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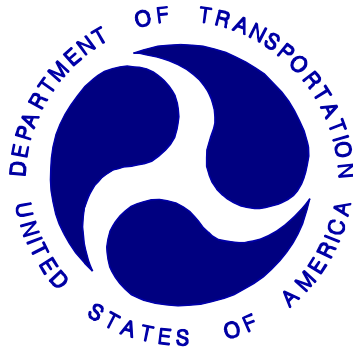
**NEW CAR ASSESSMENT PROGRAM (NCAP)
FRONTAL BARRIER IMPACT TEST**

**TOYOTA MOTOR CORPORATION
2001 LEXUS IS300
4-DOOR SEDAN**

NHTSA NUMBER: M15110

VERIDIAN TEST NUMBER: 8602-20

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



February 2, 2001

FINAL REPORT

PREPARED FOR:

U. S. DEPARTMENT OF TRANSPORTATION
National Highway Traffic Safety Administration
Safety Performance Standards
Office of Crashworthiness Standards
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Prepared by: _____

Patrick G. MacDiarmid, Jr., Project Engineer

Approved by: _____

David J. Travale, Program Manager
Transportation Science Center

Approval Date: _____

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Manager, New Car Assessment Program (NCAP)
NHTSA, Office of Crashworthiness Standards

Date of Report Acceptance

COTR, New Car Assessment Program (NCAP)
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15. <i>Supplementary Notes</i>					
16. <i>Abstract</i> A frontal load cell barrier test of a 2001 Lexus IS300 4-Door Sedan was performed at Veridian Engineering crash test facility in Buffalo, New York, on February 2, 2001. The impact velocity was 56.16 kph and the temperature at the barrier face was 21EC. The maximum post-test vehicle crush was 534 mm. The test vehicle was equipped with 3-point restraint systems with torso belt pretensioners, 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 (061)	556.9	47.7	36.9	641.3	3767.4
Passenger (064)	614.4	50.1	33.9	1136.6	879.5
17. <i>Key Words</i> 56 kph Frontal Barrier Impact test New Car Assessment Program (NCAP)				18. <i>Distribution Statement</i> <u>Copies of this report are available from:</u> NHTSA Technical Reference Division National Highway Traffic Safety Admin. 400 Seventh St., SW, Room 5108 Washington, DC 20590	
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SECTION 1

PURPOSE AND SUMMARY OF TEST M15110

PURPOSE

This 56.16 kph frontal barrier impact test is part of the Vehicle Barrier Impact Testing Program sponsored by the National Highway Traffic Safety Administration (NHTSA) under Contract No. DTNH22-96-D-02010. The purpose of this test was to obtain vehicle crashworthiness and occupant restraint system performance data for an impact speed in excess of the current 48.3 kph requirements.

The 56.16 kph frontal barrier impact test was conducted in accordance with the Office of Crashworthiness Standards Laboratory Indicant Test procedure.

SUMMARY

A load cell barrier consisting of 36 load cells was impacted by a 2001 Lexus IS300 4-Door Sedan at a velocity of 56.16 kph. The test was performed at Veridian Engineering on February 2, 2001. Pre- and post-test photographs of the vehicle and dummies can be found in Appendix A.

The frontal barrier impact event was documented by 1 real-time camera and 14 high-speed cameras. Camera locations and other pertinent camera information can be found in this report.

Two Part 572E, 50th percentile male 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, and lower leg instrumentation. Seat belt load cells were also on the driver's and passenger's lap belts to measure dummy pelvic section loading. The driver (position 1) ATD (Serial No. 061) was used in one test previous to this test (M10315) where it appeared to comply with FMVSS 208 head and femur criteria and appeared to exceed FMVSS 208 chest injury criteria. The driver chest was calibrated previous to this test. The right-front passenger (position 2) ATD (Serial No. 064) was used in one test (M10315) previous to this test where it did not appear to exceed FMVSS 208 head, chest and femur criteria. Certification details, along with instrumentation calibration data, are found in Appendix C.

The 129 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 556.9. The maximum chest deceleration over 3 milliseconds was 47.7 g's and maximum chest deflection was 36.9 mm. Compressive femur loads were 641.3 Newtons on the left and 3767.4 Newtons on the right.

The right front passenger's HIC was 614.4. Maximum chest deceleration over 3 milliseconds was 50.1 g's and maximum chest deflection was 33.9 mm. Compressive femur loads were 1136.6 Newtons on the left and 879.5 Newtons on the right.

SECTION 2

GENERAL TEST AND VEHICLE PARAMETER DATA

DATA SHEET NO. 1 CRASH TEST SUMMARY

Vehicle NHTSA No. : M15110 Test Mode : 56.3 kph Frontal Barrier

Test Date : February 2, 2001 Time: 11:15 Temperature : -1 °C

Vehicle Make/Model/Body Style : 2001 Lexus IS300 4-Door Sedan

Vehicle Test Weight : 1691.0 kg

Vehicle/Barrier Impact Angle : 0 °

Impact Velocity : 56.16 kph

Maximum Static Crush : 534 mm

Vehicle Rebound : 489 mm

DUMMIES:

DRIVER

PASSENGER

Type :

572E

572E

Restraint System :

Seatbelt, Airbag, Knee Bolster

Seatbelt, Airbag, Knee Bolster

Number of Data Channels : 129

Number of Cameras : 1 Real Time

14 High Speed

DOOR OPENING DATA : Closed/Operable - Left Front

Closed/Operable - Right Front

Front Seat(s) Data :

DRIVER

PASSENGER

Seat Track Failure :(mm of shift)

0

0

Seat Back Failure :

None

None

VISIBLE DUMMY CONTACT POINTS :

DRIVER

PASSENGER

Head :

The face to the center of the aribag; The back of the head to the center of the headrest

The face to the center of the aribag; The back of the head to the right center of the headrest

Abdomen :

None

None

Chest:

Airbag

Airbag

Knees:

Knee Bolster/ Steering Column

Knee Bolster

DATA SHEET NO. 2 GENERAL TEST AND VEHICLE PARAMETER DATA

TEST VEHICLE INFORMATION :

Year/Make/Model/Body Style : 2001 Lexus IS300 4-Door Sedan

NHTSA No. : M15110 ; VIN: JTHBD182110012716 ; Color : White

Engine Data: 6 cylinders; - CID; 3.0 Liters; - cc

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

Transmission Data : 5 speeds; - Manual; X Automatic; X Overdrive

Final Drive : X Rear Wheel Drive; - 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 : 1/29/2001 ; Odometer Reading 29 km

Selling Dealer : Northtown Lexus

& Address: 3930 Sheridan Drive Amherst, NY 14226

DATA FROM TIRE VEHICLE'S CERTIFICATION LABEL:

Vehicle Manufactured by : Toyota Motor Corporation

Date of Manufacture 8/00

GVWR : 1950 kg; GAWR: 1059 kg FRONT; 1030 kg REAR

DATA FROM TIRE PLACARD:

Tire Pressure with Maximum Capacity Vehicle Load : 230 kpa FRONT

230 kpa REAR

Recommended Tire Size : P205/55/R16

* Recommended Cold Tire Pressure : 300 kpa FRONT; 300 kpa REAR

Size of Tires on Test Vehicle: P205/55R16 ; Manufacturer: Yokohama

Vehicle Capacity Data :

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

Number of Occupants: 2 Front; 3 Rear; 5 Total

Vehicle Capacity Weight (VCW) = 390.0 kg

No. of Occupants x 68 kg = 340.2 kg

Rated Cargo/Luggage Weight (RCLW) = 49.8 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>413.0</u>	kg	Right Rear	=	<u>332.5</u>	kg
Left Front	=	<u>400.5</u>	kg	Left Rear	=	<u>352.0</u>	kg
TOTAL FRONT	=	<u>813.5</u>	kg	TOTAL REAR	=	<u>684.5</u>	kg
TOTAL DELIVERED WEIGHT = <u>1498.0</u> kg							
% of Total Front of Vehicle Weight = <u>54.3</u>				% of Total Rear Weight = <u>45.7</u> %			

CALCULATION OF VEHICLE'S TARGET TEST WEIGHT :

Total Delivered Weight (UDW)	=	<u>1498.0</u>	kg
Rated Cargo/Luggage Weight (RCLW)	=	<u>49.8</u>	kg
Weight of 2 p.572 Dummies @ 76 each	=	<u>152.0</u>	kg
TARGET TEST WEIGHT	=	<u>1699.8</u>	kg

WEIGHT OF TEST VEHICLE WITH TWO DUMMIES AND 41 KG OF CARGO WEIGHT:

Right Front	=	<u>433.0</u>	kg	Right Rear	=	<u>406.5</u>	kg
Left Front	=	<u>438.5</u>	kg	Left Rear	=	<u>413.0</u>	kg
TOTAL FRONT	=	<u>871.5</u>	kg	TOTAL REAR	=	<u>819.5</u>	kg
TOTAL TEST WEIGHT = <u>1691.0</u> kg							
% of Total Front Weight = <u>51.5</u> %				% of Total Rear Weight = <u>48.5</u> %			
Weight of Ballast Secured in Vehicle Trunk Area = <u>3</u> kg							
Vehicle Components Removed for Weight Reduction:				<u>None</u>			

VEHICLE ATTITUDE (all dimension in millimeters):

AS DELIVERED :	RF	<u>676</u>	LF	<u>678</u>	RR	<u>686</u>	LR	<u>679</u>
FULLY LOADED :	RF	<u>666</u>	LF	<u>667</u>	RR	<u>661</u>	LR	<u>655</u>
AS TESTED :	RF	<u>670</u>	LF	<u>672</u>	RR	<u>663</u>	LR	<u>659</u>
Vehicle's Wheel Base : <u>2665</u> mm								
Location of Vehicle's C.G. : <u>1292</u> mm rearward of front wheel center.								

FUEL SYSTEM DATA :

Fuel System Capacity From Owner's Manual	=	<u>66.0</u>	liters
Usable Capacity Figure Furnished by COTR	=	<u>66.0</u>	liters
Test Volume Range (92 to 94% of Usable Capacity)	=	<u>60.7</u>	to <u>62.0</u> liters
ACTUAL TEST VOLUME= <u>61.0</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 <u>Tank - Centered ahead of rear axle; Lines - run along the inside of the left frame stiffener</u>			
<u>Filler - Left Side behind the rear axle.</u>			

DATA SHEET NO. 3 POST IMPACT DATA

TYPE OF TEST:

Type of Test : Frontal Barrier Impact Angle : 0°

Test Date : February 2, 2001 Time: 11:15 Temperature: -1 °C

Vehicle NHTSA No. : M15110

Required Impact Velocity Range : 55.5 to 57.1 kph

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

Trap No. 1 = 56.16 kph; Trap No. 2 = 56.16 kph

Distance from vehicle to barrier : (1) entering trap = 813 mm

(2) exiting trap = 305 mm

VEHICLE STATIC CRUSH: (mm) (For frontal and rear impacts only.)

Vehicle Length:

Pre-Test Right = 4385 ; C/L = 4485 ; Left = 4385

Post-Test Right = 4005 ; C/L = 3951 ; Left = 4030

Crush Right = 380 ; C/L = 534 ; Left = 355

AVERAGE = 423 mm

VEHICLE REBOUND: (From rigid barrier only.)

Distance from front of test vehicle to impact point :

Right = 460 ; C/L = 521 ; Left = 487

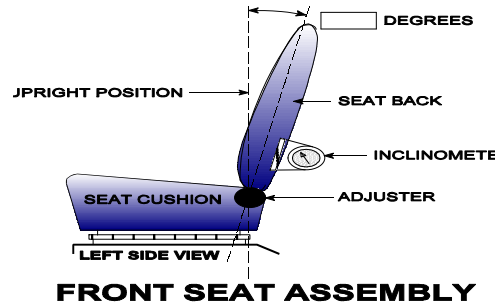
AVERAGE = 489 mm

DATA SHEET NO. 4 TEST VEHICLE INFORMATION

VEHICLE IDENTIFICATION:

Model Year : 2001 Vehicle Model: Lexus IS300 Body Style : 4-Door Sedan

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.



Seat back angle for driver's seat: 5.5E

Measurement instructions: Recline seat to the 5th latched position with full forward position detent 1

Seat back angle for passenger's seat: 5.5E

Measurement instructions: Same as the driver's seat

2. Seat Fore and Aft Positioning

Positioning of the driver's seat: The seat was placed in mid-position (detent 8 of 17 total detents)

Positioning of the passenger's seat: Same as the driver's seat

3. Fuel Tank Capacity Data

3.1 A. "Usable Capacity" of the standard equipment fuel tank is 66 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 = 66 liters

3.2 Amount of Stoddard solvent added to vehicle(s) used for certification test(s) = 61 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.

When the vehicle ignition is turned on, the fuel pump will activate and pressurize the fuel system.

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

4. STEERING COLUMN ADJUSTMENTS :

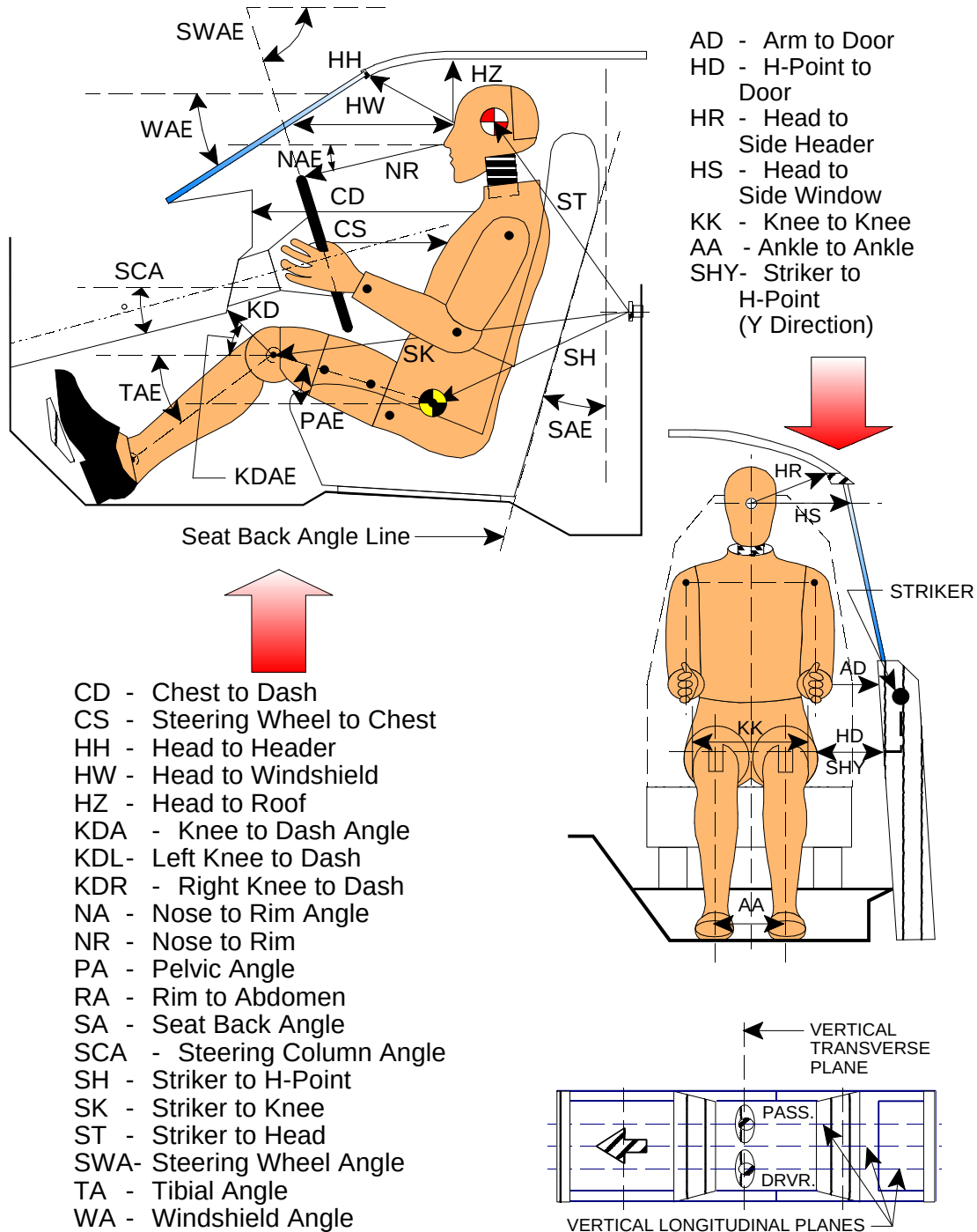
Steering wheel and column adjustments are made so that the steering wheel hub is at the geometric center of the locus it describes when it is moved through its full range of driving positions. If the tested vehicle has any of these adjustments, does your company use any specific procedures to determine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

Operational Instructions: The steering column was placed in the 4th position from lowermost. The wheel should be approximately 23E from the rocker panel.

5. SEAT BELT UPPER ANCHORAGE

Nominal design riding position: The seat belt anchorages were placed in the first detent below the uppermost position.

DUMMY MEASUREMENT FOR FRONT SEAT PASSENGERS

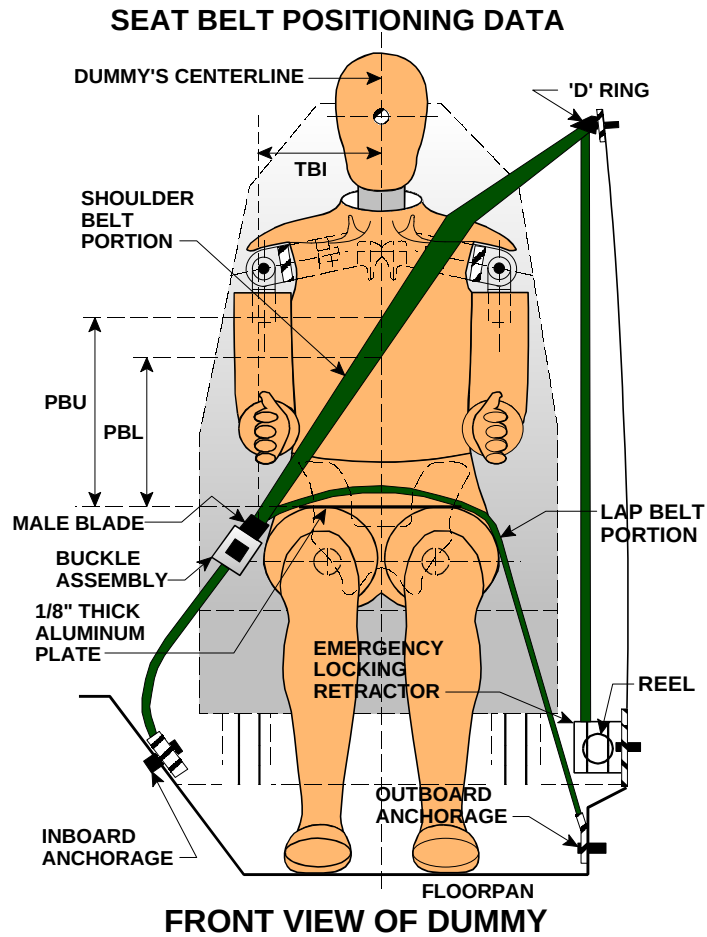


DATA SHEET NO. 5 FRONT SEAT DUMMY POSITIONING MEASUREMENTS IN VEHICLE (cont.)

	DRIVER (Serial #061)			PASS. (Serial # 064)		
WA ^o	29.0 deg.			N/A		
SWA ^o	67.1 deg.			N/A		
SCA ^o	22.9 deg.			N/A		
SA ^o	4.4 deg.			5.8 deg.		
HZ	200			203		
HH	330			340		
HW	590			587		
HR	195			205		
NR	375	Angle	-13 deg.	N/A		
CD	494			520		
CS	288			N/A		
RA	186			N/A		
KDL	239	Angle (KDA)	0 deg.	218		
KDR	235			227	Angle (KDA)	0 deg.
PA ^o	24.0 deg.			24.9 deg.		
TA ^o	37.1 deg.			35.8 deg.		
KK	270			200		
AA	295			260		
ST	465	Angle	6 deg.	465	Angle	2 deg.
SK	590	Angle	101 deg.	605	Angle	96 deg.
SH	270	Angle	137 deg.	265	Angle	130 deg.
SHY	223			215		
HS	285			300		
HD	130			130		
AD	87			91		

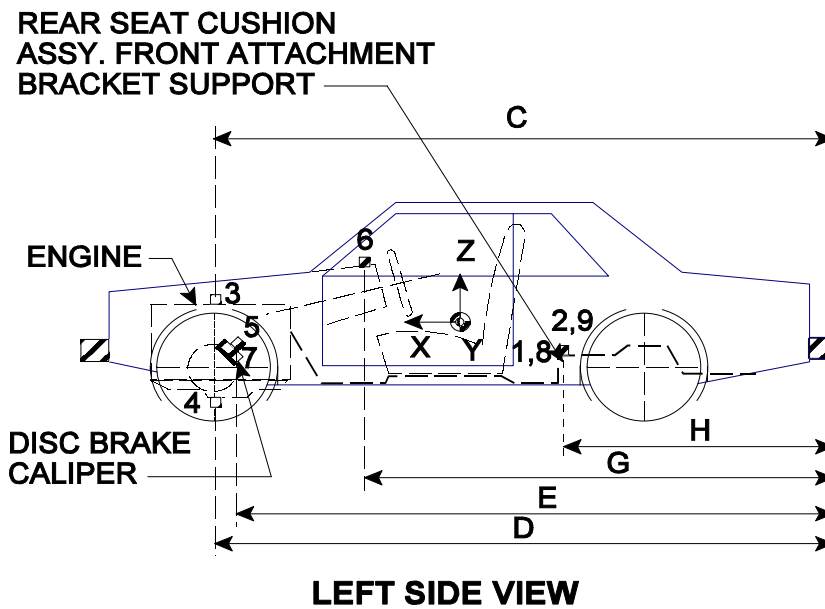
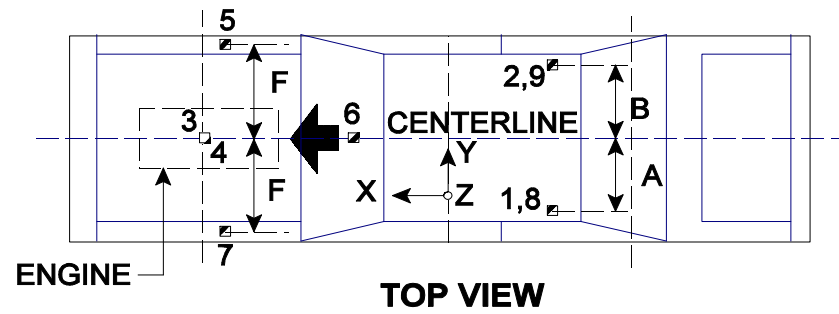
Dimensions in millimeters

DATA SHEET NO. 6 SEAT BELT POSITIONING DATA



	DRIVER DUMMY (mm)	PASSENGER DUMMY (mm)
PBU -- Top surface of alum. plate to upper edge	250	250
PBL-- Top surface of alum. plate to belt lower edge	325	325
<u>LAP BELT TENSION</u>	10 N	10 N
<u>SHOULDER BELT TENSION</u>	Retractor	Retractor

VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY



Note: Vehicle accelerometer location and data summary shown in DATA SHEET NO. 7

DATA SHEET NO. 7 VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY (cont.)

DIMENSION	PRE-TEST LENGTH (mm)
A Left Rear Seat Crossmember Y	-366
B Right Rear Seat Crossmember Y	396
C Top of Engine X	3777
D Bottom of Engine X	3217
E Disc Brake Calipers X	3552
F Disc Brake Calipers Y	808
G Instrument Panel X	2753
H Rear Seat Crossmembers X	1780

LOCATION NUMBER	DESCRIPTION	MAXIMUM VALUE (g's)			
		Pos.	msec.	Neg.	msec.
1	Rear Seat X-Member @ Left Side	2.9	129.9	-55.0	65.0
2	Rear Seat X-Member @ Right Side	3.1	127.7	-55.1	73.4
3	Top of Engine Block	9.4	110.5	-125.0	55.6
4	Bottom of Engine	8.9	80.4	-121.3	56.6
5	Disc Brake Caliper @ Right Side	*	*	*	*
6	Instrument Panel	18.2	78.3	-121.3	69.7
7	Disc Brake Caliper @Left Side	10.0	91.7	-94.7	57.0
8	Rear Seat X-Member @ Left-Redundant	2.8	129.6	-52.5	73.7
9	Rear Seat X-Member @ Right-Redundant	2.9	127.5	-57.6	73.4

* Data is clipped (cable damaged at 60 ms)

DATA SHEET NO. 8 DUMMY INJURY CRITERIA VALUES

Vehicle Year/Make/Model/Body Style: 2001 Lexus IS300 4-Door Sedan

NHTSA Test No.: M15110 Test Date: February 2, 2001

		MAXIMUM VALUE							
		Driver				Passenger			
DESCRIPTION	Unit	Pos	msec	Neg	msec	Pos	msec	Neg	msec
Head X	g	13.8	218.0	-58.1	109.0	11.3	250.5	-61.1	102.9
Head Y	g	3.5	90.3	-7.4	108.7	3.1	127.8	-8.9	89.6
Head Z	g	27.0	84.6	-9.4	107.6	34.4	84.7	-2.4	142.2
Head Resultant	g	58.4	108.9	0.0	-46.8	66.5	102.9	0.1	-48.7
Redundant Head X	g	13.9	217.9	-57.9	108.2	11.6	249.4	-61.0	102.6
Redundant Head Y	g	4.6	87.9	-5.4	108.6	3.6	126.9	-8.4	89.6
Redundant Head Z	g	27.8	84.6	-10.0	107.4	35.1	84.5	-2.3	142.4
Redundant Head Resultant	g	58.6	108.2	0.0	-44.5	67.0	105.4	0.0	-49.8
Upper Neck Fx	N	314.8	95.6	-432.2	69.9	147.8	246.0	-907.5	136.2
Upper Neck Fy	N	222.2	85.7	-250.3	119.5	145.2	117.1	-341.4	79.6
Upper Neck Fz	N	1631.0	86.8	-223.4	124.7	1359.7	77.5	-258.7	288.6
Upper Neck F Resultant	N	1644.4	86.8	0.9	-49.6	1387.9	77.5	1.6	47.2
Upper Neck Mx	N-m	12.7	93.5	-18.1	111.0	9.4	138.6	-20.1	95.2
Upper Neck My	N-m	37.0	147.4	-34.9	109.8	57.1	143.5	-27.9	285.0
Upper Neck Mz	N-m	8.9	88.0	-11.9	112.8	8.1	110.2	-5.9	91.3
Upper Neck M Resultant	N-m	39.6	110.1	0.0	41.2	57.6	143.5	0.1	-49.6
Chest X	g	2.2	154.6	-47.6	88.6	2.5	291.7	-50.7	93.7
Chest Y	g	9.7	108.3	-7.2	78.2	15.6	98.7	-23.5	72.5
Chest Z	g	14.2	71.6	-13.6	126.1	7.7	114.3	-4.7	82.1
Chest Resultant	g	48.2	88.6	0.0	-37.7	51.3	93.8	0.0	-50.0
Redundant Chest X	g	2.4	157.1	-46.8	84.7	2.6	295.2	-51.0	93.7
Redundant Chest Y	g	9.3	108.1	-7.1	78.2	14.4	98.4	-23.4	72.5
Redundant Chest Z	g	14.2	71.5	-13.8	125.7	8.4	108.3	-4.6	82.9
Redundant Chest Resultant	g	47.4	84.7	0.0	-50.0	51.7	93.8	0.0	-50.0
Chest Displacement	mm	0.0	28.2	-36.9	89.4	0.0	35.6	-33.9	108.7

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

Vehicle Year/Make/Model/Body Style: 2001 Lexus IS300 4-Door Sedan

NHTSA Test No.: M15110 Test Date: February 2, 2001

		MAXIMUM VALUE							
		Driver				Passenger			
		Pos	msec	Neg	msec	Pos	msec	Neg	msec
DESCRIPTION	Unit	Pos	msec	Neg	msec	Pos	msec	Neg	msec
Pelvic X	g	11.0	107.6	-71.7	83.9	12.4	108.6	-62.5	87.0
Pelvic Y	g	8.8	106.4	-7.0	69.1	16.2	70.2	-12.2	113.2
Pelvic Z	g	2.3	298.6	-29.8	90.4	7.3	70.5	-31.4	95.5
Pelvic Resultant	g	75.4	83.9	0.0	-46.4	69.2	87.0	0.0	-49.9
Left Femur	N	1597.9	75.1	-641.3	50.0	1254.0	75.5	-1136.6	69.8
Right Femur	N	1047.1	71.9	-3767.4	83.7	974.3	76.4	-879.5	112.0
Left Upper Tibia Mx	N-m	58.8	69.0	-27.6	89.8	43.8	107.8	-31.0	127.2
Left Upper Tibia My	N-m	24.0	225.5	-94.7	76.5	20.5	78.7	-241.3	71.0
Left Lower Tibia Fz	N	115.4	238.1	-1657.4	54.7	187.7	139.3	-8762.4	70.3
Left Lower Tibia Mx	N-m	59.7	90.4	-27.3	110.6	32.5	108.1	-22.1	71.4
Left Lower Tibia My	N-m	44.8	97.6	-61.5	77.3	79.6	120.1	-32.6	67.7
Right Upper Tibia Mx	N-m	11.4	83.0	-51.6	85.8	30.8	77.9	-55.9	67.7
Right Upper Tibia My	N-m	37.5	104.5	-136.6	68.1	65.5	84.5	-119.6	69.4
Right Lower Tibia Fz	N	*	*	*	*	67.3	287.7	-3236.6	68.8
Right Lower Tibia Mx	N-m	3.6	297.5	-55.3	86.2	99.1	70.2	-33.2	66.4
Right Lower Tibia My	N-m	237.6	84.0	-77.8	67.9	57.5	78.9	-40.4	68.8
Left Foot Aft Ax	g	29.1	98.6	-86.3	77.9	30.5	108.4	-215.8	69.0
Left Foot Aft Az	g	4.4	288.8	-44.1	73.3	28.7	87.9	-151.2	70.8
Left Foot Fore Az	g	17.2	83.0	-96.2	73.3	51.6	58.0	-147.1	70.8
Right Foot Aft Ax	g	47.5	84.6	-121.5	65.9	17.1	90.3	-108.1	69.2
Right Foot Aft Az	g	8.9	91.0	-131.9	68.1	4.0	52.8	-63.9	67.5
Right Foot Fore Az	g	120.5	75.7	-220.1	63.1	56.5	68.8	-120.2	66.2
Lap Belt Load	N	11277.3	86.2	-2.1	31.3	11081.4	84.4	0.1	-50.0

* Data is not accurate

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

Vehicle Year/Make/Model/Body Style: 2001 Lexus IS300 4-Door Sedan

NHTSA Test No.: M15110 Test Date: February 2, 2001

HEAD INJURY CRITERIA (HIC)				
	HIC**	t ₁ (msec)	t ₂ (msec)	Average Acceleration t ₁ to t ₂
Position #1 - Driver	556.9	80.8	116.8	47.4
Position #2 - Passenger	614.4	83.5	119.4	49.3

** 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	47.7	84.3	87.3	484.6
Position #2 - Passenger	50.1	91.4	94.4	560.3

* 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: 2001 Lexus IS300 4-Door Sedan

NHTSA Test No.: M15110 Test Date: February 2, 2001

HEAD INJURY CRITERIA (HIC) REDUNDANT				
	HIC**	t ₁ (msec)	t ₂ (msec)	Average Acceleration t ₁ to t ₂
Position #1 - Driver	554.5	80.6	116.6	47.3
Position #2 - Passenger	637.3	83.6	119.5	50.0

** 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	46.6	83.9	86.9	474.0
Position #2 - Passenger	50.7	91.3	94.3	569.2

* 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>1723</u>	<u>1898</u>
Shoulder belt length as measured on Part 572 Dummy.	<u>800</u>	<u>825</u>
Lap belt length as measured on Part 572 Dummy.	<u>830</u>	<u>880</u>

SHOULDER BELT SPOOL-OFF DATA:

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

BELT STRETCH DATA:

Measured electronically between shoulder belt load cell and the "D" ring.**	<u>-</u>	<u>-</u>
Measured mechanically.**	<u>-</u>	<u>-</u>

Dimensions in millimeters

* Cameras could not be mounted to observe seat belt spool due to location of the fuel tank.

** This vehicle was equipped with torso belt pretensioners, therefore no instrumentation was attached to the driver or passenger torso belt.

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.

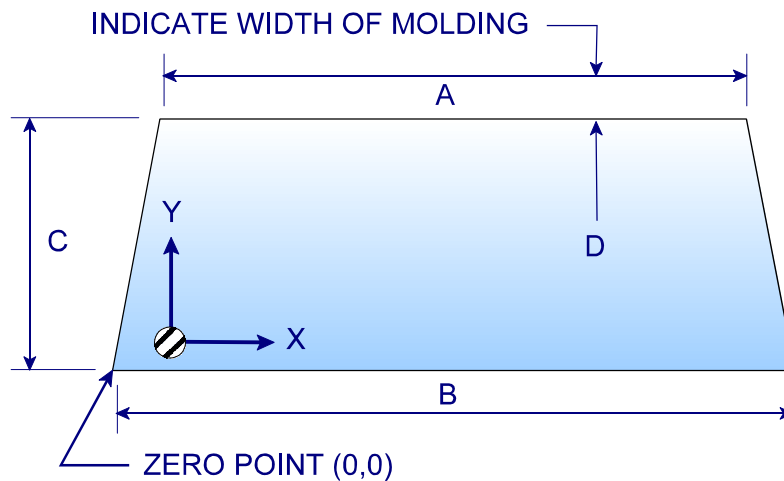
FMVSS 212 REQUIREMENTS:

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		% OF RETENTION
	PRE-TEST (mm)	POST-TEST(mm)	
RIGHT SIDE	1967.5	1967.5	100
LEFT SIDE	1967.5	1967.5	100
TOTAL	3935	3935	100

AREA OF RETENTION FAILURE: None



DIMENSIONS (mm)	
A	1145
B	1380
C	705
D	15

FRONT VIEW OF WINDSHIELD

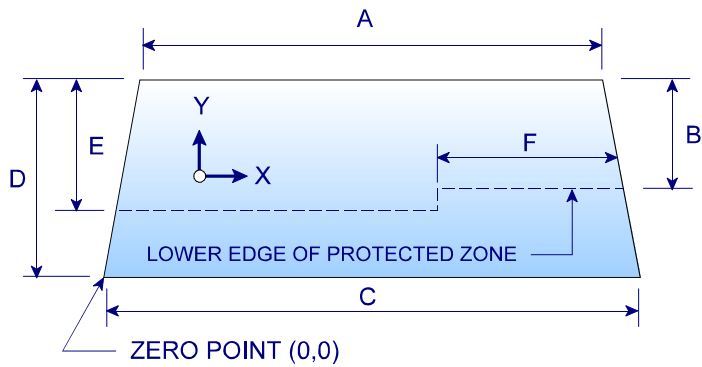
FAILURE DETAILS: None

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:



DIMENSIONS (mm)	
A	1145
B	465
C	1380
D	705
E	465
F	450

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

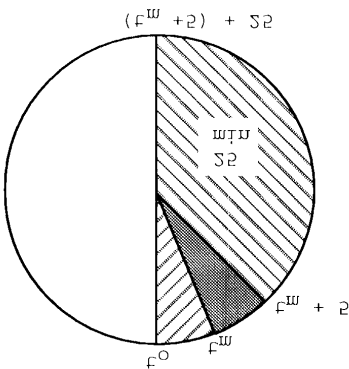
NHTSA TEST No.: M15110 TEST DATE: February 2, 2001
VEHICLE MAKE/MODEL: 2001 Lexus IS300

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 Frontal (56 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

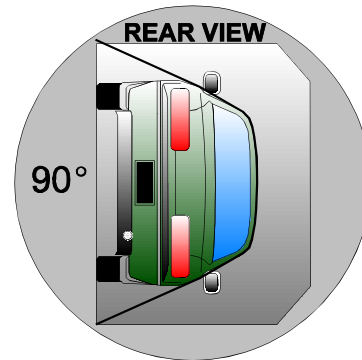
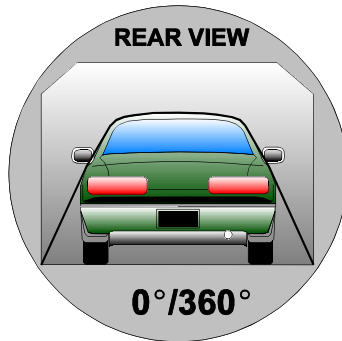
DATA SHEET 13

FMVSS NO. 301 STATIC ROLLOVER DATA SHEET

Vehicle: 2001 Lexus IS300

NHTSA No. M15110

0 - 90 Degrees



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD :

Rollover Fixture 90° Rotation Time	<u>1</u>	minutes	<u>20</u>	seconds
(Spec. Range = 1 to 3 minutes)				
FMVSS 301 Position Hold Time +	<u>5</u>	minutes	<u>0</u>	seconds
TOTAL	<u>6</u>	minutes	<u>20</u>	seconds
Next whole minute interval	<u>7</u>	minutes		

II. FMVSS 301 REQUIREMENTS :

(1) Time Period

First 5 minutes FROM onset of rotation	6th min.	7th min.	8th min. (if required)
--	----------	----------	------------------------

(2) Maximum Allowable Solvent Spillage

142 g	28 g	28 g	28 g
-------	------	------	------

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

0 g	0 g	0 g	N/A
-----	-----	-----	-----

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

IV. SOLVENT SPILLAGE LOCATION(S) :

None

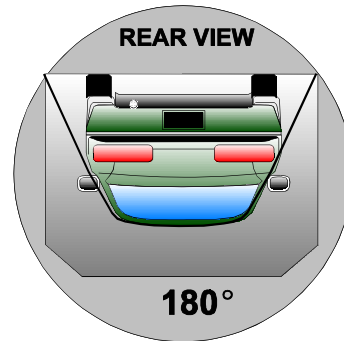
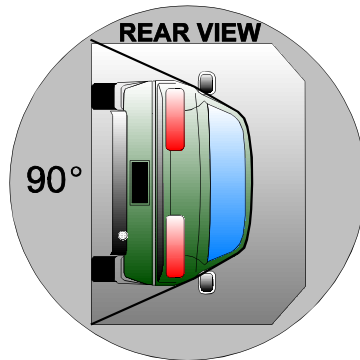
DATA SHEET 13

FMVSS NO. 301 STATIC ROLLOVER DATA SHEET (CONTINUED)

Vehicle: 2001 Lexus IS300

NHTSA No. M15110

90 - 180 Degrees



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD :

Rollover Fixture 90° Rotation Time	<u>1</u>	minutes	<u>08</u>	seconds
(Spec. Range = 1 to 3 minutes)				
FMVSS 301 Position Hold Time +	<u>5</u>	minutes	<u>0</u>	seconds
TOTAL	<u>6</u>	minutes	<u>8</u>	seconds
Next whole minute interval	<u>7</u>	minutes		

II. FMVSS 301 REQUIREMENTS :

(1) Time Period

First 5 minutes FROM onset of rotation	6th min.	7th min.	8th min. (if required)
--	----------	----------	------------------------

(2) Maximum Allowable Solvent Spillage

142 g	28 g	28 g	28 g
-------	------	------	------

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

0 g	0 g	0 g	N/A
-----	-----	-----	-----

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

IV. SOLVENT SPILLAGE LOCATION(S) :

None

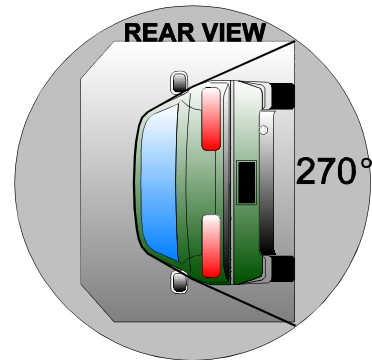
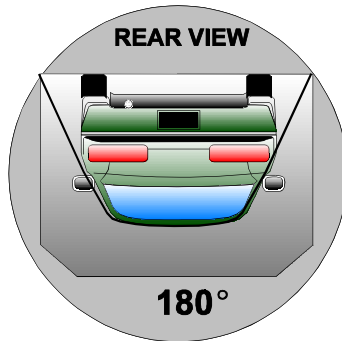
DATA SHEET 13

FMVSS NO. 301 STATIC ROLLOVER DATA SHEET (CONTINUED)

Vehicle: 2001 Lexus IS300

NHTSA No. M15110

180 - 270 Degrees



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD :

Rollover Fixture 90° Rotation Time	<u>1</u>	minutes	<u>03</u>	seconds
(Spec. Range = 1 to 3 minutes)				
FMVSS 301 Position Hold Time +	<u>5</u>	minutes	<u>0</u>	seconds
TOTAL	<u>6</u>	minutes	<u>3</u>	seconds
Next whole minute interval	<u>7</u>	minutes		

II. FMVSS 301 REQUIREMENTS :

(1) Time Period

First 5 minutes FROM onset of rotation	6th min.	7th min.	8th min. (if required)
--	----------	----------	------------------------

(2) Maximum Allowable Solvent Spillage

142 g	28 g	28 g	28 g
-------	------	------	------

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

0 g	0 g	0 g	N/A
-----	-----	-----	-----

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

IV. SOLVENT SPILLAGE LOCATION(S) :

None

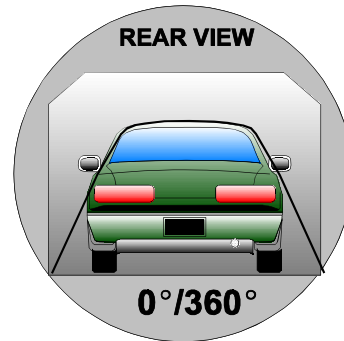
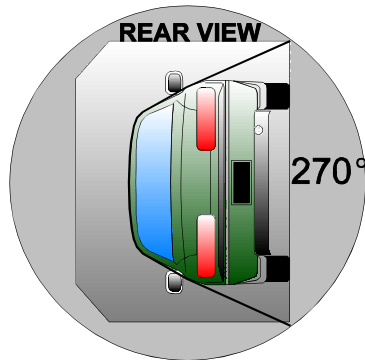
DATA SHEET 13

FMVSS NO. 301 STATIC ROLLOVER DATA SHEET (CONTINUED)

Vehicle: 2001 Lexus IS300

NHTSA No. M15110

270 - 360 Degrees



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD :

Rollover Fixture 90° Rotation Time	<u>1</u>	minutes	<u>18</u>	seconds
(Spec. Range = 1 to 3 minutes)				
FMVSS 301 Position Hold Time +	<u>5</u>	minutes	<u>0</u>	seconds
TOTAL	<u>6</u>	minutes	<u>18</u>	seconds
Next whole minute interval	<u>7</u>	minutes		

II. FMVSS 301 REQUIREMENTS :

(1) Time Period

First 5 minutes FROM onset of rotation	6th min.	7th min.	8th min. (if required)
--	----------	----------	------------------------

(2) Maximum Allowable Solvent Spillage

142 g	28 g	28 g	28 g
-------	------	------	------

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

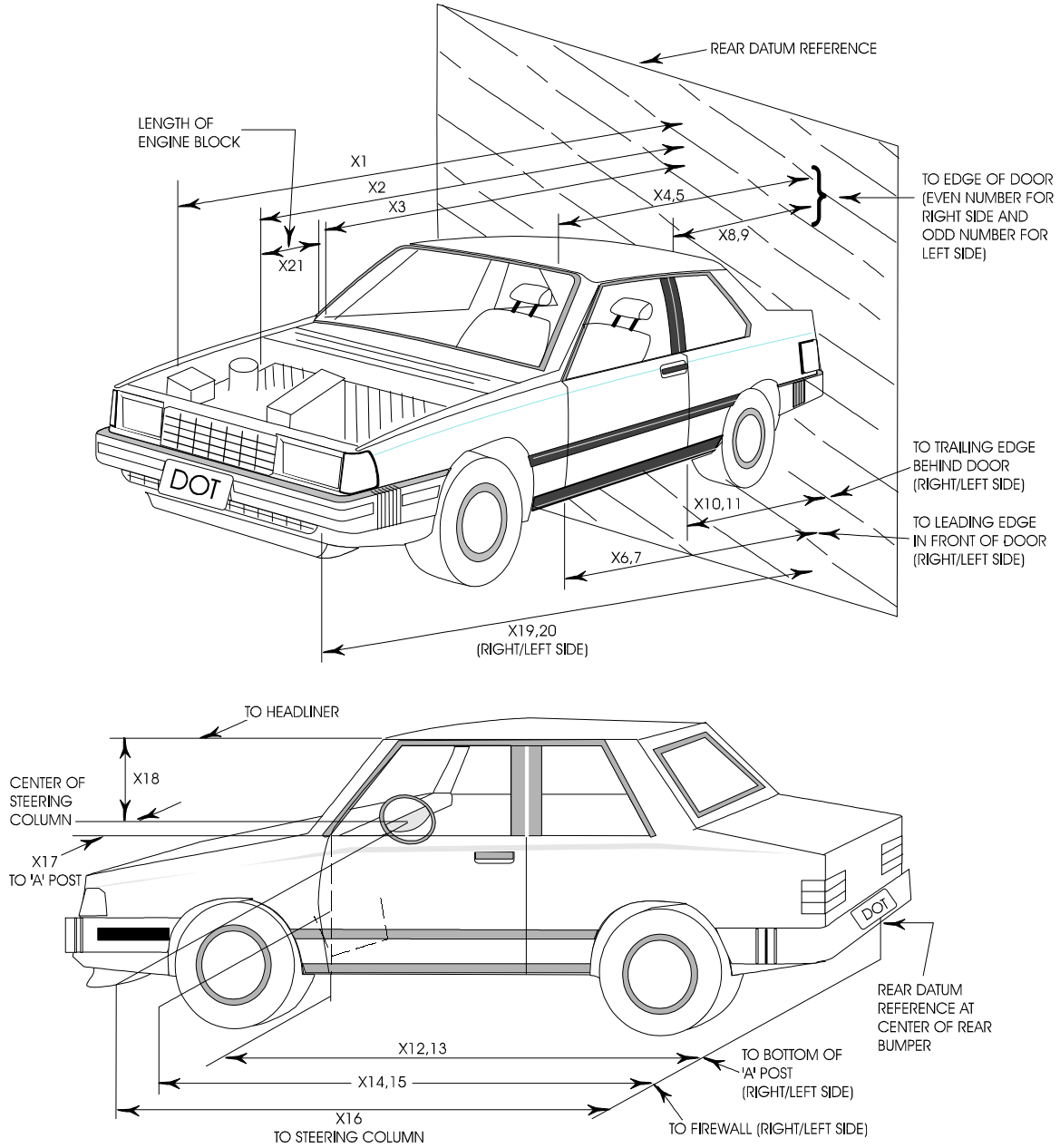
0 g	0 g	0 g	N/A
-----	-----	-----	-----

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

IV. SOLVENT SPILLAGE LOCATION(S) :

None

DATA SHEET NO. 14 TEST VEHICLE MEASUREMENTS

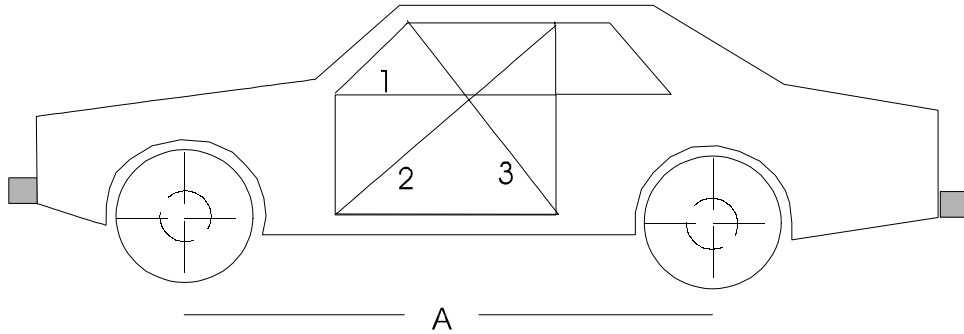


DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)

No.		Pre-Test	Post-Test	Difference
X1	Total Length of Vehicle at Centerline	4485	3951	534
X2	Rear Surface of Vehicle to Front of Engine	4020	3829	191
X3	Rear Surface of Vehicle to Firewall	3354	3330	24
X4	Rear Surface of Vehicle to Upper Leading Edge of Right Door	3049	3037	12
X5	Rear Surface of Vehicle to Upper Leading Edge of Left Door	3055	3066	-11
X6	Rear Surface of Vehicle to Lower Leading Edge of Right Door	3084	3065	19
X7	Rear Surface of Vehicle to Lower Leading Edge of Left Door	3091	3102	-11
X8	Rear Surface of Vehicle to Upper Trailing Edge of Right Door	2040	2024	16
X9	Rear Surface of Vehicle to Upper Trailing Edge of Left Door	2041	2048	-7
X10	Rear Surface of Vehicle to Lower Trailing Edge of Right Door	2009	2023	-14
X11	Rear Surface of Vehicle to Lower Trailing Edge of Left Door	2046	2058	-12
X12	Rear Surface of Vehicle to Bottom of "A" Post of Right Side	3065	3052	13
X13	Rear Surface of Vehicle to Bottom of "A" Post of Left Side	3072	3076	-4
X14	Rear Surface of Vehicle to Firewall, Right Side	3318	3301	17
X15	Rear Surface of Vehicle to Firewall, Left Side	3317	3276	41
X16	Rear Surface of Vehicle to Steering Column	2625	2580	45
X17	Center of Steering Column to "A" Post	261	248	13
X18	Center of Steering Column to Headliner	404	429	-25
X19	Rear Surface of Vehicle to Right Side of Front Bumper	4399	4001	398
X20	Rear Surface of Vehicle to Left Side of Front Bumper	4391	3995	396
X21	Length of Engine Block	570	570	0
RD	Rear Surface of Vehicle to Right Side of Dash Panel	2847	2821	26
CD	Rear Surface of Vehicle to Center of Dash Panel	2865	2835	30
LD	Rear Surface of Vehicle to Left Side of Dash Panel	2853	2828	25

All Dimensions in mm

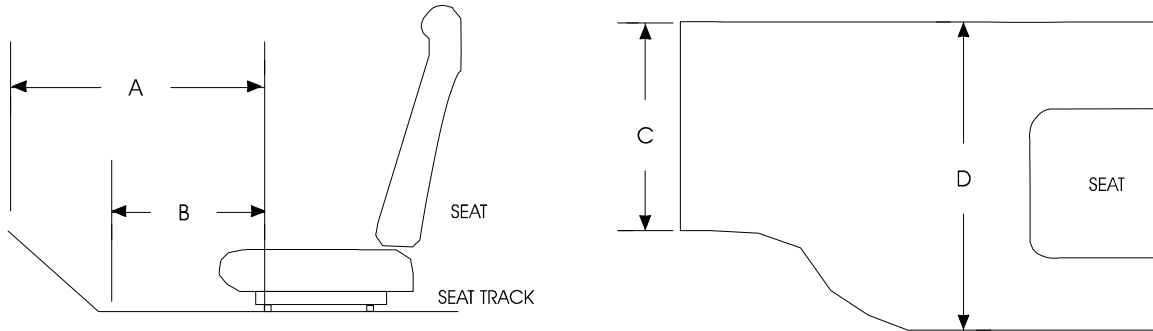
DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)
 VEHICLE INTRUSION MEASUREMENTS
 DOOR OPENING WIDTH



UNITS (mm)	LEFT			RIGHT		
MEASUREMENT	1	2	3	1	2	3
BEFORE TEST	956	1429	958	962	1400	943
AFTER TEST	954	1432	961	951	1401	947
DIFFERENCE	2	-3	-3	11	-1	-4

UNITS (mm)	A = WHEELBASE LEFT	A = WHEELBASE RIGHT
BEFORE TEST	2665	2665
AFTER TEST	2575	2604
DIFFERENCE	90	61

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



DRIVER

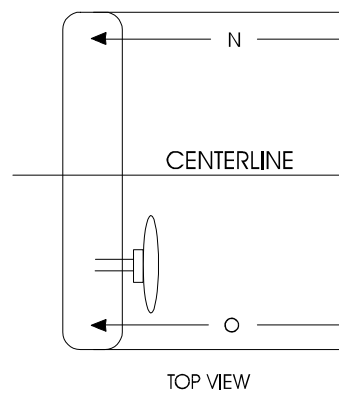
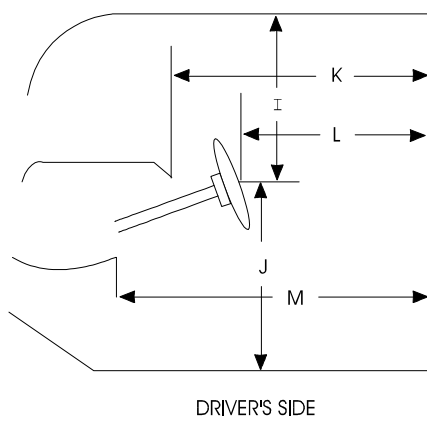
Measurement	Pre-Test	Post-Test	Difference
A	695	617	78
B	556	551	5
C	464	458	6
D	543	518	25

PASSENGER

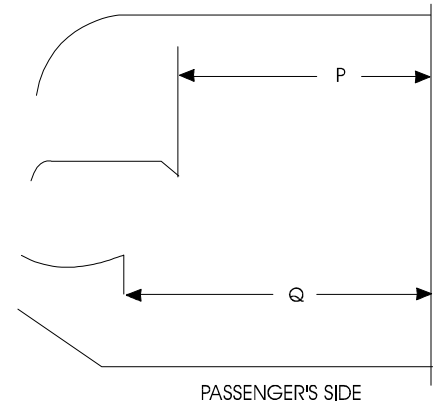
Measurement	Pre-Test	Post-Test	Difference
A	681	626	55
B	560	532	28
C	438	426	12
D	488	488	0

Units = mm

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



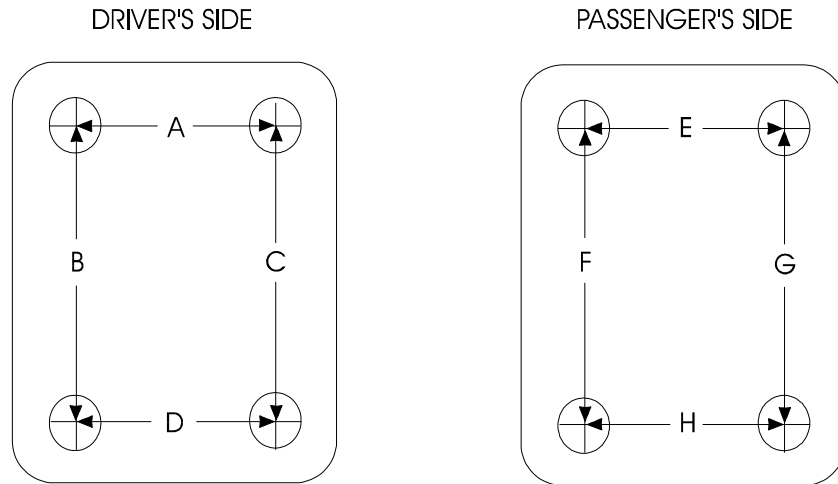
MEASUREMENTS
FROM C-PILLAR
BELT ANCHORAGE



Measurement	Pre-Test	Post-Test	Difference
I	404	429	-25
J	628	627	1
K	1594	1538	56
L	1416	1359	57
M	1649	1626	23
N	1638	1630	8
O	1644	1607	37
P = K (PASS.)	1710	1696	14
Q = M (PASS.)	1642	1628	14

Units = mm

DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)
FLOORBOARD DEFORMATION

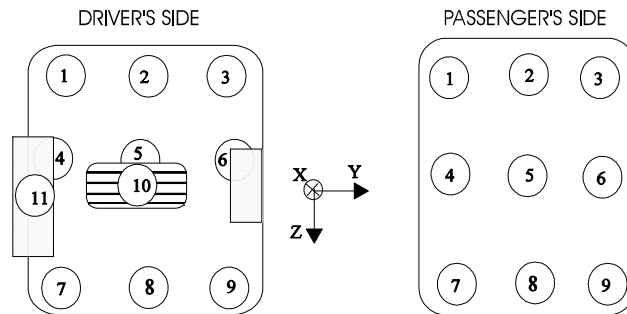


TOP VIEW THROUGH FLOOR PAN

Measurement	Pre-Test	Post-Test	Difference
A	350	350	0
B	385	380	5
C	400	388	12
D	350	347	3
E	350	352	-2
F	435	431	4
G	400	392	8
H	350	354	-4

Units = mm

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



Driver Side Toe-pan Measurements

Toe-pan Location	X Deformation (mm)			Z Deformation (mm)		
	Pre-Test	Post-Test	Difference	Pre-Test	Post-Test	Difference
1	3283	3242	41	-421	-464	-43
2	3289	3216	73	-425	-412	13
3	3225	3157	68	-398	-405	-7
4	3232	3223	9	-355	-334	21
5	3228	3205	23	-364	-340	24
6	3213	3175	38	-354	-349	5
7	3158	3157	1	-299	-279	20
8	3151	3149	2	-291	-267	24
9	3139	3132	7	-295	-268	27
10	3123	3027	96	-450	-444	6
11	3180	3175	5	-388	-381	7

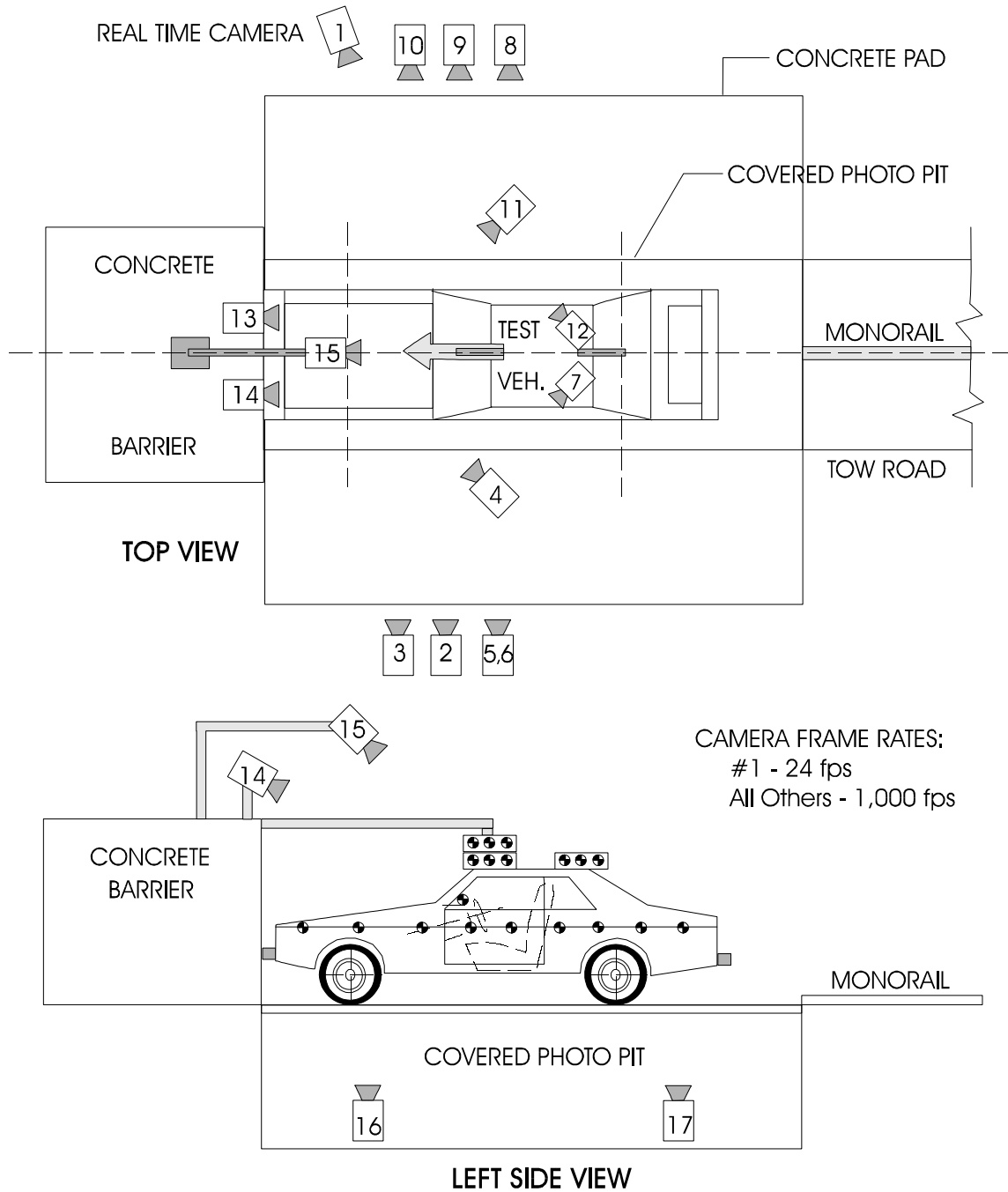
Passenger Side Toe-pan Measurements

Toe-pan Location	X Deformation (mm)			Z Deformation (mm)		
	Pre-Test	Post-Test	Difference	Pre-Test	Post-Test	Difference
1	3261	3185	76	-436	-426	10
2	3277	3204	73	-425	-437	-12
3	3288	3247	41	-434	-417	17
4	3212	3155	57	-359	-358	1
5	3235	3184	51	-350	-339	11
6	3244	3198	46	-365	-321	44
7	3138	3094	44	-288	-280	8
8	3156	3109	47	-287	-280	7
9	3161	3157	4	-288	-278	10

Reference: SAE: X = Rear Bumper (Positive: forward); Z = Ground (Positive: down)

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.: M15110 Vehicle: 2001 Lexus IS300 4-Door Sedan

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	6482	1578	1066	-4	6044	12.5	1000
3	Left Side View	7851	893	1091	-3	7413	25	1025
4	Driver and Interior View	7188	2751	1952	-9	-	25	1055
5	Steering Column (Bottom)	7142	1840	1177	-4	6704	25	1025
6	Steering Column (Top)	7142	1840	1777	-9	6704	25	1020
7	Left Belt	-	-	-	-	-	-	-
8	Overall Right Side	6289	1882	1082	-2	5851	12.5	1030
9	Right Side View	8164	1882	1102	-3	7726	25	1020
10	Right Passenger View	8158	1797	1411	-4	7720	35	1010
11	Passenger and Interior View	7117	2792	1971	-10	-	25	1000
12	Right Belt	-	-	-	-	-	-	-
13	Passenger Front View	620	-92	1987	-39	-	13	1010
14	Driver Front View	620	-92	1987	-36	-	13	1010
15	Windshield View	0	-530	3374	-53	-	13	1010
16	Pit View of Engine	0	615	-3048	90	-	13	1005
17	Pit View of Fuel Tank	0	2692	-3048	90	-	13	1010

*X = film plane to monorail centerline

** = referenced to horizontal plane

Y = film plane to impact location

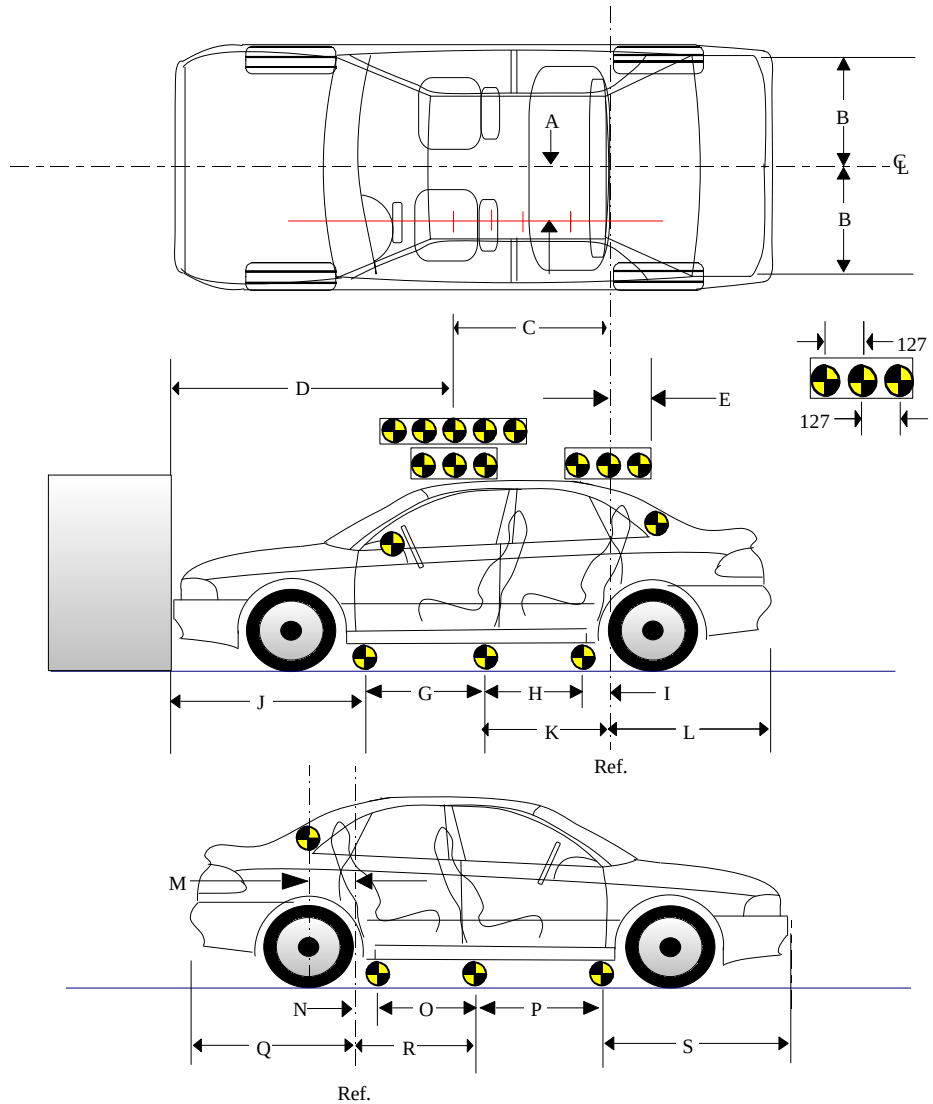
N.T. indicates No Timing

Z = film plane to ground

DATA SHEET NO. 16 VEHICLE REFERENCE PHOTO TARGET LOCATIONS

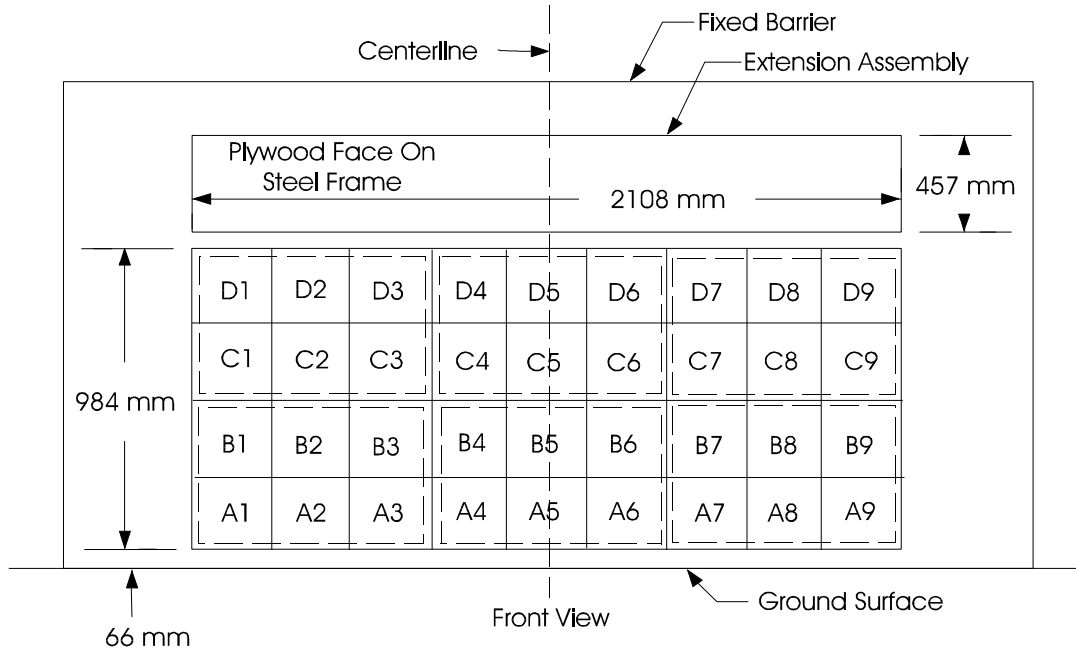
(Dimensions in millimeters)

A	362
B	568
C	1187
D	1935
E	295
F	1469
G	914
H	894
I	114
J	1186
K	1008
L	1352
M	281
N	113
O	920
P	881
Q	1346
R	1033
S	1199



DATA SHEET NO. 17 LOAD CELL LOCATIONS ON FIXED BARRIER

36 Load Cells
 4 Rows
 9 Columns
 6 Groupings (6 cells/group)



6 GROUPS OF 6 LOAD CELLS EACH

Group 4 C1 thru D3	Group 5 C4 thru D6	Group 6 C7 thru D9
Group 1 A1 thru B3	Group 2 A4 thru B6	Group 3 A7 thru B9

The following data is presented in Appendix B:

- (1)Data from 36 individual load cells
- (2)Total or Sum of 36 individual load cells
- (3)Data from 6 Groupings shown above (6 cells/group)

DATA SHEET NO. 18 POST TEST AIR BAG DATA

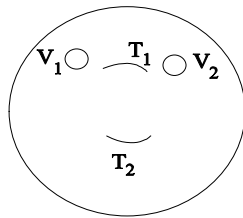
NHTSA No. : M15110; Test Date: February 2, 2001; Technician: Patrick G. MacDiarmid,
Jr.

Vehicle Model Year/Make/Model: 2001 Lexus IS300

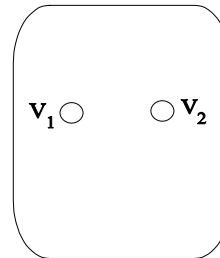
- A. No. of vent holes: 2 -Driver 2 -Passenger
- B. Size of vent holes: (mm²) 491 -Driver 3318 -Passenger
- C. Total vent area: (mm²) 982 -Driver 6636 -Passenger
- D. Deflated air bag length and width dimensions or, if round, diameter. (mm)
- Driver: 510 -Height; 630 -Width; 350 -Depth
- Passenger: 560 -Height; 525 -Width; 650 -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: 0072853N0059

Generator: 001163100CG5 E1CA0403099 8414902 0602

Passenger: Air bag: BBN2769 PF0320C-4 150600 S 511430

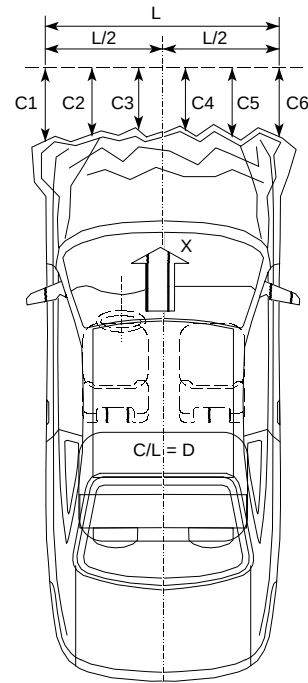
Generator: C00000000L F57 00141372C0K91

DATA SHEET NO. 19 ACCIDENT INVESTIGATION DIVISION DATA
FOR 56.3 KPH FRONTAL BARRIER IMPACT

Vehicle Make/Model/Body Style: Lexus IS300 4-Door Sedan
 NHTSA Test No.: M15110 VIN: JTHBD182110012716
 Model Year: 2001 Build Date: 8/00 Test Date: February 2, 2001
 Vehicle Size Category: Mid-size Test Weight: 1691.0 kg
 Vehicle Wheelbase: 2665 mm; Front Overhang: 758 mm; Overall Width: 1720 mm
 Collision Deformation Classification (CDC) Code: 12FDEW3

Crush Depth Dimensions:

	PRE	POST	DIFF	
C1 =	4228	4004	224	mm
C2 =	4385	4000	385	mm
C3 =	4451	3985	466	mm
C4 =	4451	3987	464	mm
C5 =	4391	3999	392	mm
C6 =	4237	3966	271	mm



Midpoint of Damage: D = Vehicle Centerline (Longitudinal)

Length of Damaged Region: L1= 1566 mm
 L2= 783 mm
 L5= 313 mm

APPENDIX A
PHOTOGRAPHS

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Figure A-1 LOAD CELL LOCATIONS



Figure A-2 PRE-TEST FRONT VIEW



Figure A-3 POST-TEST FRONT VIEW



Figure A-4 PRE-TEST LEFT SIDE VIEW



Figure A-5 POST-TEST LEFT SIDE VIEW



Figure A-6 PRE-TEST RIGHT SIDE VIEW



Figure A-7 POST-TEST RIGHT SIDE VIEW



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



Figure A-9 POST-TEST RIGHT FRONT THREE-QUARTER VIEW



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

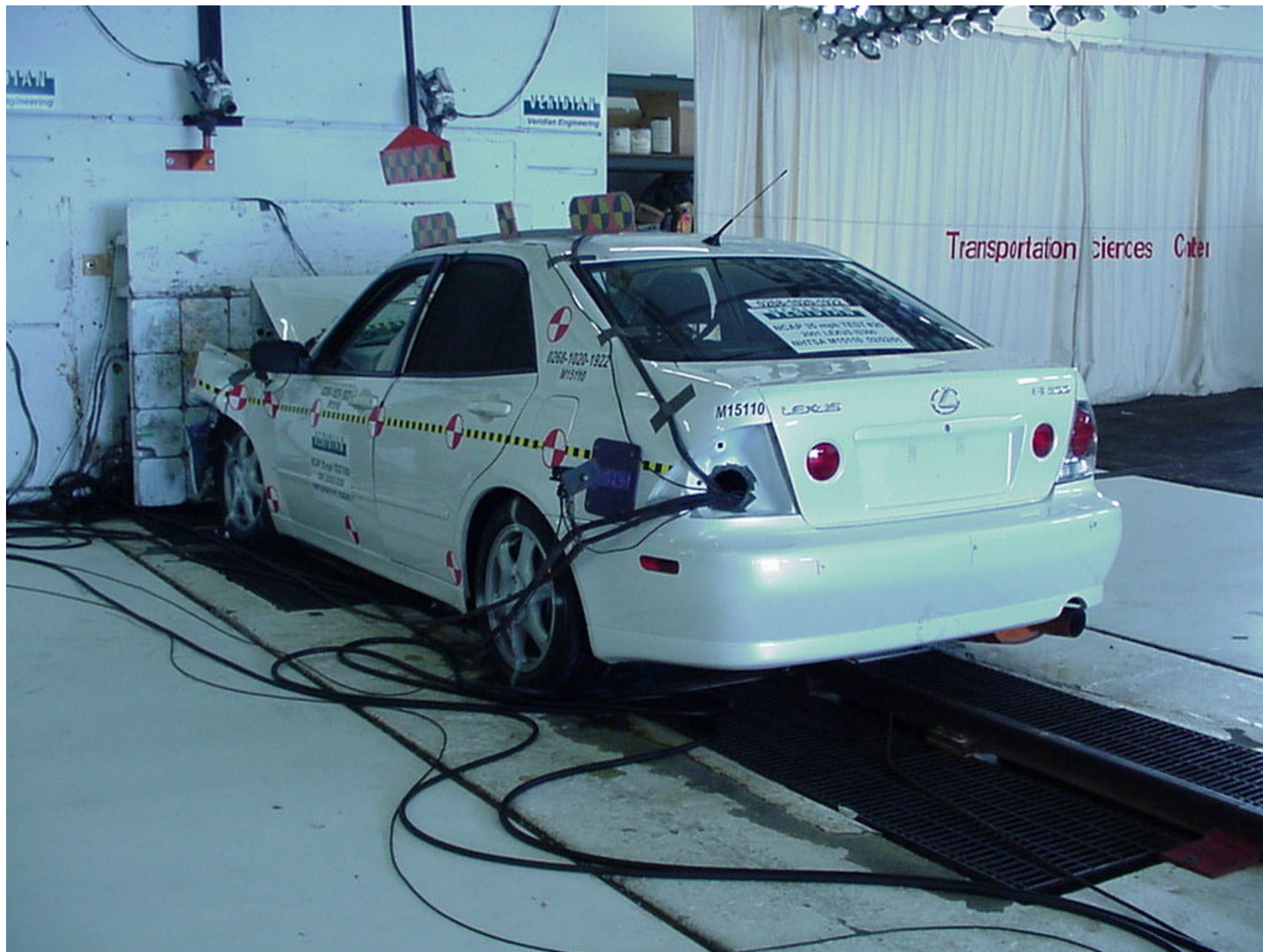


Figure A-11 POST-TEST LEFT REAR THREE-QUARTER VIEW

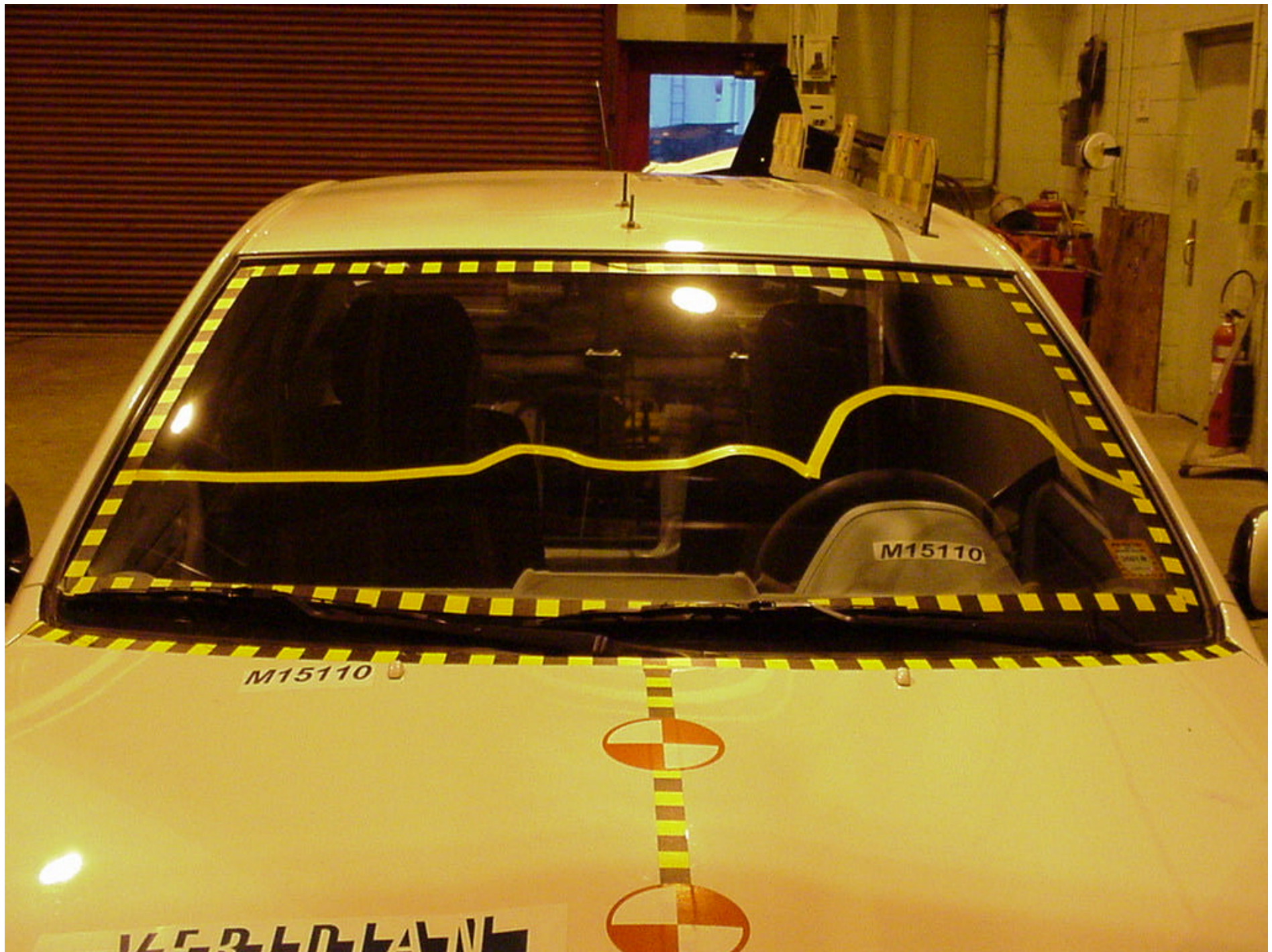


Figure A-12 PRE-TEST WINDSHIELD VIEW



Figure A-13 POST-TEST WINDSHIELD VIEW

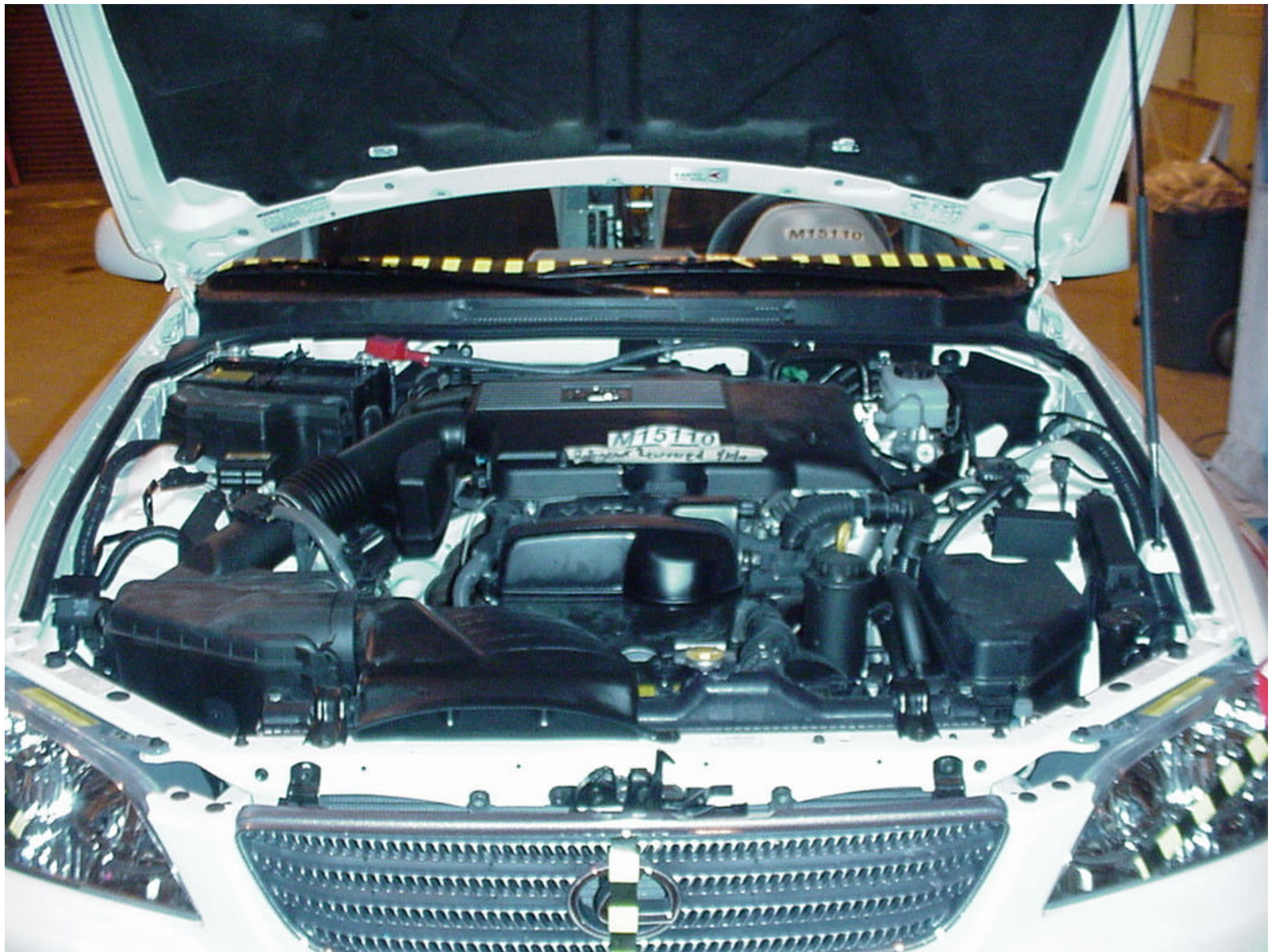


Figure A-14 PRE-TEST ENGINE COMPARTMENT VIEW



Figure A-15 FUEL CAP VIEW

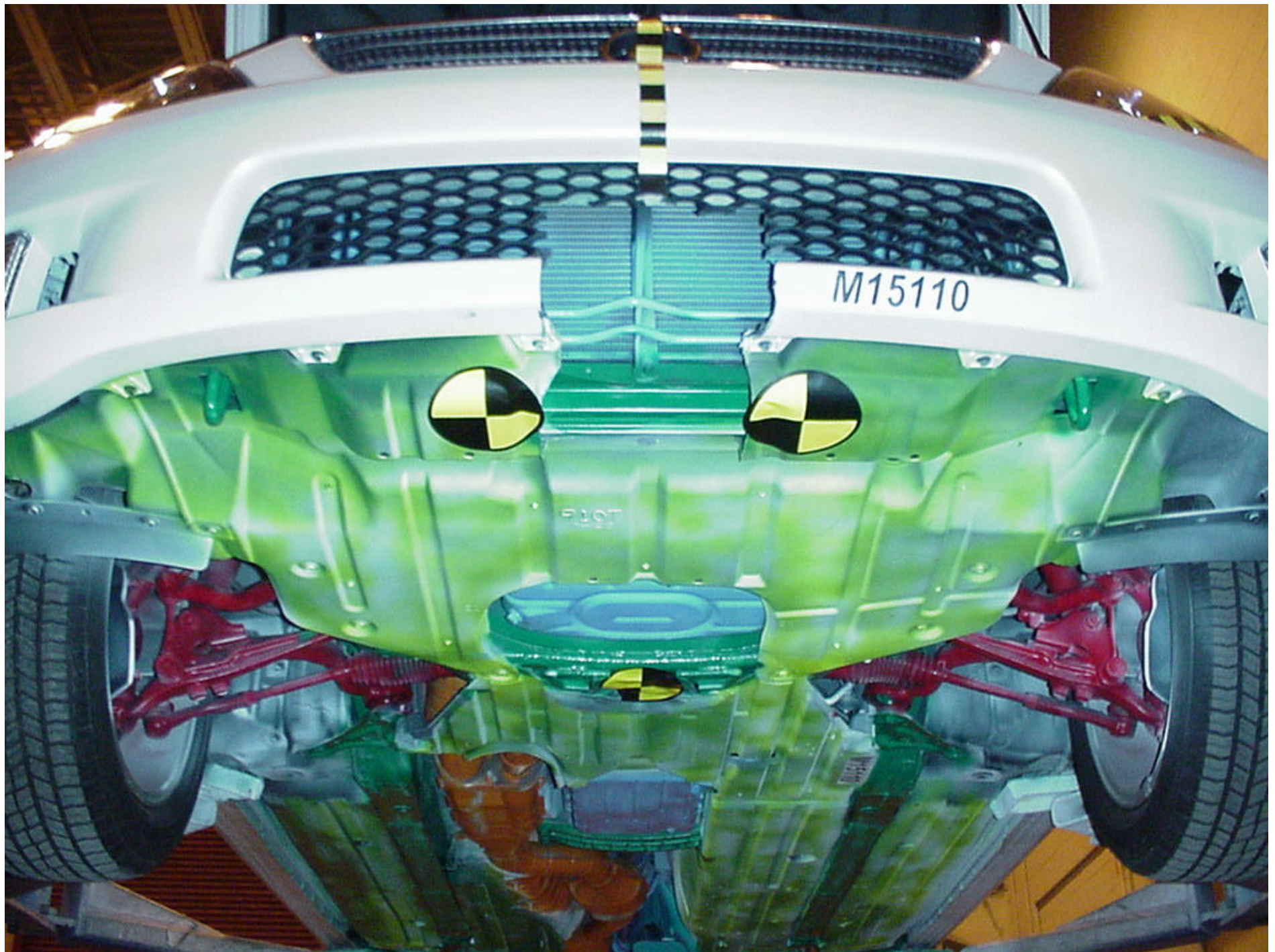


Figure A-16 PRE-TEST FRONT UNDERBODY VIEW

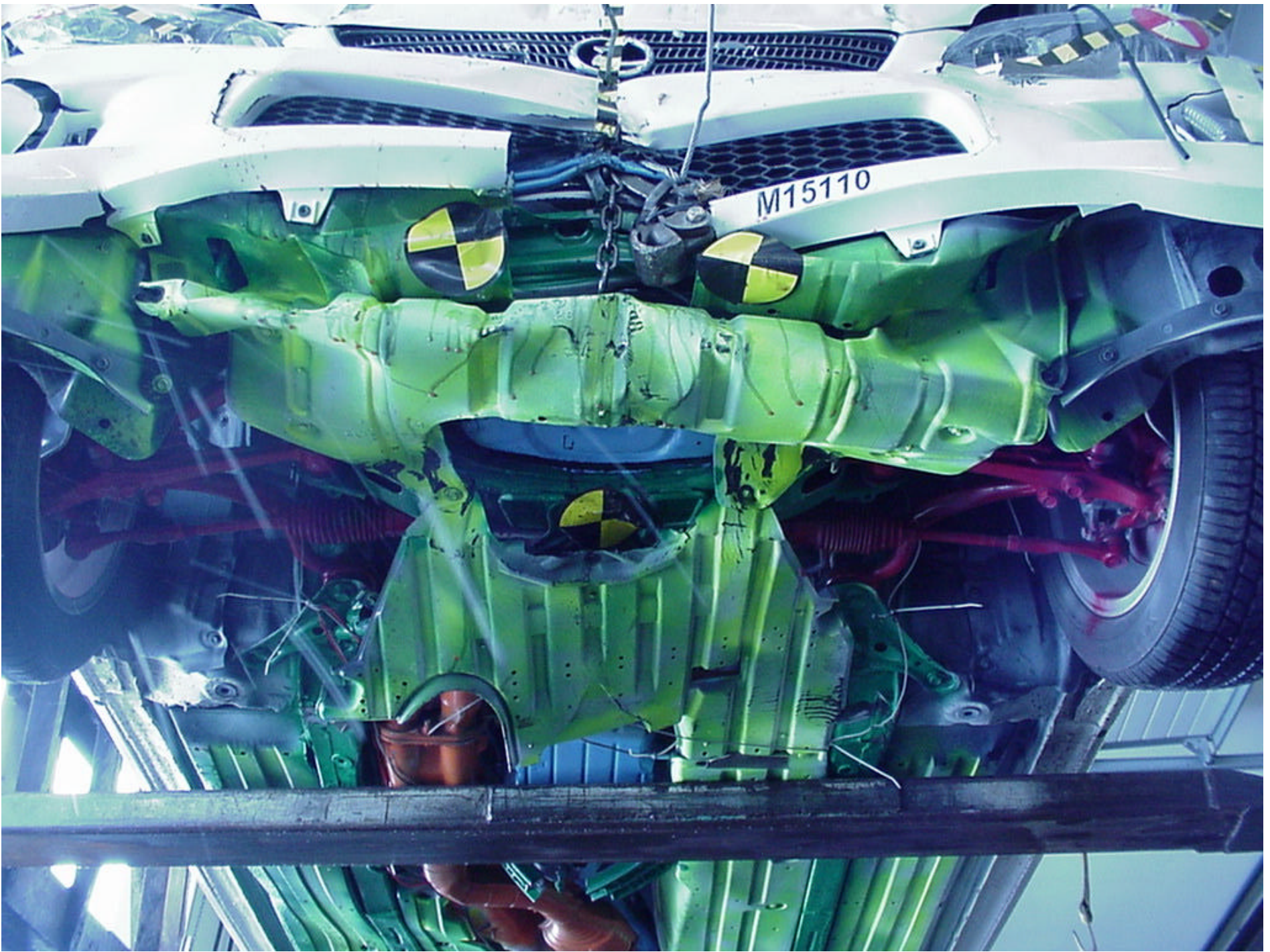


Figure A-17 POST-TEST FRONT UNDERBODY VIEW

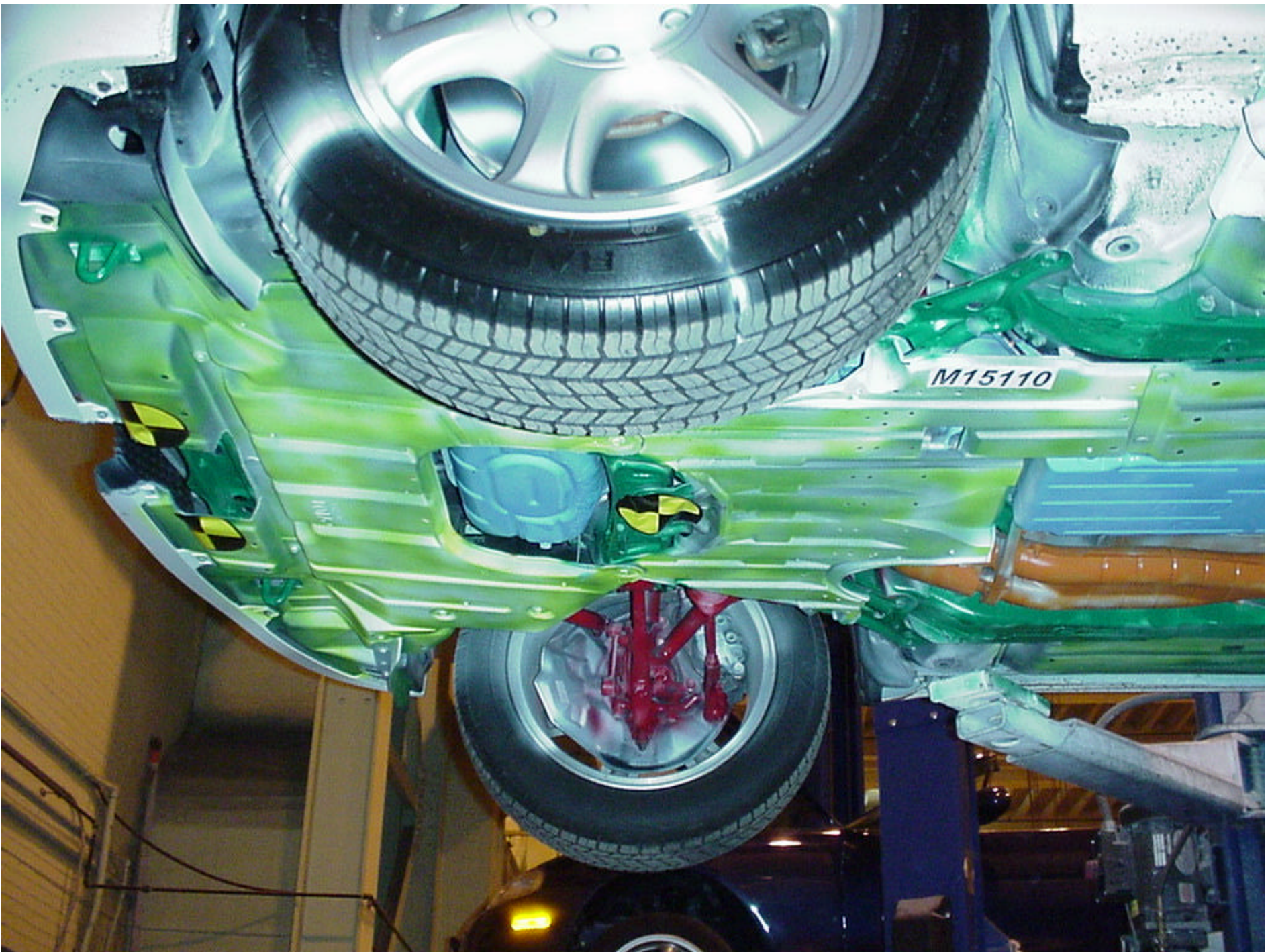


Figure A-18 PRE-TEST FRONT SIDE UNDERBODY VIEW

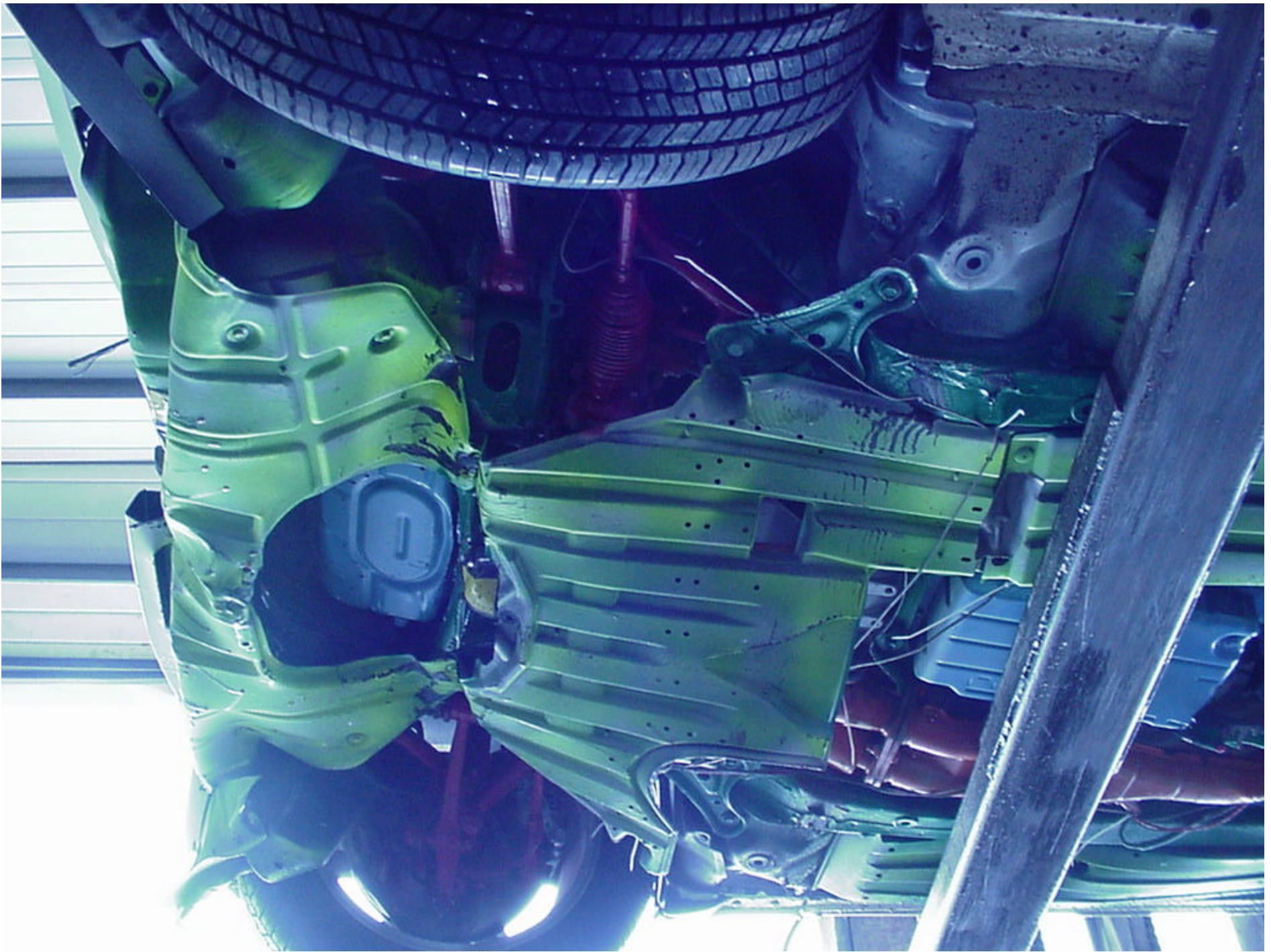


Figure A-19 POST-TEST FRONT SIDE UNDERBODY VIEW



Figure A-20 PRE-TEST REAR UNDERBODY VIEW



Figure A-21 POST-TEST REAR UNDERBODY VIEW



Figure A-22 PRE-TEST DRIVER POSITION VIEW



Figure A-23 POST-TEST DRIVER POSITION VIEW



Figure A-24 PRE-TEST PASSENGER POSITION VIEW



Figure A-25 POST-TEST PASSENGER POSITION VIEW



Figure A-26 PRE-TEST DRIVER AND INTERIOR VIEW



Figure A-27 POST-TEST DRIVER AND INTERIOR VIEW



Figure A-28 PRE-TEST PASSENGER AND INTERIOR VIEW



Figure A-29 POST-TEST PASSENGER AND INTERIOR VIEW

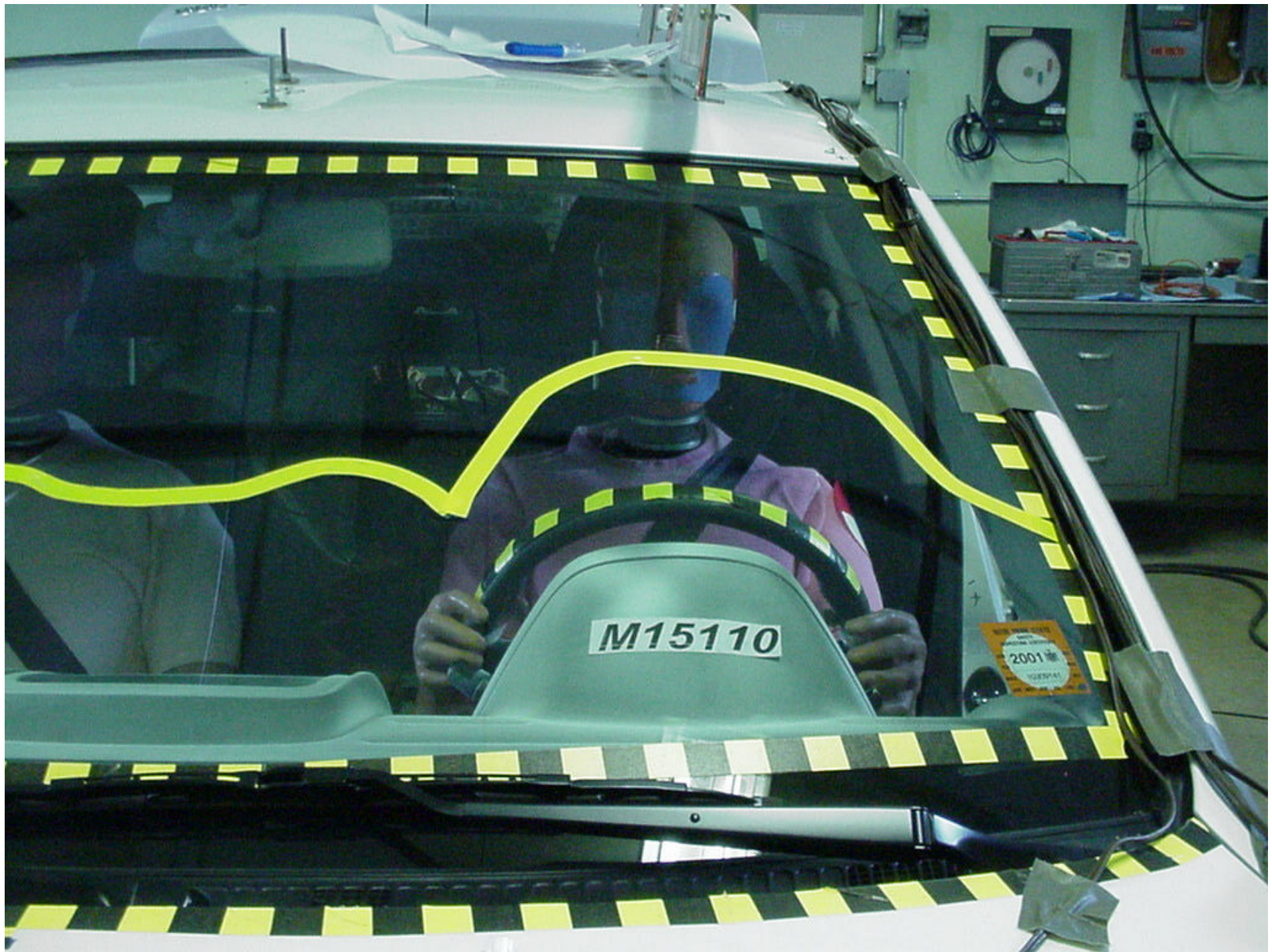


Figure A-30 PRE-TEST DRIVER HEAD LOCATION



Figure A-31 POST-TEST DRIVER HEAD LOCATION



Figure A-32 PRE-TEST PASSENGER HEAD LOCATION



Figure A-33 POST-TEST PASSENGER HEAD LOCATION

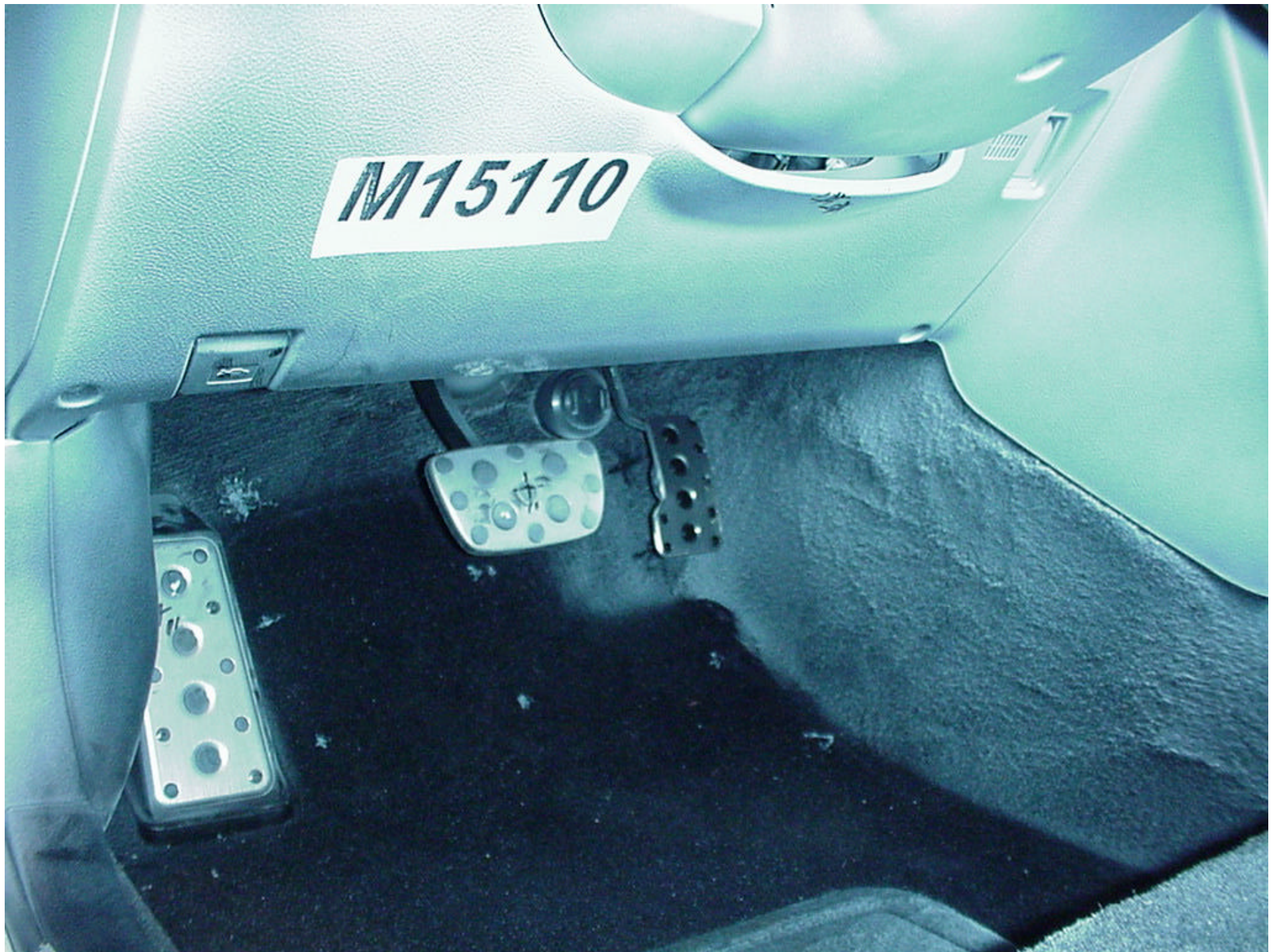


Figure A-34 PRE-TEST DRIVER FLOOR PAN VIEW



Figure A-35 POST-TEST DRIVER FLOOR PAN VIEW



Figure A-36 PRE-TEST PASSENGER FLOOR PAN VIEW

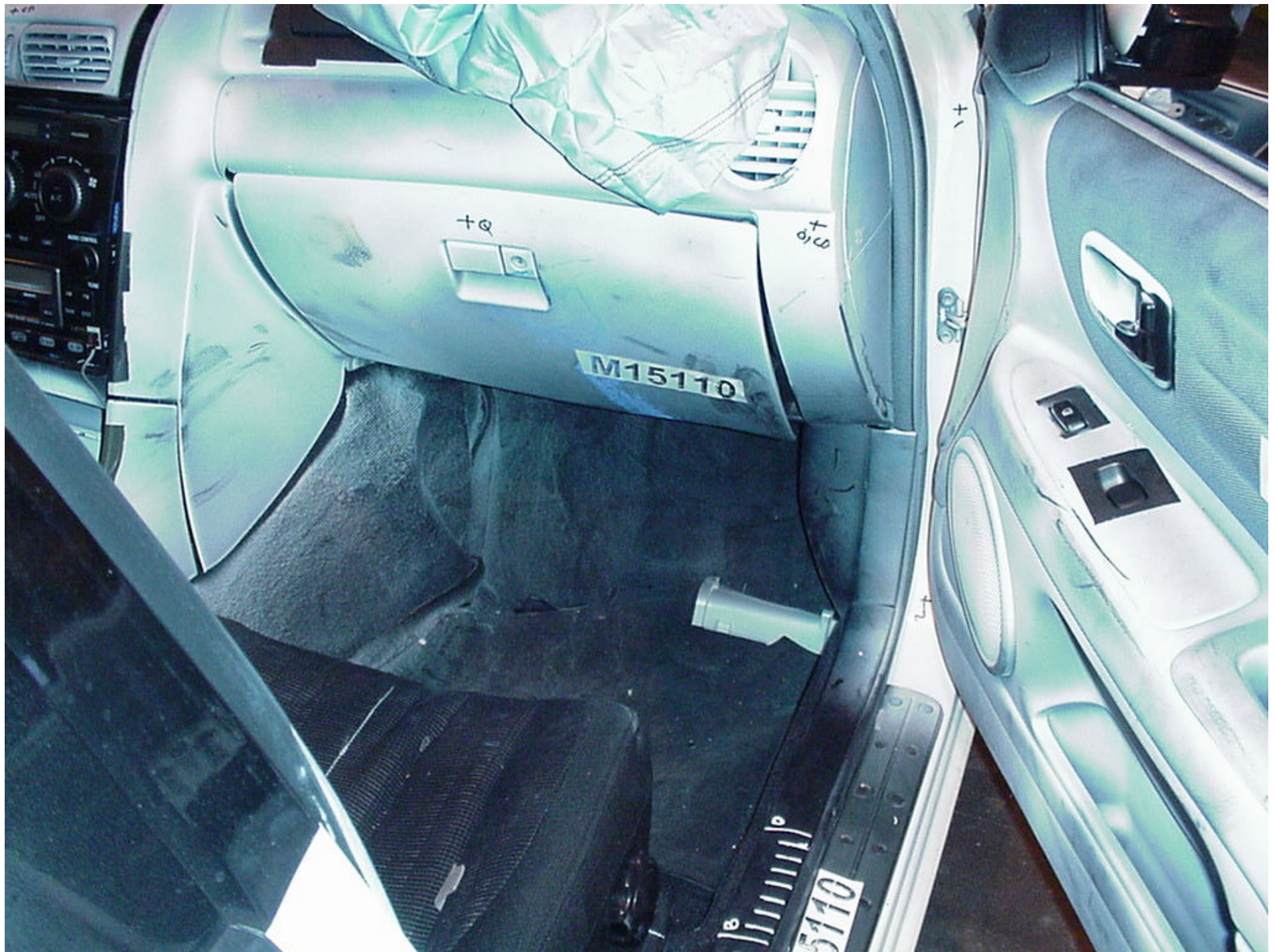


Figure A-37 POST-TEST PASSENGER FLOOR PAN VIEW



Figure A-38 ROLLOVER VIEW



Figure A-39 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 Fy Head left Fz Neck in tension Mx Left ear to left shoulder My Chin to chest (flexion) Mz Chin to 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	Compression is negative
Upper Tibia Load Cell (right and left leg)	Mx Support tibia at ends, load left side center My Support tibia at ends, load front (shin) center
Lower Tibia Load Cell (right and left leg)	Fz Tibia in tension Mx Support tibia at ends, load left side center My Support tibia at ends, load front (shin) center

DATA CHANNEL FILTER CLASS SUMMARY

NHTSA TEST NO. M15110

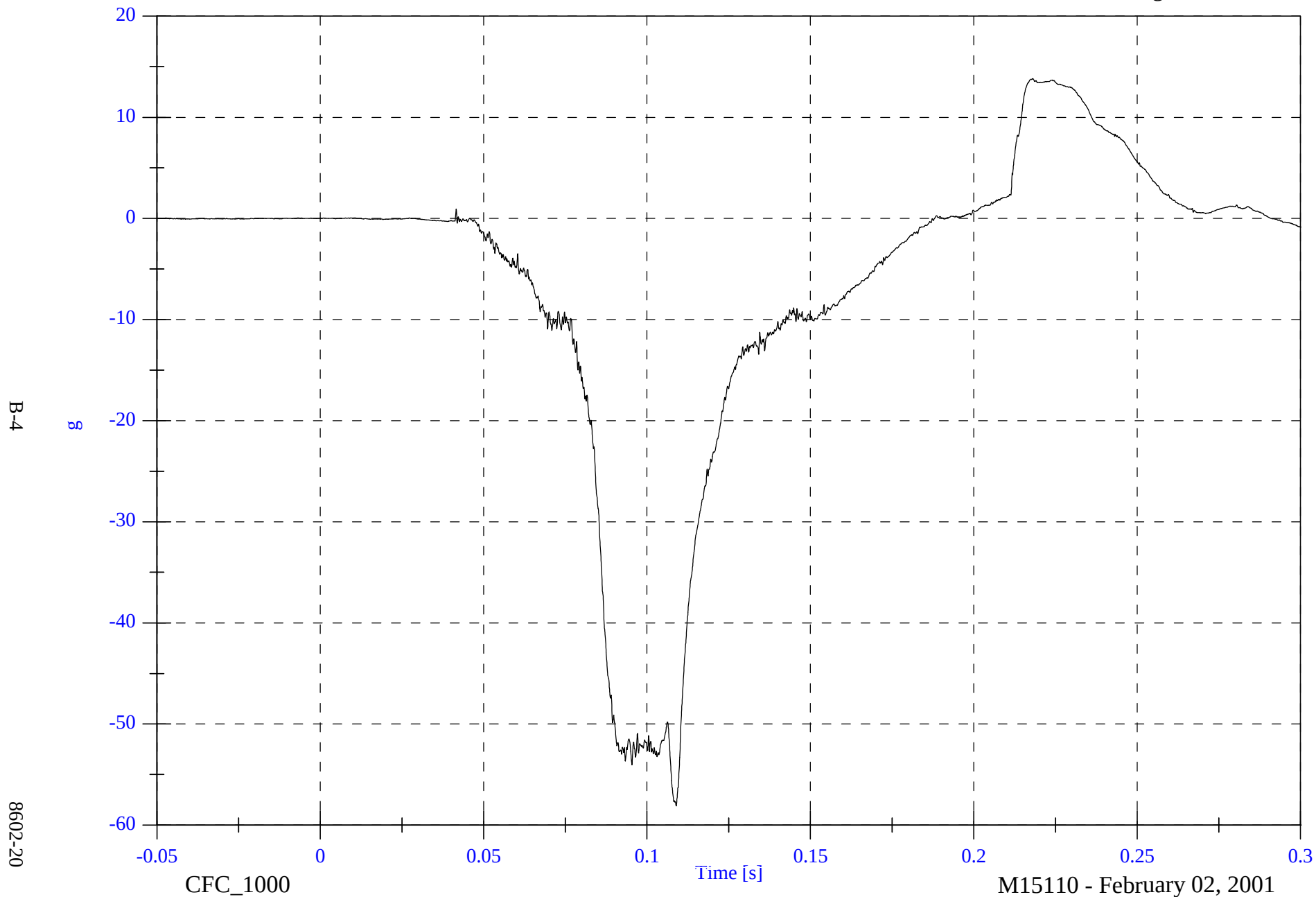
DATA TYPE	SAE FILTER CLASS (Hz)
Dummy Head Accelerations	1000
Dummy Chest Accelerations	180
Dummy Chest Displacements	60
Dummy Femur Forces	600
Dummy Belt Loads	60
Dummy Belt Displacements	180
Dummy Neck Forces	1000
Dummy Neck Moments	600
Vehicle Accelerations	60
Vehicle Velocity Integrations	180
Vehicle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

NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 13.8 [g] at 0.218 [s]

Min: -58.1 [g] at 0.109 [s]

P1 Head x

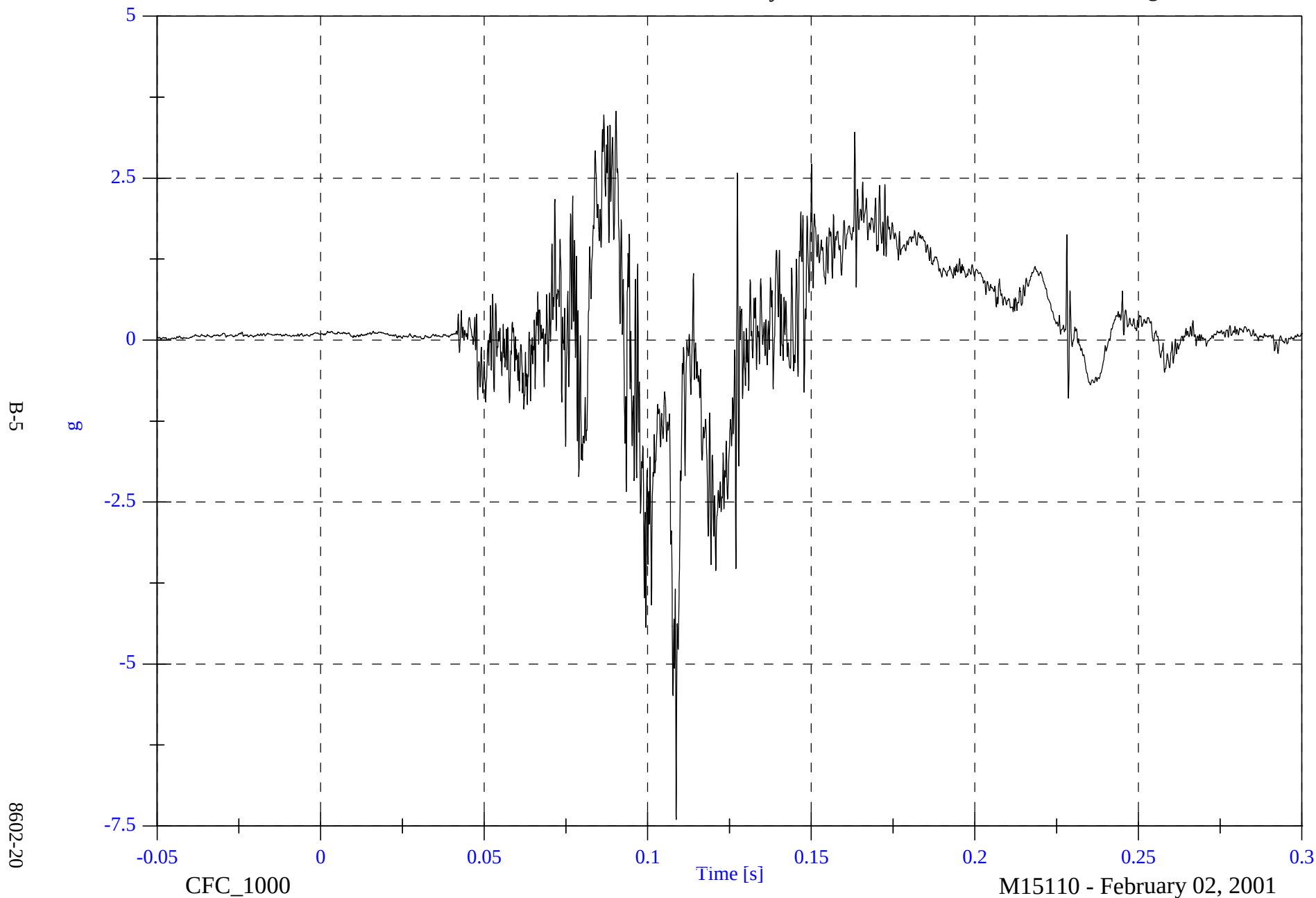


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 3.5 [g] at 0.090 [s]

Min: -7.4 [g] at 0.109 [s]

P1 Head y

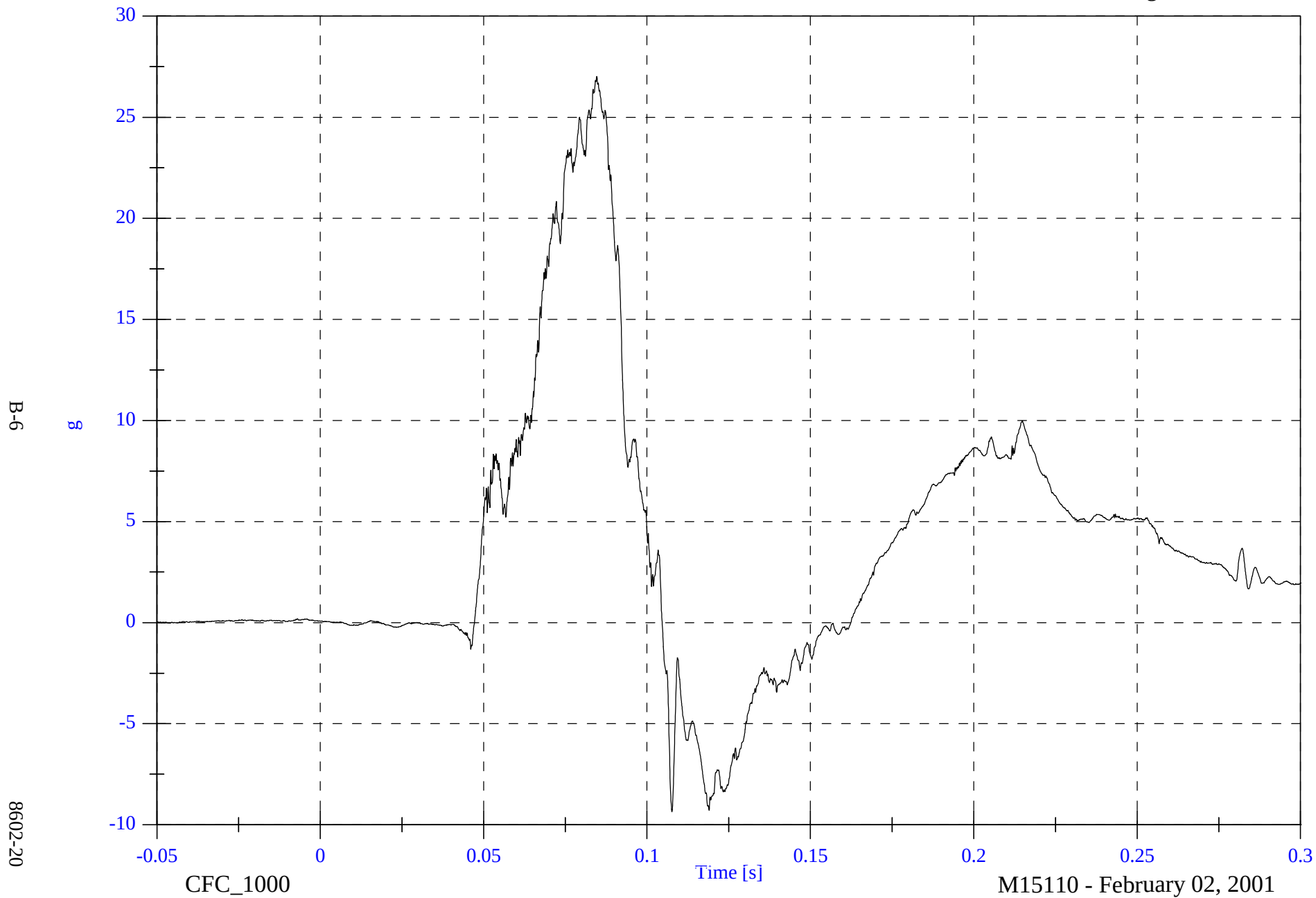


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 27.0 [g] at 0.085 [s]

Min: -9.4 [g] at 0.108 [s]

P1 Head z



8602-20

NCAP 2001 Test #20 - 2001 Lexus IS300

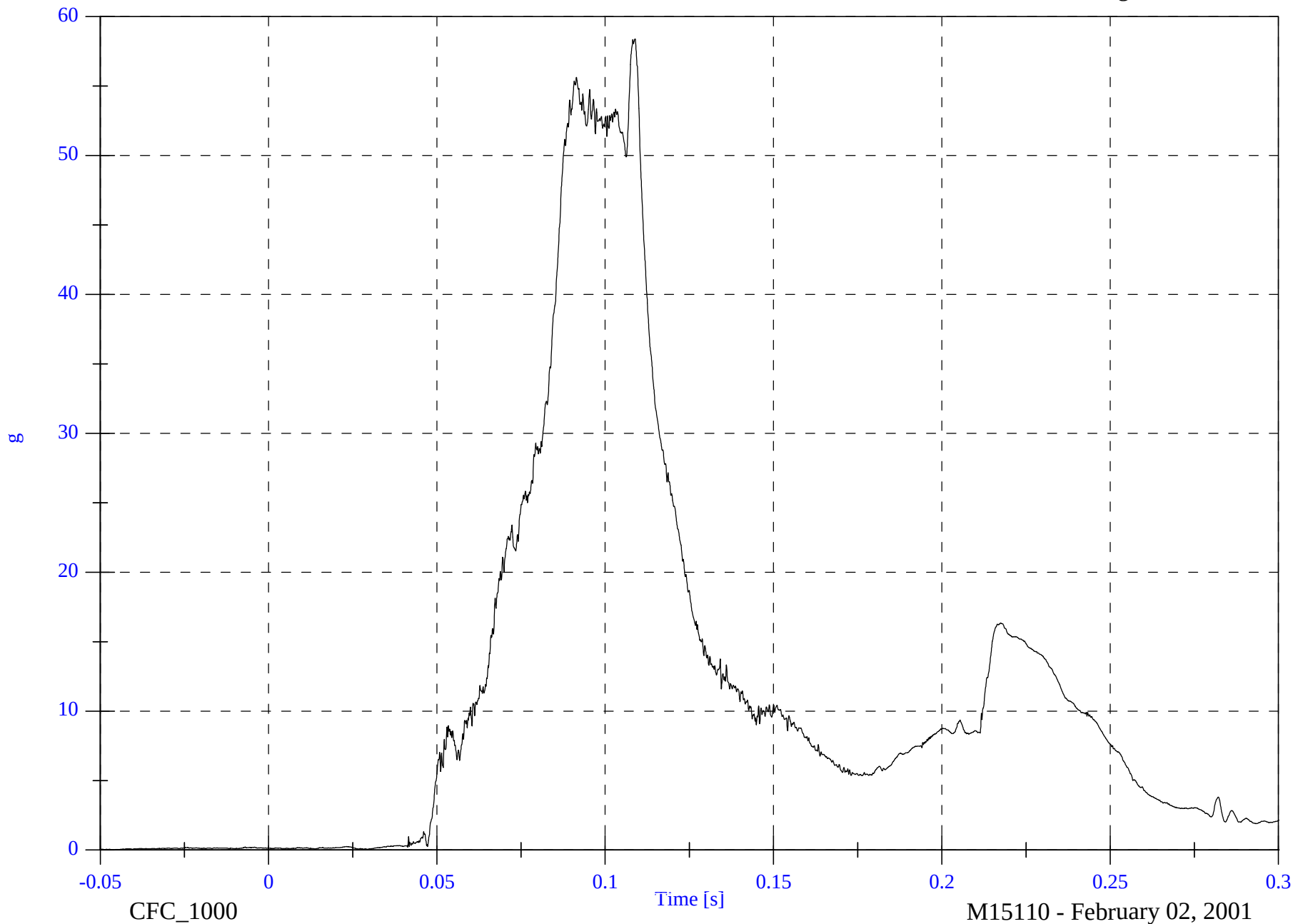
P1 Head Resultant

Max: 58.4 [g] at 0.109 [s]

Min: 0.0 [g] at -0.047 [s]

B-7

8602-20

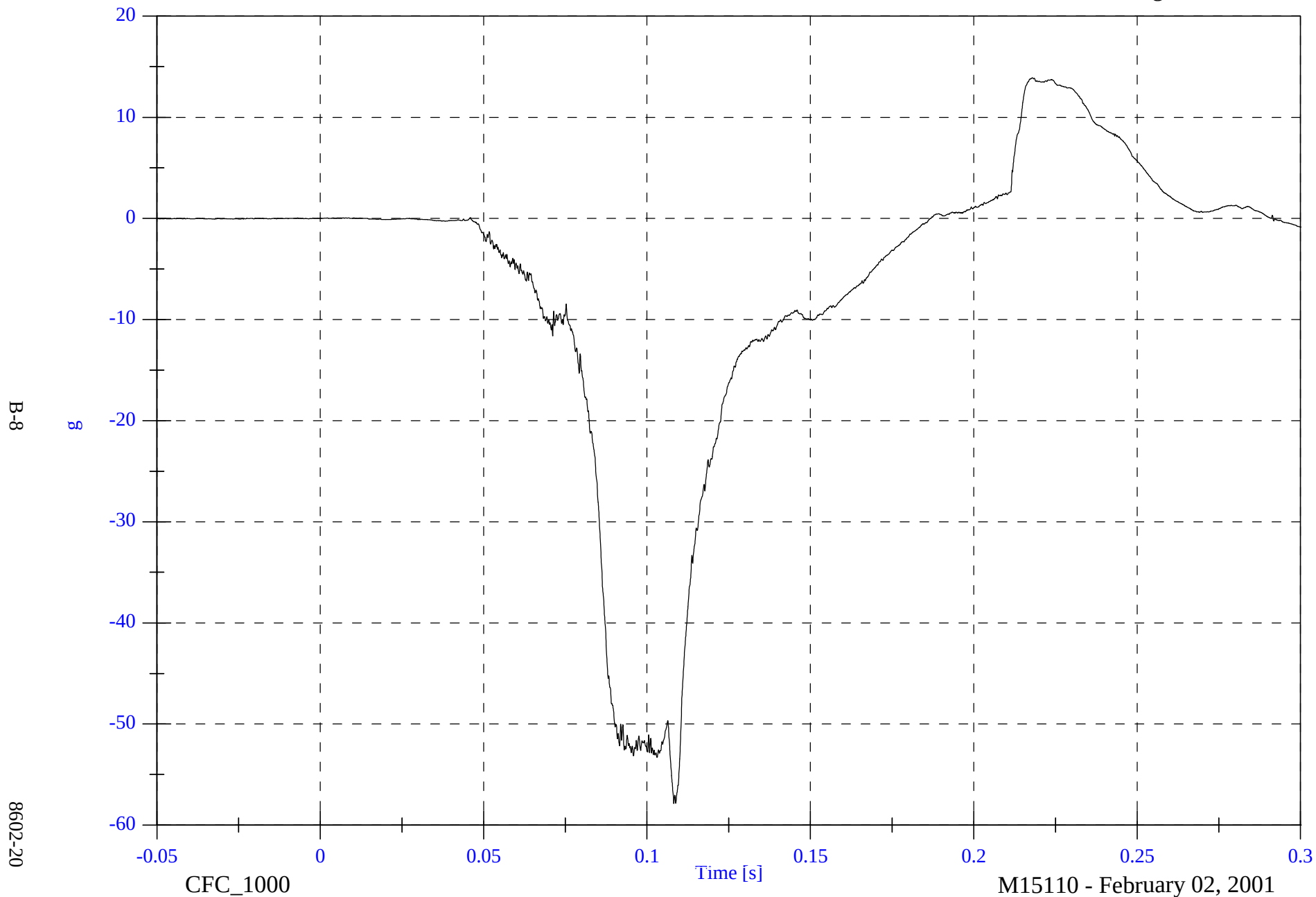


NCAP 2001 Test #20 - 2001 Lexus IS300

P1 Head Red x

Max: 13.9 [g] at 0.218 [s]

Min: -57.9 [g] at 0.108 [s]

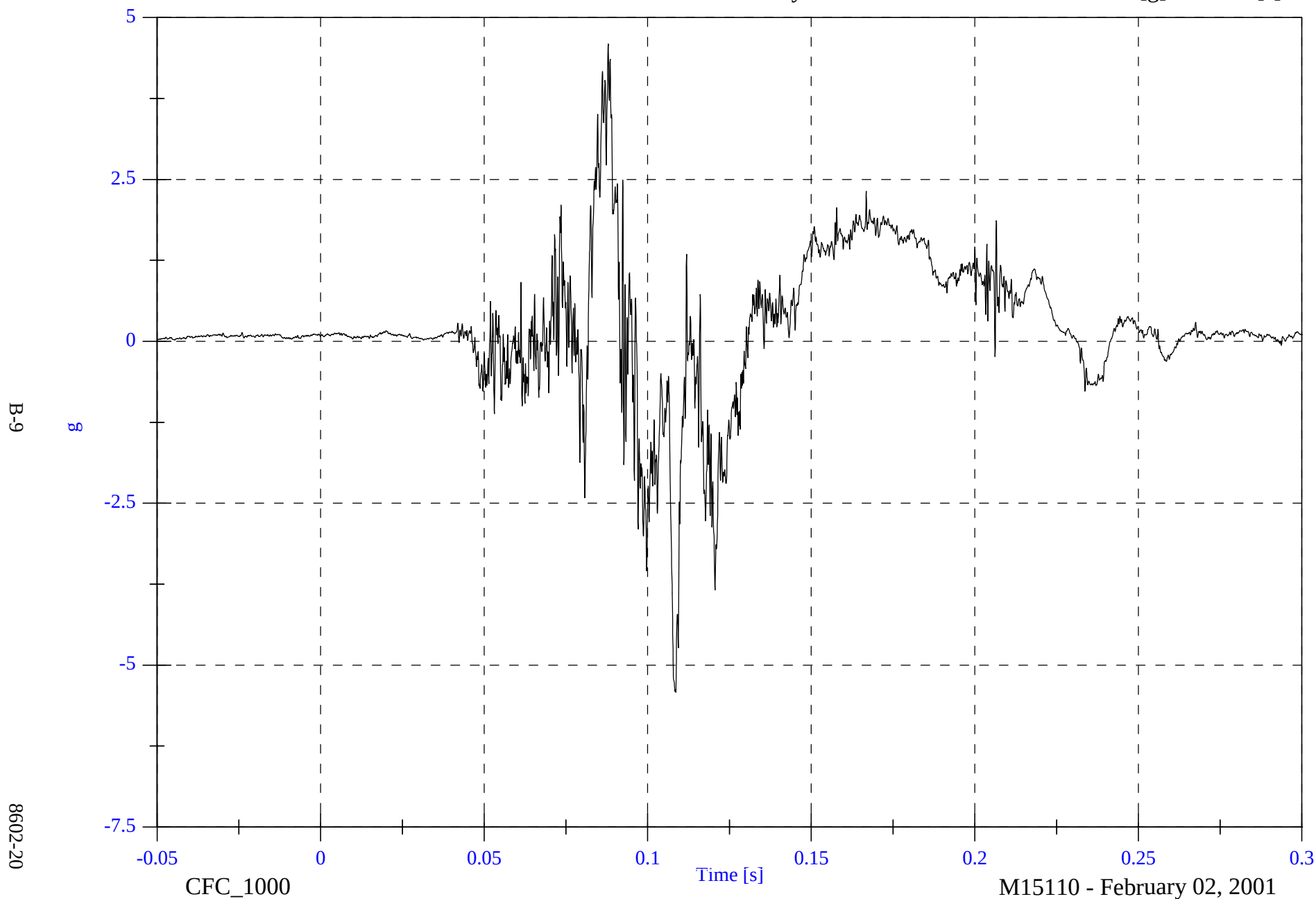


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 4.6 [g] at 0.088 [s]

Min: -5.4 [g] at 0.109 [s]

P1 Head Red y

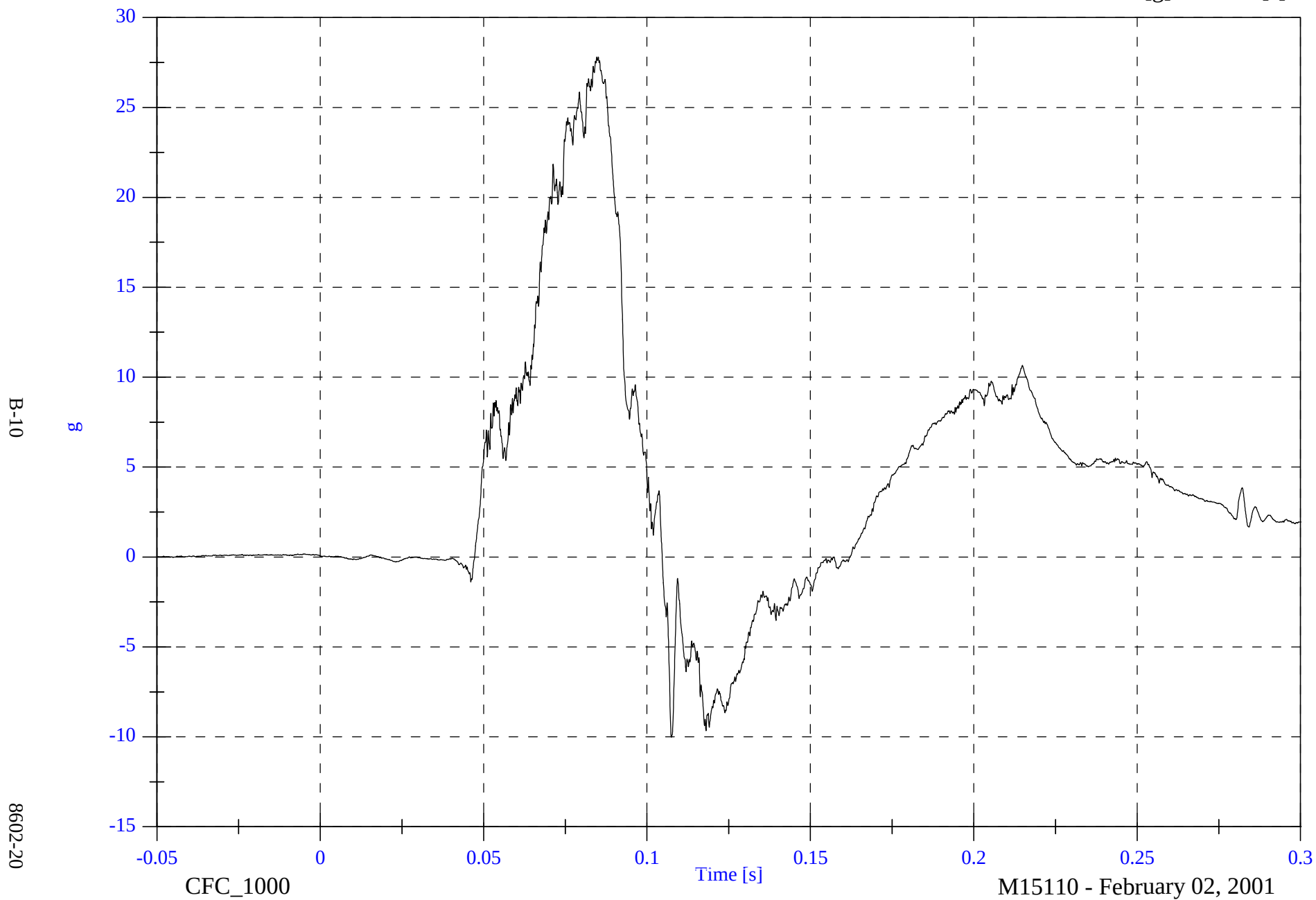


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 27.8 [g] at 0.085 [s]

Min: -10.0 [g] at 0.107 [s]

P1 Head Red z



NCAP 2001 Test #20 - 2001 Lexus IS300

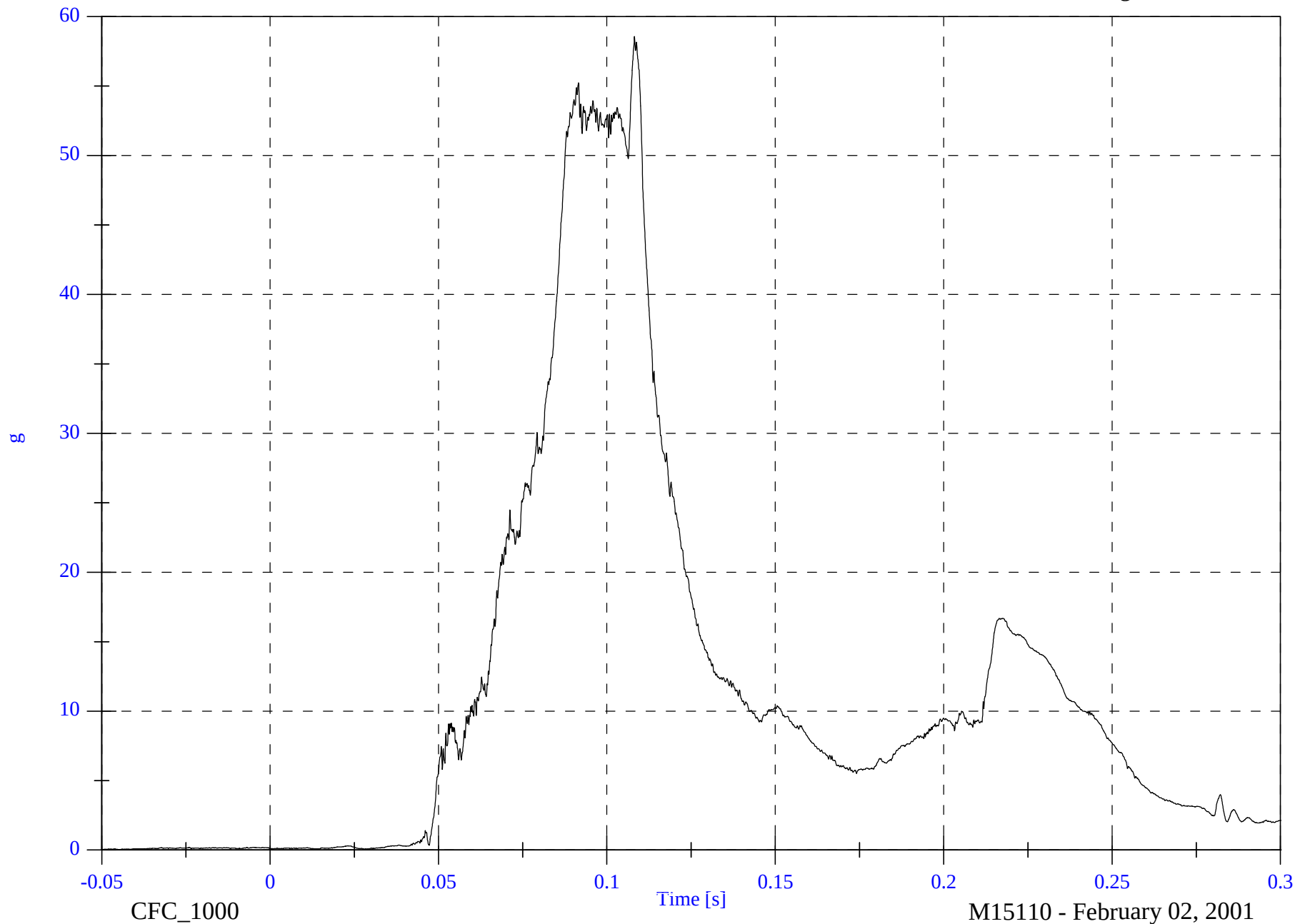
Max: 58.6 [g] at 0.108 [s]

Min: 0.0 [g] at -0.045 [s]

P1 Head Red Resultant

B-11

8602-20

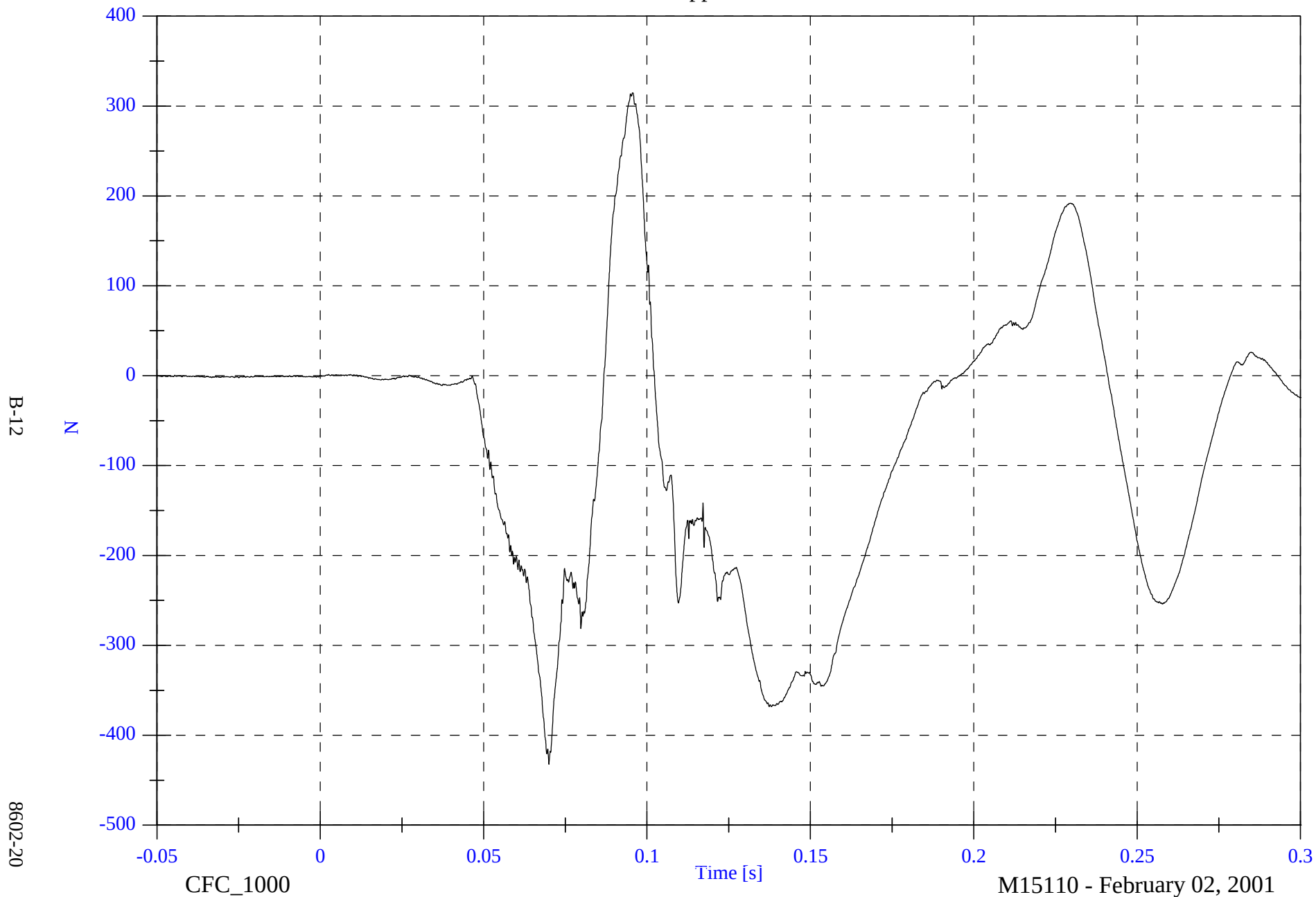


NCAP 2001 Test #20 - 2001 Lexus IS300

P1 Upper Neck Fx

Max: 314.8 [N] at 0.096 [s]

Min: -432.2 [N] at 0.070 [s]



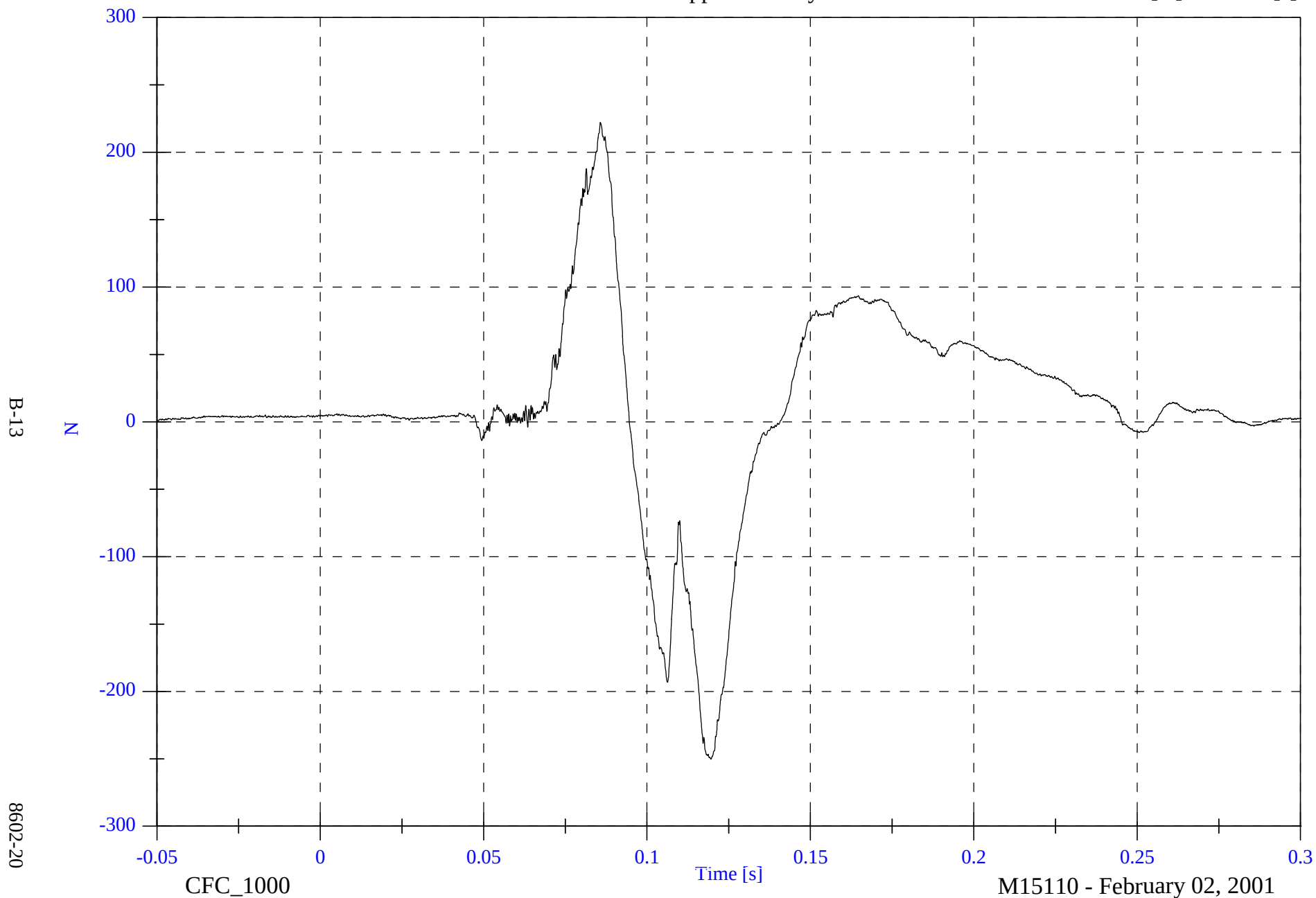
8602-20

NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 222.2 [N] at 0.086 [s]

Min: -250.3 [N] at 0.120 [s]

P1 Upper Neck Fy

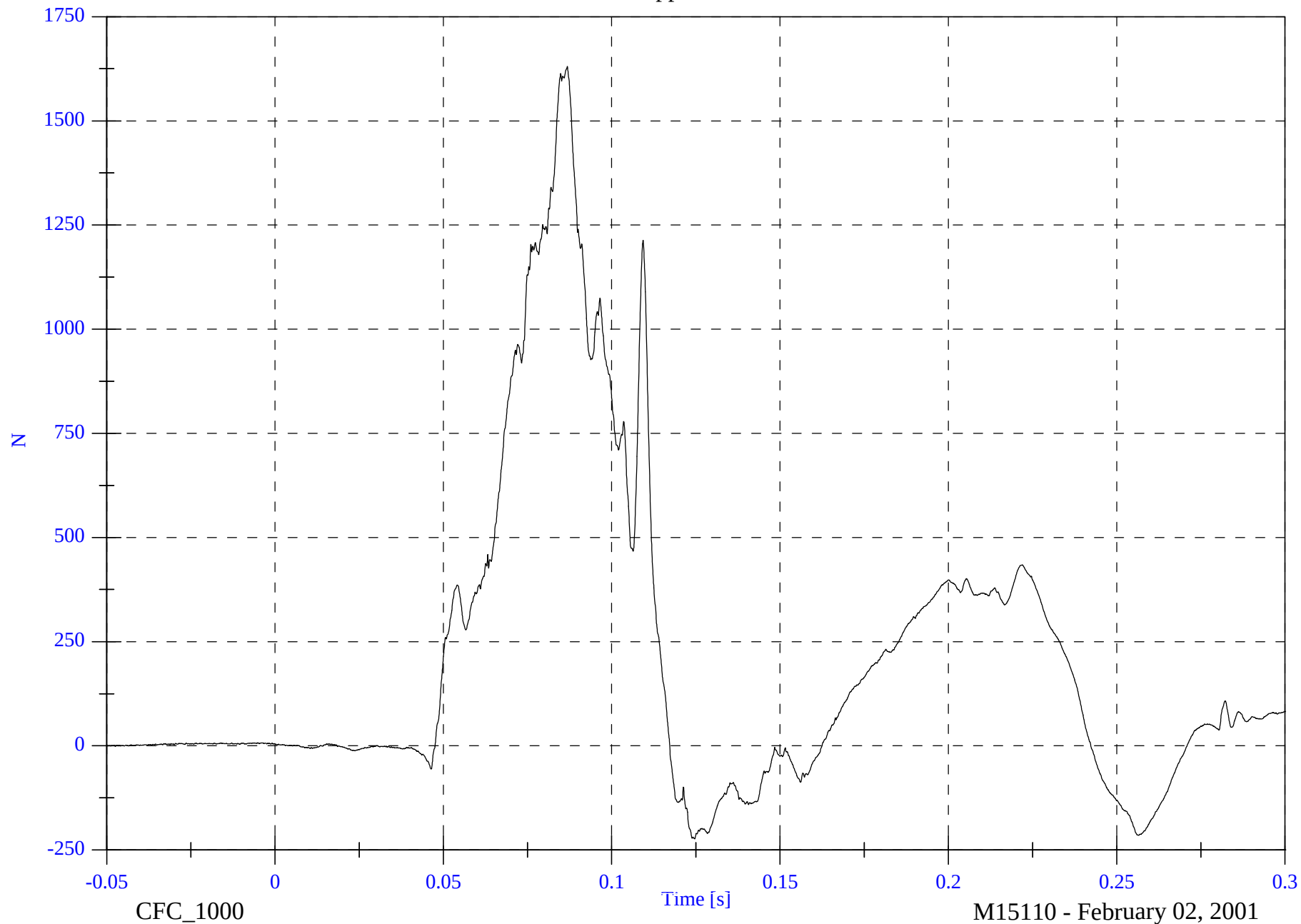


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 1631.0 [N] at 0.087 [s]

Min: -223.4 [N] at 0.125 [s]

P1 Upper Neck Fz



B-14

8602-20

CFC_1000

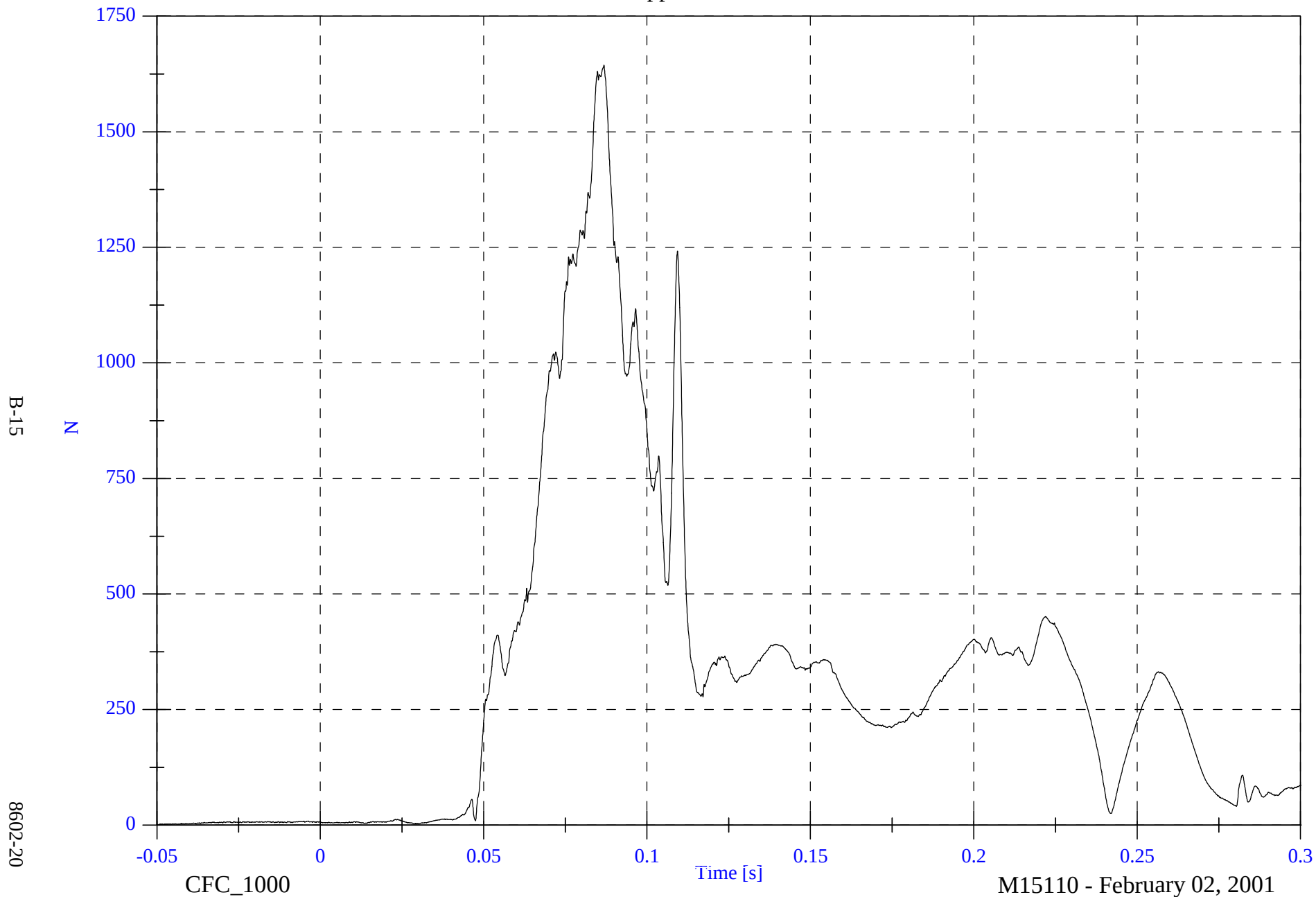
M15110 - February 02, 2001

NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 1644.4 [N] at 0.087 [s]

P1 Upper Neck F Resultant

Min: 0.9 [N] at -0.050 [s]

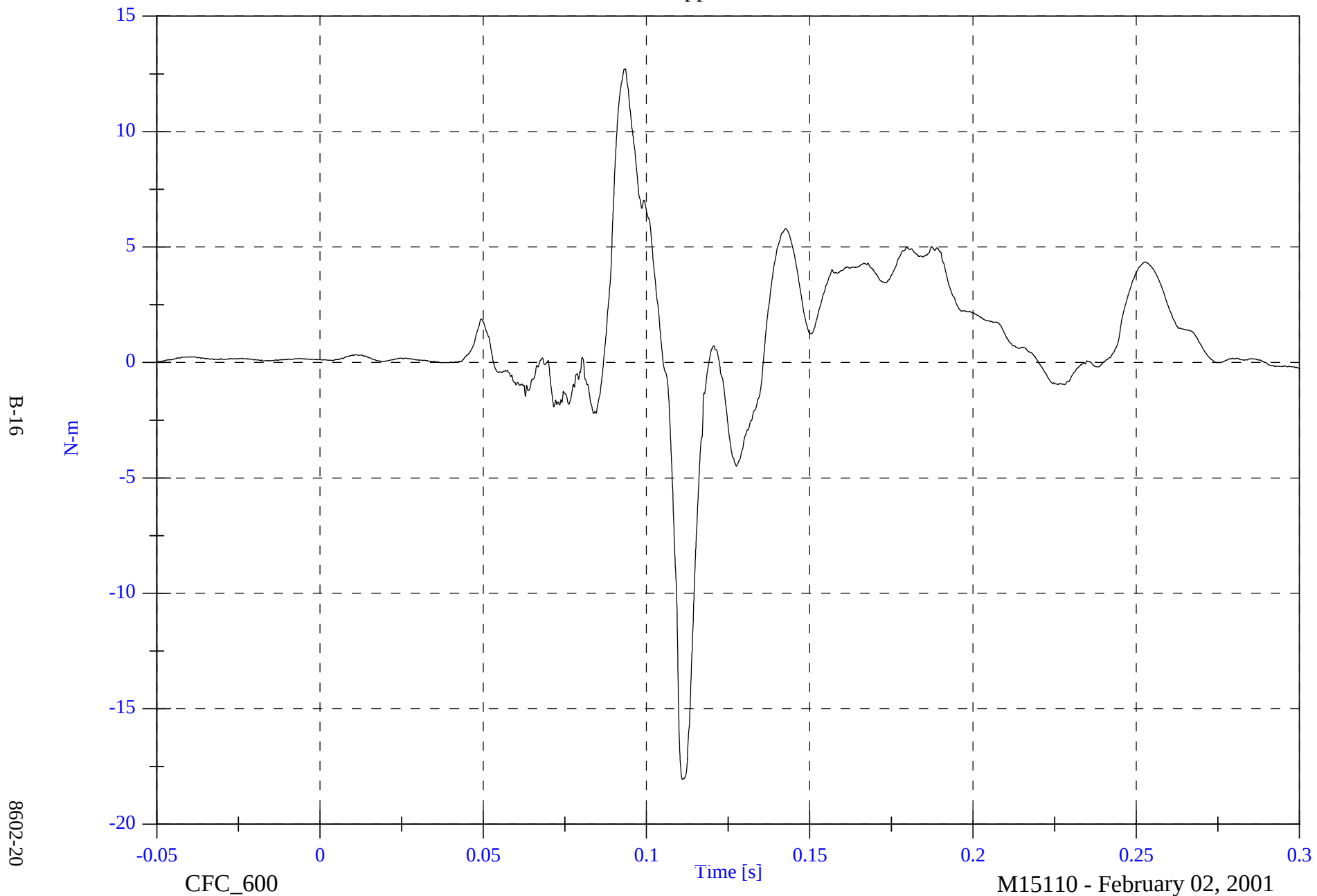


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 12.7 [N-m] at 0.094 [s]

Min: -18.1 [N-m] at 0.111 [s]

P1 Upper Neck Mx

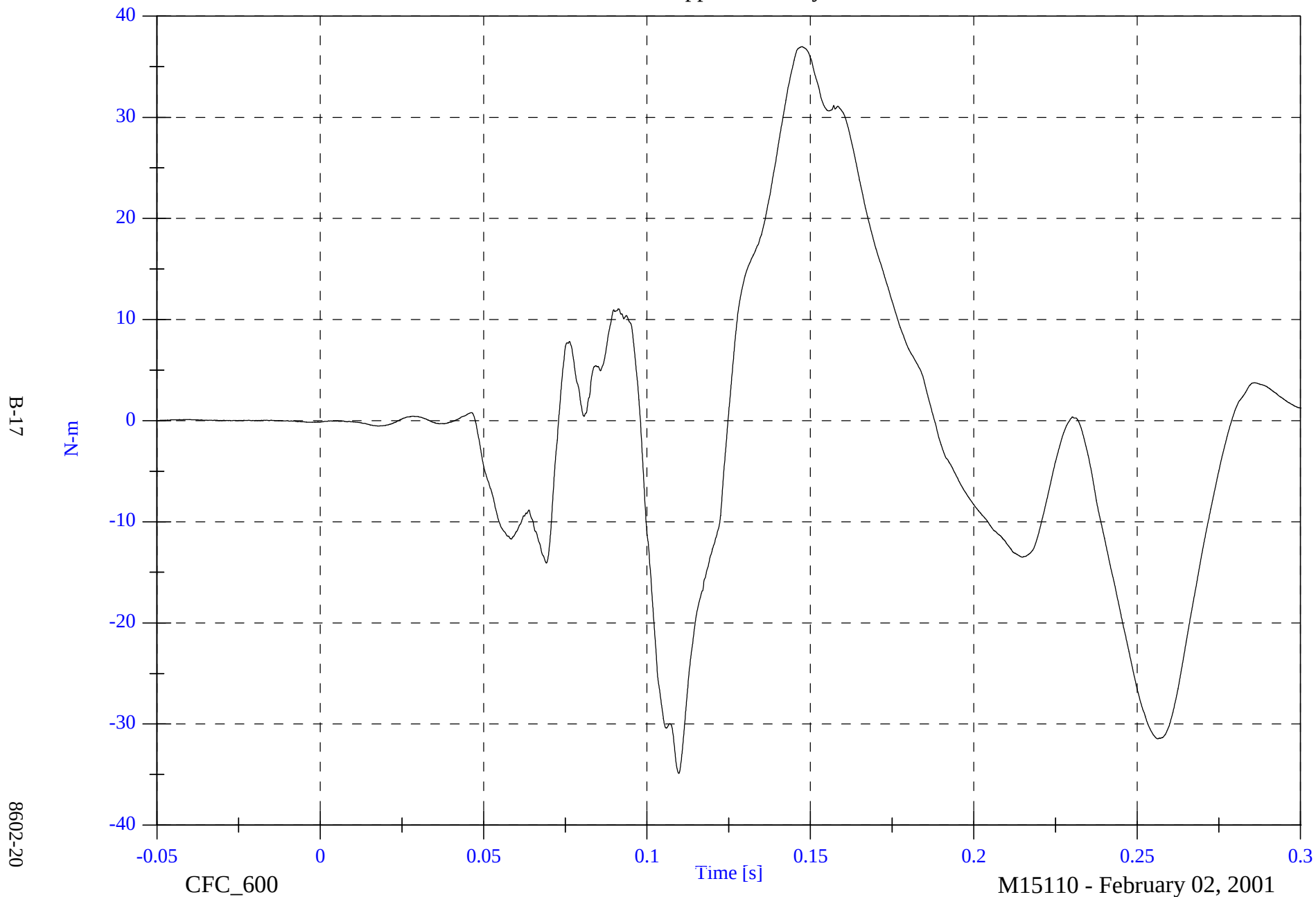


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 37.0 [N-m] at 0.147 [s]

Min: -34.9 [N-m] at 0.110 [s]

P1 Upper Neck My

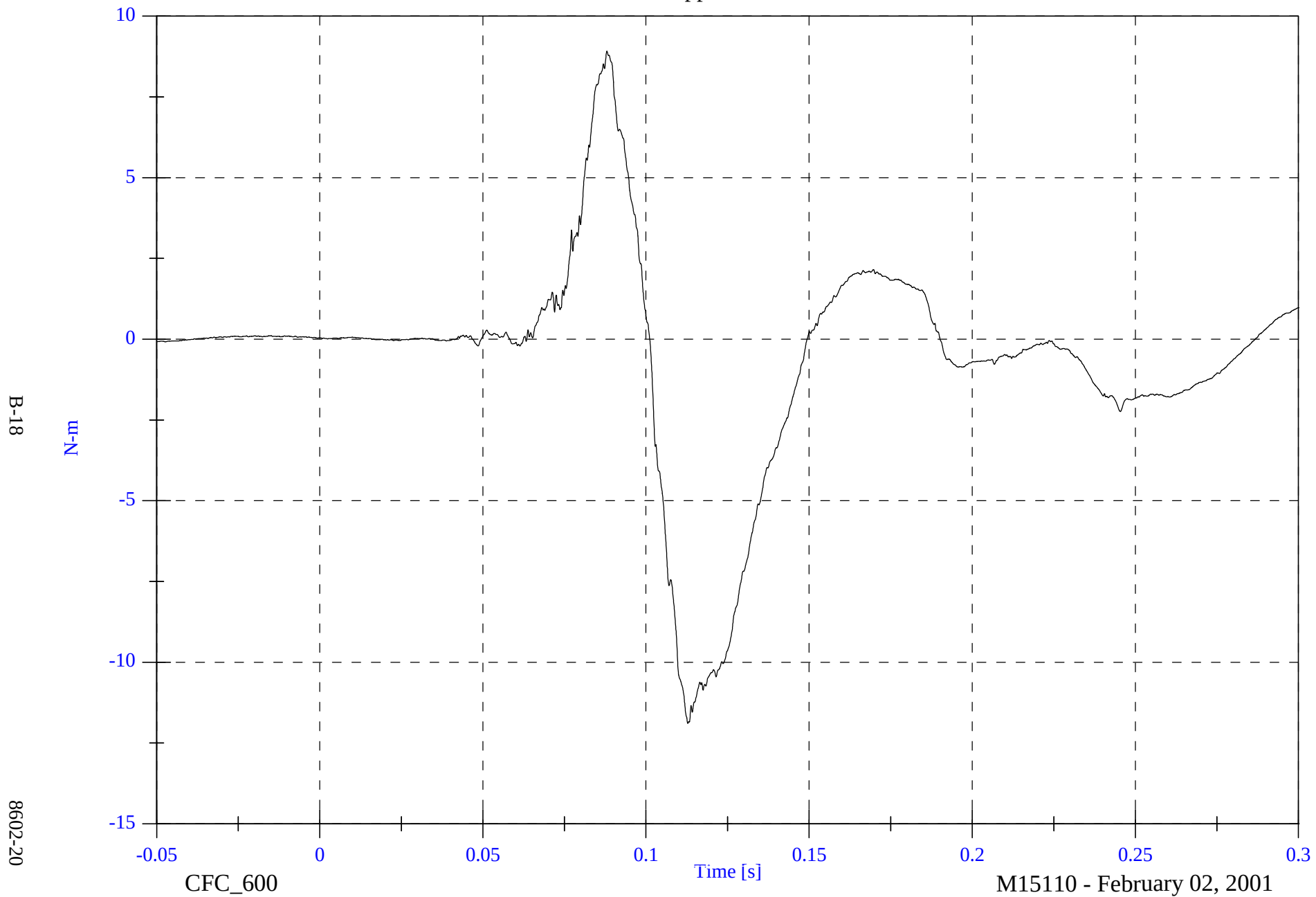


NCAP 2001 Test #20 - 2001 Lexus IS300

P1 Upper Neck Mz

Max: 8.9 [N-m] at 0.088 [s]

Min: -11.9 [N-m] at 0.113 [s]

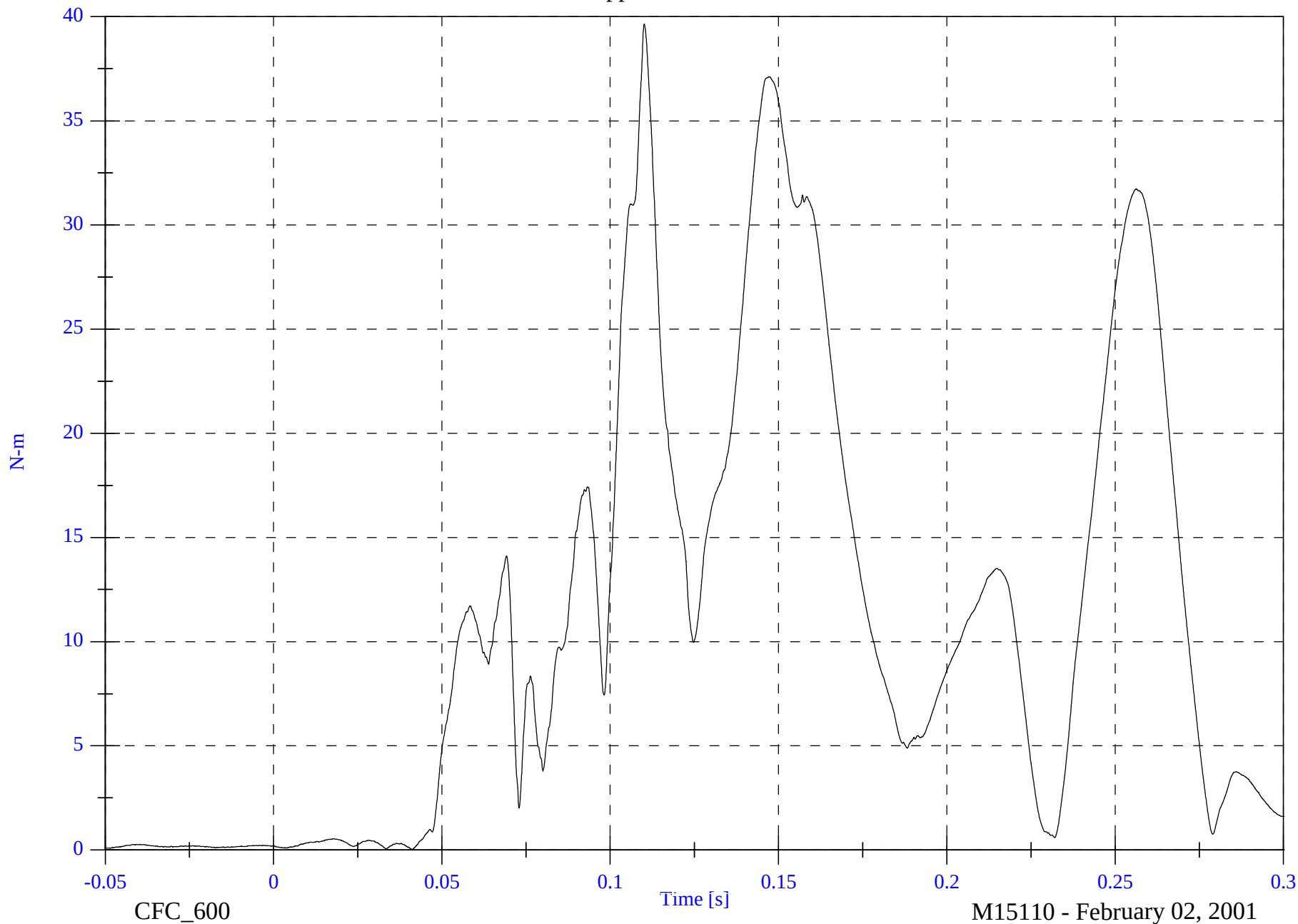


NCAP 2001 Test #20 - 2001 Lexus IS300

P1 Upper Neck M Resultant

Max: 39.6 [N-m] at 0.110 [s]

Min: 0.0 [N-m] at 0.041 [s]



B-19

8602-20

CFC_600

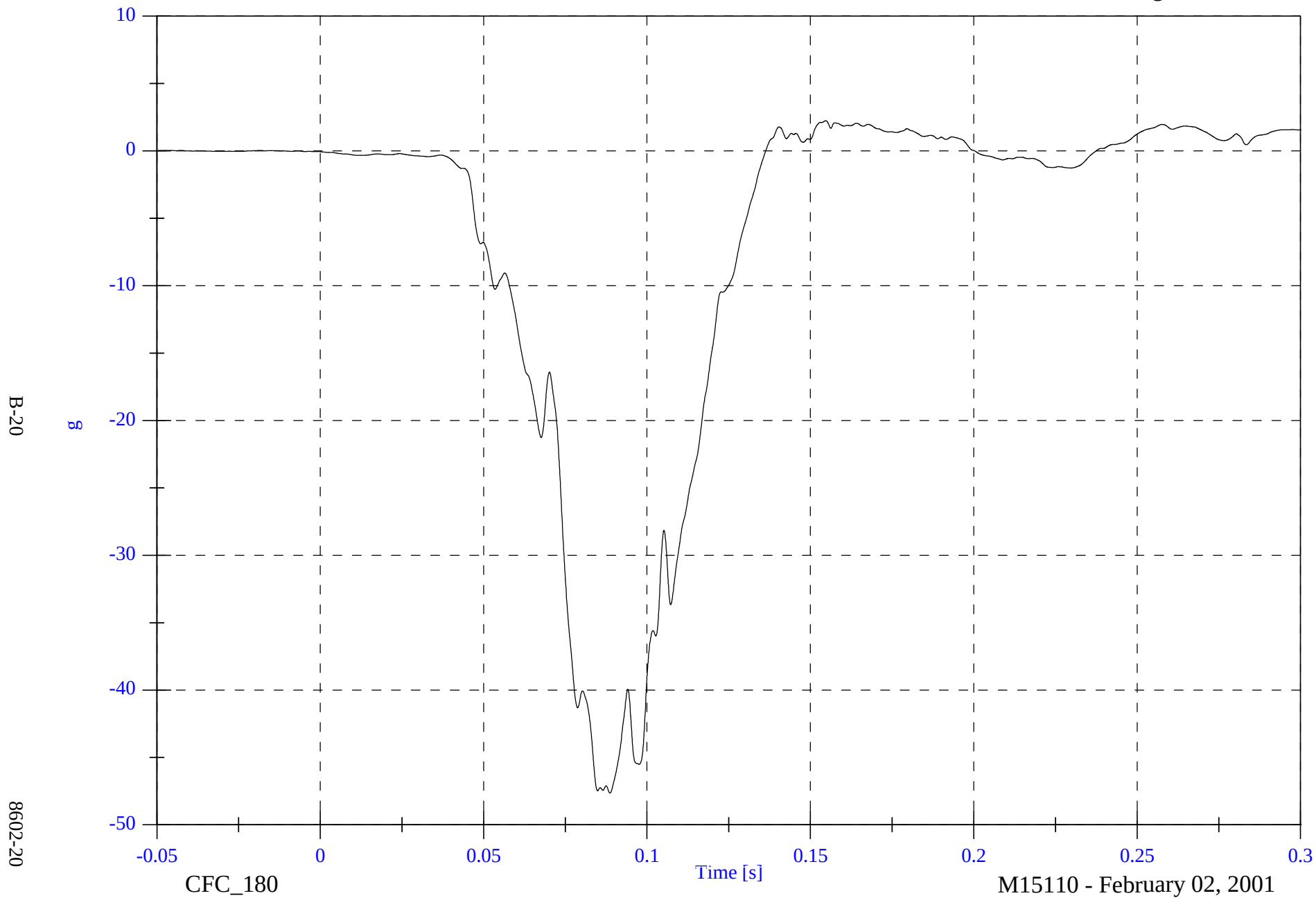
M15110 - February 02, 2001

NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 2.2 [g] at 0.155 [s]

Min: -47.6 [g] at 0.089 [s]

P1 Chest x

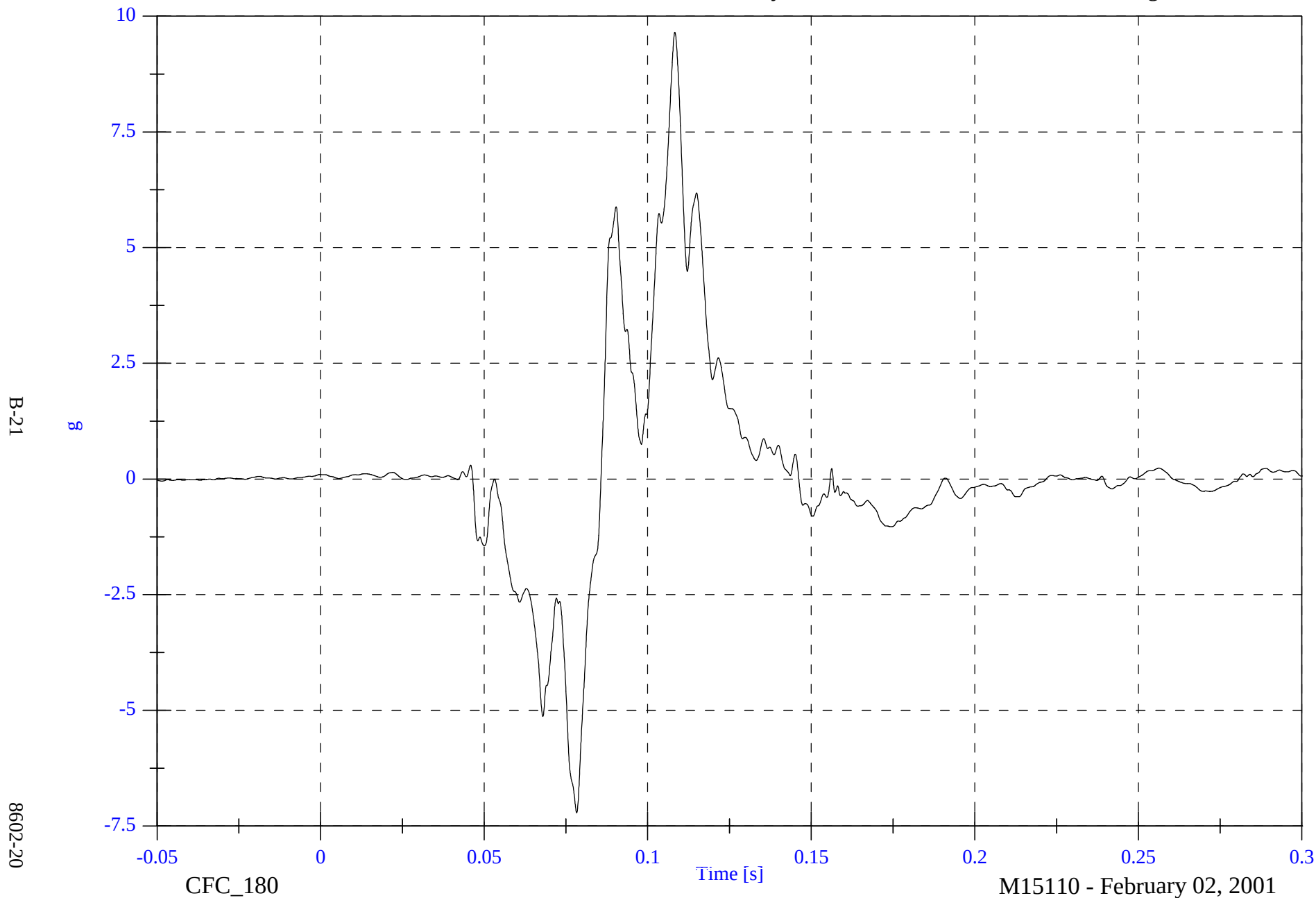


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 9.7 [g] at 0.108 [s]

Min: -7.2 [g] at 0.078 [s]

P1 Chest y

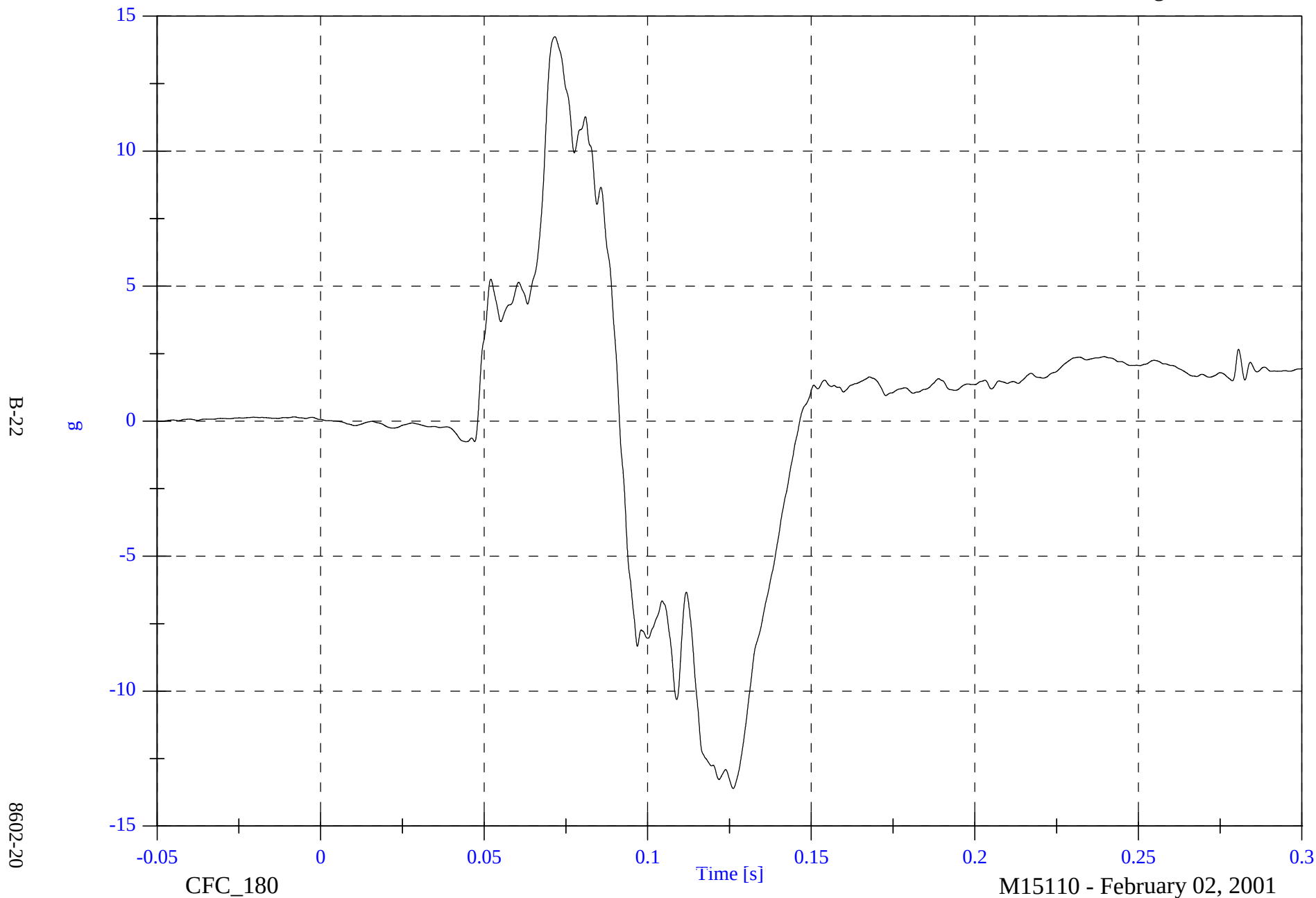


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 14.2 [g] at 0.072 [s]

Min: -13.6 [g] at 0.126 [s]

P1 Chest z

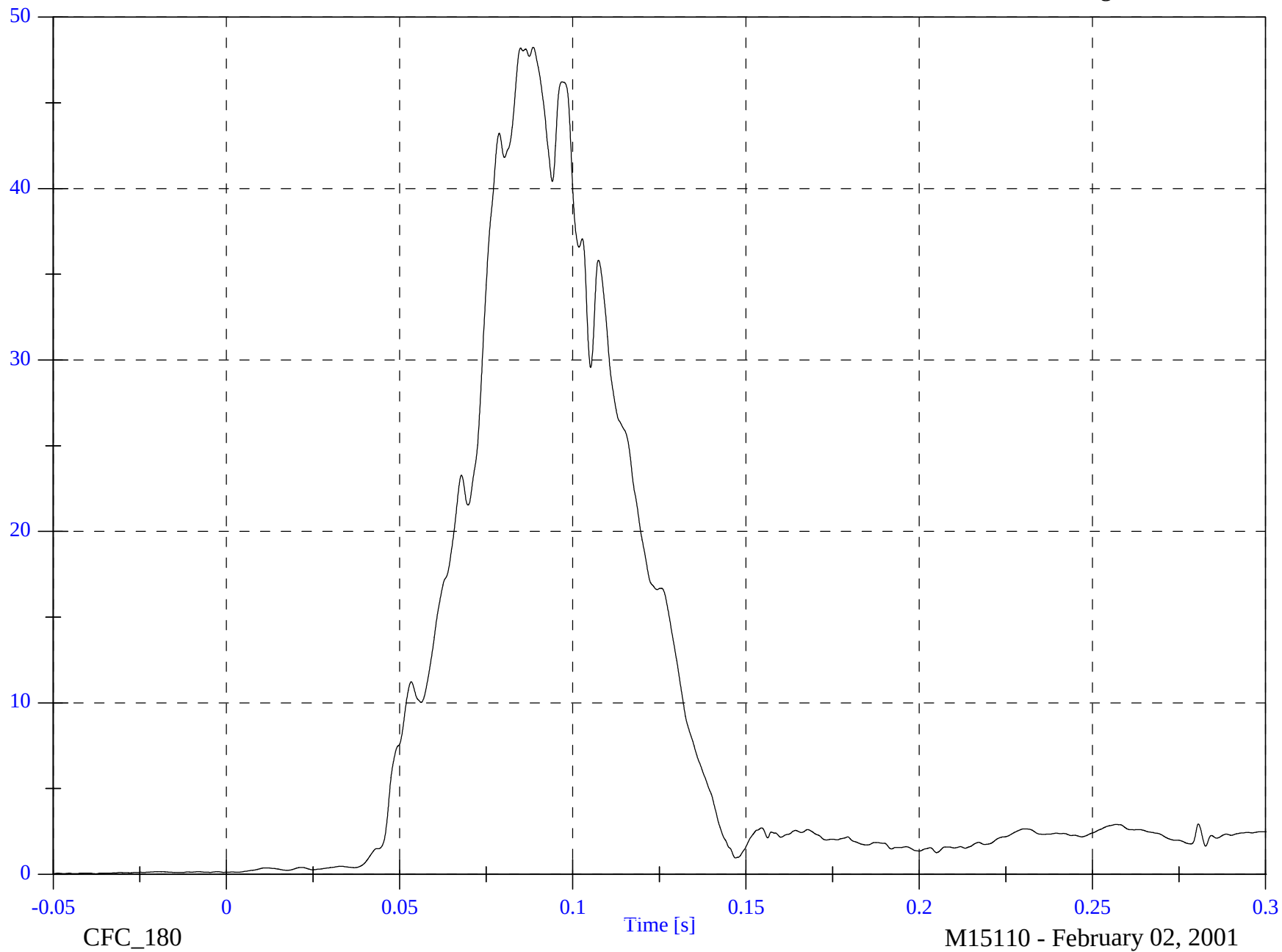


NCAP 2001 Test #20 - 2001 Lexus IS300

P1 Chest Resultant

Max: 48.2 [g] at 0.089 [s]

Min: 0.0 [g] at -0.038 [s]

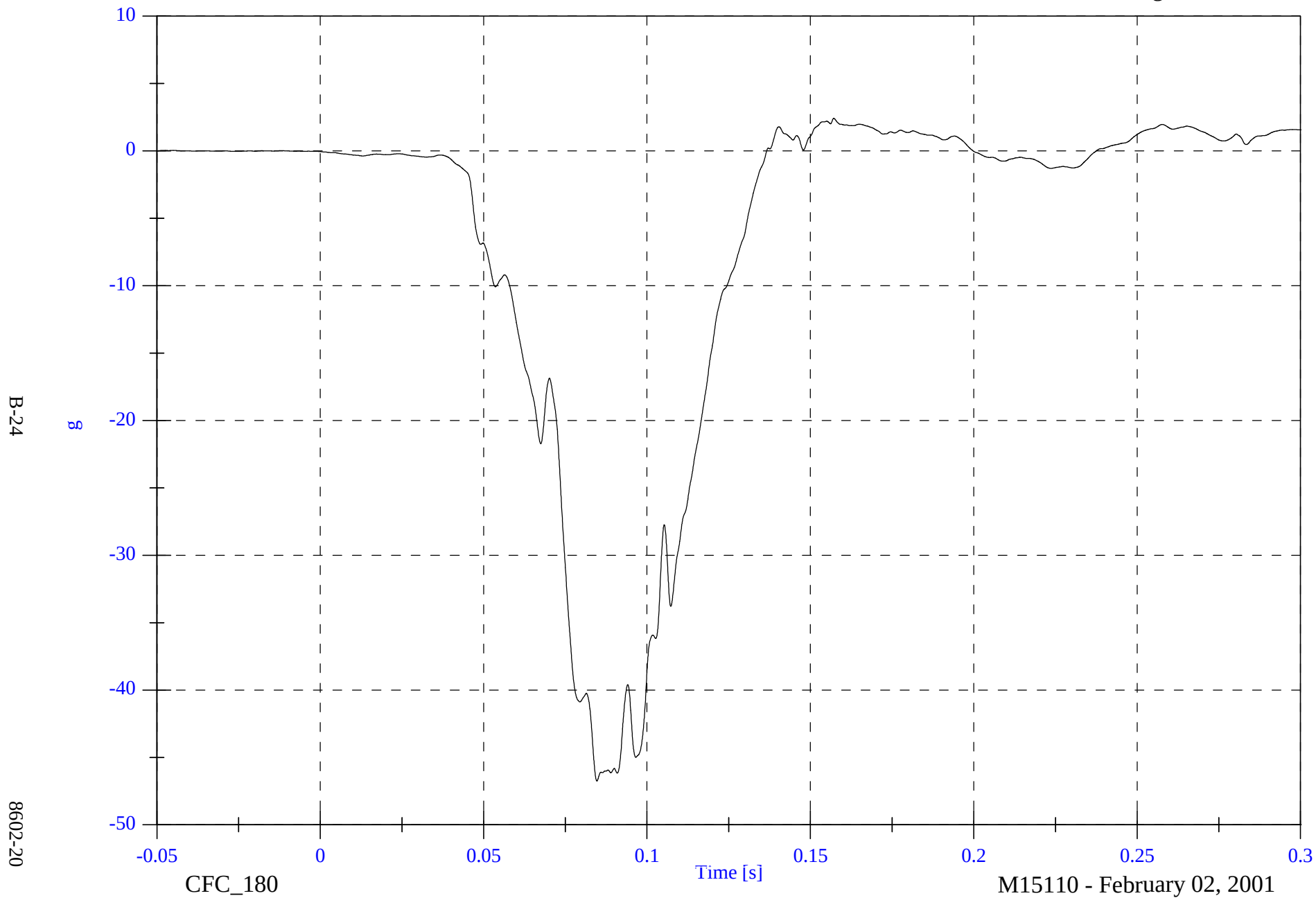


NCAP 2001 Test #20 - 2001 Lexus IS300

P1 Chest Red x

Max: 2.4 [g] at 0.157 [s]

Min: -46.8 [g] at 0.085 [s]

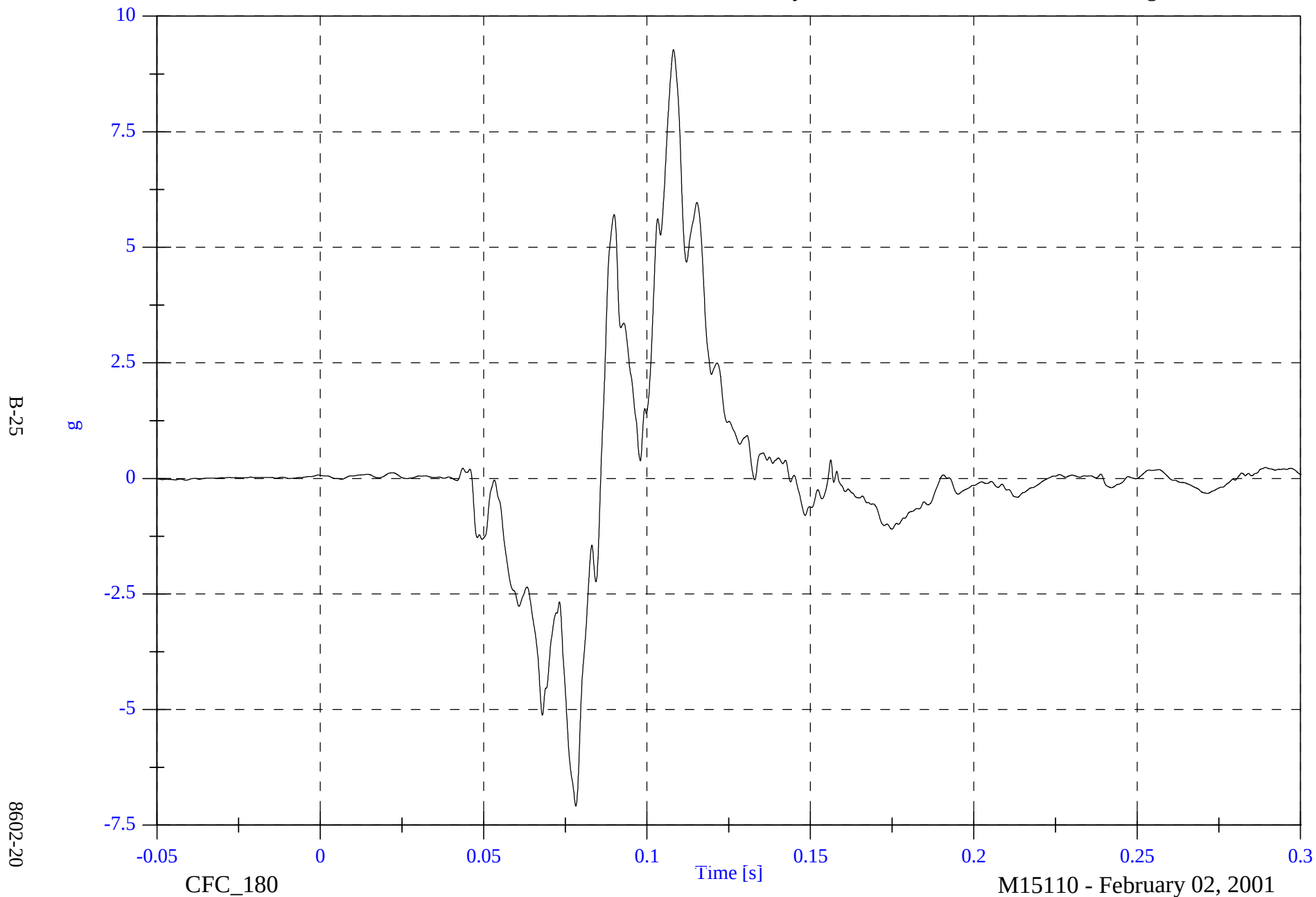


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 9.3 [g] at 0.108 [s]

Min: -7.1 [g] at 0.078 [s]

P1 Chest Red y

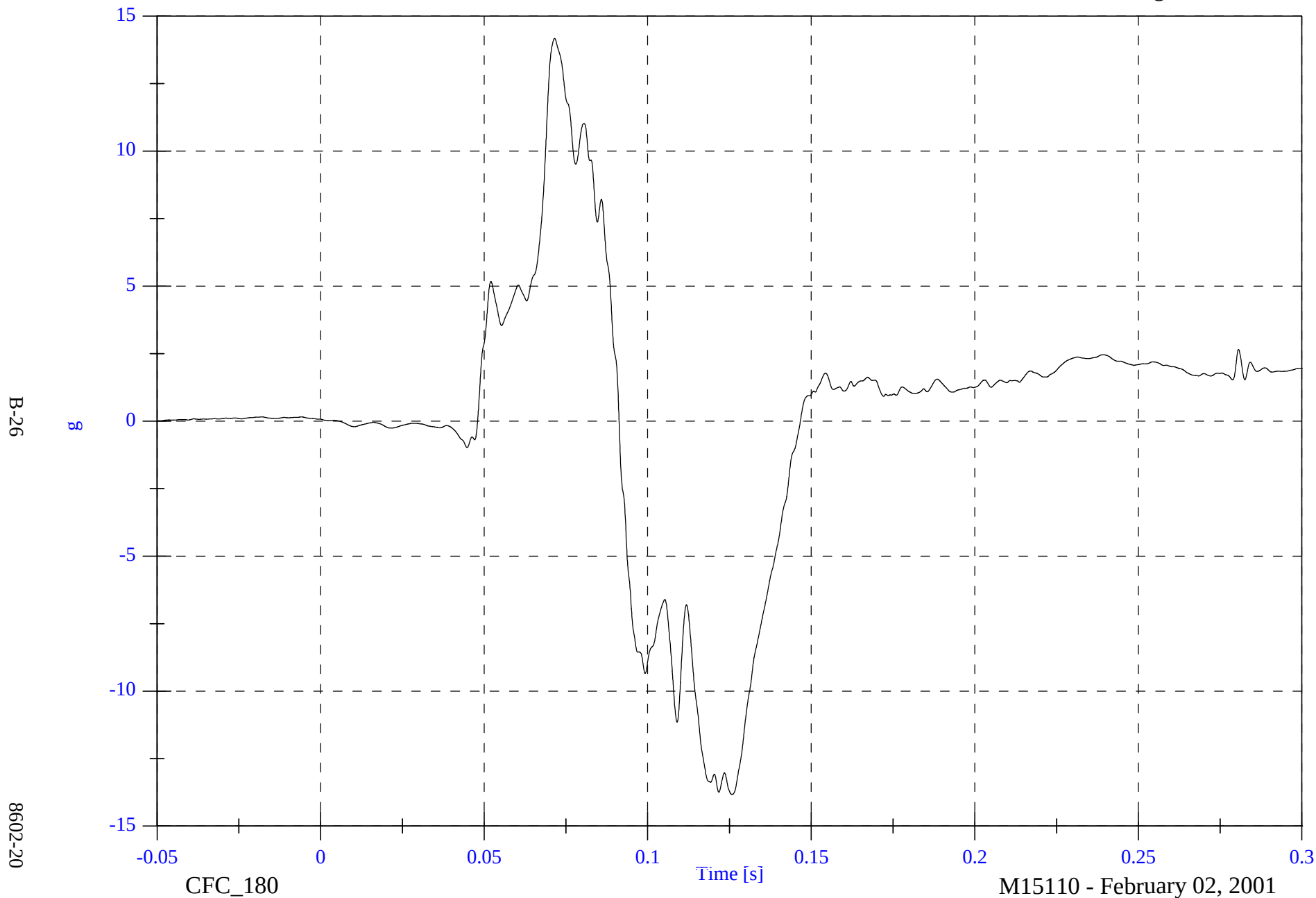


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 14.2 [g] at 0.071 [s]

Min: -13.8 [g] at 0.126 [s]

P1 Chest Red z

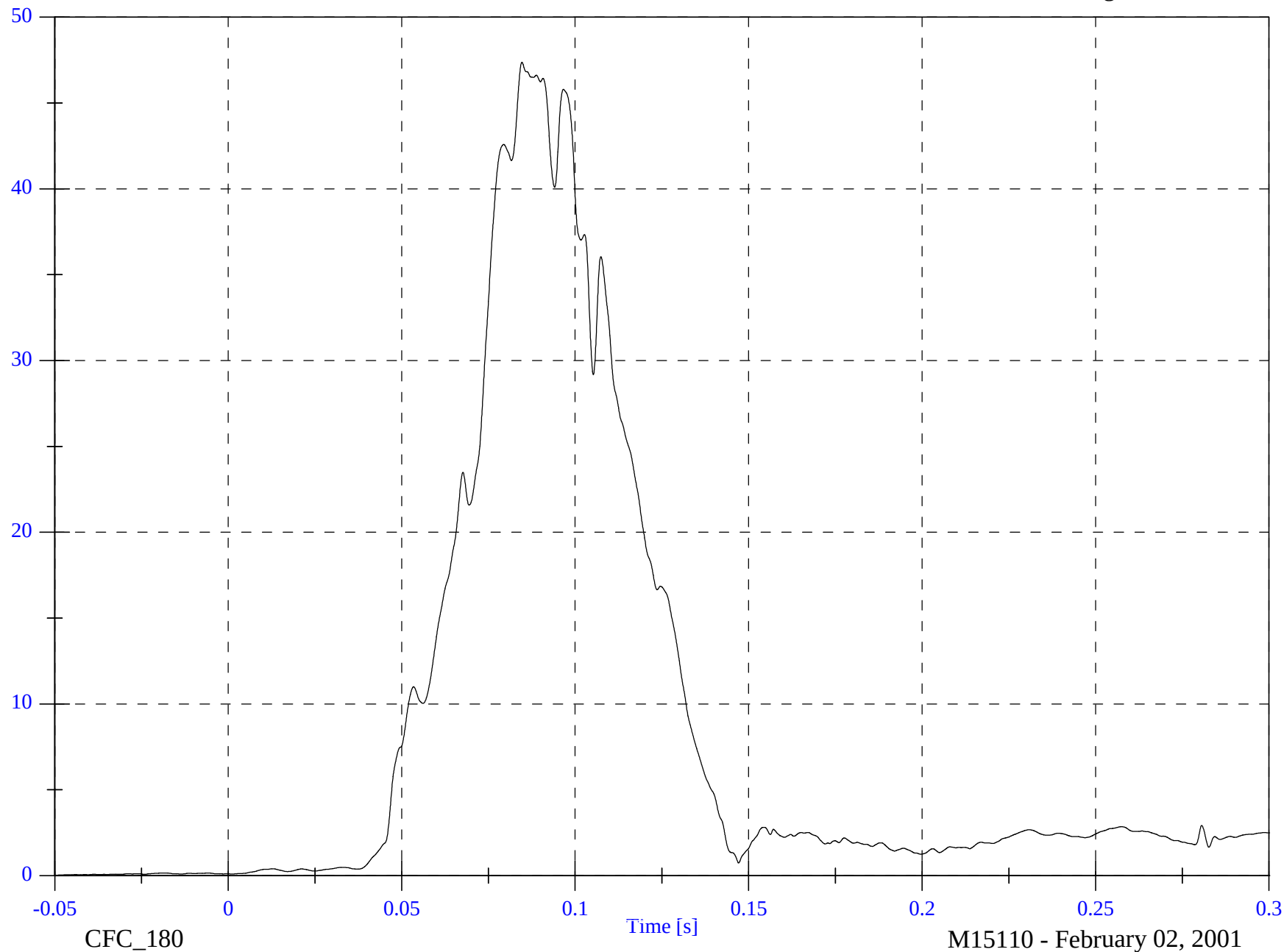


NCAP 2001 Test #20 - 2001 Lexus IS300

P1 Chest Red Resultant

Max: 47.4 [g] at 0.085 [s]

Min: 0.0 [g] at -0.050 [s]



B-27

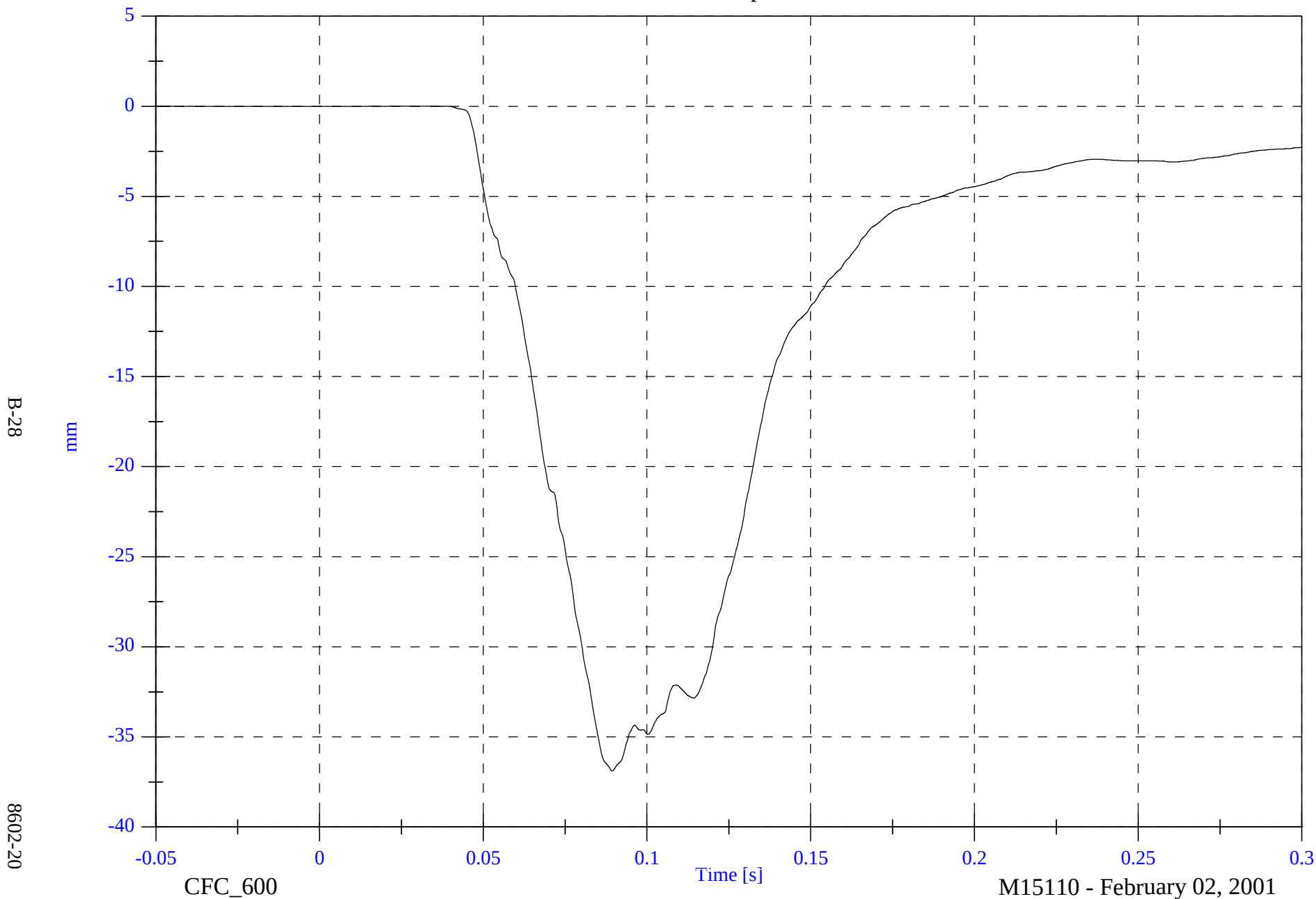
8602-20

NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 0.0 [mm] at 0.028 [s]

P1 Chest Compression x

Min: -36.9 [mm] at 0.089 [s]

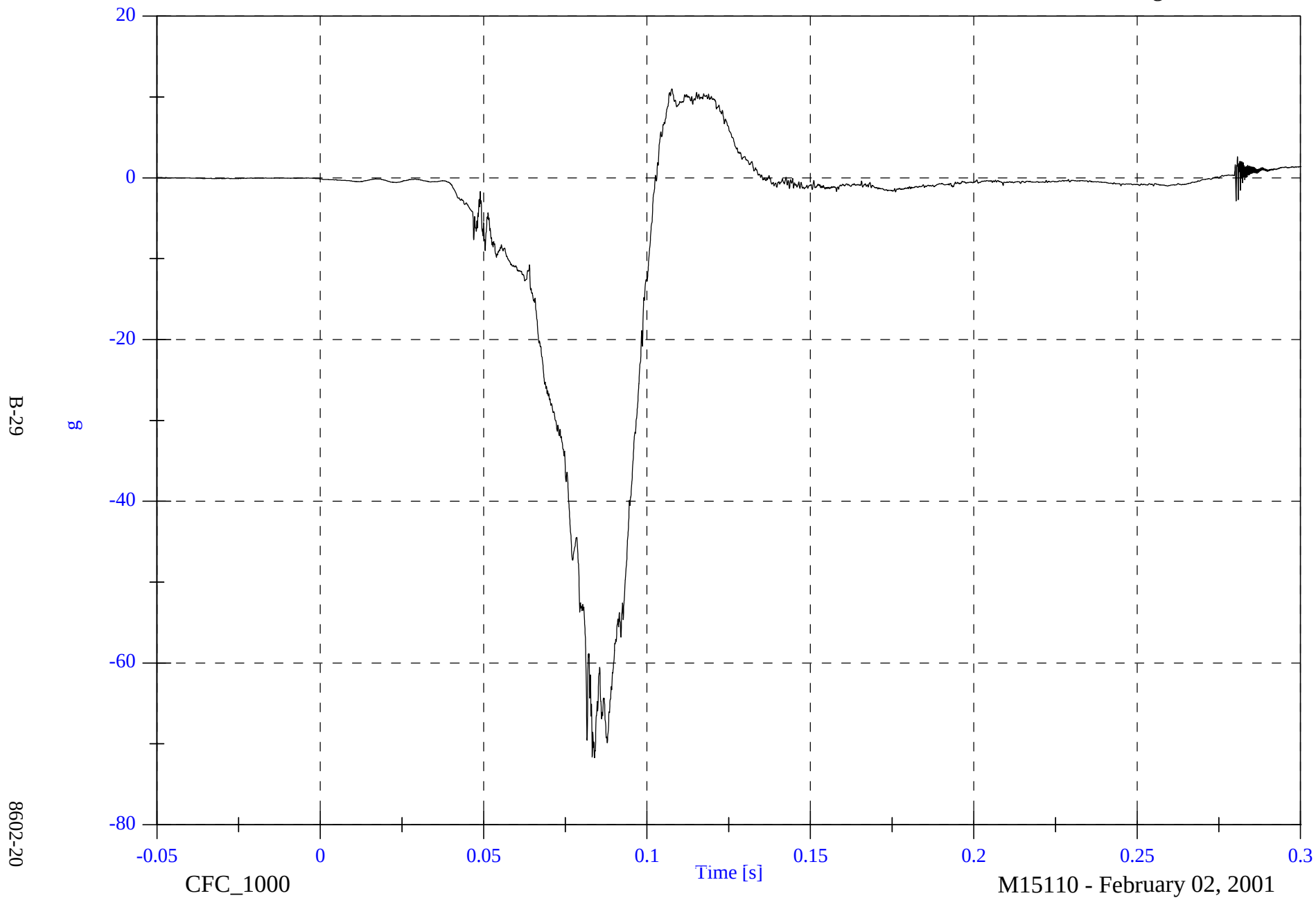


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 11.0 [g] at 0.108 [s]

Min: -71.7 [g] at 0.084 [s]

P1 Pelvic x

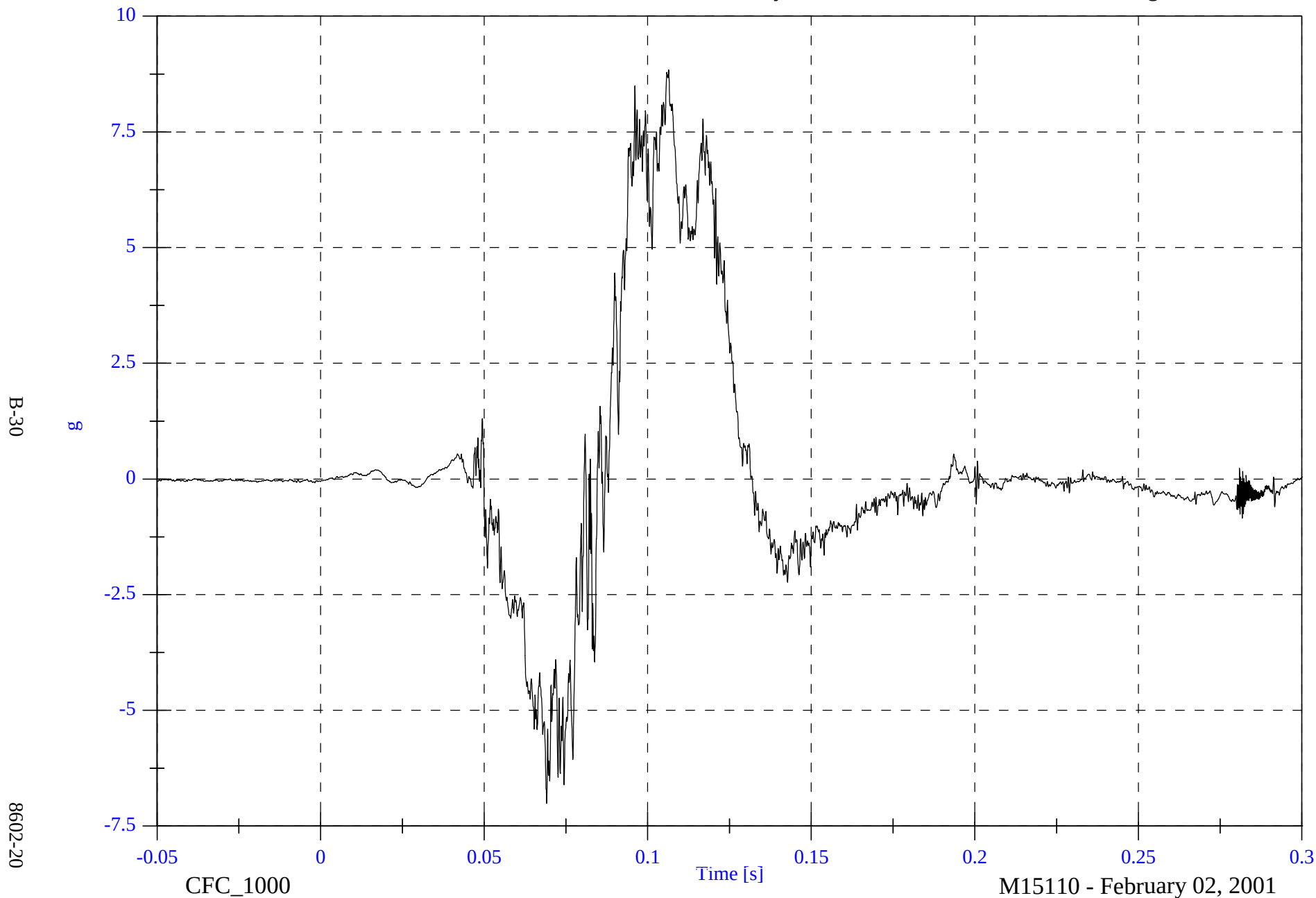


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 8.8 [g] at 0.106 [s]

Min: -7.0 [g] at 0.069 [s]

P1 Pelvic y

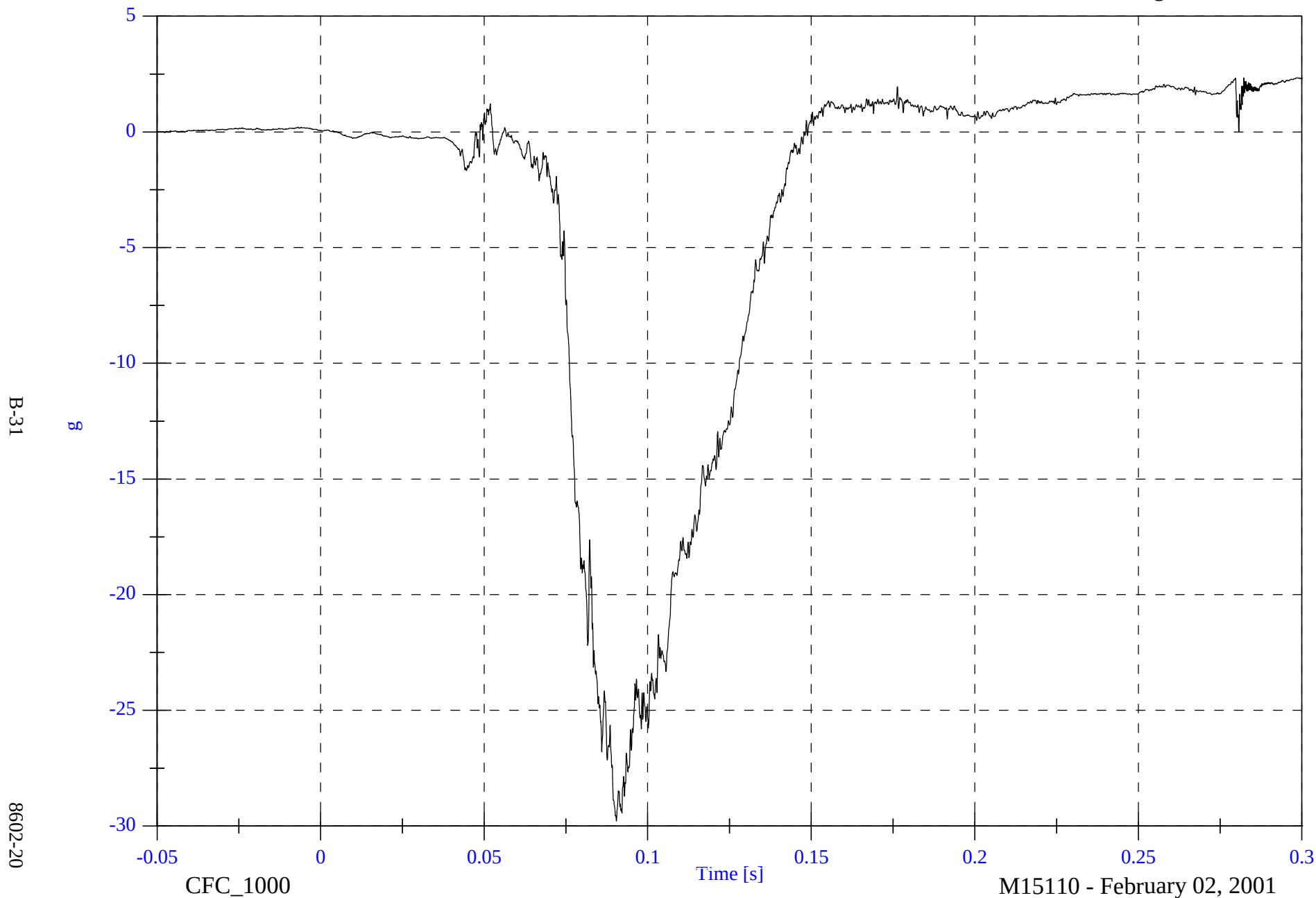


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 2.3 [g] at 0.299 [s]

Min: -29.8 [g] at 0.090 [s]

P1 Pelvic z

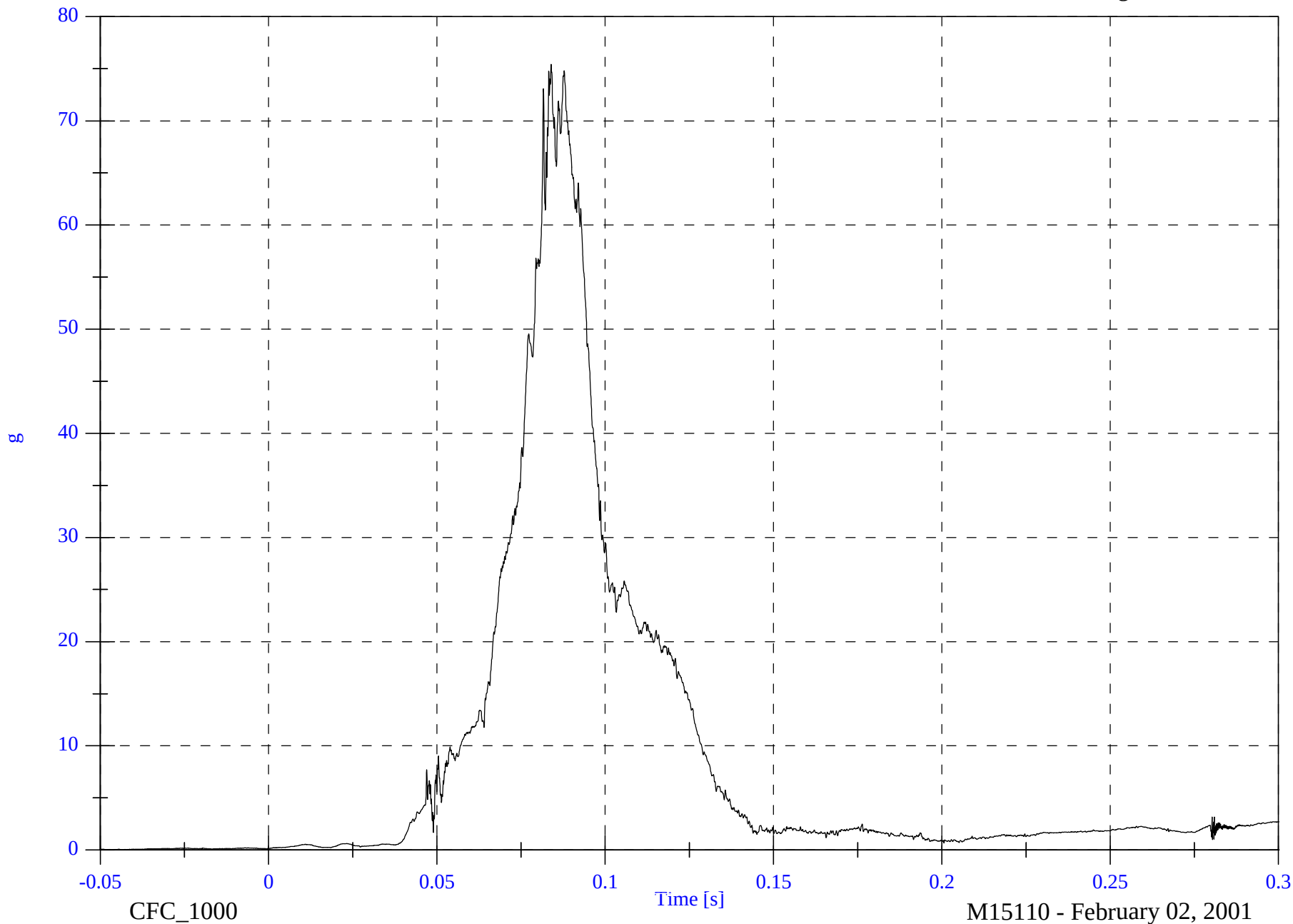


NCAP 2001 Test #20 - 2001 Lexus IS300

P1 Pelvic Resultant

Max: 75.4 [g] at 0.084 [s]

Min: 0.0 [g] at -0.046 [s]



B-32

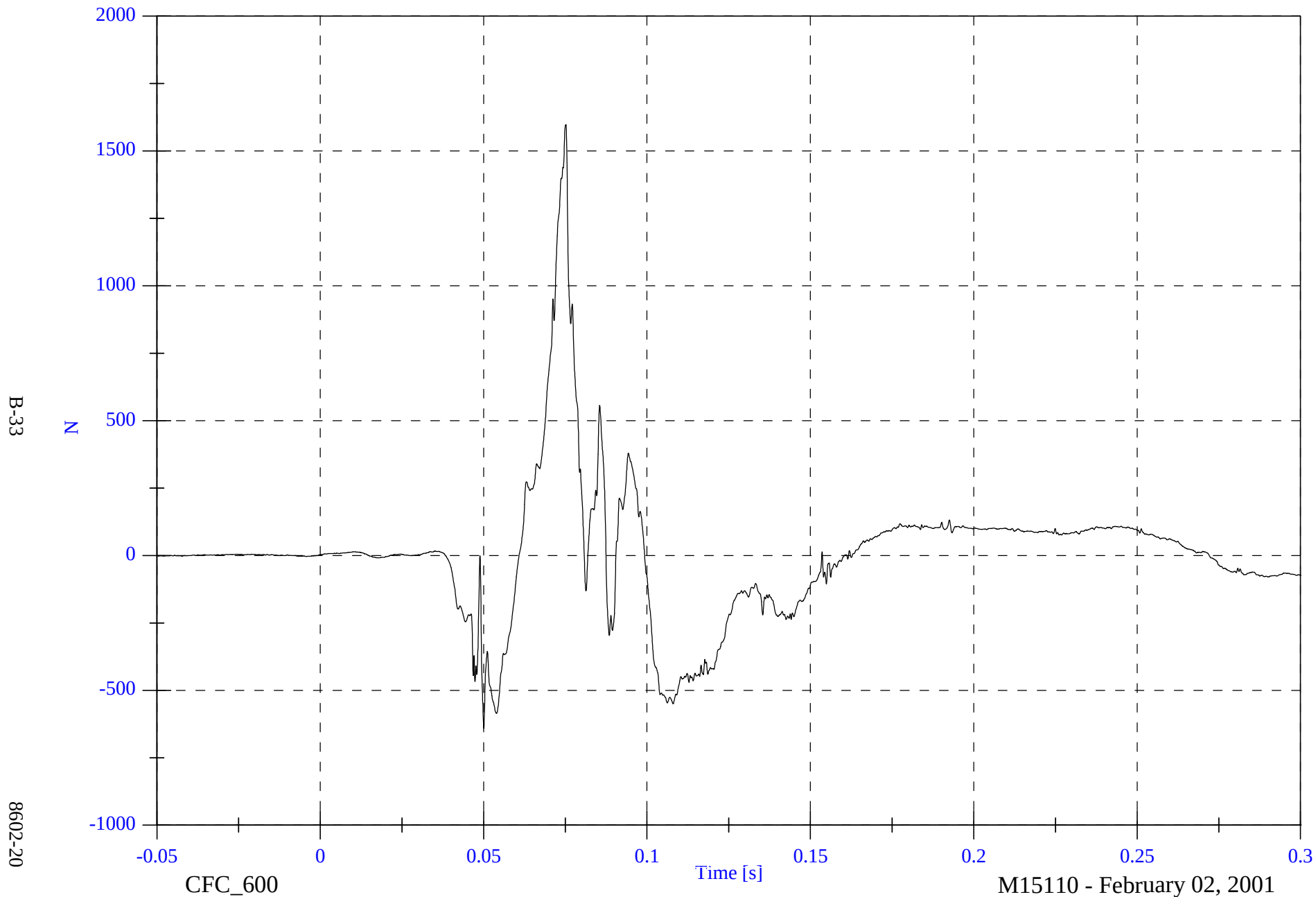
8602-20

NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 1597.9 [N] at 0.075 [s]

Min: -641.3 [N] at 0.050 [s]

P1 Left Femur z

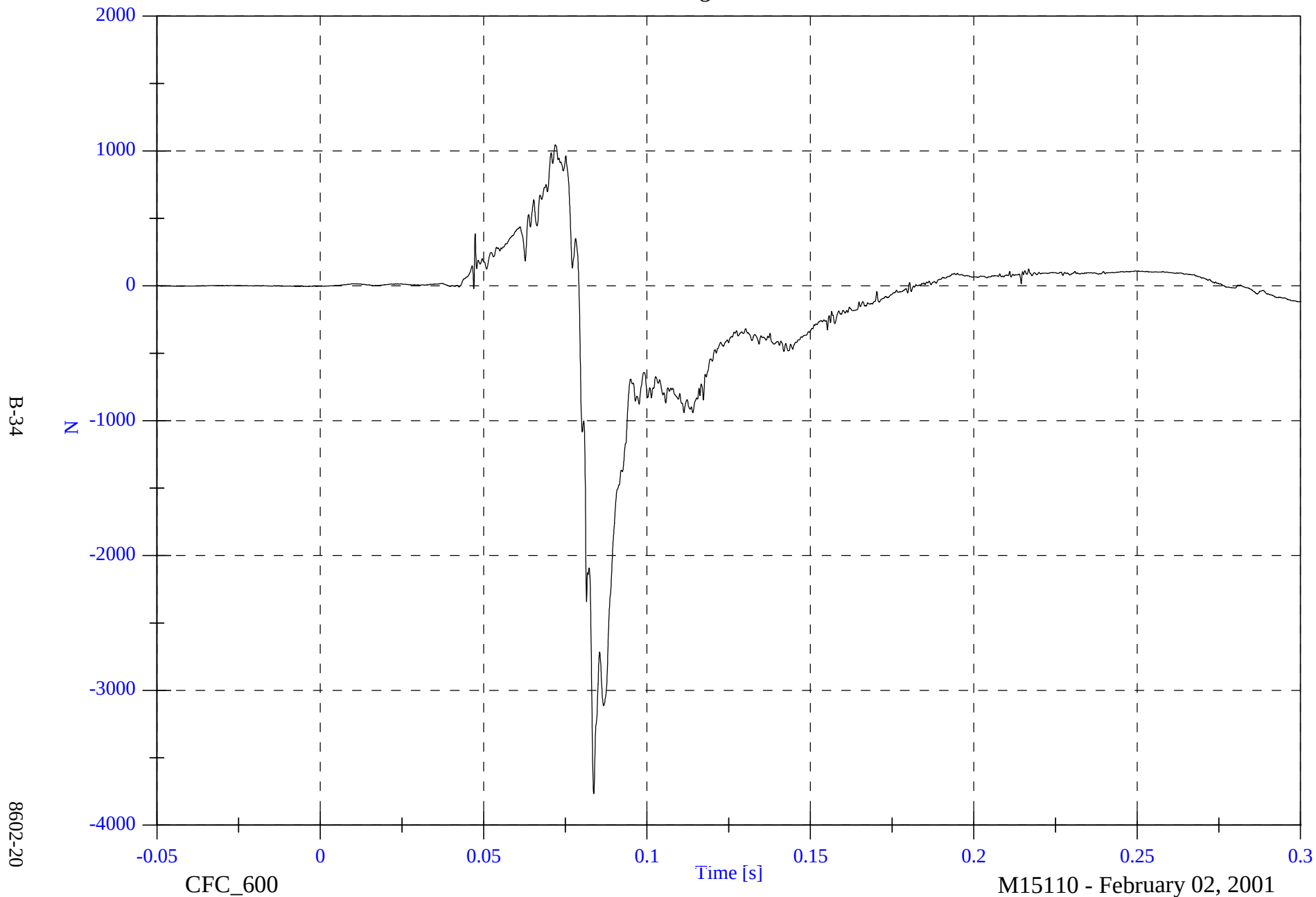


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 1047.1 [N] at 0.072 [s]

Min: -3767.4 [N] at 0.084 [s]

P1 Right Femur z

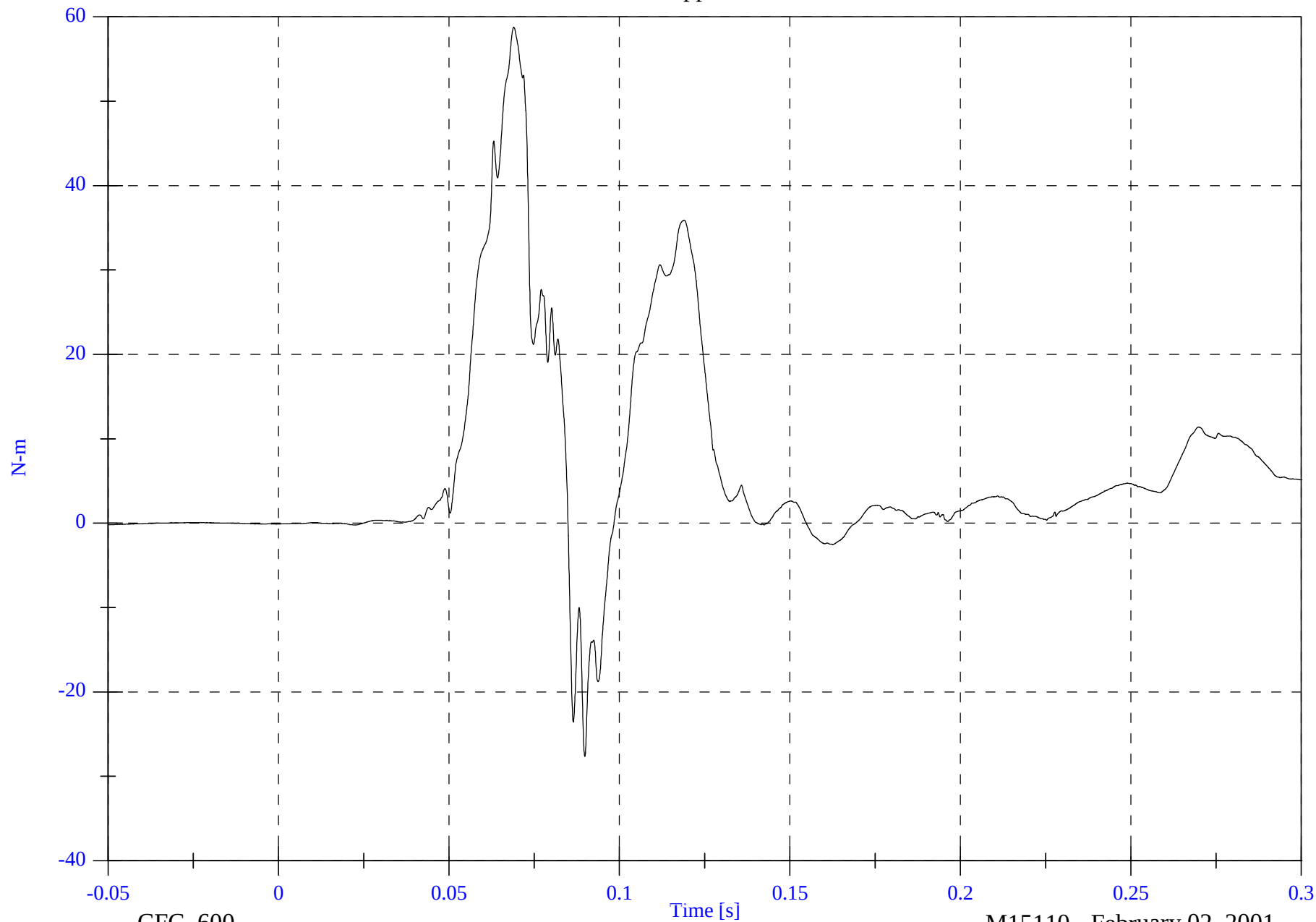


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 58.8 [N-m] at 0.069 [s]

Min: -27.6 [N-m] at 0.090 [s]

P1 Left Upper Tibia Mx



B-35

8602-20

CFC_600

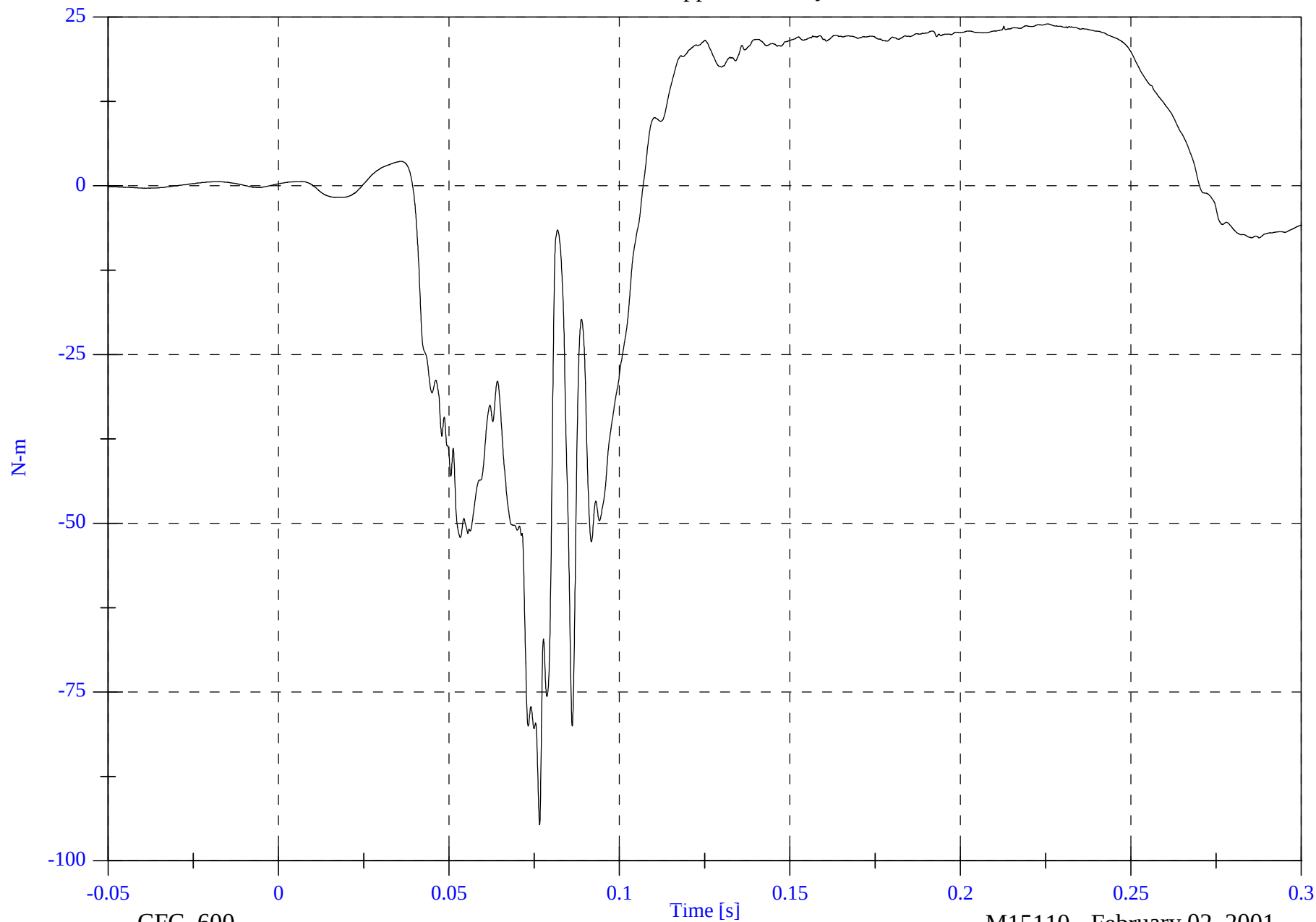
M15110 - February 02, 2001

NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 24.0 [N-m] at 0.226 [s]

Min: -94.7 [N-m] at 0.077 [s]

P1 Left Upper Tibia My



B-36

8602-20

CFC_600

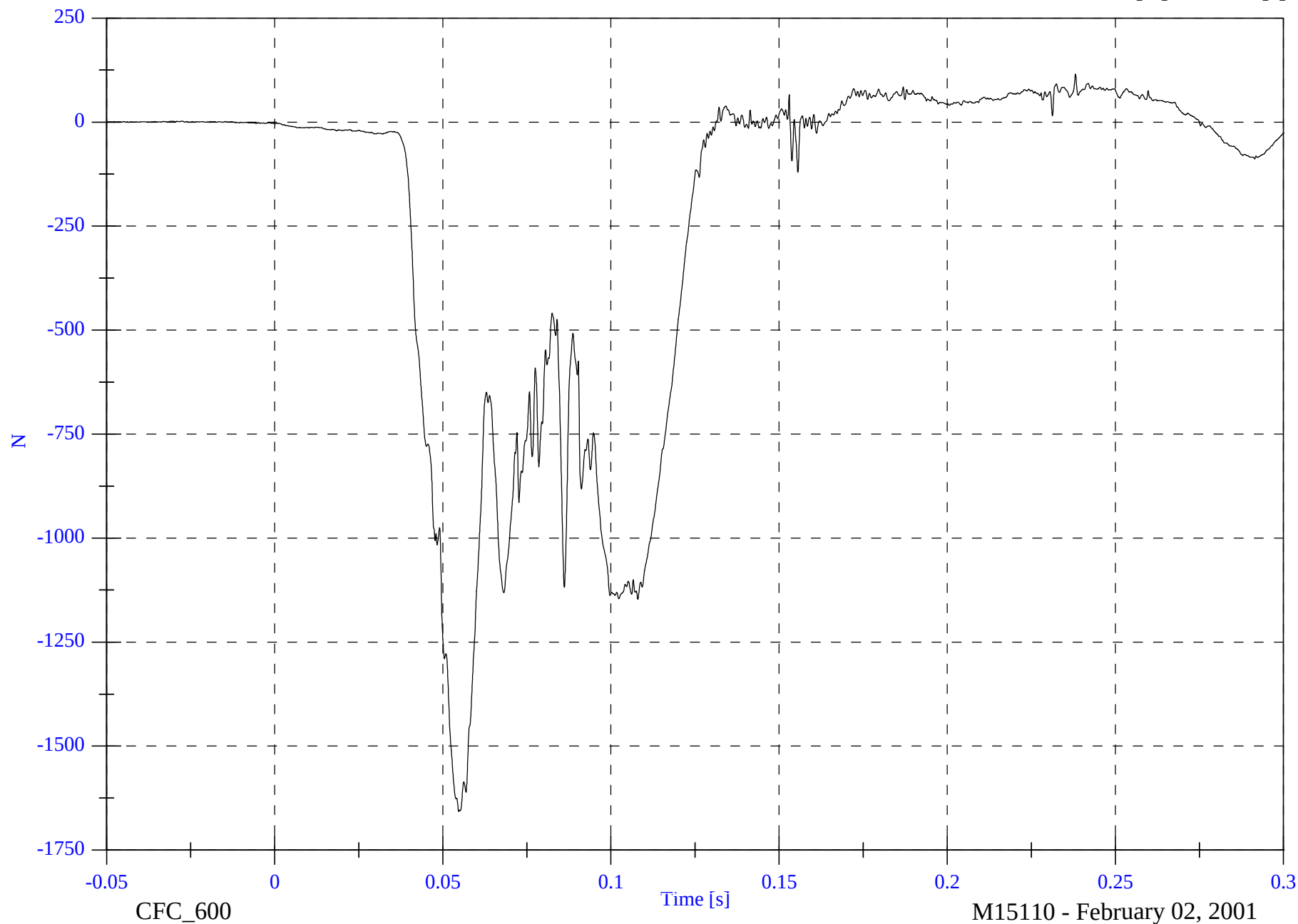
M15110 - February 02, 2001

NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 115.4 [N] at 0.238 [s]

Min: -1657.4 [N] at 0.055 [s]

P1 Left Lower Tibia Fz



B-37

8602-20

CFC_600

Time [s]

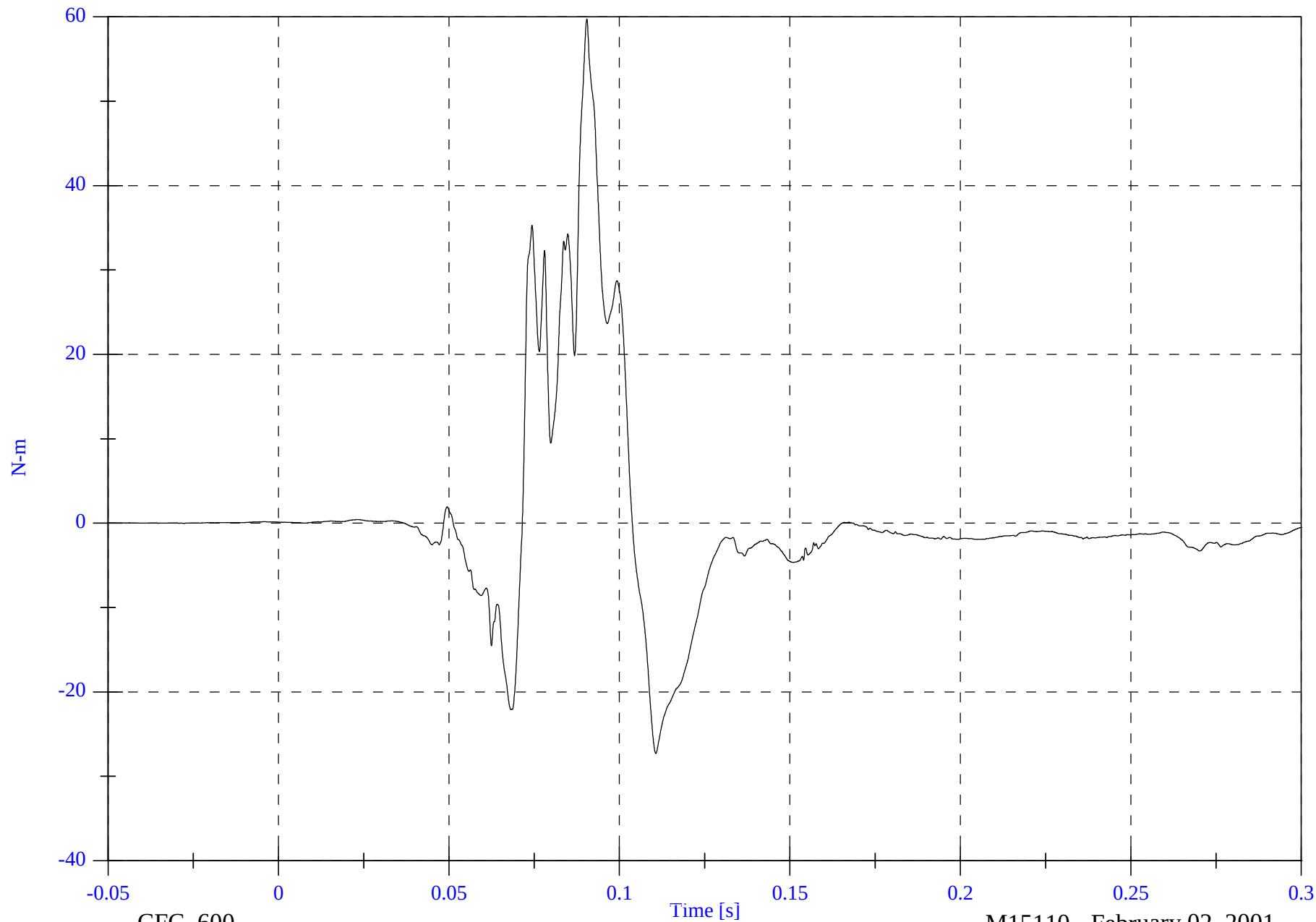
M15110 - February 02, 2001

NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 59.7 [N-m] at 0.090 [s]

Min: -27.3 [N-m] at 0.111 [s]

P1 Left Lower Tibia Mx



B-38

8602-20

CFC_600

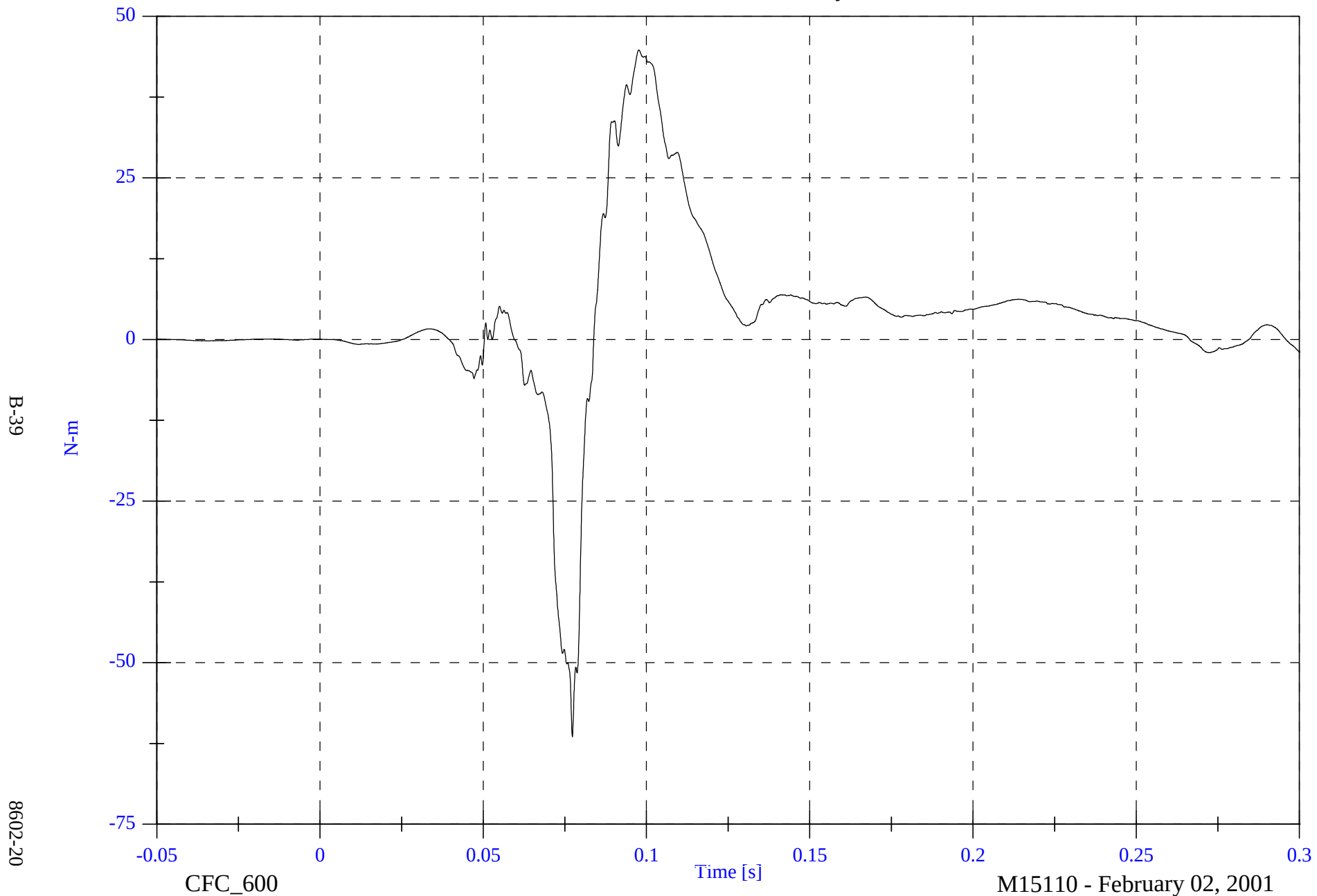
M15110 - February 02, 2001

NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 44.8 [N-m] at 0.098 [s]

Min: -61.5 [N-m] at 0.077 [s]

P1 Left Lower Tibia My

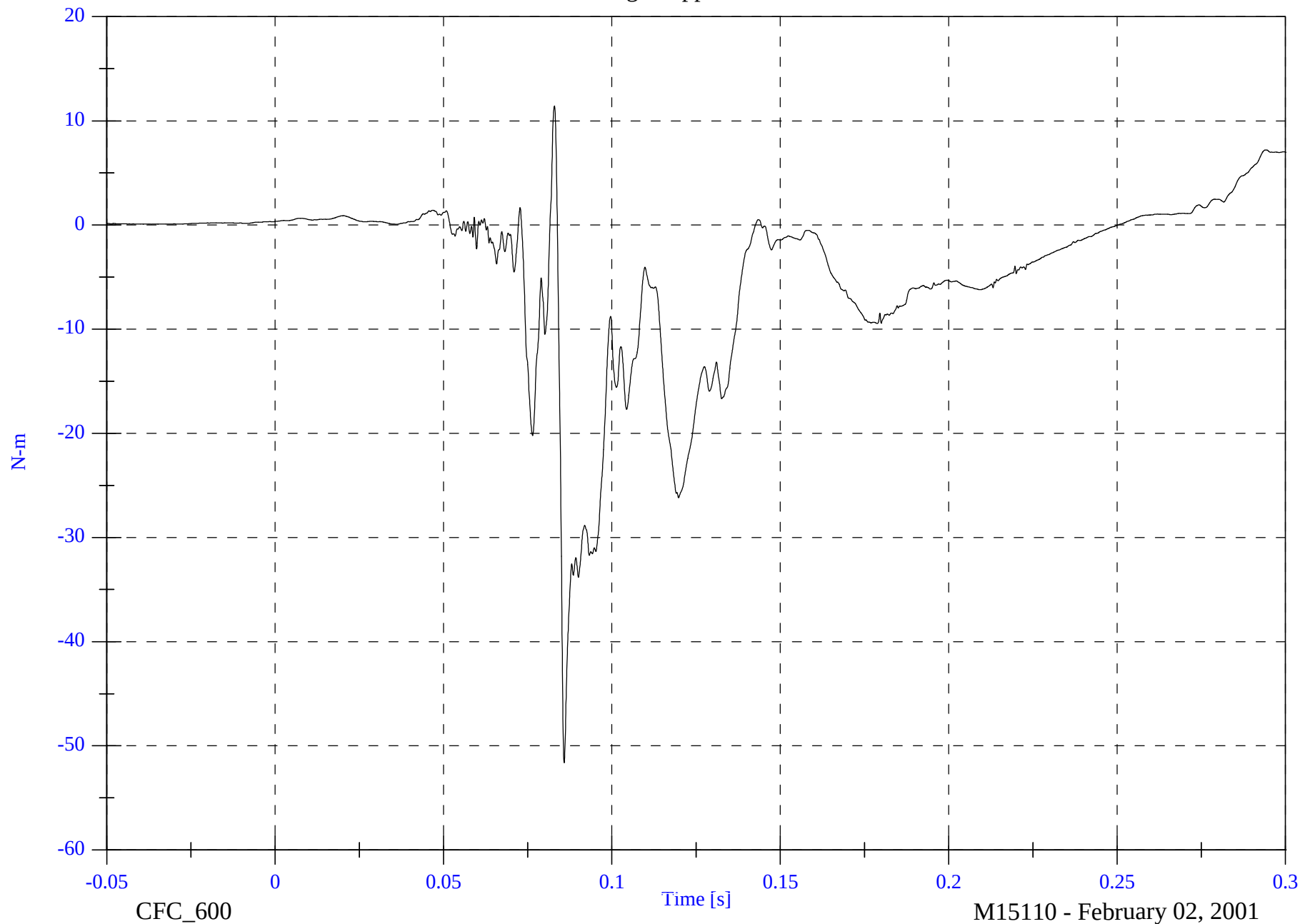


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 11.4 [N-m] at 0.083 [s]

P1 Right Upper Tibia Mx

Min: -51.6 [N-m] at 0.086 [s]



B-40

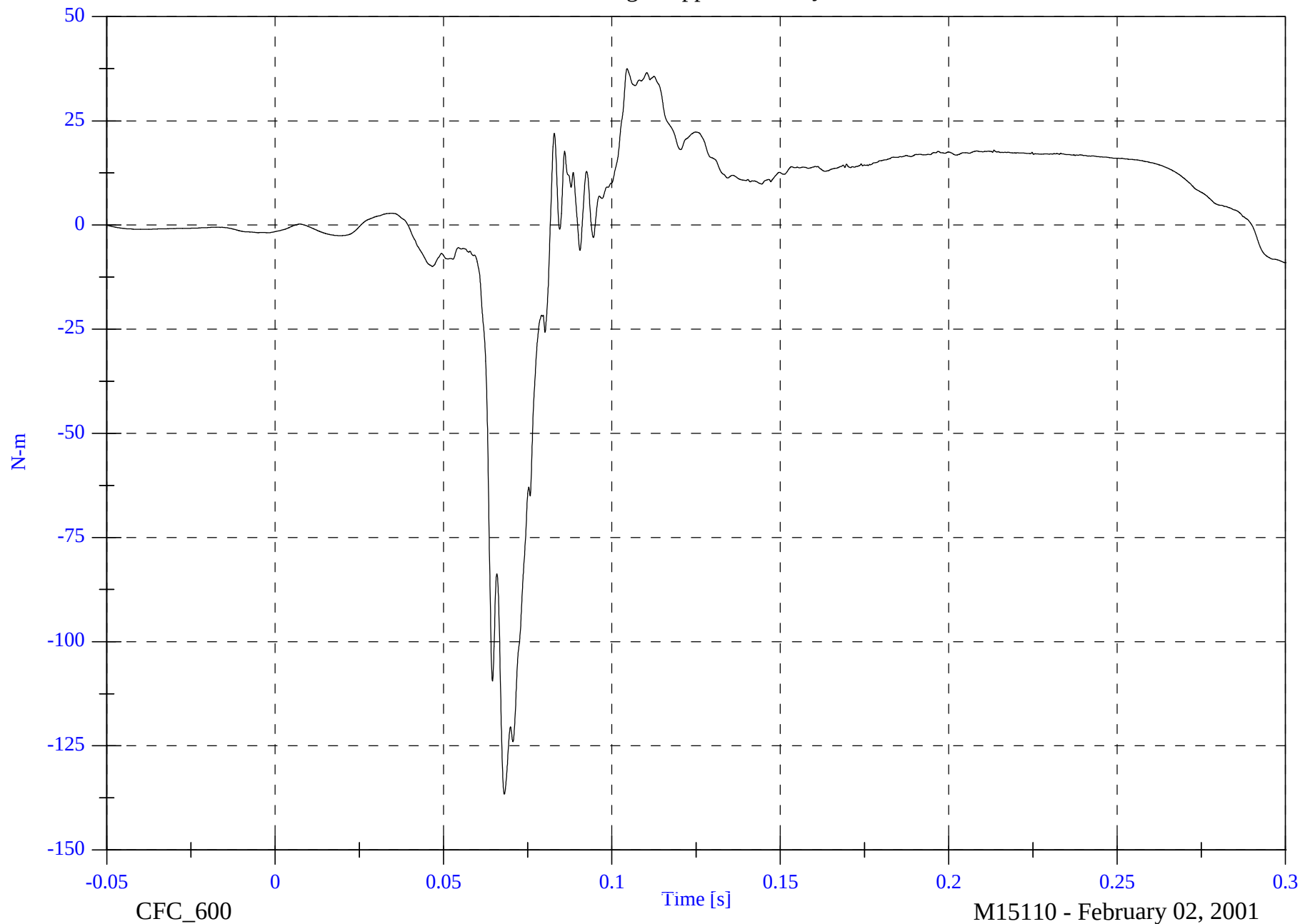
8602-20

NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 37.5 [N-m] at 0.104 [s]

Min: -136.6 [N-m] at 0.068 [s]

P1 Right Upper Tibia My



B-41

8602-20

CFC_600

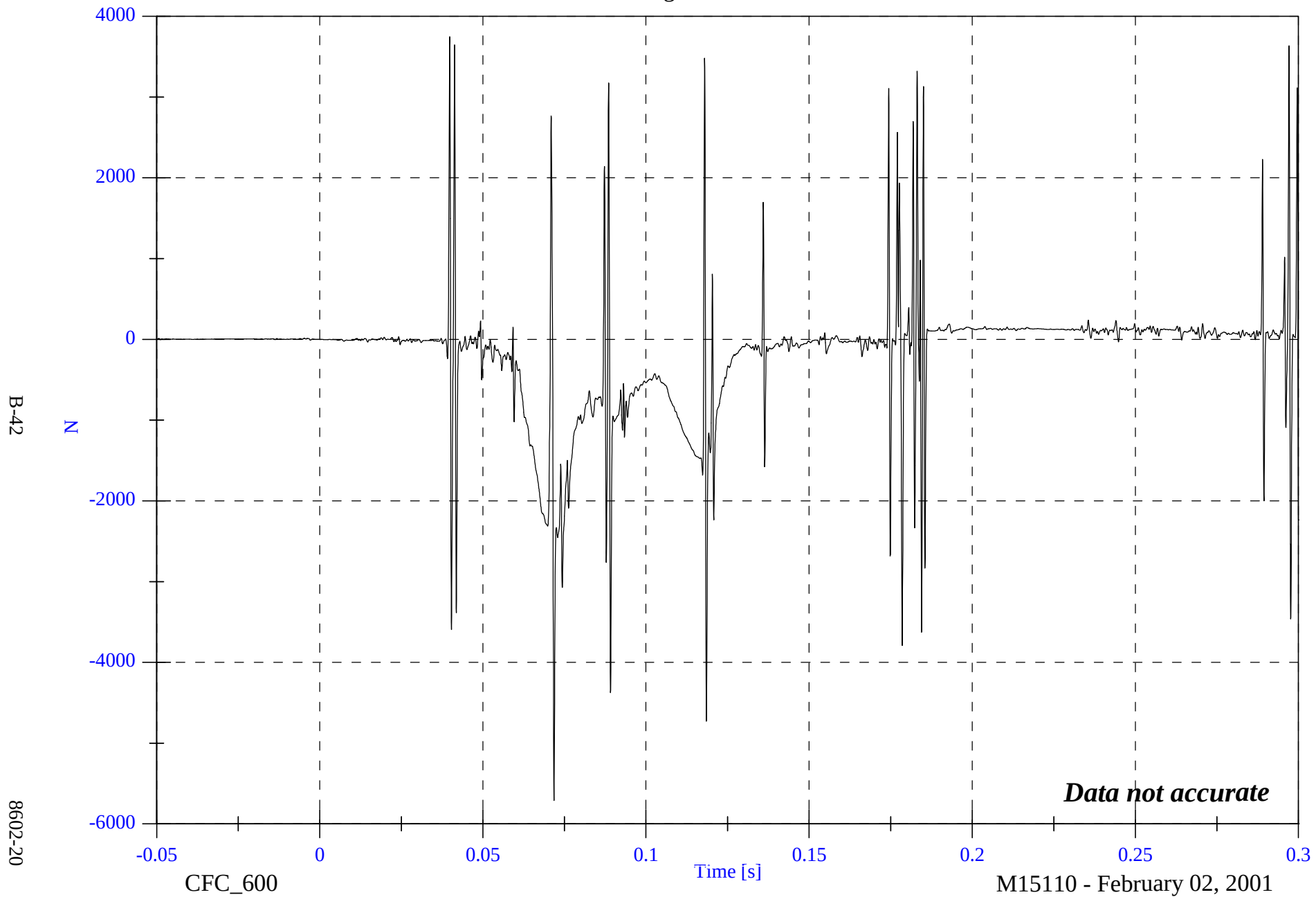
M15110 - February 02, 2001

NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 3746.9 [N] at 0.040 [s]

Min: -5712.3 [N] at 0.072 [s]

P1 Right Lower Tibia Fz



B-42

8602-20

CFC_600

Time [s]

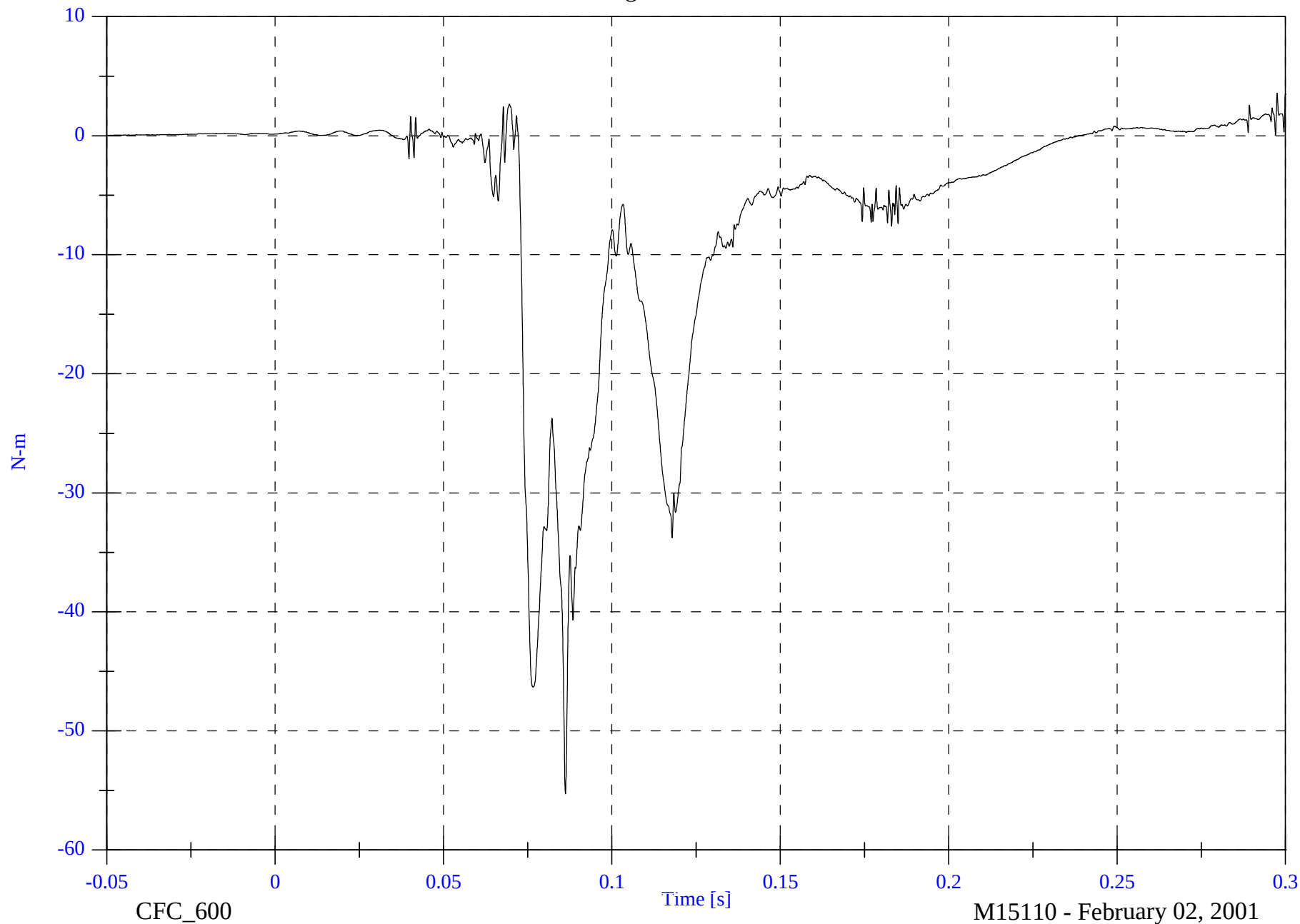
M15110 - February 02, 2001

NCAP 2001 Test #20 - 2001 Lexus IS300

P1 Right Lower Tibia Mx

Max: 3.6 [N-m] at 0.297 [s]

Min: -55.3 [N-m] at 0.086 [s]



B-43

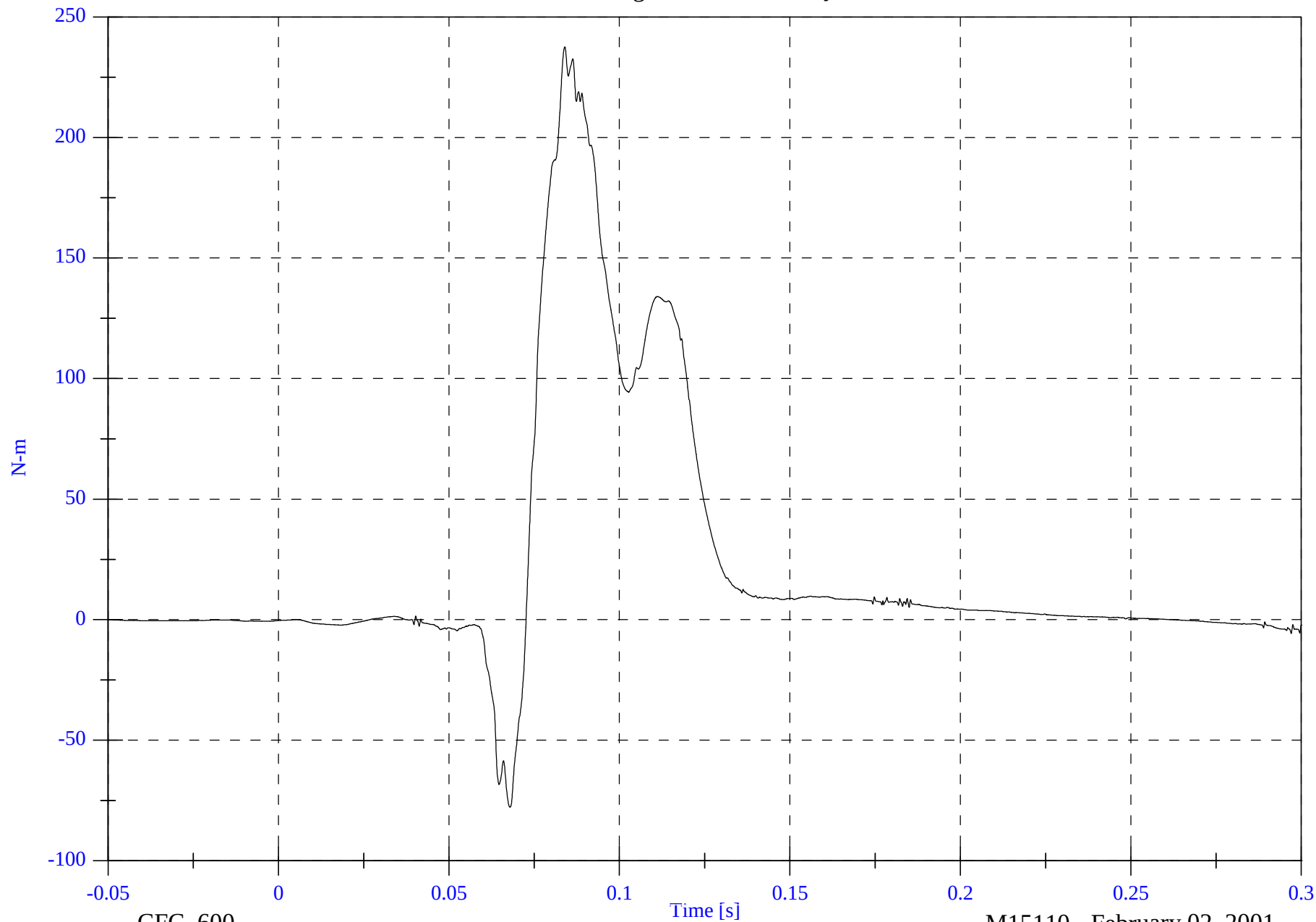
8602-20

NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 237.6 [N-m] at 0.084 [s]

Min: -77.8 [N-m] at 0.068 [s]

P1 Right Lower Tibia My



B-44

8602-20

CFC_600

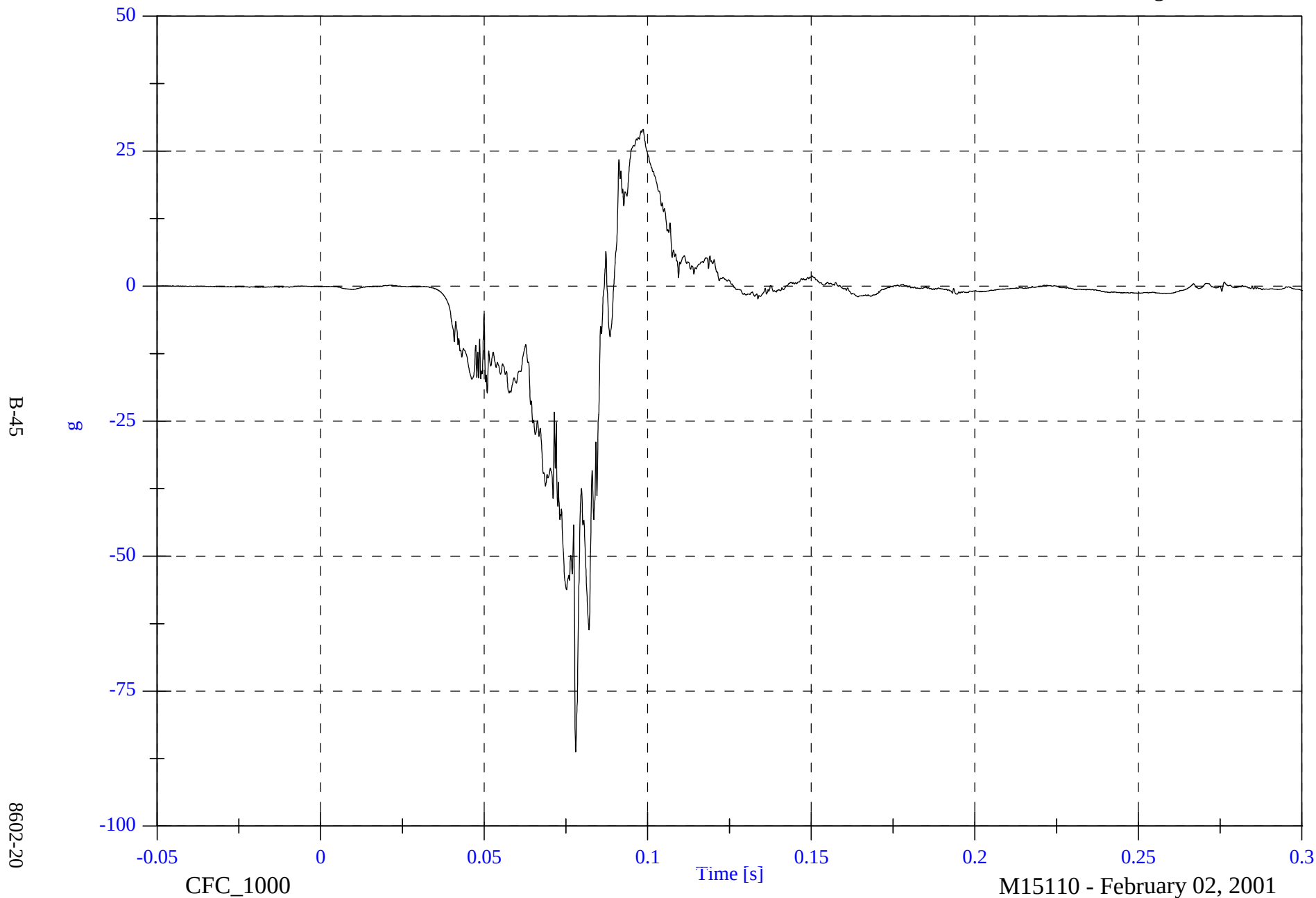
M15110 - February 02, 2001

NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 29.1 [g] at 0.099 [s]

Min: -86.3 [g] at 0.078 [s]

P1 Left Foot Aft x

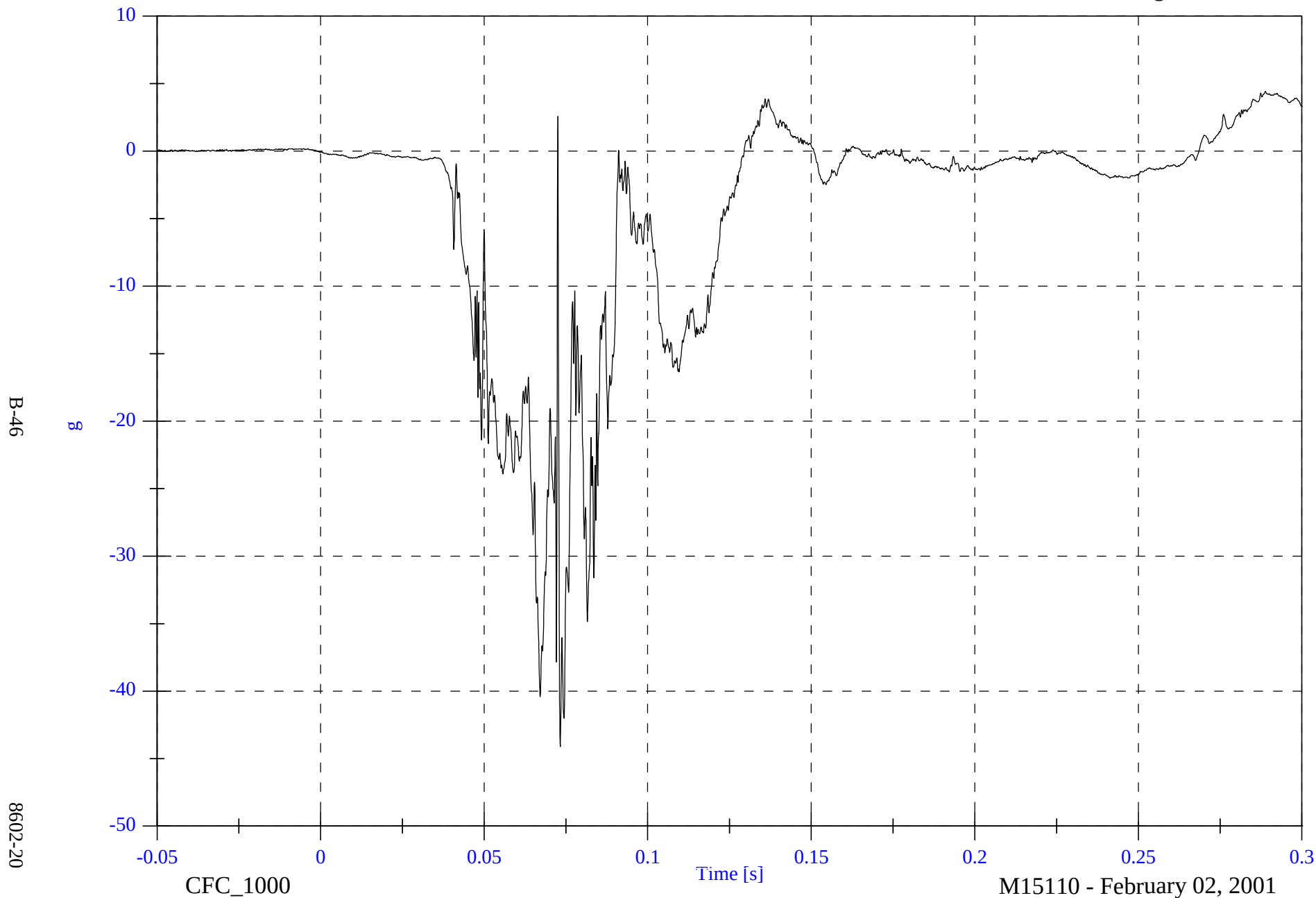


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 4.4 [g] at 0.289 [s]

Min: -44.1 [g] at 0.073 [s]

P1 Left Foot Aft z

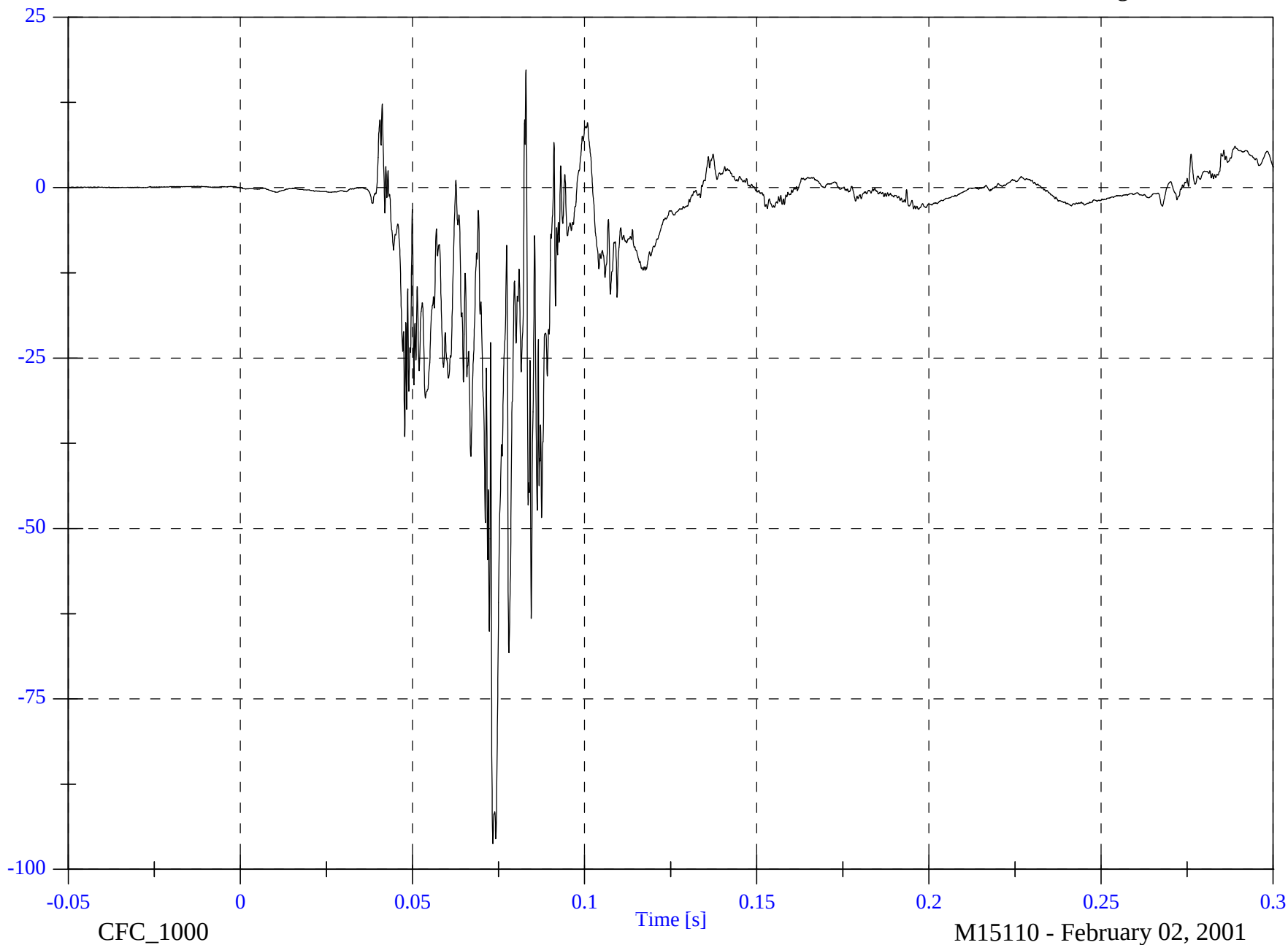


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 17.2 [g] at 0.083 [s]

Min: -96.2 [g] at 0.073 [s]

P1 Left Foot Fore z



B-47

8602-20

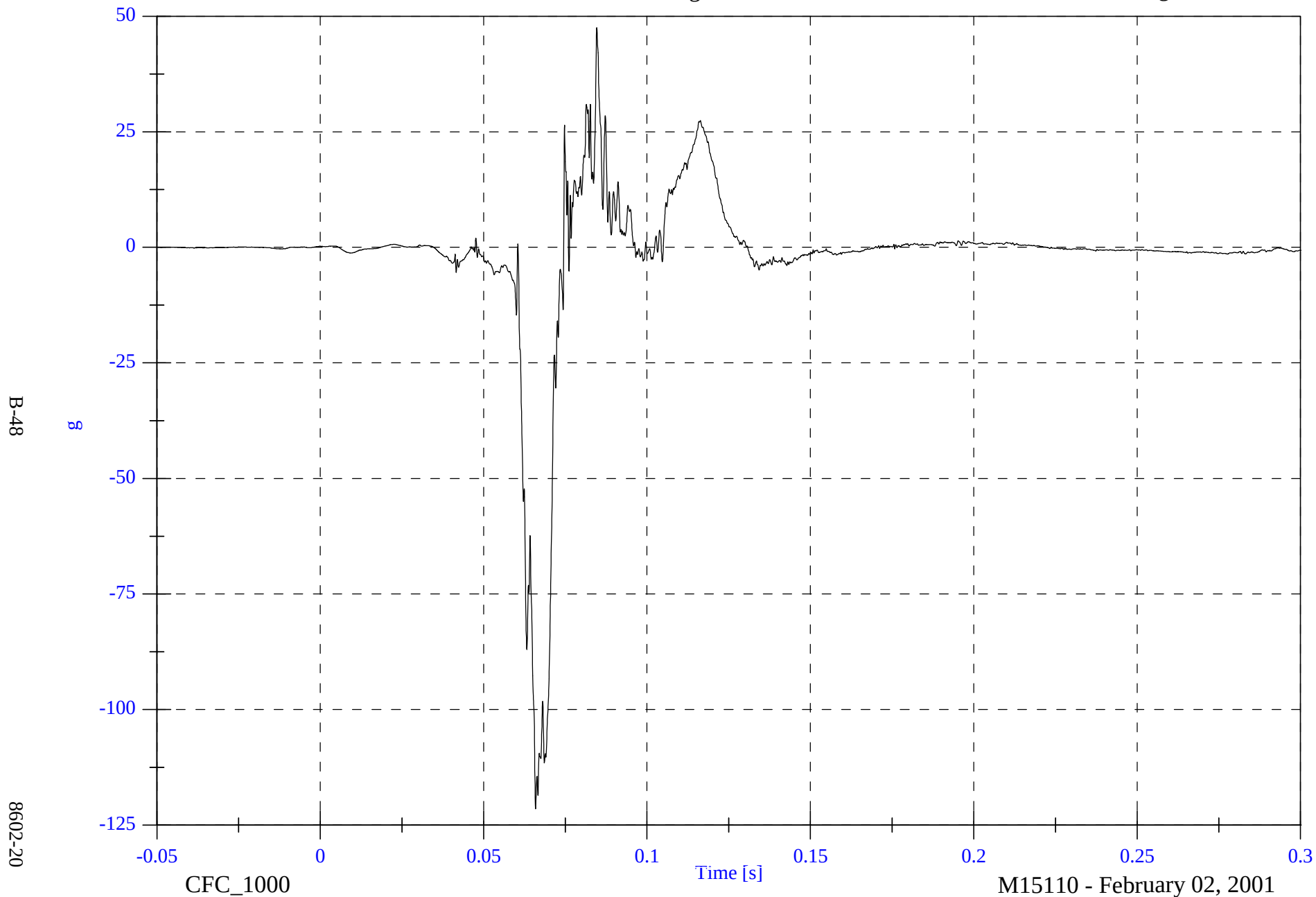
M15110 - February 02, 2001

NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 47.5 [g] at 0.085 [s]

Min: -121.5 [g] at 0.066 [s]

P1 Right Foot Aft x

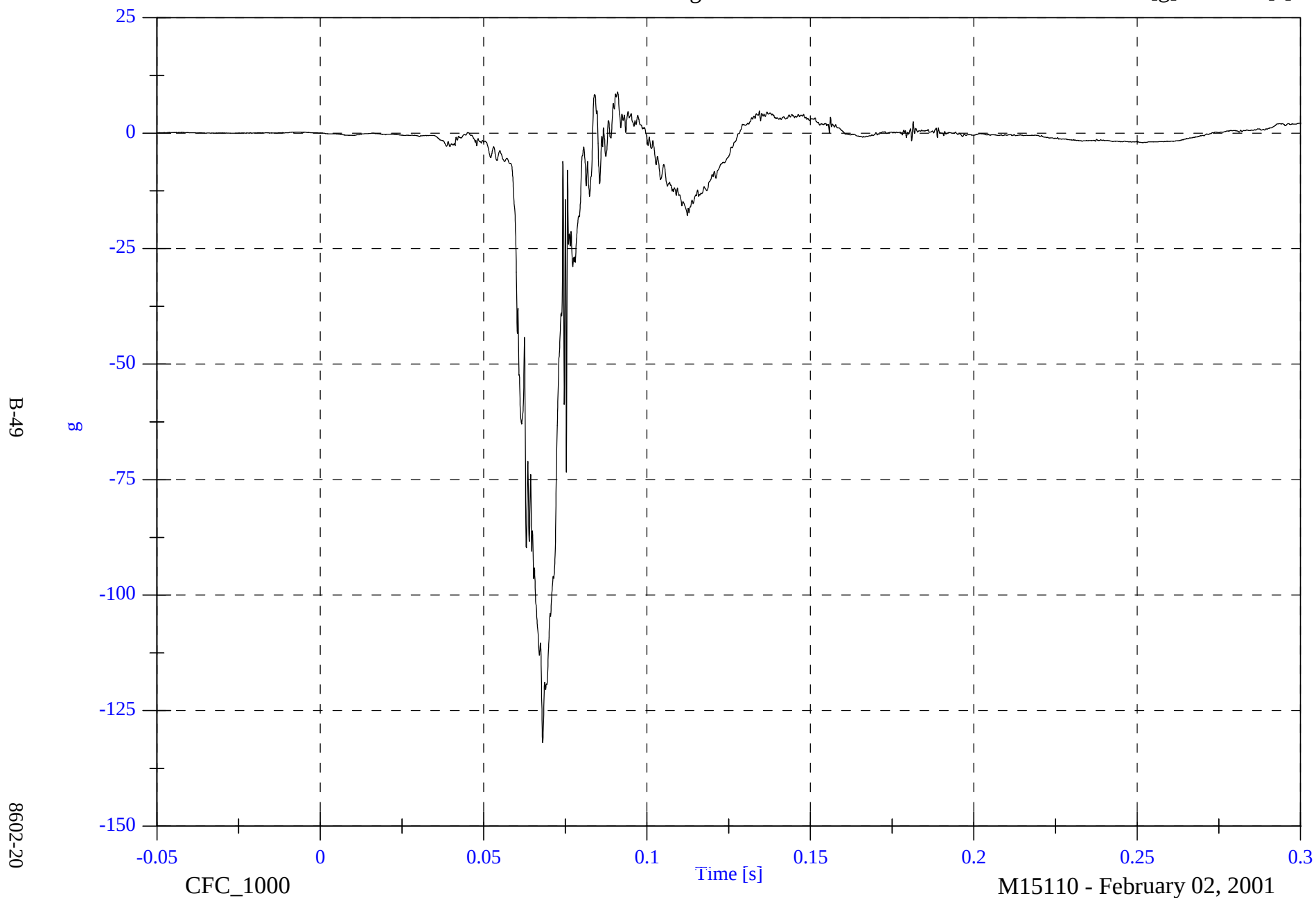


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 8.9 [g] at 0.091 [s]

Min: -131.9 [g] at 0.068 [s]

P1 Right Foot Aft z

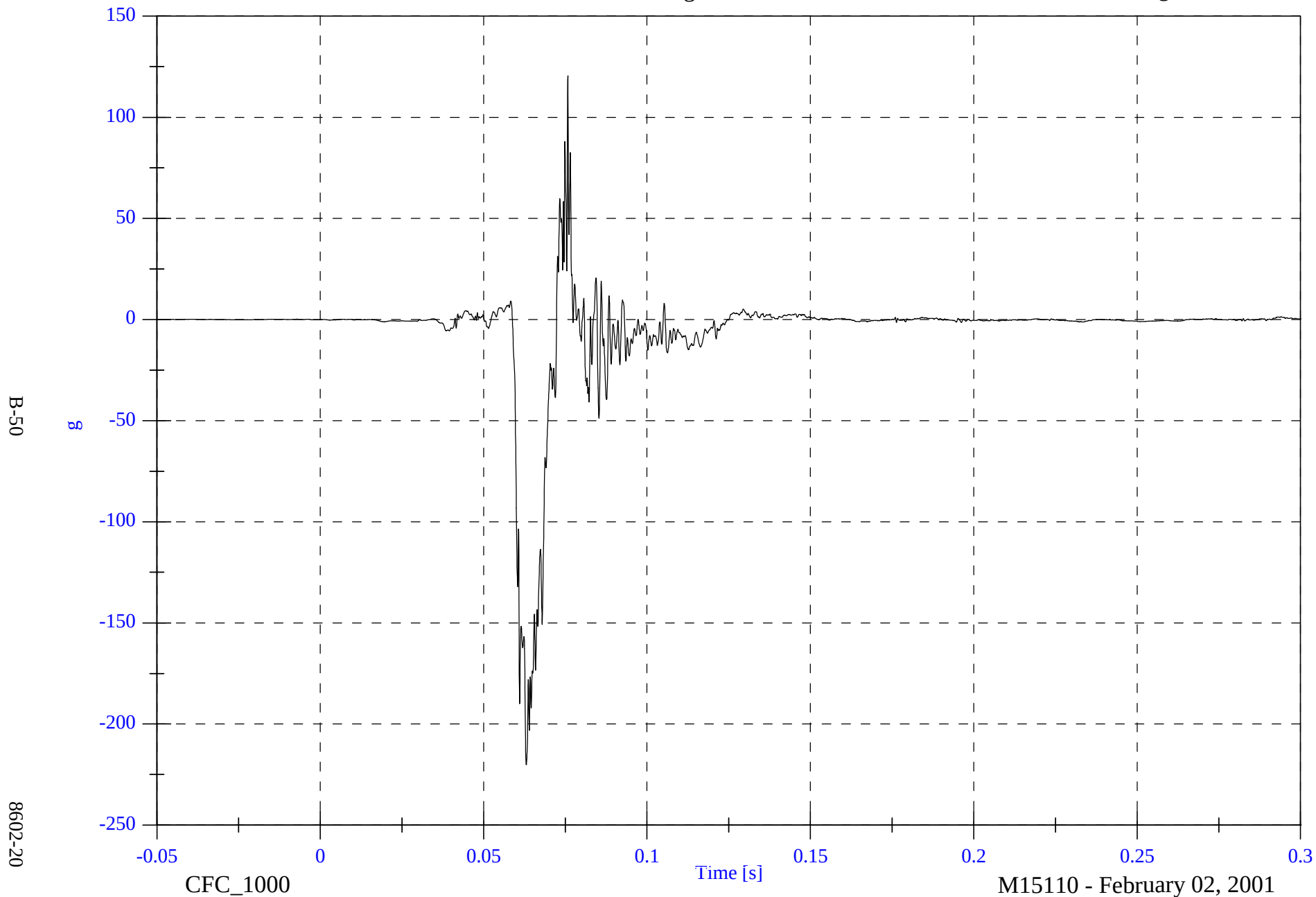


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 120.5 [g] at 0.076 [s]

Min: -220.1 [g] at 0.063 [s]

P1 Right Foot Fore z

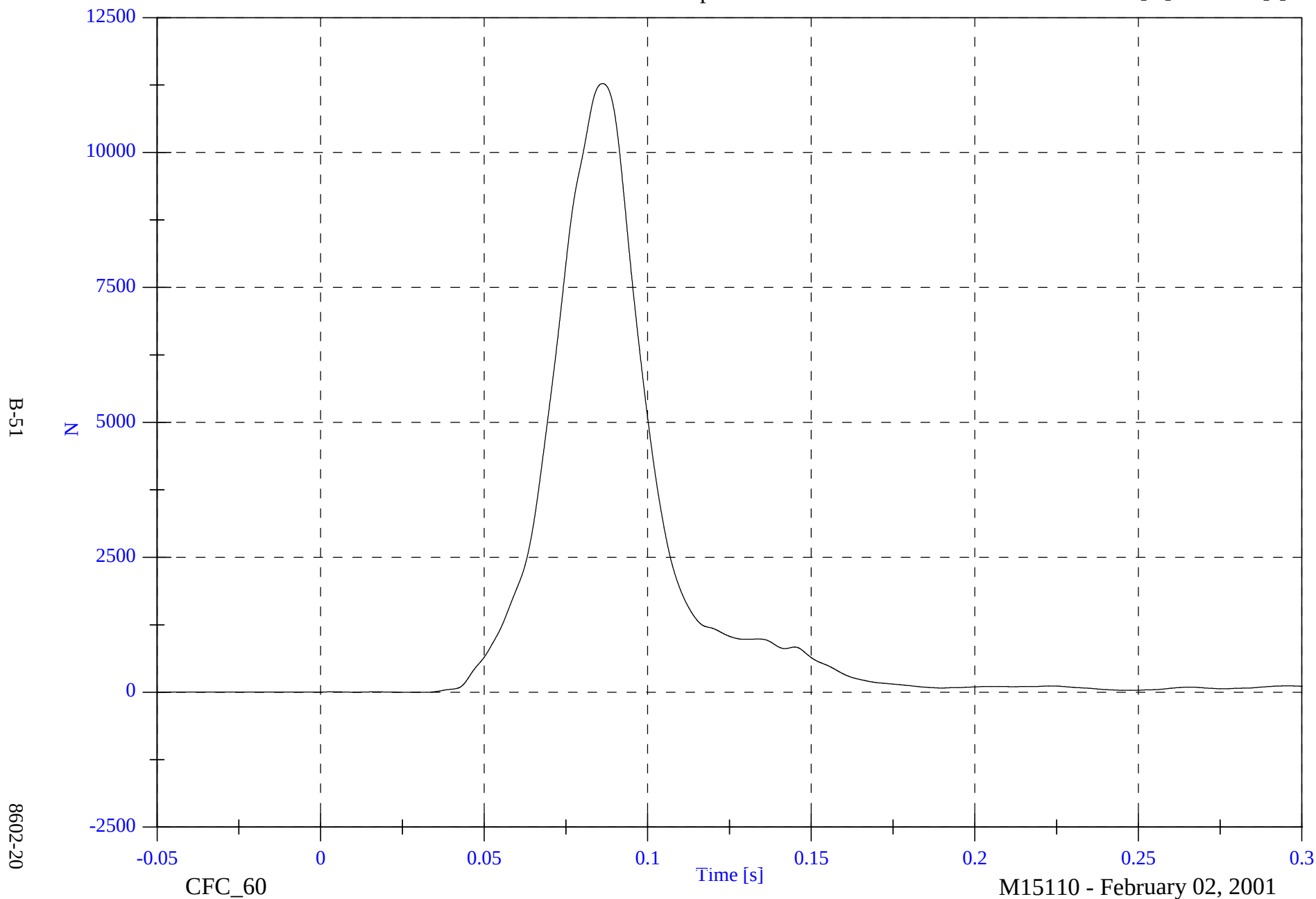


NCAP 2001 Test #20 - 2001 Lexus IS300

P1 Lap Belt Force

Max: 11277.3 [N] at 0.086 [s]

Min: -2.1 [N] at 0.031 [s]



NCAP 2001 Test #20 - 2001 Lexus IS300

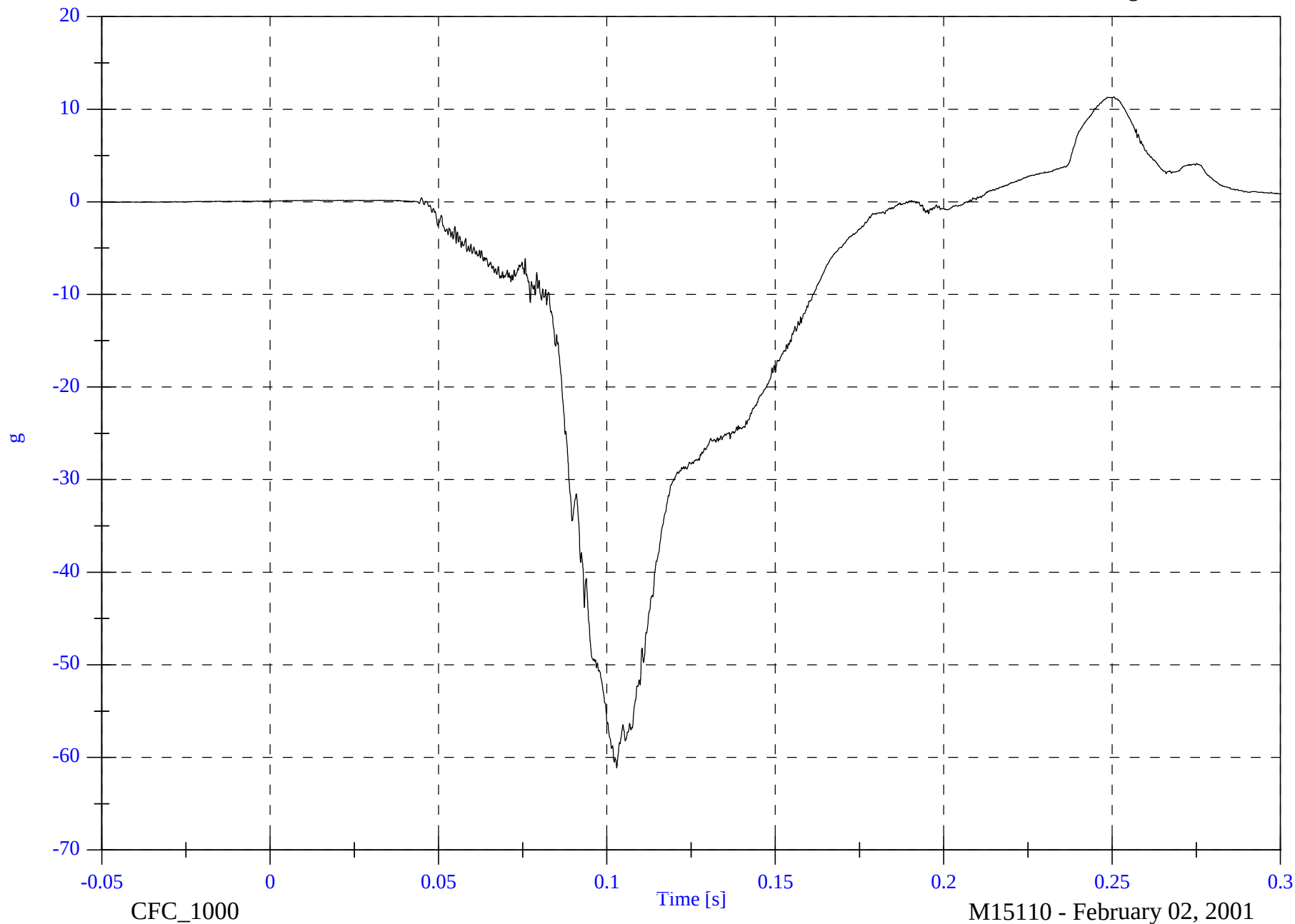
P2 Head x

Max: 11.3 [g] at 0.251 [s]

Min: -61.1 [g] at 0.103 [s]

B-52

8602-20

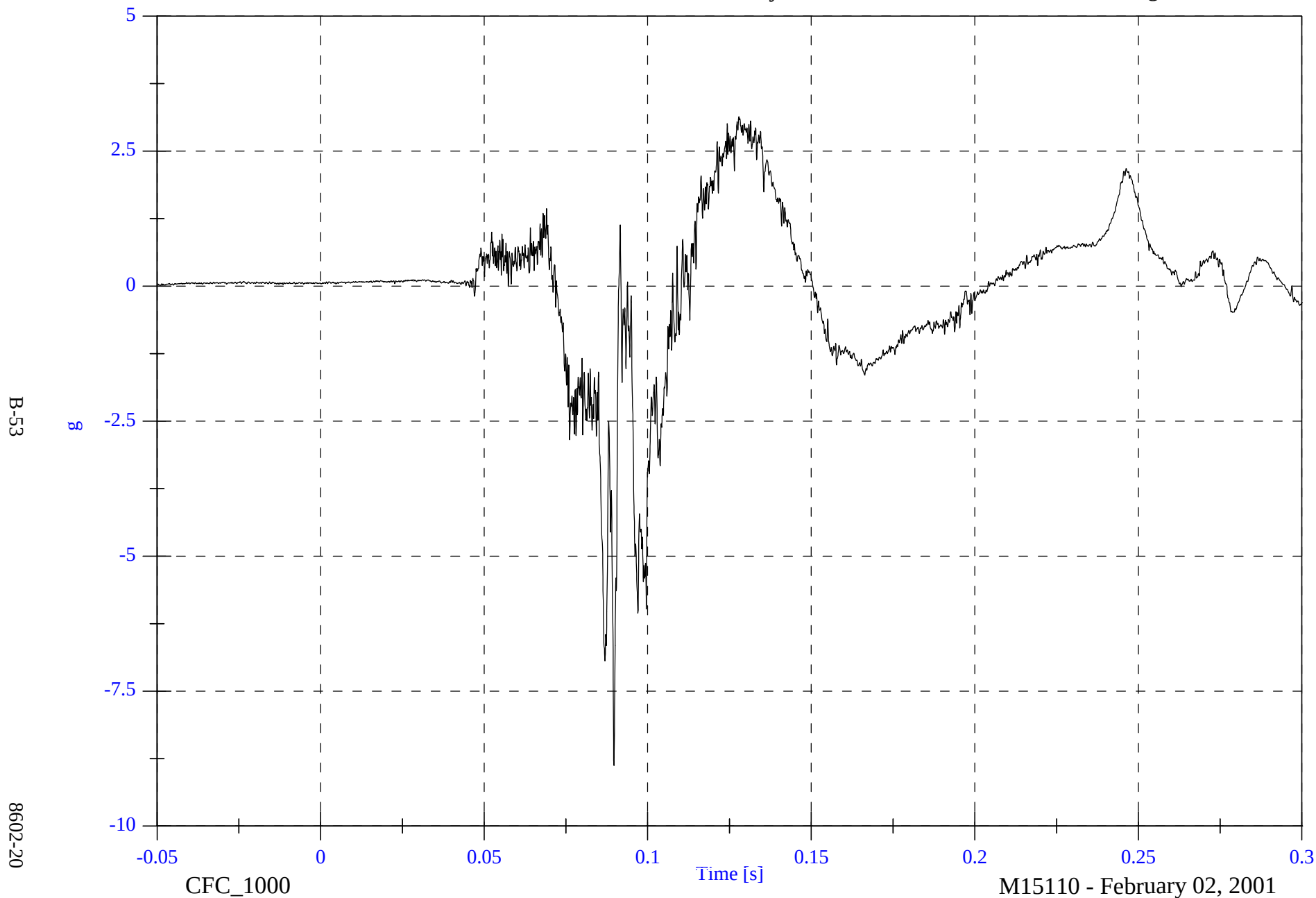


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 3.1 [g] at 0.128 [s]

Min: -8.9 [g] at 0.090 [s]

P2 Head y

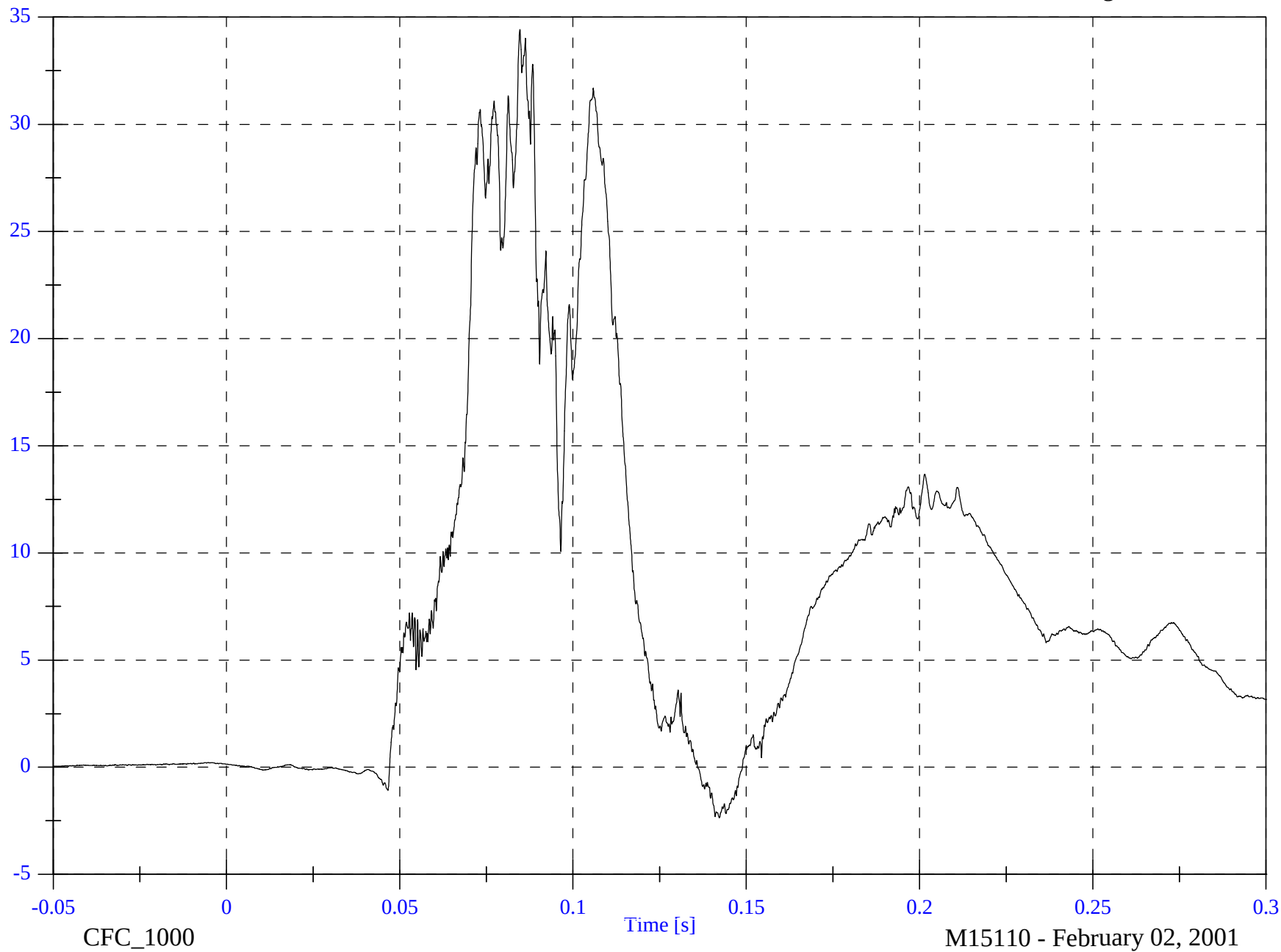


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 34.4 [g] at 0.085 [s]

Min: -2.4 [g] at 0.142 [s]

P2 Head z



B-54

8602-20

NCAP 2001 Test #20 - 2001 Lexus IS300

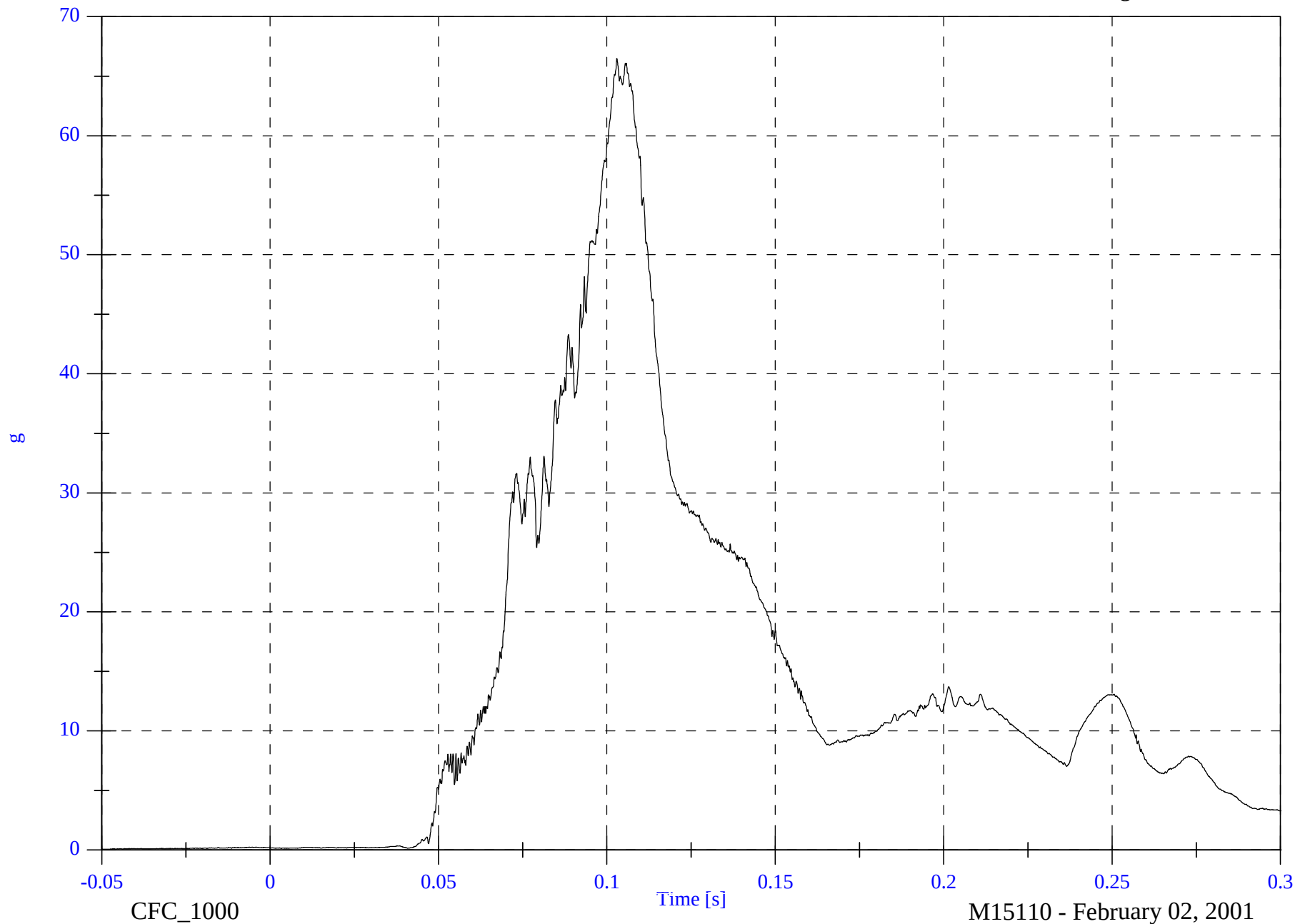
Max: 66.5 [g] at 0.103 [s]

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

P2 Head Resultant

B-55

8602-20



NCAP 2001 Test #20 - 2001 Lexus IS300

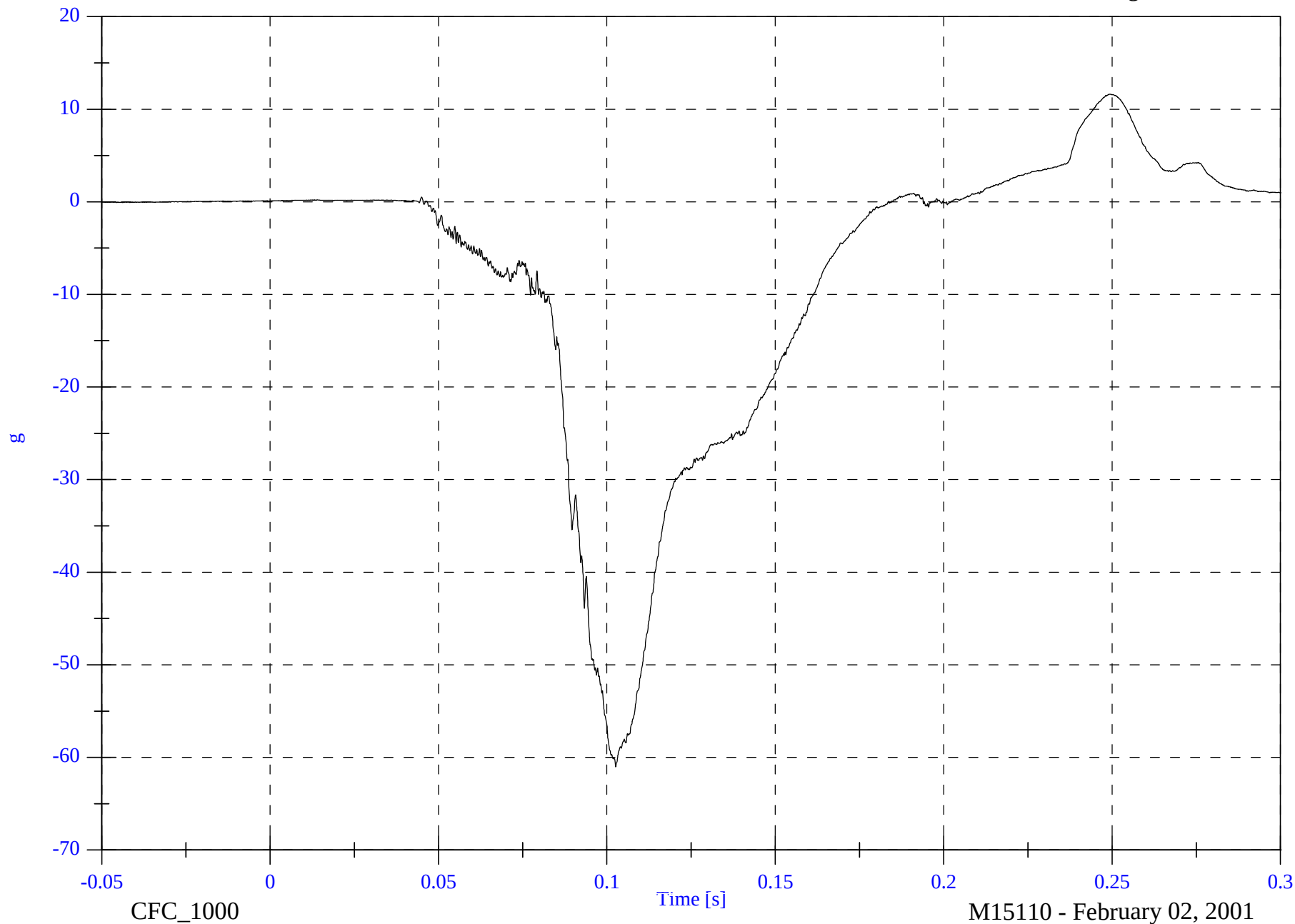
P2 Head Red x

Max: 11.6 [g] at 0.249 [s]

Min: -61.0 [g] at 0.103 [s]

B-56

8602-20

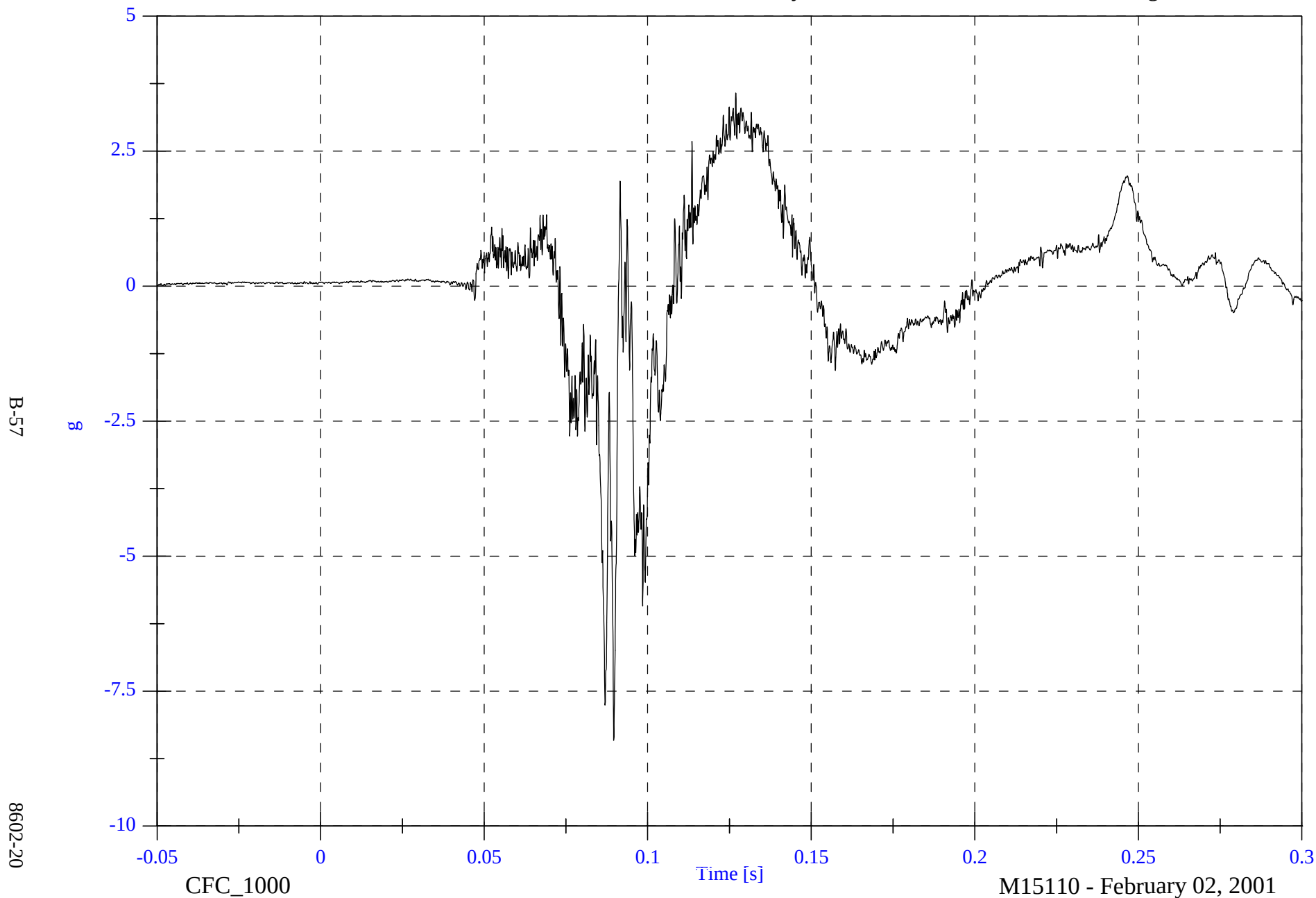


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 3.6 [g] at 0.127 [s]

Min: -8.4 [g] at 0.090 [s]

P2 Head Red y

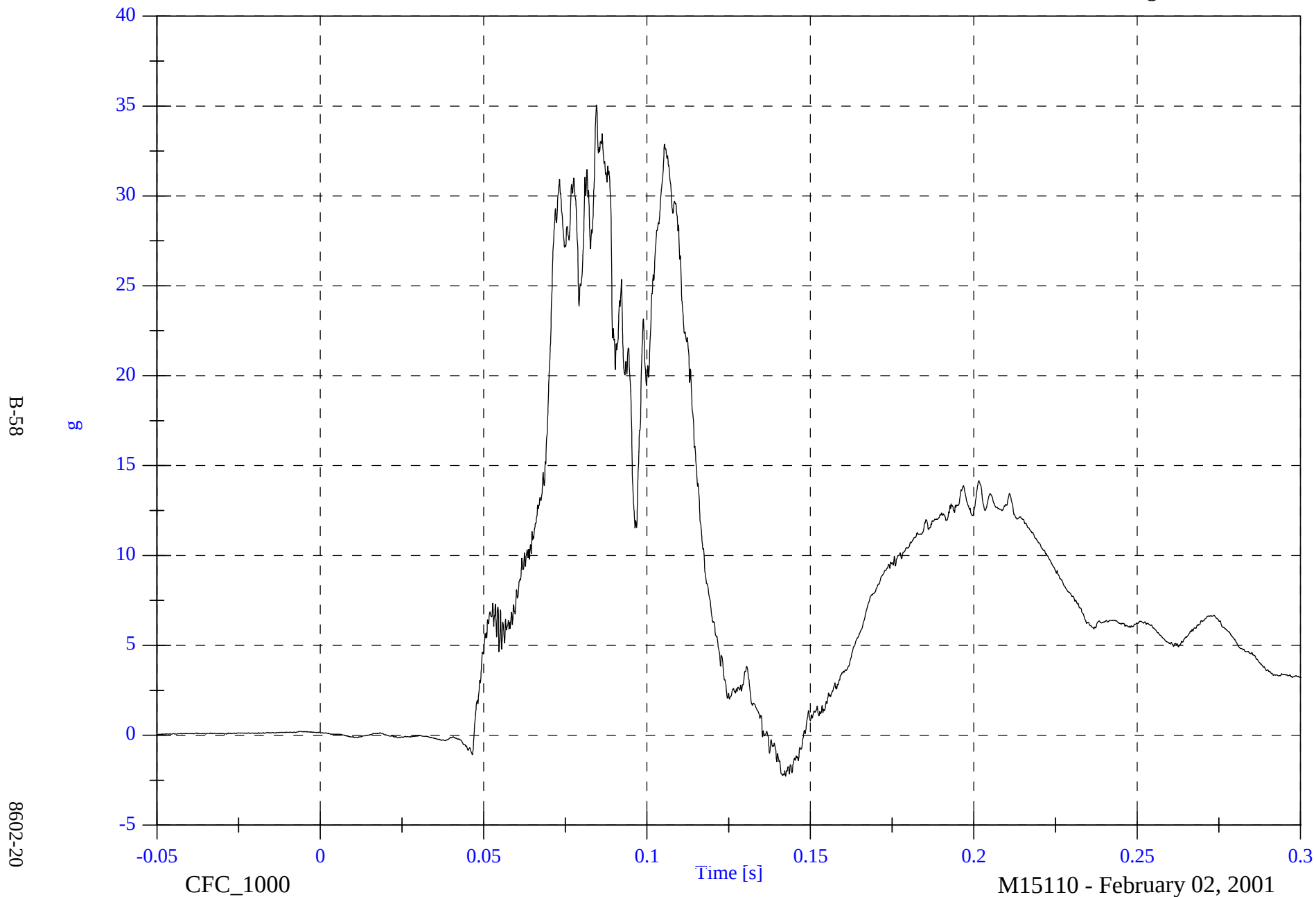


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 35.1 [g] at 0.085 [s]

Min: -2.3 [g] at 0.142 [s]

P2 Head Red z

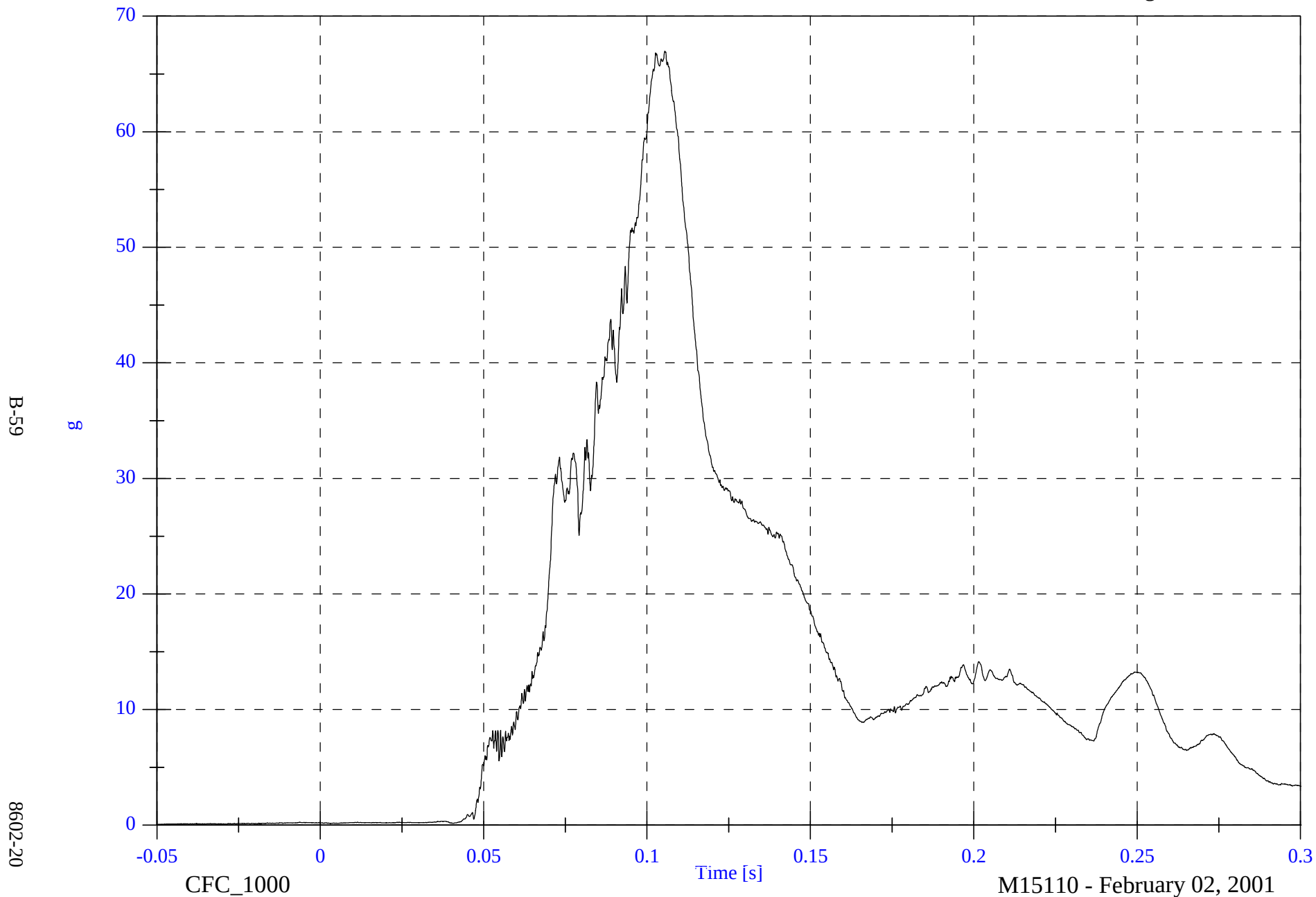


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 67.0 [g] at 0.105 [s]

Min: 0.0 [g] at -0.050 [s]

P2 Head Red Resultant

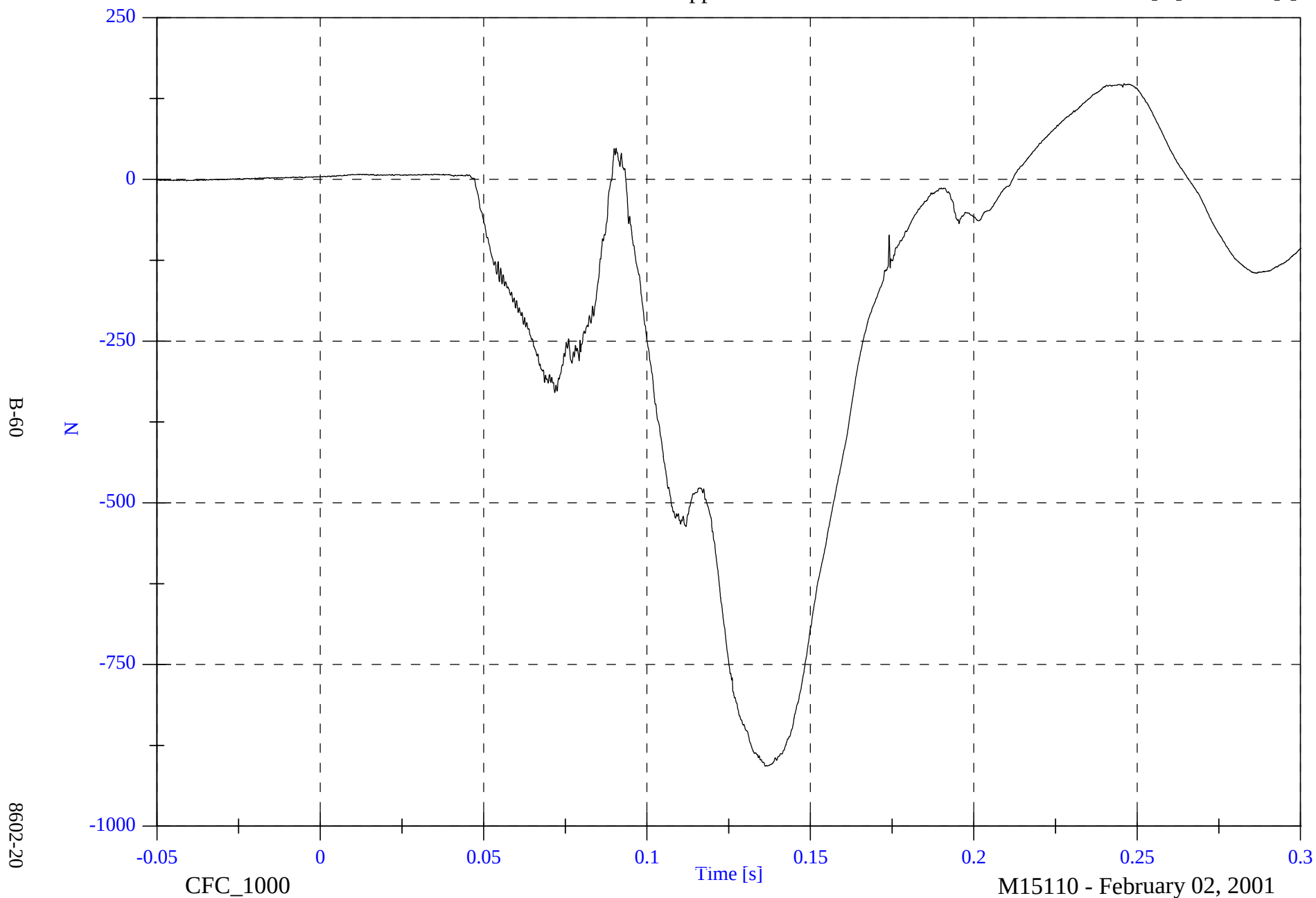


NCAP 2001 Test #20 - 2001 Lexus IS300

P2 Upper Neck Fx

Max: 147.8 [N] at 0.246 [s]

Min: -907.5 [N] at 0.136 [s]

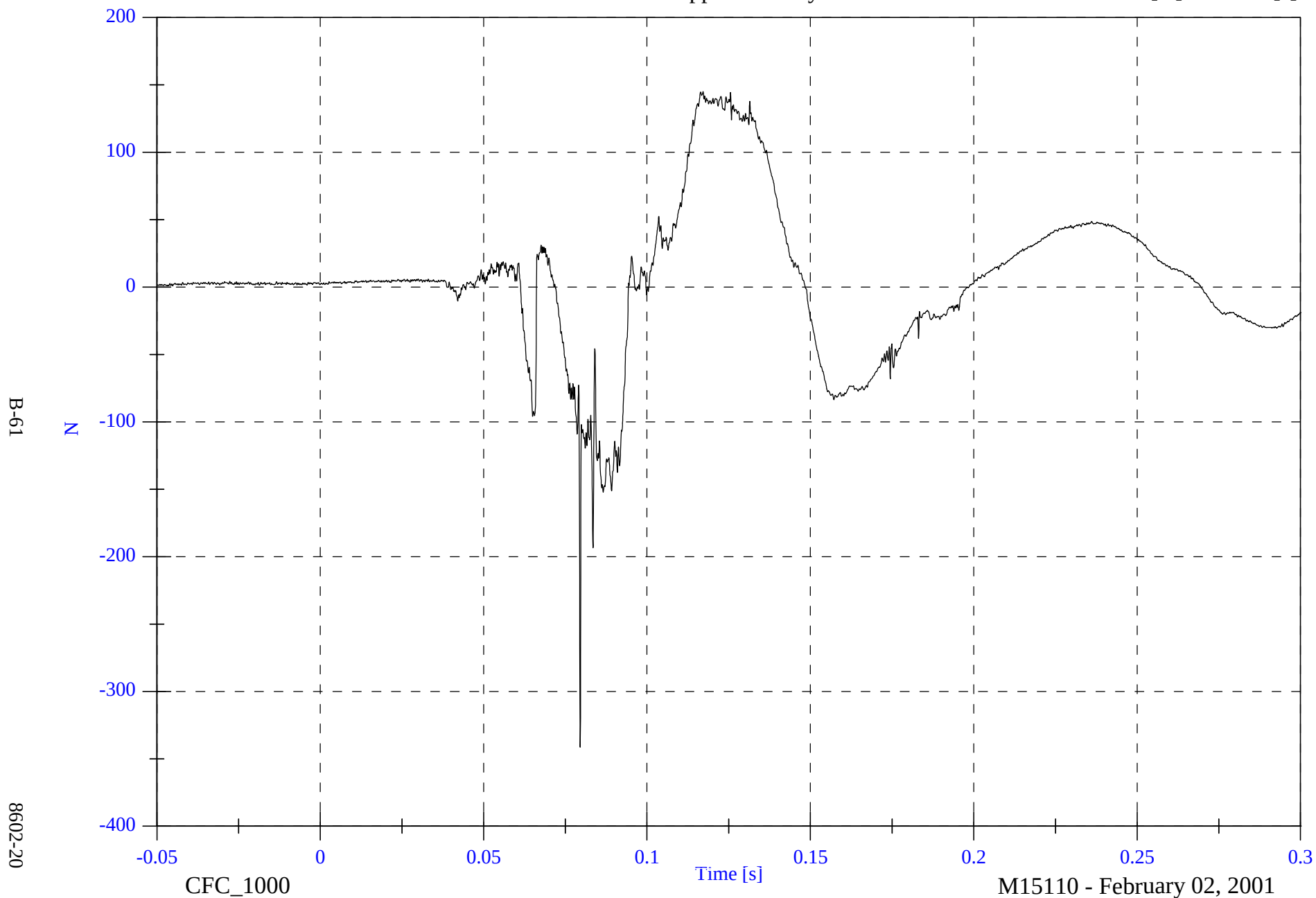


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 145.2 [N] at 0.117 [s]

Min: -341.4 [N] at 0.080 [s]

P2 Upper Neck Fy

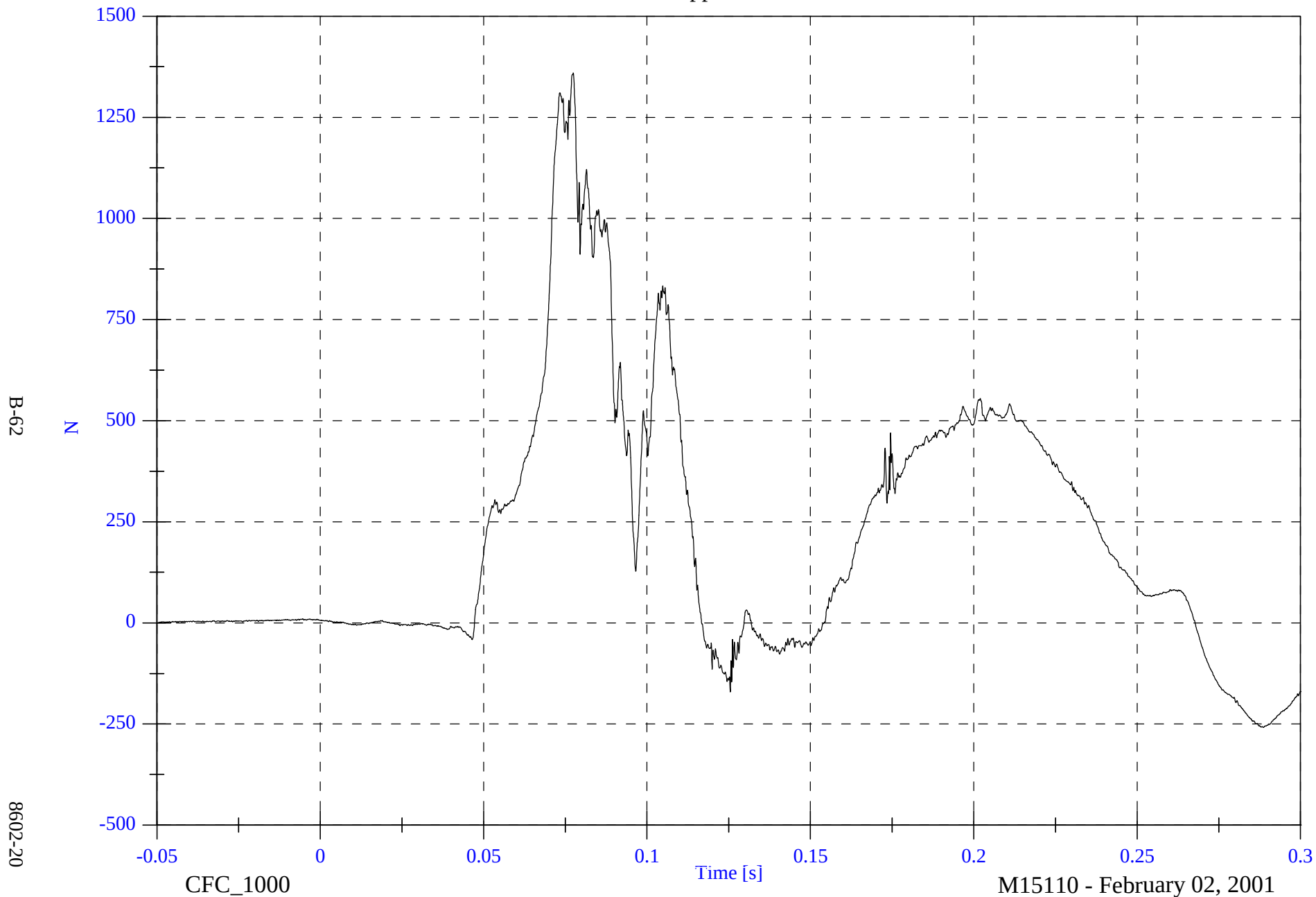


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 1359.7 [N] at 0.077 [s]

Min: -258.7 [N] at 0.289 [s]

P2 Upper Neck Fz

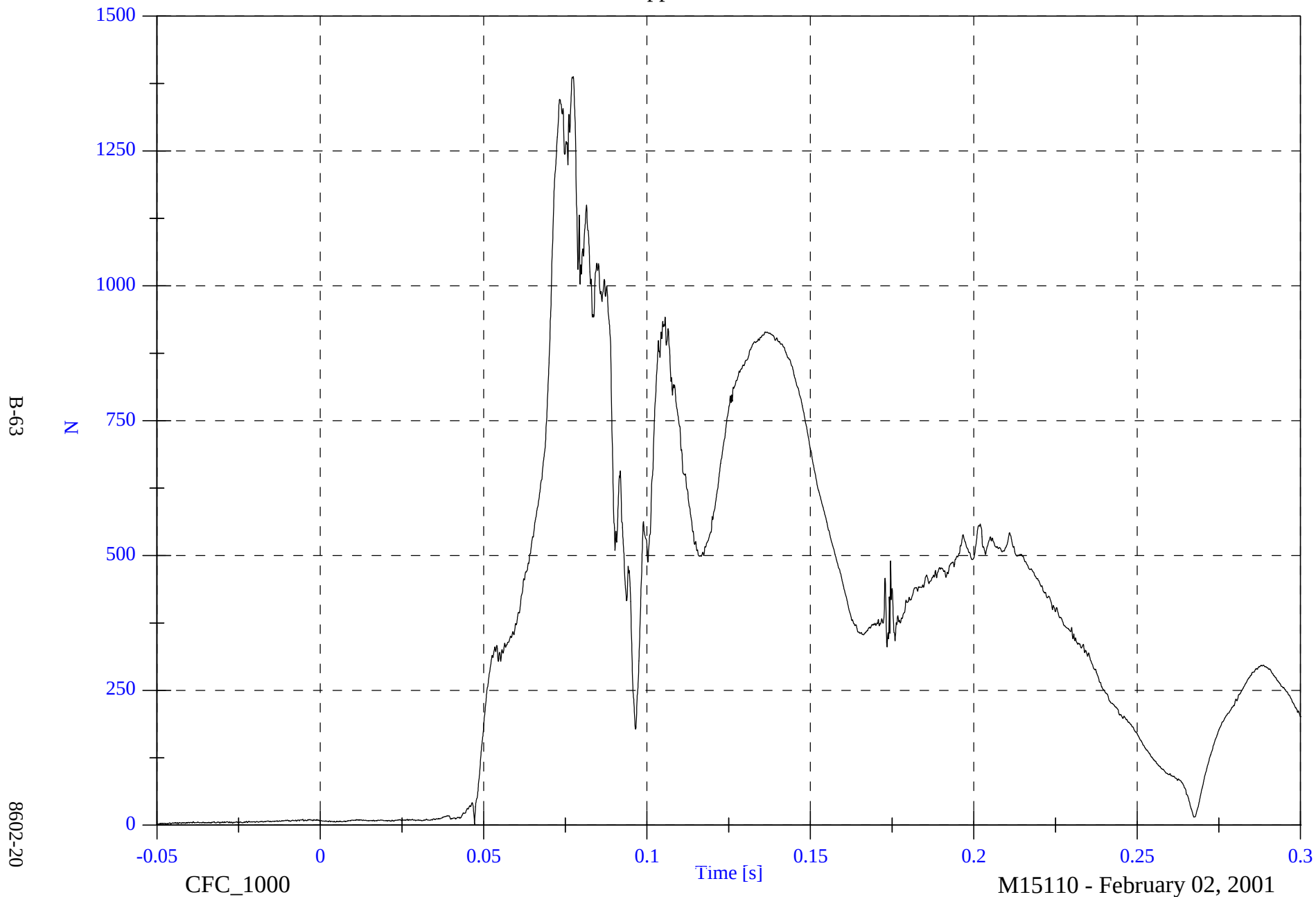


NCAP 2001 Test #20 - 2001 Lexus IS300

P2 Upper Neck F Resultant

Max: 1387.9 [N] at 0.077 [s]

Min: 1.6 [N] at 0.047 [s]

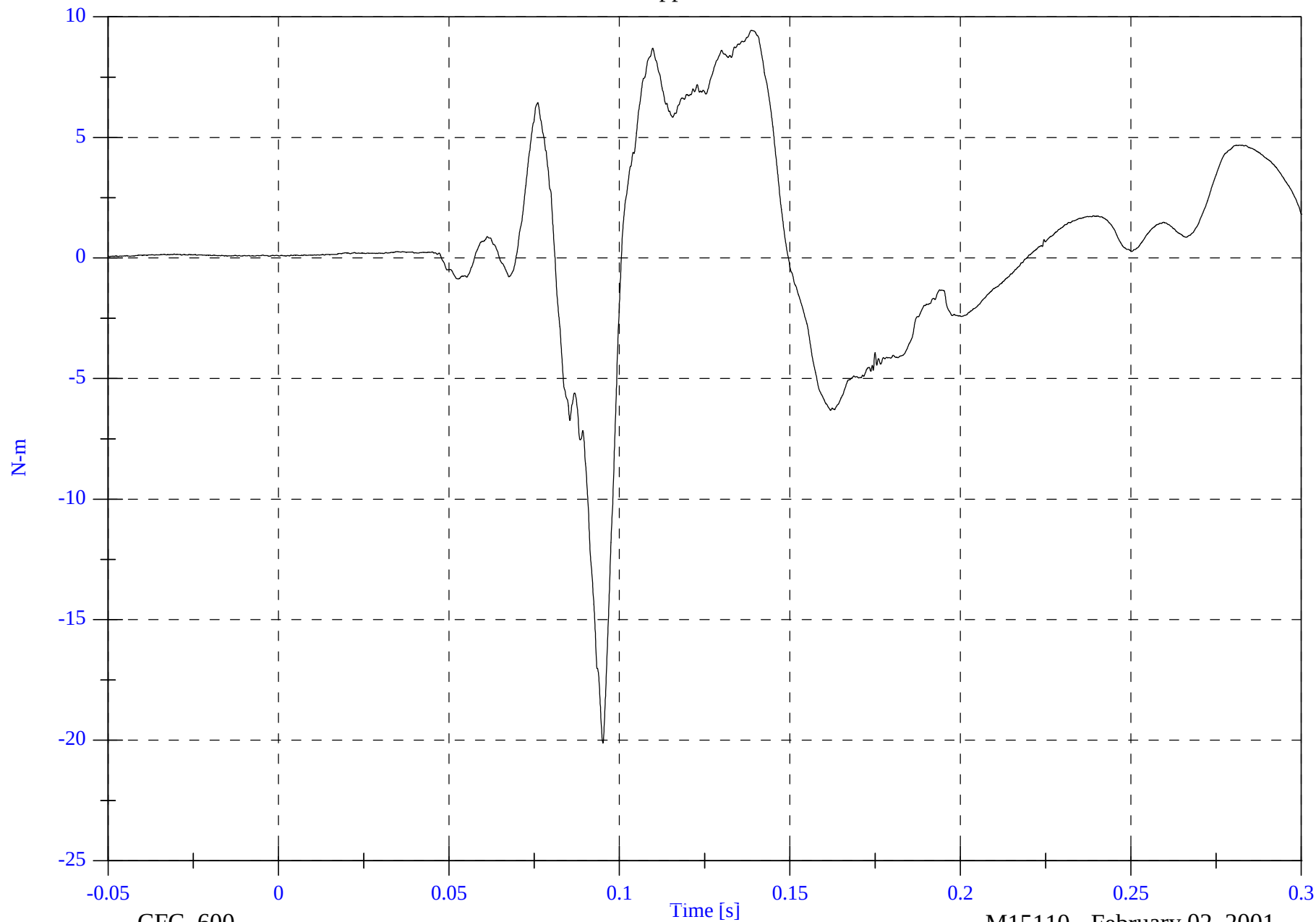


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 9.4 [N-m] at 0.139 [s]

Min: -20.1 [N-m] at 0.095 [s]

P2 Upper Neck Mx



B-64

8602-20

CFC_600

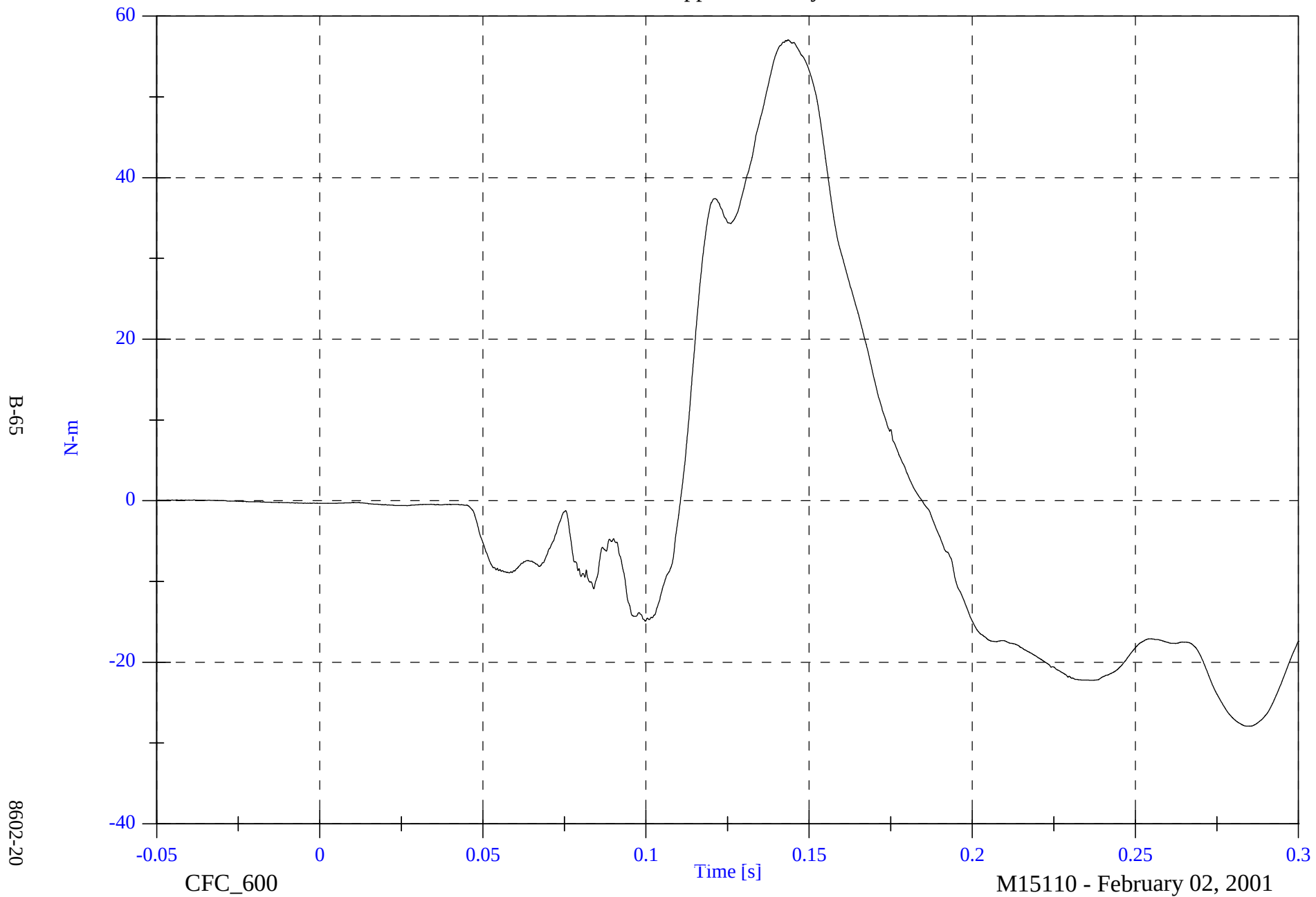
M15110 - February 02, 2001

NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 57.1 [N-m] at 0.144 [s]

Min: -27.9 [N-m] at 0.285 [s]

P2 Upper Neck My

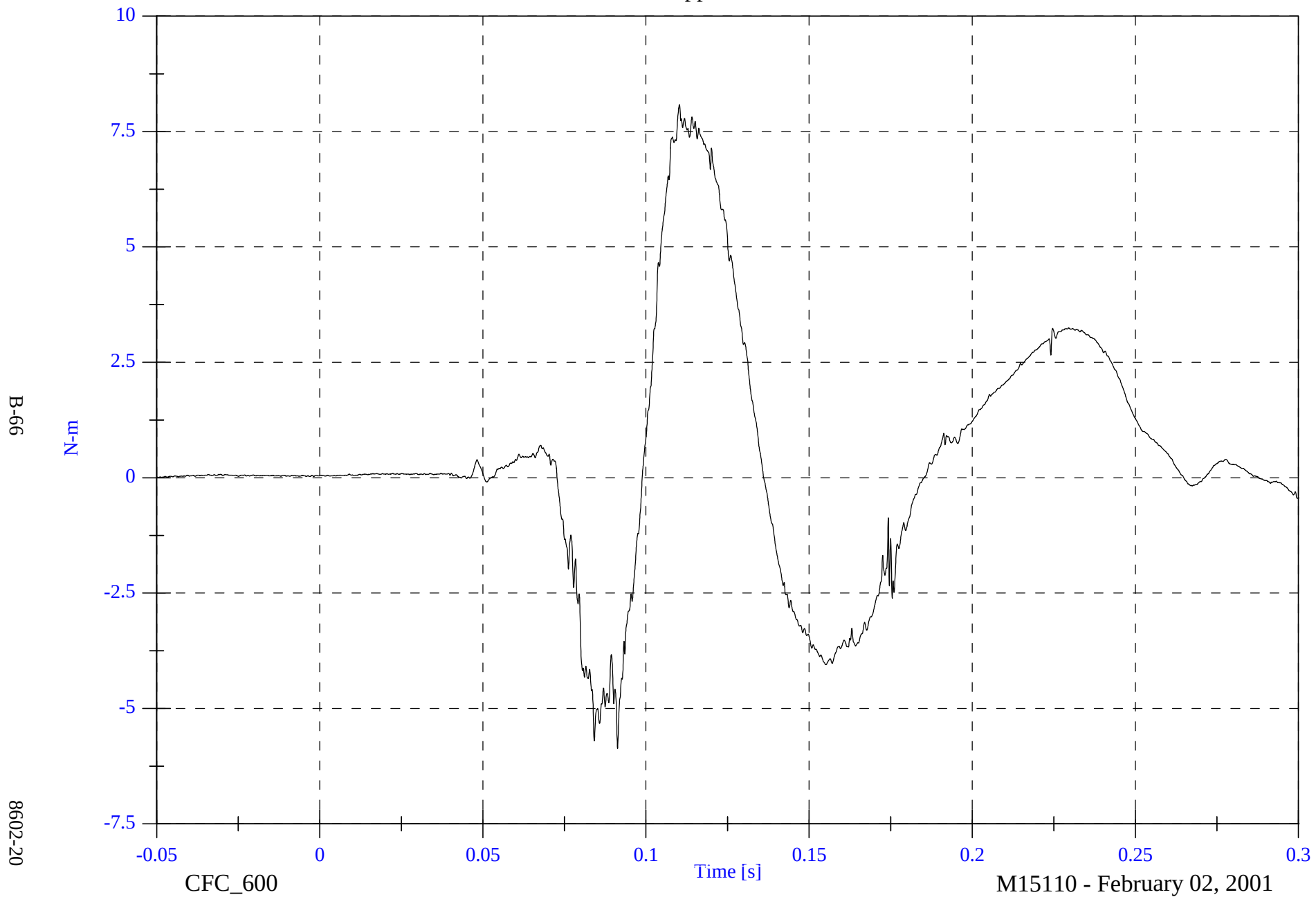


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 8.1 [N-m] at 0.110 [s]

Min: -5.9 [N-m] at 0.091 [s]

P2 Upper Neck Mz

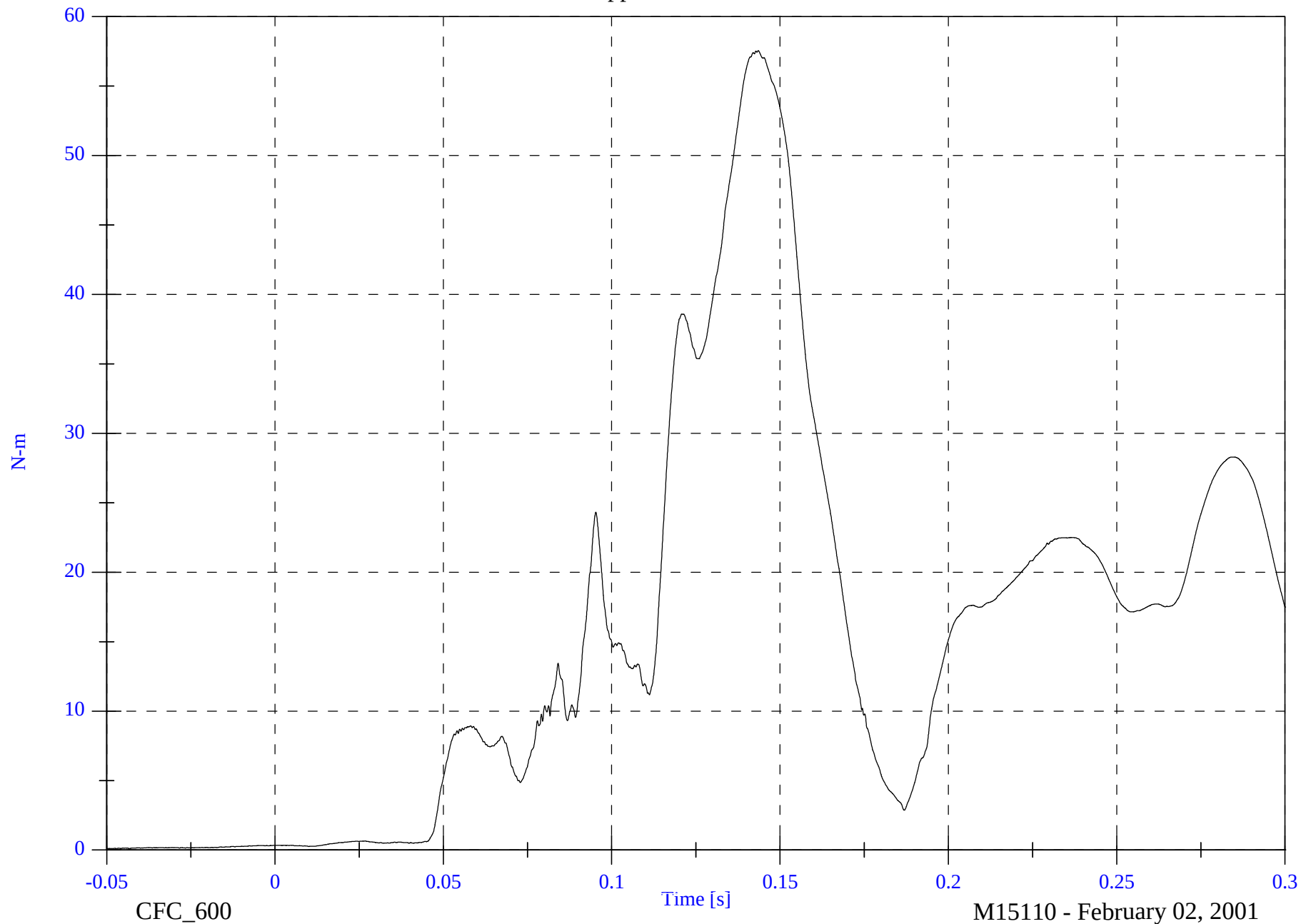


NCAP 2001 Test #20 - 2001 Lexus IS300

P2 Upper Neck M Resultant

Max: 57.6 [N-m] at 0.144 [s]

Min: 0.1 [N-m] at -0.050 [s]



B-67

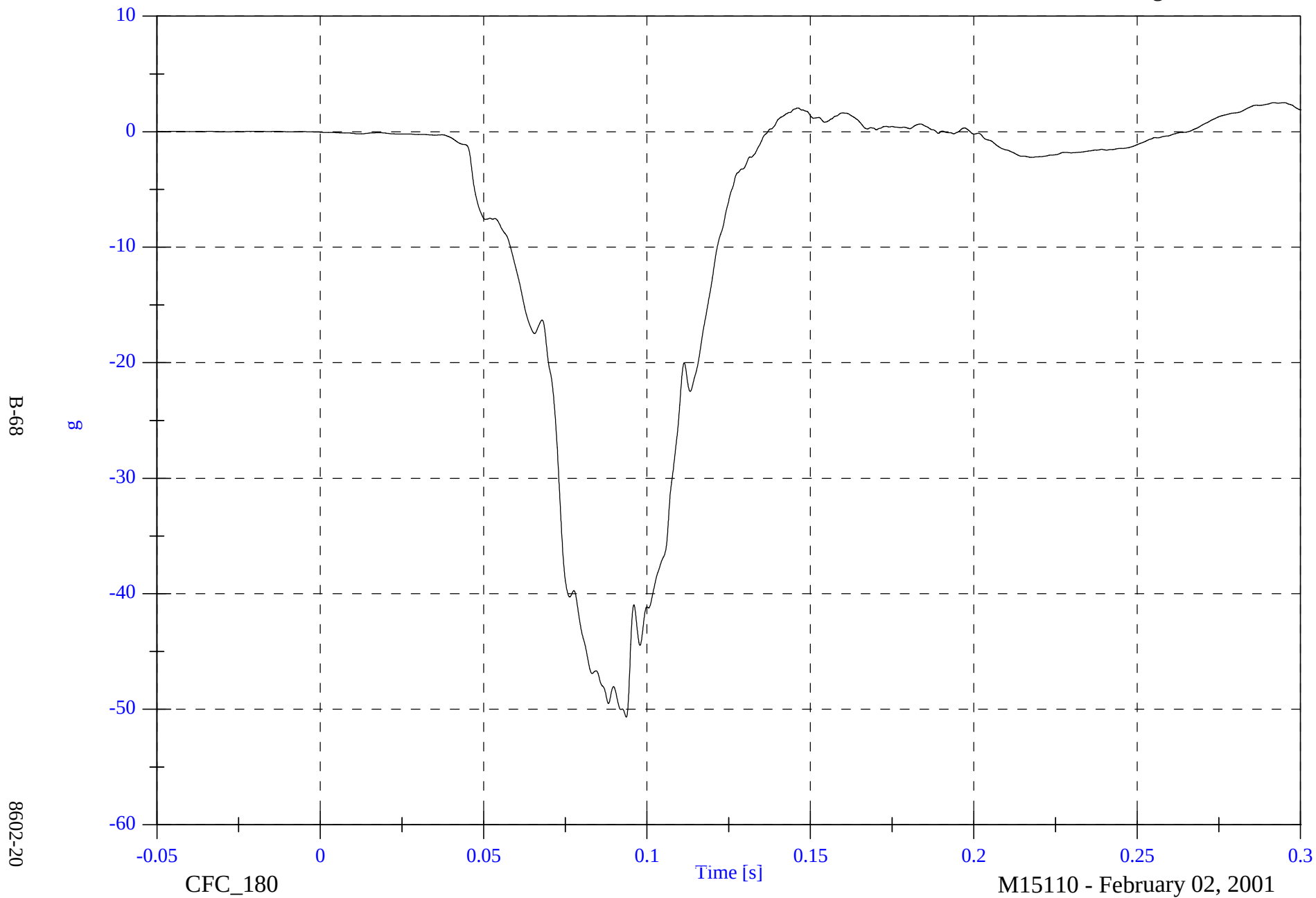
8602-20

NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 2.5 [g] at 0.292 [s]

Min: -50.7 [g] at 0.094 [s]

P2 Chest x

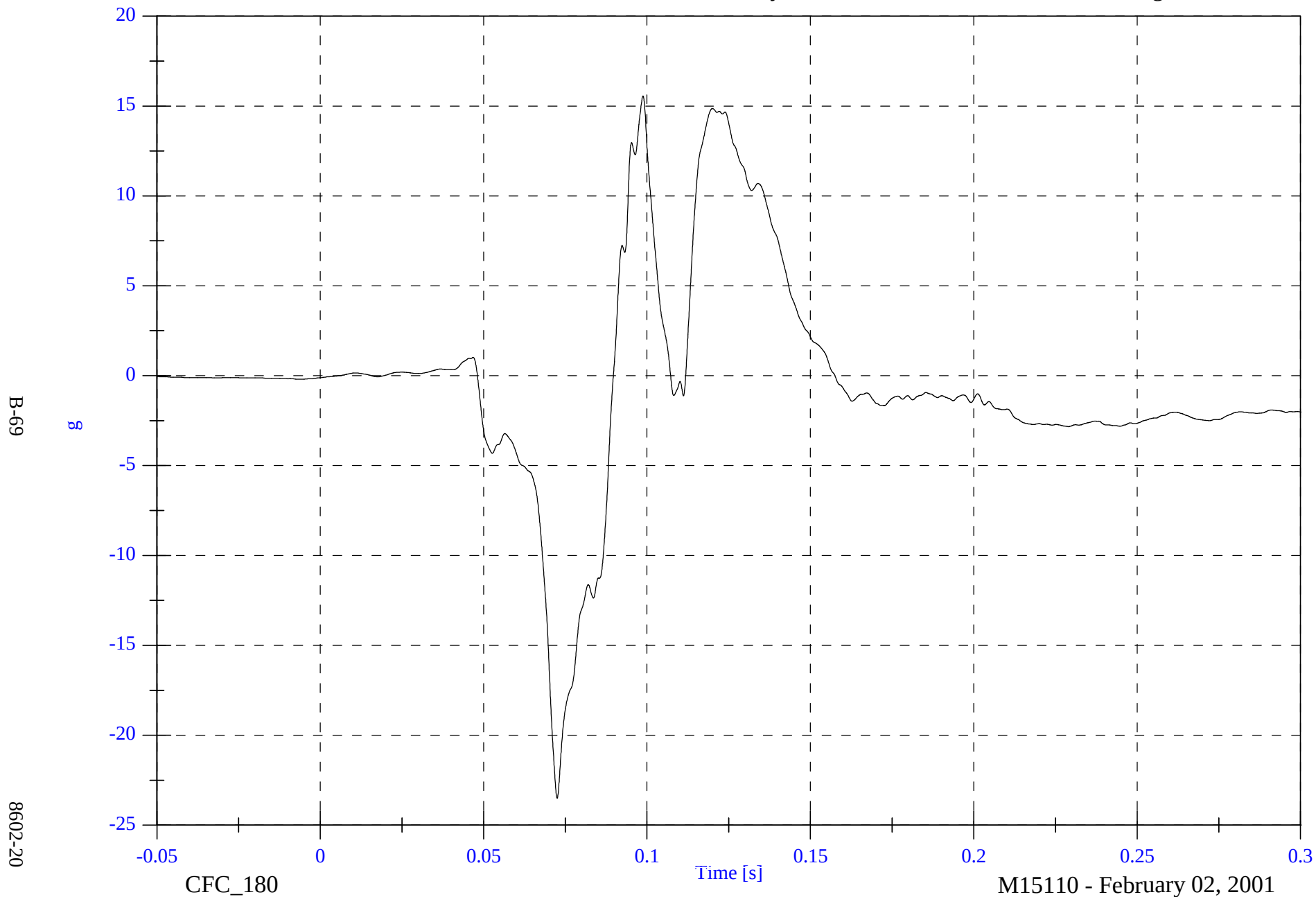


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 15.6 [g] at 0.099 [s]

Min: -23.5 [g] at 0.072 [s]

P2 Chest y

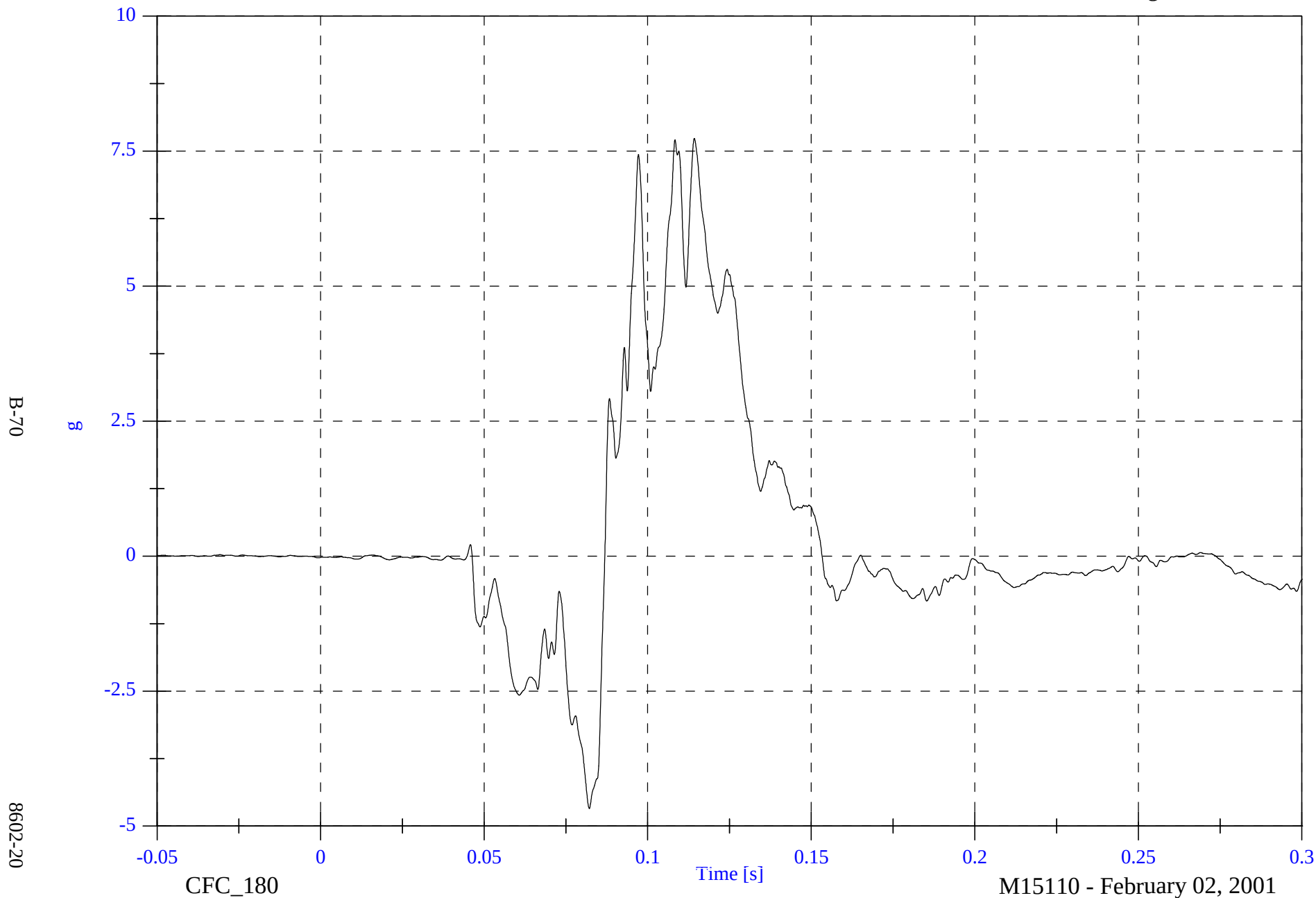


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 7.7 [g] at 0.114 [s]

Min: -4.7 [g] at 0.082 [s]

P2 Chest z



NCAP 2001 Test #20 - 2001 Lexus IS300

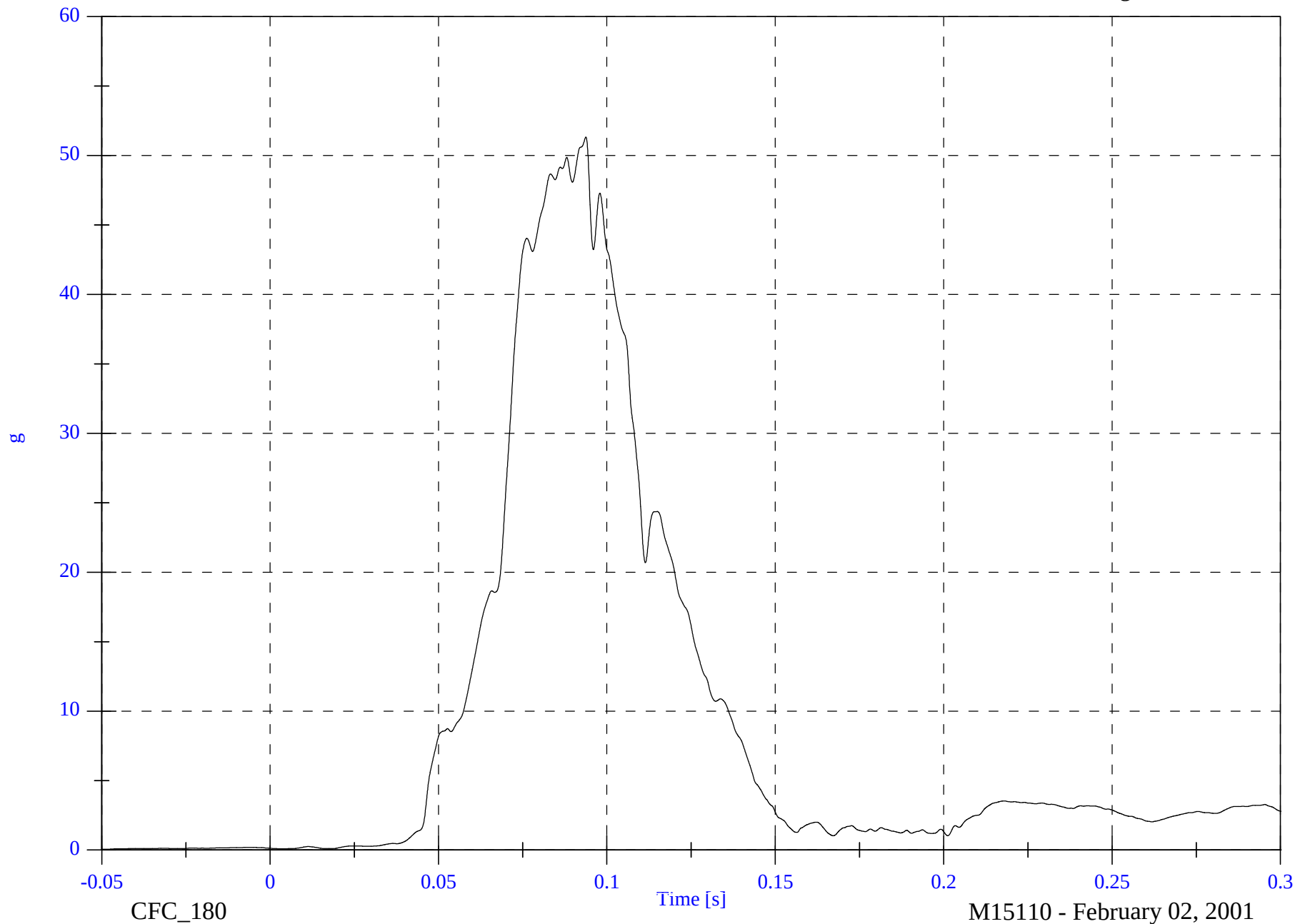
P2 Chest Resultant

Max: 51.3 [g] at 0.094 [s]

Min: 0.0 [g] at -0.050 [s]

B-71

8602-20

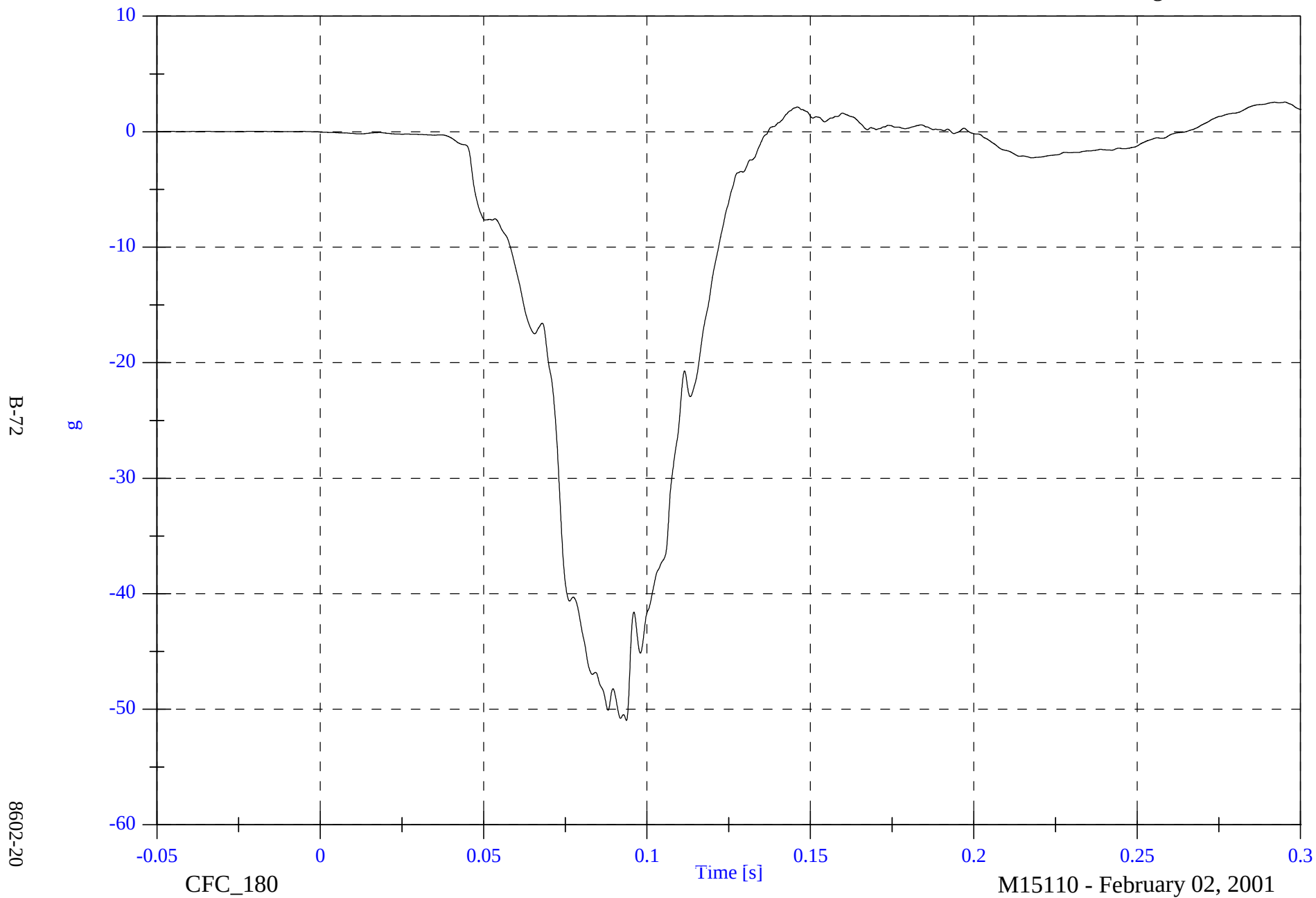


NCAP 2001 Test #20 - 2001 Lexus IS300

P2 Chest Red x

Max: 2.6 [g] at 0.295 [s]

Min: -51.0 [g] at 0.094 [s]

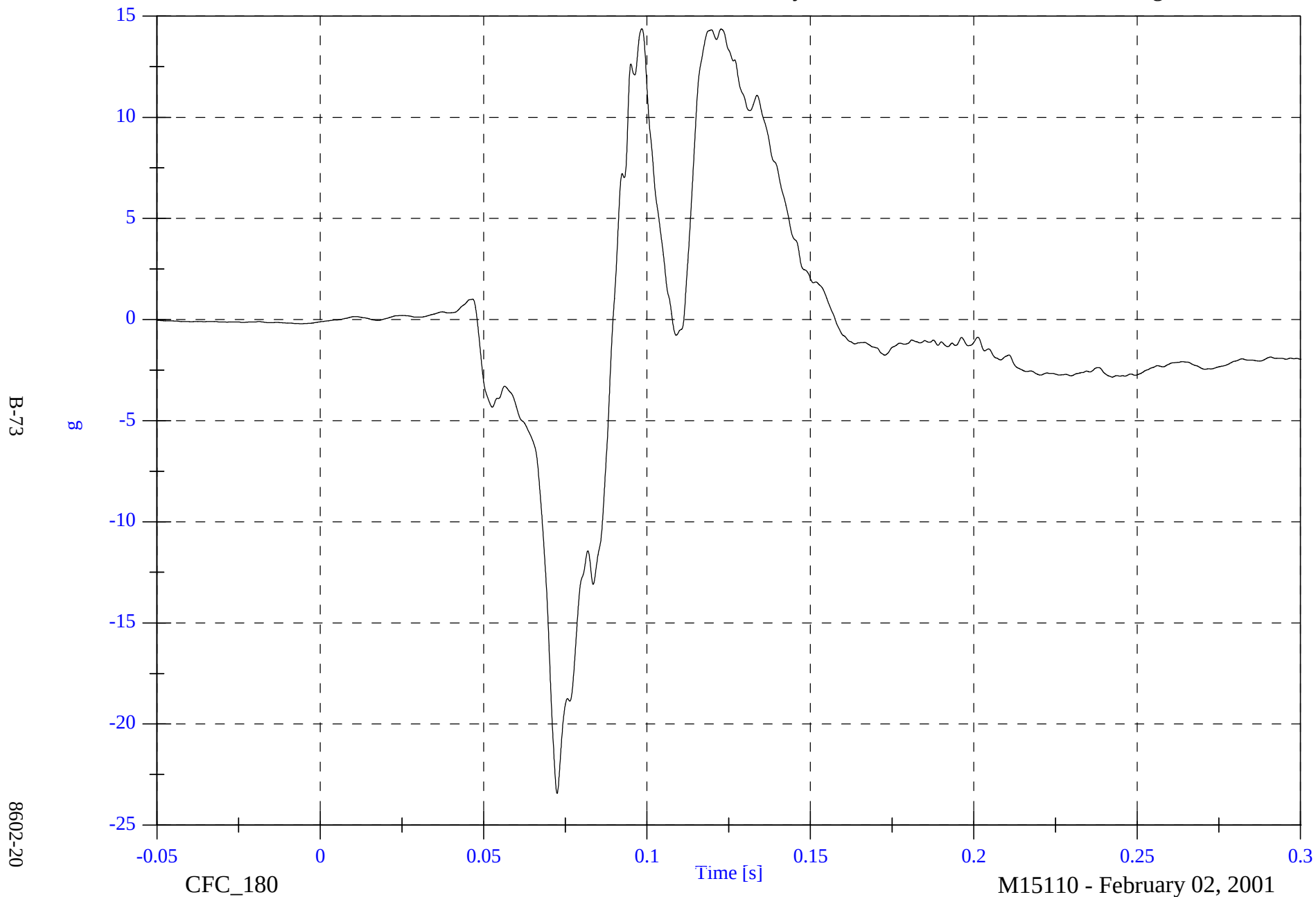


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 14.4 [g] at 0.098 [s]

Min: -23.4 [g] at 0.072 [s]

P2 Chest Red y

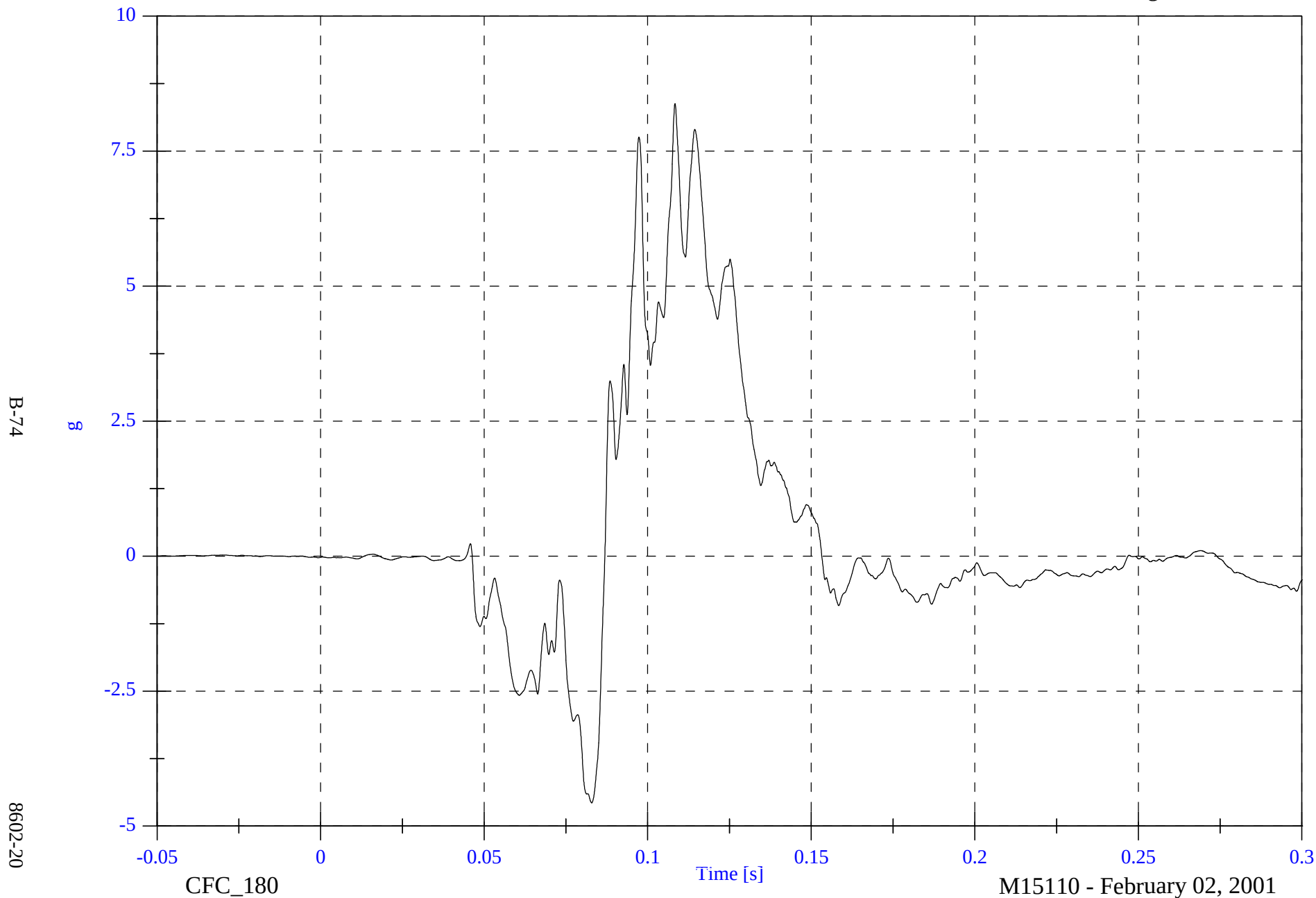


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 8.4 [g] at 0.108 [s]

Min: -4.6 [g] at 0.083 [s]

P2 Chest Red z



NCAP 2001 Test #20 - 2001 Lexus IS300

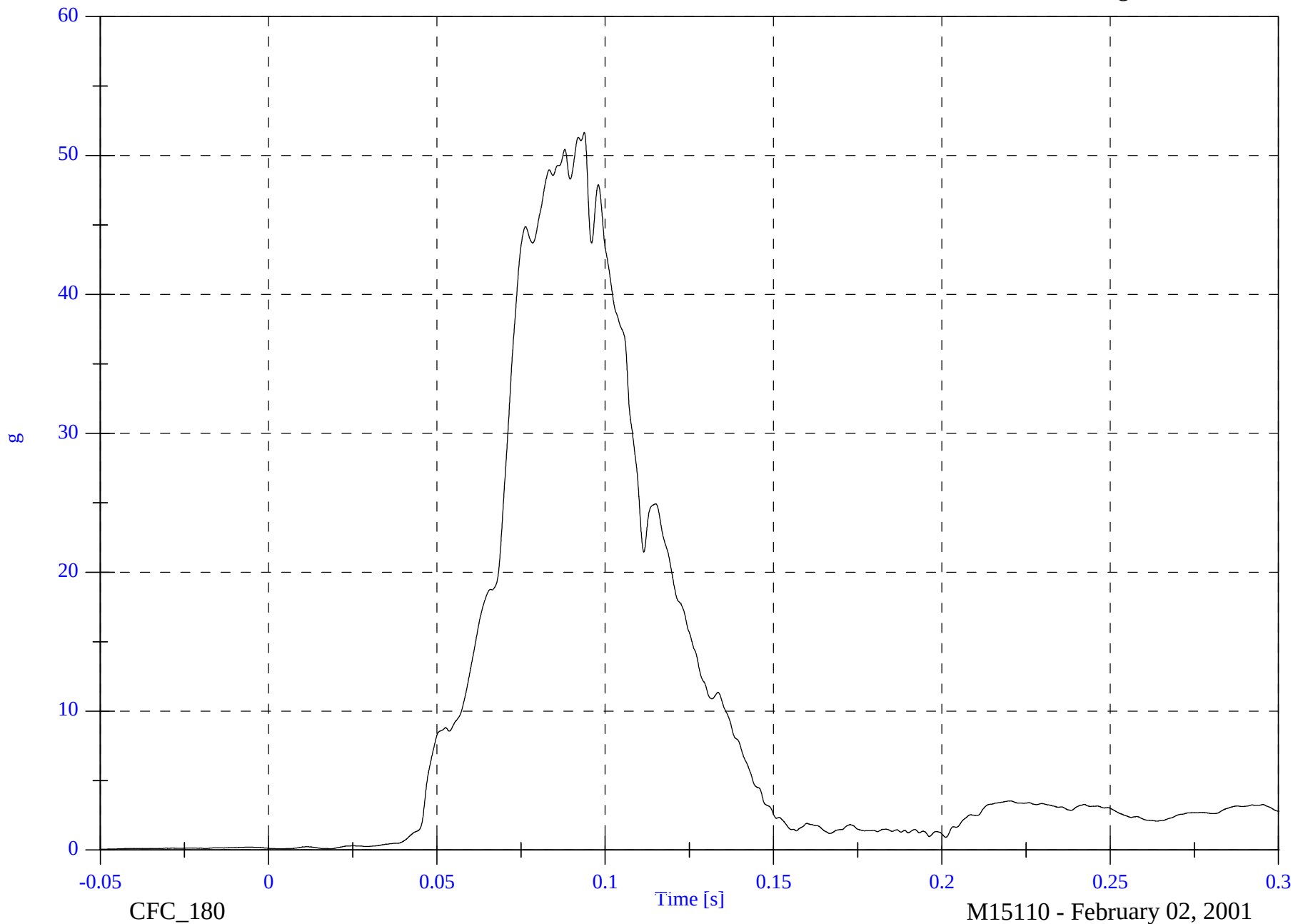
P2 Chest Red Resultant

Max: 51.7 [g] at 0.094 [s]

Min: 0.0 [g] at -0.050 [s]

B-75

8602-20

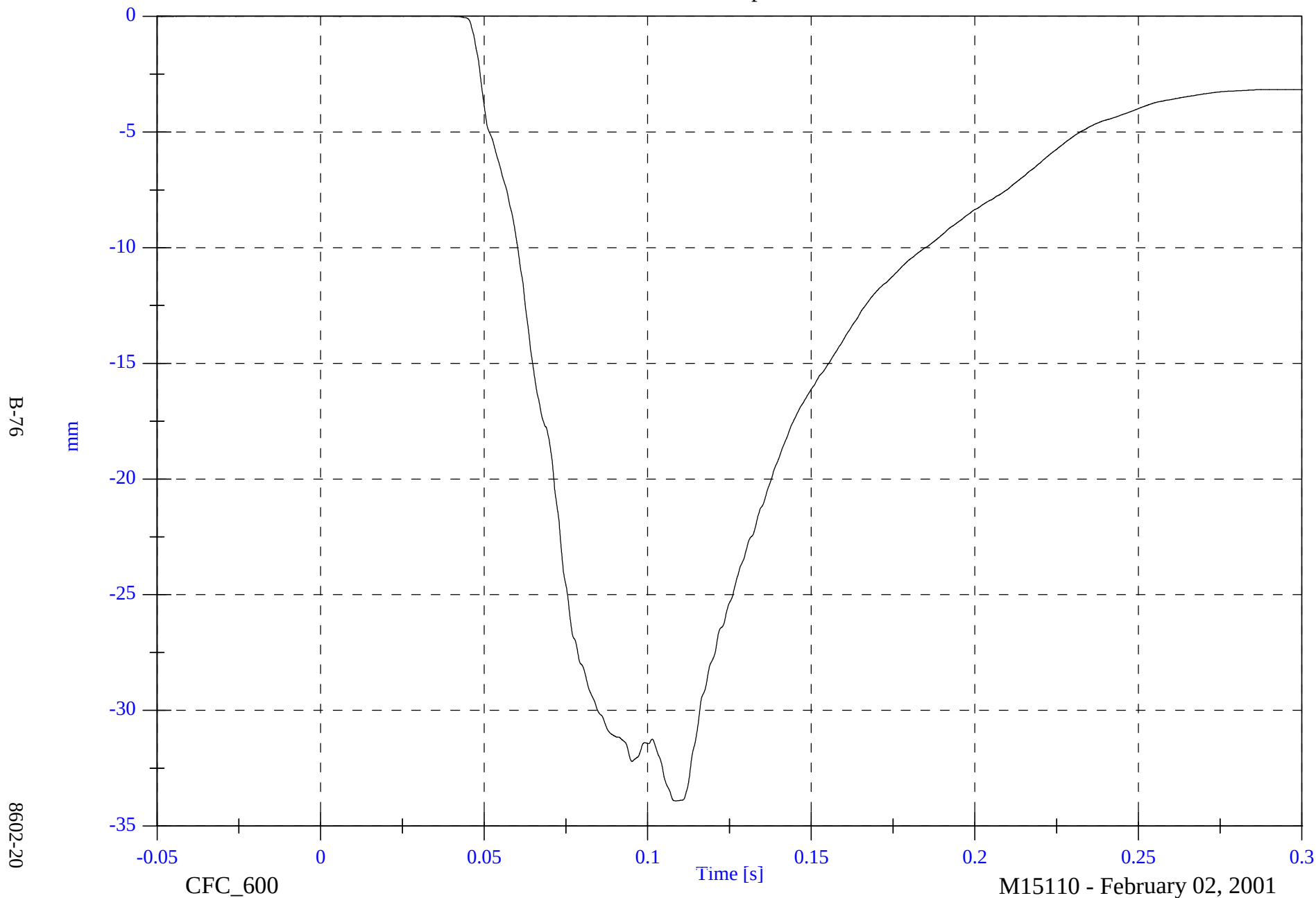


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 0.0 [mm] at 0.036 [s]

Min: -33.9 [mm] at 0.109 [s]

P2 Chest Compression x



B-76

8602-20

CFC_600

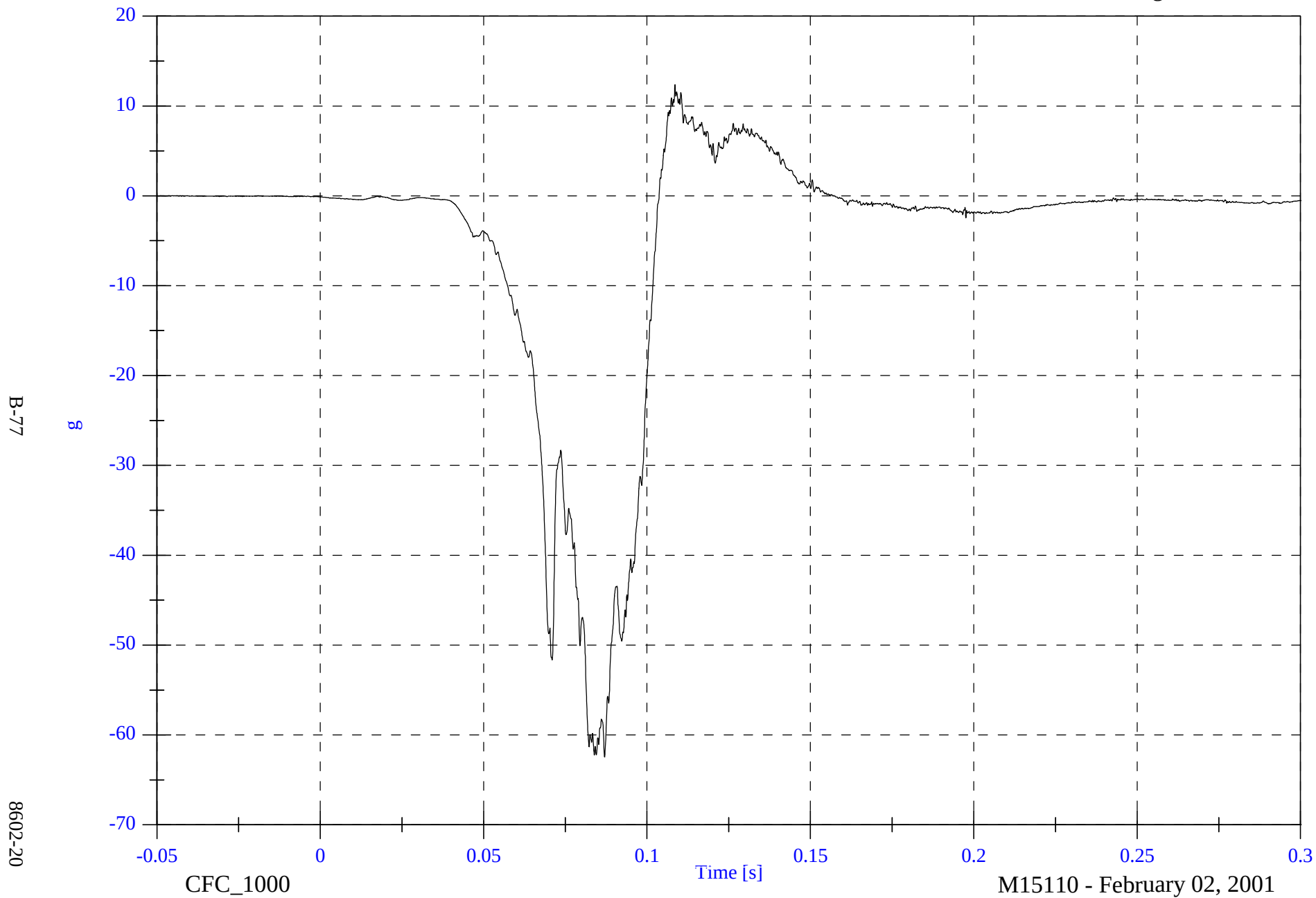
M15110 - February 02, 2001

NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 12.4 [g] at 0.109 [s]

Min: -62.5 [g] at 0.087 [s]

P2 Pelvic x

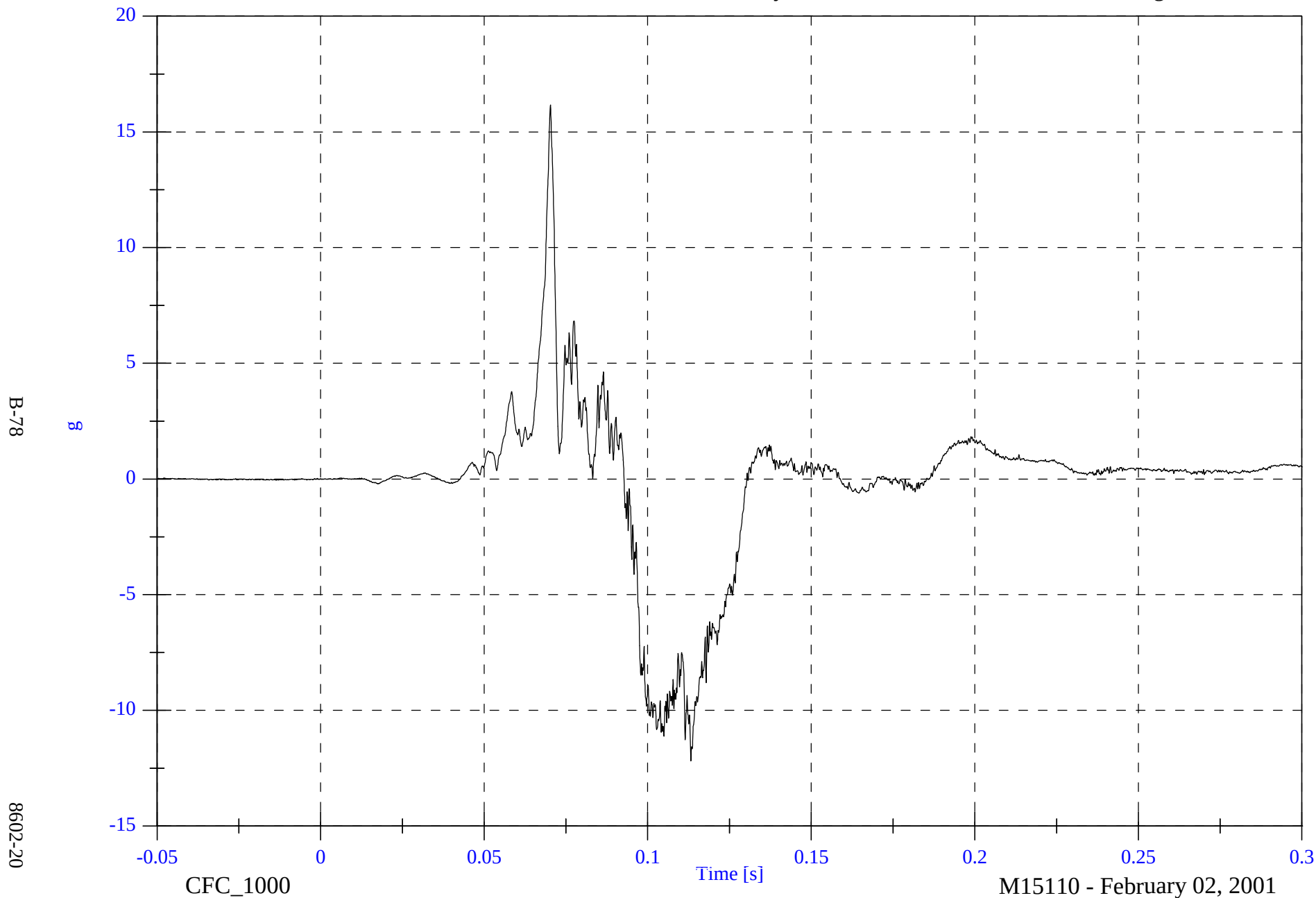


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 16.2 [g] at 0.070 [s]

Min: -12.2 [g] at 0.113 [s]

P2 Pelvic y

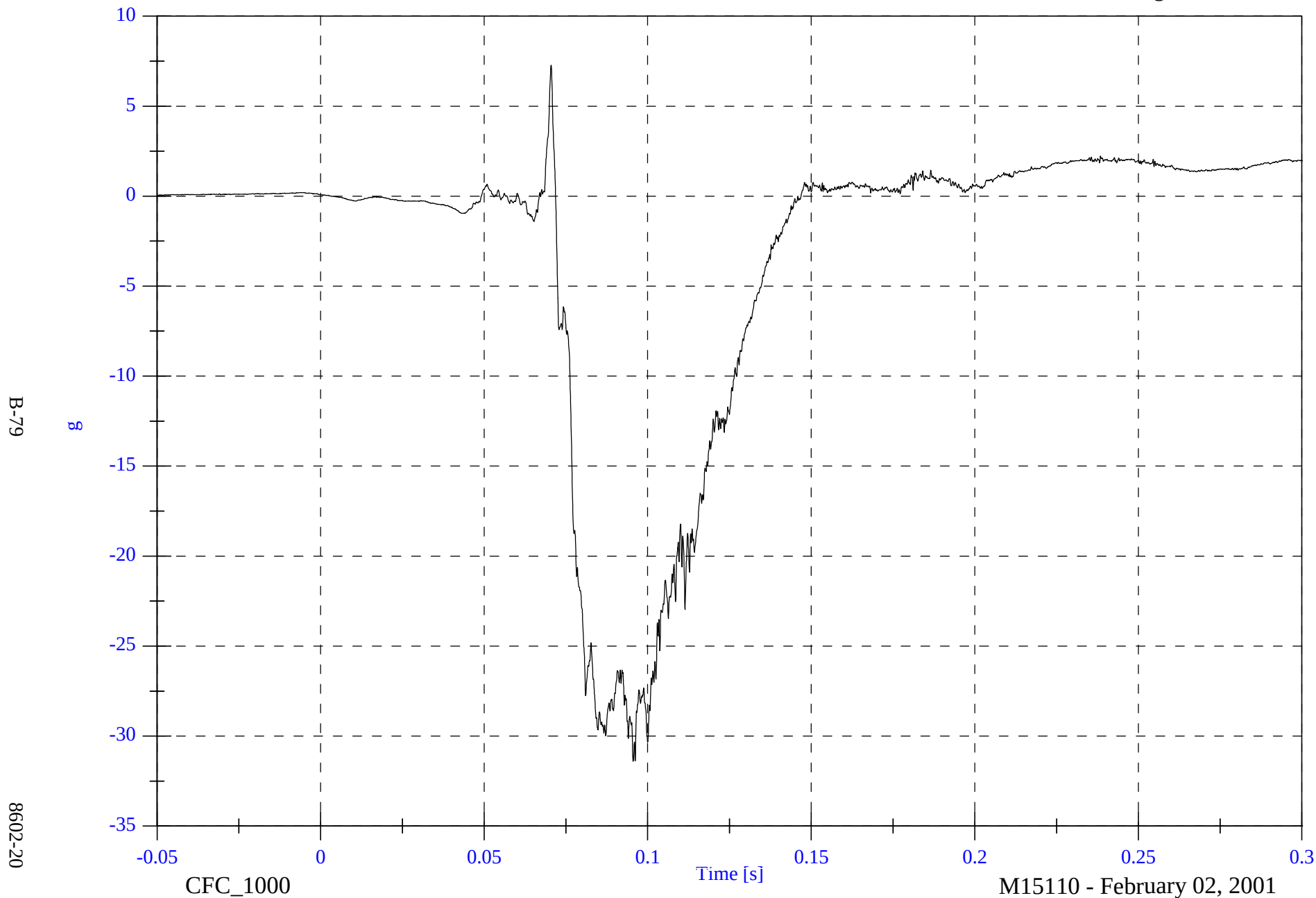


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 7.3 [g] at 0.070 [s]

Min: -31.4 [g] at 0.096 [s]

P2 Pelvic z



NCAP 2001 Test #20 - 2001 Lexus IS300

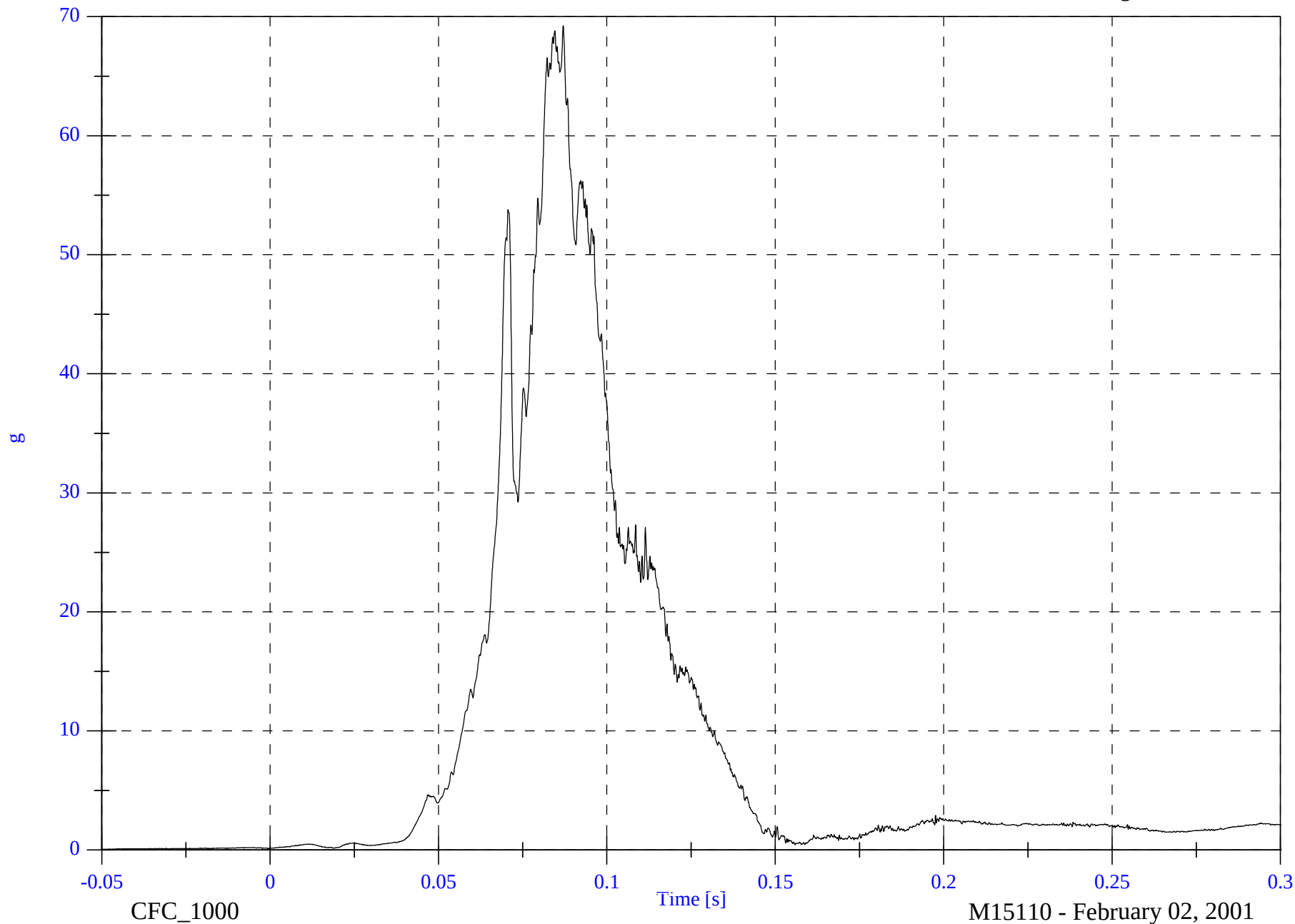
P2 Pelvic Resultant

Max: 69.2 [g] at 0.087 [s]

Min: 0.0 [g] at -0.050 [s]

B-80

8602-20

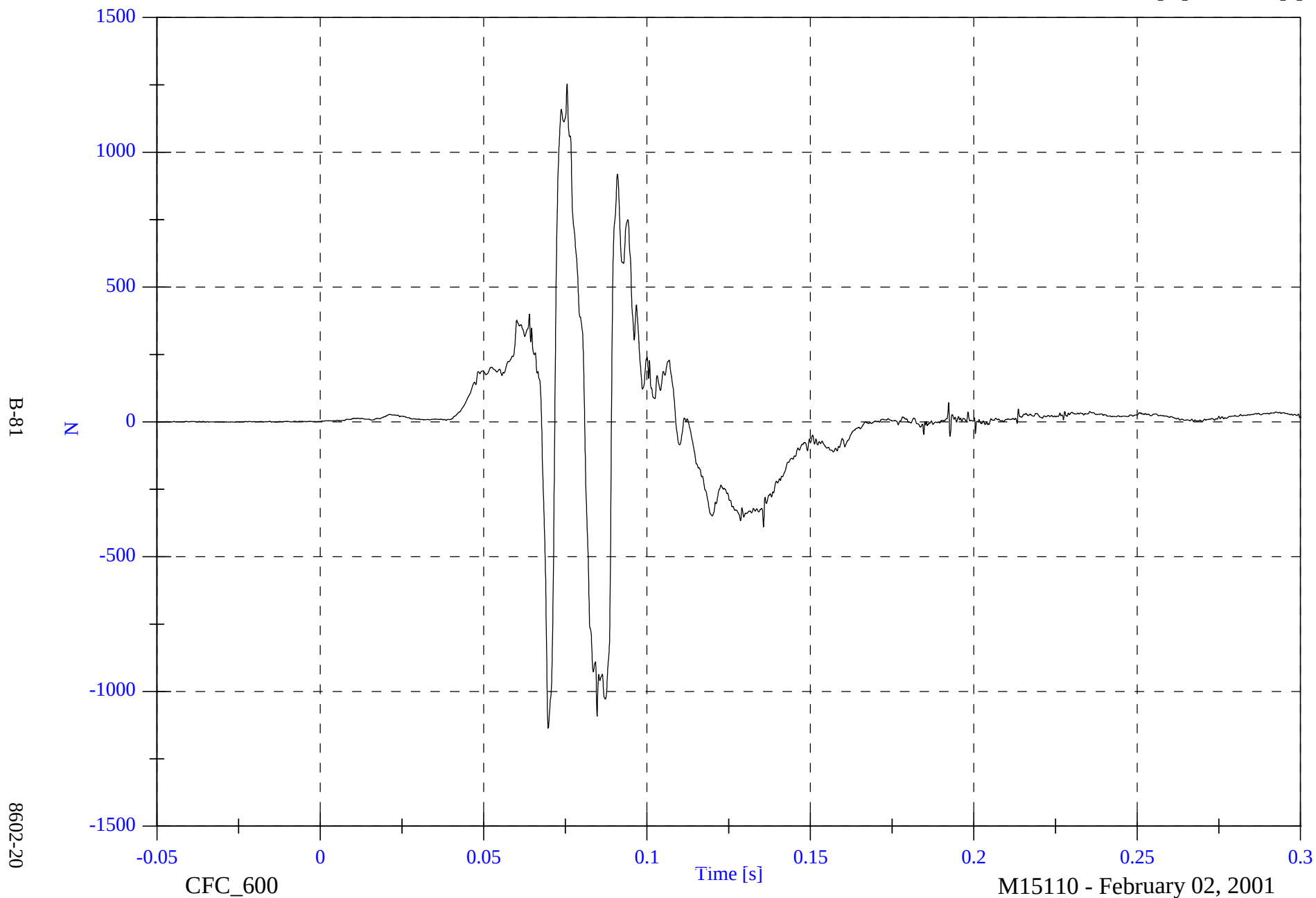


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 1254.0 [N] at 0.076 [s]

Min: -1136.6 [N] at 0.070 [s]

P2 Left Femur z

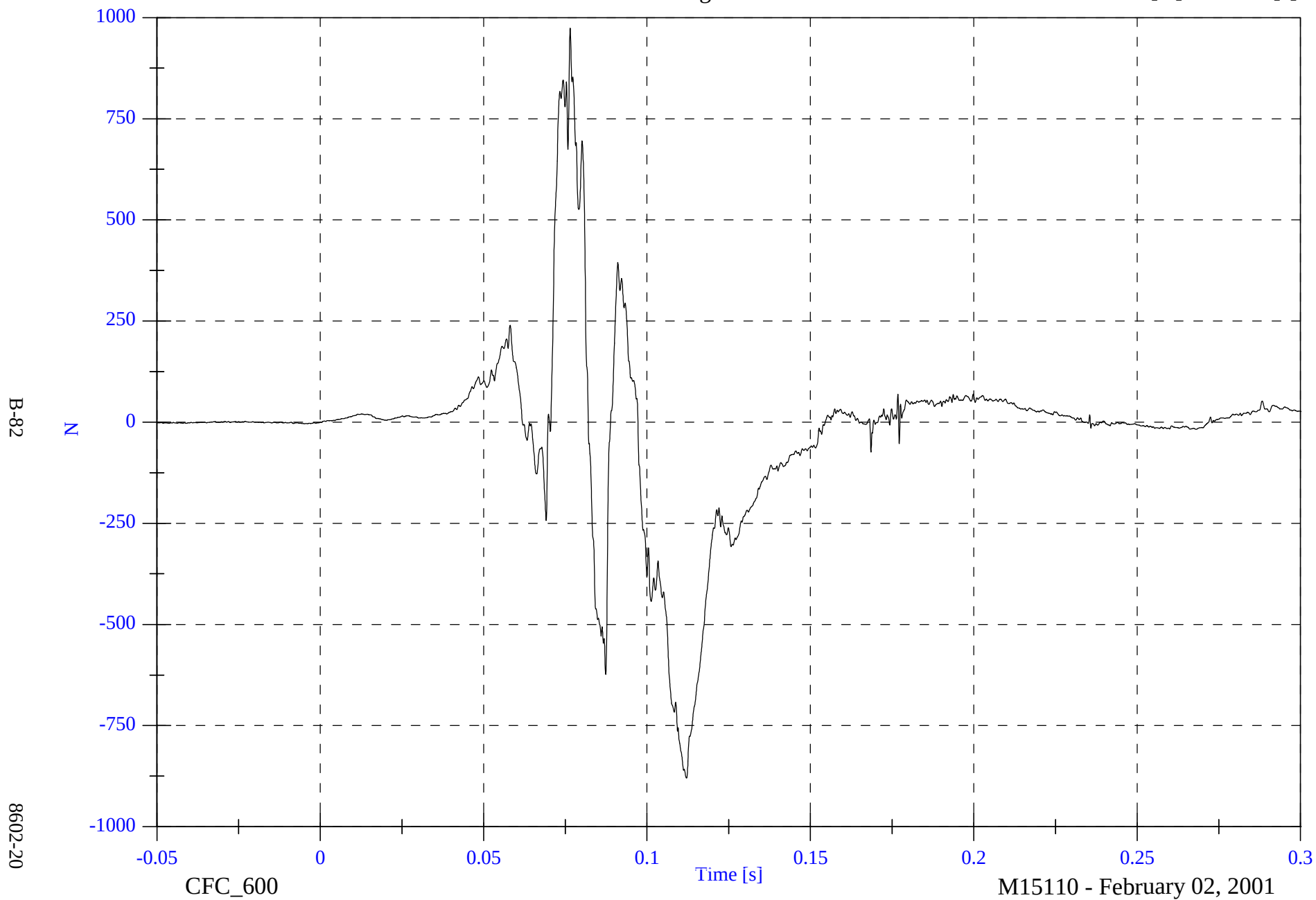


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 974.3 [N] at 0.076 [s]

Min: -879.5 [N] at 0.112 [s]

P2 Right Femur z

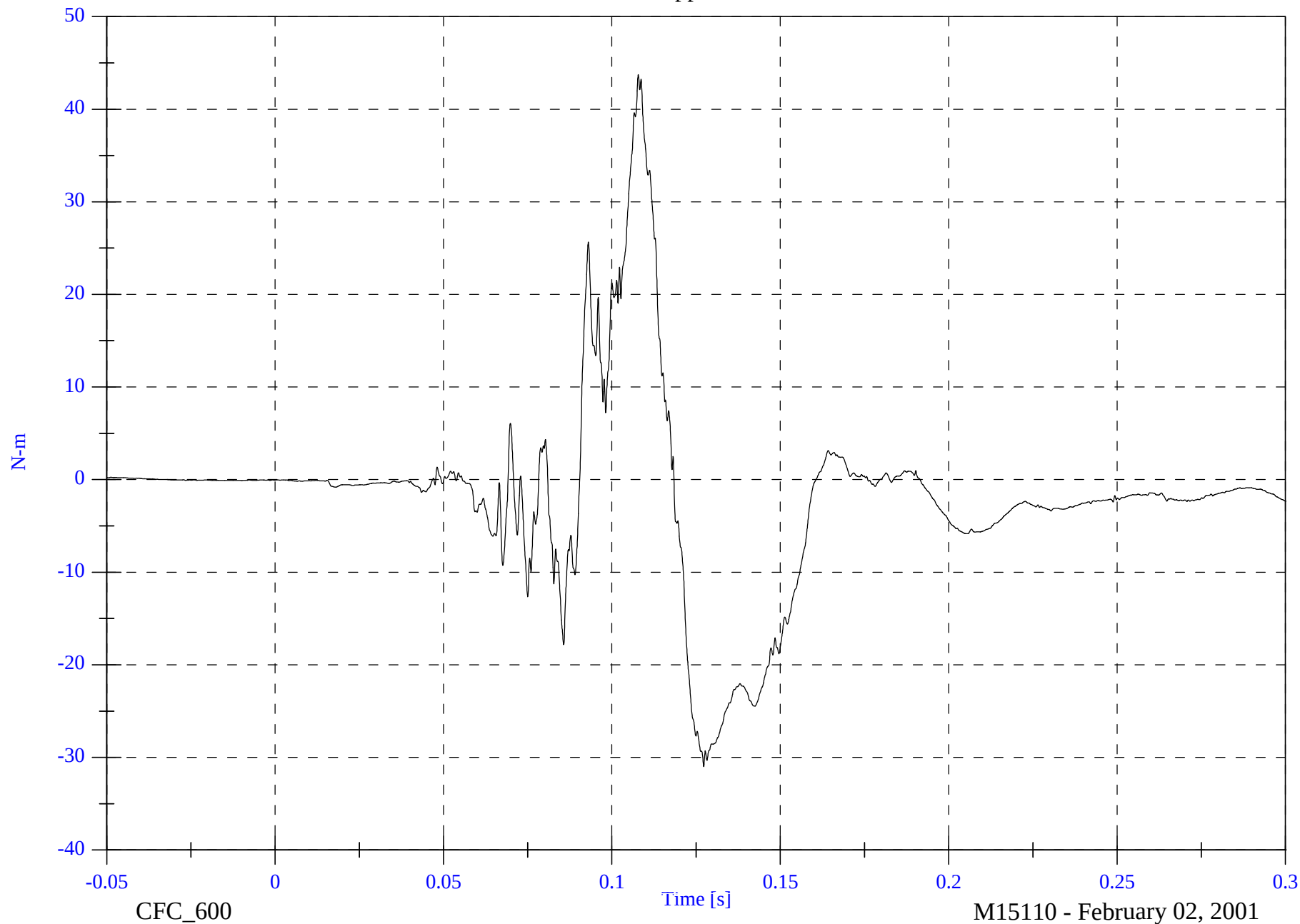


NCAP 2001 Test #20 - 2001 Lexus IS300

P2 Left Upper Tibia Mx

Max: 43.8 [N-m] at 0.108 [s]

Min: -31.0 [N-m] at 0.127 [s]



B-83

8602-20

CFC_600

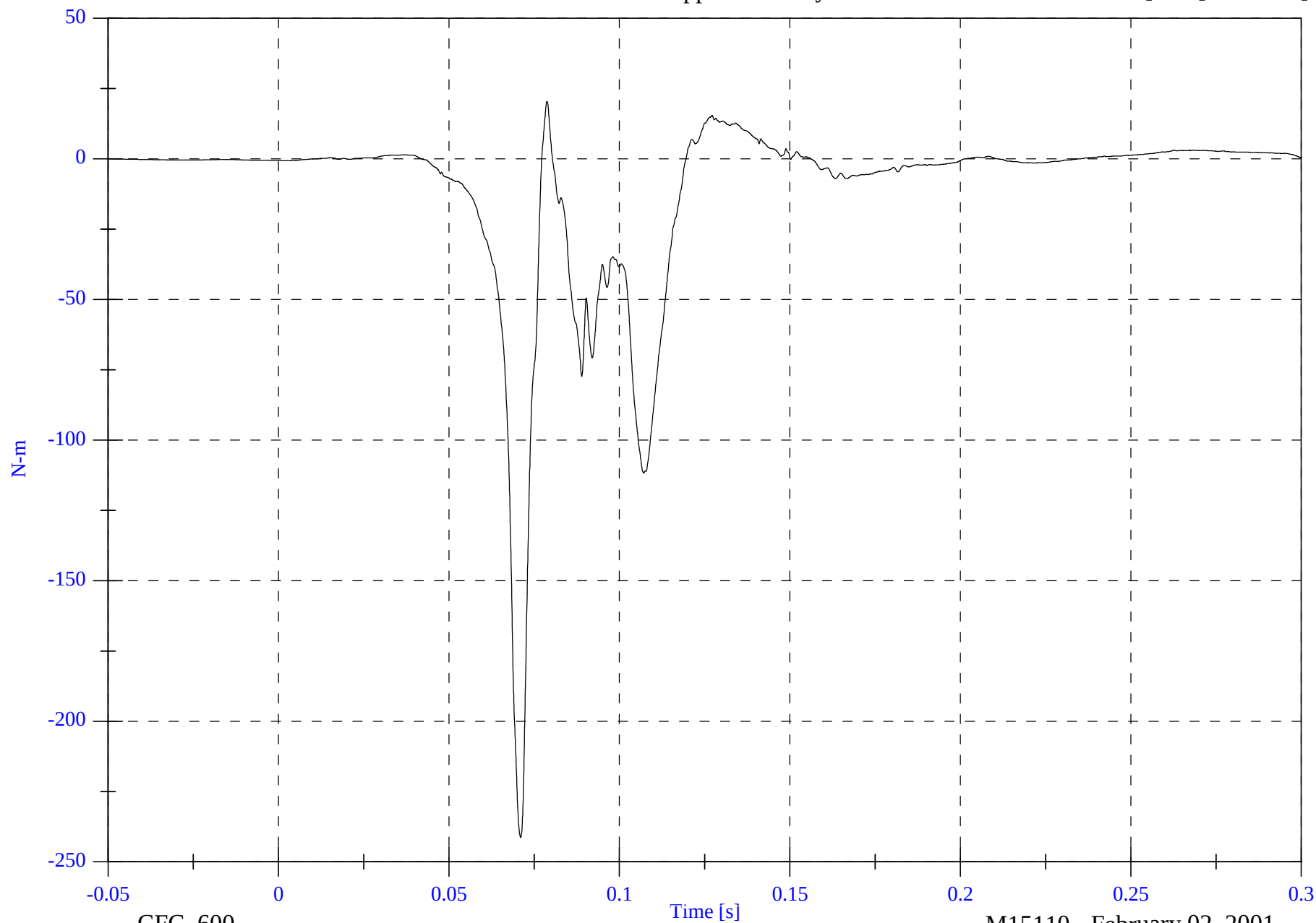
M15110 - February 02, 2001

NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 20.5 [N-m] at 0.079 [s]

Min: -241.3 [N-m] at 0.071 [s]

P2 Left Upper Tibia My



B-84

8602-20

CFC_600

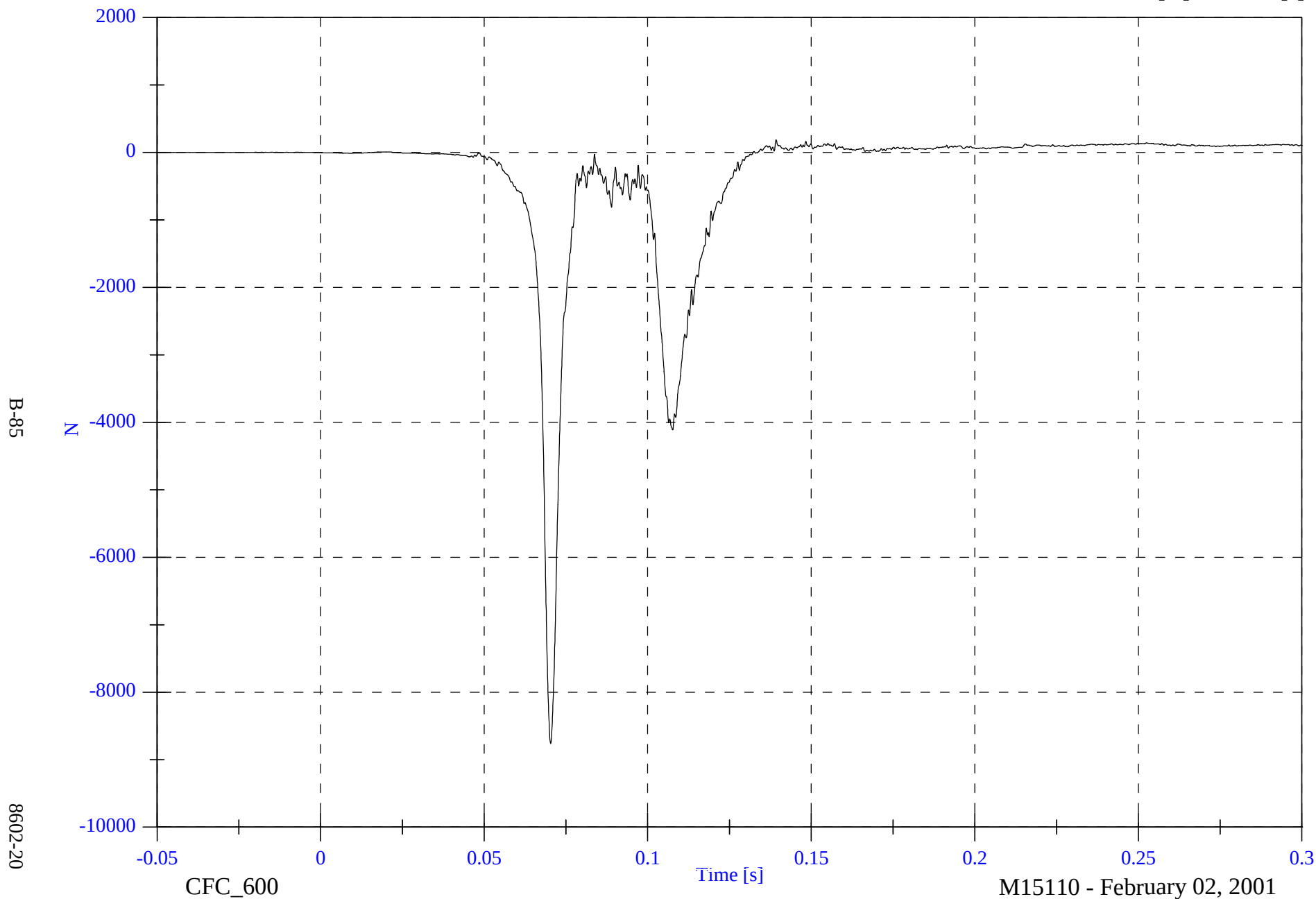
M15110 - February 02, 2001

NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 187.7 [N] at 0.139 [s]

Min: -8762.4 [N] at 0.070 [s]

P2 Left Lower Tibia Fz

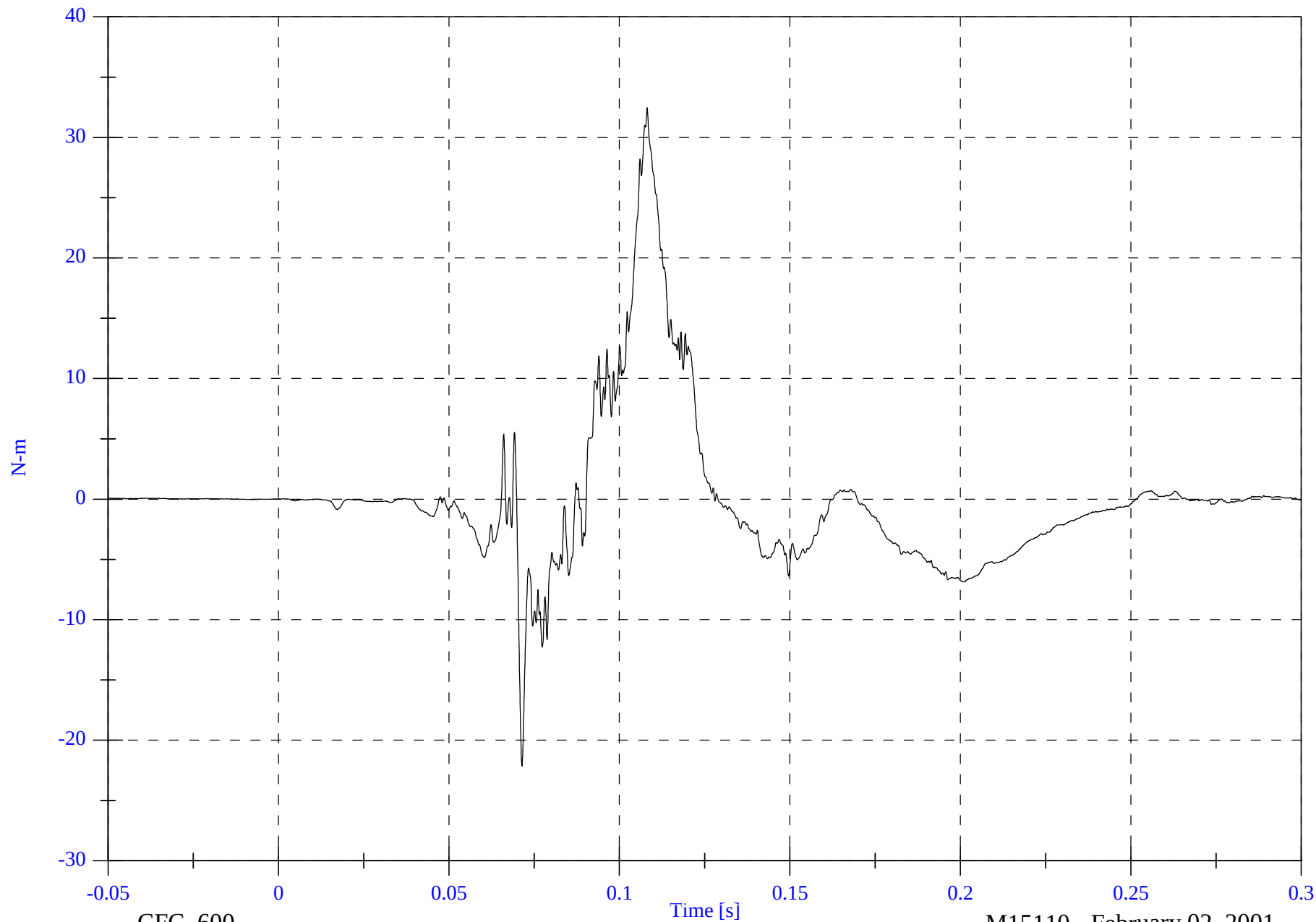


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 32.5 [N-m] at 0.108 [s]

Min: -22.1 [N-m] at 0.071 [s]

P2 Left Lower Tibia Mx



B-86

8602-20

CFC_600

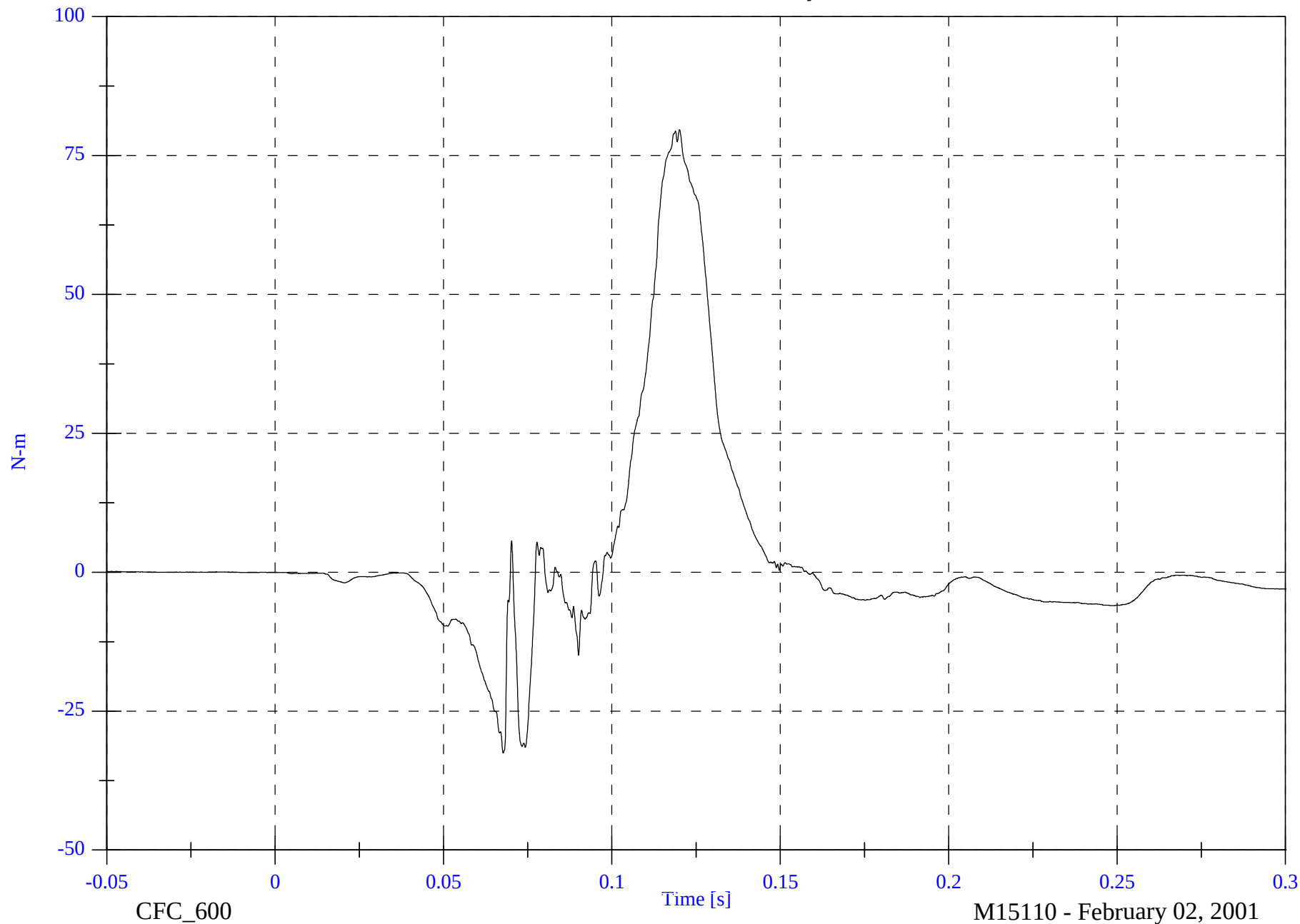
M15110 - February 02, 2001

NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 79.6 [N-m] at 0.120 [s]

Min: -32.6 [N-m] at 0.068 [s]

P2 Left Lower Tibia My



B-87

8602-20

CFC_600

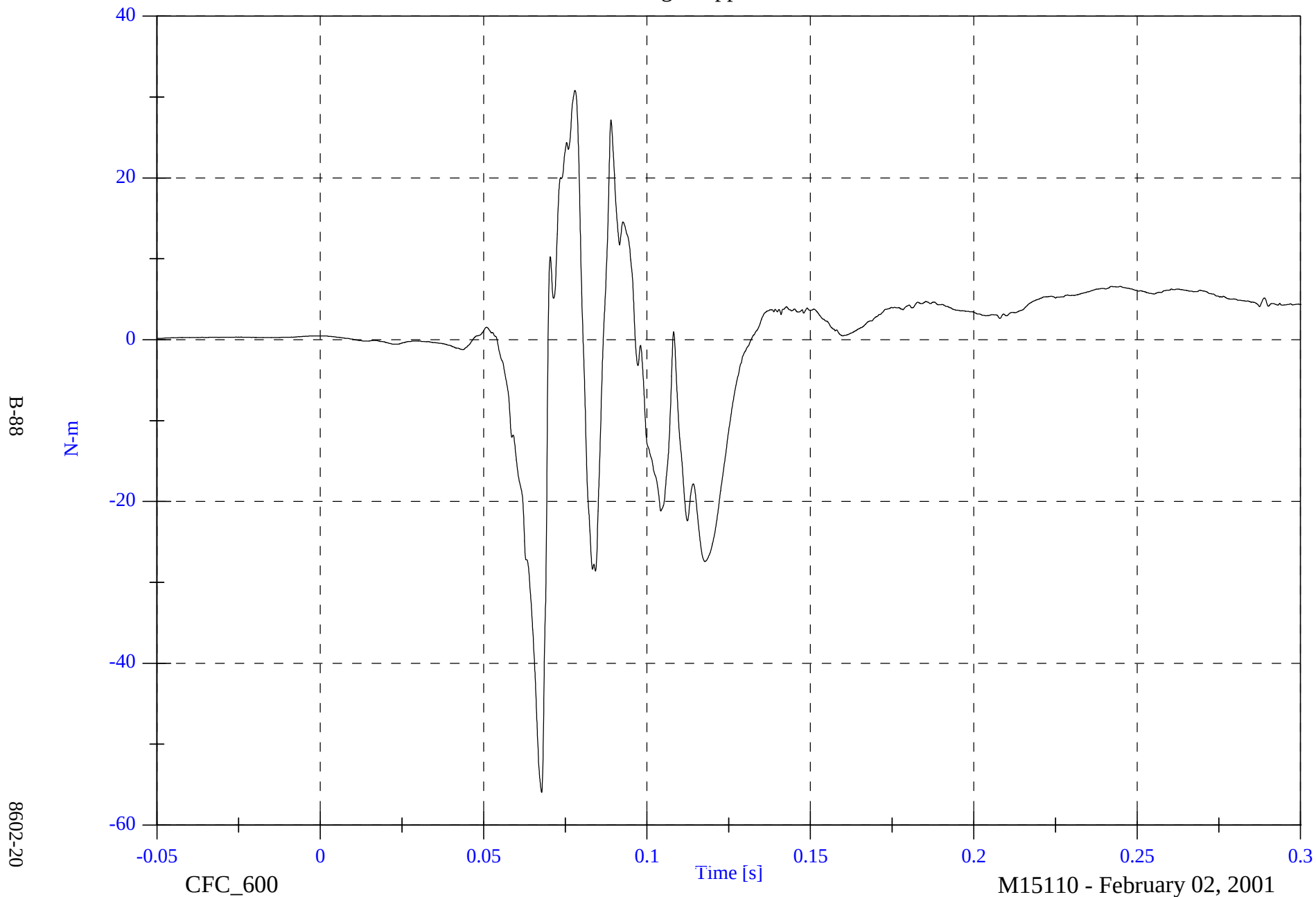
M15110 - February 02, 2001

NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 30.8 [N-m] at 0.078 [s]

Min: -55.9 [N-m] at 0.068 [s]

P2 Right Upper Tibia Mx

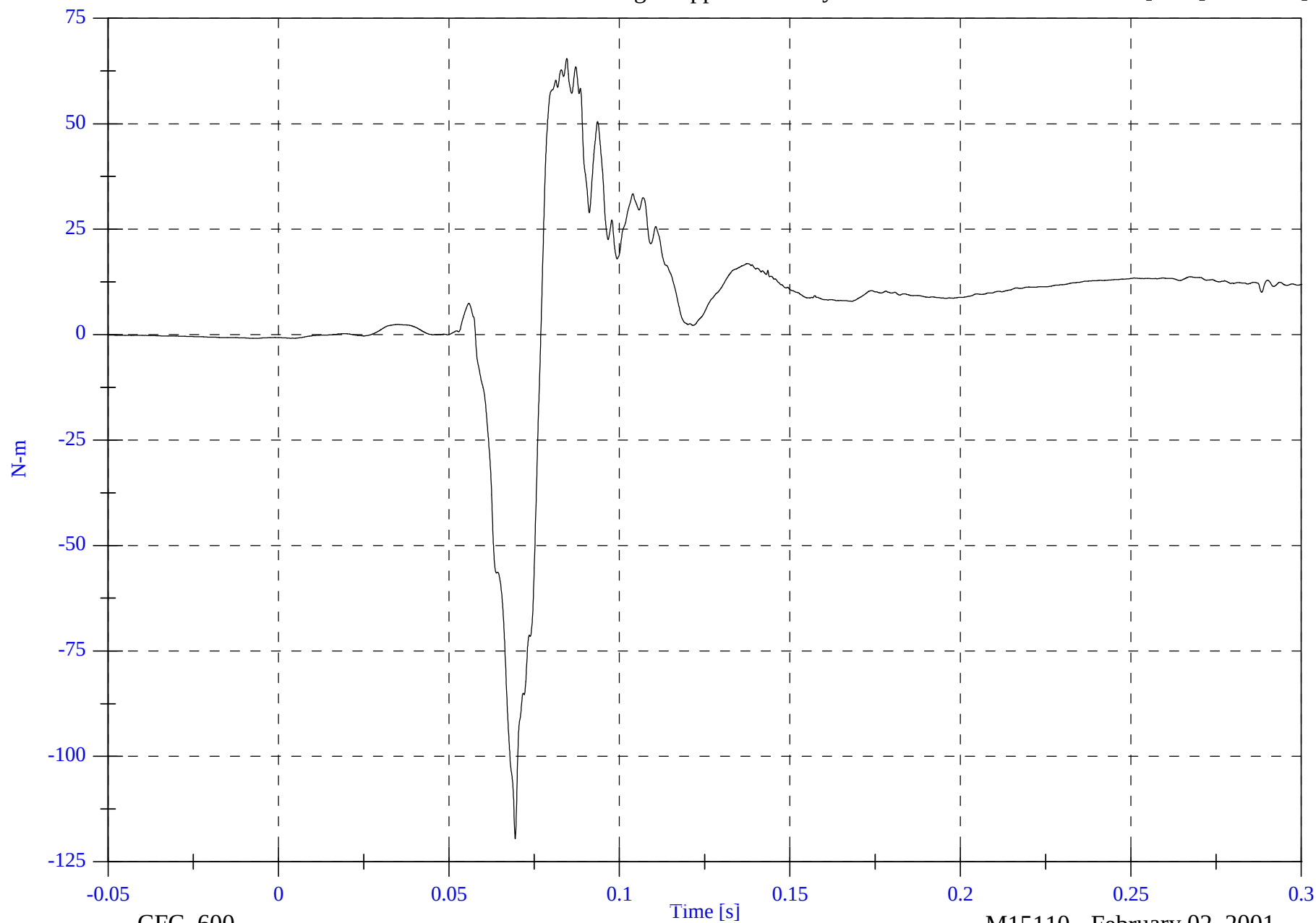


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 65.5 [N-m] at 0.085 [s]

Min: -119.6 [N-m] at 0.069 [s]

P2 Right Upper Tibia My



B-89

8602-20

CFC_600

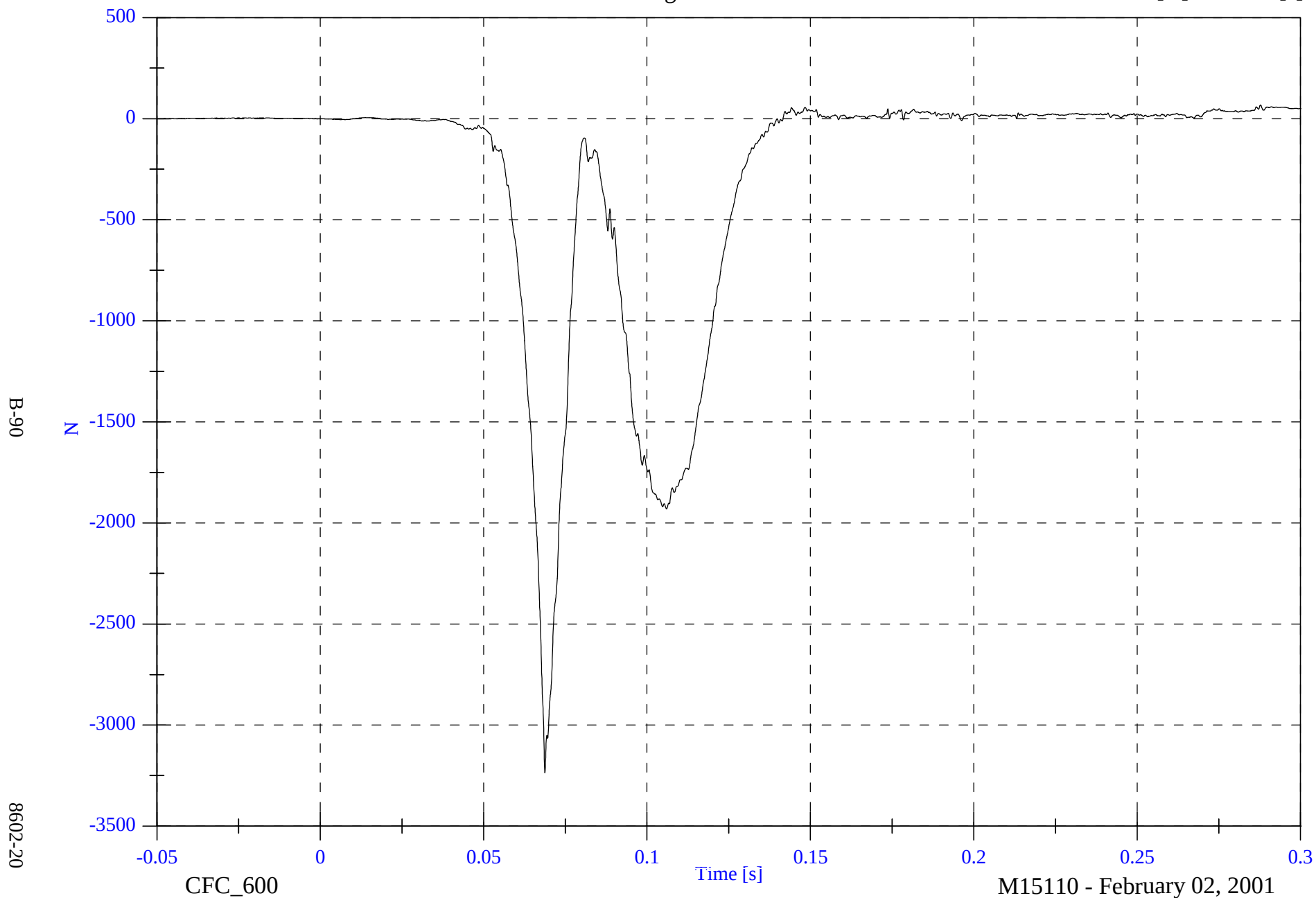
M15110 - February 02, 2001

NCAP 2001 Test #20 - 2001 Lexus IS300

P2 Right Lower Tibia Fz

Max: 67.3 [N] at 0.288 [s]

Min: -3236.6 [N] at 0.069 [s]



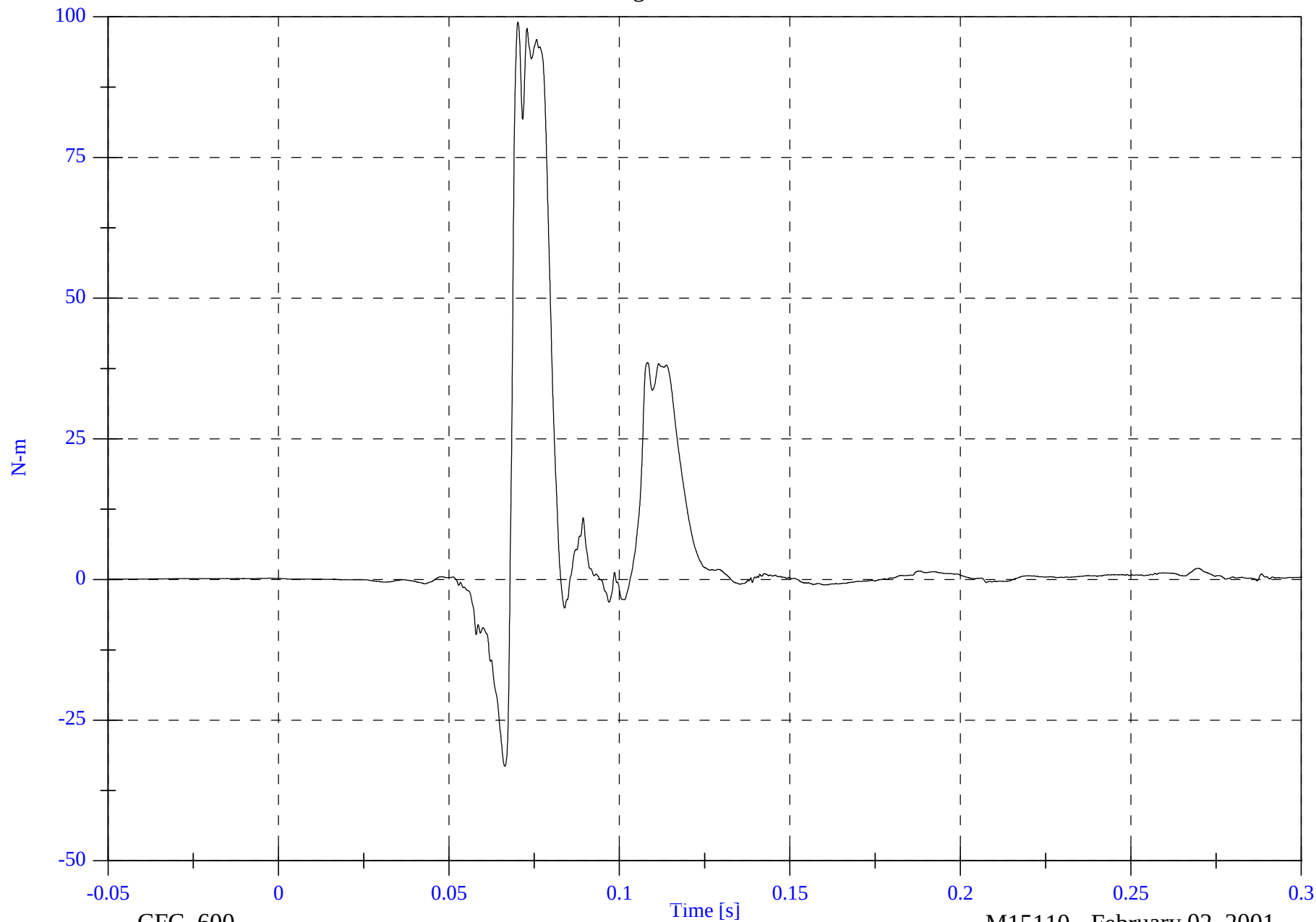
8602-20

NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 99.1 [N-m] at 0.070 [s]

Min: -33.2 [N-m] at 0.066 [s]

P2 Right Lower Tibia Mx



B-91

8602-20

CFC_600

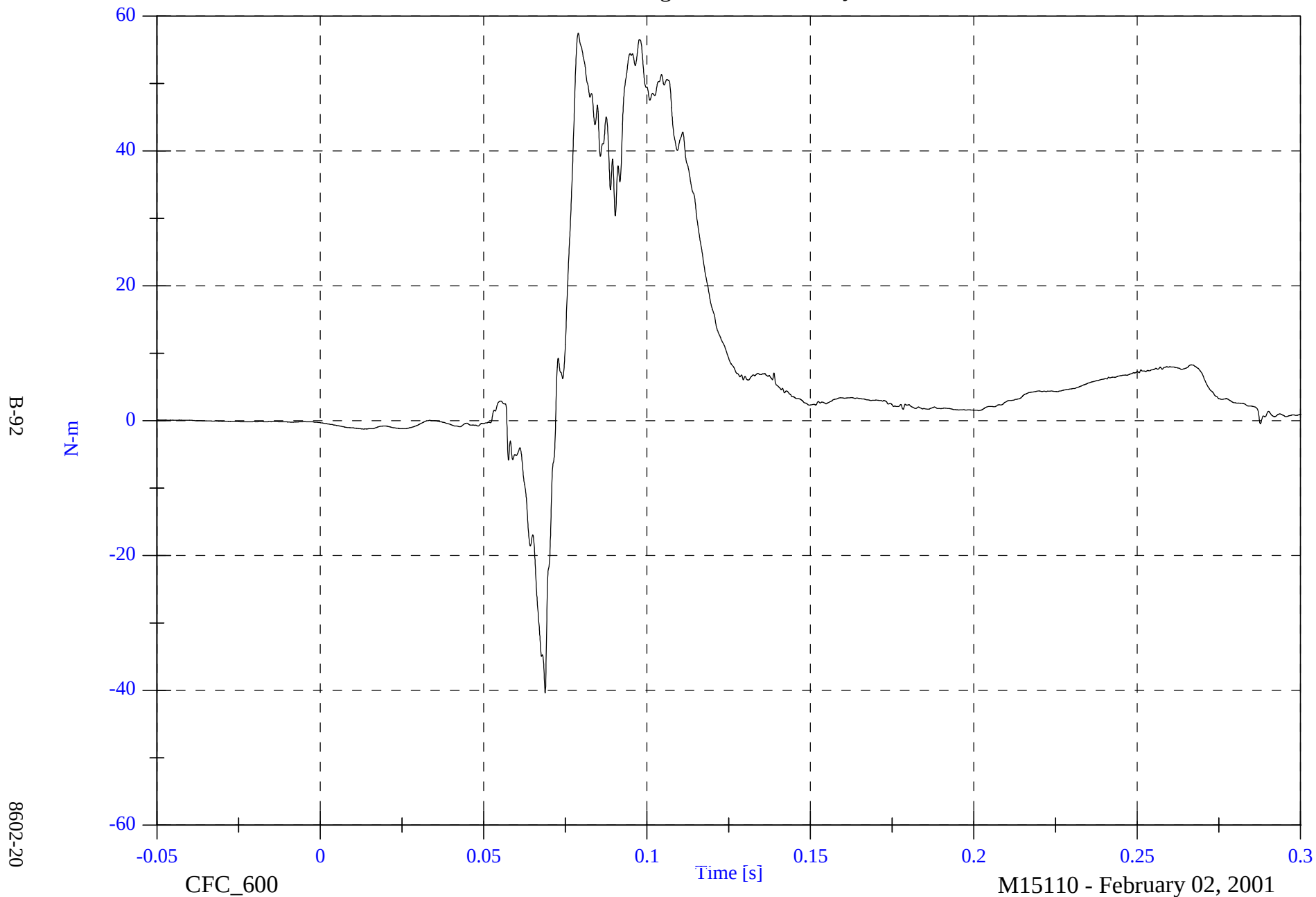
M15110 - February 02, 2001

NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 57.5 [N-m] at 0.079 [s]

Min: -40.4 [N-m] at 0.069 [s]

P2 Right Lower Tibia My

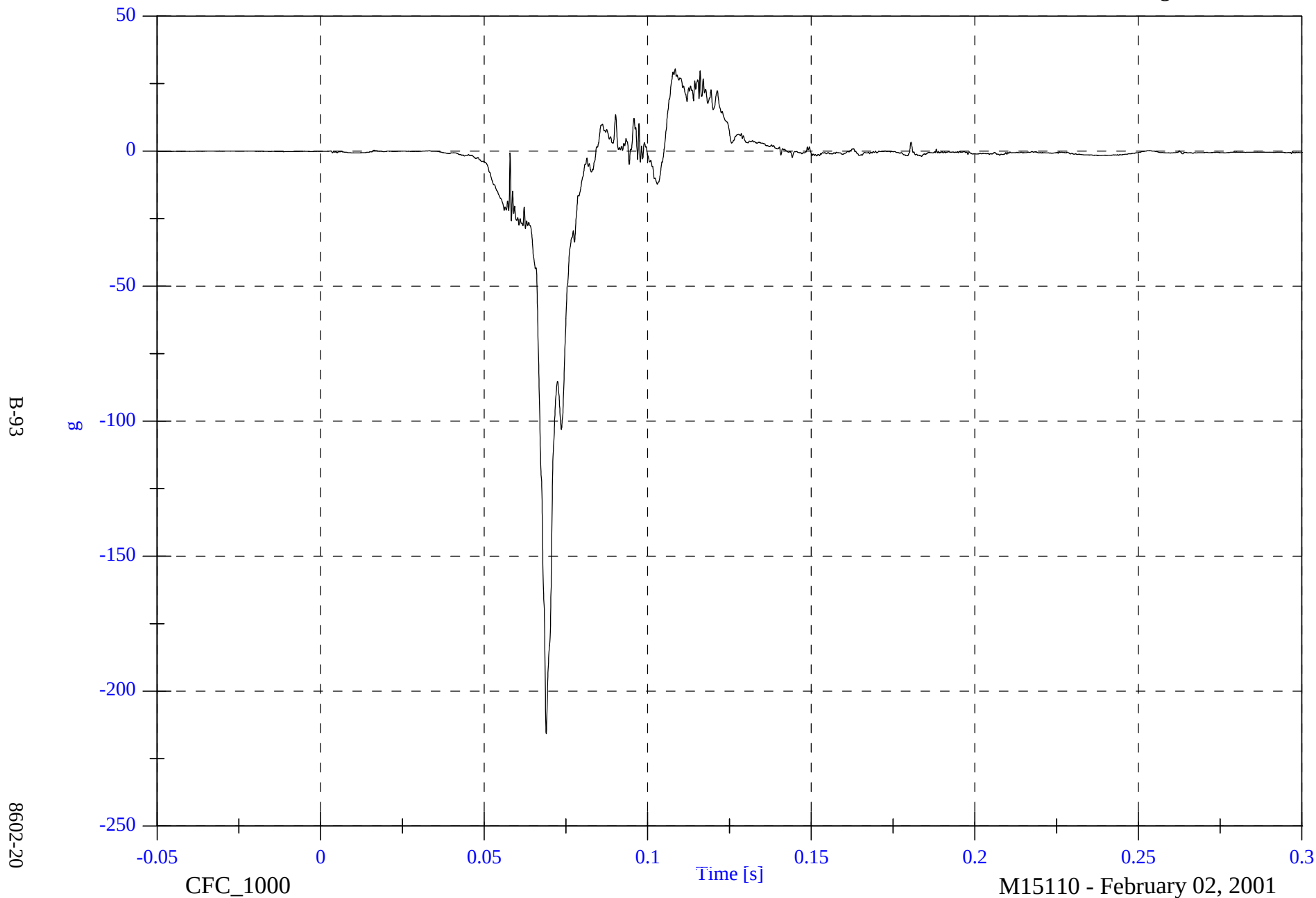


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 30.5 [g] at 0.108 [s]

Min: -215.8 [g] at 0.069 [s]

P2 Left Foot Aft x

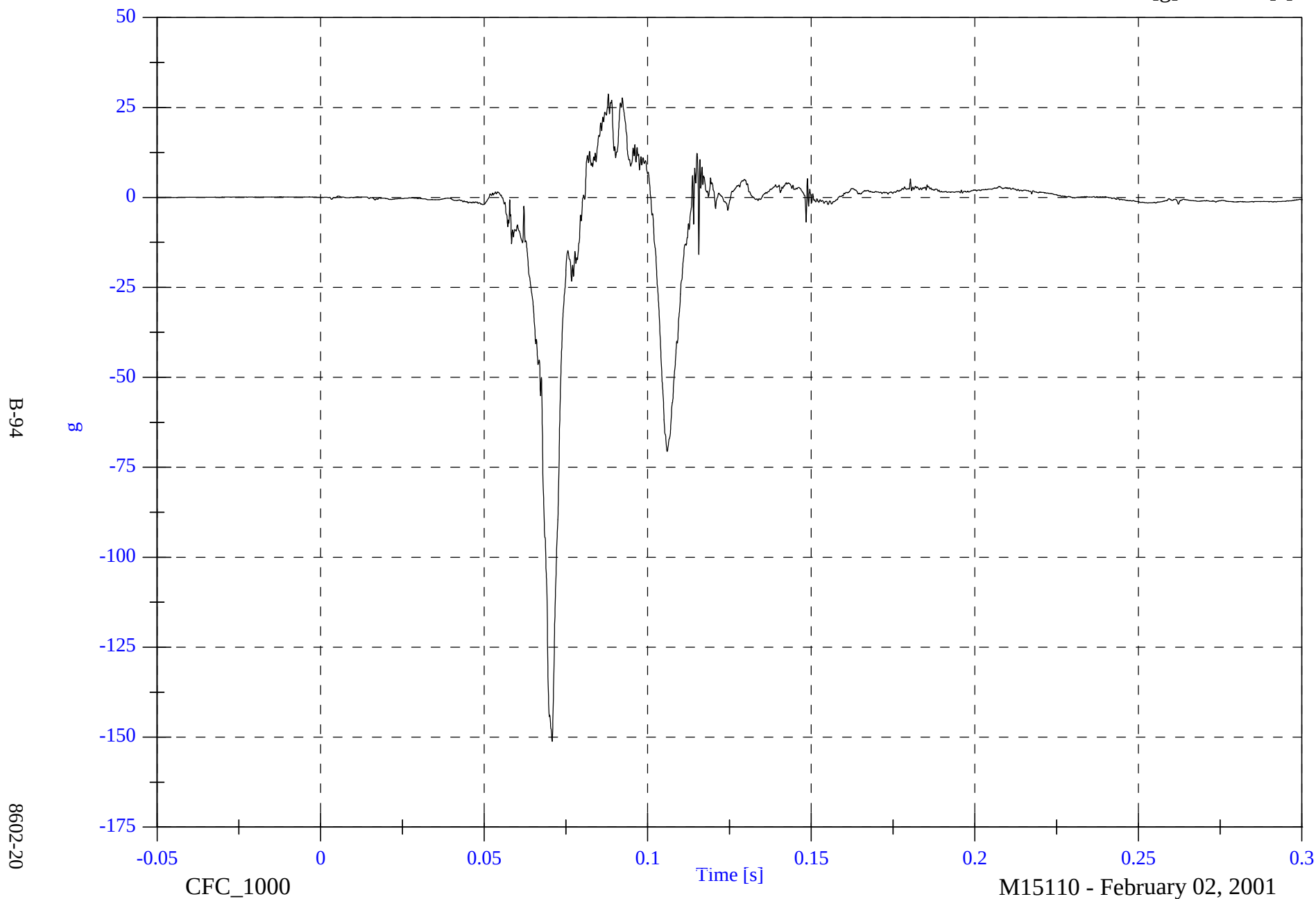


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 28.7 [g] at 0.088 [s]

Min: -151.2 [g] at 0.071 [s]

P2 Left Foot Aft z

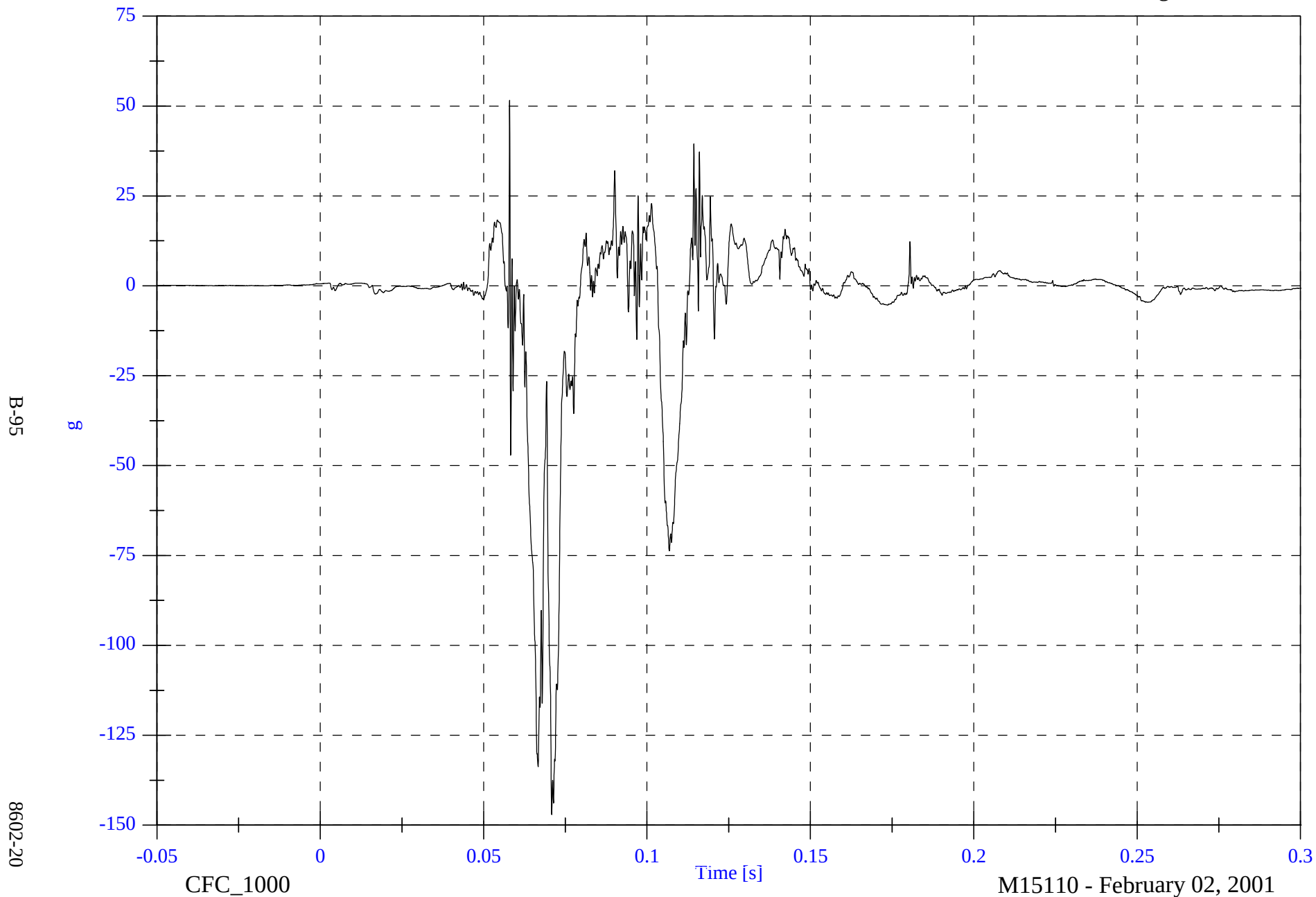


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 51.6 [g] at 0.058 [s]

Min: -147.1 [g] at 0.071 [s]

P2 Left Foot Fore z

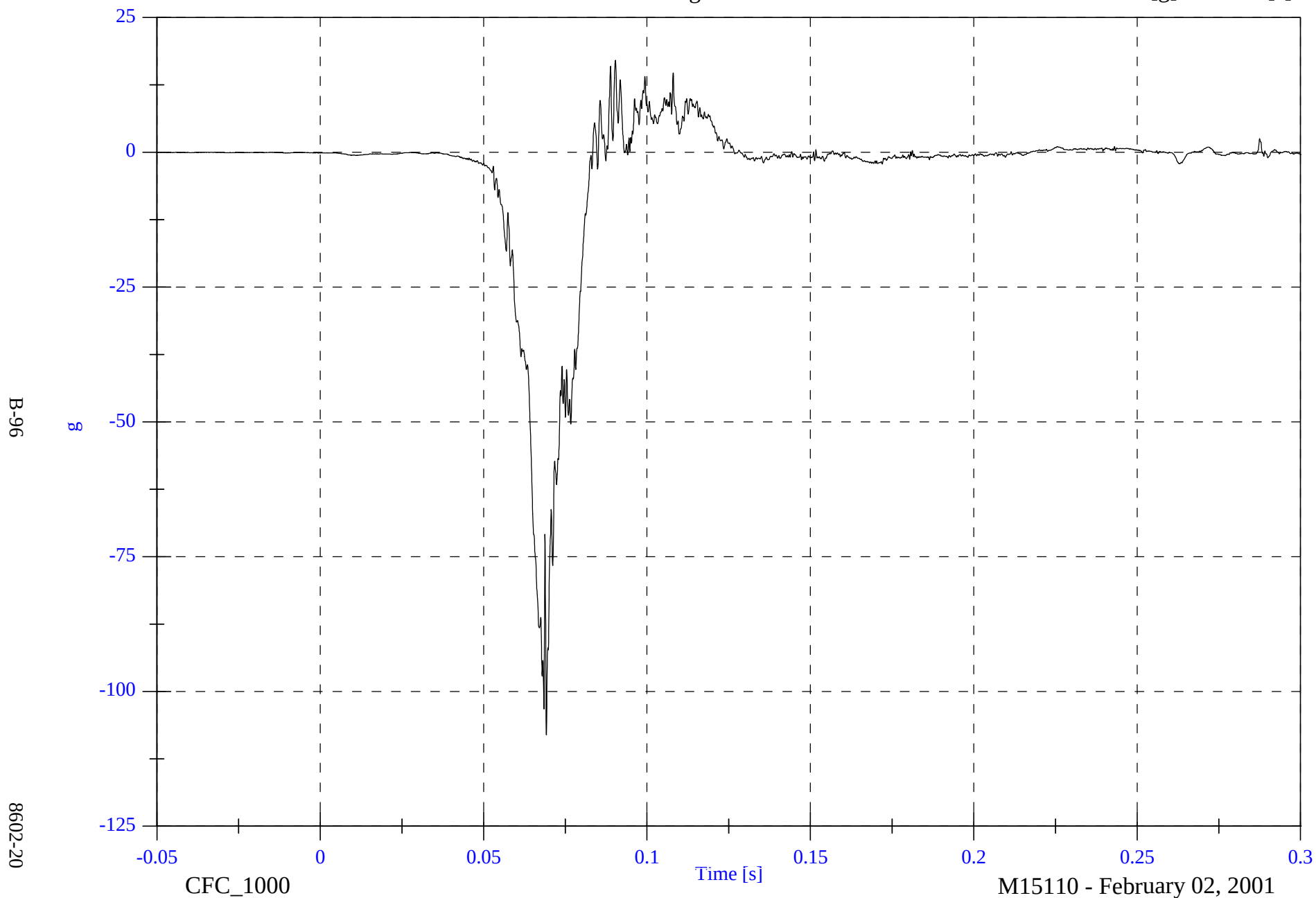


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 17.1 [g] at 0.090 [s]

Min: -108.1 [g] at 0.069 [s]

P2 Right Foot Aft x

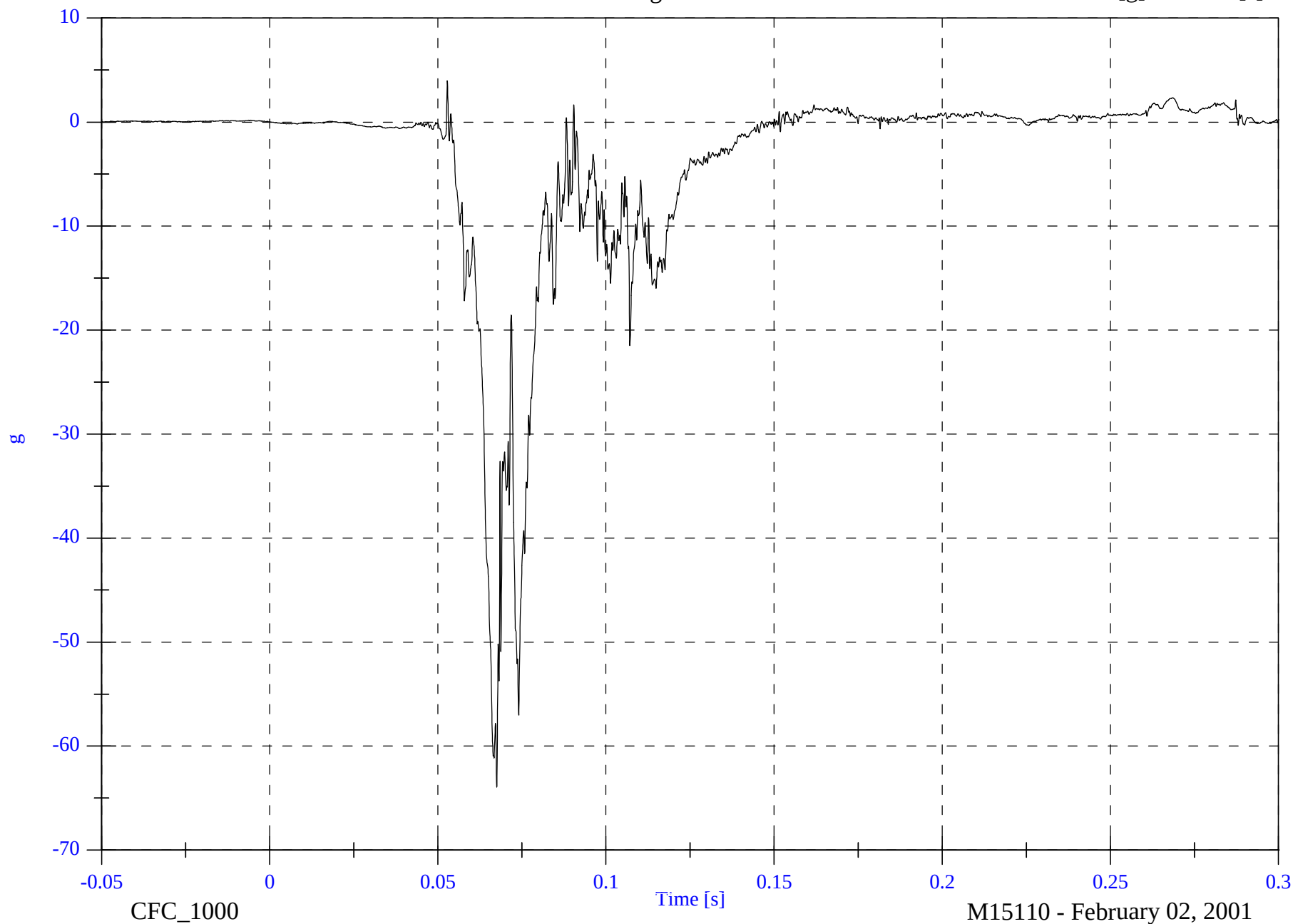


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 4.0 [g] at 0.053 [s]

Min: -63.9 [g] at 0.068 [s]

P2 Right Foot Aft z



B-97

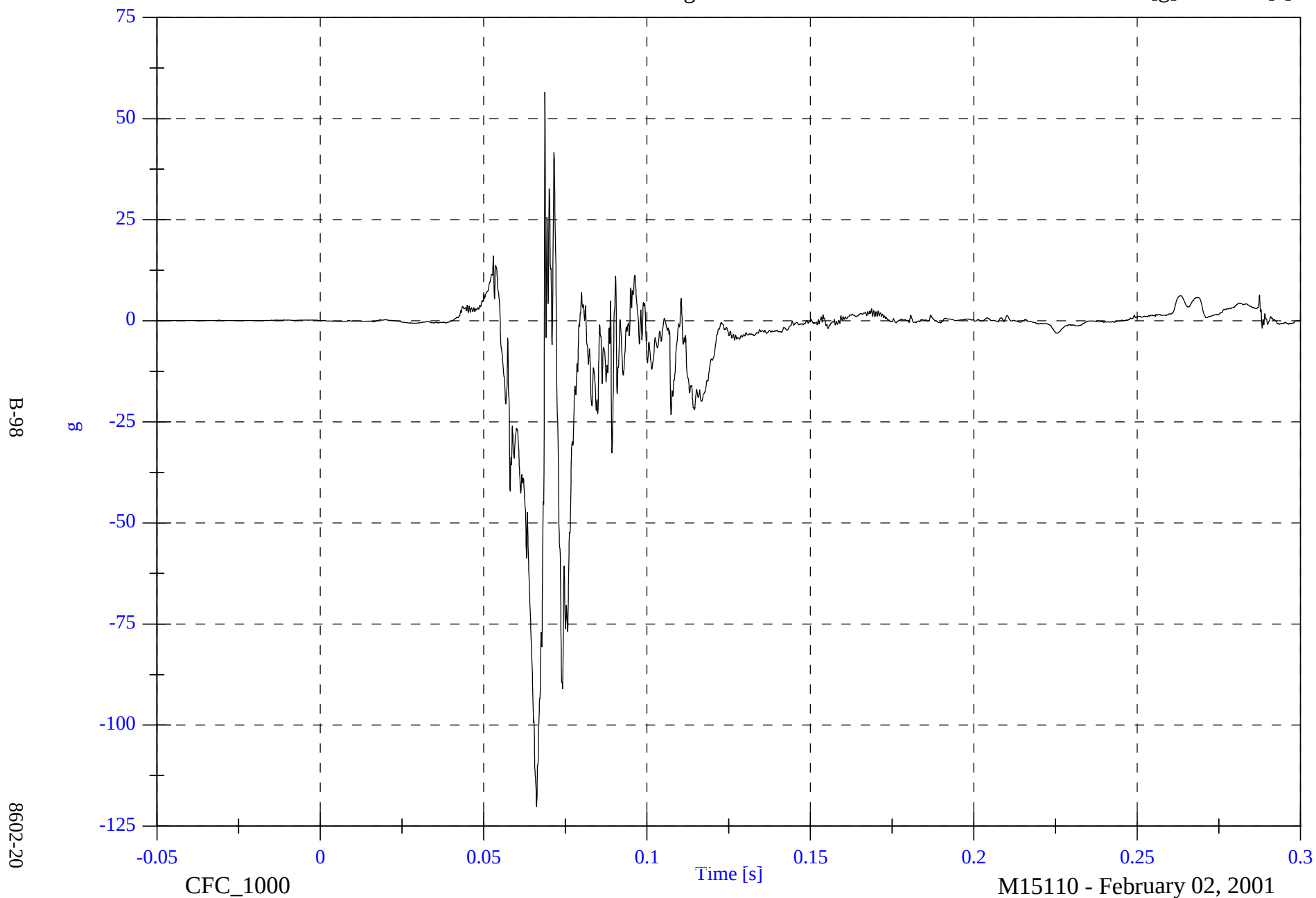
8602-20

NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 56.5 [g] at 0.069 [s]

Min: -120.2 [g] at 0.066 [s]

P2 Right Foot Fore z

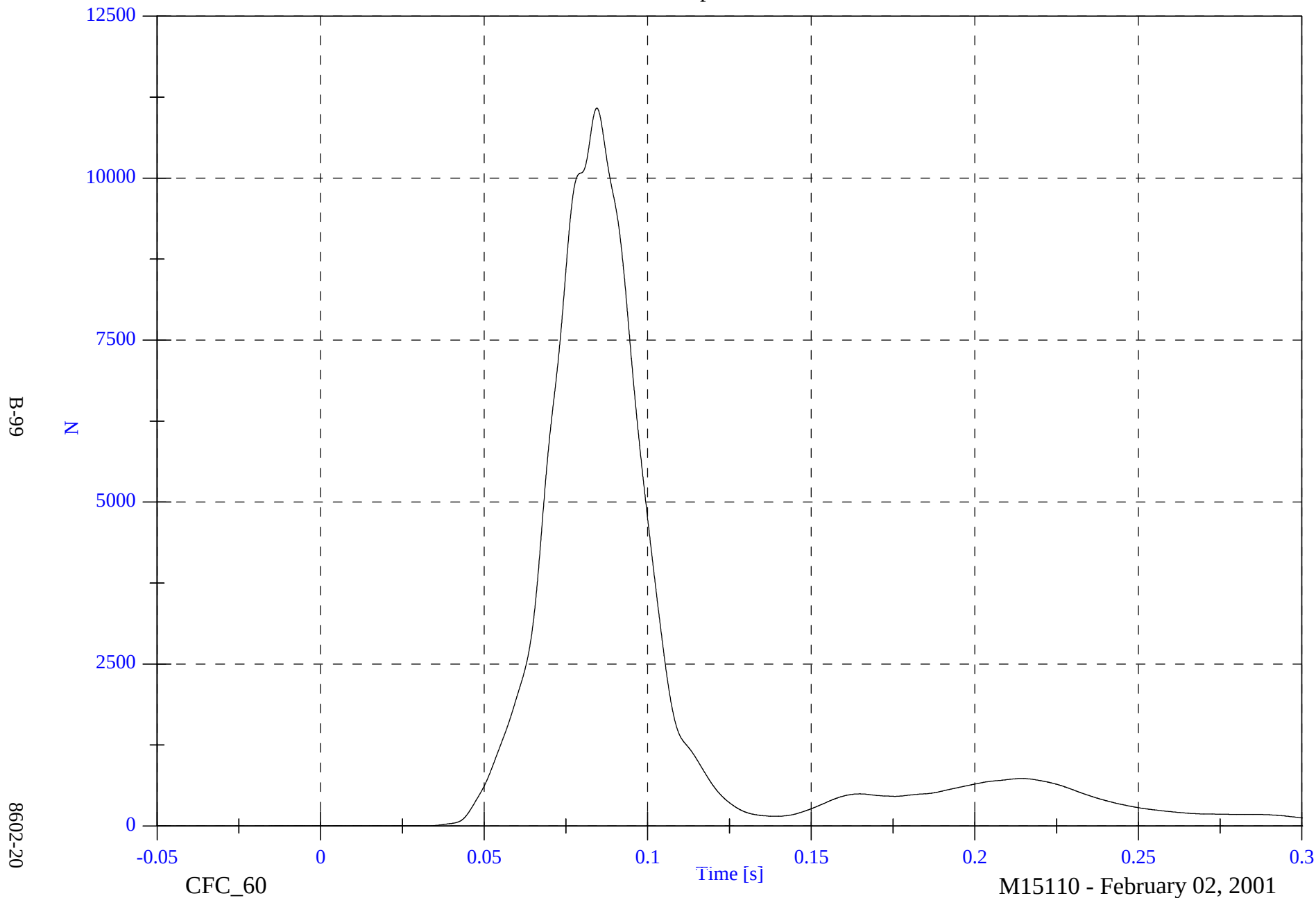


NCAP 2001 Test #20 - 2001 Lexus IS300

P2 Lap Belt Force

Max: 11081.4 [N] at 0.084 [s]

Min: 0.1 [N] at -0.050 [s]

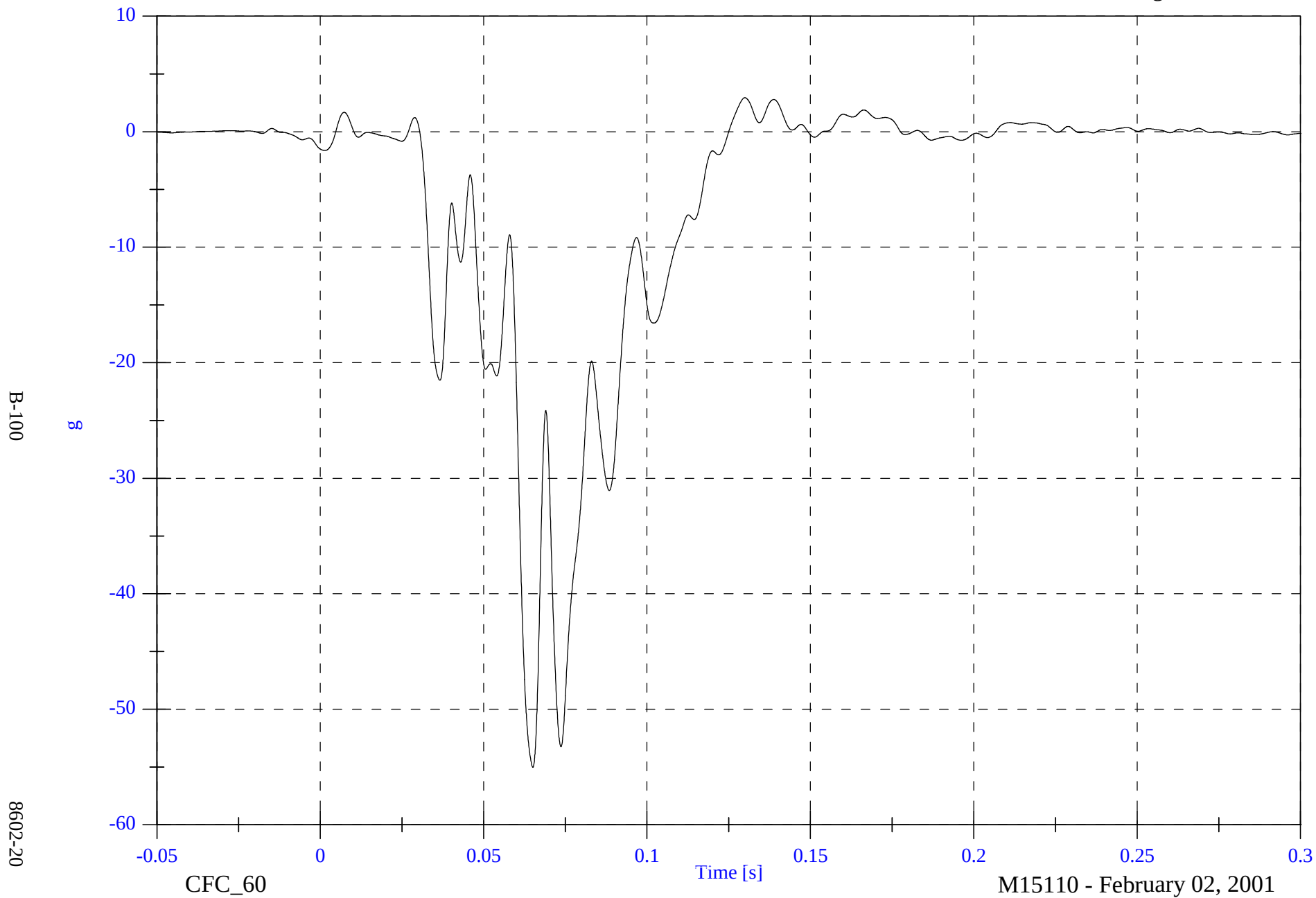


NCAP 2001 Test #20 - 2001 Lexus IS300

Left Rear #1x

Max: 2.9 [g] at 0.130 [s]

Min: -55.0 [g] at 0.065 [s]

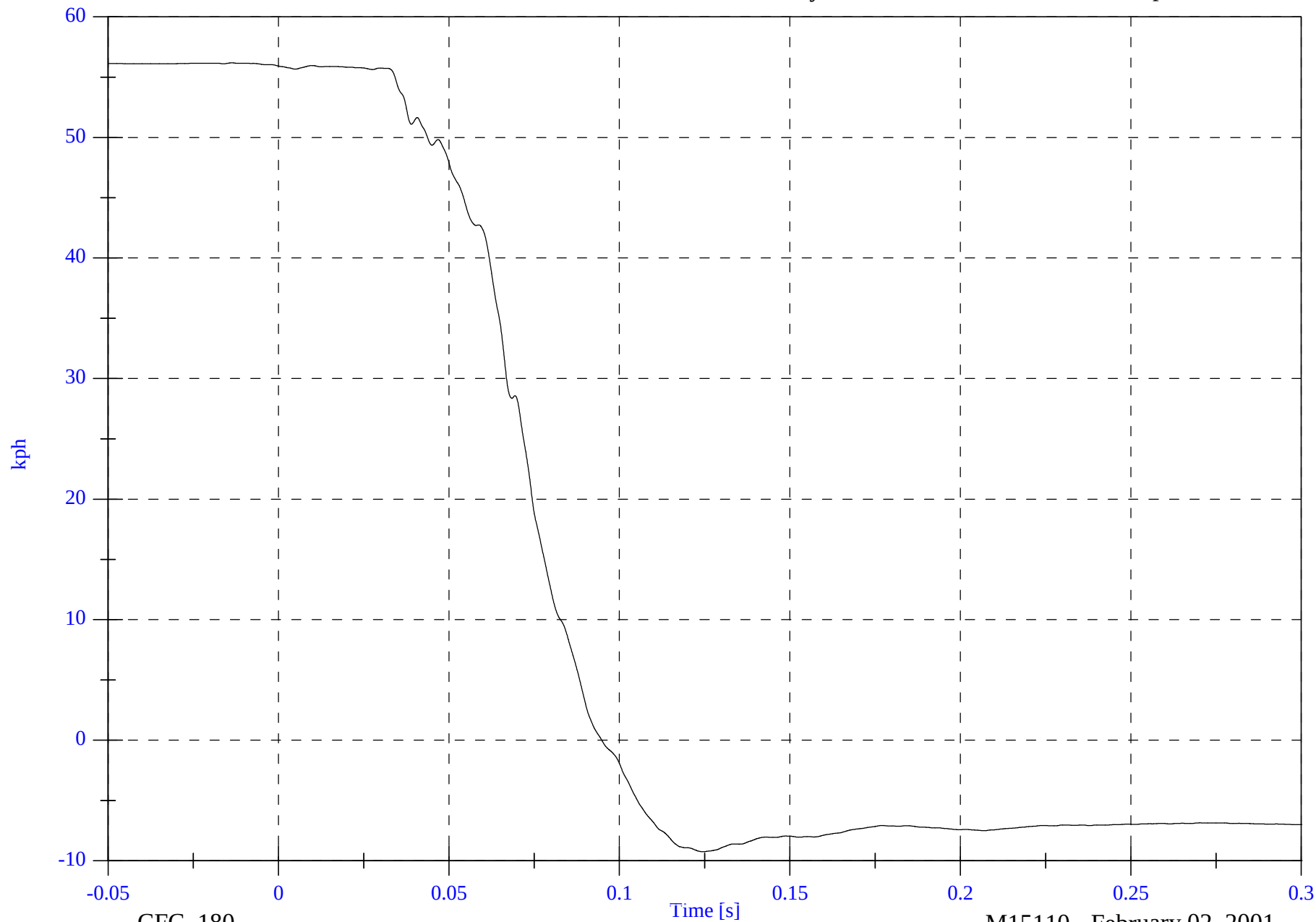


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 56.2 [kph] at -0.014 [s]

Min: -9.3 [kph] at 0.125 [s]

Left Rear #1x Velocity



B-101

8602-20

CFC_180

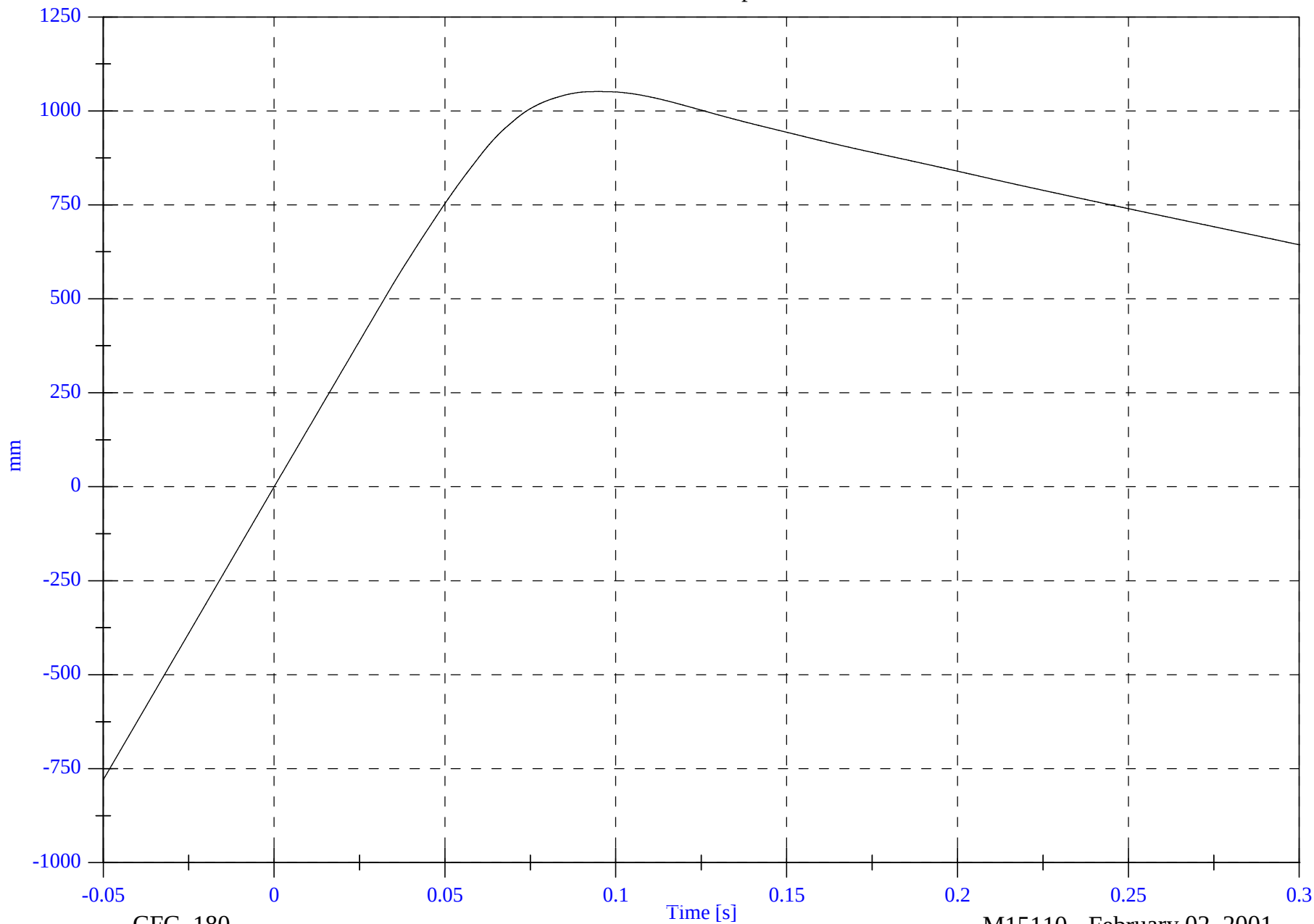
M15110 - February 02, 2001

NCAP 2001 Test #20 - 2001 Lexus IS300

Left Rear #1x Displacement

Max: 1051.6 [mm] at 0.095 [s]

Min: -779.5 [mm] at -0.050 [s]



B-102

8602-20

CFC_180

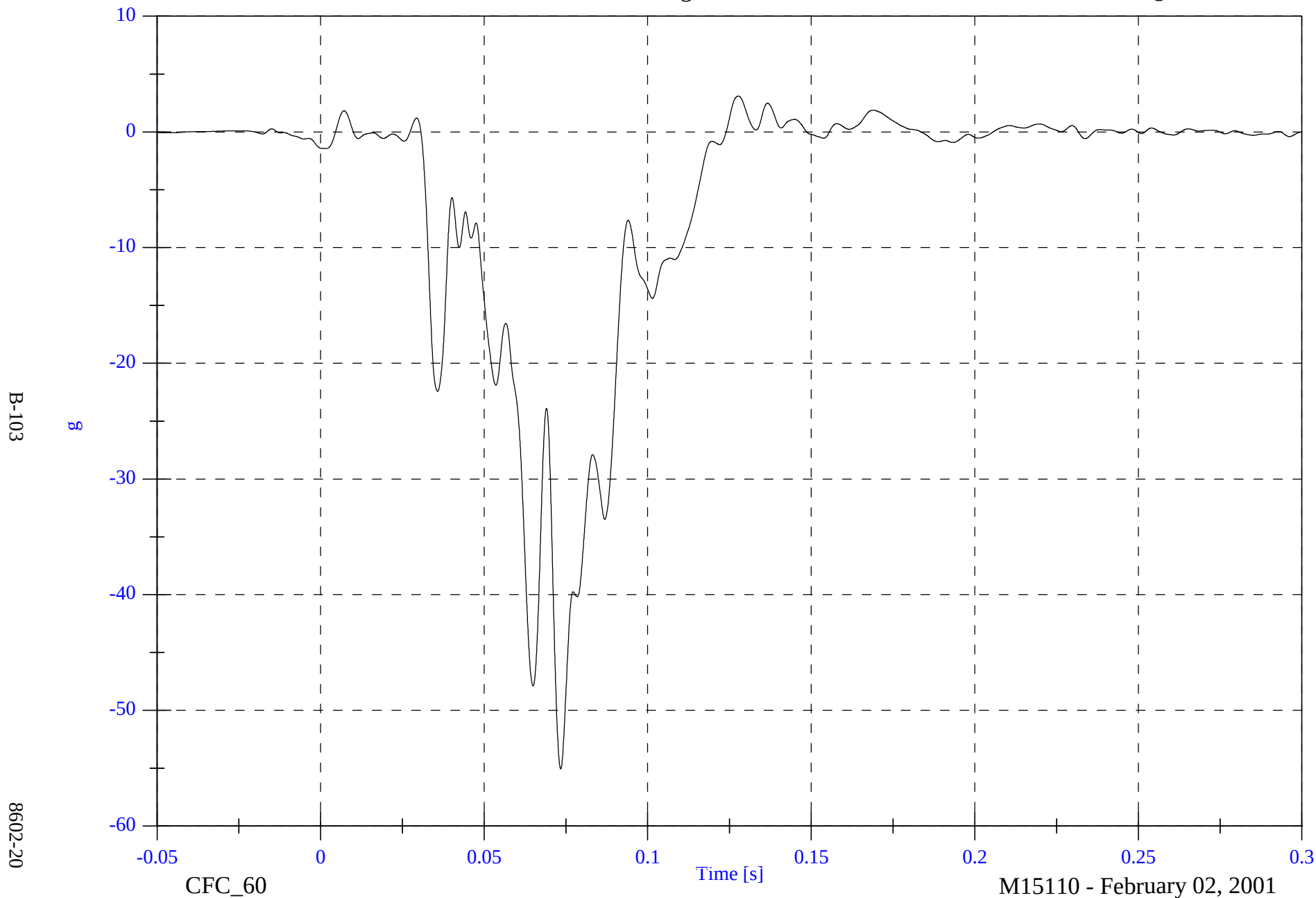
M15110 - February 02, 2001

NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 3.1 [g] at 0.128 [s]

Min: -55.1 [g] at 0.073 [s]

Right Rear #2x

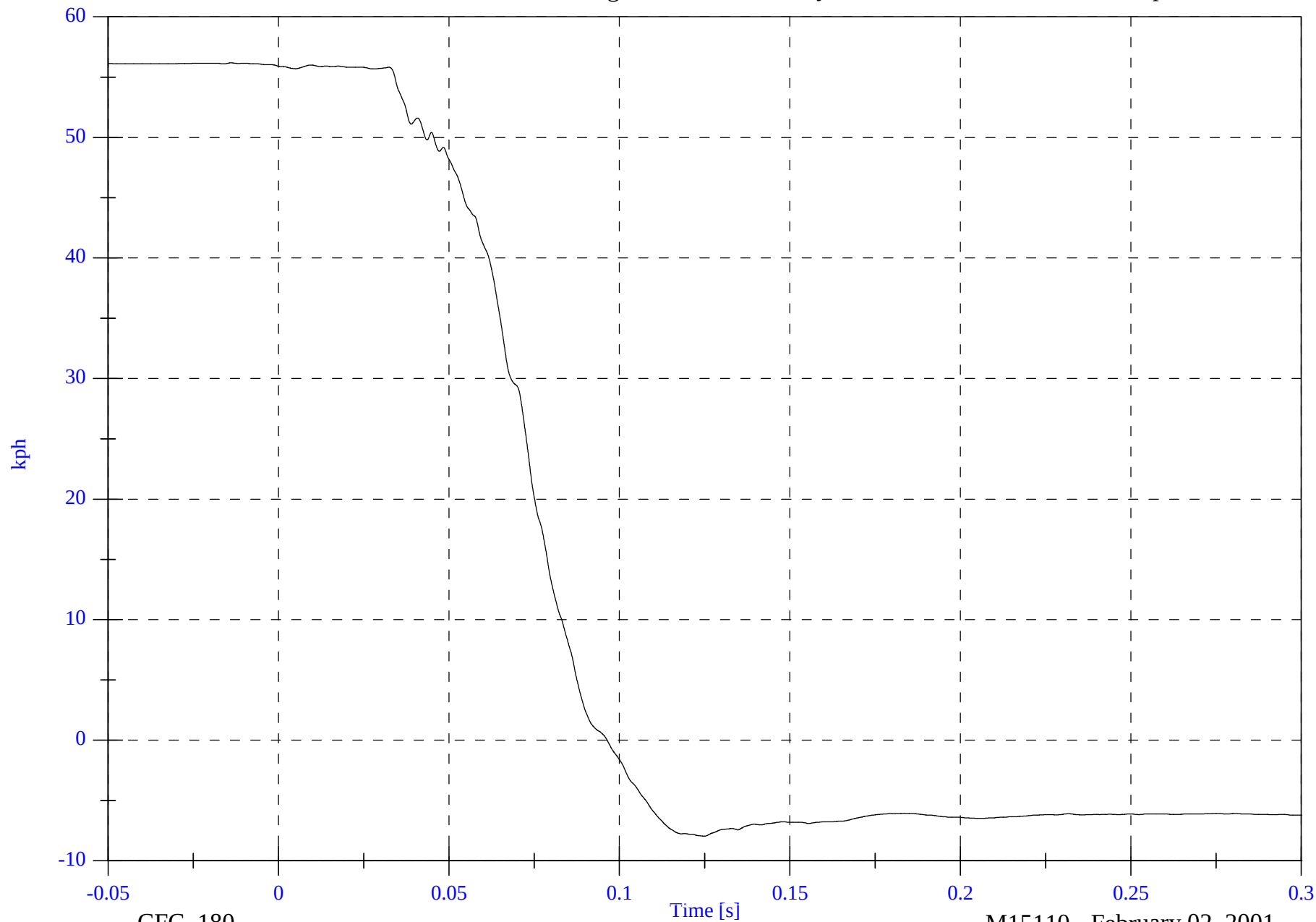


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 56.2 [kph] at -0.014 [s]

Min: -8.0 [kph] at 0.125 [s]

Right Rear #2x Velocity



B-104

8602-20

CFC_180

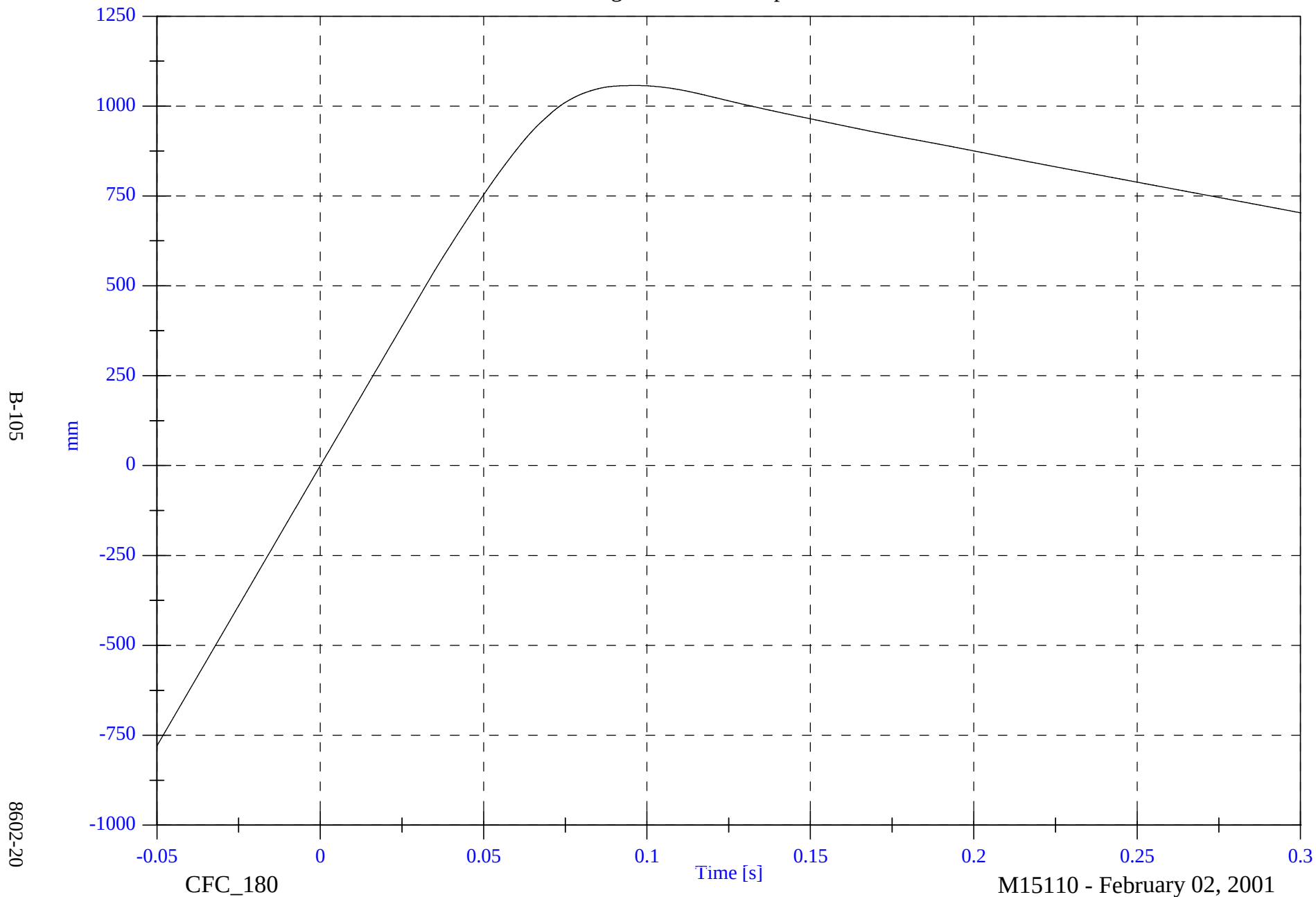
M15110 - February 02, 2001

NCAP 2001 Test #20 - 2001 Lexus IS300

Right Rear #2x Displacement

Max: 1057.2 [mm] at 0.096 [s]

Min: -779.5 [mm] at -0.050 [s]

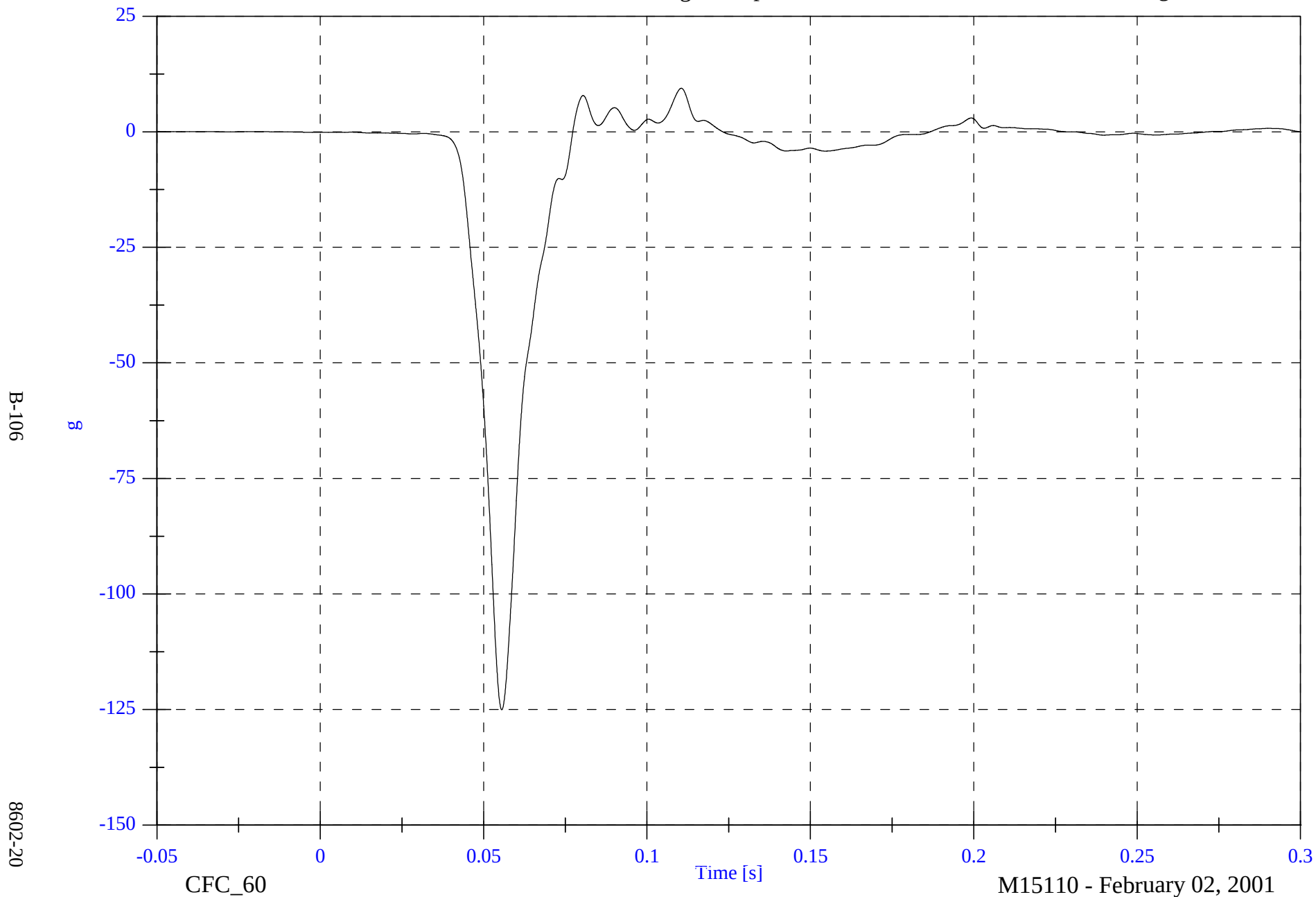


NCAP 2001 Test #20 - 2001 Lexus IS300

Engine Top #3x

Max: 9.4 [g] at 0.110 [s]

Min: -125.0 [g] at 0.056 [s]

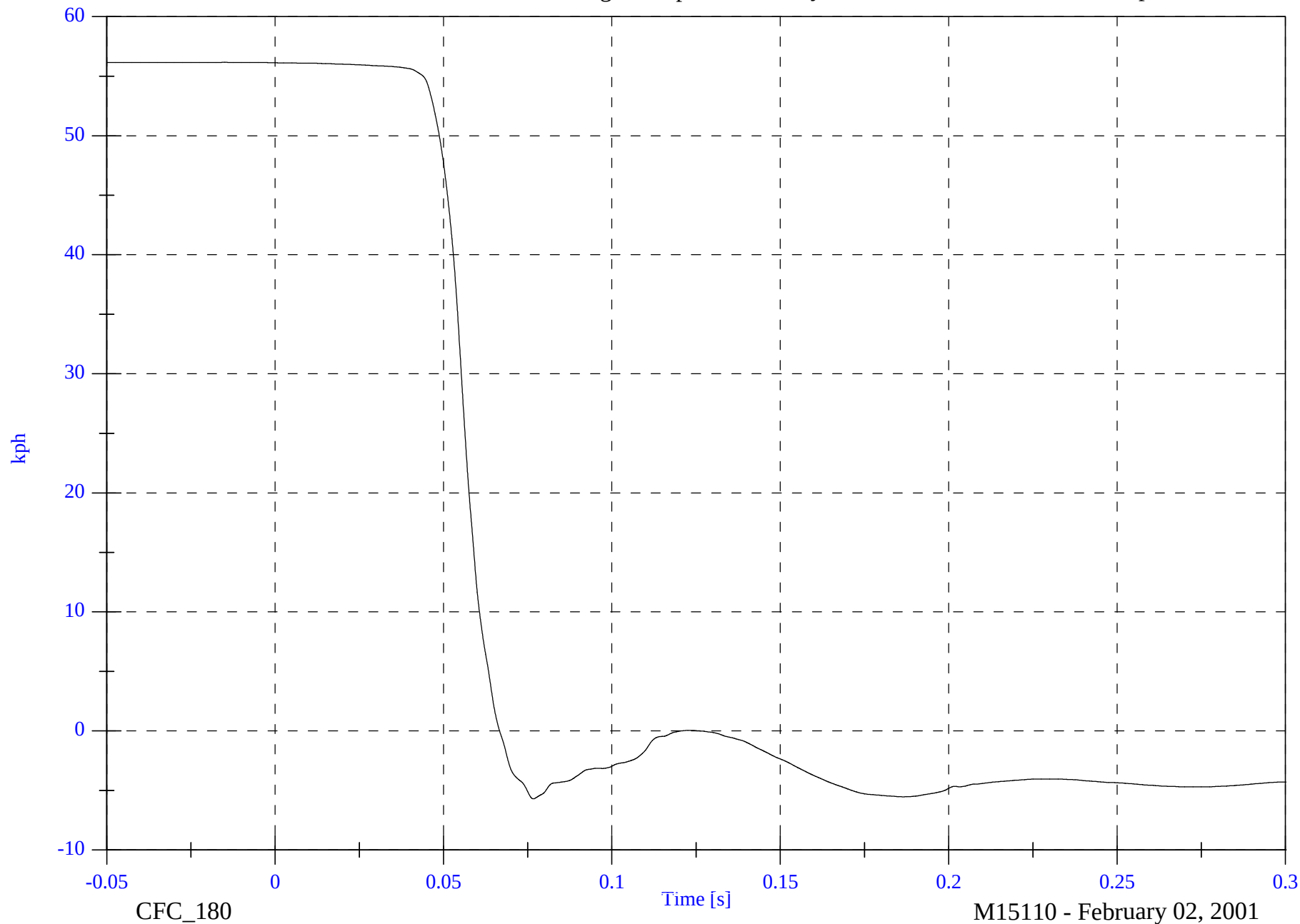


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 56.2 [kph] at -0.015 [s]

Min: -5.7 [kph] at 0.077 [s]

Engine Top #3x Velocity



B-107

8602-20

CFC_180

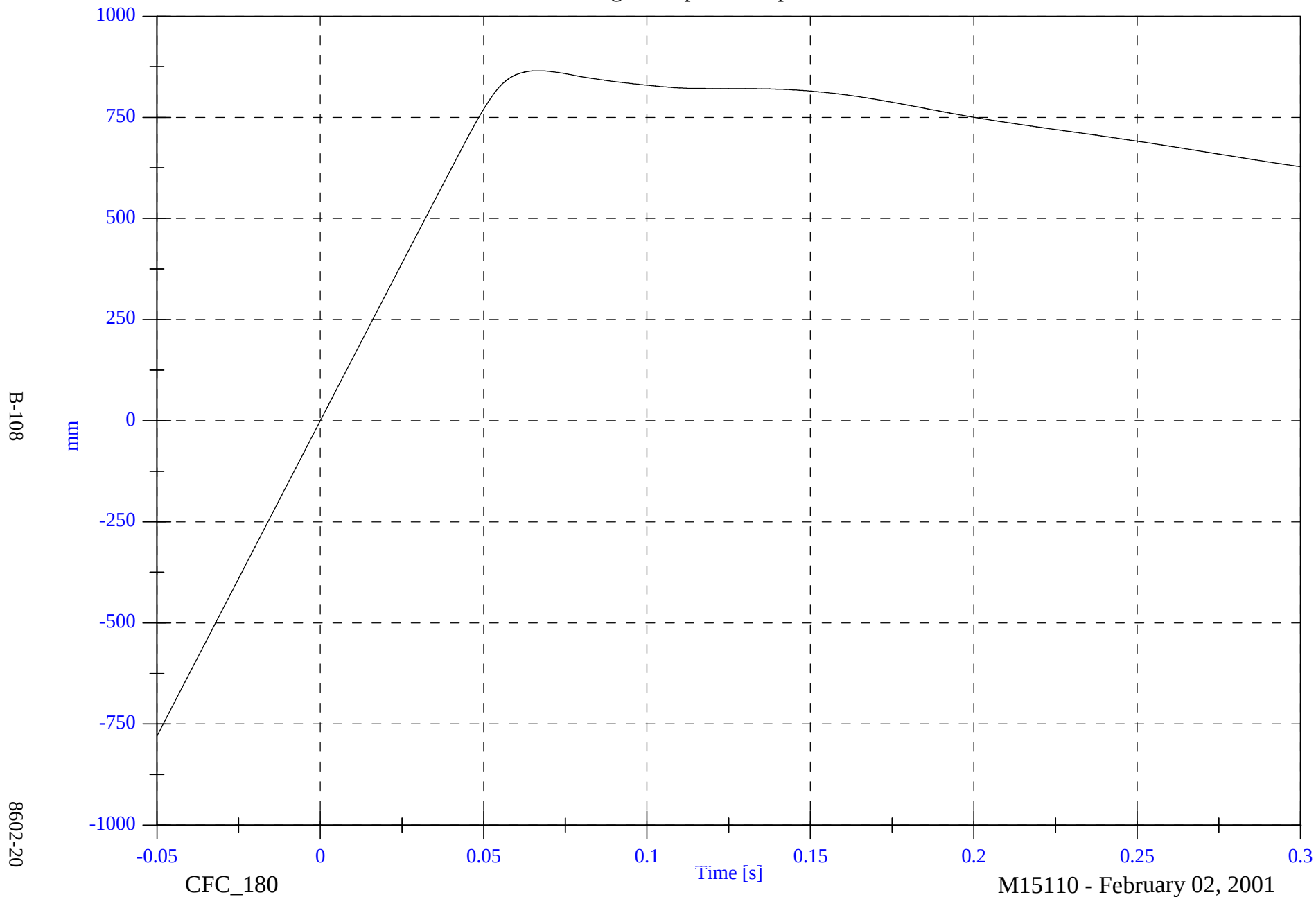
M15110 - February 02, 2001

NCAP 2001 Test #20 - 2001 Lexus IS300

Engine Top #3x Displacement

Max: 865.1 [mm] at 0.067 [s]

Min: -780.0 [mm] at -0.050 [s]

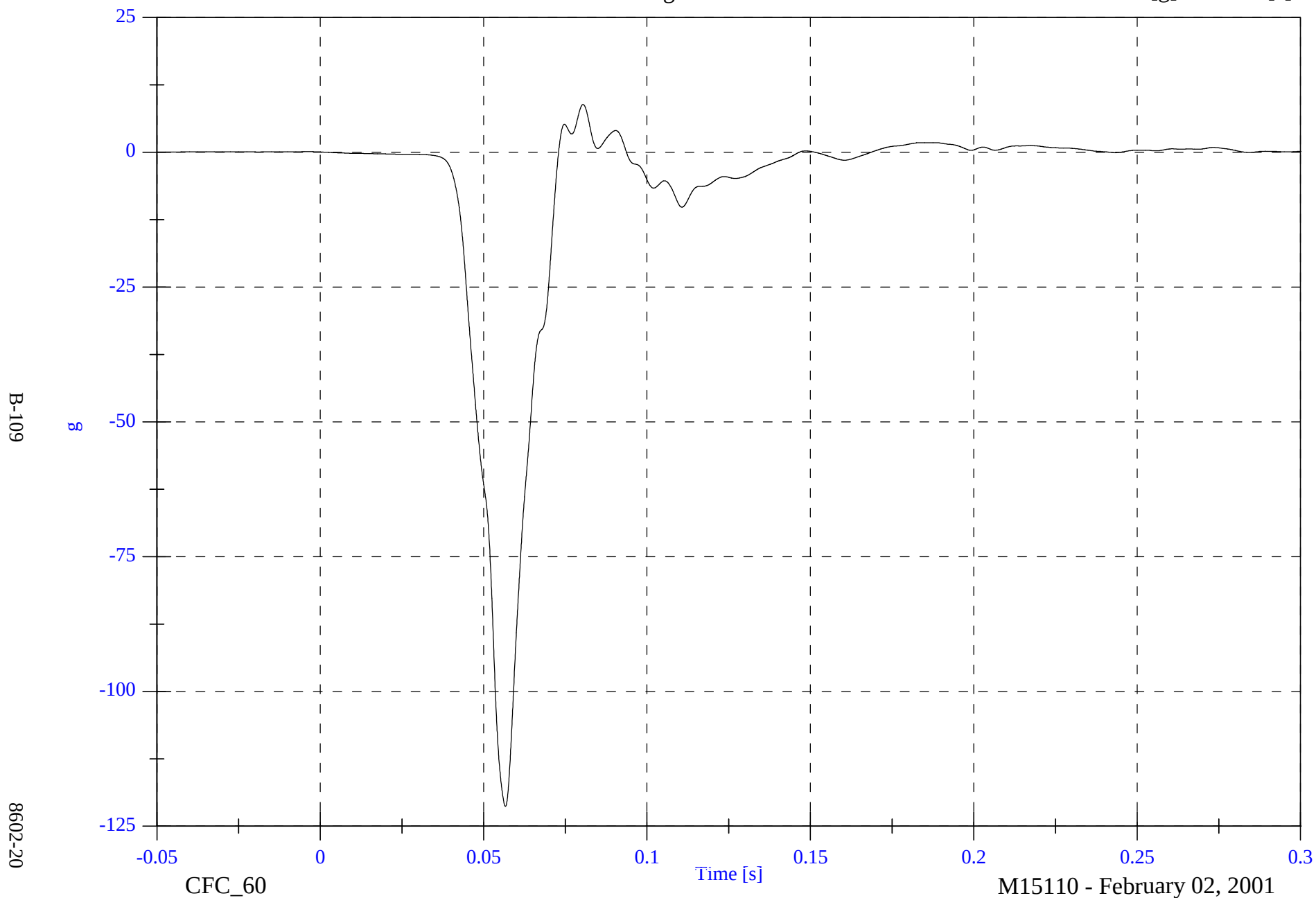


NCAP 2001 Test #20 - 2001 Lexus IS300

Engine Bottom #4x

Max: 8.9 [g] at 0.080 [s]

Min: -121.3 [g] at 0.057 [s]

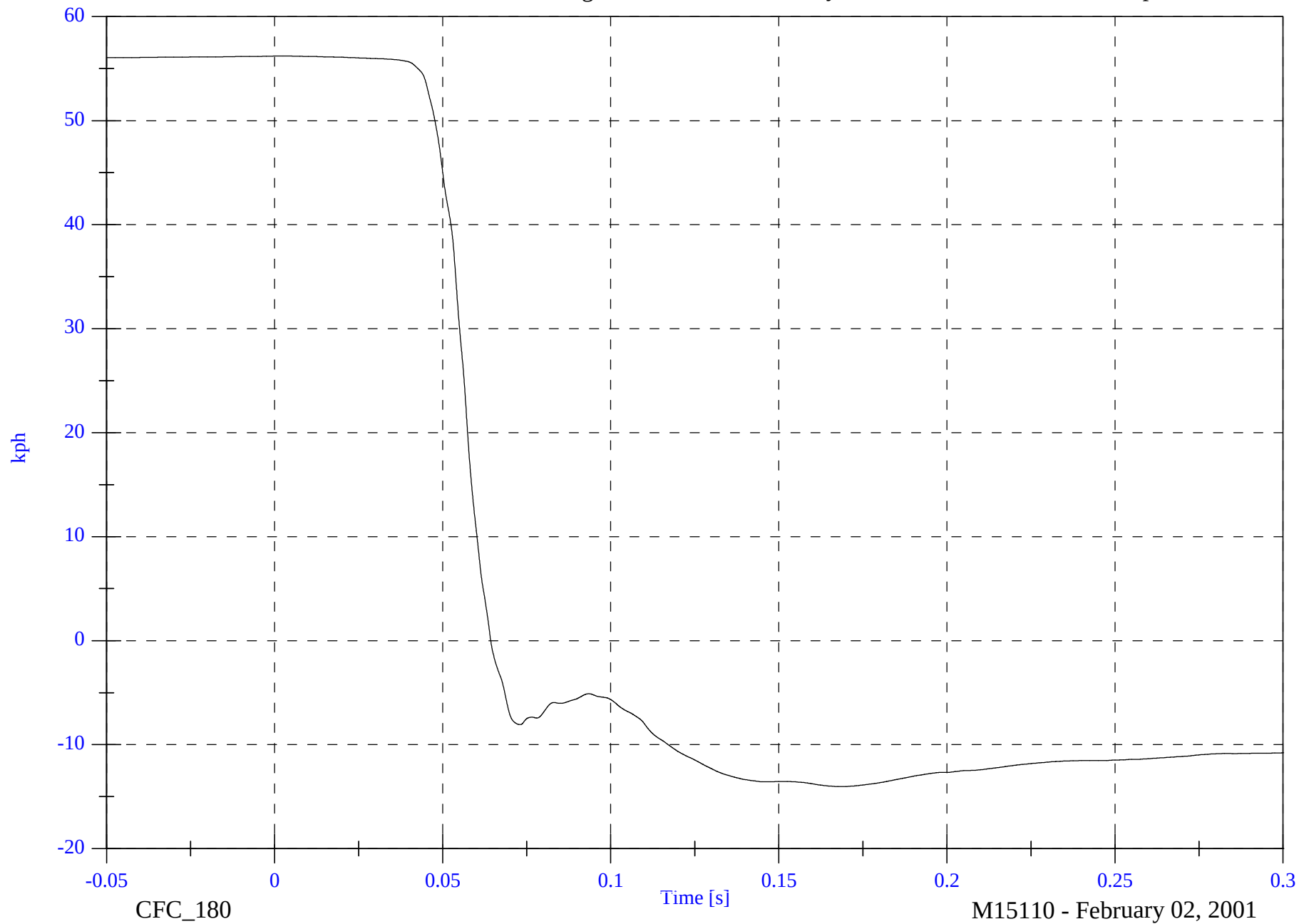


NCAP 2001 Test #20 - 2001 Lexus IS300

Engine Bottom #4x Velocity

Max: 56.2 [kph] at 0.002 [s]

Min: -14.0 [kph] at 0.169 [s]



B-110

8602-20

CFC_180

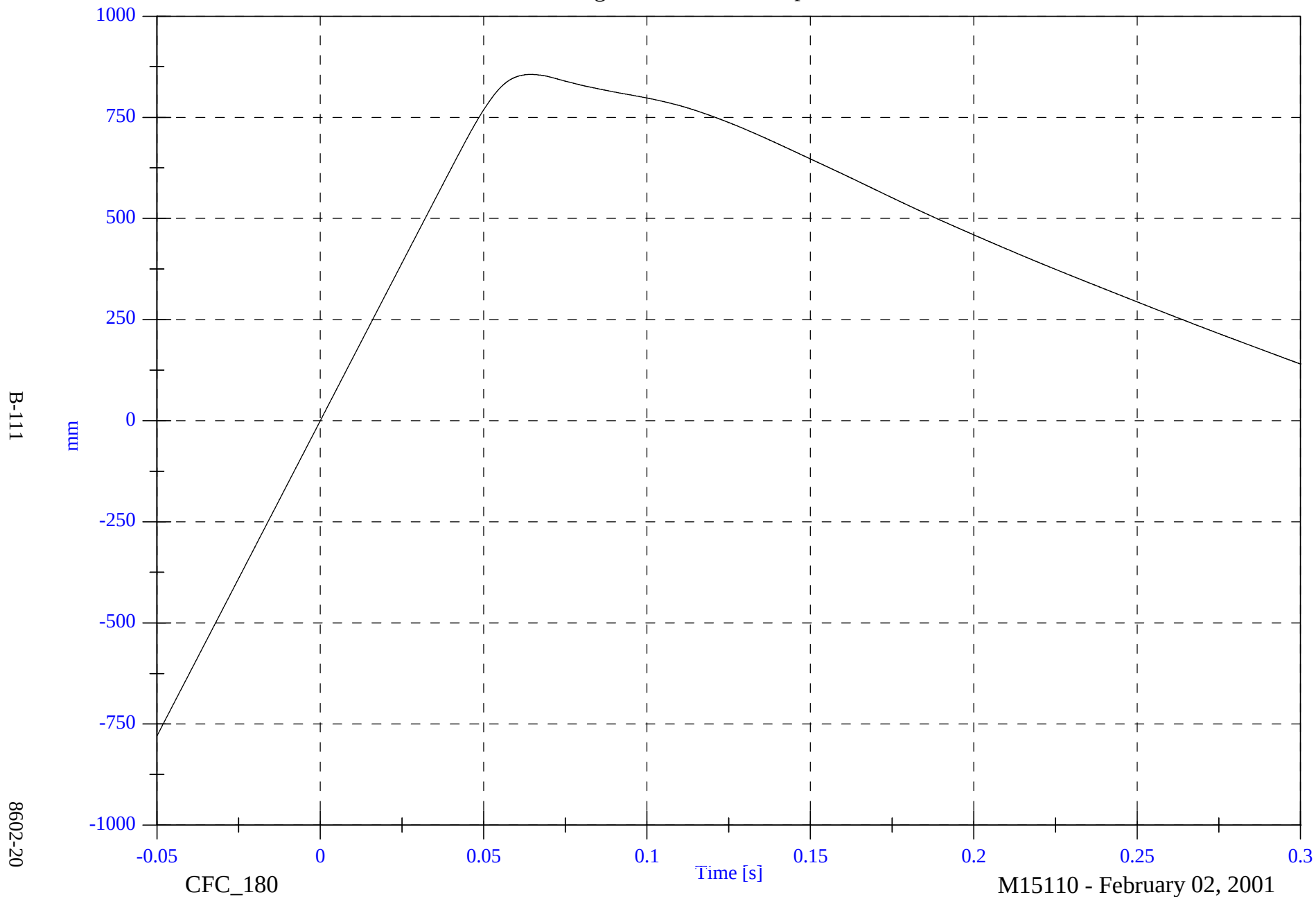
M15110 - February 02, 2001

NCAP 2001 Test #20 - 2001 Lexus IS300

Engine Bottom #4x Displacement

Max: 856.0 [mm] at 0.064 [s]

Min: -779.4 [mm] at -0.050 [s]

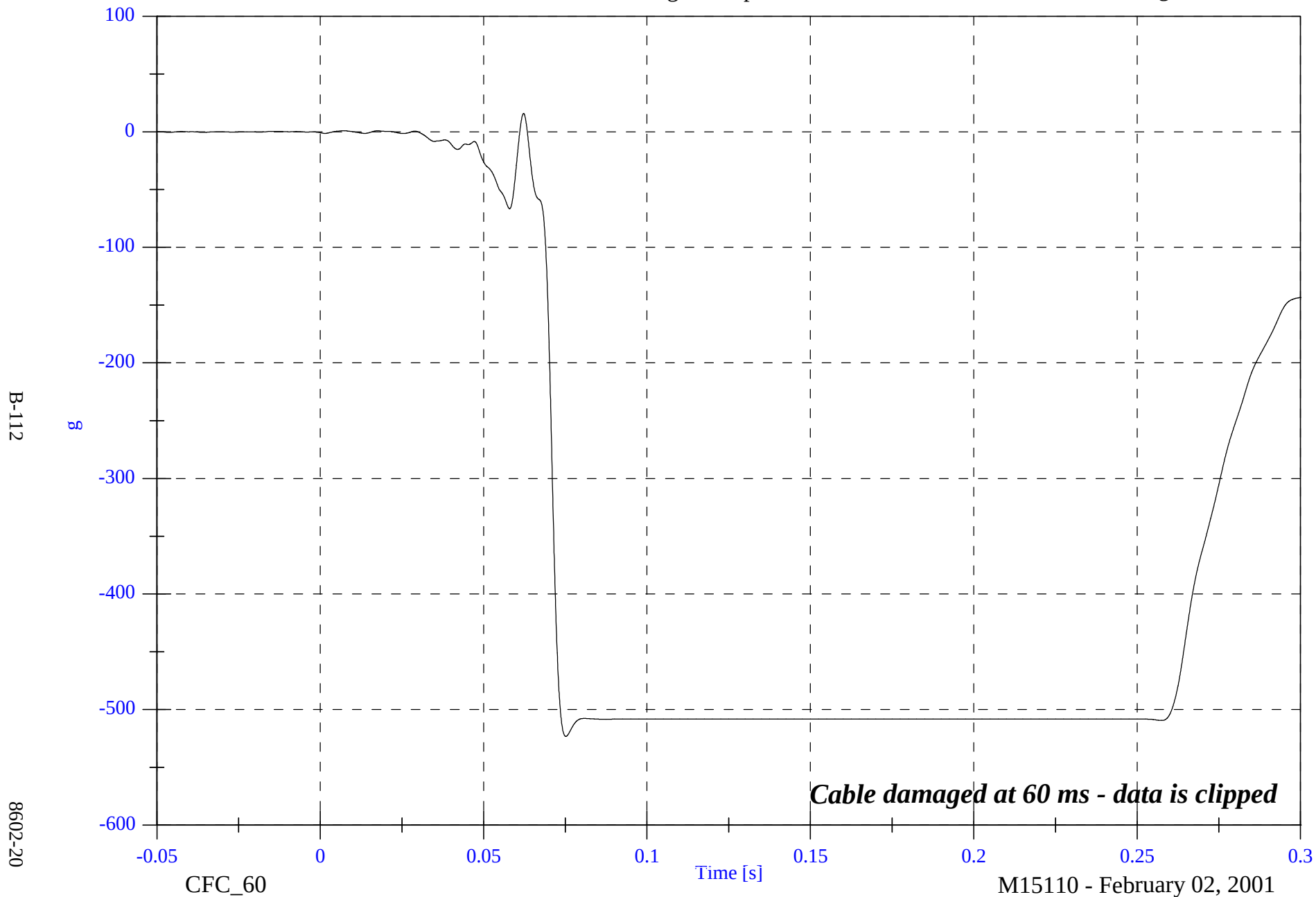


NCAP 2001 Test #20 - 2001 Lexus IS300

Right Caliper #5x

Max: 15.9 [g] at 0.062 [s]

Min: -523.2 [g] at 0.075 [s]

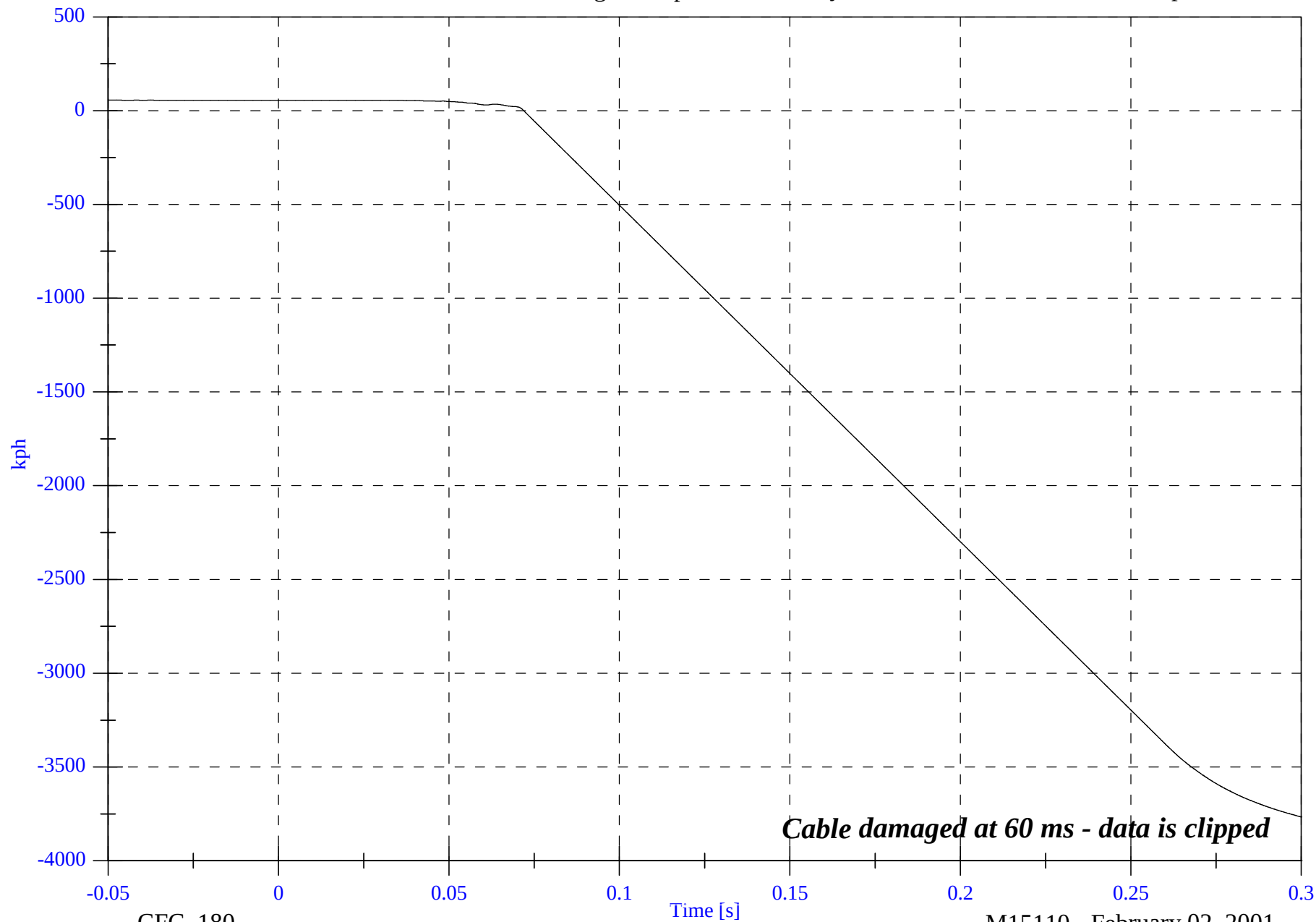


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 56.3 [kph] at -0.048 [s]

Min: -3766.5 [kph] at 0.300 [s]

Right Caliper #5x Velocity



B-113

8602-20

CFC_180

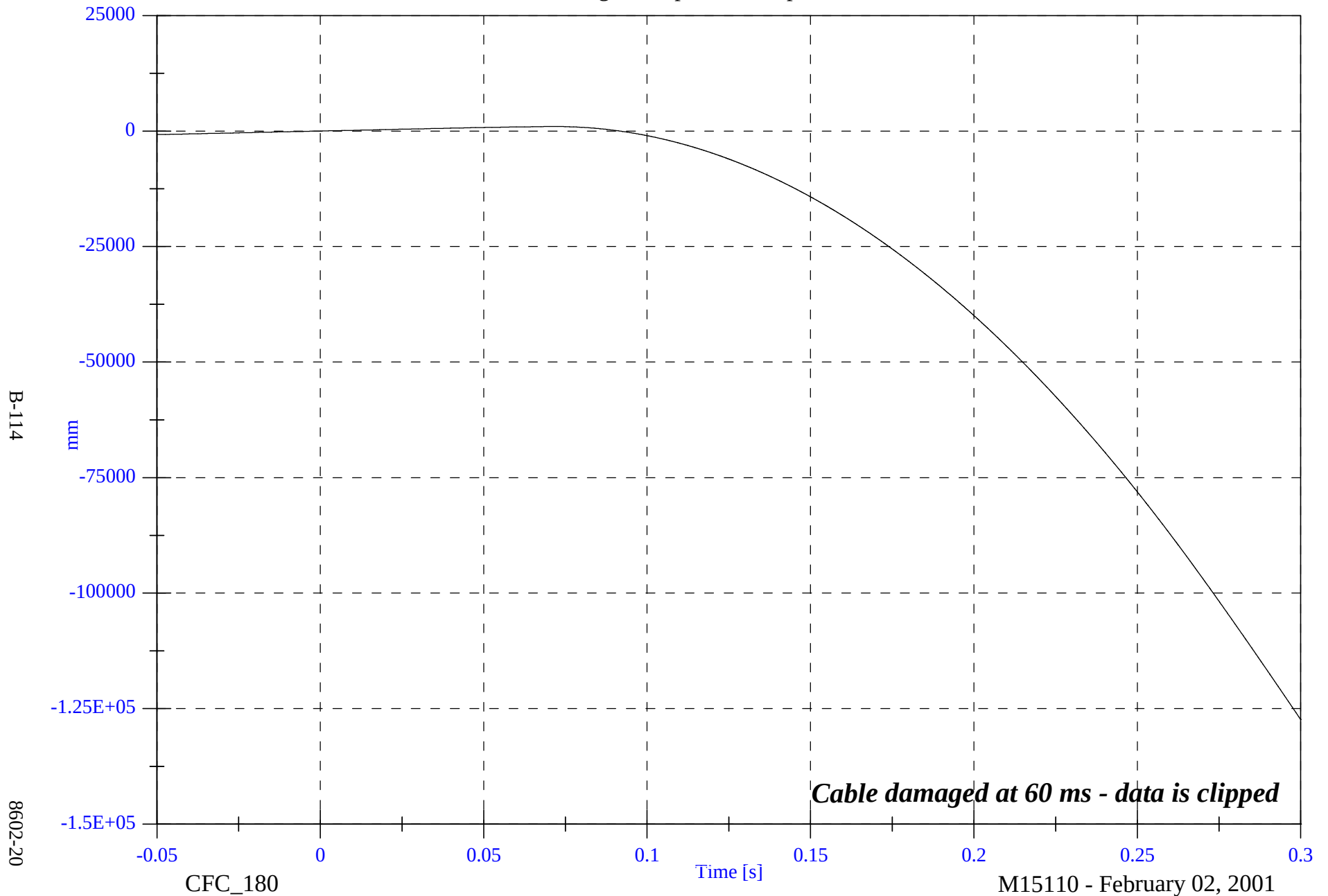
M15110 - February 02, 2001

NCAP 2001 Test #20 - 2001 Lexus IS300

Right Caliper #5x Displacement

Max: 966.2 [mm] at 0.072 [s]

Min: -127344.6 [mm] at 0.300 [s]

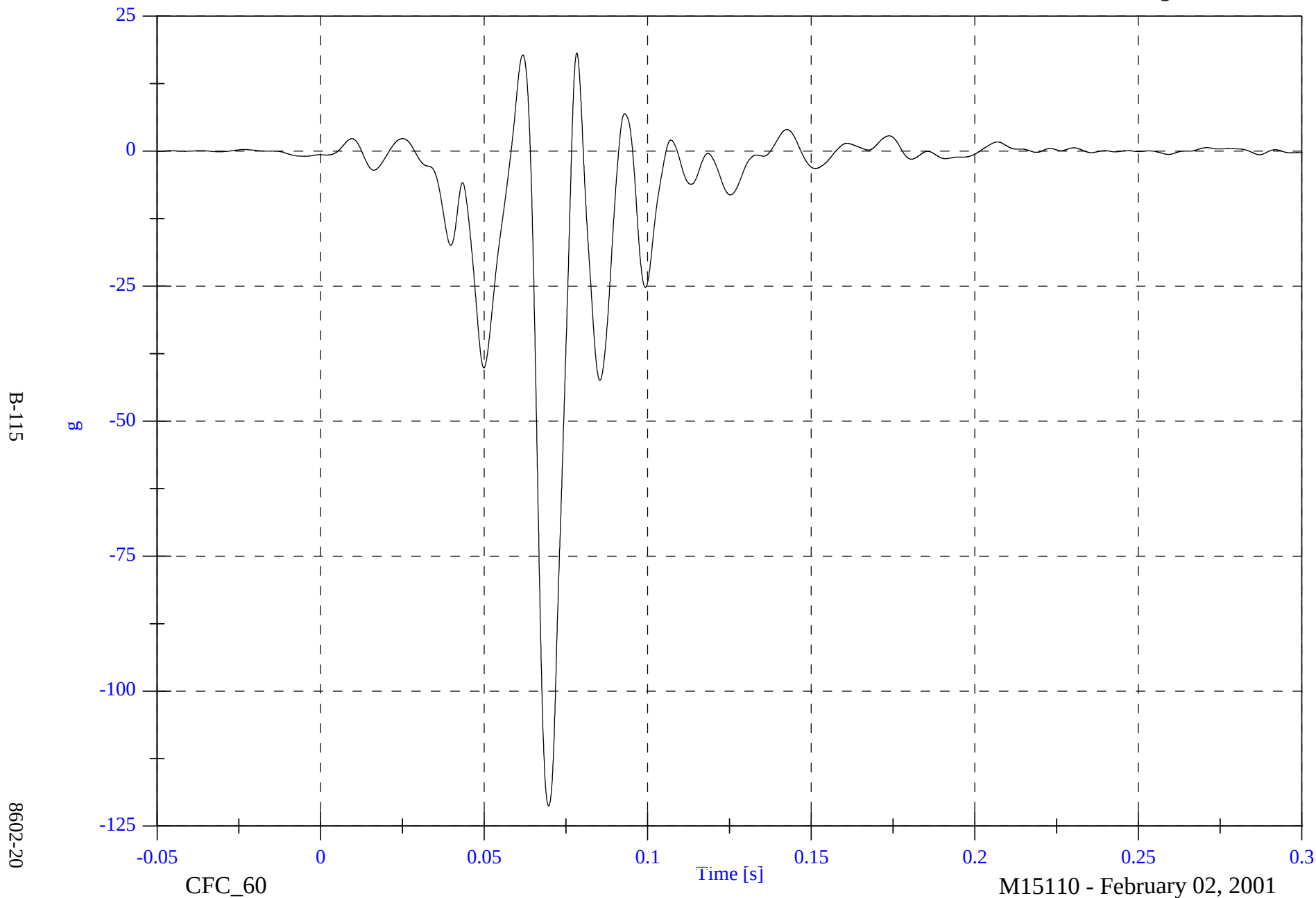


NCAP 2001 Test #20 - 2001 Lexus IS300

Instrument Panel #6x

Max: 18.2 [g] at 0.078 [s]

Min: -121.3 [g] at 0.070 [s]

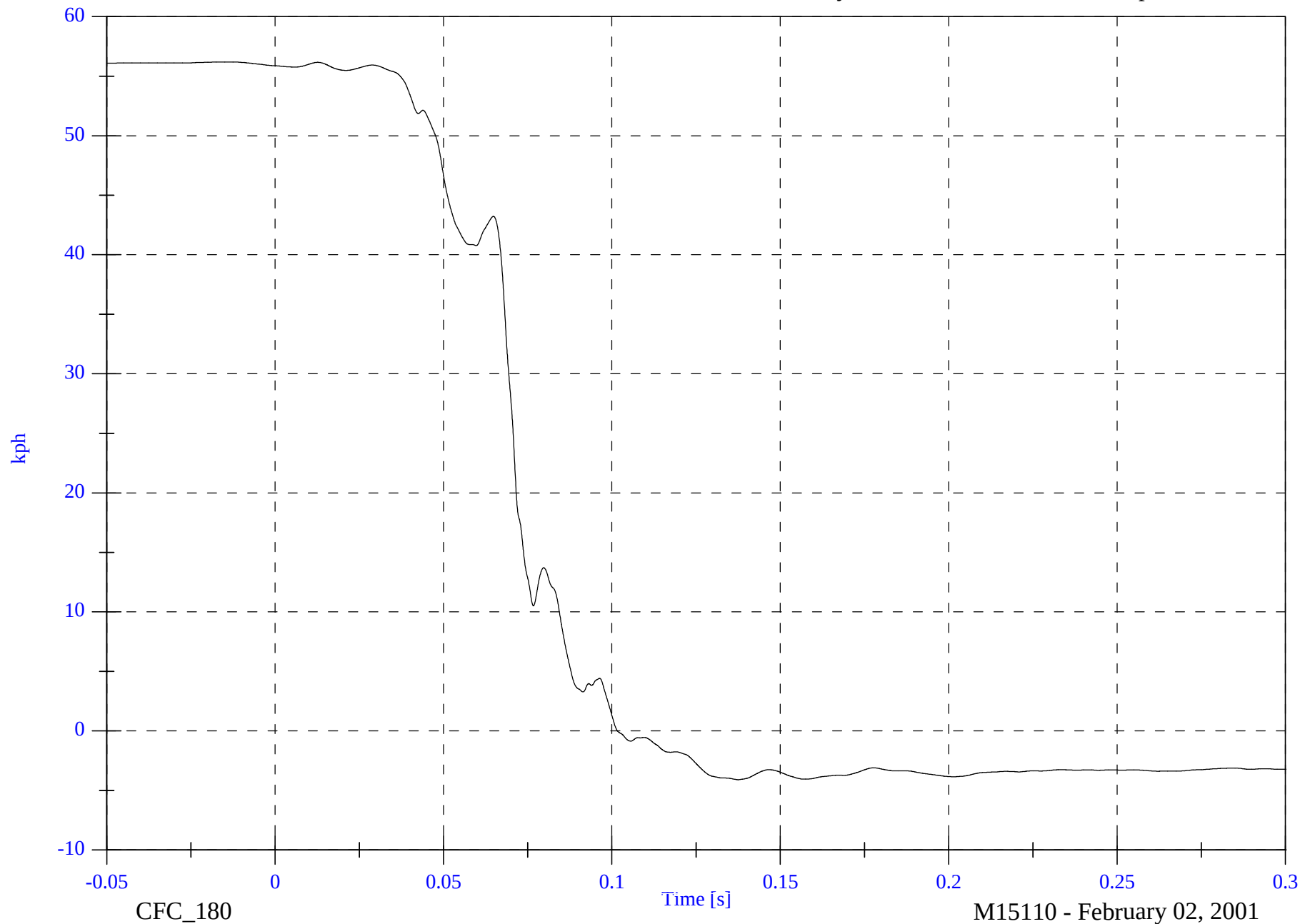


NCAP 2001 Test #20 - 2001 Lexus IS300

Instrument Panel #6x Velocity

Max: 56.2 [kph] at -0.012 [s]

Min: -4.1 [kph] at 0.137 [s]



B-116

8602-20

CFC_180

Time [s]

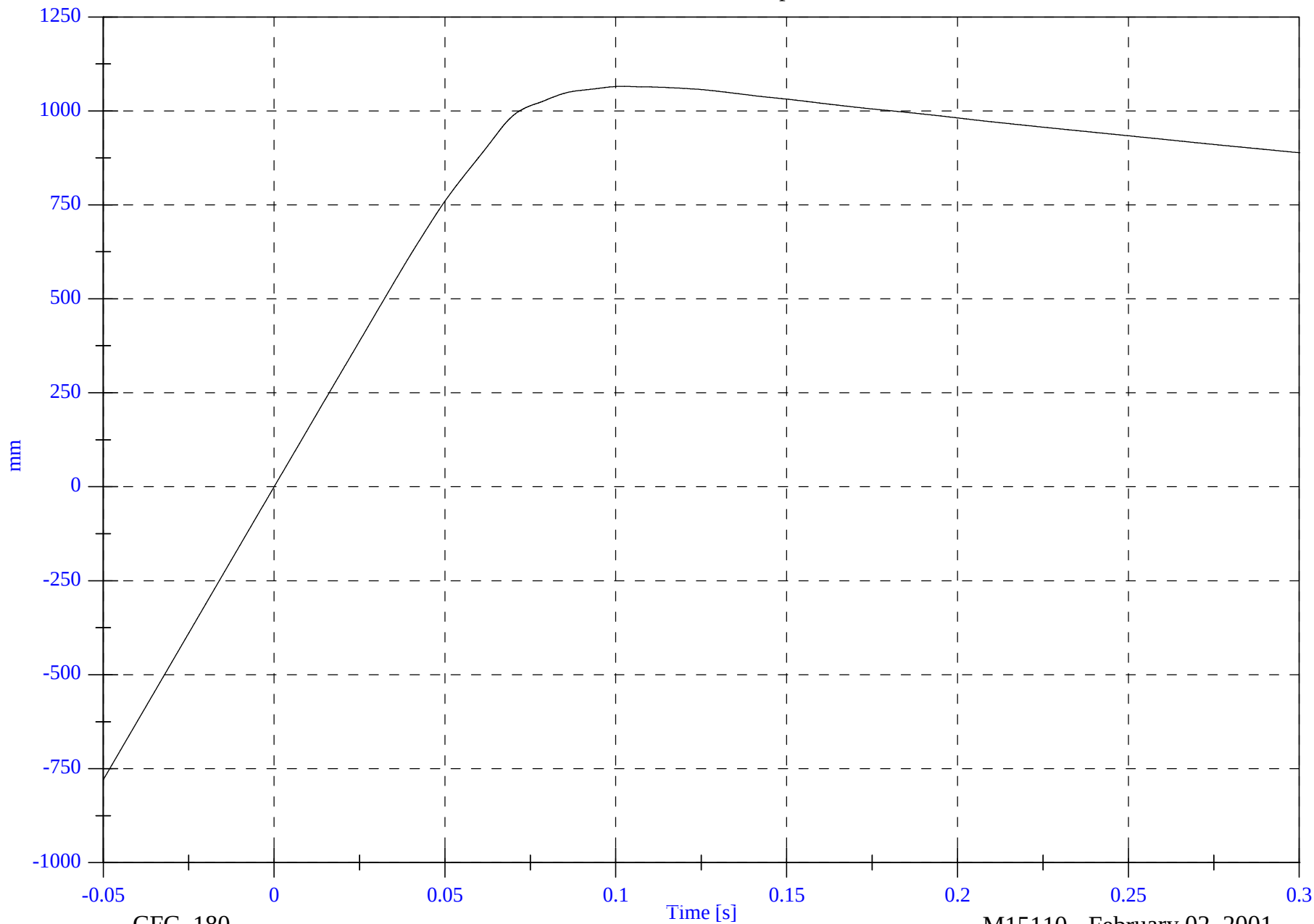
M15110 - February 02, 2001

NCAP 2001 Test #20 - 2001 Lexus IS300

Instrument Panel #6x Displacement

Max: 1065.0 [mm] at 0.102 [s]

Min: -779.3 [mm] at -0.050 [s]



B-117

8602-20

CFC_180

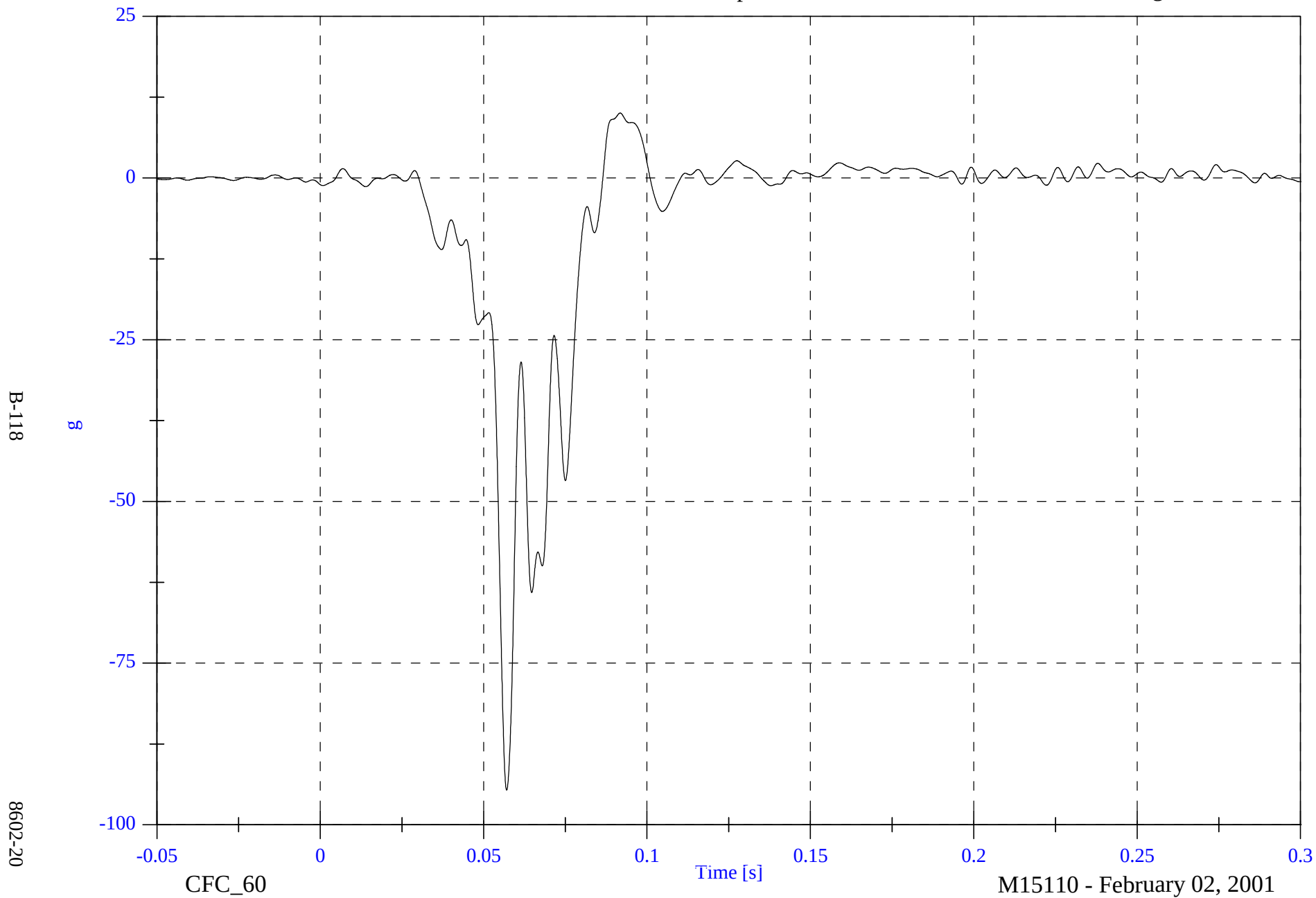
M15110 - February 02, 2001

NCAP 2001 Test #20 - 2001 Lexus IS300

Left Caliper #7x

Max: 10.0 [g] at 0.092 [s]

Min: -94.7 [g] at 0.057 [s]

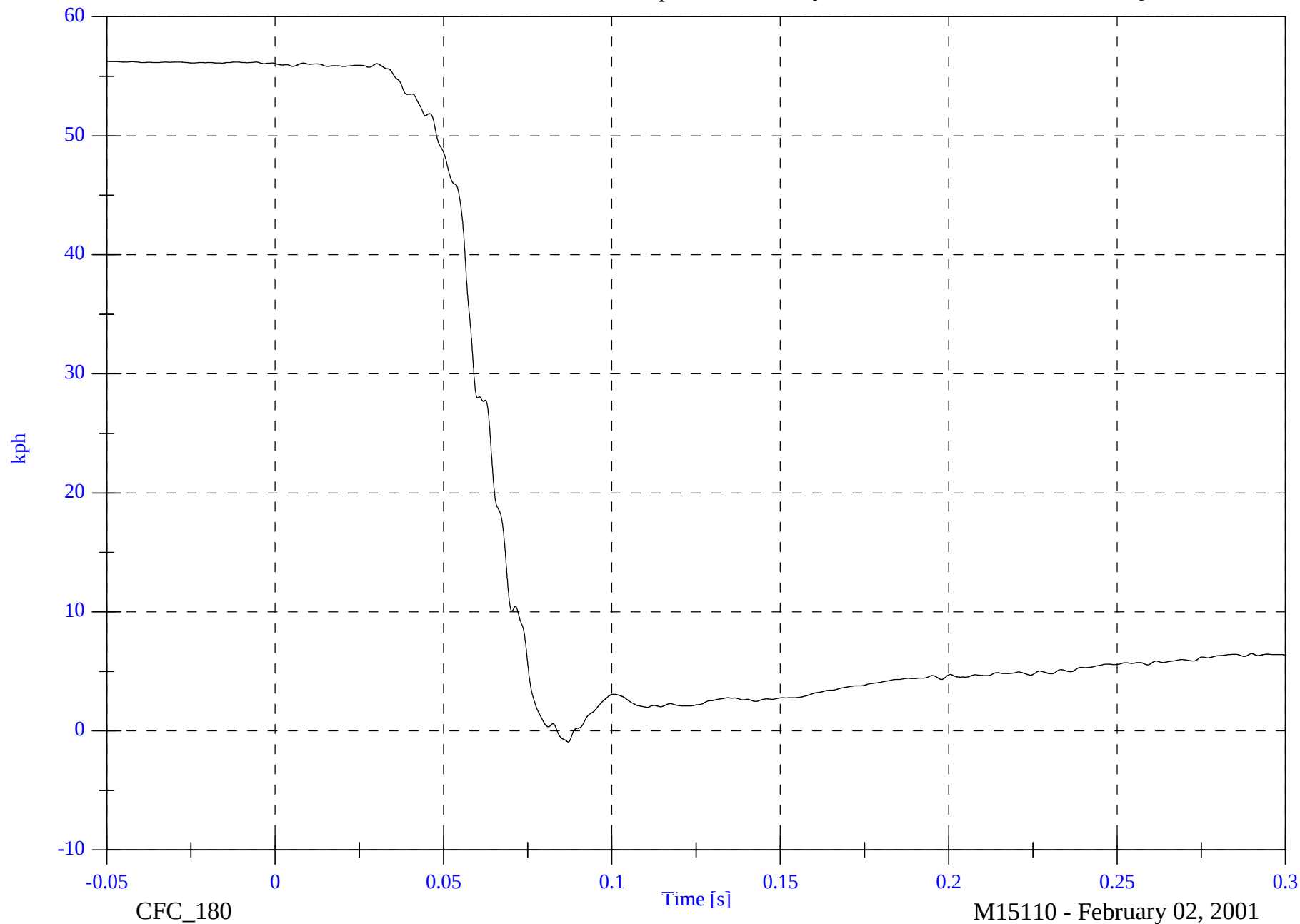


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 56.2 [kph] at -0.050 [s]

Left Caliper #7x Velocity

Min: -0.9 [kph] at 0.087 [s]



B-119

8602-20

CFC_180

Time [s]

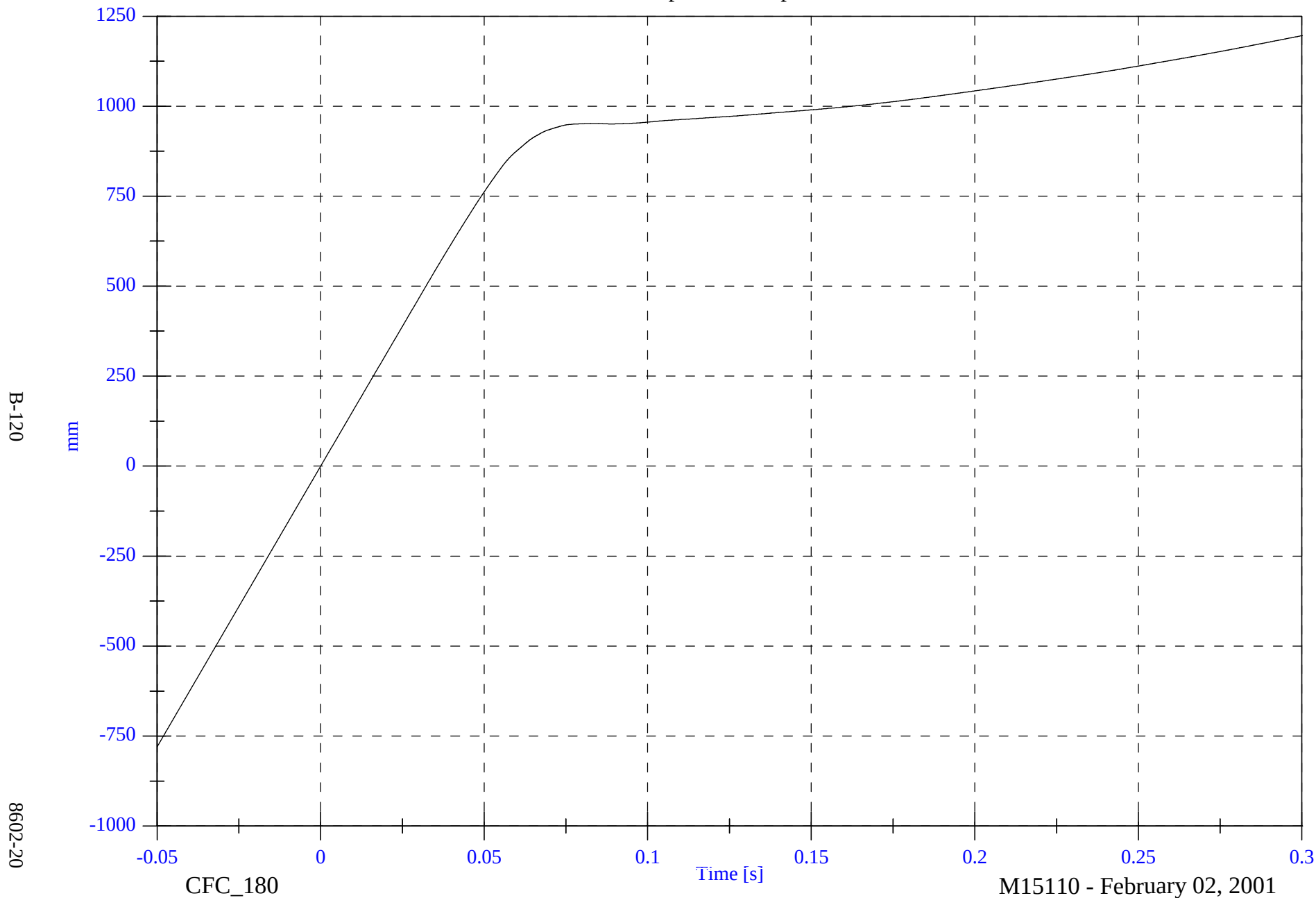
M15110 - February 02, 2001

NCAP 2001 Test #20 - 2001 Lexus IS300

Left Caliper #7x Displacement

Max: 1195.9 [mm] at 0.300 [s]

Min: -780.0 [mm] at -0.050 [s]

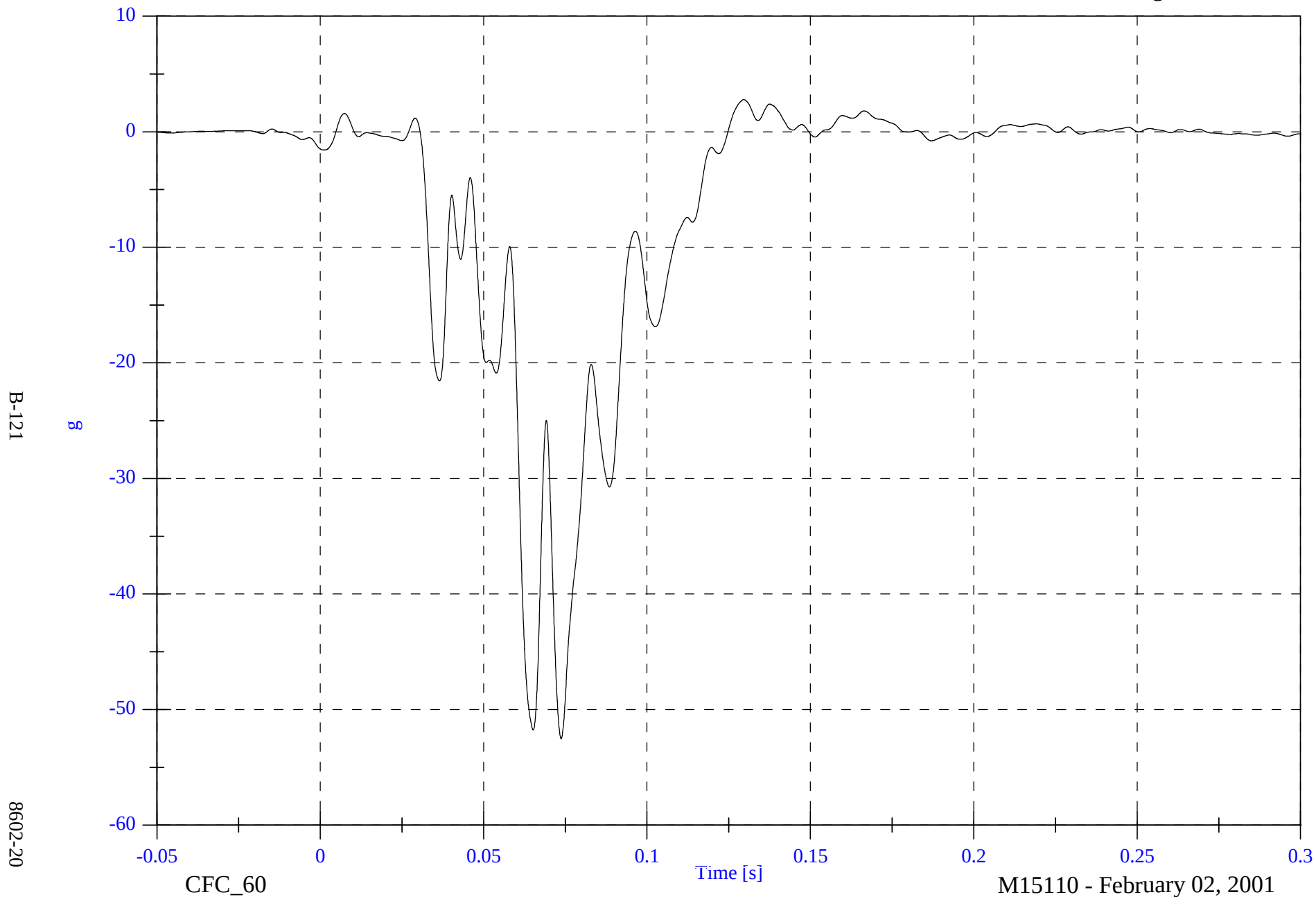


NCAP 2001 Test #20 - 2001 Lexus IS300

Left Rear Red #8x

Max: 2.8 [g] at 0.130 [s]

Min: -52.5 [g] at 0.074 [s]

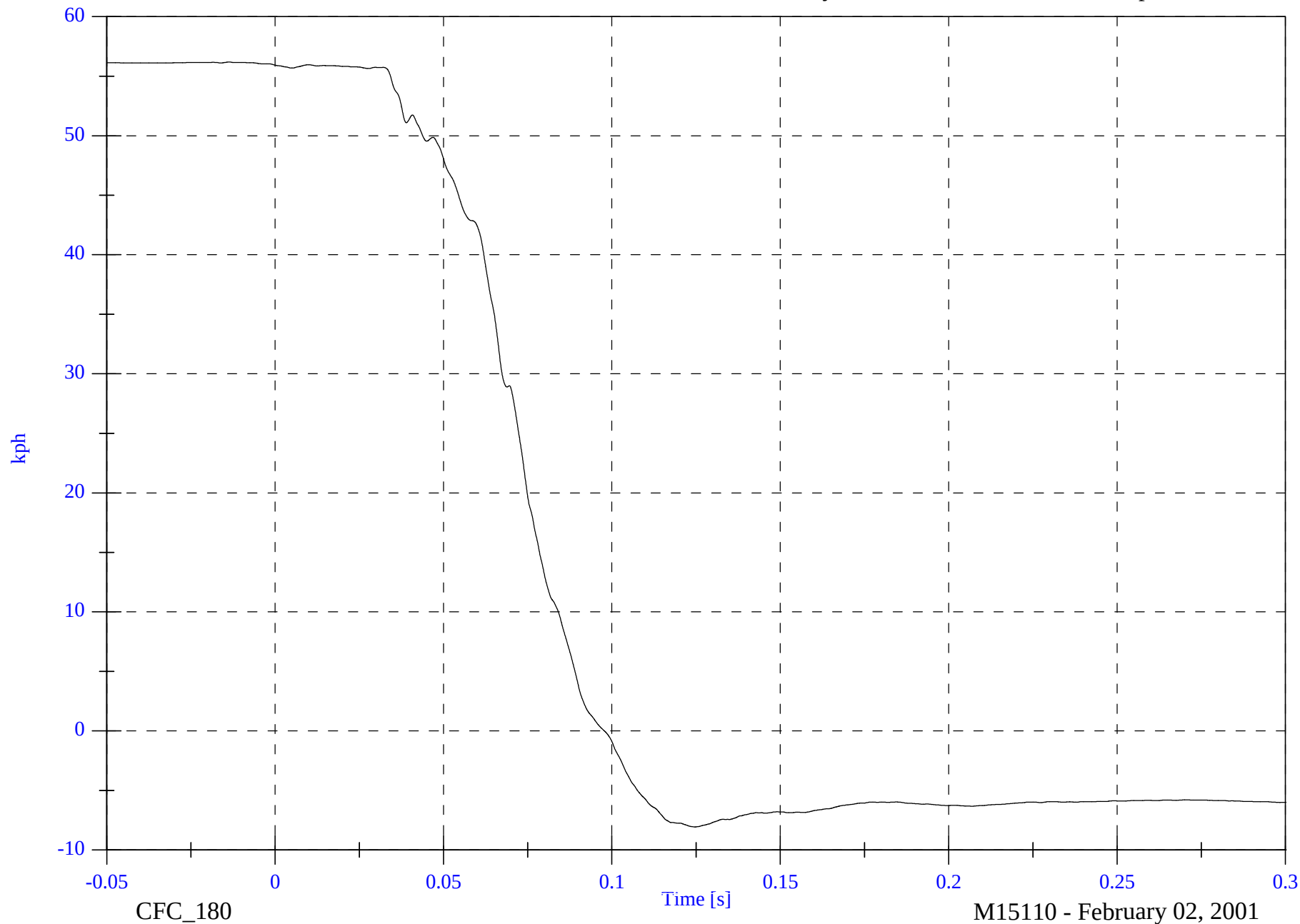


NCAP 2001 Test #20 - 2001 Lexus IS300

Left Rear Red #8x Velocity

Max: 56.2 [kph] at -0.014 [s]

Min: -8.1 [kph] at 0.125 [s]



B-122

8602-20

CFC_180

Time [s]

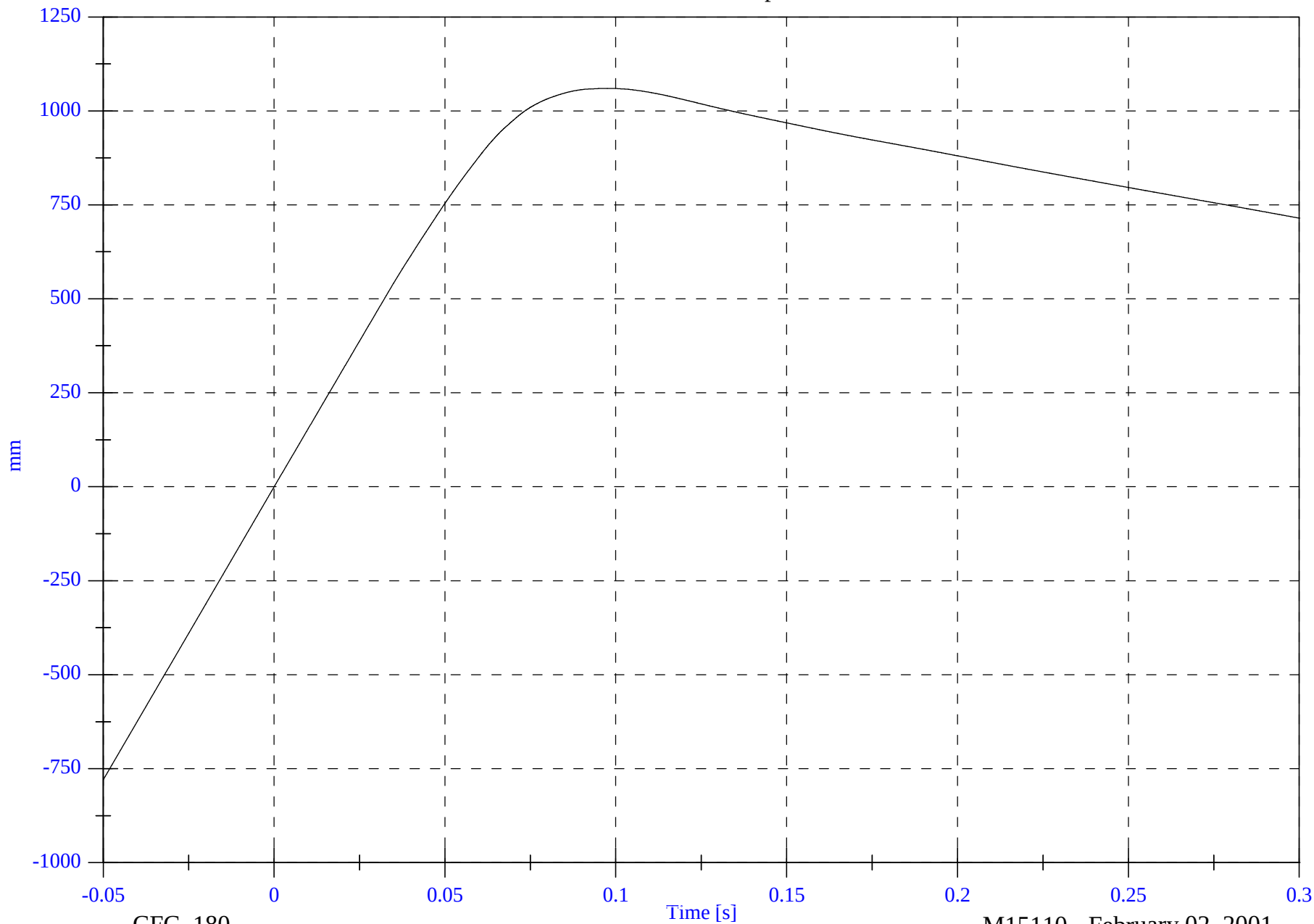
M15110 - February 02, 2001

NCAP 2001 Test #20 - 2001 Lexus IS300

Left Rear Red #8x Displacement

Max: 1059.7 [mm] at 0.098 [s]

Min: -779.5 [mm] at -0.050 [s]



B-123

8602-20

CFC_180

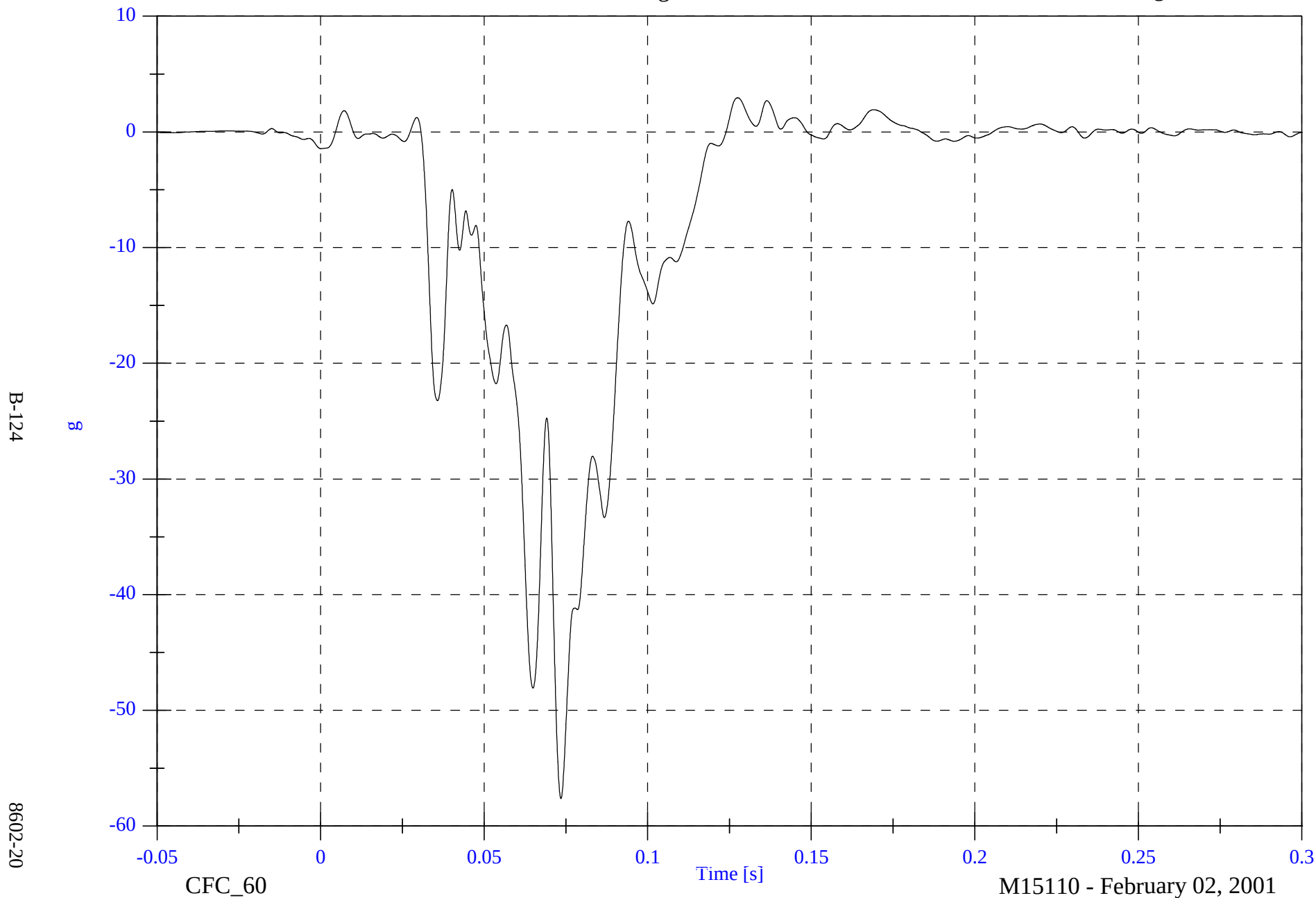
M15110 - February 02, 2001

NCAP 2001 Test #20 - 2001 Lexus IS300

Right Rear Red #9x

Max: 2.9 [g] at 0.128 [s]

Min: -57.6 [g] at 0.073 [s]

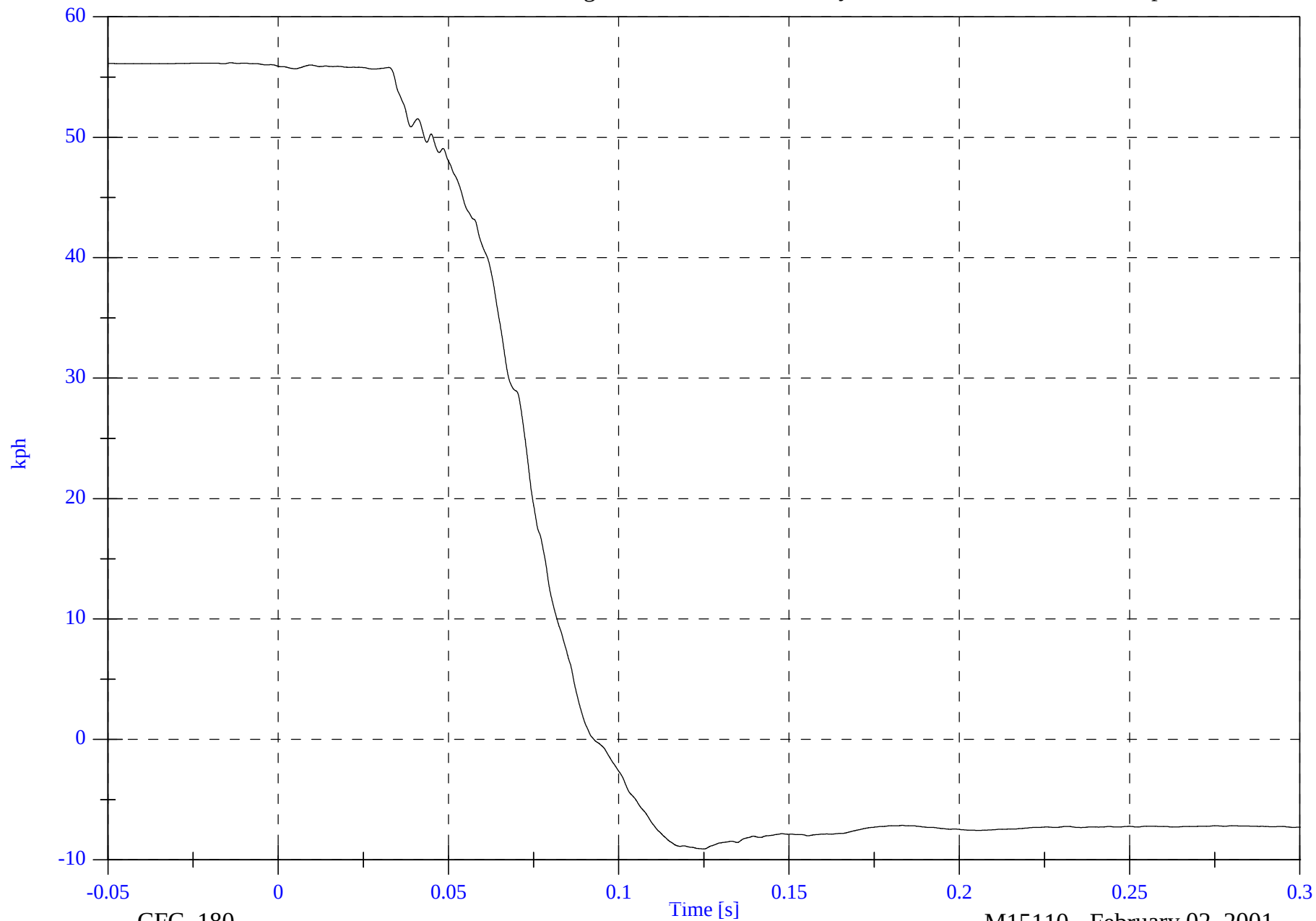


NCAP 2001 Test #20 - 2001 Lexus IS300

Max: 56.2 [kph] at -0.014 [s]

Right Rear Red #9x Velocity

Min: -9.1 [kph] at 0.125 [s]



B-125

8602-20

CFC_180

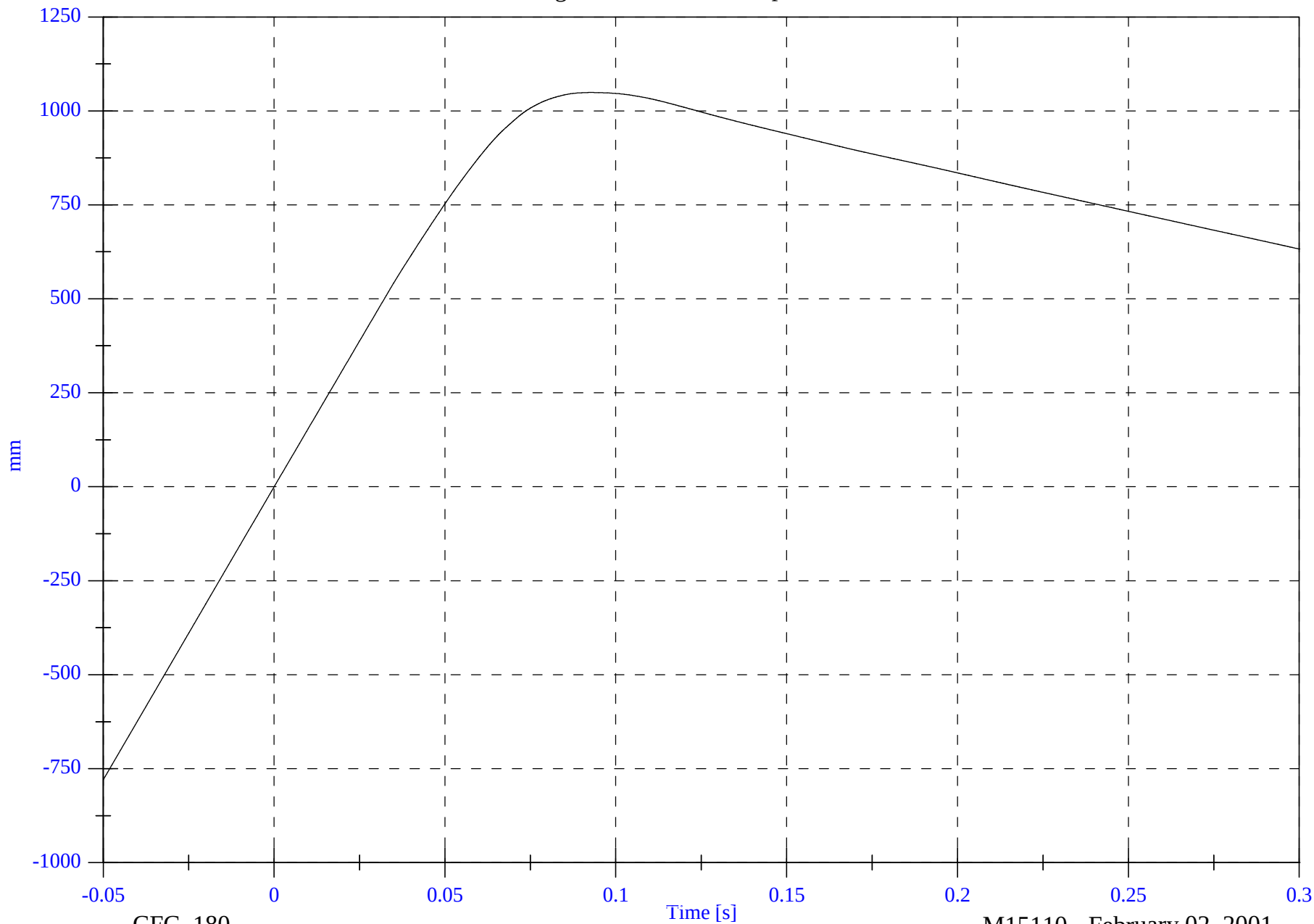
M15110 - February 02, 2001

NCAP 2001 Test #20 - 2001 Lexus IS300

Right Rear Red #9x Displacement

Max: 1048.8 [mm] at 0.093 [s]

Min: -779.5 [mm] at -0.050 [s]



B-126

8602-20

CFC_180

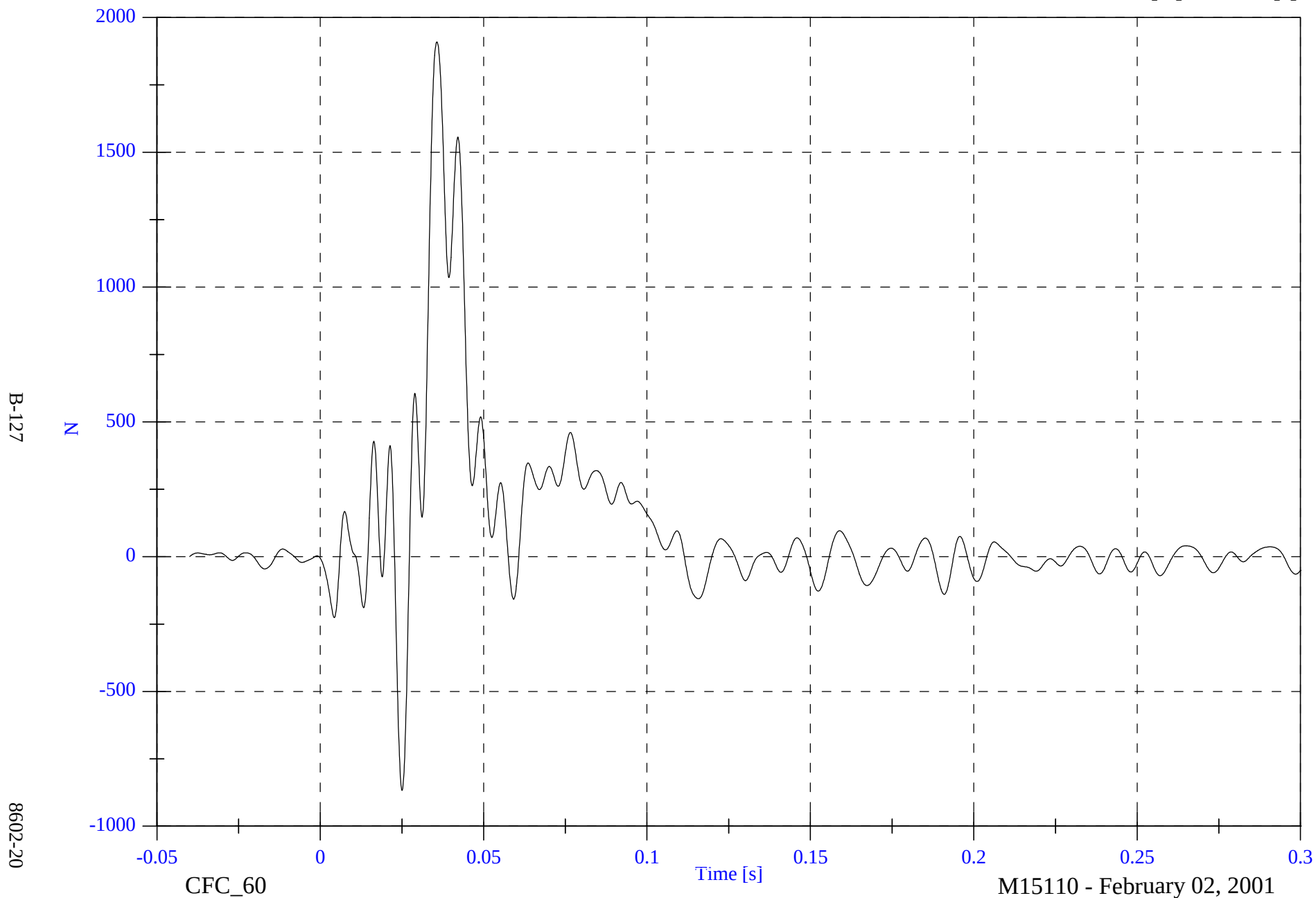
M15110 - February 02, 2001

NCAP 2001 Test #20 - 2001 Lexus IS 300

Barrier Load Cell A1 Fx

Max: 1909.6 [N] at 0.036 [s]

Min: -867.4 [N] at 0.025 [s]

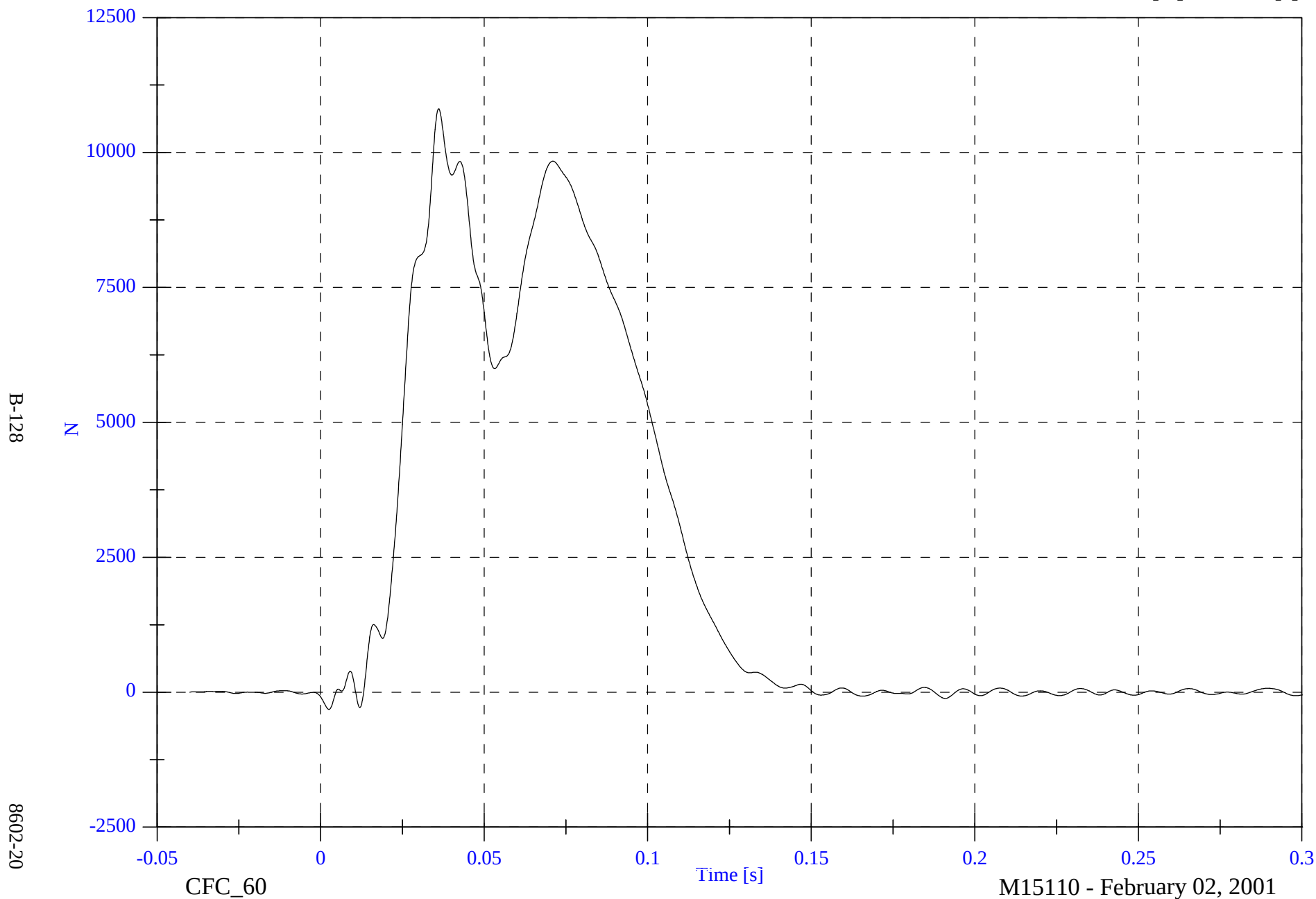


NCAP 2001 Test #20 - 2001 Lexus IS 300

Barrier Load Cell A2 Fx

Max: 10810.5 [N] at 0.036 [s]

Min: -320.1 [N] at 0.002 [s]

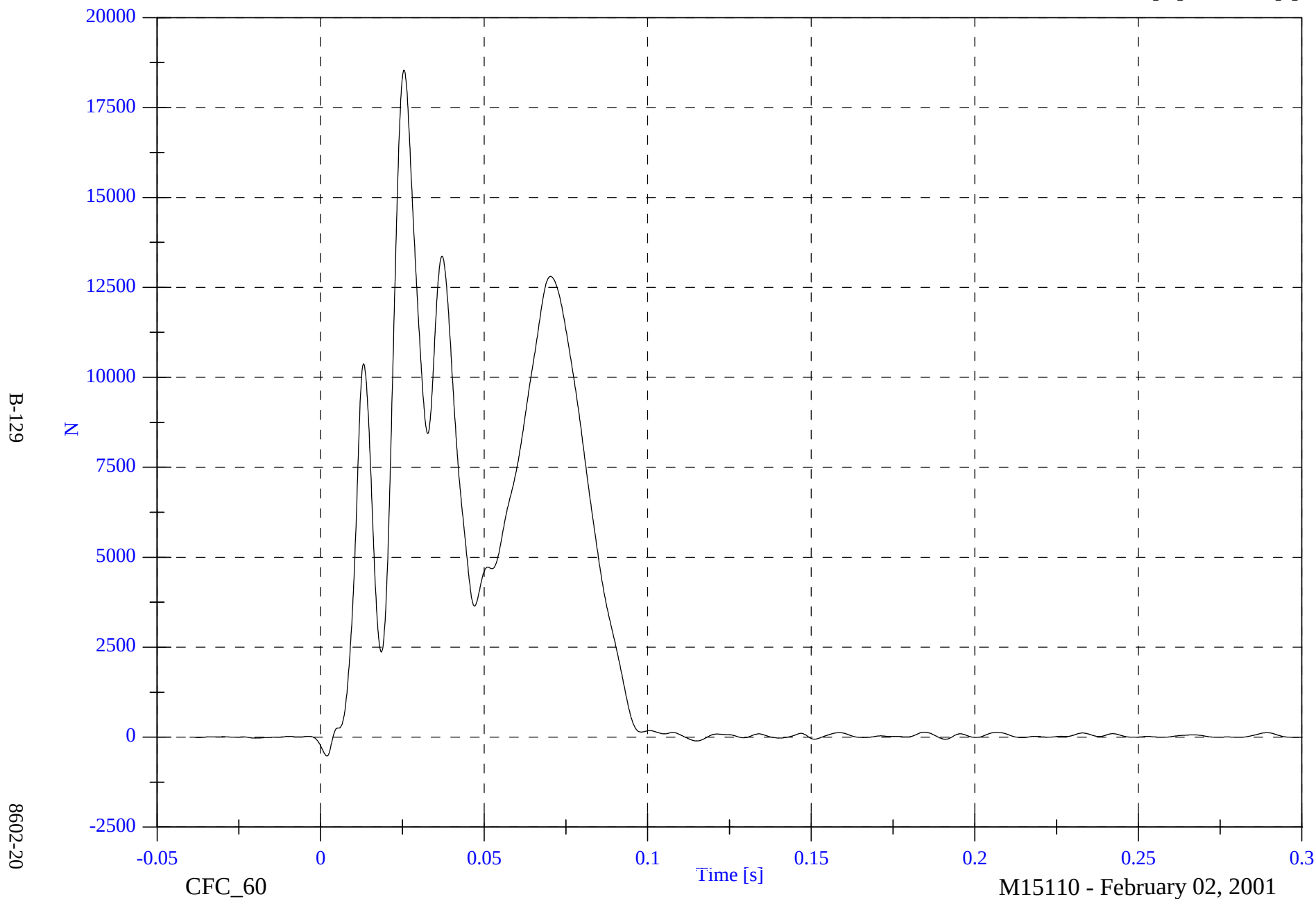


NCAP 2001 Test #20 - 2001 Lexus IS 300

Barrier Load Cell A3 Fx

Max: 18540.3 [N] at 0.025 [s]

Min: -525.2 [N] at 0.002 [s]

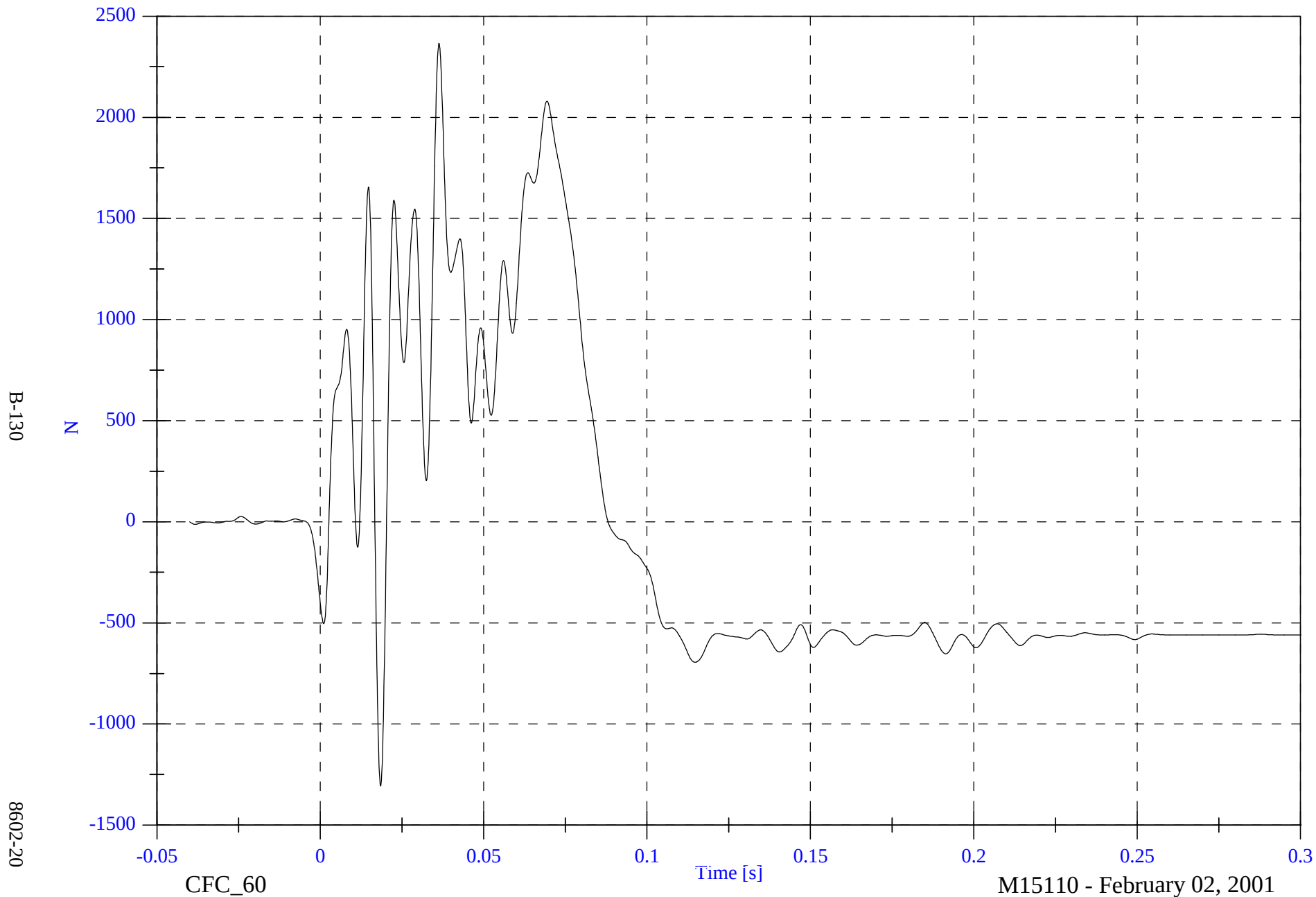


NCAP 2001 Test #20 - 2001 Lexus IS 300

Barrier Load Cell A4 Fx

Max: 2366.2 [N] at 0.036 [s]

Min: -1306.7 [N] at 0.018 [s]

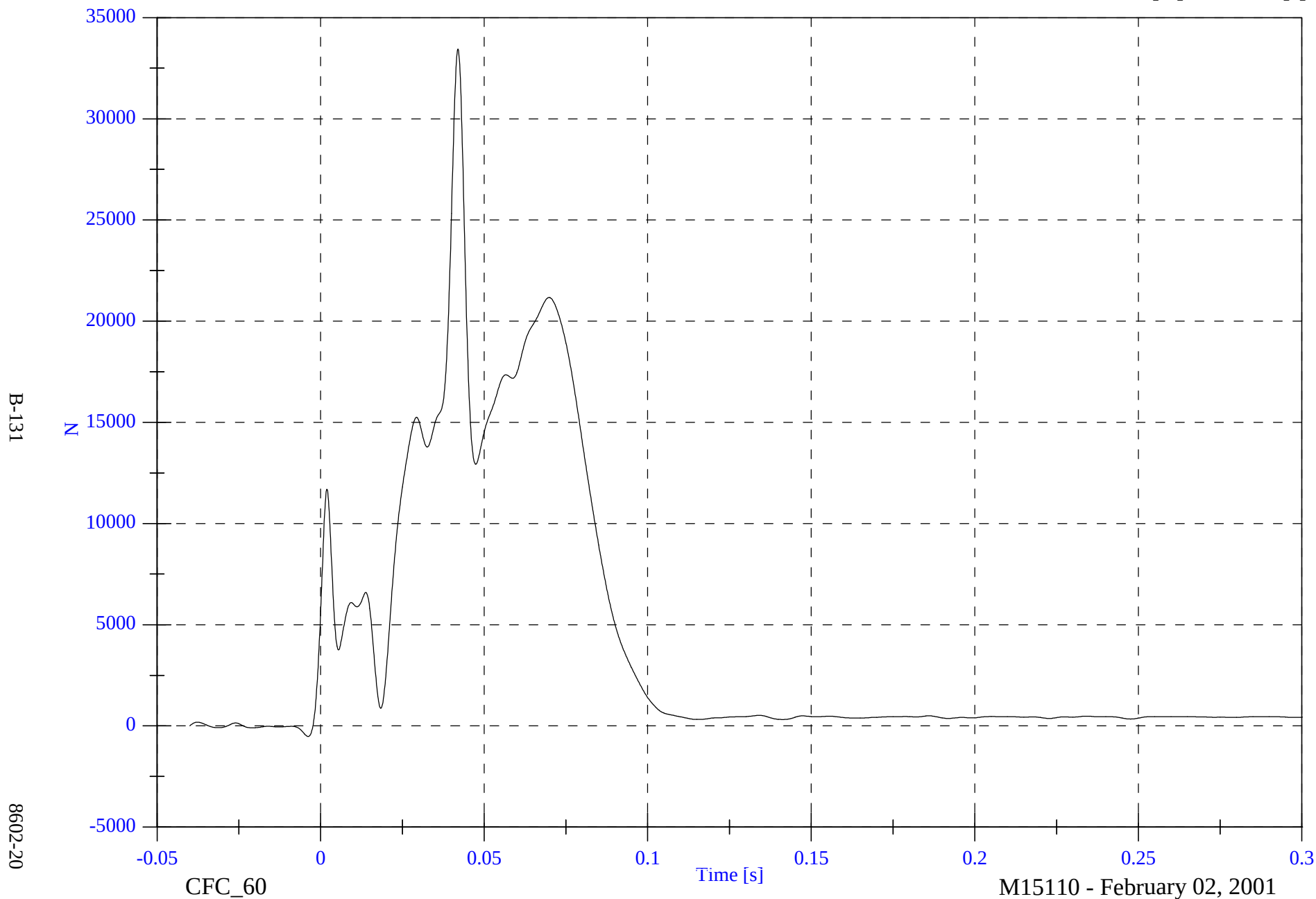


NCAP 2001 Test #20 - 2001 Lexus IS 300

Barrier Load Cell A5 Fx

Max: 33451.8 [N] at 0.042 [s]

Min: -522.9 [N] at -0.004 [s]

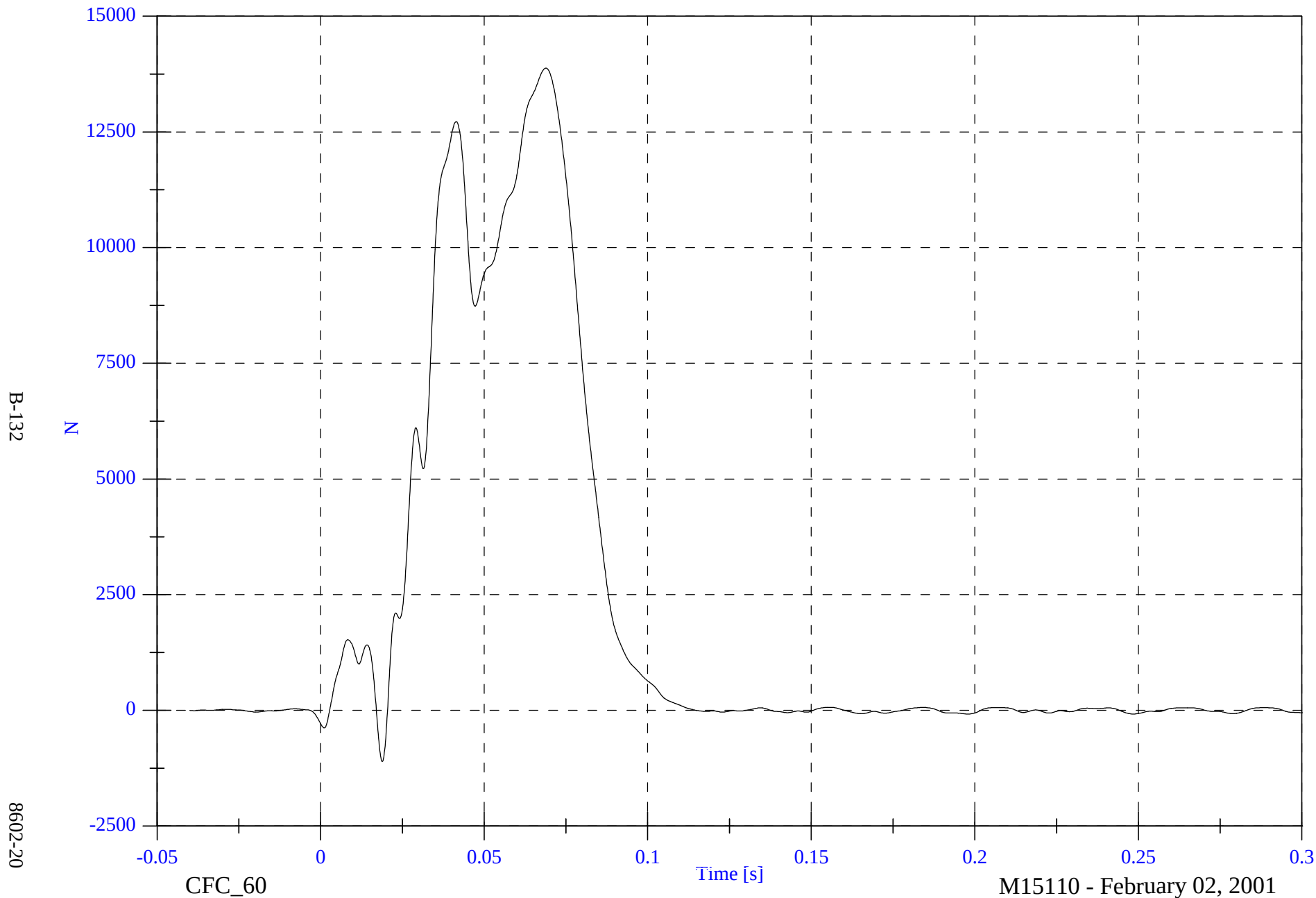


NCAP 2001 Test #20 - 2001 Lexus IS 300

Barrier Load Cell A6 Fx

Max: 13879.3 [N] at 0.069 [s]

Min: -1105.5 [N] at 0.019 [s]

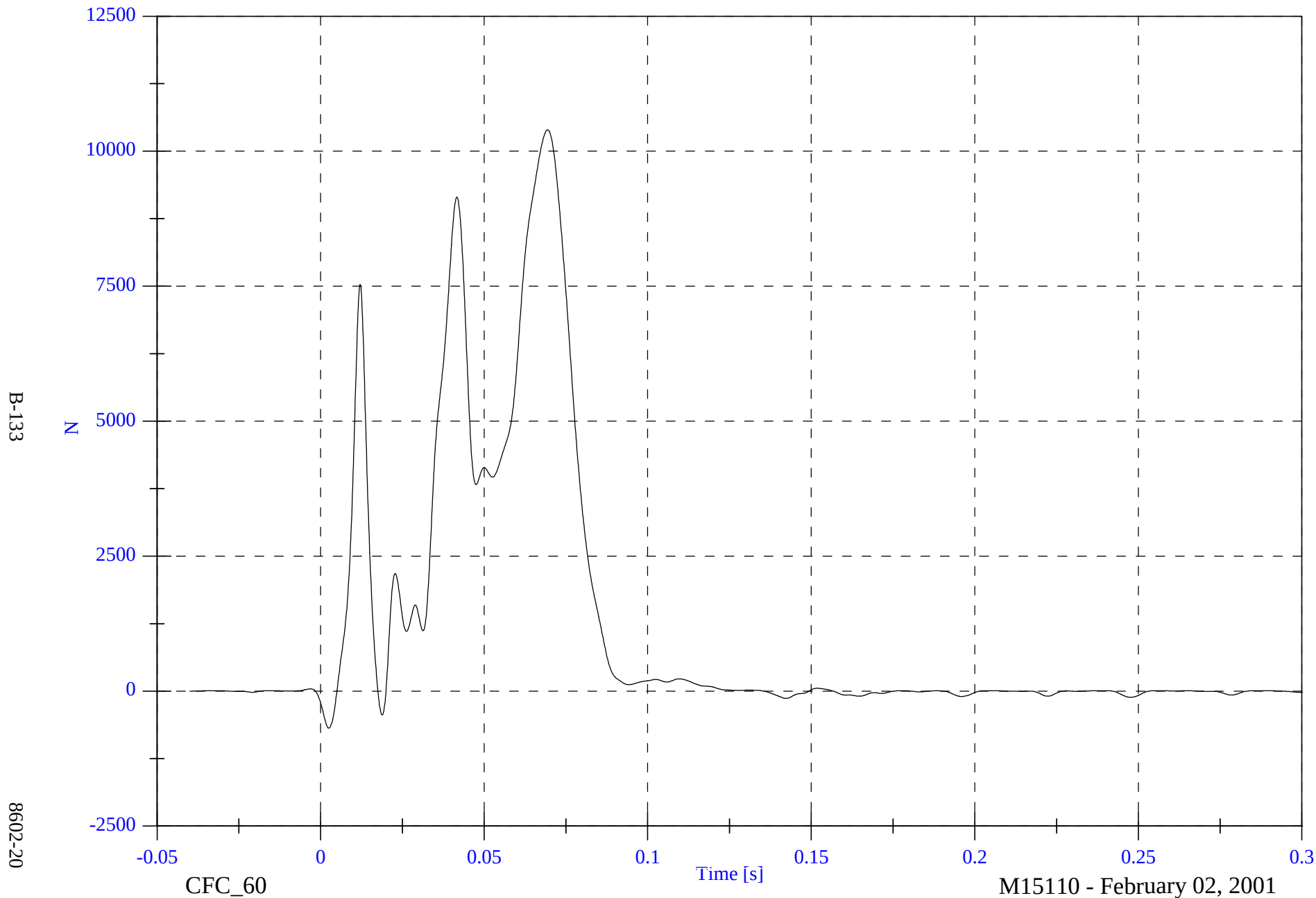


NCAP 2001 Test #20 - 2001 Lexus IS 300

Barrier Load Cell A7 Fx

Max: 10394.7 [N] at 0.069 [s]

Min: -688.0 [N] at 0.002 [s]

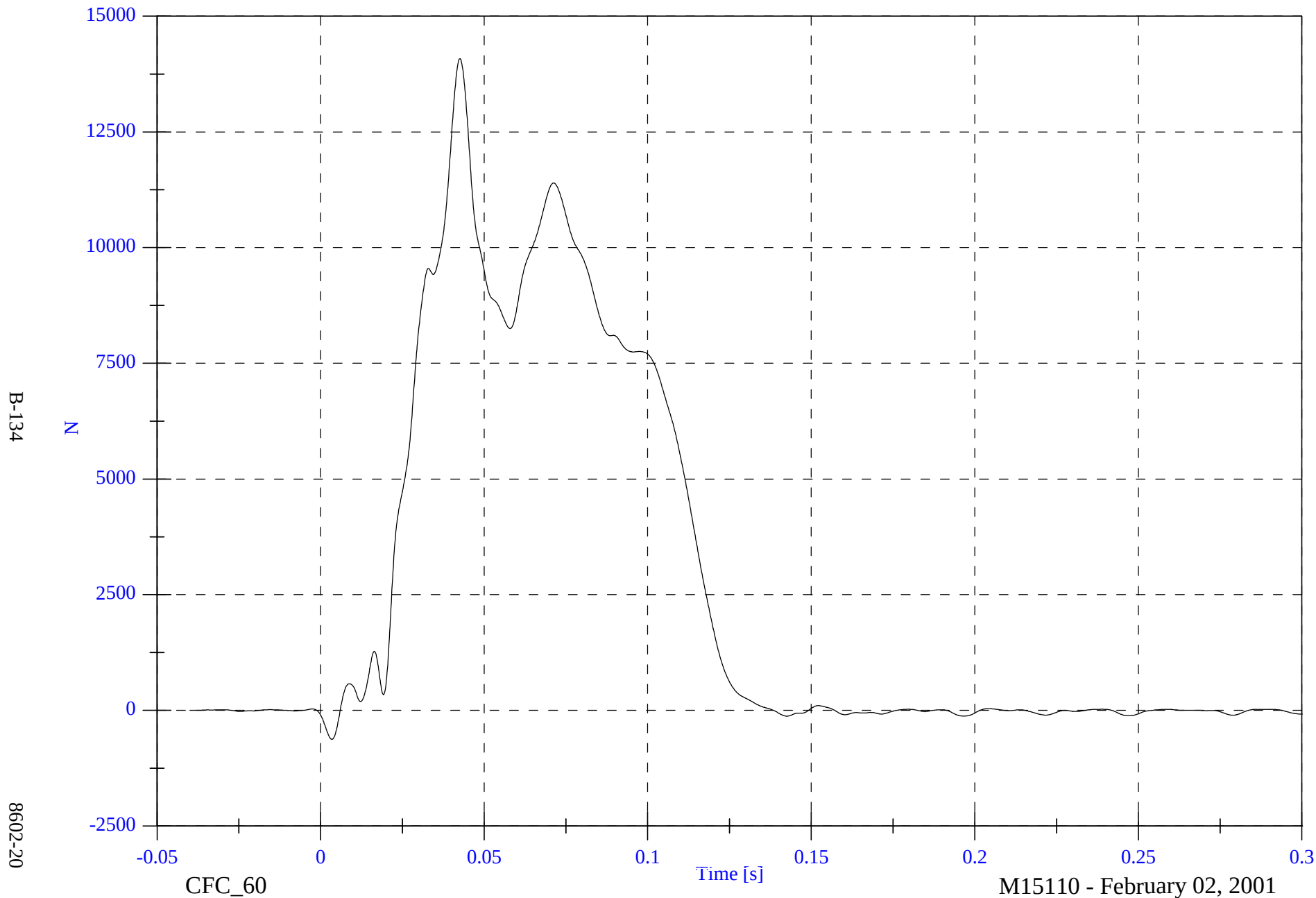


NCAP 2001 Test #20 - 2001 Lexus IS 300

Barrier Load Cell A8 Fx

Max: 14083.9 [N] at 0.043 [s]

Min: -626.3 [N] at 0.003 [s]

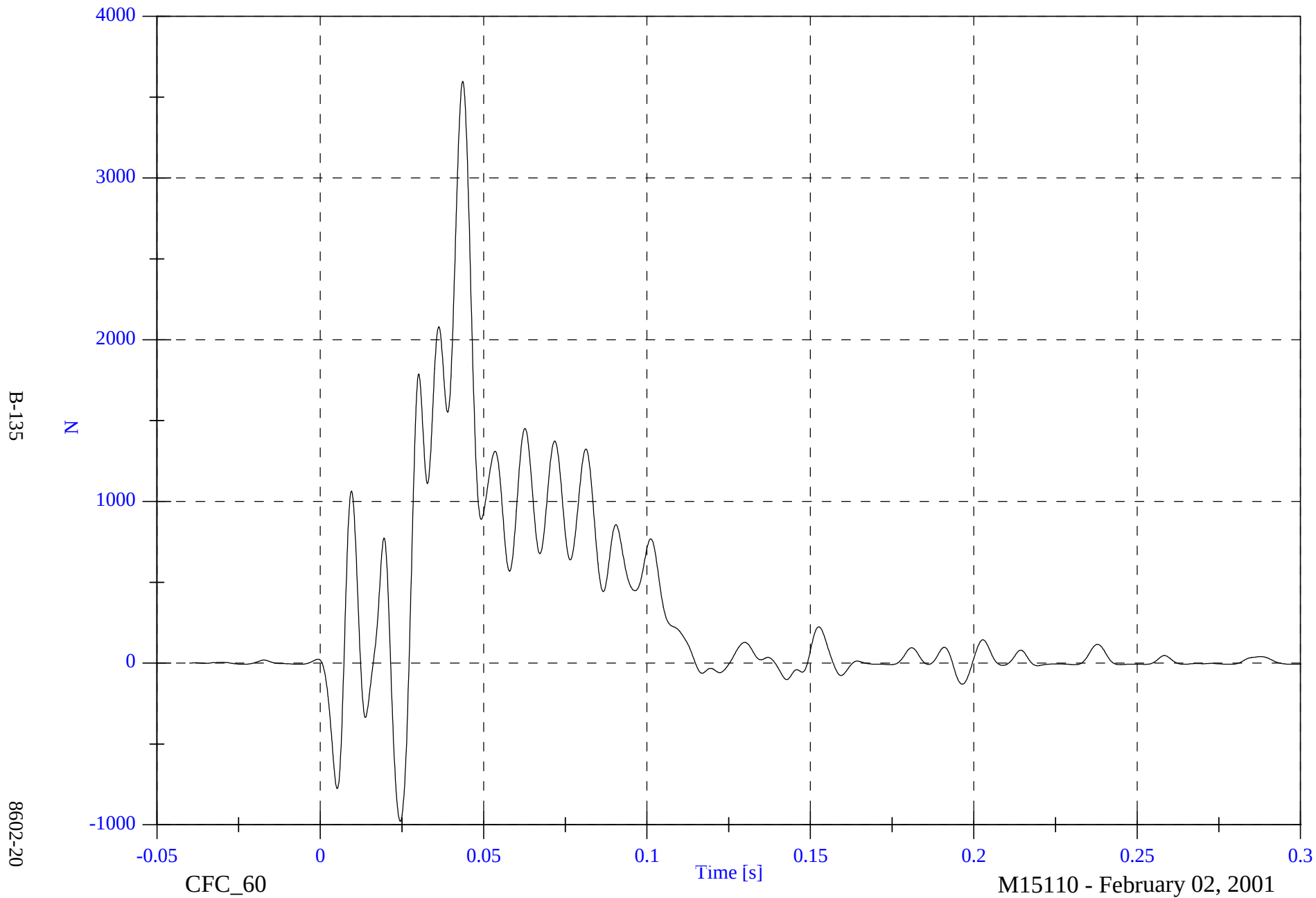


NCAP 2001 Test #20 - 2001 Lexus IS 300

Barrier Load Cell A9 Fx

Max: 3597.6 [N] at 0.044 [s]

Min: -979.1 [N] at 0.024 [s]

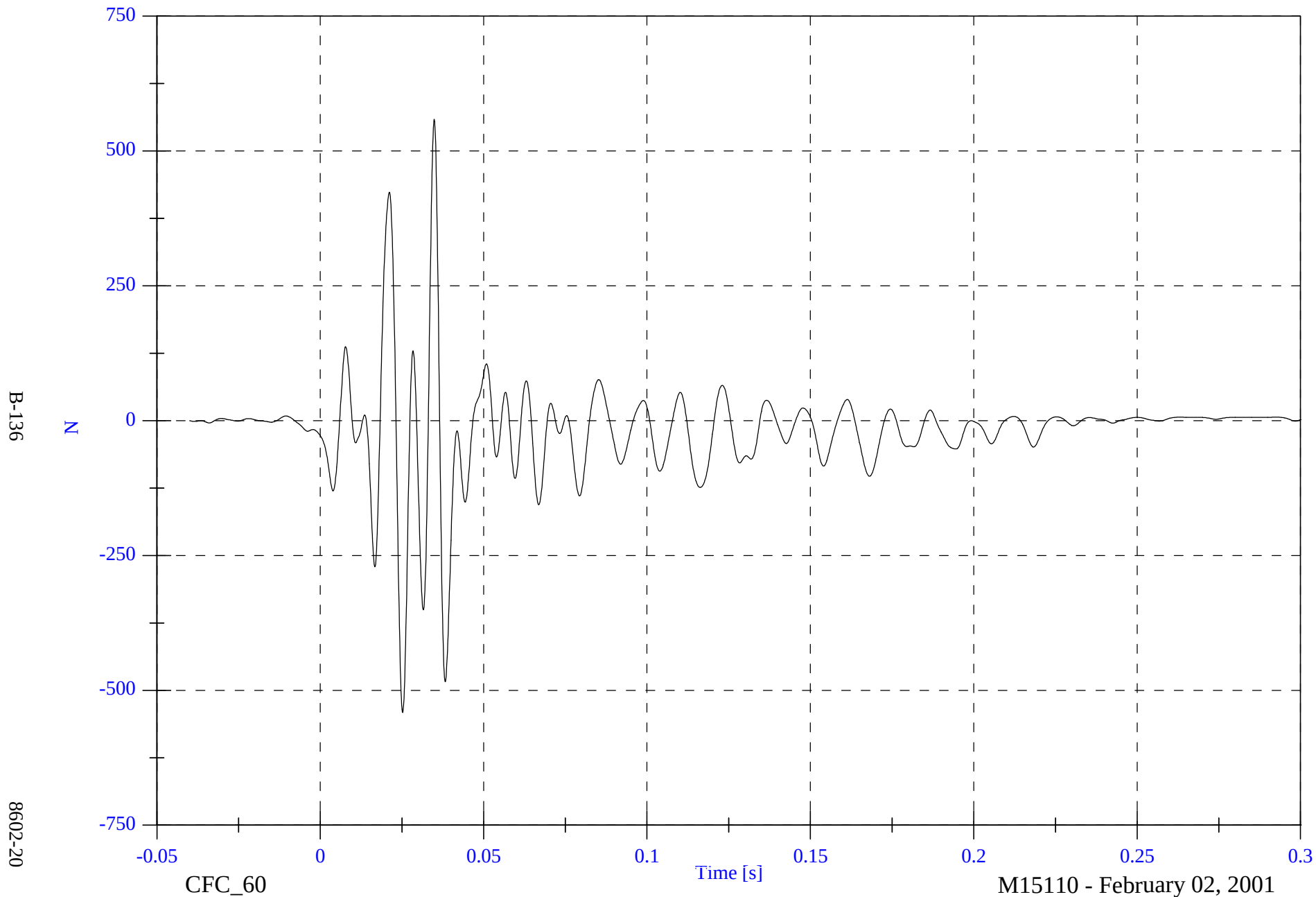


NCAP 2001 Test #20 - 2001 Lexus IS 300

Max: 558.9 [N] at 0.035 [s]

Barrier Load Cell B1 Fx

Min: -541.4 [N] at 0.025 [s]

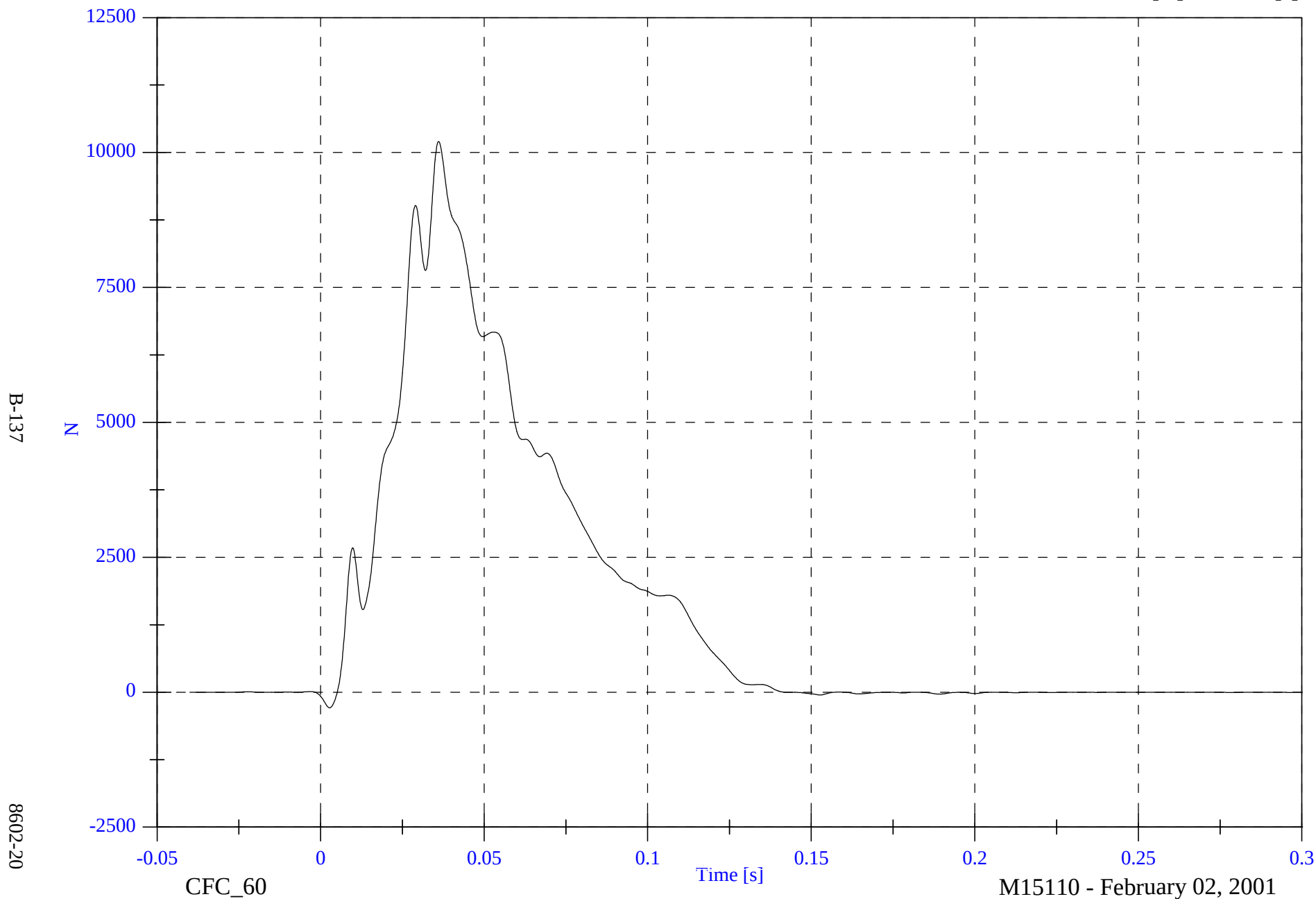


NCAP 2001 Test #20 - 2001 Lexus IS 300

Barrier Load Cell B2 Fx

Max: 10204.0 [N] at 0.036 [s]

Min: -290.2 [N] at 0.003 [s]

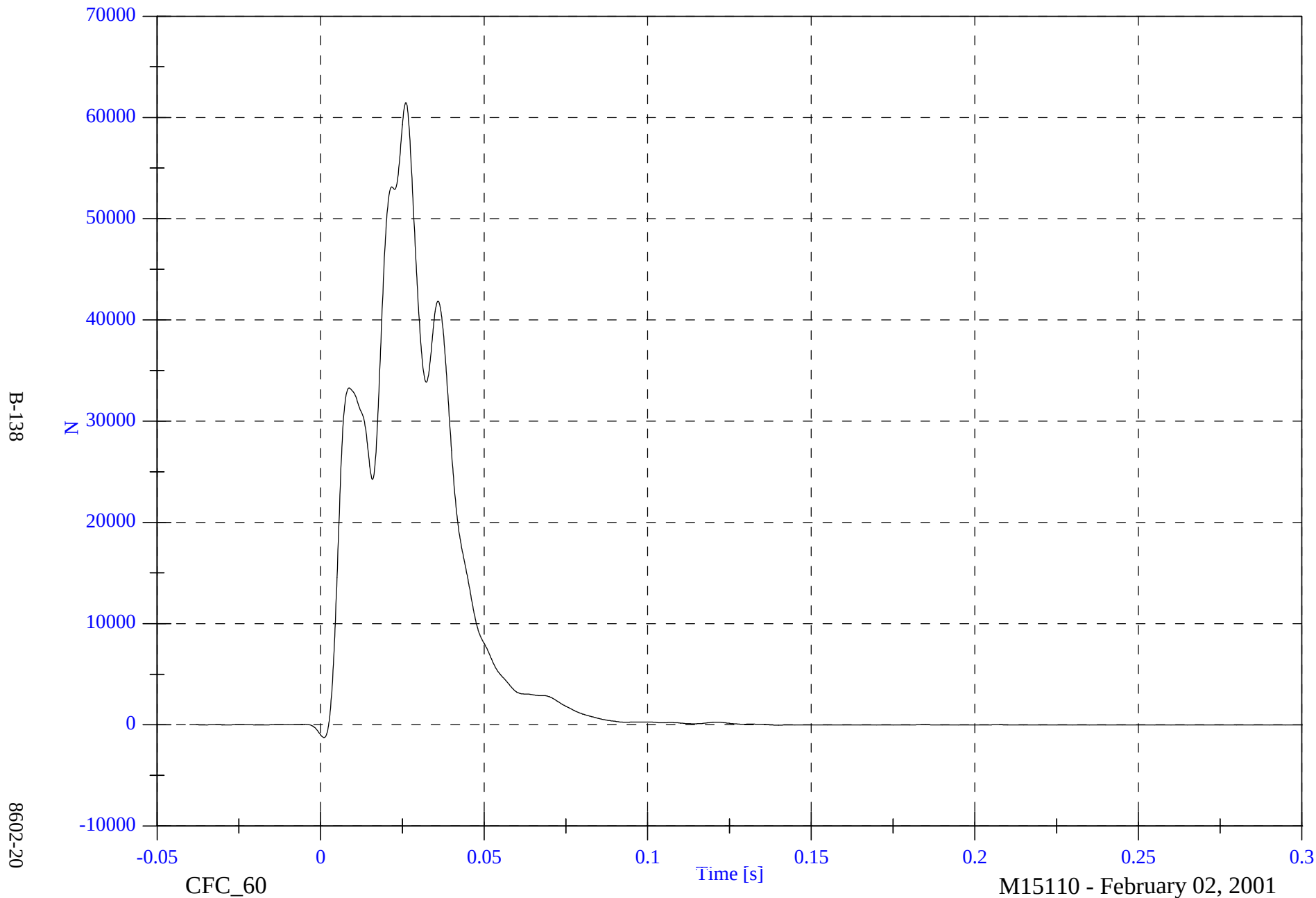


NCAP 2001 Test #20 - 2001 Lexus IS 300

Barrier Load Cell B3 Fx

Max: 61470.0 [N] at 0.026 [s]

Min: -1264.6 [N] at 0.001 [s]

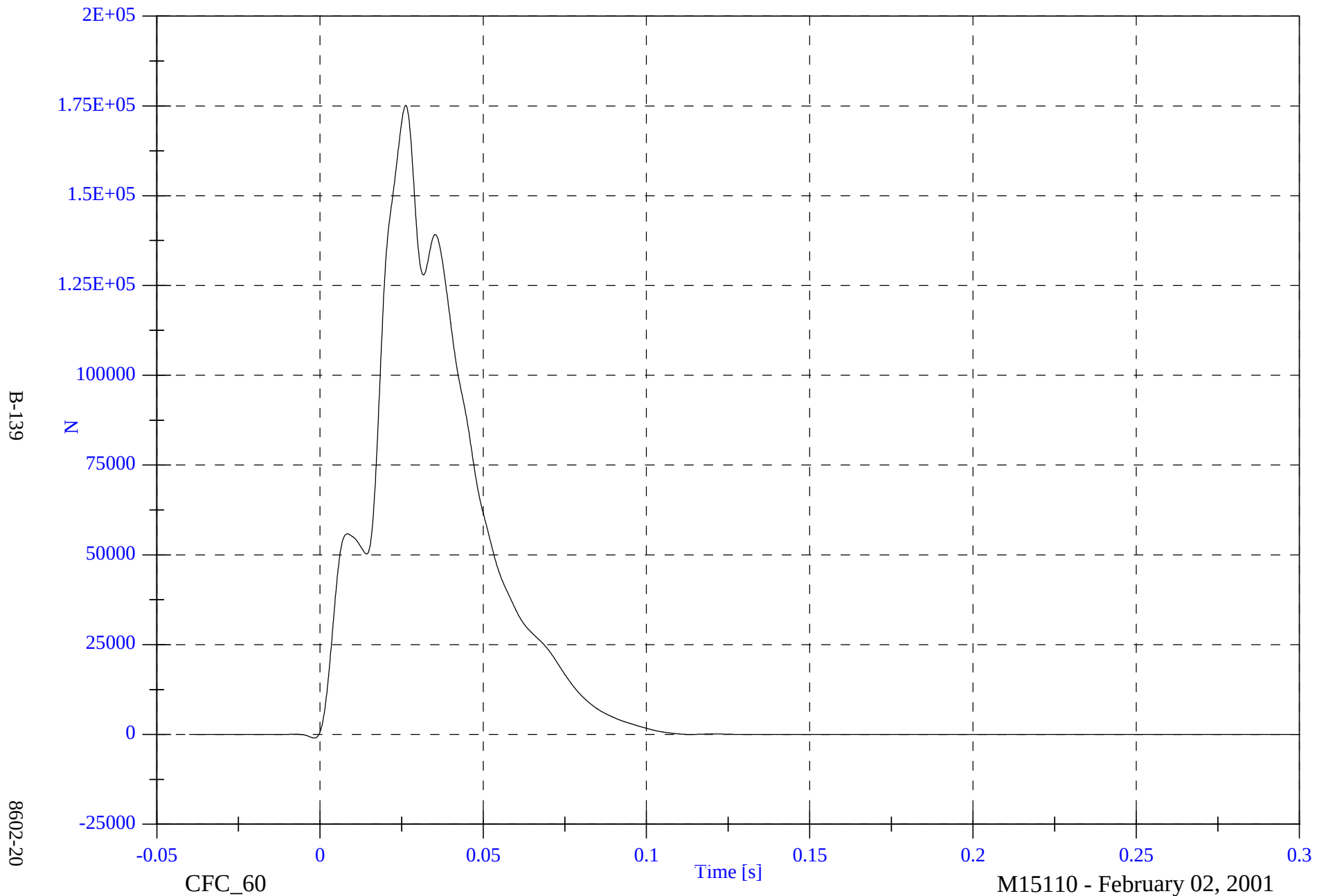


NCAP 2001 Test #20 - 2001 Lexus IS 300

Barrier Load Cell B4 Fx

Max: 175141.5 [N] at 0.026 [s]

Min: -1002.2 [N] at -0.002 [s]

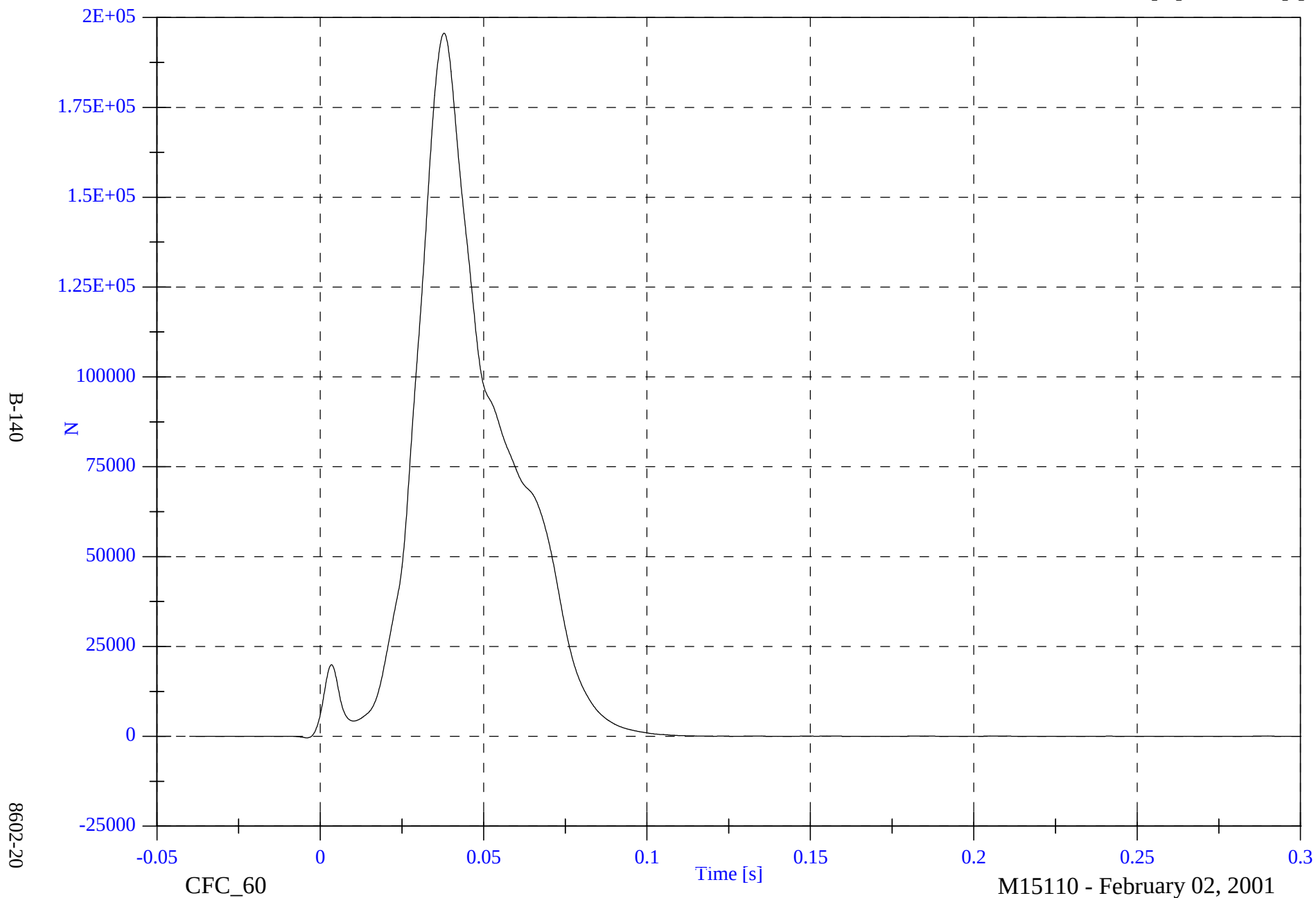


NCAP 2001 Test #20 - 2001 Lexus IS 300

Barrier Load Cell B5 Fx

Max: 195655.4 [N] at 0.038 [s]

Min: -412.8 [N] at -0.004 [s]

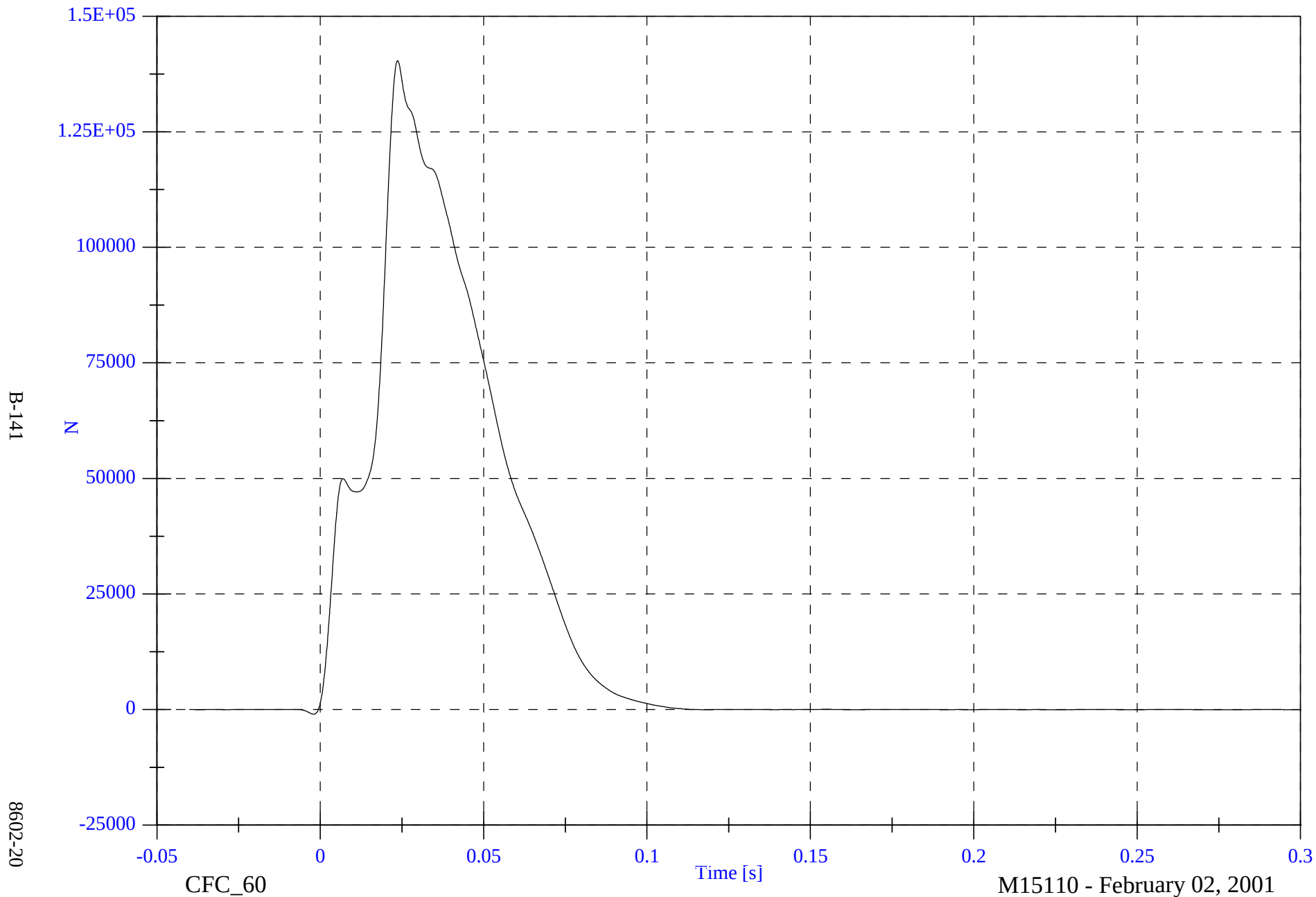


NCAP 2001 Test #20 - 2001 Lexus IS 300

Barrier Load Cell B6 Fx

Max: 140379.9 [N] at 0.024 [s]

Min: -1003.5 [N] at -0.002 [s]

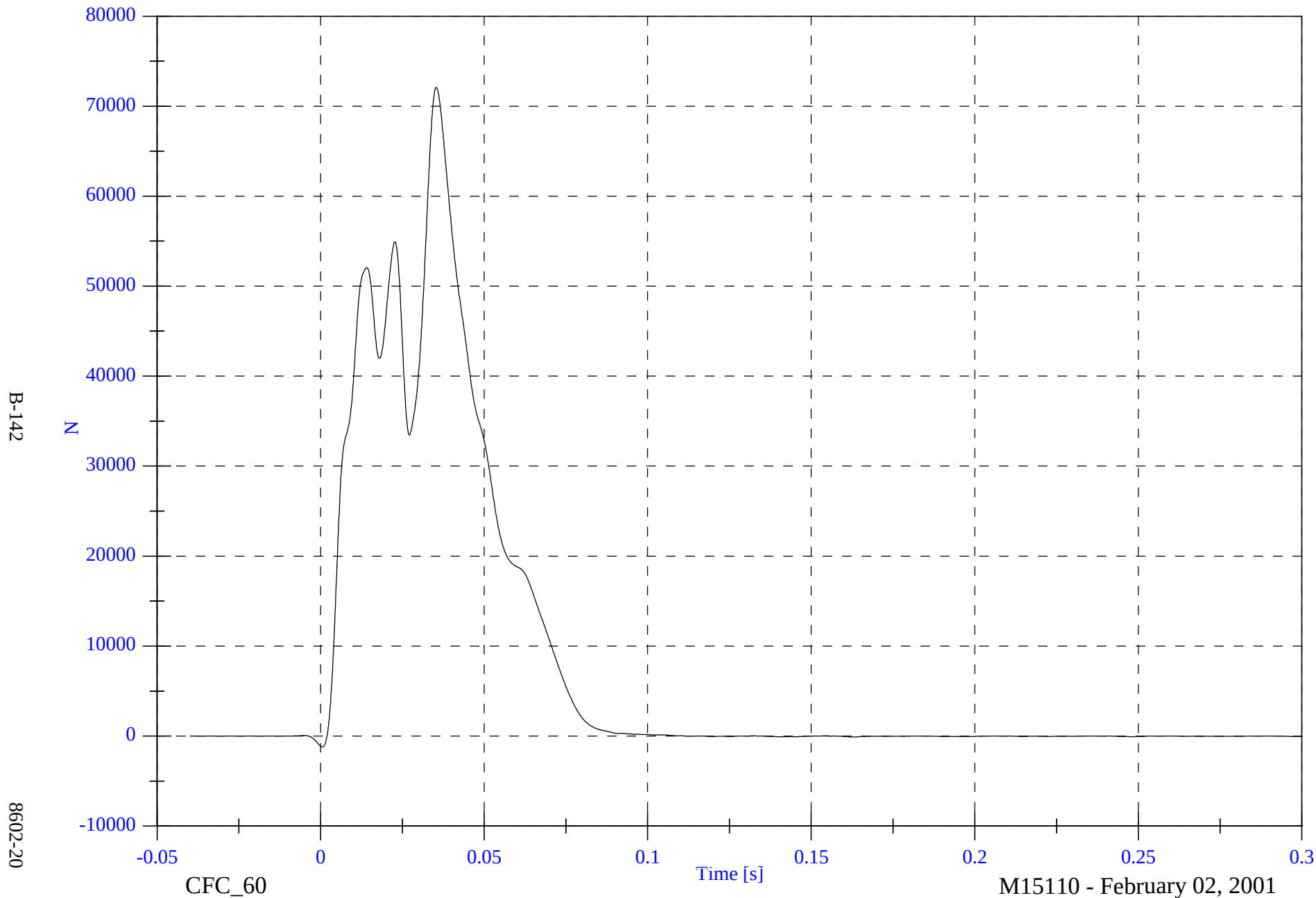


NCAP 2001 Test #20 - 2001 Lexus IS 300

Barrier Load Cell B7 Fx

Max: 72095.2 [N] at 0.035 [s]

Min: -1213.3 [N] at 0.000 [s]

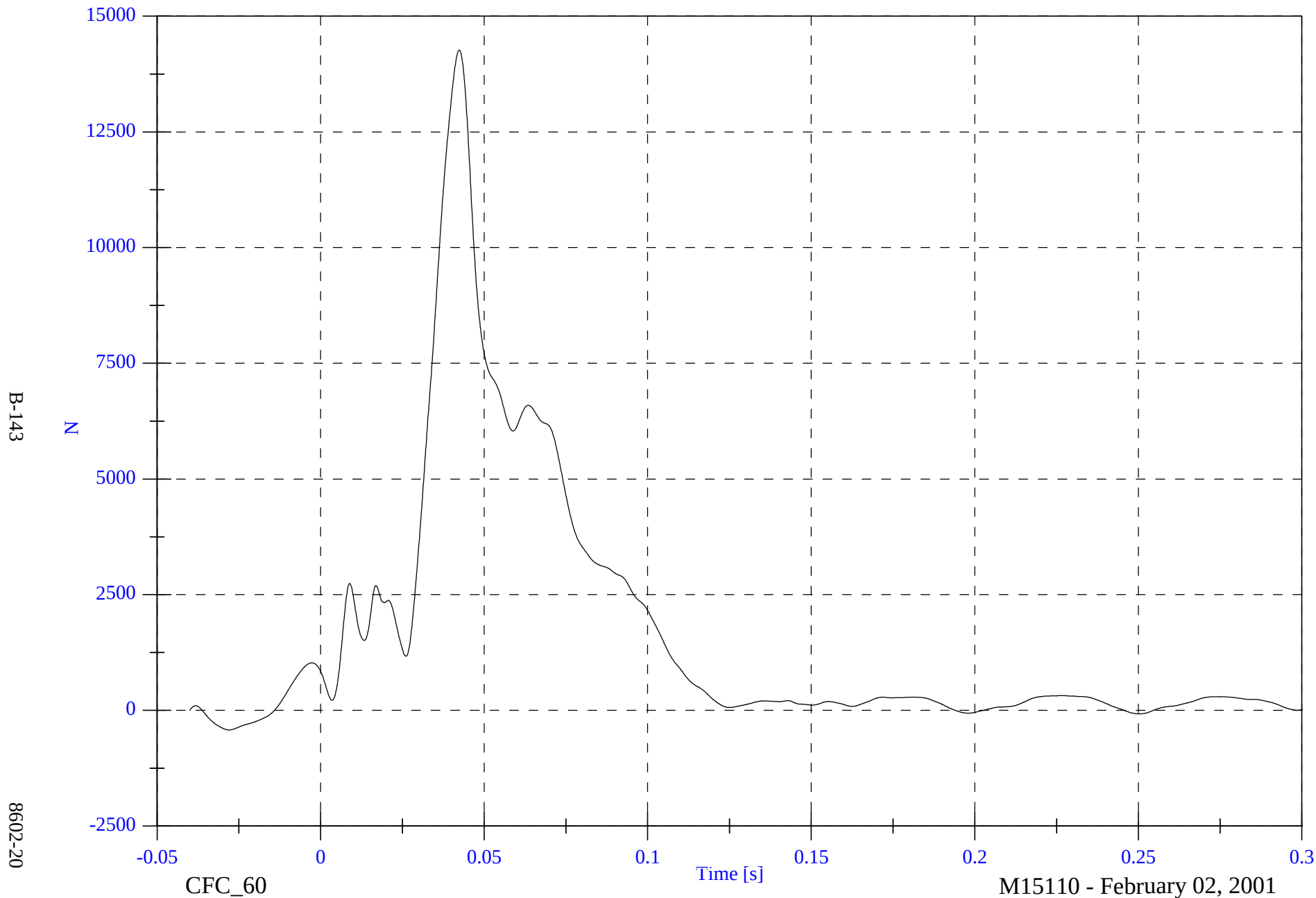


NCAP 2001 Test #20 - 2001 Lexus IS 300

Barrier Load Cell B8 Fx

Max: 14266.1 [N] at 0.042 [s]

Min: -423.6 [N] at -0.028 [s]

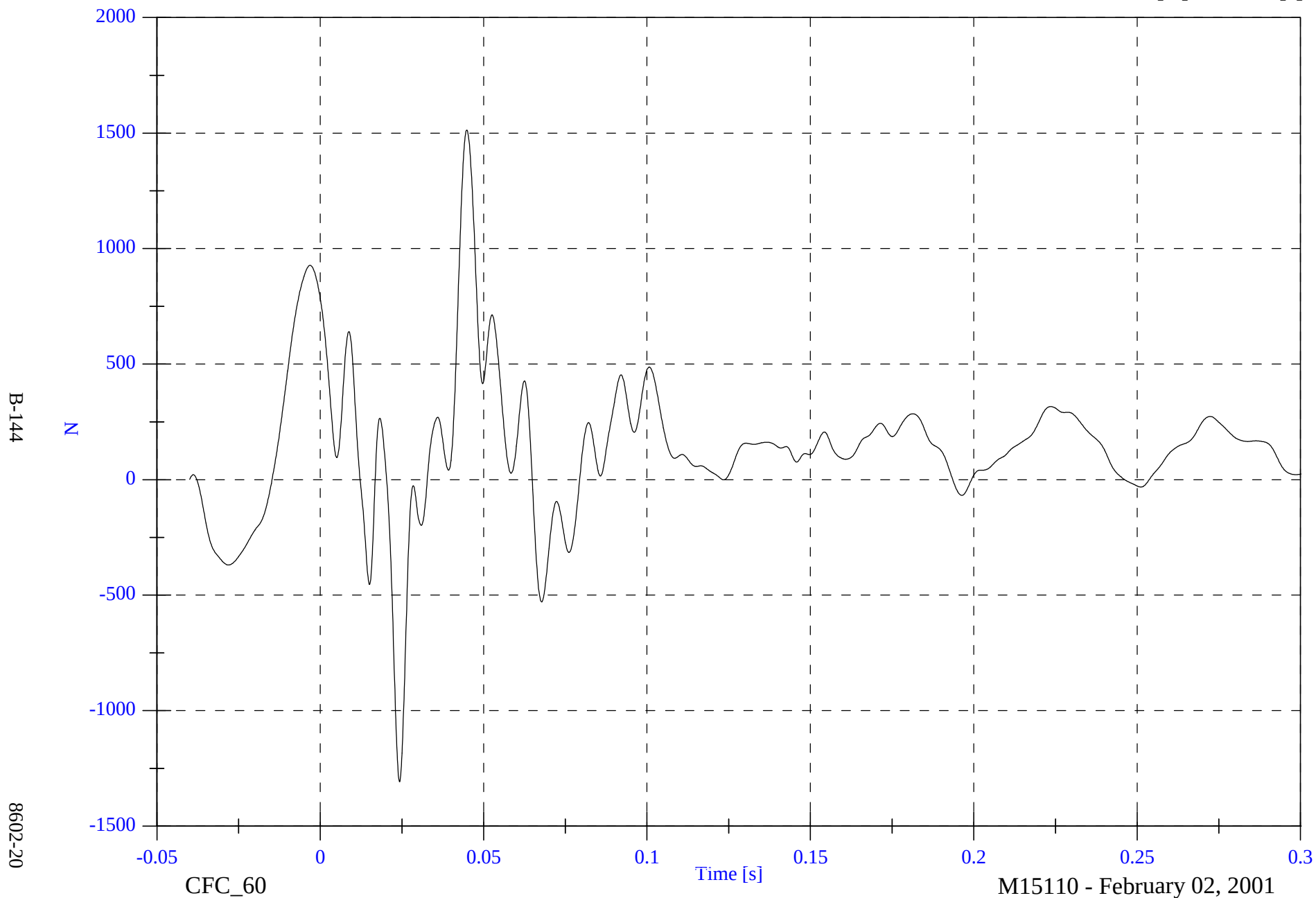


NCAP 2001 Test #20 - 2001 Lexus IS 300

Barrier Load Cell B9 Fx

Max: 1513.5 [N] at 0.045 [s]

Min: -1307.8 [N] at 0.024 [s]

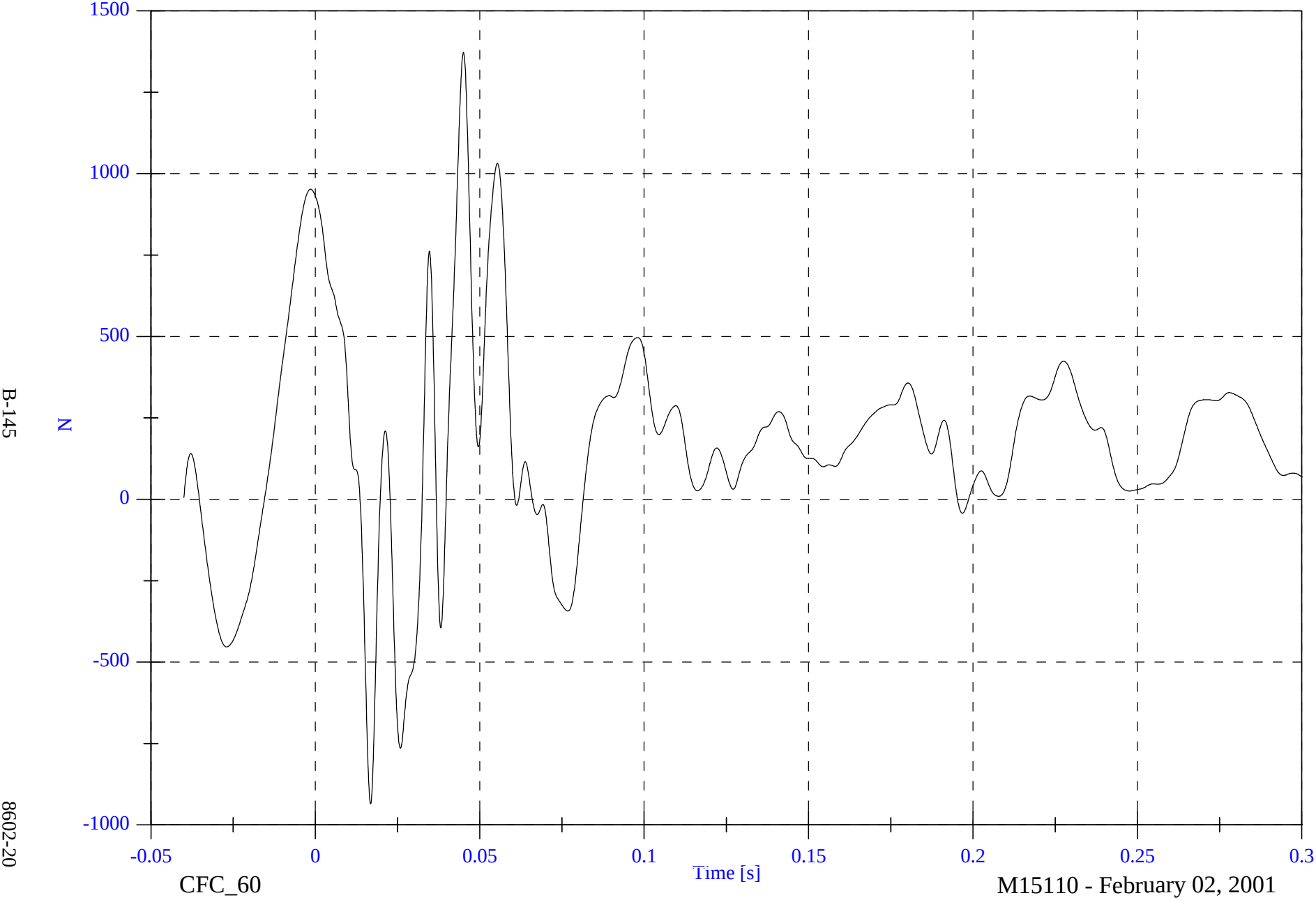


NCAP 2001 Test #20 - 2001 Lexus IS 300

Max: 1371.8 [N] at 0.045 [s]

Barrier Load Cell C1 Fx

Min: -935.2 [N] at 0.017 [s]

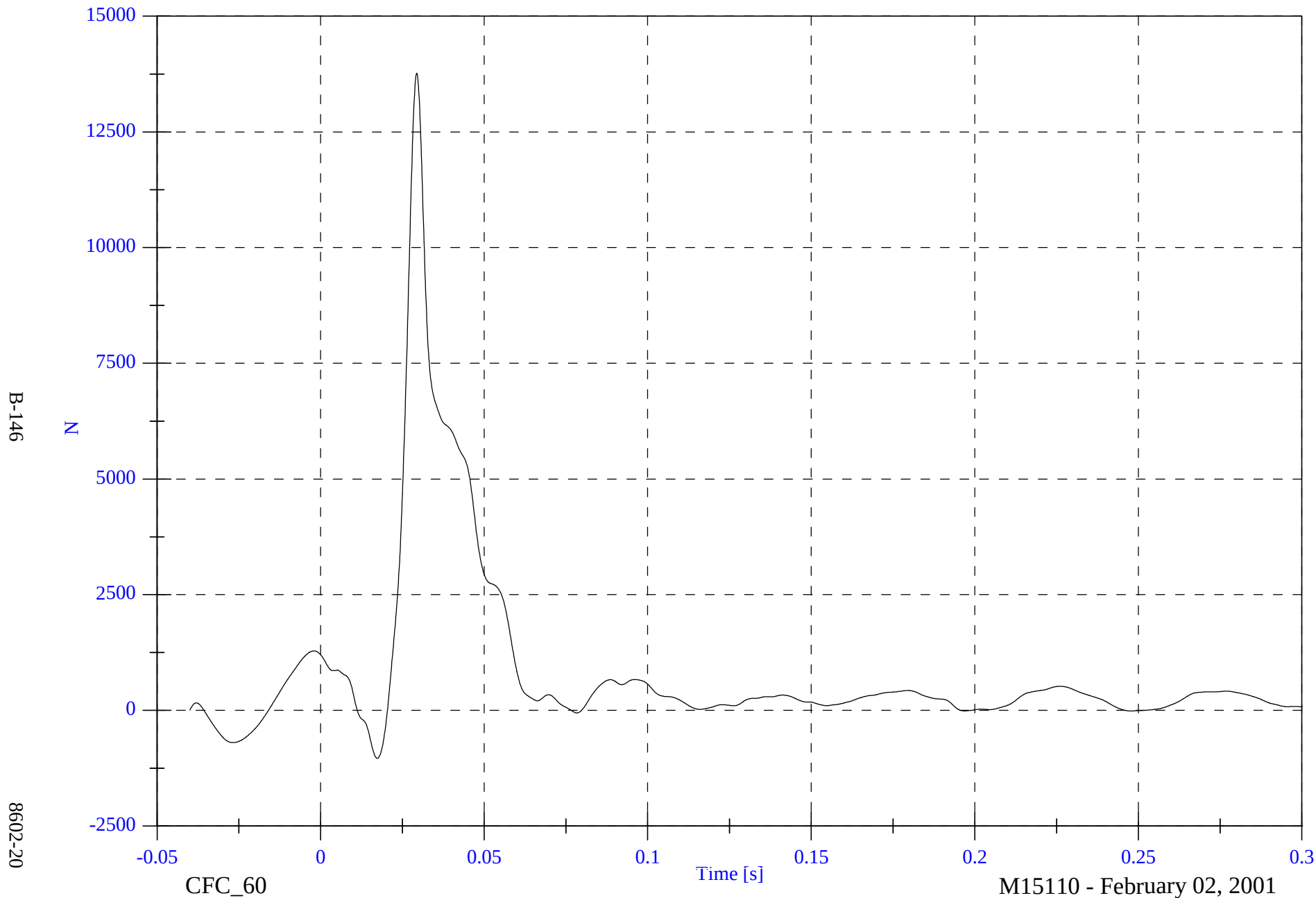


NCAP 2001 Test #20 - 2001 Lexus IS 300

Barrier Load Cell C2 Fx

Max: 13765.8 [N] at 0.029 [s]

Min: -1038.1 [N] at 0.017 [s]

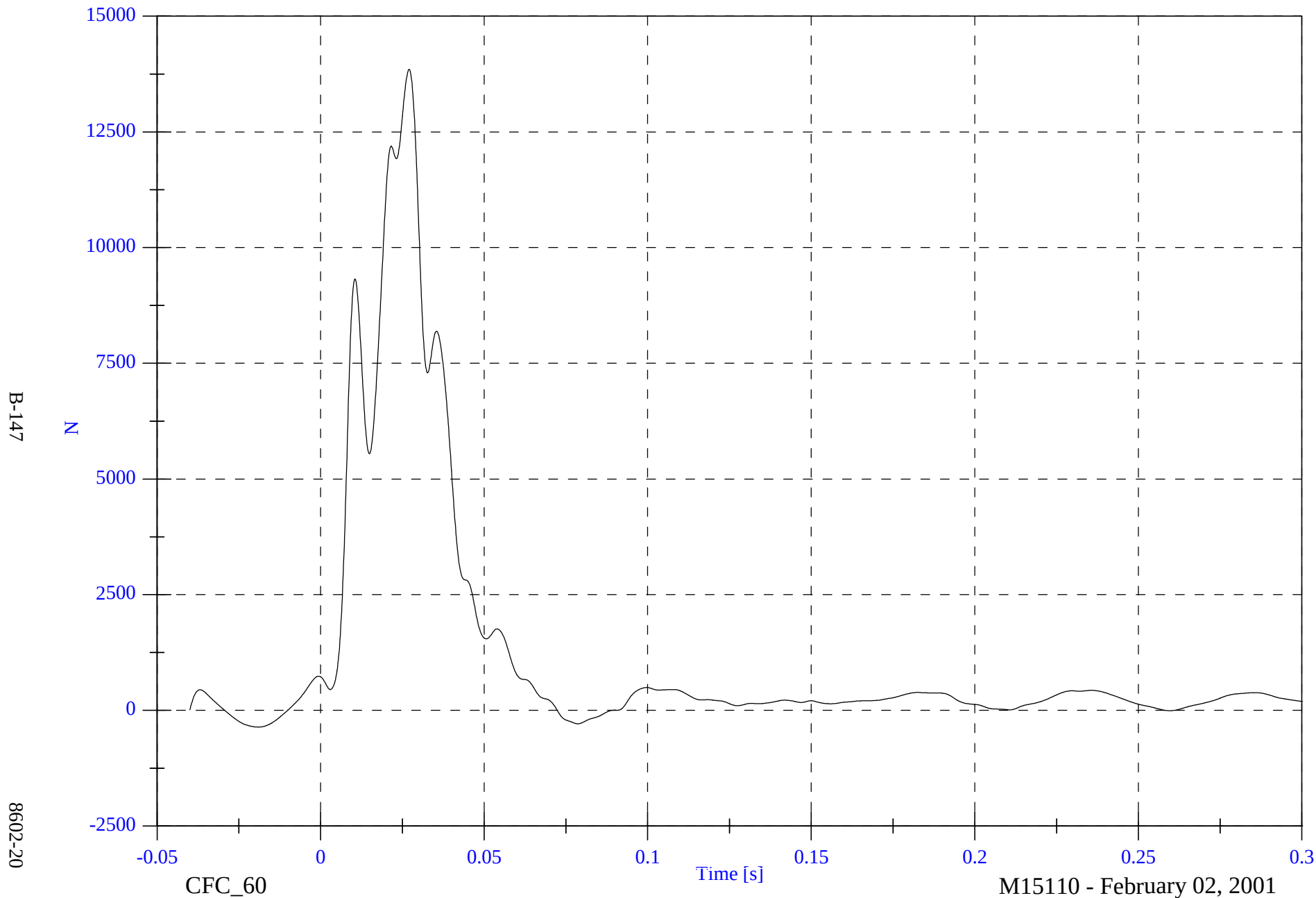


NCAP 2001 Test #20 - 2001 Lexus IS 300

Barrier Load Cell C3 Fx

Max: 13851.5 [N] at 0.027 [s]

Min: -362.1 [N] at -0.019 [s]

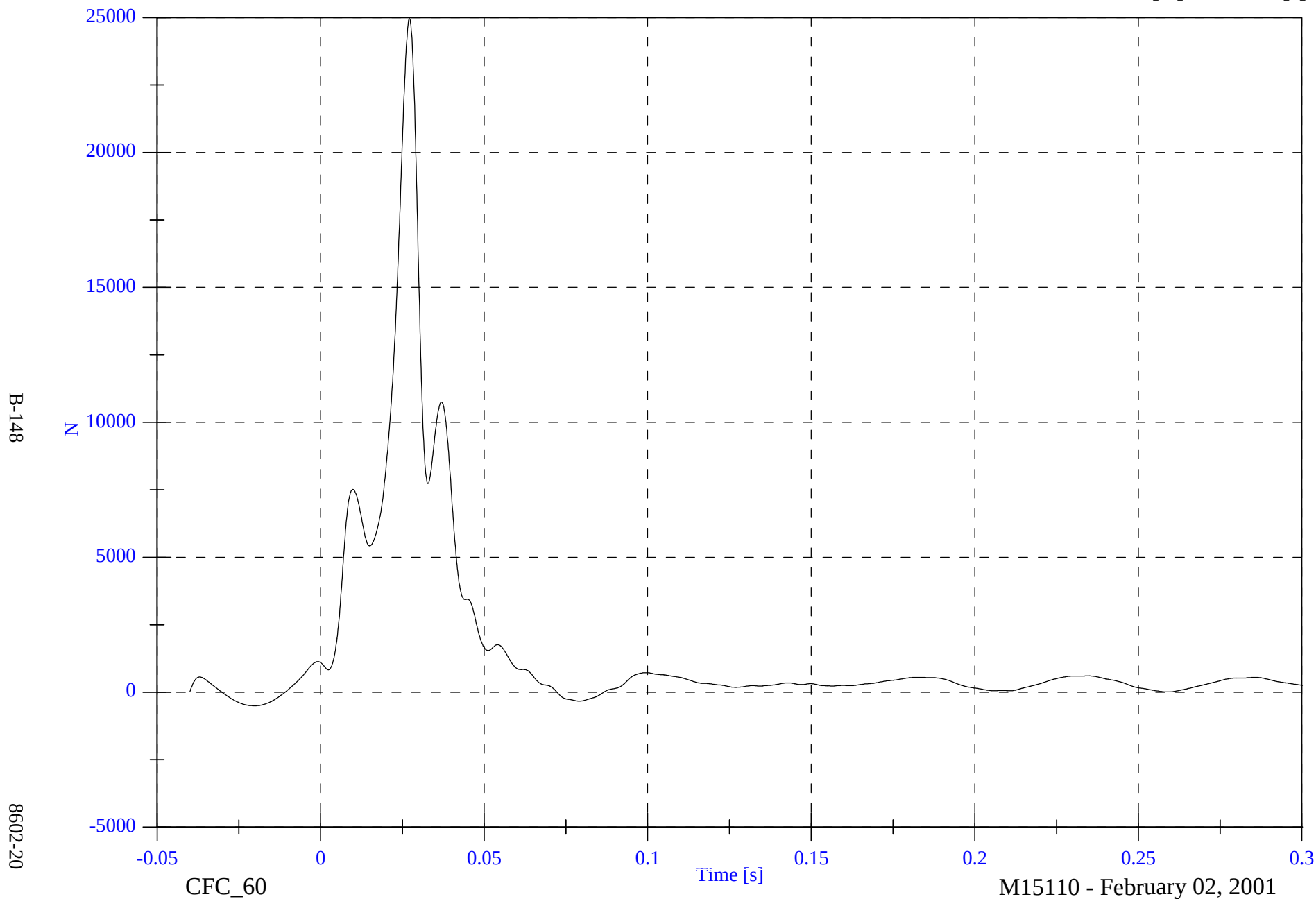


NCAP 2001 Test #20 - 2001 Lexus IS 300

Barrier Load Cell C4 Fx

Max: 24966.3 [N] at 0.027 [s]

Min: -504.5 [N] at -0.020 [s]

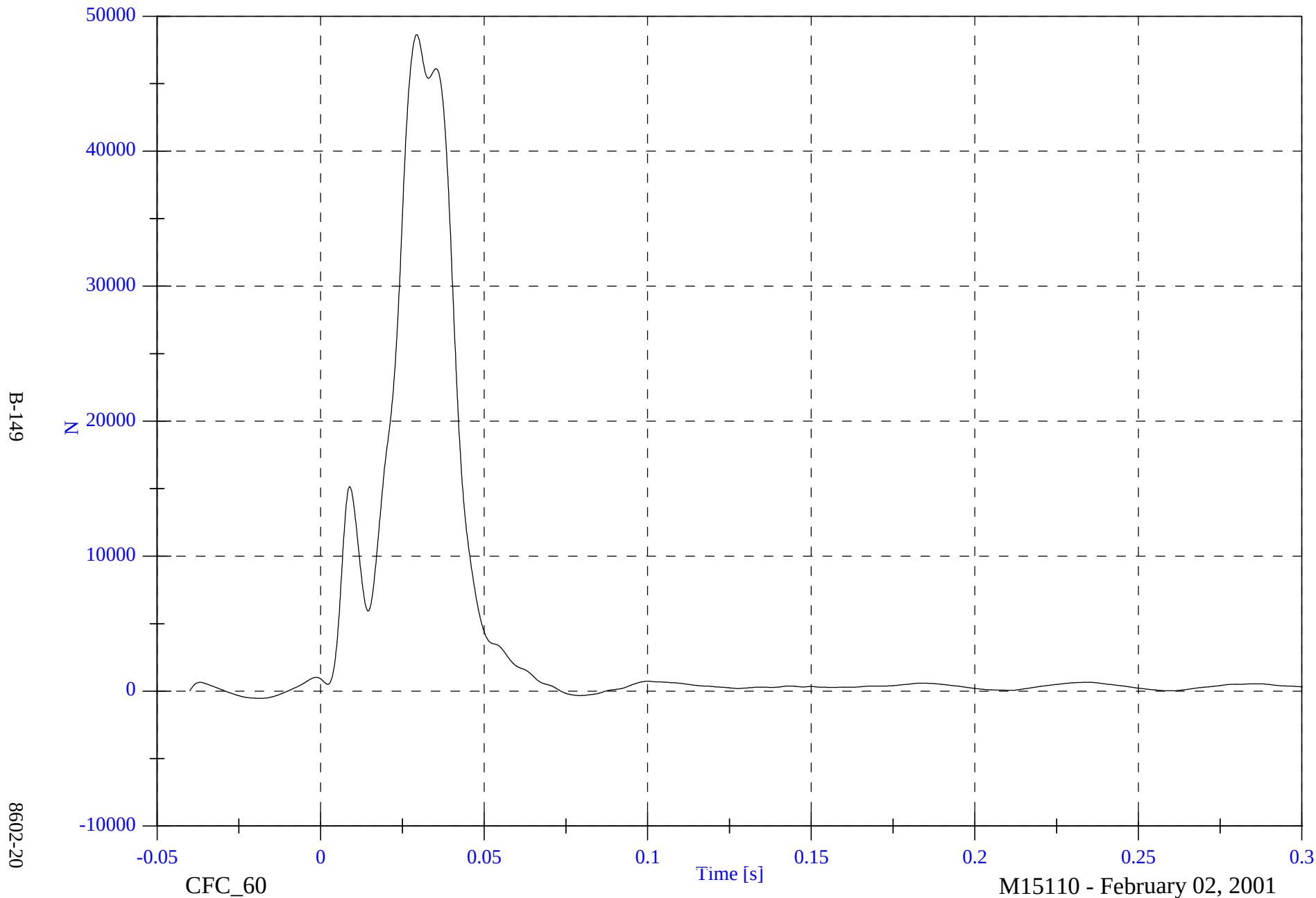


NCAP 2001 Test #20 - 2001 Lexus IS 300

Barrier Load Cell C5 Fx

Max: 48634.7 [N] at 0.029 [s]

Min: -539.1 [N] at -0.018 [s]

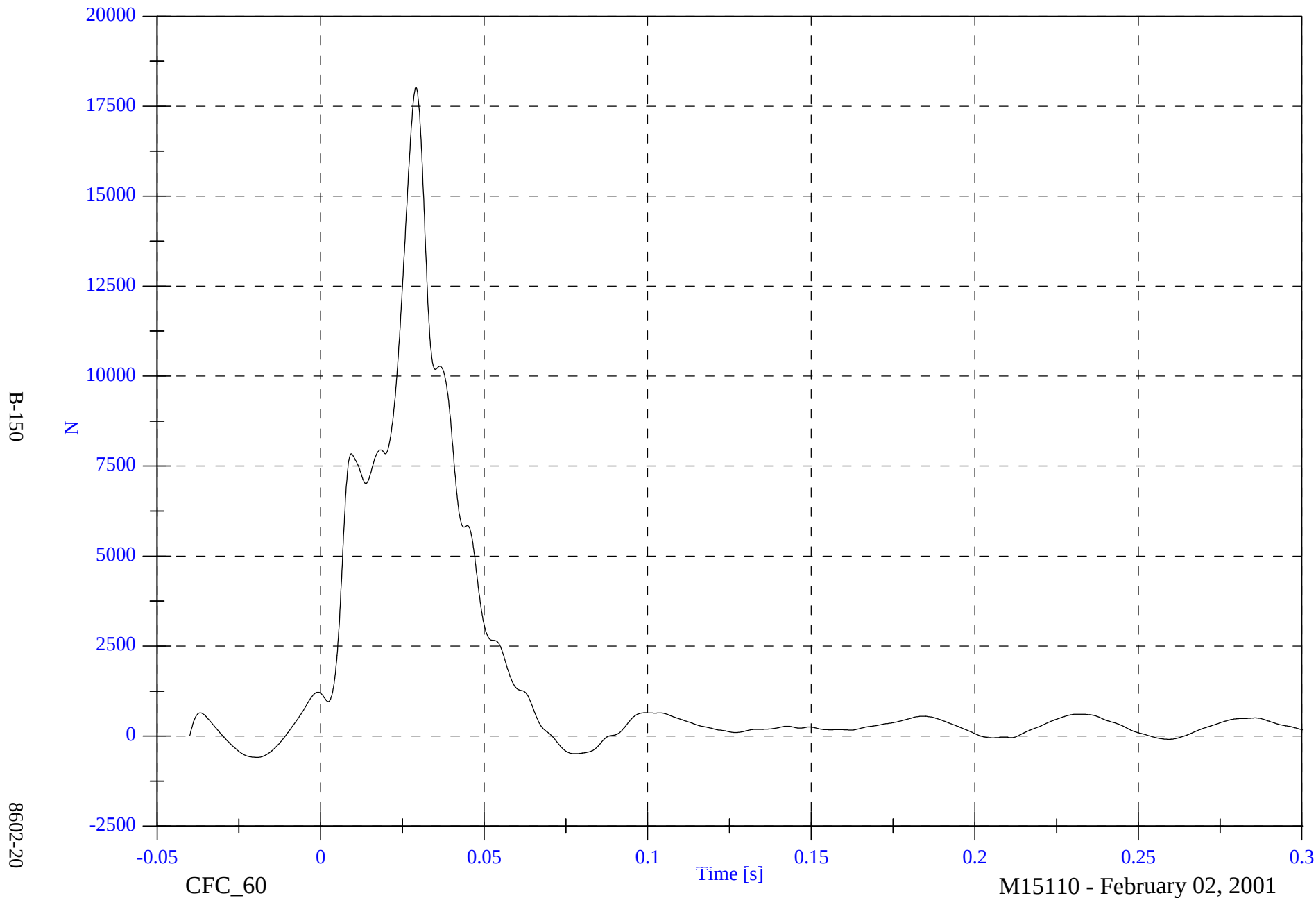


NCAP 2001 Test #20 - 2001 Lexus IS 300

Barrier Load Cell C6 Fx

Max: 18025.0 [N] at 0.029 [s]

Min: -592.1 [N] at -0.020 [s]

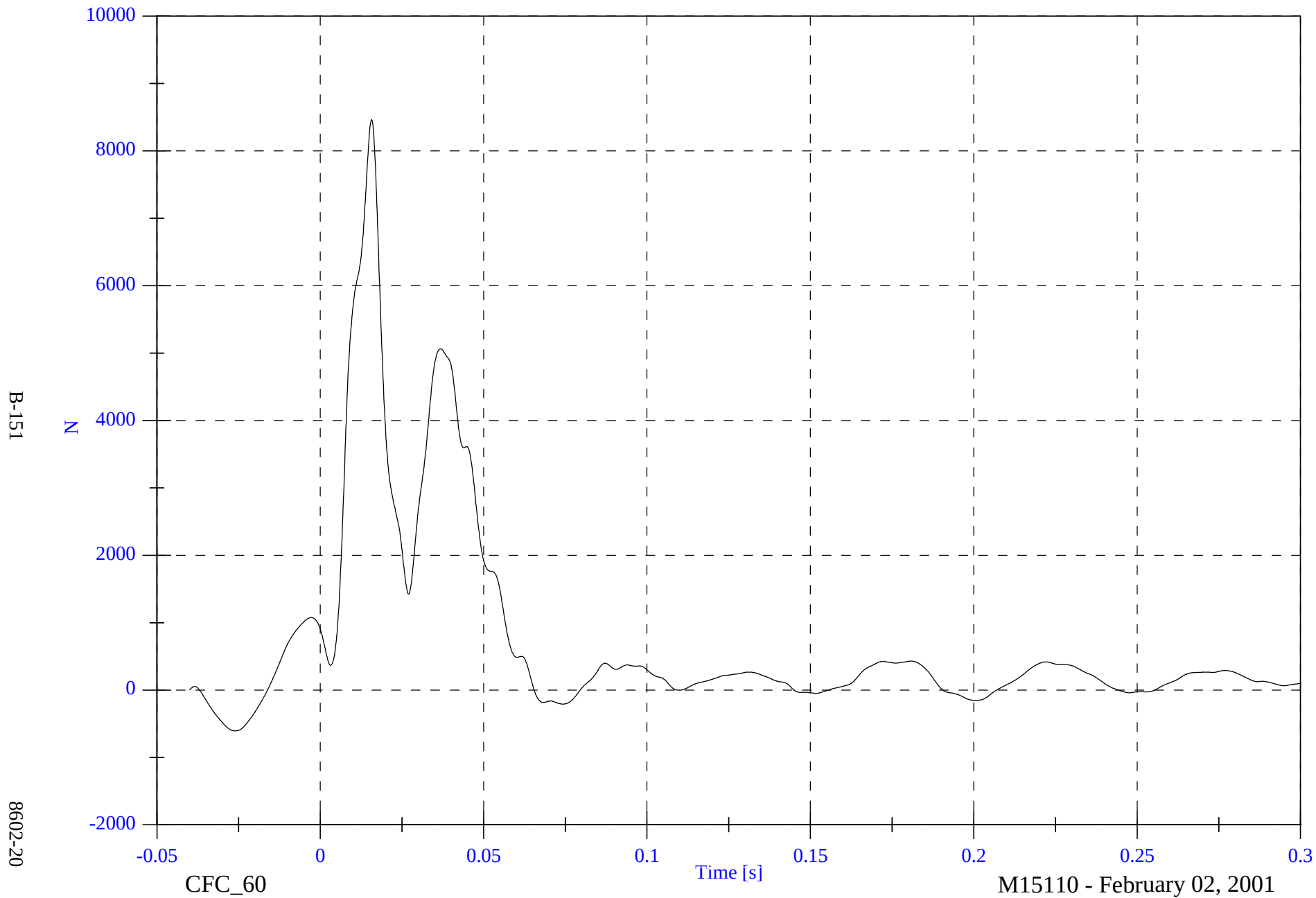


NCAP 2001 Test #20 - 2001 Lexus IS 300

Barrier Load Cell C7 Fx

Max: 8466.5 [N] at 0.016 [s]

Min: -606.9 [N] at -0.026 [s]

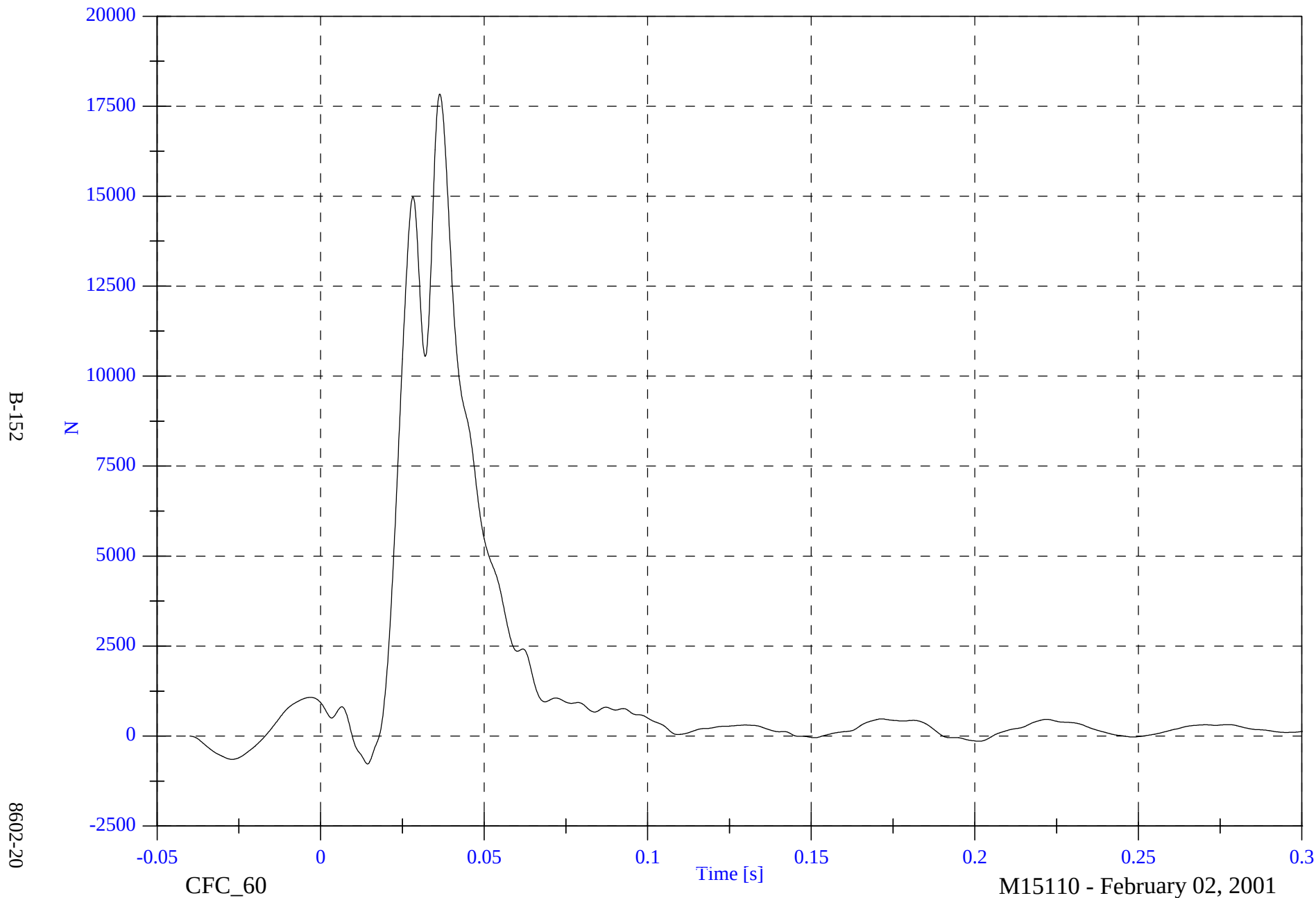


NCAP 2001 Test #20 - 2001 Lexus IS 300

Barrier Load Cell C8 Fx

Max: 17838.9 [N] at 0.036 [s]

Min: -774.0 [N] at 0.014 [s]

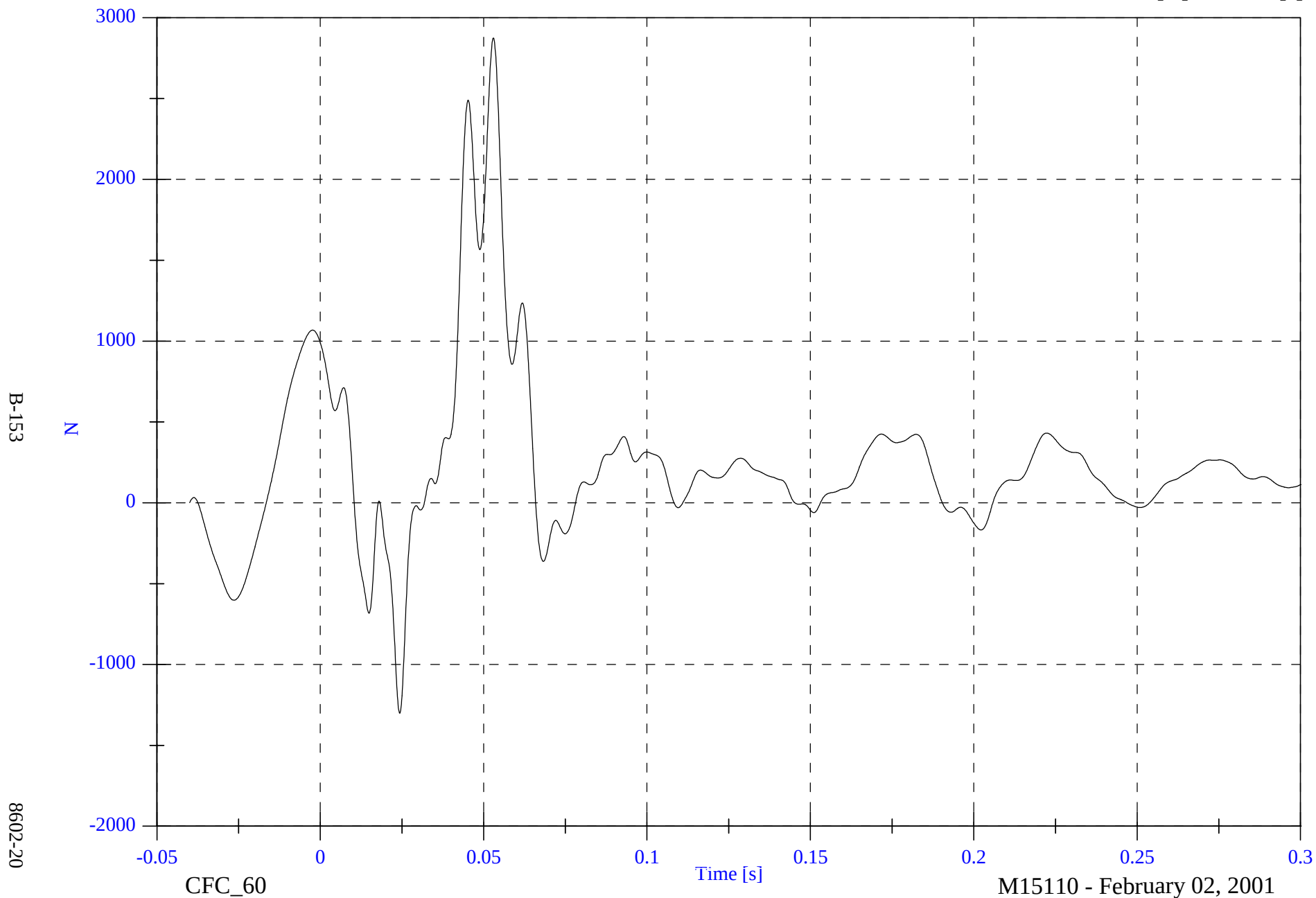


NCAP 2001 Test #20 - 2001 Lexus IS 300

Barrier Load Cell C9 Fx

Max: 2873.9 [N] at 0.053 [s]

Min: -1302.4 [N] at 0.024 [s]

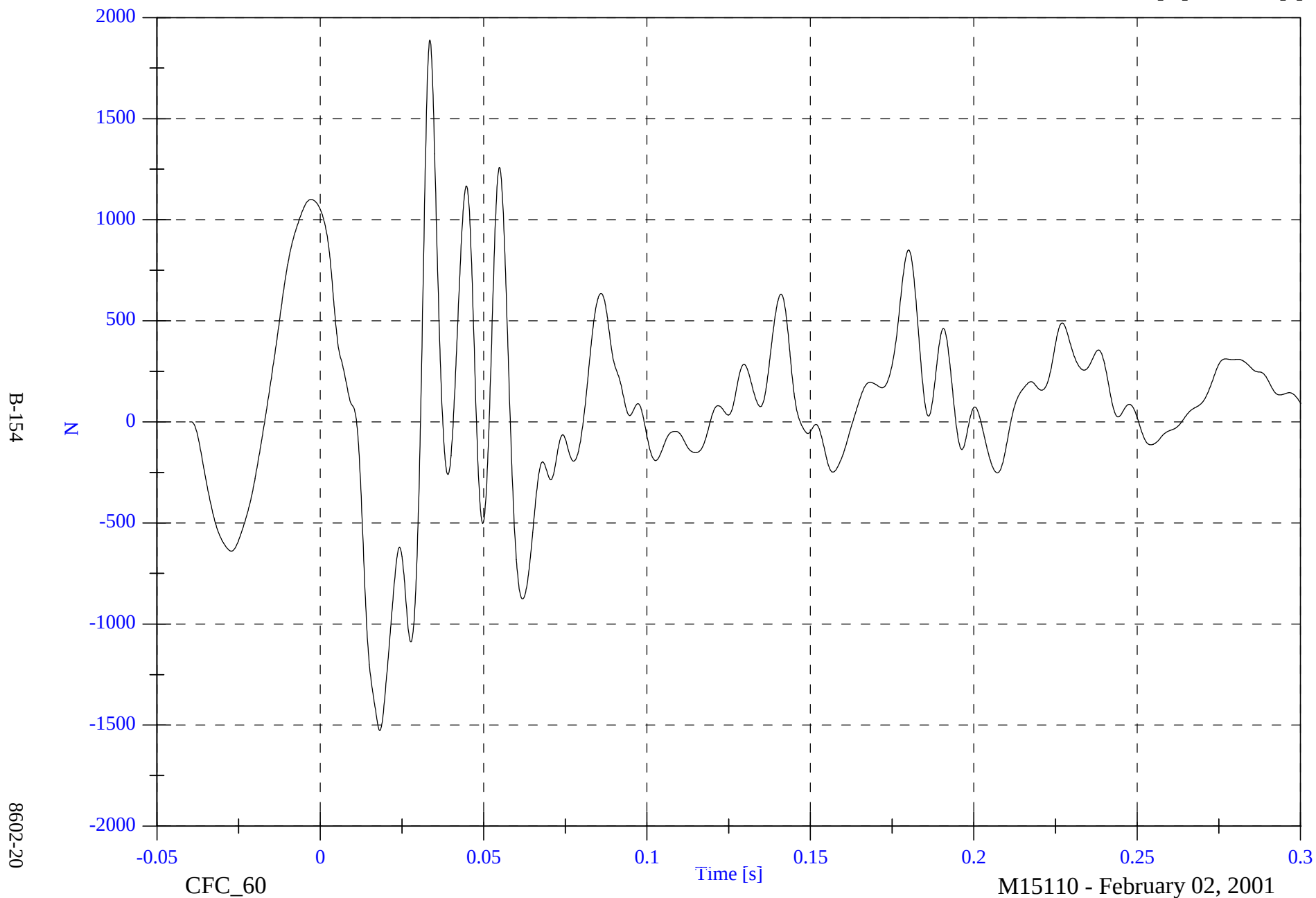


NCAP 2001 Test #20 - 2001 Lexus IS 300

Barrier Load Cell D1 Fx

Max: 1888.7 [N] at 0.033 [s]

Min: -1527.0 [N] at 0.018 [s]

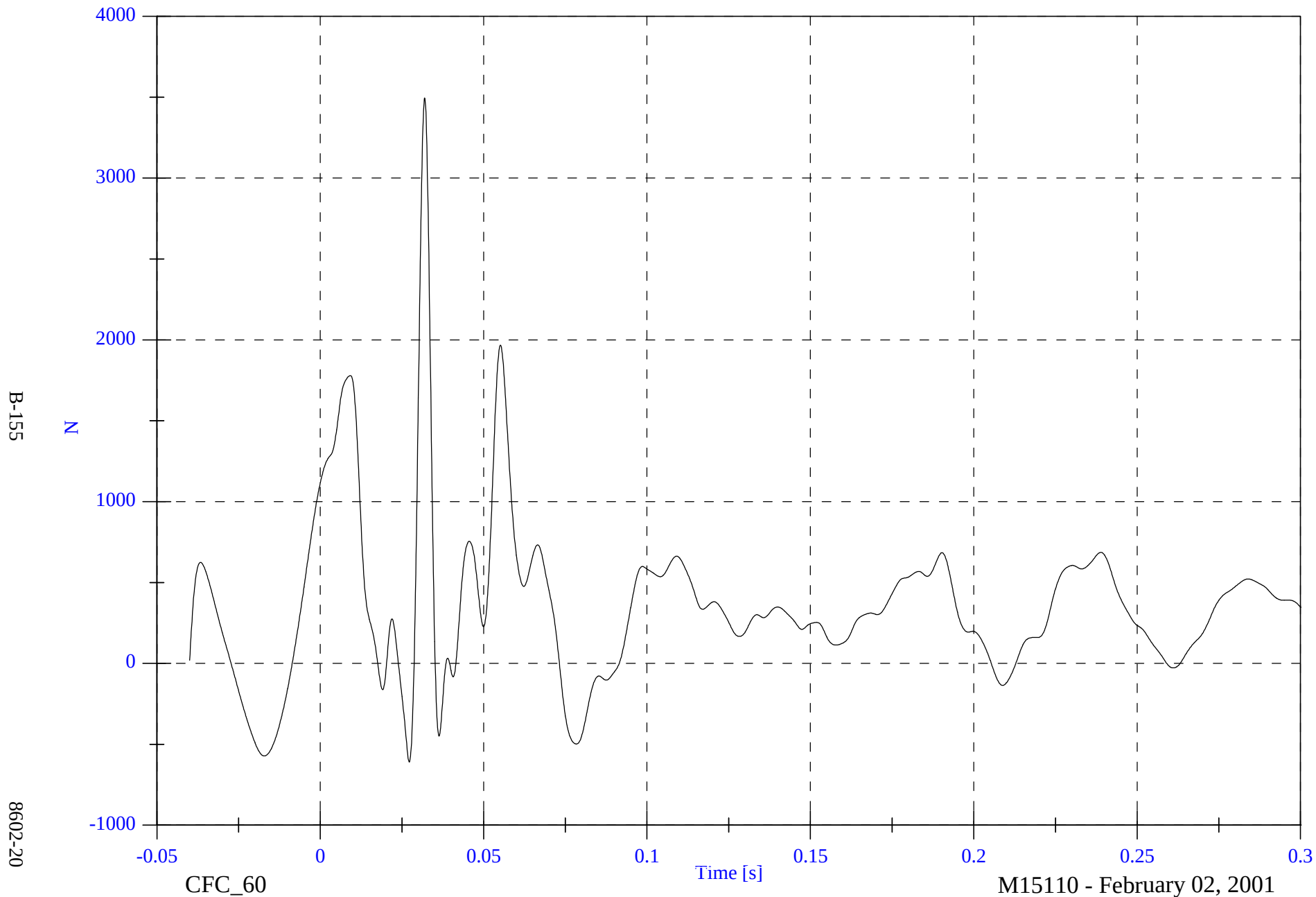


NCAP 2001 Test #20 - 2001 Lexus IS 300

Max: 3495.5 [N] at 0.032 [s]

Barrier Load Cell D2 Fx

Min: -609.5 [N] at 0.027 [s]

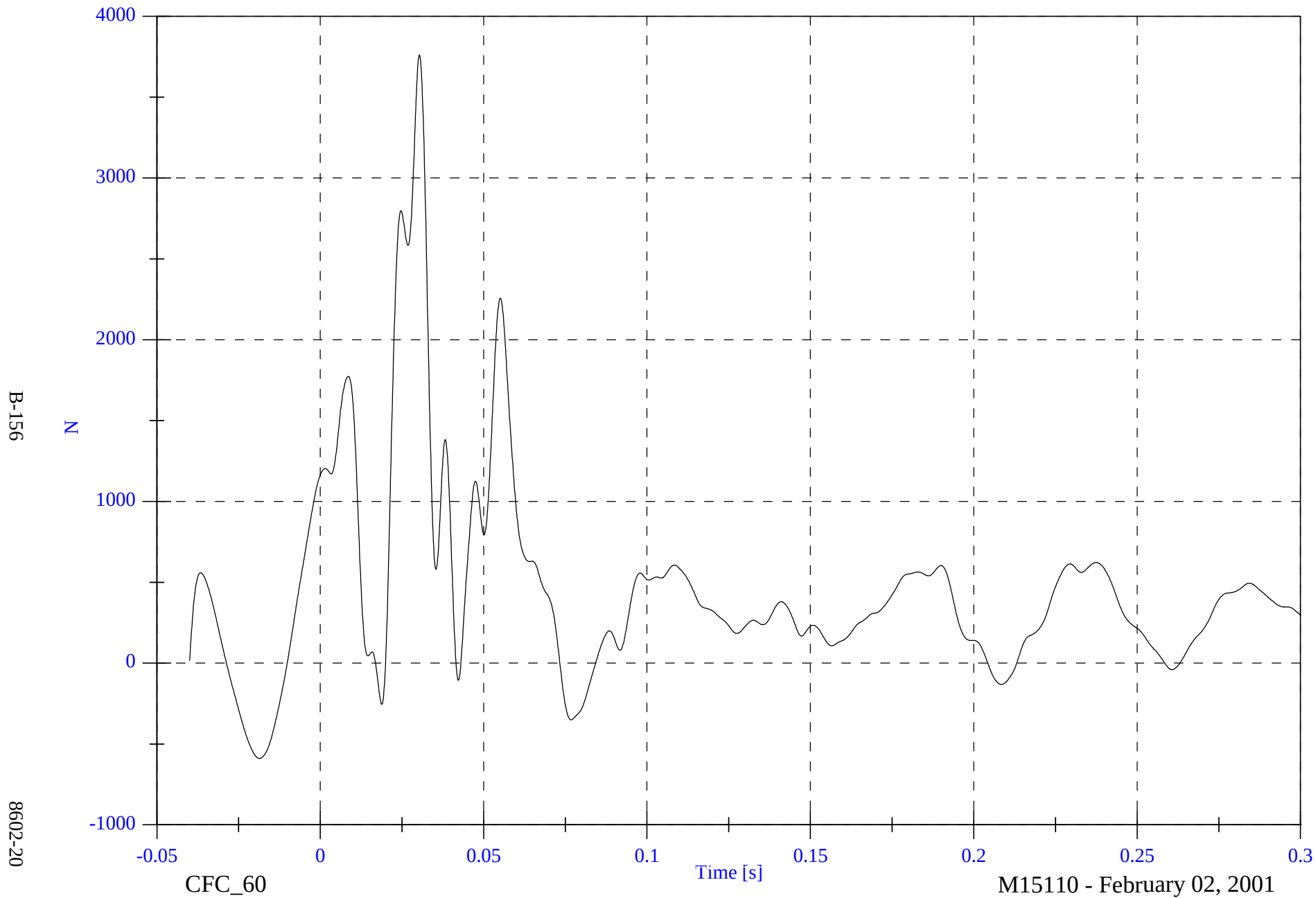


NCAP 2001 Test #20 - 2001 Lexus IS 300

Max: 3760.6 [N] at 0.030 [s]

Barrier Load Cell D3 Fx

Min: -589.6 [N] at -0.019 [s]

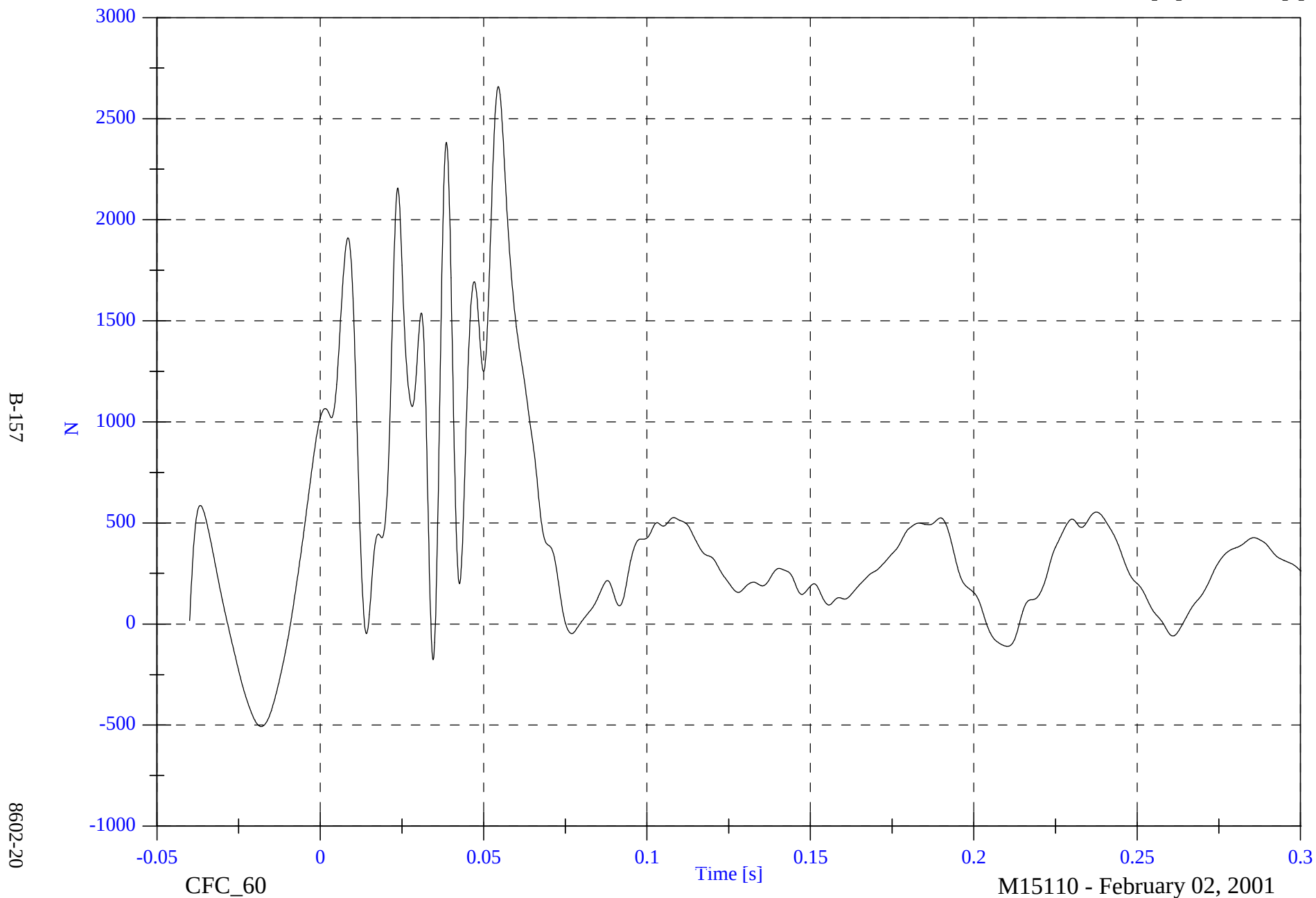


NCAP 2001 Test #20 - 2001 Lexus IS 300

Barrier Load Cell D4 Fx

Max: 2658.3 [N] at 0.054 [s]

Min: -507.4 [N] at -0.018 [s]



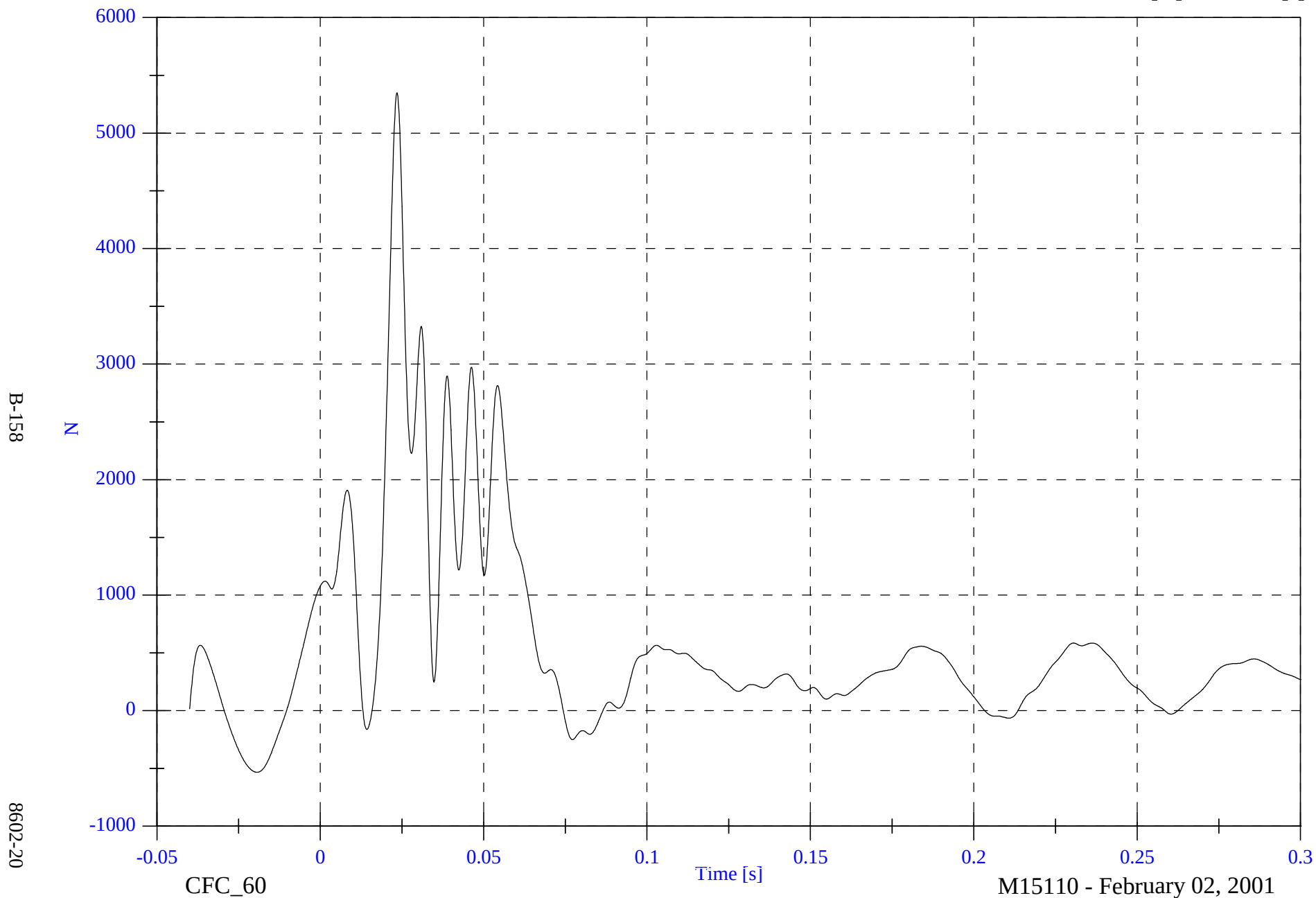
8602-20

NCAP 2001 Test #20 - 2001 Lexus IS 300

Barrier Load Cell D5 Fx

Max: 5348.9 [N] at 0.023 [s]

Min: -533.5 [N] at -0.019 [s]

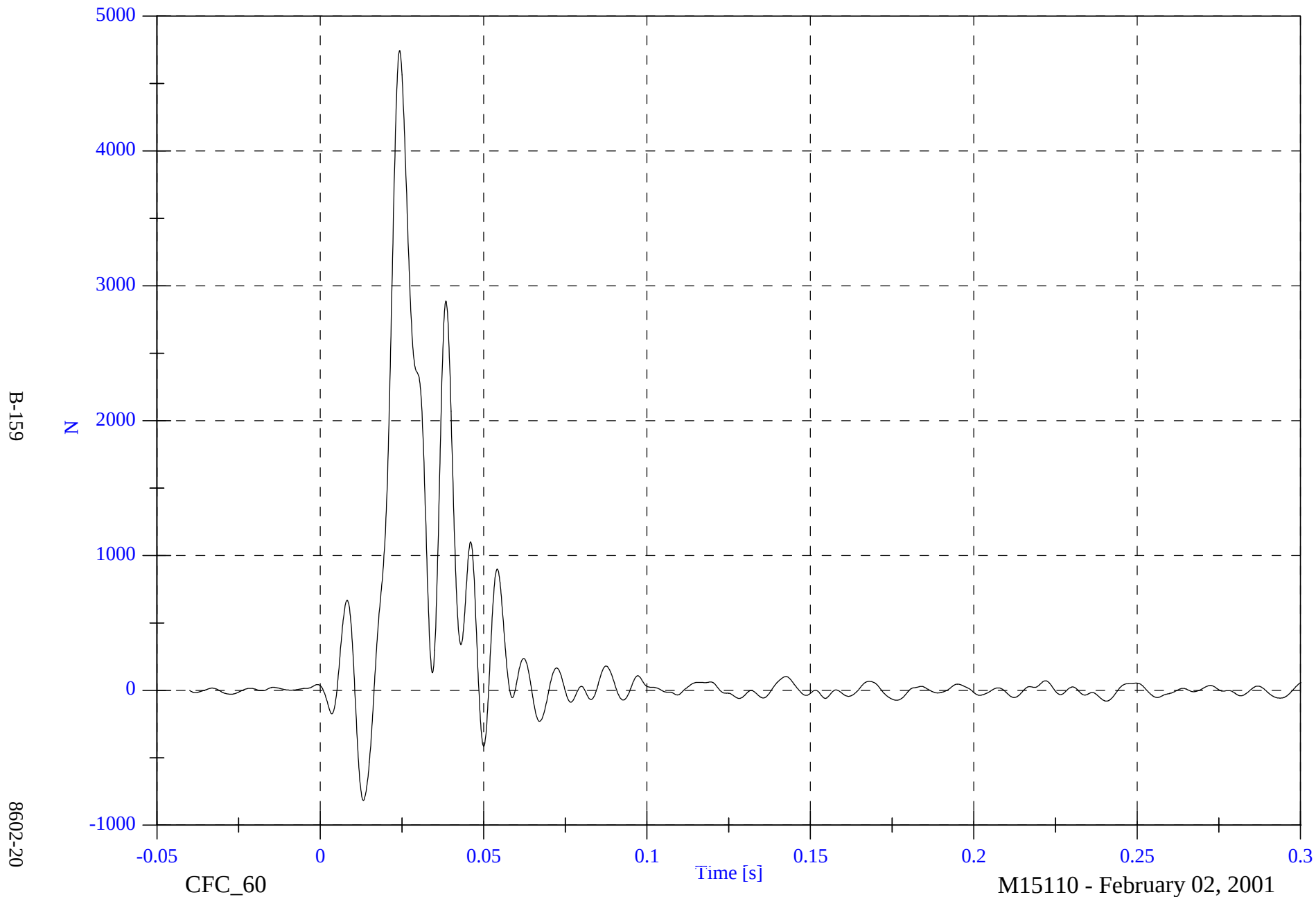


NCAP 2001 Test #20 - 2001 Lexus IS 300

Barrier Load Cell D6 Fx

Max: 4746.0 [N] at 0.024 [s]

Min: -817.4 [N] at 0.013 [s]

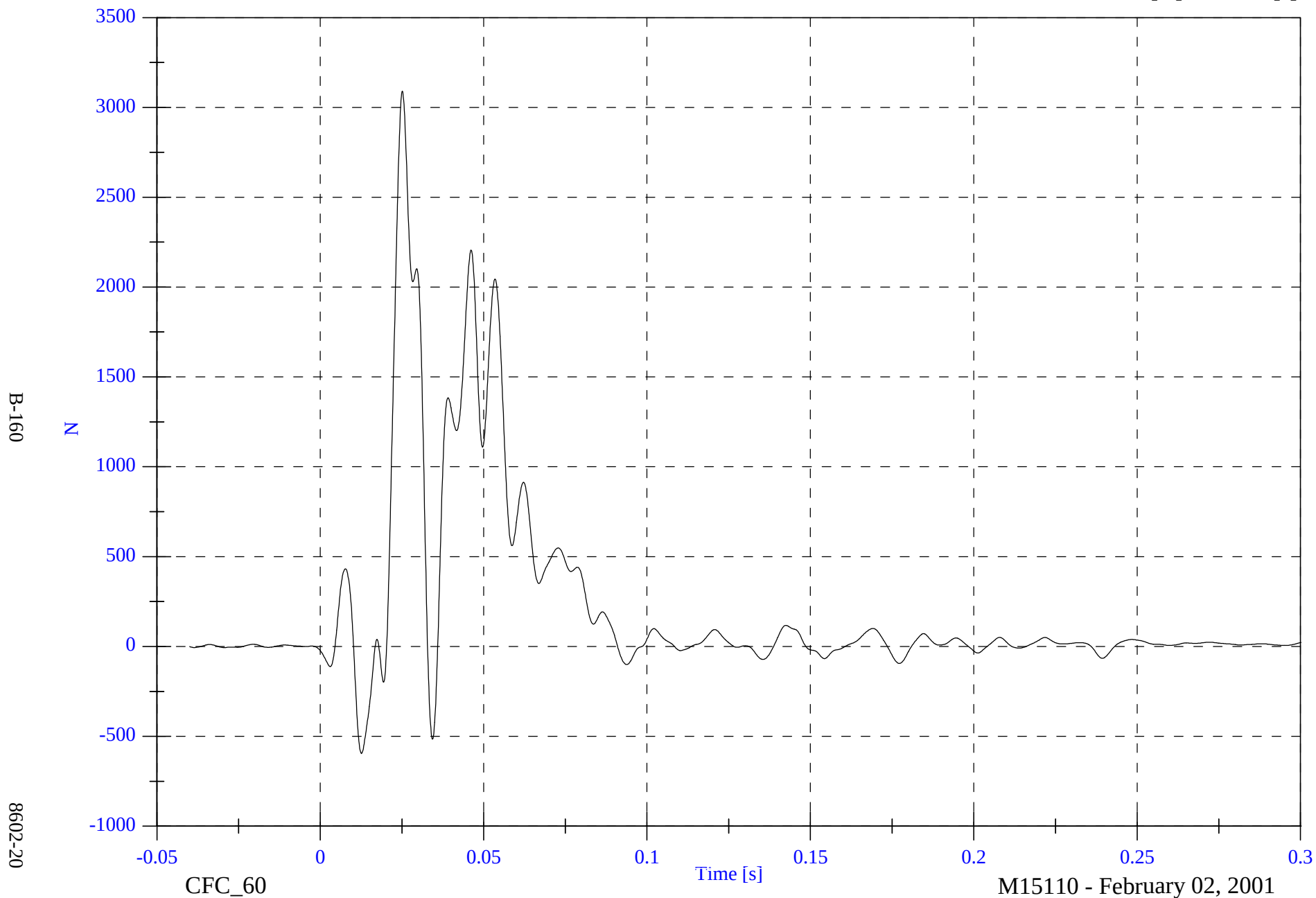


NCAP 2001 Test #20 - 2001 Lexus IS 300

Barrier Load Cell D7 Fx

Max: 3091.1 [N] at 0.025 [s]

Min: -595.5 [N] at 0.013 [s]

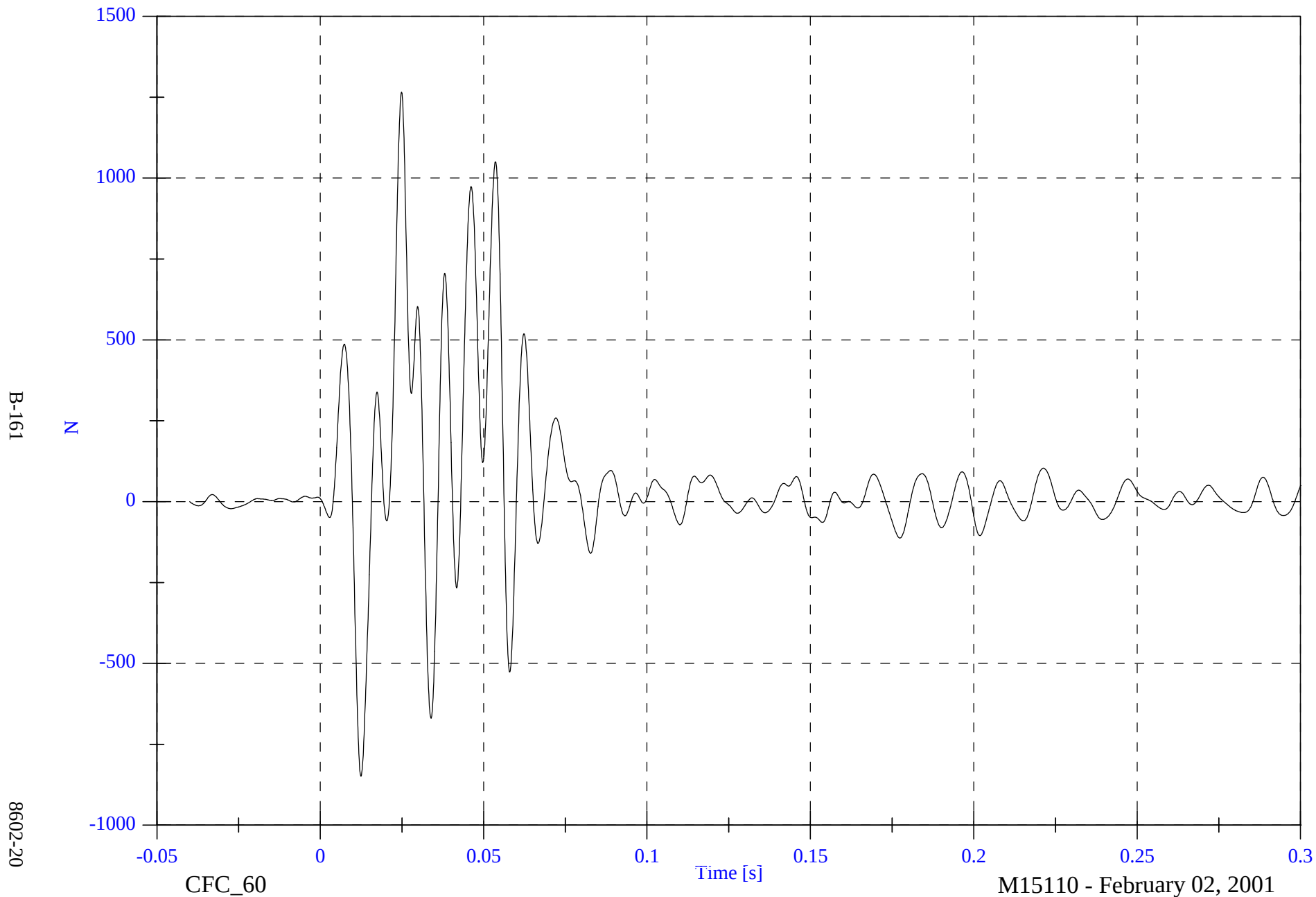


NCAP 2001 Test #20 - 2001 Lexus IS 300

Barrier Load Cell D8 Fx

Max: 1265.5 [N] at 0.025 [s]

Min: -848.9 [N] at 0.012 [s]

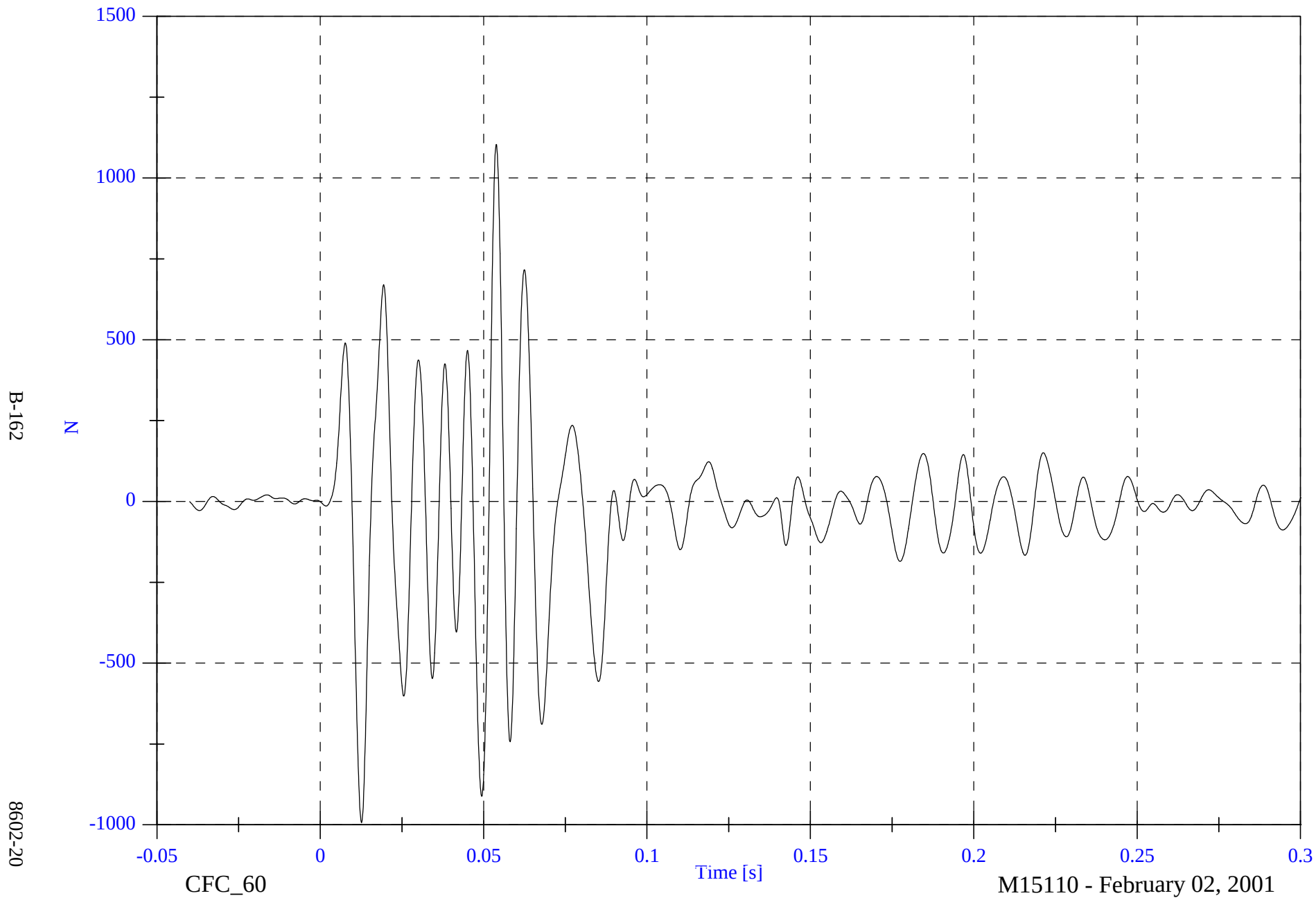


NCAP 2001 Test #20 - 2001 Lexus IS 300

Max: 1103.6 [N] at 0.054 [s]

Barrier Load Cell D9 Fx

Min: -993.9 [N] at 0.013 [s]

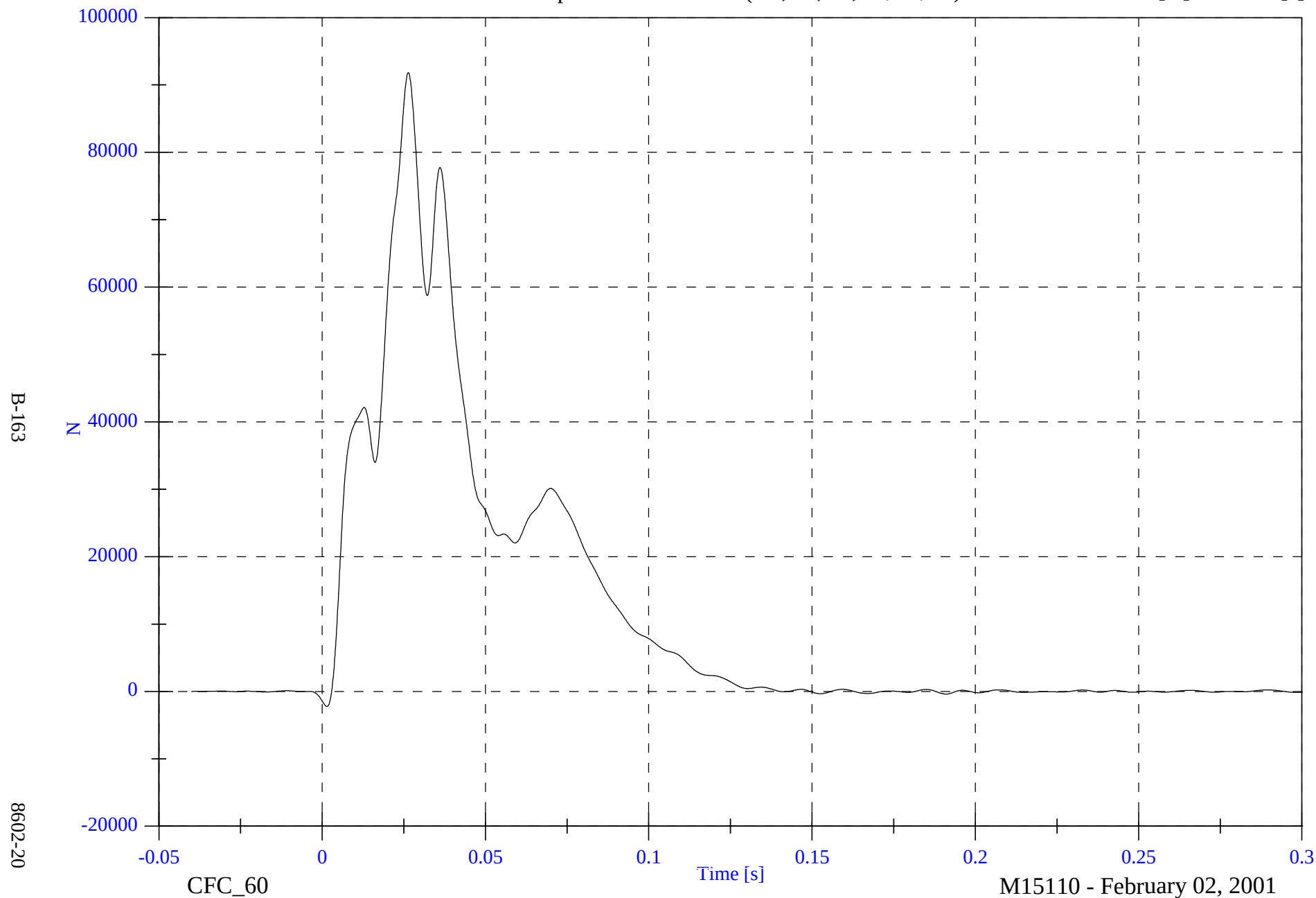


NCAP 2001 Test #20 - 2001 Lexus IS 300

Group 1 Load Cell Sum (A1,A2,A3,B1,B2,B3)

Max: 91846.3 [N] at 0.026 [s]

Min: -2232.0 [N] at 0.001 [s]

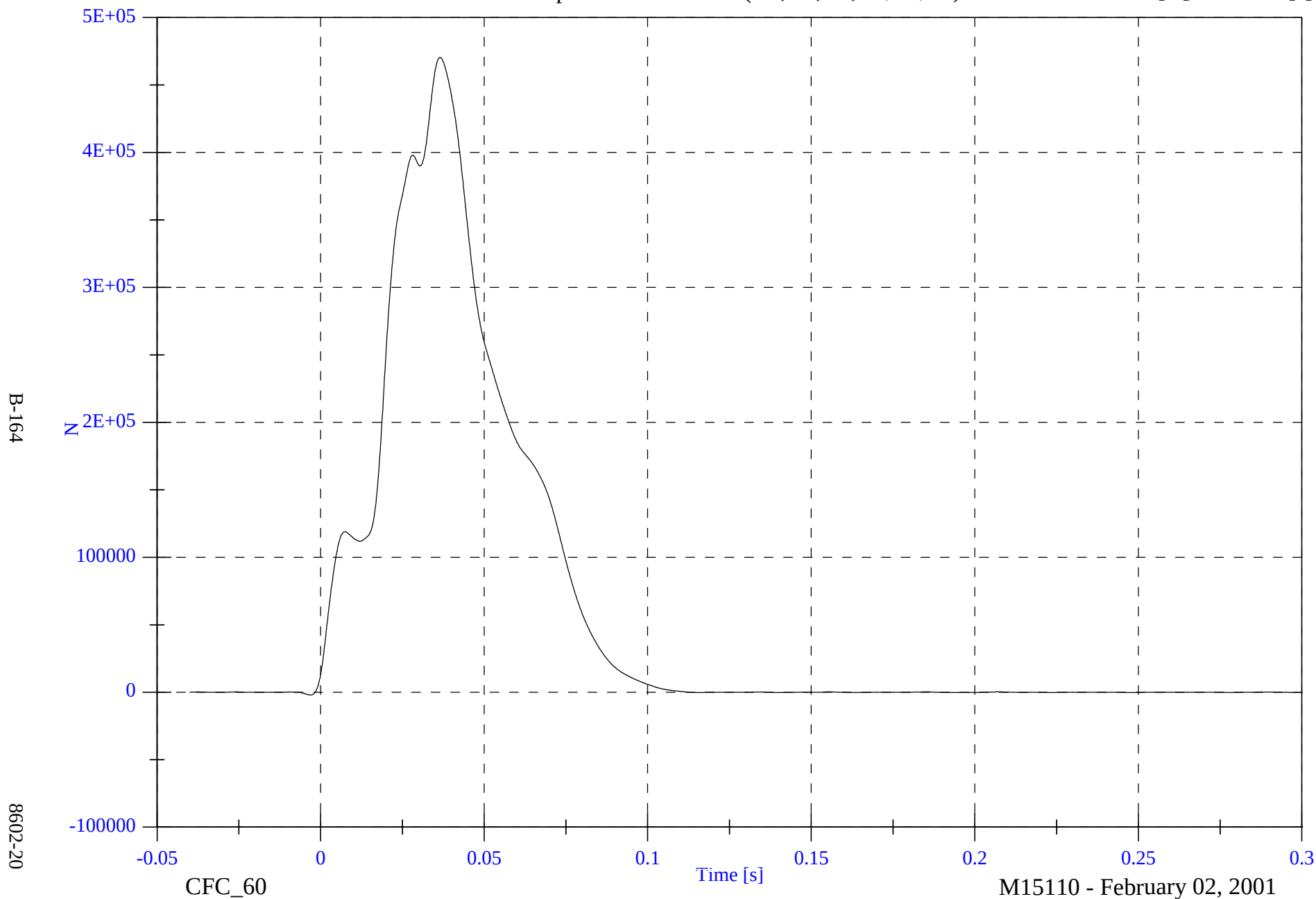


NCAP 2001 Test #20 - 2001 Lexus IS 300

Group 2 Load Cell Sum (A4,A5,A6,B4,B5,B6)

Max: 470478.2 [N] at 0.036 [s]

Min: -2111.8 [N] at -0.003 [s]

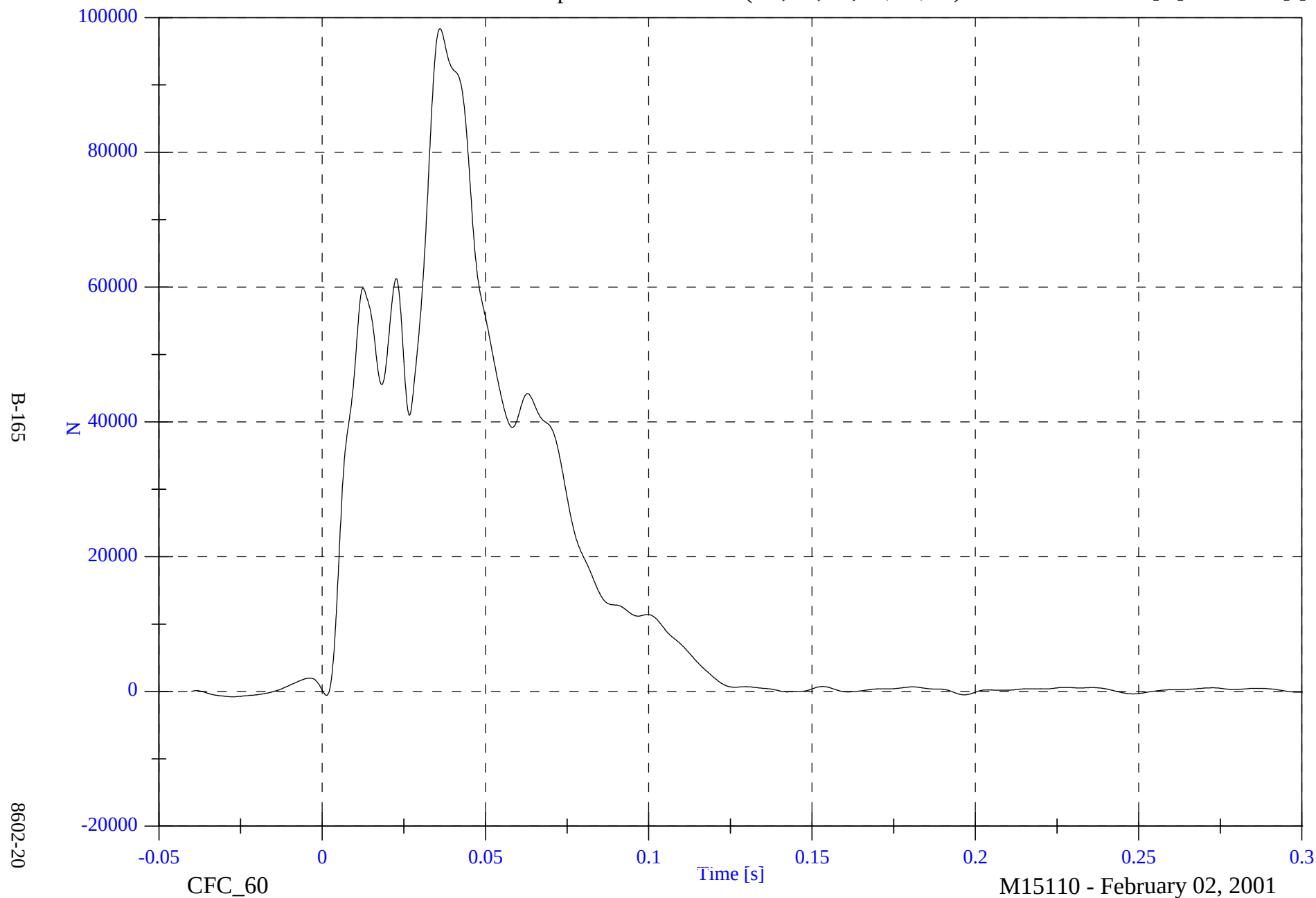


NCAP 2001 Test #20 - 2001 Lexus IS 300

Group 3 Load Cell Sum (A7,A8,A9,B7,B8,B9)

Max: 98351.6 [N] at 0.036 [s]

Min: -794.3 [N] at -0.027 [s]

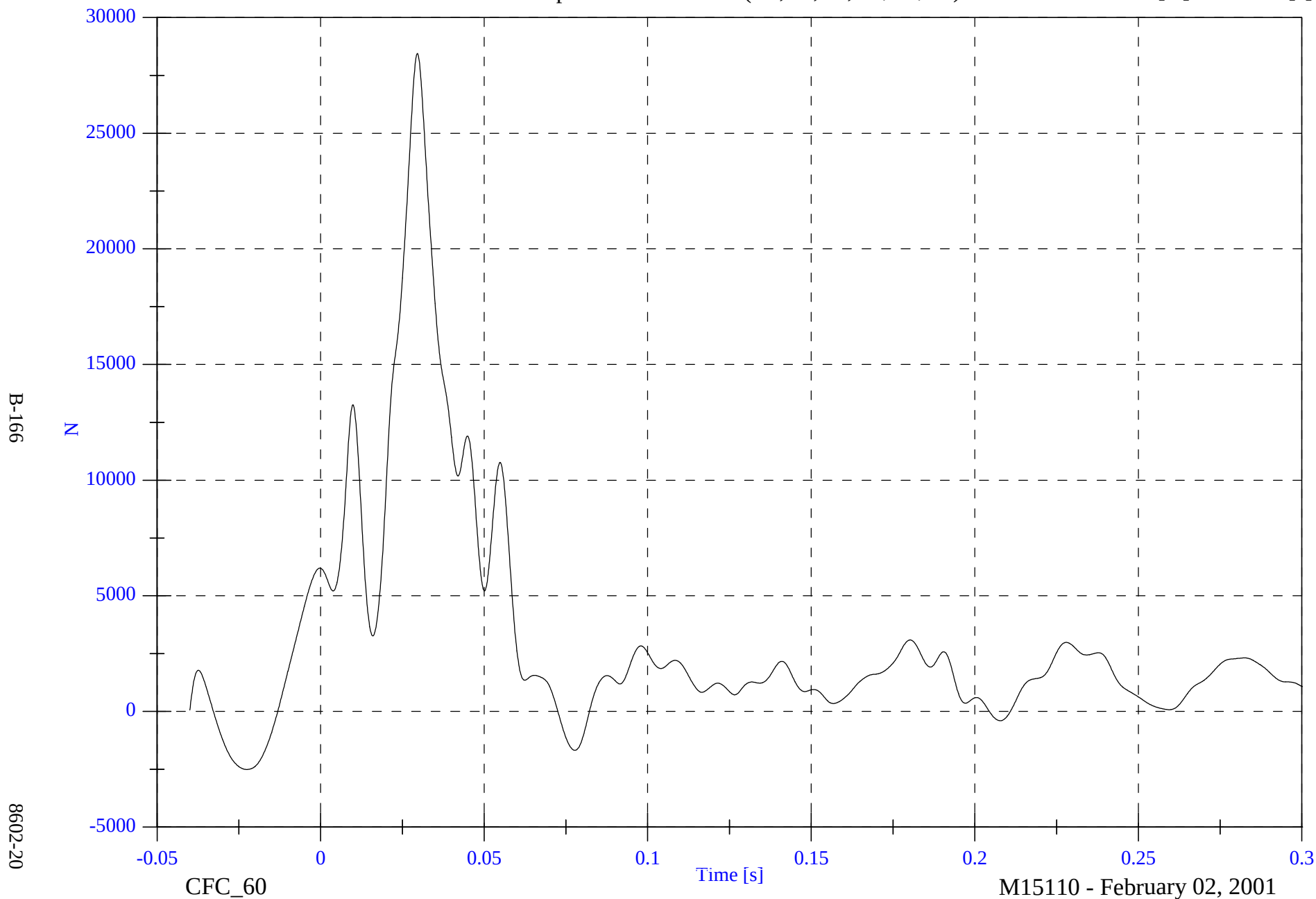


NCAP 2001 Test #20 - 2001 Lexus IS 300

Group 4 Load Cell Sum (C1,C2,C3,D1,D2,D3)

Max: 28448.3 [N] at 0.030 [s]

Min: -2509.2 [N] at -0.023 [s]

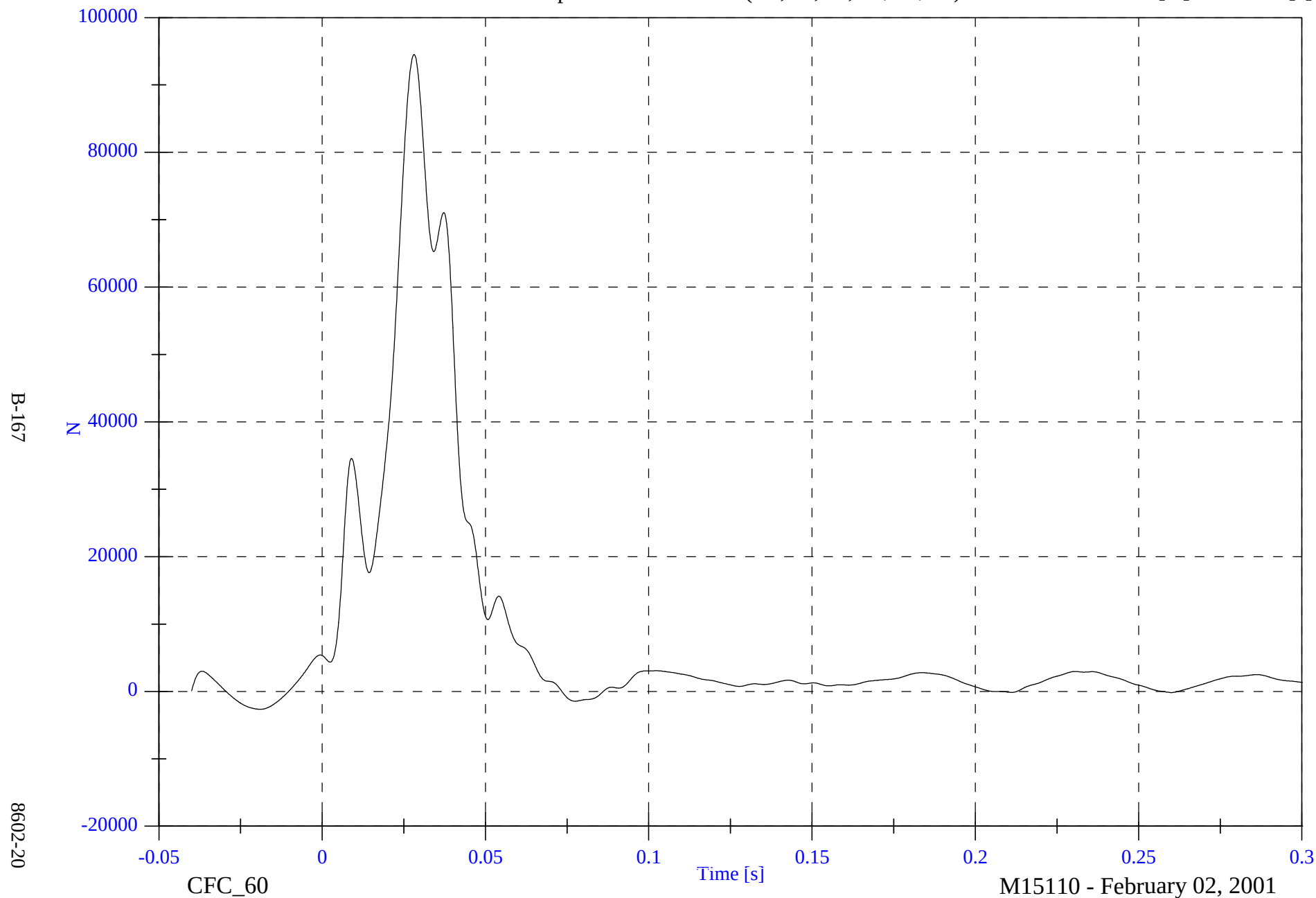


NCAP 2001 Test #20 - 2001 Lexus IS 300

Group 5 Load Cell Sum (C4,C5,C6,D4,D5,D6)

Max: 94521.3 [N] at 0.028 [s]

Min: -2655.8 [N] at -0.019 [s]

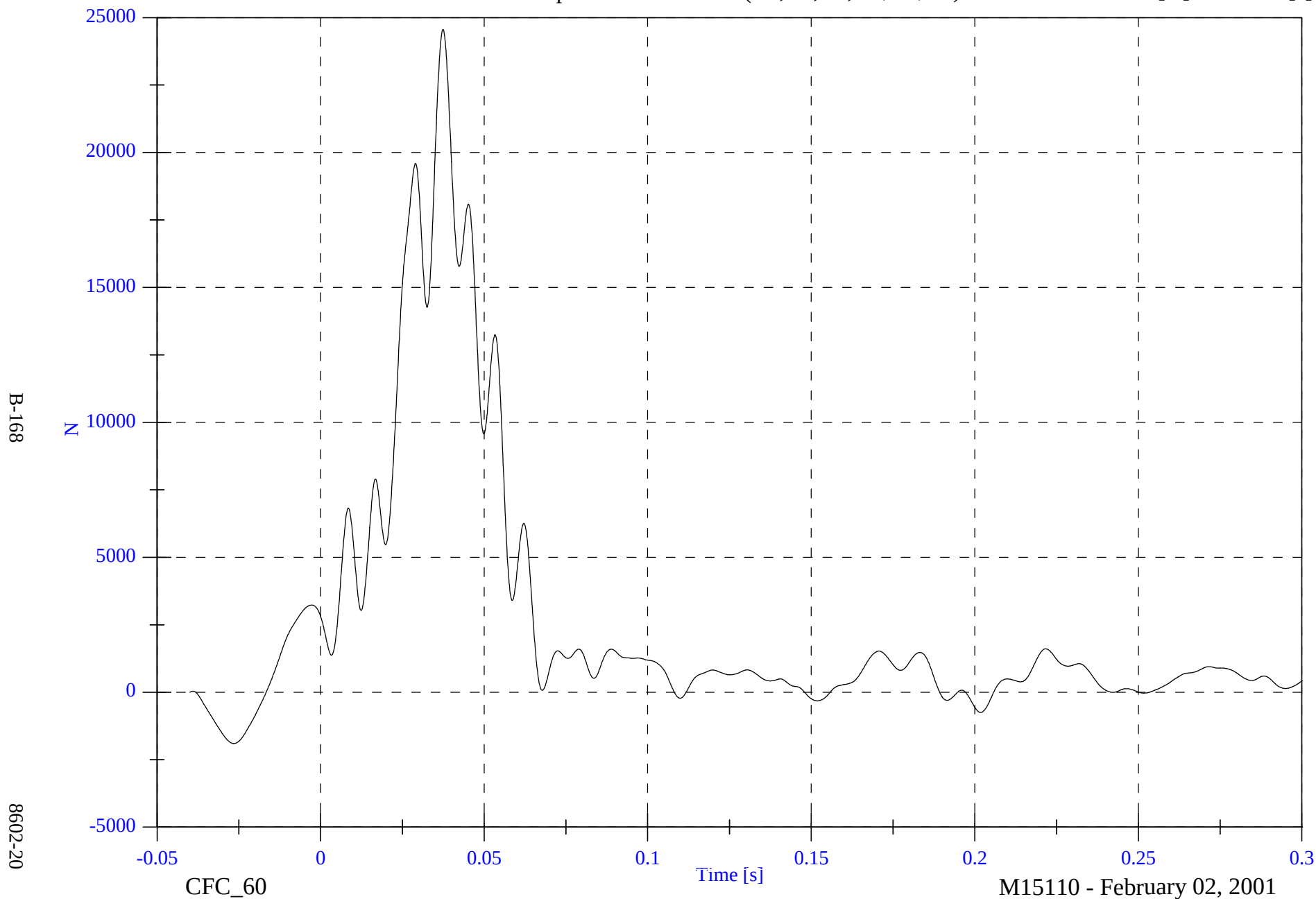


NCAP 2001 Test #20 - 2001 Lexus IS 300

Group 6 Load Cell Sum (C7,C8,C9,D7,D8,D9)

Max: 24560.7 [N] at 0.037 [s]

Min: -1901.5 [N] at -0.027 [s]

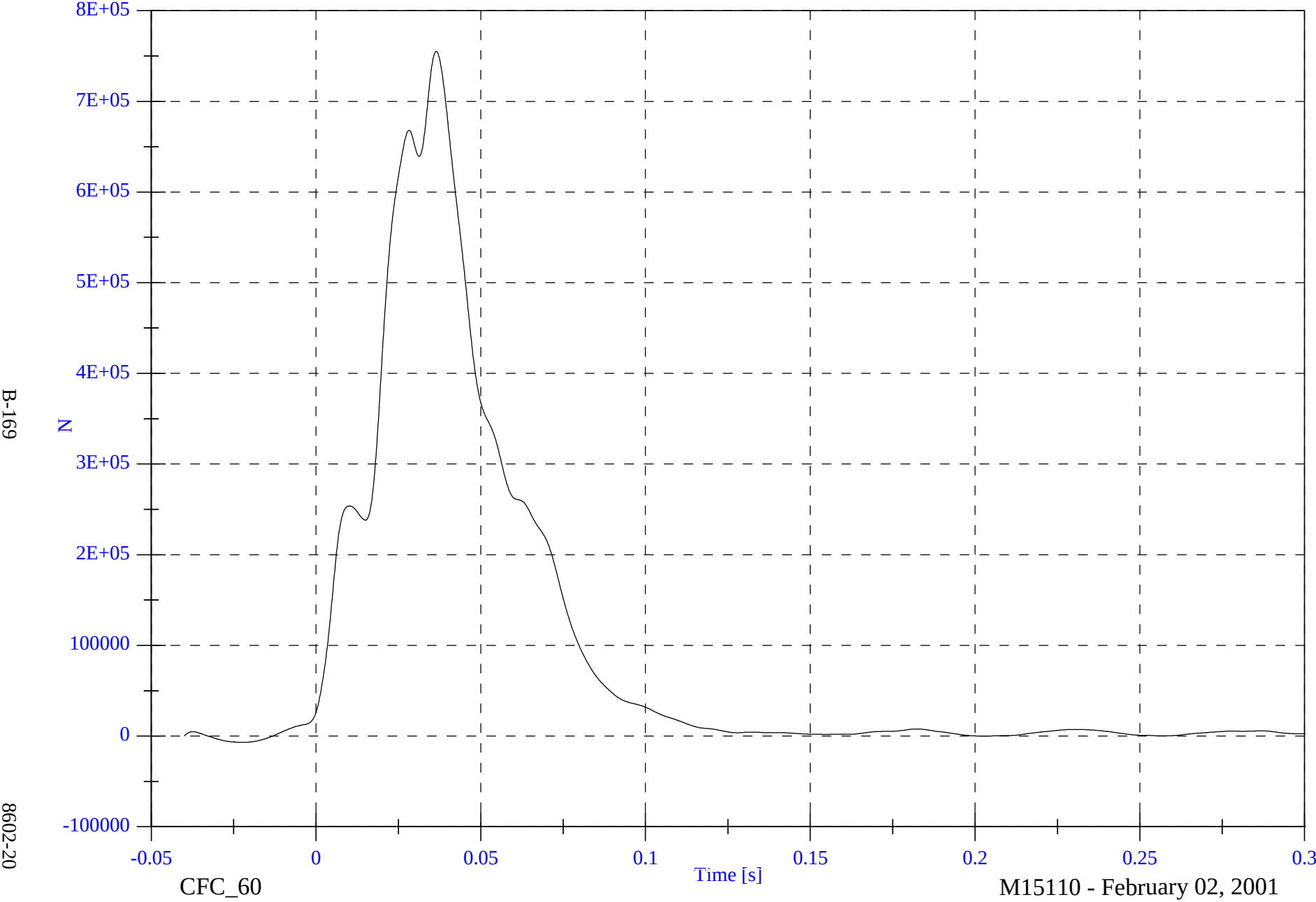


NCAP 2001 Test #20 - 2001 Lexus IS 300

Max: 755203.0 [N] at 0.036 [s]

Total Load Cell Sum (All 6 Groups)

Min: -6892.7 [N] at -0.022 [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:

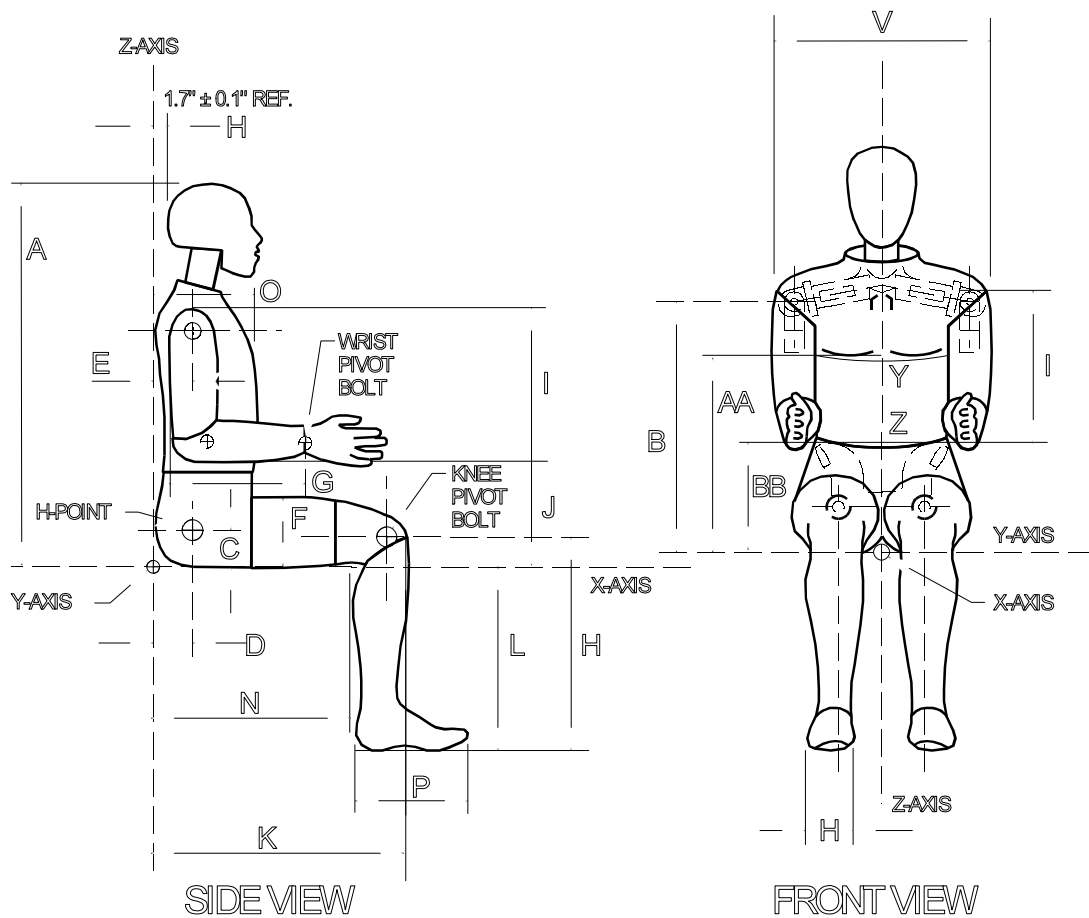
<u>Position No./Location</u>	<u>Serial No.</u>	<u>Completion Date</u>
#1/Driver	061	February 1, 2001
#2/Right Front Passenger	064	January 19, 2001

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 572E
HEAD DROP TEST

Dummy Serial Number 061
Sequential Test Number 1
Date January 18, 2001
Workfile 061101.hdp

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	66-78 Deg F	71.0
Relative Humidity	10% - 70%	32.0
Peak Resultant Acceleration	225-275 G's	252.18
Peak Lateral Acceleration	15 G's Max	5.55
Is Acceleration Curve Unimodal?	YES	YES

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
NECK FLEXION TEST

Dummy Serial Number	061	
Sequential Test Number	1	
Date	January 18, 2001	6 Axis Neck Transducer
Workfile	061101.nfl	

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	70.0
Relative Humidity		10% - 70%	32.0
Impact Velocity		22.60 - 23.40 Ft/s	22.70
Pendulum Deceleration	10 ms	22.50 - 27.50 G's	22.89
	20 ms	17.60 - 22.60 G's	19.47
	30 ms	12.50 - 18.50 G's	15.85
Max Pendulum G's Above 30 ms		29 G's Max	15.85
Deceleration - Time Curve Decay Time to 5 G's		34 - 42 ms	38.50
D Plane Rotation	Max	64 - 78 Deg	69.51
	Time	57 - 64 ms	62.38
Moment About Occipital Condyle	Max	65 - 80 Ft-Lbs	78.38
	Time	47 - 58 ms	51.62
Rotation Angle - Time Curve Decay Time to Zero		113 - 128 ms	118.62
Positive Moment - Time Curve Decay Time to Zero		97 - 107 ms	97.38

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
NECK EXTENSION TEST

Dummy Serial Number	061	
Sequential Test Number	1	
Date	January 18, 2001	6 Axis Neck Transducer
Workfile	061101.nex	

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	70.0
Relative Humidity		10% - 70%	32.0
Impact Velocity		19.50 - 20.30 Ft/s	19.63
Pendulum Deceleration	10 ms	17.20 - 21.20 G's	19.01
	20 ms	14.00 - 19.00 G's	16.92
	30 ms	11.00 - 16.00 G's	13.52
Max Pendulum G's Above 30 ms		22 G's Max	13.52
Deceleration - Time Curve Decay Time to 5 G's		38 - 46 ms	40.25
D Plane Rotation	Max	81 - 106 Deg	95.26
	Time	72 - 82 ms	75.50
Moment About Occipital Condyle	Max	-59.0 - -39.0 Ft-Lbs	-46.41
	Time	65 - 79 ms	71.50
Rotation Angle - Time Curve Decay Time to Zero		147 - 174 ms	147.75
Positive Moment - Time Curve Decay Time to Zero		120 - 148 ms	137.00

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
THORAX IMPACT TEST

Dummy Serial Number 061
Sequential Test Number 1
Date February 1, 2001
Workfile 061101a.th3

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	69-72 Deg F	71.0
Relative Humidity	10% - 70%	32.0
Pendulum Velocity	21.6 - 22.4 Ft/s	21.6
Maximum Deflection	2.50 - 2.86 in	2.61
Maximum Resistive Force	1160 - 1325 Lbs	1238.6
Internal Hysteresis	69 - 85 %	69

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
KNEE IMPACT TEST

Dummy Serial Number 061
Sequential Test Number 1
Date January 19, 2001
Workfile 061101.lf/061101.rf

TEST PARAMETER	SPECIFICATION	TEST RESULTS
LEFT KNEE		
Temperature	66 - 78 Deg F	70.0
Relative Humidity	10% - 70%	30.0
Probe Velocity	6.8 - 7.0 Ft/s	7.00
Peak Knee Impact Force	1060 - 1300 Lbs	1207.61
RIGHT KNEE		
Temperature	66 - 78 Deg F	70.0
Relative Humidity	10% - 70%	30.0
Probe Velocity	6.8 - 7.0 Ft/s	7.00
Peak Knee Impact Force	1060 - 1300 Lbs	1198.30

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
EXTERNAL DIMENSIONS

Dummy Serial Number 061
Sequential Test Number 1
Date January 19, 2001

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature			71
Relative Humidity			33
Location for Chest Circumference	AA	16.9 - 17.1 in	17.0
Location for Waist Circumference	BB	8.9 - 9.1 in	9.0
Chest Circumference (With Jacket)	Y	38.2 - 39.4 in	39.2
Waist Circumference	Z	32.9 - 34.1 in	33.5
Chest Depth	O	8.4 - 9.0 in	8.4
H-Point Height	C	3.3 - 3.5 in	3.4
H-Point from Backline	D	5.3 - 5.5 in	5.4
Skull Cap to Backline	H	1.6 - 1.8 in	1.7
Total Sitting Height	A	34.6 - 35.0 in	34.9
Thigh Clearance	F	5.5 - 6.1 in	6.1
Buttock Knee Length	K	22.8 - 23.8 in	23.6
Buttock Popliteal Length	N	17.8 - 18.8 in	18.4
Popliteal Height	L	16.9 - 17.9 in	17.7
Knee Pivot Height	M	19.1 - 19.7 in	19.4
Foot Length	P	9.9 - 10.5 in	10.1
Foot Breadth	W	3.6 - 4.2 in	3.8
Shoulder Pivot from Backline	E	3.3 - 3.7 in	3.5
Shoulder Breadth	V	16.6 - 17.2 in	16.8
Shoulder Pivot Height	B	19.9 - 20.5 in	20.1
Elbow Rest Height	J	7.5 - 8.3 in	7.7
Shoulder - Elbow Length	I	13.0 - 13.6 in	13.4
Back of Elbow to Wrist Pivot	G	11.4 - 12.0 in	11.6

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
HEAD DROP TEST

Dummy Serial Number 064
Sequential Test Number 1
Date January 18, 2001
Workfile 064101.hdp

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	66-78 Deg F	70.0
Relative Humidity	10% - 70%	32.0
Peak Resultant Acceleration	225-275 G's	240.04
Peak Lateral Acceleration	15 G's Max	11.82
Is Acceleration Curve Unimodal?	YES	YES

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
NECK FLEXION TEST

Dummy Serial Number	064	
Sequential Test Number	1	
Date	January 18, 2001	6 Axis Neck Transducer
Workfile	064101.nfl	

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	70.0
Relative Humidity		10% - 70%	32.0
Impact Velocity		22.60 - 23.40 Ft/s	22.76
Pendulum Deceleration	10 ms	22.50 - 27.50 G's	22.52
	20 ms	17.60 - 22.60 G's	20.22
	30 ms	12.50 - 18.50 G's	15.54
Max Pendulum G's Above 30 ms		29 G's Max	15.54
Deceleration - Time Curve Decay Time to 5 G's		34 - 42 ms	39.62
D Plane Rotation	Max	64 - 78 Deg	70.83
	Time	57 - 64 ms	61.88
Moment About Occipital Condyle	Max	65 - 80 Ft-Lbs	73.70
	Time	47 - 58 ms	53.62
Rotation Angle - Time Curve Decay Time to Zero		113 - 128 ms	117.50
Positive Moment - Time Curve Decay Time to Zero		97 - 107 ms	99.12

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
NECK EXTENSION TEST

Dummy Serial Number	064	
Sequential Test Number	1	
Date	January 18, 2001	6 Axis Neck Transducer
Workfile	064101.nex	

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	70.0
Relative Humidity		10% - 70%	32.0
Impact Velocity		19.50 - 20.30 Ft/s	19.67
Pendulum Deceleration	10 ms	17.20 - 21.20 G's	19.56
	20 ms	14.00 - 19.00 G's	16.97
	30 ms	11.00 - 16.00 G's	13.62
Max Pendulum G's Above 30 ms		22 G's Max	13.62
Deceleration - Time Curve Decay Time to 5 G's		38 - 46 ms	39.50
D Plane Rotation	Max	81 - 106 Deg	99.41
	Time	72 - 82 ms	73.62
Moment About Occipital Condyle	Max	-59.0 - -39.0 Ft-Lbs	-52.20
	Time	65 - 79 ms	70.75
Rotation Angle - Time Curve Decay Time to Zero		147 - 174 ms	148.25
Positive Moment - Time Curve Decay Time to Zero		120 - 148 ms	139.50

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
THORAX IMPACT TEST

Dummy Serial Number 064
Sequential Test Number 1
Date January 19, 2001
Workfile 064101.th3

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	69-72 Deg F	70.0
Relative Humidity	10% - 70%	30.0
Pendulum Velocity	21.6 - 22.4 Ft/s	21.9
Maximum Deflection	2.50 - 2.86 in	2.69
Maximum Resistive Force	1160 - 1325 Lbs	1214.31
Internal Hysteresis	69 - 85 %	76.88

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
KNEE IMPACT TEST

Dummy Serial Number 064
Sequential Test Number 1
Date January 19, 2001
Workfile 064101.lf / 064101.rf

TEST PARAMETER	SPECIFICATION	TEST RESULTS
LEFT KNEE		
Temperature	66 - 78 Deg F	70.0
Relative Humidity	10% - 70%	30.0
Probe Velocity	6.8 - 7.0 Ft/s	7.00
Peak Knee Impact Force	1060 - 1300 Lbs	1126.33
RIGHT KNEE		
Temperature	66 - 78 Deg F	70.0
Relative Humidity	10% - 70%	30.0
Probe Velocity	6.8 - 7.0 Ft/s	7.00
Peak Knee Impact Force	1060 - 1300 Lbs	1128.48

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
EXTERNAL DIMENSIONS

Dummy Serial Number 064
Sequential Test Number 1
Date January 19, 2001

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature			71
Relative Humidity			33
Location for Chest Circumference	AA	16.9 - 17.1 in	17.0
Location for Waist Circumference	BB	8.9 - 9.1 in	9.0
Chest Circumference (With Jacket)	Y	38.2 - 39.4 in	39.1
Waist Circumference	Z	32.9 - 34.1 in	33.5
Chest Depth	O	8.4 - 9.0 in	8.6
H-Point Height	C	3.3 - 3.5 in	3.4
H-Point from Backline	D	5.3 - 5.5 in	5.4
Skull Cap to Backline	H	1.6 - 1.8 in	1.7
Total Sitting Height	A	34.6 - 35.0 in	34.8
Thigh Clearance	F	5.5 - 6.1 in	6.0
Buttock Knee Length	K	22.8 - 23.8 in	23.6
Buttock Popliteal Length	N	17.8 - 18.8 in	18.4
Popliteal Height	L	16.9 - 17.9 in	17.3
Knee Pivot Height	M	19.1 - 19.7 in	19.4
Foot Length	P	9.9 - 10.5 in	10.1
Foot Breadth	W	3.6 - 4.2 in	3.8
Shoulder Pivot from Backline	E	3.3 - 3.7 in	3.6
Shoulder Breadth	V	16.6 - 17.2 in	16.8
Shoulder Pivot Height	B	19.9 - 20.5 in	20.4
Elbow Rest Height	J	7.5 - 8.3 in	8.0
Shoulder - Elbow Length	I	13.0 - 13.6 in	13.3
Back of Elbow to Wrist Pivot	G	11.4 - 12.0 in	11.6

Remarks:

Laboratory Technician: B. Swiecicki

APPENDIX D

DUMMY, VEHICLE AND LABORATORY INSTRUMENT CALIBRATION

INSTRUMENT CALIBRATION FOR DRIVER DUMMY

(6 Month Calibration Minimum)

DRIVER DUMMY (S/N 061)		Manufacturer	Serial #	Calibration	
				Last	Next
Head	X	ENDEVCO	AC-J33019	30-Nov-00	30-May-01
	Y	ENDEVCO	AC-J33127	30-Nov-00	30-May-01
	Z	ENDEVCO	AC-J32782	30-Nov-00	30-May-01
Head	X (R)	ENDEVCO	AC-J31060	30-Nov-00	30-May-01
	Y (R)	ENDEVCO	AC-J31050	30-Nov-00	30-May-01
	Z (R)	ENDEVCO	AC-P16593	13-Sep-00	13-Mar-01
Neck Load Cell	X	DENTON	LC-205Fx	28-Aug-00	28-Feb-01
	Y	DENTON	LC-205Fy	28-Aug-00	28-Feb-01
	Z	DENTON	LC-205Fz	28-Aug-00	28-Feb-01
Neck Moment	X	DENTON	LC-205Mx	28-Aug-00	28-Feb-01
	Y	DENTON	LC-205My	28-Aug-00	28-Feb-01
	Z	DENTON	LC-205Mz	28-Aug-00	28-Feb-01
Chest	X	ENDEVCO	AC-J33351	30-Nov-00	30-May-01
	Y	ENDEVCO	AC-J32787	30-Nov-00	30-May-01
	Z	ENDEVCO	AC-J32838	30-Nov-00	30-May-01
Chest	X (R)	ENDEVCO	AC-J32791	30-Nov-00	30-May-01
	Y (R)	ENDEVCO	AC-J33156	30-Nov-00	30-May-01
	Z (R)	ENDEVCO	AC-J33020	30-Nov-00	30-May-01
Chest Deflection Gauge		SERVO	DS-061	10-Nov-00	10-May-01
Pelvic	X	ENDEVCO	AC-J32383	4-Aug-00	4-Feb-01
	Y	ENDEVCO	AC-J32186	4-Aug-00	4-Feb-01
	Z	ENDEVCO	AC-J32098	4-Aug-00	4-Feb-01

INSTRUMENT CALIBRATION FOR DRIVER DUMMY

(6 Month Calibration Minimum)

DRIVER DUMMY (S/N 061)		Manufacturer	Serial #	Calibration	
				Last	Next
Left Femur Load Cell		GSE	LC-419	1-Dec-00	1-Jun-01
Right Femur Load Cell		GSE	LC-723	1-Dec-00	1-Jun-01
Left Upper Tibia	Mx	DENTON	LC-045Mx	4-Nov-00	4-May-01
	My	DENTON	LC-045My	4-Nov-00	4-May-01
Left Lower Tibia	Fz	DENTON	LC-125Fz	4-Nov-00	4-May-01
	Mx	DENTON	LC-125Mx	4-Nov-00	4-May-01
	My	DENTON	LC-125My	4-Nov-00	4-May-01
Right Upper Tibia	Mx	DENTON	LC-038Mx	9-Nov-00	9-May-01
	My	DENTON	LC-038My	9-Nov-00	9-May-01
Right Lower Tibia	Fz	DENTON	LC-124Fz	9-Nov-00	9-May-01
	Mx	DENTON	LC-124Mx	9-Nov-00	9-May-01
	My	DENTON	LC-124My	9-Nov-00	9-May-01
Left Foot Rear	X	ENDEVCO	AC-P16951	2-Oct-00	2-Apr-01
	Z	ENDEVCO	AC-P17152	2-Oct-00	2-Apr-01
Left Foot Front	Z	ENDEVCO	AC-P16975	2-Oct-00	2-Apr-01
Right Foot Rear	X	ENDEVCO	AC-J31042	7-Nov-00	7-May-01
	Z	ENDEVCO	AC-J32176	7-Nov-00	7-May-01
Right Foot Front	Z	ENDEVCO	AC-J31009	8-Nov-00	8-May-01
Lap Belt Load Cells		LEBOW	LC-706	1-Dec-00	1-Jun-01

INSTRUMENT CALIBRATION FOR PASSENGER DUMMY

(6 Month Calibration Minimum)

PASSENGER DUMMY (S/N 064)		Manufacturer	Serial #	Calibration	
				Last	Next
Head	X	ENDEVCO	AC-P12587	15-Sep-00	15-Mar-01
	Y	ENDEVCO	AC-P16625	21-Nov-00	21-May-01
	Z	ENDEVCO	AC-P16662	13-Sep-00	13-Mar-01
Head	X (R)	ENDEVCO	AC-P14388	15-Sep-00	15-Mar-01
	Y (R)	ENDEVCO	AC-P16597	21-Nov-00	21-May-01
	Z (R)	ENDEVCO	AC-P17236	13-Sep-00	13-Mar-01
Neck Load Cell	X	DENTON	LC-440Fx	16-Nov-00	16-May-01
	Y	DENTON	LC-440Fy	15-Nov-00	15-May-01
	Z	DENTON	LC-440Fz	16-Nov-00	16-May-01
Neck Moment	X	DENTON	LC-440Mx	16-Nov-00	16-May-01
	Y	DENTON	LC-440My	16-Nov-00	16-May-01
	Z	DENTON	LC-440Mz	16-Nov-00	16-May-01
Chest	X	ENDEVCO	AC-P16583	6-Sep-00	6-Mar-01
	Y	ENDEVCO	AC-P16585	6-Sep-00	6-Mar-01
	Z	ENDEVCO	AC-P16576	6-Sep-00	6-Mar-01
Chest	X (R)	ENDEVCO	AC-P15526	6-Sep-00	6-Mar-01
	Y (R)	ENDEVCO	AC-P16587	6-Sep-00	6-Mar-01
	Z (R)	ENDEVCO	AC-P15534	6-Sep-00	6-Mar-01
Chest Deflection Gauge		SERVO	DS-064	7-Dec-00	7-Jun-01
Pelvic	X	ENDEVCO	AC-P13323	20-Nov-00	20-May-01
	Y	ENDEVCO	AC-P13331	20-Nov-00	20-May-01
	Z	ENDEVCO	AC-P13356	20-Nov-00	20-May-01

INSTRUMENT CALIBRATION FOR PASSENGER DUMMY

(6 Month Calibration Minimum)

PASSENGER DUMMY (S/N 064)		Manufacturer	Serial #	Calibration	
				Last	Next
Left Femur Load Cell		GSE	LC-954	1-Dec-00	1-Jun-01
Right Femur Load Cell		GSE	LC-955	1-Dec-00	1-Jun-01
Left Upper Tibia	Mx	DENTON	LC-016Mx	9-Nov-00	9-May-01
	My	DENTON	LC-016My	9-Nov-00	9-May-01
Left Lower Tibia	Fz	DENTON	LC-123Fz	9-Nov-00	9-May-01
	Mx	DENTON	LC-123Mx	9-Nov-00	9-May-01
	My	DENTON	LC-123My	9-Nov-00	9-May-01
Right Upper Tibia	Mx	DENTON	LC-023Mx	9-Nov-00	9-May-01
	My	DENTON	LC-023My	9-Nov-00	9-May-01
Right Lower Tibia	Fz	DENTON	LC-111Fz	9-Nov-00	9-May-01
	Mx	DENTON	LC-111Mx	9-Nov-00	9-May-01
	My	DENTON	LC-111My	9-Nov-00	9-May-01
Left Foot Rear	X	ENDEVCO	AC-J30491	12-Jan-01	12-Jul-01
	Z	ENDEVCO	AC-J31026	22-Jan-01	22-Jul-01
Left Foot Front	Z	ENDEVCO	AC-J32831	22-Jan-01	22-Jul-01
Right Foot Rear	X	ENDEVCO	AC-J33376	22-Jan-01	22-Jul-01
	Z	ENDEVCO	AC-J32832	22-Jan-01	22-Jul-01
Right Foot Front	Z	ENDEVCO	AC-J31095	12-Jan-01	12-Jul-01
Lap Belt Load Cells		LEBOW	LC-712	1-Dec-00	1-Jun-01

INSTRUMENT CALIBRATION FOR VEHICLE ACCELEROMETERS

(6 Month Calibration Minimum)

	Manufacturer	Serial #	Calibration	
			Last	Next
Left Seat Rear Crossmember	ICS	AC-Y30	11-Aug-00	11-Feb-01
Right Rear Seat Crossmember	ICS	AC-D82	17-Aug-00	17-Feb-01
Top of Engine	ICS	AC-D36	14-Aug-00	14-Feb-01
Bottom of Engine	ENDEVCO	AC-AA35	10-Dec-00	10-Jun-01
Right Disc Brake Caliper	ENDEVCO	AC-A14321	5-Sep-00	5-Mar-01
Instrument Panel	ENDEVCO	AC-A14433	5-Sep-00	5-Mar-01
Left Disc Brake Caliper	ENDEVCO	AC-A13921	12-Jan-01	12-Jul-01
Left Seat Rear Crossmember (R)	ICS	AC-D77	14-Aug-00	14-Feb-01
Right Seat Rear Crossmember (R)	ICS	AC-X33	25-Aug-00	25-Feb-01