

REPORT NUMBER: CAL-02-11

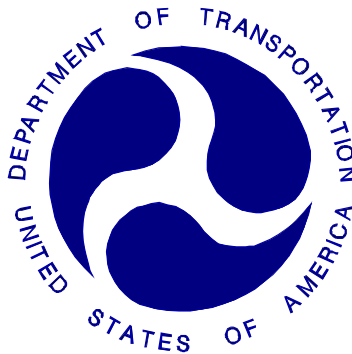
**NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
FRONTAL BARRIER 40% OFFSET IMPACT TEST**

FORD MOTOR CO.
2000 NISSAN QUEST
MPV

NHTSA NUMBER: RY5213

VERIDIAN TEST NUMBER: 8413-67

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



November 12, 2001

FINAL REPORT

PREPARED FOR:

U.S. DEPARTMENT OF TRANSPORTATION
National Highway Traffic Safety Administration
Research and Development
Crashworthiness Research Division
Mail Code: NRD-11
400 Seventh Street, SW, Room No. 6226
Washington, DC 20590

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 manufacturers' 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.

Prepared by:

Patrick G. MacDiarmid, Jr., Project Engineer

Approved by:

David J. Travale, Program Manager
Transportation Science Center

Approval Date:

FINAL REPORT ACCEPTANCE BY OCS:

Contracting Officer's Technical Representative (COTR),
NHTSA, Office of Crashworthiness Standards

Date of Report Acceptance

Project Engineer
NHTSA, Research and Development

Date of Report Acceptance

TECHNICAL REPORT STANDARD TITLE PAGE

1. Report No. CAL-02-11		2. Government Accession No.		3. Recipient's Catalog No.	
4. Title and Subtitle Final Report of Frontal Barrier 40% Offset Testing of a 2000 Nissan Quest MPV NHTSA No. RY5213				5. Report Date November 12, 2001	
				6. Performing Organization Code CAL	
7. Author(s) David J. Travale, Program Manager Patrick G. MacDiarmid, Jr., Project Engineer				8. Performing Organization Report No. 8413-67	
9. Performing Organization Name and Address Veridian Engineering 4455 Genesee Street Buffalo, New York 14225				10. Work Unit No.	
				11. Contract or Grant No. DTNH22-01-D-32005	
12. Sponsoring Agency Name and Address U.S. DEPARTMENT OF TRANSPORTATION National Highway Traffic Safety Administration Research and Development Crashworthiness Research Division Mail Code: NRD-11 400 Seventh Street, SW, Room No. 6226 Washington, DC 20590				13. Type of Report and Period Covered Final Report November 2001-January 2002	
				14. Sponsoring Agency Code NRD-11	
15. Supplementary Notes					
16. Abstract This test is to evaluate the use of the Denton leg in the frontal 40% offset deformable barrier test. A frontal 40% offset barrier impact test of a 2000 Nissan Quest MPV was performed at Veridian Engineering crash test facility in Buffalo, New York, on November 12, 2001. The impact velocity was 60.02 kph and the temperature at the barrier face was 21°C. The maximum post-test vehicle crush was 725 mm. The test vehicle was equipped with 3-point restraint systems, knee bolsters, and airbags at both the driver and right outboard passenger seating positions. With respect to FMVSS 208 "Occupant Crash Protection - Injury Criteria" both the driver and passenger appeared to comply with head, chest, and femur requirements.					
ATD Position	HIC	Clip (g's)	Chest Disp (mm)	Left Femur (N)	Right Femur (N)
Driver (421)	937.0	38.6	N.A.	2964.2	2744.9
Passenger (416)	392.2	28.8	24.7	2606.2	1419.4
17. Key Words Frontal 40% Offset Barrier Impact test				18. Distribution Statement Copies of this report are available from: NHTSA Technical Reference Division National Highway Traffic Safety Admin. 400 Seventh St., SW, Room 5108 Washington, DC 20590	
19. Security Classif. (of this report) UNCLASSIFIED		20. Security Classif. (of this page) UNCLASSIFIED		21. No. of Pages 365	22. Price

Form DOT F1700.7 (8-69)

TABLE OF CONTENTS

<u>Section</u>		<u>Page No.</u>
1	PURPOSE AND SUMMARY OF TEST	1-1
2	OCCUPANT AND VEHICLE INFORMATION	2-1
<u>Data Sheet</u>	<u>Description</u>	
1.	CRASH TEST SUMMARY	2-1
2.	GENERAL TEST AND VEHICLE PARAMETER DATA	2-2
3.	POST IMPACT DATA	2-4
4.	TEST VEHICLE INFORMATION	2-5
5.	DUMMY POSITIONING IN VEHICLE	2-7
6.	SEAT BELT POSITIONING DATA	2-9
7.	VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY	2-10
8.	DUMMY INJURY CRITERIA VALUES	2-12
9.	SEAT BELT PERFORMANCE DATA	2-18
10.	SUMMARY OF FMVSS 212 DATA	2-19
11.	WINDSHIELD ZONE INTRUSION FMVSS 219 DATA	2-20
12.	FMVSS 301 FUEL SYSTEM INTEGRITY DATA	2-21
13.	FMVSS 310 ROLLOVER DATA	2-22
14.	TEST VEHICLE MEASUREMENTS	2-23
15.	HIGH SPEED CAMERA LOCATIONS	2-30
16.	VEHICLE REFERENCE PHOTO TARGET LOCATIONS	2-31
17.	LOAD CELL LOCATIONS RELATIVE TO FIXED BARRIER AND DEFORMABLE BARRIER FACE	2-33
18.	POST TEST AIR BAG DATA	2-34
19.	ACCIDENT INVESTIGATION DIVISION DATA	2-35
20.	OFFSET BARRIER AND VEHICLE ORIENTATION	2-36
21.	OFFSET BARRIER DEFORMATION	2-37
APPENDIX A	PHOTOGRAPHS	A-1
APPENDIX B	VEHICLE, LOAD CELL BARRIER AND DUMMY RESPONSE DATA	B-1
APPENDIX C	PART 572 DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION TESTS	C-1
APPENDIX D	DUMMY, VEHICLE AND LABORATORY INSTRUMENT CALIBRATION	D-1

SECTION 1

PURPOSE AND SUMMARY OF TEST

PURPOSE

This 60.02 kph frontal 40% offset barrier impact test is part of the Test Procedure Development Program sponsored by the National Highway Traffic Safety Administration (NHTSA). The purpose of this test was comparative performance of Denton 5th percentile adult female- Hybrid III version lower legs and obtain vehicle crashworthiness and occupant and restraint system performance data.

The frontal 40% offset barrier impact test was conducted in accordance with the Office of Crashworthiness Standards Laboratory Indicant Test procedure.

SUMMARY

A deformable honeycomb barrier mounted to a load cell barrier consisting of 30 load cells and a load cell plate above the barrier was impacted by a 2000 Nissan Quest MPV at 40% overlap at a velocity of 60.02 kph. The test was performed at Veridian Engineering on November 12, 2001. Pre- and post-test photographs of the vehicle and dummies can be found in Appendix A.

One real-time camera and 16 high-speed cameras documented the offset frontal barrier impact event. Camera locations and other pertinent camera information can be found in this report.

Two Part 572O, 5th percentile female anthropomorphic test devices (ATDs), were placed in the driver and right-front passenger seating positions according to dummy placement instructions specified in the Laboratory Indicant Test Procedure.

Both ATDs were fully instrumented with head, chest, and pelvis triaxial accelerometers, chest displacement potentiometers, upper neck transducers, right/left femur load cells, knee sliders and Denton lower leg instrumentation. The driver (position 1) ATD (Serial No. 421) and the right-front passenger (position 2) ATD (Serial No. 416) were calibrated previous to this test. Certification details, along with instrumentation calibration data, are found in Appendix C.

The 200 channels of data were recorded on an on-board data acquisition system. Appendix B contains the vehicle, load cell barrier and dummy response data traces.

The driver's HIC was 937.0. The maximum chest deceleration over 3 milliseconds was 38.6 g's and maximum chest deflection was unavailable. Compressive femur loads were 2964.2 Newtons on the left and 2744.9 Newtons on the right.

The right front passenger's HIC was 392.2. Maximum chest deceleration over 3 milliseconds was 28.8 g's and maximum chest deflection was 24.7 mm. Compressive femur loads were 2606.2 Newtons on the left and 1419.4 Newtons on the right.

SECTION 2

GENERAL TEST AND VEHICLE PARAMETER DATA

DATA SHEET NO. 1 CRASH TEST SUMMARY

Vehicle NHTSA No.:	RY5213	Test Mode:	60.3 kph Offset Frontal Barrier
Test Date:	November 12, 2001	Time:	11:45
		Temperature:	21 °C
Vehicle Make/Model/Body Style:	2000 Nissan Quest MPV		
Vehicle Test Weight:	2010	kg	
Vehicle/Barrier Impact Angle:	0	°	
Impact Velocity:	60.02	kph	
Maximum Static Crush:	725	mm	
Actual Vehicle Offset:	41.0	%	

<u>DUMMIES:</u>	<u>DRIVER</u>	<u>PASSENGER</u>
Type:	5720	5720
Restraint System:	3-Point Belt/Airbag/Knee Bolster	3-Point Belt/Airbag/Knee Bolster
Lower Leg:	Denton	Denton

Number of Data Channels:	200	
Number of Cameras:	1	Real Time
	16	High Speed

<u>DOOR OPENING DATA:</u>	Closed/Inoperable	- Left Front
	Closed/Operable	- Right Front

Front Seat(s) Data:	<u>DRIVER</u>	<u>PASSENGER</u>
Seat Track Failure:(mm of shift)	0	0
Seat Back Failure:	None	None

<u>VISIBLE DUMMY CONTACT POINTS:</u>	<u>DRIVER</u>	<u>PASSENGER</u>
Head:	The top and the back of the head to the center of the headrest; The back to the seat back; The face to the top center of the airbag.	The face to the left of center of the airbag; The back of the head to the left of center of the headrest.
Abdomen:	None	None
Chest	Airbag and lower steering wheel rim	Airbag
Knees	Knee Bolster	Knee Bolster

DATA SHEET NO. 2 GENERAL TEST AND VEHICLE PARAMETER DATA

TEST VEHICLE INFORMATION:

Year/Make/Model/Body Style: 2000 Nissan Quest MPV

NHTSA No. : RY5213 ; VIN: 4N2XN11T6YD838663 ; Color: Blue

Engine Data: 6 cylinders; - CID; 3.3 Liters; - cc

Placement: - Longitudinal or In-Line; X Transverse or Lateral

Transmission Data: 4 speeds; - Manual; X Automatic; X Overdrive

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

Major Options: X A/C; X Pwr.Strg.; X Pwr. Brakes

X Pwr. Windows; X Pwr. Door Locks; X Tilt Wheel

Date Received: - ; Odometer Reading 20466 km

Selling Dealer: -

& Address: -

DATA FROM TIRE VEHICLE'S CERTIFICATION LABEL:

Vehicle Manufactured by: Ford Motor Co.

Date of Manufacture 5/00

GVWR: 2469 kg; GAWR: 1231 kg FRONT; 1290 kg REAR

DATA FROM TIRE PLACARD:

Tire Pressure with Maximum Capacity Vehicle Load: 300 kpa FRONT

300 kpa REAR

Recommended Tire Size: P215/70R15

* Recommended Cold Tire Pressure: 240 kpa FRONT; 240 kpa REAR

Size of Tires on Test Vehicle: P215/70R15 ; Manufacturer: General

Vehicle Capacity Data:

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

Number of Occupants: 2 Front; 5 Rear; 7 Total

Vehicle Capacity Weight (VCW) = 585 kg

No. of Occupants x 68.04 kg = 476.28 kg

Rated Cargo/Luggage Weight (RCLW) = 108.72 kg

*Tire pressure used for test

DATA SHEET NO. 2 GENERAL TEST AND VEHICLE PARAMETER DATA (cont.)

WEIGHT OF TEST VEHICLE AS RECEIVED FROM DEALER (with maximum fluids)= UDW:

Right Front =	<u>503.0</u>	kg	Right Rear =	<u>387.5</u>	kg
Left Front =	<u>535.5</u>	kg	Left Rear =	<u>385.0</u>	kg
TOTAL FRONT =	<u>1038.5</u>	kg	TOTAL REAR =	<u>772.5</u>	kg
TOTAL DELIVERED WEIGHT =	<u>1811.0</u>	kg			
% of Total Front of Vehicle Weight =	<u>57.3%</u>		% of Total Rear Weight =	<u>42.7%</u>	%

CALCULATION OF VEHICLE'S TARGET TEST WEIGHT:

Total Delivered Weight (UDW) =	<u>1811</u>	kg
Rated Cargo/Luggage Weight (RCLW) =	<u>108.72</u>	kg
Weight of 2 p.572 Dummies @ 49 each =	<u>98</u>	kg
TARGET TEST WEIGHT =	<u>2017.72</u>	kg

WEIGHT OF TEST VEHICLE WITH TWO DUMMIES AND 101 KG OF CARGO WEIGHT:

Right Front =	<u>530.0</u>	kg	Right Rear =	<u>450.0</u>	kg
Left Front =	<u>570.0</u>	kg	Left Rear =	<u>460.0</u>	kg
TOTAL FRONT =	<u>1100.0</u>	kg	TOTAL REAR =	<u>910.0</u>	kg
TOTAL TEST WEIGHT =	<u>2010.0</u>	kg			
% of Total Front Weight =	<u>54.7%</u>	%	% of Total Rear Weight =	<u>45.3%</u>	%
Weight of Ballast Secured in Vehicle Trunk Area =	<u>70</u>	kg			
Vehicle Components Removed for Weight Reduction:	<u>None</u>				

VEHICLE ATTITUDE (all dimension in millimeters):

AS DELIVERED:	RF	<u>775</u>	LF	<u>766</u>	RR	<u>788</u>	LR	<u>781</u>
FULLY LOADED:	RF	<u>772</u>	LF	<u>763</u>	RR	<u>763</u>	LR	<u>751</u>
AS TESTED:	RF	<u>773</u>	LF	<u>769</u>	RR	<u>764</u>	LR	<u>754</u>
Vehicle's Wheel Base:	<u>2850</u>	mm						
Location of Vehicle's C.G.:	<u>1290.3</u>	mm rearward of front wheel center.						

FUEL SYSTEM DATA:

Fuel System Capacity From Owner's Manual =	<u>74</u>	liters
Usable Capacity Figure Furnished by COTR =	<u>74</u>	liters
Test Volume Range (92 to 94% of Usable Capacity) =	<u>68.08</u>	to <u>69.56</u> liters
ACTUAL TEST VOLUME=	<u>68.1</u>	liters (with entire fuel system filled)
Test Fluid Type:	<u>Stoddard Solution</u>	; Spec. Grav. = <u>0.764</u>
Kinematic Viscosity =	<u>0.96</u>	centistokes; Color = <u>Orange</u>
Type of Fuel Pump: Electric-	<u>X</u>	; Mechanical- <u>-</u>
Does Electric Pump operate with ignition switch "ON" & engine "OFF"	Yes- <u>X</u>	No- <u>-</u>
Details of Fuel System: Filler – left above rear axle; Tank – left of center ahead of axle; Lines – left frame stiffener.		

DATA SHEET NO. 3 POST IMPACT DATA

TYPE OF TEST:

Type of Test: Offset Frontal Barrier Impact Angle: 0°
Test Date: November 12, 2001 Time: 11:45 Temperature: 21 °C
Vehicle NHTSA No.: RY5213
Required Impact Velocity Range: 59.8 to 60.8 kph

BARRIER IMPACT VELOCITY: (Speed traps within 5 feet of impact plane.)

Trap No. 1 = 60.02 kph; Trap No. 2 = 60.02 kph
Distance from vehicle to barrier: (1) entering trap = 813 mm
(2) exiting trap = 305 mm

VEHICLE STATIC CRUSH: (mm)

Vehicle Length:

Pre-Test	Left =	<u>4898</u>	; C/L =	<u>4962</u>	; Right =	<u>4894</u>
Post-Test	Left =	<u>4240</u>	; C/L =	<u>4472</u>	; Right =	<u>4743</u>
Crush	Left =	<u>658</u>	; C/L =	<u>490</u>	; Right =	<u>151</u>
AVERAGE	=	<u>433.0</u>	mm			

VEHICLE OFFSET DATA: (mm)

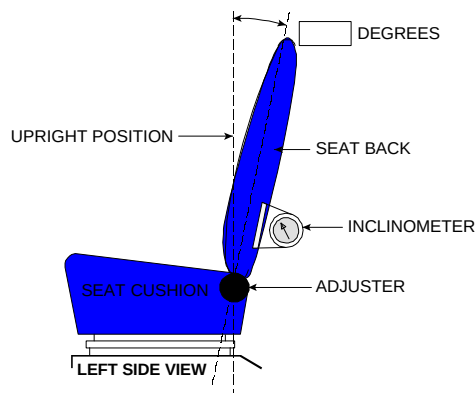
Vehicle Width	=	<u>1890</u>	mm
Desired Vehicle Offset	=	<u>756</u>	mm
Actual Vehicle Offset	=	<u>775.05</u>	mm (from film analysis)
Offset Difference	=	<u>19.05</u>	mm
Actual Percent Offset	=	<u>41.0</u>	%

DATA SHEET NO. 4 TEST VEHICLE INFORMATION

VEHICLE IDENTIFICATION:

Model Year: 2000 Vehicle Model: Nissan Quest Body Style: MPV

1. 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

Seat back angle for driver's seat: 6

Measurement instructions: Adjust for ATD pelvic angle range and head level

Seat back angle for passenger's seat: 6

Measurement instructions: Same as driver's seat.

2. Seat Fore and Aft Positioning

Positioning of the driver's seat: Full forward

Positioning of the passenger's seat: Full forward

3. Fuel Tank Capacity Data

3.1 A. "Usable Capacity" of the standard equipment fuel tank is 74 liters

B. "Usable Capacity" of the optional equipment fuel tank is - liters

C. "Usable Capacity" of the vehicle(s) used for certification testing to requirements of FMVSS 301 = 74 liters

3.2 Amount of Stoddard solvent added to vehicle(s) used for certification test(s) = 68.1 liters

3.3 Is vehicle equipped with electric fuel pump? Yes- X ; No- -

If YES, explain the vehicle operating conditions under which the fuel pump will pump fuel.

For 5 seconds after the engine is switched on and while engine is running and for 1.5 seconds after engine is
Switched ofd.

DATA SHEET NO. 4 TEST VEHICLE INFORMATION (cont.)

4. STEERING COLUMN ADJUSTMENTS:

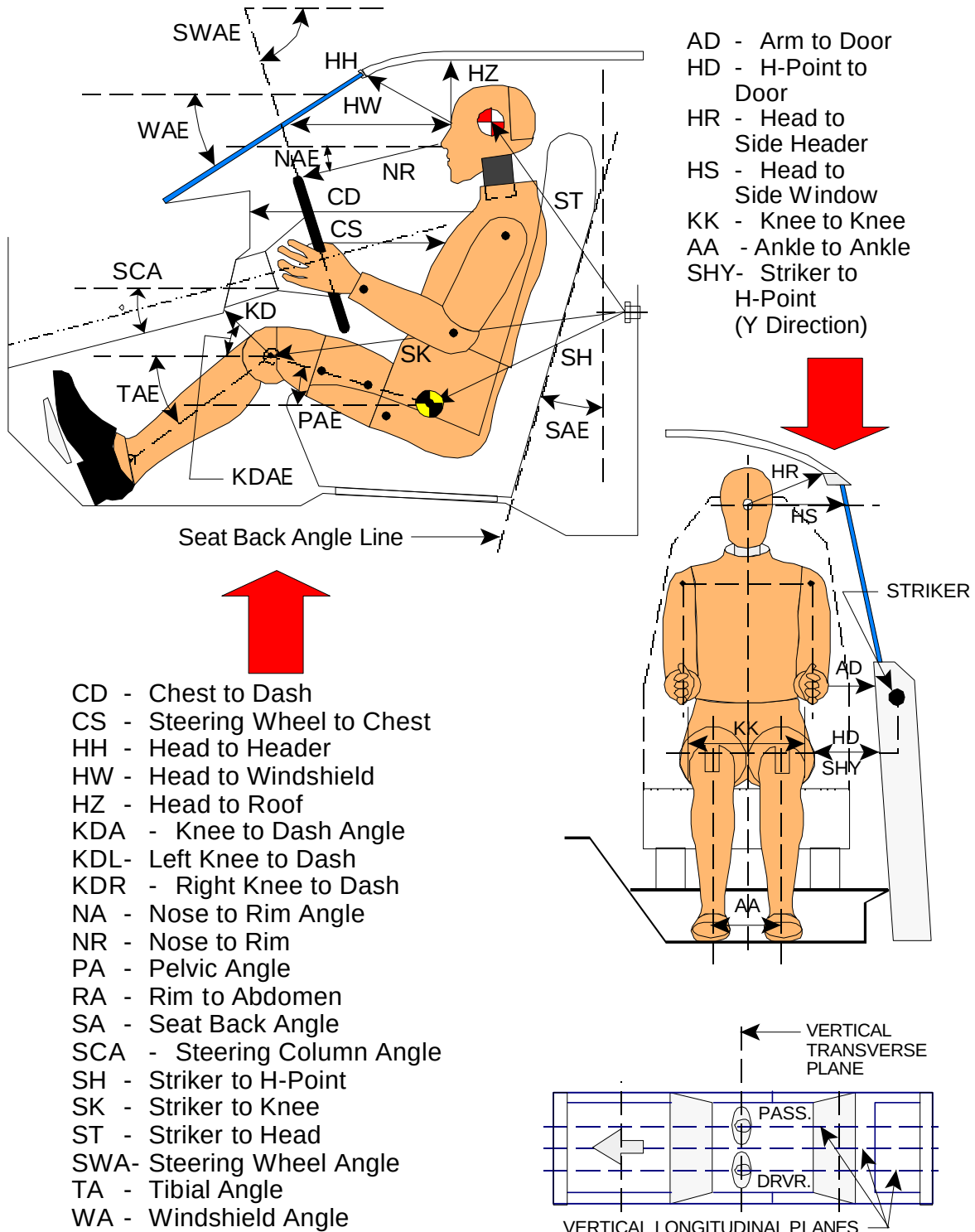
Steering wheel and column adjustments are made so that the steering wheel hub is at the geometric center of the locus it describes when it is moved through its full range of driving positions. If the tested vehicle has any of these adjustments, does your company use any specific procedures to determine the geometric center.

Operational Instructions: Adjust to mid position 27°

5. SEAT BELT UPPER ANCHORAGE

Nominal design riding position: Full Down

DUMMY MEASUREMENT FOR FRONT SEAT PASSENGERS

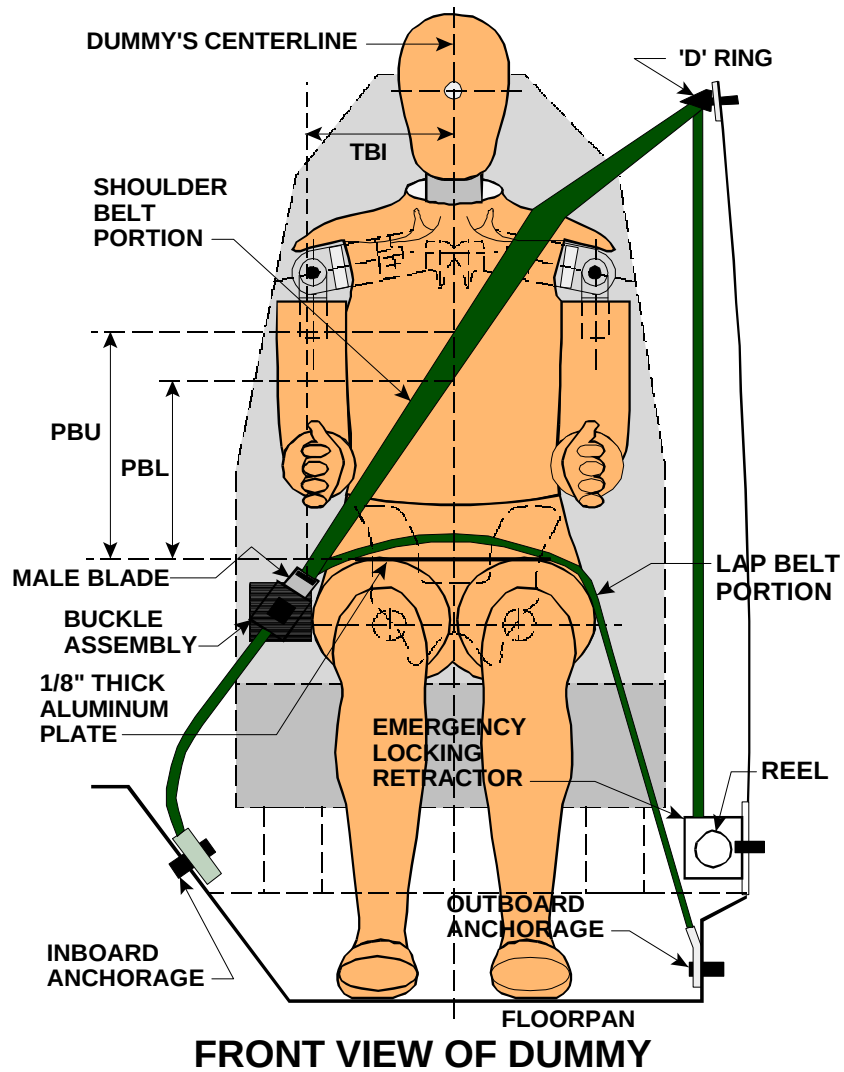


DATA SHEET NO. 5 FRONT SEAT DUMMY POSITIONING MEASUREMENTS IN VEHICLE (cont.)

	DRIVER (Serial #421)			PASS. (Serial #416)		
WA ^o	31.0 deg.			N/A		
SWA ^o	63.5 deg.			N/A		
SCA ^o	26.5 deg.			N/A		
SA ^o	6.2 deg.			5.9 deg.		
HZ	270			258		
HH	367			363		
HW	695			688		
HR	264			266		
NR	276	Angle	0 deg.	N/A		
CD	479			420		
CS	231			N/A		
RA	90			N/A		
KDL	104	Angle (KDA)	42 deg.	123		
KDR	101			120	Angle (KDA)	40 deg.
PA ^o	21.9 deg.			21.4 deg.		
TA ^o	61.8 deg.			67.1 deg.		
KK	240			172		
AA	265			182		
ST	600	Angle	30 deg.	605	Angle	31 deg.
SK	742	Angle	90 deg.	750	Angle	90 deg.
SH	404	Angle	108 deg.	405	Angle	101 deg.
SHY	298			310		
HS	374			368		
HD	165			170		
AD	183			90		

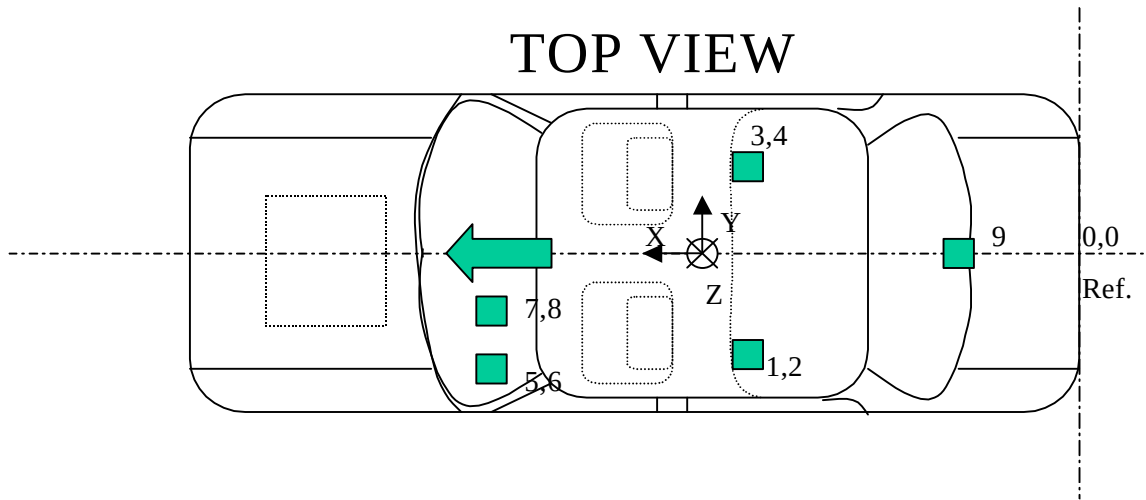
Dimensions in millimeters

SEAT BELT POSITIONING DATA



	DRIVER DUMMY (mm)	PASSENGER DUMMY (mm)
PBU -- Top surface of alum. plate to upper edge	255	260
PBL-- Top surface of alum. plate to belt lower edge	170	180
<u>LAP BELT TENSION</u>	10 N	10 N
<u>SHOULDER BELT TENSION</u>	Retractor	Retractor

DATA SHEET NO. 7 VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY



Accelerometer	X-Direction (mm)	Y-Direction (mm)	Z-Direction (mm)
Left Rear Seat Crossmember	1726	-618	-426
Right Rear Seat Crossmember	1679	630	-442
Driver Left Side Toe Pan	3685	-426	-486
Driver Right Side Toe Pan	3674	-276	-481
Trunk	872	0	-500

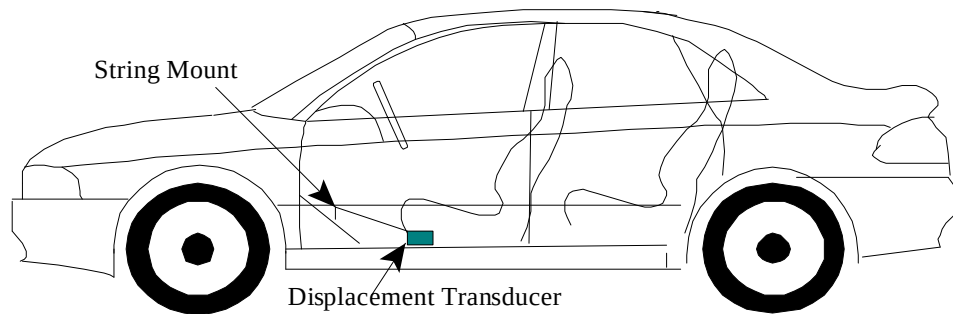
X-Direction is referenced from vehicle rear bumper (positive forward)

Y-Direction is referenced from vehicle centerline (positive to right)

Z-Direction is referenced from ground plane (positive down)

LOCATION NUMBER	DESCRIPTION	MAXIMUM VALUE (g's)			
		Pos.	msec.	Neg.	msec.
1	Rear Seat X-Member @ Left Side X	3.0	195.6	-25.8	89.1
2	Rear Seat X-Member @ Left Side Y	13.5	81.5	-5.2	126.1
3	Rear Seat X-Member @ Right Side X	1.4	158.1	-26.0	89.4
4	Rear Seat X-Member @ Right Side Y	8.6	80.5	-5.8	91.1
5	Driver Toe Pan @ Left Side X	64.8	50.0	-95.2	78.6
6	Driver Toe Pan @ Left Side Z	52.2	77.7	-29.5	49.9
7	Driver Toe Pan @ Right Side X	97.9	49.2	-117.6	78.4
8	Driver Toe Pan @ Right Side Z	60.7	77.6	-21.0	47.1
9	Trunk Z	9.6	77.4	-5.8	159.5

SIDE VIEW



Driver Toe Pan Displacement

P1 Toe Pan Spoolout**	X-Direction (mm)	Y-Direction (mm)	Z-Direction (mm)	Vertical Angle* (Deg)
Pre-Test	764.86	255.84	-125.72	9.33
Post-Test	524.40	316.10	-243.26	24.89
Difference	240.46	-60.26	-117.54	15.56

** Measurements taken from string pot mounting base.

*Referenced from horizontal (0 degrees)

SENSOR NAME	MAXIMUM VALUE (mm)			
	Pos.	msec.	Neg.	msec.
P1 Toe Pan Movement	0.0	5.0	-152.5	103.0

DATA SHEET NO. 8 DUMMY INJURY CRITERIA VALUES

Vehicle Year/Make/Model/Body Style:

2000 Nissan Quest MPV

NHTSA Test No.:

RY5213

Test Date:

November 12, 2001

		MAXIMUM VALUE							
		Driver				Passenger			
DESCRIPTION	Unit	Pos	msec	Neg	msec	Pos	msec	Neg	msec
Head 9 Array X Arm Y	g	39.5	123.6	-27.4	85.2	53.6	98.0	-12.0	103.5
Head 9 Array X Arm Z	g	36.9	112.2	-14.3	88.0	36.4	81.5	-12.7	83.6
Head 9 Array Y Arm X	g	16.8	123.2	-91.3	84.5	6.3	251.6	-62.4	83.5
Head 9 Array Y Arm Z	g	29.0	107.8	-14.3	177.6	32.0	96.3	-2.2	83.9
Head 9 Array Z Arm X	g	25.9	123.8	-104.1	84.2	19.6	98.0	-96.1	103.5
Head 9 Array Z Arm Y	g	64.2	123.6	-21.6	85.1	42.6	101.6	-12.0	91.5
Head X	g	11.3	123.9	-83.8	84.3	6.6	279.5	-61.9	83.4
Head Y	g	33.4	123.8	-20.9	91.6	18.5	81.5	-9.3	83.4
Head Z	g	25.5	113.1	-9.7	177.5	30.8	98.2	-1.7	141.4
Head Resultant	g	85.2	84.4	0.0	-64.0	64.9	83.4	0.0	-68.7
Redundant Head X	g	12.4	123.8	-83.3	84.3	6.6	278.9	-61.1	83.4
Redundant Head Y	g	33.7	123.8	-20.7	91.6	19.3	81.5	-8.8	83.4
Redundant Head Z	g	26.7	113.1	-9.2	177.5	33.1	98.2	-1.3	141.9
Redundant Head Resultant	g	84.8	84.4	0.0	-63.7	63.7	83.4	0.0	-64.9
Upper Neck Fx	N	175.1	142.5	-840.0	108.0	310.9	104.9	-388.3	89.5
Upper Neck Fy	N	275.2	186.4	-55.0	292.9	185.7	102.8	-76.8	139.8
Upper Neck Fz	N	2410.7	92.2	-155.1	165.7	906.7	85.7	-417.9	108.4
Upper Neck F Resultant	N	2429.3	93.2	0.5	-56.6	964.6	85.7	0.8	-56.3
Upper Neck Mx	N-m	6.6	202.0	-21.7	185.5	7.3	198.7	-11.6	116.4
Upper Neck My	N-m	7.7	231.1	-59.9	109.2	56.9	105.0	-16.1	90.5
Upper Neck Mz	N-m	18.1	107.7	-2.2	317.8	6.1	225.3	-12.0	131.1
Upper Neck M Resultant	N-m	62.5	108.9	0.1	-48.5	57.4	105.1	0.0	18.9
Chest X	g	1.3	246.1	-40.0	82.1	1.7	293.2	-28.8	97.5
Chest Y	g	9.6	142.0	-3.5	104.3	11.0	96.9	-1.6	178.3
Chest Z	g	5.2	122.6	-10.0	179.3	5.8	67.5	-6.6	137.0
Chest Resultant	g	40.1	82.0	0.0	-91.1	30.7	97.3	0.0	-62.5

DATA SHEET NO. 8 DUMMY INJURY CRITERIA VALUES (cont.)

Vehicle Year/Make/Model/Body Style:

2000 Nissan Quest MPV

NHTSA Test No.:

RY5213

Test Date:

November 12, 2001

		MAXIMUM VALUE							
		Driver				Passenger			
DESCRIPTION	Unit	Pos	msec	Neg	msec	Pos	msec	Neg	msec
Redundant Chest X	g	1.3	246.0	-40.2	82.0	1.8	292.8	-29.3	97.5
Redundant Chest Y	g	9.5	142.6	-3.6	103.2	12.0	95.3	-1.8	178.2
Redundant Chest Z	g	5.6	122.6	-9.6	179.4	6.1	67.5	-6.5	137.0
Redundant Chest Resultant	g	40.2	82.0	0.0	-51.4	31.3	97.3	0.0	-54.5
Chest Displacement	mm	*	*	*	*	0.0	11.7	-24.7	95.8
Pelvic X	g	2.4	166.4	-31.7	98.5	1.3	224.9	-31.1	94.4
Pelvic Y	g	10.8	119.4	-5.2	94.7	10.1	110.6	-5.4	159.4
Pelvic Z	g	2.4	309.5	-9.0	78.1	2.5	286.5	-15.9	111.2
Pelvic Resultant	g	32.1	98.5	0.0	-52.1	34.3	94.5	0.0	-66.2
Left Femur Fx	N	658.8	110.4	-54.6	52.7	314.9	111.0	-108.5	264.2
Left Femur Fy	N	226.8	122.8	-185.6	97.0	190.3	107.3	-45.6	177.1
Left Femur Fz	N	99.5	41.2	-2964.2	114.1	409.4	71.8	-2606.2	99.9
Left Femur Force Resultant	N	3030.1	114.1	0.3	-48.2	2612.4	99.9	0.1	-20.2
Left Femur Mx	N-m	23.5	182.0	-49.3	95.4	57.0	131.6	-17.6	107.8
Left Femur My	N-m	106.7	100.2	-39.5	133.4	33.4	104.3	-18.1	91.1
Left Femur Mz	N-m	38.1	134.2	-1.9	48.1	25.6	97.4	-19.0	147.1
Left Femur Moment Res.	N-m	109.6	99.1	0.0	-0.5	62.0	129.9	0.1	-61.3
Right Femur Fx	N	892.1	91.8	-168.6	48.2	219.5	107.3	-104.4	205.9
Right Femur Fy	N	353.3	103.6	-208.9	92.1	104.8	158.5	-90.5	100.6
Right Femur Fz	N	112.9	144.9	-2744.9	100.1	276.3	62.4	-1419.4	111.5
Right Femur Force Resultant	N	2806.2	100.2	0.2	-34.1	1428.5	111.5	0.1	-34.3
Right Femur Mx	N-m	9.2	54.1	-89.5	91.5	10.1	138.9	-47.7	109.1
Right Femur My	N-m	87.1	88.7	-54.2	105.6	35.3	119.1	-20.1	76.0
Right Femur Mz	N-m	14.8	79.1	-20.3	94.7	22.4	100.7	-24.8	166.8
Right Femur Moment Res.	N-m	107.7	94.7	0.2	-4.4	49.8	109.4	0.1	-76.8

* Data is not accurate

DATA SHEET NO. 8 DUMMY INJURY CRITERIA VALUES (cont.)

Vehicle Year/Make/Model/Body Style: 2000 Nissan Quest MPV

NHTSA Test No.: RY5213 Test Date: November 12, 2001

		MAXIMUM VALUE							
		Driver				Passenger			
DESCRIPTION	Unit	Pos	msec	Neg	msec	Pos	msec	Neg	msec
Left Knee Shear Dx	mm	0.6	93.7	0.0	360.8	0.7	105.3	-0.3	323.1
Right Knee Shear Dx	mm	0.9	101.4	0.0	-90.2	0.6	120.7	-0.2	310.8
Left Upper Tibia Fx	N	213.0	90.5	-313.3	100.2	112.2	77.0	-87.5	107.3
Left Upper Tibia Fz	N	140.2	94.0	-878.5	107.6	65.2	165.3	-1207.2	98.8
Left Upper Tibia Mx	N-m	43.8	143.1	-34.8	104.9	13.5	113.9	-8.1	167.7
Left Upper Tibia My	N-m	3.8	32.7	-69.5	90.1	9.8	167.3	-60.2	95.3
Left Lower Tibia Fx	N	17.0	216.5	-559.8	89.9	54.2	167.1	-485.5	97.0
Left Lower Tibia Fz	N	62.4	270.7	-1076.3	88.7	38.0	81.7	-1242.0	97.6
Left Lower Tibia Mx	N-m	24.9	137.9	-80.2	100.7	19.9	139.6	-6.1	88.9
Left Lower Tibia My	N-m	48.9	100.4	-48.1	90.2	4.5	218.6	-26.4	85.7
Right Upper Tibia Fx	N	105.6	56.6	-1160.9	94.2	*	*	*	*
Right Upper Tibia Fz	N	87.9	48.7	-3500.8	94.1	66.4	137.4	-493.7	66.0
Right Upper Tibia Mx	N-m	16.0	78.1	-89.3	92.6	15.1	269.4	-16.4	180.4
Right Upper Tibia My	N-m	10.1	237.2	-81.0	89.7	4.8	179.4	-25.0	94.9
Right Lower Tibia Fx	N	65.6	161.7	-1511.7	89.1	39.4	178.1	-260.6	77.7
Right Lower Tibia Fz	N	82.7	249.5	-3700.9	94.0	122.3	109.6	-752.3	66.0
Right Lower Tibia Mx	N-m	8.4	77.6	-176.2	92.4	11.5	155.6	-15.7	110.2
Right Lower Tibia My	N-m	158.2	94.3	-24.1	79.0	6.3	178.9	-54.0	116.3

* Questionable Data

DATA SHEET NO. 8 DUMMY INJURY CRITERIA VALUES (cont.)

Vehicle Year/Make/Model/Body Style: 2000 Nissan Quest MPV

NHTSA Test No.: RY5213 Test Date: November 12, 2001

		MAXIMUM VALUE							
		Driver				Passenger			
DESCRIPTION	Unit	Pos	msec	Neg	msec	Pos	msec	Neg	msec
Left Ankle Ax	g	60.3	99.0	-92.4	88.9	6.6	109.2	-43.4	94.6
Left Ankle Az	g	23.0	43.6	-41.8	90.9	13.6	97.4	-7.3	123.7
Right Ankle Ax	g	67.9	93.9	-143.2	87.3	56.7	109.0	-43.8	119.0
Right Ankle Az	g	33.7	104.1	-96.1	87.7	21.9	111.0	-14.7	65.0
Left Toe Az	g	63.1	108.2	-101.6	91.1	24.1	112.8	-14.0	121.7
Right Toe Az	g	*	*	*	*	**	**	**	**
Lap Belt Load Cell	N	986.2	116.6	-1.5	-42.2	3203.1	80.2	-1.1	-17.6
Torso Belt Load Cell	N	2439.0	82.2	-12.8	242.0	2724.5	93.0	-1.9	-20.2

*Data is not accurate

** Spikes in Data

DATA SHEET NO. 8 DUMMY INJURY CRITERIA VALUES (cont.)

Vehicle Year/Make/Model/Body Style: 2000 Nissan Quest MPV

NHTSA Test No.: RY5213 Test Date: November 12, 2001

HEAD INJURY CRITERIA (HIC)				
	HIC**	t ₁ (msec)	t ₂ (msec)	Average Acceleration t ₁ to t ₂
Position #1 - Driver	937.0	75.5	107.3	61.3
Position #2 - Passenger	392.2	89.2	125.2	41.2

** HIC is as defined in FMVSS 208. The maximum time interval from t₁ to t₂ is 36 milliseconds.

CLIP SUMMARY*				
	CLIP (g's)	t ₁ (msec)	t ₂ (msec)	CSI
Position #1 - Driver	38.6	80.6	83.6	231.4
Position #2 - Passenger	28.8	95.5	98.5	194.0

* The maximum chest resultant acceleration is defined as the maximum acceleration which exceeds 0.003 seconds in duration.

DATA SHEET NO. 8 DUMMY INJURY CRITERIA VALUES (cont.)
REDUNDANT DATA

Vehicle Year/Make/Model/Body Style: 2000 Nissan Quest MPV
NHTSA Test No.: RY5213 Test Date: November 12, 2001

HEAD INJURY CRITERIA (HIC) REDUNDANT				
	HIC**	t ₁ (msec)	t ₂ (msec)	Average Acceleration t ₁ to t ₂
Position #1 - Driver	872.4	75.5	106.1	60.5
Position #2 - Passenger	391.3	89.1	125.1	41.2

** HIC is as defined in FMVSS 208. The maximum time interval from t₁ to t₂ is 36 milliseconds.

CLIP SUMMARY* REDUNDANT				
	CLIP (g's)	t ₁ (msec)	t ₂ (msec)	CSI
Position #1 - Driver	38.7	80.6	83.6	231.3
Position #2 - Passenger	29.7	95.4	98.4	203.8

* The maximum chest resultant acceleration is defined as the maximum acceleration which exceeds 0.003 seconds in duration.

DATA SHEET NO. 9 SEAT BELT PERFORMANCE ASSESSMENT TEST DATA

BELT LENGTH DATA:

	<u>Driver</u>	<u>Passenger</u>
Belt length from trim panel exit to bolt hole anchor point for continuous webbing systems.	<u>N/A</u>	<u>N/A</u>
Shoulder belt length as measured on Part 572 Dummy.	<u>N/A</u>	<u>N/A</u>
Lap belt length as measured on Part 572 Dummy.	<u>N/A</u>	<u>N/A</u>

SHOULDER BELT SPOOL-OFF DATA:

As determined by film analysis.	<u>-</u>	<u>-</u>
As determined mechanically.	<u>0</u>	<u>14</u>
As determined electronically.	<u>-</u>	<u>-</u>

BELT STRETCH DATA:

Measured electronically between shoulder belt load cell and the "D" ring.	<u>2.2</u>	<u>1.5</u>
Measured mechanically.	<u>0</u>	<u>0</u>

Dimensions in millimeters

DATA SHEET NO.10 SUMMARY OF FMVSS 212 DATA

FMVSS NO. 212 - "WINDSHIELD MOUNTING" DATA

DETAILS OF WINDSHIELD MOUNTING SUCH AS RETENTION METHOD, TRIM TYPE, ETC.:

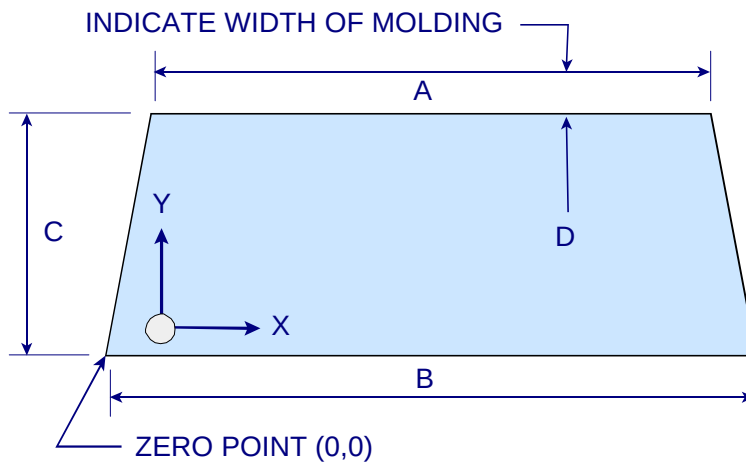
Windshield is bonded in place and covered with a 15 mm molding.

FMVSS 212 REQUIREMENTS:

The Post-Test periphery retention amount must be at least 75% of the Pre-Test periphery measurement for vehicles NOT equipped with automatic restraints, and 50% for each side of the windshield for vehicles equipped with automatic restraint systems for front occupants,

FMVSS 212 TEST DATA WINDSHIELD PERIPHERY			
	PRE-TEST (mm)	POST-TEST (mm)	% OF RETENTION
RIGHT SIDE	2252.5	2252.5	100.0%
LEFT SIDE	2252.5	2252.5	100.0%
TOTAL	4505	4505	100.0%

AREA OF RETENTION FAILURE:



DIMENSIONS (mm)	
A	1305
B	1700
C	750
D	15

FRONT VIEW OF WINDSHIELD

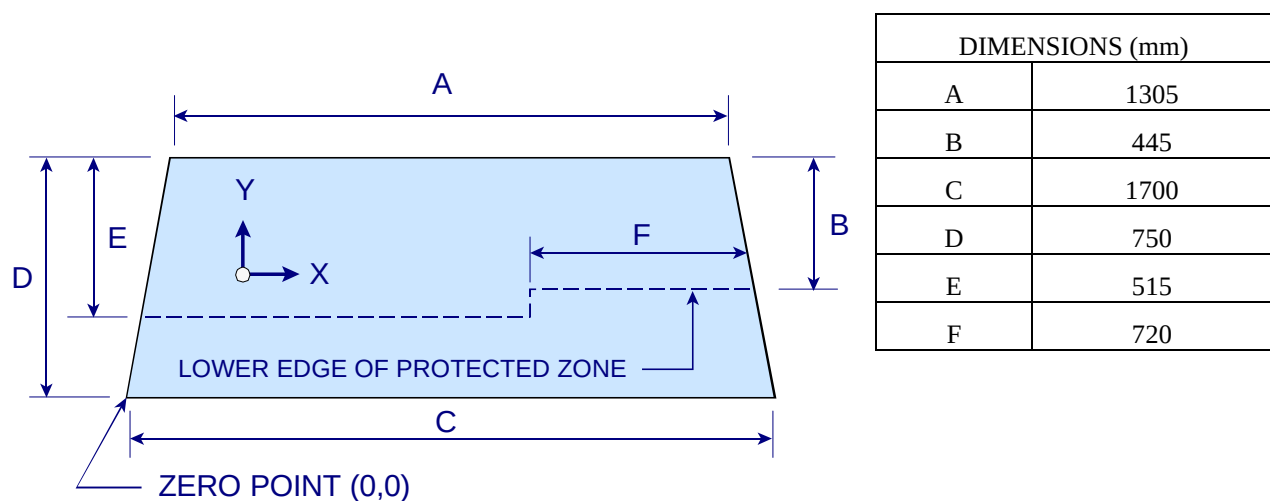
FAILURE DETAILS: None

DATA SHEET NO. 11 FMVSS NO. 219 (PARTIAL) - "WINDSHIELD ZONE INTRUSION" DATA

PROTECTED ZONE LOWER EDGE REQUIREMENT:

The lower edge of the protected zone is determined by placing a 165 mm diameter rigid sphere weighing 6.8 kg in a position such that it simultaneously contacts the inner surface of the windshield and the top surface of the instrument panel including padding. The locus of points is drawn on the inner surface of the windshield contacted by the sphere across the width of the instrument panel. From the outermost contactable points extend the locus line horizontally to the edges of the windshield, then draw a line on the inner surface of the windshield below and 13 mm distant from the locus line. The LOWER EDGE OF THE PROTECTED ZONE is the longitudinal projection of this line onto the outer surface of the windshield.

FMVSS 219 TEST DATA:



FRONT VIEW OF WINDSHIELD

DETAILS OF WINDSHIELD GLASS PENETRATION GREATER THAN 6 mm: None

(Show location of penetration on the above sketch)

COORDINATES		
	X	Y
1.	-	-
2.	-	-
3.	-	-
4.	-	-

DATA SHEET NO. 12 FMVSS NO. 301-75 "FUEL SYSTEM INTEGRITY" POST IMPACT TEST DATA

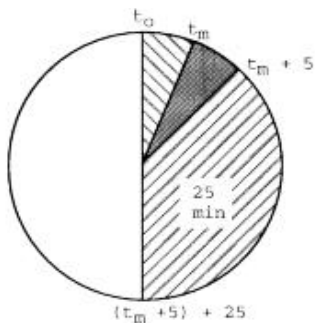
NHTSA TEST No.: RY5213 TEST DATE: November 12, 2001
VEHICLE MAKE/MODEL: 2000 Nissan Quest MPV

The test vehicle was filled from 92% to 94% of the manufacture's "usable" capacity. The electric fuel pump was operating if it will operate without engine operation. Two Part 572 anthropomorphic test devices were located at each of the front designated seating positions.

=====

TEST VEHICLE IMPACT TYPE: X Offset Frontal (60.3 kph)
- Oblique (48 kph) with _____ deg. barrier face first
 contacting _____
- (driver/passenger) side
- Rear Moving Barrier (48 kph)
- Lateral Moving Barrier (32 kph)

FUEL SPILLAGE MEASUREMENT:



1. From impact until vehicle motion ceases
2. For 5 minute period after vehicle motion ceases
3. For next 25 minutes

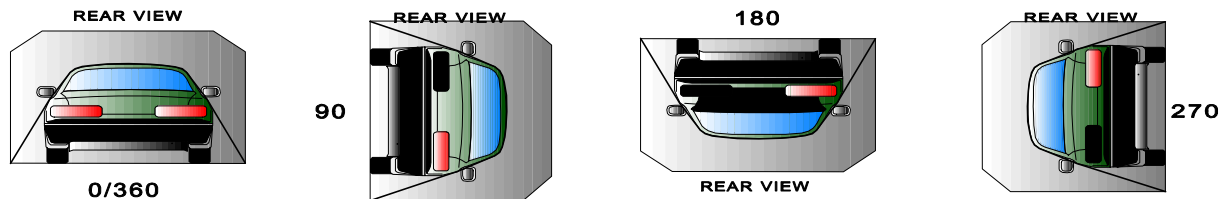
ACTUAL	MAX ALLOWED
0	28 g
0	141 g
0	28 g/min.

SOLVENT SPILLAGE DETAILS: None

DATA SHEET NO. 13 - ROLLOVER DATA

Vehicle: 2000 Nissan Quest MPV

NHTSA No.: RY5213



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Stage	Rotation Time (spec. 1 -3 min)				FMVSS 301 Hold Time		Total Time				Next Whole Minute Interval	
0° - 90°	1	minutes	14	seconds	5	minutes	6	minutes	14	seconds	7	minutes
90° - 180°	1	minutes	04	seconds	5	minutes	6	minutes	4	seconds	7	minutes
180°-270°	1	minutes	05	seconds	5	minutes	6	minutes	5	seconds	7	minutes
270°-360°	1	minutes	06	seconds	5	minutes	6	minutes	6	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:

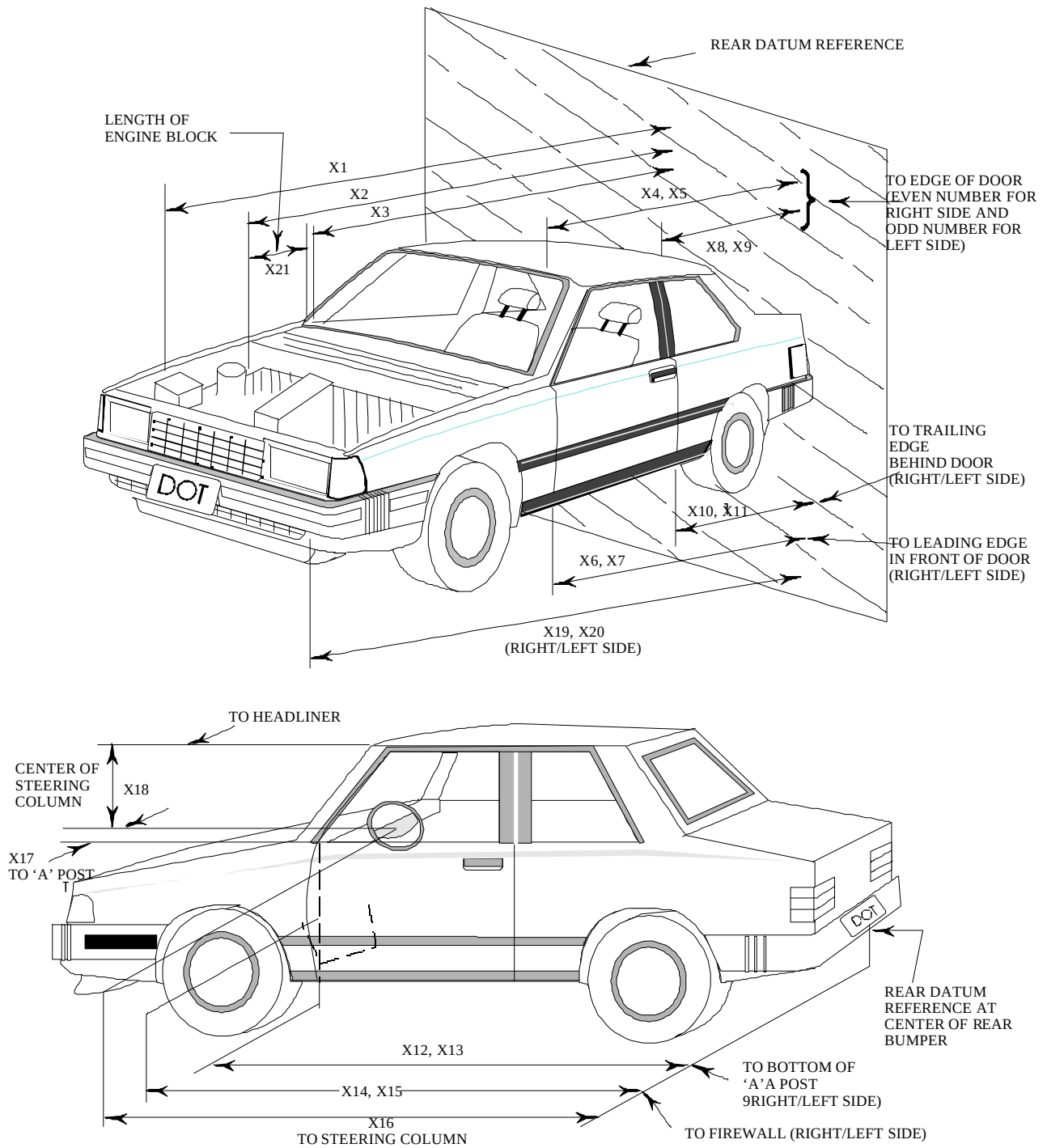
Rollover Stage	First 5 minutes from onset of rotation (g)	6th min. (g)	7th min. (g)	8th min. (if required) (g)
0° - 90°	0	0	0	N/A
90° - 180°	0	0	0	N/A
180°-270°	0	0	0	N/A
270°-360°	0	0	0	N/A

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

DATA SHEET NO. 14 TEST VEHICLE MEASUREMENTS



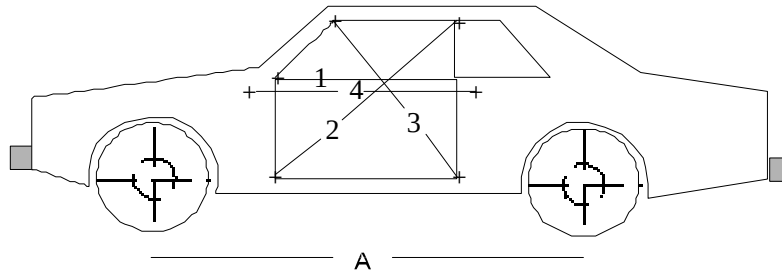
DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)

No.		Pre-Test	Post-Test	Difference
X1	Total Length of Vehicle at Centerline	4962	4472	490
X2	Rear Surface of Vehicle to Front of Engine	4410	4161	249
X3	Rear Surface of Vehicle to Firewall	4023	3860	163
X4	Rear Surface of Vehicle to Upper Leading Edge of Right Door	3522	3494	28
X5	Rear Surface of Vehicle to Upper Leading Edge of Left Door	3535	3413	122
X6	Rear Surface of Vehicle to Lower Leading Edge of Right Door	3433	3373	60
X7	Rear Surface of Vehicle to Lower Leading Edge of Left Door	3444	3318	126
X8	Rear Surface of Vehicle to Upper Trailing Edge of Right Door	2368	2337	31
X9	Rear Surface of Vehicle to Upper Trailing Edge of Left Door	2380	2311	69
X10	Rear Surface of Vehicle to Lower Trailing Edge of Right Door	2401	2333	68
X11	Rear Surface of Vehicle to Lower Trailing Edge of Left Door	2415	2305	110
X12	Rear Surface of Vehicle to Bottom of "A" Post of Right Side	3536	3511	25
X13	Rear Surface of Vehicle to Bottom of "A" Post of Left Side	3557	3441	116
X14	Rear Surface of Vehicle to Firewall, Right Side	3928	3854	74
X15	Rear Surface of Vehicle to Firewall, Left Side	3918	3686	232
X16	Rear Surface of Vehicle to Steering Column	3049	2928	121
X17	Center of Steering Column to "A" Post	325	292	33
X18	Center of Steering Column to Headliner	442	420	22
X19	Rear Surface of Vehicle to Right Side of Front Bumper	4894	4743	151
X20	Rear Surface of Vehicle to Left Side of Front Bumper	4898	4240	658
X21	Length of Engine Block	360	360	0
RD	Rear Surface of Vehicle to Right Side of Dash Panel	3240	3210	30
CD	Rear Surface of Vehicle to Center of Dash Panel	3225	3109	116
LD	Rear Surface of Vehicle to Left Side of Dash Panel	3234	3075	159

All Dimensions in mm

All measurements taken forward from a lateral plane located at the rearmost point of the vehicle.

DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)
 VEHICLE INTRUSION MEASUREMENTS
 DOOR OPENING WIDTH

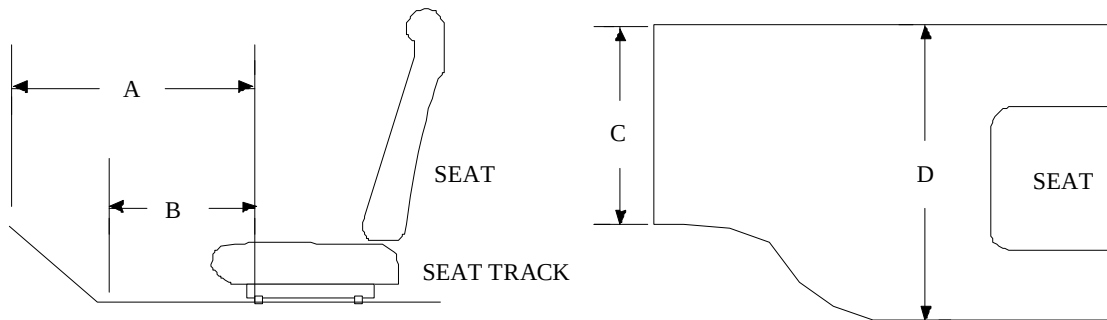


UNITS (mm)	LEFT				RIGHT		
MEASUREMENT	1	2	3	4*	1	2	3
BEFORE TEST	1084	1493	1139	1113	1067	1496	1133
AFTER TEST	995	1432	1227	1026	1078	1495	1142
DIFFERENCE	89	61	-88	87	-11	1	-9

* Insurance Institute for Highway Safety (IIHS) measurement for driver's side only

UNITS (mm)	A = WHEELBASE LEFT	A = WHEELBASE RIGHT
BEFORE TEST	2850	2850
AFTER TEST	2598	2925
DIFFERENCE	252	-75

DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)
 VEHICLE INTRUSION MEASUREMENTS
 STATIC FOOTWELL DEFORMATION



DRIVER

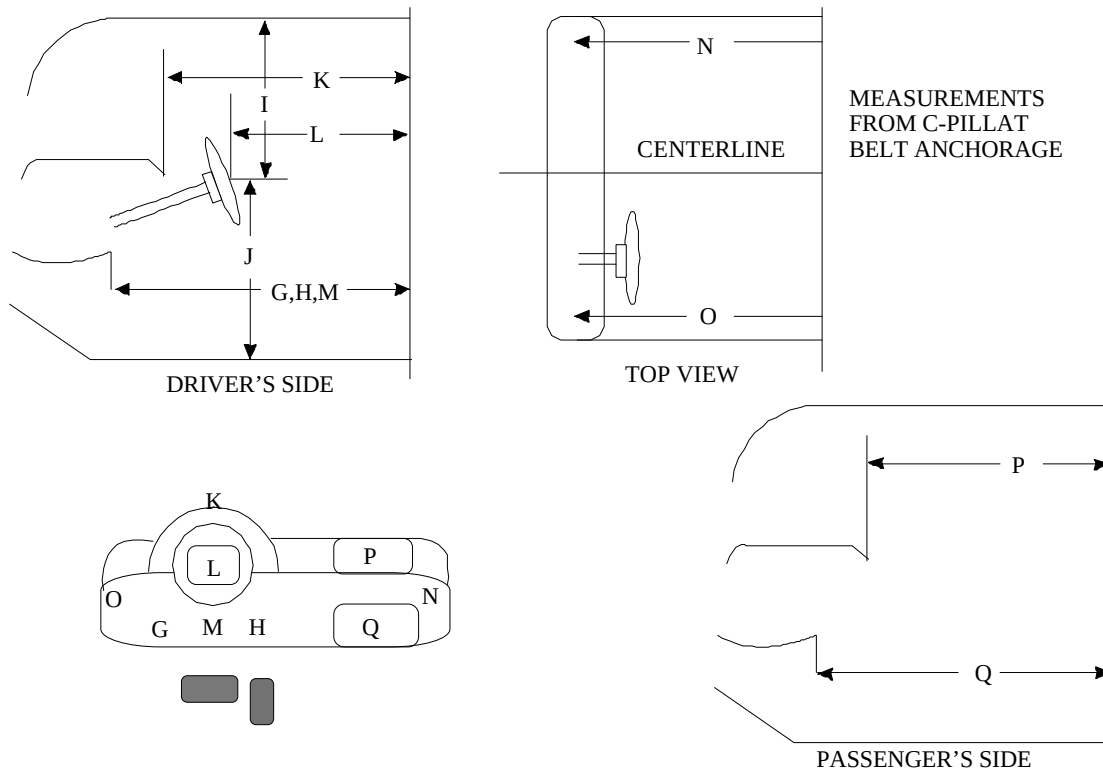
Measurement	Pre-Test	Post-Test	Difference
A	813	590	223
B	754	595	159
C	546	517	29
D	604	579	25

PASSENGER

Measurement	Pre-Test	Post-Test	Difference
A	797	742	55
B	666	622	44
C	484	493	-9
D	510	512	-2

Units = mm

DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)
VEHICLE INTRUSION MEASUREMENTS
STATIC PASSENGER COMPARTMENT INTRUSION

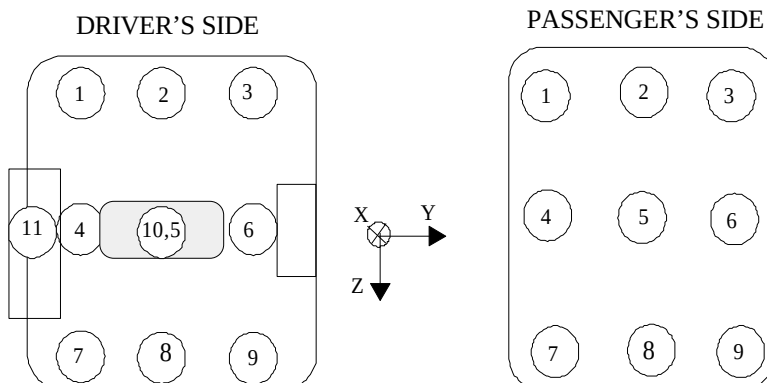


Measurement	Pre-Test	Post-Test	Difference
G*	1923	1762	161
H*	1935	1795	140
I	442	420	22
J	715	761	-46
K	1936	1822	114
L	1691	1577	114
M	1912	1760	152
N	876	888	-12
O	1876	1724	152
P = K (PASS.)	936	919	17
Q = M (PASS.)	922	880	42

* IHS measurement locations; 15 cm left and right of steering wheel center 45 cm from floor.

Units = mm

DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)
TOE-PAN INTRUSION



Driver Side Toe-pan Measurements

Toe-pan Location	X Deformation (mm)			Y Deformation (mm)			Z Deformation (mm)		
	Pre	Post	?	Pre	Post	?	Pre	Post	?
1	3747	3407	340	-493	-518	25	-611	-585	-26
2	3733	3428	305	-323	-372	49	-590	-546	-44
3	3726	3462	264	-190	-261	71	-585	-515	-70
4*	3726	3366	360	-530	-555	25	-517	-492	-25
5* ^A	3727	3280	447	-366	-344	-22	-489	-457	-32
6*	3703	3458	245	-204	-275	71	-497	-413	-84
7	3635	3326	309	-513	-601	88	-472	-427	-45
8	3675	3433	242	-347	-358	11	-416	-370	-46
9	3600	3461	139	-216	-274	58	-442	-344	-98
10	3487	3245	242	-395	-437	42	-518	-522	4
11*	3592	3374	218	-659	-668	9	-514	-420	-94

Passenger Side Toe-pan Measurements

Toe-pan Location	X Deformation (mm)			Y Deformation (mm)			Z Deformation (mm)		
	Pre	Post	?	Pre	Post	?	Pre	Post	?
1	3610	3537	73	90	175	-85	-506	-433	-73
2	3706	3588	118	284	303	-19	-523	-444	-79
3	3703	3627	76	454	467	-13	-520	-430	-90
4	3578	3509	69	105	188	-83	-433	-364	-69
5	3653	3531	122	294	322	-28	-450	-353	-97
6	3660	3580	80	450	467	-17	-451	-360	-91
7	3547	3422	125	134	195	-61	-392	-301	-91
8	3575	3467	108	293	339	-46	-386	-287	-99
9	3579	3494	85	447	475	-28	-379	-305	-74

Reference: (SAE) X = Rear Bumper (pos: forward); Y = Vehicle Centerline (pos: right); Z = Ground (pos: down)

* IIHS measurement locations

*^A IIHS measurement located directly behind 10 (brake pedal center) on the vehicle floorpan in same vertical plane.

DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)
INSURANCE INSTITUTE MEASUREMENT LOCATION AND FLOOR PAN DEFORMATION DATA

IIHS Measurement Location Data

Meas. Loc*	X Measurement (mm)			Y Measurement (mm)			Z Measurement (mm)		
	Pre	Post	?	Pre	Post	?	Pre	Post	?
1	3049	2928	121	-405	-479	74	-1074	-1073	-1
2	3282	3113	169	-536	-583	47	-825	-798	-27
3	3293	3146	147	-245	-294	49	-806	-751	-55
4	3487	3245	242	-395	-437	42	-518	-522	4
5	3726	3366	360	-530	-555	25	-517	-492	-25
6	3727	3280	447	-366	-344	-22	-489	-457	-32
7	3703	3458	245	-204	-275	71	-497	-413	-84
8	3592	3374	218	-659	-668	9	-514	-420	-94
17	3508	3371	137	-828	-912	84	-1043	-965	-78
18	2396	2346	50	-881	-901	20	-1056	-1009	-47

Floor Pan Deformation Measurement Data

Meas. Loc**	X Measurement (mm)			Y Measurement (mm)			Z Measurement (mm)		
	Pre	Post	?	Pre	Post	?	Pre	Post	?
P0	2920	2838	82	-681	-770	89	-361	-227	-134
P1	3496	3321	175	-520	-574	54	-348	-313	-35
P2	3506	3351	155	-340	-412	72	-355	-379	24
P3	3469	3348	121	-169	-271	102	-346	-372	26
P4	3349	3204	145	-513	-574	61	-353	-406	53
P5	3352	3209	143	-349	-415	66	-352	-407	55
P6	3354	3175	179	-210	-255	45	-344	-363	19
P7	3211	3068	143	-497	-565	68	-355	-374	19
P8	3222	3086	136	-344	-411	67	-352	-342	-10
P9	3223	3109	114	-202	-278	76	-356	-294	-62

Reference: (SAE) X = Rear Bumper (pos: forward); Y = Vehicle Centerline (pos: right); Z = Ground (pos: down)

Measurement Location Descriptions*

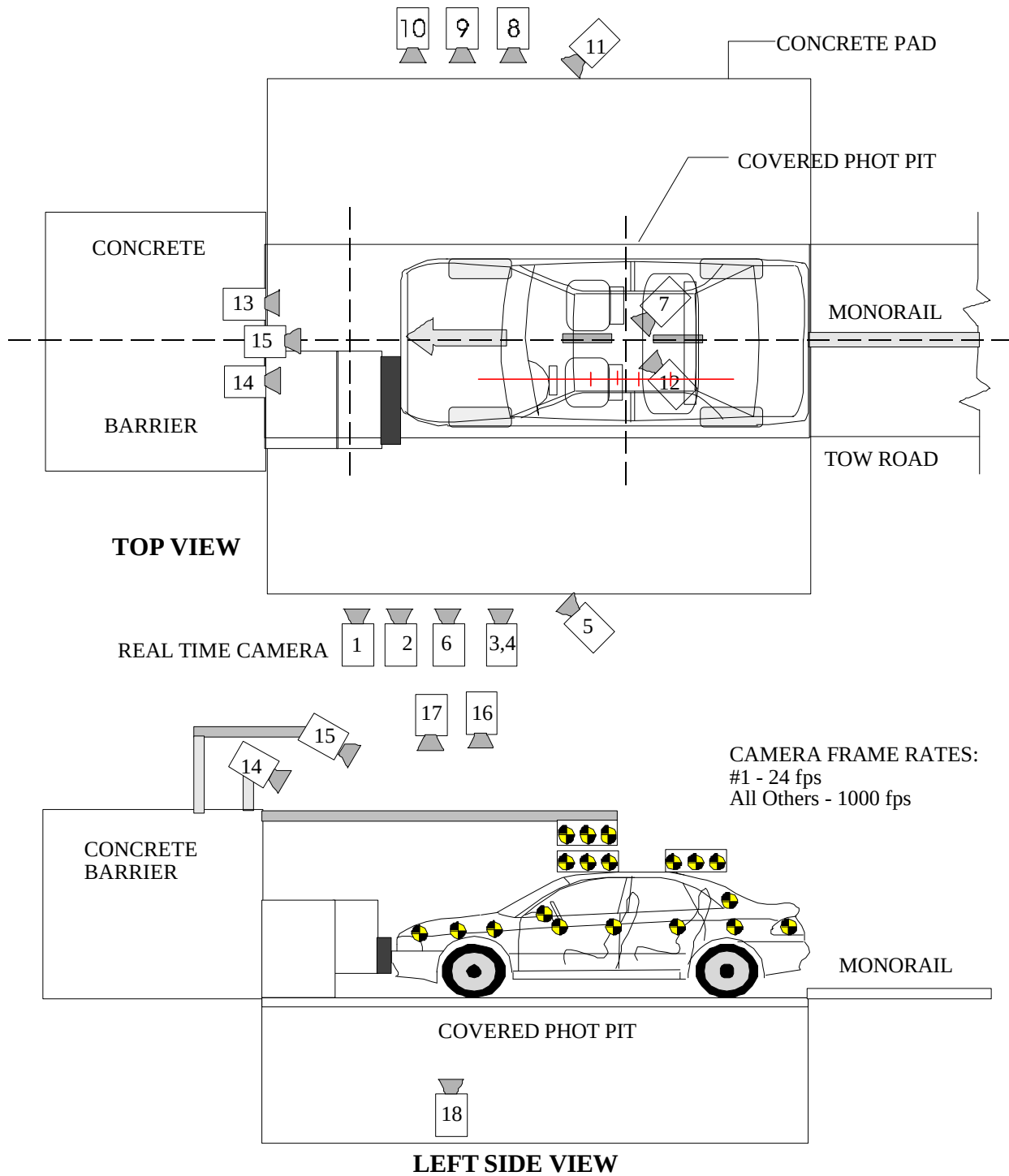
P0. Front Outside Seat Anchor Bolt

1. Steering Column - Geometric center of the steering wheel on airbag door.
2. Lower Instrument Panel Left - Taken 45 cm above floorpan and 15 cm to the left of the steering wheel center.
3. Lower Instrument Panel Right - Taken 45 cm above floorpan and 15 cm to the right of the steering wheel center.
4. Brake Pedal - Geometric center of the brake pedal.
5. Toepan Left - Taken 15 cm to the left of the brake pedal center on the same vertical plane on the vehicle toepan.
6. Toepan Center - Taken directly behind the brake pedal center on the same vertical plane on the vehicle toepan.
7. Toepan Right - Taken 15 cm to the right of the brake pedal center on the same vertical plane on the vehicle toepan.
8. Left Footrest - Taken 25 cm to the left of the brake pedal center on the same vertical plane on the vehicle toepan.
17. A-pillar - Taken on the vehicle exterior at the same vertical coordinate as the base on the left front window.
18. B-pillar - Taken on the vehicle exterior at the same vertical coordinate as the lower A-pillar mark.

** There is an equal spaced 3 x 3 floor pan matrix. Position 1 if floor pan left side forwardmost position; Position 9 is located on the right side rearmost position of the 3 x 3 grid.

DATA SHEET NO.15 HIGH-SPEED CAMERA LOCATIONS

NOTE: Camera information shown in DATA SHEET NO. 15.



DATA SHEET NO.15 HIGH-SPEED CAMERA LOCATIONS (cont.)

NHTSA Test No.:

RY5213

Vehicle:

2000 Nissan Quest MPV

CAMERA NO.	VIEW	CAMERA POSITIONS (mm)*			ANGLE (deg)**	FILM PLANE TO HEAD TARGET	LENS (mm)	SPEED (fps)
		X	Y	Z				
1	Real-Time Camera	-	-	-	-	-	-	24
2	Overall Left Side	7258	810	1070	-4	6916	12.5	1010
3	Steering Column (Bottom)	8521	300	1177	-4	8179	25	1010
4	Steering Column (Top)	8521	300	1777	-9	8179	25	1005
5	Driver and Interior View	6728	1400	2000	-8	-	25	1000
6	Left Side View	8997	210	1220	-4	8655	25	1000
7	Interior Driver View	-	-	-	-	-	-	-
8	Overall Right Side View	7476	1495	1135	-2	7753	12.5	1005
9	Right Side View	9546	540	1120	-4	9823	25	1055
10	Right Passenger View	8961	1250	1426	-5	9238	35	1005
11	Passenger and Interior View	8291	2190	1985	-5	-	25	1010
12	Interior Passenger View	-	-	-	-	-	-	-
13	Passenger Front View	-520	-2050	1987	-29	-	13	1015
14	Driver Front View	-520	-2050	3488	-37	-	13	1005
15	Windshield View	0	-2050	3048	-42	-	13	1000
16	Overhead Overall View	0	156	4880	-90	-	13	770
17	Overhead Close-Up View	0	323	4880	-90	-	35	1010
18	Pit View of Engine	0	1325	-3048	90	-	13	1005

*X = film plane to monorail centerline

** = referenced to horizontal plane

Y = film plane to impact location

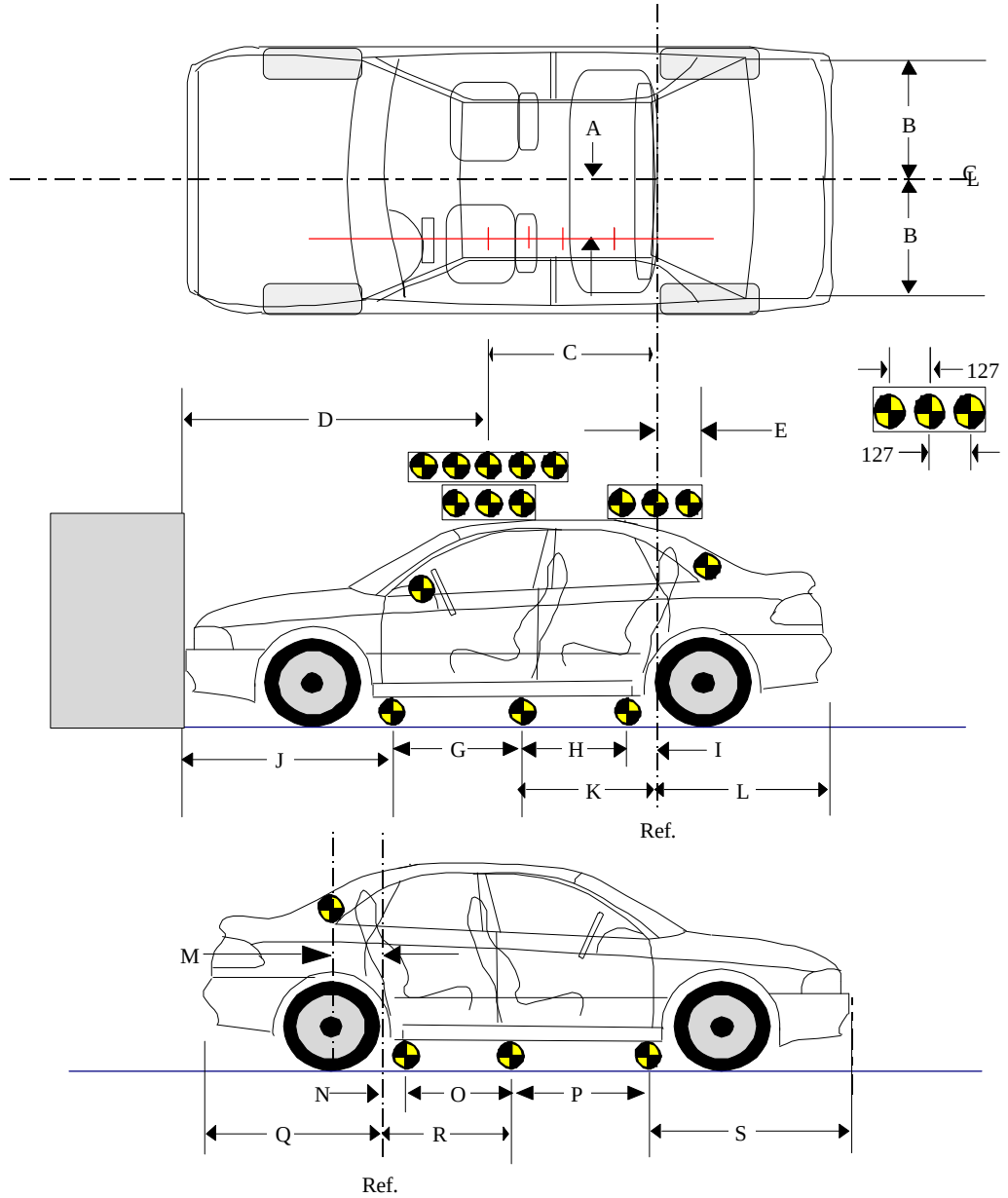
N.T. indicates No Timing

Z = film plane to ground

DATA SHEET NO. 16 VEHICLE REFERENCE PHOTO TARGET LOCATIONS

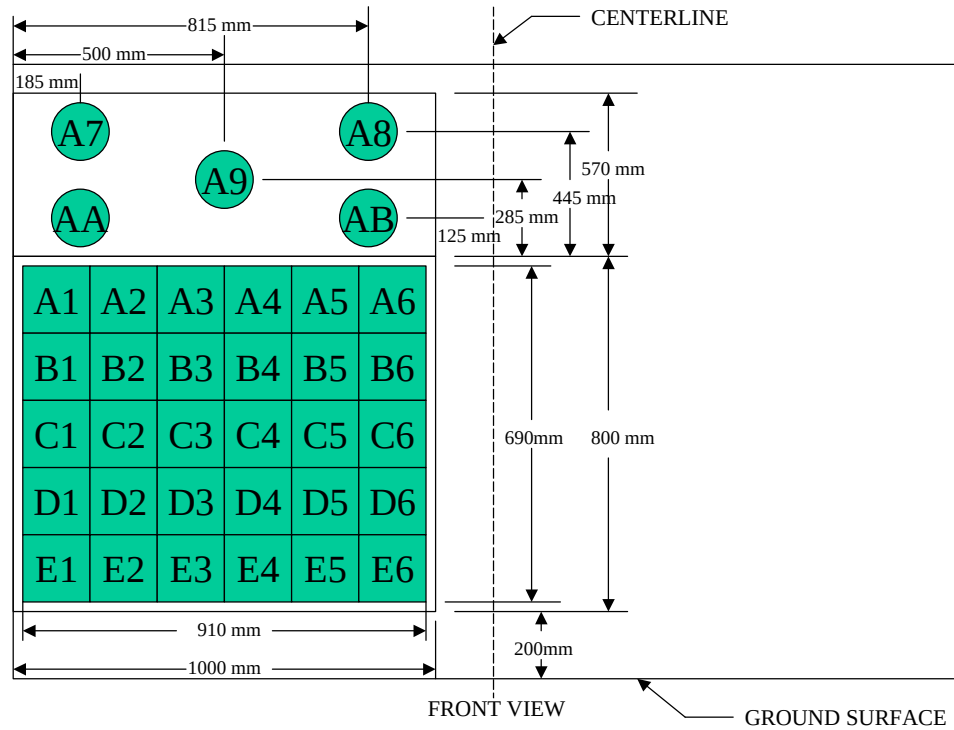
(Dimensions in millimeters)

A	353
B	619
C	906
D	2405
E	491
F	1546
G	967
H	969
I	129
J	1457
K	1098
L	1440
M	538
N	125
O	973
P	943
Q	1436
R	1098
S	1370



DATA SHEET NO. 17 LOAD CELL LOCATIONS RELATIVE TO FIXED BARRIER AND
DEFORMABLE BARRIER FACE

35 Load Cells



Load cell width	146 mm
Load cell height	133 mm
Vertical gap between load cells	6 mm
Horizontal gap between load cells	6 mm
Vertical filler block width	55 mm

The following data is presented in Appendix B:

- (1)X Direction Data from load cells A1 through A6
- (2)X and Y Direction Data from load cells B1 through E6

DATA SHEET NO. 18 POST TEST AIR BAG DATA

NHTSA No.: RY5213; Test Date: November 12, 2001; Technician: Patrick G. MacDiarmid

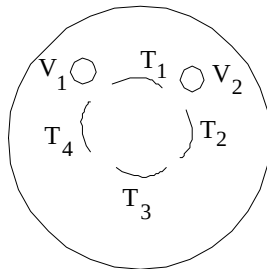
Vehicle Model Year/Make/Model: 2000 Nissan Quest MPV

- A. No. of vent holes: 2 -Driver 2 -Passenger
- B. Size of vent holes: (mm²) 491 -Driver 1257 -Passenger
- C. Total vent area: (mm²) 982 -Driver 2514 -Passenger
- D. Deflated air bag length and width dimensions or, if round, diameter. (mm)
- Driver: 490 -Height; 570 -Width; 260 -Depth
- Passenger: 700 -Height; 580 -Width; 670 -Depth
- E. Is the air bag tethered?
- Driver: X -Yes; - -No; If yes, record length of tether- 250
- Passenger: - -Yes; X -No; If yes, record length of tether- -

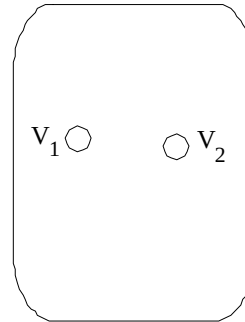
Sketch the air bag showing the location of the vent holes, how the bag is tethered, and where the bag is tethered. Also describe how the tethers are attached to the bag and the steering wheel.

(Note: Not to scale; V_n = Vent hole_n, T_n = Tether_n).

Driver



Passenger



- F. Record part numbers and manufacturer name of the air bag and gas generator.

Driver: Air bag: P117972-02H TML1388D036J

Generator: NDE L5R 5R BLT NR6 L5C 1H BJS AD992005240762

Passenger: Air bag: P600142800AA03 FTVL4M5PAIJ

Generator: AP992005250293 DP NQV L5S 42 AKH

DATA SHEET NO. 19 ACCIDENT INVESTIGATION DIVISION DATA

FOR 56.3 KPH OFFSET FRONTAL BARRIER IMPACT

Vehicle Make/Model/Body Style: Nissan Quest MPV

NHTSA Test No.: RY5213 VIN: 4N2XN11T6YD838663

Model Year: 2000 Build Date: 5/00 Test Date: November 12, 2001

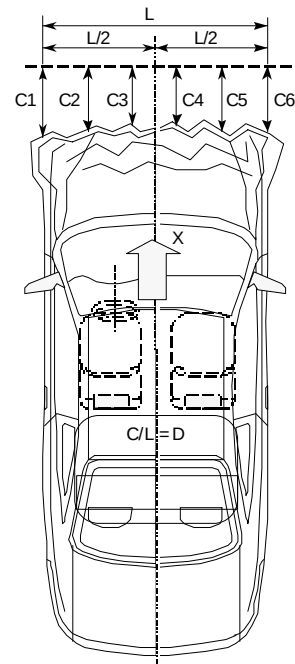
Vehicle Size Category: mpv Test Weight: 2010 kg

Vehicle Wheelbase: 2850 mm; Front Overhang: 1005 mm; Overall Width: 1890 mm

Collision Deformation Classification (CDC) Code: 12FDEW4

Crush Depth Dimensions

	PRE	POST	DIFF	
C1 =	4804	4079	725	mm
C2 =	4913	4264	649	mm
C3 =	4959	4334	625	mm
C4 =	4958	4563	395	mm
C5 =	4910	4717	193	mm
C6 =	4802	4825	-23	mm



Midpoint of Damage: $D = \text{Vehicle Centerline (Longitudinal)}$

Length of Damaged Region:

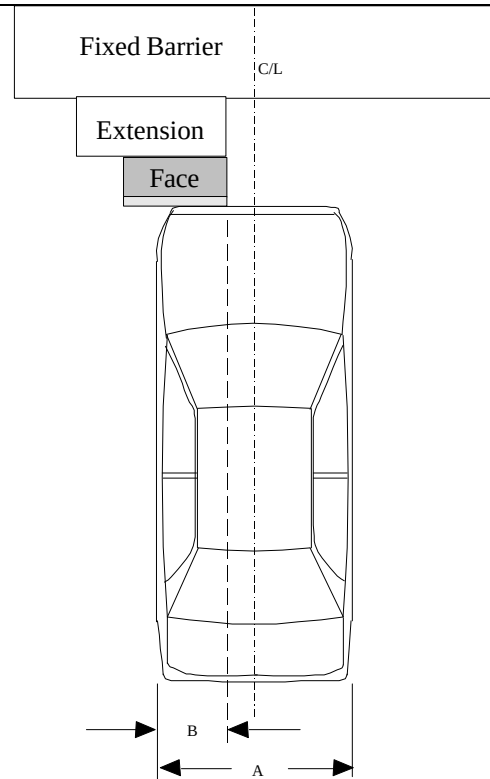
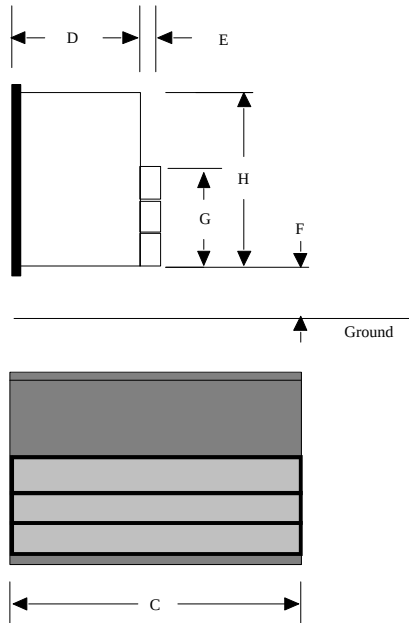
L1=	<u>1453</u>	mm
L2=	<u>726.5</u>	mm
L5=	<u>290.6</u>	mm

DATA SHEET NO. 20 OFFSET BARRIER AND VEHICLE ORIENTATION

NHTSA Test No.: RY5213

Vehicle: 2000 Nissan Quest MPV

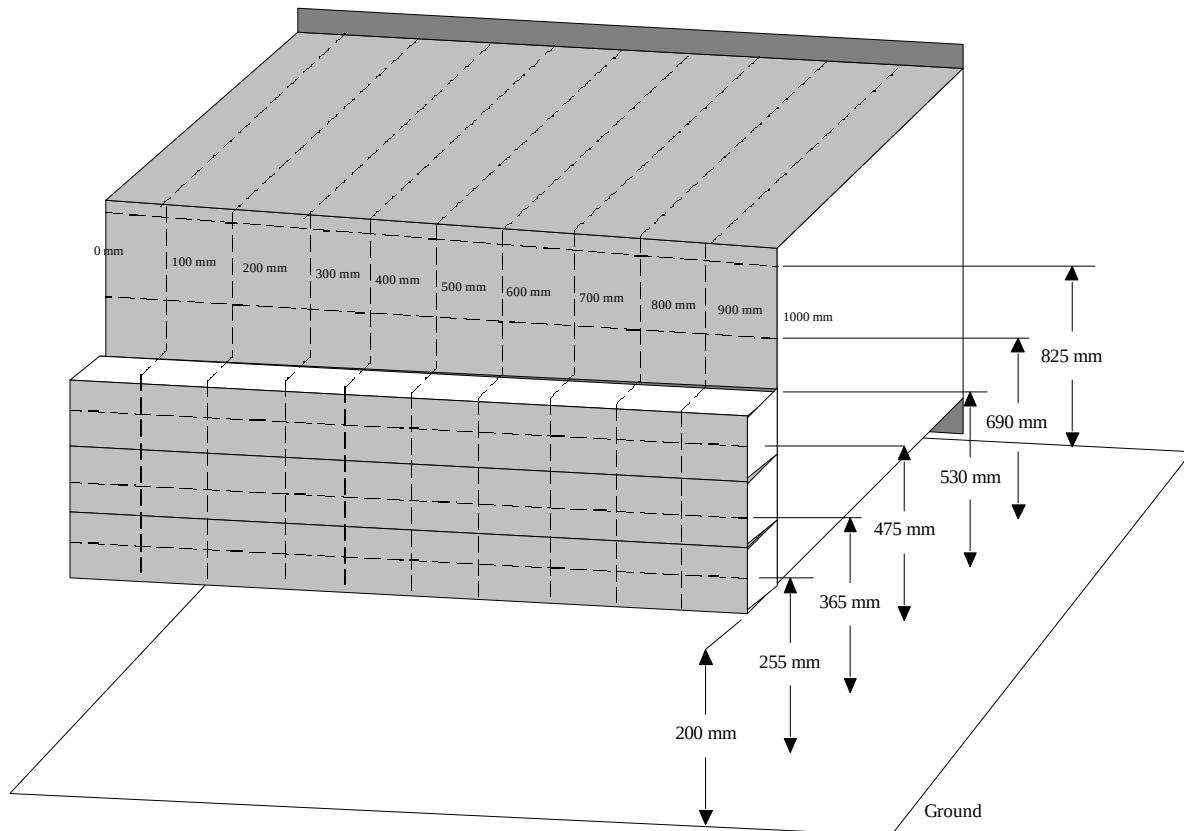
Barrier Manufacturer and Serial Number:



A	Total Vehicle Width	1890	mm
B	40% Overlap Distance	756.0	mm
C	Deformable Face Width	1000	mm
D	Single Stage Honeycomb Depth	450	mm
E	Bumper Element Depth	90	mm
F	Lower Edge Height From Ground	200	mm
G*	Bumper Element Height	330	mm
H	Deformable Barrier Honeycomb Height	650	mm

* The bumper element consists of three 110 mm height blocks of 1.723 MPa honeycomb

Offset Barrier Measurement Locations



DATA SHEET NO. 21 OFFSET BARRIER DEFORMATION (continued)

EXTERIOR STATIC CRUSH FOR BARRIER FACE
(Grid as looking at barrier from front)

Vehicle: _ 2000 Nissan Quest MPV

NHTSA No. RY5213

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

LEVEL	HEIGHT AT CL (mm)*		DISTANCE RIGHT OF CENTER (mm)					0	DISTANCE LEFT OF CENTER (mm)				
			500	400	300	200	100		100	200	300	400	500
LEVEL 6 TOP STACK	825	PRE	546	546	546	546	546	546	546	546	546	546	546
		POST	510	590	672	770	863	828	798	819	848	888	939
		CRUSH	-36	44	126	224	317	282	252	273	302	342	393
LEVEL 5 MID STACK	687	PRE	546	546	546	546	546	546	546	546	546	546	546
		POST	523	602	691	778	839	871	821	910	921	918	933
		CRUSH	-23	56	145	232	293	325	275	364	375	372	387
LEVEL 4 TOP BUMPER	530	PRE	546	546	546	546	546	546	546	546	546	546	546
		POST	550	660	747	801	865	914	954	962	960	966	988
		CRUSH	4	114	201	255	319	368	408	416	414	420	442
LEVEL 3 BUMPER TOP	475	PRE	456	456	456	456	456	456	456	456	456	456	456
		POST	474	564	654	727	791	869	920	939	942	953	983
		CRUSH	18	108	198	271	335	413	464	483	486	497	527
LEVEL 2 BUMPER MID	365	PRE	456	456	456	456	456	456	456	456	456	456	456
		POST	514	578	650	707	761	832	884	918	924	935	960
		CRUSH	58	122	194	251	305	376	428	462	468	479	504
LEVEL 1 BUMPER LOW	255	PRE	456	456	456	456	456	456	456	456	456	456	456
		POST	476	534	584	627	668	712	775	824	843	878	916
		CRUSH	20	78	128	171	212	256	319	368	387	422	460

*Heights measured above ground level.

2-38

8413-67

APPENDIX A
PHOTOGRAPHS

TABLE OF PHOTOGRAPHS

<u>Figure</u>	<u>Title</u>	<u>Page</u>
A-1	PRE-TEST FRONT VIEW	A-3
A-2	POST-TEST FRONT VIEW	A-4
A-3	PRE-TEST LEFT SIDE VIEW	A-5
A-4	POST-TEST LEFT SIDE VIEW	A-6
A-5	PRE-TEST RIGHT SIDE VIEW	A-7
A-6	POST-TEST RIGHT SIDE VIEW	A-8
A-7	PRE-TEST RIGHT FRONT THREE-QUARTER VIEW	A-9
A-8	POST-TEST RIGHT FRONT THREE-QUARTER VIEW	A-10
A-9	PRE-TEST LEFT REAR THREE-QUARTER VIEW	A-11
A-10	POST-TEST LEFT REAR THREE-QUARTER VIEW	A-12
A-11	PRE-TEST WINDSHIELD VIEW	A-13
A-12	POST-TEST WINDSHIELD VIEW	A-14
A-13	PRE-TEST ENGINE COMPARTMENT VIEW	A-15
A-14	FUEL CAP VIEW	A-16
A-15	PRE-TEST FRONT UNDERBODY VIEW	A-17
A-16	POST-TEST FRONT UNDERBODY VIEW	A-18
A-17	PRE-TEST FRONT SIDE UNDERBODY VIEW	A-19
A-18	POST-TEST FRONT SIDE UNDERBODY VIEW	A-20
A-19	PRE-TEST REAR UNDERBODY VIEW	A-21
A-20	POST-TEST REAR UNDERBODY VIEW	A-22
A-21	PRE-TEST DRIVER POSITION VIEW	A-23
A-22	POST-TEST DRIVER POSITION VIEW	A-24
A-23	PRE-TEST PASSENGER POSITION VIEW	A-25
A-24	POST-TEST PASSENGER POSITION VIEW	A-26
A-25	PRE-TEST DRIVER AND INTERIOR VIEW	A-27
A-26	POST-TEST DRIVER AND INTERIOR VIEW	A-28
A-27	PRE-TEST PASSENGER AND INTERIOR VIEW	A-29
A-28	POST-TEST PASSENGER AND INTERIOR VIEW	A-30
A-29	PRE-TEST DRIVER HEAD LOCATION	A-31
A-30	POST-TEST DRIVER HEAD LOCATION	A-32
A-31	PRE-TEST PASSENGER HEAD LOCATION	A-33
A-32	POST-TEST PASSENGER HEAD LOCATION	A-34
A-33	PRE-TEST DRIVER FLOOR PAN VIEW	A-35
A-34	POST-TEST DRIVER FLOOR PAN VIEW	A-36
A-35	PRE-TEST PASSENGER FLOOR PAN VIEW	A-37
A-36	POST-TEST PASSENGER FLOOR PAN VIEW	A-38
A-37	PRE-TEST BARRIER FRONT VIEW	A-39
A-38	POST-TEST BARRIER FRONT VIEW	A-40
A-39	PRE-TEST BARRIER LEFT SIDE VIEW	A-41
A-40	POST-TEST BARRIER LEFT SIDE VIEW	A-42
A-41	PRE-TEST BARRIER RIGHT SIDE VIEW	A-43
A-42	POST-TEST BARRIER RIGHT SIDE VIEW	A-44
A-43	PRE-TEST BARRIER TOP VIEW	A-45
A-44	POST-TEST BARRIER TOP VIEW	A-46
A-45	POST-TEST OVERHEAD VIEW	A-47
A-46	ROLLOVER VIEW	A-48
A-47	IMPACT VIEW	A-49



Figure A-1 PRE-TEST FRONT VIEW



Figure A-2 POST-TEST FRONT VIEW



Figure A-3 PRE-TEST LEFT SIDE VIEW



Figure A-4 POST-TEST LEFT SIDE VIEW



Figure A-5 PRE-TEST RIGHT SIDE VIEW



Figure A-6 POST-TEST RIGHT SIDE VIEW



Figure A-7 PRE-TEST RIGHT FRONT THREE-QUARTER VIEW



Figure A-8 POST-TEST RIGHT FRONT THREE-QUARTER VIEW



Figure A-9 PRE-TEST LEFT REAR THREE-QUARTER VIEW



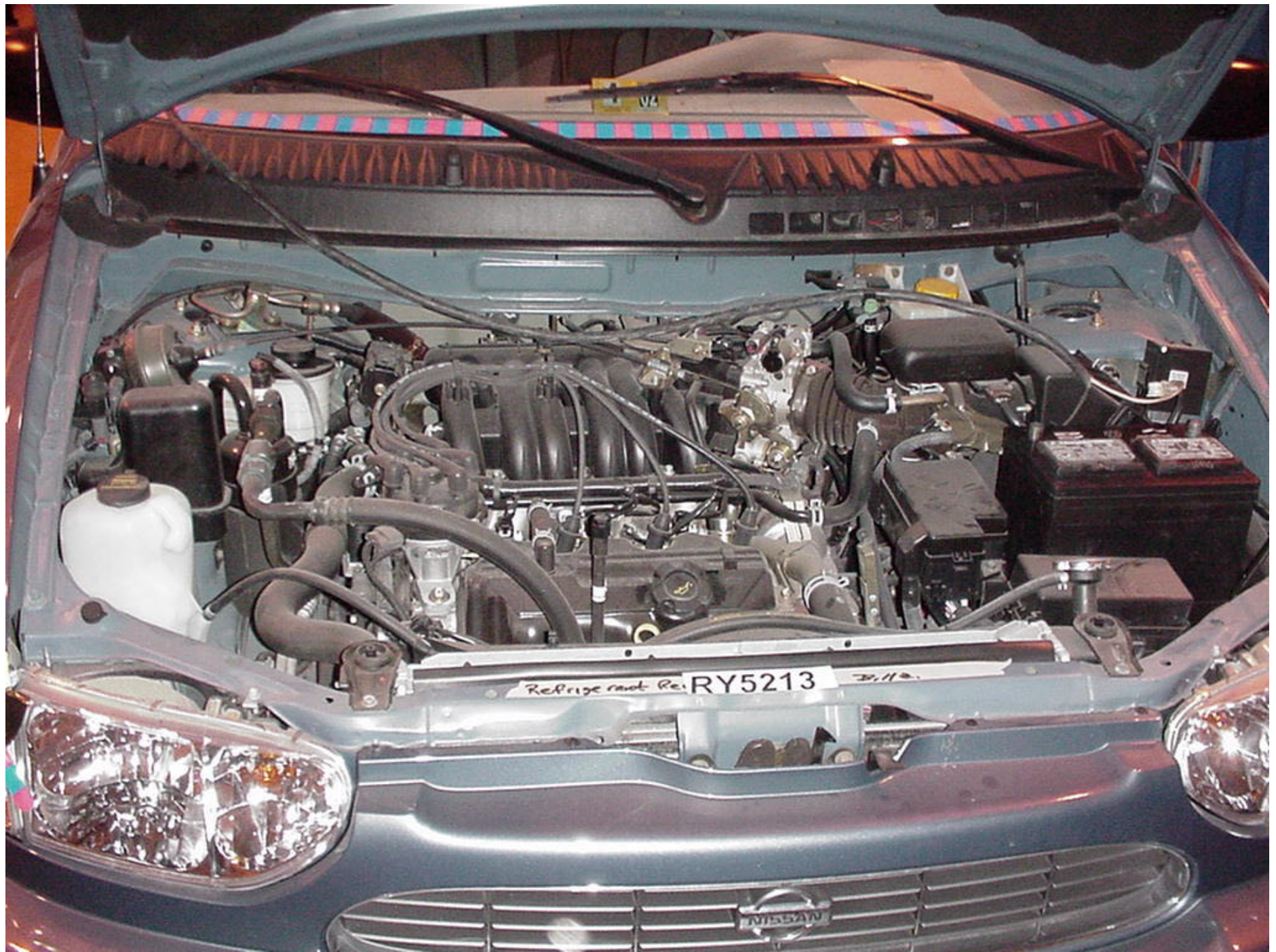
Figure A-10 POST-TEST LEFT REAR THREE-QUARTER VIEW



Figure A-11 PRE-TEST WINDSHIELD VIEW



Figure A-12 POST-TEST WINDSHIELD VIEW



A-15

8413-67

Figure A-13 PRE-TEST ENGINE COMPARTMENT VIEW

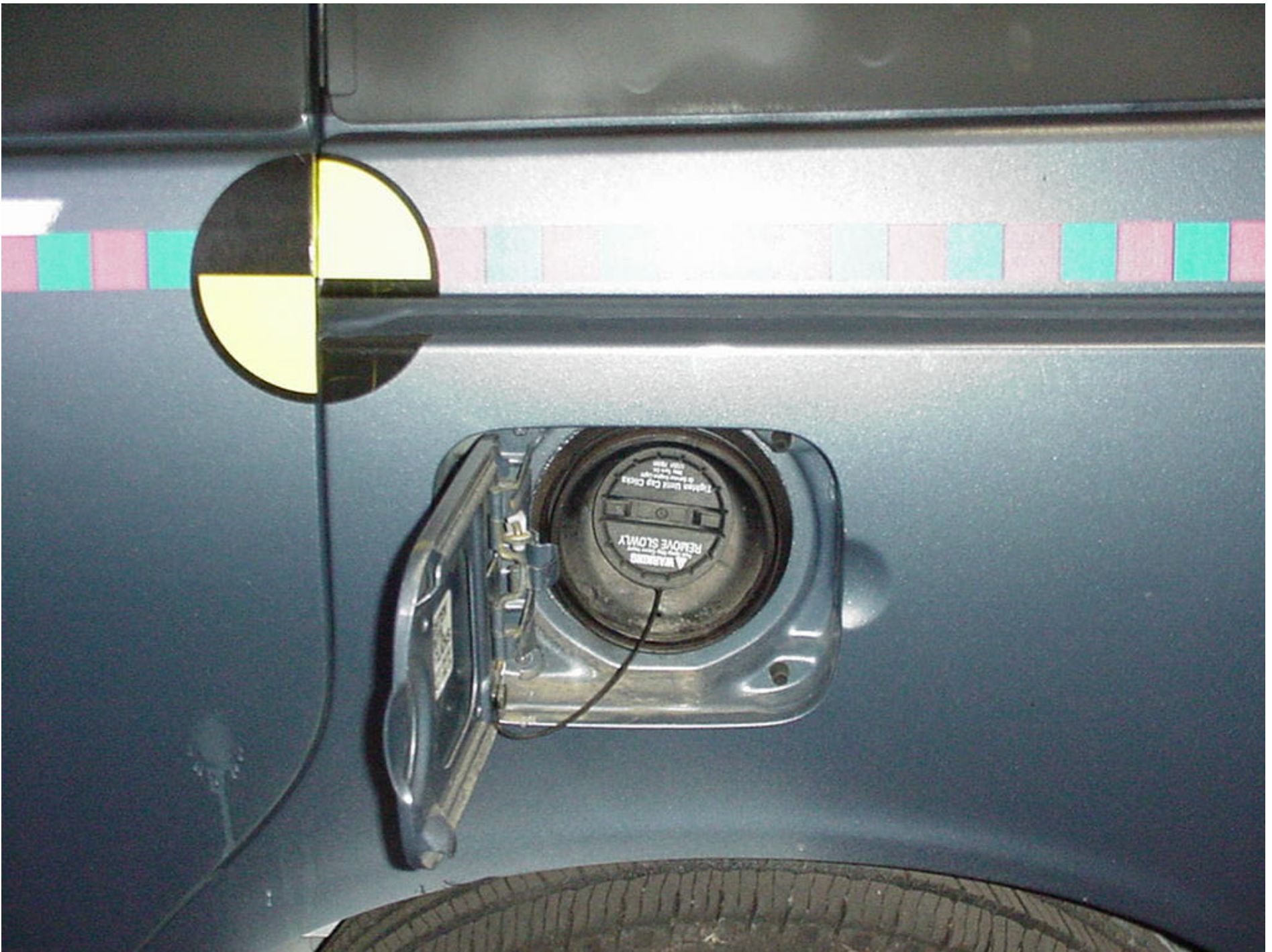


Figure A-14 FUEL CAP VIEW

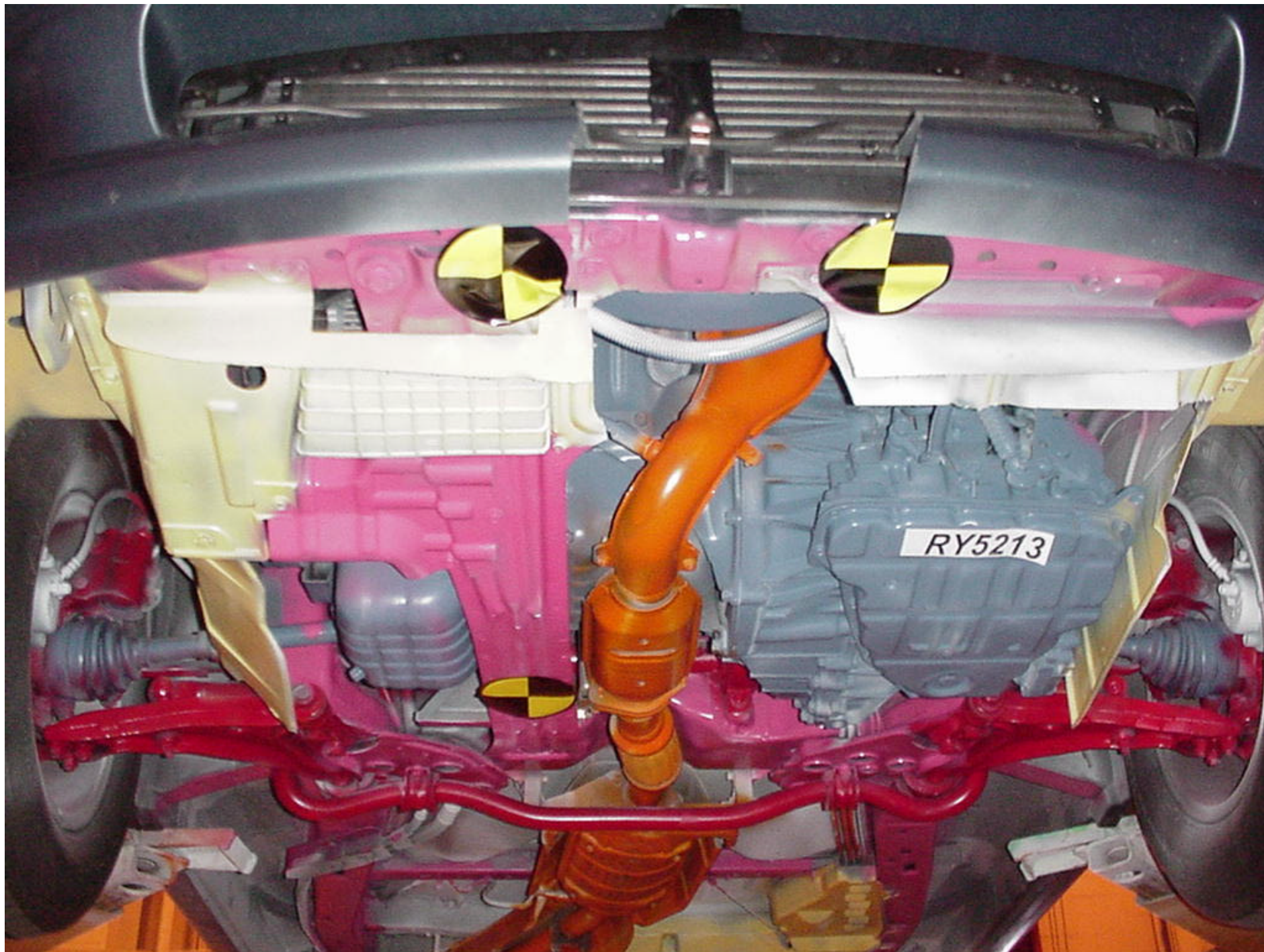


Figure A-15 PRE-TEST FRONT UNDERBODY VIEW

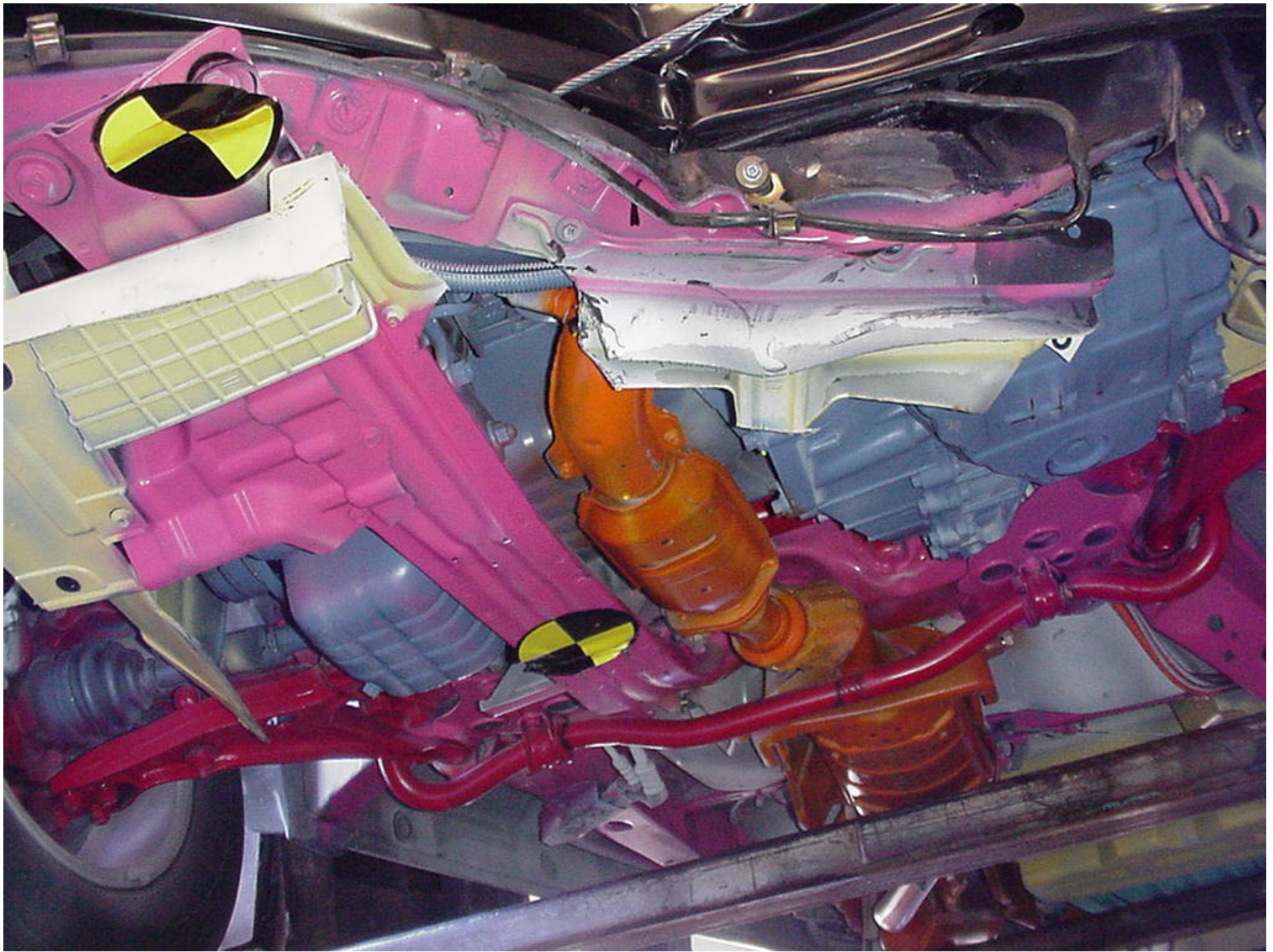


Figure A-16 POST-TEST FRONT UNDERBODY VIEW

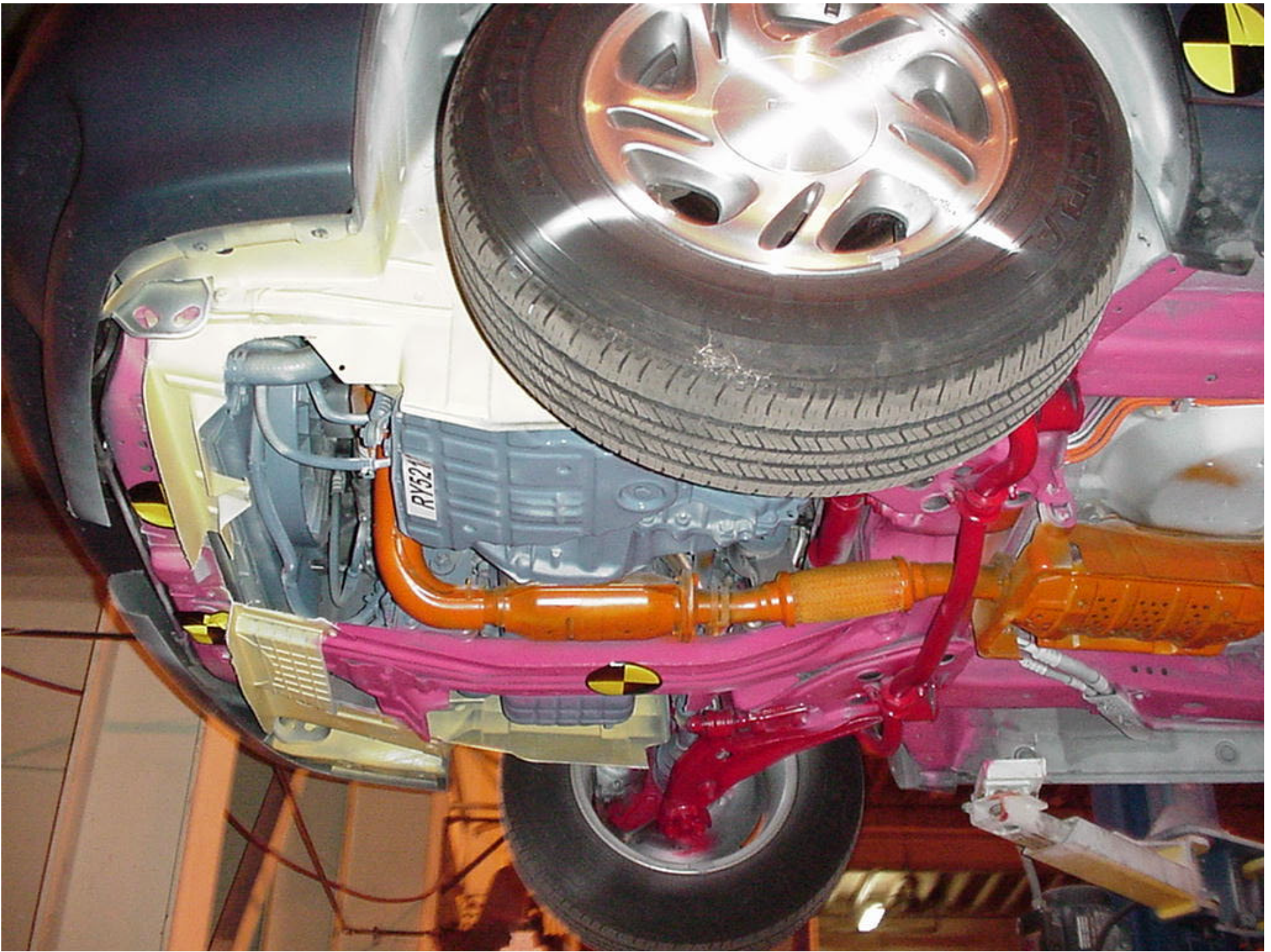


Figure A-17 PRE-TEST FRONT SIDE UNDERBODY VIEW

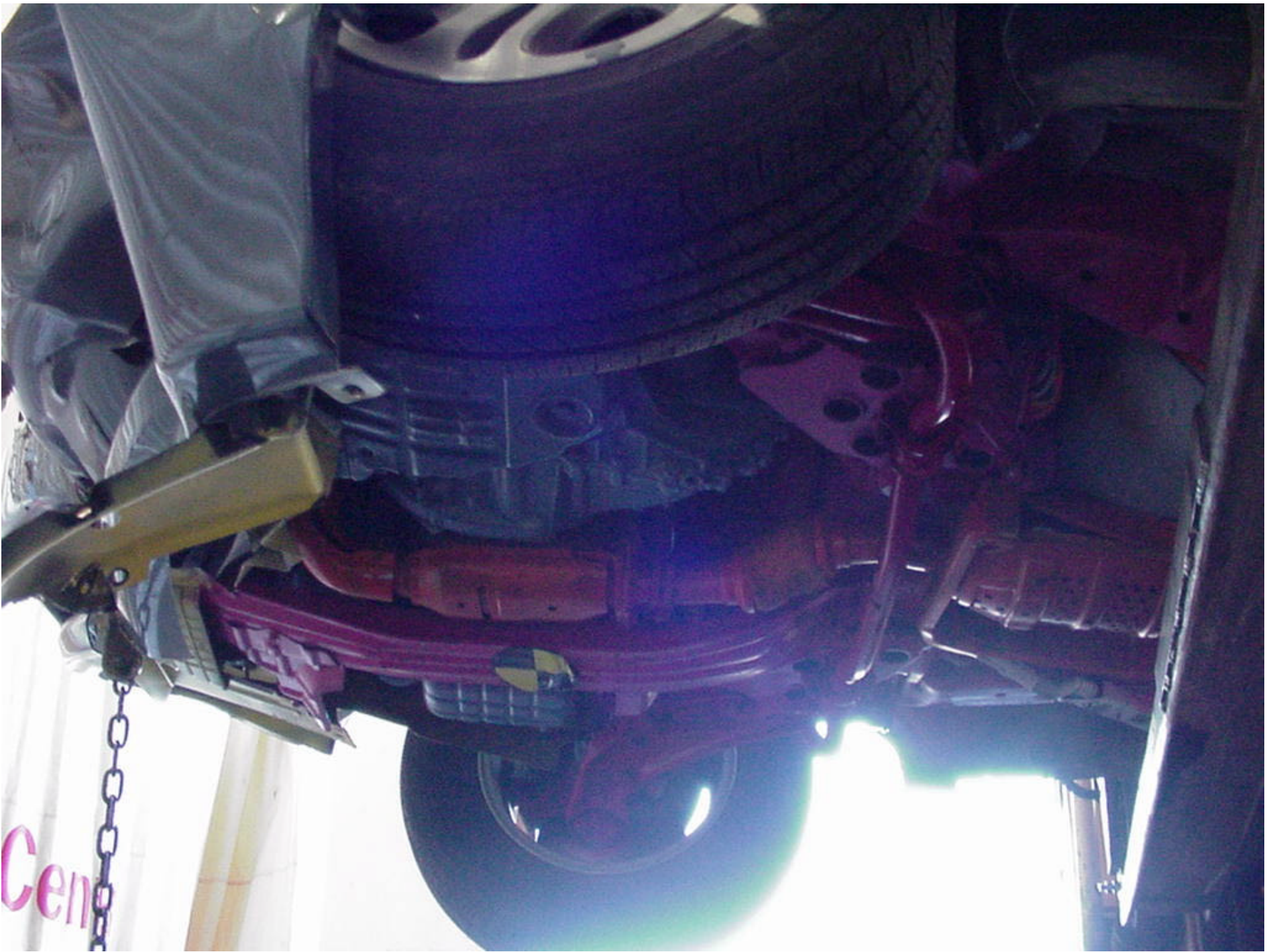


Figure A-18 POST-TEST FRONT SIDE UNDERBODY VIEW

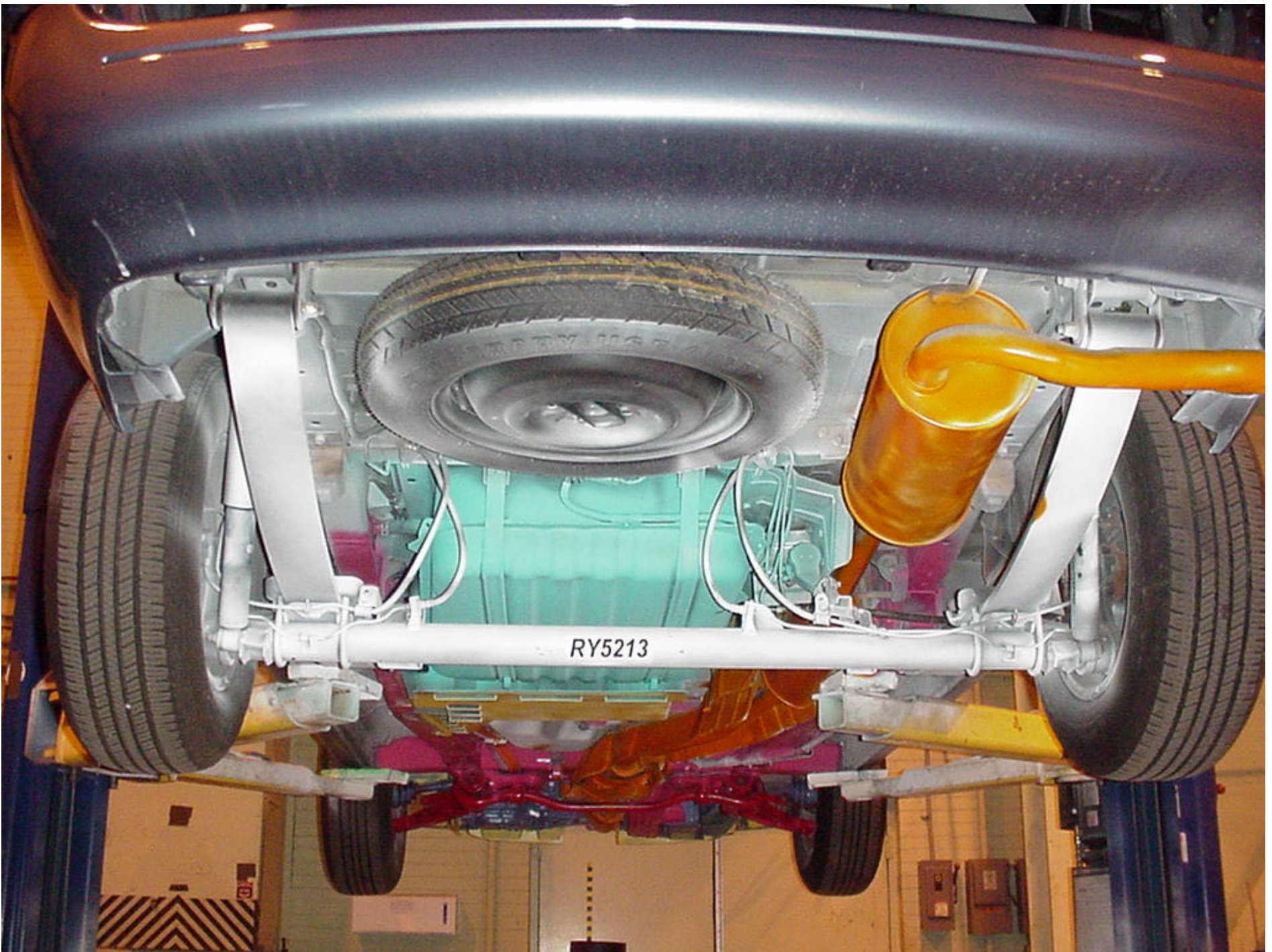


Figure A-19 PRE-TEST REAR UNDERBODY VIEW

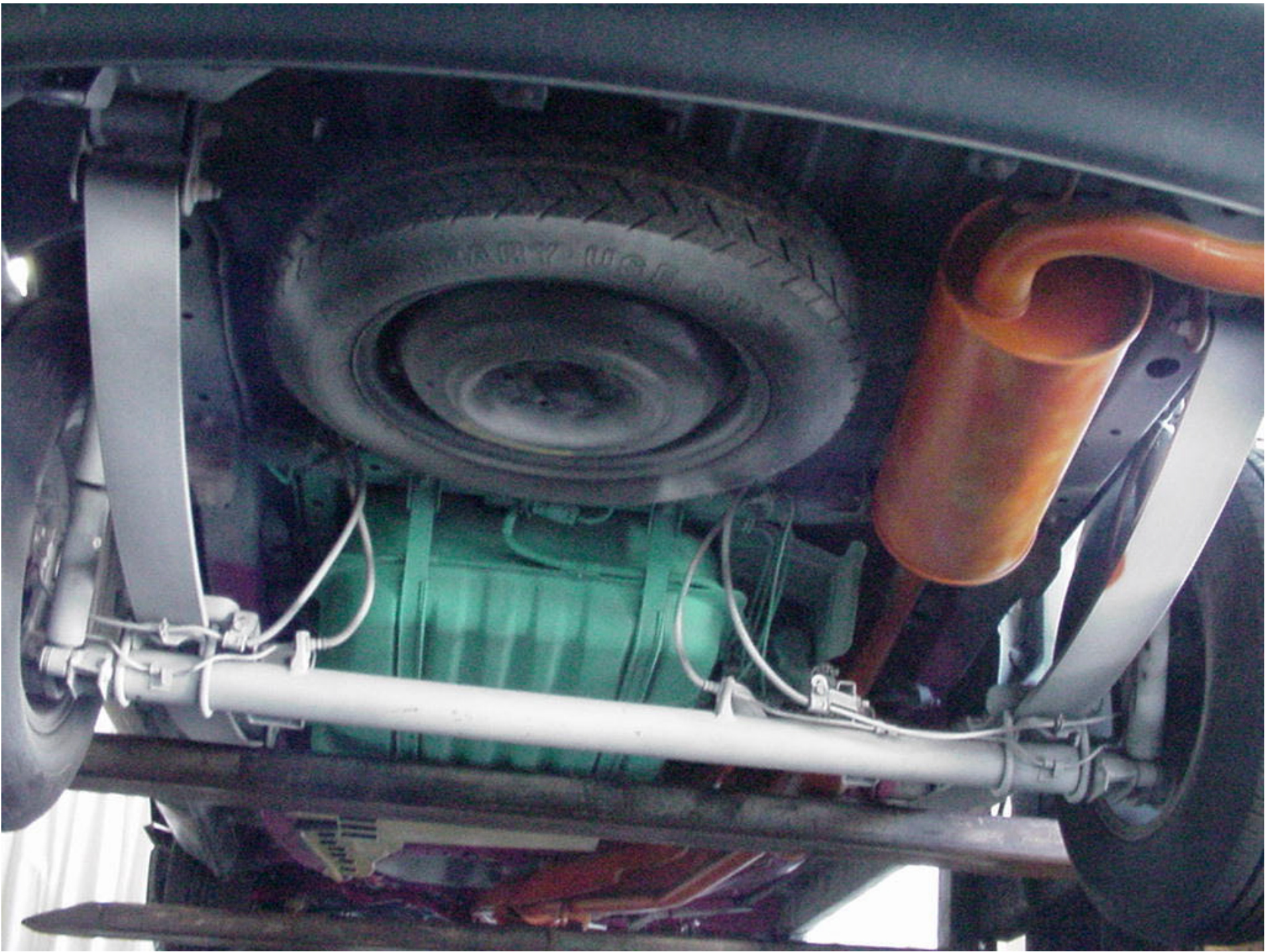


Figure A-20 POST-TEST REAR UNDERBODY VIEW

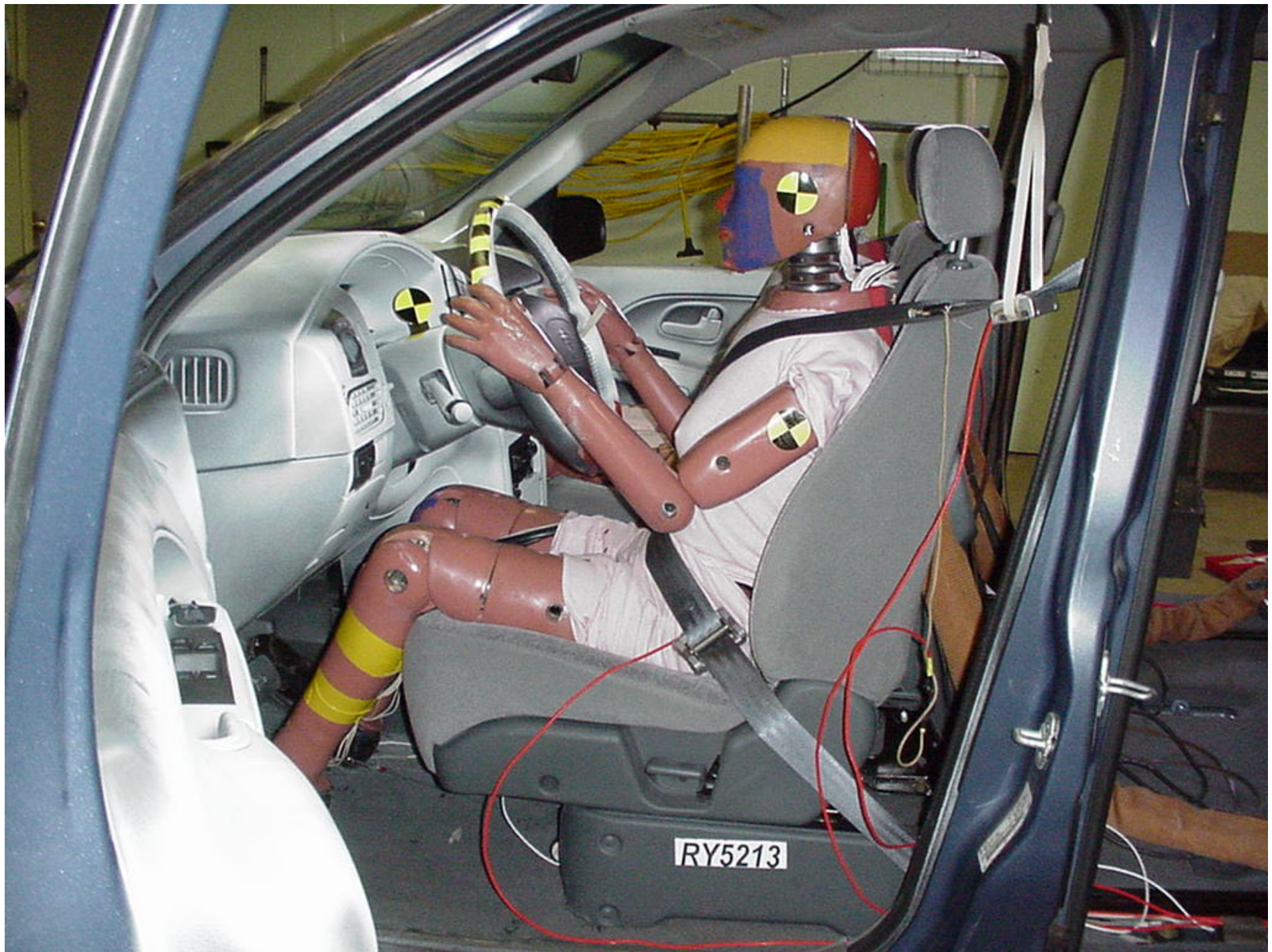


Figure A-21 PRE-TEST DRIVER POSITION VIEW



Figure A-22 POST-TEST DRIVER POSITION VIEW



Figure A-23 PRE-TEST PASSENGER POSITION VIEW



Figure A-24 POST-TEST PASSENGER POSITION VIEW



Figure A-25 PRE-TEST DRIVER AND INTERIOR VIEW



Figure A-26 POST-TEST DRIVER AND INTERIOR VIEW



Figure A-27 PRE-TEST PASSENGER AND INTERIOR VIEW



Figure A-28 POST-TEST PASSENGER AND INTERIOR VIEW



Figure A-29 PRE-TEST DRIVER HEAD LOCATION



Figure A-30 POST-TEST DRIVER HEAD LOCATION



Figure A-31 PRE-TEST PASSENGER HEAD LOCATION



Figure A-32 POST-TEST PASSENGER HEAD LOCATION

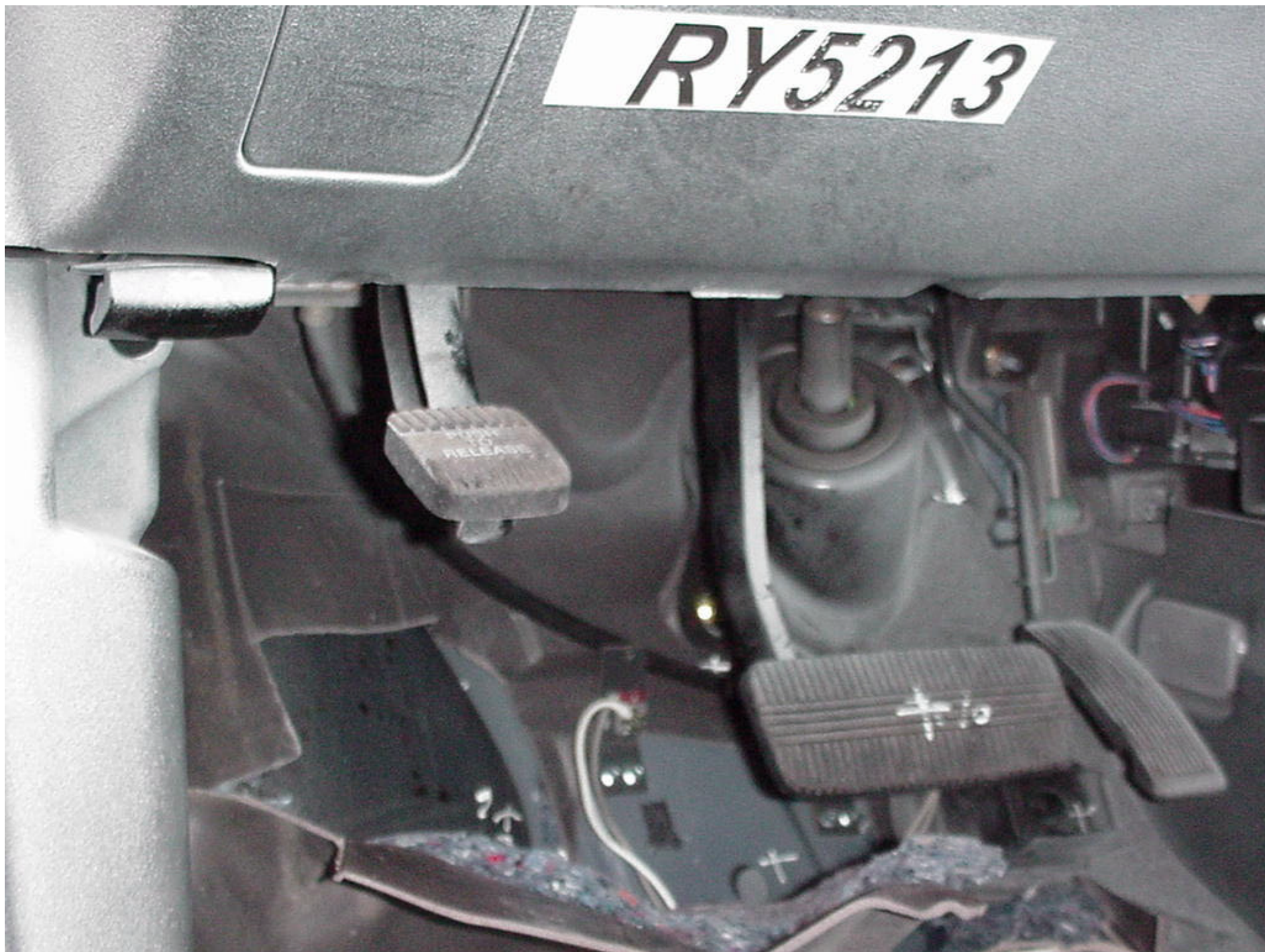


Figure A-33 PRE-TEST DRIVER FLOOR PAN VIEW



Figure A-34 POST-TEST DRIVER FLOOR PAN VIEW



Figure A-35 PRE-TEST PASSENGER FLOOR PAN VIEW



Figure A-36 POST-TEST PASSENGER FLOOR PAN VIEW

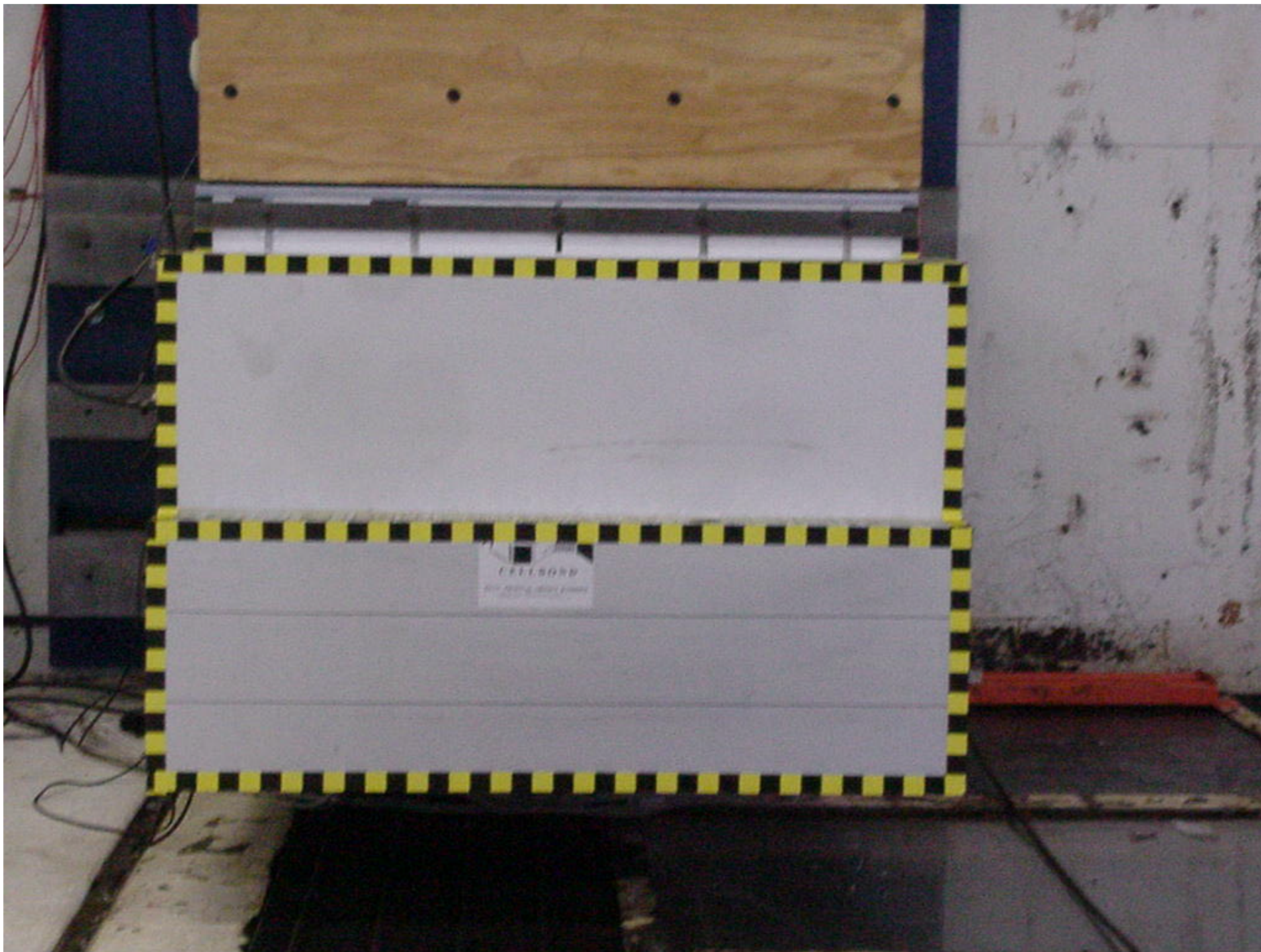


Figure A-37 PRE-TEST BARRIER FRONT VIEW



Figure A-38 POST-TEST BARRIER FRONT VIEW



Figure A-39 PRE-TEST BARRIER LEFT SIDE VIEW



Figure A-40 POST-TEST BARRIER LEFTSIDE VIEW



Figure A-41 PRE-TEST BARRIER RIGHT SIDE VIEW



Figure A-42 POST-TEST BARRIER RIGHT SIDE VIEW



Figure A-43 PRE-TEST BARRIER TOP VIEW



Figure A-44 POST-TEST BARRIER TOP VIEW

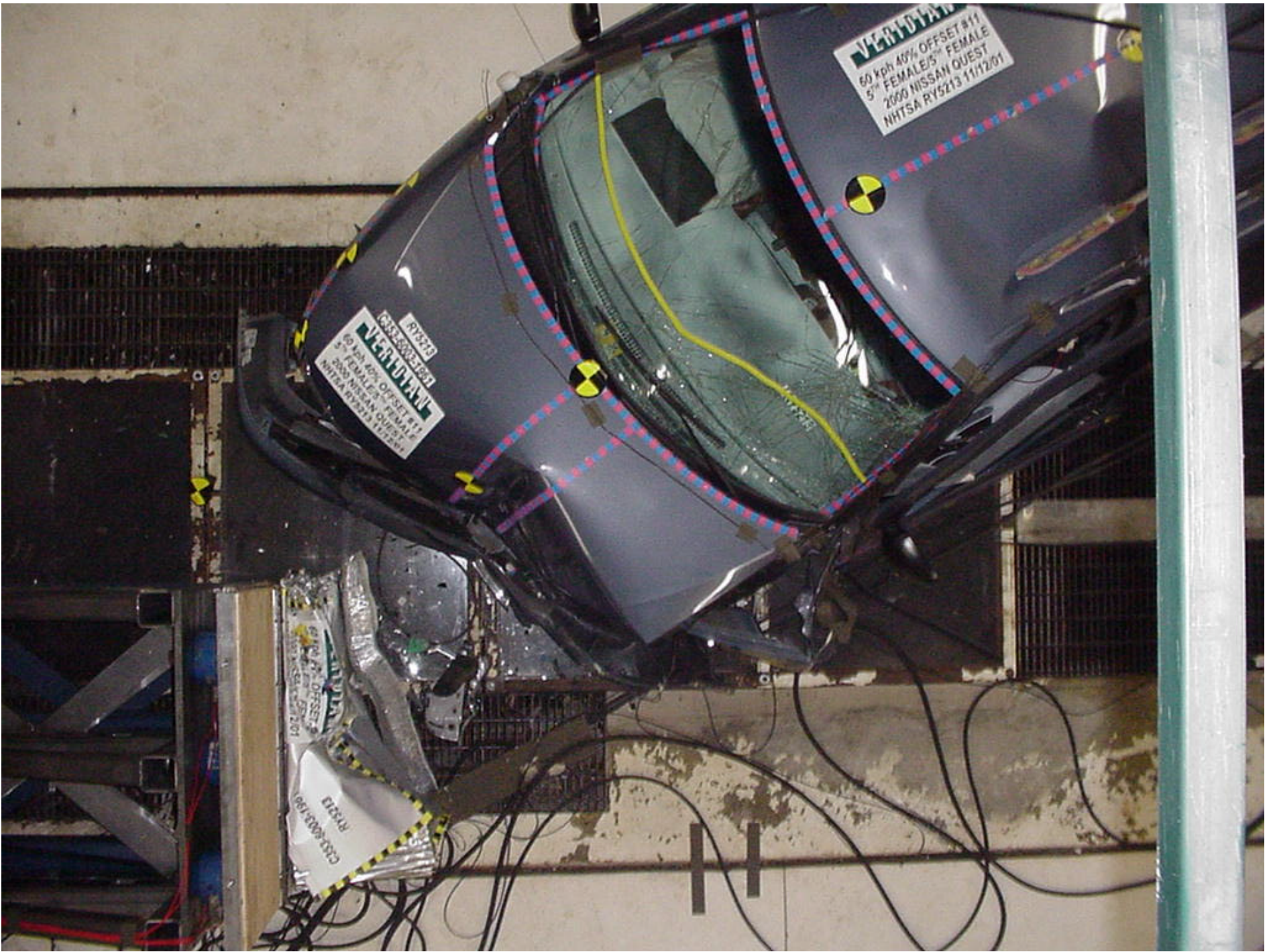


Figure A-45 POST-TEST OVERHEADVIEW



Figure A-46 ROLLOVER VIEW



Figure A-47 IMPACT VIEW

APPENDIX B

DUMMY, VEHICLE AND LOAD CELL BARRIER RESPONSE DATA

**Hybrid III Dummy Sign Conventions
Load Cells and Special Transducers**

Transducer	SAE Sign Convention (positive unless noted)
Upper Neck Load Cell	Fx Head rearward, Chest Forward Fy Head leftward, Chest rightward Fz Head Upward, Chest Downward Mx Left ear toward left shoulder My Chin toward sternum (flexion) Mz Chin toward left shoulder (look left)
Chest Displacement Potentiometer	Compression is negative
Pelvic Load Cell (Lower Lumbar)	Fx Chest rearward Fy Chest left Fz Spine in tension
Femur Load Cell (right and left leg)	Fx Knee Upward, Upper Femur Downward Fy Knee Rightward, Upper Femur Leftward Fz Knee Forward, Pelvis Rearward Mx Knee Leftward, Hold Upper Femur in Place My Knee Upward, Hold Upper Femur in Place Mz Tibia Leftward, Hold Pelvis in Place
Upper Tibia Load Cell (right and left leg)	Fx Ankle Forward, Knee Rearward Fy Ankle Rightward, Knee Leftward Fz Tibia Downward, Femur Upward Mx Ankle Leftward, Hold Knee in Place My Ankle Forward, Bottom of Knee Clevis Rearward
Lower Tibia Load Cell (right and left leg)	Fx Ankle Forward, Knee Rearward Fy Ankle Rightward, Knee Leftward Fz Tibia Downward, Femur Upward Mx Ankle Leftward, Hold Knee in Place My Ankle Forward, Bottom of Knee Clevis Rearward
Knee Shear Displacement	X Hold Femur Move Tibia Forward
Tibia Mid-Shaft Accelerometer	X Forward Y To the Right
Foot Rotations (left foot)	X Eversion Y Dorsi Flexion Z Internal Rotation
Foot Rotations (right foot)	X Inversion Y Dorsi Flexion Z External Rotation
Foot Accelerometer (right and left foot)	X Forward Y To the Right Z Down

DATA CHANNEL FILTER CLASS SUMMARY

NHTSA TEST NO. RY5213

DATA TYPE	SAE FILTER CLASS (Hz)
Dummy Head Accelerations	1000
Dummy Neck Forces	1000
Dummy Neck Moments	600
Dummy Chest Accelerations	180
Dummy Chest Displacements	60
Dummy Femur Forces	600
Dummy Femur Moments	600
Dummy Knee Displacement	180
Dummy Tibia Accelerations	600
Dummy Tibia Forces	600
Dummy Tibia Moments	600
Dummy Ankle Rotations	180
Dummy Foot Accelerations	600
Dummy Belt Displacements	180
Dummy Belt Loads	60
Vehicle Accelerations	60
Vehicle Velocity Integrations	180
Vehicle Displacement Integrations	180
Load Cell Barrier Forces	60

PLOT	PLOT NAME[UNITS, CHANNEL FILTER CLASS]	PAGE
1	P1 Head 9 Array X Arm Ay [g, CFC_1000]	B-10
2	P1 Head 9 Array X Arm Az [g, CFC_1000]	B-11
3	P1 Head 9 Array Y Arm Ax [g, CFC_1000]	B-12
4	P1 Head 9 Array Y Arm Az [g, CFC_1000]	B-13
5	P1 Head 9 Array Z Arm Ax [g, CFC_1000]	B-14
6	P1 Head 9 Array Z Arm Ay [g, CFC_1000]	B-15
7	P1 Head Ax [g, CFC_1000]	B-16
8	P1 Head Ay [g, CFC_1000]	B-17
9	P1 Head Az [g, CFC_1000]	B-18
10	P1 Head A Resultant [g, CFC_1000]	B-19
11	P1 Head Red Ax [g, CFC_1000]	B-20
12	P1 Head Red Ay [g, CFC_1000]	B-21
13	P1 Head Red Az [g, CFC_1000]	B-22
14	P1 Head Red A Resultant [g, CFC_1000]	B-23
15	P1 Upper Neck Fx [N, CFC_1000]	B-24
16	P1 Upper Neck Fy [N, CFC_1000]	B-25
17	P1 Upper Neck Fz [N, CFC_1000]	B-26
18	P1 Upper Neck F Resultant [N, CFC_1000]	B-27
19	P1 Upper Neck Mx [Nm, CFC_600]	B-28
20	P1 Upper Neck My [Nm, CFC_600]	B-29
21	P1 Upper Neck Mz [Nm, CFC_600]	B-30
22	P1 Upper Neck M Resultant [Nm, CFC_600]	B-31
23	P1 Chest Ax [g, CFC_180]	B-32
24	P1 Chest Ay [g, CFC_180]	B-33
25	P1 Chest Az [g, CFC_180]	B-34
26	P1 Chest A Resultant [g, CFC_180]	B-35
27	P1 Chest Red Ax [g, CFC_180]	B-36
28	P1 Chest Red Ay [g, CFC_180]	B-37
29	P1 Chest Red Az [g, CFC_180]	B-38
30	P1 Chest Red A Resultant [g, CFC_180]	B-39
31	P1 Chest Displacement [mm, CFC_600]	B-40
32	P1 Pelvic Ax [g, CFC_1000]	B-41
33	P1 Pelvic Ay [g, CFC_1000]	B-42
34	P1 Pelvic Az [g, CFC_1000]	B-43
35	P1 Pelvic A Resultant [g, CFC_1000]	B-44
36	P1 Left Femur Fx [N, CFC_600]	B-45
37	P1 Left Femur Fy [N, CFC_600]	B-46
38	P1 Left Femur Fz [N, CFC_600]	B-47
39	P1 Left Femur F Resultant [N, CFC_600]	B-48
40	P1 Left Femur Mx [Nm, CFC_600]	B-49
41	P1 Left Femur My [Nm, CFC_600]	B-50
42	P1 Left Femur Mz [Nm, CFC_600]	B-51
43	P1 Left Femur M Resultant [Nm, CFC_600]	B-52
44	P1 Right Femur Fx [N, CFC_600]	B-53
45	P1 Right Femur Fy [N, CFC_600]	B-54
46	P1 Right Femur Fz [N, CFC_600]	B-55

47	P1 Right Femur F Resultant [N, CFC_600]	B-56
48	P1 Right Femur Mx [Nm, CFC_600]	B-57
49	P1 Right Femur My [Nm, CFC_600]	B-58
50	P1 Right Femur Mz [Nm, CFC_600]	B-59
51	P1 Right Femur M Resultant [Nm, CFC_600]	B-60
52	P1 Left Knee Shear Dx [mm, CFC_180]	B-61
53	P1 Right Knee Shear Dx [mm, CFC_180]	B-62
54	P1 Left Upper Tibia Fx [N, CFC_600]	B-63
55	P1 Left Upper Tibia Fz [N, CFC_600]	B-64
56	P1 Left Upper Tibia Mx [Nm, CFC_600]	B-65
57	P1 Left Upper Tibia My [Nm, CFC_600]	B-66
58	P1 Left Lower Tibia Fx [N, CFC_600]	B-67
59	P1 Left Lower Tibia Fz [N, CFC_600]	B-68
60	P1 Left Lower Tibia Mx [Nm, CFC_600]	B-69
61	P1 Left Lower Tibia My [Nm, CFC_600]	B-70
62	P1 Right Upper Tibia Fx [N, CFC_600]	B-71
63	P1 Right Upper Tibia Fz [N, CFC_600]	B-72
64	P1 Right Upper Tibia Mx [Nm, CFC_600]	B-73
65	P1 Right Upper Tibia My [Nm, CFC_600]	B-74
66	P1 Right Lower Tibia Fx [N, CFC_600]	B-75
67	P1 Right Lower Tibia Fz [N, CFC_600]	B-76
68	P1 Right Lower Tibia Mx [Nm, CFC_600]	B-77
69	P1 Right Lower Tibia My [Nm, CFC_600]	B-78
70	P1 Left Ankle Ax [g, CFC_600]	B-79
71	P1 Left Ankle Az [g, CFC_600]	B-80
72	P1 Right Ankle Ax [g, CFC_600]	B-81
73	P1 Right Ankle Az [g, CFC_600]	B-82
74	P1 Left Toe Az [g, CFC_600]	B-83
75	P1 Right Toe Az [g, CFC_600]	B-84
76	P1 Lap Belt Force [N, CFC_60]	B-85
77	P1 Torso Belt Force [N, CFC_60]	B-86
78	P1 Torso Belt Stretch [mm, CFC_180]	B-87
79	P2 Head 9 Array X Arm Ay [g, CFC_1000]	B-88
80	P2 Head 9 Array X Arm Az [g, CFC_1000]	B-89
81	P2 Head 9 Array Y Arm Ax [g, CFC_1000]	B-90
82	P2 Head 9 Array Y Arm Az [g, CFC_1000]	B-91
83	P2 Head 9 Array Z Arm Ax [g, CFC_1000]	B-92
84	P2 Head 9 Array Z Arm Ay [g, CFC_1000]	B-93
85	P2 Head Ax [g, CFC_1000]	B-94
86	P2 Head Ay [g, CFC_1000]	B-95
87	P2 Head Az [g, CFC_1000]	B-96
88	P2 Head A Resultant [g, CFC_1000]	B-97
89	P2 Head Red Ax [g, CFC_1000]	B-98
90	P2 Head Red Ay [g, CFC_1000]	B-99
91	P2 Head Red Az [g, CFC_1000]	B-100
92	P2 Head Red A Resultant [g, CFC_1000]	B-101
93	P2 Upper Neck Fx [N, CFC_1000]	B-102

94	P2 Upper Neck Fy [N, CFC_1000]	B-103
95	P2 Upper Neck Fz [N, CFC_1000]	B-104
96	P2 Upper Neck F Resultant [N, CFC_1000]	B-105
97	P2 Upper Neck Mx [Nm, CFC_600]	B-106
98	P2 Upper Neck My [Nm, CFC_600]	B-107
99	P2 Upper Neck Mz [Nm, CFC_600]	B-108
100	P2 Upper Neck M Resultant [Nm, CFC_600]	B-109
101	P2 Chest Ax [g, CFC_180]	B-110
102	P2 Chest Ay [g, CFC_180]	B-111
103	P2 Chest Az [g, CFC_180]	B-112
104	P2 Chest A Resultant [g, CFC_180]	B-113
105	P2 Chest Red Ax [g, CFC_180]	B-114
106	P2 Chest Red Ay [g, CFC_180]	B-115
107	P2 Chest Red Az [g, CFC_180]	B-116
108	P2 Chest Red A Resultant [g, CFC_180]	B-117
109	P2 Chest Displacement [mm, CFC_600]	B-118
110	P2 Pelvic Ax [g, CFC_1000]	B-119
111	P2 Pelvic Ay [g, CFC_1000]	B-120
112	P2 Pelvic Az [g, CFC_1000]	B-121
113	P2 Pelvic A Resultant [g, CFC_1000]	B-122
114	P2 Left Femur Fx [N, CFC_600]	B-123
115	P2 Left Femur Fy [N, CFC_600]	B-124
116	P2 Left Femur Fz [N, CFC_600]	B-125
117	P2 Left Femur F Resultant [N, CFC_600]	B-126
118	P2 Left Femur Mx [Nm, CFC_600]	B-127
119	P2 Left Femur My [Nm, CFC_600]	B-128
120	P2 Left Femur Mz [Nm, CFC_600]	B-129
121	P2 Left Femur M Resultant [Nm, CFC_600]	B-130
122	P2 Right Femur Fx [N, CFC_600]	B-131
123	P2 Right Femur Fy [N, CFC_600]	B-132
124	P2 Right Femur Fz [N, CFC_600]	B-133
125	P2 Right Femur F Resultant [N, CFC_600]	B-134
126	P2 Right Femur Mx [Nm, CFC_600]	B-135
127	P2 Right Femur My [Nm, CFC_600]	B-136
128	P2 Right Femur Mz [Nm, CFC_600]	B-137
129	P2 Right Femur M Resultant [Nm, CFC_600]	B-138
130	P2 Left Knee Shear [mm, CFC_180]	B-139
131	P2 Right Knee Shear Dx [mm, CFC_180]	B-140
132	P2 Left Upper Tibia Fx [N, CFC_600]	B-141
133	P2 Left Upper Tibia Fz [N, CFC_600]	B-142
134	P2 Left Upper Tibia Mx [Nm, CFC_600]	B-143
135	P2 Left Upper Tibia My [Nm, CFC_600]	B-144
136	P2 Left Lower Tibia Fx [N, CFC_600]	B-145
137	P2 Left Lower Tibia Fz [N, CFC_600]	B-146
138	P2 Left Lower Tibia Mx [Nm, CFC_600]	B-147
139	P2 Left Lower Tibia My [Nm, CFC_600]	B-148
140	P2 Right Upper Tibia Fx [N, CFC_600]	B-149

141	P2 Right Upper Tibia Fz [N, CFC_600]	B-150
142	P2 Right Upper Tibia Mx [Nm, CFC_600]	B-151
143	P2 Right Upper Tibia My [Nm, CFC_600]	B-152
144	P2 Right Lower Tibia Fx [N, CFC_600]	B-153
145	P2 Right Lower Tibia Fz [Nm, CFC_600]	B-154
146	P2 Right Lower Tibia Mx [Nm, CFC_600]	B-155
147	P2 Right Lower Tibia My [Nm, CFC_600]	B-156
148	P2 Left Ankle Ax [g, CFC_600]	B-157
149	P2 Left Ankle Az [g, CFC_600]	B-158
150	P2 Right Ankle Ax [g, CFC_600]	B-159
151	P2 Right Ankle Az [g, CFC_600]	B-160
152	P2 Left Toe Az [g, CFC_600]	B-161
153	P2 Right Toe Az [g, CFC_600]	B-162
154	P2 Lap Belt Force [N, CFC_60]	B-163
155	P2 Torso Belt Force [N, CFC_60]	B-164
156	P2 Torso Belt Stretch [mm, CFC_180]	B-165
157	Acc 1 Rear XMBR Left X [g, CFC_60]	B-166
158	Acc 1 Rear XMBR Left X Velocity [kph, CFC_180]	B-167
159	Acc 1 Rear XMBR Left X Displacement [mm, CFC_180]	B-168
160	Acc 2 Rear XMBR Left Y [g, CFC_60]	B-169
161	Acc 2 Rear XMBR Left Y Velocity [kph, CFC_180]	B-170
162	Acc 2 Rear XMBR Left Y Displacement [mm, CFC_180]	B-171
163	Acc 3 Rear XMBR Right X [g, CFC_60]	B-172
164	Acc 3 Rear XMBR Right X Velocity [kph, CFC_180]	B-173
165	Acc 3 Rear XMBR Right X Displacement [mm, CFC_180]	B-174
166	Acc 4 Rear XMBR Right Y [g, CFC_60]	B-175
167	Acc 4 Rear XMBR Right Y Velocity [kph, CFC_180]	B-176
168	Acc 4 Rear XMBR Right Y Displacement [mm, CFC_180]	B-177
169	Acc 5 P1 Toepan Left X [g, CFC_60]	B-178
170	Acc 5 P1 Toepan Left X Velocity [kph, CFC_180]	B-179
171	Acc 5 P1 Toepan Left X Displacement [mm, CFC_180]	B-180
172	Acc 6 P1 Toepan Left Z [g, CFC_60]	B-181
173	Acc 6 P1 Toepan Left Z Velocity [kph, CFC_180]	B-182
174	Acc 6 P1 Toepan Left Z Displacement [mm, CFC_180]	B-183
175	Acc 7 P1 Toepan Right X [g, CFC_60]	B-184
176	Acc 7 P1 Toepan Right X Velocity [kph, CFC_180]	B-185
177	Acc 7 P1 Toepan Right X Displacement [mm, CFC_180]	B-186
178	Acc 7 P1 Toepan Right Z [g, CFC_60]	B-187
179	Acc 7 P1 Toepan Right Z Velocity [kph, CFC_180]	B-188
180	Acc 7 P1 Toepan Right Z Displacement [mm, CFC_180]	B-189
181	Acc 9 Trunk Z [g, CFC_60]	B-190
182	Acc 9 Trunk Z Velocity [kph, CFC_180]	B-191
183	Acc 9 Trunk Z Displacement [mm, CFC_180]	B-192
184	Toe Pan Movement [mm, CFC_180]	B-193
185	Barrier Load Cell E2 FY [N, CFC_60]	B-194
186	Barrier Load Cell E3 FY [N, CFC_60]	B-195
187	Barrier Load Cell E4 FY [N, CFC_60]	B-196

188	Barrier Load Cell E5 FY [N, CFC_60]	B-197
189	Barrier Load Cell E6 FY [N, CFC_60]	B-198
190	Barrier Load Cell E1 FX [N, CFC_60]	B-199
191	Barrier Load Cell E2 FX [N, CFC_60]	B-200
192	Barrier Load Cell E3 FX [N, CFC_60]	B-201
193	Barrier Load Cell E4 FX [N, CFC_60]	B-202
194	Barrier Load Cell E5 FX [N, CFC_60]	B-203
195	Barrier Load Cell E6 FX [N, CFC_60]	B-204
196	Barrier Load Cell D2 FY [N, CFC_60]	B-205
197	Barrier Load Cell D3 FY [N, CFC_60]	B-206
198	Barrier Load Cell D4 FY [N, CFC_60]	B-207
199	Barrier Load Cell D5 FY [N, CFC_60]	B-208
200	Barrier Load Cell D6 FY [N, CFC_60]	B-209
201	Barrier Load Cell D1 FX [N, CFC_60]	B-210
202	Barrier Load Cell D2 FX [N, CFC_60]	B-211
203	Barrier Load Cell D3 FX [N, CFC_60]	B-212
204	Barrier Load Cell D4 FX [N, CFC_60]	B-213
205	Barrier Load Cell D5 FX [N, CFC_60]	B-214
206	Barrier Load Cell D6 FX [N, CFC_60]	B-215
207	Barrier Load Cell C2 FY [N, CFC_60]	B-216
208	Barrier Load Cell C3 FY [N, CFC_60]	B-217
209	Barrier Load Cell C4 FY [N, CFC_60]	B-218
210	Barrier Load Cell C5 FY [N, CFC_60]	B-219
211	Barrier Load Cell C6 FY [N, CFC_60]	B-220
212	Barrier Load Cell C1 FX [N, CFC_60]	B-221
213	Barrier Load Cell C2 FX [N, CFC_60]	B-222
214	Barrier Load Cell C3 FX [N, CFC_60]	B-223
215	Barrier Load Cell C4 FX [N, CFC_60]	B-224
216	Barrier Load Cell C5 FX [N, CFC_60]	B-225
217	Barrier Load Cell C6 FX [N, CFC_60]	B-226
218	Barrier Load Cell B3 FY [N, CFC_60]	B-227
219	Barrier Load Cell B4 FY [N, CFC_60]	B-228
220	Barrier Load Cell B5 FY [N, CFC_60]	B-229
221	Barrier Load Cell B6 FY [N, CFC_60]	B-230
222	Barrier Load Cell B1 FX [N, CFC_60]	B-231
223	Barrier Load Cell B2 FX [N, CFC_60]	B-232
224	Barrier Load Cell B3 FX [N, CFC_60]	B-233
225	Barrier Load Cell B4 FX [N, CFC_60]	B-234
226	Barrier Load Cell B5 FX [N, CFC_60]	B-235
227	Barrier Load Cell B6 FX [N, CFC_60]	B-236
228	Barrier Load Cell A1 FX [N, CFC_60]	B-237
229	Barrier Load Cell A2 FX [N, CFC_60]	B-238
230	Barrier Load Cell A3 FX [N, CFC_60]	B-239
231	Barrier Load Cell A4 FX [N, CFC_60]	B-240
232	Barrier Load Cell A5 FX [N, CFC_60]	B-241
233	Barrier Load Cell A6 FX [N, CFC_60]	B-242
234	Barrier Load Cell A7 TL FX [N, CFC_60]	B-243

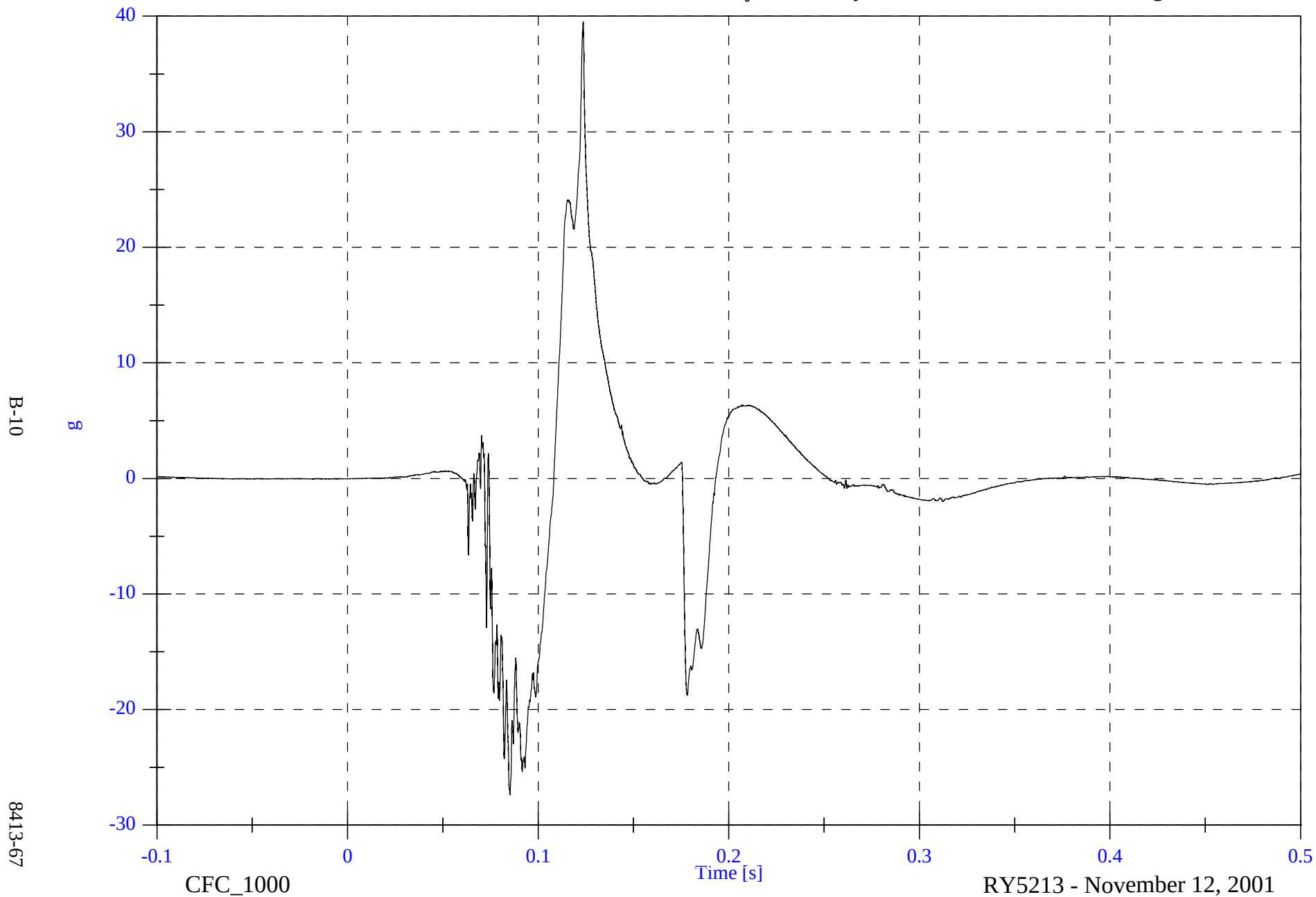
235	Barrier Load Cell A8 TR FX [N, CFC_60]	B-244
236	Barrier Load Cell A9 CL FX [N, CFC_60]	B-245
237	Barrier Load Cell AA BL FX [N, CFC_60]	B-246
238	Barrier Load Cell AB BR FX [N, CFC_60]	B-247

40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Head 9 Array X Arm Ay

Max: 39.5 [g] at 0.124 [s]

Min: -27.4 [g] at 0.085 [s]



8413-67

40% Frontal Offset Test #11 - 2000 Nissan Quest

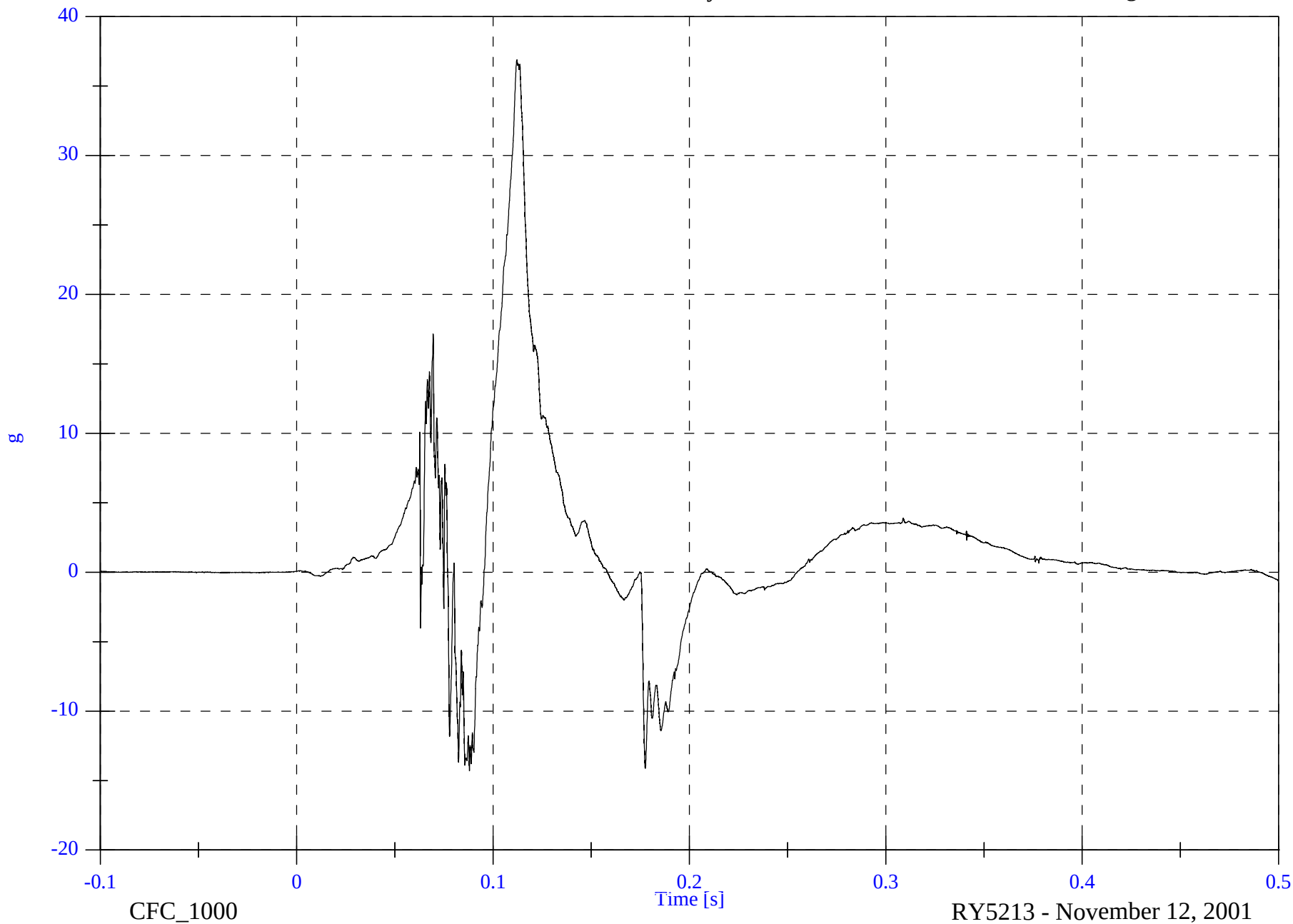
P1 Head 9 Array X Arm Az

Max: 36.9 [g] at 0.112 [s]

Min: -14.3 [g] at 0.088 [s]

B-11

8413-67

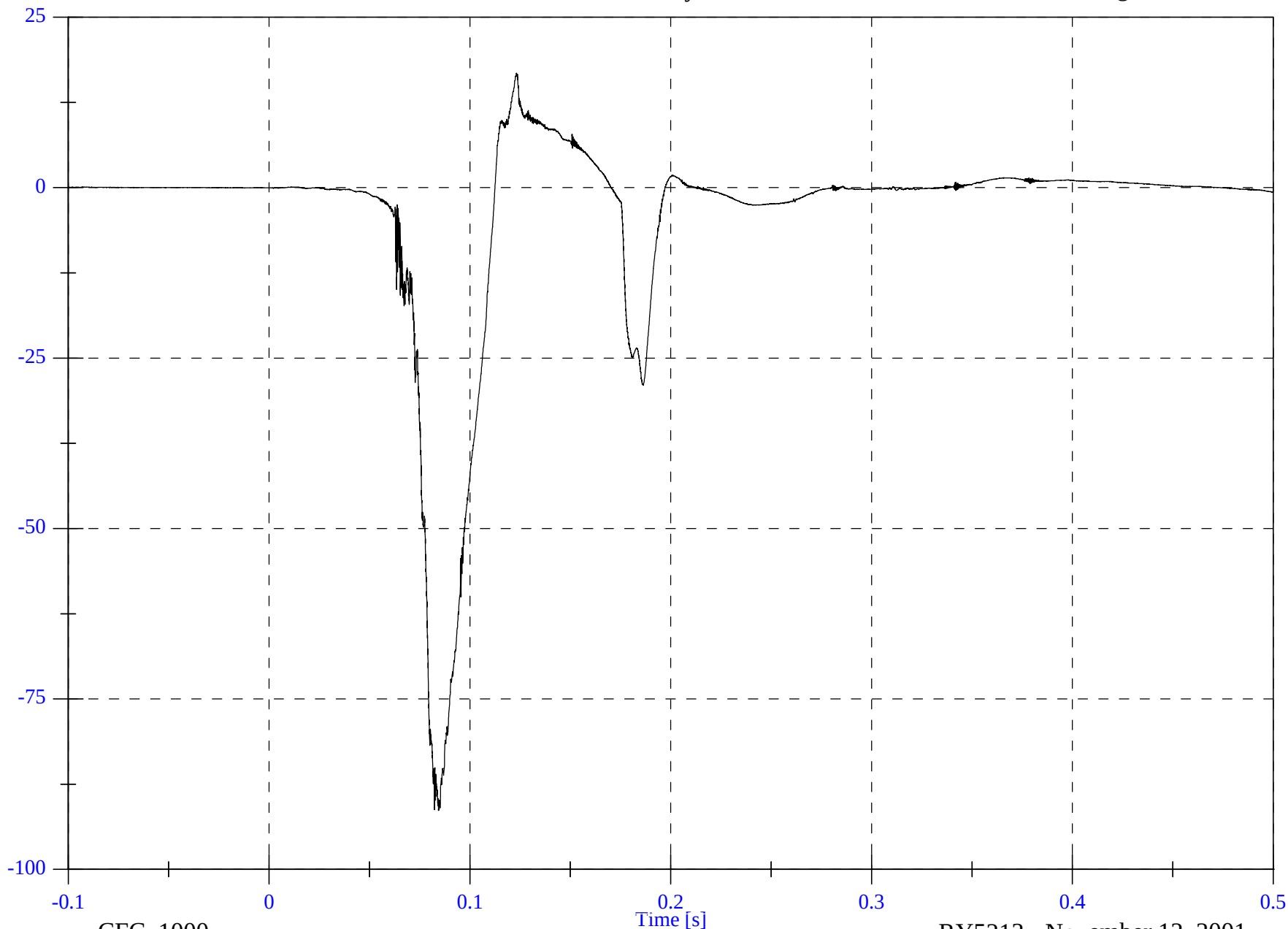


40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Head 9 Array Y Arm Ax

Max: 16.8 [g] at 0.123 [s]

Min: -91.3 [g] at 0.084 [s]



B-12

8413-67

CFC_1000

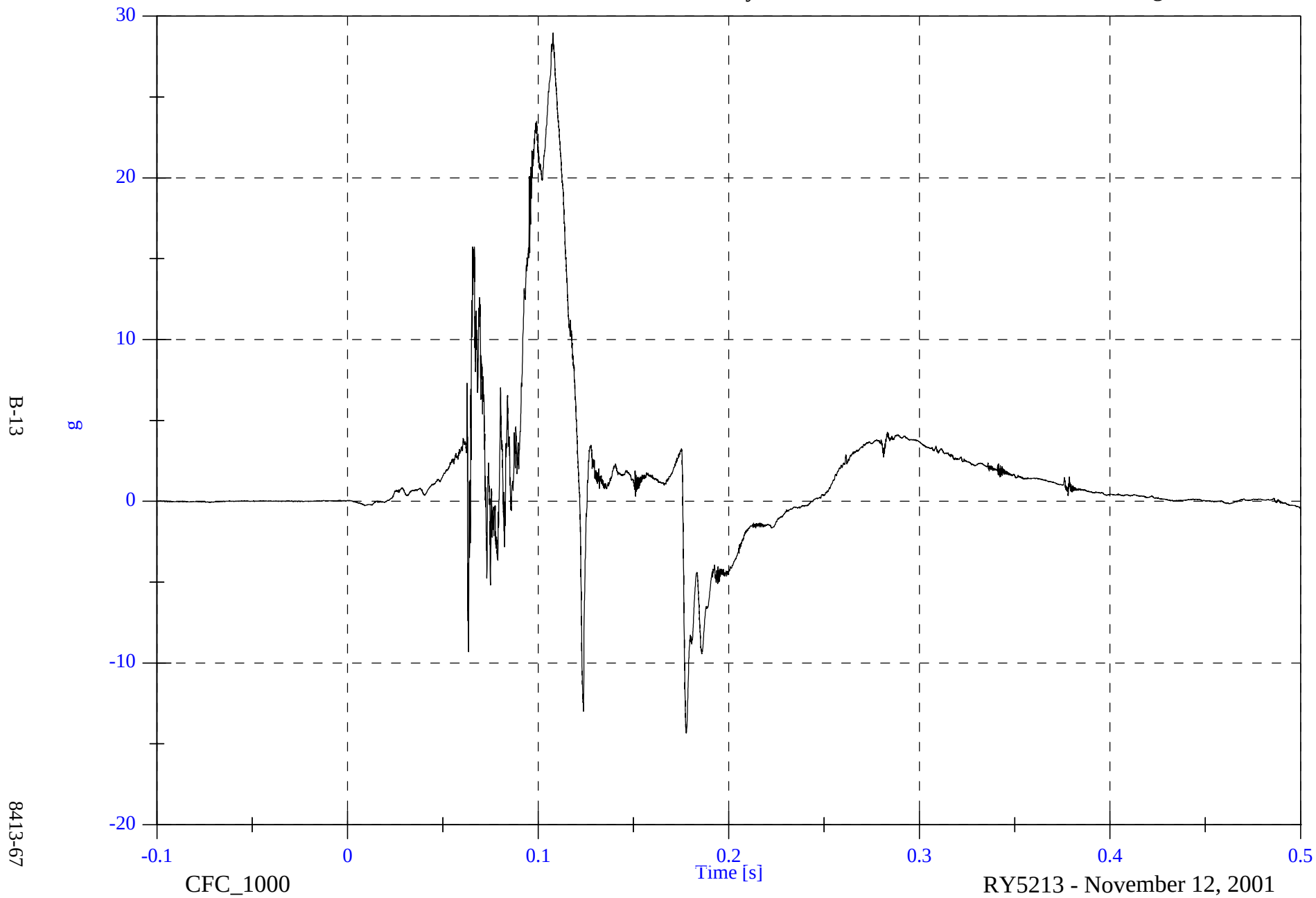
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Head 9 Array Y Arm Az

Max: 29.0 [g] at 0.108 [s]

Min: -14.3 [g] at 0.178 [s]

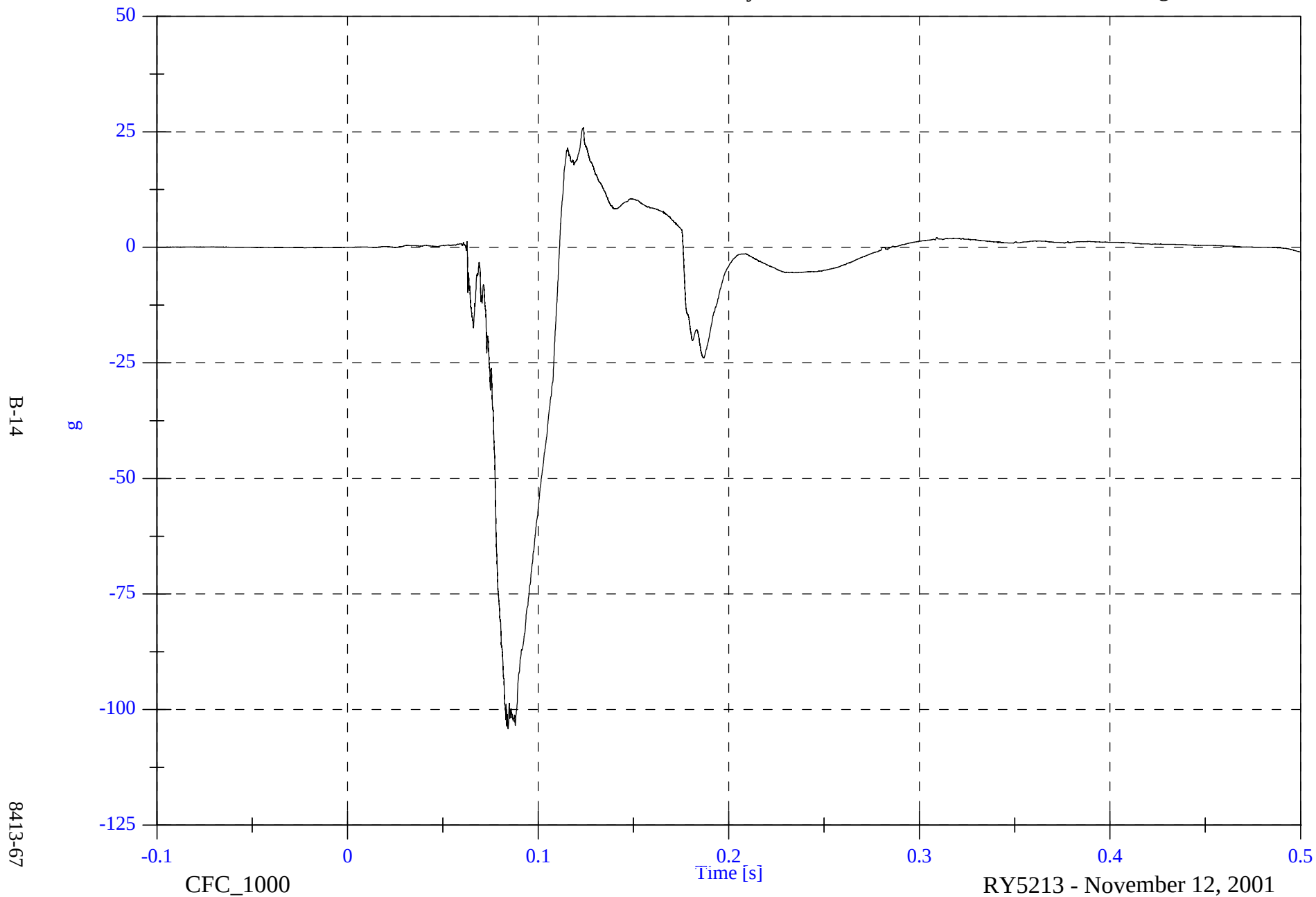


40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Head 9 Array Z Arm Ax

Max: 25.9 [g] at 0.124 [s]

Min: -104.1 [g] at 0.084 [s]

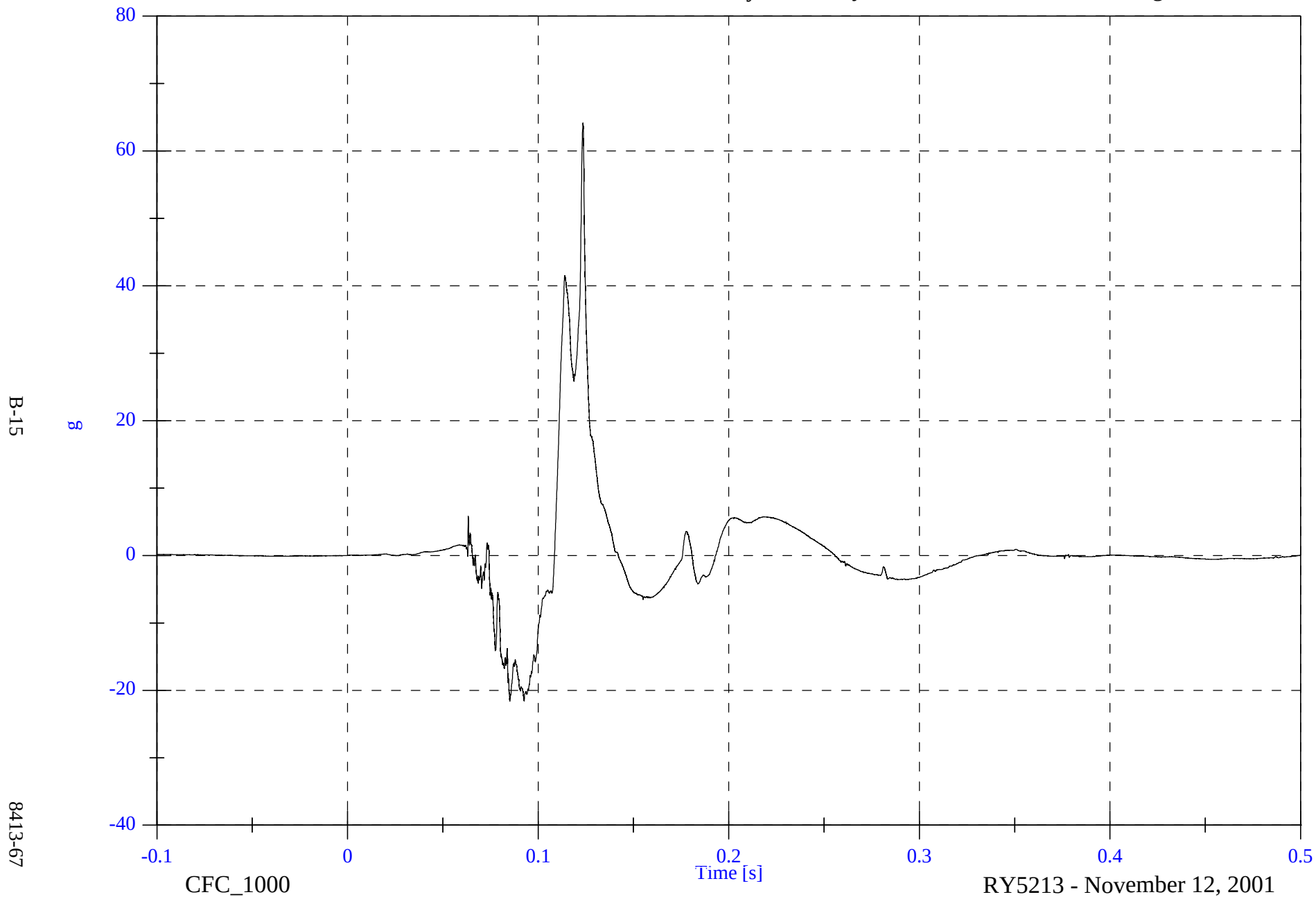


40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Head 9 Array Z Arm Ay

Max: 64.2 [g] at 0.124 [s]

Min: -21.6 [g] at 0.085 [s]



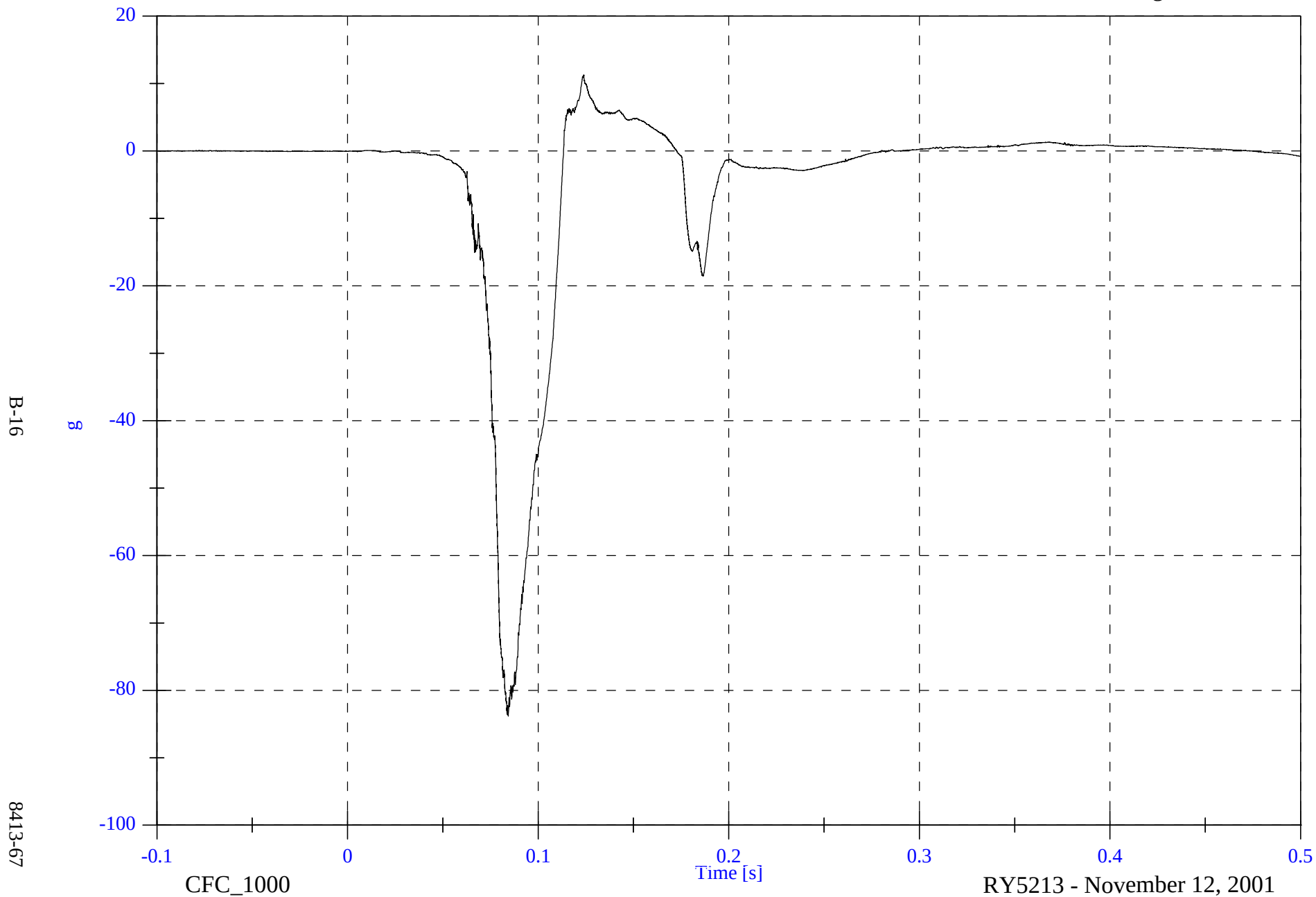
8413-67

40% Frontal Offset Test #11 - 2000 Nissan Quest

Max: 11.3 [g] at 0.124 [s]

Min: -83.8 [g] at 0.084 [s]

P1 Head Ax



40% Frontal Offset Test #11 - 2000 Nissan Quest

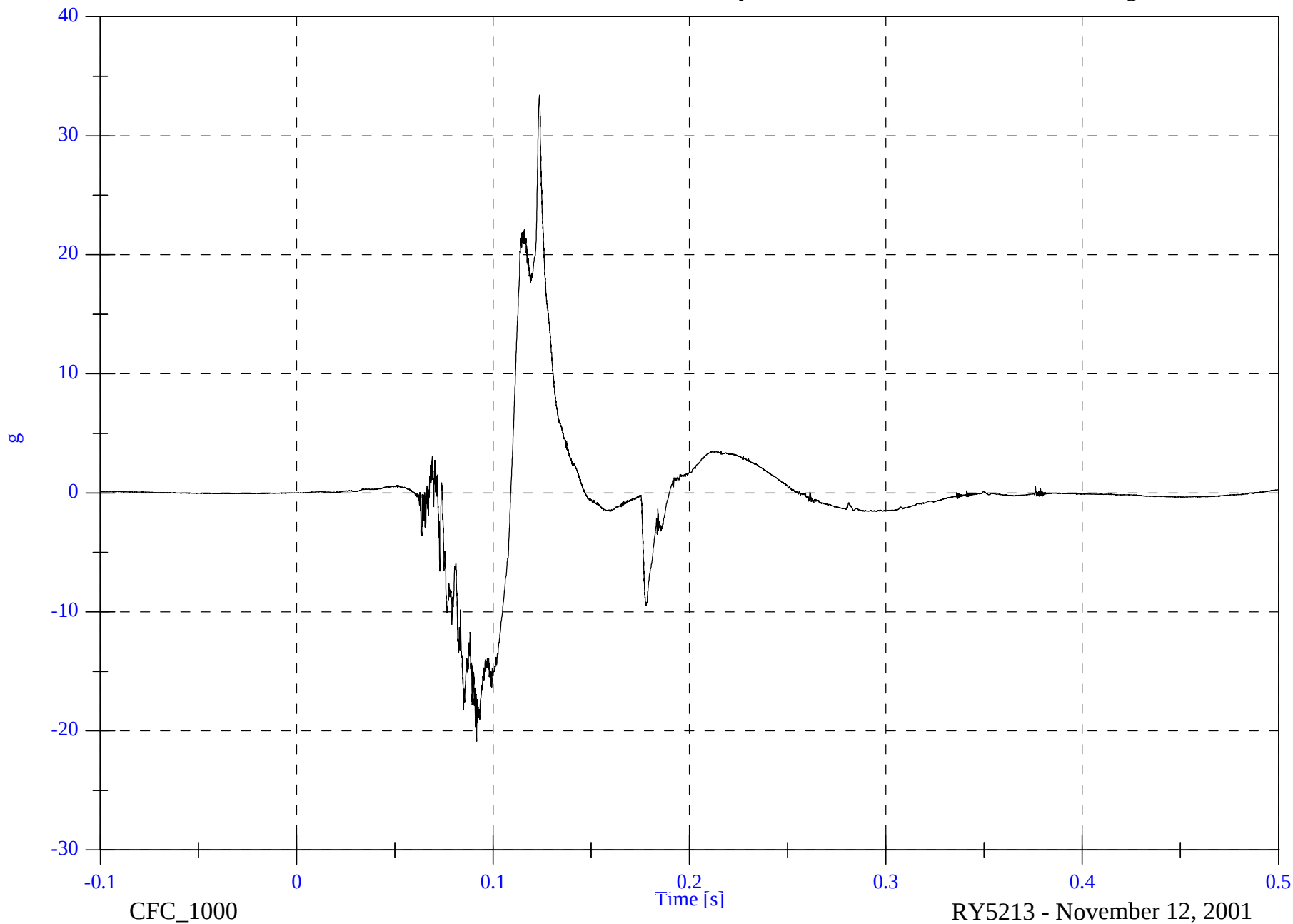
P1 Head Ay

Max: 33.4 [g] at 0.124 [s]

Min: -20.9 [g] at 0.092 [s]

B-17

8413-67

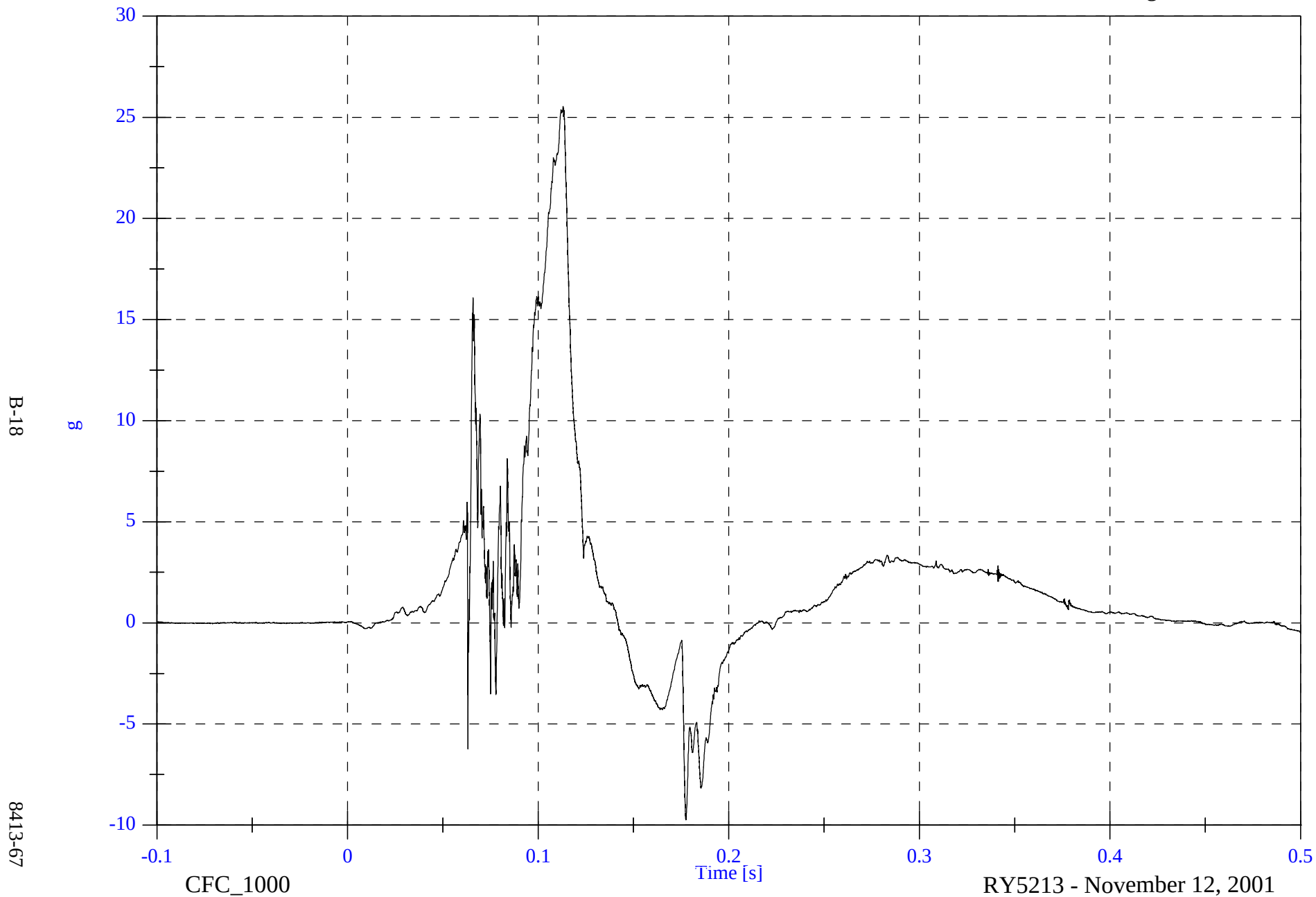


40% Frontal Offset Test #11 - 2000 Nissan Quest

Max: 25.5 [g] at 0.113 [s]

Min: -9.7 [g] at 0.178 [s]

P1 Head Az



40% Frontal Offset Test #11 - 2000 Nissan Quest

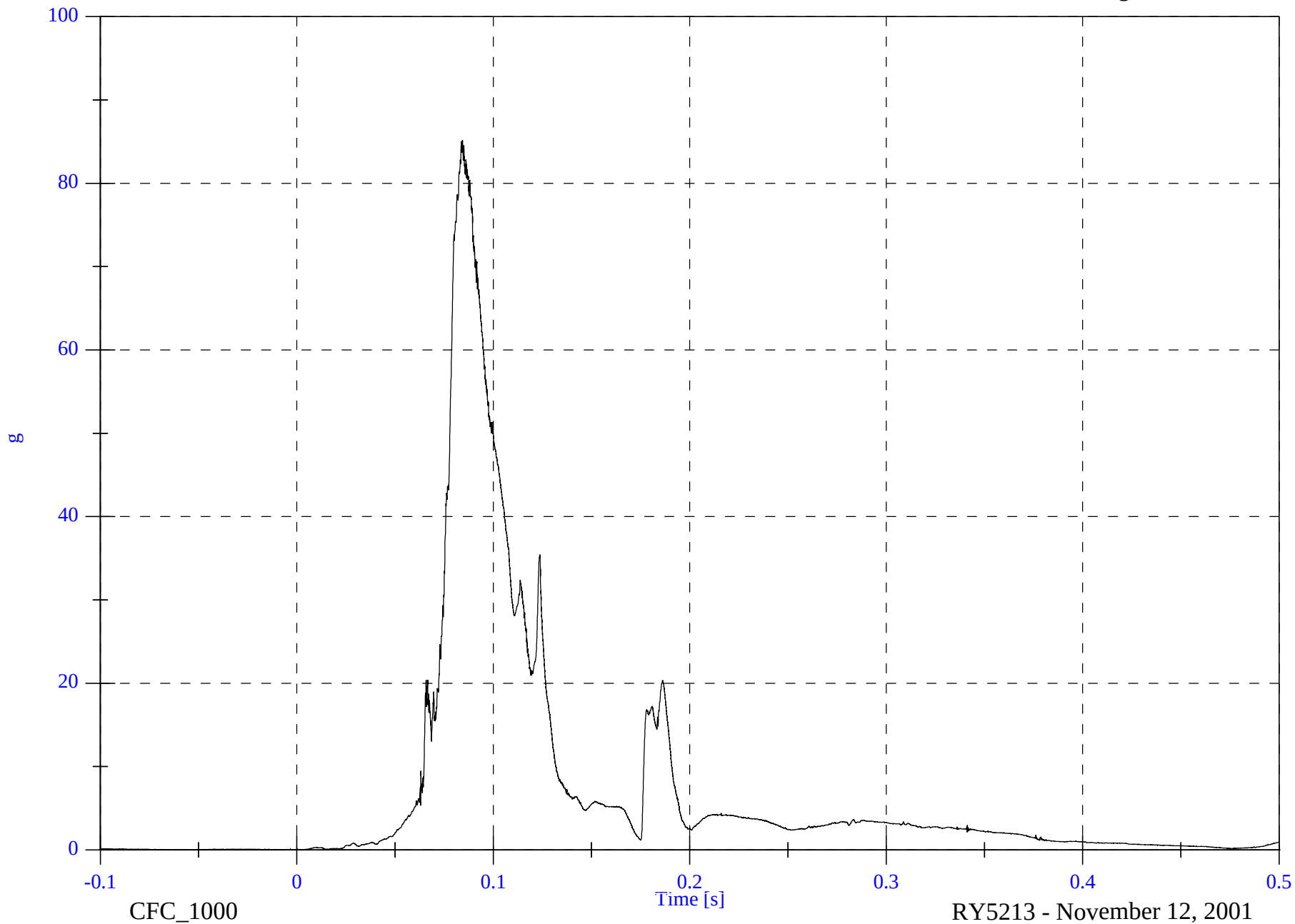
P1 Head A Resultant

Max: 85.2 [g] at 0.084 [s]

Min: 0.0 [g] at -0.064 [s]

B-19

8413-67

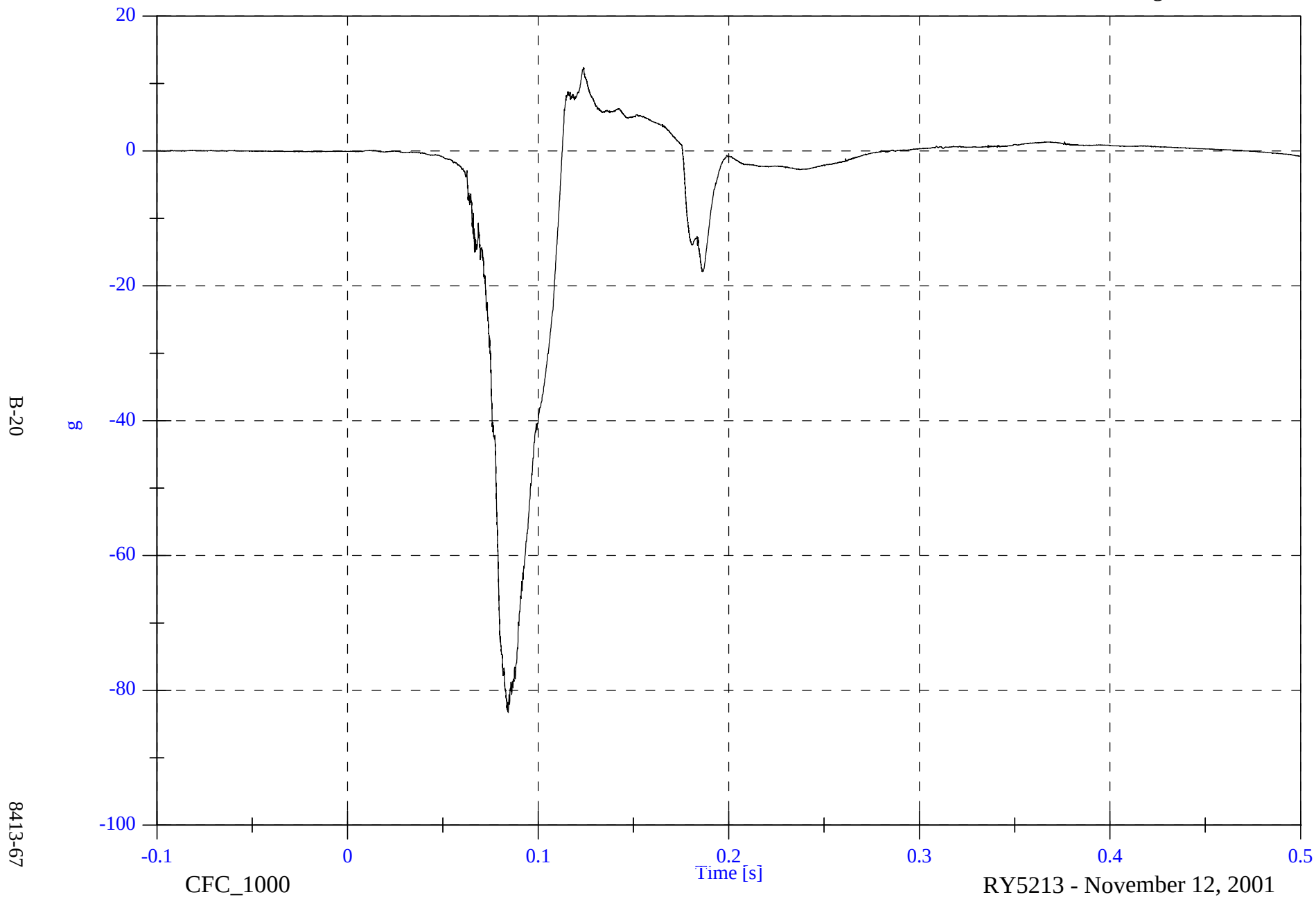


40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Head Red Ax

Max: 12.4 [g] at 0.124 [s]

Min: -83.3 [g] at 0.084 [s]

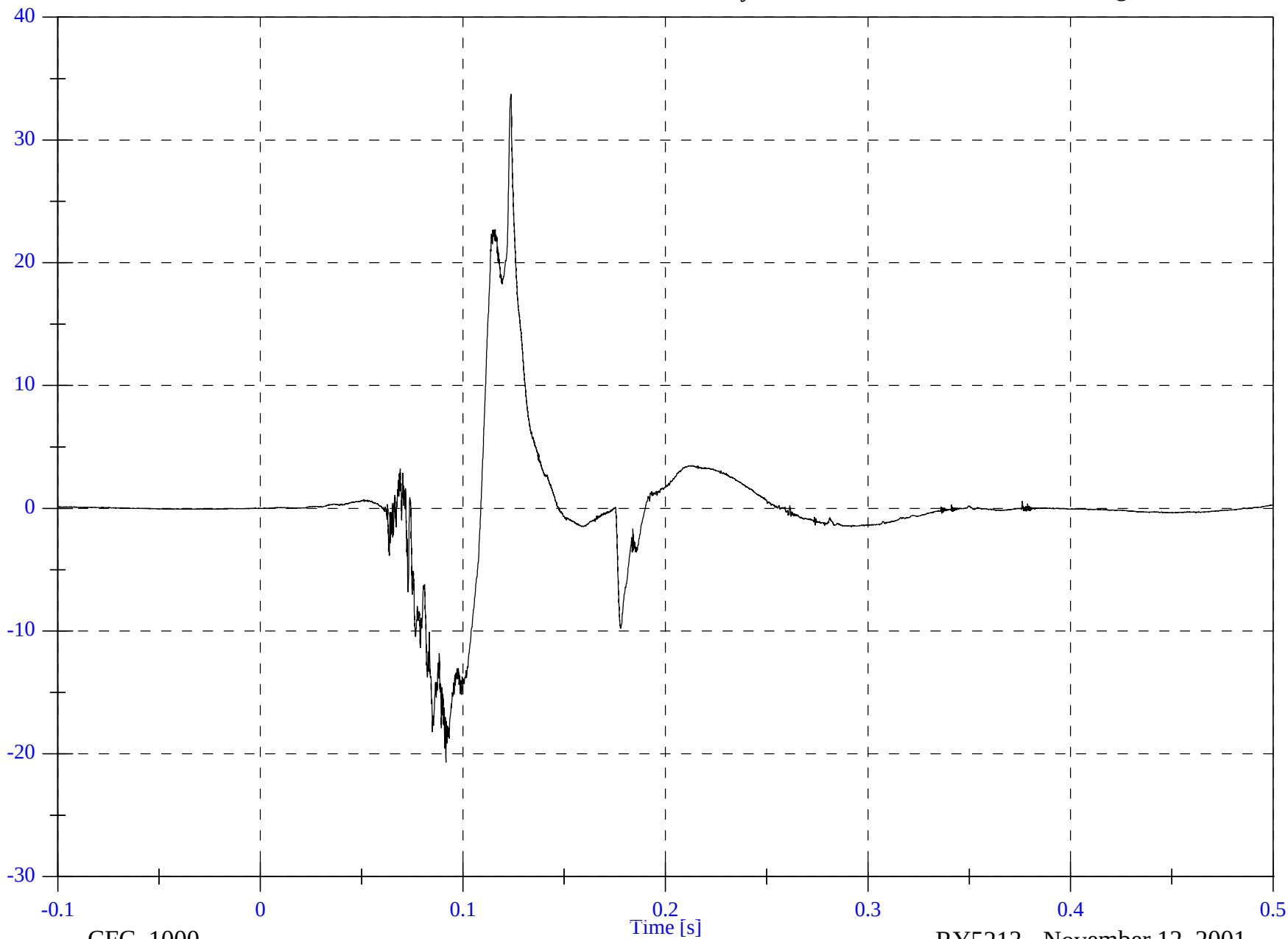


40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Head Red Ay

Max: 33.7 [g] at 0.124 [s]

Min: -20.7 [g] at 0.092 [s]



B-21

8413-67

CFC_1000

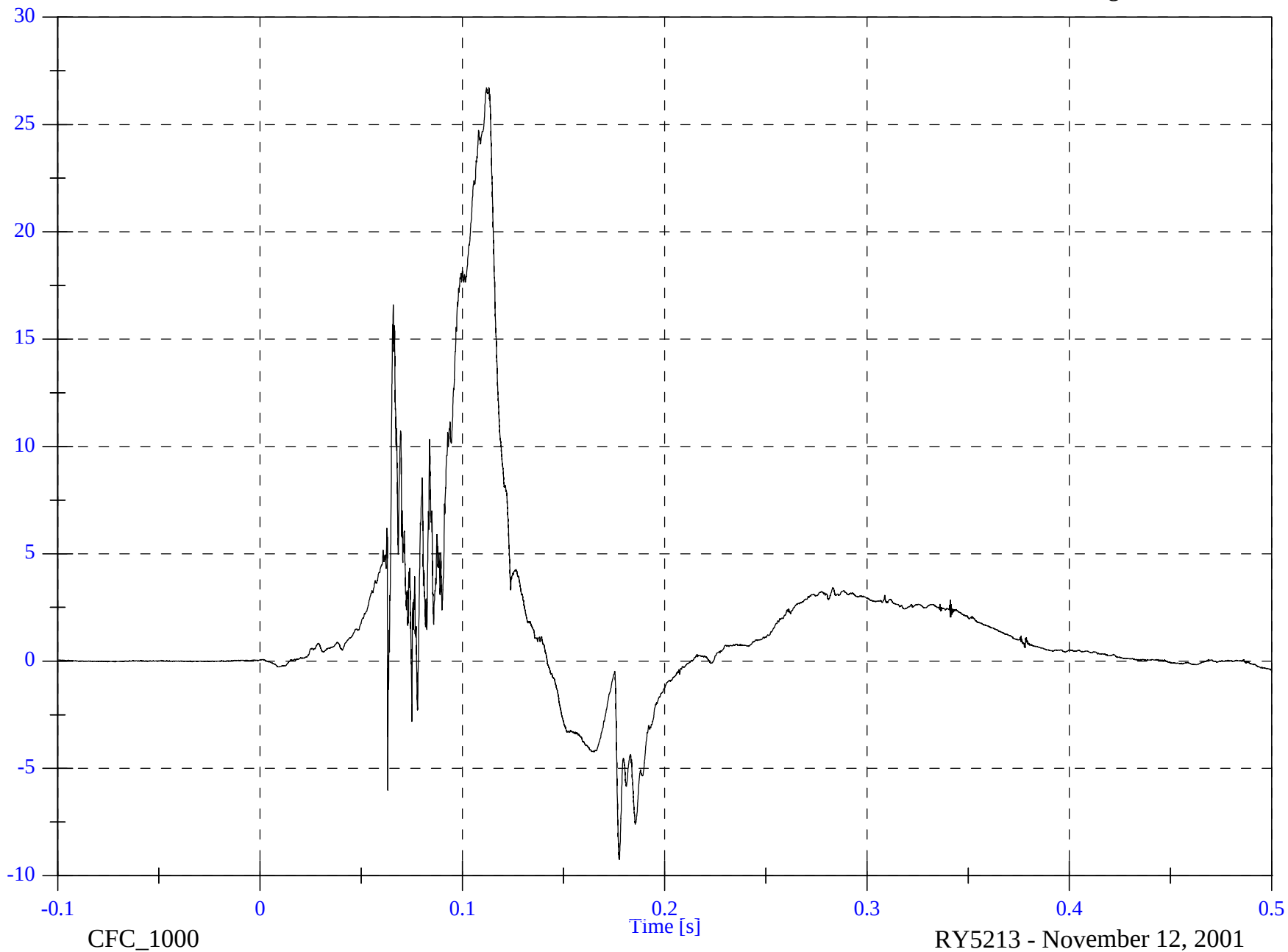
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Head Red Az

Max: 26.7 [g] at 0.113 [s]

Min: -9.2 [g] at 0.178 [s]



B-22

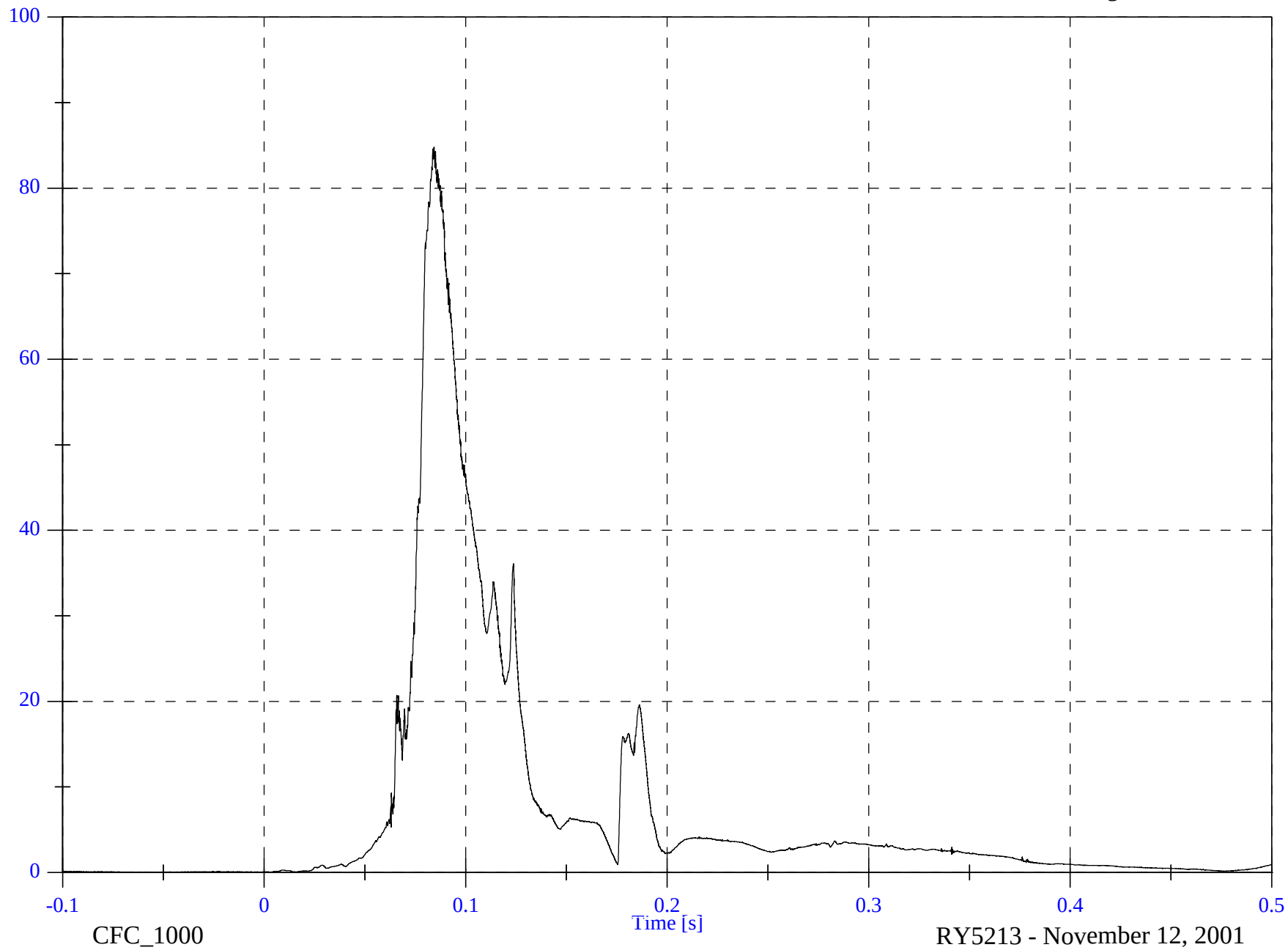
8413-67

40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Head Red A Resultant

Max: 84.8 [g] at 0.084 [s]

Min: 0.0 [g] at -0.064 [s]



B-23

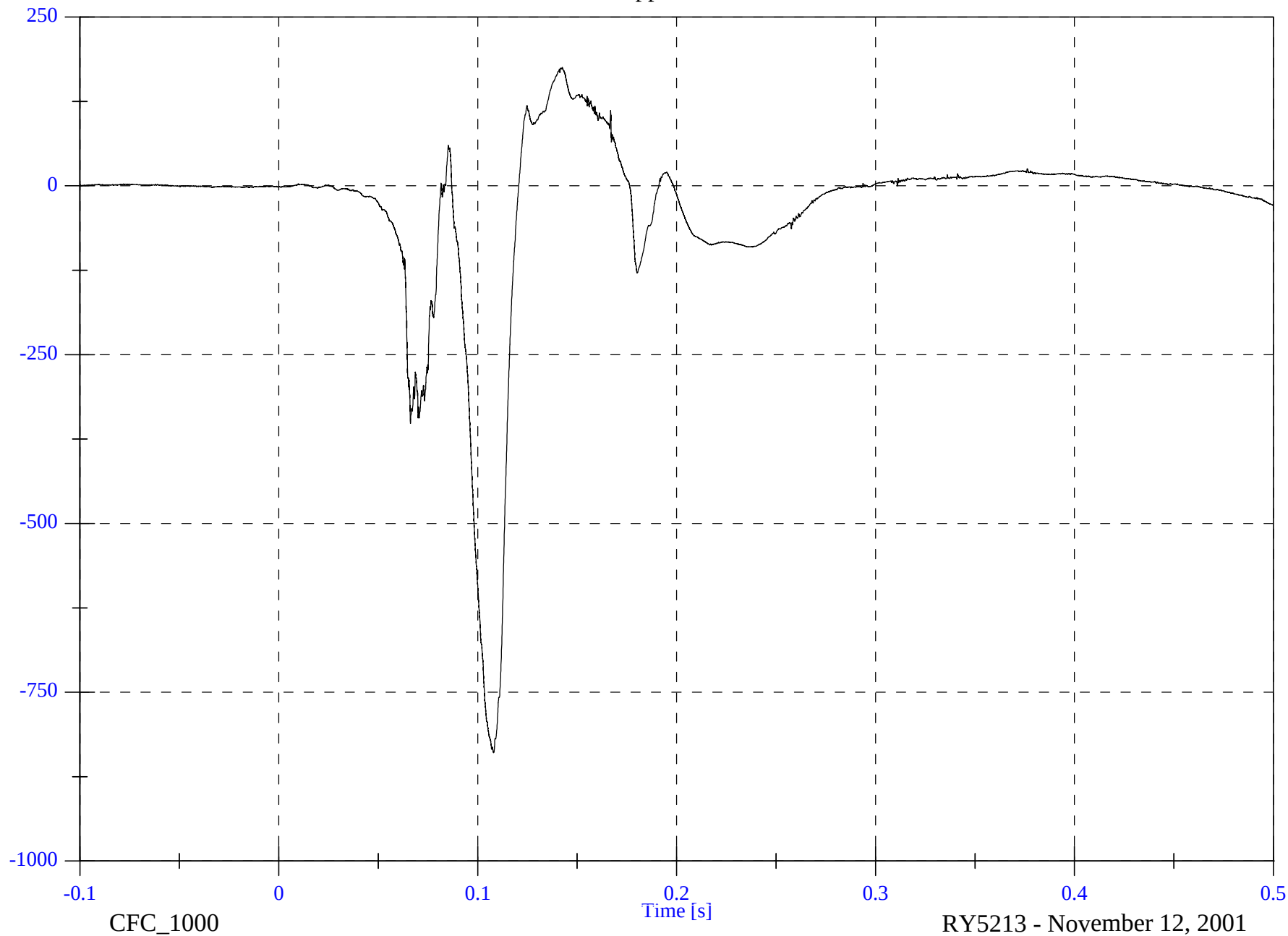
8413-67

40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Upper Neck Fx

Max: 175.1 [N] at 0.142 [s]

Min: -840.0 [N] at 0.108 [s]



B-24

8413-67

CFC_1000

RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Upper Neck Fy

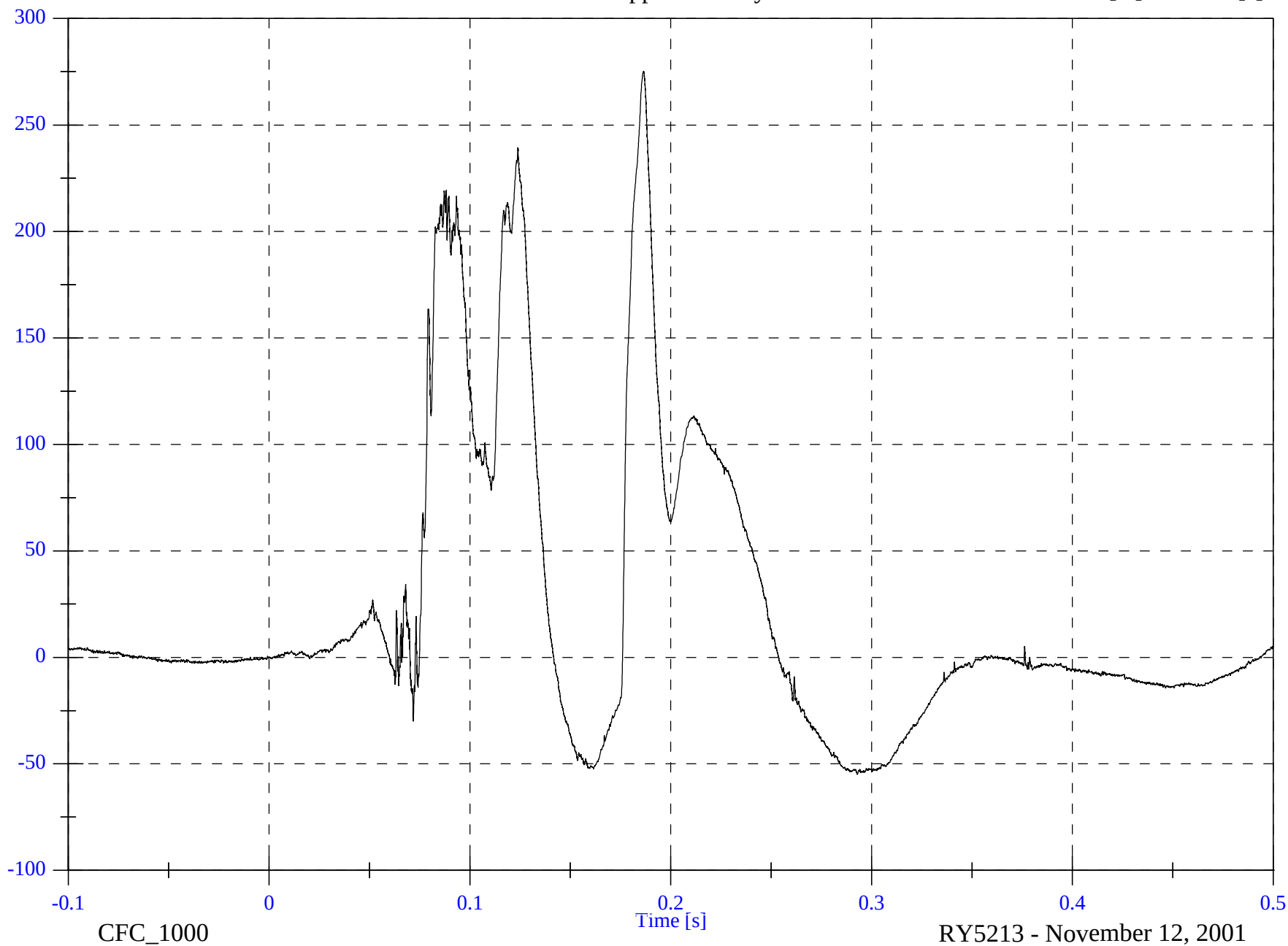
Max: 275.2 [N] at 0.186 [s]

Min: -55.0 [N] at 0.293 [s]

B-25

N

8413-67

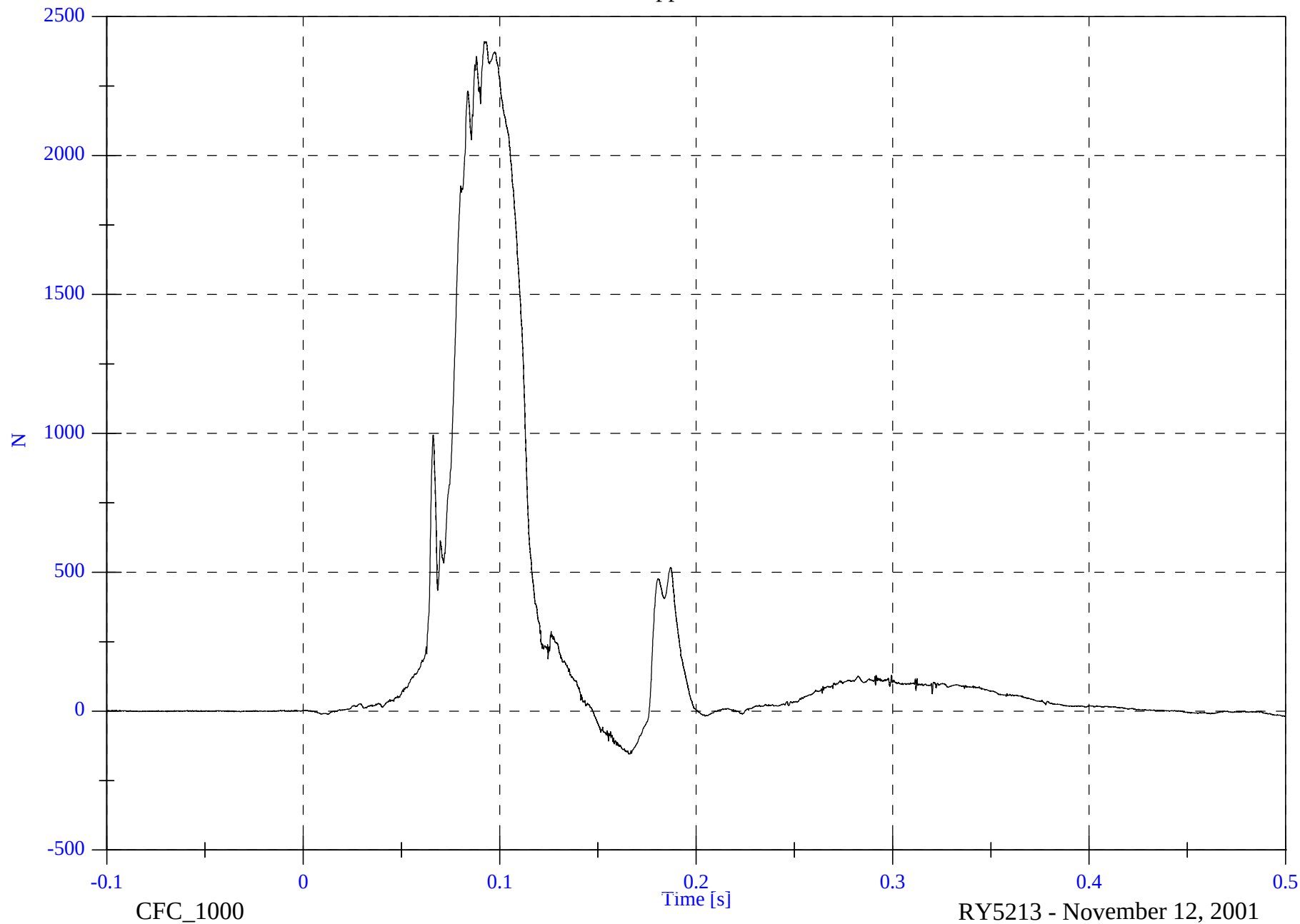


40% Frontal Offset Test #11 - 2000 Nissan Quest

Max: 2410.7 [N] at 0.092 [s]

P1 Upper Neck Fz

Min: -155.1 [N] at 0.166 [s]



B-26

8413-67

40% Frontal Offset Test #11 - 2000 Nissan Quest

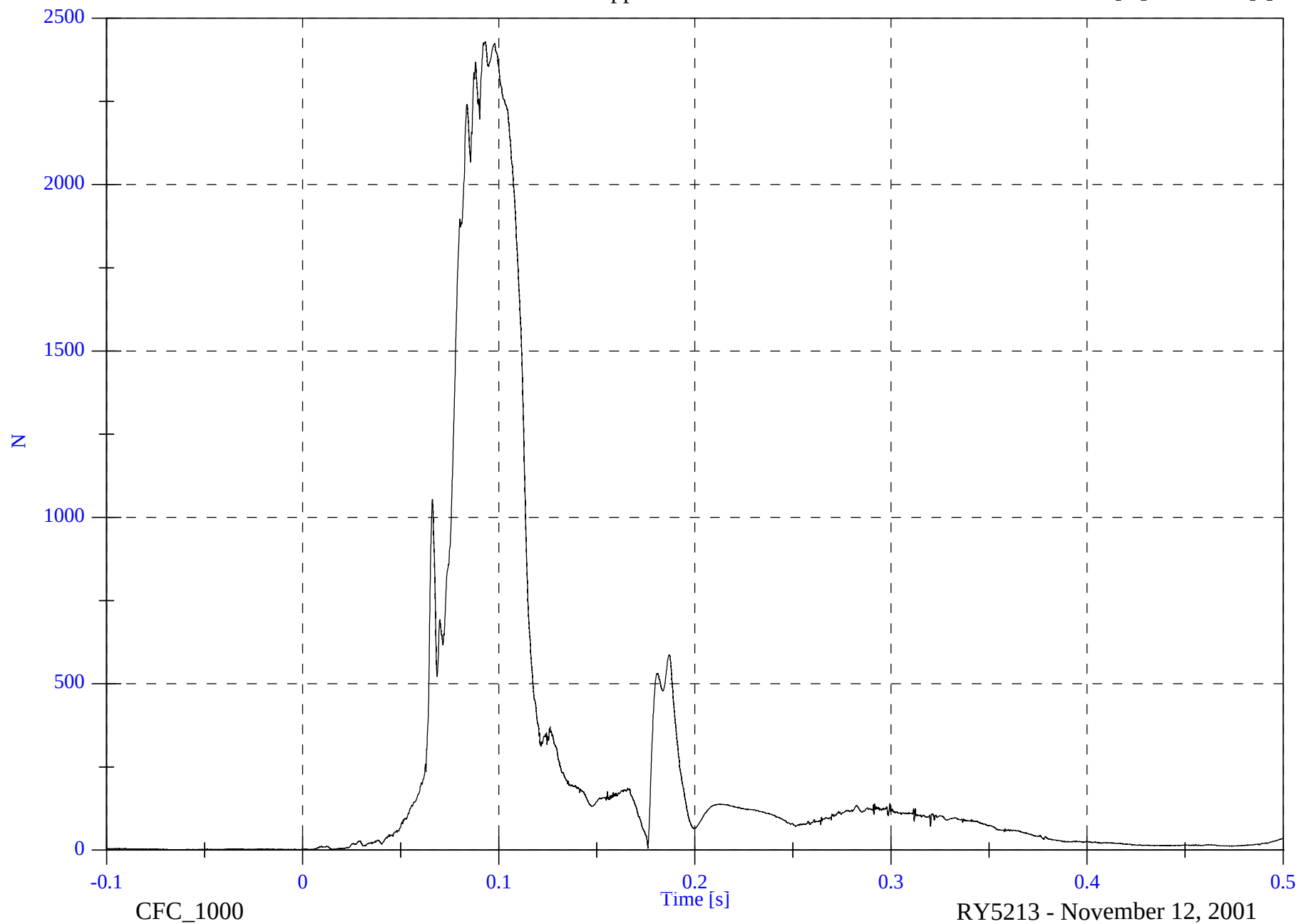
P1 Upper Neck F Resultant

Max: 2429.3 [N] at 0.093 [s]

Min: 0.5 [N] at -0.057 [s]

B-27

8413-67

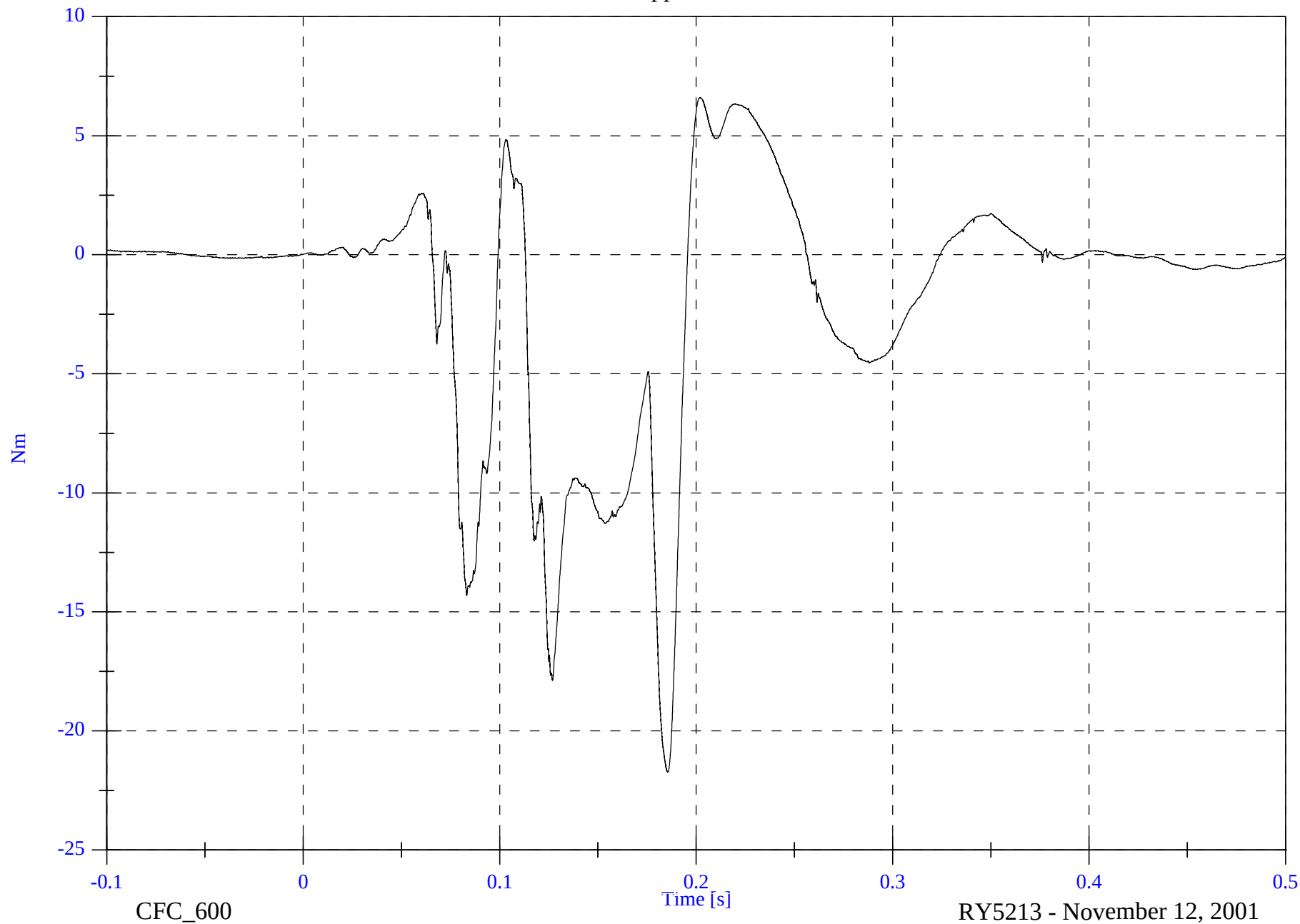


40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Upper Neck Mx

Max: 6.6 [Nm] at 0.202 [s]

Min: -21.7 [Nm] at 0.186 [s]



B-28

8413-67

CFC_600

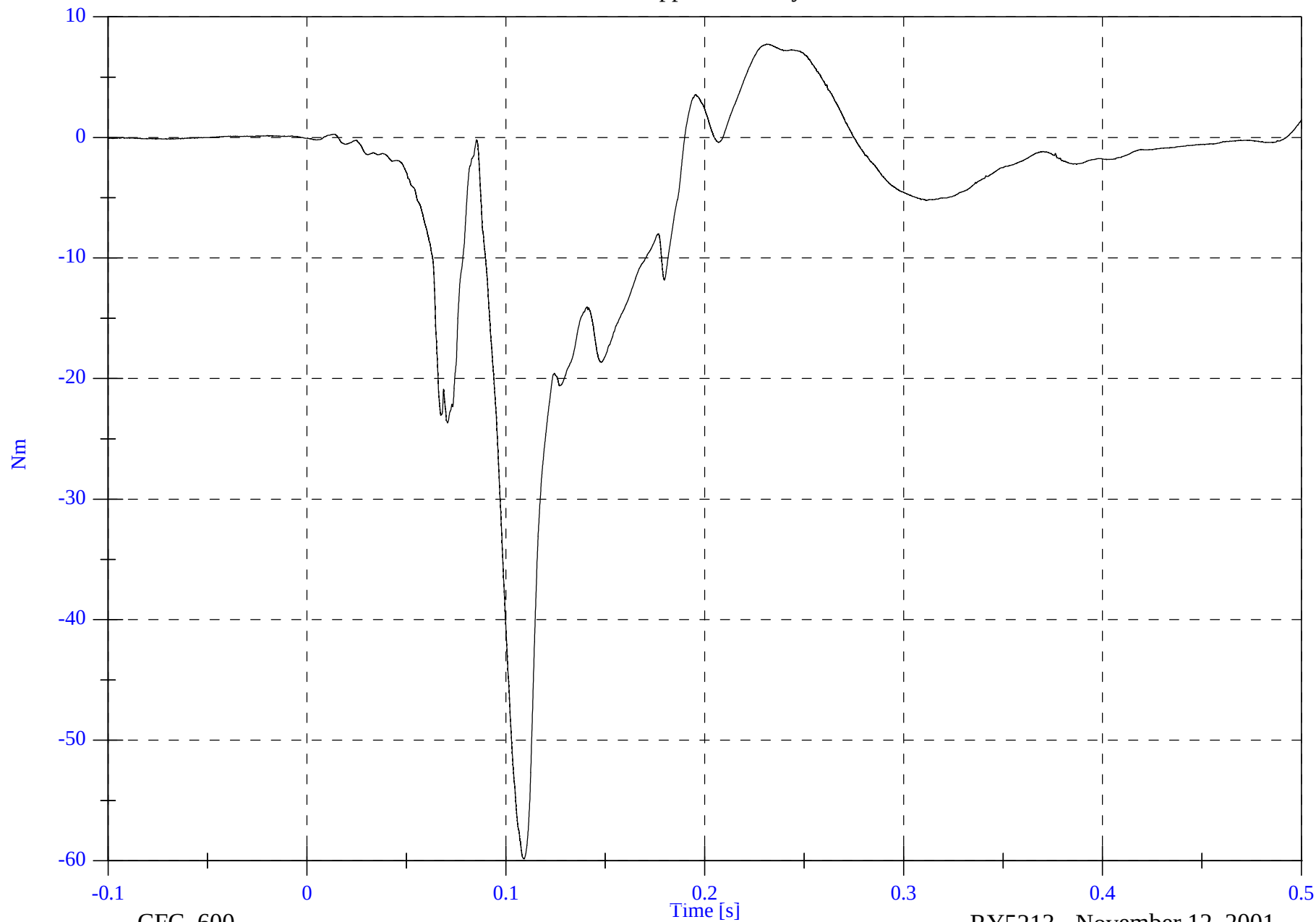
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Upper Neck My

Max: 7.7 [Nm] at 0.231 [s]

Min: -59.9 [Nm] at 0.109 [s]



B-29

8413-67

CFC_600

RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Upper Neck Mz

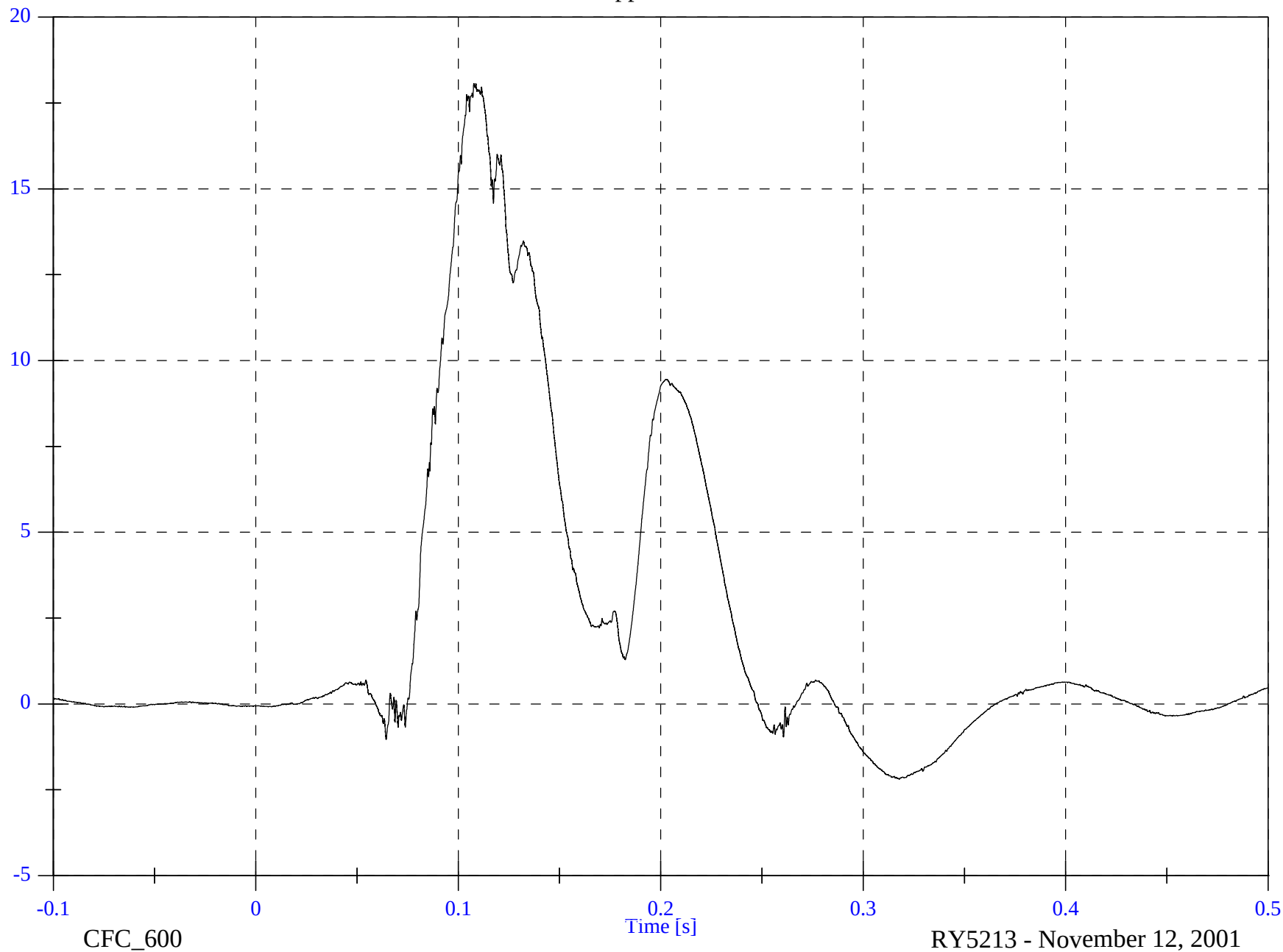
Max: 18.1 [Nm] at 0.108 [s]

Min: -2.2 [Nm] at 0.318 [s]

B-30

Nm

8413-67

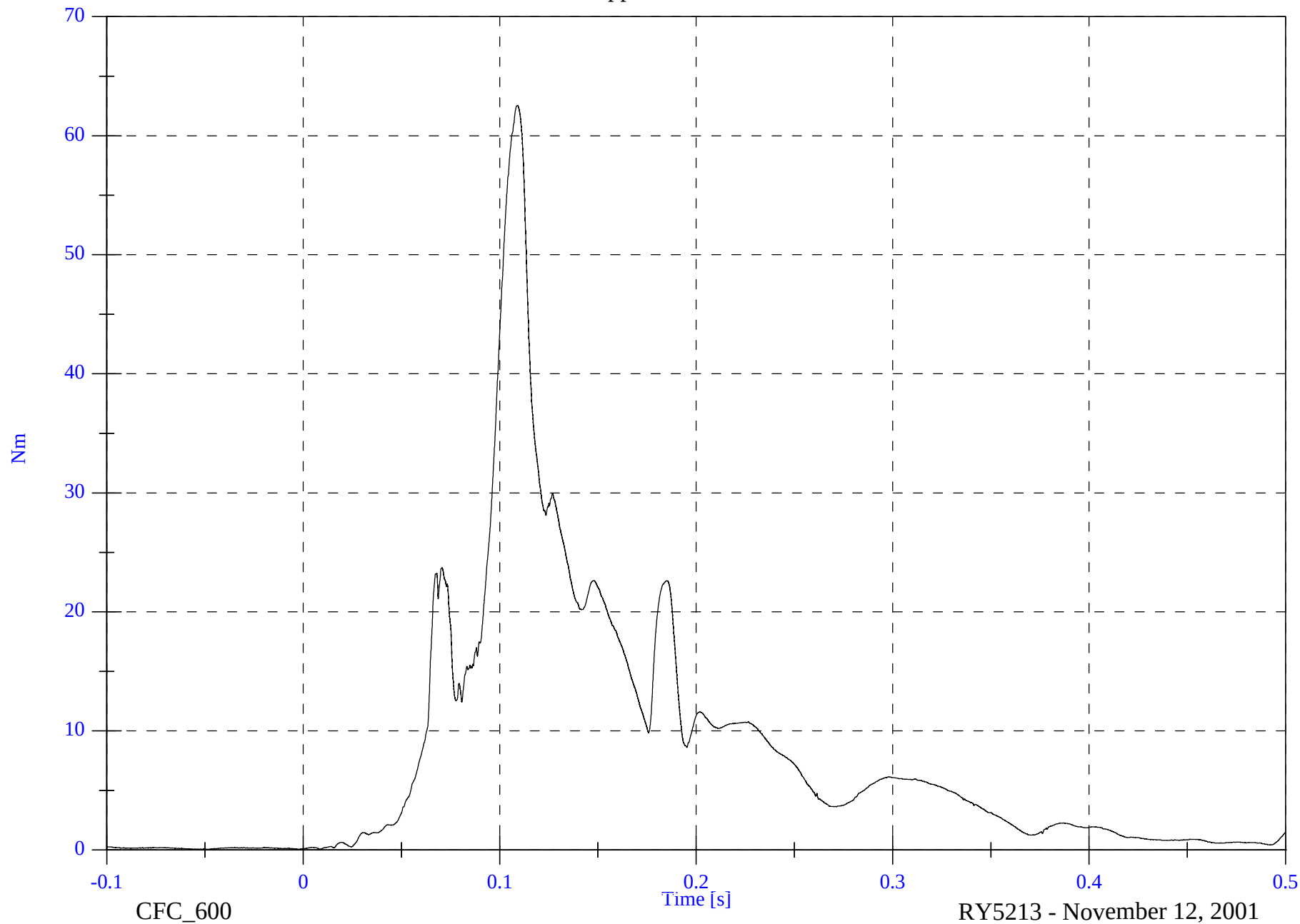


40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Upper Neck M Resultant

Max: 62.5 [Nm] at 0.109 [s]

Min: 0.1 [Nm] at -0.049 [s]



B-31

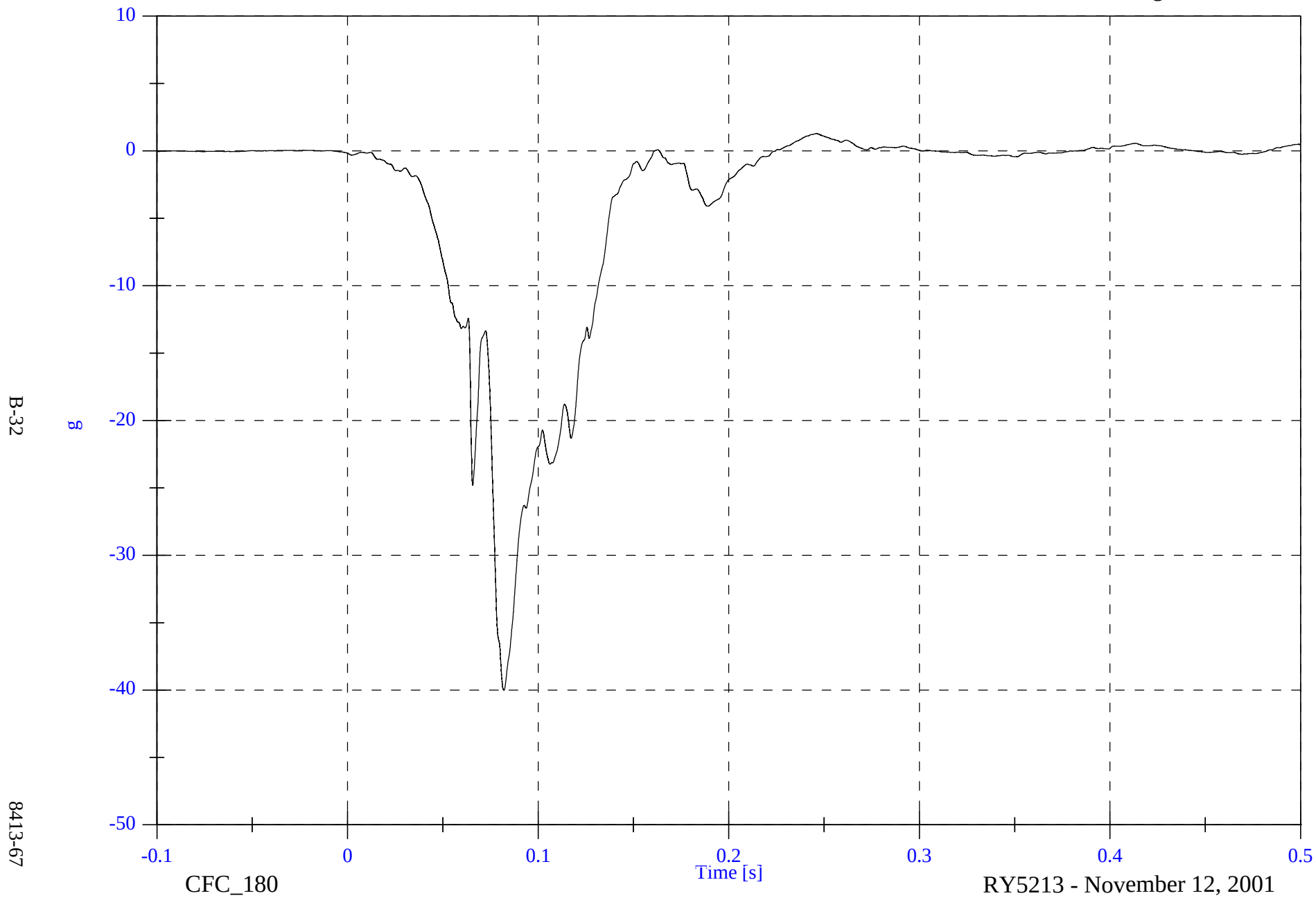
8413-67

40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Chest Ax

Max: 1.3 [g] at 0.246 [s]

Min: -40.0 [g] at 0.082 [s]

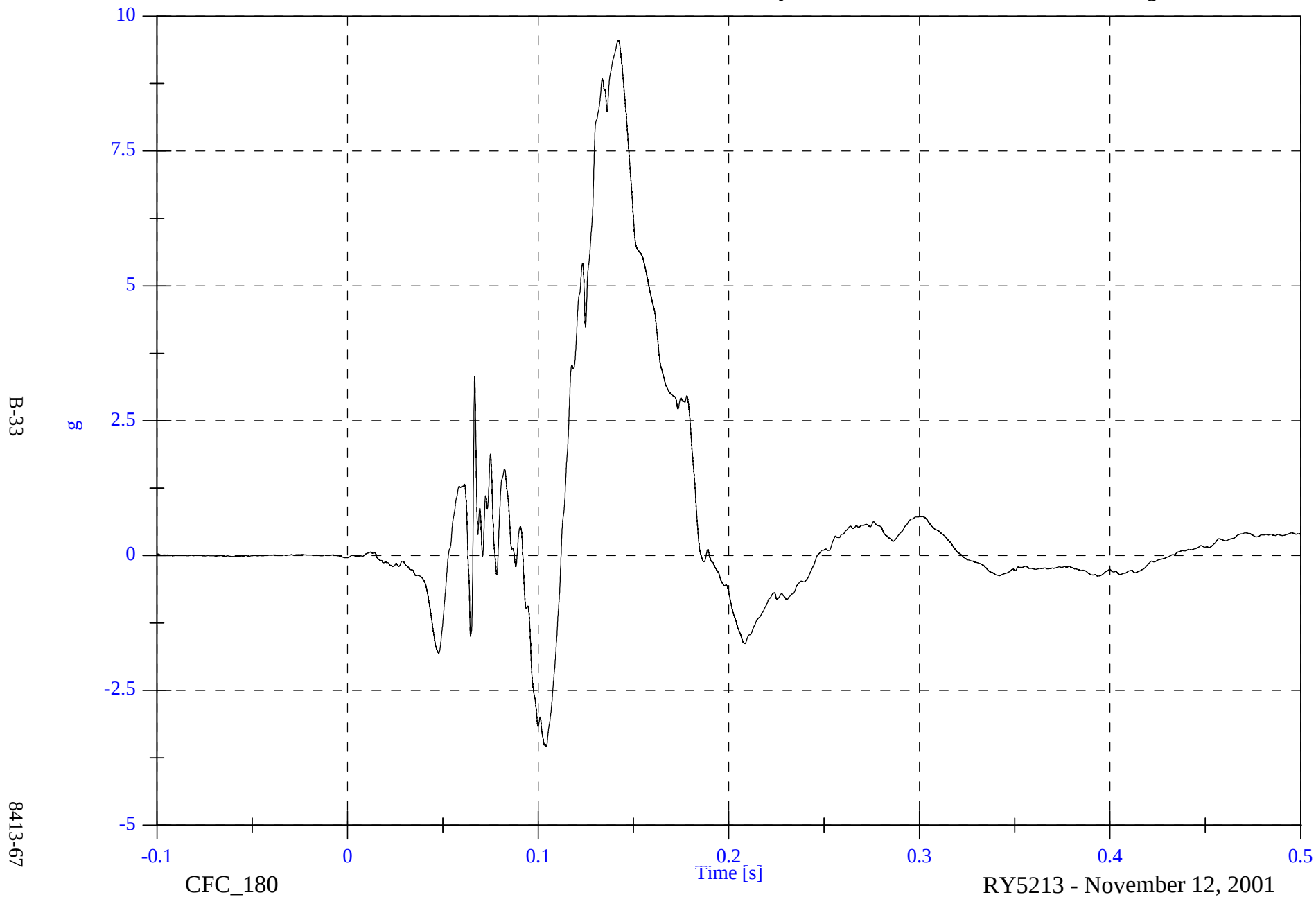


40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Chest Ay

Max: 9.6 [g] at 0.142 [s]

Min: -3.5 [g] at 0.104 [s]

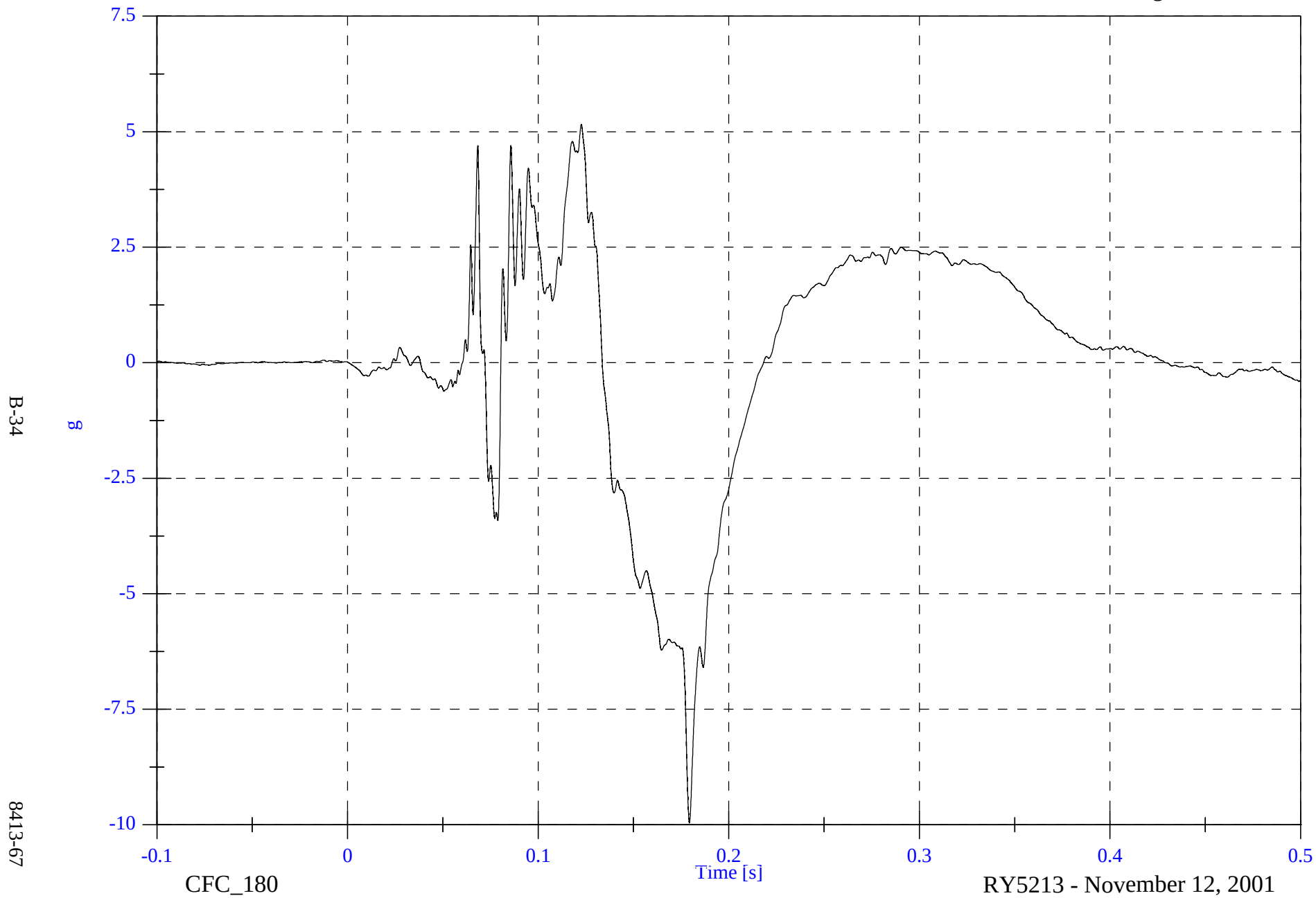


40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Chest Az

Max: 5.2 [g] at 0.123 [s]

Min: -10.0 [g] at 0.179 [s]

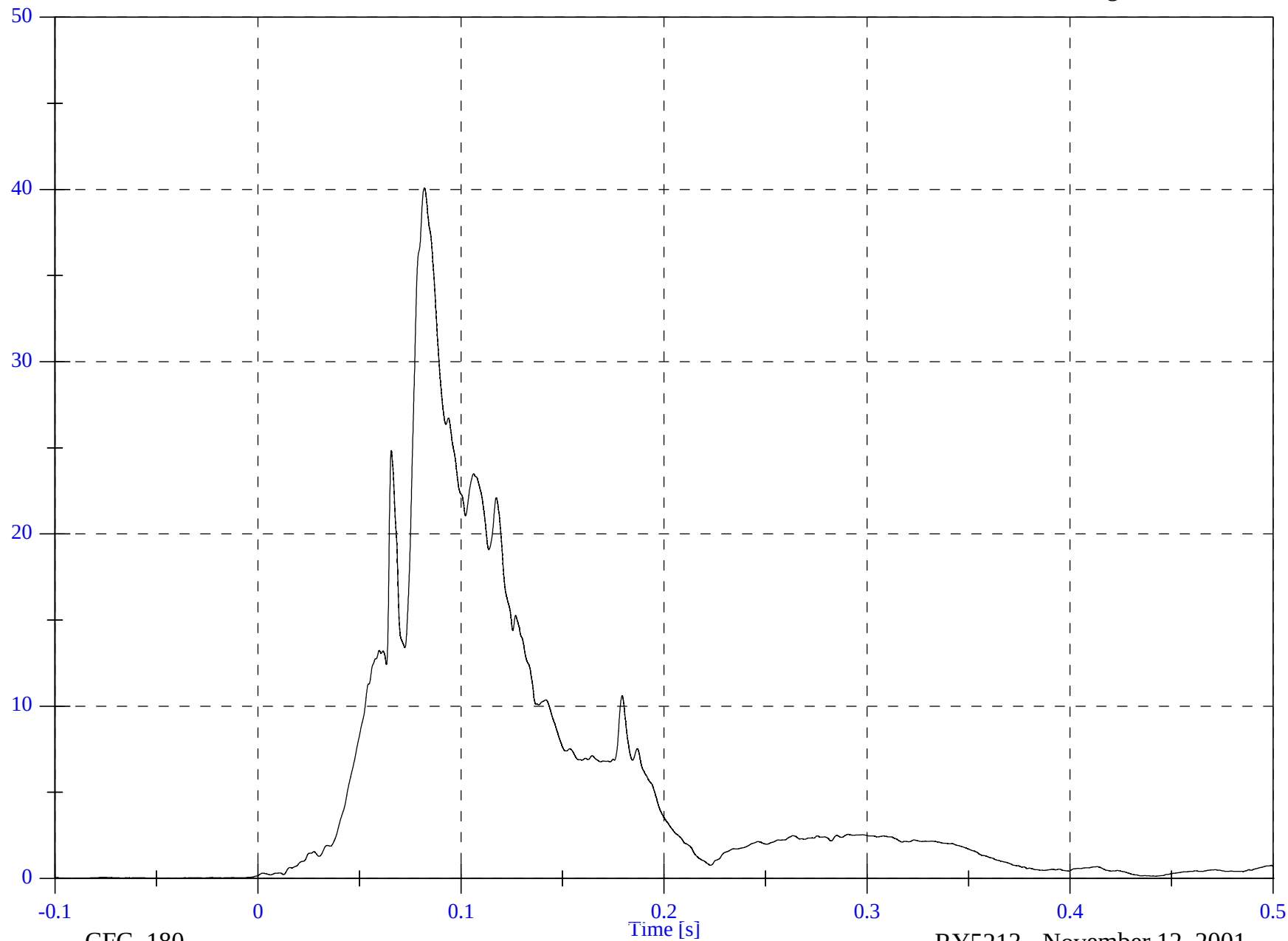


40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Chest A Resultant

Max: 40.1 [g] at 0.082 [s]

Min: 0.0 [g] at -0.091 [s]



B-35

8413-67

CFC_180

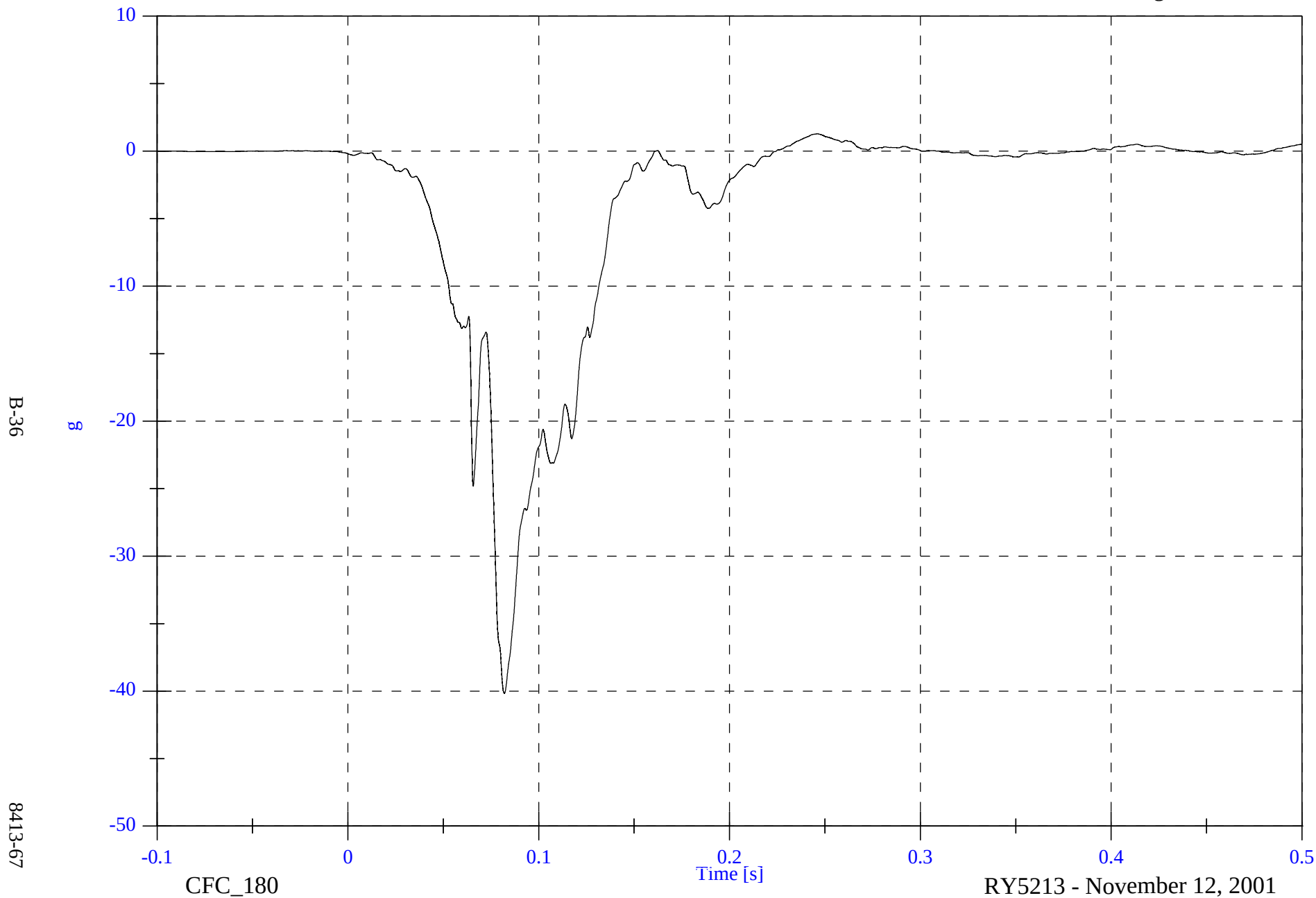
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Chest Red Ax

Max: 1.3 [g] at 0.246 [s]

Min: -40.2 [g] at 0.082 [s]

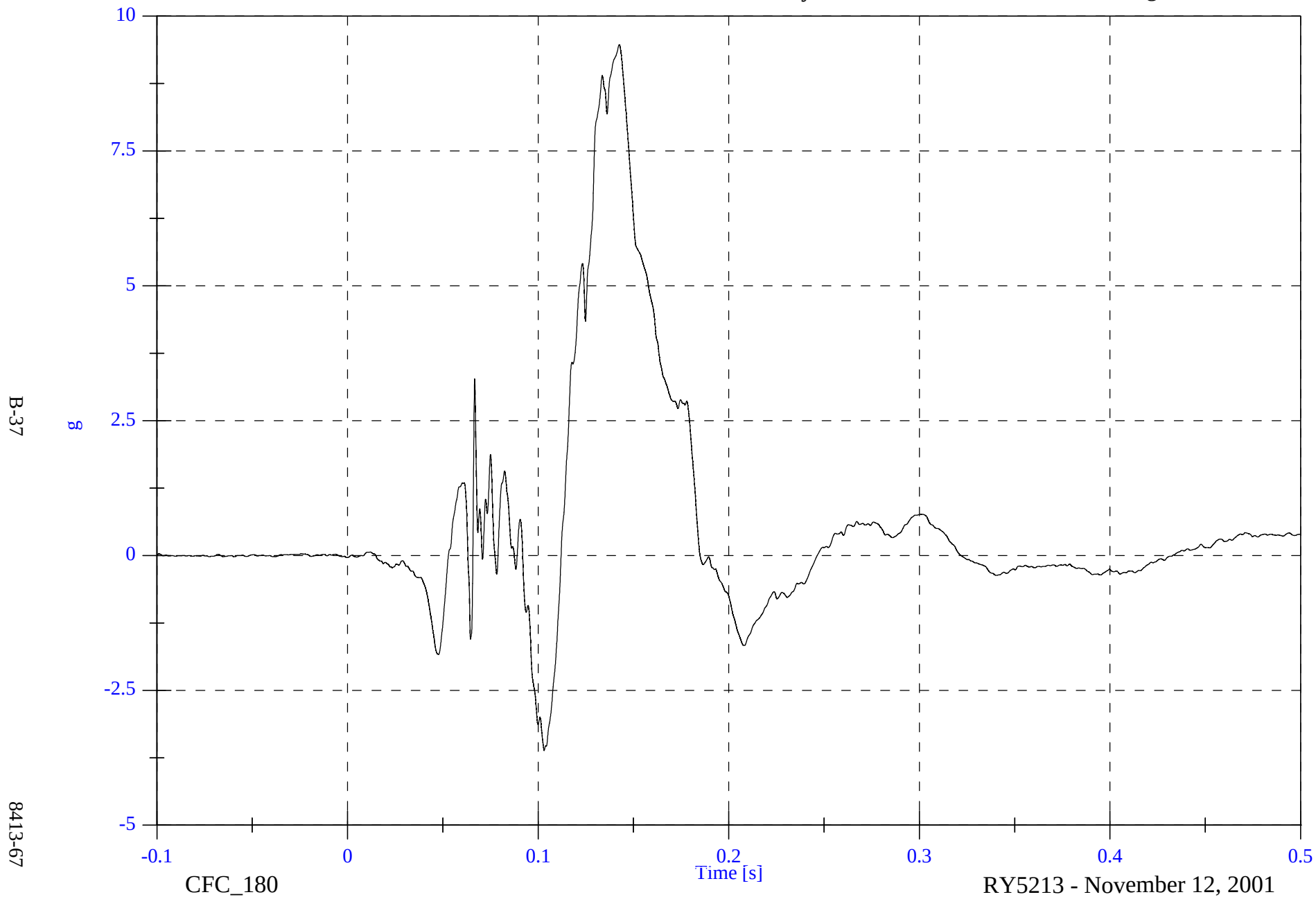


40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Chest Red Ay

Max: 9.5 [g] at 0.143 [s]

Min: -3.6 [g] at 0.103 [s]

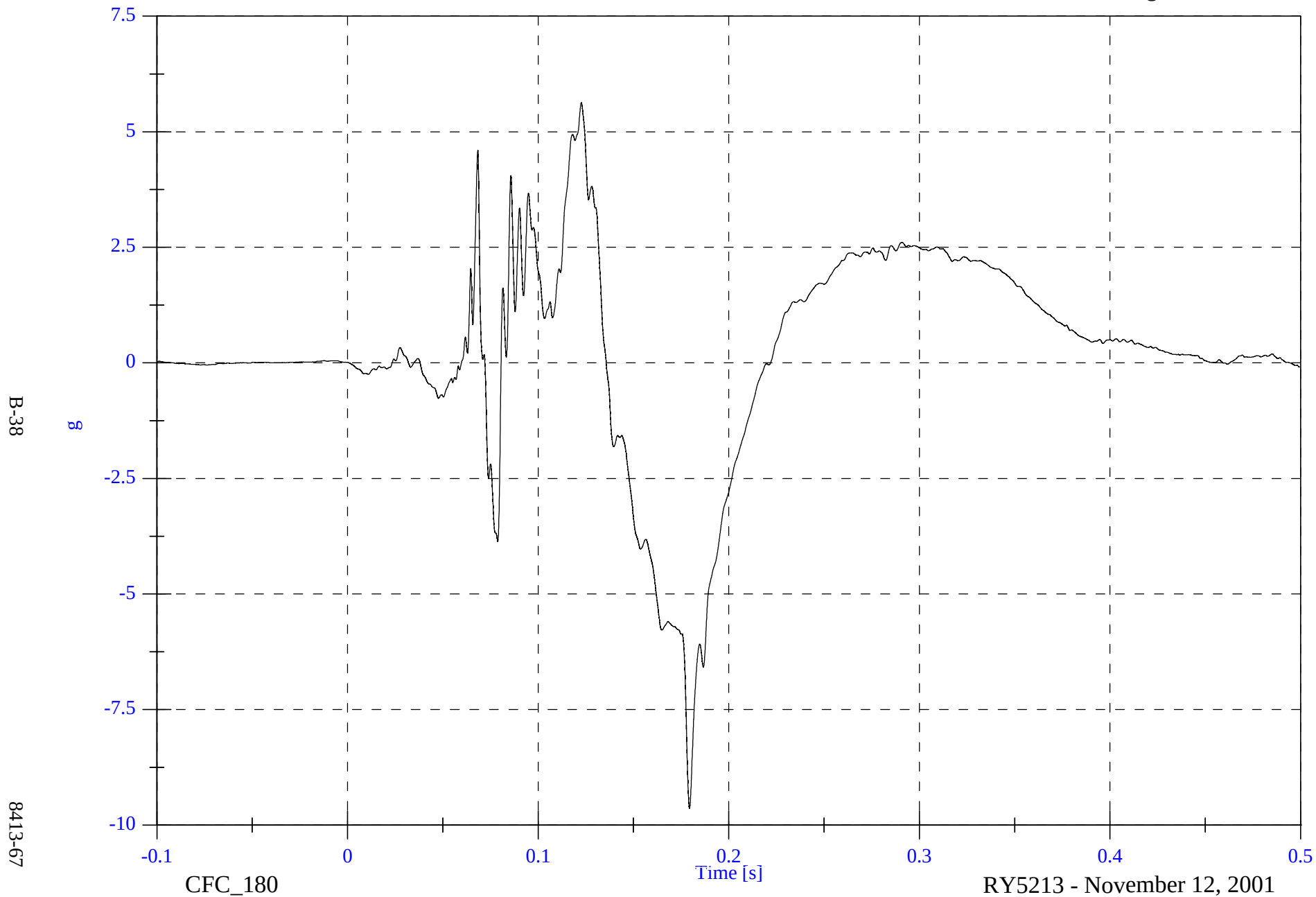


40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Chest Red Az

Max: 5.6 [g] at 0.123 [s]

Min: -9.6 [g] at 0.179 [s]

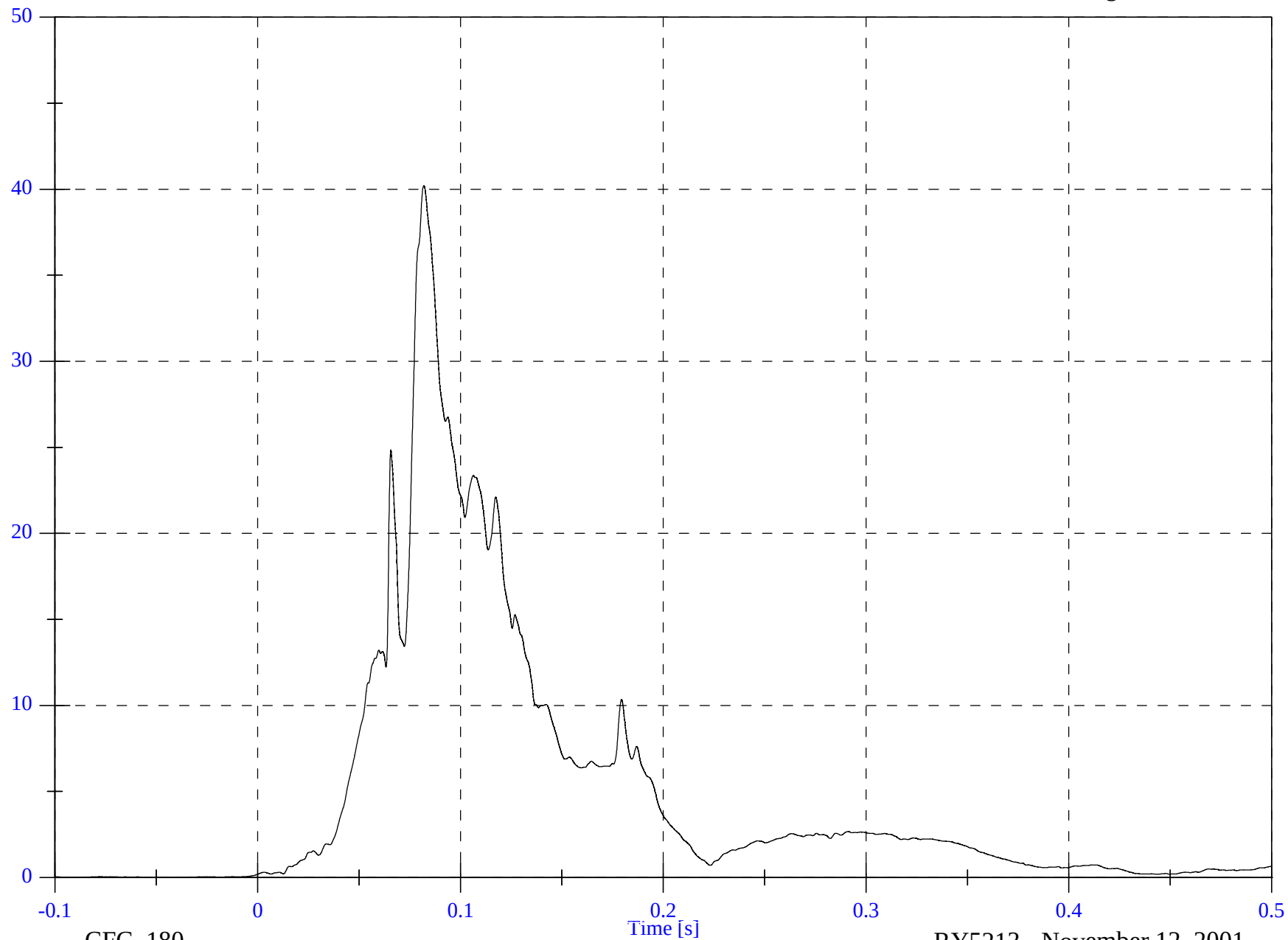


40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Chest Red A Resultant

Max: 40.2 [g] at 0.082 [s]

Min: 0.0 [g] at -0.051 [s]



B-39

8413-67

CFC_180

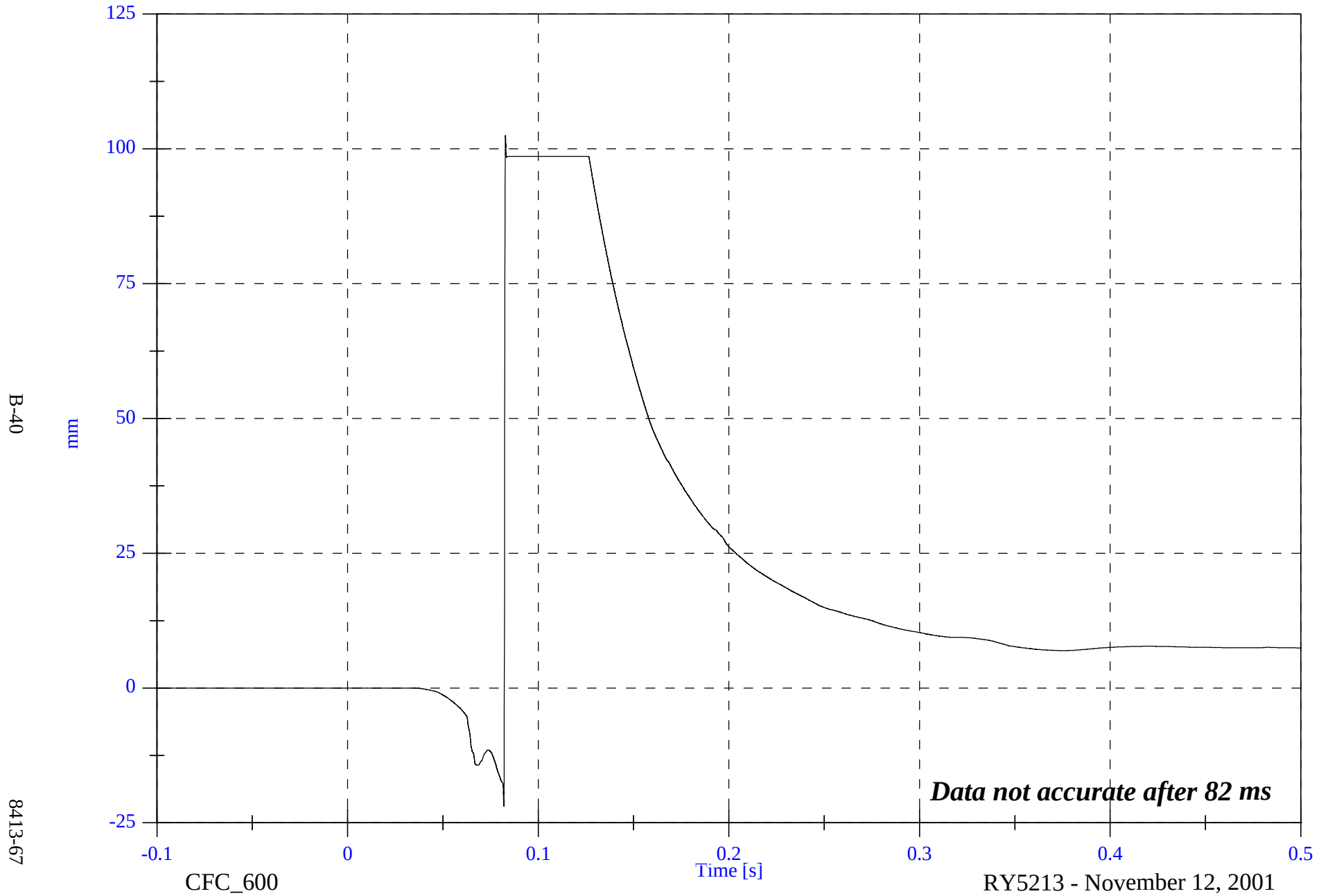
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

Max: 102.5 [mm] at 0.083 [s]

P1 Chest Displacement

Min: -22.0 [mm] at 0.082 [s]



40% Frontal Offset Test #11 - 2000 Nissan Quest

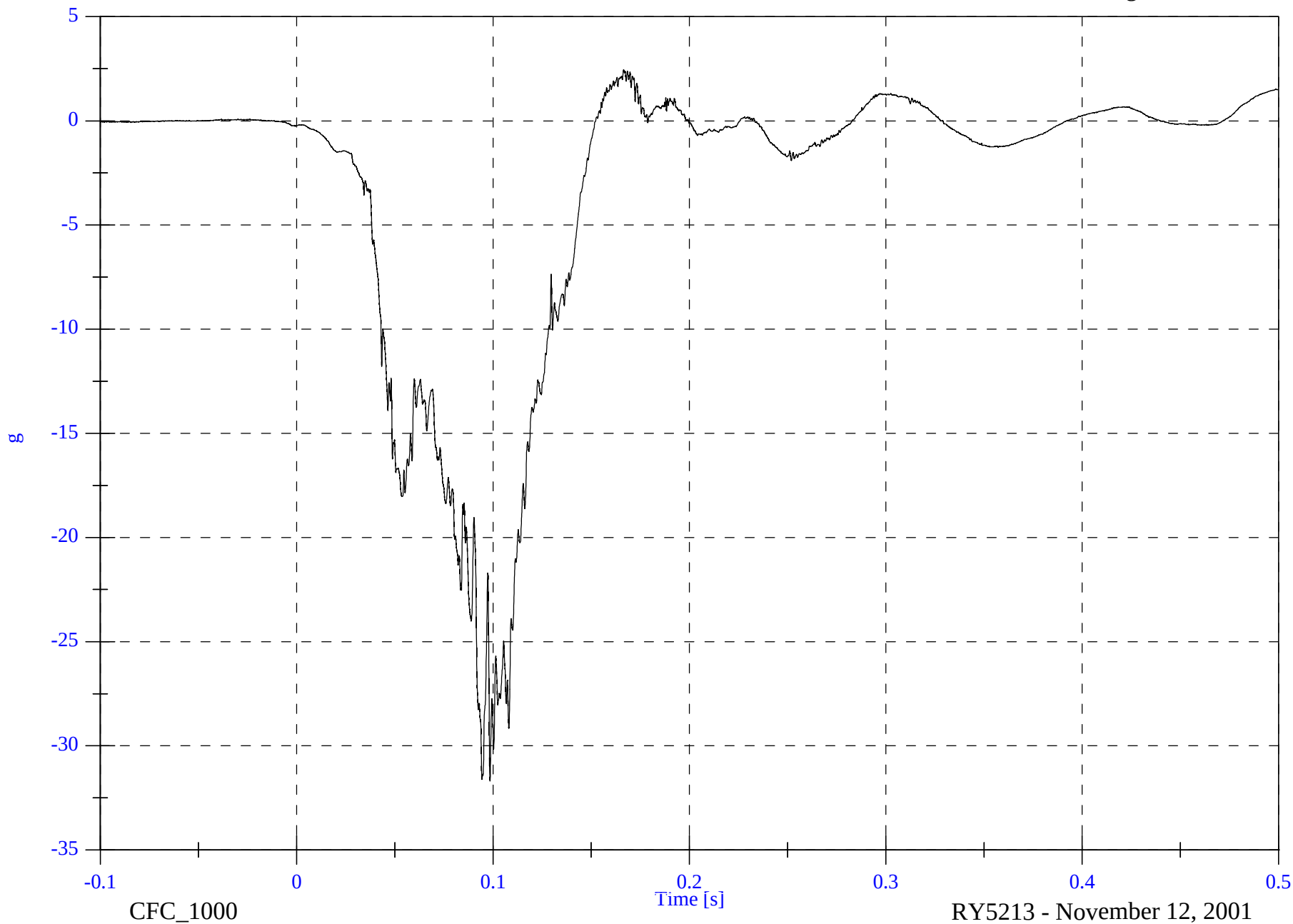
P1 Pelvic Ax

Max: 2.4 [g] at 0.166 [s]

Min: -31.7 [g] at 0.098 [s]

B-41

8413-67

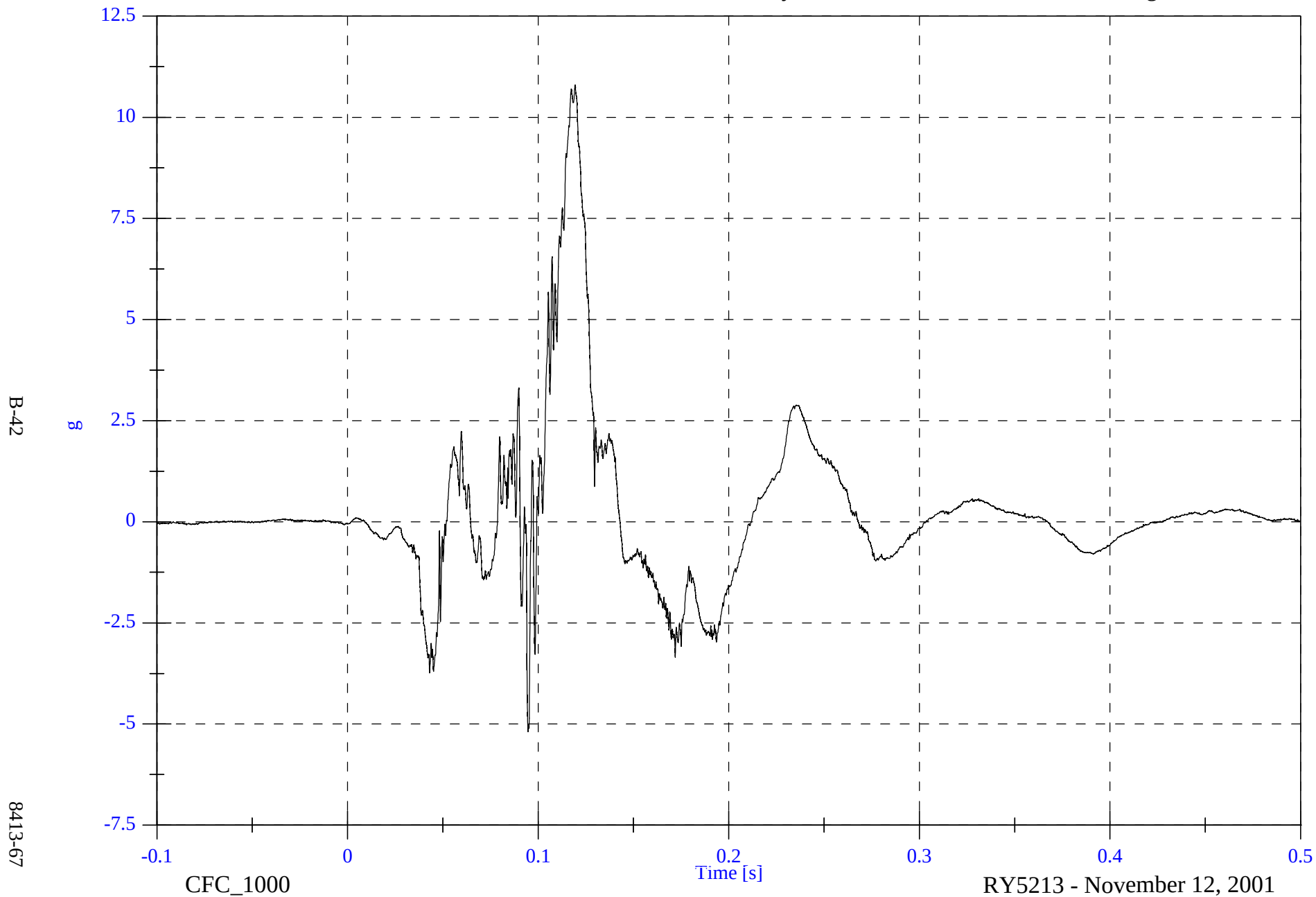


40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Pelvic Ay

Max: 10.8 [g] at 0.119 [s]

Min: -5.2 [g] at 0.095 [s]

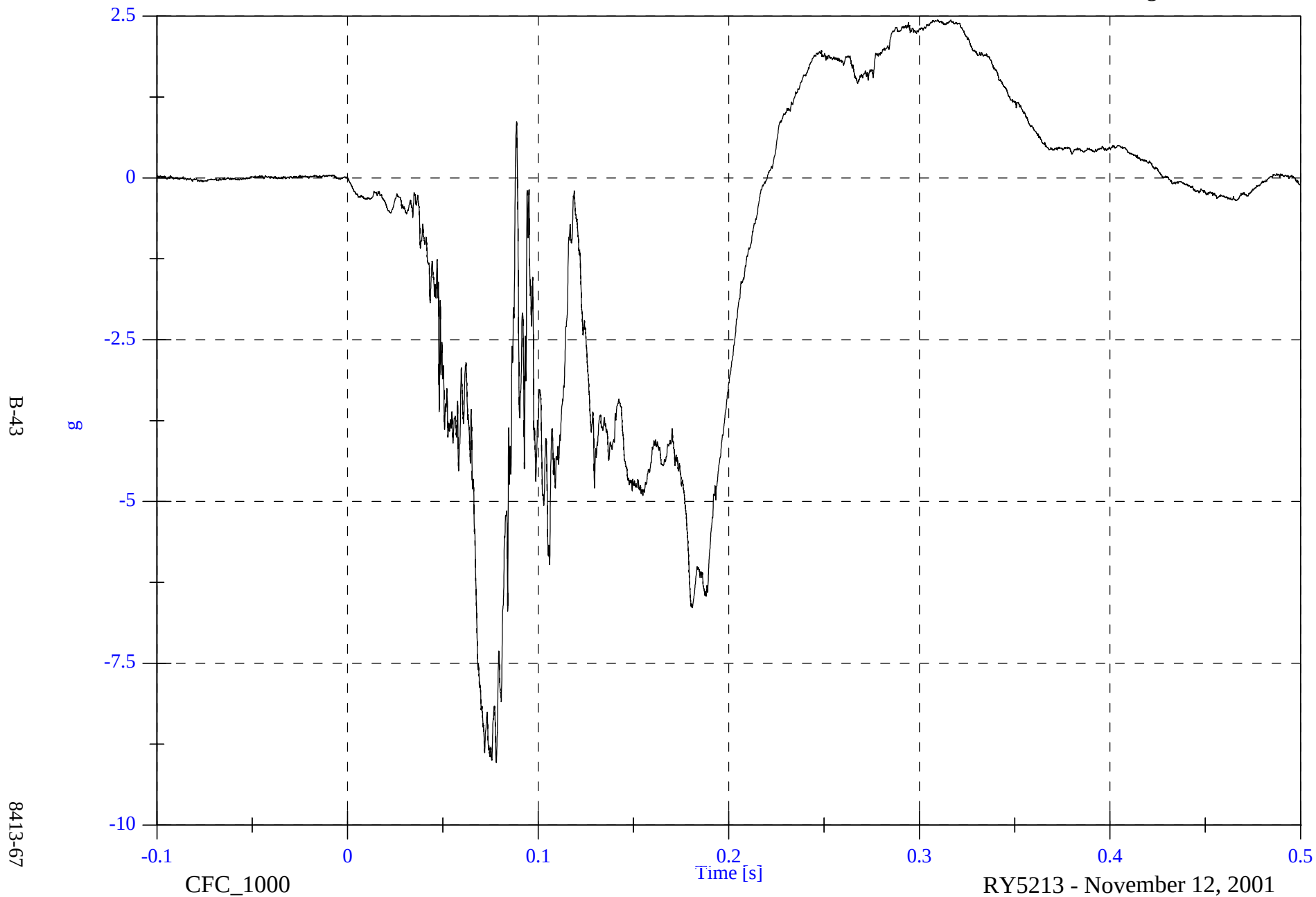


40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Pelvic Az

Max: 2.4 [g] at 0.310 [s]

Min: -9.0 [g] at 0.078 [s]

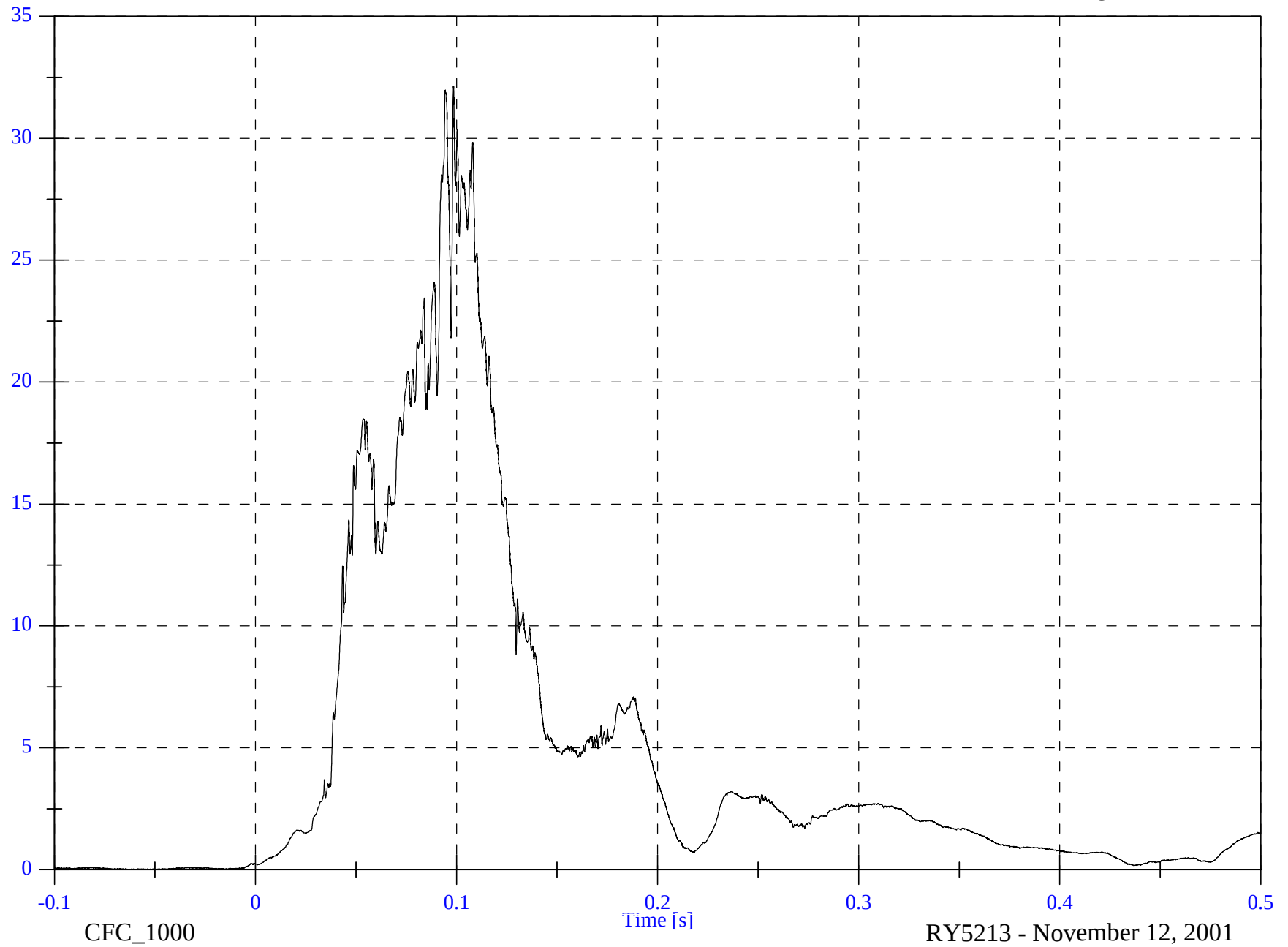


40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Pelvic A Resultant

Max: 32.1 [g] at 0.098 [s]

Min: 0.0 [g] at -0.052 [s]



B-44

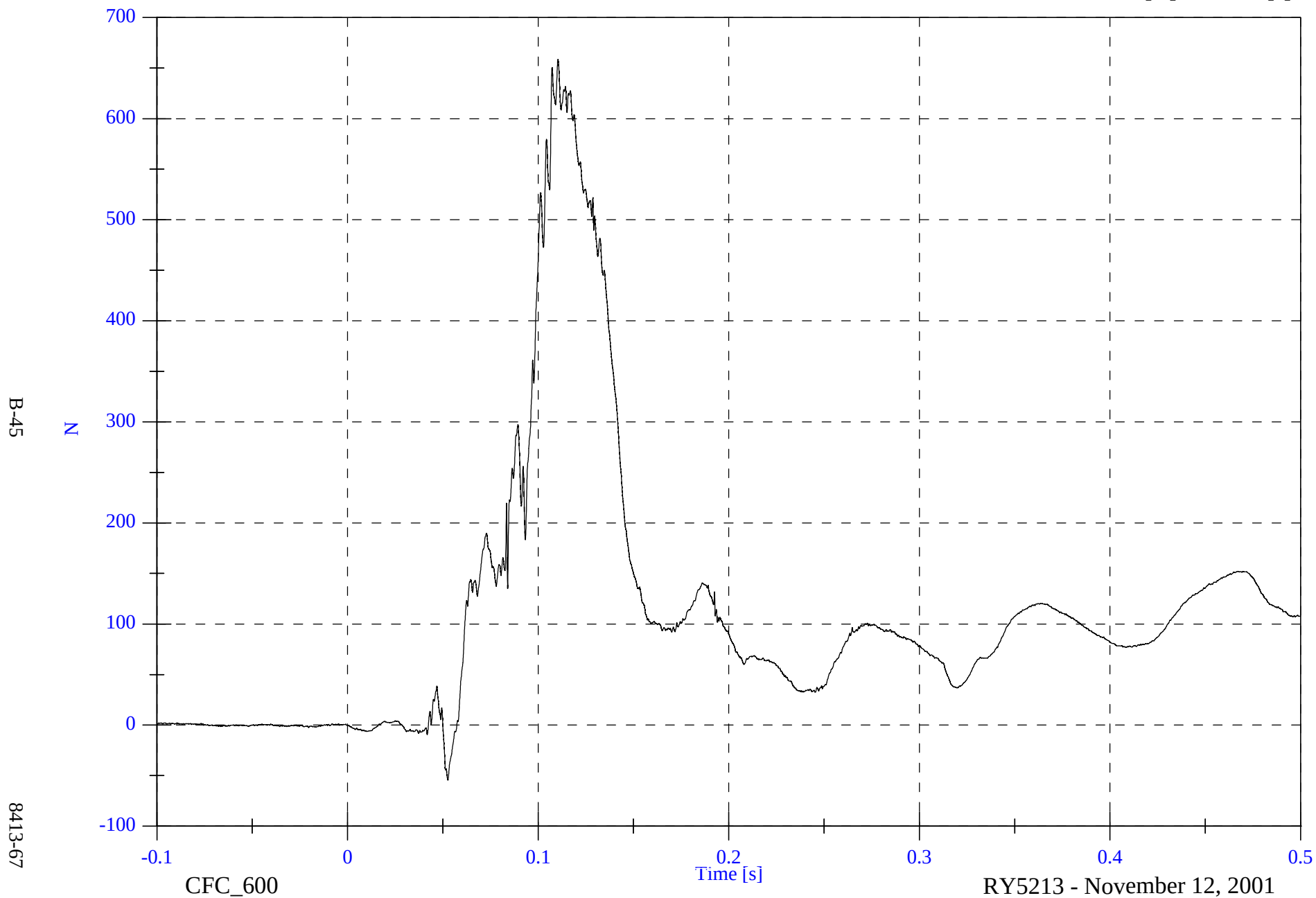
8413-67

40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Left Femur Fx

Max: 658.8 [N] at 0.110 [s]

Min: -54.6 [N] at 0.053 [s]

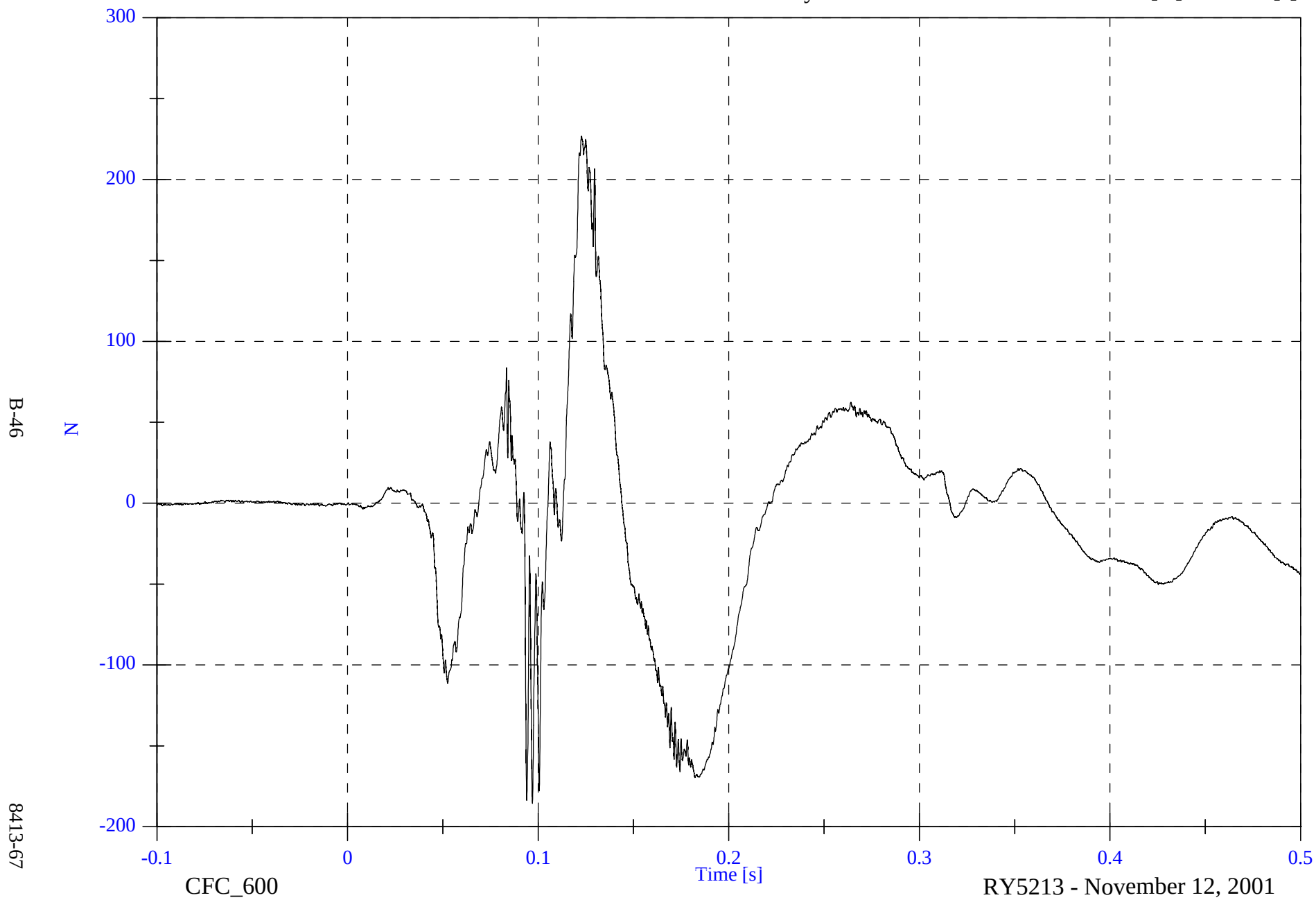


40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Left Femur Fy

Max: 226.8 [N] at 0.123 [s]

Min: -185.6 [N] at 0.097 [s]

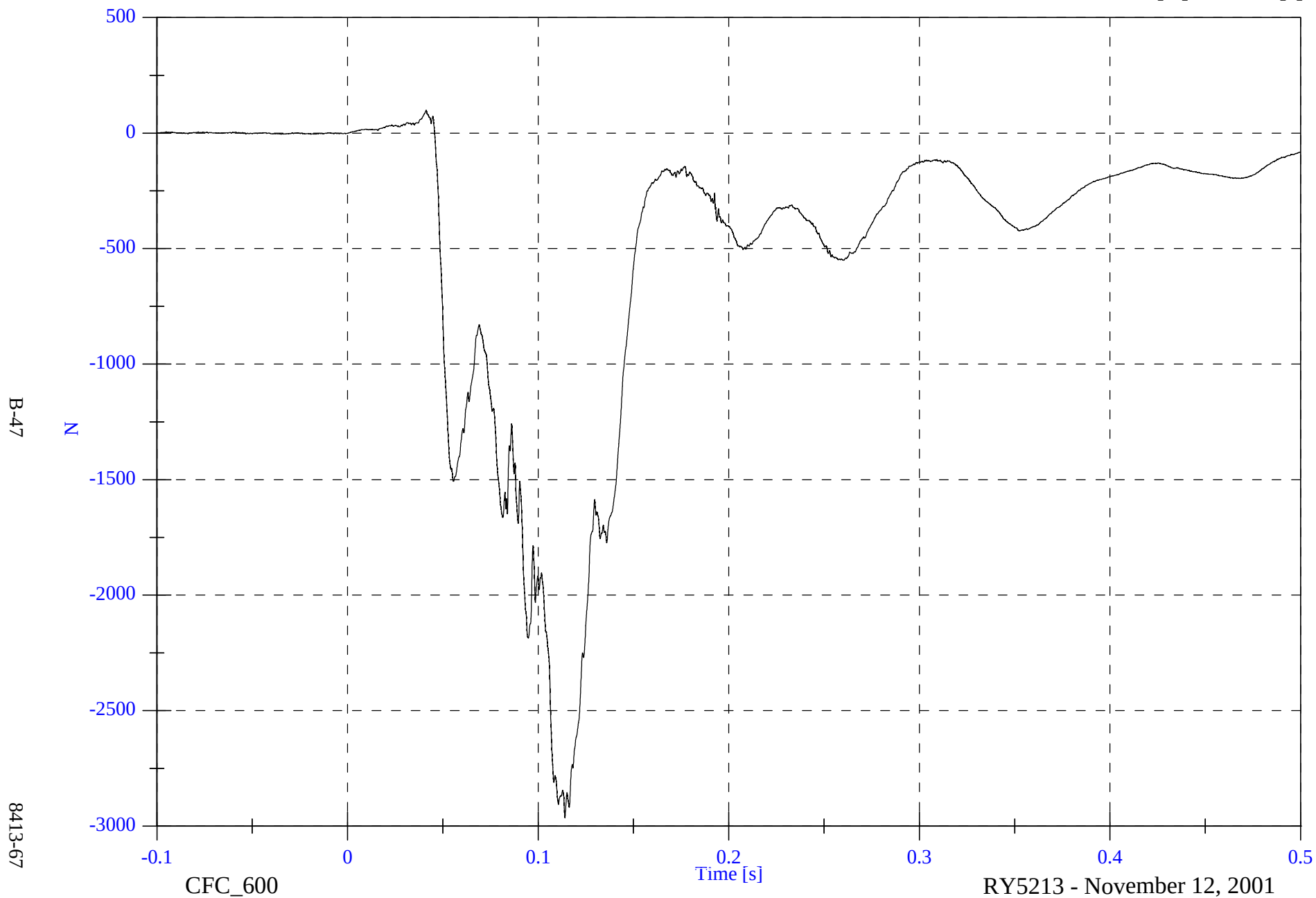


40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Left Femur Fz

Max: 99.5 [N] at 0.041 [s]

Min: -2964.2 [N] at 0.114 [s]

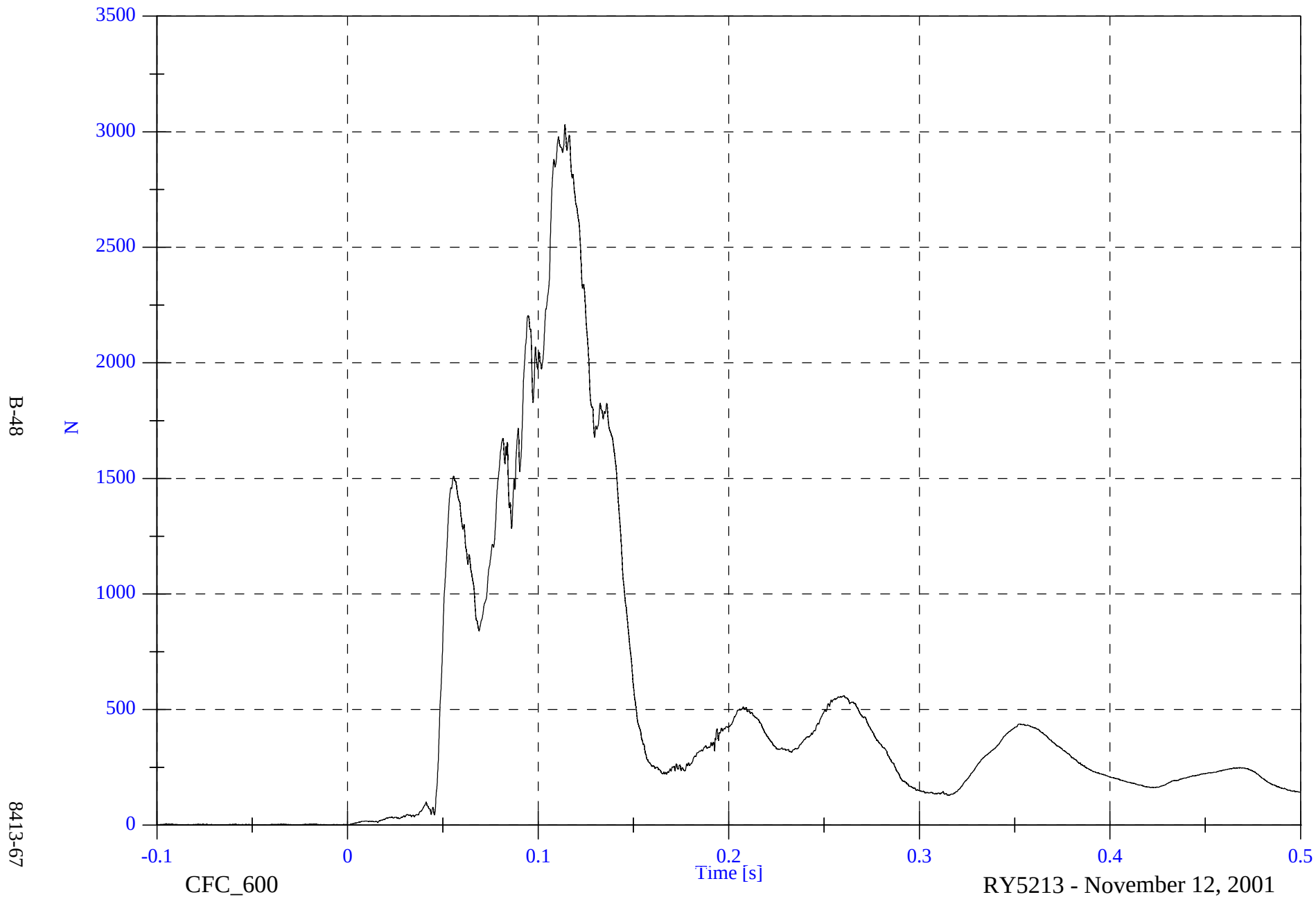


40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Left Femur F Resultant

Max: 3030.1 [N] at 0.114 [s]

Min: 0.3 [N] at -0.048 [s]

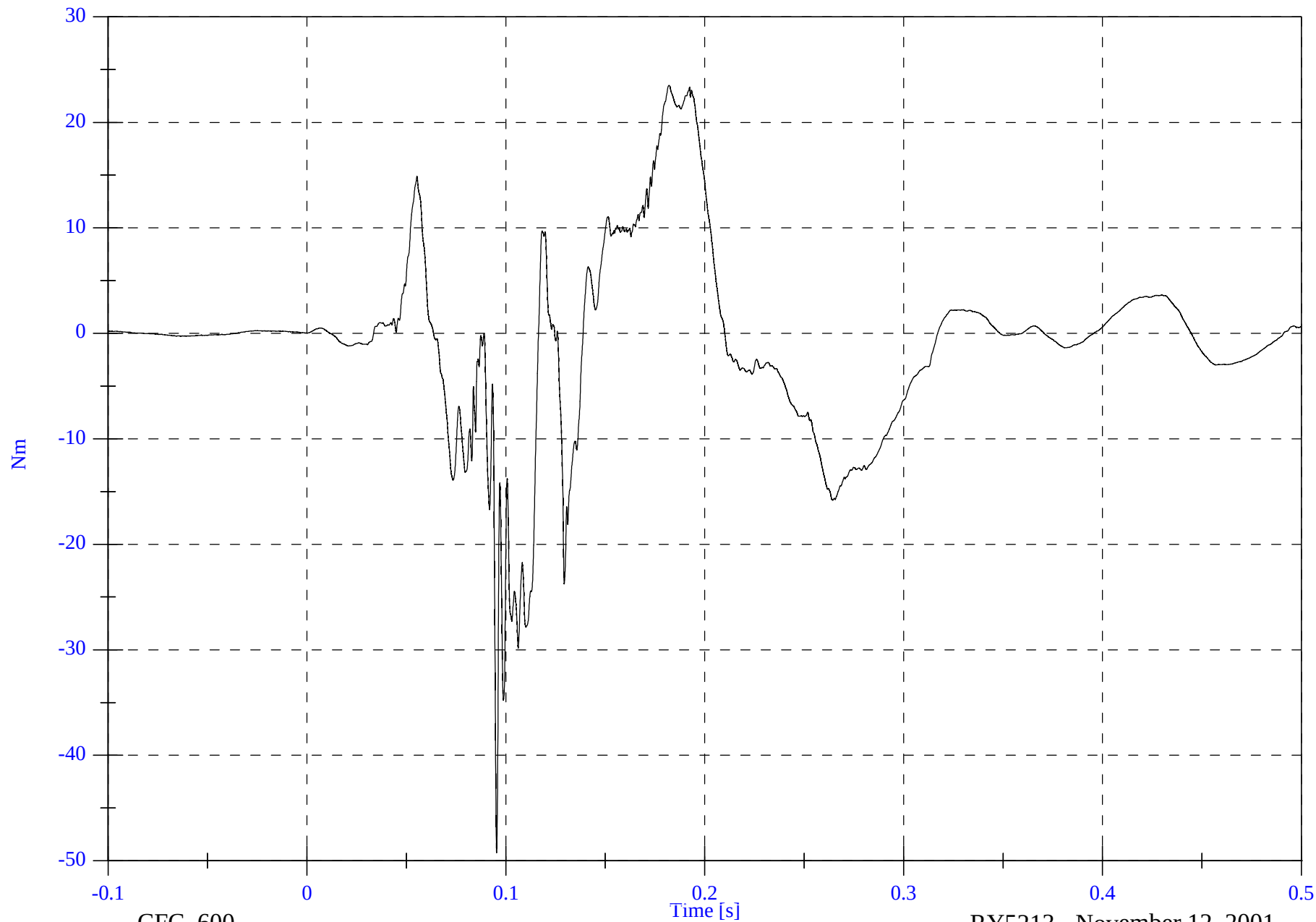


40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Left Femur Mx

Max: 23.5 [Nm] at 0.182 [s]

Min: -49.3 [Nm] at 0.095 [s]



B-49

8413-67

CFC_600

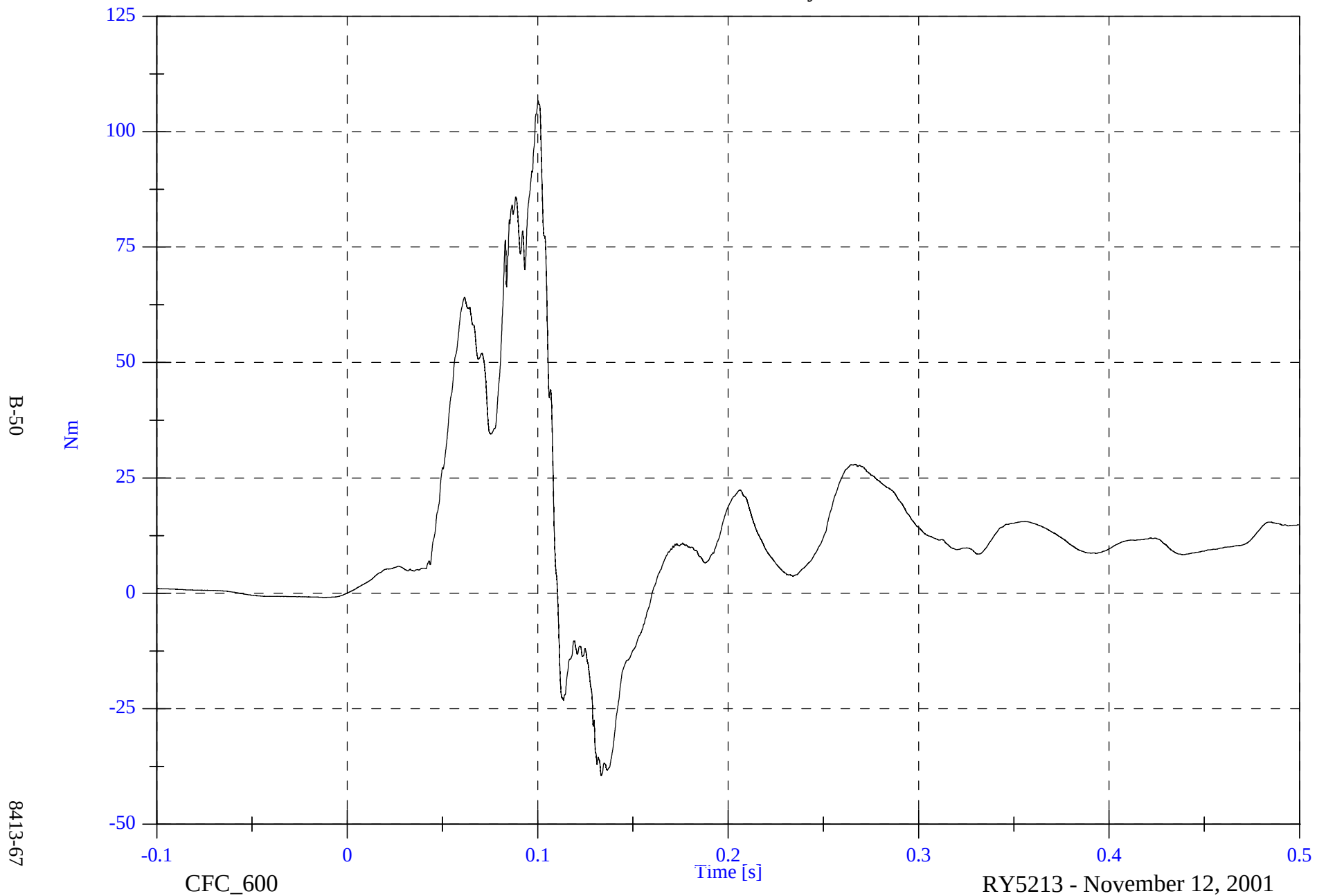
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Left Femur My

Max: 106.7 [Nm] at 0.100 [s]

Min: -39.5 [Nm] at 0.133 [s]

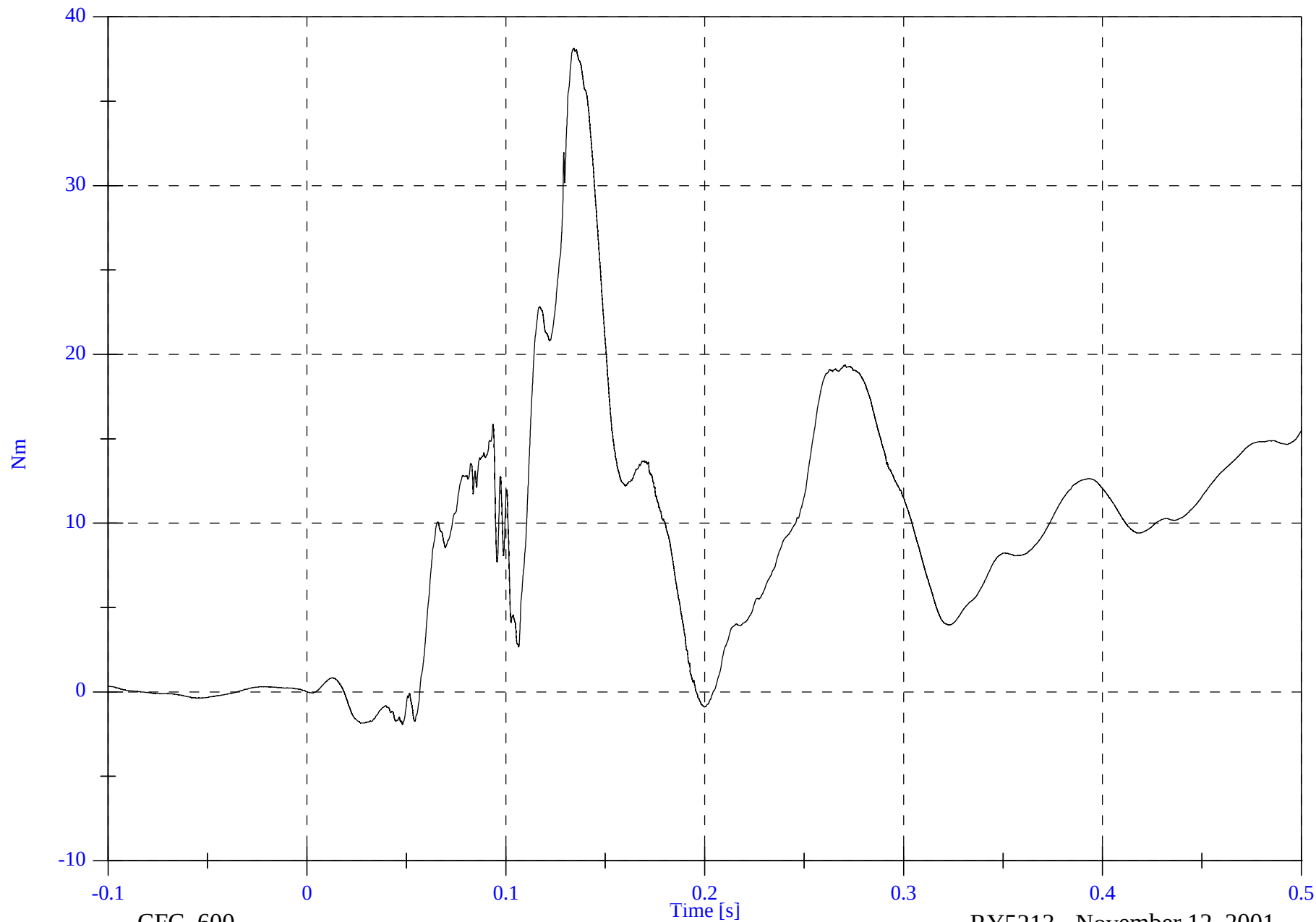


40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Left Femur Mz

Max: 38.1 [Nm] at 0.134 [s]

Min: -1.9 [Nm] at 0.048 [s]



B-51

8413-67

CFC_600

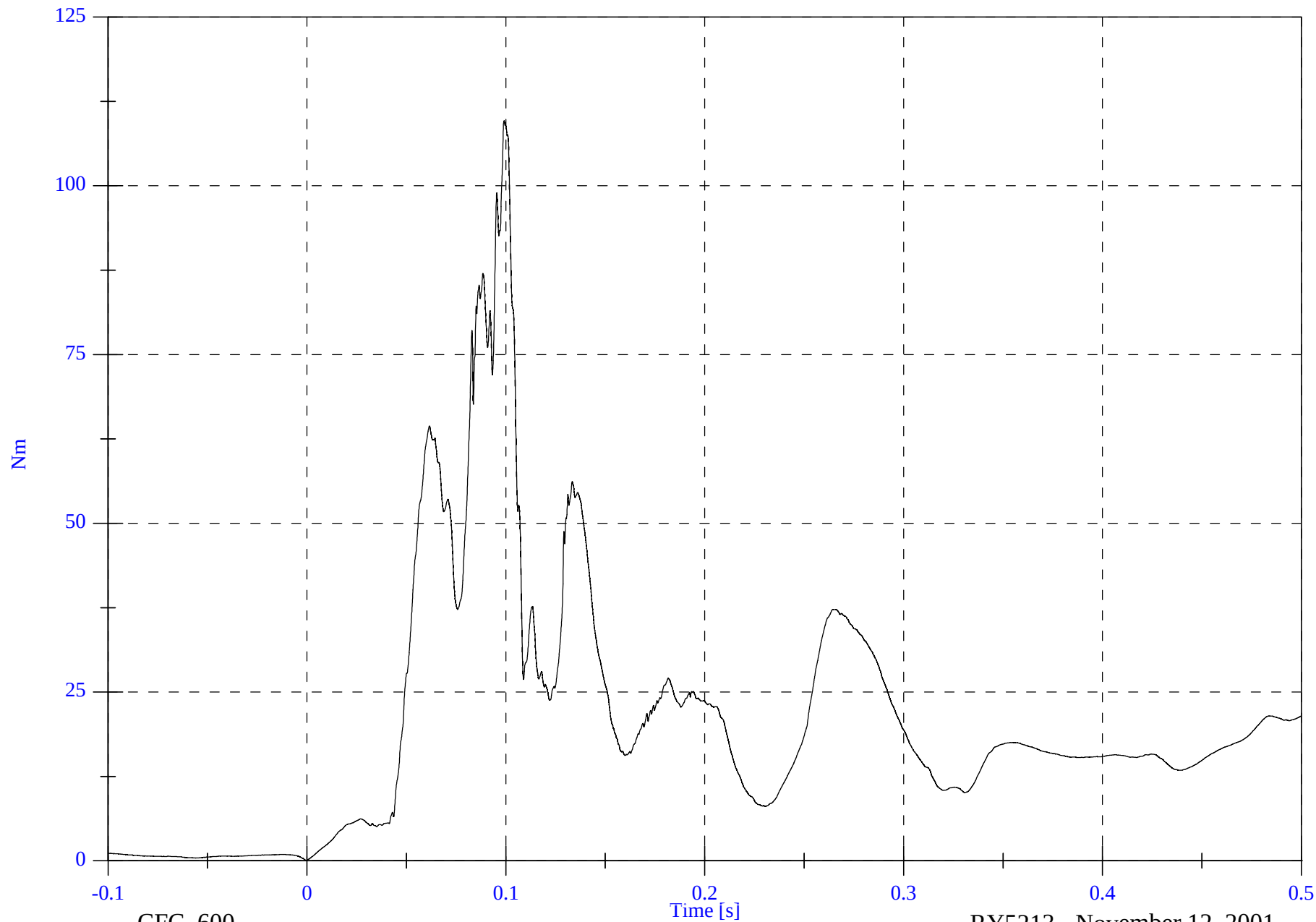
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Left Femur M Resultant

Max: 109.6 [Nm] at 0.099 [s]

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



B-52

8413-67

CFC_600

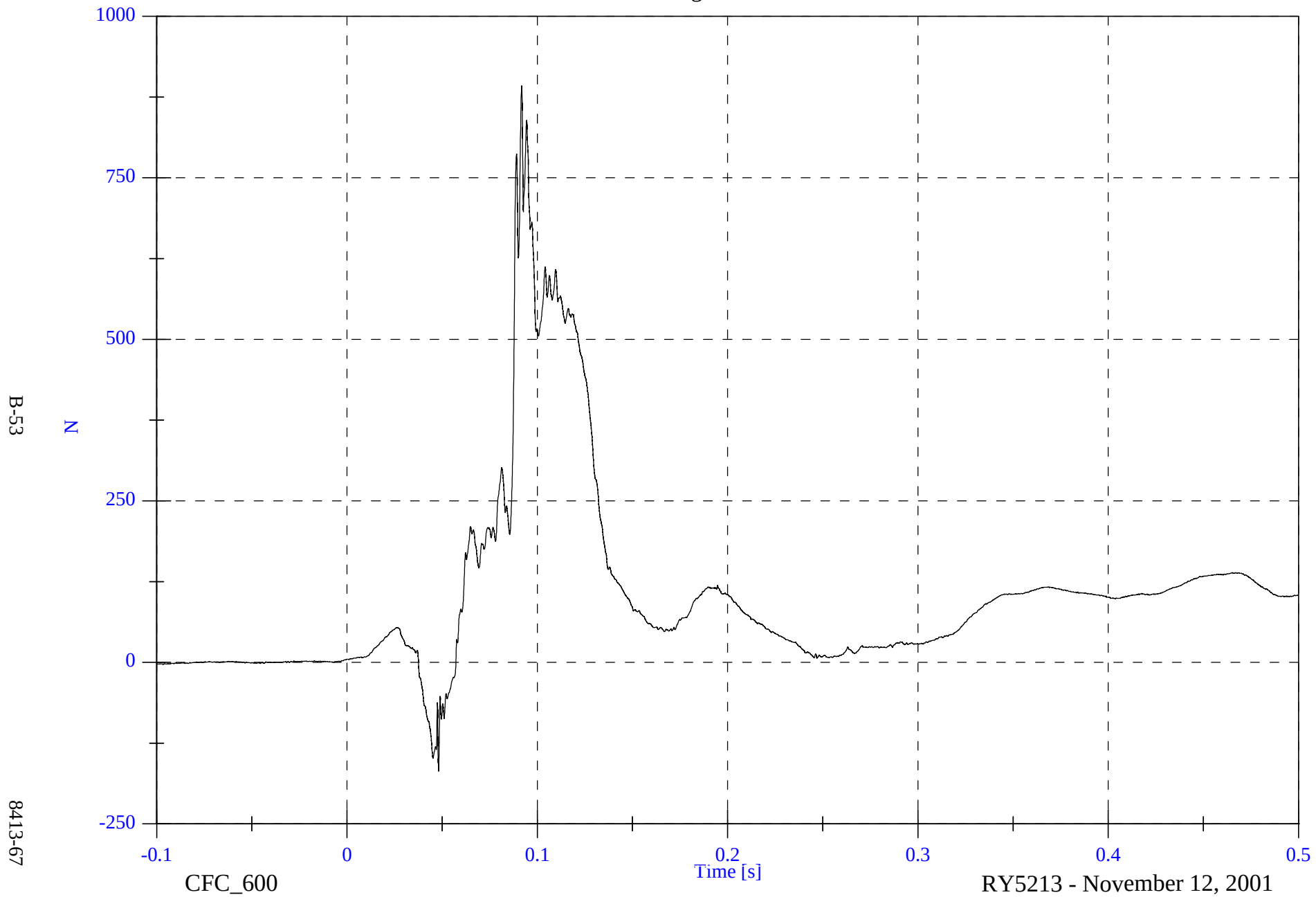
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Right Femur Fx

Max: 892.1 [N] at 0.092 [s]

Min: -168.6 [N] at 0.048 [s]

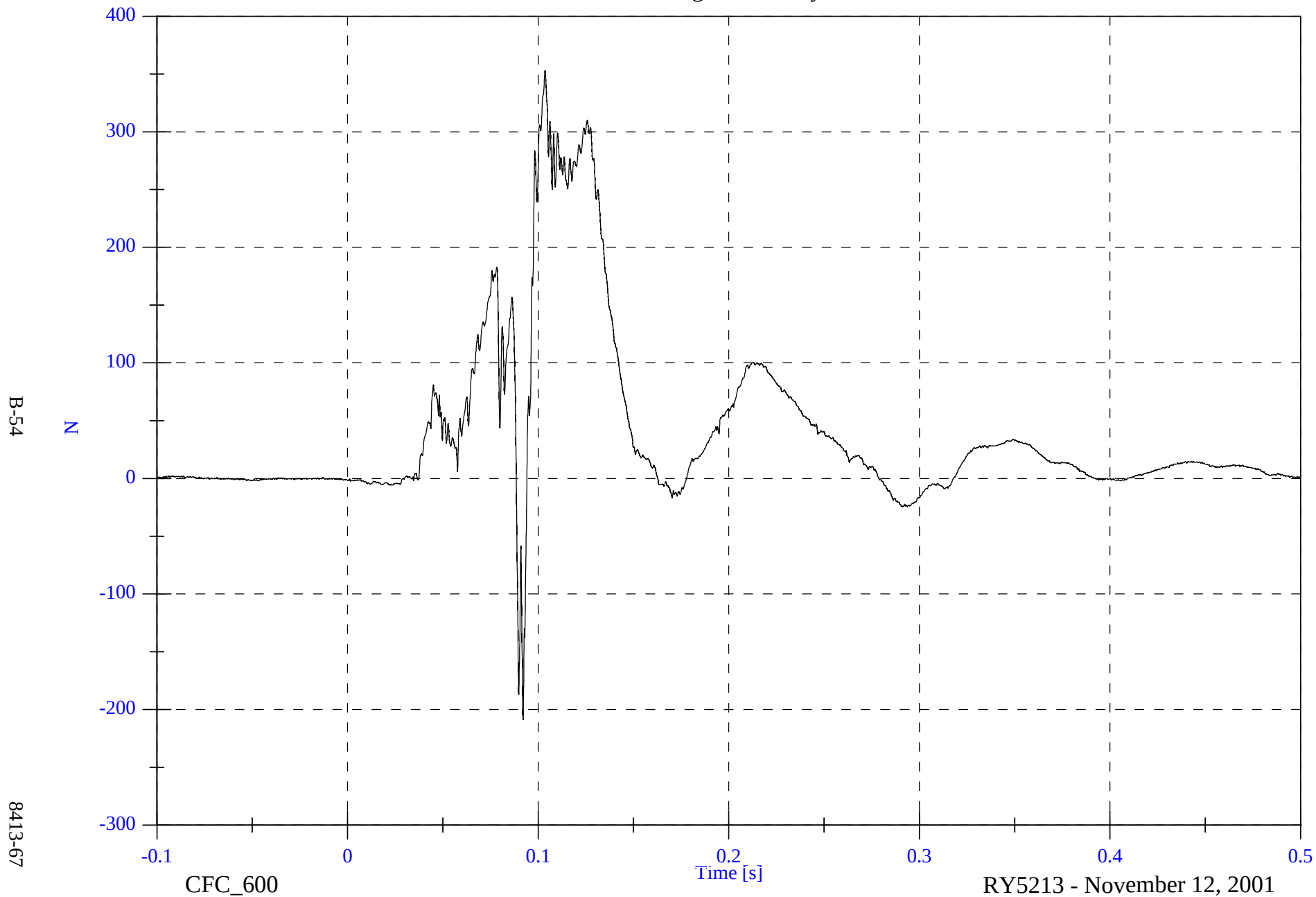


40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Right Femur Fy

Max: 353.3 [N] at 0.104 [s]

Min: -208.9 [N] at 0.092 [s]

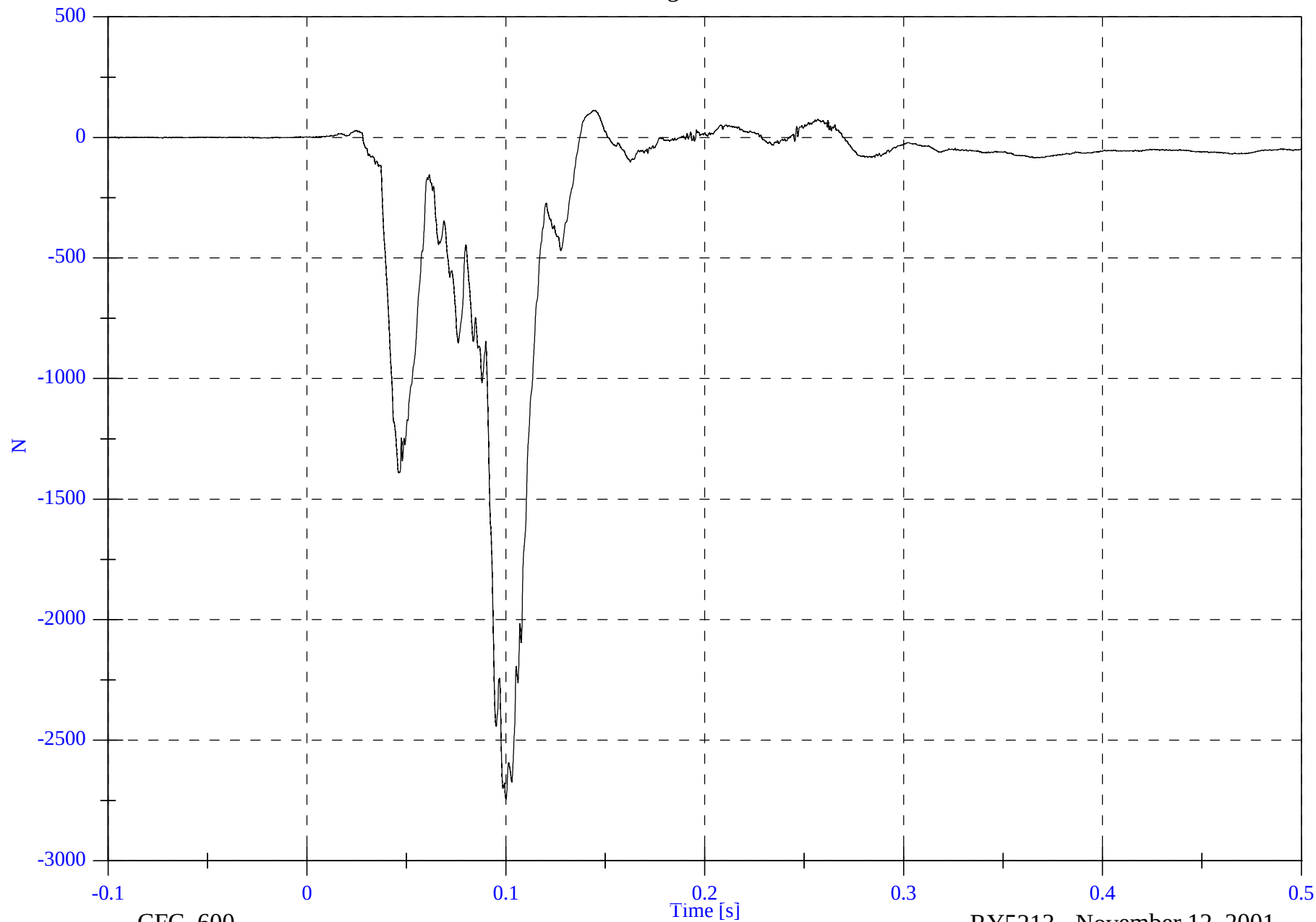


40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Right Femur Fz

Max: 112.9 [N] at 0.145 [s]

Min: -2744.9 [N] at 0.100 [s]



B-55

8413-67

CFC_600

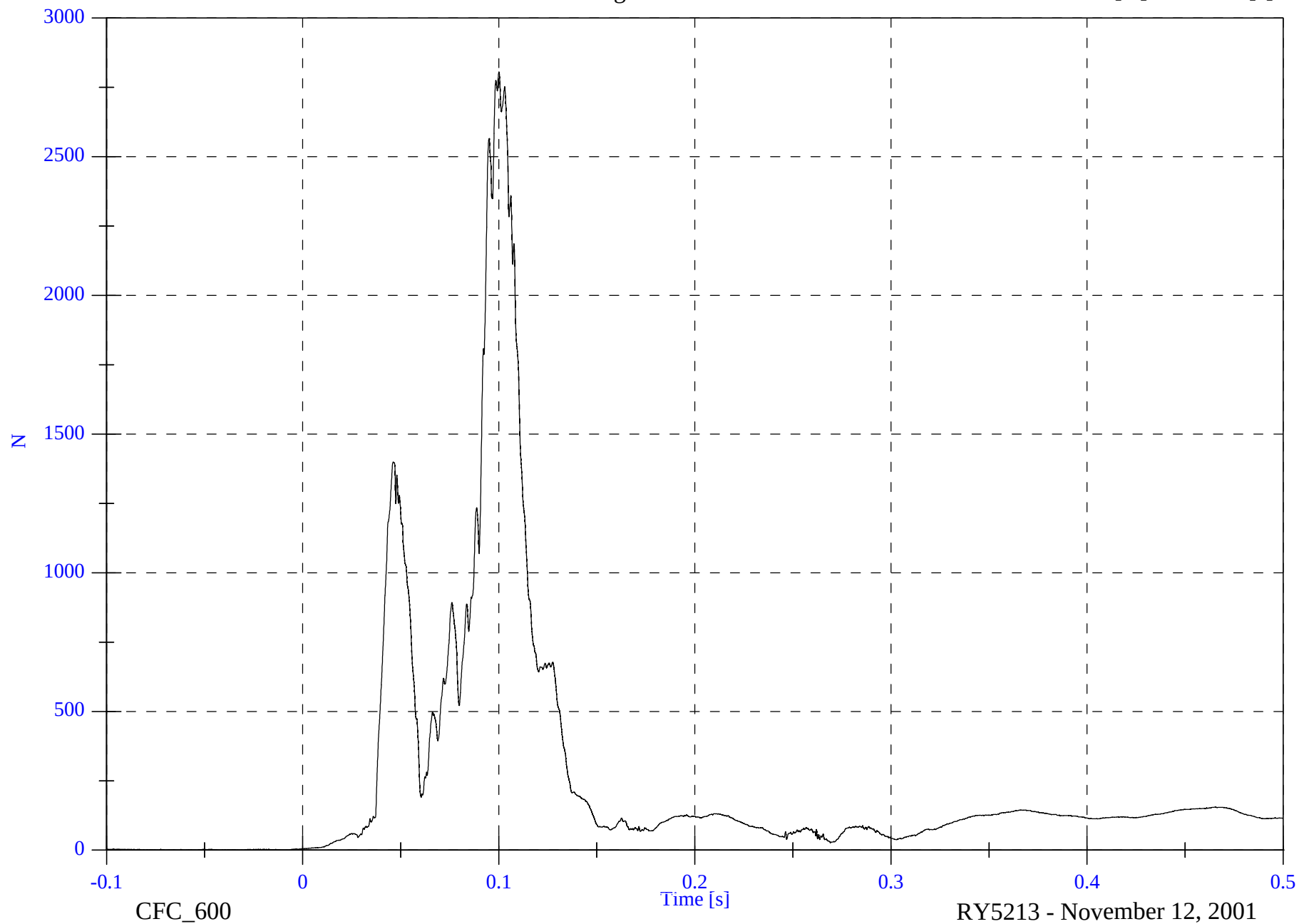
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Right Femur F Resultant

Max: 2806.2 [N] at 0.100 [s]

Min: 0.2 [N] at -0.034 [s]



B-56

8413-67

CFC_600

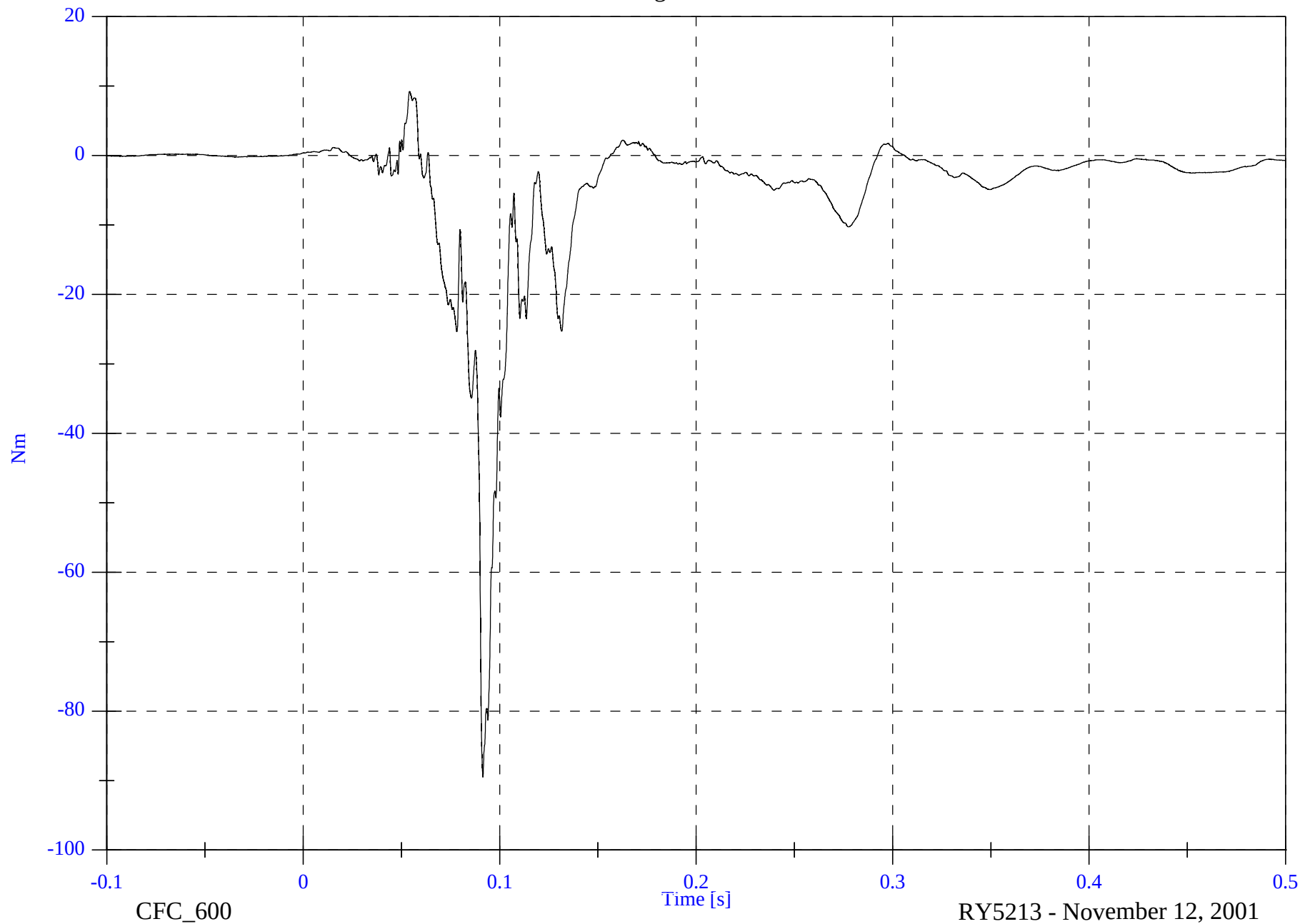
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Right Femur Mx

Max: 9.2 [Nm] at 0.054 [s]

Min: -89.5 [Nm] at 0.091 [s]



B-57

8413-67

CFC_600

RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

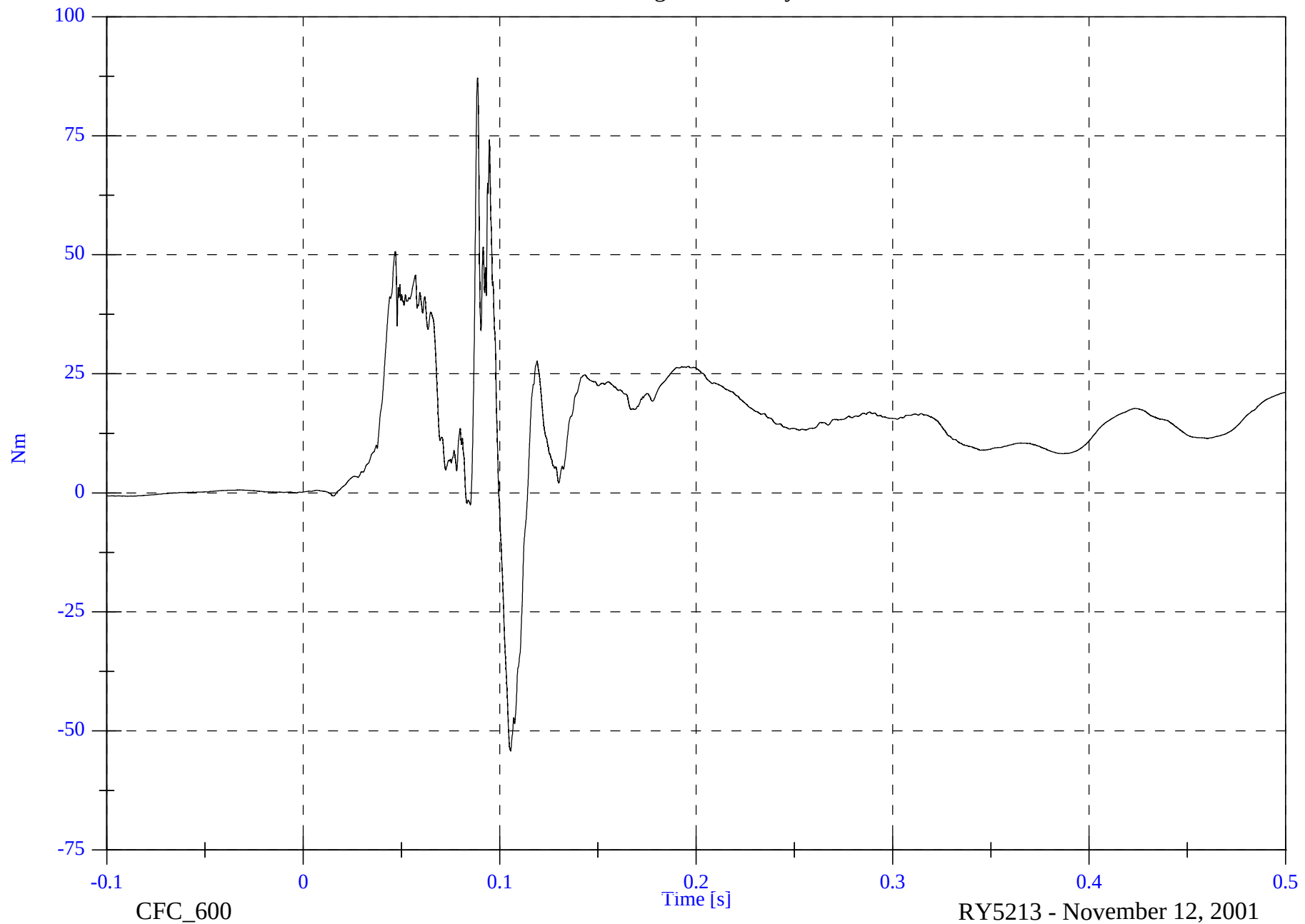
P1 Right Femur My

Max: 87.1 [Nm] at 0.089 [s]

Min: -54.2 [Nm] at 0.106 [s]

B-58

8413-67

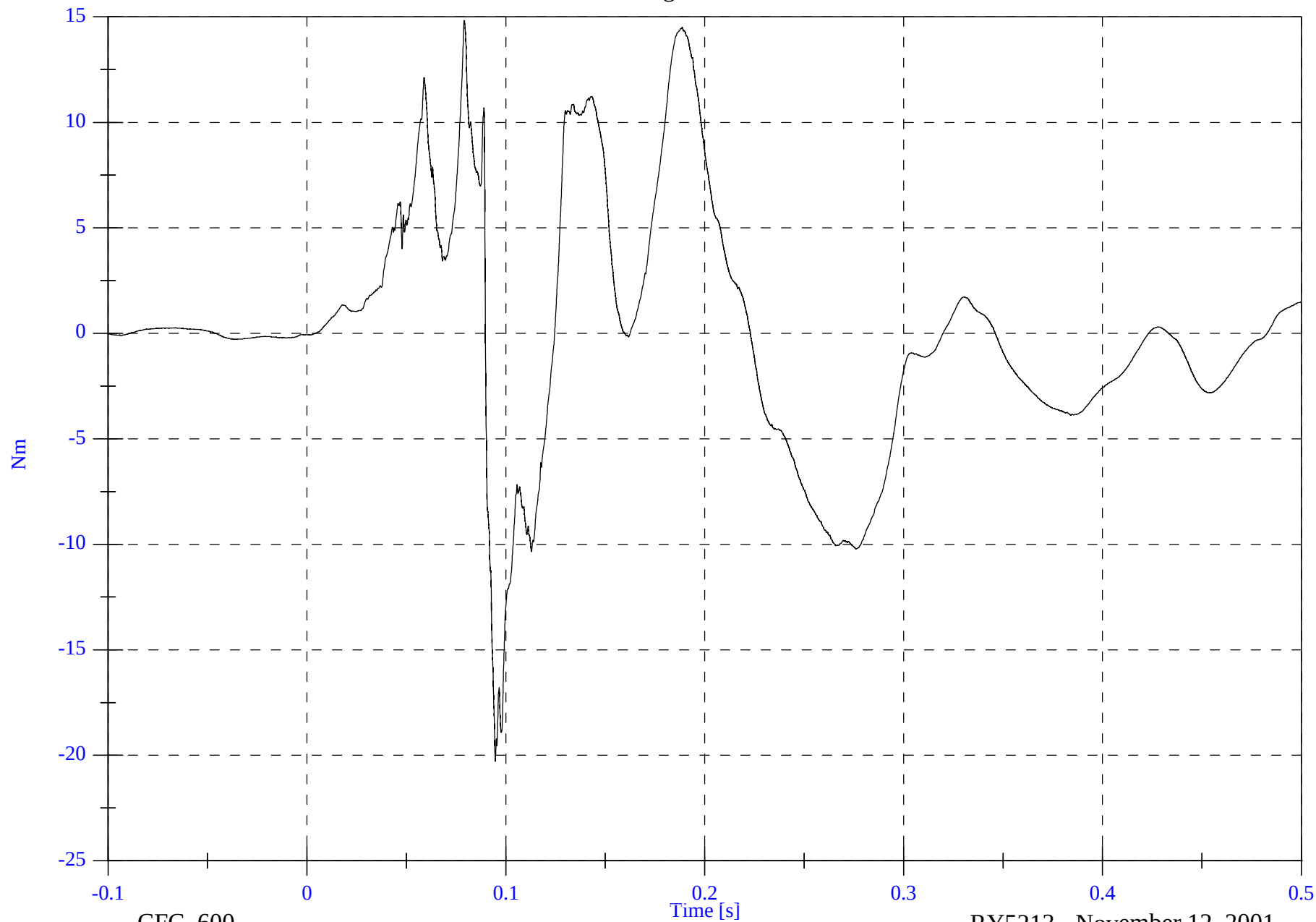


40% Frontal Offset Test #11 - 2000 Nissan Quest

Max: 14.8 [Nm] at 0.079 [s]

P1 Right Femur Mz

Min: -20.3 [Nm] at 0.095 [s]



B-59

8413-67

CFC_600

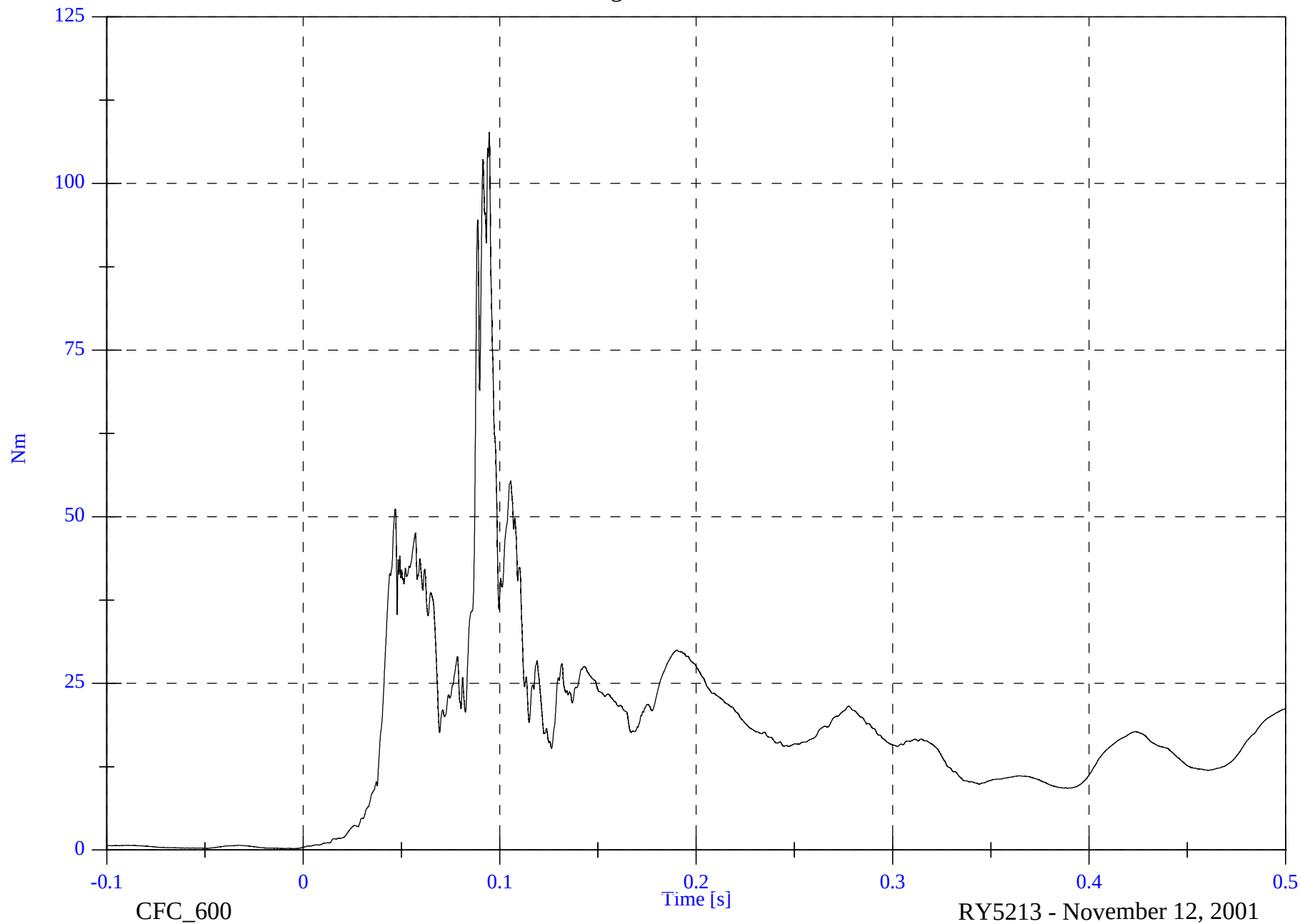
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Right Femur M Resultant

Max: 107.7 [Nm] at 0.095 [s]

Min: 0.2 [Nm] at -0.004 [s]



B-60

8413-67

40% Frontal Offset Test #11 - 2000 Nissan Quest

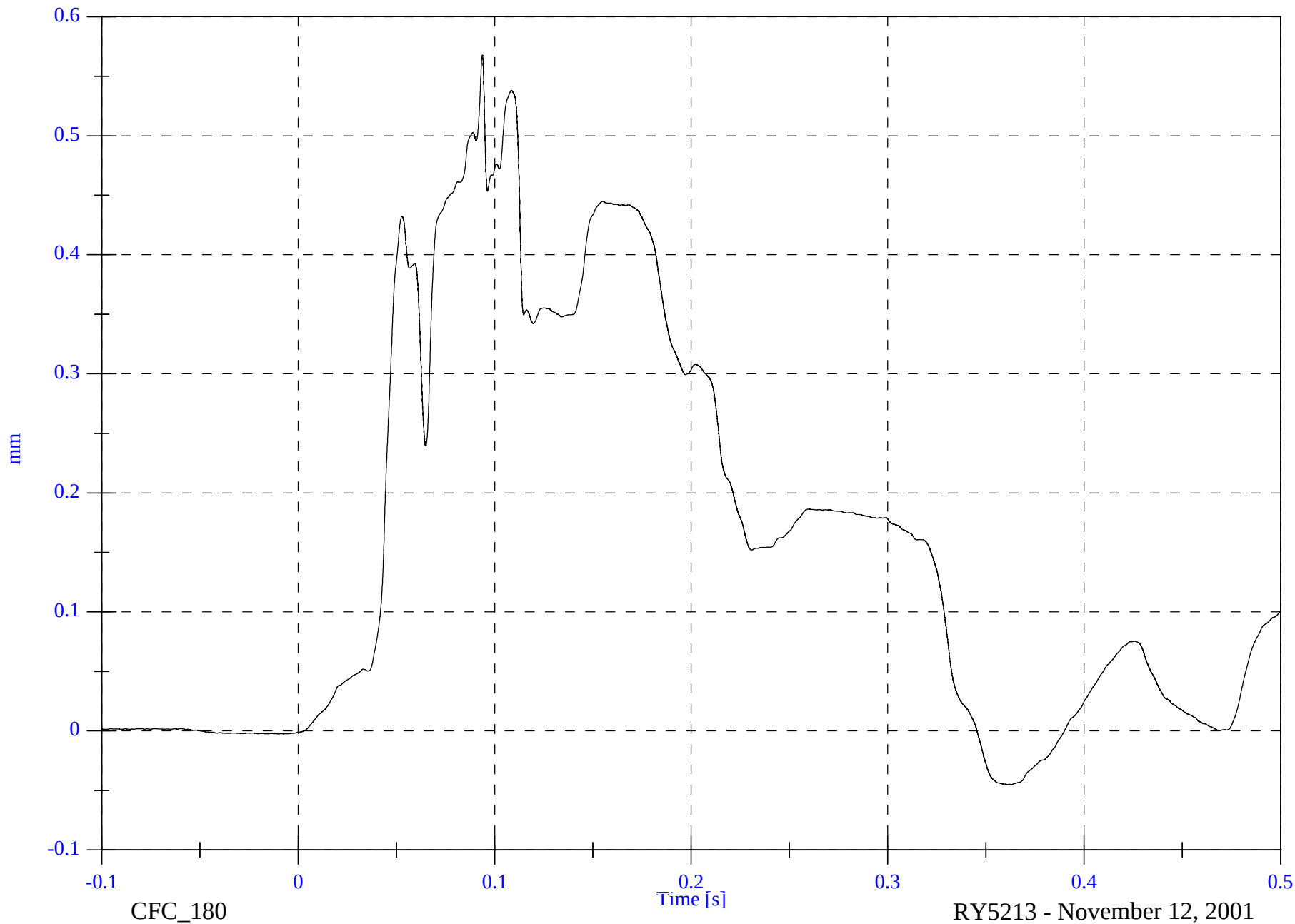
P1 Left Knee Shear Dx

Max: 0.6 [mm] at 0.094 [s]

Min: -0.0 [mm] at 0.361 [s]

B-61

8413-67



40% Frontal Offset Test #11 - 2000 Nissan Quest

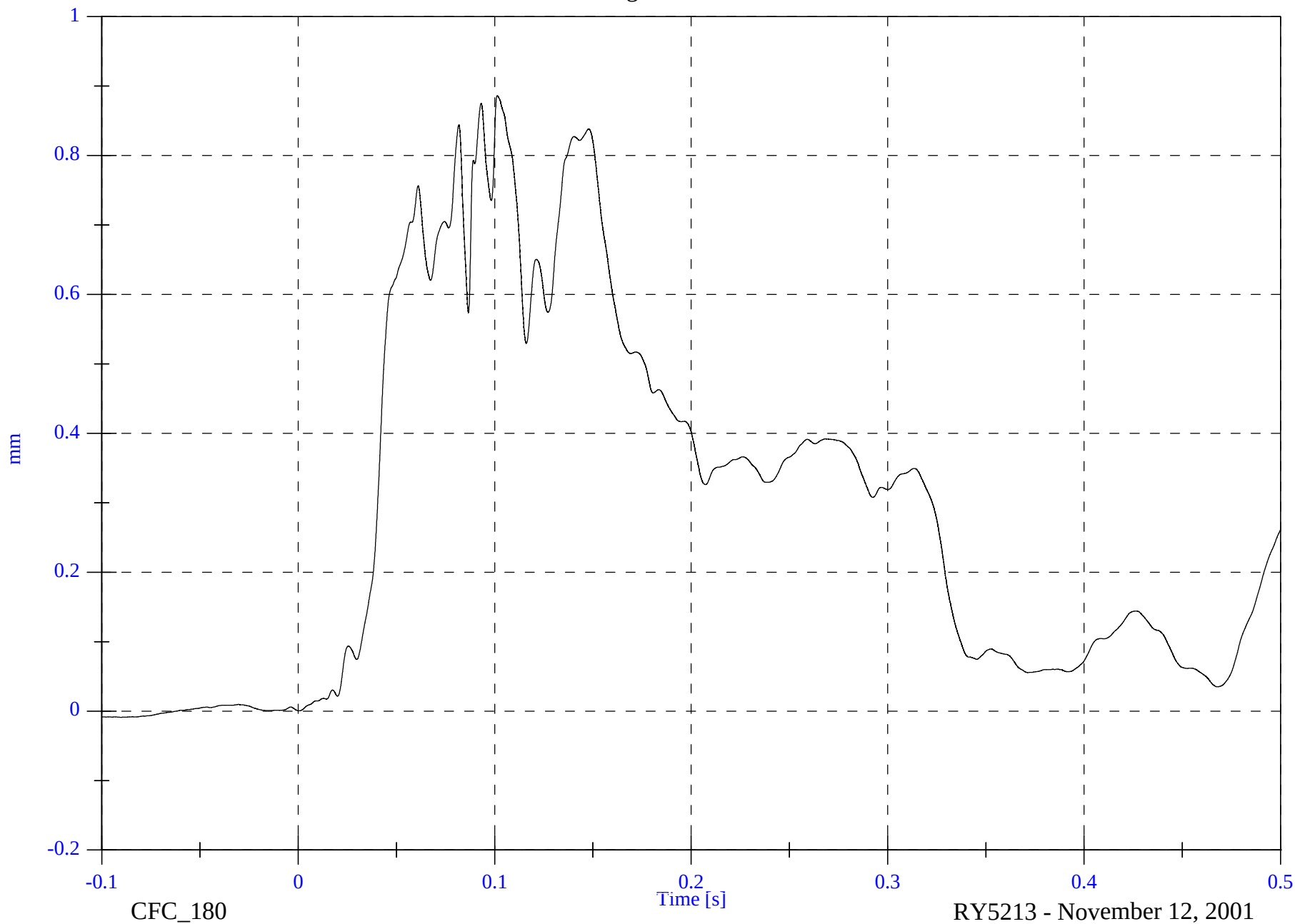
P1 Right Knee Shear Dx

Max: 0.9 [mm] at 0.101 [s]

Min: -0.0 [mm] at -0.090 [s]

B-62

8413-67

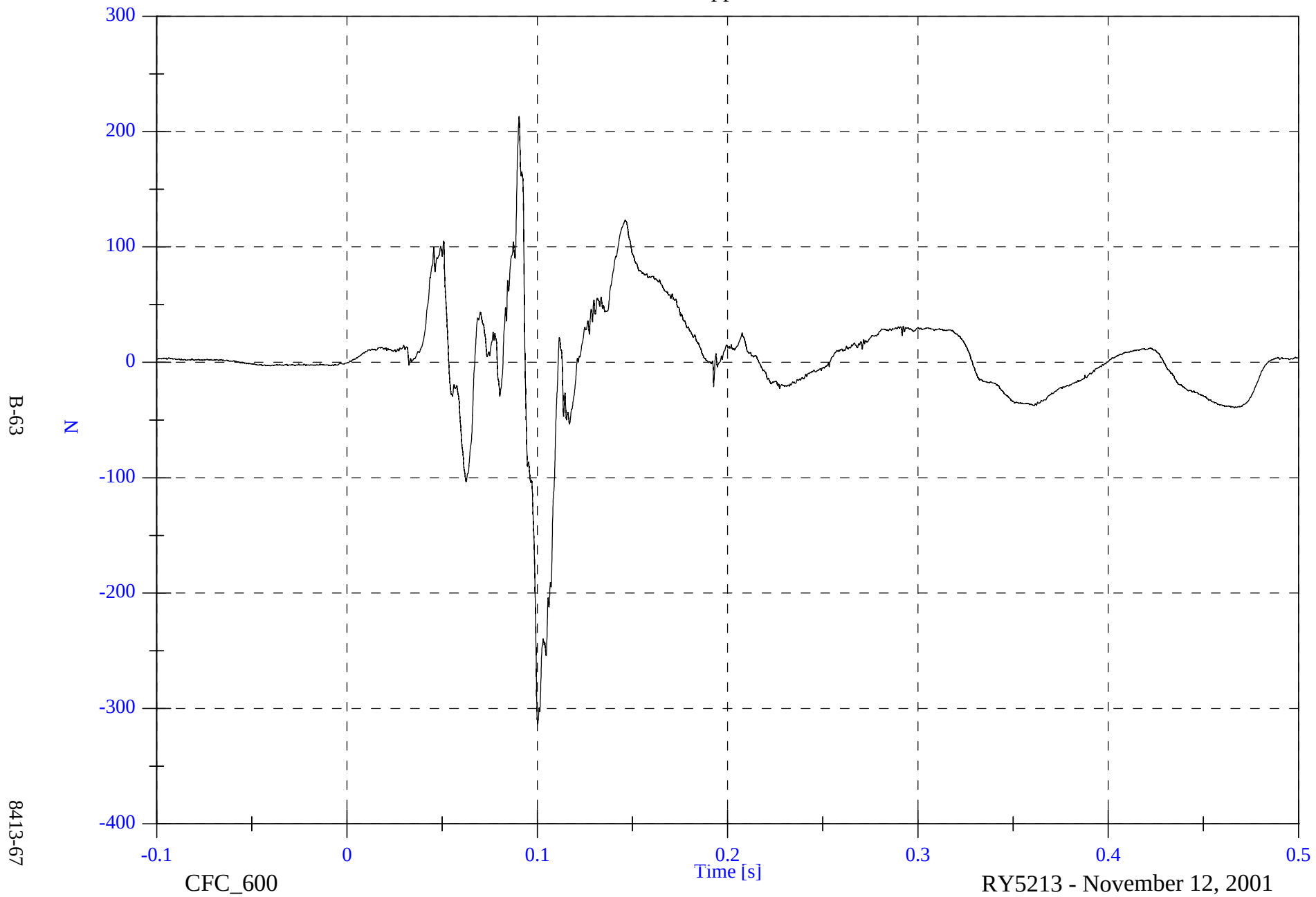


40% Frontal Offset Test #11 - 2000 Nissan Quest

Max: 213.0 [N] at 0.090 [s]

P1 Left Upper Tibia Fx

Min: -313.3 [N] at 0.100 [s]

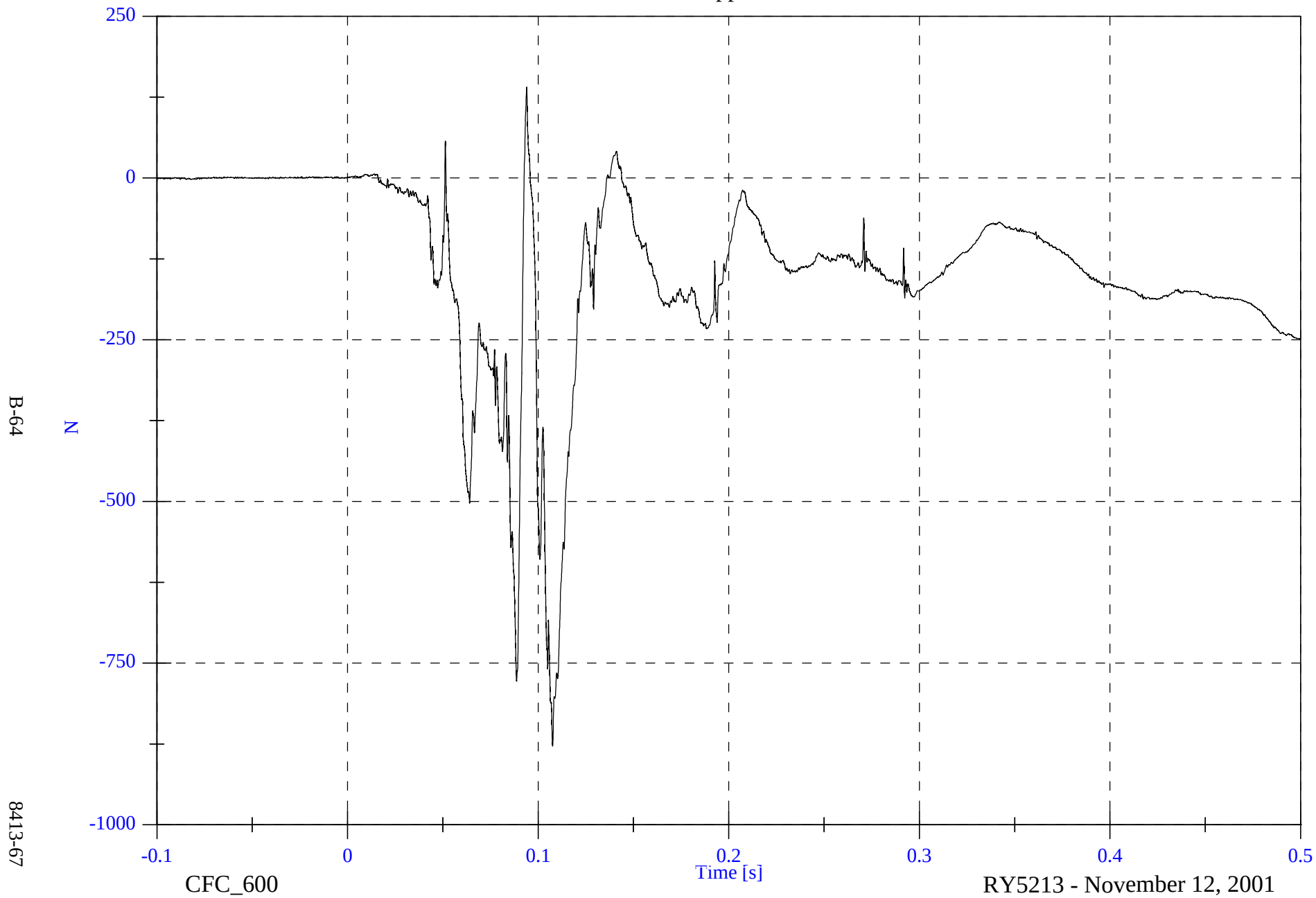


40% Frontal Offset Test #11 - 2000 Nissan Quest

Max: 140.2 [N] at 0.094 [s]

P1 Left UpperTibia Fz

Min: -878.5 [N] at 0.108 [s]

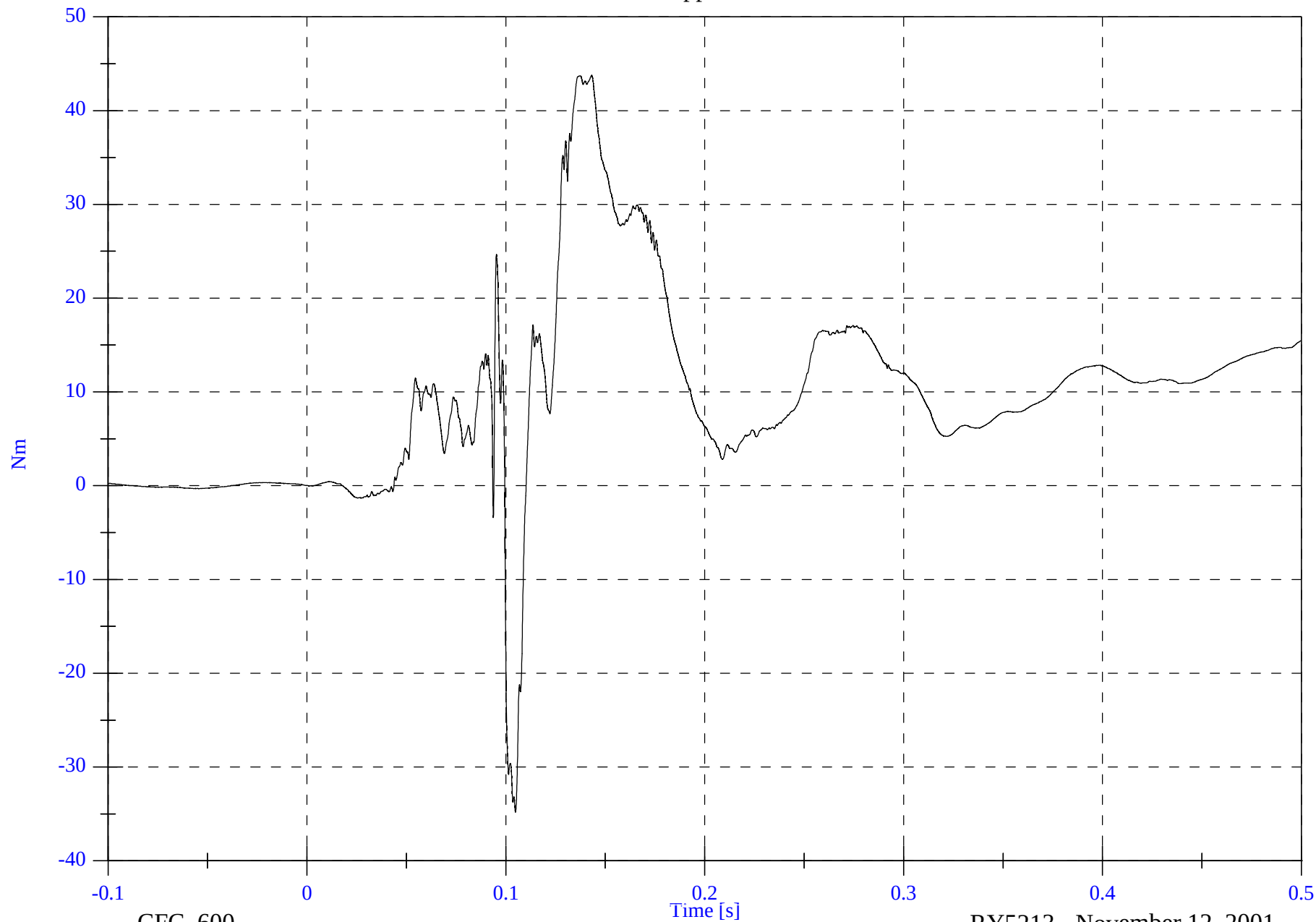


40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Left Upper Tibia Mx

Max: 43.8 [Nm] at 0.143 [s]

Min: -34.8 [Nm] at 0.105 [s]



B-65

8413-67

CFC_600

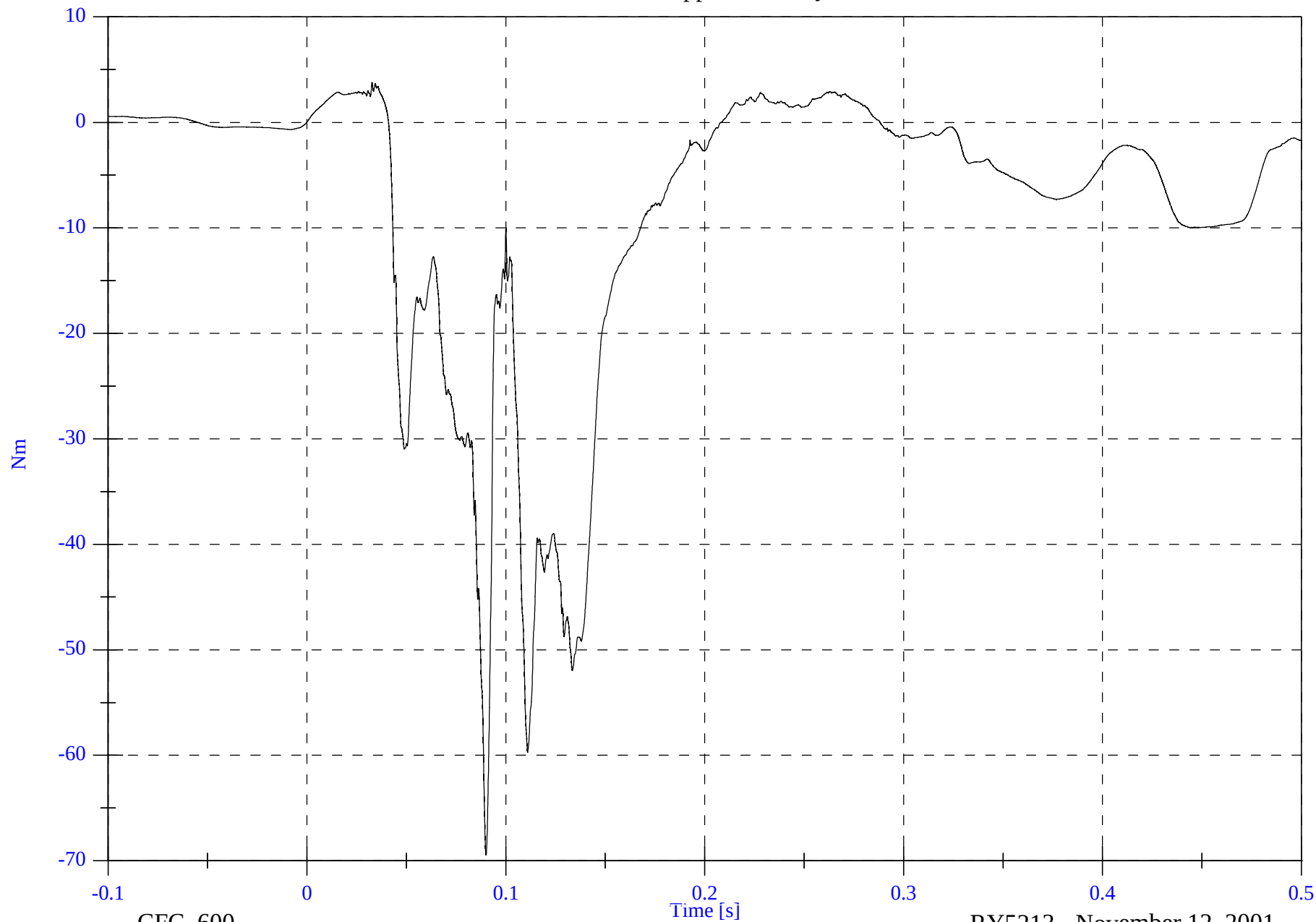
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Left Upper Tibia My

Max: 3.8 [Nm] at 0.033 [s]

Min: -69.5 [Nm] at 0.090 [s]



B-66

8413-67

CFC_600

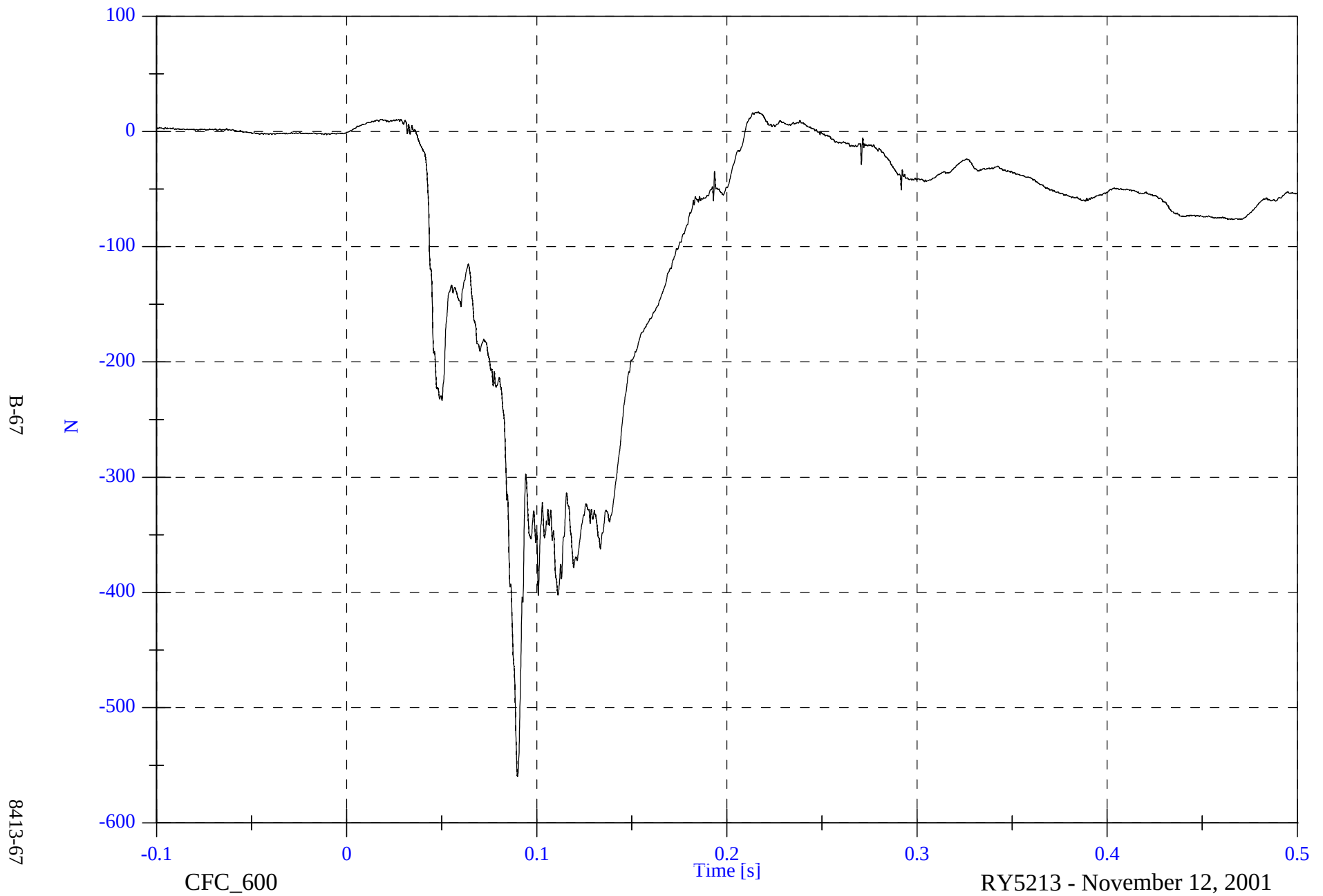
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Left Lower Tibia Fx

Max: 17.0 [N] at 0.217 [s]

Min: -559.8 [N] at 0.090 [s]

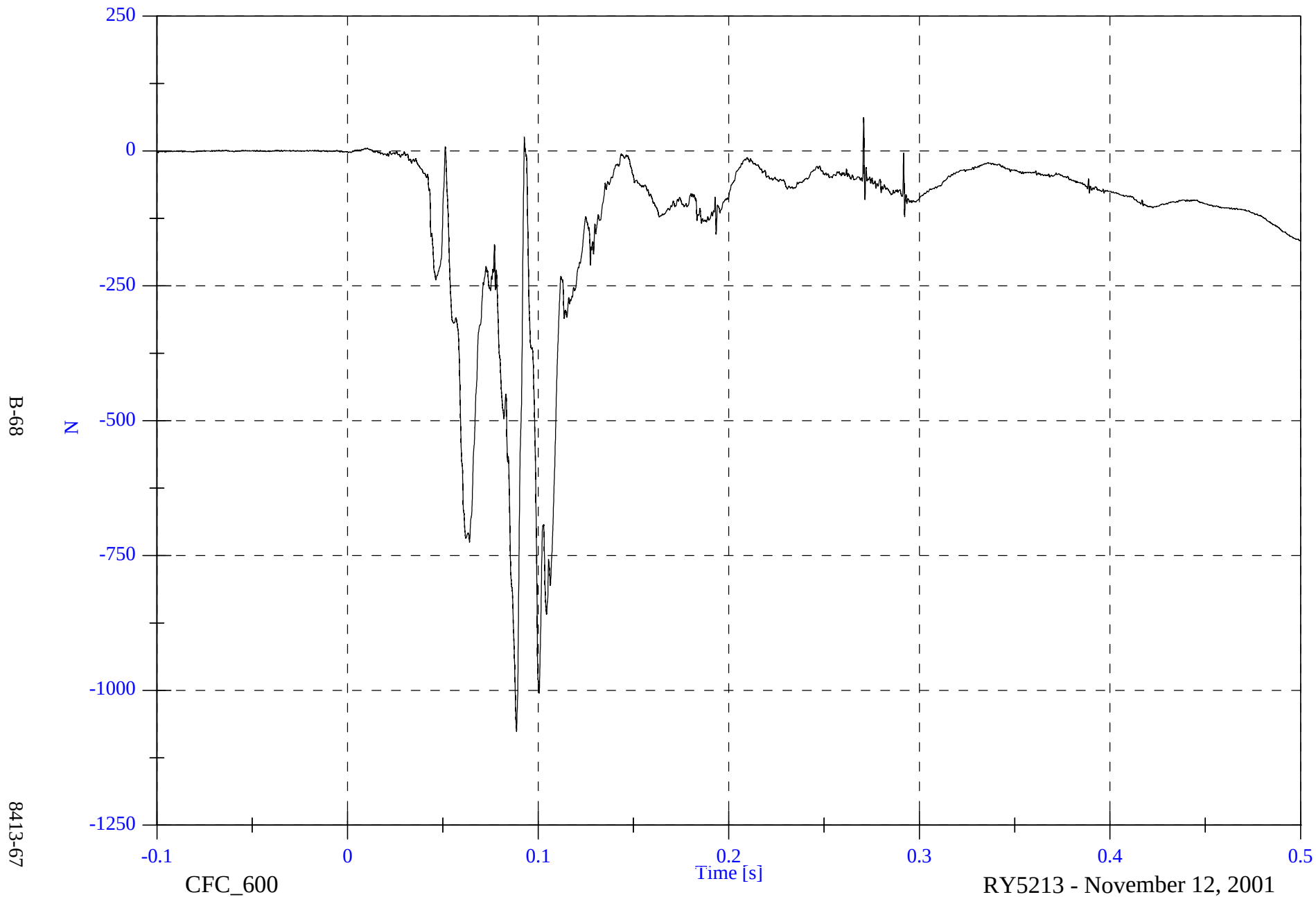


40% Frontal Offset Test #11 - 2000 Nissan Quest

Max: 62.4 [N] at 0.271 [s]

P1 Left Lower Tibia Fz

Min: -1076.3 [N] at 0.089 [s]

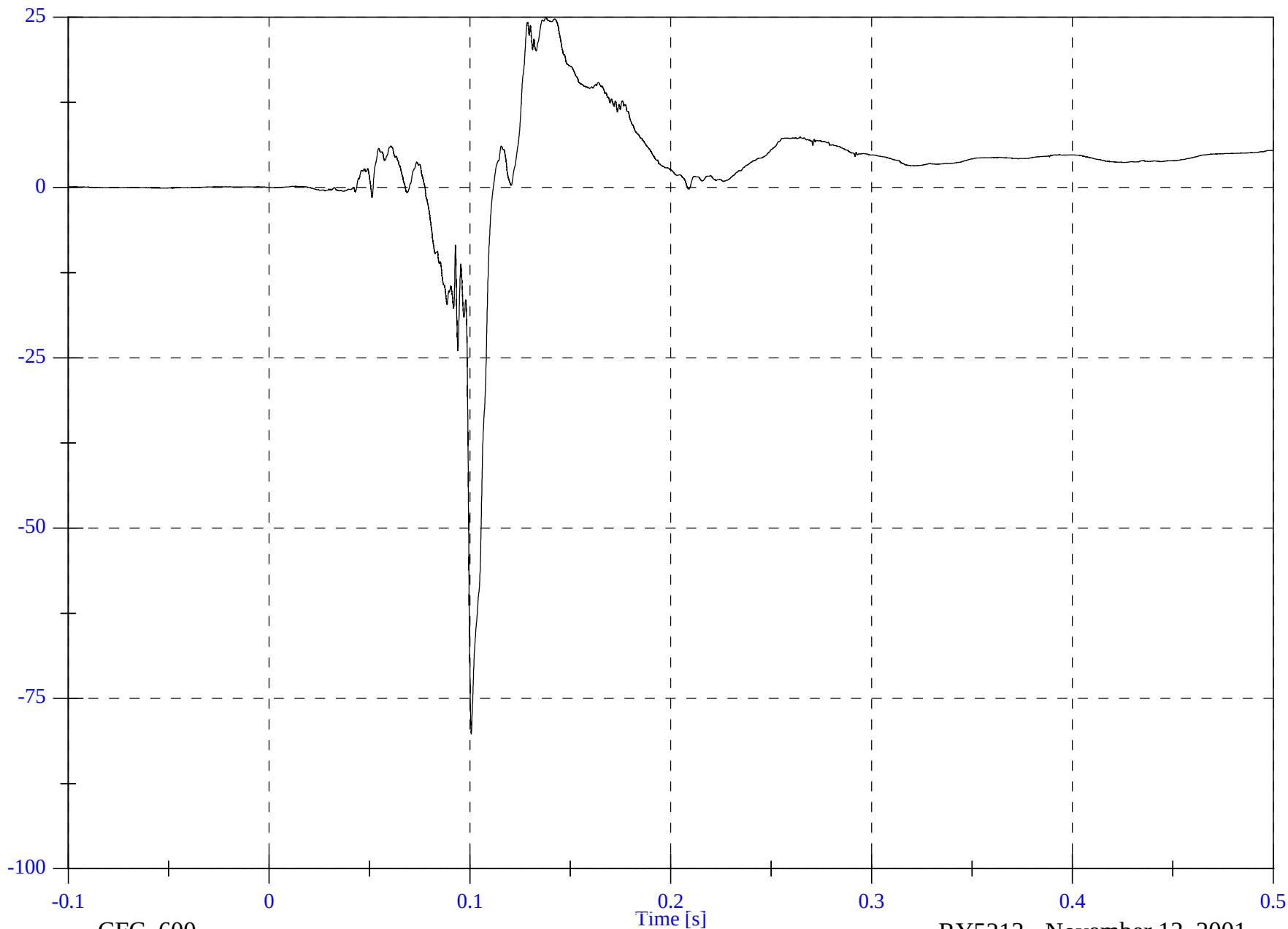


40% Frontal Offset Test #11 - 2000 Nissan Quest

Max: 24.9 [Nm] at 0.138 [s]

P1 Left Lower Tibia Mx

Min: -80.2 [Nm] at 0.101 [s]



B-69

8413-67

CFC_600

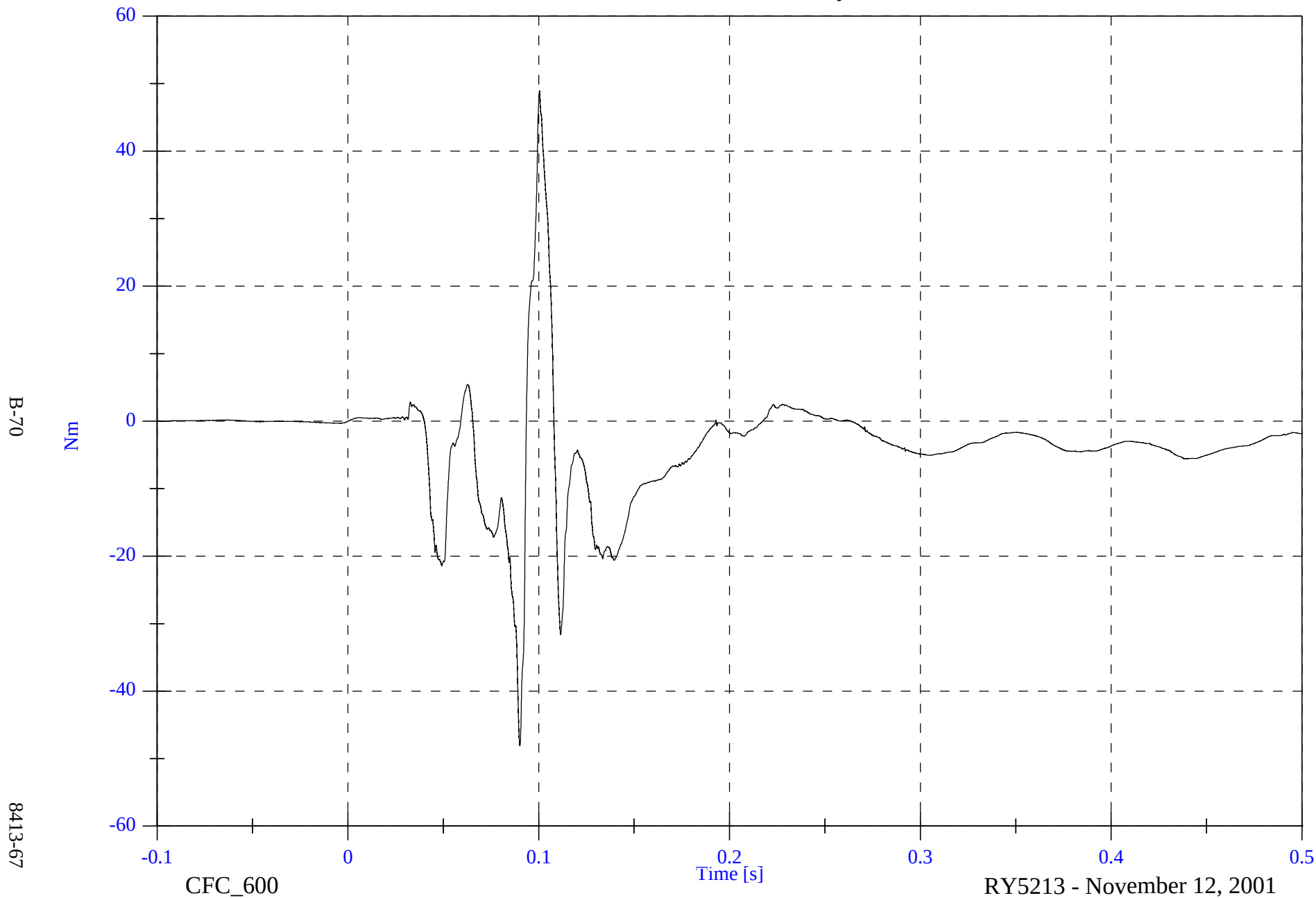
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Left Lower Tibia My

Max: 48.9 [Nm] at 0.100 [s]

Min: -48.1 [Nm] at 0.090 [s]

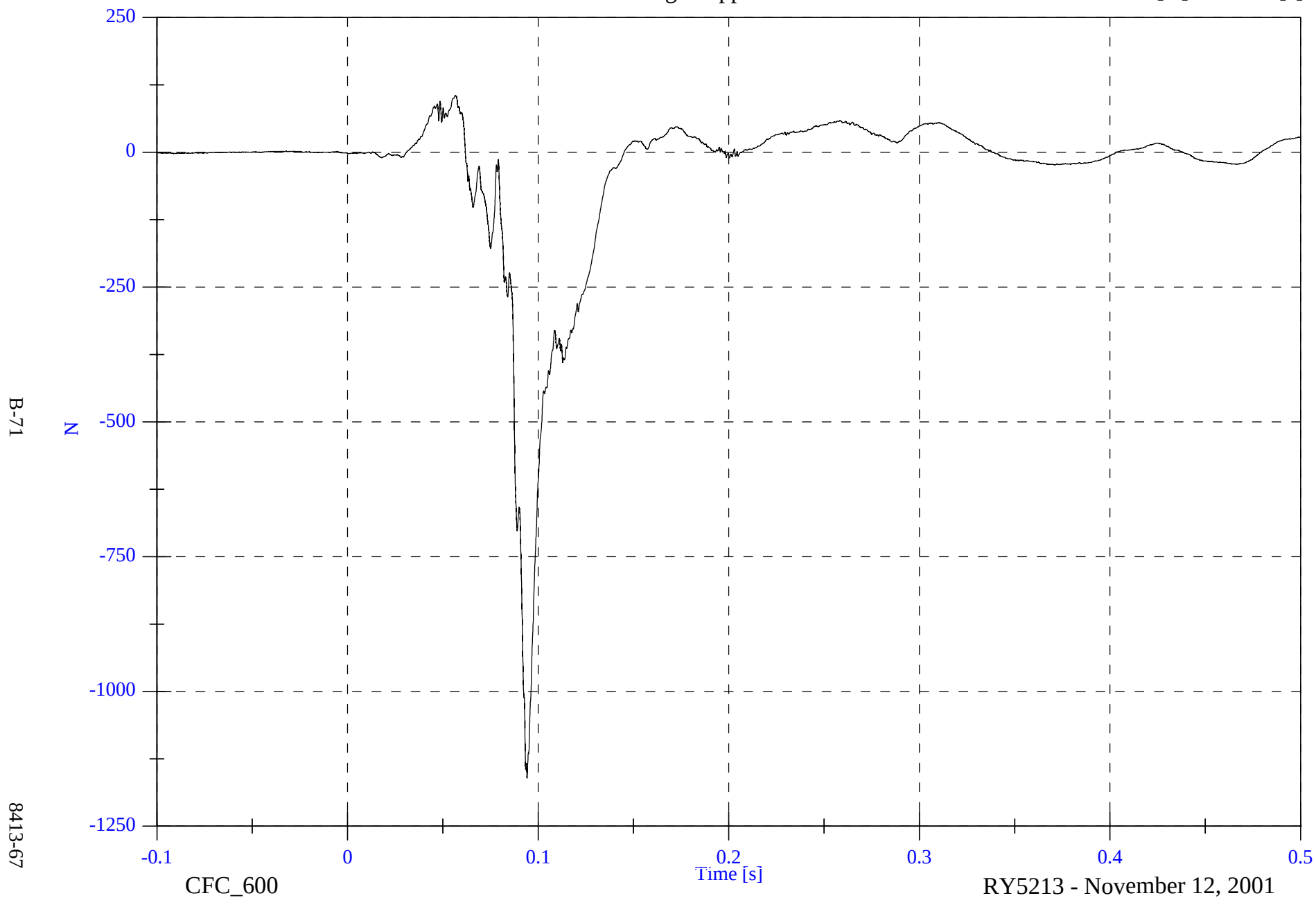


40% Frontal Offset Test #11 - 2000 Nissan Quest

Max: 105.6 [N] at 0.057 [s]

P1 Right Upper Tibia Fx

Min: -1160.9 [N] at 0.094 [s]

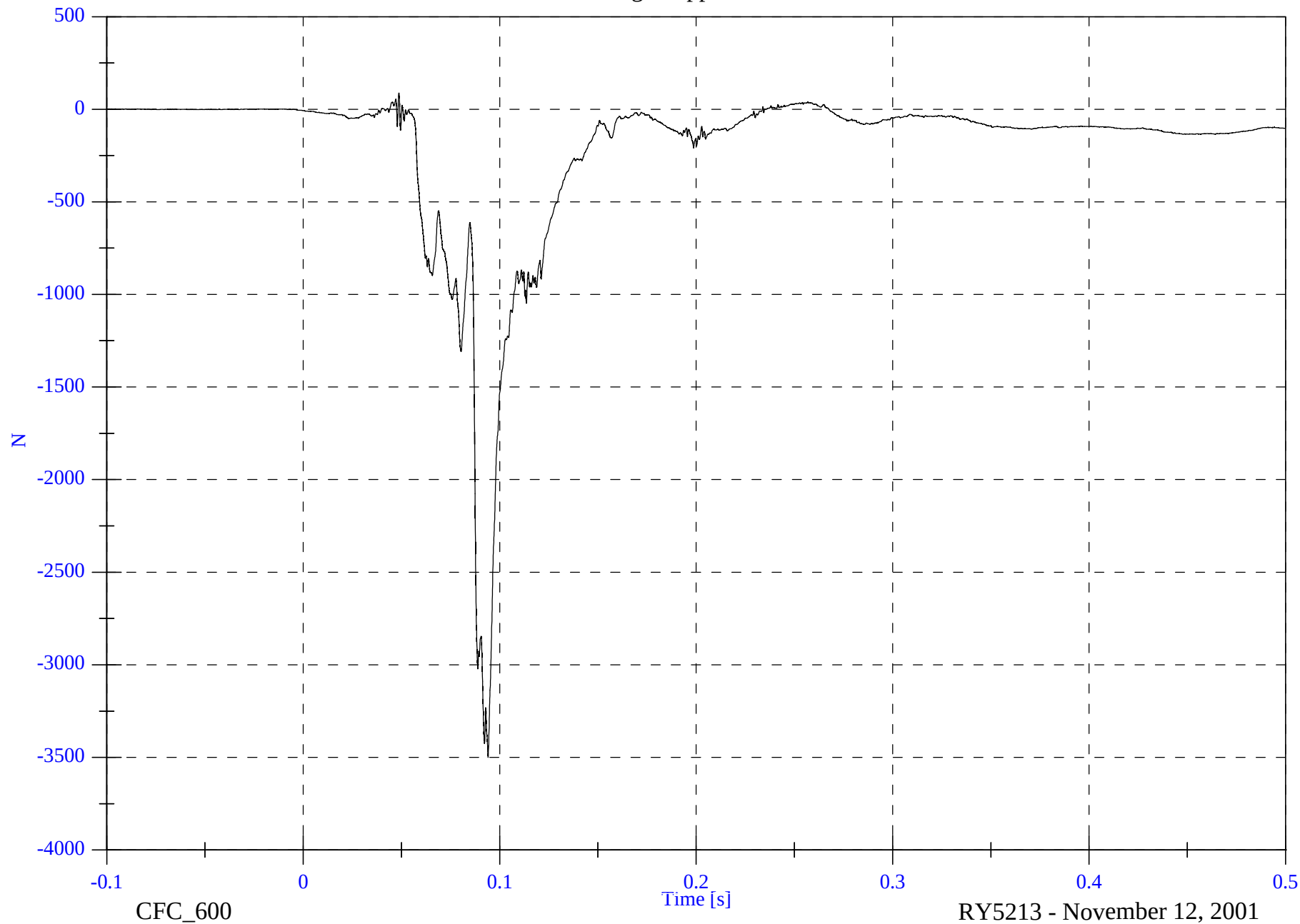


40% Frontal Offset Test #11 - 2000 Nissan Quest

Max: 87.9 [N] at 0.049 [s]

P1 Right Upper Tibia Fz

Min: -3500.8 [N] at 0.094 [s]



B-72

8413-67

CFC_600

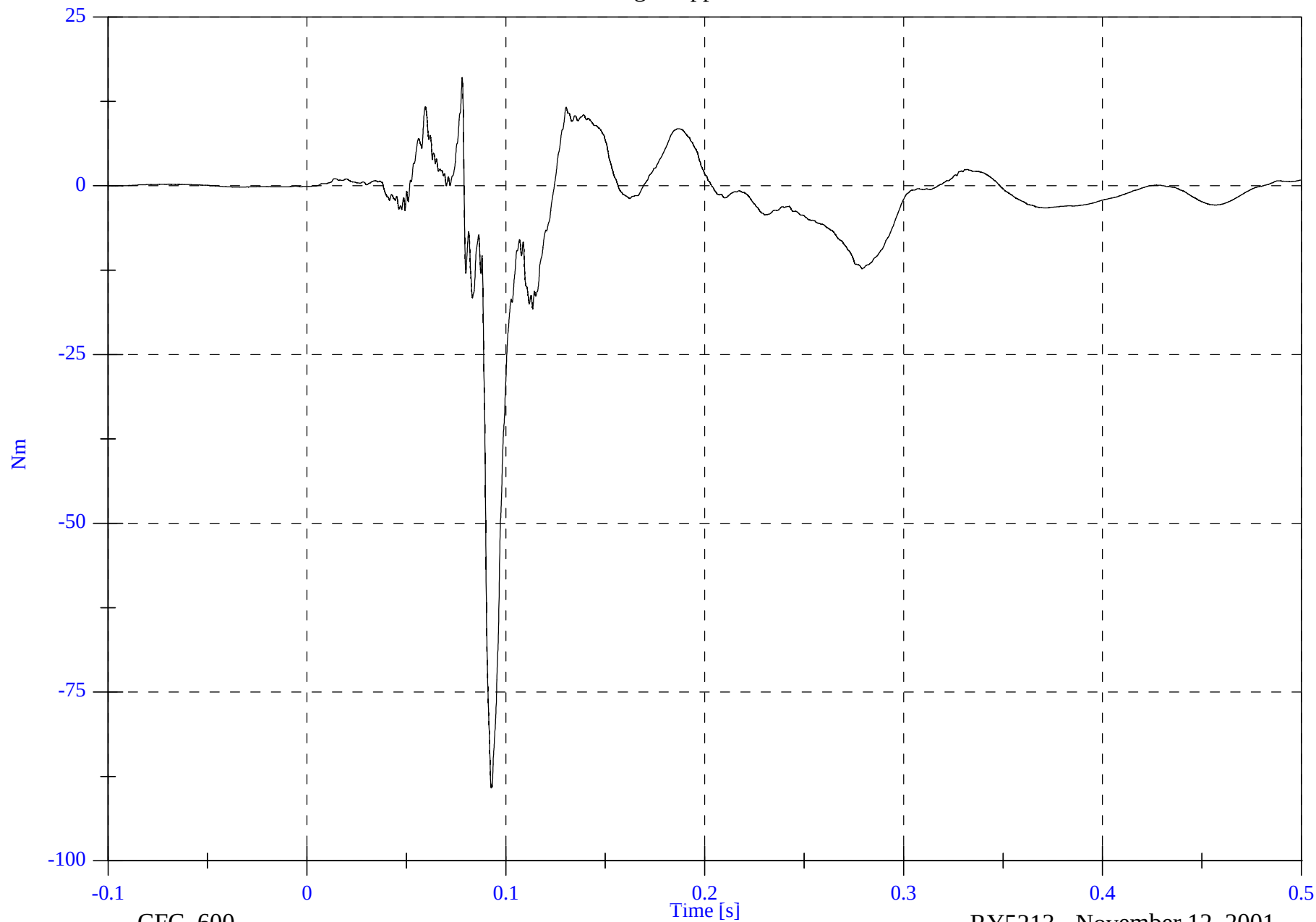
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Right Upper Tibia Mx

Max: 16.0 [Nm] at 0.078 [s]

Min: -89.3 [Nm] at 0.093 [s]



B-73

8413-67

CFC_600

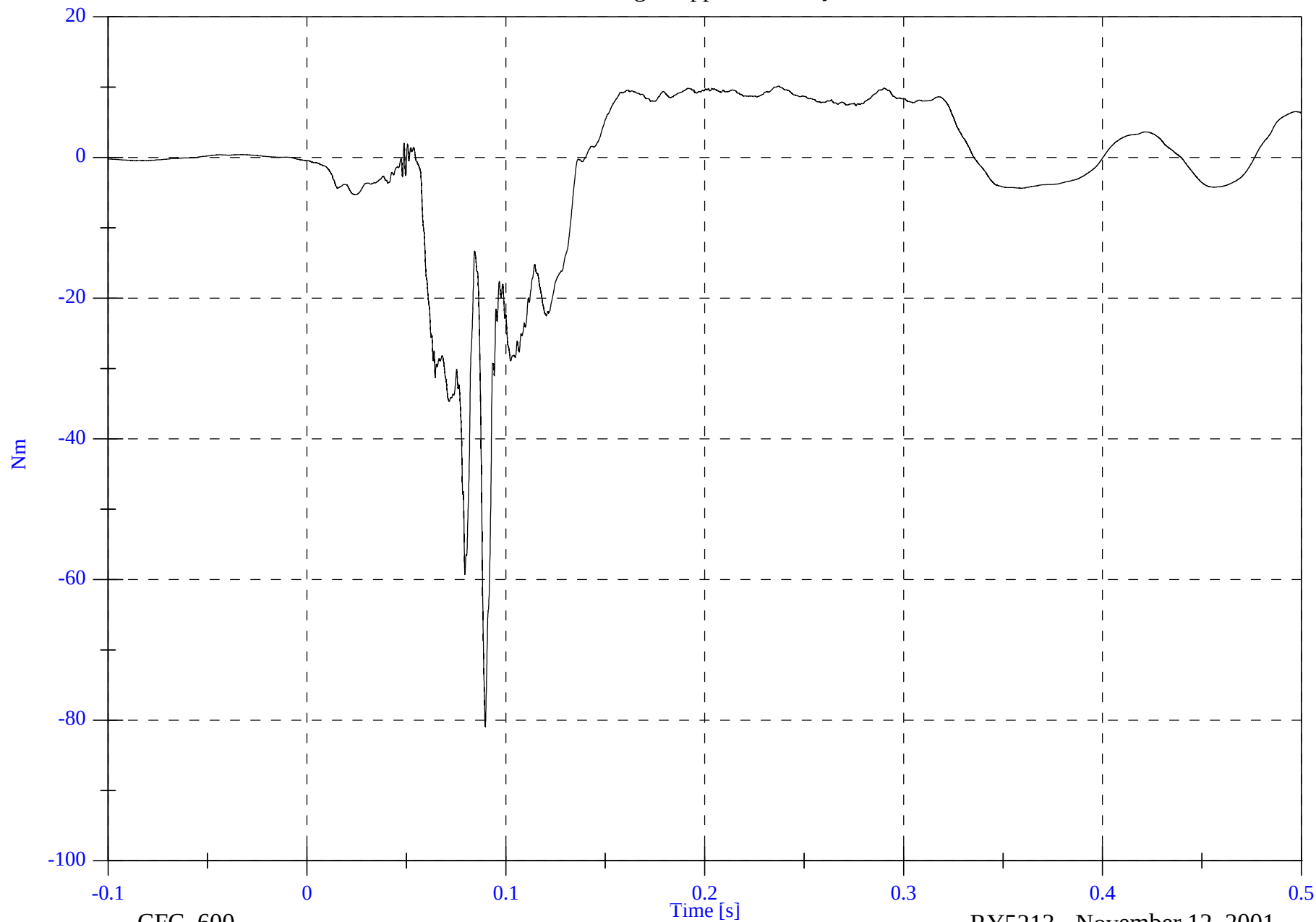
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Right Upper Tibia My

Max: 10.1 [Nm] at 0.237 [s]

Min: -81.0 [Nm] at 0.090 [s]



B-74

8413-67

CFC_600

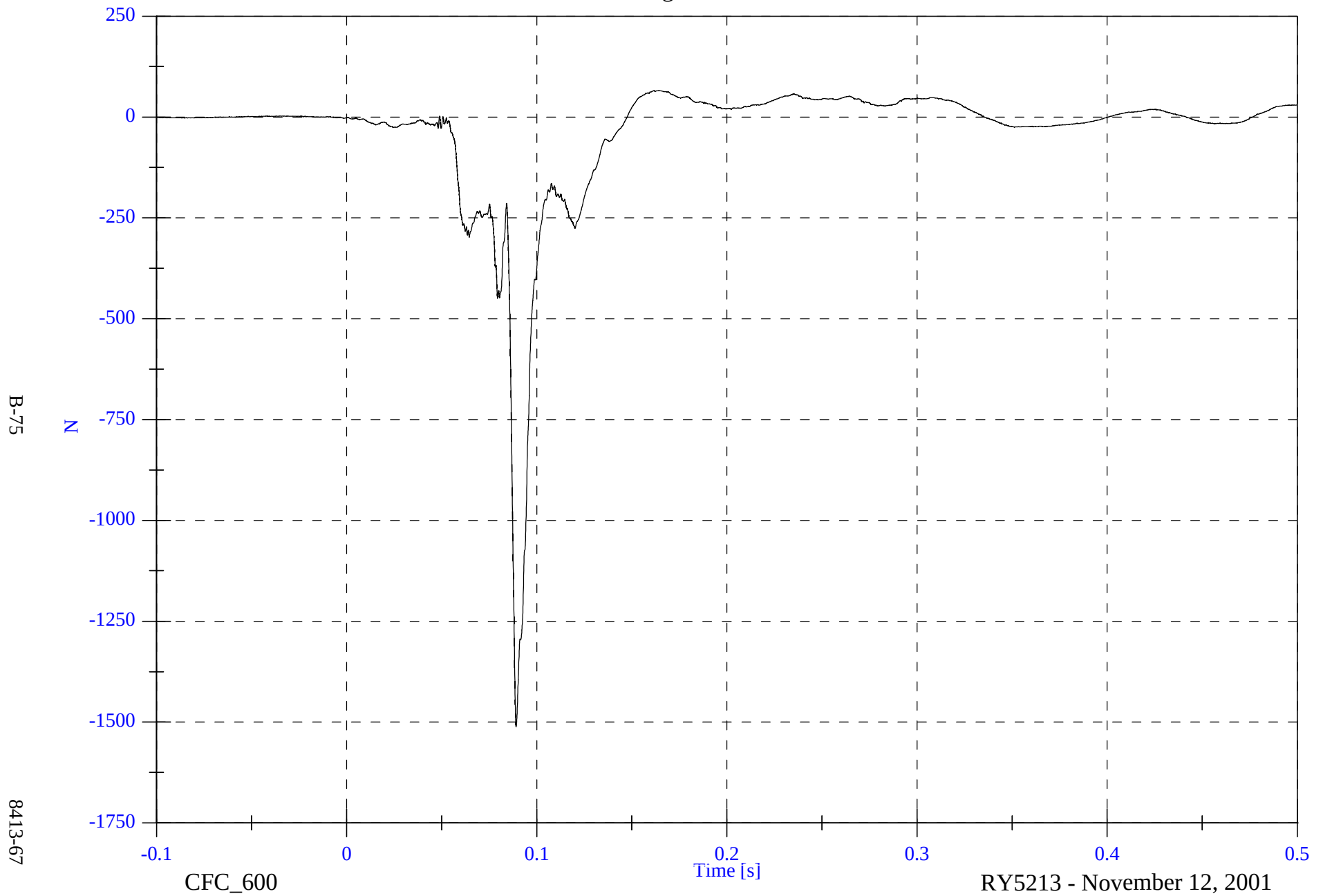
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

Max: 65.6 [N] at 0.162 [s]

P1 Right Lower Tibia Fx

Min: -1511.7 [N] at 0.089 [s]

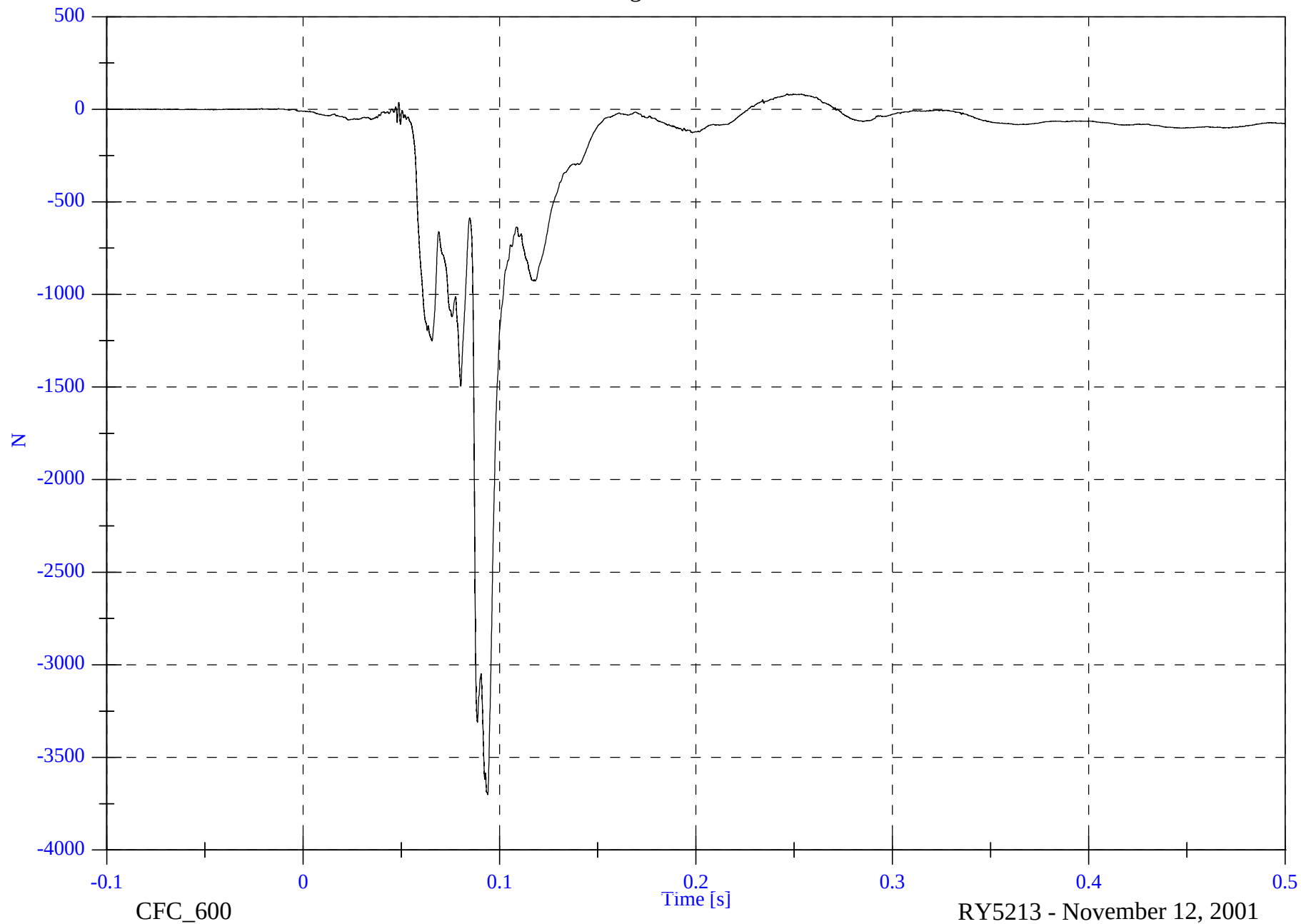


40% Frontal Offset Test #11 - 2000 Nissan Quest

Max: 82.7 [N] at 0.249 [s]

P1 Right Lower Tibia Fz

Min: -3700.9 [N] at 0.094 [s]



B-76

8413-67

CFC_600

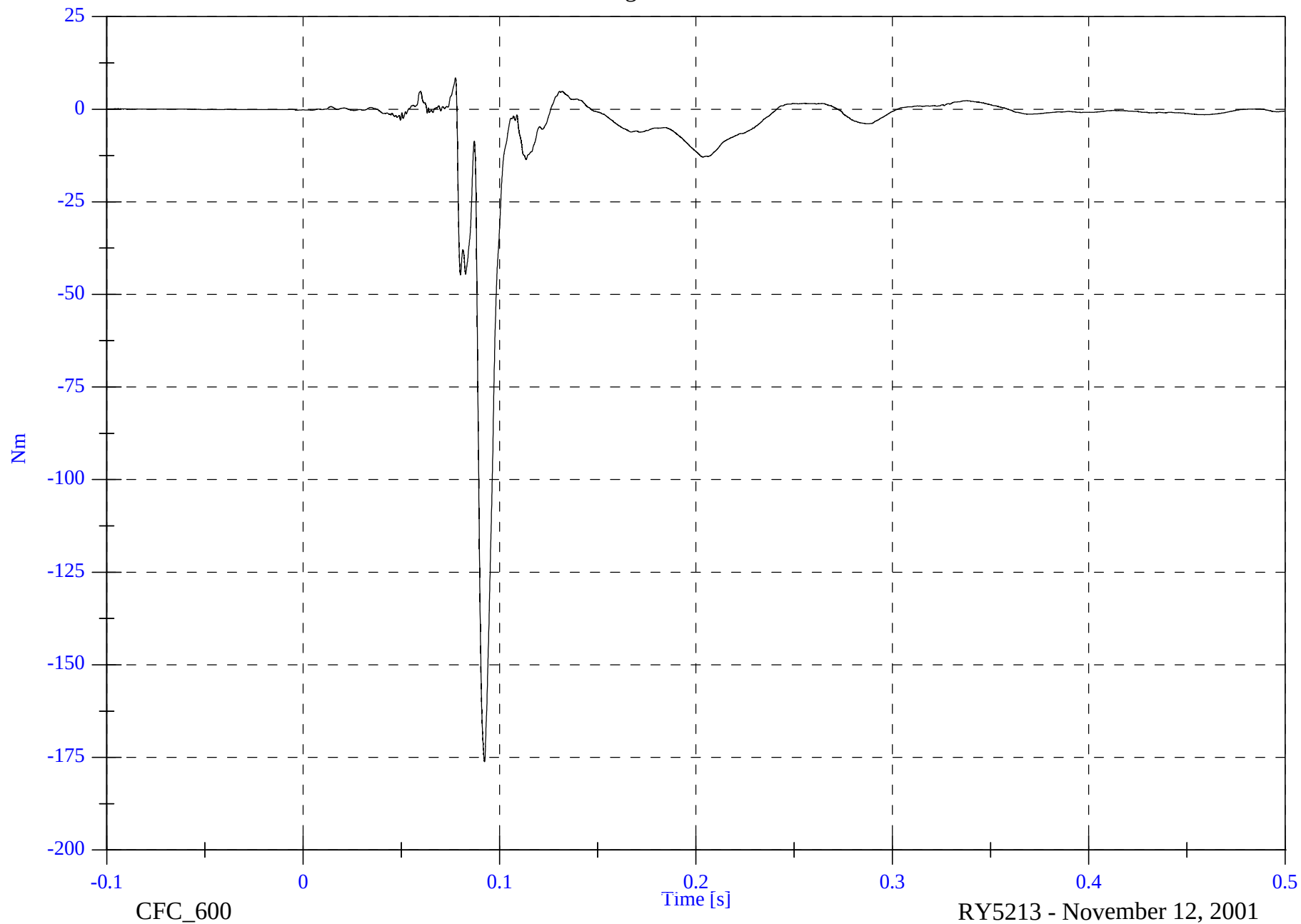
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Right Lower Tibia Mx

Max: 8.4 [Nm] at 0.078 [s]

Min: -176.2 [Nm] at 0.092 [s]



B-77

8413-67

CFC_600

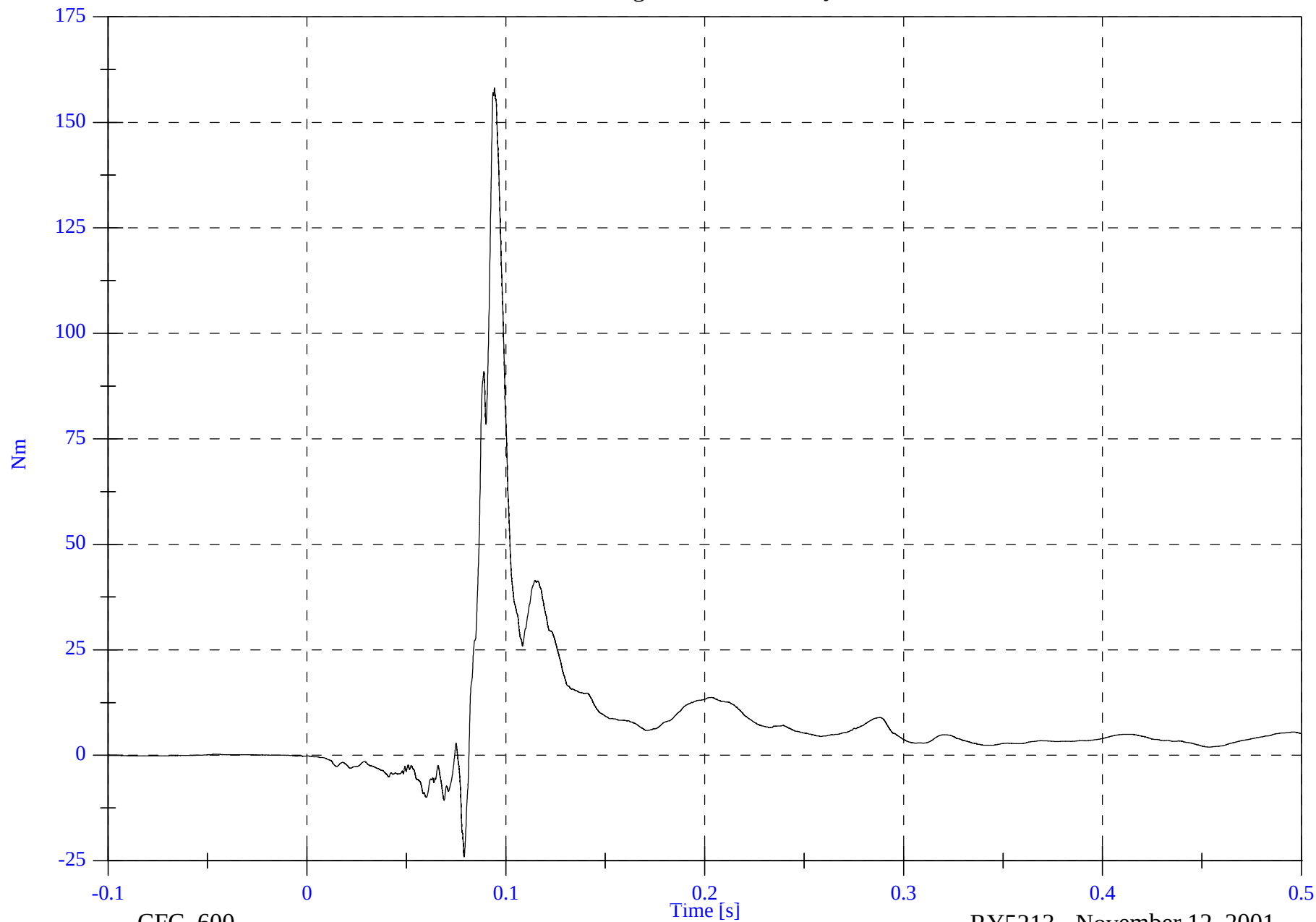
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Right Lower Tibia My

Max: 158.2 [Nm] at 0.094 [s]

Min: -24.1 [Nm] at 0.079 [s]



B-78

8413-67

CFC_600

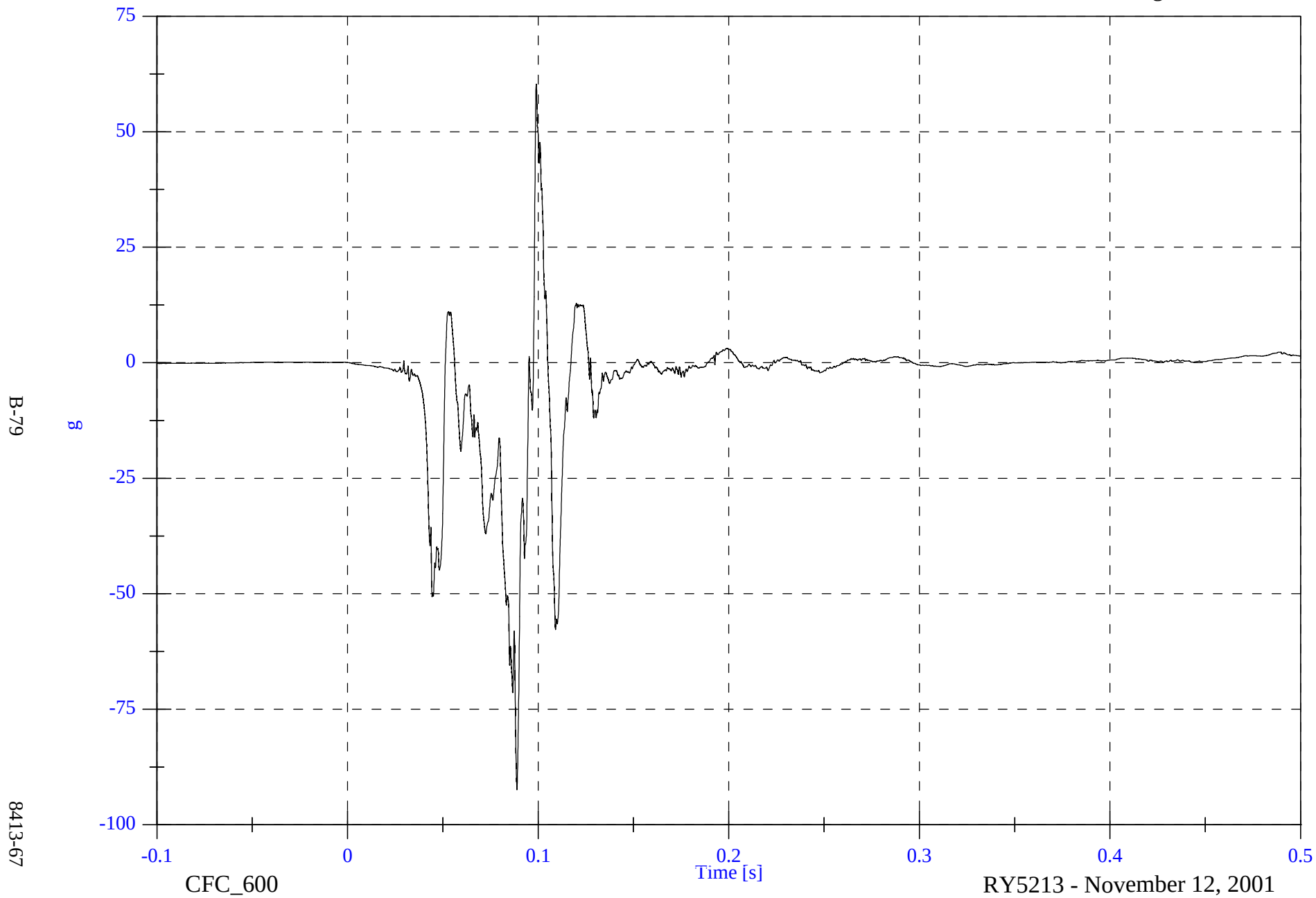
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Left Ankle Ax

Max: 60.3 [g] at 0.099 [s]

Min: -92.4 [g] at 0.089 [s]

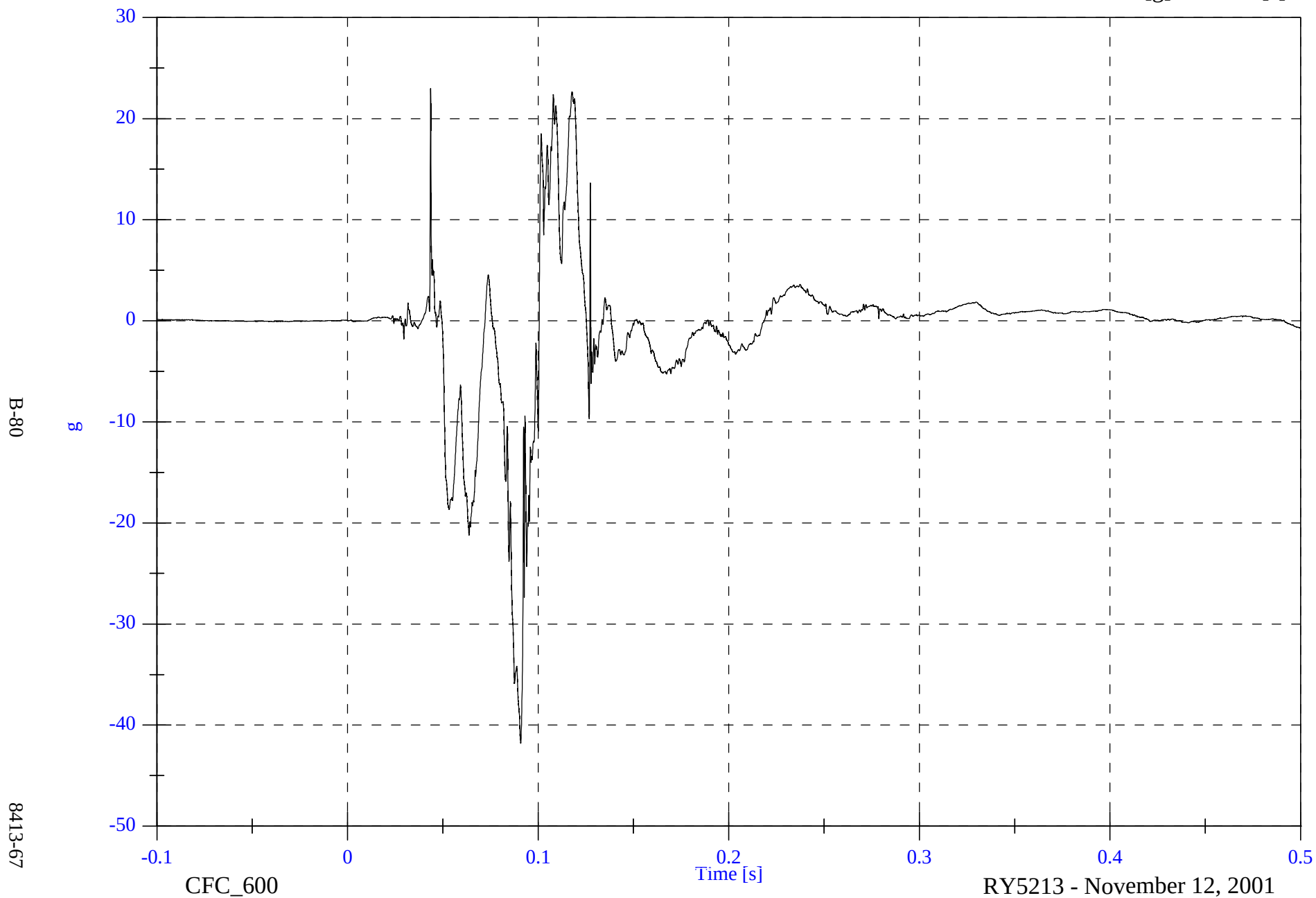


40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Left Ankle Az

Max: 23.0 [g] at 0.044 [s]

Min: -41.8 [g] at 0.091 [s]

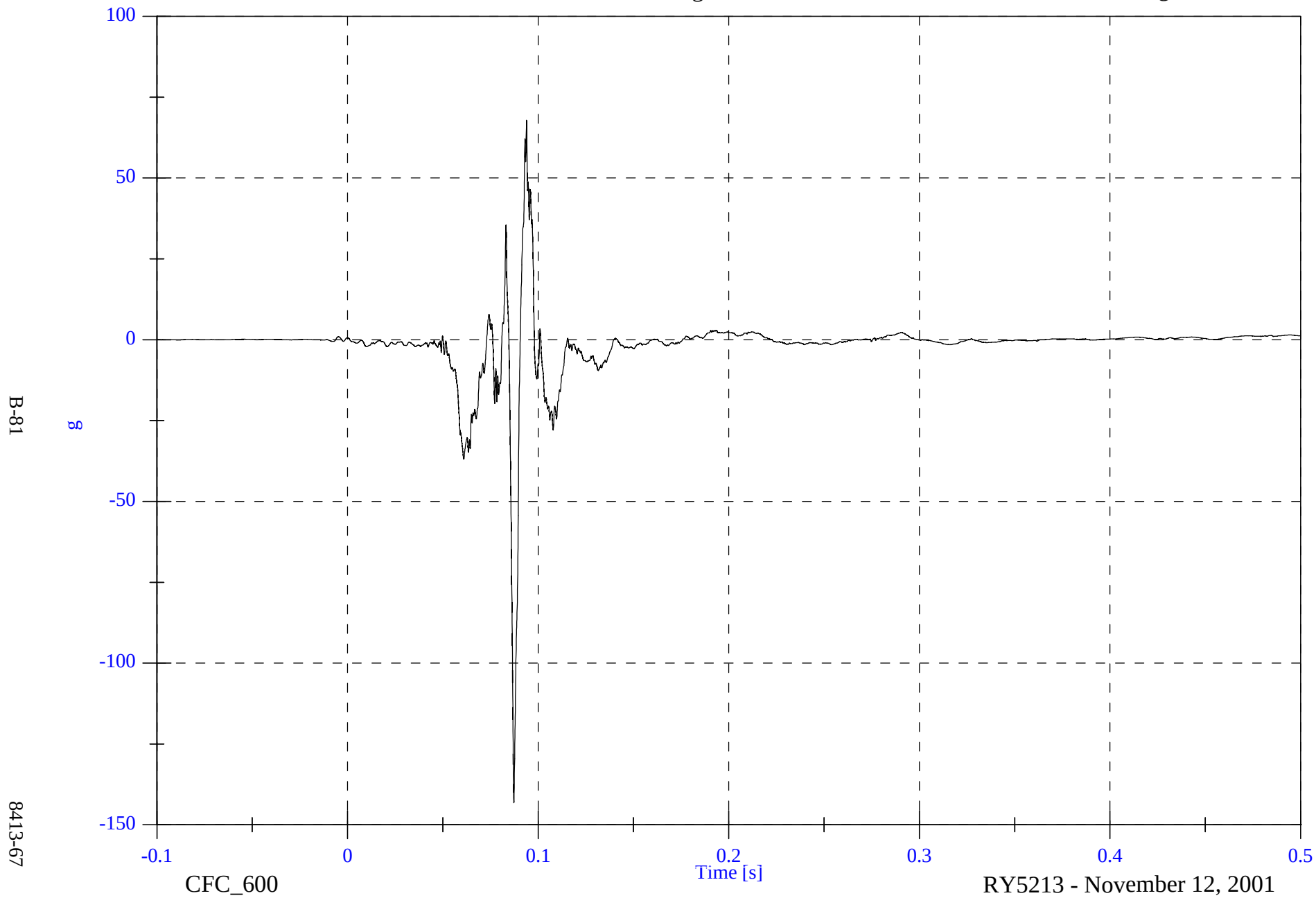


40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Right Ankle Ax

Max: 67.9 [g] at 0.094 [s]

Min: -143.2 [g] at 0.087 [s]

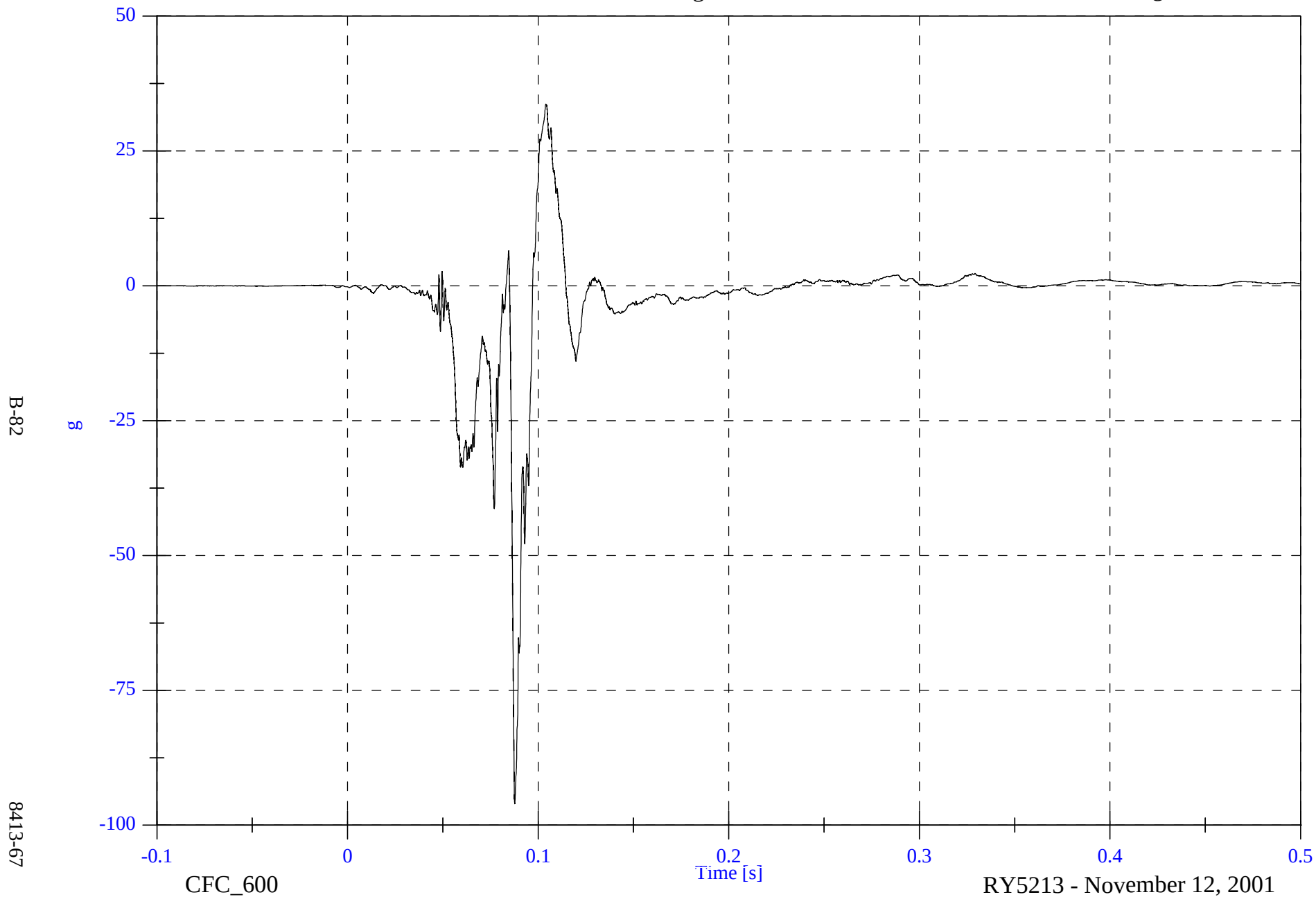


40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Right Ankle Az

Max: 33.7 [g] at 0.104 [s]

Min: -96.1 [g] at 0.088 [s]

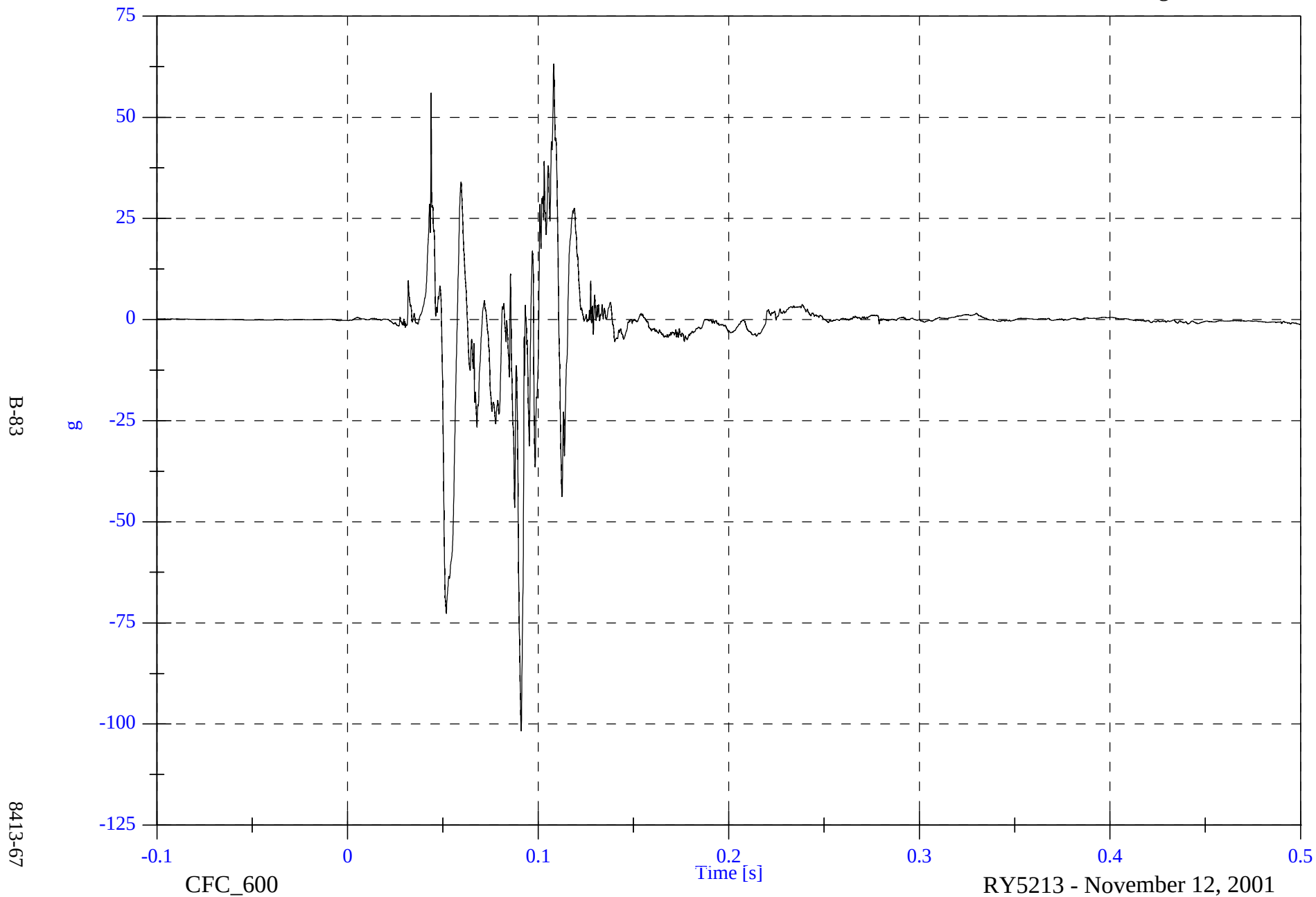


40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Left Toe Az

Max: 63.1 [g] at 0.108 [s]

Min: -101.6 [g] at 0.091 [s]

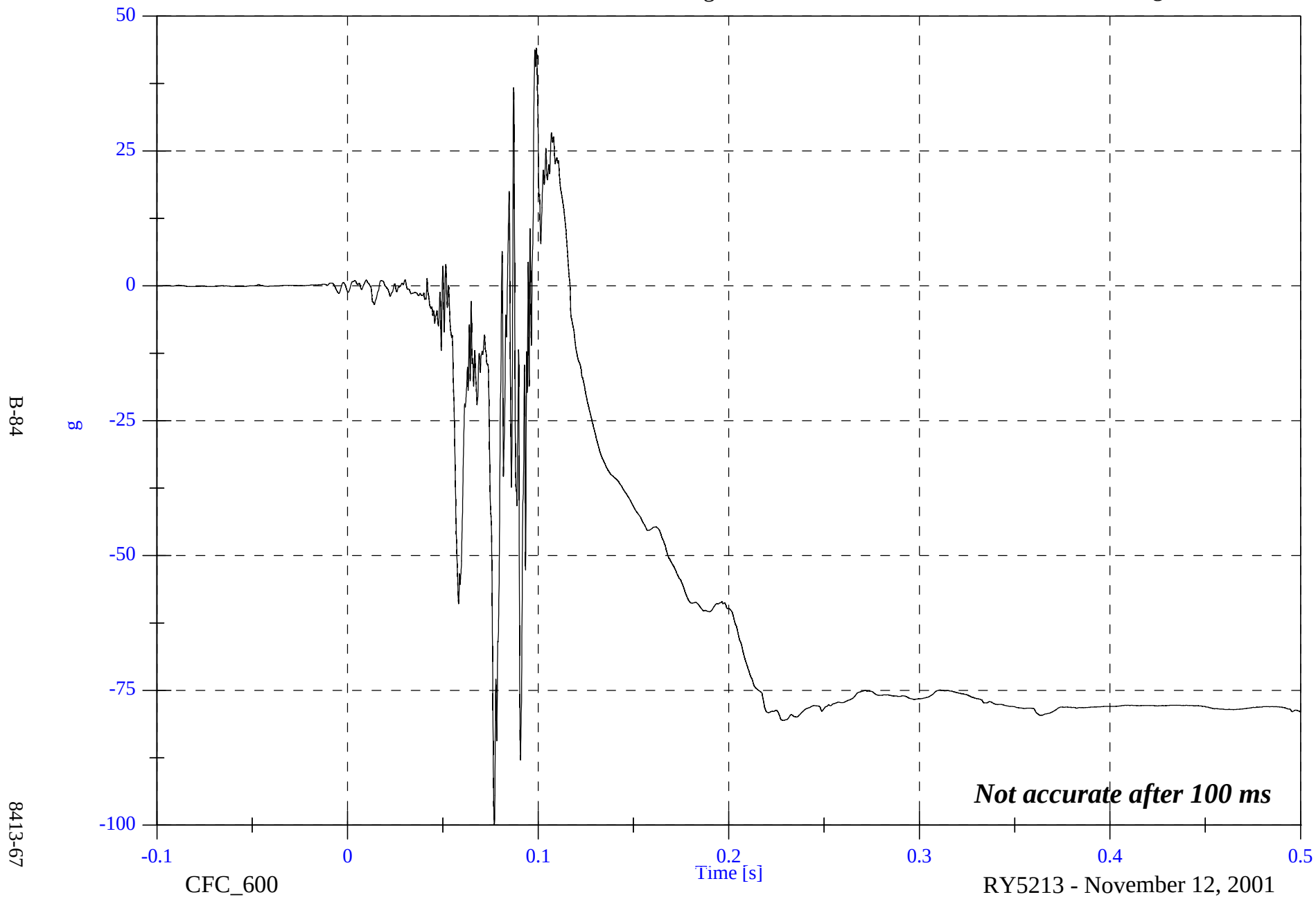


40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Right Toe Az

Max: 44.1 [g] at 0.099 [s]

Min: -99.9 [g] at 0.077 [s]

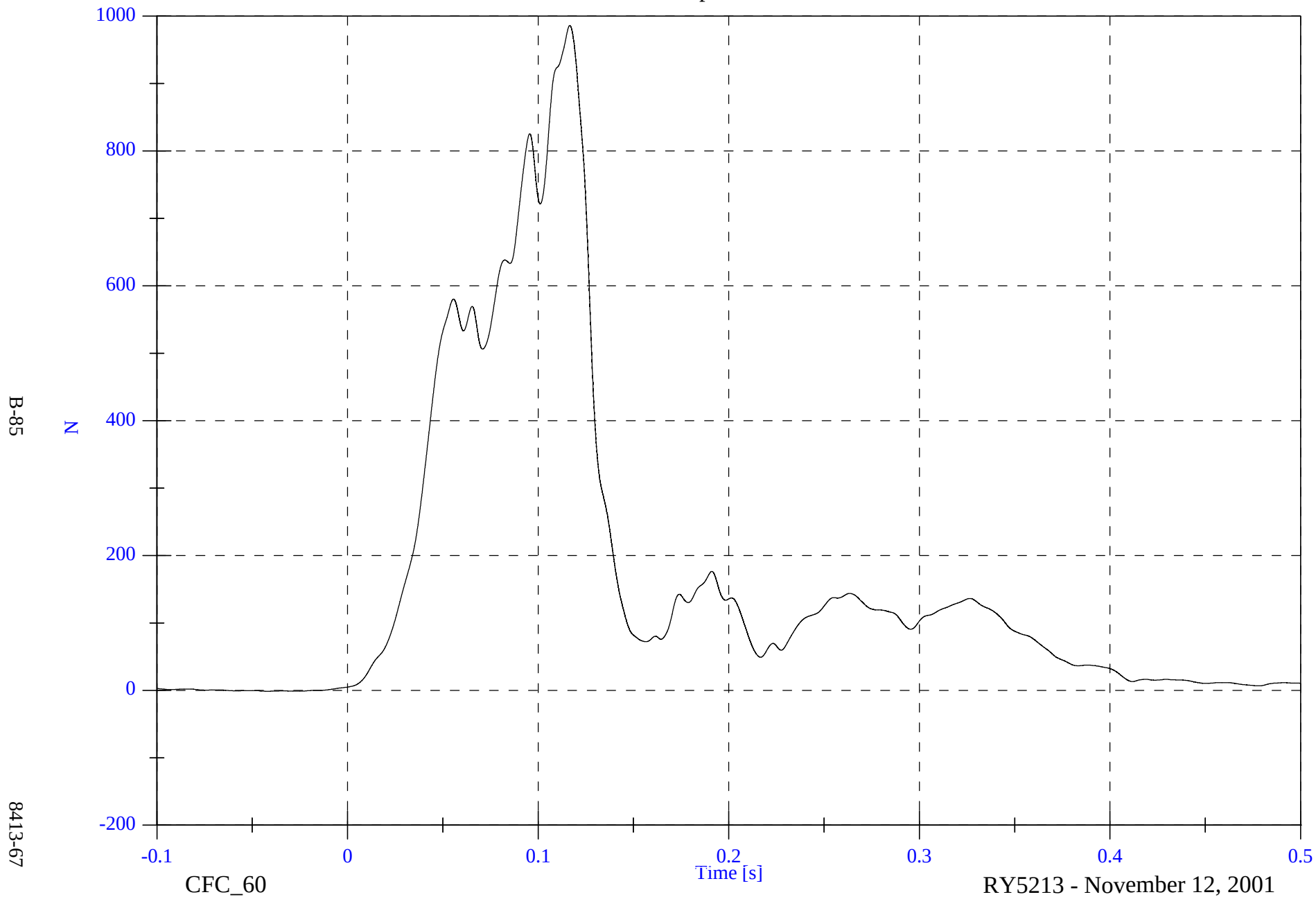


40% Frontal Offset Test #11 - 2000 Nissan Quest

Max: 986.2 [N] at 0.117 [s]

P1 Lap Belt Force

Min: -1.5 [N] at -0.042 [s]

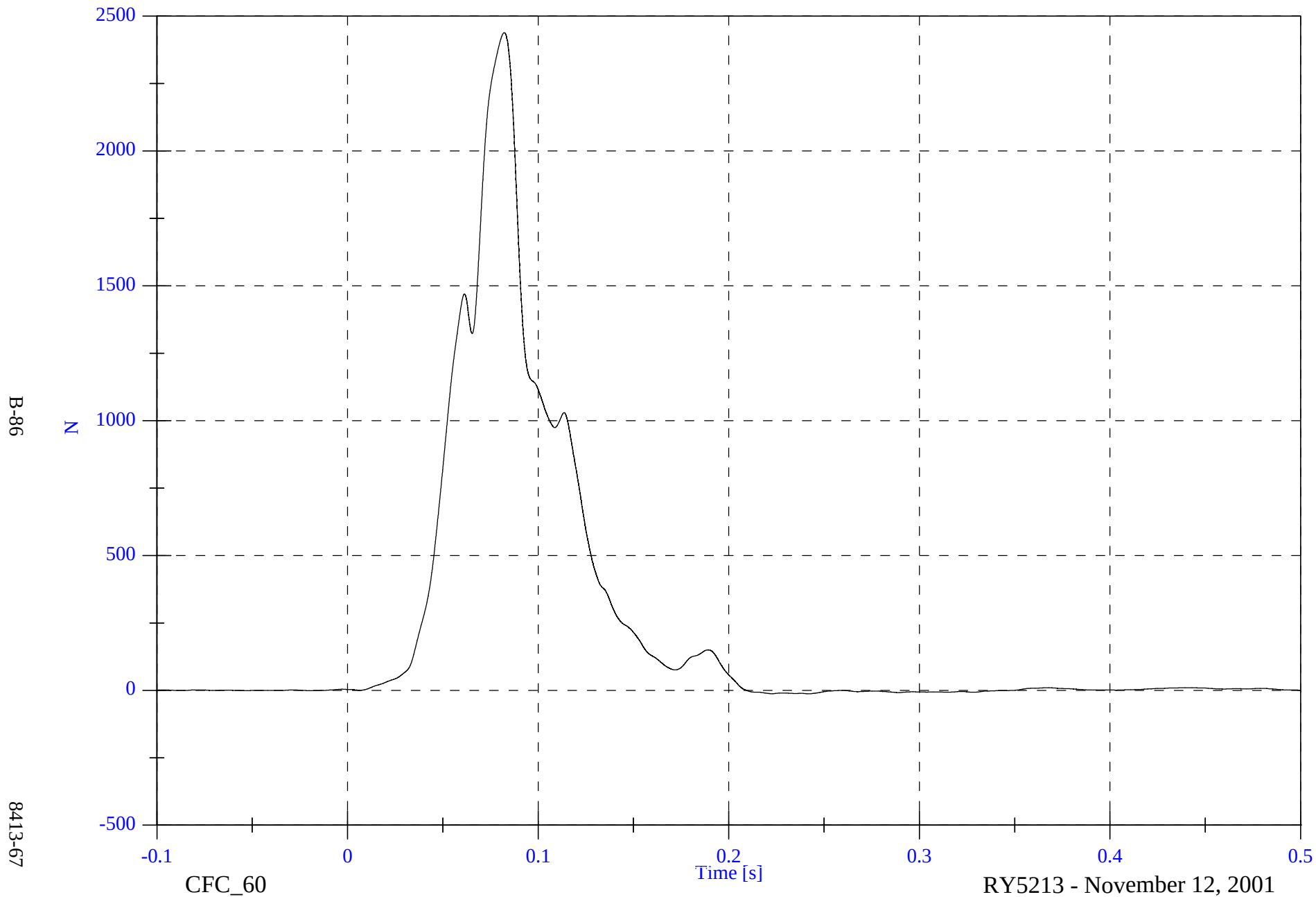


40% Frontal Offset Test #11 - 2000 Nissan Quest

P1 Torso Belt Force

Max: 2439.0 [N] at 0.082 [s]

Min: -12.8 [N] at 0.242 [s]



40% Frontal Offset Test #11 - 2000 Nissan Quest

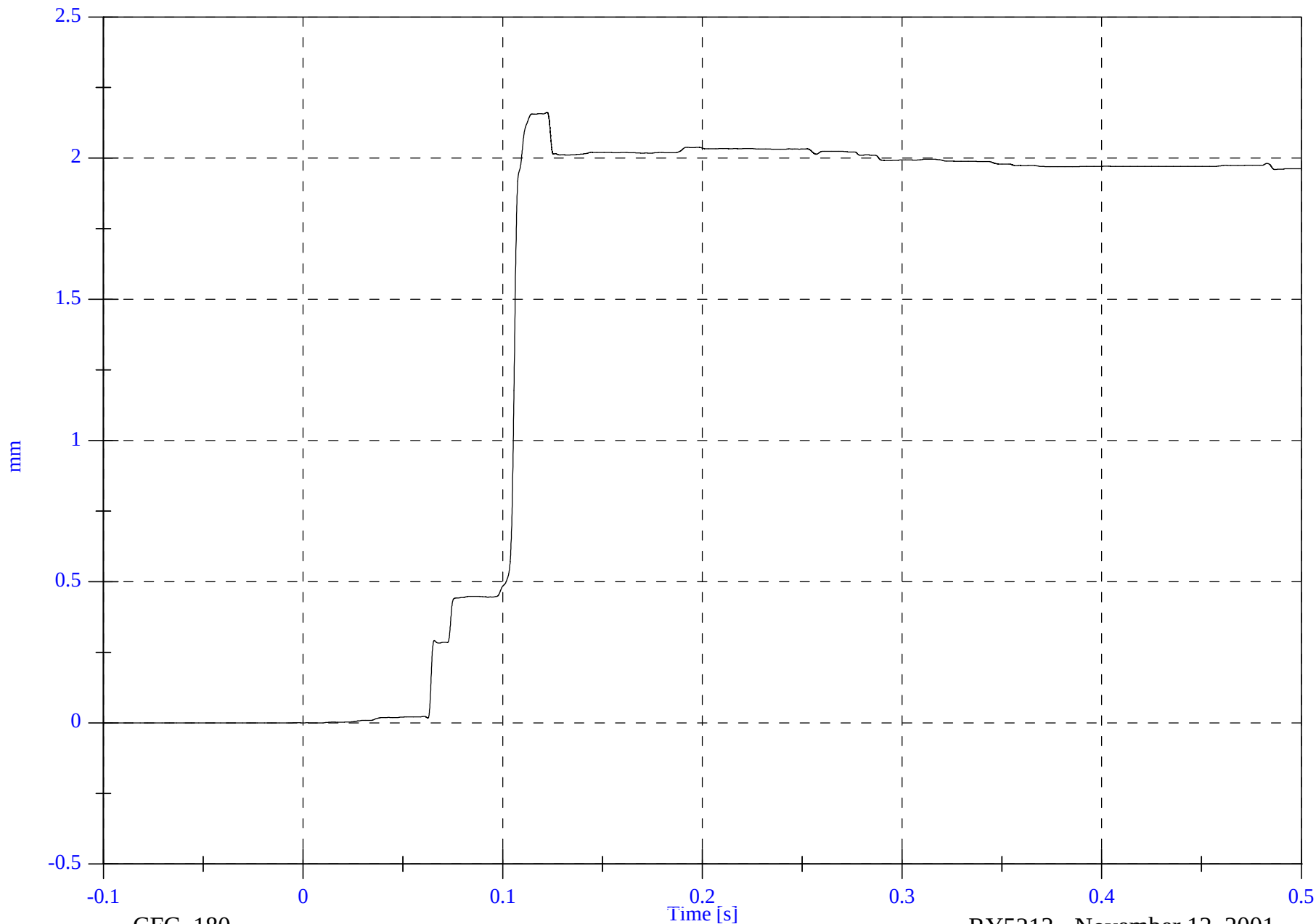
P1 Torso Belt Stretch

Max: 2.2 [mm] at 0.122 [s]

Min: -0.0 [mm] at -0.100 [s]

B-87

8413-67



CFC_180

RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

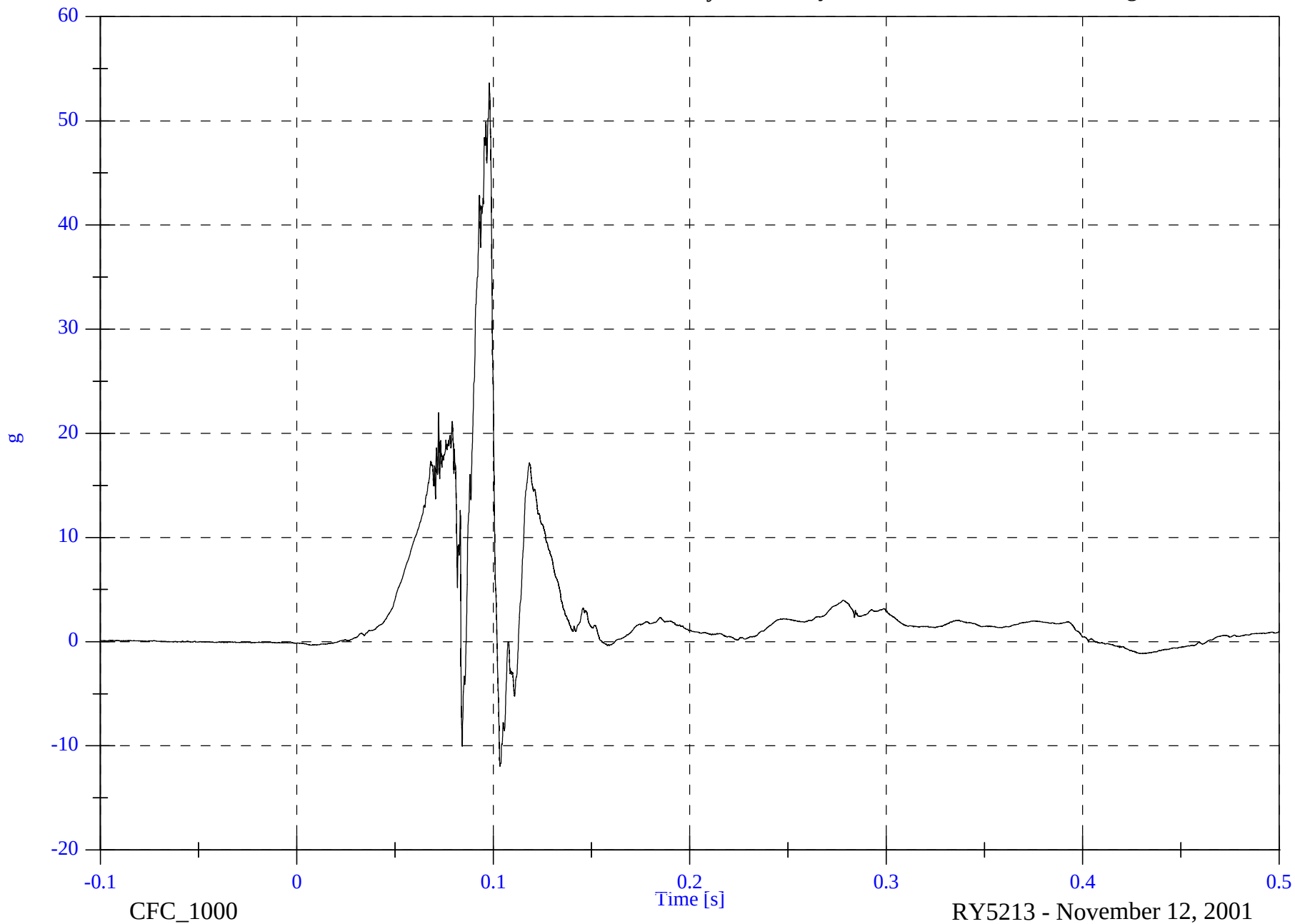
P2 Head 9 Array X Arm Ay

Max: 53.6 [g] at 0.098 [s]

Min: -12.0 [g] at 0.103 [s]

B-88

8413-67



40% Frontal Offset Test #11 - 2000 Nissan Quest

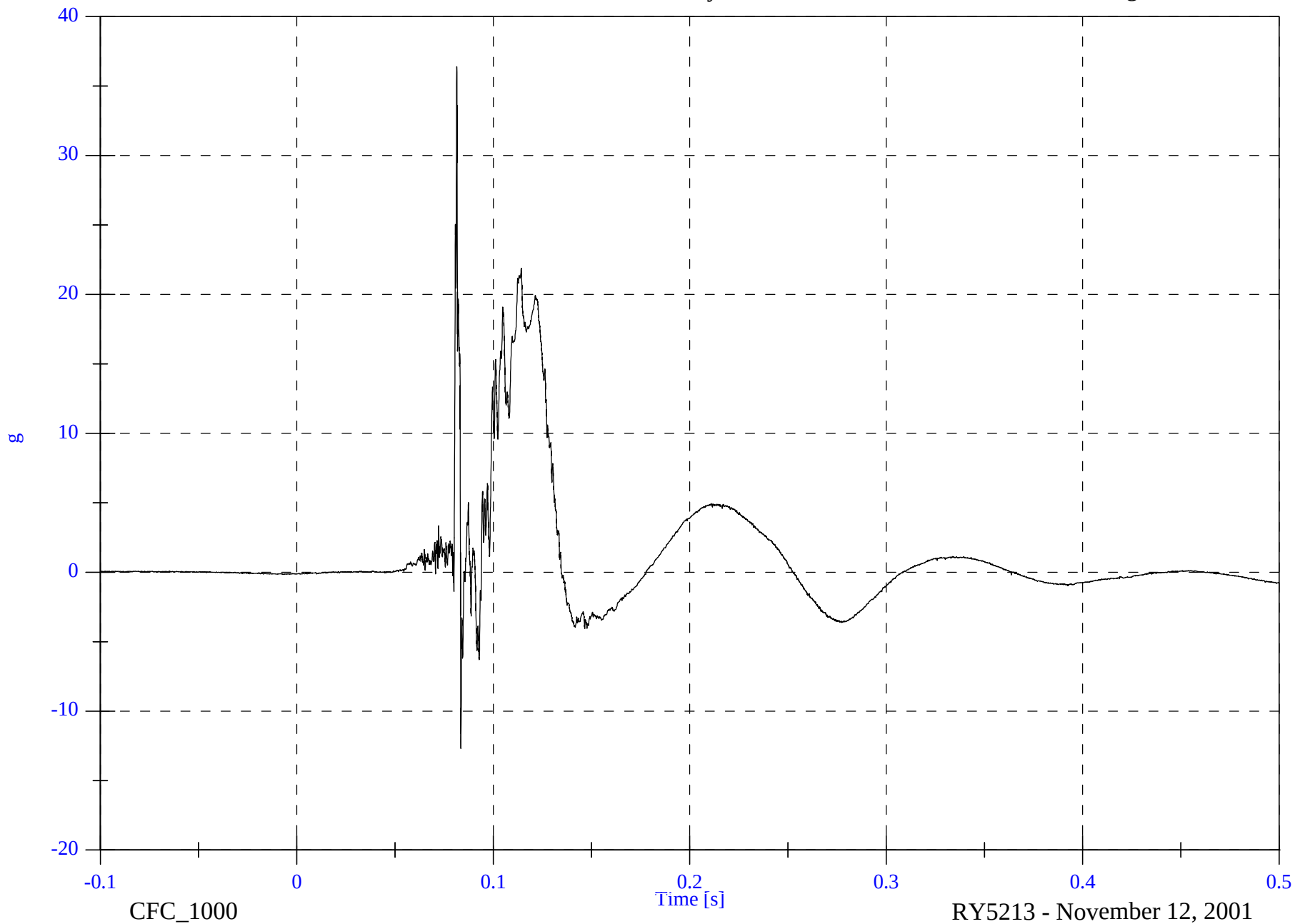
P2 Head 9 Array X Arm Az

Max: 36.4 [g] at 0.081 [s]

Min: -12.7 [g] at 0.084 [s]

B-89

8413-67

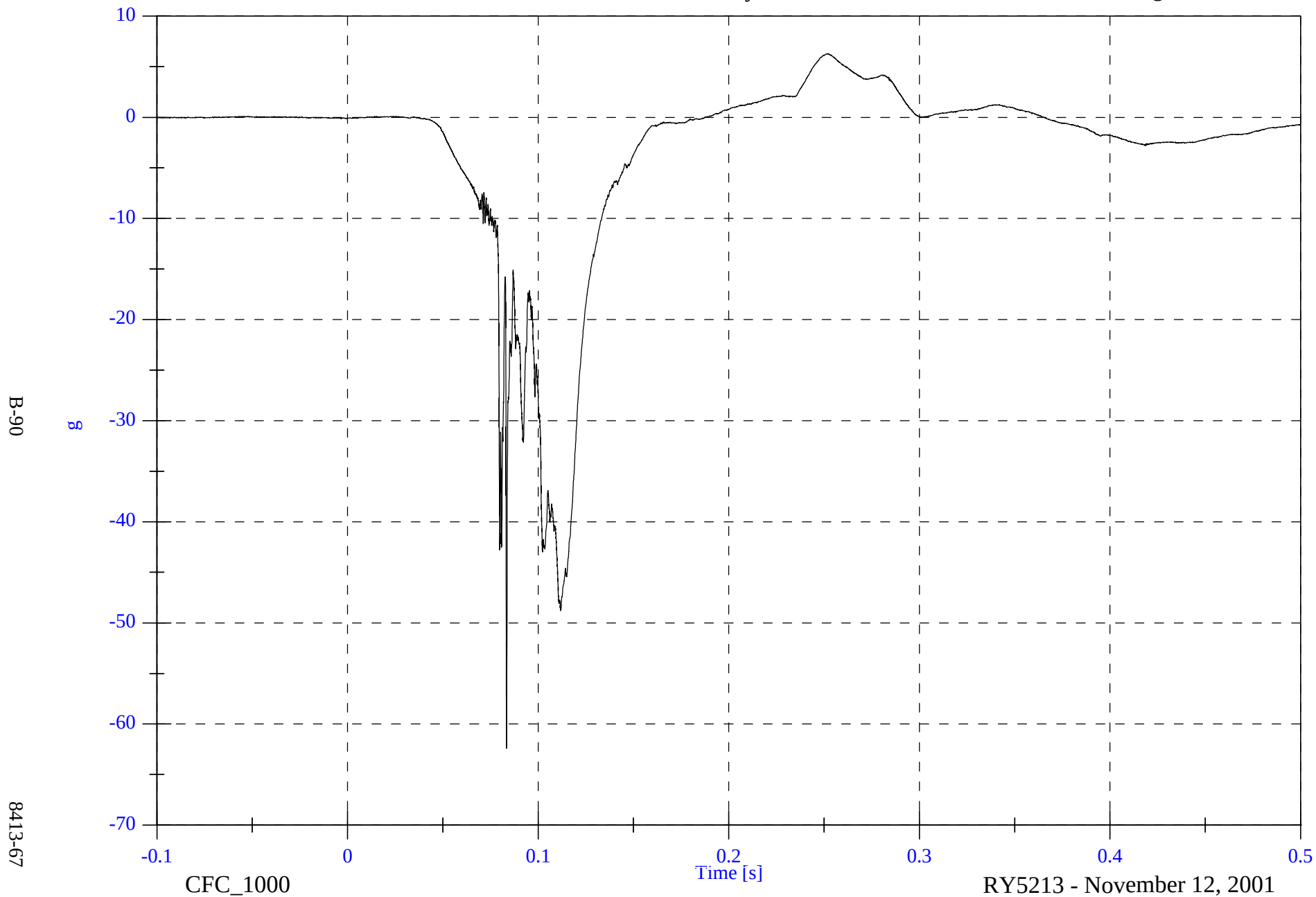


40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Head 9 Array Y Arm Ax

Max: 6.3 [g] at 0.252 [s]

Min: -62.4 [g] at 0.083 [s]



40% Frontal Offset Test #11 - 2000 Nissan Quest

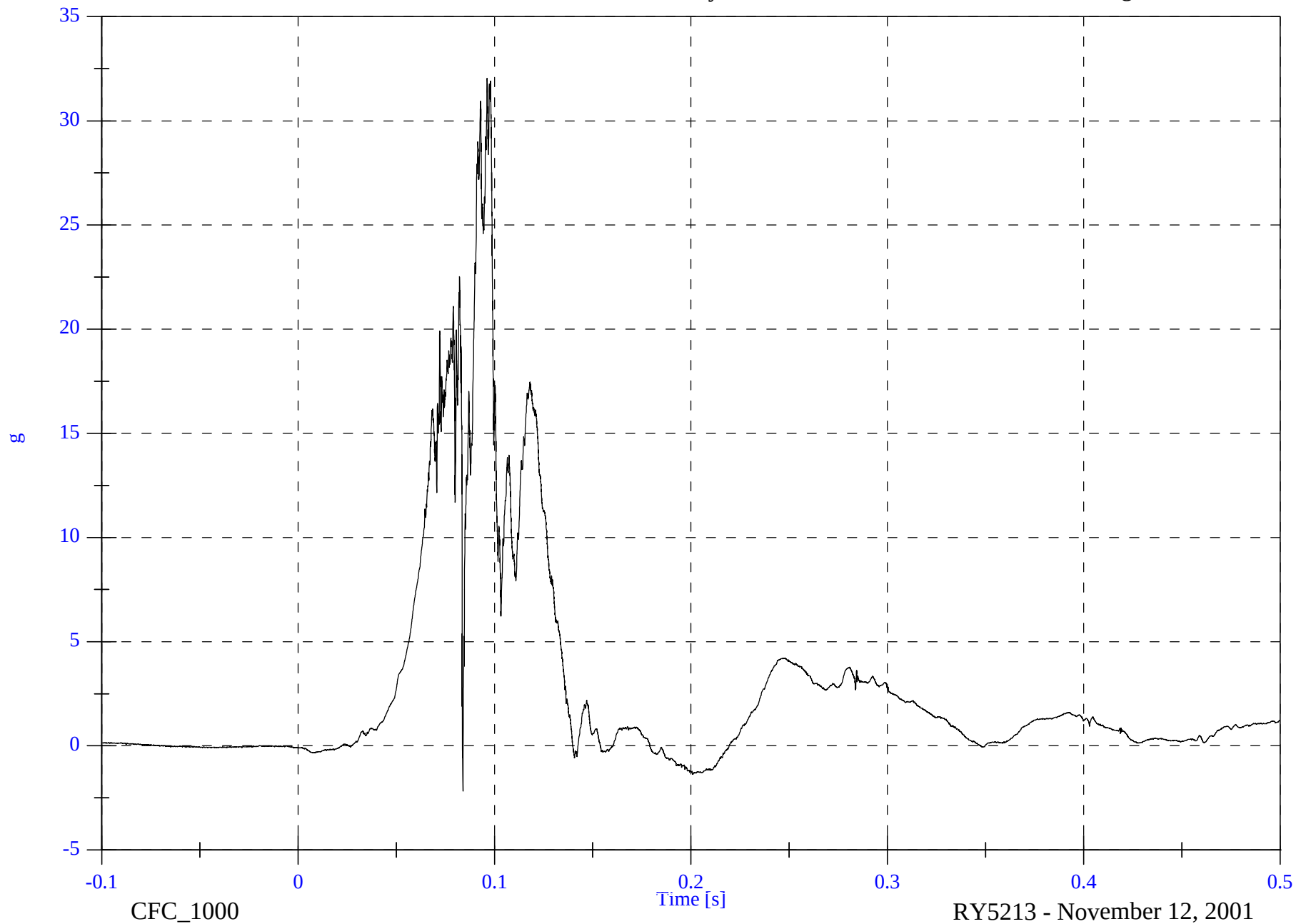
P2 Head 9 Array Y Arm Az

Max: 32.0 [g] at 0.096 [s]

Min: -2.2 [g] at 0.084 [s]

B-91

8413-67

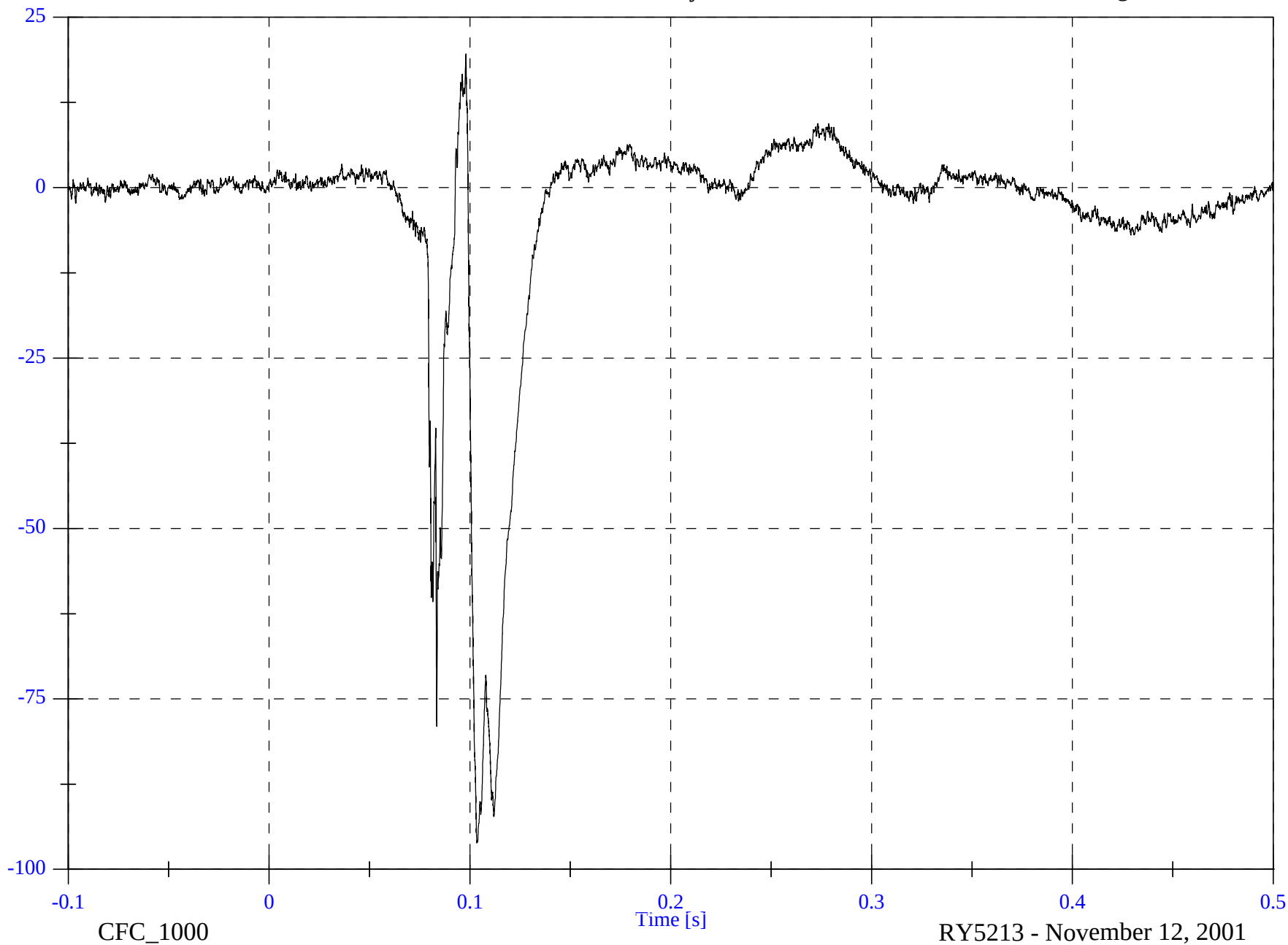


40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Head 9 Array Z Arm Ax

Max: 19.6 [g] at 0.098 [s]

Min: -96.1 [g] at 0.103 [s]



B-92

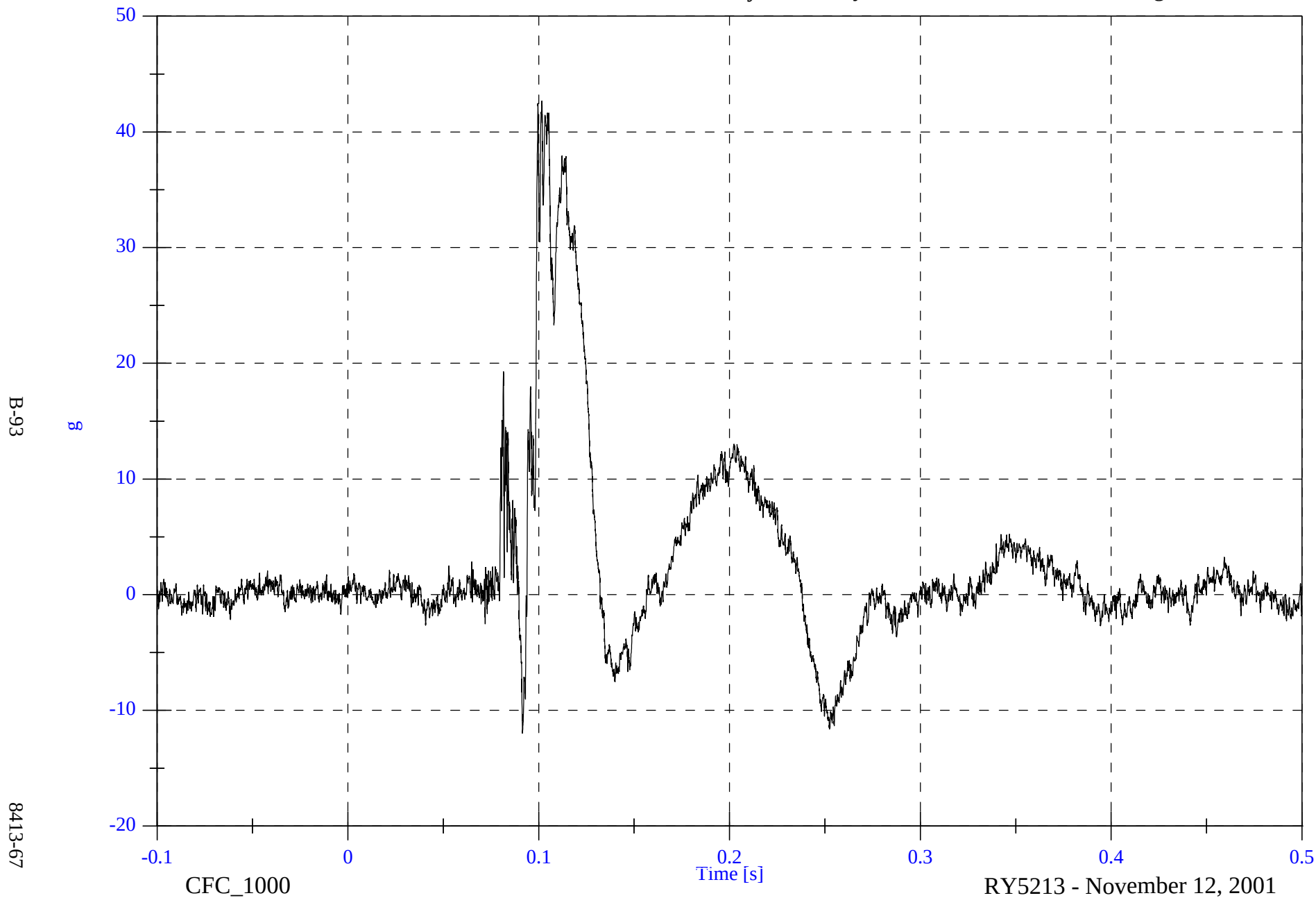
8413-67

40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Head 9 Array Z Arm Ay

Max: 42.6 [g] at 0.102 [s]

Min: -12.0 [g] at 0.092 [s]



40% Frontal Offset Test #11 - 2000 Nissan Quest

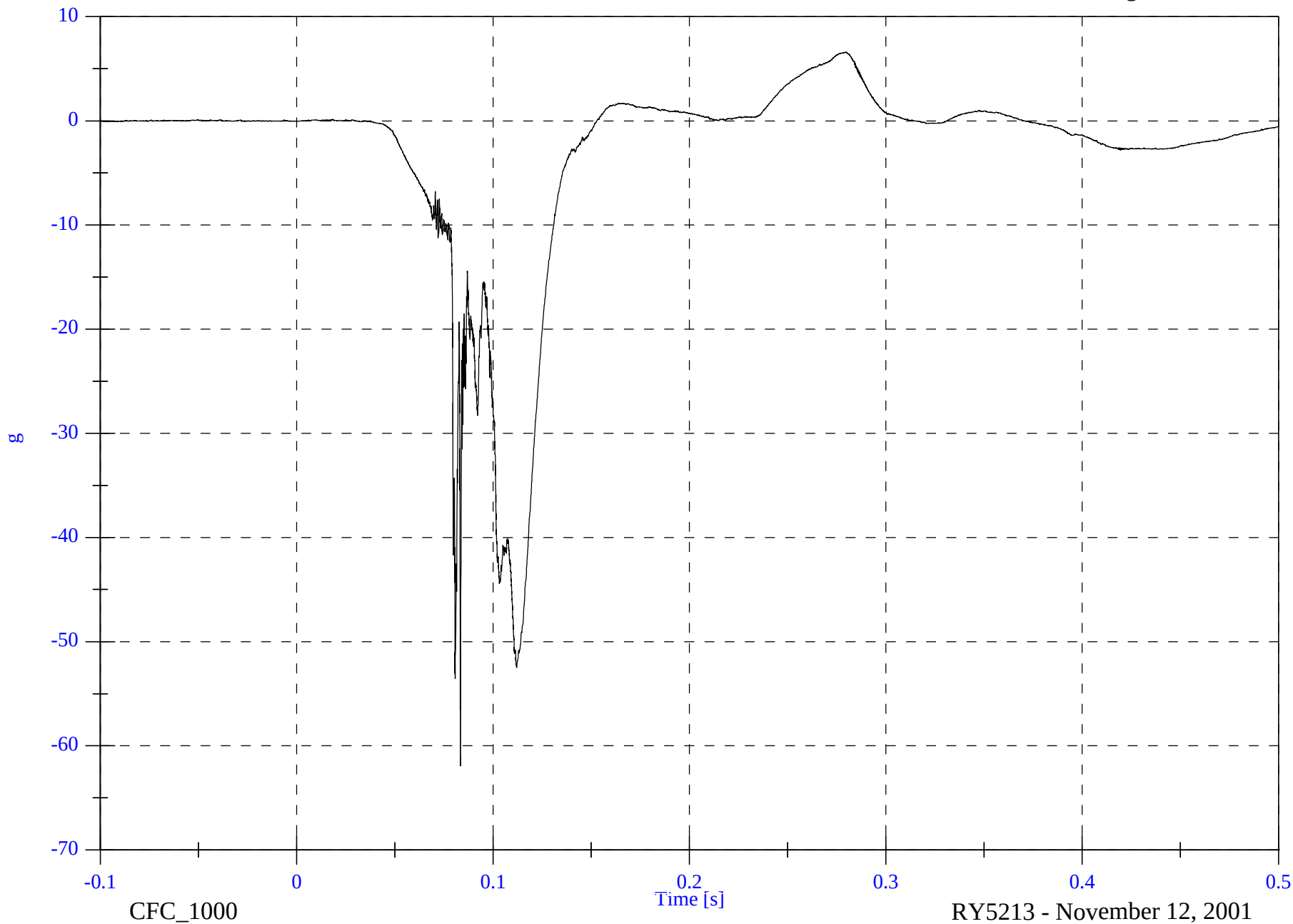
P2 Head Ax

Max: 6.6 [g] at 0.280 [s]

Min: -61.9 [g] at 0.083 [s]

B-94

8413-67

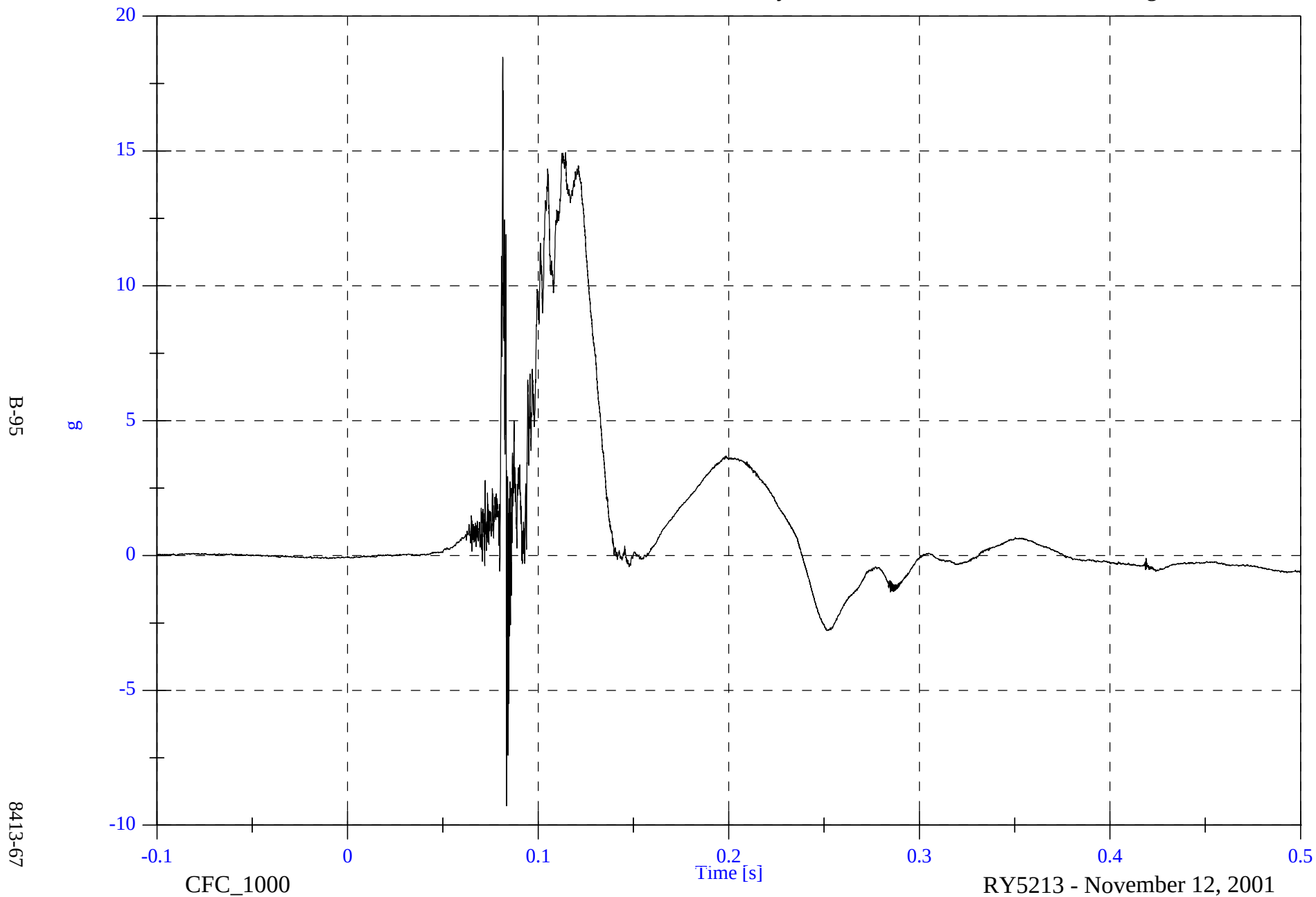


40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Head Ay

Max: 18.5 [g] at 0.081 [s]

Min: -9.3 [g] at 0.083 [s]



40% Frontal Offset Test #11 - 2000 Nissan Quest

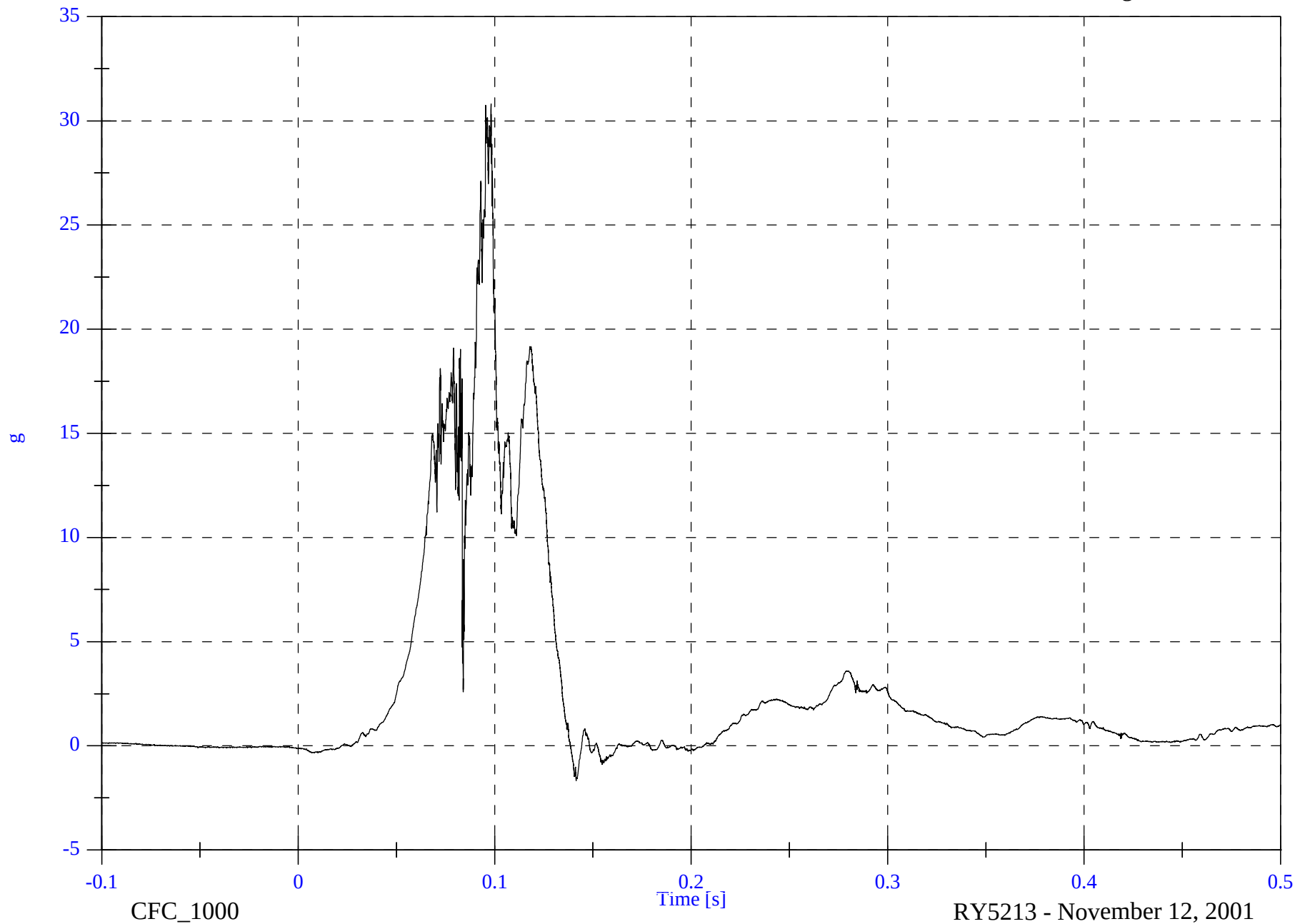
P2 Head Az

Max: 30.8 [g] at 0.098 [s]

Min: -1.7 [g] at 0.141 [s]

B-96

8413-67

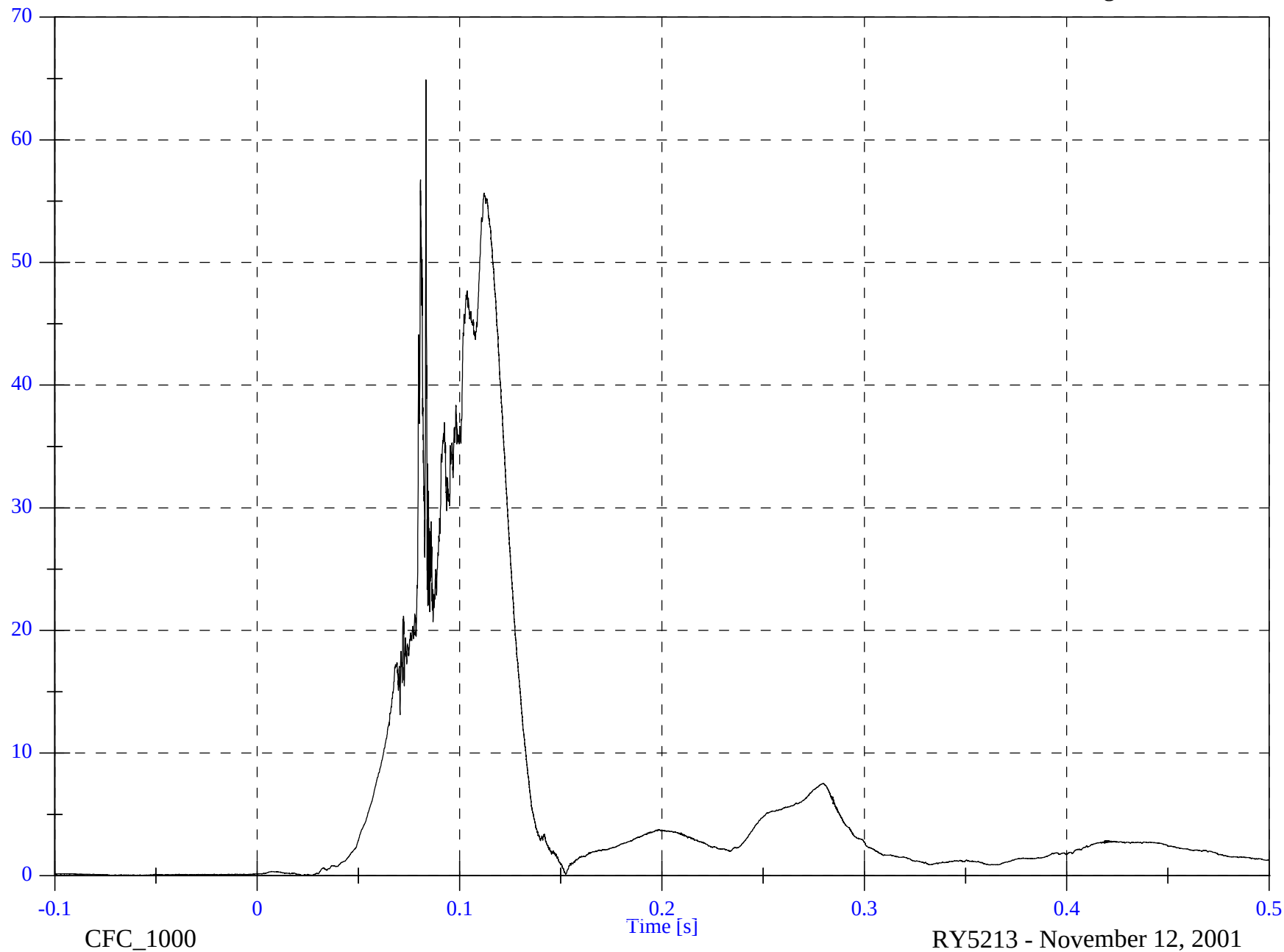


40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Head A Resultant

Max: 64.9 [g] at 0.083 [s]

Min: 0.0 [g] at -0.069 [s]



B-97

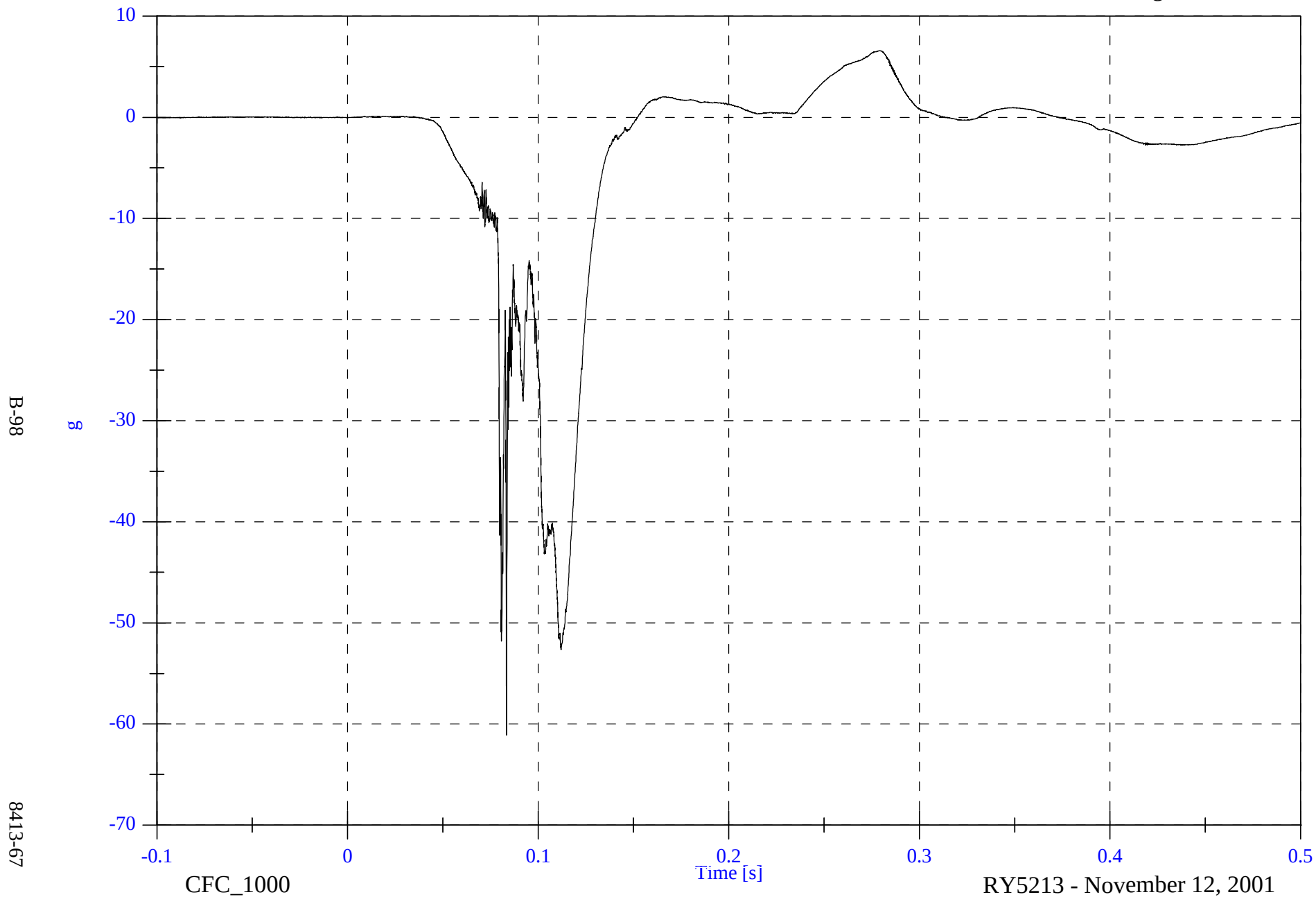
8413-67

40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Head Red Ax

Max: 6.6 [g] at 0.279 [s]

Min: -61.1 [g] at 0.083 [s]

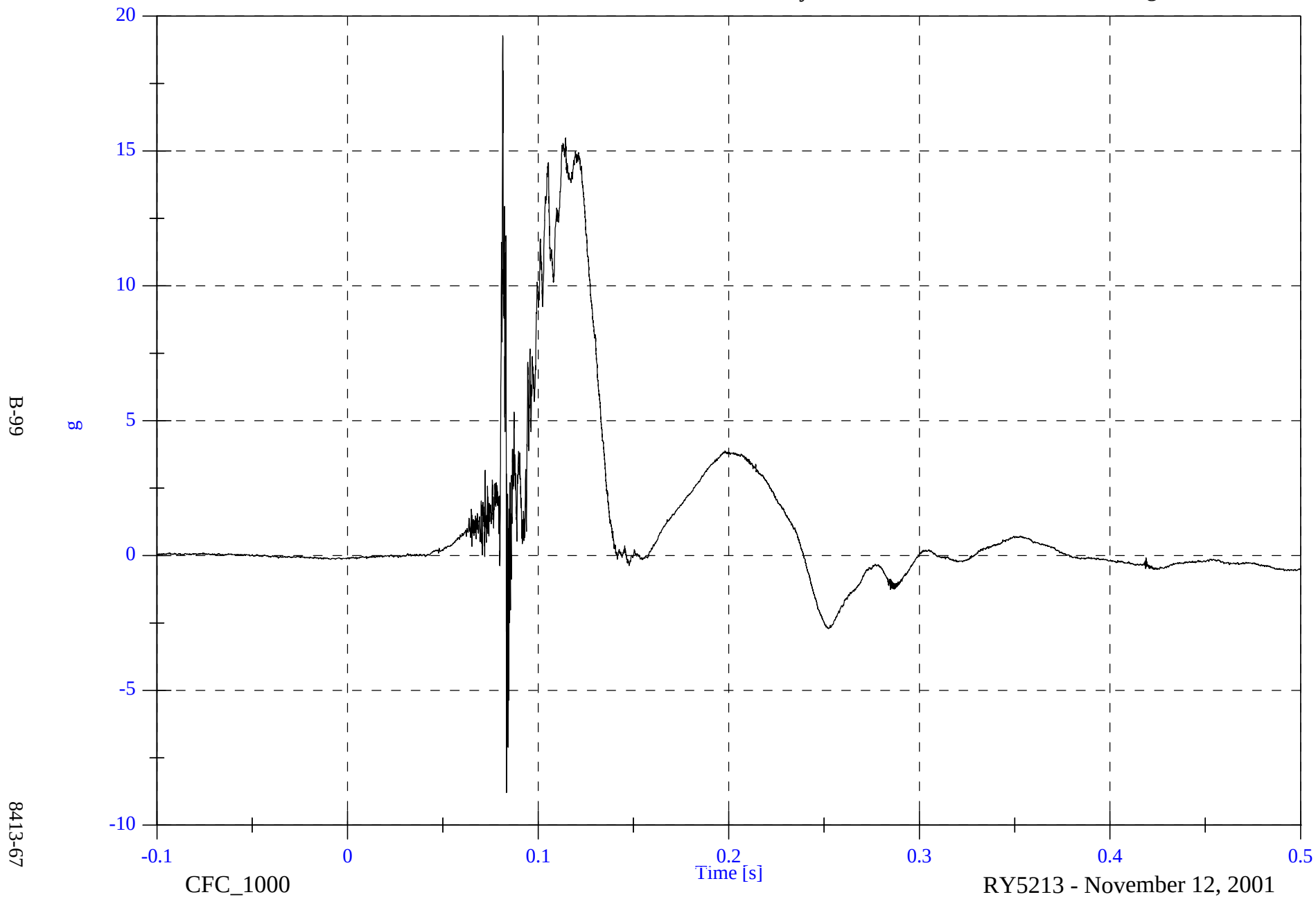


40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Head Red Ay

Max: 19.3 [g] at 0.081 [s]

Min: -8.8 [g] at 0.083 [s]

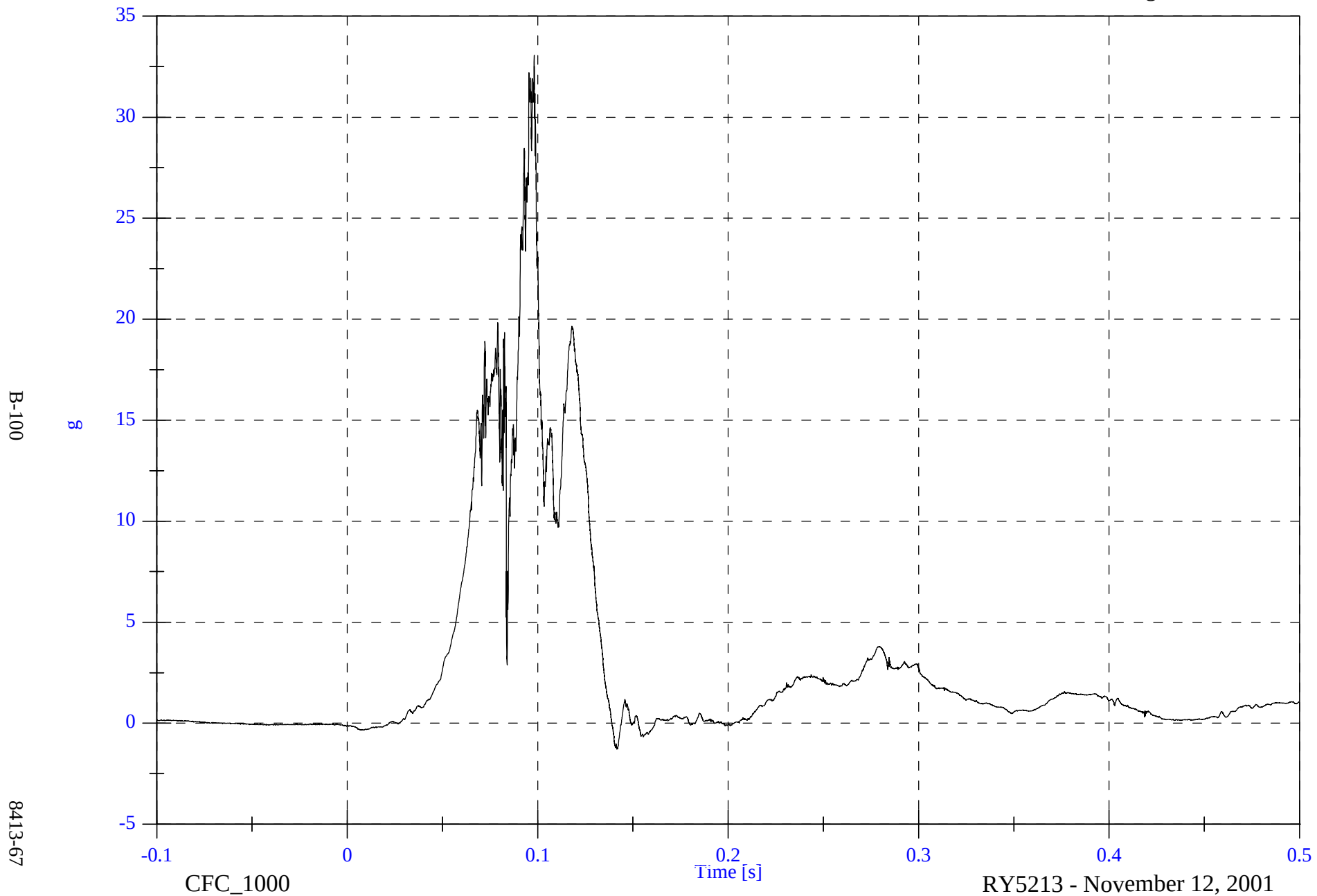


40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Head Red Az

Max: 33.1 [g] at 0.098 [s]

Min: -1.3 [g] at 0.142 [s]



40% Frontal Offset Test #11 - 2000 Nissan Quest

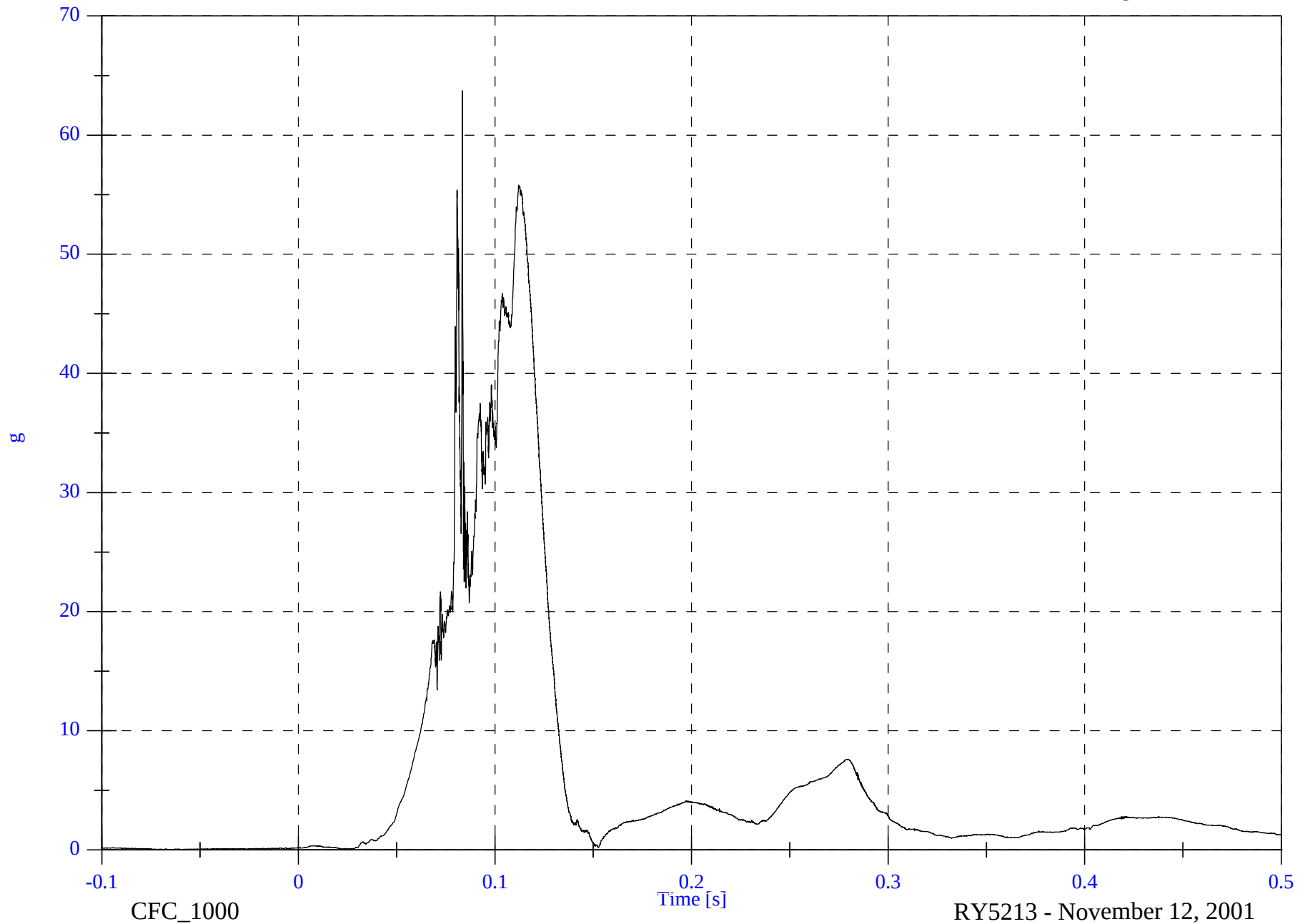
P2 Head Red A Resultant

Max: 63.7 [g] at 0.083 [s]

Min: 0.0 [g] at -0.065 [s]

B-101

8413-67



40% Frontal Offset Test #11 - 2000 Nissan Quest

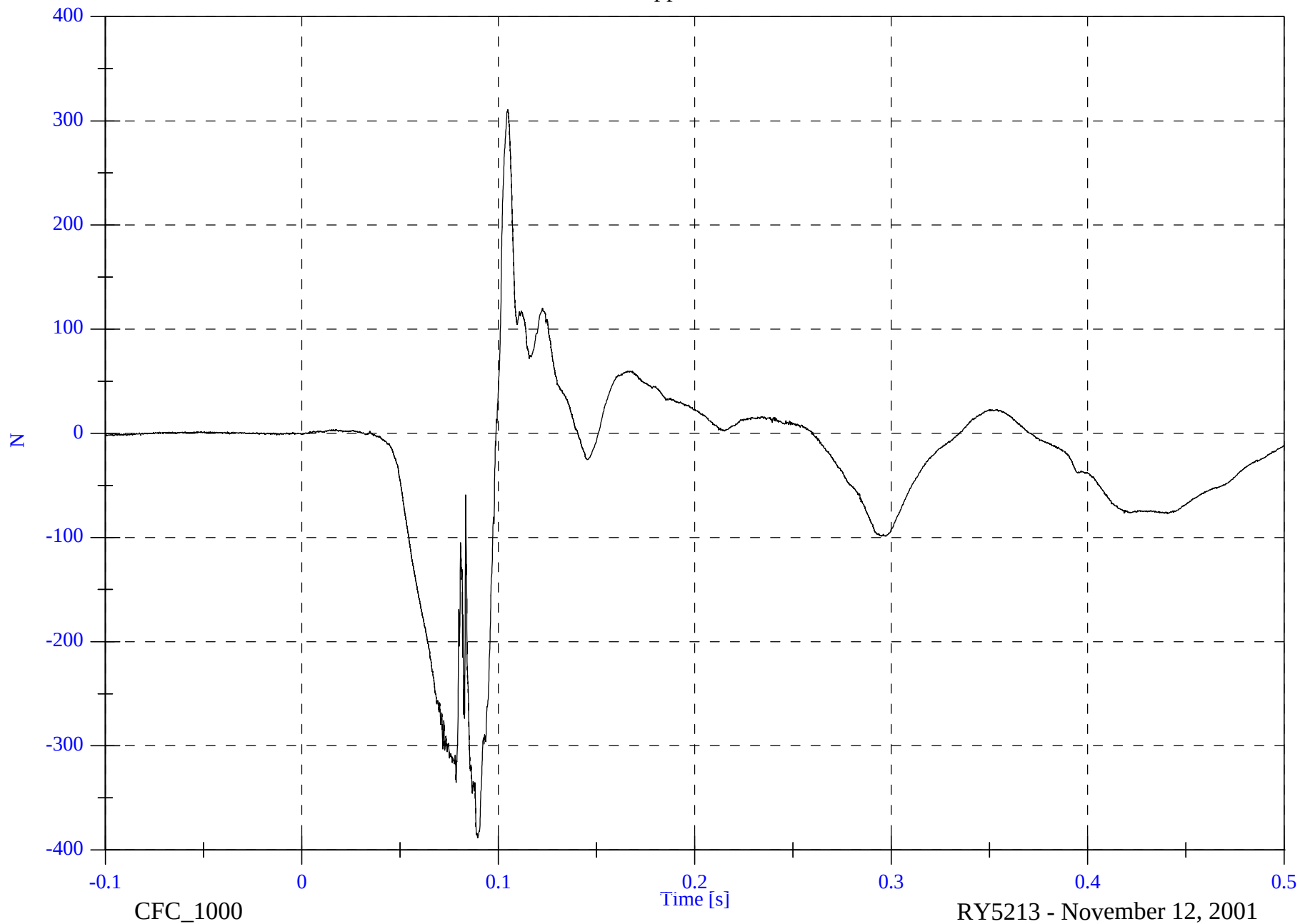
P2 Upper Neck Fx

Max: 310.9 [N] at 0.105 [s]

Min: -388.3 [N] at 0.090 [s]

B-102

8413-67

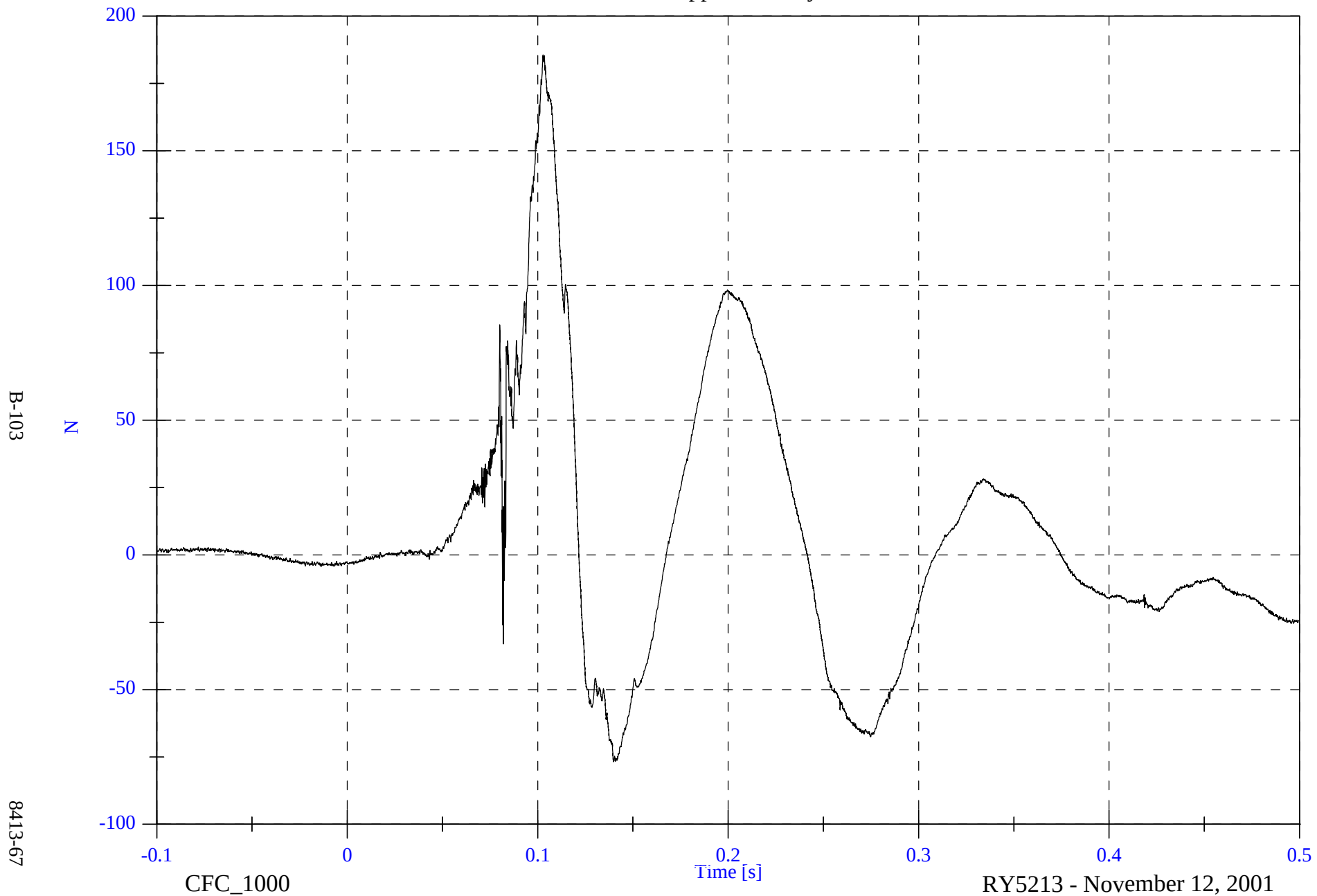


40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Upper Neck Fy

Max: 185.7 [N] at 0.103 [s]

Min: -76.8 [N] at 0.140 [s]

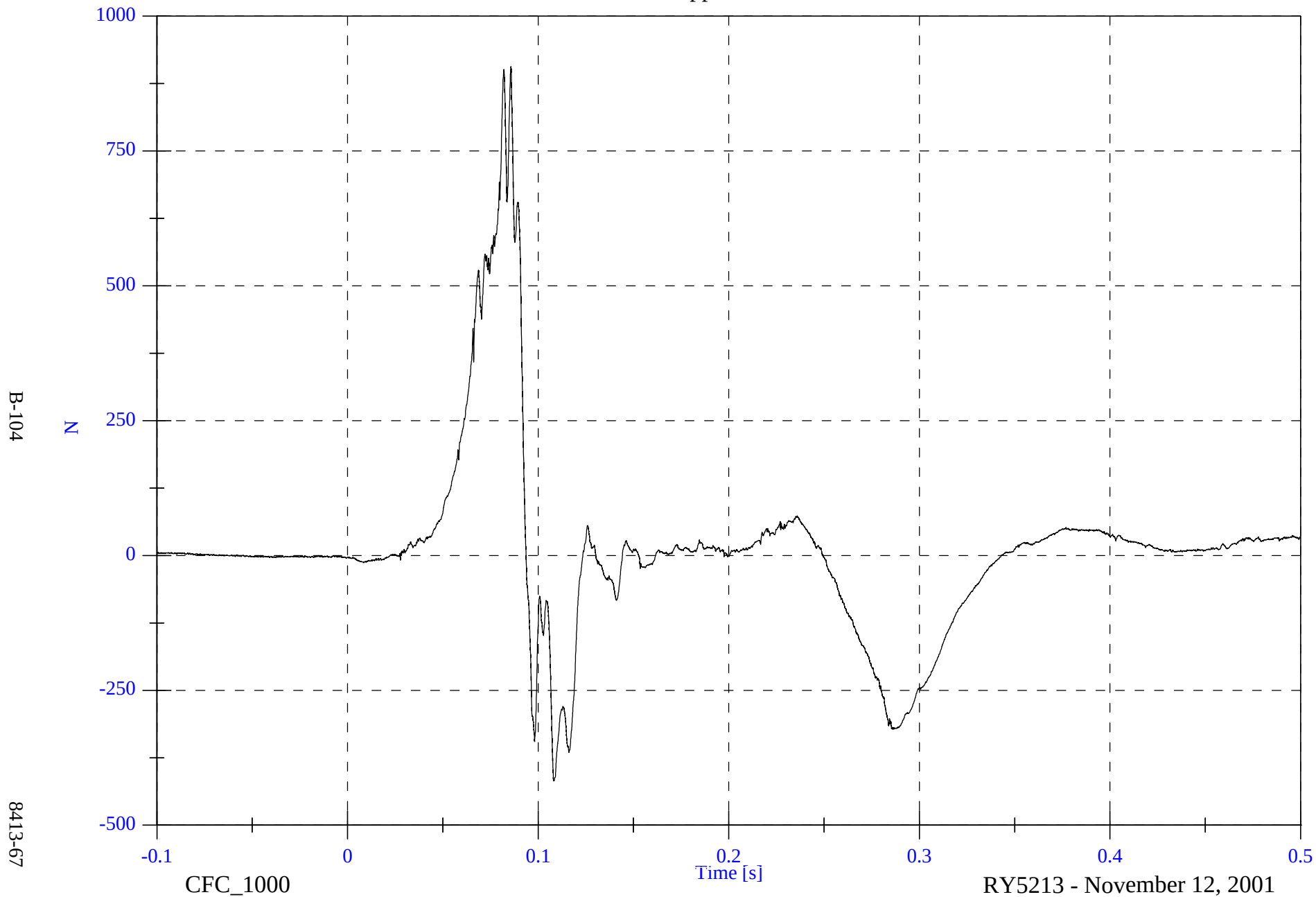


40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Upper Neck Fz

Max: 906.7 [N] at 0.086 [s]

Min: -417.9 [N] at 0.108 [s]

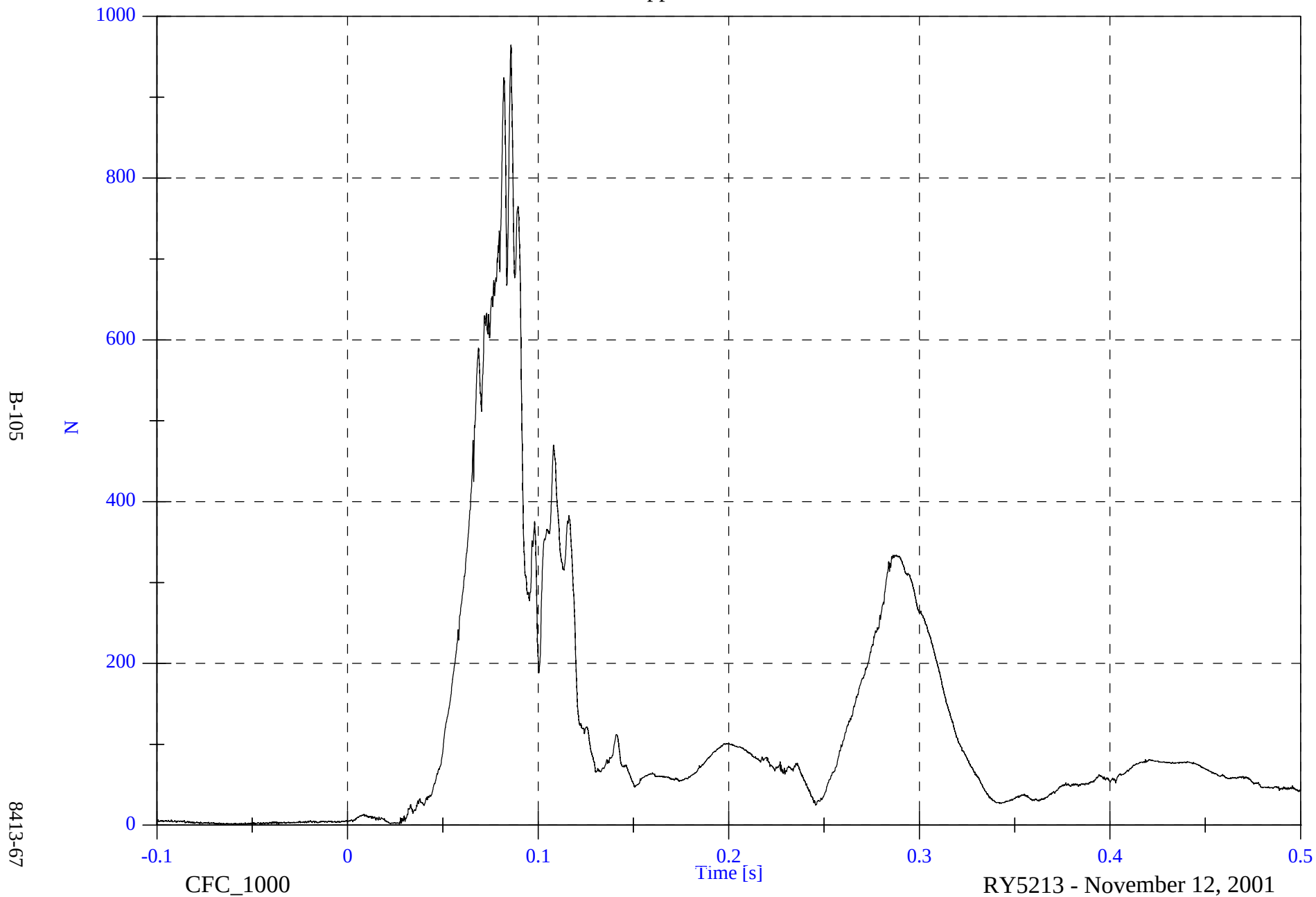


40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Upper Neck F Resultant

Max: 964.6 [N] at 0.086 [s]

Min: 0.8 [N] at -0.056 [s]

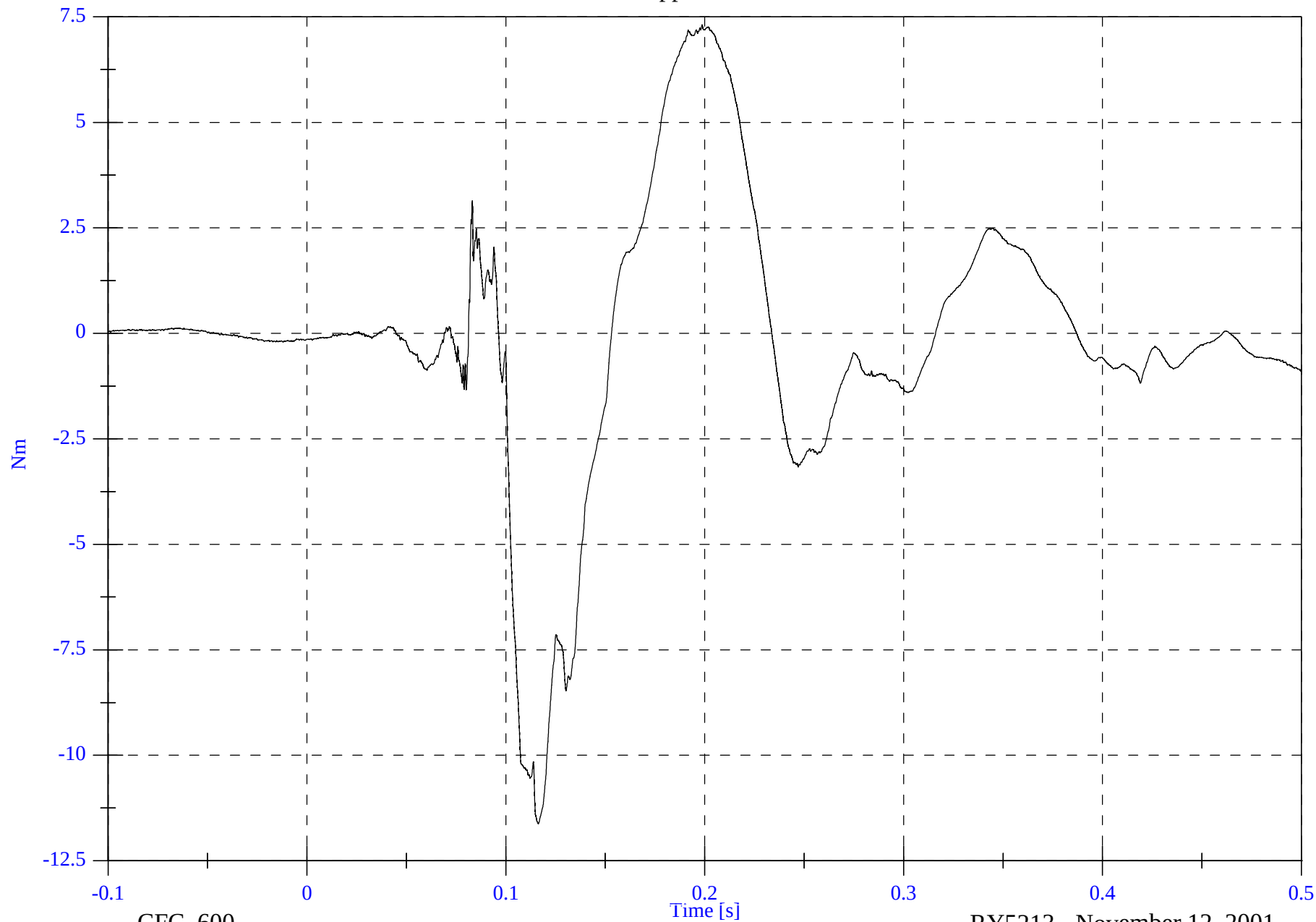


40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Upper Neck Mx

Max: 7.3 [Nm] at 0.199 [s]

Min: -11.6 [Nm] at 0.116 [s]



B-106

8413-67

CFC_600

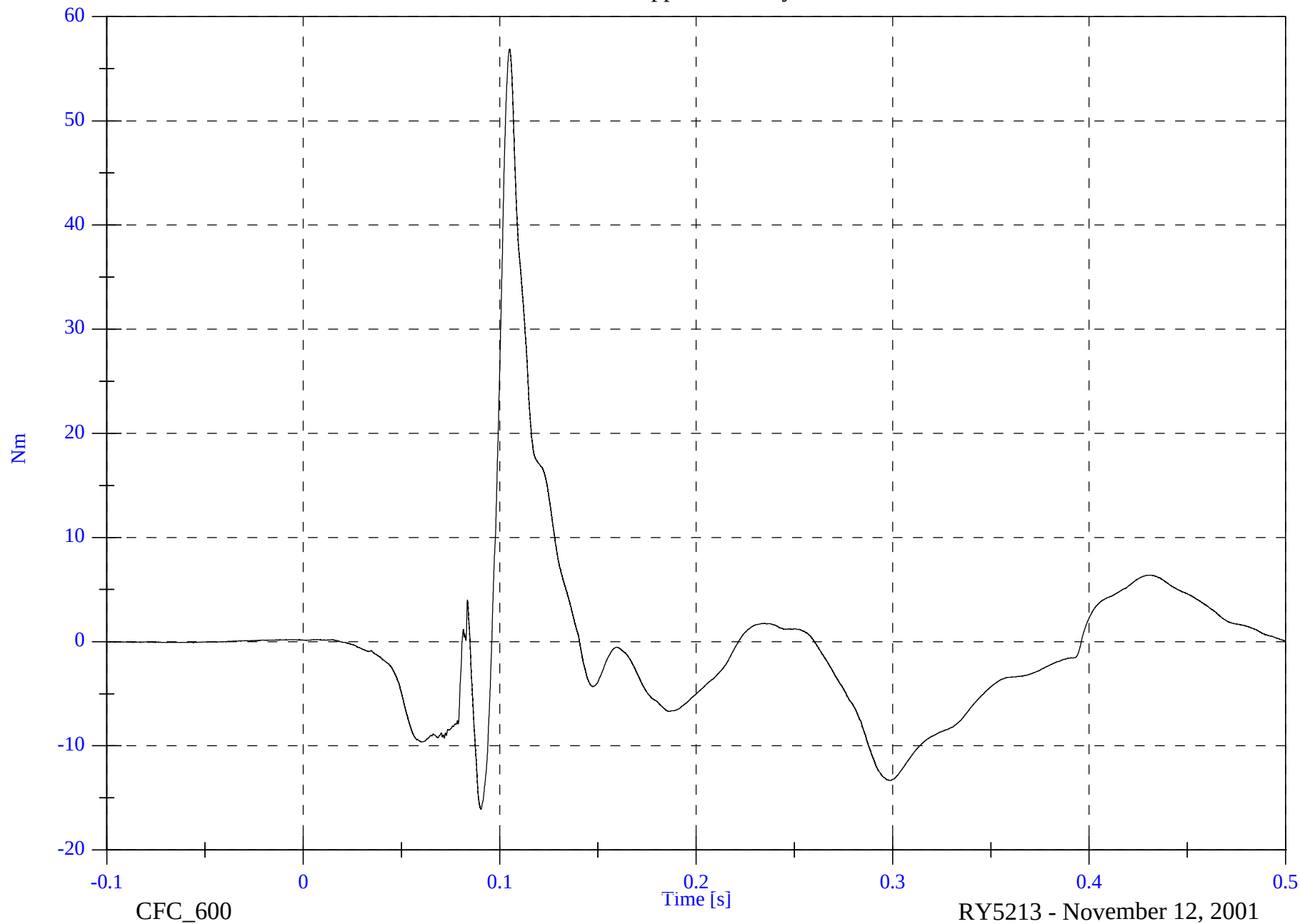
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Upper Neck My

Max: 56.9 [Nm] at 0.105 [s]

Min: -16.1 [Nm] at 0.091 [s]



B-107

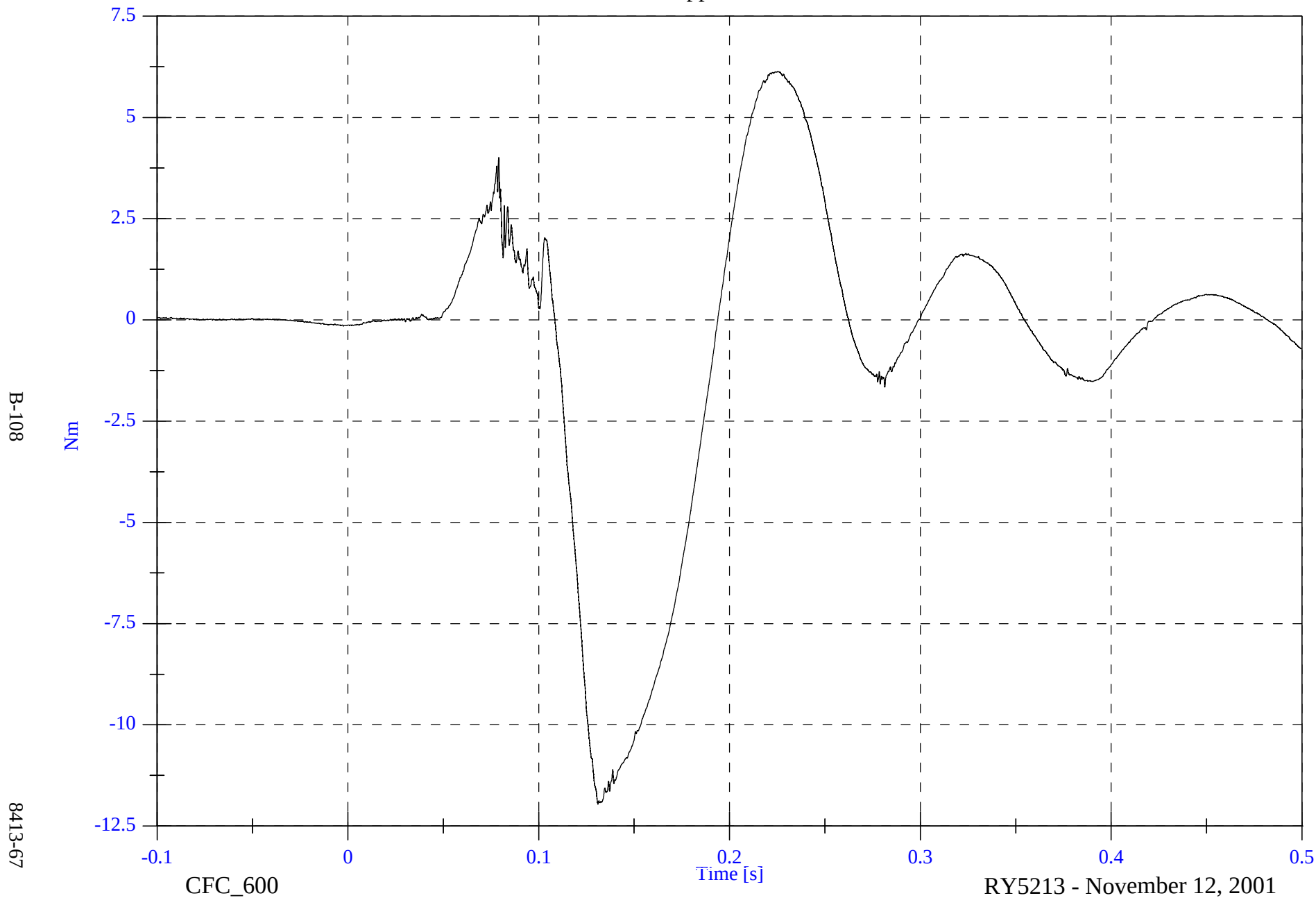
8413-67

40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Upper Neck Mz

Max: 6.1 [Nm] at 0.225 [s]

Min: -12.0 [Nm] at 0.131 [s]

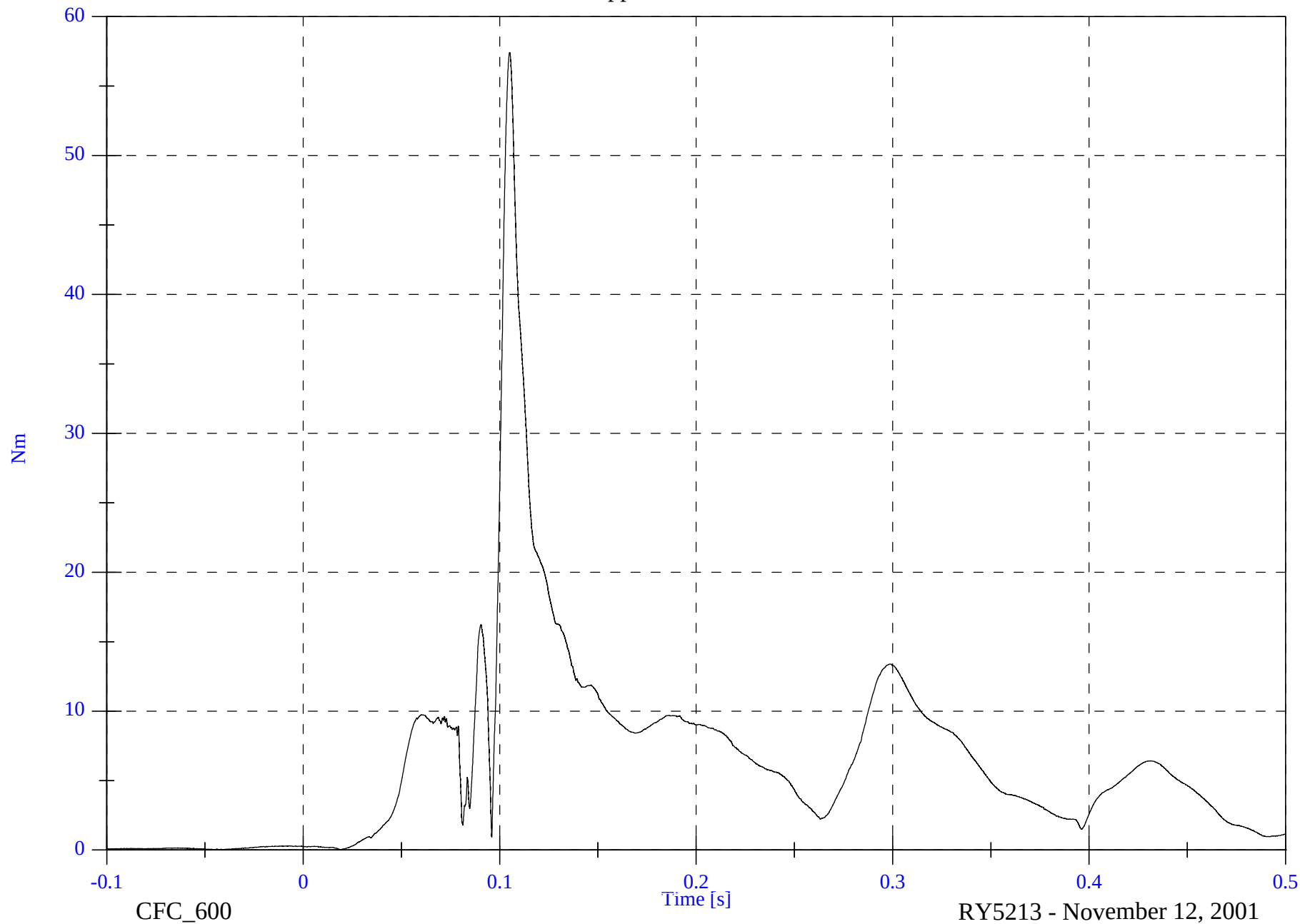


40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Upper Neck M Resultant

Max: 57.4 [Nm] at 0.105 [s]

Min: 0.0 [Nm] at 0.019 [s]



B-109

8413-67

CFC_600

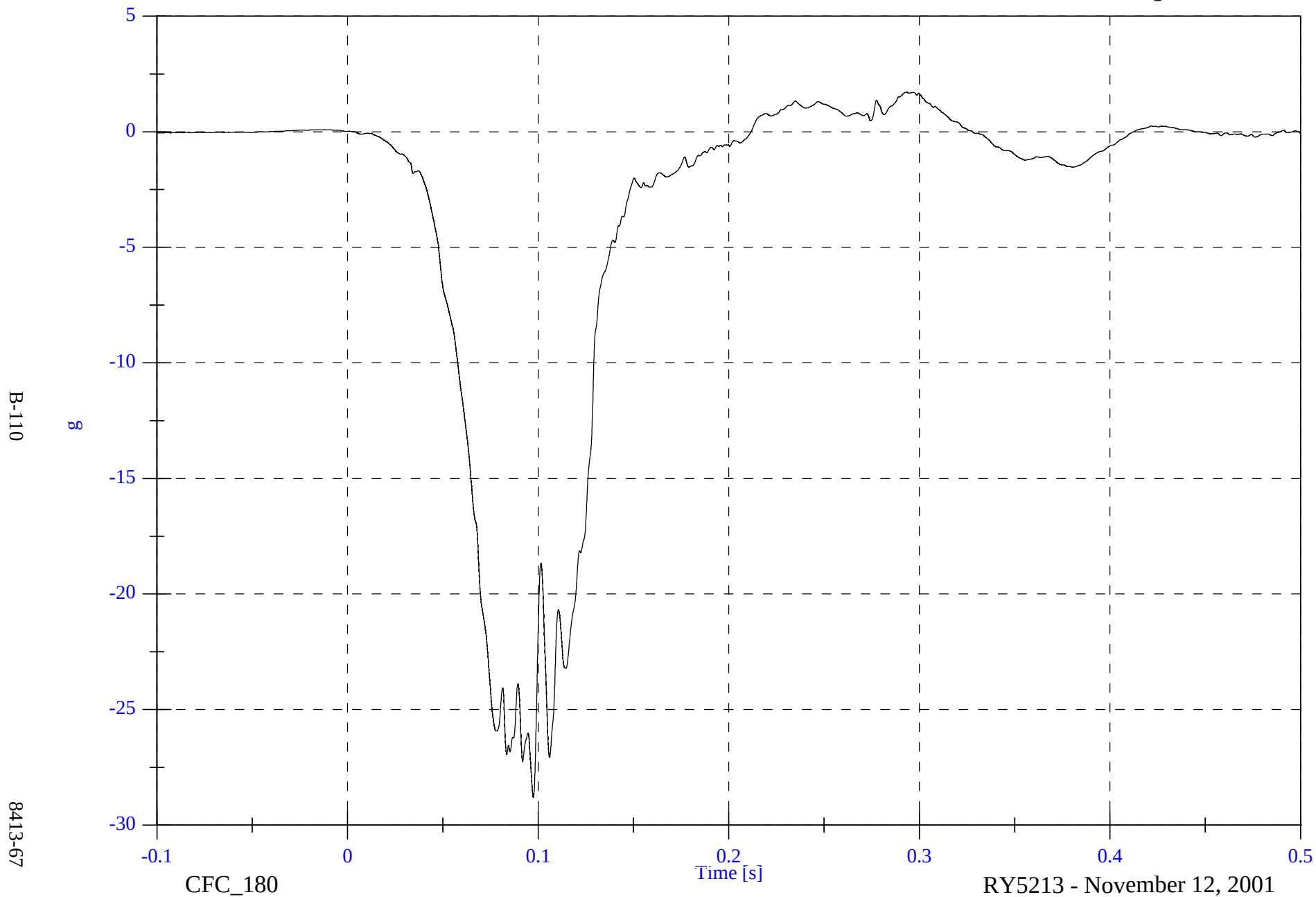
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Chest Ax

Max: 1.7 [g] at 0.293 [s]

Min: -28.8 [g] at 0.098 [s]

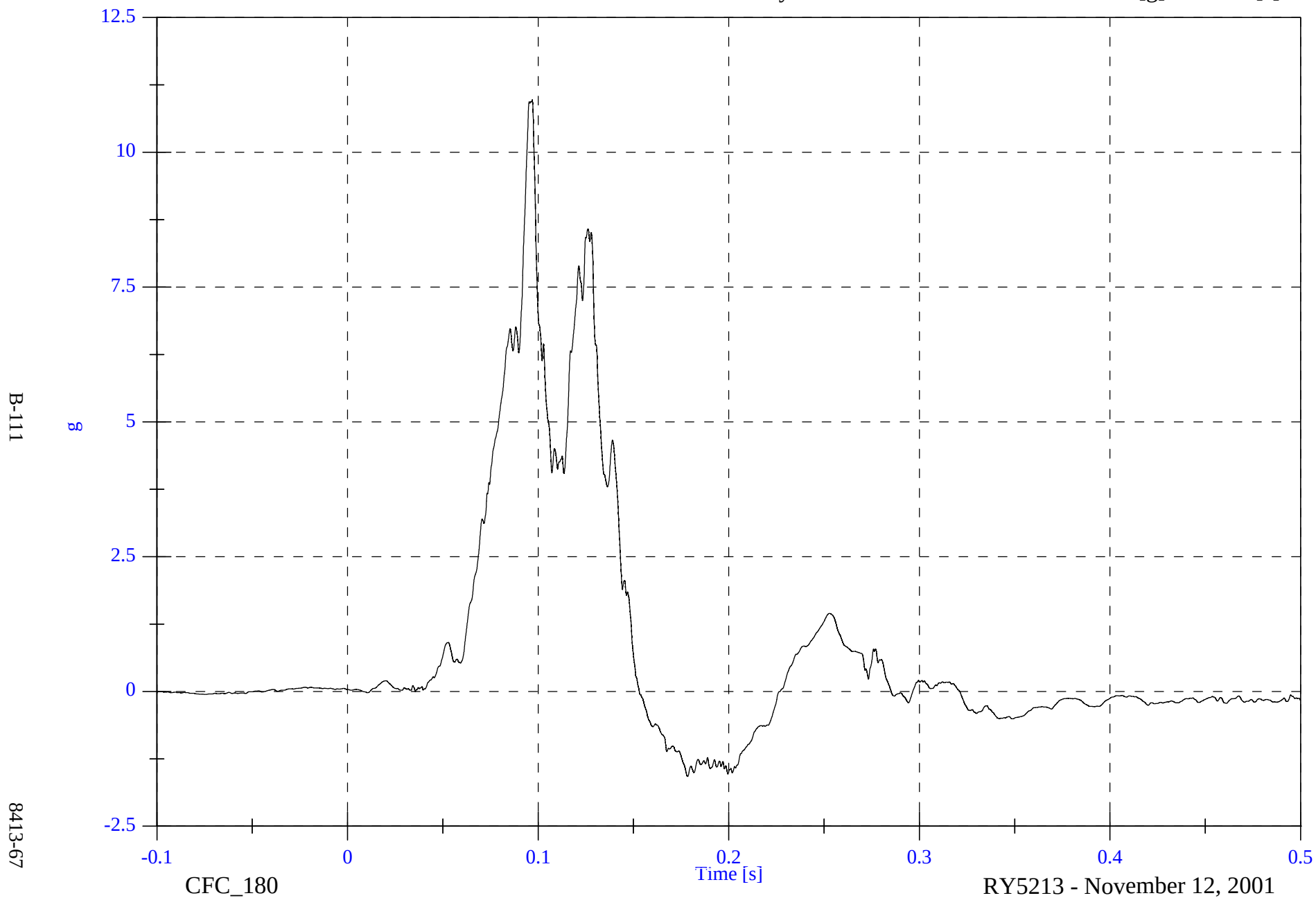


40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Chest Ay

Max: 11.0 [g] at 0.097 [s]

Min: -1.6 [g] at 0.178 [s]

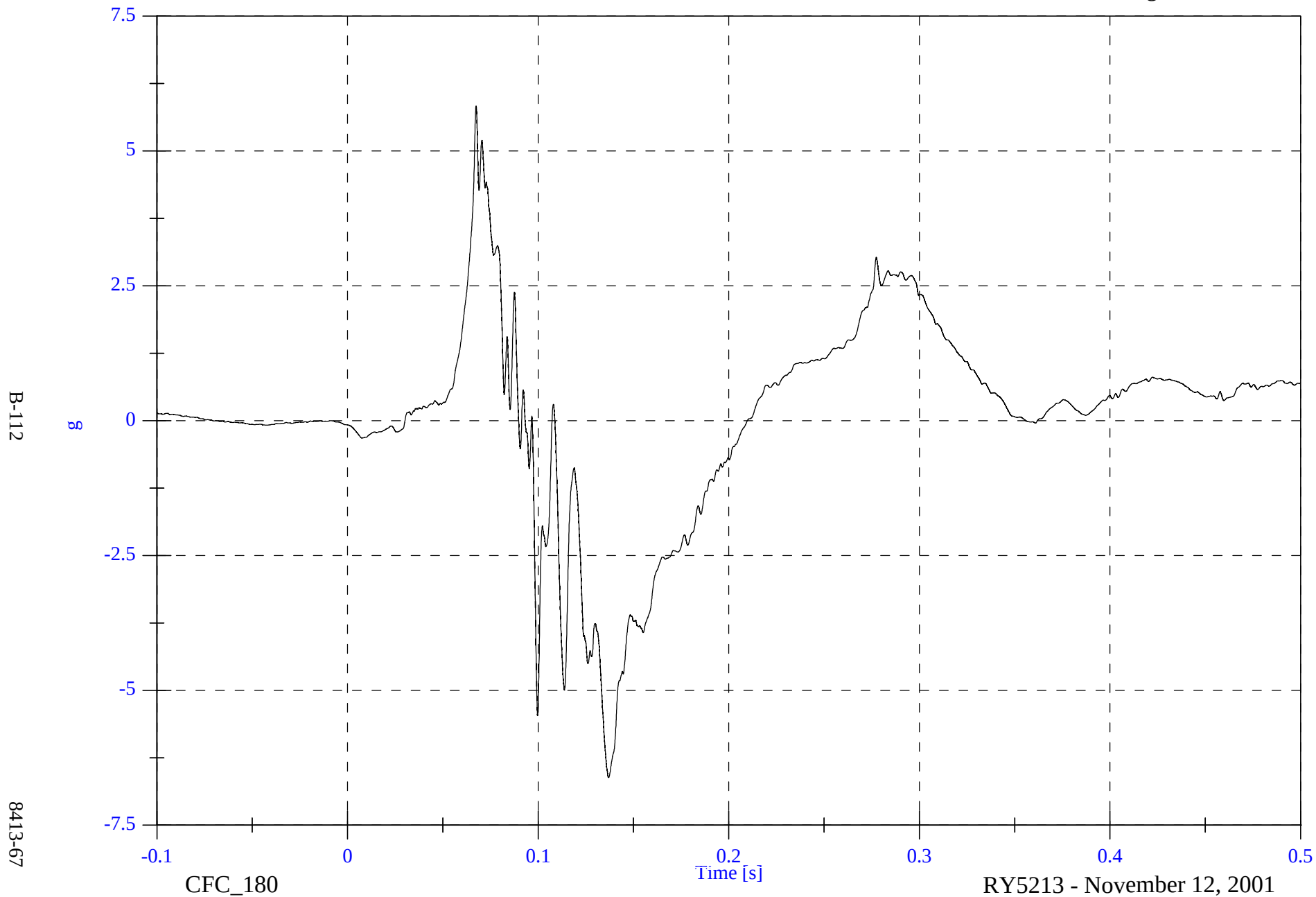


40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Chest Az

Max: 5.8 [g] at 0.067 [s]

Min: -6.6 [g] at 0.137 [s]



40% Frontal Offset Test #11 - 2000 Nissan Quest

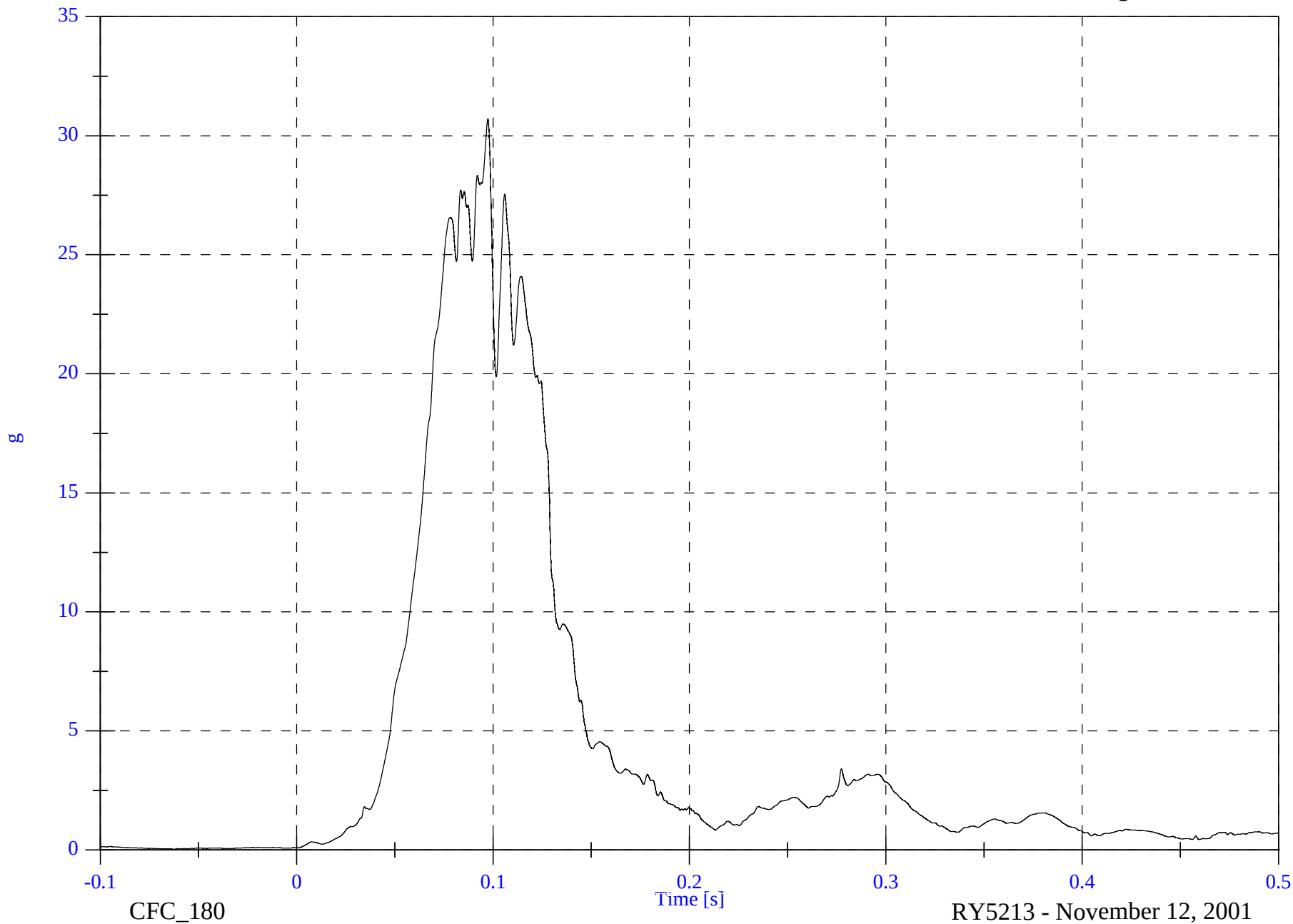
P2 Chest A Resultant

Max: 30.7 [g] at 0.097 [s]

Min: 0.0 [g] at -0.063 [s]

B-113

8413-67

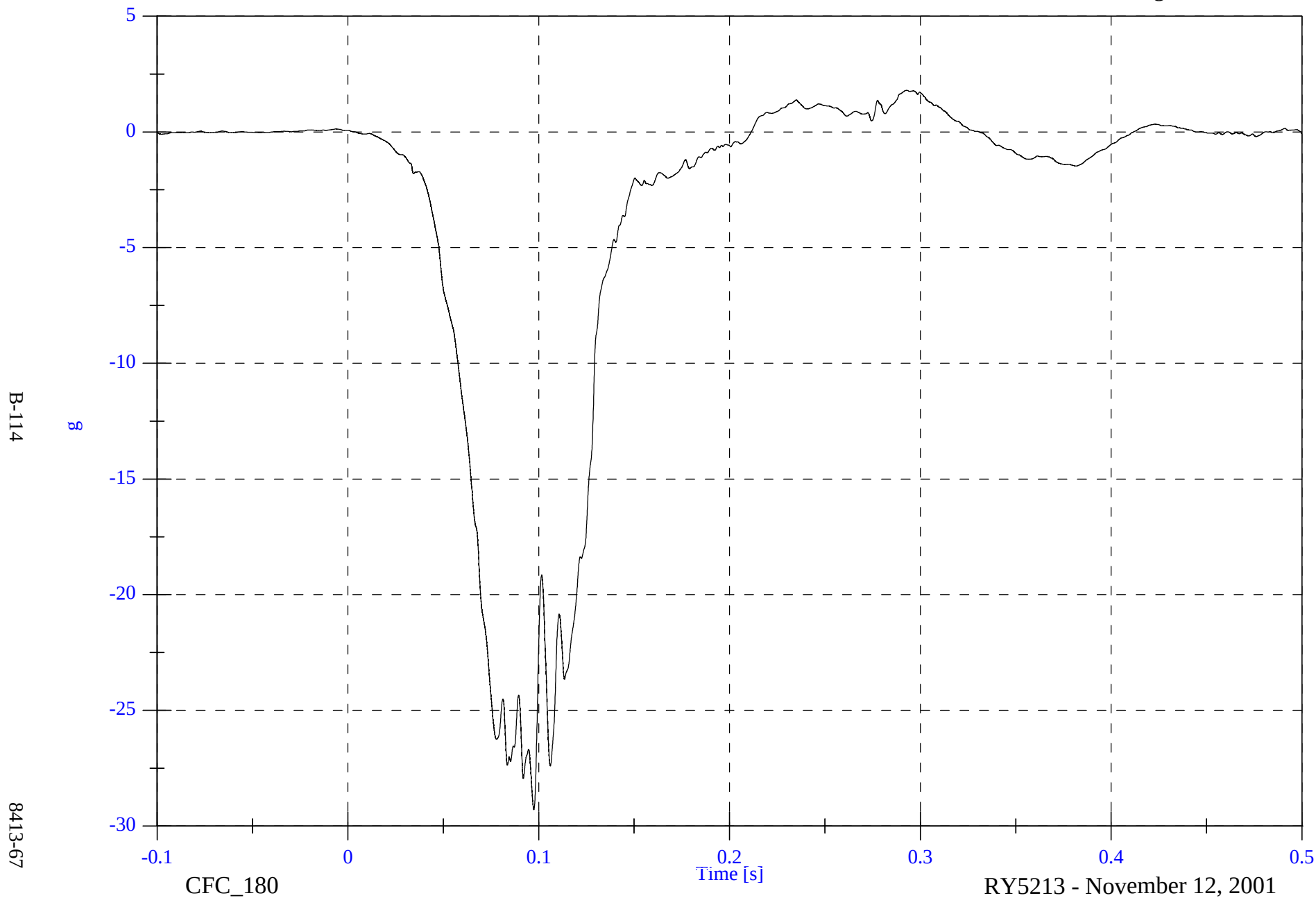


40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Chest Red Ax

Max: 1.8 [g] at 0.293 [s]

Min: -29.3 [g] at 0.097 [s]

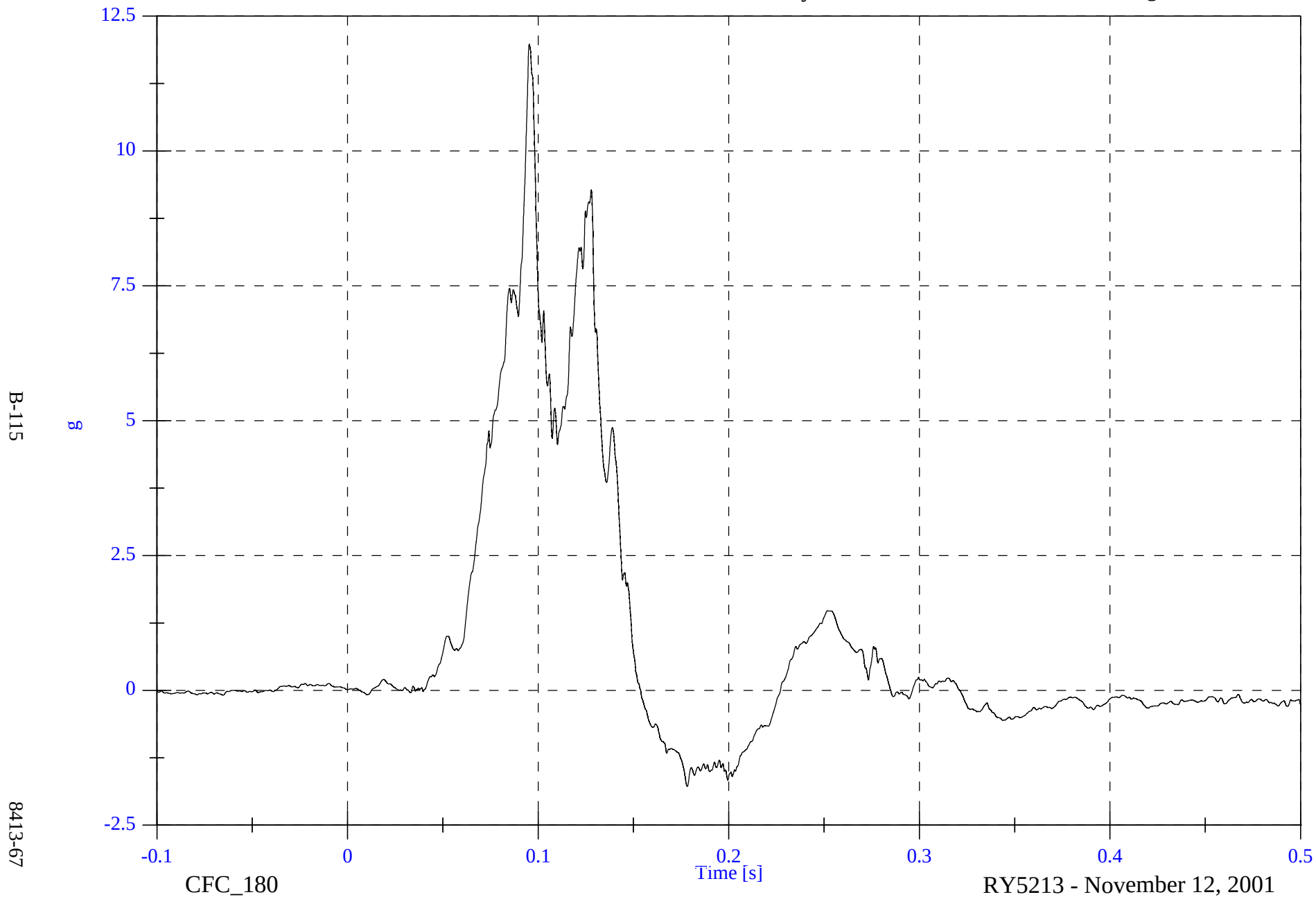


40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Chest Red Ay

Max: 12.0 [g] at 0.095 [s]

Min: -1.8 [g] at 0.178 [s]

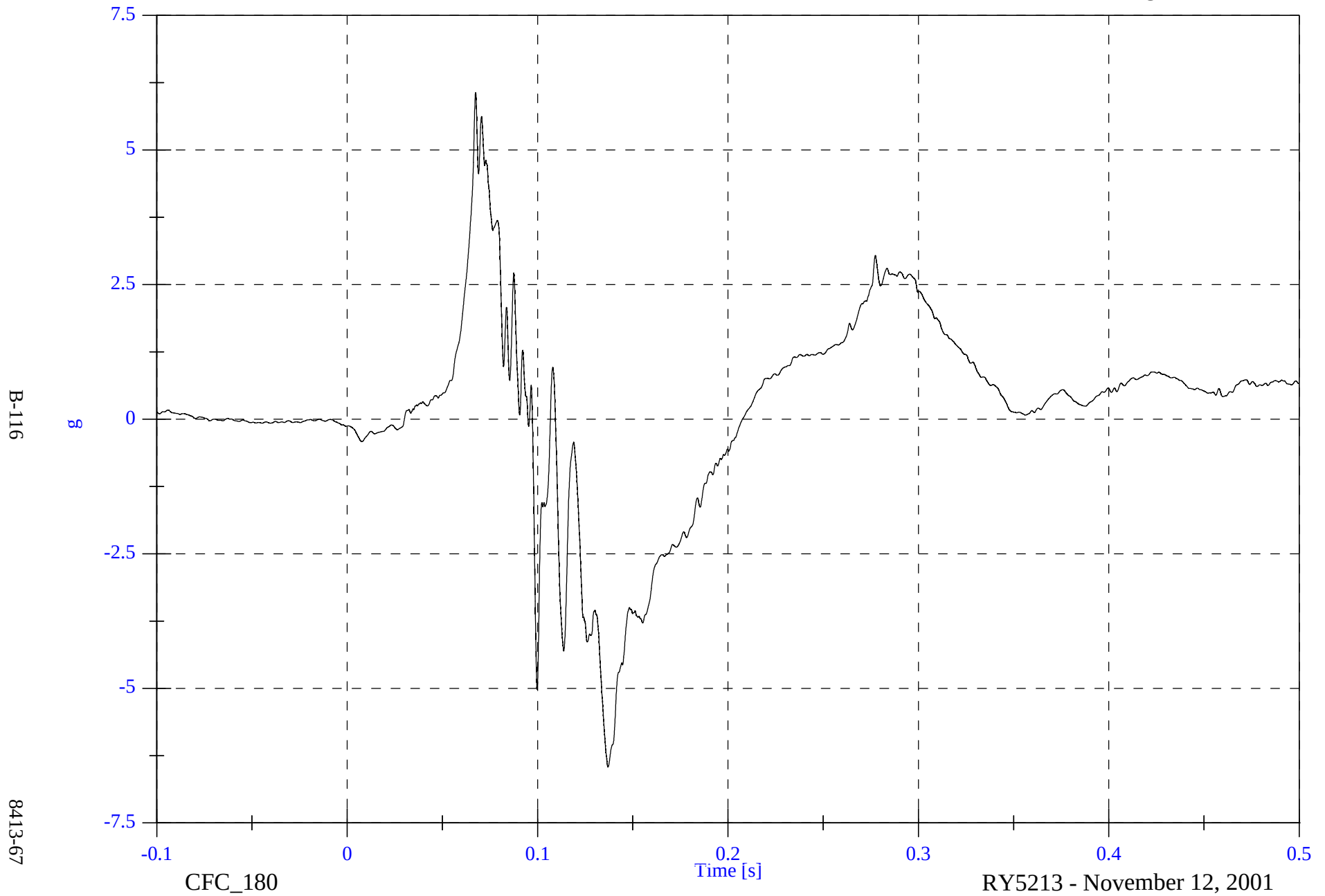


40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Chest Red Az

Max: 6.1 [g] at 0.067 [s]

Min: -6.5 [g] at 0.137 [s]

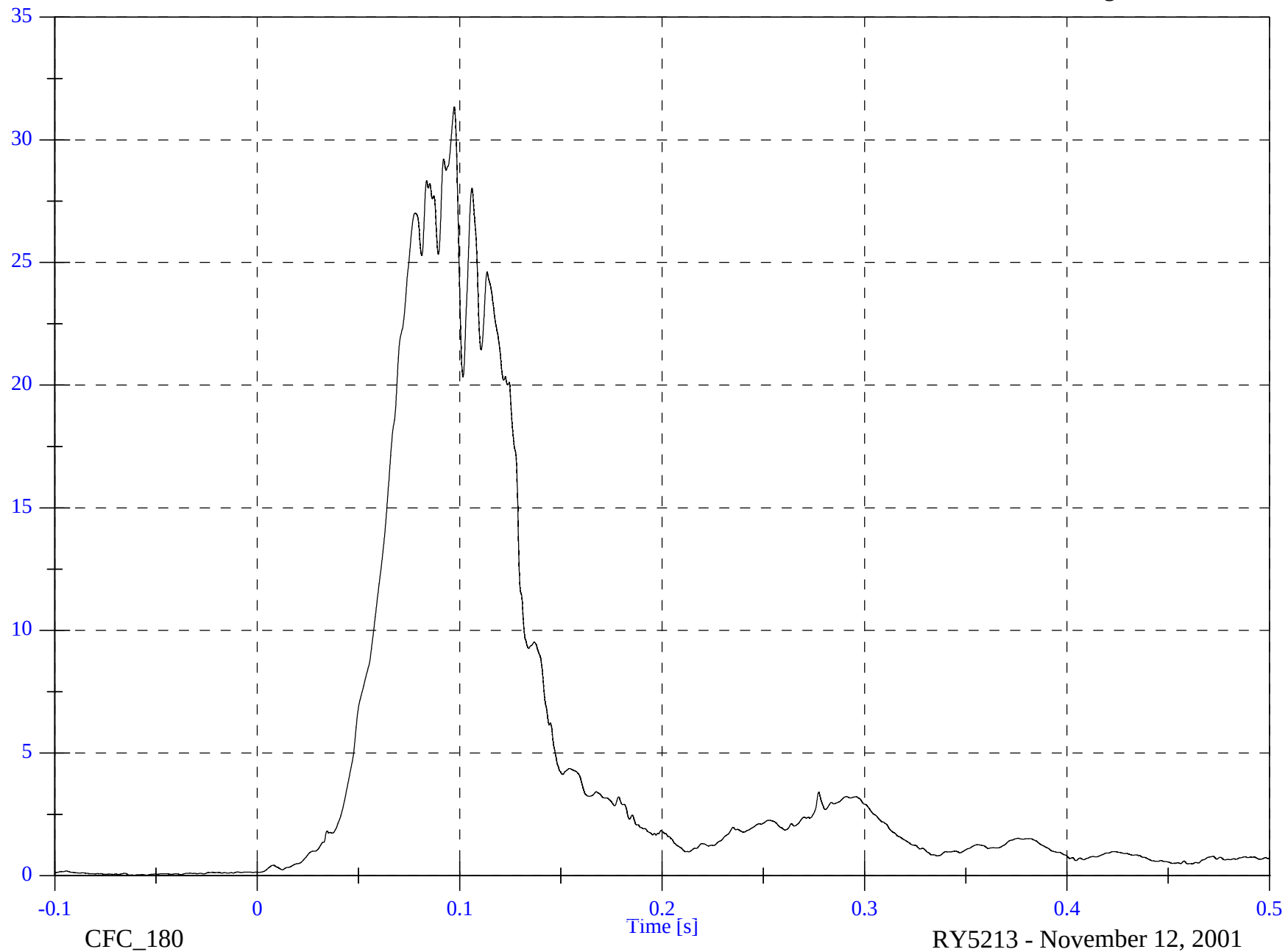


40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Chest Red A Resultant

Max: 31.3 [g] at 0.097 [s]

Min: 0.0 [g] at -0.055 [s]



B-117

8413-67

40% Frontal Offset Test #11 - 2000 Nissan Quest

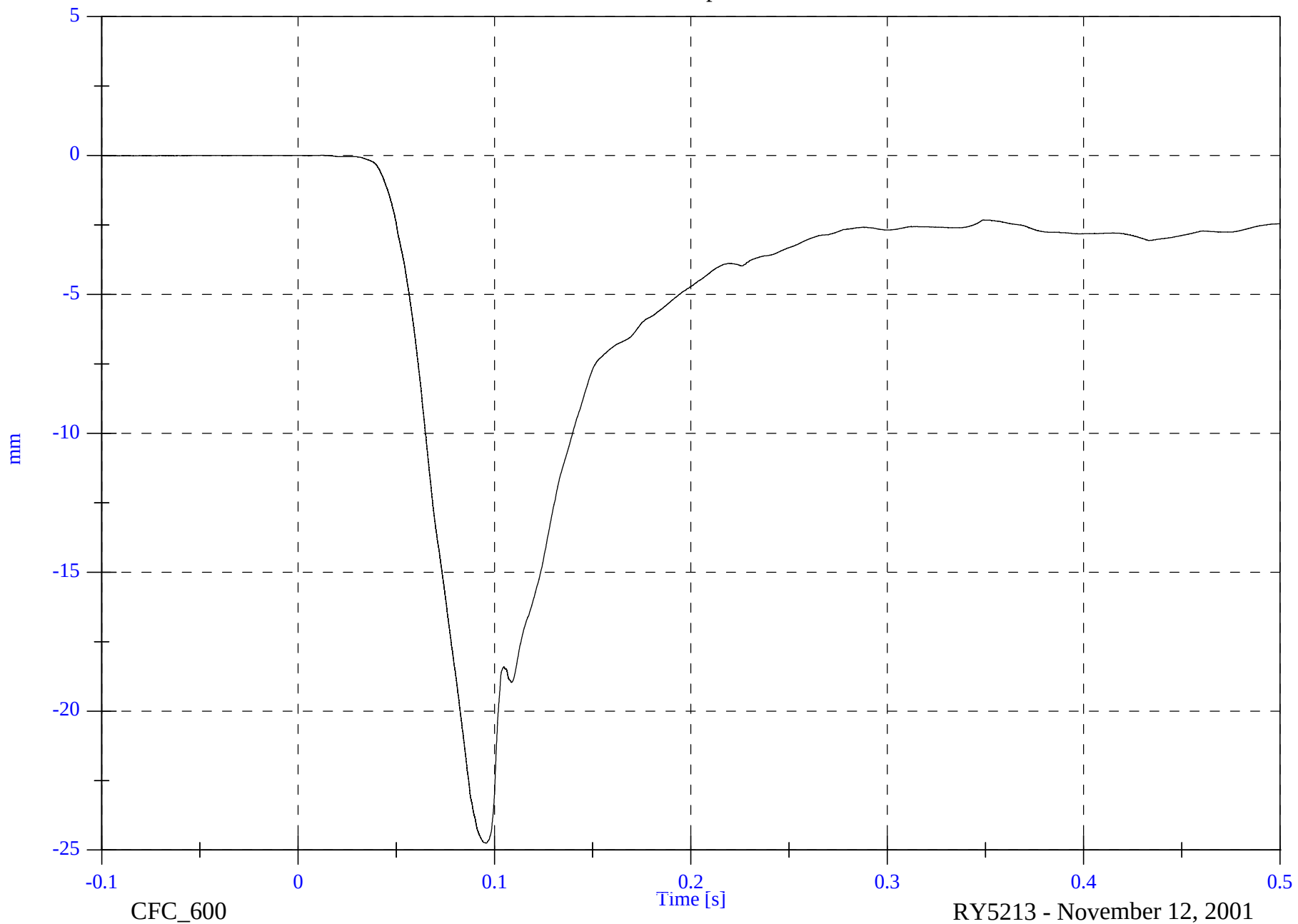
P2 Chest Displacement

Max: 0.0 [mm] at 0.012 [s]

Min: -24.7 [mm] at 0.096 [s]

B-118

8413-67

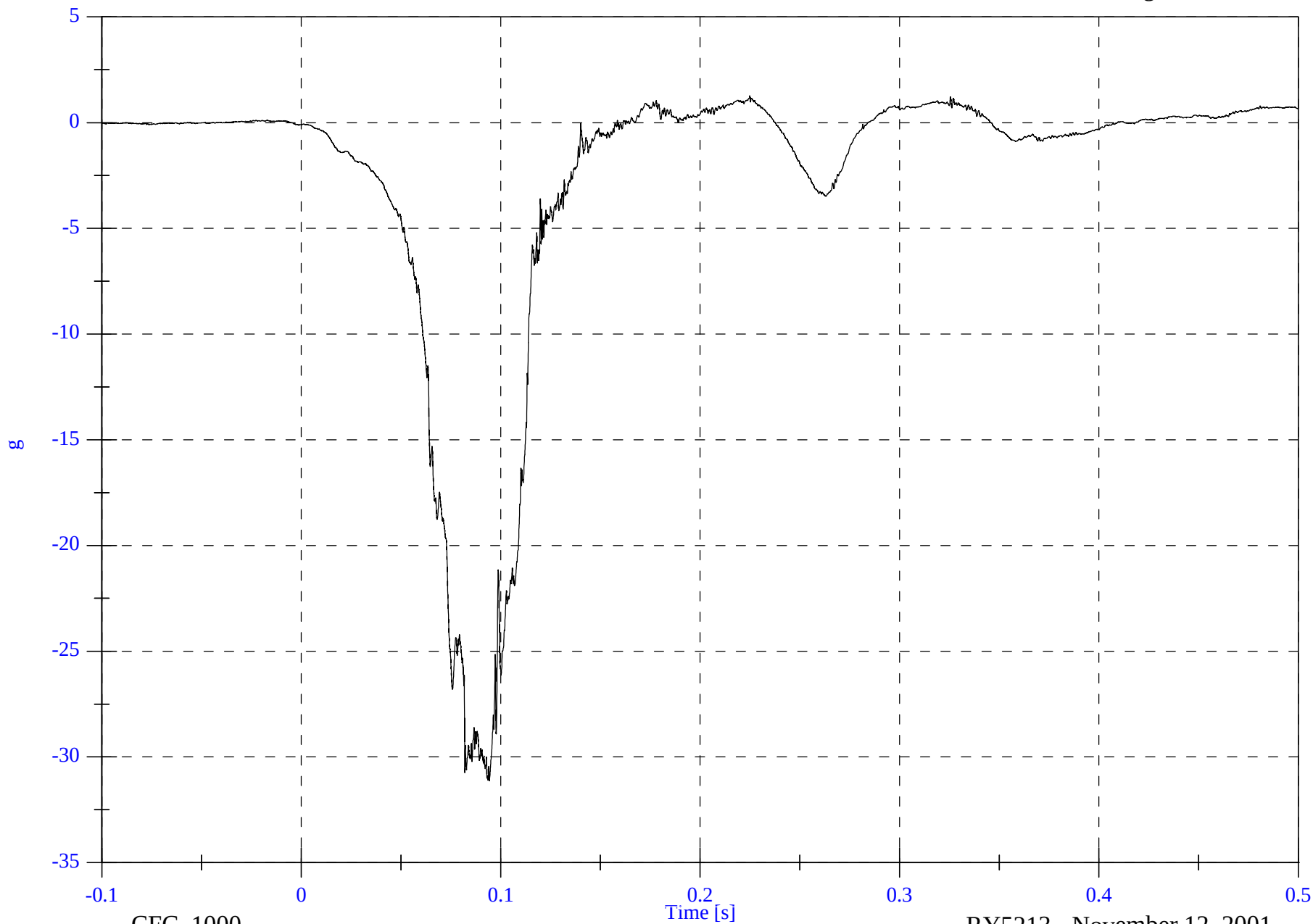


40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Pelvic Ax

Max: 1.3 [g] at 0.225 [s]

Min: -31.1 [g] at 0.094 [s]



B-119

8413-67

CFC_1000

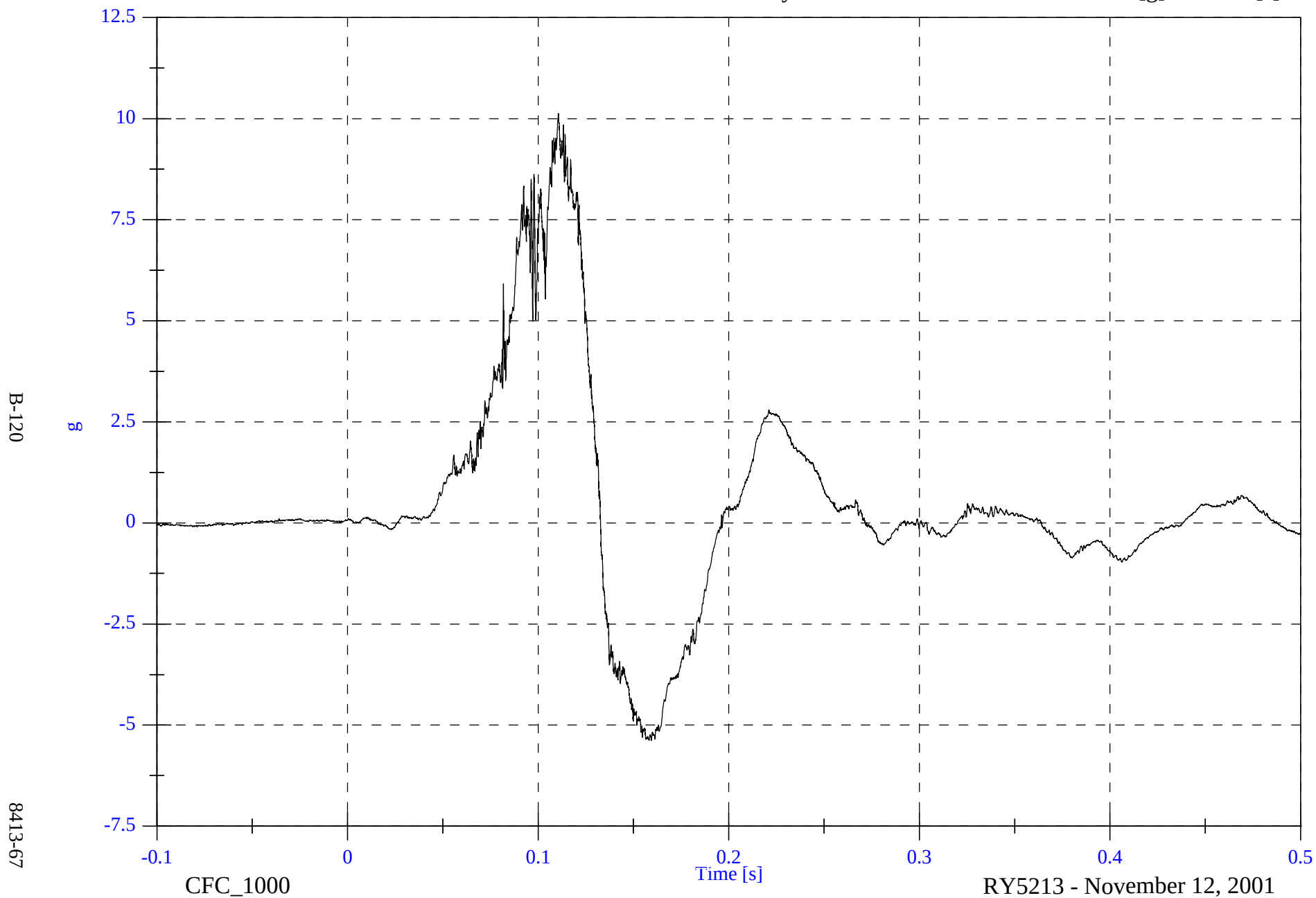
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Pelvic Ay

Max: 10.1 [g] at 0.111 [s]

Min: -5.4 [g] at 0.159 [s]

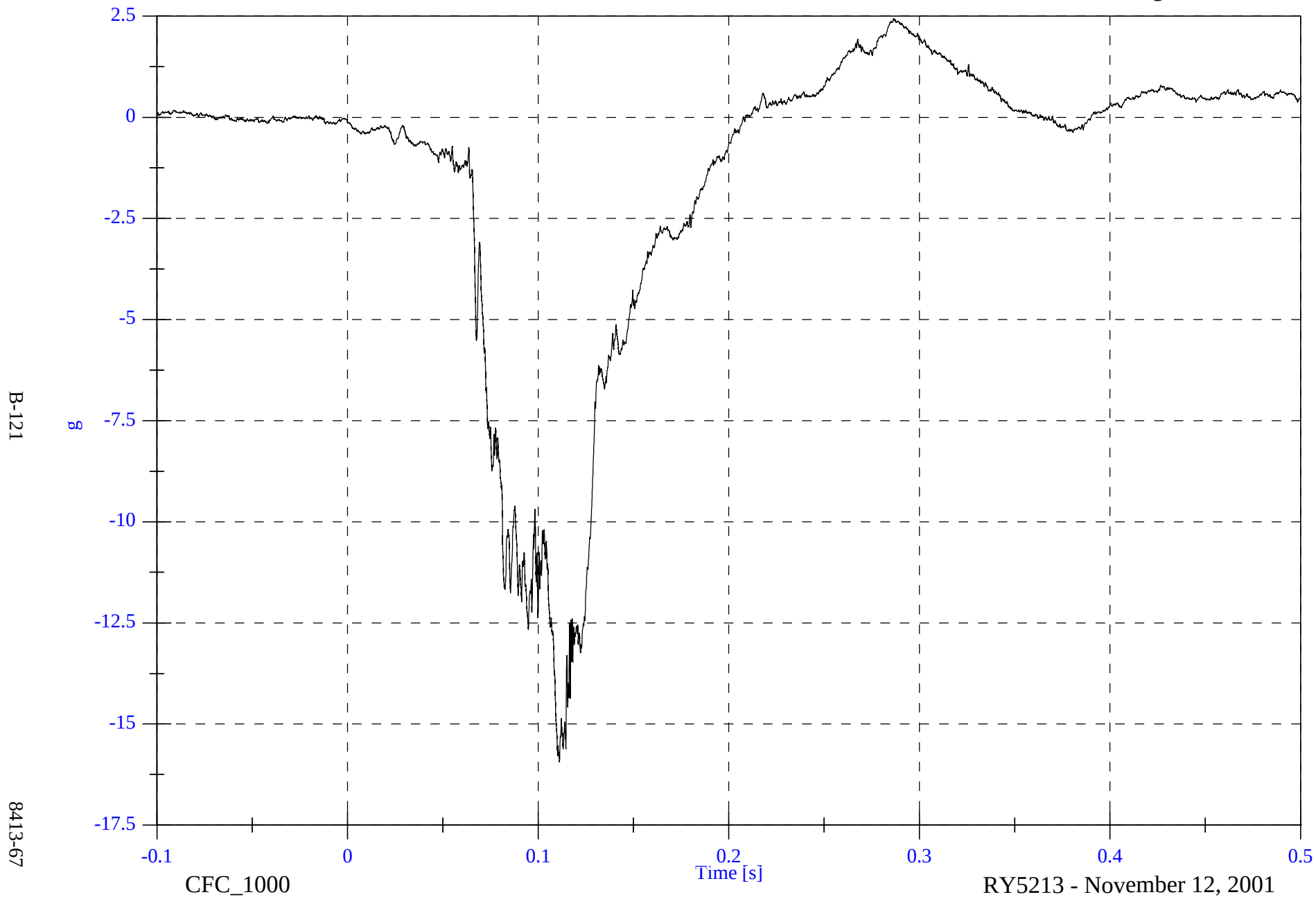


40% Frontal Offset Test #11 - 2000 Nissan Quest

Max: 2.5 [g] at 0.286 [s]

P2 Pelvic Az

Min: -15.9 [g] at 0.111 [s]

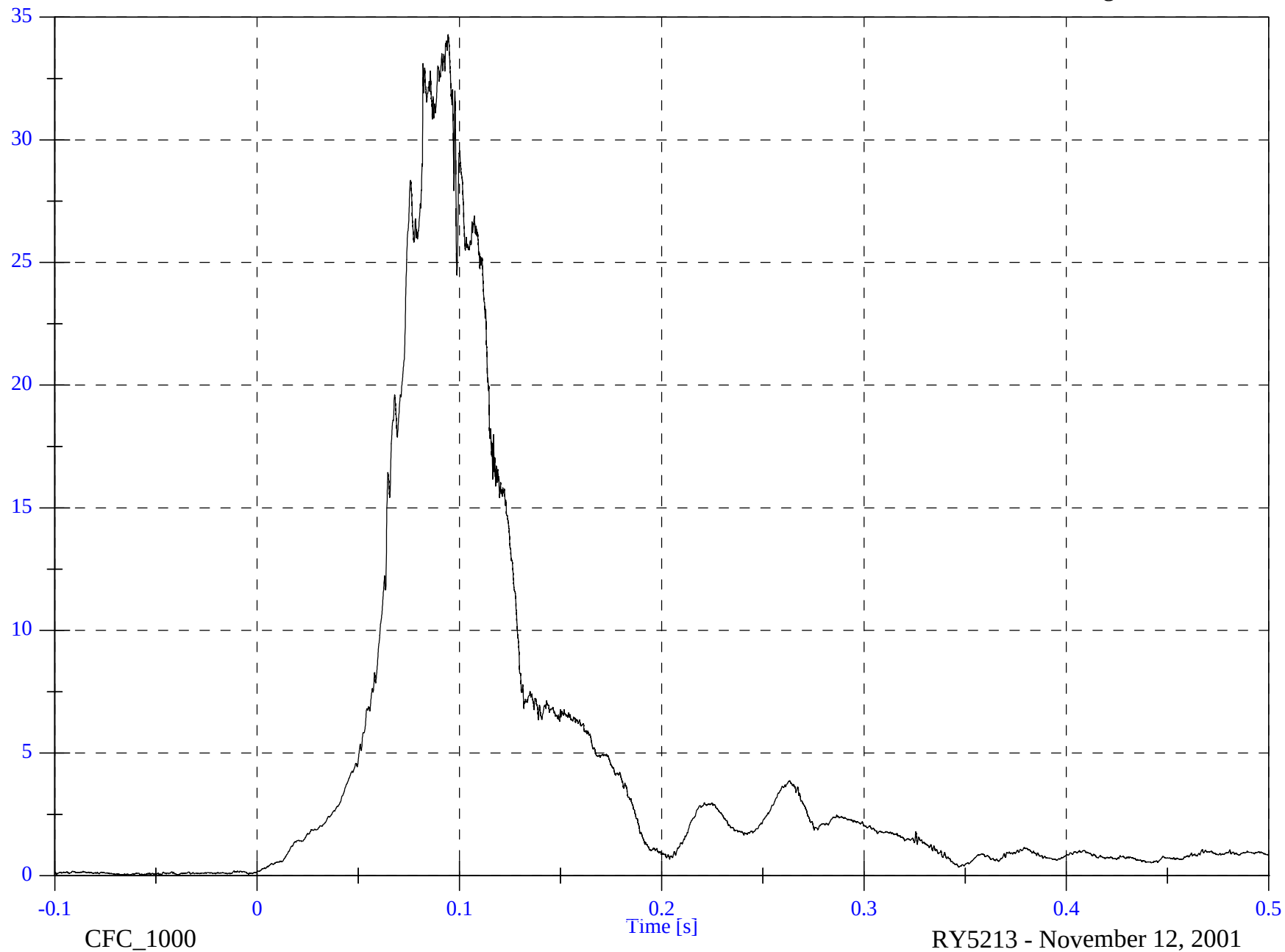


40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Pelvic A Resultant

Max: 34.3 [g] at 0.094 [s]

Min: 0.0 [g] at -0.066 [s]



B-122

8413-67

CFC_1000

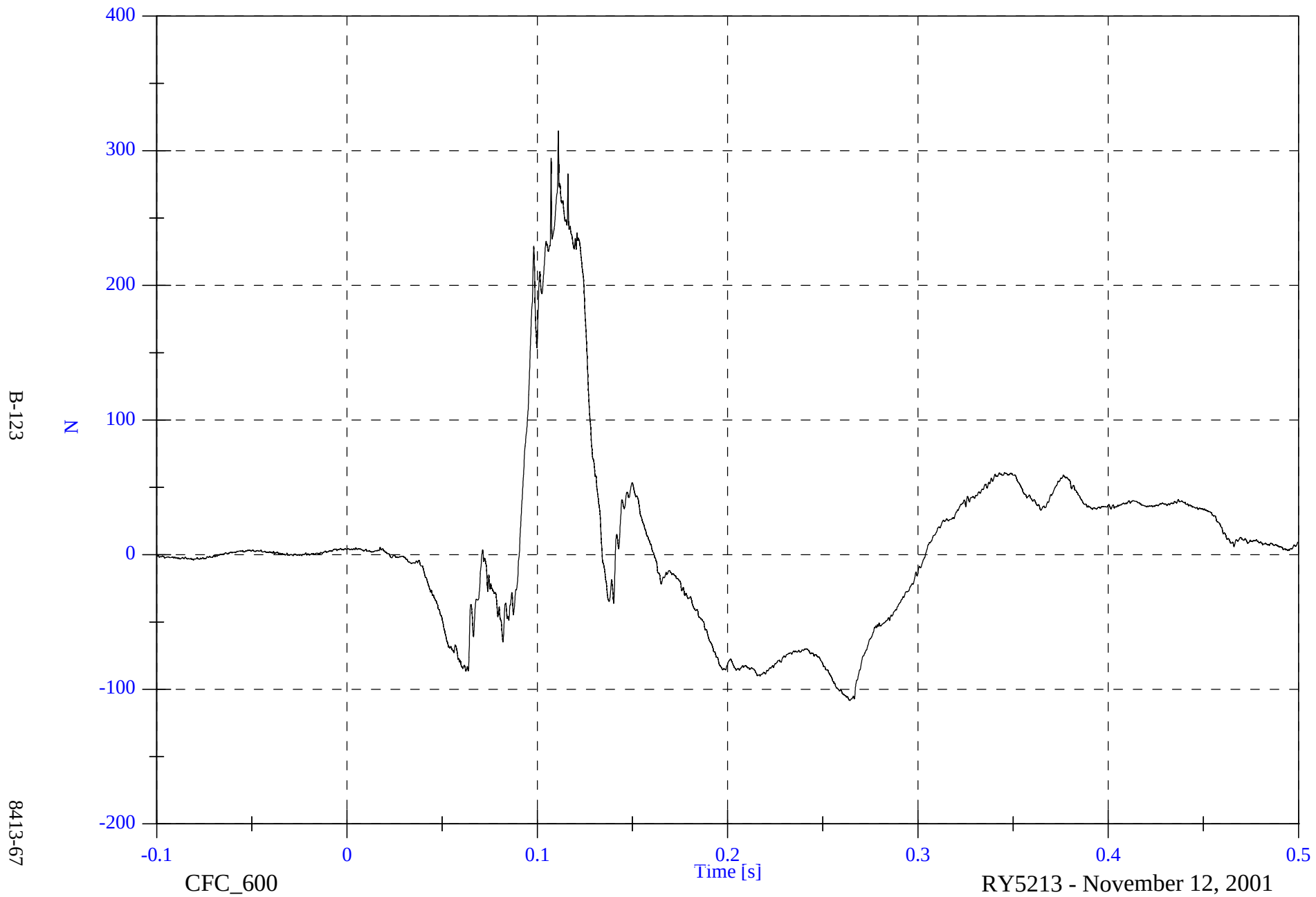
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Left Femur Fx

Max: 314.9 [N] at 0.111 [s]

Min: -108.5 [N] at 0.264 [s]

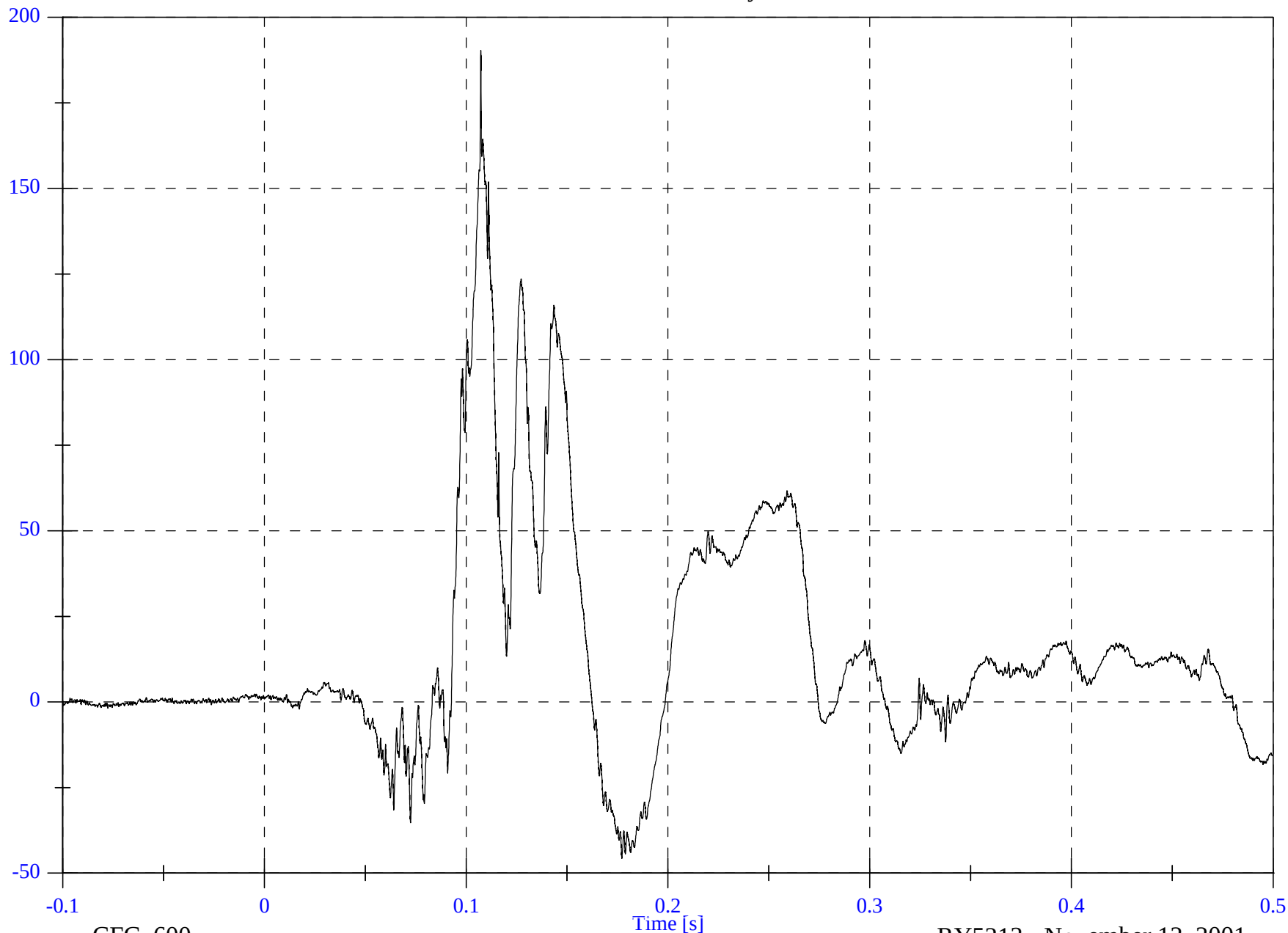


40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Left Femur Fy

Max: 190.3 [N] at 0.107 [s]

Min: -45.6 [N] at 0.177 [s]



B-124

8413-67

CFC_600

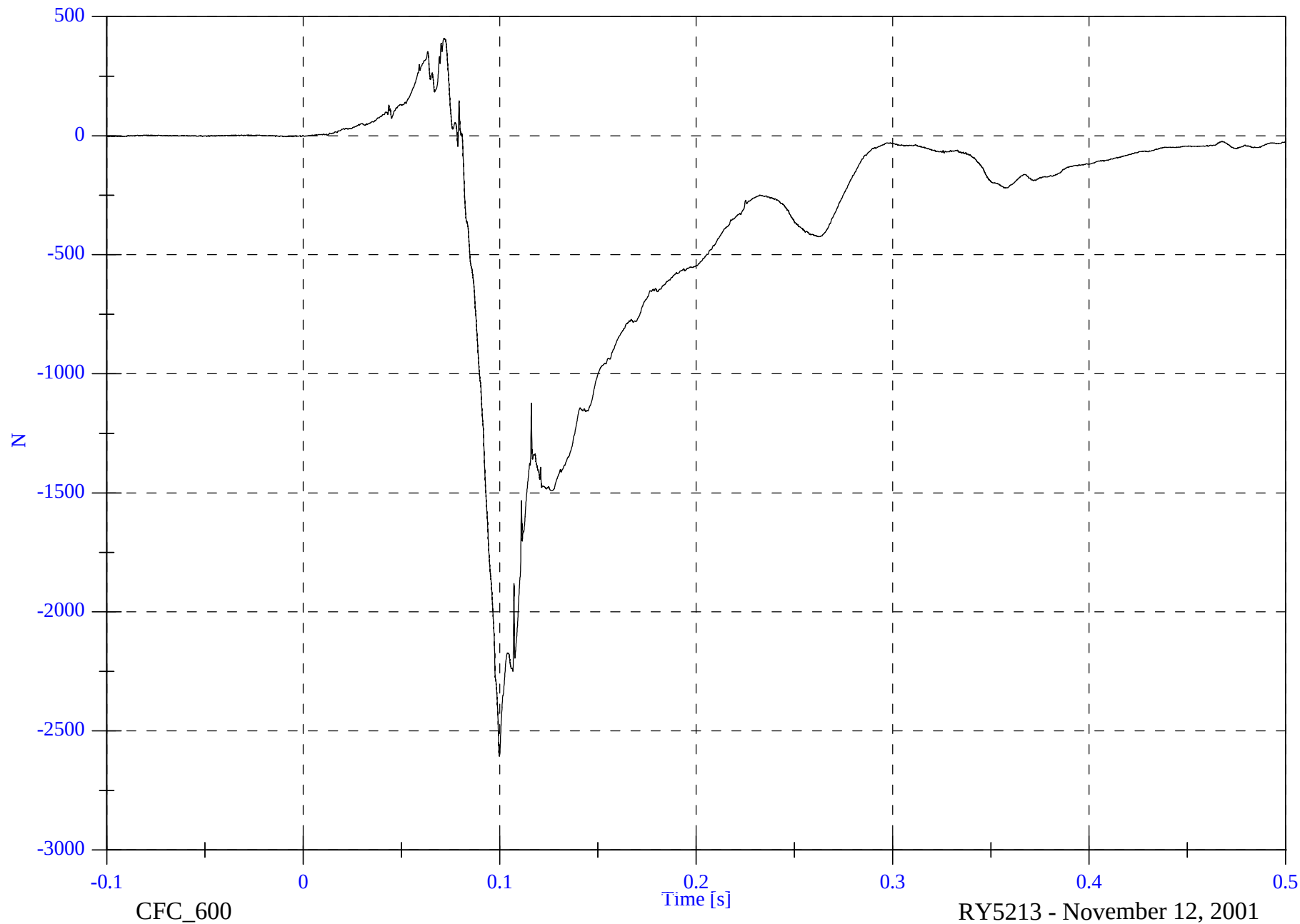
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Left Femur Fz

Max: 409.4 [N] at 0.072 [s]

Min: -2606.2 [N] at 0.100 [s]



B-125

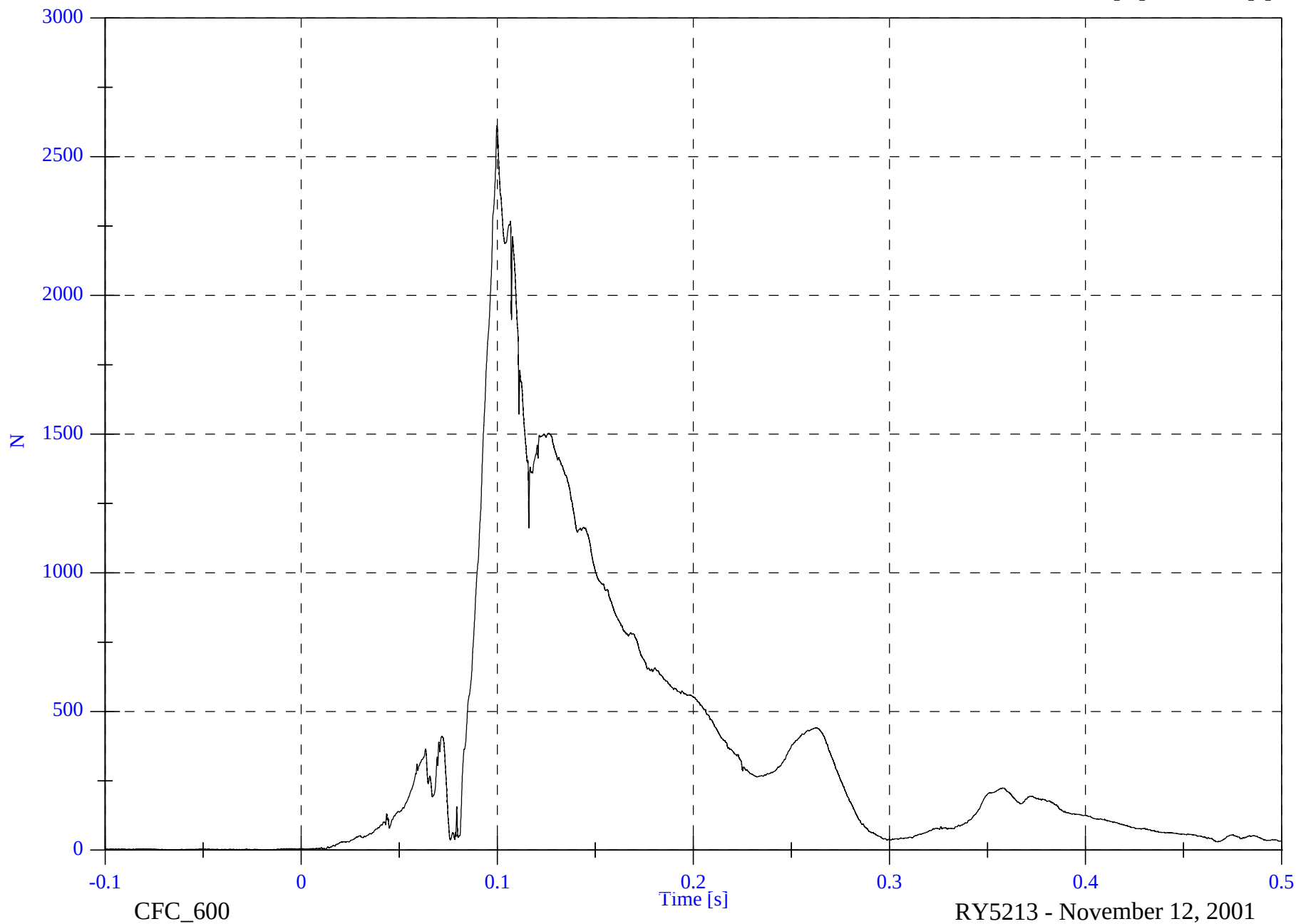
8413-67

40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Left Femur F Resultant

Max: 2612.4 [N] at 0.100 [s]

Min: 0.1 [N] at -0.020 [s]



B-126

8413-67

CFC_600

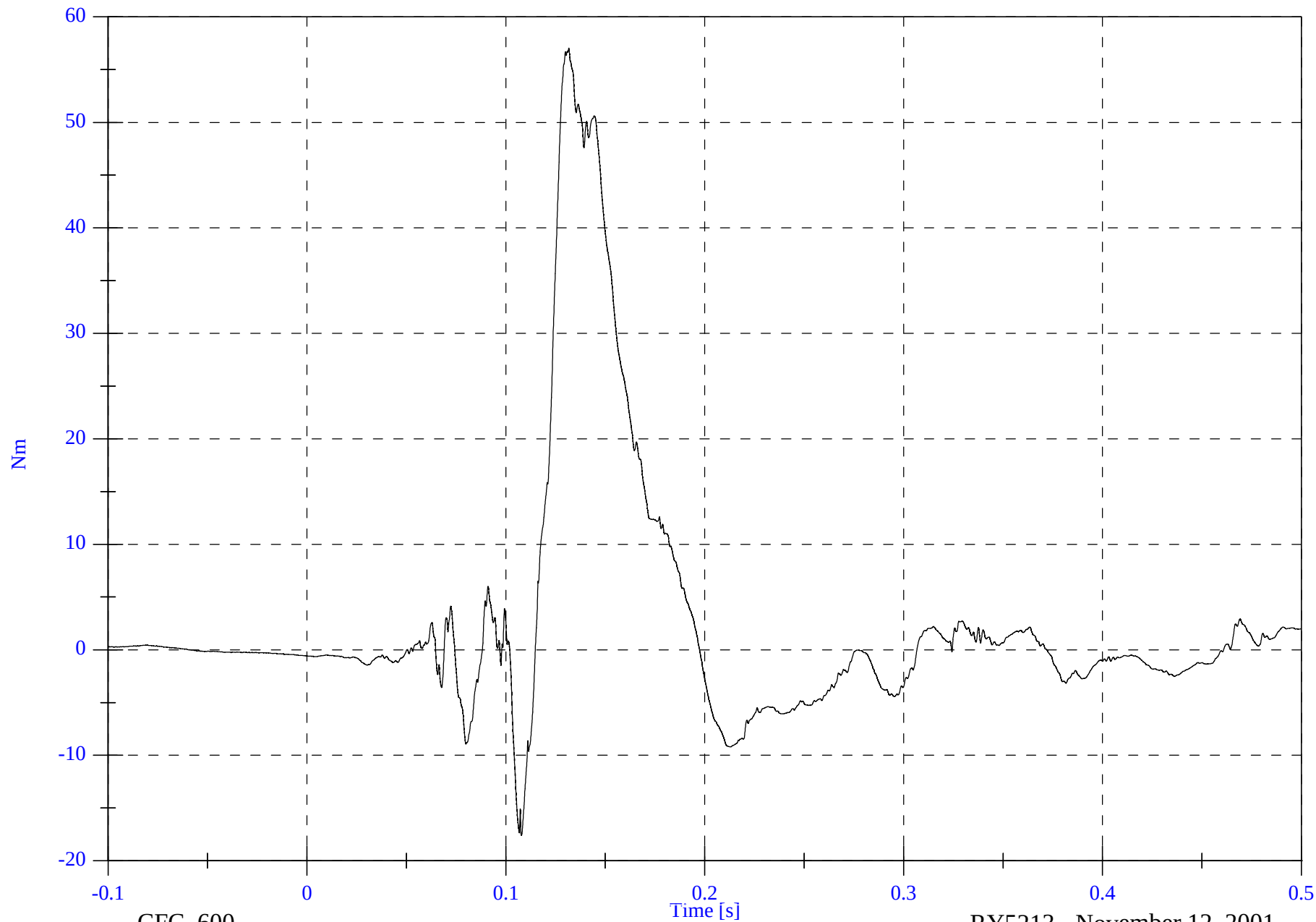
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Left Femur Mx

Max: 57.0 [Nm] at 0.132 [s]

Min: -17.6 [Nm] at 0.108 [s]



B-127

8413-67

CFC_600

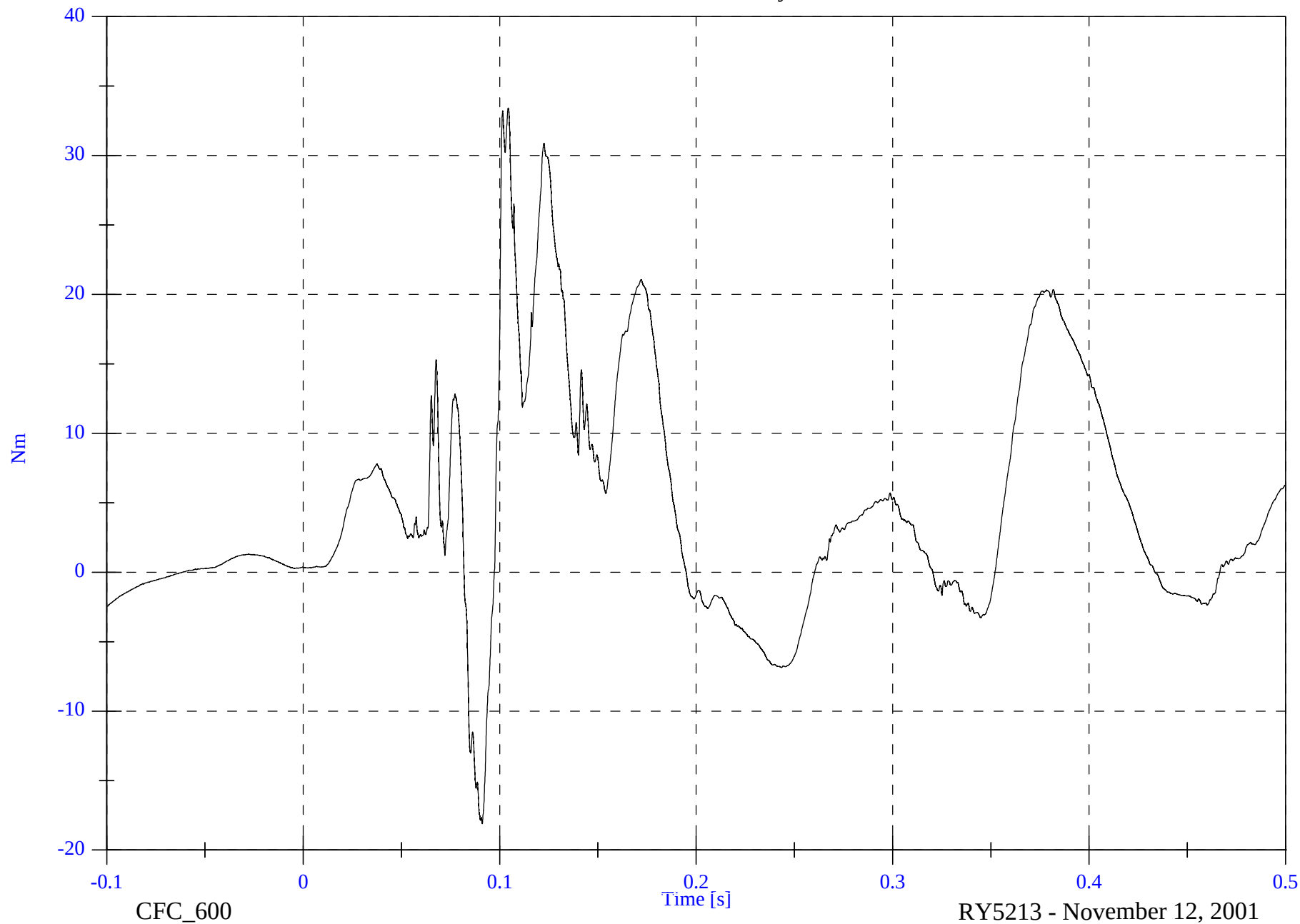
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Left Femur My

Max: 33.4 [Nm] at 0.104 [s]

Min: -18.1 [Nm] at 0.091 [s]



B-128

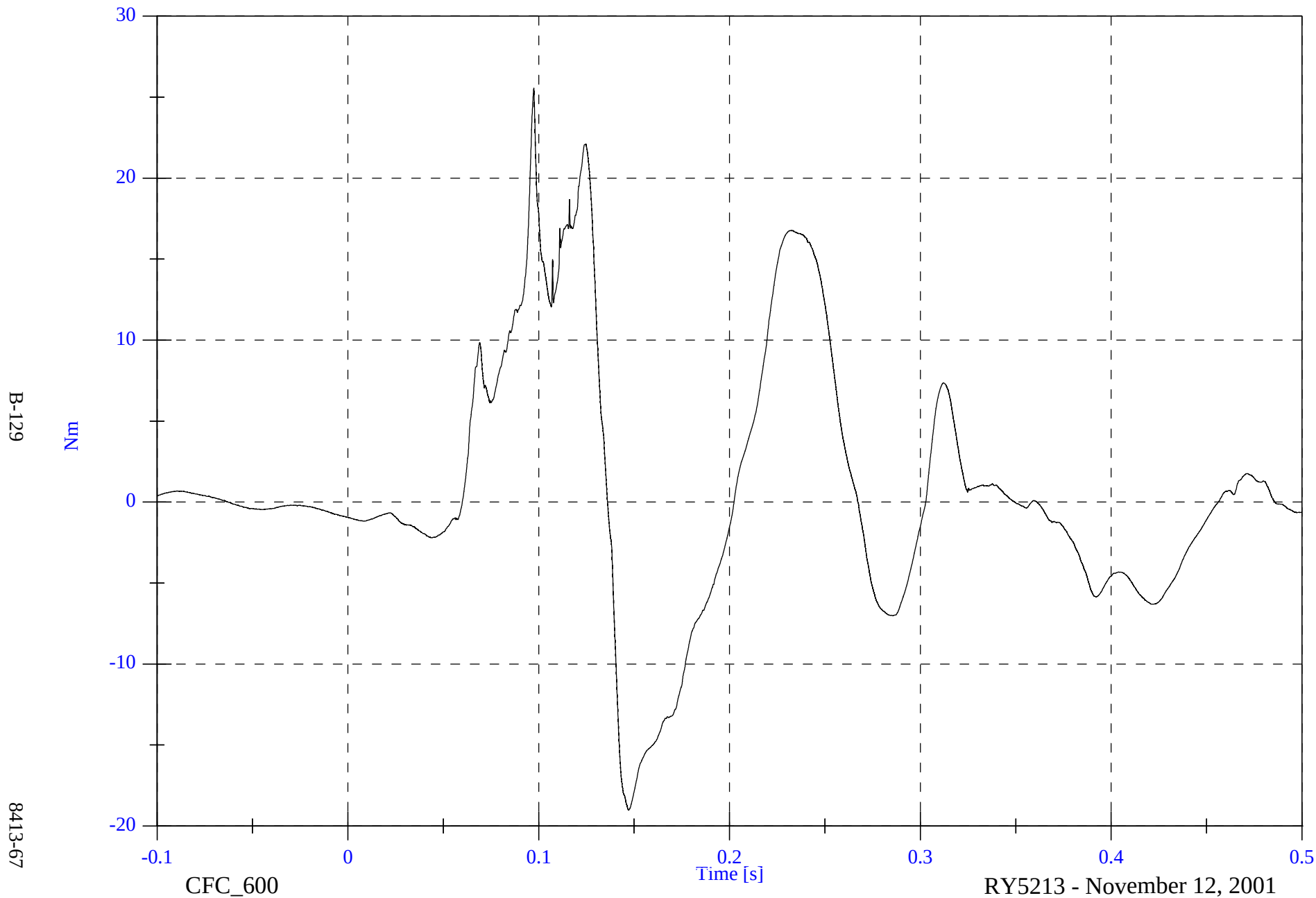
8413-67

40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Left Femur Mz

Max: 25.6 [Nm] at 0.097 [s]

Min: -19.0 [Nm] at 0.147 [s]

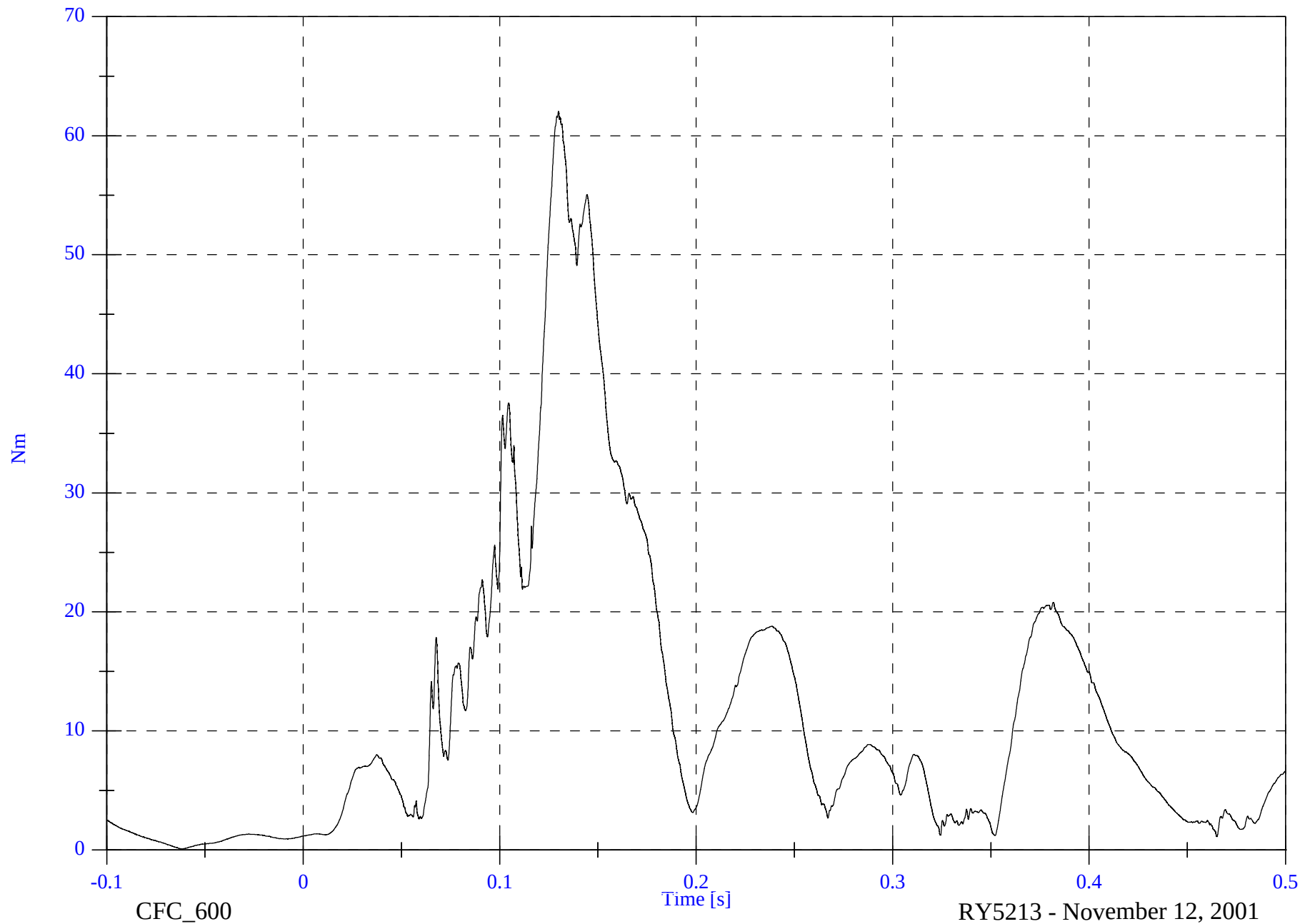


40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Left Femur M Resultant

Max: 62.0 [Nm] at 0.130 [s]

Min: 0.1 [Nm] at -0.061 [s]



B-130

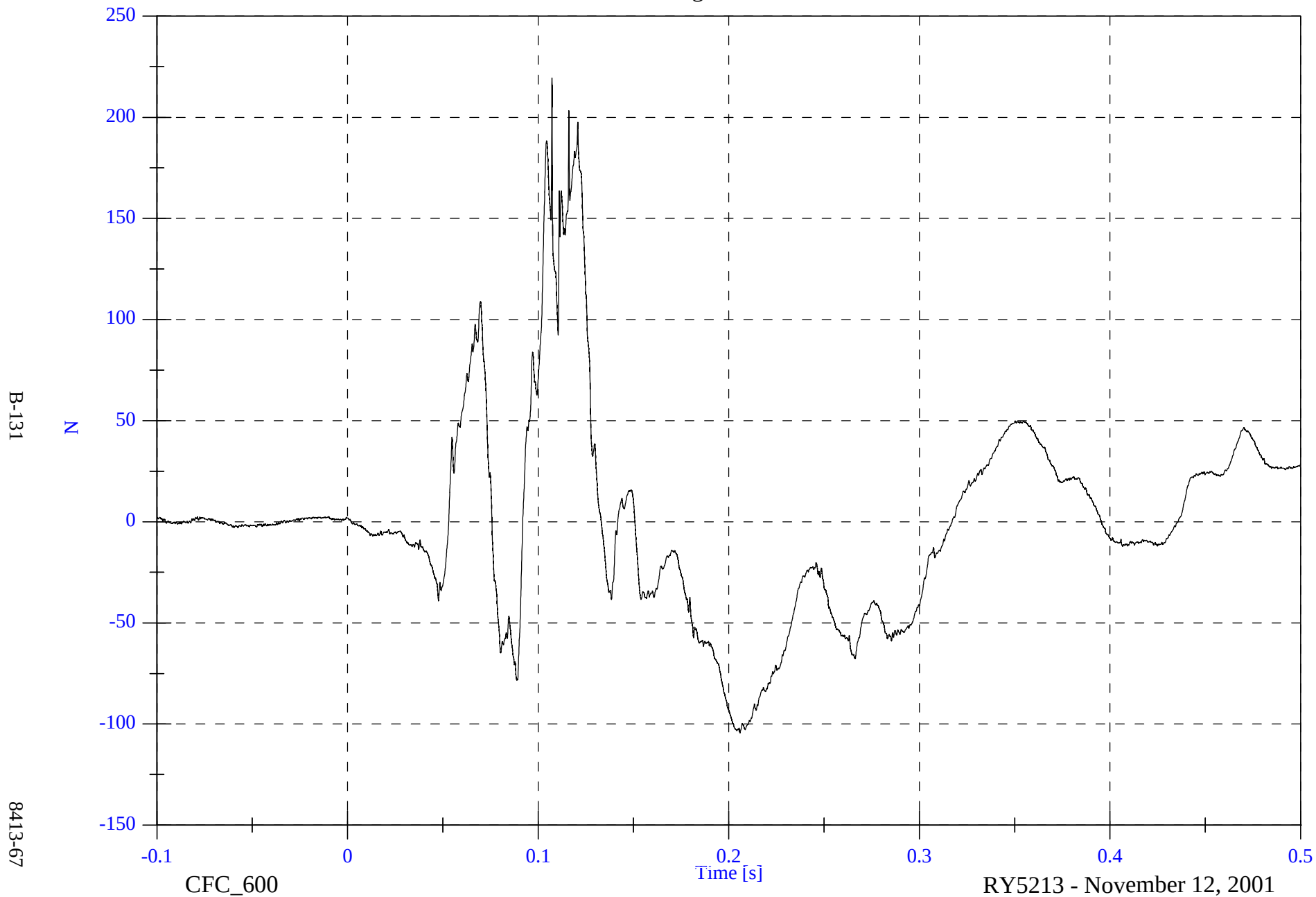
8413-67

40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Right Femur Fx

Max: 219.5 [N] at 0.107 [s]

Min: -104.4 [N] at 0.206 [s]

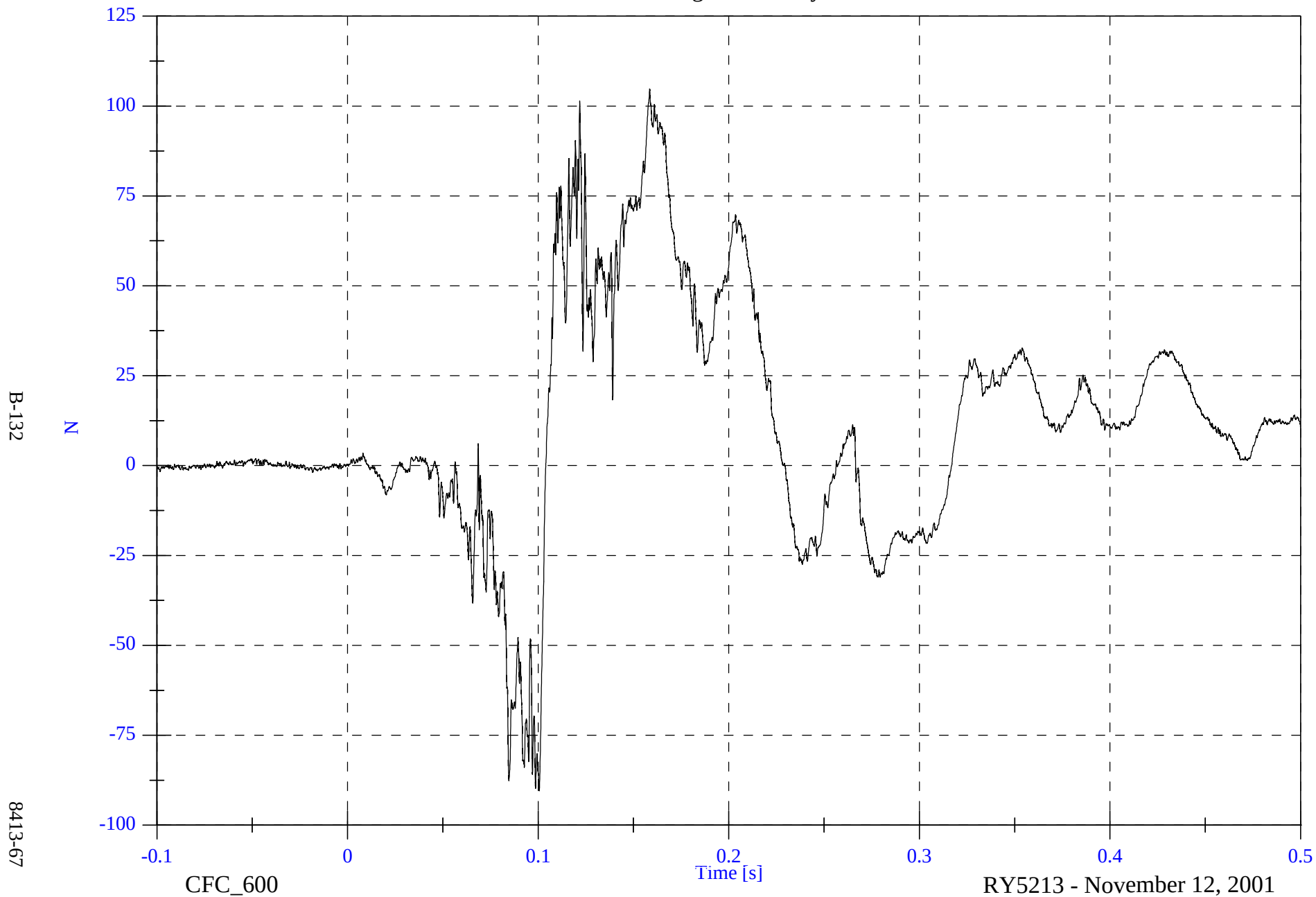


40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Right Femur Fy

Max: 104.8 [N] at 0.159 [s]

Min: -90.5 [N] at 0.101 [s]

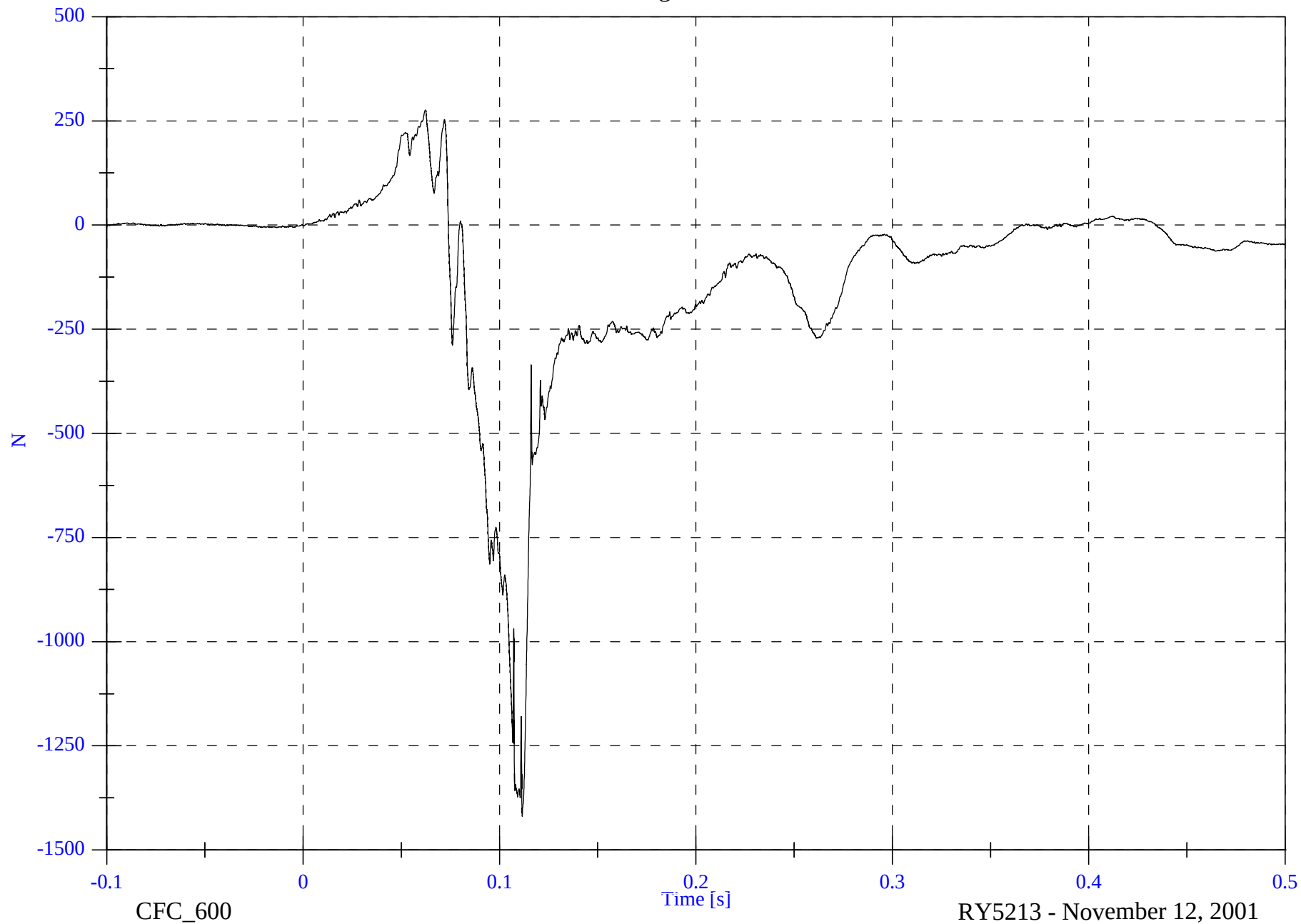


40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Right Femur Fz

Max: 276.3 [N] at 0.062 [s]

Min: -1419.4 [N] at 0.112 [s]

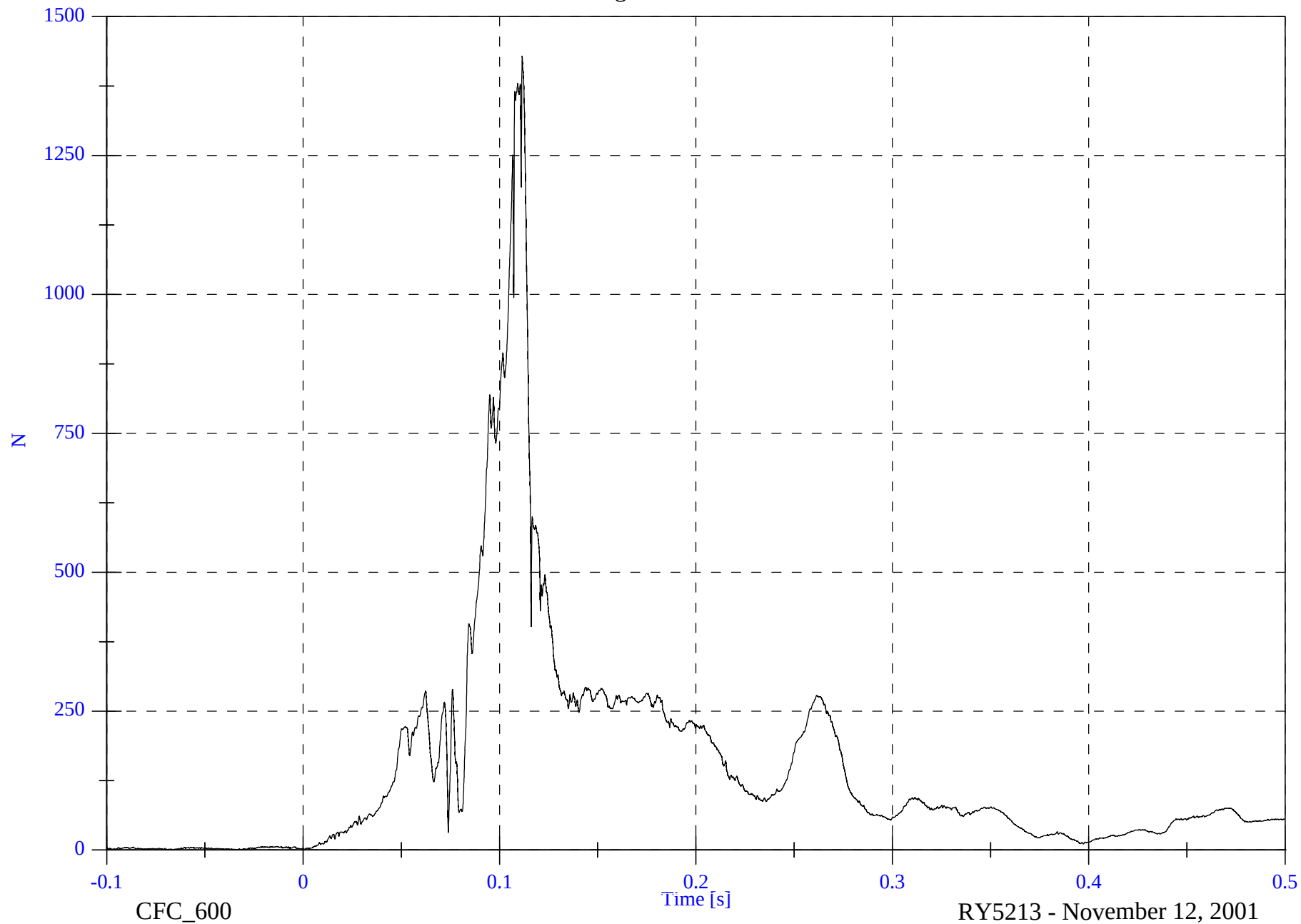


40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Right Femur F Resultant

Max: 1428.5 [N] at 0.112 [s]

Min: 0.1 [N] at -0.034 [s]

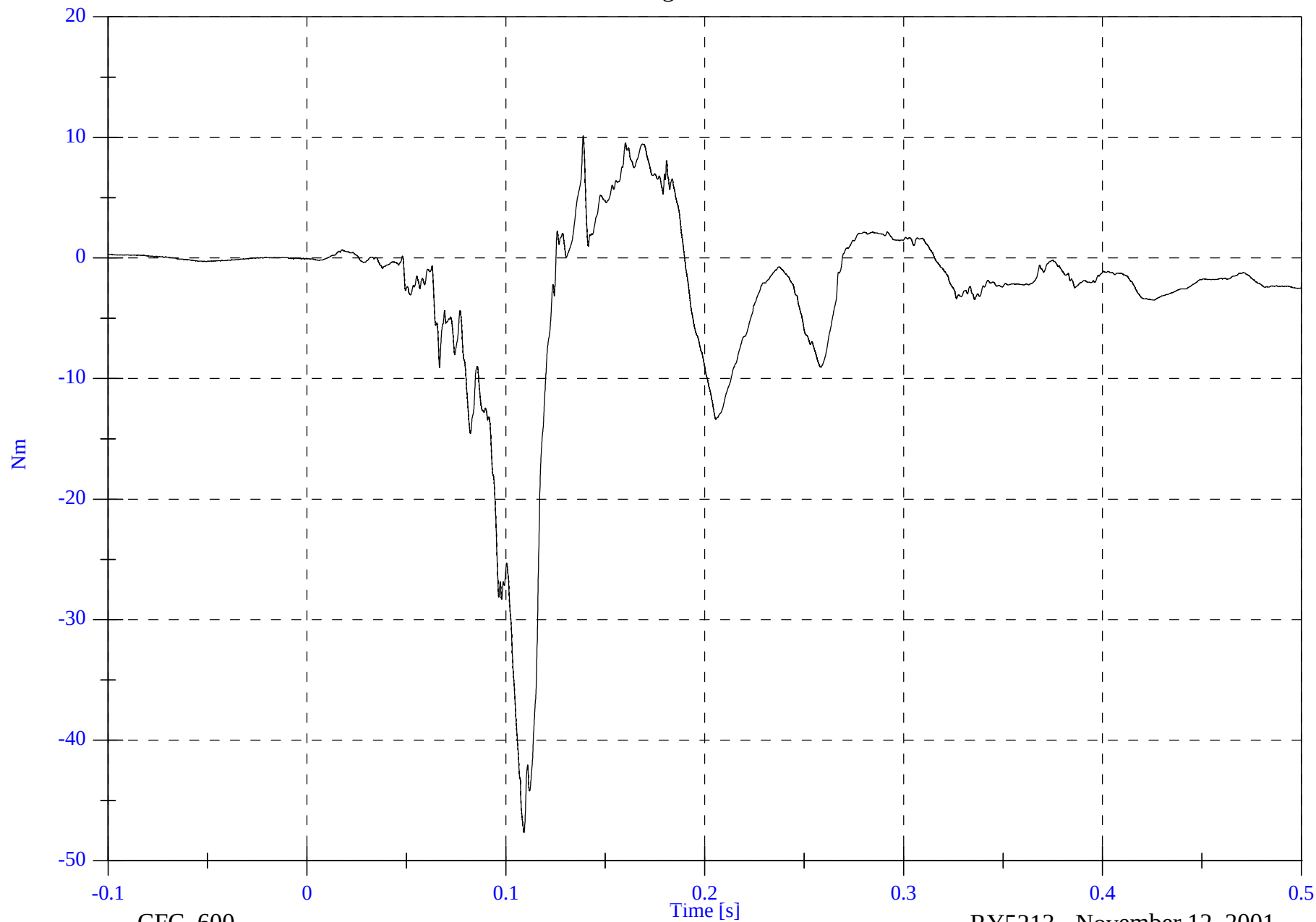


40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Right Femur Mx

Max: 10.1 [Nm] at 0.139 [s]

Min: -47.7 [Nm] at 0.109 [s]



B-135

8413-67

CFC_600

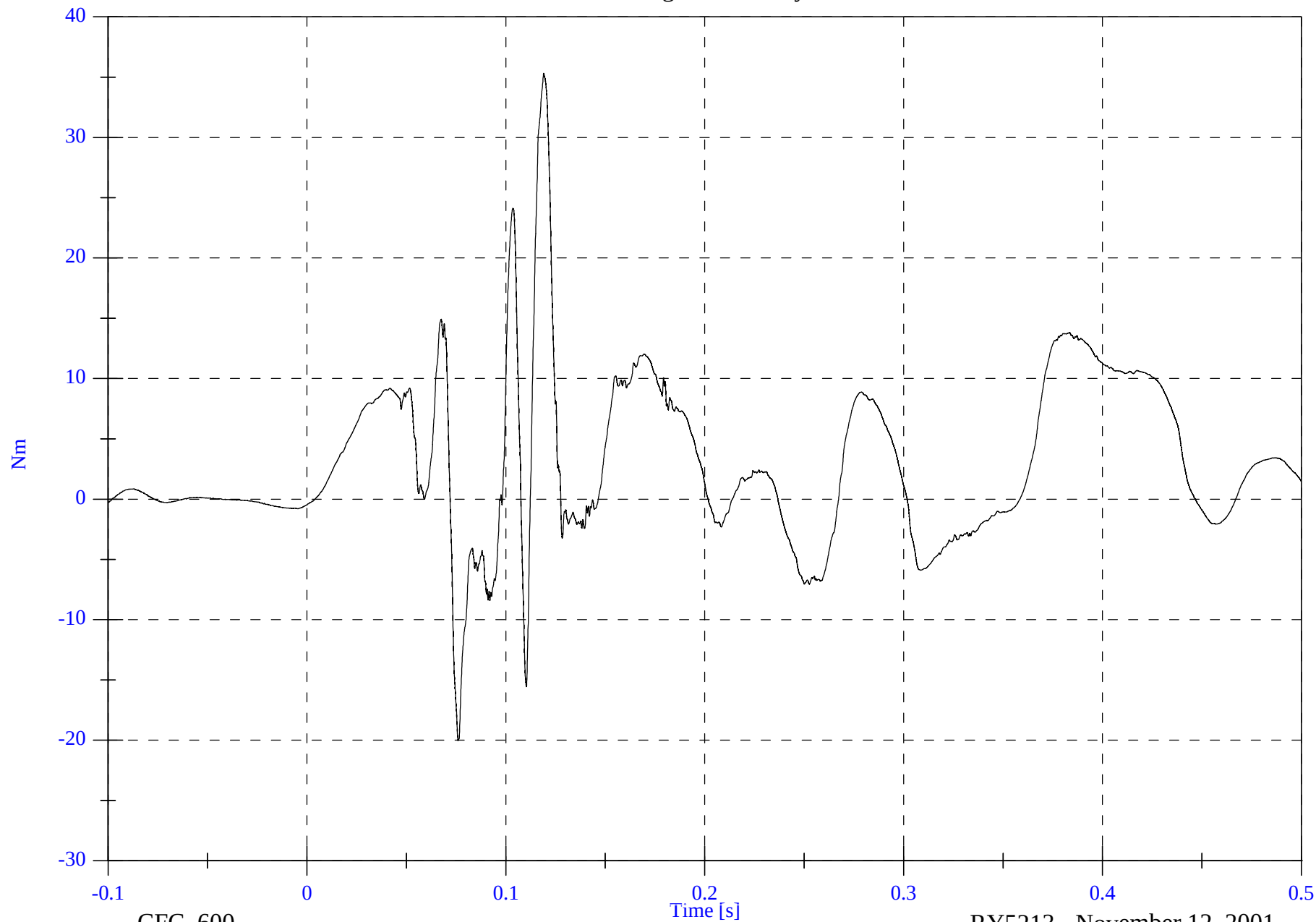
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Right Femur My

Max: 35.3 [Nm] at 0.119 [s]

Min: -20.1 [Nm] at 0.076 [s]



B-136

8413-67

CFC_600

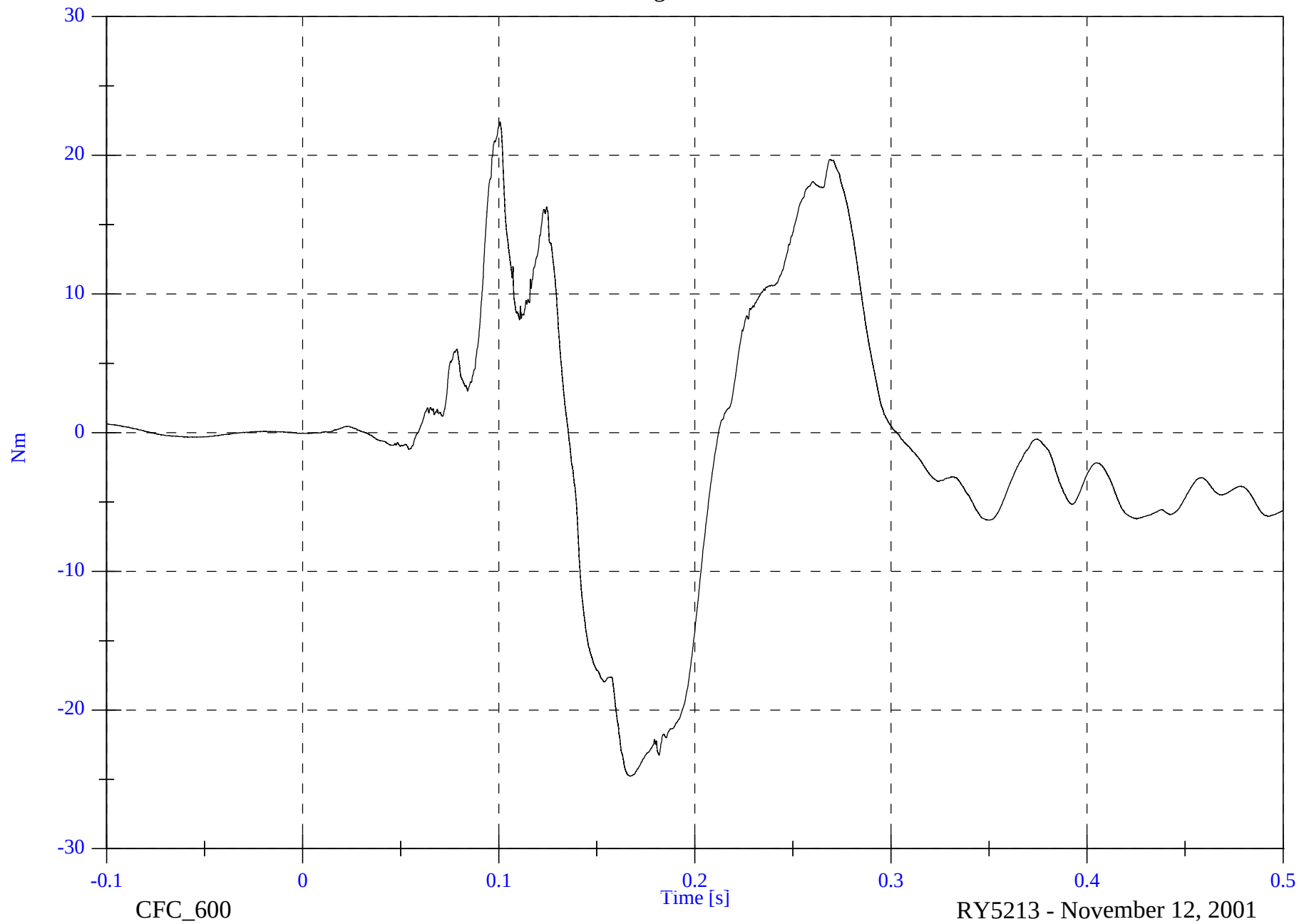
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Right Femur Mz

Max: 22.4 [Nm] at 0.101 [s]

Min: -24.8 [Nm] at 0.167 [s]



B-137

8413-67

CFC_600

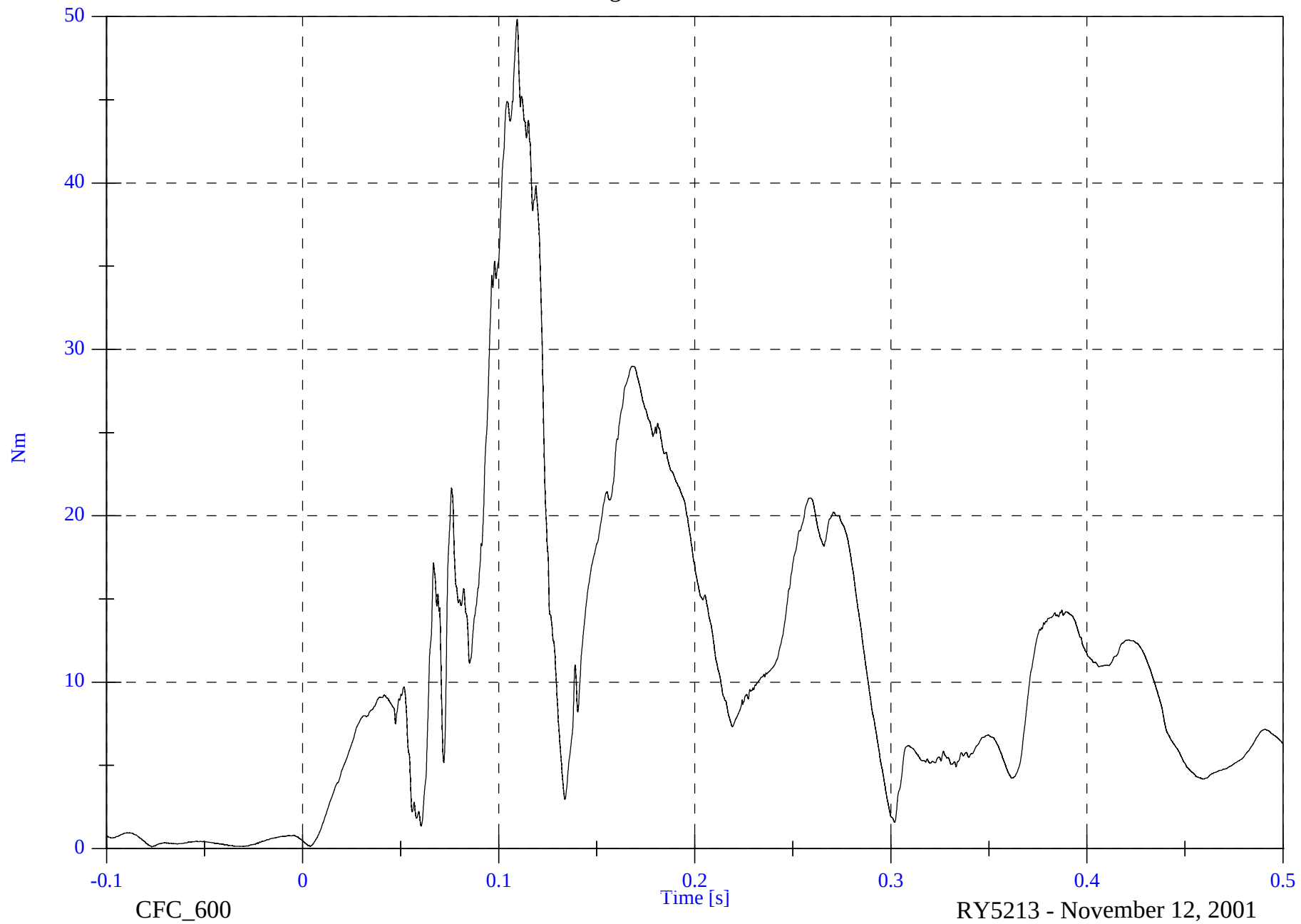
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Right Femur M Resultant

Max: 49.8 [Nm] at 0.109 [s]

Min: 0.1 [Nm] at -0.077 [s]



B-138

8413-67

CFC_600

RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

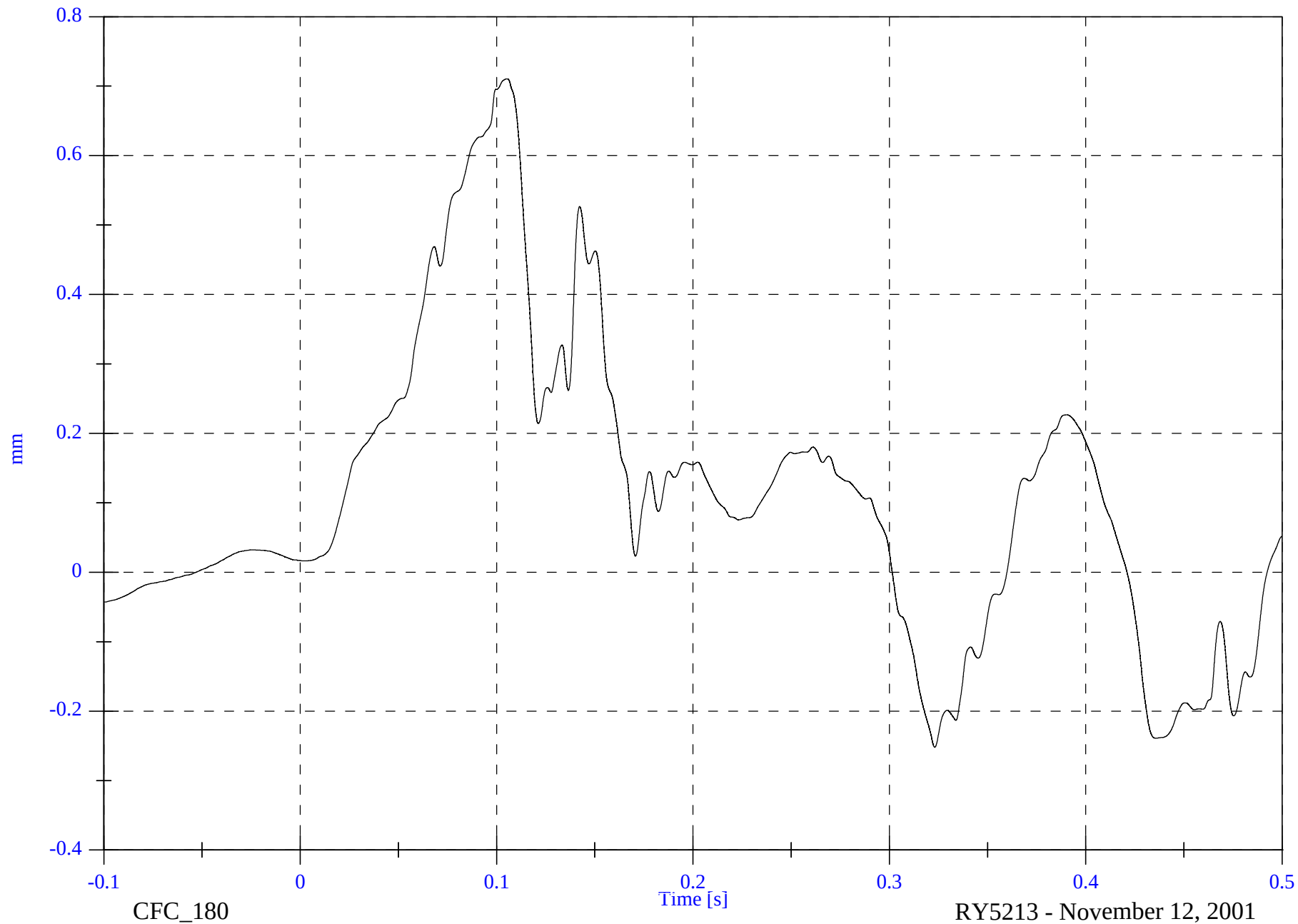
P2 Left Knee Shear

Max: 0.7 [mm] at 0.105 [s]

Min: -0.3 [mm] at 0.323 [s]

B-139

8413-67

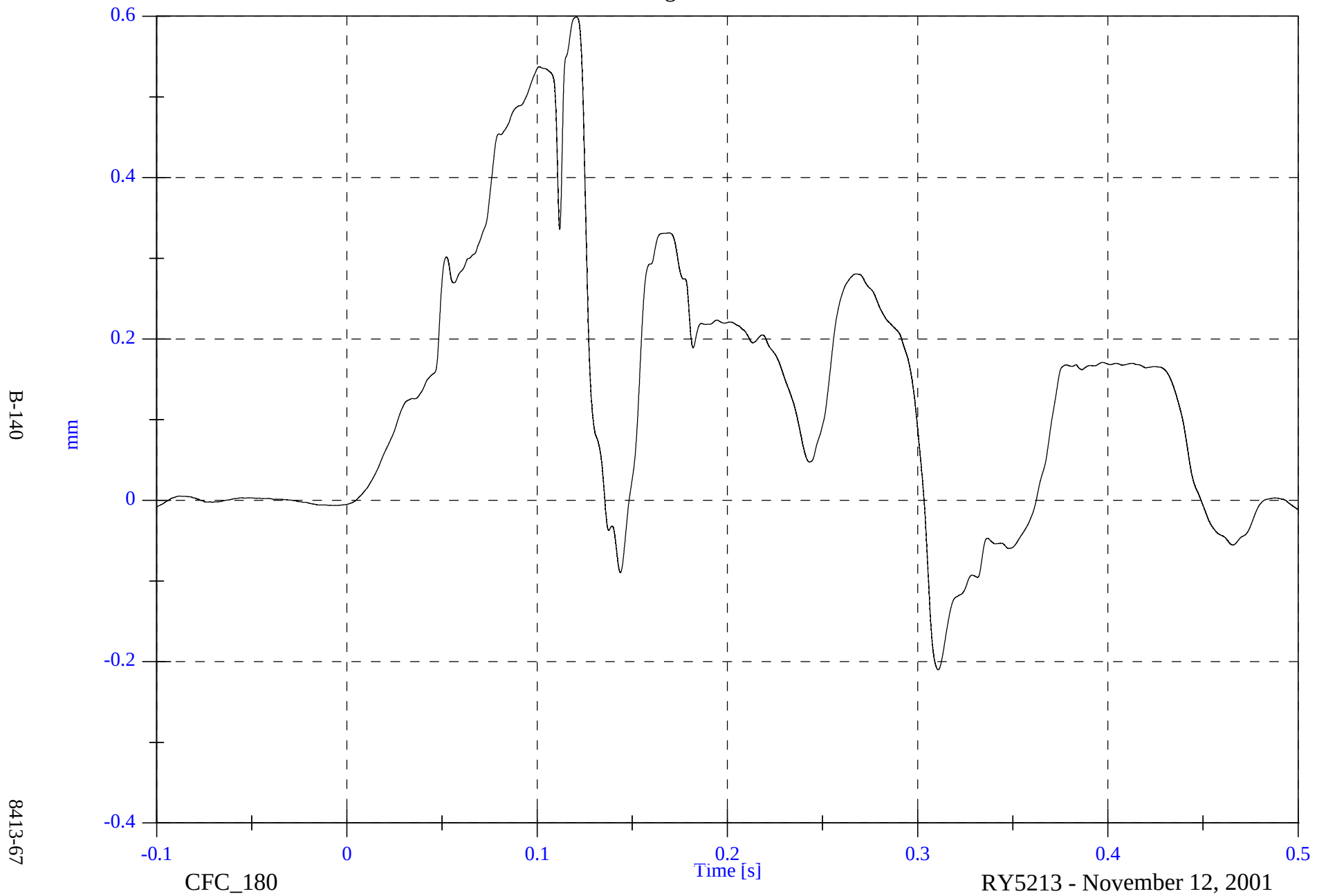


40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Right Knee Shear Dx

Max: 0.6 [mm] at 0.121 [s]

Min: -0.2 [mm] at 0.311 [s]

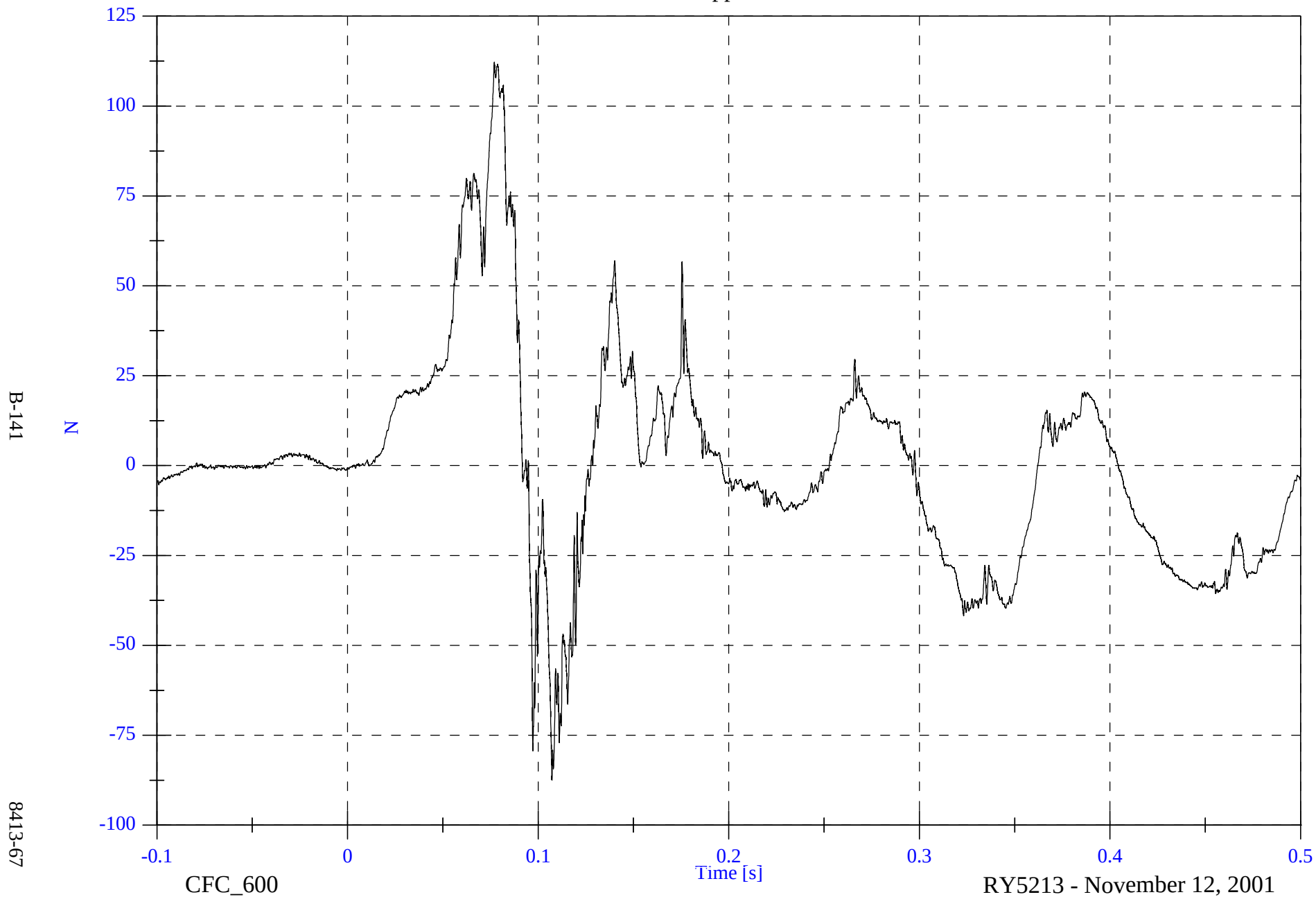


40% Frontal Offset Test #11 - 2000 Nissan Quest

Max: 112.2 [N] at 0.077 [s]

P2 Left Upper Tibia Fx

Min: -87.5 [N] at 0.107 [s]

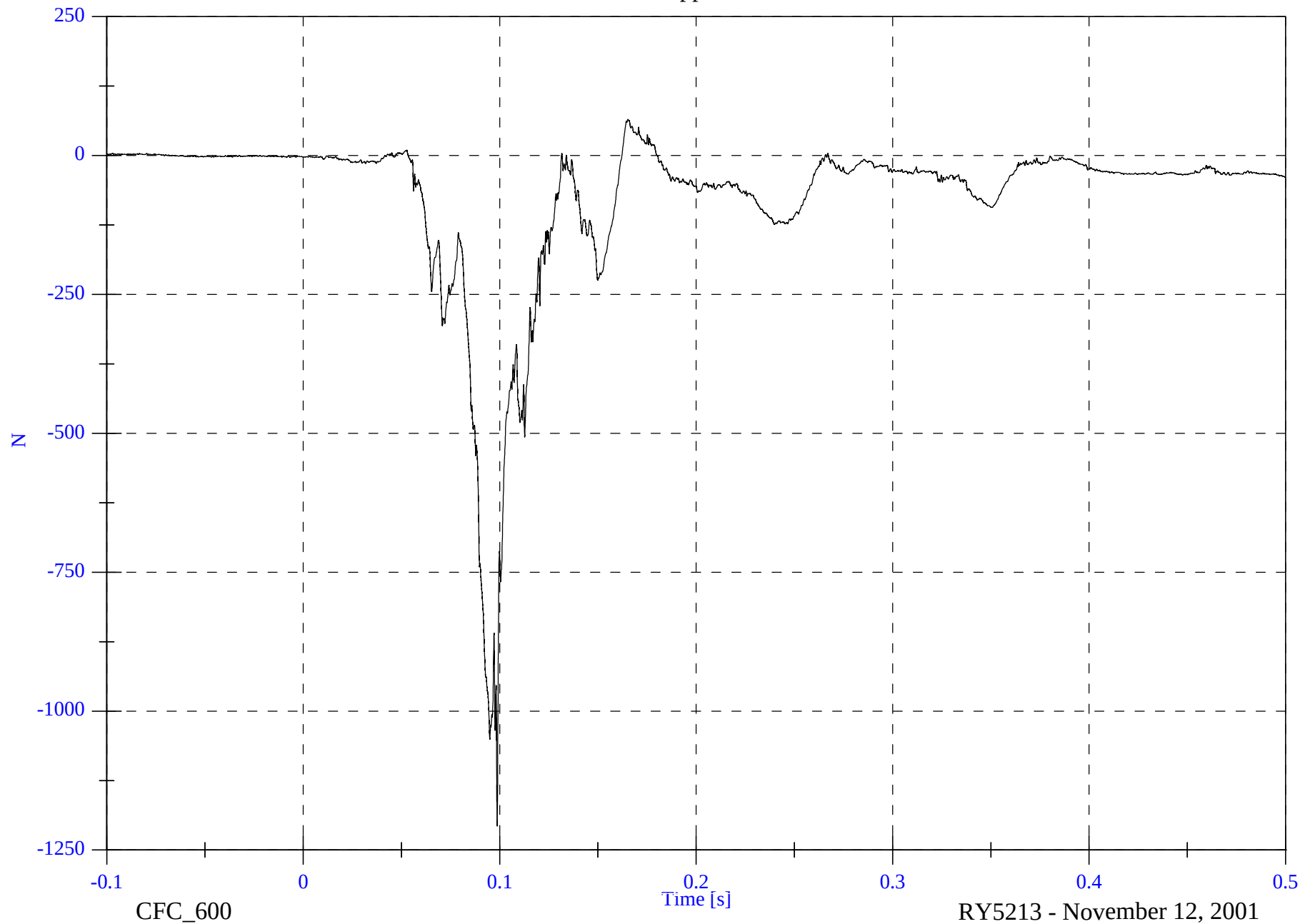


40% Frontal Offset Test #11 - 2000 Nissan Quest

Max: 65.2 [N] at 0.165 [s]

P2 Left Upper Tibia Fz

Min: -1207.2 [N] at 0.099 [s]



B-142

8413-67

CFC_600

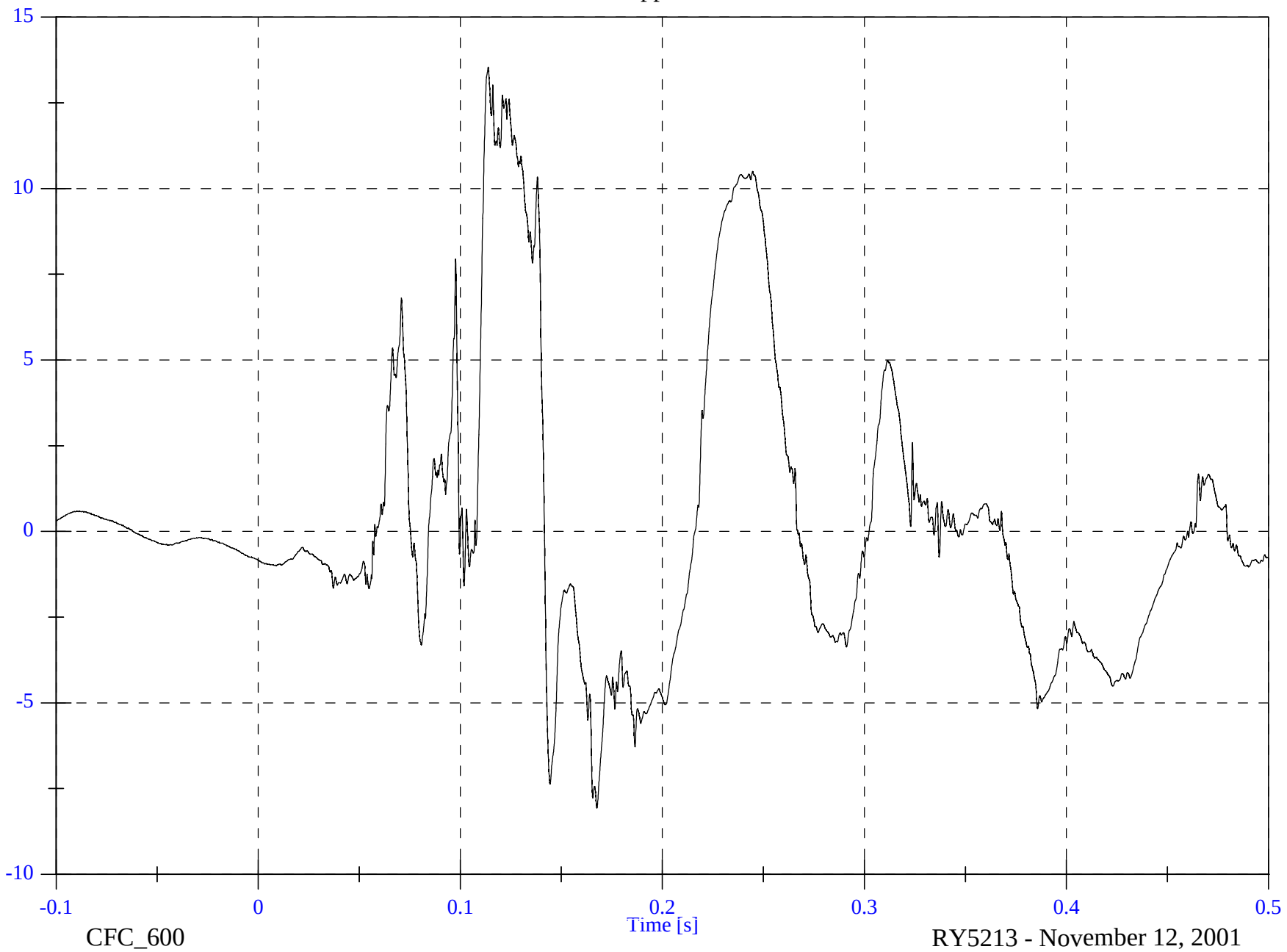
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Left Upper Tibia Mx

Max: 13.5 [Nm] at 0.114 [s]

Min: -8.1 [Nm] at 0.168 [s]



B-143

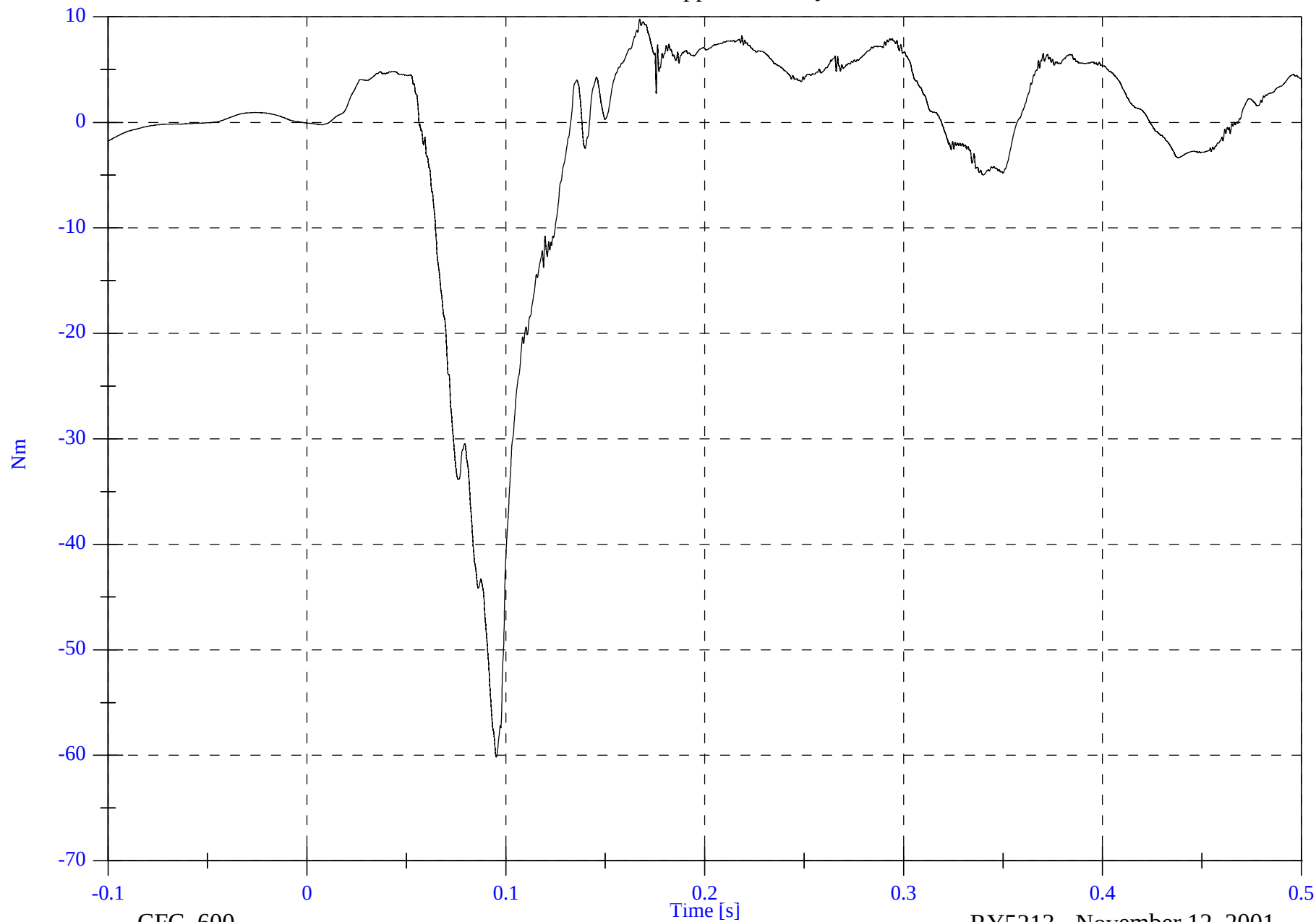
8413-67

40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Left Upper Tibia My

Max: 9.8 [Nm] at 0.167 [s]

Min: -60.2 [Nm] at 0.095 [s]



B-144

8413-67

CFC_600

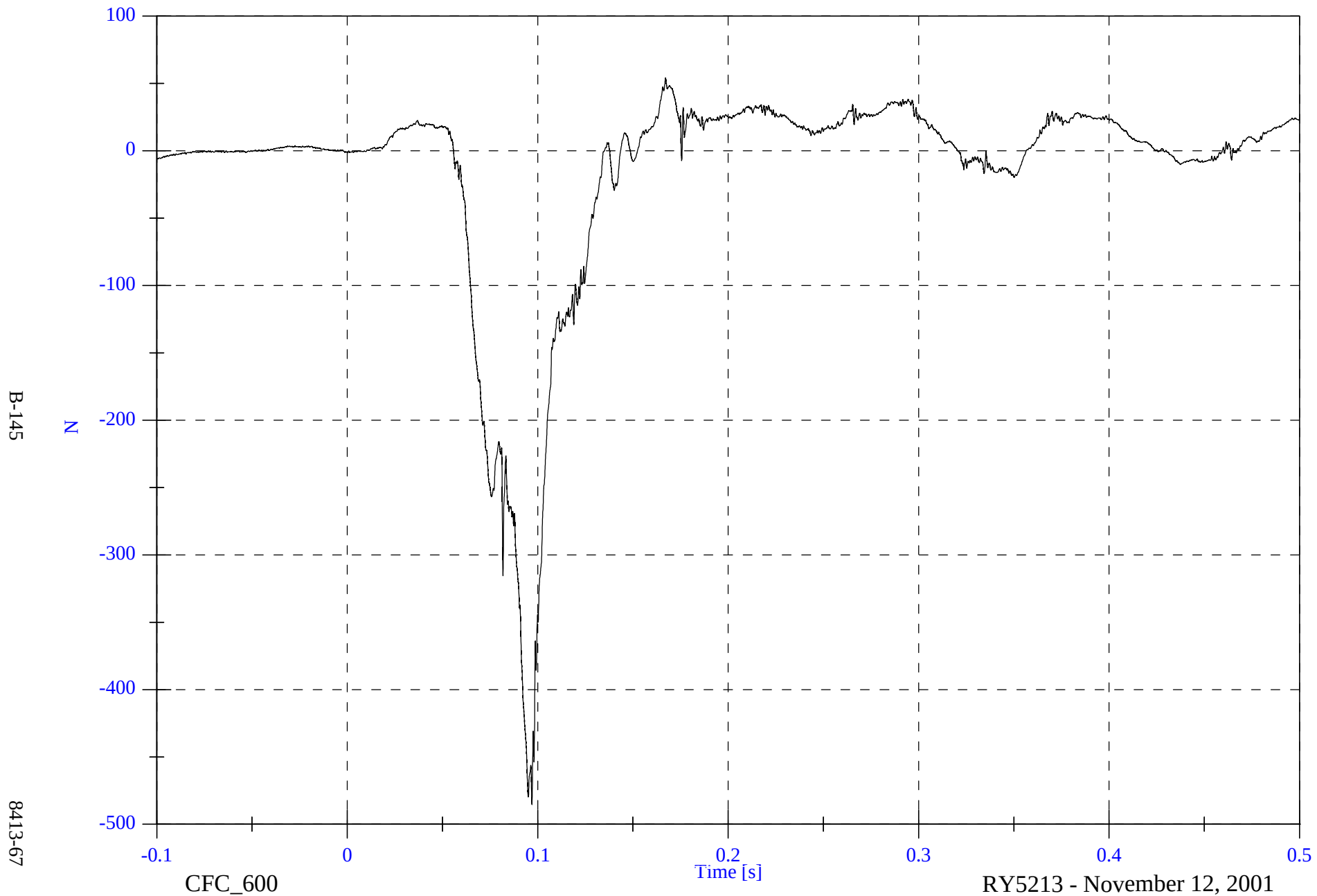
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Left Lower Tibia Fx

Max: 54.2 [N] at 0.167 [s]

Min: -485.5 [N] at 0.097 [s]

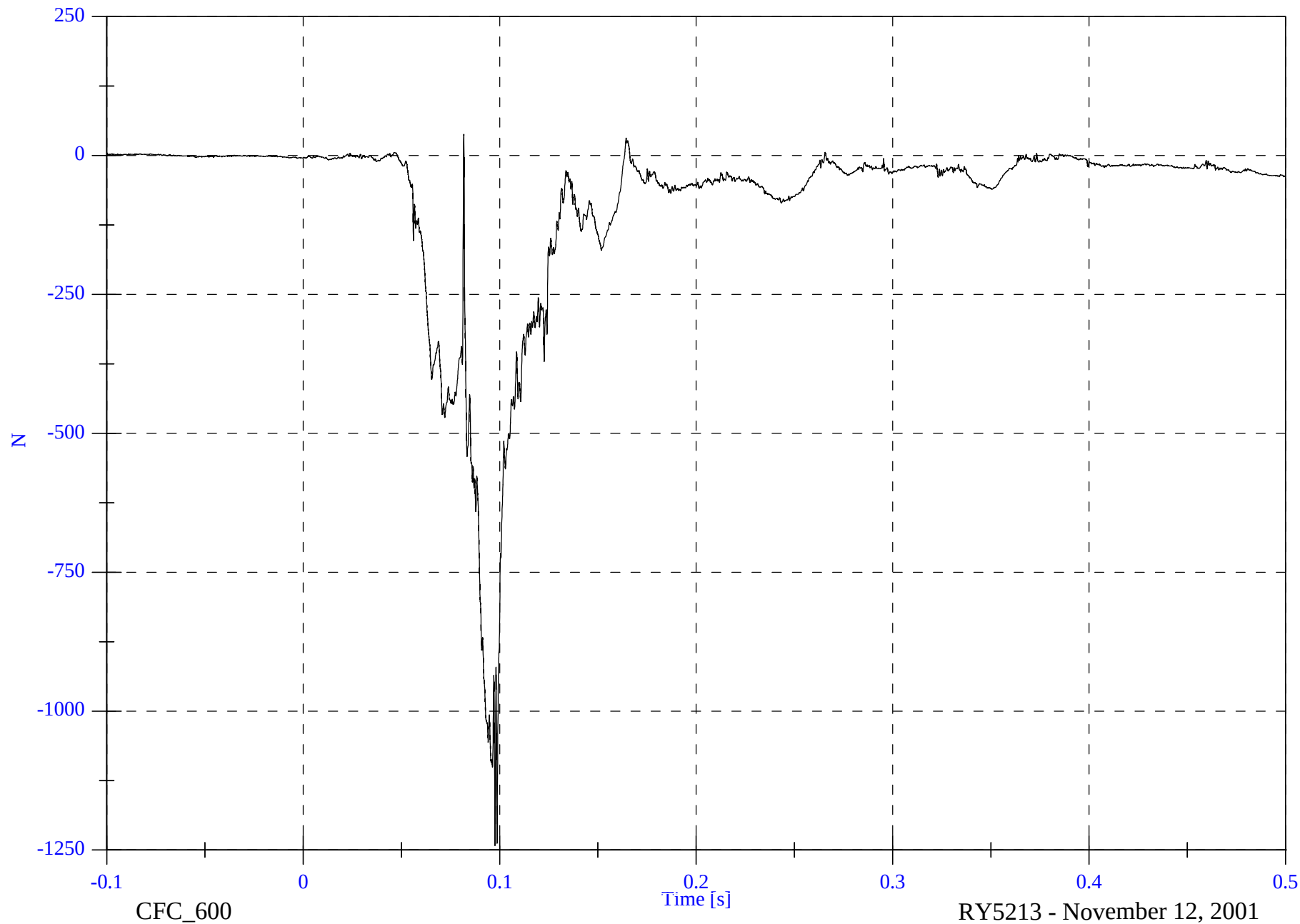


40% Frontal Offset Test #11 - 2000 Nissan Quest

Max: 38.0 [N] at 0.082 [s]

P2 Left Lower Tibia Fz

Min: -1242.0 [N] at 0.098 [s]



B-146

8413-67

CFC_600

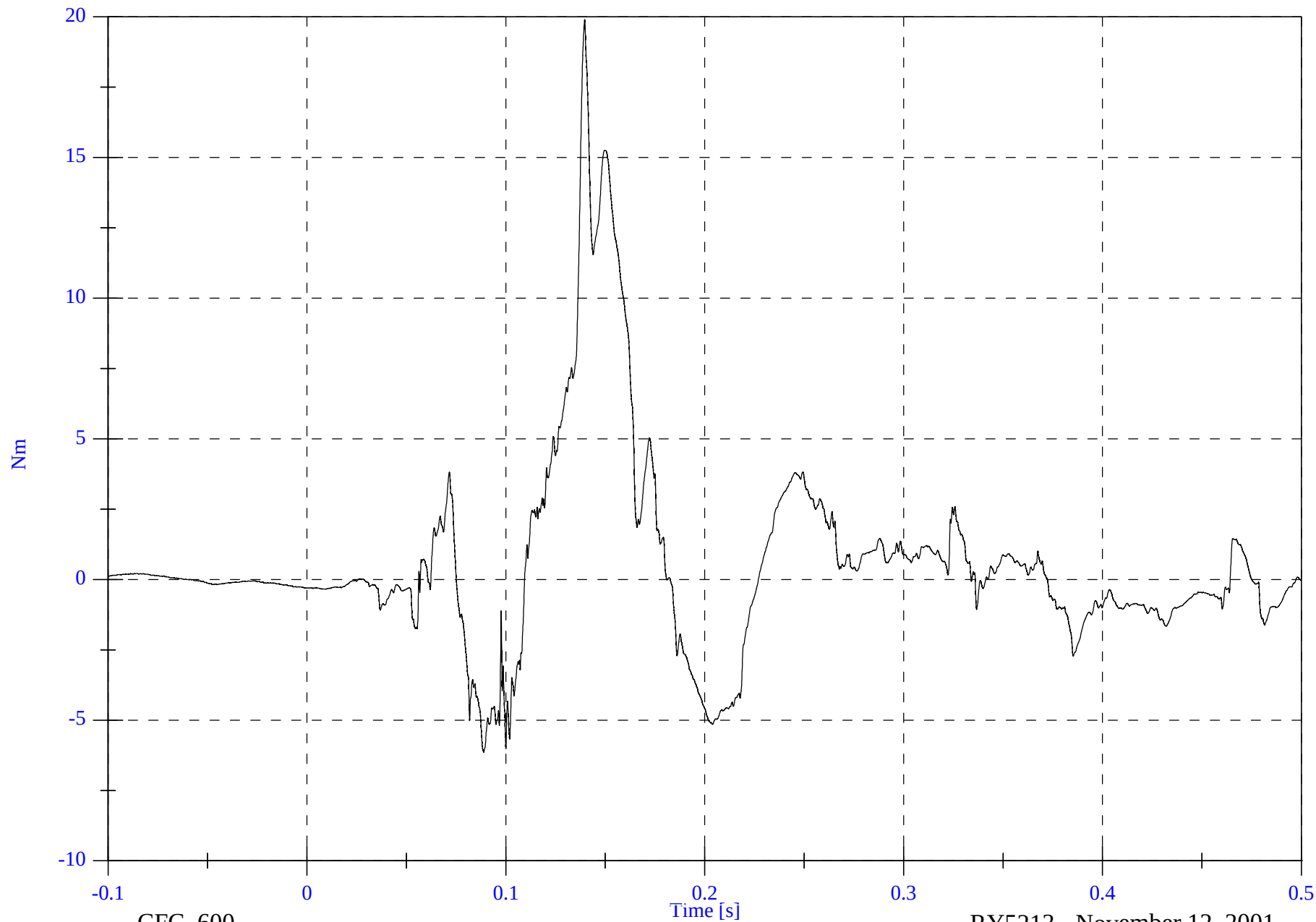
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

Max: 19.9 [Nm] at 0.140 [s]

P2 Left Lower Tibia Mx

Min: -6.1 [Nm] at 0.089 [s]



B-147

8413-67

CFC_600

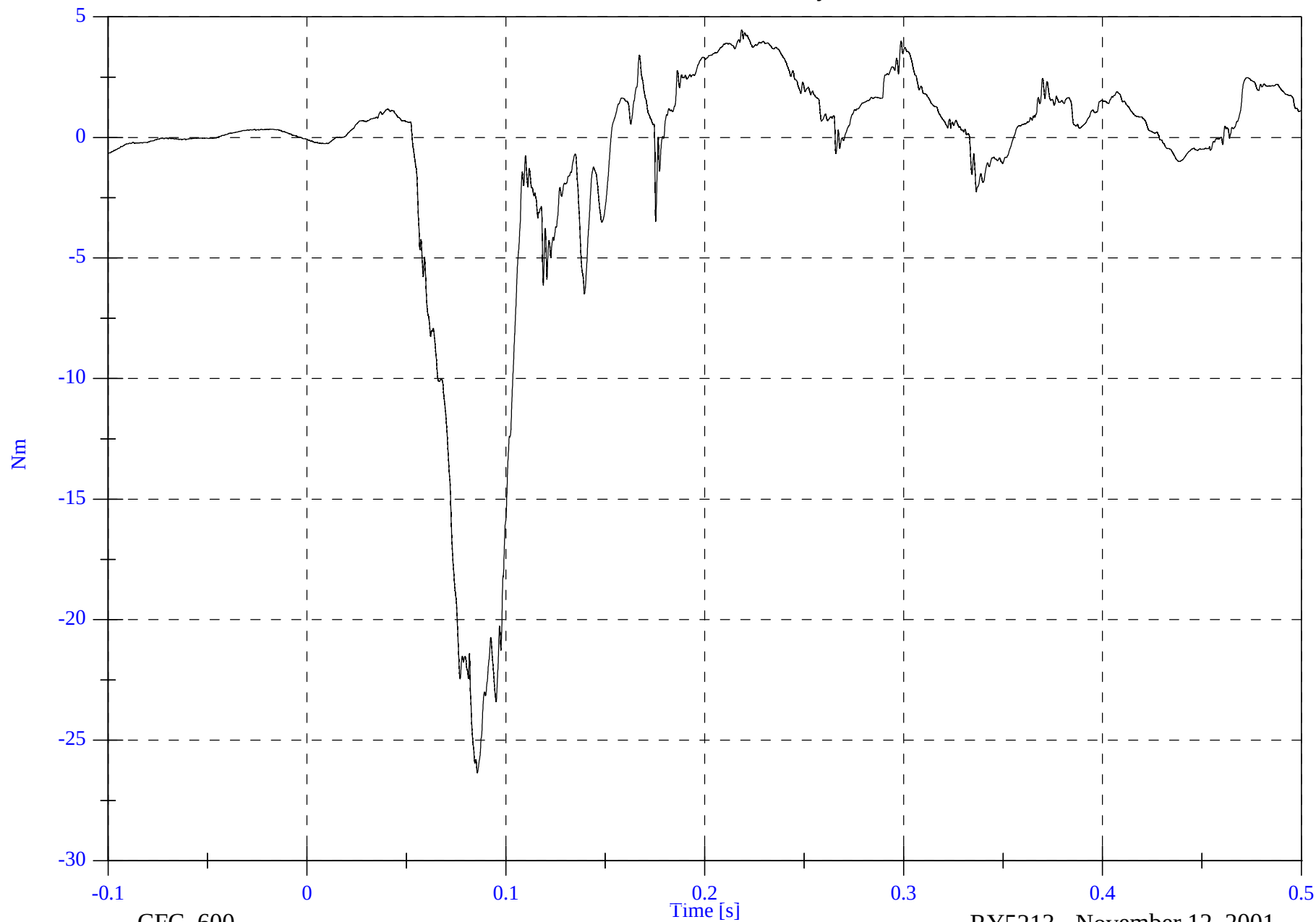
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Left Lower Tibia My

Max: 4.5 [Nm] at 0.219 [s]

Min: -26.4 [Nm] at 0.086 [s]



B-148

8413-67

CFC_600

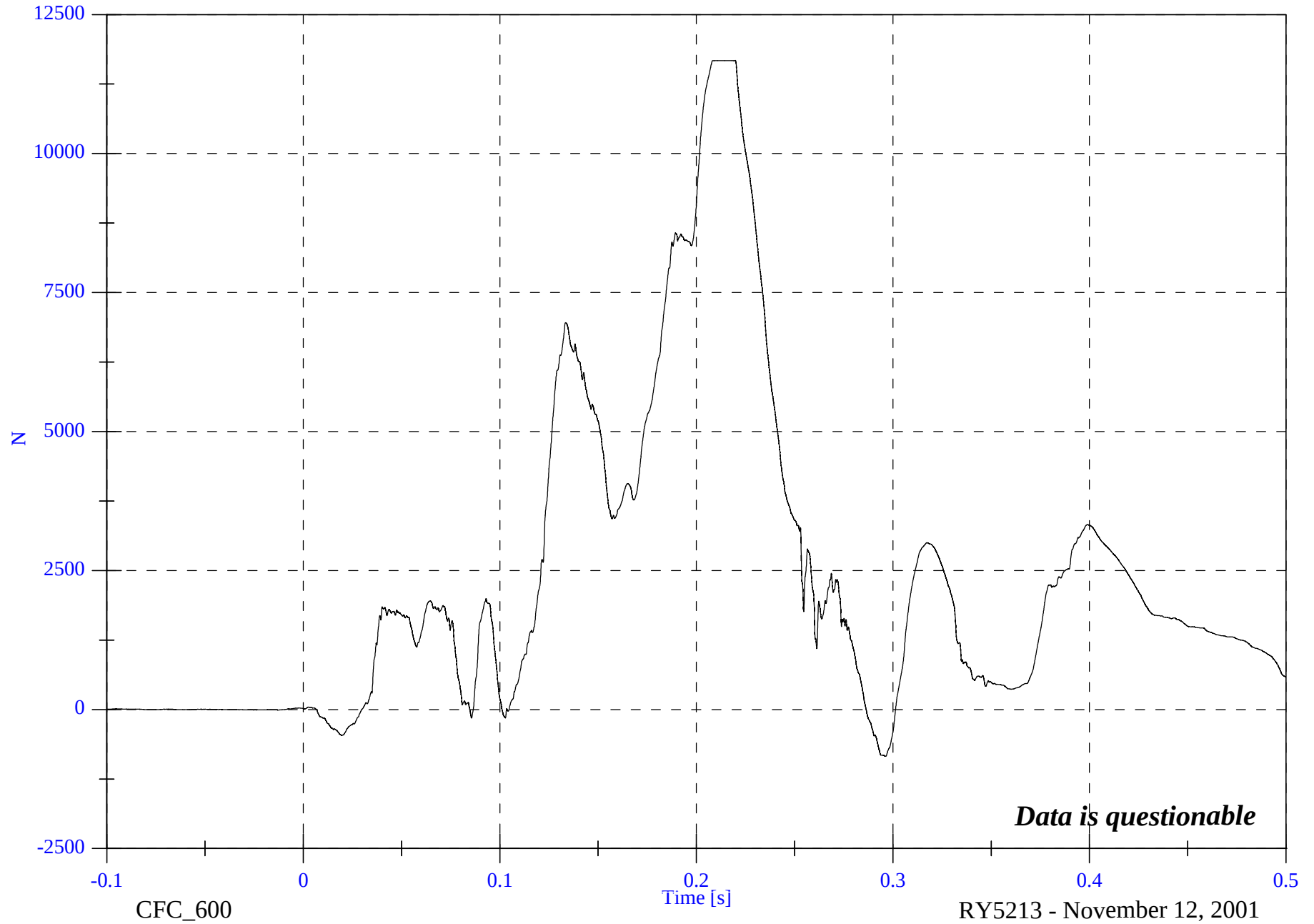
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

Max: 11675.3 [N] at 0.220 [s]

P2 Right Upper Tibia Fx

Min: -842.8 [N] at 0.296 [s]



B-149

8413-67

CFC_600

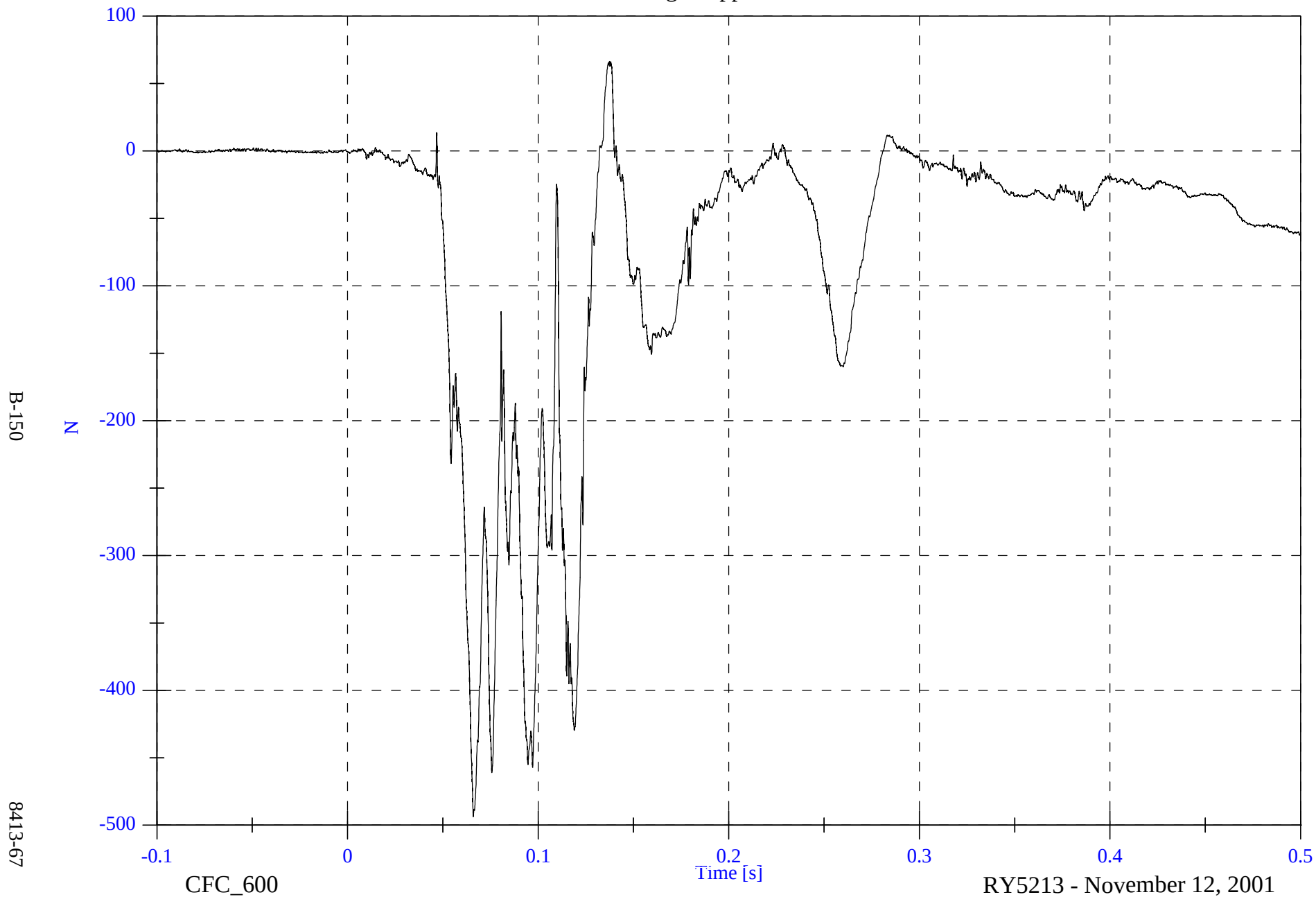
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

Max: 66.4 [N] at 0.137 [s]

P2 Right Upper Tibia Fz

Min: -493.7 [N] at 0.066 [s]

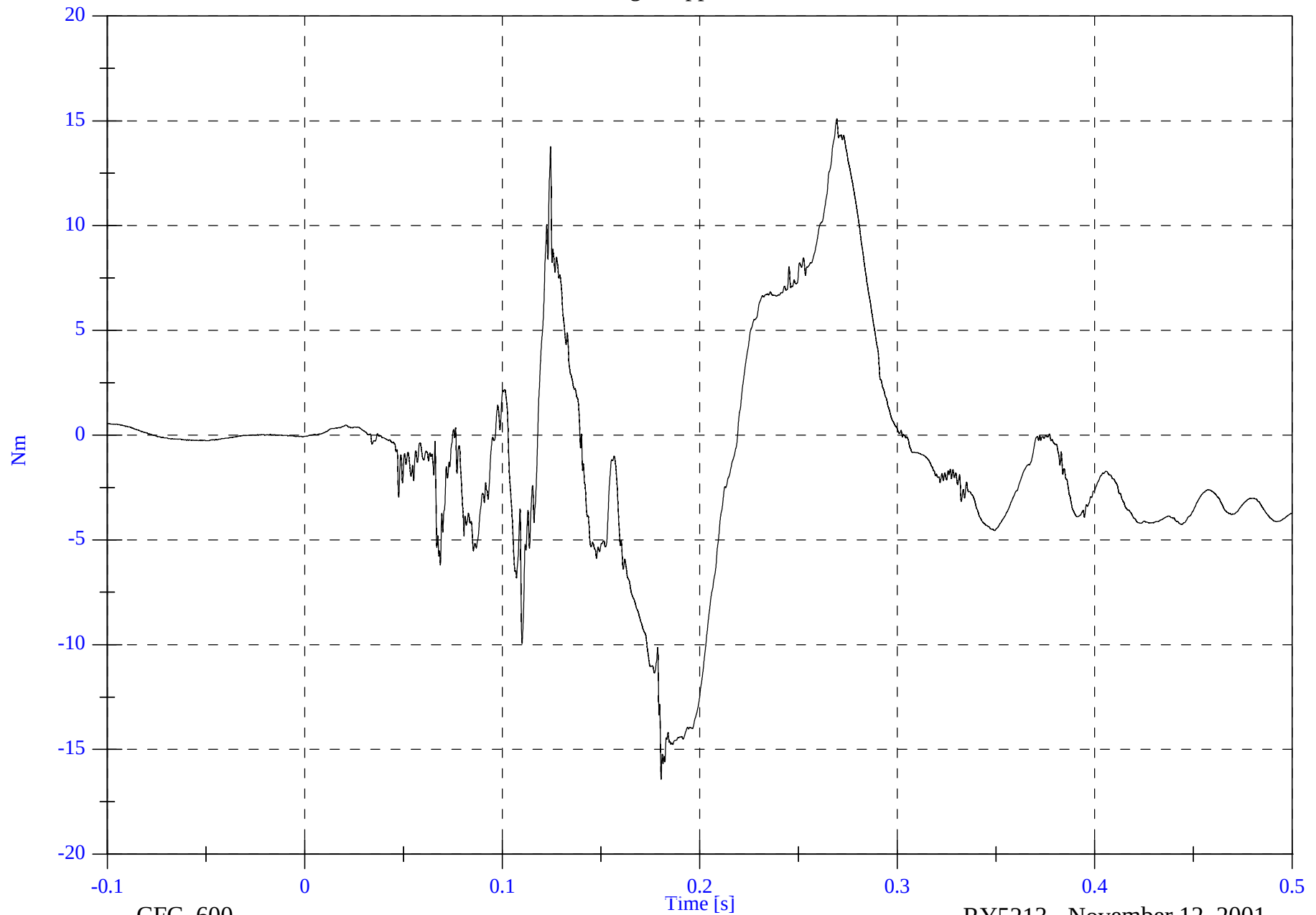


40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Right Upper Tibia Mx

Max: 15.1 [Nm] at 0.269 [s]

Min: -16.4 [Nm] at 0.180 [s]



B-151

8413-67

CFC_600

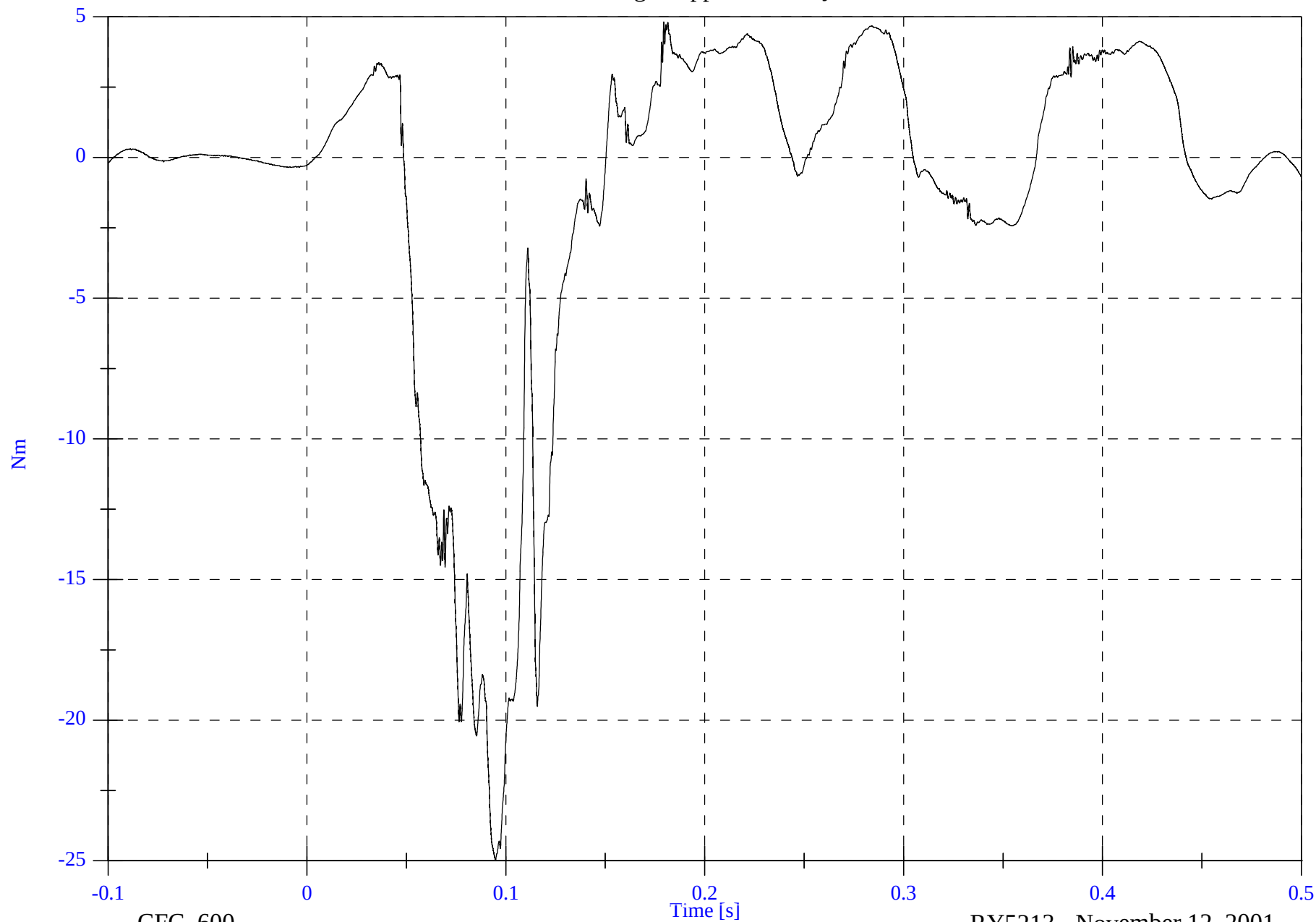
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Right Upper Tibia My

Max: 4.8 [Nm] at 0.179 [s]

Min: -25.0 [Nm] at 0.095 [s]



B-152

8413-67

CFC_600

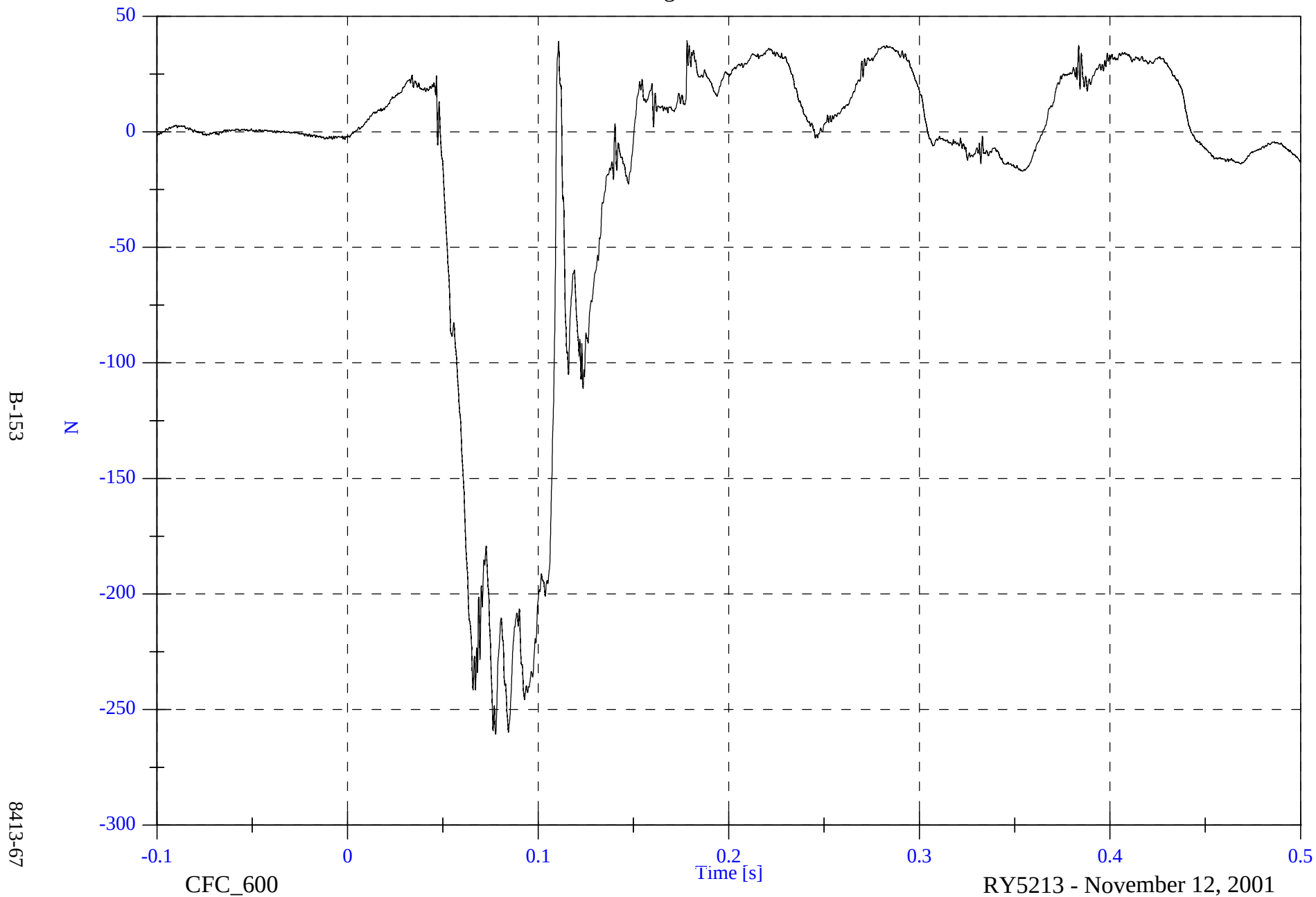
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Right Lower Tibia Fx

Max: 39.4 [N] at 0.178 [s]

Min: -260.6 [N] at 0.078 [s]

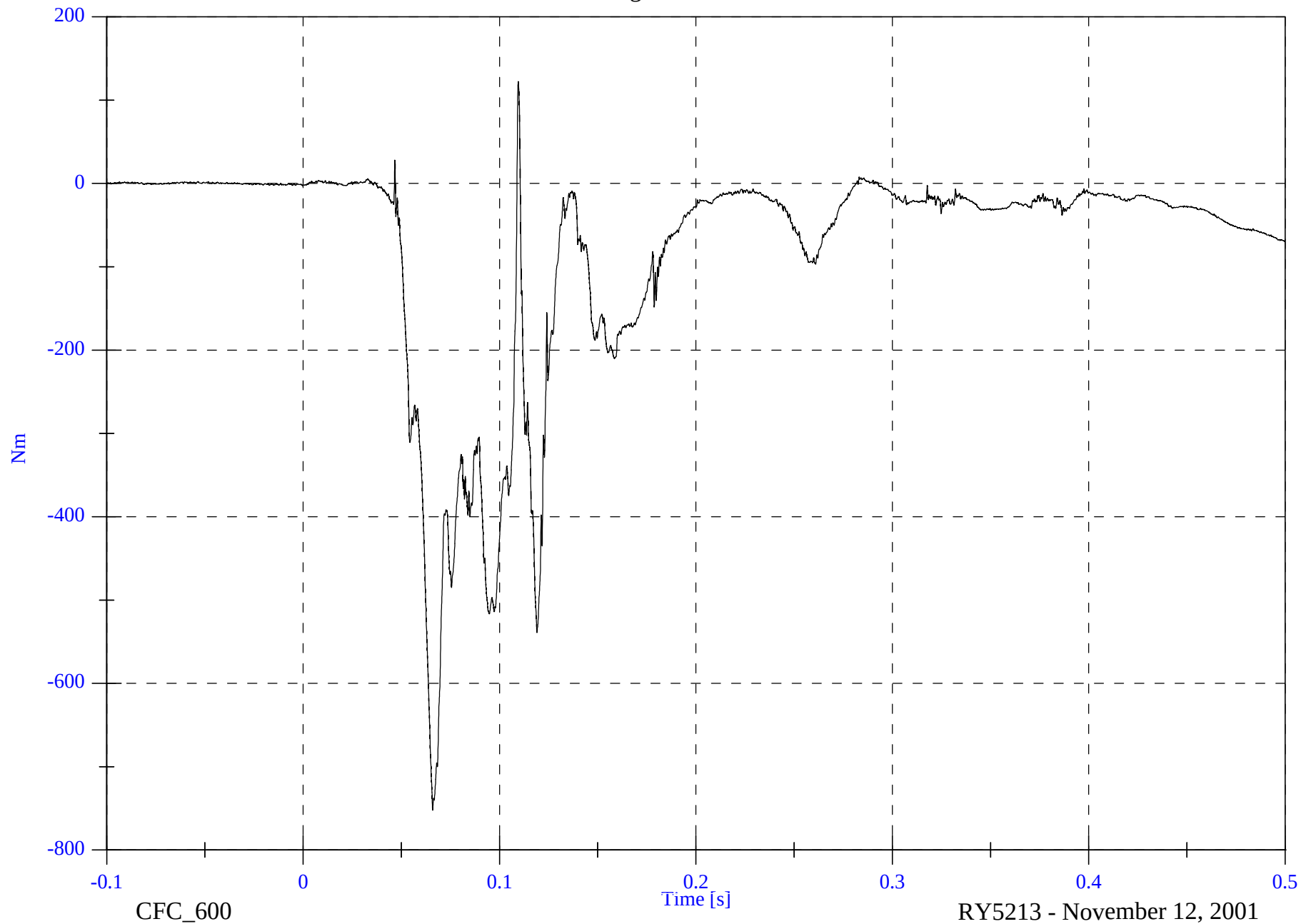


40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Right Lower Tibia Fz

Max: 122.3 [Nm] at 0.110 [s]

Min: -752.3 [Nm] at 0.066 [s]



B-154

8413-67

CFC_600

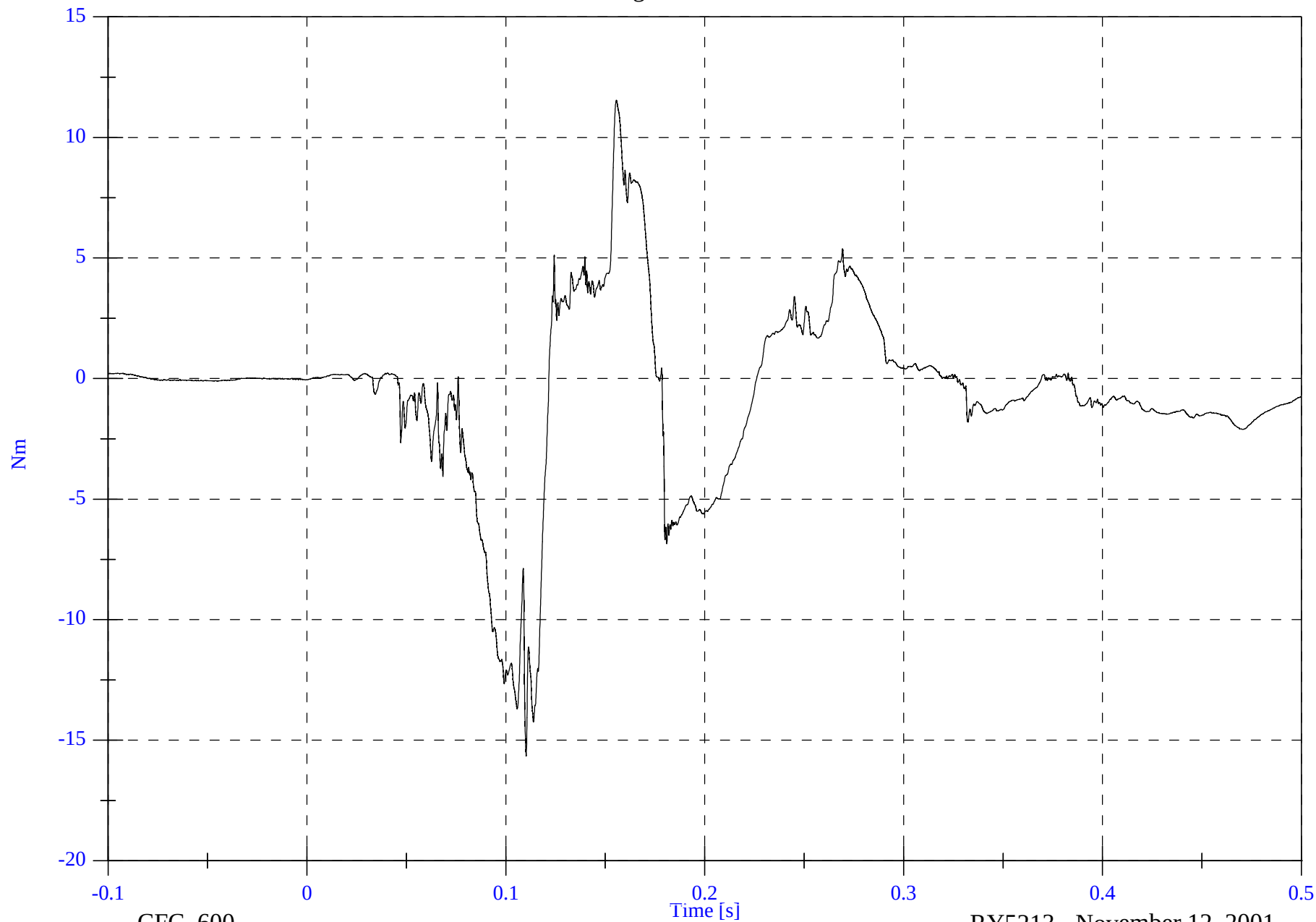
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Right Lower Tibia Mx

Max: 11.5 [Nm] at 0.156 [s]

Min: -15.7 [Nm] at 0.110 [s]



B-155

8413-67

CFC_600

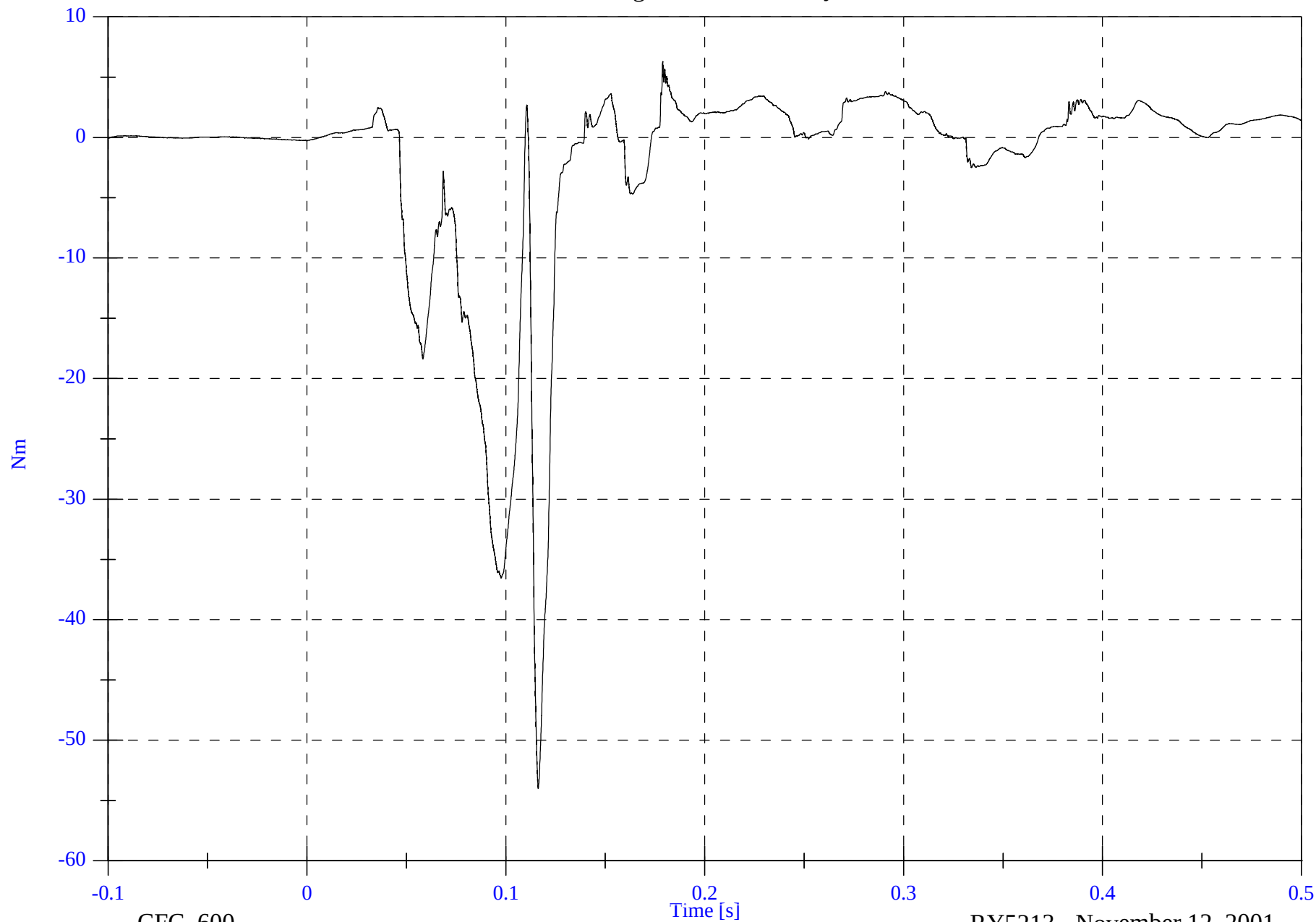
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Right Lower Tibia My

Max: 6.3 [Nm] at 0.179 [s]

Min: -54.0 [Nm] at 0.116 [s]



B-156

8413-67

CFC_600

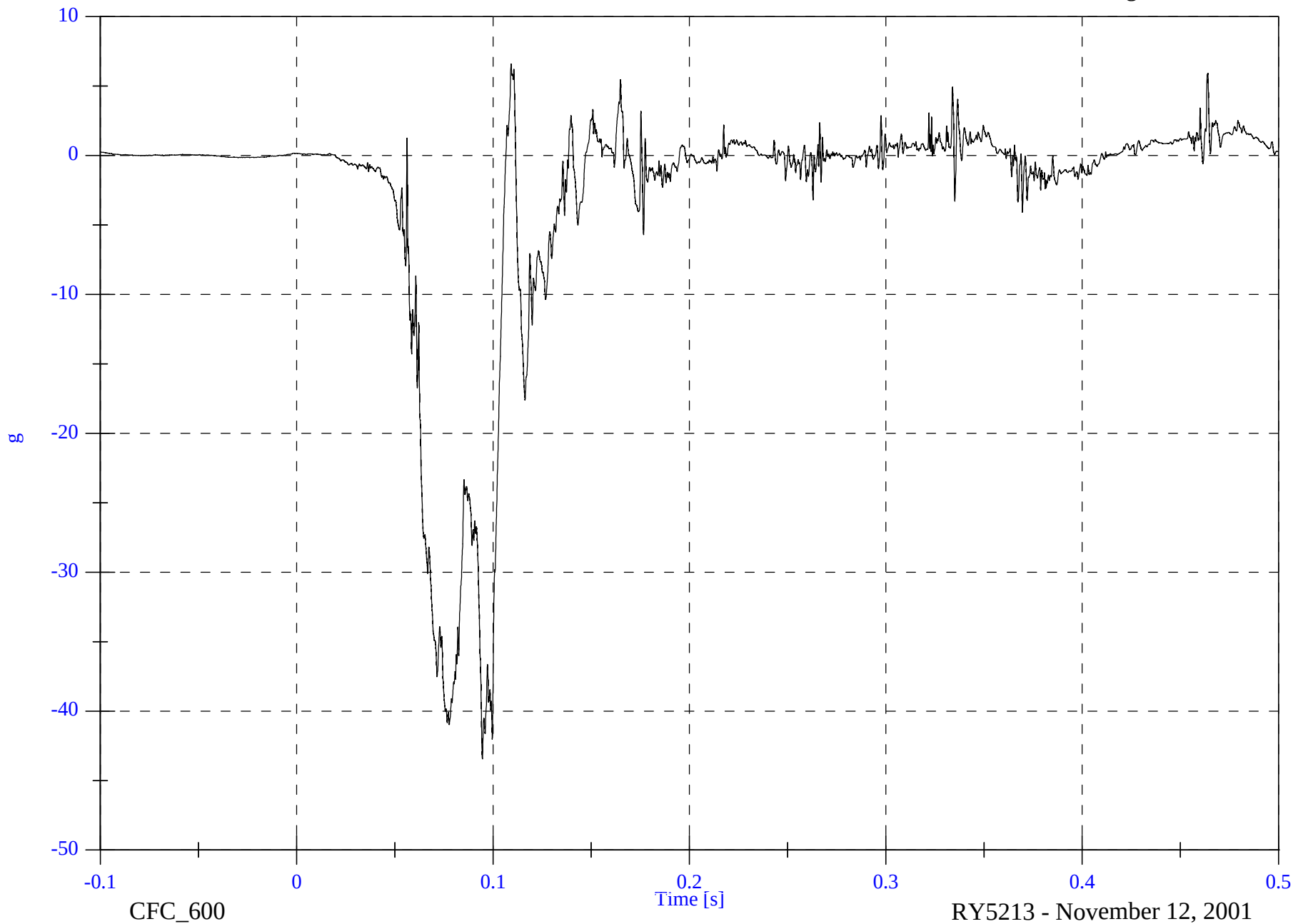
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Left Ankle Ax

Max: 6.6 [g] at 0.109 [s]

Min: -43.4 [g] at 0.095 [s]



B-157

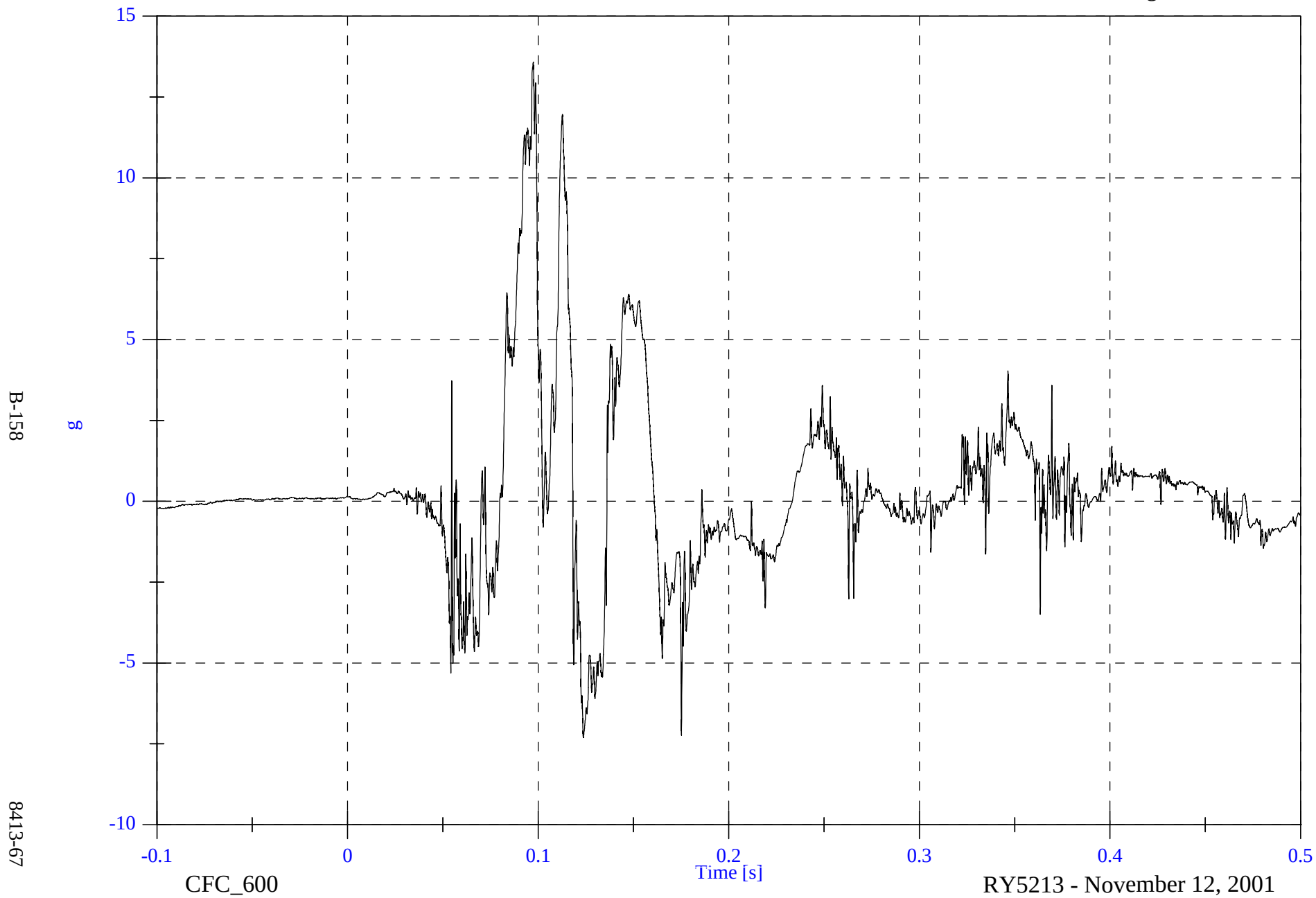
8413-67

40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Left Ankle Az

Max: 13.6 [g] at 0.097 [s]

Min: -7.3 [g] at 0.124 [s]

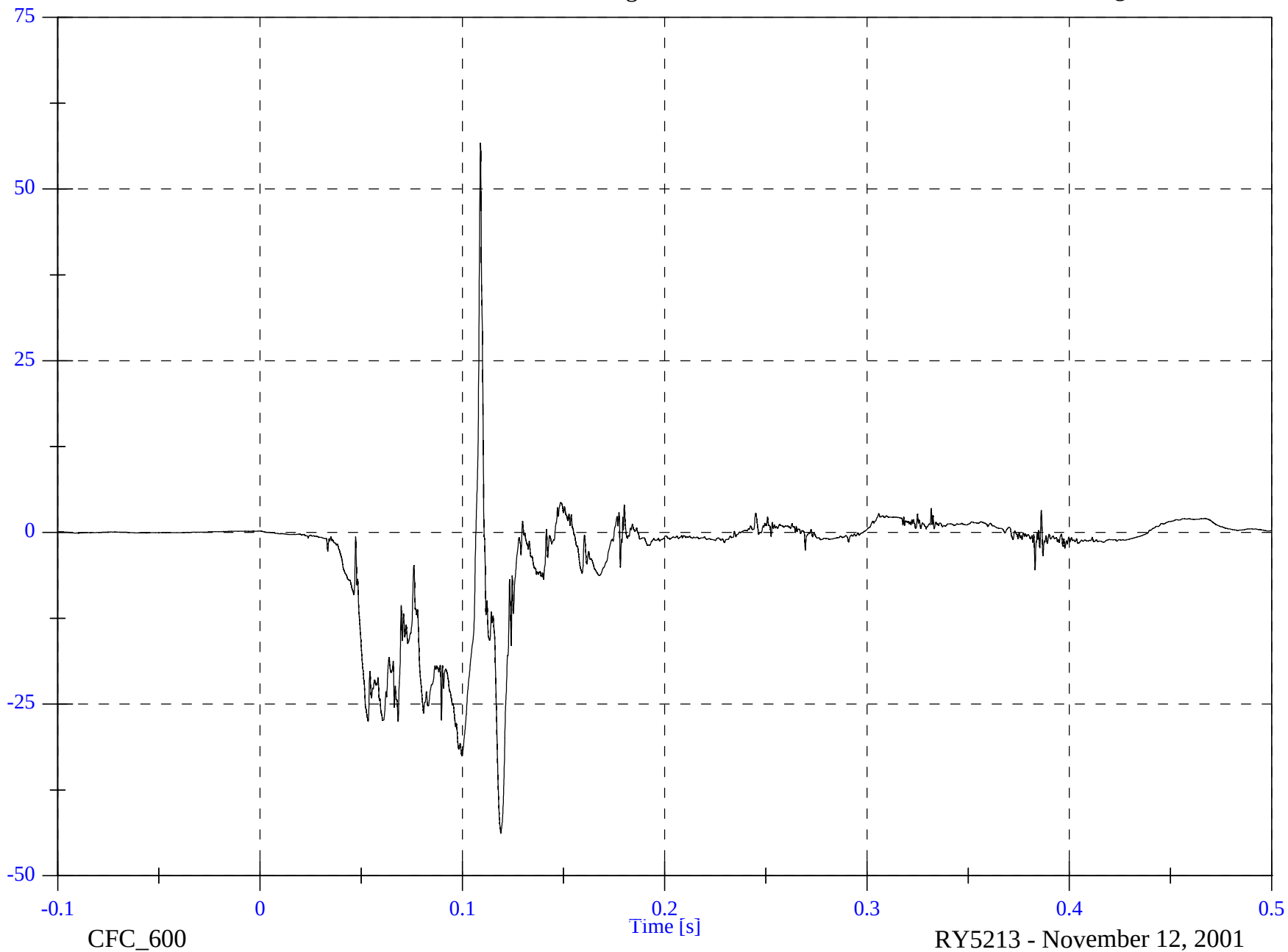


40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Right Ankle Ax

Max: 56.7 [g] at 0.109 [s]

Min: -43.8 [g] at 0.119 [s]



B-159

8413-67

40% Frontal Offset Test #11 - 2000 Nissan Quest

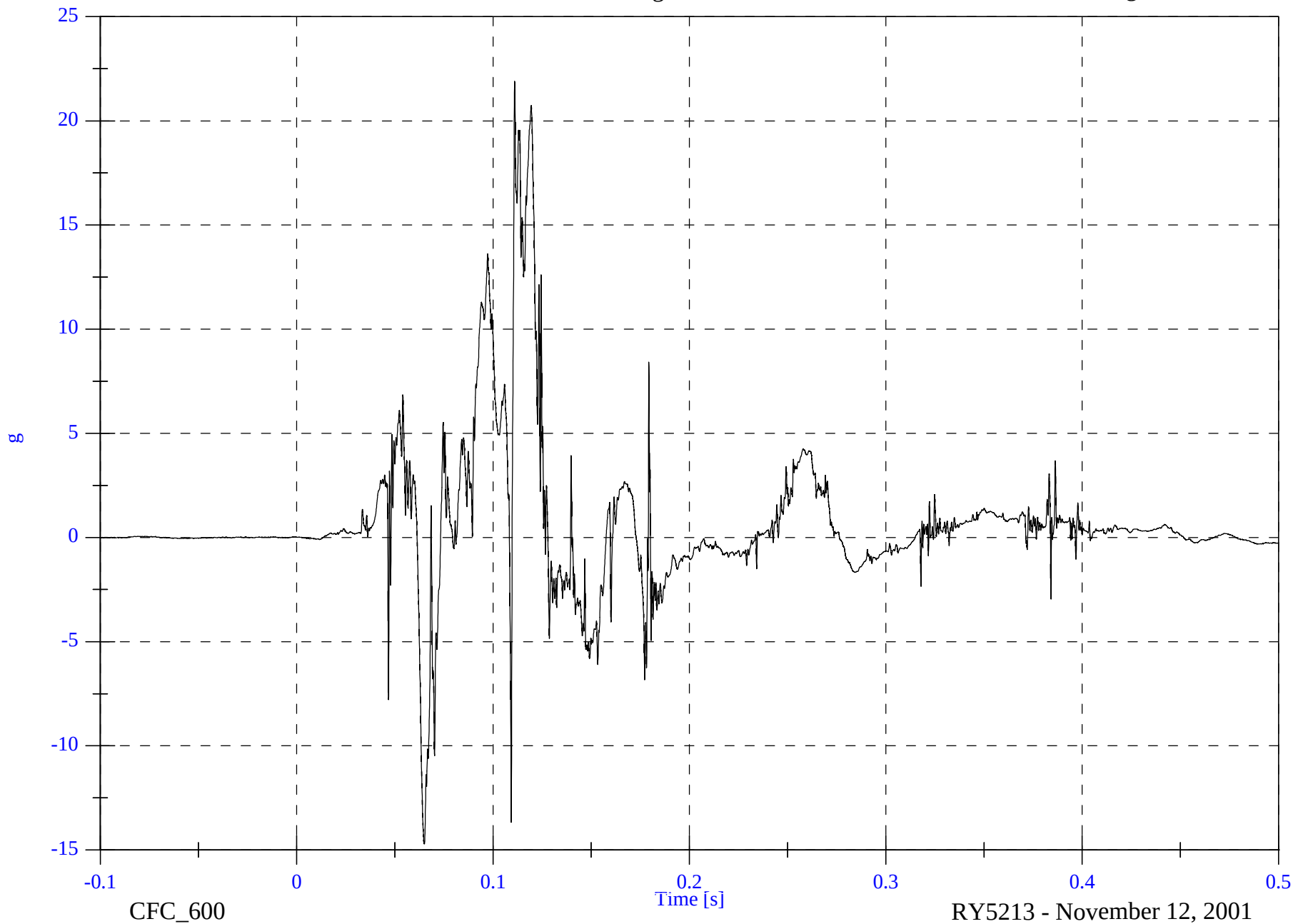
P2 Right Ankle Az

Max: 21.9 [g] at 0.111 [s]

Min: -14.7 [g] at 0.065 [s]

B-160

8413-67

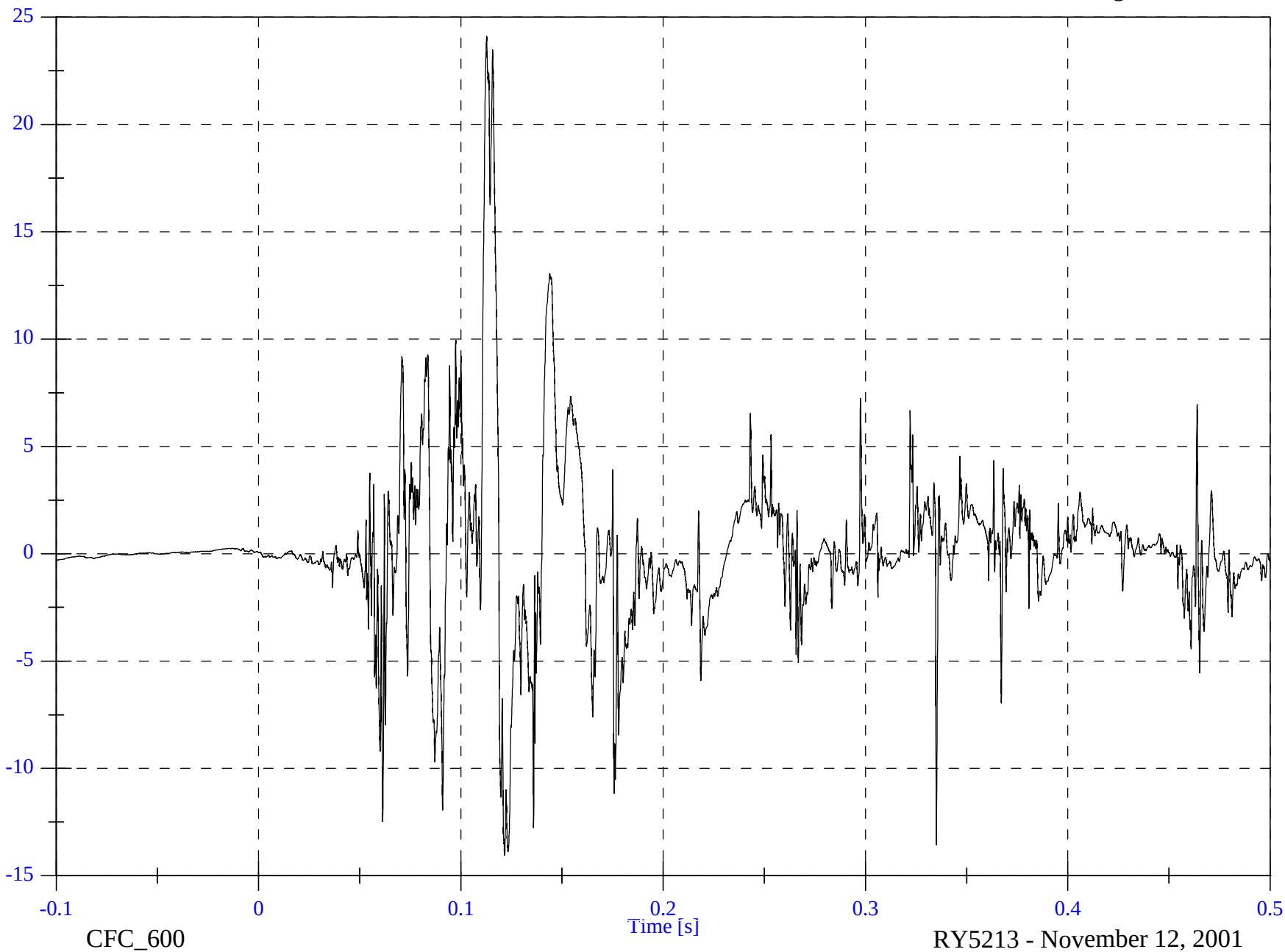


40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Left Toe Az

Max: 24.1 [g] at 0.113 [s]

Min: -14.0 [g] at 0.122 [s]



B-161

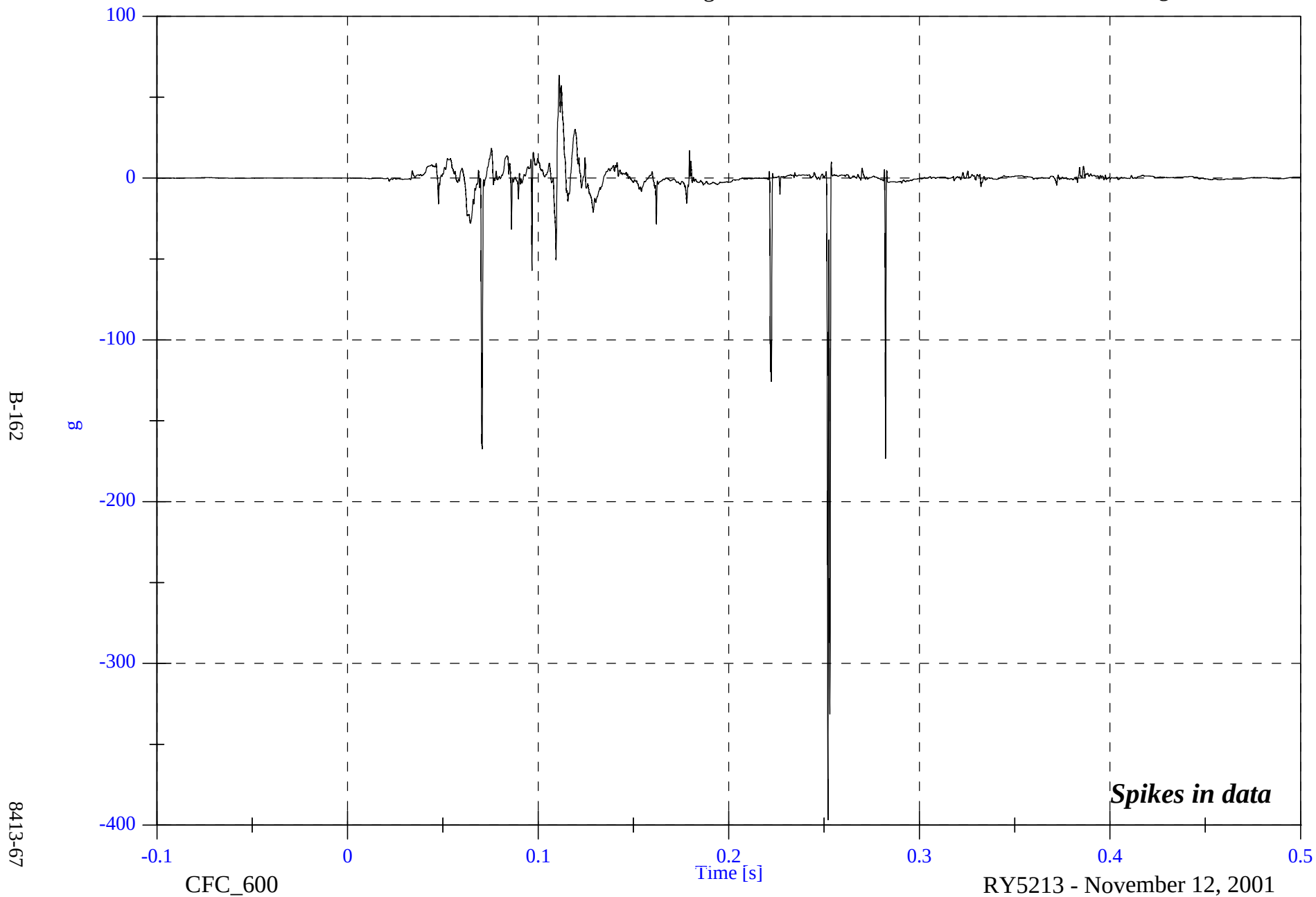
8413-67

40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Right Toe Az

Max: 63.5 [g] at 0.111 [s]

Min: -396.7 [g] at 0.252 [s]



40% Frontal Offset Test #11 - 2000 Nissan Quest

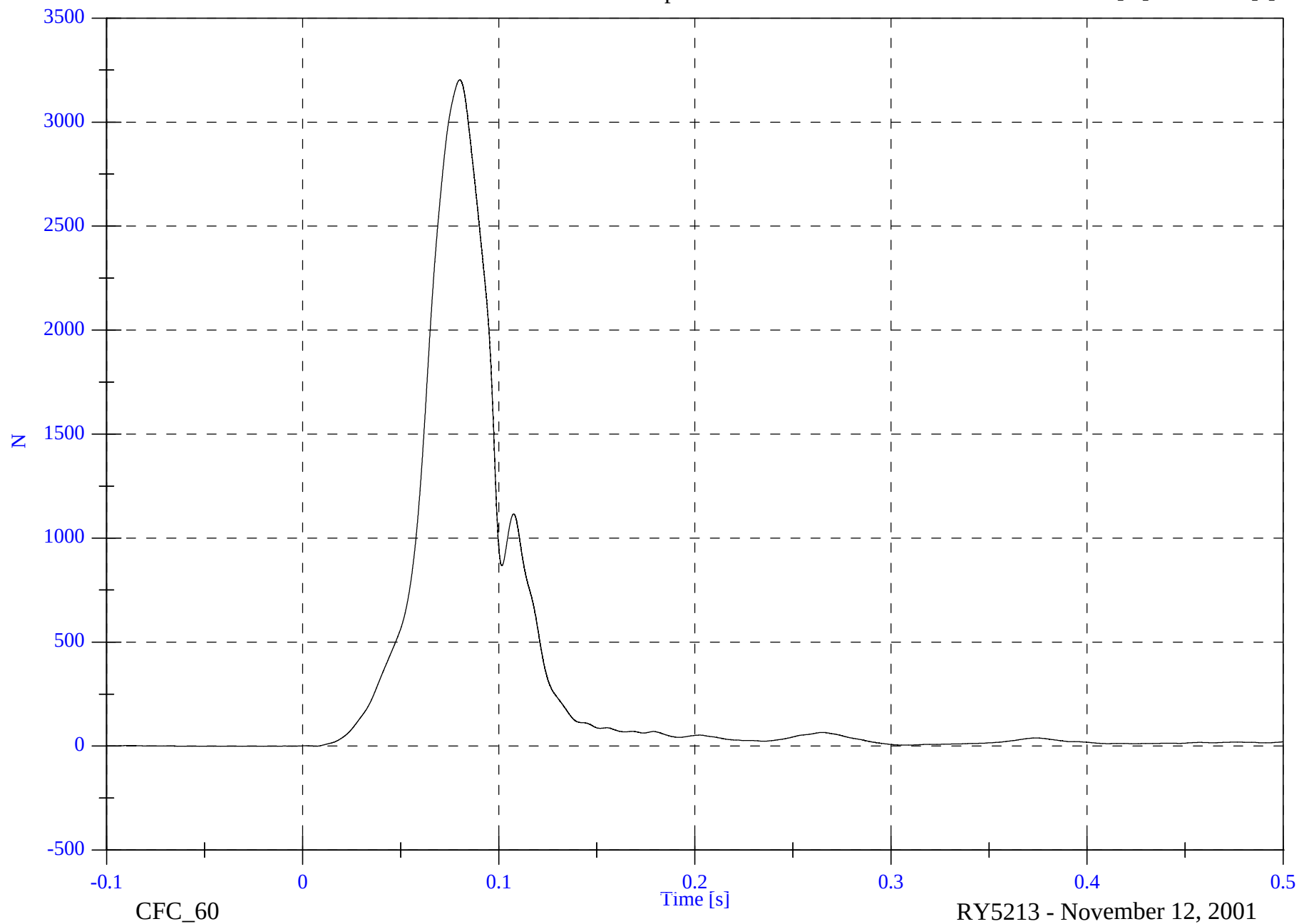
P2 Lap Belt Force

Max: 3203.1 [N] at 0.080 [s]

Min: -1.1 [N] at -0.018 [s]

B-163

8413-67

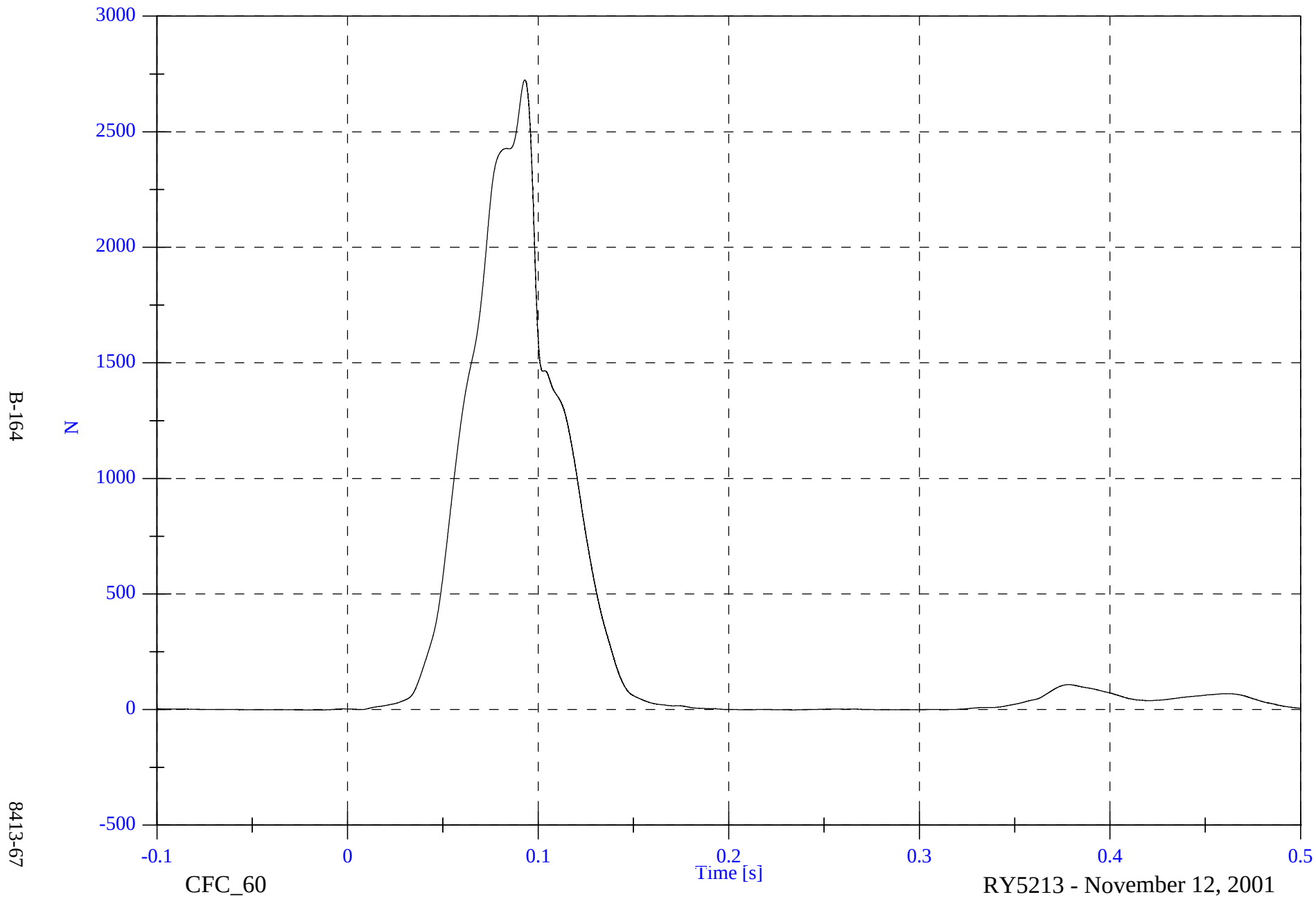


40% Frontal Offset Test #11 - 2000 Nissan Quest

P2 Torso Belt Force

Max: 2724.5 [N] at 0.093 [s]

Min: -1.9 [N] at -0.020 [s]



40% Frontal Offset Test #11 - 2000 Nissan Quest

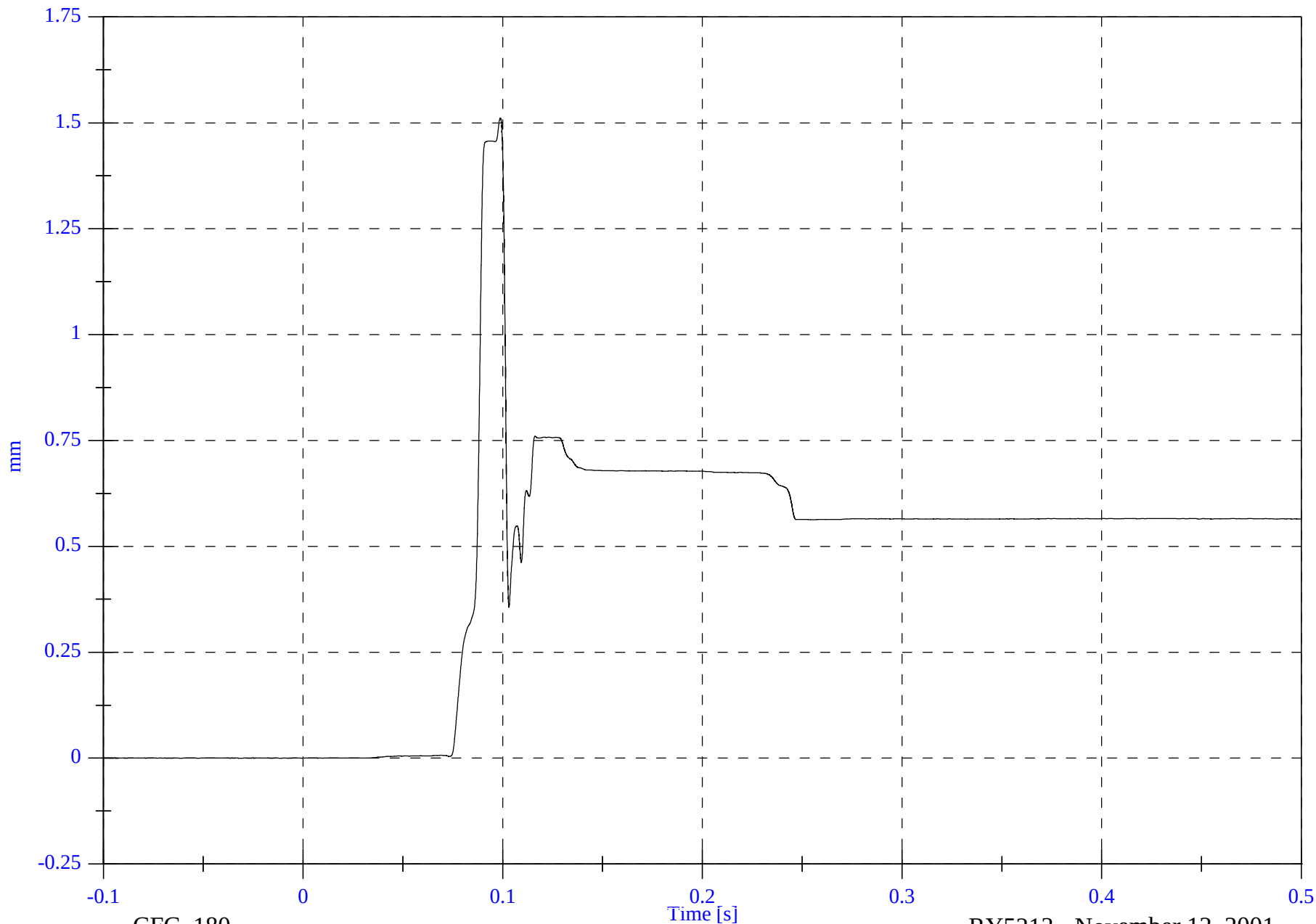
P2 Torso Belt Stretch

Max: 1.5 [mm] at 0.099 [s]

Min: -0.0 [mm] at -0.031 [s]

B-165

8413-67



CFC_180

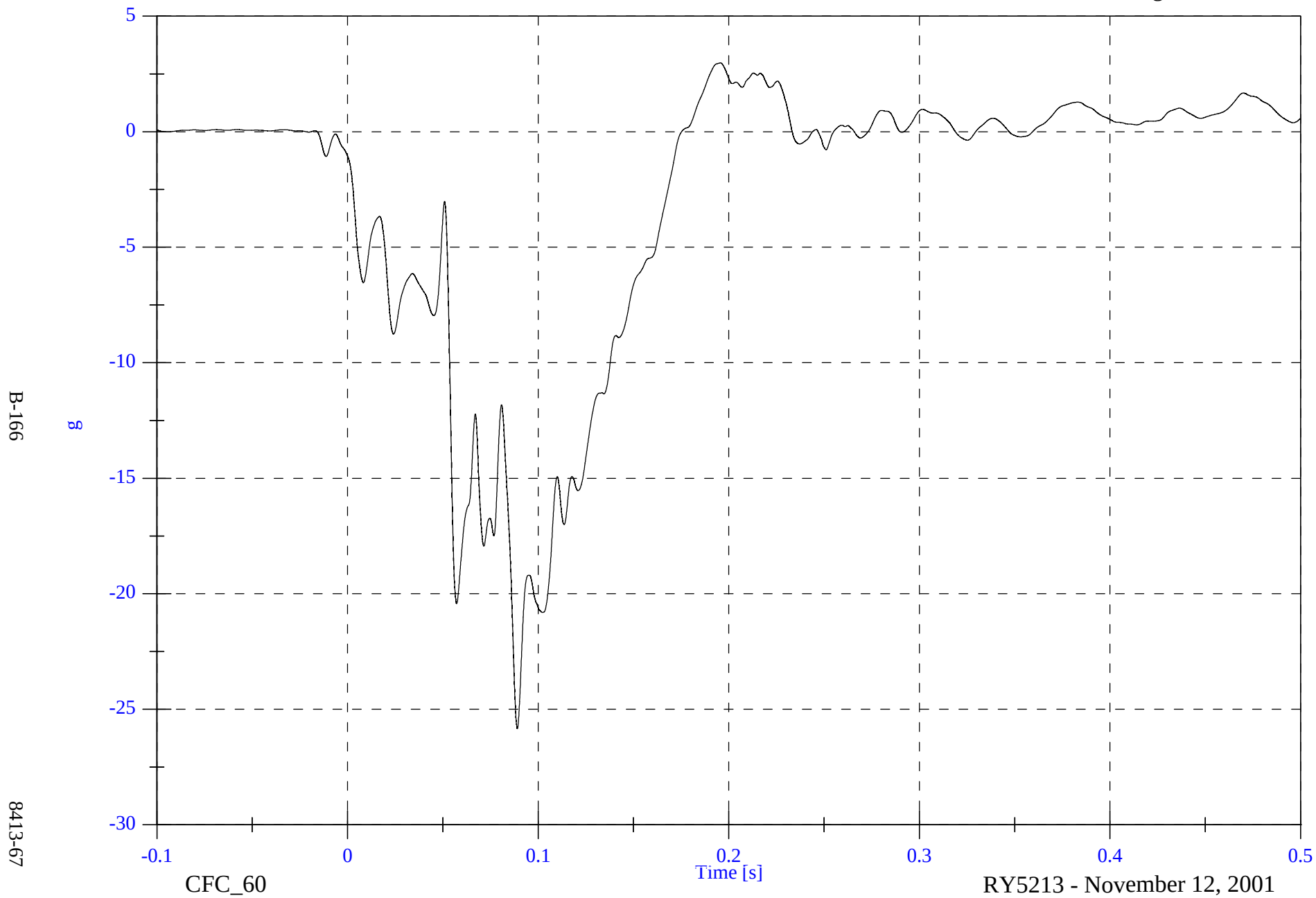
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

Acc 1 Rear XMBR Left X

Max: 3.0 [g] at 0.196 [s]

Min: -25.8 [g] at 0.089 [s]

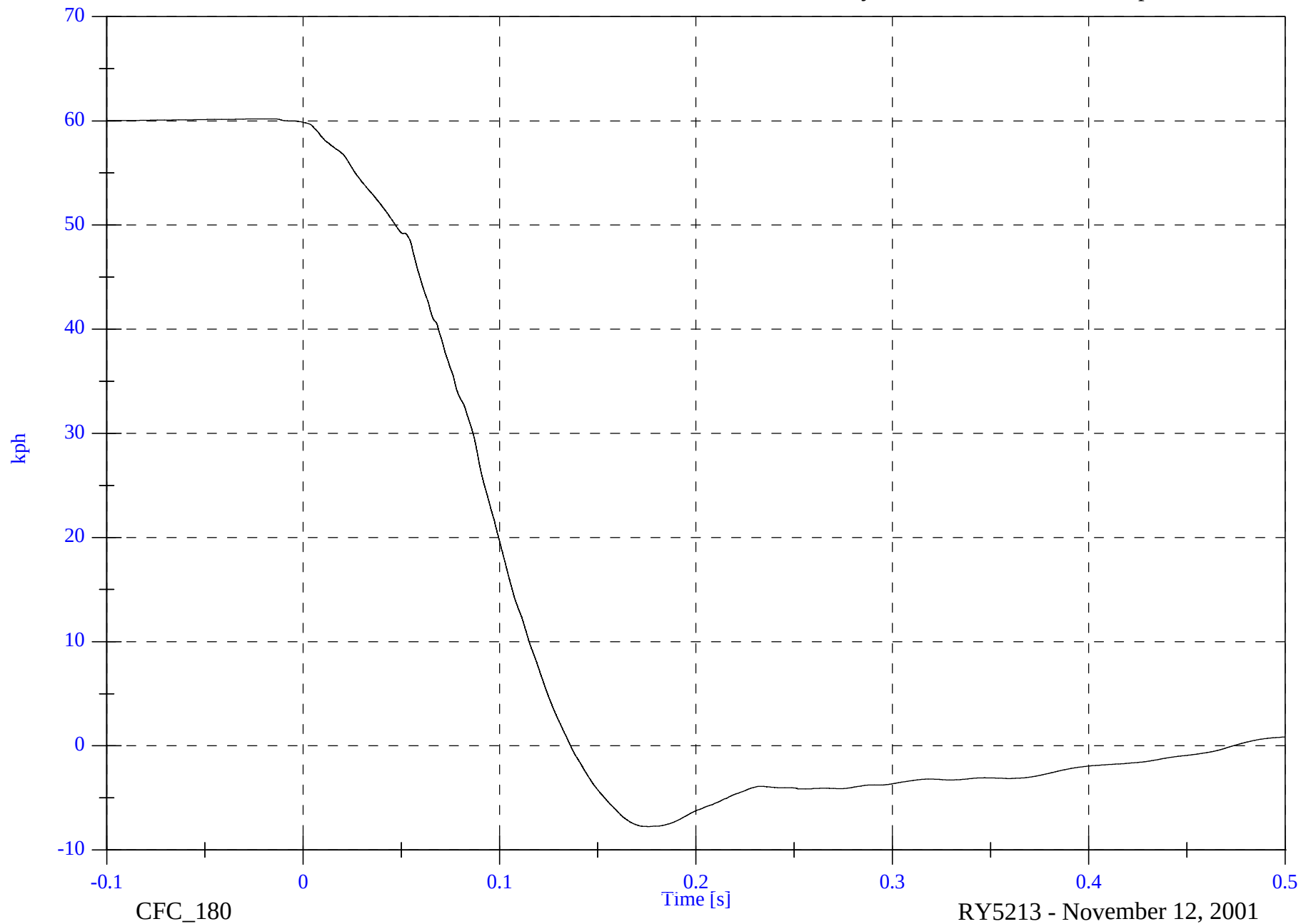


40% Frontal Offset Test #11 - 2000 Nissan Quest

Acc 1 Rear XMBR Left X Velocity

Max: 60.2 [kph] at -0.014 [s]

Min: -7.7 [kph] at 0.176 [s]



B-167

8413-67

CFC_180

RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

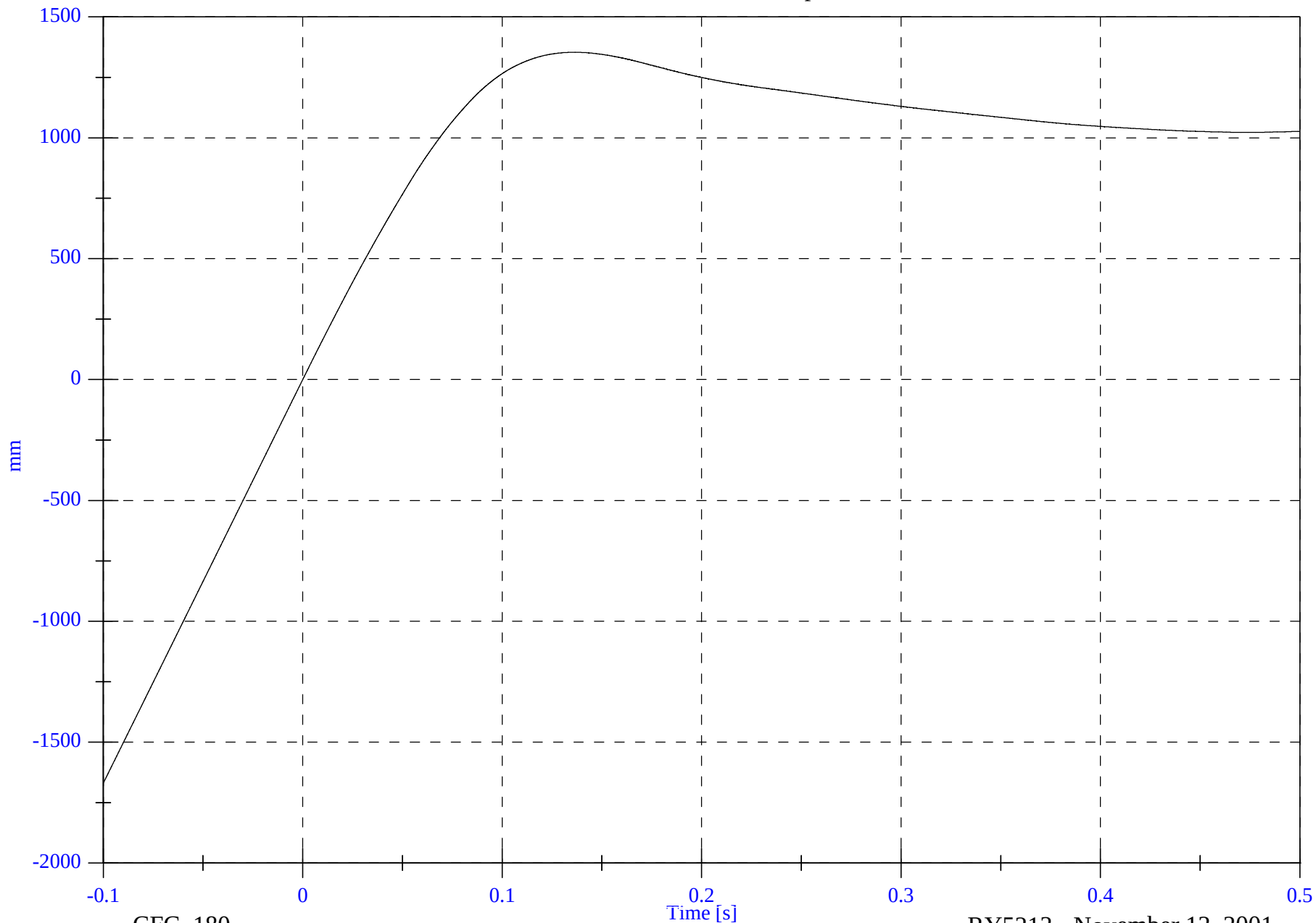
Acc 1 Rear XMBR Left X Displacement

Max: 1353.8 [mm] at 0.136 [s]

Min: -1669.3 [mm] at -0.100 [s]

B-168

8413-67



CFC_180

RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

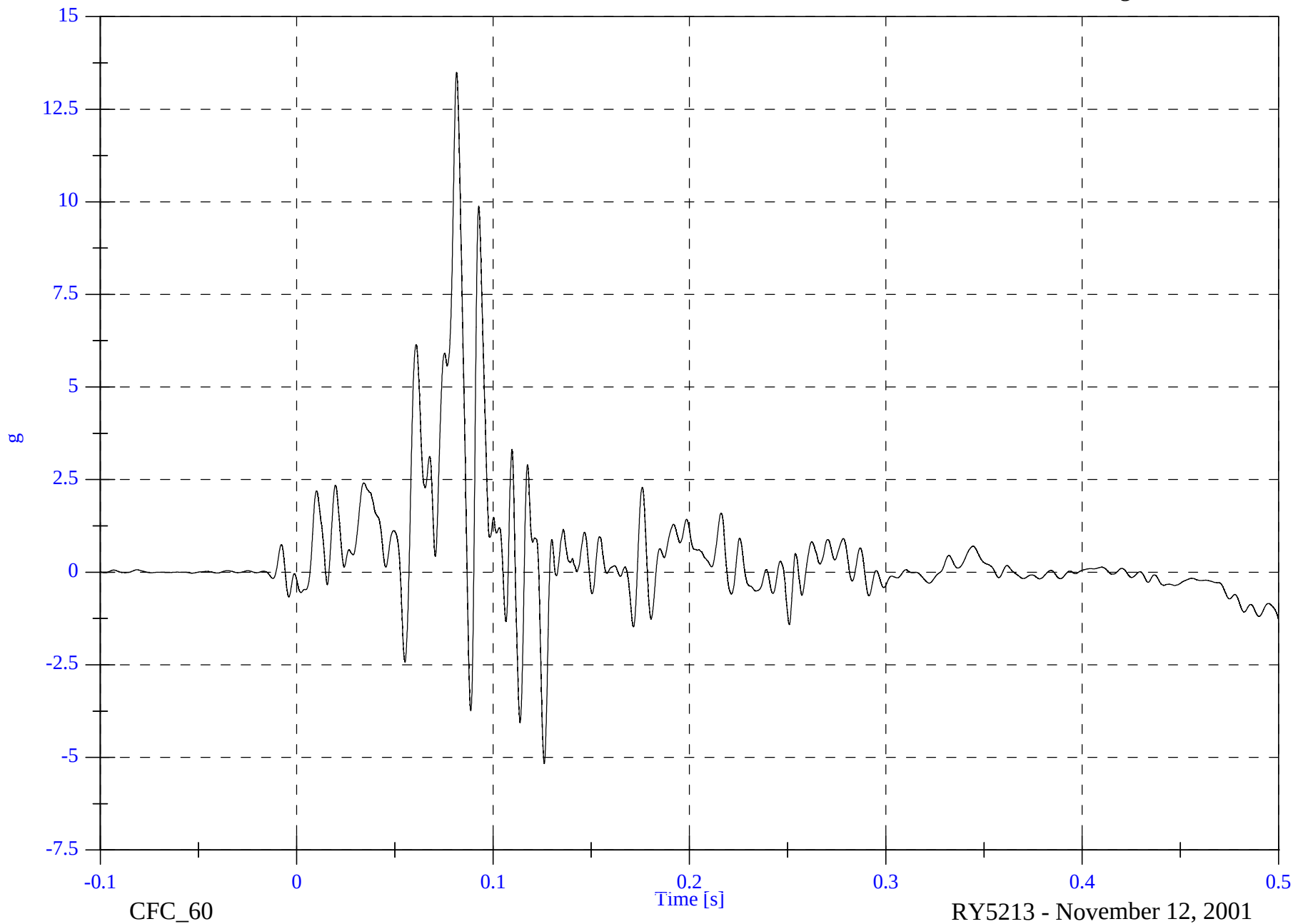
Acc 2 Rear XMBR Left Y

Max: 13.5 [g] at 0.081 [s]

Min: -5.2 [g] at 0.126 [s]

B-169

8413-67

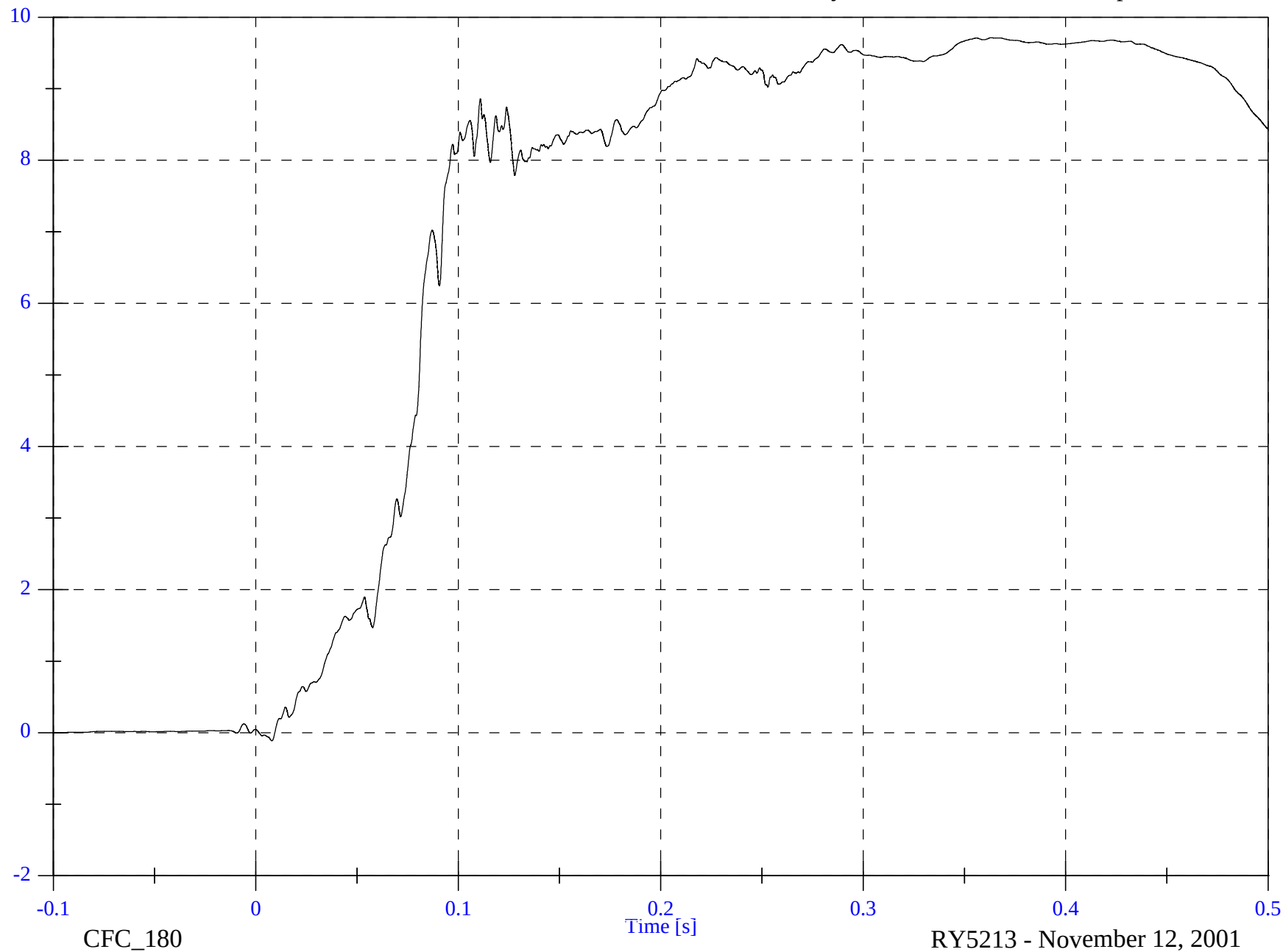


40% Frontal Offset Test #11 - 2000 Nissan Quest

Acc 2 Rear XMBR Left Y Velocity

Max: 9.7 [kph] at 0.363 [s]

Min: -0.1 [kph] at 0.008 [s]



B-170

8413-67

40% Frontal Offset Test #11 - 2000 Nissan Quest

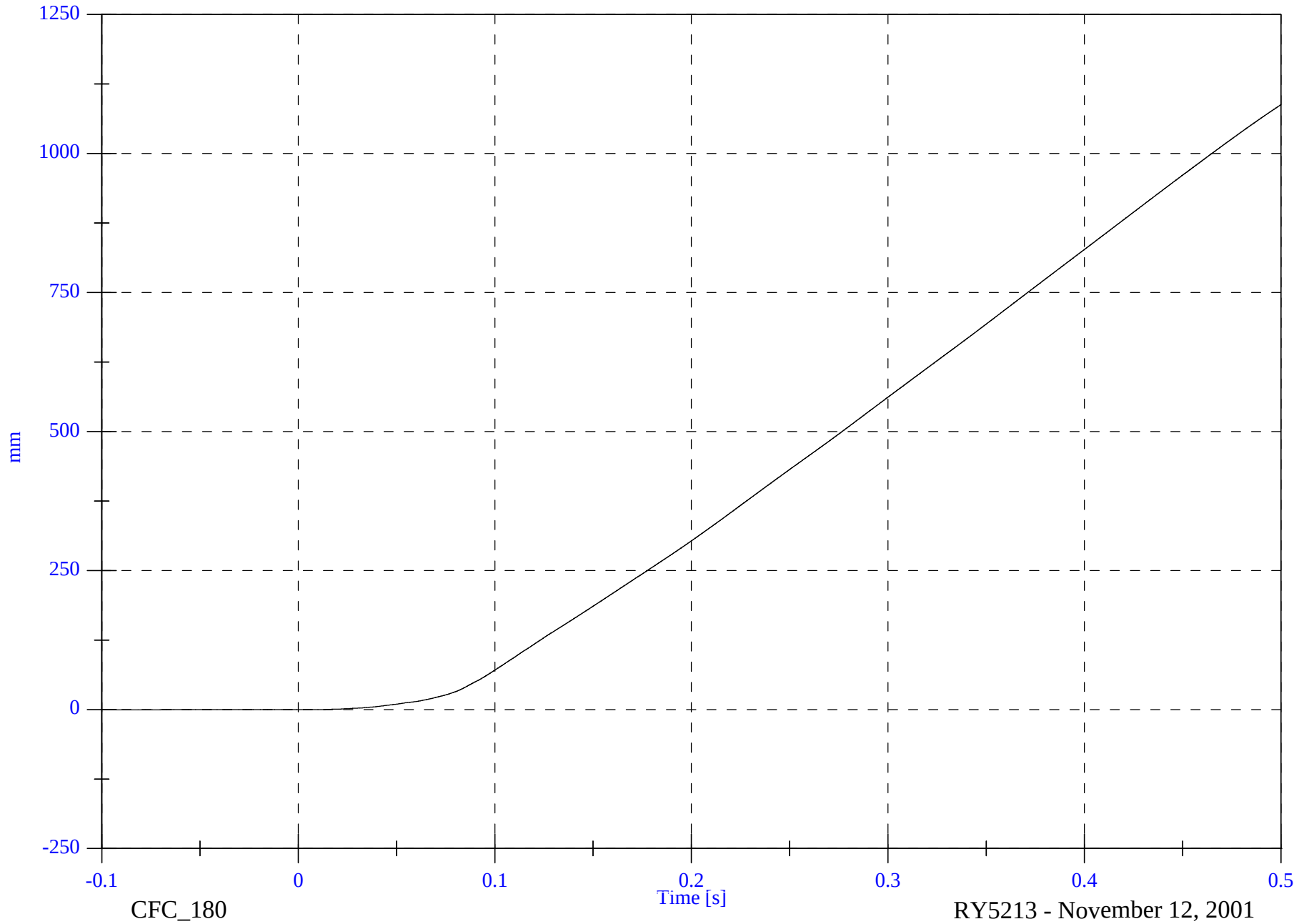
Acc 2 Rear XMBR Left Y Displacement

Max: 1087.8 [mm] at 0.500 [s]

Min: -0.5 [mm] at -0.094 [s]

B-171

8413-67

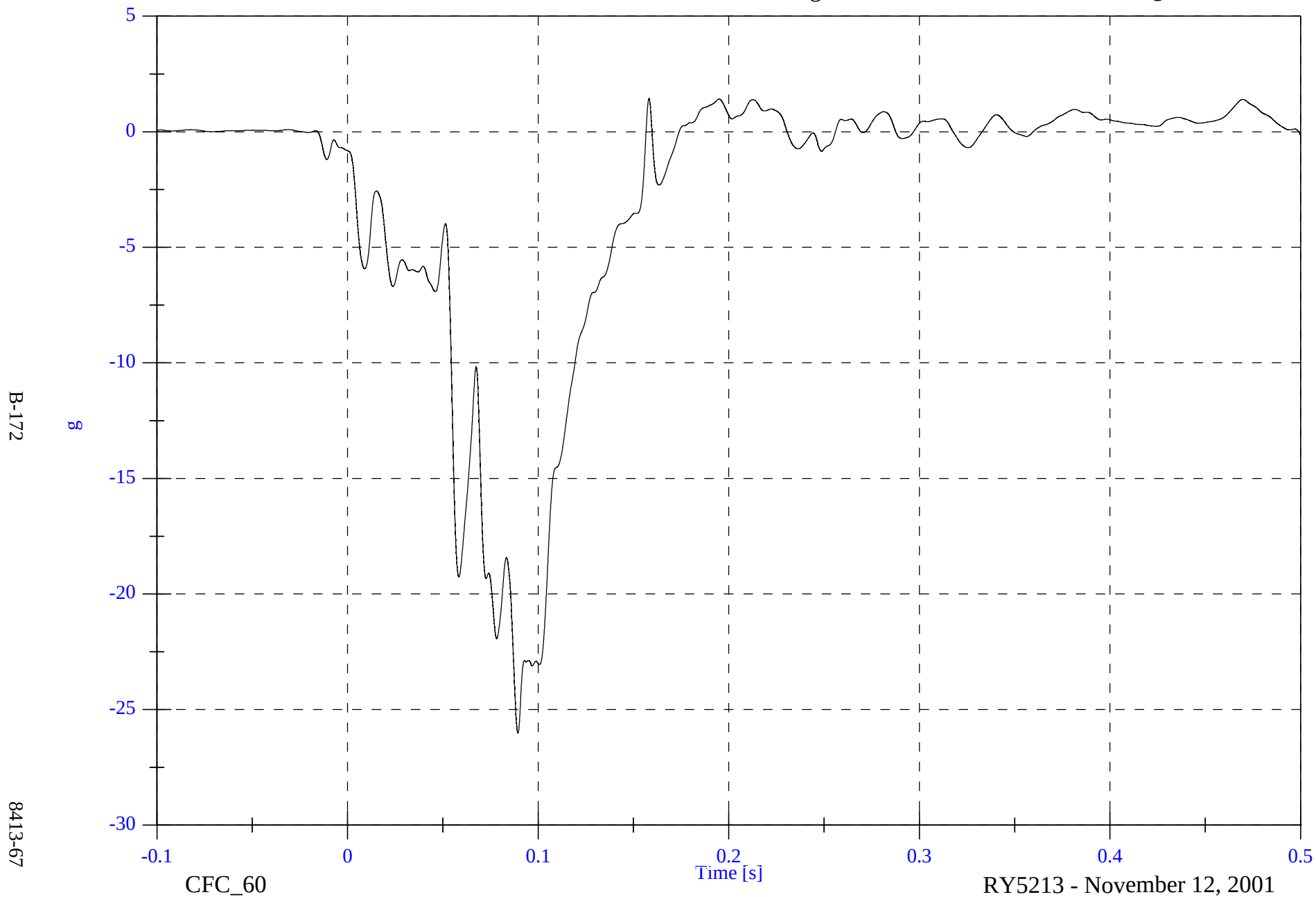


40% Frontal Offset Test #11 - 2000 Nissan Quest

Acc 3 Rear XMBR Right X

Max: 1.4 [g] at 0.158 [s]

Min: -26.0 [g] at 0.089 [s]

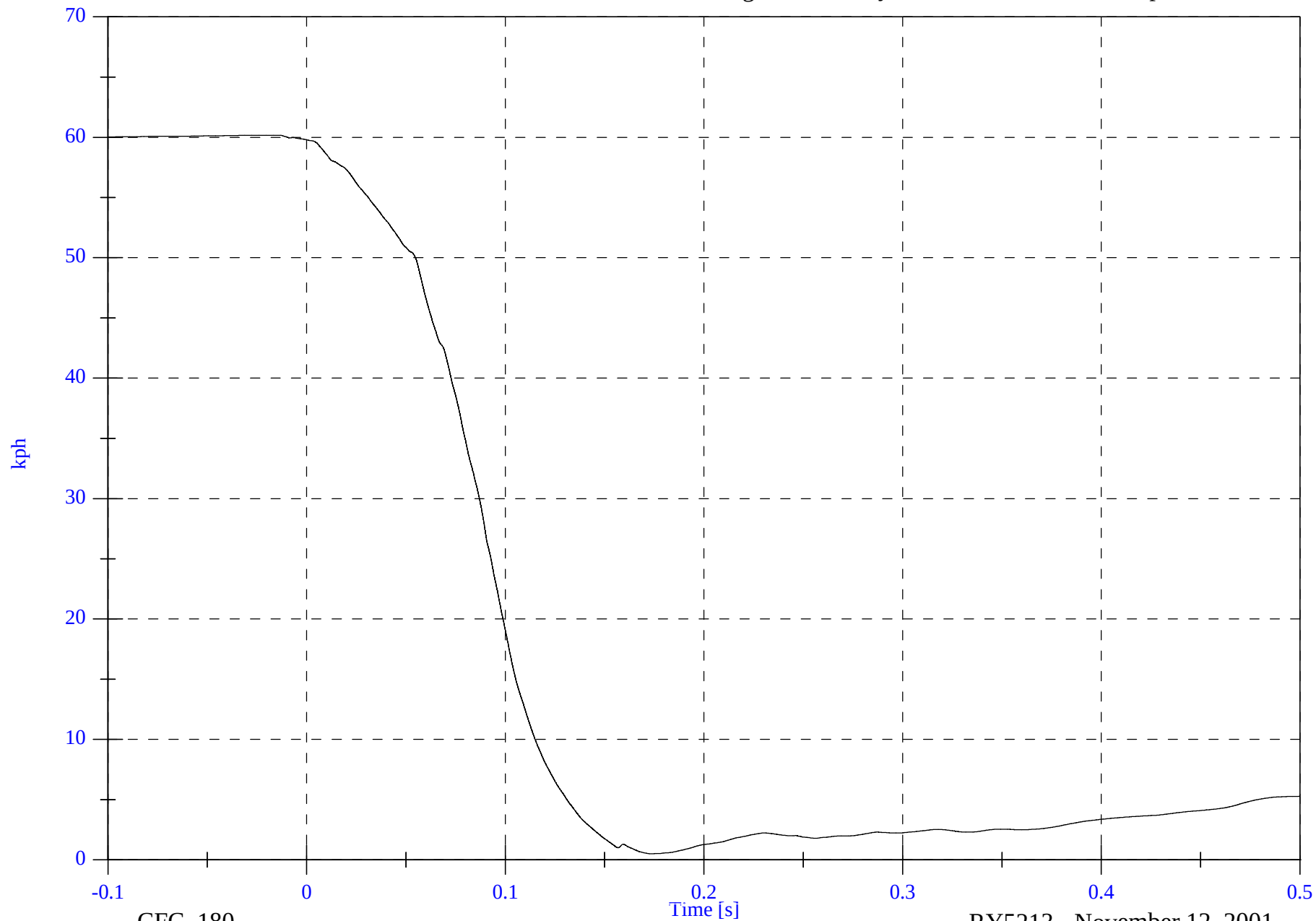


40% Frontal Offset Test #11 - 2000 Nissan Quest

Acc 3 Rear XMBR Right X Velocity

Max: 60.2 [kph] at -0.022 [s]

Min: 0.5 [kph] at 0.174 [s]



B-173

8413-67

CFC_180

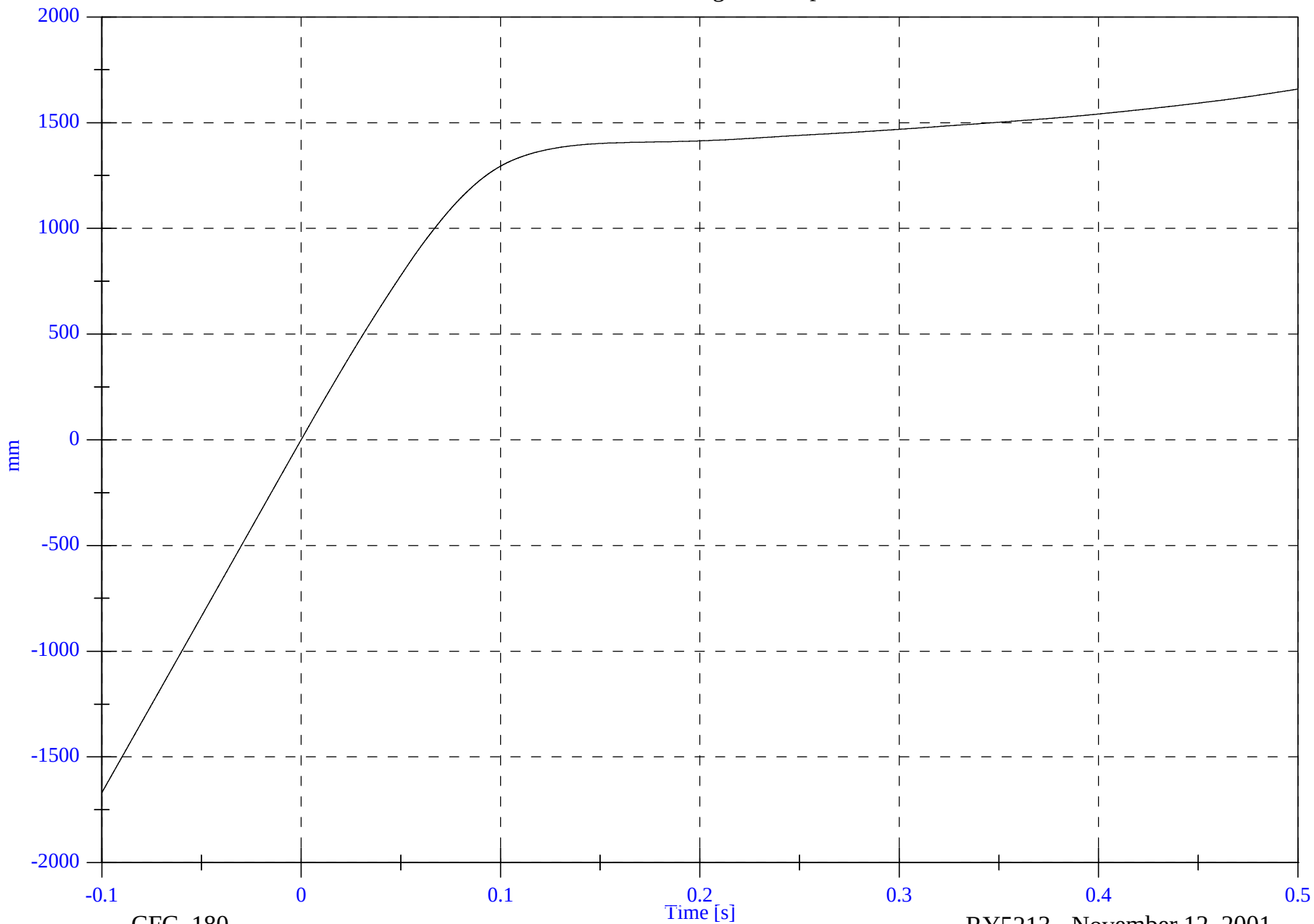
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

Acc 3 Rear XMBR Right X Displacement

Max: 1658.7 [mm] at 0.500 [s]

Min: -1669.2 [mm] at -0.100 [s]



B-174

8413-67

CFC_180

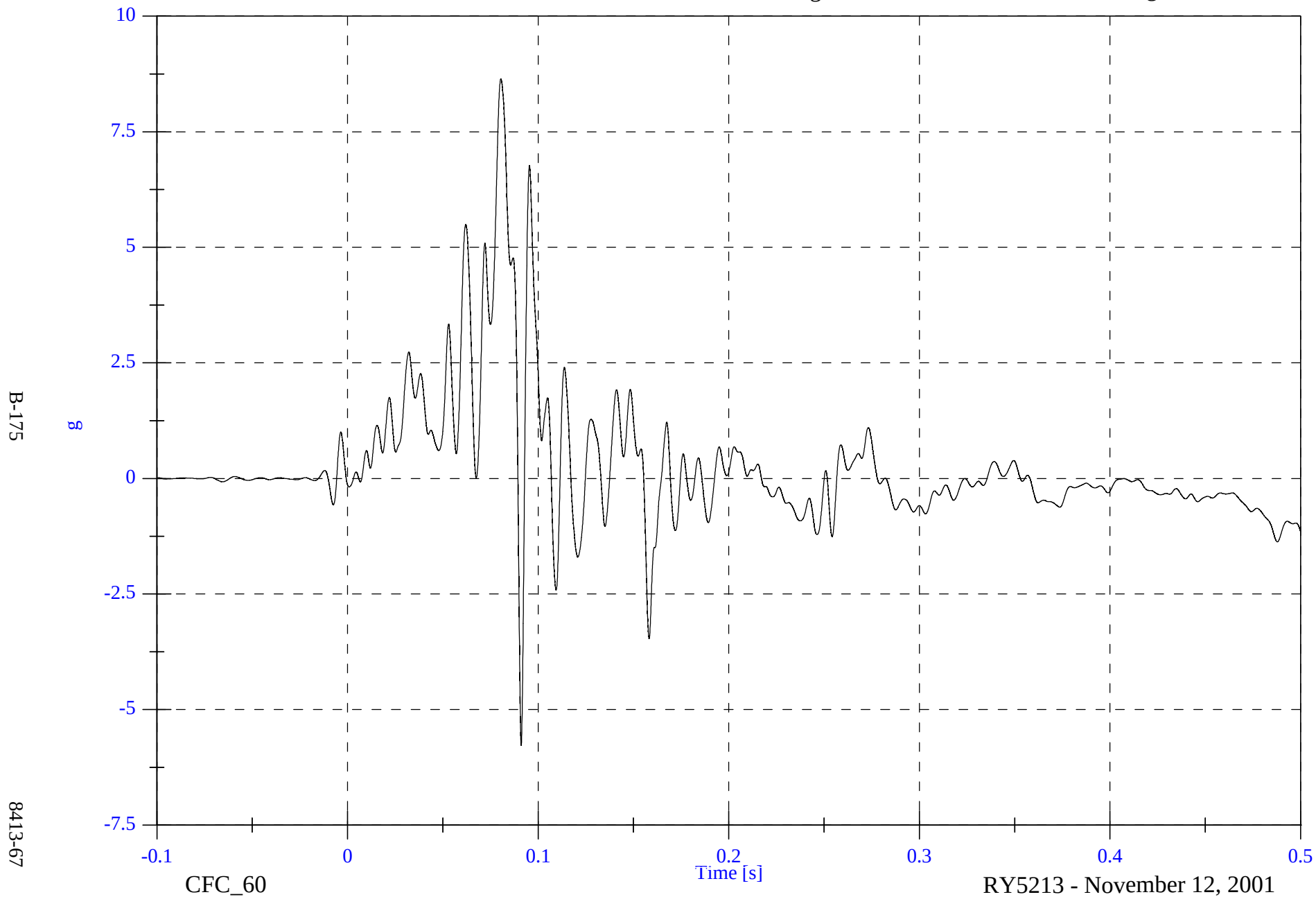
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

Acc 4 Rear XMBR Right Y

Max: 8.6 [g] at 0.080 [s]

Min: -5.8 [g] at 0.091 [s]

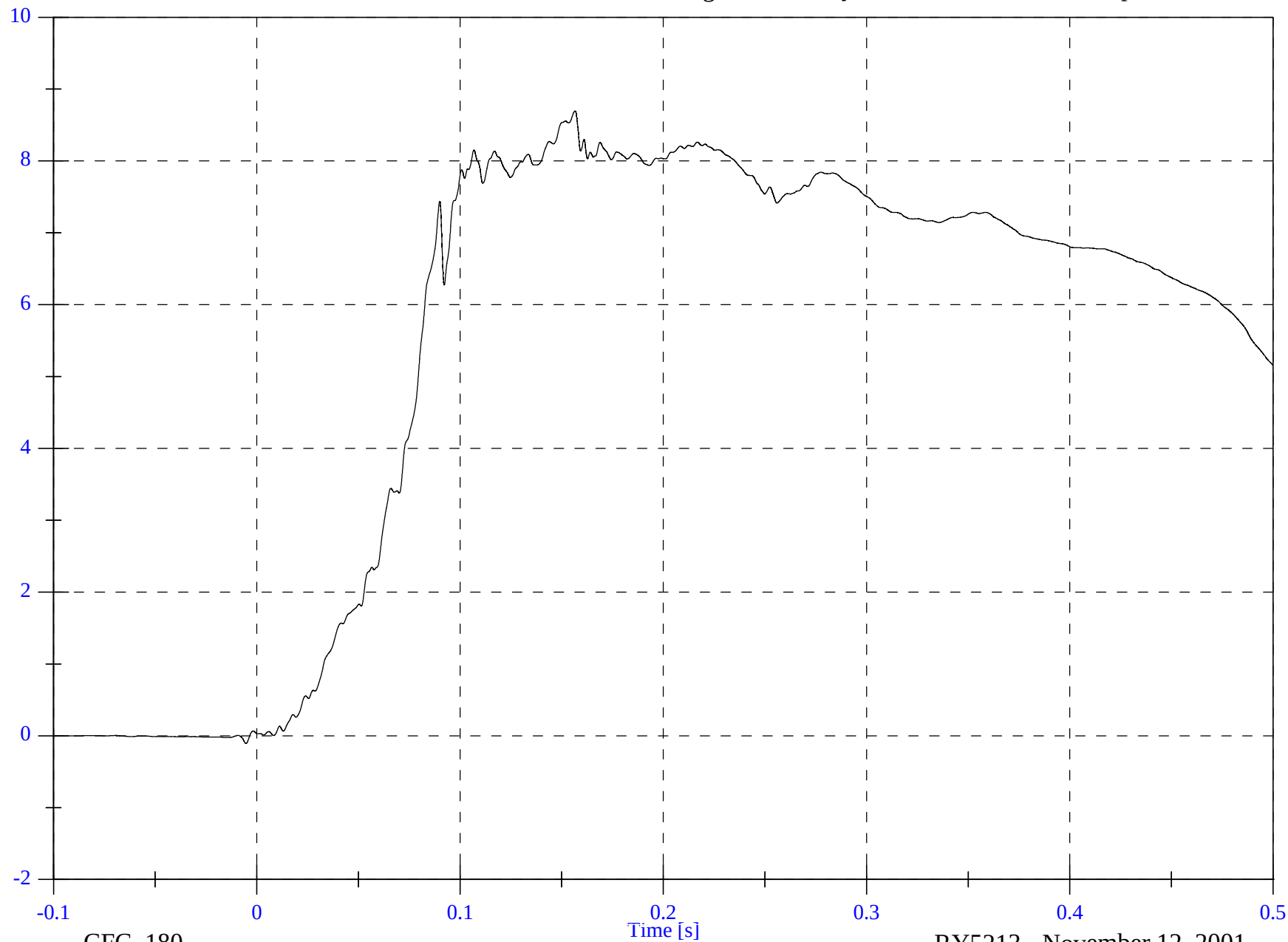


40% Frontal Offset Test #11 - 2000 Nissan Quest

Max: 8.7 [kph] at 0.157 [s]

Acc 4 Rear XMBR Right Y Velocity

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



B-176

8413-67

CFC_180

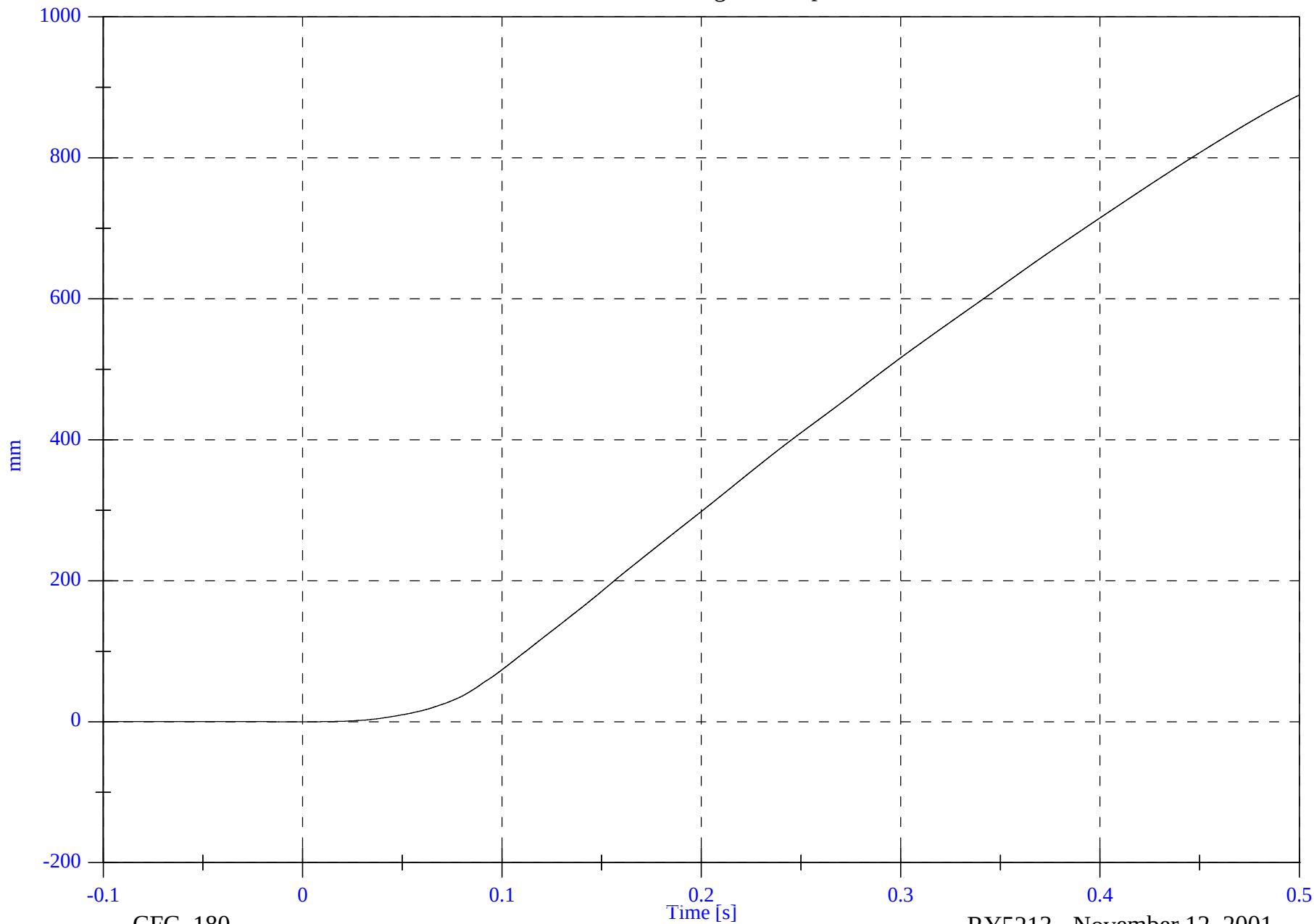
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

Acc 4 Rear XMBR Right Y Displacement

Max: 889.2 [mm] at 0.500 [s]

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



B-177

8413-67

CFC_180

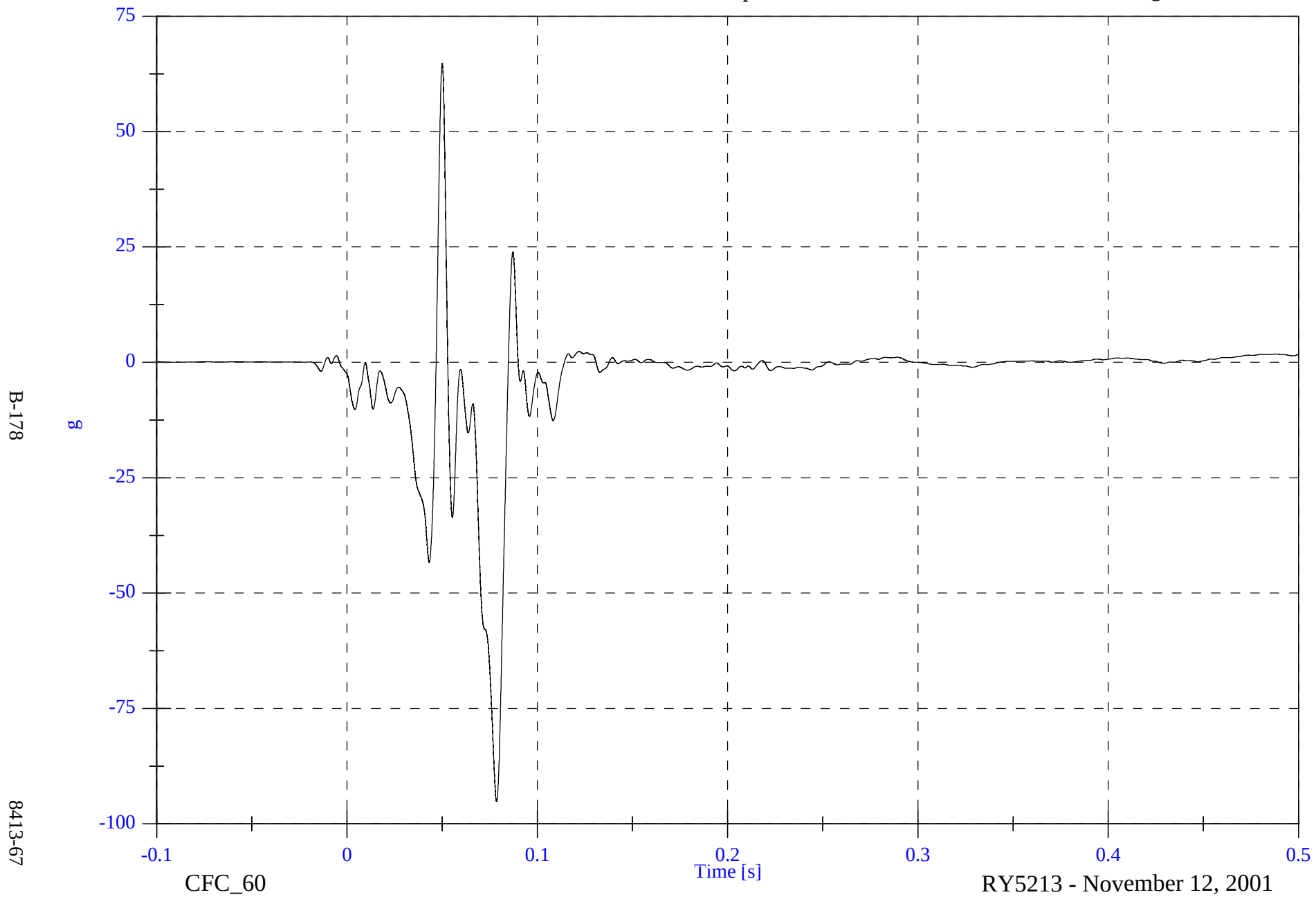
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

Acc 5 P1 Toepan Left X

Max: 64.8 [g] at 0.050 [s]

Min: -95.2 [g] at 0.079 [s]

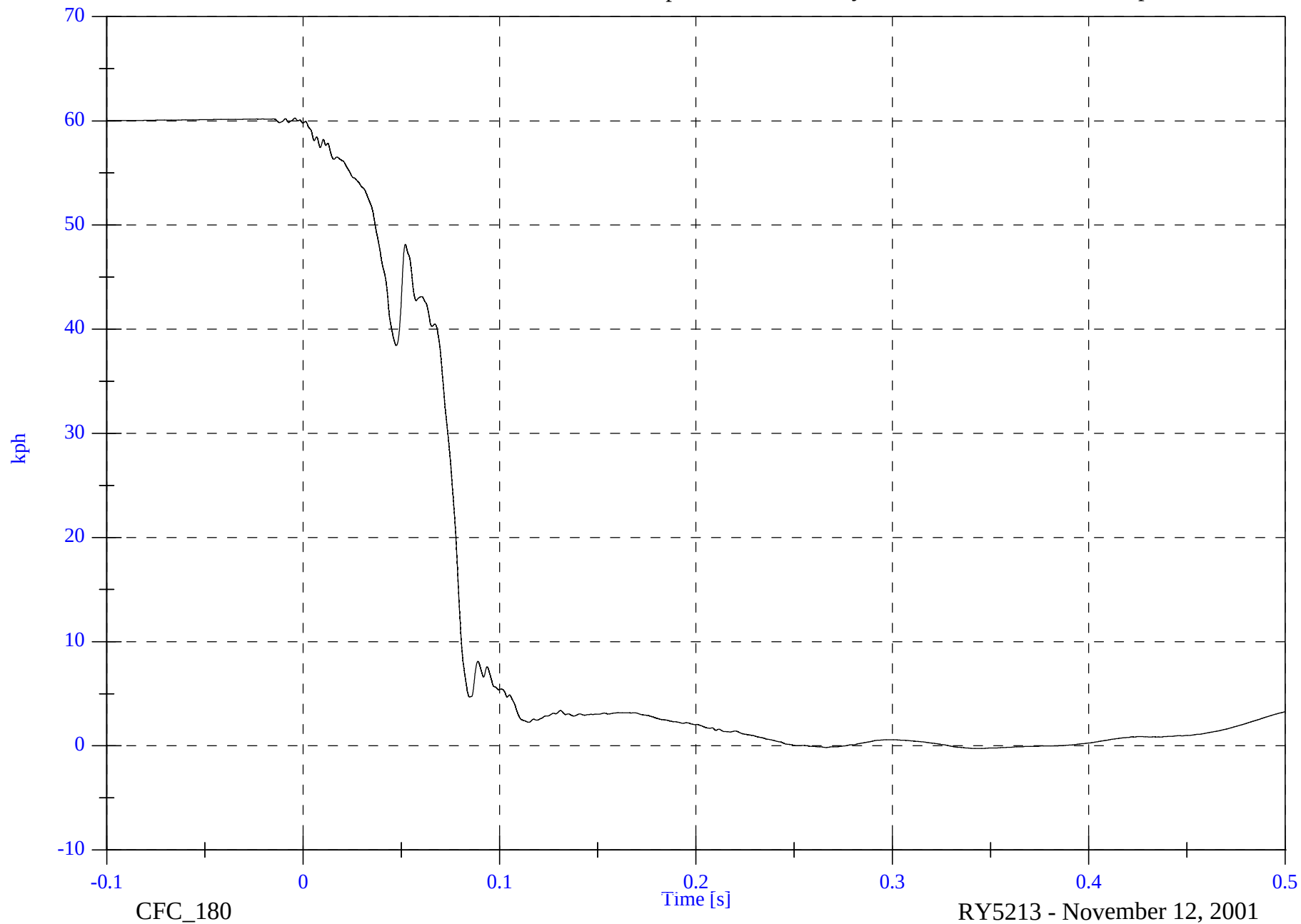


40% Frontal Offset Test #11 - 2000 Nissan Quest

Acc 5 P1 Toe pan Left X Velocity

Max: 60.3 [kph] at -0.004 [s]

Min: -0.3 [kph] at 0.342 [s]



B-179

8413-67

CFC_180

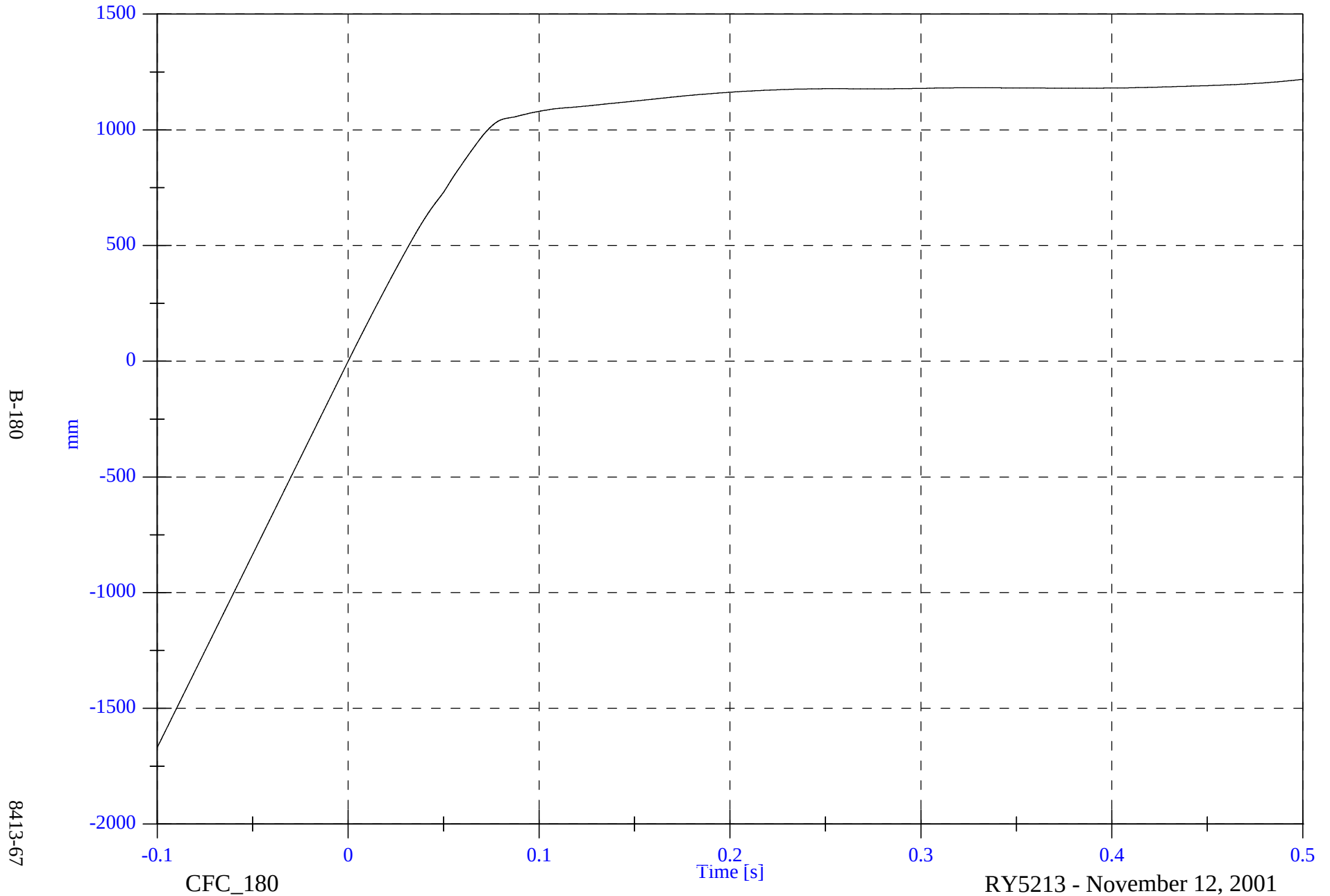
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

Acc 5 P1 Toe pan Left X Displacement

Max: 1218.3 [mm] at 0.500 [s]

Min: -1669.1 [mm] at -0.100 [s]

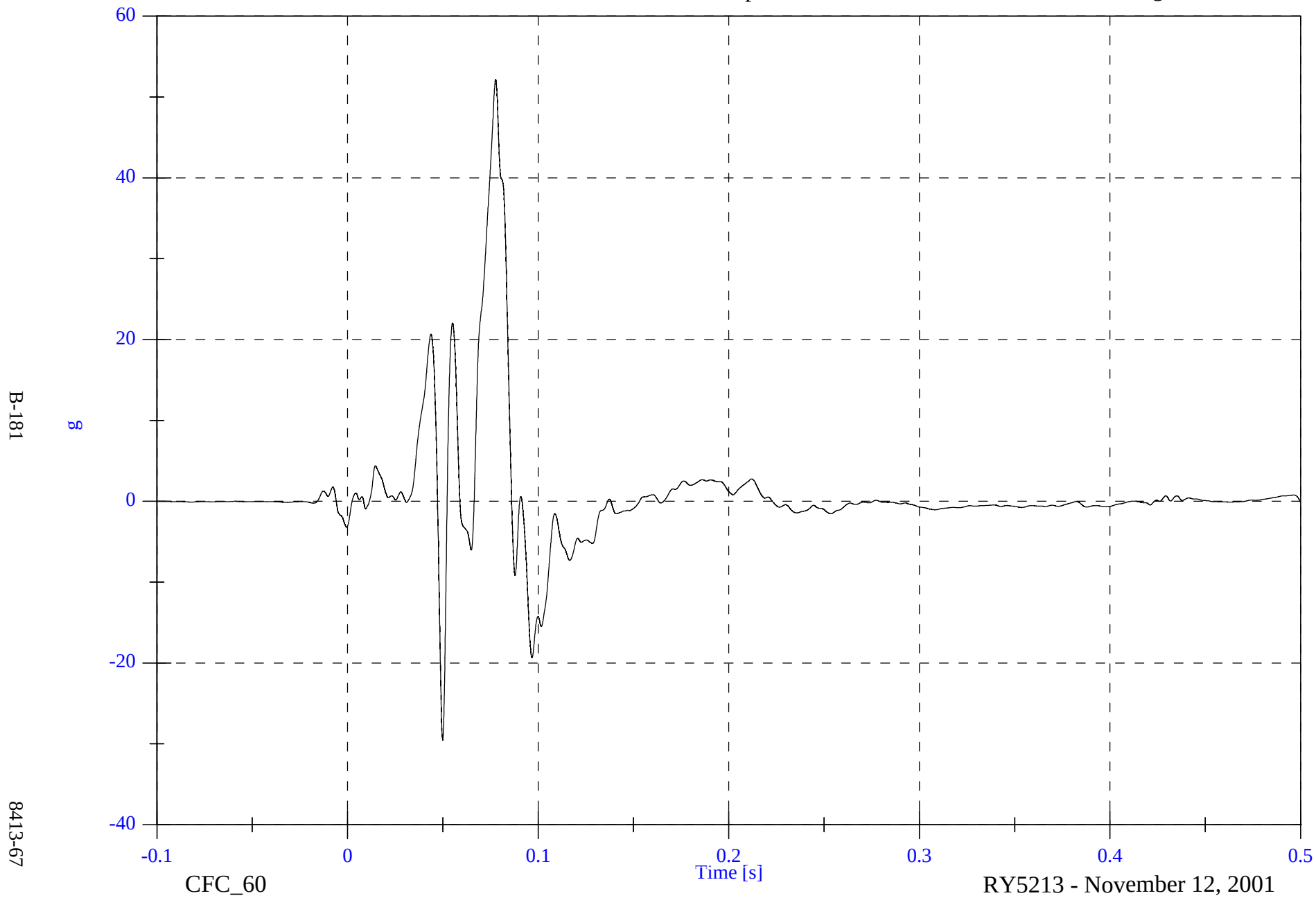


40% Frontal Offset Test #11 - 2000 Nissan Quest

Acc 6 P1 Toepan Left Z

Max: 52.2 [g] at 0.078 [s]

Min: -29.5 [g] at 0.050 [s]

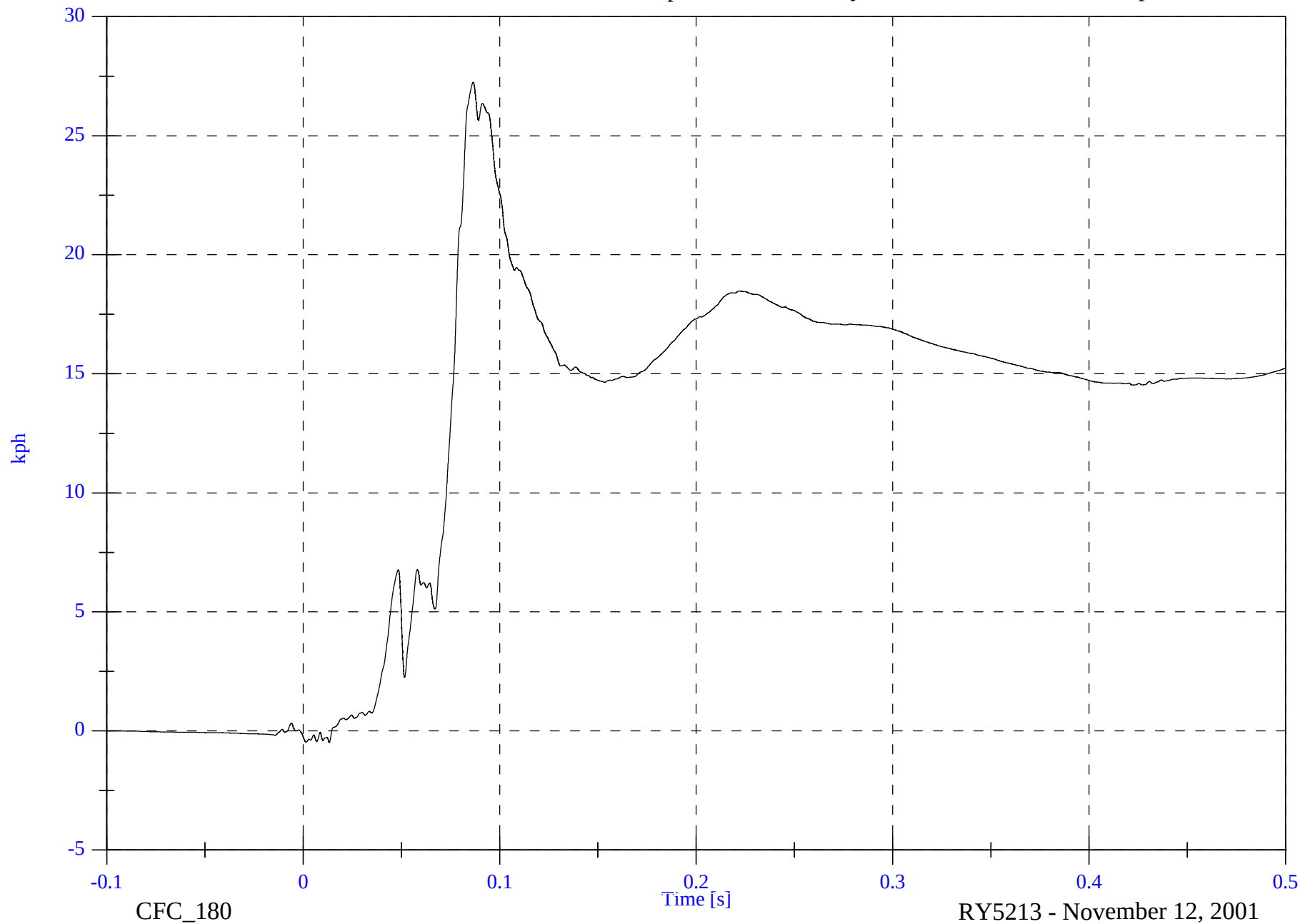


40% Frontal Offset Test #11 - 2000 Nissan Quest

Acc 6 P1 Toeapn Left Z Velocity

Max: 27.2 [kph] at 0.087 [s]

Min: -0.5 [kph] at 0.013 [s]



B-182

8413-67

40% Frontal Offset Test #11 - 2000 Nissan Quest

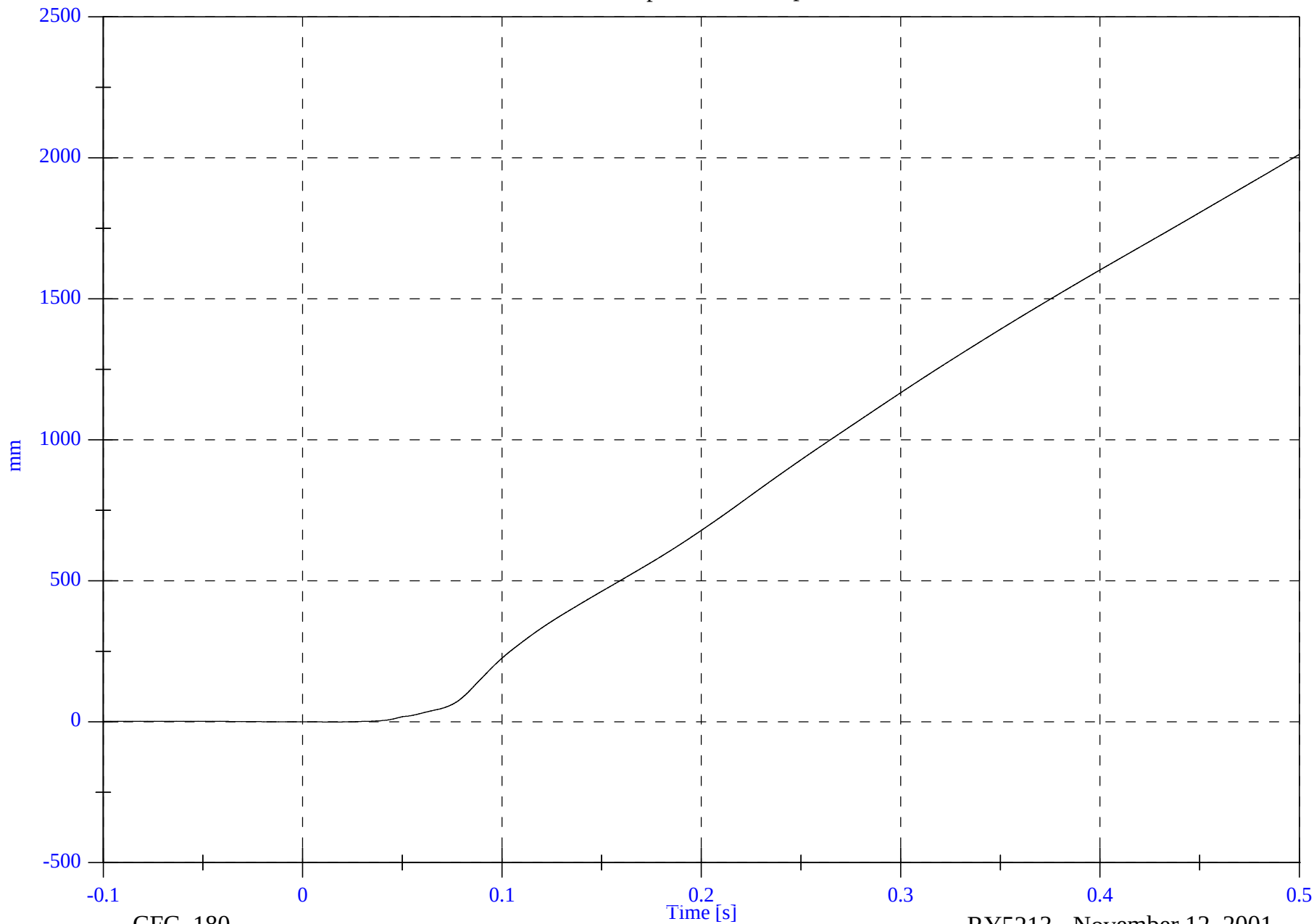
Acc 6 P1 Toe pan Left Z Displacement

Max: 2012.4 [mm] at 0.500 [s]

Min: -1.3 [mm] at 0.015 [s]

B-183

8413-67



CFC_180

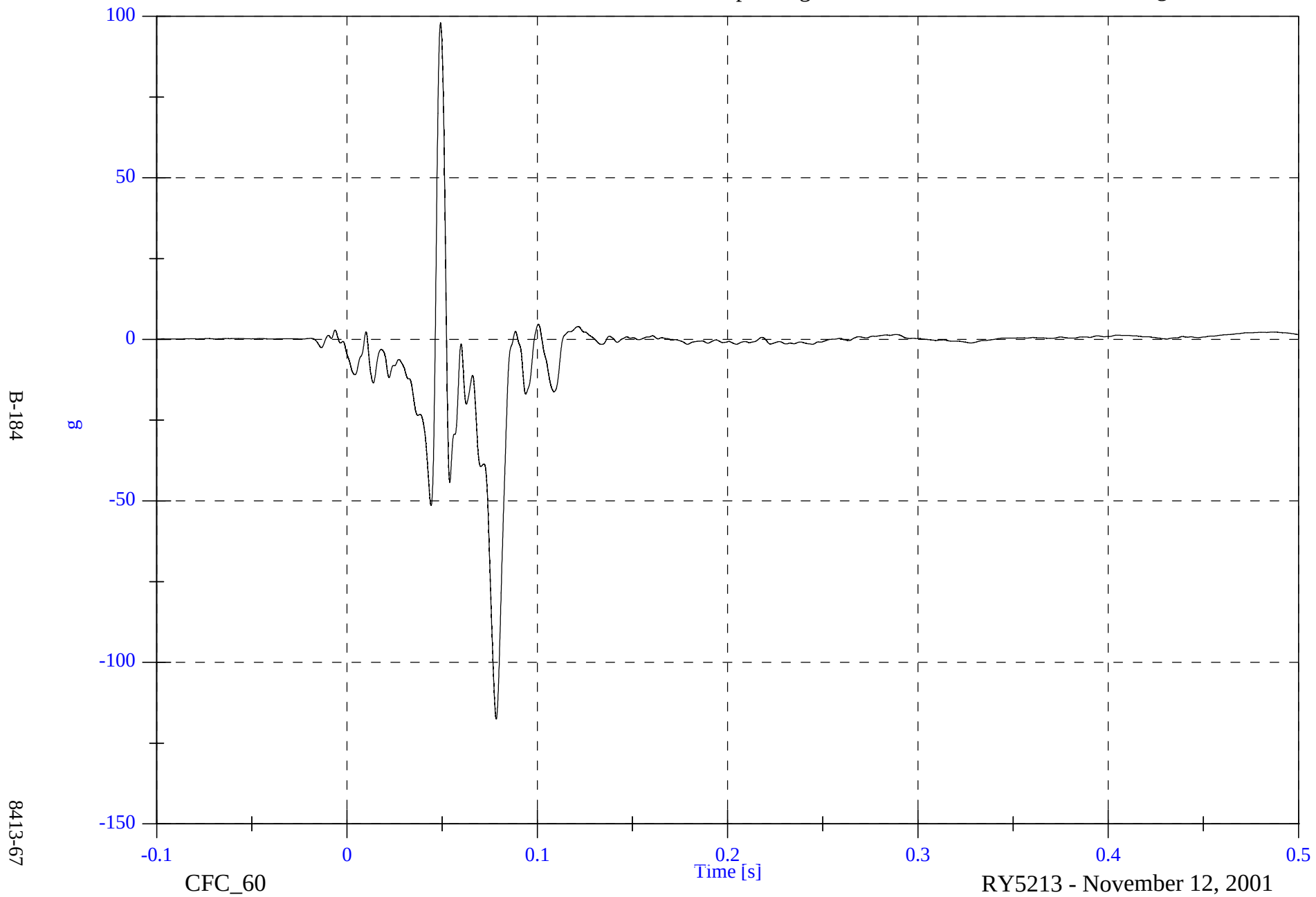
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

Acc 7 P1 Toepan Right X

Max: 97.9 [g] at 0.049 [s]

Min: -117.6 [g] at 0.078 [s]

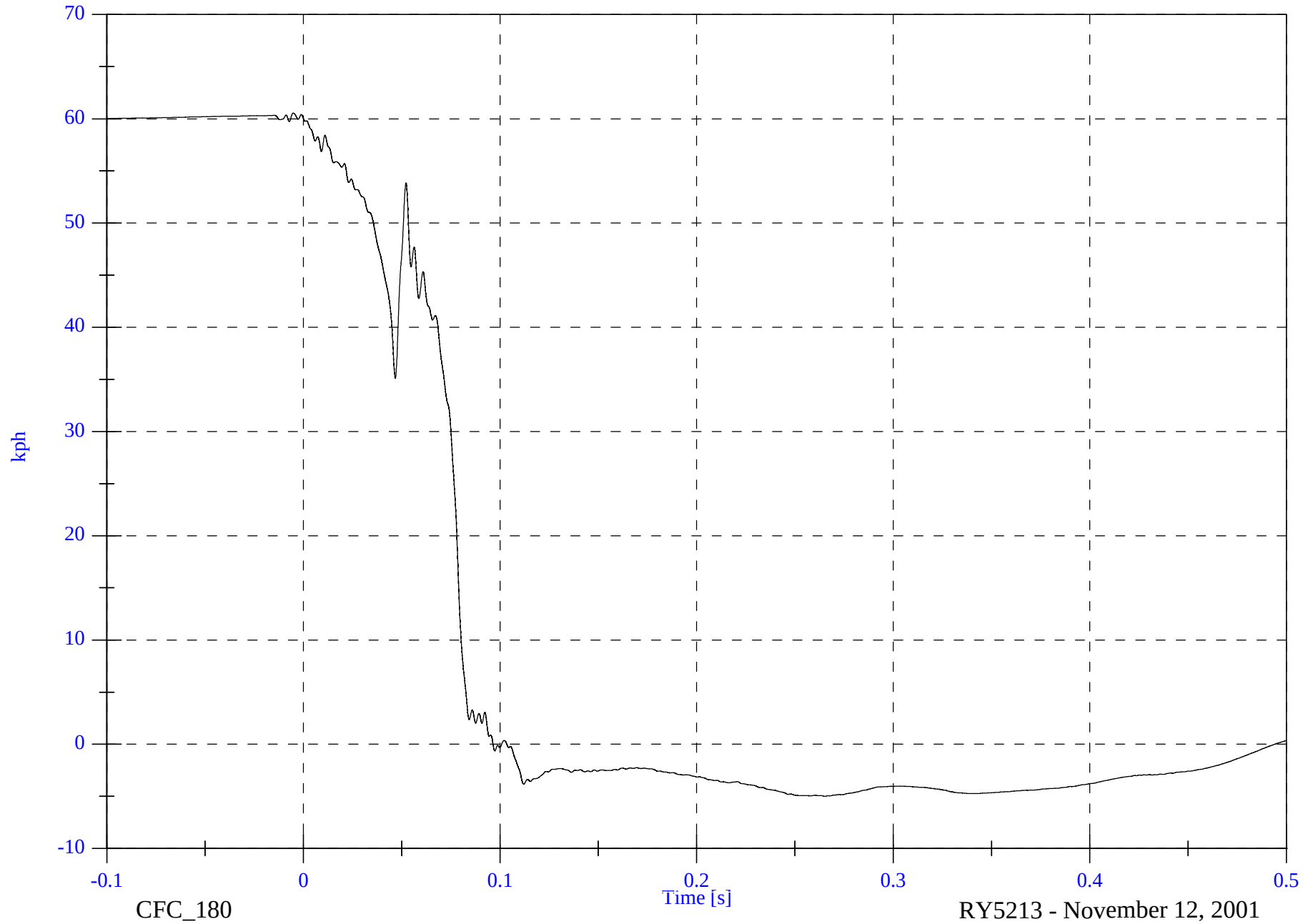


40% Frontal Offset Test #11 - 2000 Nissan Quest

Acc 7 P1 Toepan Right X Velocity

Max: 60.6 [kph] at -0.005 [s]

Min: -5.0 [kph] at 0.265 [s]



B-185

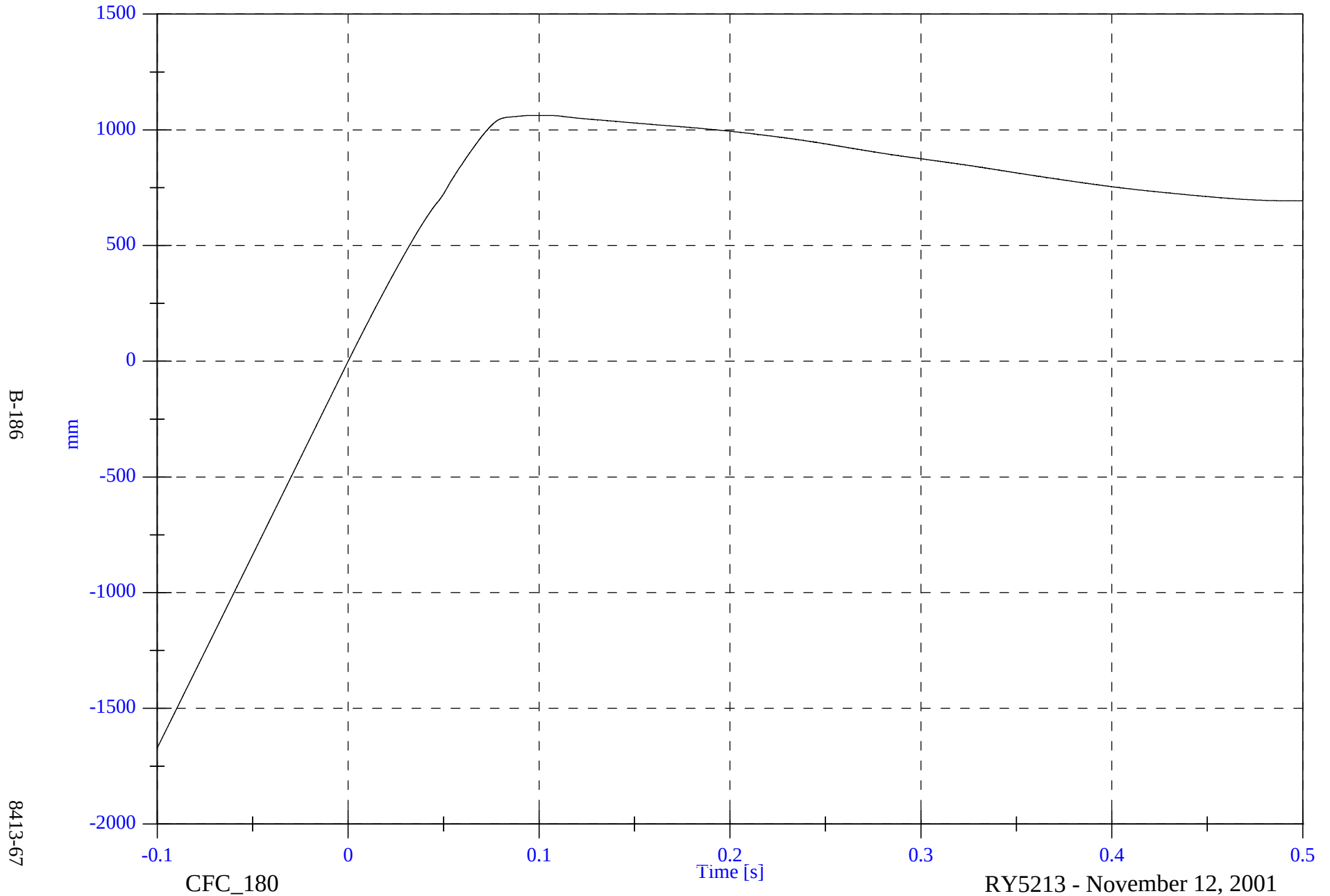
8413-67

40% Frontal Offset Test #11 - 2000 Nissan Quest

Acc 7 P1 Toeplan Right X Displacement

Max: 1062.4 [mm] at 0.096 [s]

Min: -1671.3 [mm] at -0.100 [s]

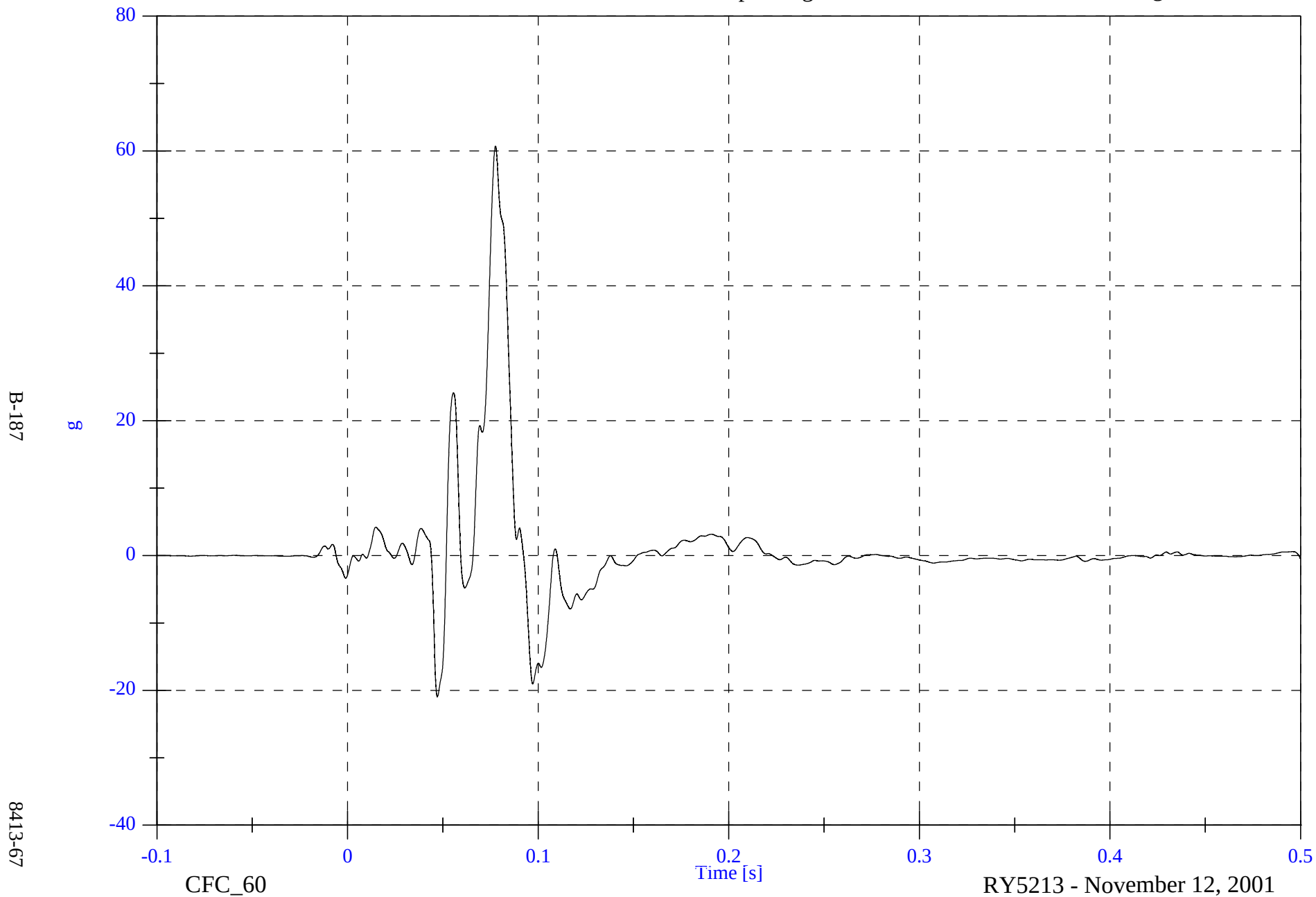


40% Frontal Offset Test #11 - 2000 Nissan Quest

Acc 7 P1 Toeplan Right Z

Max: 60.7 [g] at 0.078 [s]

Min: -21.0 [g] at 0.047 [s]

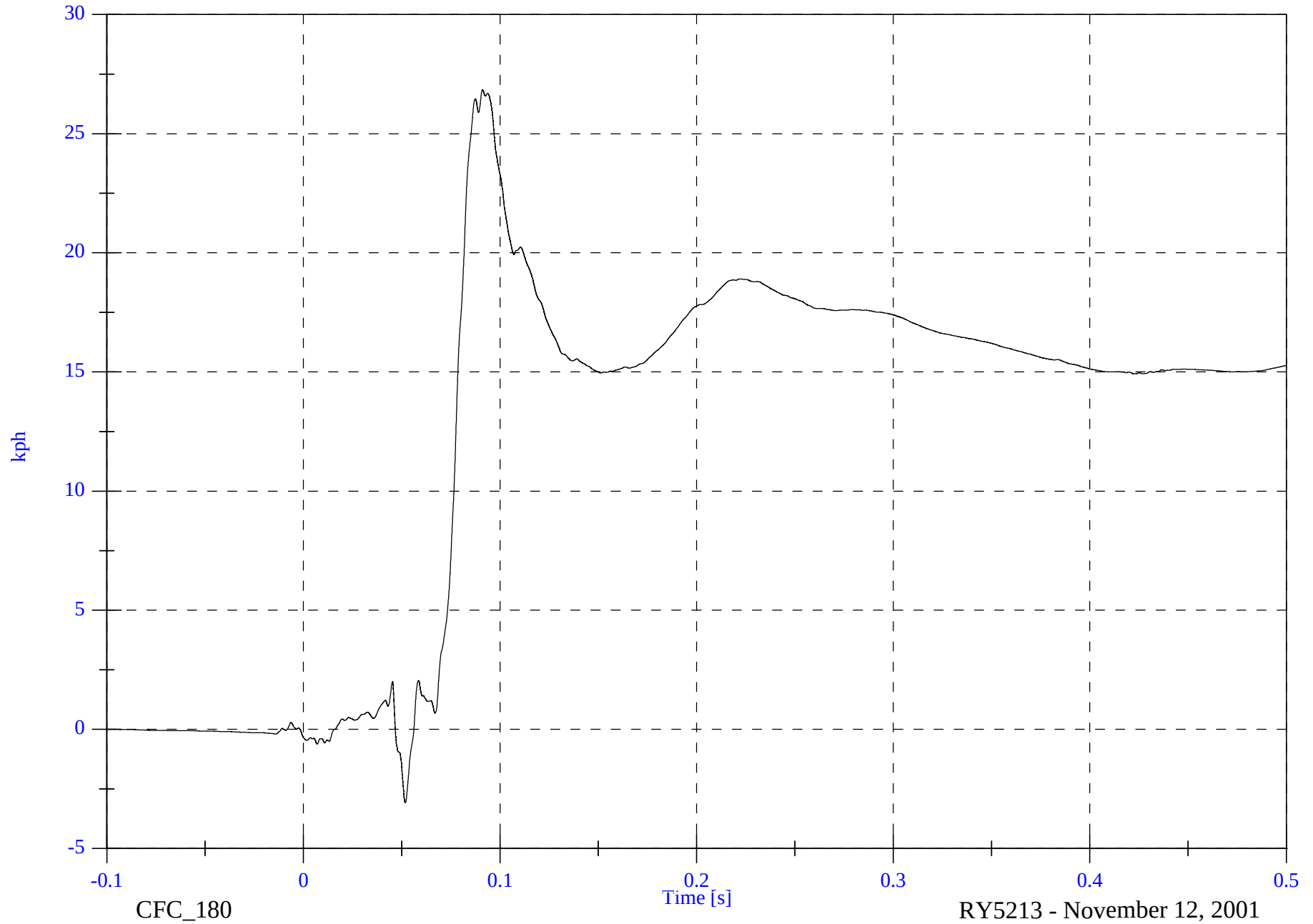


40% Frontal Offset Test #11 - 2000 Nissan Quest

Acc 7 P1 Toepan Right Z Velocity

Max: 26.8 [kph] at 0.091 [s]

Min: -3.1 [kph] at 0.052 [s]



B-188

8413-67

40% Frontal Offset Test #11 - 2000 Nissan Quest

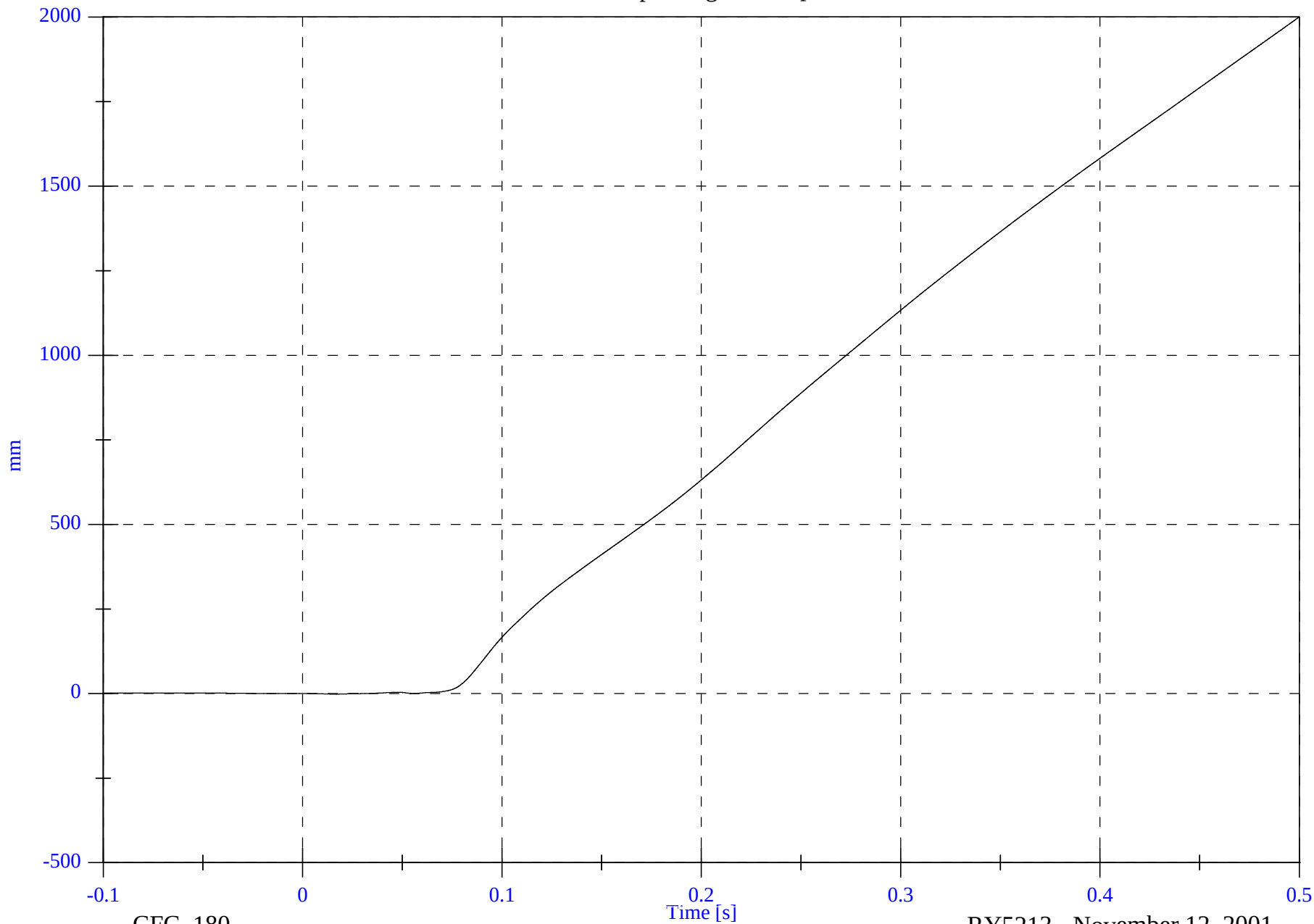
Acc 7 P1 Toepan Right Z Displacement

Max: 2000.1 [mm] at 0.500 [s]

Min: -1.8 [mm] at 0.016 [s]

B-189

8413-67



CFC_180

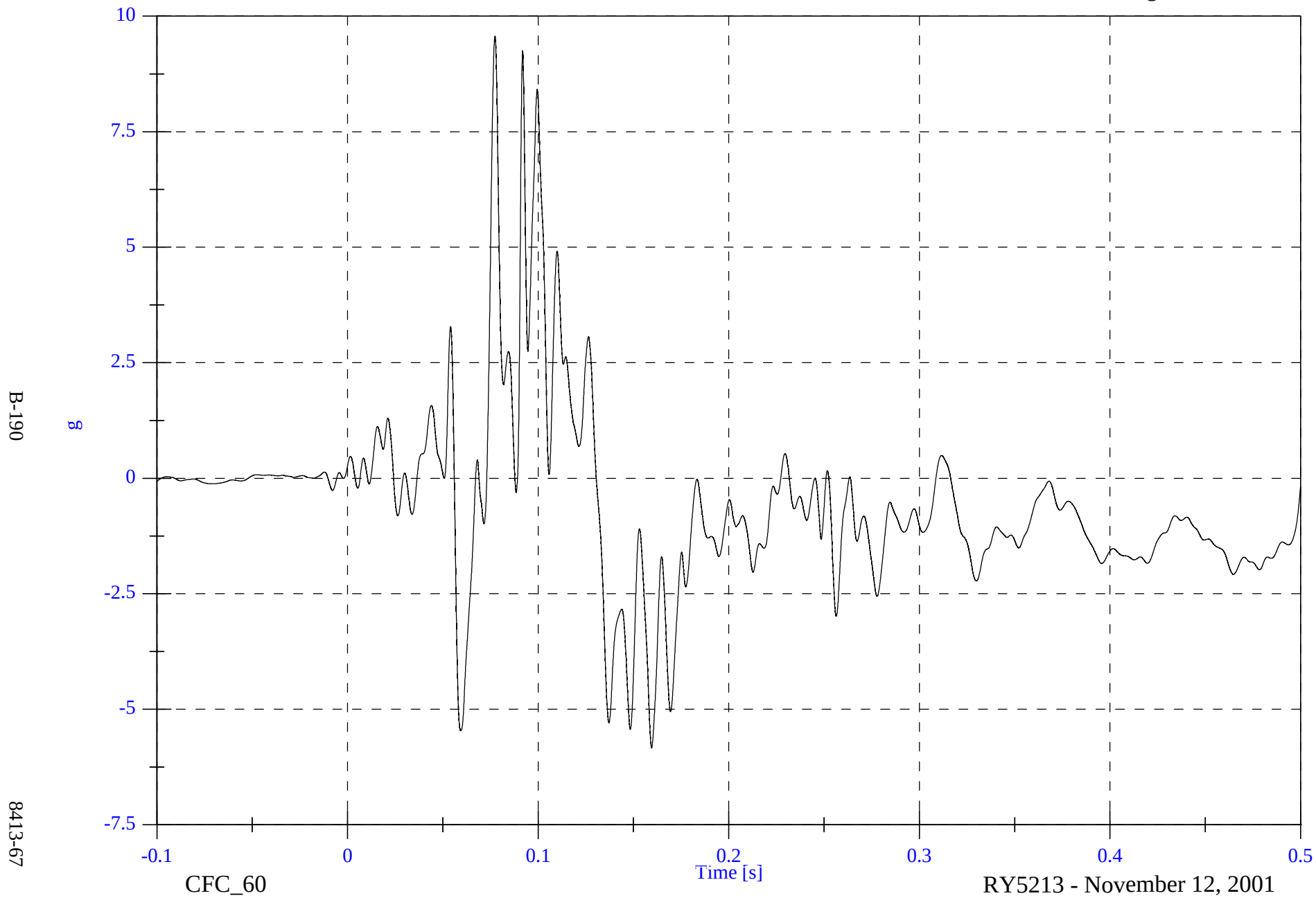
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

Acc 9 Trunk Z

Max: 9.6 [g] at 0.077 [s]

Min: -5.8 [g] at 0.160 [s]



40% Frontal Offset Test #11 - 2000 Nissan Quest

Acc 9 Trunk Z Velocity

Max: 6.4 [kph] at 0.129 [s]

Min: -12.0 [kph] at 0.500 [s]



B-191

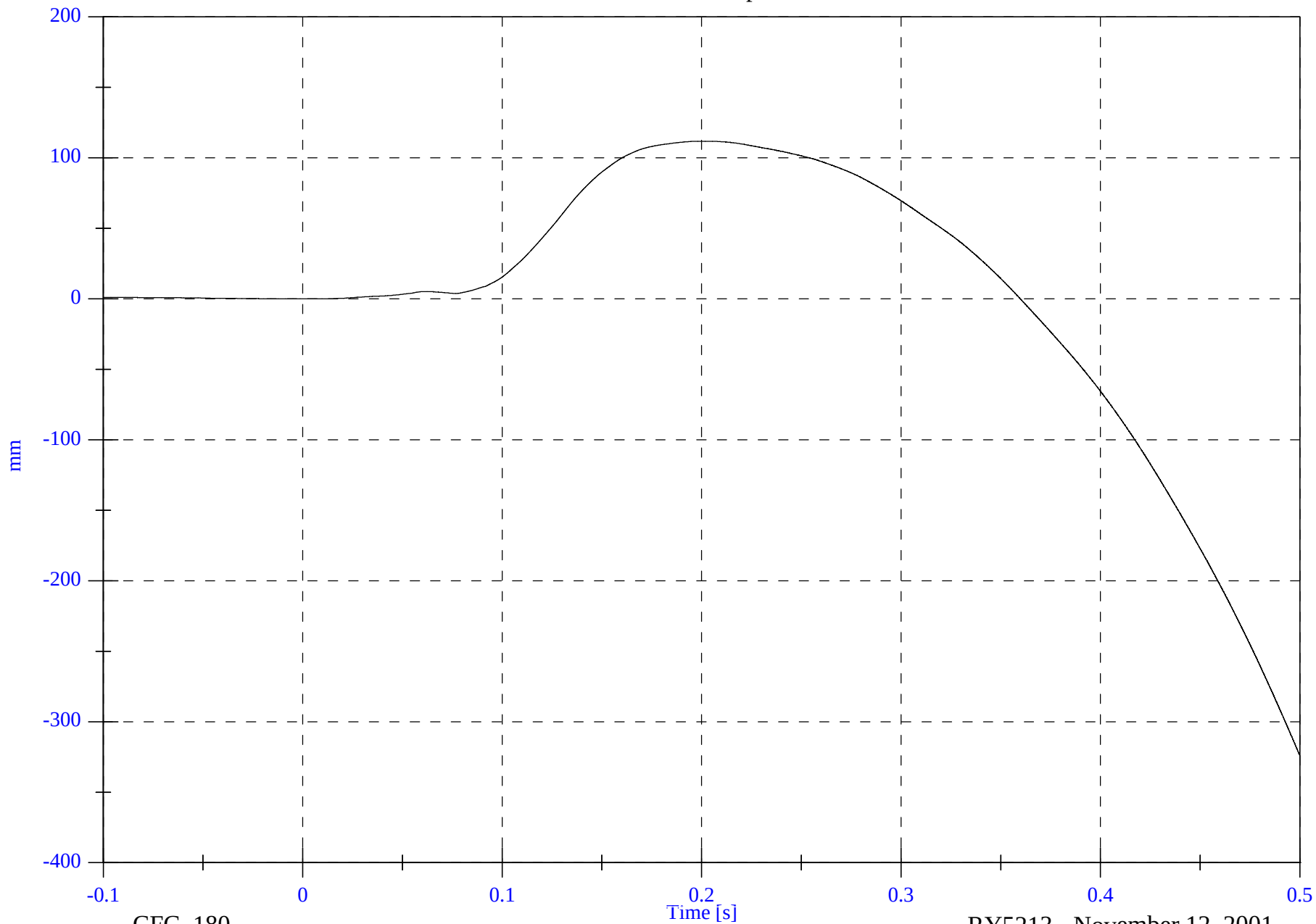
8413-67

40% Frontal Offset Test #11 - 2000 Nissan Quest

Acc 9 Trunk Z Displacement

Max: 111.8 [mm] at 0.202 [s]

Min: -323.9 [mm] at 0.500 [s]



B-192

8413-67

CFC_180

RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

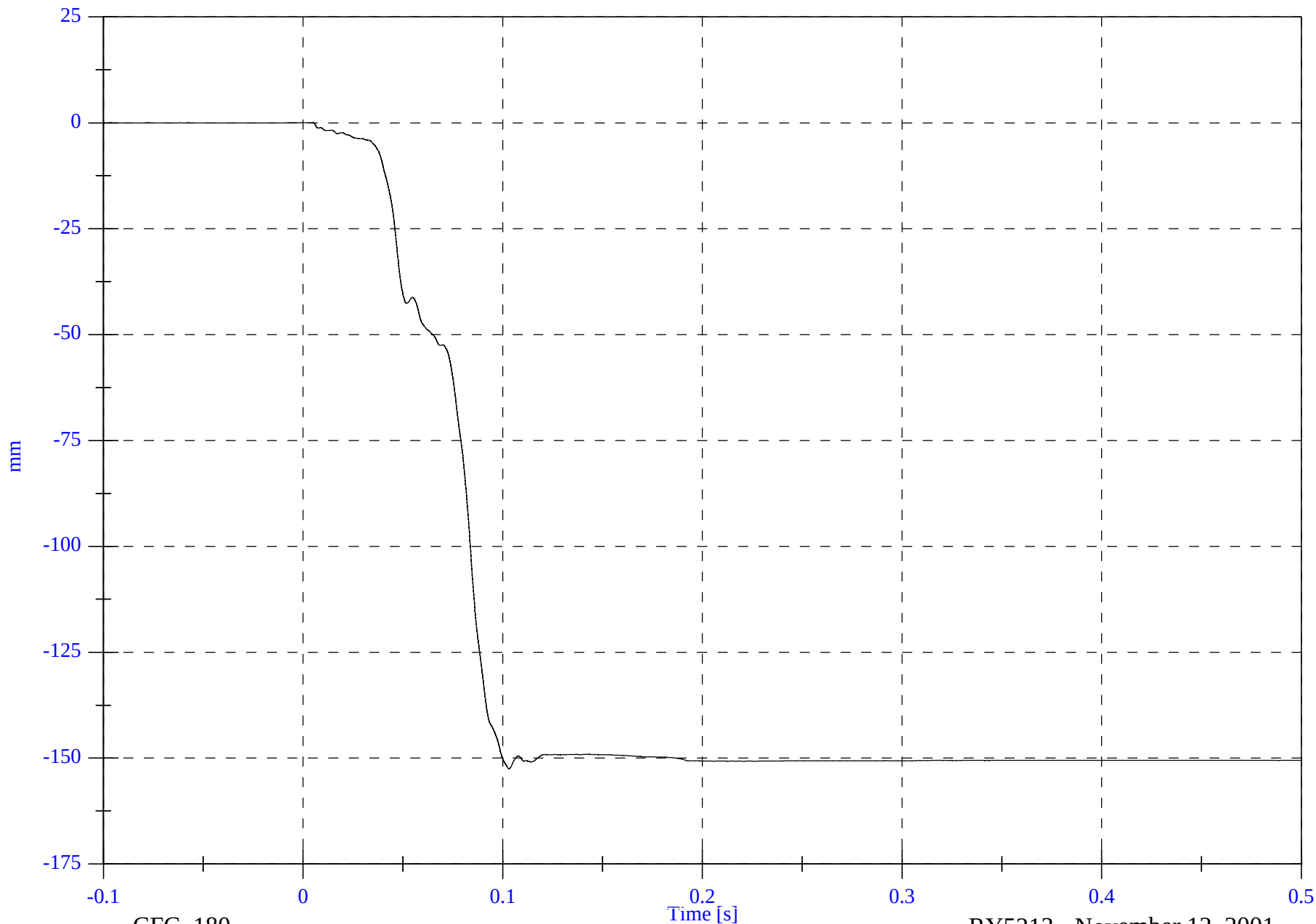
Toe Pan Movement

Max: 0.0 [mm] at 0.005 [s]

Min: -152.5 [mm] at 0.103 [s]

B-193

8413-67



CFC_180

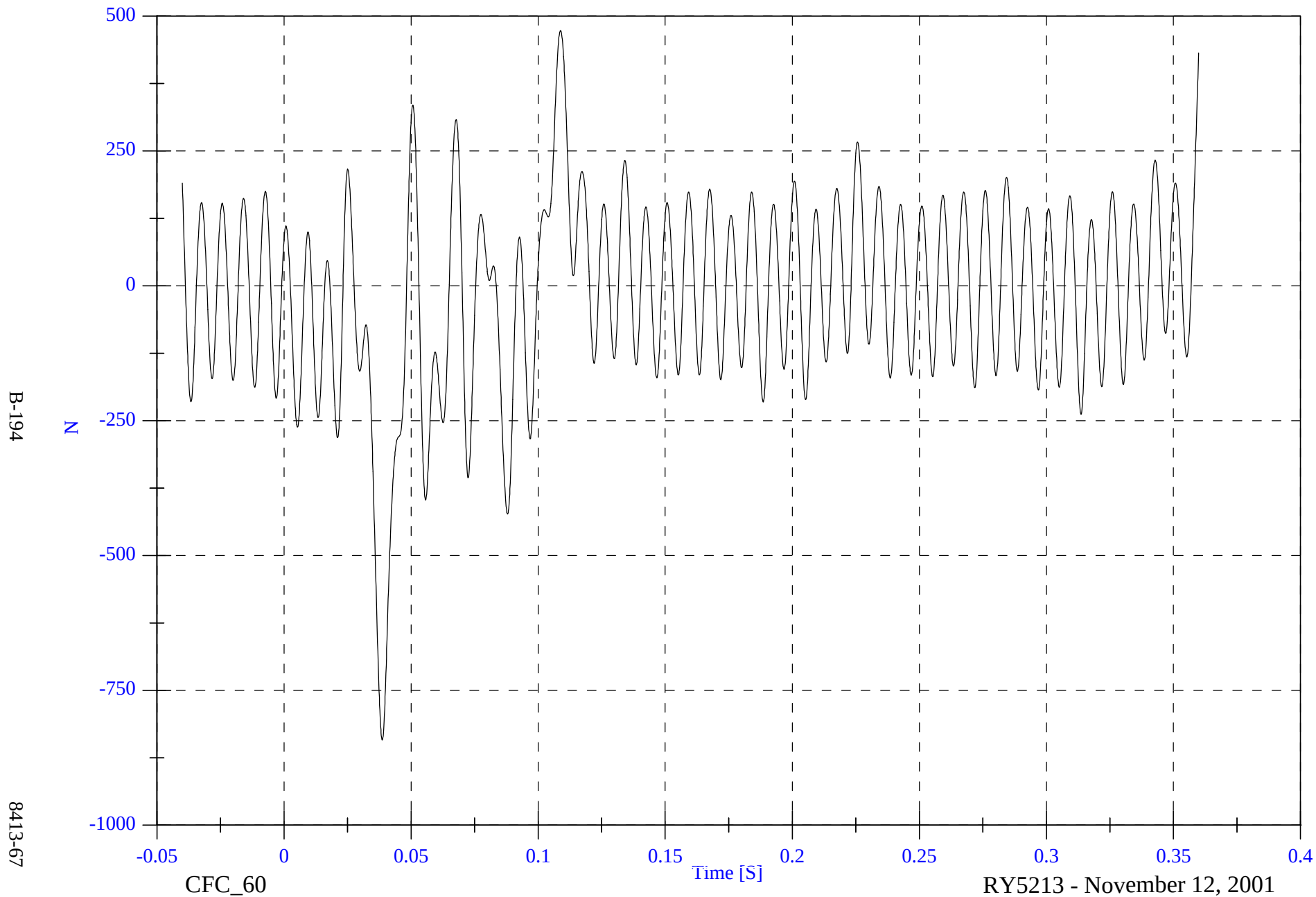
RY5213 - November 12, 2001

40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell E2 FY

Max: 473.4 [N] at 0.109 [S]

Min: -842.4 [N] at 0.039 [S]

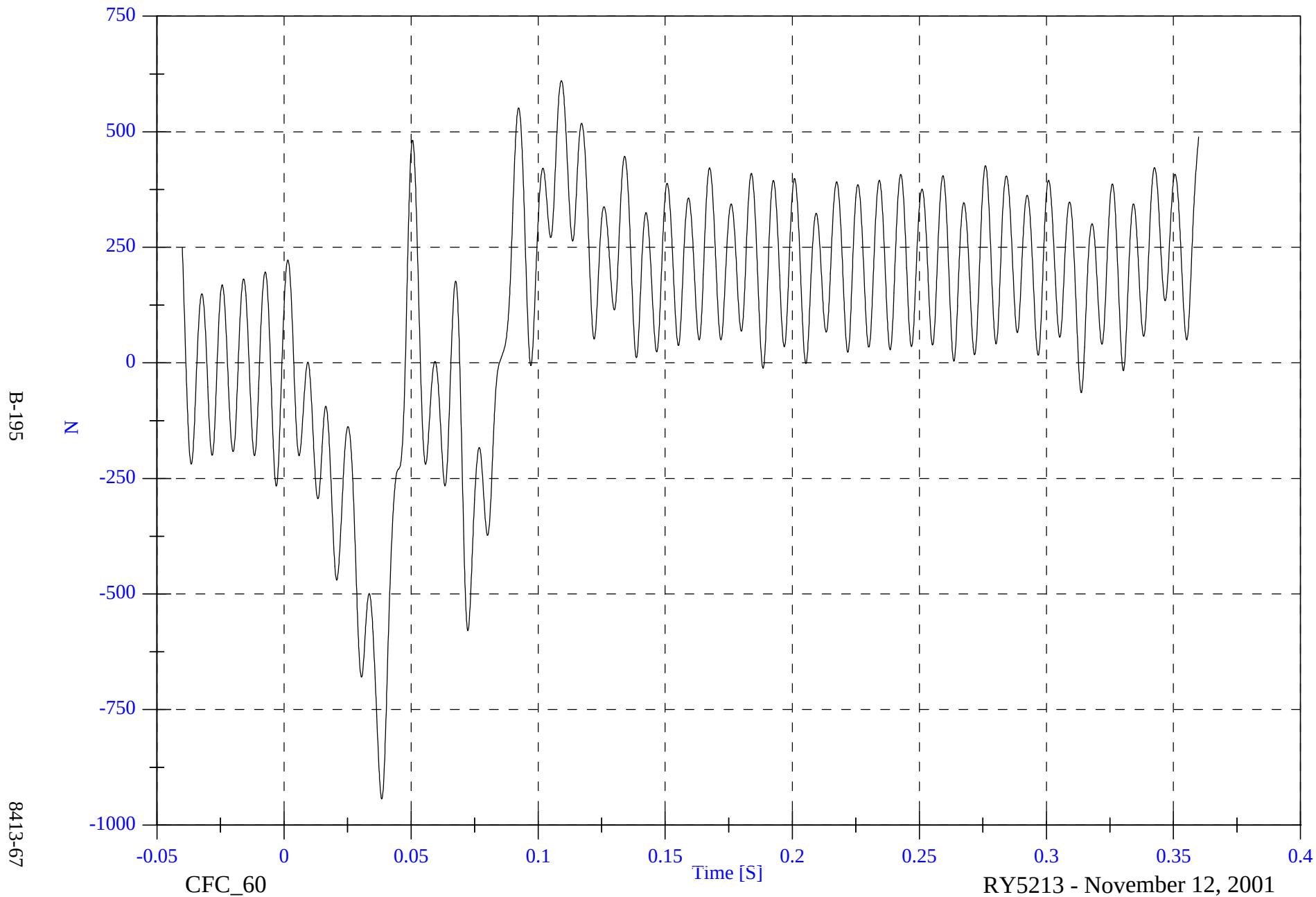


40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell E3 FY

Max: 610.5 [N] at 0.109 [S]

Min: -943.2 [N] at 0.038 [S]

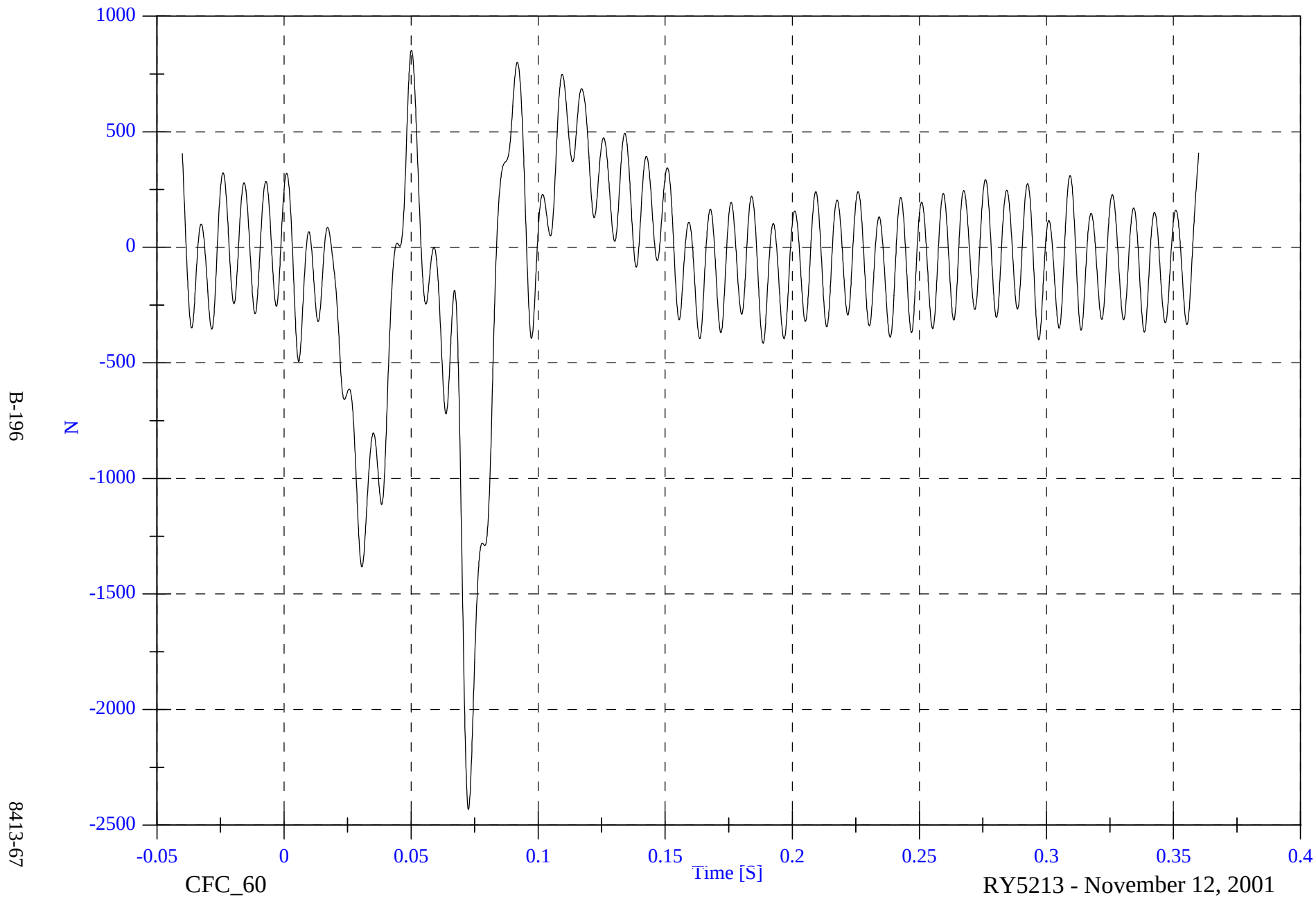


40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell E4 FY

Max: 852.9 [N] at 0.050 [S]

Min: -2432.0 [N] at 0.073 [S]

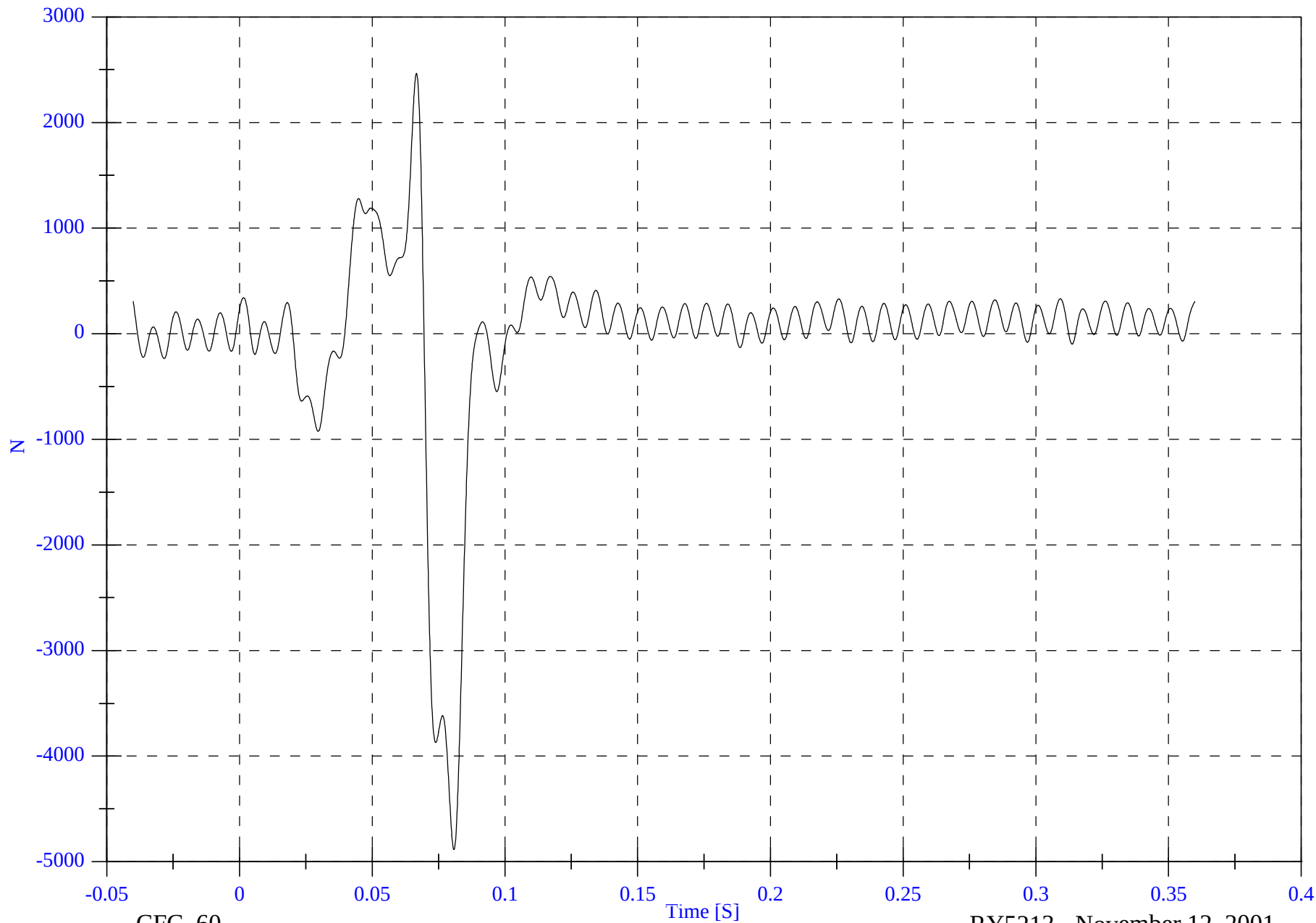


40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell E5 FY

Max: 2466.9 [N] at 0.067 [S]

Min: -4885.5 [N] at 0.081 [S]



B-197

8413-67

CFC_60

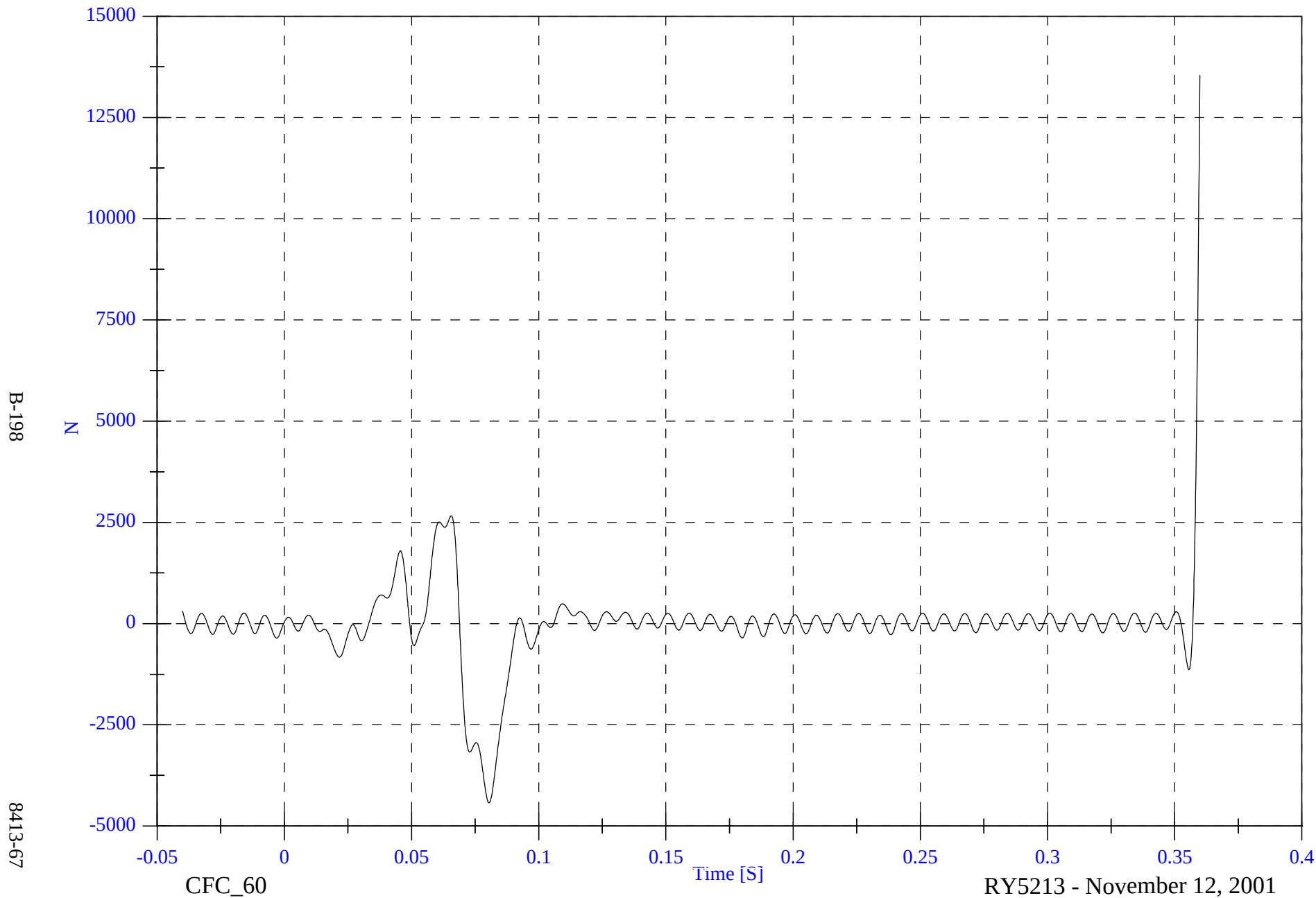
RY5213 - November 12, 2001

40% Frontal Offset Test #11 - 2000 Nissan Quest

Barrier Load Cell E6 FY

Max: 13538.8 [N] at 0.360 [S]

Min: -4427.2 [N] at 0.080 [S]

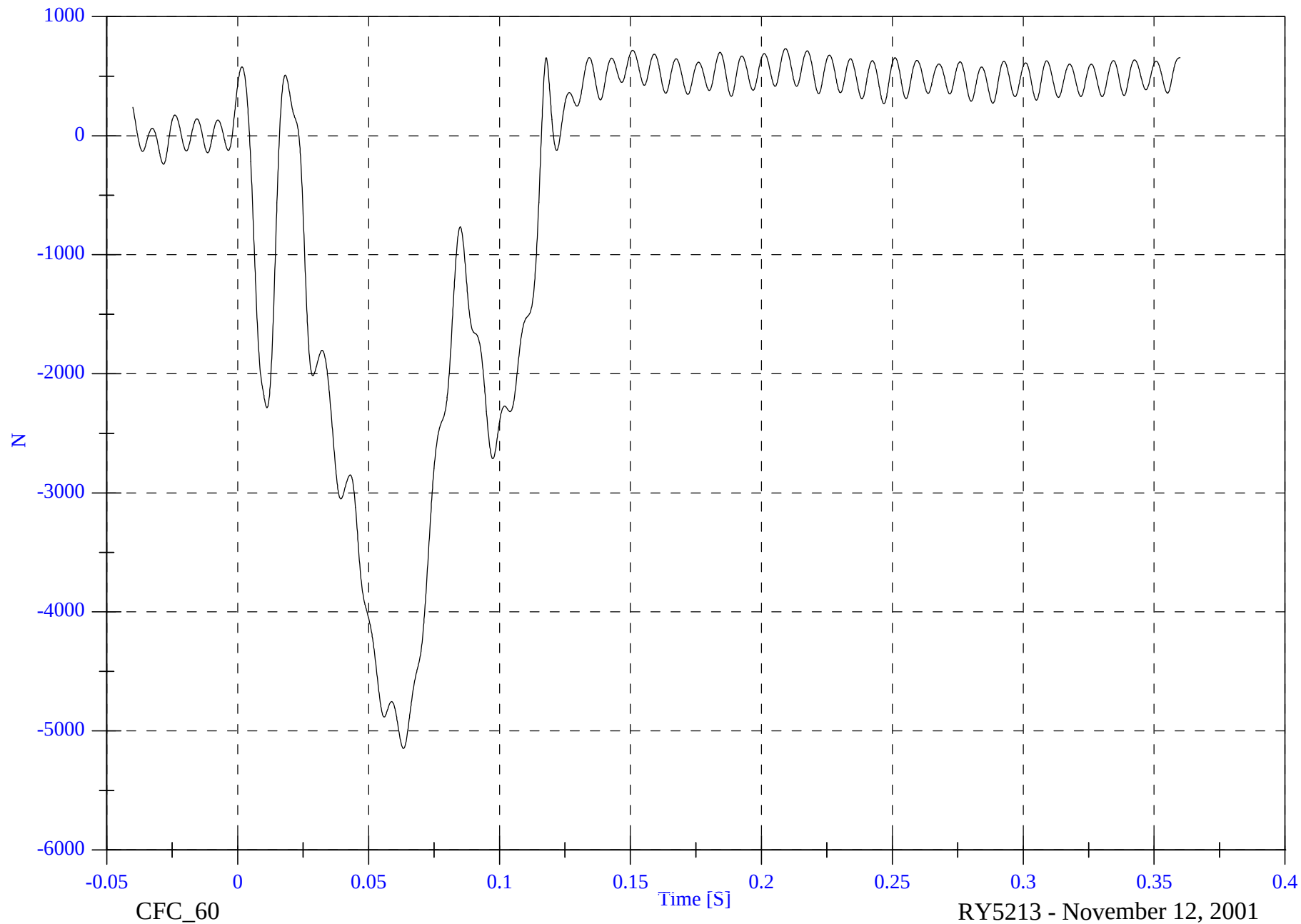


40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell E1 FX

Max: 731.4 [N] at 0.209 [S]

Min: -5147.5 [N] at 0.063 [S]



B-199

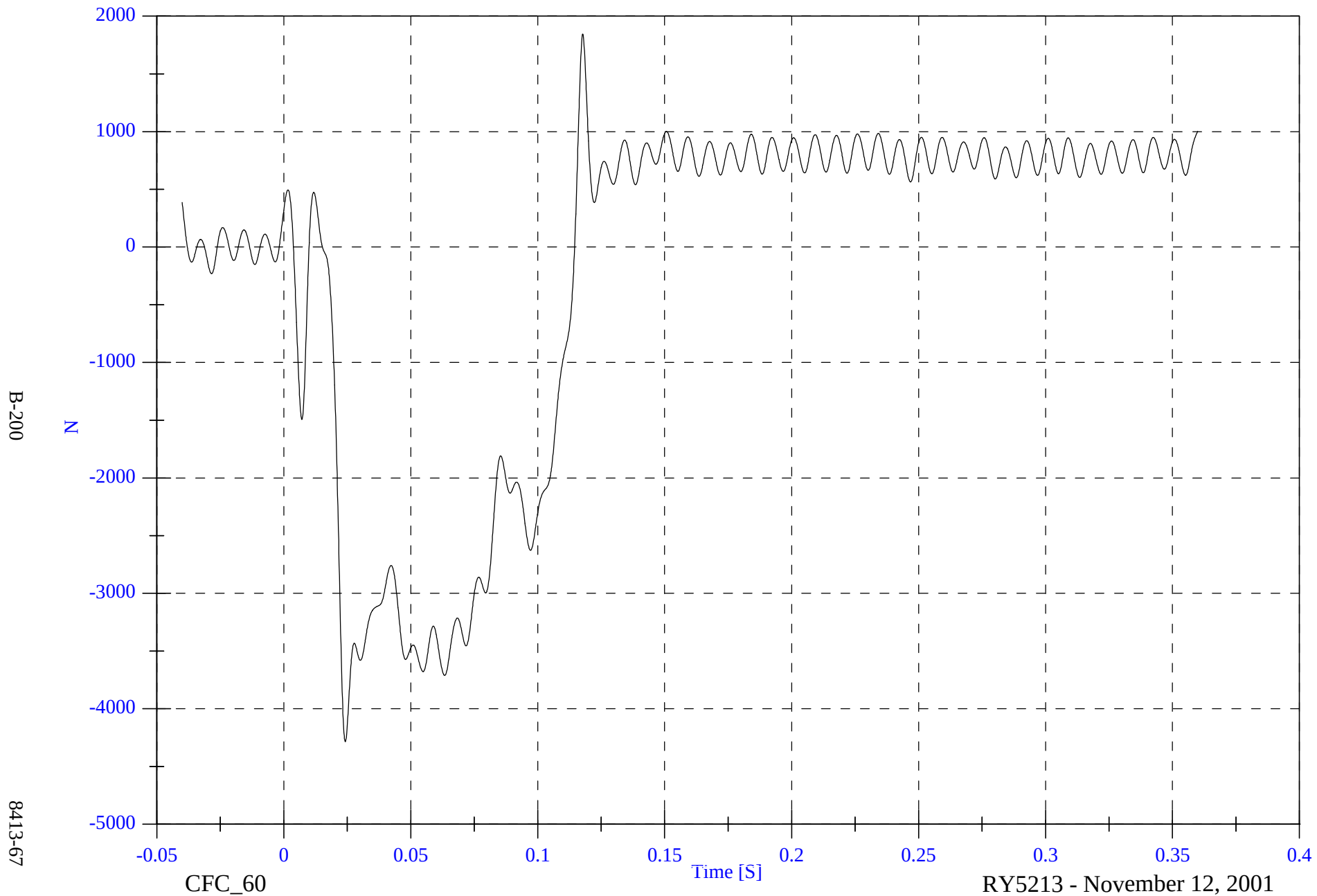
8413-67

40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell E2 FX

Max: 1845.2 [N] at 0.118 [S]

Min: -4286.6 [N] at 0.024 [S]

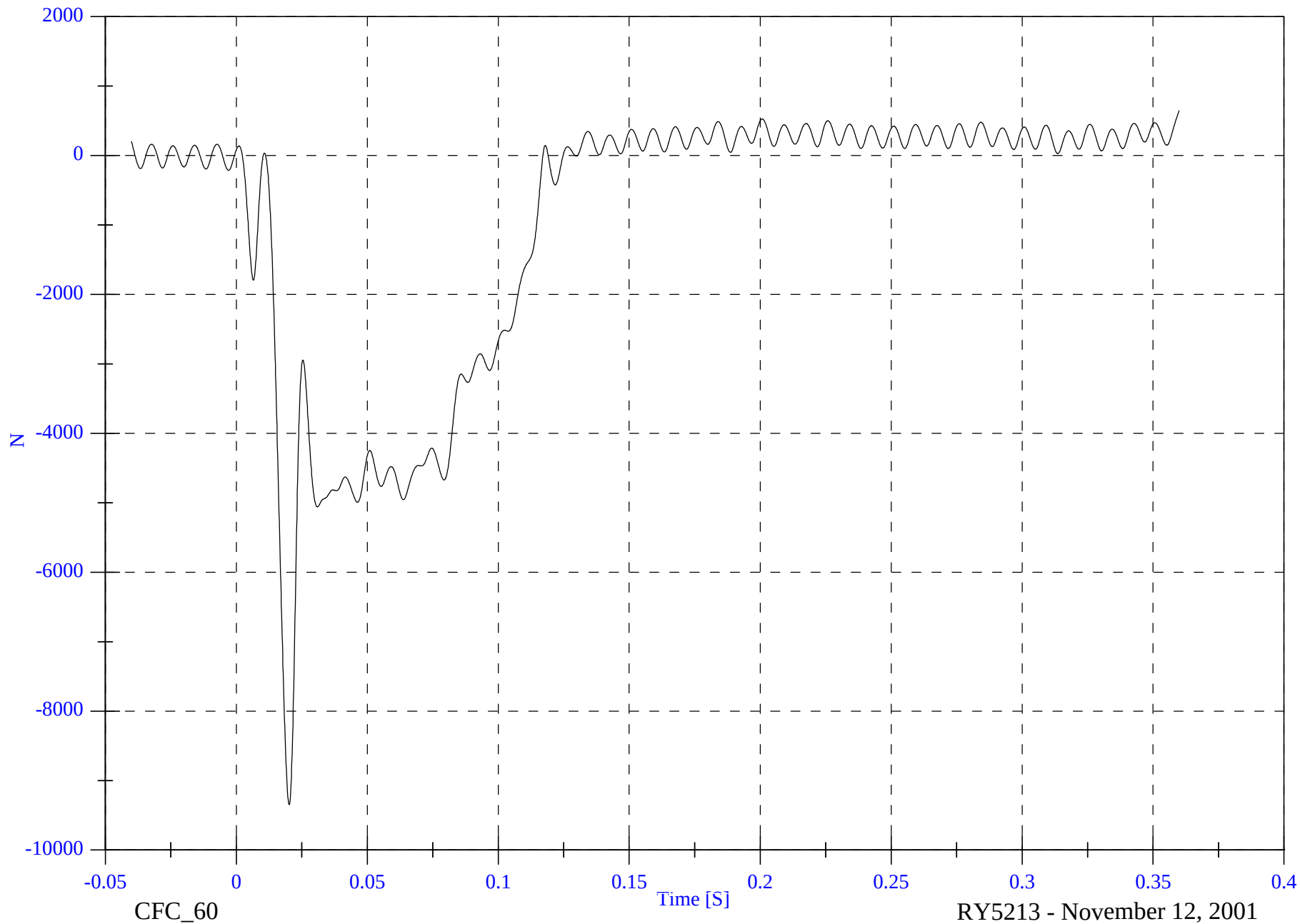


40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell E3 FX

Max: 644.4 [N] at 0.360 [S]

Min: -9348.5 [N] at 0.020 [S]



B-201

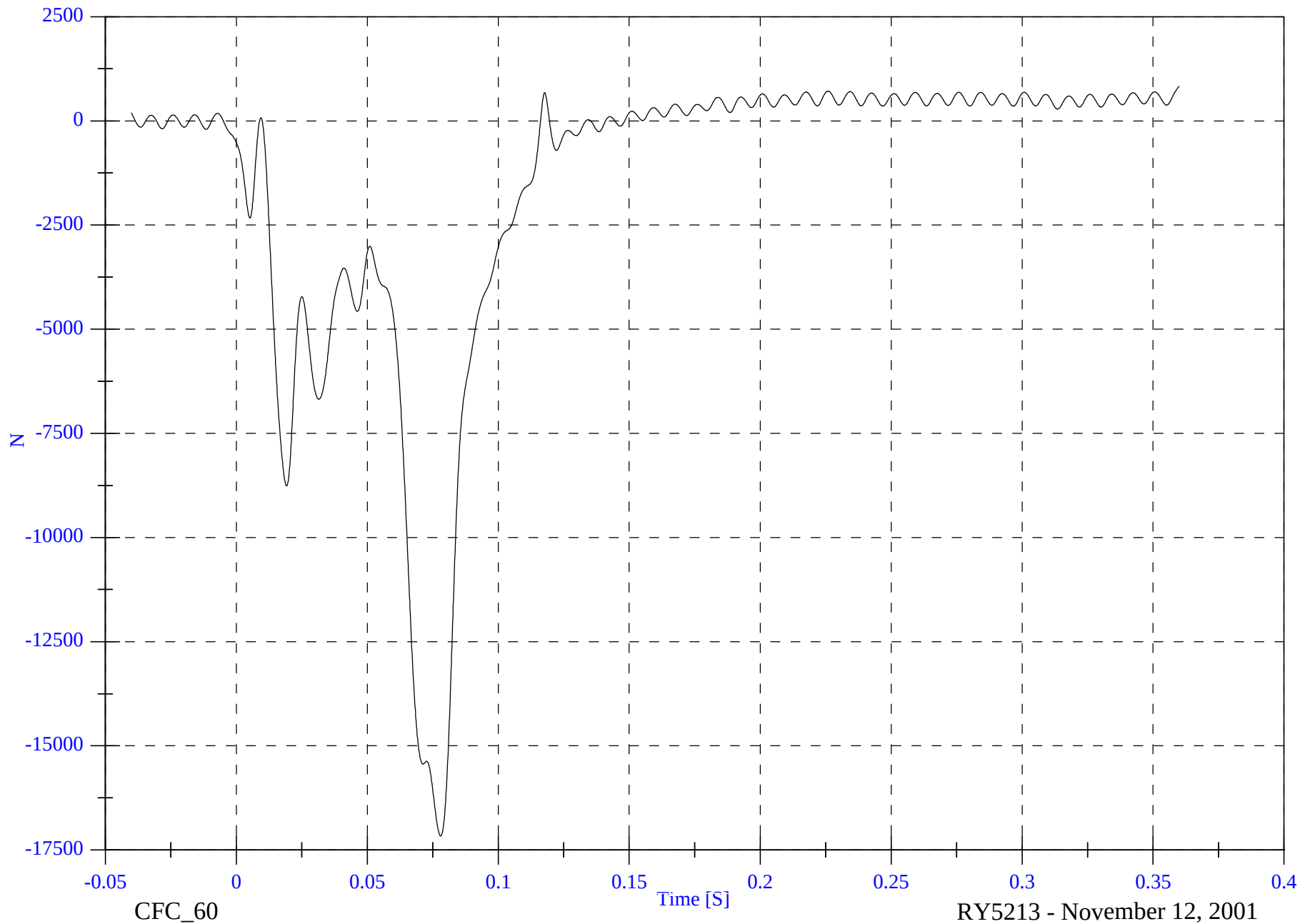
8413-67

40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell E4 FX

Max: 831.2 [N] at 0.360 [S]

Min: -17166.2 [N] at 0.078 [S]



B-202

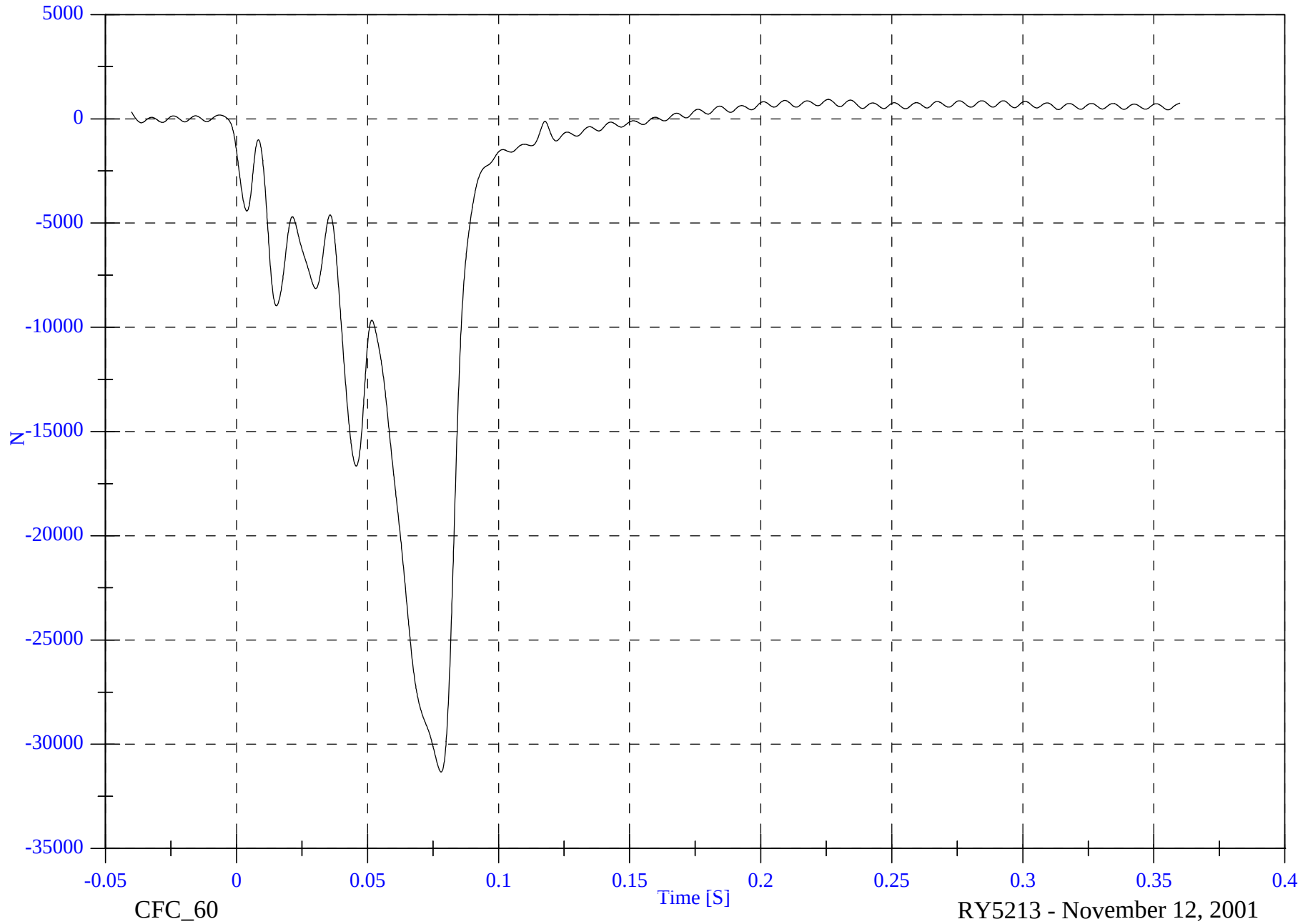
8413-67

40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell E5 FX

Max: 931.2 [N] at 0.226 [S]

Min: -31330.4 [N] at 0.078 [S]



B-203

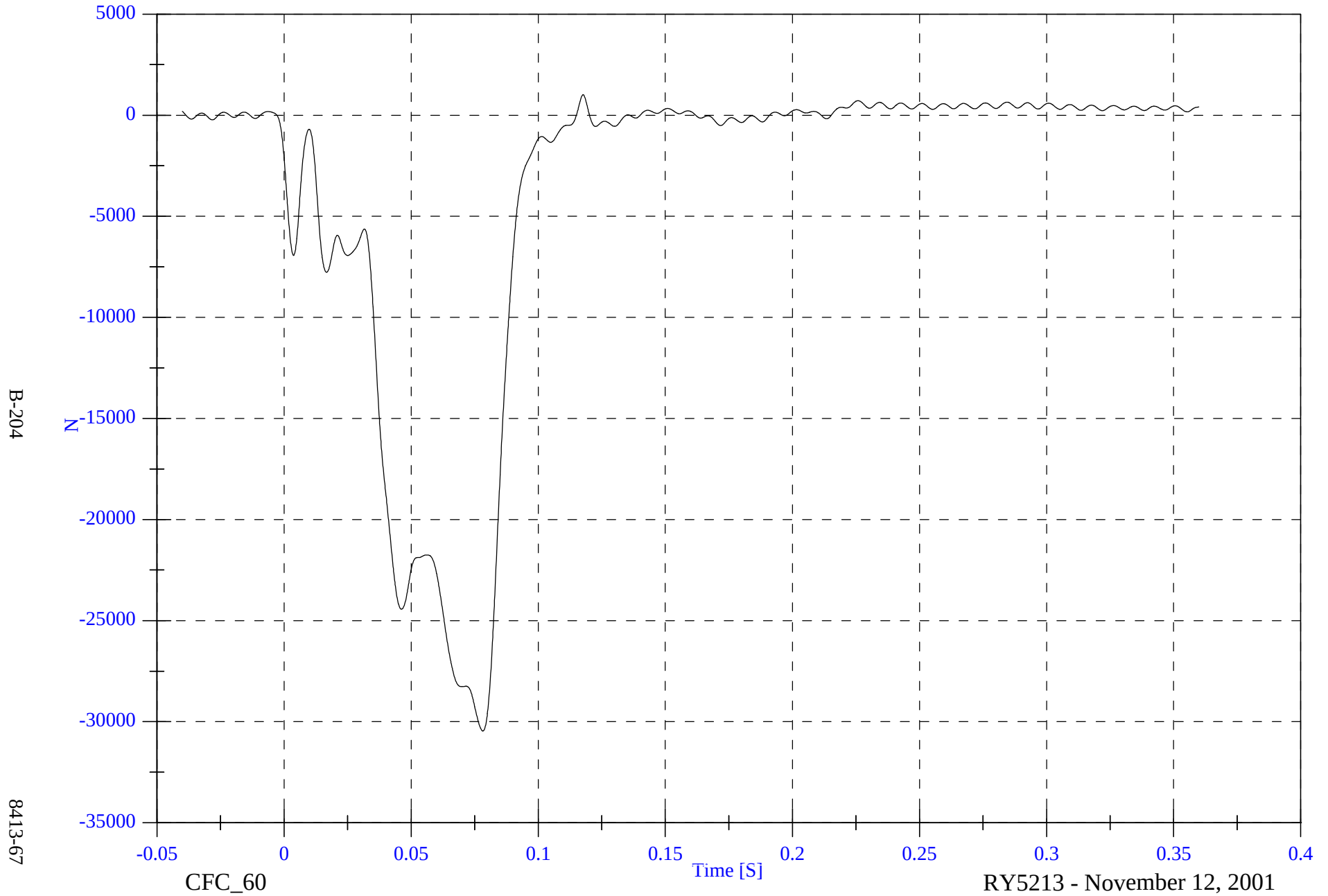
8413-67

40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell E6 FX

Max: 1015.3 [N] at 0.118 [S]

Min: -30460.8 [N] at 0.078 [S]

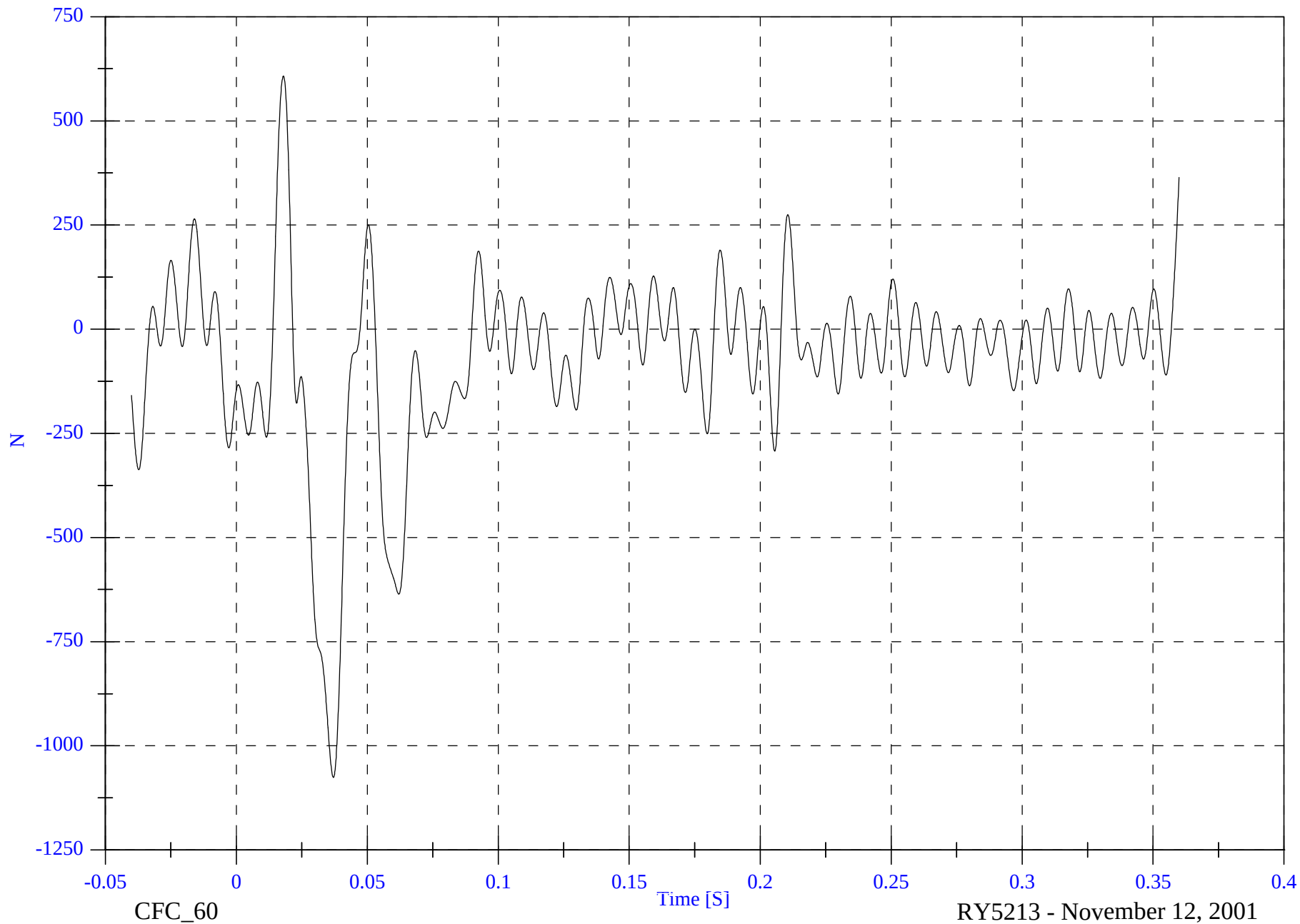


40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell D2 FY

Max: 607.7 [N] at 0.018 [S]

Min: -1076.0 [N] at 0.037 [S]



B-205

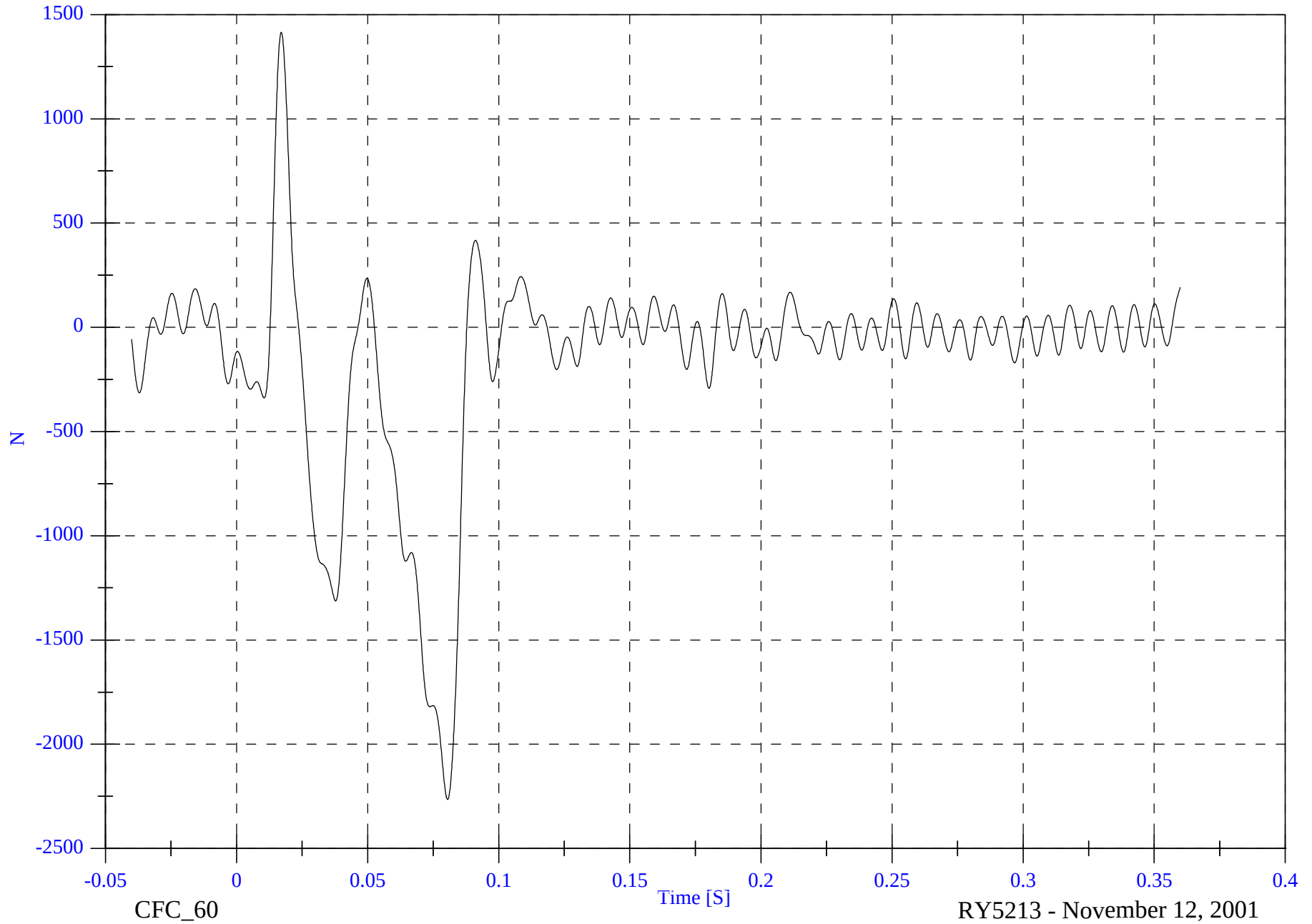
8413-67

40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell D3 FY

Max: 1415.1 [N] at 0.017 [S]

Min: -2264.9 [N] at 0.080 [S]



B-206

8413-67

CFC_60

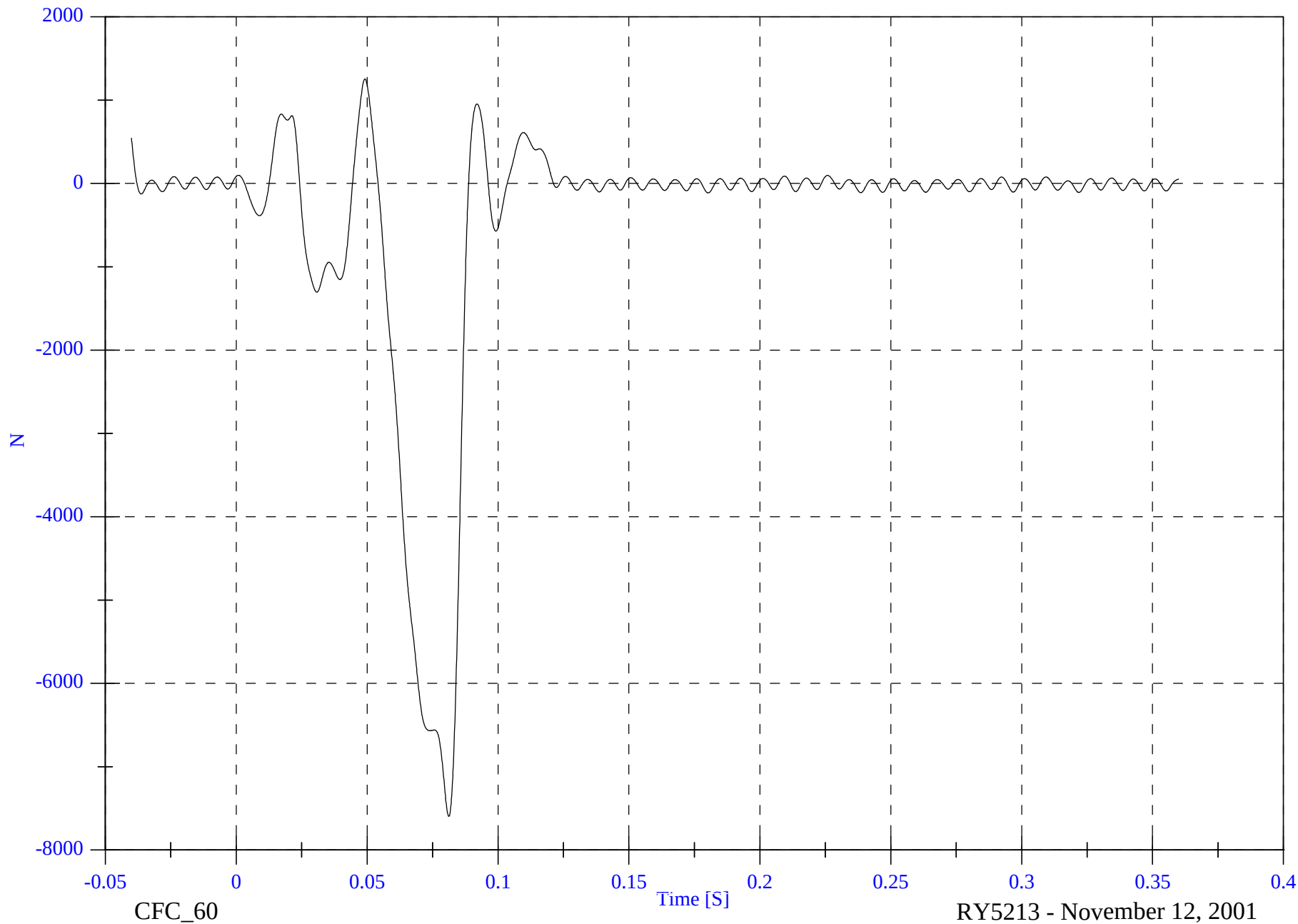
RY5213 - November 12, 2001

40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell D4 FY

Max: 1252.9 [N] at 0.049 [S]

Min: -7597.9 [N] at 0.081 [S]



B-207

8413-67

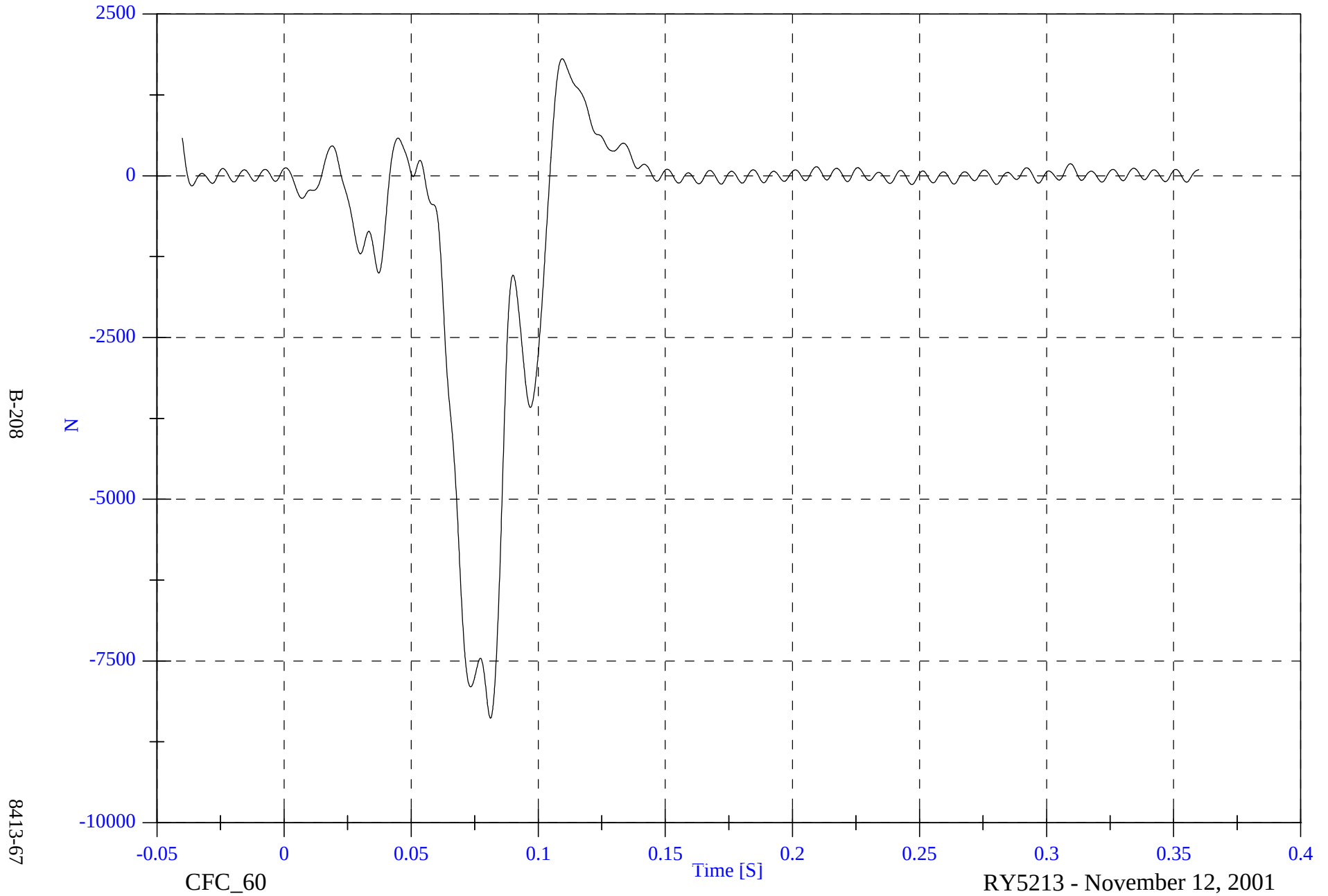
RY5213 - November 12, 2001

40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell D5 FY

Max: 1811.0 [N] at 0.109 [S]

Min: -8384.1 [N] at 0.081 [S]

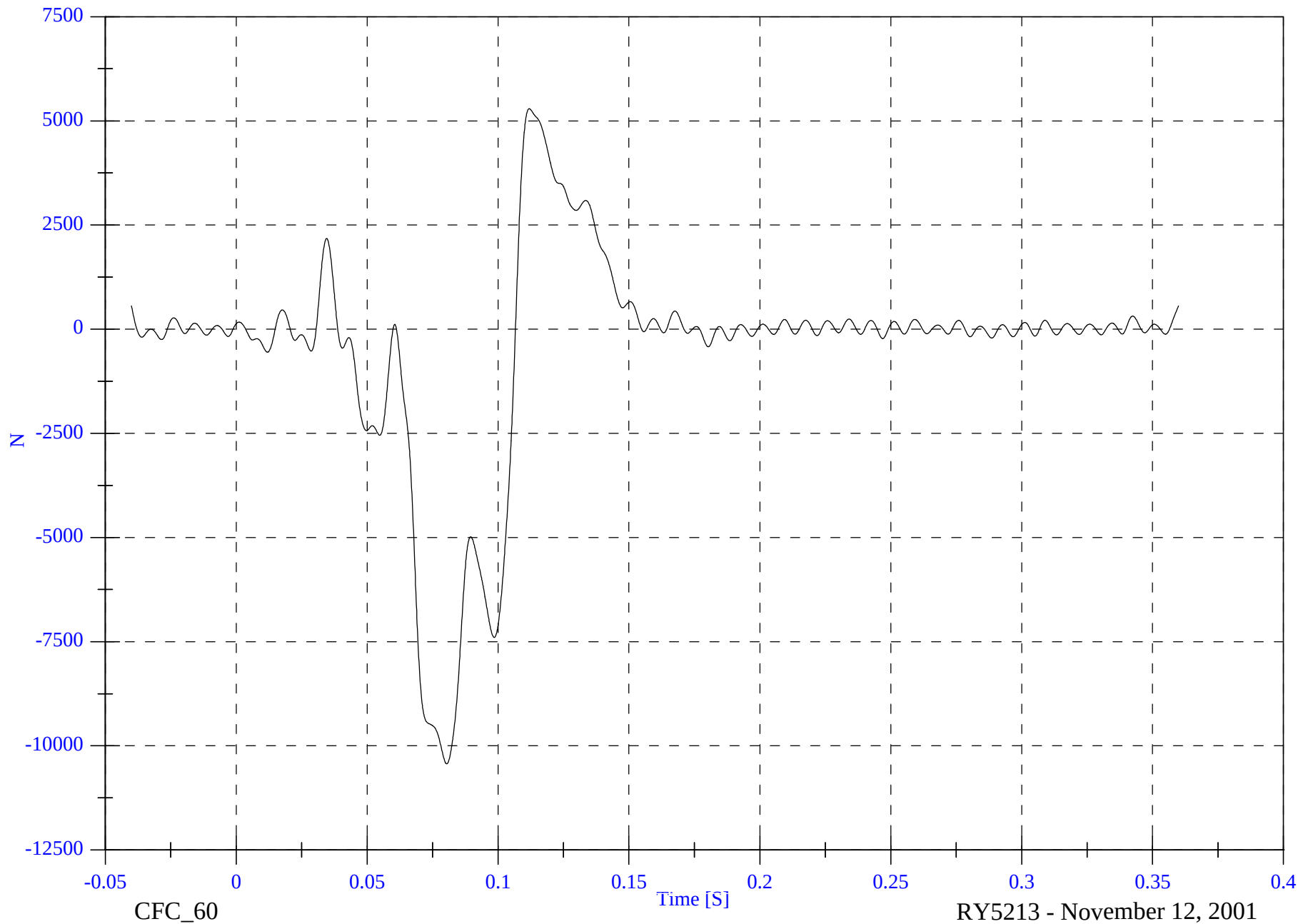


40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell D6 FY

Max: 5290.3 [N] at 0.112 [S]

Min: -10434.0 [N] at 0.080 [S]



B-209

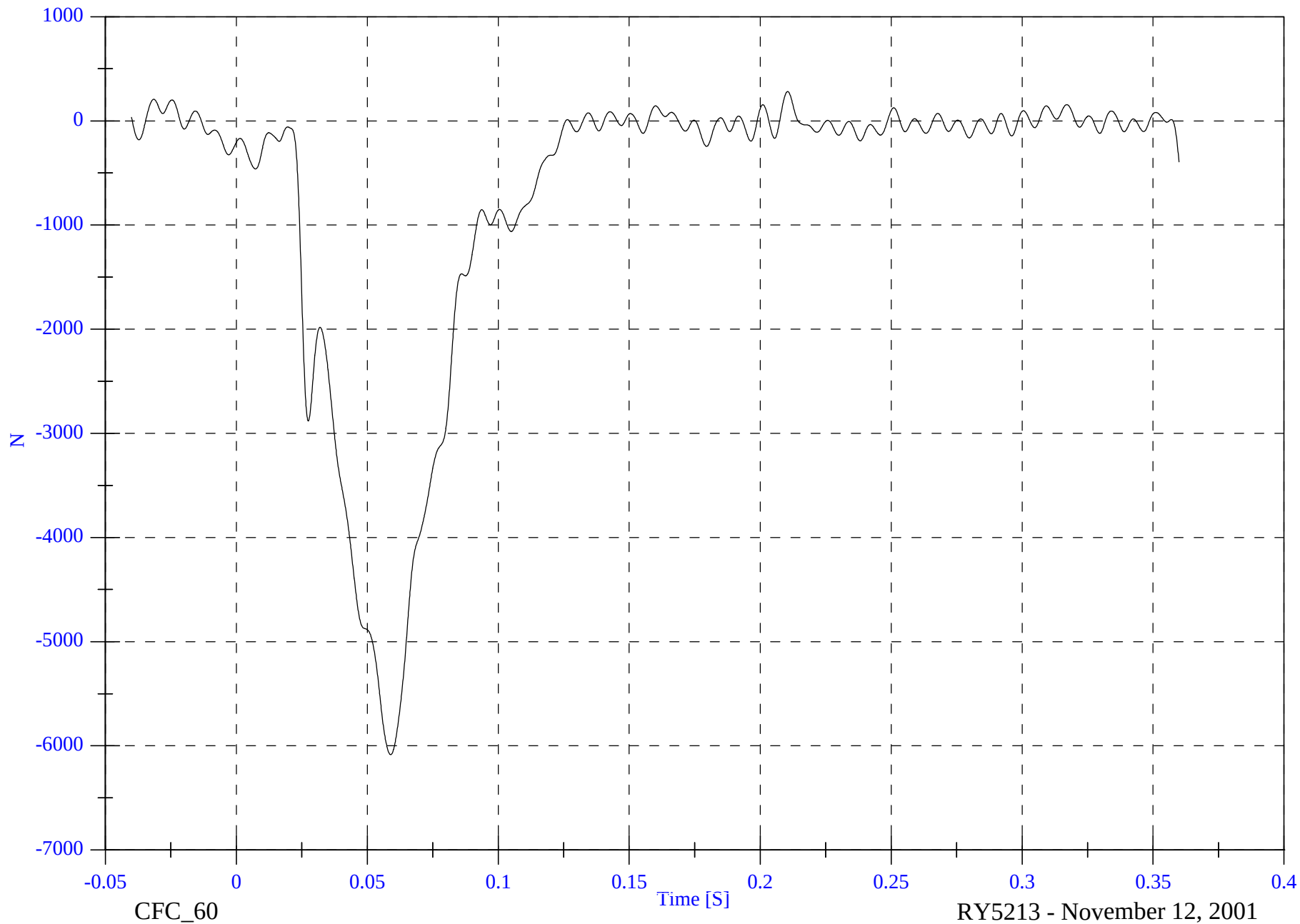
8413-67

40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell D1 FX

Max: 281.1 [N] at 0.210 [S]

Min: -6085.4 [N] at 0.059 [S]



B-210

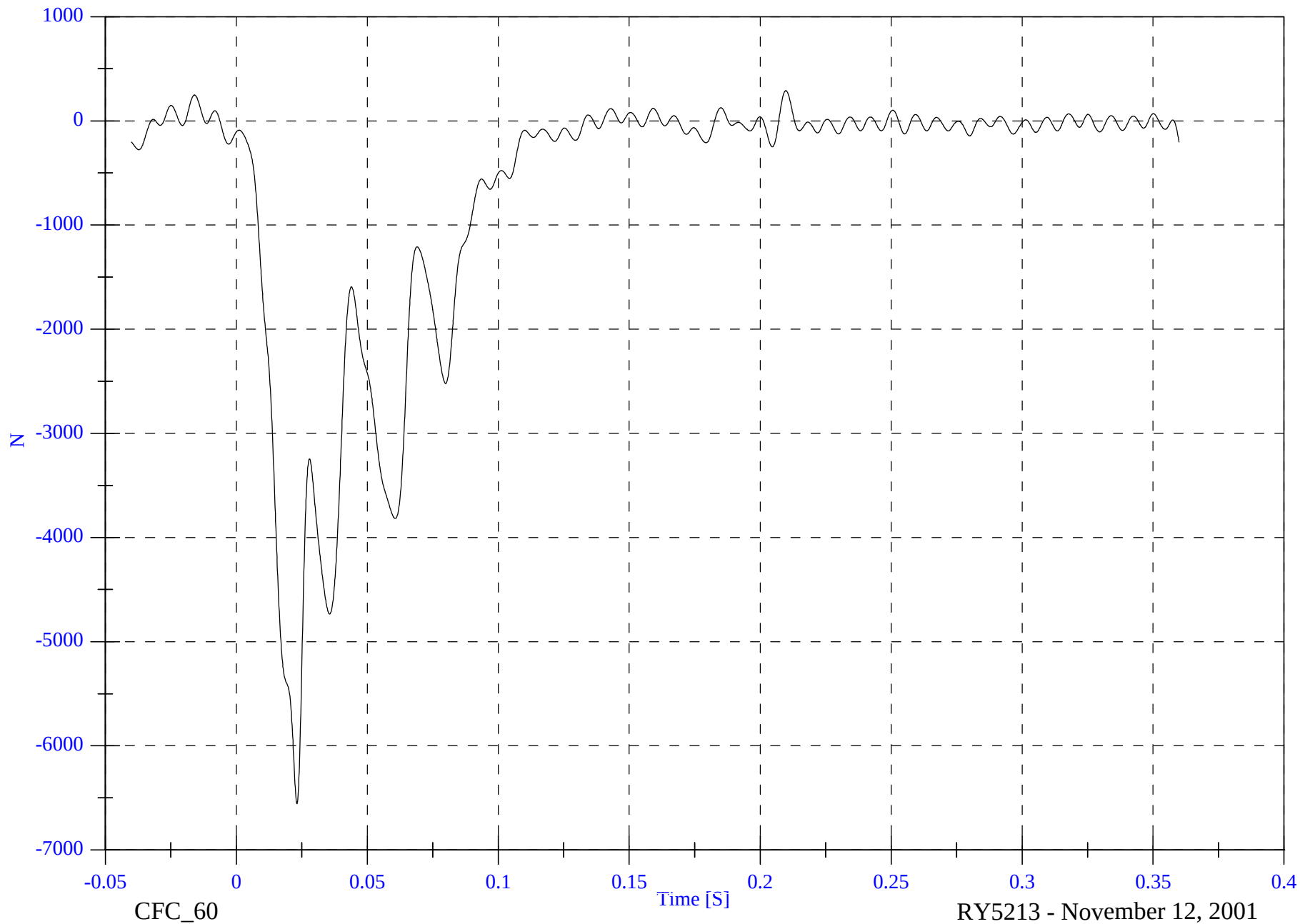
8413-67

40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell D2 FX

Max: 289.9 [N] at 0.210 [S]

Min: -6555.2 [N] at 0.023 [S]



B-211

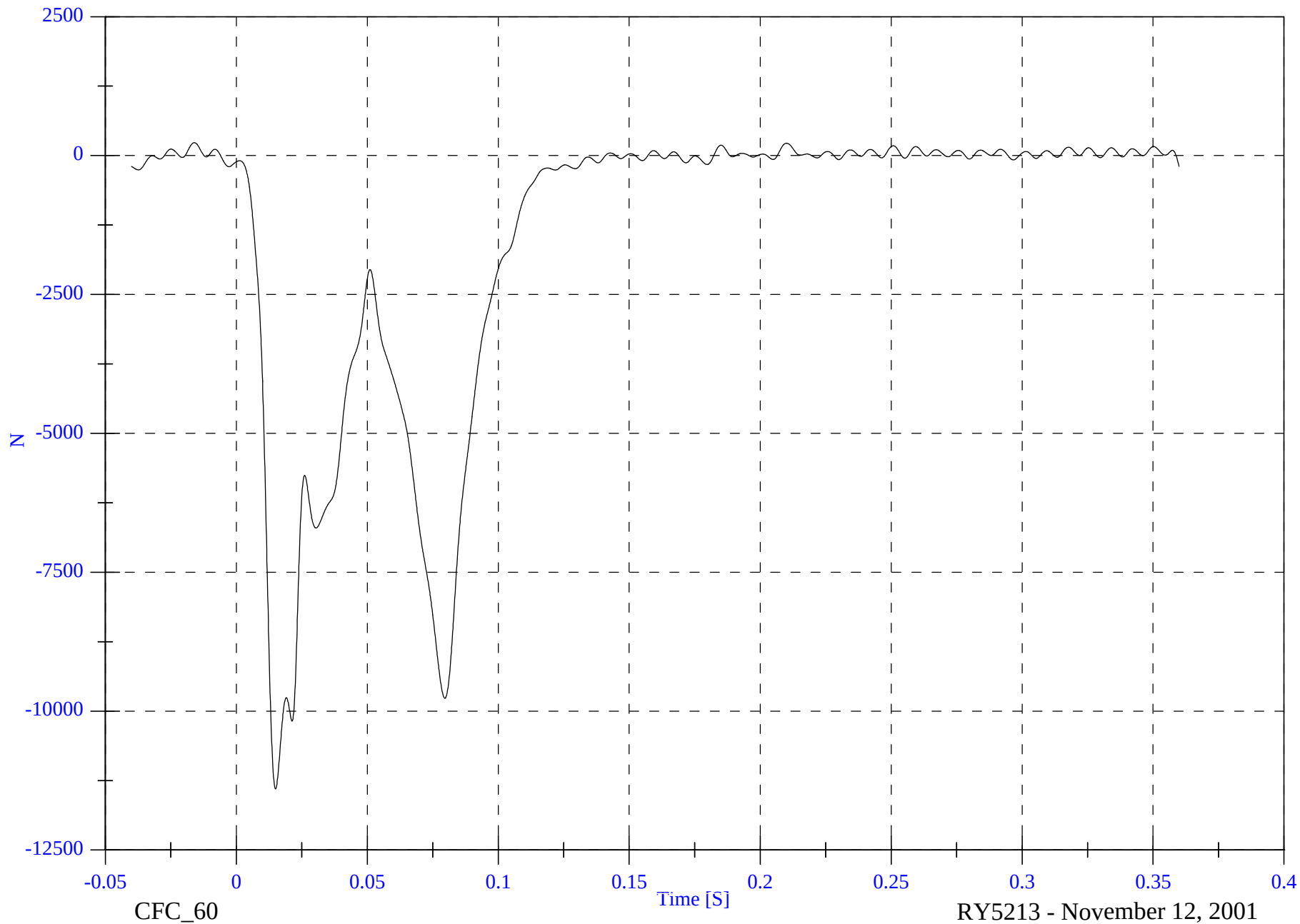
8413-67

40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell D3 FX

Max: 232.8 [N] at -0.016 [S]

Min: -11401.8 [N] at 0.015 [S]



B-212

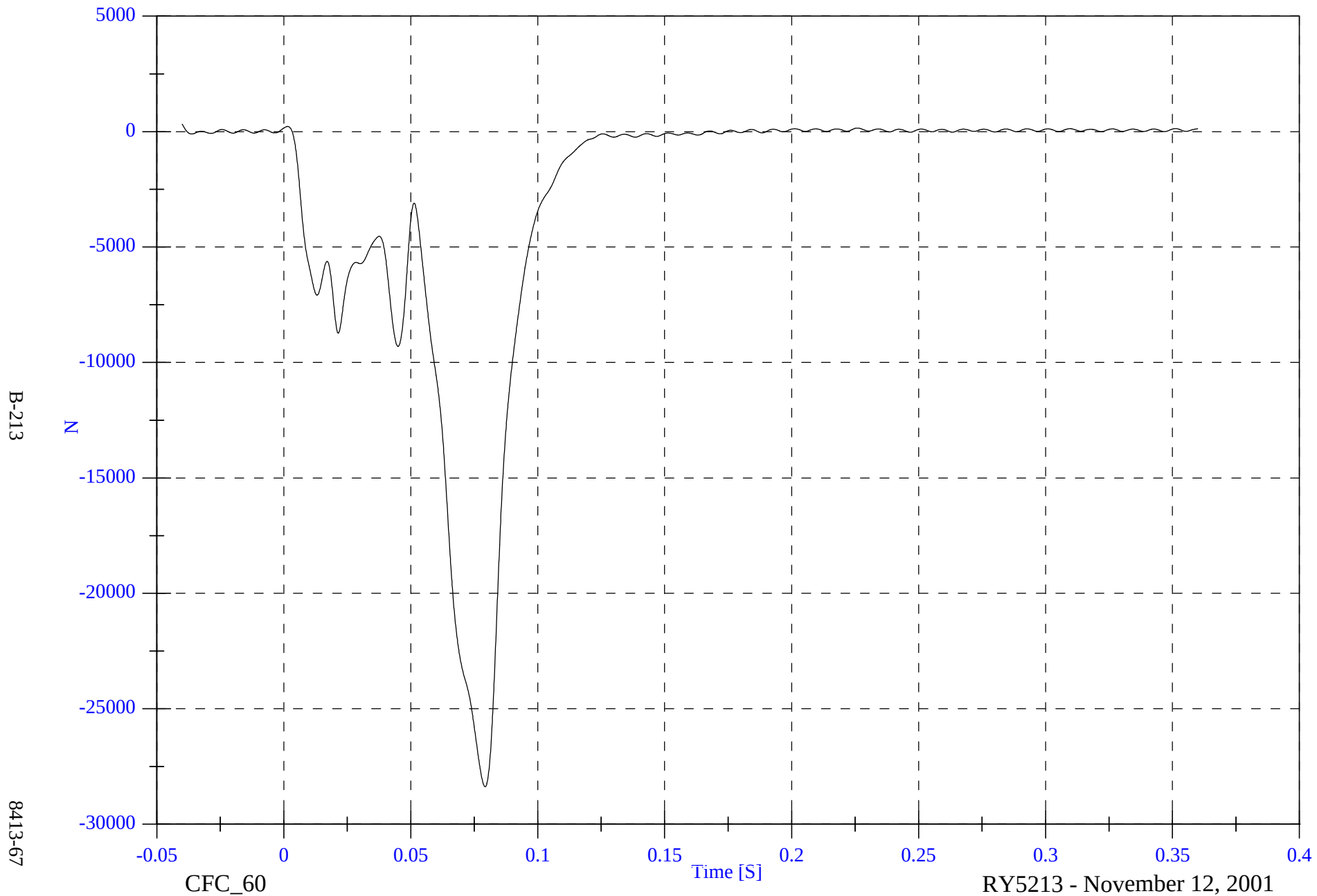
8413-67

40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell D4 FX

Max: 327.7 [N] at -0.040 [S]

Min: -28378.2 [N] at 0.079 [S]

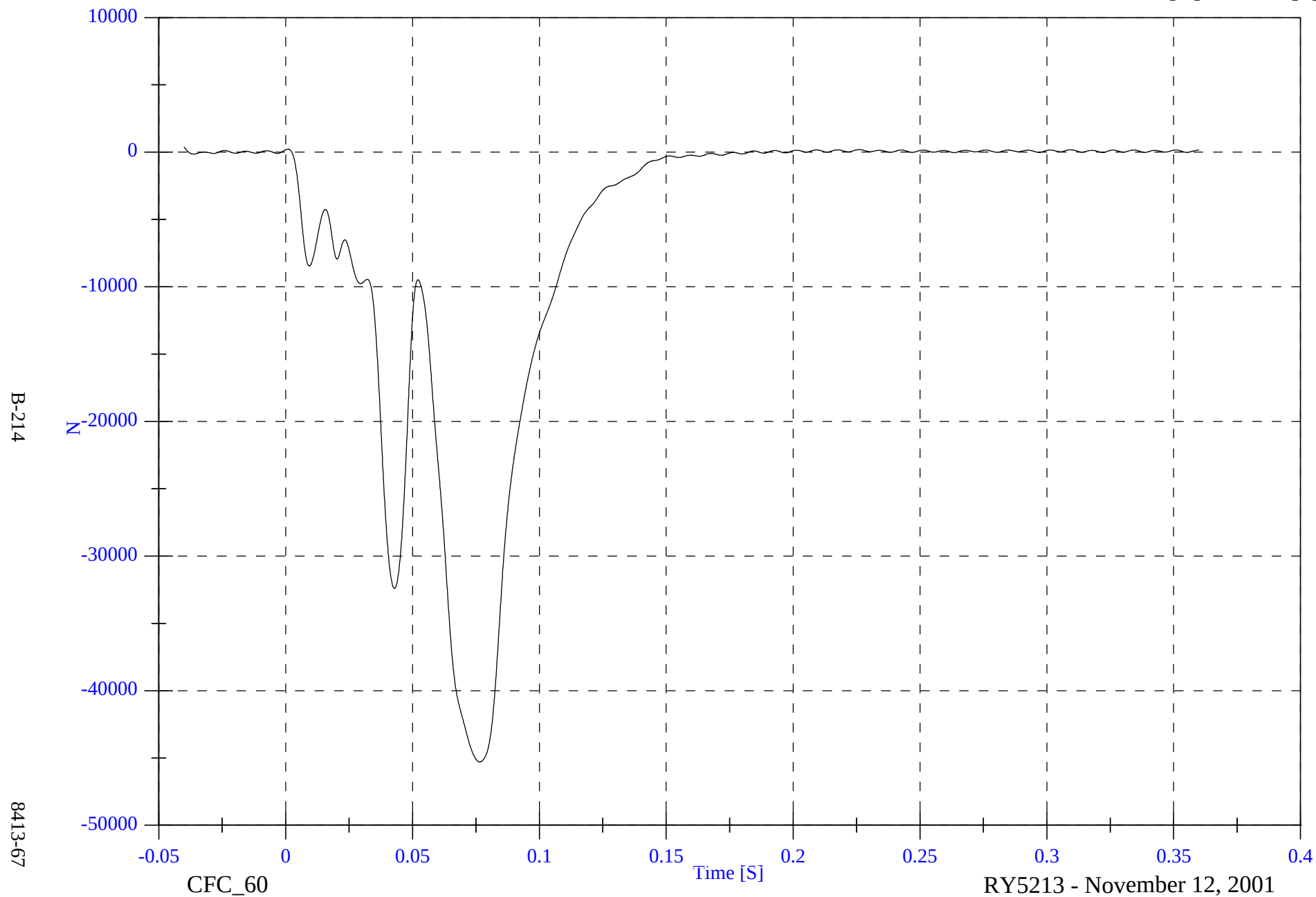


40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell D5 FX

Max: 374.3 [N] at -0.040 [S]

Min: -45304.4 [N] at 0.076 [S]



40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell D6 FX

Max: 312.3 [N] at 0.234 [S]

Min: -81522.1 [N] at 0.077 [S]

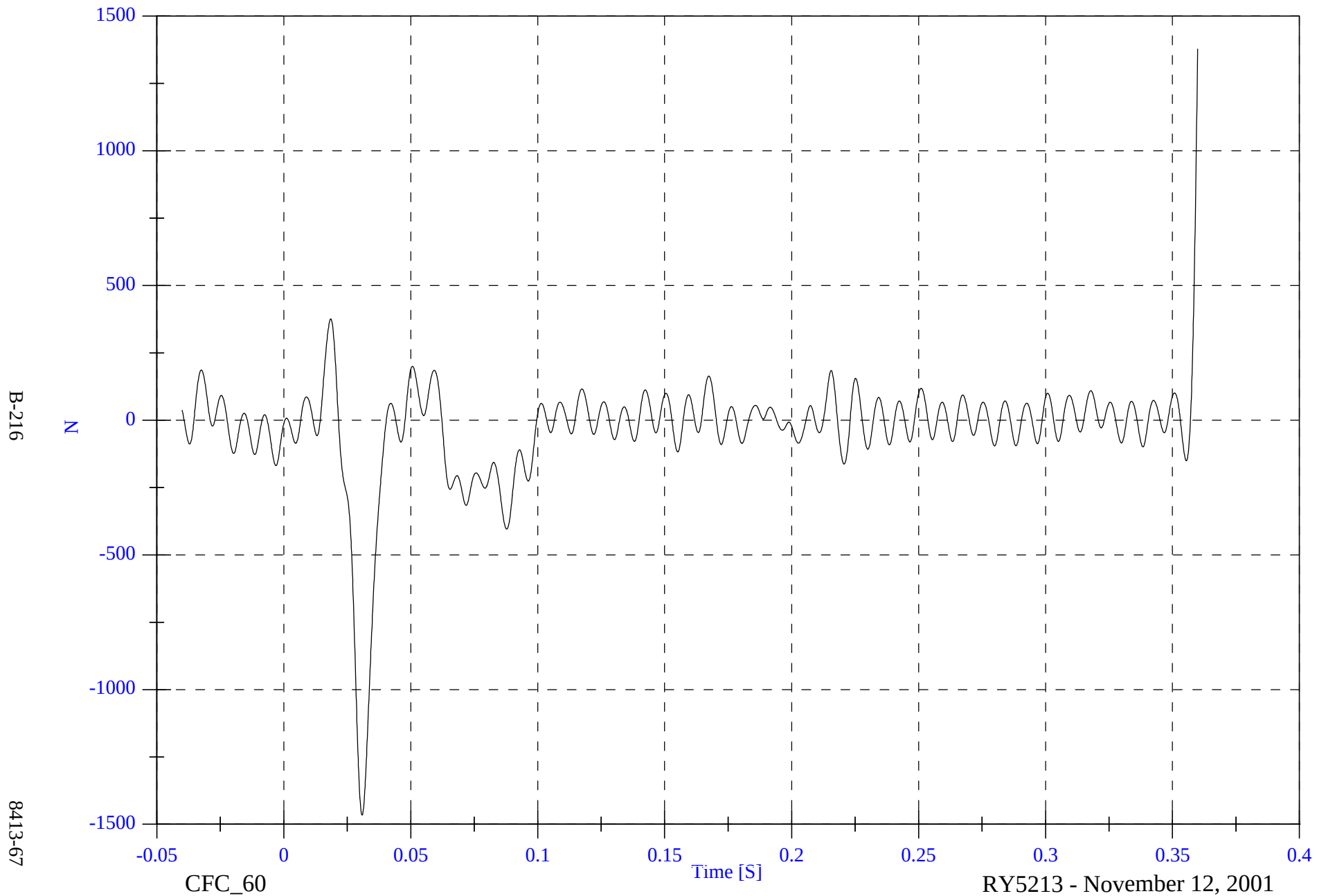


40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell C2 FY

Max: 1378.0 [N] at 0.360 [S]

Min: -1466.4 [N] at 0.031 [S]



40% Frontal OffsetTest #11 - 2000 Nissan Quest

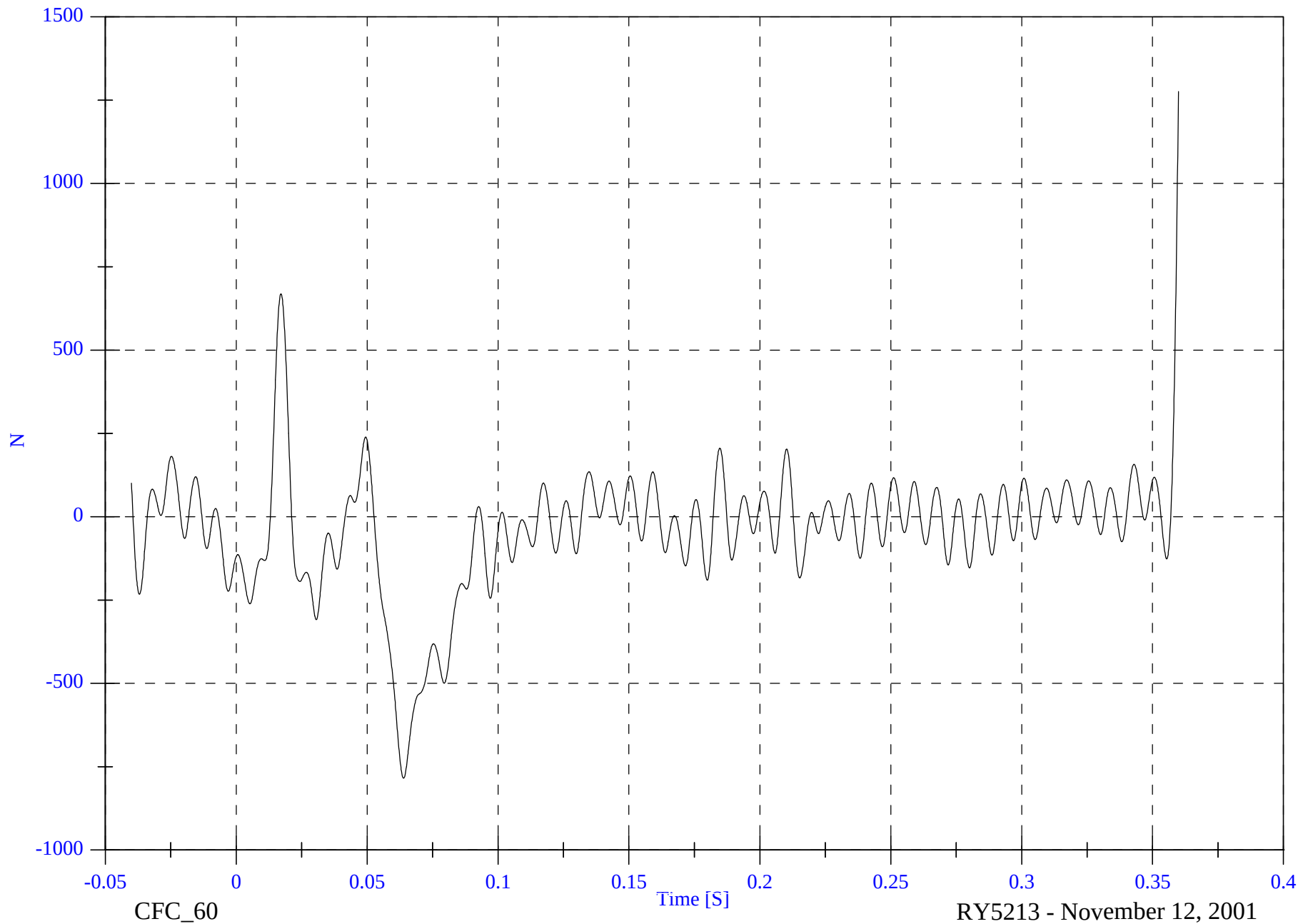
Barrier Load Cell C3 FY

Max: 1275.9 [N] at 0.360 [S]

Min: -784.9 [N] at 0.064 [S]

B-217

8413-67



40% Frontal OffsetTest #11 - 2000 Nissan Quest

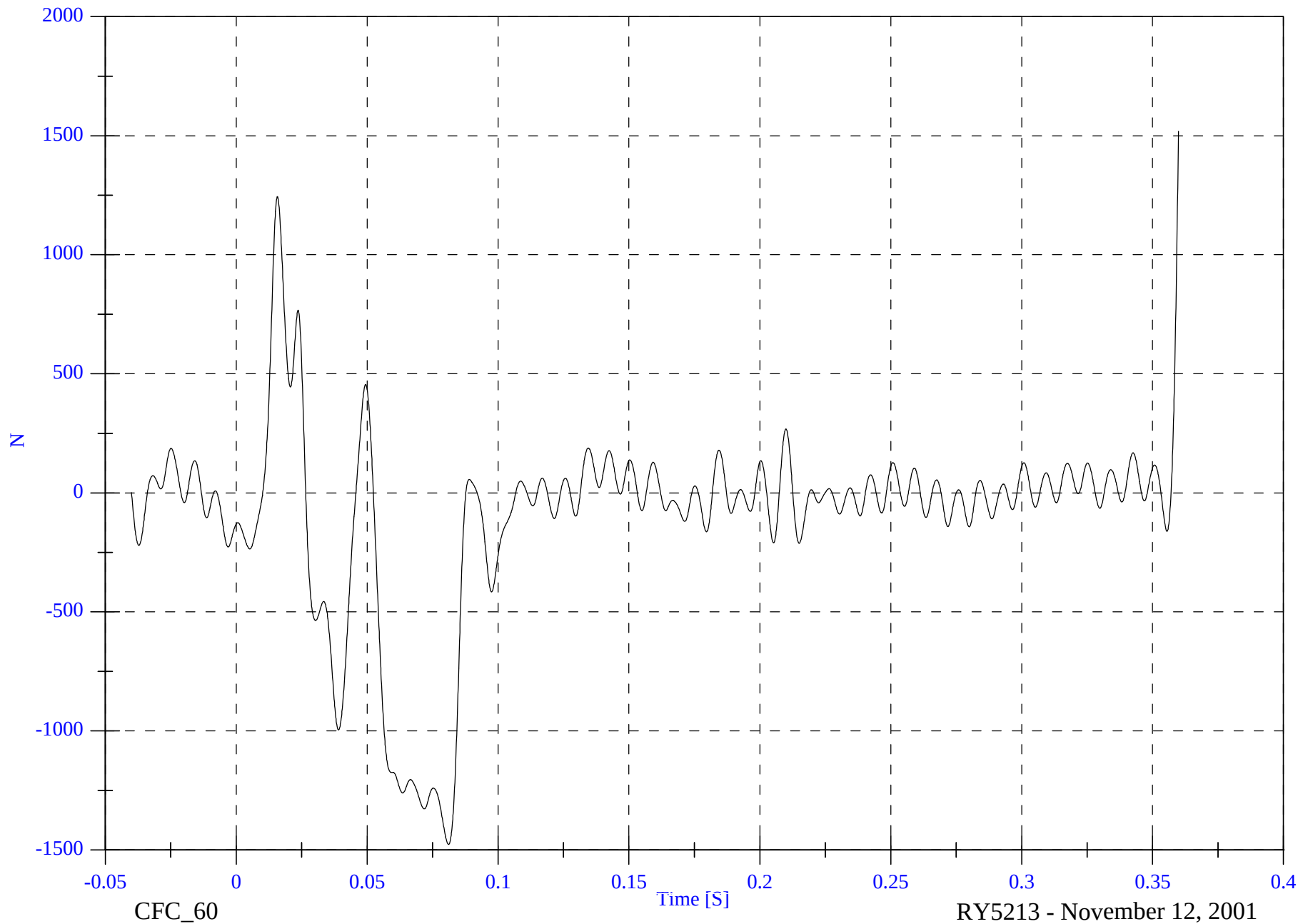
Barrier Load Cell C4 FY

Max: 1518.9 [N] at 0.360 [S]

Min: -1476.9 [N] at 0.081 [S]

B-218

8413-67

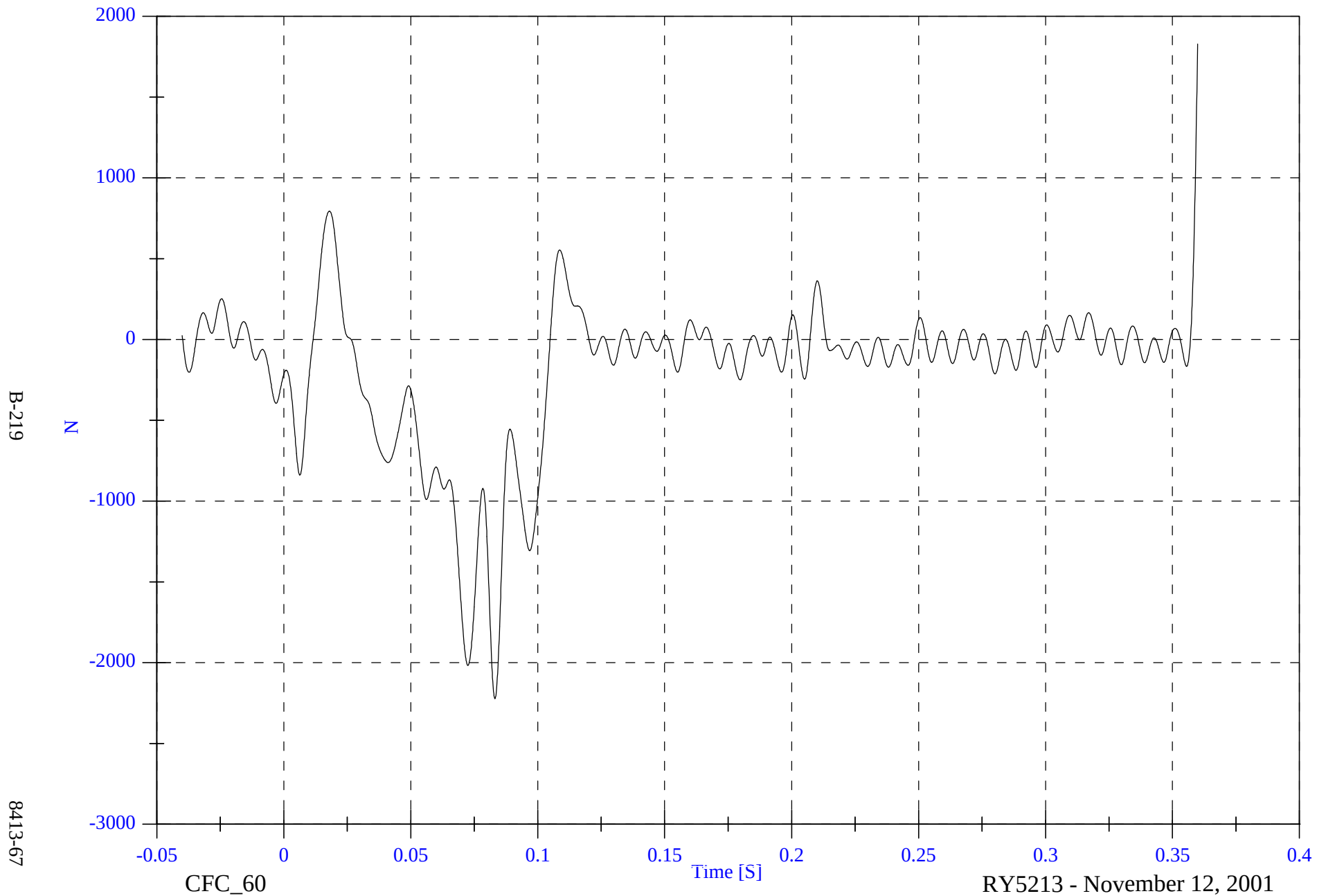


40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell C5 FY

Max: 1828.1 [N] at 0.360 [S]

Min: -2223.1 [N] at 0.083 [S]

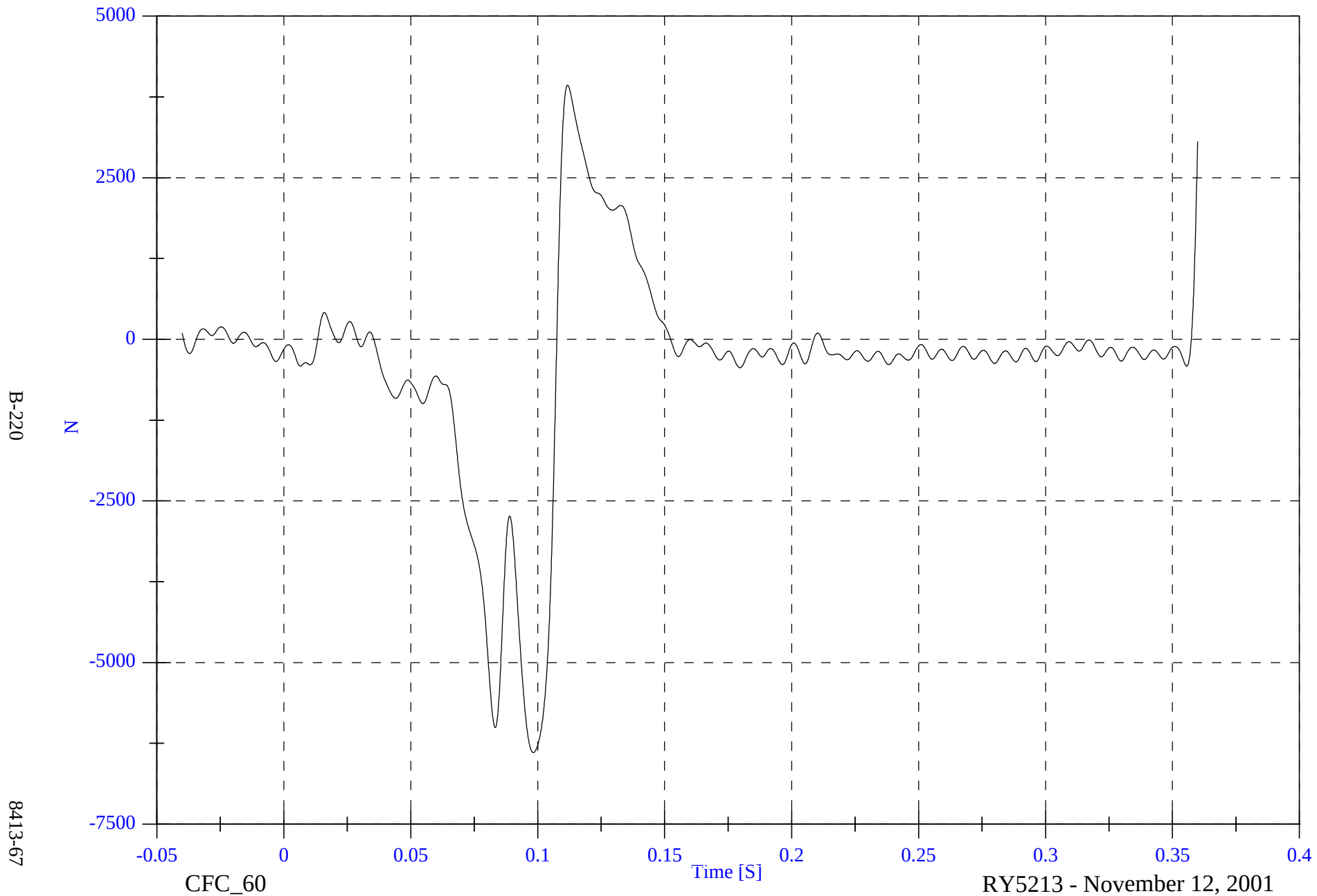


40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell C6 FY

Max: 3933.0 [N] at 0.112 [S]

Min: -6391.2 [N] at 0.098 [S]

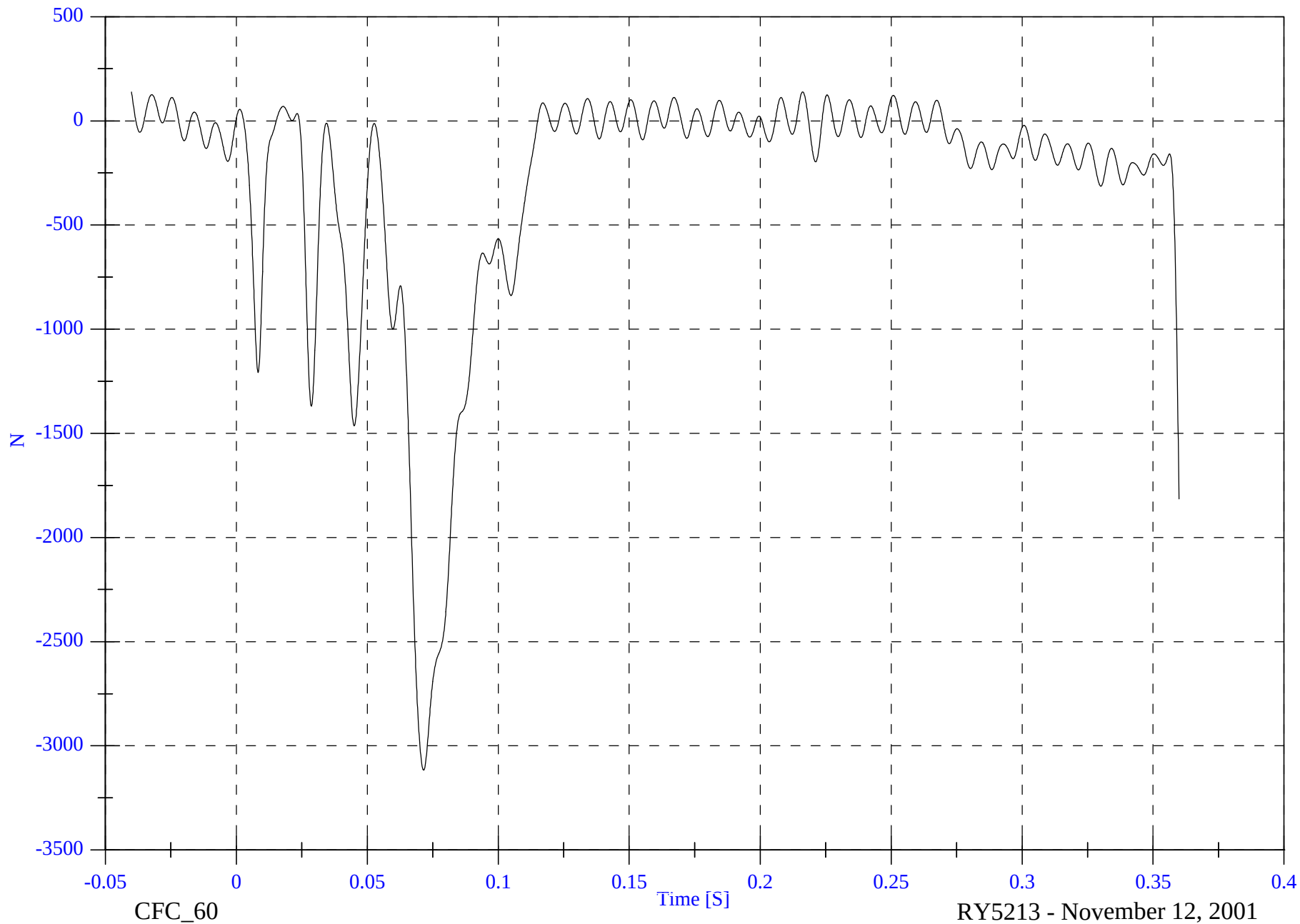


40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell C1 FX

Max: 139.3 [N] at 0.216 [S]

Min: -3117.1 [N] at 0.071 [S]



B-221

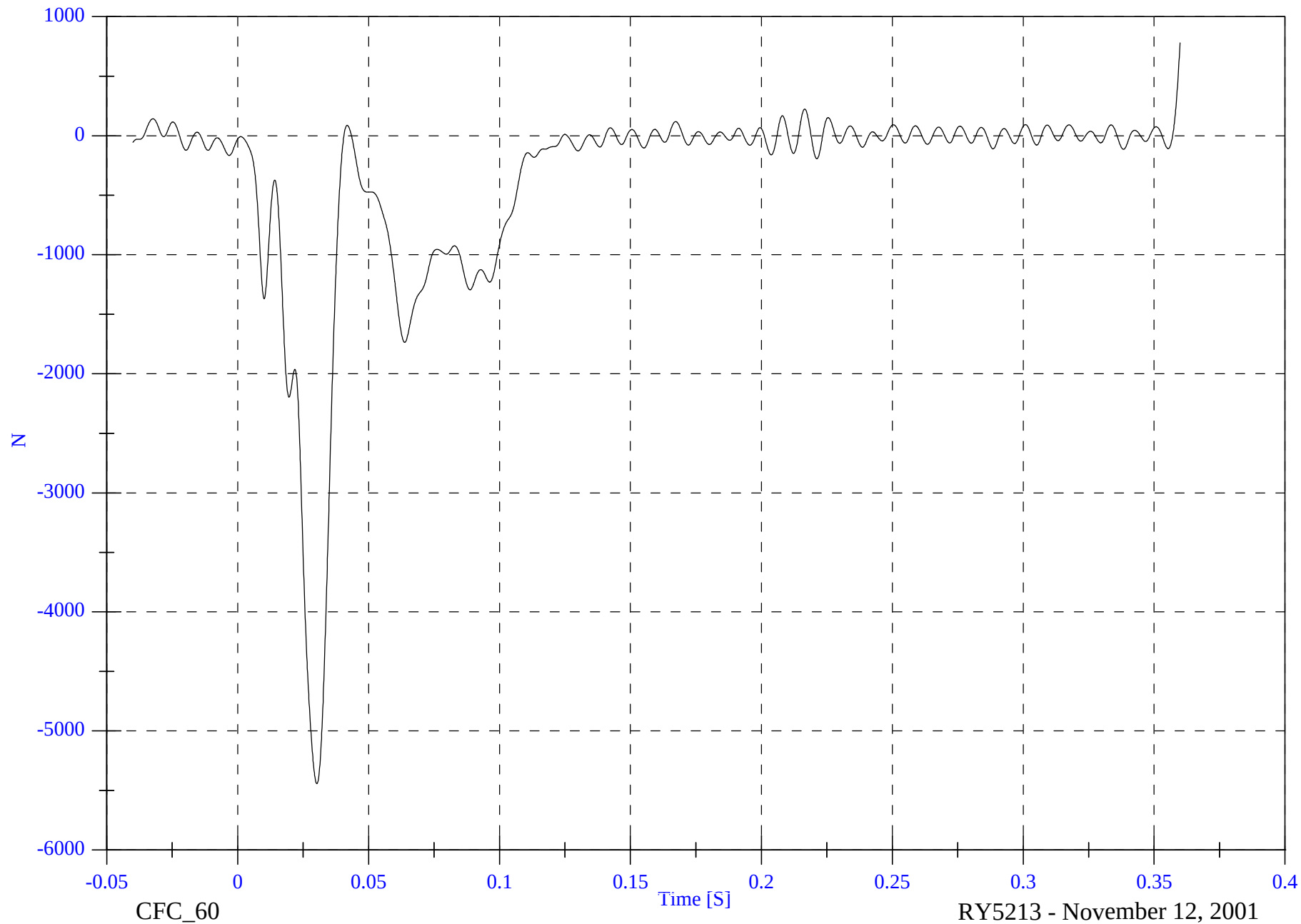
8413-67

40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell C2 FX

Max: 780.7 [N] at 0.360 [S]

Min: -5443.7 [N] at 0.030 [S]



B-222

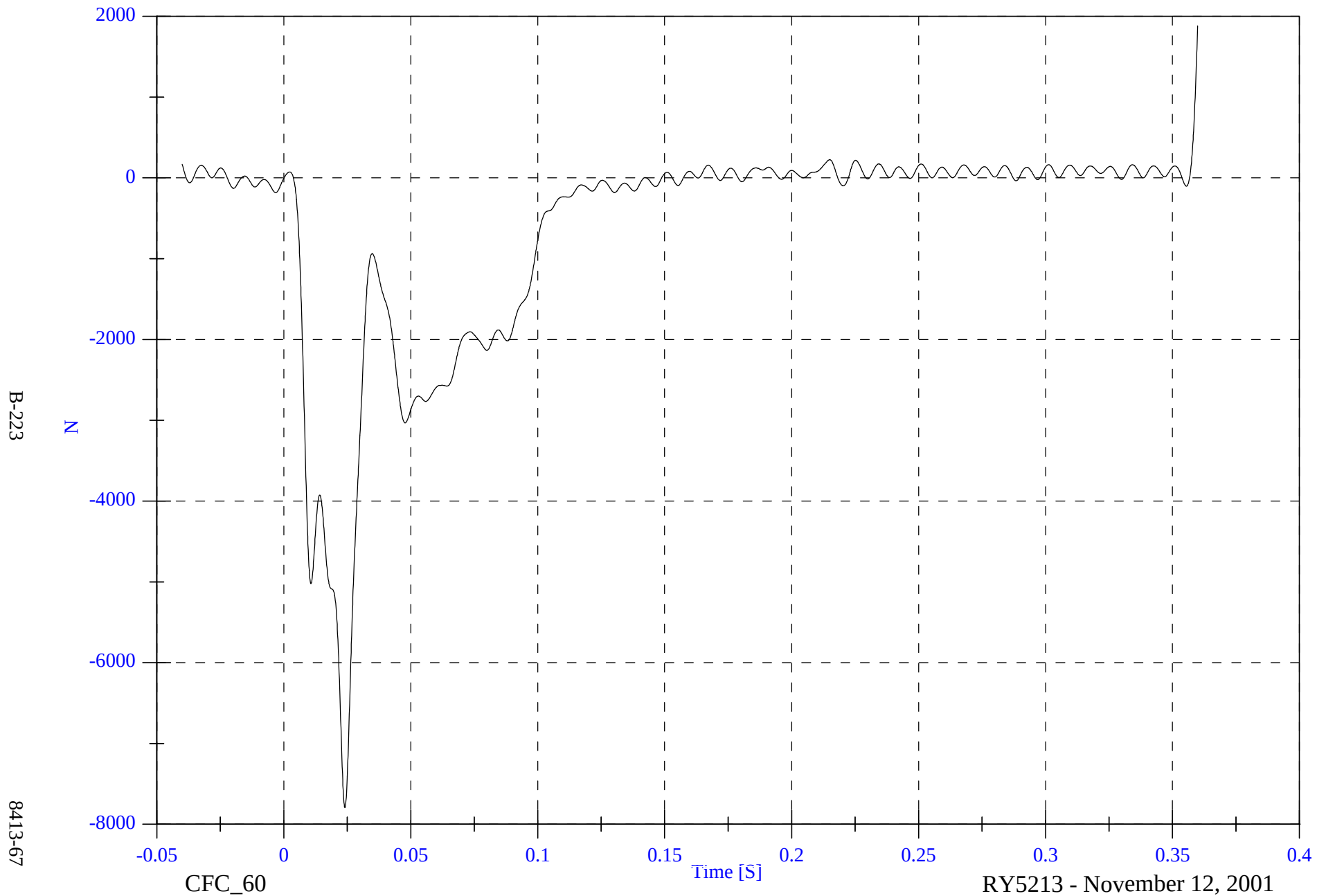
8413-67

40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell C3 FX

Max: 1881.6 [N] at 0.360 [S]

Min: -7796.8 [N] at 0.024 [S]

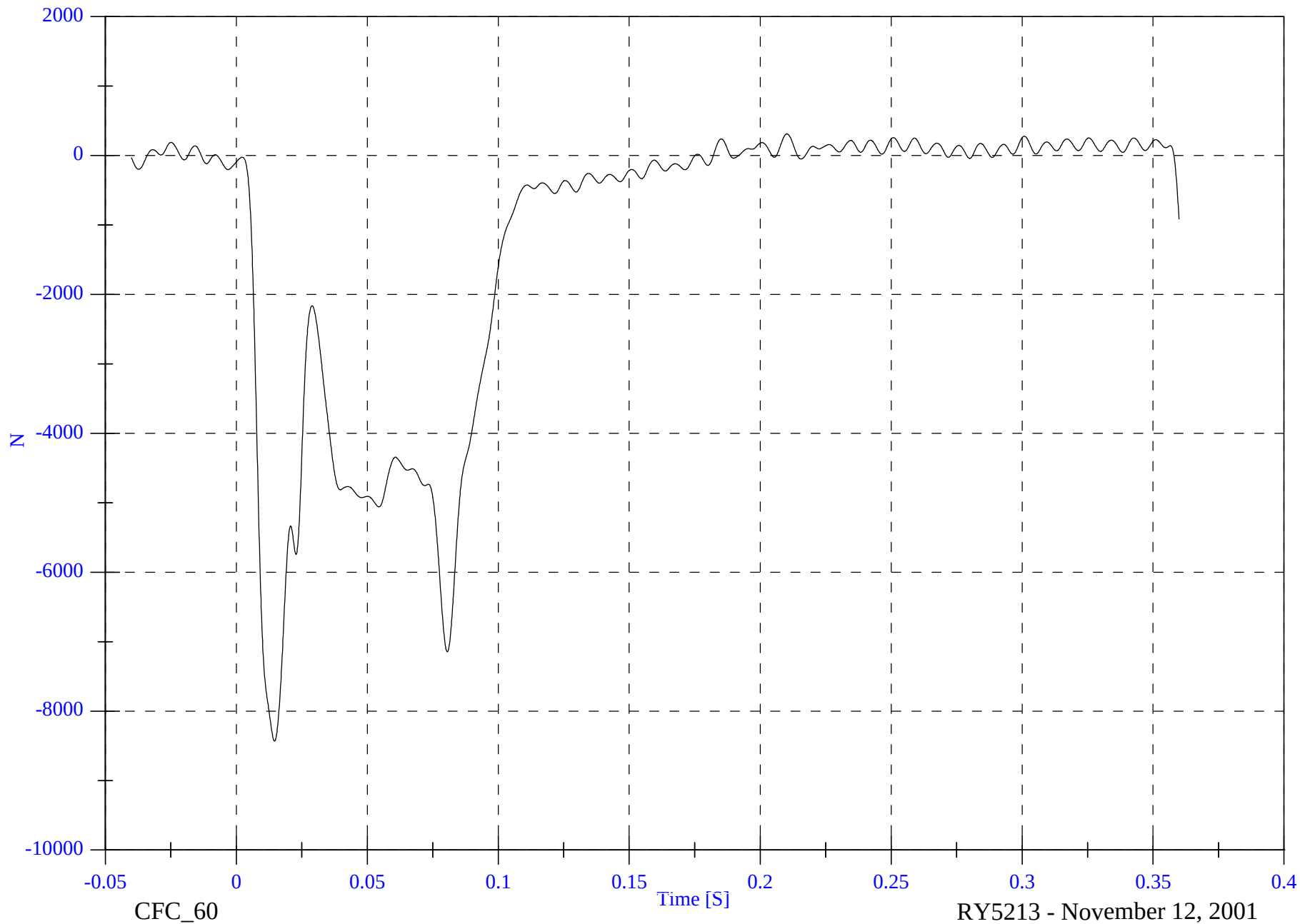


40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell C4 FX

Max: 311.6 [N] at 0.210 [S]

Min: -8433.4 [N] at 0.015 [S]



B-224

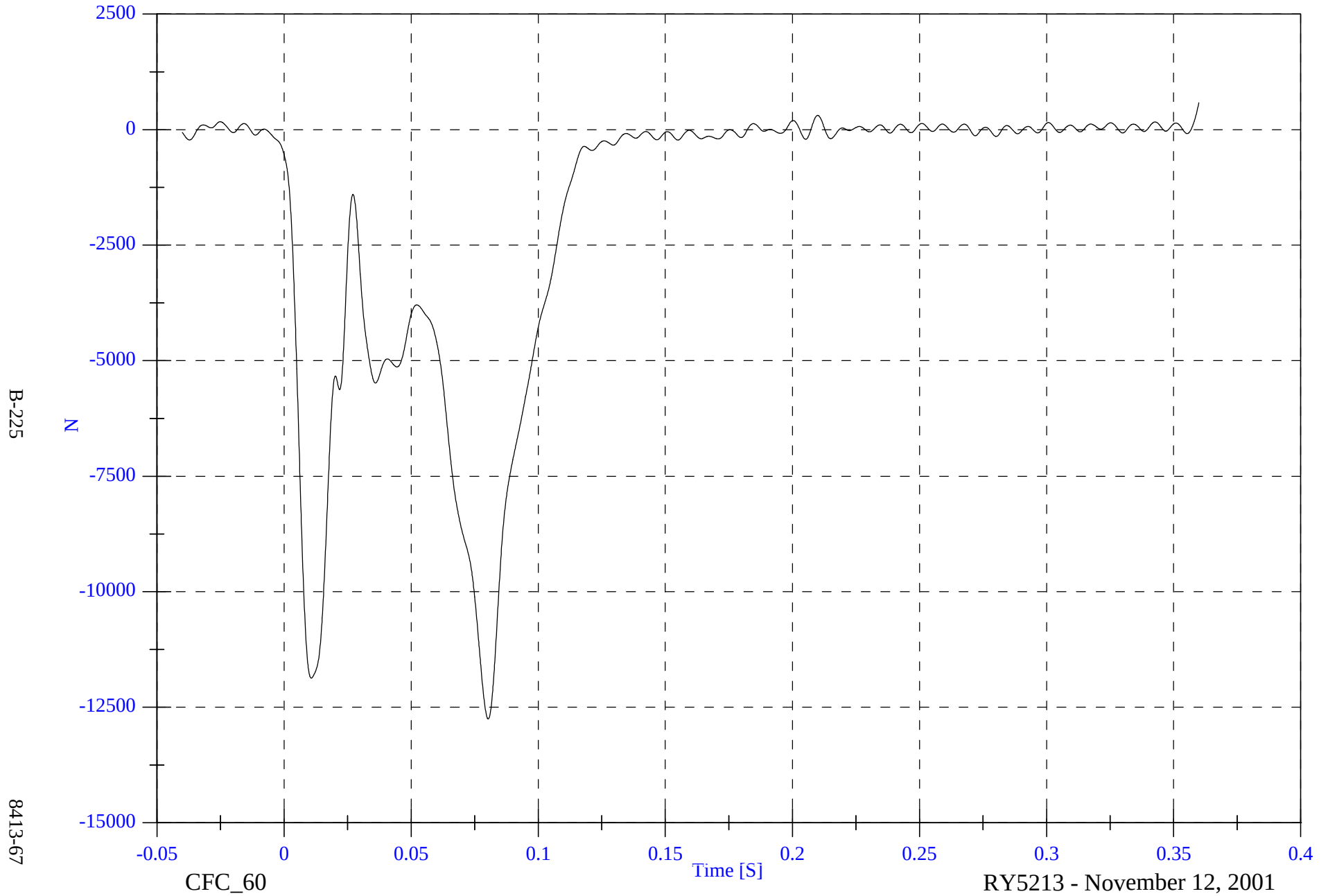
8413-67

40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell C5 FX

Max: 581.3 [N] at 0.360 [S]

Min: -12754.7 [N] at 0.080 [S]

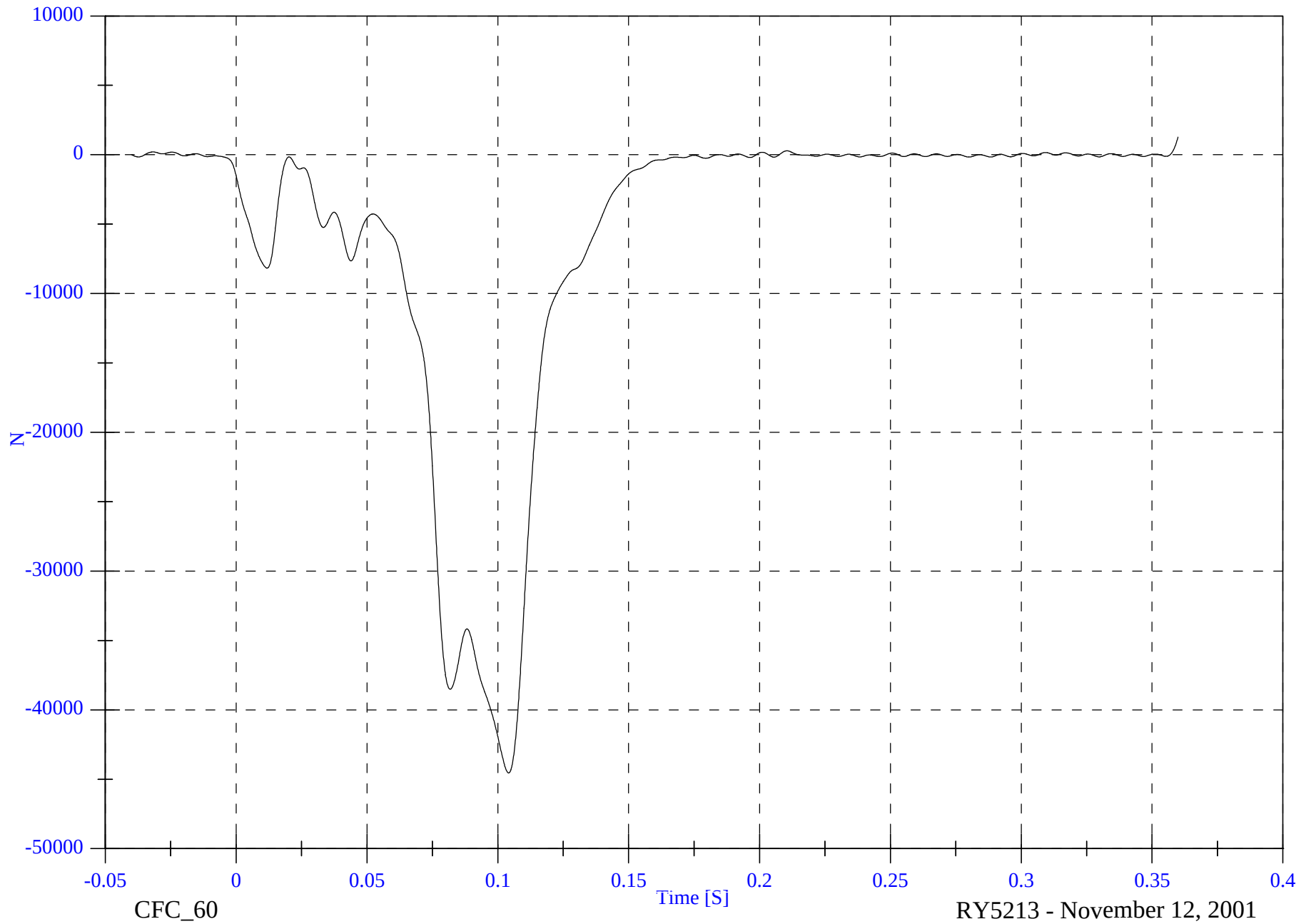


40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell C6 FX

Max: 1265.4 [N] at 0.360 [S]

Min: -44548.6 [N] at 0.104 [S]

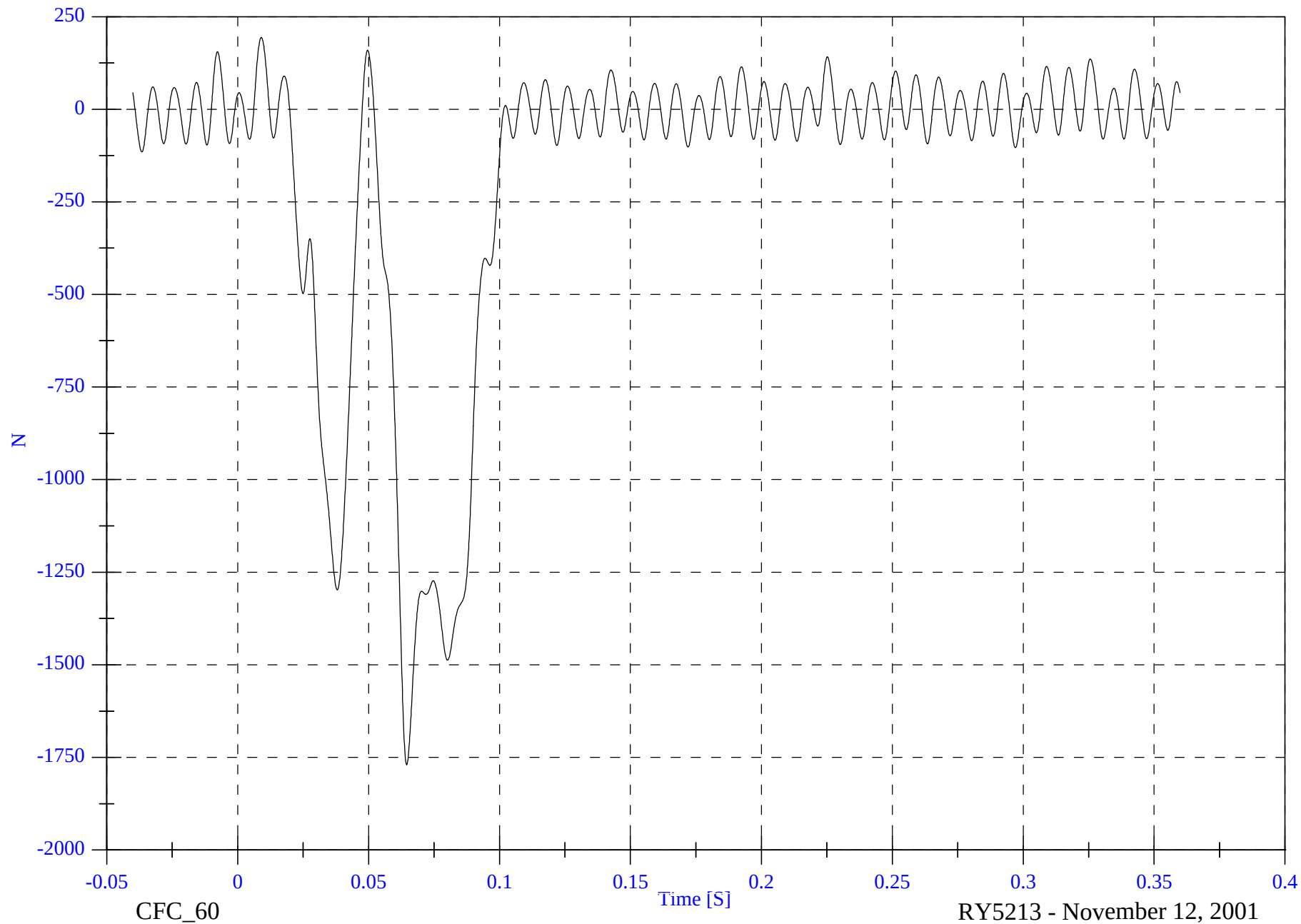


40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell B3 FY

Max: 194.1 [N] at 0.009 [S]

Min: -1770.1 [N] at 0.064 [S]



B-227

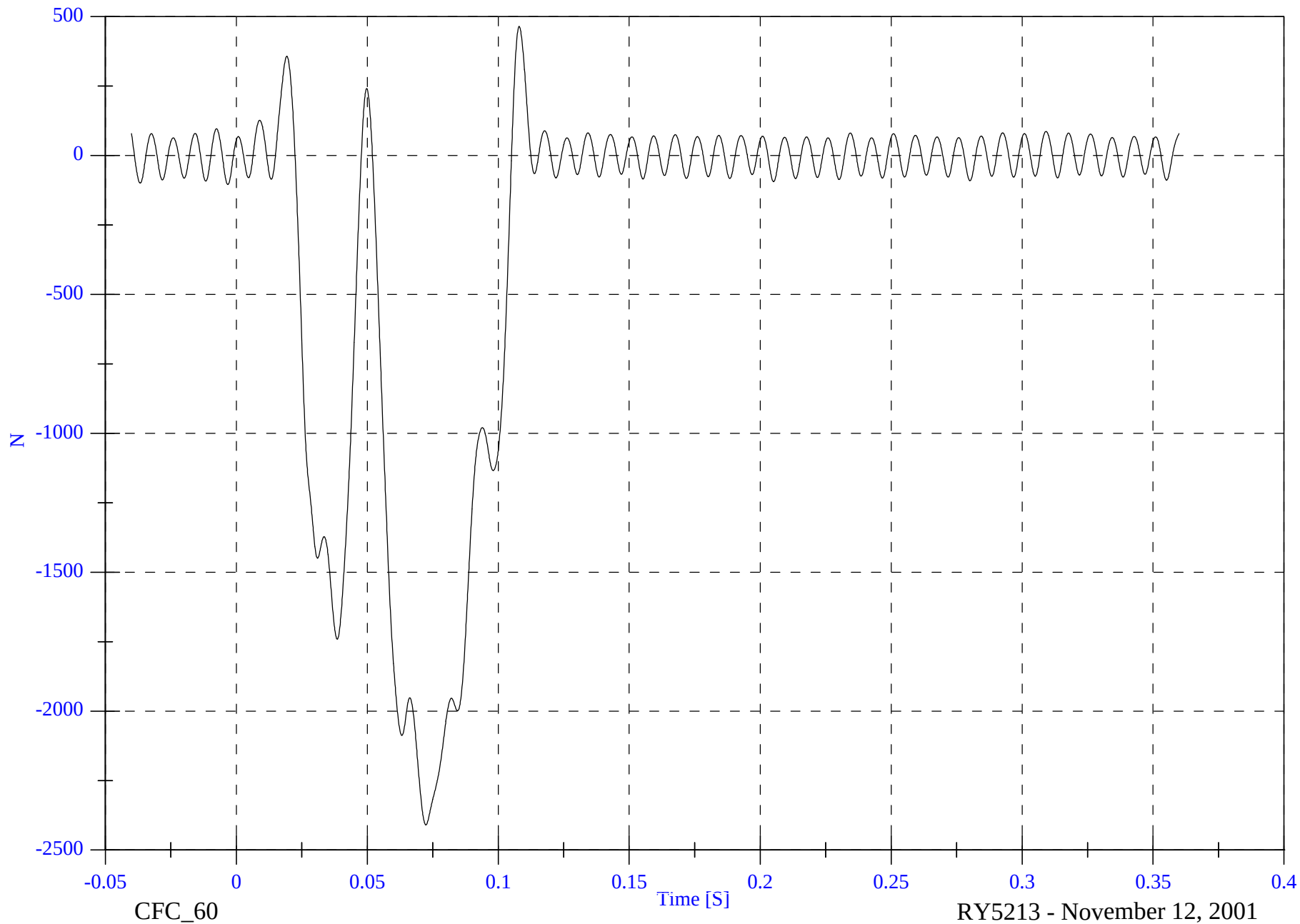
8413-67

40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell B4 FY

Max: 465.1 [N] at 0.108 [S]

Min: -2409.9 [N] at 0.072 [S]



B-228

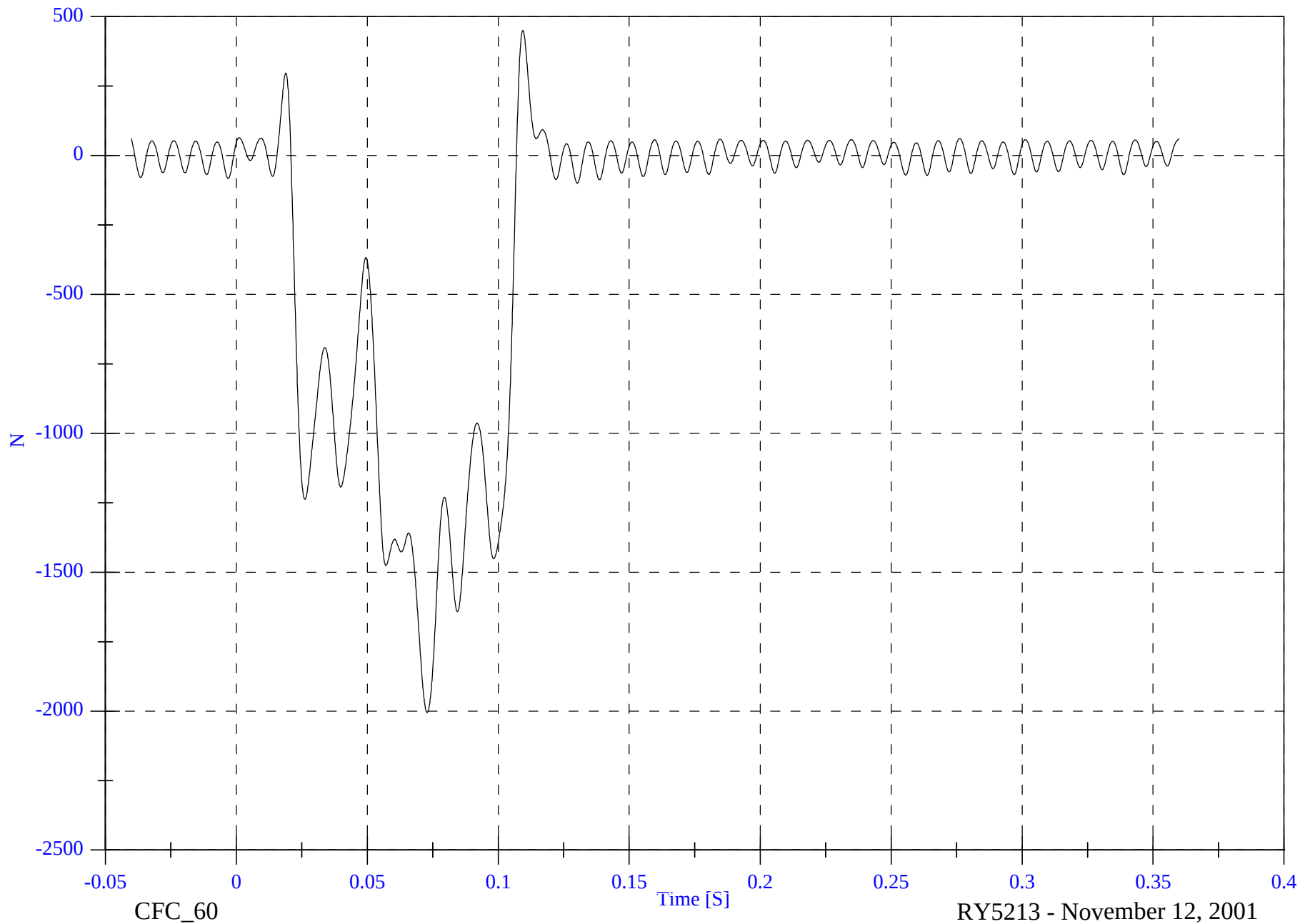
8413-67

40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell B5 FY

Max: 450.6 [N] at 0.109 [S]

Min: -2005.5 [N] at 0.073 [S]



B-229

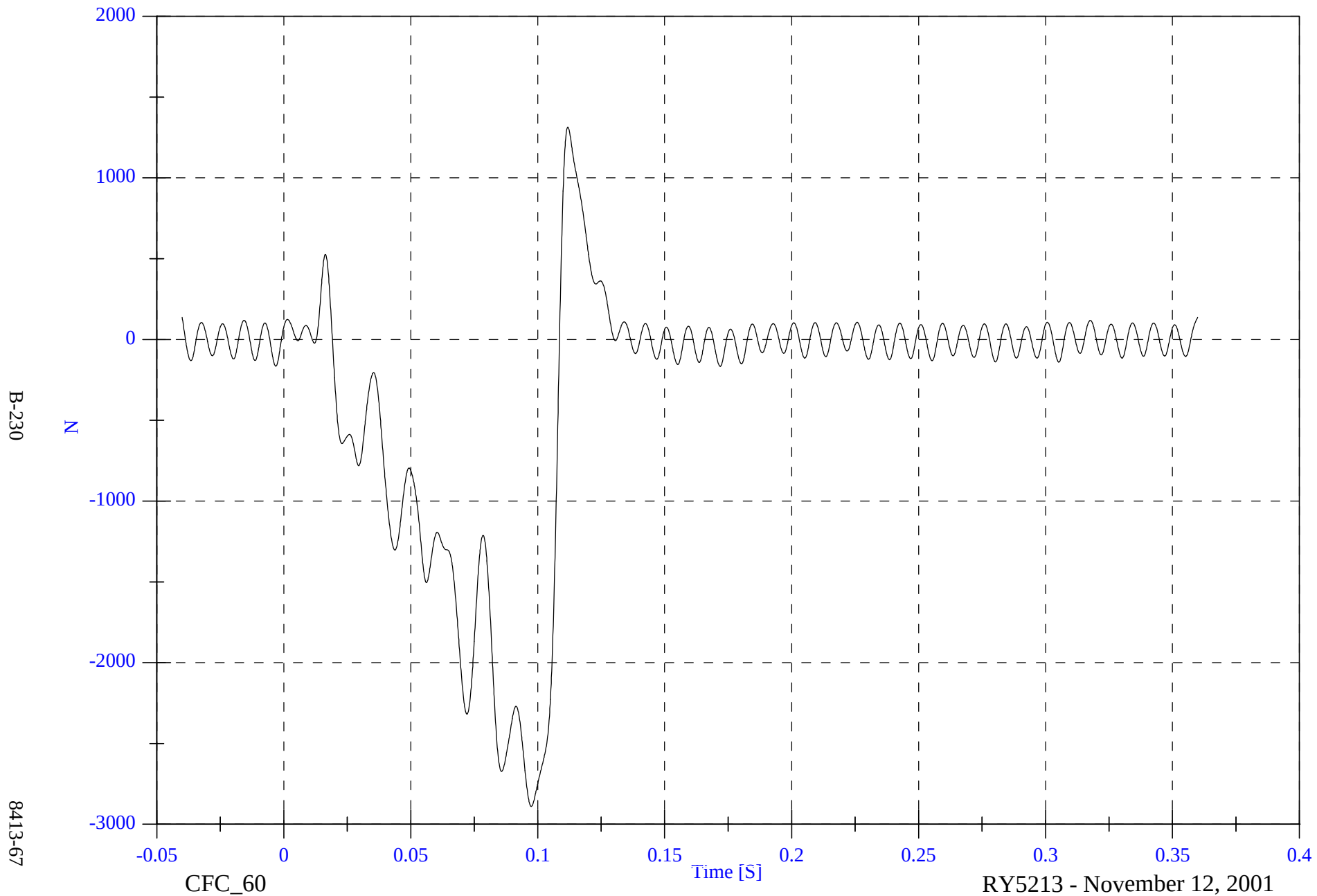
8413-67

40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell B6 FY

Max: 1313.3 [N] at 0.112 [S]

Min: -2890.4 [N] at 0.097 [S]

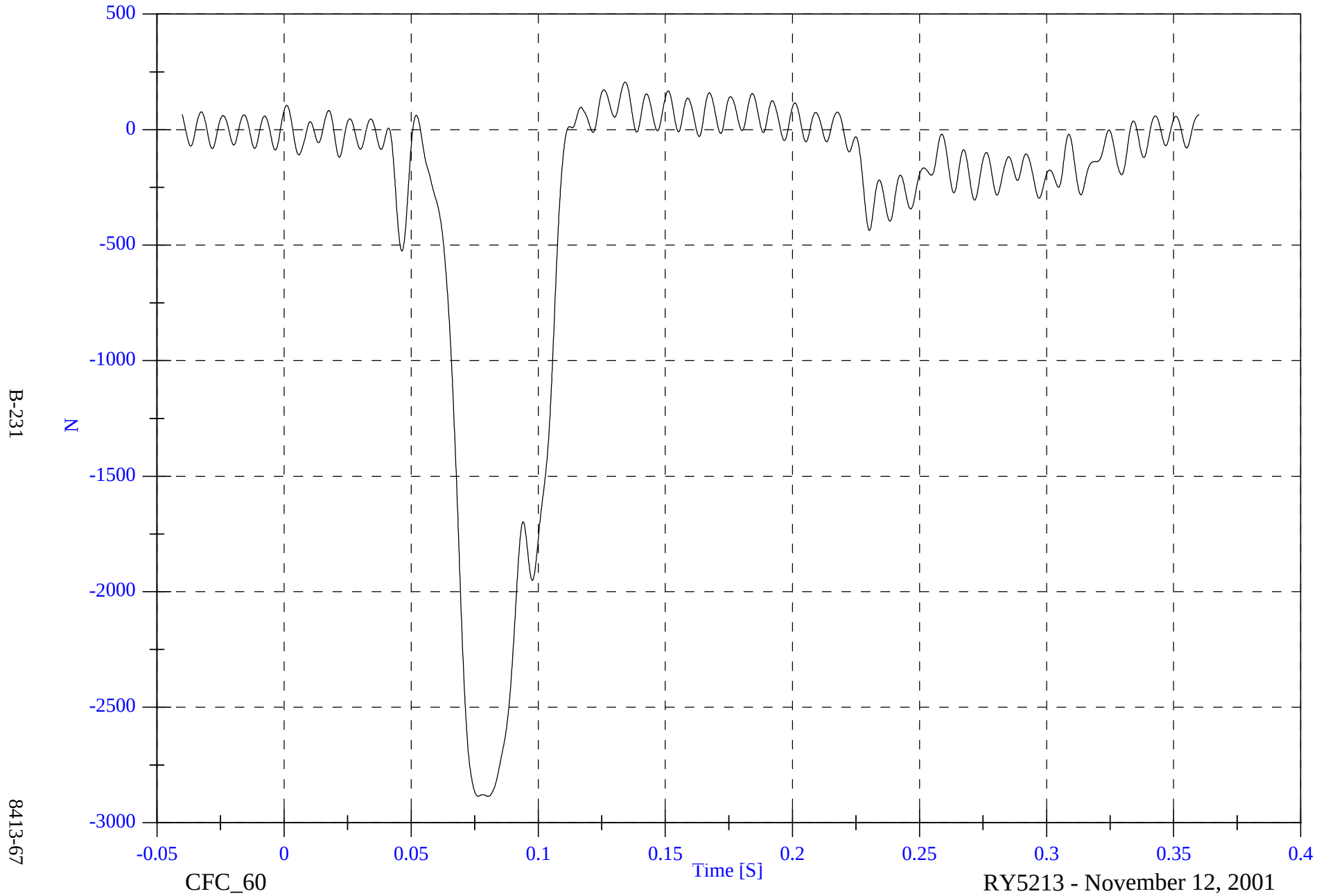


40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell B1 FX

Max: 205.8 [N] at 0.134 [S]

Min: -2885.9 [N] at 0.080 [S]

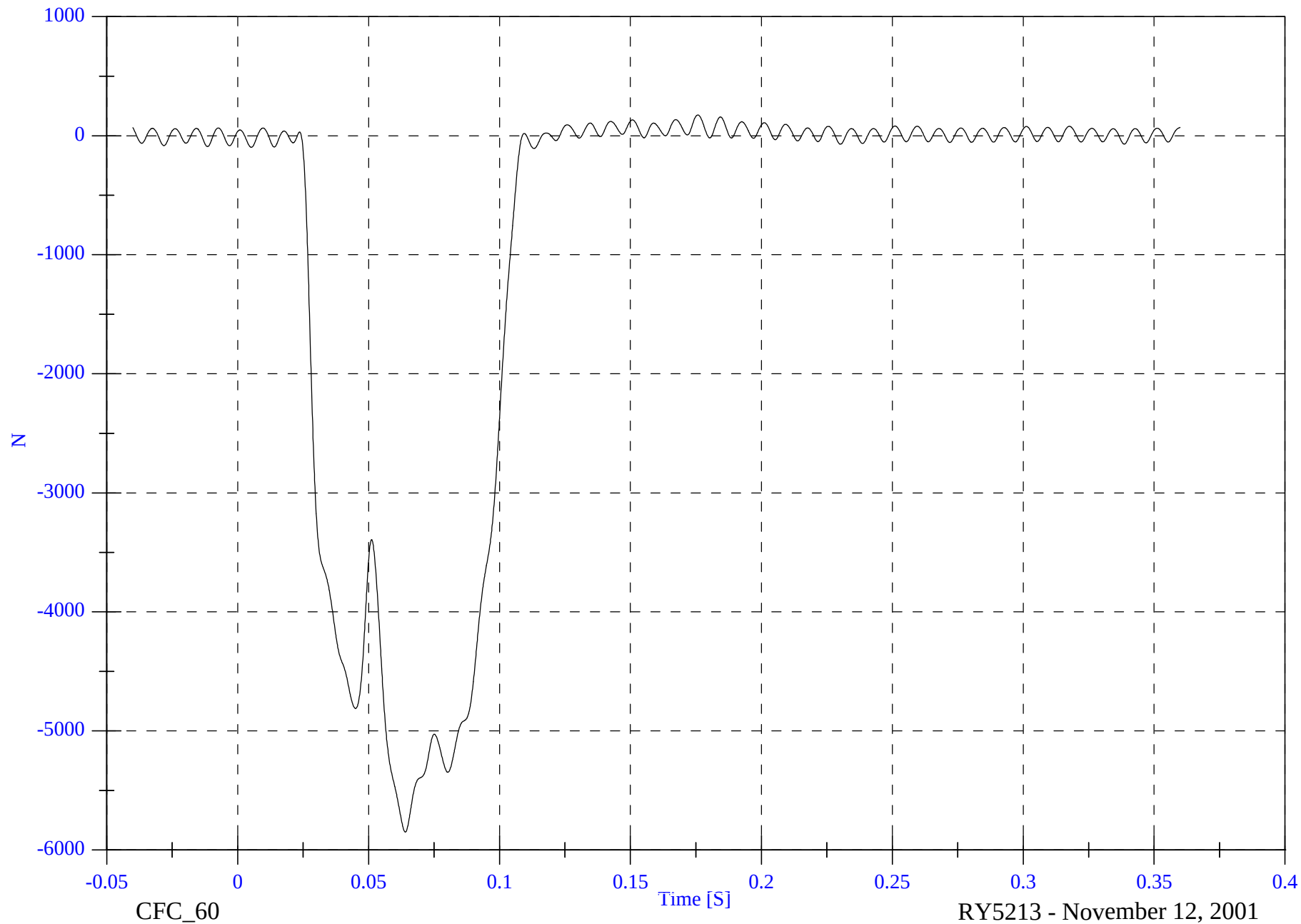


40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell B2 FX

Max: 174.3 [N] at 0.176 [S]

Min: -5849.6 [N] at 0.064 [S]



B-232

8413-67

CFC_60

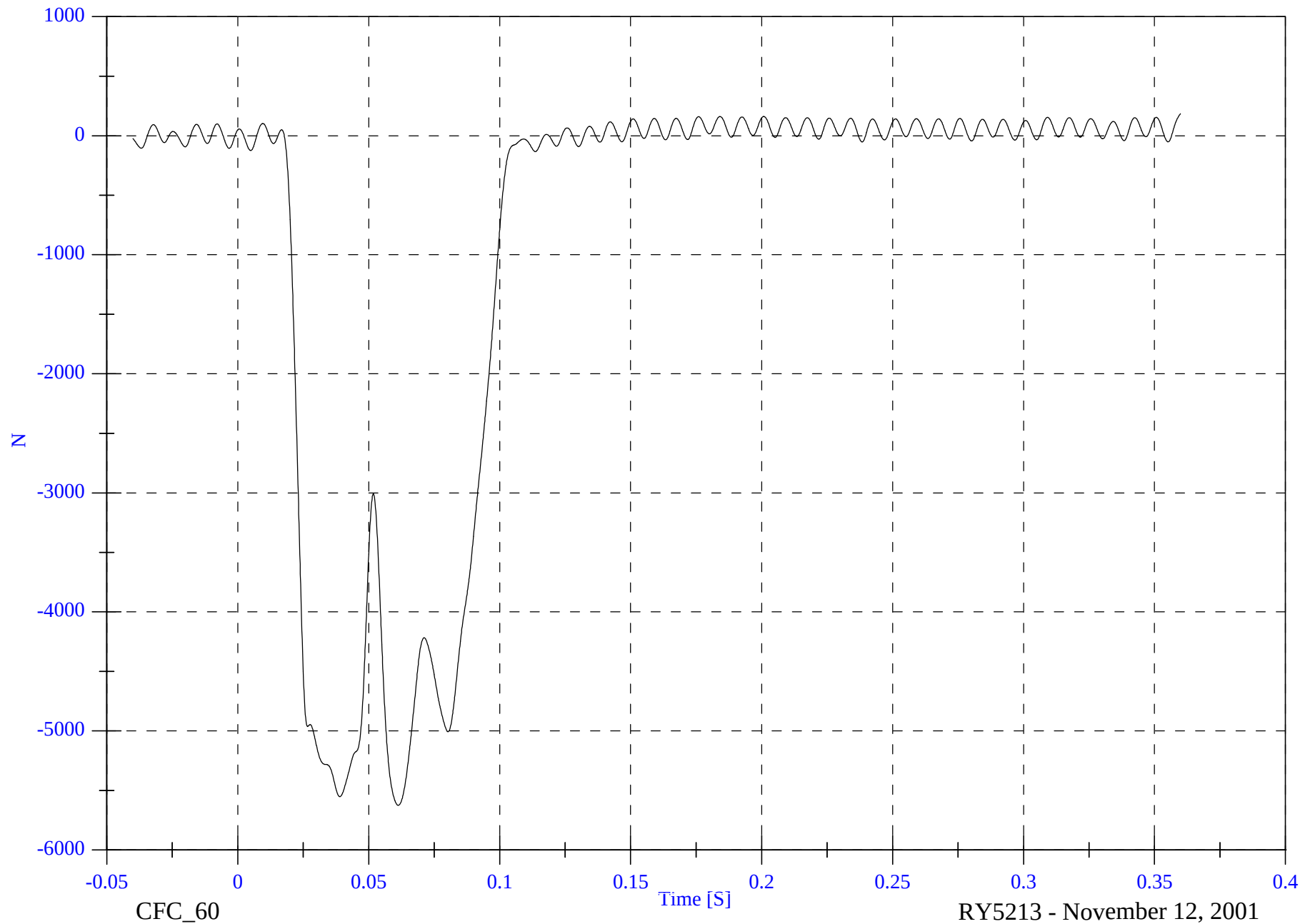
RY5213 - November 12, 2001

40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell B3 FX

Max: 184.8 [N] at 0.360 [S]

Min: -5624.8 [N] at 0.061 [S]



B-233

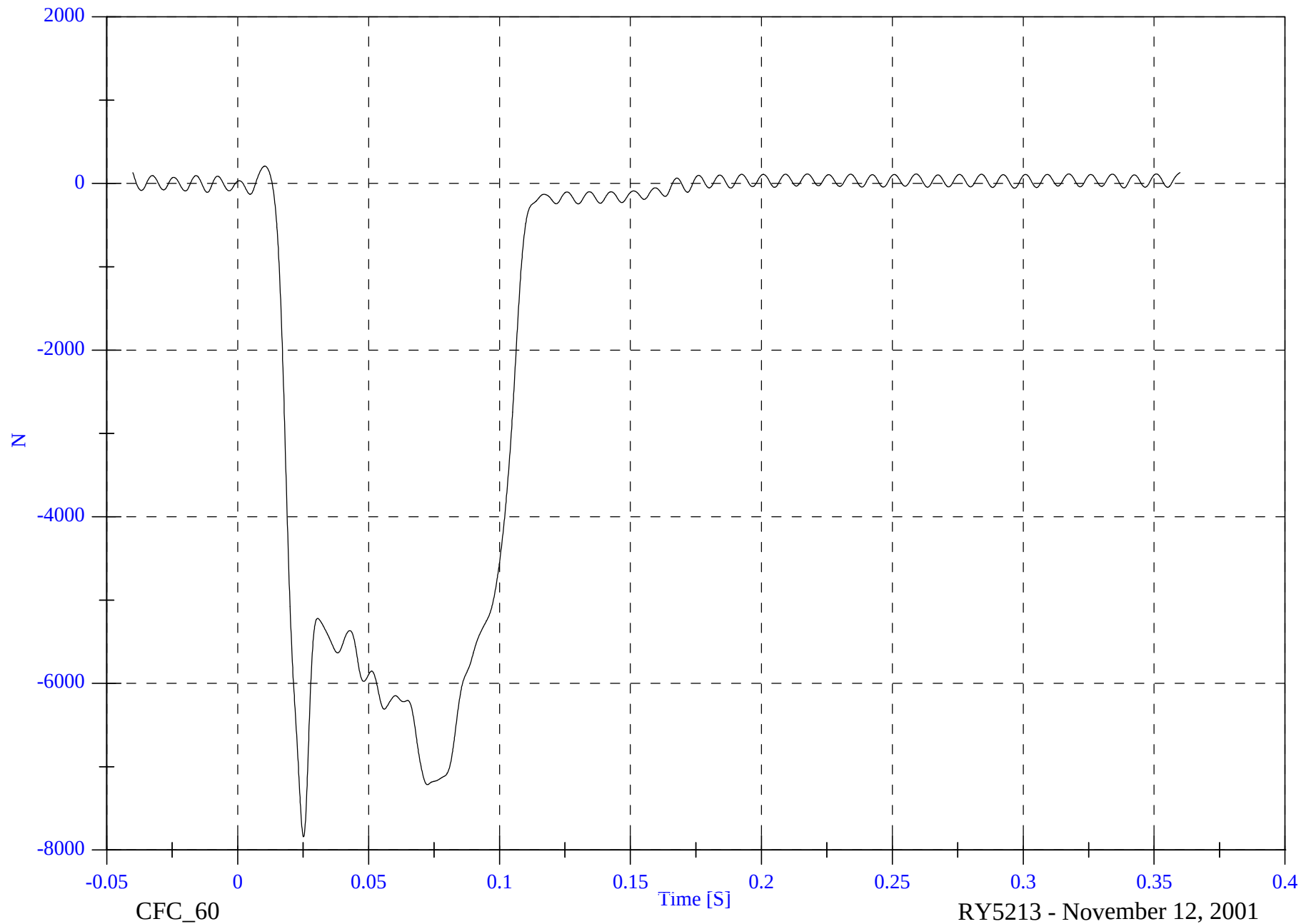
8413-67

40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell B4 FX

Max: 206.6 [N] at 0.010 [S]

Min: -7842.3 [N] at 0.025 [S]



B-234

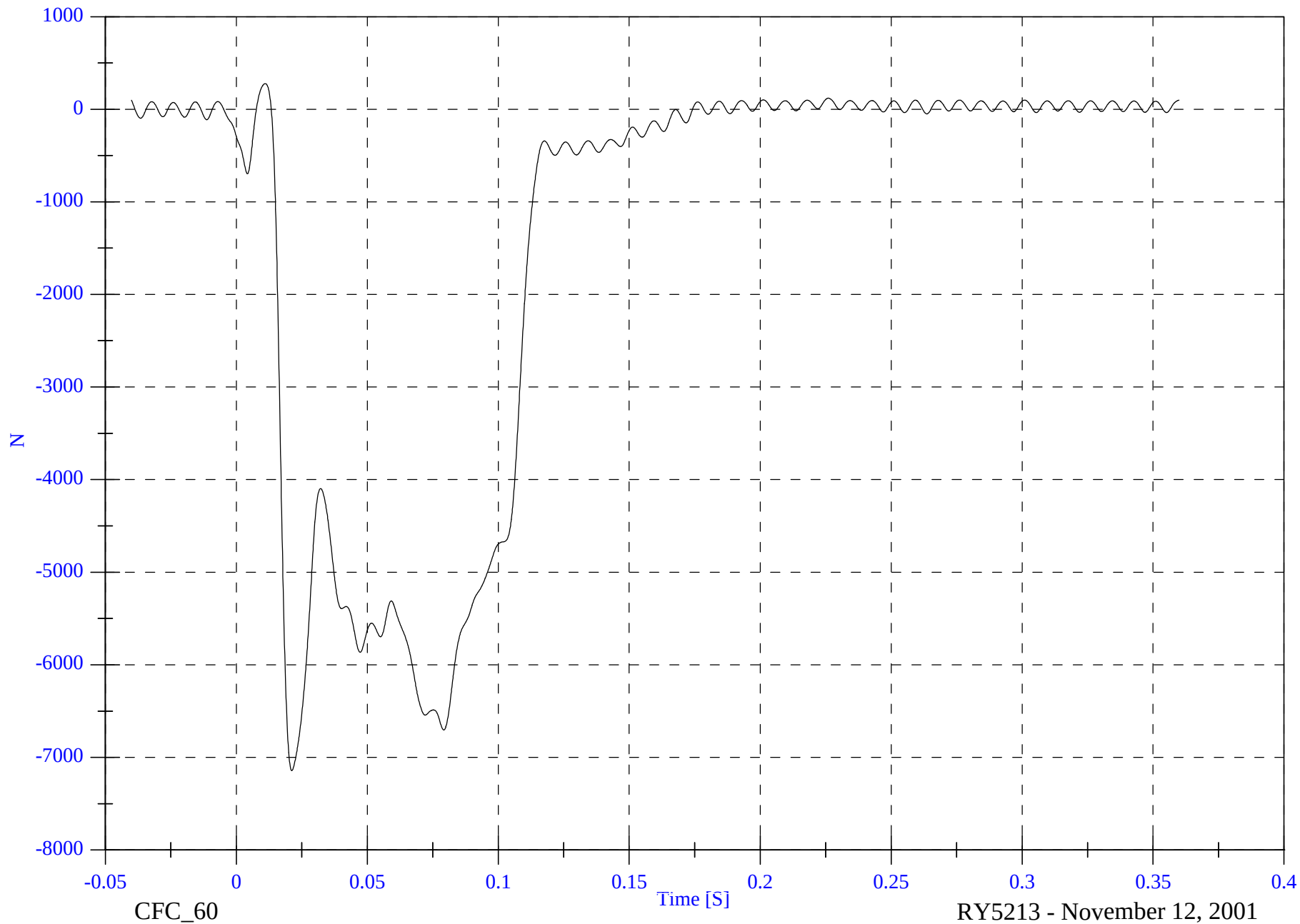
8413-67

40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell B5 FX

Max: 277.2 [N] at 0.011 [S]

Min: -7142.7 [N] at 0.021 [S]



B-235

8413-67

CFC_60

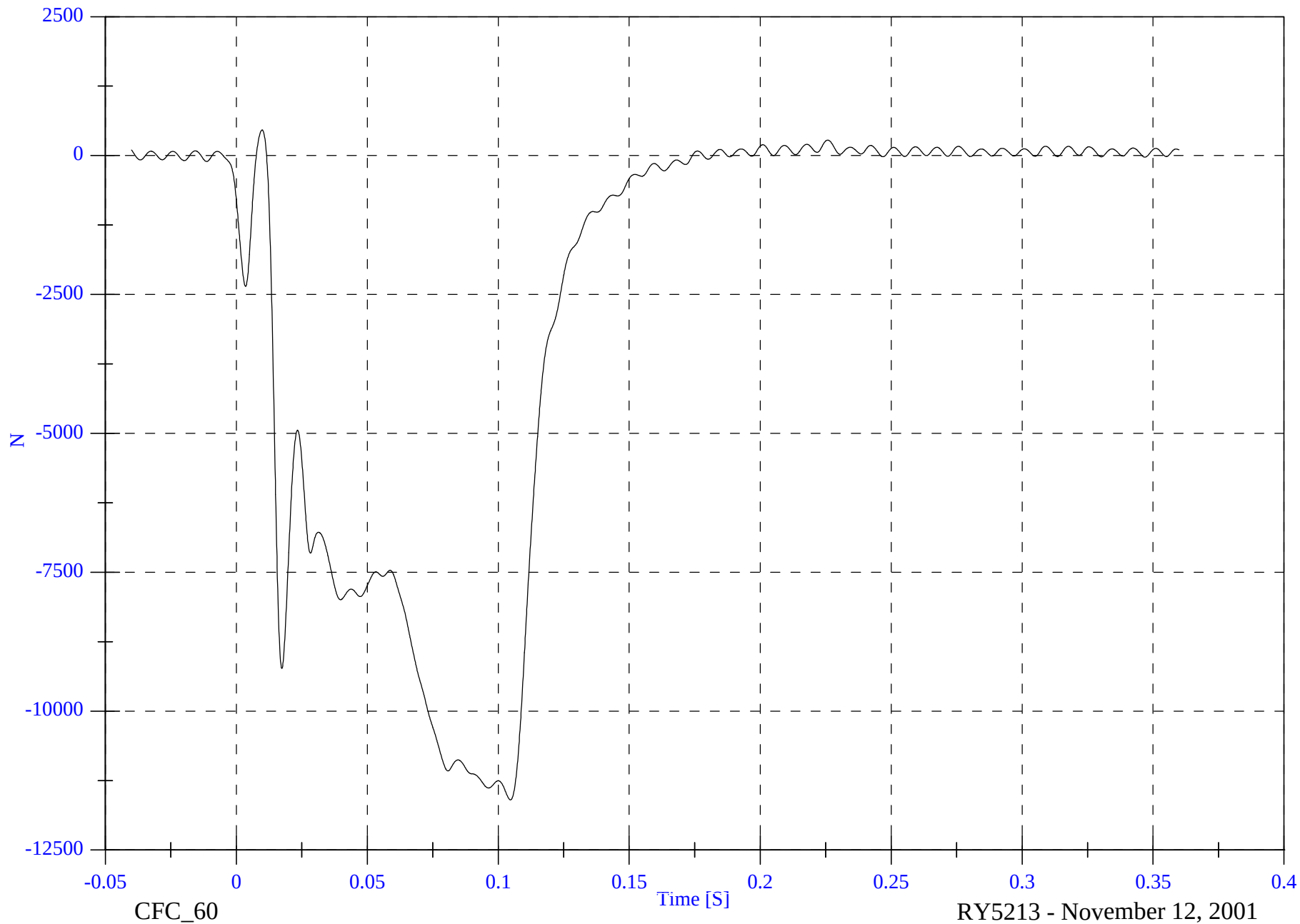
RY5213 - November 12, 2001

40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell B6 FX

Max: 459.7 [N] at 0.010 [S]

Min: -11598.7 [N] at 0.105 [S]



B-236

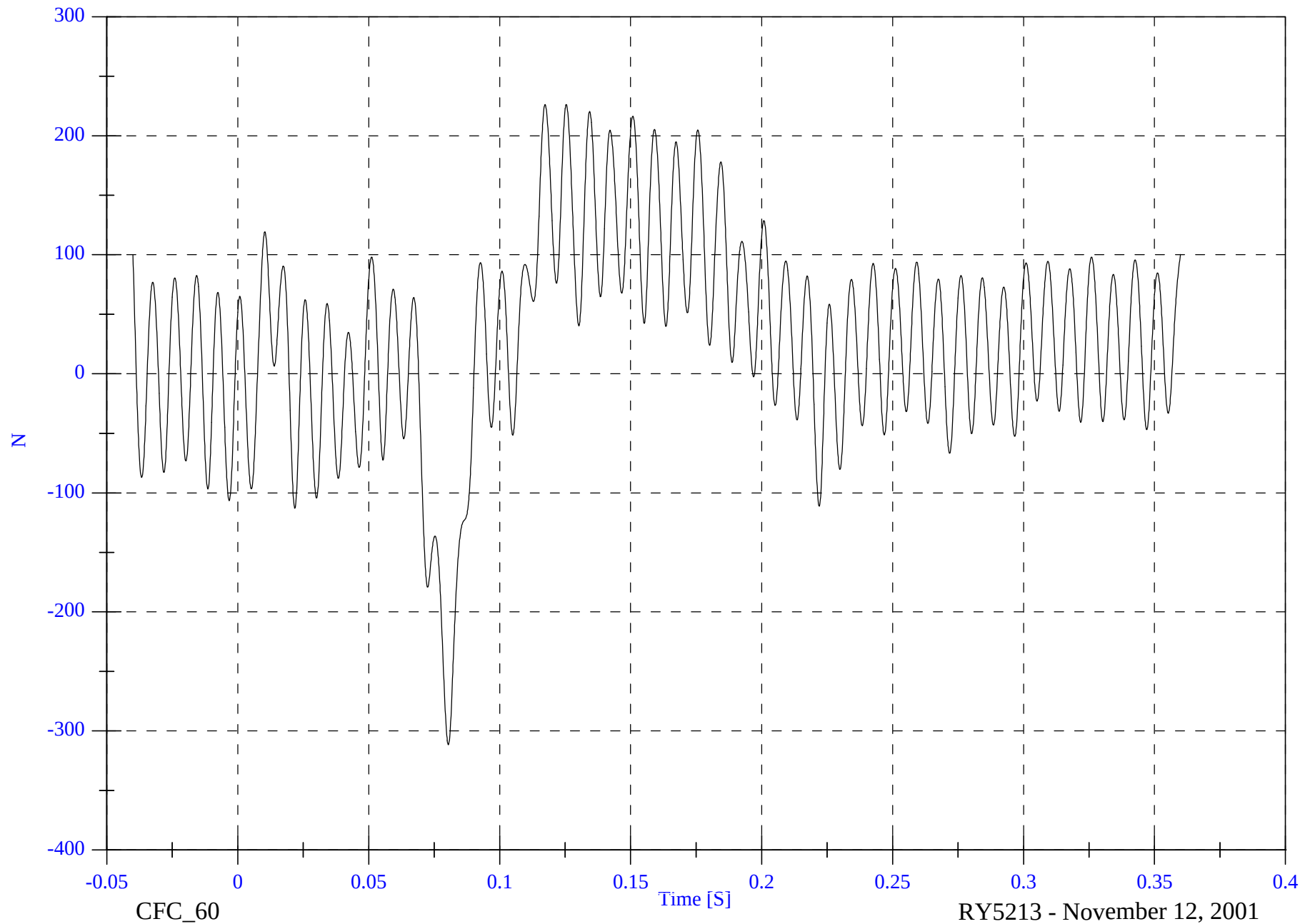
8413-67

40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell A1 FX

Max: 226.3 [N] at 0.125 [S]

Min: -311.6 [N] at 0.080 [S]



B-237

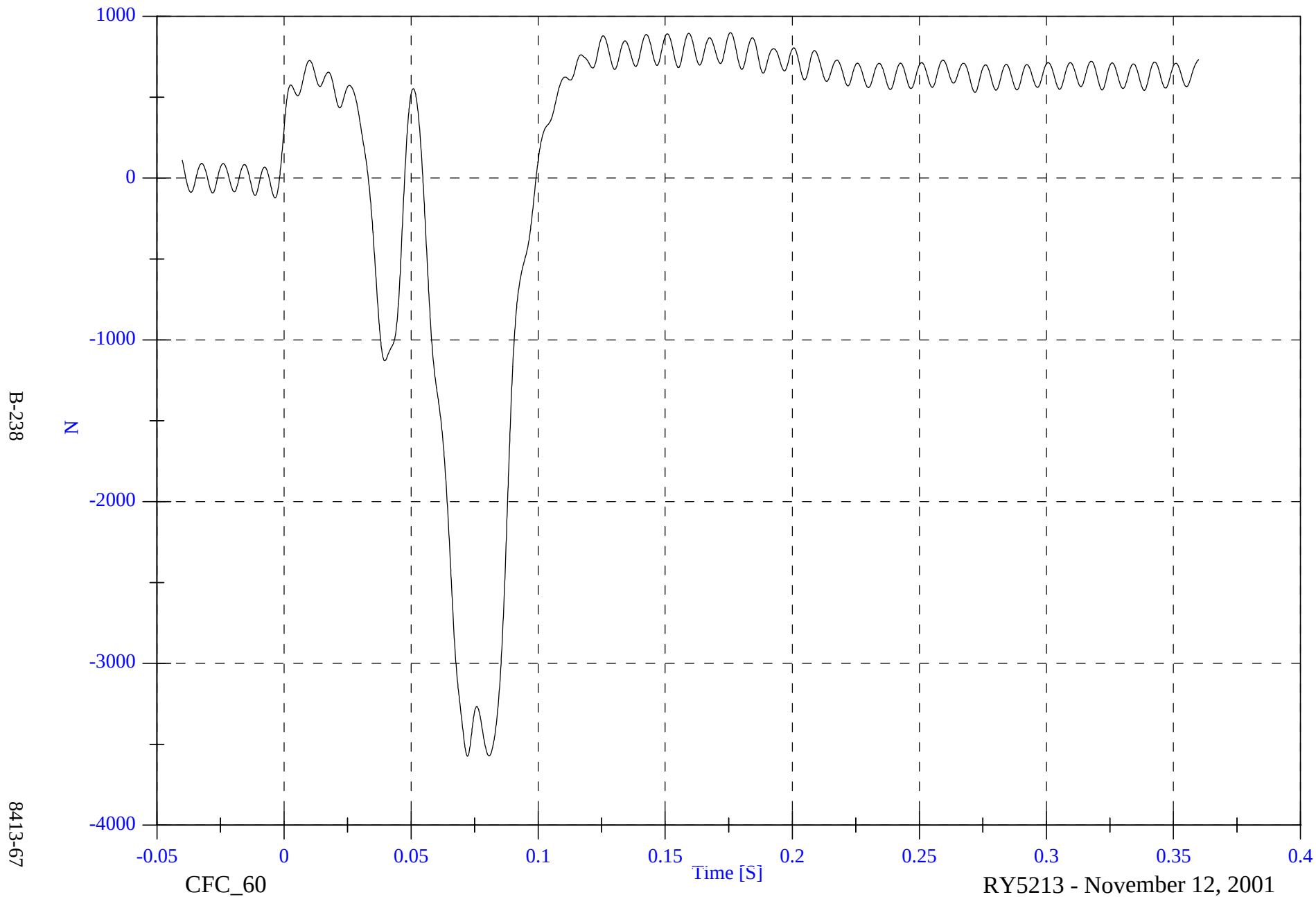
8413-67

40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell A2 FX

Max: 898.3 [N] at 0.176 [S]

Min: -3574.0 [N] at 0.072 [S]

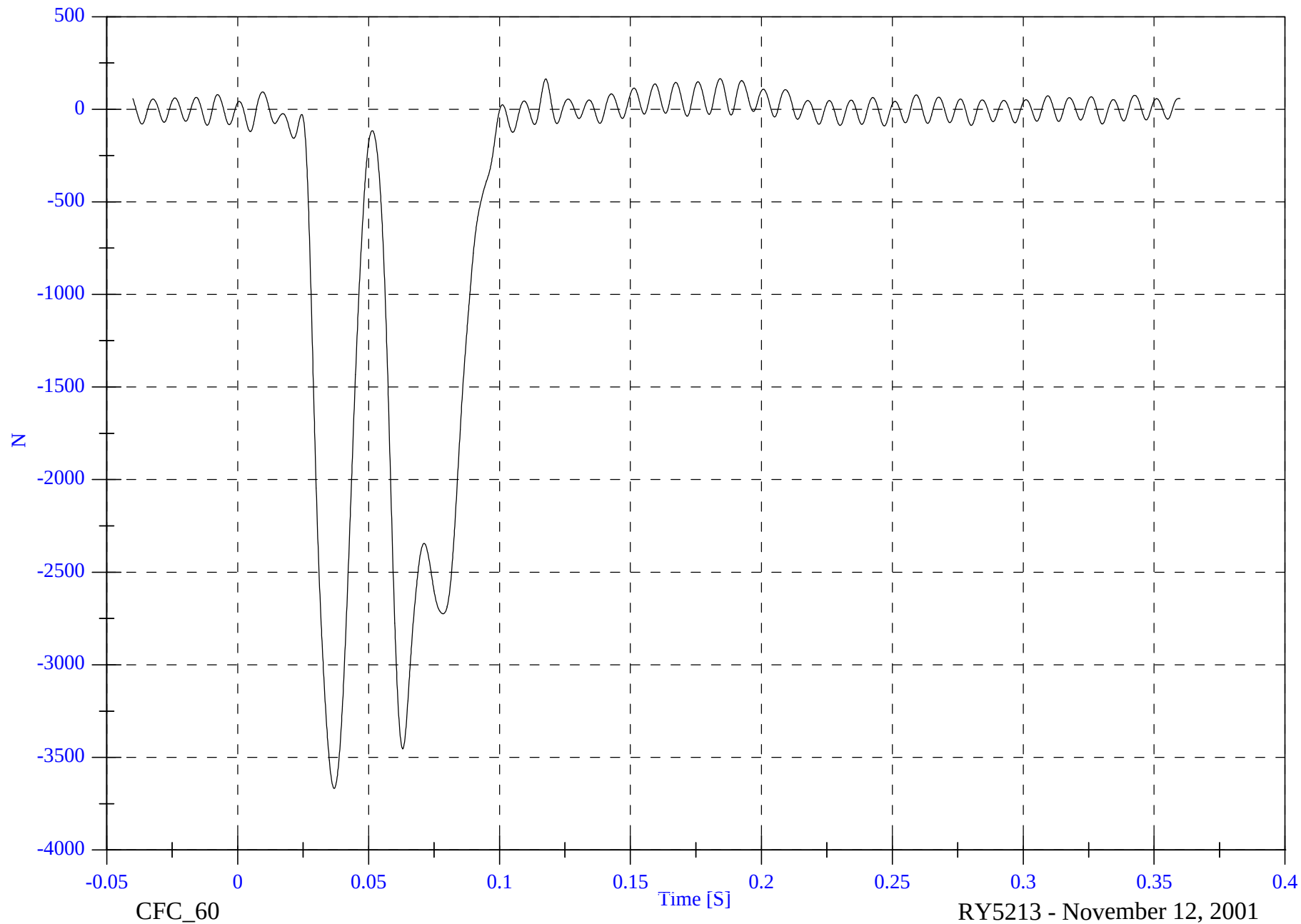


40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell A3 FX

Max: 165.3 [N] at 0.184 [S]

Min: -3667.9 [N] at 0.037 [S]



B-239

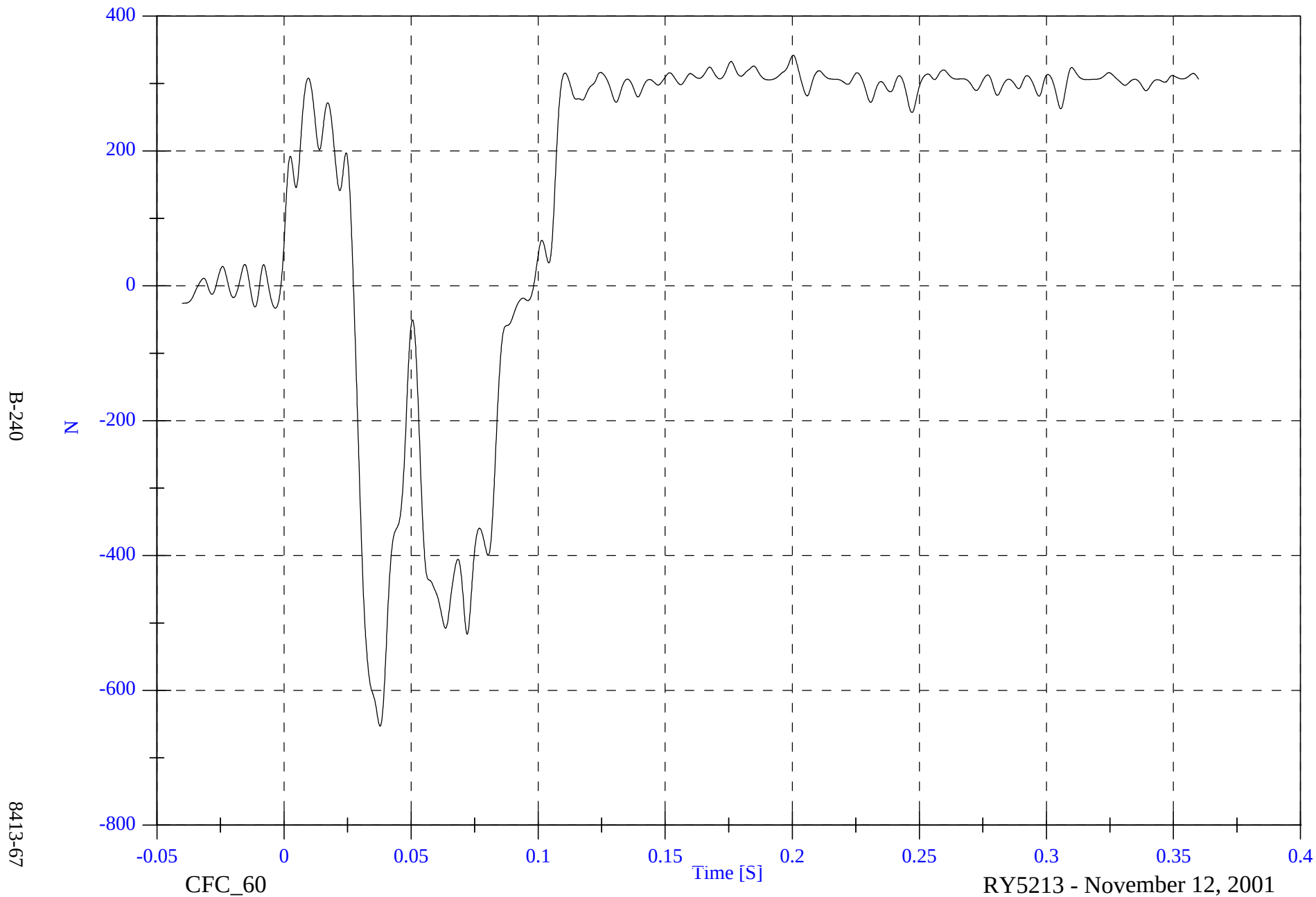
8413-67

40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell A4 FX

Max: 342.1 [N] at 0.200 [S]

Min: -653.2 [N] at 0.038 [S]

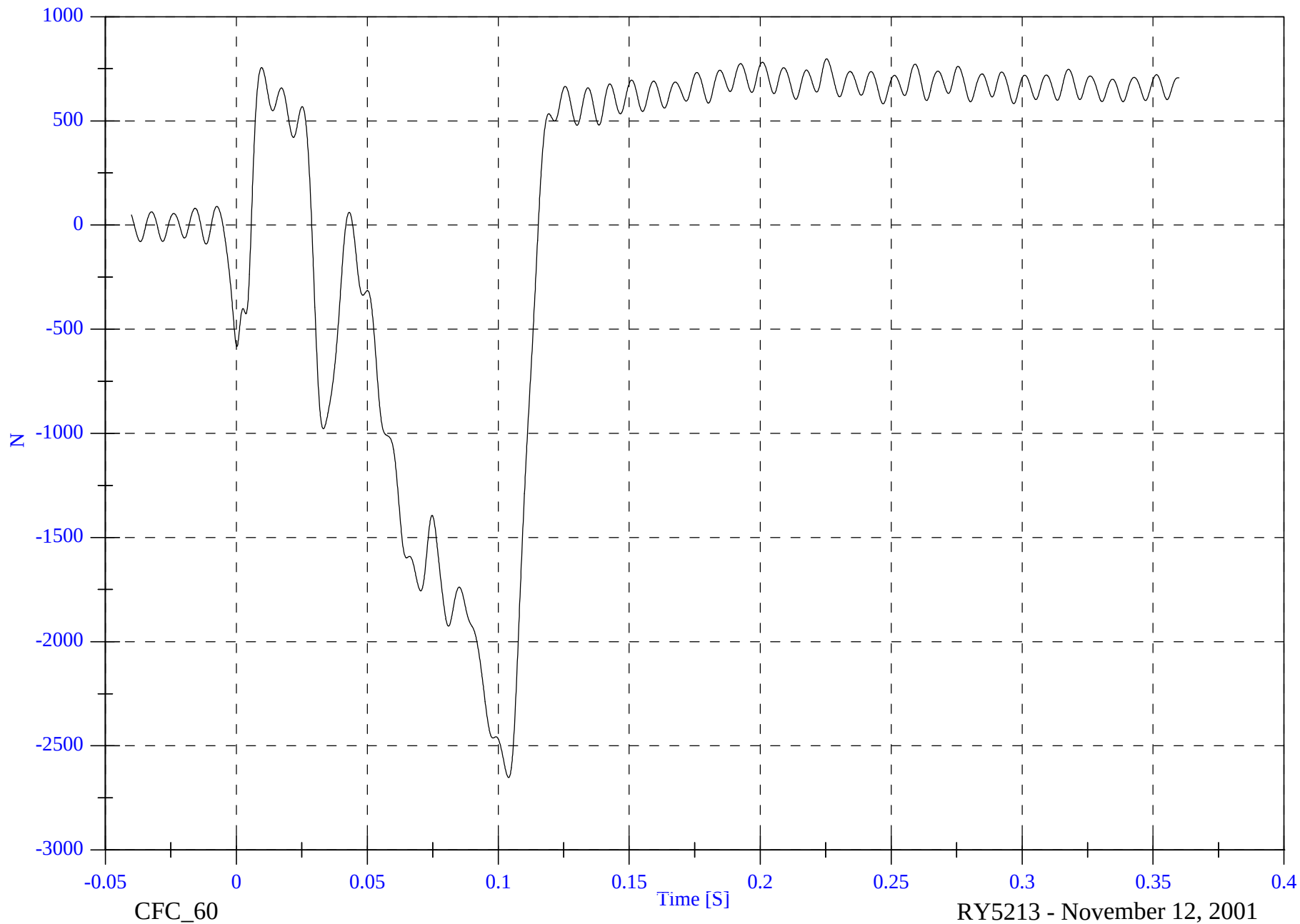


40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell A5 FX

Max: 797.5 [N] at 0.225 [S]

Min: -2652.5 [N] at 0.104 [S]



B-241

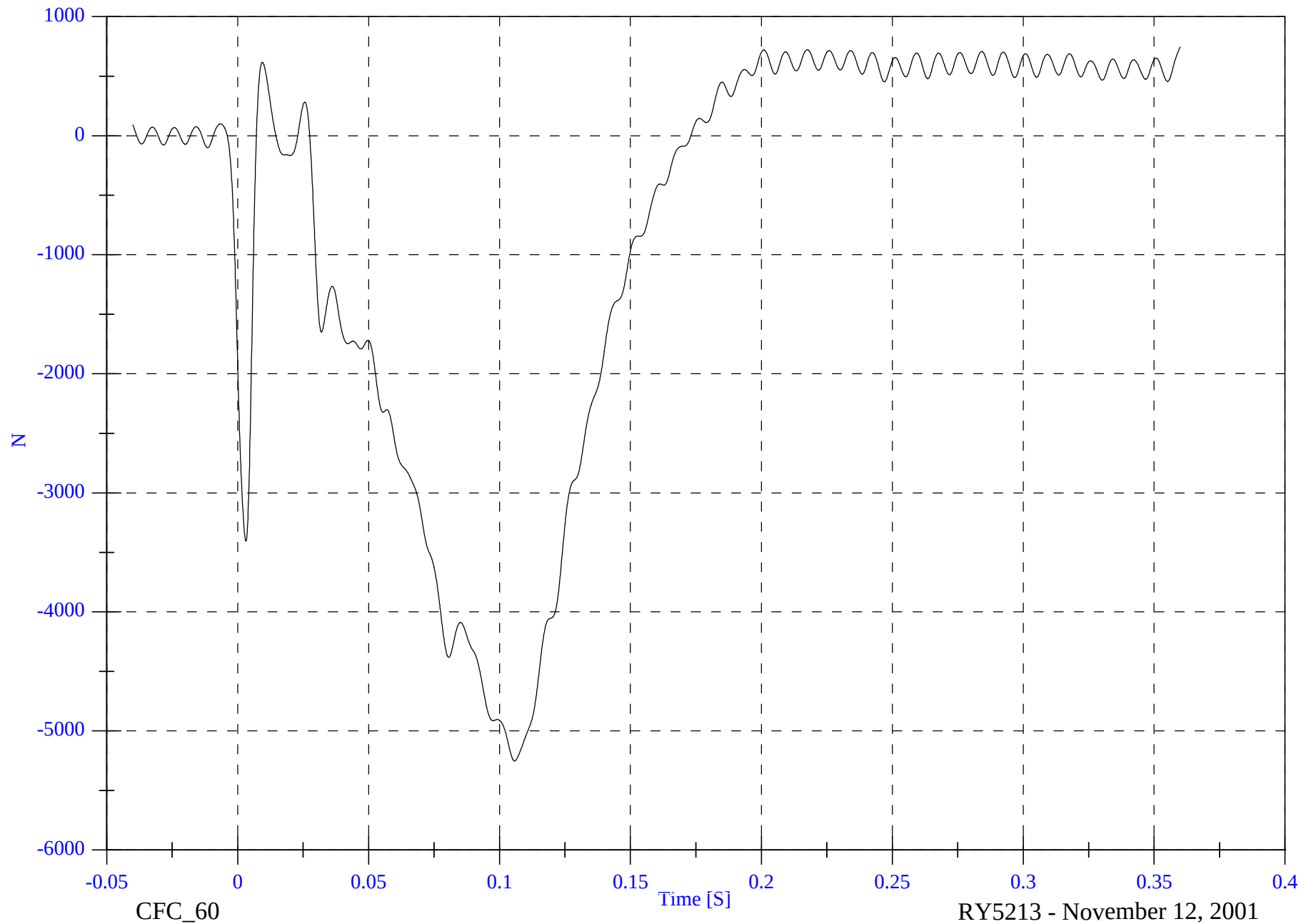
8413-67

40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell A6 FX

Max: 746.1 [N] at 0.360 [S]

Min: -5252.4 [N] at 0.106 [S]



B-242

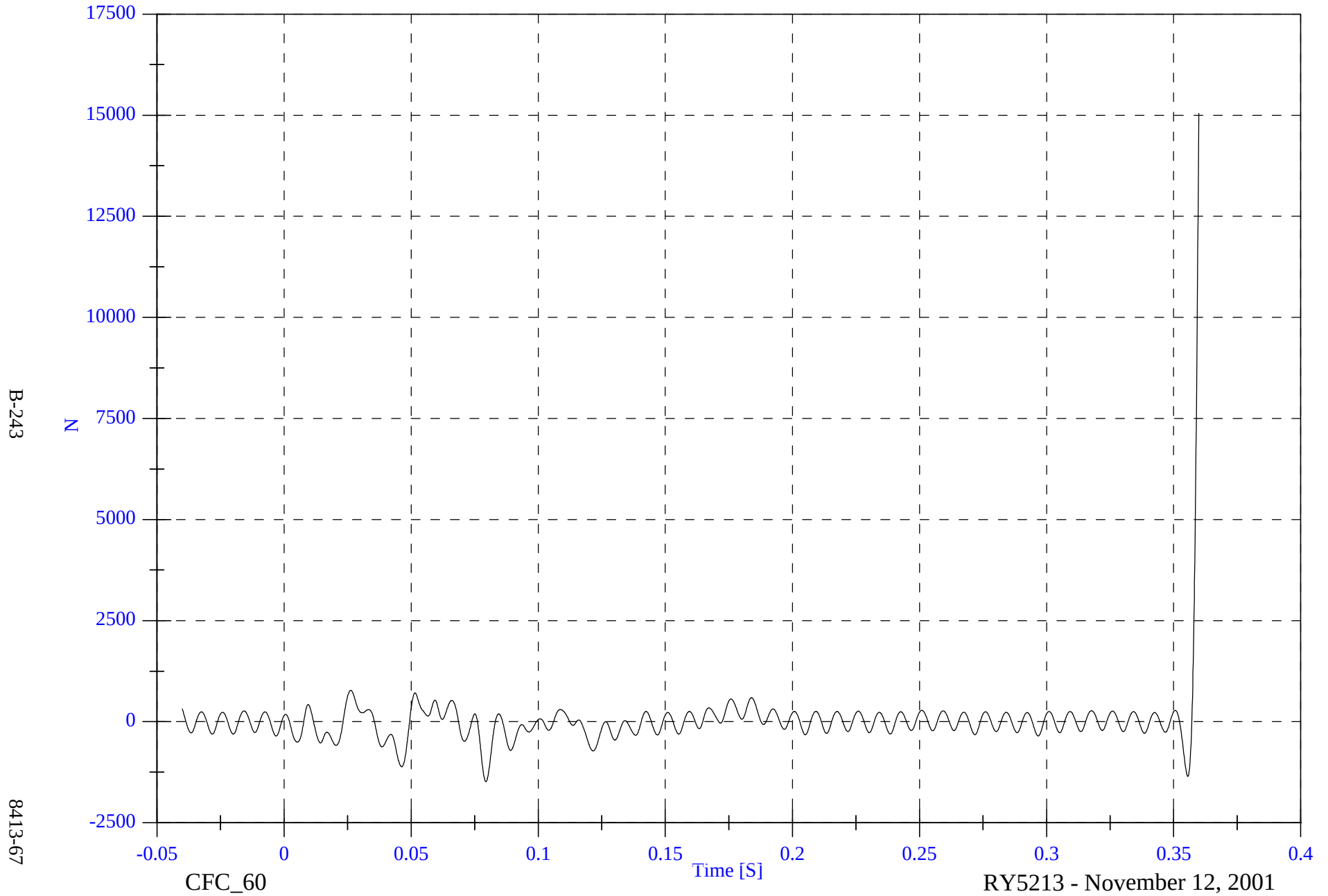
8413-67

40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell A7 TL FX

Max: 15044.5 [N] at 0.360 [S]

Min: -1484.6 [N] at 0.079 [S]

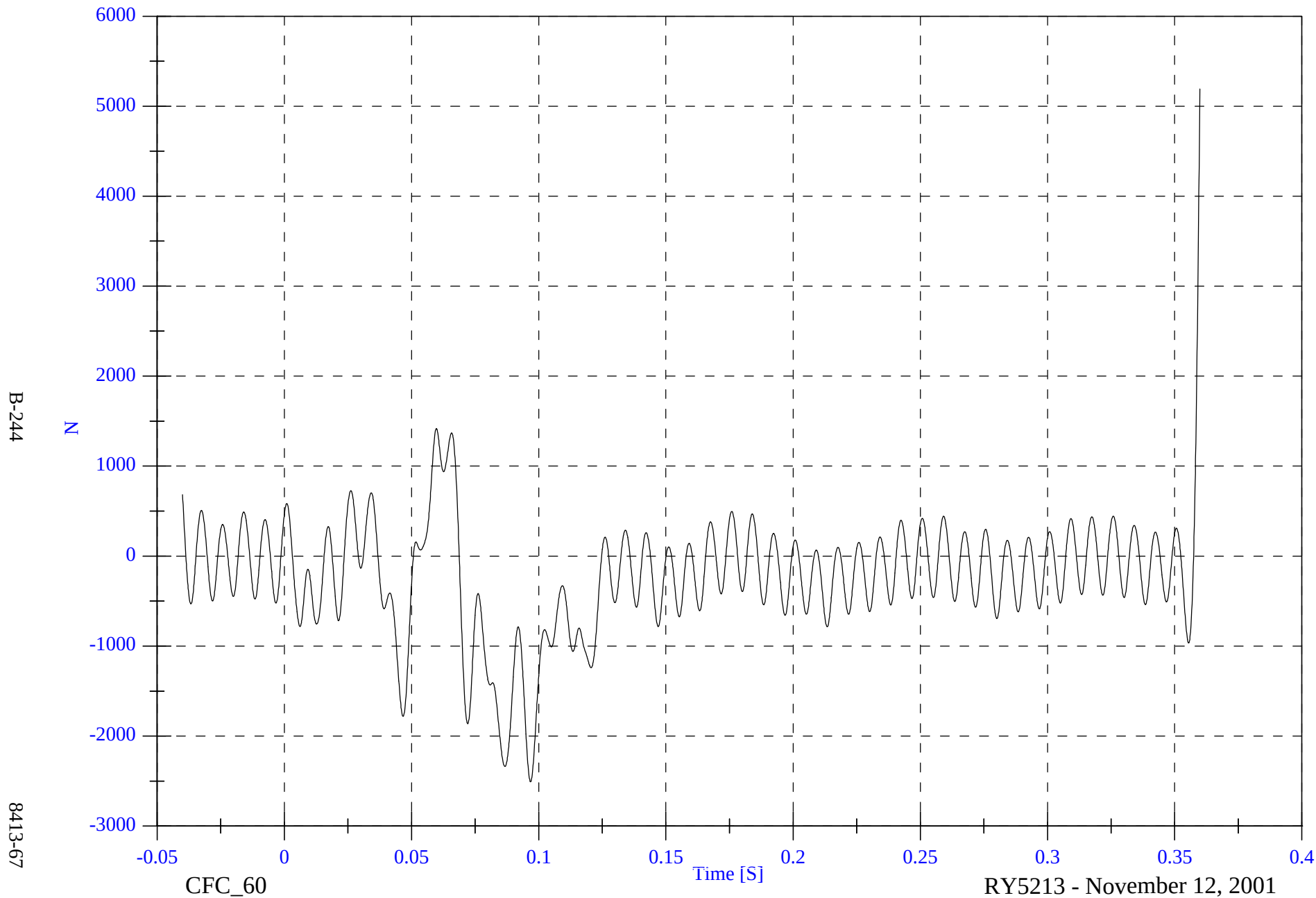


40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell A8 TR FX

Max: 5191.8 [N] at 0.360 [S]

Min: -2508.7 [N] at 0.097 [S]

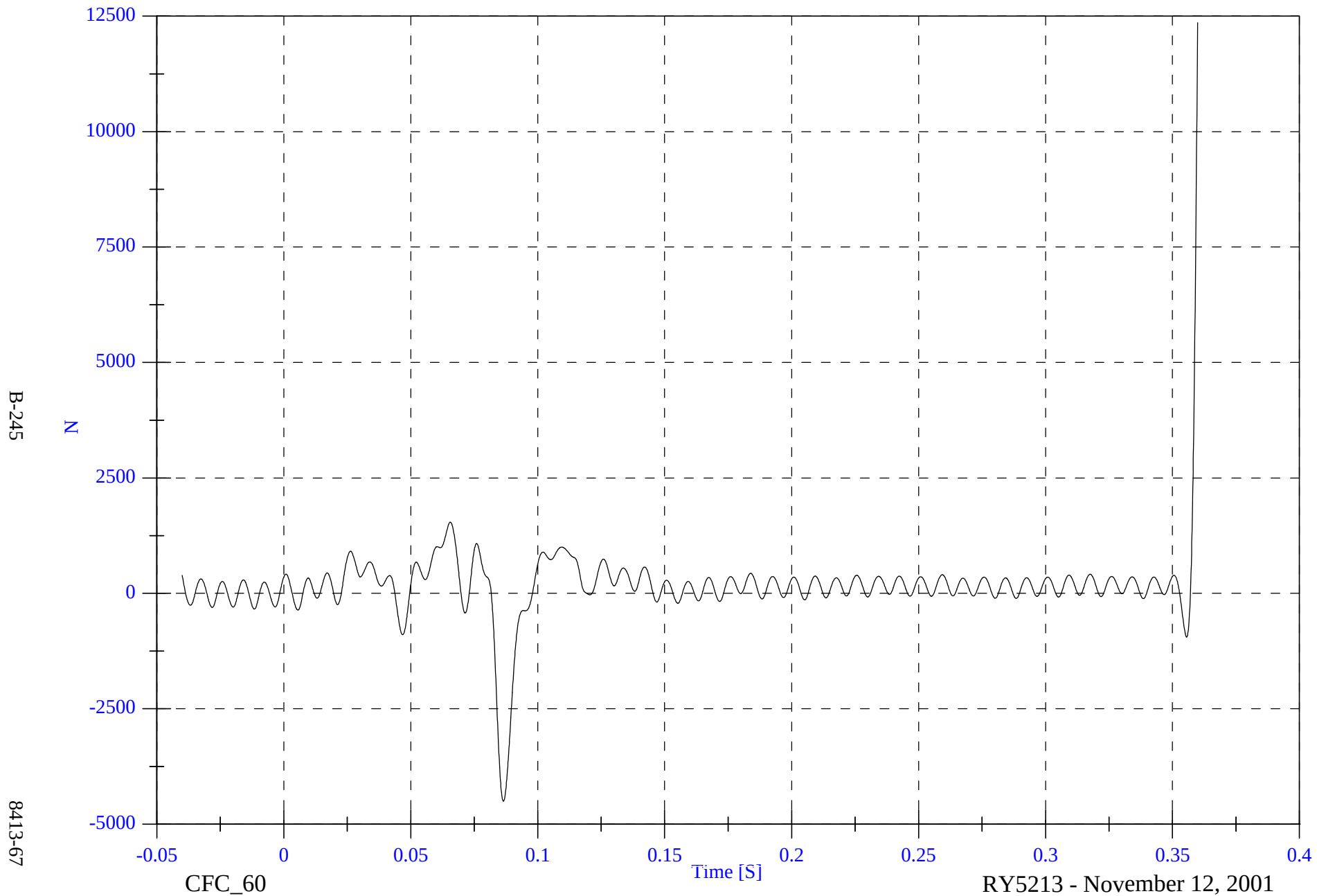


40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell A9 CL FX

Max: 12359.8 [N] at 0.360 [S]

Min: -4502.8 [N] at 0.086 [S]

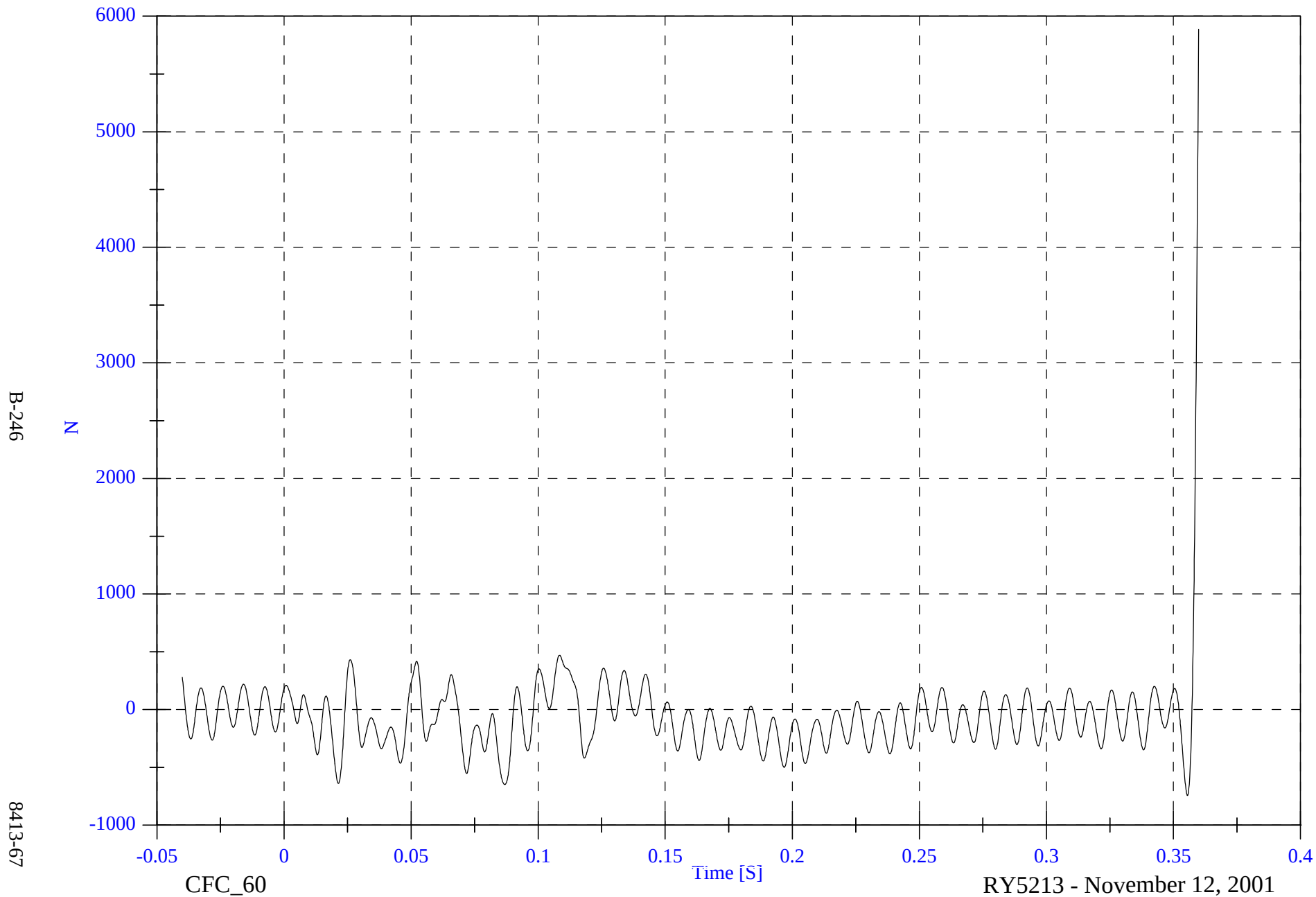


40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell AA BL FX

Max: 5887.1 [N] at 0.360 [S]

Min: -743.7 [N] at 0.355 [S]

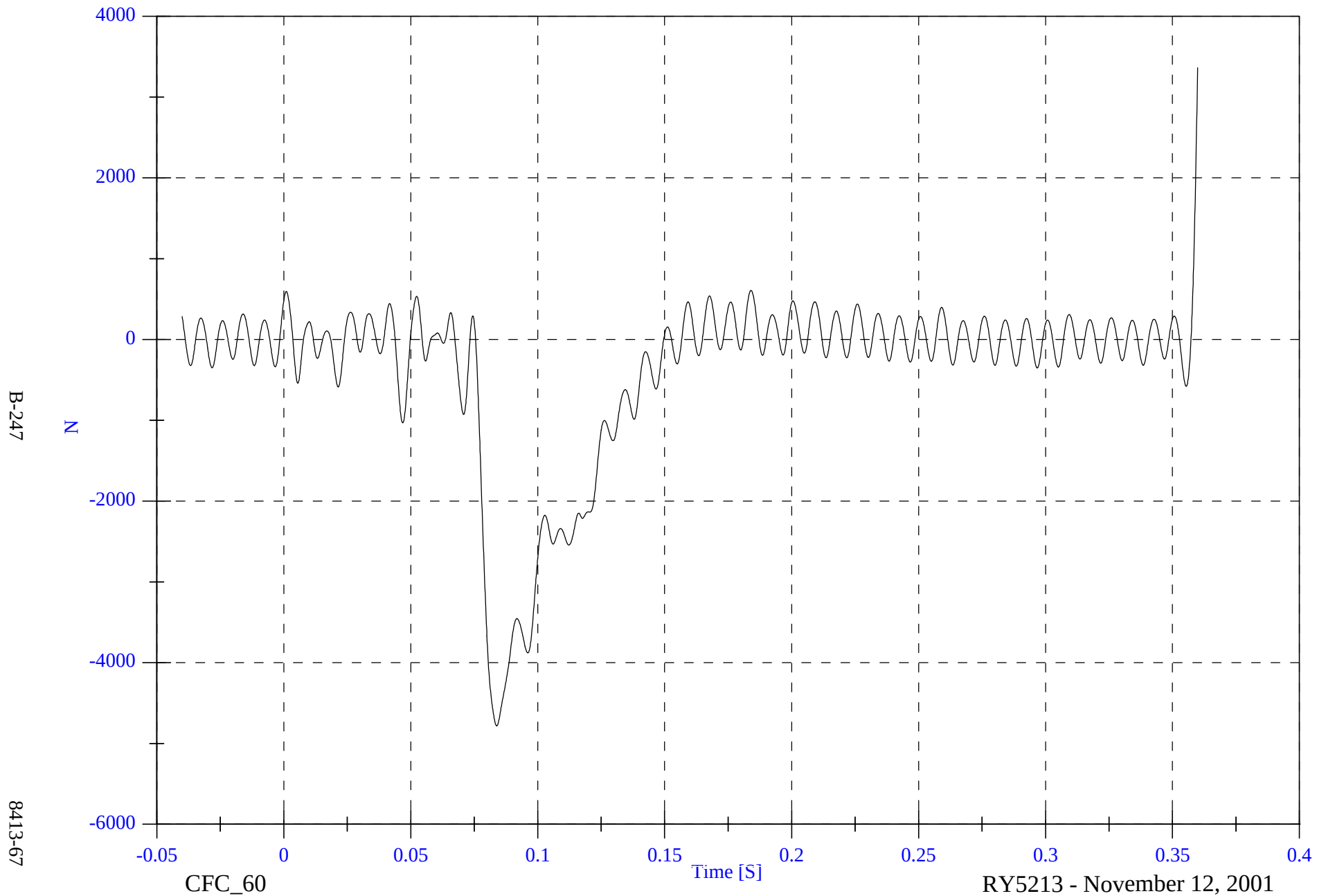


40% Frontal OffsetTest #11 - 2000 Nissan Quest

Barrier Load Cell AB BR FX

Max: 3363.7 [N] at 0.360 [S]

Min: -4783.9 [N] at 0.084 [S]



APPENDIX C

PART 572B/E DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA SHEETS

Appendix C contains the results from certification tests performed on the 50th percentile male anthropomorphic test devices utilized for this crash test. The results indicate that the dummies meet all of the performance requirements of the six standard tests as specified in 49 CFR Part 572, Federal Register, Volume 42, No. 25, dated February 7, 1977.

The tests were conducted at the Dummy Certification Test Facility of Veridian Engineering. A summary of the test results, and Part 572 specifications are included in this Appendix.

Dummy serial numbers and certification dates are:

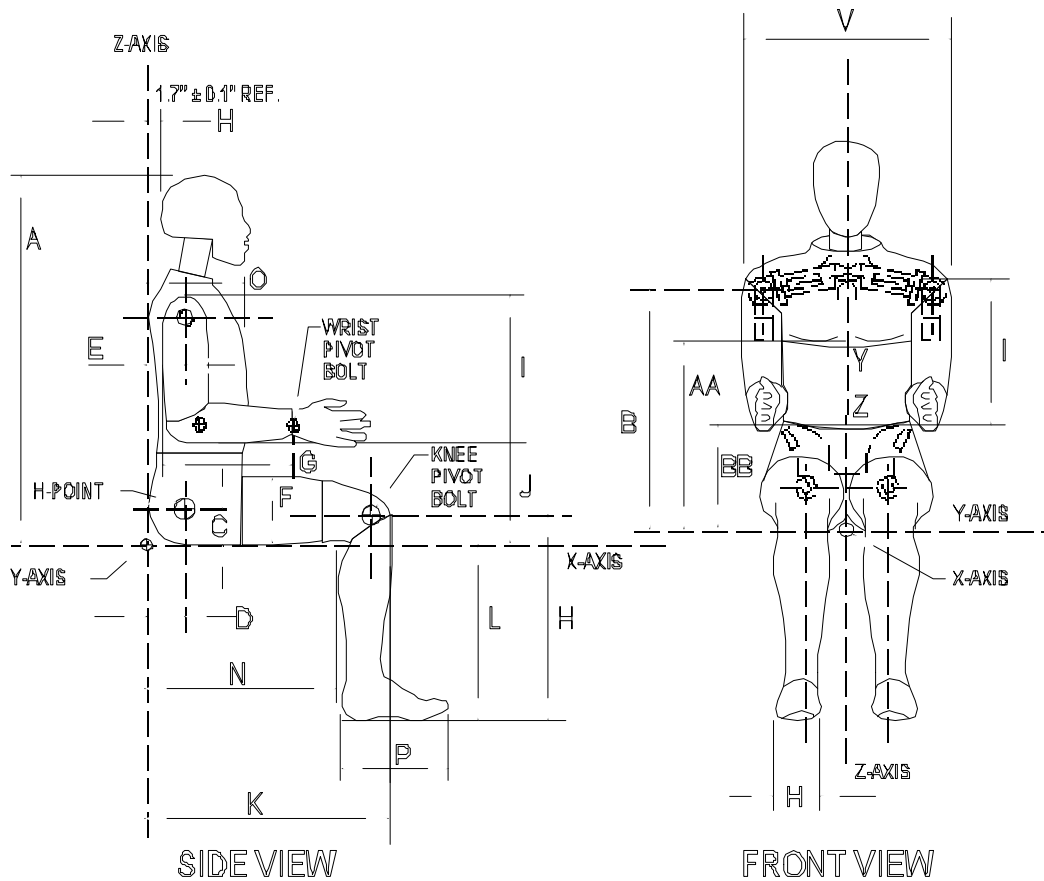
<u>Position No./Location</u>	<u>Serial No.</u>	<u>Completion Date</u>
#1/Driver	421	October 13, 2001
#2/Right Front Passenger	416	October 15, 2001

Electronic Test Equipment

The complement of signal conditioning, recording and display equipment, in conjunction with dummy certification testing, can be found in New Car Assessment and Standards Inducant Testing Final Report No. 6525-V-1.

DUMMY CONFIGURATION DIMENSIONS

EXTERNAL DIMENSIONS SPECIFICATIONS



NOTE: Figure is referenced to the erect seated position. The curved lumbar does not allow the Hybrid III to be positioned in a perfect erect attitude.
(REF: S572.31(A)(6))

PART 5720

HEAD DROP TEST

Dummy Serial Number	421
Sequential Test Number	1
Date	October 12, 2001
Workfile	421C05HD1

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	18.9-25.6 Deg C	21.7
Relative Humidity	10% - 70%	64.0
Peak Resultant Acceleration	250-300 G's	264.91
Peak Lateral Acceleration	15 G's Max	6.46
Is Acceleration Curve Unimodal?	YES	YES

Remarks:

Laboratory Technician: B. Swiecicki

PART 572O
NECK FLEXION TEST

Dummy Serial Number	<u>421</u>	
Sequential Test Number	<u>1</u>	
Date	<u>October 12, 2001</u>	6 Axis Neck Transducer
Workfile	<u>421C05NF2</u>	

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		20.6-22.2 Deg C	21.7
Relative Humidity		10% - 70%	64.0
Impact Velocity		6.89 - 7.13 m/s	7.12
Integrated	10 ms	2.0 – 2.5 m/s	2.30
Pendulum	20 ms	4.0 – 5.0 m/s	4.63
Velocity	30 ms	5.8 – 7.0 m/s	6.85
Peak D-Plane Rotation		77 – 91 Deg	85.82
Peak Moment During Rotation Interval		69 – 83 Nm	78.19
Positive Moment Decay Time to 10 Nm Level		80- 100 ms	89.92

Remarks:

Laboratory Technician: B. Swiecicki

PART 572O
NECK EXTENSION TEST

Dummy Serial Number	<u>421</u>	
Sequential Test Number	<u>1</u>	
Date	<u>October 13, 2001</u>	6 Axis Neck Transducer
Workfile	<u>421C05NE3</u>	

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		20.6-22.2 Deg C	21.7
Relative Humidity		10% - 70%	65.0
Impact Velocity		5.95 – 6.19 m/s	6.16
Integrated	10 ms	1.5 – 1.9 m/s	1.71
Pendulum	20 ms	3.1 – 3.9 m/s	3.48
Velocity	30 ms	4.6 – 5.6 m/s	5.21
Peak D-Plane Rotation		99 – 114 Deg	107.28
Peak Moment During Rotation Interval		-53 - -65 Nm	-62.12
Positive Moment Decay Time to -10 Nm Level		94 - 114 ms	103.36

Remarks:

Laboratory Technician: B. Swiecicki

PART 5720
THORAX IMPACT TEST

Dummy Serial Number	<u>421</u>
Sequential Test Number	<u>1</u>
Date	<u>October 15, 2001</u>
Workfile	<u>421C05TH2</u>

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	20.6 – 22.2 Deg C	21.7
Relative Humidity	10% - 70%	41.0
Pendulum Velocity	6.59 – 6.83 m/s	6.80
Maximum Deflection	50 – 58 mm	51.3
Maximum Resistive Force	3900 – 4400 N	4179
Internal Hysteresis	69 - 85 %	73.1
Peak Force During 18 to 50 mm Deflection	= 105%	102

Remarks:

Laboratory Technician:	<u>B. Swiecicki</u>
------------------------	---------------------

PART 572O
KNEE IMPACT TEST

Dummy Serial Number 421

Sequential Test Number 1

Date October 12, 2001

Workfile 421C05LK1/421C05RK1

TEST PARAMETER	SPECIFICATION	TEST RESULTS
LEFT KNEE		
Temperature	18.9 – 25.6 Deg C	21.7
Relative Humidity	10% - 70%	62.0
Probe Velocity	2.07 – 2.13 m/s	2.09
Peak Knee Impact Force	3450 – 4060 N	4052.6
RIGHT KNEE		
Temperature	18.9 – 25.6 Deg C	21.7
Relative Humidity	10% - 70%	61.0
Probe Velocity	2.07 – 2.13 m/s	2.13
Peak Knee Impact Force	3450 – 4060 N	4057.2

Remarks:

Laboratory Technician: B. Swiecicki

PART 572O
KNEE SLIDER TEST

Dummy Serial Number	<u>421</u>
Sequential Test Number	<u>1</u>
Date	<u>October 12, 2001</u>
Workfile	<u>421C05LS1/421C05RS1</u>

TEST PARAMETER	SPECIFICATION	TEST RESULTS
LEFT KNEE		
Temperature	18.9 – 25.6 Deg C	21.7
Relative Humidity	10% - 70%	65.0
Pendulum Velocity	2.70 – 2.80 m/s	2.70
Peak Displacement	12.7 – 15.5 mm	14.4
RIGHT KNEE		
Temperature	18.9 – 25.6 Deg C	21.7
Relative Humidity	10% - 70%	68.0
Probe Velocity	2.70 – 2.80 m/s	2.70
Peak Knee Impact Force	12.7 – 15.5 mm	14.5

Remarks:

Laboratory Technician:	<u>B. Swiecicki</u>
------------------------	---------------------

PART 572O
EXTERNAL DIMENSIONS

Dummy Serial Number 421
Sequential Test Number 1
Date October 13, 2001

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Total Sitting Height	A	774.7 – 800.1 mm	784.86
Shoulder Pivot Height	B	431.8 – 457.2 mm	447.04
H-Point Height	C	81.3 – 86.3 mm	83.82
H-Point from Backline	D	144.8 – 149.8 mm	144.78
Shoulder Pivot from Backline	E	68.6 – 83.8 mm	73.66
Thigh Clearance	F	119.4 – 134.6 mm	134.62
Back of Elbow to Wrist Pivot	G	243.9 – 259.1 mm	256.54
Skull Cap to Backline	H	40.7 – 45.7 mm	45.72
Shoulder - Elbow Length	I	276.8 – 297.2 mm	281.94
Elbow Rest Height	J	182.8 – 203.2 mm	185.42
Buttock Knee Length	K	520.7 – 546.1 mm	535.94
Popliteal Height	L	355.6 – 376 mm	373.38
Knee Pivot Height	M	393.7 – 419.1 mm	408.94
Buttock Popliteal Length	N	414 – 439.4 mm	429.26
Chest Depth	O	175.3 – 190.5 mm	180.34
Foot Length	P	218.5 – 233.7 mm	228.6
Buttock to Knee Pivot Length	R	457.2 – 482.6 mm	469.9
Head Breadth	S	137.1 – 147.3 mm	142.24
Head Depth	T	177.8 – 188 mm	185.42
Hip Breadth	U	299.7 – 314.9 mm	307.34
Shoulder Breadth	V	350.5 – 365.7 mm	353.06
Foot Breadth	W	78.8 – 94 mm	88.9
Head Circumference	X	528.3 – 548.7 mm	546.1
Chest Circumference (With Jacket)	Y	850.9 – 881.3 mm	871.22
Waist Circumference	Z	759.5 – 789.9 mm	764.54
Location for Chest Circumference	AA	299.7 – 309.9 mm	304.8
Location for Waist Circumference	BB	160 – 170.2 mm	165.1

Remarks:

Laboratory Technician:

B. Swiecicki

PART 572O
HEAD DROP TEST

Dummy Serial Number	<u>416</u>
Sequential Test Number	<u>1</u>
Date	<u>October 12, 2001</u>
Workfile	<u>416C12HD1</u>

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	18.9-25.6 Deg C	21.7
Relative Humidity	10% - 70%	60.0
Peak Resultant Acceleration	250-300 G's	274.54
Peak Lateral Acceleration	15 G's Max	0.95
Is Acceleration Curve Unimodal?	YES	YES

Remarks:

Laboratory Technician:	<u>B. Swiecicki</u>
------------------------	---------------------

PART 572O
NECK FLEXION TEST

Dummy Serial Number	<u>416</u>	
Sequential Test Number	<u>1</u>	
Date	<u>October 13, 2001</u>	6 Axis Neck Transducer
Workfile	<u>416C12NF3</u>	

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		20.6-22.2 Deg C	21.7
Relative Humidity		10% - 70%	61.0
Impact Velocity		6.89 - 7.13 m/s	6.99
Integrated	10 ms	2.0 – 2.5 m/s	2.34
Pendulum	20 ms	4.0 – 5.0 m/s	4.82
Velocity	30 ms	5.8 – 7.0 m/s	6.98
Peak D-Plane Rotation		77 – 91 Deg	83.34
Peak Moment During Rotation Interval		69 – 83 Nm	80.17
Positive Moment Decay Time to 10 Nm Level		80- 100 ms	87.20

Remarks:

Laboratory Technician: B. Swiecicki

PART 572O
NECK EXTENSION TEST

Dummy Serial Number	<u>416</u>	
Sequential Test Number	<u>1</u>	
Date	<u>October 15, 2001</u>	6 Axis Neck Transducer
Workfile	<u>416C12NE2</u>	

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		20.6-22.2 Deg C	21.7
Relative Humidity		10% - 70%	41.0
Impact Velocity		5.95 – 6.19 m/s	6.14
Integrated	10 ms	1.5 – 1.9 m/s	1.77
Pendulum	20 ms	3.1 – 3.9 m/s	3.52
Velocity	30 ms	4.6 – 5.6 m/s	5.18
Peak D-Plane Rotation		99 – 114 Deg	105.74
Peak Moment During Rotation Interval		-53 - -65 Nm	-59.35
Positive Moment Decay Time to -10 Nm Level		94 - 114 ms	103.36

Remarks:

Laboratory Technician: B. Swiecicki

PART 572O
THORAX IMPACT TEST

Dummy Serial Number	<u>416</u>
Sequential Test Number	<u>1</u>
Date	<u>October 15, 2001</u>
Workfile	<u>416C12TH1</u>

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	20.6 – 22.2 Deg C	21.7
Relative Humidity	10% - 70%	41.0
Pendulum Velocity	6.59 – 6.83 m/s	6.65
Maximum Deflection	50 – 58 mm	56.6
Maximum Resistive Force	3900 – 4400 N	4380.0
Internal Hysteresis	69 - 85 %	73.9
Peak Force During 18 to 50 mm Deflection	= 105%	94

Remarks:

Laboratory Technician:	<u>B. Swiecicki</u>
------------------------	---------------------

PART 572O

KNEE IMPACT TEST

Dummy Serial Number	416
Sequential Test Number	1
Date	October 12, 2001
Workfile	416C12LK1/416C12RK1

TEST PARAMETER	SPECIFICATION	TEST RESULTS
LEFT KNEE		
Temperature	18.9 – 25.6 Deg C	21.7
Relative Humidity	10% - 70%	63.0
Probe Velocity	2.07 – 2.13 m/s	2.10
Peak Knee Impact Force	3450 – 4060 N	3984.3
RIGHT KNEE		
Temperature	18.9 – 25.6 Deg C	21.7
Relative Humidity	10% - 70%	62.0
Probe Velocity	2.07 – 2.13 m/s	2.10
Peak Knee Impact Force	3450 – 4060 N	3784.0

Remarks:

Laboratory Technician: B. Swiecicki

PART 5720
KNEE SLIDER TEST

Dummy Serial Number 416

Sequential Test Number 1

Date October 12, 2001

Workfile 416C12LS1/416C12RS1

TEST PARAMETER	SPECIFICATION	TEST RESULTS
LEFT KNEE		
Temperature	18.9 – 25.6 Deg C	21.7
Relative Humidity	10% - 70%	60.0
Pendulum Velocity	2.70 – 2.80 m/s	2.70
Peak Displacement	12.7 – 15.5 mm	14.3
RIGHT KNEE		
Temperature	18.9 – 25.6 Deg C	21.7
Relative Humidity	10% - 70%	65.0
Probe Velocity	2.70 – 2.80 m/s	2.70
Peak Knee Impact Force	12.7 – 15.5 mm	14.3

Remarks:

Laboratory Technician: B. Swiecicki

PART 572O
EXTERNAL DIMENSIONS

Dummy Serial Number 416
Sequential Test Number 1
Date October 15, 2001

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Total Sitting Height	A	774.7 – 800.1 mm	782.32
Shoulder Pivot Height	B	431.8 – 457.2 mm	447.04
H-Point Height	C	81.3 – 86.3 mm	83.82
H-Point from Backline	D	144.8 – 149.8 mm	149.86
Shoulder Pivot from Backline	E	68.6 – 83.8 mm	73.66
Thigh Clearance	F	119.4 – 134.6 mm	129.54
Back of Elbow to Wrist Pivot	G	243.9 – 259.1 mm	256.54
Skull Cap to Backline	H	40.7 – 45.7 mm	45.72
Shoulder - Elbow Length	I	276.8 – 297.2 mm	294.64
Elbow Rest Height	J	182.8 – 203.2 mm	190.5
Buttock Knee Length	K	520.7 – 546.1 mm	546.1
Popliteal Height	L	355.6 – 376 mm	373.38
Knee Pivot Height	M	393.7 – 419.1 mm	403.86
Buttock Popliteal Length	N	414 – 439.4 mm	419.1
Chest Depth	O	175.3 – 190.5 mm	185.42
Foot Length	P	218.5 – 233.7 mm	228.6
Buttock to Knee Pivot Length	R	457.2 – 482.6 mm	467.36
Head Breadth	S	137.1 – 147.3 mm	142.24
Head Depth	T	177.8 – 188 mm	185.42
Hip Breadth	U	299.7 – 314.9 mm	307.34
Shoulder Breadth	V	350.5 – 365.7 mm	353.06
Foot Breadth	W	78.8 – 94 mm	88.9
Head Circumference	X	528.3 – 548.7 mm	538.48
Chest Circumference (With Jacket)	Y	850.9 – 881.3 mm	863.6
Waist Circumference	Z	759.5 – 789.9 mm	777.24
Location for Chest Circumference	AA	299.7 – 309.9 mm	304.8
Location for Waist Circumference	BB	160 – 170.2 mm	165.1

Remarks:

Laboratory Technician:

B. Swiecicki

APPENDIX D

DUMMY, VEHICLE AND LABORATORY INSTRUMENT CALIBRATION

INSTRUMENT CALIBRATION FOR PASSENGER DUMMY
(6 Month Calibration Minimum)

DRIVER DUMMY (S/N 421)		Manufacturer	Serial #	Calibration	
				Last	Next
Head X Arm	Y	ENTRAN	AC-99102-F15	05-Oct-01	05-Apr-02
	Z	ENTRAN	AC-99108-F29	05-Oct-01	05-Apr-02
Head Y Arm	X	ENTRAN	AC-99102-F12	05-Oct-01	05-Apr-02
	Z	ENTRAN	AC-99102-F06	05-Oct-01	05-Apr-02
Head Z Arm	X	ENTRAN	AC-99H30-Z03	05-Oct-01	05-Apr-02
	Y	ENTRAN	AC-99108-F28	05-Oct-01	05-Apr-02
Head CG	X	ENTRAN	AC-98G18-F18	05-Oct-01	05-Apr-02
	Y	ENTRAN	AC-99H30-Z05	05-Oct-01	05-Apr-02
	Z	ENTRAN	AC-99102-F09	05-Oct-01	05-Apr-02
Head CG	X (R)	ENTRAN	AC-00L13-F03	05-Oct-01	05-Apr-02
	Y (R)	ENTRAN	AC-99H30-Z08	05-Oct-01	05-Apr-02
	Z (R)	ENTRAN	AC-99H30-Z04	05-Oct-01	05-Apr-02
Neck Load Cell	X	DENTON	LC-852FX	05-Oct-01	05-Apr-02
	Y	DENTON	LC-852FY	05-Oct-01	05-Apr-02
	Z	DENTON	LC-852FZ	05-Oct-01	05-Apr-02
Neck Moment	X	DENTON	LC-852MX	05-Oct-01	05-Apr-02
	Y	DENTON	LC-852MY	05-Oct-01	05-Apr-02
	Z	DENTON	LC-852MZ	05-Oct-01	05-Apr-02
Chest	X	ENTRAN	AC-01G19-F01	08-Oct-01	08-Apr-02
	Y	ENDEVCO	AC-P15321	05-Oct-01	05-Apr-02
	Z	ENDEVCO	AC-P17743	05-Oct-01	05-Apr-02
Chest	X (R)	ENTRAN	AC-99H30-Z07	05-Oct-01	05-Apr-02
	Y (R)	ENDEVCO	AC-P15334	05-Oct-01	05-Apr-02
	Z (R)	ENTRAN	AC-99G29-Q13	05-Oct-01	05-Apr-02
Chest Deflection Gauge		SERVO	DS-421	10-Oct-01	08-Apr-02
Pelvic	X	ENTRAN	AC-99108-F26	05-Oct-01	05-Apr-02
	Y	ENTRAN	AC-99H30-Z02	05-Oct-01	05-Apr-02
	Z	ENTRAN	AC-99108-F30	12-Apr-01	12-Oct-01

INSTRUMENT CALIBRATION FOR PASSENGER DUMMY
(6 Month Calibration Minimum)

DRIVER DUMMY (S/N 421)		Manufacturer	Serial #	Calibration	
				Last	Next
Left Femur Load	X	DENTON	LC-383Fx	24-May-01	24-May-01
	Y	DENTON	LC-383Fy	24-May-01	24-May-01
	Z	DENTON	LC-383Fz	24-May-01	24-May-01
Left Femur Moment	X	DENTON	LC-383Mx	24-May-01	24-May-01
	Y	DENTON	LC-383My	24-May-01	24-May-01
	Z	DENTON	LC-383Mz	24-May-01	24-May-01
Right Femur Load	X	DENTON	LC-376Fx	24-May-01	24-May-01
	Y	DENTON	LC-376Fy	24-May-01	24-May-01
	Z	DENTON	LC-376Fz	24-May-01	24-May-01
Right Femur Moment	X	DENTON	LC-376Mx	24-May-01	24-May-01
	Y	DENTON	LC-376My	24-May-01	24-May-01
	Z	DENTON	LC-376Mz	24-May-01	24-May-01
Left Knee Shear Dx		SpaceAge Control	DS-15021	09-Oct-01	09-Oct-01
Right Knee Shear Dx		SpaceAge Control	DS-14949	11-Oct-01	11-Oct-01
Left Upper Tibia	Fx	DENTON	LC-263-UTLFX	09-Oct-01	09-Oct-01
	Fz	DENTON	LC-263-UTLFZ	09-Oct-01	09-Oct-01
	Mx	DENTON	LC-263-UTLMX	09-Oct-01	09-Oct-01
	My	DENTON	LC-263-UTLMY	09-Oct-01	09-Oct-01
Left Lower Tibia	Fx	DENTON	LC-174-LTLFX	09-Oct-01	09-Oct-01
	Fz	DENTON	LC-174-LTLFZ	09-Oct-01	09-Oct-01
	Mx	DENTON	LC-174-LTLMX	09-Oct-01	09-Oct-01
	My	DENTON	LC-174-LTLMY	09-Oct-01	09-Oct-01
Right Upper Tibia	Fx	DENTON	LC-264-UTRFX	09-Oct-01	09-Oct-01
	Fz	DENTON	LC-264-UTRFZ	09-Oct-01	09-Oct-01
	Mx	DENTON	LC-264-UTRMX	09-Oct-01	09-Oct-01
	My	DENTON	LC-264-UTRMY	09-Oct-01	09-Oct-01

INSTRUMENT CALIBRATION FOR PASSENGER DUMMY
(6 Month Calibration Minimum)

DRIVER DUMMY (S/N 421)		Manufacturer	Serial #	Calibration	
				Last	Next
Right Lower Tibia	Fx	DENTON	LC-177-LTRFX	09-Oct-01	09-Oct-01
	Fz	DENTON	LC-177-LTRFZ	09-Oct-01	09-Oct-01
	Mx	DENTON	LC-177-LTRMX	09-Oct-01	09-Oct-01
	My	DENTON	LC-177-LTRMY	09-Oct-01	09-Oct-01
Left Ankle	X	ENDEVCO	AC-J27467	10-Oct-01	10-Oct-01
	Z	ENDEVCO	AC-J27490	10-Oct-01	10-Oct-01
Right Ankle	X	ENDEVCO	AC-AJ4Y5	10-Oct-01	10-Oct-01
	Z	ENDEVCO	AC-J27496	10-Oct-01	10-Oct-01
Left Toe	Az	ENDEVCO	AC-J13739	10-Oct-01	10-Oct-01
Right Toe	Az	ENDEVCO	AC-AJ5R6	10-Oct-01	10-Oct-01
Lap Belt Load Cell		LEBOW	LC-706	24-Jul-01	24-Jul-01
Torso Belt Load Cell		LEBOW	LC-707	24-Jul-01	24-Jul-01
Torso Belt Strain Gage		CAL	DS-E6	11-Oct-01	11-Oct-01

INSTRUMENT CALIBRATION FOR PASSENGER DUMMY
(6 Month Calibration Minimum)

PASSENGER DUMMY (S/N 416)		Manufacturer	Serial #	Calibration	
				Last	Next
Head X Arm	Y	ENTRAN	AC-98H14-K20	05-Oct-01	05-Apr-02
	Z	ENDEVCO	AC-P23142	24-Sep-01	24-Mar-02
Head Y Arm	X	ENTRAN	AC-98H10-F10	08-Oct-01	08-Apr-02
	Z	ENDEVCO	AC-P23303	05-Oct-01	05-Apr-02
Head Z Arm	X	ENDEVCO	AC-P23340	01-Oct-01	01-May-02
	Y	ENDEVCO	AC-P19216	04-Sep-01	04-Mar-02
Head CG	X	ENTRAN	AC-98H13-F01	08-Oct-01	08-Apr-02
	Y	ENTRAN	AC-98H10-F12	08-Oct-01	08-Apr-02
	Z	ENTRAN	AC-99H12-F30	08-Oct-01	08-Apr-02
Head CG	X (R)	ENTRAN	AC-99H12-F06	08-Oct-01	08-Apr-02
	Y (R)	ENTRAN	AC-98H13-F04	08-Oct-01	08-Apr-02
	Z (R)	ENDEVCO	AC-P17535	04-Sep-01	04-Mar-02
Neck Load Cell	X	DENTON	LC-1039Fx	24-May-01	24-Nov-01
	Y	DENTON	LC-1039Fy	24-May-01	24-Nov-01
	Z	DENTON	LC-1039Fz	24-May-01	24-Nov-01
Neck Moment	X	DENTON	LC-1039Mx	24-May-01	24-Nov-01
	Y	DENTON	LC-1039My	24-May-01	24-Nov-01
	Z	DENTON	LC-1039Mz	24-May-01	24-Nov-01
Chest	X	ENTRAN	AC-99H12-F15	05-Oct-01	05-Apr-02
	Y	ENDEVCO	AC-AAMD5	05-Oct-01	05-Apr-02
	Z	ENTRAN	AC-99H12-F08	05-Oct-01	05-Apr-02
Chest	X (R)	ENDEVCO	AC-J19868	05-Oct-01	05-Apr-02
	Y (R)	ENDEVCO	AC-AJ7R1	05-Oct-01	05-Apr-02
	Z (R)	ENDEVCO	AC-DC33J	05-Oct-01	05-Apr-02
Chest Deflection Gauge		SERVO	DS-416	12-Oct-01	12-Apr-02
Pelvic	X	ENDEVCO	AC-J19547	05-Oct-01	05-Apr-02
	Y	ENDEVCO	AC-J27079	12-Sep-00	12-Mar-01
	Z	ENDEVCO	AC-ADAT0	05-Oct-01	05-Apr-02

INSTRUMENT CALIBRATION FOR PASSENGER DUMMY
(6 Month Calibration Minimum)

PASSENGER DUMMY (S/N 416)		Manufacturer	Serial #	Calibration	
				Last	Next
Left Femur Load	X	FTSS	LC-111Fx	06-Feb-01	06-Feb-01
	Y	FTSS	LC-111Fy	06-Feb-01	06-Feb-01
	Z	FTSS	LC-111Fz	06-Feb-01	06-Feb-01
L. Femur Moment	X	FTSS	LC-111Mx	06-Feb-01	06-Feb-01
	Y	FTSS	LC-111My	06-Feb-01	06-Feb-01
	Z	FTSS	LC-111Mz	06-Feb-01	06-Feb-01
Right Femur Load	X	FTSS	LC-112Fx	06-Feb-01	06-Feb-01
	Y	FTSS	LC-112Fy	06-Feb-01	06-Feb-01
	Z	FTSS	LC-112Fz	06-Feb-01	06-Feb-01
R. Femur Moment	X	FTSS	LC-112Mx	06-Feb-01	06-Feb-01
	Y	FTSS	LC-112My	06-Feb-01	06-Feb-01
	Z	FTSS	LC-112Mz	06-Feb-01	06-Feb-01
Left Knee Shear Dx		SpaceAge Control	DS-13742	09-Oct-01	09-Oct-01
Right Knee Shear Dx		SpaceAge Control	DS-18127	10-Oct-01	10-Oct-01
Left Upper Tibia	Fx	DENTON	LC-265Fx	01-Feb-01	01-Feb-01
	Fz	DENTON	LC-265Fz	01-Feb-01	01-Feb-01
	Mx	DENTON	LC-265Mx	01-Feb-01	01-Feb-01
	My	DENTON	LC-265My	01-Feb-01	01-Feb-01
Left Lower Tibia	Fx	DENTON	LC-178Fx	01-Feb-01	01-Feb-01
	Fz	DENTON	LC-178Fz	01-Feb-01	01-Feb-01
	Mx	DENTON	LC-178Mx	01-Feb-01	01-Feb-01
	My	DENTON	LC-178My	01-Feb-01	01-Feb-01
Right Upper Tibia	Fx	DENTON	LC-266Fx	02-Feb-01	02-Feb-01
	Fz	DENTON	LC-266Fz	02-Feb-01	02-Feb-01
	Mx	DENTON	LC-266Mx	02-Feb-01	02-Feb-01
	My	DENTON	LC-266My	02-Feb-01	02-Feb-01

INSTRUMENT CALIBRATION FOR PASSENGER DUMMY
(6 Month Calibration Minimum)

PASSENGER DUMMY (S/N 416)		Manufacturer	Serial #	Calibration	
				Last	Next
Right Lower Tibia	Fx	DENTON	LC-179Fx	02-Feb-01	02-Feb-01
	Fz	DENTON	LC-179Fz	02-Feb-01	02-Feb-01
	Mx	DENTON	LC-179Mx	02-Feb-01	02-Feb-01
	My	DENTON	LC-179My	02-Feb-01	02-Feb-01
Left Ankle	X	ENDEVCO	AC-J18059	10-Oct-01	10-Oct-01
	Z	ENDEVCO	AC-J20014	10-Oct-01	10-Oct-01
Right Ankle	X	ENDEVCO	AC-AC9F9	10-Oct-01	10-Oct-01
	Z	ENDEVCO	AC-J18738	10-Oct-01	10-Oct-01
Left Toe	Az	ENDEVCO	AC-J26976	10-Oct-01	10-Oct-01
Right Toe	Az	ENDEVCO	AC-AAKC3	10-Oct-01	10-Oct-01
Lap Belt Load Cell		LEBOW	LC-711	24-Jul-01	24-Jul-01
Torso Belt Load Cell		LEBOW	LC-712	24-Jul-01	24-Jul-01
Torso Belt Strain Gage		CAL	DS-E5	11-Oct-01	11-Oct-01

INSTRUMENT CALIBRATION FOR VEHICLE ACCELEROMETERS

(6 Month Calibration Minimum)

	Manufacturer	Serial #	Calibration	
			Last	Next
Left Seat Rear Crossmember X	ICS	D61	30-Oct-01	30-Apr-02
Left Seat Rear Crossmember Y	ICS	D31	25-Sep-01	25-Mar-02
Right Seat Rear Crossmember X	ICS	D41	25-Sep-01	25-Mar-02
Right Rear Seat Crossmember Y	ICS	X86	30-Oct-01	30-Apr-02
Driver Left Side Toepan X	ENDEVCO	P16597	29-Aug-01	28-Feb-02
Driver Left Side Toepan Z	ENDEVCO	A13513	29-Aug-01	28-Feb-02
Driver Right Side Toepan X	ENDEVCO	B10481	25-Sep-01	25-Mar-02
Driver Right Side Toepan Z	ENDEVCO	A14433	25-Sep-01	25-Mar-02
Trunk Z	ENDEVCO	J31058	29-Aug-01	28-Feb-02
Driver Toepan X	MAGNETEK	M27	22-Jun-01	22-Dec-01