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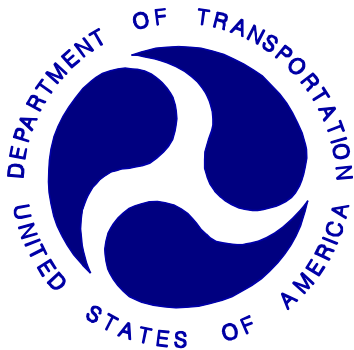
**NEW CAR ASSESSMENT PROGRAM (NCAP)
FRONTAL BARRIER IMPACT TEST**

**HONDA OF AMERICA
2001 ACURA 3.2 TL
4-DOOR SEDAN**

NHTSA NUMBER: M15300

VERIDIAN TEST NUMBER: 8602-16

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



January 16, 2001

FINAL REPORT

PREPARED FOR:

U. S. DEPARTMENT OF TRANSPORTATION
National Highway Traffic Safety Administration
Safety Performance Standards
Office of Crashworthiness Standards
Mail Code: NPS-10
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NHTSA, Office of Crashworthiness Standards

Date of Report Acceptance

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

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15. <i>Supplementary Notes</i>					
16. <i>Abstract</i> A frontal load cell barrier test of a 2001 Acura 3.2 TL 4-Door Sedan was performed at Veridian Engineering crash test facility in Buffalo, New York, on January 16, 2001. The impact velocity was 56.64 kph and the temperature at the barrier face was 21EC. The maximum post-test vehicle crush was 557 mm. The test vehicle was equipped with 3-point restraint systems, knee bolsters, and airbags at both the driver and right outboard passenger seating positions. With respect to FMVSS 208 "Occupant Crash Protection - Injury Criteria" both the driver and passenger appeared to comply with head, chest, and femur requirements.					
ATD Position	HIC	Clip (g's)	Chest Disp (mm)	Left Femur (N)	Right Femur (N)
Driver (150)	546.5	52.3	35.4	2410.1	3161.6
Passenger (245)	541.0	47.9	33.6	5197.3	1796.6
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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TABLE OF CONTENTS

<u>Section</u>	<u>Page No.</u>
1 PURPOSE AND SUMMARY OF NCAP TEST	1-1
2 OCCUPANT AND VEHICLE INFORMATION	2-1
<u>Data Sheet</u> <u>Description</u>	
1. CRASH TEST SUMMARY	2-1
2. GENERAL TEST AND VEHICLE PARAMETER DATA	2-2
3. POST IMPACT DATA	2-4
4. TEST VEHICLE INFORMATION	2-5
5. DUMMY POSITIONING IN VEHICLE	2-7
6. SEAT BELT POSITIONING DATA	2-9
7. VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY	2-10
8. DUMMY INJURY CRITERIA VALUES	2-12
9. SEAT BELT PERFORMANCE DATA	2-16
10. SUMMARY OF FMVSS 212 DATA	2-17
11. WINDSHIELD ZONE INTRUSION FMVSS 219 DATA	2-18
12. FMVSS 301 FUEL SYSTEM INTEGRITY DATA	2-19
13. FMVSS 310 ROLLOVER DATA	2-20
14. VEHICLE MEASUREMENTS	2-24
15. CAMERA DATA	2-31
16. REFERENCE PHOTO TARGETS	2-33
17. LOAD CELL LOCATIONS ON FIXED BARRIER	2-34
18. POST TEST AIR BAG DATA	2-35
19. ACCIDENT INVESTIGATION DIVISION DATA	2-36
APPENDIX A PHOTOGRAPHS	A-1
APPENDIX B VEHICLE, LOAD CELL BARRIER AND DUMMY RESPONSE DATA	B-1
APPENDIX C PART 572 B/E DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION TESTS	C-1
APPENDIX D DUMMY, VEHICLE AND LABORATORY INSTRUMENT CALIBRATION	D-1

SECTION 1

PURPOSE AND SUMMARY OF TEST M15300

PURPOSE

This 56.64 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 56.64 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 Acura 3.2 TL 4-Door Sedan at a velocity of 56.64 kph. The test was performed at Veridian Engineering on January 16, 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 16 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 and shoulder belts to measure dummy torso and pelvic section loading. The driver (position 1) ATD (Serial No. 150) and the right-front passenger (position 2) ATD (Serial No. 245) were calibrated previous to this test. Certification details, along with instrumentation calibration data, are found in Appendix C.

The 135 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 546.5. The maximum chest deceleration over 3 milliseconds was 52.3 g's and maximum chest

deflection was 35.4 mm. Compressive femur loads were 2410.1 Newtons on the left and 3161.6 Newtons on the right.

The right front passenger's HIC was 541.0. Maximum chest deceleration over 3 milliseconds was 47.9 g's and maximum chest deflection was 33.6 mm. Compressive femur loads were 5197.3 Newtons on the left and 1796.6 Newtons on the right.

SECTION 2

GENERAL TEST AND VEHICLE PARAMETER DATA

DATA SHEET NO. 1 CRASH TEST SUMMARY

Vehicle NHTSA No. : M15300 Test Mode : 56.3 kph Frontal Barrier

Test Date : January 16, 2001 Time: 11:35 Temperature : -2 °C

Vehicle Make/Model/Body Style : 2001 Acura 3.2 TL 4-Door Sedan

Vehicle Test Weight : 1777.0 kg

Vehicle/Barrier Impact Angle : 0 °

Impact Velocity : 56.64 kph

Maximum Static Crush : 557.0 mm

Vehicle Rebound : 329.0 mm

DUMMIES:

DRIVER

PASSENGER

Type :

572E

572E

Restraint System :

Seatbelt, Airbag, Knee Bolster

Seatbelt, Airbag, Knee Bolster

Number of Data Channels : 135

Number of Cameras : 1 Real Time

16 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

Face to the center of the airbag;
The back of the head to the
center of the headrest; The top
and back of the head to the sun
visor.

Face to the right of the center
of the airbag; The back of the
head to the right of the center
of the headrest.

Head :

Abdomen :

None

None

Chest:

Airbag

Airbag

Knees:

Knee Bolster

Knee Bolster

DATA SHEET NO. 2 GENERAL TEST AND VEHICLE PARAMETER DATA

TEST VEHICLE INFORMATION :

Year/Make/Model/Body Style : 2001 Acura 3.2 TL 4-Door Sedan

NHTSA No. : M15300 ; VIN: 19UUA56681A004513 ; Color : Grey

Engine Data: 6 cylinders; - CID; 3.2 Liters; - cc

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

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

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

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

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

Date Received : 1/9/2001 ; Odometer Reading 87 km

Selling Dealer : Ray Laks Acura

& Address: 7460 Transit Road Williamsville, NY 14221

DATA FROM TIRE VEHICLE'S CERTIFICATION LABEL:

Vehicle Manufactured by : Honda of America

Date of Manufacture 9/00

GVWR : 1996 kg; GAWR: 1100 kg FRONT; 930 kg REAR

DATA FROM TIRE PLACARD:

Tire Pressure with Maximum Capacity Vehicle Load : 300 kpa FRONT

300 kpa REAR

Recommended Tire Size : P205/60R16

* Recommended Cold Tire Pressure : 220 kpa FRONT; 220 kpa REAR

Size of Tires on Test Vehicle: P205/60R16 ; Manufacturer: Michelin

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) = 385.5 kg

No. of Occupants x 68 kg = 340.2 kg

Rated Cargo/Luggage Weight (RCLW) = 45.3 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>497.0</u>	kg	Right Rear	=	<u>285.0</u>	kg
Left Front	=	<u>488.0</u>	kg	Left Rear	=	<u>314.5</u>	kg
TOTAL FRONT	=	<u>985.0</u>	kg	TOTAL REAR	=	<u>599.5</u>	kg
TOTAL DELIVERED WEIGHT = <u>1584.5</u> kg							
% of Total Front of Vehicle Weight = <u>62.2</u>				% of Total Rear Weight = <u>37.8</u> %			

CALCULATION OF VEHICLE'S TARGET TEST WEIGHT :

Total Delivered Weight (UDW)	=	<u>1584.5</u>	kg
Rated Cargo/Luggage Weight (RCLW)	=	<u>45.3</u>	kg
Weight of 2 p.572 Dummies @ 76 each	=	<u>152.0</u>	kg
TARGET TEST WEIGHT	=	<u>1781.8</u>	kg

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

Right Front	=	<u>535.0</u>	kg	Right Rear	=	<u>345.0</u>	kg
Left Front	=	<u>523.0</u>	kg	Left Rear	=	<u>374.0</u>	kg
TOTAL FRONT	=	<u>1058.0</u>	kg	TOTAL REAR	=	<u>719.0</u>	kg
TOTAL TEST WEIGHT = <u>1777.0</u> kg							
% of Total Front Weight = <u>59.5</u> %				% of Total Rear Weight = <u>40.5</u> %			
Weight of Ballast Secured in Vehicle Trunk Area = <u>0</u> kg							
Vehicle Components Removed for Weight Reduction:				<u>Mufflers; tail lamps, side mirrors, rear interior trim; floor mats</u>			

VEHICLE ATTITUDE (all dimension in millimeters):

AS DELIVERED :	RF	<u>715</u>	LF	<u>715</u>	RR	<u>706</u>	LR	<u>706</u>
FULLY LOADED :	RF	<u>704</u>	LF	<u>704</u>	RR	<u>681</u>	LR	<u>682</u>
AS TESTED :	RF	<u>705</u>	LF	<u>706</u>	RR	<u>682</u>	LR	<u>683</u>
Vehicle's Wheel Base : <u>2745</u> mm								
Location of Vehicle's C.G. : <u>1111</u> mm rearward of front wheel center.								

FUEL SYSTEM DATA :

Fuel System Capacity From Owner's Manual	=	<u>64.7</u>	liters
Usable Capacity Figure Furnished by COTR	=	<u>64.7</u>	liters
Test Volume Range (92 to 94% of Usable Capacity)	=	<u>59.5</u>	to <u>60.8</u> liters
ACTUAL TEST VOLUME	=	<u>59.9</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- center ahead of rear axle; Lines - inside left frame stiffener; Filler - left side behind rear axle</u>			

DATA SHEET NO. 3 POST IMPACT DATA

TYPE OF TEST:

Type of Test : Frontal Barrier Impact Angle : 0°
Test Date : January 16, 2001 Time: 11:35 Temperature: -2 °C
Vehicle NHTSA No. : M15300
Required Impact Velocity Range : 55.5 to 57.1 kph

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

Trap No. 1 = 56.64 kph; Trap No. 2 = 56.64 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 = 4775 ; C/L = 4885 ; Left = 4780
Post-Test Right = 4375 ; C/L = 4328 ; Left = 4360
Crush Right = 400 ; C/L = 557 ; Left = 420
AVERAGE = 459 mm

VEHICLE REBOUND: (From rigid barrier only.)

Distance from front of test vehicle to impact point :

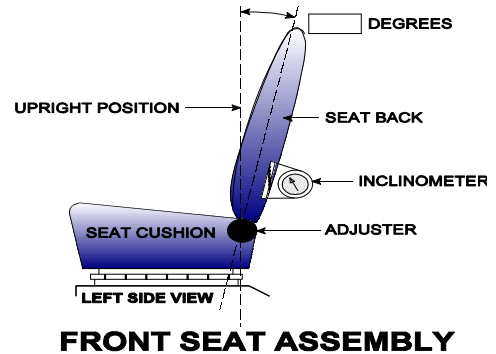
Right = 354 ; C/L = 285 ; Left = 347
AVERAGE = 329 mm

DATA SHEET NO. 4 TEST VEHICLE INFORMATION

VEHICLE IDENTIFICATION:

Model Year : 2001 Vehicle Model: Acura 3.2 TL 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: 21.7

Measurement instructions: Recline seat until the measurement from the outside headrest bolt to the outside seat post header equals 610 mm.

Seat back angle for passenger's seat: 21.7

Measurement instructions: Same as the driver's seat

2. Seat Fore and Aft Positioning

Positioning of the driver's seat: There is 235 mm of seat track displacement; seat was placed in the mechanical middle position.

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 64.7 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 = 64.7 liters

3.2 Amount of Stoddard solvent added to vehicle(s) used for certification test(s) = 59.9 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.

The fuel pump will operate for 2 seconds and keep pressure when the ignition key is turned from Lock (0) to On (II) position.

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

4. STEERING COLUMN ADJUSTMENTS :

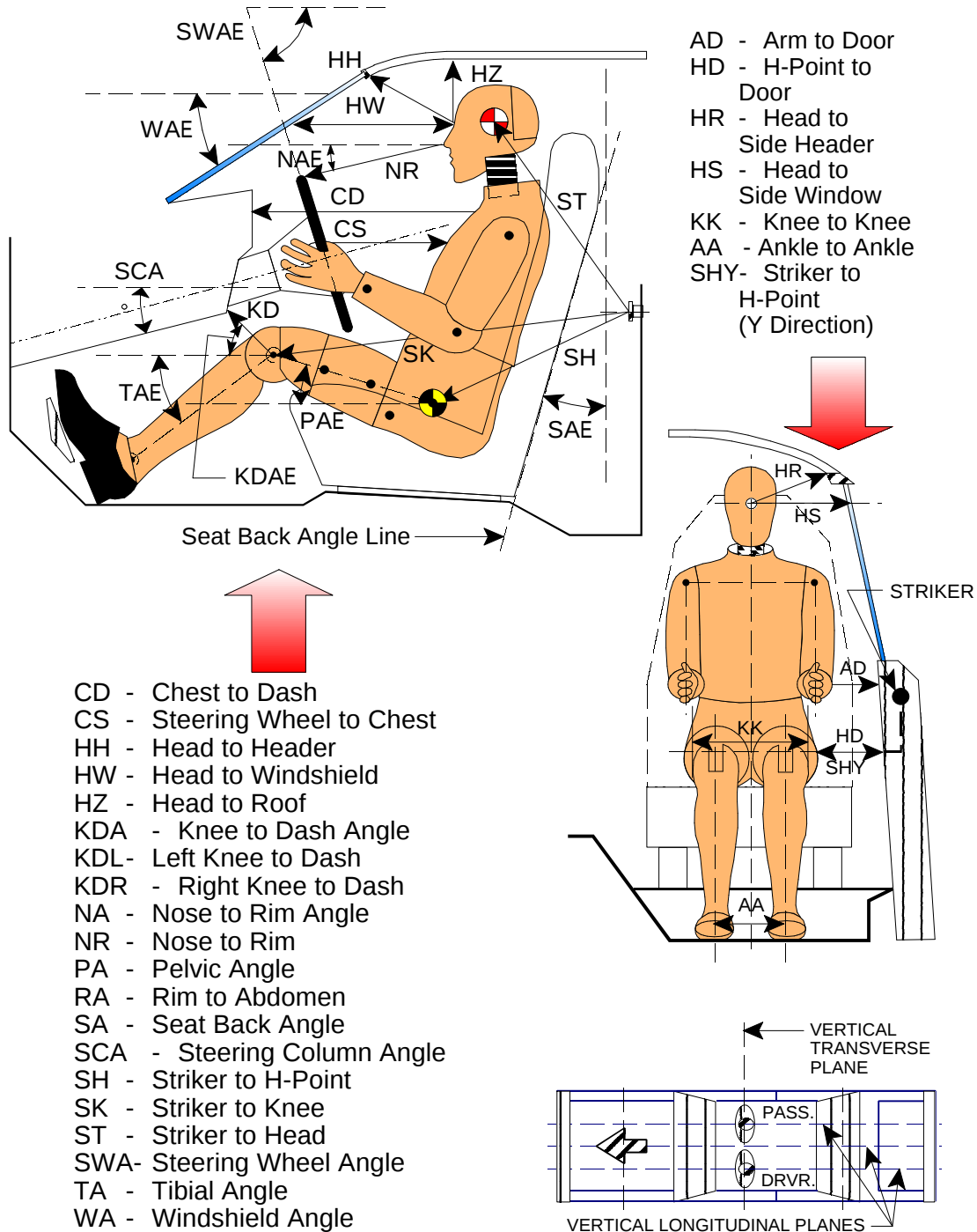
Steering wheel and column adjustments are made so that the steering wheel hub is at the geometric center of the locus it describes when it is moved through its full range of driving positions. If the tested vehicle has any of these adjustments, does your company use any specific procedures to determine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

Operational Instructions: The steering column was placed in mechanical middle position.

5. SEAT BELT UPPER ANCHORAGE

Nominal design riding position: The seat belt anchorages were placed in the topmost detent.

DUMMY MEASUREMENT FOR FRONT SEAT PASSENGERS

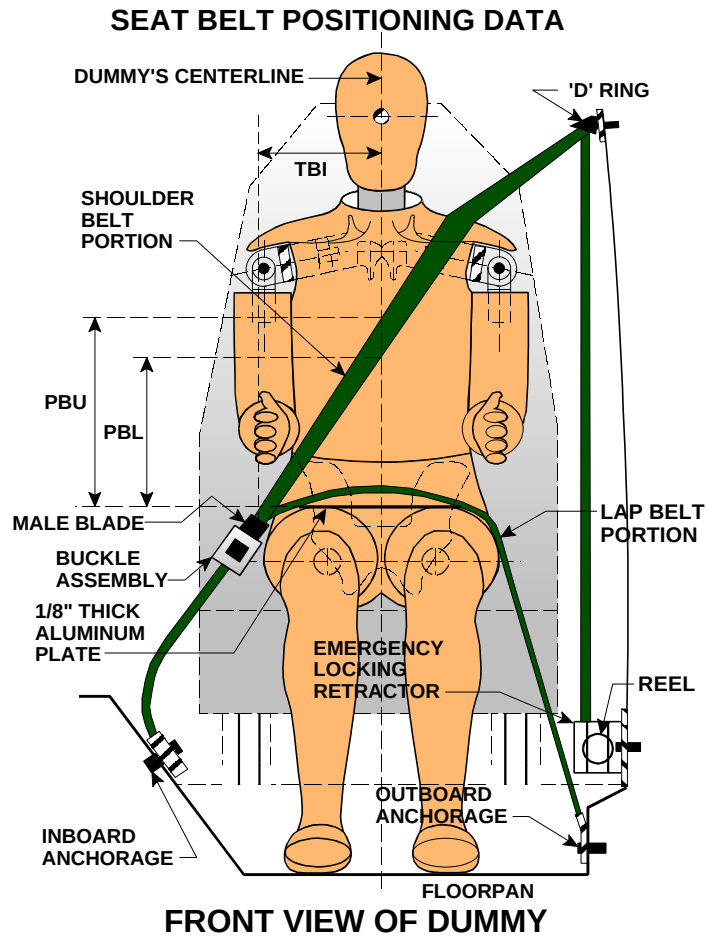


DATA SHEET NO. 5 FRONT SEAT DUMMY POSITIONING MEASUREMENTS IN VEHICLE (cont.)

	DRIVER (Serial #150)			PASS. (Serial # 245)		
WA ^o	25.2 deg.			N/A		
SWA ^o	64.7 deg.			N/A		
SCA ^o	25.3 deg.			N/A		
SA ^o	21.7 deg.			21.7 deg.		
HZ	143			154		
HH	300			285		
HW	604			623		
HR	187			190		
NR	415	Angle	-13 deg.	N/A		
CD	523			525		
CS	307			N/A		
RA	192			N/A		
KDL	222	Angle (KDA)	0 deg.	210		
KDR	208			189	Angle (KDA)	0 deg.
PA ^o	24.2 deg.			23.8 deg.		
TA ^o	36.9 deg.			37 deg.		
KK	325			274		
AA	325			205		
ST	492	Angle	8 deg.	483	Angle	6 deg.
SK	612	Angle	96 deg.	610	Angle	93 deg.
SH	266	Angle	129 deg.	267	Angle	124 deg.
SHY	233			230		
HS	317			312		
HD	133			122		
AD	100			93		

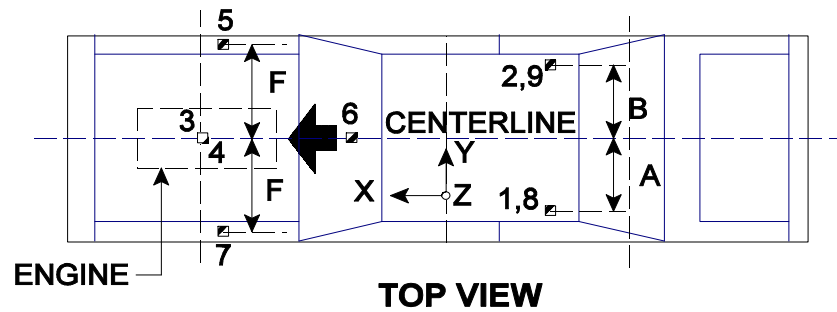
Dimensions in millimeters

DATA SHEET NO. 6 SEAT BELT POSITIONING DATA

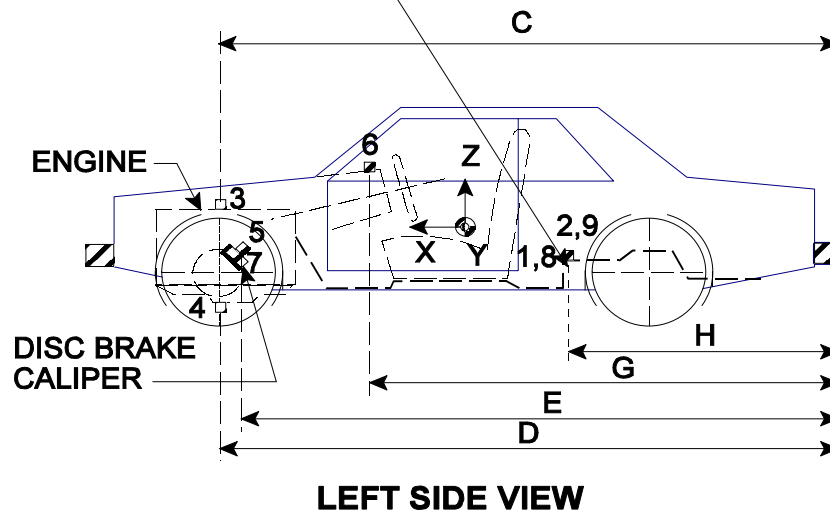


	DRIVER DUMMY (mm)	PASSENGER DUMMY (mm)
PBU -- Top surface of alum. plate to upper edge	355	355
PBL-- Top surface of alum. plate to belt lower edge	280	280
<u>LAP BELT TENSION</u>	10 N	10 N
<u>SHOULDER BELT TENSION</u>	Retractor	Retractor

VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY



REAR SEAT CUSHION
ASSY. FRONT ATTACHMENT
BRACKET SUPPORT



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	-327
B Right Rear Seat Crossmember Y	323
C Top of Engine X	4063
D Bottom of Engine X	3507
E Disc Brake Calipers X	3747
F Disc Brake Calipers Y	781
G Instrument Panel X	3053
H Rear Seat Crossmembers X	1929

LOCATION NUMBER	DESCRIPTION	MAXIMUM VALUE (g's)			
		Pos.	msec.	Neg.	msec.
1	Rear Seat X-Member @ Left Side	5.4	119.5	-33.5	68.8
2	Rear Seat X-Member @ Right Side	*	*	*	*
3	Top of Engine Block	39.5	44.9	-160.1	29.4
4	Bottom of Engine	40.5	39.4	-132.8	30.1
5	Disc Brake Caliper @ Right Side	60.5	52.4	-164.4	32.7
6	Instrument Panel	**	**	**	**
7	Disc Brake Caliper @Left Side	55.0	57.6	-117.8	32.4
8	Rear Seat X-Member @ Left-Redundant	5.4	119.5	-33.3	68.8
9	Rear Seat X-Member @ Right-Redundant	5.8	120.0	-36.0	69.5

* Data is not accurate

**Data is clipped

DATA SHEET NO. 8 DUMMY INJURY CRITERIA VALUES

Vehicle Year/Make/Model/Body Style: 2001 Acura 3.2 TL 4-Door Sedan

NHTSA Test No.: M15300 Test Date: January 16, 2001

		MAXIMUM VALUE							
		Driver				Passenger			
DESCRIPTION	Unit	Pos	msec	Neg	msec	Pos	msec	Neg	msec
Head X	g	19.5	156.5	-60.5	75.9	18.7	273.4	-59.0	67.3
Head Y	g	3.3	59.5	-4.1	79.7	3.2	47.6	-9.4	56.4
Head Z	g	21.7	63.7	-1.4	21.9	14.9	53.9	-18.8	87.8
Head Resultant	g	60.5	75.9	0.1	2.2	59.4	67.3	0.1	-14.9
Redundant Head X	g	19.9	156.5	-61.0	75.9	18.8	272.9	-63.5	65.6
Redundant Head Y	g	3.8	59.4	-4.2	80.8	3.5	47.3	-9.0	91.1
Redundant Head Z	g	22.2	64.0	-1.5	21.9	15.6	60.4	-18.0	87.7
Redundant Head Resultant	g	61.1	75.9	0.1	-50.0	64.1	65.6	0.1	10.8
Upper Neck Fx	N	553.1	74.1	-468.1	99.4	446.3	71.3	-223.6	52.8
Upper Neck Fy	N	96.0	131.6	-118.9	79.4	165.7	81.9	-151.7	125.5
Upper Neck Fz	N	1421.2	64.0	-72.6	76.2	1159.0	59.4	-231.6	88.0
Upper Neck F Resultant	N	1423.3	64.0	1.8	-49.9	1164.2	59.4	3.7	-16.0
Upper Neck Mx	N-m	7.9	51.8	-9.2	100.2	22.7	91.5	-16.4	116.8
Upper Neck My	N-m	62.6	74.0	-18.4	96.4	21.2	70.7	-36.5	97.4
Upper Neck Mz	N-m	10.1	99.3	-3.5	142.6	18.2	93.6	-9.8	172.6
Upper Neck M Resultant	N-m	62.7	74.0	0.1	-43.7	44.4	92.9	0.0	-41.3
Chest X	g	5.5	239.6	-53.0	65.5	6.2	240.0	-48.5	63.5
Chest Y	g	2.2	71.0	-3.9	48.1	1.6	119.9	-11.6	89.1
Chest Z	g	6.2	53.5	-23.9	74.4	6.5	39.4	-12.3	86.3
Chest Resultant	g	53.5	65.6	0.1	-22.8	48.9	63.6	0.1	-46.5
Redundant Chest X	g	5.4	239.3	-52.6	65.6	6.3	240.3	-48.8	63.1
Redundant Chest Y	g	2.1	71.2	-4.0	48.0	1.4	121.1	-12.4	88.8
Redundant Chest Z	g	6.0	53.5	-24.2	74.3	6.7	39.3	-11.4	86.5
Redundant Chest Resultant	g	53.2	65.7	0.1	-50.0	49.2	63.0	0.1	-48.9
Chest Displacement	mm	0.1	9.8	-35.4	67.1	0.0	-31.3	-33.6	85.8

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

Vehicle Year/Make/Model/Body Style: 2001 Acura 3.2 TL 4-Door Sedan

NHTSA Test No.: M15300 Test Date: January 16, 2001

		MAXIMUM VALUE							
		Driver				Passenger			
DESCRIPTION	Unit	Pos	msec	Neg	msec	Pos	msec	Neg	msec
Pelvic X	g	9.7	190.8	-58.7	60.0	8.5	189.3	-46.9	54.0
Pelvic Y	g	7.1	74.2	-6.2	34.4	6.1	46.6	-11.3	62.7
Pelvic Z	g	4.5	178.4	-43.4	72.5	3.9	187.3	-31.0	76.2
Pelvic Resultant	g	63.9	60.1	0.0	-46.3	49.9	59.8	0.1	-49.0
Left Femur	N	780.5	46.6	-2410.1	60.0	93.0	158.3	-5197.3	53.7
Right Femur	N	469.8	86.3	-3161.6	62.7	176.3	153.0	-1796.6	64.5
Left Upper Tibia Mx	N-m	25.4	32.5	-36.9	60.5	23.3	42.7	-72.1	64.5
Left Upper Tibia My	N-m	22.4	183.7	-70.3	49.4	271.4	65.1	-79.1	38.3
Left Lower Tibia Fz	N	83.0	163.6	-1581.1	26.9	243.9	65.3	-2342.4	38.1
Left Lower Tibia Mx	N-m	84.6	49.4	-18.1	28.9	13.8	39.4	-37.3	57.5
Left Lower Tibia My	N-m	82.1	60.5	-21.7	33.3	227.3	59.2	-15.0	32.0
Right Upper Tibia Mx	N-m	40.7	92.7	-12.3	37.1	29.5	78.4	-30.5	37.5
Right Upper Tibia My	N-m	70.0	56.1	-123.5	35.0	57.4	63.5	-81.4	35.4
Right Lower Tibia Fz	N	125.5	142.3	-3469.5	35.2	114.1	170.6	-2434.0	35.9
Right Lower Tibia Mx	N-m	10.7	54.3	-6.9	76.5	64.1	60.6	-20.6	35.0
Right Lower Tibia My	N-m	254.1	56.1	-20.8	43.0	146.7	60.6	-13.3	29.1
Left Foot Aft Ax	g	30.2	57.3	-55.7	34.3	49.9	55.6	-70.8	37.0
Left Foot Aft Az	g	34.9	34.3	-49.9	31.5	40.4	22.3	-76.7	41.6
Left Foot Fore Az	g	59.6	34.5	-111.1	31.6	89.7	49.7	-131.5	41.4
Right Foot Aft Ax	g	33.6	58.4	-88.7	33.4	23.3	56.0	-58.2	34.7
Right Foot Aft Az	g	6.1	209.1	-104.4	42.0	4.7	24.0	-80.3	38.8
Right Foot Fore Az	g	123.5	50.4	-279.6	29.9	19.4	52.2	-101.0	32.8
Lap Belt Load	N	6603.5	61.3	-0.3	1.6	5537.8	60.5	-21.9	202.5
Torso Belt	N	7480.9	64.1	-6.8	163.2	6977.0	62.0	-29.4	249.0

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

Vehicle Year/Make/Model/Body Style: 2001 Acura 3.2 TL 4-Door Sedan

NHTSA Test No.: M15300 Test Date: January 16, 2001

HEAD INJURY CRITERIA (HIC)				
	HIC**	t ₁ (msec)	t ₂ (msec)	Average Acceleration t ₁ to t ₂
Position #1 - Driver	546.5	54.8	90.8	47.0
Position #2 - Passenger	541.0	52.4	87.8	47.1

** 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	52.3	63.9	66.9	552.4
Position #2 - Passenger	47.9	61.3	64.3	448.1

* 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 Acura 3.2 TL 4-Door Sedan

NHTSA Test No.: M15300 Test Date: January 16, 2001

HEAD INJURY CRITERIA (HIC) REDUNDANT				
	HIC**	t ₁ (msec)	t ₂ (msec)	Average Acceleration t ₁ to t ₂
Position #1 - Driver	560.3	54.5	90.4	47.5
Position #2 - Passenger	526.0	52.4	87.4	46.8

** 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	52.3	63.8	66.8	553.3
Position #2 - Passenger	48.2	61.3	64.3	464.5

* 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>1957</u>	<u>1975</u>
Shoulder belt length as measured on Part 572 Dummy.	<u>880</u>	<u>875</u>
Lap belt length as measured on Part 572 Dummy.	<u>902</u>	<u>925</u>

SHOULDER BELT SPOOL-OFF DATA:

As determined by film analysis.	<u>89</u>	<u>114</u>
As determined mechanically.	<u>86</u>	<u>96</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>1.2 mm/50 mm</u>
Measured mechanically.	<u>0 mm/50 mm</u>	<u>1 mm/50 mm</u>

Dimensions in millimeters

* Data is clipped

** Seatbelt spoolout potentiometers were not connected per request of American Honda representatives.

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 32 mm molding.

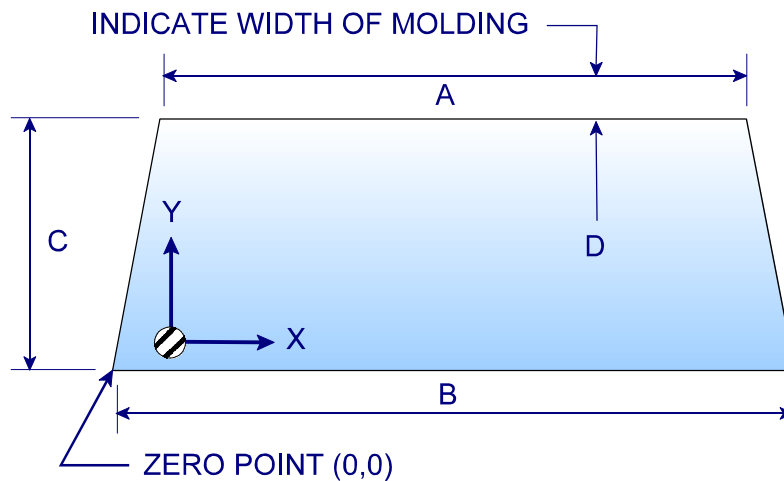
FMVSS 212 REQUIREMENTS:

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	2204	2204	100
LEFT SIDE	2204	2204	100
TOTAL	4408	4408	100

AREA OF RETENTION FAILURE:



DIMENSIONS (mm)	
A	1146
B	1512
C	875
D	32

FRONT VIEW OF WINDSHIELD

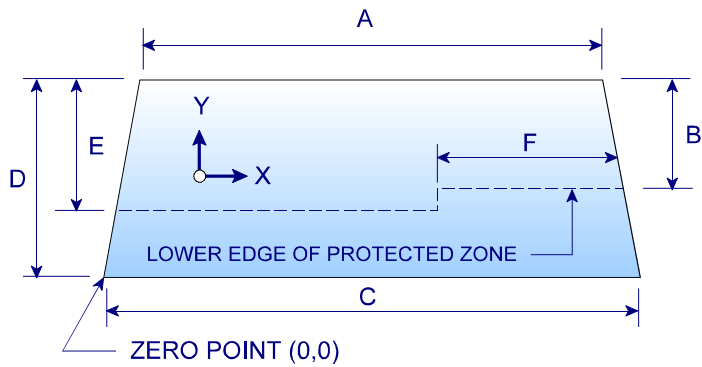
FAILURE DETAILS: None

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	1146
B	524
C	1512
D	875
E	570
F	587

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

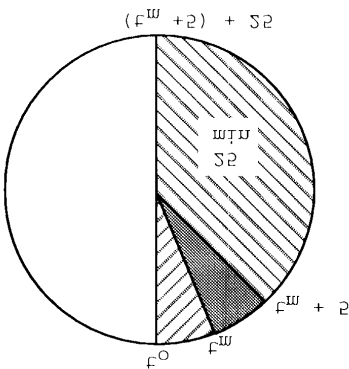
NHTSA TEST No.: M15300 TEST DATE: January 16, 2001
VEHICLE MAKE/MODEL: 2001 Acura 3.2 TL

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

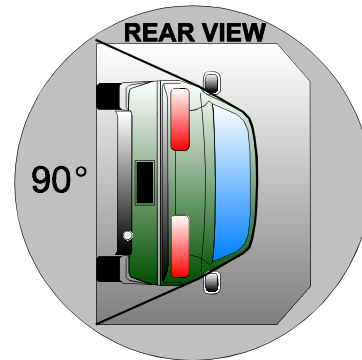
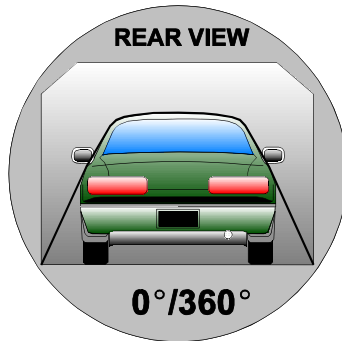
DATA SHEET 13

FMVSS NO. 301 STATIC ROLLOVER DATA SHEET

Vehicle: 2001 Acura 3.2 TL

NHTSA No. M15300

0 - 90 Degrees



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD :

Rollover Fixture 90° Rotation Time	<u>1</u>	minutes	<u>17</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>17</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

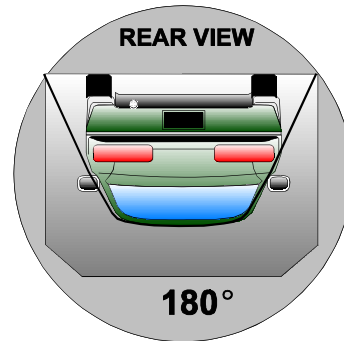
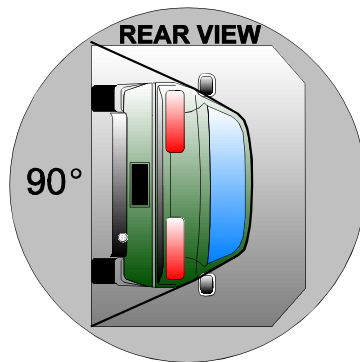
DATA SHEET 13

FMVSS NO. 301 STATIC ROLLOVER DATA SHEET (CONTINUED)

Vehicle: 2001 Acura 3.2 TL

NHTSA No. M15300

90 - 180 Degrees



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD :

Rollover Fixture 90° Rotation Time	<u>1</u>	minutes	<u>02</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>2</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

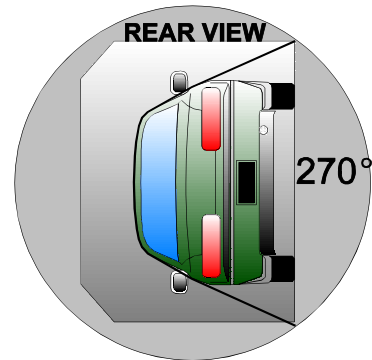
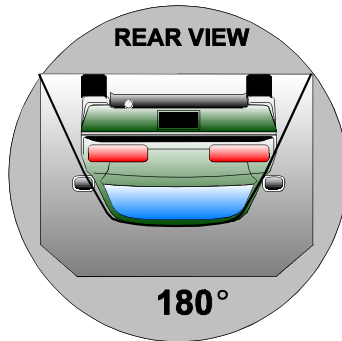
DATA SHEET 13

FMVSS NO. 301 STATIC ROLLOVER DATA SHEET (CONTINUED)

Vehicle: 2001 Acura 3.2 TL

NHTSA No. M15300

180 - 270 Degrees



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD :

Rollover Fixture 90° Rotation Time	<u>1</u>	minutes	<u>02</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>2</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

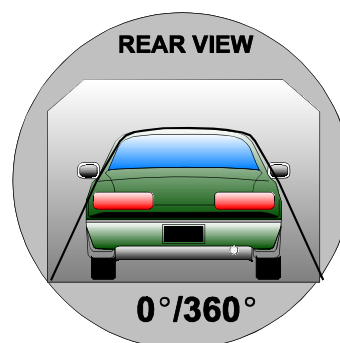
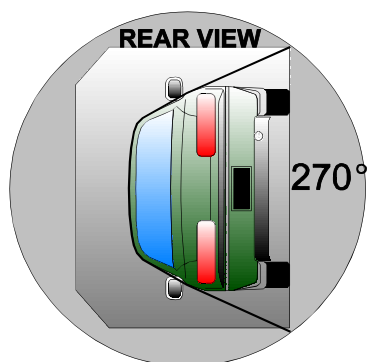
DATA SHEET 13

FMVSS NO. 301 STATIC ROLLOVER DATA SHEET (CONTINUED)

Vehicle: 2001 Acura 3.2 TL

NHTSA No. M15300

270 - 360 Degrees



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD :

Rollover Fixture 90° Rotation Time	<u>1</u>	minutes	<u>13</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>13</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:

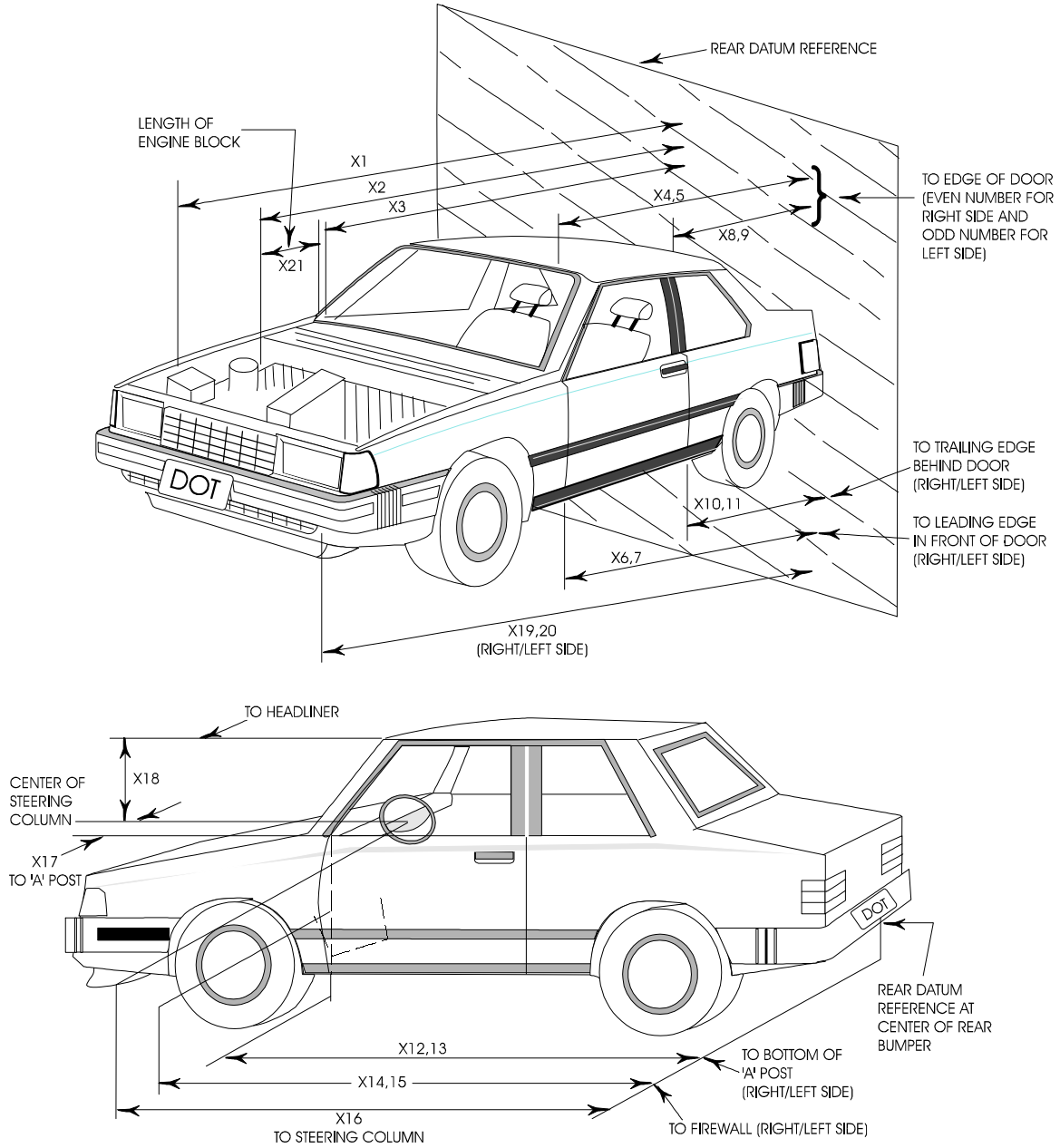
0 g	0 g	0 g	N/A
-----	-----	-----	-----

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

IV. SOLVENT SPILLAGE LOCATION(S) :

None

DATA SHEET NO. 14 TEST VEHICLE MEASUREMENTS

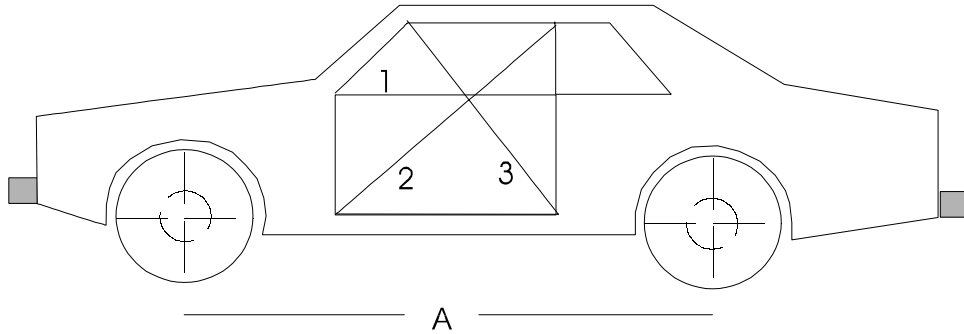


DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)

No.		Pre-Test	Post-Test	Difference
X1	Total Length of Vehicle at Centerline	4885	4328	557
X2	Rear Surface of Vehicle to Front of Engine	4402	4182	220
X3	Rear Surface of Vehicle to Firewall	3773	3704	69
X4	Rear Surface of Vehicle to Upper Leading Edge of Right Door	3378	3379	-1
X5	Rear Surface of Vehicle to Upper Leading Edge of Left Door	3385	3387	-2
X6	Rear Surface of Vehicle to Lower Leading Edge of Right Door	3390	3398	-8
X7	Rear Surface of Vehicle to Lower Leading Edge of Left Door	3395	3398	-3
X8	Rear Surface of Vehicle to Upper Trailing Edge of Right Door	2258	2252	6
X9	Rear Surface of Vehicle to Upper Trailing Edge of Left Door	2260	2263	-3
X10	Rear Surface of Vehicle to Lower Trailing Edge of Right Door	2289	2282	7
X11	Rear Surface of Vehicle to Lower Trailing Edge of Left Door	2284	2289	-5
X12	Rear Surface of Vehicle to Bottom of "A" Post of Right Side	3400	3397	3
X13	Rear Surface of Vehicle to Bottom of "A" Post of Left Side	3406	3403	3
X14	Rear Surface of Vehicle to Firewall, Right Side	3685	3653	32
X15	Rear Surface of Vehicle to Firewall, Left Side	3732	3718	14
X16	Rear Surface of Vehicle to Steering Column	2893	2922	-29
X17	Center of Steering Column to "A" Post	322	320	2
X18	Center of Steering Column to Headliner	421	388	33
X19	Rear Surface of Vehicle to Right Side of Front Bumper	4789	4279	510
X20	Rear Surface of Vehicle to Left Side of Front Bumper	4797	4304	493
X21	Length of Engine Block	446	446	0
RD	Rear Surface of Vehicle to Right Side of Dash Panel	3080	3068	12
CD	Rear Surface of Vehicle to Center of Dash Panel	3034	3026	8
LD	Rear Surface of Vehicle to Left Side of Dash Panel	3066	3066	0

All Dimensions in mm

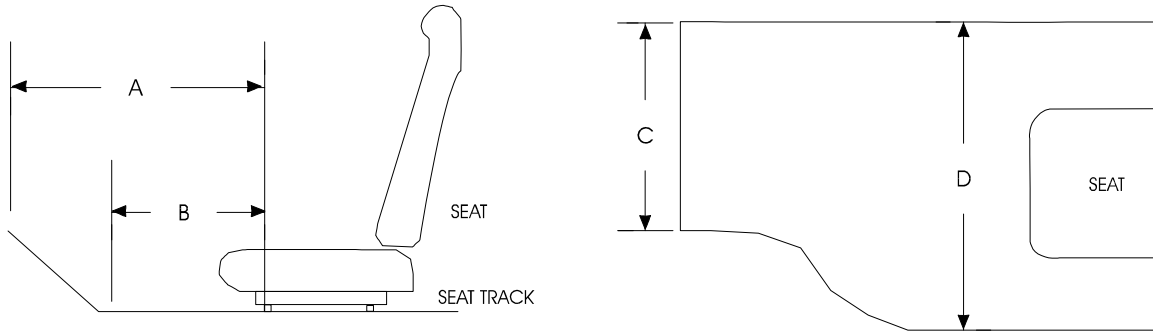
DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)
 VEHICLE INTRUSION MEASUREMENTS
 DOOR OPENING WIDTH



UNITS (mm)	LEFT			RIGHT		
MEASUREMENT	1	2	3	1	2	3
BEFORE TEST	1054	1455	950	1052	1455	948
AFTER TEST	1053	1460	956	1053	1459	958
DIFFERENCE	1	-5	-6	-1	-4	-10

UNITS (mm)	A = WHEELBASE LEFT	A = WHEELBASE RIGHT
BEFORE TEST	2745	2745
AFTER TEST	2607	2616
DIFFERENCE	138	129

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



DRIVER

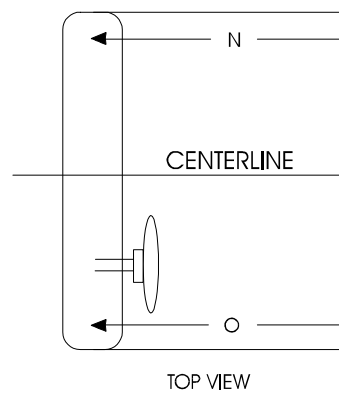
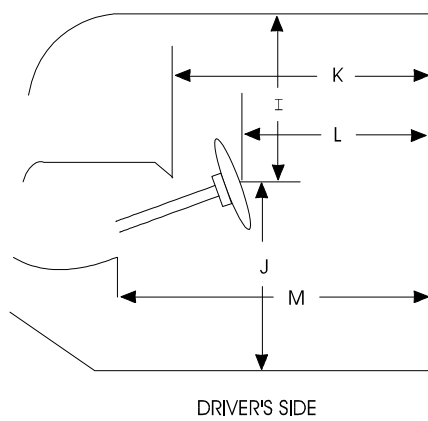
Measurement	Pre-Test	Post-Test	Difference
A	734	637	97
B	631	553	78
C	440	427	13
D	446	449	-3

PASSENGER

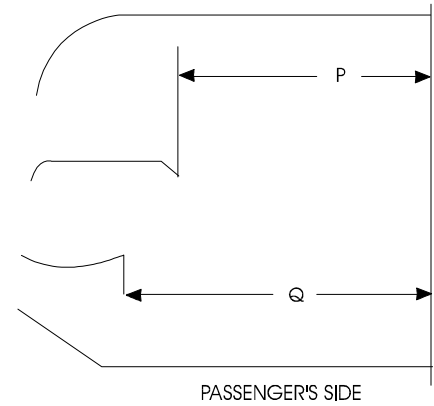
Measurement	Pre-Test	Post-Test	Difference
A	747	578	169
B	595	549	46
C	429	431	-2
D	438	459	-21

Units = mm

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



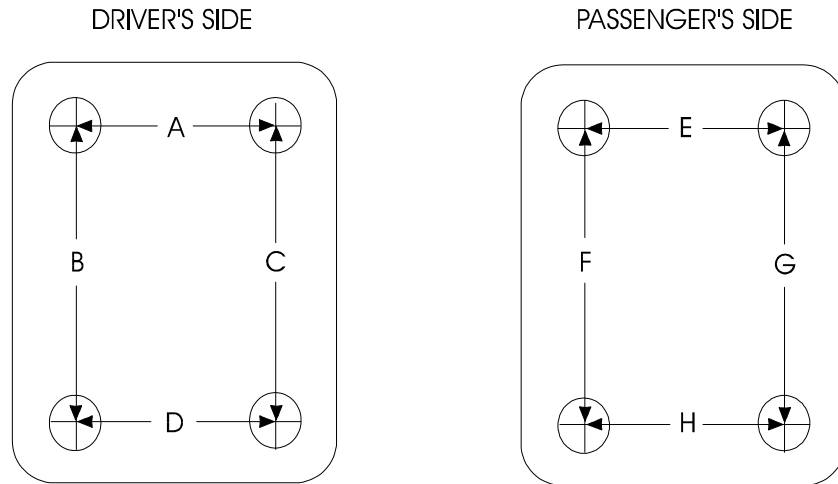
MEASUREMENTS
FROM C-PILLAR
BELT ANCHORAGE



Measurement	Pre-Test	Post-Test	Difference
I	421	388	33
J	594	693	-99
K	1863	1862	1
L	1674	1701	-27
M	1918	1912	6
N	1877	1853	24
O	1847	1844	3
P = K (PASS.)	2038	2022	16
Q = M (PASS.)	1917	1884	33

Units = mm

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

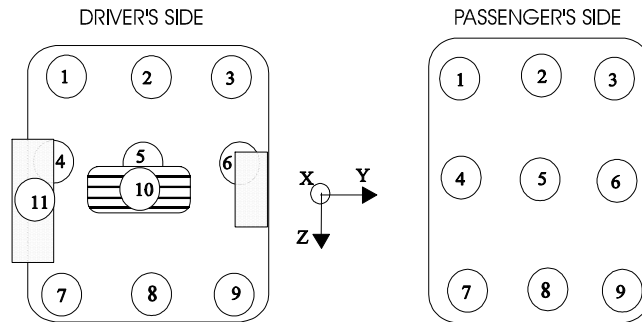


TOP VIEW THROUGH FLOOR PAN

Measurement	Pre-Test	Post-Test	Difference
A	200	209	-9
B	400	403	-3
C	400	412	-12
D	200	205	-5
E	200	206	-6
F	400	403	-3
G	400	400	0
H	200	204	-4

Units = mm

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



Driver Side Floorpan Measurements

Floorpan Location	X Deformation (mm)			Z Deformation (mm)		
	Pre-Test	Post-Test	Difference	Pre-Test	Post-Test	Difference
1	3544	3434	110	-416	-439	23
2	3521	3418	103	-399	-453	54
3	3507	3385	122	-375	-431	56
4	3481	3409	72	-350	-362	12
5	3464	3379	85	-324	-373	49
6	3330	3376	-46	-308	-330	22
7	3412	3390	22	-292	-292	0
8	3418	3334	84	-279	-288	9
9	3375	3339	36	-284	-254	-30
10	3390	3350	40	-434	-445	11
11	3447	3428	19	-386	-386	0

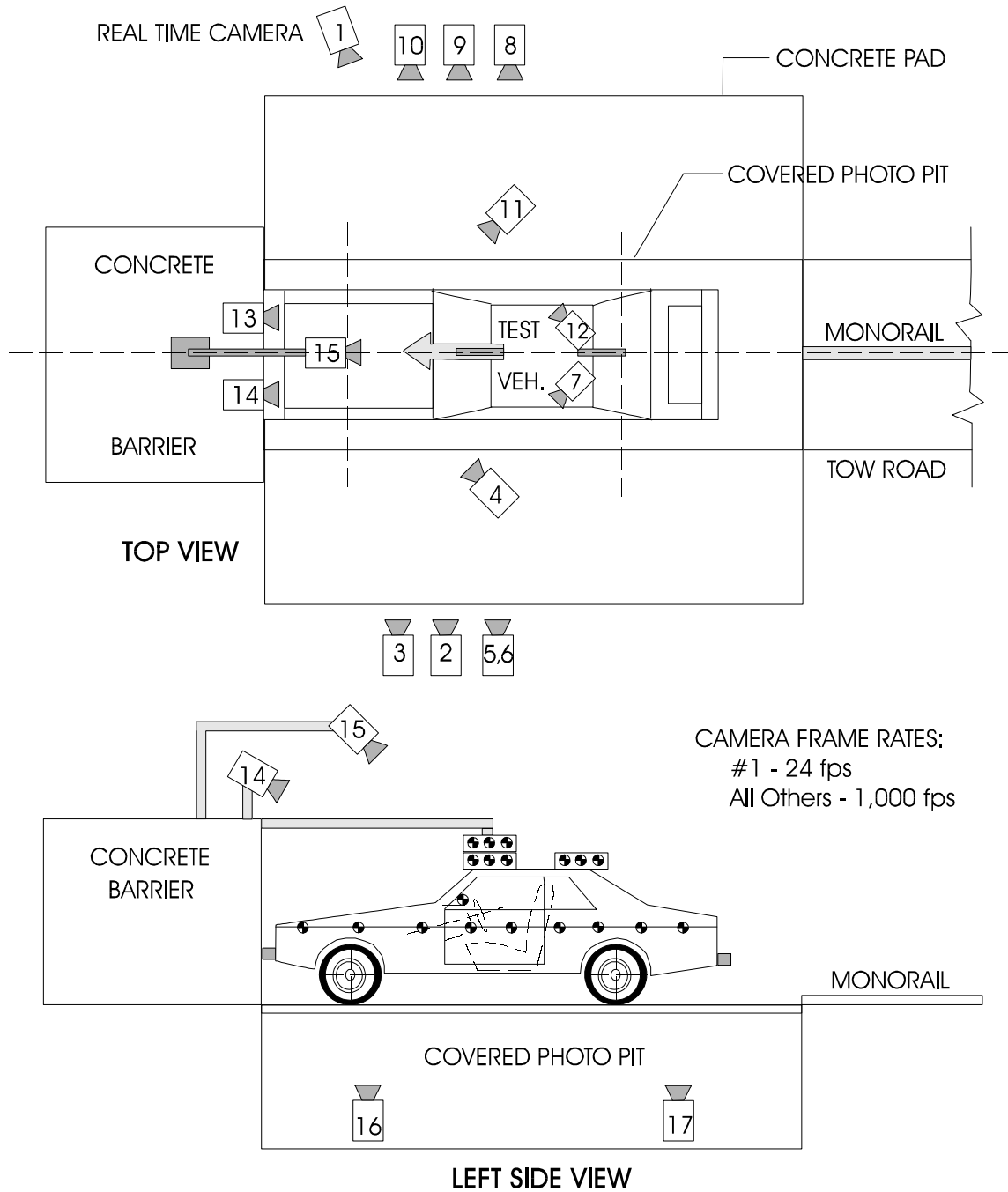
Passenger Side Floorpan Measurements

Floorpan Location	X Deformation (mm)			Z Deformation (mm)		
	Pre-Test	Post-Test	Difference	Pre-Test	Post-Test	Difference
1	3427	3385	42	-368	-421	53
2	3542	3371	171	-419	-440	21
3	3522	3413	109	-432	-440	8
4	3458	3343	115	-348	-366	18
5	3468	3354	114	-348	-362	14
6	3480	3408	72	-366	-372	6
7	3385	3315	70	-270	-256	-14
8	3390	3342	48	-271	-253	-18
9	3382	3399	-17	-274	-250	-24

Reference: X = Rear Bumper; Z = Ground

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.: M15300 Vehicle: 2001 Acura 3.2 TL 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	7031	1708	1025	-2	6605	12.5	1000
3	Left Side View	8748	970	1098	-3	8322	25	1025
4	Driver and Interior View	7507	2790	1904	-11	-	25	1055
5	Steering Column (Bottom)	7802	1905	1177	-4	7376	25	1020
6	Steering Column (Top)	7802	1905	1777	-9	7376	25	1015
7	Left Belt	-	-	-	-	-	13	1025
8	Overall Right Side	7146	2050	1115	-4	6720	12.5	1020
9	Right Side View	8324	1340	1087	-2	7898	25	1010
10	Right Passenger View	8137	2072	1413	-3	7711	35	1010
11	Passenger and Interior View	7358	2668	1947	-10	-	25	1005
12	Right Belt	-	-	-	-	-	13	1030
13	Passenger Front View	620	-92	1987	-36	-	13	1005
14	Driver Front View	620	-92	1987	-37	-	13	1010
15	Windshield View	0	-530	3374	-50	-	13	1005
16	Pit View of Engine	0	615	-3048	90	-	13	1005
17	Pit View of Fuel Tank	0	3295	-3048	90	-	13	990

*X = film plane to monorail centerline

** = referenced to horizontal plane

Y = film plane to impact location

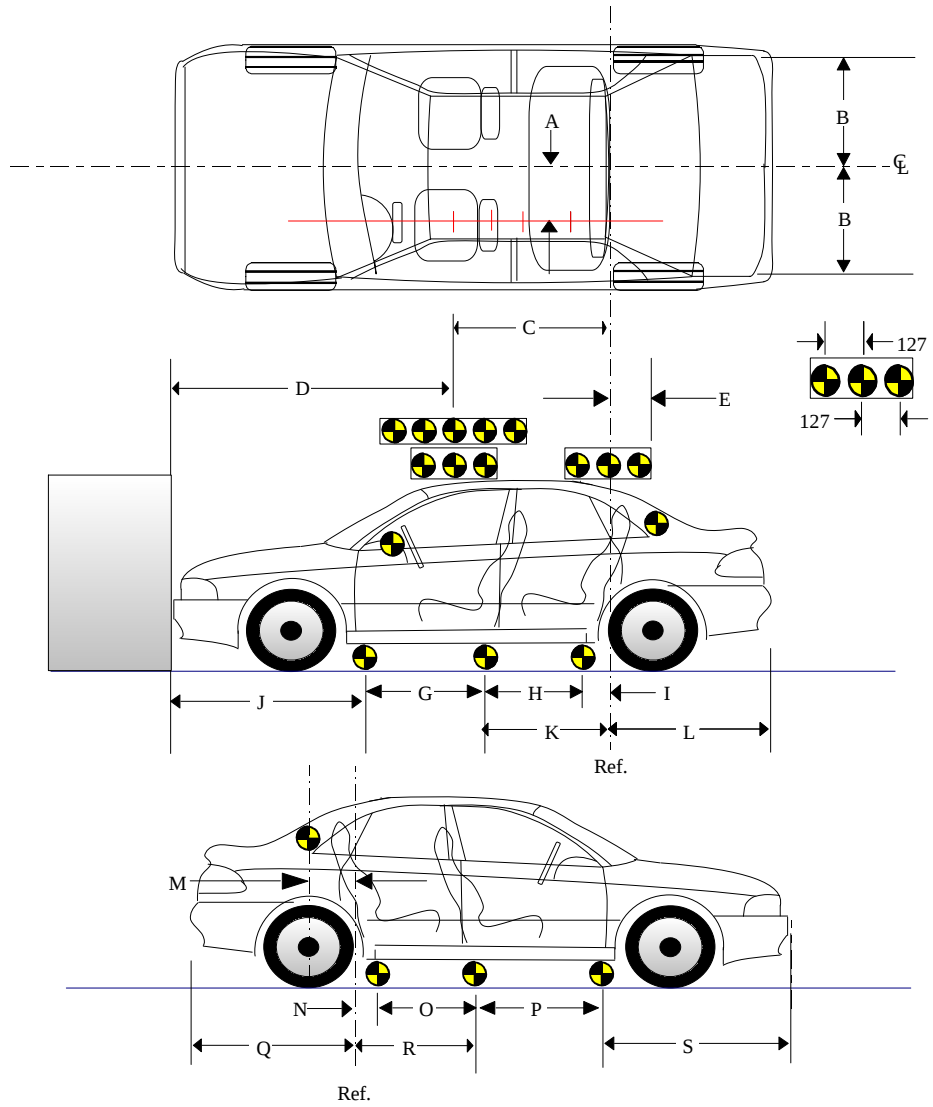
N.T. indicates No Timing

Z = film plane to ground

DATA SHEET NO. 16 VEHICLE REFERENCE PHOTO TARGET LOCATIONS

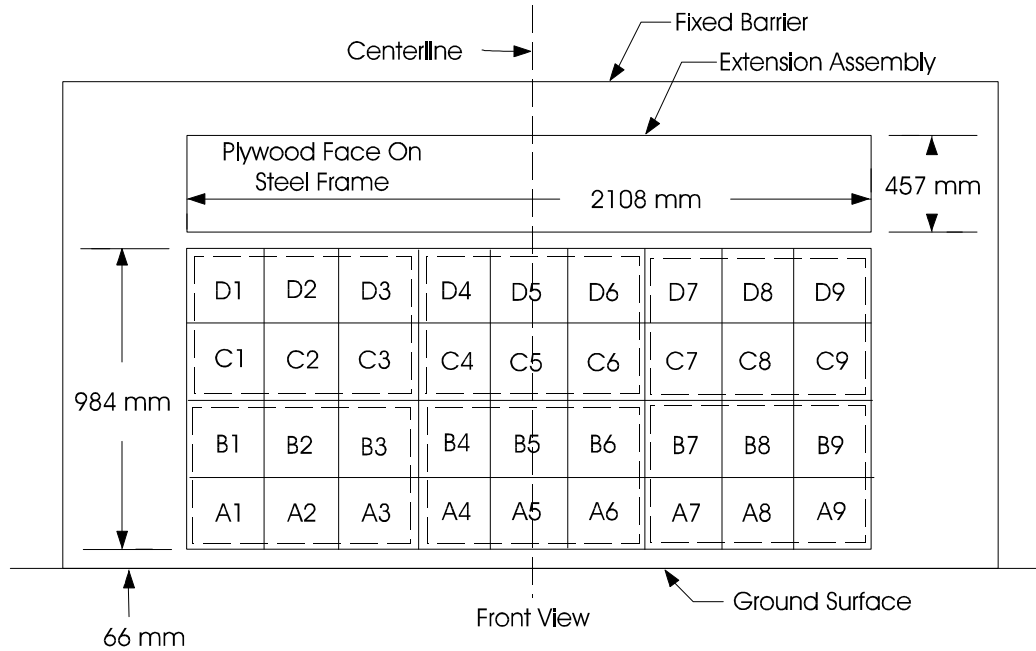
(Dimensions in millimeters)

A	350
B	597
C	1222
D	2242
E	282
F	1659
G	932
H	940
I	110
J	1433
K	1050
L	1470
M	261
N	96
O	955
P	928
Q	1466
R	1051
S	1440



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. : M15300; Test Date: January 16, 2001; Technician: Patrick G. MacDiarmid

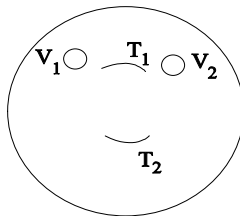
Vehicle Model Year/Make/Model: 2001 Acura 3.2 TL

- A. No. of vent holes: 2 -Driver 2 -Passenger
- B. Size of vent holes: (mm²) 707 -Driver 1590 -Passenger
- C. Total vent area: (mm²) 1414 -Driver 3180 -Passenger
- D. Deflated air bag length and width dimensions or, if round, diameter. (mm)
- Driver: 480 -Height; 580 -Width; 325 -Depth
- Passenger: 760 -Height; 670 -Width; 760 -Depth
- E. Is the air bag tethered?
- Driver: X -Yes; - -No; If yes, record length of tether- 215
- Passenger: - -Yes; X -No; If yes, record length of tether- -

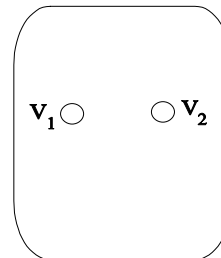
Sketch the air bag showing the location of the vent holes, how the bag is tethered, and where the bag is tethered. Also describe how the tethers are attached to the bag and the steering wheel.

(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: HONDA 0004882 23 08 00

Generator: HSL2GA556 M/D 0900 77800-SY8-A910-M1 S2 5647

Passenger: Air bag: 000738720222 HONDA 007387INL

Generator: PUL535880 M/D 0900 721 77850-S0K-A822-M1

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

Vehicle Make/Model/Body Style: Acura 3.2 TL 4-Door Sedan

NHTSA Test No.: M15300 VIN: 19UUA56681A004513

Model Year: 2001 Build Date: 9/00 Test Date: January 16, 2001

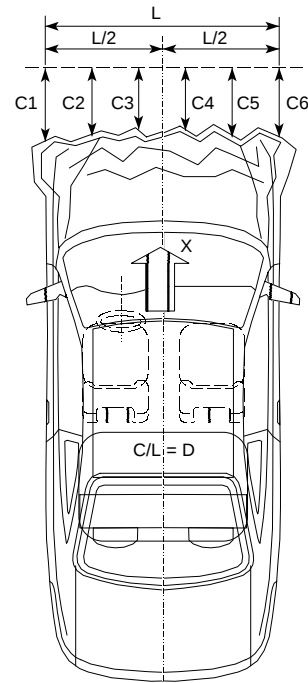
Vehicle Size Category: Midsize Test Weight: 1777.0 kg

Vehicle Wheelbase: 2745 mm; Front Overhang: 997 mm; Overall Width: 1785 mm

Collision Deformation Classification (CDC) Code: 12FDEW3

Crush Depth Dimensions:

	PRE	POST	DIFF	
C1 =	4709	4304	405.0	mm
C2 =	4817	4318	499.0	mm
C3 =	4872	4332	540.0	mm
C4 =	4871	4327	544.0	mm
C5 =	4820	4294	526.0	mm
C6 =	4711	4293	418.0	mm



Midpoint of Damage: D = Vehicle Centerline (Longitudinal)

Length of Damaged Region: L1= 1406 mm
 L2= 703.0 mm
 L5= 281.2 mm

APPENDIX A
PHOTOGRAPHS

TABLE OF PHOTOGRAPHS

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

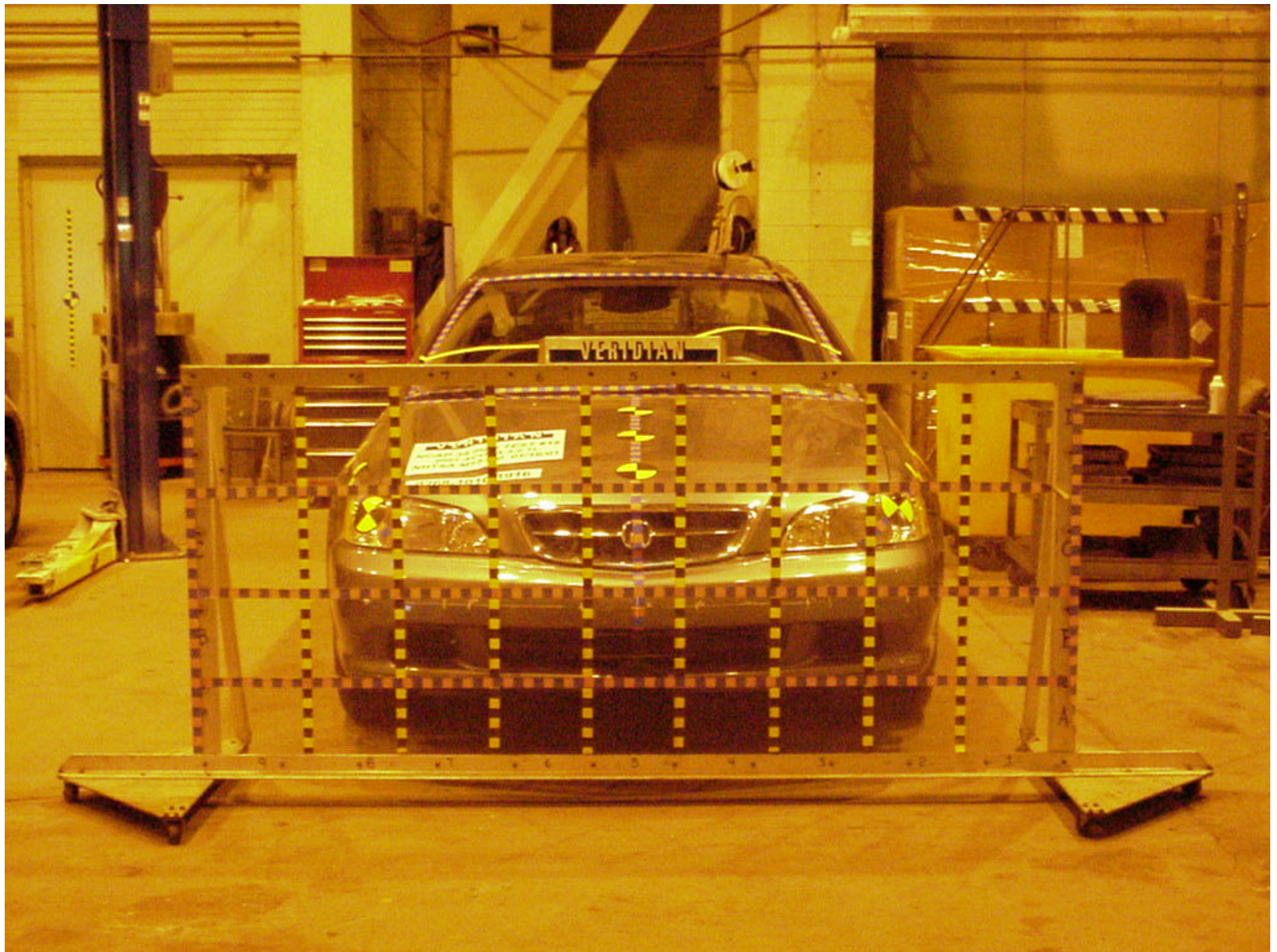


Figure A-1 LOAD CELL LOCATIONS



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

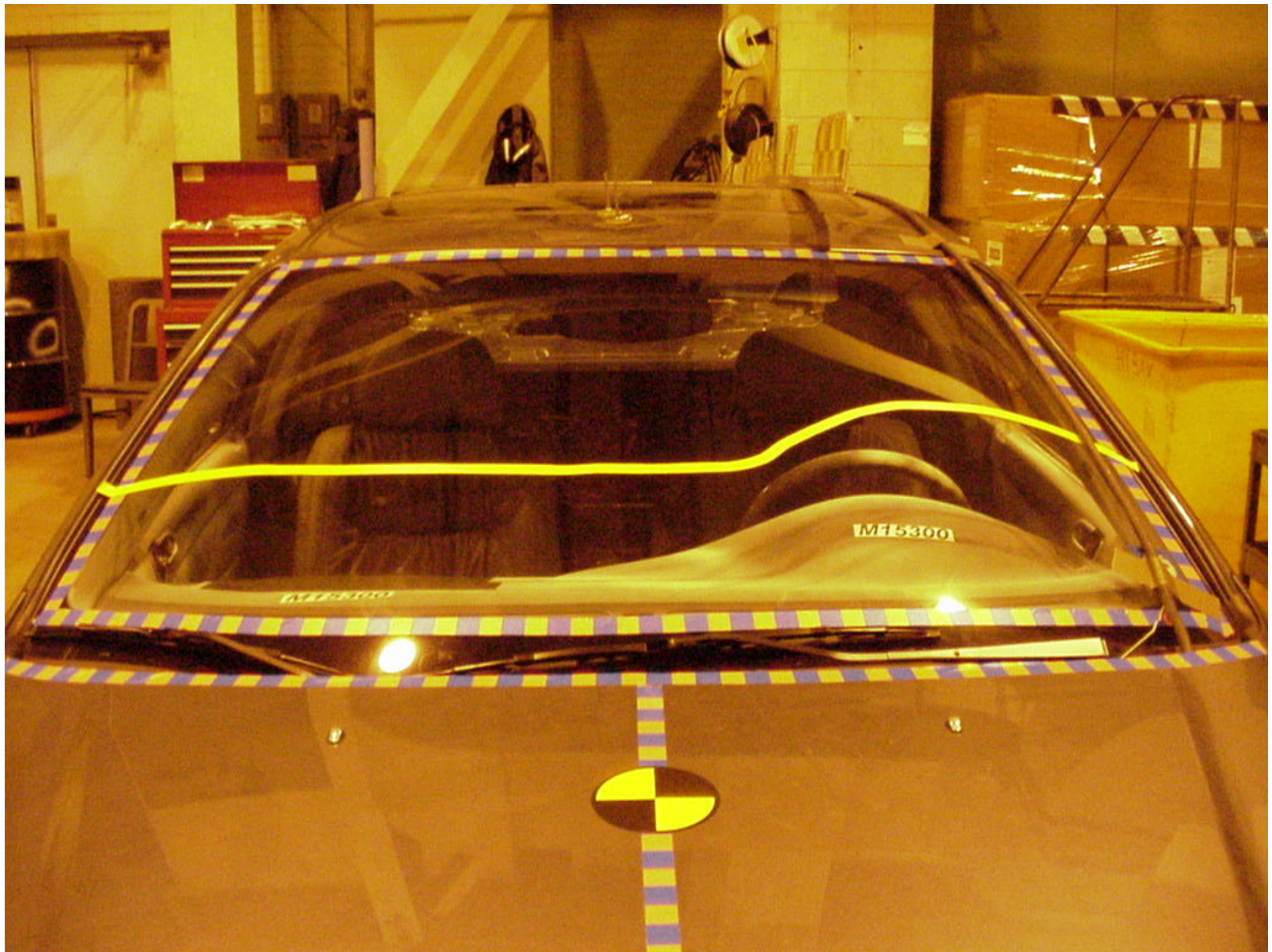


Figure A-12 PRE-TEST WINDSHIELD VIEW



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

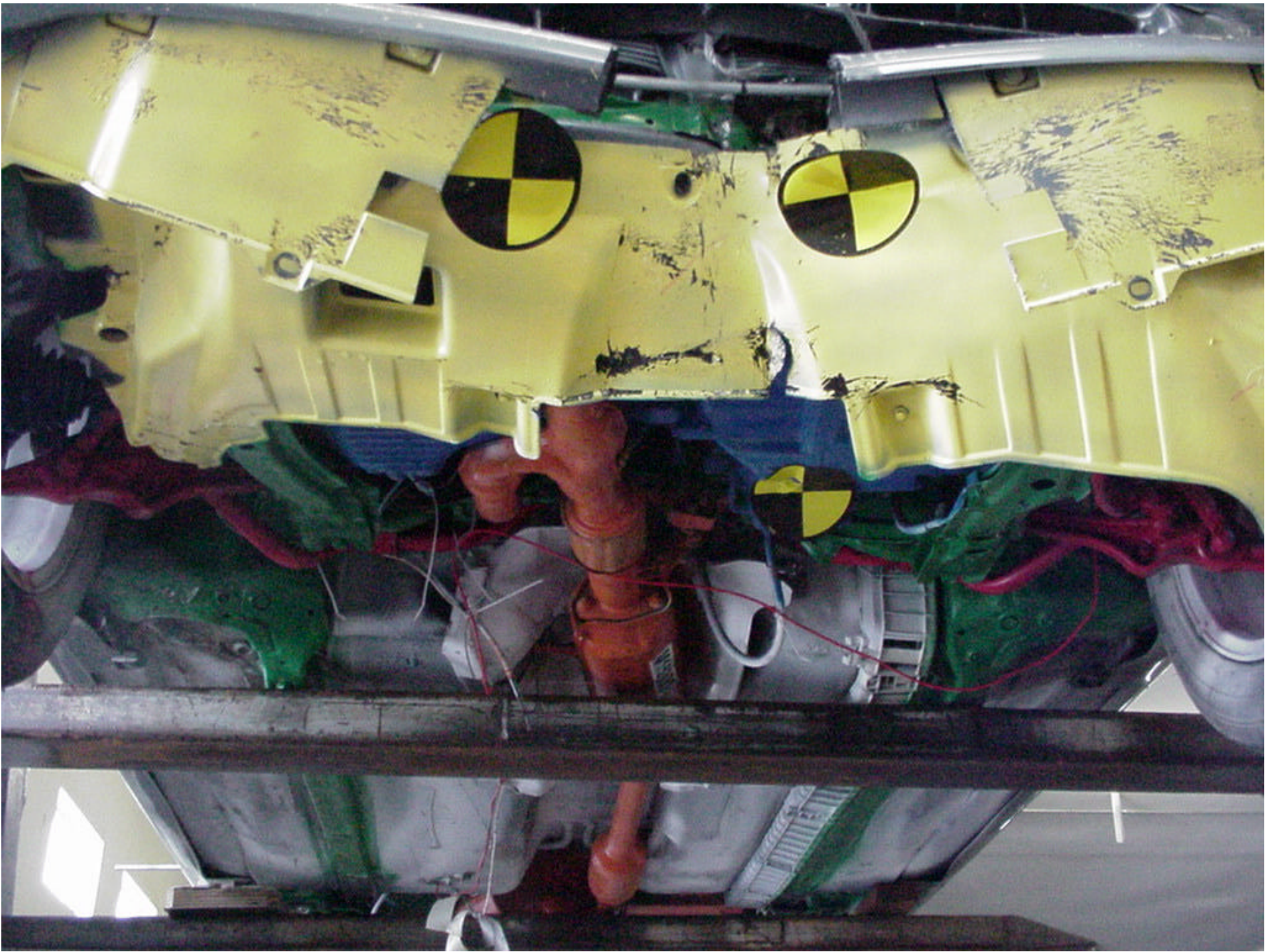


Figure A-17 POST-TEST FRONT UNDERBODY VIEW



Figure A-18 PRE-TEST FRONT SIDE UNDERBODY VIEW

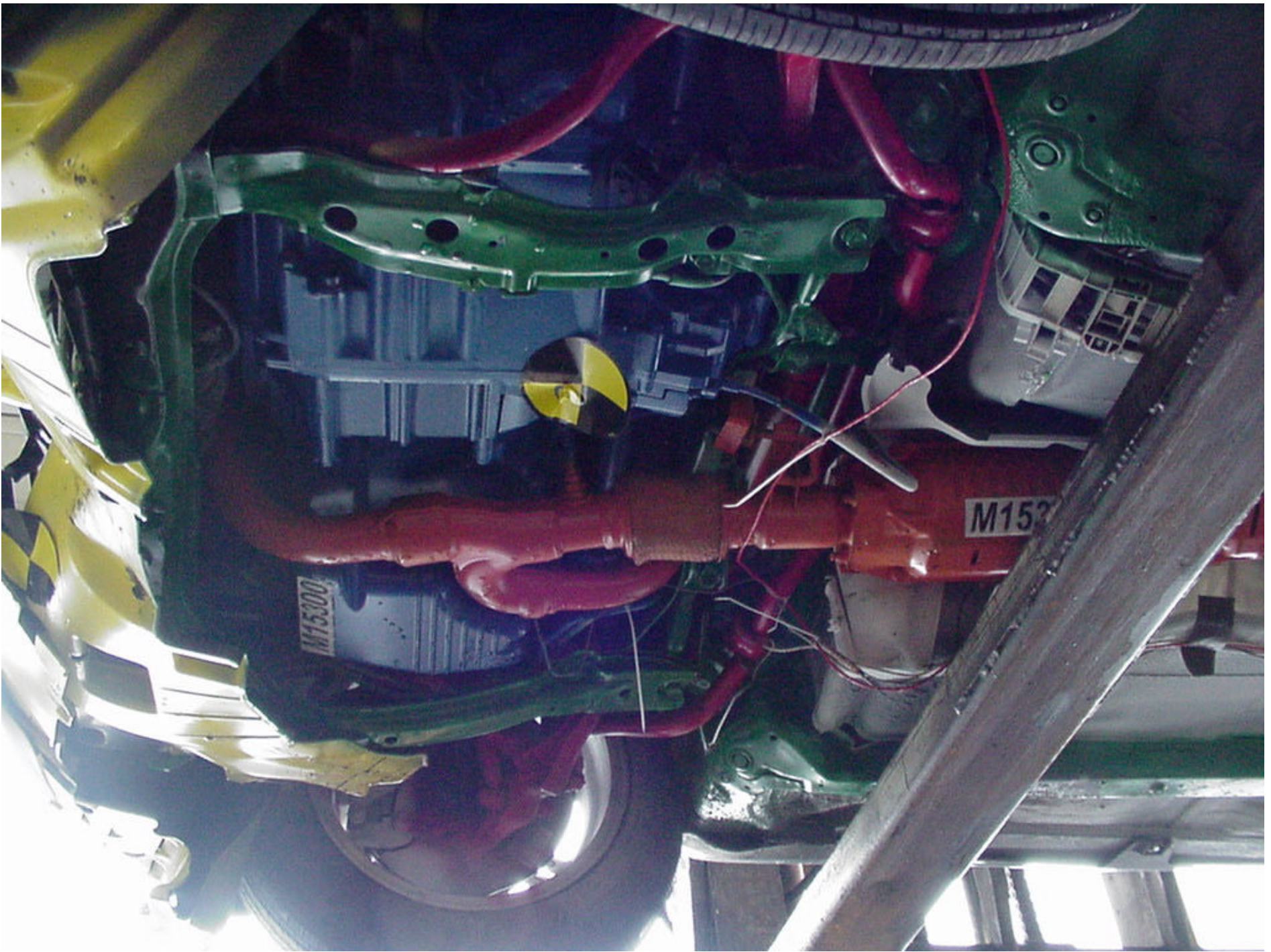


Figure A-19 POST-TEST FRONT SIDE UNDERBODY VIEW



Figure A-20 PRE-TEST REAR UNDERBODY VIEW

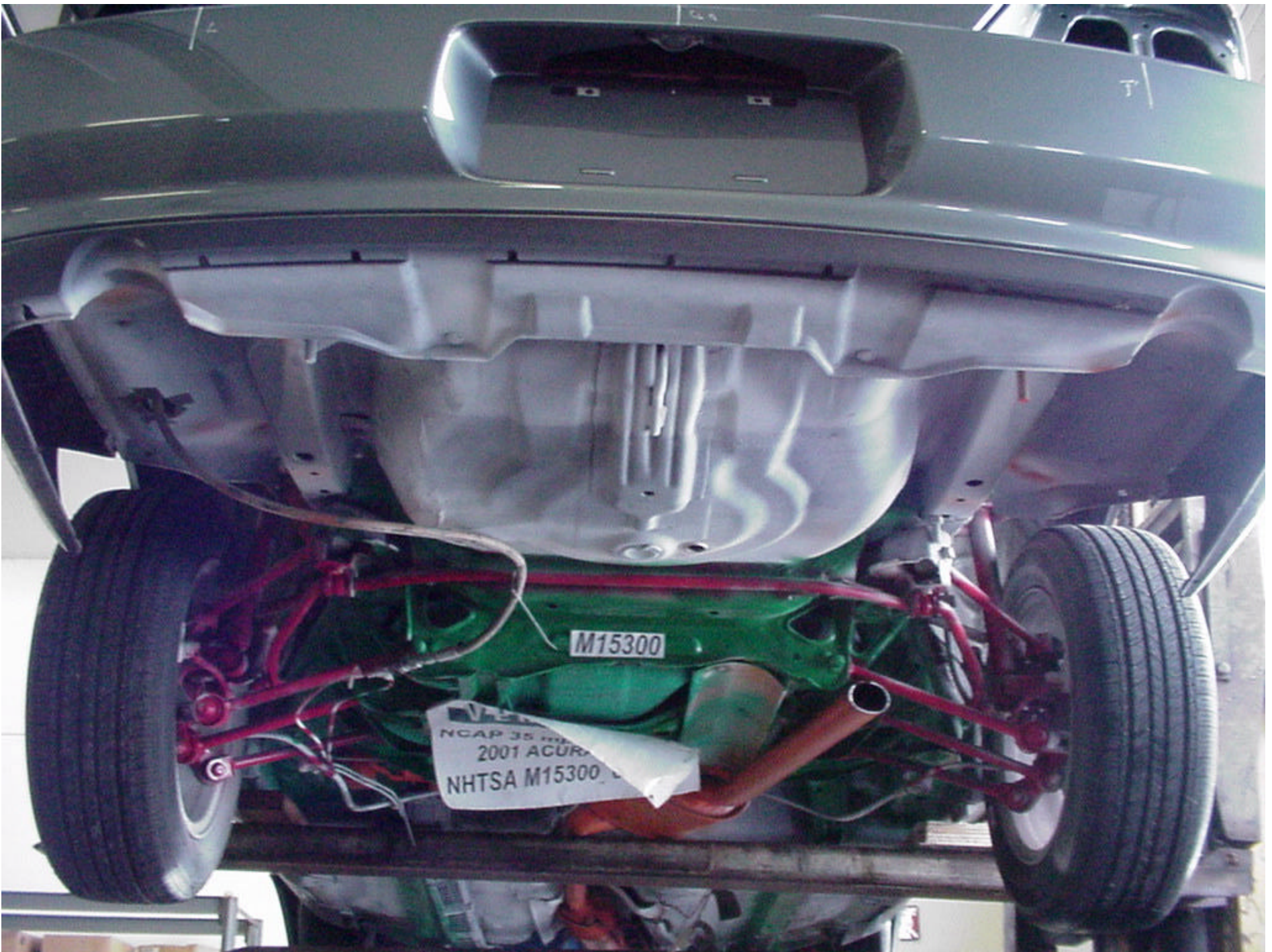


Figure A-21 POST-TEST REAR UNDERBODY VIEW



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. M15300

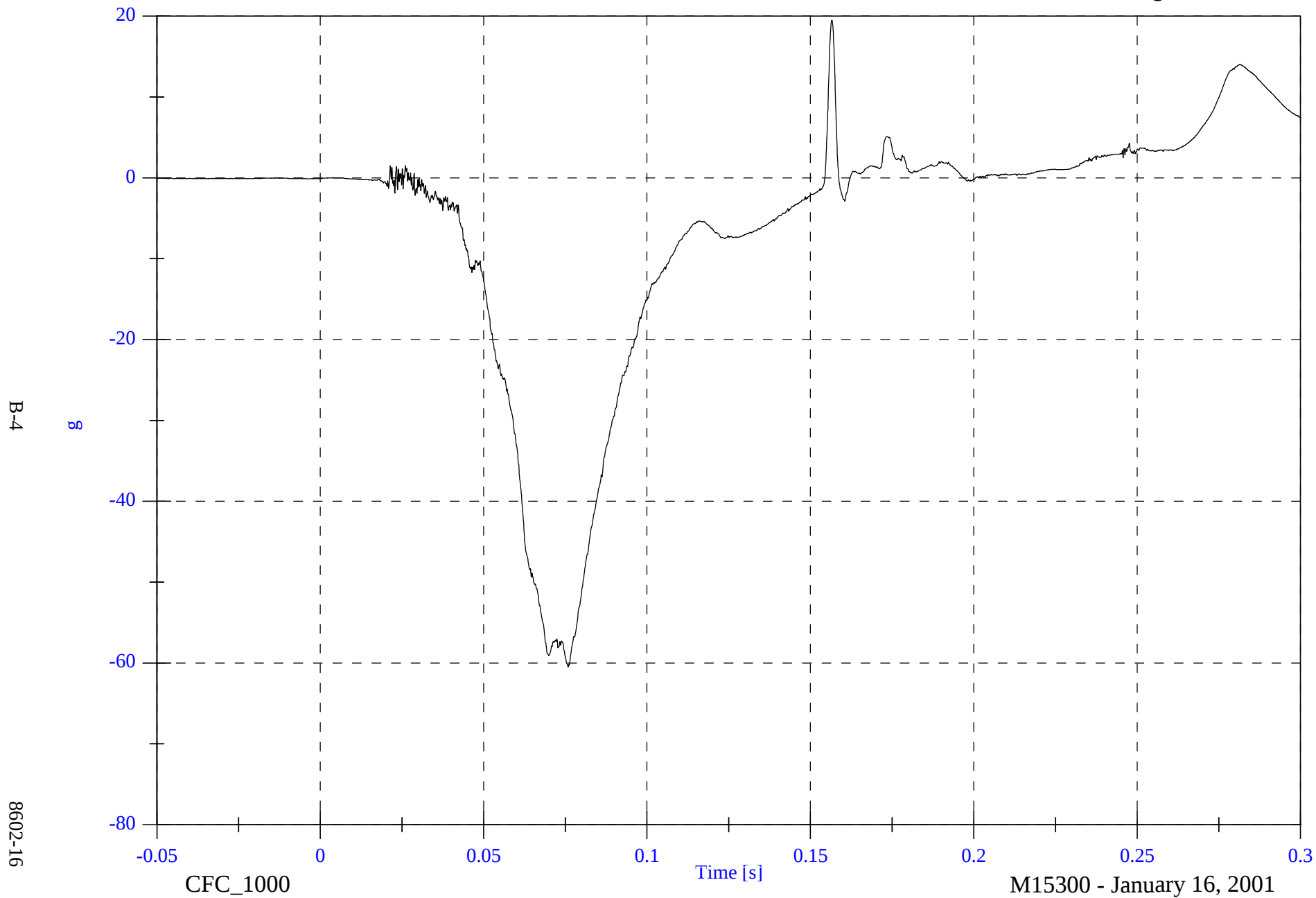
DATA TYPE	SAE FILTER CLASS (Hz)
Dummy Head Accelerations	1000
Dummy Chest Accelerations	180
Dummy Chest Displacements	60
Dummy Femur Forces	600
Dummy Belt Loads	60
Dummy Belt Displacements	180
Dummy Neck Forces	1000
Dummy Neck Moments	600
Vehicle Accelerations	60
Vehicle Velocity Integrations	180
Vehicle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

NCAP Test #16 - 2001 Acura 3.2TL

Max: 19.5 [g] at 0.157 [s]

Min: -60.5 [g] at 0.076 [s]

P1 Head x

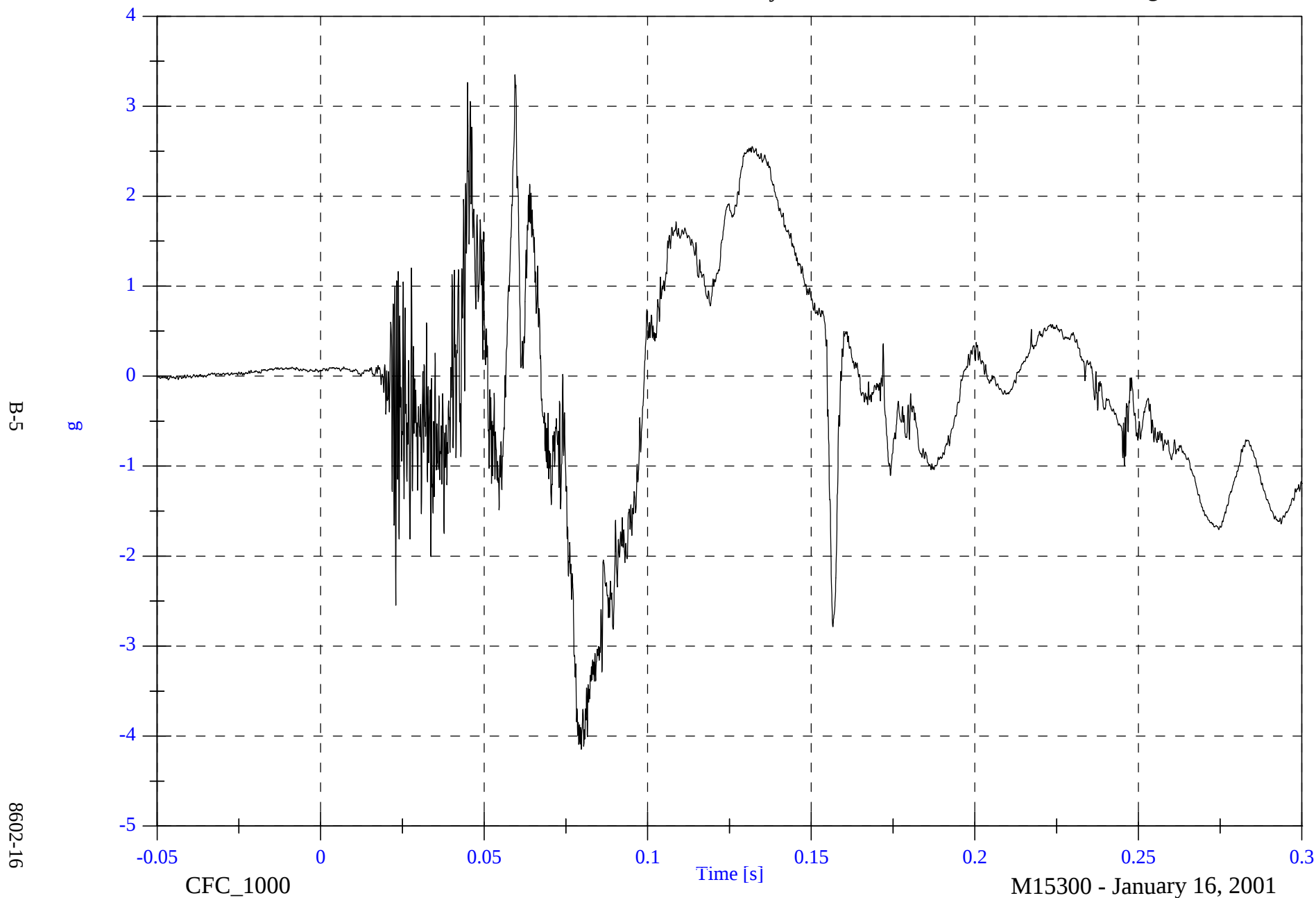


NCAP Test #16 - 2001 Acura 3.2TL

Max: 3.3 [g] at 0.059 [s]

Min: -4.1 [g] at 0.080 [s]

P1 Head y



8602-16

NCAP Test #16 - 2001 Acura 3.2TL

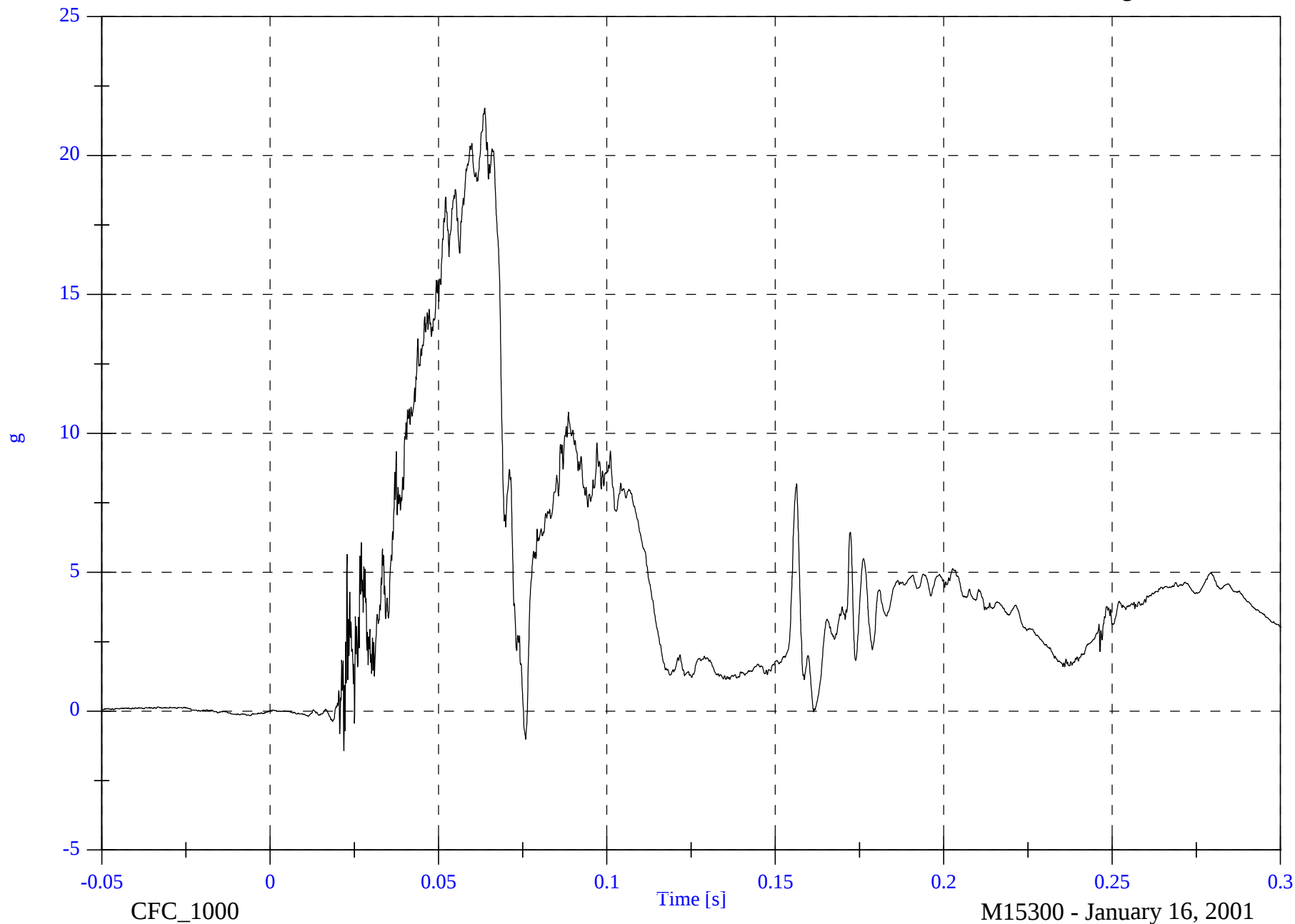
P1 Head z

Max: 21.7 [g] at 0.064 [s]

Min: -1.4 [g] at 0.022 [s]

B-6

8602-16



NCAP Test #16 - 2001 Acura 3.2TL

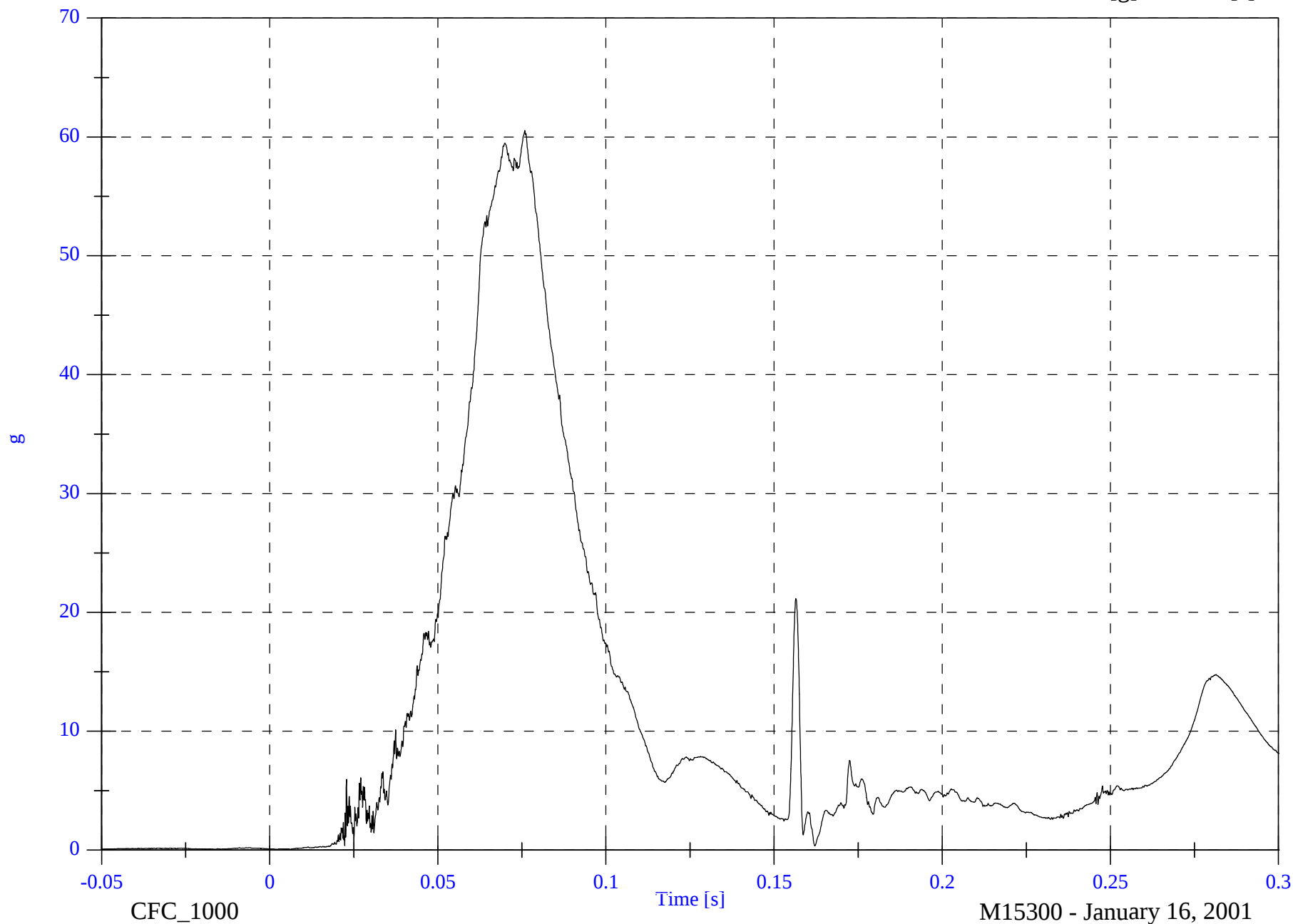
P1 Head Resultant

Max: 60.5 [g] at 0.076 [s]

Min: 0.1 [g] at 0.002 [s]

B-7

8602-16

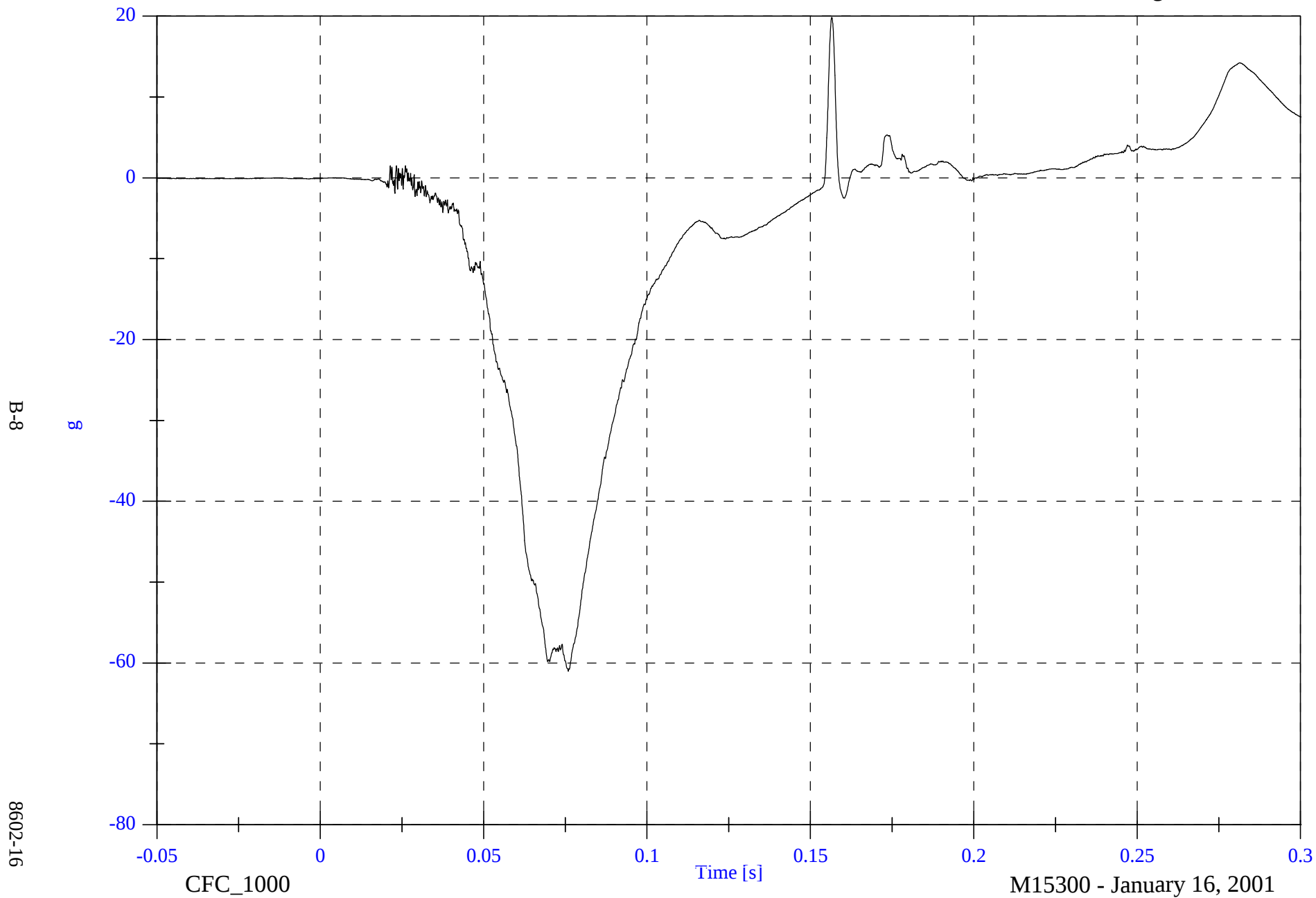


NCAP Test #16 - 2001 Acura 3.2TL

Max: 19.9 [g] at 0.157 [s]

Min: -61.0 [g] at 0.076 [s]

P1 Head Red x

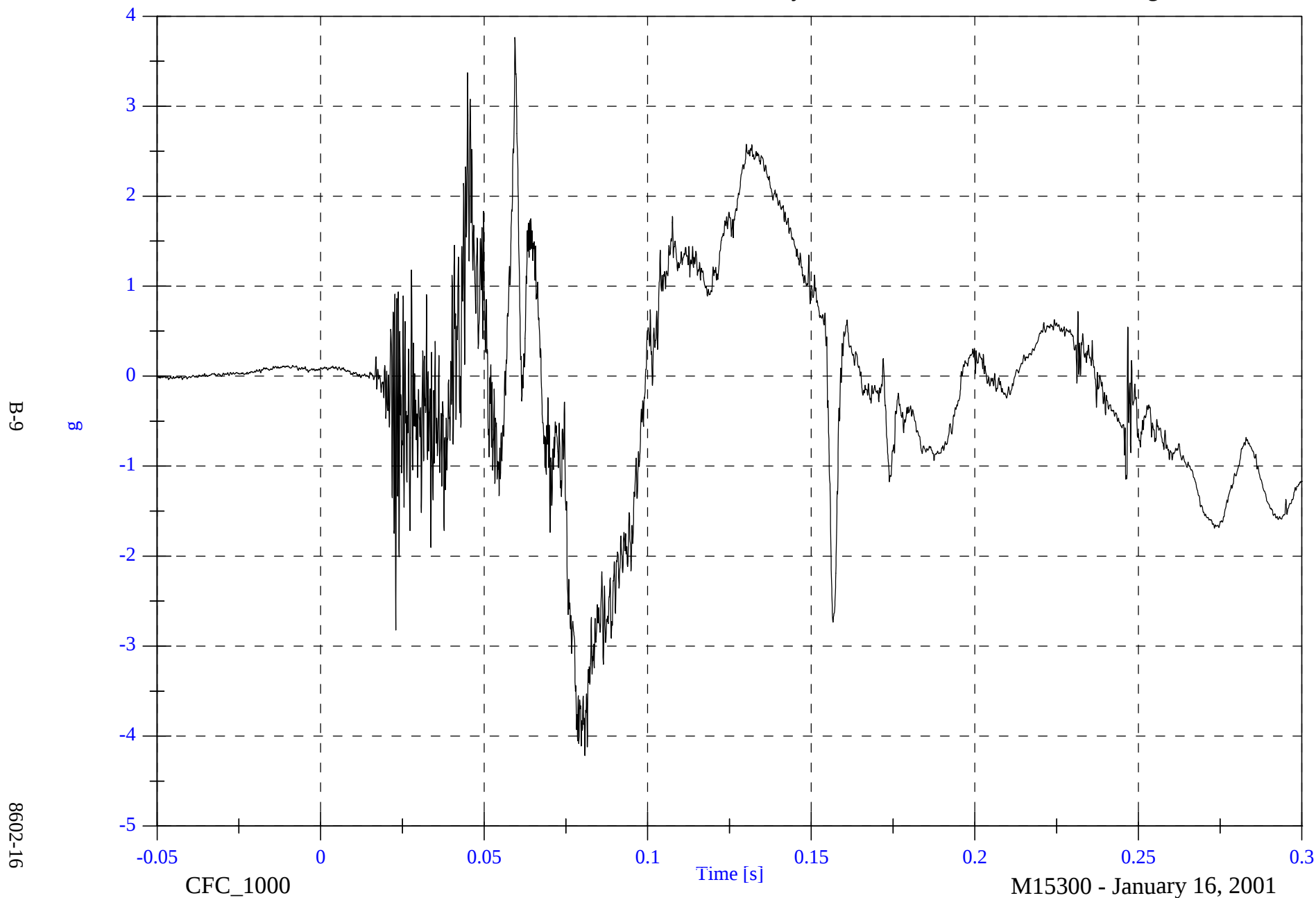


NCAP Test #16 - 2001 Acura 3.2TL

Max: 3.8 [g] at 0.059 [s]

Min: -4.2 [g] at 0.081 [s]

P1 Head Red y



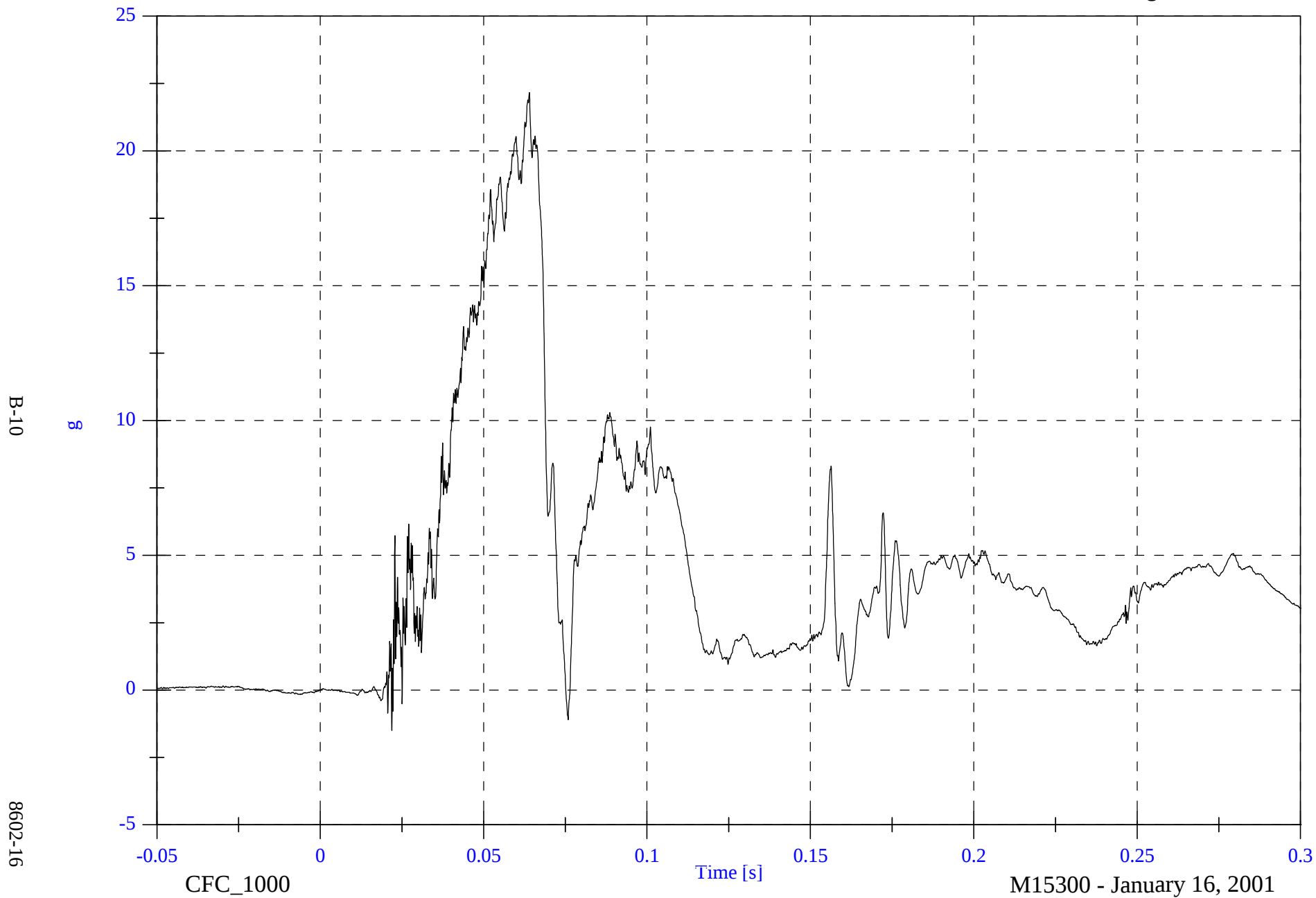
8602-16

NCAP Test #16 - 2001 Acura 3.2TL

P1 Head Red z

Max: 22.2 [g] at 0.064 [s]

Min: -1.5 [g] at 0.022 [s]



NCAP Test #16 - 2001 Acura 3.2TL

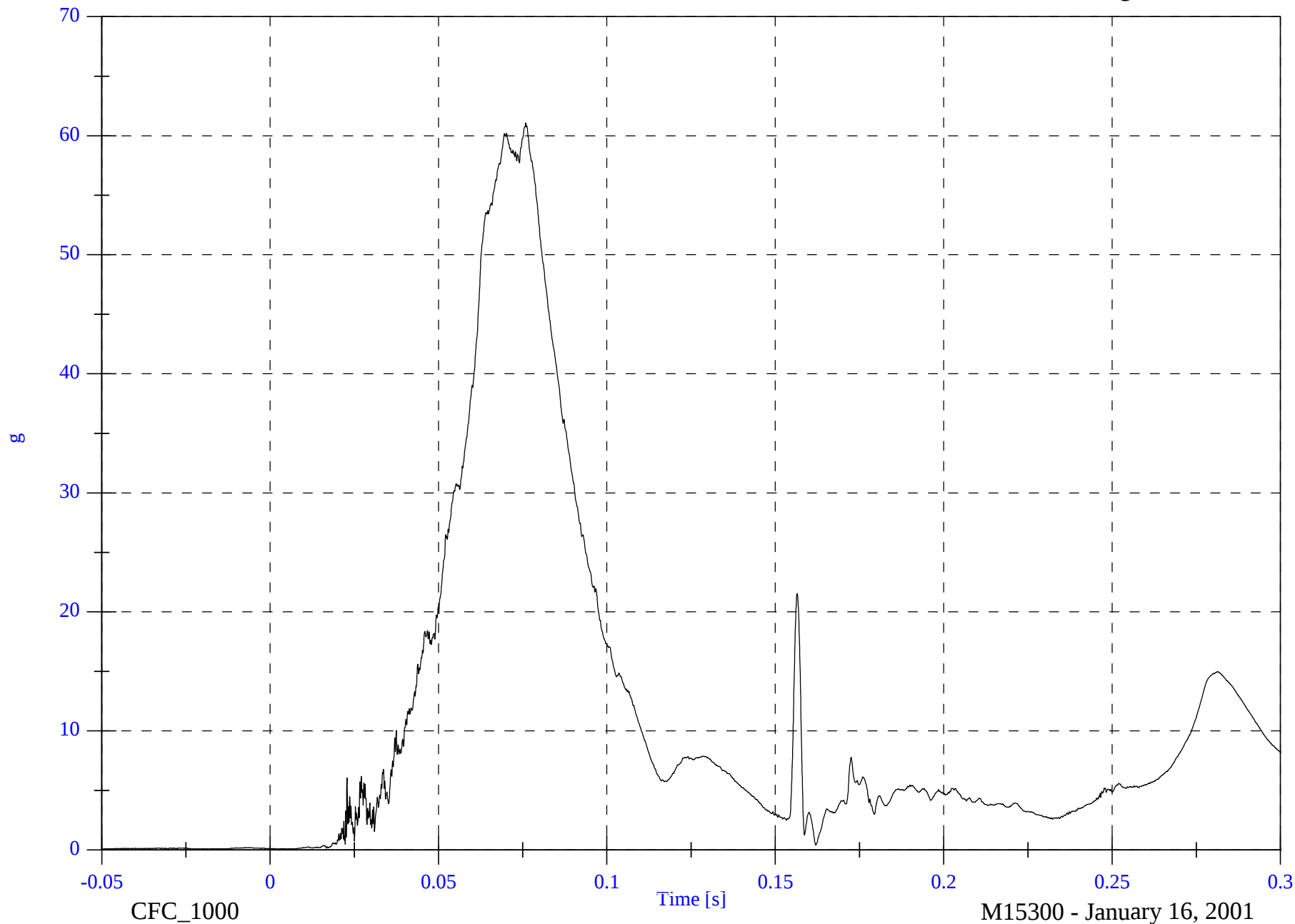
P1 Head Red Resultant

Max: 61.1 [g] at 0.076 [s]

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

B-11

8602-16



NCAP Test #16 - 2001 Acura 3.2TL

P1 Upper Neck Fx

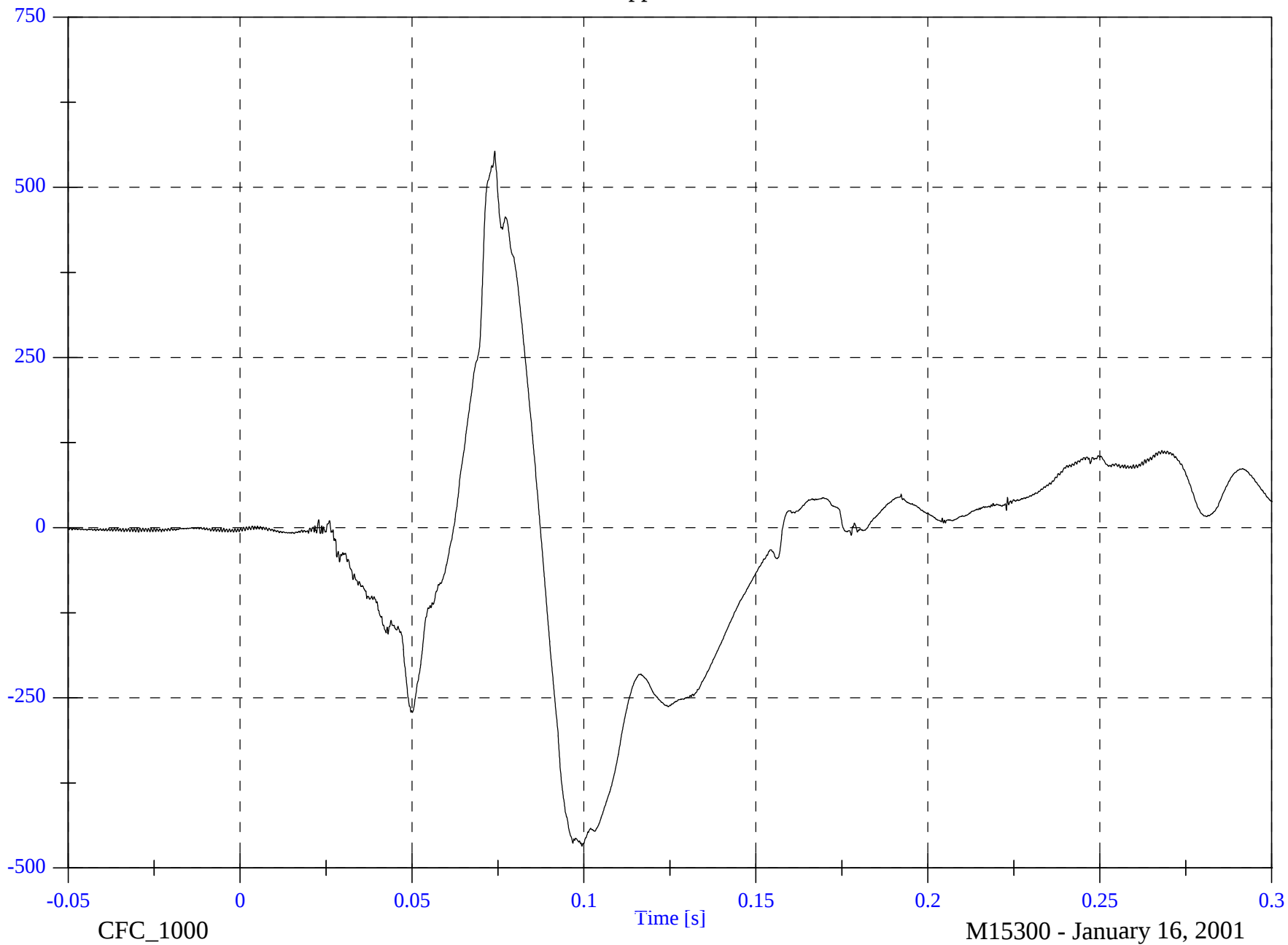
Max: 553.1 [N] at 0.074 [s]

Min: -468.1 [N] at 0.099 [s]

B-12

N

8602-16

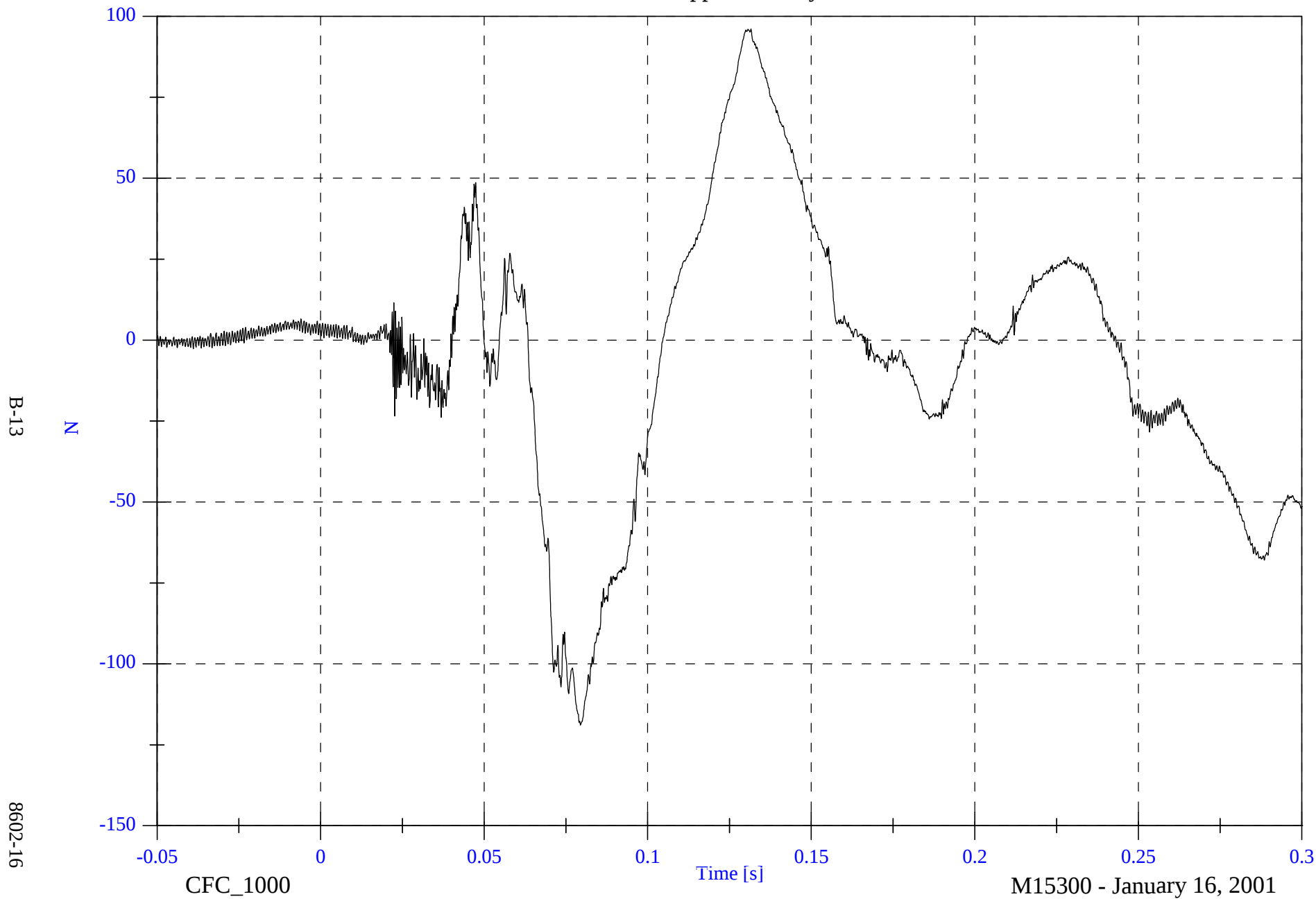


NCAP Test #16 - 2001 Acura 3.2TL

Max: 96.0 [N] at 0.132 [s]

Min: -118.9 [N] at 0.079 [s]

P1 Upper Neck Fy

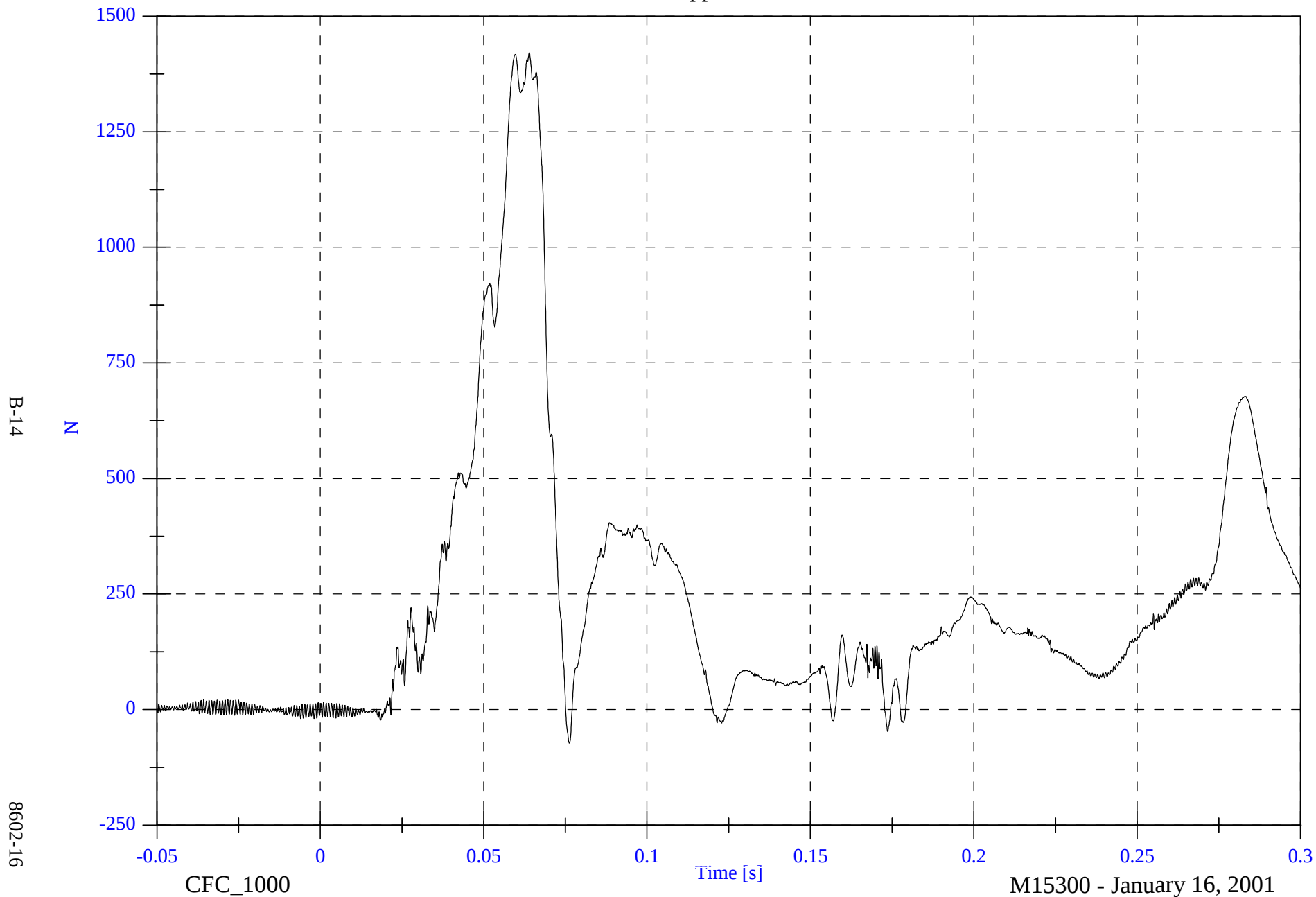


NCAP Test #16 - 2001 Acura 3.2TL

P1 Upper Neck Fz

Max: 1421.2 [N] at 0.064 [s]

Min: -72.6 [N] at 0.076 [s]



NCAP Test #16 - 2001 Acura 3.2TL

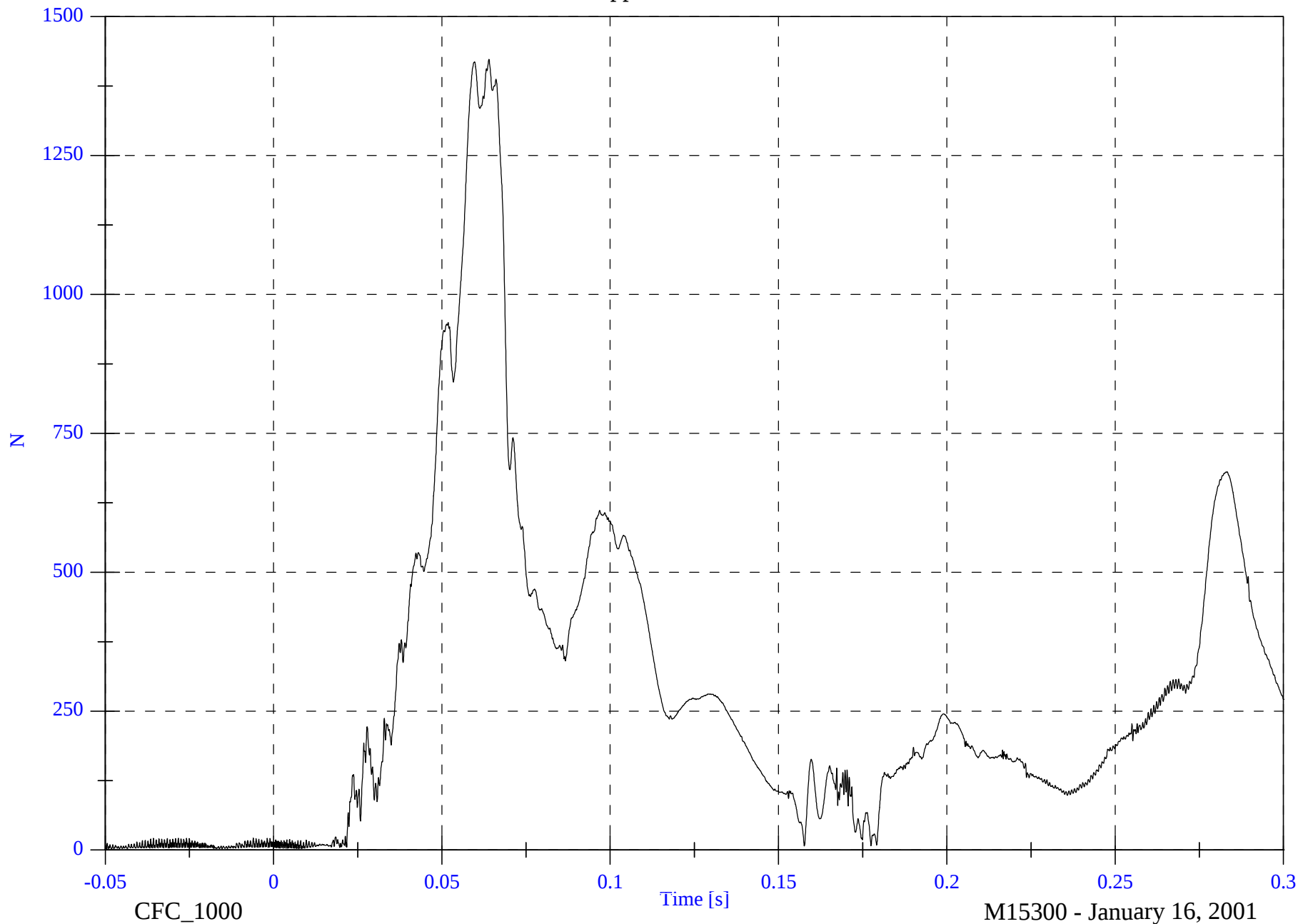
P1 Upper Neck F Resultant

Max: 1423.3 [N] at 0.064 [s]

Min: 1.8 [N] at -0.050 [s]

B-15

8602-16

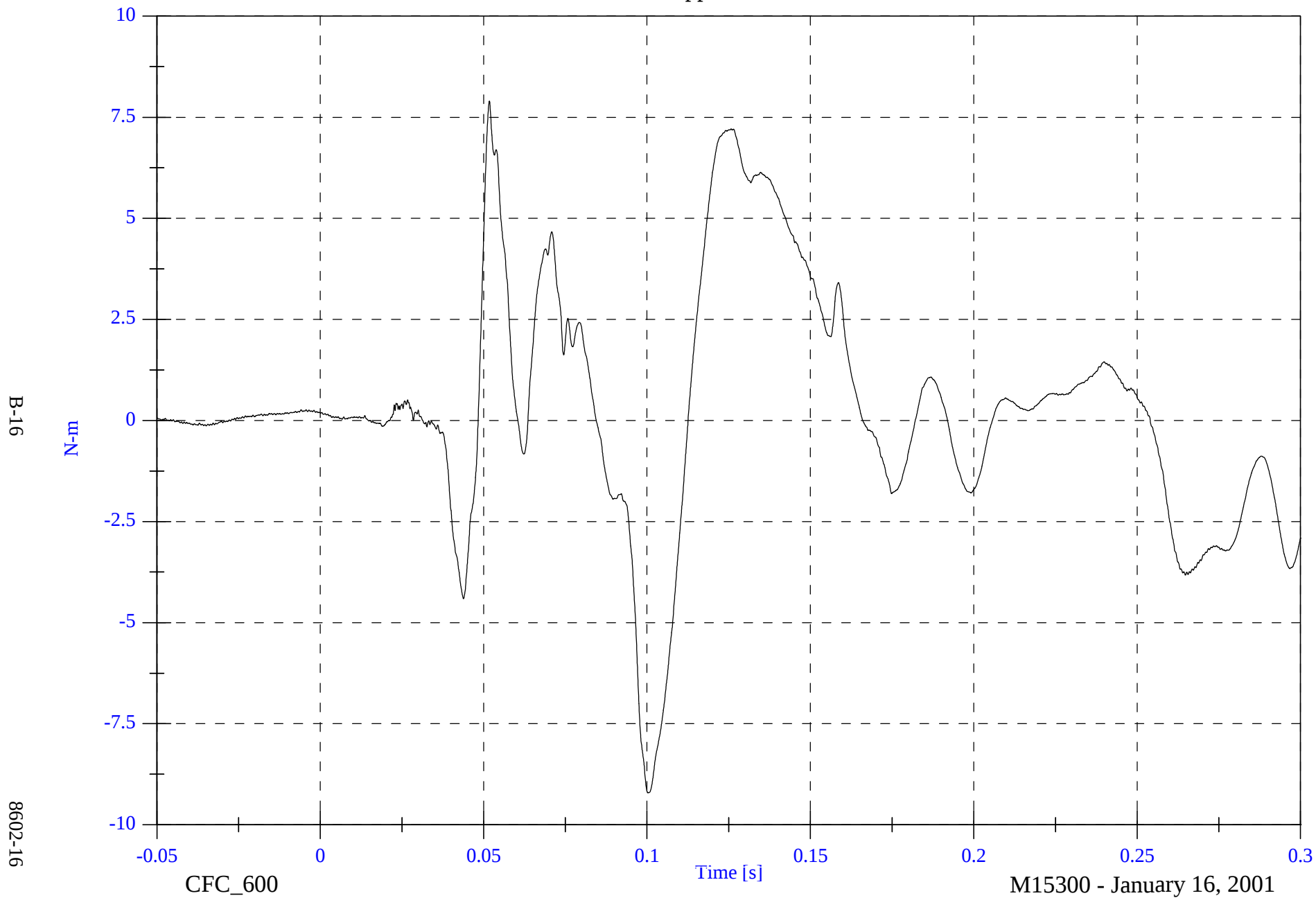


NCAP Test #16 - 2001 Acura 3.2TL

P1 Upper Neck Mx

Max: 7.9 [N-m] at 0.052 [s]

Min: -9.2 [N-m] at 0.100 [s]



NCAP Test #16 - 2001 Acura 3.2TL

P1 Upper Neck My

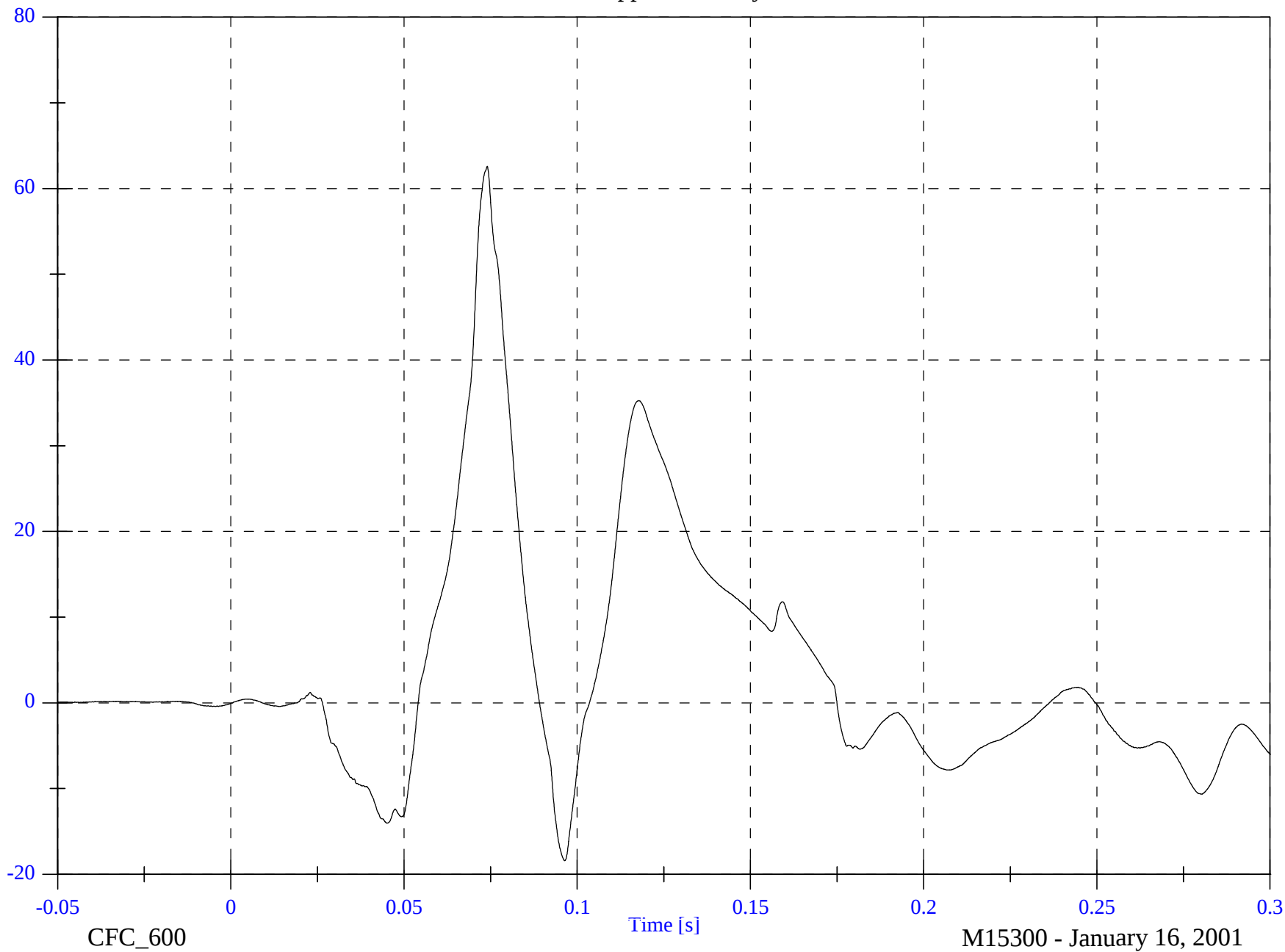
Max: 62.6 [N-m] at 0.074 [s]

Min: -18.4 [N-m] at 0.096 [s]

B-17

N-m

8602-16

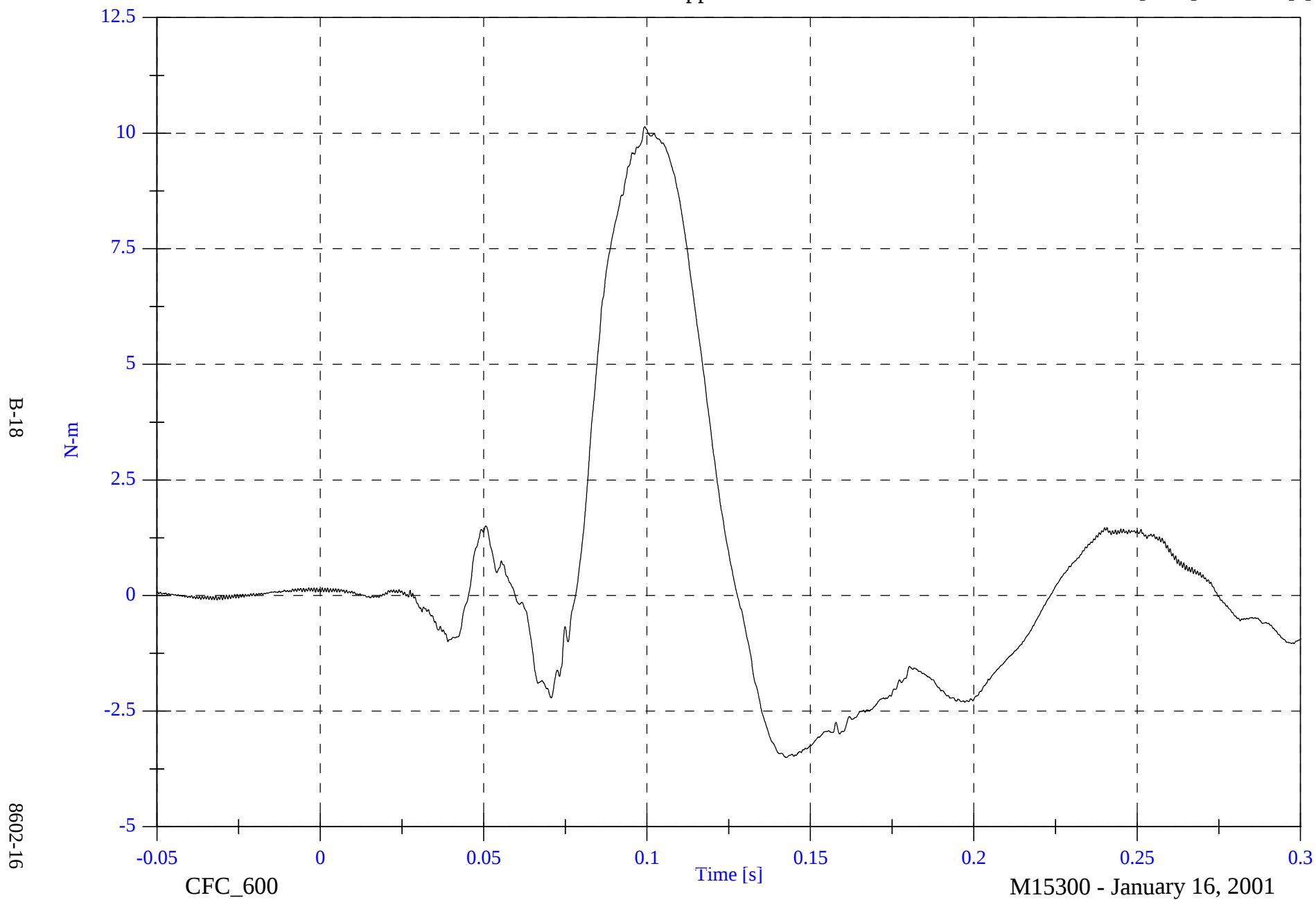


NCAP Test #16 - 2001 Acura 3.2TL

Max: 10.1 [N-m] at 0.099 [s]

Min: -3.5 [N-m] at 0.143 [s]

P1 Upper Neck Mz

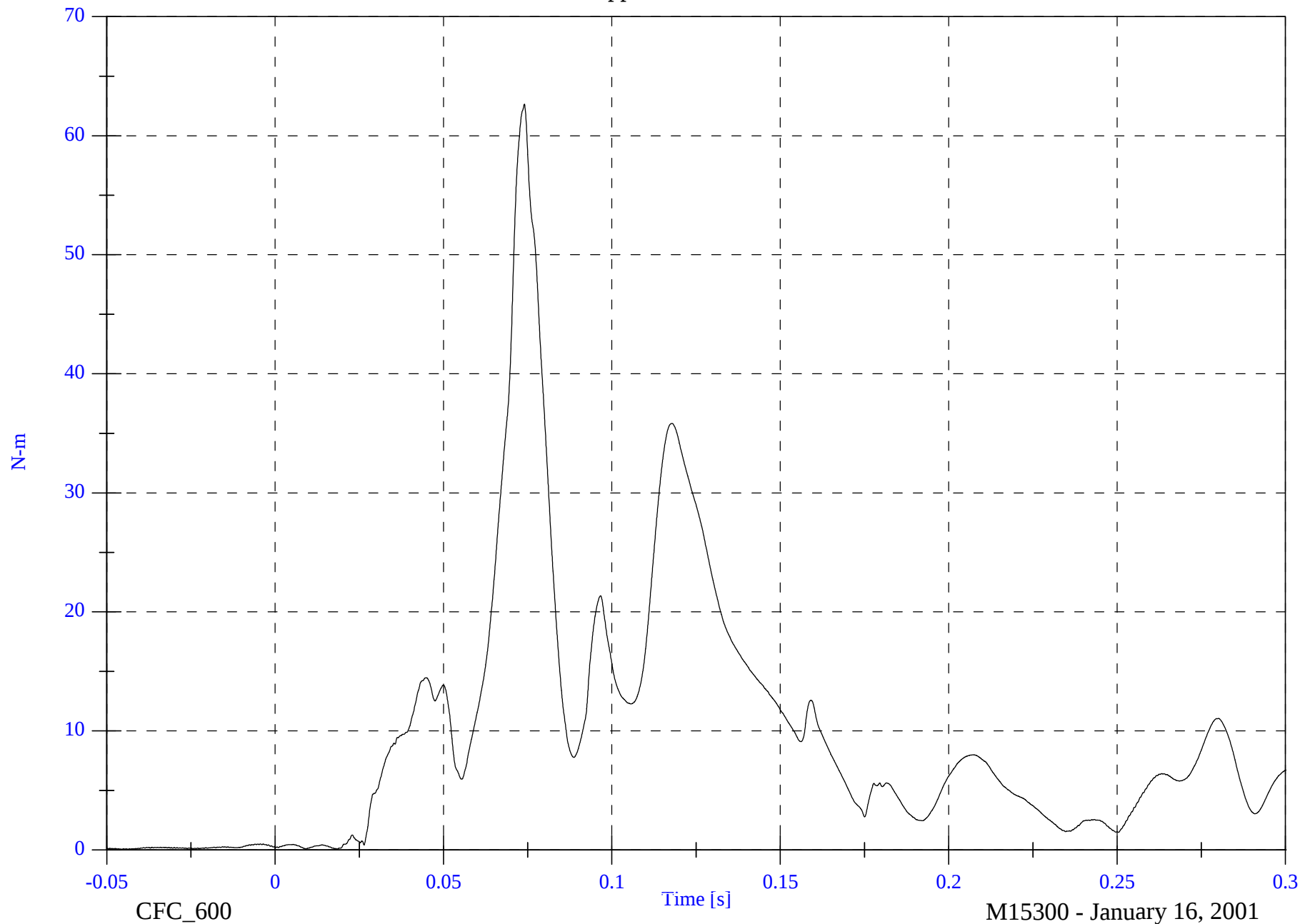


NCAP Test #16 - 2001 Acura 3.2TL

P1 Upper Neck M Resultant

Max: 62.7 [N-m] at 0.074 [s]

Min: 0.1 [N-m] at -0.044 [s]



B-19

8602-16

CFC_600

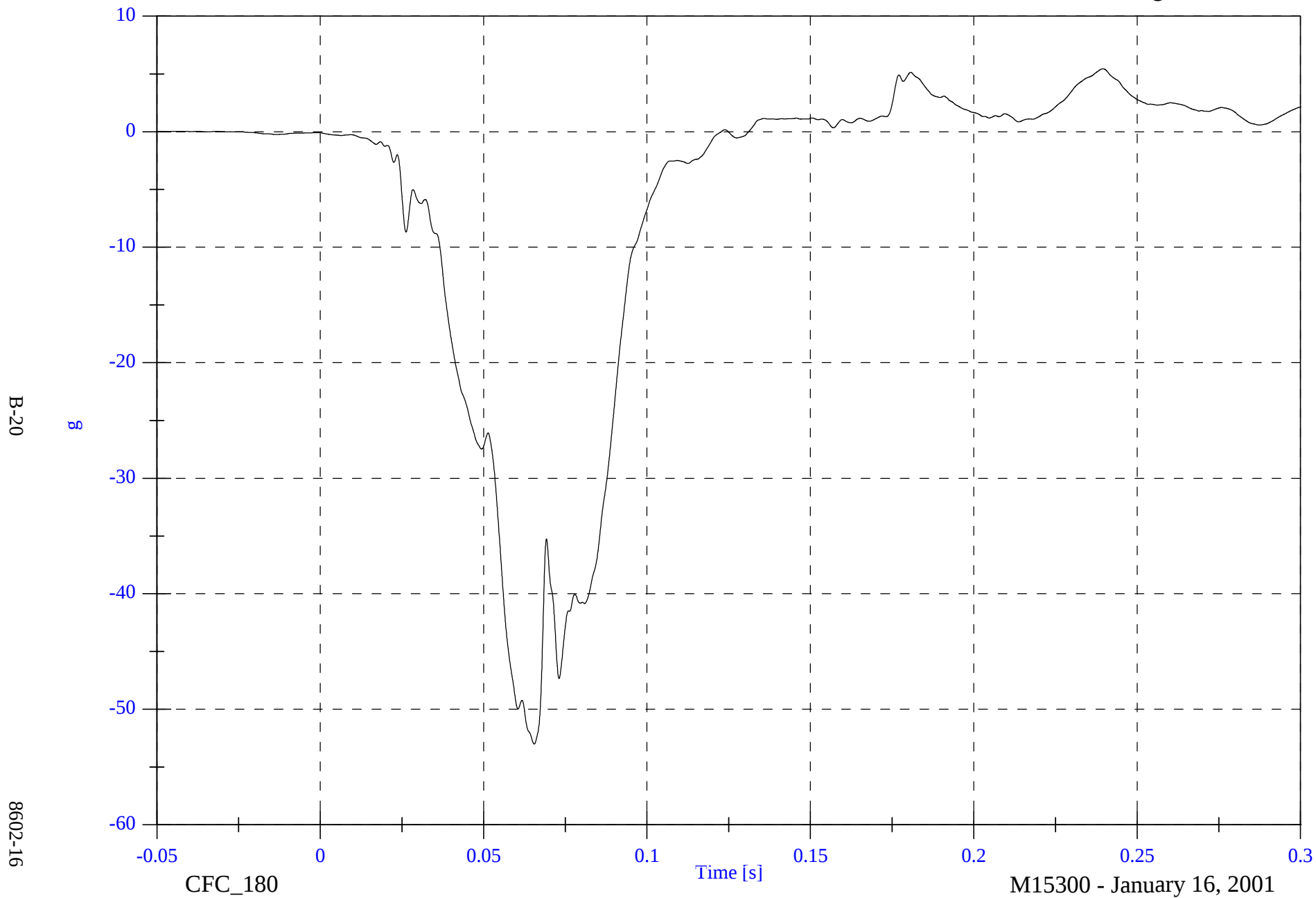
M15300 - January 16, 2001

NCAP Test #16 - 2001 Acura 3.2TL

P1 Chest x

Max: 5.5 [g] at 0.240 [s]

Min: -53.0 [g] at 0.066 [s]

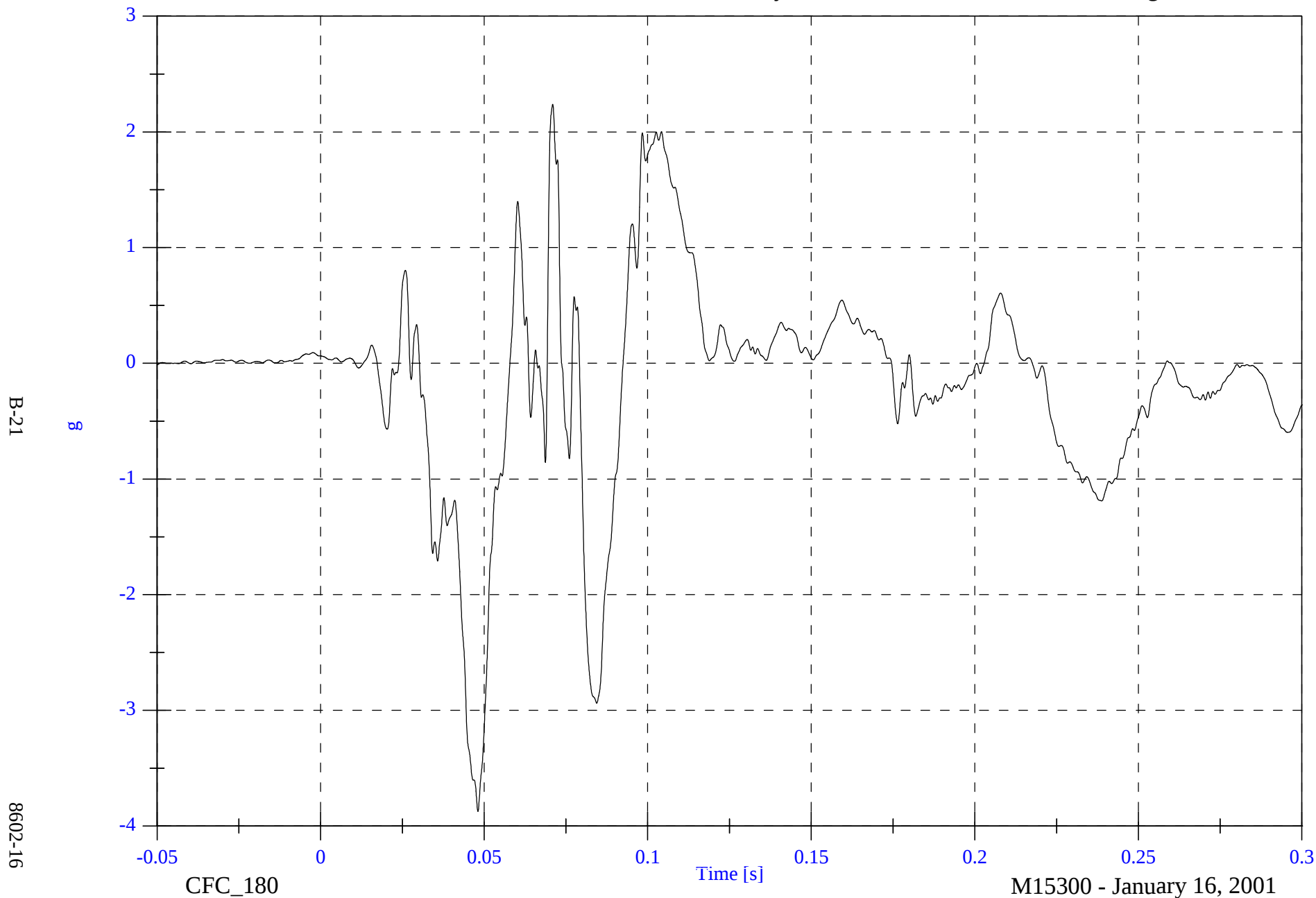


NCAP Test #16 - 2001 Acura 3.2TL

Max: 2.2 [g] at 0.071 [s]

Min: -3.9 [g] at 0.048 [s]

P1 Chest y



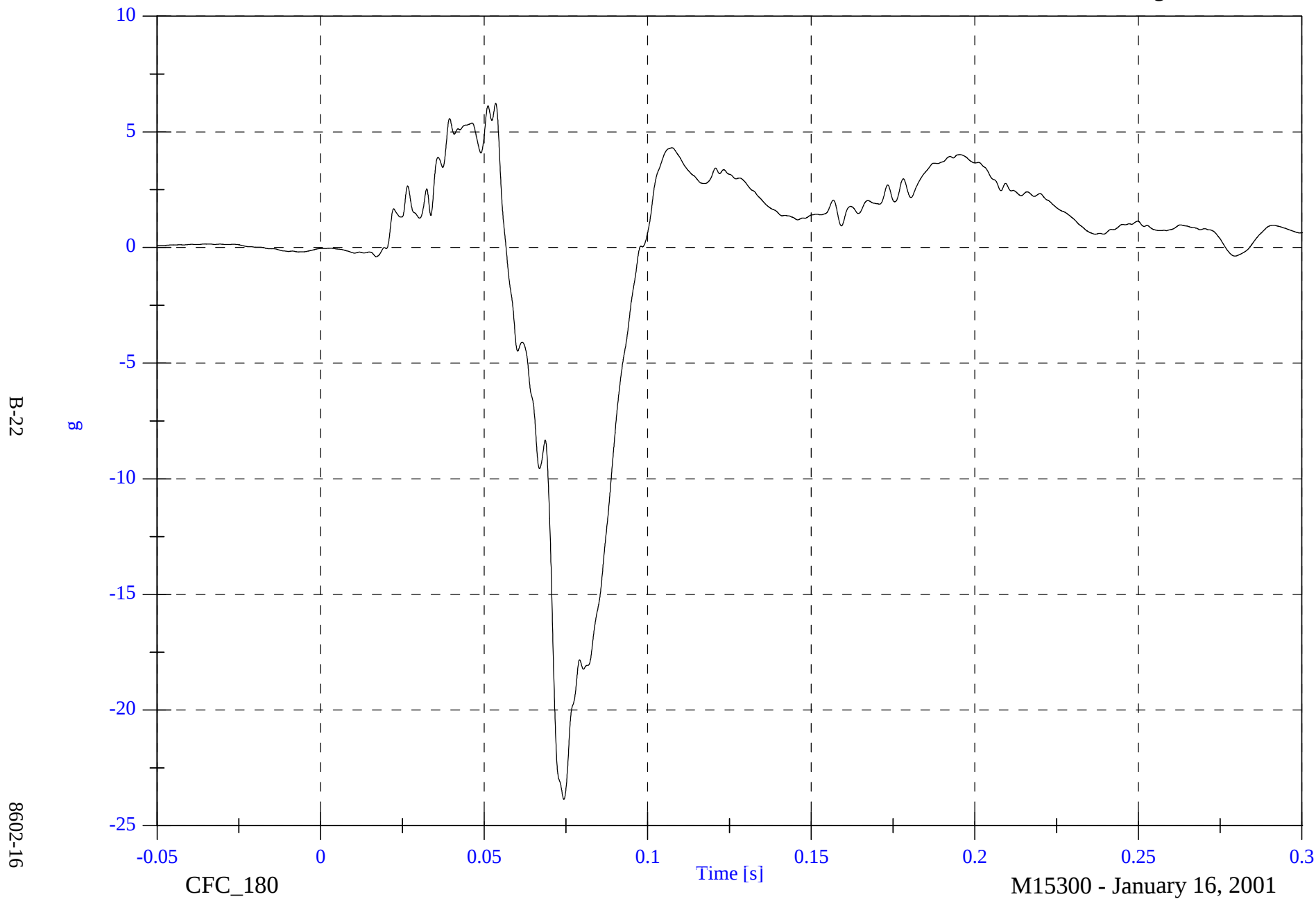
8602-16

NCAP Test #16 - 2001 Acura 3.2TL

Max: 6.2 [g] at 0.054 [s]

Min: -23.9 [g] at 0.074 [s]

P1 Chest z



NCAP Test #16 - 2001 Acura 3.2TL

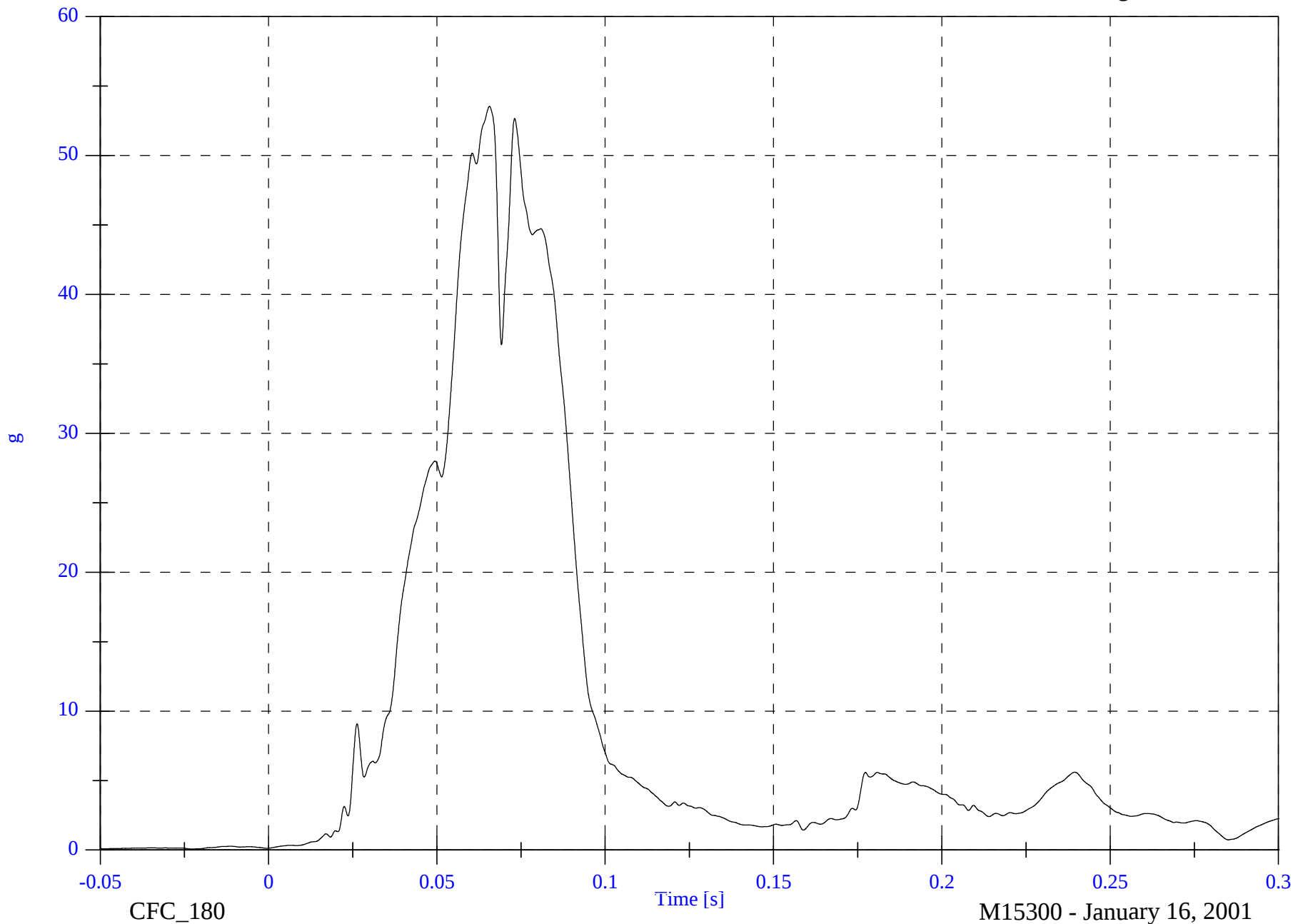
P1 Chest Resultant

Max: 53.5 [g] at 0.066 [s]

Min: 0.1 [g] at -0.023 [s]

B-23

8602-16



NCAP Test #16 - 2001 Acura 3.2TL

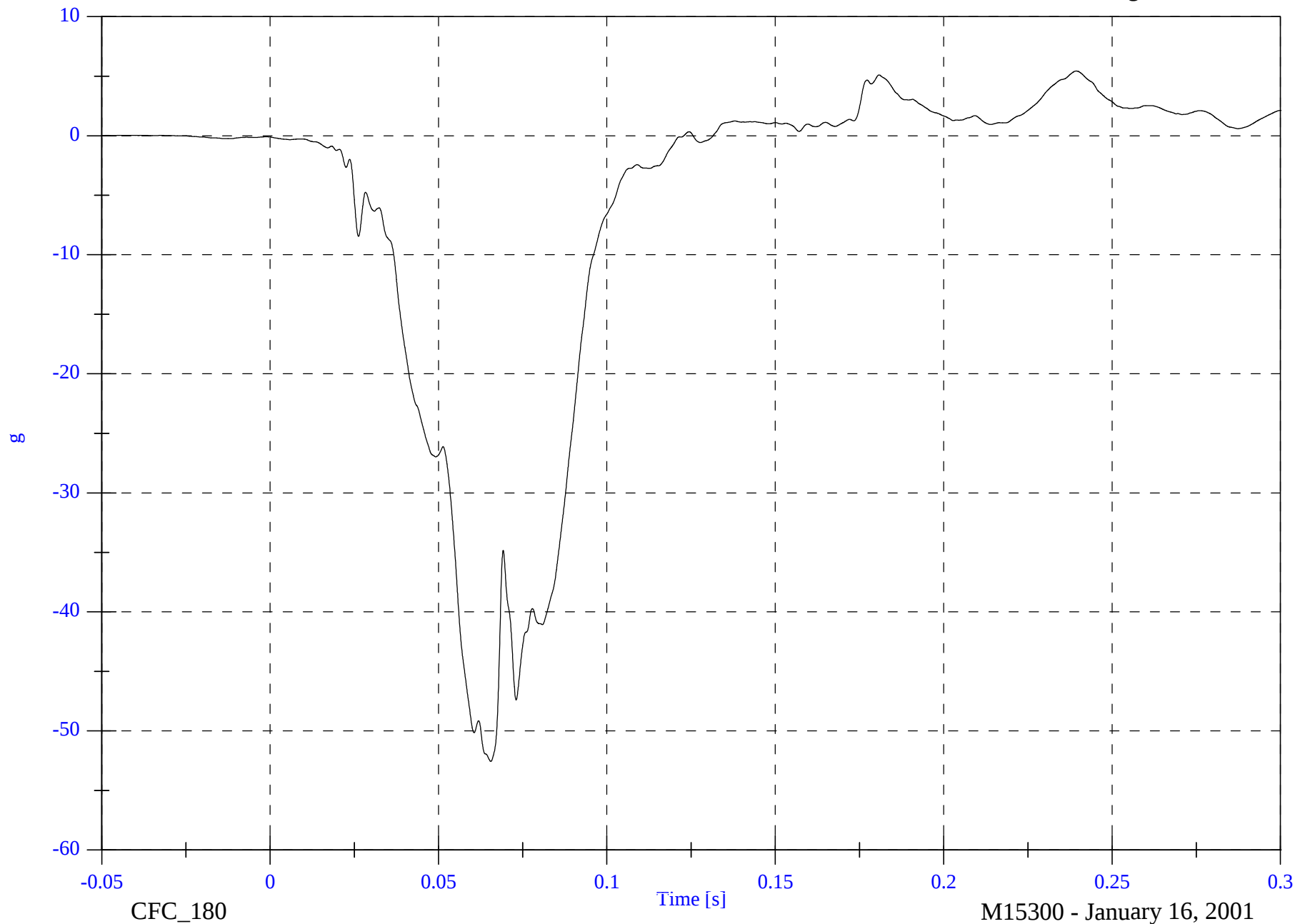
P1 Chest Red x

Max: 5.4 [g] at 0.239 [s]

Min: -52.6 [g] at 0.066 [s]

B-24

8602-16

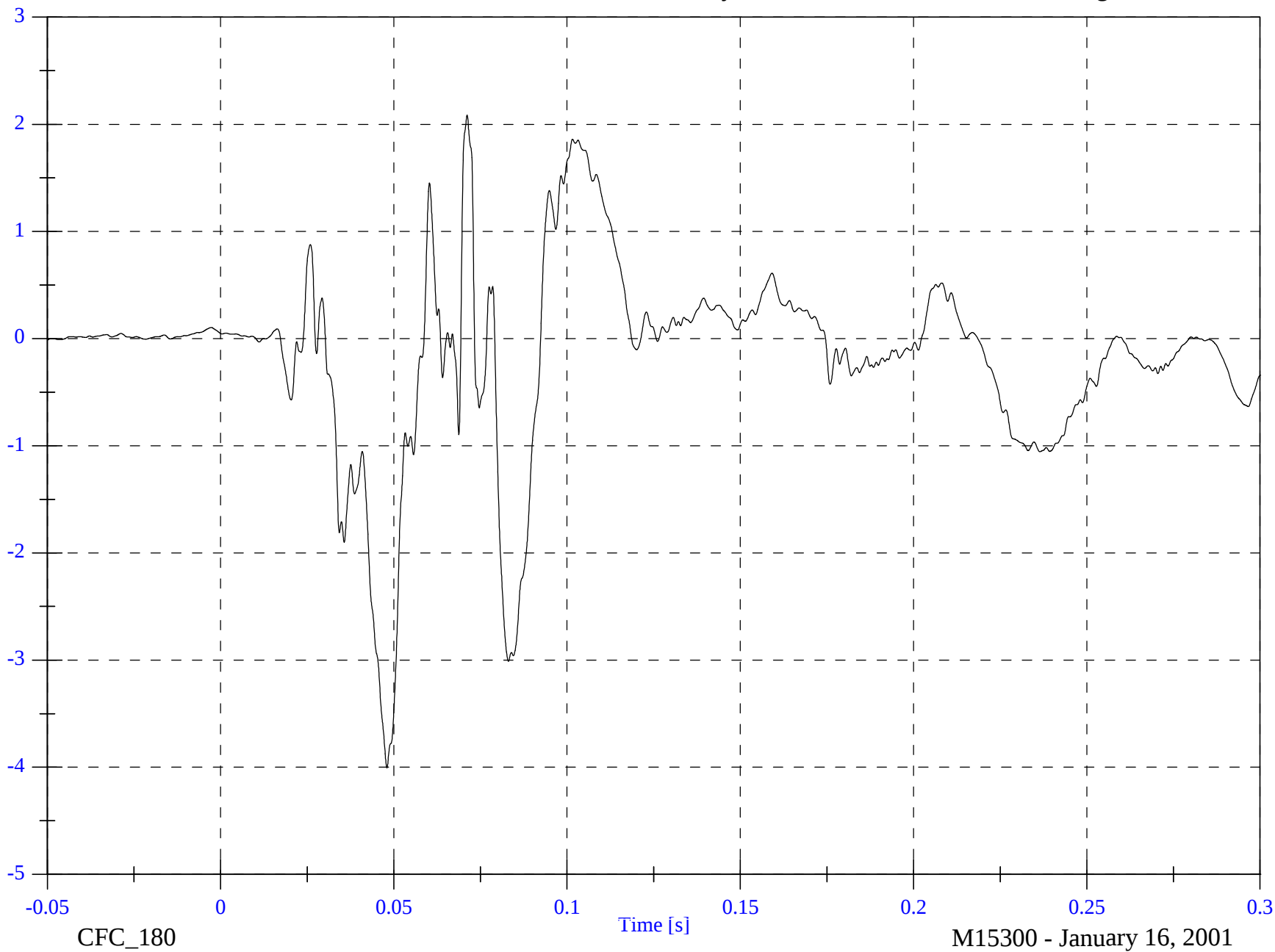


NCAP Test #16 - 2001 Acura 3.2TL

P1 Chest Red y

Max: 2.1 [g] at 0.071 [s]

Min: -4.0 [g] at 0.048 [s]



B-25

8602-16

NCAP Test #16 - 2001 Acura 3.2TL

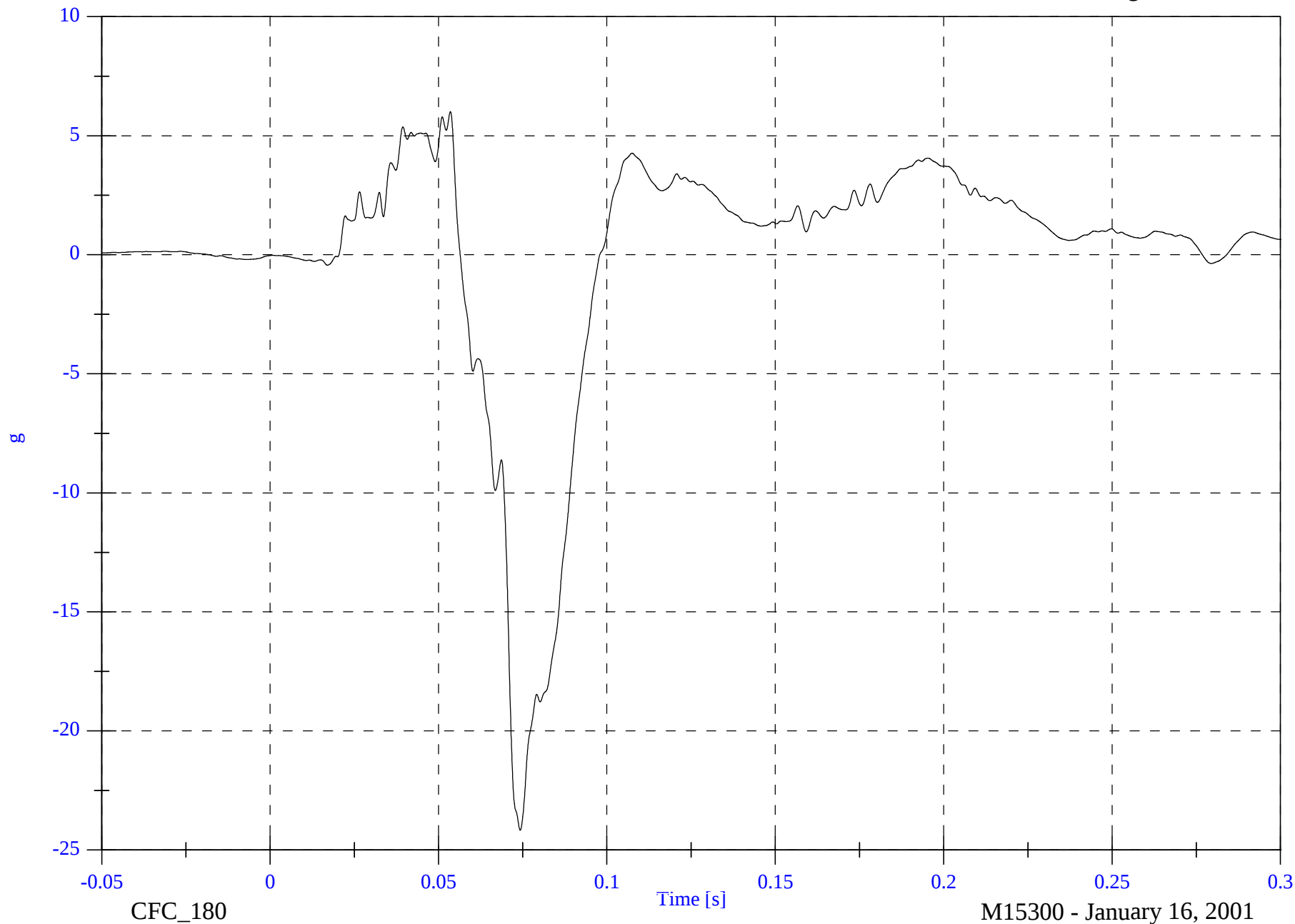
P1 Chest Red z

Max: 6.0 [g] at 0.054 [s]

Min: -24.2 [g] at 0.074 [s]

B-26

8602-16



NCAP Test #16 - 2001 Acura 3.2TL

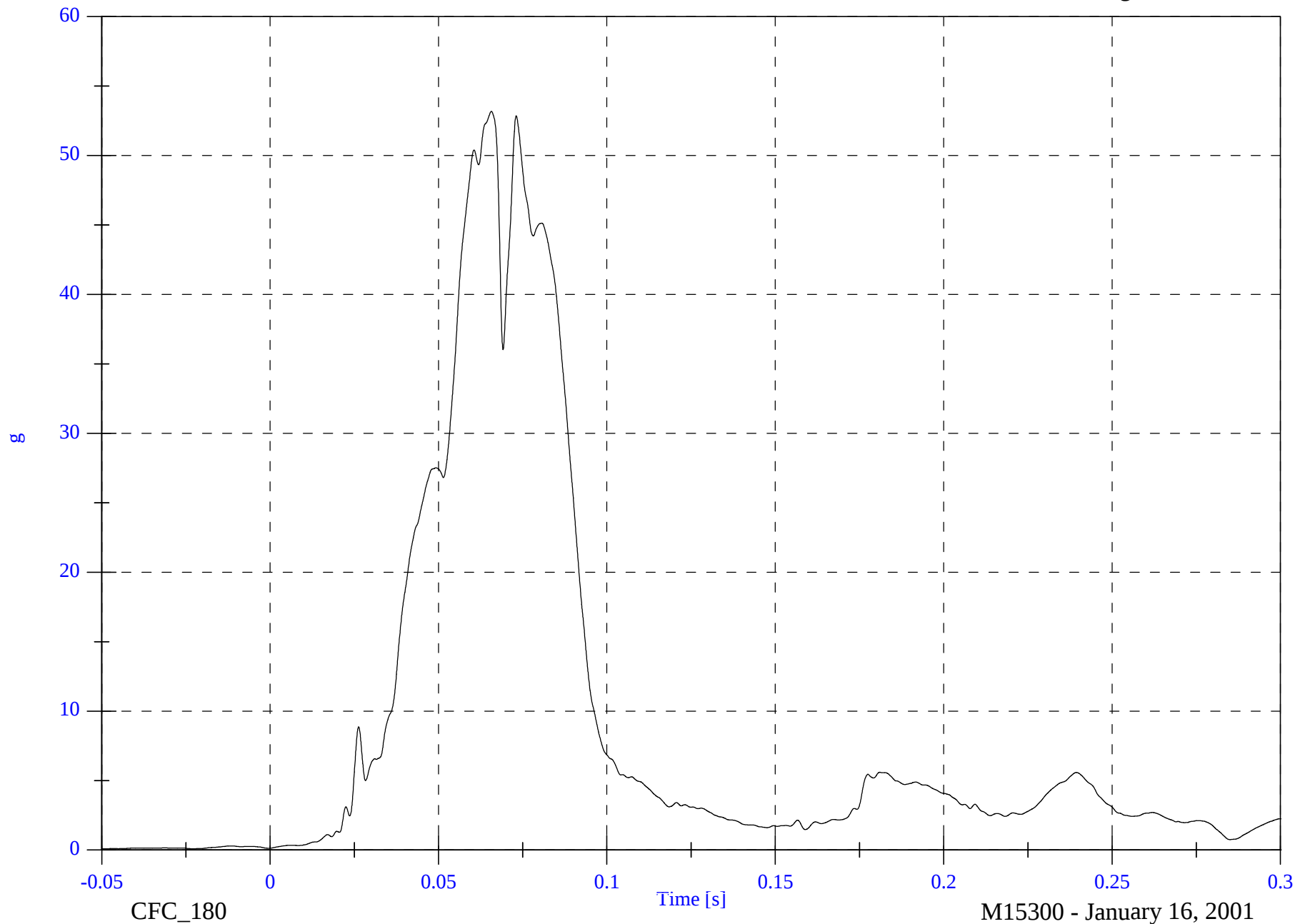
P1 Chest Red Resultant

Max: 53.2 [g] at 0.066 [s]

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

B-27

8602-16

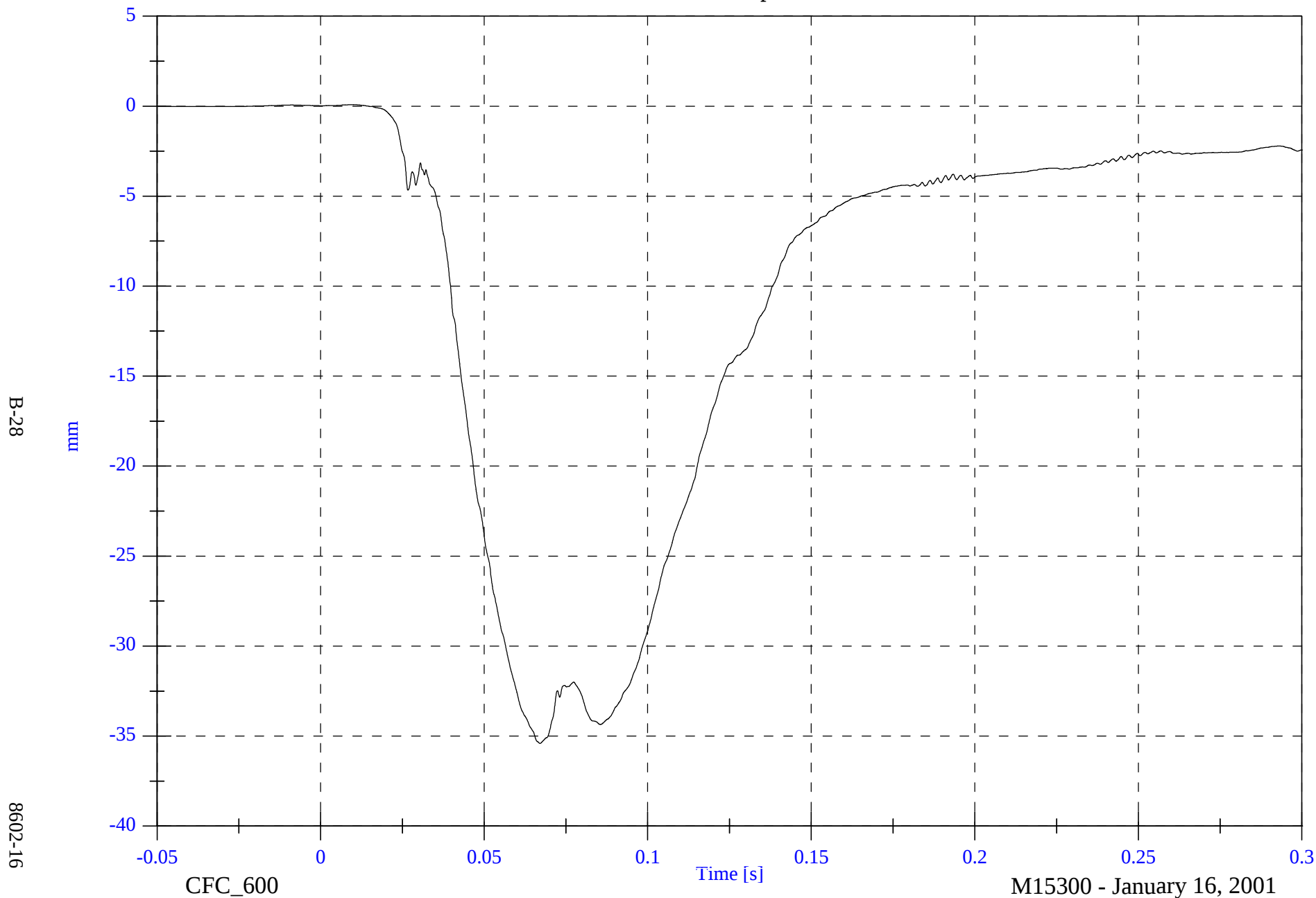


NCAP Test #16 - 2001 Acura 3.2TL

P1 Chest Compression

Max: 0.1 [mm] at 0.010 [s]

Min: -35.4 [mm] at 0.067 [s]

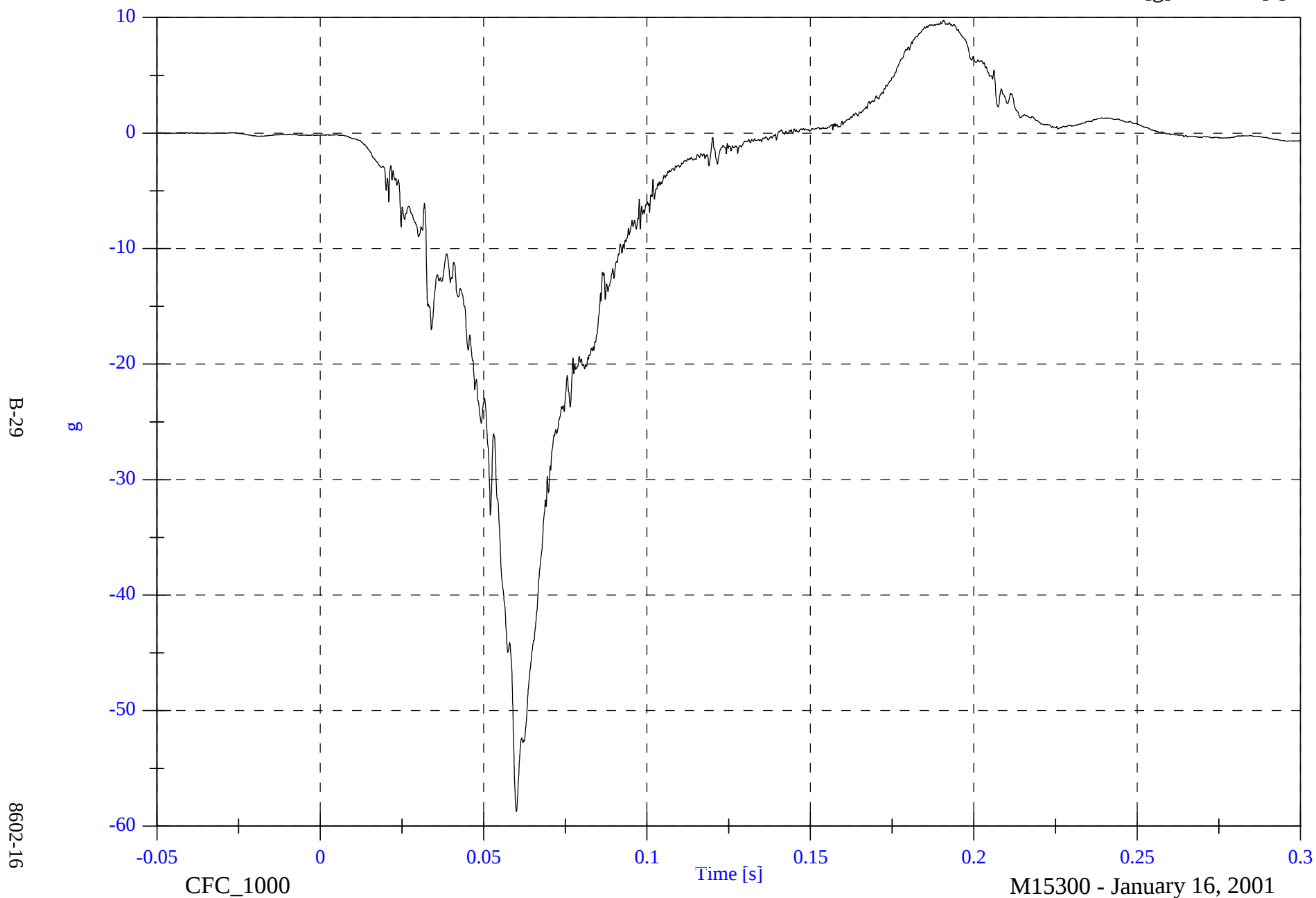


NCAP Test #16 - 2001 Acura 3.2TL

Max: 9.7 [g] at 0.191 [s]

Min: -58.7 [g] at 0.060 [s]

P1 Pelvic x

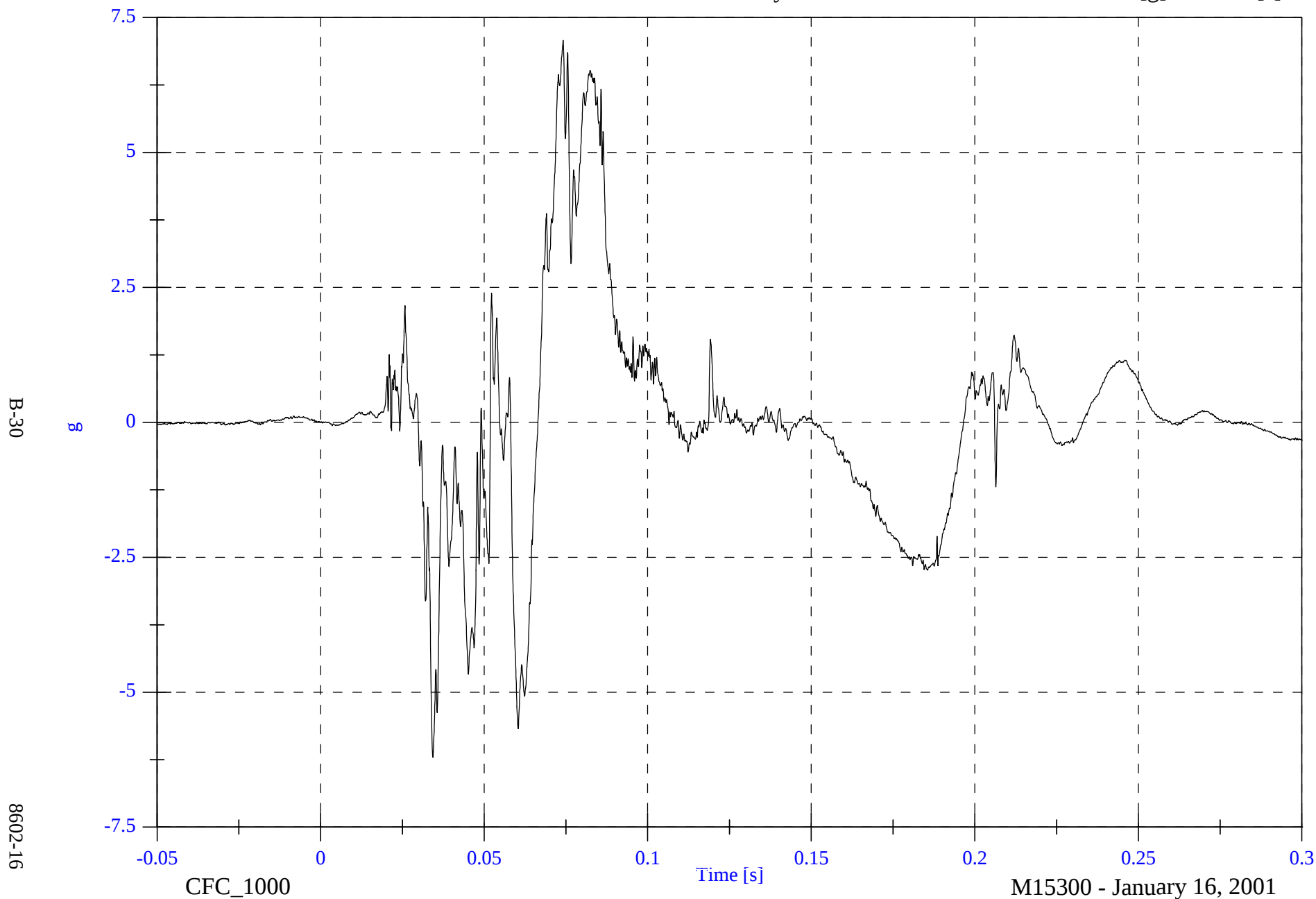


NCAP Test #16 - 2001 Acura 3.2TL

Max: 7.1 [g] at 0.074 [s]

Min: -6.2 [g] at 0.034 [s]

P1 Pelvic y



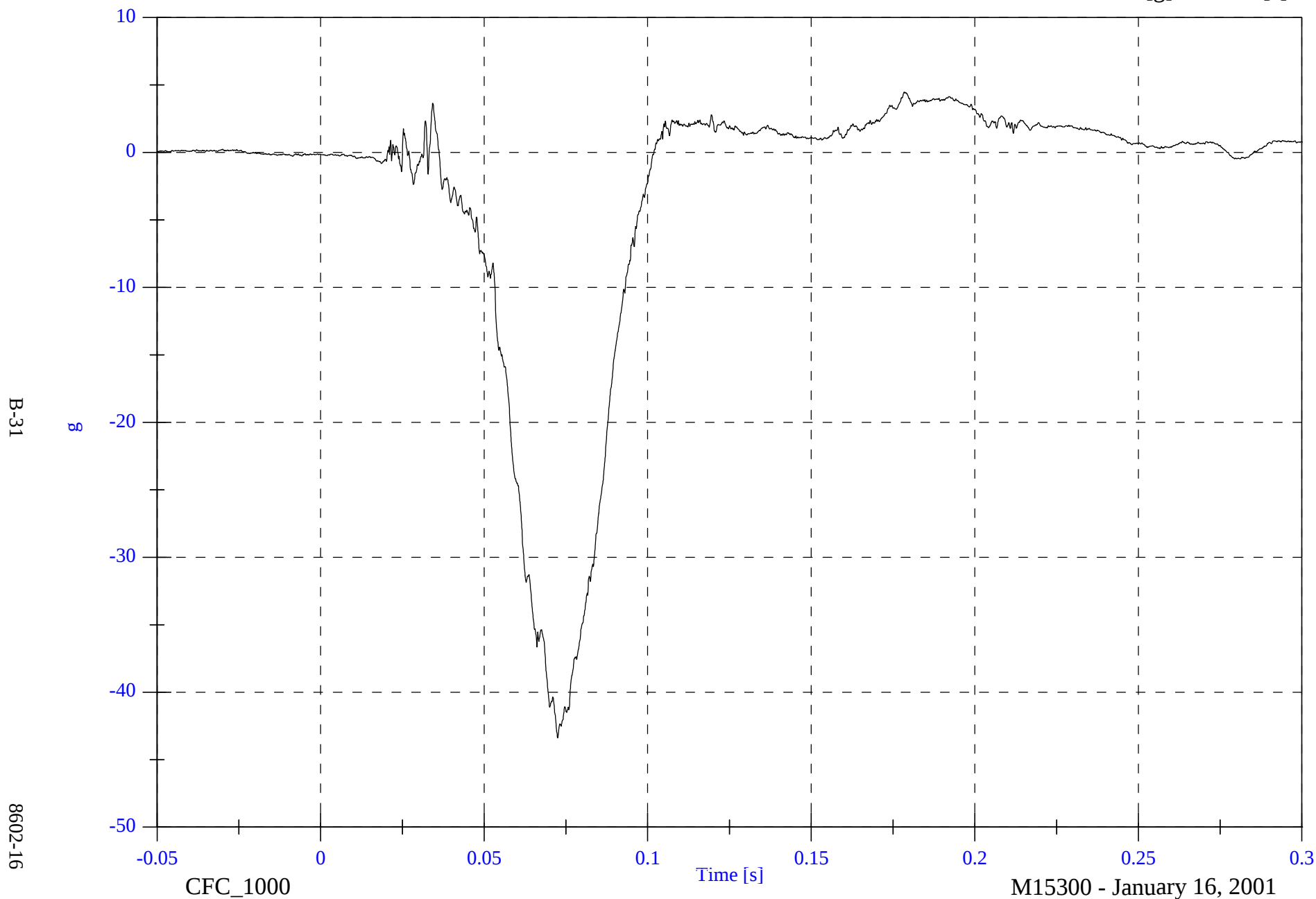
8602-16

NCAP Test #16 - 2001 Acura 3.2TL

Max: 4.5 [g] at 0.178 [s]

Min: -43.4 [g] at 0.072 [s]

P1 Pelvic z

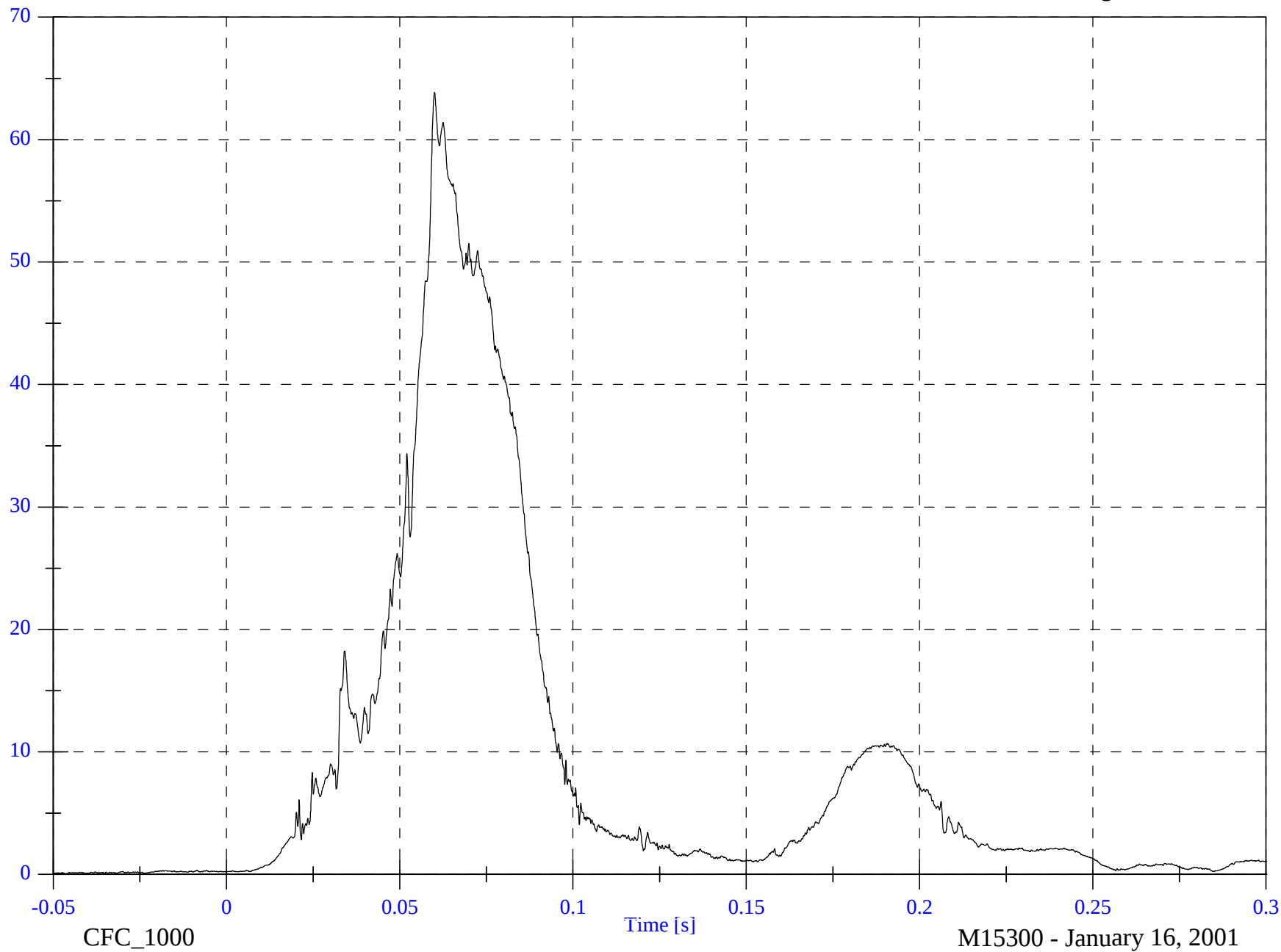


NCAP Test #16 - 2001 Acura 3.2TL

P1 Pelvic Resultant

Max: 63.9 [g] at 0.060 [s]

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



B-32

8602-16

CFC_1000

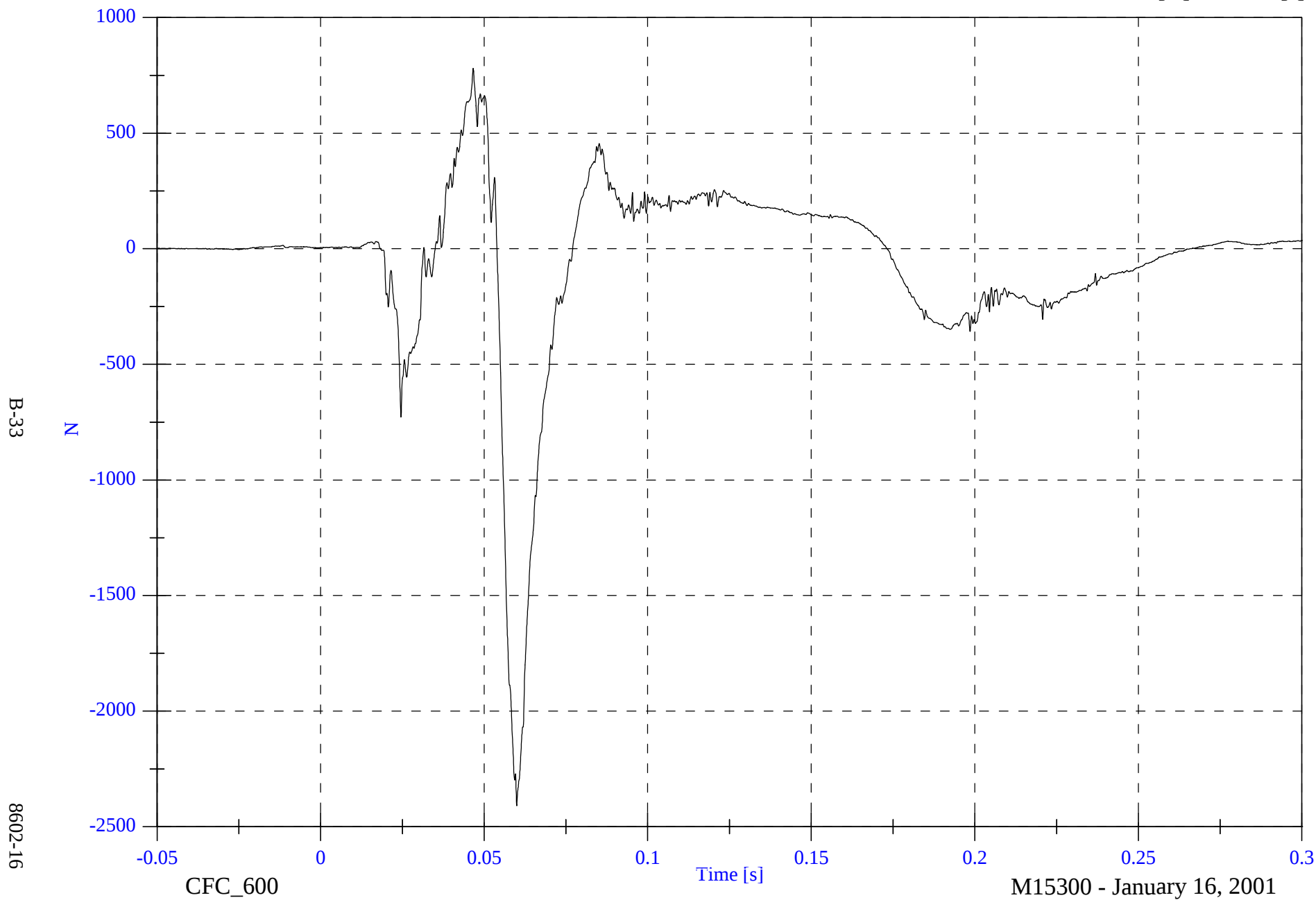
M15300 - January 16, 2001

NCAP Test #16 - 2001 Acura 3.2TL

Max: 780.5 [N] at 0.047 [s]

Min: -2410.1 [N] at 0.060 [s]

P1 Left Femur

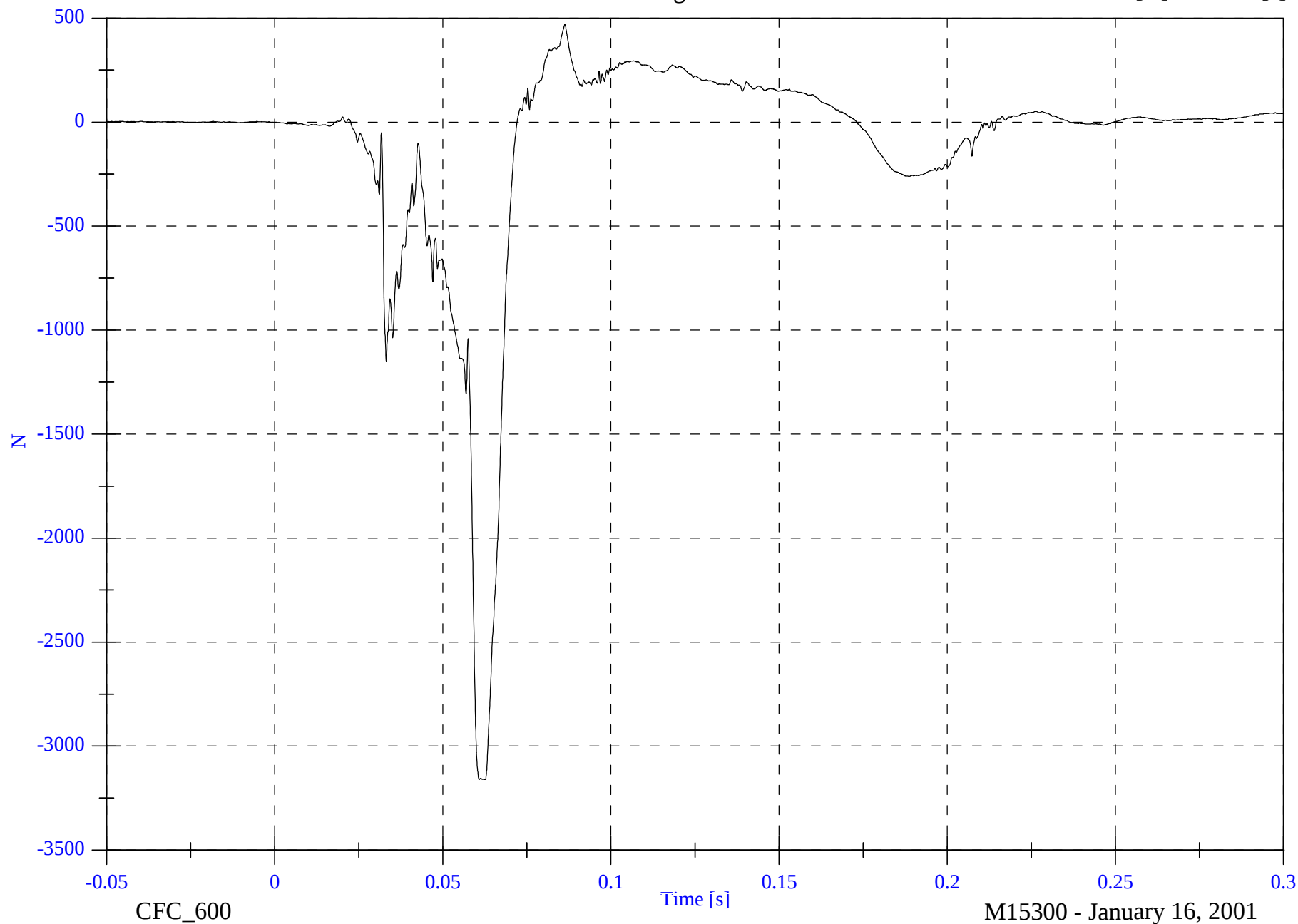


NCAP Test #16 - 2001 Acura 3.2TL

P1 Right Femur

Max: 469.8 [N] at 0.086 [s]

Min: -3161.6 [N] at 0.063 [s]

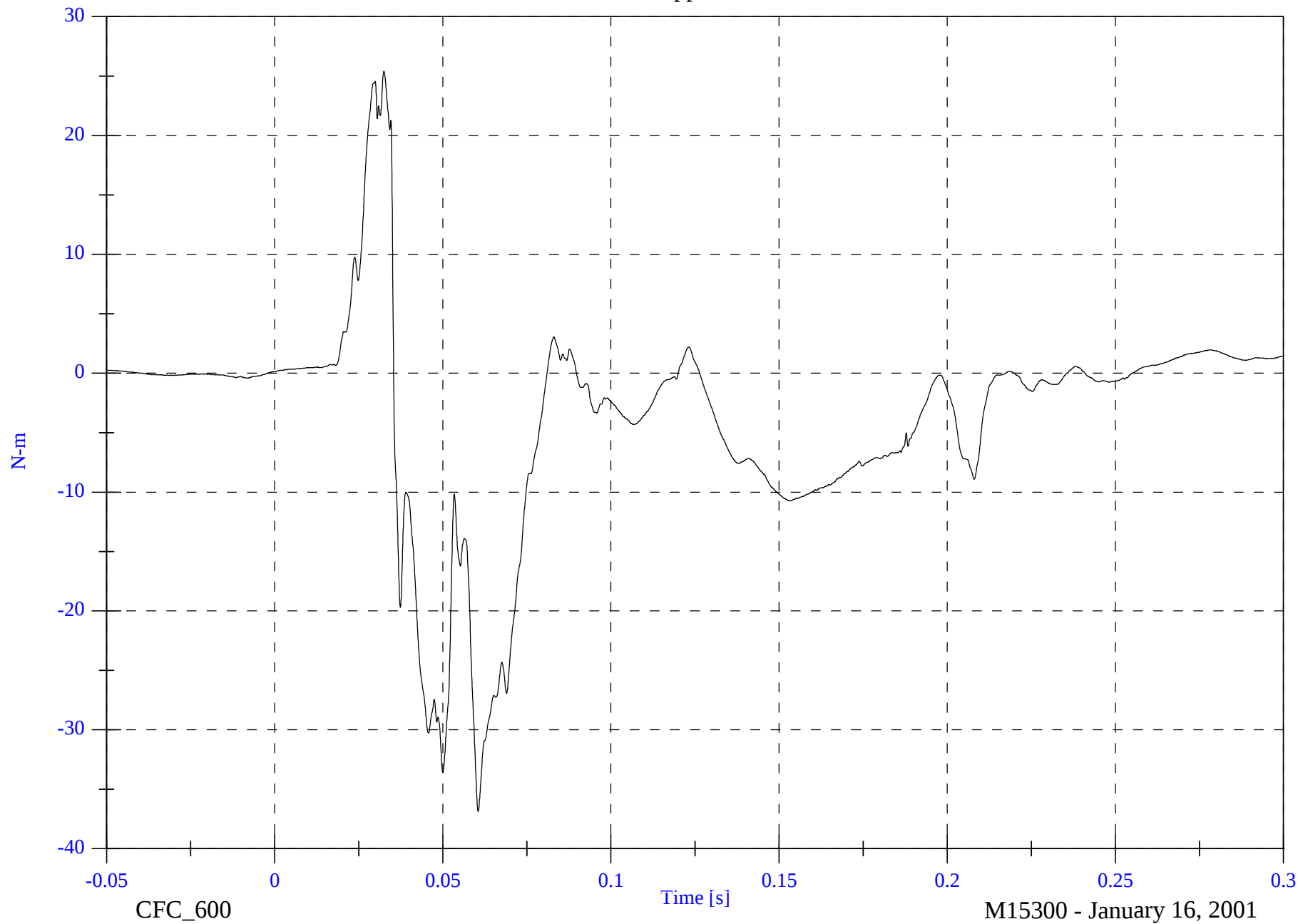


NCAP Test #16 - 2001 Acura 3.2TL

P1 Left Upper Tibia Mx

Max: 25.4 [N-m] at 0.032 [s]

Min: -36.9 [N-m] at 0.061 [s]



B-35

8602-16

CFC_600

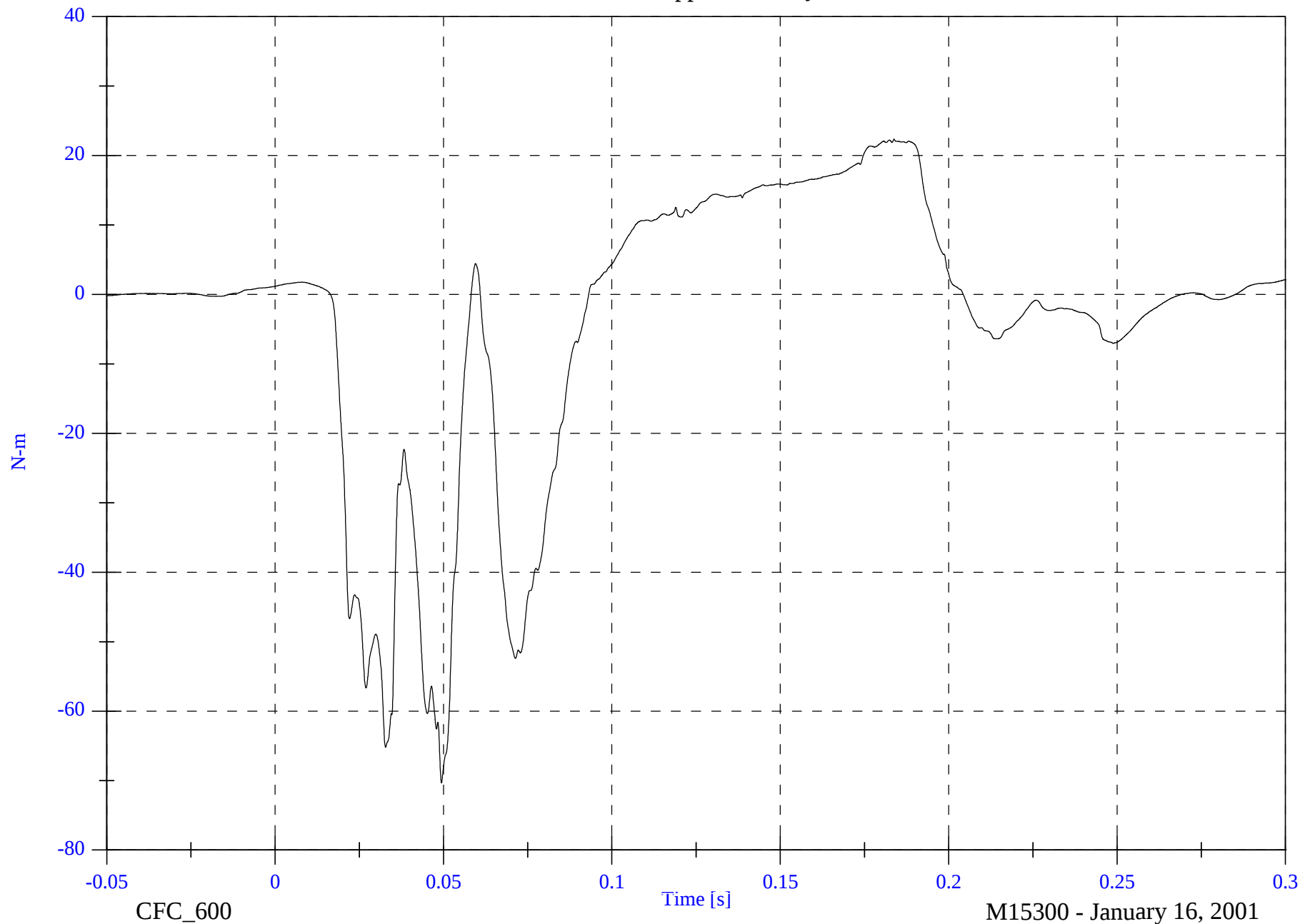
M15300 - January 16, 2001

NCAP Test #16 - 2001 Acura 3.2TL

P1 Left Upper Tibia My

Max: 22.4 [N-m] at 0.184 [s]

Min: -70.3 [N-m] at 0.049 [s]



B-36

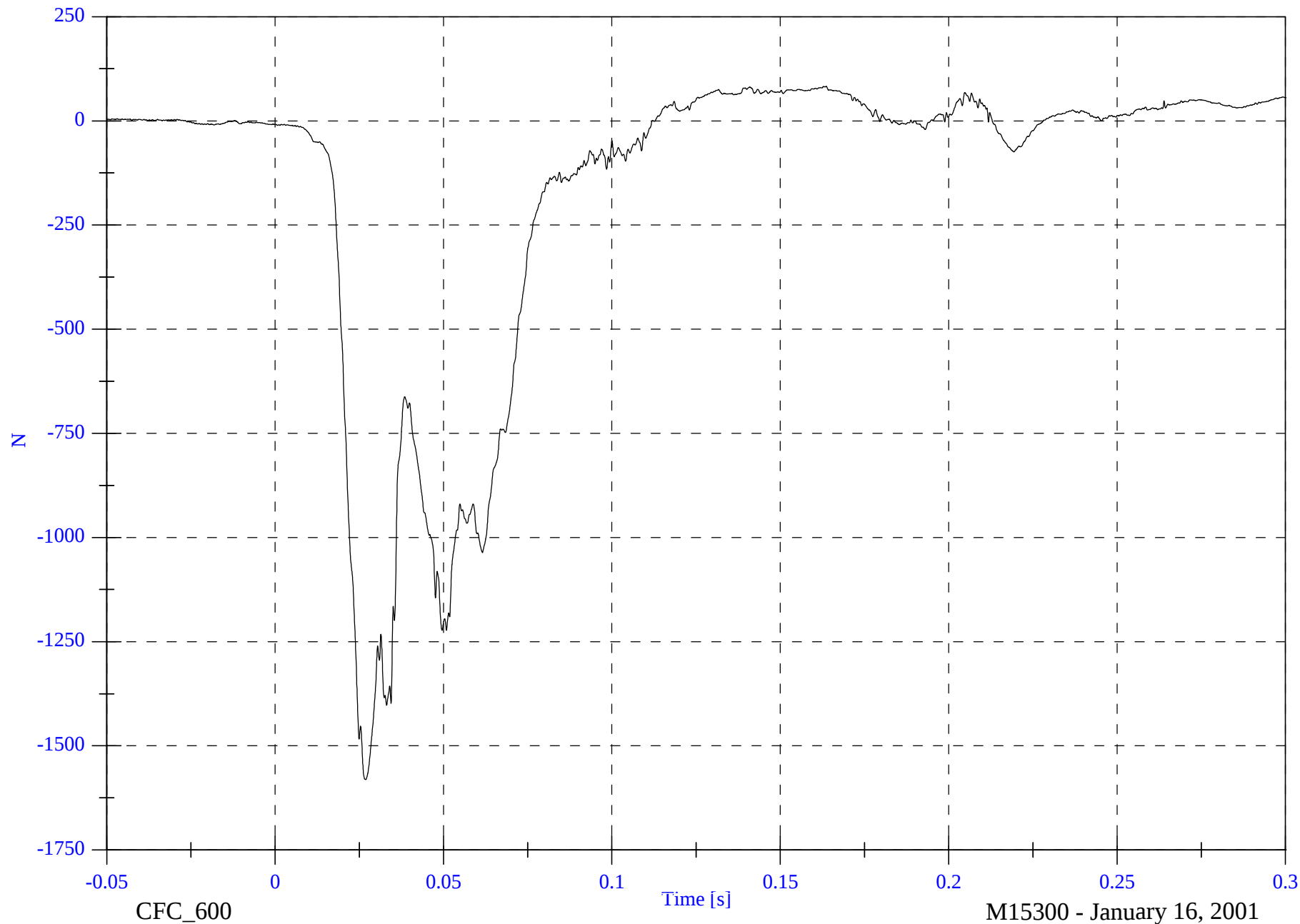
8602-16

NCAP Test #16 - 2001 Acura 3.2TL

P1 Left Lower Tibia Fz

Max: 83.0 [N] at 0.164 [s]

Min: -1581.1 [N] at 0.027 [s]



B-37

8602-16

CFC_600

Time [s]

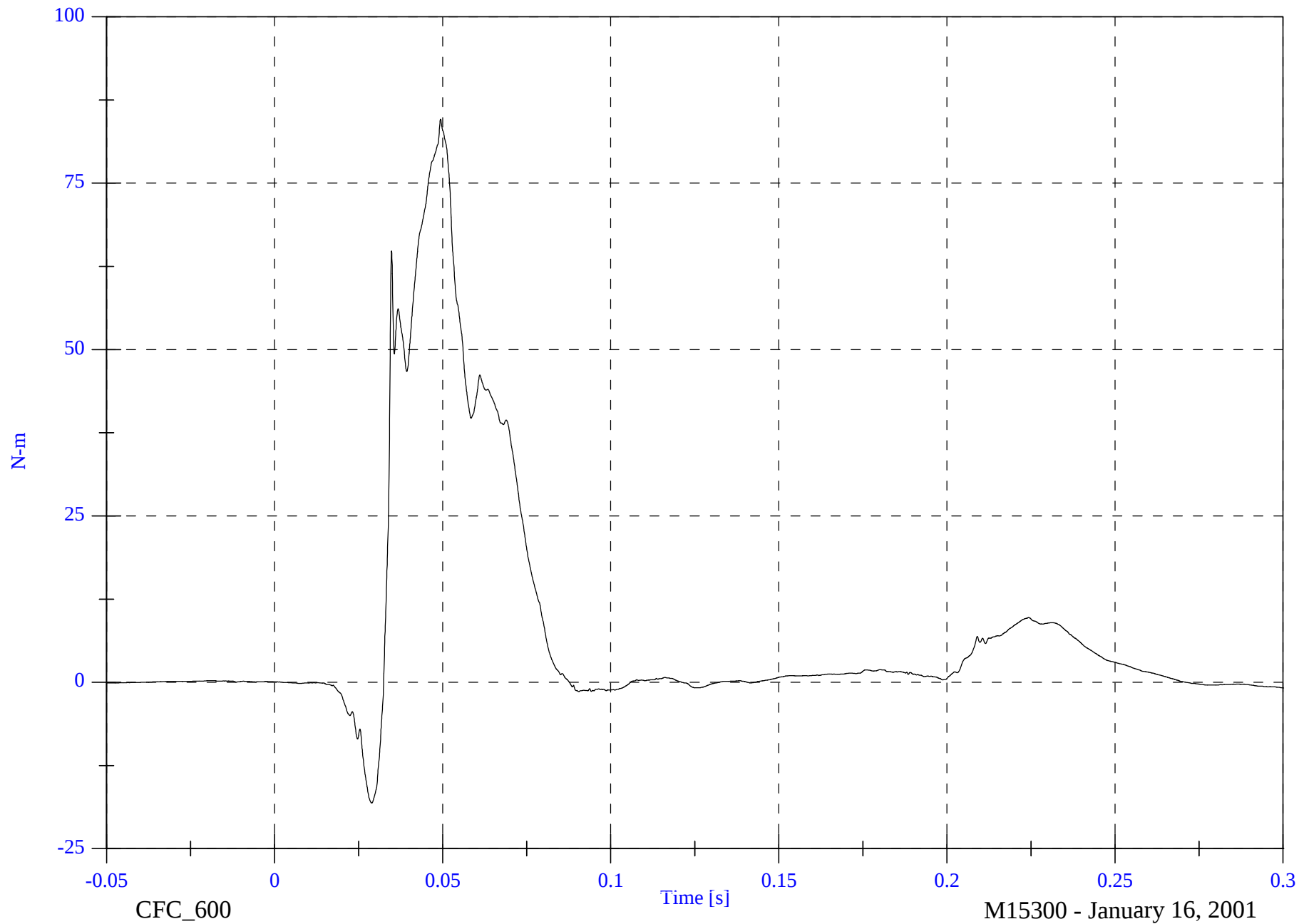
M15300 - January 16, 2001

NCAP Test #16 - 2001 Acura 3.2TL

P1 Left Lower Tibia Mx

Max: 84.6 [N-m] at 0.049 [s]

Min: -18.1 [N-m] at 0.029 [s]



B-38

8602-16

CFC_600

Time [s]

M15300 - January 16, 2001

NCAP Test #16 - 2001 Acura 3.2TL

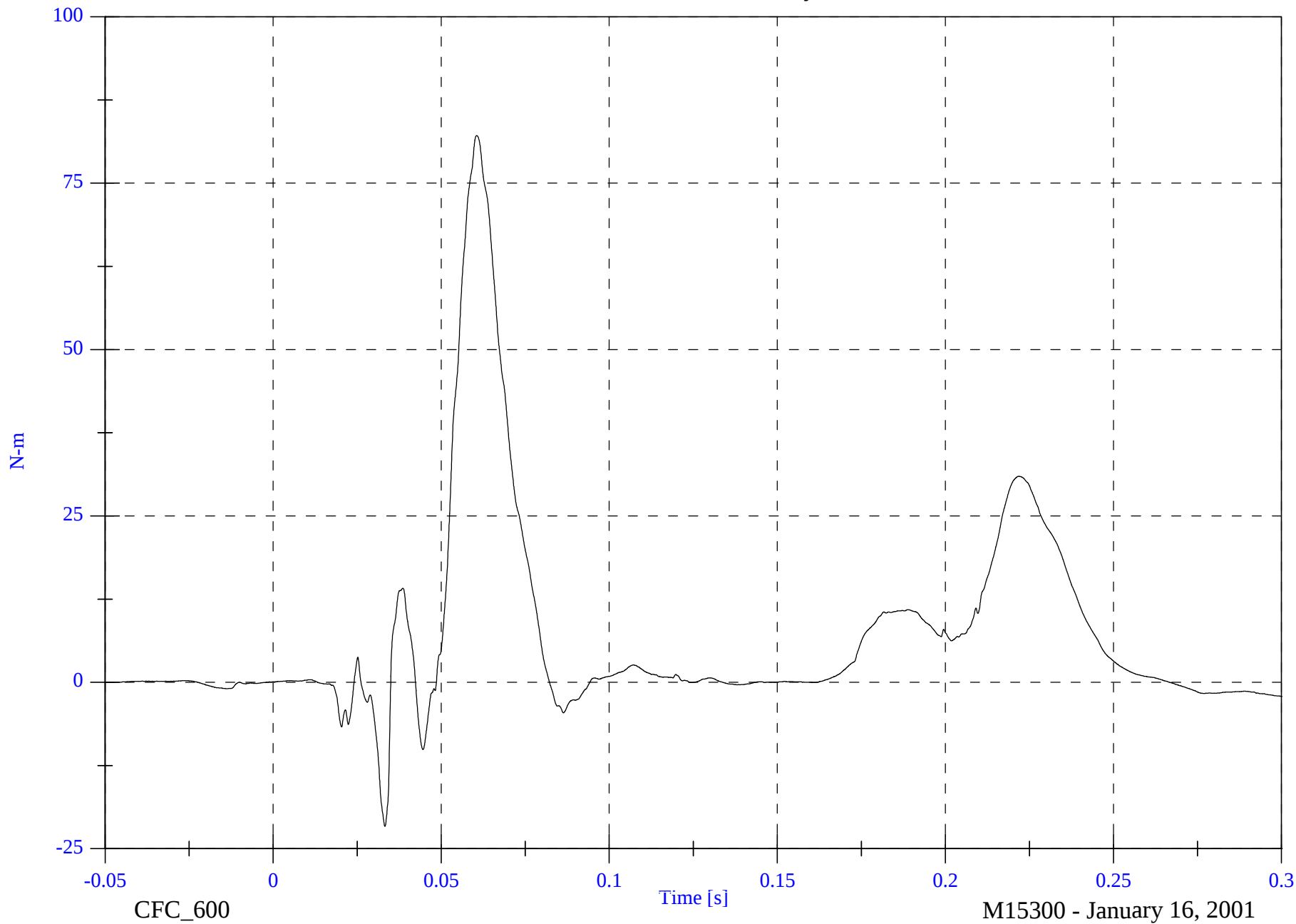
P1 Left Lower Tibia My

Max: 82.1 [N-m] at 0.061 [s]

Min: -21.7 [N-m] at 0.033 [s]

B-39

8602-16

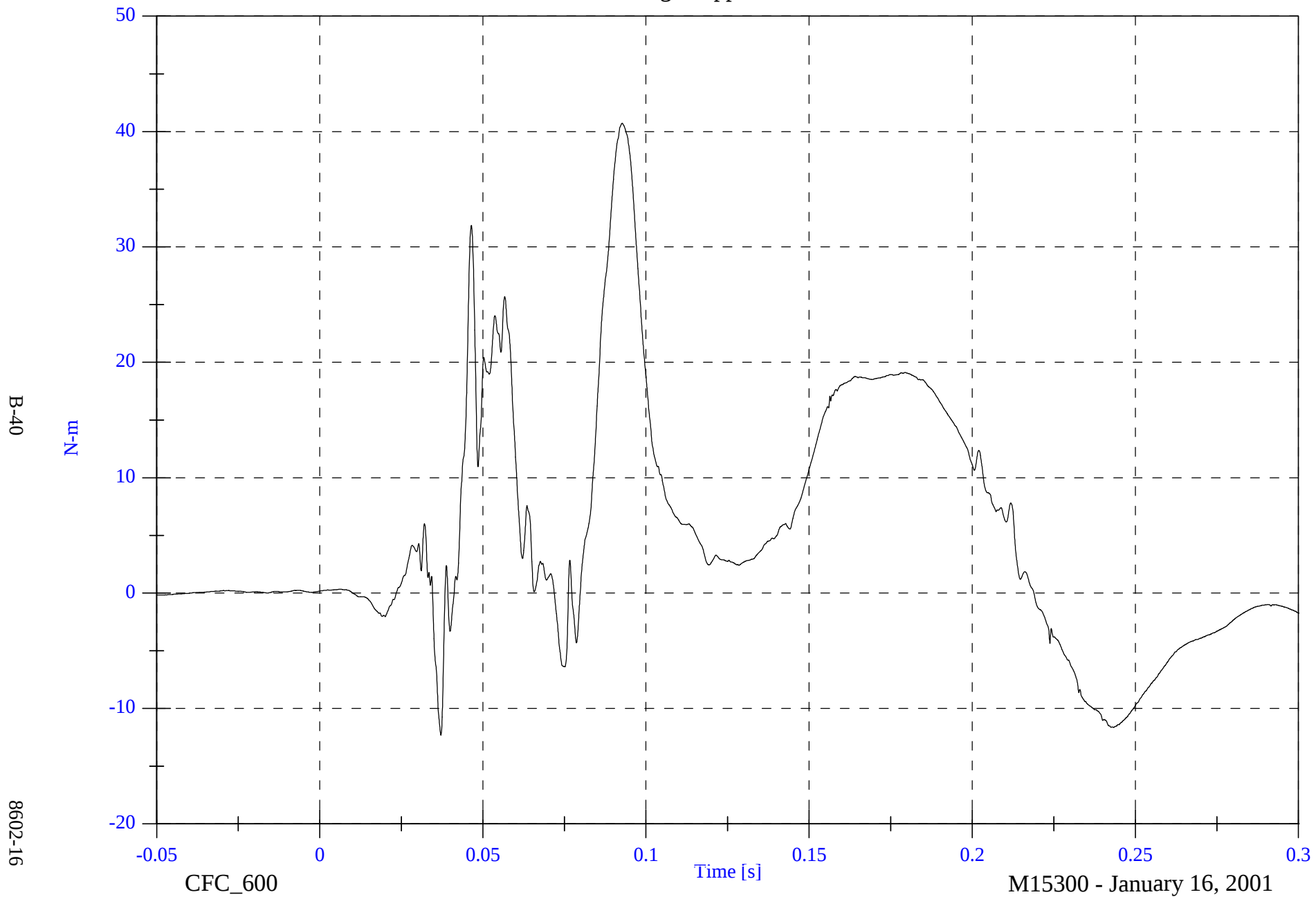


NCAP Test #16 - 2001 Acura 3.2TL

P1 Right Upper Tibia Mx

Max: 40.7 [N-m] at 0.093 [s]

Min: -12.3 [N-m] at 0.037 [s]

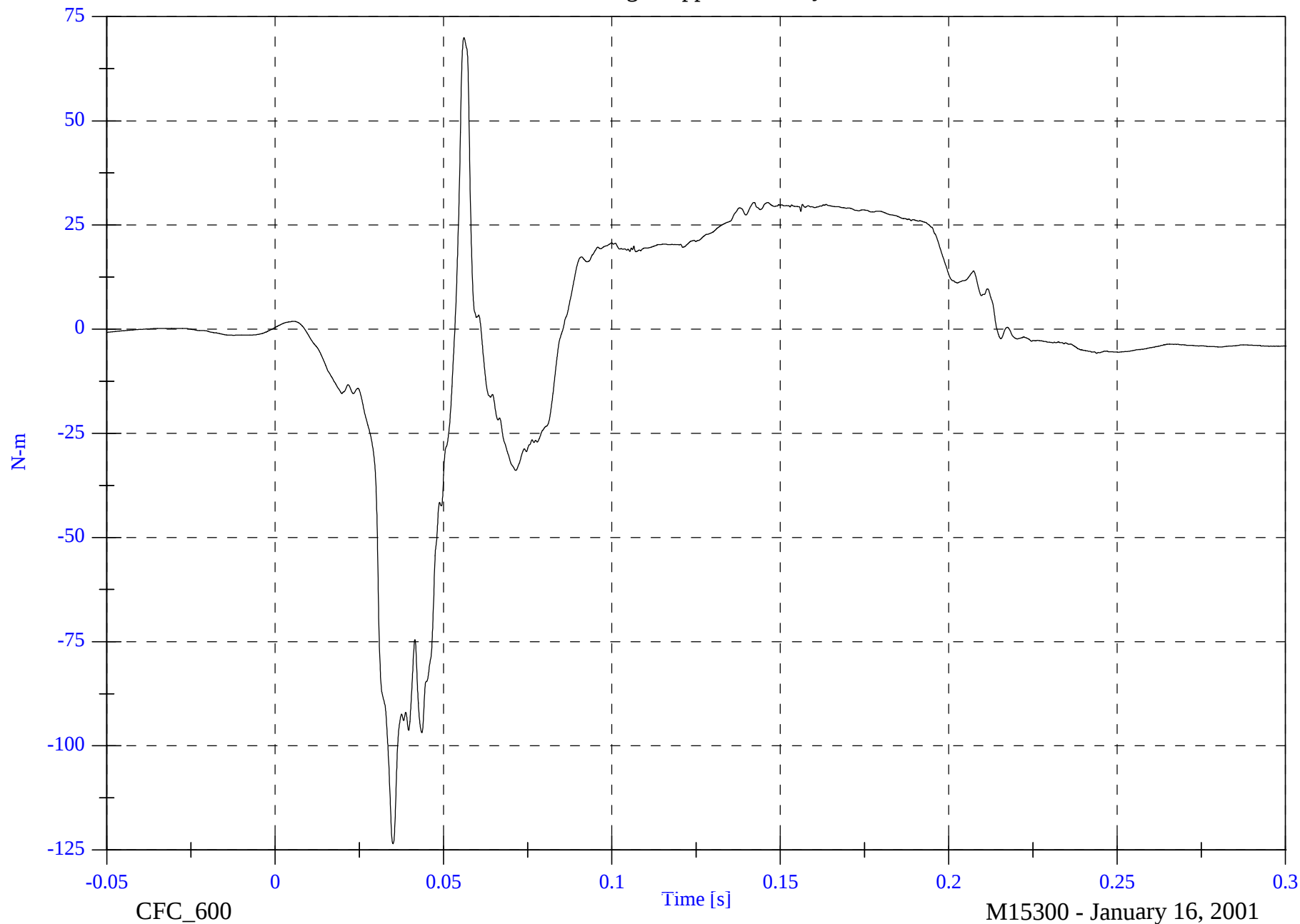


NCAP Test #16 - 2001 Acura 3.2TL

P1 Right Upper Tibia My

Max: 70.0 [N-m] at 0.056 [s]

Min: -123.5 [N-m] at 0.035 [s]



B-41

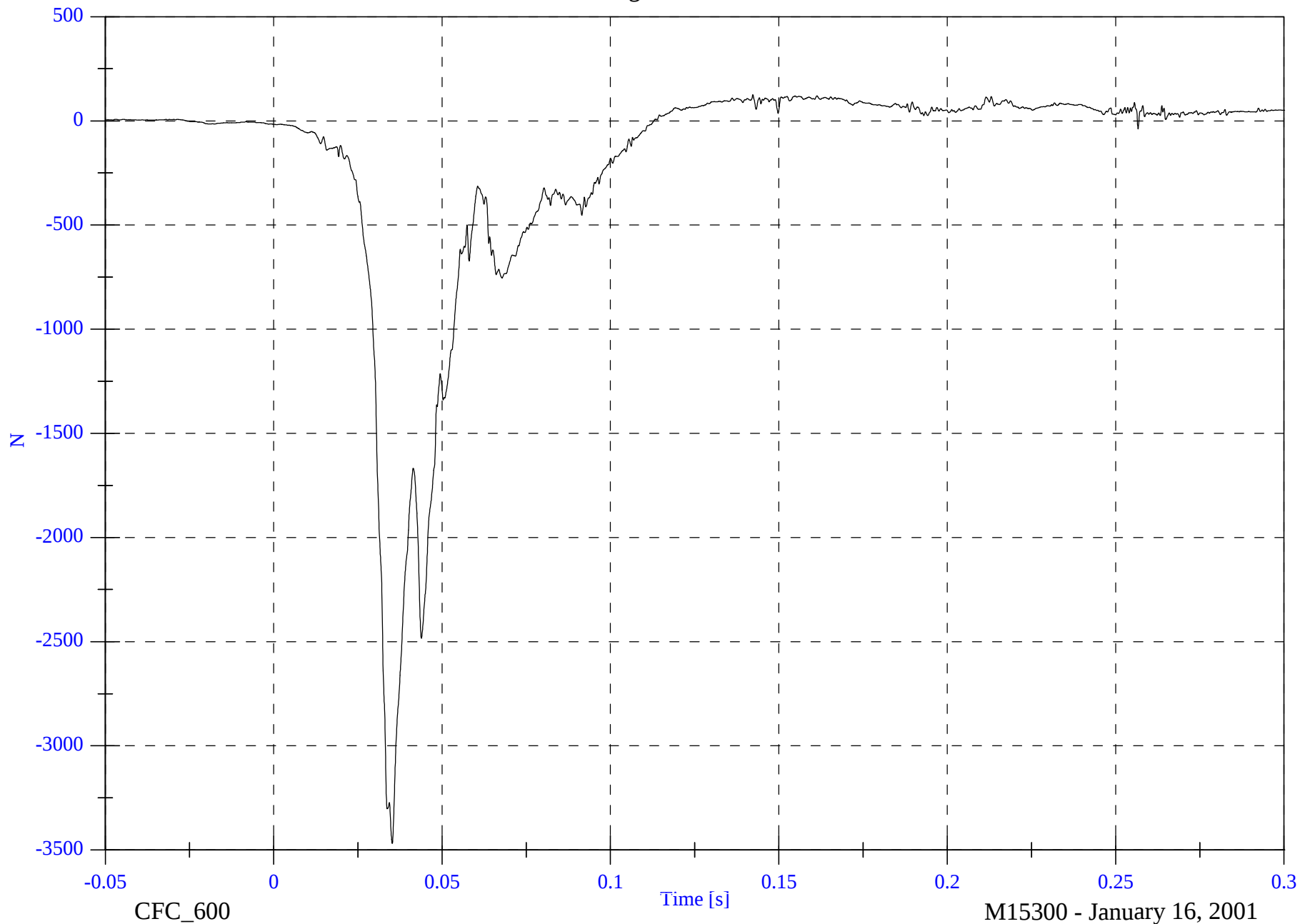
8602-16

NCAP Test #16 - 2001 Acura 3.2TL

P1 Right Lower Tibia Fz

Max: 125.5 [N] at 0.142 [s]

Min: -3469.5 [N] at 0.035 [s]



B-42

8602-16

CFC_600

Time [s]

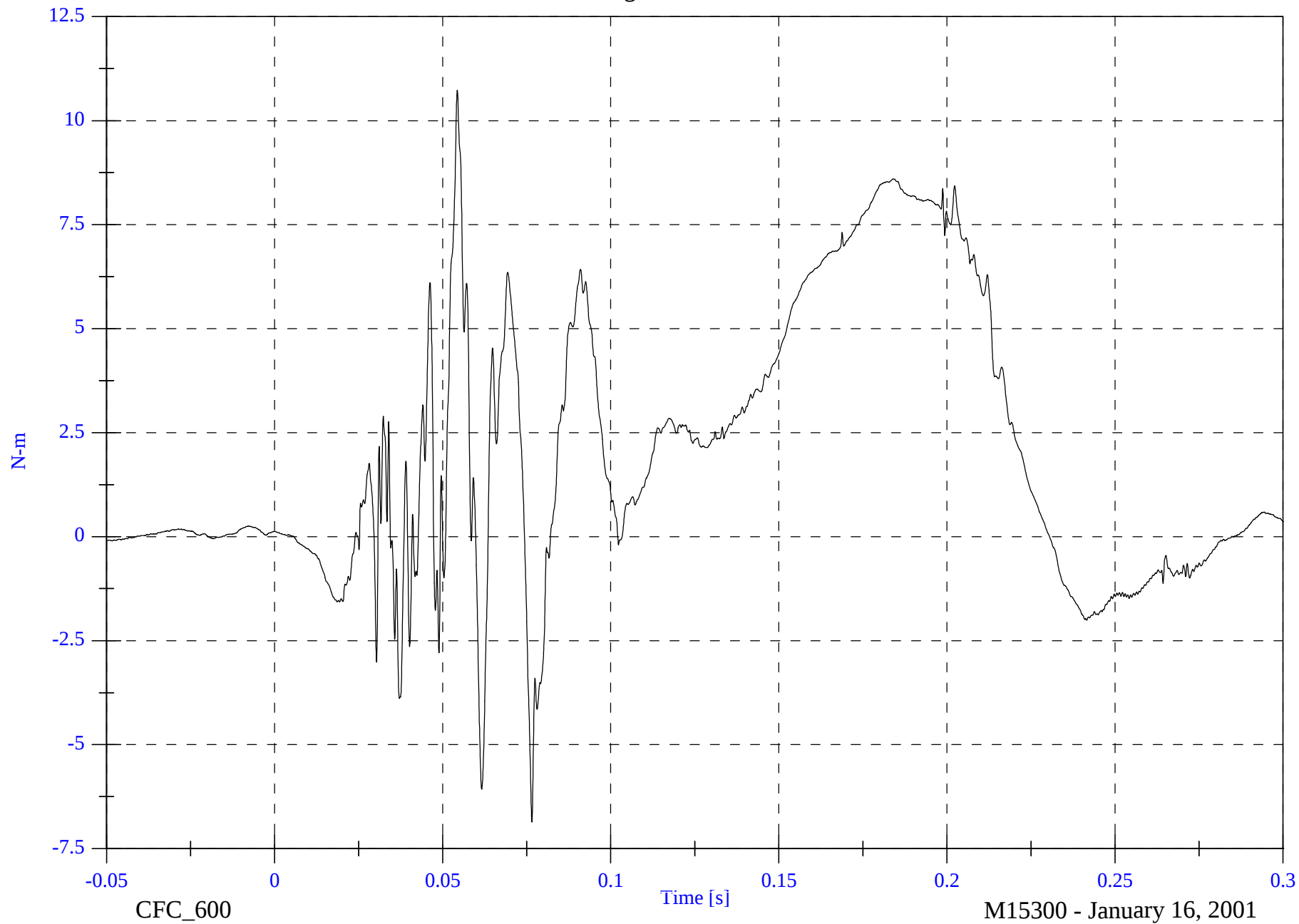
M15300 - January 16, 2001

NCAP Test #16 - 2001 Acura 3.2TL

P1 Right Lower Tibia Mx

Max: 10.7 [N-m] at 0.054 [s]

Min: -6.9 [N-m] at 0.077 [s]



B-43

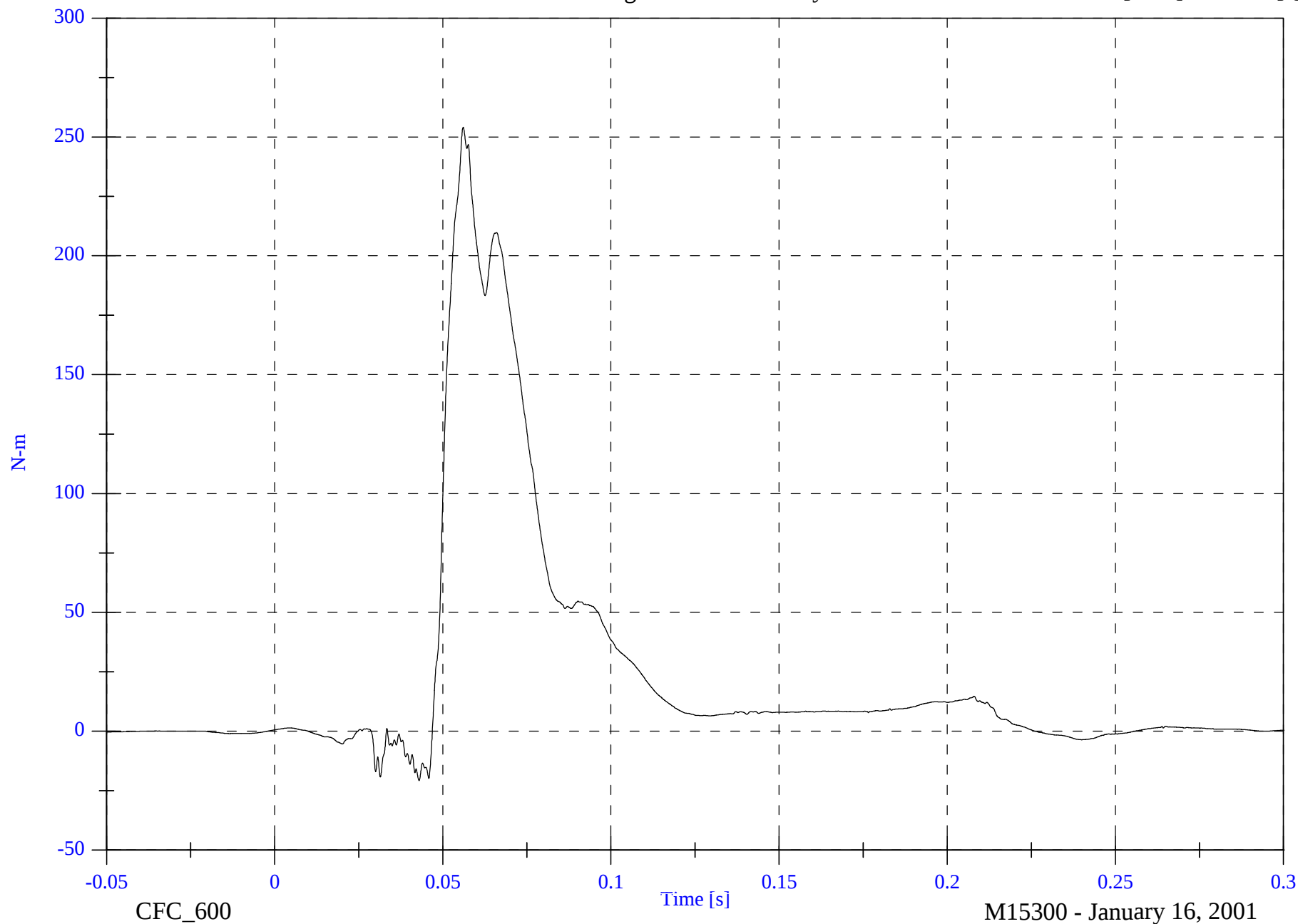
8602-16

NCAP Test #16 - 2001 Acura 3.2TL

P1 Right Lower Tibia My

Max: 254.1 [N-m] at 0.056 [s]

Min: -20.8 [N-m] at 0.043 [s]



B-44

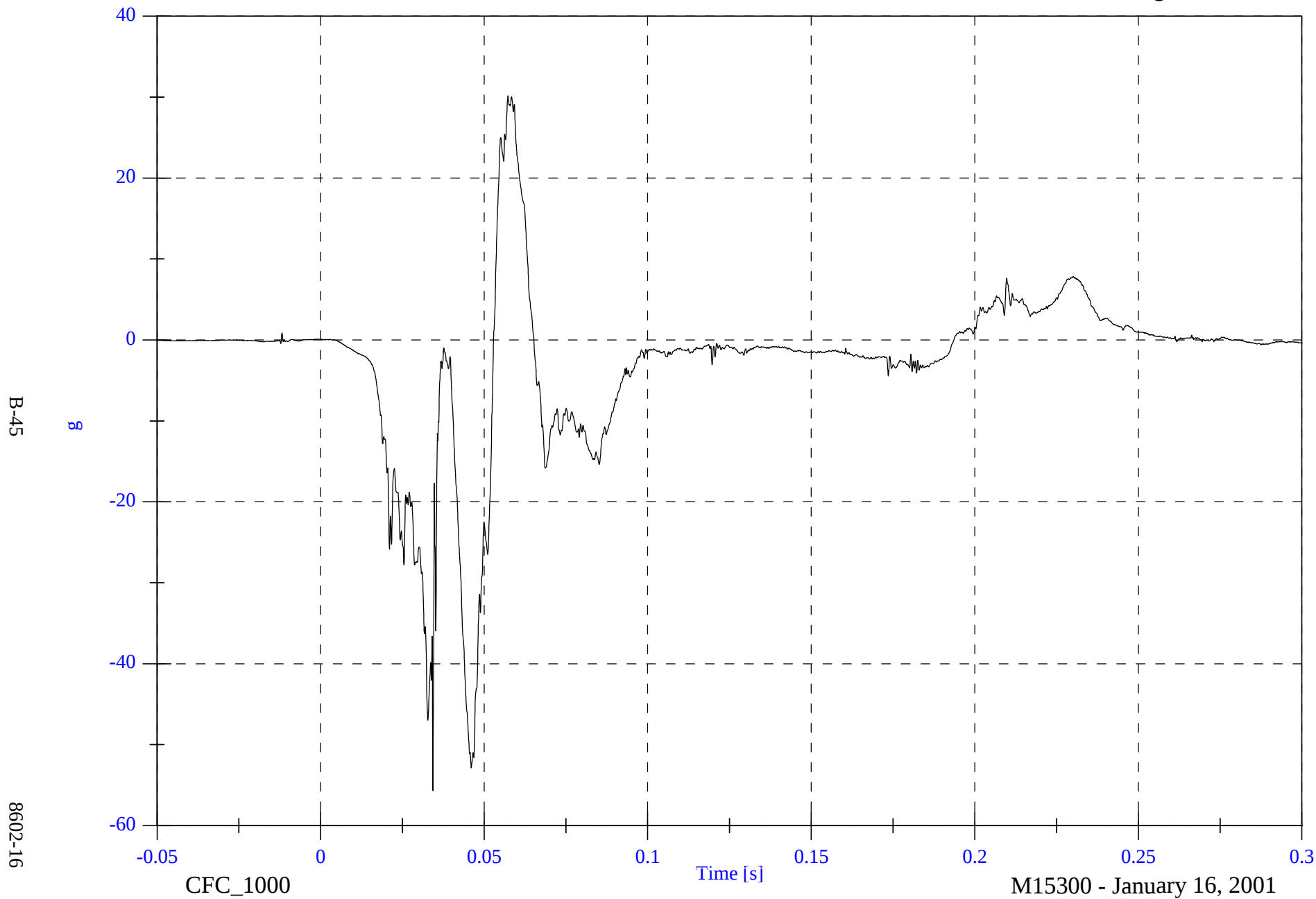
8602-16

NCAP Test #16 - 2001 Acura 3.2TL

P1 Left Foot Aft x

Max: 30.2 [g] at 0.057 [s]

Min: -55.7 [g] at 0.034 [s]



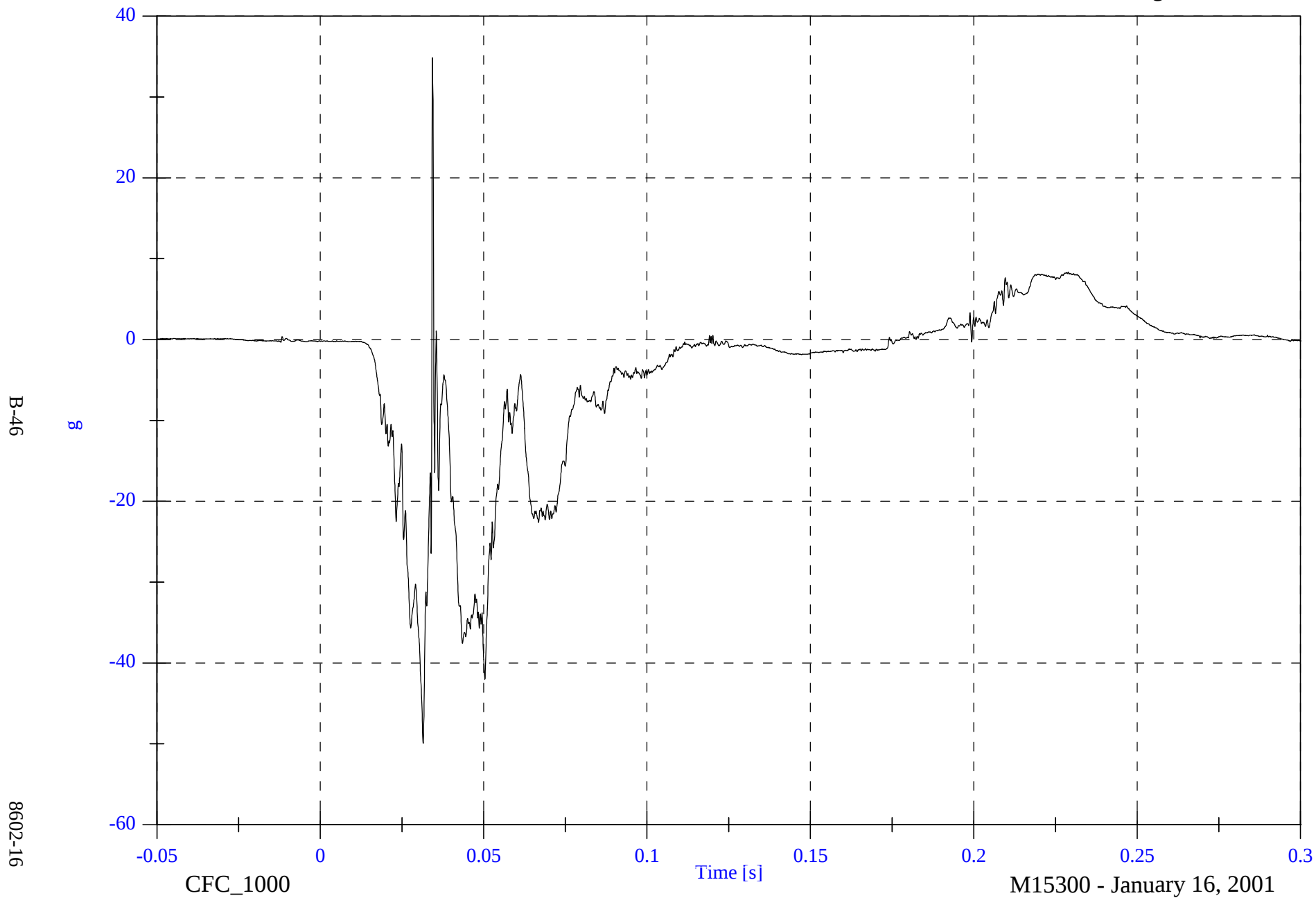
8602-16

NCAP Test #16 - 2001 Acura 3.2TL

P1 Left Foot Aft z

Max: 34.9 [g] at 0.034 [s]

Min: -49.9 [g] at 0.031 [s]

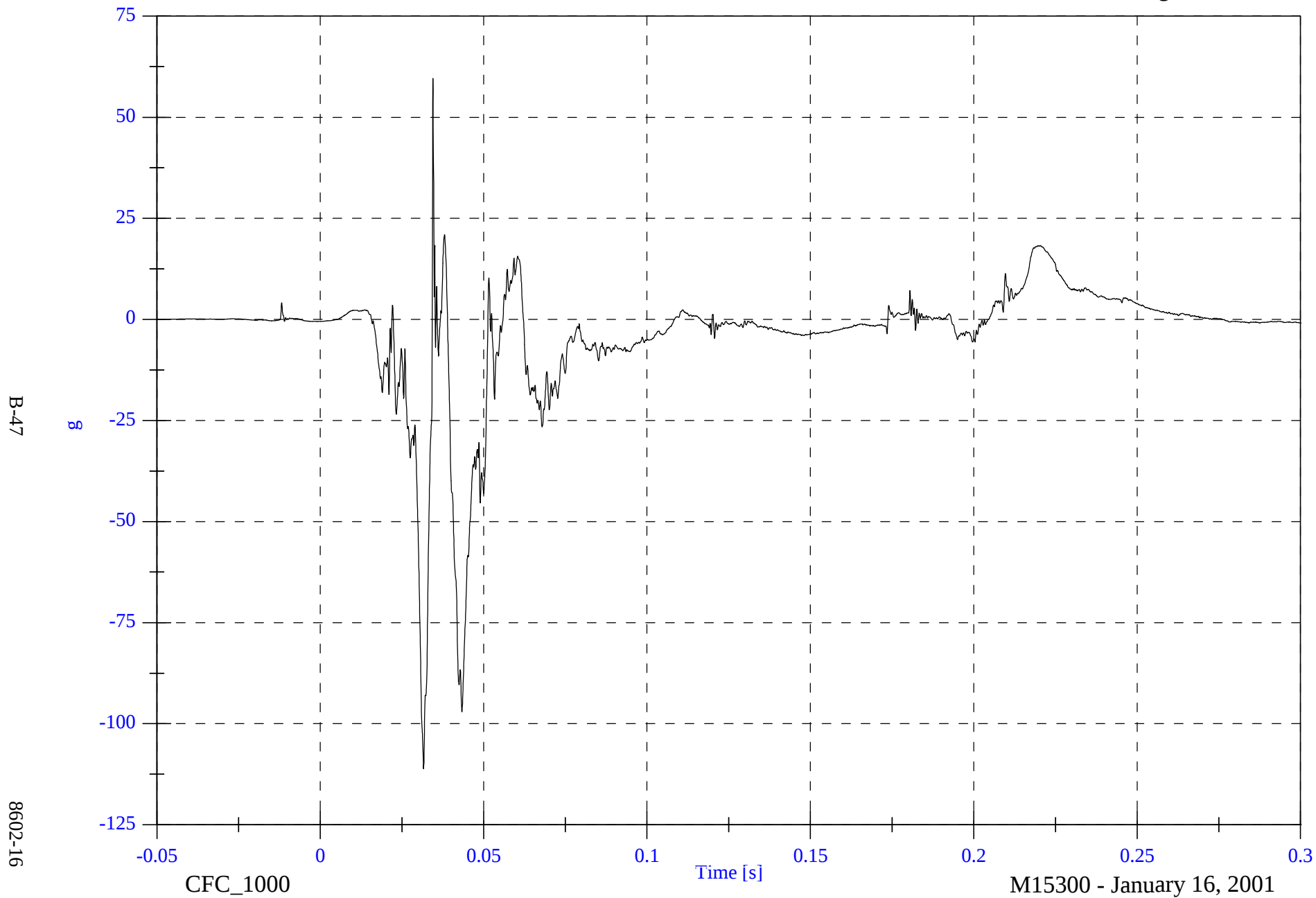


NCAP Test #16 - 2001 Acura 3.2TL

P1 Left Foot Fore z

Max: 59.6 [g] at 0.034 [s]

Min: -111.1 [g] at 0.032 [s]

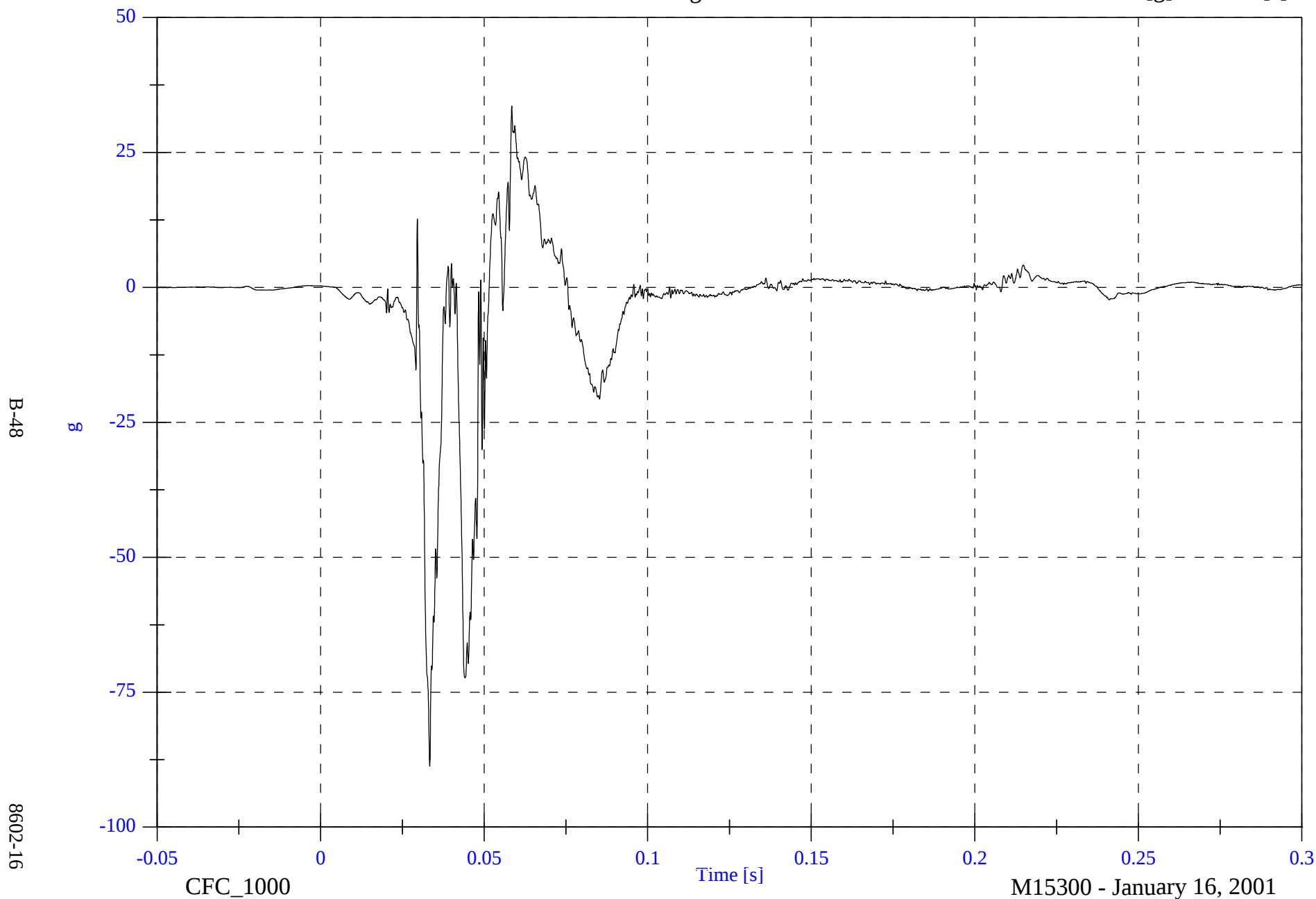


NCAP Test #16 - 2001 Acura 3.2TL

Max: 33.6 [g] at 0.058 [s]

Min: -88.7 [g] at 0.033 [s]

P1 Right Foot Aft x

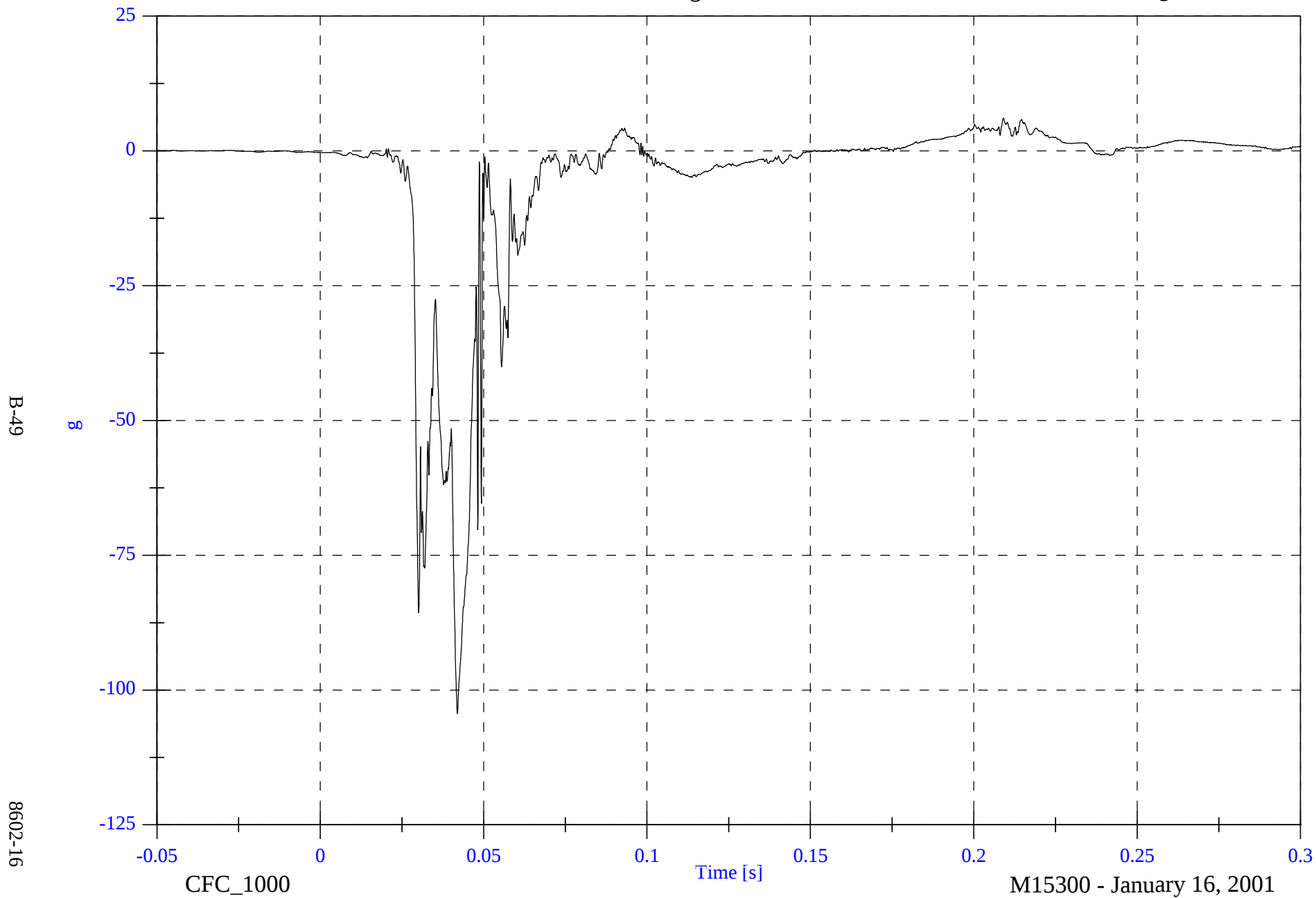


NCAP Test #16 - 2001 Acura 3.2TL

P1 Right Foot Aft z

Max: 6.1 [g] at 0.209 [s]

Min: -104.4 [g] at 0.042 [s]

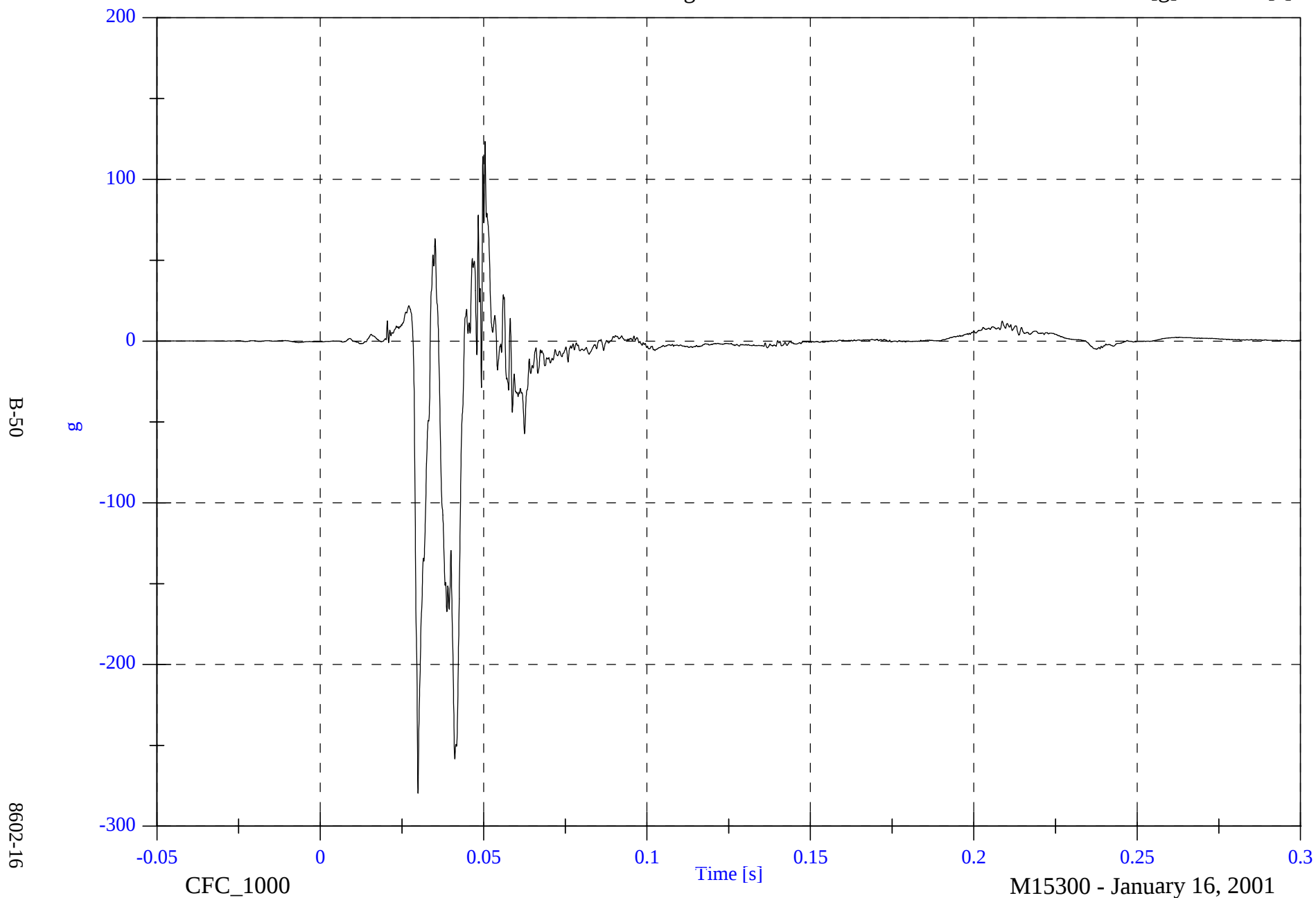


NCAP Test #16 - 2001 Acura 3.2TL

Max: 123.5 [g] at 0.050 [s]

Min: -279.6 [g] at 0.030 [s]

P1 Right Foot Fore z

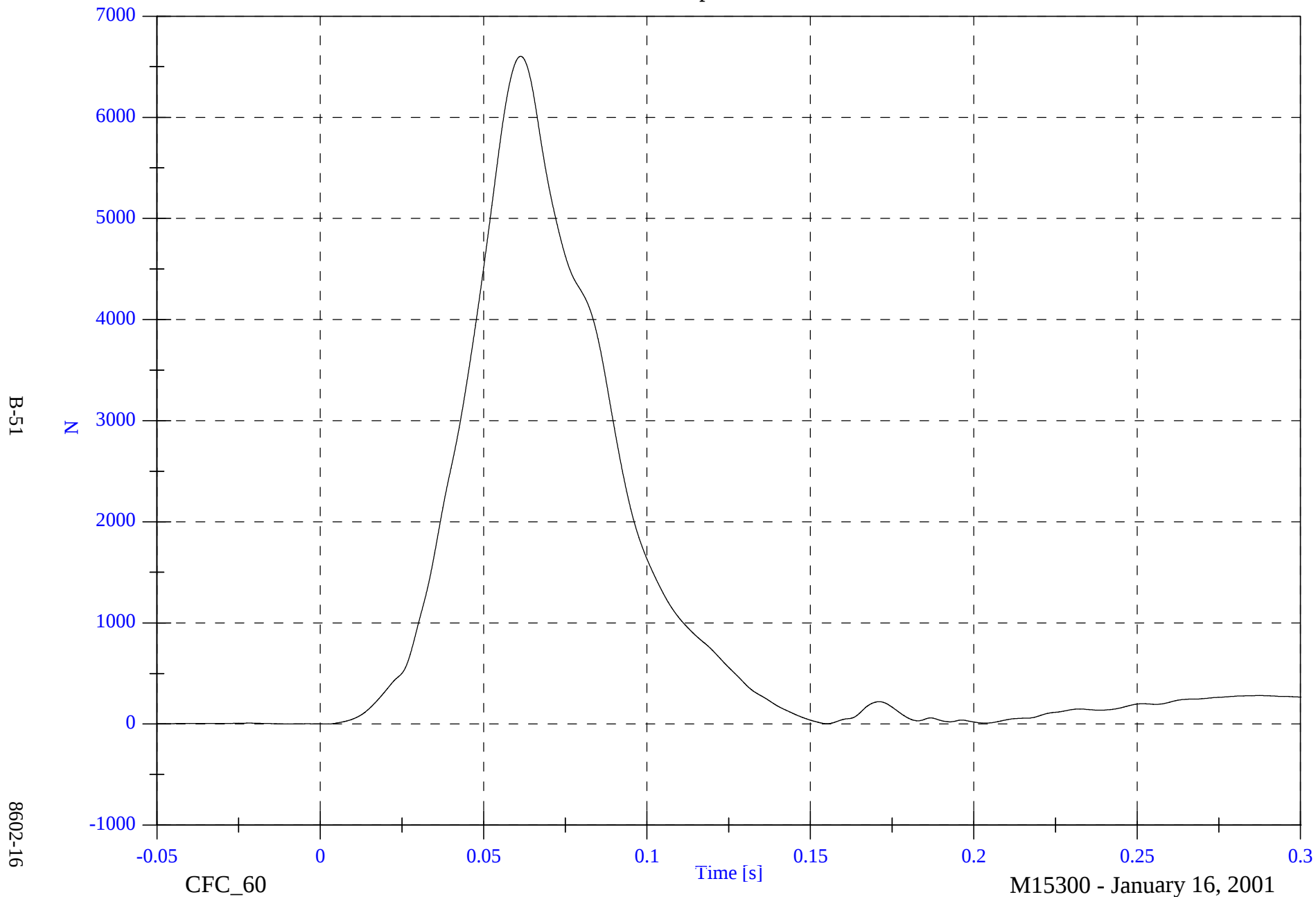


NCAP Test #16 - 2001 Acura 3.2TL

P1 Lap Belt Force

Max: 6603.5 [N] at 0.061 [s]

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

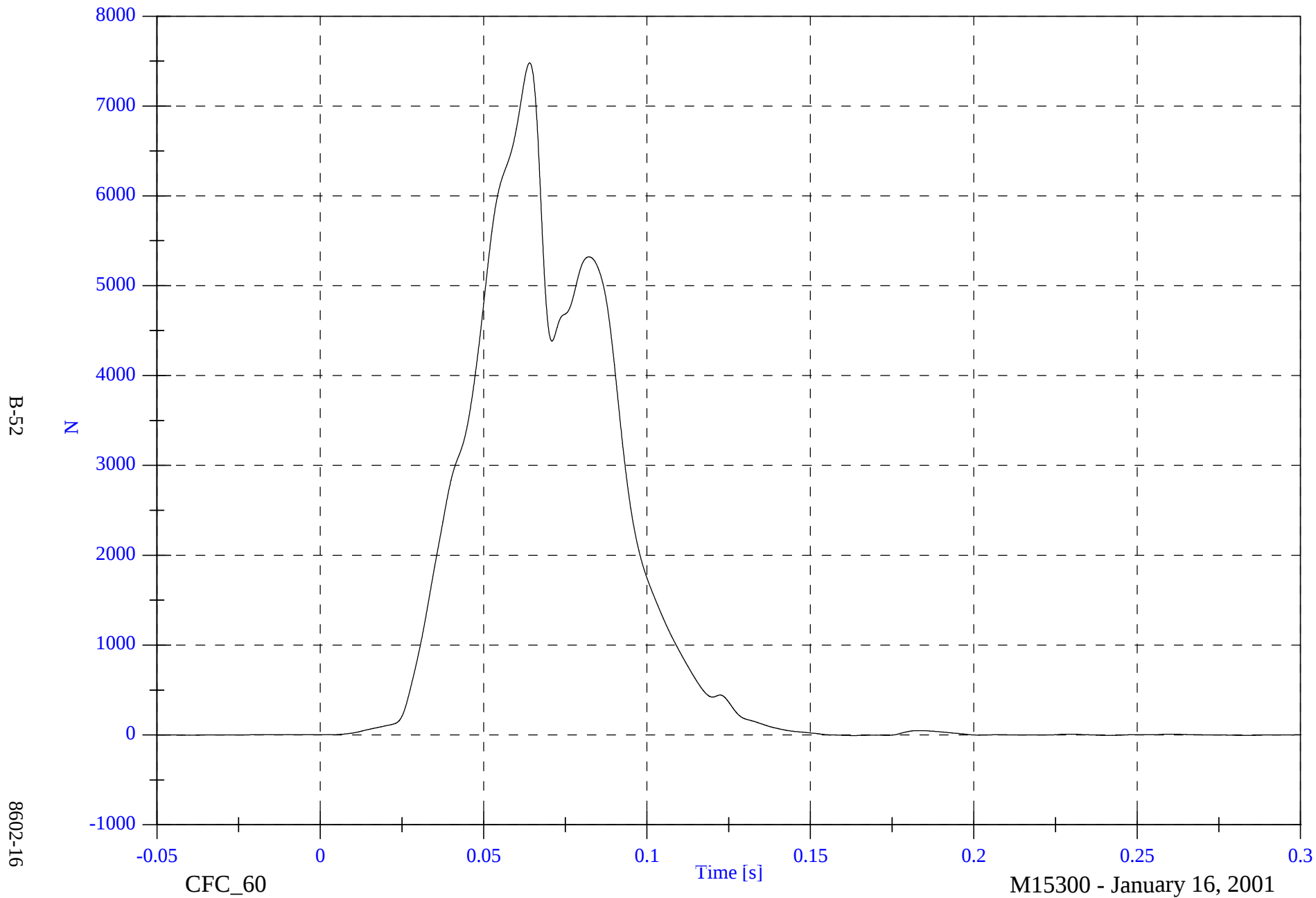


NCAP Test #16 - 2001 Acura 3.2TL

P1 Shoulder Belt Force

Max: 7480.9 [N] at 0.064 [s]

Min: -6.8 [N] at 0.163 [s]



NCAP Test #16 - 2001 Acura 3.2TL

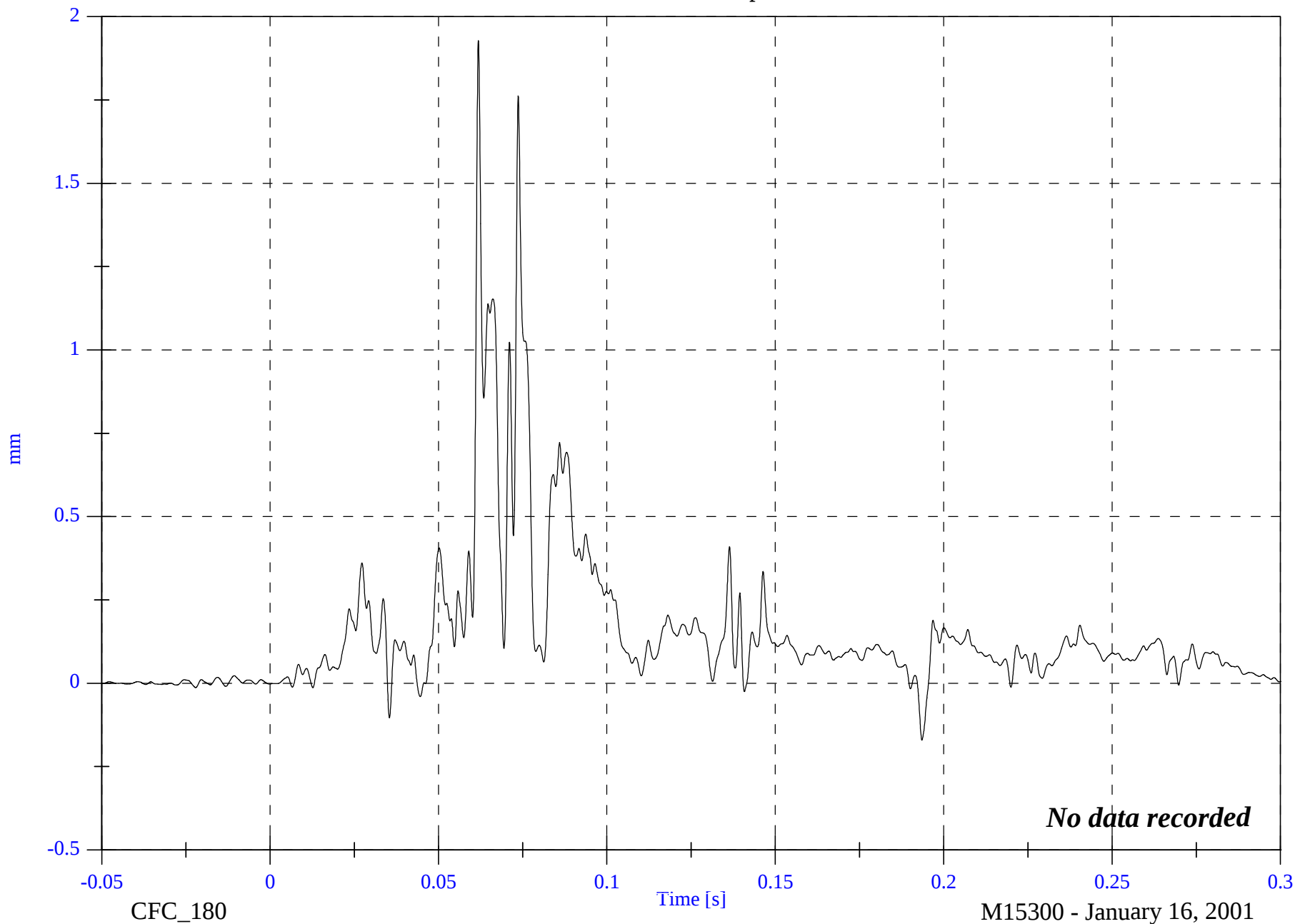
P1 Shoulder Belt Spoolout

Max: 1.9 [mm] at 0.062 [s]

Min: -0.2 [mm] at 0.194 [s]

B-53

8602-16

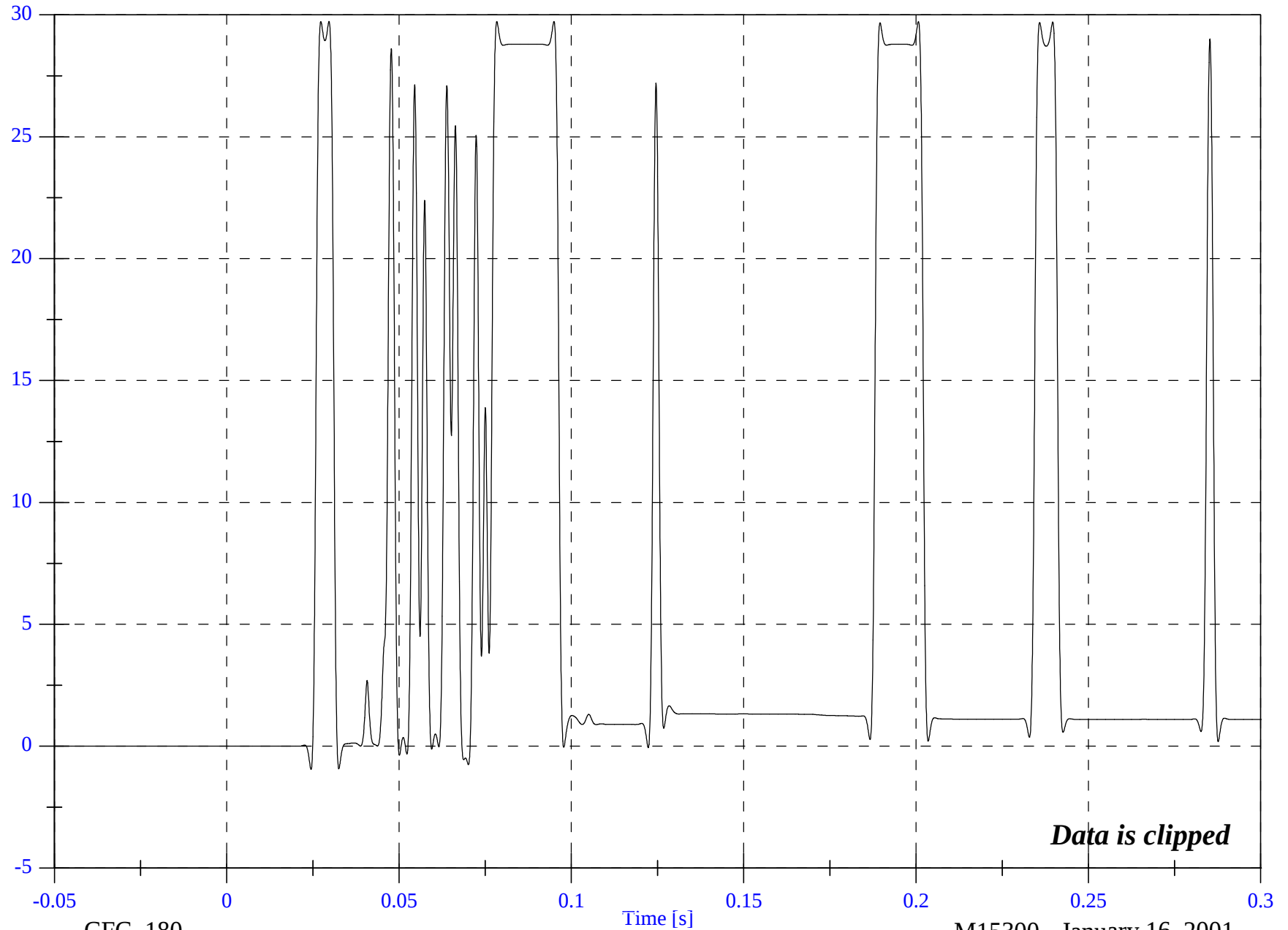


NCAP Test #16 - 2001 Acura 3.2TL

P1 Shoulder Belt Elongation

Max: 29.7 [mm] at 0.030 [s]

Min: -1.0 [mm] at 0.024 [s]



B-54

8602-16

CFC_180

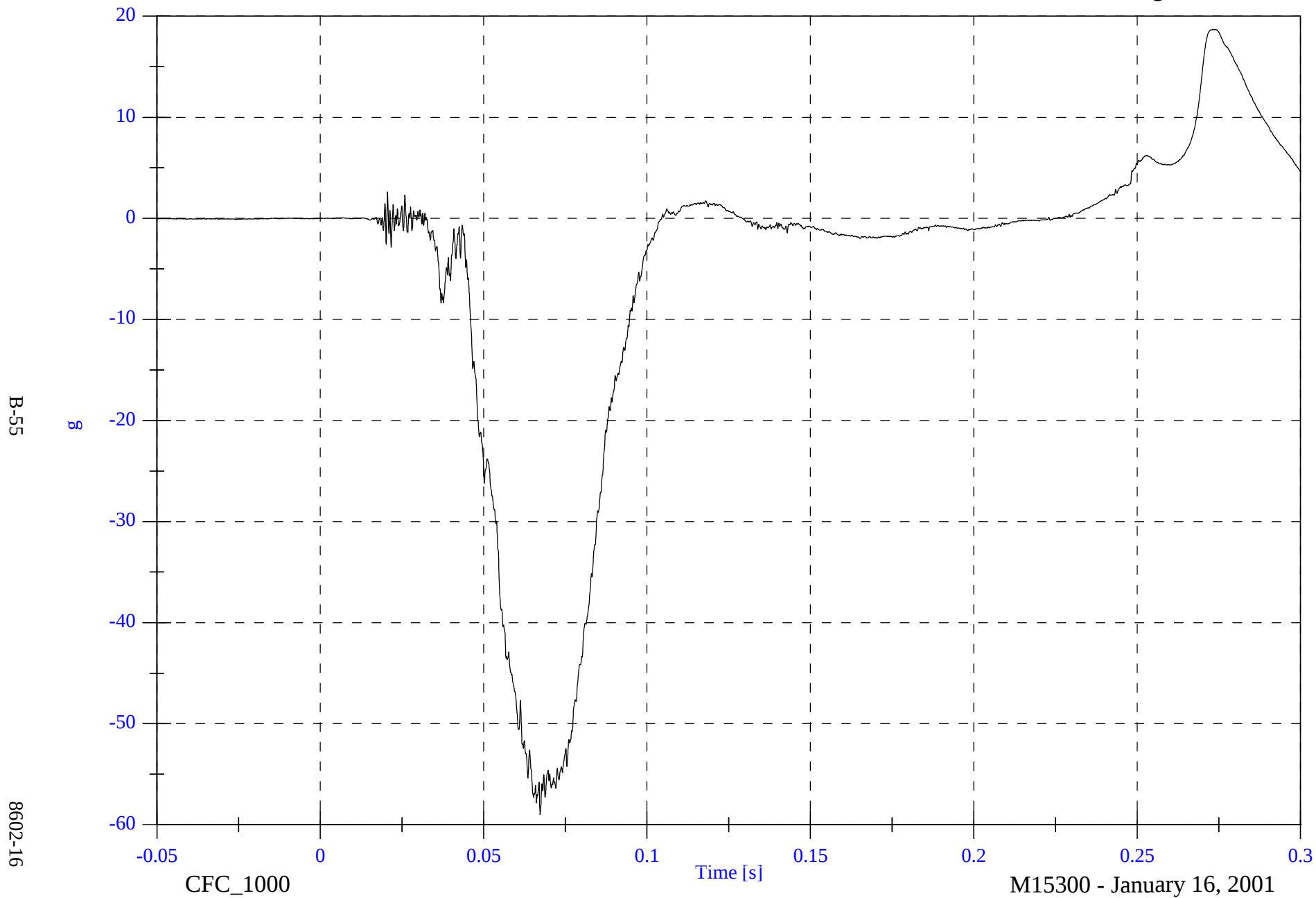
M15300 - January 16, 2001

NCAP Test #16 - 2001 Acura 3.2TL

Max: 18.7 [g] at 0.273 [s]

Min: -59.0 [g] at 0.067 [s]

P2 Head x

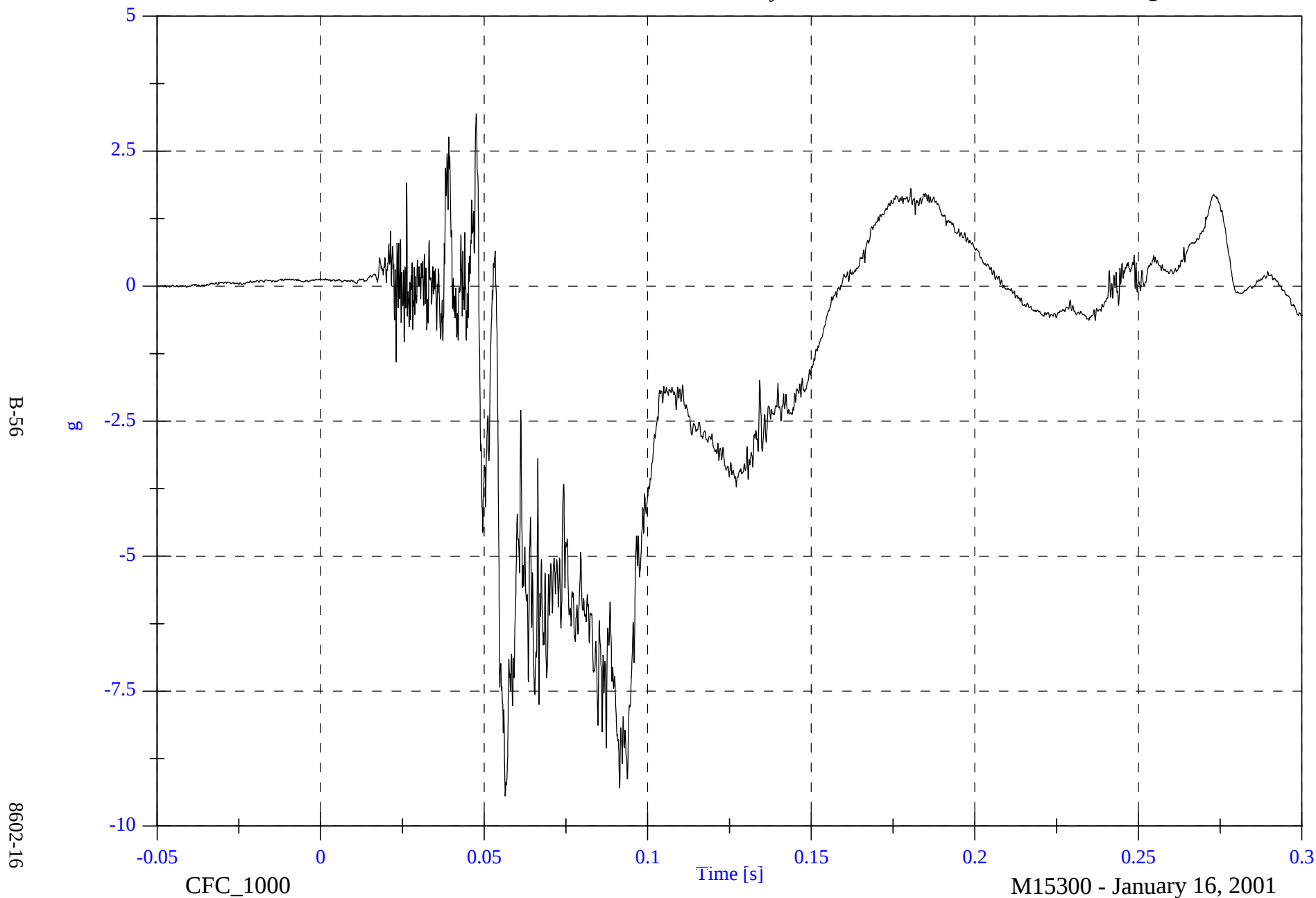


NCAP Test #16 - 2001 Acura 3.2TL

P2 Head y

Max: 3.2 [g] at 0.048 [s]

Min: -9.4 [g] at 0.056 [s]



NCAP Test #16 - 2001 Acura 3.2TL

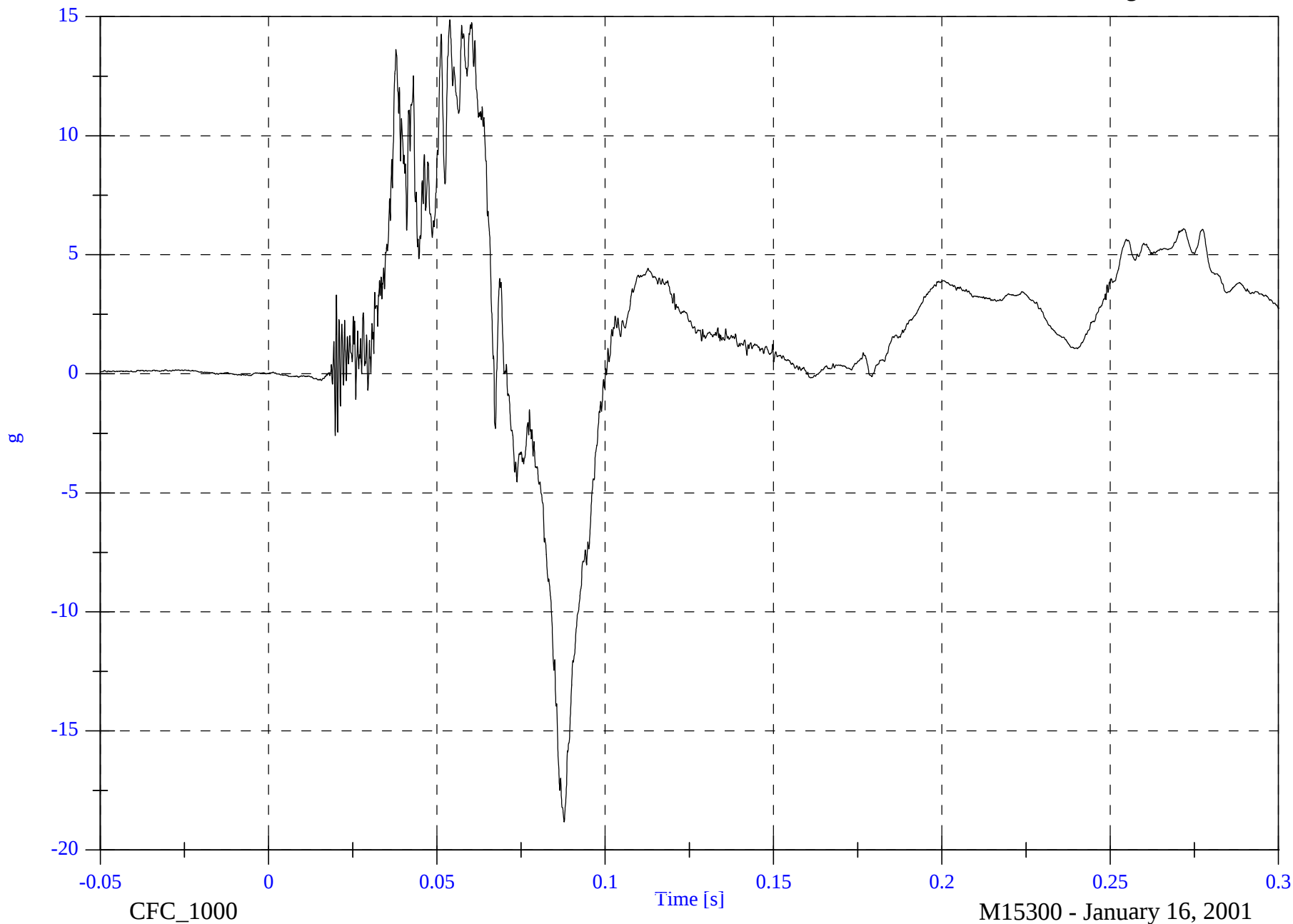
P2 Head z

Max: 14.9 [g] at 0.054 [s]

Min: -18.8 [g] at 0.088 [s]

B-57

8602-16



NCAP Test #16 - 2001 Acura 3.2TL

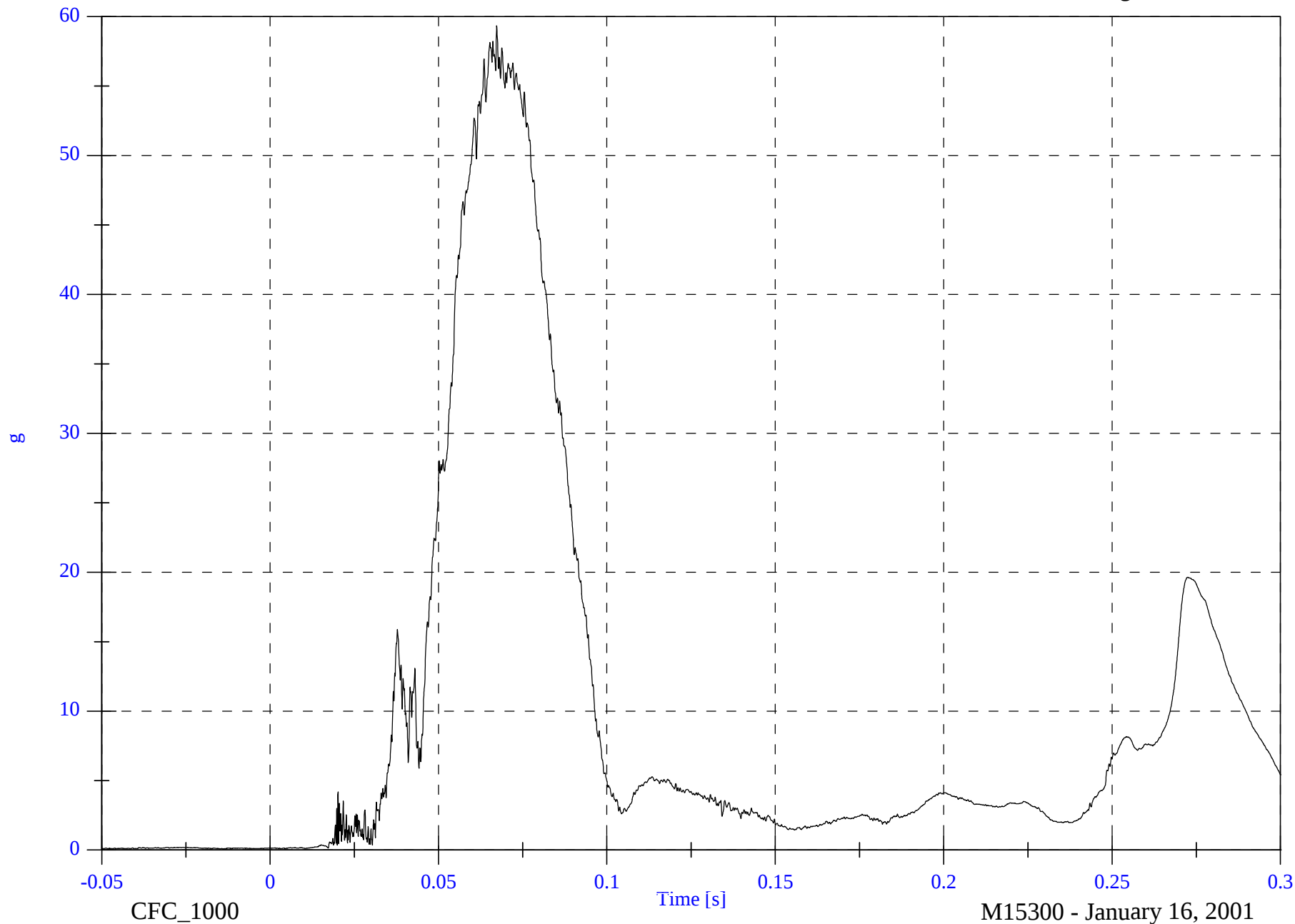
P2 Head Resultant

Max: 59.4 [g] at 0.067 [s]

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

B-58

8602-16

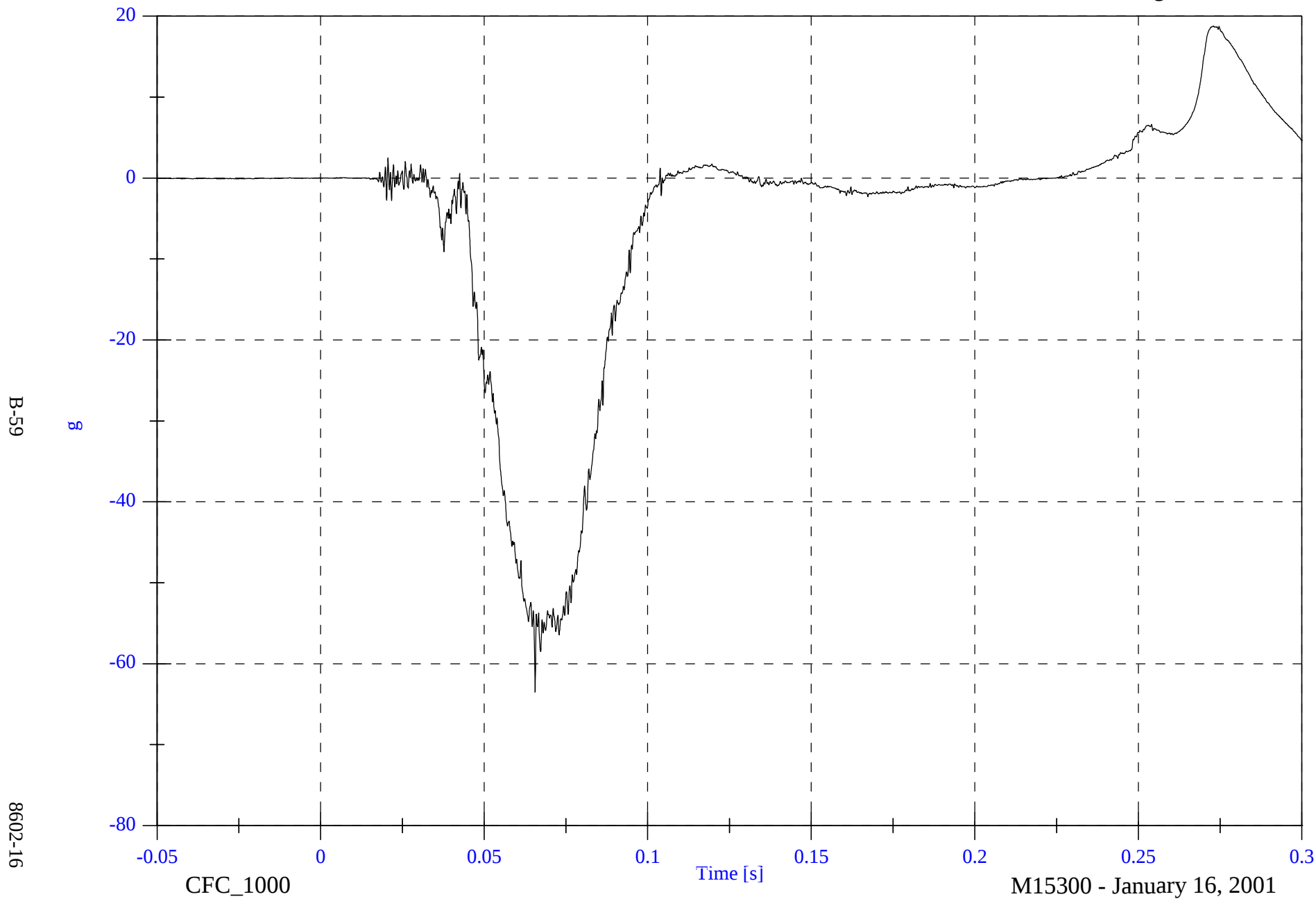


NCAP Test #16 - 2001 Acura 3.2TL

Max: 18.8 [g] at 0.273 [s]

Min: -63.5 [g] at 0.066 [s]

P2 Head Red x

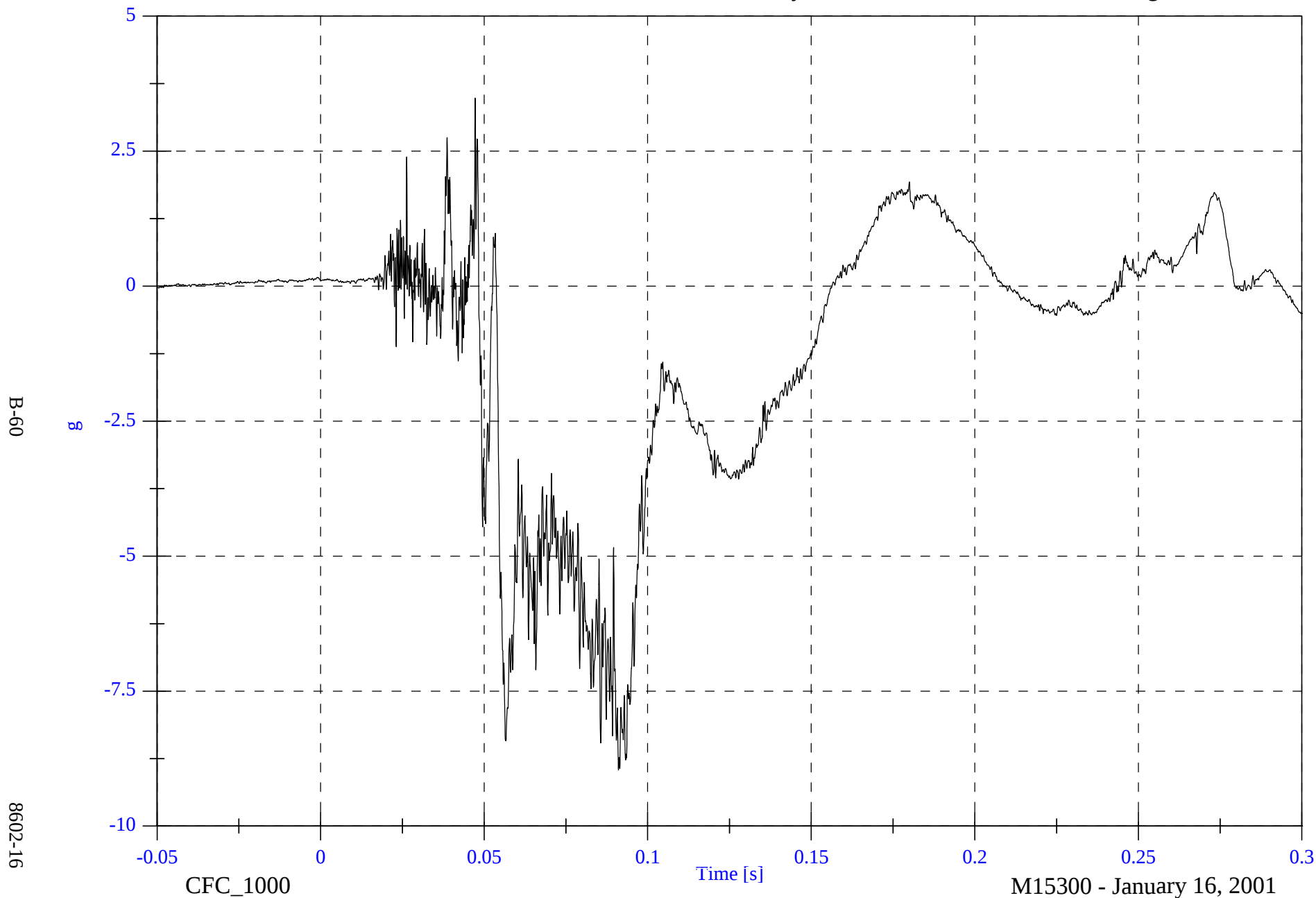


NCAP Test #16 - 2001 Acura 3.2TL

P2 Head Red y

Max: 3.5 [g] at 0.047 [s]

Min: -9.0 [g] at 0.091 [s]



NCAP Test #16 - 2001 Acura 3.2TL

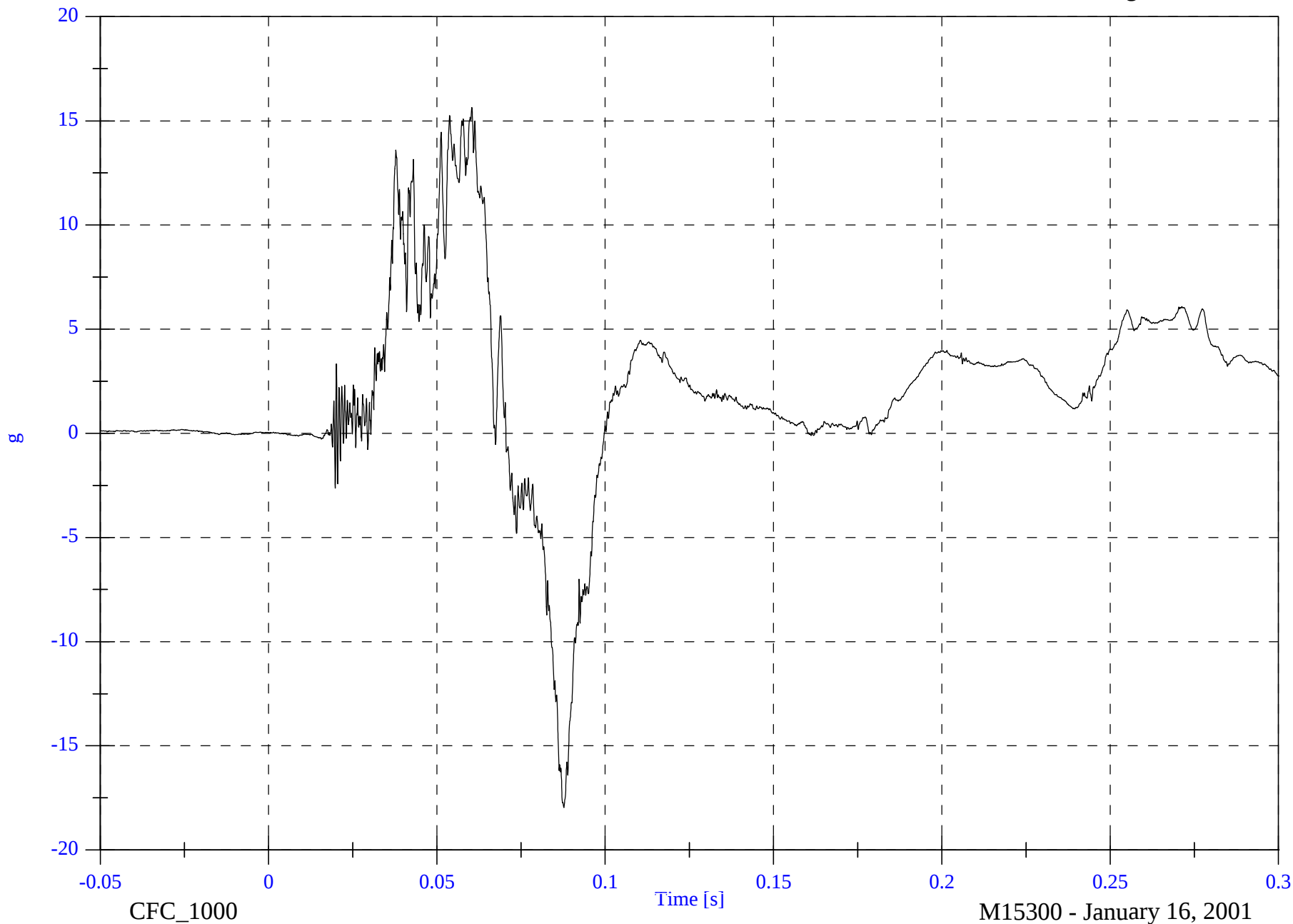
P2 Head Red z

Max: 15.6 [g] at 0.060 [s]

Min: -18.0 [g] at 0.088 [s]

B-61

8602-16



NCAP Test #16 - 2001 Acura 3.2TL

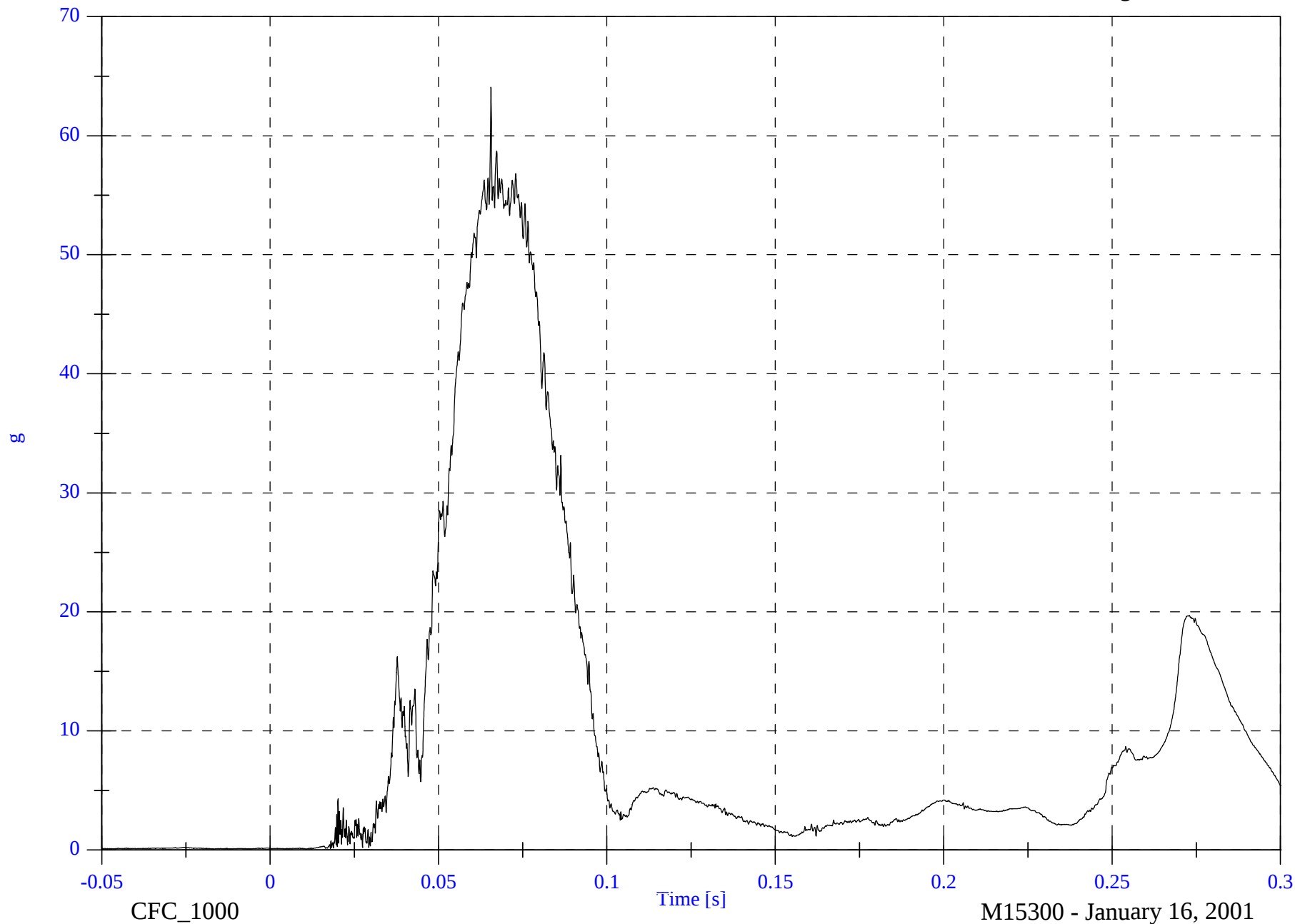
P2 Head Red Resultant

Max: 64.1 [g] at 0.066 [s]

Min: 0.1 [g] at 0.011 [s]

B-62

8602-16

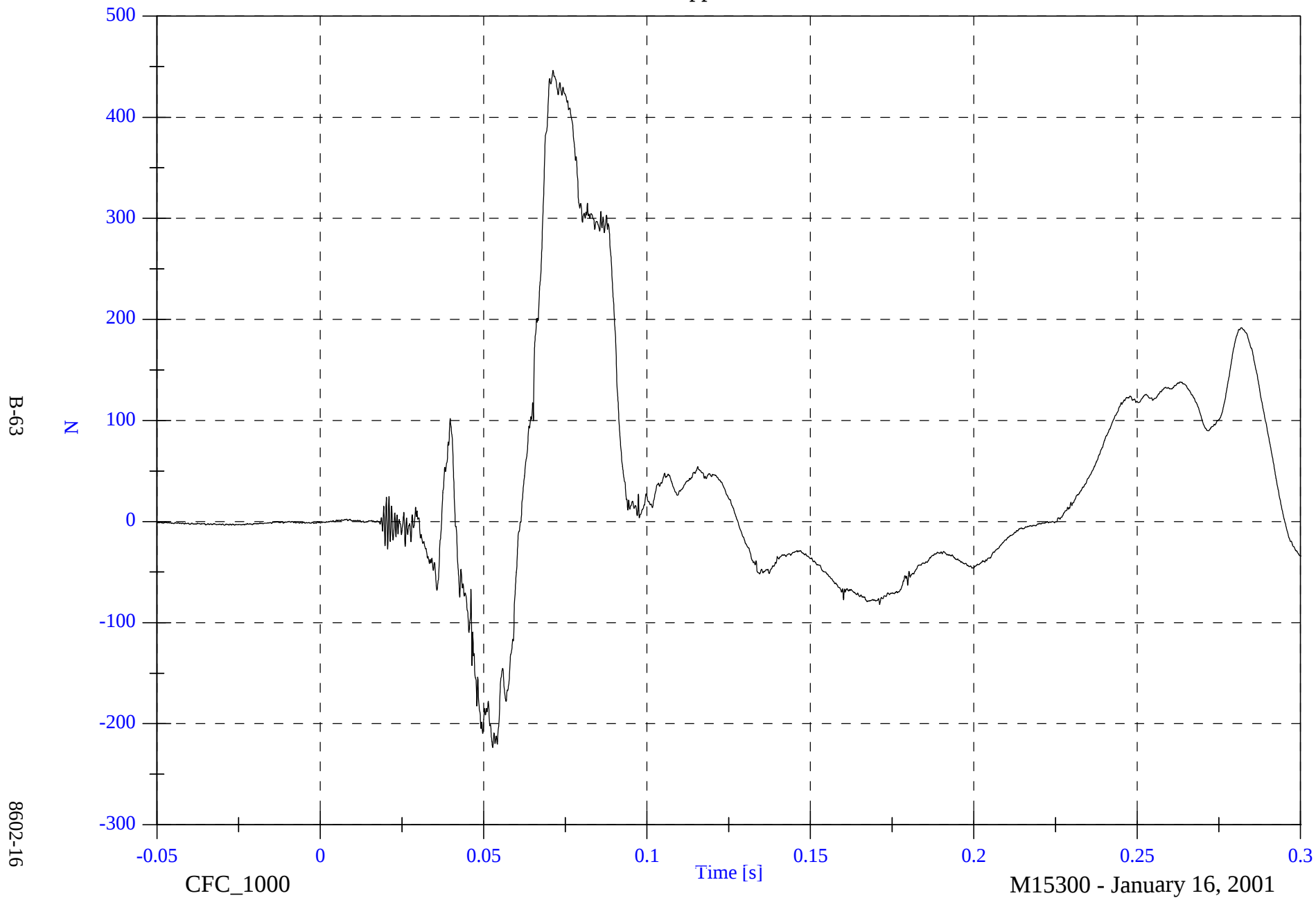


NCAP Test #16 - 2001 Acura 3.2TL

P2 Upper Neck Fx

Max: 446.3 [N] at 0.071 [s]

Min: -223.6 [N] at 0.053 [s]

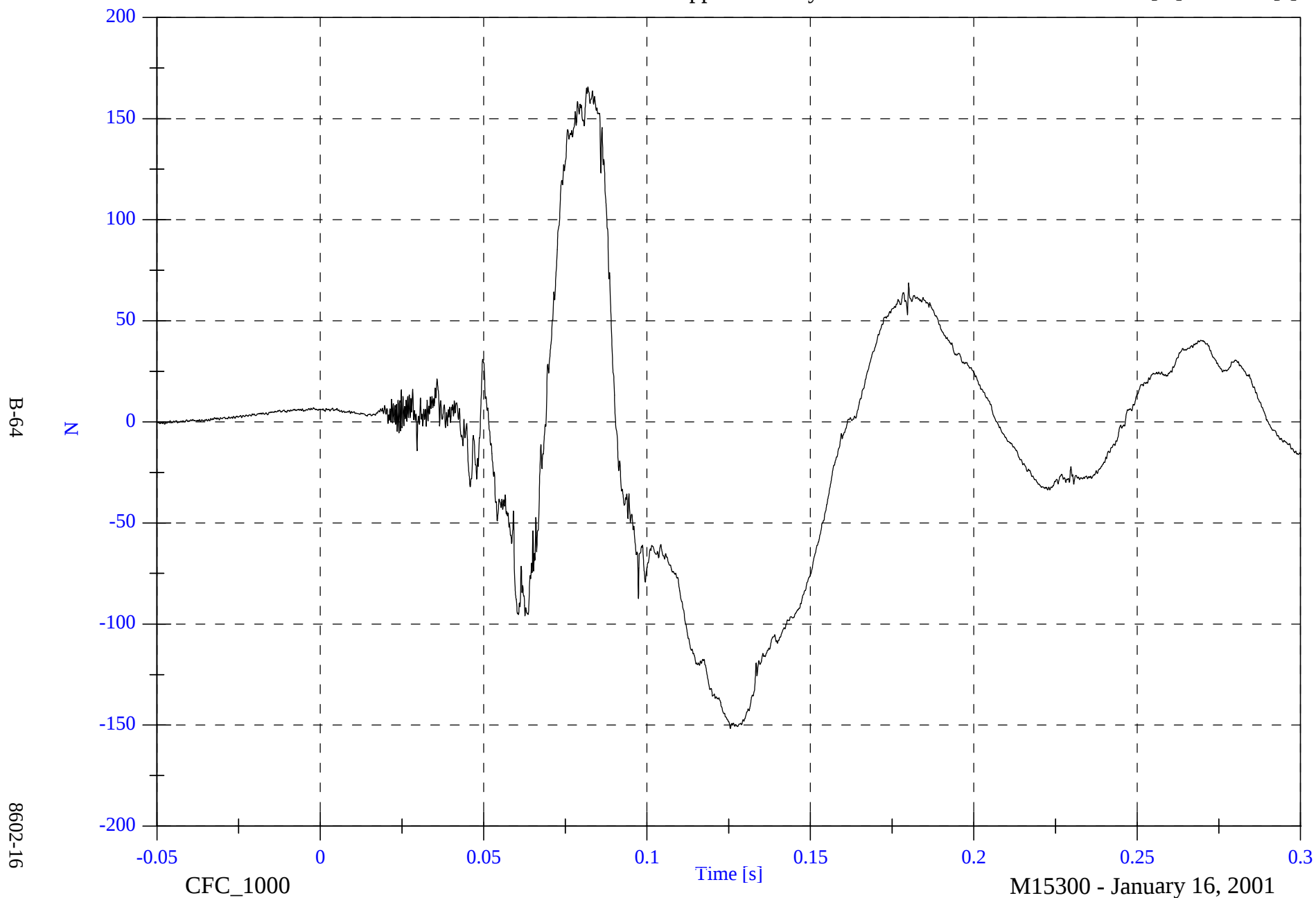


NCAP Test #16 - 2001 Acura 3.2TL

Max: 165.7 [N] at 0.082 [s]

Min: -151.7 [N] at 0.126 [s]

P2 Upper Neck Fy



NCAP Test #16 - 2001 Acura 3.2TL

P2 Upper Neck Fz

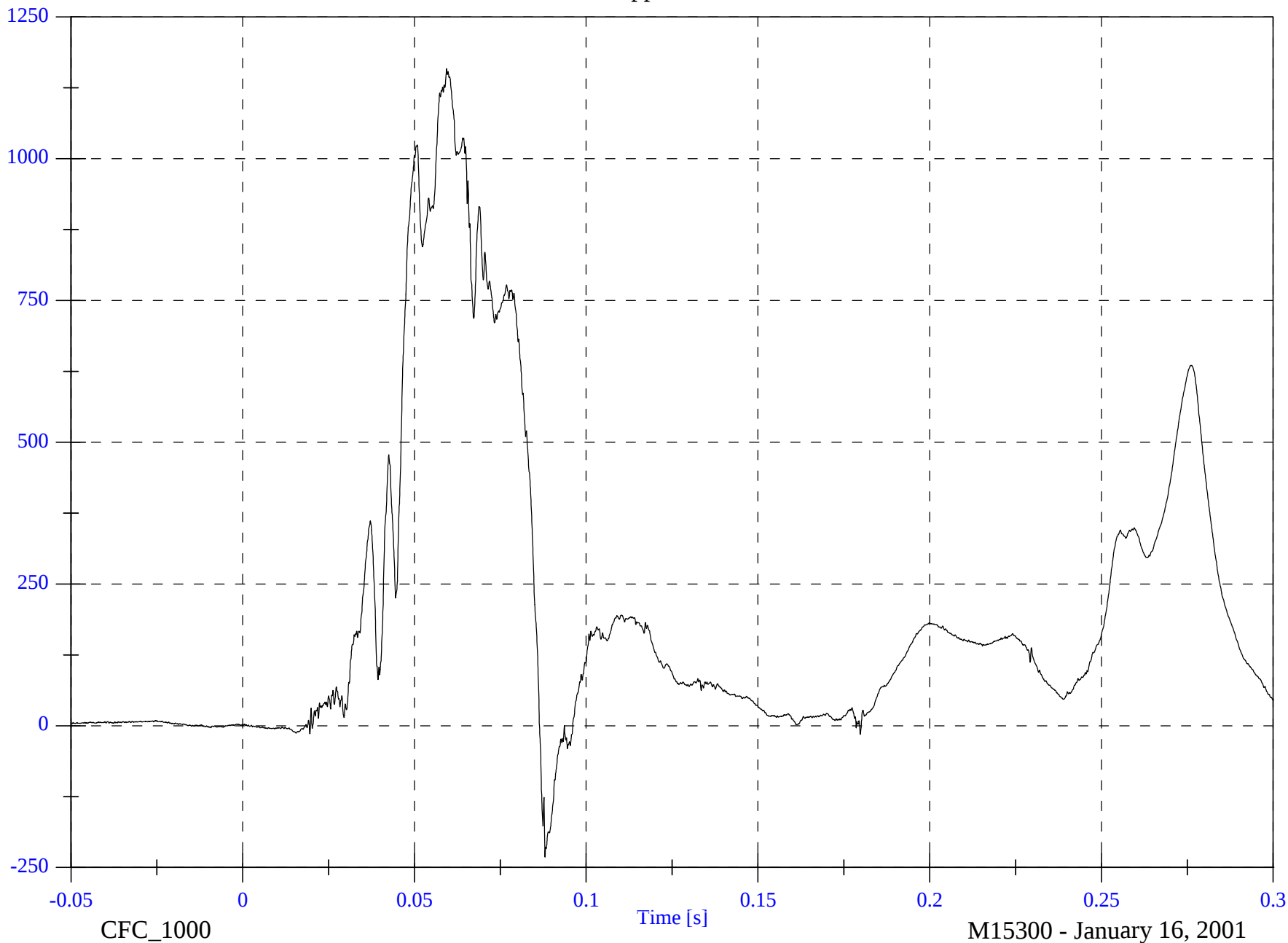
Max: 1159.0 [N] at 0.059 [s]

Min: -231.6 [N] at 0.088 [s]

B-65

N

8602-16



NCAP Test #16 - 2001 Acura 3.2TL

P2 Upper Neck F Resultant

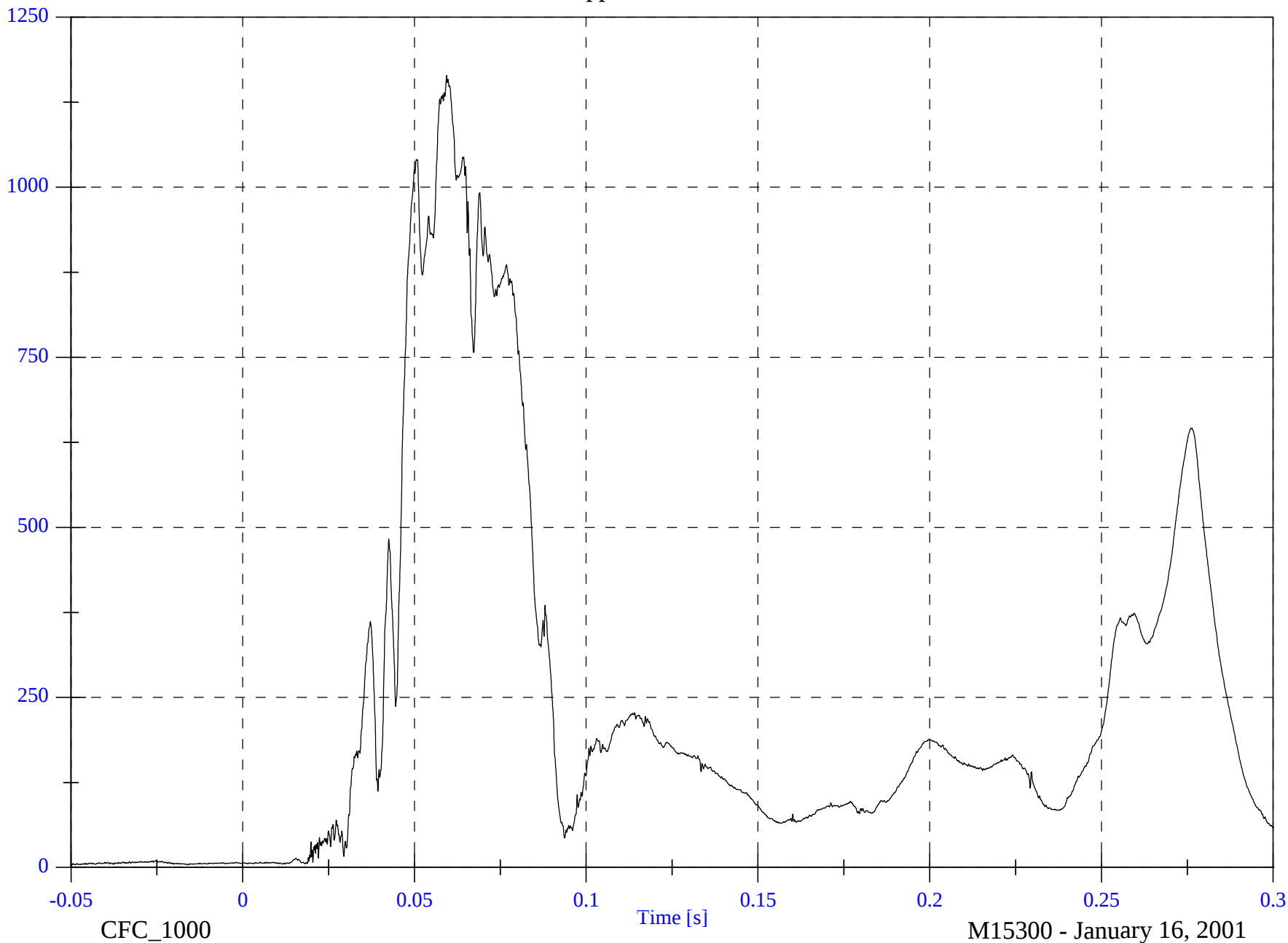
Max: 1164.2 [N] at 0.059 [s]

Min: 3.7 [N] at -0.016 [s]

B-66

N

8602-16

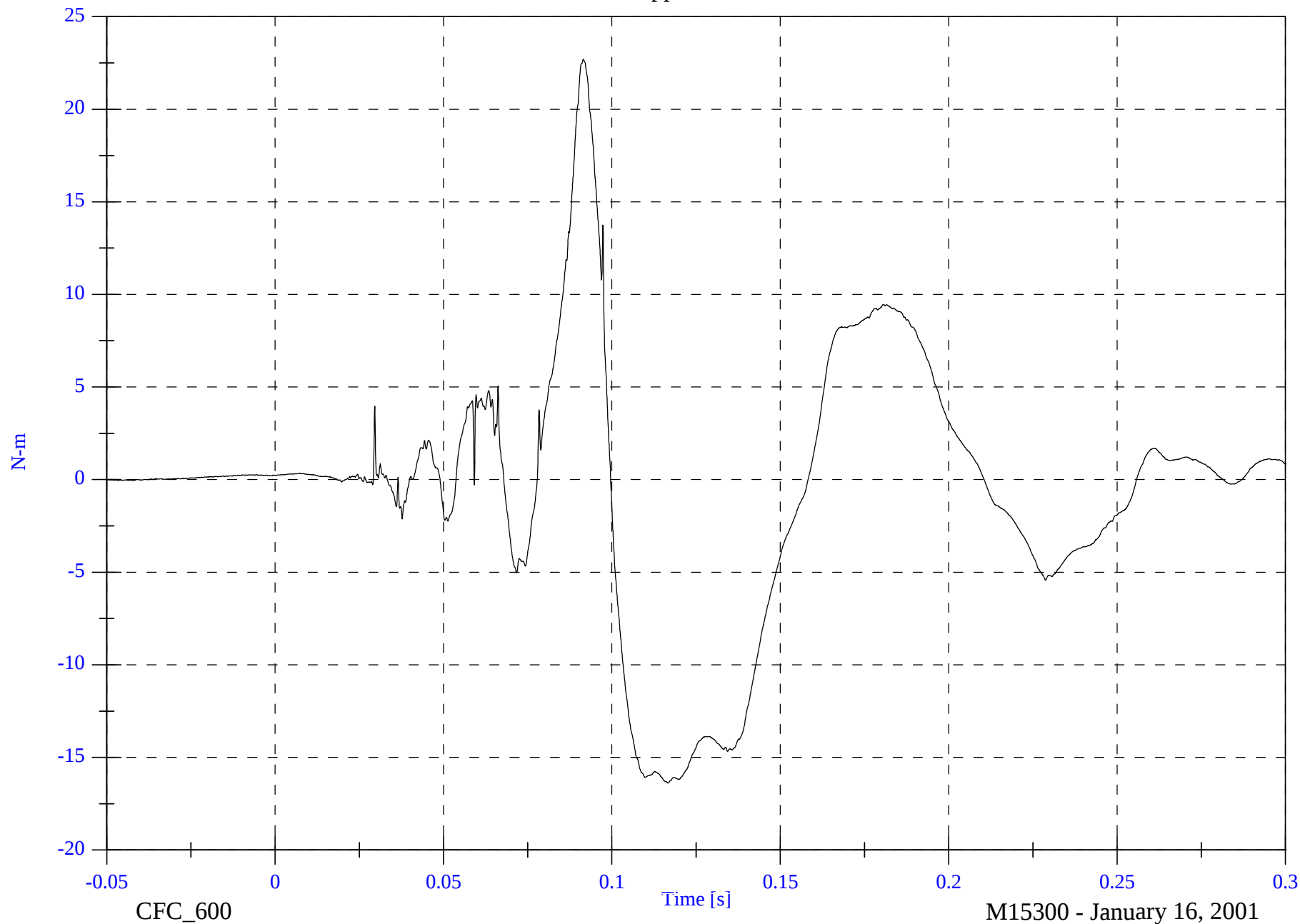


NCAP Test #16 - 2001 Acura 3.2TL

P2 Upper Neck Mx

Max: 22.7 [N-m] at 0.092 [s]

Min: -16.4 [N-m] at 0.117 [s]



B-67

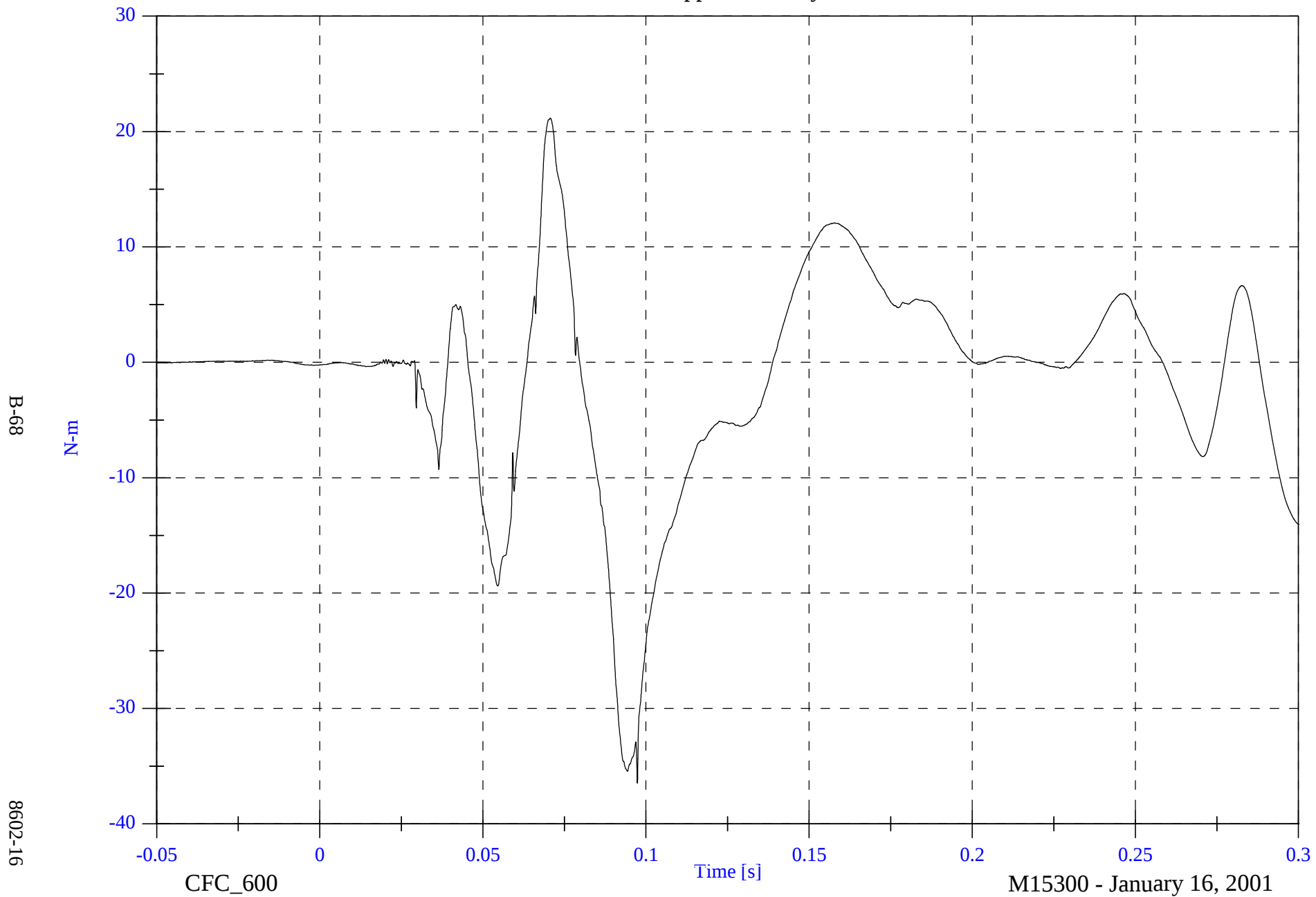
8602-16

NCAP Test #16 - 2001 Acura 3.2TL

P2 Upper Neck My

Max: 21.2 [N-m] at 0.071 [s]

Min: -36.5 [N-m] at 0.097 [s]

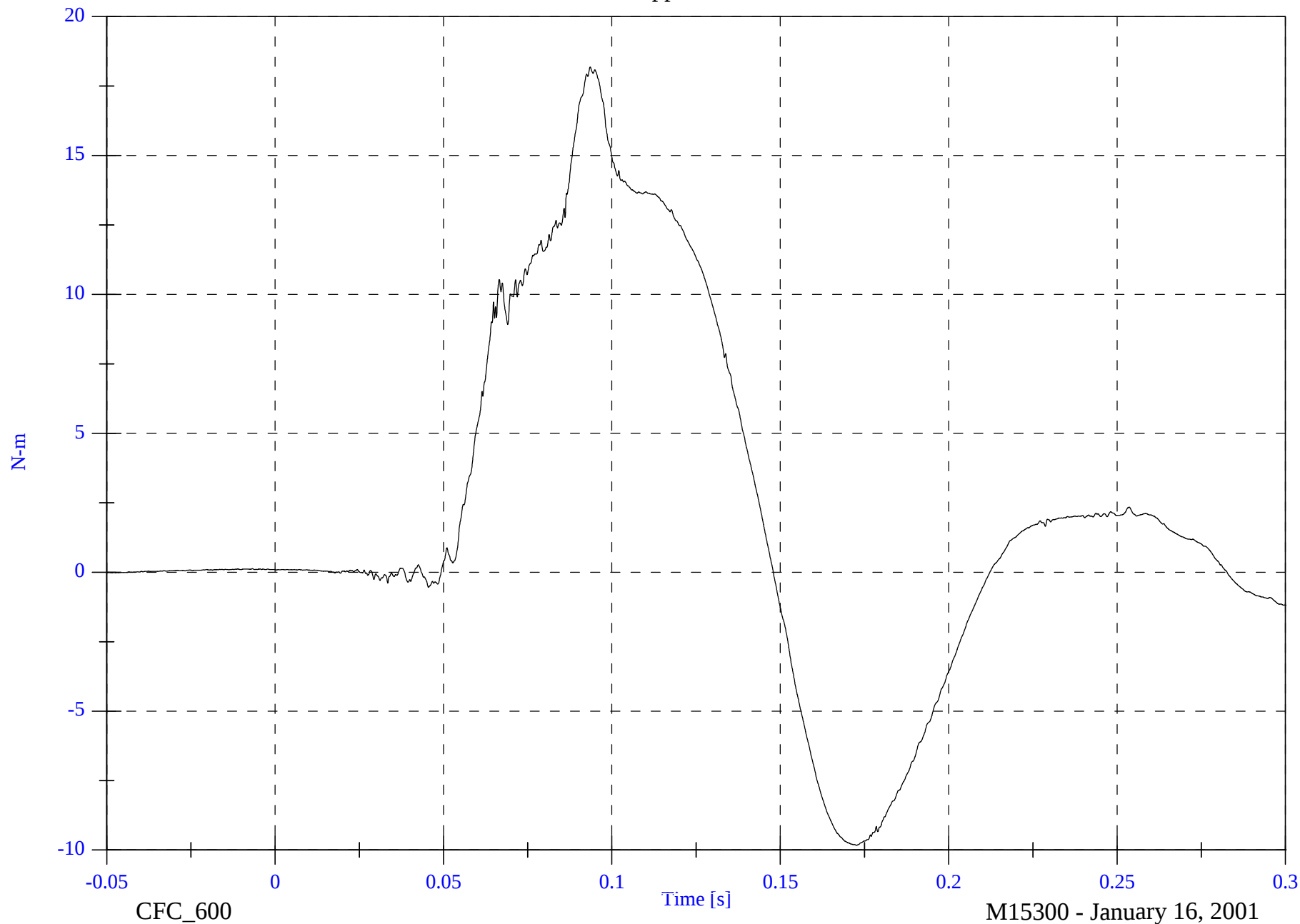


NCAP Test #16 - 2001 Acura 3.2TL

Max: 18.2 [N-m] at 0.094 [s]

Min: -9.8 [N-m] at 0.173 [s]

P2 Upper Neck Mz



B-69

8602-16

CFC_600

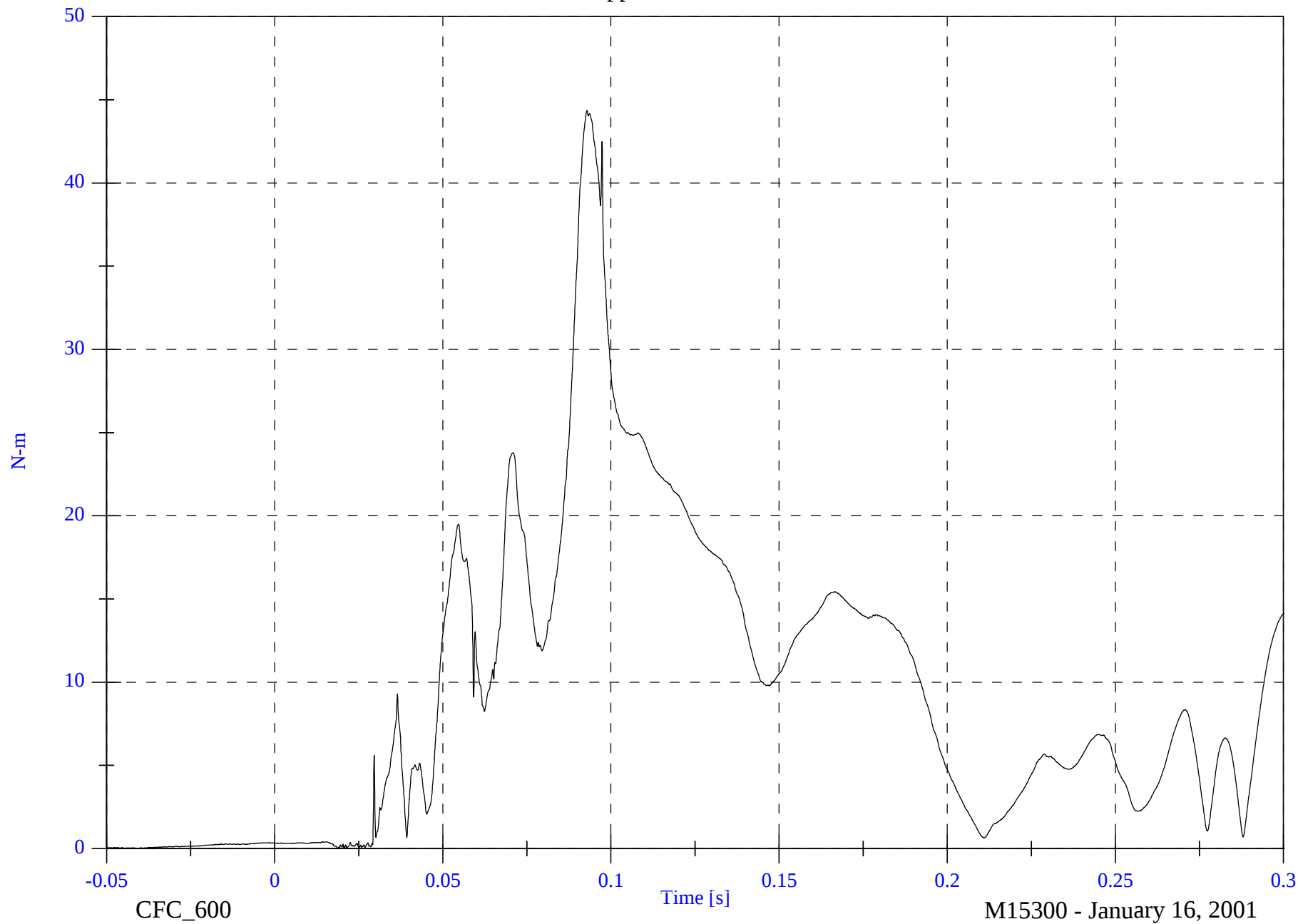
M15300 - January 16, 2001

NCAP Test #16 - 2001 Acura 3.2TL

P2 Upper Neck M Resultant

Max: 44.4 [N-m] at 0.093 [s]

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



B-70

8602-16

CFC_600

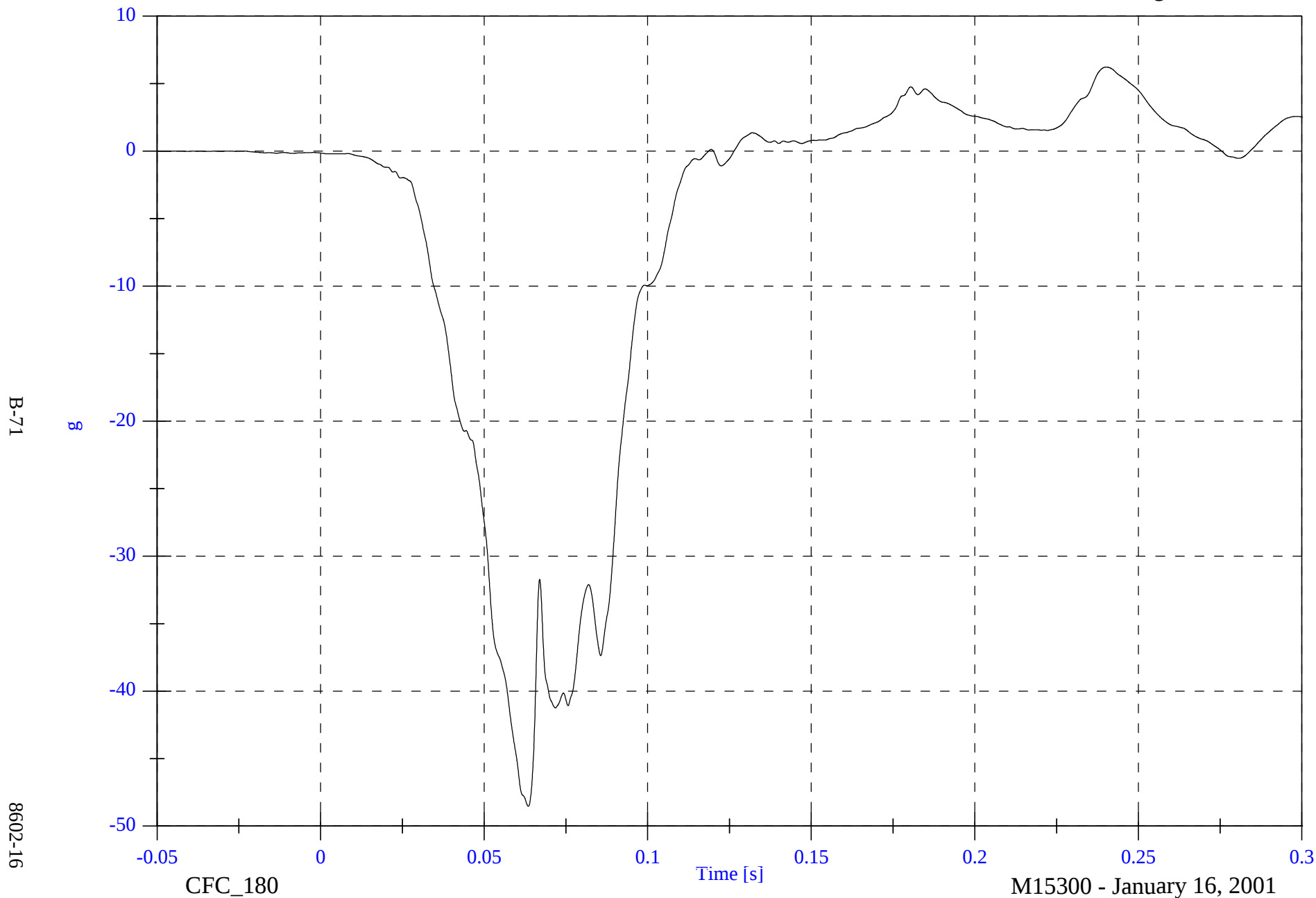
M15300 - January 16, 2001

NCAP Test #16 - 2001 Acura 3.2TL

Max: 6.2 [g] at 0.240 [s]

Min: -48.5 [g] at 0.064 [s]

P2 Chest x

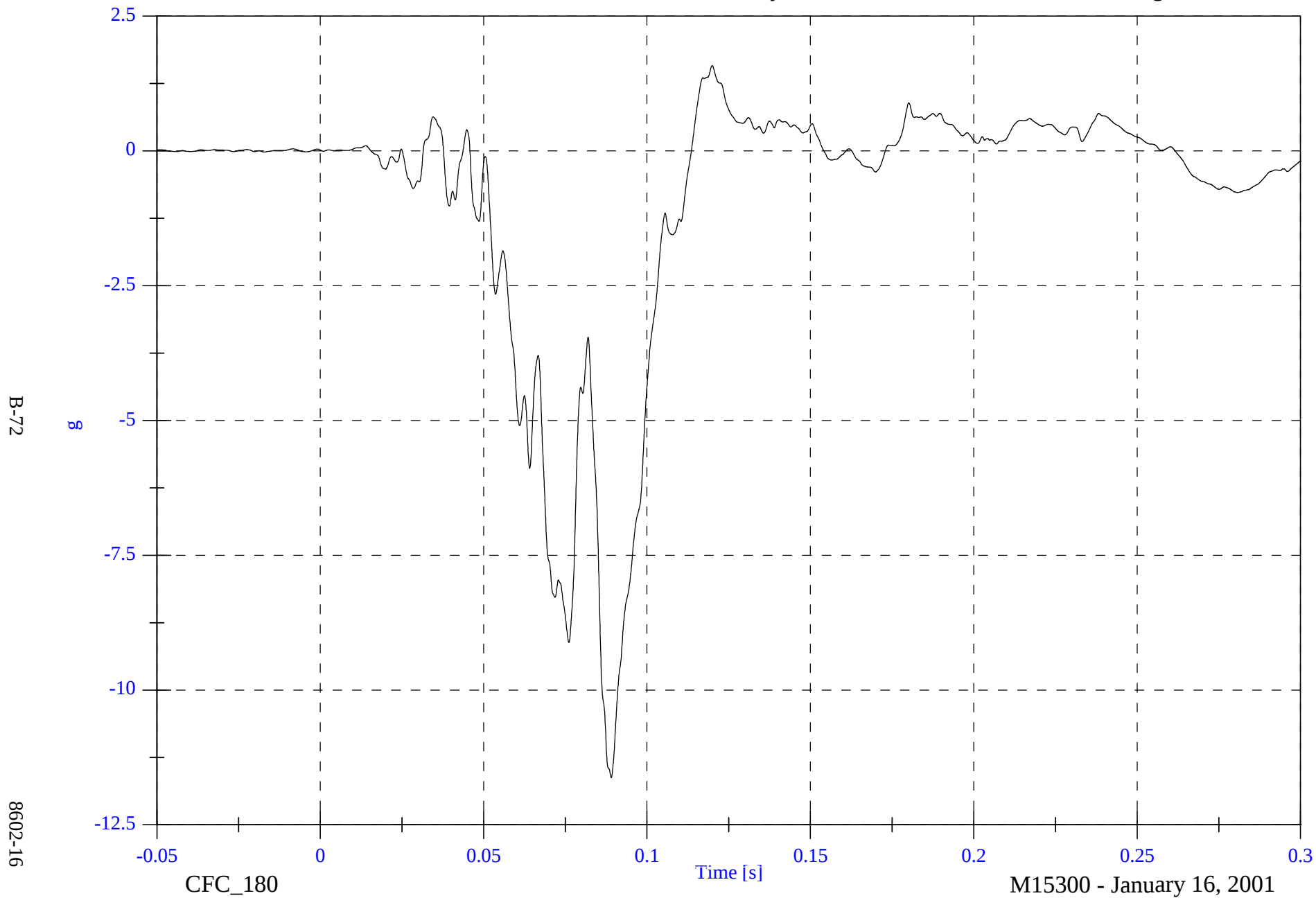


NCAP Test #16 - 2001 Acura 3.2TL

P2 Chest y

Max: 1.6 [g] at 0.120 [s]

Min: -11.6 [g] at 0.089 [s]

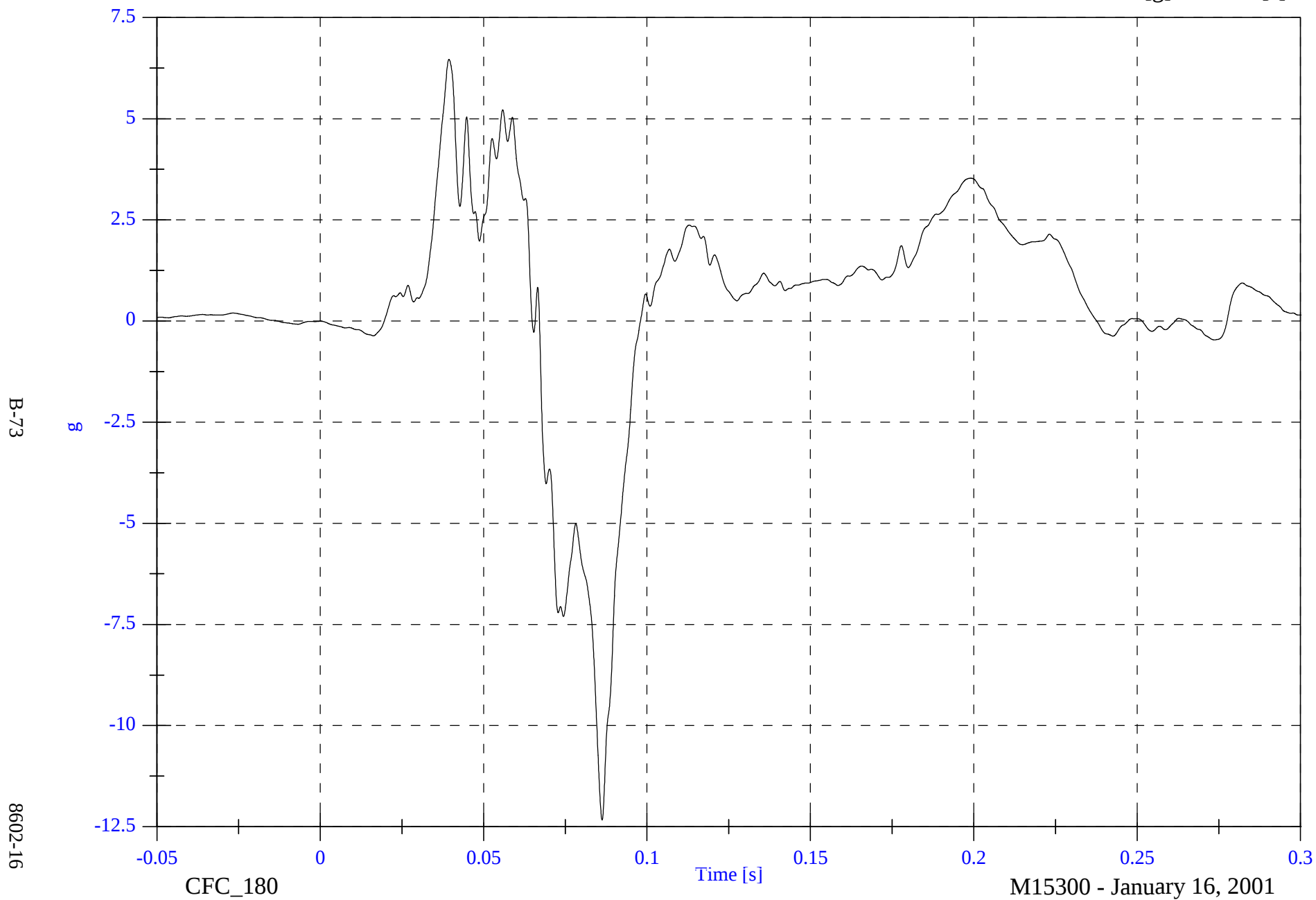


NCAP Test #16 - 2001 Acura 3.2TL

P2 Chest z

Max: 6.5 [g] at 0.039 [s]

Min: -12.3 [g] at 0.086 [s]



NCAP Test #16 - 2001 Acura 3.2TL

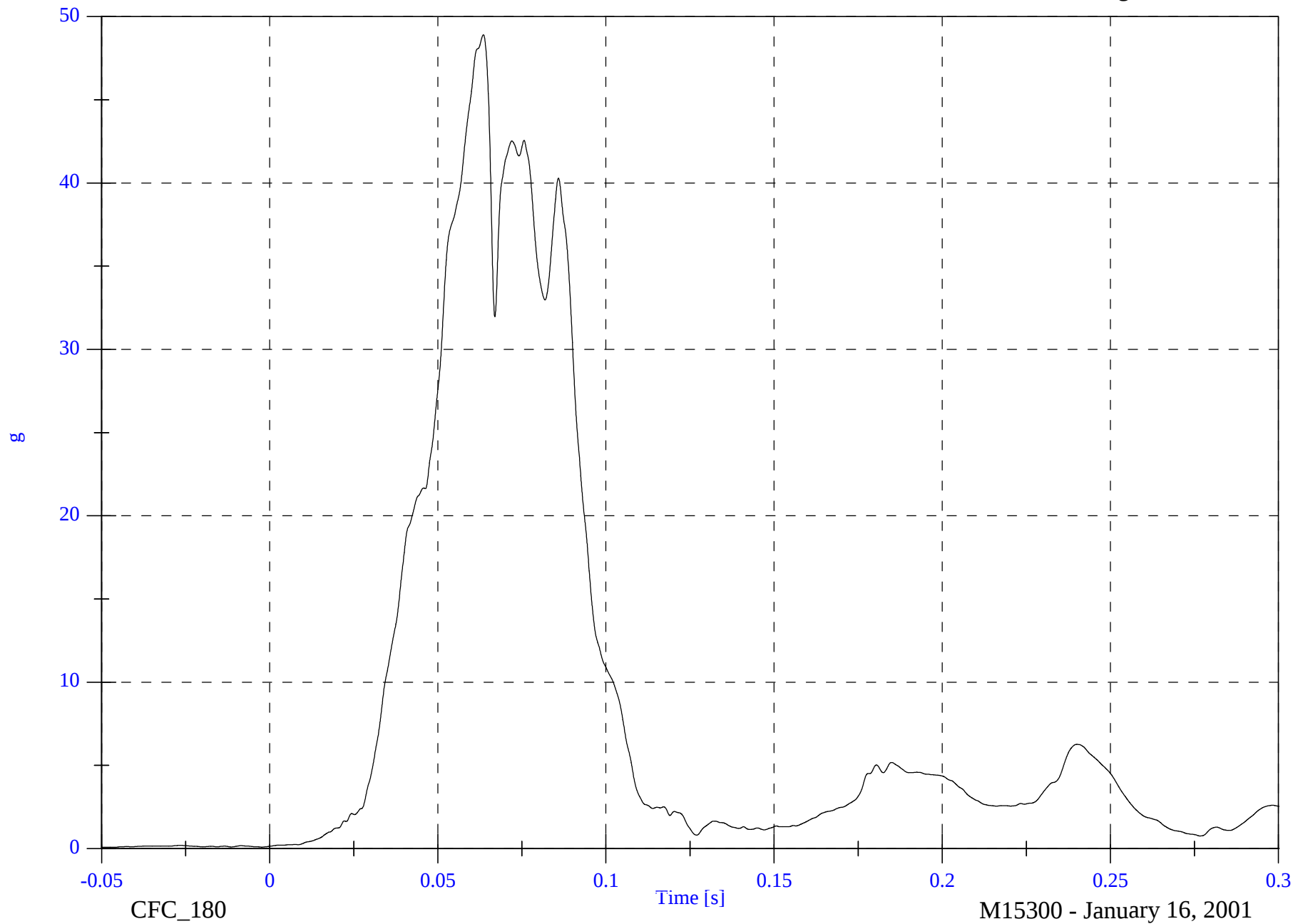
P2 Chest Resultant

Max: 48.9 [g] at 0.064 [s]

Min: 0.1 [g] at -0.046 [s]

B-74

8602-16

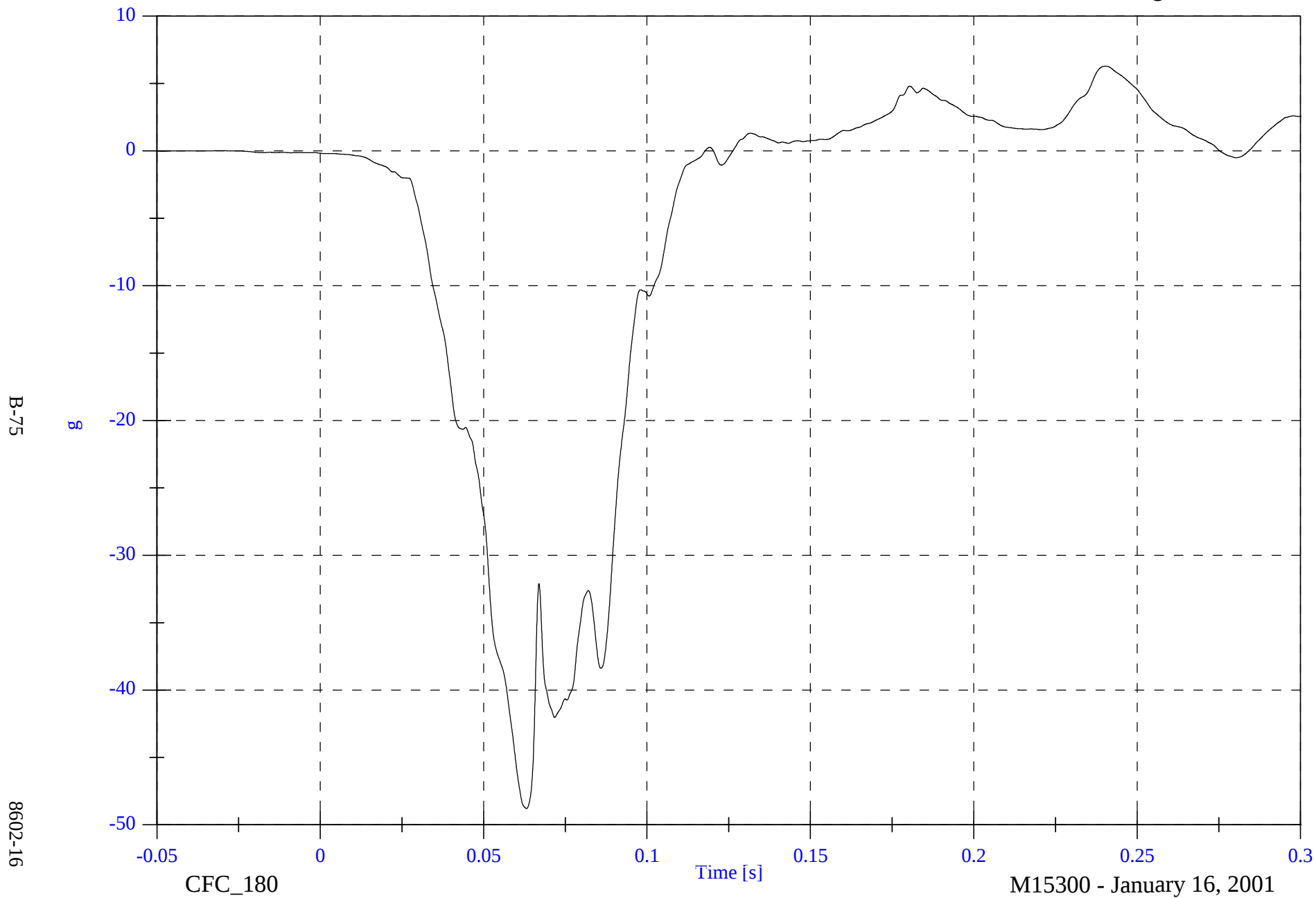


NCAP Test #16 - 2001 Acura 3.2TL

P2 Chest Red x

Max: 6.3 [g] at 0.240 [s]

Min: -48.8 [g] at 0.063 [s]

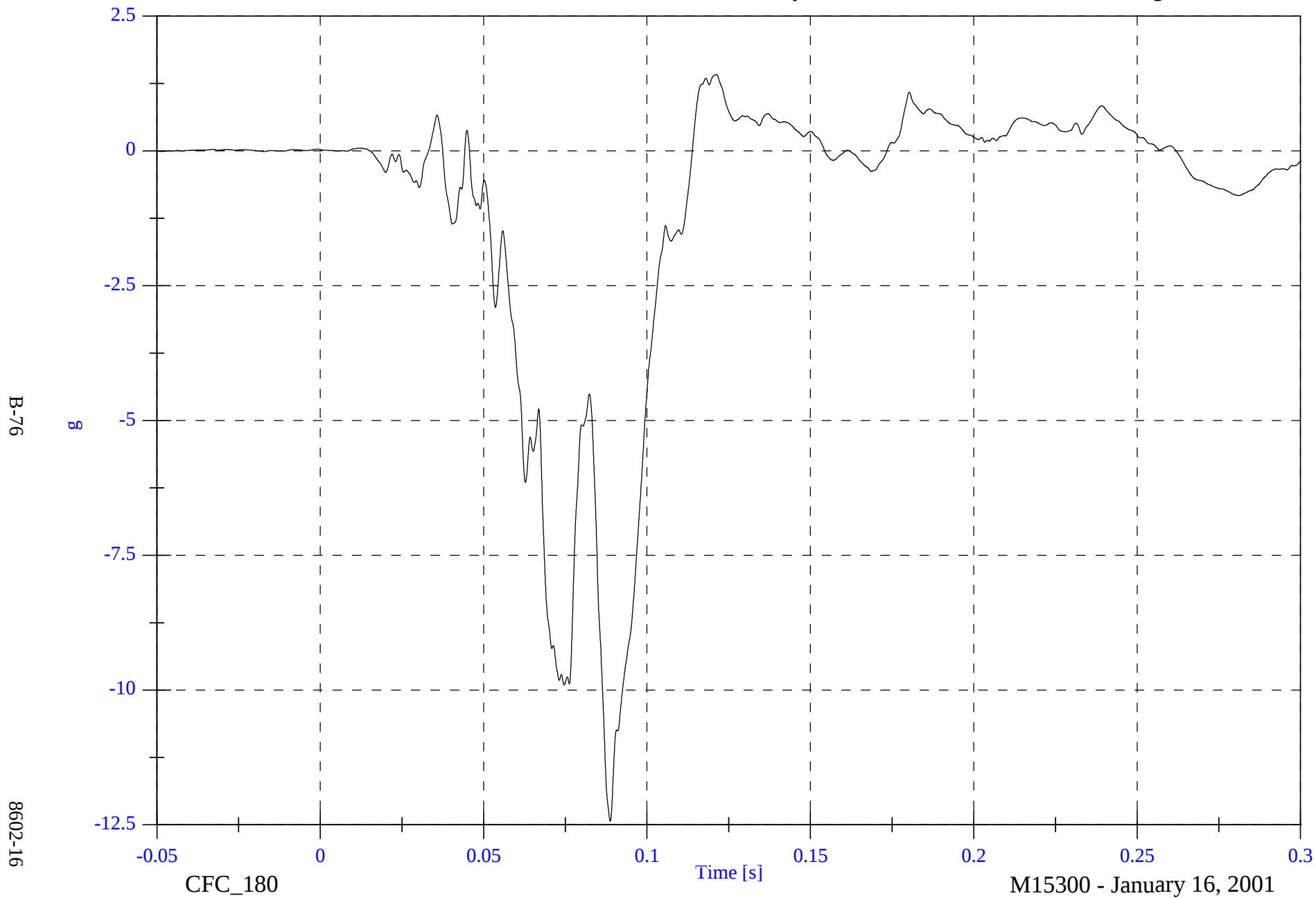


NCAP Test #16 - 2001 Acura 3.2TL

P2 Chest Red y

Max: 1.4 [g] at 0.121 [s]

Min: -12.4 [g] at 0.089 [s]

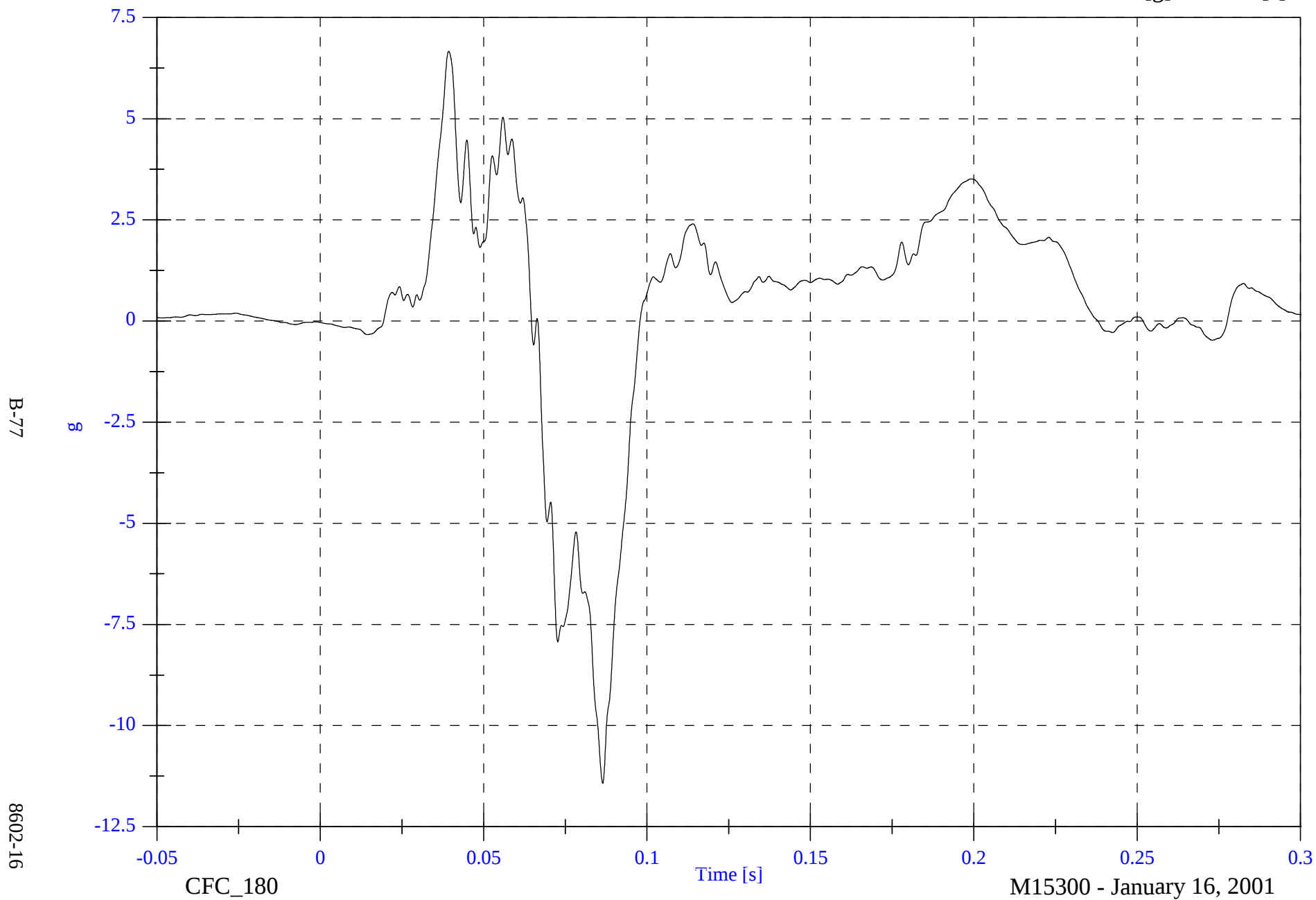


NCAP Test #16 - 2001 Acura 3.2TL

P2 Chest Red z

Max: 6.7 [g] at 0.039 [s]

Min: -11.4 [g] at 0.086 [s]



NCAP Test #16 - 2001 Acura 3.2TL

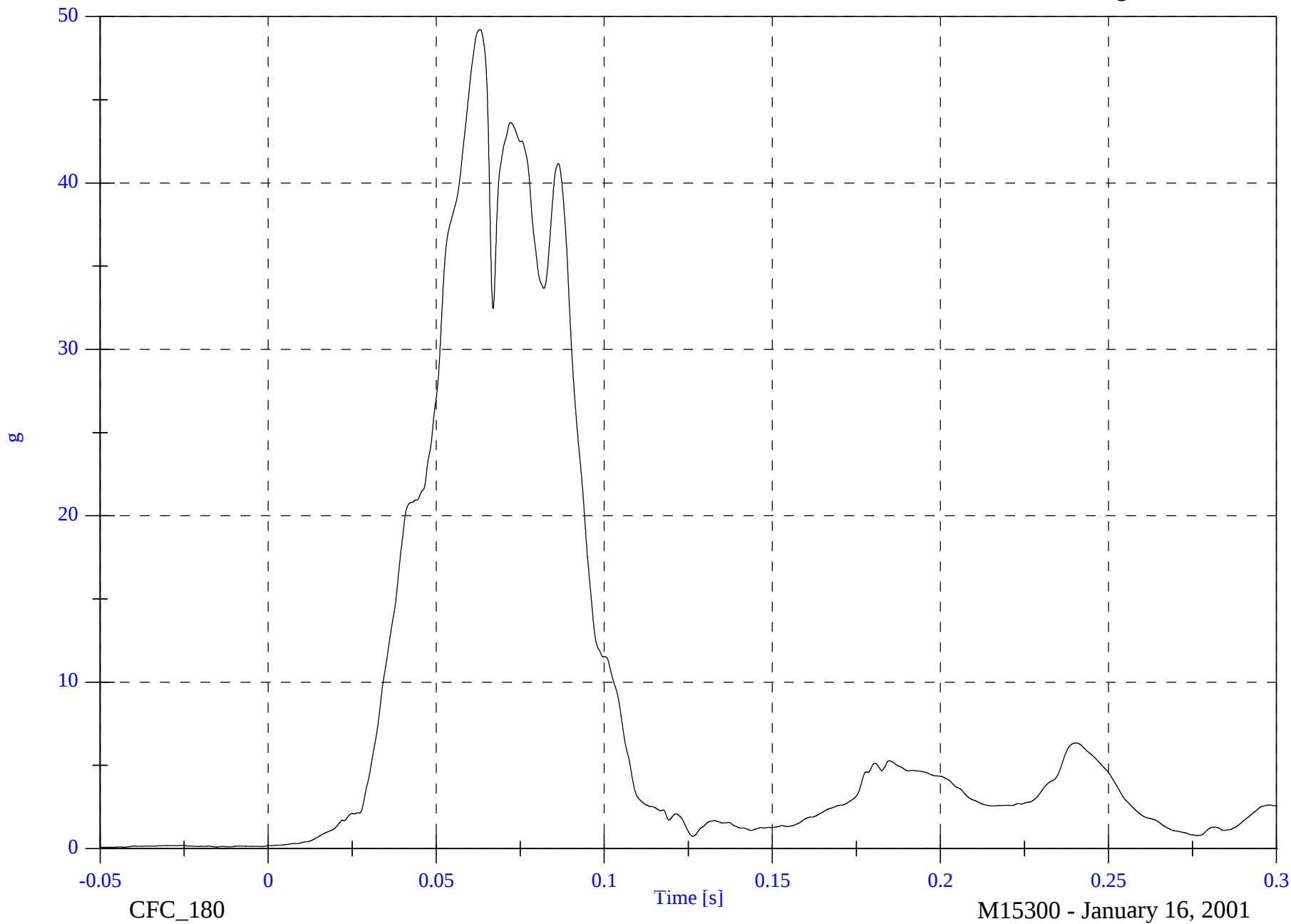
P2 Chest Red Resultant

Max: 49.2 [g] at 0.063 [s]

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

B-78

8602-16



NCAP Test #16 - 2001 Acura 3.2TL

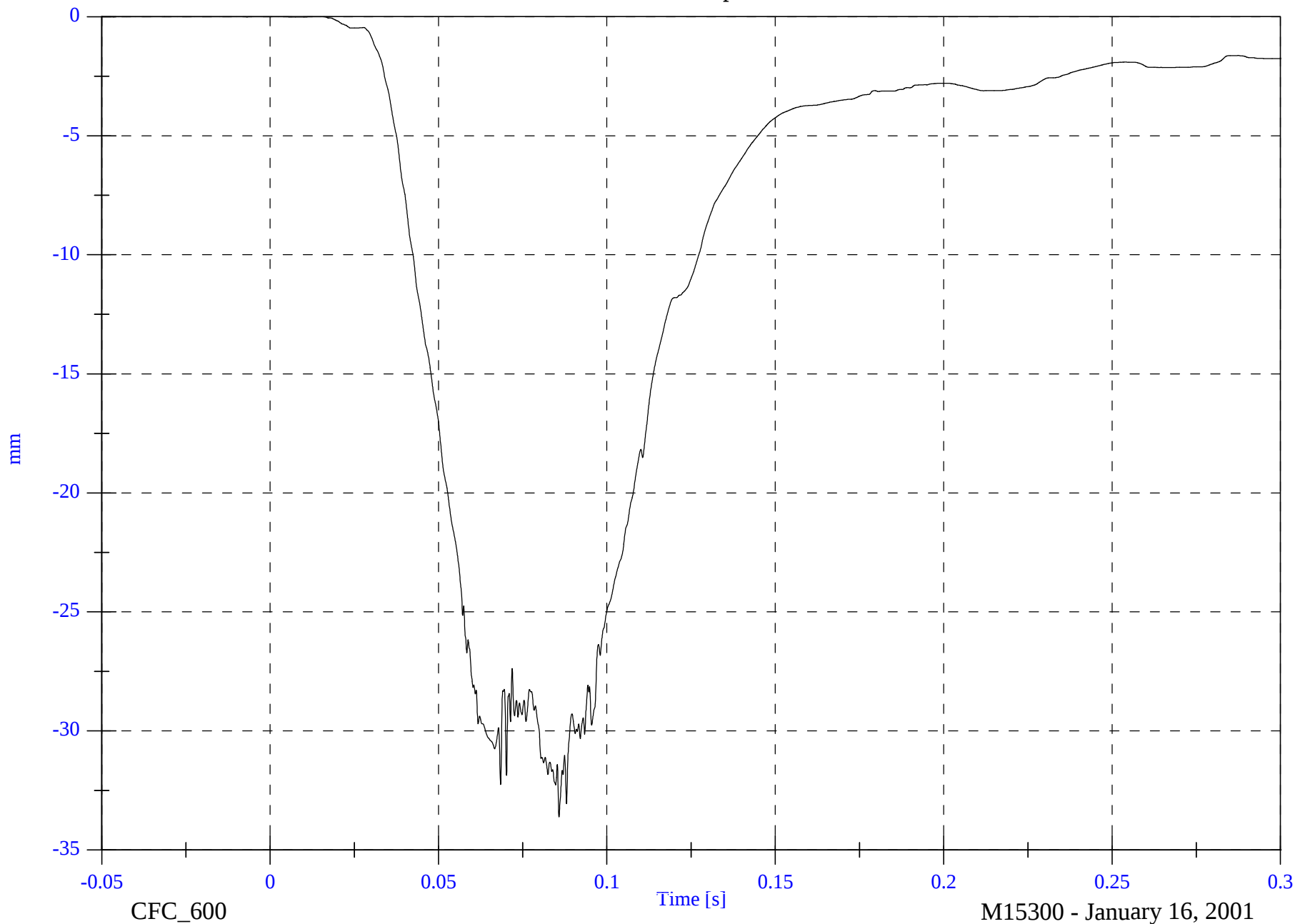
P2 Chest Compression

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

Min: -33.6 [mm] at 0.086 [s]

B-79

8602-16



CFC_600

Time [s]

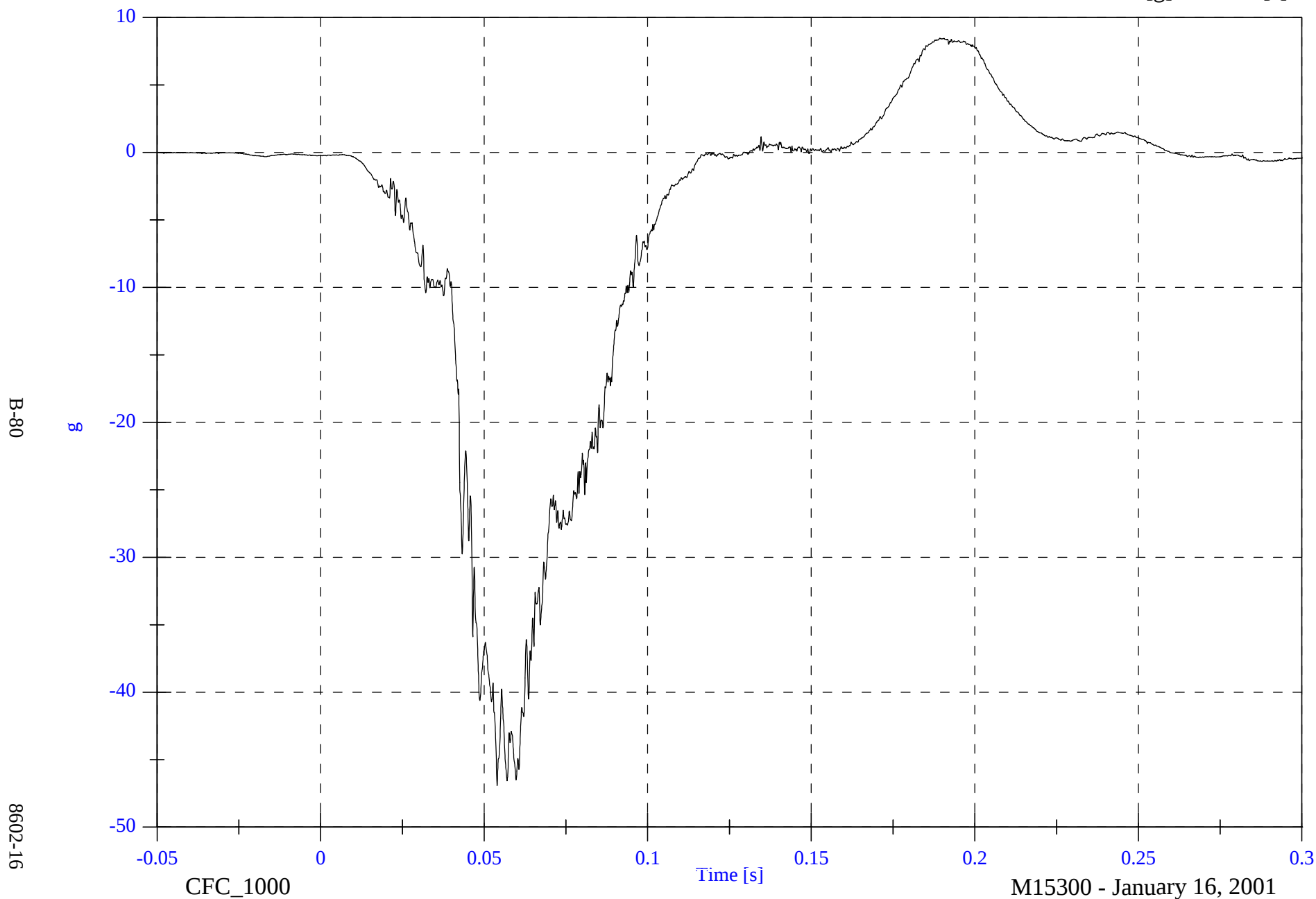
M15300 - January 16, 2001

NCAP Test #16 - 2001 Acura 3.2TL

Max: 8.5 [g] at 0.189 [s]

Min: -46.9 [g] at 0.054 [s]

P2 Pelvic x

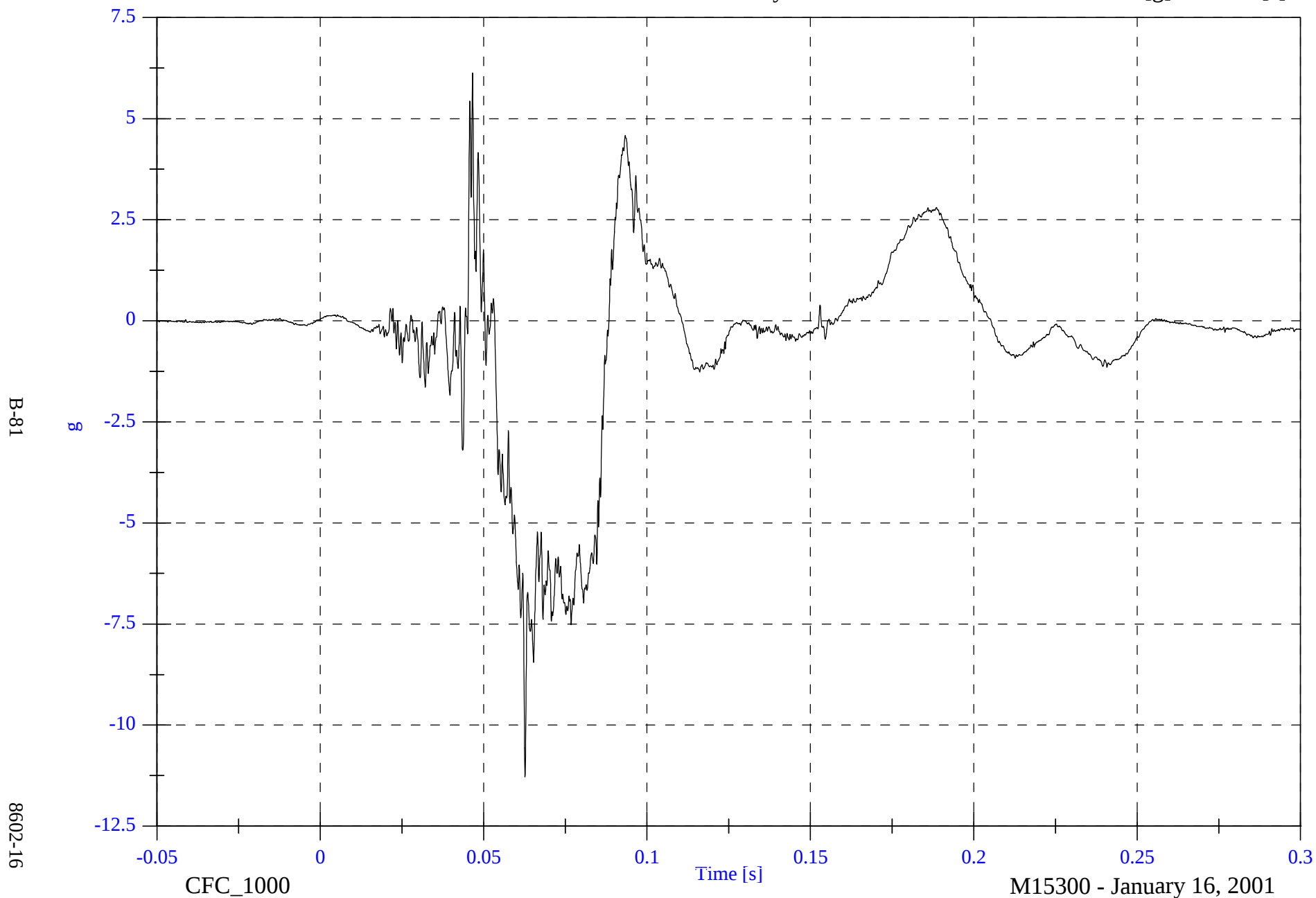


NCAP Test #16 - 2001 Acura 3.2TL

Max: 6.1 [g] at 0.047 [s]

Min: -11.3 [g] at 0.063 [s]

P2 Pelvic y

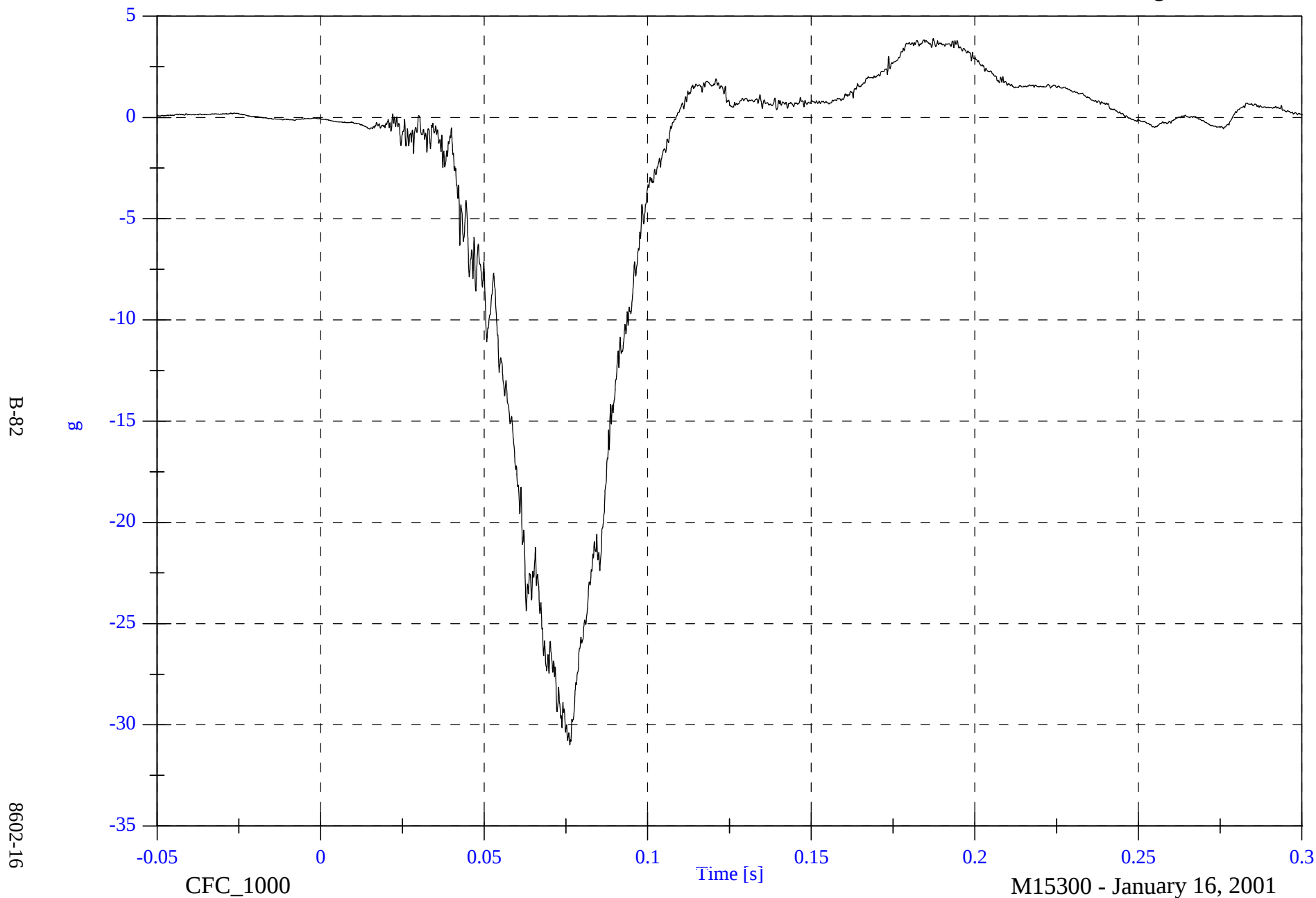


NCAP Test #16 - 2001 Acura 3.2TL

Max: 3.9 [g] at 0.187 [s]

Min: -31.0 [g] at 0.076 [s]

P2 Pelvic z



NCAP Test #16 - 2001 Acura 3.2TL

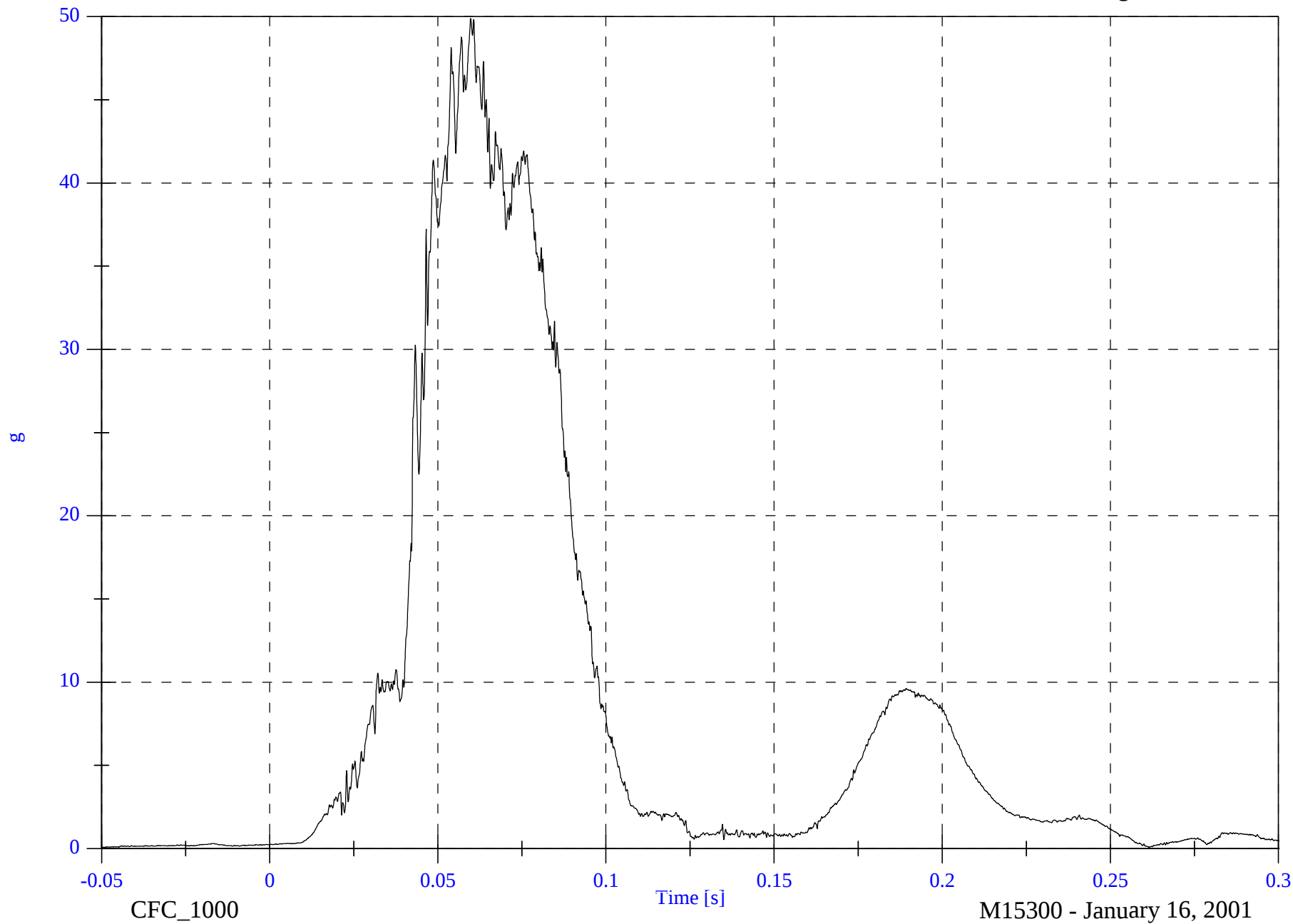
P2 Pelvic Resultant

Max: 49.9 [g] at 0.060 [s]

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

B-83

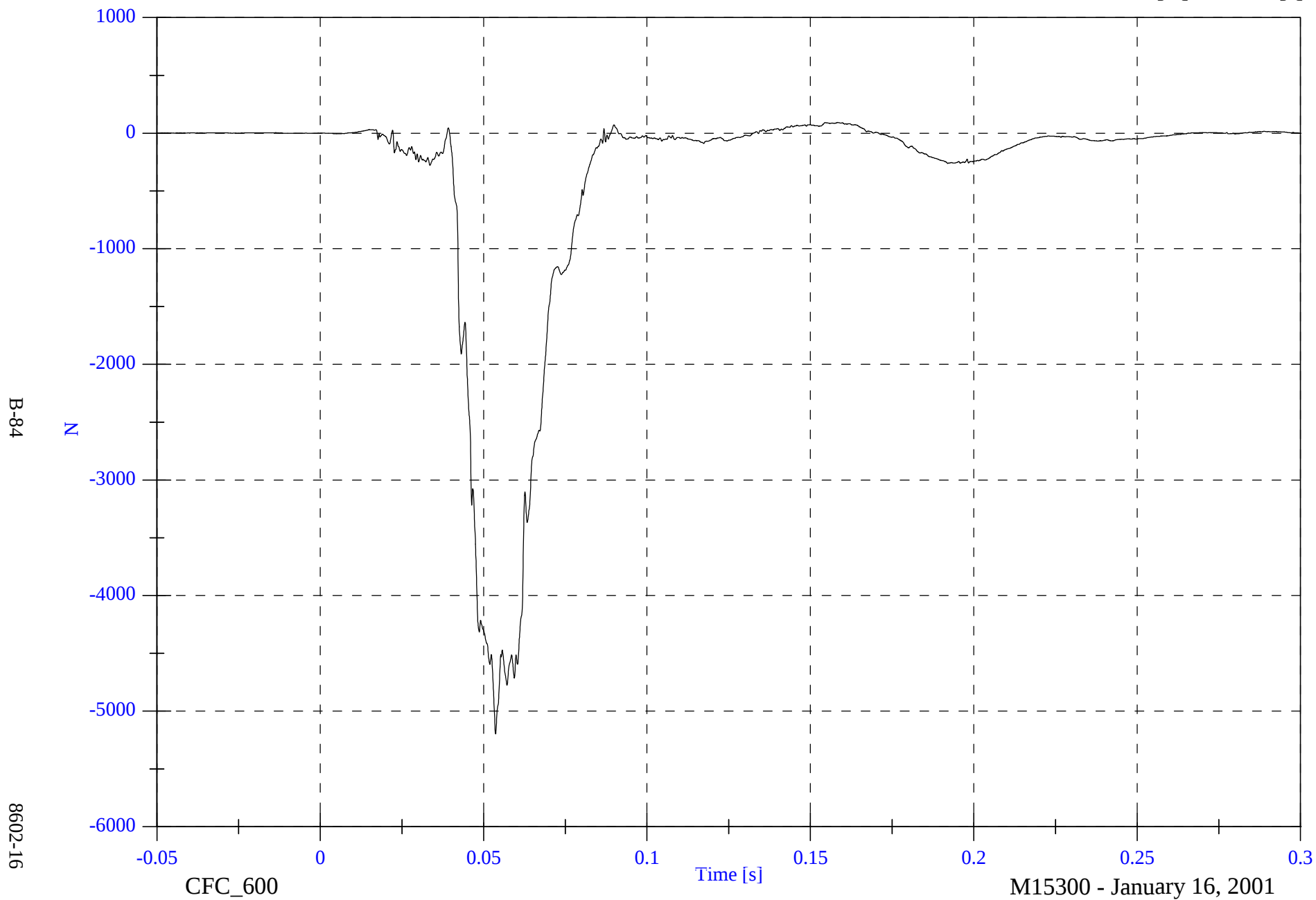
8602-16



NCAP Test #16 - 2001 Acura 3.2TL

P2 Left Femur

Max: 93.0 [N] at 0.158 [s]
Min: -5197.3 [N] at 0.054 [s]

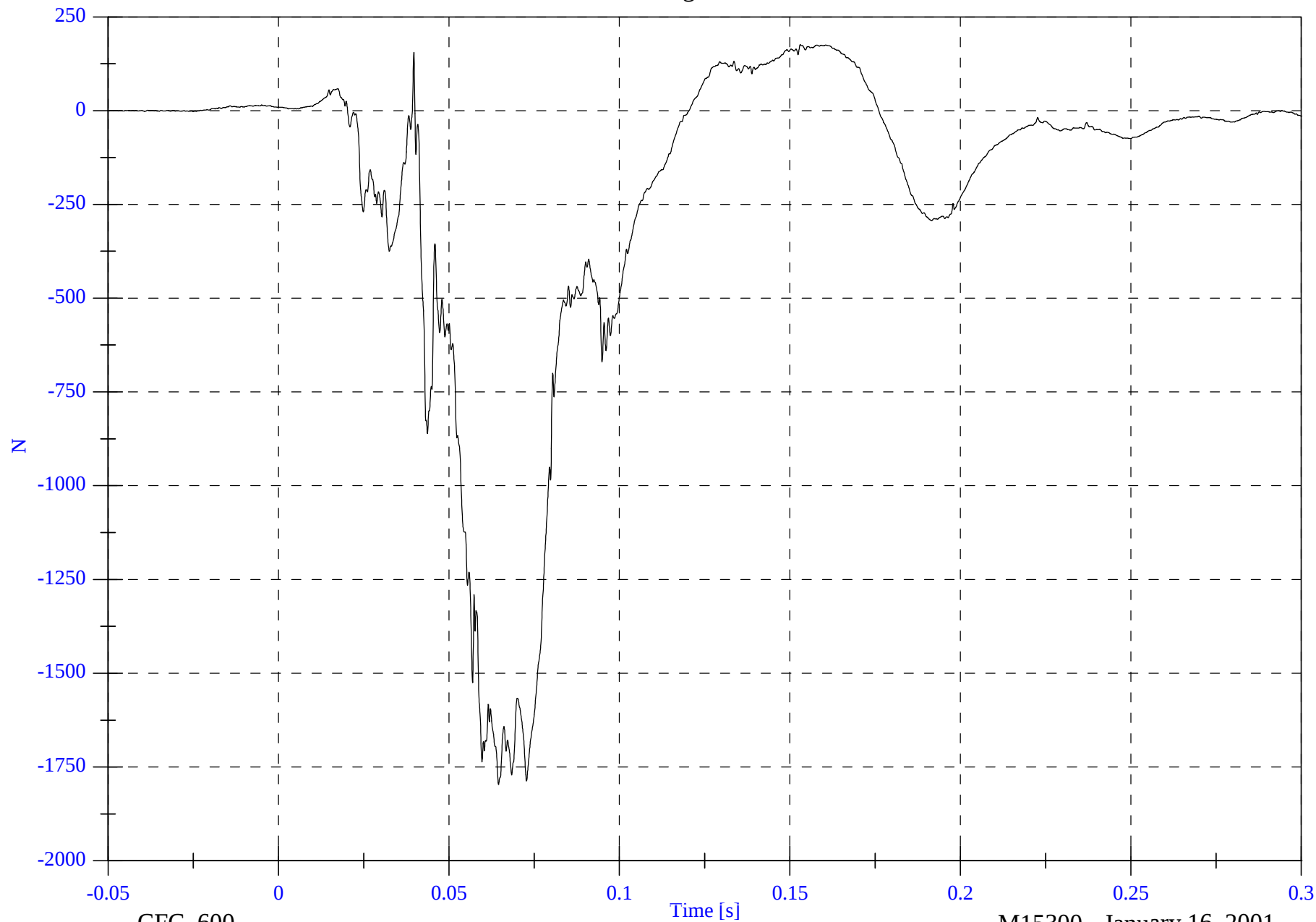


NCAP Test #16 - 2001 Acura 3.2TL

P2 Right Femur

Max: 176.3 [N] at 0.153 [s]

Min: -1796.6 [N] at 0.065 [s]



B-85

8602-16

CFC_600

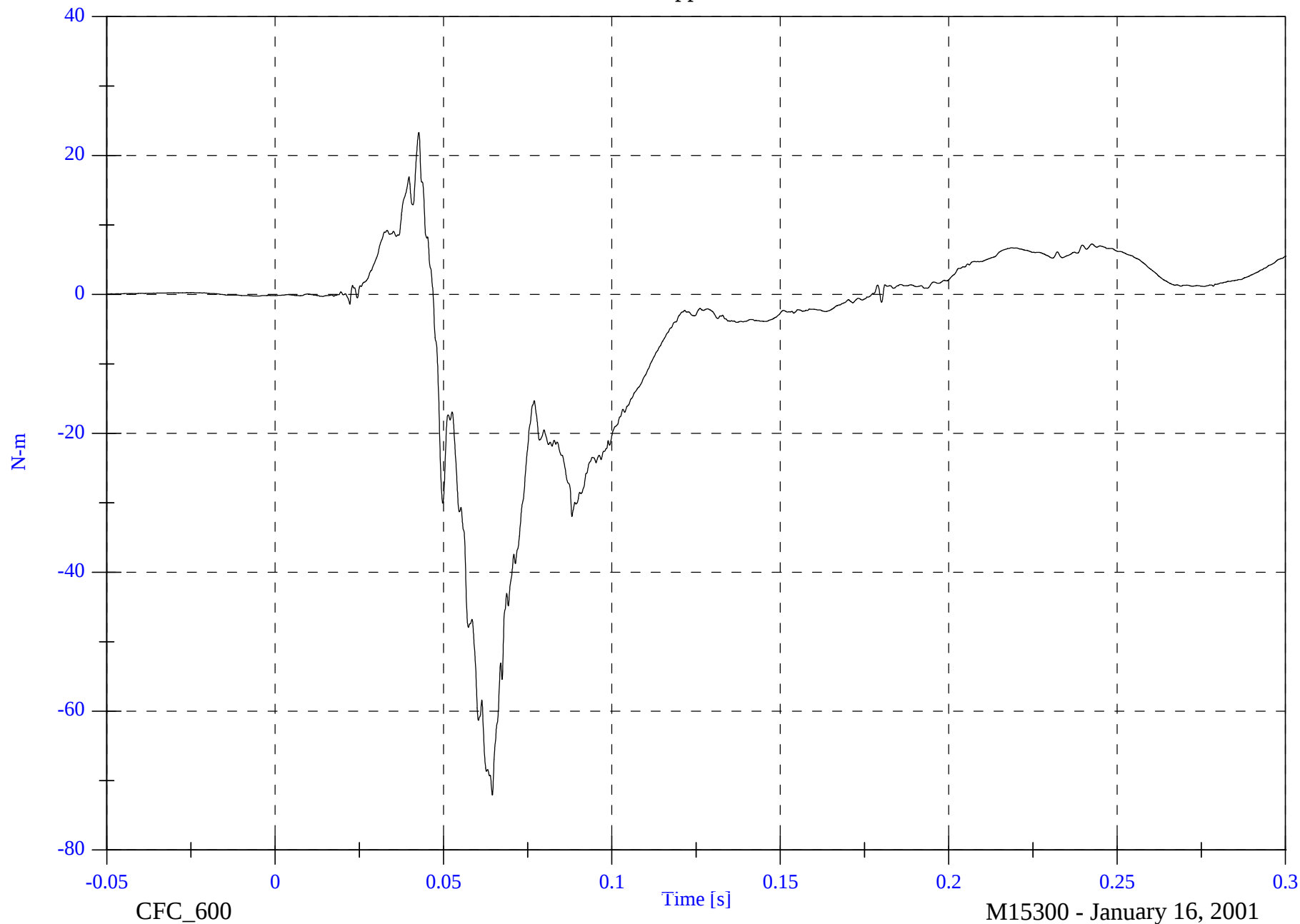
M15300 - January 16, 2001

NCAP Test #16 - 2001 Acura 3.2TL

P2 Left Upper Tibia Mx

Max: 23.3 [N-m] at 0.043 [s]

Min: -72.1 [N-m] at 0.065 [s]



B-86

8602-16

CFC_600

Time [s]

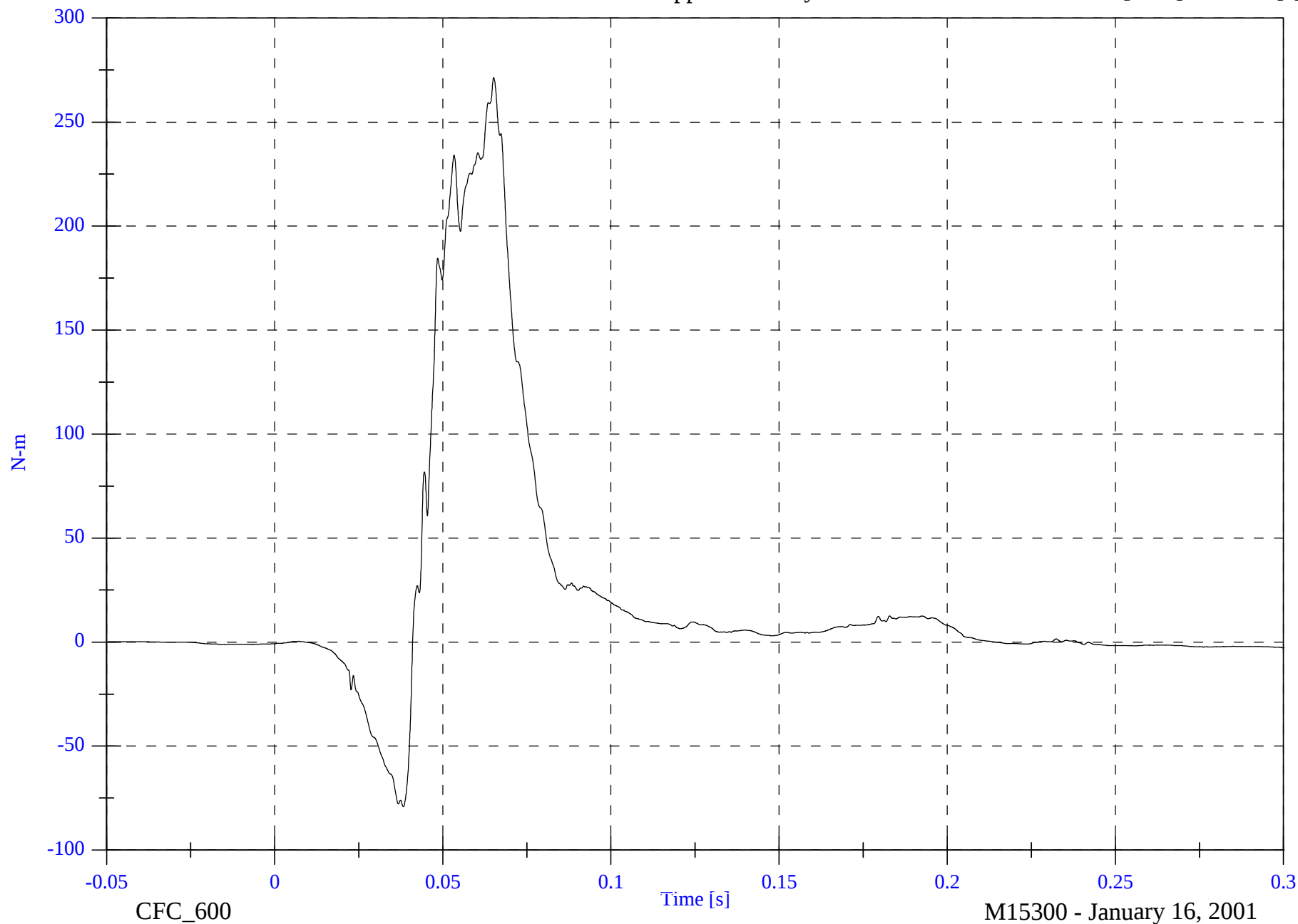
M15300 - January 16, 2001

NCAP Test #16 - 2001 Acura 3.2TL

P2 Left Upper Tibia My

Max: 271.4 [N-m] at 0.065 [s]

Min: -79.1 [N-m] at 0.038 [s]



B-87

8602-16

CFC_600

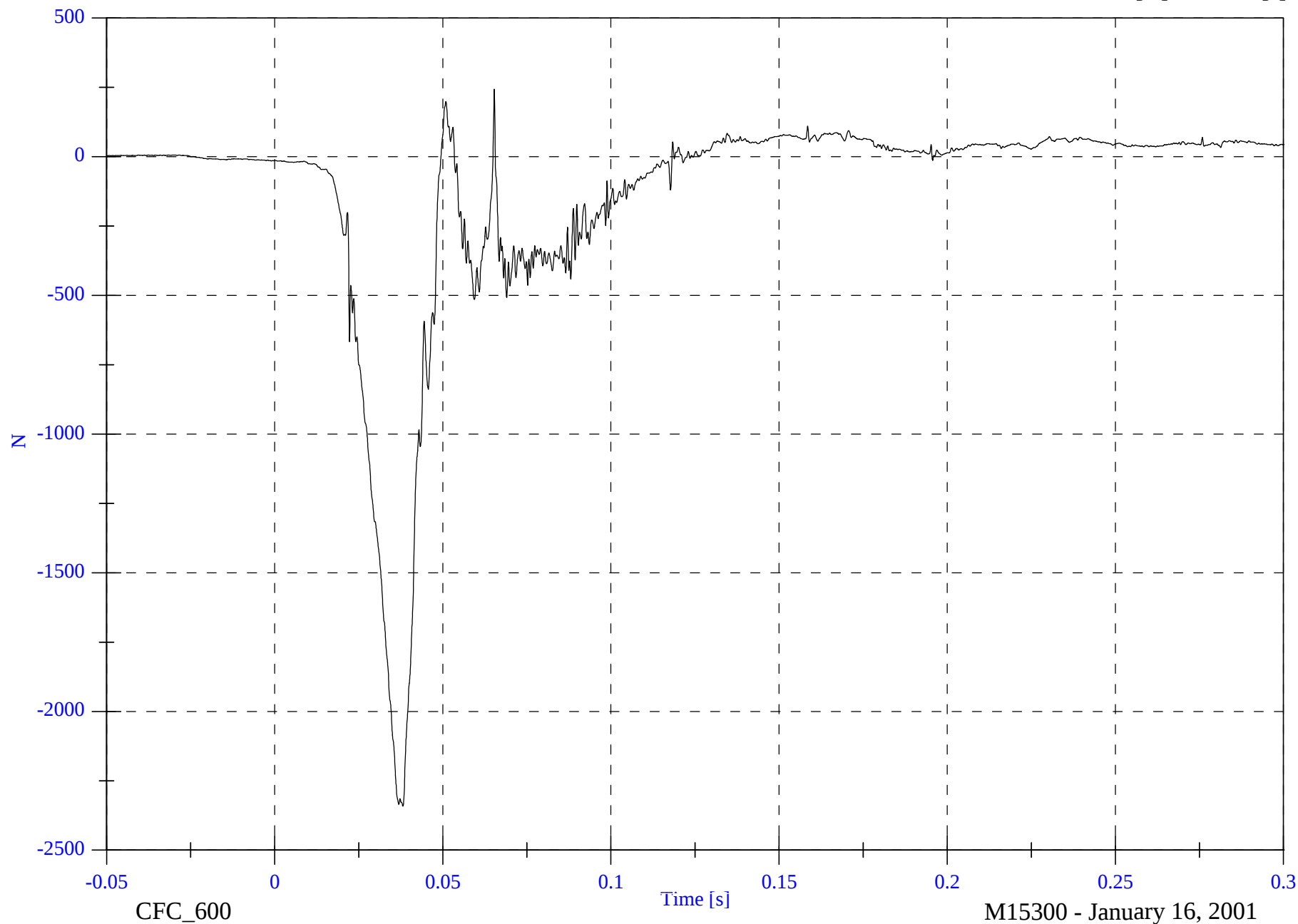
M15300 - January 16, 2001

NCAP Test #16 - 2001 Acura 3.2TL

Max: 243.9 [N] at 0.065 [s]

Min: -2342.4 [N] at 0.038 [s]

P2 Left Lower Tibia Fz



B-88

8602-16

CFC_600

Time [s]

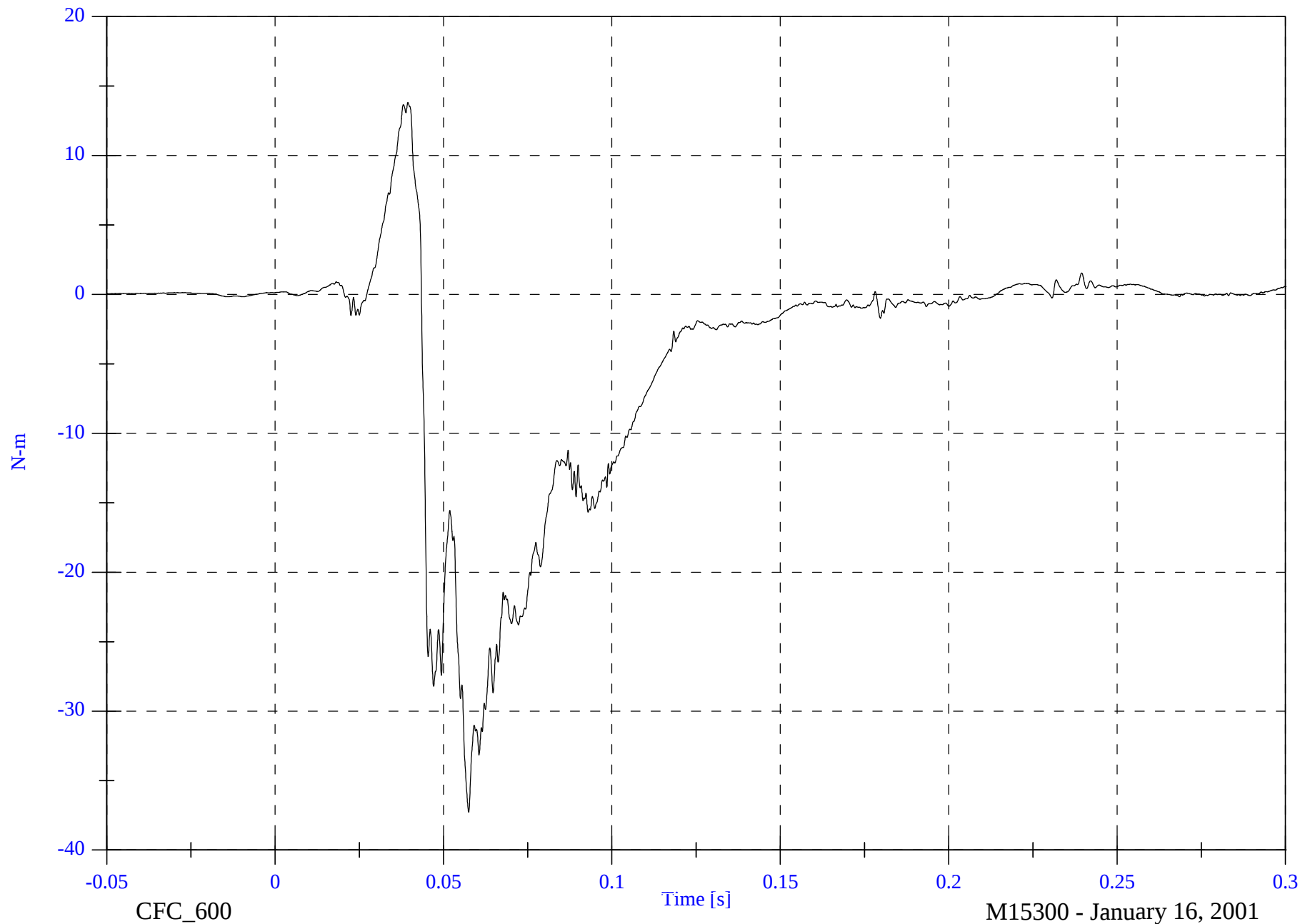
M15300 - January 16, 2001

NCAP Test #16 - 2001 Acura 3.2TL

P2 Left Lower Tibia Mx

Max: 13.8 [N-m] at 0.039 [s]

Min: -37.3 [N-m] at 0.057 [s]



B-89

8602-16

CFC_600

Time [s]

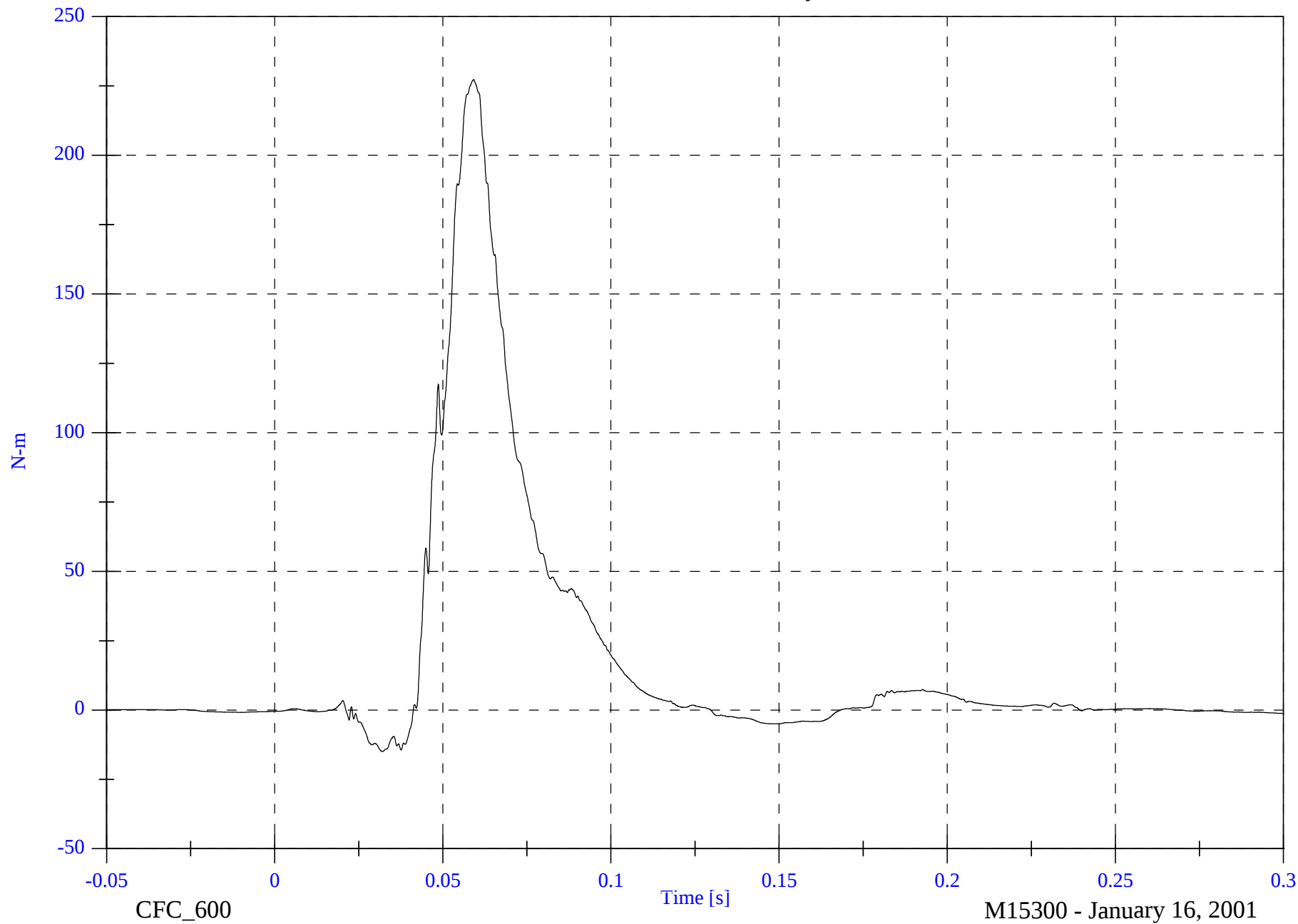
M15300 - January 16, 2001

NCAP Test #16 - 2001 Acura 3.2TL

P2 Left Lower Tibia My

Max: 227.3 [N-m] at 0.059 [s]

Min: -15.0 [N-m] at 0.032 [s]



B-90

8602-16

CFC_600

Time [s]

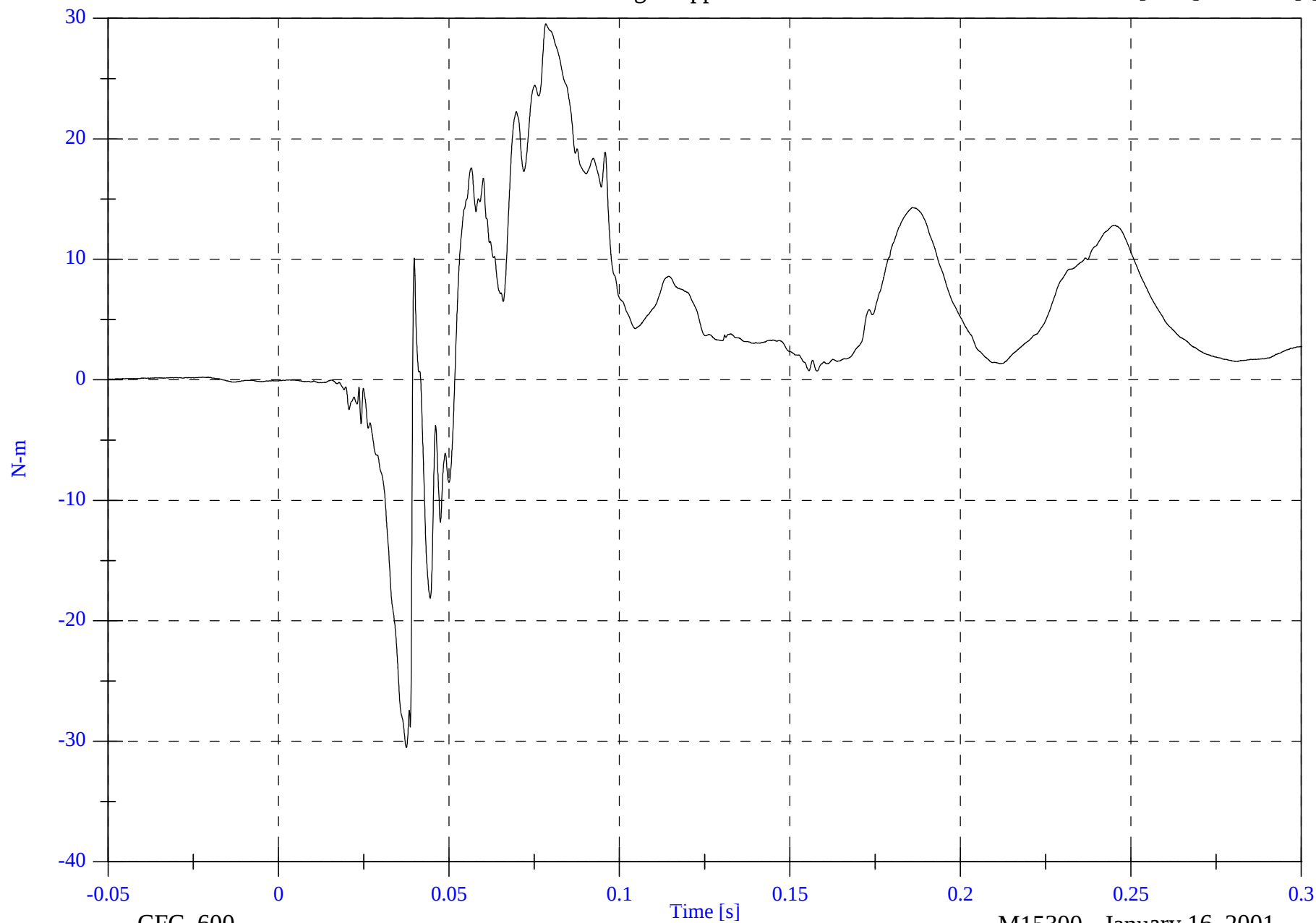
M15300 - January 16, 2001

NCAP Test #16 - 2001 Acura 3.2TL

Max: 29.5 [N-m] at 0.078 [s]

Min: -30.5 [N-m] at 0.038 [s]

P2 Right Upper Tibia Mx



B-91

8602-16

CFC_600

M15300 - January 16, 2001

NCAP Test #16 - 2001 Acura 3.2TL

P2 Right Upper Tibia My

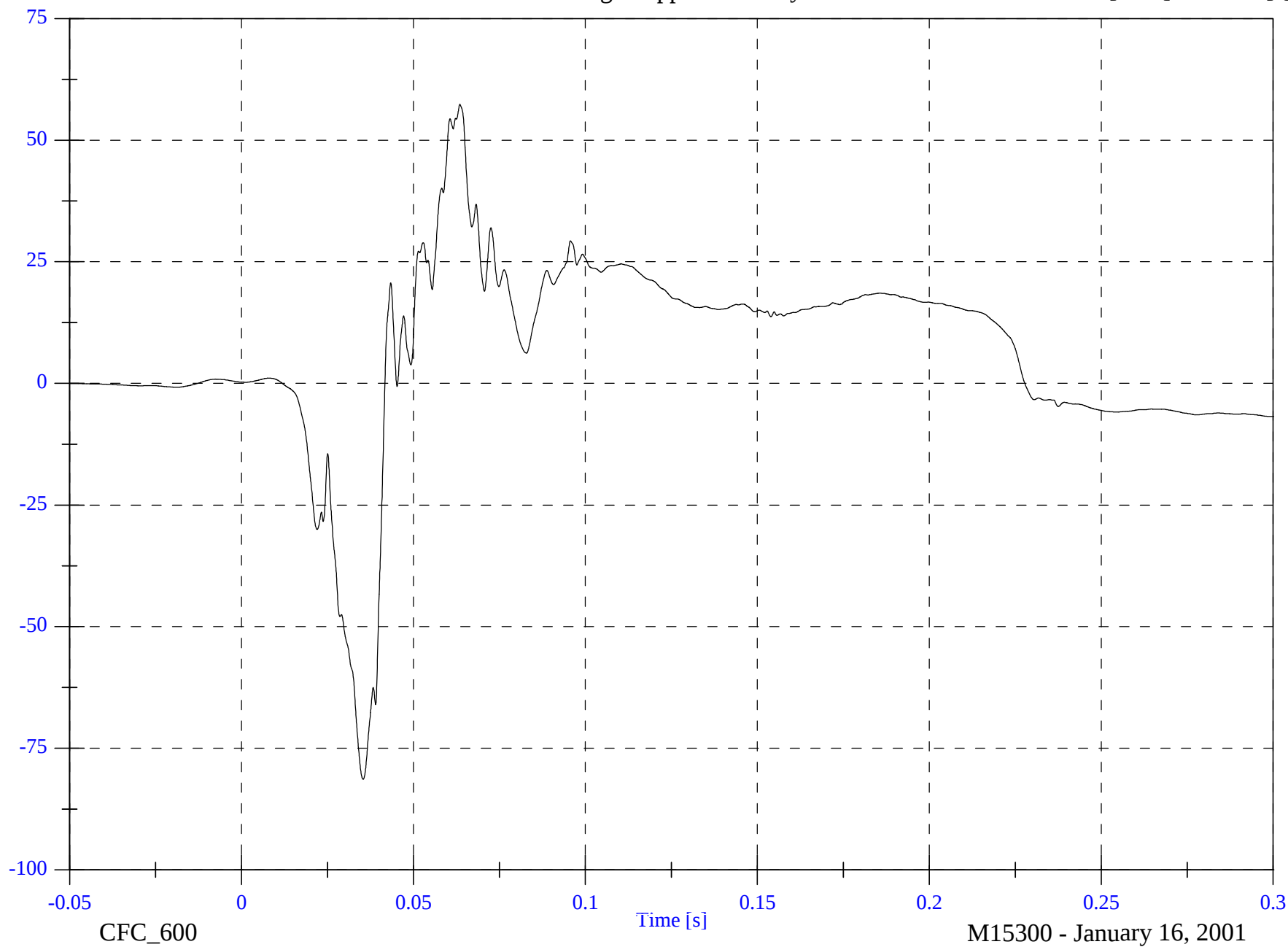
Max: 57.4 [N-m] at 0.064 [s]

Min: -81.4 [N-m] at 0.035 [s]

B-92

N-m

8602-16

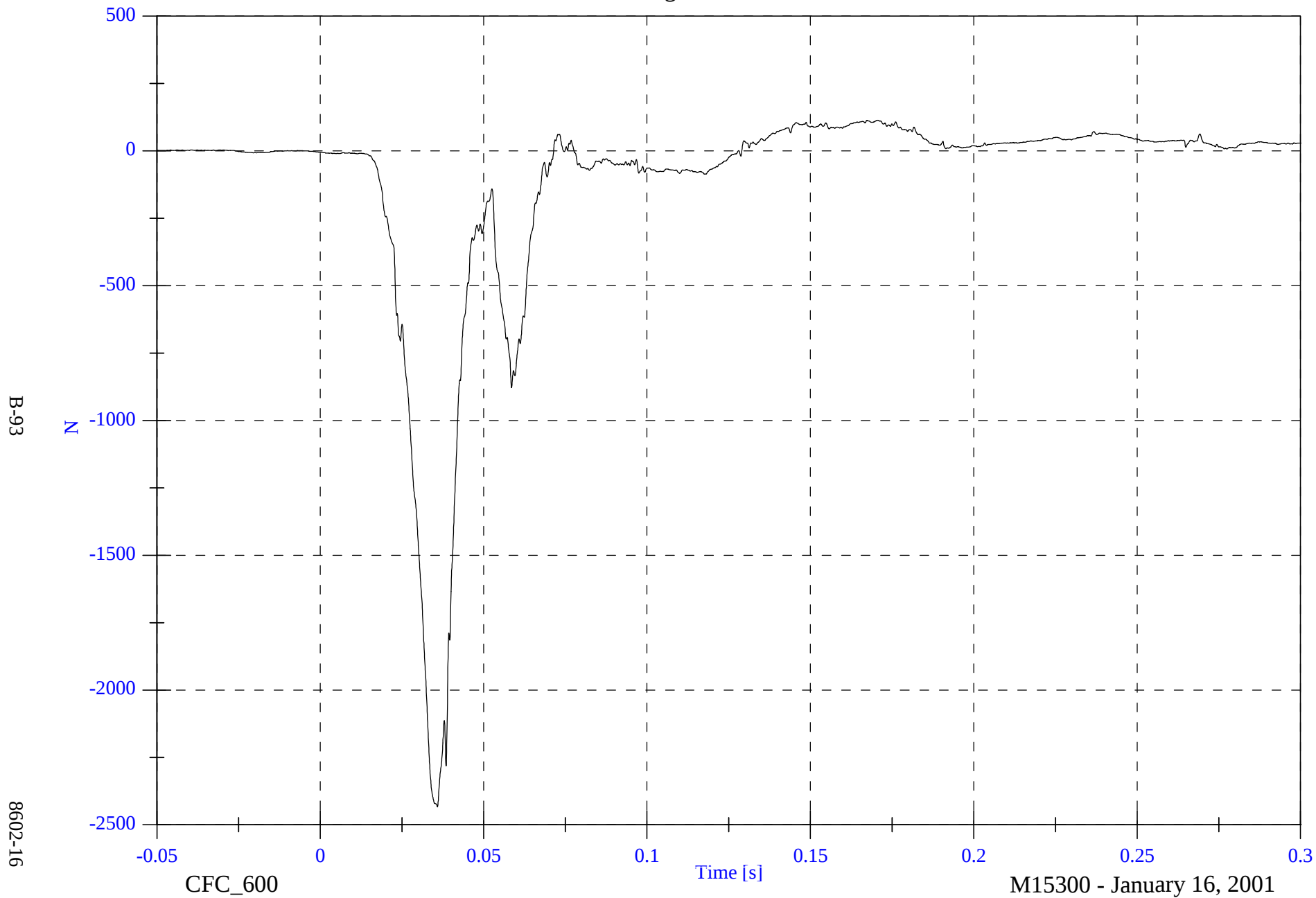


NCAP Test #16 - 2001 Acura 3.2TL

P2 Right Lower Tibia Fz

Max: 114.1 [N] at 0.171 [s]

Min: -2434.0 [N] at 0.036 [s]

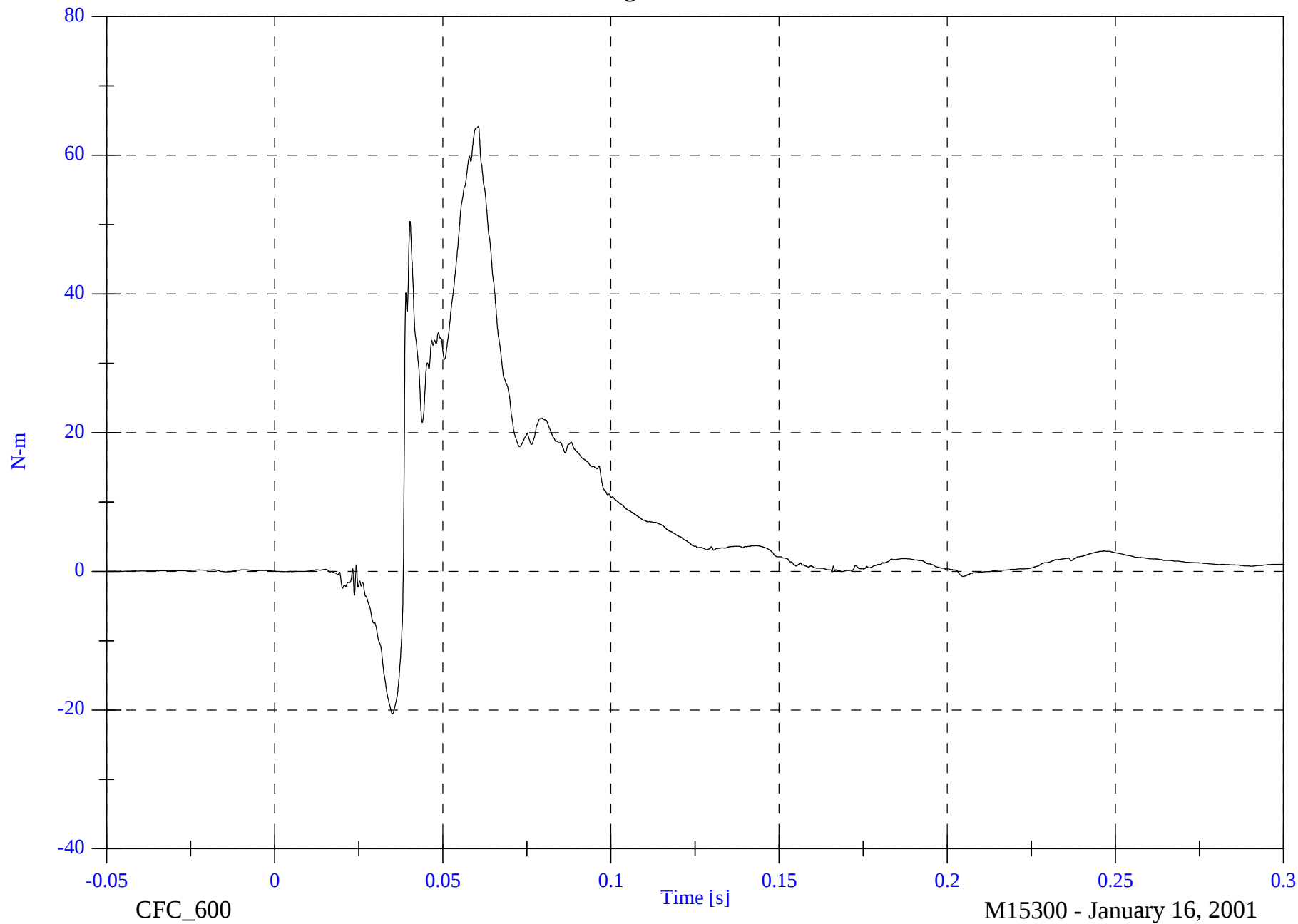


NCAP Test #16 - 2001 Acura 3.2TL

P2 Right Lower Tibia Mx

Max: 64.1 [N-m] at 0.061 [s]

Min: -20.6 [N-m] at 0.035 [s]



B-94

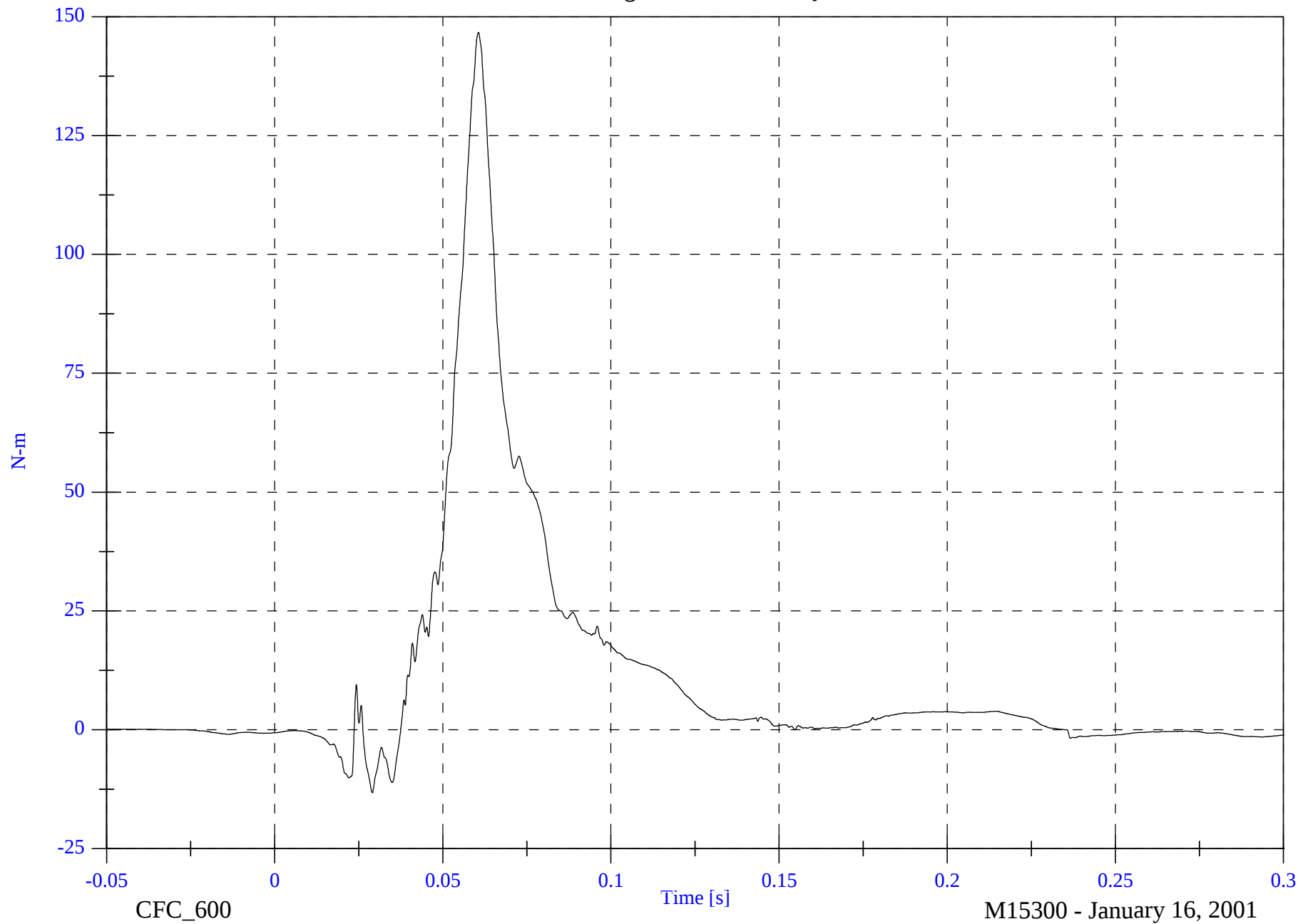
8602-16

NCAP Test #16 - 2001 Acura 3.2TL

P2 Right Lower Tibia My

Max: 146.7 [N-m] at 0.061 [s]

Min: -13.3 [N-m] at 0.029 [s]



B-95

8602-16

CFC_600

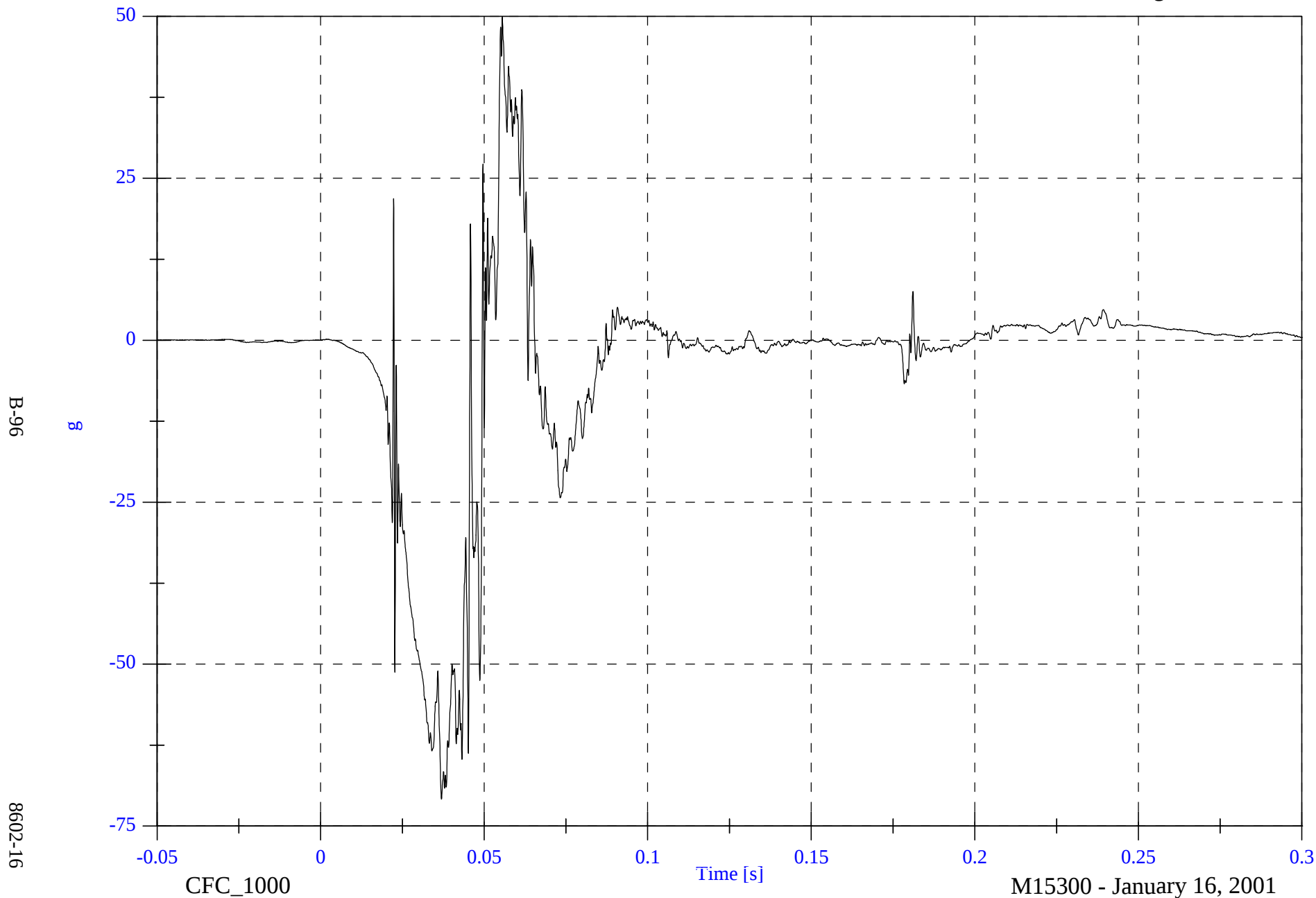
M15300 - January 16, 2001

NCAP Test #16 - 2001 Acura 3.2TL

Max: 49.9 [g] at 0.056 [s]

Min: -70.8 [g] at 0.037 [s]

P2 Left Foot Aft x

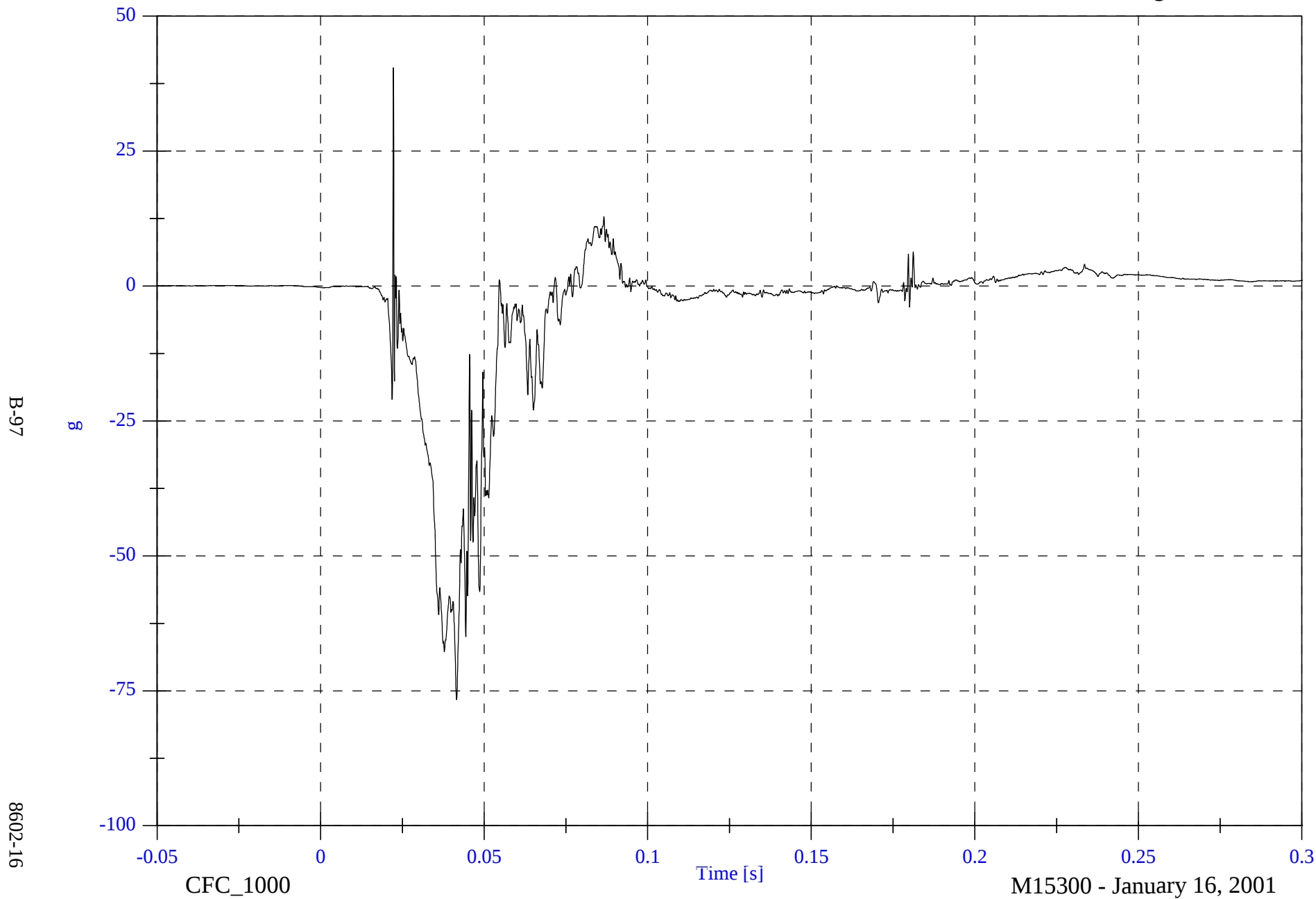


NCAP Test #16 - 2001 Acura 3.2TL

P2 Left Foot Aft z

Max: 40.4 [g] at 0.022 [s]

Min: -76.7 [g] at 0.042 [s]

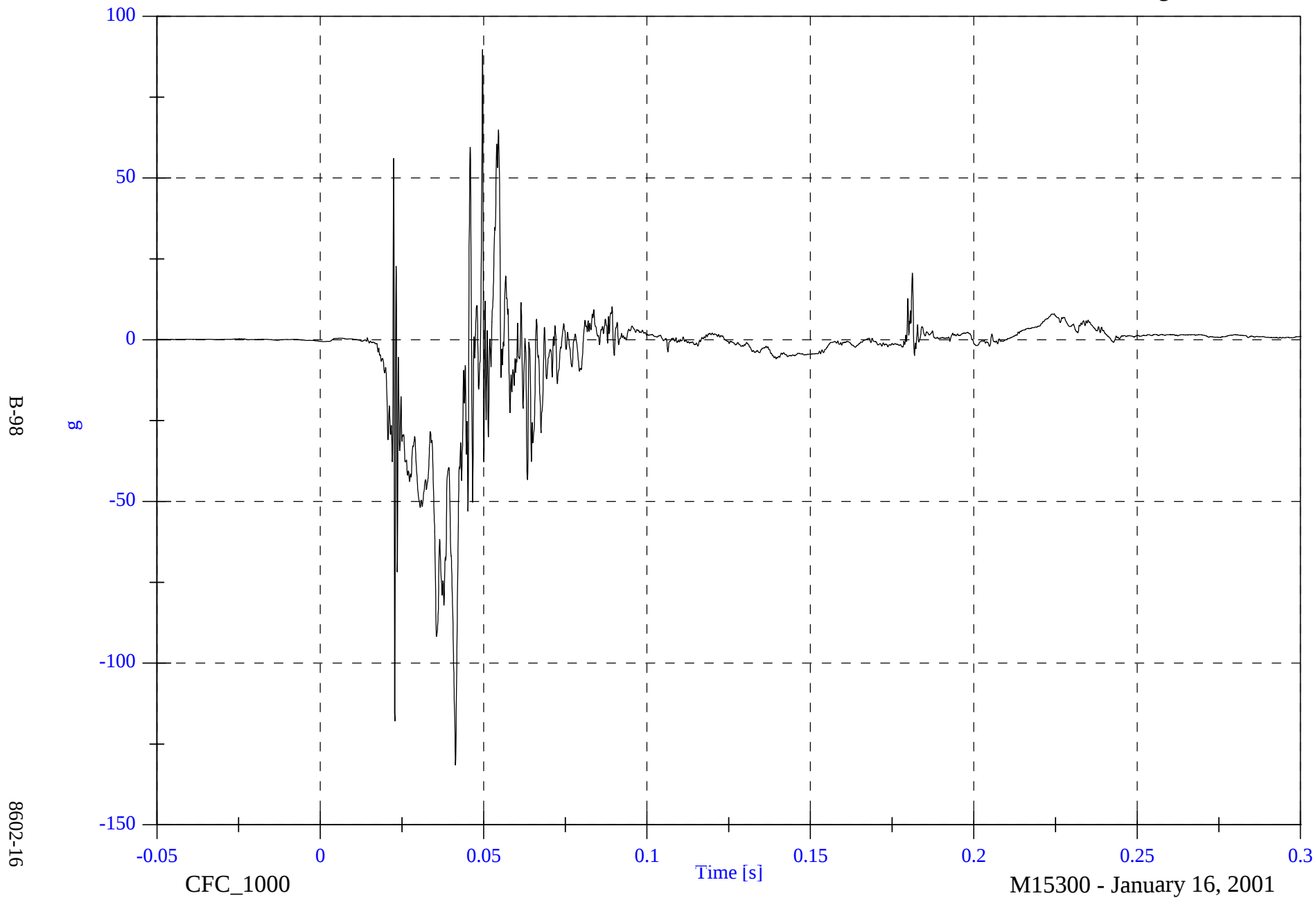


NCAP Test #16 - 2001 Acura 3.2TL

P2 Left Foot Fore z

Max: 89.7 [g] at 0.050 [s]

Min: -131.5 [g] at 0.041 [s]

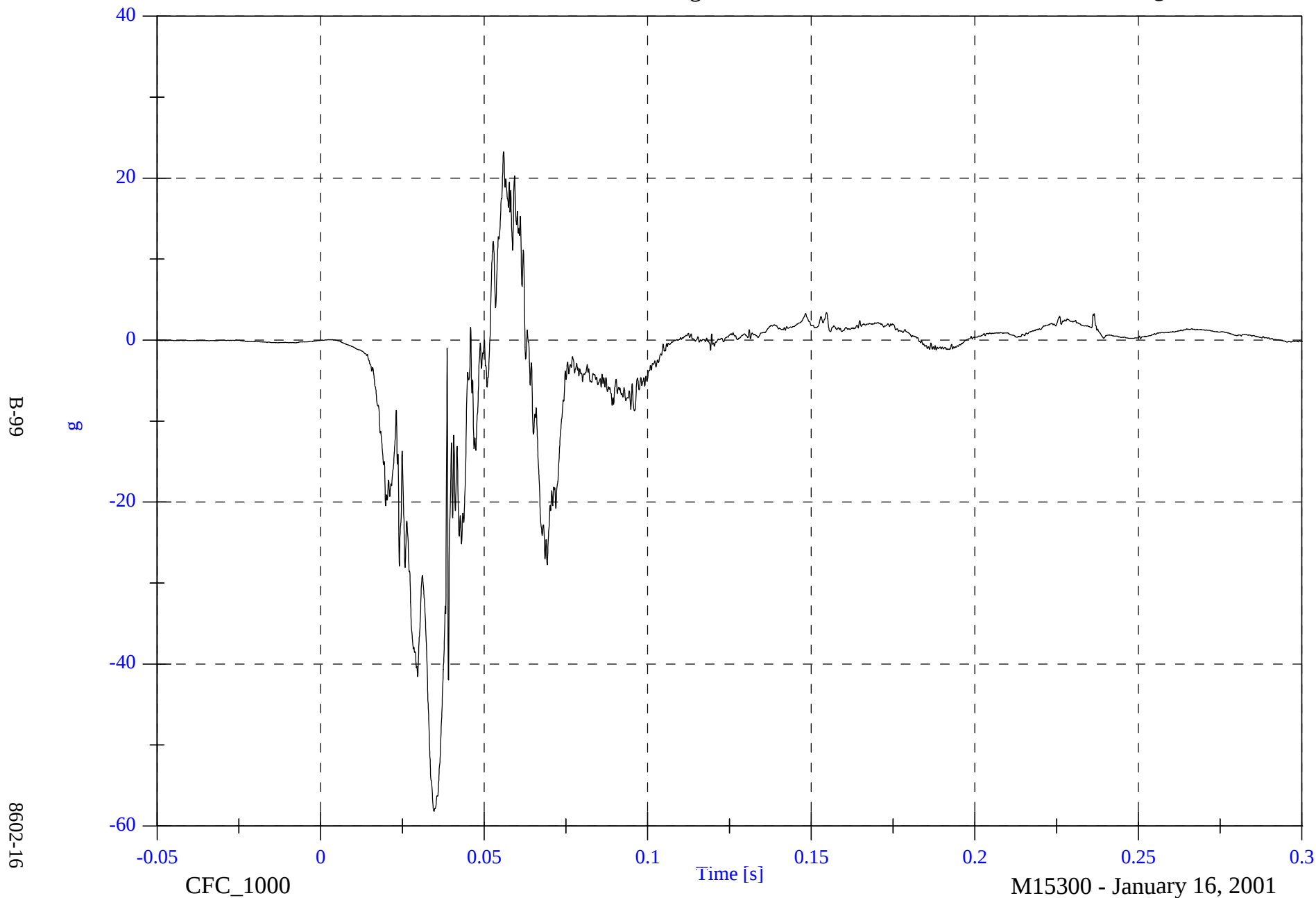


NCAP Test #16 - 2001 Acura 3.2TL

Max: 23.3 [g] at 0.056 [s]

Min: -58.2 [g] at 0.035 [s]

P2 Right Foot Aft x

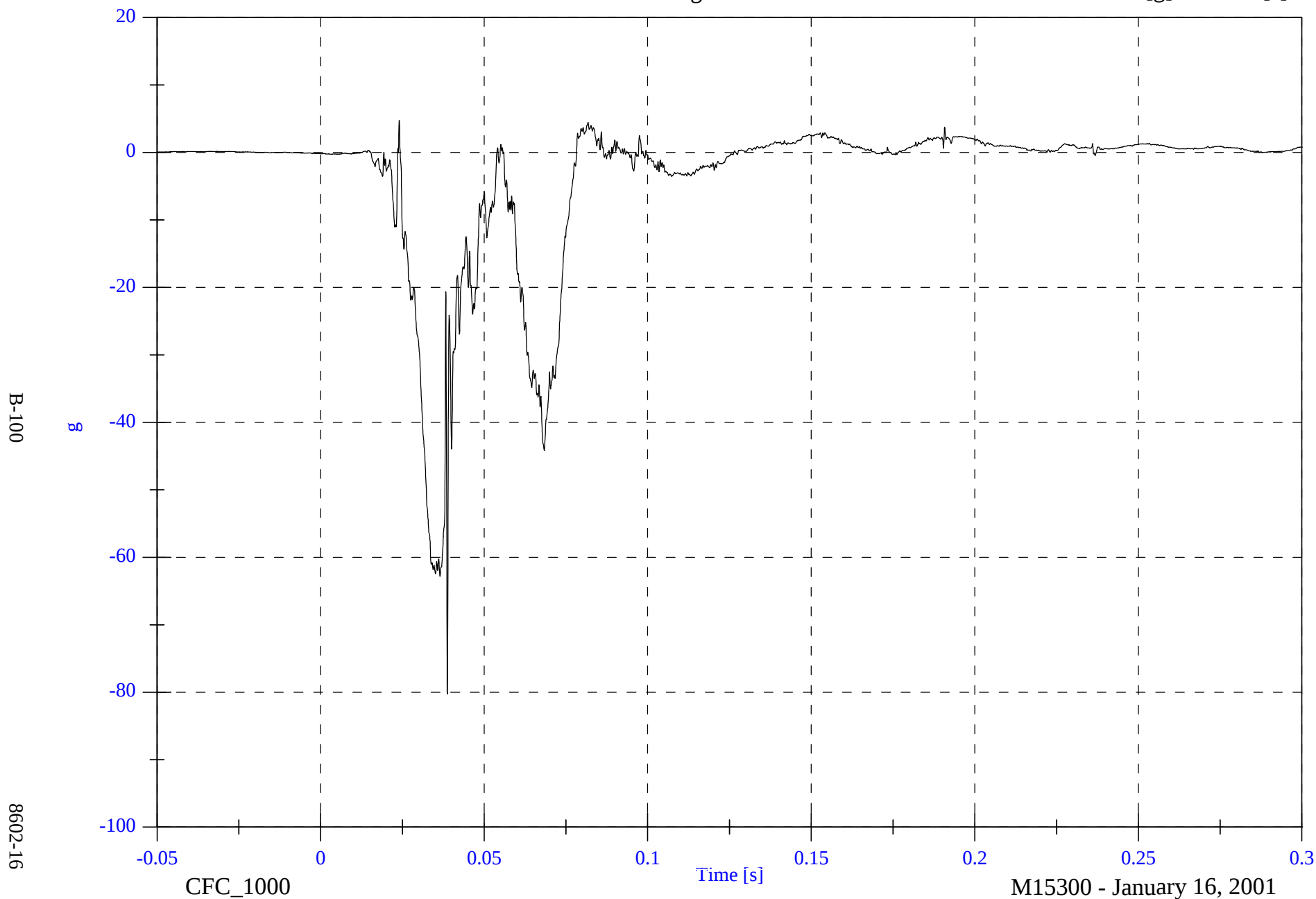


NCAP Test #16 - 2001 Acura 3.2TL

Max: 4.7 [g] at 0.024 [s]

Min: -80.3 [g] at 0.039 [s]

P2 Right Foot Aft z

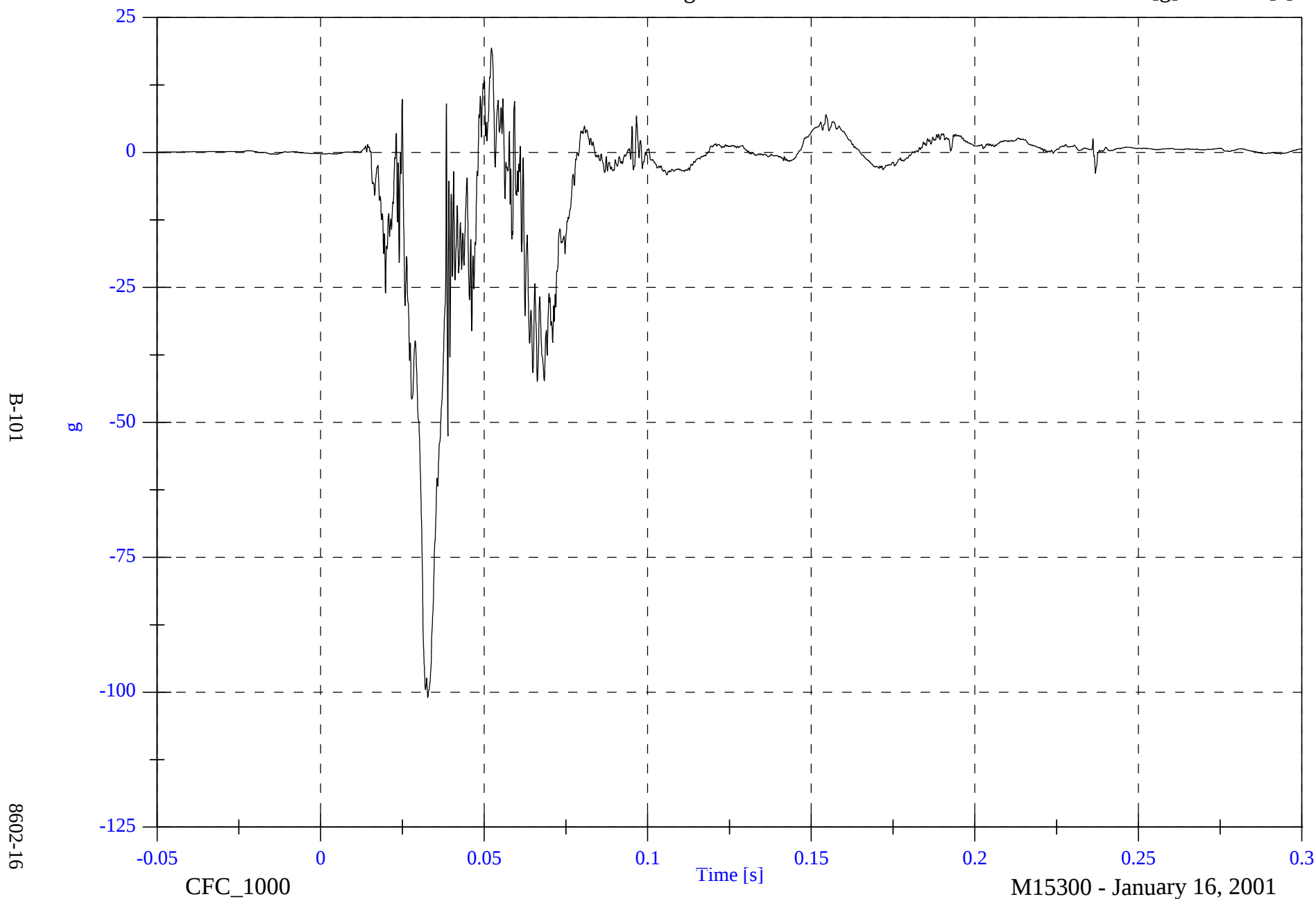


NCAP Test #16 - 2001 Acura 3.2TL

Max: 19.4 [g] at 0.052 [s]

Min: -101.0 [g] at 0.033 [s]

P2 Right Foot Fore x

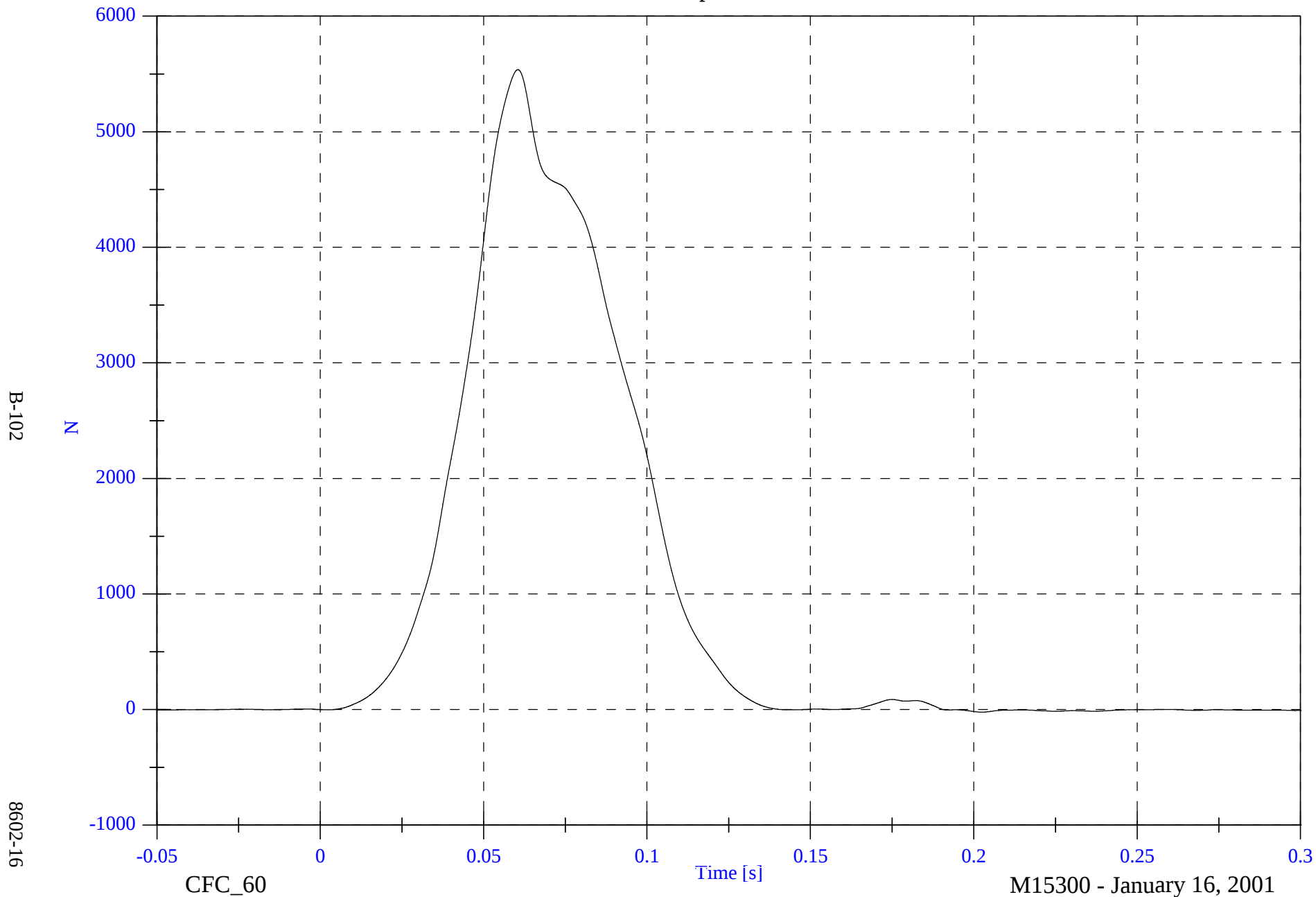


NCAP Test #16 - 2001 Acura 3.2TL

P2 Lap Belt Force

Max: 5537.8 [N] at 0.060 [s]

Min: -21.9 [N] at 0.202 [s]

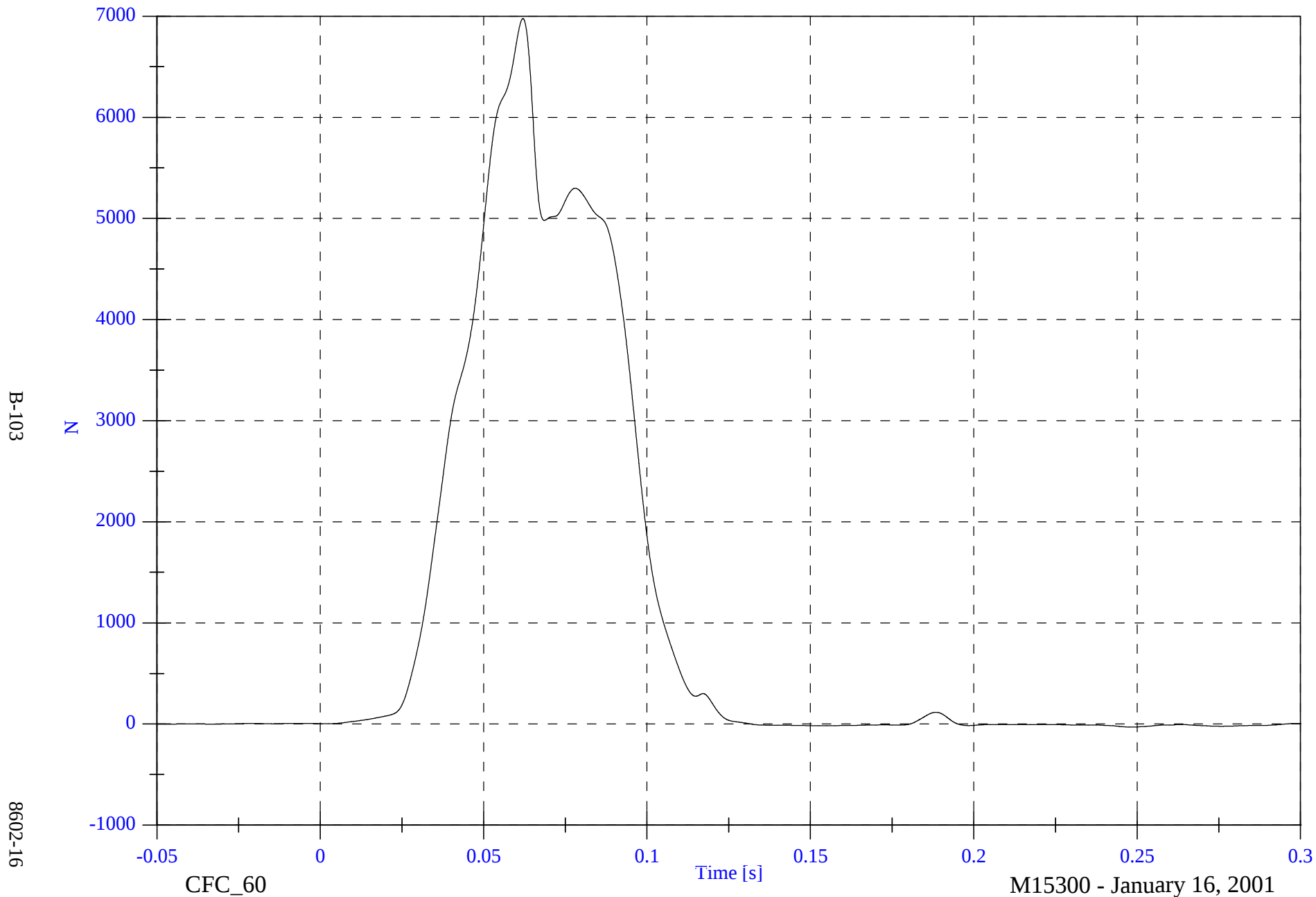


NCAP Test #16 - 2001 Acura 3.2TL

P2 Shoulder Belt Force

Max: 6977.0 [N] at 0.062 [s]

Min: -29.4 [N] at 0.249 [s]

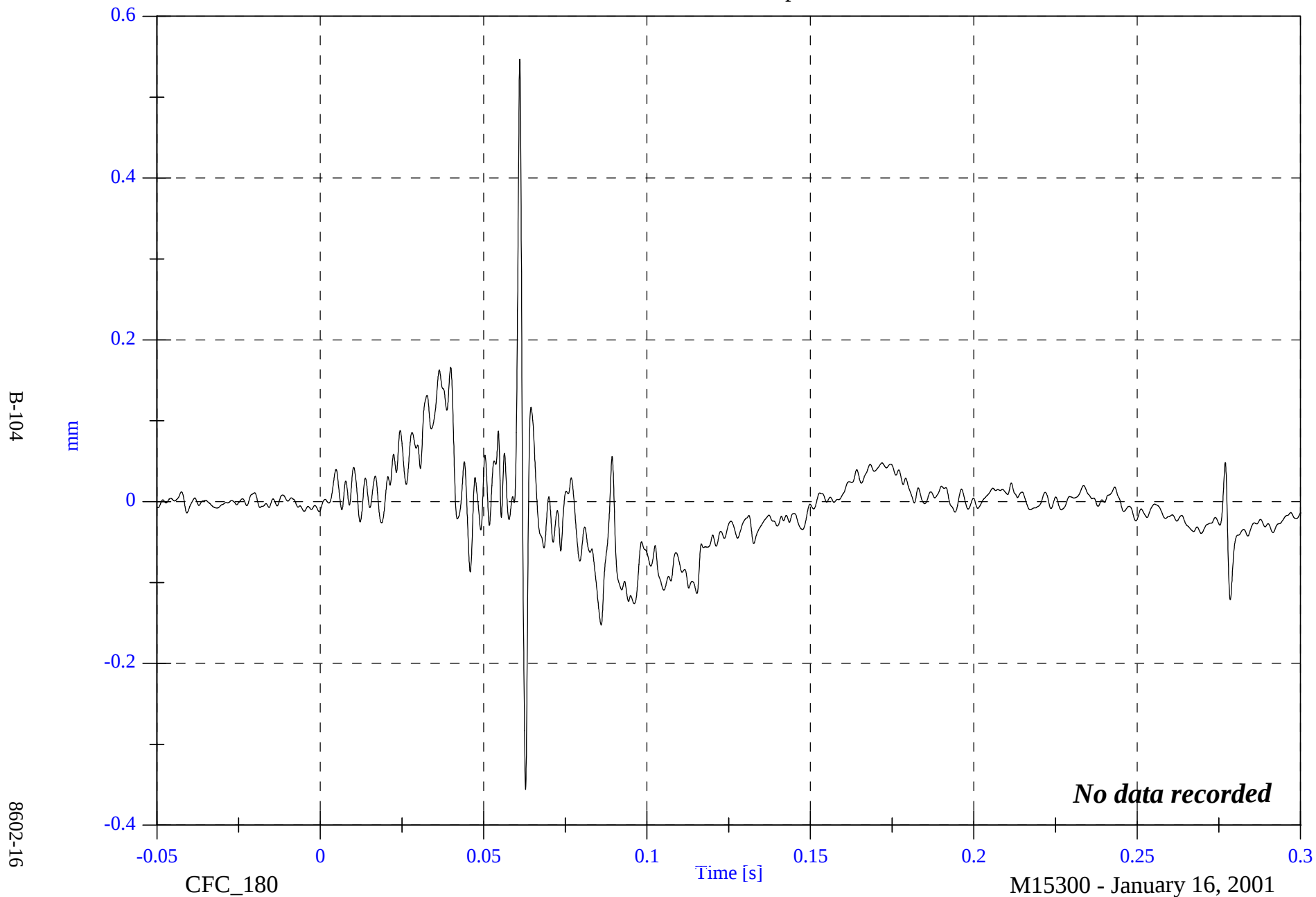


NCAP Test #16 - 2001 Acura 3.2TL

P2 Shoulder Belt Spoolout

Max: 0.5 [mm] at 0.061 [s]

Min: -0.4 [mm] at 0.063 [s]



NCAP Test #16 - 2001 Acura 3.2TL

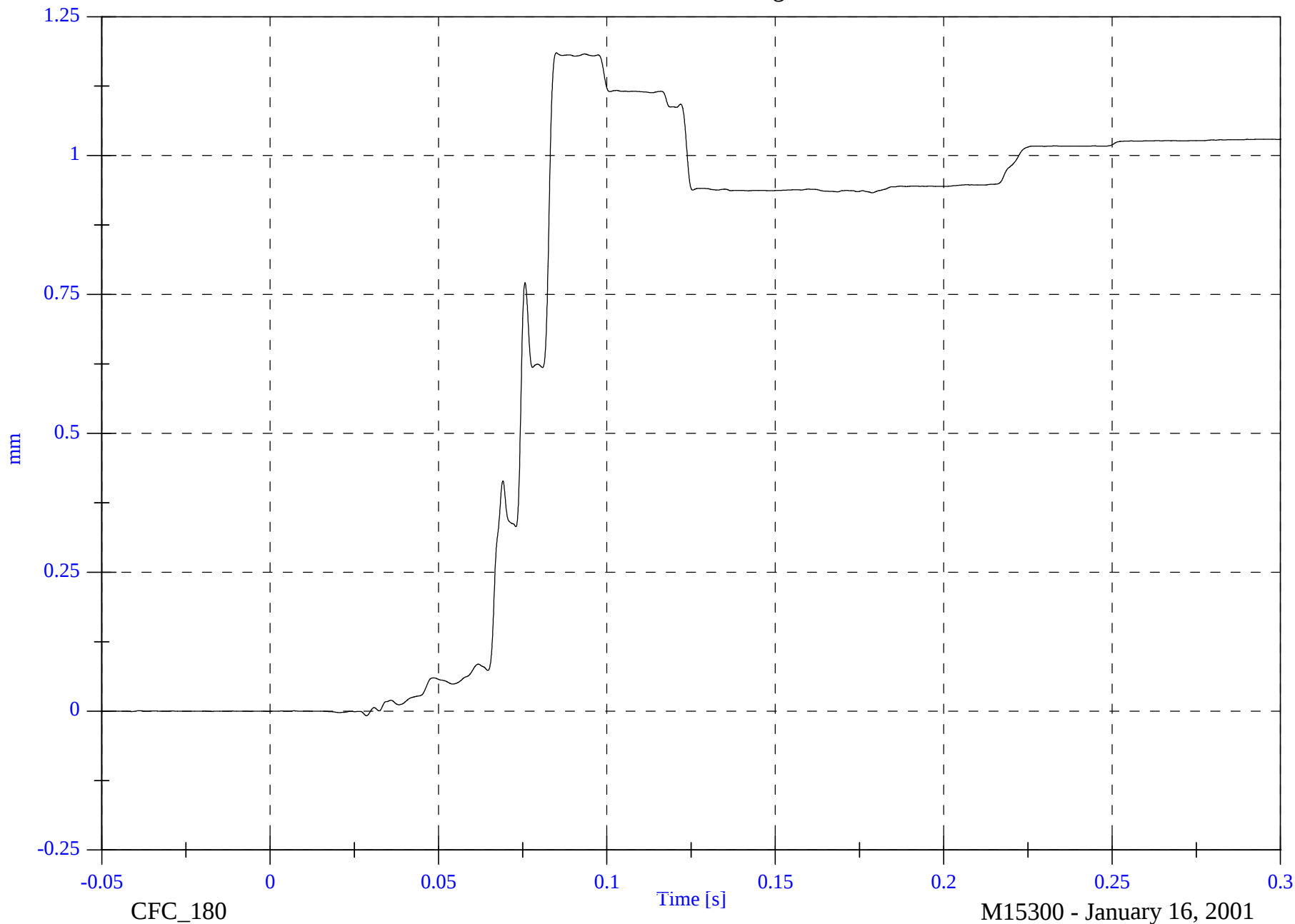
P2 Shoulder Belt Elongation

Max: 1.2 [mm] at 0.085 [s]

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

B-105

8602-16

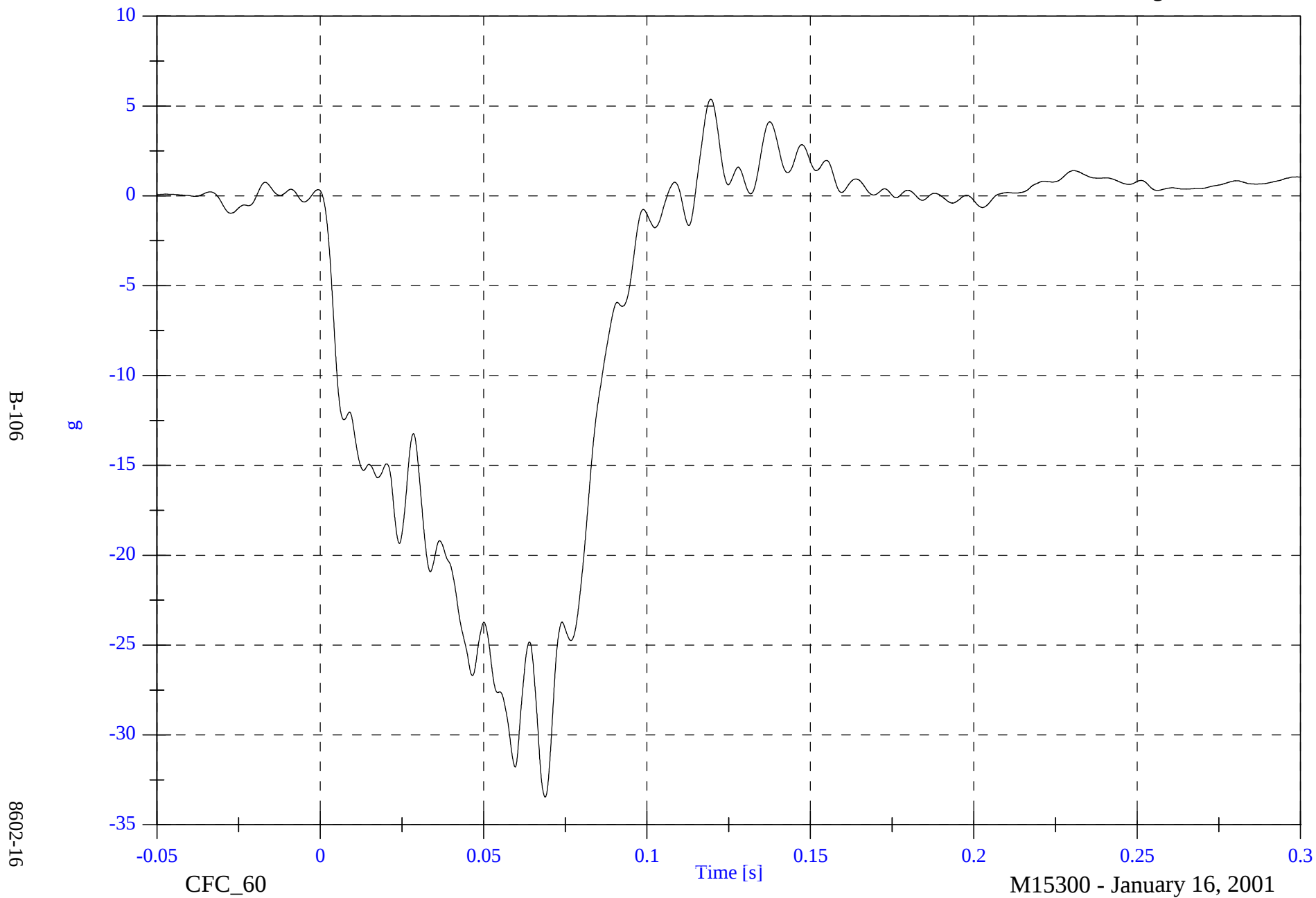


NCAP Test #16 - 2001 Acura 3.2TL

Left Rear #1x

Max: 5.4 [g] at 0.120 [s]

Min: -33.5 [g] at 0.069 [s]

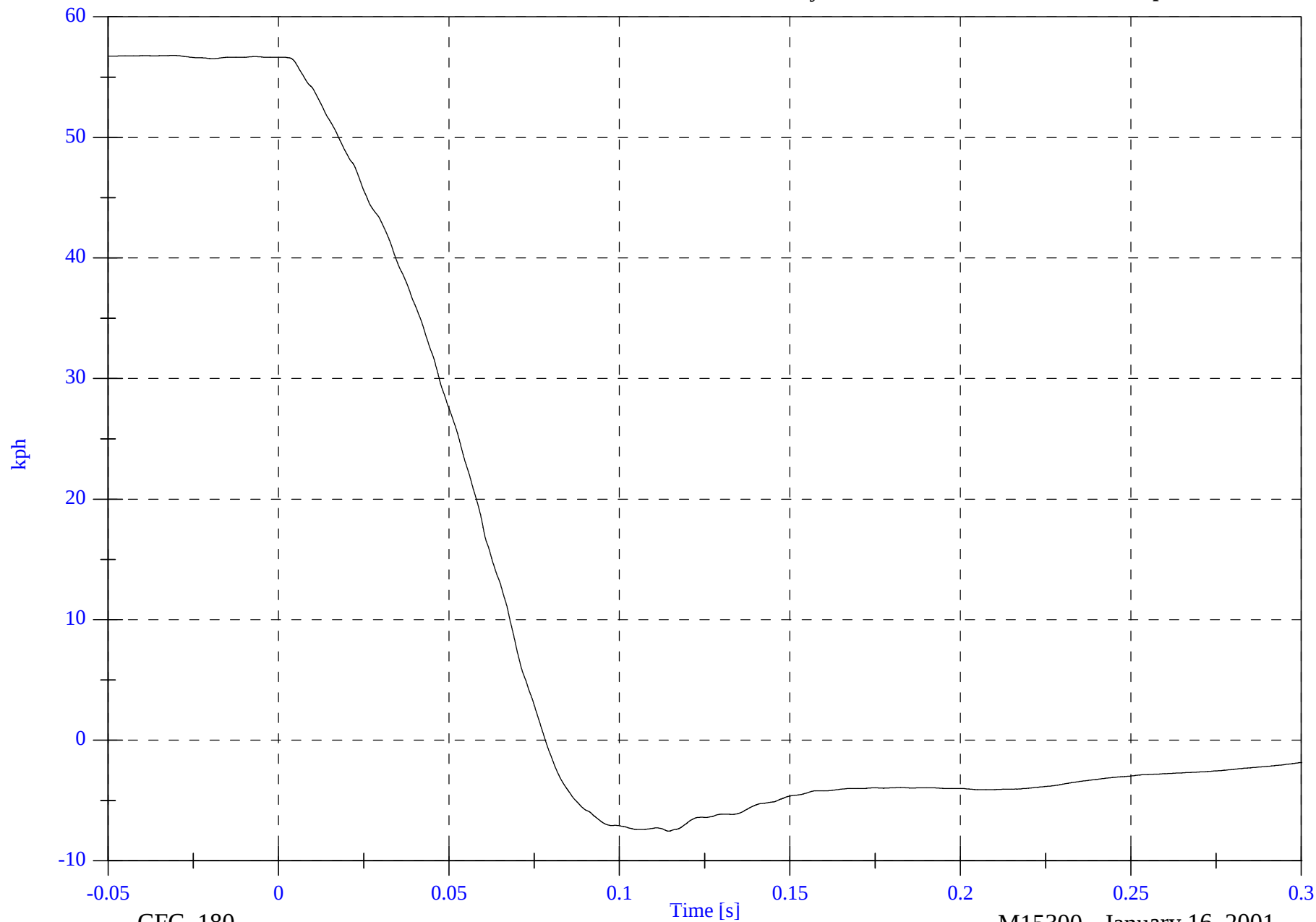


NCAP Test #16 - 2001 Acura 3.2TL

Max: 56.8 [kph] at -0.031 [s]

Min: -7.5 [kph] at 0.114 [s]

Left Rear #1x Velocity



B-107

8602-16

CFC_180

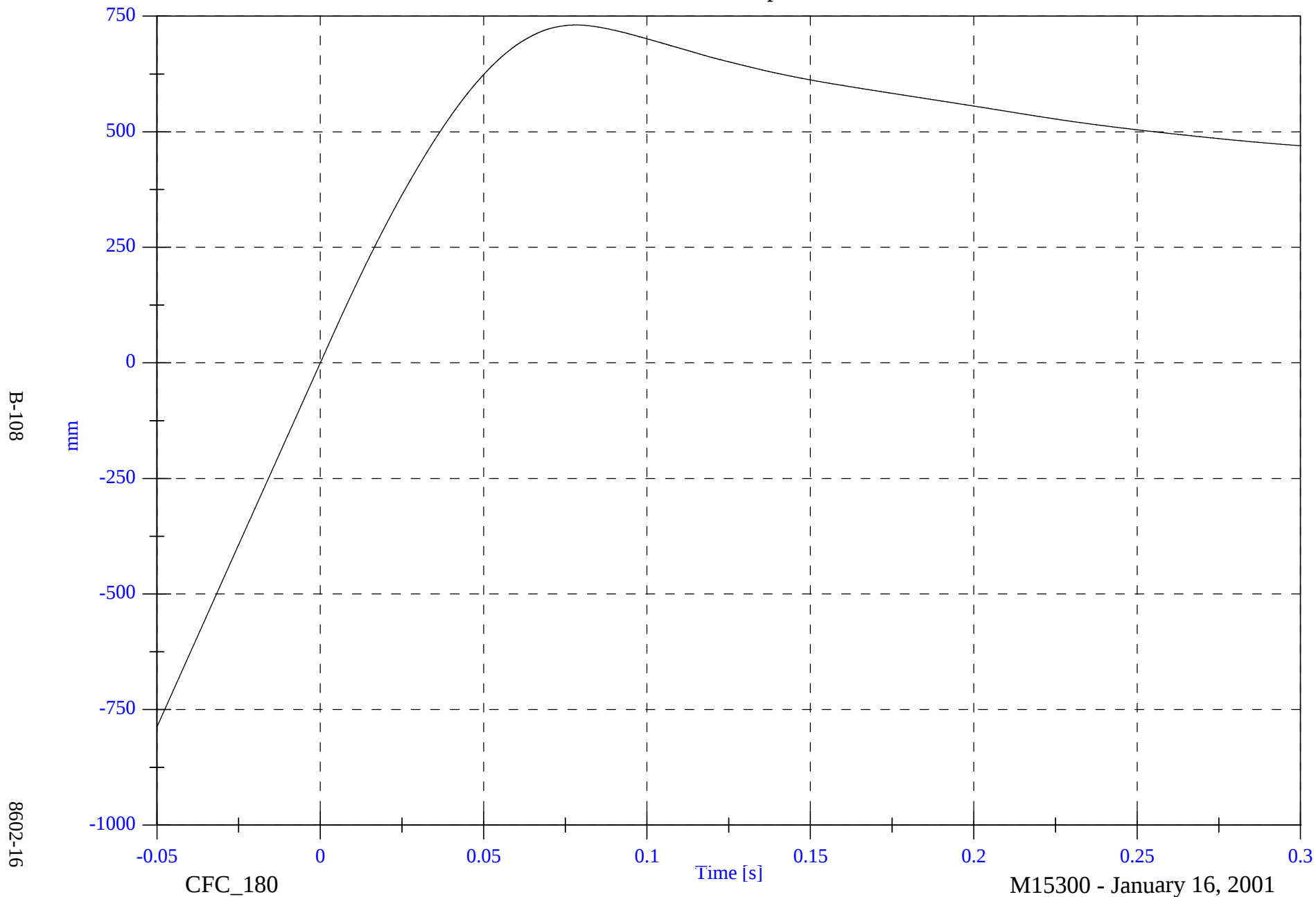
M15300 - January 16, 2001

NCAP Test #16 - 2001 Acura 3.2TL

Left Rear #1x Displacement

Max: 731.1 [mm] at 0.078 [s]

Min: -787.5 [mm] at -0.050 [s]



NCAP Test #16 - 2001 Acura 3.2TL

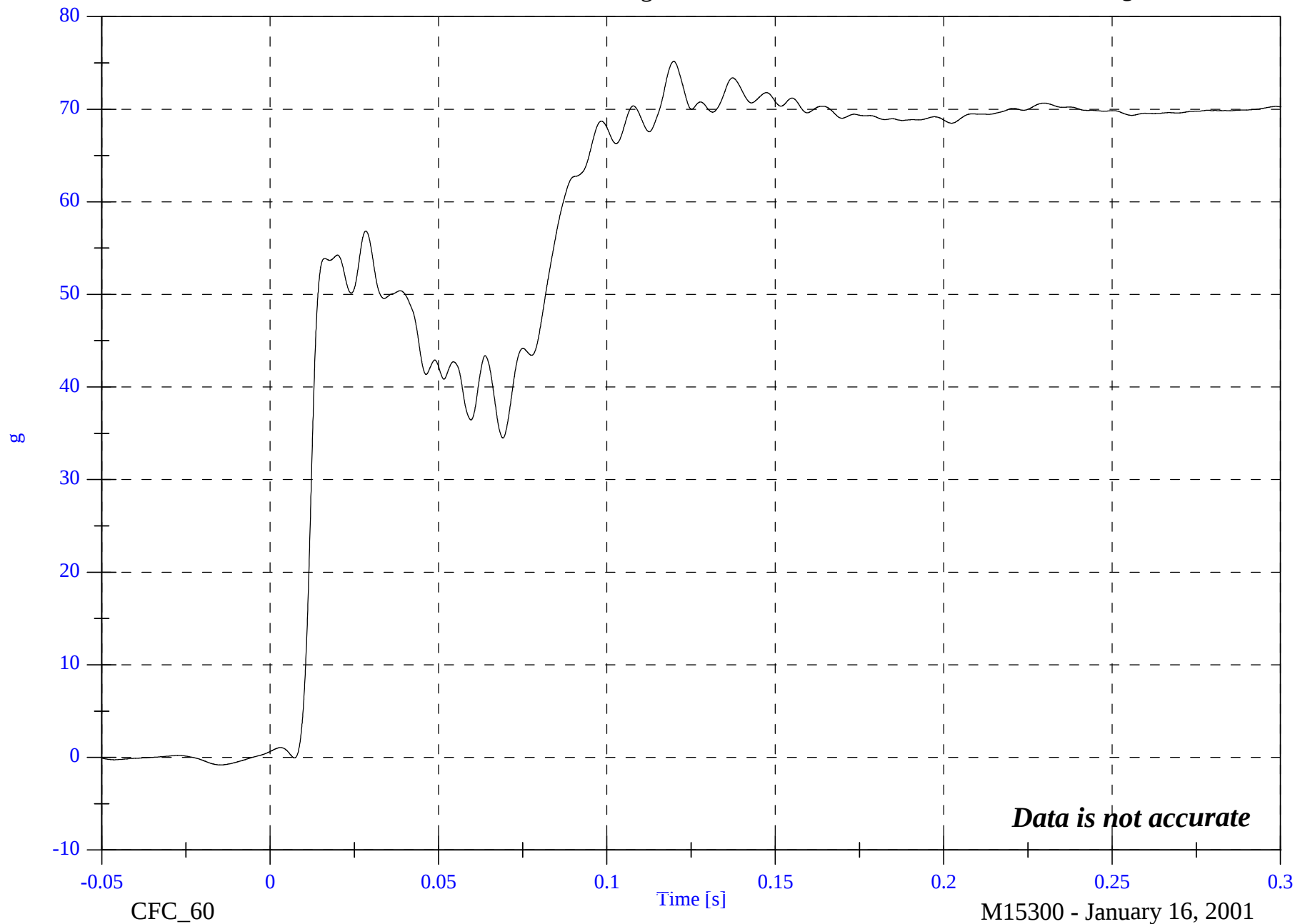
Right Rear #2x

Max: 75.2 [g] at 0.120 [s]

Min: -0.8 [g] at -0.015 [s]

B-109

8602-16

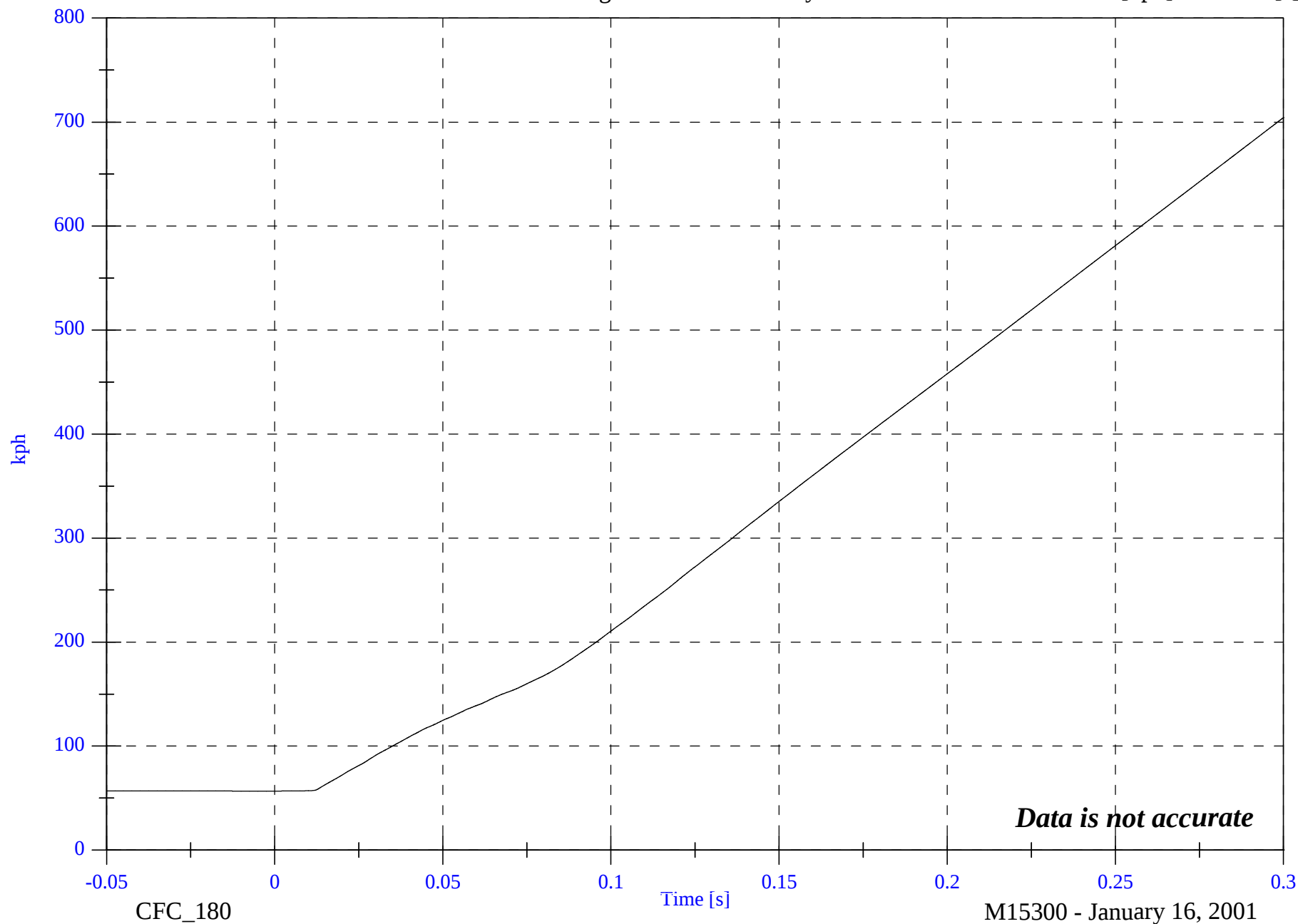


NCAP Test #16 - 2001 Acura 3.2TL

Max: 704.3 [kph] at 0.300 [s]

Min: 56.6 [kph] at -0.006 [s]

Right Rear #2x Velocity



B-110

8602-16

CFC_180

Time [s]

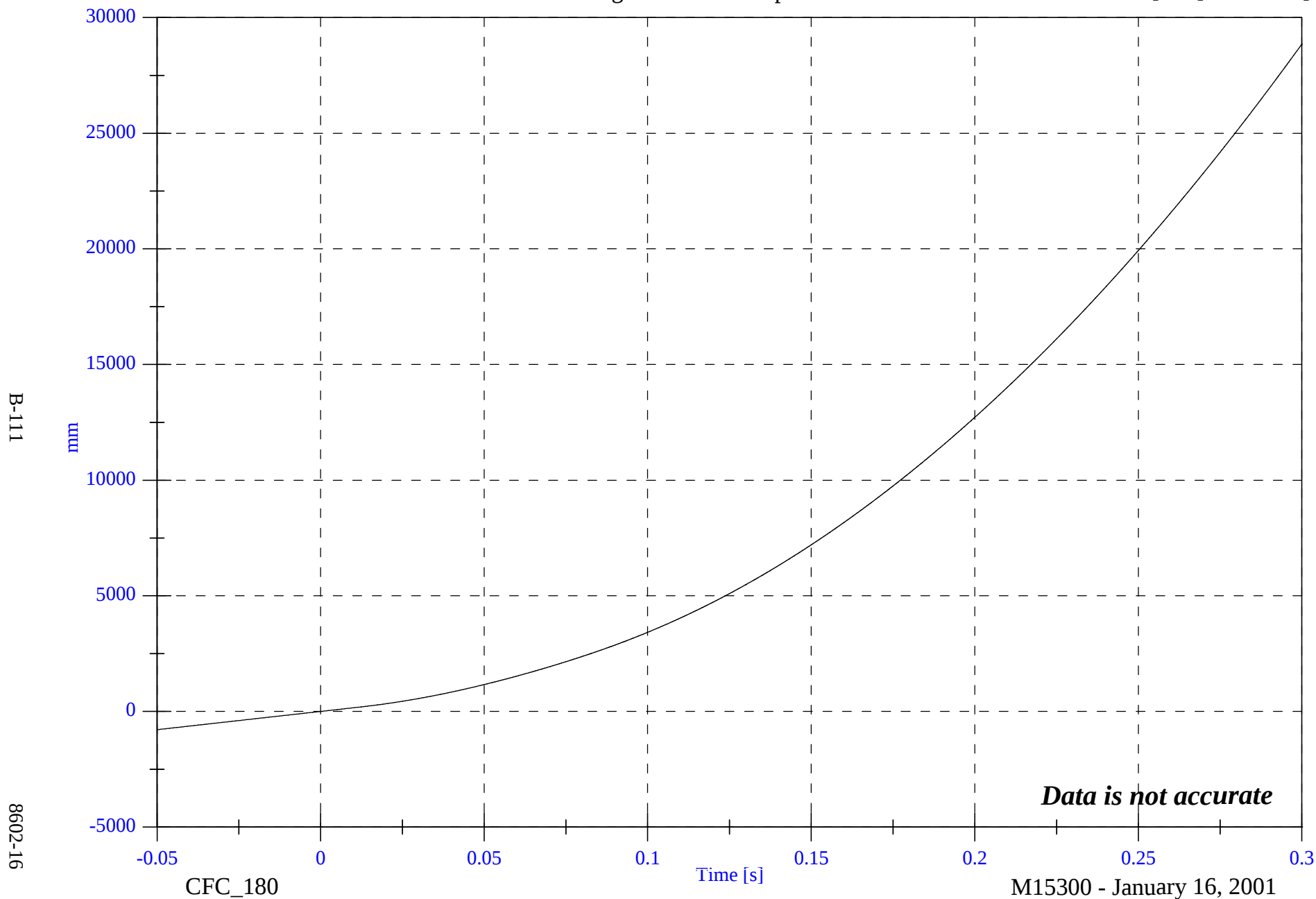
M15300 - January 16, 2001

NCAP Test #16 - 2001 Acura 3.2TL

Right Rear #2x Displacement

Max: 28849.1 [mm] at 0.300 [s]

Min: -788.9 [mm] at -0.050 [s]

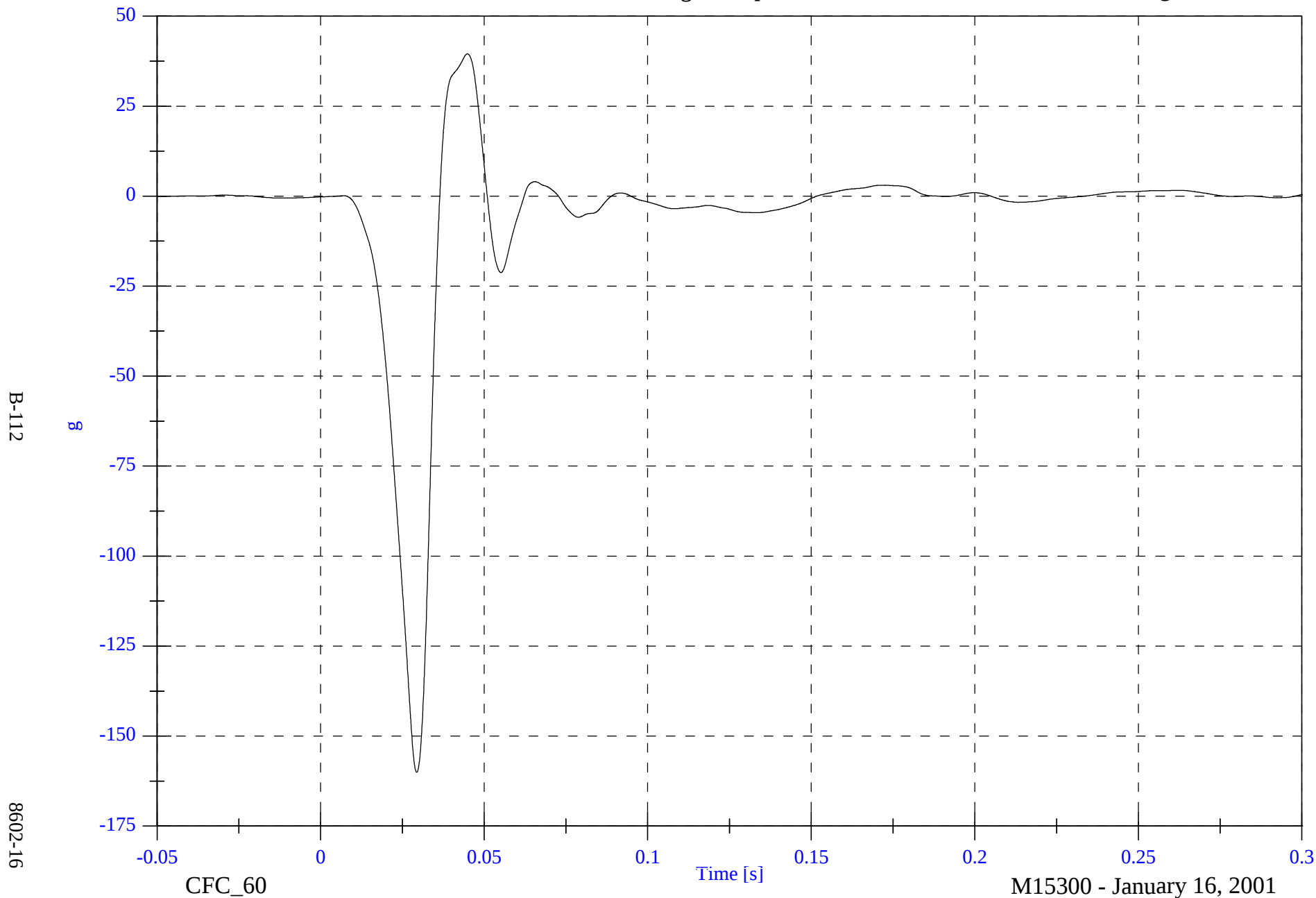


NCAP Test #16 - 2001 Acura 3.2TL

Engine Top #3x

Max: 39.5 [g] at 0.045 [s]

Min: -160.1 [g] at 0.029 [s]

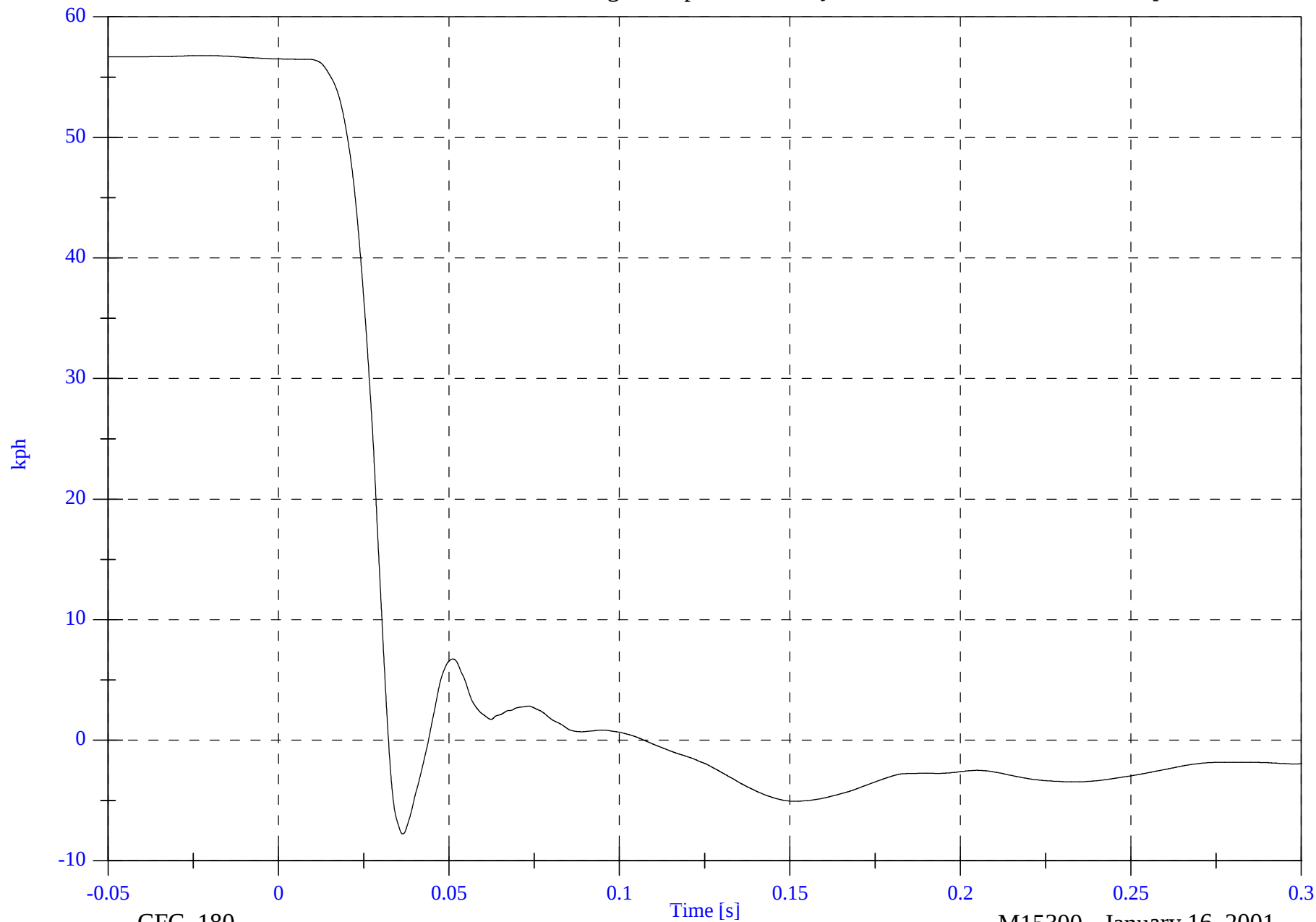


NCAP Test #16 - 2001 Acura 3.2TL

Max: 56.8 [kph] at -0.021 [s]

Min: -7.8 [kph] at 0.036 [s]

Engine Top #3x Velocity



B-113

8602-16

CFC_180

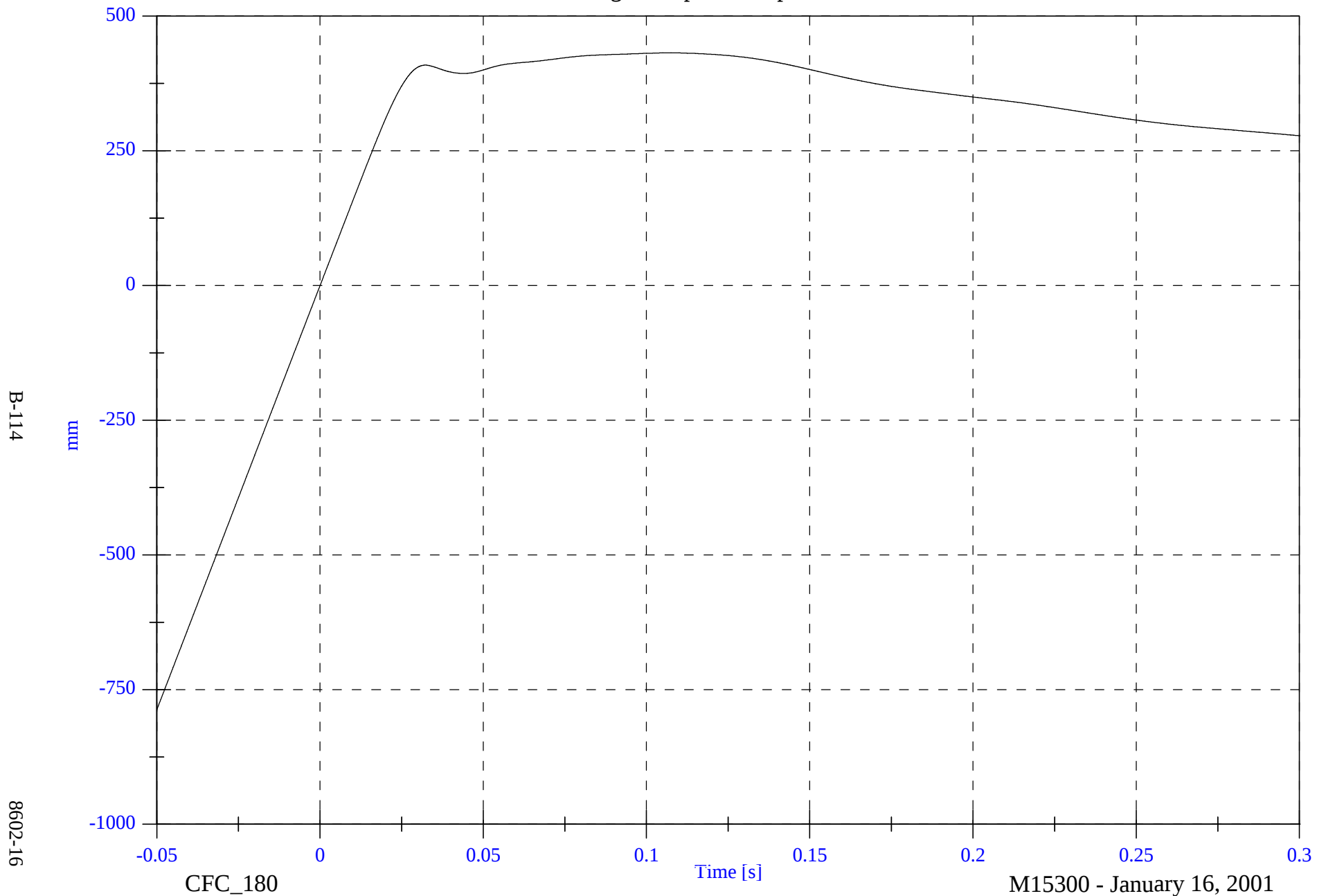
M15300 - January 16, 2001

NCAP Test #16 - 2001 Acura 3.2TL

Engine Top #3x Displacement

Max: 431.8 [mm] at 0.107 [s]

Min: -787.4 [mm] at -0.050 [s]



B-114

8602-16

CFC_180

M15300 - January 16, 2001

NCAP Test #16 - 2001 Acura 3.2TL

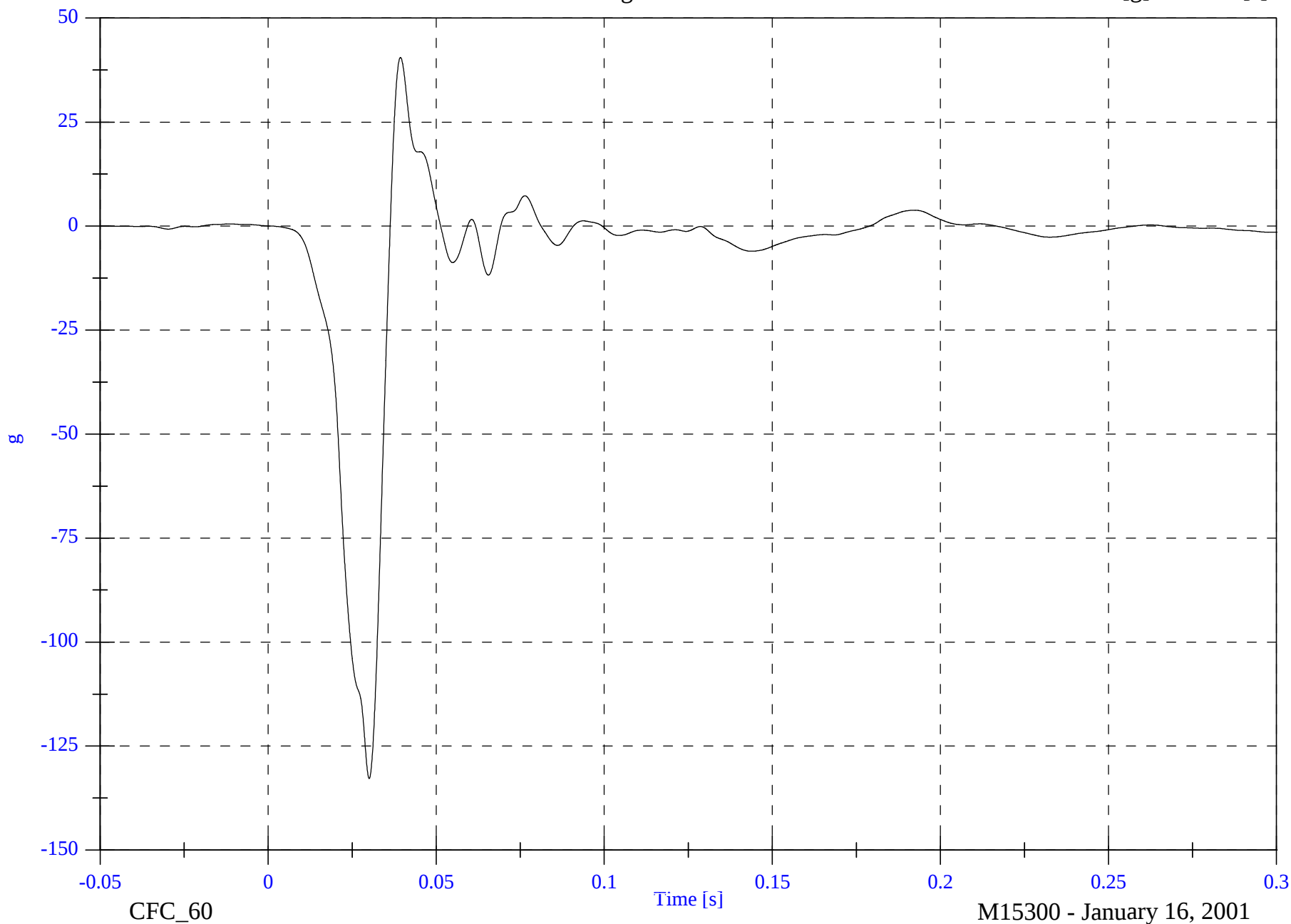
Engine Bottom #4x

Max: 40.5 [g] at 0.039 [s]

Min: -132.8 [g] at 0.030 [s]

B-115

8602-16

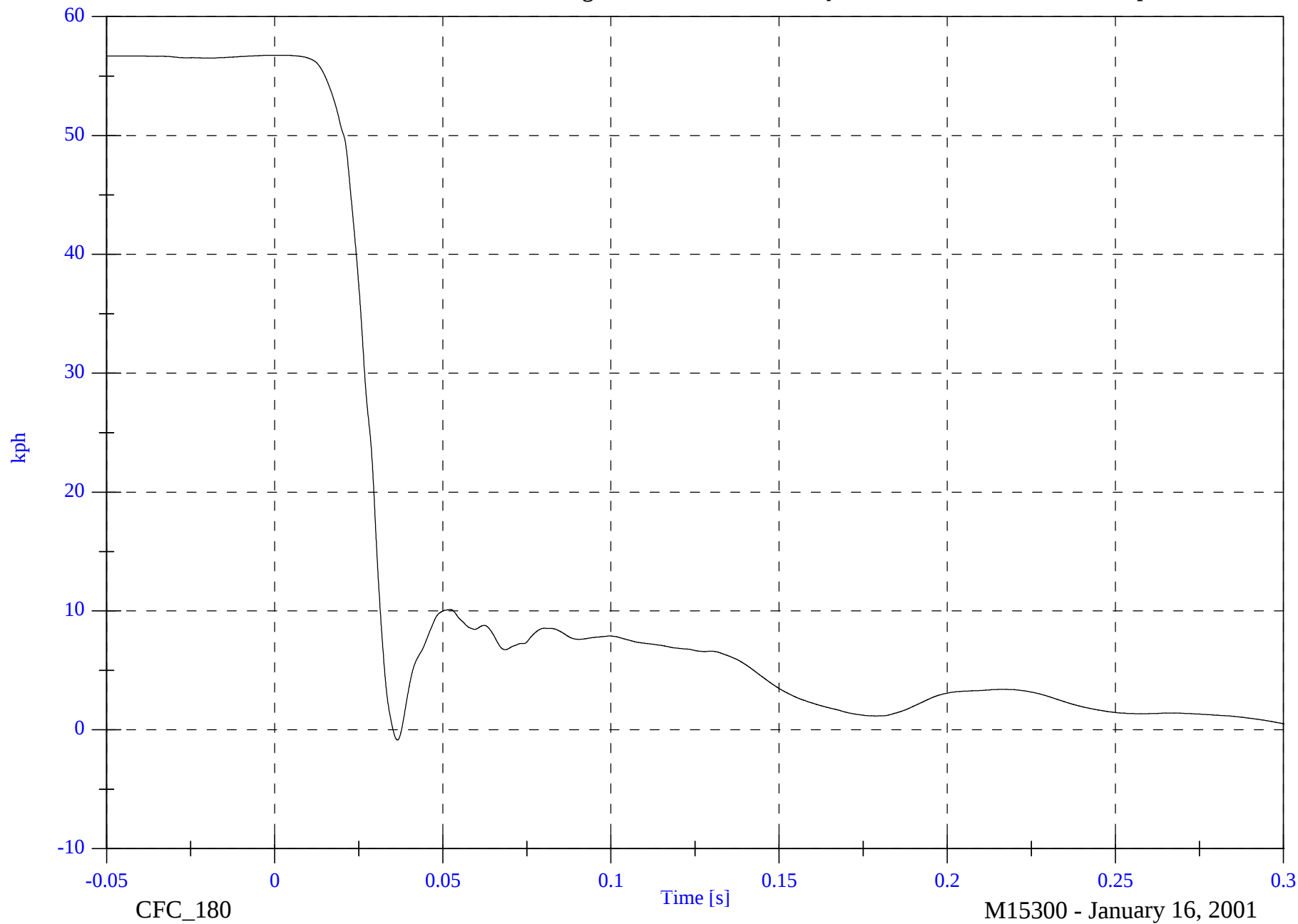


NCAP Test #16 - 2001 Acura 3.2TL

Engine Bottom #4x Velocity

Max: 56.8 [kph] at 0.003 [s]

Min: -0.9 [kph] at 0.037 [s]



B-116

8602-16

CFC_180

Time [s]

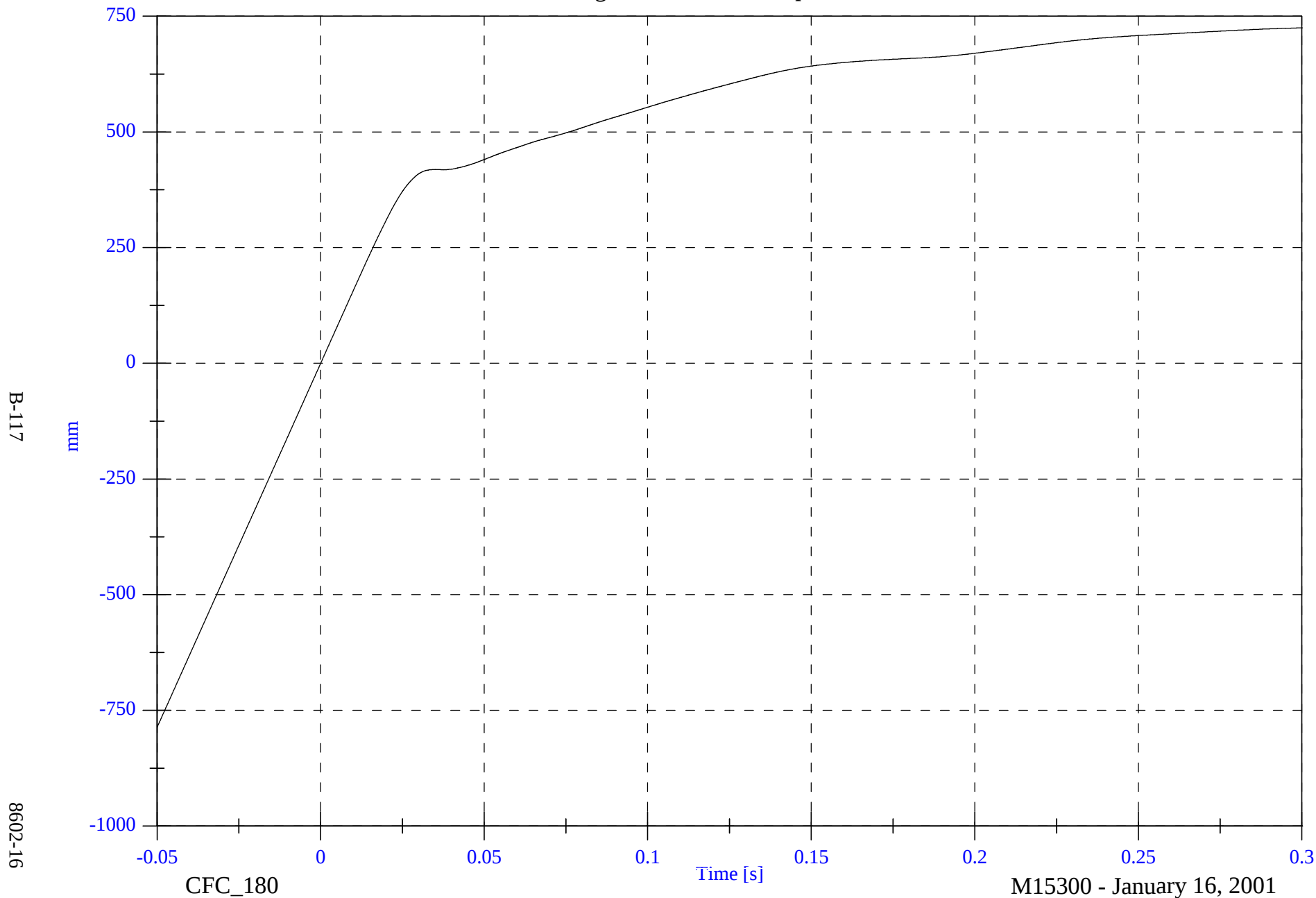
M15300 - January 16, 2001

NCAP Test #16 - 2001 Acura 3.2TL

Engine Bottom #4x Displacement

Max: 724.8 [mm] at 0.300 [s]

Min: -786.6 [mm] at -0.050 [s]

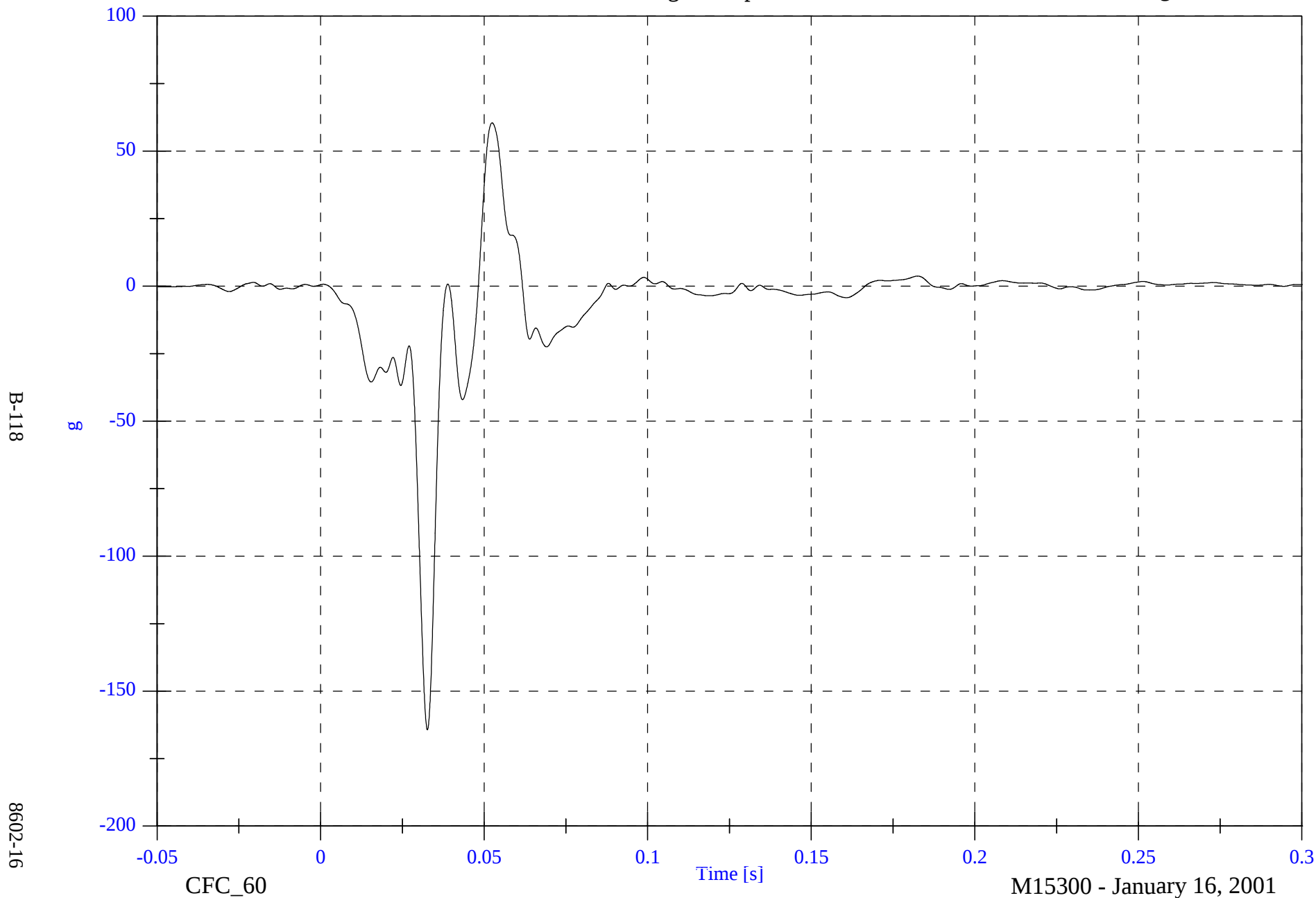


NCAP Test #16 - 2001 Acura 3.2TL

Right Caliper #5x

Max: 60.5 [g] at 0.052 [s]

Min: -164.4 [g] at 0.033 [s]

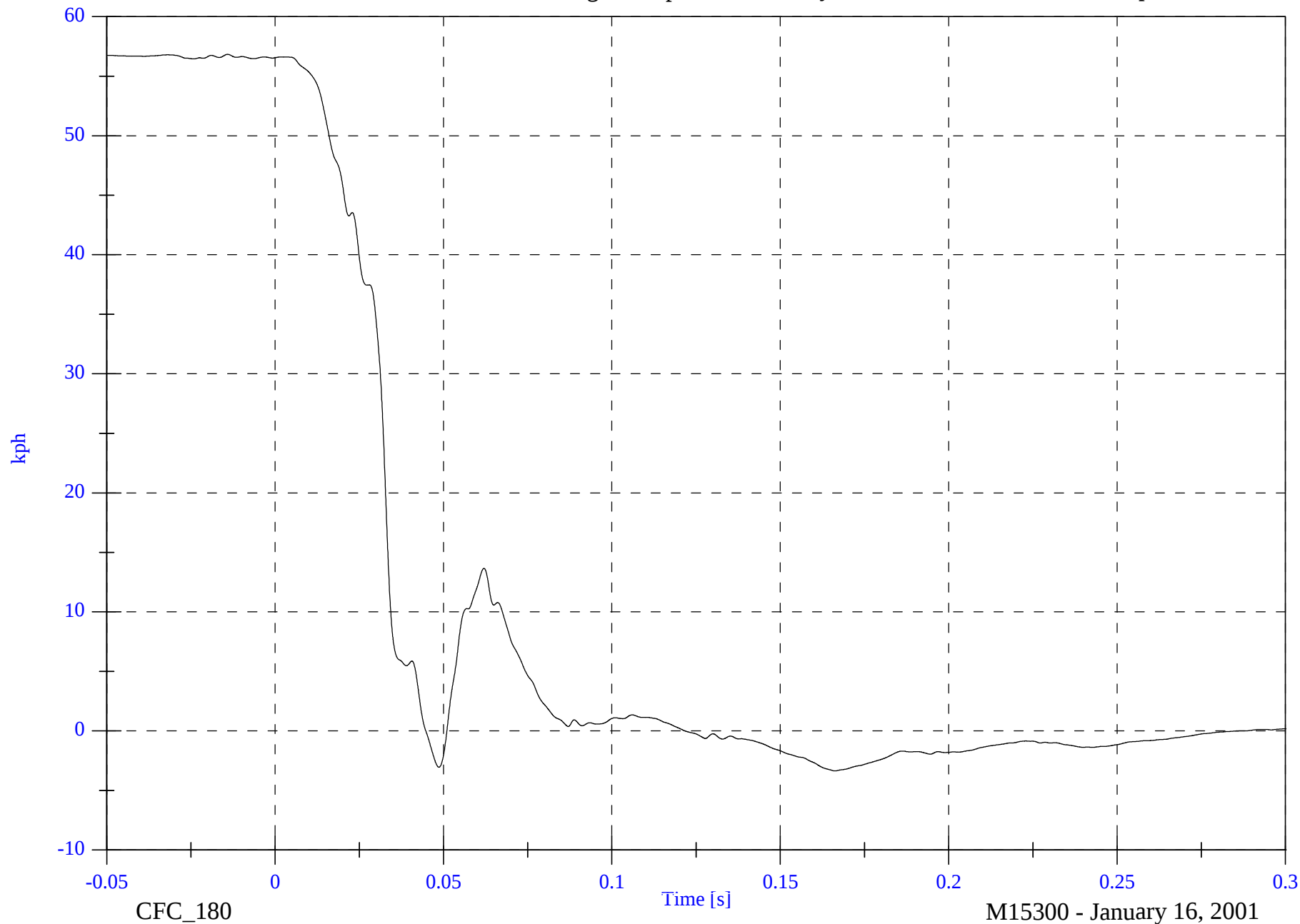


NCAP Test #16 - 2001 Acura 3.2TL

Right Caliper #5x Velocity

Max: 56.8 [kph] at -0.014 [s]

Min: -3.4 [kph] at 0.166 [s]



B-119

8602-16

CFC_180

Time [s]

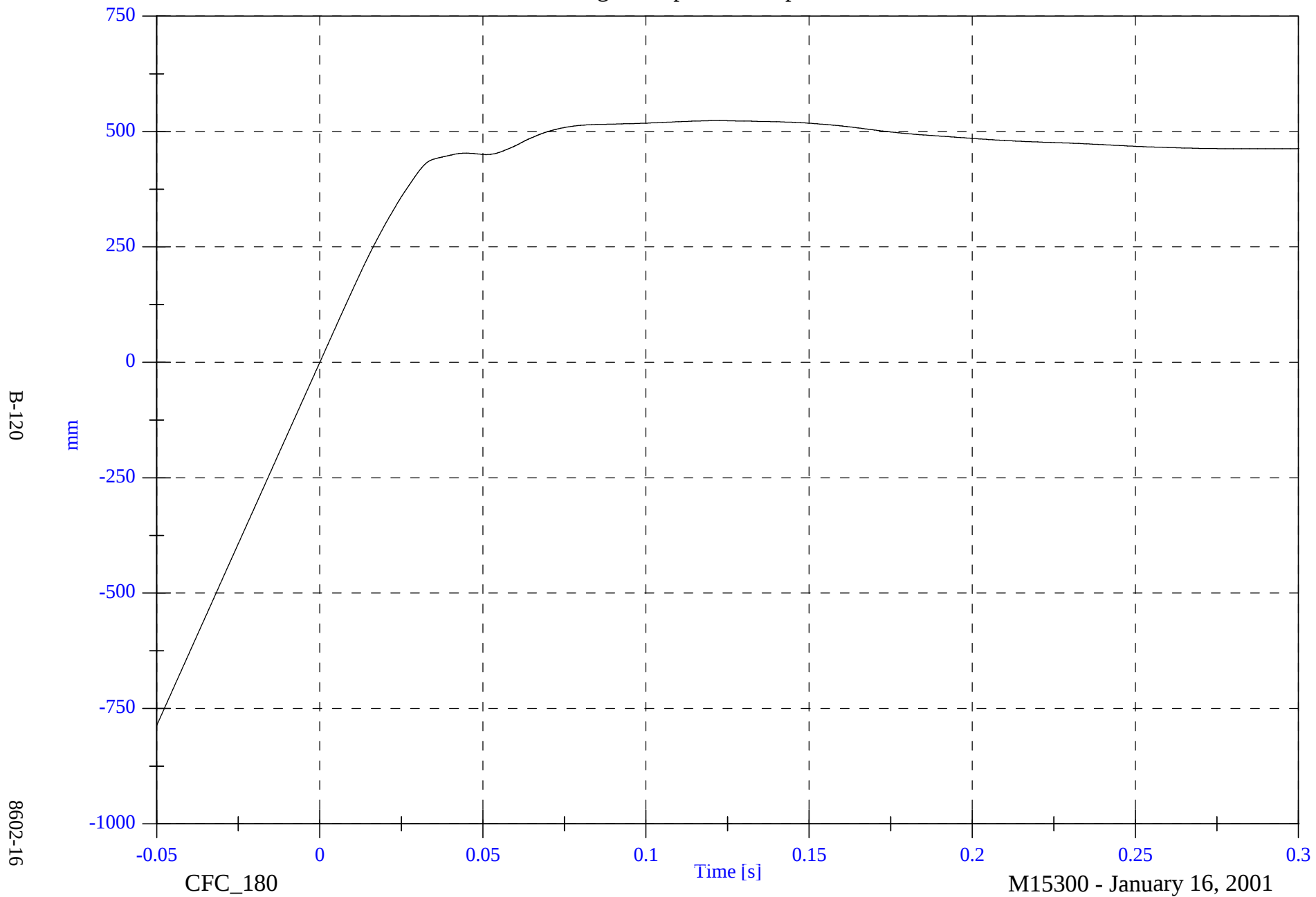
M15300 - January 16, 2001

NCAP Test #16 - 2001 Acura 3.2TL

Right Caliper #5x Displacement

Max: 523.6 [mm] at 0.122 [s]

Min: -786.8 [mm] at -0.050 [s]



B-120

8602-16

CFC_180

M15300 - January 16, 2001

NCAP Test #16 - 2001 Acura 3.2TL

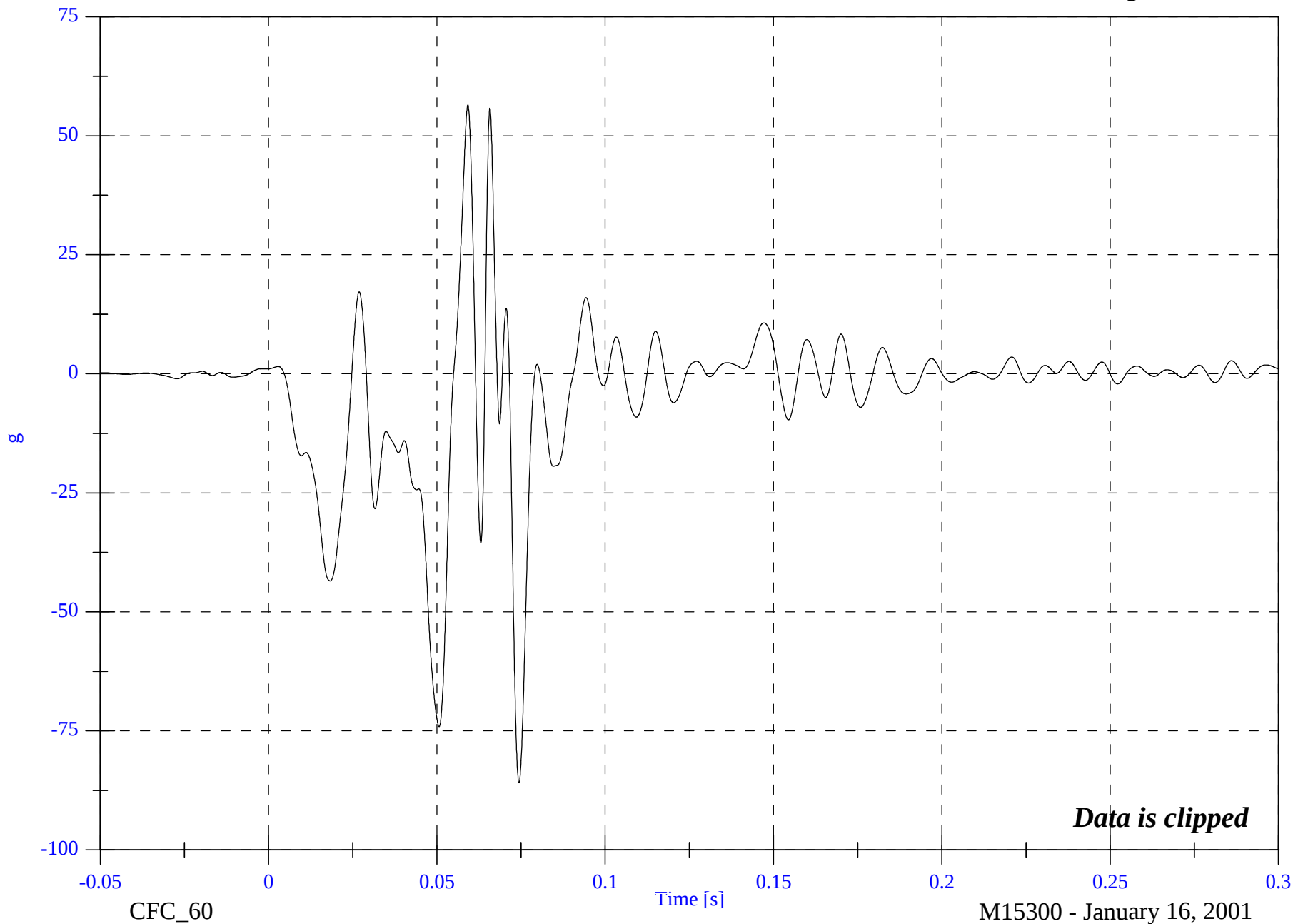
Instrument Panel #6x

Max: 56.5 [g] at 0.059 [s]

Min: -85.9 [g] at 0.074 [s]

B-121

8602-16

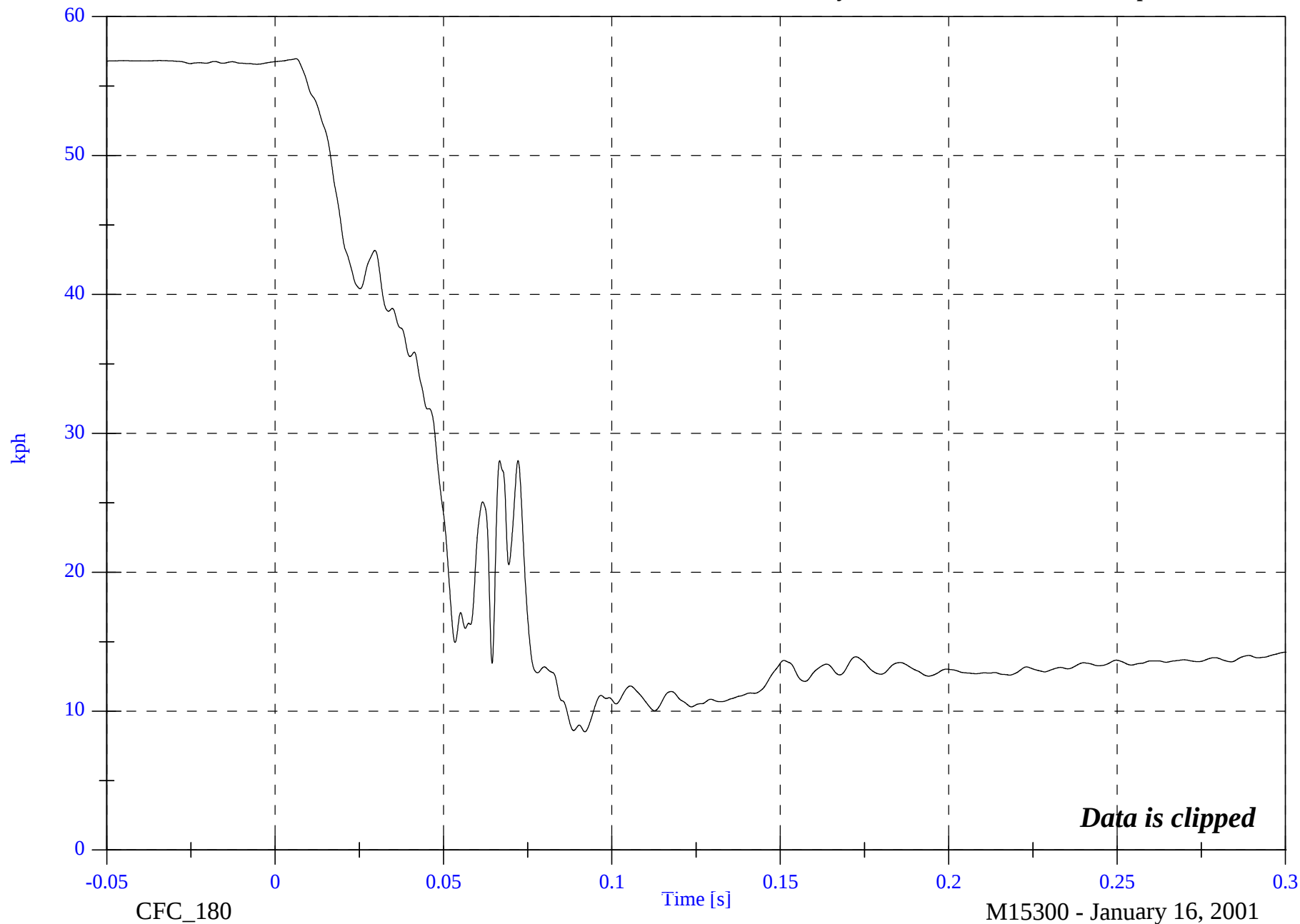


NCAP Test #16 - 2001 Acura 3.2TL

Instrument Panel #6x Velocity

Max: 57.0 [kph] at 0.006 [s]

Min: 8.5 [kph] at 0.092 [s]



B-122

8602-16

CFC_180

Time [s]

M15300 - January 16, 2001

NCAP Test #16 - 2001 Acura 3.2TL

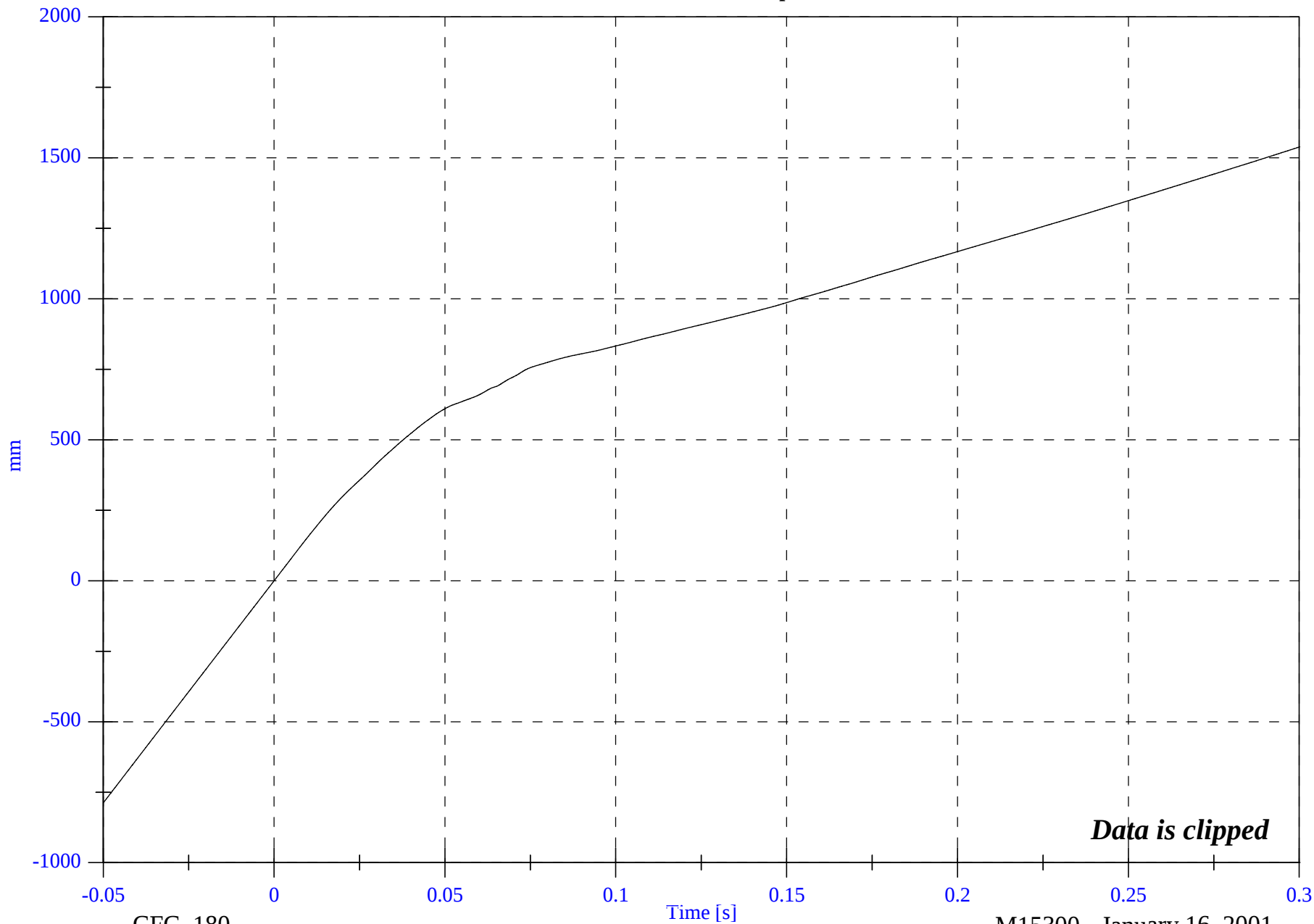
Instrument Panel #6x Displacement

Max: 1538.4 [mm] at 0.300 [s]

Min: -788.1 [mm] at -0.050 [s]

B-123

8602-16



Data is clipped

CFC_180

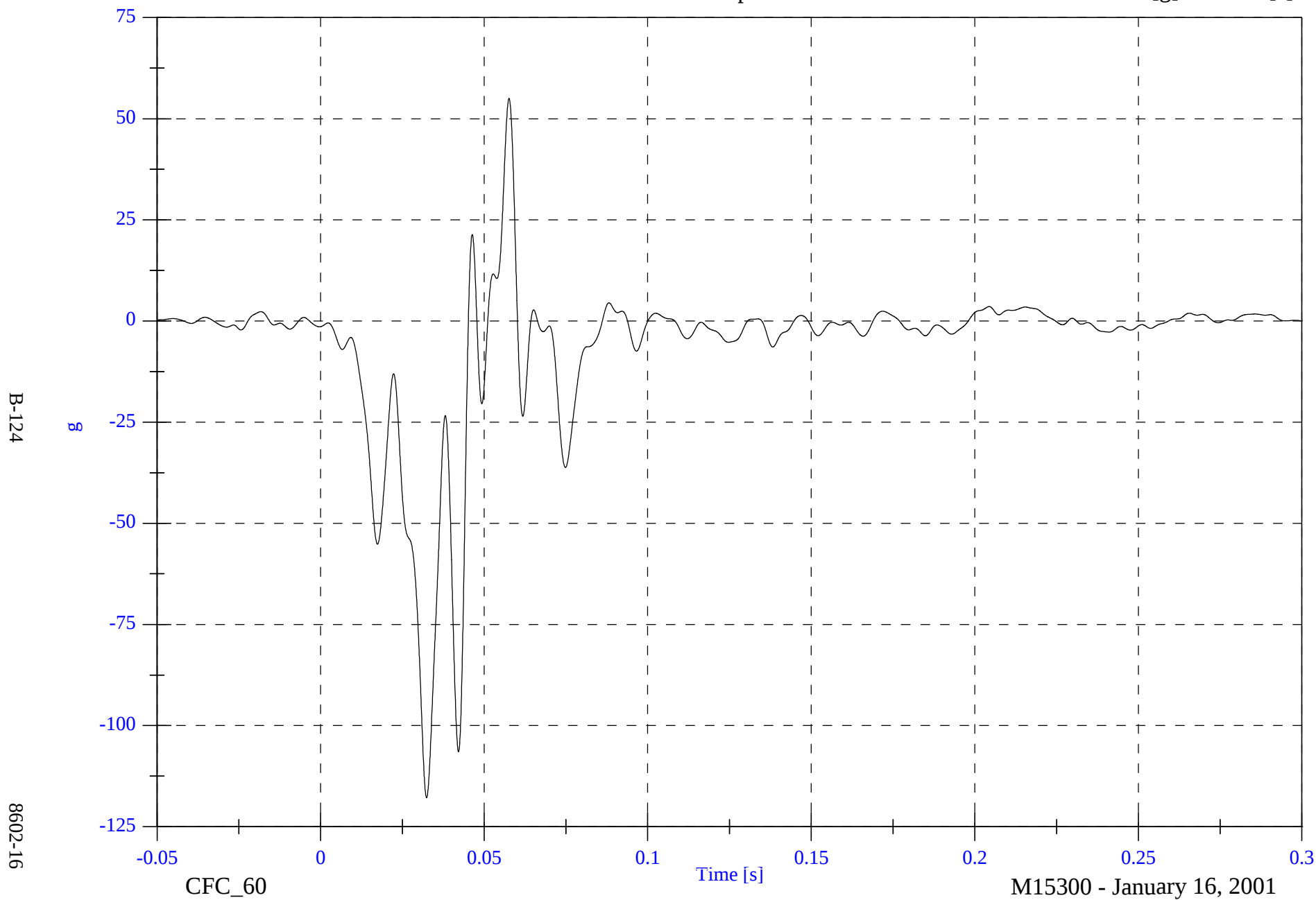
M15300 - January 16, 2001

NCAP Test #16 - 2001 Acura 3.2TL

Left Caliper #7x

Max: 55.0 [g] at 0.058 [s]

Min: -117.8 [g] at 0.032 [s]



NCAP Test #16 - 2001 Acura 3.2TL

Left Caliper #7x Velocity

Max: 56.9 [kph] at -0.033 [s]

Min: -17.6 [kph] at 0.198 [s]



B-125

8602-16

CFC_180

Time [s]

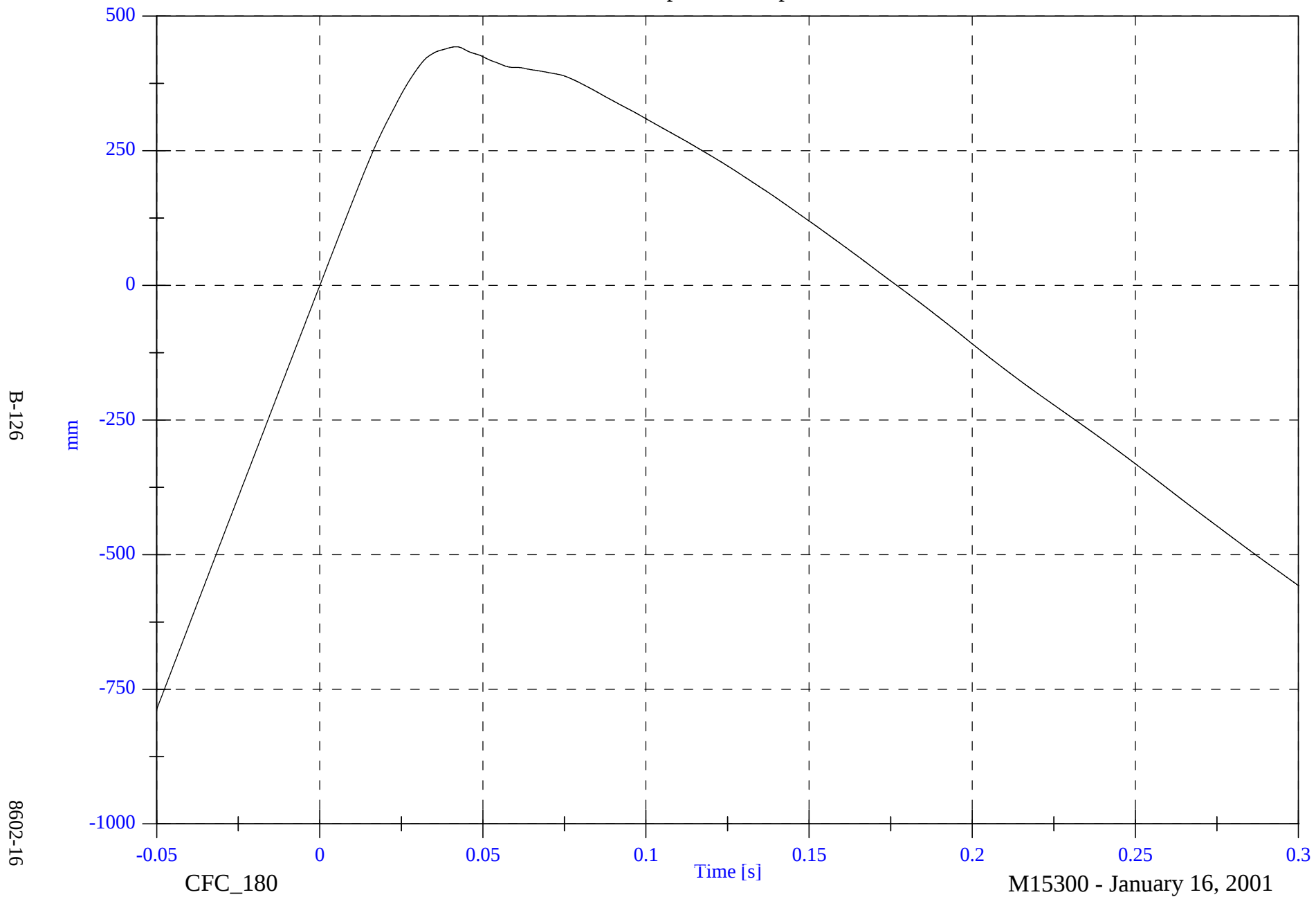
M15300 - January 16, 2001

NCAP Test #16 - 2001 Acura 3.2TL

Left Caliper #7x Displacement

Max: 443.3 [mm] at 0.042 [s]

Min: -787.1 [mm] at -0.050 [s]



B-126

8602-16

CFC_180

M15300 - January 16, 2001

NCAP Test #16 - 2001 Acura 3.2TL

Left Rear Red #8x

Max: 5.4 [g] at 0.120 [s]

Min: -33.3 [g] at 0.069 [s]

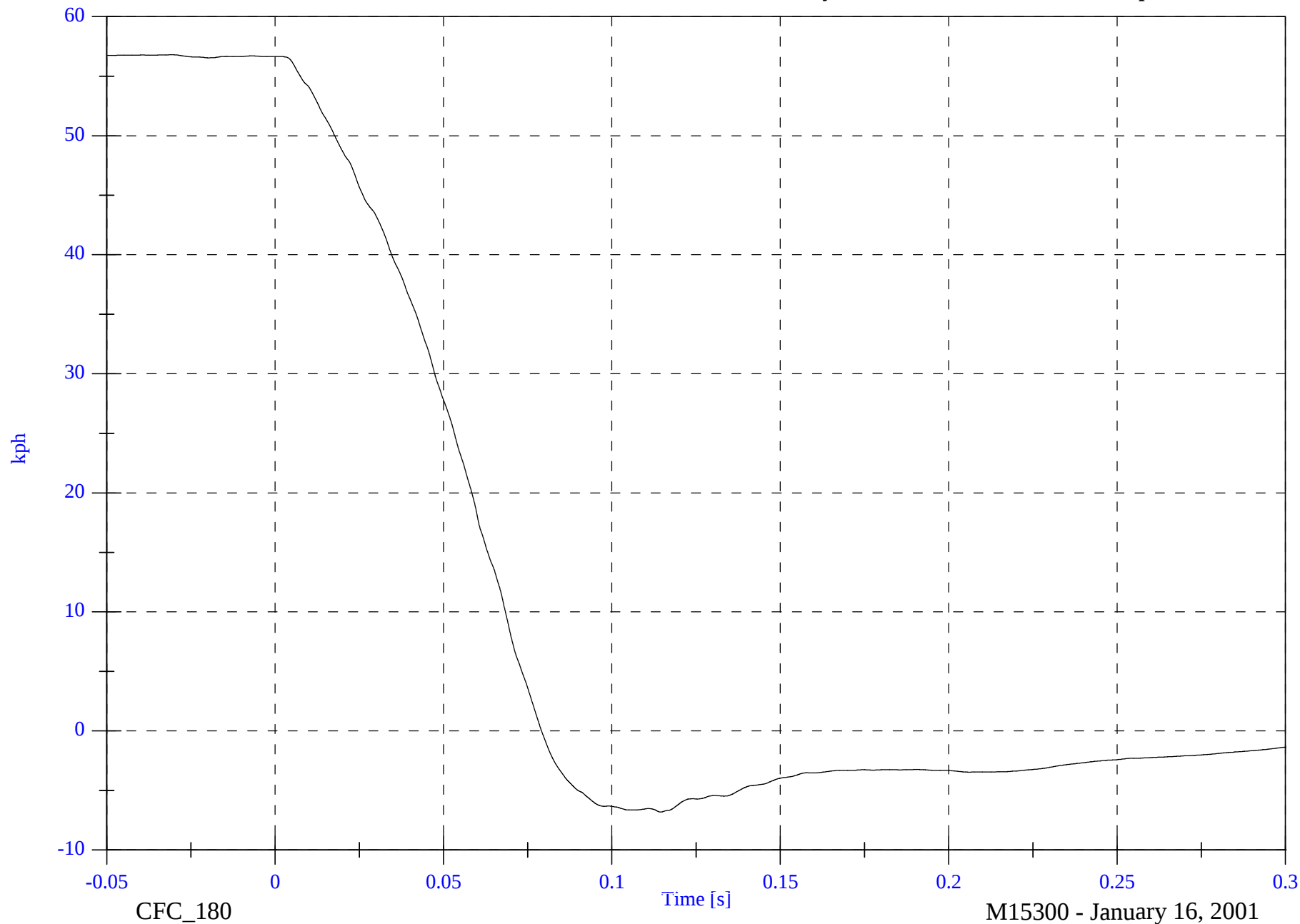


NCAP Test #16 - 2001 Acura 3.2TL

Left Rear Red #8x Velocity

Max: 56.8 [kph] at -0.031 [s]

Min: -6.8 [kph] at 0.114 [s]



B-128

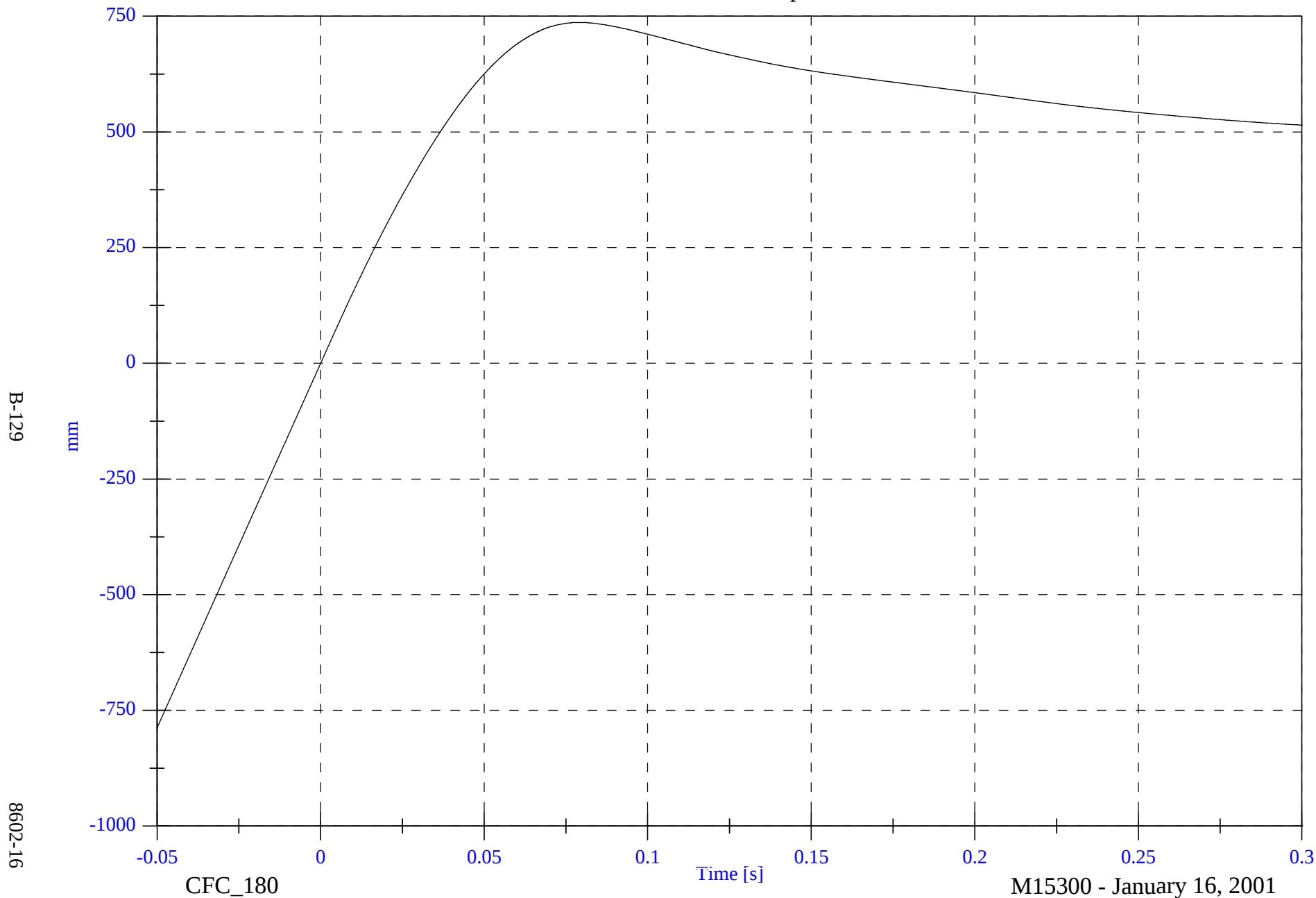
8602-16

NCAP Test #16 - 2001 Acura 3.2TL

Max: 736.6 [mm] at 0.079 [s]

Min: -787.5 [mm] at -0.050 [s]

Left Rear Red #8x Displacement

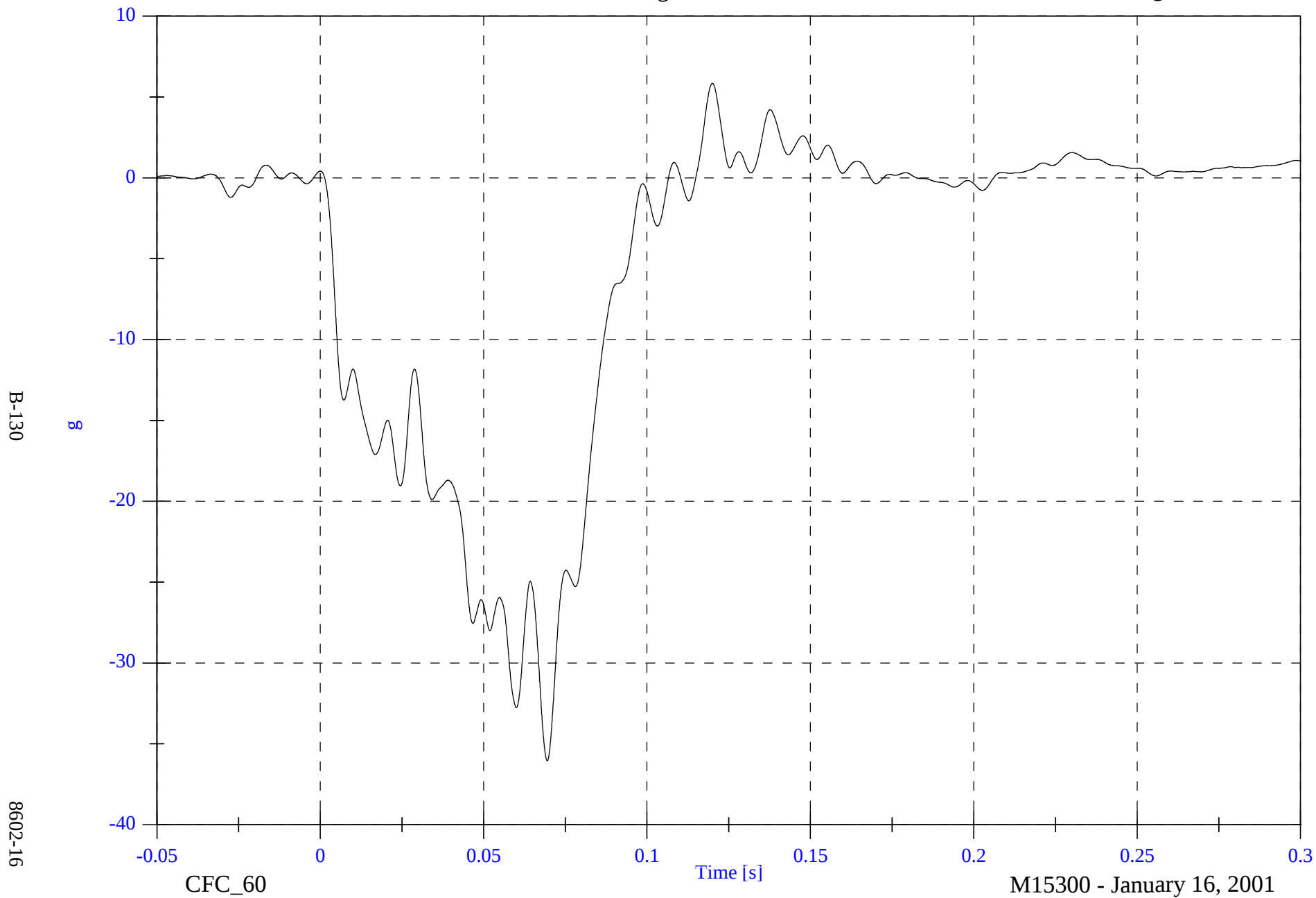


NCAP Test #16 - 2001 Acura 3.2TL

Right Rear Red #9x

Max: 5.8 [g] at 0.120 [s]

Min: -36.0 [g] at 0.069 [s]

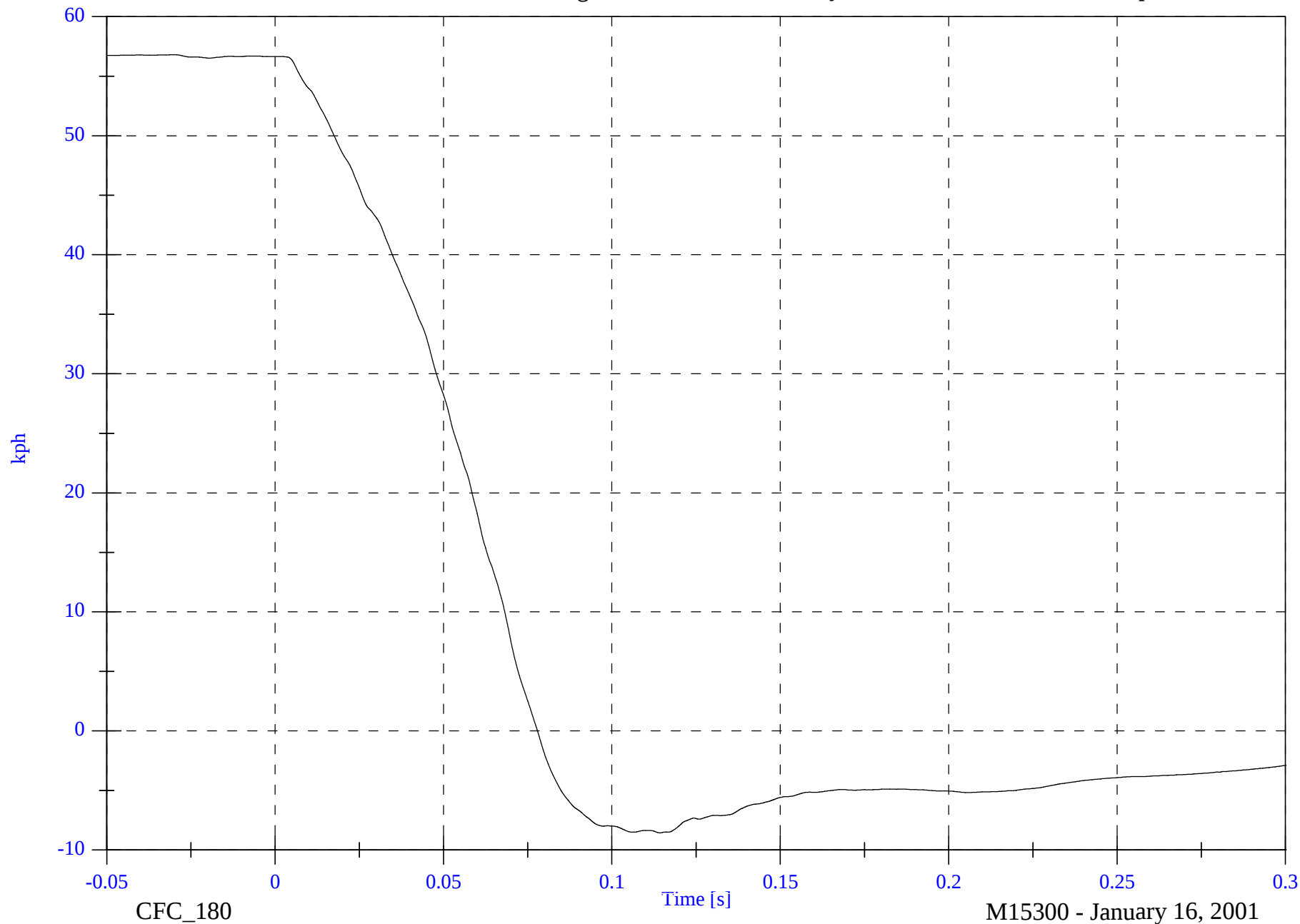


NCAP Test #16 - 2001 Acura 3.2TL

Max: 56.8 [kph] at -0.030 [s]

Right Rear Red #9x Velocity

Min: -8.6 [kph] at 0.114 [s]



B-131

8602-16

CFC_180

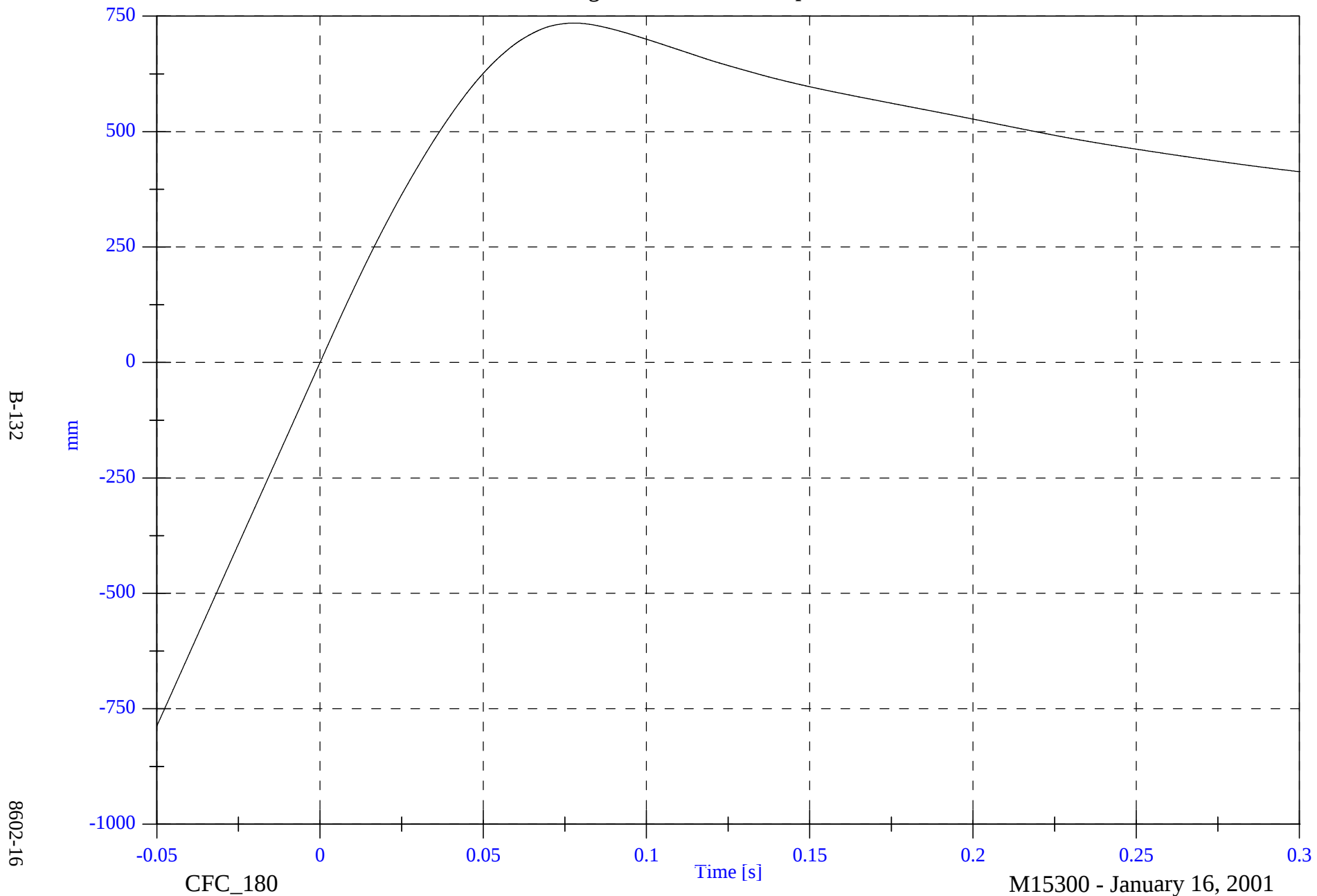
M15300 - January 16, 2001

NCAP Test #16 - 2001 Acura 3.2TL

Max: 735.0 [mm] at 0.078 [s]

Min: -787.4 [mm] at -0.050 [s]

Right Rear Red #9x Displacement



B-132

8602-16

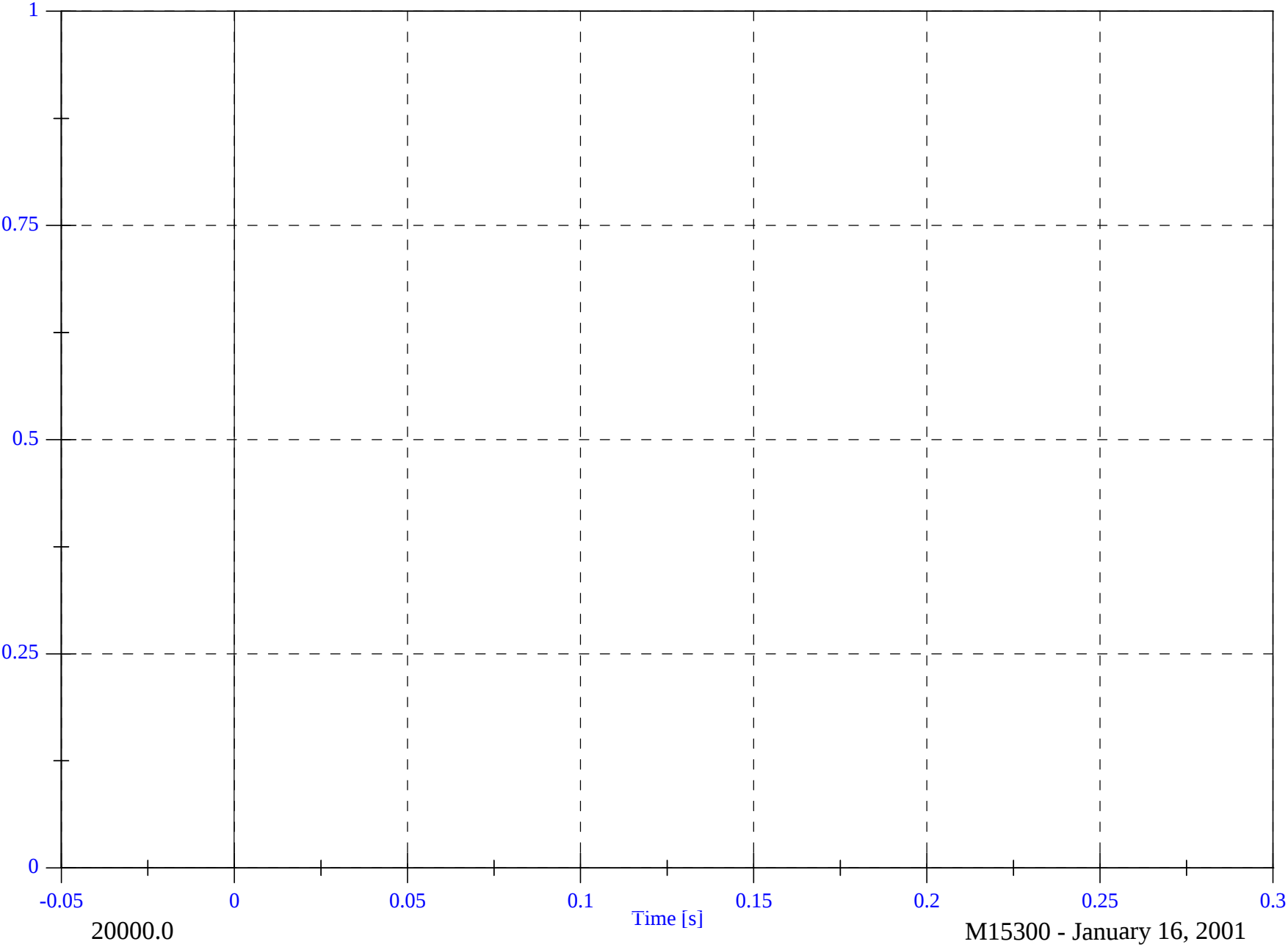
CFC_180

M15300 - January 16, 2001

Contact Time

B-133

8602-16

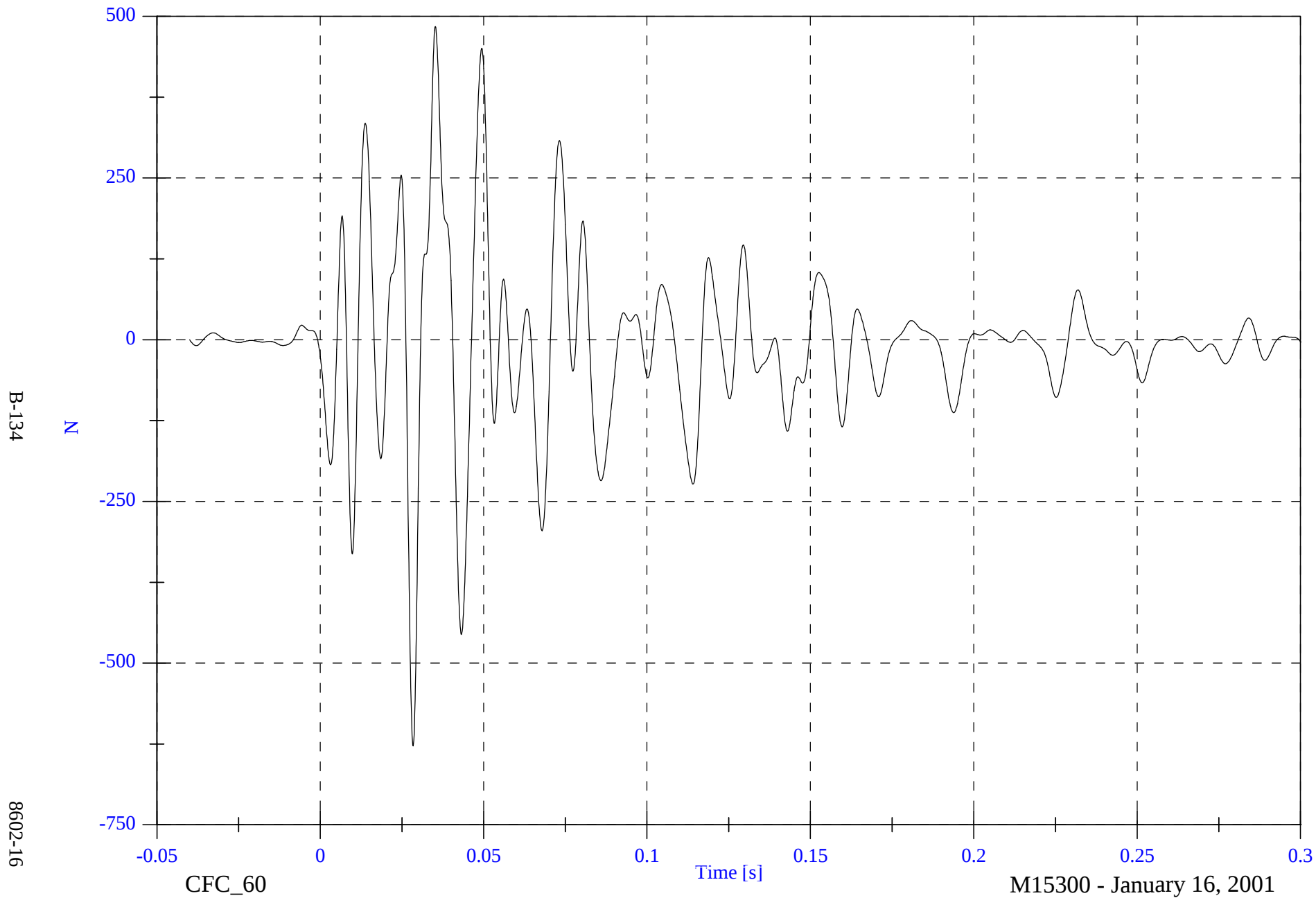


NCAP Test #16 - 2001 Acura 3.2 TL

Barrier Load Cell A1 Fx

Max: 484.0 [N] at 0.035 [s]

Min: -628.2 [N] at 0.028 [s]

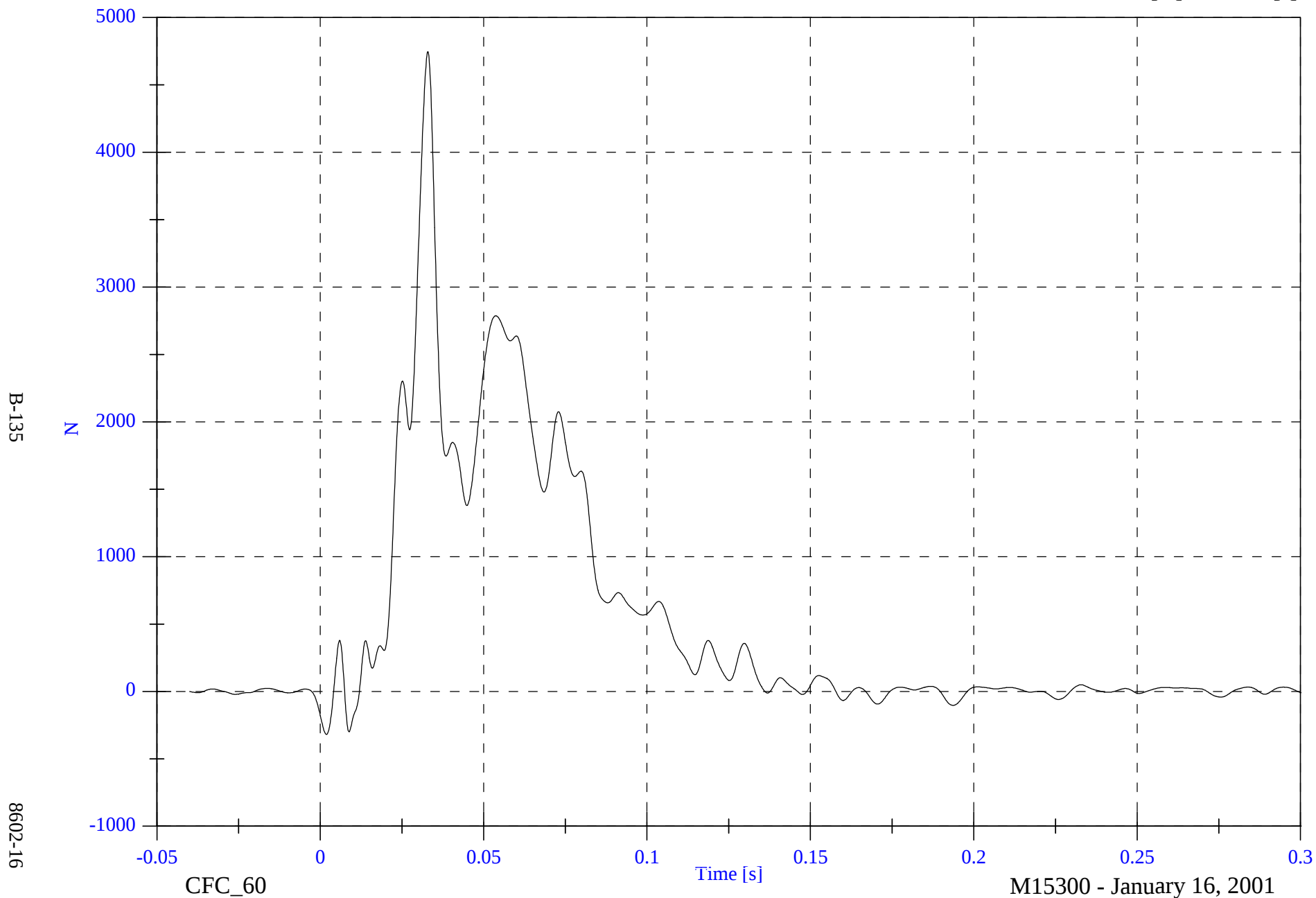


NCAP Test #16 - 2001 Acura 3.2 TL

Barrier Load Cell A2 Fx

Max: 4746.5 [N] at 0.033 [s]

Min: -318.9 [N] at 0.002 [s]

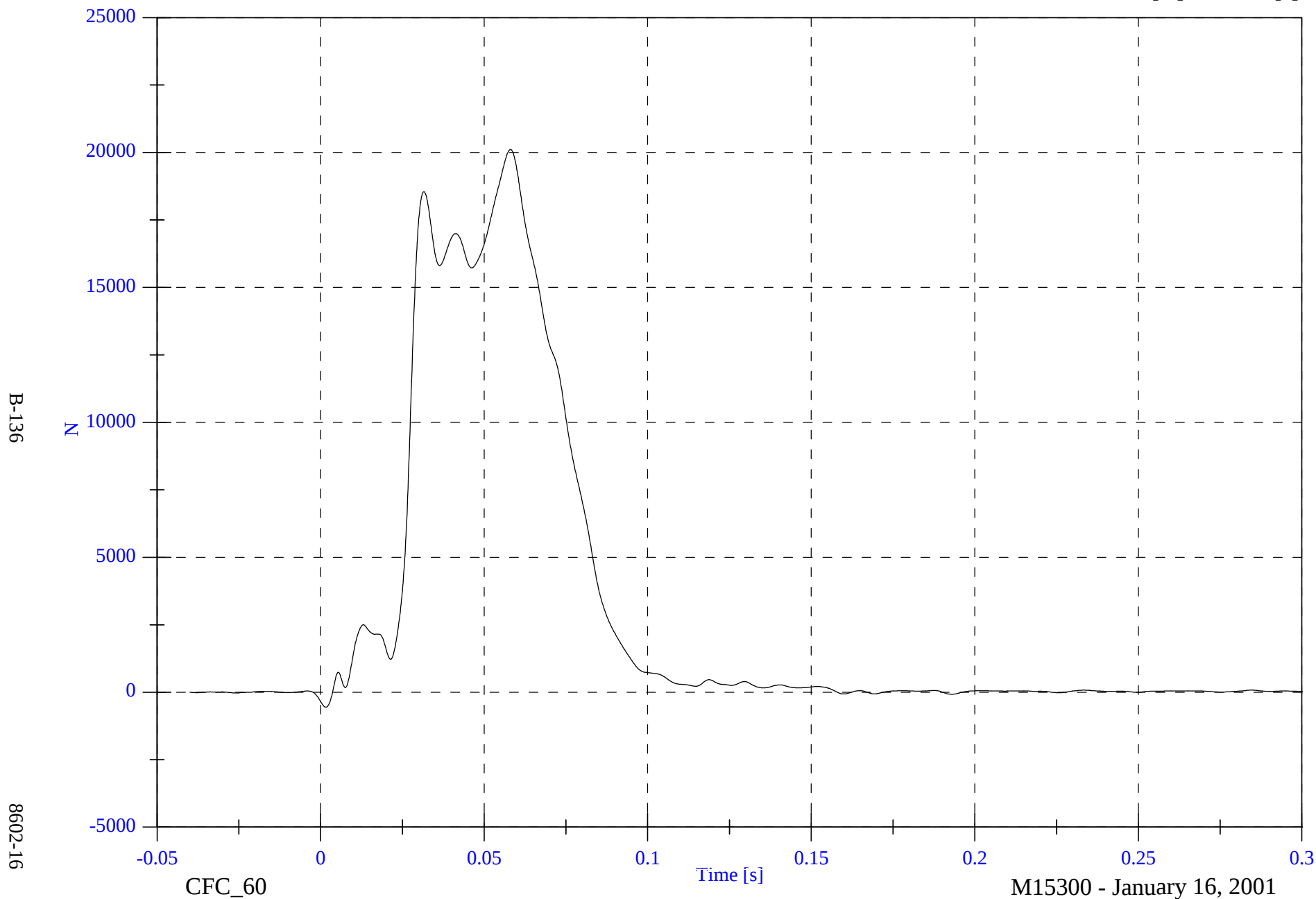


NCAP Test #16 - 2001 Acura 3.2 TL

Barrier Load Cell A3 Fx

Max: 20112.8 [N] at 0.058 [s]

Min: -556.9 [N] at 0.002 [s]

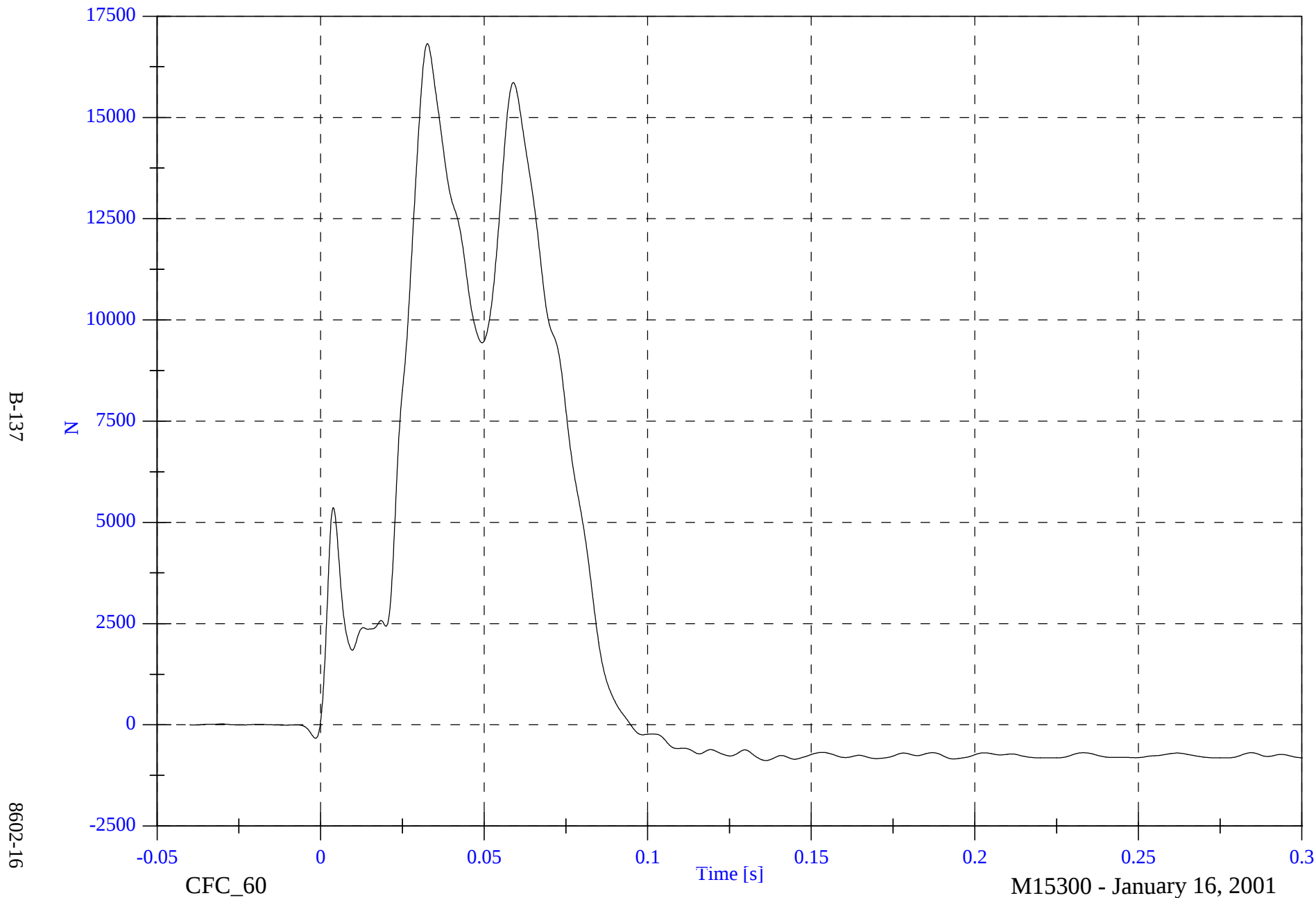


NCAP Test #16 - 2001 Acura 3.2 TL

Barrier Load Cell A4 Fx

Max: 16824.0 [N] at 0.033 [s]

Min: -883.1 [N] at 0.136 [s]

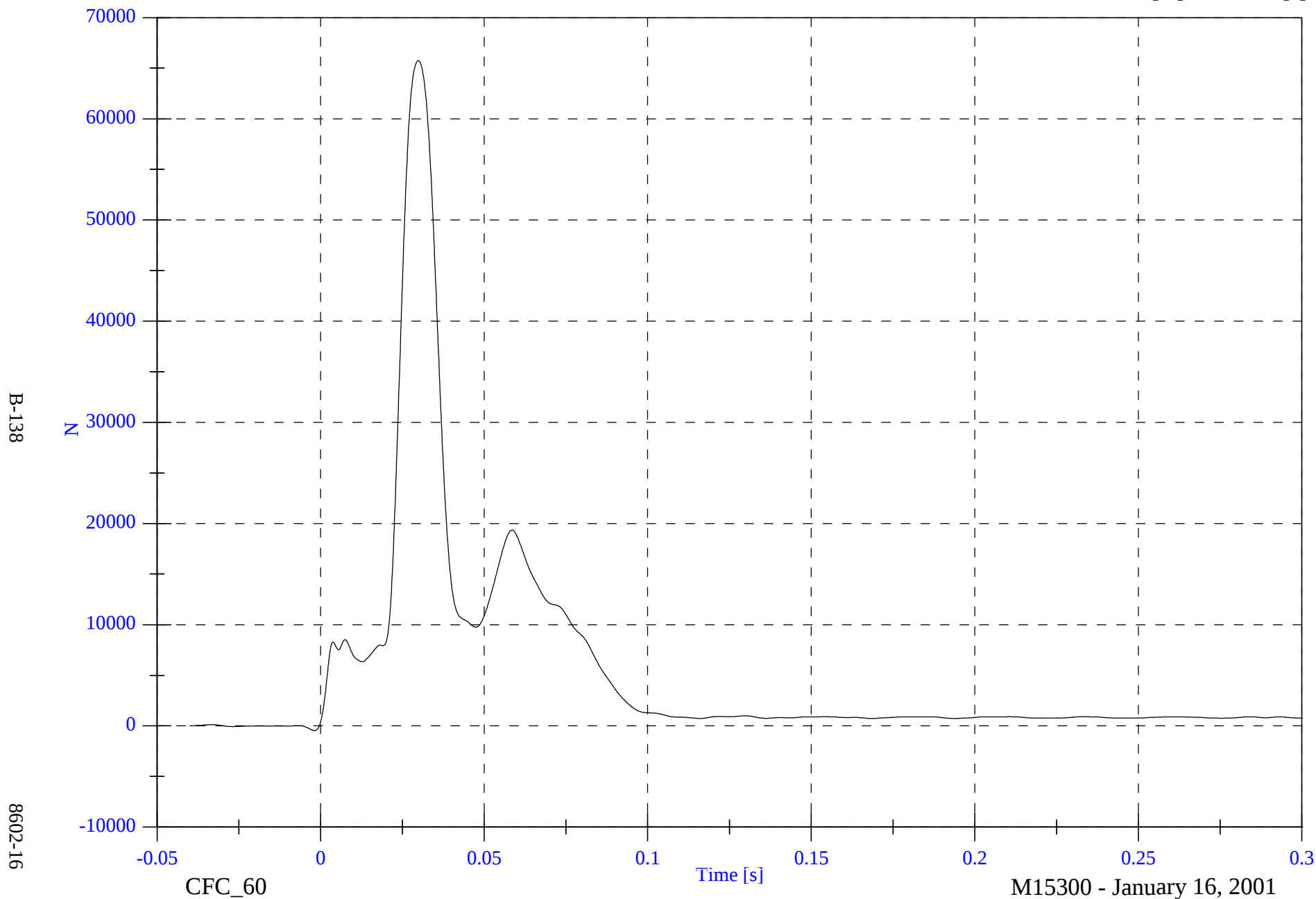


NCAP Test #16 - 2001 Acura 3.2 TL

Barrier Load Cell A5 Fx

Max: 65748.8 [N] at 0.030 [s]

Min: -468.7 [N] at -0.002 [s]

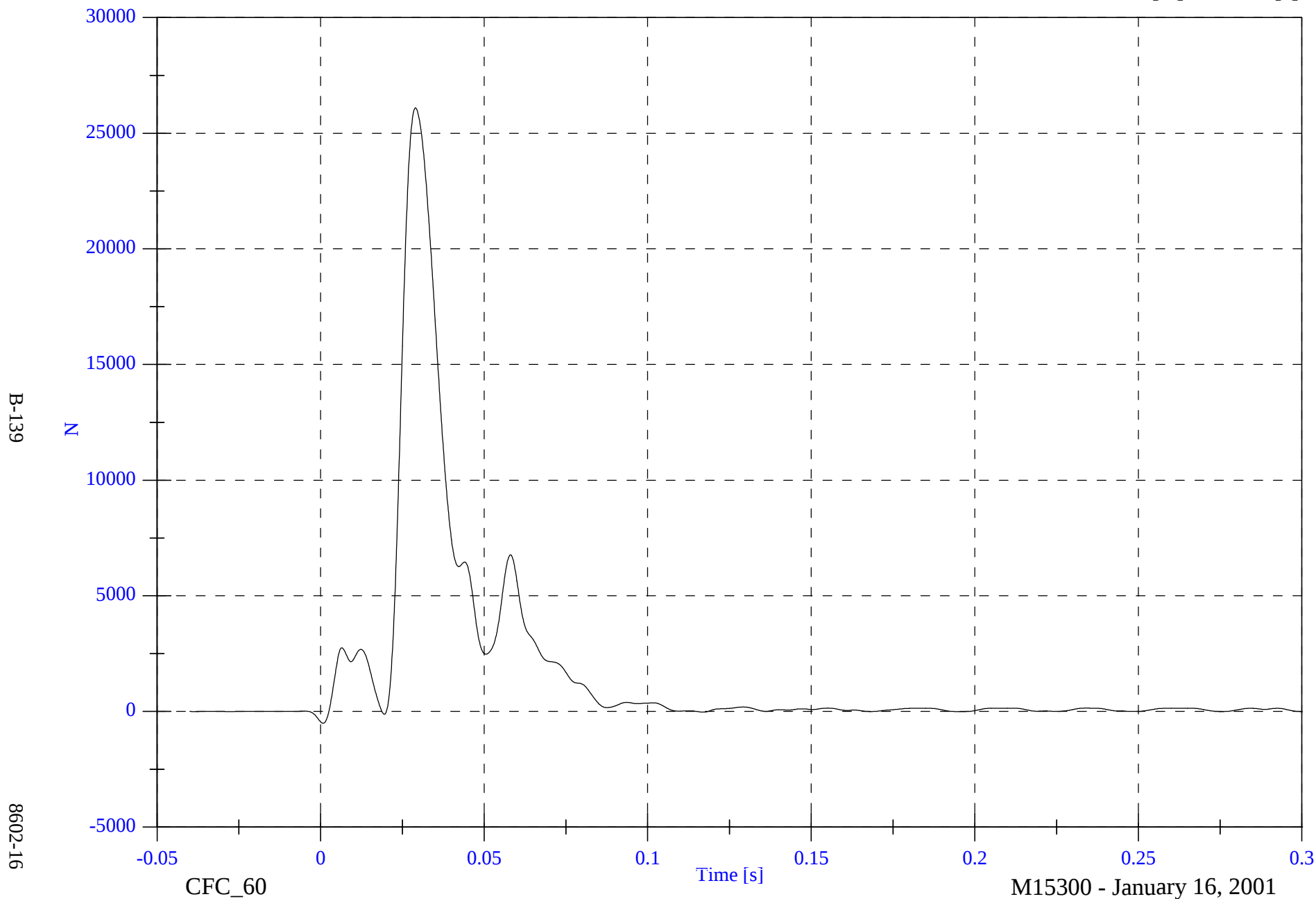


NCAP Test #16 - 2001 Acura 3.2 TL

Barrier Load Cell A6 Fx

Max: 26097.9 [N] at 0.029 [s]

Min: -509.6 [N] at 0.001 [s]

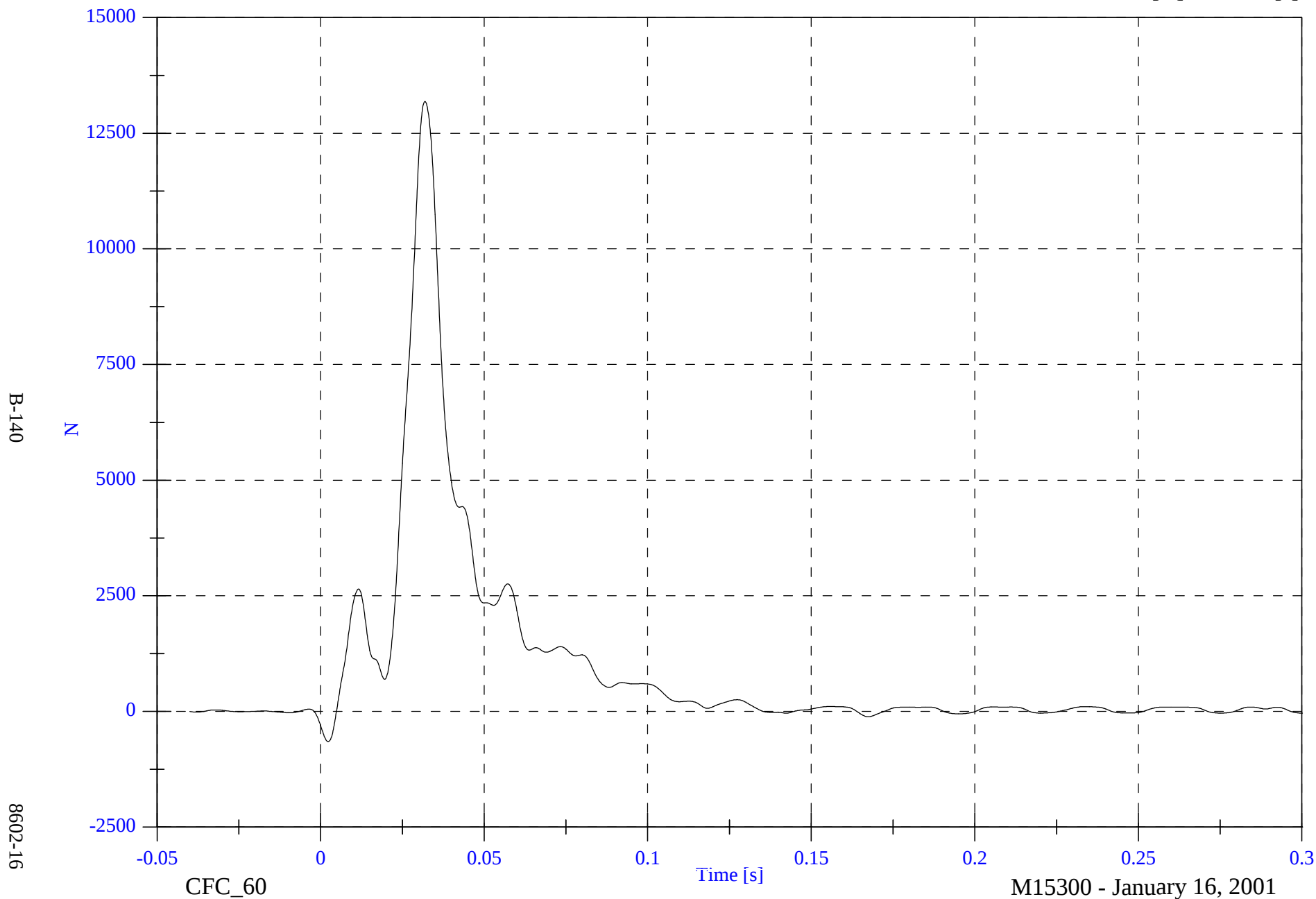


NCAP Test #16 - 2001 Acura 3.2 TL

Barrier Load Cell A7 Fx

Max: 13186.3 [N] at 0.032 [s]

Min: -653.7 [N] at 0.002 [s]

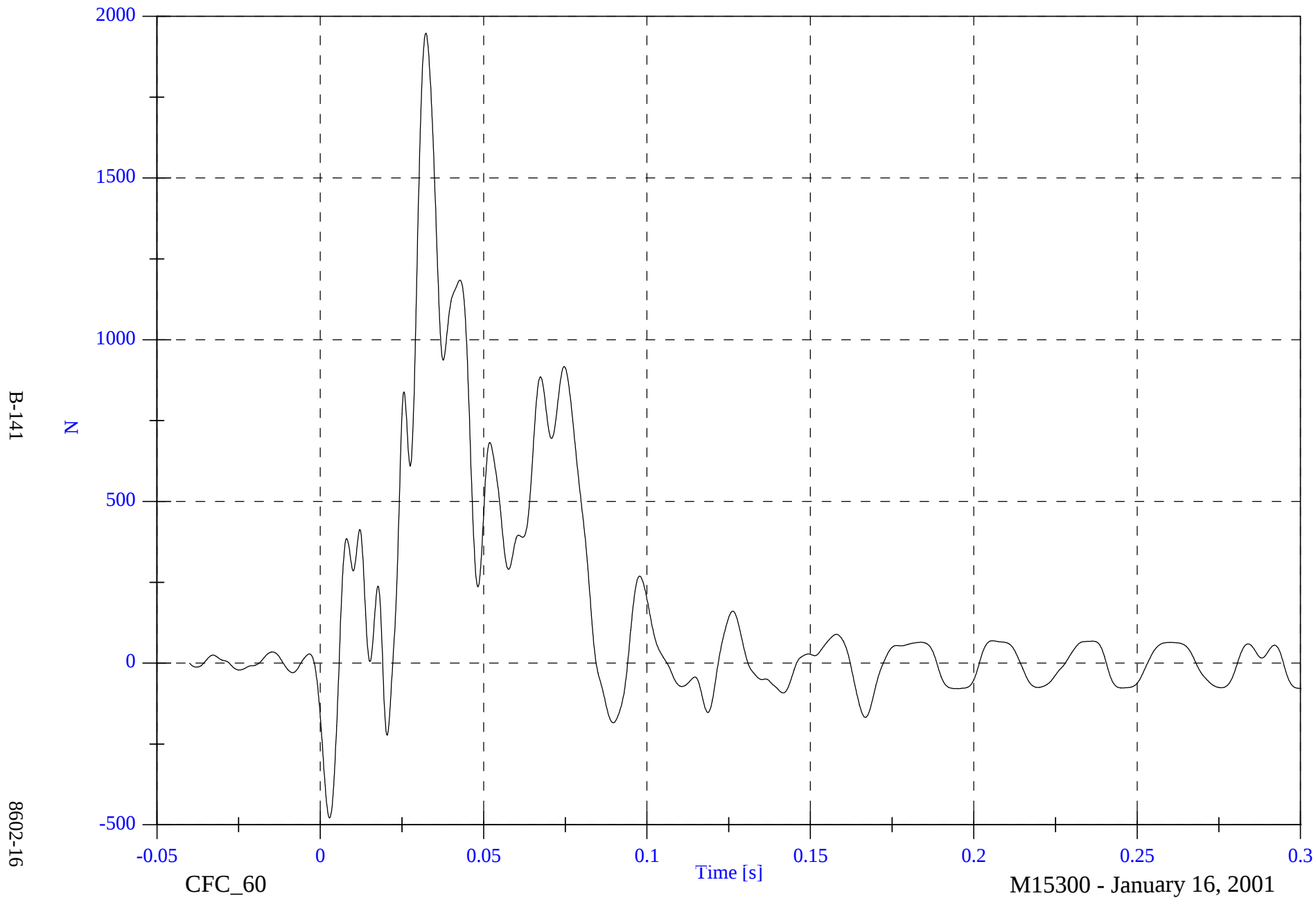


NCAP Test #16 - 2001 Acura 3.2 TL

Barrier Load Cell A8 Fx

Max: 1947.6 [N] at 0.032 [s]

Min: -478.9 [N] at 0.003 [s]

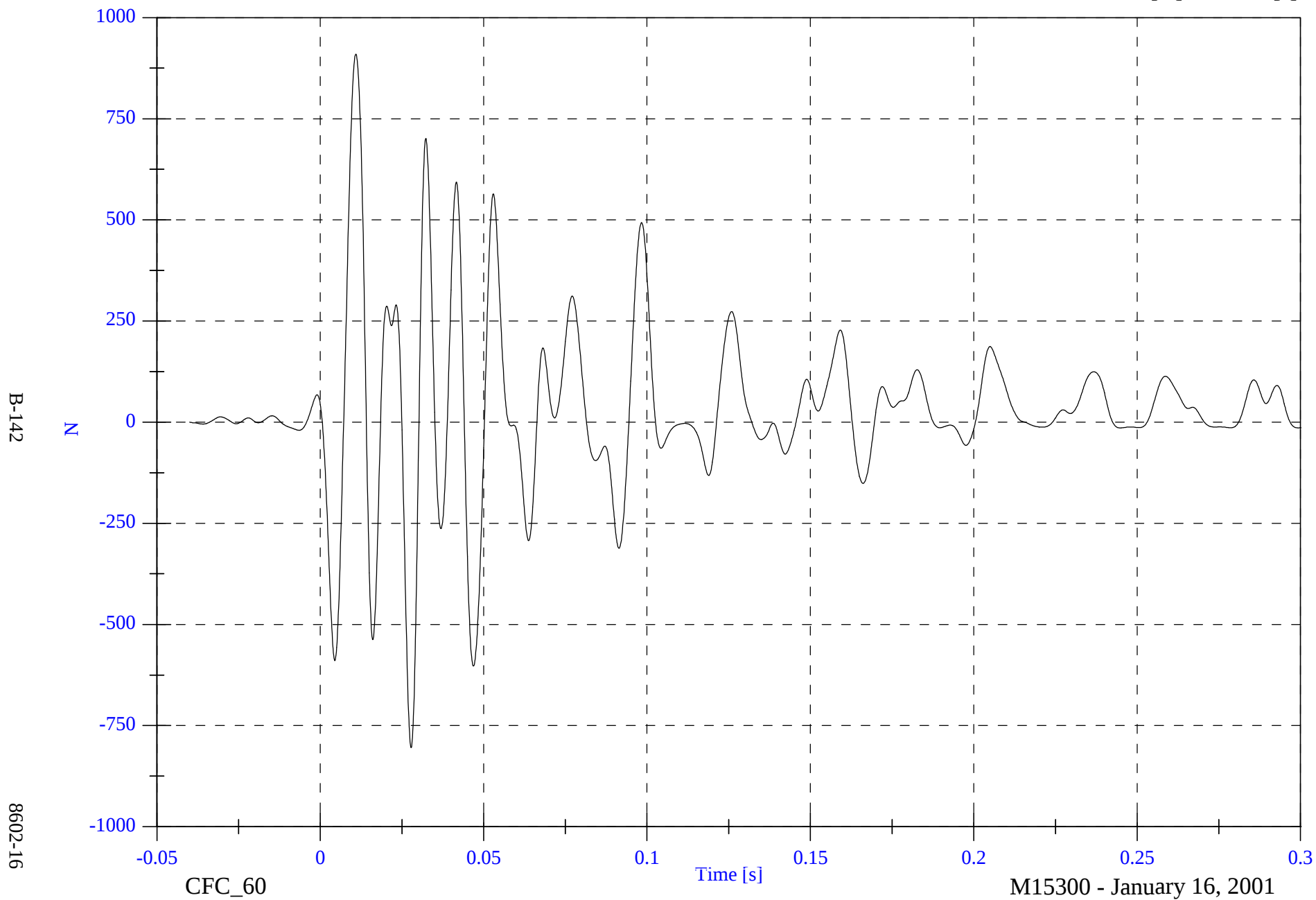


NCAP Test #16 - 2001 Acura 3.2 TL

Barrier Load Cell A9 Fx

Max: 909.6 [N] at 0.011 [s]

Min: -804.7 [N] at 0.028 [s]

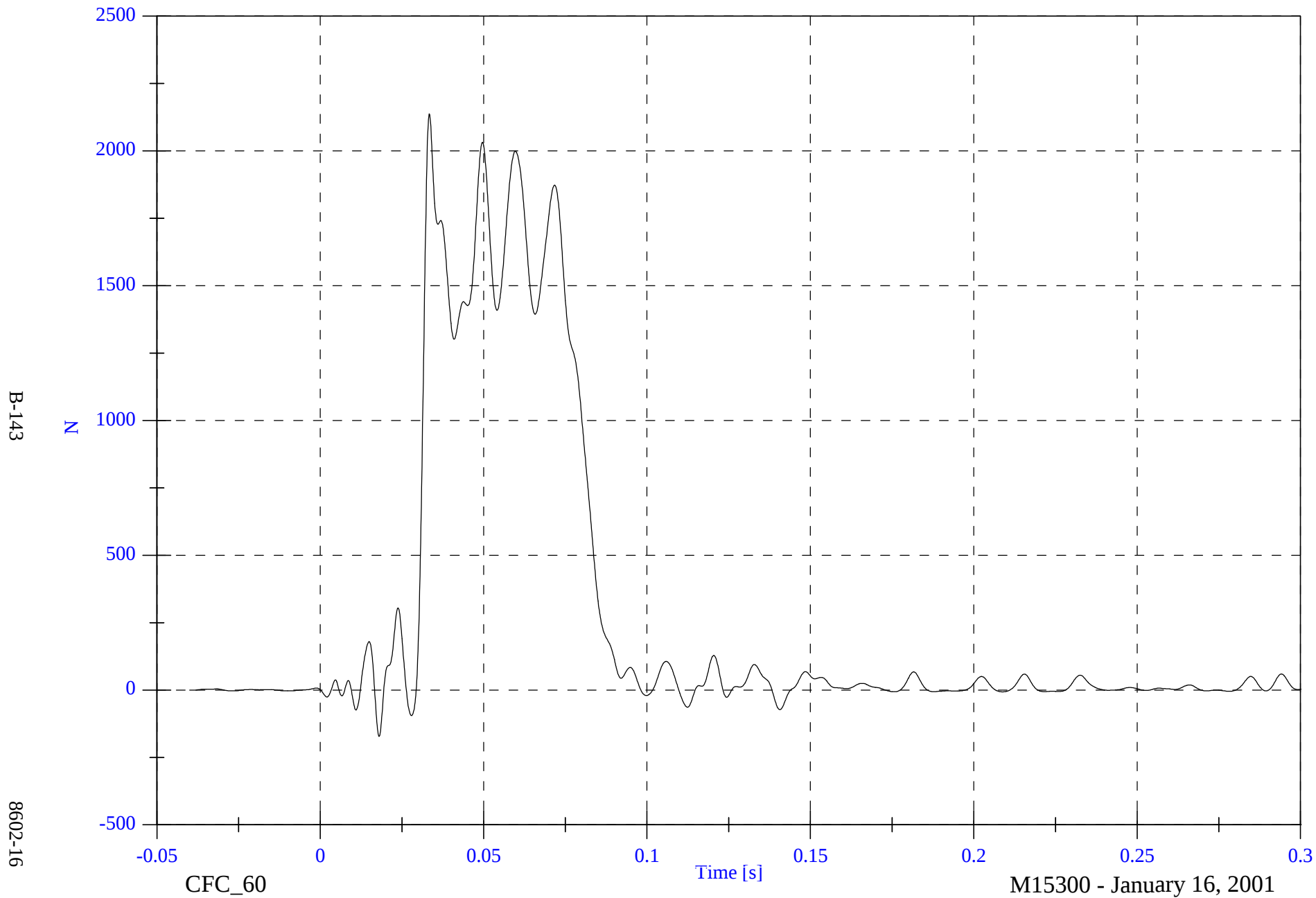


NCAP Test #16 - 2001 Acura 3.2 TL

Barrier Load Cell B1 Fx

Max: 2138.1 [N] at 0.033 [s]

Min: -172.6 [N] at 0.018 [s]

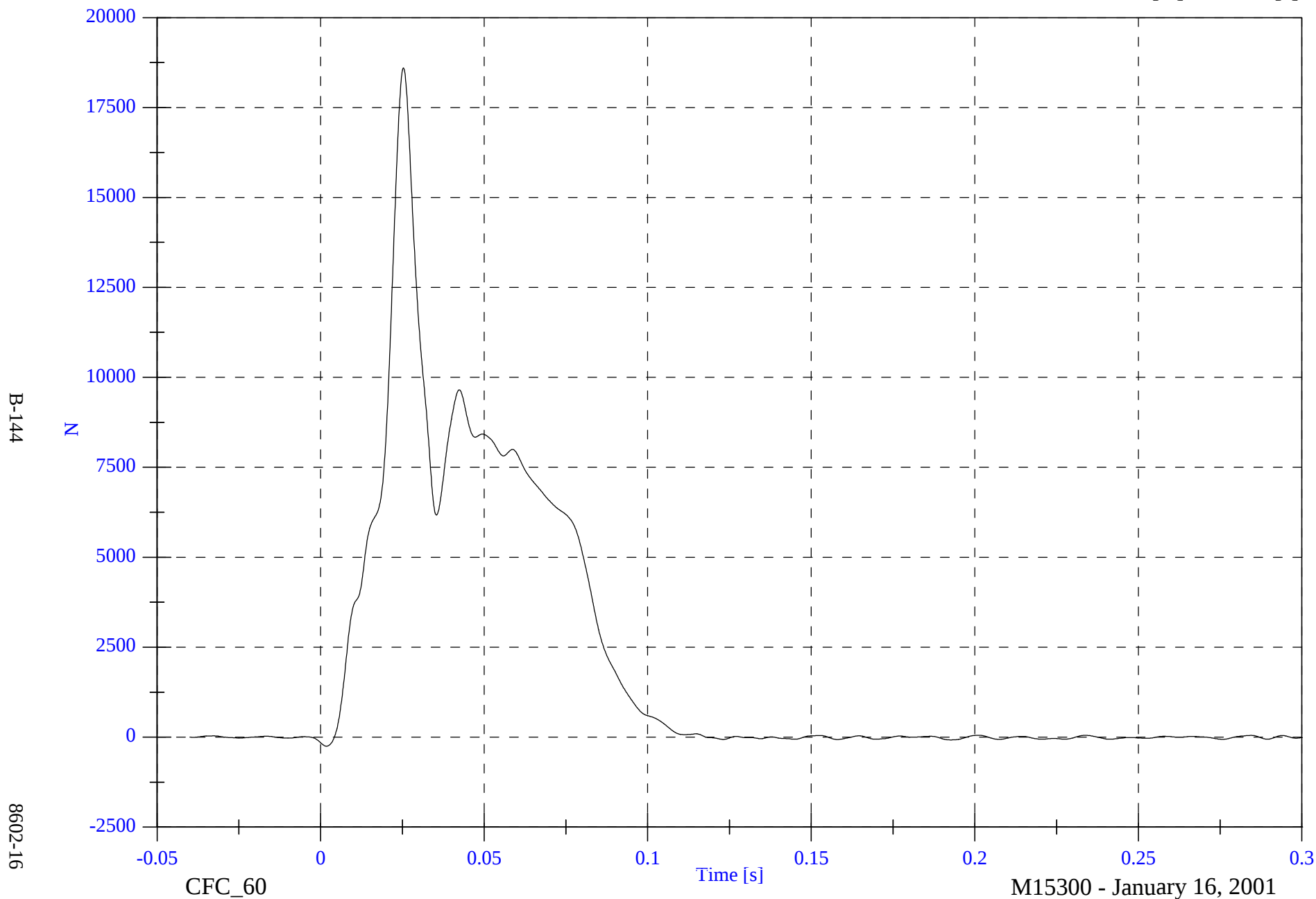


NCAP Test #16 - 2001 Acura 3.2 TL

Barrier Load Cell B2 Fx

Max: 18605.8 [N] at 0.025 [s]

Min: -251.3 [N] at 0.002 [s]

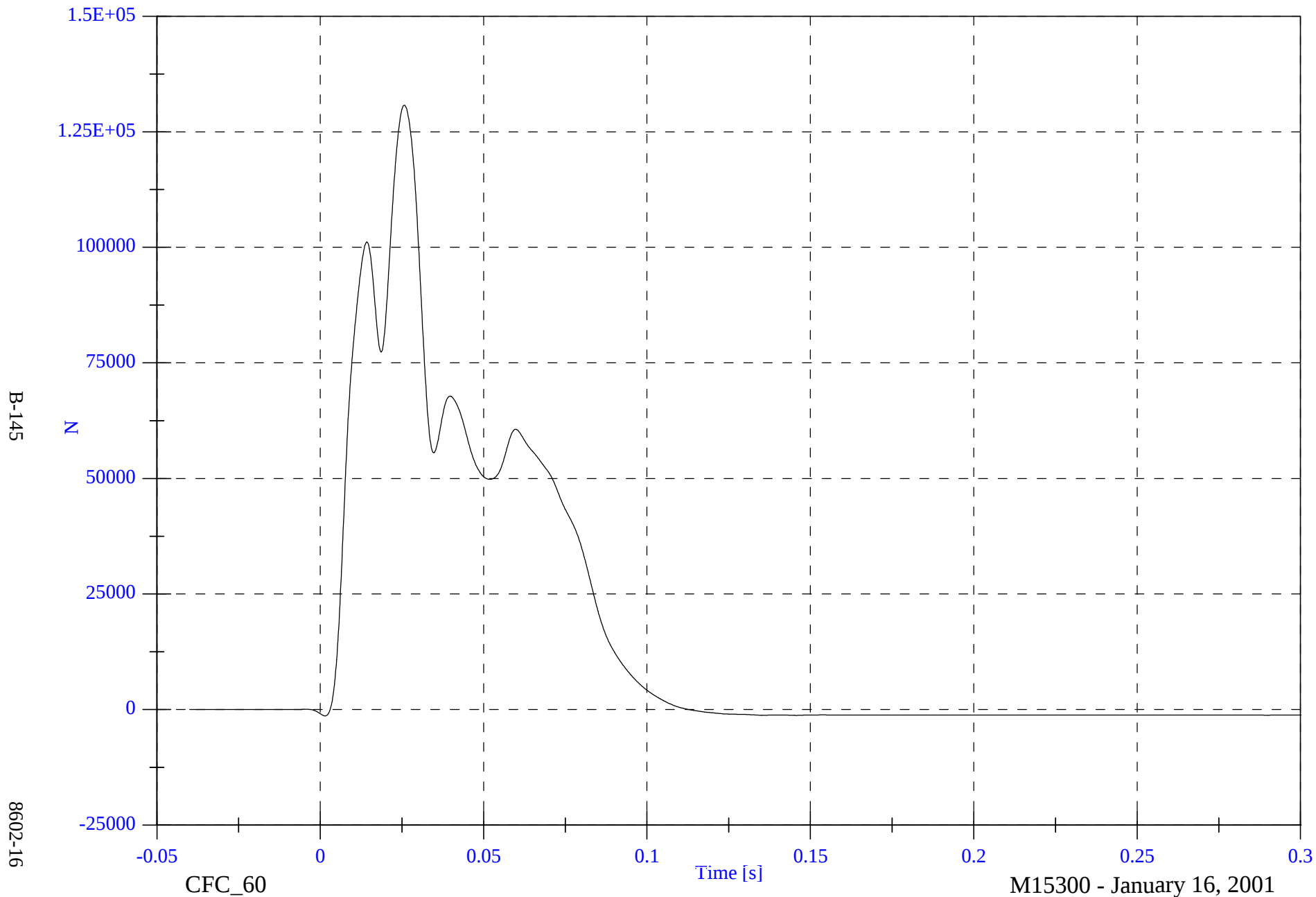


NCAP Test #16 - 2001 Acura 3.2 TL

Barrier Load Cell B3 Fx

Max: 130761.1 [N] at 0.026 [s]

Min: -1363.8 [N] at 0.001 [s]

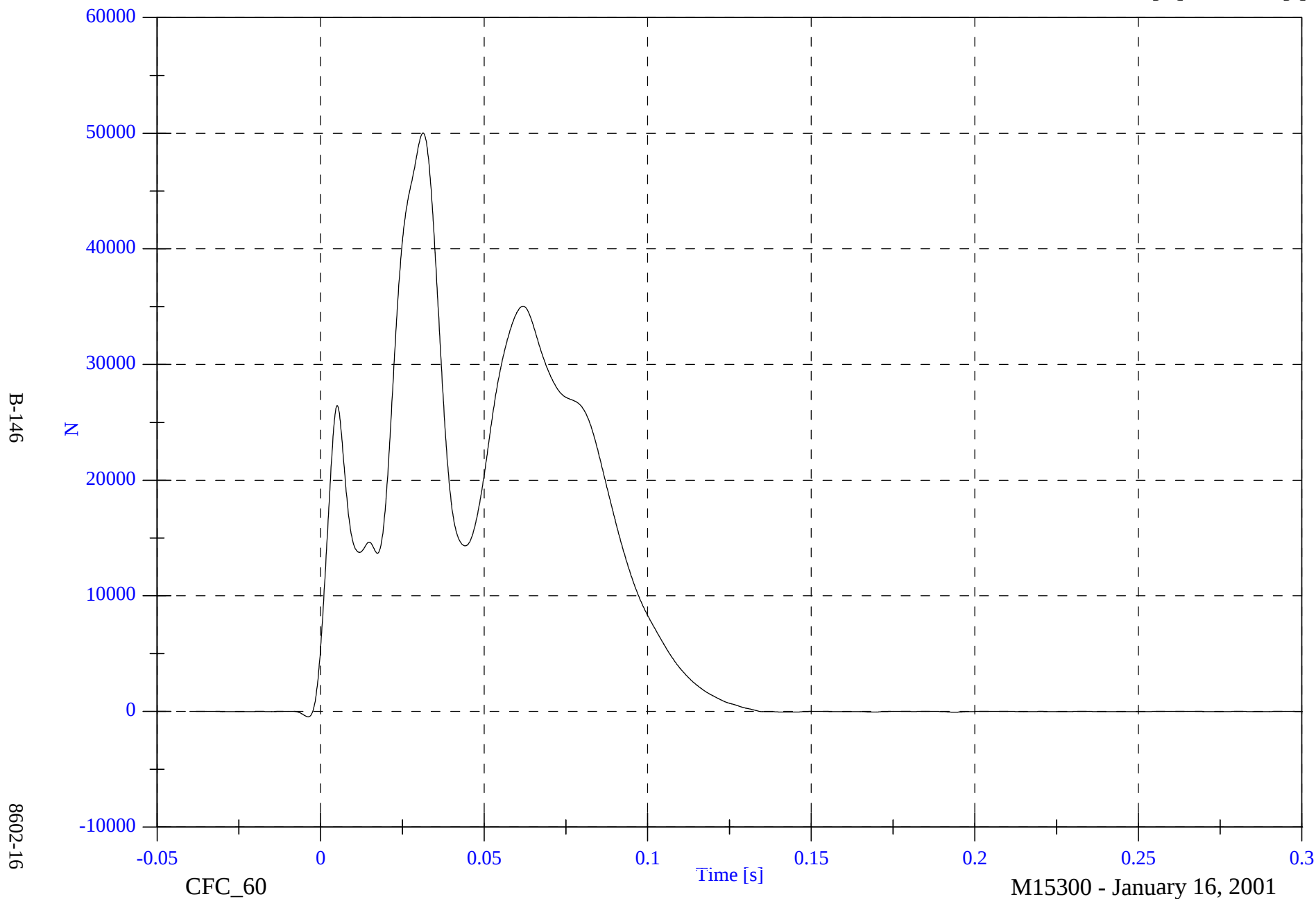


NCAP Test #16 - 2001 Acura 3.2 TL

Barrier Load Cell B4 Fx

Max: 50021.1 [N] at 0.031 [s]

Min: -466.0 [N] at -0.004 [s]

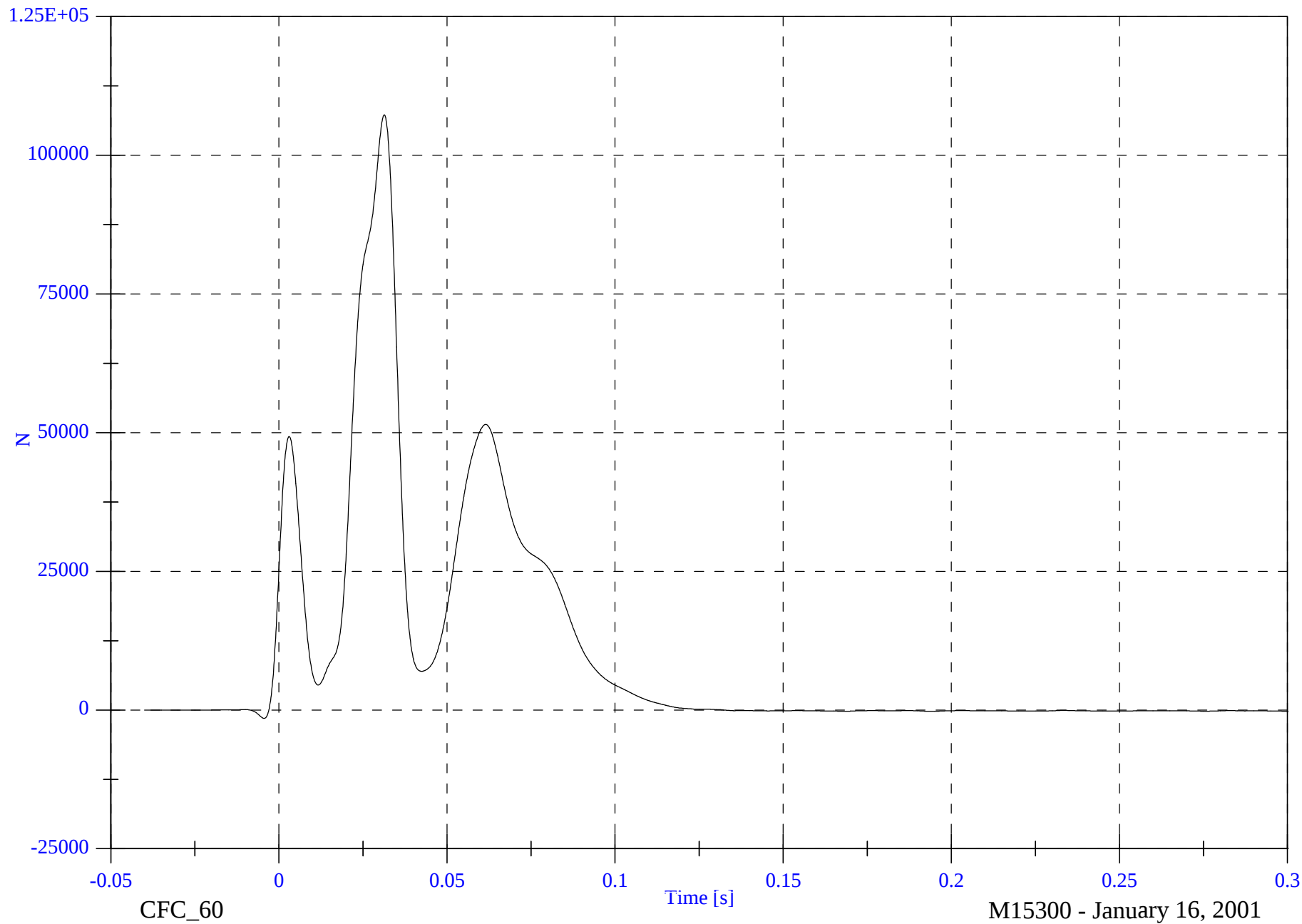


NCAP Test #16 - 2001 Acura 3.2 TL

Barrier Load Cell B5 Fx

Max: 107303.1 [N] at 0.031 [s]

Min: -1509.4 [N] at -0.004 [s]



B-147

8602-16

CFC_60

Time [s]

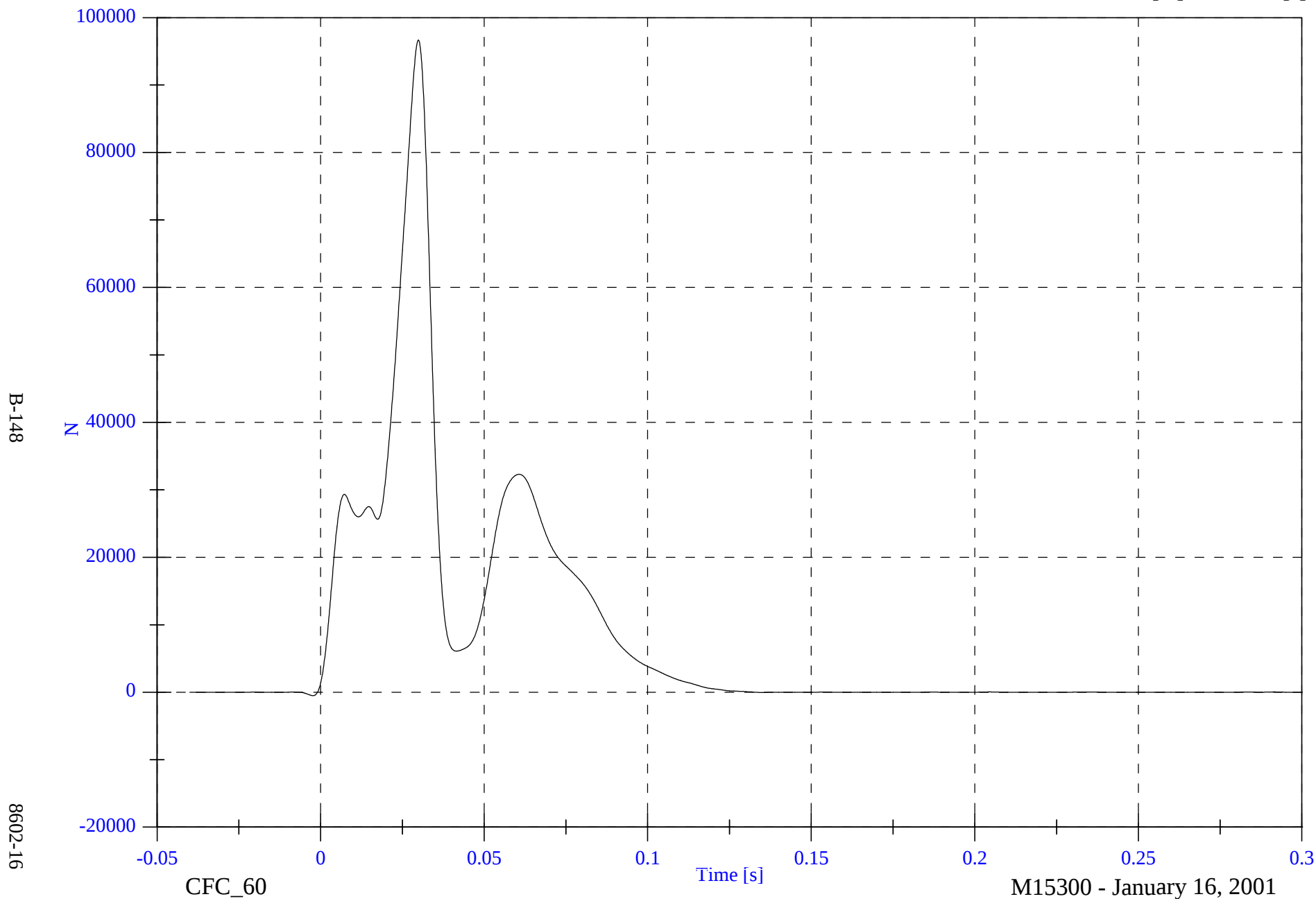
M15300 - January 16, 2001

NCAP Test #16 - 2001 Acura 3.2 TL

Barrier Load Cell B6 Fx

Max: 96668.2 [N] at 0.030 [s]

Min: -517.5 [N] at -0.002 [s]

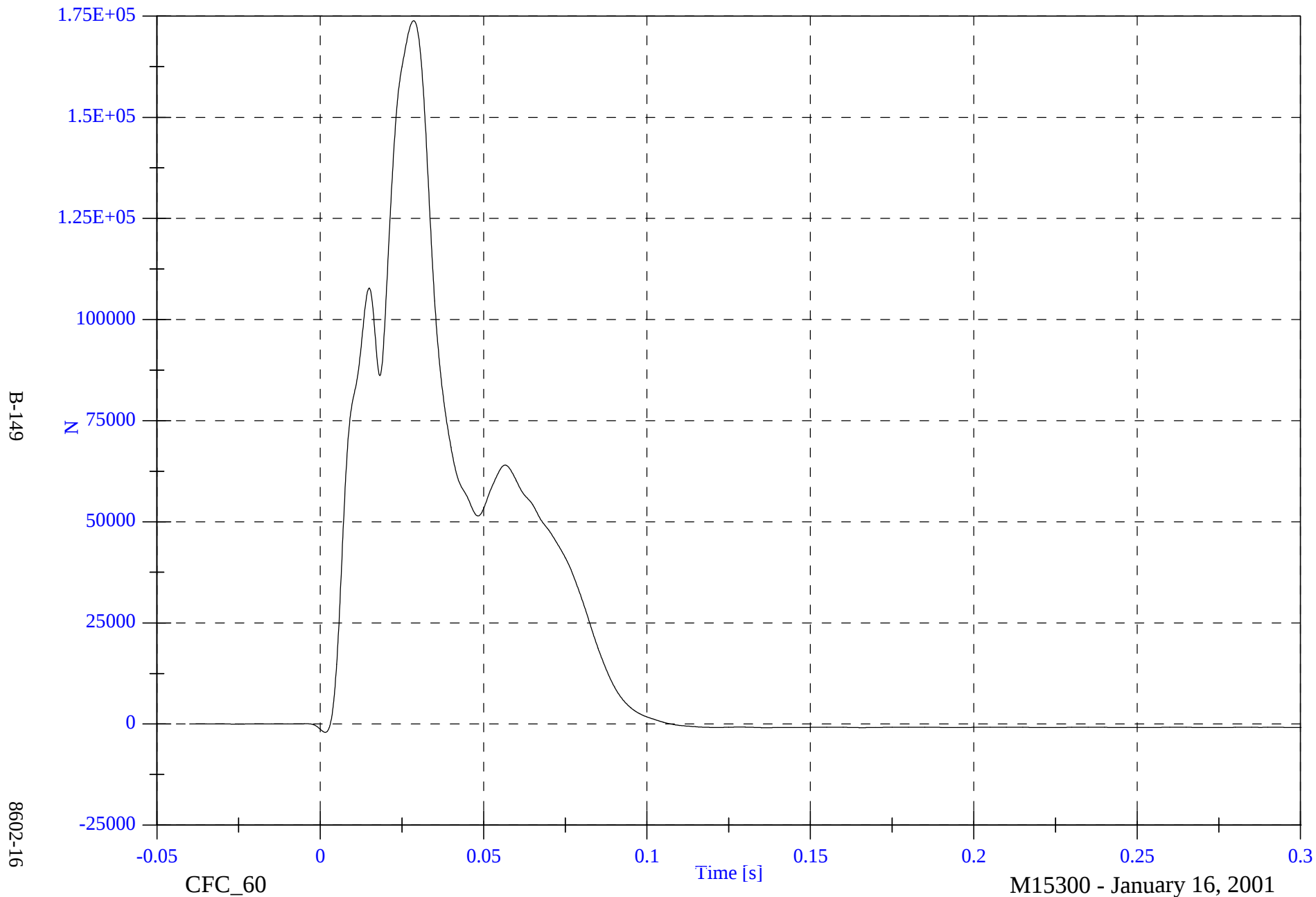


NCAP Test #16 - 2001 Acura 3.2 TL

Barrier Load Cell B7 Fx

Max: 173871.4 [N] at 0.029 [s]

Min: -2056.4 [N] at 0.001 [s]

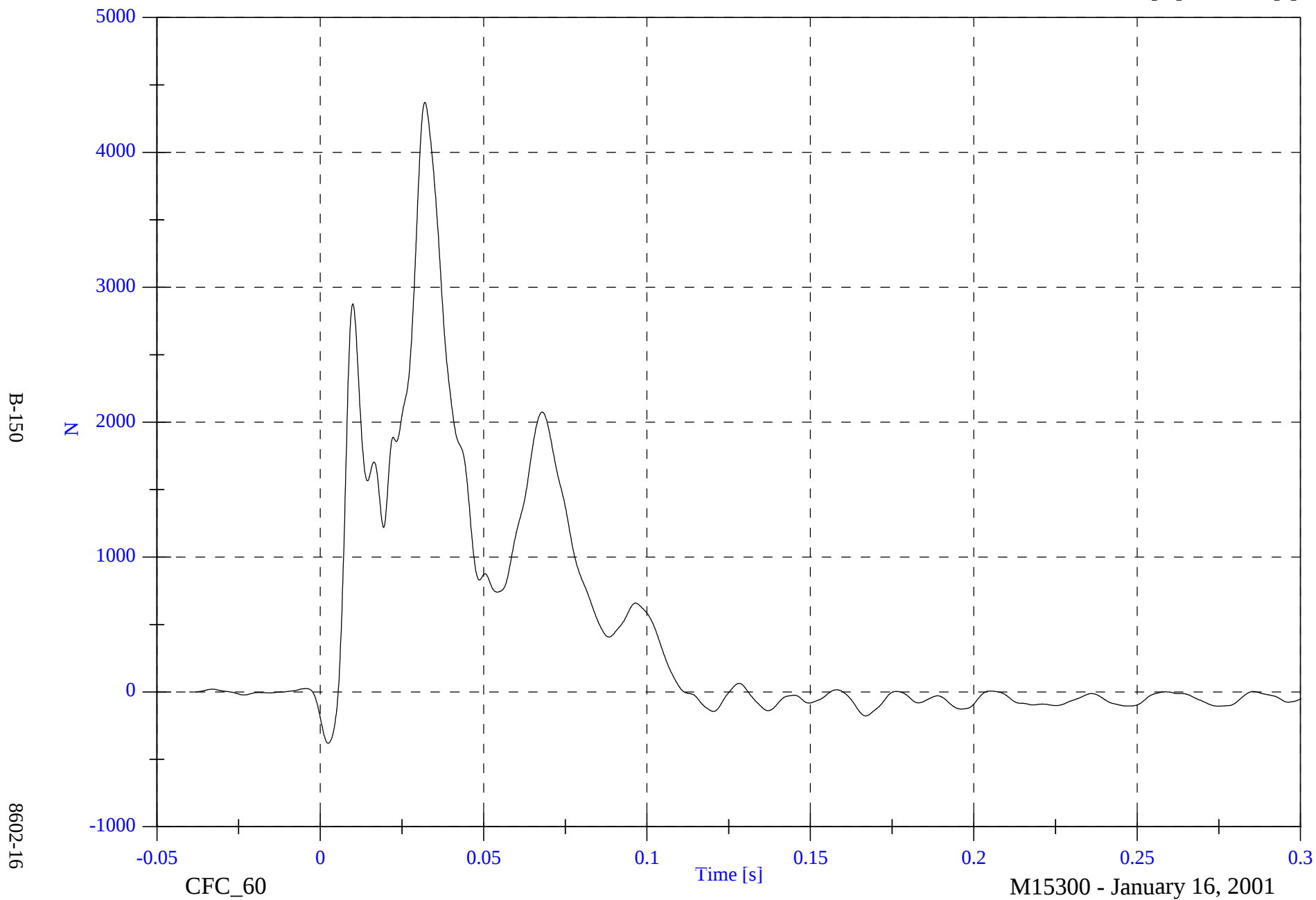


NCAP Test #16 - 2001 Acura 3.2 TL

Barrier Load Cell B8 Fx

Max: 4371.9 [N] at 0.032 [s]

Min: -381.2 [N] at 0.002 [s]

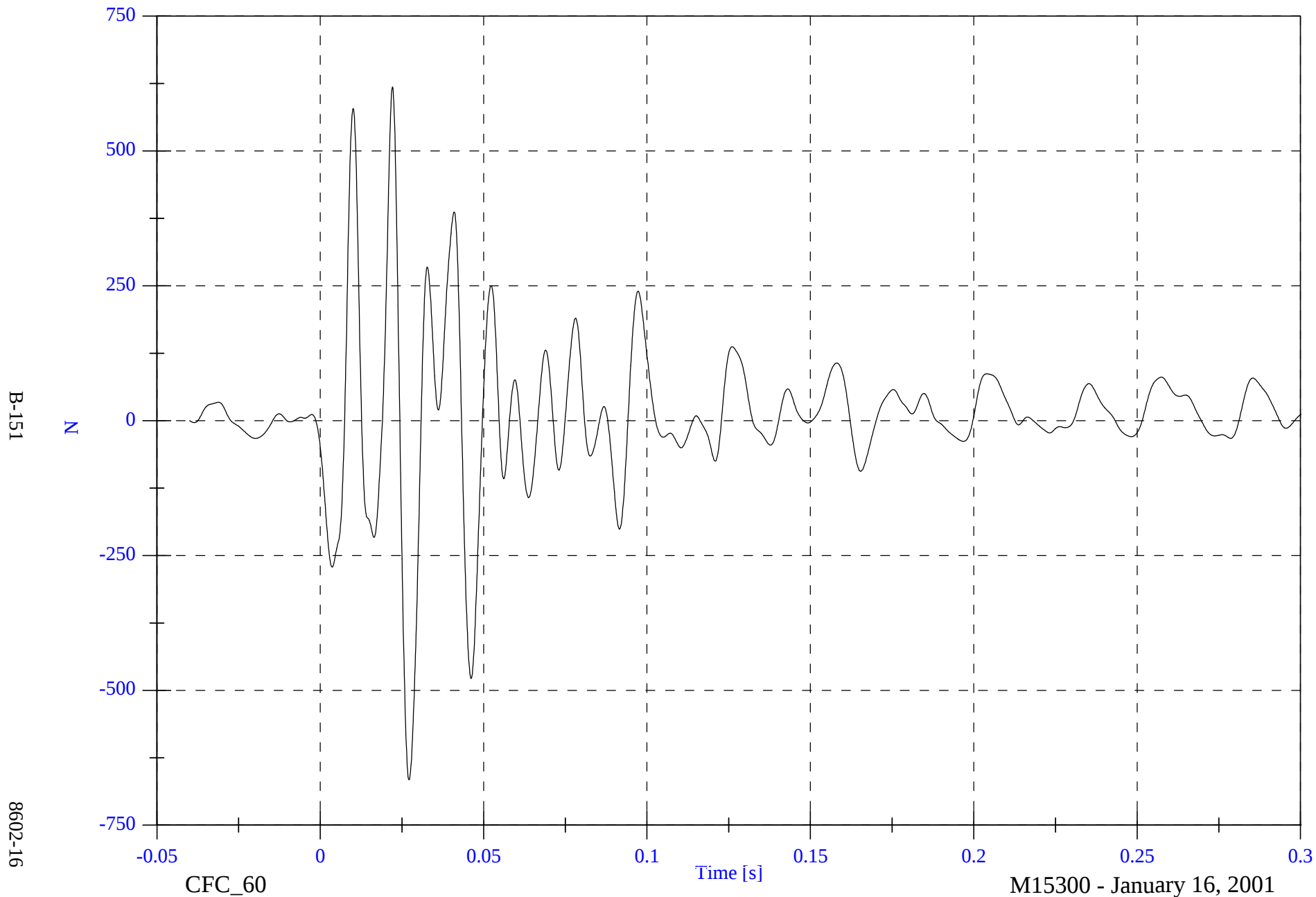


NCAP Test #16 - 2001 Acura 3.2 TL

Barrier Load Cell B9 Fx

Max: 618.8 [N] at 0.022 [s]

Min: -666.1 [N] at 0.027 [s]

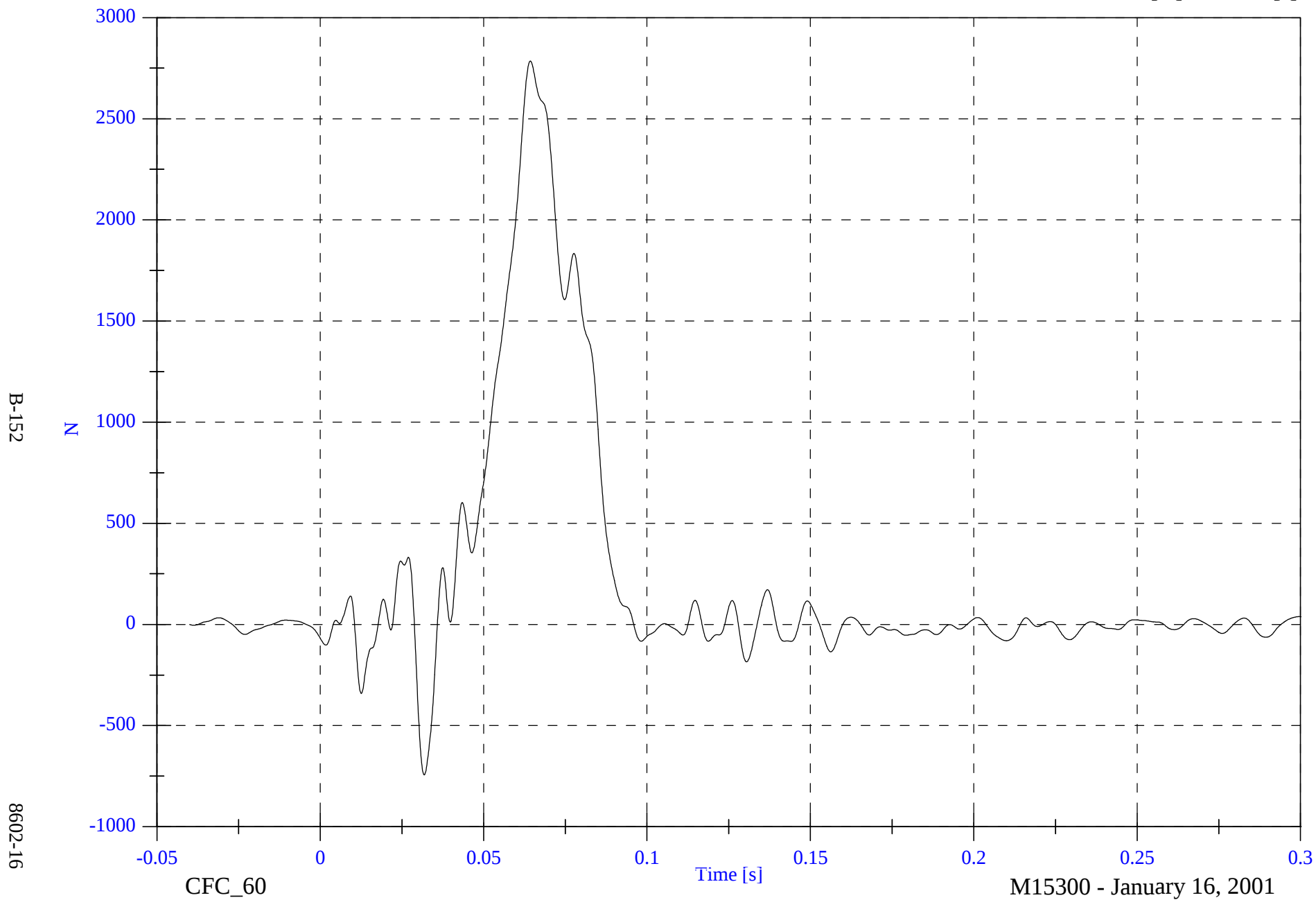


NCAP Test #16 - 2001 Acura 3.2 TL

Barrier Load Cell C1 Fx

Max: 2785.3 [N] at 0.064 [s]

Min: -744.0 [N] at 0.032 [s]

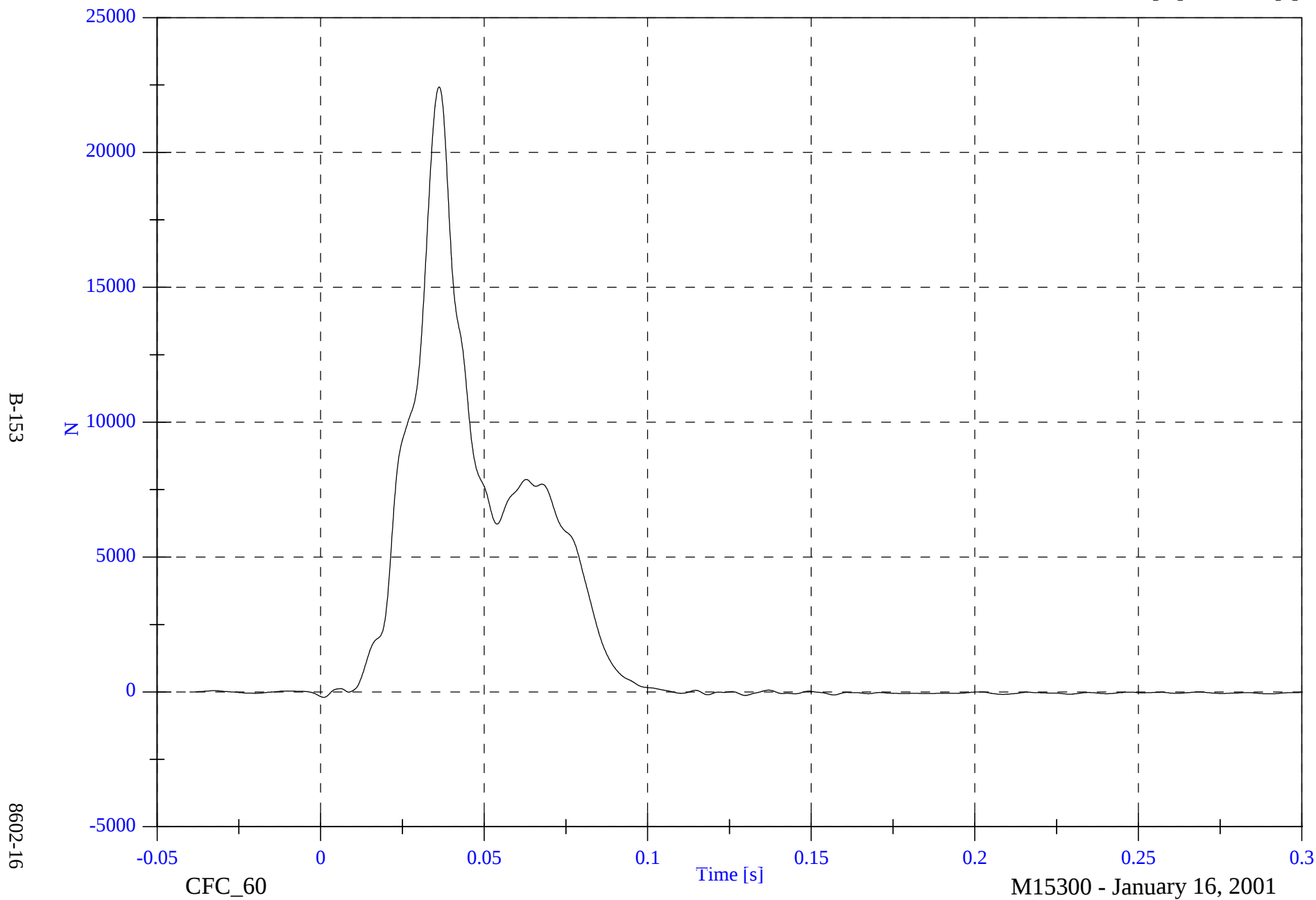


NCAP Test #16 - 2001 Acura 3.2 TL

Barrier Load Cell C2 Fx

Max: 22430.9 [N] at 0.036 [s]

Min: -201.3 [N] at 0.001 [s]

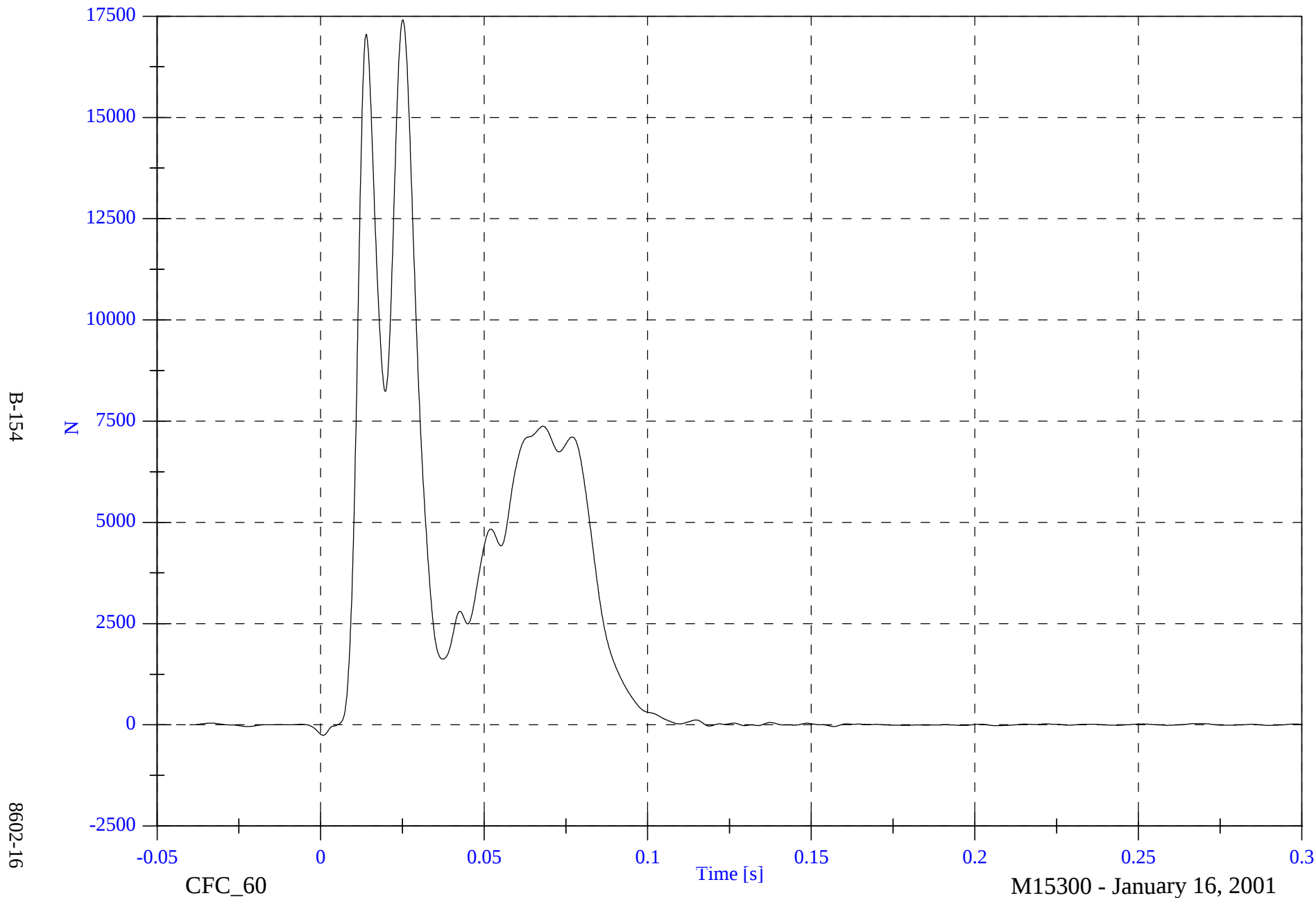


NCAP Test #16 - 2001 Acura 3.2 TL

Barrier Load Cell C3 Fx

Max: 17408.7 [N] at 0.025 [s]

Min: -258.6 [N] at 0.001 [s]

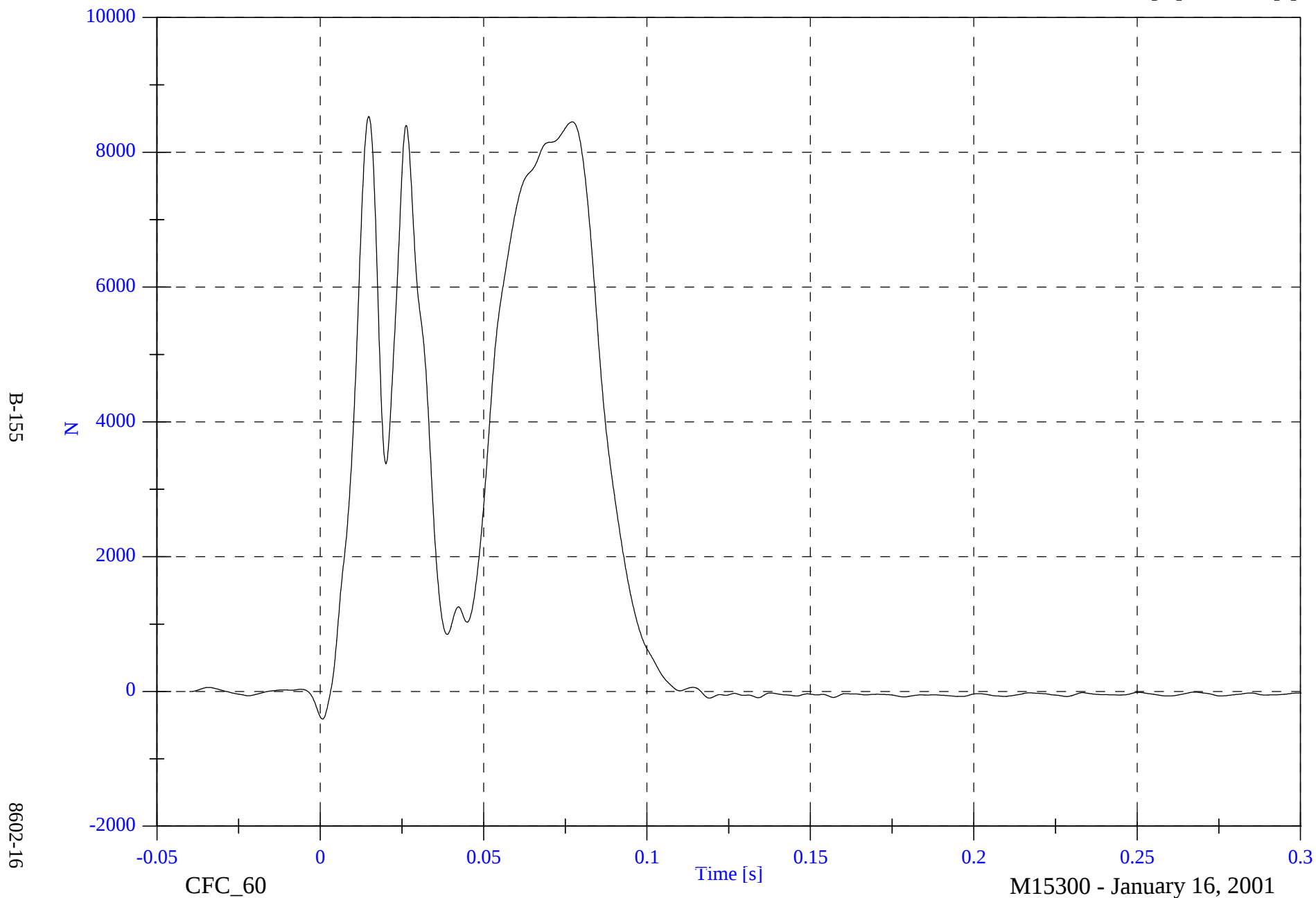


NCAP Test #16 - 2001 Acura 3.2 TL

Barrier Load Cell C4 Fx

Max: 8533.9 [N] at 0.015 [s]

Min: -410.6 [N] at 0.001 [s]

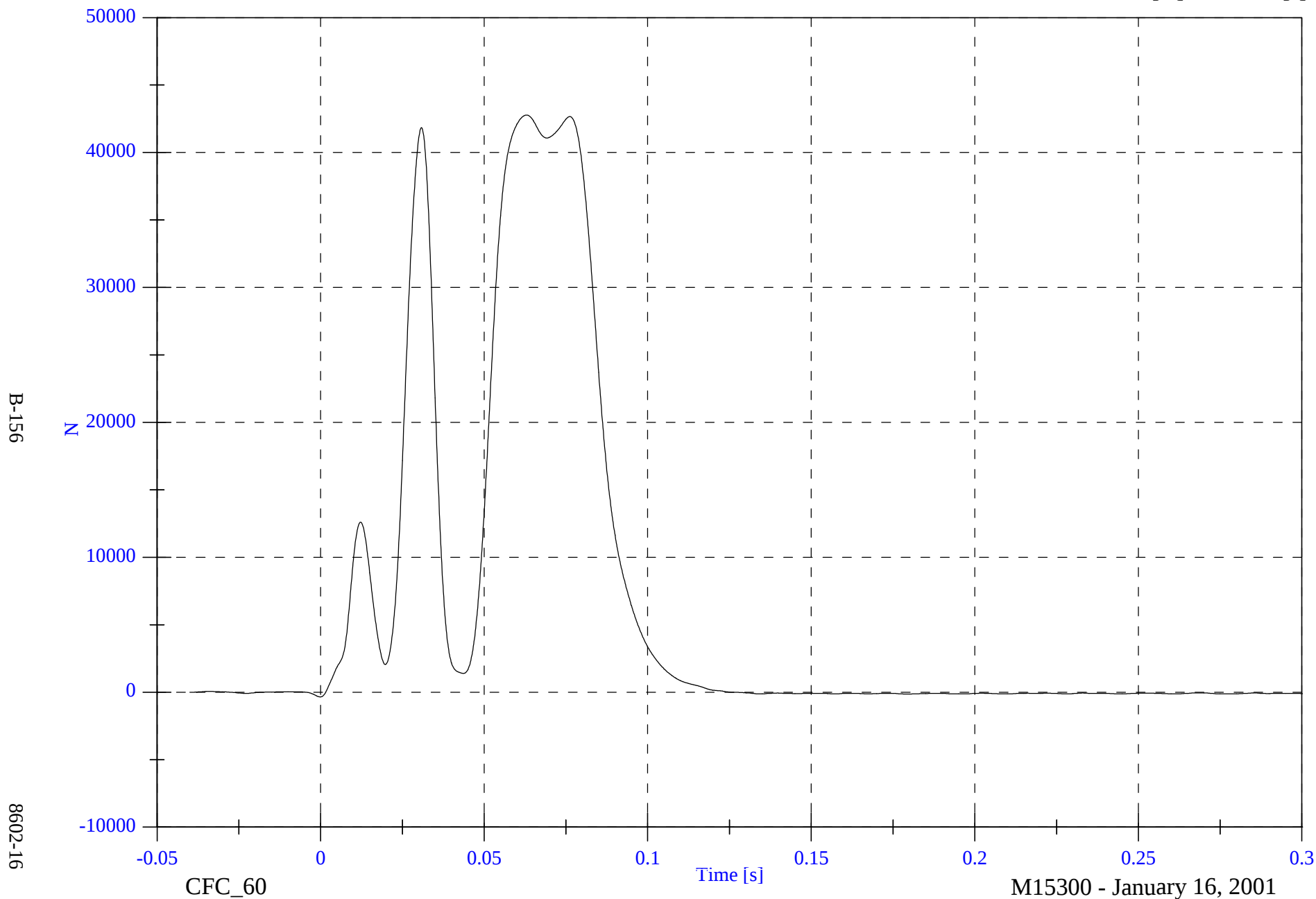


NCAP Test #16 - 2001 Acura 3.2 TL

Barrier Load Cell C5 Fx

Max: 42776.9 [N] at 0.063 [s]

Min: -352.3 [N] at -0.000 [s]

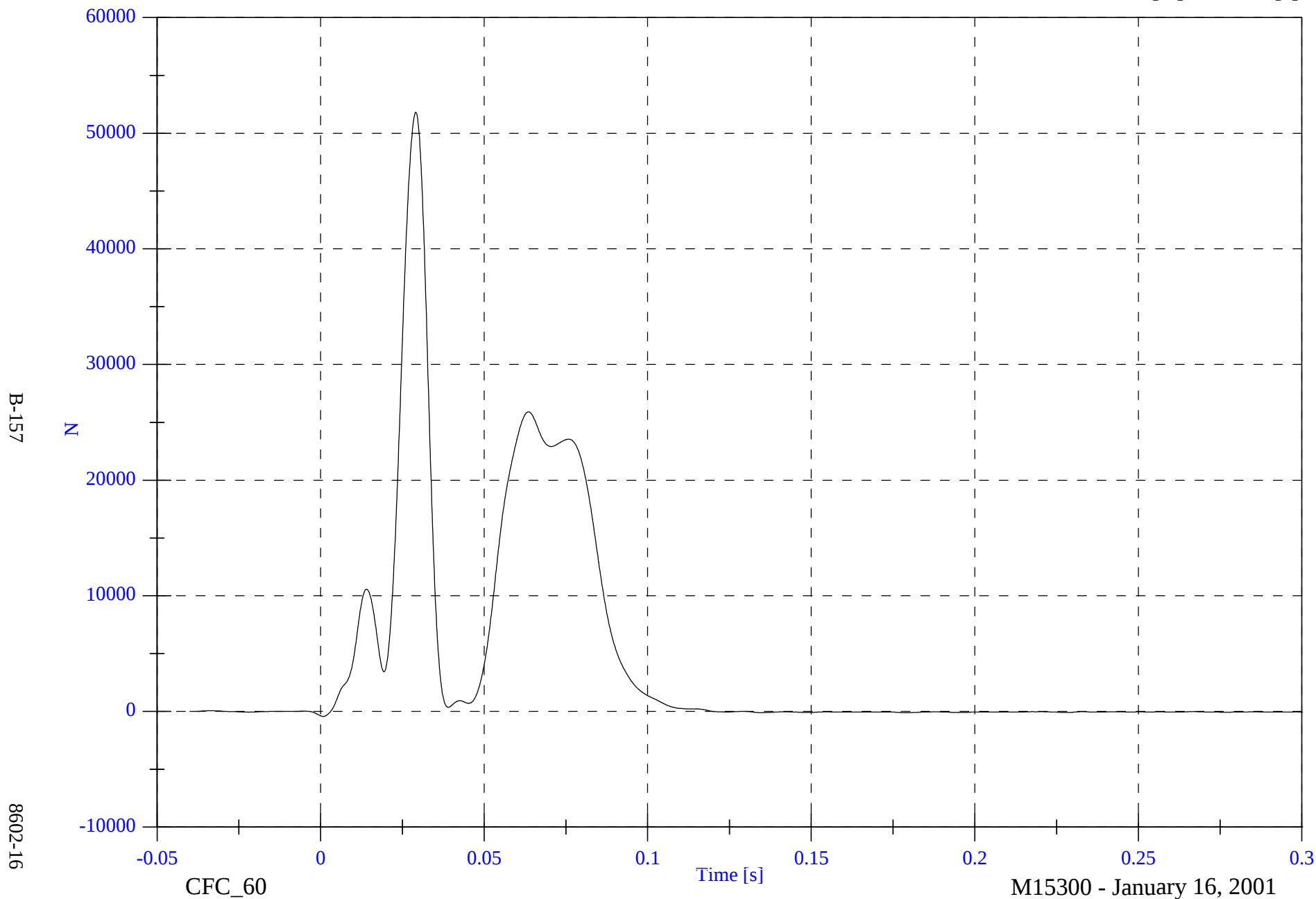


NCAP Test #16 - 2001 Acura 3.2 TL

Barrier Load Cell C6 Fx

Max: 51811.5 [N] at 0.029 [s]

Min: -431.7 [N] at 0.001 [s]

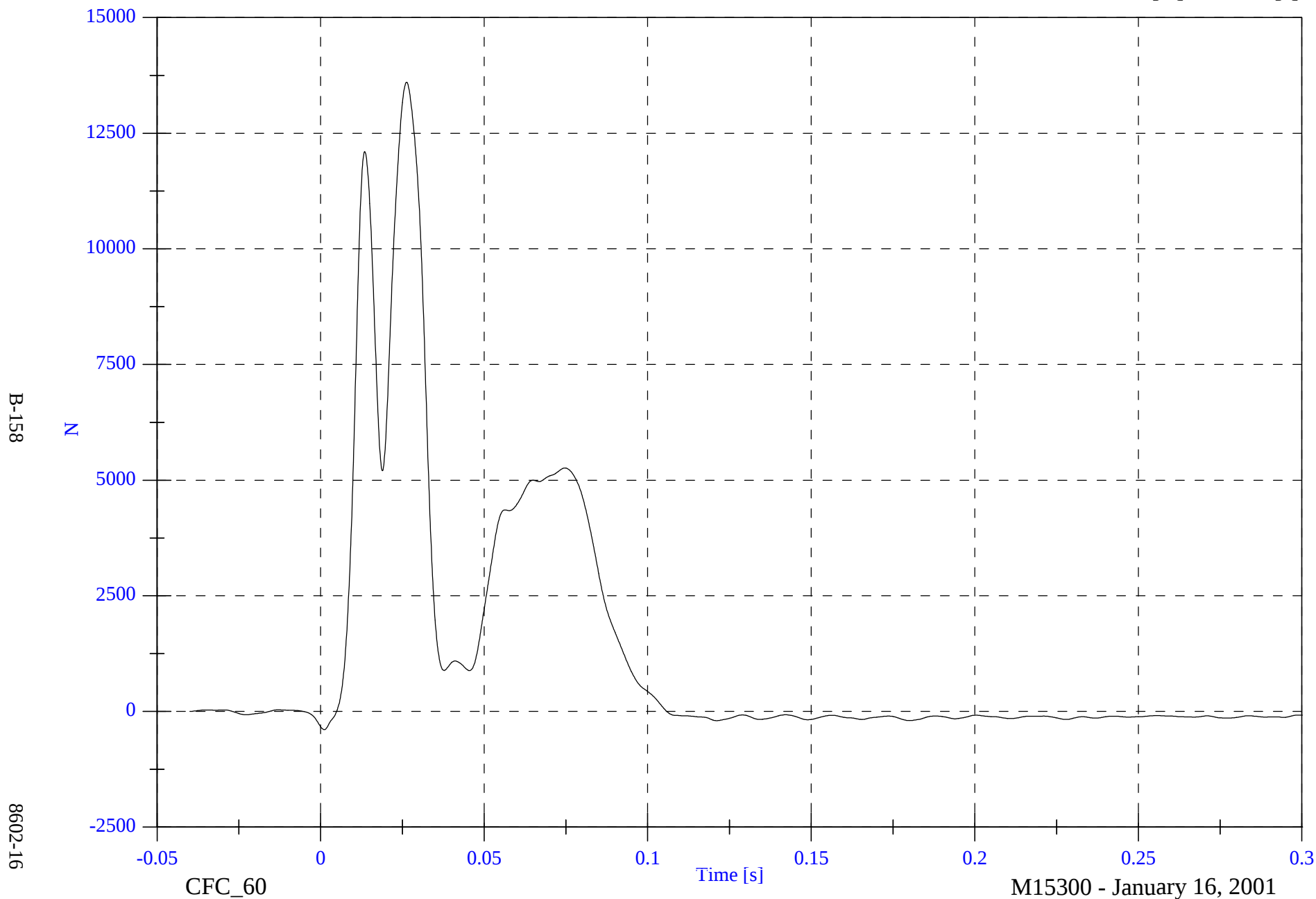


NCAP Test #16 - 2001 Acura 3.2 TL

Barrier Load Cell C7 Fx

Max: 13604.1 [N] at 0.026 [s]

Min: -393.2 [N] at 0.001 [s]

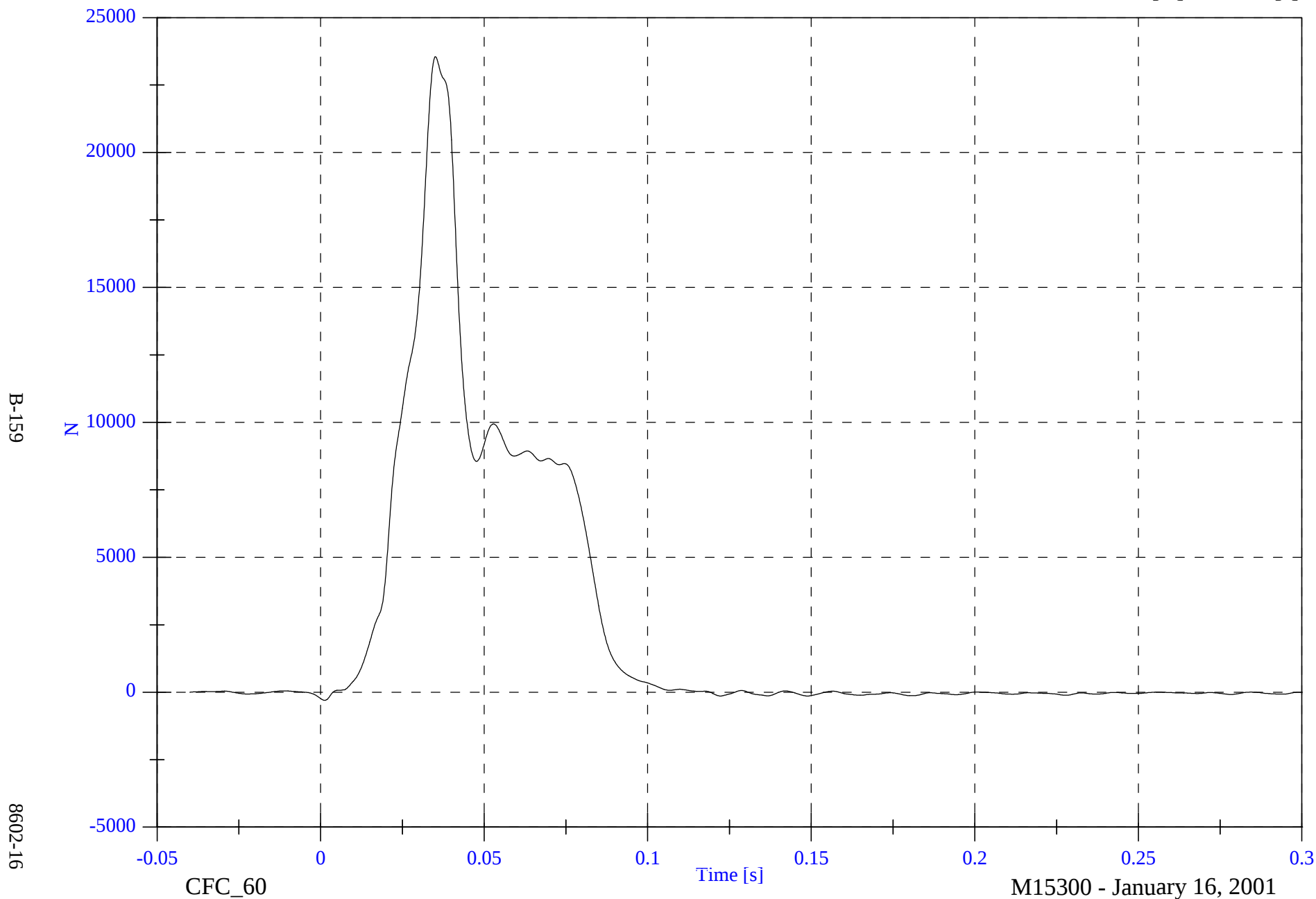


NCAP Test #16 - 2001 Acura 3.2 TL

Barrier Load Cell C8 Fx

Max: 23548.9 [N] at 0.035 [s]

Min: -301.3 [N] at 0.001 [s]

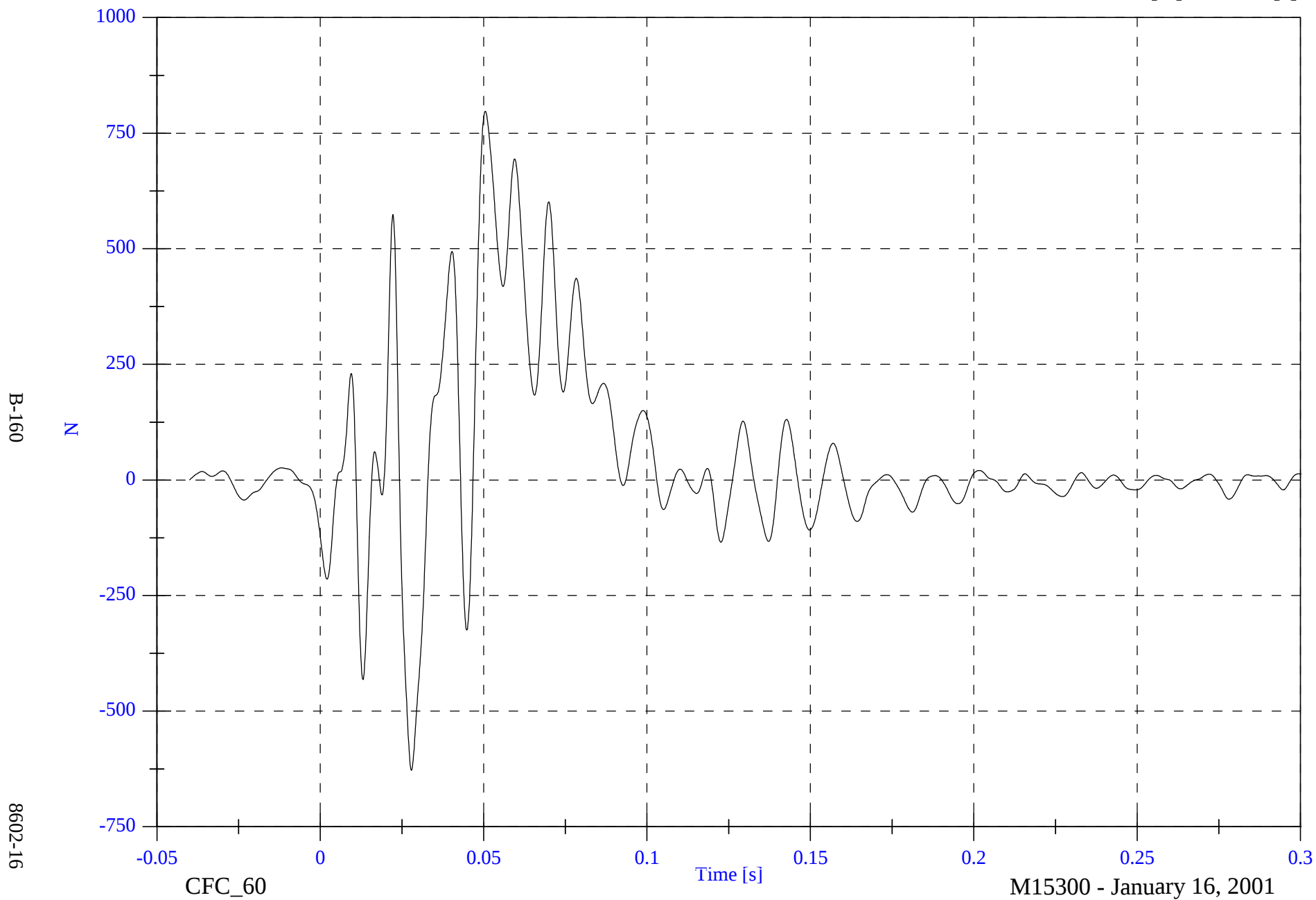


NCAP Test #16 - 2001 Acura 3.2 TL

Barrier Load Cell C9 Fx

Max: 797.4 [N] at 0.050 [s]

Min: -628.3 [N] at 0.028 [s]

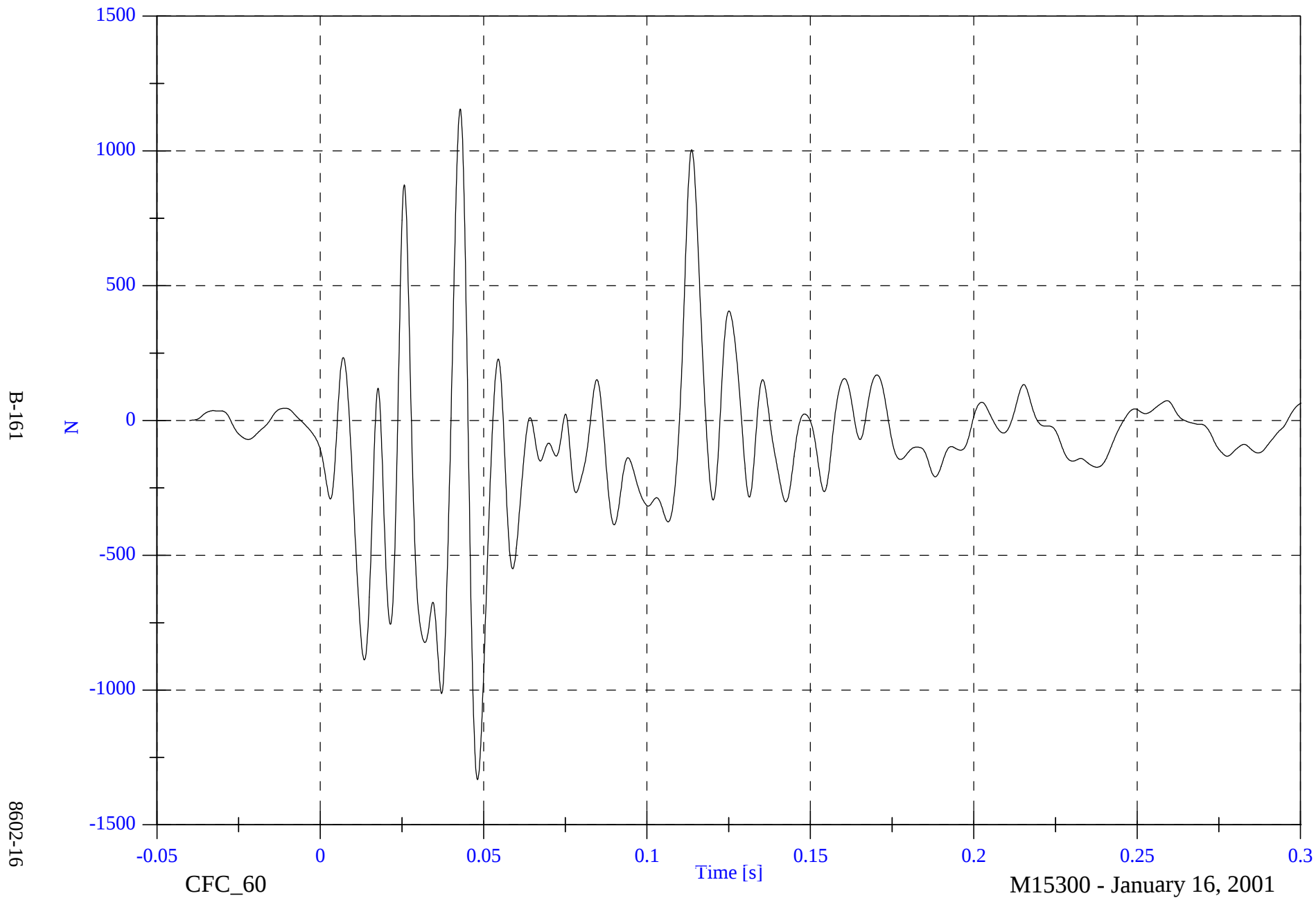


NCAP Test #16 - 2001 Acura 3.2 TL

Barrier Load Cell D1 Fx

Max: 1155.6 [N] at 0.043 [s]

Min: -1333.0 [N] at 0.048 [s]

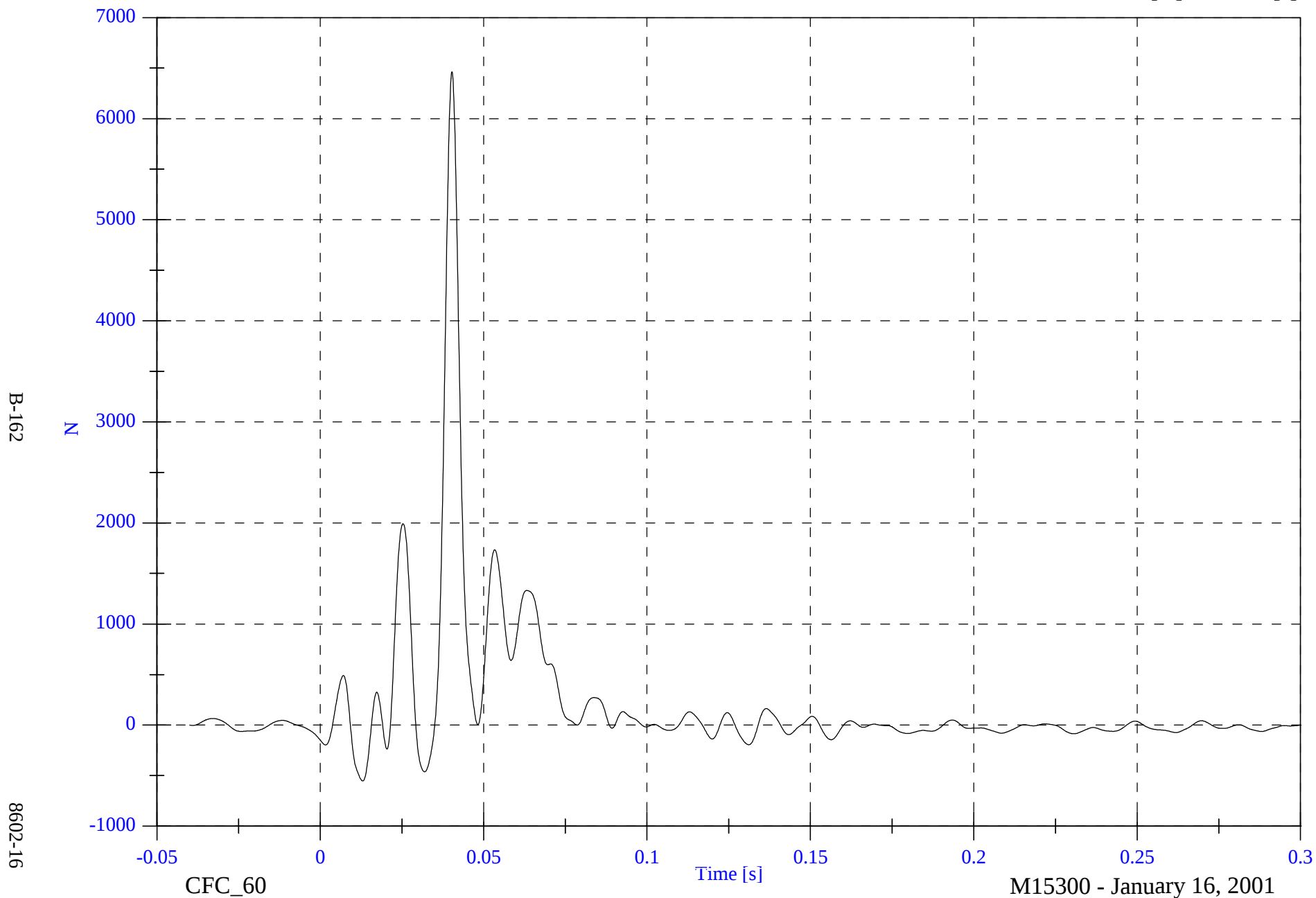


NCAP Test #16 - 2001 Acura 3.2 TL

Barrier Load Cell D2 Fx

Max: 6463.7 [N] at 0.040 [s]

Min: -552.5 [N] at 0.013 [s]

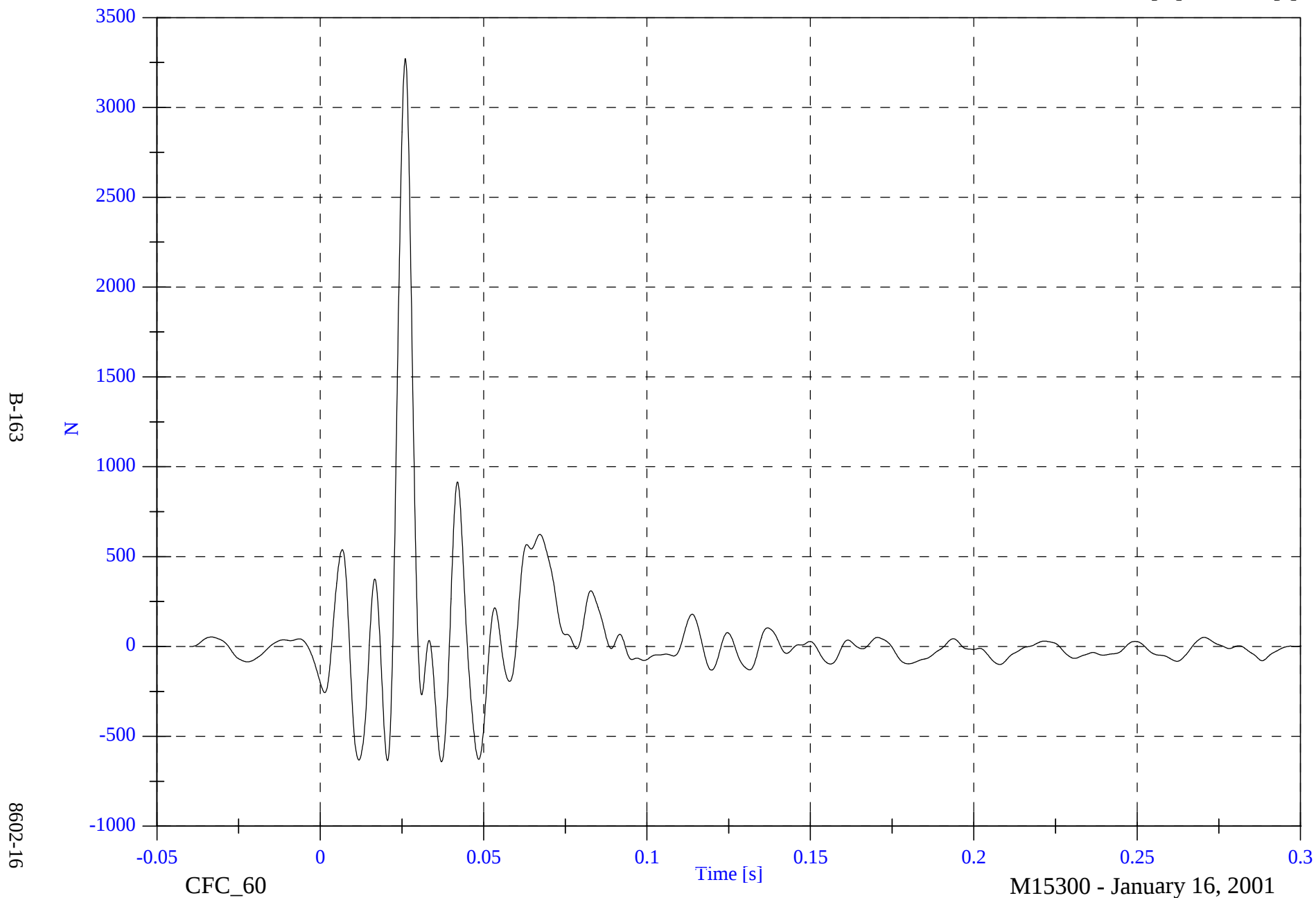


NCAP Test #16 - 2001 Acura 3.2 TL

Barrier Load Cell D3 Fx

Max: 3271.8 [N] at 0.026 [s]

Min: -642.2 [N] at 0.037 [s]

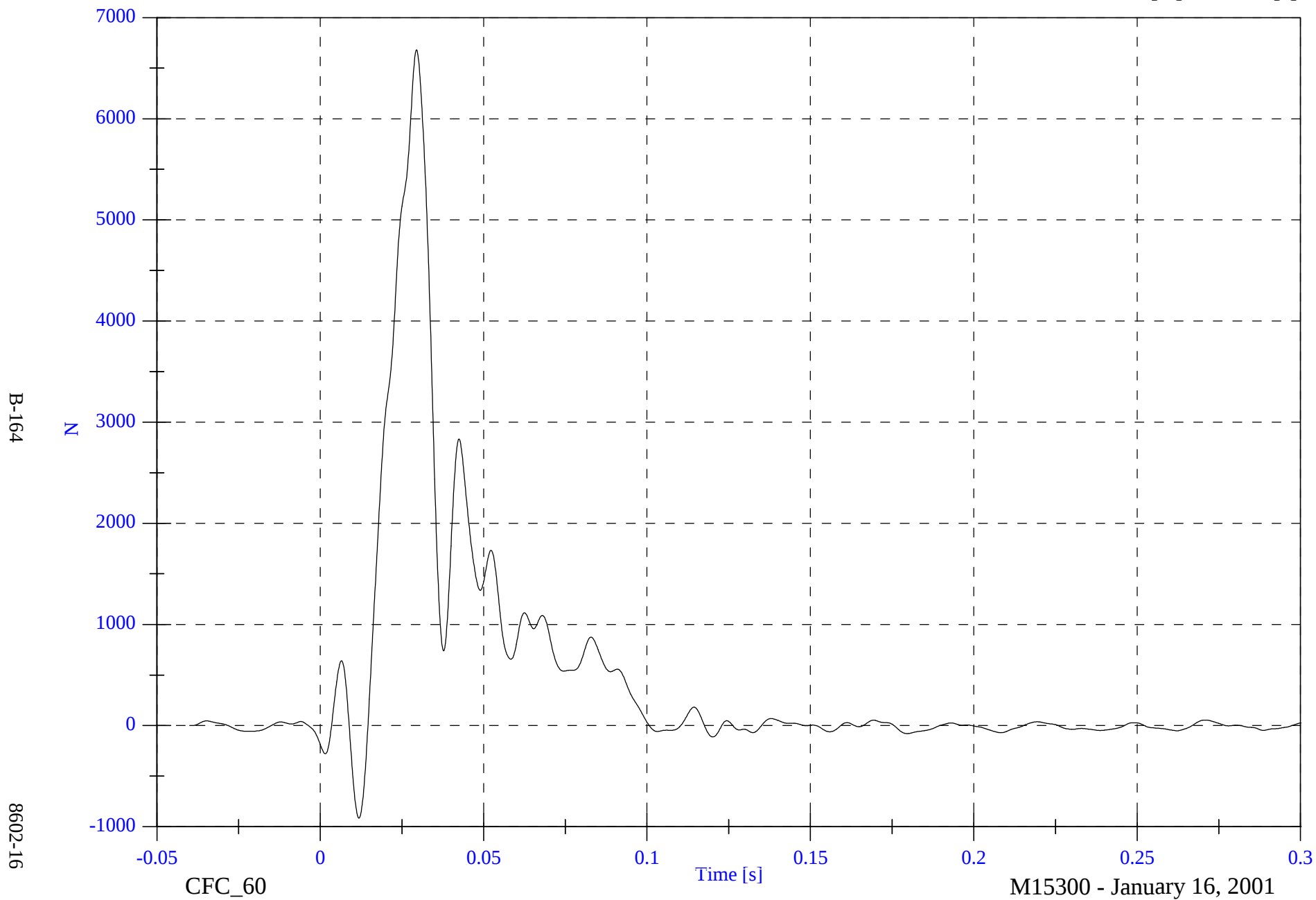


NCAP Test #16 - 2001 Acura 3.2 TL

Barrier Load Cell D4 Fx

Max: 6681.4 [N] at 0.029 [s]

Min: -915.9 [N] at 0.012 [s]

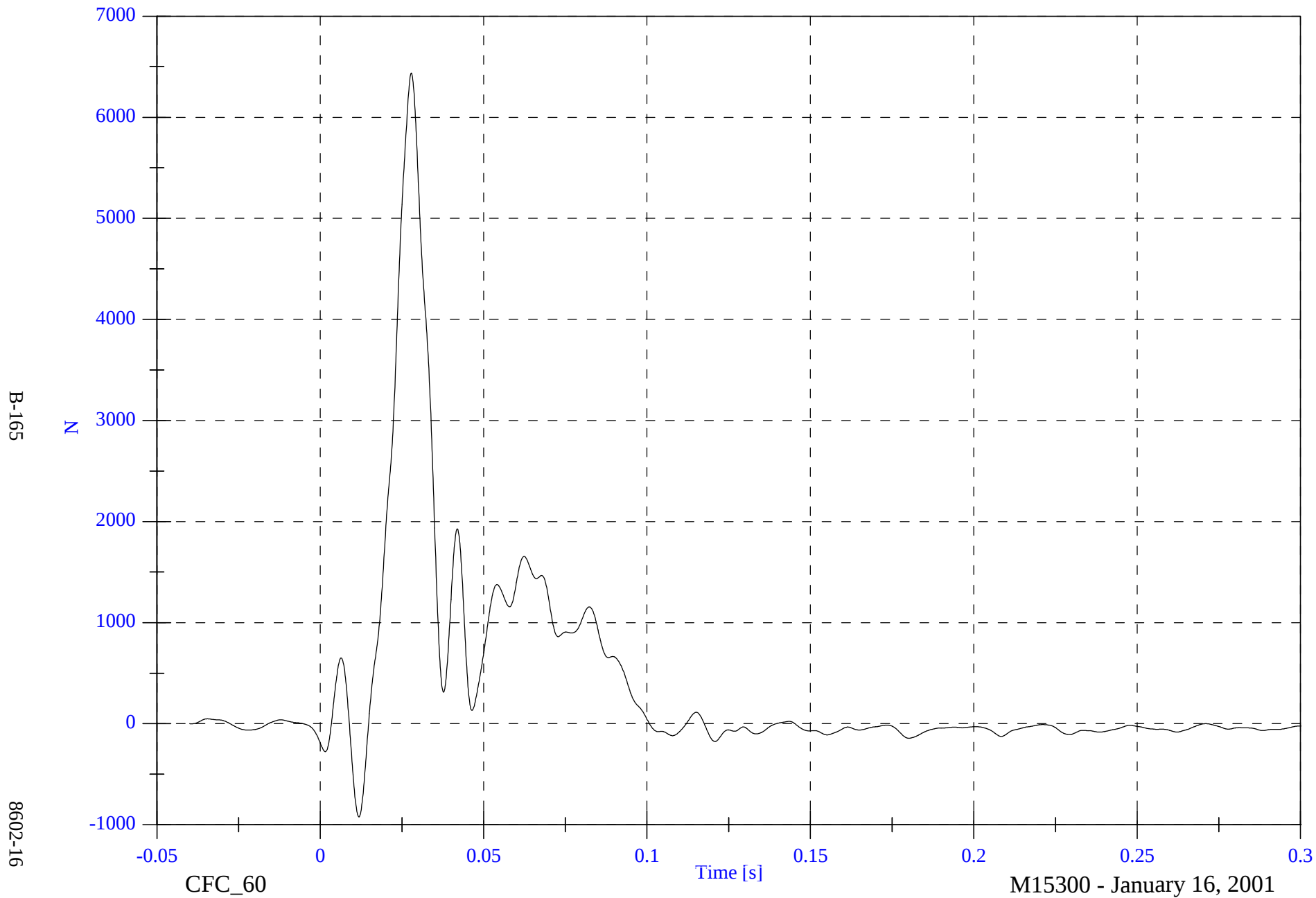


NCAP Test #16 - 2001 Acura 3.2 TL

Barrier Load Cell D5 Fx

Max: 6436.4 [N] at 0.028 [s]

Min: -923.0 [N] at 0.012 [s]

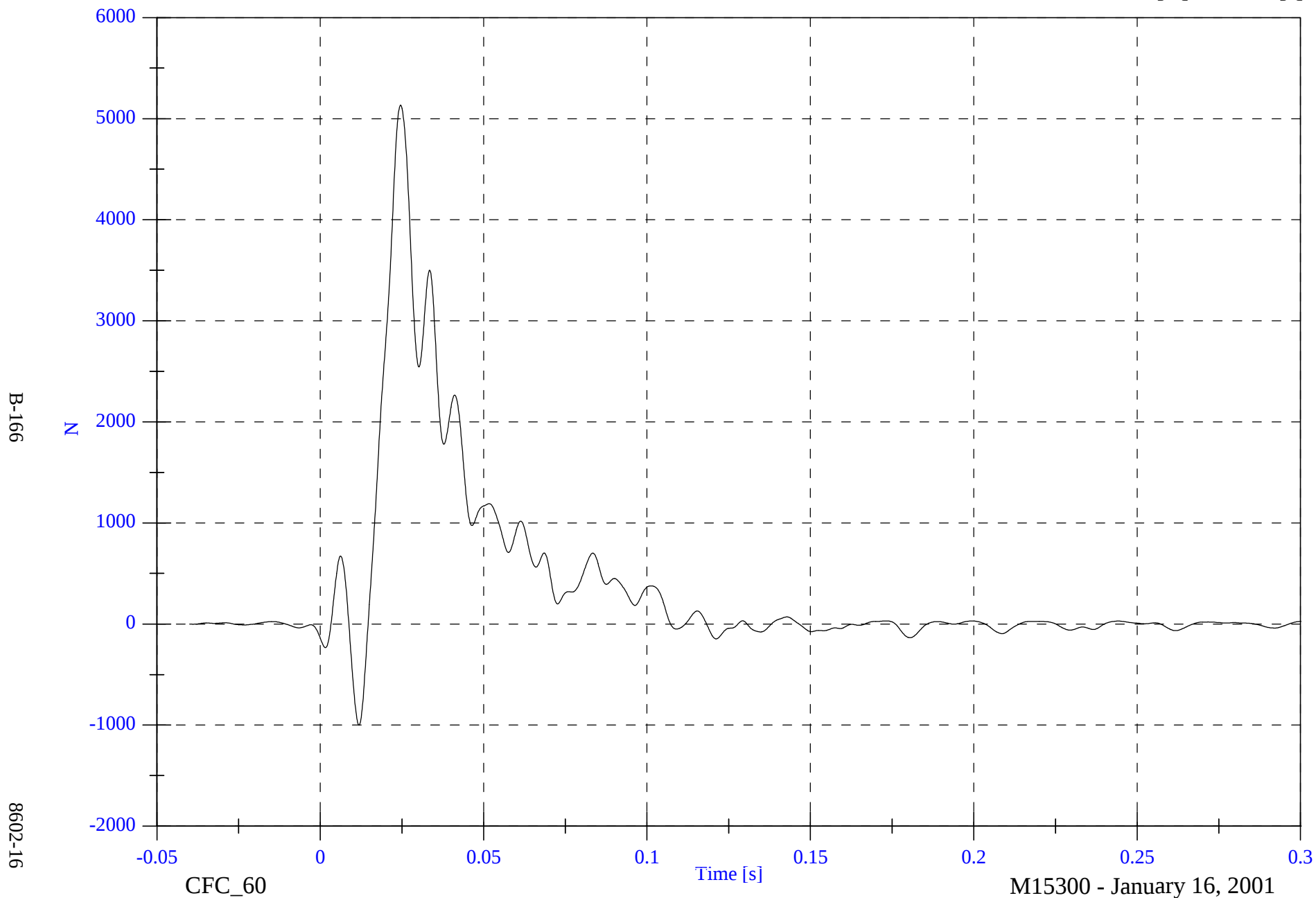


NCAP Test #16 - 2001 Acura 3.2 TL

Barrier Load Cell D6 Fx

Max: 5133.9 [N] at 0.025 [s]

Min: -1002.0 [N] at 0.012 [s]

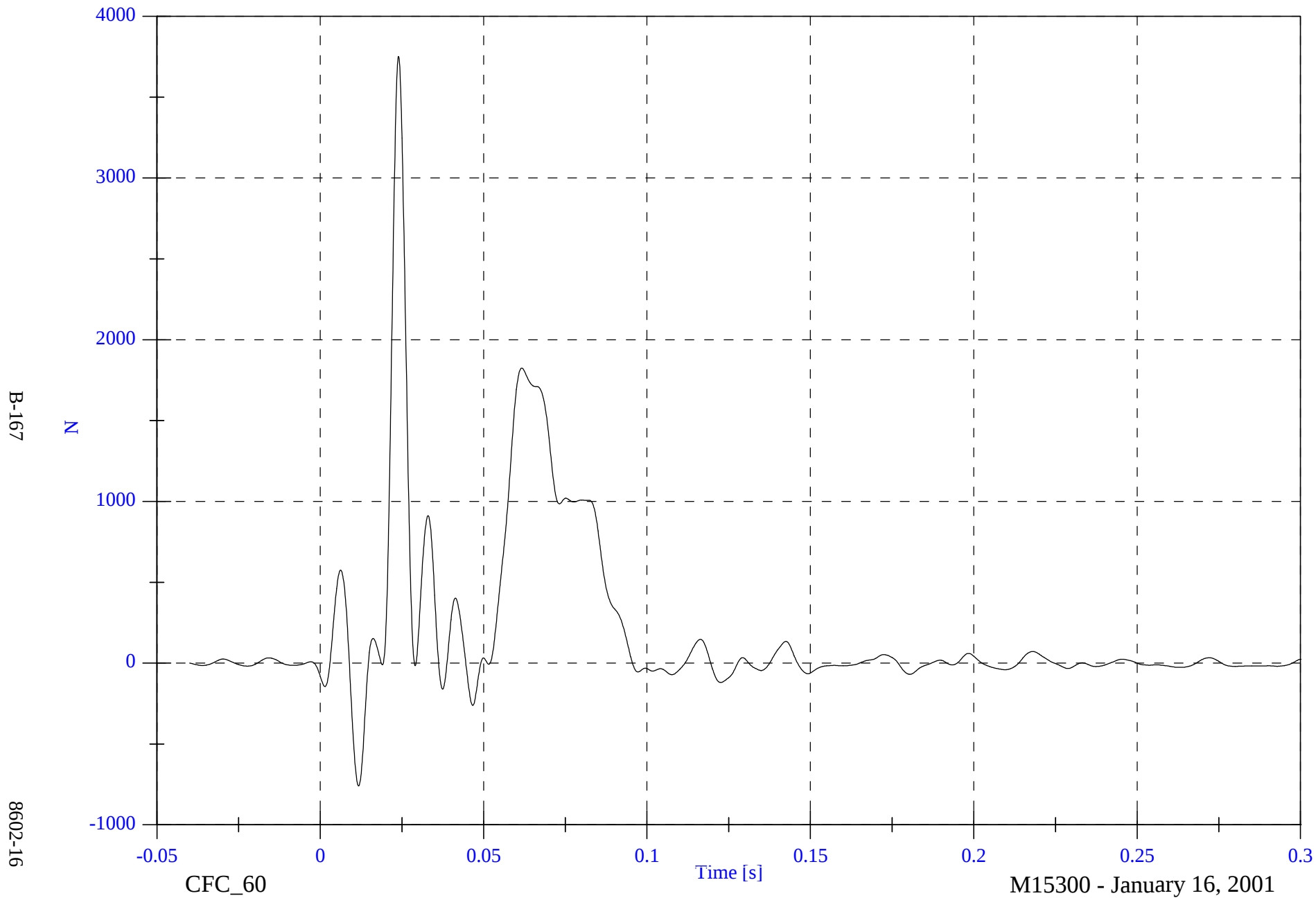


NCAP Test #16 - 2001 Acura 3.2 TL

Barrier Load Cell D7 Fx

Max: 3751.0 [N] at 0.024 [s]

Min: -760.2 [N] at 0.012 [s]

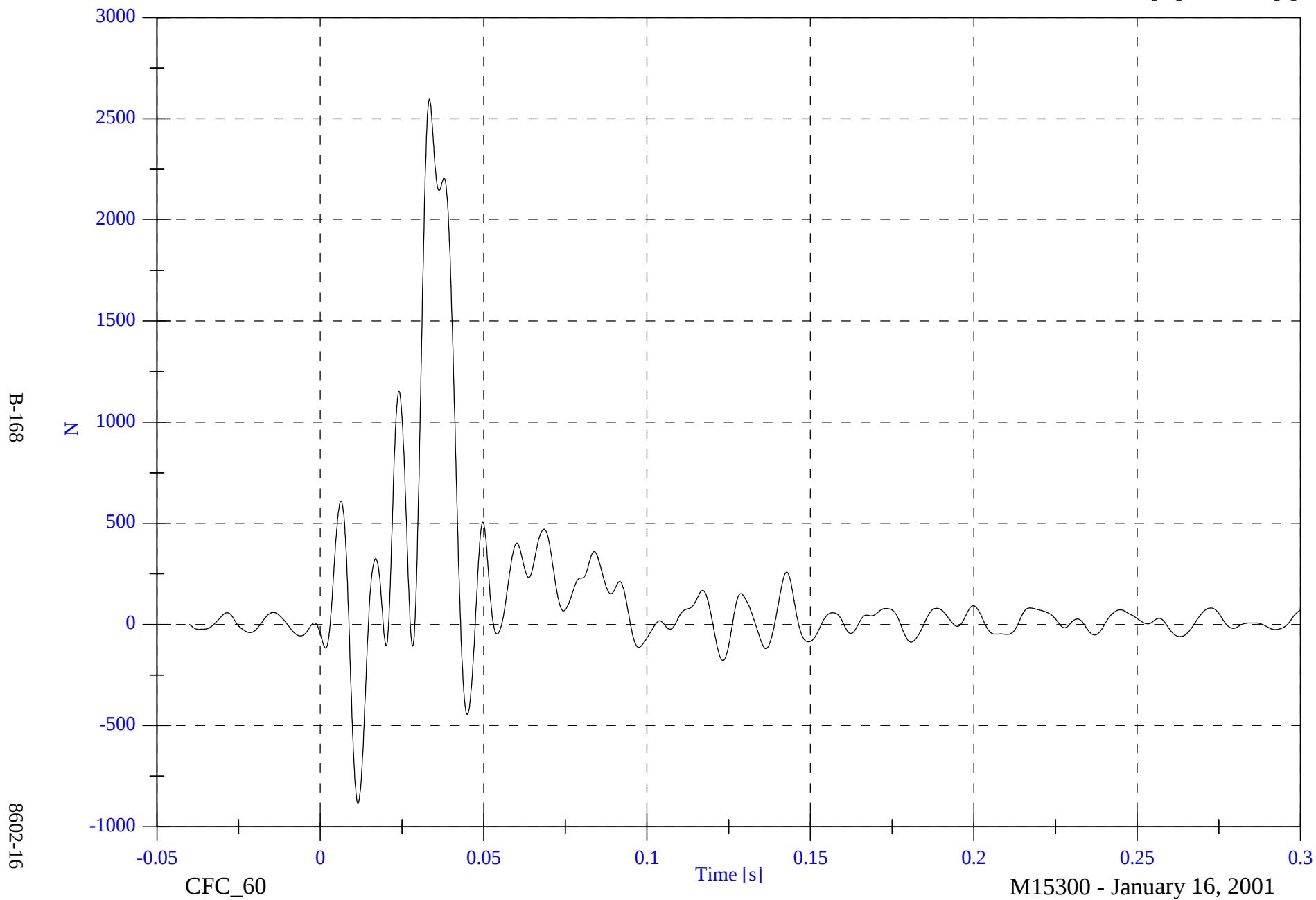


NCAP Test #16 - 2001 Acura 3.2 TL

Barrier Load Cell D8 Fx

Max: 2596.6 [N] at 0.033 [s]

Min: -884.2 [N] at 0.011 [s]

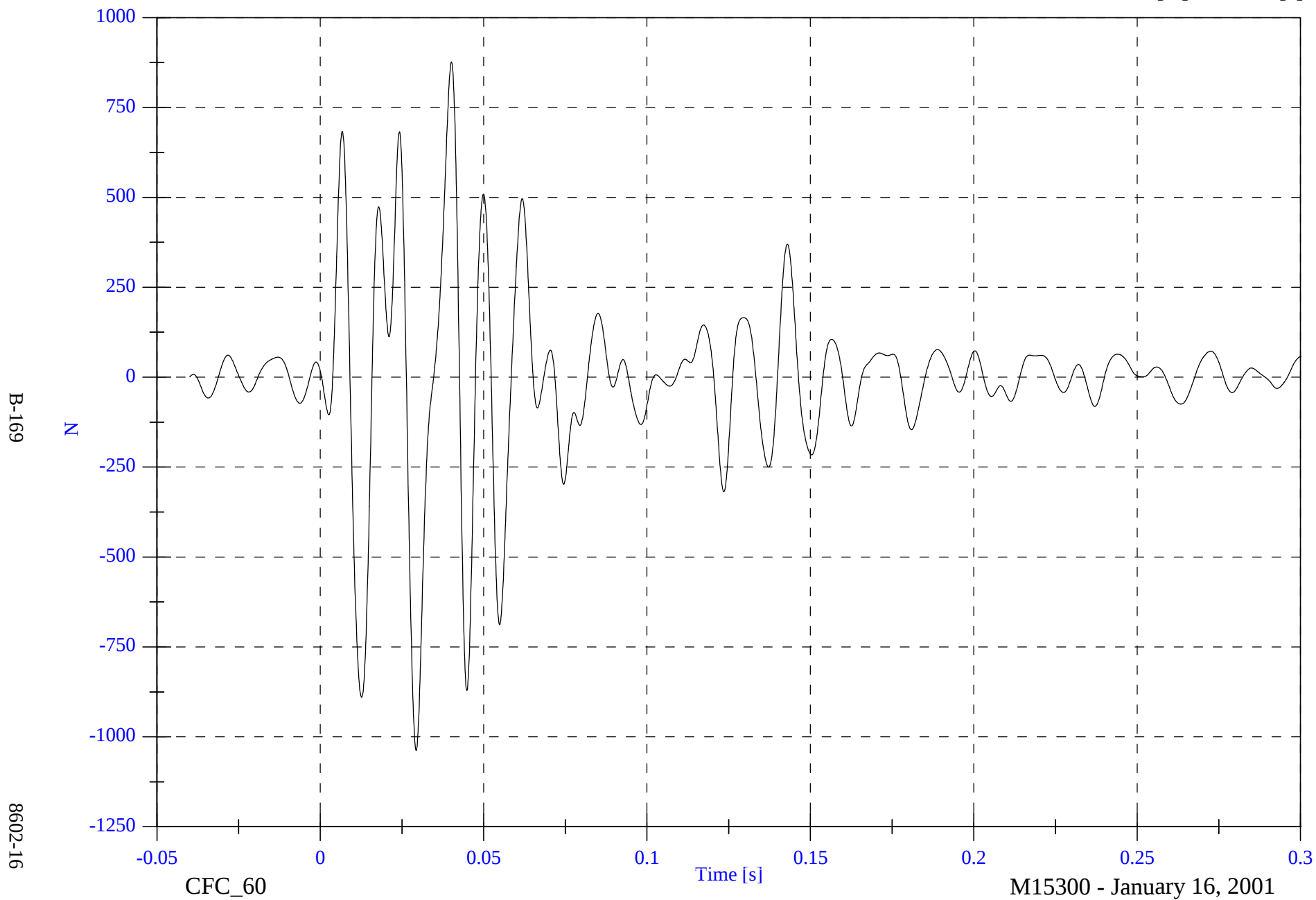


NCAP Test #16 - 2001 Acura 3.2 TL

Barrier Load Cell D9 Fx

Max: 876.8 [N] at 0.040 [s]

Min: -1038.6 [N] at 0.029 [s]

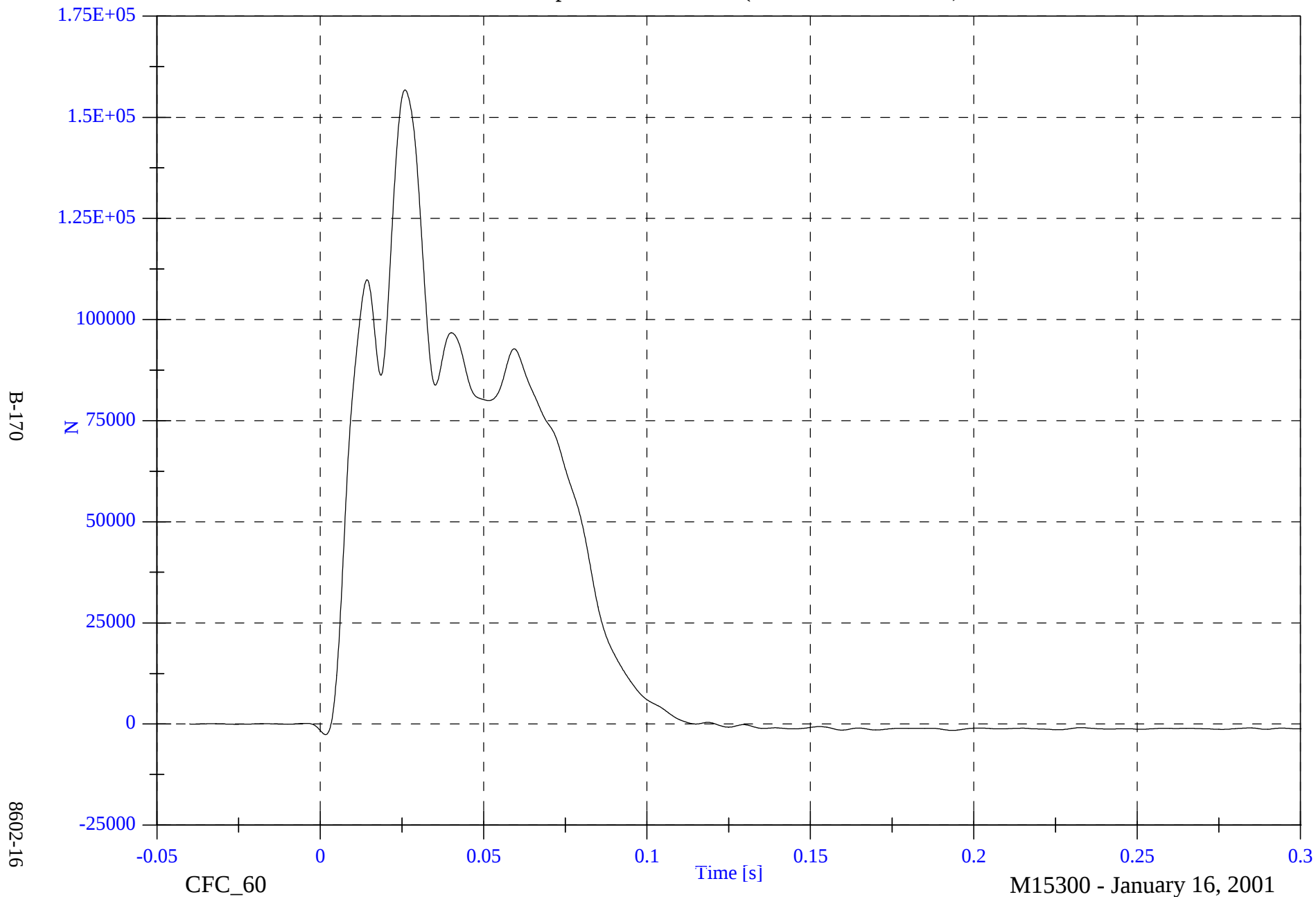


NCAP Test #16 - 2001 Acura 3.2 TL

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

Max: 156771.1 [N] at 0.026 [s]

Min: -2621.6 [N] at 0.002 [s]

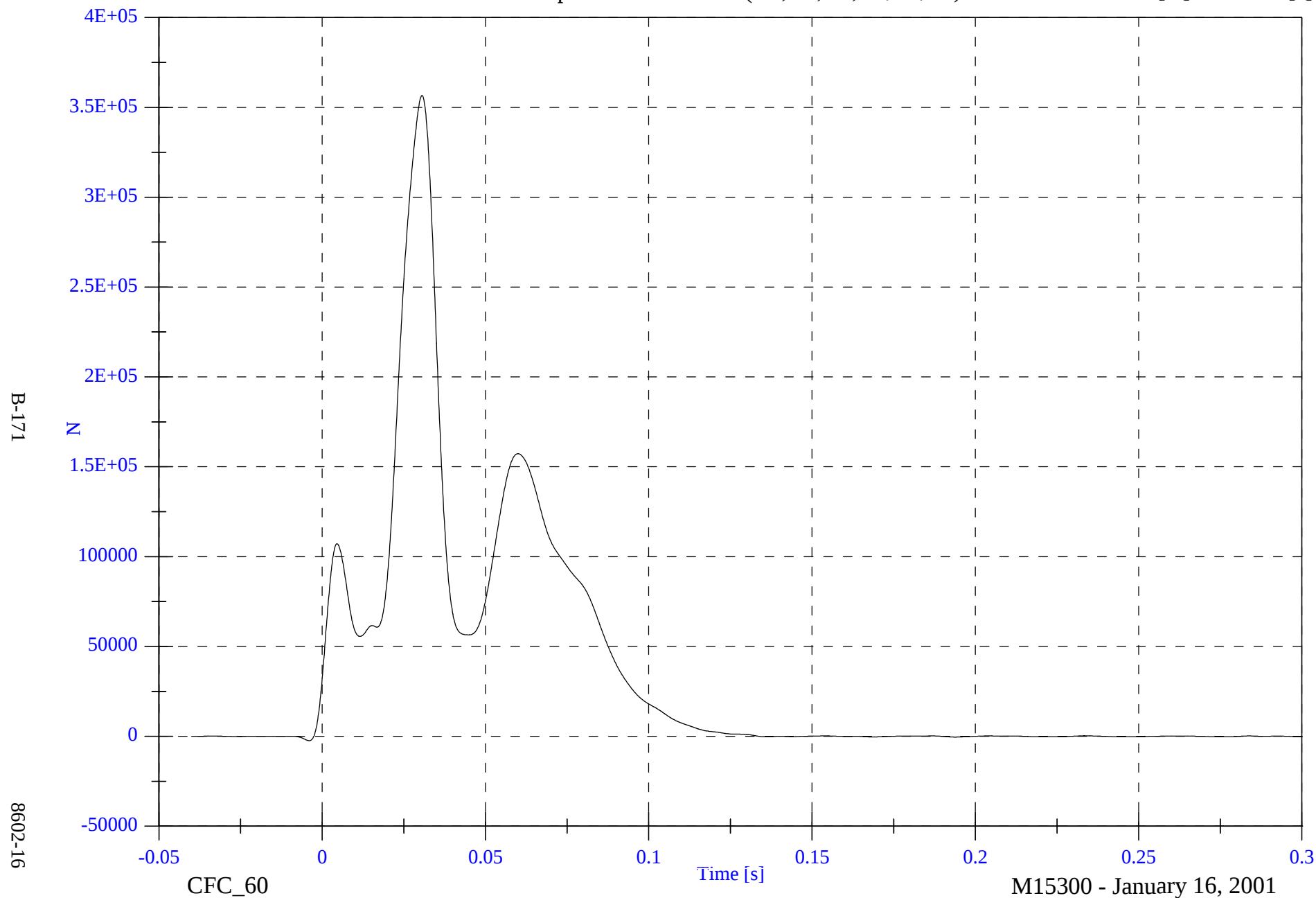


NCAP Test #16 - 2001 Acura 3.2 TL

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

Max: 356642.2 [N] at 0.030 [s]

Min: -2447.5 [N] at -0.004 [s]

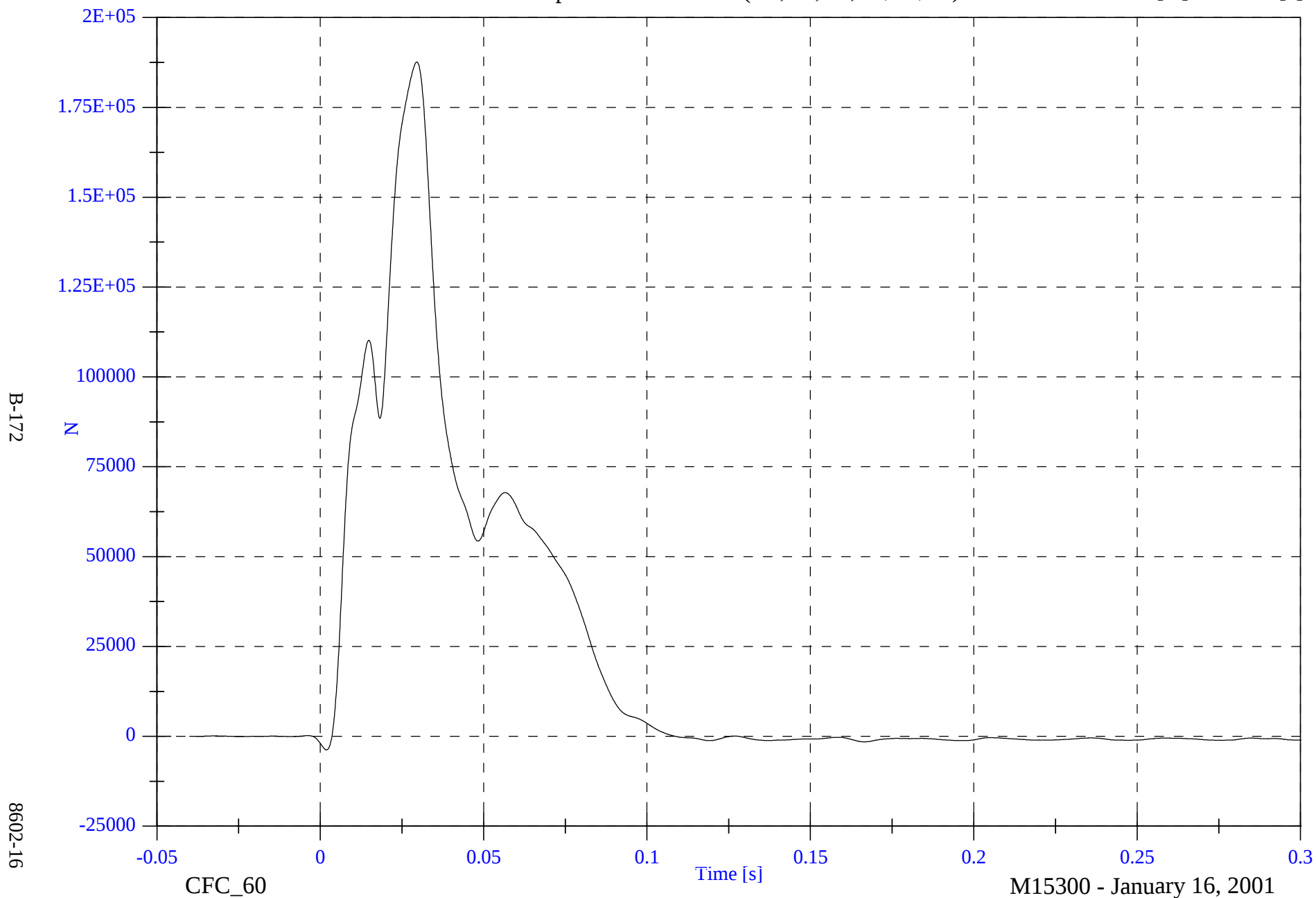


NCAP Test #16 - 2001 Acura 3.2 TL

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

Max: 187658.6 [N] at 0.029 [s]

Min: -3791.1 [N] at 0.002 [s]

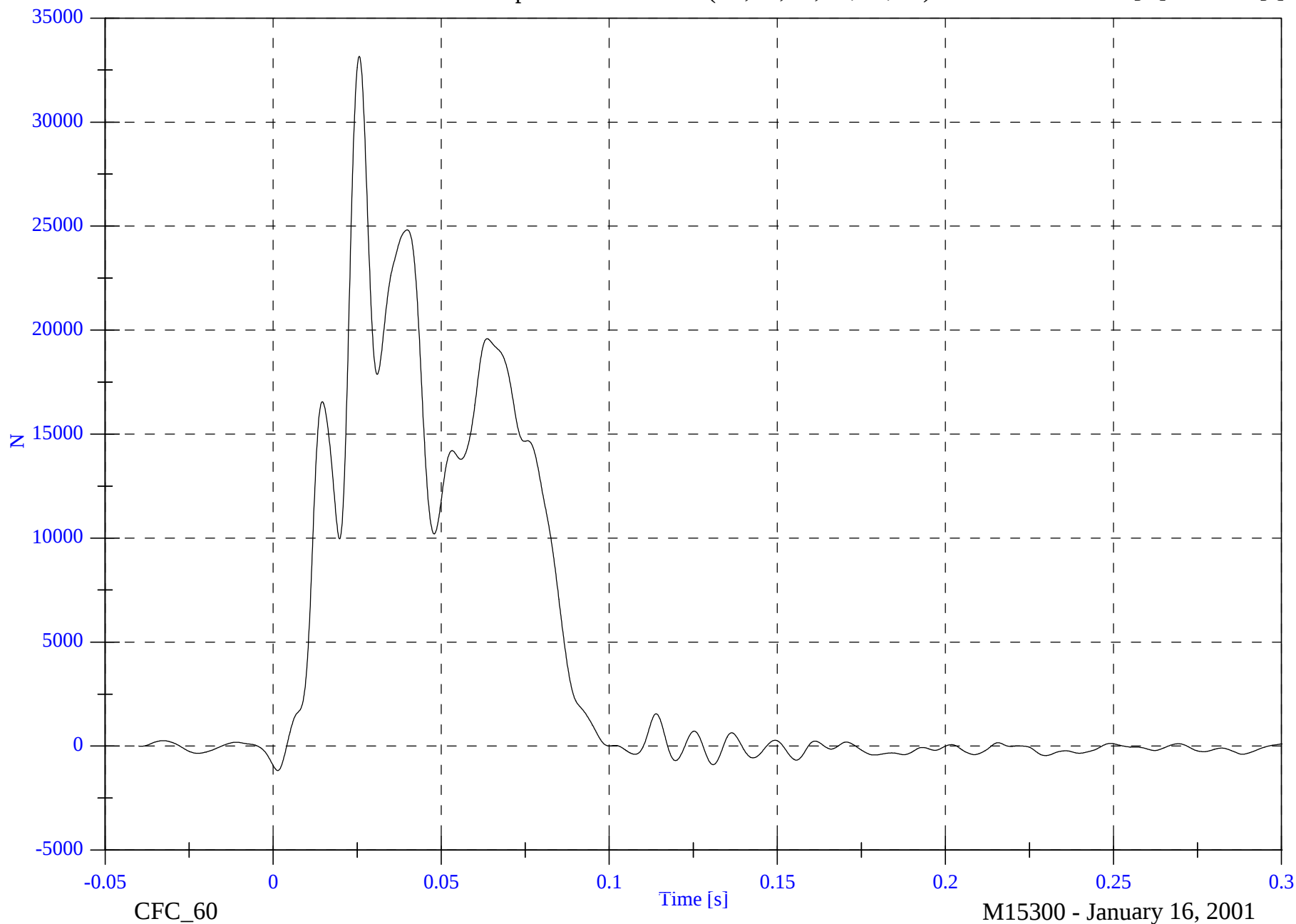


NCAP Test #16 - 2001 Acura 3.2 TL

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

Max: 33160.2 [N] at 0.026 [s]

Min: -1175.7 [N] at 0.001 [s]



B-173

8602-16

CFC_60

Time [s]

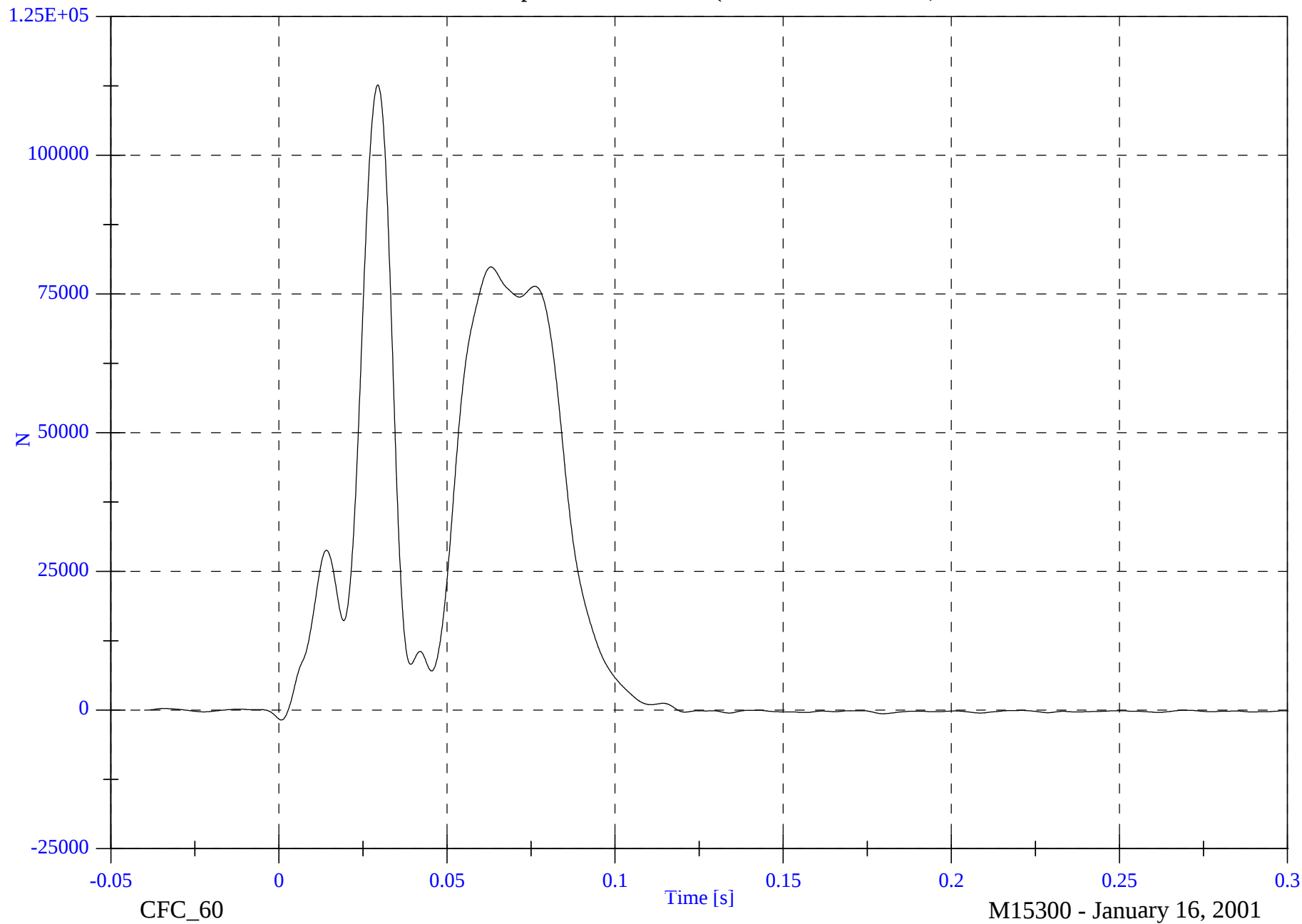
M15300 - January 16, 2001

NCAP Test #16 - 2001 Acura 3.2 TL

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

Max: 112683.6 [N] at 0.029 [s]

Min: -1806.9 [N] at 0.001 [s]

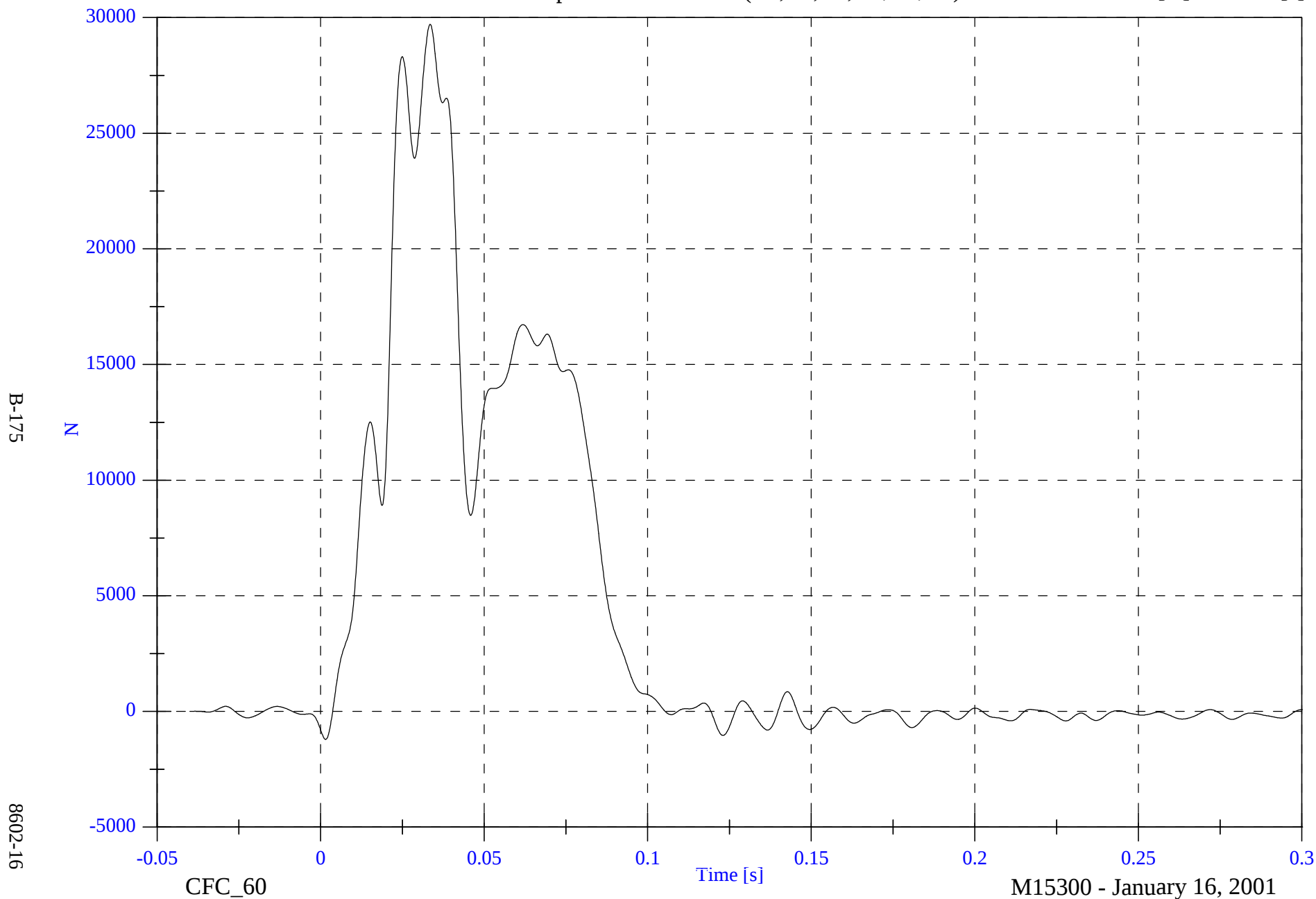


NCAP Test #16 - 2001 Acura 3.2 TL

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

Max: 29707.2 [N] at 0.033 [s]

Min: -1208.9 [N] at 0.001 [s]

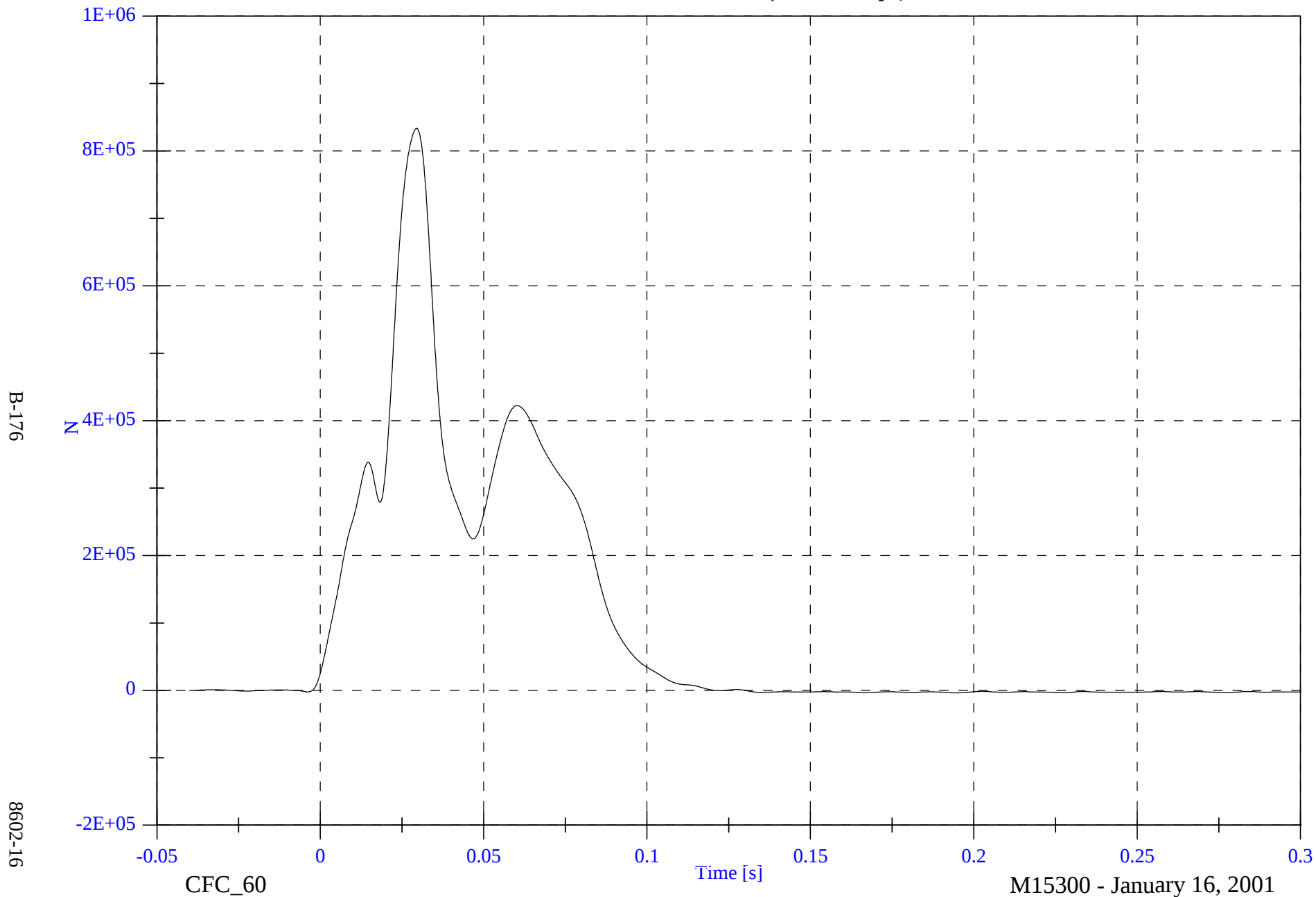


NCAP Test #16 - 2001 Acura 3.2 TL

Total Load Cell Sum (All 6 Groups)

Max: 833621.8 [N] at 0.029 [s]

Min: -3840.1 [N] at 0.194 [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:

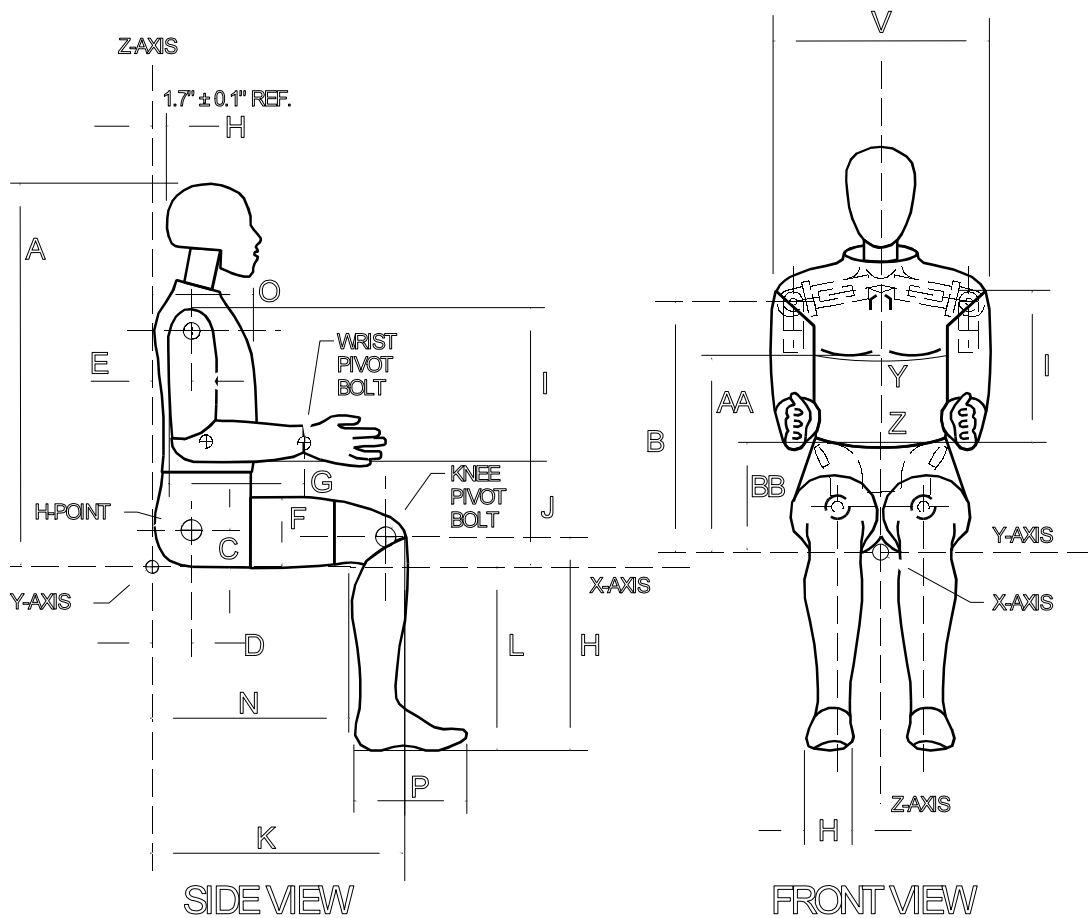
<u>Position No./Location</u>	<u>Serial No.</u>	<u>Completion Date</u>
#1/Driver	150	1-13-2001
#2/Right Front Passenger	245	1-13-2001

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 150
Sequential Test Number 1
Date 1-10-2001
Workfile 150101.hdp

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	66-78 Deg F	71.0
Relative Humidity	10% - 70%	31.0
Peak Resultant Acceleration	225-275 G's	237.35
Peak Lateral Acceleration	15 G's Max	1.90
Is Acceleration Curve Unimodal?	YES	YES

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
NECK FLEXION TEST

Dummy Serial Number	150	
Sequential Test Number	1	
Date	1-10-2001	6 Axis Neck Transducer
Workfile	150101.nfl	

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	71.0
Relative Humidity		10% - 70%	31.0
Impact Velocity		22.60 - 23.40 Ft/s	22.70
Pendulum Deceleration	10 ms	22.50 - 27.50 G's	24.47
	20 ms	17.60 - 22.60 G's	20.80
	30 ms	12.50 - 18.50 G's	14.51
Max Pendulum G's Above 30 ms		29 G's Max	14.51
Deceleration - Time Curve Decay Time to 5 G's		34 - 42 ms	38.00
D Plane Rotation	Max	64 - 78 Deg	77.65
	Time	57 - 64 ms	63.25
Moment About Occipital Condyle	Max	65 - 80 Ft-Lbs	74.79
	Time	47 - 58 ms	52.25
Rotation Angle - Time Curve Decay Time to Zero		113 - 128 ms	126.25
Positive Moment - Time Curve Decay Time to Zero		97 - 107 ms	101.38

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
NECK EXTENSION TEST

Dummy Serial Number	150	
Sequential Test Number	1	
Date	1-10-2001	6 Axis Neck Transducer
Workfile	150101.nex	

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	71.0
Relative Humidity		10% - 70%	31.0
Impact Velocity		19.50 - 20.30 Ft/s	19.72
Pendulum Deceleration	10 ms	17.20 - 21.20 G's	18.29
	20 ms	14.00 - 19.00 G's	15.67
	30 ms	11.00 - 16.00 G's	12.93
Max Pendulum G's Above 30 ms		22 G's Max	12.93
Deceleration - Time Curve Decay Time to 5 G's		38 - 46 ms	43.25
D Plane Rotation	Max	81 - 106 Deg	98.69
	Time	72 - 82 ms	77.50
Moment About Occipital Condyle	Max	-59.0 - -39.0 Ft-Lbs	-48.54
	Time	65 - 79 ms	73.75
Rotation Angle - Time Curve Decay Time to Zero		147 - 174 ms	158.88
Positive Moment - Time Curve Decay Time to Zero		120 - 148 ms	141.75

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
THORAX IMPACT TEST

Dummy Serial Number 150
Sequential Test Number 1
Date 1-12-2001
Workfile 150101.th3

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	69-72 Deg F	71.0
Relative Humidity	10% - 70%	31.0
Pendulum Velocity	21.6 - 22.4 Ft/s	21.7
Maximum Deflection	2.50 - 2.86 in	2.53
Maximum Resistive Force	1160 - 1325 Lbs	1261.50
Internal Hysteresis	69 - 85 %	70.17

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
KNEE IMPACT TEST

Dummy Serial Number 150
Sequential Test Number 1
Date 1-12-2001
Workfile 150101.lf / 150101.rf

TEST PARAMETER	SPECIFICATION	TEST RESULTS
LEFT KNEE		
Temperature	66 - 78 Deg F	71.0
Relative Humidity	10% - 70%	32.0
Probe Velocity	6.8 - 7.0 Ft/s	7.0
Peak Knee Impact Force	1060 - 1300 Lbs	1294.17
RIGHT KNEE		
Temperature	66 - 78 Deg F	71.0
Relative Humidity	10% - 70%	32.0
Probe Velocity	6.8 - 7.0 Ft/s	7.0
Peak Knee Impact Force	1060 - 1300 Lbs	1249.37

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
EXTERNAL DIMENSIONS

Dummy Serial Number 150
Sequential Test Number 1
Date 1-12-2001

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature			70
Relative Humidity			31
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	34.0
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	34.8
Thigh Clearance	F	5.5 - 6.1 in	5.7
Buttock Knee Length	K	22.8 - 23.8 in	23.4
Buttock Popliteal Length	N	17.8 - 18.8 in	18.5
Popliteal Height	L	16.9 - 17.9 in	17.8
Knee Pivot Height	M	19.1 - 19.7 in	19.6
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	3.7
Shoulder Breadth	V	16.6 - 17.2 in	16.9
Shoulder Pivot Height	B	19.9 - 20.5 in	20.2
Elbow Rest Height	J	7.5 - 8.3 in	8.1
Shoulder - Elbow Length	I	13.0 - 13.6 in	13.2
Back of Elbow to Wrist Pivot	G	11.4 - 12.0 in	11.5

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
HEAD DROP TEST

Dummy Serial Number 245
Sequential Test Number 1
Date 1-10-2001
Workfile 245101.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	225.13
Peak Lateral Acceleration	15 G's Max	13.60
Is Acceleration Curve Unimodal?	YES	YES

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
NECK FLEXION TEST

Dummy Serial Number	245	
Sequential Test Number	1	
Date	1-11-2001	6 Axis Neck Transducer
Workfile	245101.nfl	

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	70.0
Relative Humidity		10% - 70%	30.0
Impact Velocity		22.60 - 23.40 Ft/s	22.64
Pendulum Deceleration	10 ms	22.50 - 27.50 G's	23.40
	20 ms	17.60 - 22.60 G's	19.95
	30 ms	12.50 - 18.50 G's	14.30
Max Pendulum G's Above 30 ms		29 G's Max	14.30
Deceleration - Time Curve Decay Time to 5 G's		34 - 42 ms	39.25
D Plane Rotation	Max	64 - 78 Deg	71.84
	Time	57 - 64 ms	63.62
Moment About Occipital Condyle	Max	65 - 80 Ft-Lbs	75.13
	Time	47 - 58 ms	53.00
Rotation Angle - Time Curve Decay Time to Zero		113 - 128 ms	122.62
Positive Moment - Time Curve Decay Time to Zero		97 - 107 ms	99.88

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
NECK EXTENSION TEST

Dummy Serial Number	245	
Sequential Test Number	1	
Date	1-11-2001	6 Axis Neck Transducer
Workfile	245101.nex	

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	70.0
Relative Humidity		10% - 70%	30.0
Impact Velocity		19.50 - 20.30 Ft/s	19.72
Pendulum Deceleration	10 ms	17.20 - 21.20 G's	18.88
	20 ms	14.00 - 19.00 G's	17.38
	30 ms	11.00 - 16.00 G's	14.44
Max Pendulum G's Above 30 ms		22 G's Max	14.44
Deceleration - Time Curve Decay Time to 5 G's		38 - 46 ms	39.38
D Plane Rotation	Max	81 - 106 Deg	101.42
	Time	72 - 82 ms	75.12
Moment About Occipital Condyle	Max	-59.0 - -39.0 Ft-Lbs	-53.00
	Time	65 - 79 ms	70.00
Rotation Angle - Time Curve Decay Time to Zero		147 - 174 ms	151.38
Positive Moment - Time Curve Decay Time to Zero		120 - 148 ms	140.75

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
THORAX IMPACT TEST

Dummy Serial Number 245
Sequential Test Number 1
Date 1-12-2001
Workfile 245101.th3

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	69-72 Deg F	71.0
Relative Humidity	10% - 70%	31.0
Pendulum Velocity	21.6 - 22.4 Ft/s	21.6
Maximum Deflection	2.50 - 2.86 in	2.50
Maximum Resistive Force	1160 - 1325 Lbs	1198.74
Internal Hysteresis	69 - 85 %	72.28

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
KNEE IMPACT TEST

Dummy Serial Number 245
Sequential Test Number 1
Date 1-12-2001
Workfile 245101.lf / 245101.rf

TEST PARAMETER	SPECIFICATION	TEST RESULTS
LEFT KNEE		
Temperature	66 - 78 Deg F	71.0
Relative Humidity	10% - 70%	32.0
Probe Velocity	6.8 - 7.0 Ft/s	7.0
Peak Knee Impact Force	1060 - 1300 Lbs	1278.23
RIGHT KNEE		
Temperature	66 - 78 Deg F	71.0
Relative Humidity	10% - 70%	32.0
Probe Velocity	6.8 - 7.0 Ft/s	7.0
Peak Knee Impact Force	1060 - 1300 Lbs	1204.86

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
EXTERNAL DIMENSIONS

Dummy Serial Number 245
Sequential Test Number 1
Date 1-12-2001

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature			70
Relative Humidity			31
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	39.0
Waist Circumference	Z	32.9 - 34.1 in	33.7
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	6.0
Buttock Knee Length	K	22.8 - 23.8 in	23.4
Buttock Popliteal Length	N	17.8 - 18.8 in	18.3
Popliteal Height	L	16.9 - 17.9 in	17.5
Knee Pivot Height	M	19.1 - 19.7 in	19.2
Foot Length	P	9.9 - 10.5 in	10.2
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	20.2
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 150)		Manufacturer	Serial #	Calibration	
				Last	Next
Head	X	ENDEVCO	AC-P16832	20-Sep-00	20-Mar-01
	Y	ENDEVCO	AC-P16591	20-Sep-00	20-Mar-01
	Z	ENDEVCO	AC-P17154	21-Sep-00	21-Mar-01
Head	X (R)	ENDEVCO	AC-P17141	20-Sep-00	20-Mar-01
	Y (R)	ENDEVCO	AC-P17242	20-Sep-00	20-Mar-01
	Z (R)	ENDEVCO	AC-P17265	20-Sep-00	20-Mar-01
Neck Load Cell	X	DENTON	LC-269Fx	16-Nov-00	16-May-01
	Y	DENTON	LC-269Fy	16-Nov-00	16-May-01
	Z	DENTON	LC-269Fz	16-Nov-00	16-May-01
Neck Moment	X	DENTON	LC-269Mx	16-Nov-00	16-May-01
	Y	DENTON	LC-269My	16-Nov-00	16-May-01
	Z	DENTON	LC-269Mz	16-Nov-00	16-May-01
Chest	X	ENDEVCO	AC-P17235	15-Sep-00	15-Mar-01
	Y	ENDEVCO	AC-P14393	20-Sep-00	20-Mar-01
	Z	ENDEVCO	AC-P17285	20-Sep-00	20-Mar-01
Chest	X (R)	ENDEVCO	AC-P16863	13-Sep-00	13-Mar-01
	Y (R)	ENDEVCO	AC-P17248	20-Sep-00	20-Mar-01
	Z (R)	ENDEVCO	AC-P17283	20-Sep-00	20-Mar-01
Chest Deflection Gauge Hybrid III Use Only		SERVO	DS-150	16-Nov-00	16-May-01
Pelvic	X	ENDEVCO	AC-J30041	04-Aug-00	04-Feb-01
	Y	ENDEVCO	AC-P13355	16-Nov-00	16-May-01
	Z	ENDEVCO	AC-P13329	16-Nov-00	16-May-01

INSTRUMENT CALIBRATION FOR DRIVER DUMMY

(6 Month Calibration Minimum)

DRIVER DUMMY (S/N 150)		Manufacturer	Serial #	Calibration	
				Last	Next
Left Femur Load Cell		GSE	LC-418	20-Nov-00	20-May-01
Right Femur Load Cell		GSE	LC-420	20-Nov-00	20-May-01
Left Upper Tibia	Mx	DENTON	LC-045Mx	04-Nov-00	04-May-01
	My	DENTON	LC-045My	04-Nov-00	04-May-01
Left Lower Tibia	Fz	DENTON	LC-125Fz	04-Nov-00	04-May-01
	Mx	DENTON	LC-125Mx	04-Nov-00	04-May-01
	My	DENTON	LC-125My	04-Nov-00	04-May-01
Right Upper Tibia	Mx	DENTON	LC-038Mx	09-Nov-00	09-May-01
	My	DENTON	LC-038My	09-Nov-00	09-May-01
Right Lower Tibia	Fz	DENTON	LC-124Fz	09-Nov-00	09-May-01
	Mx	DENTON	LC-124Mx	09-Nov-00	09-May-01
	My	DENTON	LC-124My	09-Nov-00	09-May-01
Left Foot Rear	X	ENDEVCO	AC-P16951	02-Oct-00	02-Apr-01
	Z	ENDEVCO	AC-P17152	02-Oct-00	02-Apr-01
Left Foot Front	Z	ENDEVCO	AC-P16975	02-Oct-00	02-Apr-01
Right Foot Rear	X	ENDEVCO	AC-J31042	07-Nov-00	07-May-01
	Z	ENDEVCO	AC-J32176	07-Nov-00	07-May-01
Right Foot Front	Z	ENDEVCO	AC-J31009	08-Nov-00	08-May-01
Lap Belt Load Cells		LEBOW	LC-706	01-Dec-00	01-Jun-01
Shoulder Belt Load Cells		LEBOW	LC-707	01-Dec-00	01-Jun-01
Spool-Out Potentiometer		MAGNETEK	DS-M6	27-Jul-00	27-Jan-01
Belt Stretch Transducer		CAL	DS-E3	07-Aug-00	07-Aug-01

INSTRUMENT CALIBRATION FOR PASSENGER DUMMY

(6 Month Calibration Minimum)

PASSENGER DUMMY (S/N 245)		Manufacturer	Serial #	Calibration	
				Last	Next
Head	X	ENDEVCO	AC-J32184	04-Dec-00	04-Jun-01
	Y	ENDEVCO	AC-J32185	04-Dec-00	04-Jun-01
	Z	ENDEVCO	AC-J31011	04-Dec-00	04-Jun-01
Head	X (R)	ENDEVCO	AC-J31020	04-Dec-00	04-Jun-01
	Y (R)	ENDEVCO	AC-J31101	04-Dec-00	04-Jun-01
	Z (R)	ENDEVCO	AC-J31059	04-Dec-00	04-Jun-01
Neck Load Cell	X	DENTON	LC-076Fx	28-Aug-00	28-Feb-01
	Y	DENTON	LC-076Fy	28-Aug-00	28-Feb-01
	Z	DENTON	LC-076Fz	28-Aug-00	28-Feb-01
Neck Moment	X	DENTON	LC-076Mx	28-Aug-00	28-Feb-01
	Y	DENTON	LC-076My	28-Aug-00	28-Feb-01
	Z	DENTON	LC-076Mz	28-Aug-00	28-Feb-01
Chest	X	ENDEVCO	AC-J34019	04-Dec-00	04-Jun-01
	Y	ENDEVCO	AC-J33018	04-Dec-00	04-Jun-01
	Z	ENDEVCO	AC-J32783	04-Dec-00	04-Jun-01
Chest	X (R)	ENDEVCO	AC-J31066	04-Dec-00	04-Jun-01
	Y (R)	ENDEVCO	AC-P16979	15-Sep-00	15-Mar-01
	Z (R)	ENDEVCO	AC-J31022	04-Dec-00	04-Jun-01
Chest Deflection Gauge		SERVO	DS-245	05-Dec-00	05-Jun-01
Hybrid III Use Only					
Pelvic	X	ENDEVCO	AC-J31034	03-Dec-00	03-Jun-01
	Y	ENDEVCO	AC-P17258	15-Sep-00	15-Mar-01
	Z	ENDEVCO	AC-J31010	03-Dec-00	03-Jun-01

INSTRUMENT CALIBRATION FOR PASSENGER DUMMY

(6 Month Calibration Minimum)

PASSENGER DUMMY (S/N 245)		Manufacturer	Serial #	Calibration	
				Last	Next
Left Femur Load Cell		GSE	LC-551	20-Nov-00	20-May-01
Right Femur Load Cell		GSE	LC-951	20-Nov-00	20-May-01
Left Upper Tibia	Mx	DENTON	LC-016Mx	09-Nov-00	09-May-01
	My	DENTON	LC-016My	09-Nov-00	09-May-01
Left Lower Tibia	Fz	DENTON	LC-123Fz	09-Nov-00	09-May-01
	Mx	DENTON	LC-123Mx	09-Nov-00	09-May-01
	My	DENTON	LC-123My	09-Nov-00	09-May-01
Right Upper Tibia	Mx	DENTON	LC-023Mx	09-Nov-00	09-May-01
	My	DENTON	LC-023My	09-Nov-00	09-May-01
Right Lower Tibia	Fz	DENTON	LC-111Fz	09-Nov-00	09-May-01
	Mx	DENTON	LC-111Mx	09-Nov-00	09-May-01
	My	DENTON	LC-111My	09-Nov-00	09-May-01
Left Foot Rear	X	ENDEVCO	AC-APA30	26-Jul-00	26-Jan-01
	Z	ENDEVCO	AC-J31026	21-Sep-00	21-Mar-01
Left Foot Front	Z	ENDEVCO	AC-J32831	26-Jul-00	26-Jan-01
Right Foot Rear	X	ENDEVCO	AC-J32832	24-Jul-00	24-Jan-01
	Z	ENDEVCO	AC-J33376	26-Jul-00	26-Jan-01
Right Foot Front	Z	ENDEVCO	AC-J18400	28-Sep-00	28-Mar-01
Lap Belt Load Cells		LEBOW	LC-711	01-Dec-00	01-Jun-01
Shoulder Belt Load Cells		LEBOW	LC-712	01-Dec-00	01-Jun-01
Spool-Out Potentiometer		PATRIOT	DS-M98	17-Nov-00	17-May-01
Belt Stretch Transducer		CAL	DS-E6	08-Aug-00	08-Aug-01

INSTRUMENT CALIBRATION FOR VEHICLE ACCELEROMETERS

(6 Month Calibration Minimum)

	Manufacturer	Serial #	Calibration	
			Last	Next
Left Seat Rear Crossmember	ICS	AC-Y05	25-Aug-00	25-Feb-01
Right Rear Seat Crossmember	ICS	AC-D84	14-Aug-00	14-Feb-01
Top of Engine	ENDEVCO	AC-APBB6	10-Dec-00	10-Jun-01
Bottom of Engine	ENDEVCO	AC-BA80	28-Sep-00	28-Mar-01
Right Disc Brake Caliper	ENTRAN	AC-D03	31-Aug-00	3-Mar-01
Instrument Panel	ENDEVCO	AC-A14124	07-Aug-00	07-Aug-01
Left Disc Brake Caliper	ENDEVCO	AC-AA35	10-Dec-00	10-Jun-01
Left Seat Rear Crossmember (R)	ICS	AC-D88	14-Aug-00	14-Feb-01
Right Seat Rear Crossmember (R)	ICS	AC-D30	11-Aug-00	11-Feb-01