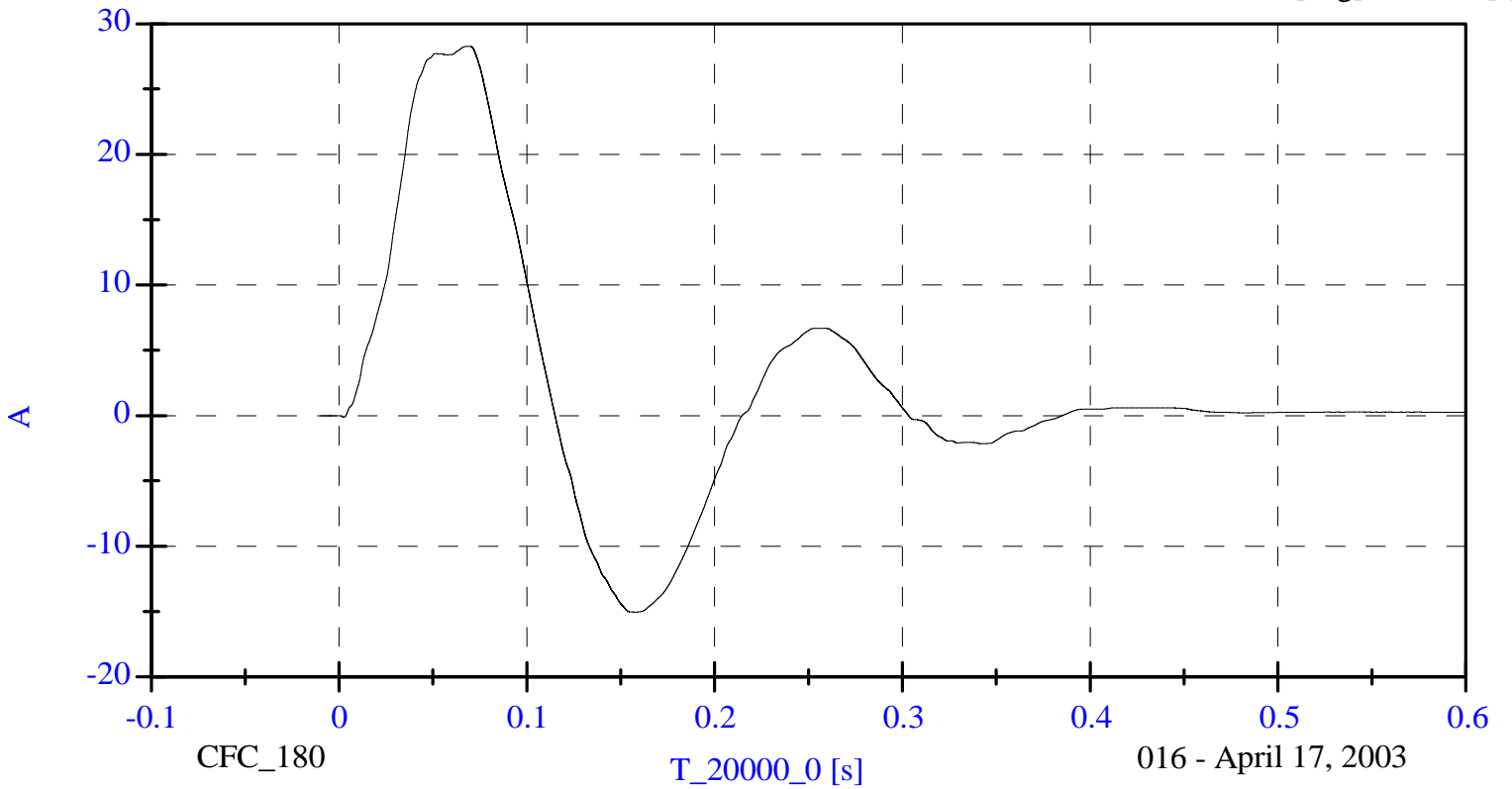
Head Rotation



Max: 28.3 [deg] at 0.069 [s]

Min: -15.1 [deg] at 0.157 [s]

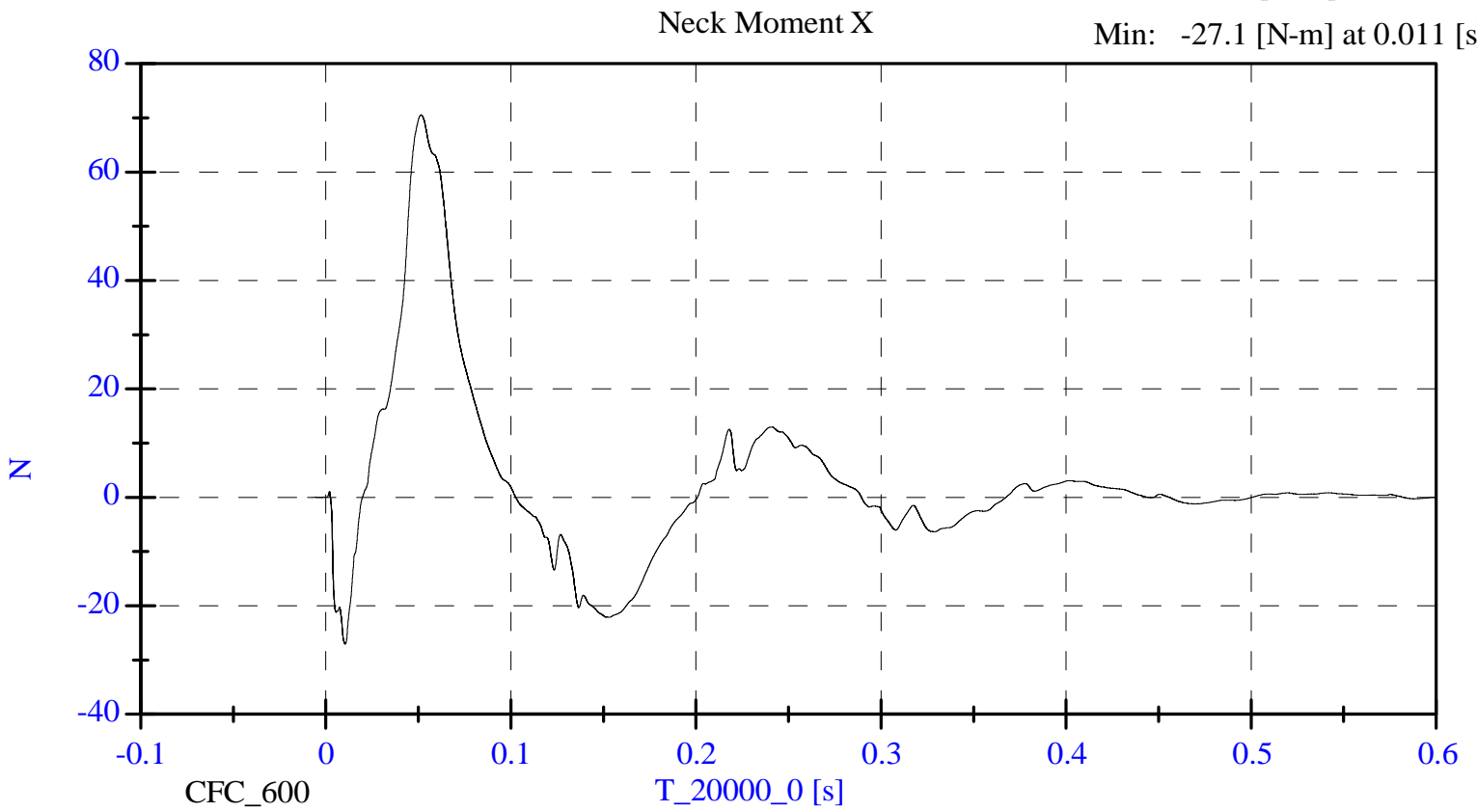
Arm Rotation



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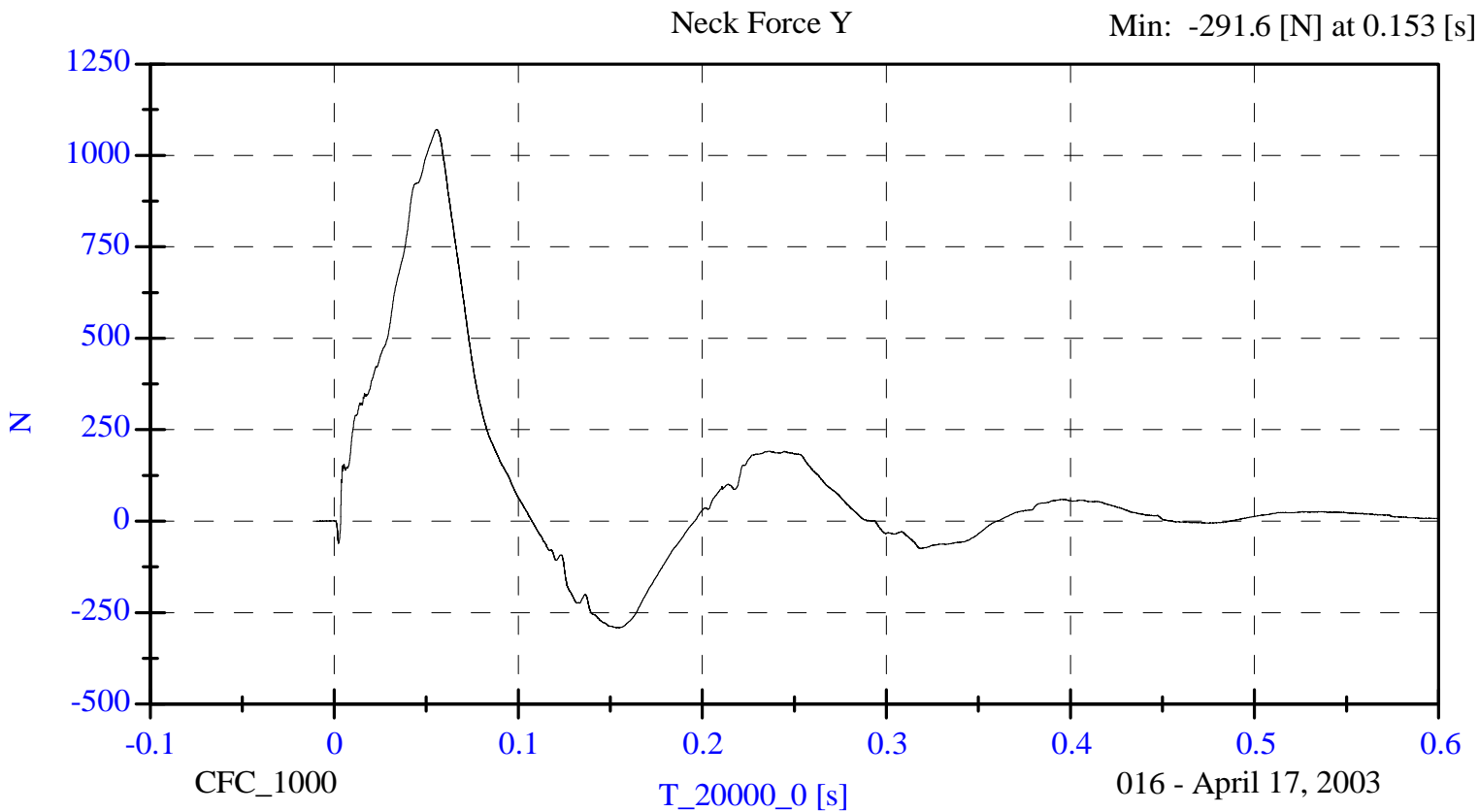
Max: 70.5 [N-m] at 0.051 [s]

Min: -27.1 [N-m] at 0.011 [s]



Max: 1070.9 [N] at 0.055 [s]

Min: -291.6 [N] at 0.153 [s]

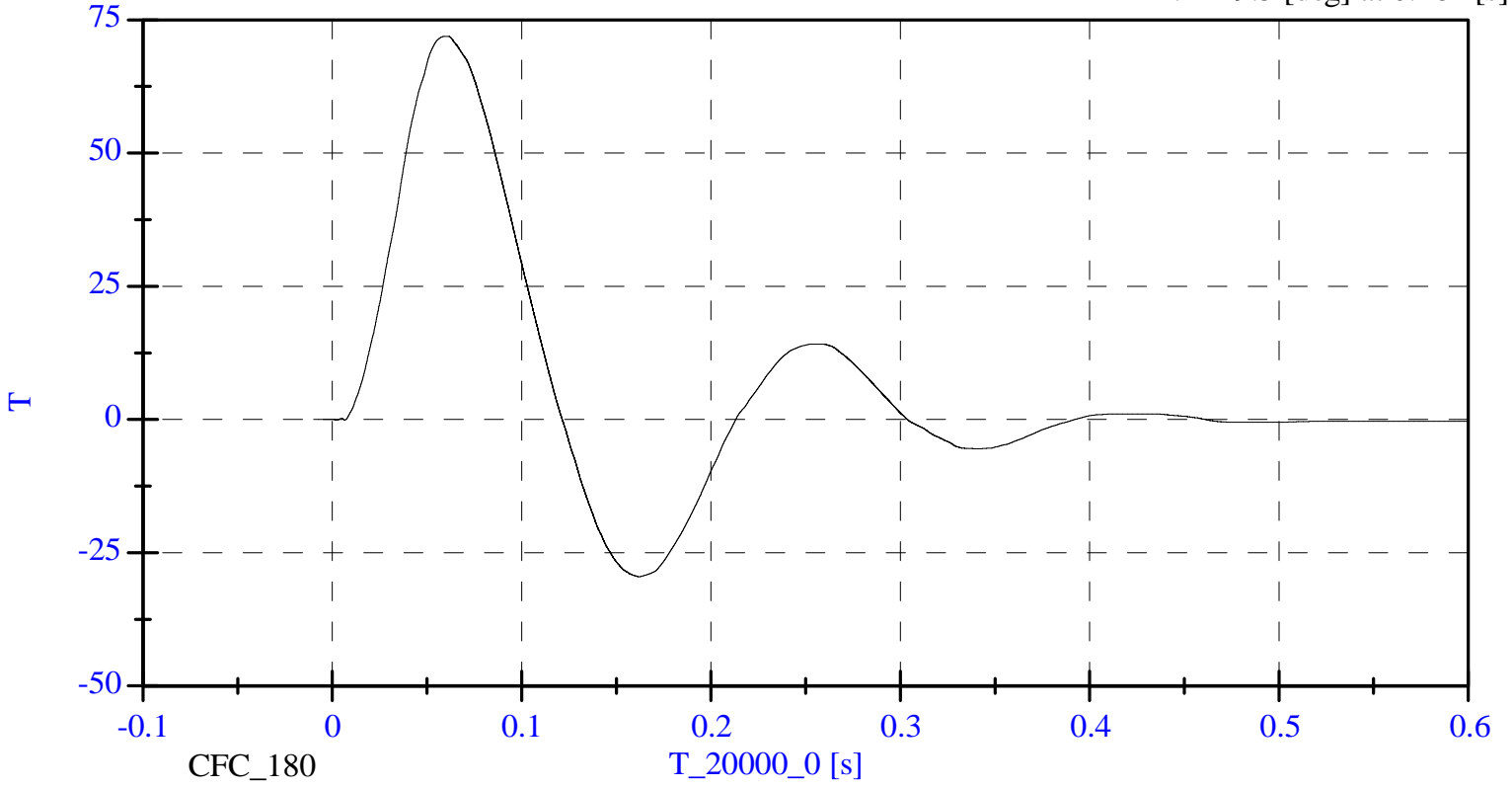


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Max: 71.9 [deg] at 0.060 [s]

Min: -29.5 [deg] at 0.162 [s]

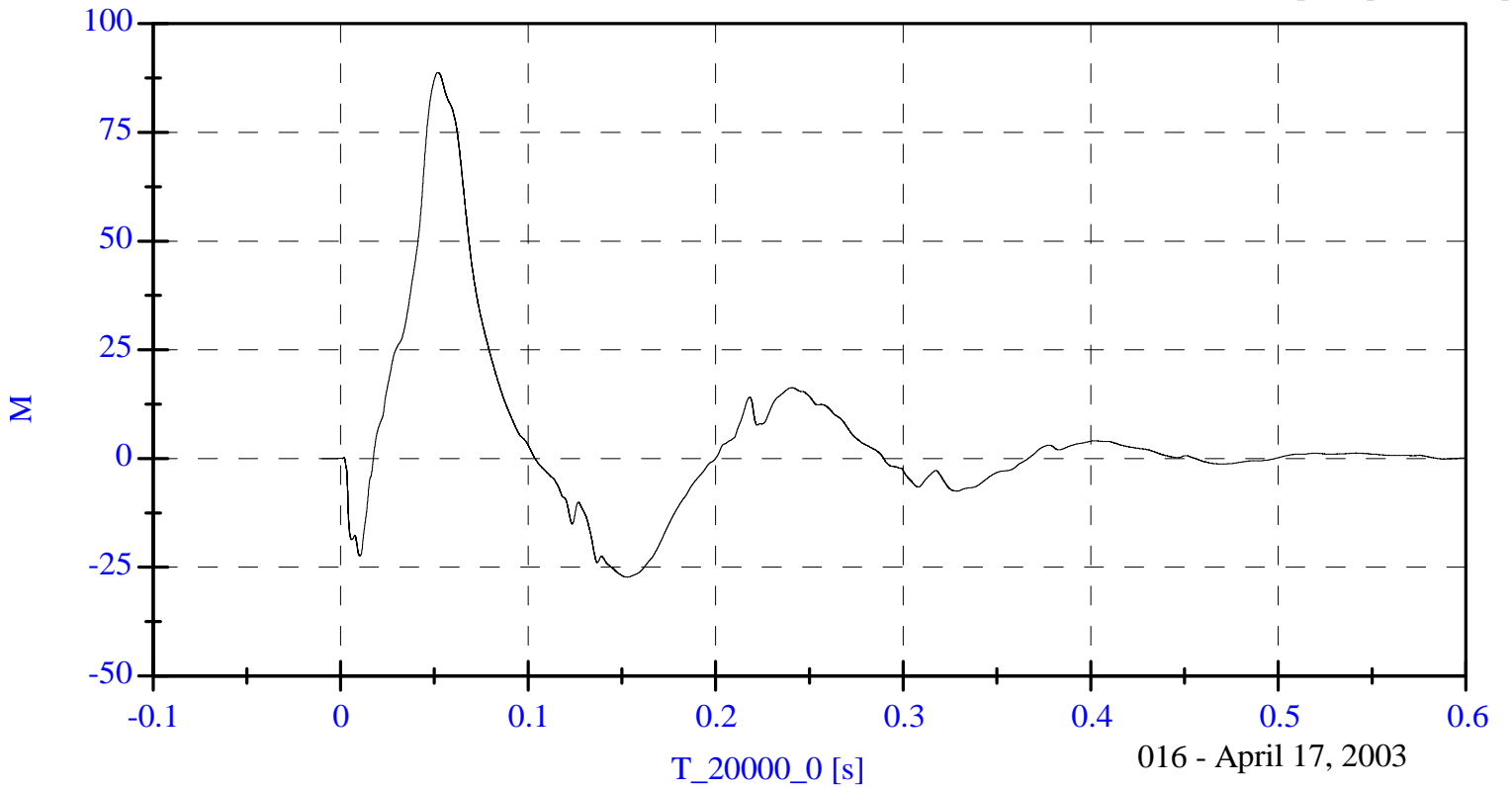
Total Rotation



Max: 88.8 [N-m] at 0.052 [s]

Min: -27.3 [N-m] at 0.153 [s]

Occipital Condyle Moment



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**ABDOMINAL COMPRESSION TEST
POST TEST**

(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 016 Sequential Test Number: 5
Date: April 17, 2003 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	33.0
FORCE @ 13 mm (N)	104 - 162	106.3
FORCE @ 19 mm (N)	163 - 221	165.0
FORCE @ 25 mm (N)	222 - 280	235.3
FORCE @ 33 mm (N)	325 - 391	334.1

REMARKS: None

Dummy S/N 016

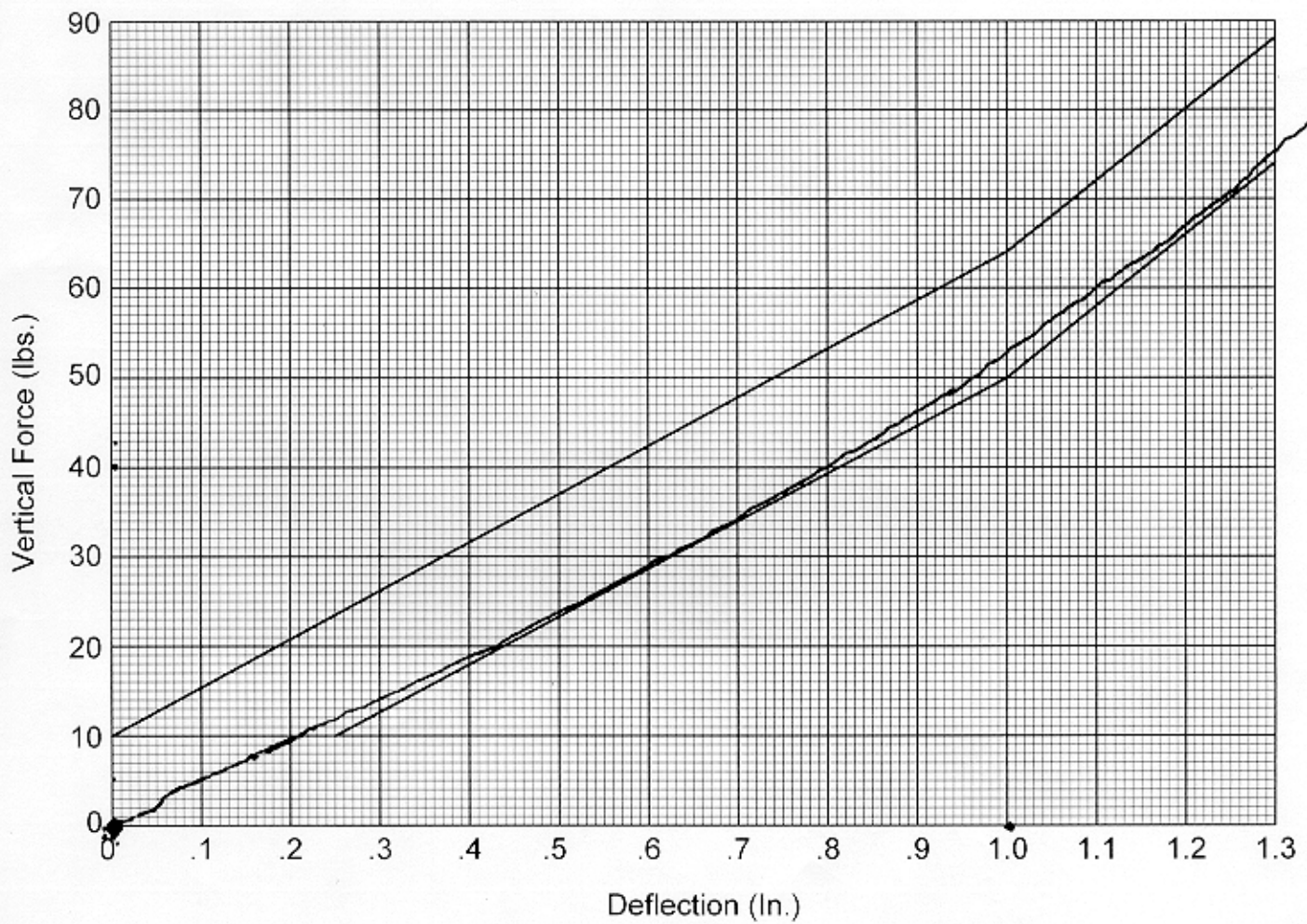
W/A _____

Date 4-17-03

Performed By [Signature]

Temp. 70°

Humidity 33%



Hybrid II
Abdomen Static Press

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

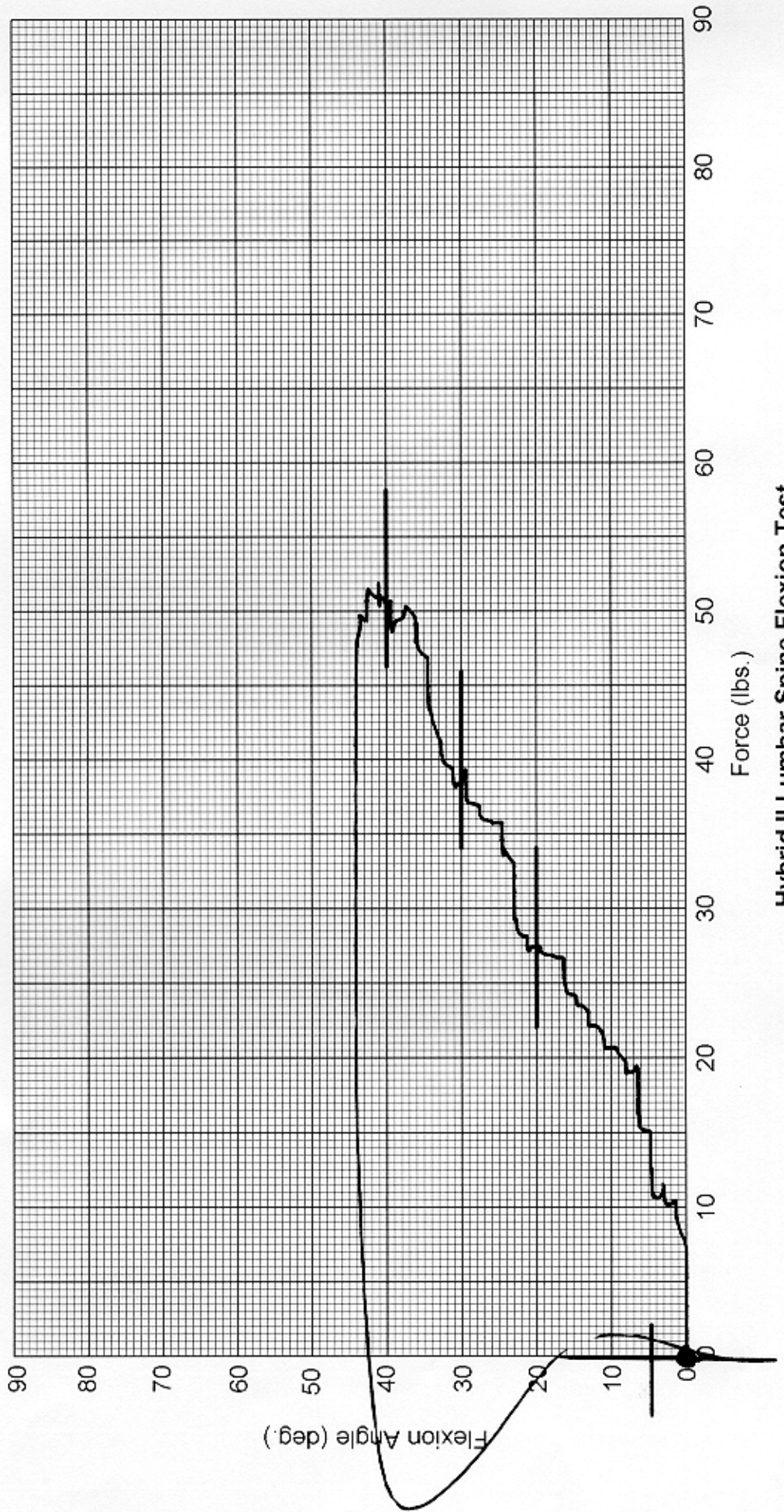
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 016 Sequential Test Number: 5
 Date: April 17, 2003 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	33.0
FORCE @ 0° (N)	0 - 26.7	0.0
FORCE @ 20° (N)	97.8 - 151.2	120.5
FORCE @ 30° (N)	151.2 - 204.6	171.3
FORCE @ 40° (N)	204.6 - 258	223.3
RETURN ANGLE	12° max.	3°

REMARKS: None

Dummy S/N 016
W/A _____
Date 4-17-03
Performed By [Signature]
Temp. 70°
Humidity 33%



Hybrid II Lumbar Spine Flexion Test

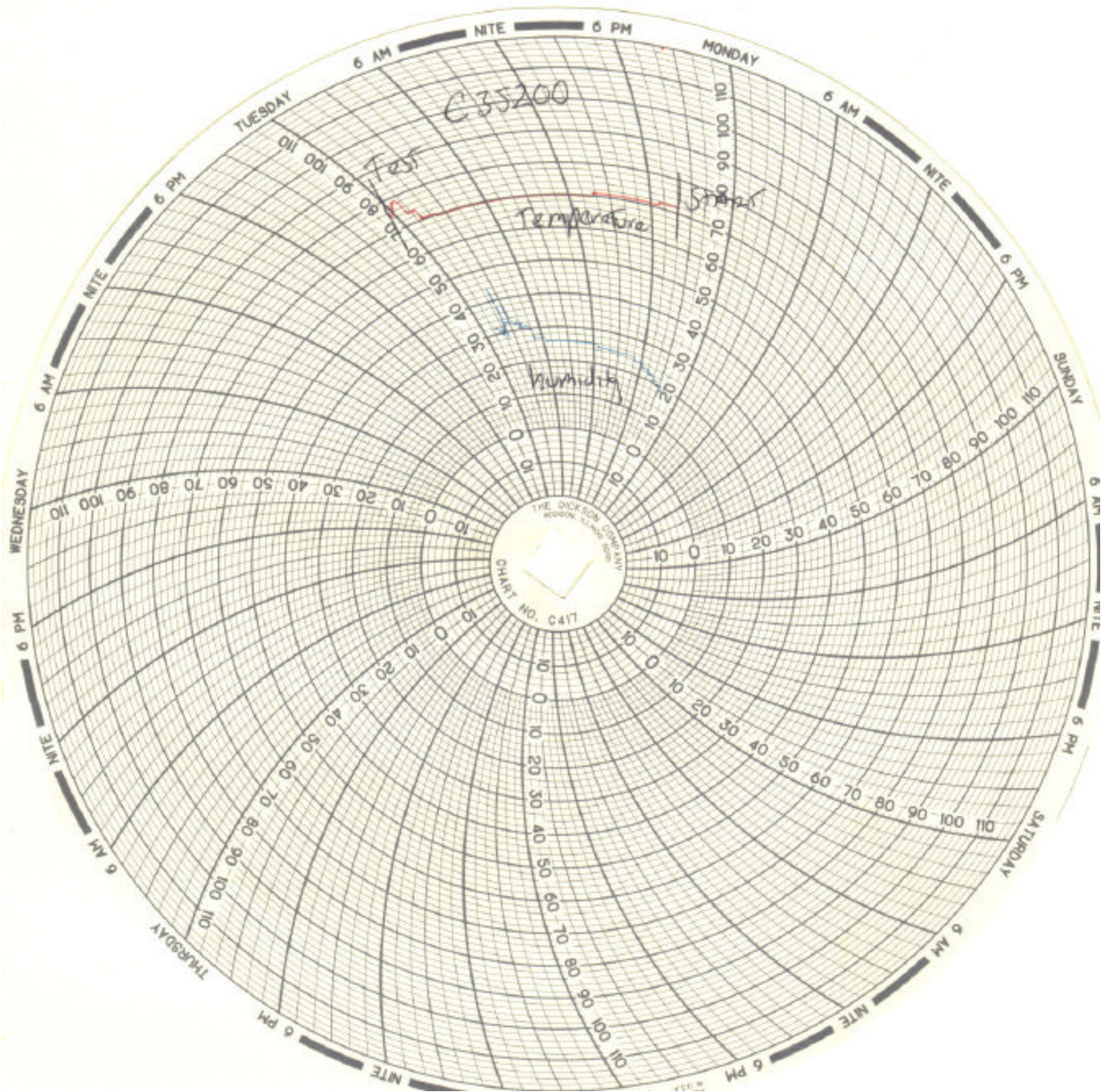
POST TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 016 Sequential Test Number: 5
 Date: April 17, 2003 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.: 015			
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
NAAH HEAD X ARM Y	AC-01G18-F06	ENTRAN	07-Apr-03
NAAH HEAD X ARM Z	AC-01B00113-f39	ENTRAN	07-Apr-03
NAAH HEAD Y ARM X	AC-00L13-F14	ENTRAN	07-Apr-03
NAAH HEAD Y ARM Z	AC-01G18-F16	ENTRAN	07-Apr-03
NAAH HEAD Z ARM X	AC-01B00L13-F72	ENTRAN	07-Apr-03
NAAH HEAD Z ARM Y	AC-01G18-F12	ENTRAN	07-Apr-03
HEAD AX	AC-P23993	ENDEVCO	04-Nov-02
HEAD AY	AC-P23939	ENDEVCO	04-Nov-02
HEAD AZ	AC-P23999	ENDEVCO	04-Nov-02
UPPER NECK FX	LC-260Fx	DENTON	12-Nov-02
UPPER NECK FY	LC-260Fy	DENTON	12-Nov-02
UPPER NECK FZ	LC-260Fz	DENTON	12-Nov-02
UPPER NECK MX	LC-260Mx	DENTON	12-Nov-02
UPPER NECK MY	LC-260My	DENTON	12-Nov-02
UPPER NECK MZ	LC-260Mz	DENTON	12-Nov-02
UPPER RIB	AC-P16862	ENDEVCO	18-Feb-03
LOWER RIB	AC-P16656	ENDEVCO	18-Feb-03
LOWER SPINE	AC-P16866	ENDEVCO	18-Feb-03
PELVIS	AC-P16676	ENDEVCO	18-Feb-03
UPPER RIB REDUNDANT	AC-P23156	ENDEVCO	18-Feb-03
LOWER RIB REDUNDANT	AC-P16645	ENDEVCO	18-Feb-03
LOWER SPINE REDUNDANT	AC-P16823	ENDEVCO	18-Feb-03
PELVIS REDUNDANT	AC-P16843	ENDEVCO	18-Feb-03

REAR SID NO.: 016			
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
NAAH HEAD X ARM Y	AC-01G18-F08	ENTRAN	01-Apr-03
NAAH HEAD X ARM Z	AC-00L20-A13	ENTRAN	01-Apr-03
NAAH HEAD Y ARM X	AC-00L20-A08	ENTRAN	28-Mar-03
NAAH HEAD Y ARM Z	AC-01G18-F13	ENTRAN	28-Mar-03
NAAH HEAD Z ARM X	AC-01J02-F18	ENTRAN	28-Mar-03
NAAH HEAD Z ARM Y	AC-01G25-N11	ENTRAN	28-Mar-03
HEAD AX	AC-P23960	ENDEVCO	10-Nov-02
HEAD AY	AC-P23940	ENDEVCO	09-Nov-02
HEAD AZ	AC-P23899	ENDEVCO	10-Nov-02
UPPER NECK FX	LC-261Fx	DENTON	12-Nov-02
UPPER NECK FY	LC-261Fy	DENTON	12-Nov-02
UPPER NECK FZ	LC-261Fz	DENTON	12-Nov-02
UPPER NECK MX	LC-261Mx	DENTON	12-Nov-02
UPPER NECK MY	LC-261My	DENTON	12-Nov-02
UPPER NECK MZ	LC-261Mz	DENTON	12-Nov-02
UPPER RIB	AC-P18524	ENDEVCO	17-Feb-03
LOWER RIB	AC-P18533	ENDEVCO	17-Feb-03
LOWER SPINE	AC-P18514	ENDEVCO	17-Feb-03
PELVIS	AC-P18519	ENDEVCO	17-Feb-03
UPPER RIB REDUNDANT	AC-P18528	ENDEVCO	17-Feb-03
LOWER RIB REDUNDANT	AC-P18518	ENDEVCO	17-Feb-03
LOWER SPINE REDUNDANT	AC-P18688	ENDEVCO	17-Feb-03
PELVIS REDUNDANT	AC-P18531	ENDEVCO	17-Feb-03

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-B11408	ENDEVCO	10-Feb-03
RIGHT FRONT SILL (Y)	AC-A13513	ENDEVCO	10-Feb-03
RIGHT FRONT SILL (Z)	AC-B10827	ENDEVCO	10-Feb-03
RIGHT REAR SILL (X)	AC-J32383	ENDEVCO	21-Jan-03
RIGHT REAR SILL (Y)	AC-J25745	ENDEVCO	21-Jan-03
RIGHT REAR SILL (Z)	AC-J29805	ENDEVCO	21-Jan-03
REAR FLOORPAN ABOVE AXLE (X)	AC-J32143	ENDEVCO	21-Jan-03
REAR FLOORPAN ABOVE AXLE (Y)	AC-J32838	ENDEVCO	21-Jan-03
REAR FLOORPAN ABOVE AXLE (Z)	AC-J32174	ENDEVCO	21-Jan-03
LEFT REAR SILL (Y)	AC-P24011	ENDEVCO	25-Mar-03
LEFT FRONT SILL (Y)	AC-AN25	ENDEVCO	04-Nov-02
RIGHT REAR SEAT OCCUPANT COMP. (Y)	AC-8084-014	ICS	20-Nov-02
LOWER LEFT B- PILLAR (Y)	AC-P23884	ENDEVCO	25-Mar-03
MIDDLE LEFT B-PILLAR (Y)	AC-P23804	ENDEVCO	25-Mar-03
LOWER LEFT A-PILLAR (Y)	AC-J31042	ENDEVCO	10-Feb-03
UPPER LEFT A-PILLAR (Y)	AC-J32787	ENDEVCO	21-Jan-03
FRONT SEAT TRACK (Y)	AC-P23976	ENDEVCO	04-Nov-02
REAR SEAT TRACK (Y)	AC-P18682	ENDEVCO	25-Mar-03
VEHICLE CG (X)	AC-P17255	ENDEVCO	11-Feb-03
VEHICLE CG (Y)	AC-P16813	ENDEVCO	11-Feb-03
VEHICLE CG (Z)	AC-P17145	ENDEVCO	11-Feb-03
MDB CG (X)	AC-C16682	ENDEVCO	18-Mar-03
MDB CG (Y)	AC-CJ54	ENDEVCO	18-Mar-03
MDB CG (Z)	AC-GK12	ENDEVCO	18-Mar-03
MDB REAR FRAME MEMBER (X)	AC-CX05	ENDEVCO	18-Mar-03
MDB REAR FRAME MEMBER (Y)	AC-C16685	ENDEVCO	18-Mar-03

REMARKS: None