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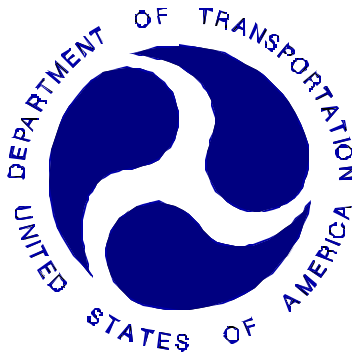
**NEW CAR ASSESSMENT PROGRAM (NCAP)
FRONTAL BARRIER IMPACT TEST**

FORD MOTOR COMPANY
2002 FORD FOCUS
4-DOOR SEDAN

NHTSA NUMBER: M20201

VERIDIAN TEST NUMBER: 8642-NCAP-07

VERIDIAN ENGINEERING
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April 12, 2002

FINAL REPORT

PREPARED FOR:

U. S. DEPARTMENT OF TRANSPORTATION
National Highway Traffic Safety Administration
Safety Performance Standards
Office of Crashworthiness Standards
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16. Abstract					
<p>A frontal load cell barrier test of a 2002 Ford Focus 4-Door Sedan was performed at Veridian Engineering crash test facility in Buffalo, New York, on April 12, 2002.</p> <p>The impact velocity was 56.17 kph and the temperature at the barrier face was 21°C. The maximum post-test vehicle crush was 484 mm. The test vehicle was equipped with 3point restraint systems with a shoulder belt pretensioner and load limiter for the driver and a lap belt pretensioner and load limiter for the passenger, knee bolsters, adjustable head restraints and airbags at both the driver and right outboard passenger seating positions.</p> <p>With respect to FMVSS 208 "Occupant Crash Protection - Injury Criteria" both the driver and passenger appeared to comply with head, chest, and femur requirements.</p>					
ATD Position	HIC	Clip (g's)	Chest Disp (mm)	Left Femur (N)	Right Femur (N)
Driver (061)	406.3	42.7	33.1	3478.5	4453.4
Passenger (064)	422.0	53.3	27.5	5397.0	6353.8
17. Key Words 56 kph Frontal Barrier Impact test New Car Assessment Program (NCAP)				18. Distribution Statement Copies of this report are available from: NHTSA Technical Reference Division National Highway Traffic Safety Admin. 400 Seventh St., SW, Room 5108 Washington, DC 20590	
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SECTION 1

PURPOSE AND SUMMARY OF TEST

1.1 PURPOSE

This 56.17 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. DTNH22-01-D-32005. 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 56.17 kph frontal barrier impact test was conducted in accordance with the Office of Crashworthiness Standards Laboratory Indicant Test procedure.

1.2 TEST PROCEDURE

This 56.17 kph frontal barrier impact test was conducted in accordance with the Office of Crashworthiness Standards (OCS) New Car Assessment Program (NCAP) Laboratory Indicant Test Procedure, dated December 1999. Data was obtained indicant of FMVSS 208, "Occupant Crash Protection"; FMVSS 212, "Windshield Retention"; FMVSS 219, "Windshield Zone Intrusion (Partial)"; and FMVSS 301 "Fuel System Integrity" performance. Procedures for receiving, inspection testing and reporting of test results are described in the test procedures and are not repeated in this report.

One real-time camera and 16 high-speed cameras were used to document the frontal barrier impact event. 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 nine accelerometer array head, chest and pelvis triaxial accelerometers, chest displacement potentiometers, upper neck transducers, right/left femur load cells, left and right knee sliders, and lower leg instrumentation. The driver (position 1) ATD (Serial No. 061) and the right-front passenger (position 2) ATD (Serial No.064) were used in one test (M25200) previous to this test where they did not exceed FMVSS 208 head, chest and femur requirements. Certification details, along with instrumentation calibration data, are found in Appendix C.

The vehicle, occupant, camera and measurement data are presented in Section 2. Appendix A contains the still photograph prints. The 165 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. Appendix C contains the dummy calibration data and Appendix D contains the transducer calibration dates.

1.3 SUMMARY OF FRONTAL BARRIER IMPACT TEST

A load cell barrier consisting of 36 load cells was impacted by a 2002 Ford Focus 4-Door Sedan at a velocity of 56.17 kph. The test was performed at Veridian Engineering on April 12, 2002. Pre- and post-test photographs of the vehicle and dummies can be found in Appendix A.

The occupant data is summarized below.

	HIC	Clip (g)	Chest Disp. (mm)	Left Femur (N)	Right Femur (N)	Belt Spool (mm)	Belt Stretch (mm/50 mm)
Driver ATD	406.3	42.7	33.1	3478.5	4453.4	*	*
Passenger ATD	422.0	53.3	27.5	5397.0	6353.8	*	*

*Not used

There was 100 percent windshield retention and no intrusion into the protected zone of the windshield during the event. There was no Stoddard solvent leakage after the event or during any phase of the static rollover.

The maximum vehicle static crush was 484 mm and both the driver and passenger side doors remained closed during the impact event and were operable without the use of tools after the impact.

The driver's visible contact points were as follows: The face to the left of center of the airbag, the back of the head to the center of the headrest; the chest to the airbag, and the left and right knees to the knee bolster. The passenger's visible contact points were as follows: The face to the center of the airbag, the back of the head to the left of center of the headrest; the chest to the airbag, and the left and right knees to the knee bolster.

The 2002 Ford Focus 4-Door Sedan did not exceed the requirements of FMVSS 208, FMVSS 212, FMVSS 219, and FMVSS 301. Data pertaining to these standards are presented in the data sheets.

SECTION 2

GENERAL TEST AND VEHICLE PARAMETER DATA

DATA SHEET NO. 1 CRASH TEST SUMMARY

Vehicle NHTSA No.: M20201 Test Mode: 56.3 kph Frontal Barrier
 Test Date: April 12, 2002 Time: 12:20 Temperature: 21 °C
 Vehicle Make/Model/Body Style: 2002 Ford Focus 4-Door Sedan
 Vehicle Test Weight: 1410.0 kg
 Vehicle/Barrier Impact Angle: 0 °
 Impact Velocity: 56.17 kph
 Maximum Static Crush: 484 mm
 Vehicle Rebound: 518 mm

<u>DUMMIES:</u>	<u>DRIVER</u>	<u>PASSENGER</u>
Type:	<u> 572E </u>	<u> 572E </u>
Restraint System:	<u> Seatbelt with shoulder belt pretensioner and load limiter, airbag, knee bolster and adjustable head restraint </u>	<u> Seatbelt with lap belt pretensioner and load limiter, airbag, knee bolster and adjustable head restraint </u>

Number of Data Channels: 165
 Number of Cameras: 1 Real Time
 16 High Speed

DOOR OPENING DATA: Closed, latched and operable without tools - Left Front
 Closed, latched and operable without tools - Right Front

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

<u>VISIBLE DUMMY CONTACT POINTS:</u>	<u>DRIVER</u>	<u>PASSENGER</u>
Head:	<u> The face to the left of center of the airbag, the back of the head to the center of the headrest. </u>	<u> The face to the center of the airbag, the back of the head to the left of center of the headrest. </u>
Abdomen:	<u> None </u>	<u> None </u>
Chest:	<u> Airbag </u>	<u> Airbag </u>
Knees:	<u> Knee Bolster </u>	<u> Knee Bolster </u>

DATA SHEET NO. 2 GENERAL TEST AND VEHICLE PARAMETER DATA

TEST VEHICLE INFORMATION:

Year/Make/Model/Body Style: 2002 Ford Focus 4-Door Sedan

NHTSA No. : M20201 ; VIN: 1FAFP34P02W152249 ; Color: Blue

Engine Data: 4 cylinders; - CID; 2.0 Liters; - cc

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

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

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

Safety Belt Features - Driver X Pretensioner (Shoulder); X Load Limiter; X Adj. Anchorage

Safety Belt Features - Passenger X Pretensioner (Lap); X Load Limiter; X Adj. Anchorage

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

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

Date Received: 2/27/02 ; Odometer Reading 23 km

Selling Dealer: Ricart Ford

& Address: Columbus, OH

DATA FROM TIRE VEHICLE'S CERTIFICATION LABEL:

Vehicle Manufactured by: Ford Motor Company

Date of Manufacture 12/01

GVWR: 1641 kg; GAWR: 891 kg FRONT; 791 kg REAR

DATA FROM TIRE PLACARD:

Tire Pressure with Maximum Capacity Vehicle Load: 300 kpa FRONT

300 kpa REAR

Recommended Tire Size: P195/60R15

* Recommended Cold Tire Pressure: 221 kpa FRONT; 221 kpa REAR

Size of Tires on Test Vehicle: P195/60R15 ; Manufacturer: Goodyear

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) = 375 kg

No. of Occupants x 68.04 kg = 340.2 kg

Rated Cargo/Luggage Weight (RCLW) = 34.8 kg

*Tire pressure used for test

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

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

Right Front =	<u>376.5</u>	kg	Right Rear =	<u>238.5</u>	kg
Left Front =	<u>371.5</u>	kg	Left Rear =	<u>241.0</u>	kg
TOTAL FRONT =	<u>748.0</u>	kg	TOTAL REAR =	<u>479.5</u>	kg
TOTAL DELIVERED WEIGHT =	<u>1227.5</u>	kg			
% of Total Front of Vehicle Weight =	<u>60.9%</u>		% of Total Rear Weight =	<u>39.1%</u>	%

CALCULATION OF VEHICLE'S TARGET TEST WEIGHT:

Total Delivered Weight (UDW) =	<u>1227.5</u>	kg
Rated Cargo/Luggage Weight (RCLW) =	<u>34.8</u>	kg
Weight of 2 p.572 Dummies @ 76 each =	<u>152</u>	kg
TARGET TEST WEIGHT =	<u>1414.3</u>	kg

WEIGHT OF TEST VEHICLE WITH TWO DUMMIES AND

30.5

KG OF CARGO WEIGHT:

Right Front =	<u>418.0</u>	kg	Right Rear =	<u>294.0</u>	kg
Left Front =	<u>408.0</u>	kg	Left Rear =	<u>290.0</u>	kg
TOTAL FRONT =	<u>826.0</u>	kg	TOTAL REAR =	<u>584.0</u>	kg
TOTAL TEST WEIGHT =	<u>1410.0</u>	kg			
% of Total Front Weight =	<u>58.6%</u>	%	% of Total Rear Weight =	<u>41.4%</u>	%
Weight of Ballast Secured in Vehicle Trunk Area =	<u>0</u>	kg			
Vehicle Components Removed for Weight Reduction:	<u>Rear Bumper; Trunk Lid, Muffler, Stoddard</u>				

VEHICLE ATTITUDE (all dimension in millimeters):

AS DELIVERED:	RF	<u>675</u>	LF	<u>675</u>	RR	<u>688</u>	LR	<u>689</u>
FULLY LOADED:	RF	<u>660</u>	LF	<u>664</u>	RR	<u>665</u>	LR	<u>669</u>
AS TESTED:	RF	<u>660</u>	LF	<u>664</u>	RR	<u>668</u>	LR	<u>670</u>
Vehicle's Wheel Base:	<u>2610</u> mm							
Location of Vehicle's C.G.:	<u>1081</u> mm rearward of front wheel center.							

FUEL SYSTEM DATA:

Fuel System Capacity From Owner's Manual =	<u>50.0</u>	liters		
Usable Capacity Figure Furnished by COTR =	<u>50.0</u>	liters		
Test Volume Range (92 to 94% of Usable Capacity) =	<u>46</u>	to	<u>47</u>	liters
ACTUAL TEST VOLUME=	<u>18.9</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: Tank- right of center ahead of rear axle; lines – inside right frame stiffener; filler - right side behind rear axle.				

DATA SHEET NO. 3 POST IMPACT DATA

TYPE OF TEST:

Type of Test: Frontal Barrier Impact Angle: 0°
Test Date: April 12, 2002 Time: 12:20 Temperature: 21 °C
Vehicle NHTSA No.: M20201
Required Impact Velocity Range: 55.5 to 57.1 kph

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

Trap No. 1 = 56.17 kph; Trap No. 2 = 56.17 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 Left = 4422 ; C/L = 4439 ; Right = 4426
Post-Test Left = 3969 ; C/L = 3969 ; Right = 3944
Crush Left = 453 ; C/L = 470 ; Right = 482
AVERAGE = 468.33 mm

VEHICLE REBOUND: (From rigid barrier only.)

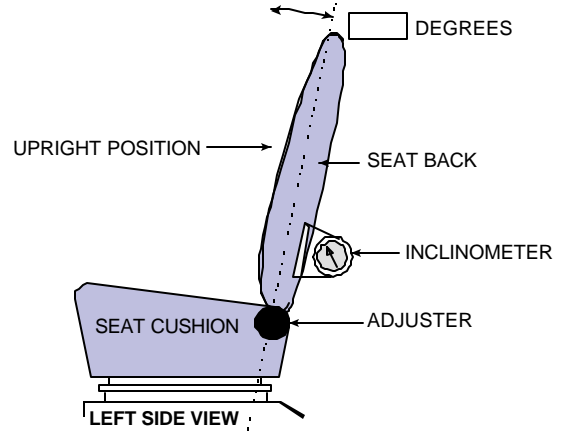
Distance from front of test vehicle to impact point:
Left = 565 ; C/L = 545 ; Right = 445
AVERAGE = 518 mm

DATA SHEET NO. 4 TEST VEHICLE INFORMATION

VEHICLE IDENTIFICATION:

Model Year : 2002 Vehicle Model: Ford Focus 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.



FRONT SEAT ASSEMBLY

Seat back angle for driver's seat: 24°

Measurement instructions: Measure seat angle 330 mm above seat back pivot on outboard seat frame

Seat back angle for passenger's seat: 24°

Measurement instructions: Same as the driver's seat

2. Seat Fore and Aft Positioning

Positioning of the driver's seat: Mid-position – detent 8 from full forward (0) of seventeen detents.

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

3. Fuel Tank Capacity Data

3.1 A. "Usable Capacity" of the standard equipment fuel tank is 50 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 = 50 liters

3.2 Amount of Stoddard solvent added to vehicle(s) used for certification test(s) = 46 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 operates for two seconds to pressurize system following actuation of the ignition and while engine is running.

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

4. STEERING COLUMN ADJUSTMENTS:

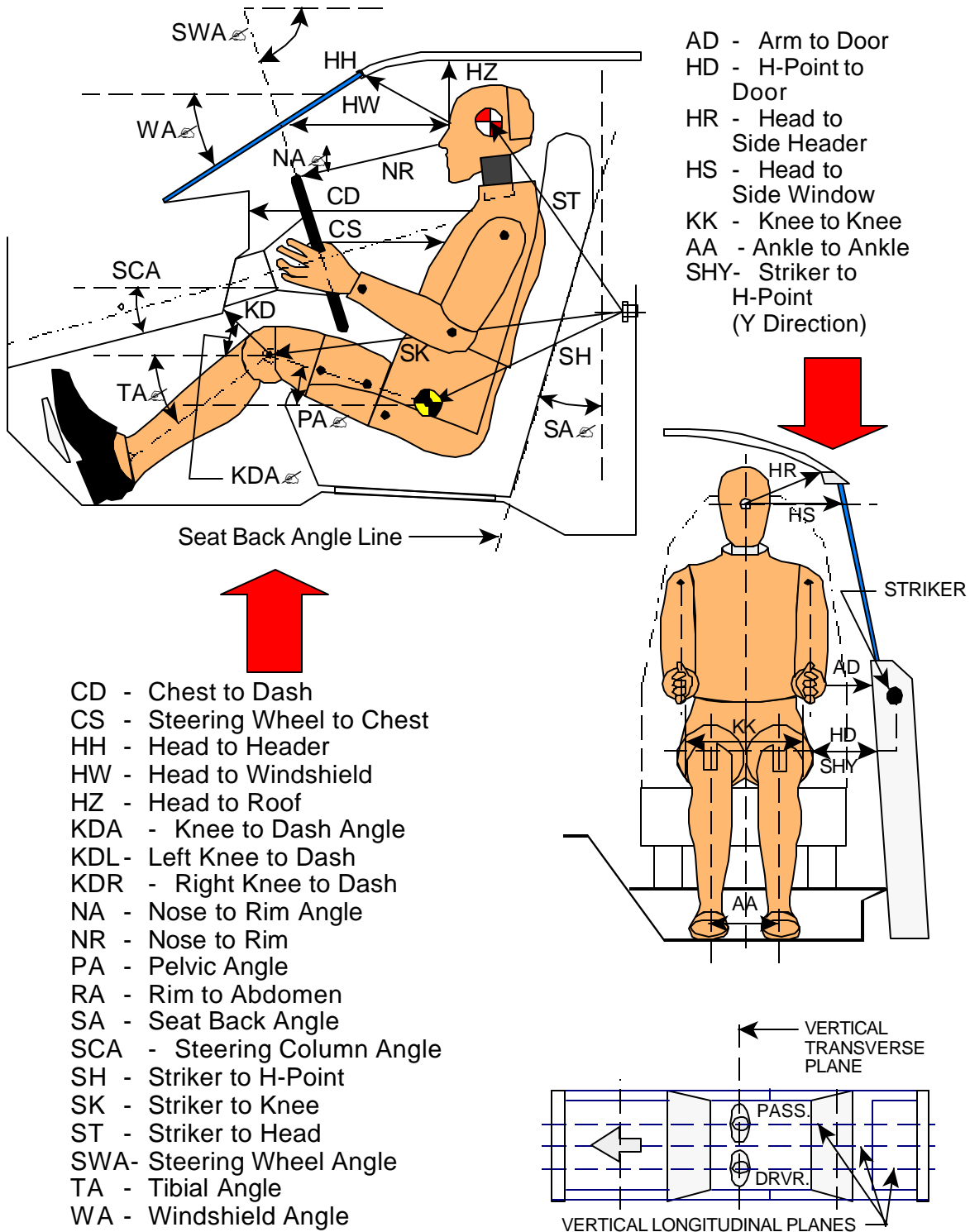
Steering wheel and column adjustments are made so that the steering wheel hub is at the geometric center of the locus it describes when it is moved through its full range of driving positions. If the tested vehicle has any of these adjustments, does your company use any specific procedures to determine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

Operational Instructions: Mid tilt and telescope position.

5. SEAT BELT UPPER ANCHORAGE

Nominal design riding position: One notch below full up

DATA SHEET NO. 5 FRONT SEAT DUMMY POSITIONING MEASUREMENTS IN VEHICLE
DUMMY MEASUREMENT FOR FRONT SEAT PASSENGERS

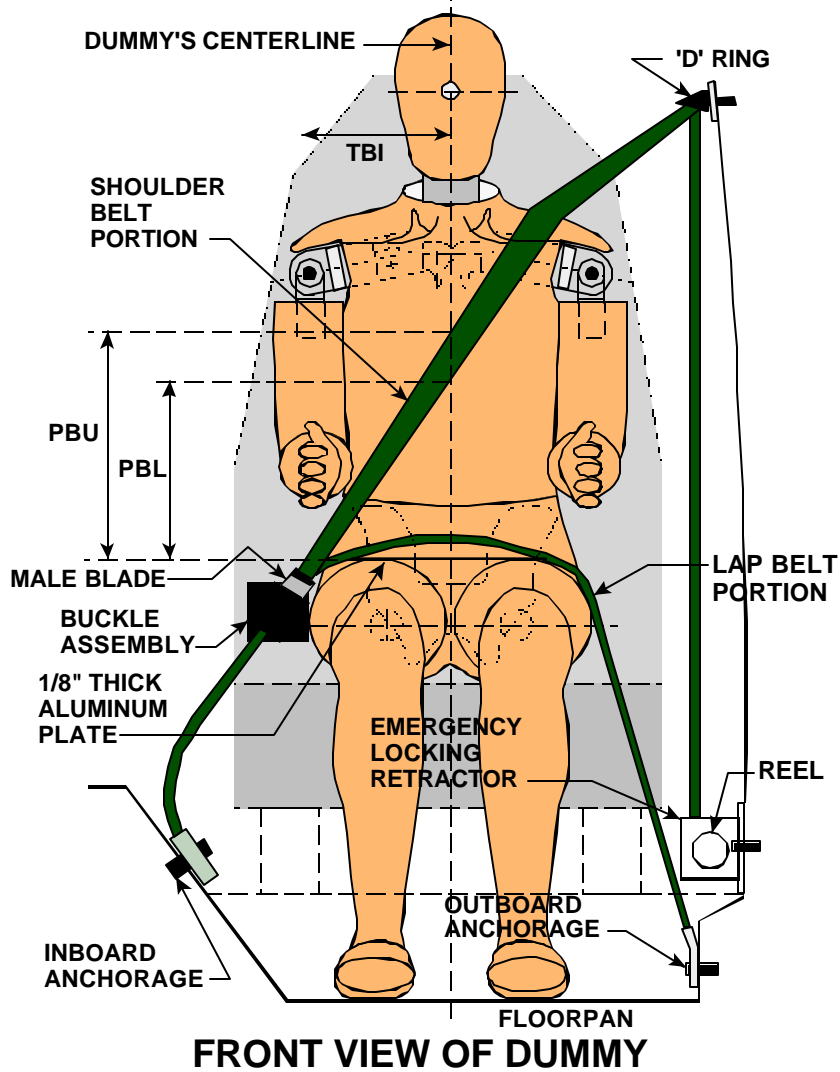


DATA SHEET NO. 5 FRONT SEAT DUMMY POSITIONING MEASUREMENTS IN VEHICLE (cont.)

	DRIVER (Serial #061)			PASS. (Serial #064)		
WA ^o	28	deg.		N/A		
SWA ^o	64	deg.		N/A		
SCA ^o	26	deg.		N/A		
SA ^o	24 deg.			24 deg.		
HZ	204			169		
HH	345			347		
HW	648			580		
HR	204			211		
NR	411	Angle	-8 deg.	N/A		
CD	537			492		
CS	351			N/A		
RA	223			N/A		
KDL	139	Angle (KDA)	47 deg.	94		
KDR	147			147	Angle (KDA)	44 deg.
PA ^o	23.8	deg.		23.5	deg.	
TA ^o	45.4	deg.		38.0	deg.	
KK	304			280		
AA	280			235		
ST	490	Angle	3 deg.	520	Angle	8 deg.
SK	570	Angle	96 deg.	585	Angle	97 deg.
SH	235	Angle	140 deg.	225	Angle	132 deg.
SHY	235			230		
HS	302			312		
HD	92			92		
AD	100			93		

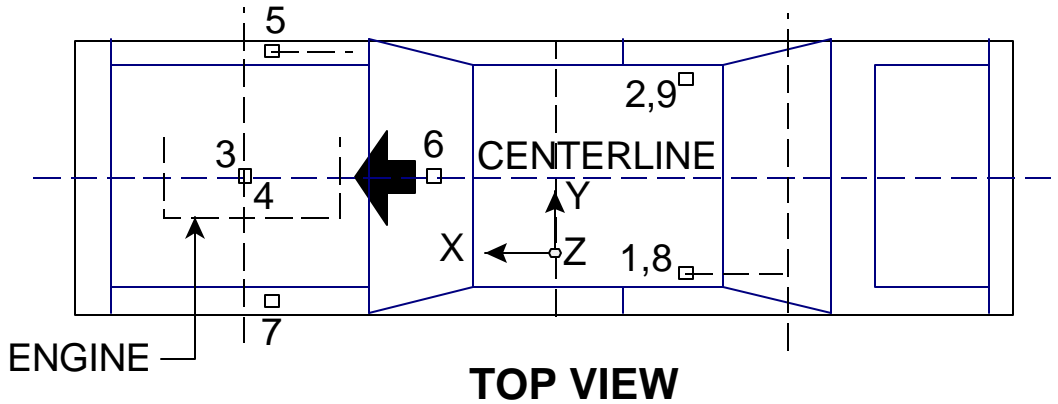
Dimensions in millimeters

SEAT BELT POSITIONING DATA

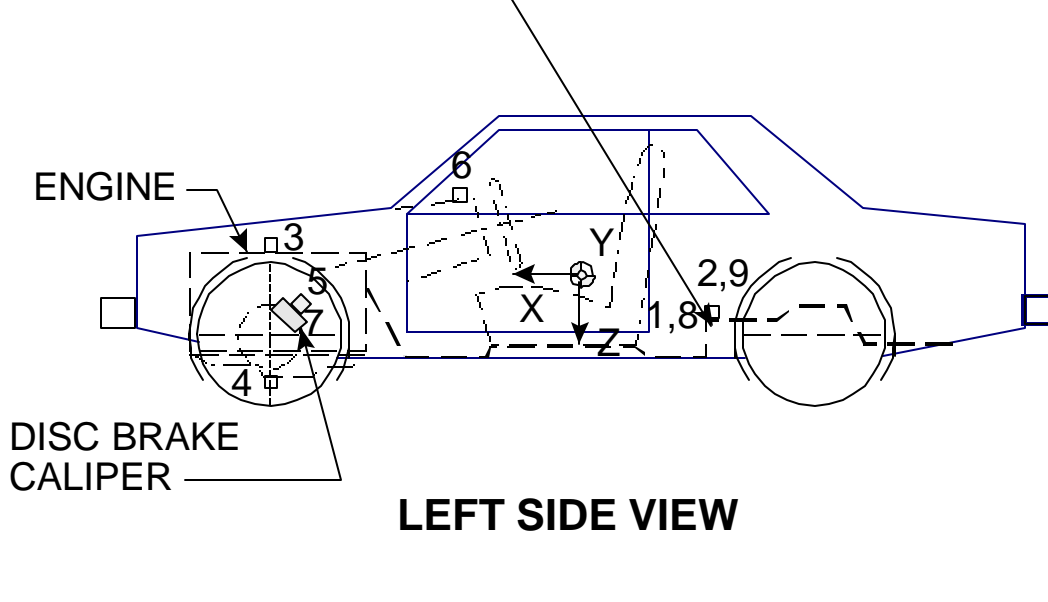


	DRIVER DUMMY (mm)	PASSENGER DUMMY (mm)
PBU -- Top surface of alum. plate to upper edge	350	340
PBL-- Top surface of alum. plate to belt lower edge	270	260
LAP BELT TENSION	10 N	10 N
SHOULDER BELT TENSION	Retractor	Retractor

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.)

LOCATION		PRE-TEST LENGTH (mm)		
		X	Y	Z
1	Left Rear Seat Cross Member X	1959	-556	-191
2	Right Rear Seat Cross Member X	1950	560	-191
3	Top of Engine Block	3706	18	-818
4	Bottom of Engine	3190	10	-197
5	Disc Brake Caliper @ Right Side	3495	705	-370
6	Instrument Panel	2754	38	-732
7	Disc Brake Caliper @Left Side	3468	-674	-300
8	Left Rear Seat Cross Member Z	1959	-556	-191
9	Right Rear Seat Cross Member Z	1950	560	-191

LOCATION NUMBER	DESCRIPTION	MAXIMUM VALUE (g's)			
		Pos.	msec.	Neg.	msec.
1	Left Rear Seat Cross Member X	1.8	151.1	-42.0	38.3
2	Right Rear Seat Cross Member X	3.4	89.5	-36.4	36.2
3	Top of Engine Block	29.5	46.7	-138.3	34.1
4	Bottom of Engine	142.2	38.8	-101.1	26.0
5	Disc Brake Caliper @ Right Side	38.5	66.2	-83.4	49.2
6	Instrument Panel	47.2	53.5	-106.6	45.5
7	Disc Brake Caliper @Left Side	22.4	68.5	-127.3	47.5
8	Left Rear Seat Cross Member Z	0.3	91.2	-0.4	80.9
9	Right Rear Seat Cross Member Z	21.2	13.7	-19.9	17.6

DATA SHEET NO. 8 DUMMY INJURY CRITERIA VALUES

Vehicle Year/Make/Model/Body Style: 2002 Ford Focus 4-Door Sedan

NHTSA Test No.: M20201 Test Date: April 12, 2002

DESCRIPTION	Unit	MAXIMUM VALUE							
		Driver				Passenger			
		Pos	msec	Neg	msec	Pos	msec	Neg	msec
Head 9 Array X Arm Y	g	11.3	61.9	-5.1	74.2	8.5	47.7	-11.0	97.4
Head 9 Array X Arm Z	g	25.7	58.5	-5.2	111.5	32.5	60.4	-20.3	89.9
Head 9 Array Y Arm X	g	20.4	235.5	-50.0	78.0	8.8	255.5	-52.4	76.6
Head 9 Array Y Arm Z	g	29.6	58.4	-2.2	133.1	25.1	62.7	-26.7	95.5
Head 9 Array Z Arm X	g	32.6	235.7	-56.2	77.0	17.1	255.6	-45.3	85.9
Head 9 Array Z Arm Y	g	9.0	125.2	-9.9	75.3	8.3	52.1	-12.4	111.8
Head X	g	19.6	235.8	-49.5	78.1	10.9	255.3	-51.0	76.5
Head Y	g	7.7	107.3	-4.1	72.4	4.2	48.4	-11.9	96.7
Head Z	g	25.6	58.6	-0.4	11.8	25.9	59.8	-24.7	98.0
Head Resultant	g	51.0	77.3	0.0	-41.0	51.7	76.5	0.0	-27.4
Redundant Head X	g	19.6	235.8	-49.4	78.2	10.7	255.4	-49.8	76.5
Redundant Head Y	g	7.5	107.3	-3.5	73.1	4.3	47.9	-12.2	96.3
Redundant Head Z	g	25.1	58.4	-0.4	11.8	26.5	60.7	-24.6	97.9
Redundant Head Resultant	g	51.3	77.4	0.0	-39.6	50.5	76.5	0.0	-26.5
Upper Neck Fx	N	449.8	78.5	-478.9	123.2	317.4	88.2	-357.0	55.4
Upper Neck Fy	N	219.4	108.4	-72.9	79.7	150.9	83.0	-164.1	124.6
Upper Neck Fz	N	1264.3	66.9	-327.8	271.7	1816.7	56.5	-529.4	99.1
Upper Neck F Resultant	N	1280.9	66.9	0.8	-39.5	1843.7	56.5	0.6	-27.3
Upper Neck Mx	N-m	16.9	124.1	-12.2	57.9	14.8	93.1	-17.3	129.8
Upper Neck My	N-m	38.3	110.8	-38.4	93.6	31.0	146.2	-47.5	77.4
Upper Neck Mz	N-m	6.4	140.9	-14.3	97.8	20.3	95.1	-8.3	158.9
Upper Neck M Resultant	N-m	41.4	93.8	0.1	-35.5	48.1	77.4	0.0	-24.8
Chest X	g	3.3	279.1	-43.6	86.1	2.6	150.4	-54.0	72.8
Chest Y	g	8.3	87.6	-5.8	16.4	2.4	42.6	-4.4	100.9
Chest Z	g	9.9	57.6	-8.1	97.9	20.1	61.8	-10.3	101.0
Chest Resultant	g	44.4	86.0	0.0	-32.0	56.2	72.9	0.0	-26.4

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

Vehicle Year/Make/Model/Body Style: 2002 Ford Focus 4-Door Sedan

NHTSA Test No.: M20201 Test Date: April 12, 2002

DESCRIPTION	Unit	MAXIMUM VALUE							
		Driver				Passenger			
		Pos	msec	Neg	msec	Pos	msec	Neg	msec
Redundant Chest X	g	3.3	279.4	-43.6	86.1	2.6	150.7	-54.7	72.8
Redundant Chest Y	g	8.4	87.6	-5.7	16.3	2.4	42.9	-4.3	89.7
Redundant Chest Z	g	9.7	57.5	-8.2	97.9	19.6	61.8	-10.0	100.1
Redundant Chest Resultant	g	44.4	86.1	0.0	-30.0	56.9	73.0	0.0	-26.4
Chest Displacement	mm	0.0	-49.6	-33.1	86.7	0.0	5.9	-27.5	63.5
Pelvic X	g	2.9	84.7	-85.7	52.3	3.6	116.0	-98.2	51.6
Pelvic Y	g	12.1	78.9	-6.8	48.4	10.8	51.7	-10.5	60.3
Pelvic Z	g	5.0	14.9	-28.4	66.8	1.8	144.5	-24.8	70.5
Pelvic Resultant	g	86.5	52.4	0.0	-30.7	99.0	51.6	0.0	-25.2
Left Femur	N	1034.5	48.4	-3478.5	53.2	244.8	44.7	-5397.0	51.7
Right Femur	N	895.1	45.7	-4453.4	52.6	328.6	43.5	-6353.8	52.9
Left Knee Slider Dx	mm	*	*	*	*	1.0	44.8	-3.1	50.3
Right Knee Slider Dx	mm	0.4	50.3	-1.3	53.8	0.3	75.5	-1.8	49.0
Left Upper Tibia Mx	N-m	43.7	56.7	-12.9	30.9	72.4	71.6	-11.3	32.2
Left Upper Tibia My	N-m	14.3	286.6	-155.8	56.8	14.8	188.7	-126.6	70.1
Left Lower Tibia Fz	N	109.2	112.3	-3144.5	55.2	148.4	298.3	-4026.3	73.7
Left Lower Tibia Mx	N-m	145.9	56.0	-9.1	27.1	19.0	81.9	-50.9	68.9
Left Lower Tibia My	N-m	37.0	87.0	-23.7	57.1	36.4	68.0	-45.7	46.0
Right Upper Tibia Mx	N-m	28.1	44.7	-30.9	51.7	24.3	99.6	-34.0	47.5
Right Upper Tibia My	N-m	12.7	216.6	-126.0	45.5	25.7	46.9	-101.5	56.4
Right Lower Tibia Fz	N	700.1	112.3	-3436.3	54.0	190.1	134.2	-4157.8	56.8
Right Lower Tibia Mx	N-m	4.0	45.2	-83.2	55.7	47.8	53.0	-14.2	47.0
Right Lower Tibia My	N-m	72.5	54.1	-59.9	45.7	58.2	61.0	-34.5	44.7
Left Foot Aft Ax	g	11.7	89.6	-57.1	55.1	19.7	60.3	-108.7	46.6
Left Foot Aft Az	g	17.8	64.7	-45.2	54.4	24.5	65.2	-43.5	46.5
Left Foot Fore Az	g	48.1	75.8	-44.3	25.4	56.2	53.2	-104.8	44.9
Right Foot Aft Ax	g	16.6	79.1	-146.9	48.4	20.1	64.2	-99.6	47.5
Right Foot Aft Az	g	24.8	64.6	-102.5	47.7	14.4	62.8	-38.5	54.8
Right Foot Fore Az	g	77.2	52.3	-184.2	42.3	40.6	62.7	-81.6	45.8

*Not Accurate – Data Spikes

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

Vehicle Year/Make/Model/Body Style: 2002 Ford Focus 4-Door Sedan

NHTSA Test No.: M20201 Test Date: April 12, 2002

HEAD INJURY CRITERIA (HIC)				
	HIC**	t ₁ (msec)	t ₂ (msec)	Average Acceleration t ₁ to t ₂
Position #1 - Driver	406.3	63.7	99.7	41.8
Position #2 - Passenger	422.0	67.1	103.1	42.4

** 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	42.7	84.0	87.0	402.7
Position #2 - Passenger	53.3	71.4	74.4	503.4

* 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: 2002 Ford Focus 4-Door Sedan
 NHTSA Test No.: M20201 Test Date: April 12, 2002

HEAD INJURY CRITERIA (HIC) REDUNDANT				
	HIC**	t ₁ (msec)	t ₂ (msec)	Average Acceleration t ₁ to t ₂
Position #1 - Driver	410.1	62.8	98.8	41.9
Position #2 - Passenger	394.7	67.0	103.0	41.3

** 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	42.7	84.0	87.0	400.6
Position #2 - Passenger	53.7	71.4	74.4	513.8

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

DATA SHEET NO. 9 SEAT BELT PERFORMANCE ASSESSMENT TEST DATA

BELT LENGTH DATA:

Belt length from trim panel exit
to bolt hole anchor point for
continuous webbing systems.

Driver

Passenger

1725

1810

Shoulder belt length as measured
on Part 572 Dummy.

830

840

Lap belt length as measured
on Part 572 Dummy.

895

970

SHOULDER BELT SPOOL-OFF DATA:

As determined by film analysis.

-

-

As determined mechanically.

-

-

As determined electronically.

-

-

BELT STRETCH DATA:

Measured electronically between shoulder
belt load cell and the "D" ring.

-

-

Measured mechanically.

-

-

Dimensions in millimeters

DATA SHEET NO.10 SUMMARY OF FMVSS 212 DATA

FMVSS NO. 212 - "WINDSHIELD MOUNTING" DATA

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

Windshield is bonded in place and covered with a 14 mm molding.

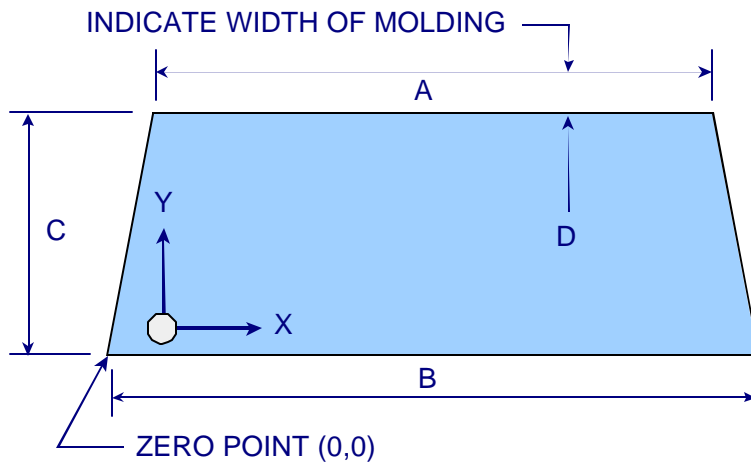
FMVSS 212 REQUIREMENTS:

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	2105	2105	100.0%
LEFT SIDE	2105	2105	100.0%
TOTAL	4210	4210	100.0%

AREA OF RETENTION FAILURE:



DIMENSIONS (mm)	
A	1120
B	1490
C	800
D	14

FRONT VIEW OF WINDSHIELD

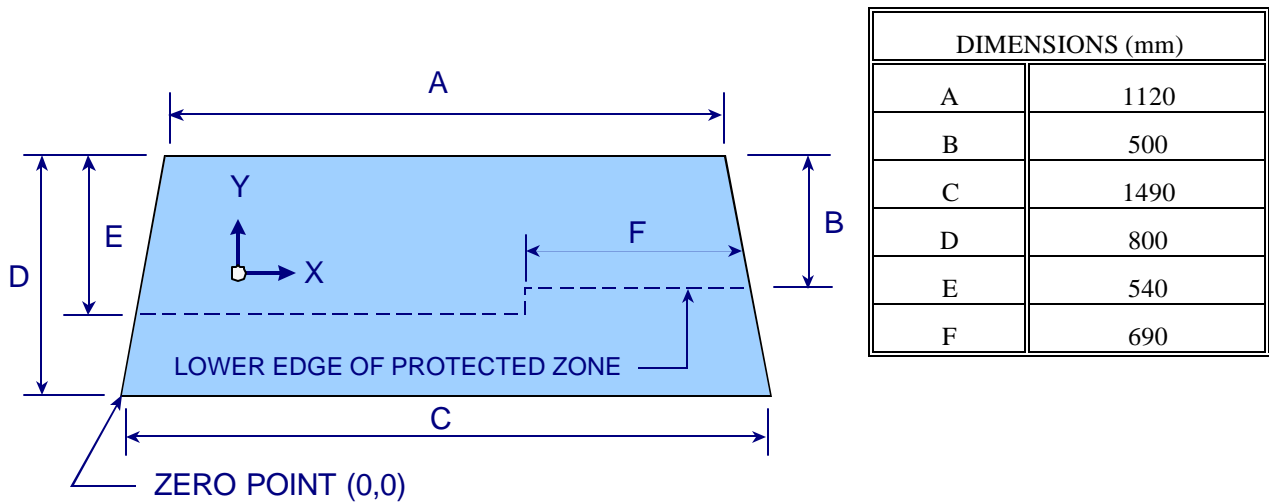
FAILURE DETAILS: None

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

PROTECTED ZONE LOWER EDGE REQUIREMENT:

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

FMVSS 219 TEST DATA:



FRONT VIEW OF WINDSHIELD

DETAILS OF WINDSHIELD GLASS PENETRATION GREATER THAN 6 mm: None

(Show location of penetration on the above sketch)

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

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

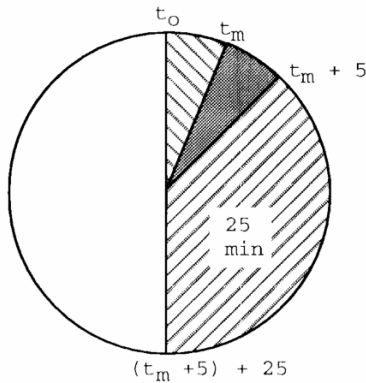
NHTSA TEST No.: M20201 TEST DATE: April 12, 2002
VEHICLE MAKE/MODEL: 2002 Ford Focus 4-Door Sedan

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

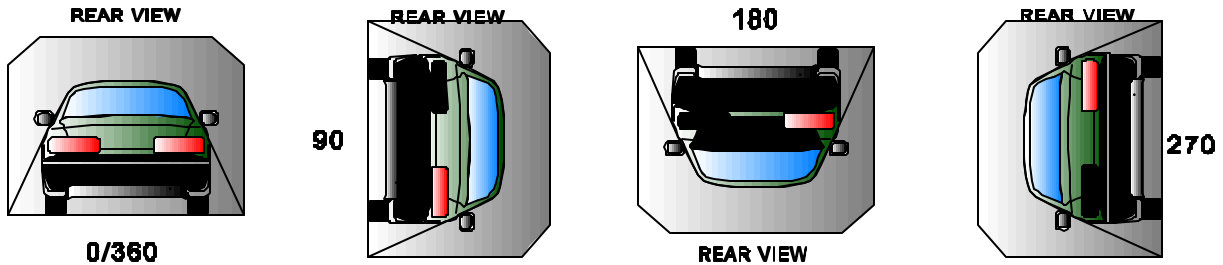
ACTUAL	MAX ALLOWED
0	28 g
0	141 g
0	28 g/min.

SOLVENT SPILLAGE DETAILS: None

DATA SHEET NO. 13 - ROLLOVER DATA

Vehicle: 2002 Ford Focus 4-Door Sedan

NHTSA No.: M20201



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Stage	Rotation Time (spec. 1 -3 min)				FMVSS 301 Hold Time		Total Time				Next Whole Minute Interval	
	1	minutes	15	seconds	5	minutes	6	minutes	15	seconds	7	minutes
0° - 90°	1	minutes	05	seconds	5	minutes	6	minutes	5	seconds	7	minutes
90° - 180°	1	minutes	01	seconds	5	minutes	6	minutes	1	seconds	7	minutes
180°-270°	1	minutes	12	seconds	5	minutes	6	minutes	12	seconds	7	minutes

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

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

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

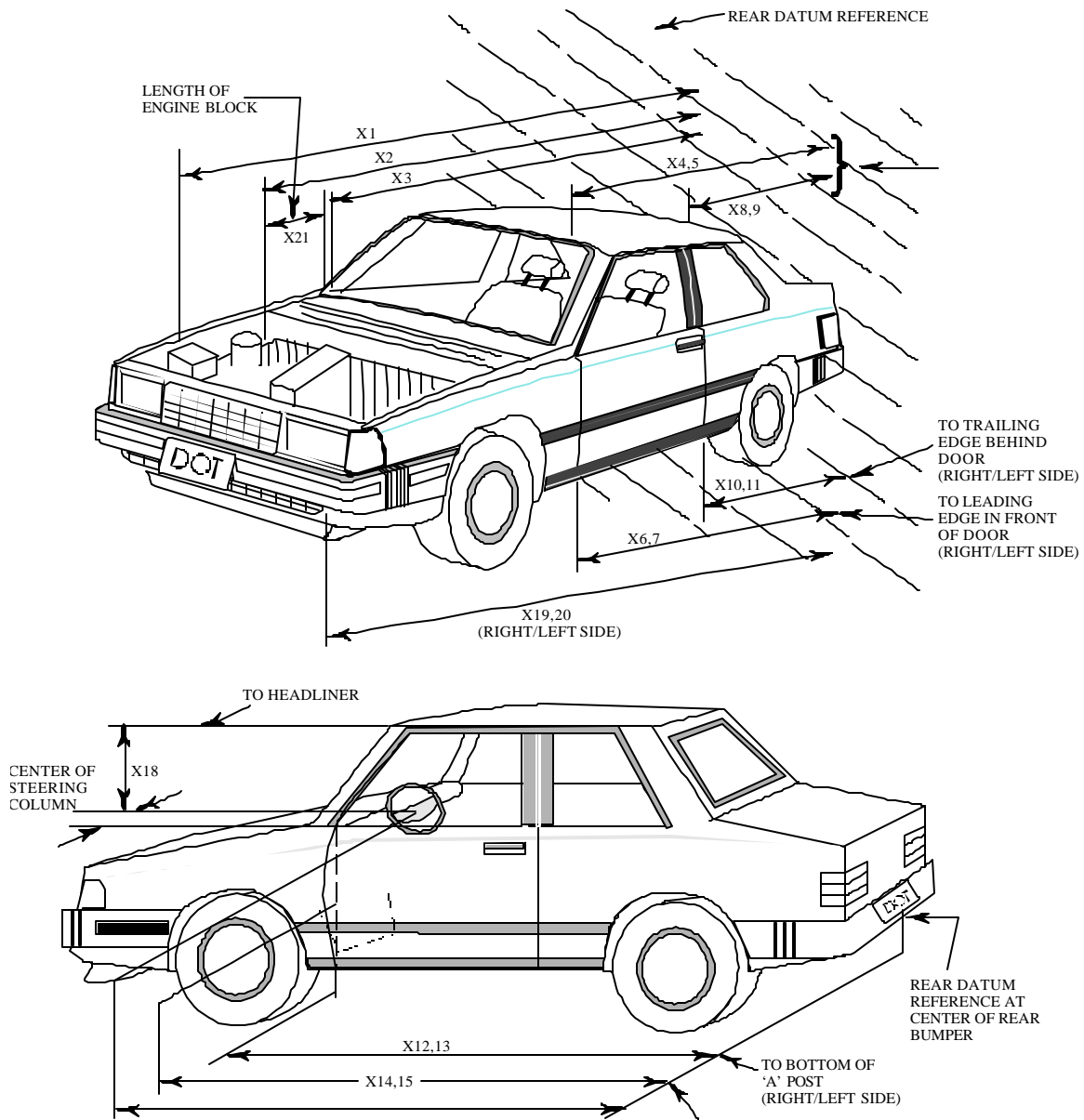
Rollover Stage	First 5 minutes from onset of rotation (g)	6th min. (g)	7th min. (g)	8th min. (if required) (g)
0° - 90°	0	0	0	N/A
90° - 180°	0	0	0	N/A
180°-270°	0	0	0	N/A
270°-360°	0	0	0	N/A

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

IV. SOLVENT SPILLAGE LOCATION(S):

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

DATA SHEET NO. 14 TEST VEHICLE MEASUREMENTS

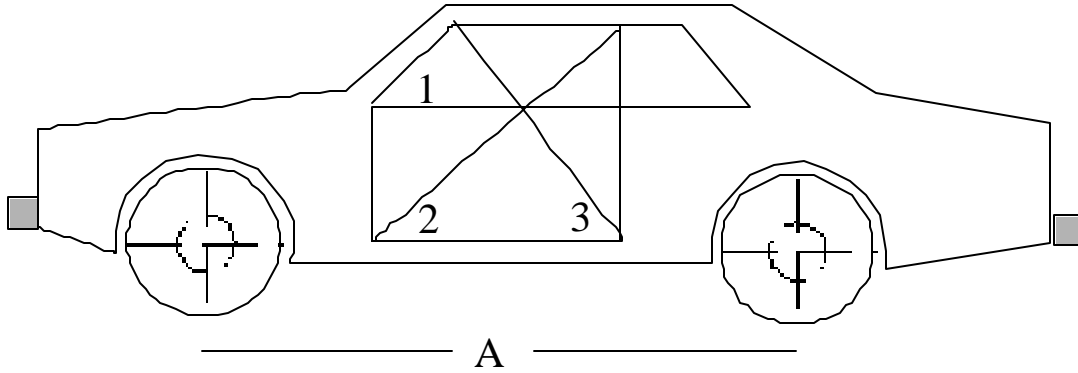


DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)

No.		Pre-Test	Post-Test	Difference
X1	Total Length of Vehicle at Centerline	4439	3969	470
X2	Rear Surface of Vehicle to Front of Engine	3970	3693	277
X3	Rear Surface of Vehicle to Firewall	3482	3460	22
X4	Rear Surface of Vehicle to Upper Leading Edge of Right Door	3083	3073	10
X5	Rear Surface of Vehicle to Upper Leading Edge of Left Door	3089	3080	9
X6	Rear Surface of Vehicle to Lower Leading Edge of Right Door	3052	3035	17
X7	Rear Surface of Vehicle to Lower Leading Edge of Left Door	3060	3045	15
X8	Rear Surface of Vehicle to Upper Trailing Edge of Right Door	2027	2019	8
X9	Rear Surface of Vehicle to Upper Trailing Edge of Left Door	2035	2029	6
X10	Rear Surface of Vehicle to Lower Trailing Edge of Right Door	2027	2013	14
X11	Rear Surface of Vehicle to Lower Trailing Edge of Left Door	2031	2029	2
X12	Rear Surface of Vehicle to Bottom of "A" Post of Right Side	3165	3155	10
X13	Rear Surface of Vehicle to Bottom of "A" Post of Left Side	3154	3201	-47
X14	Rear Surface of Vehicle to Firewall, Right Side	3472	3405	67
X15	Rear Surface of Vehicle to Firewall, Left Side	3467	3458	9
X16	Rear Surface of Vehicle to Steering Column	2612	2670	-58
X17	Center of Steering Column to "A" Post	296	310	-14
X18	Center of Steering Column to Headliner	412	442	-30
X19	Rear Surface of Vehicle to Right Side of Front Bumper	4426	3944	482
X20	Rear Surface of Vehicle to Left Side of Front Bumper	4422	3969	453
X21	Length of Engine Block	258	258	0
RD	Rear Surface of Vehicle to Right Side of Dash Panel	2765	2748	17
CD	Rear Surface of Vehicle to Center of Dash Panel	2864	2856	8
LD	Rear Surface of Vehicle to Left Side of Dash Panel	2784	2769	15

All Dimensions in mm

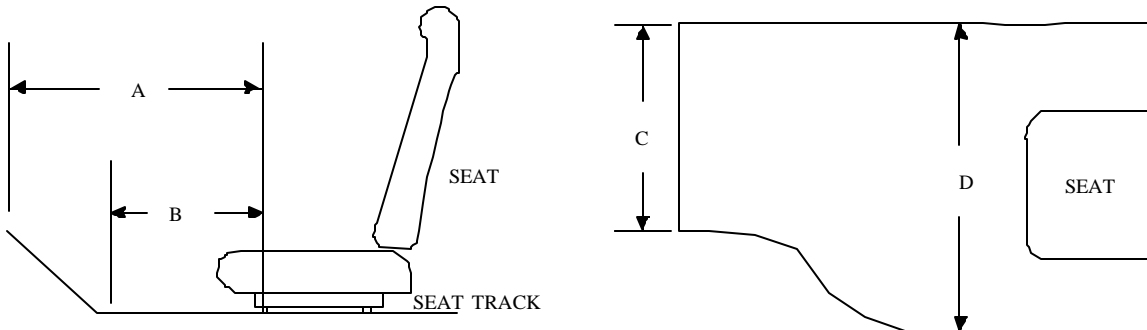
DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)
 VEHICLE INTRUSION MEASUREMENTS
 DOOR OPENING WIDTH



UNITS (mm)	LEFT			RIGHT		
MEASUREMENT	1	2	3	1	2	3
BEFORE TEST	971	1403	994	967	1396	1006
AFTER TEST	960	1401	1008	963	1400	1002
DIFFERENCE	11	2	-14	4	-4	4

UNITS (mm)	A = WHEELBASE LEFT	A = WHEELBASE RIGHT
BEFORE TEST	2610	2610
AFTER TEST	2580	2542
DIFFERENCE	30	68

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



DRIVER

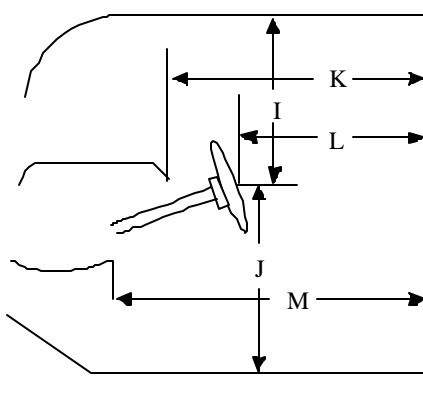
Measurement	Pre-Test	Post-Test	Difference
A	729	631	98
B	601	569	32
C	458	391	67
D	465	471	-6

PASSENGER

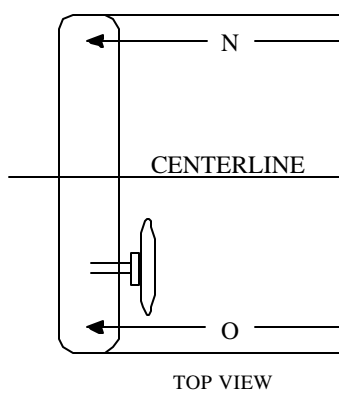
Measurement	Pre-Test	Post-Test	Difference
A	659	590	69
B	486	447	39
C	458	434	24
D	471	445	26

Units = mm

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

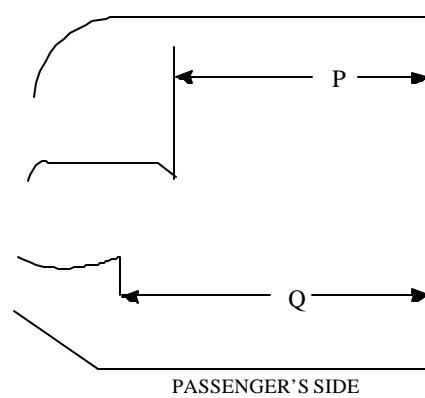


DRIVER'S SIDE



TOP VIEW

MEASUREMENTS
 FROM C-PILLAR
 BELT ANCHORAGE

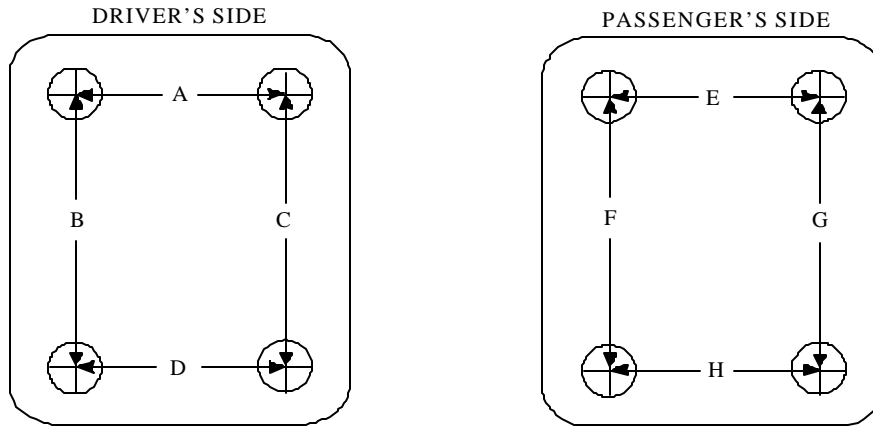


PASSENGER'S SIDE

Measurement	Pre-Test	Post-Test	Difference
I	412	442	-30
J	699	702	-3
K	1620	1617	3
L	1403	1463	-60
M	1631	1622	9
N	1561	1549	12
O	1575	1562	13
P = K (PASS.)	1756	1776	-20
Q = M (PASS.)	1615	1609	6

Units = mm

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

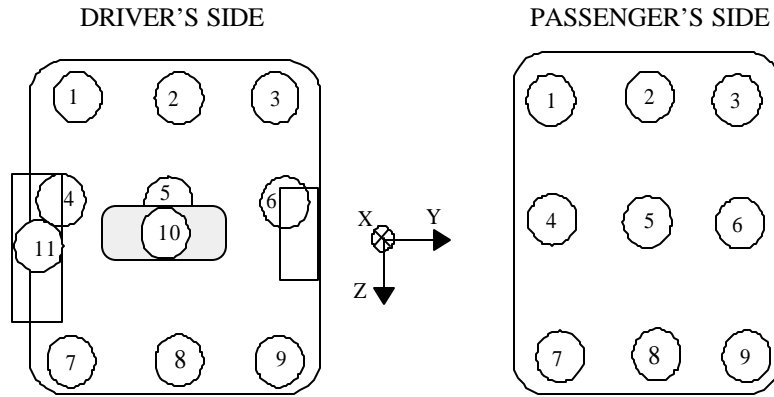


TOP VIEW THROUGH FLOOR PAN

Measurement	Pre-Test	Post-Test	Difference
A	458	391	67
B	396	394	2
C	391	384	7
D	465	471	-6
E	458	434	24
F	336	337	-1
G	364	371	-7
H	471	445	26

Units = mm

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



Driver Side Toe-pan Measurements

Toe-pan Location	X Deformation (mm)			Z Deformation (mm)		
	Pre-Test	Post-Test	Difference	Pre-Test	Post-Test	Difference
1	3245	3194	51	-483	-557	74
2	3316	3201	115	-495	-565	70
3	3310	3218	92	-443	-565	122
4	3242	3174	68	-431	-473	42
5	3286	3204	82	-422	-465	43
6	3282	3189	93	-405	-472	67
7	3190	3135	55	-348	-379	31
8	3187	3138	49	-338	-374	36
9	3181	3197	-16	-338	-366	28
10	3091	2986	105	-429	-482	53
11	3175	3107	68	-439	-457	18

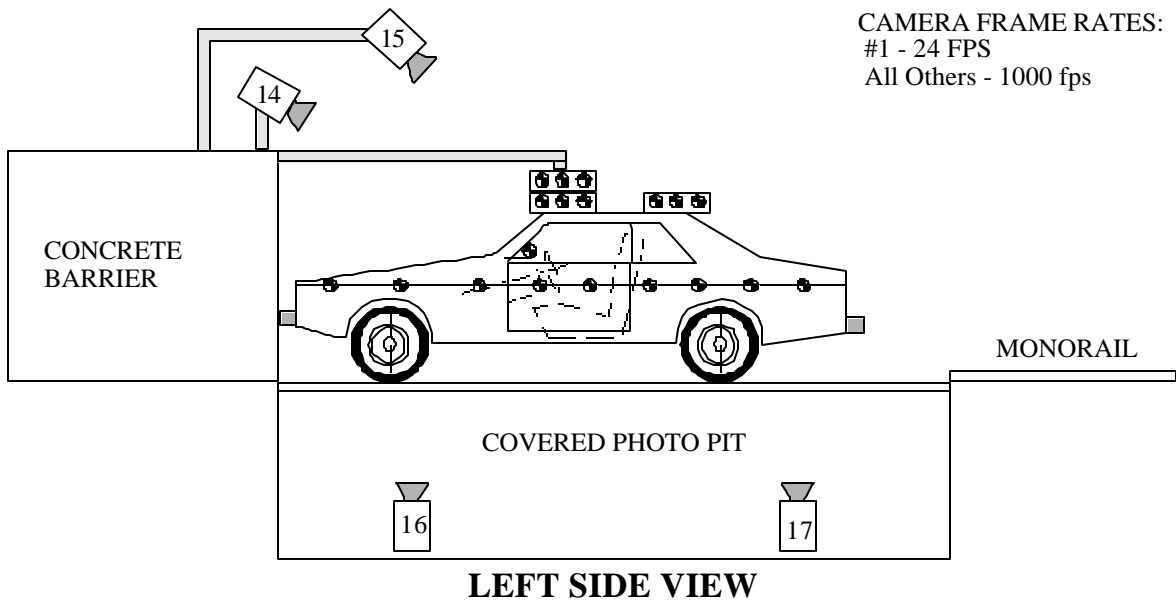
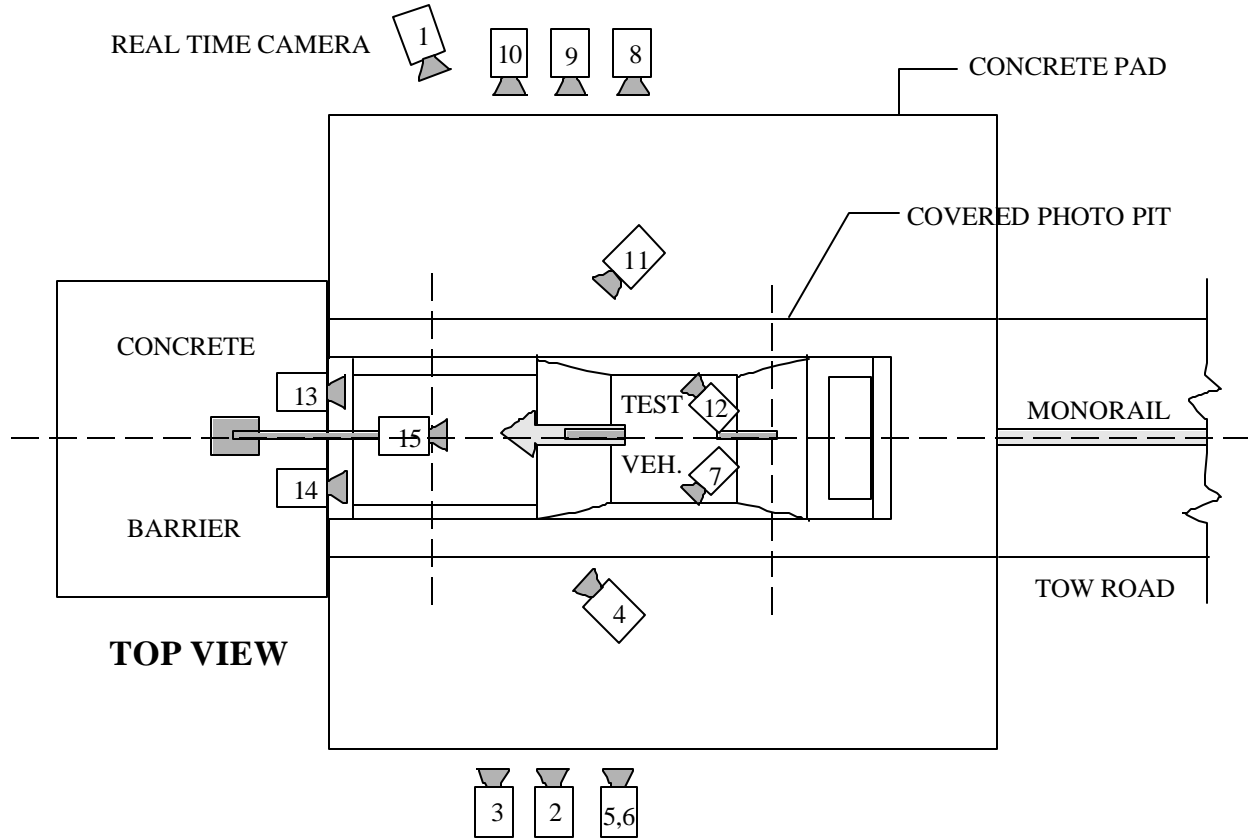
Passenger Side Toe-pan Measurements

Toe-pan Location	X Deformation (mm)			Z Deformation (mm)		
	Pre-Test	Post-Test	Difference	Pre-Test	Post-Test	Difference
1	3237	3065	172	-407	-387	-20
2	3247	3153	94	-394	-415	21
3	3246	3163	83	-407	-438	31
4	3150	3068	82	-332	-339	7
5	3148	3086	62	-326	-342	16
6	3160	3107	53	-332	-342	10
7	3068	3008	60	-279	-276	-3
8	3074	3010	64	-268	-272	4
9	3077	3023	54	-272	-282	10

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

DATA SHEET NO.15 HIGH-SPEED CAMERA LOCATIONS

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



CAMERA FRAME RATES:
 #1 - 24 FPS
 All Others - 1000 fps

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

NHTSA Test No.: M20201 Vehicle: 2002 Ford Focus 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	6276	1512	1068	-3	5907	12.5	1015
3	Left Side View	7886	1017	1089	-3	7517	25	1000
4	Driver and Interior View	7320	2315	1996	-9	-	25	N.T.
5	Steering Column (Bottom)	7285	1800	1177	-3	6916	25	1020
6	Steering Column (Top)	7285	1800	1777	-8	6916	25	1010
7	Left Belt	-	-	-	-	-	13	-
8	Overall Right Side	6466	1702	1075	-4	6711	12.5	1005
9	Right Side View	8044	1347	1110	-2	8289	25	945
10	Right Passenger View	7620	1677	1375	-3	7865	35	1025
11	Passenger and Interior View	7400	2587	1958	-9	-	25	965
12	Right Belt	-	-	-	-	-	13	-
13	Passenger Front View	620	-92	1987	-40	-	13	1005
14	Driver Front View	620	-92	1987	-36	-	13	1010
15	Windshield View	0	-530	3374	-52	-	13	1000
16	Pit View of Engine	0	615	-3048	90	-	13	1050
17	Pit View of Fuel Tank	0	2825	-3048	90	-	13	1010

*X = film plane to monorail centerline ** = referenced to horizontal plane

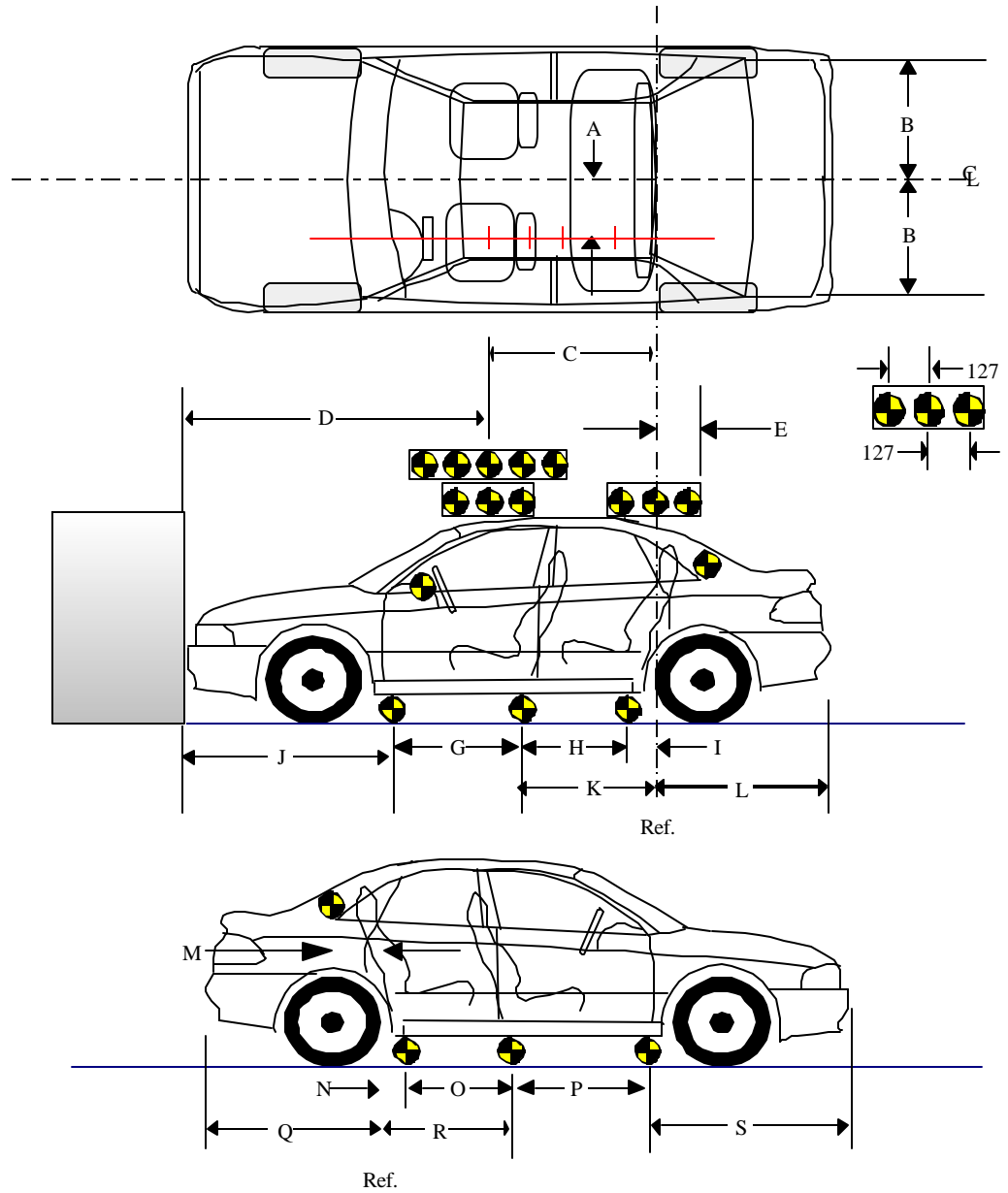
Y = film plane to impact location N.T. indicates No Timing

Z = film plane to ground

DATA SHEET NO. 16 VEHICLE REFERENCE PHOTO TARGET LOCATIONS

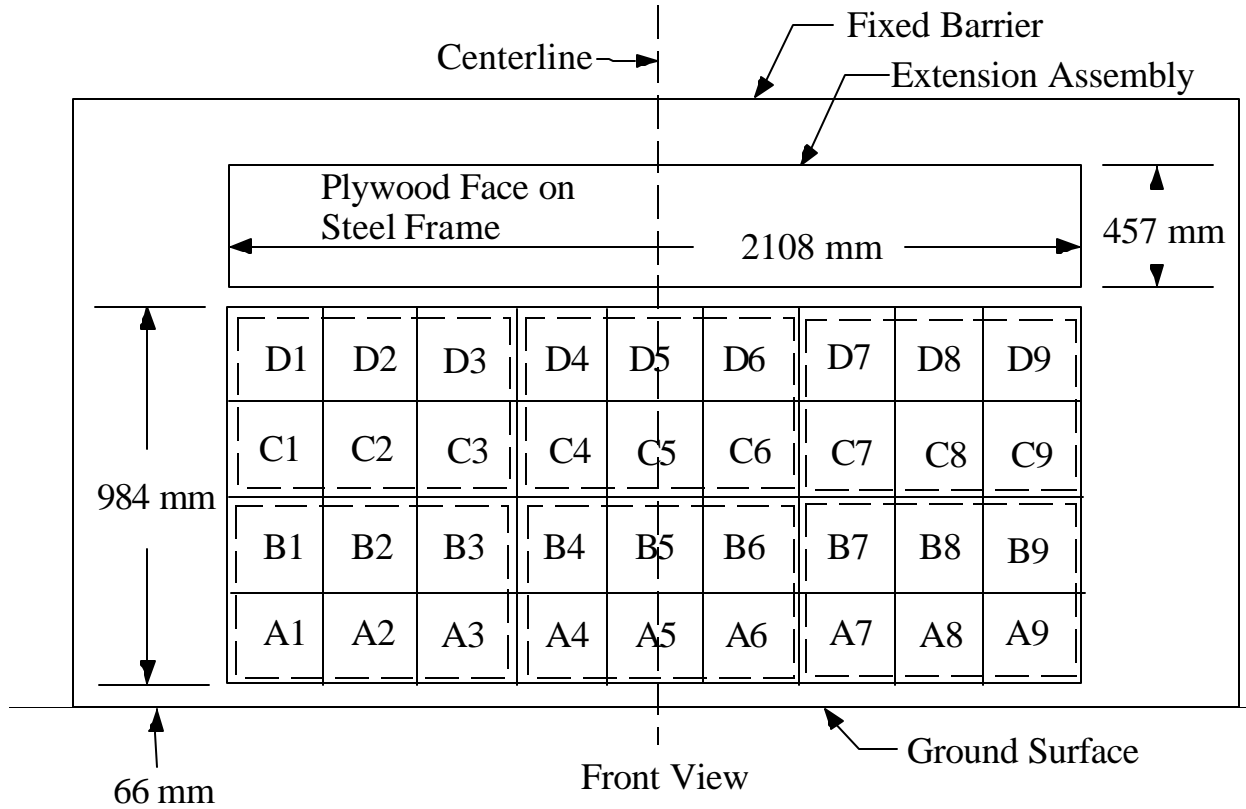
(Dimensions in millimeters)

A	321
B	614
C	1223
D	1944
E	273
F	1466
G	889
H	894
I	95
J	1298
K	989
L	1263
M	275
N	102
O	834
P	946
Q	1256
R	936
S	1300



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. 19 ACCIDENT INVESTIGATION DIVISION DATA

FOR FRONTAL BARRIER IMPACT

Vehicle Make/Model/Body Style: Ford Focus 4-Door Sedan

NHTSA Test No.: M20201 VIN: 1FAFP34P02W152249

Model Year: 2002 Build Date: 12/01 Test Date: April 12, 2002

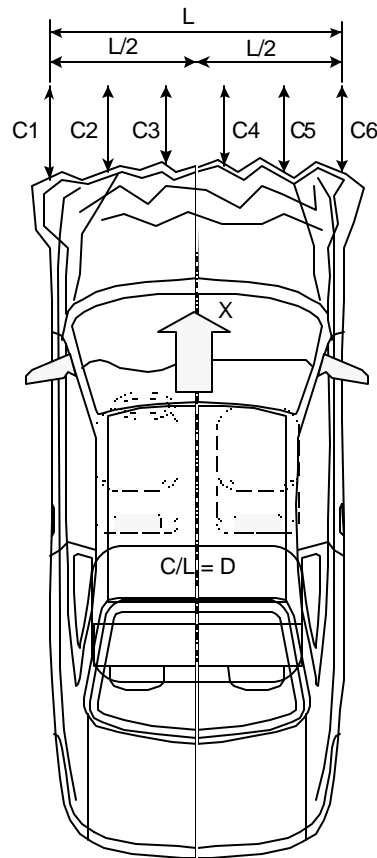
Vehicle Size Category: Compact Test Weight: 1410.0 kg

Vehicle Wheelbase: 2610 mm; Front Overhang: 877 mm; Overall Width: 1998 mm

Collision Deformation Classification (CDC) Code: 12FDEW3

Crush Depth Dimensions

	PRE (mm)	POST (mm)	DIFF (mm)
C1 =	4386	3942	444
C2 =	4429	3971	458
C3 =	4441	3970	471
C4 =	4441	3963	478
C5 =	4430	3952	478
C6 =	4388	3904	484



Midpoint of Damage: D = Vehicle Centerline (Longitudinal)

Length of Damaged Region: L1= 1139 mm

L2= 569.5 mm

L5= 227.8 mm

APPENDIX A
PHOTOGRAPHS

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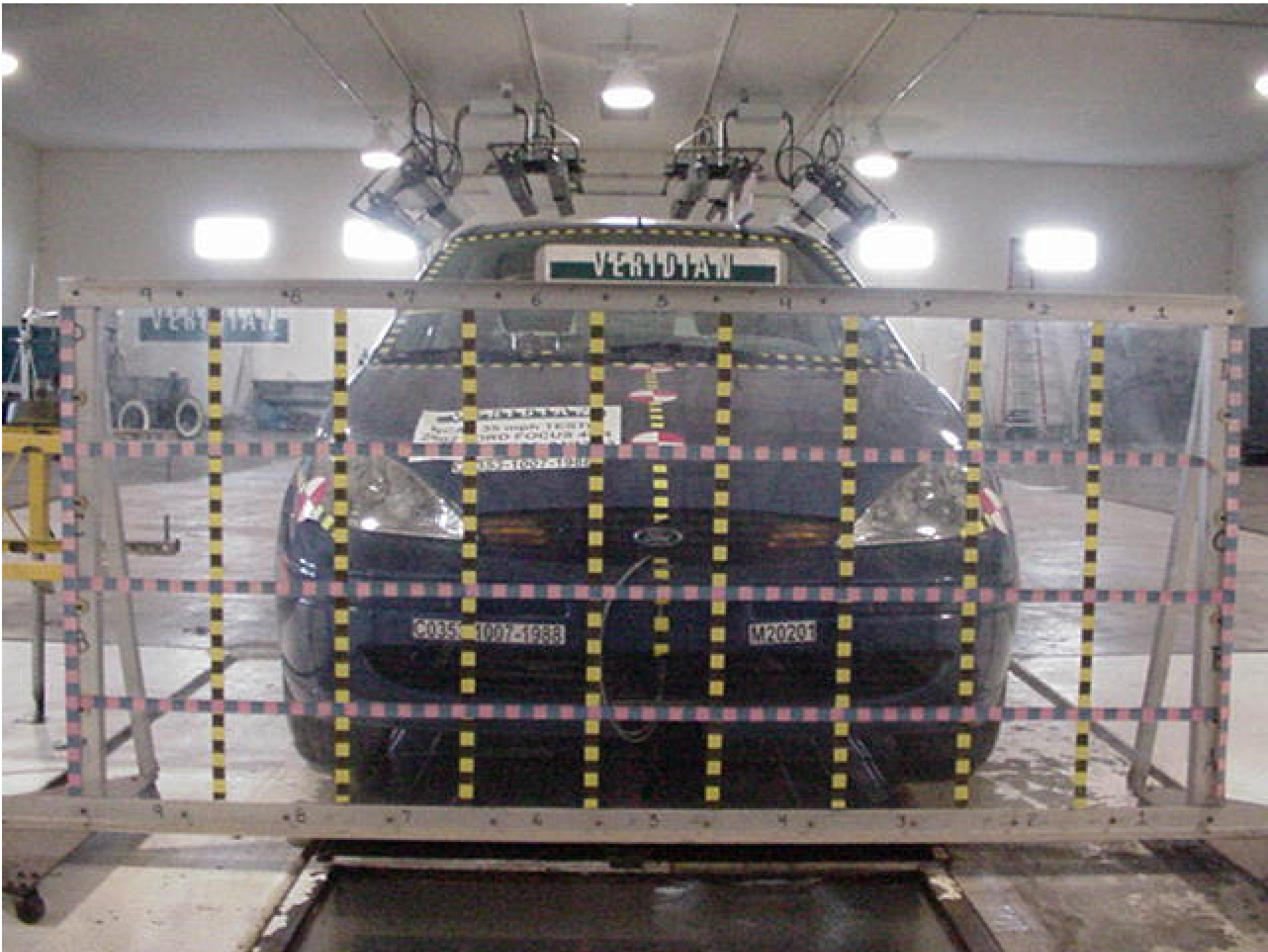


Figure A-1 LOAD CELL LOCATIONS



Figure A-2 PRE-TEST FRONT VIEW



Figure A-3 POST-TEST FRONT VIEW



Figure A-4 PRE-TEST LEFT SIDE VIEW



Figure A-5 POST-TEST LEFT SIDE VIEW



Figure A-6 PRE-TEST RIGHT SIDE VIEW



Figure A-7 POST-TEST RIGHT SIDE VIEW



A-10

8642-NCAP-07

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



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



A-12

8642-NCAP-07

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



A-16

8642-NCAP-07

Figure A-14 PRE-TEST ENGINE COMPARTMENT VIEW

M20201

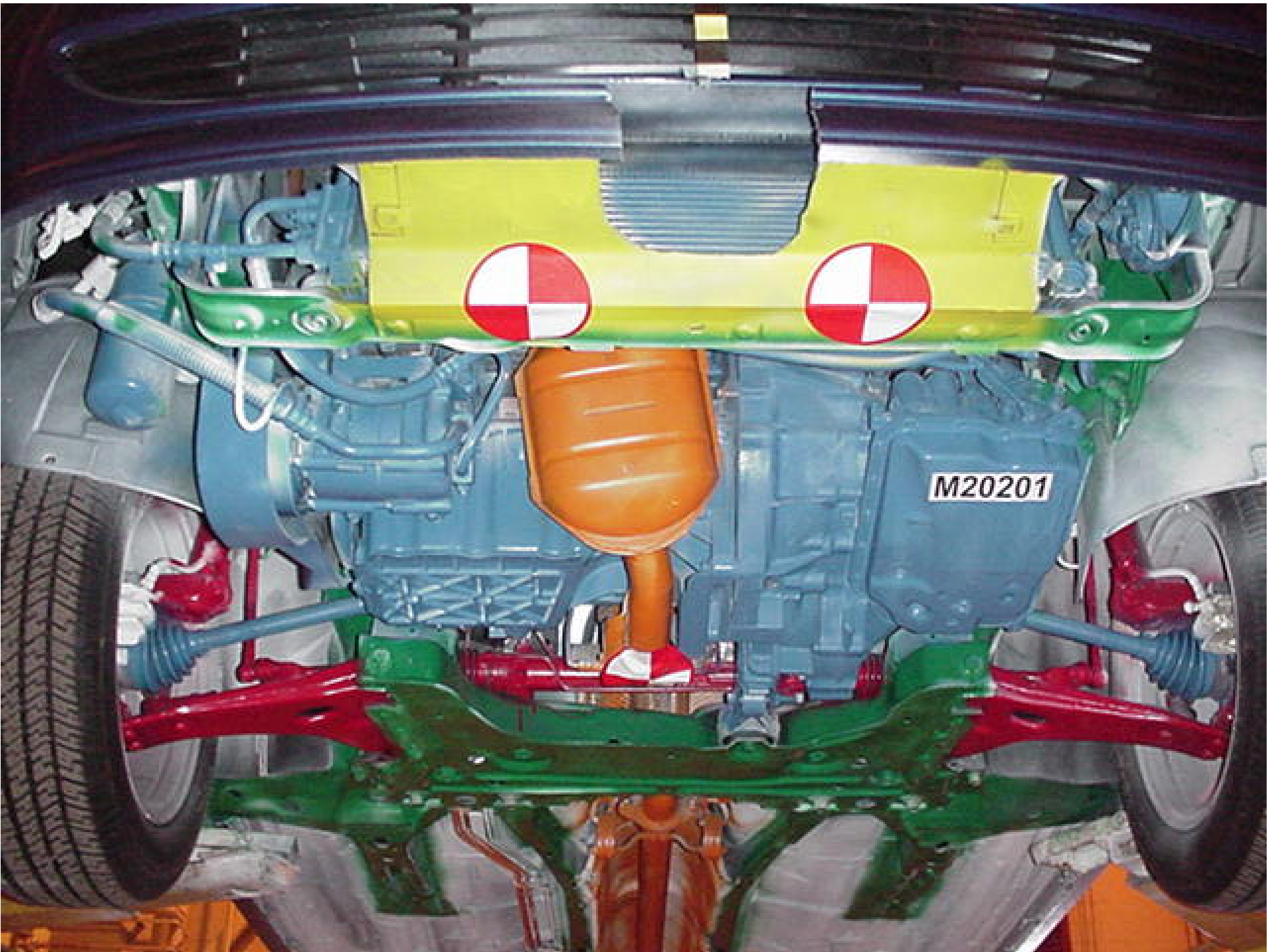
C0353-1007-1988

A-17

8642-NCAP-07



Figure A-15 FUEL CAP VIEW



A-18

8642-NCAP-07

Figure A-16 PRE-TEST FRONT UNDERBODY VIEW

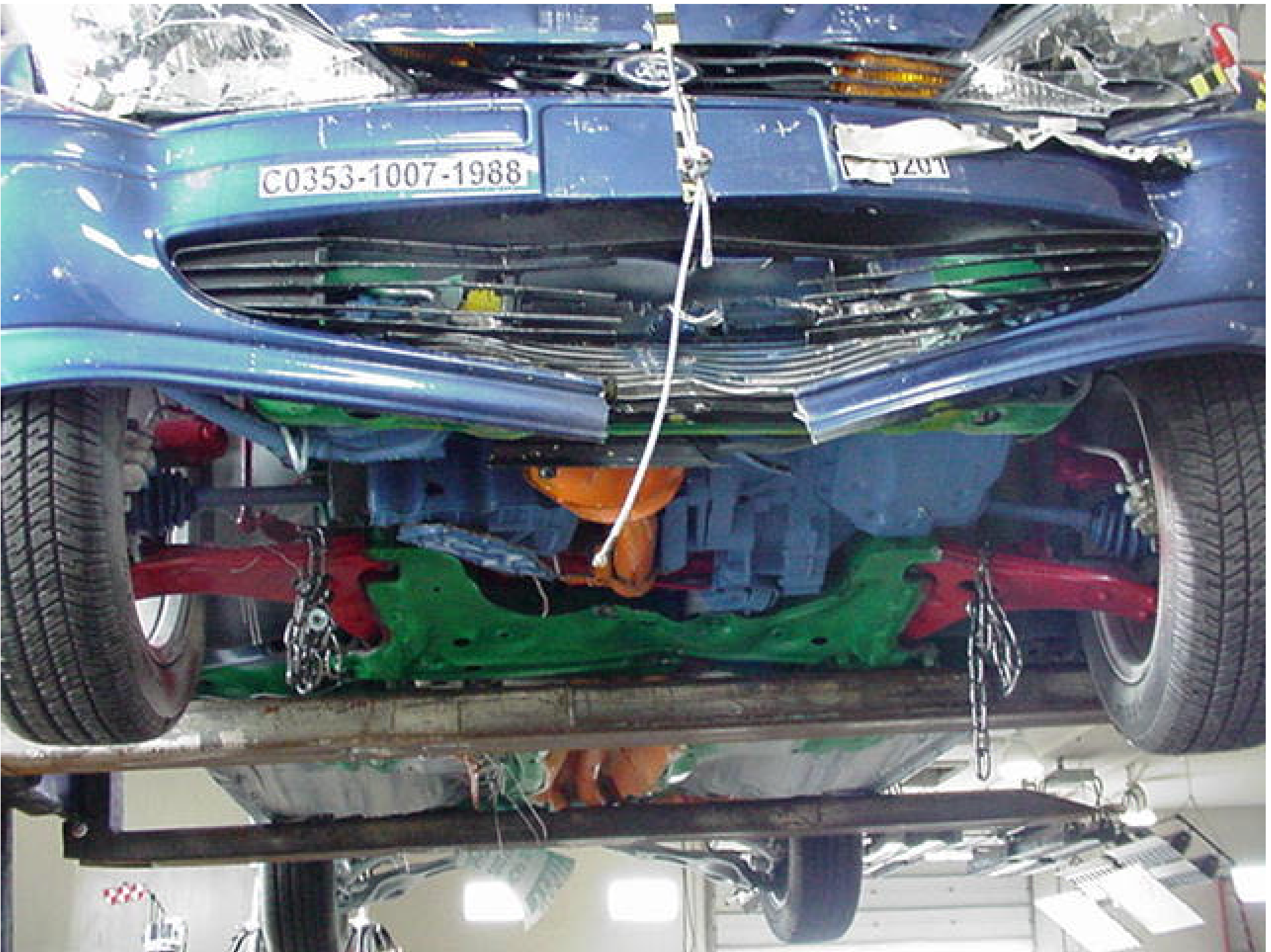


Figure A-17 POST-TEST FRONT UNDERBODY VIEW



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

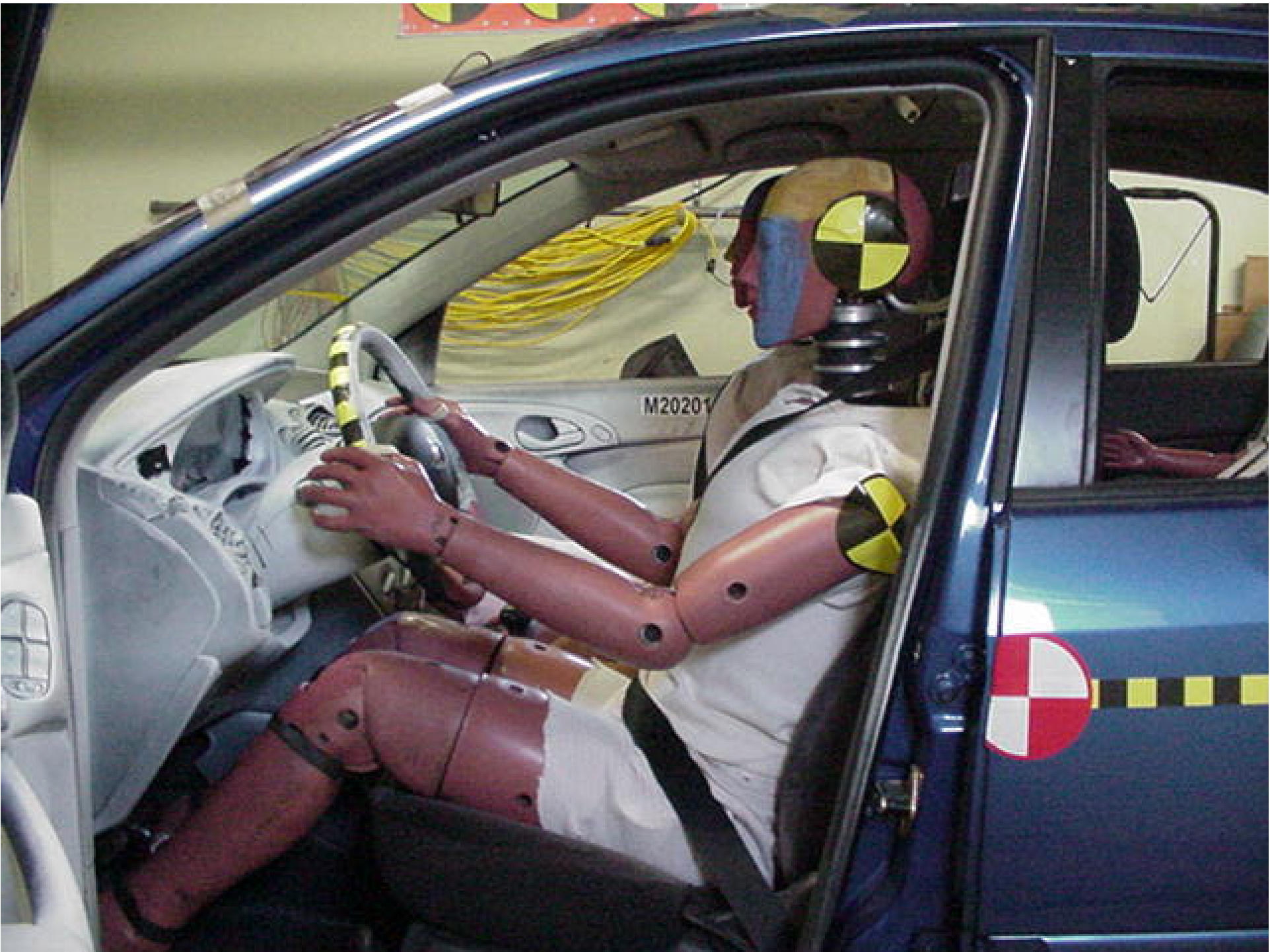


Figure A-22 PRE-TEST DRIVER POSITION VIEW



Figure A-23 POST-TEST DRIVER POSITION VIEW



Figure A-24 PRE-TEST PASSENGER POSITION VIEW



Figure A-25 POST-TEST PASSENGER POSITION VIEW



A-28

8642-NCAP-07

Figure A-26 PRE-TEST DRIVER AND INTERIOR VIEW



Figure A-27 POST-TEST DRIVER AND INTERIOR VIEW



A-30

8642-NCAP-07

Figure A-28 PRE-TEST PASSENGER AND INTERIOR VIEW



Figure A-29 POST-TEST PASSENGER AND INTERIOR VIEW



A-32

8642-NCAP-07

Figure A-30 PRE-TEST DRIVER HEAD LOCATION



A-33

8642-NCAP-07

Figure A-31 POST-TEST DRIVER HEAD LOCATION



Figure A-32 PRE-TEST PASSENGER HEAD LOCATION



Figure A-33 POST-TEST PASSENGER HEAD LOCATION



A-36

8642-NCAP-07

Figure A-34 PRE-TEST DRIVER FLOOR PAN VIEW



A-37

8642-NCAP-07

Figure A-35 POST-TEST DRIVER FLOOR PAN VIEW



A-38

8642-NCAP-07

Figure A-36 PRE-TEST PASSENGER FLOOR PAN VIEW



A-39

8642-NCAP-07

Figure A-37 POST-TEST PASSENGER FLOOR PAN VIEW



Figure A-38 ROLLOVER VIEW



Figure A-39 IMPACT VIEW

MFD. BY FORD MOTOR CO. IN U.S.A.

DATE: 12/01

GVWR: 1641KG/3620LB

FRONT GAWR: 891KG/1965LB

REAR GAWR: 791KG/1745LB

THIS VEHICLE CONFORMS TO ALL APPLICABLE FEDERAL MOTOR VEHICLE SAFETY, BUMPER, AND THEFT PREVENTION STANDARDS IN EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE.

VIN: 1FAFP34P02W152249 TYPE: PASSENGER

MAXIMUM LOAD = OCCUPANTS + LUGGAGE = 375KG/0827LB

OCCUPANTS = 5 TOTAL;

OCCUPANTS LUGGAGE
035KG/0077LB

2 FR, 3 RR

TIRE: P195/60R15

PRESSURE(FR): 221 kPa/32 PSI COLD

PRESSURE(RR): 221 kPa/32 PSI COLD



1FAFP34P02W152249

TRAILER TOWING - SEE OWNER GUIDE

EXT FNT: M9

IRC: 47

LDSD:

F0045

BRX INT TR

TP/PS

R

AXLE

TR

SPR

2AK1B

R0042

A

CW

3

PP

2

SOA

UBC

2USA5420472AA

Figure A-40 VEHICLE PLACARD

TIRE SIZE DIMENSIONS DES PNEUS		LOAD RANGE CHARGE NOMINALE	PRESSION PRESSURE	
			AVANT FRONT	ARRIÈRE REAR
P185/65 R14 85S* **		ALL	221 kpa / 32 PSI	221 kpa / 32 PSI
P195/60 R15 87T*		ALL	221 kpa / 32 PSI	221 kpa / 32 PSI
P205/50 R16 86H*		ALL	234 kpa / 34 PSI	234 kpa / 34 PSI
T125/80 R15 95M* TEMPORAL SPARE PNEU DE SECOURS PROVISOIRE		ALL	415 kpa / 60 PSI	415 kpa / 60 PSI
*MUST BE REPLACED WITH AN EQUIVALENT TYPE SPEED RATED TIRE. *NE REMPLACER QUE PAR UN PNEU DONT L'INDICE DE VITESSE EST LE MEME.			**SNOW CHAINS MAY ONLY BE USED WITH THIS TIRE. **UTILISER DES CHAÎNES À NEIGE QU'AVEC CE TYPE DE PNEU.	
TOTAL LOAD = OCCUPANTS PLUS LUGGAGE		CHARGE TOTALE = OCCUPANTS PLUS BAGAGES		
MAXIMUM LOAD CHARGE MAXIMALE	OCCUPANTS OCCUPANTS	DISTRIBUTION REPARTITION		
		FRONT AVANT	REAR ARRIÈRE	LUGGAGE BAGAGES
375 kg/826.7 lb	5	2	3	35 kg/77.2 lb
FOR SUSTAINED HIGH SPEED, TRAILER TOWING, RECREATIONAL ACCESSORIES: SNOW CHAINS OR TEMPORAL SPARE INFORMATION - SEE OWNER GUIDE. HAUTES VITESSES SOUTENUES, REMORQUES, ACCESSOIRES DE LOISIRS: CHAÎNES À NEIGE ET PNEU DE SECOURS PROVISOIRE: CONSULTER LE GUIDE DU PROPRIÉTAIRE.				

Figure A-41 TIRE PLACARD

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. M20201

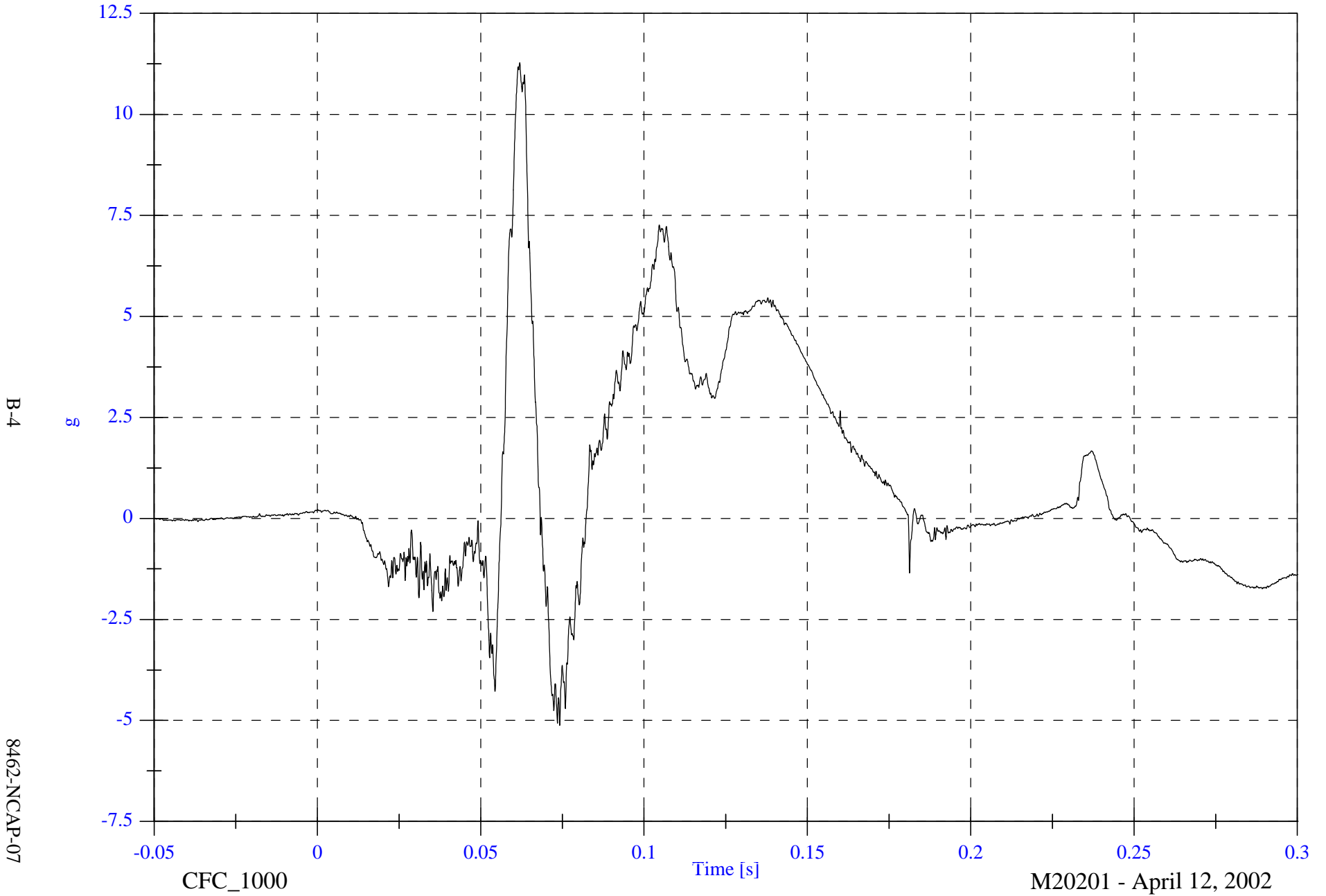
DATA TYPE	SAE FILTER CLASS (Hz)
Dummy Head Accelerations	1000
Dummy Chest Accelerations	180
Dummy Chest Displacements	600
Dummy Femur Forces	600
Dummy Belt Loads	60
Dummy Belt Displacements	180
Dummy Neck Forces	1000
Dummy Neck Moments	600
Vehicle Accelerations	60
Vehicle Velocity Integrations	180
Vehicle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

NCAP Test 7 - 2002 Ford Focus

P1 Head 9 Array X Arm Ay

Max: 11.3 [g] at 0.062 [s]

Min: -5.1 [g] at 0.074 [s]



B-4

8462-NCAP-07

CFC_1000

Time [s]

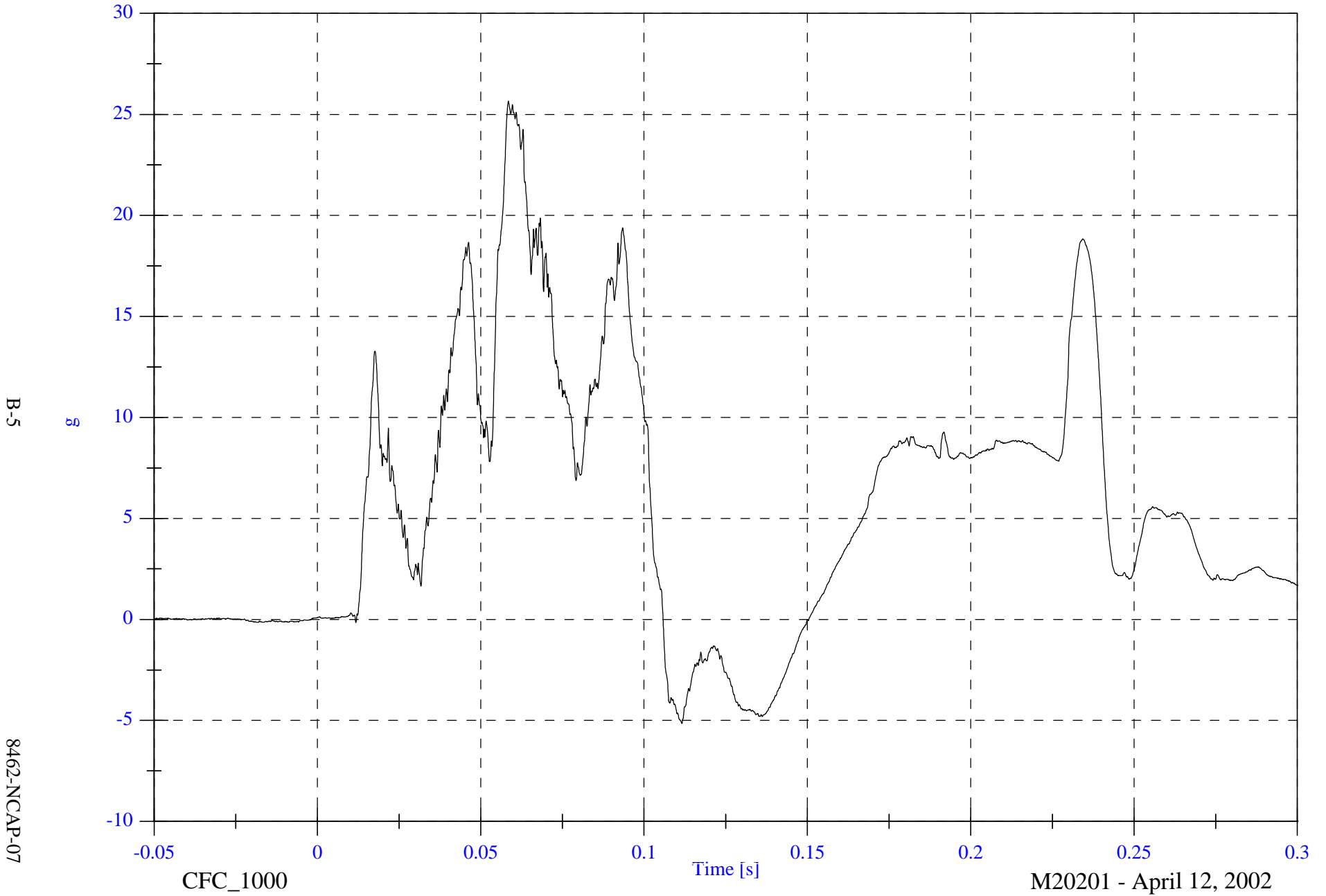
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

P1 Head 9 Array X Arm Az

Max: 25.7 [g] at 0.058 [s]

Min: -5.2 [g] at 0.112 [s]



B-5

8462-NCAP-07

CFC_1000

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

P1 Head 9 Array Y Arm Ax

Max: 20.4 [g] at 0.235 [s]

Min: -50.0 [g] at 0.078 [s]

B-6

8462-NCAP-07



CFC_1000

Time [s]

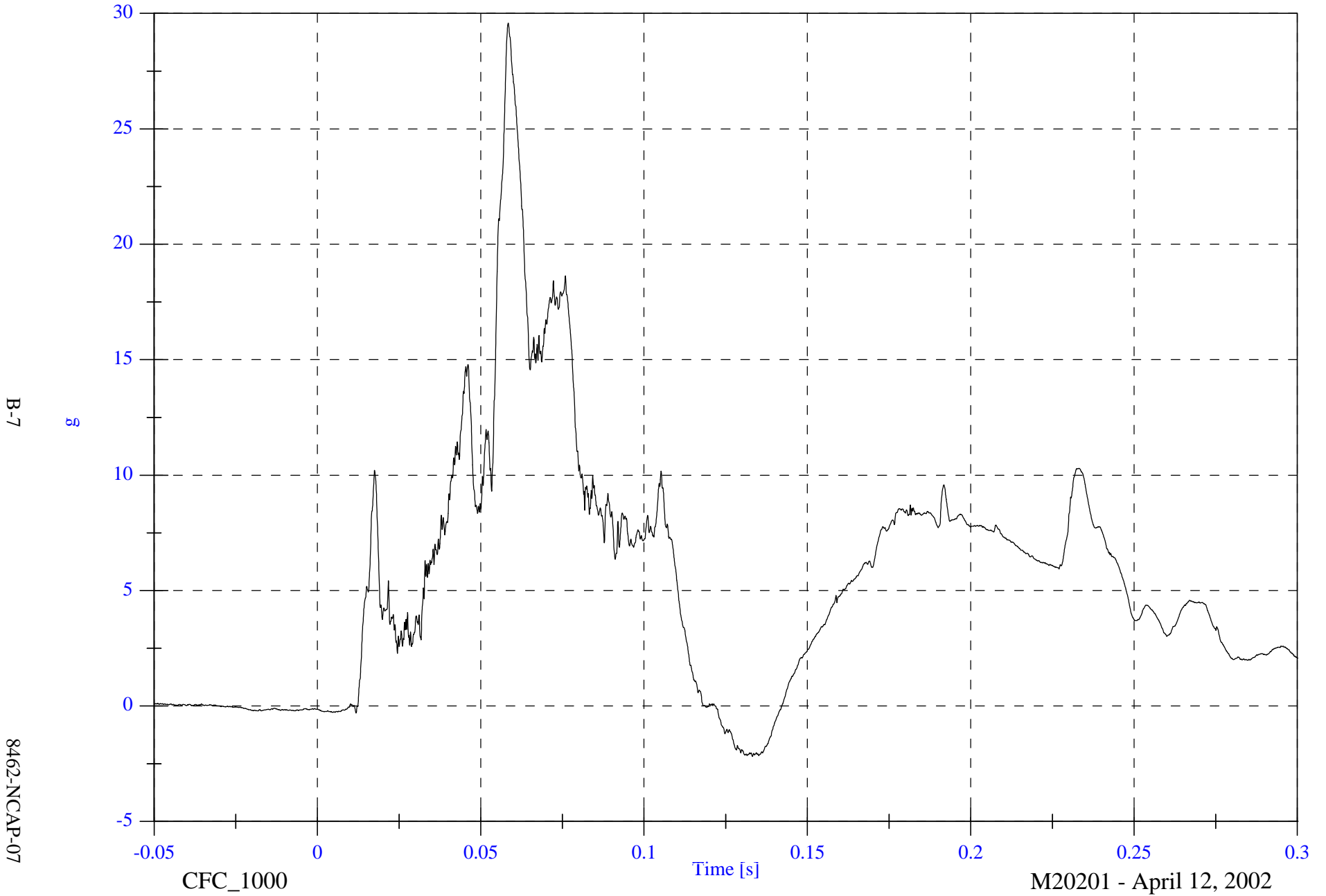
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

P1 Head 9 Array Y Arm Az

Max: 29.6 [g] at 0.058 [s]

Min: -2.2 [g] at 0.133 [s]



B-7

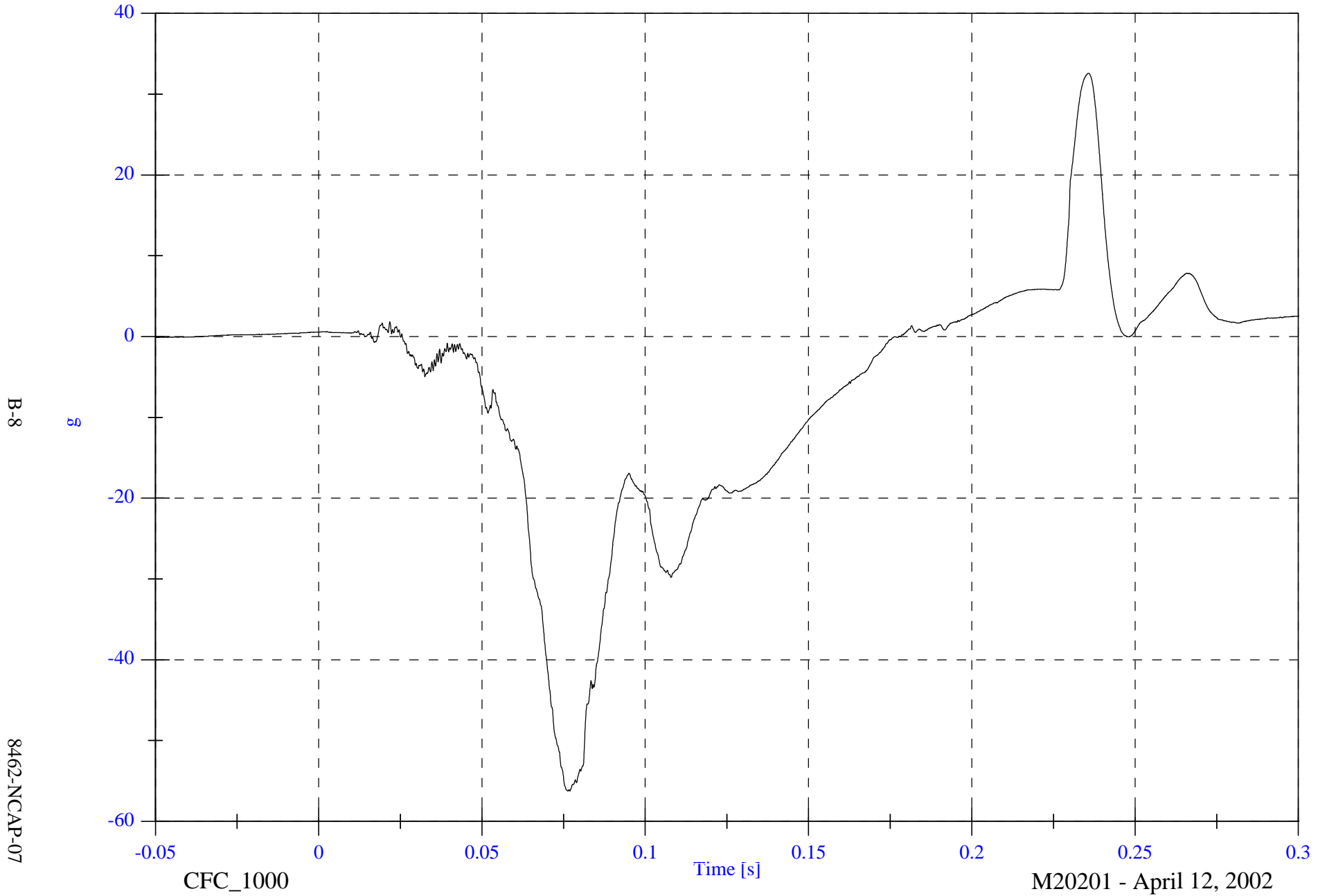
8462-NCAP-07

NCAP Test 7 - 2002 Ford Focus

P1 Head 9 Array Z Arm Ax

Max: 32.6 [g] at 0.236 [s]

Min: -56.2 [g] at 0.077 [s]

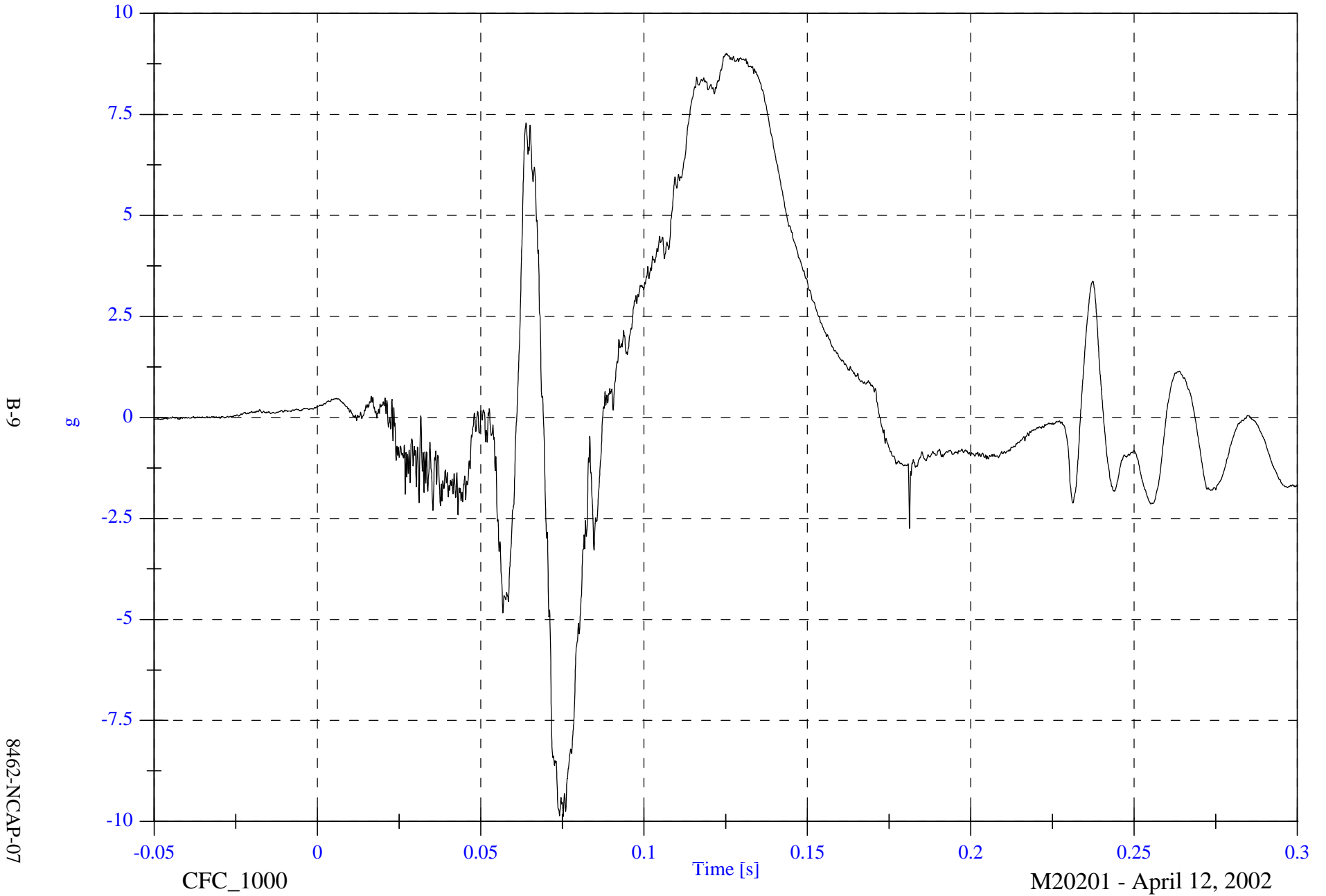


NCAP Test 7 - 2002 Ford Focus

P1 Head 9 Array Z Arm Ay

Max: 9.0 [g] at 0.125 [s]

Min: -9.9 [g] at 0.075 [s]



B-9

8462-NCAP-07

CFC_1000

Time [s]

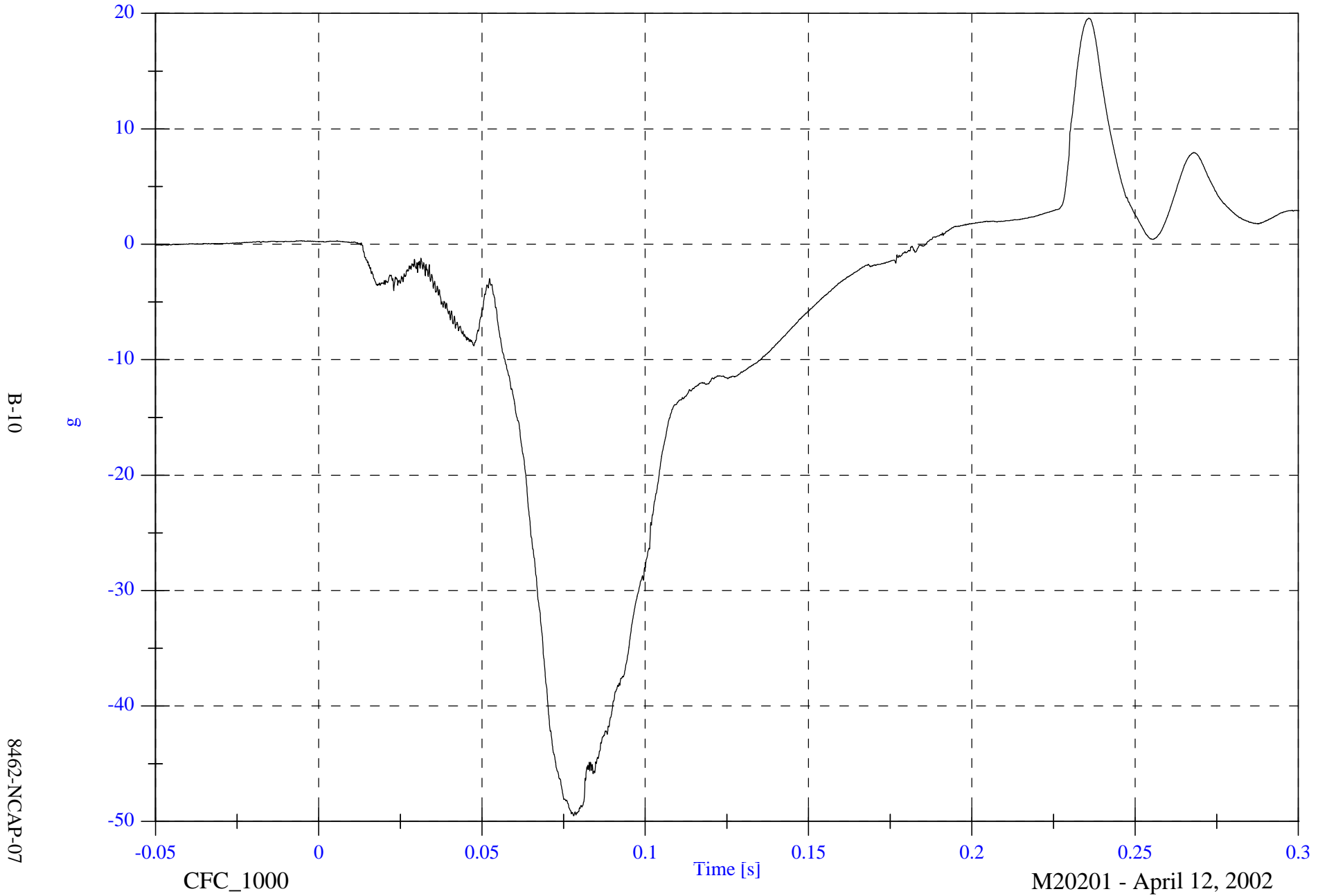
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

P1 Head CG x

Max: 19.6 [g] at 0.236 [s]

Min: -49.5 [g] at 0.078 [s]



B-10

8462-NCAP-07

CFC_1000

Time [s]

M20201 - April 12, 2002

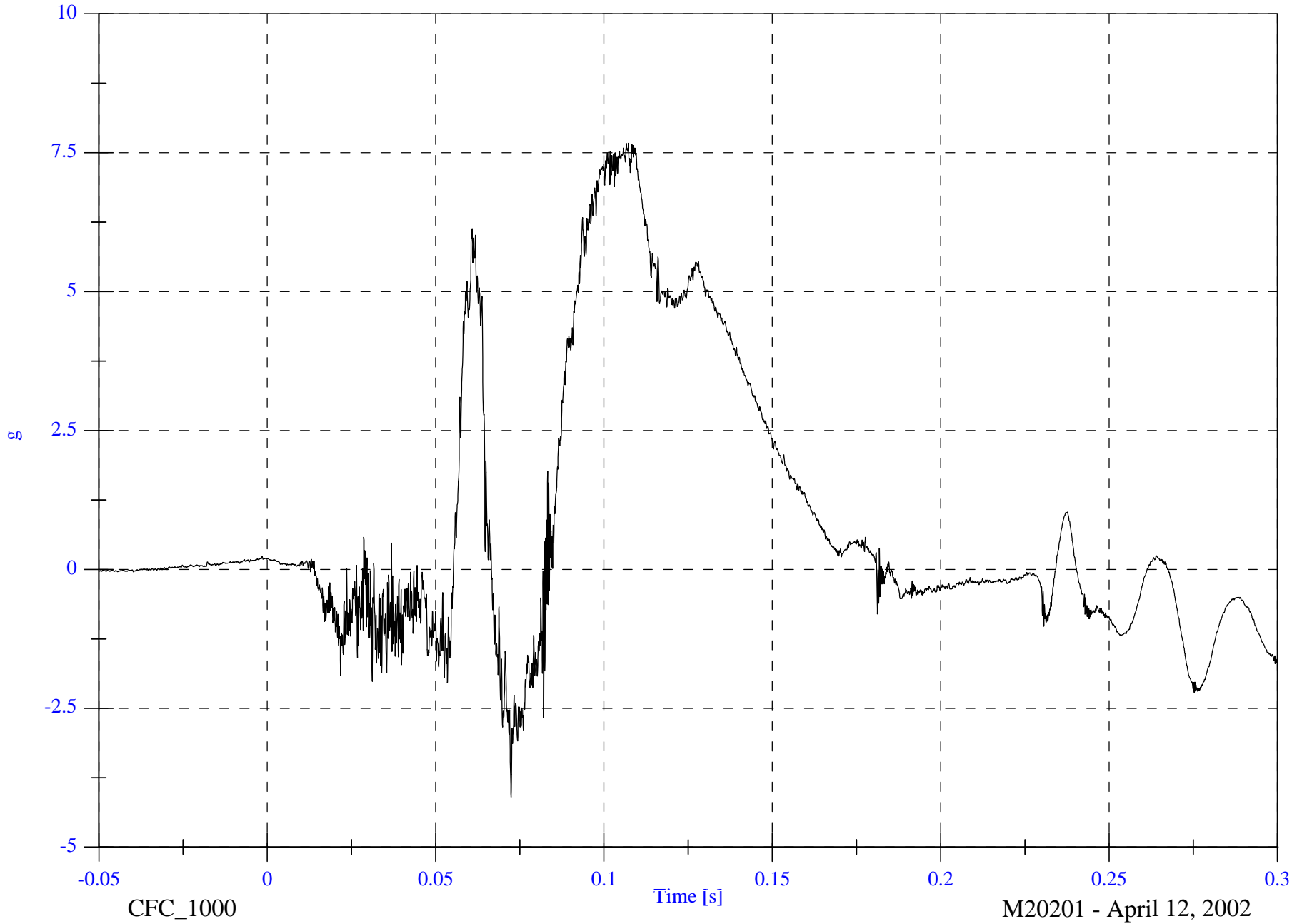
NCAP Test 7 - 2002 Ford Focus

Max: 7.7 [g] at 0.107 [s]
Min: -4.1 [g] at 0.072 [s]

P1 Head CG y

B-11

8462-NCAP-07



NCAP Test 7 - 2002 Ford Focus

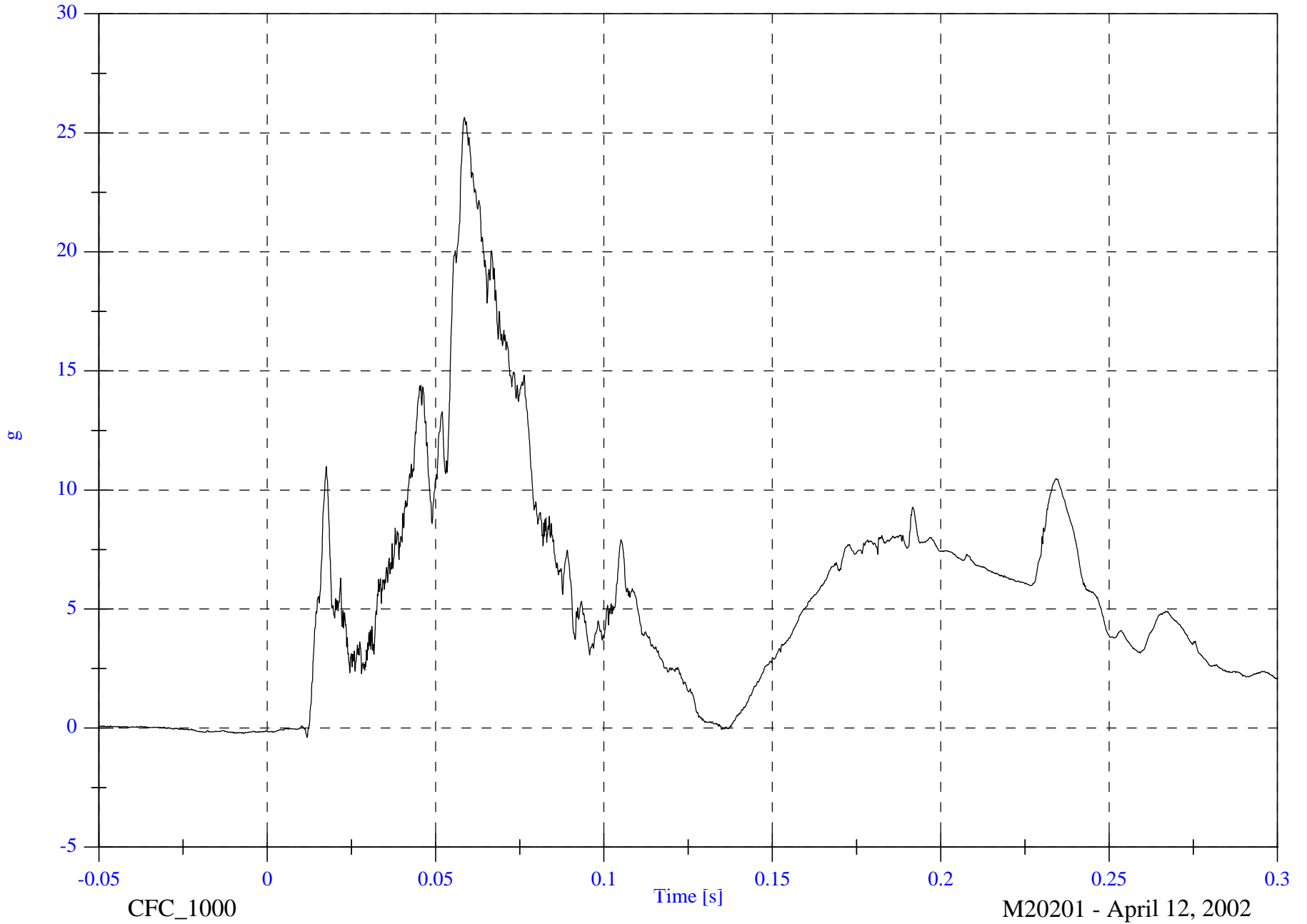
P1 Head CG z

Max: 25.6 [g] at 0.059 [s]

Min: -0.4 [g] at 0.012 [s]

B-12

8462-NCAP-07



CFC_1000

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

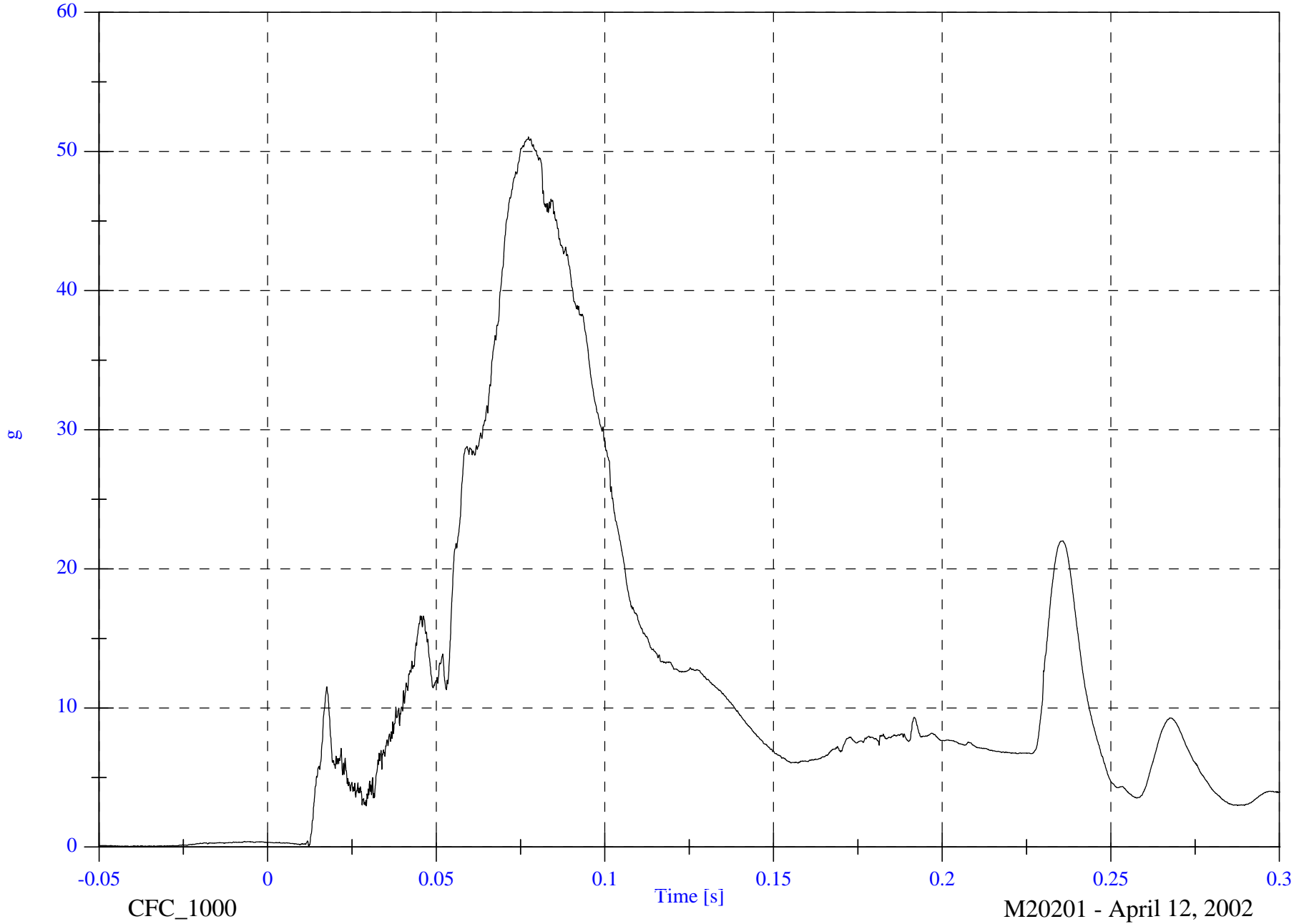
P1 Head CG Resultant

Max: 51.0 [g] at 0.077 [s]

Min: 0.0 [g] at -0.041 [s]

B-13

8462-NCAP-07



CFC_1000

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

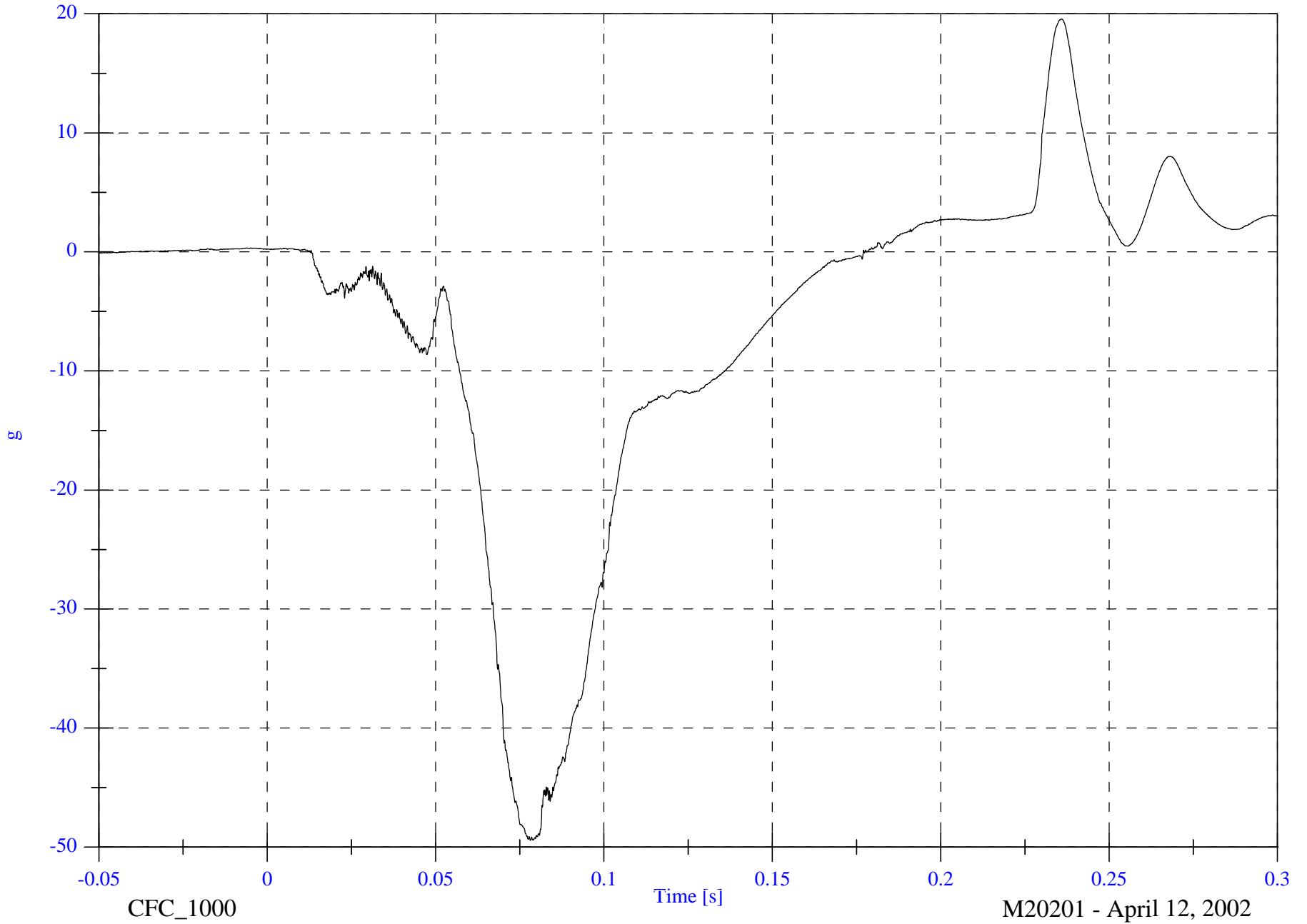
P1 Head CG Red x

Max: 19.6 [g] at 0.236 [s]

Min: -49.4 [g] at 0.078 [s]

B-14

8462-NCAP-07



CFC_1000

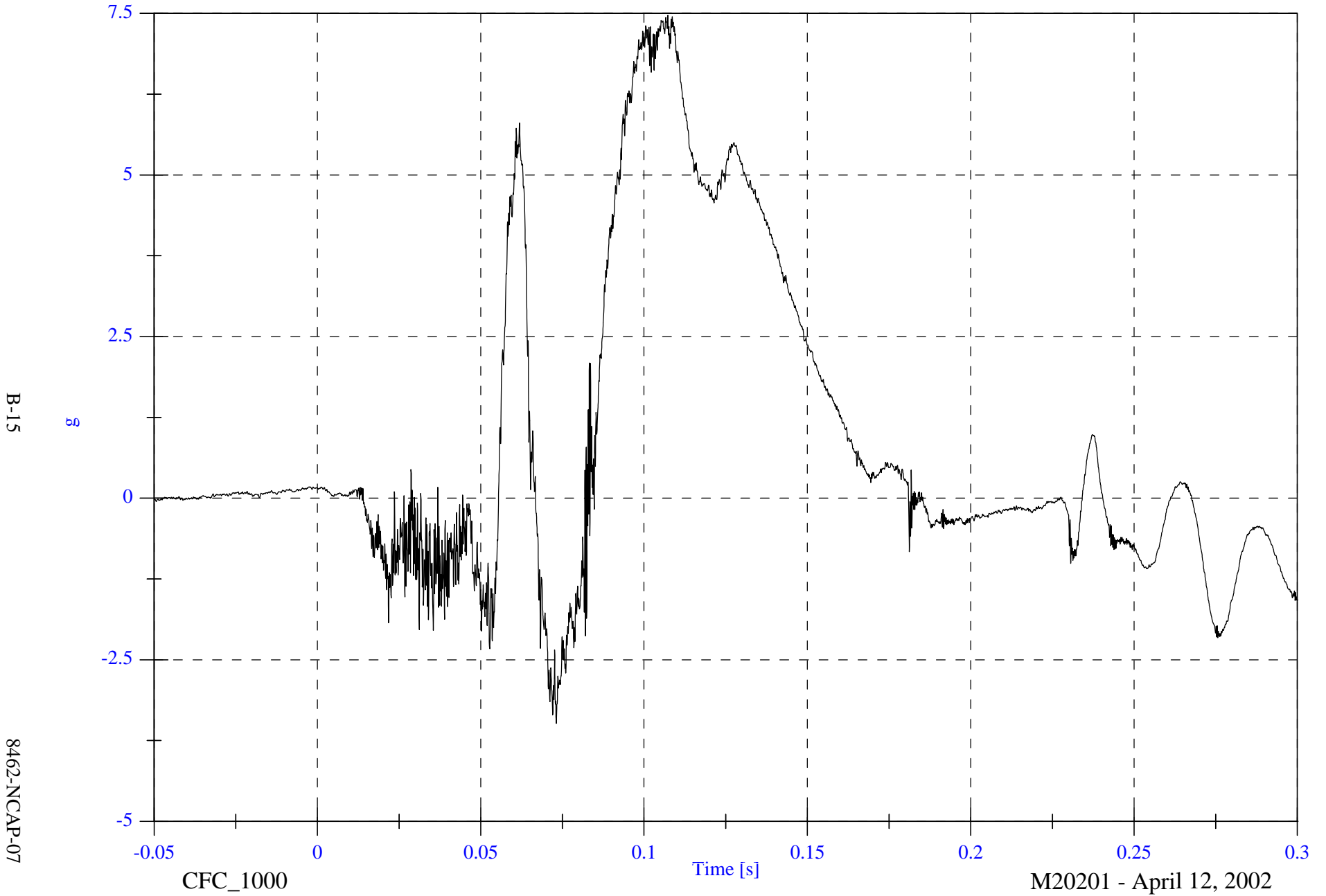
Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

Max: 7.5 [g] at 0.107 [s]
Min: -3.5 [g] at 0.073 [s]

P1 Head CG Red y



B-15

8462-NCAP-07

CFC_1000

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

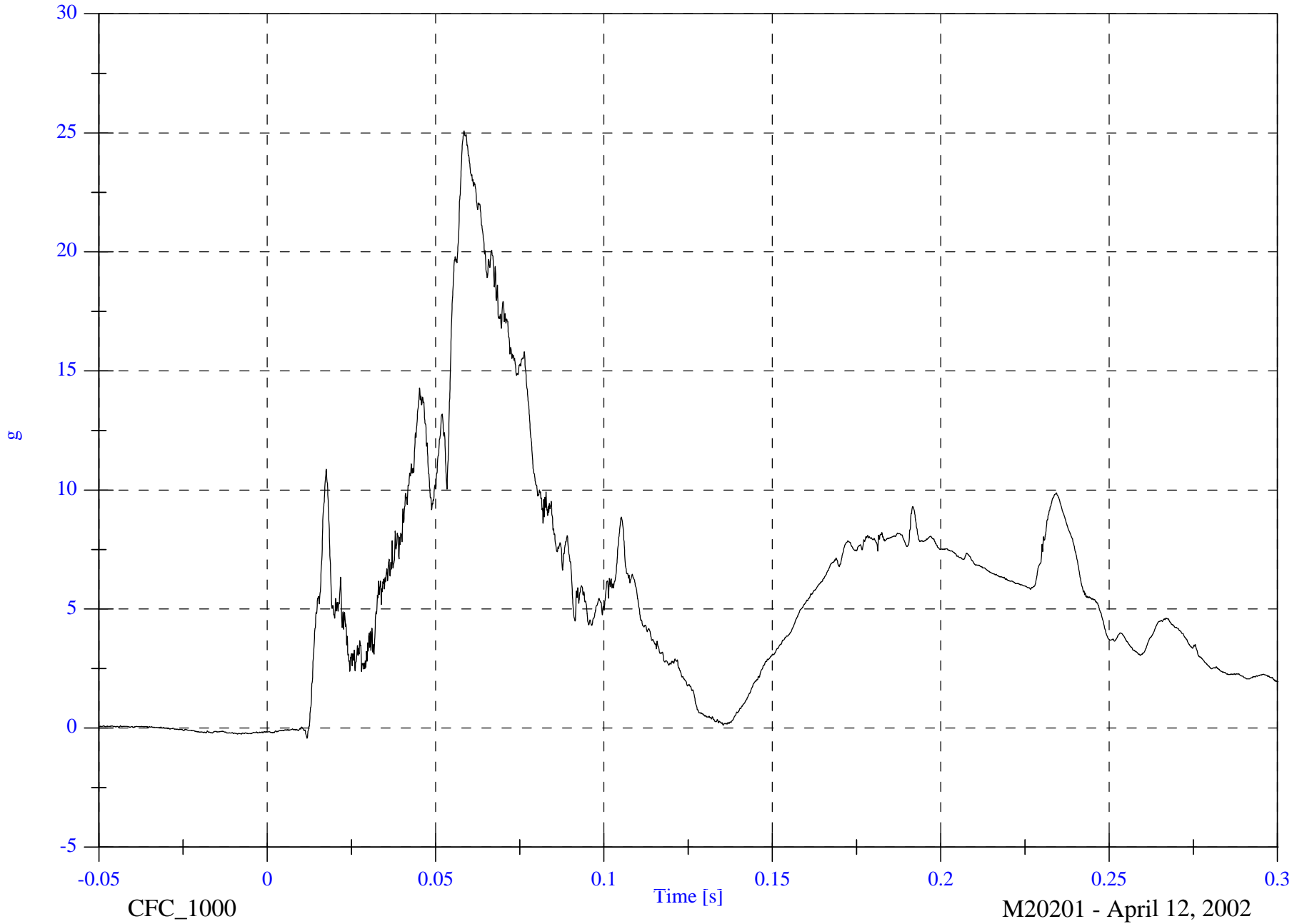
P1 Head CG Red z

Max: 25.1 [g] at 0.058 [s]

Min: -0.4 [g] at 0.012 [s]

B-16

8462-NCAP-07



CFC_1000

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

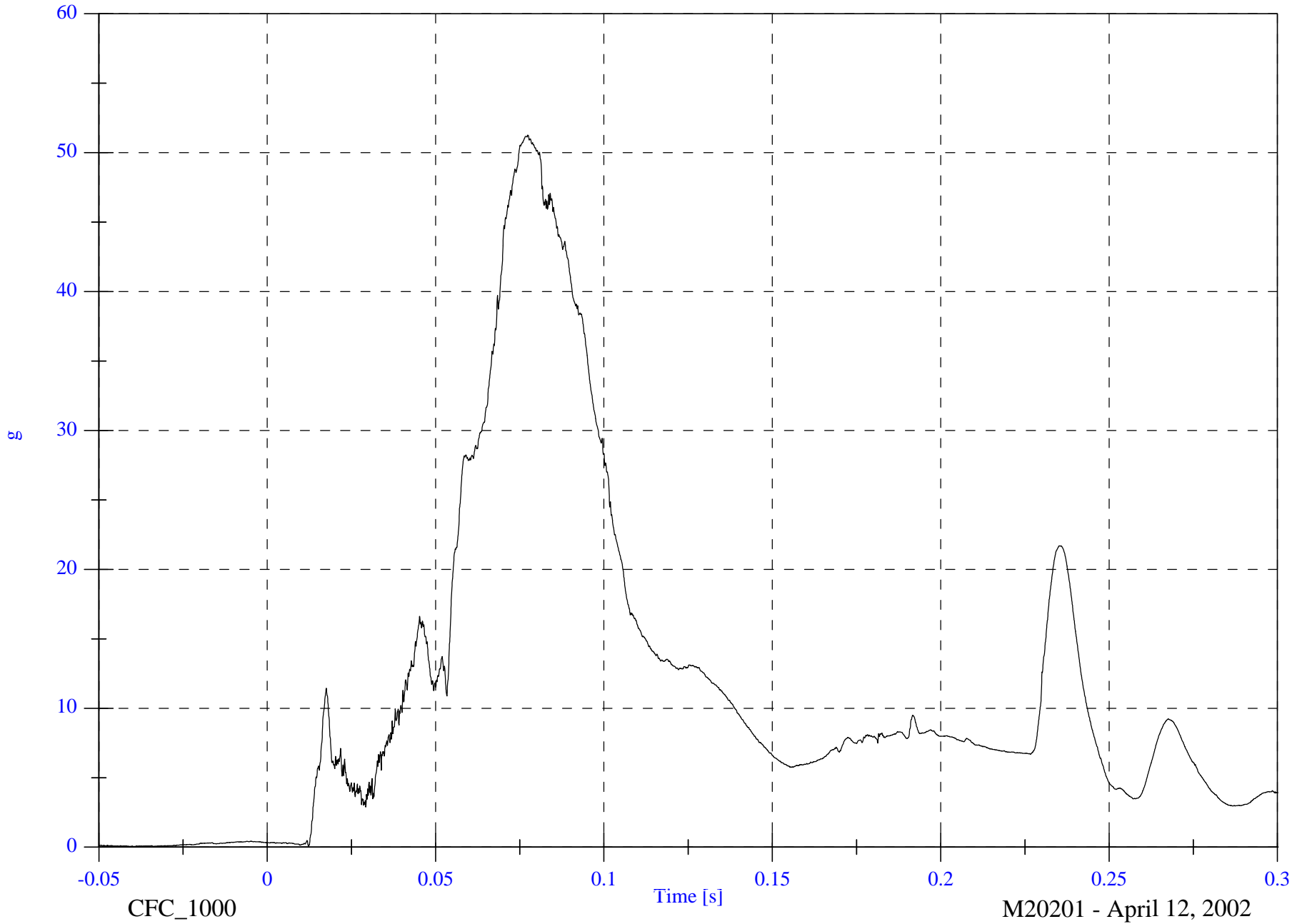
P1 Head CG Red Resultant

Max: 51.3 [g] at 0.077 [s]

Min: 0.0 [g] at -0.040 [s]

B-17

8462-NCAP-07

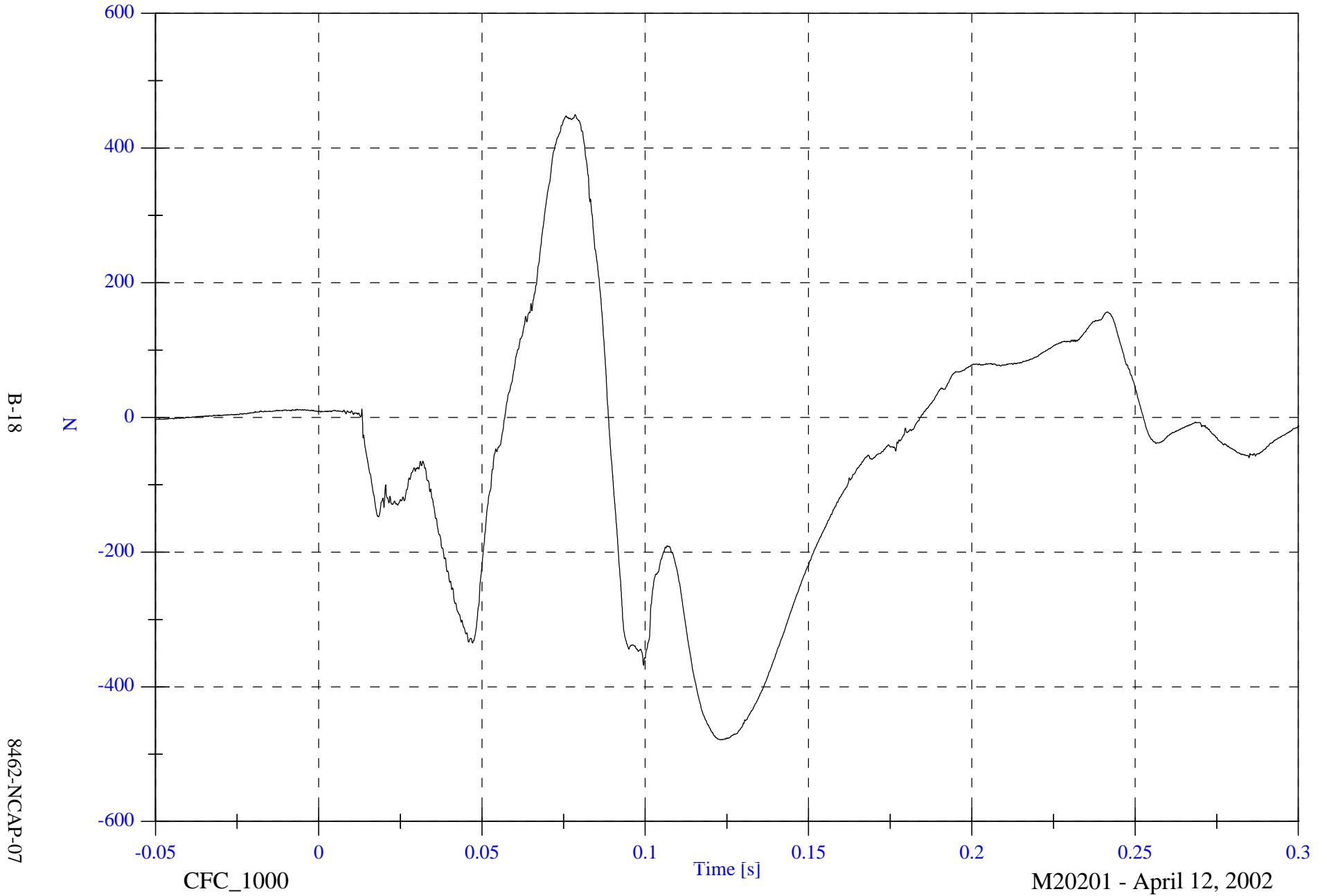


NCAP Test 7 - 2002 Ford Focus

P1 Upper Neck Fx

Max: 449.8 [N] at 0.079 [s]

Min: -478.9 [N] at 0.123 [s]



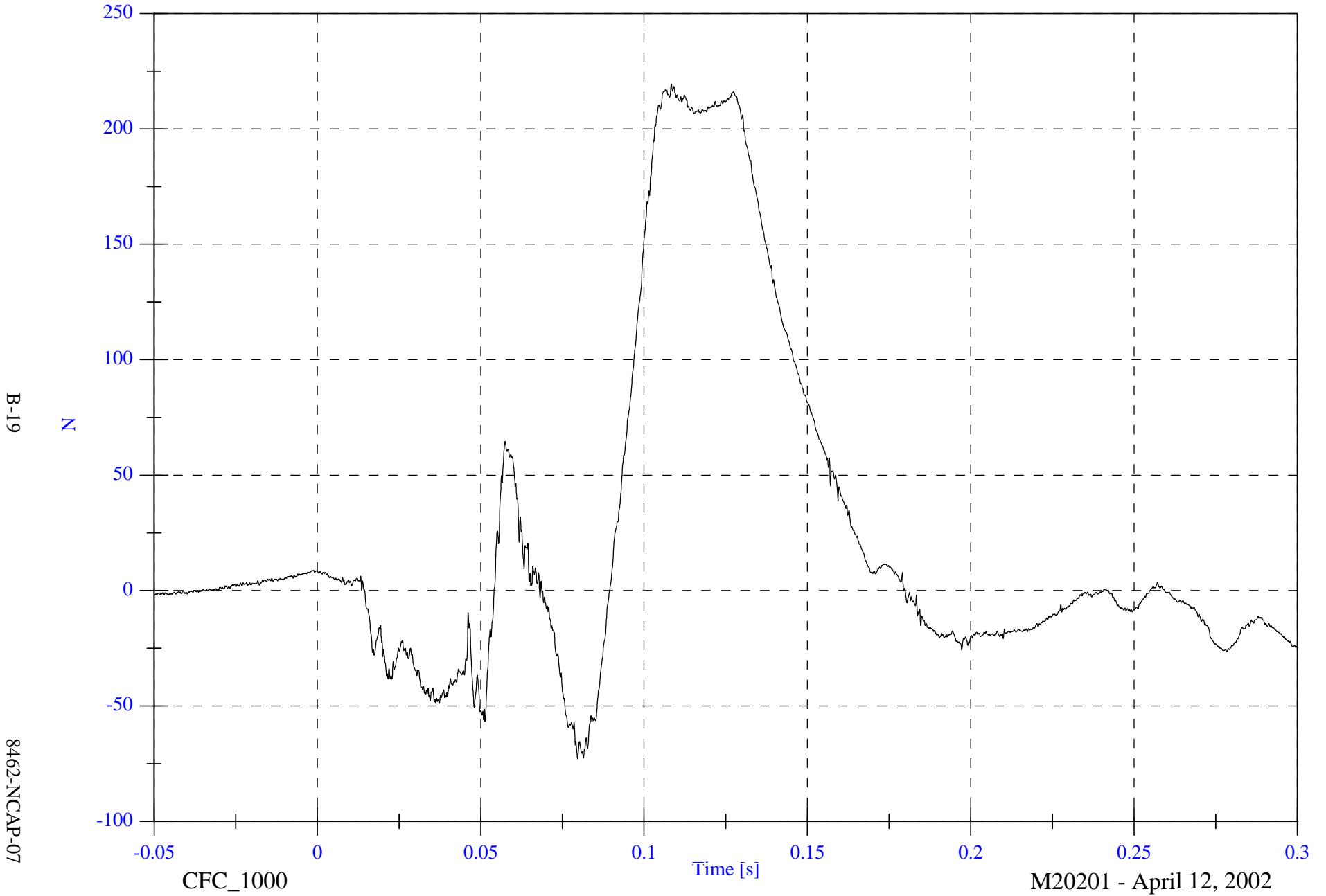
B-18

8462-NCAP-07

NCAP Test 7 - 2002 Ford Focus

Max: 219.4 [N] at 0.108 [s]
Min: -72.9 [N] at 0.080 [s]

P1 Upper Neck Fy



B-19

8462-NCAP-07

CFC_1000

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

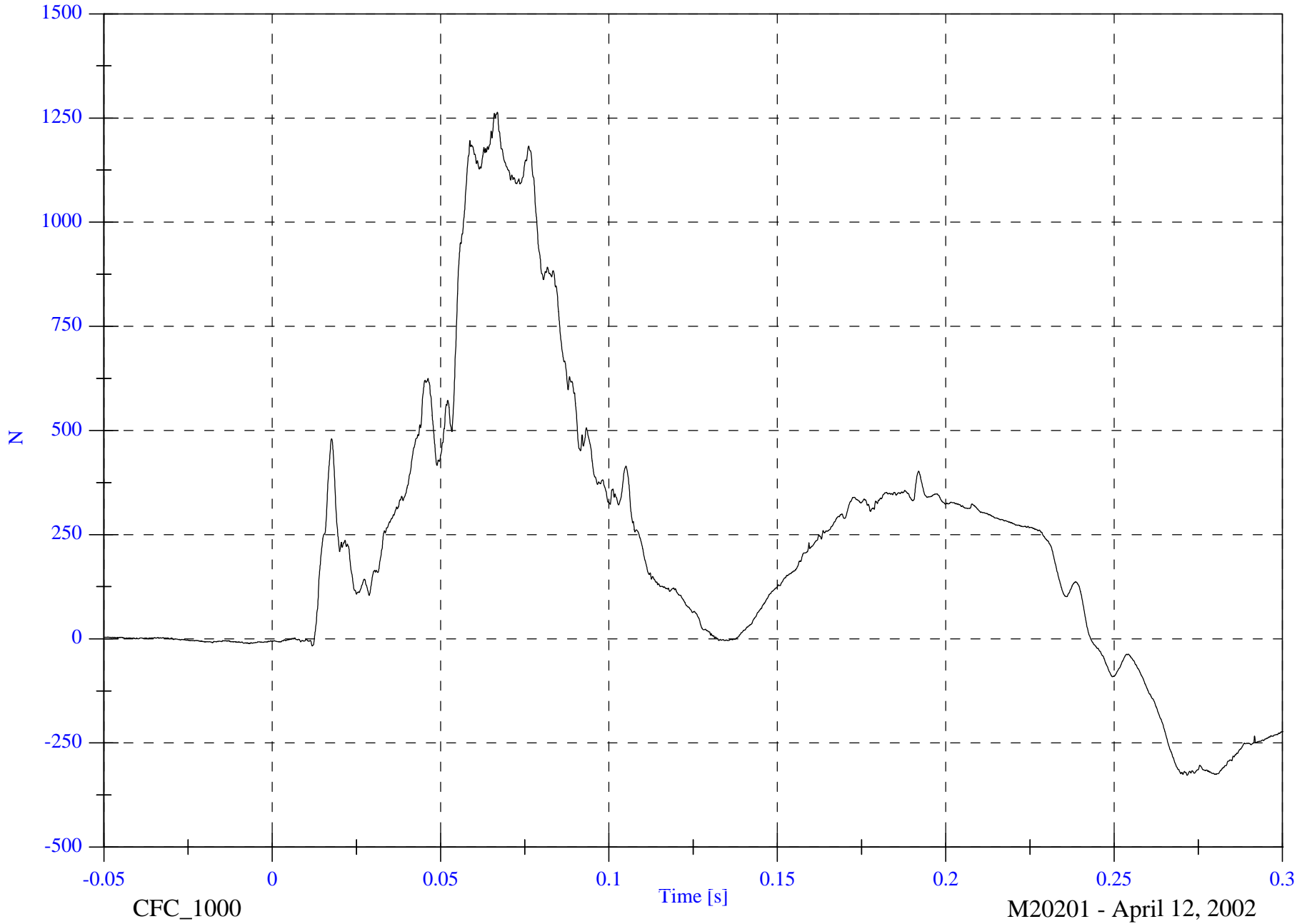
P1 Upper Neck Fz

Max: 1264.3 [N] at 0.067 [s]

Min: -327.8 [N] at 0.272 [s]

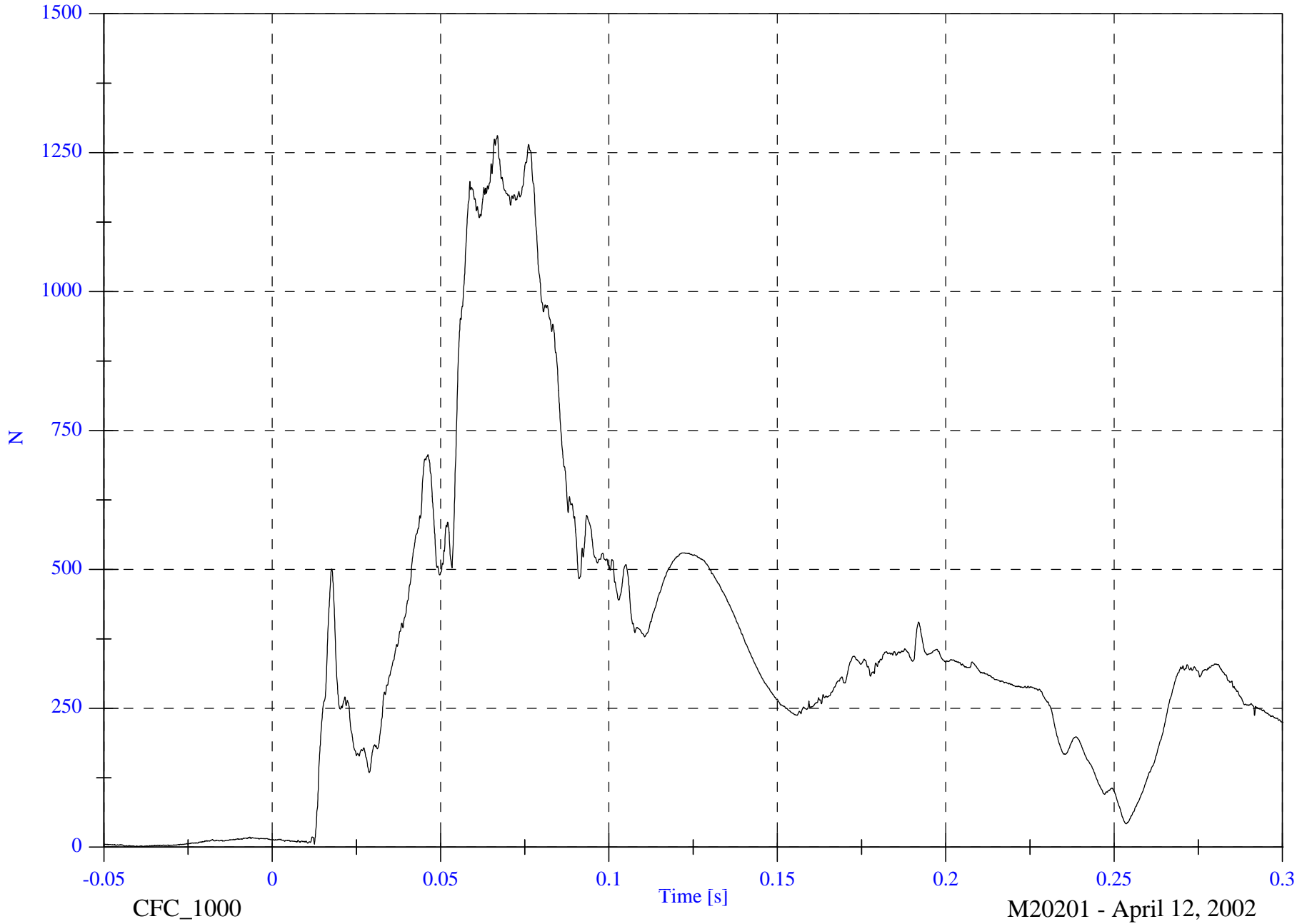
B-20

8462-NCAP-07



B-21

8462-NCAP-07



NCAP Test 7 - 2002 Ford Focus

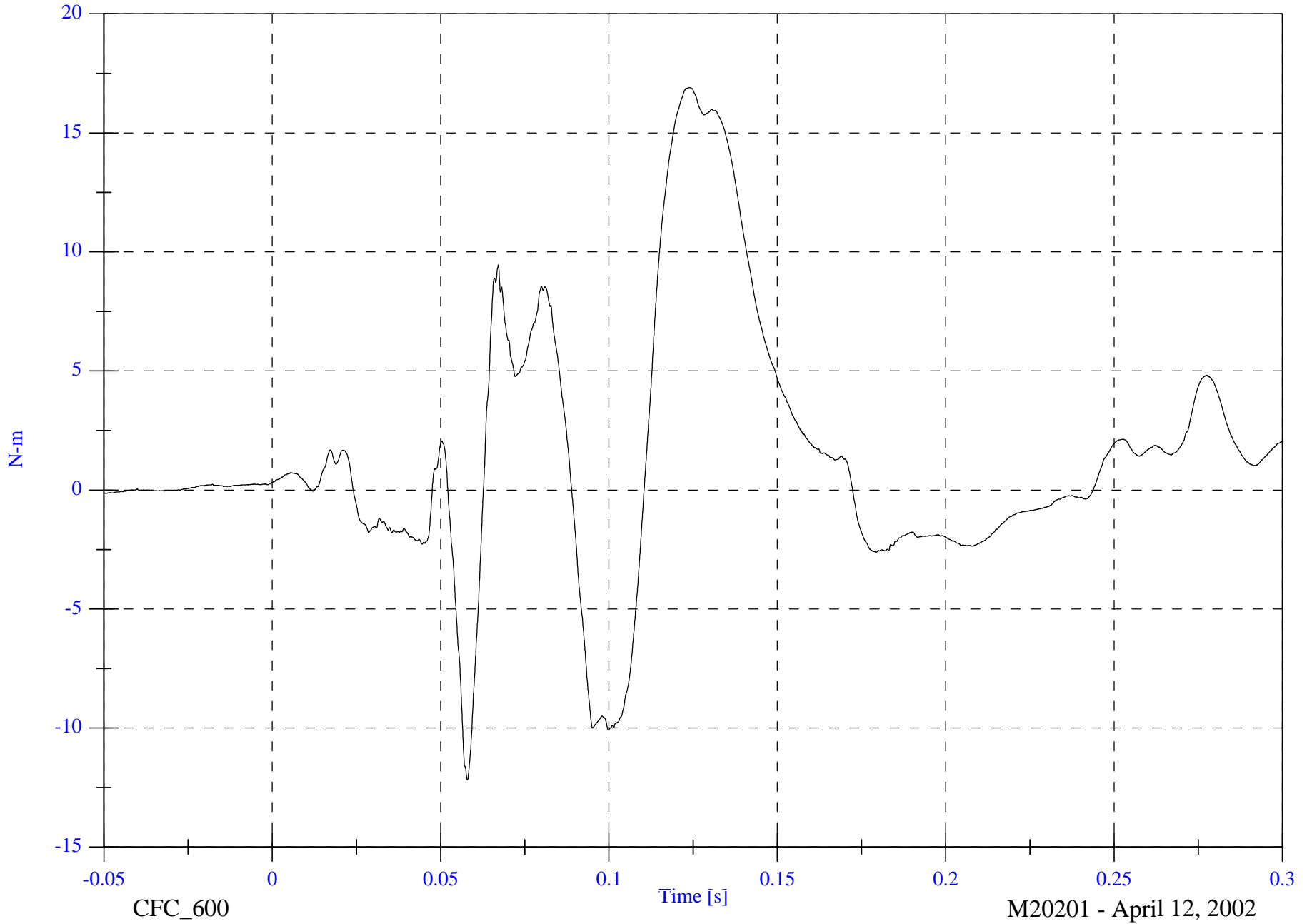
P1 Upper Neck Mx

Max: 16.9 [N-m] at 0.124 [s]

Min: -12.2 [N-m] at 0.058 [s]

B-22

8462-NCAP-07



CFC_600

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

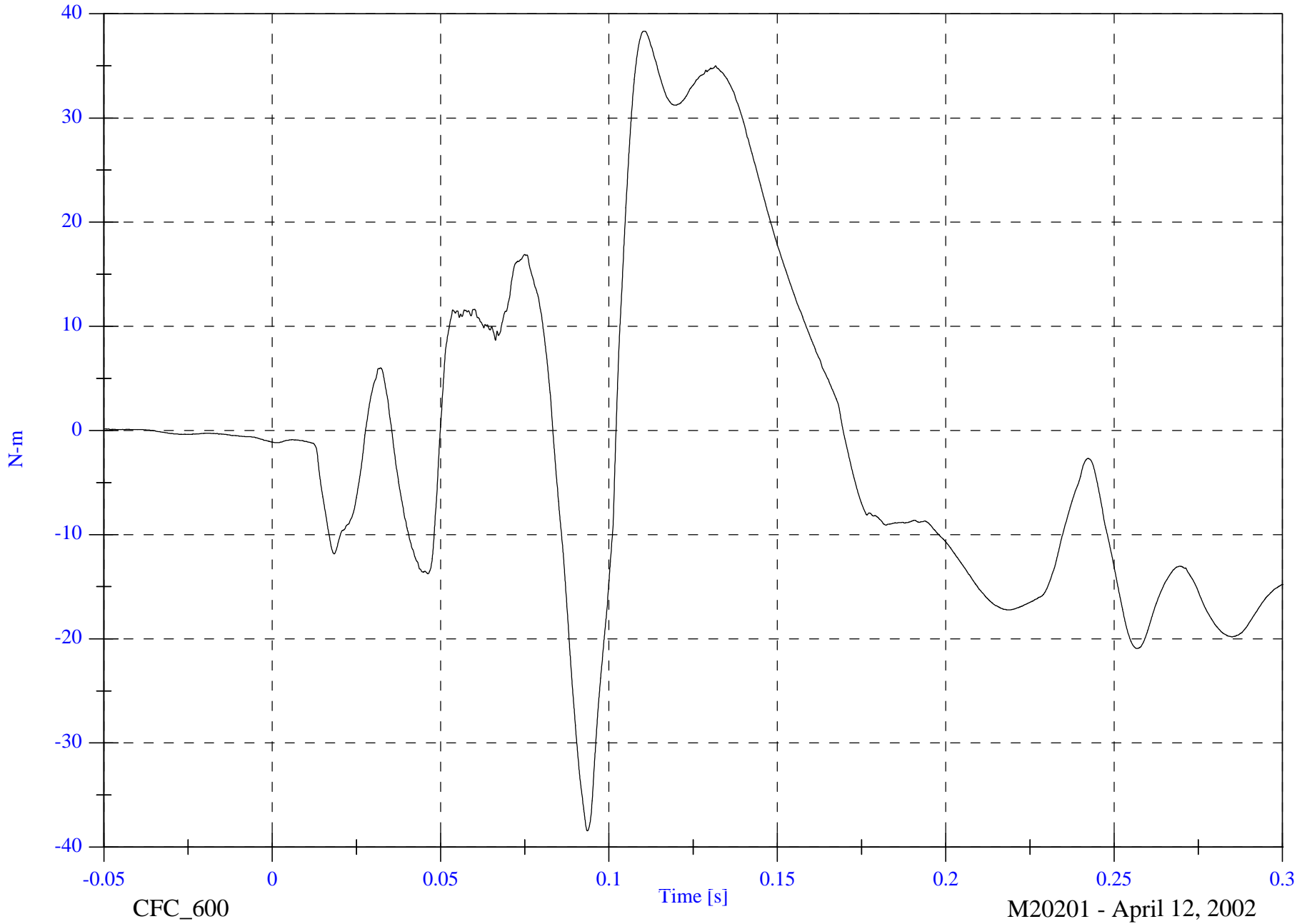
Max: 38.3 [N-m] at 0.111 [s]

Min: -38.4 [N-m] at 0.094 [s]

P1 Upper Neck My

B-23

8462-NCAP-07



CFC_600

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

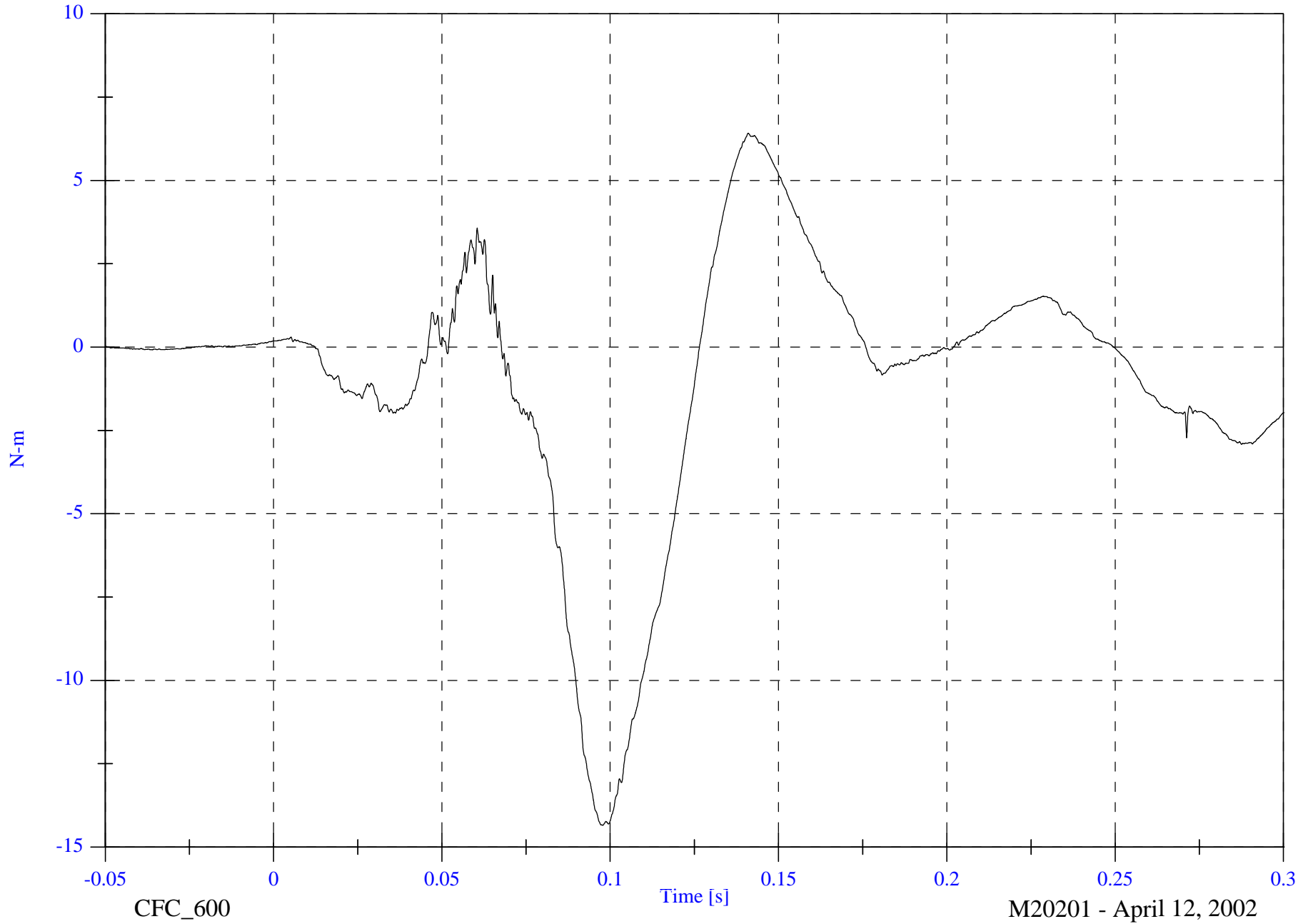
P1 Upper Neck Mz

Max: 6.4 [N-m] at 0.141 [s]

Min: -14.3 [N-m] at 0.098 [s]

B-24

8462-NCAP-07



CFC_600

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

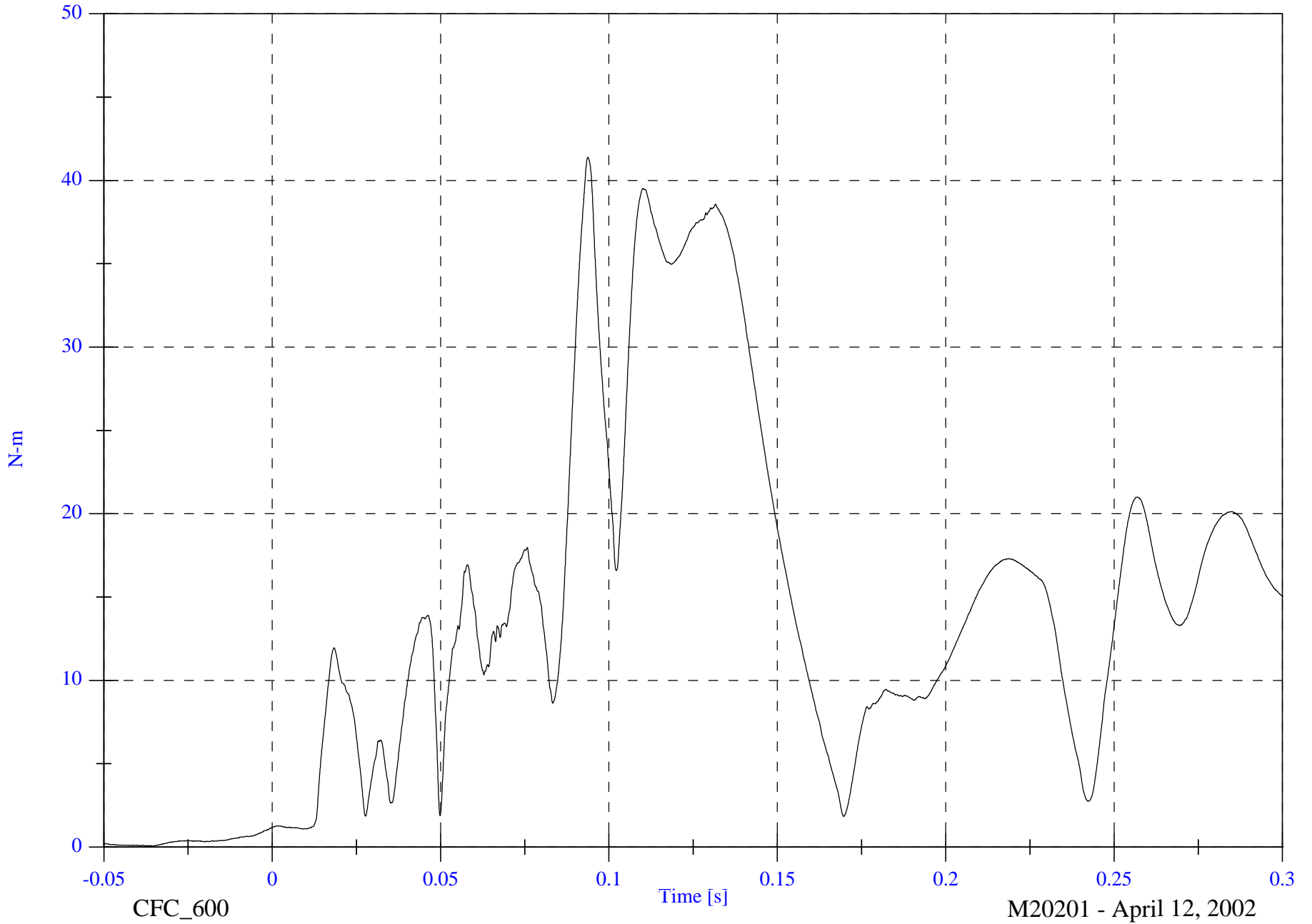
P1 Upper Neck M Resultant

Max: 41.4 [N-m] at 0.094 [s]

Min: 0.1 [N-m] at -0.036 [s]

B-25

8462-NCAP-07



CFC_600

Time [s]

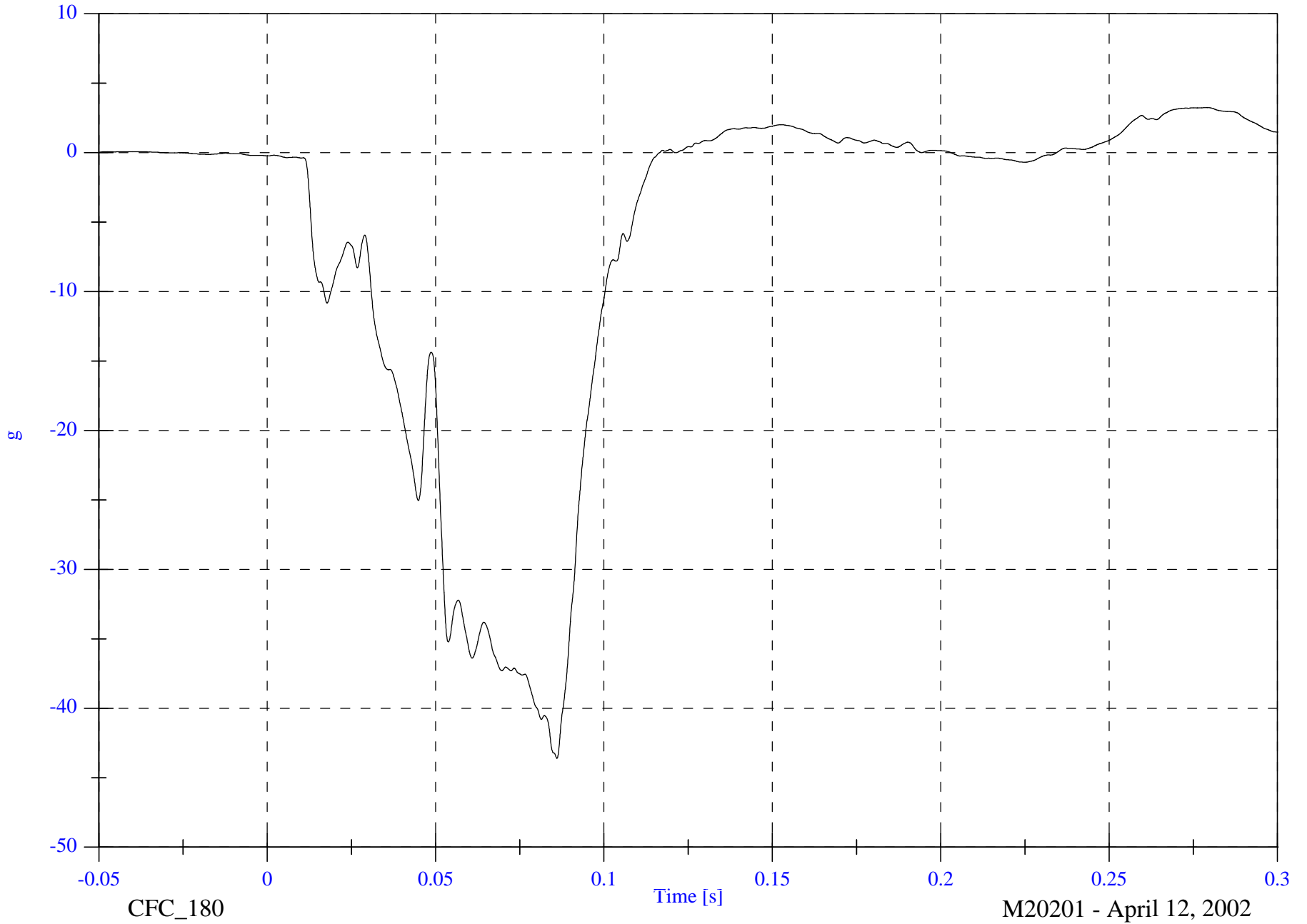
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

P1 Chest x

Max: 3.3 [g] at 0.279 [s]

Min: -43.6 [g] at 0.086 [s]



B-26

8462-NCAP-07

CFC_180

Time [s]

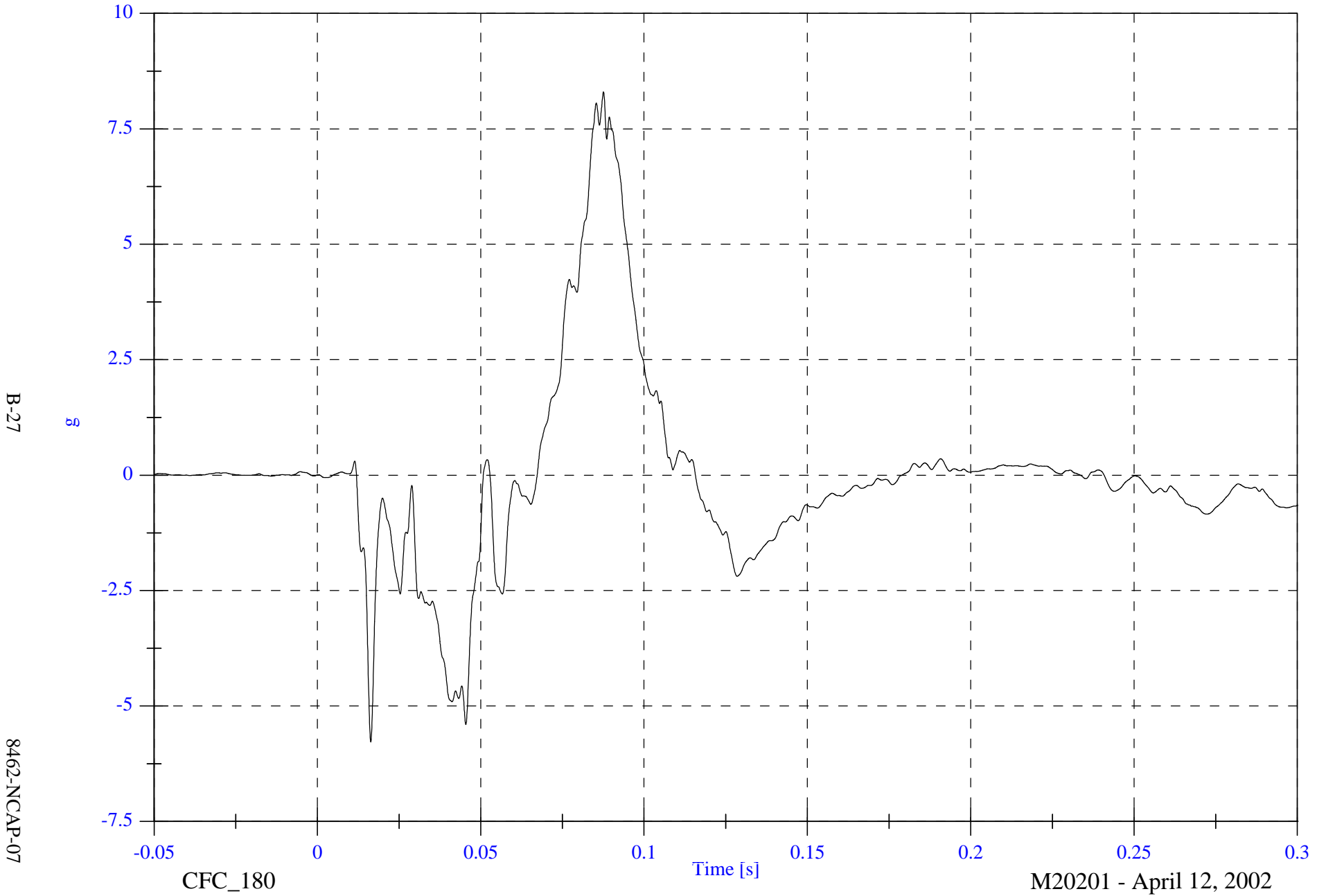
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

P1 Chest y

Max: 8.3 [g] at 0.088 [s]

Min: -5.8 [g] at 0.016 [s]



NCAP Test 7 - 2002 Ford Focus

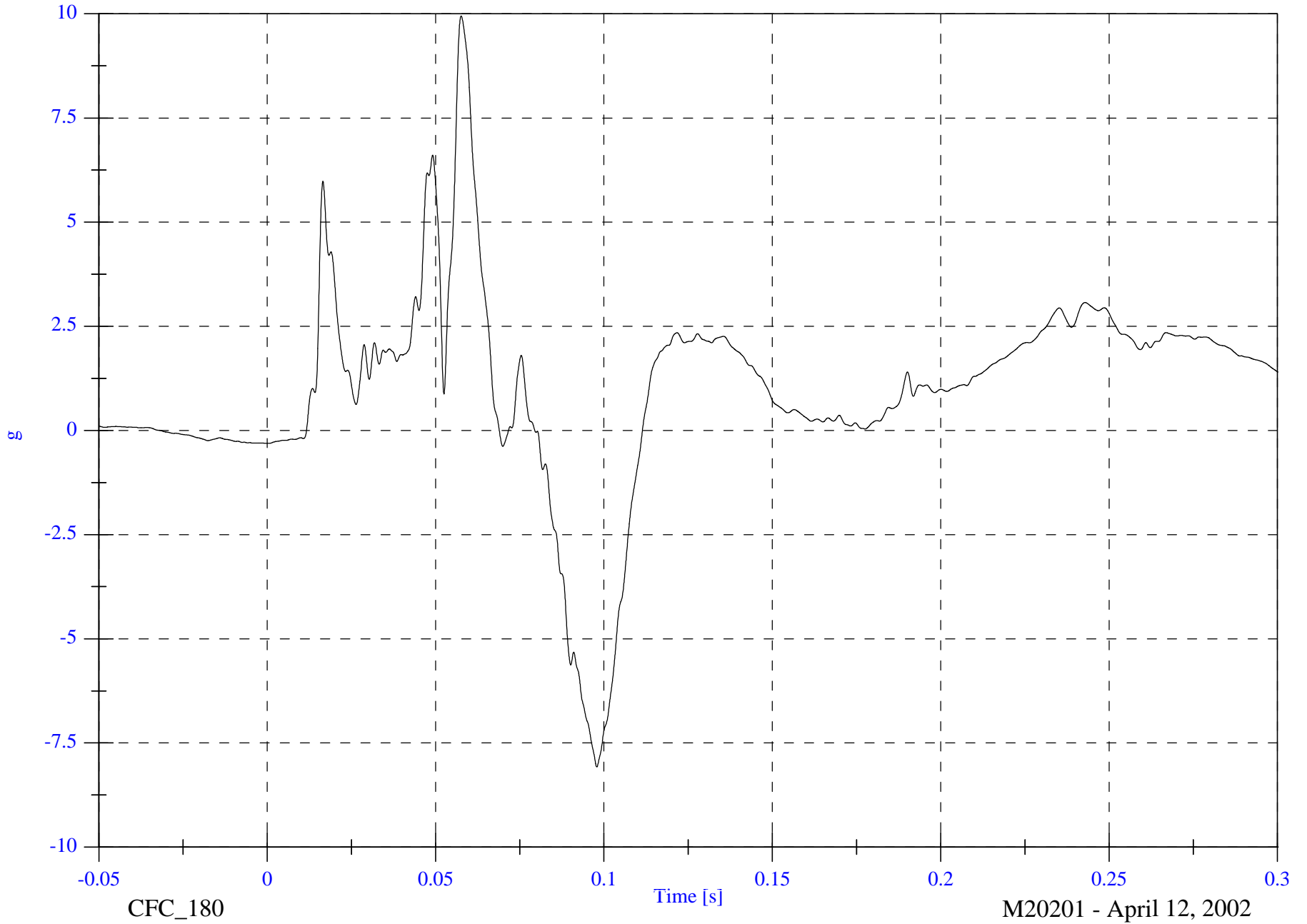
P1 Chest z

Max: 9.9 [g] at 0.058 [s]

Min: -8.1 [g] at 0.098 [s]

B-28

8462-NCAP-07



CFC_180

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

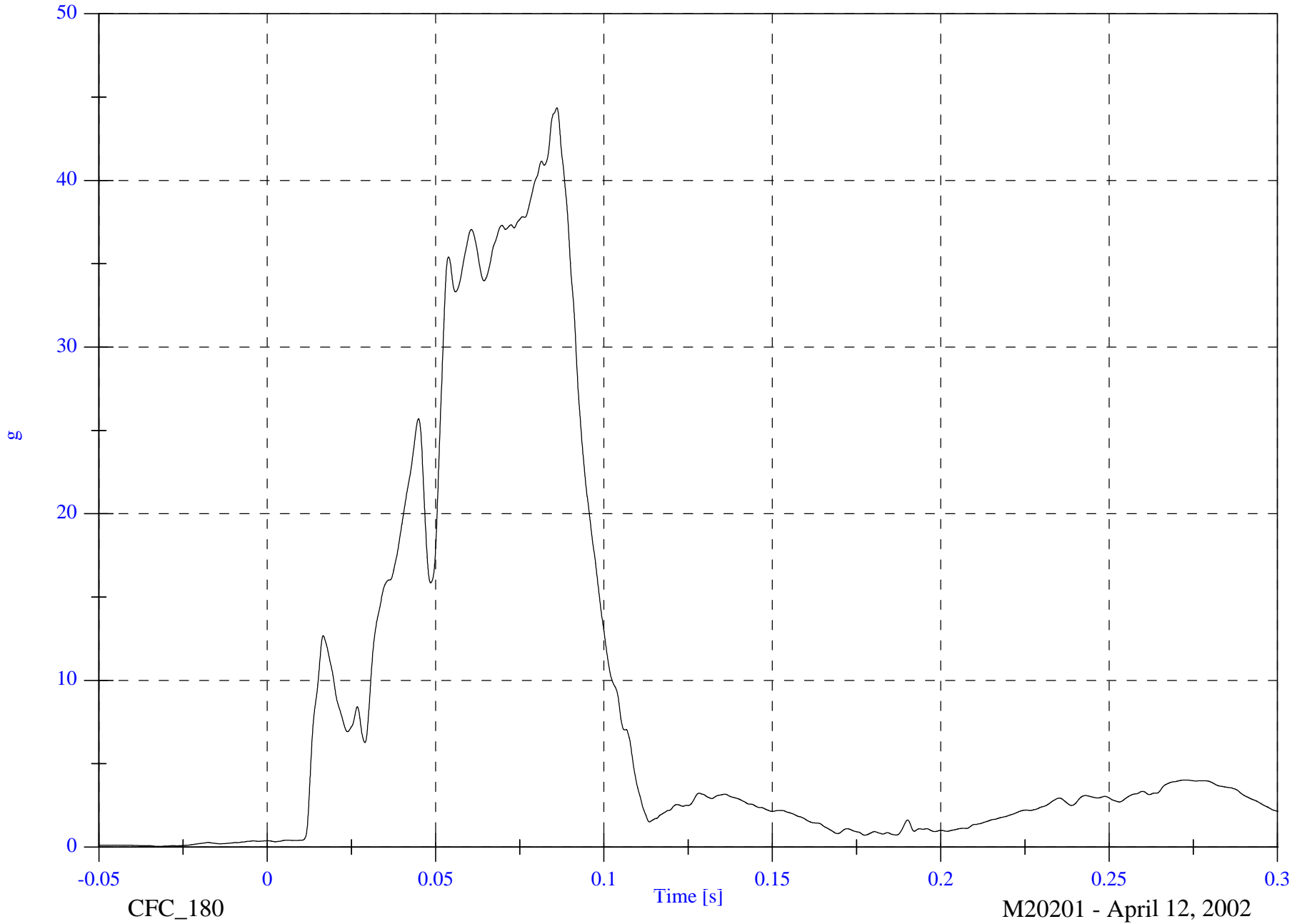
P1 Chest Resultant

Max: 44.4 [g] at 0.086 [s]

Min: 0.0 [g] at -0.032 [s]

B-29

8462-NCAP-07



NCAP Test 7 - 2002 Ford Focus

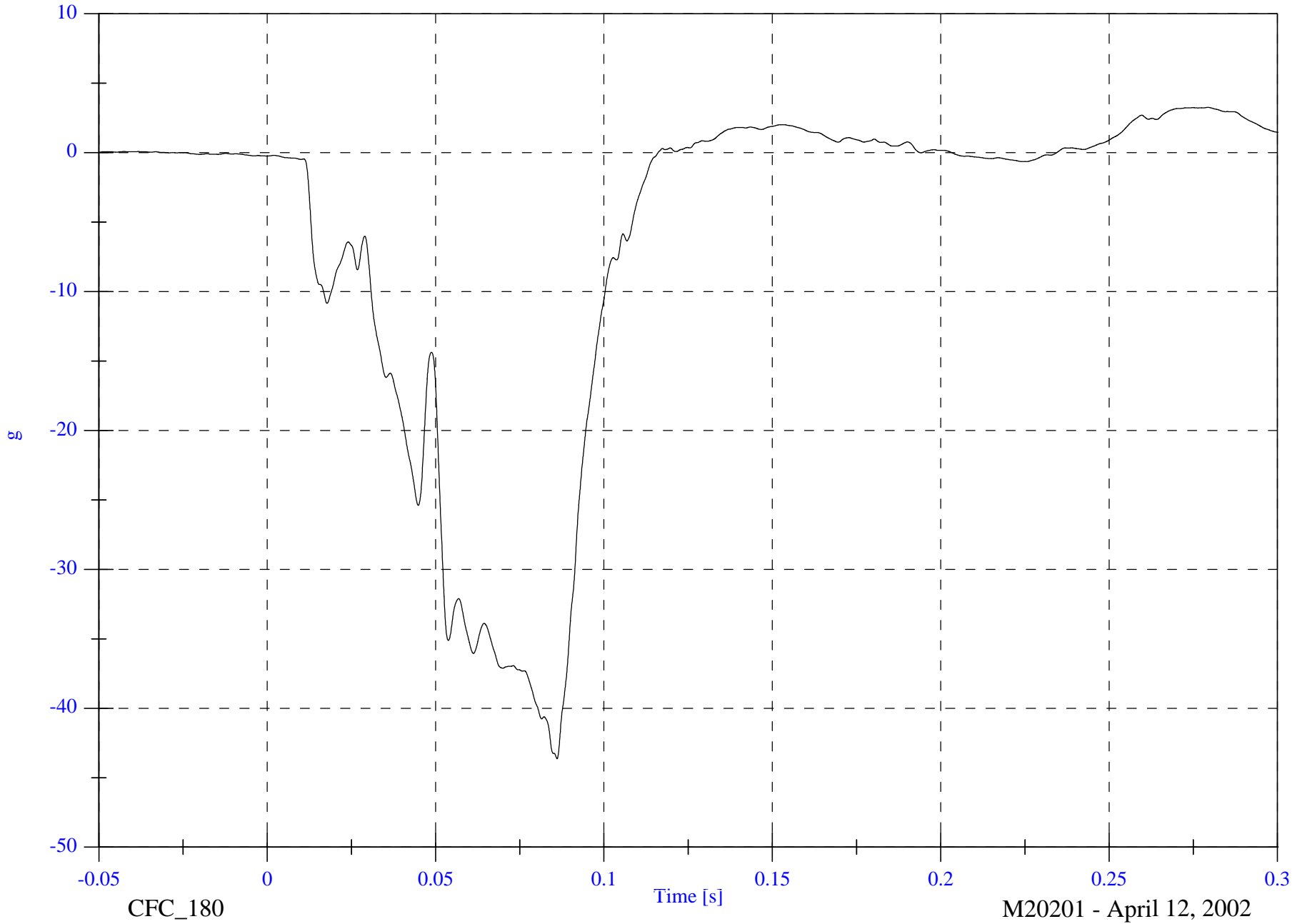
P1 Chest Red x

Max: 3.3 [g] at 0.279 [s]

Min: -43.6 [g] at 0.086 [s]

B-30

8462-NCAP-07



NCAP Test 7 - 2002 Ford Focus

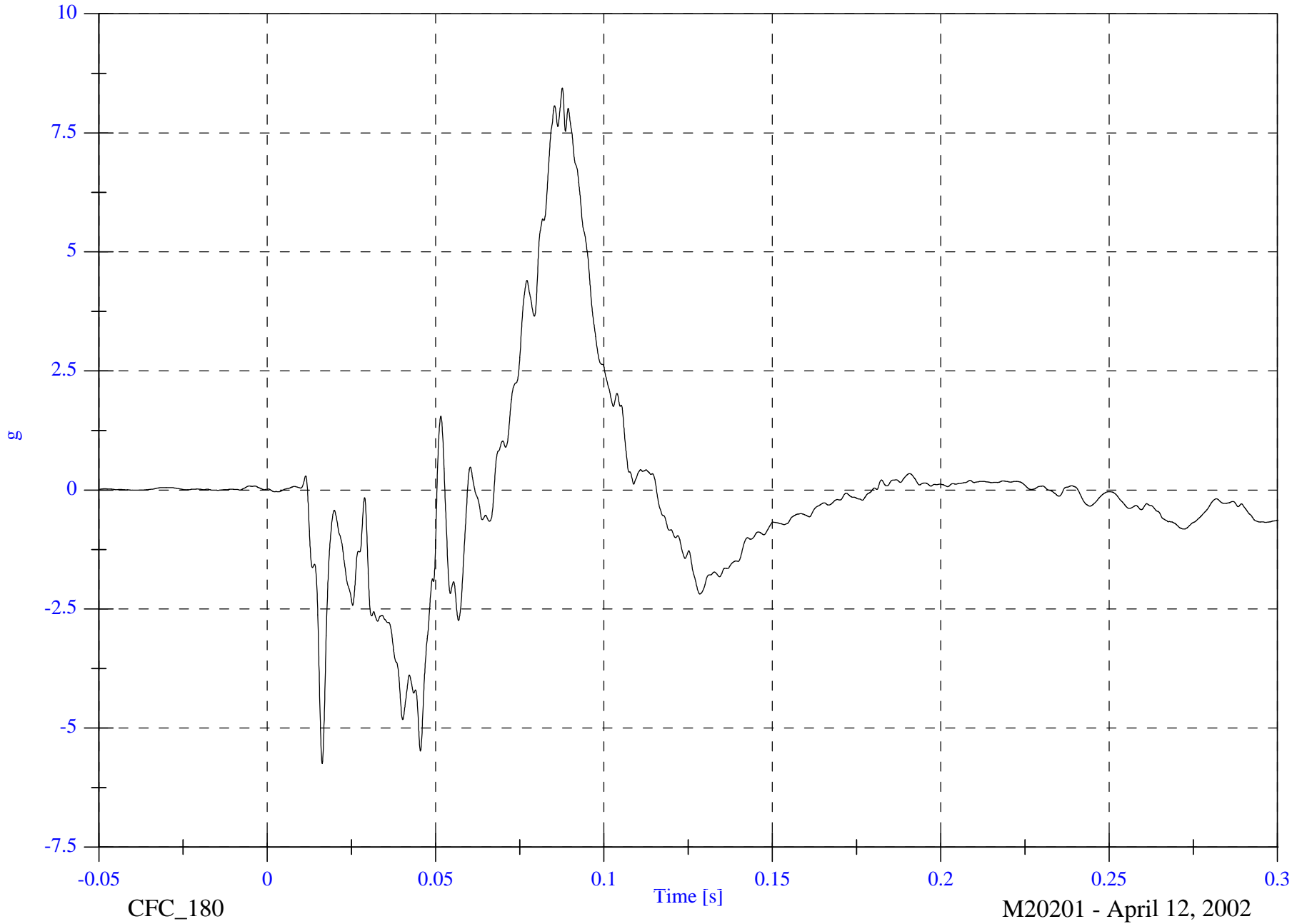
P1 Chest Red y

Max: 8.4 [g] at 0.088 [s]

Min: -5.7 [g] at 0.016 [s]

B-31

8462-NCAP-07



CFC_180

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

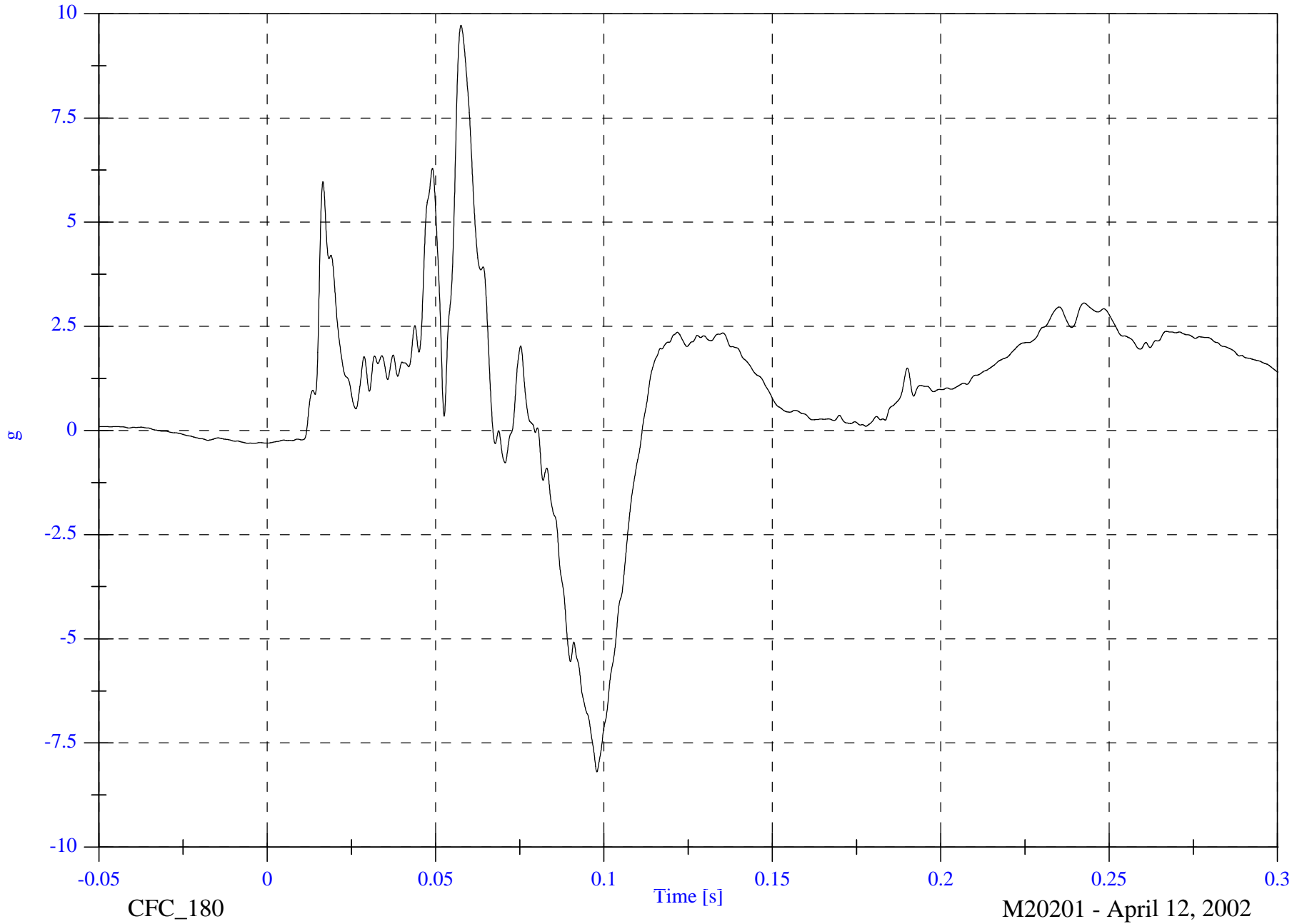
P1 Chest Red z

Max: 9.7 [g] at 0.058 [s]

Min: -8.2 [g] at 0.098 [s]

B-32

8462-NCAP-07



CFC_180

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

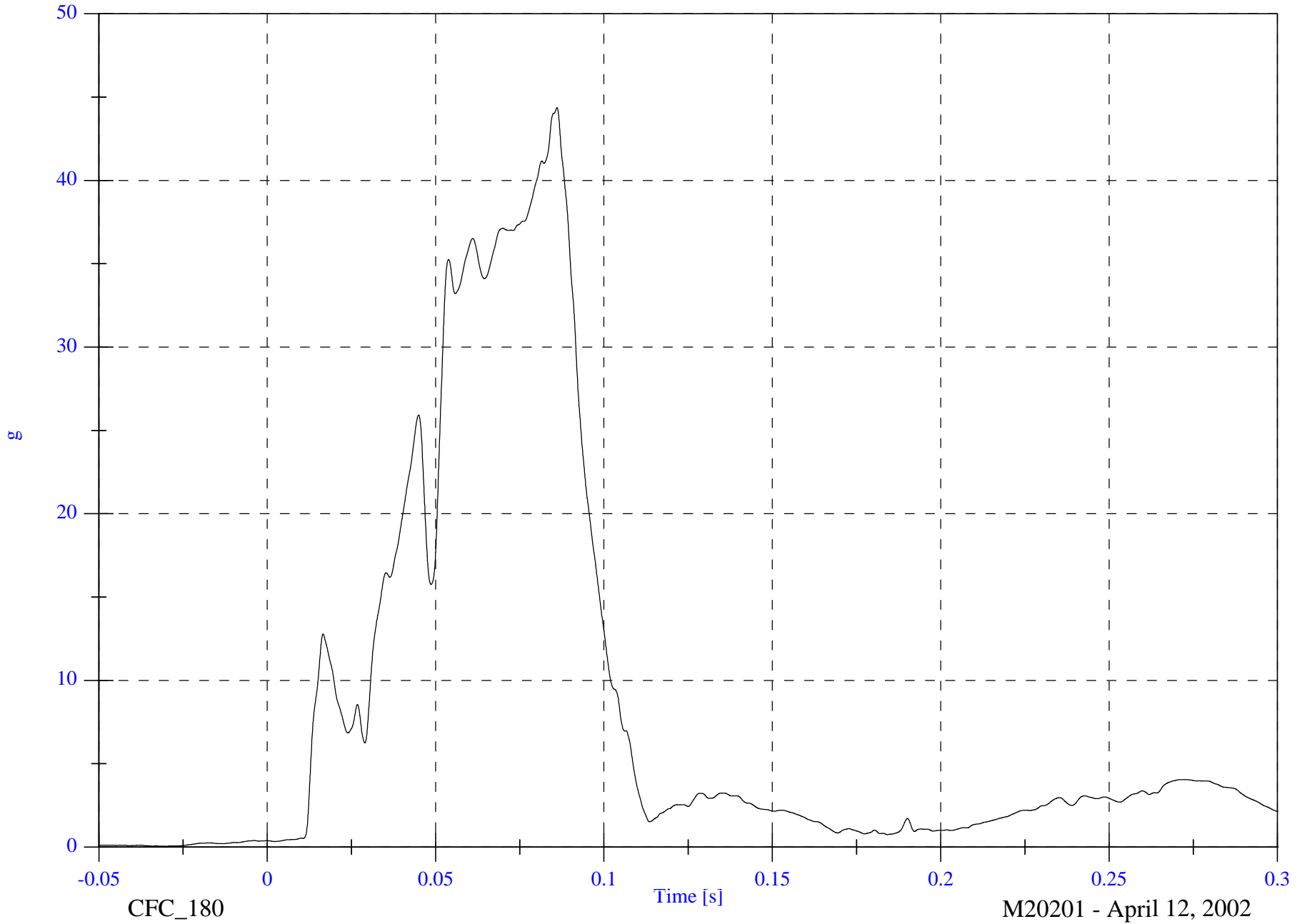
P1 Chest Red Resultant

Max: 44.4 [g] at 0.086 [s]

Min: 0.0 [g] at -0.030 [s]

B-33

8462-NCAP-07

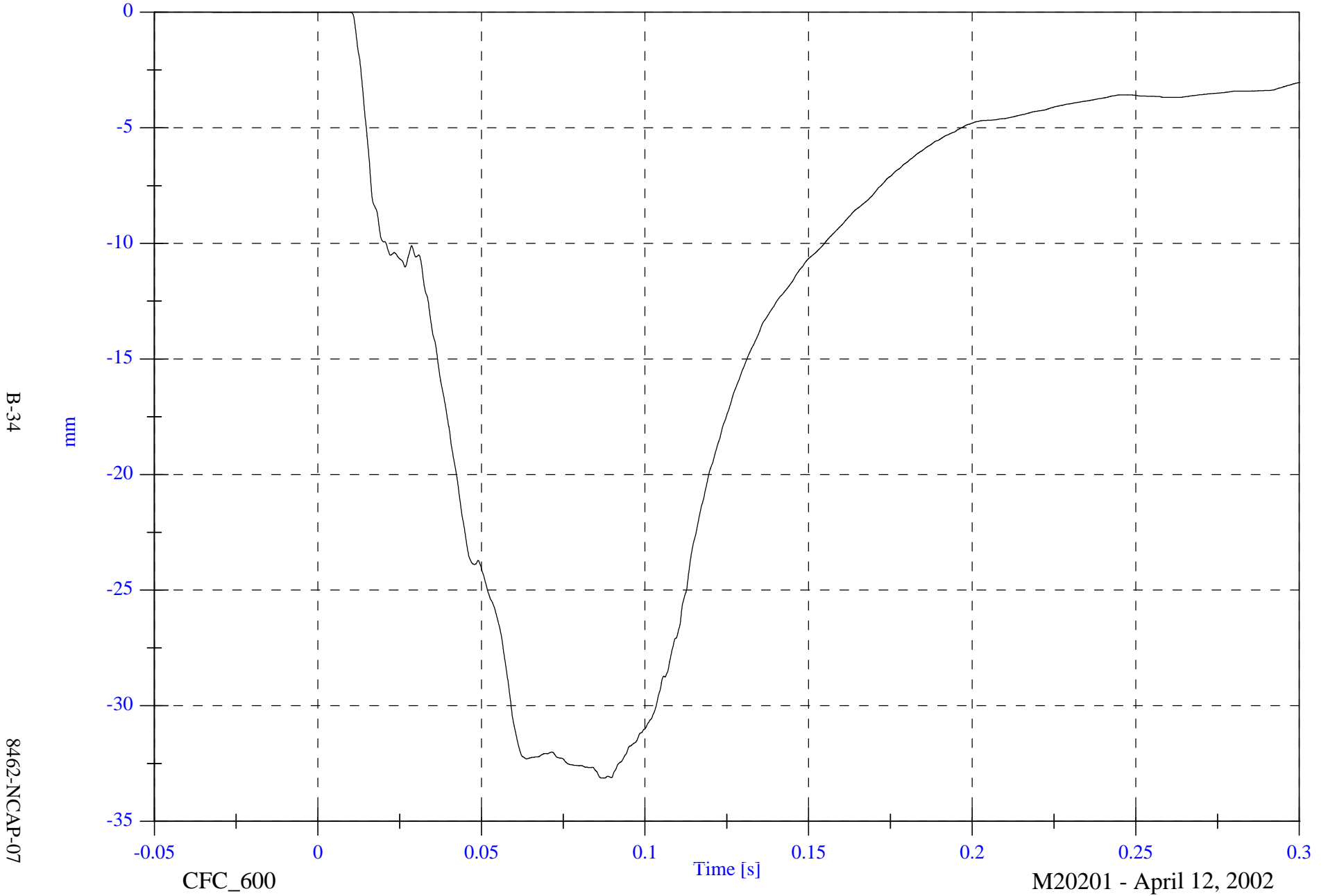


NCAP Test 7 - 2002 Ford Focus

Max: 0.0 [mm] at -0.050 [s]

P1 Chest Compression x

Min: -33.1 [mm] at 0.087 [s]



B-34

8462-NCAP-07

CFC_600

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

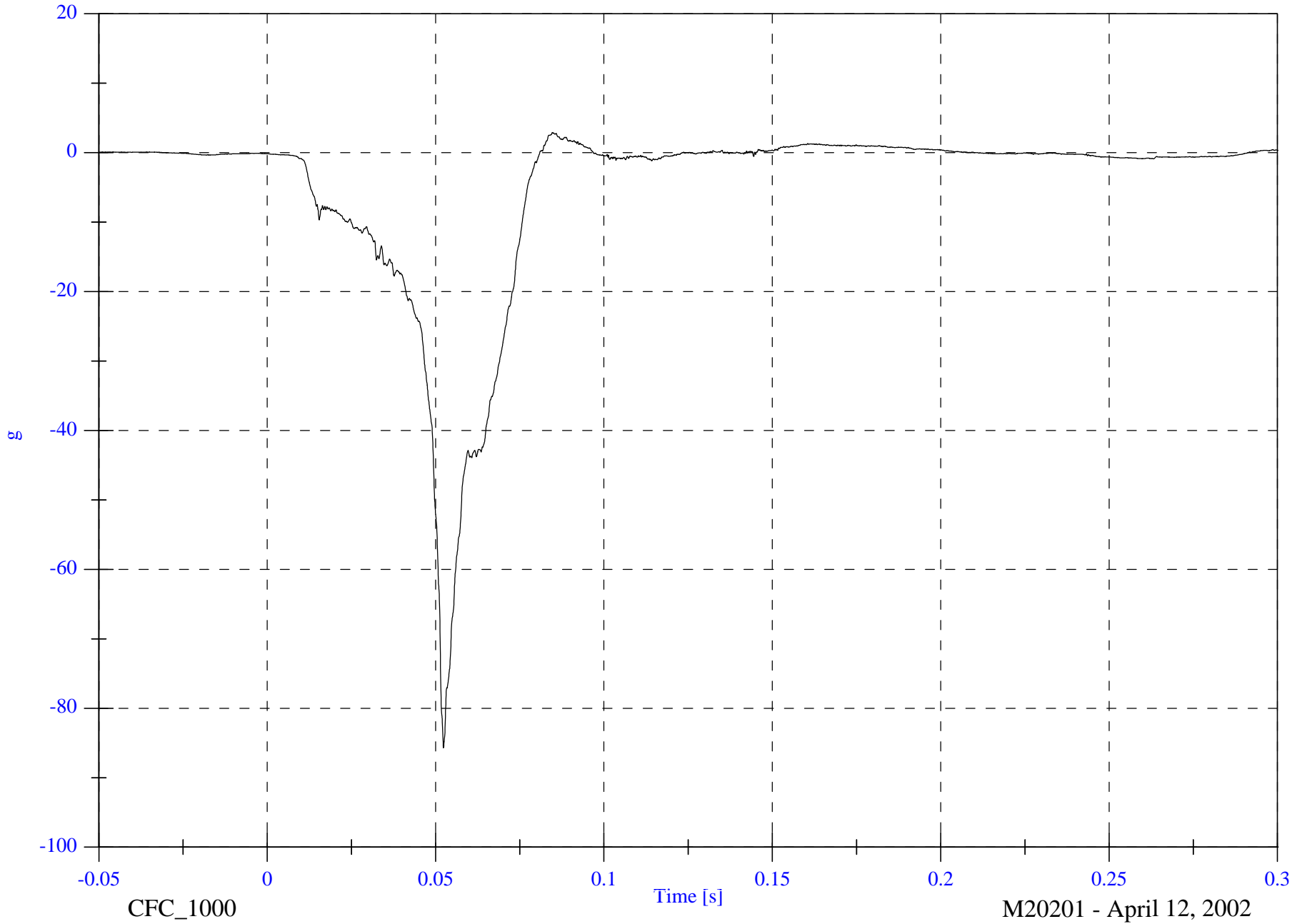
P1 Pelvic x

Max: 2.9 [g] at 0.085 [s]

Min: -85.7 [g] at 0.052 [s]

B-35

8462-NCAP-07



CFC_1000

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

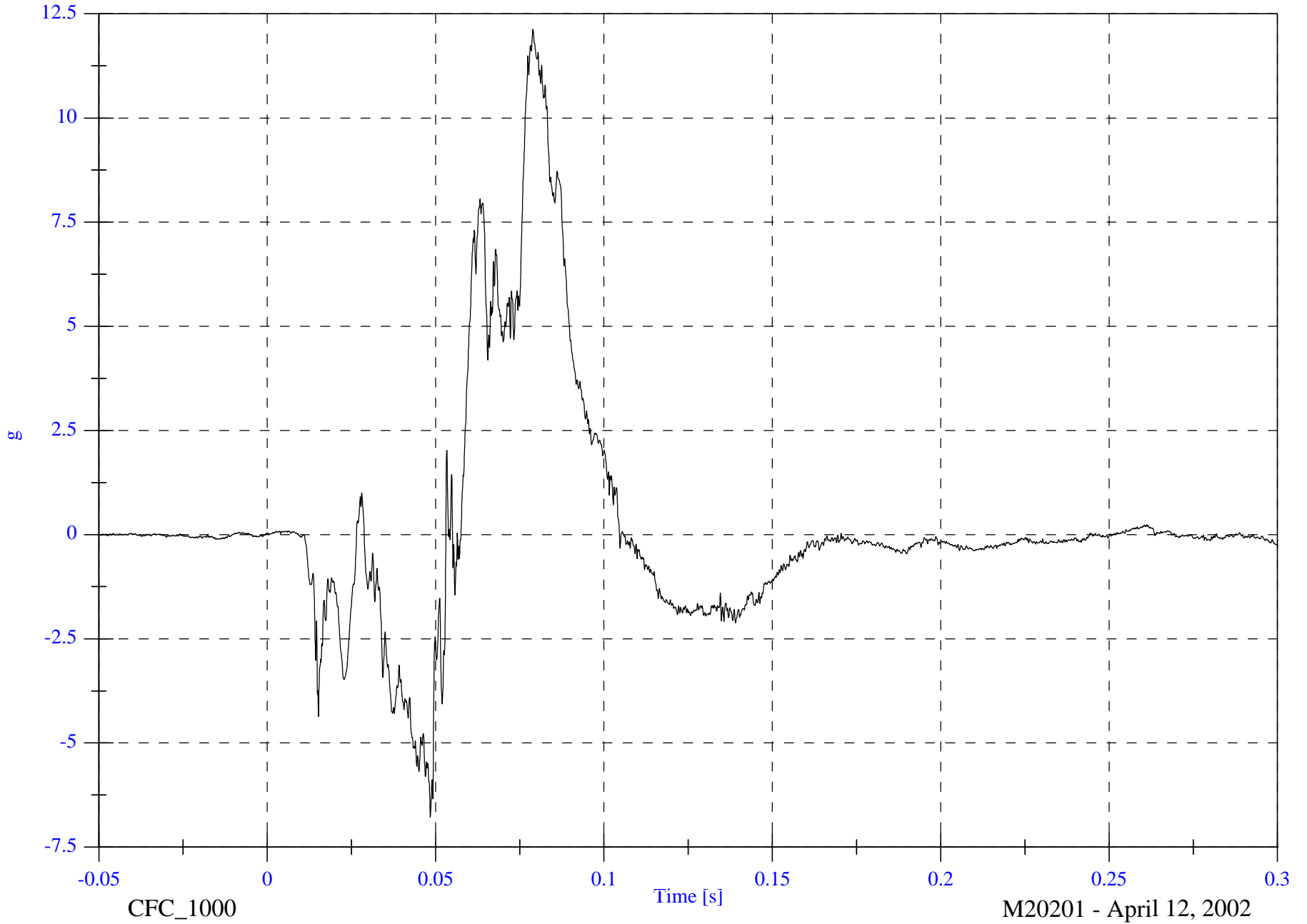
P1 Pelvic y

Max: 12.1 [g] at 0.079 [s]

Min: -6.8 [g] at 0.048 [s]

B-36

8462-NCAP-07

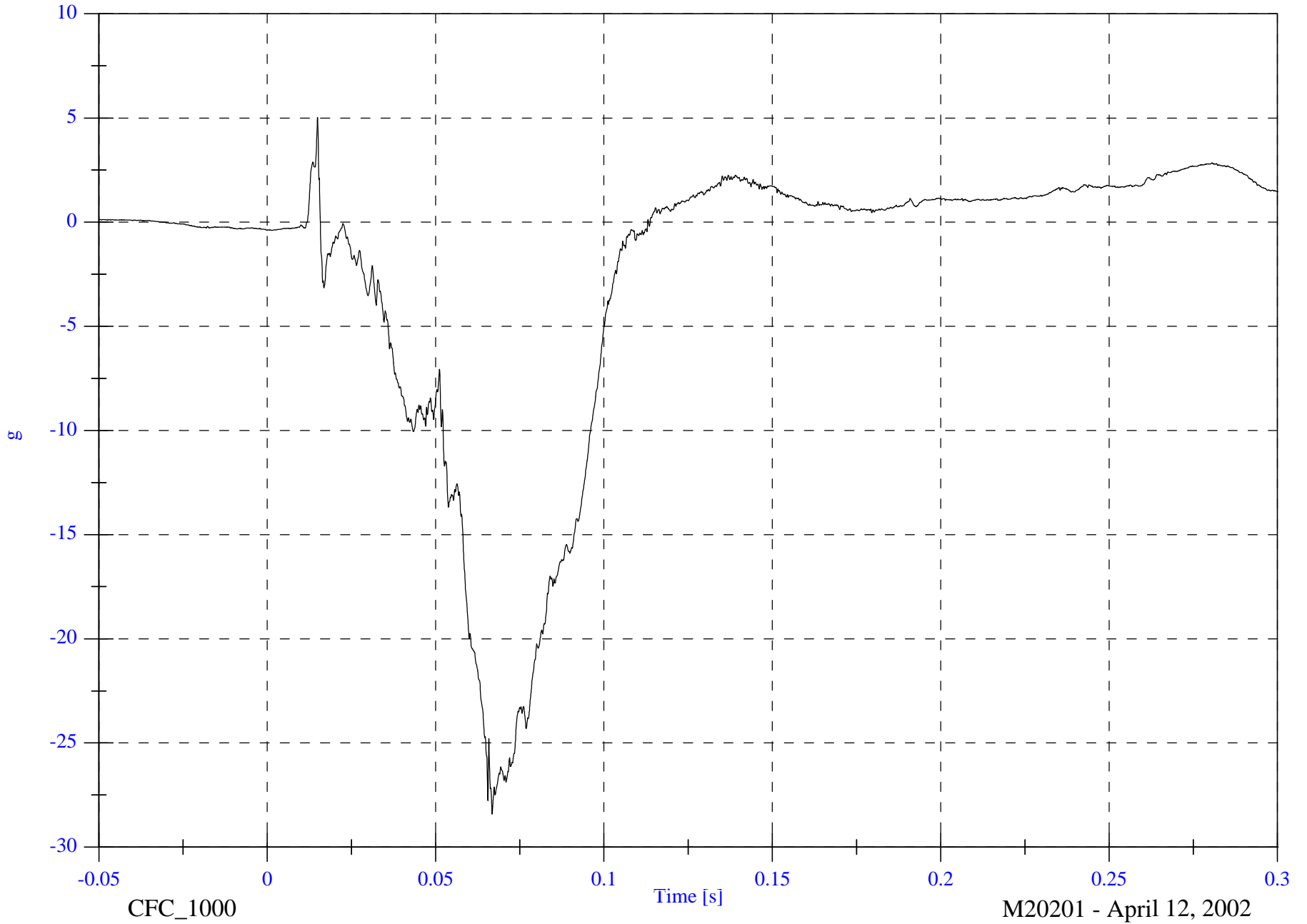


NCAP Test 7 - 2002 Ford Focus

P1 Pelvic z

Max: 5.0 [g] at 0.015 [s]

Min: -28.4 [g] at 0.067 [s]



B-37

8462-NCAP-07

CFC_1000

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

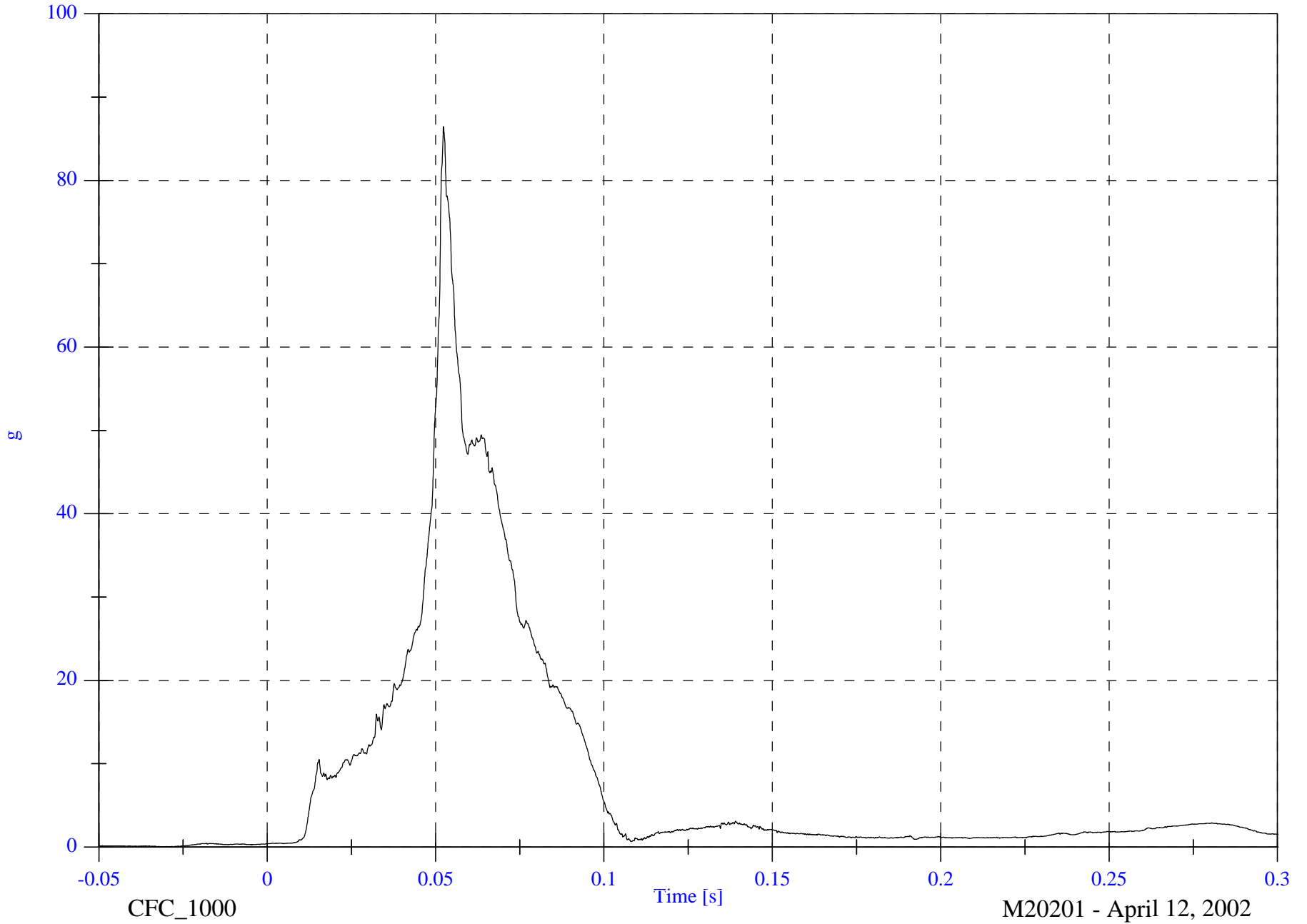
P1 Pelvic Resultant

Max: 86.5 [g] at 0.052 [s]

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

B-38

8462-NCAP-07



CFC_1000

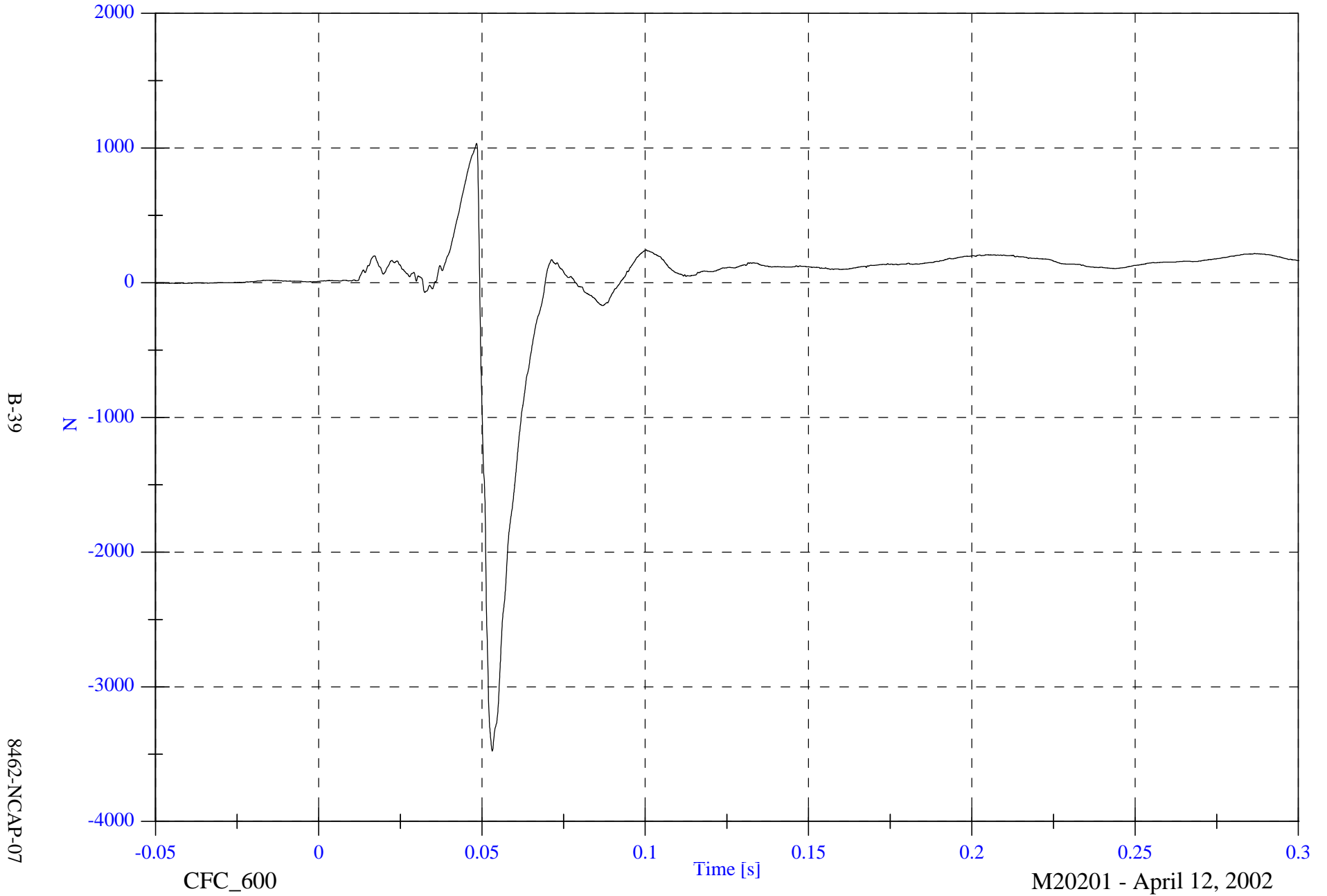
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

P1 Left Femur z

Max: 1034.5 [N] at 0.048 [s]

Min: -3478.5 [N] at 0.053 [s]



B-39

8462-NCAP-07

CFC_600

Time [s]

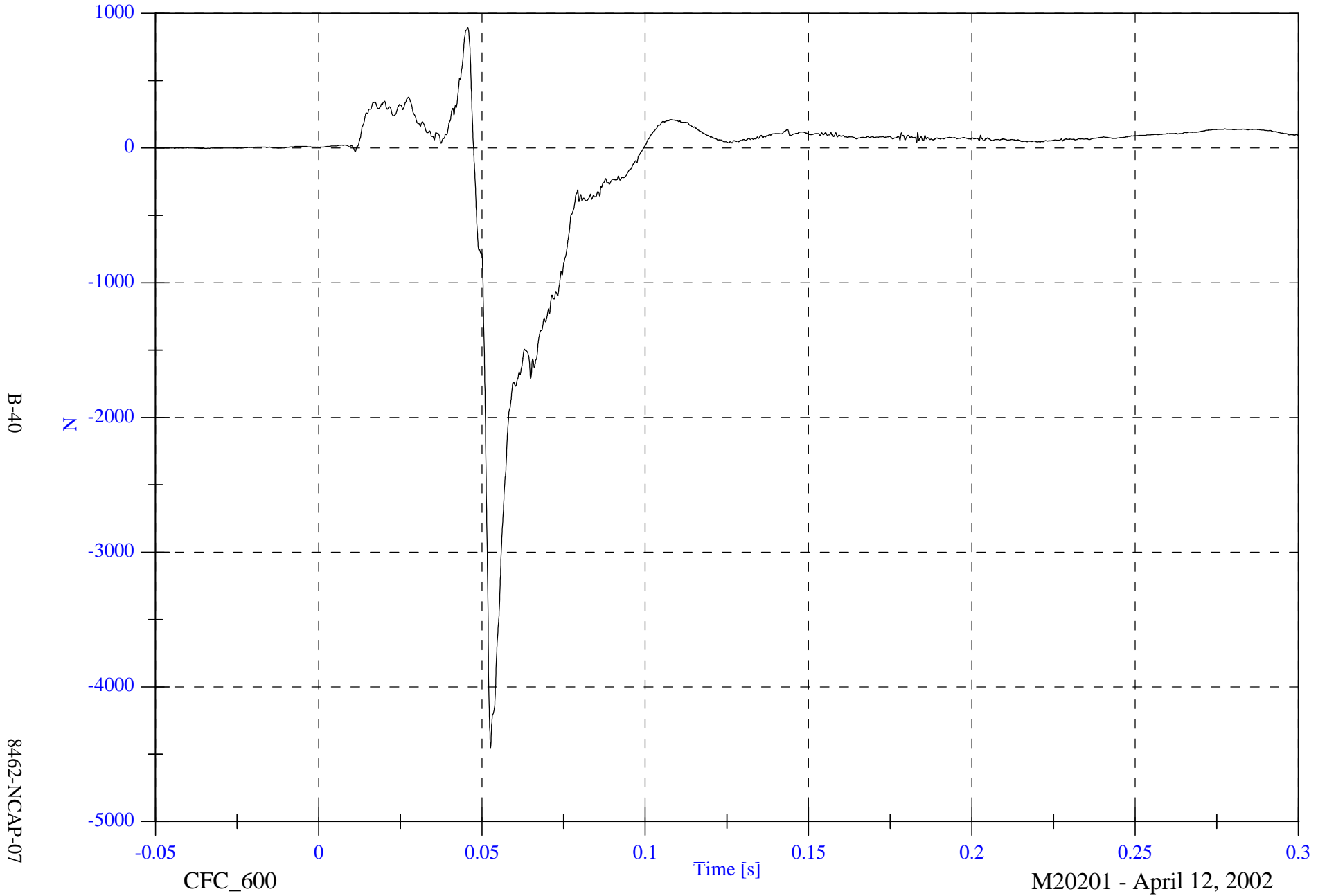
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

P1 Right Femur z

Max: 895.1 [N] at 0.046 [s]

Min: -4453.4 [N] at 0.053 [s]



NCAP Test 7 - 2002 Ford Focus

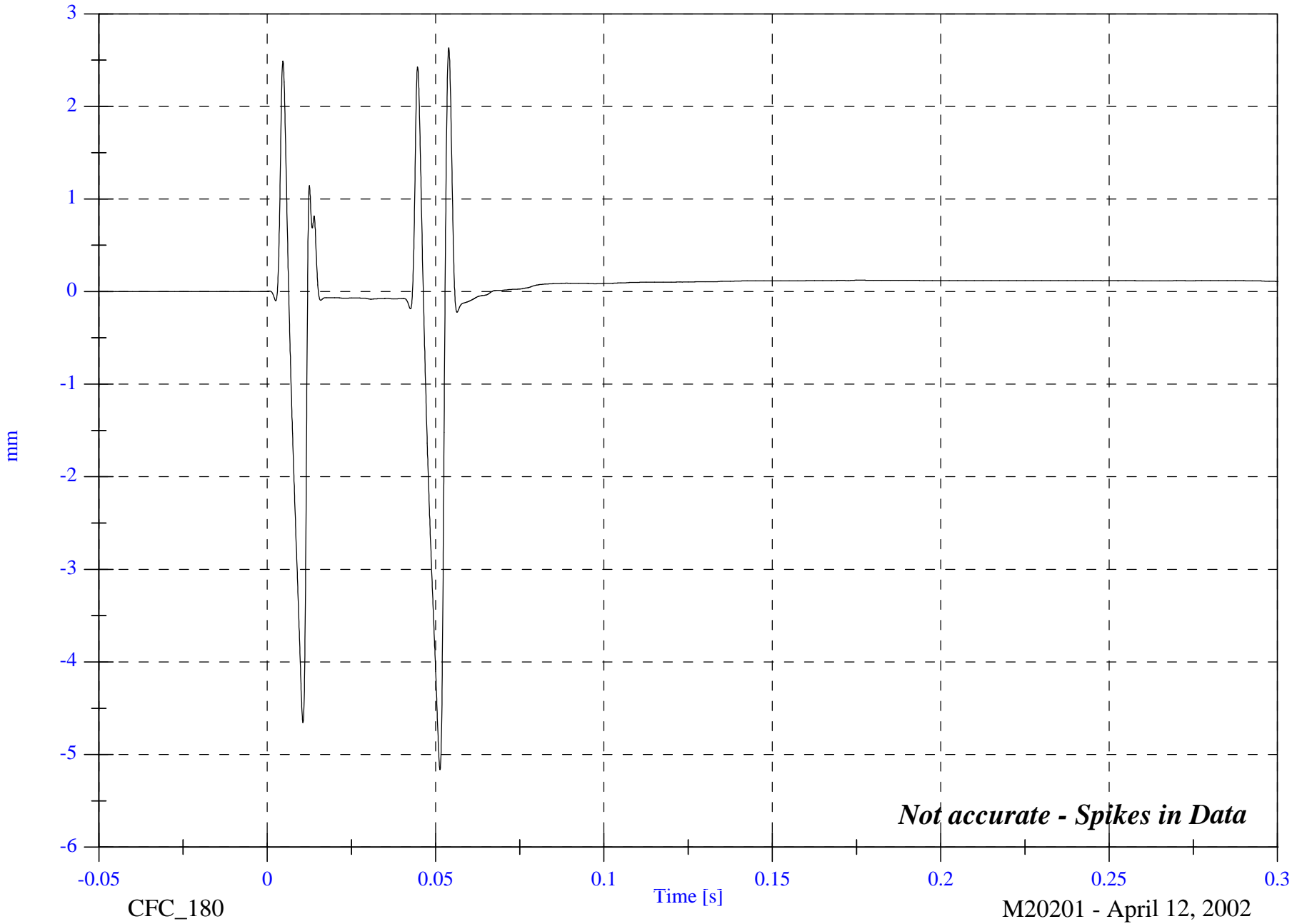
P1 Left Knee Shear

Max: 2.6 [mm] at 0.054 [s]

Min: -5.2 [mm] at 0.051 [s]

B-41

8462-NCAP-07

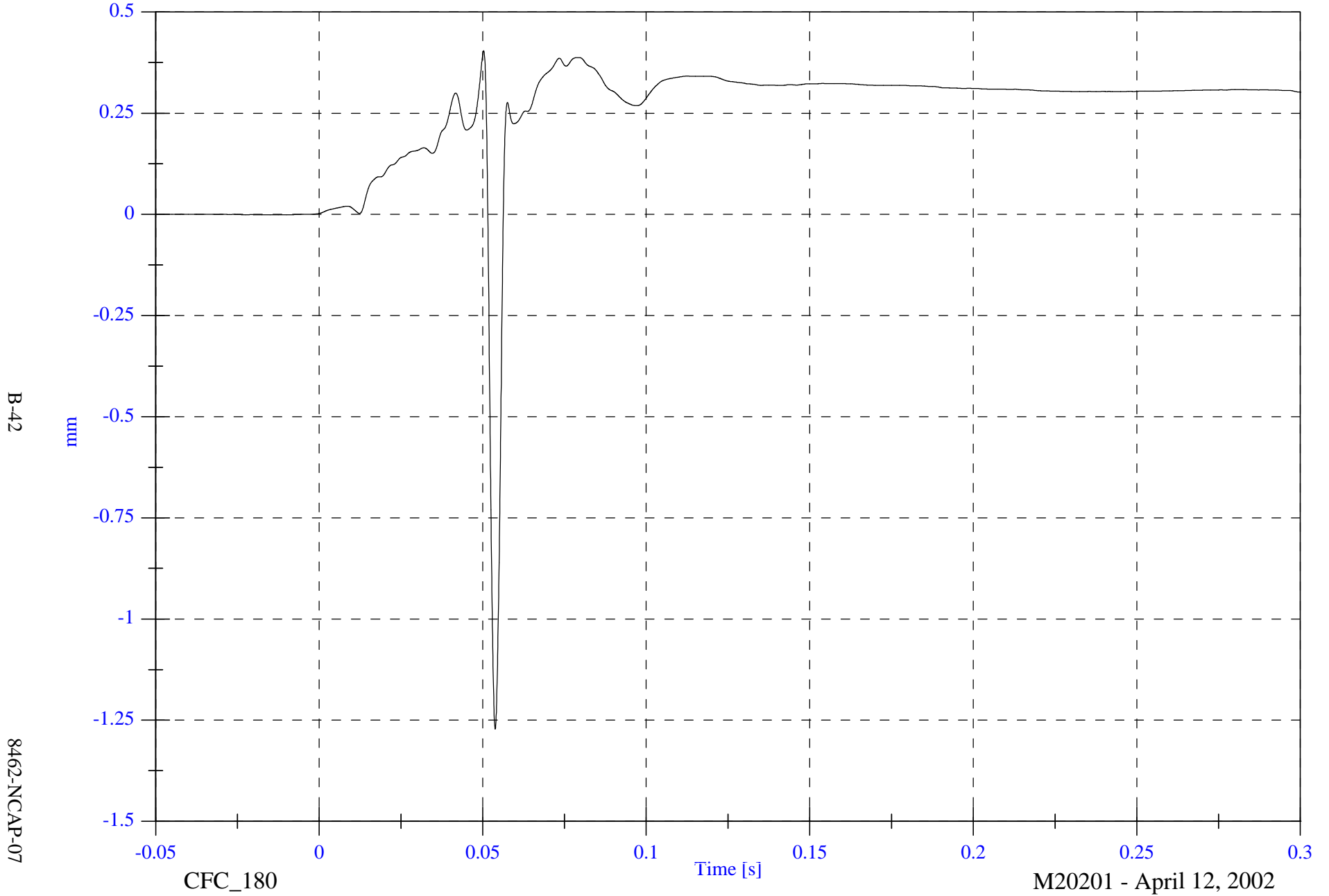


NCAP Test 7 - 2002 Ford Focus

P1 Right Knee Shear

Max: 0.4 [mm] at 0.050 [s]

Min: -1.3 [mm] at 0.054 [s]



B-42

8462-NCAP-07

CFC_180

Time [s]

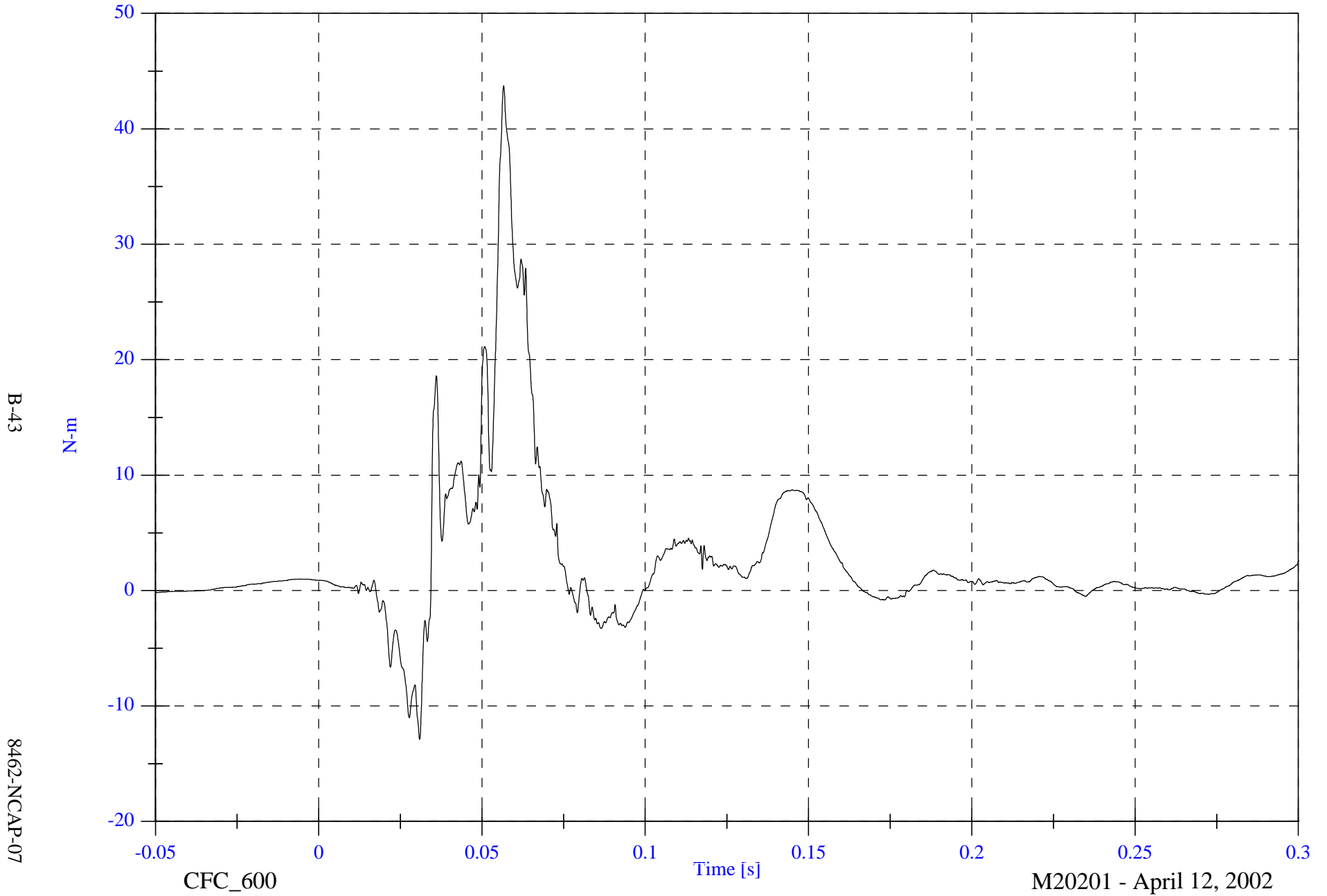
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

Max: 43.7 [N-m] at 0.057 [s]

P1 Left Upper Tibia Mx

Min: -12.9 [N-m] at 0.031 [s]



B-43

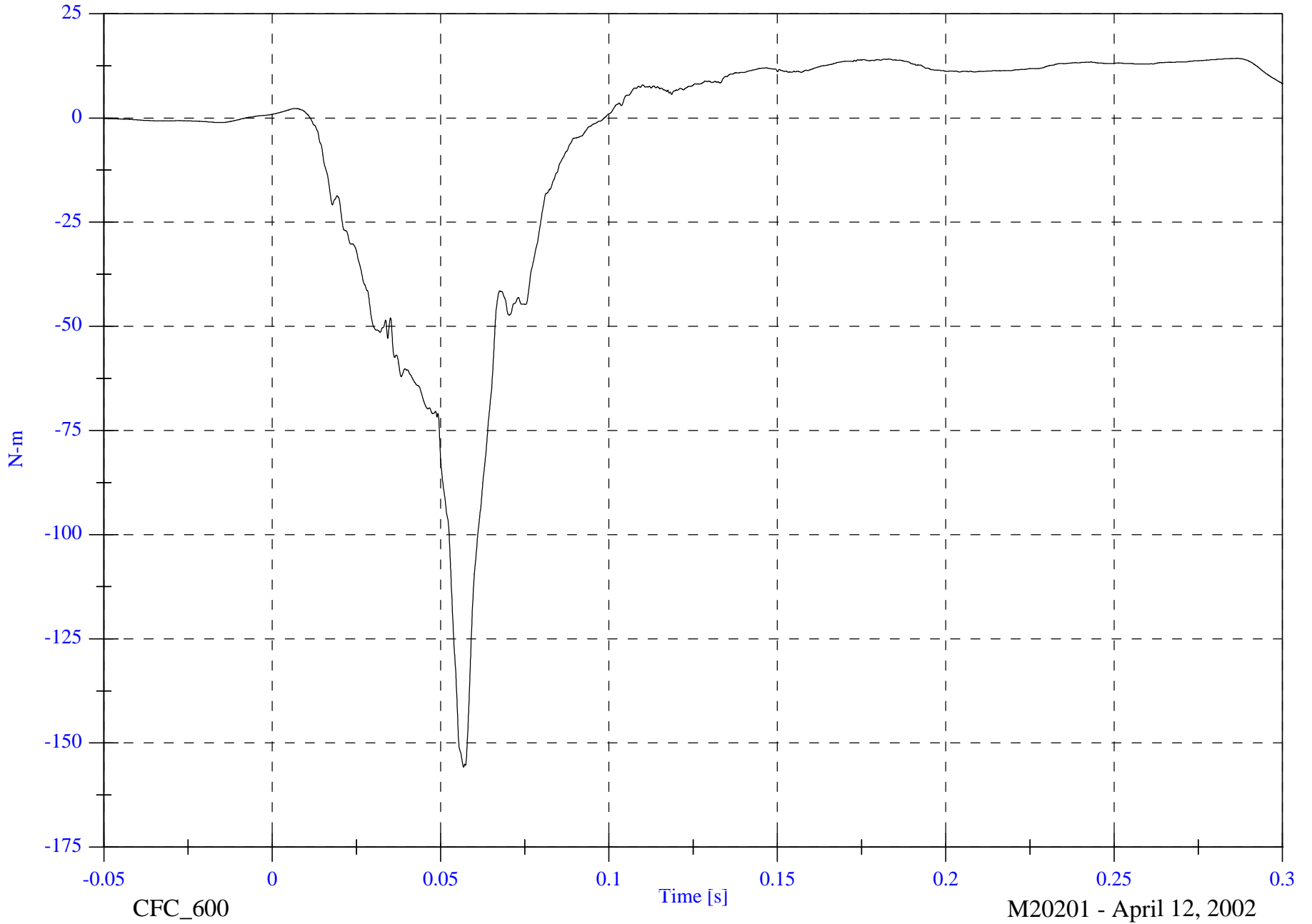
8462-NCAP-07

NCAP Test 7 - 2002 Ford Focus

P1 Left Upper Tibia My

Max: 14.3 [N-m] at 0.287 [s]

Min: -155.8 [N-m] at 0.057 [s]



B-44

8462-NCAP-07

CFC_600

Time [s]

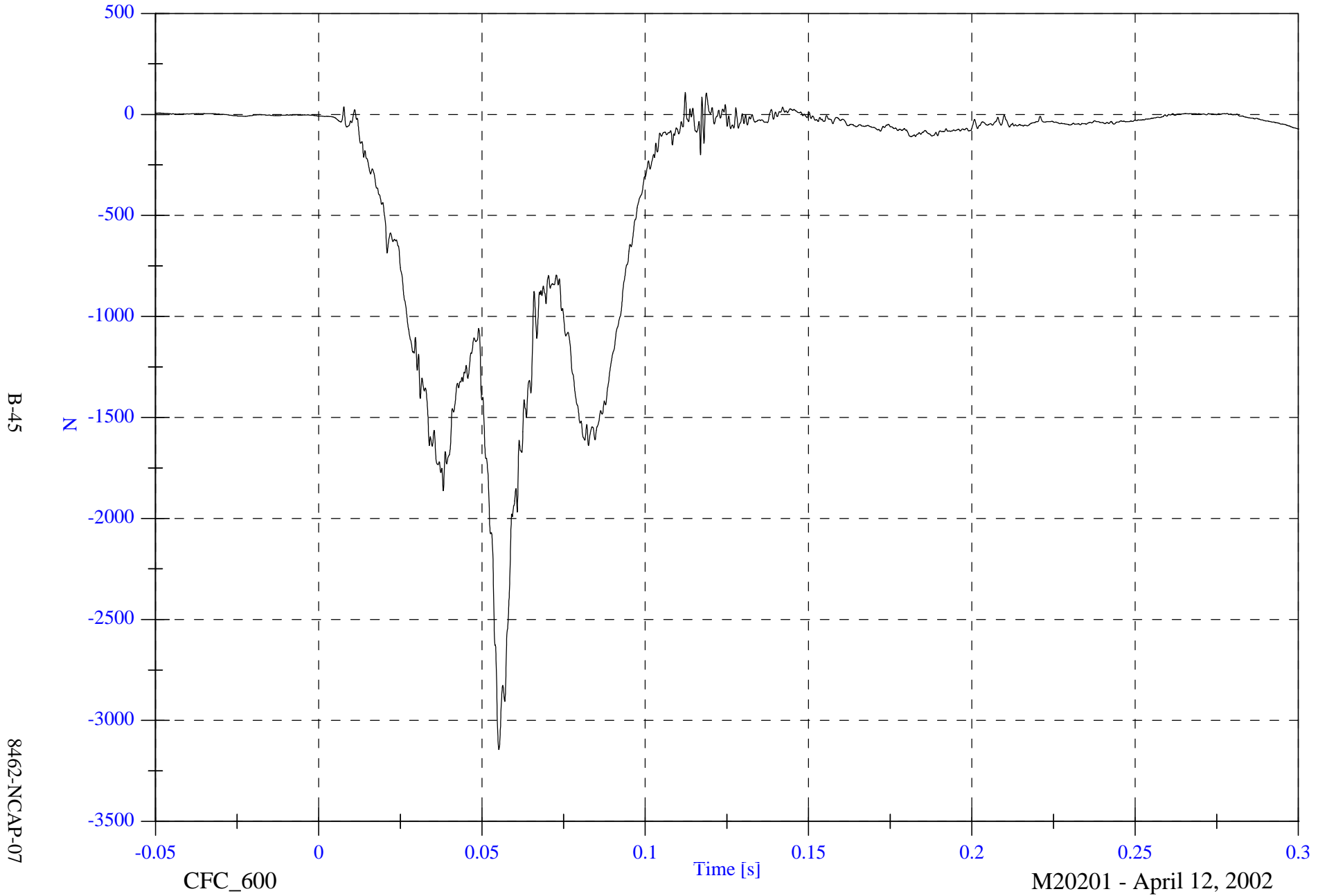
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

P1 Left Lower Tibia Fz

Max: 109.2 [N] at 0.112 [s]

Min: -3144.5 [N] at 0.055 [s]



NCAP Test 7 - 2002 Ford Focus

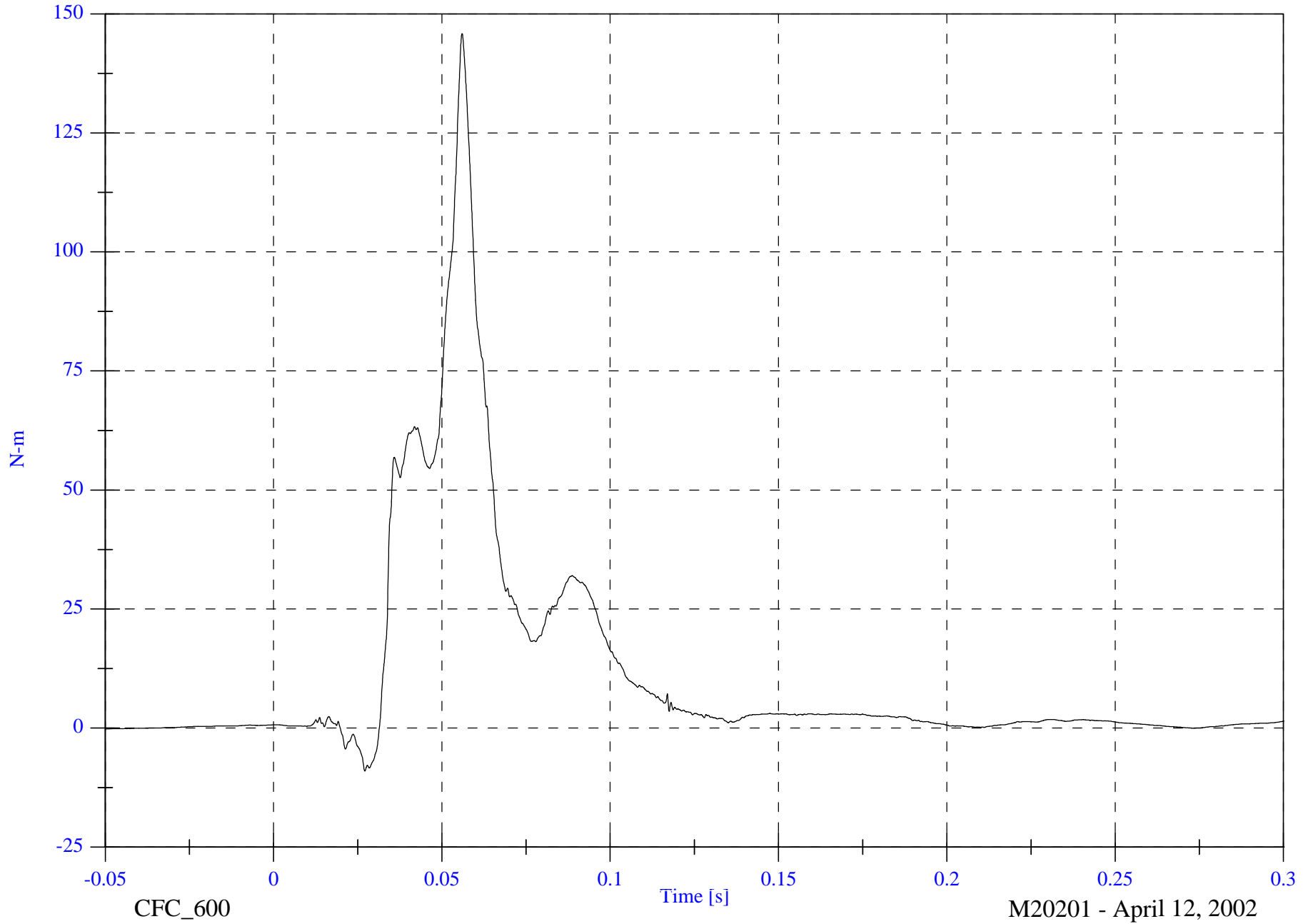
Max: 145.9 [N-m] at 0.056 [s]

P1 Left Lower Tibia Mx

Min: -9.1 [N-m] at 0.027 [s]

B-46

8462-NCAP-07

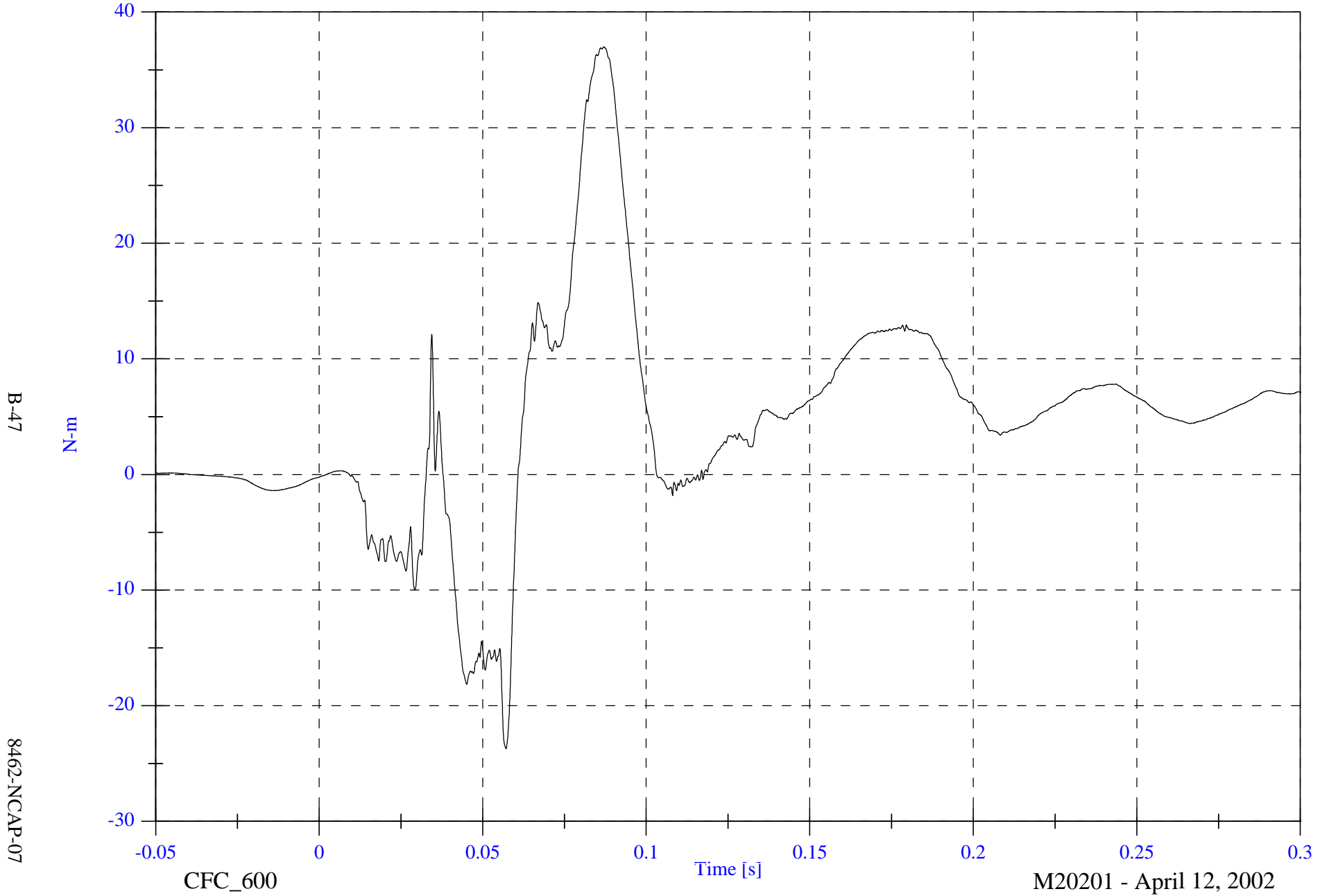


NCAP Test 7 - 2002 Ford Focus

Max: 37.0 [N-m] at 0.087 [s]

Min: -23.7 [N-m] at 0.057 [s]

P1 Left Lower Tibia My

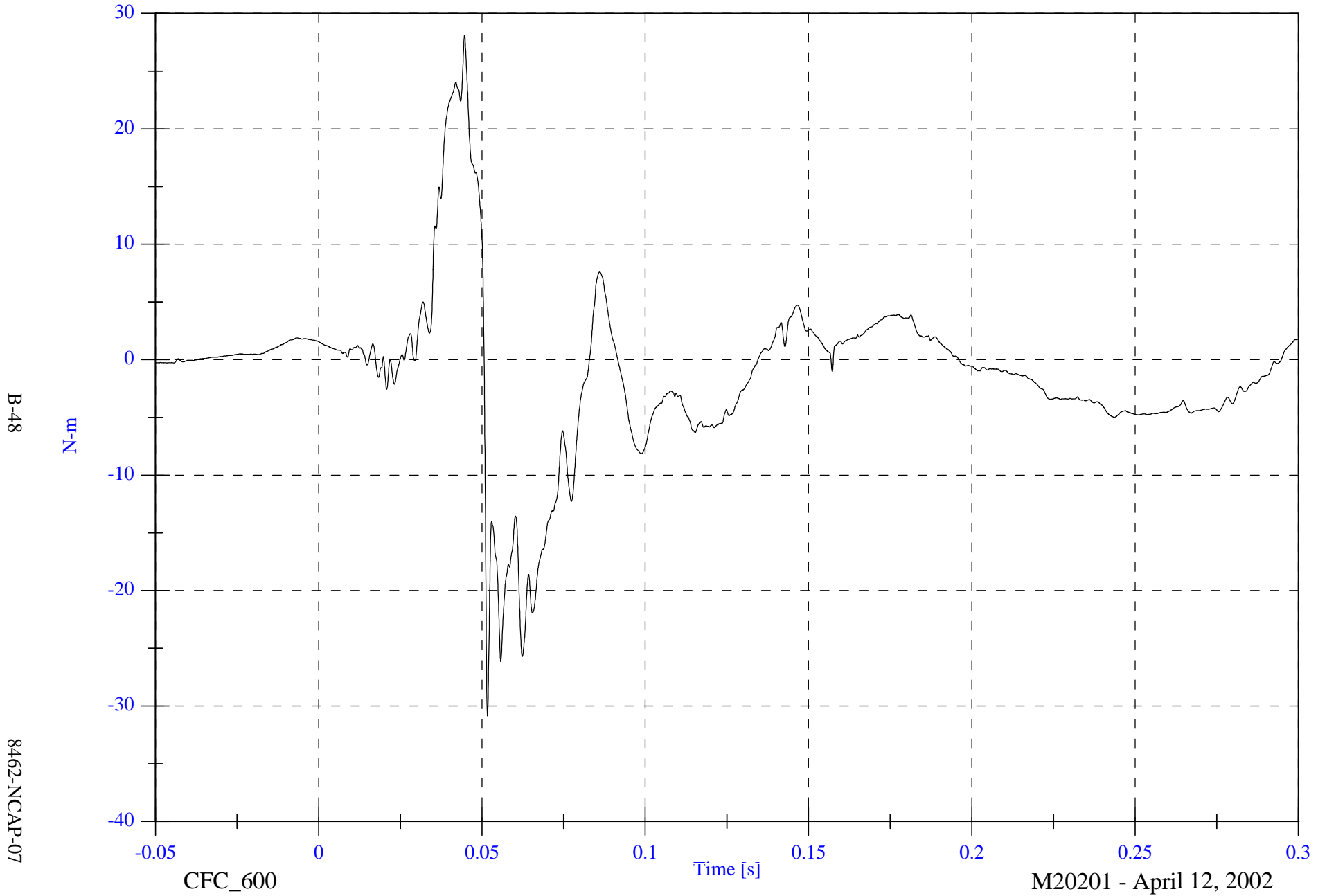


NCAP Test 7 - 2002 Ford Focus

P1 Right Upper Tibia Mx

Max: 28.1 [N-m] at 0.045 [s]

Min: -30.9 [N-m] at 0.052 [s]



B-48

8462-NCAP-07

NCAP Test 7 - 2002 Ford Focus

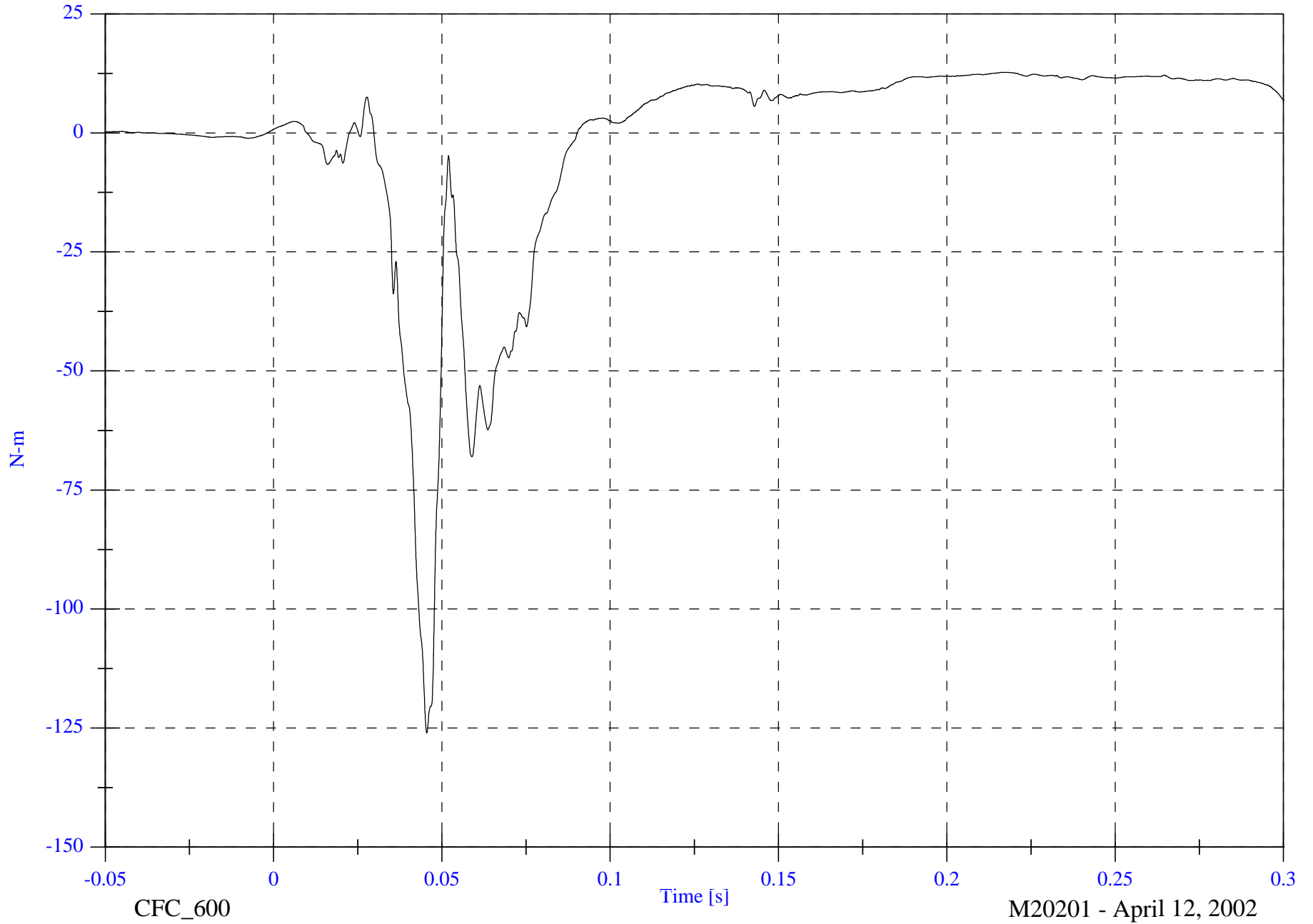
P1 Right Upper Tibia My

Max: 12.7 [N-m] at 0.217 [s]

Min: -126.0 [N-m] at 0.046 [s]

B-49

8462-NCAP-07

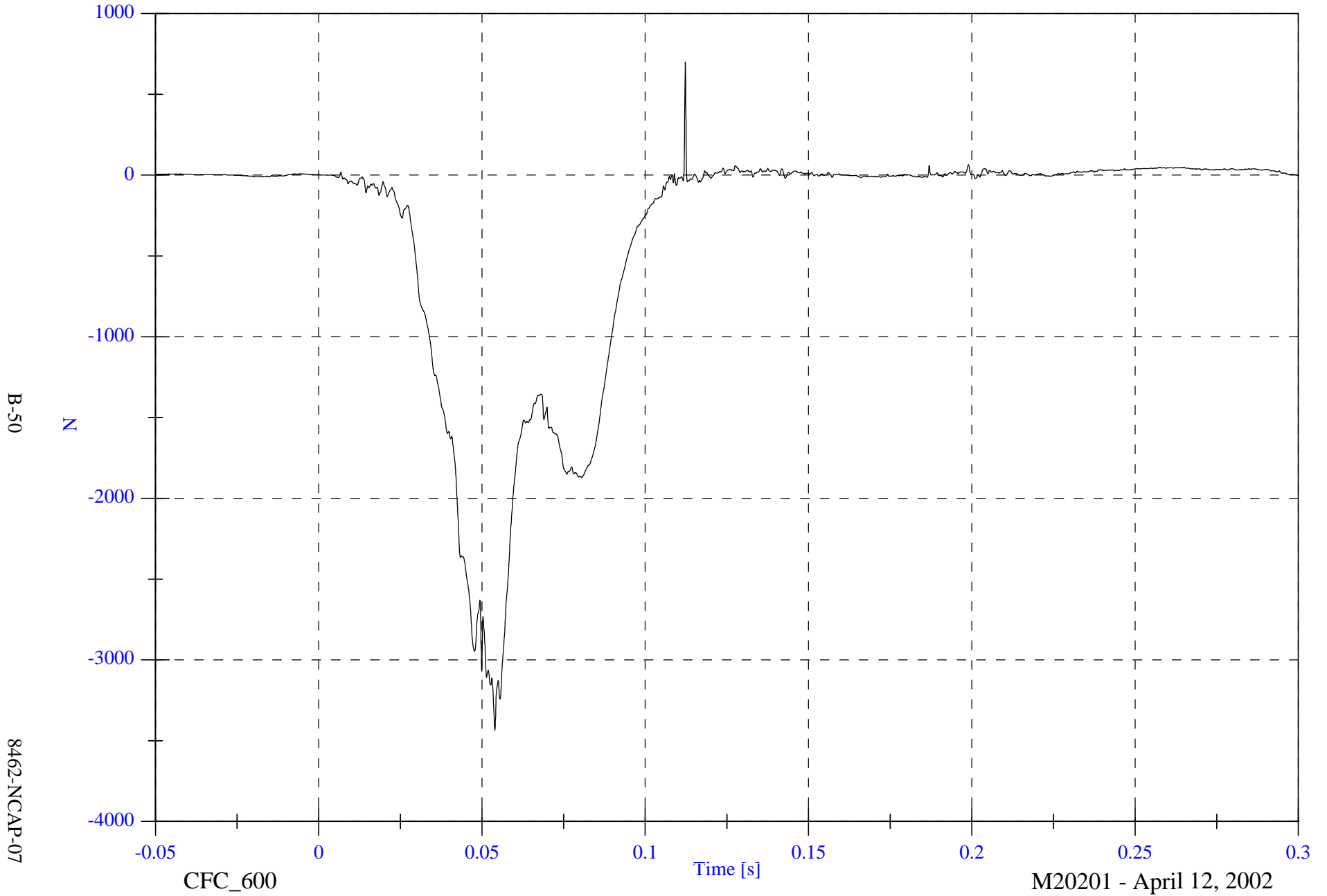


NCAP Test 7 - 2002 Ford Focus

P1 Right Lower Tibia Fz

Max: 700.1 [N] at 0.112 [s]

Min: -3436.3 [N] at 0.054 [s]



NCAP Test 7 - 2002 Ford Focus

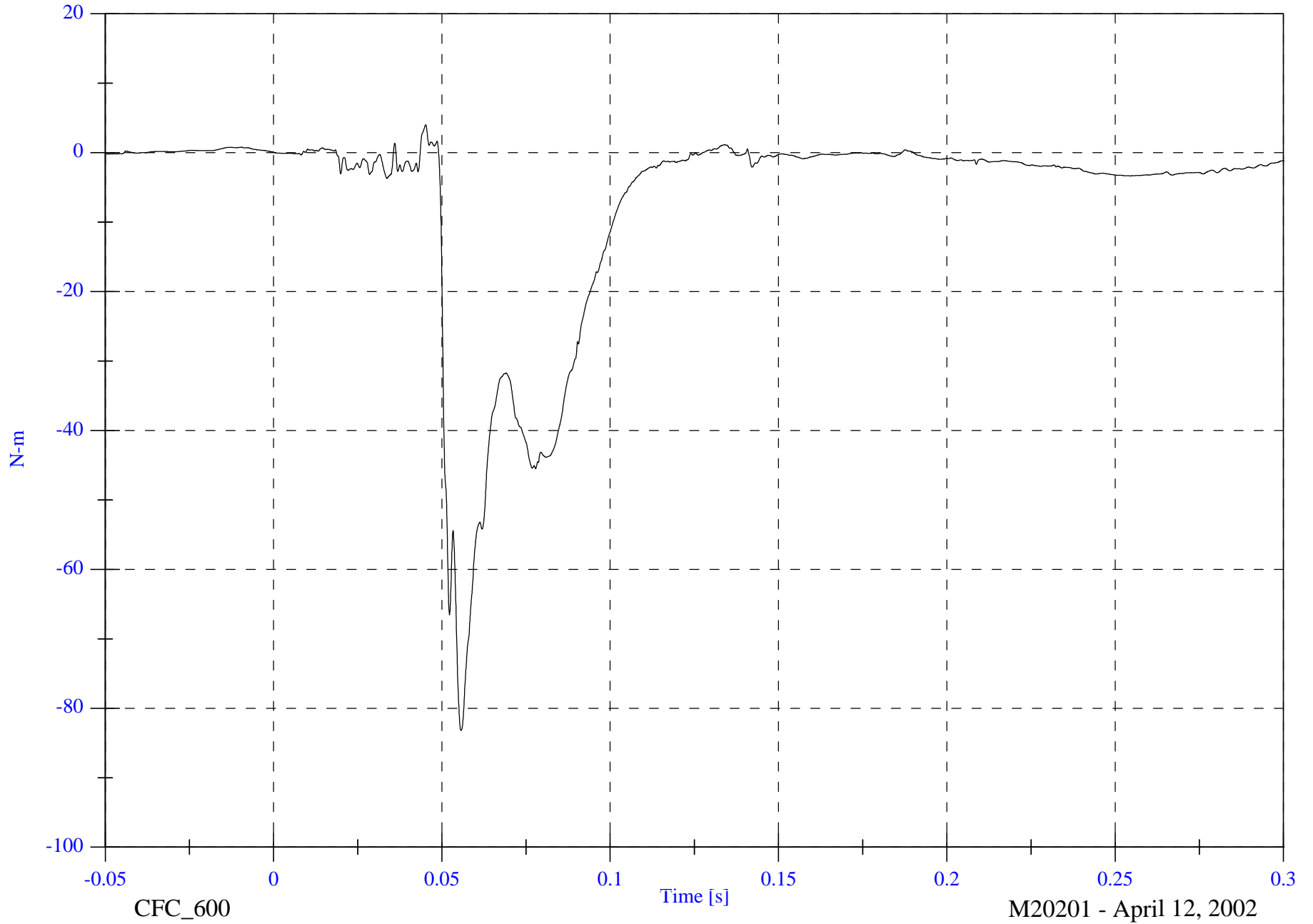
P1 Right Lower Tibia Mx

Max: 4.0 [N-m] at 0.045 [s]

Min: -83.2 [N-m] at 0.056 [s]

B-51

8462-NCAP-07



CFC_600

Time [s]

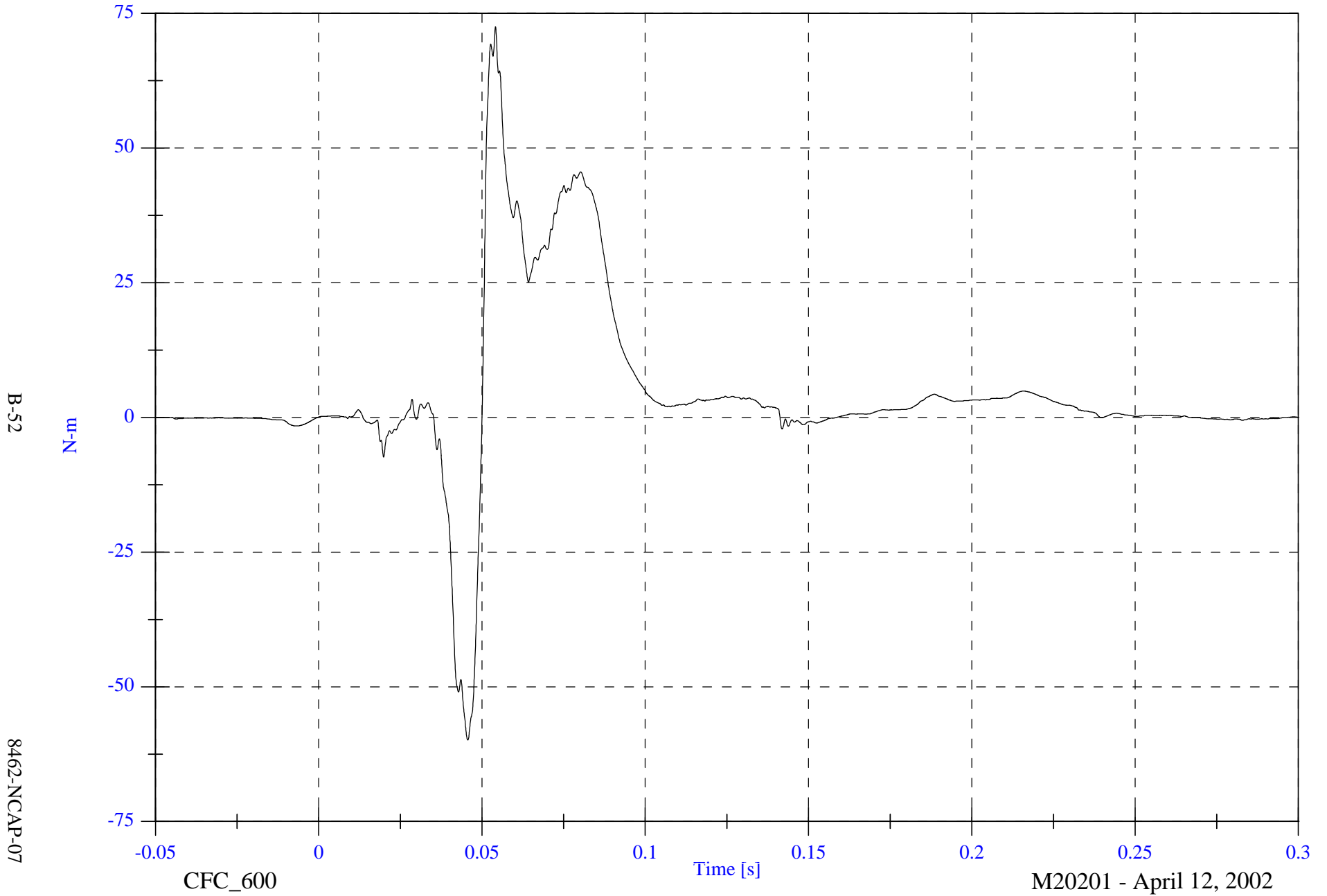
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

Max: 72.5 [N-m] at 0.054 [s]

P1 Right Lower Tibia My

Min: -59.9 [N-m] at 0.046 [s]



B-52

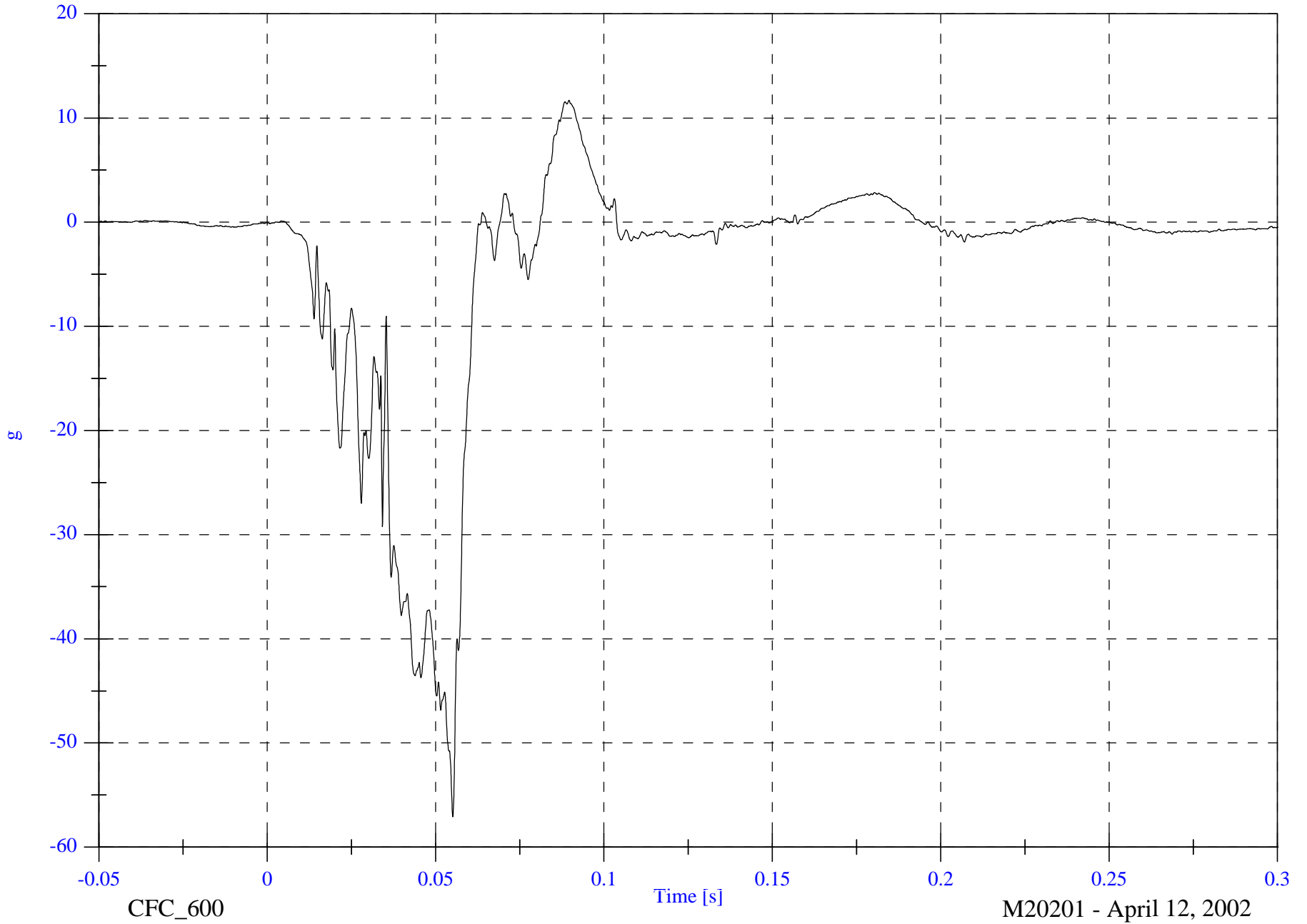
8462-NCAP-07

NCAP Test 7 - 2002 Ford Focus

P1 Left Foot Aft x

Max: 11.7 [g] at 0.090 [s]

Min: -57.1 [g] at 0.055 [s]



B-53

8462-NCAP-07

CFC_600

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

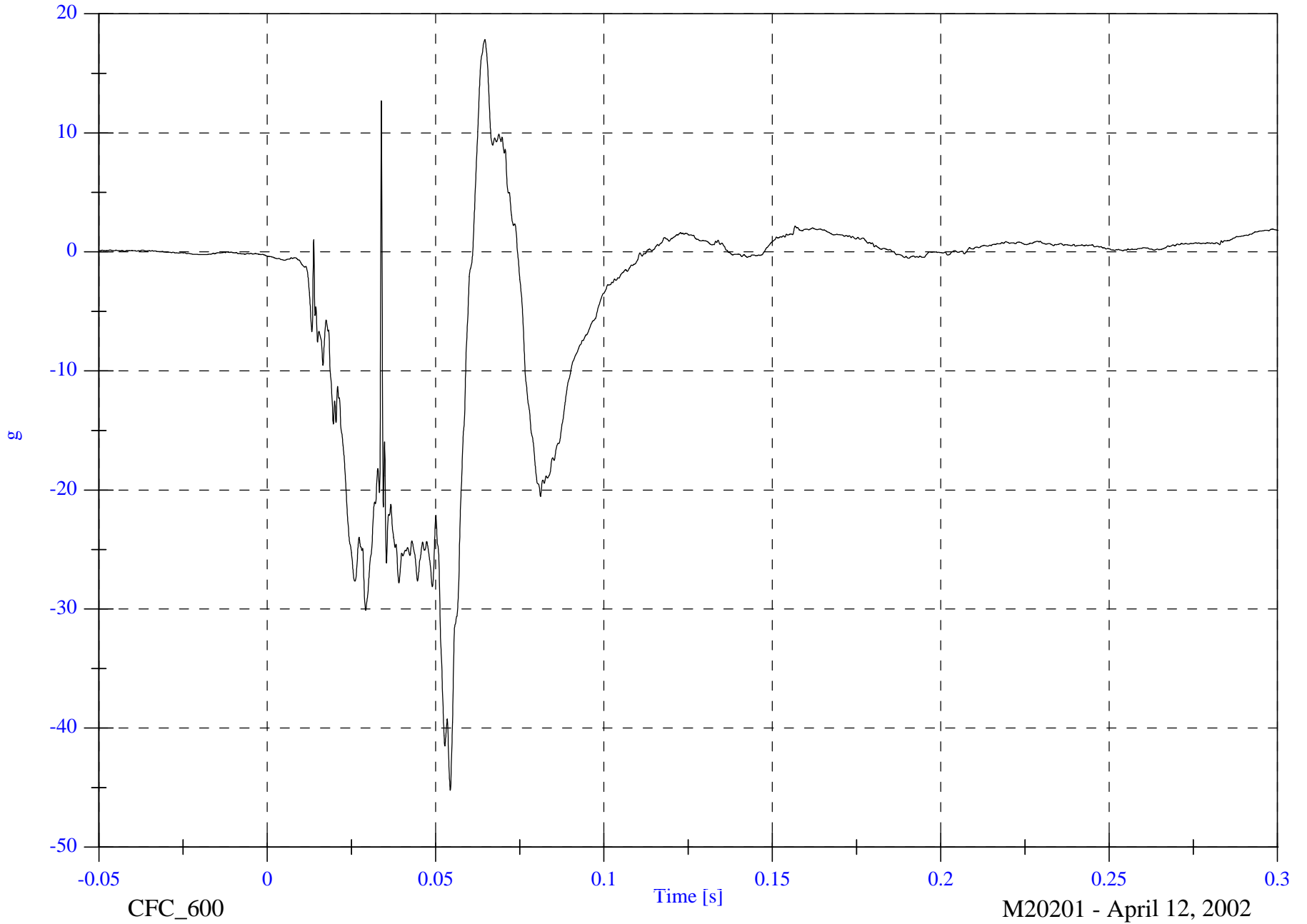
P1 Left Foot Aft z

Max: 17.8 [g] at 0.065 [s]

Min: -45.2 [g] at 0.054 [s]

B-54

8462-NCAP-07



CFC_600

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

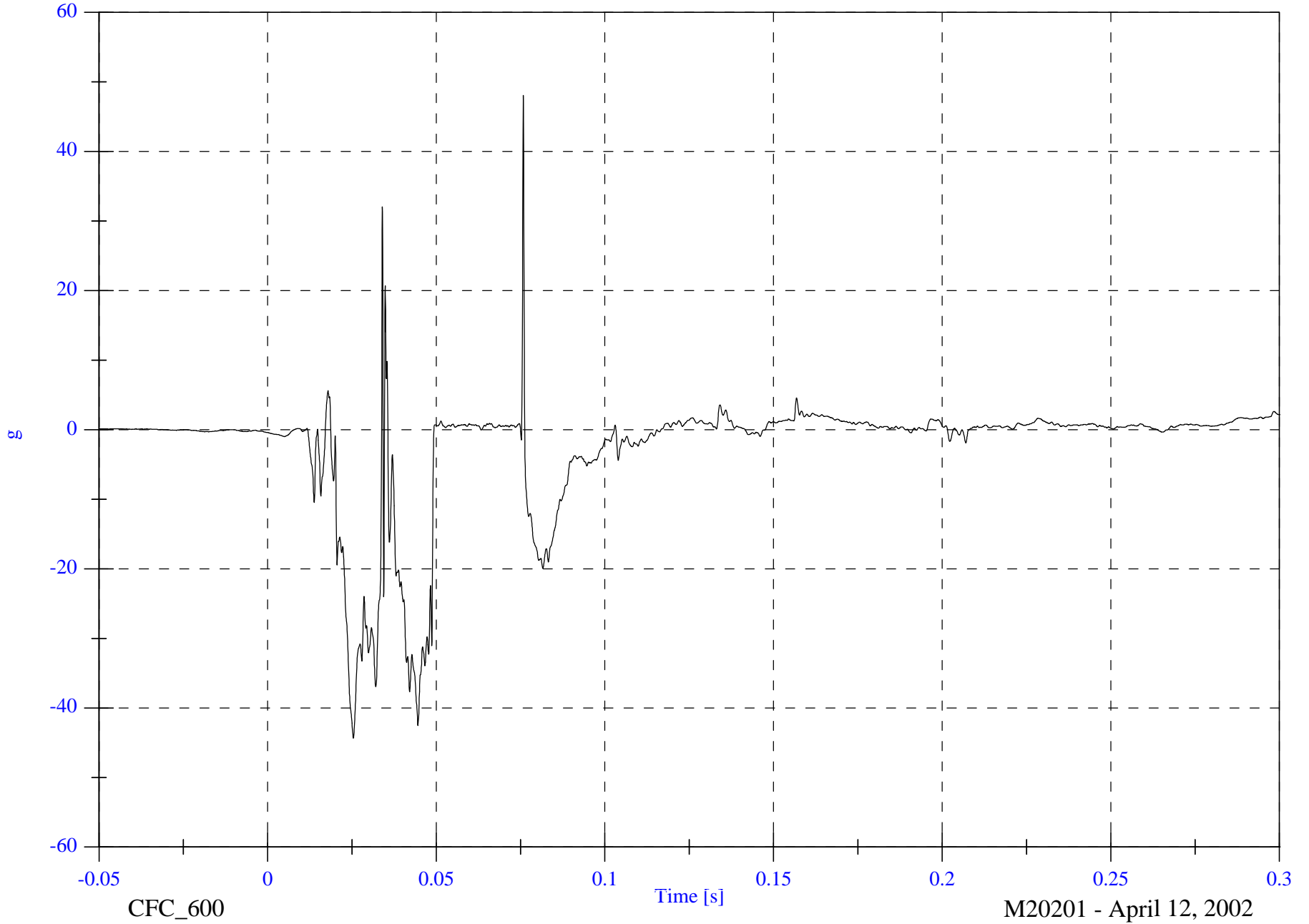
P1 Left Foot Fore z

Max: 48.1 [g] at 0.076 [s]

Min: -44.3 [g] at 0.025 [s]

B-55

8462-NCAP-07



CFC_600

Time [s]

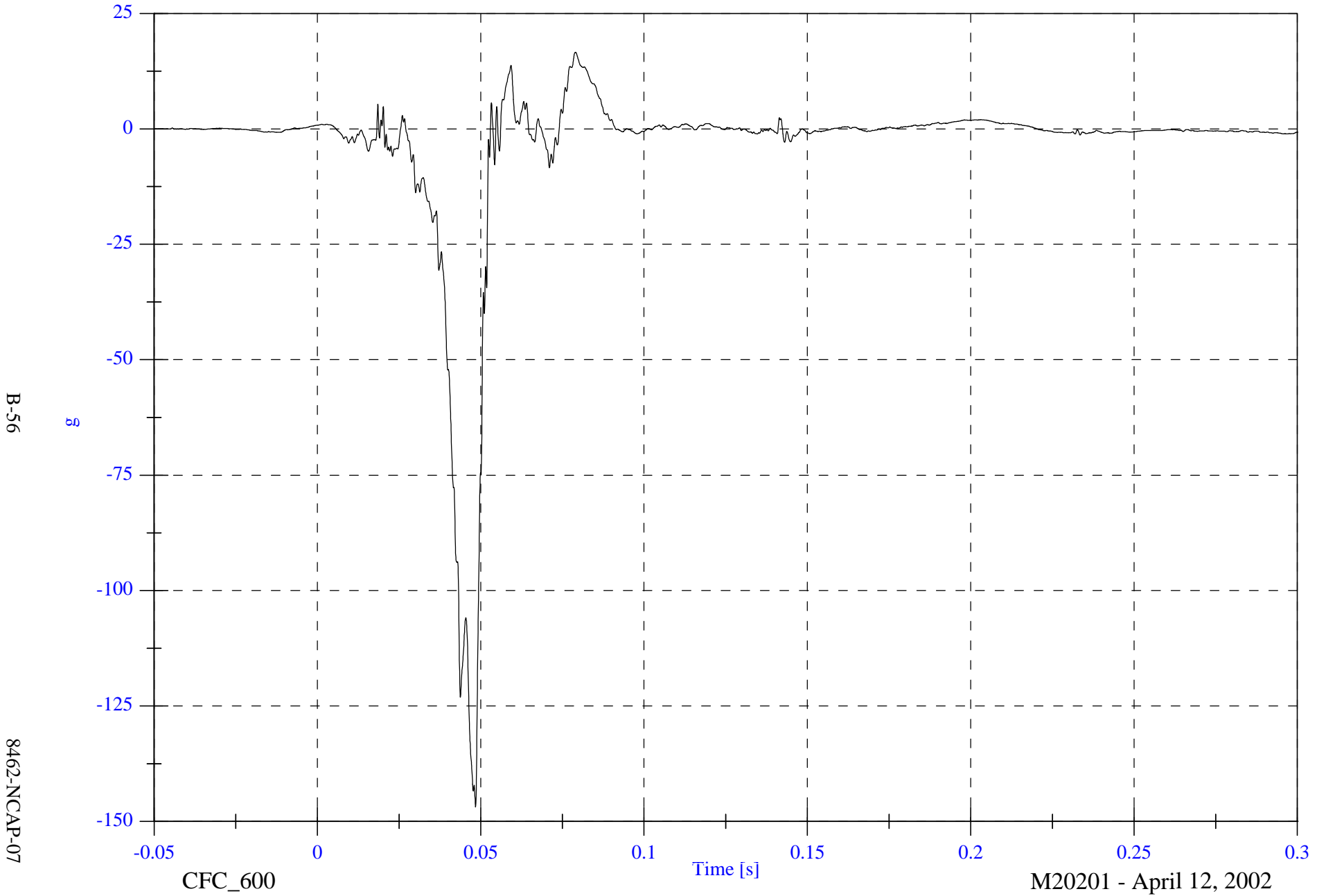
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

P1 Right Foot Aft x

Max: 16.6 [g] at 0.079 [s]

Min: -146.9 [g] at 0.048 [s]

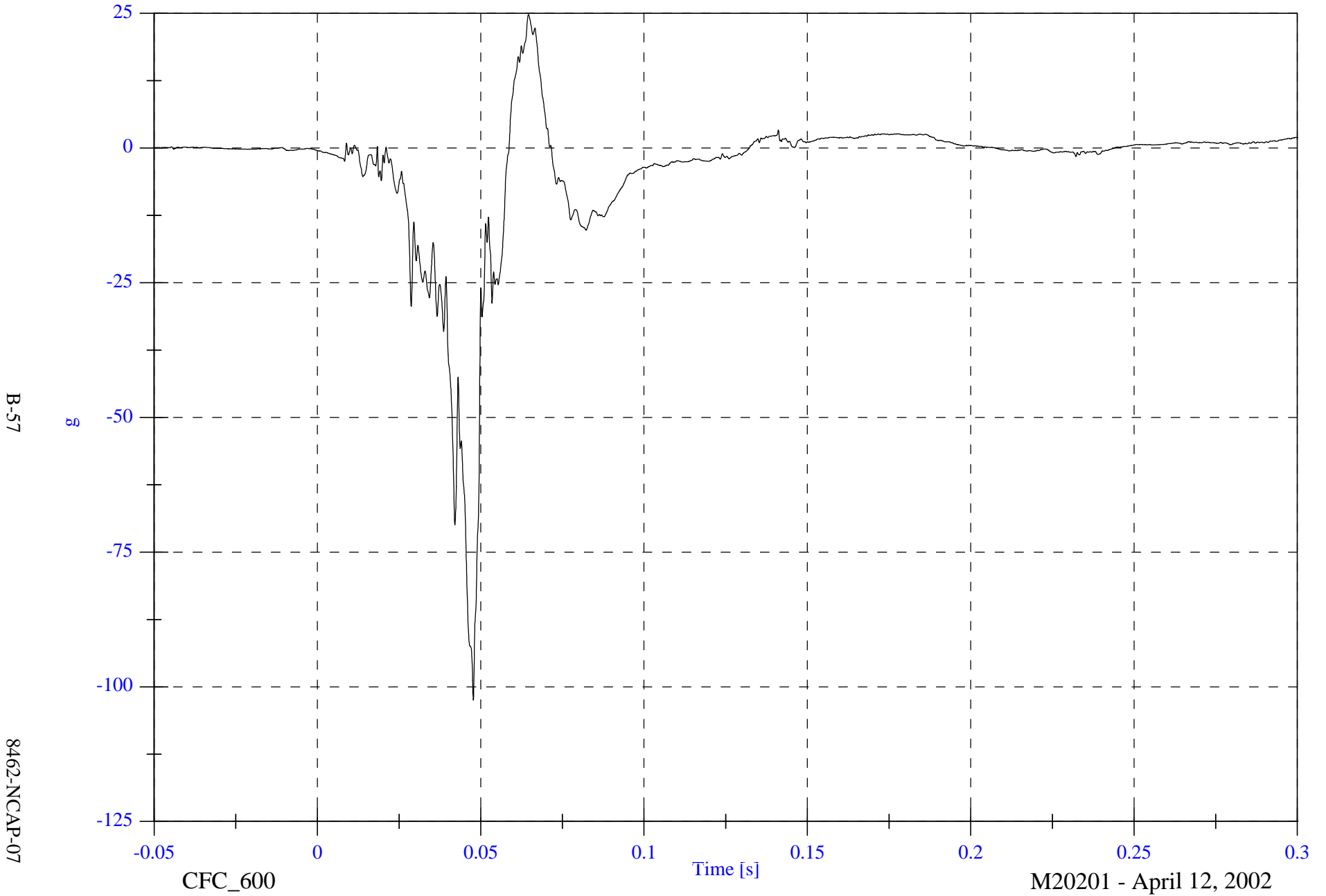


NCAP Test 7 - 2002 Ford Focus

P1 Right Foot Aft z

Max: 24.8 [g] at 0.065 [s]

Min: -102.5 [g] at 0.048 [s]

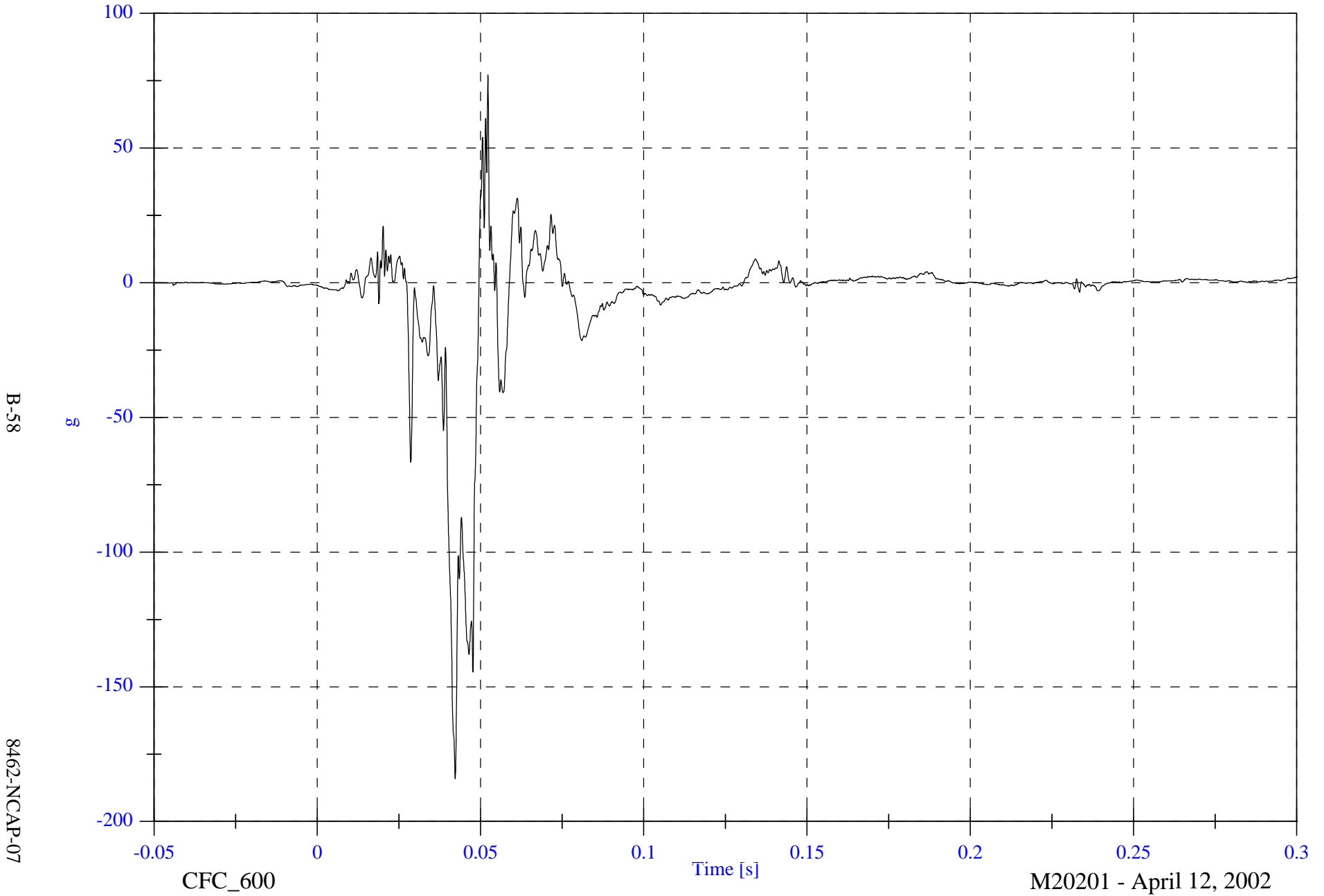


NCAP Test 7 - 2002 Ford Focus

P1 Right Foot Fore z

Max: 77.2 [g] at 0.052 [s]

Min: -184.2 [g] at 0.042 [s]

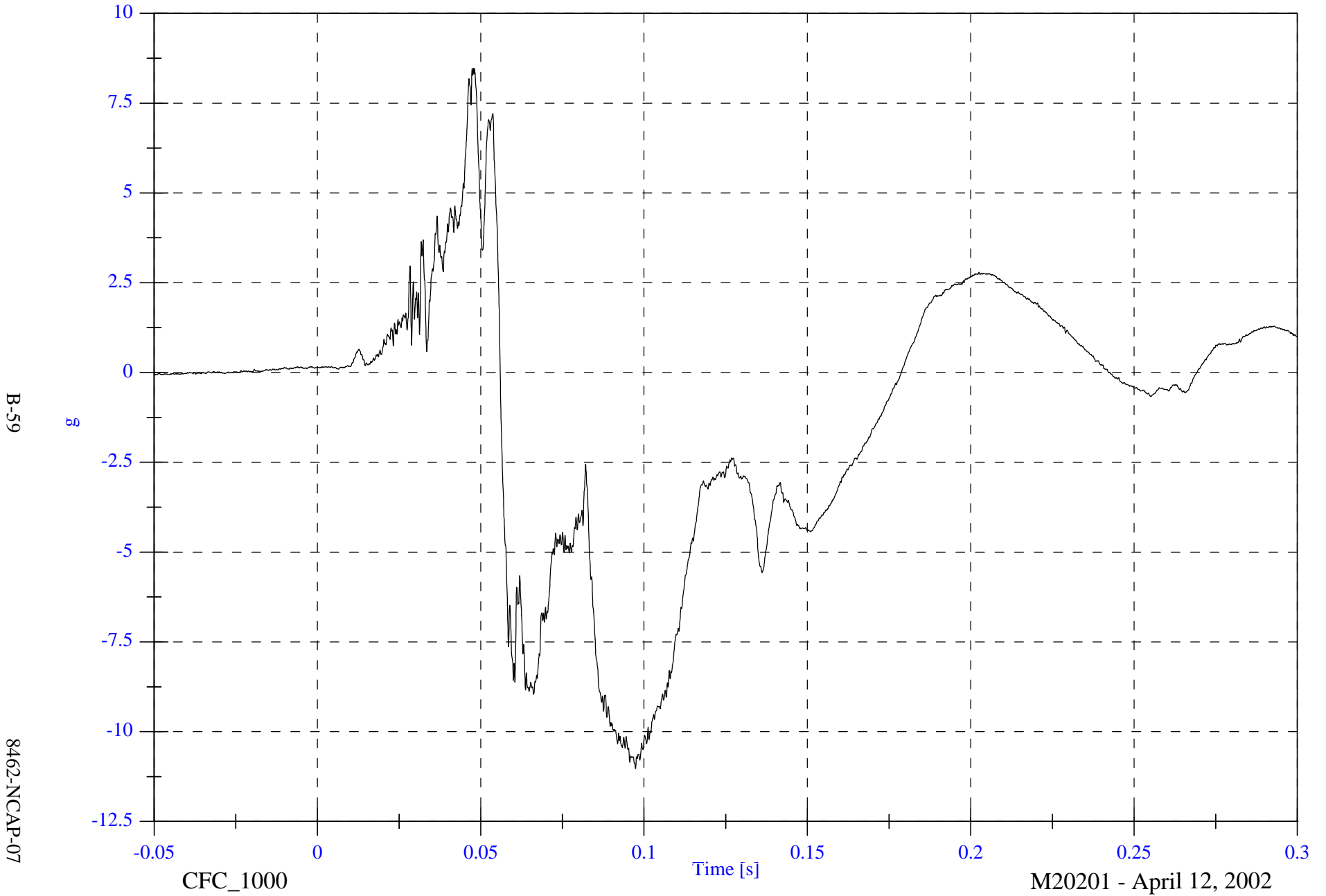


NCAP Test 7 - 2002 Ford Focus

P2 Head 9 Array X Arm Ay

Max: 8.5 [g] at 0.048 [s]

Min: -11.0 [g] at 0.097 [s]



B-59

8462-NCAP-07

CFC_1000

Time [s]

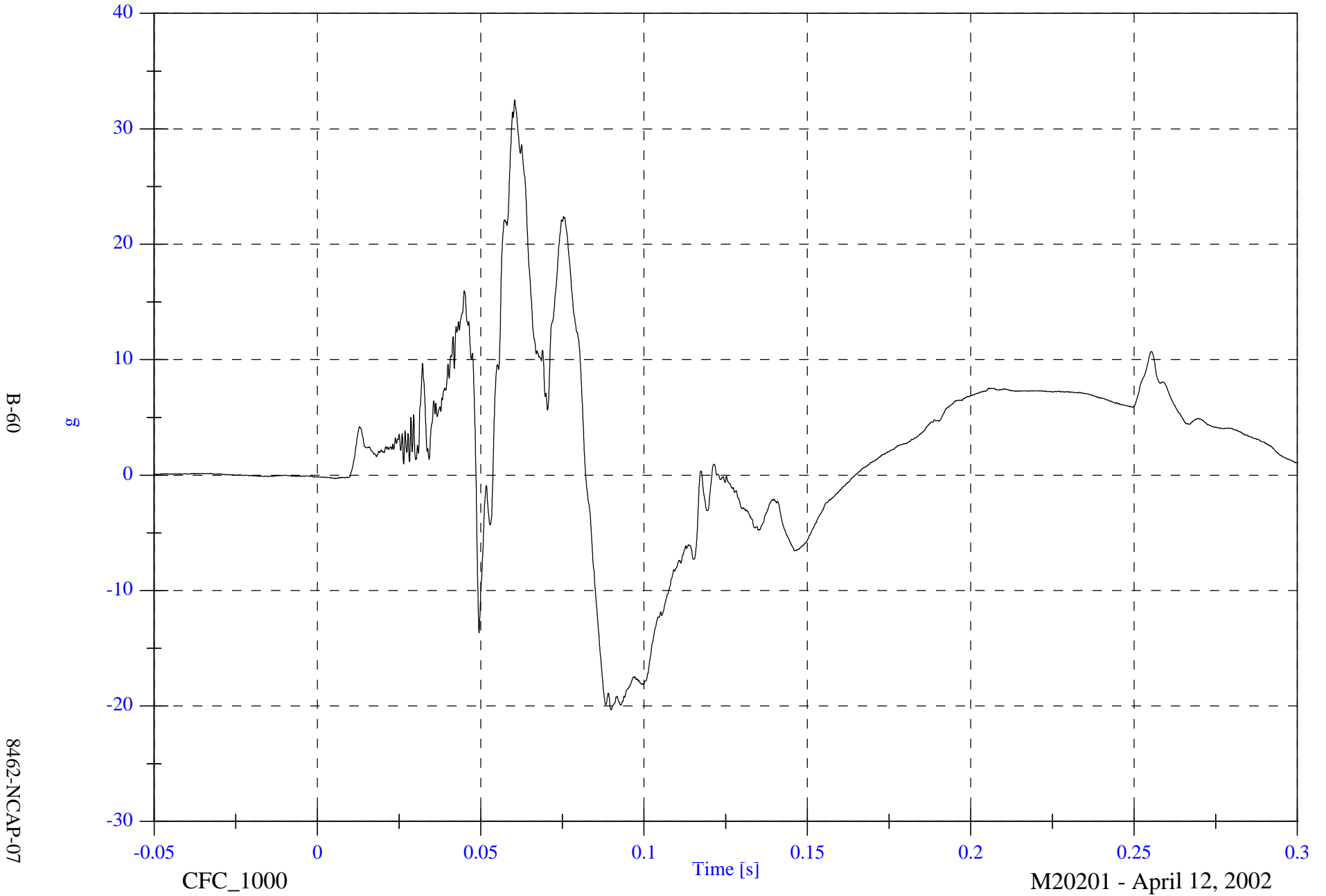
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

P2 Head 9 Array X Arm Az

Max: 32.5 [g] at 0.060 [s]

Min: -20.3 [g] at 0.090 [s]

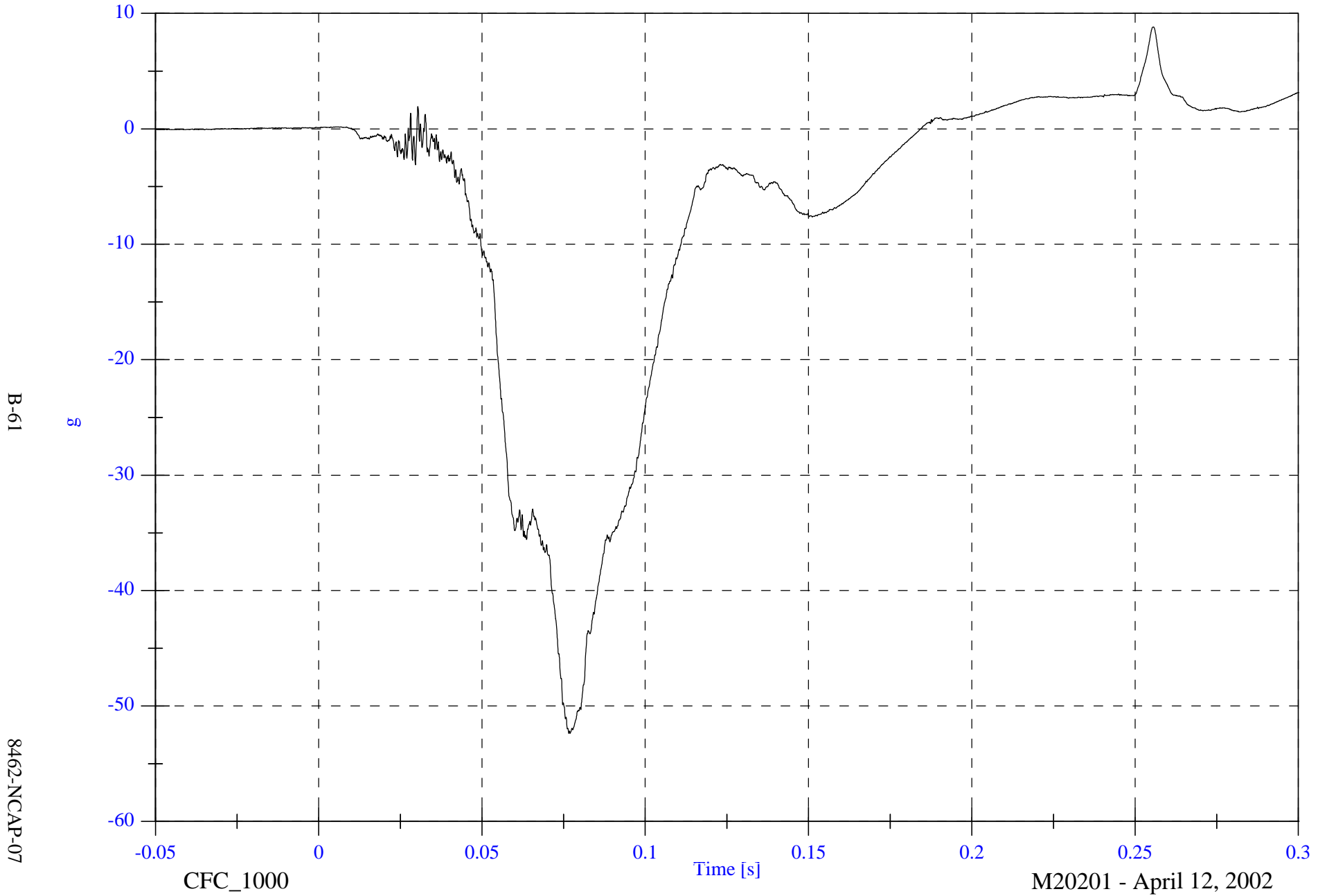


NCAP Test 7 - 2002 Ford Focus

P2 Head 9 Array Y Arm Ax

Max: 8.8 [g] at 0.256 [s]

Min: -52.4 [g] at 0.077 [s]



NCAP Test 7 - 2002 Ford Focus

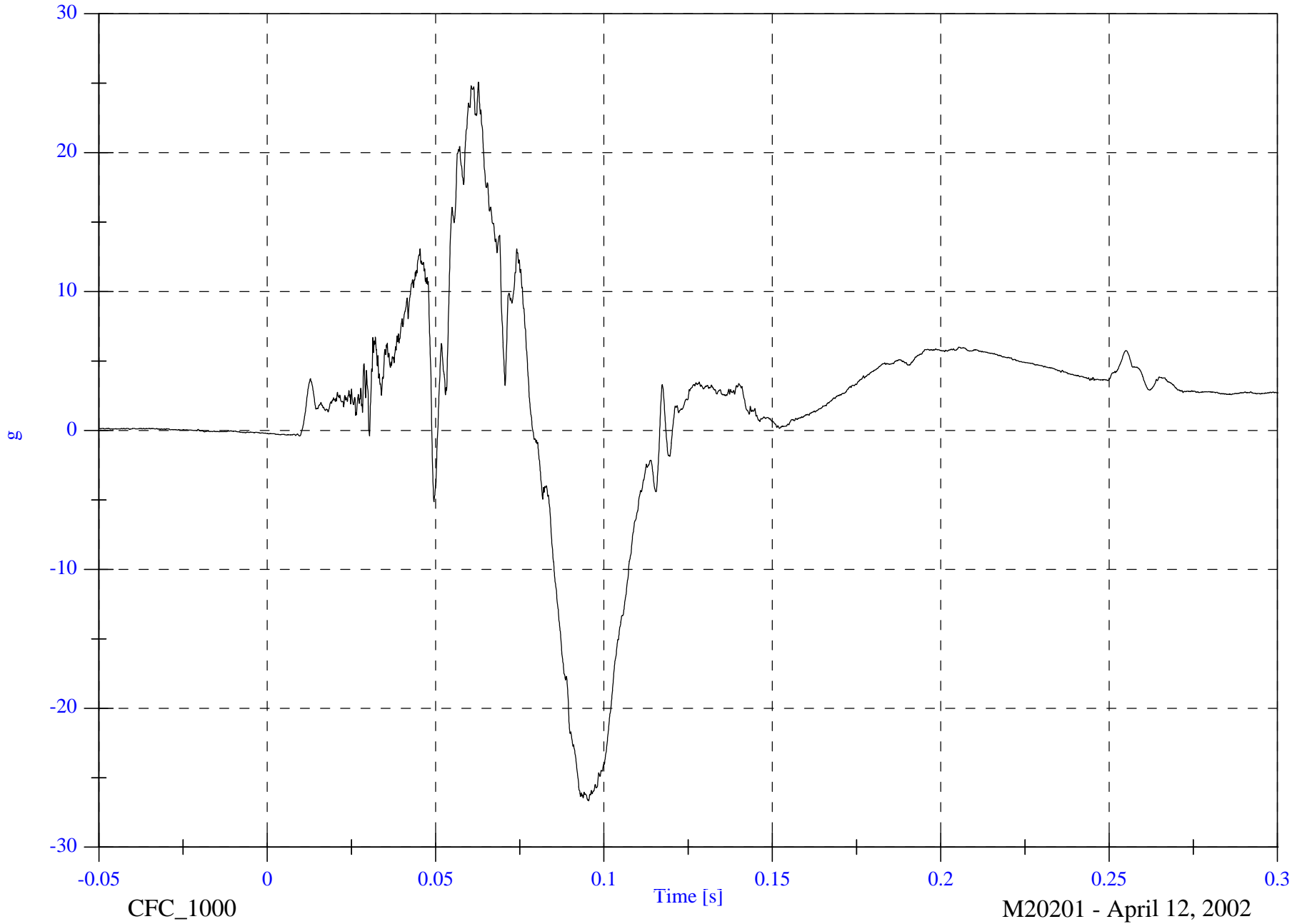
P2 Head 9 Array Y Arm Az

Max: 25.1 [g] at 0.063 [s]

Min: -26.7 [g] at 0.095 [s]

B-62

8462-NCAP-07

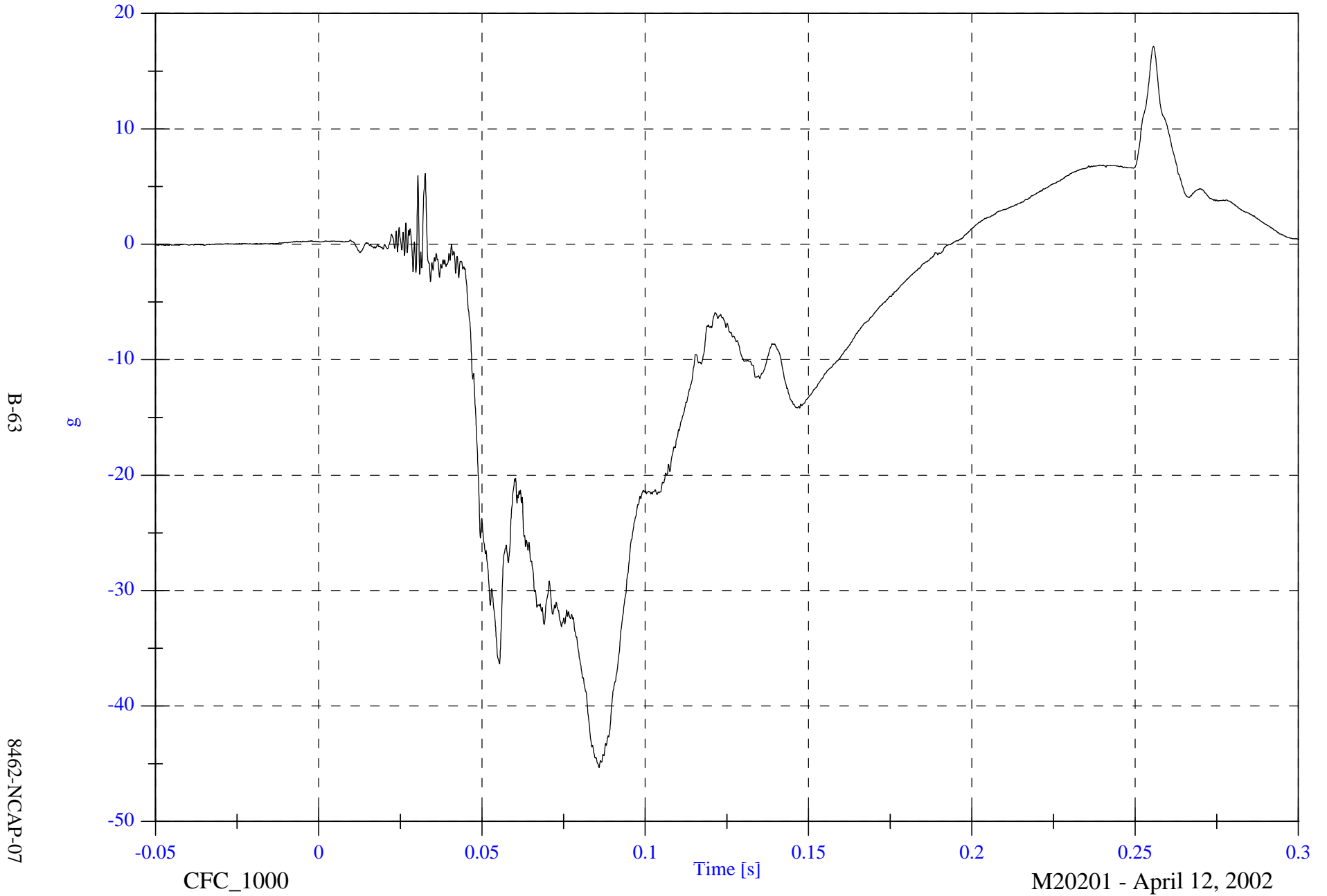


NCAP Test 7 - 2002 Ford Focus

P2 Head 9 Array Z Arm Ax

Max: 17.1 [g] at 0.256 [s]

Min: -45.3 [g] at 0.086 [s]



B-63

8462-NCAP-07

CFC_1000

Time [s]

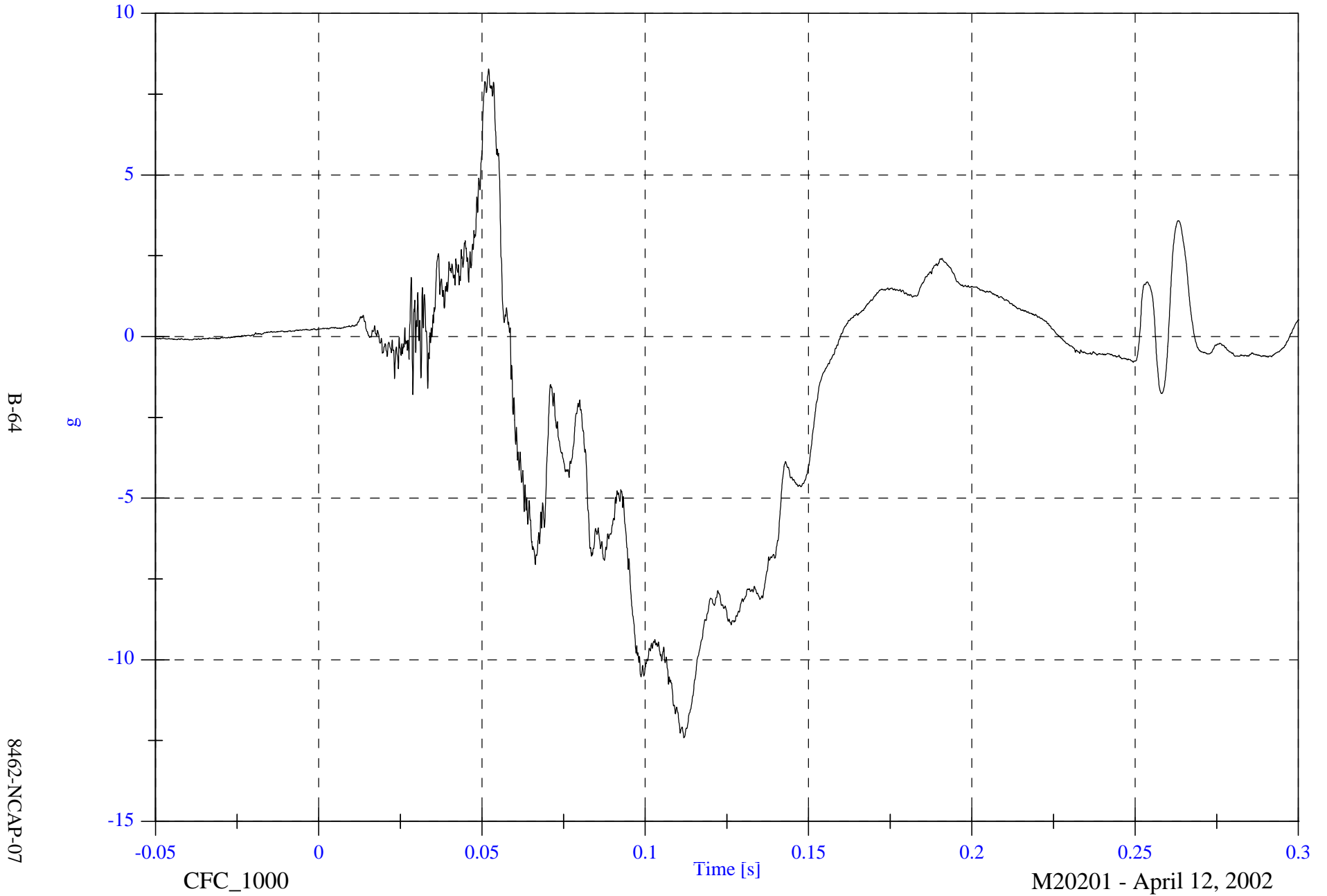
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

P2 Head 9 Array Z Arm Ay

Max: 8.3 [g] at 0.052 [s]

Min: -12.4 [g] at 0.112 [s]



B-64

8462-NCAP-07

CFC_1000

Time [s]

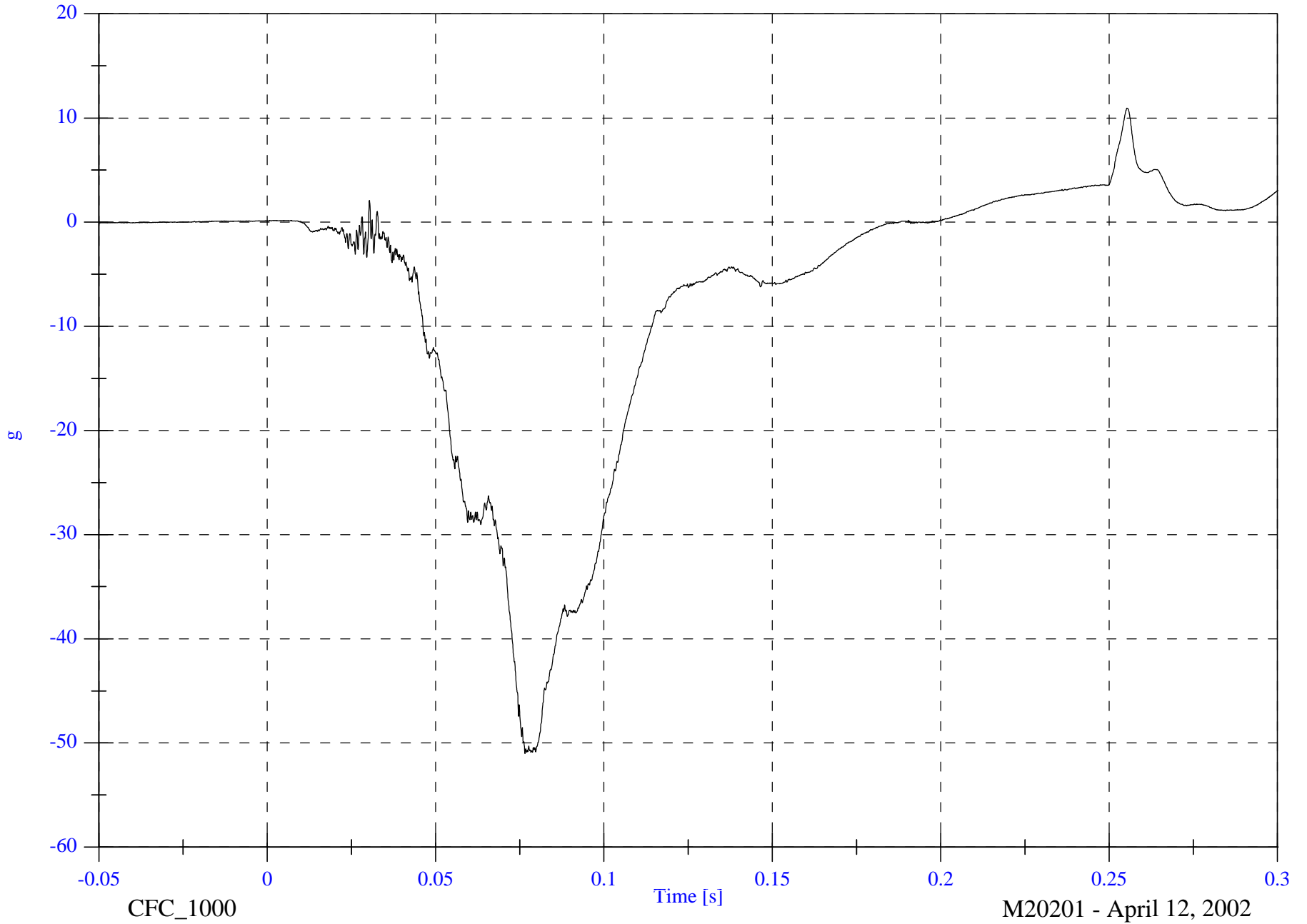
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

P2 Head CG x

Max: 10.9 [g] at 0.255 [s]

Min: -51.0 [g] at 0.077 [s]



B-65

8462-NCAP-07

CFC_1000

Time [s]

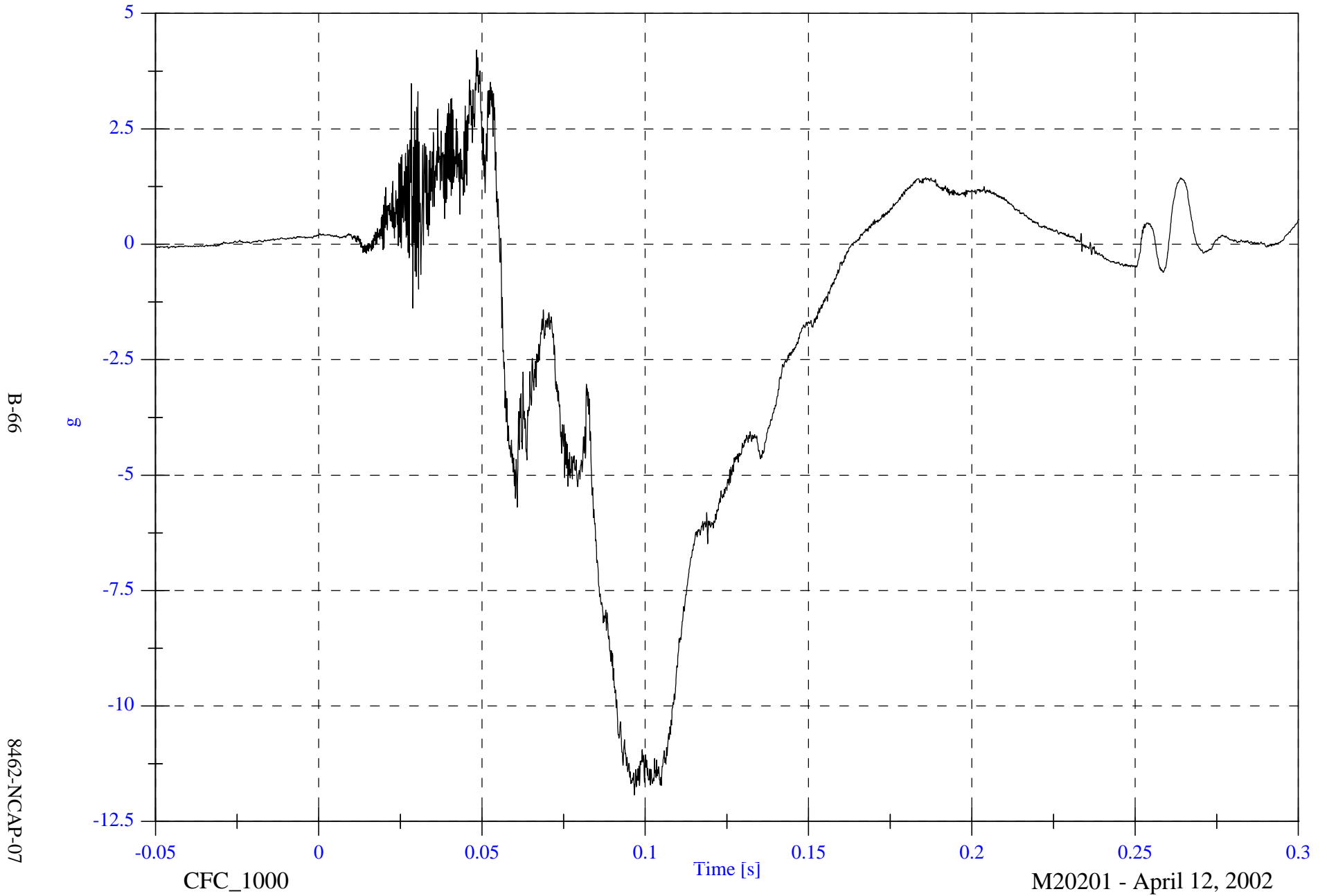
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

P2 Head CG y

Max: 4.2 [g] at 0.048 [s]

Min: -11.9 [g] at 0.097 [s]



NCAP Test 7 - 2002 Ford Focus

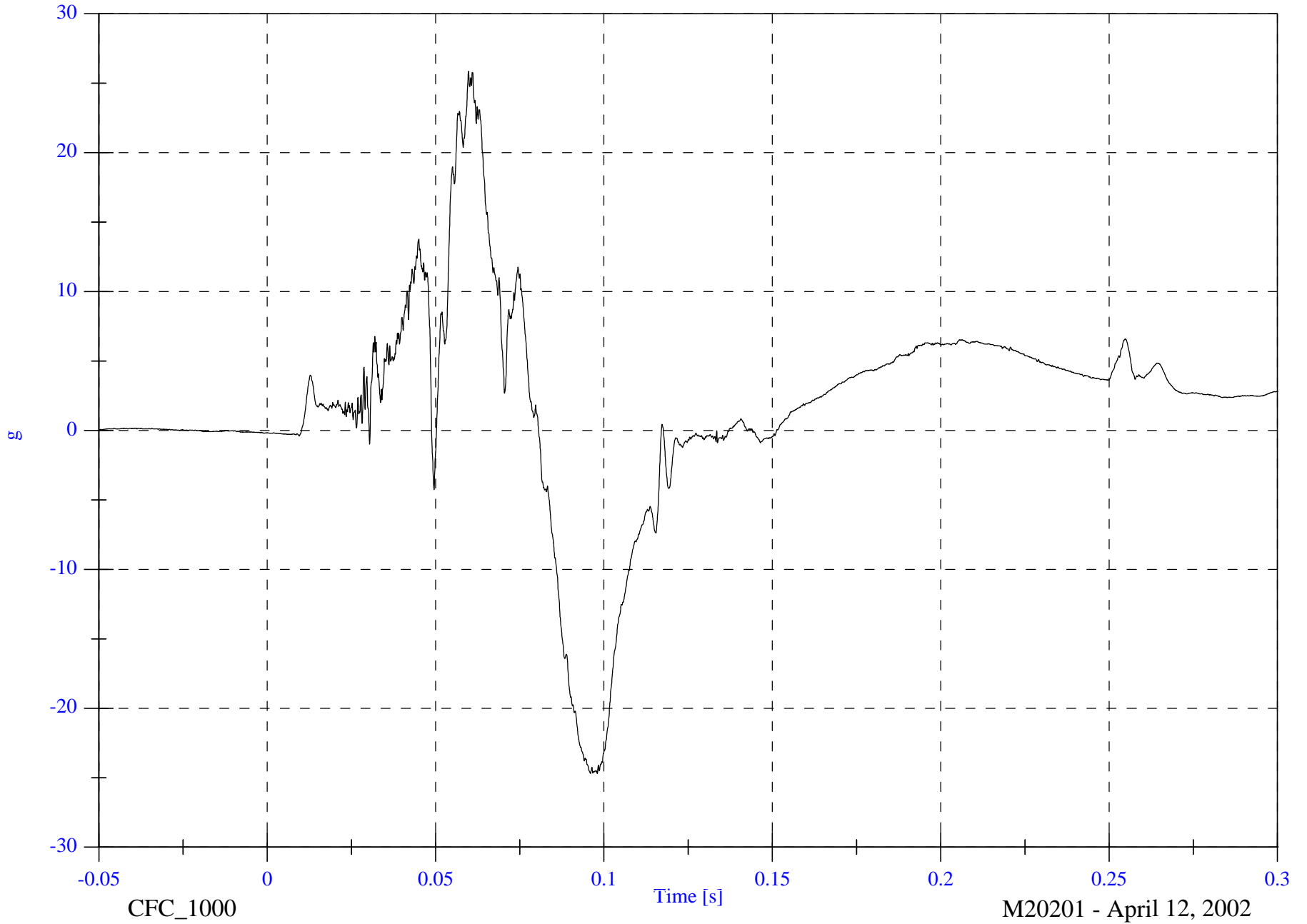
P2 Head CG z

Max: 25.9 [g] at 0.060 [s]

Min: -24.7 [g] at 0.098 [s]

B-67

8462-NCAP-07



CFC_1000

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

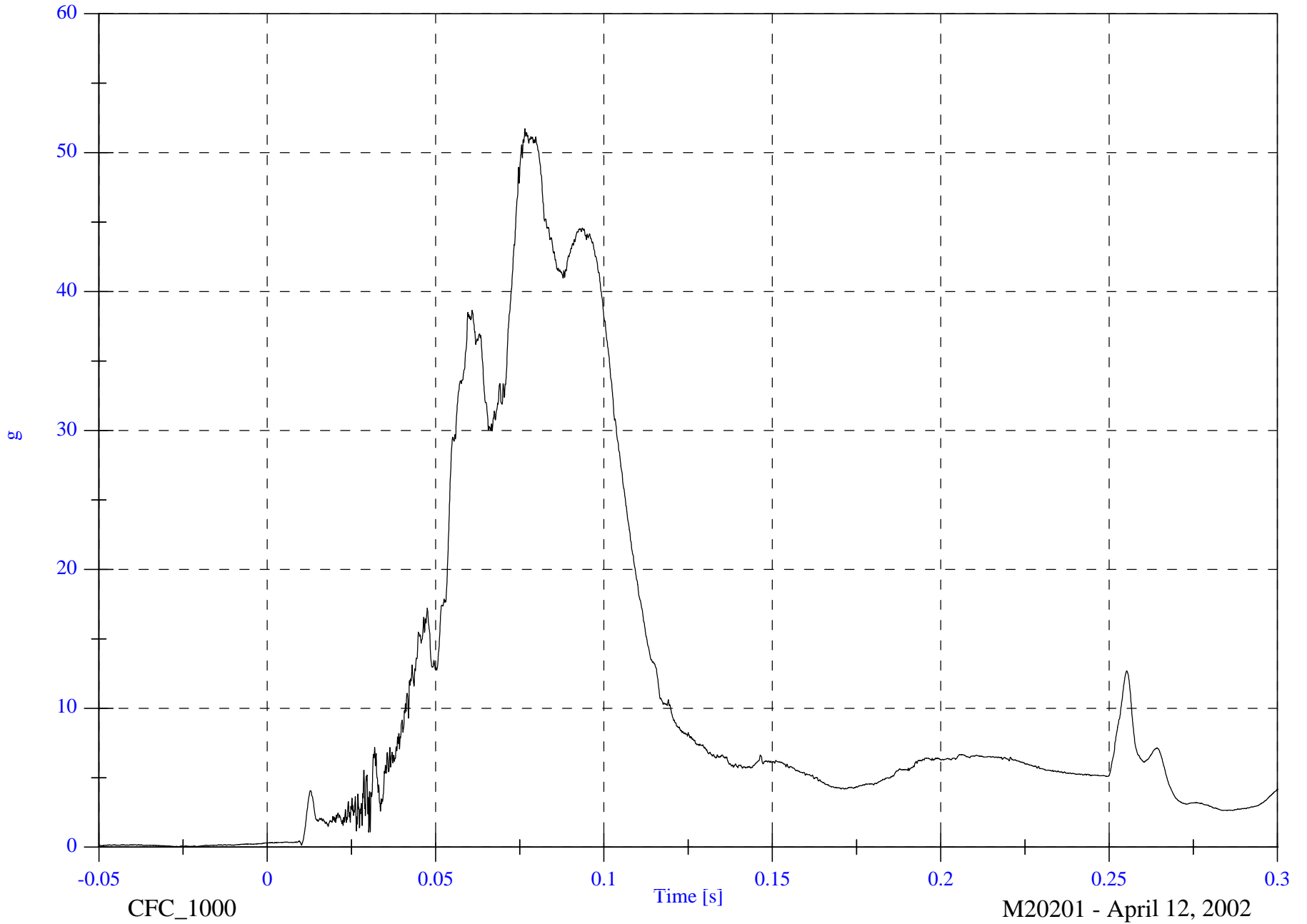
P2 Head CG Resultant

Max: 51.7 [g] at 0.077 [s]

Min: 0.0 [g] at -0.027 [s]

B-68

8462-NCAP-07



CFC_1000

Time [s]

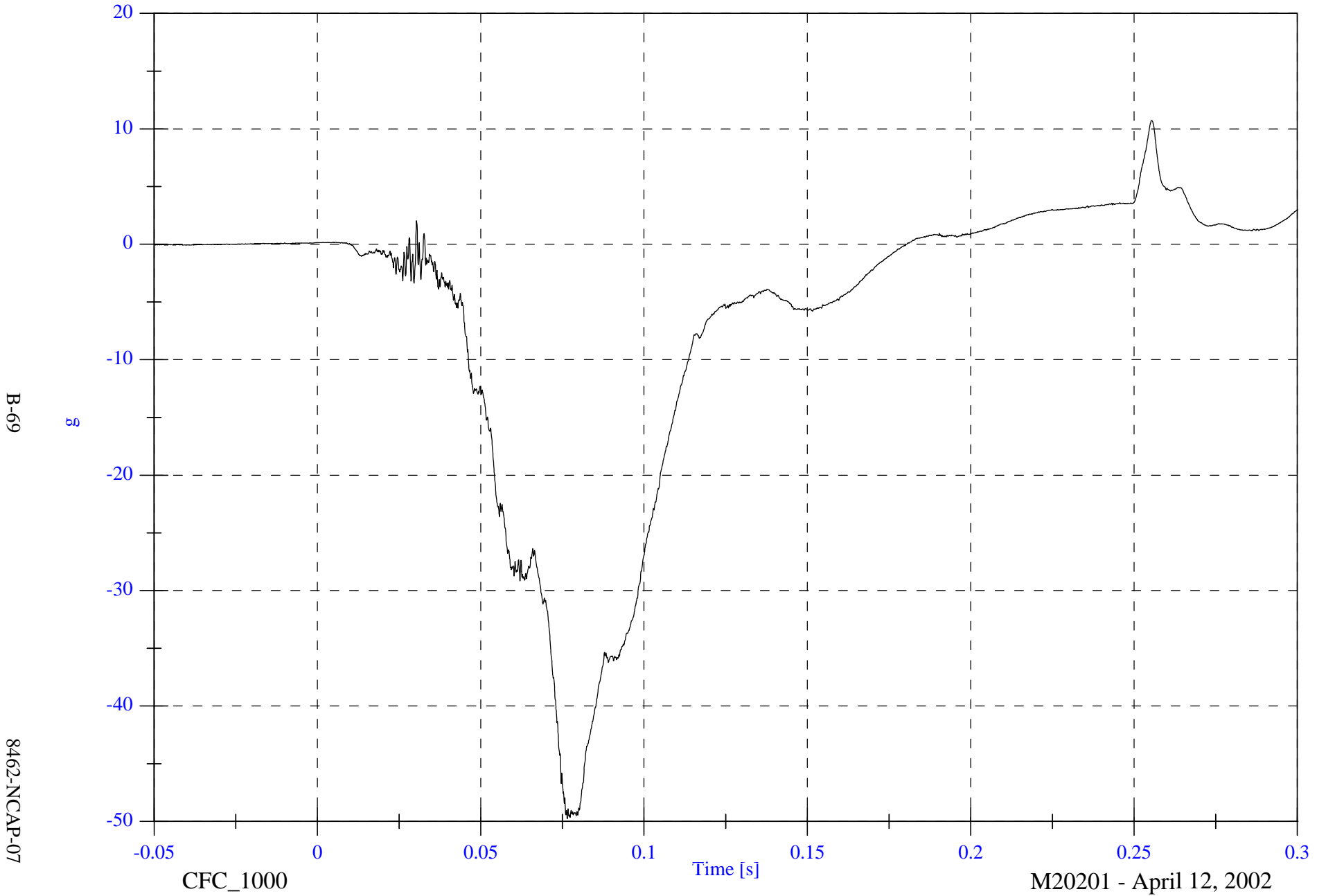
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

P2 Head CG Red x

Max: 10.7 [g] at 0.255 [s]

Min: -49.8 [g] at 0.076 [s]



B-69

8462-NCAP-07

CFC_1000

Time [s]

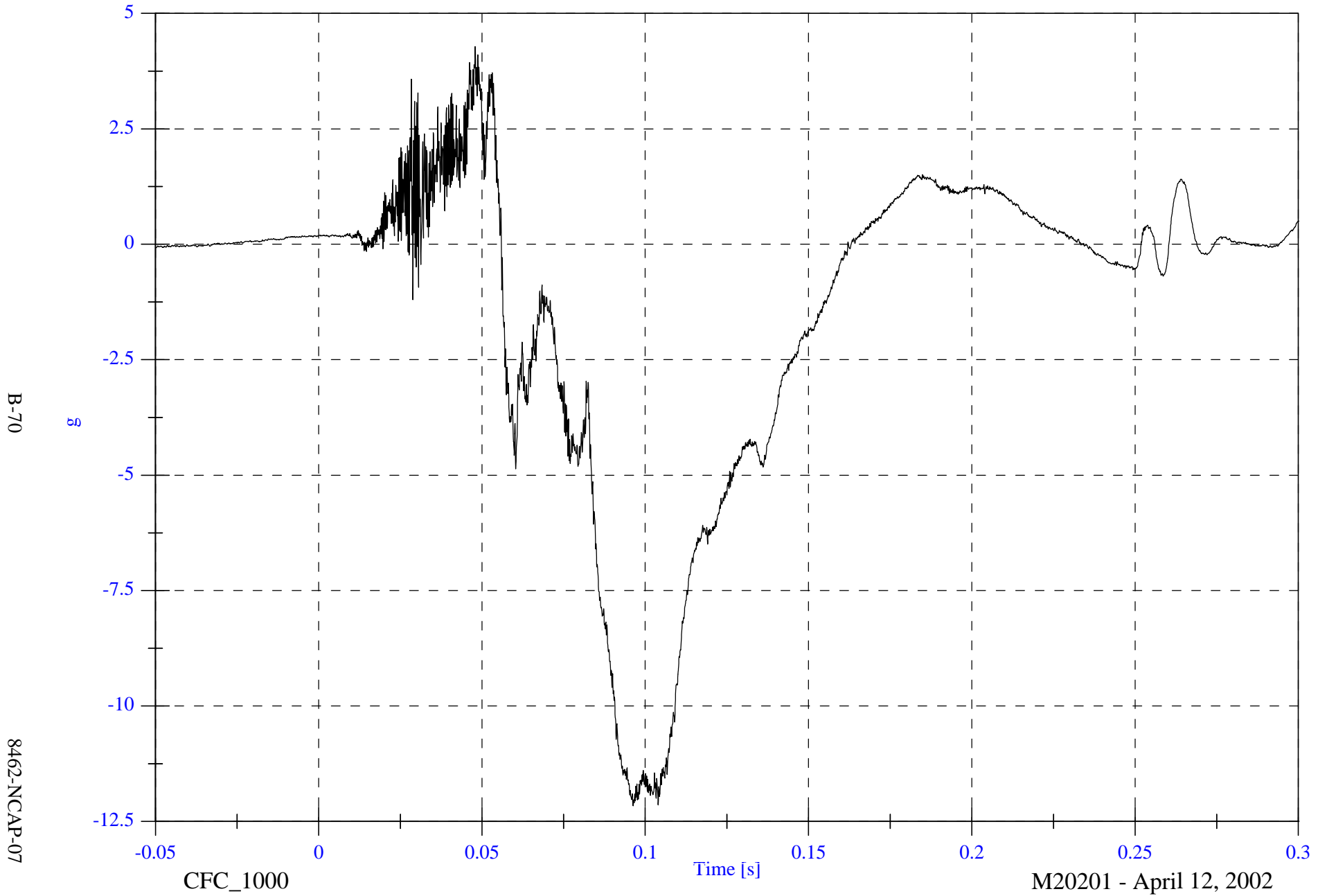
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

P2 Head CG Red y

Max: 4.3 [g] at 0.048 [s]

Min: -12.2 [g] at 0.096 [s]



CFC_1000

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

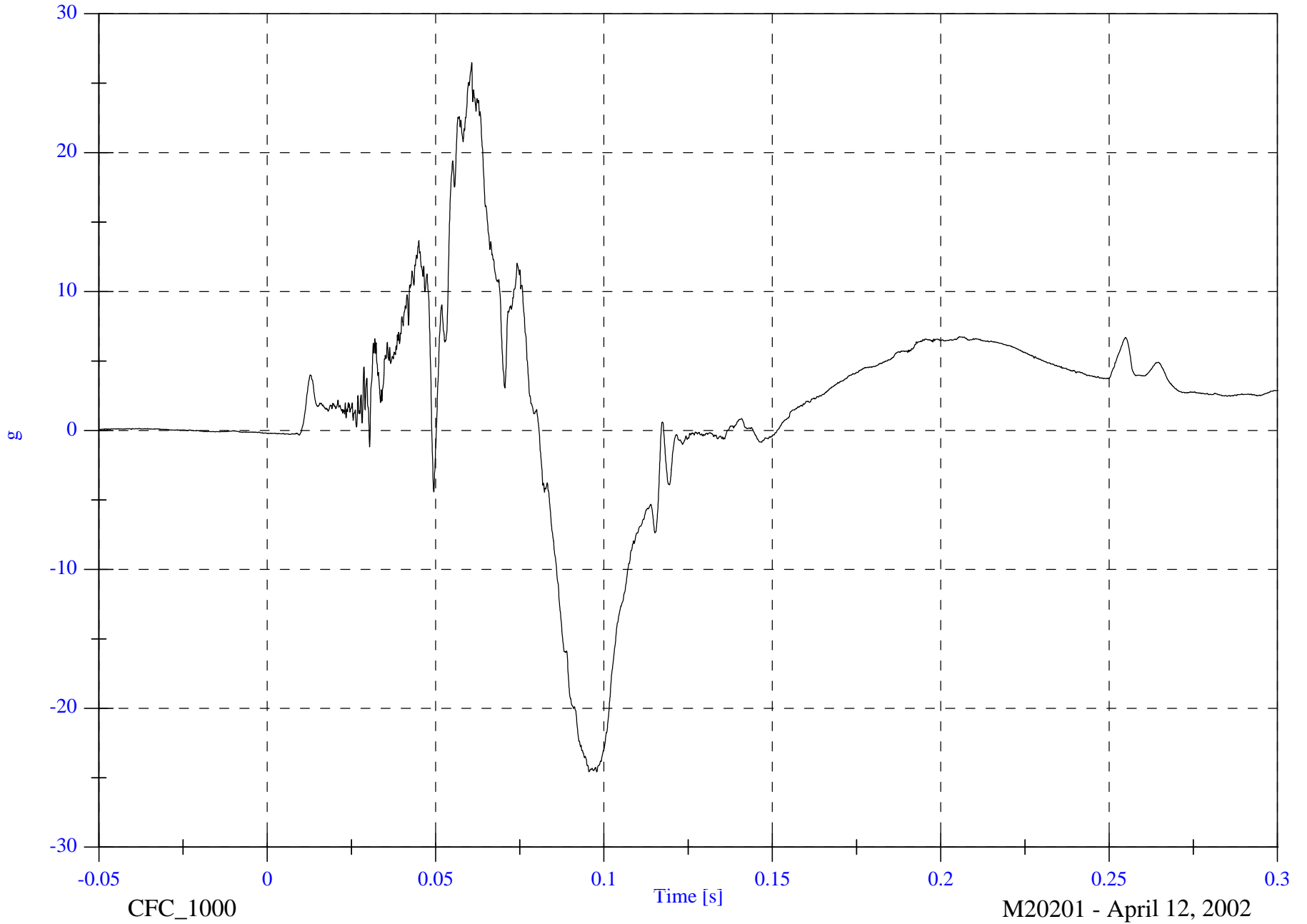
P2 Head CG Red z

Max: 26.5 [g] at 0.061 [s]

Min: -24.6 [g] at 0.098 [s]

B-71

8462-NCAP-07



NCAP Test 7 - 2002 Ford Focus

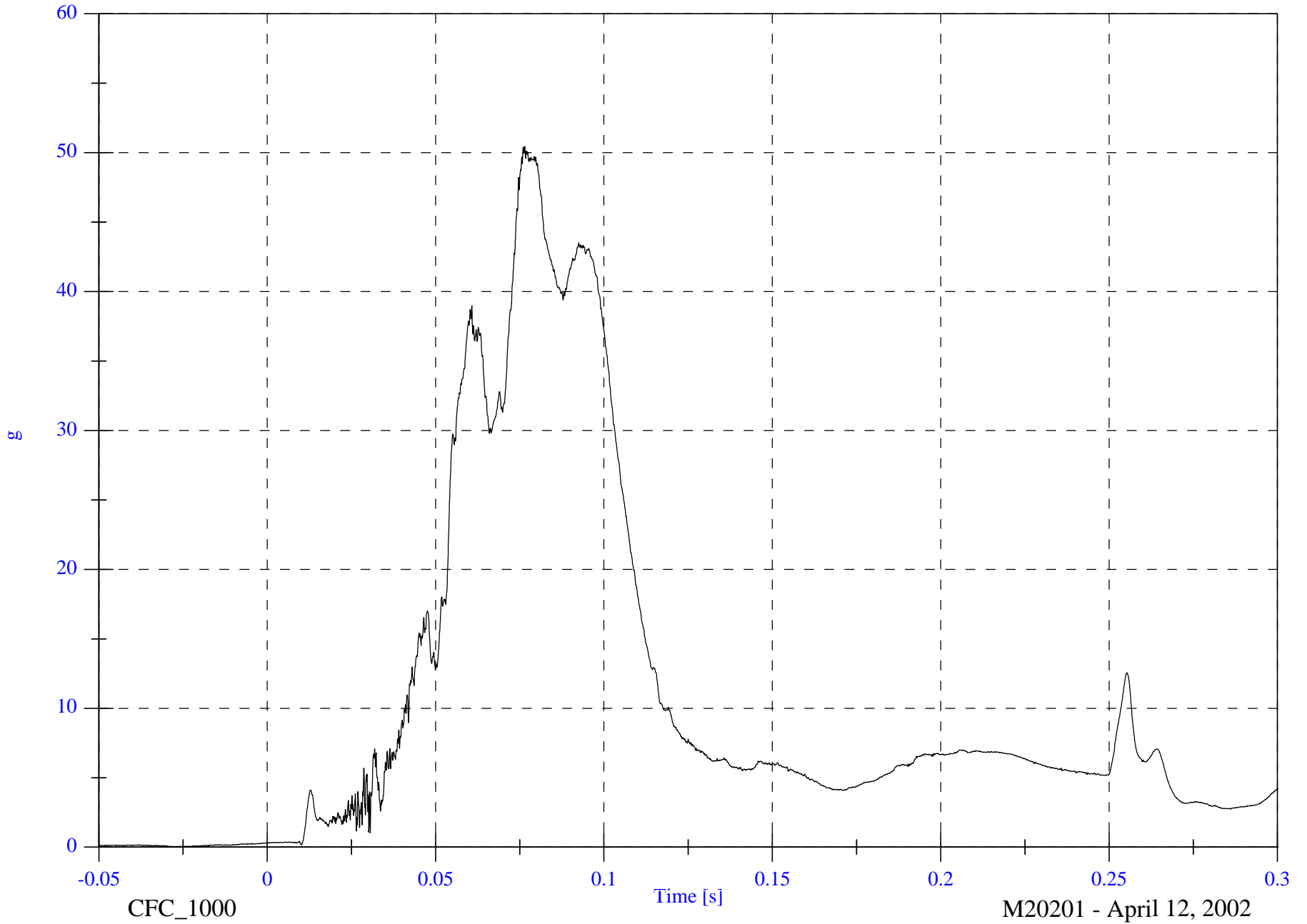
P2 Head CG Red Resultant

Max: 50.5 [g] at 0.076 [s]

Min: 0.0 [g] at -0.026 [s]

B-72

8462-NCAP-07



CFC_1000

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

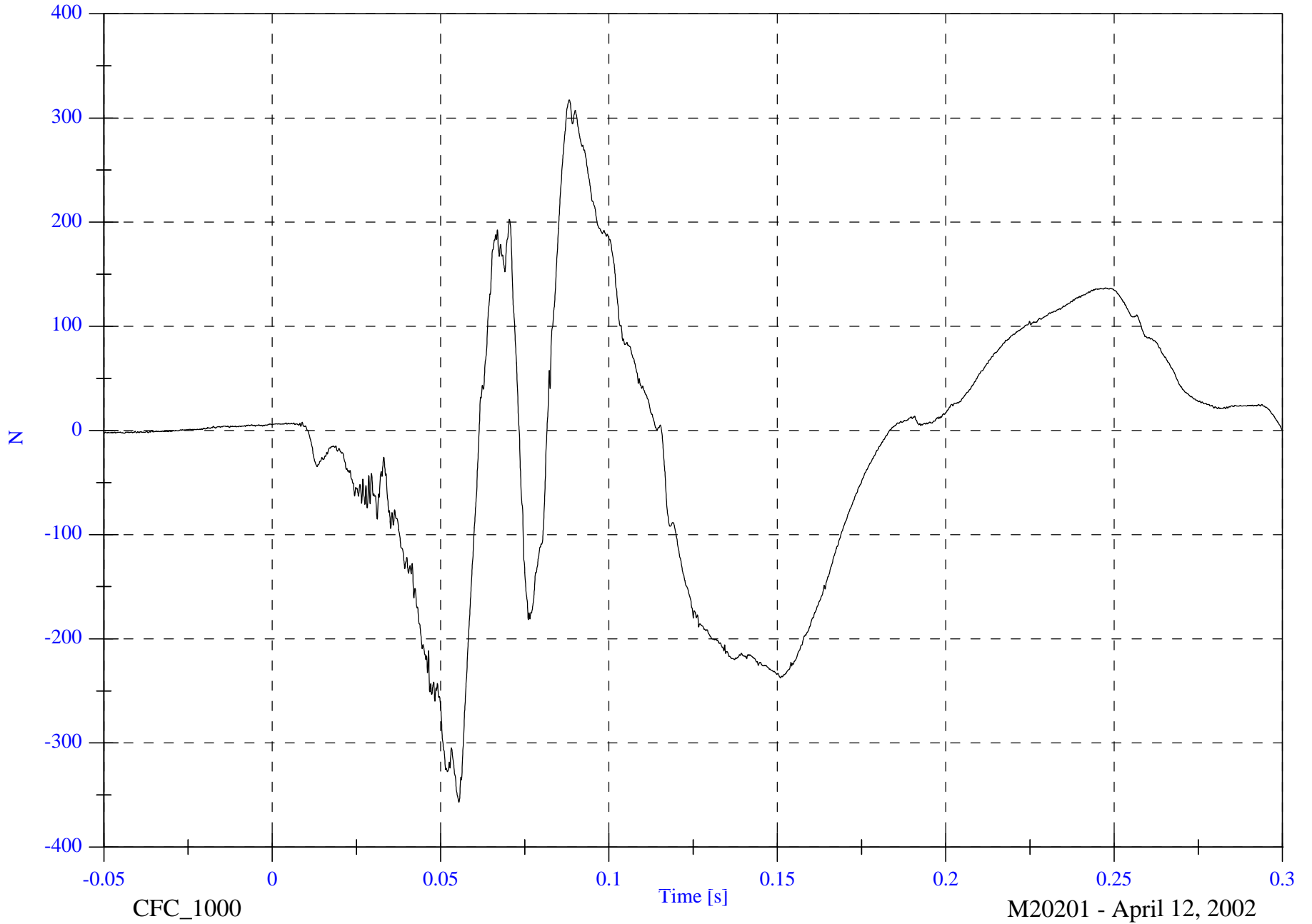
P2 Upper Neck Fx

Max: 317.4 [N] at 0.088 [s]

Min: -357.0 [N] at 0.055 [s]

B-73

8462-NCAP-07



CFC_1000

Time [s]

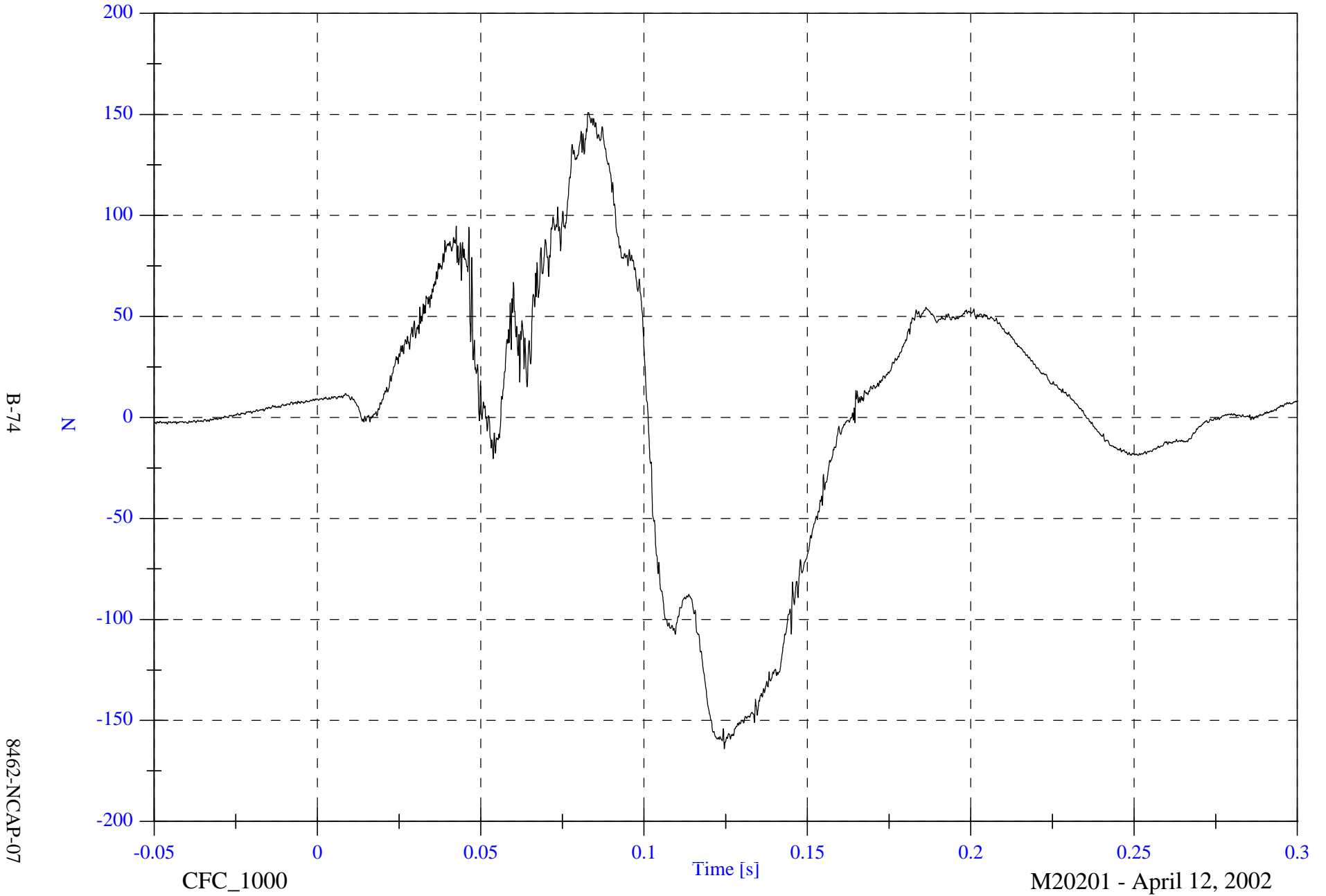
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

P2 Upper Neck Fy

Max: 150.9 [N] at 0.083 [s]

Min: -164.1 [N] at 0.125 [s]



B-74

8462-NCAP-07

CFC_1000

Time [s]

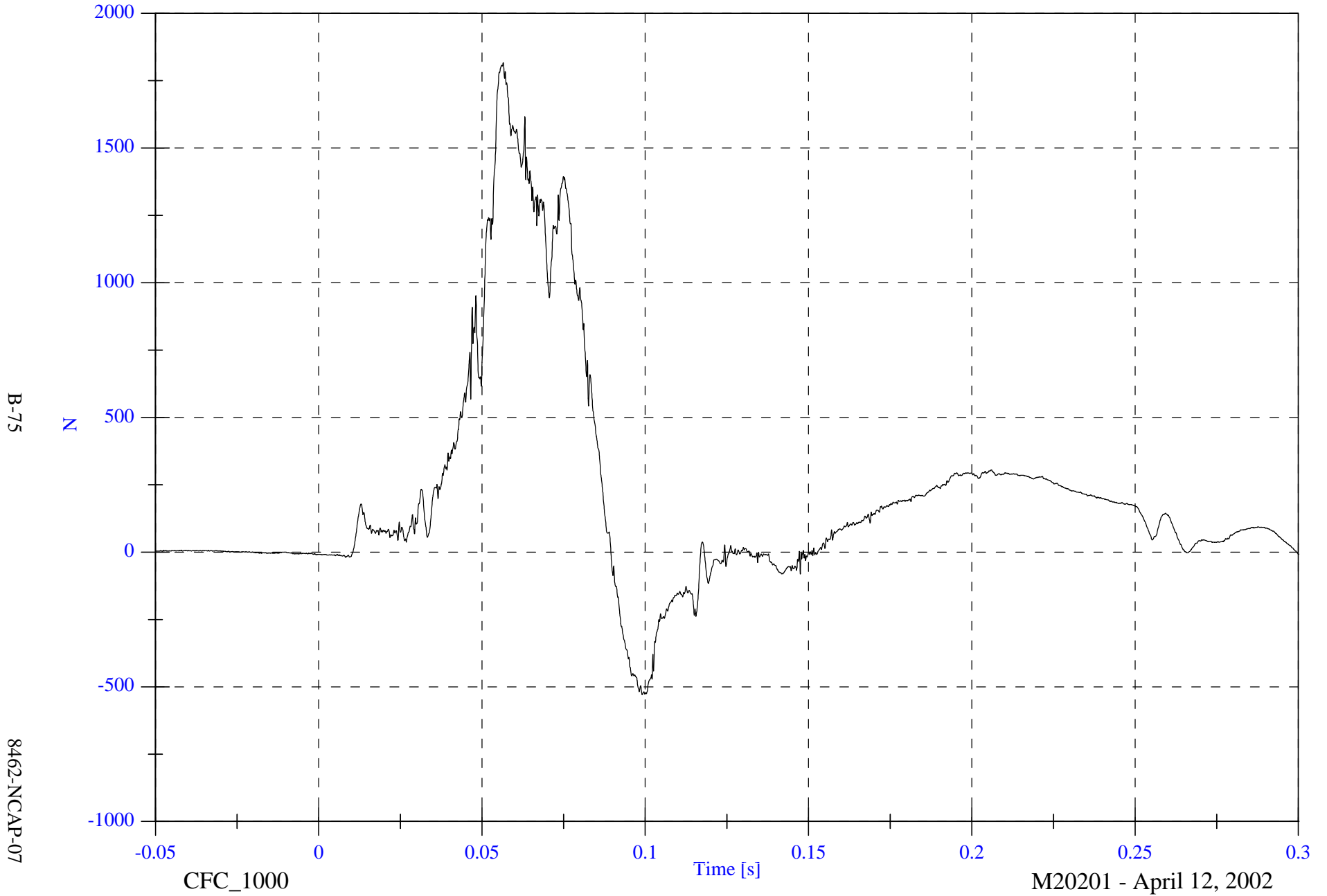
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

P2 Upper Neck Fz

Max: 1816.7 [N] at 0.057 [s]

Min: -529.4 [N] at 0.099 [s]

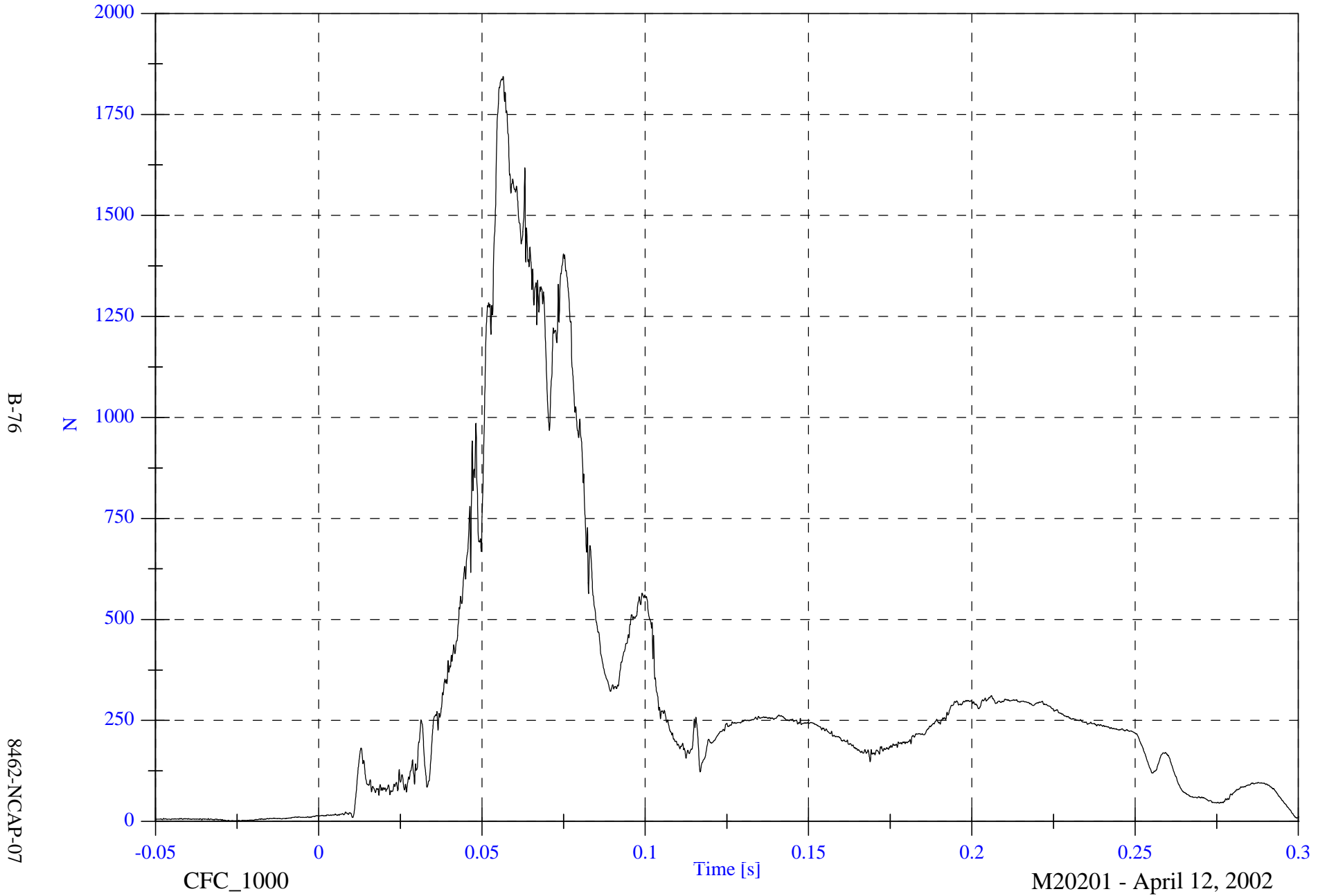


NCAP Test 7 - 2002 Ford Focus

P2 Upper Neck F Resultant

Max: 1843.7 [N] at 0.056 [s]

Min: 0.6 [N] at -0.027 [s]



B-76

8462-NCAP-07

CFC_1000

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

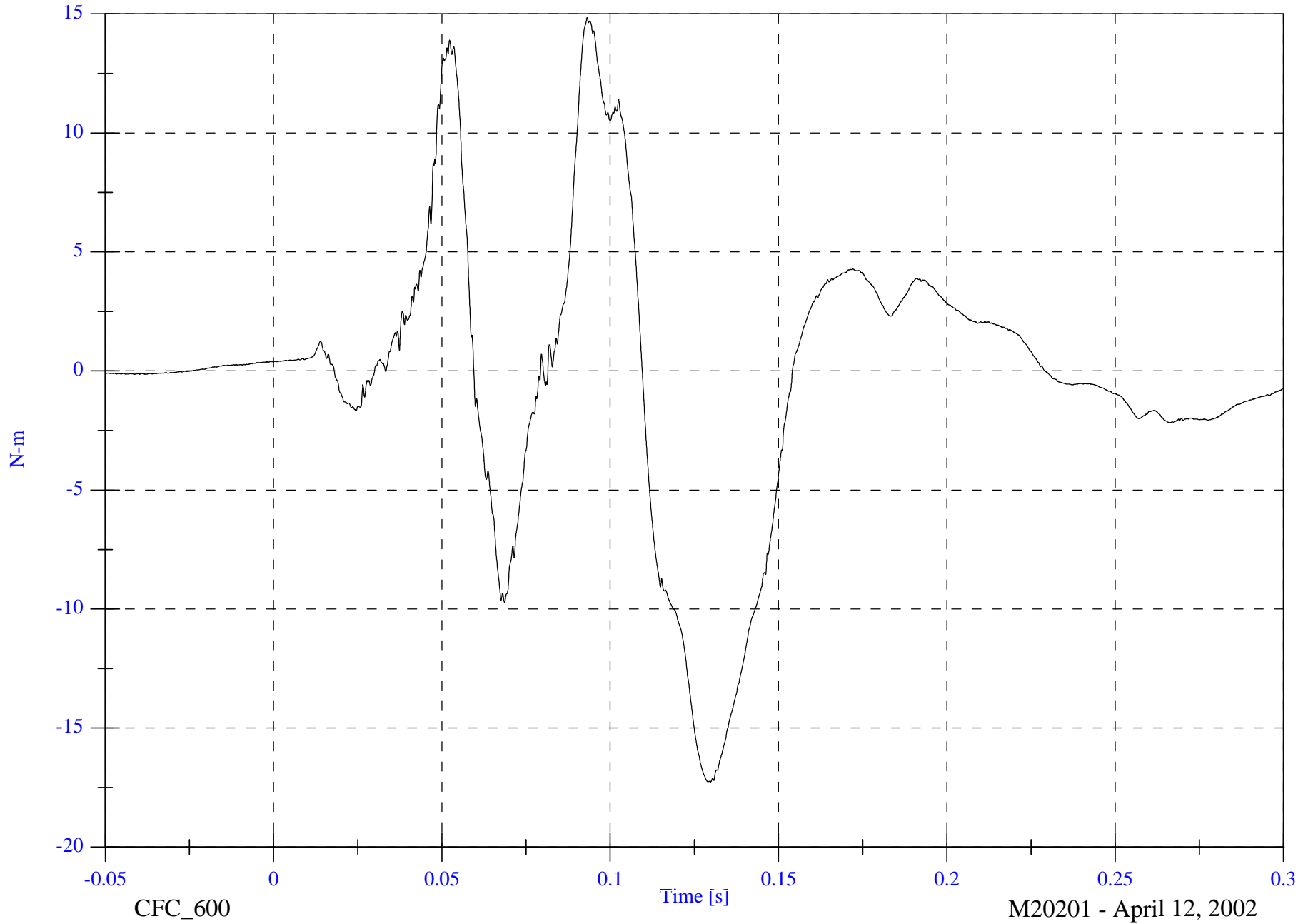
P2 Upper Neck Mx

Max: 14.8 [N-m] at 0.093 [s]

Min: -17.3 [N-m] at 0.130 [s]

B-77

8462-NCAP-07



CFC_600

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

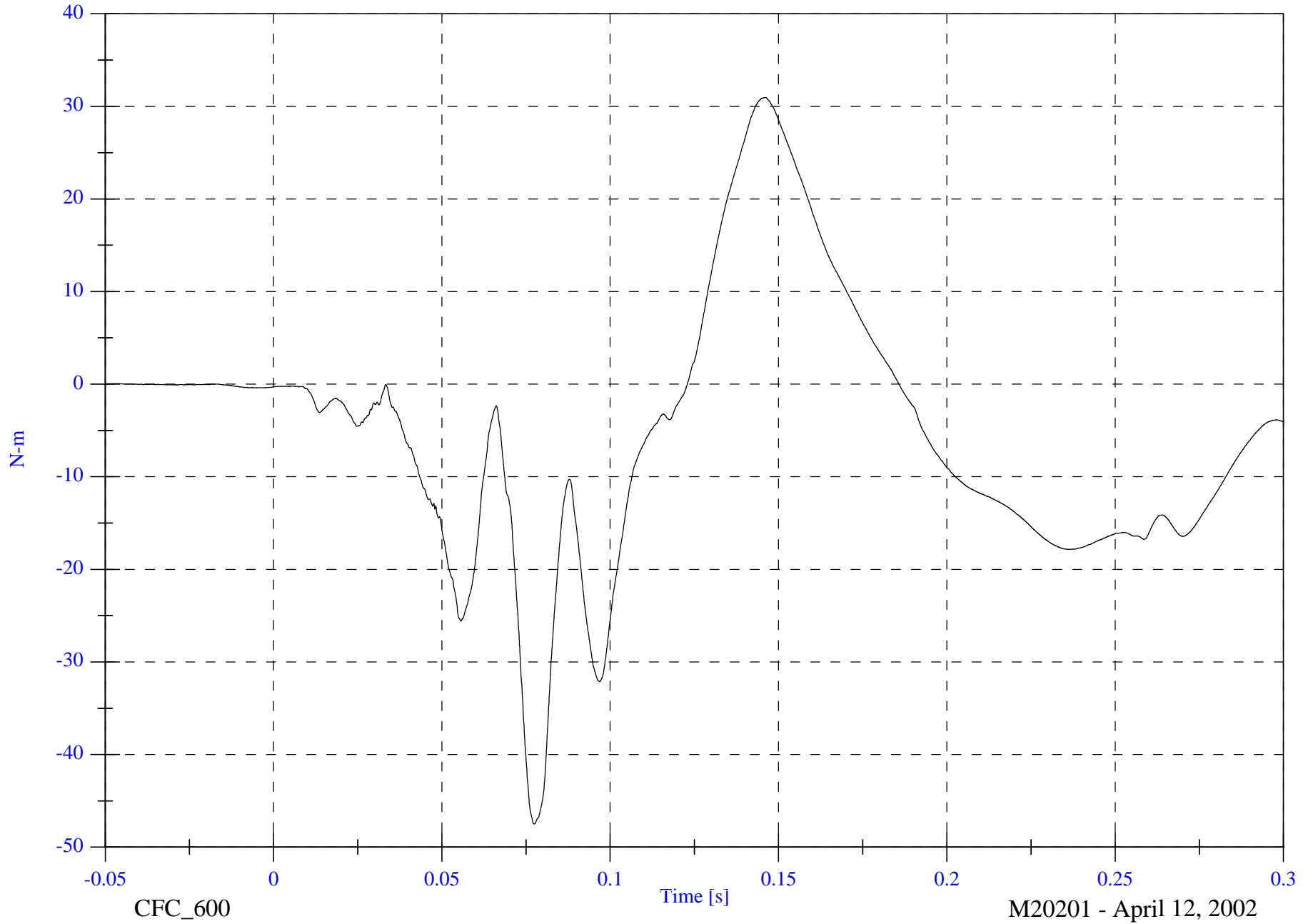
P2 Upper Neck My

Max: 31.0 [N-m] at 0.146 [s]

Min: -47.5 [N-m] at 0.077 [s]

B-78

8462-NCAP-07



CFC_600

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

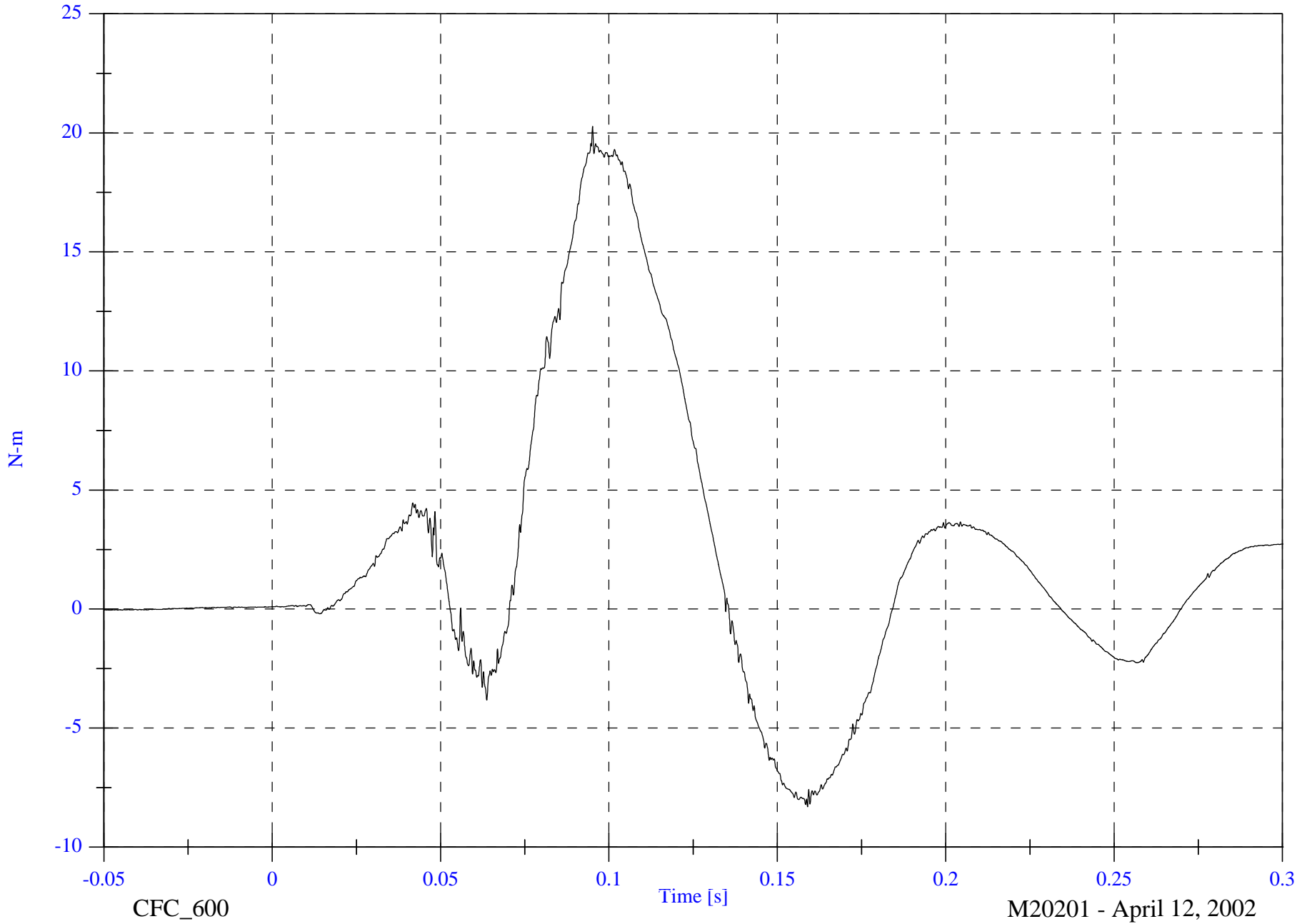
P2 Upper Neck Mz

Max: 20.3 [N-m] at 0.095 [s]

Min: -8.3 [N-m] at 0.159 [s]

B-79

8462-NCAP-07



CFC_600

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

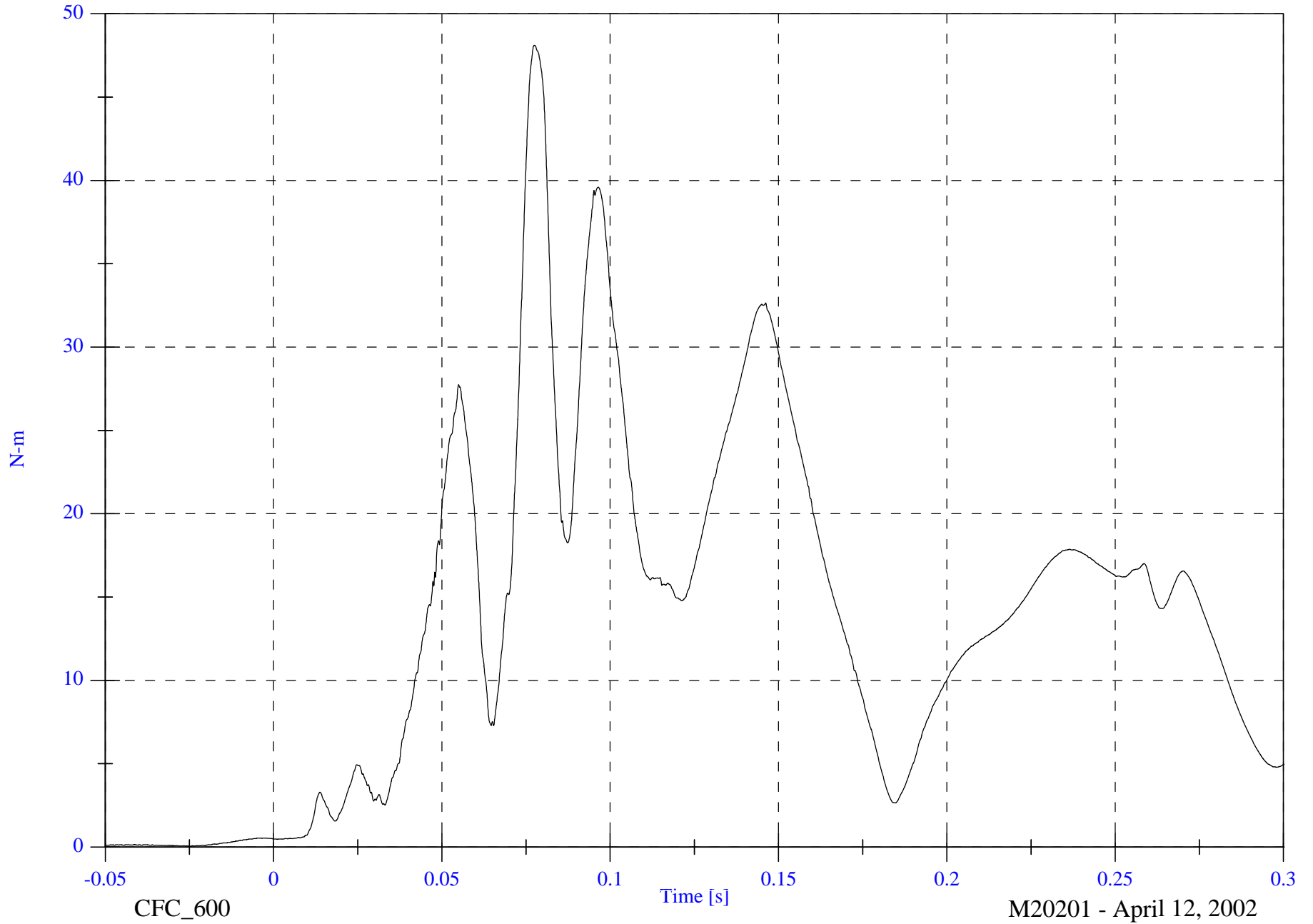
P2 Upper Neck M Resultant

Max: 48.1 [N-m] at 0.077 [s]

Min: 0.0 [N-m] at -0.025 [s]

B-80

8462-NCAP-07

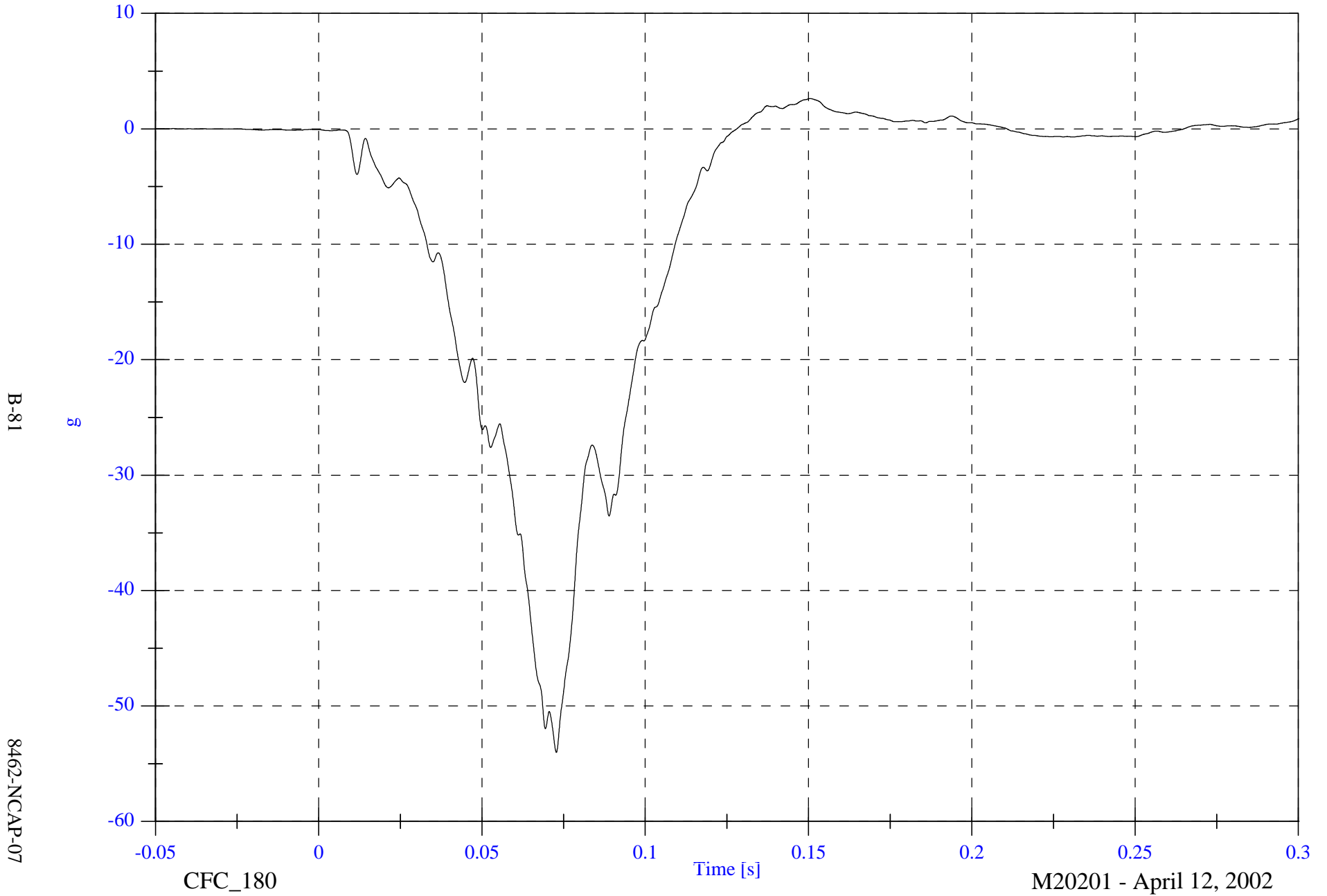


NCAP Test 7 - 2002 Ford Focus

P2 Chest x

Max: 2.6 [g] at 0.150 [s]

Min: -54.0 [g] at 0.073 [s]



B-81

8462-NCAP-07

CFC_180

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

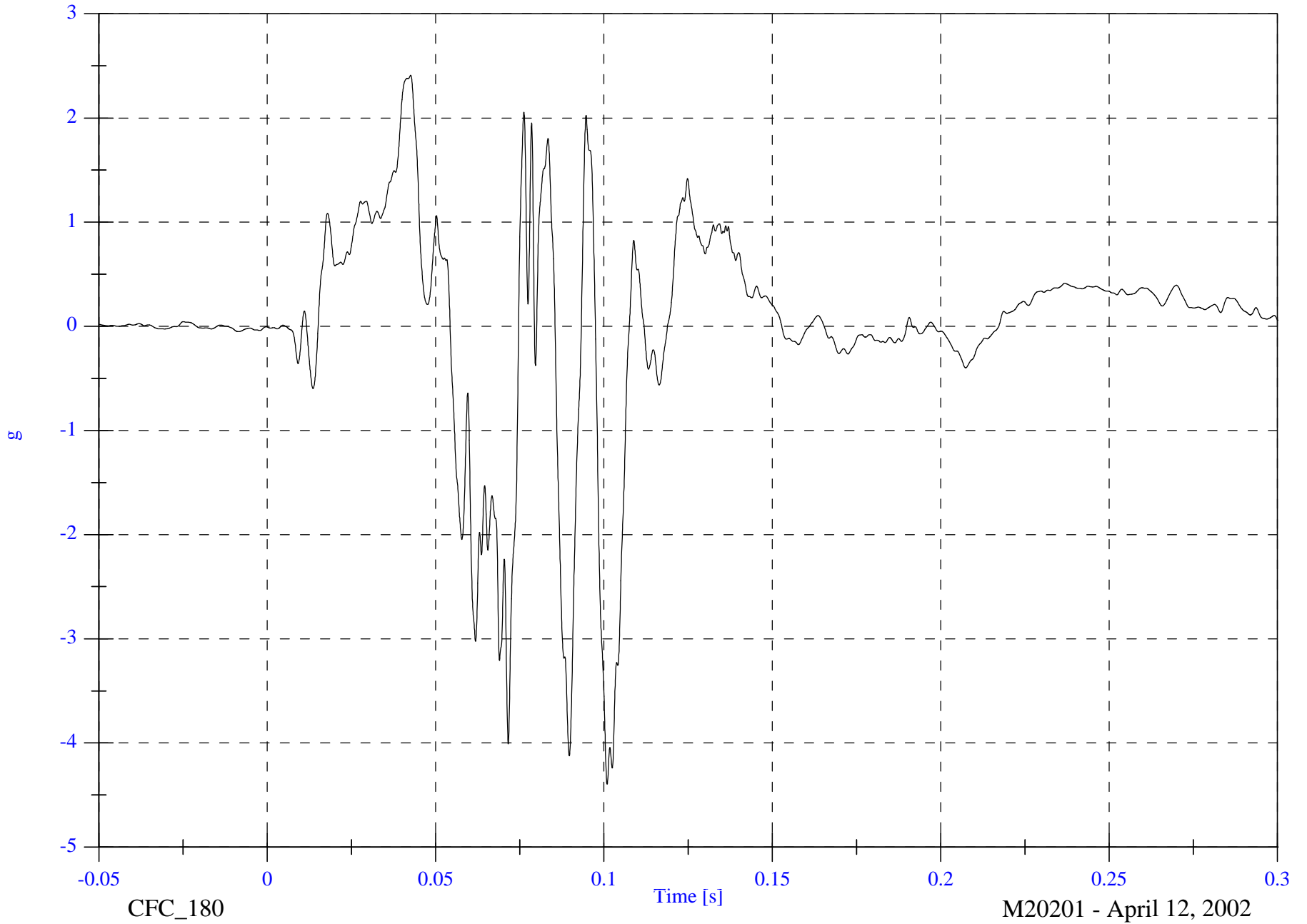
P2 Chest y

Max: 2.4 [g] at 0.043 [s]

Min: -4.4 [g] at 0.101 [s]

B-82

8462-NCAP-07



CFC_180

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

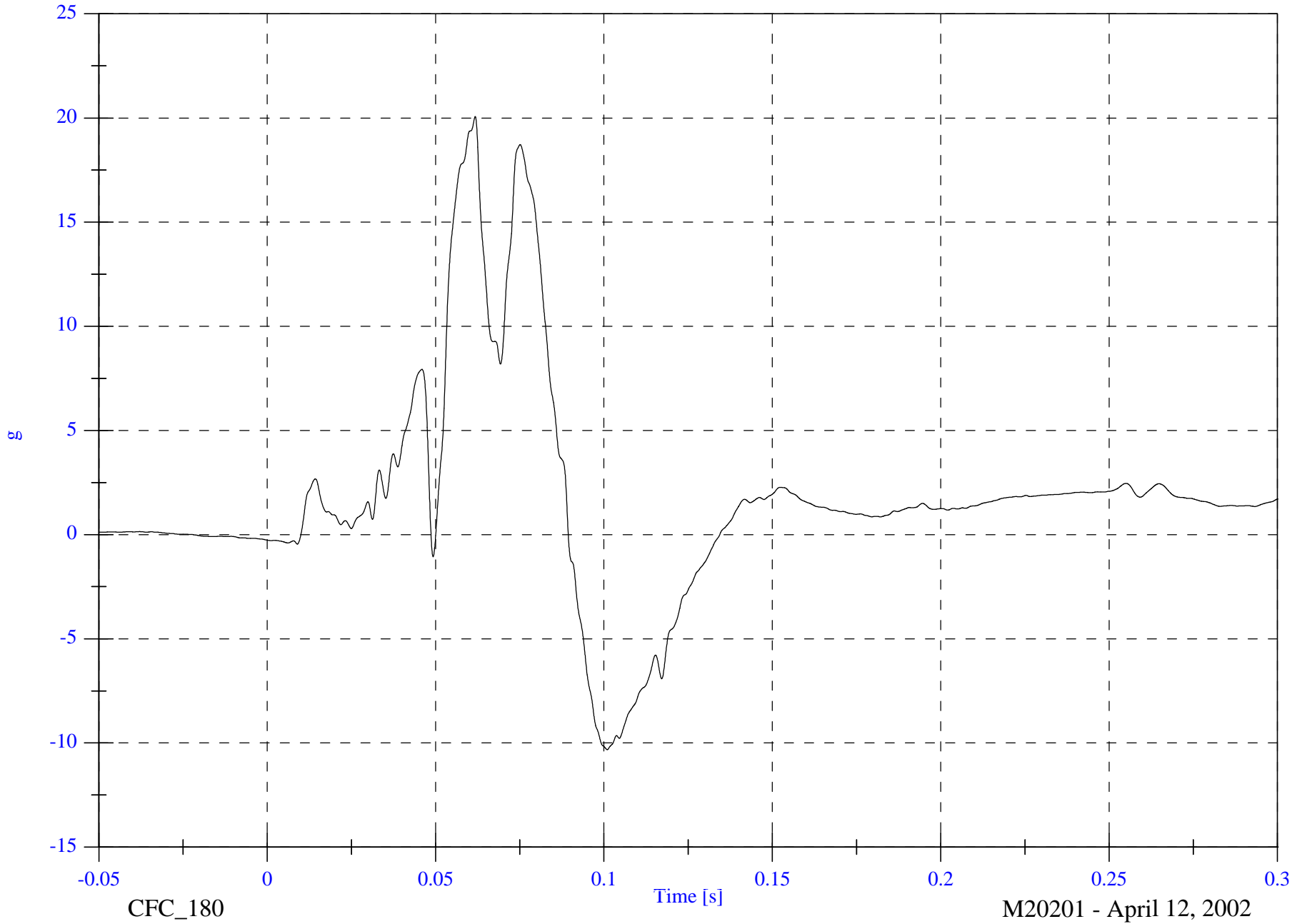
P2 Chest z

Max: 20.1 [g] at 0.062 [s]

Min: -10.3 [g] at 0.101 [s]

B-83

8462-NCAP-07



CFC_180

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

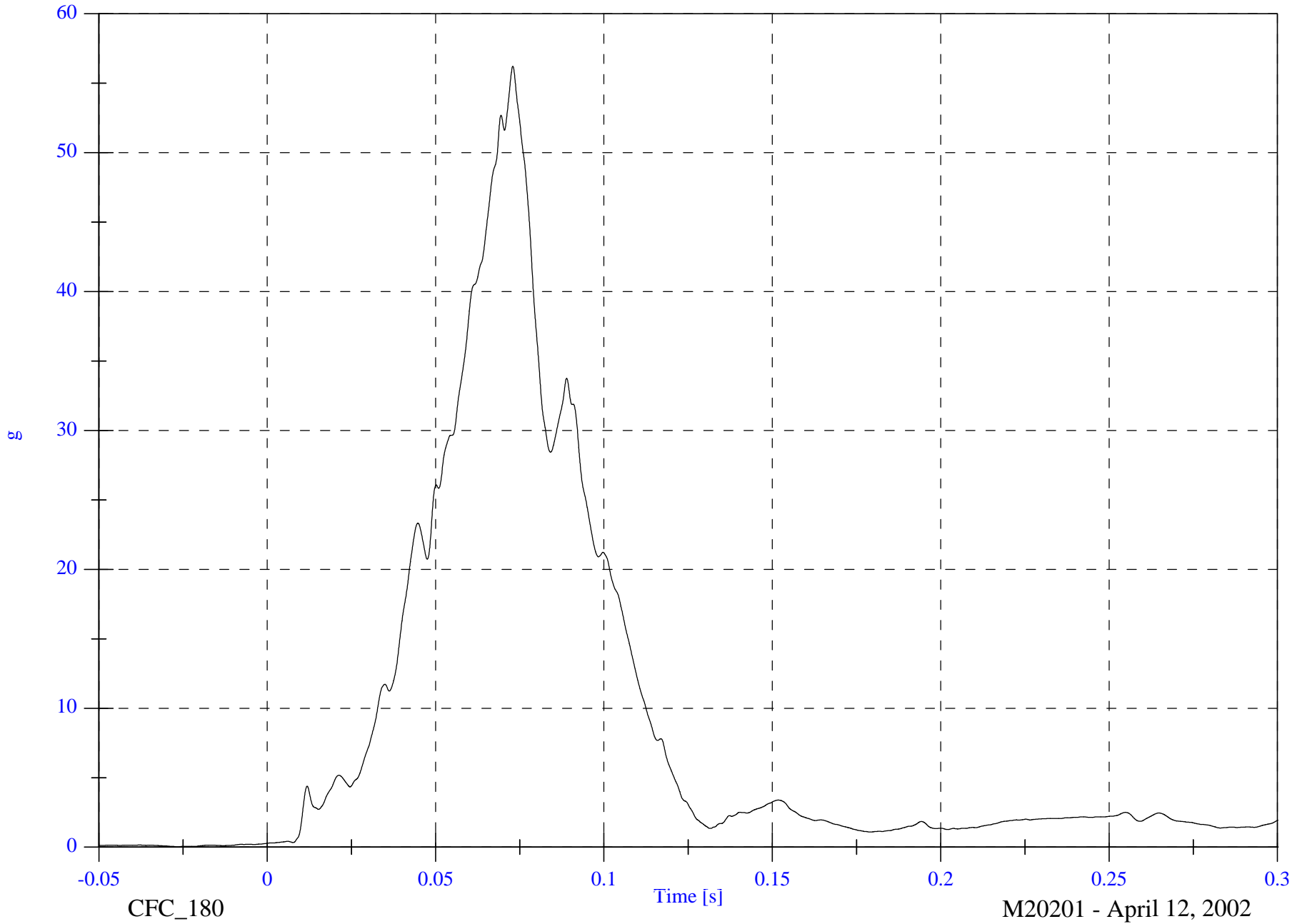
P2 Chest Resultant

Max: 56.2 [g] at 0.073 [s]

Min: 0.0 [g] at -0.026 [s]

B-84

8462-NCAP-07



CFC_180

Time [s]

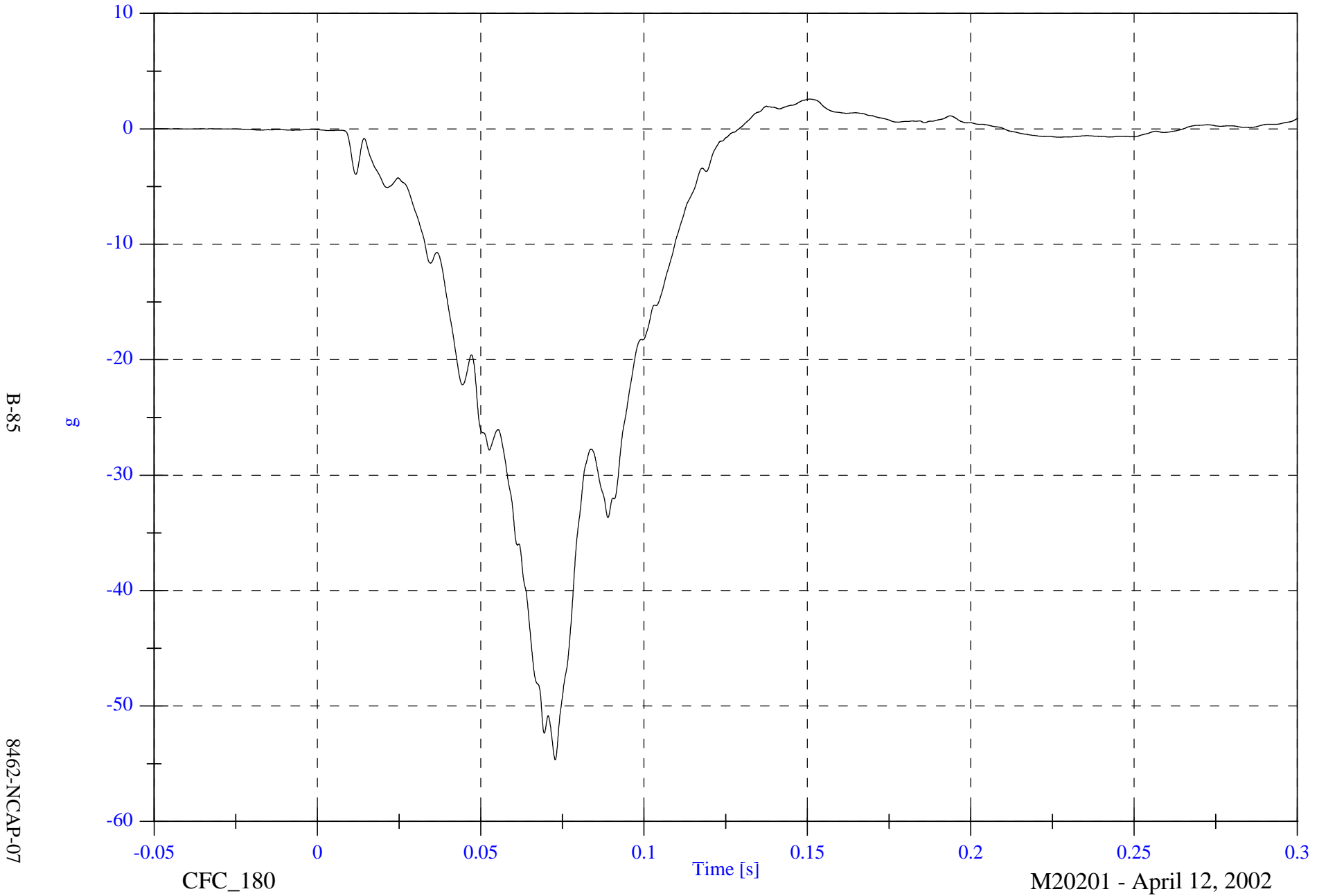
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

P2 Chest Red x

Max: 2.6 [g] at 0.151 [s]

Min: -54.7 [g] at 0.073 [s]



B-85

8462-NCAP-07

CFC_180

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

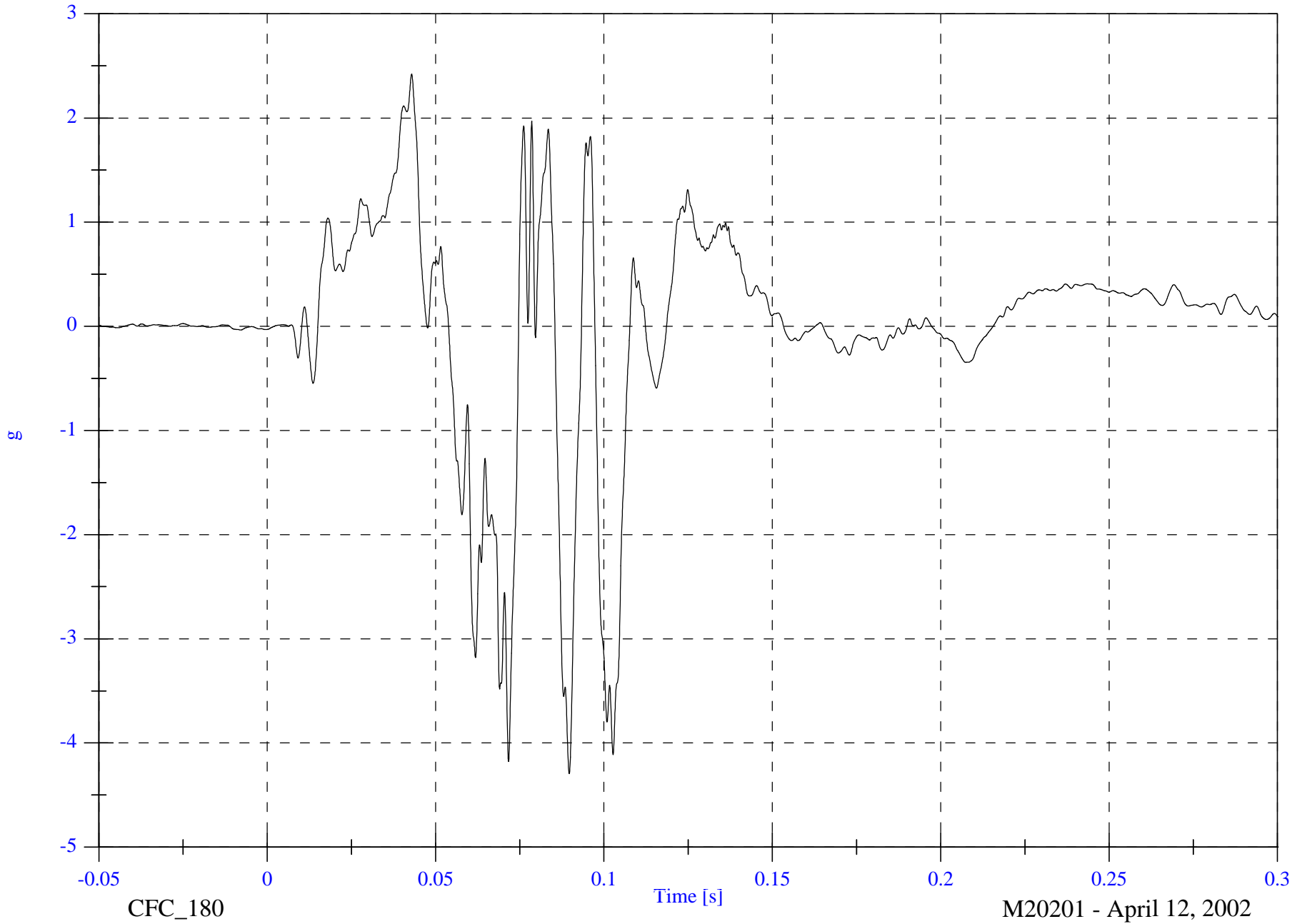
P2 Chest Red y

Max: 2.4 [g] at 0.043 [s]

Min: -4.3 [g] at 0.090 [s]

B-86

8462-NCAP-07



CFC_180

Time [s]

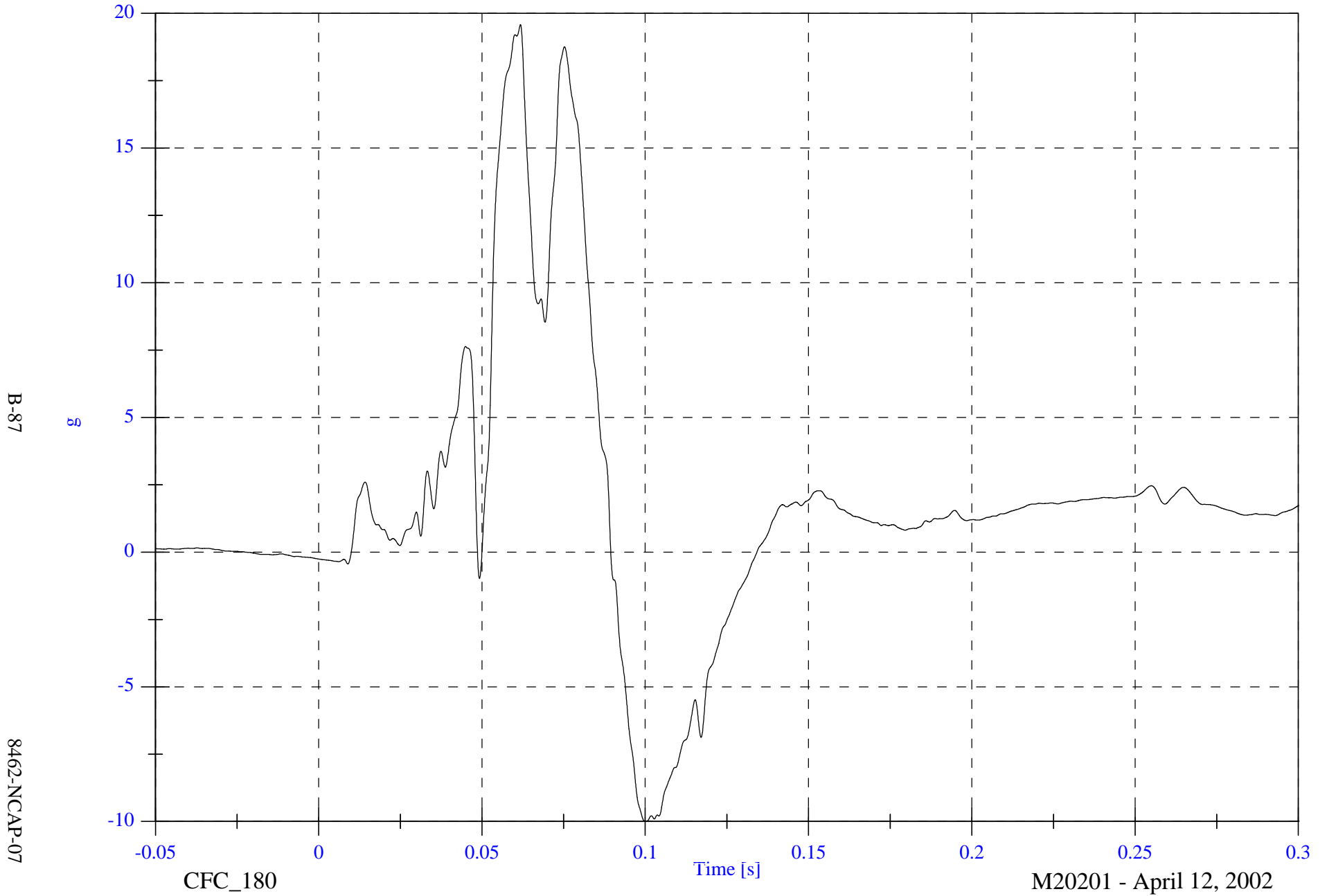
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

P2 Chest Red z

Max: 19.6 [g] at 0.062 [s]

Min: -10.0 [g] at 0.100 [s]



B-87

8462-NCAP-07

CFC_180

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

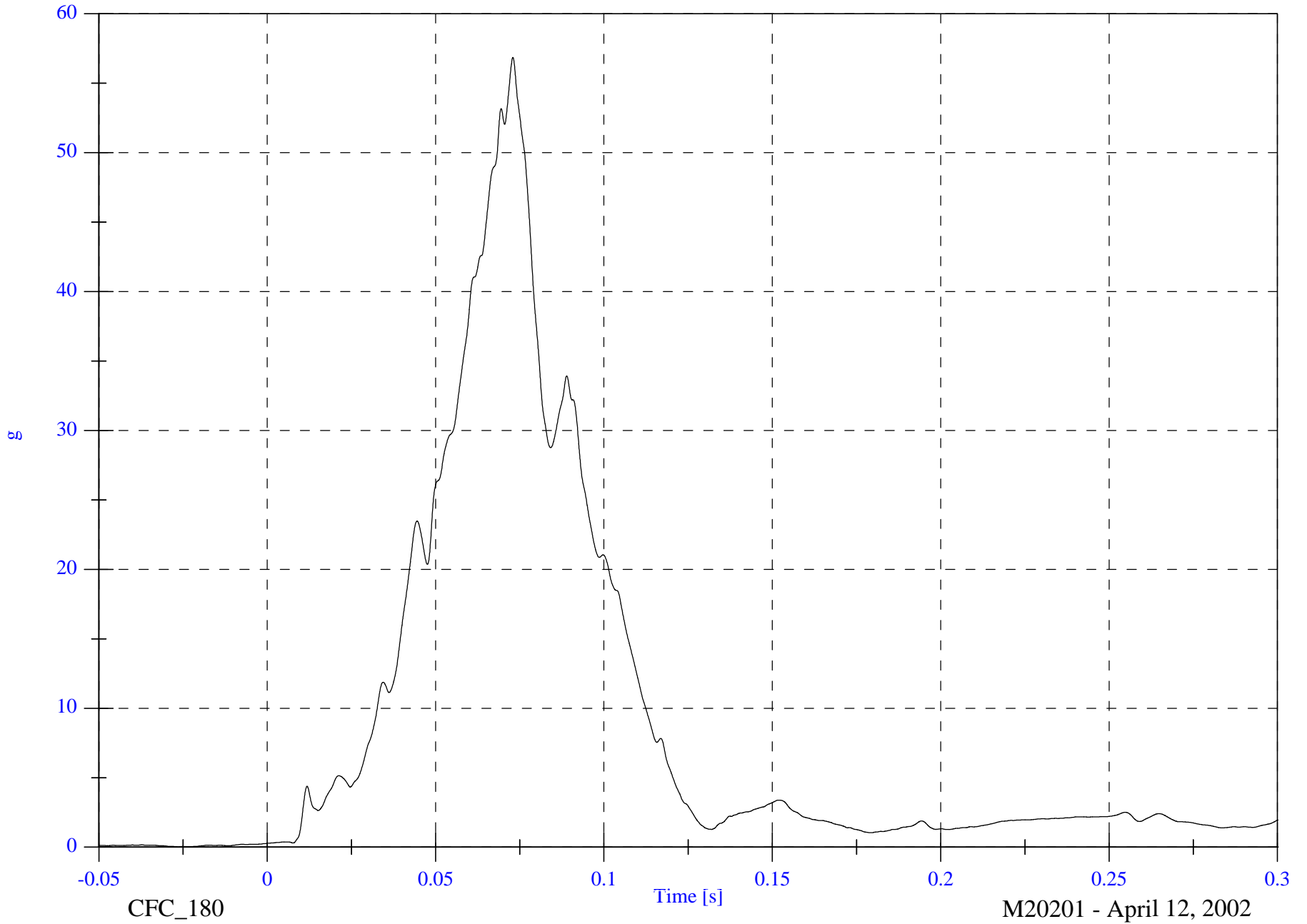
P2 Chest Red Resultant

Max: 56.9 [g] at 0.073 [s]

Min: 0.0 [g] at -0.026 [s]

B-88

8462-NCAP-07



CFC_180

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

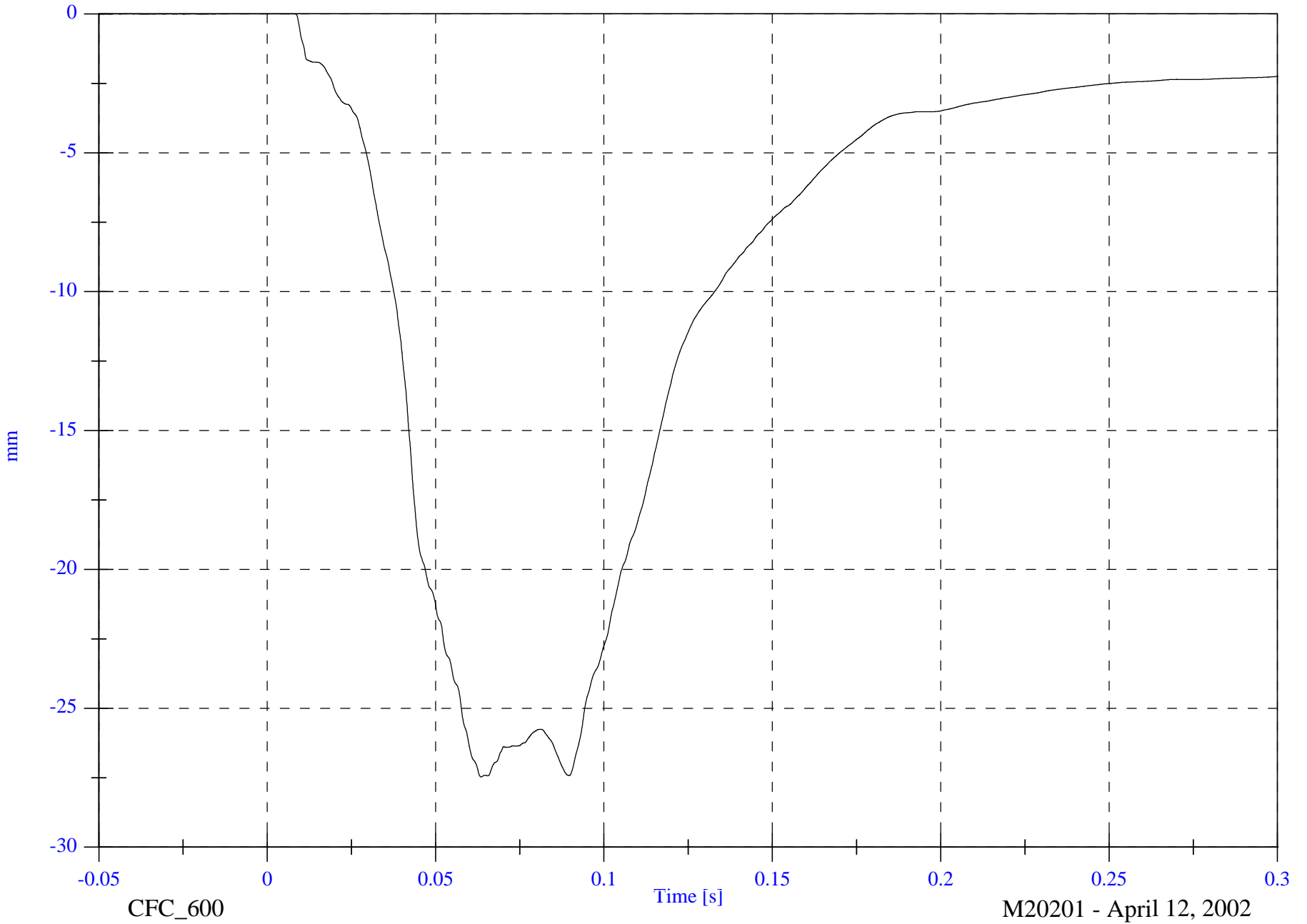
P2 Chest Compression x

Max: 0.0 [mm] at 0.006 [s]

Min: -27.5 [mm] at 0.064 [s]

B-89

8462-NCAP-07



CFC_600

Time [s]

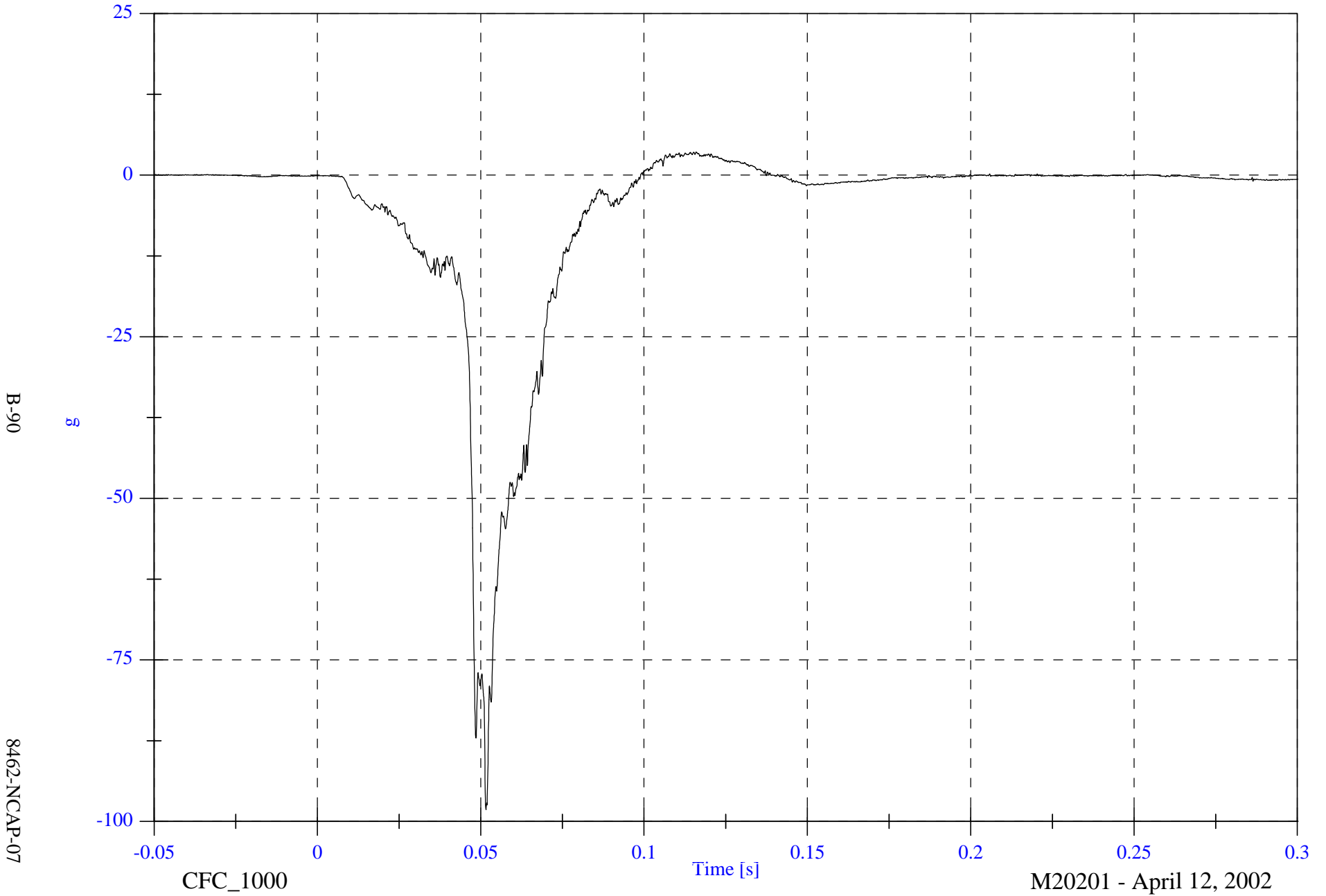
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

Max: 3.6 [g] at 0.116 [s]

Min: -98.2 [g] at 0.052 [s]

P2 Pelvic x



B-90

8462-NCAP-07

CFC_1000

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

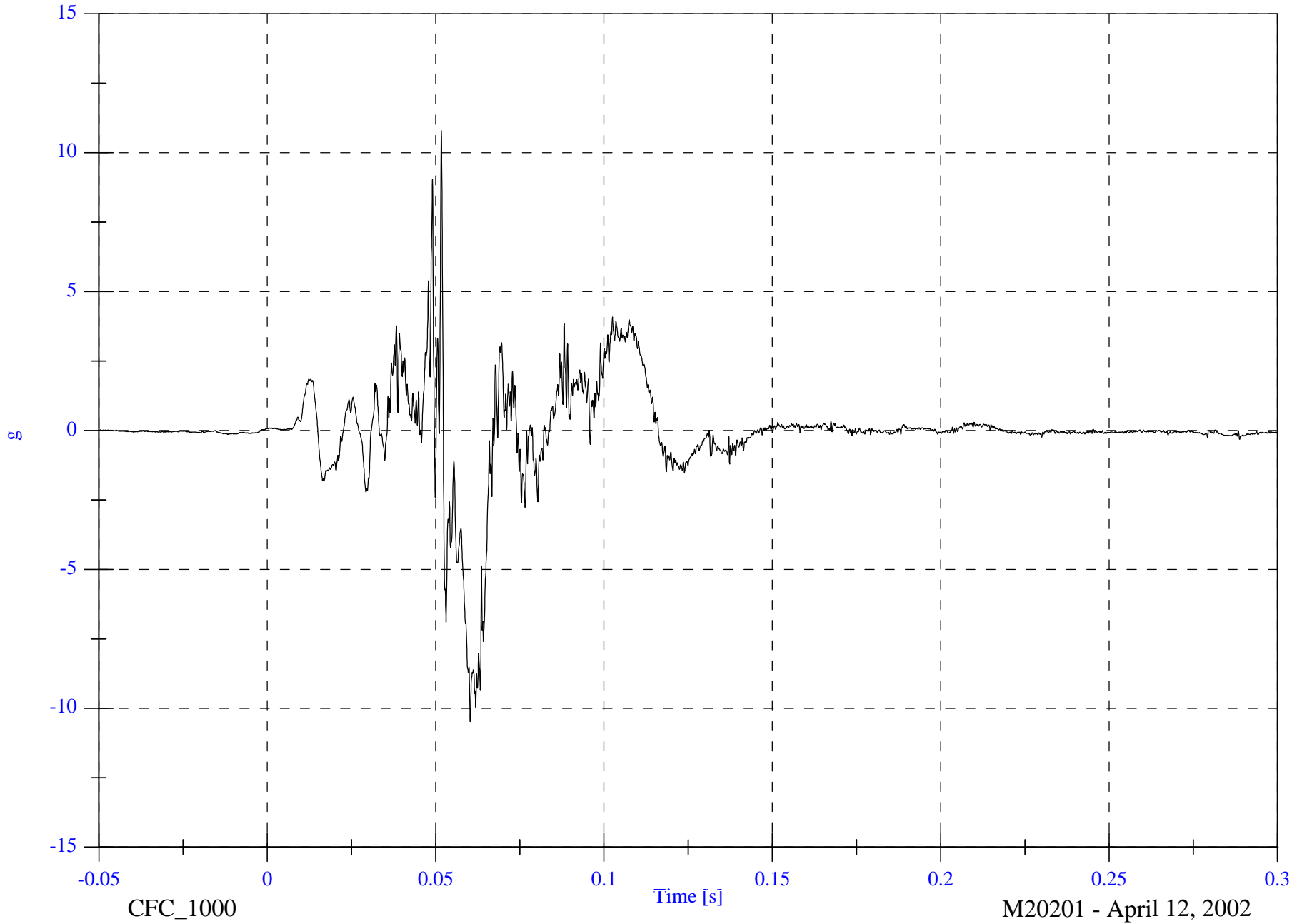
P2 Pelvic y

Max: 10.8 [g] at 0.052 [s]

Min: -10.5 [g] at 0.060 [s]

B-91

8462-NCAP-07



CFC_1000

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

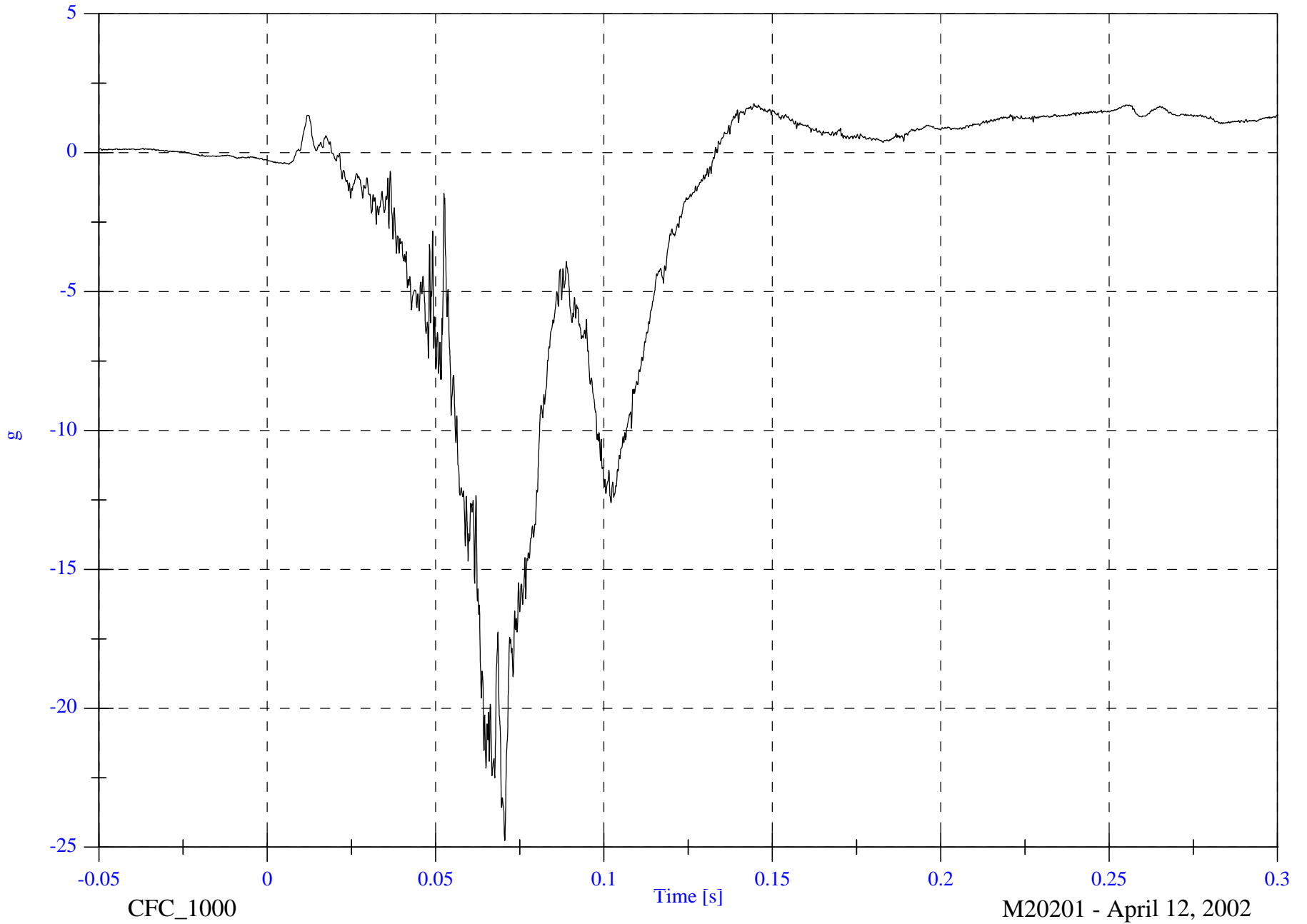
P2 Pelvic z

Max: 1.8 [g] at 0.145 [s]

Min: -24.8 [g] at 0.071 [s]

B-92

8462-NCAP-07



CFC_1000

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

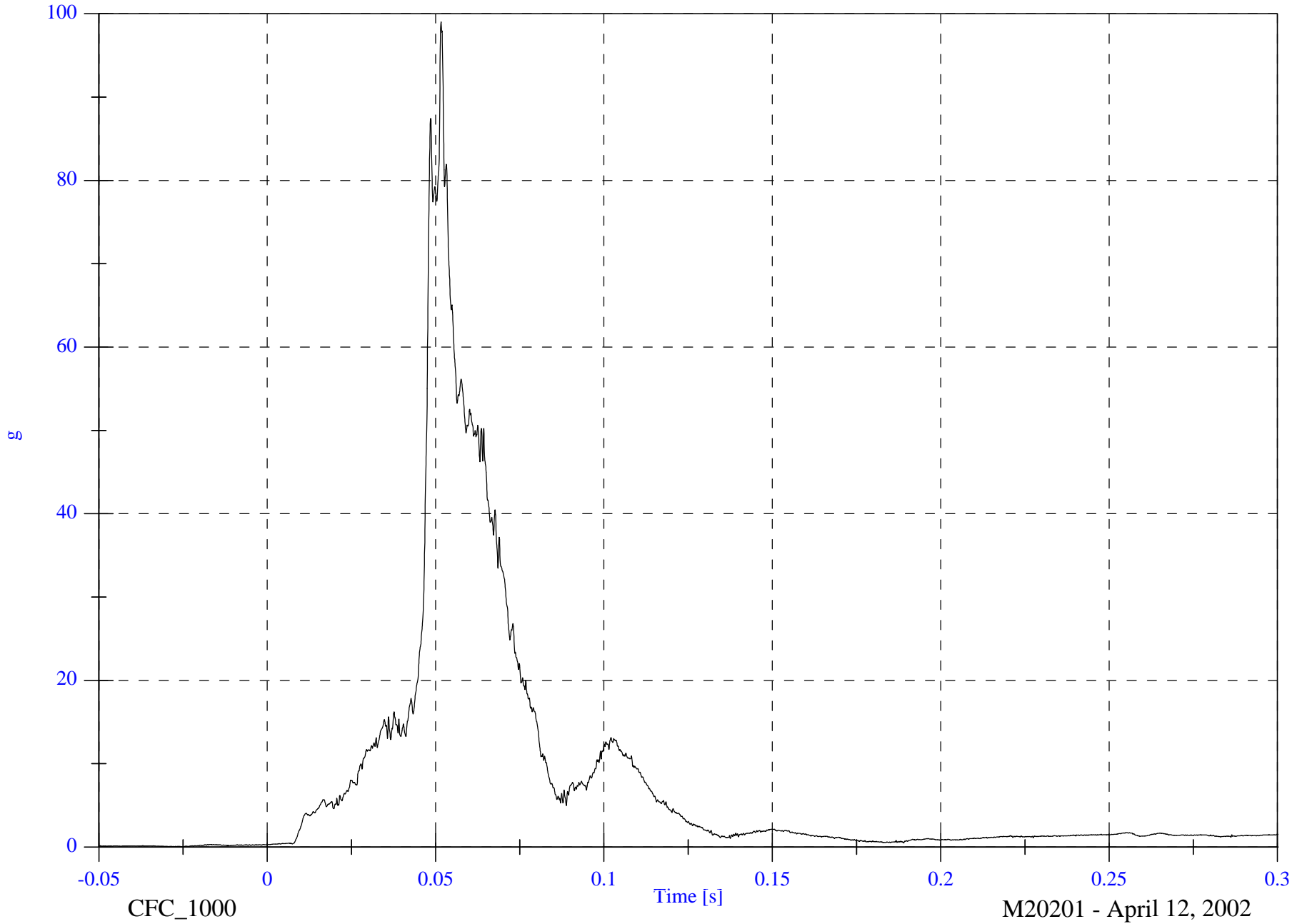
P2 Pelvic Resultant

Max: 99.0 [g] at 0.052 [s]

Min: 0.0 [g] at -0.025 [s]

B-93

8462-NCAP-07

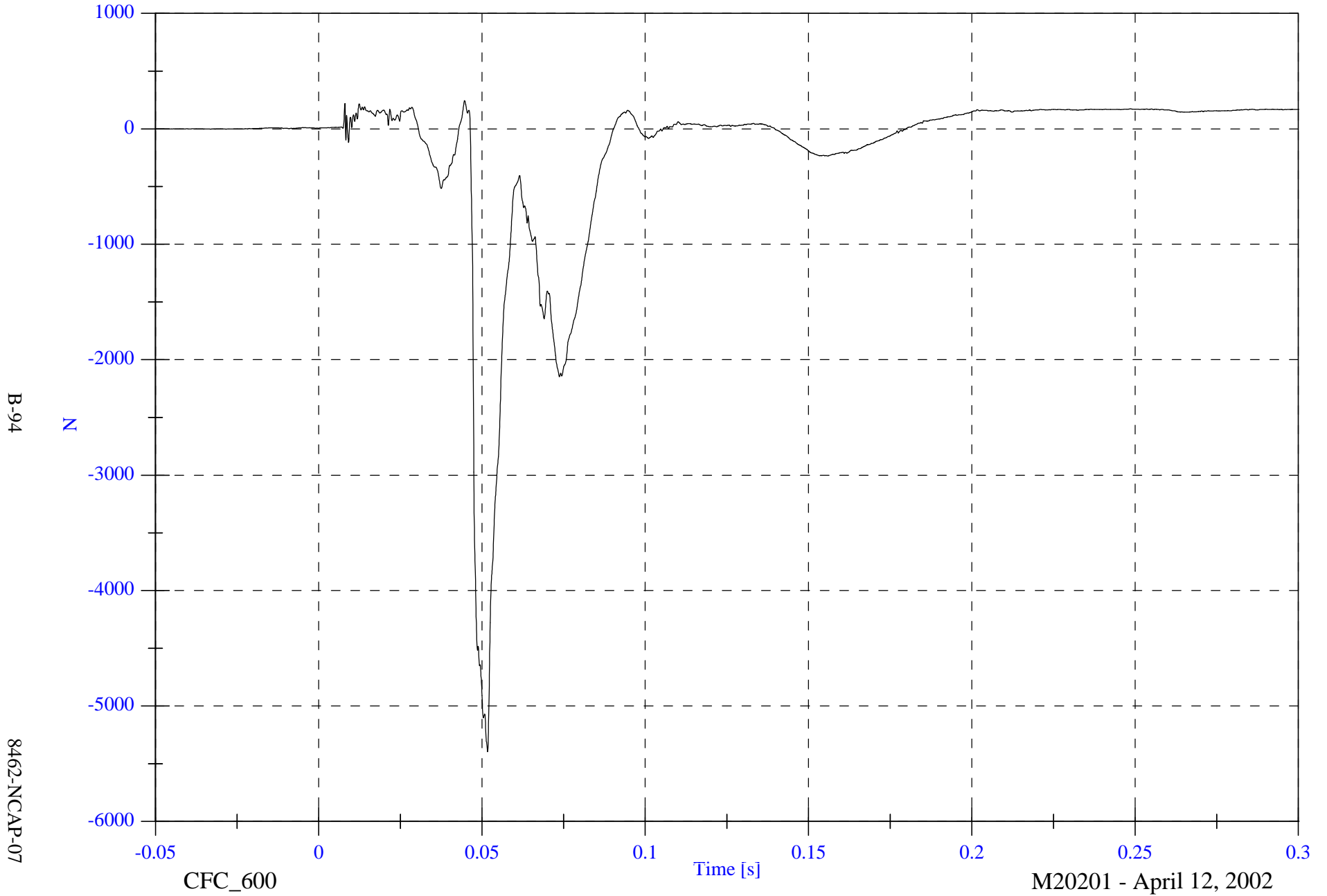


NCAP Test 7 - 2002 Ford Focus

P2 Left Femur z

Max: 244.8 [N] at 0.045 [s]

Min: -5397.0 [N] at 0.052 [s]

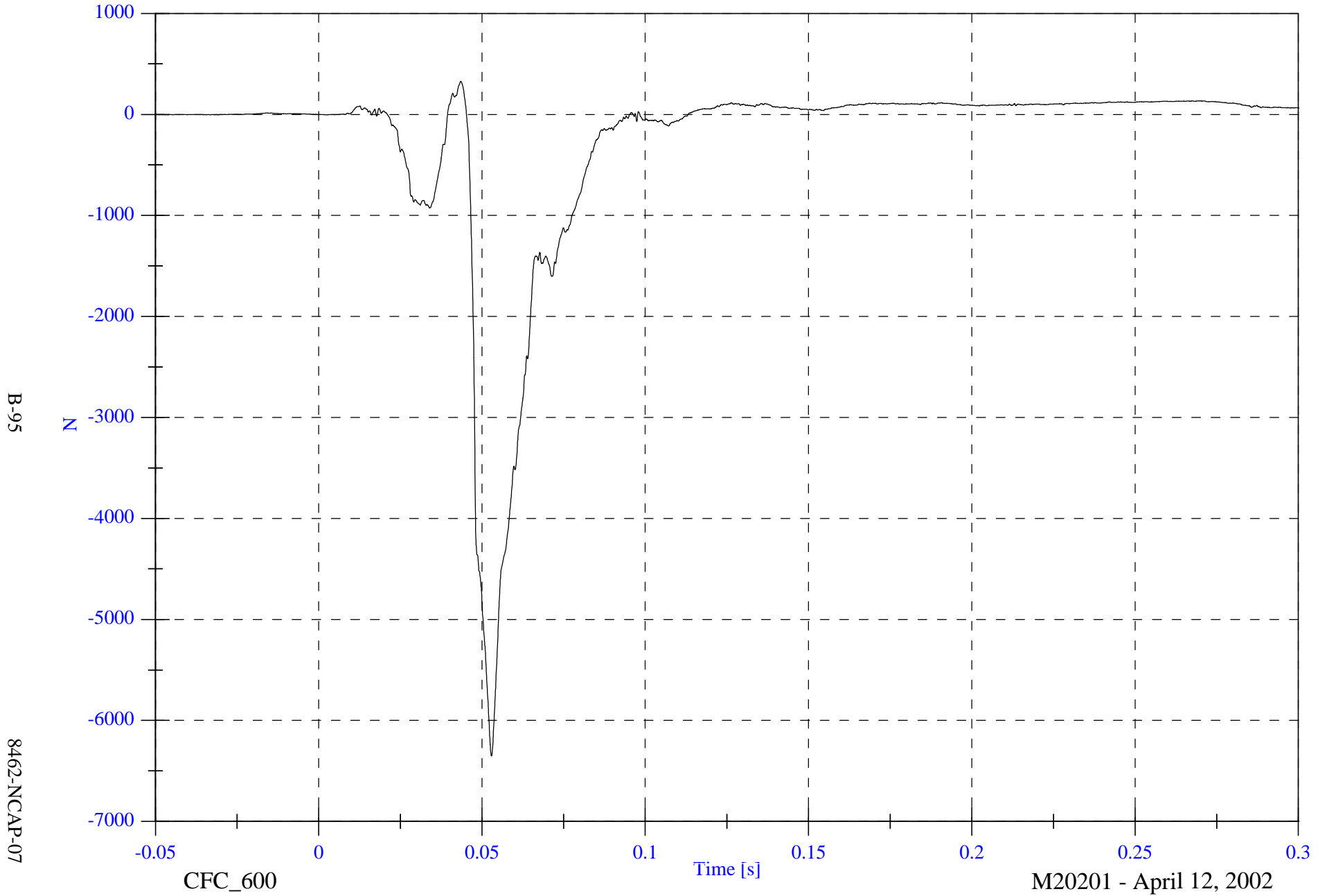


NCAP Test 7 - 2002 Ford Focus

P2 Right Femur z

Max: 328.6 [N] at 0.044 [s]

Min: -6353.8 [N] at 0.053 [s]



CFC_600

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

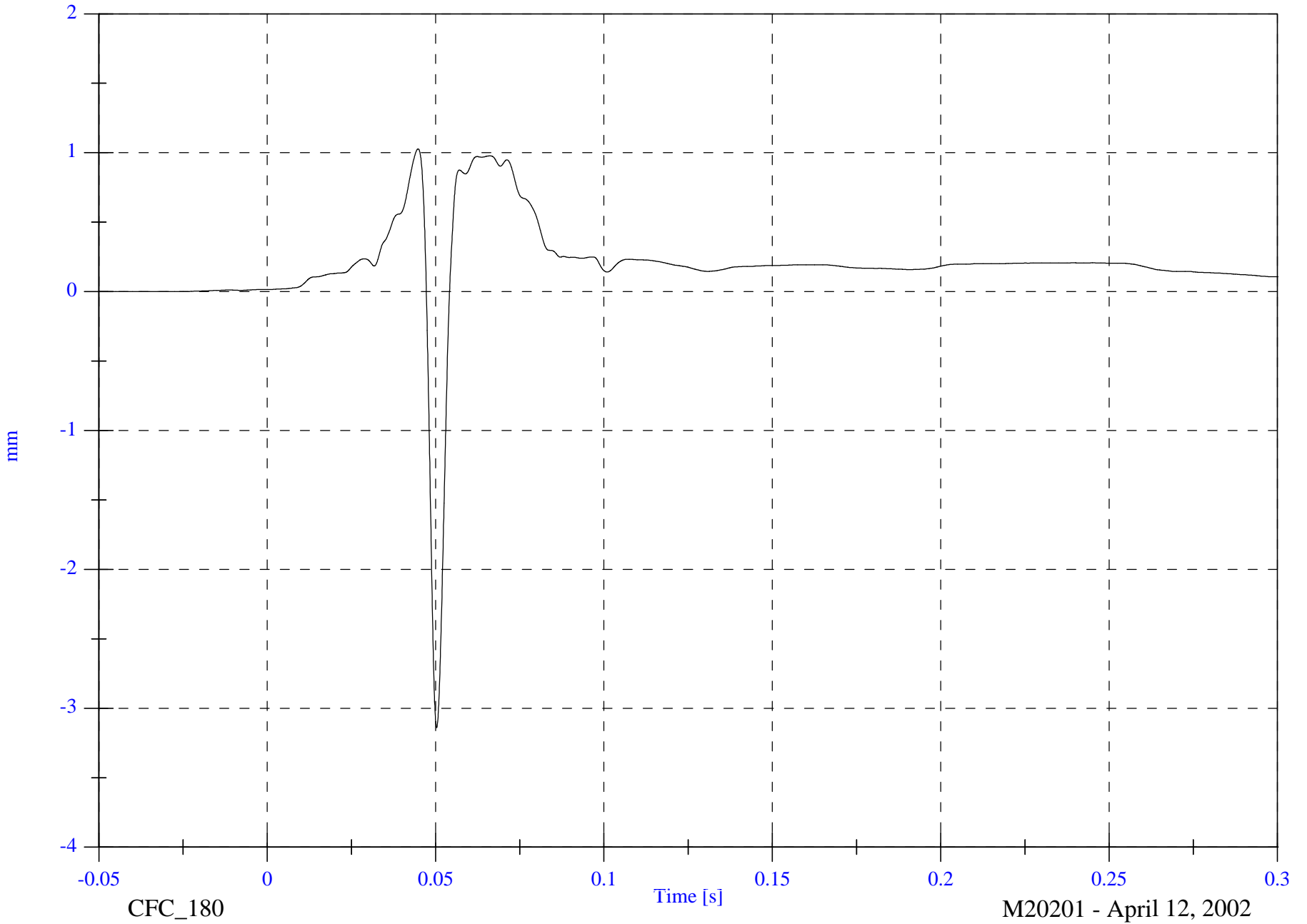
P2 Left Knee Shear

Max: 1.0 [mm] at 0.045 [s]

Min: -3.1 [mm] at 0.050 [s]

B-96

8462-NCAP-07



CFC_180

Time [s]

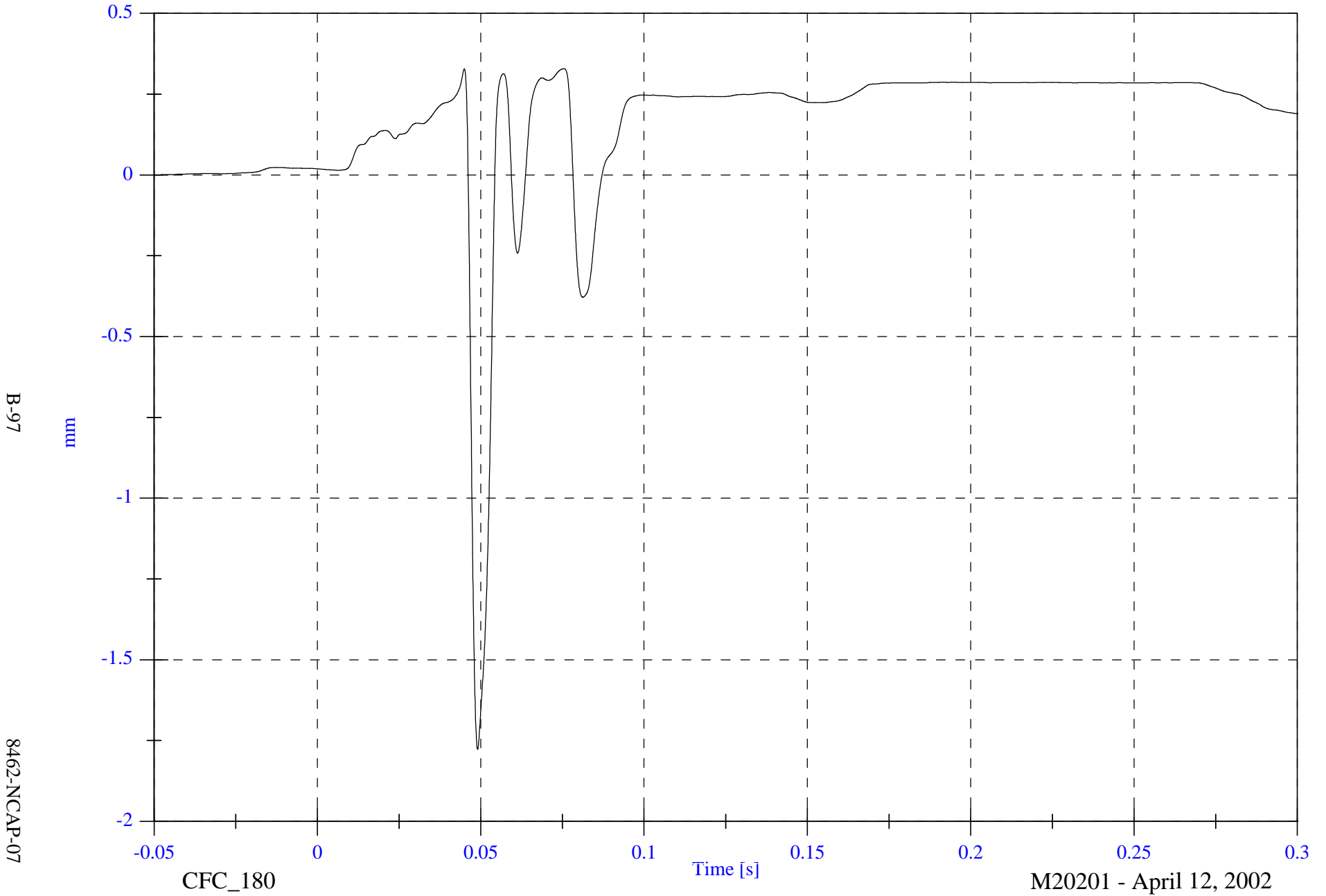
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

P2 Right Knee Shear

Max: 0.3 [mm] at 0.075 [s]

Min: -1.8 [mm] at 0.049 [s]



B-97

mm

8462-NCAP-07

CFC_180

Time [s]

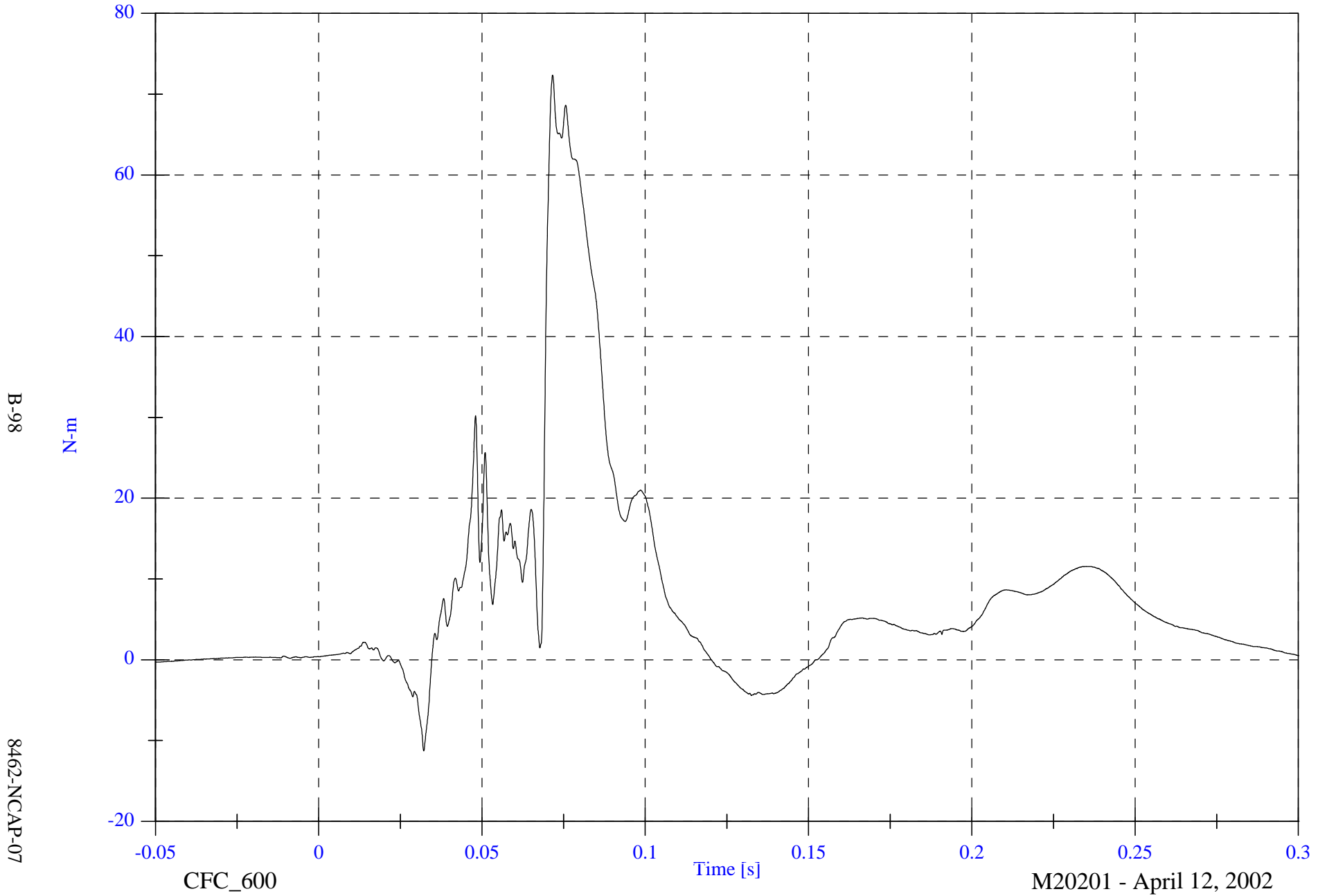
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

Max: 72.4 [N-m] at 0.072 [s]

Min: -11.3 [N-m] at 0.032 [s]

P2 Left Upper Tibia Mx



B-98

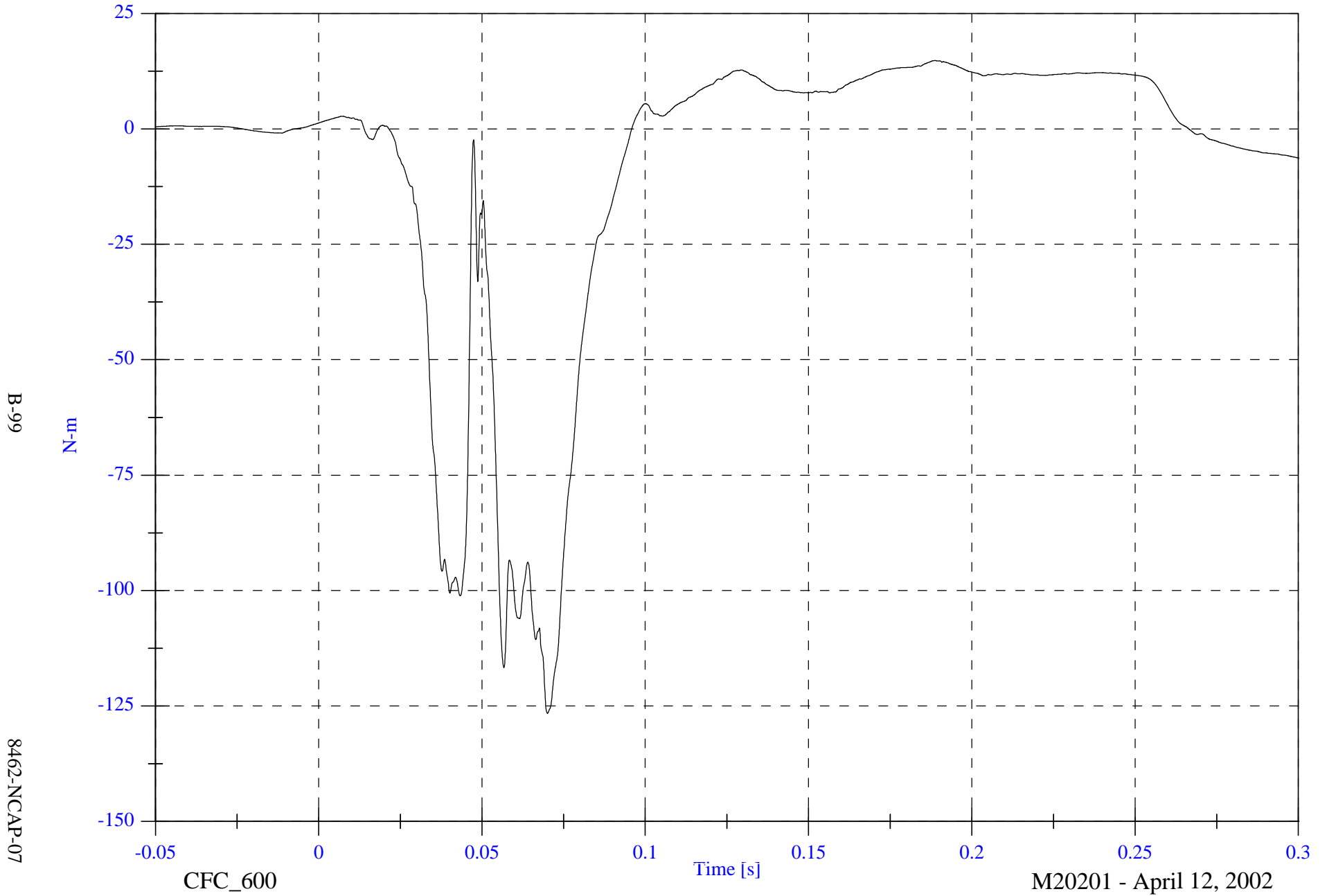
8462-NCAP-07

NCAP Test 7 - 2002 Ford Focus

P2 Left Upper Tibia My

Max: 14.8 [N-m] at 0.189 [s]

Min: -126.6 [N-m] at 0.070 [s]



B-99

8462-NCAP-07

CFC_600

Time [s]

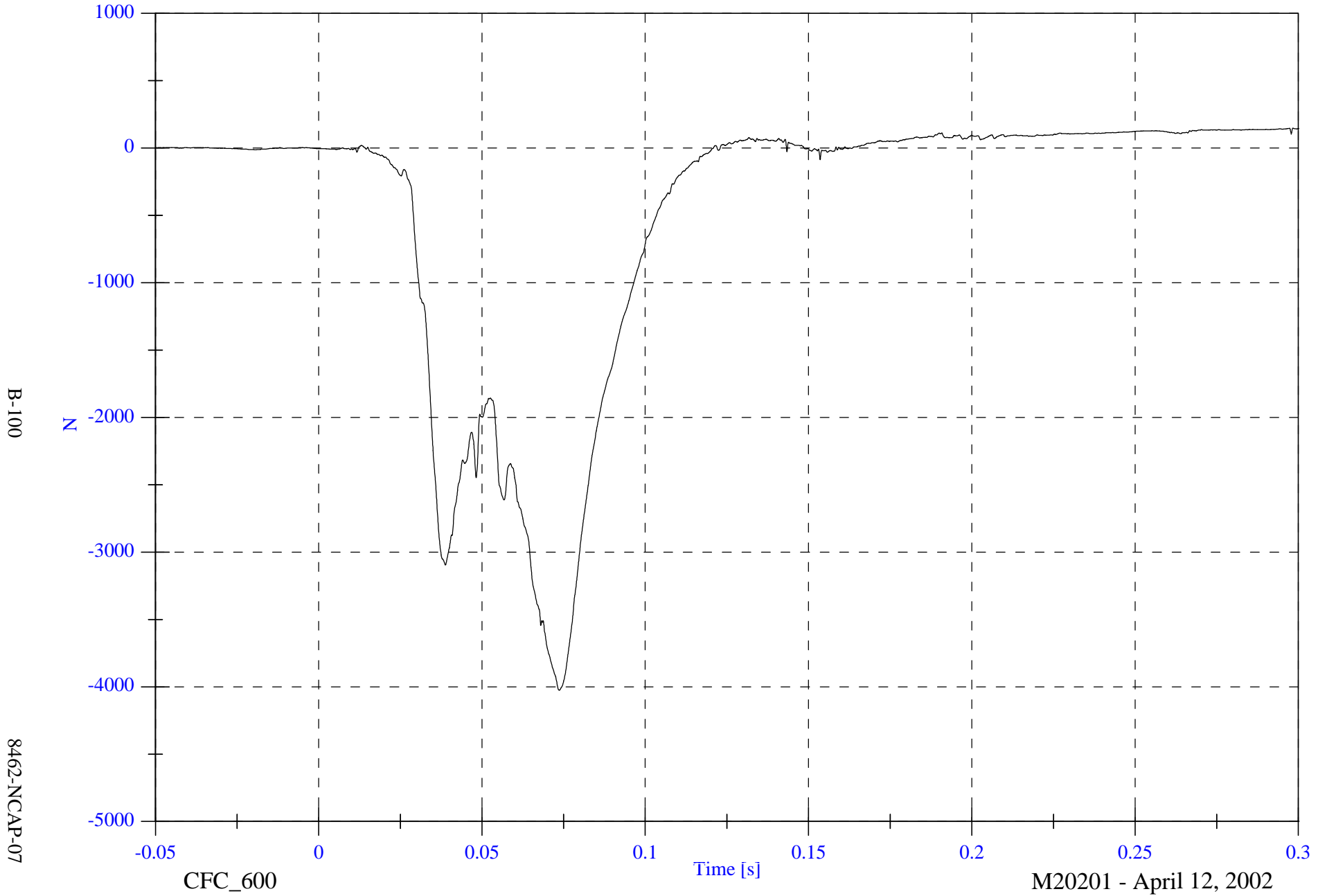
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

P2 Left Lower Tibia Fz

Max: 148.4 [N] at 0.298 [s]

Min: -4026.3 [N] at 0.074 [s]



B-100

8462-NCAP-07

CFC_600

Time [s]

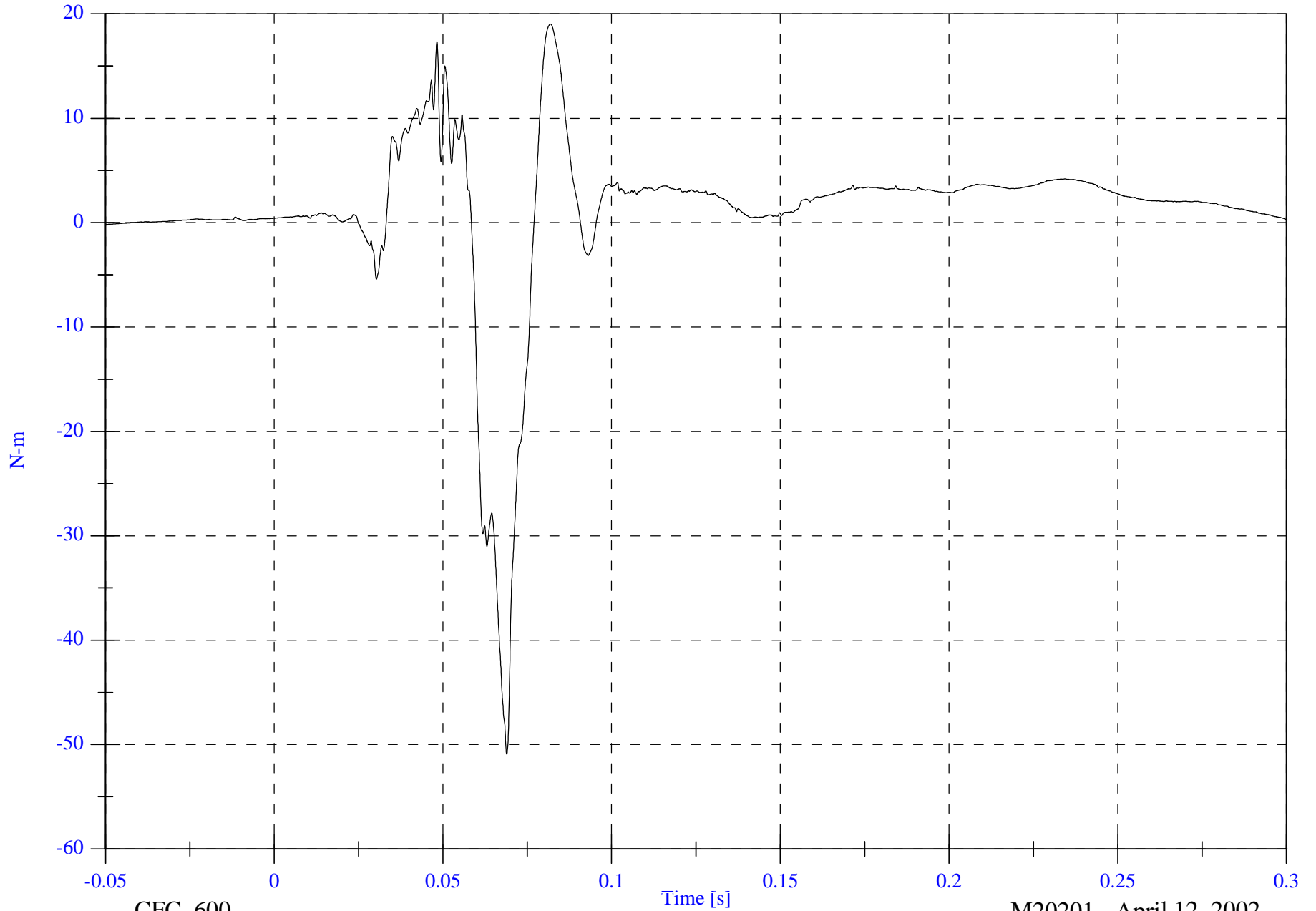
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

Max: 19.0 [N-m] at 0.082 [s]

Min: -50.9 [N-m] at 0.069 [s]

P2 Left Lower Tibia Mx



B-101

8462-NCAP-07

CFC_600

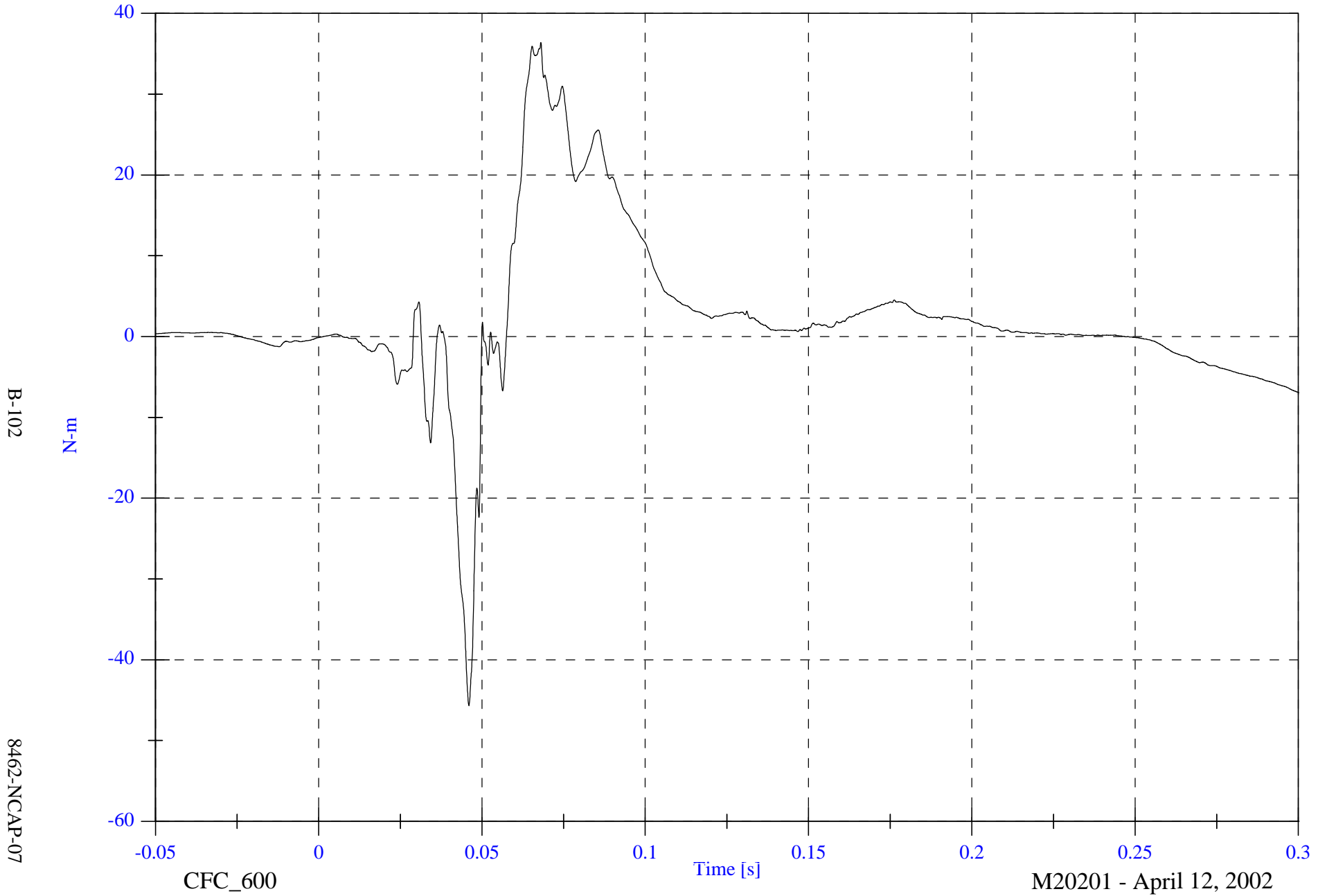
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

Max: 36.4 [N-m] at 0.068 [s]

Min: -45.7 [N-m] at 0.046 [s]

P2 Left Lower Tibia My

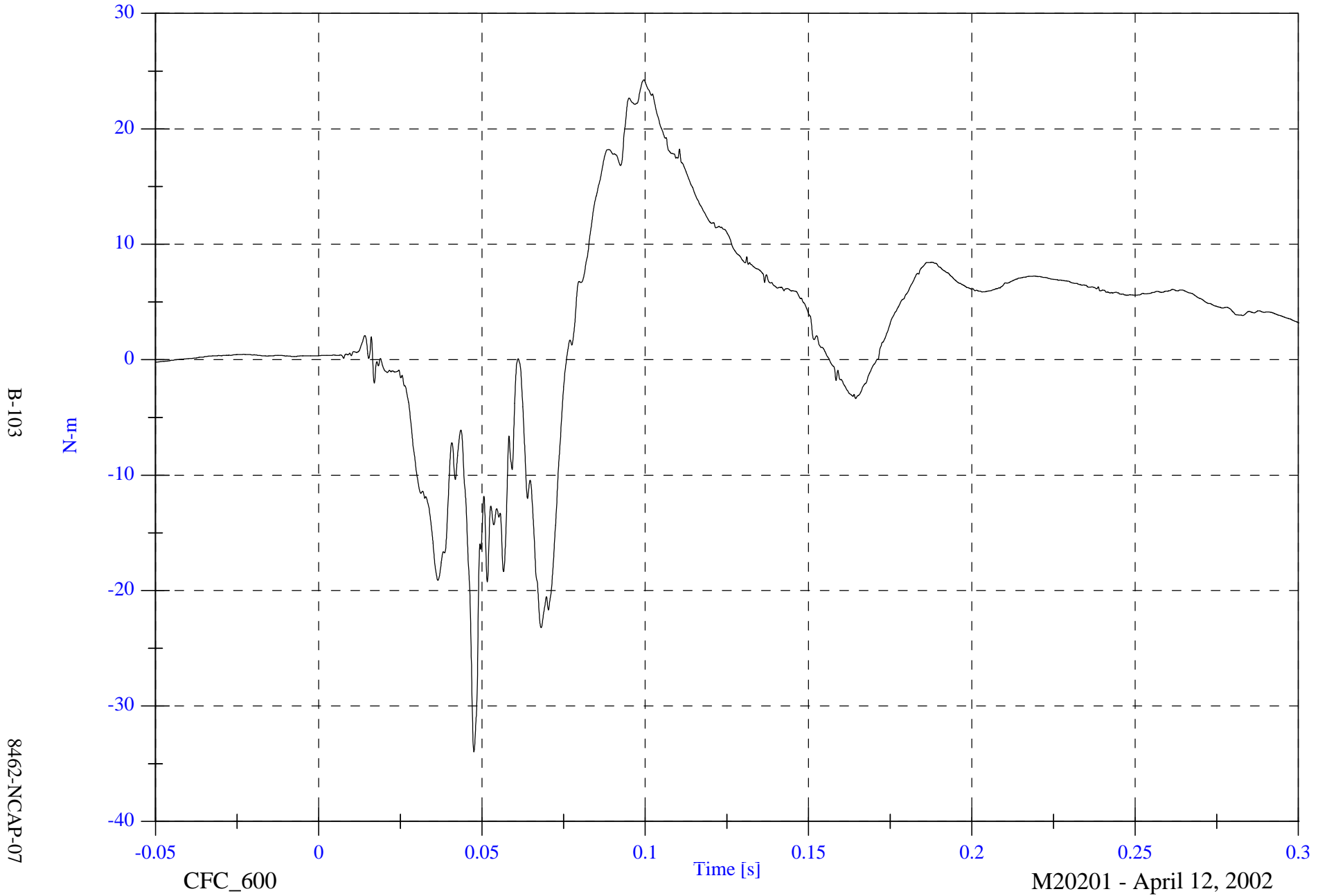


NCAP Test 7 - 2002 Ford Focus

Max: 24.3 [N-m] at 0.100 [s]

P2 Right Upper Tibia Mx

Min: -34.0 [N-m] at 0.048 [s]



B-103

8462-NCAP-07

CFC_600

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

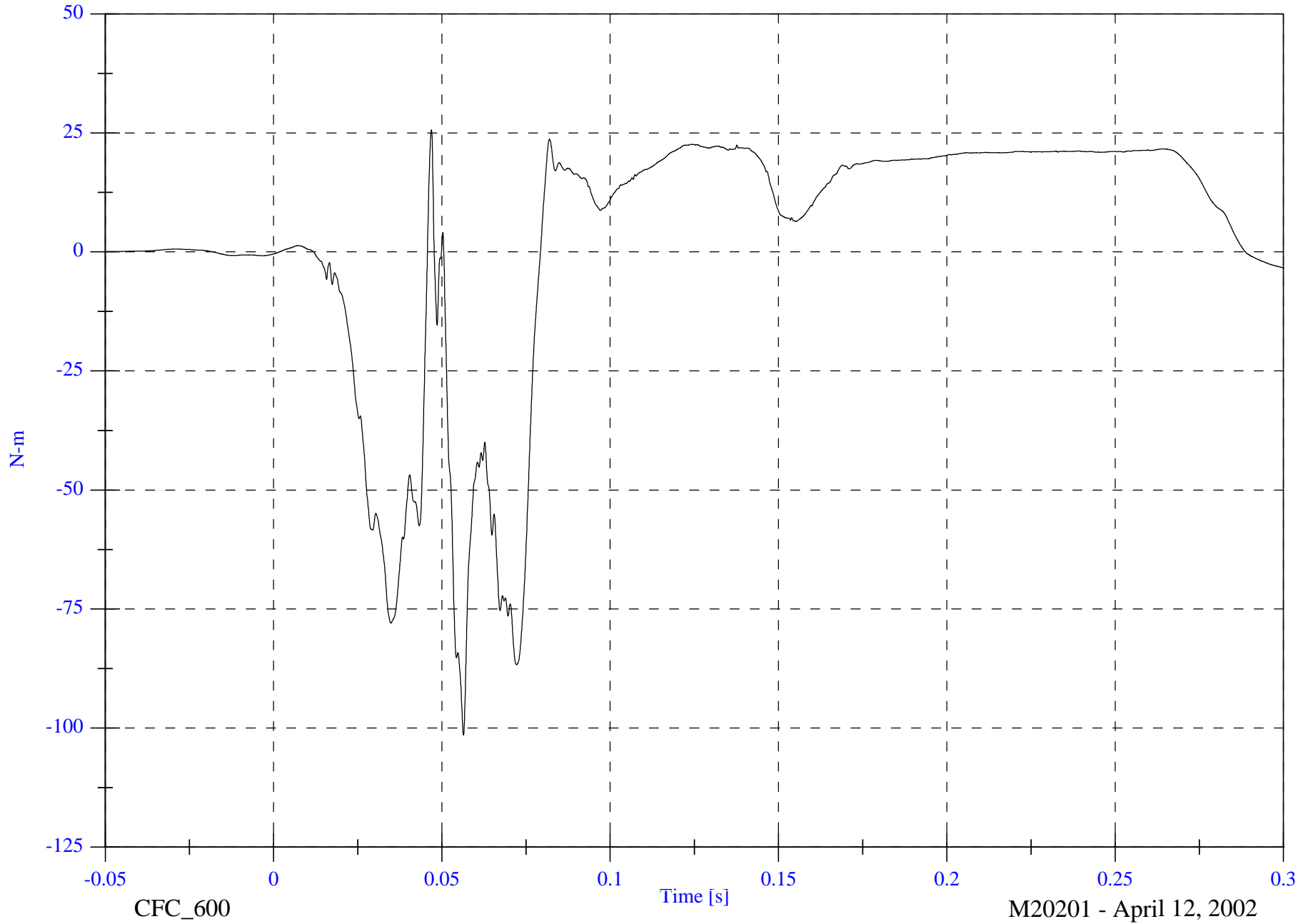
P2 Right Upper Tibia My

Max: 25.7 [N-m] at 0.047 [s]

Min: -101.5 [N-m] at 0.056 [s]

B-104

8462-NCAP-07



CFC_600

Time [s]

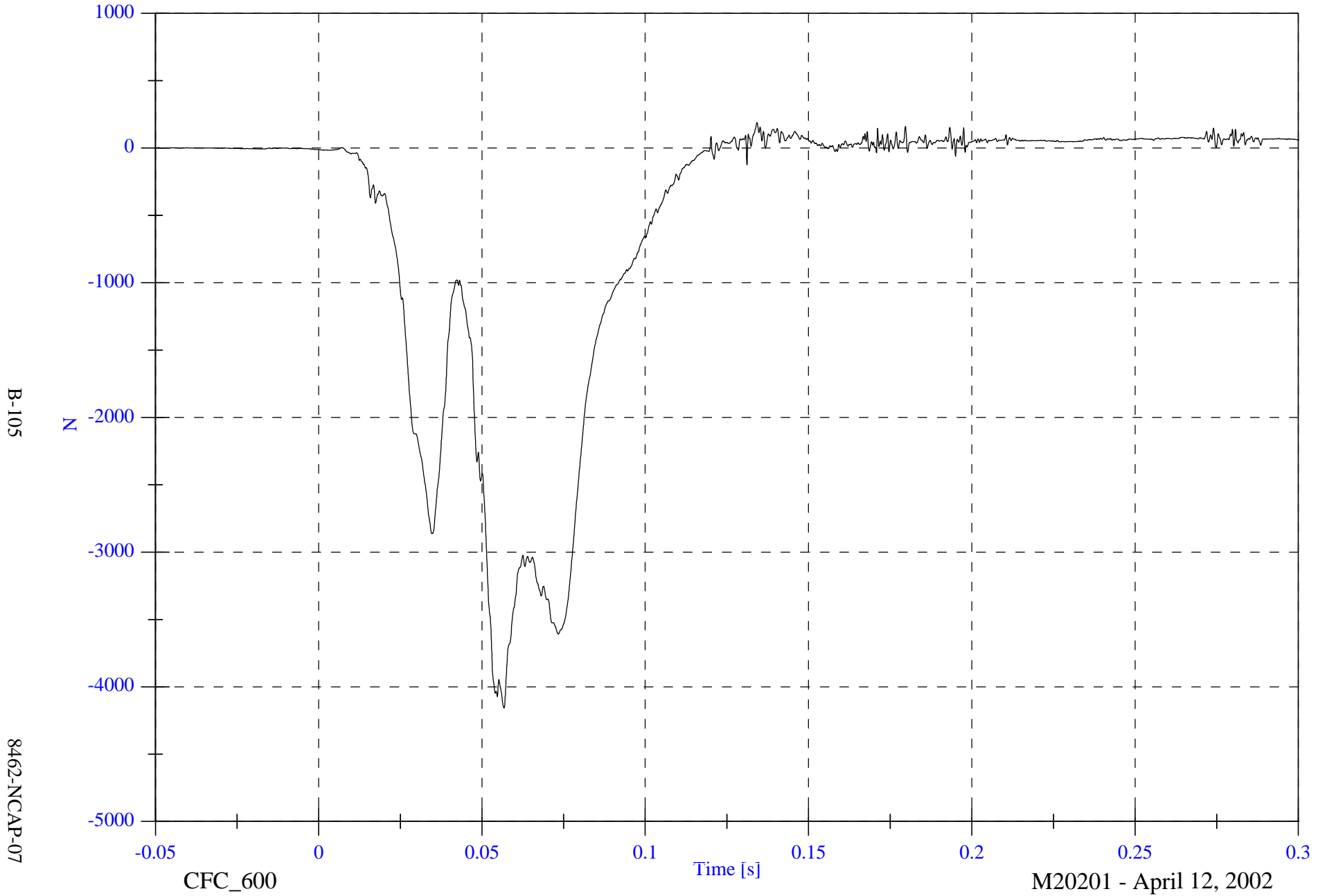
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

P2 Right Lower Tibia Fz

Max: 190.1 [N] at 0.134 [s]

Min: -4157.8 [N] at 0.057 [s]



NCAP Test 7 - 2002 Ford Focus

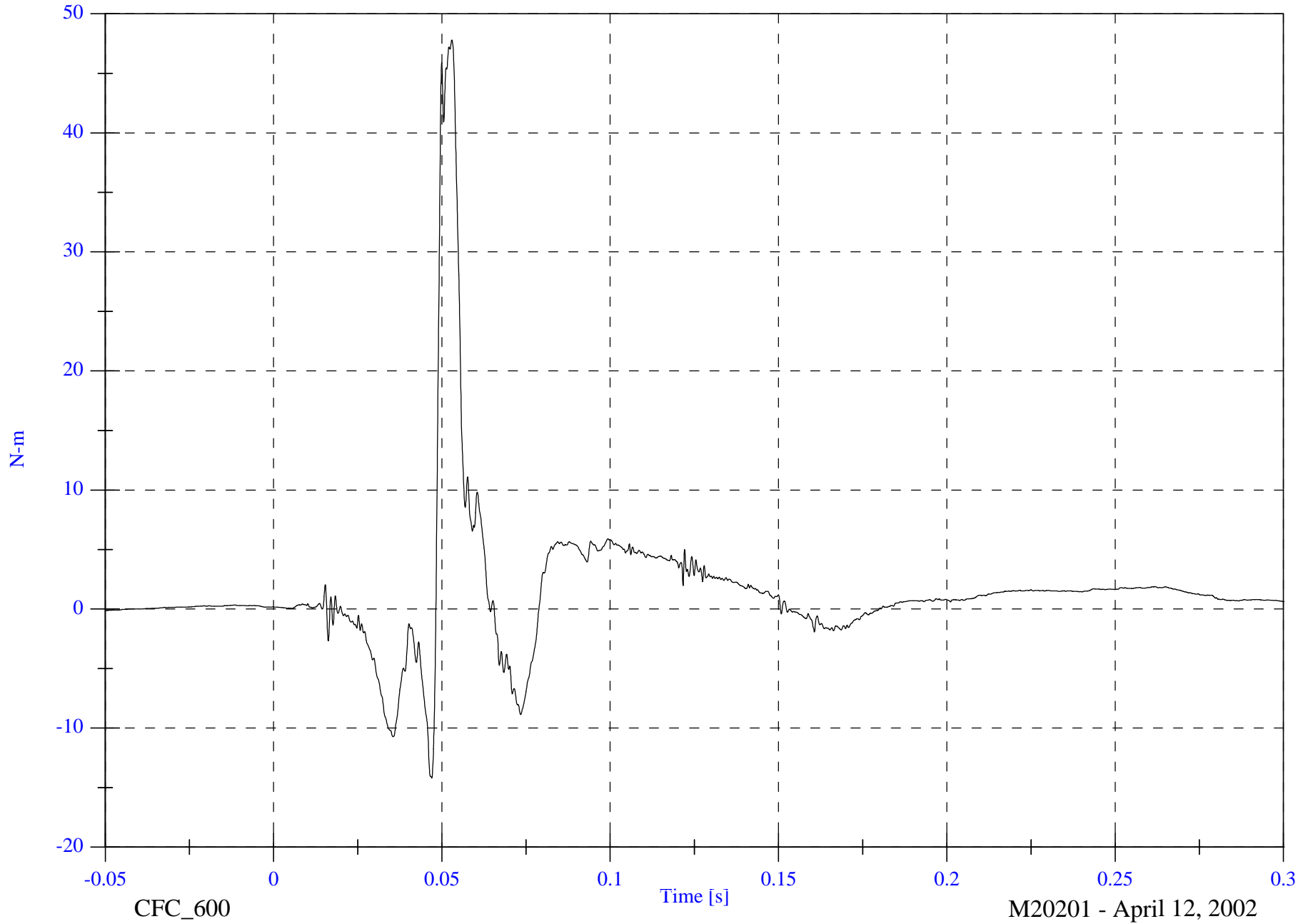
P2 Right Lower Tibia Mx

Max: 47.8 [N-m] at 0.053 [s]

Min: -14.2 [N-m] at 0.047 [s]

B-106

8462-NCAP-07



CFC_600

Time [s]

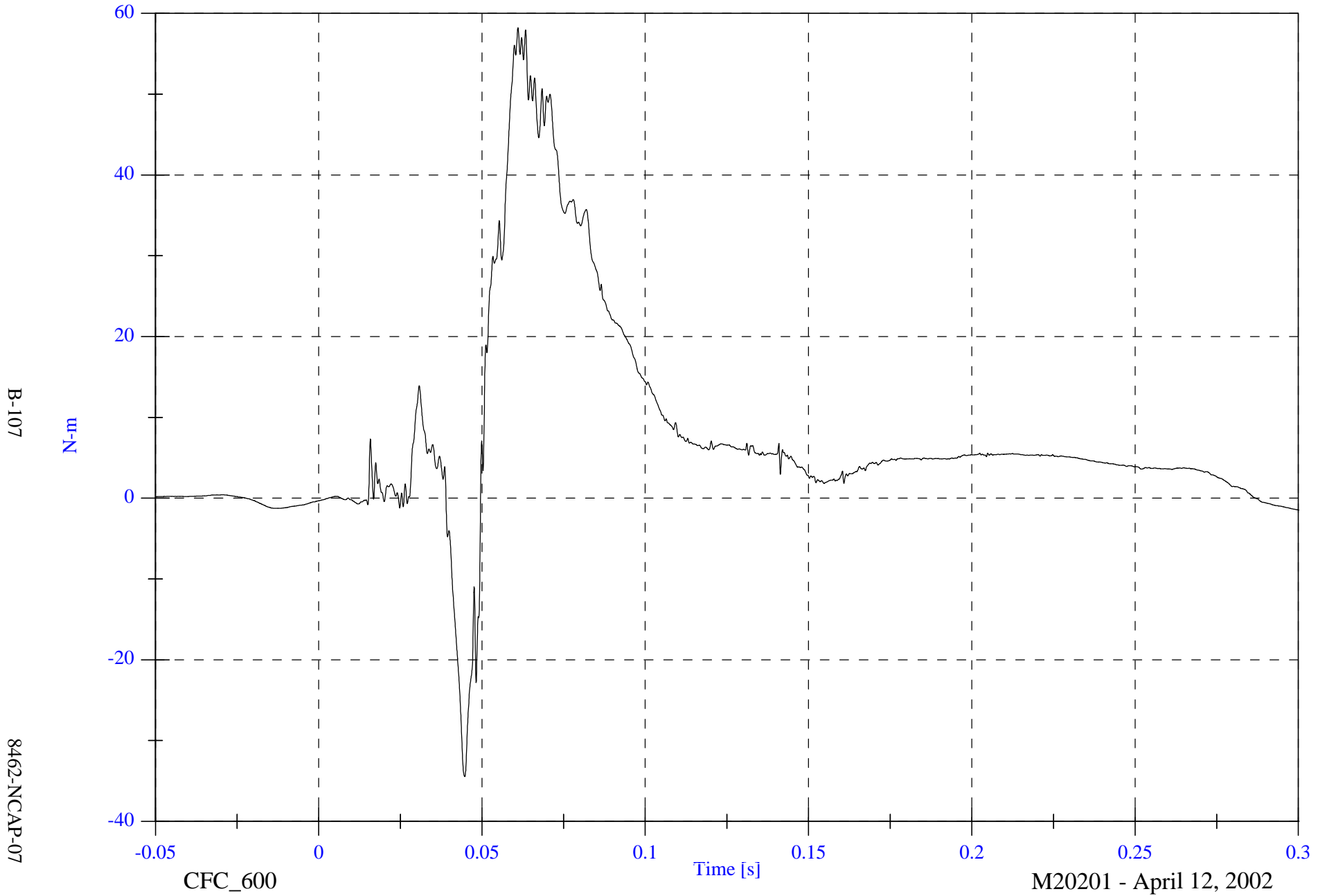
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

P2 Right Lower Tibia My

Max: 58.2 [N-m] at 0.061 [s]

Min: -34.5 [N-m] at 0.045 [s]

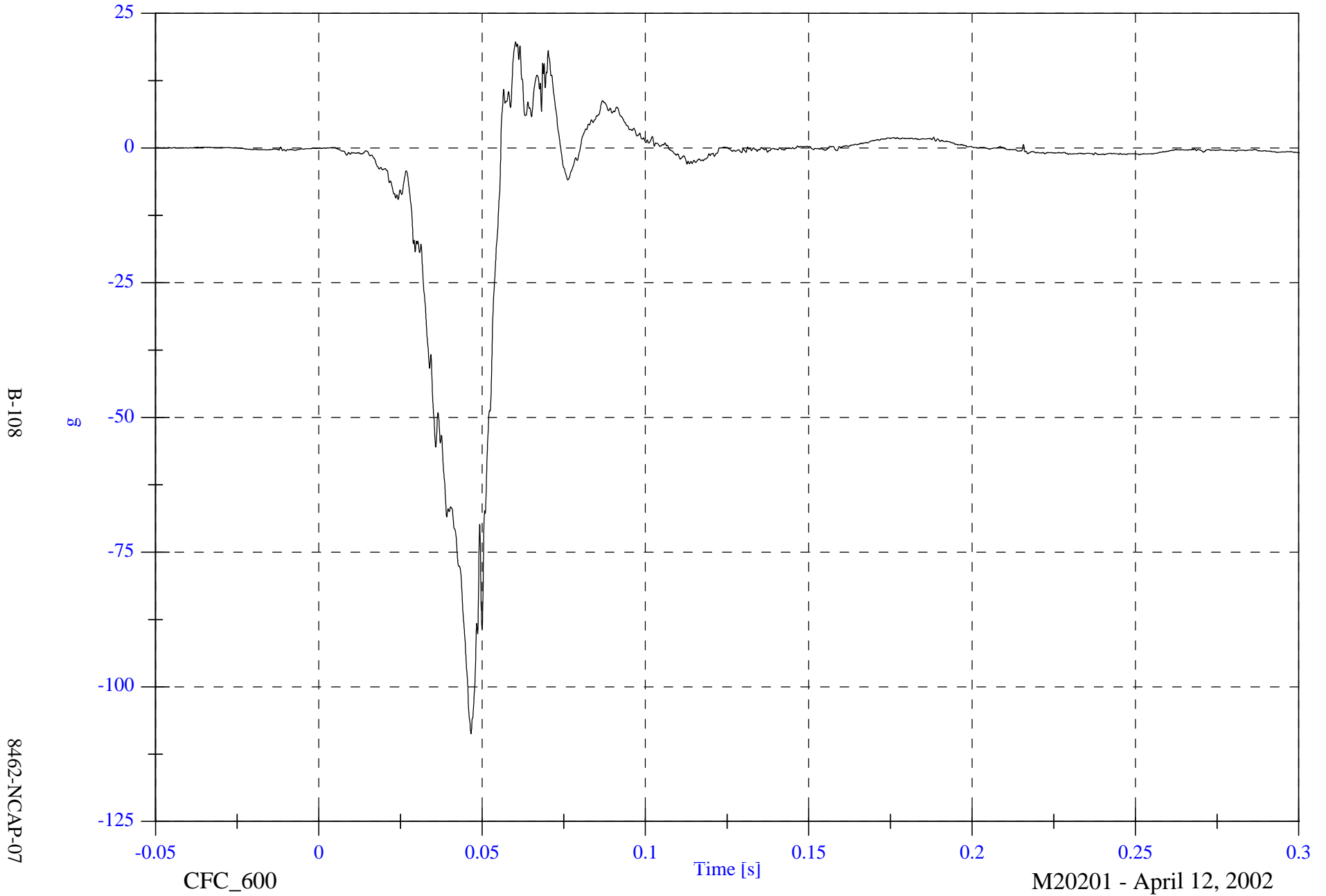


NCAP Test 7 - 2002 Ford Focus

P2 Left Foot Aft x

Max: 19.7 [g] at 0.060 [s]

Min: -108.7 [g] at 0.047 [s]

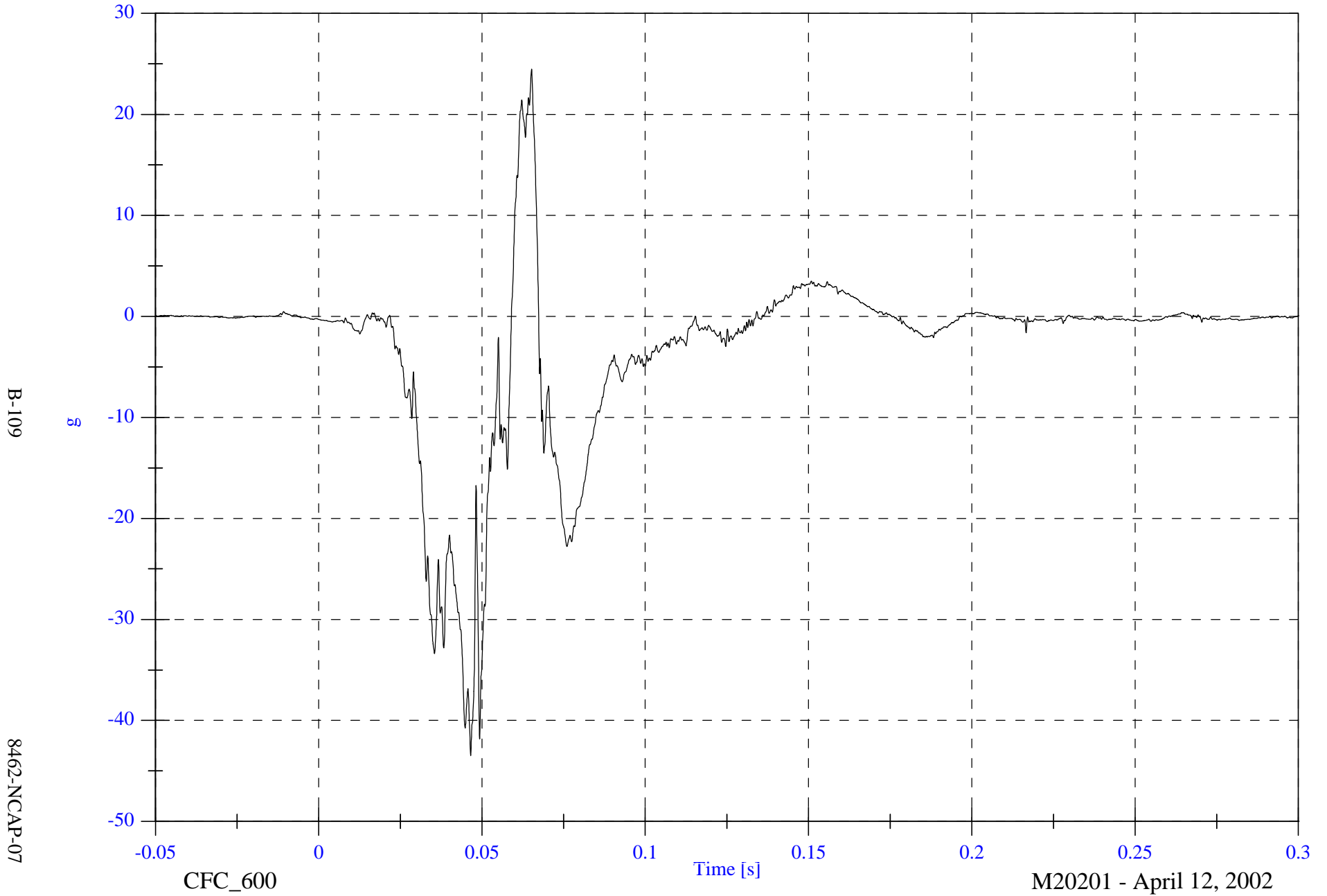


NCAP Test 7 - 2002 Ford Focus

P2 Left Foot Aft z

Max: 24.5 [g] at 0.065 [s]

Min: -43.5 [g] at 0.047 [s]



B-109

8462-NCAP-07

CFC_600

Time [s]

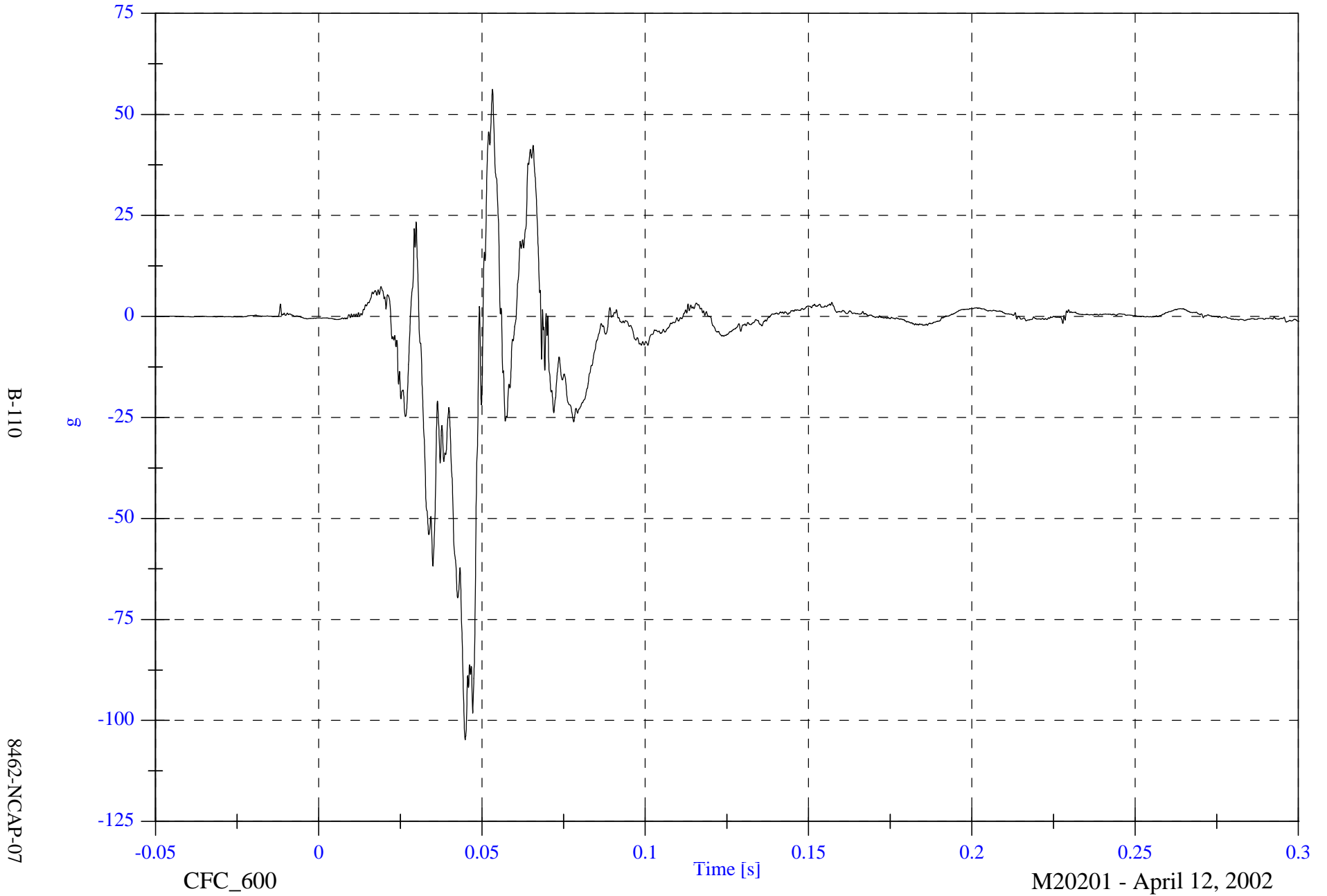
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

P2 Left Foot Fore z

Max: 56.2 [g] at 0.053 [s]

Min: -104.8 [g] at 0.045 [s]



NCAP Test 7 - 2002 Ford Focus

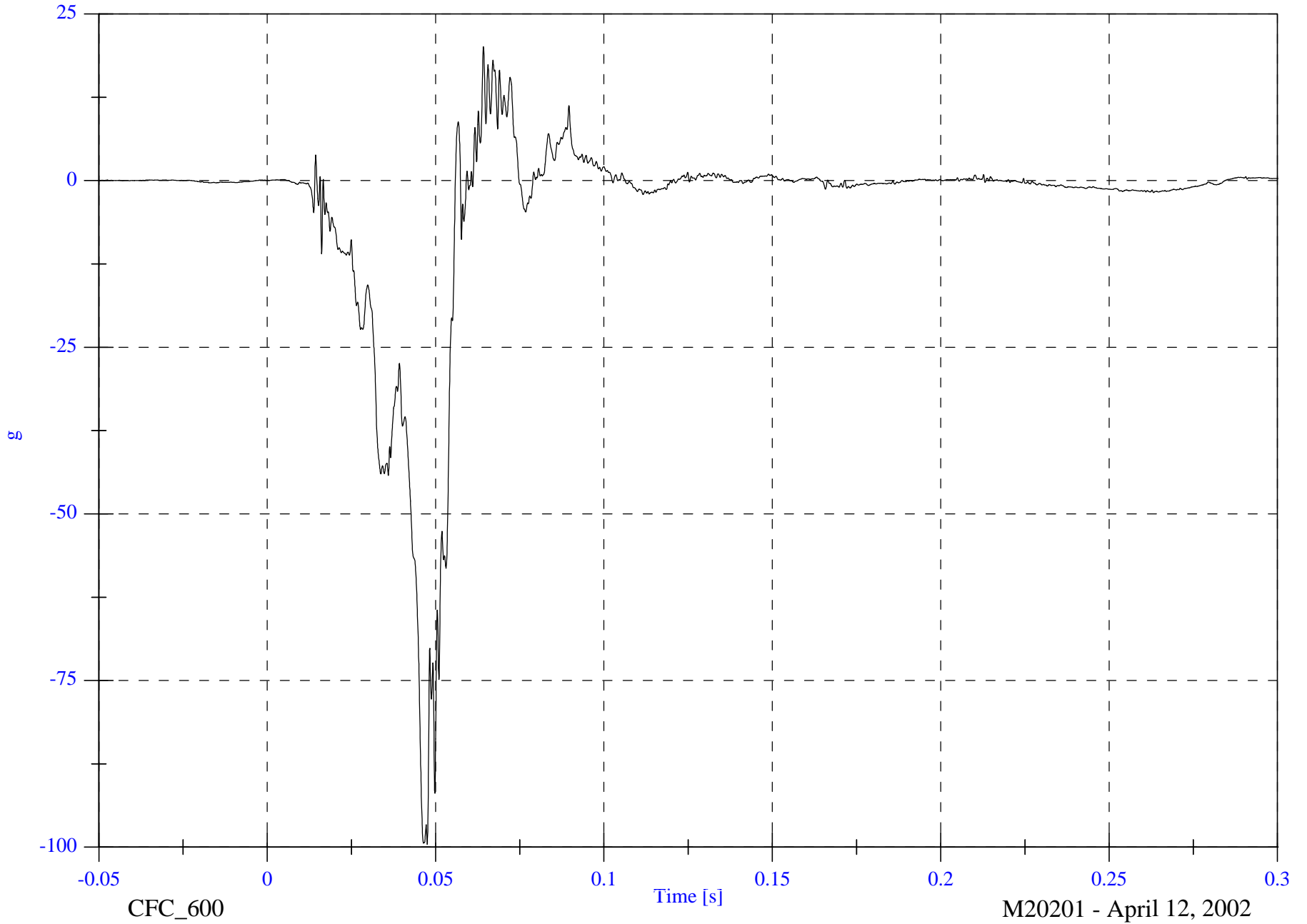
P2 Right Foot Aft x

Max: 20.1 [g] at 0.064 [s]

Min: -99.6 [g] at 0.048 [s]

B-111

8462-NCAP-07



CFC_600

Time [s]

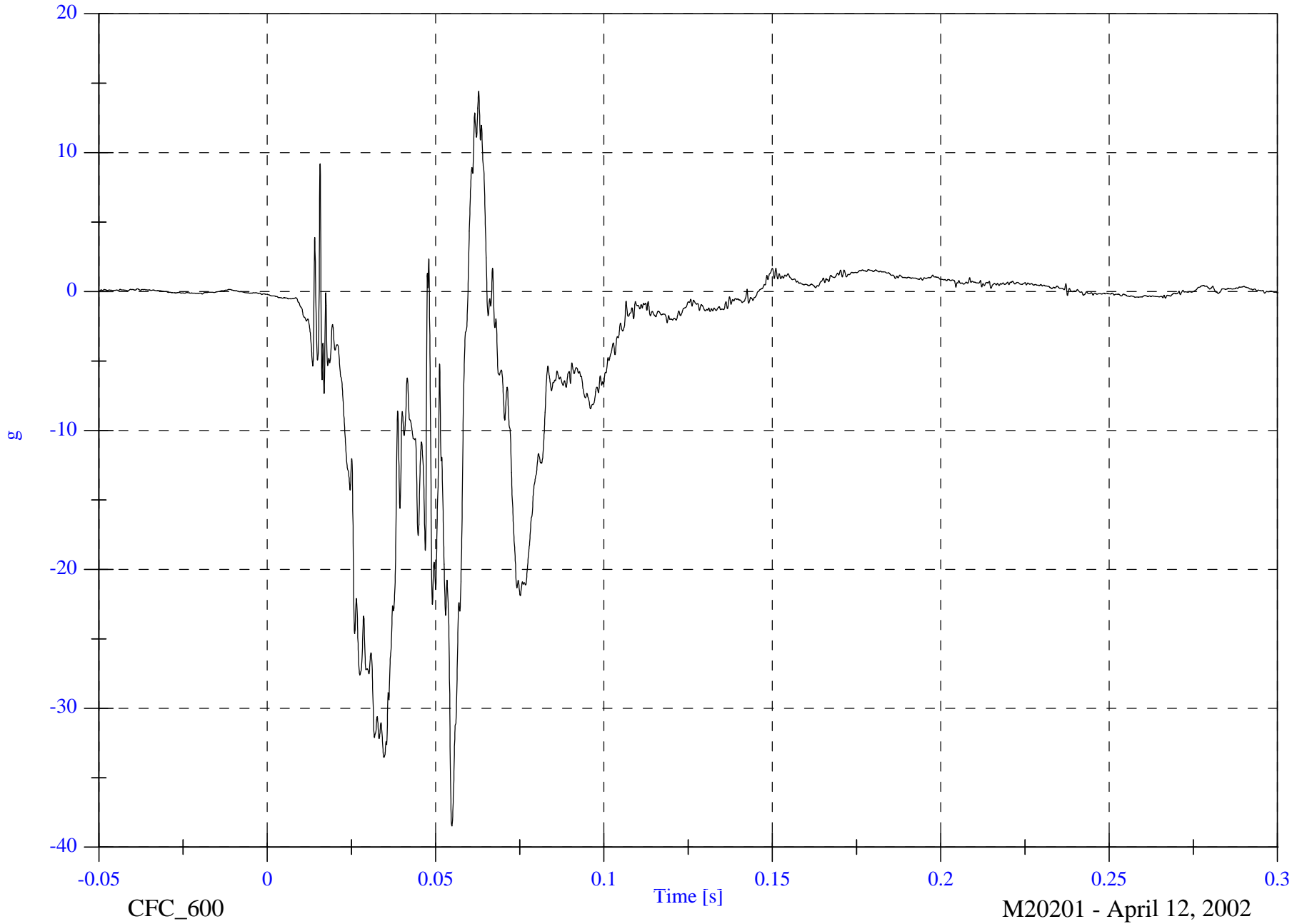
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

P2 Right Foot Aft z

Max: 14.4 [g] at 0.063 [s]

Min: -38.5 [g] at 0.055 [s]



B-112

8462-NCAP-07

CFC_600

Time [s]

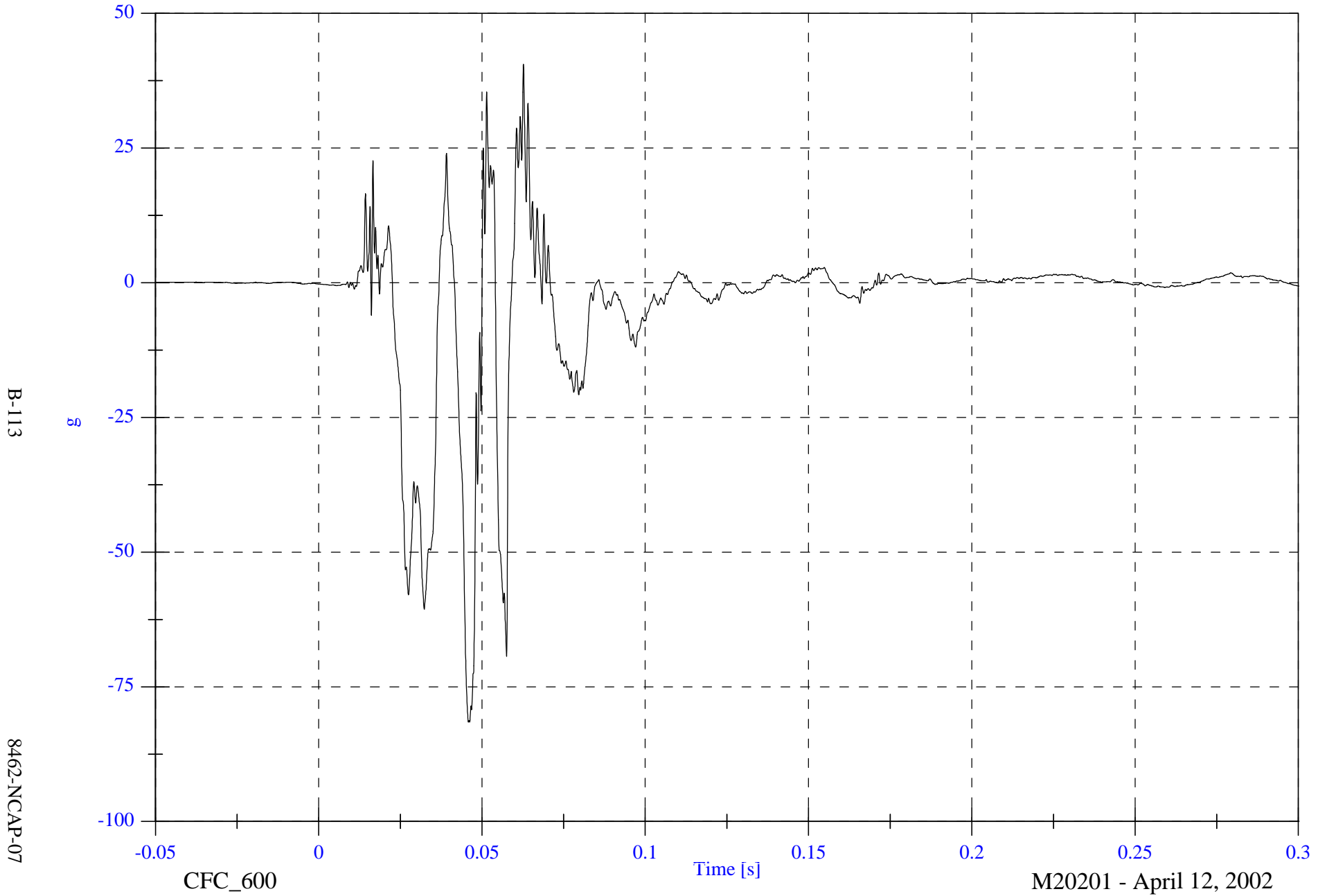
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

P2 Right Foot Fore z

Max: 40.6 [g] at 0.063 [s]

Min: -81.6 [g] at 0.046 [s]



NCAP Test 7 - 2002 Ford Focus

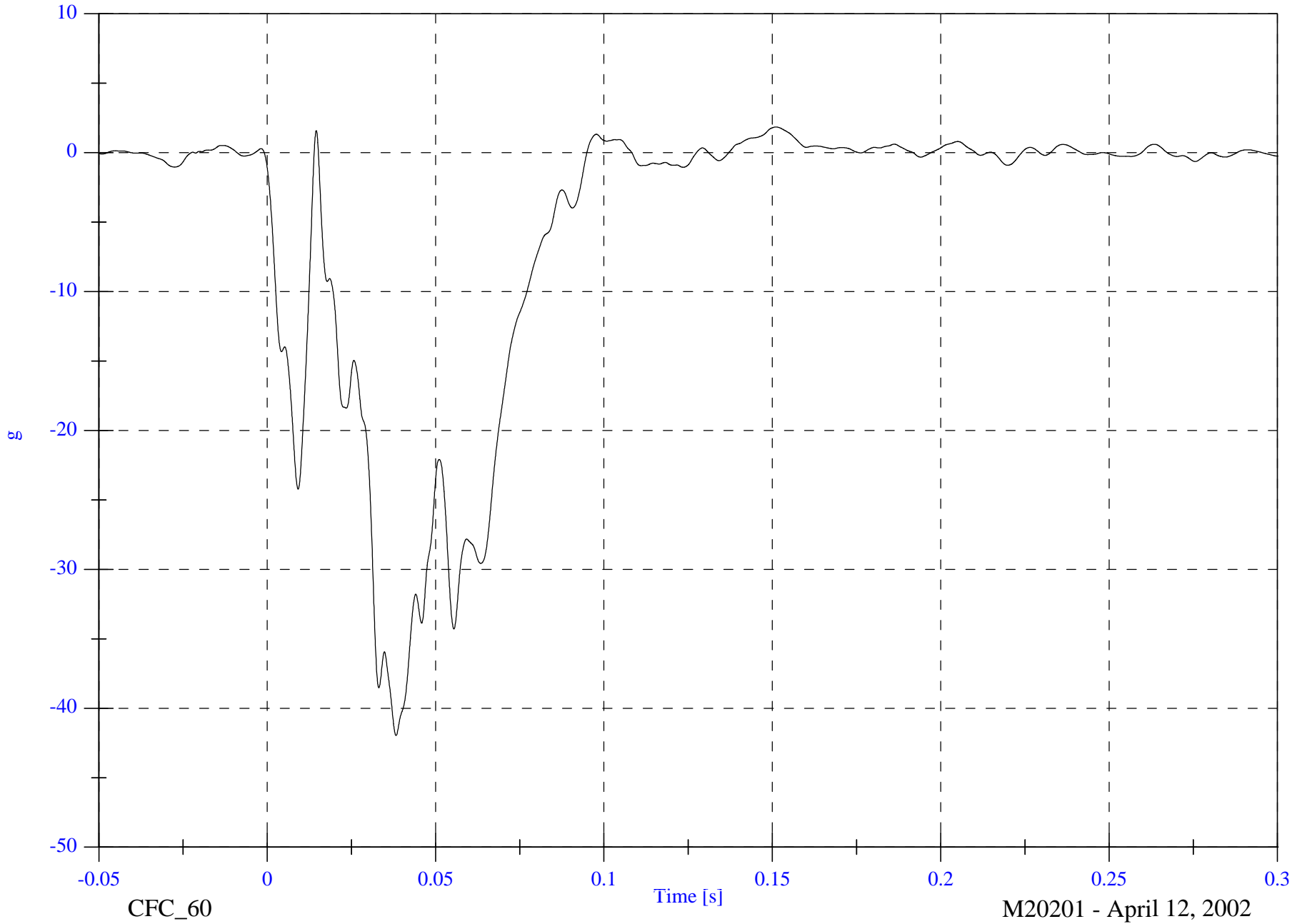
Left Rear #1x

Max: 1.8 [g] at 0.151 [s]

Min: -42.0 [g] at 0.038 [s]

B-114

8462-NCAP-07



CFC_60

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

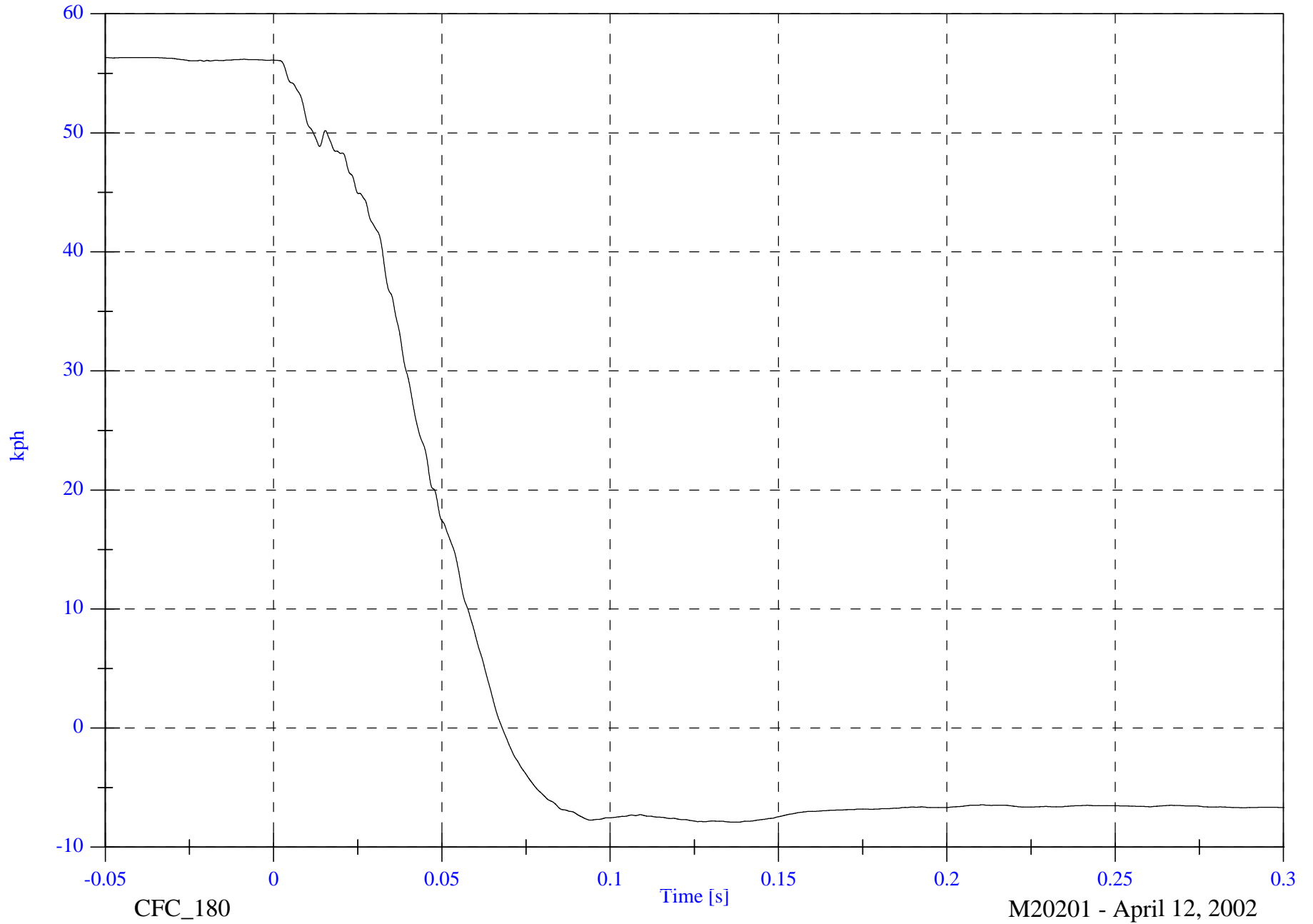
Max: 56.3 [kph] at -0.041 [s]

Left Rear #1x Velocity

Min: -7.9 [kph] at 0.138 [s]

B-115

8462-NCAP-07



CFC_180

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

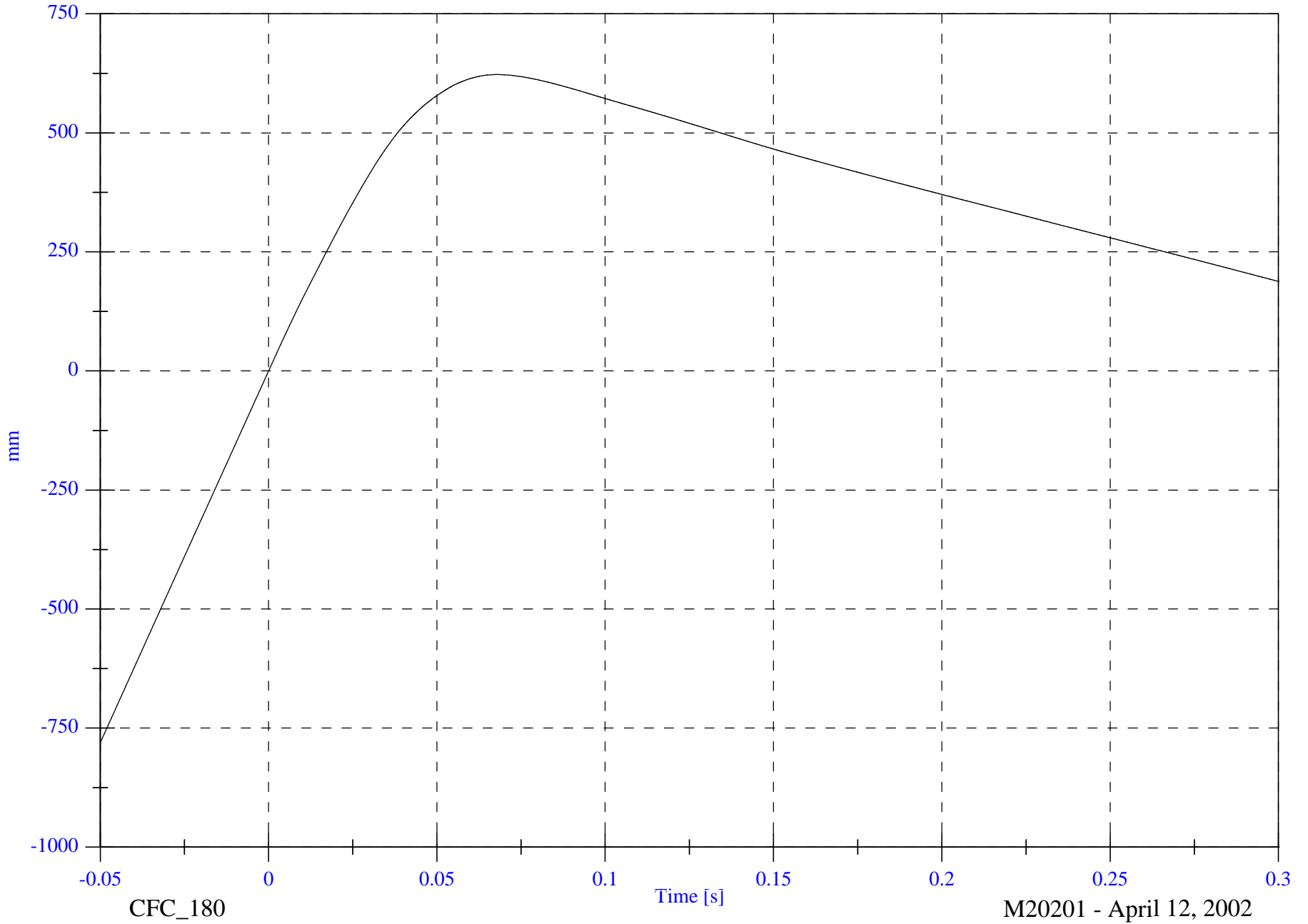
Left Rear #1x Displacement

Max: 622.4 [mm] at 0.068 [s]

Min: -780.5 [mm] at -0.050 [s]

B-116

8462-NCAP-07



CFC_180

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

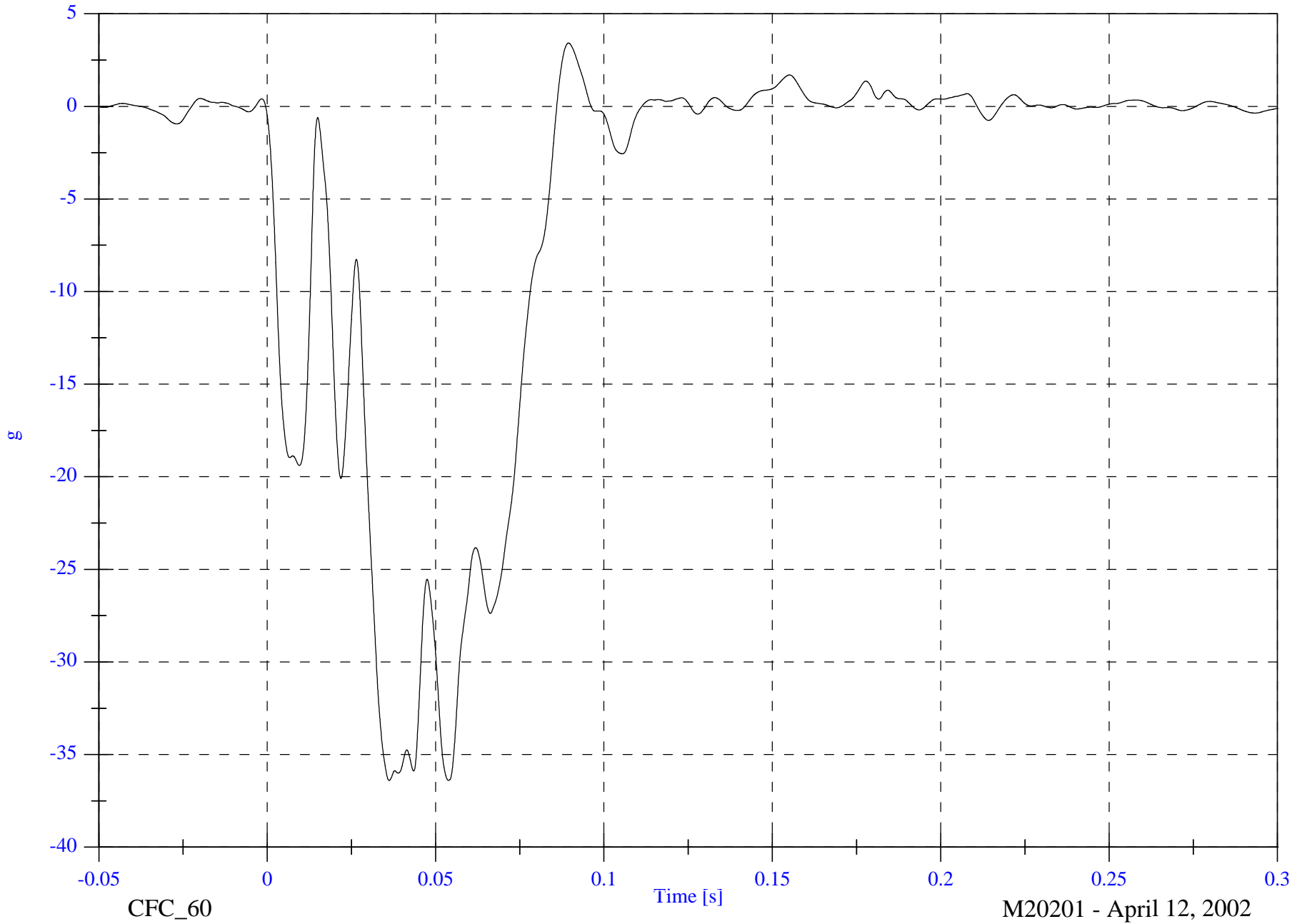
Right Rear #2x

Max: 3.4 [g] at 0.089 [s]

Min: -36.4 [g] at 0.036 [s]

B-117

8462-NCAP-07



CFC_60

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

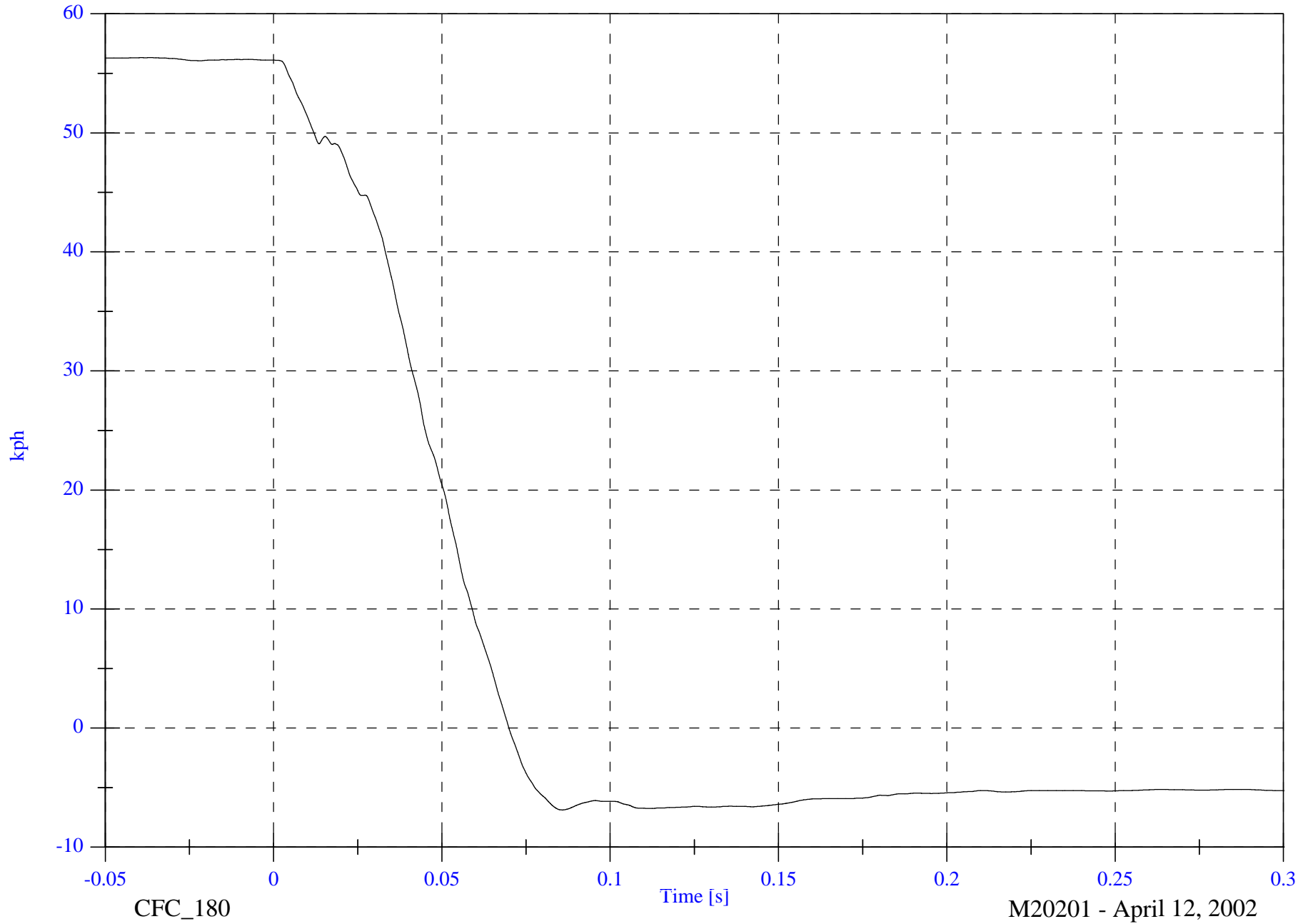
Max: 56.3 [kph] at -0.037 [s]

Right Rear #2x Velocity

Min: -6.9 [kph] at 0.086 [s]

B-118

8462-NCAP-07



CFC_180

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

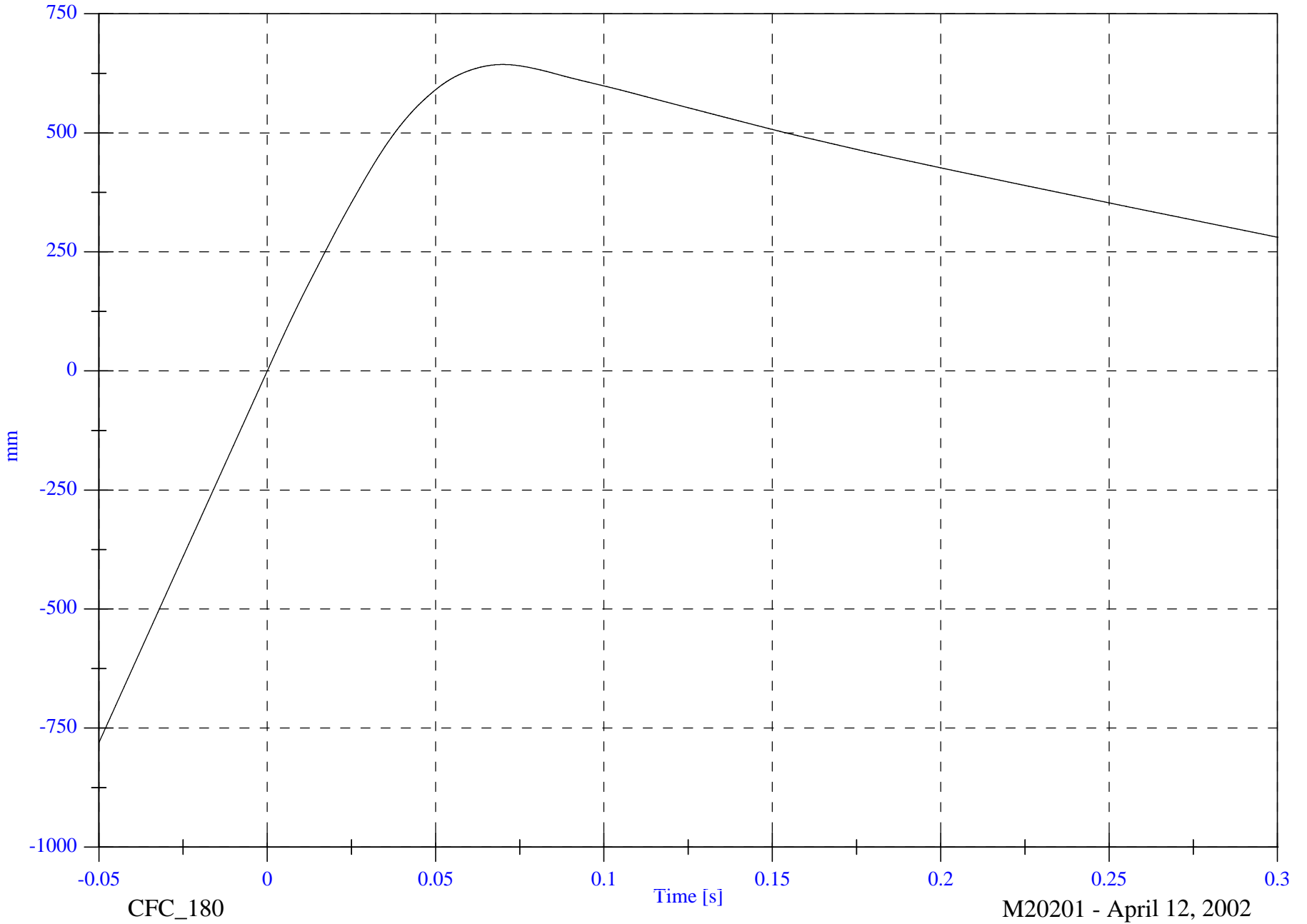
Right Rear #2x Displacement

Max: 643.6 [mm] at 0.070 [s]

Min: -780.6 [mm] at -0.050 [s]

B-119

8462-NCAP-07



CFC_180

Time [s]

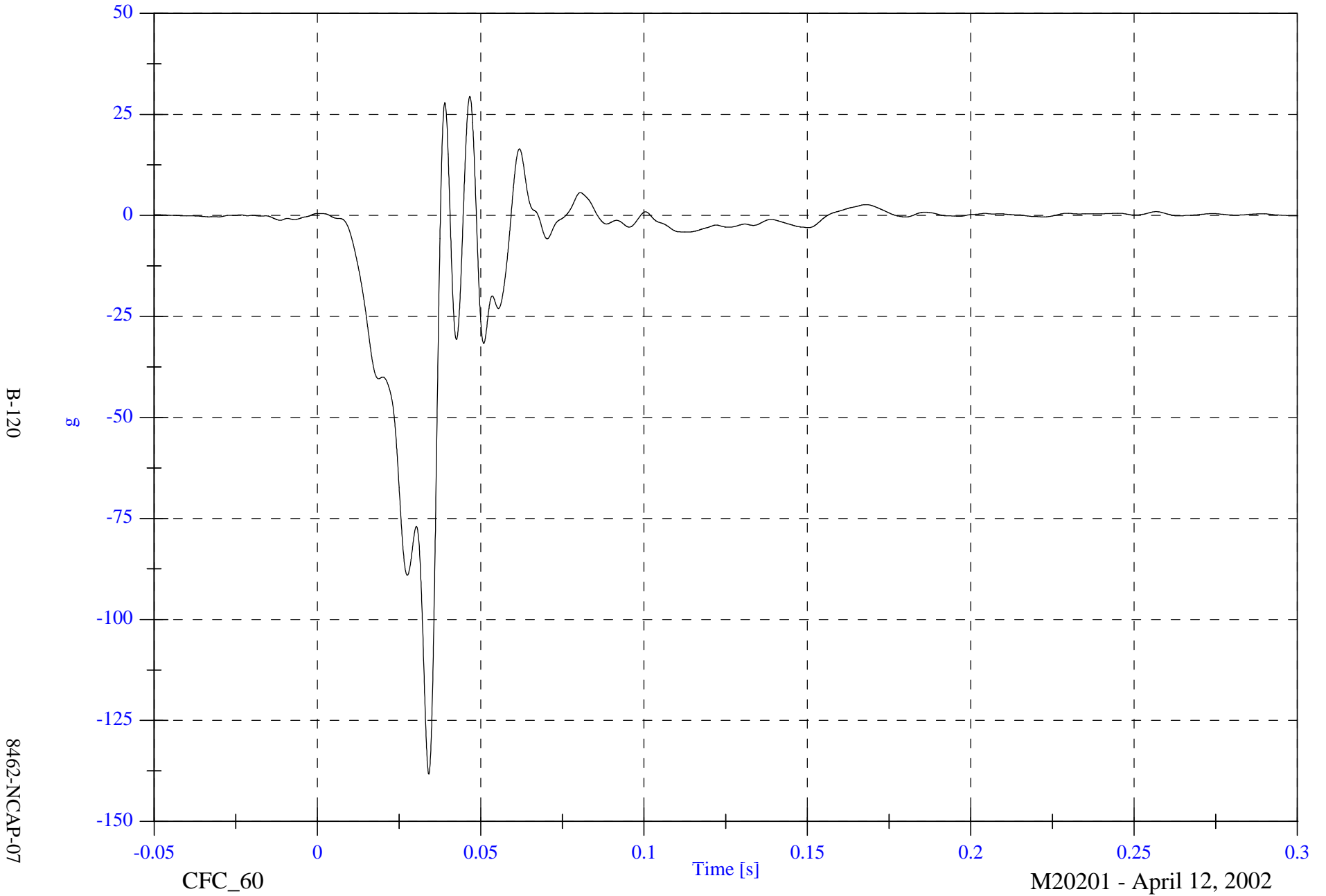
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

Engine Top #3x

Max: 29.5 [g] at 0.047 [s]

Min: -138.3 [g] at 0.034 [s]



NCAP Test 7 - 2002 Ford Focus

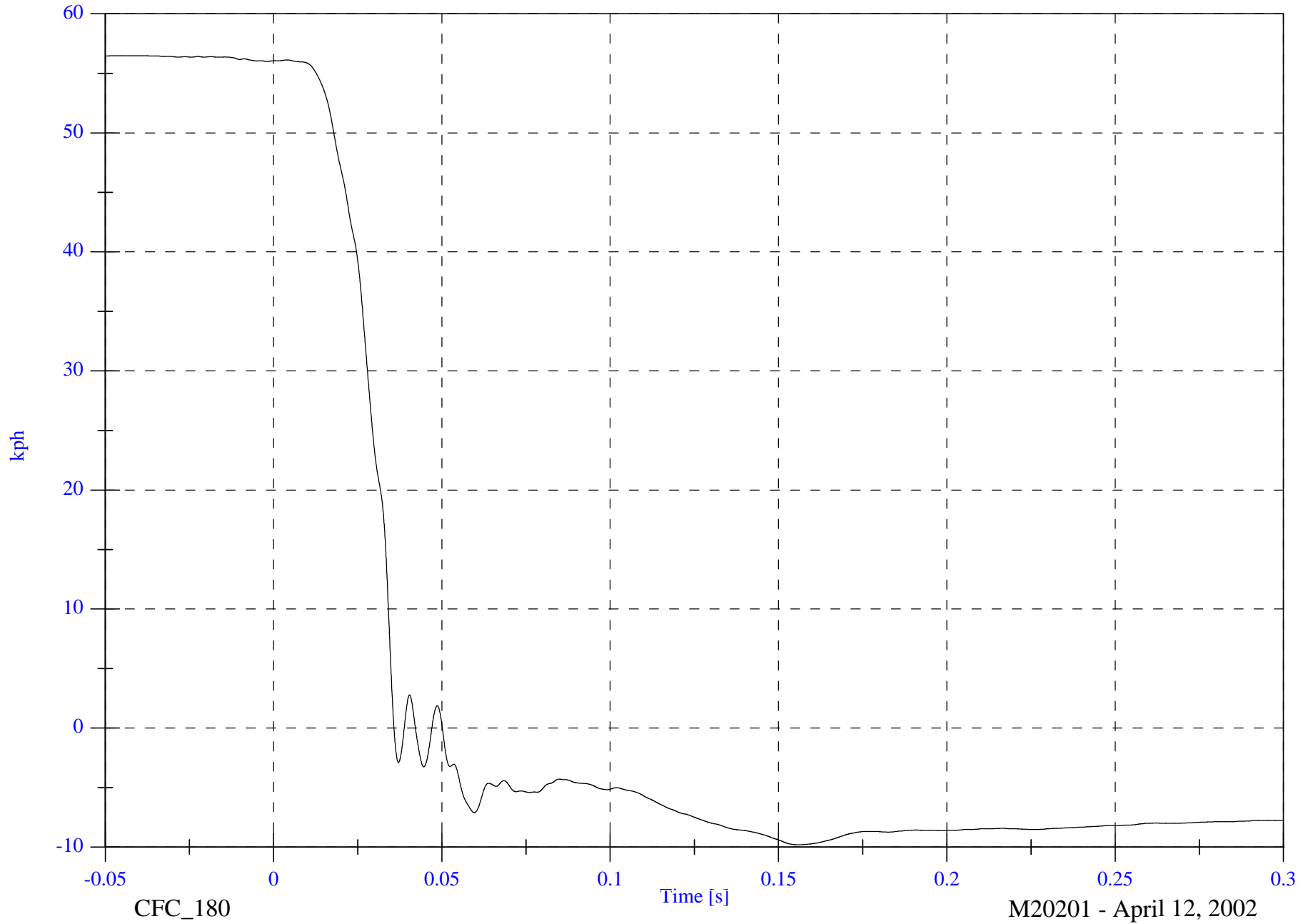
Engine Top #3x Velocity

Max: 56.5 [kph] at -0.042 [s]

Min: -9.8 [kph] at 0.156 [s]

B-121

8462-NCAP-07



CFC_180

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

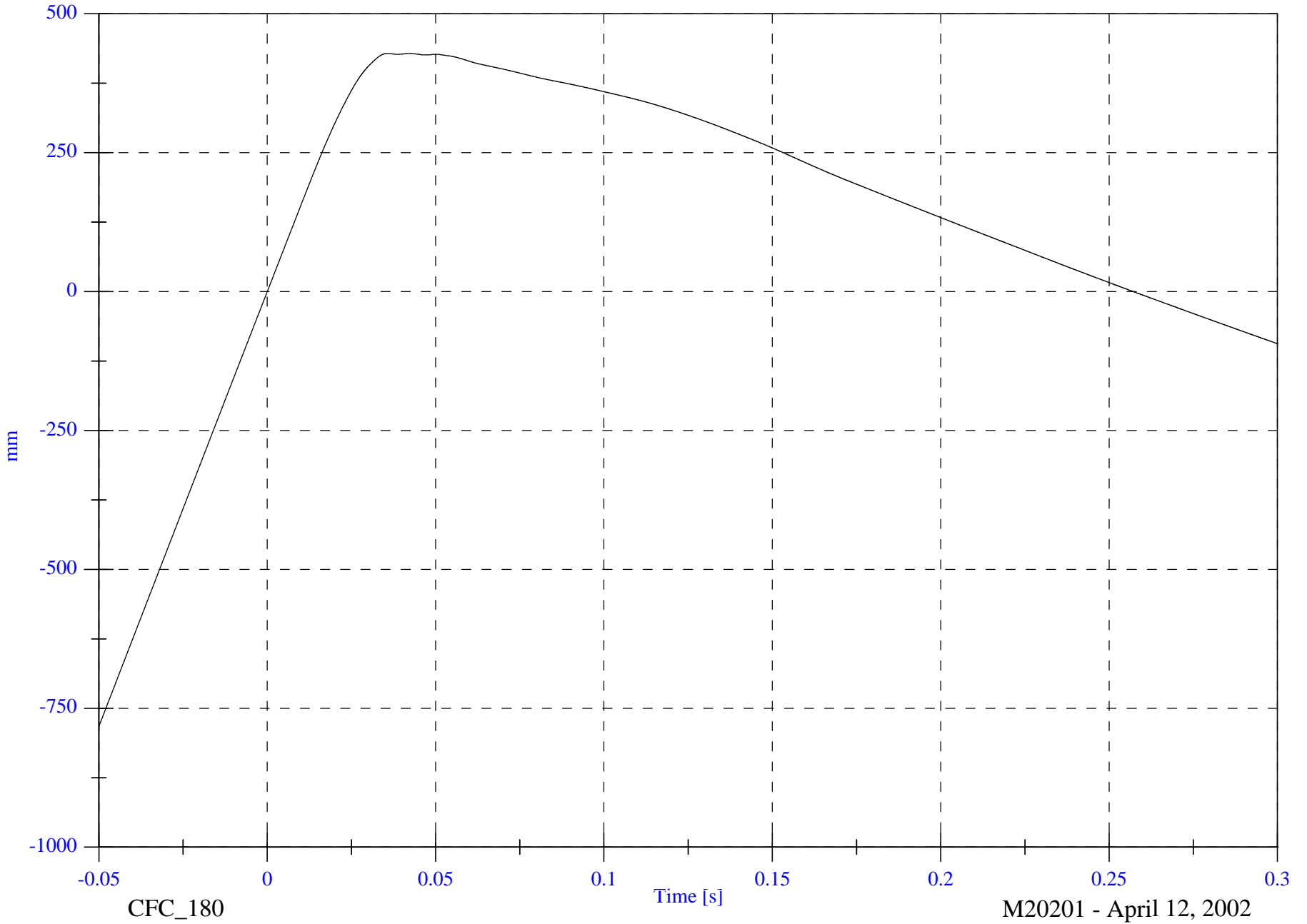
Engine Top #3x Displacement

Max: 428.7 [mm] at 0.036 [s]

Min: -782.6 [mm] at -0.050 [s]

B-122

8462-NCAP-07



CFC_180

Time [s]

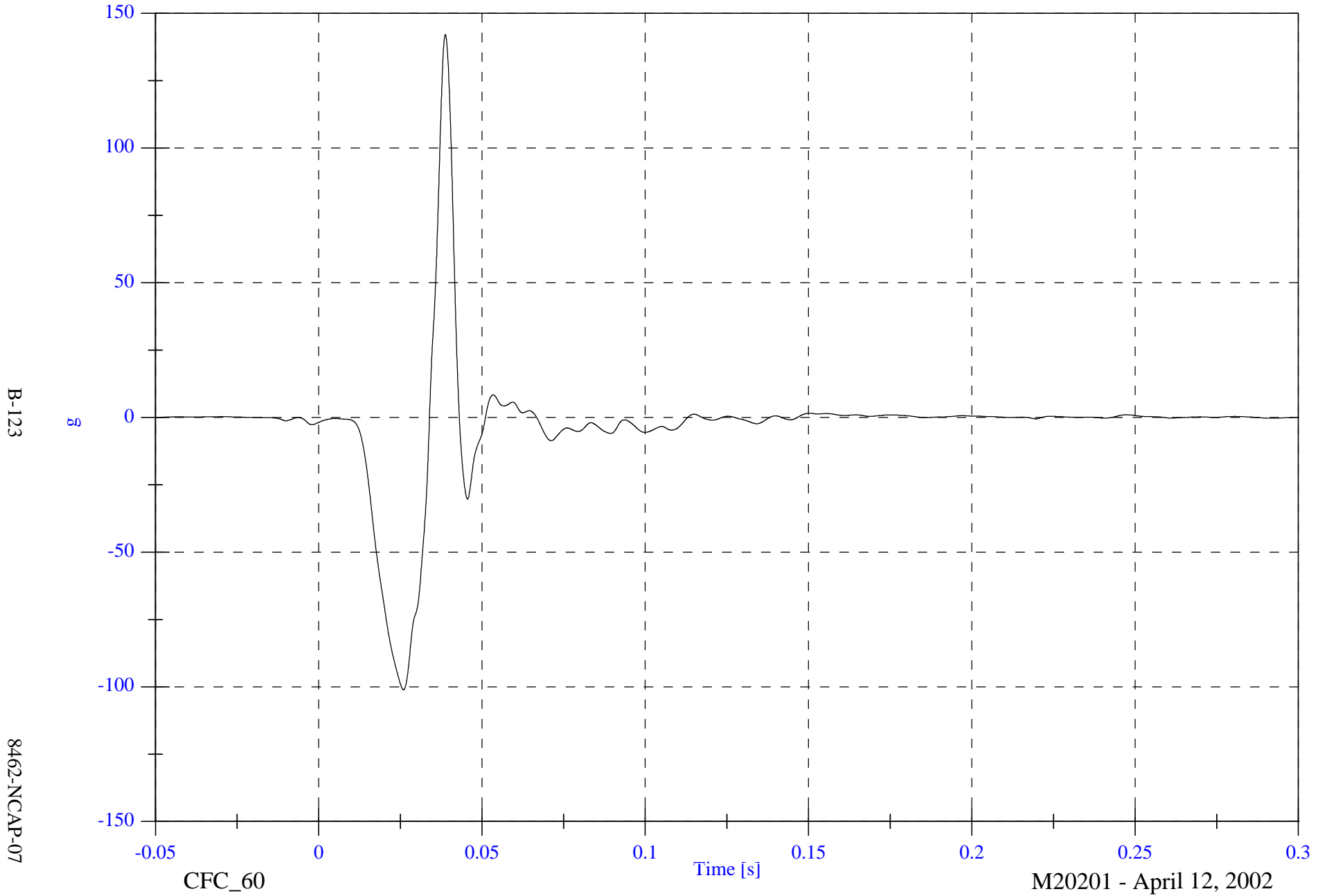
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

Engine Bottom #4x

Max: 142.2 [g] at 0.039 [s]

Min: -101.1 [g] at 0.026 [s]



NCAP Test 7 - 2002 Ford Focus

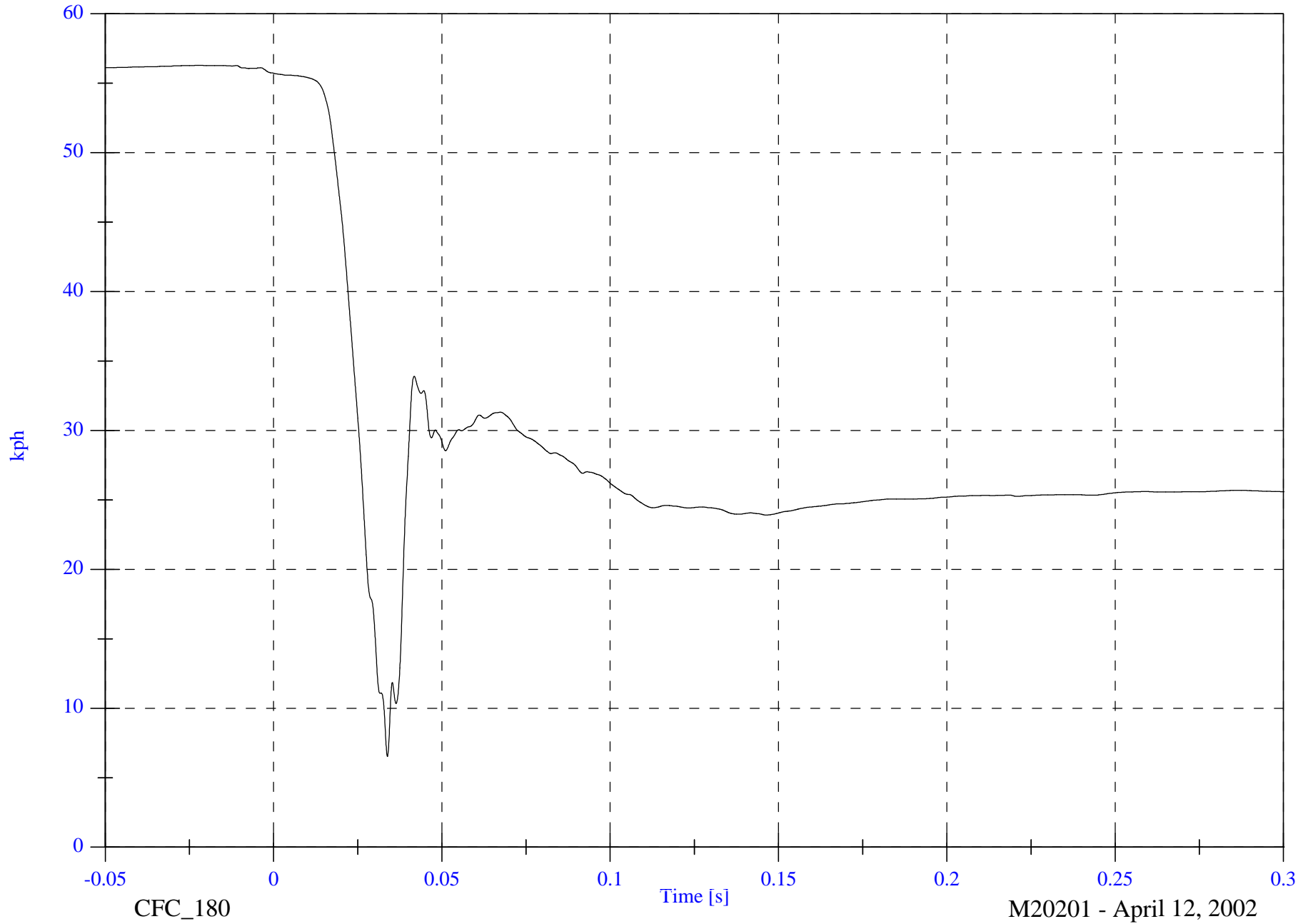
Engine Bottom #4x Velocity

Max: 56.3 [kph] at -0.023 [s]

Min: 6.5 [kph] at 0.034 [s]

B-124

8462-NCAP-07



CFC_180

Time [s]

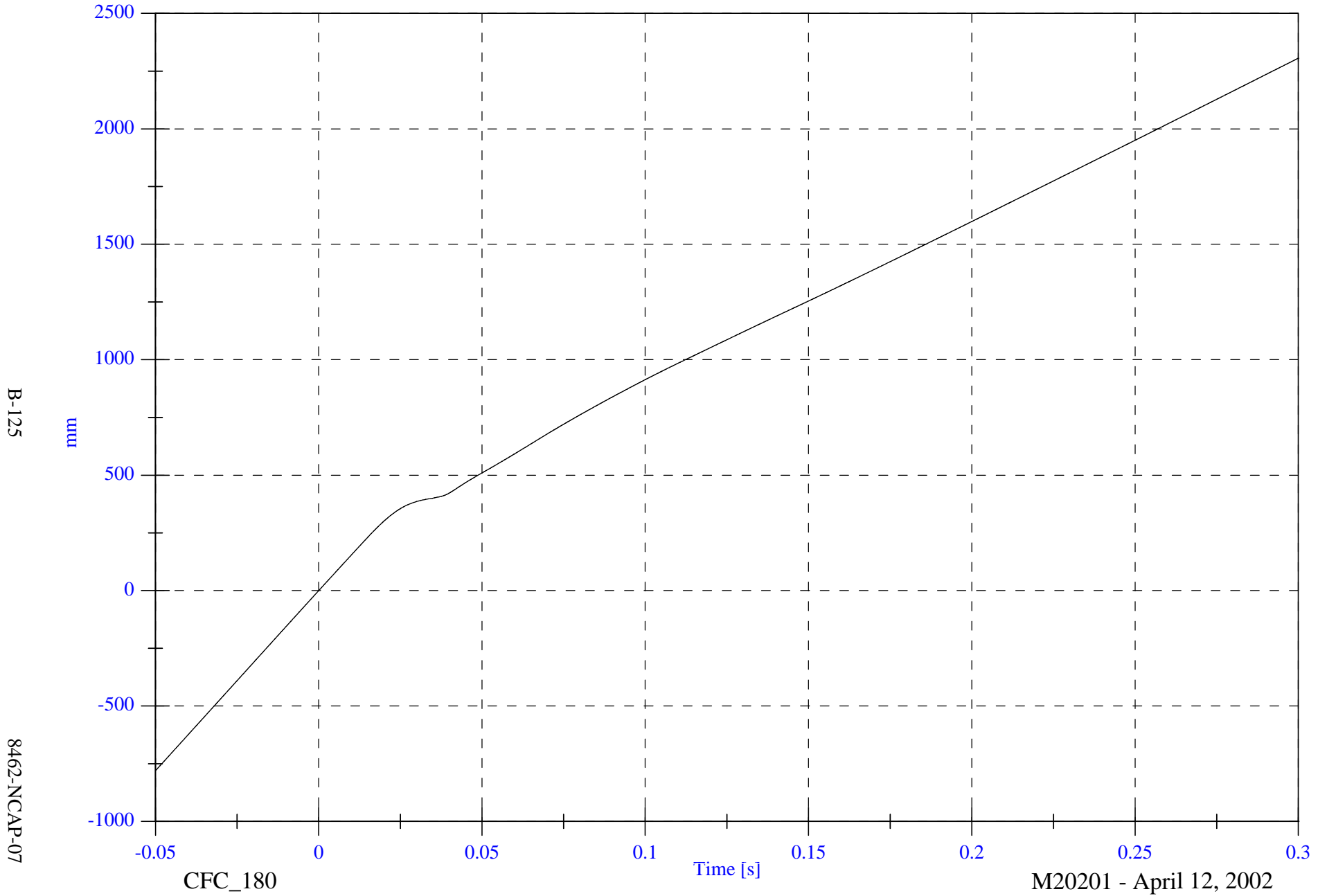
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

Engine Bottom #4x Displacement

Max: 2305.9 [mm] at 0.300 [s]

Min: -780.3 [mm] at -0.050 [s]



B-125

8462-NCAP-07

CFC_180

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

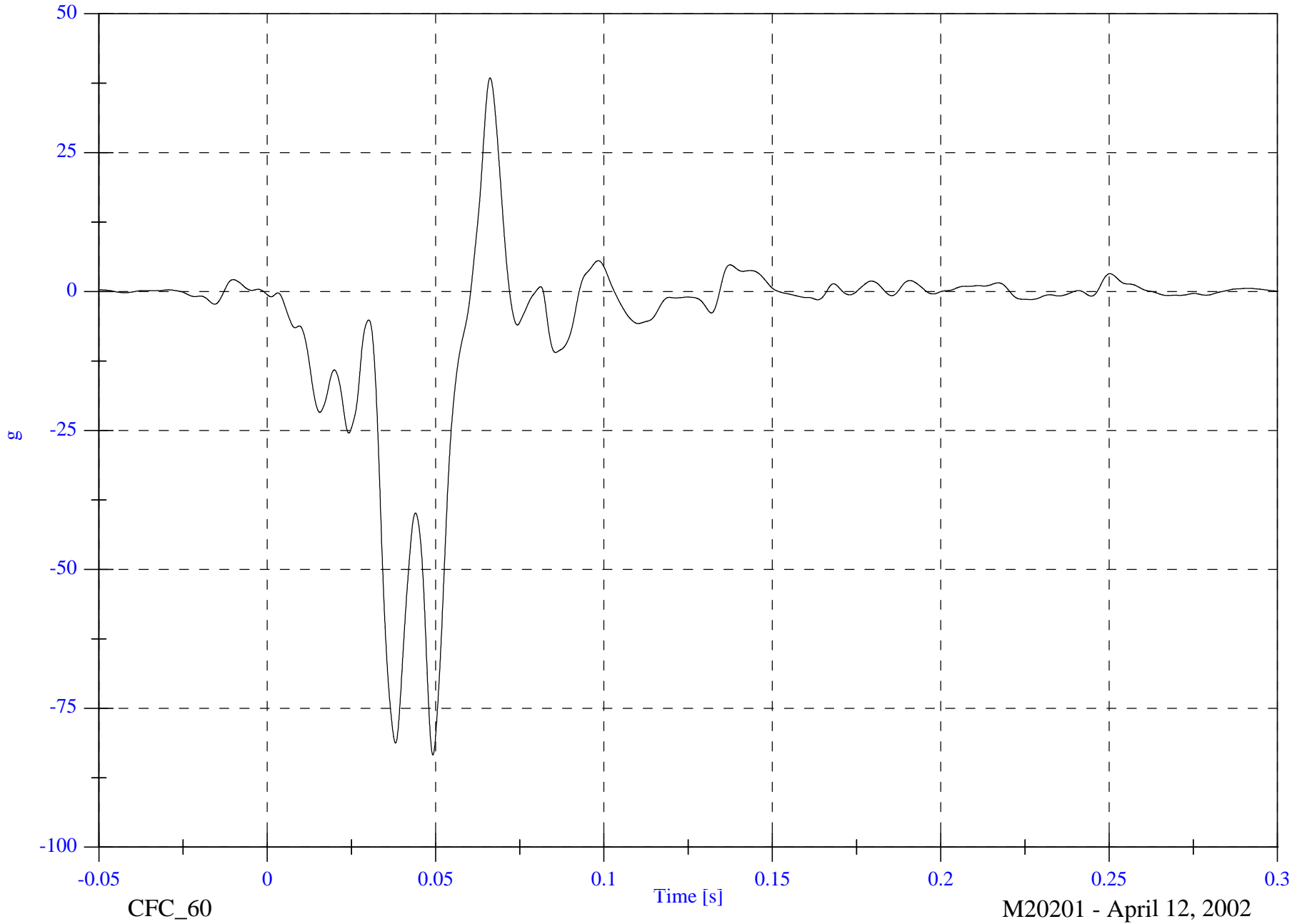
Right Caliper #5x

Max: 38.5 [g] at 0.066 [s]

Min: -83.4 [g] at 0.049 [s]

B-126

8462-NCAP-07



CFC_60

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

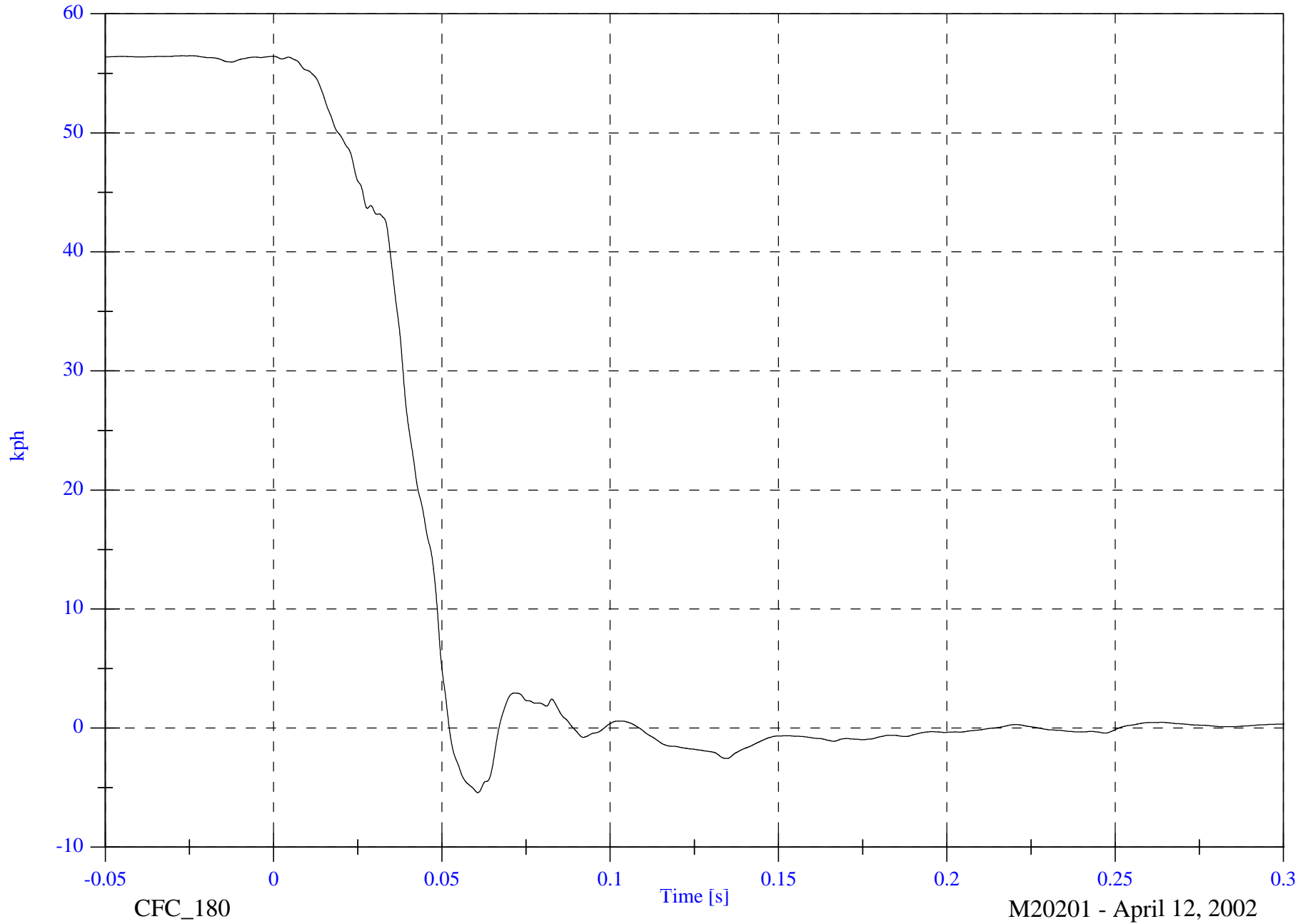
Right Caliper #5x Velocity

Max: 56.5 [kph] at -0.024 [s]

Min: -5.4 [kph] at 0.061 [s]

B-127

8462-NCAP-07



CFC_180

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

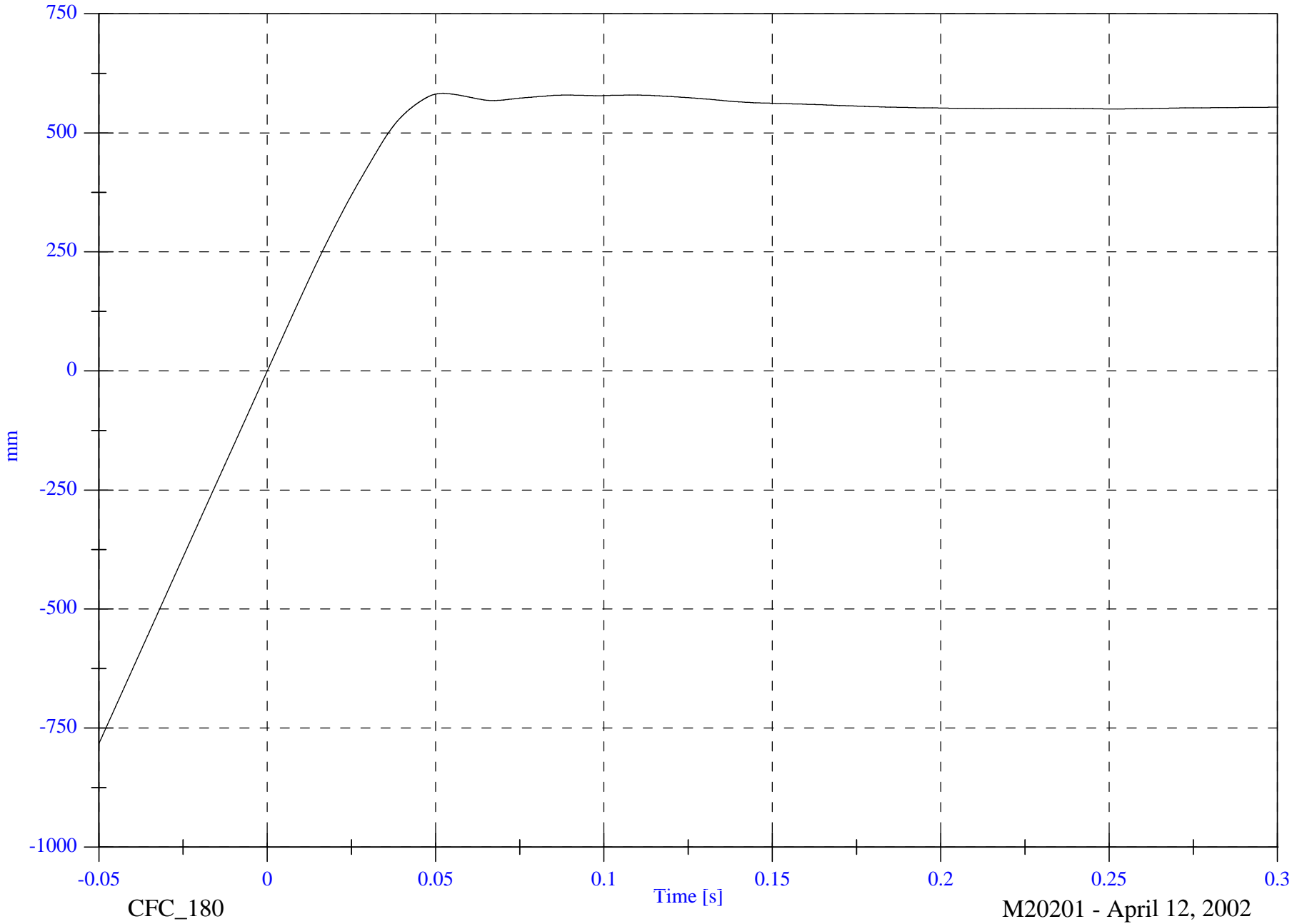
Right Caliper #5x Displacement

Max: 582.9 [mm] at 0.052 [s]

Min: -782.6 [mm] at -0.050 [s]

B-128

8462-NCAP-07



CFC_180

Time [s]

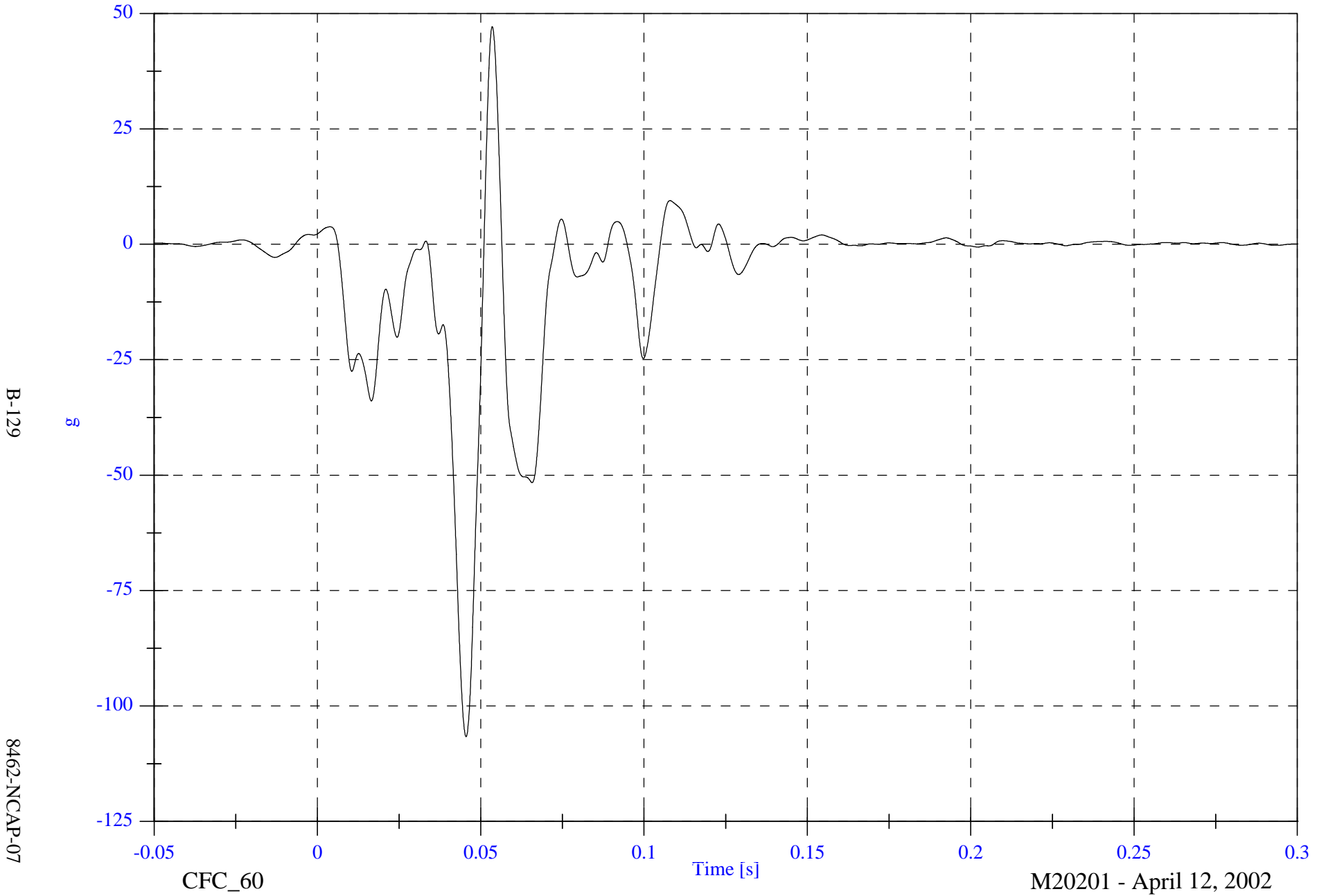
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

Instrument Panel #6x

Max: 47.2 [g] at 0.054 [s]

Min: -106.6 [g] at 0.046 [s]



NCAP Test 7 - 2002 Ford Focus

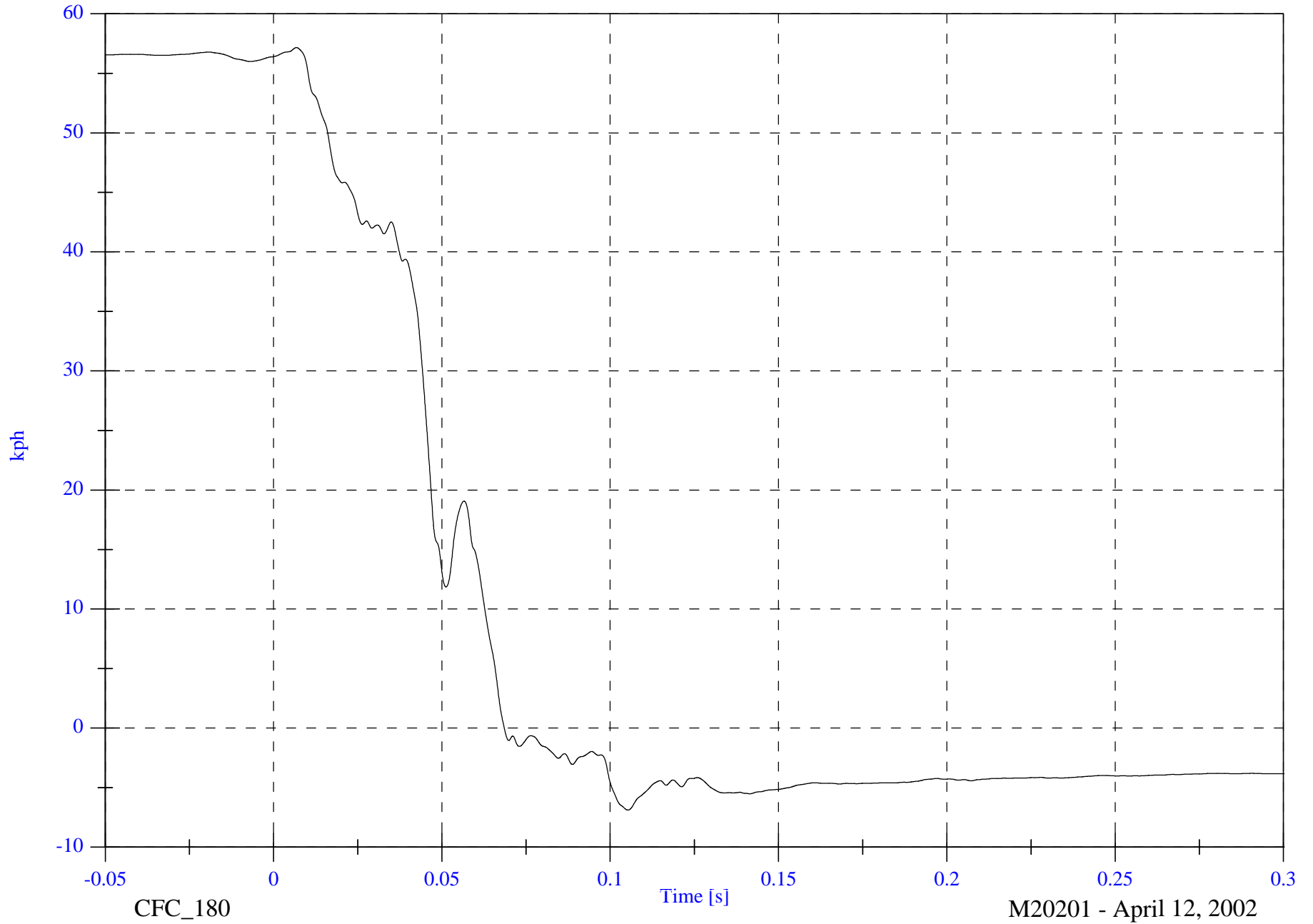
Instrument Panel #6x Velocity

Max: 57.2 [kph] at 0.007 [s]

Min: -6.9 [kph] at 0.105 [s]

B-130

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CFC_180

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

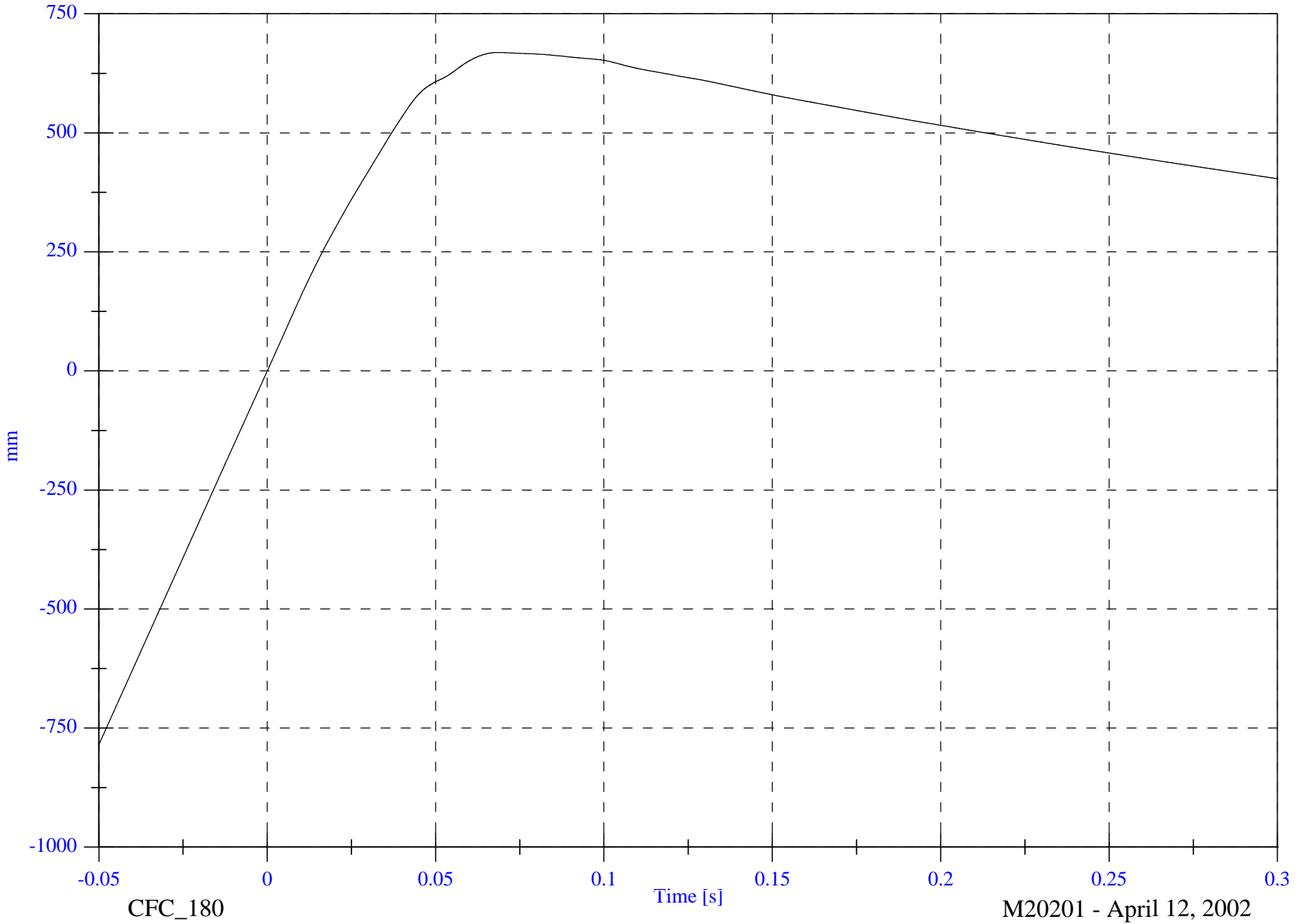
Instrument Panel #6x Displacement

Max: 668.8 [mm] at 0.069 [s]

Min: -784.6 [mm] at -0.050 [s]

B-131

8462-NCAP-07



CFC_180

Time [s]

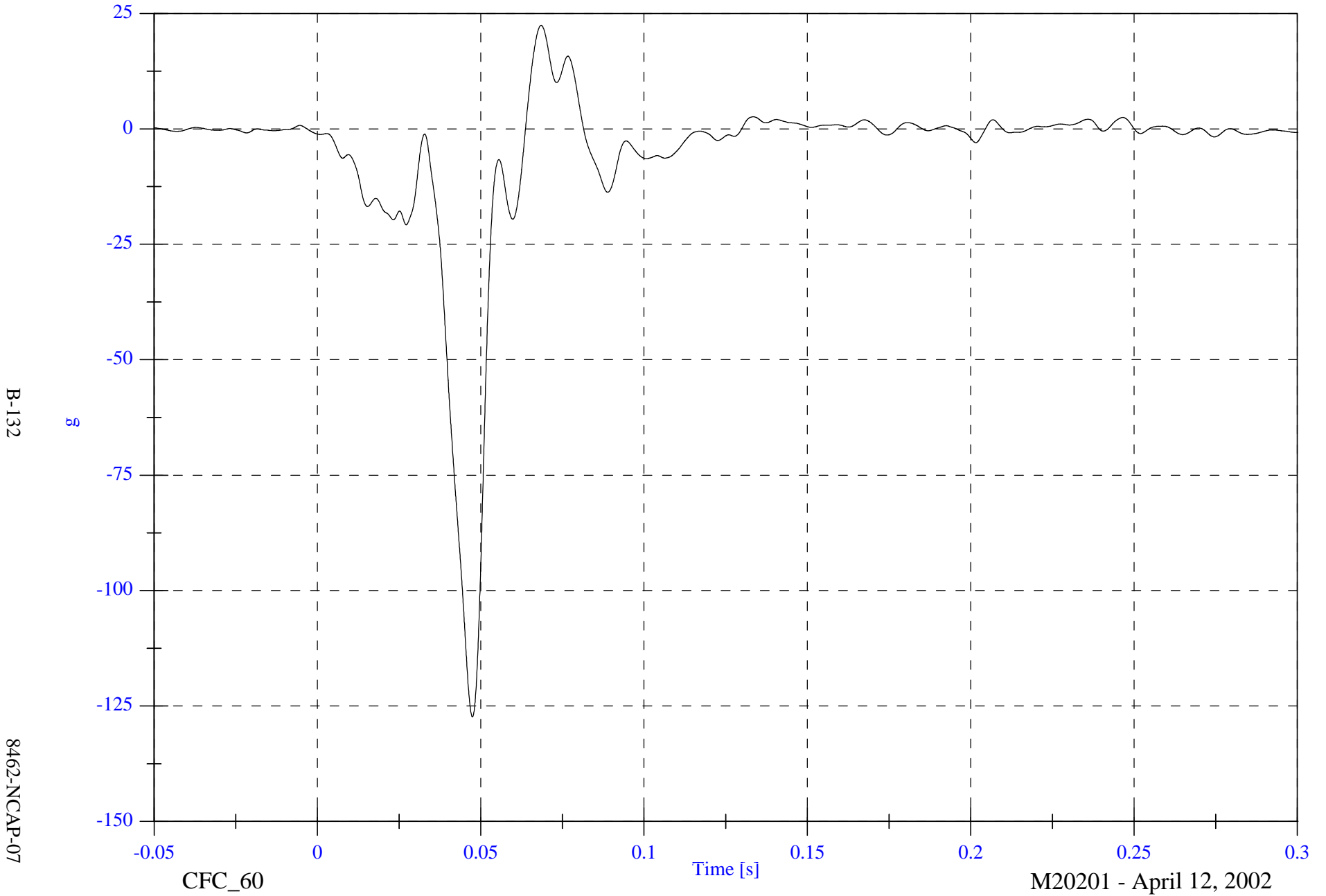
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

Left Caliper #7x

Max: 22.4 [g] at 0.068 [s]

Min: -127.3 [g] at 0.047 [s]



NCAP Test 7 - 2002 Ford Focus

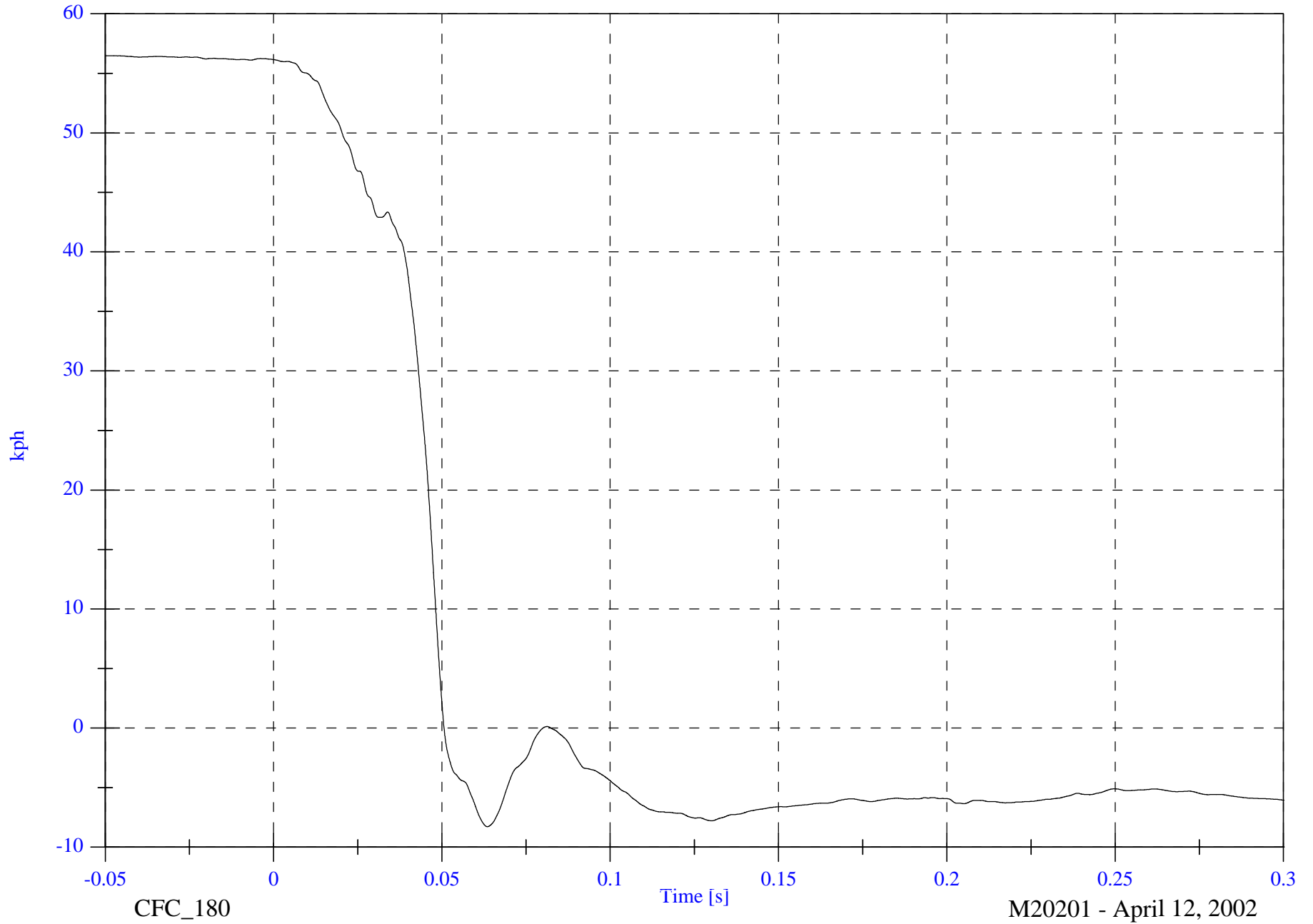
Left Caliper #7x Velocity

Max: 56.5 [kph] at -0.048 [s]

Min: -8.3 [kph] at 0.064 [s]

B-133

8462-NCAP-07



CFC_180

Time [s]

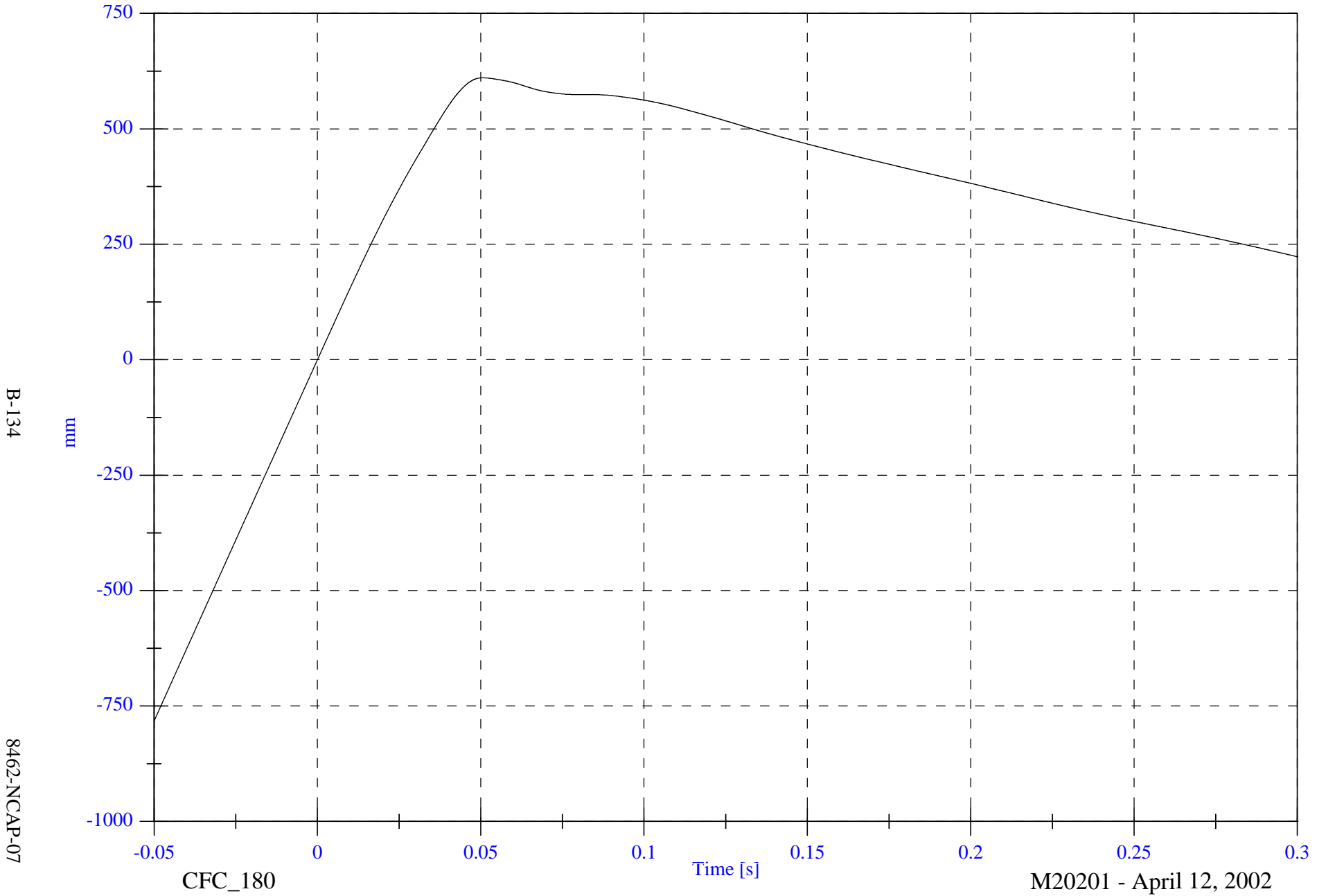
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

Left Caliper #7x Displacement

Max: 610.6 [mm] at 0.051 [s]

Min: -782.2 [mm] at -0.050 [s]



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CFC_180

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

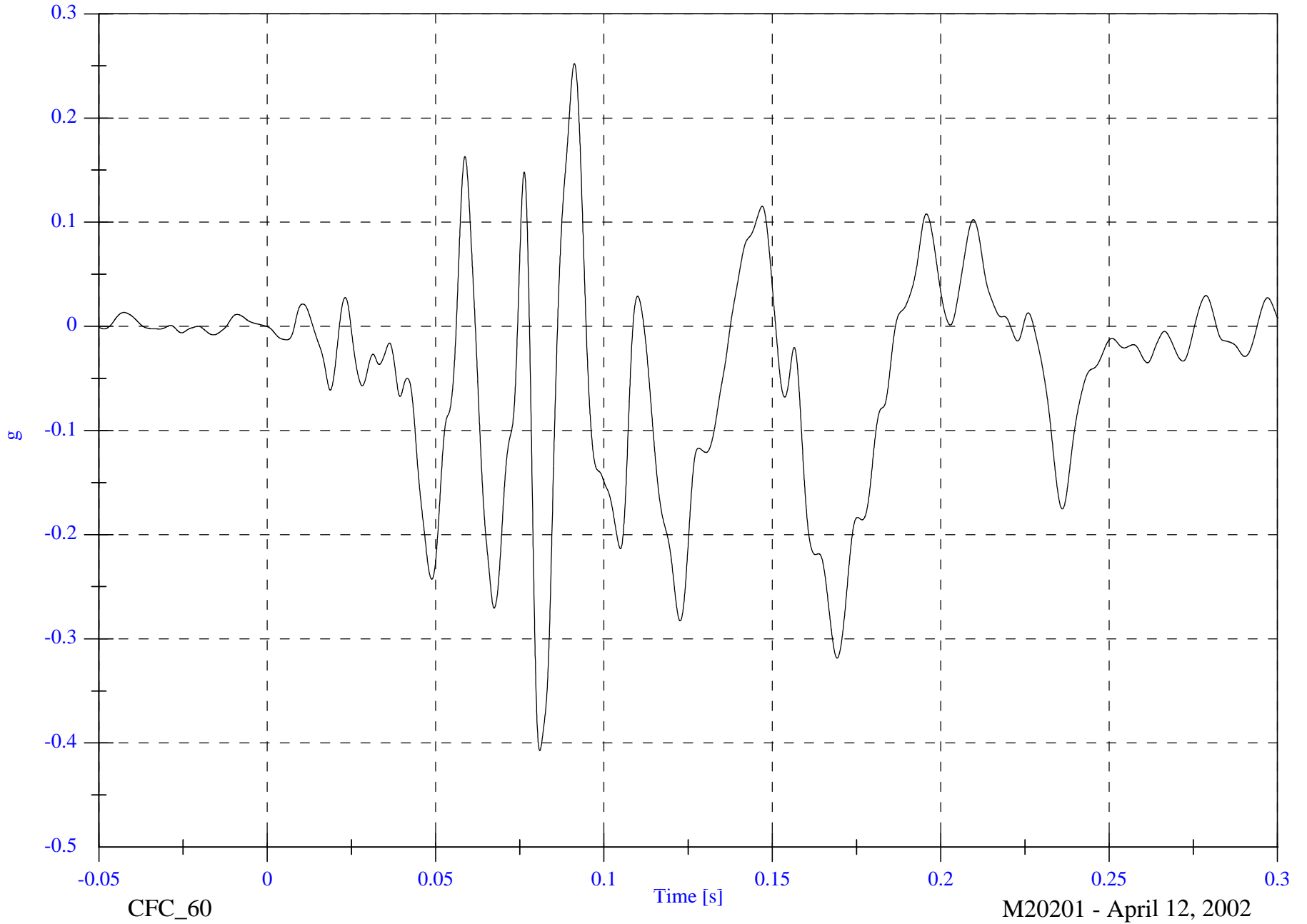
Left Rear #8z

Max: 0.3 [g] at 0.091 [s]

Min: -0.4 [g] at 0.081 [s]

B-135

8462-NCAP-07



CFC_60

Time [s]

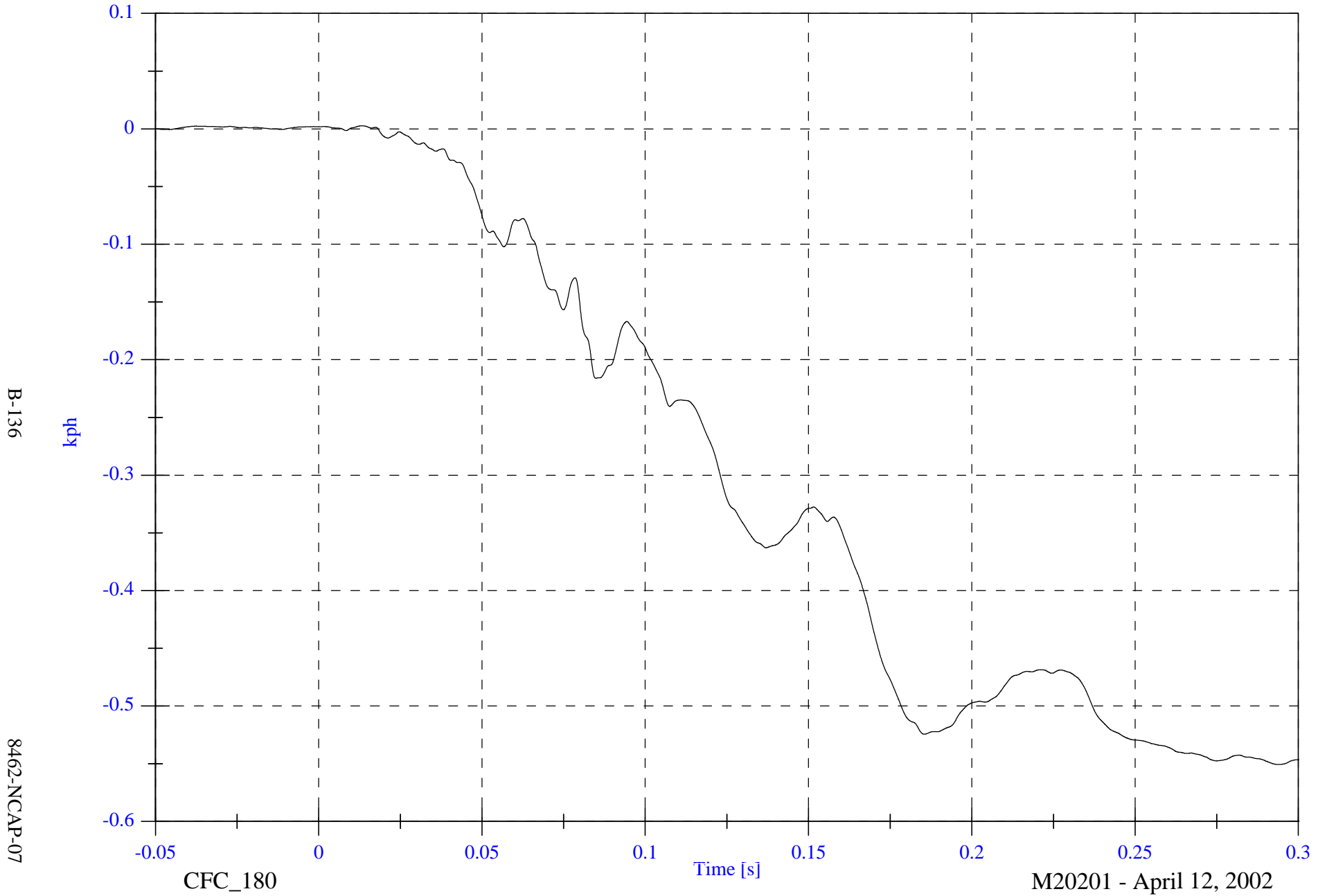
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

Left Rear #8z Velocity

Max: 0.0 [kph] at 0.013 [s]

Min: -0.6 [kph] at 0.294 [s]



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CFC_180

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

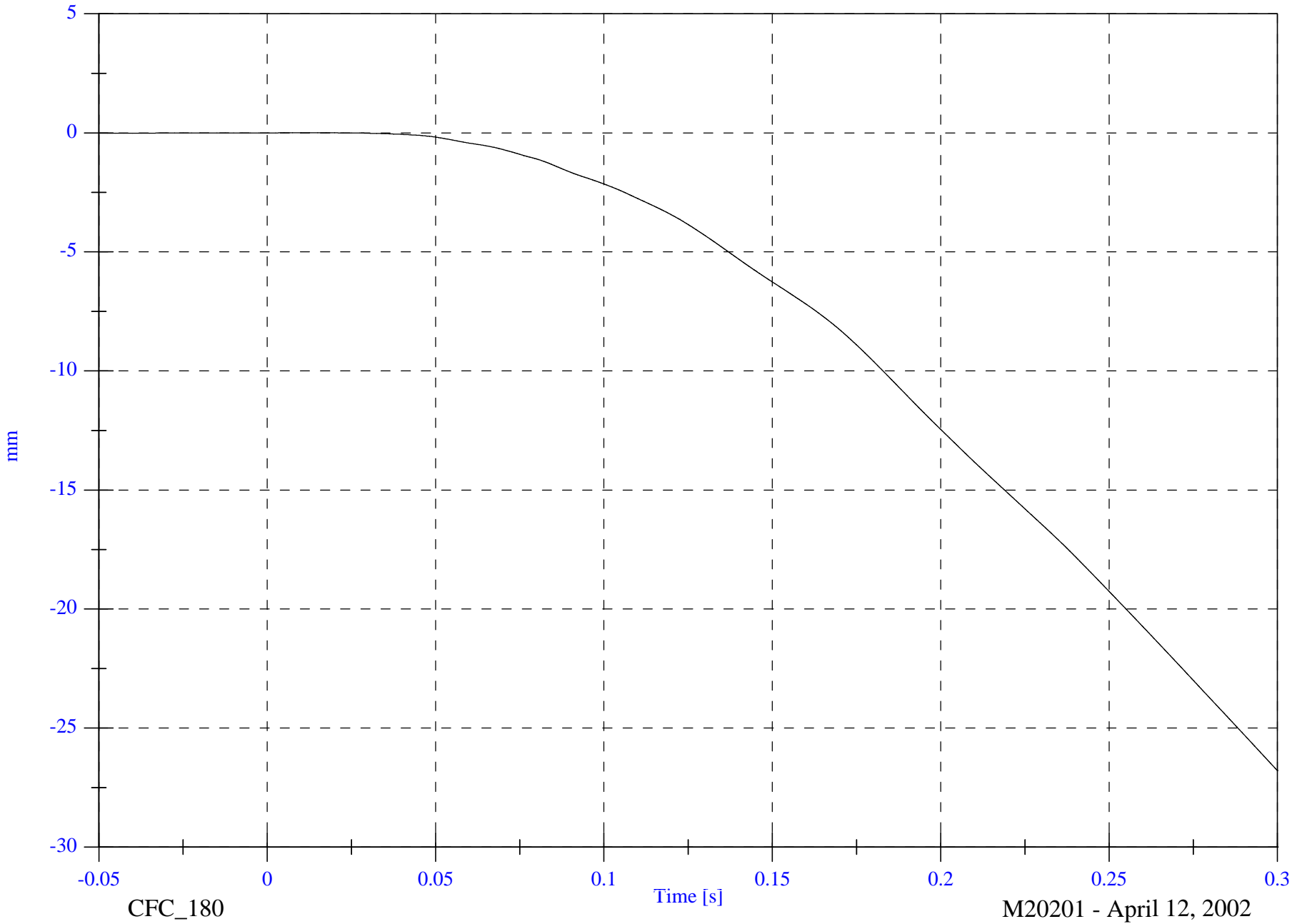
Left Rear #8z Displacement

Max: 0.0 [mm] at 0.018 [s]

Min: -26.8 [mm] at 0.300 [s]

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CFC_180

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

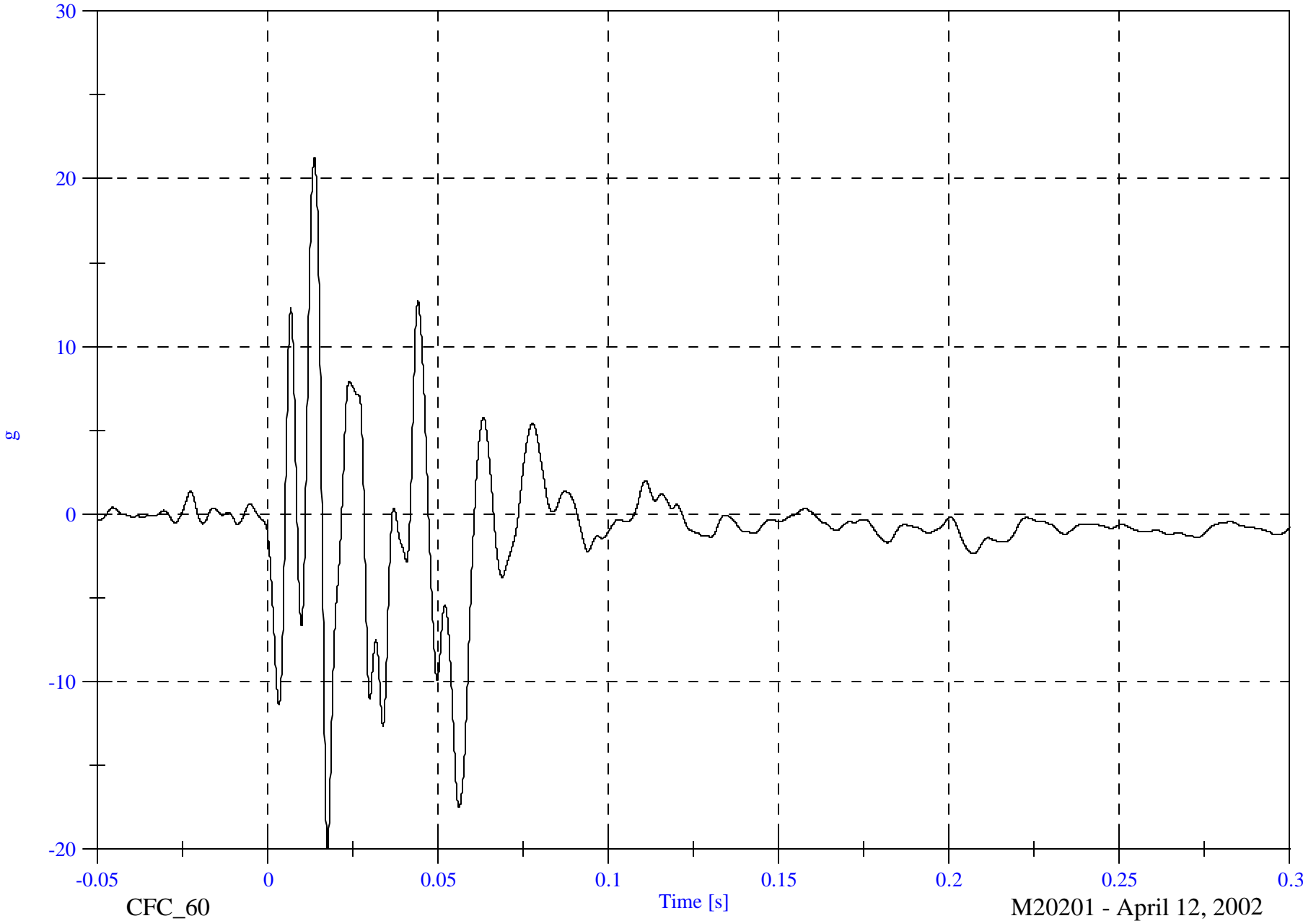
Right Rear #9z

Max: 21.2 [g] at 0.014 [s]

Min: -19.9 [g] at 0.018 [s]

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NCAP Test 7 - 2002 Ford Focus

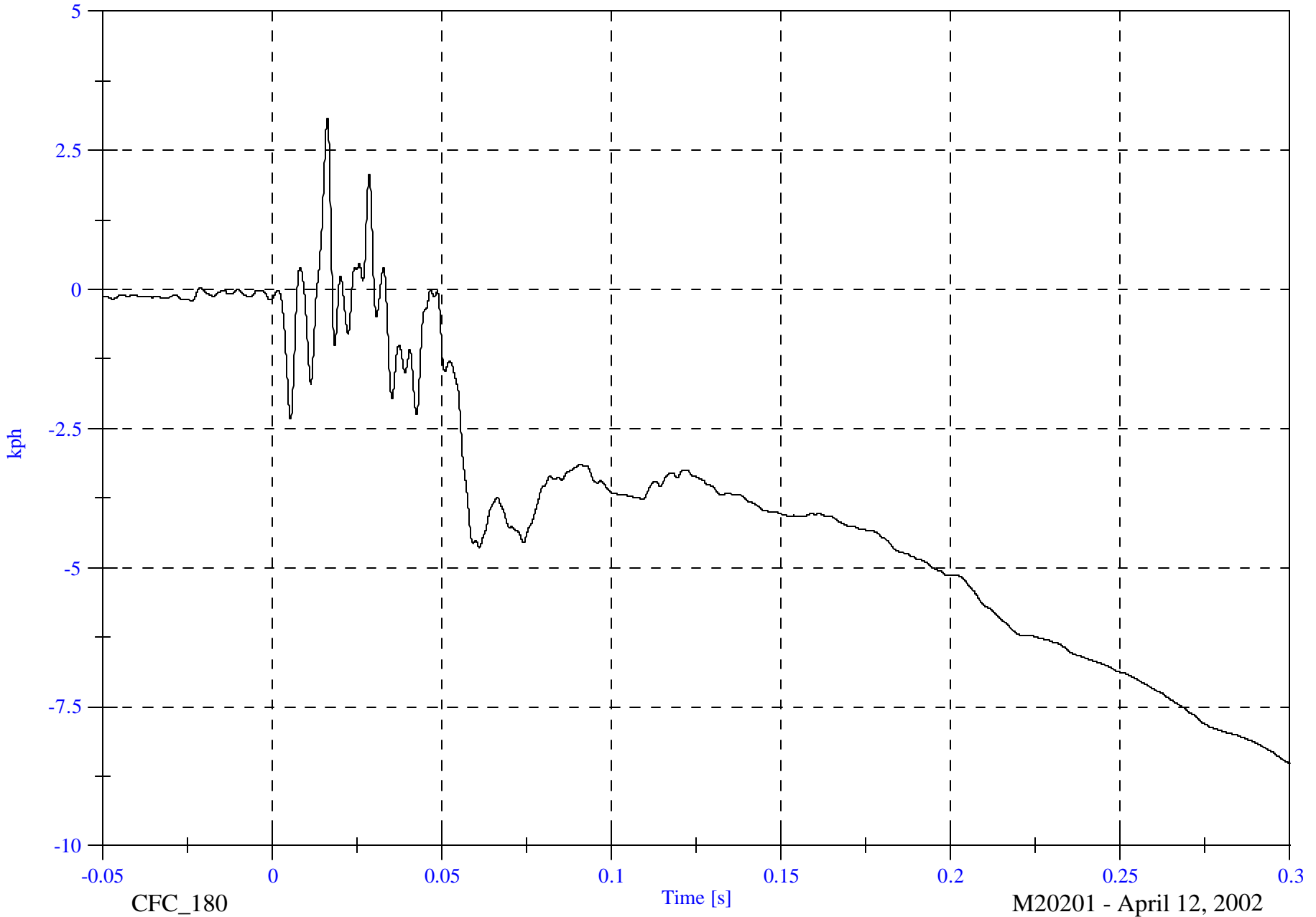
Right Rear #9z Velocity

Max: 3.1 [kph] at 0.016 [s]

Min: -8.5 [kph] at 0.300 [s]

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8642-NCAP-07



CFC_180

Time [s]

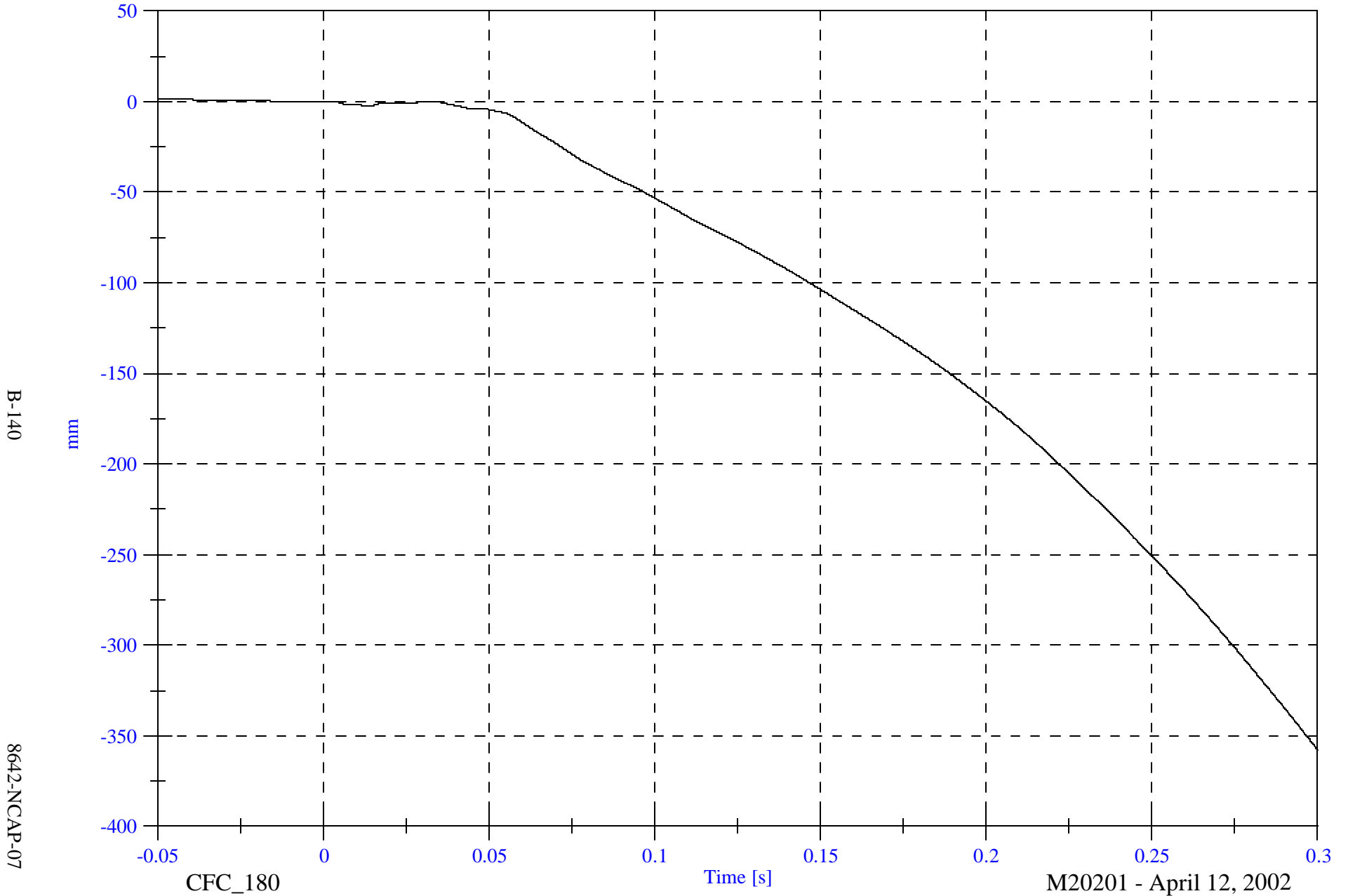
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

Right Rear #9z Displacement

Max: 1.5 [mm] at -0.050 [s]

Min: -357.8 [mm] at 0.300 [s]



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CFC_180

Time [s]

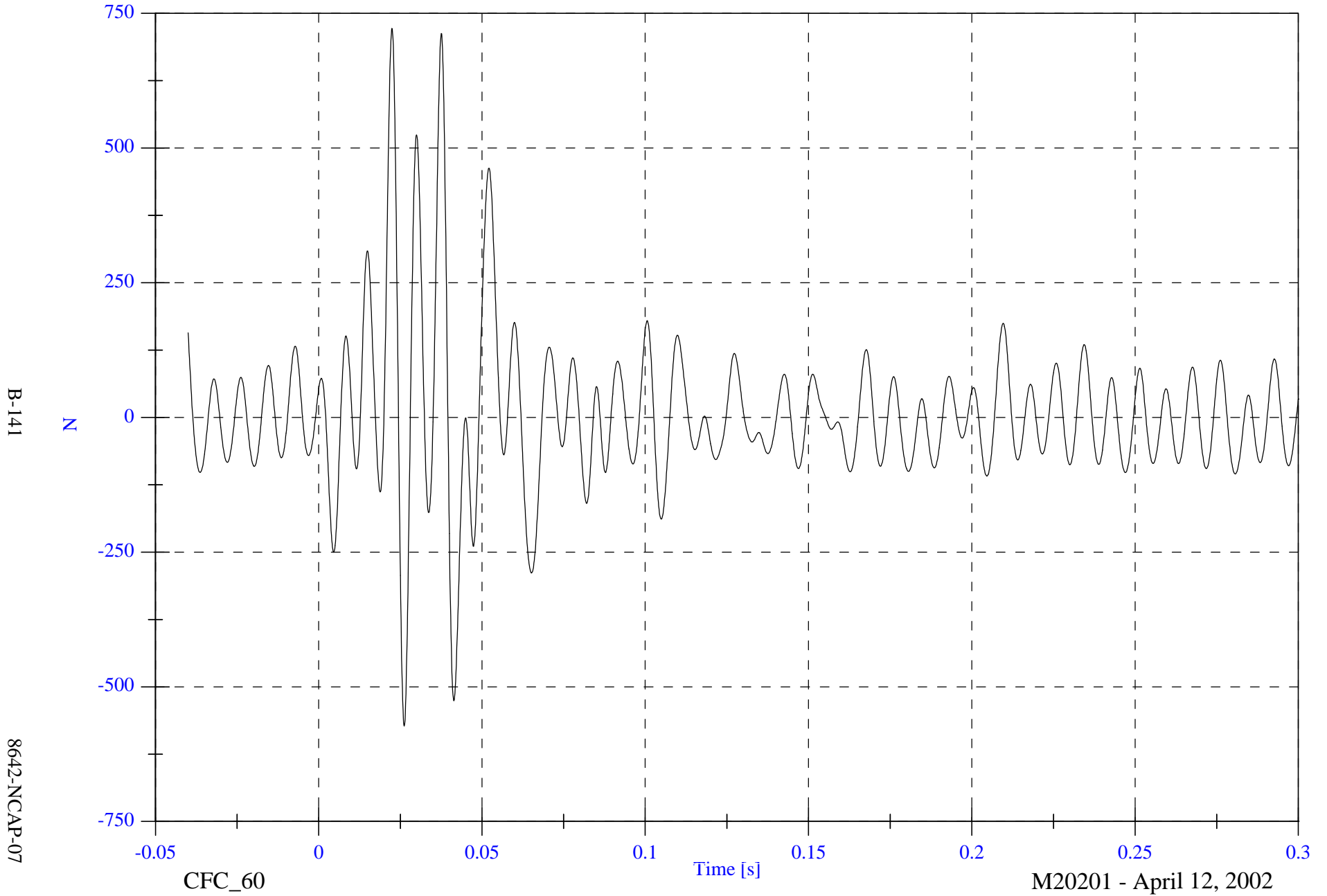
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

Max: 722.4 [N] at 0.022 [s]

Barrier Load Cell A1 Fx

Min: -572.8 [N] at 0.026 [s]

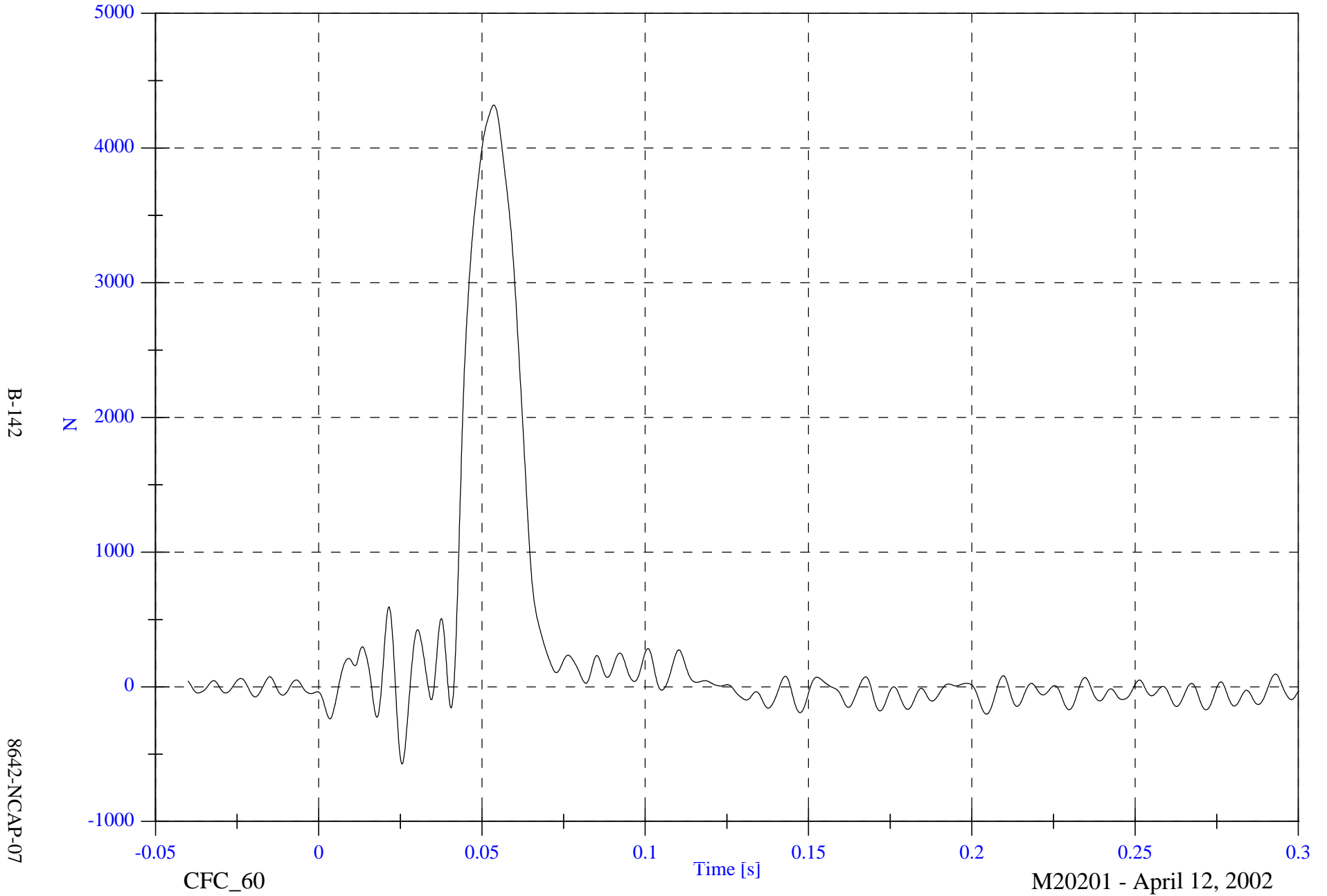


NCAP Test 7 - 2002 Ford Focus

Barrier Load Cell A2 Fx

Max: 4319.6 [N] at 0.054 [s]

Min: -572.6 [N] at 0.025 [s]

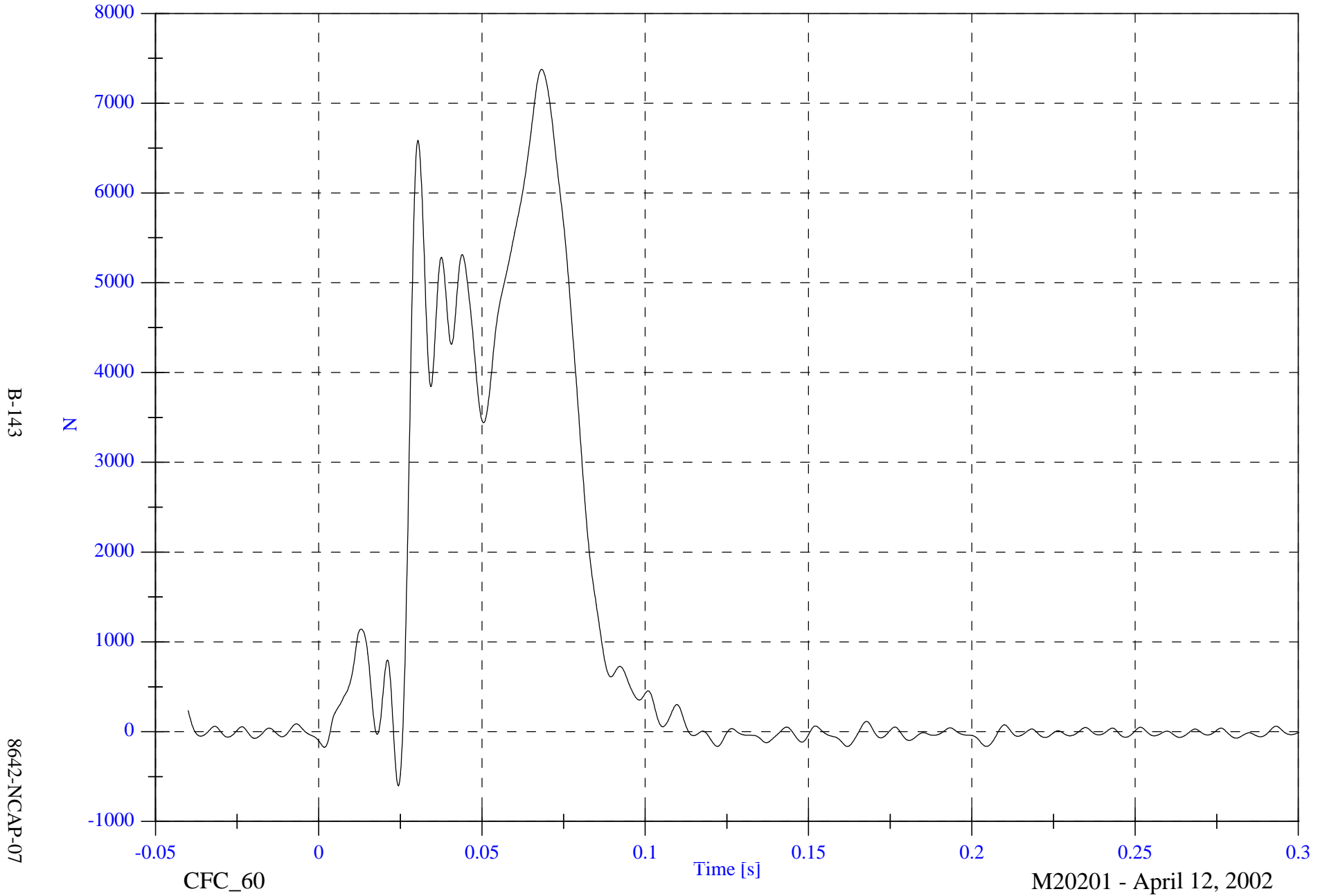


NCAP Test 7 - 2002 Ford Focus

Barrier Load Cell A3 Fx

Max: 7377.1 [N] at 0.068 [s]

Min: -604.1 [N] at 0.024 [s]



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8642-NCAP-07

CFC_60

Time [s]

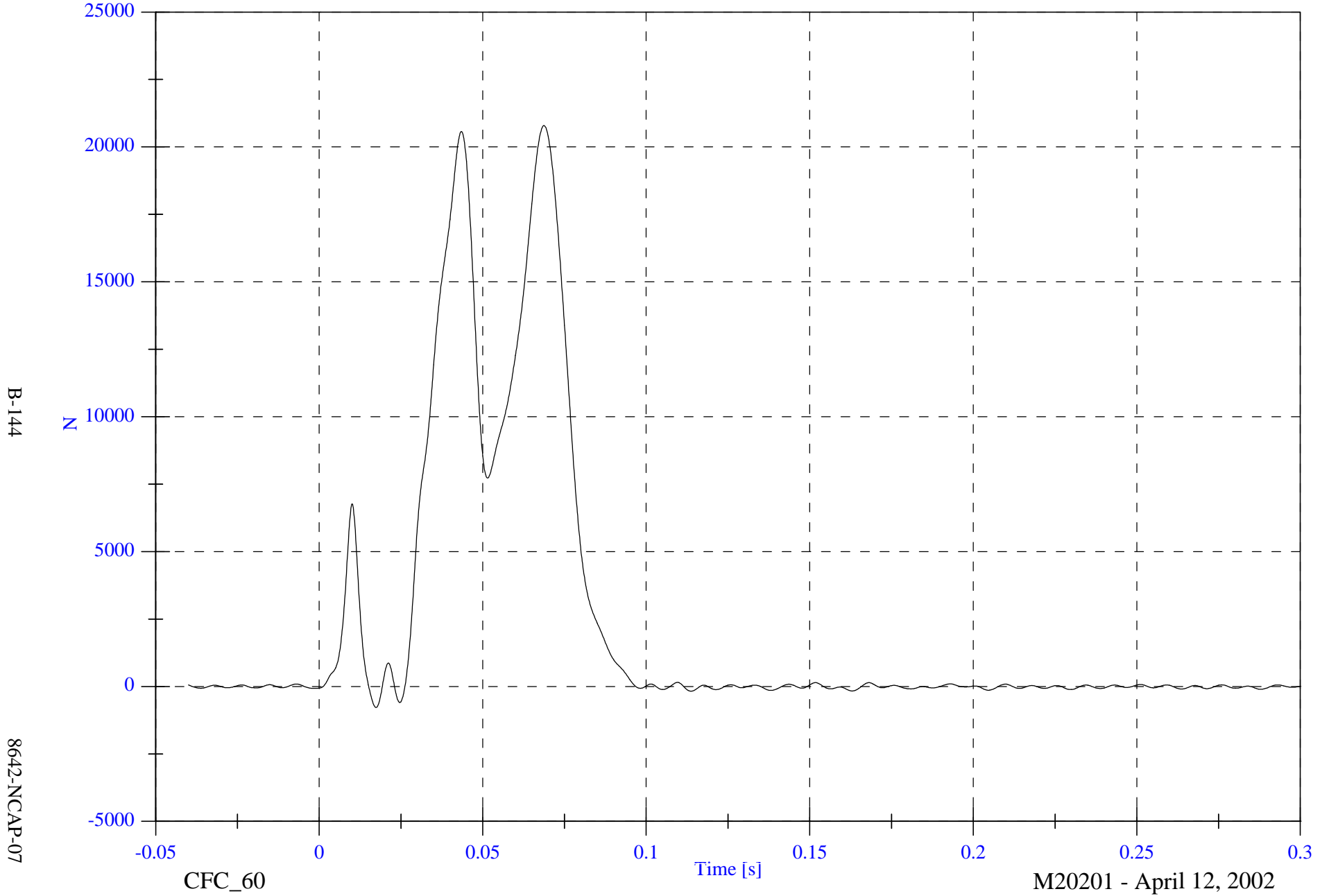
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

Barrier Load Cell A4 Fx

Max: 20792.4 [N] at 0.069 [s]

Min: -782.7 [N] at 0.017 [s]



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8642-NCAP-07

CFC_60

Time [s]

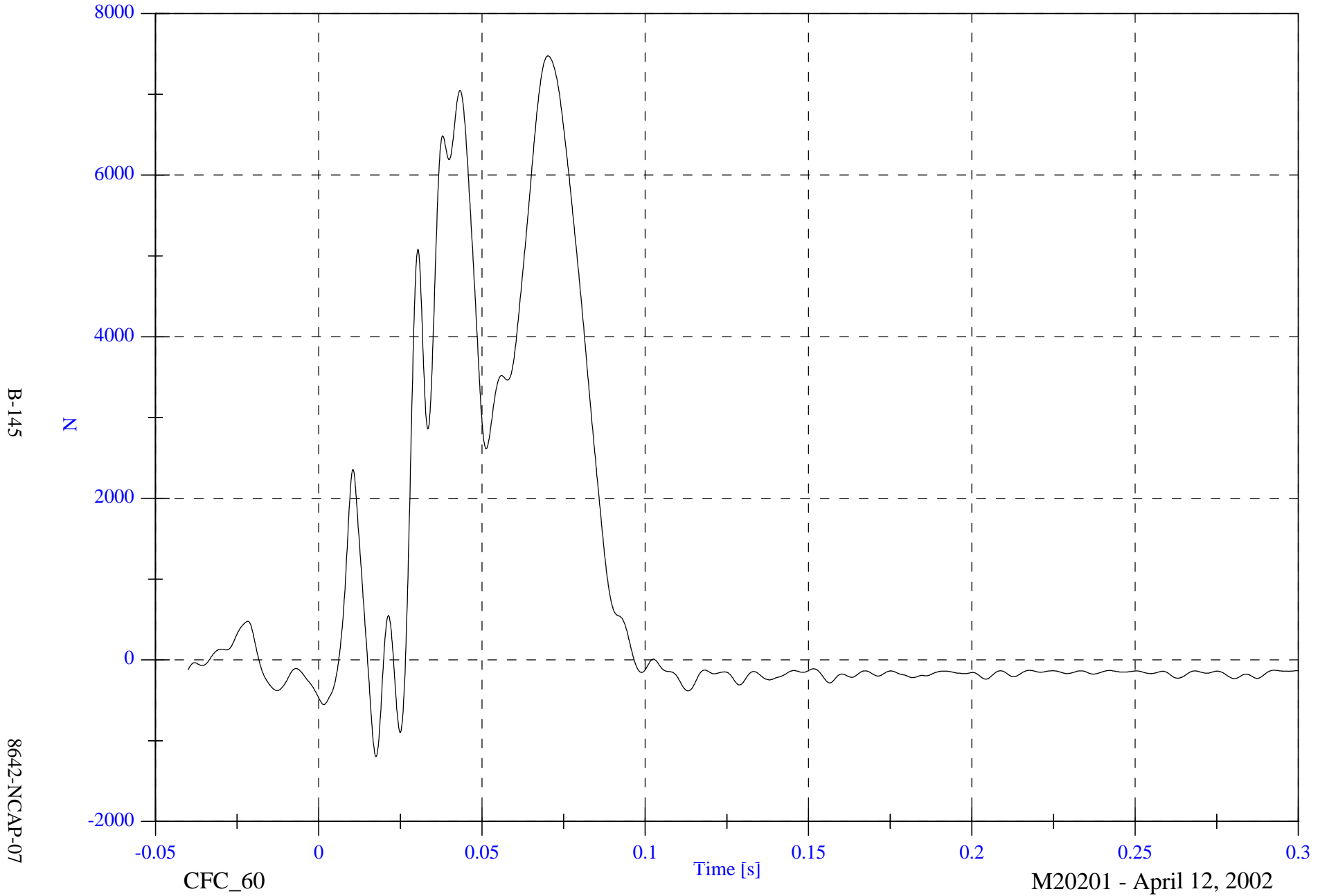
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

Barrier Load Cell A5 Fx

Max: 7474.4 [N] at 0.070 [s]

Min: -1198.3 [N] at 0.017 [s]



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8642-NCAP-07

CFC_60

Time [s]

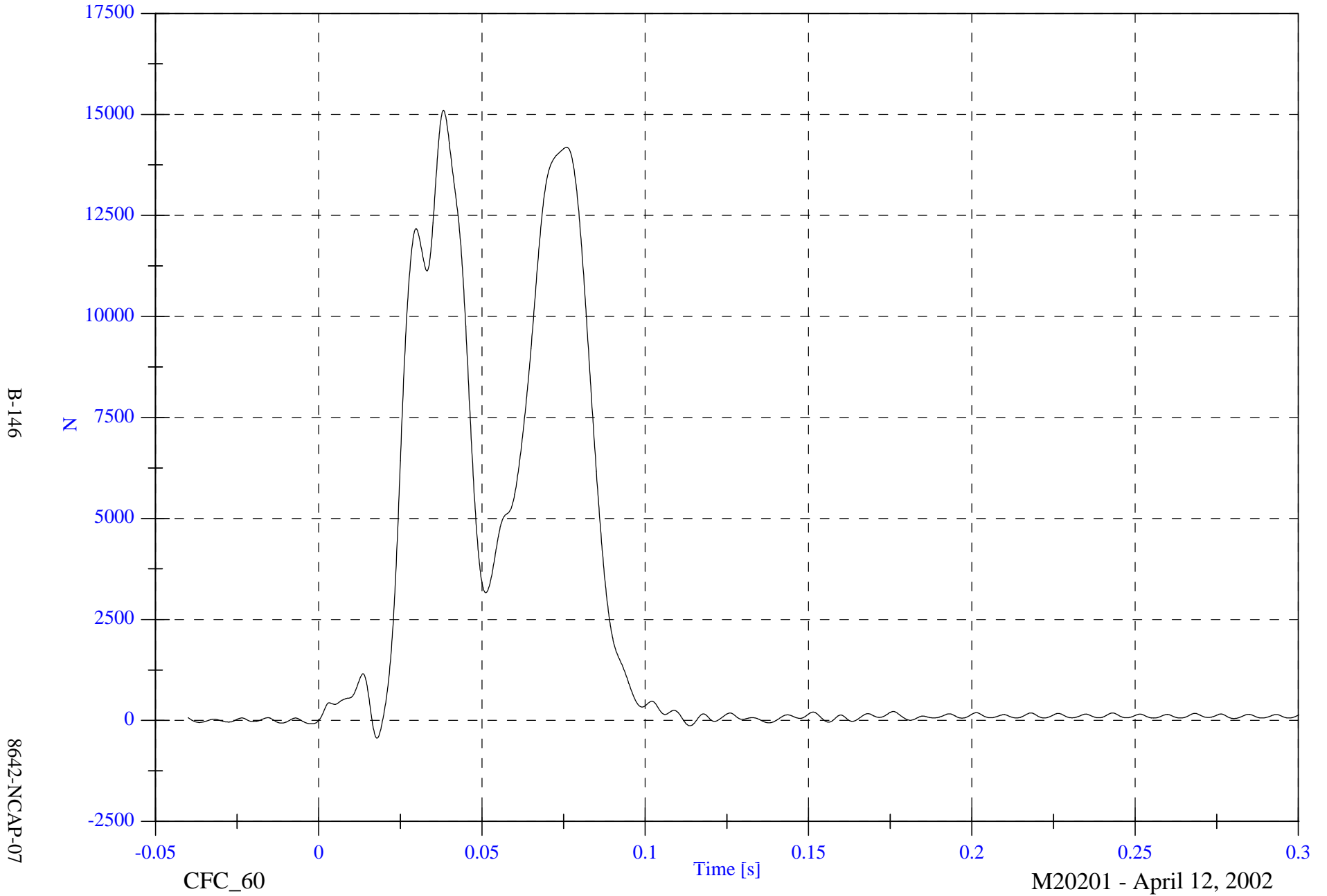
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

Barrier Load Cell A6 Fx

Max: 15099.6 [N] at 0.038 [s]

Min: -439.5 [N] at 0.018 [s]



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8642-NCAP-07

CFC_60

Time [s]

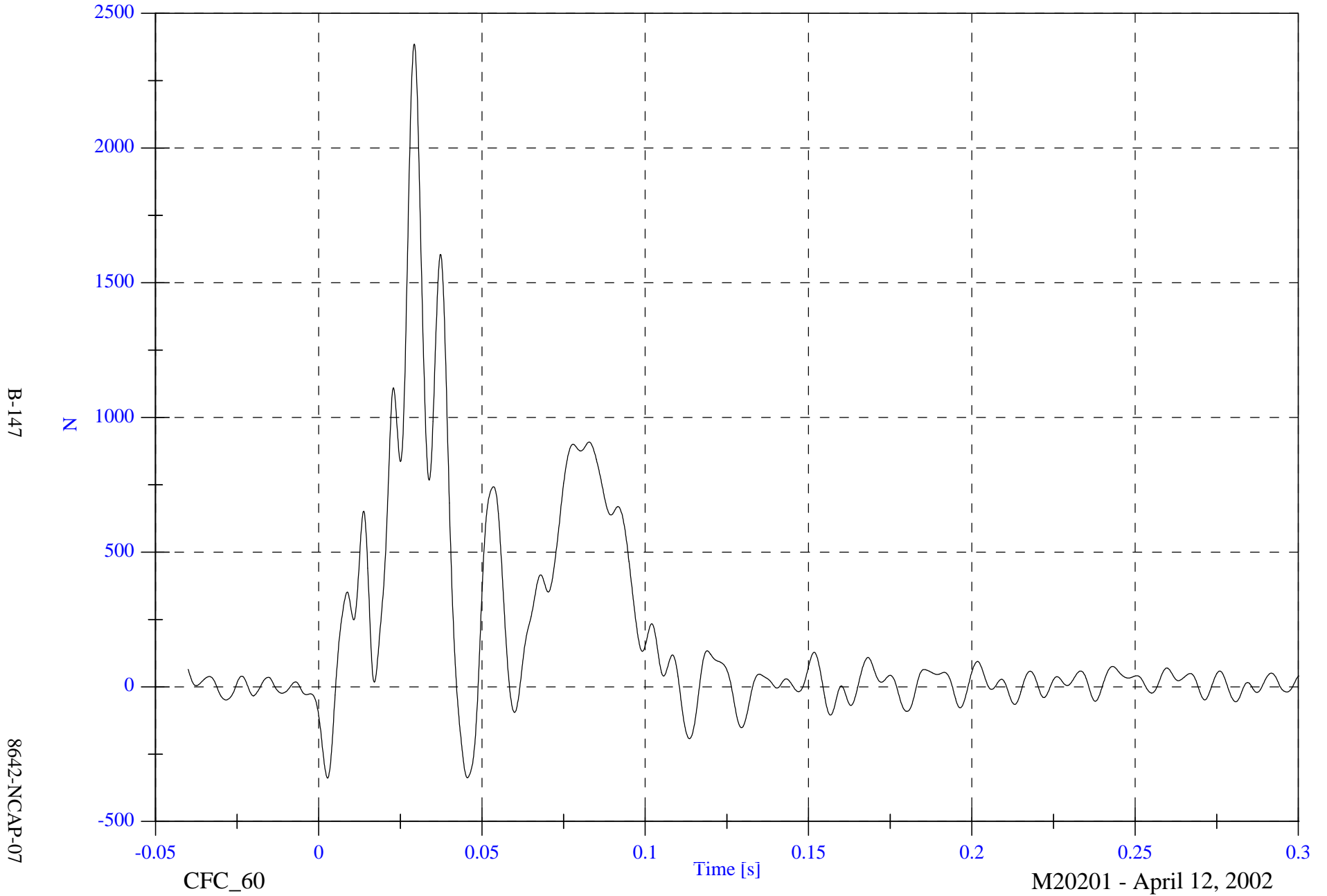
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

Barrier Load Cell A7 Fx

Max: 2386.4 [N] at 0.029 [s]

Min: -339.2 [N] at 0.003 [s]



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8642-NCAP-07

CFC_60

Time [s]

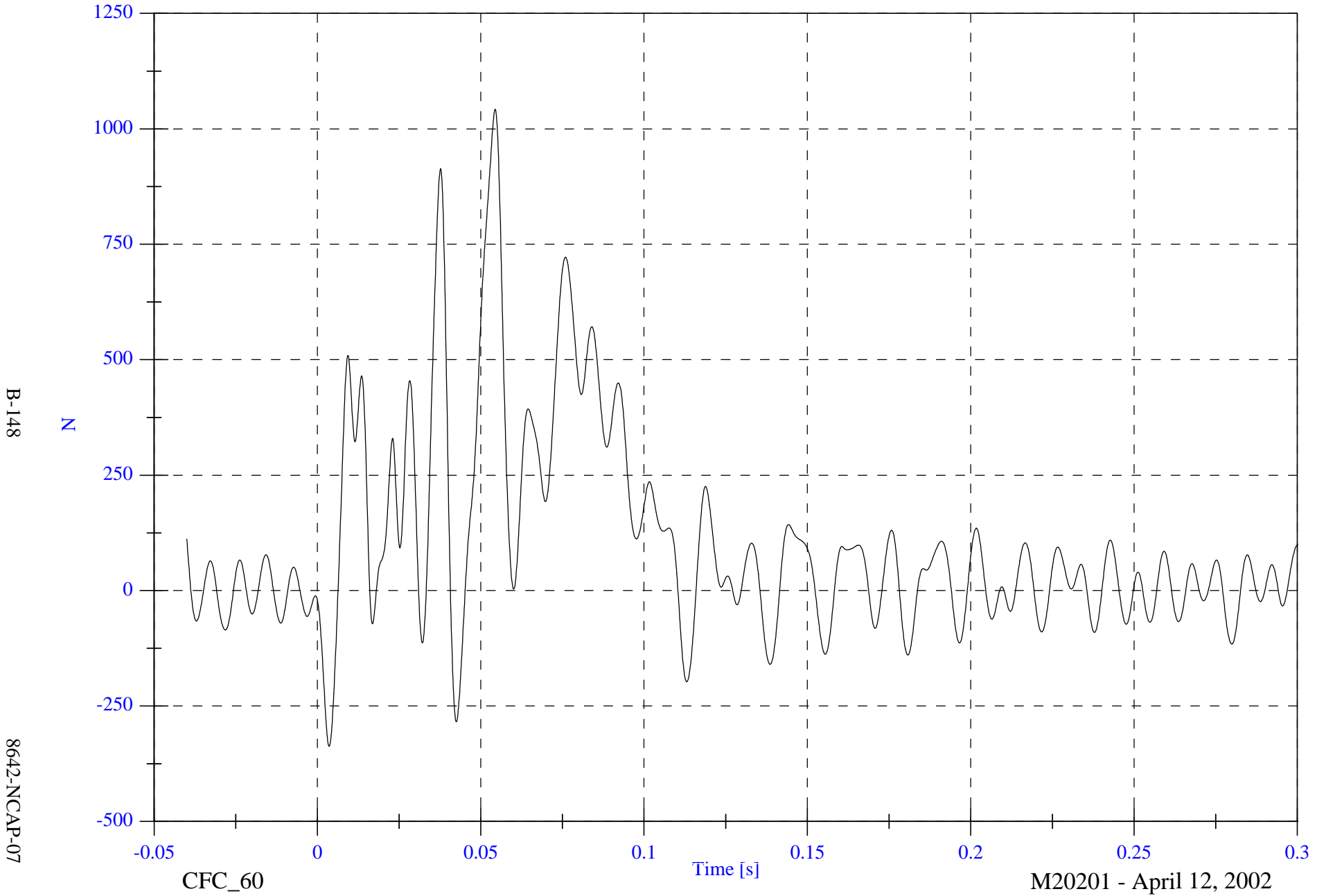
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

Max: 1042.4 [N] at 0.054 [s]

Barrier Load Cell A8 Fx

Min: -337.4 [N] at 0.004 [s]

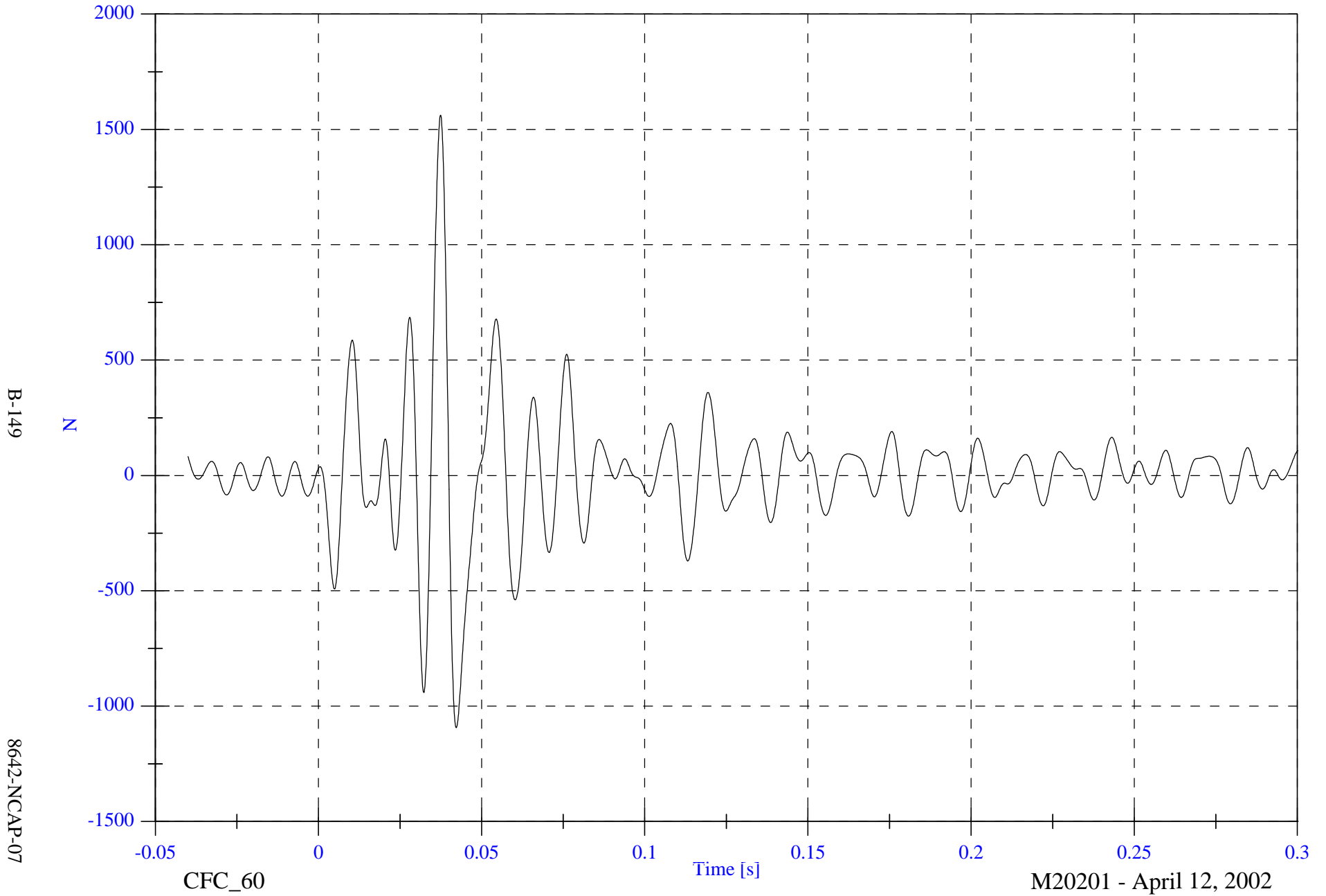


NCAP Test 7 - 2002 Ford Focus

Barrier Load Cell A9 Fx

Max: 1562.5 [N] at 0.037 [s]

Min: -1093.9 [N] at 0.042 [s]

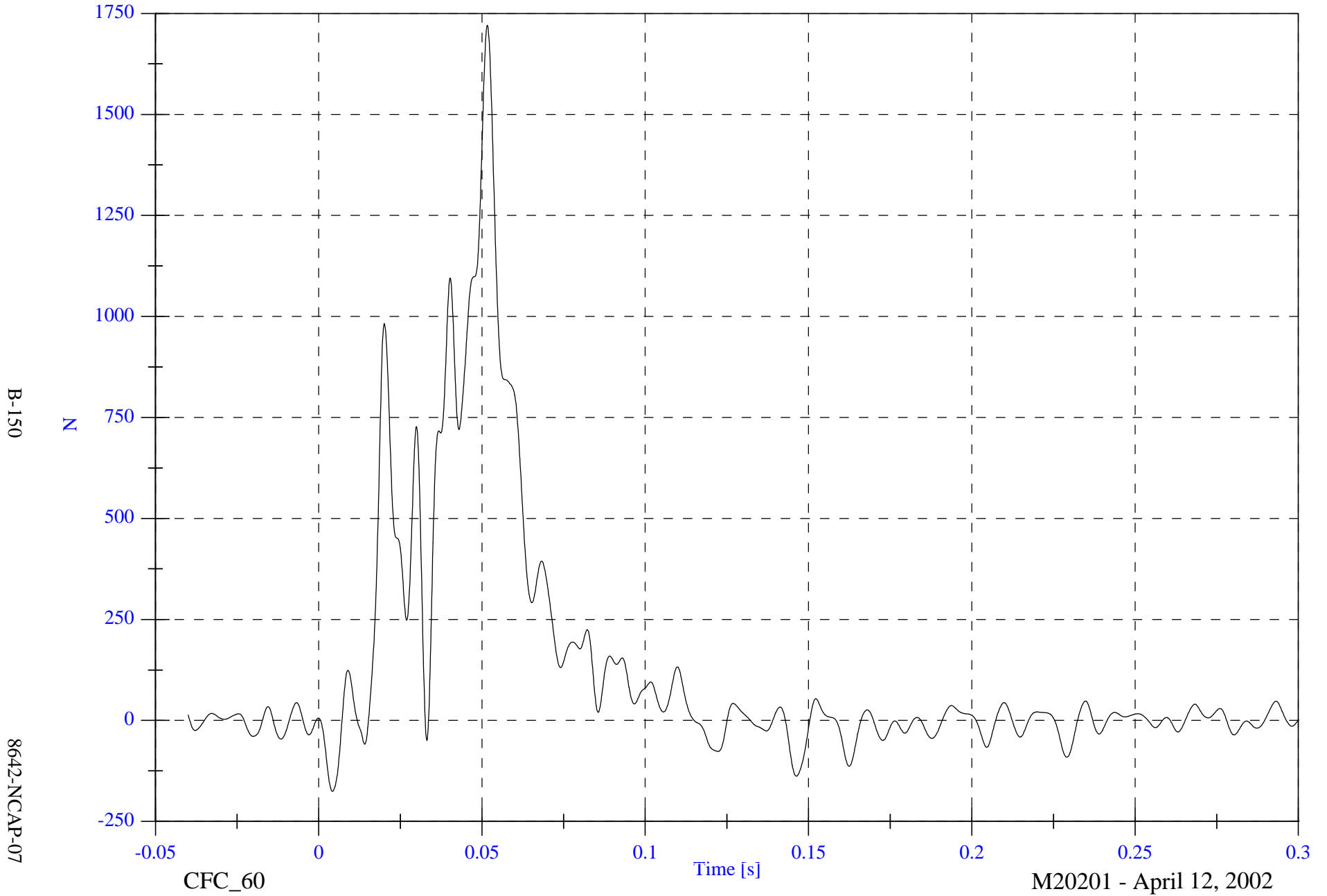


NCAP Test 7 - 2002 Ford Focus

Max: 1720.8 [N] at 0.052 [s]

Barrier Load Cell B1 Fx

Min: -175.5 [N] at 0.004 [s]

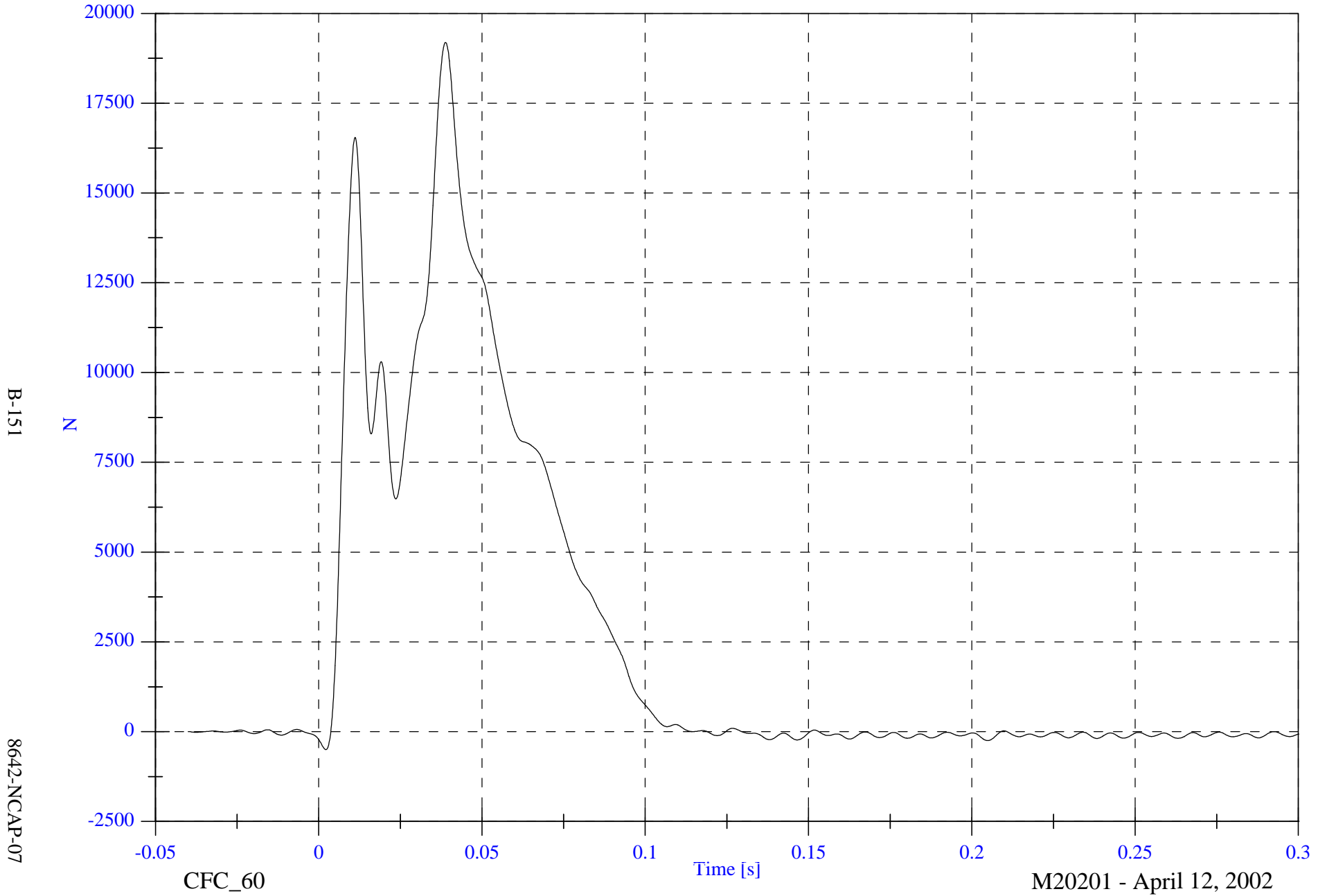


NCAP Test 7 - 2002 Ford Focus

Barrier Load Cell B2 Fx

Max: 19192.5 [N] at 0.039 [s]

Min: -500.9 [N] at 0.002 [s]



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CFC_60

Time [s]

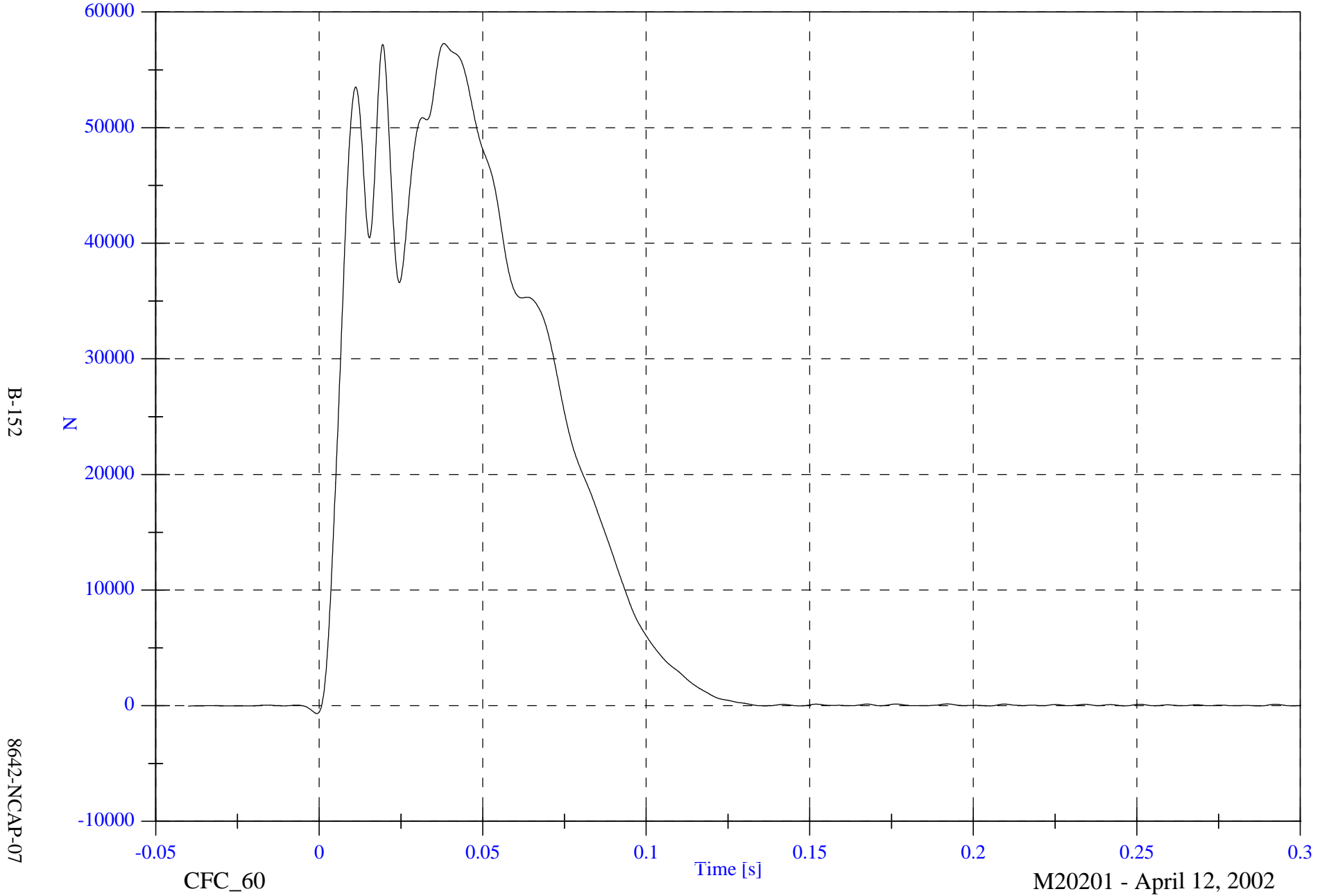
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

Barrier Load Cell B3 Fx

Max: 57279.9 [N] at 0.038 [s]

Min: -674.1 [N] at -0.001 [s]



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CFC_60

Time [s]

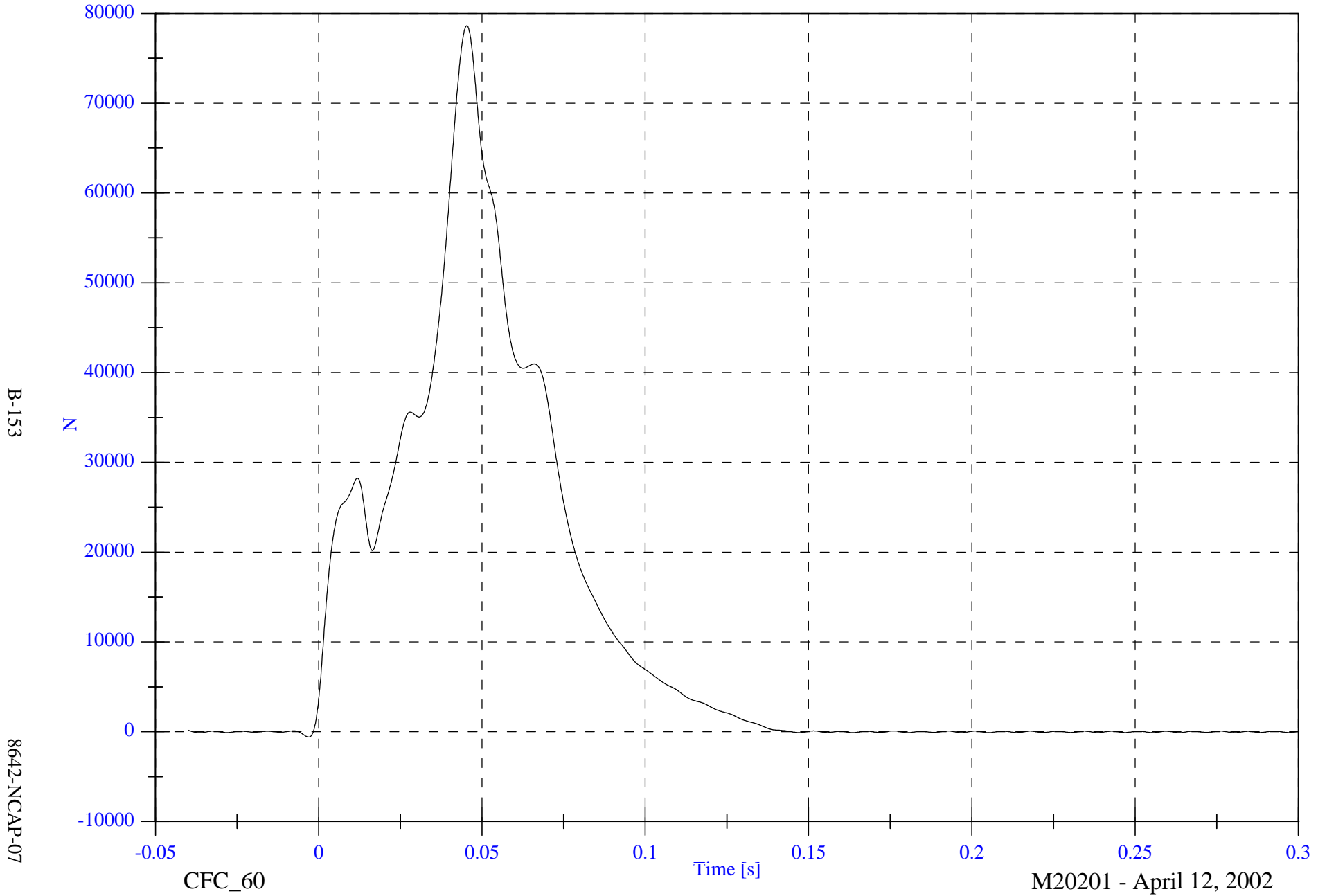
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

Barrier Load Cell B4 Fx

Max: 78640.4 [N] at 0.045 [s]

Min: -605.5 [N] at -0.003 [s]

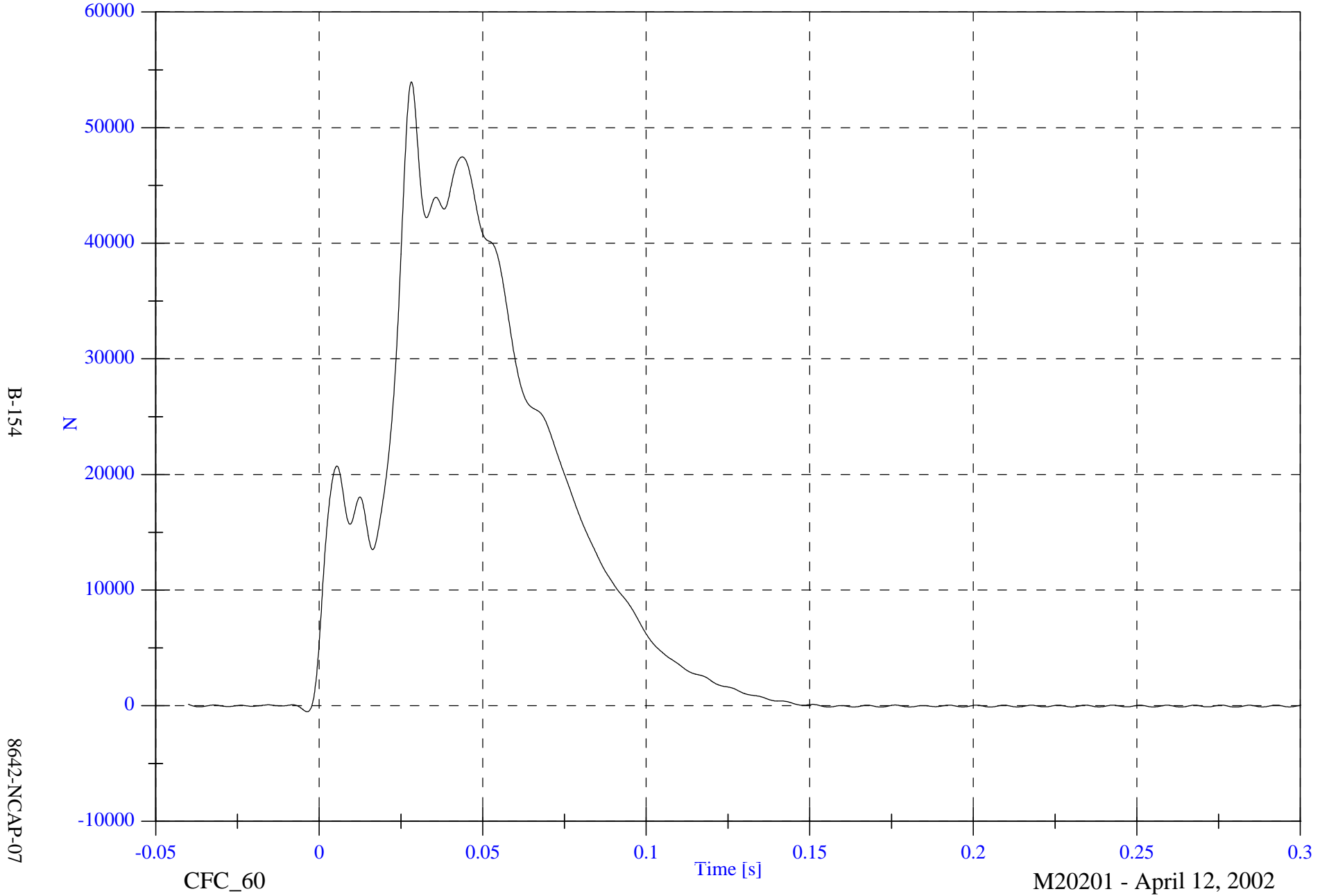


NCAP Test 7 - 2002 Ford Focus

Barrier Load Cell B5 Fx

Max: 53960.6 [N] at 0.028 [s]

Min: -517.4 [N] at -0.004 [s]



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8642-NCAP-07

CFC_60

Time [s]

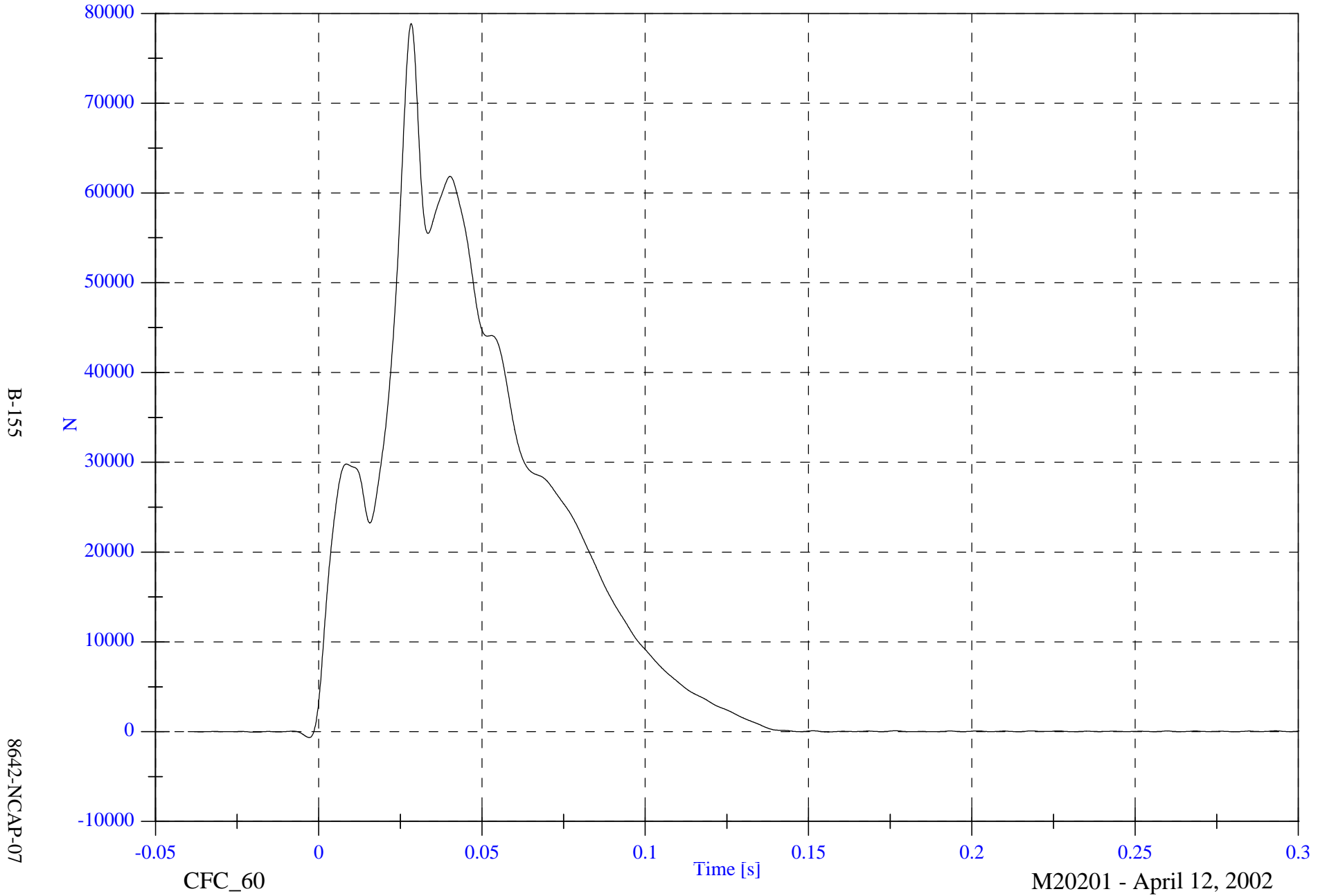
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

Barrier Load Cell B6 Fx

Max: 78869.5 [N] at 0.028 [s]

Min: -658.0 [N] at -0.003 [s]



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CFC_60

Time [s]

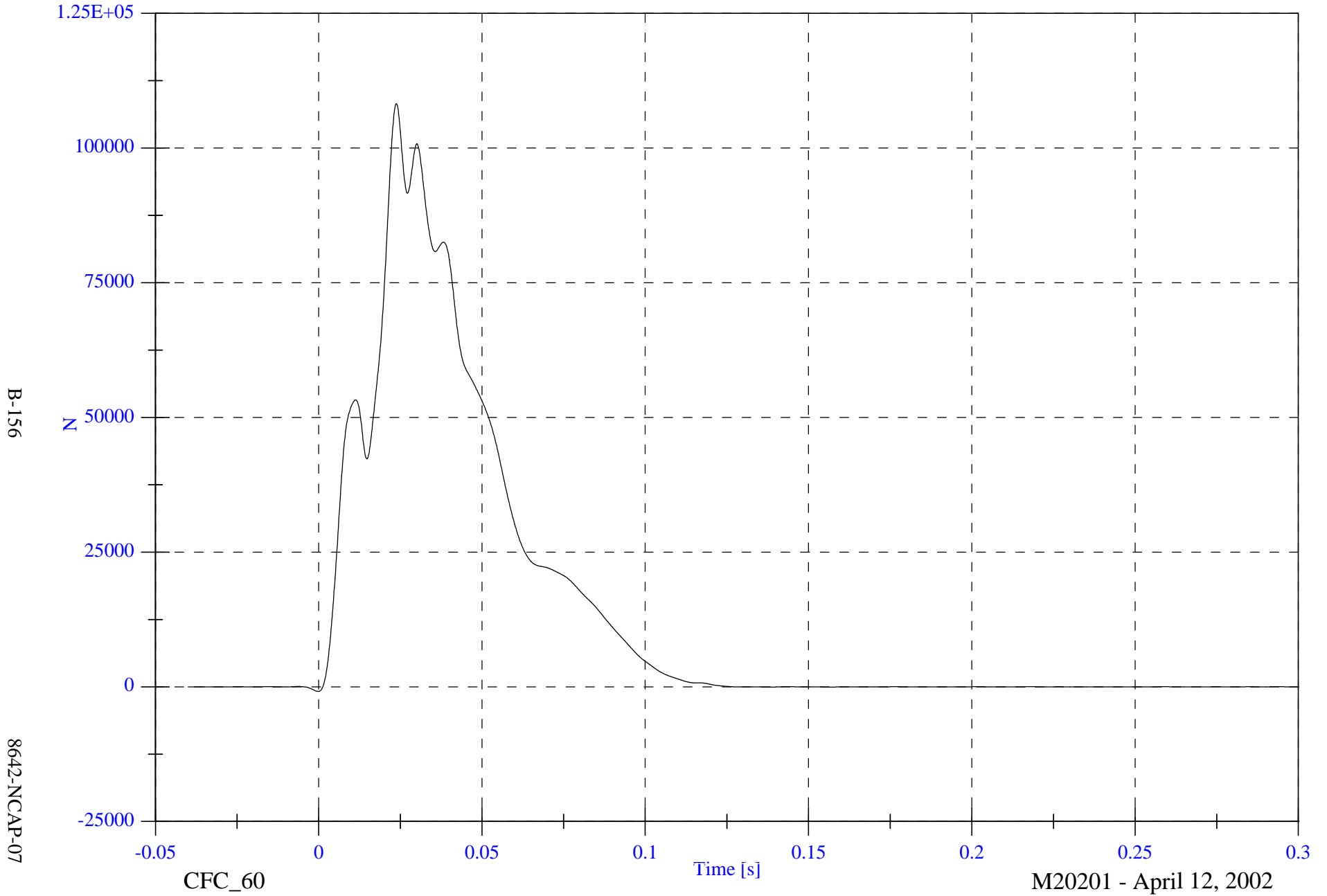
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

Barrier Load Cell B7 Fx

Max: 108256.8 [N] at 0.024 [s]

Min: -876.0 [N] at -0.000 [s]



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CFC_60

Time [s]

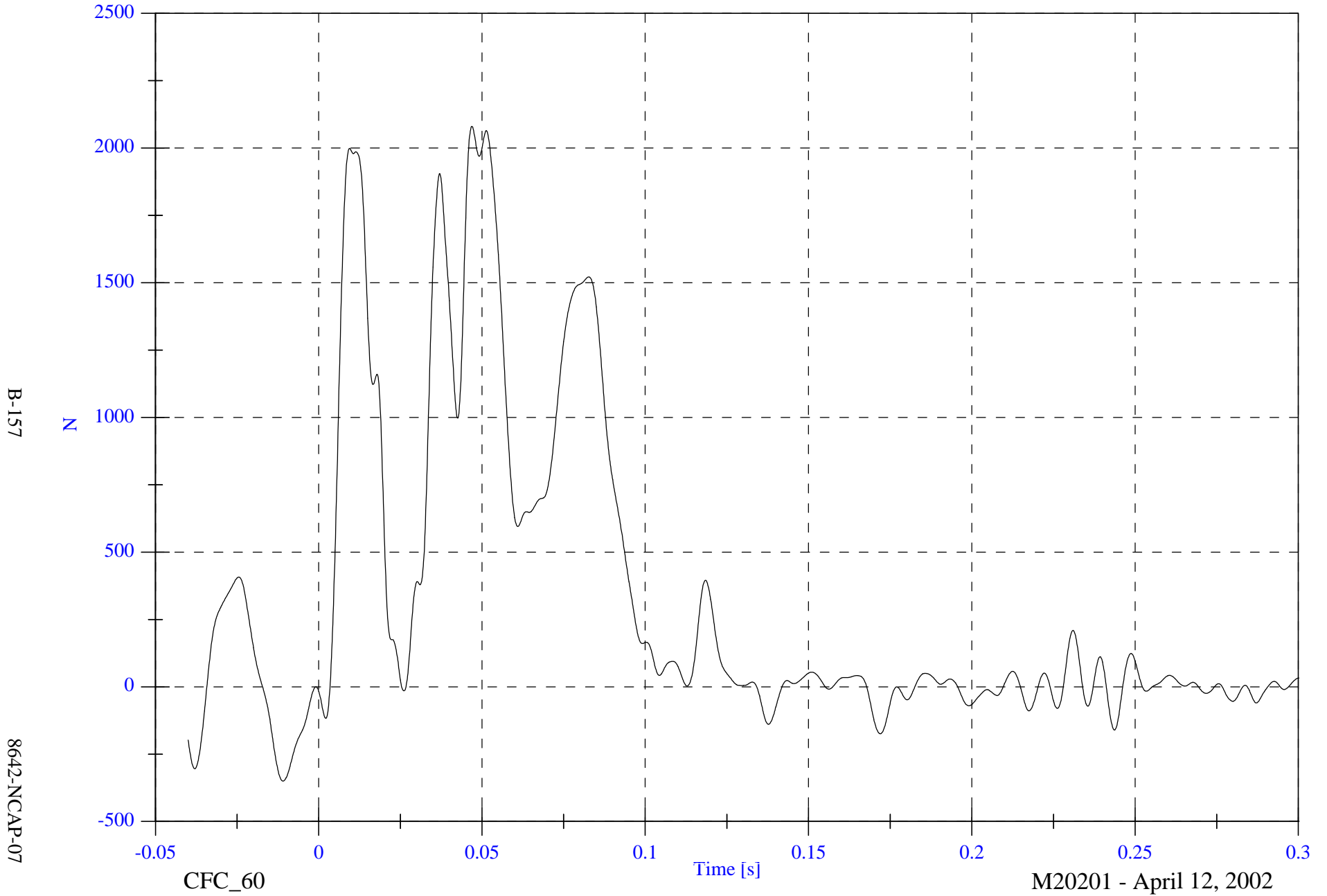
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

Barrier Load Cell B8 Fx

Max: 2080.6 [N] at 0.047 [s]

Min: -350.2 [N] at -0.011 [s]



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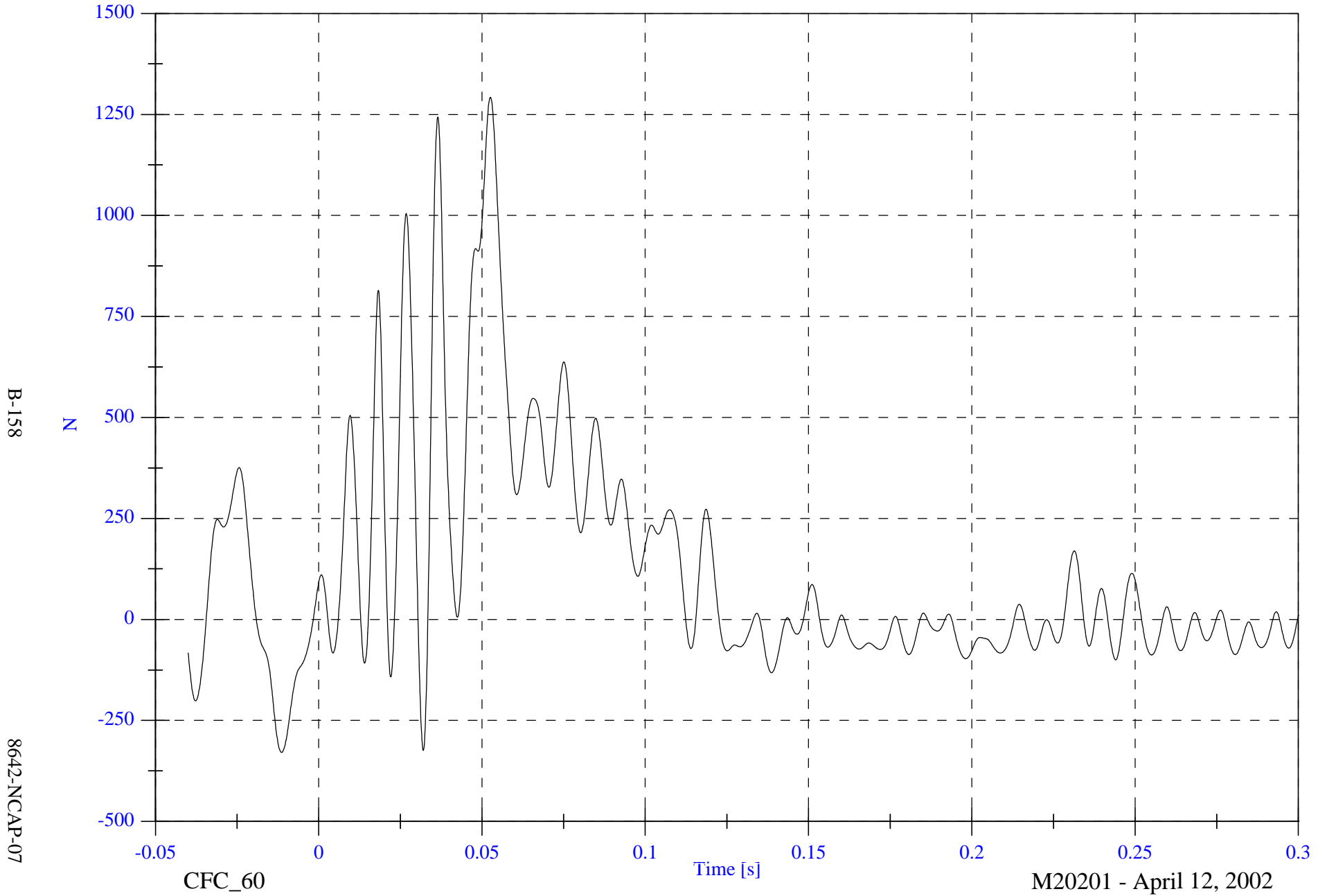
8642-NCAP-07

NCAP Test 7 - 2002 Ford Focus

Barrier Load Cell B9 Fx

Max: 1292.5 [N] at 0.053 [s]

Min: -329.1 [N] at -0.011 [s]

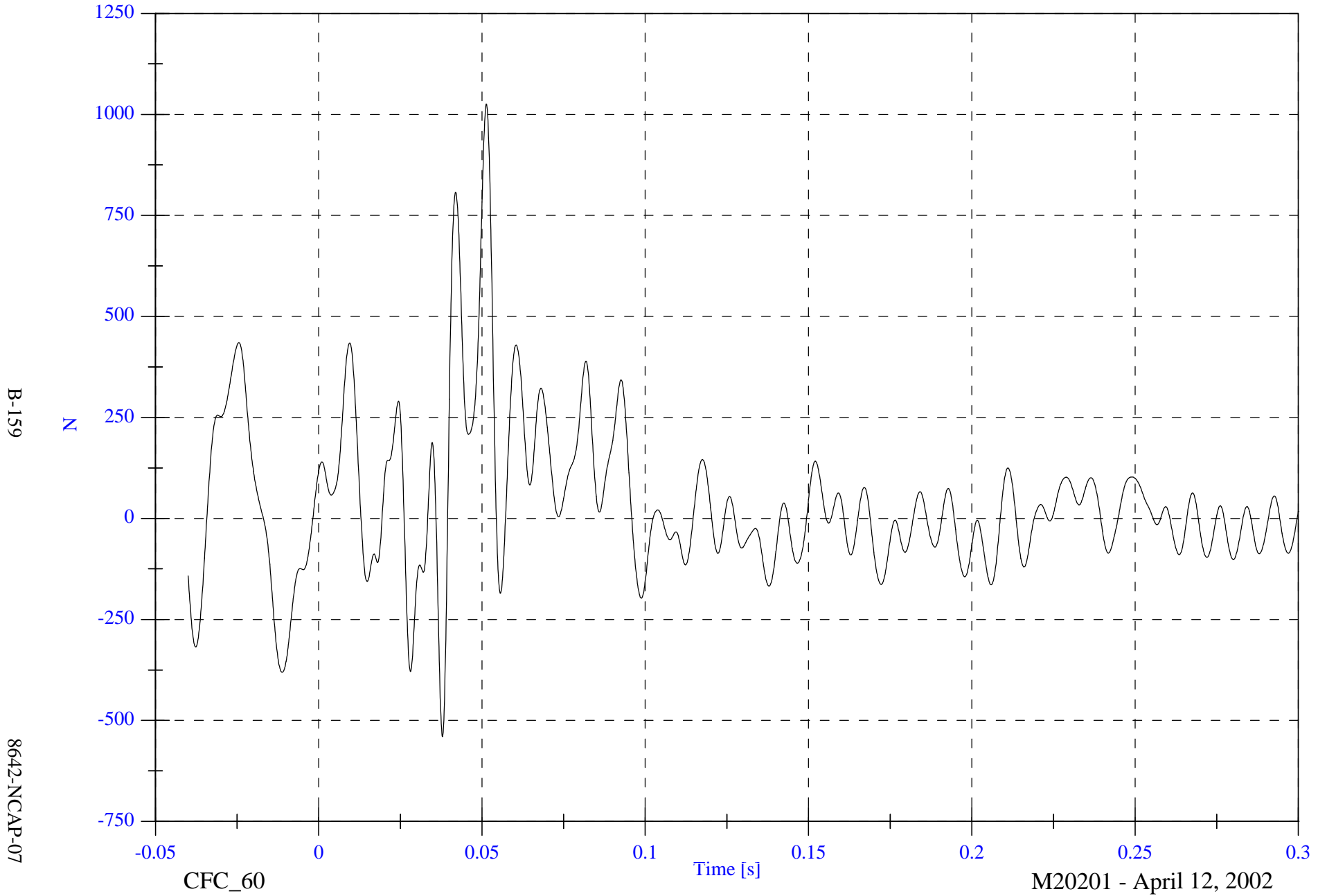


NCAP Test 7 - 2002 Ford Focus

Barrier Load Cell C1 Fx

Max: 1026.0 [N] at 0.051 [s]

Min: -540.2 [N] at 0.038 [s]

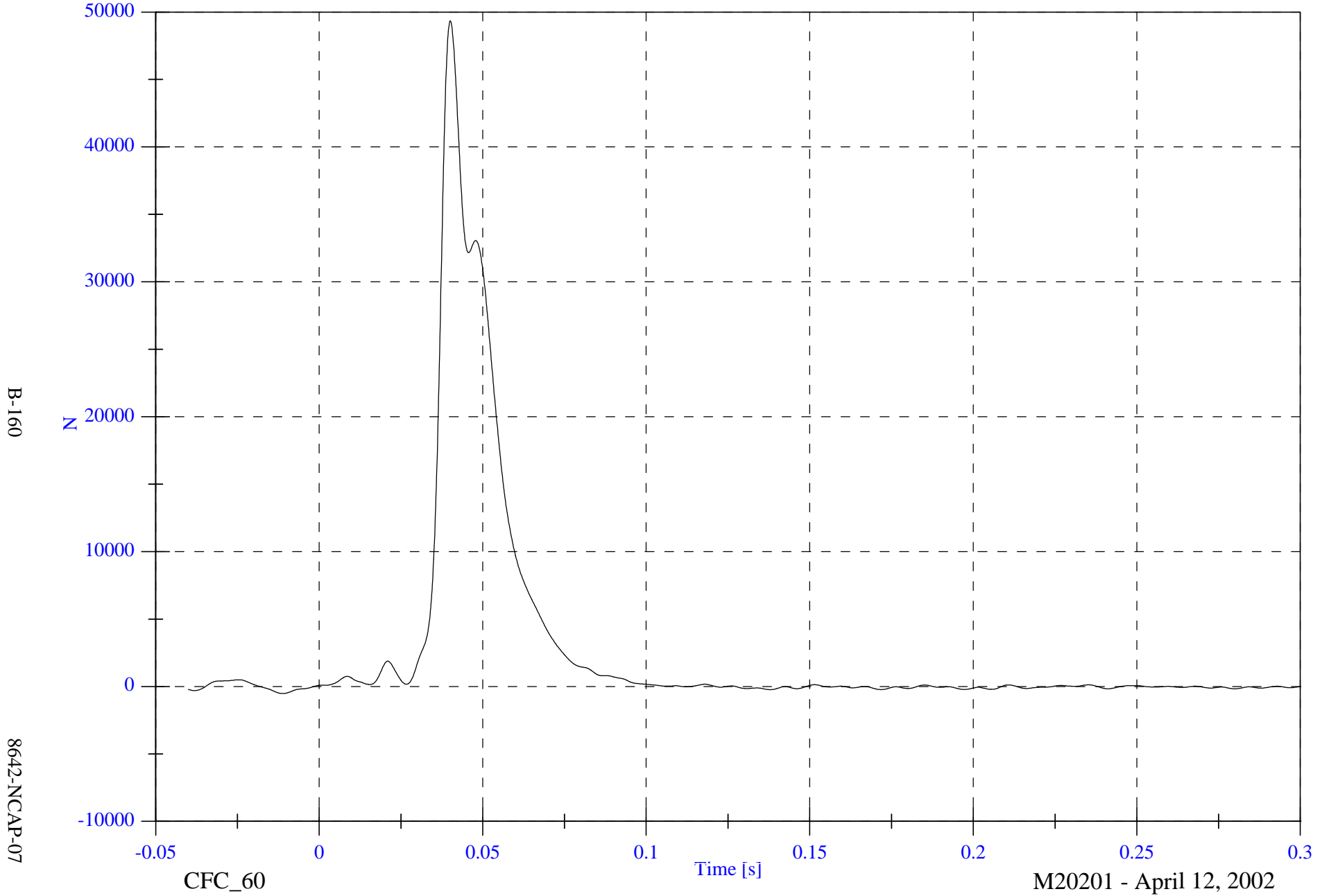


NCAP Test 7 - 2002 Ford Focus

Barrier Load Cell C2 Fx

Max: 49349.6 [N] at 0.040 [s]

Min: -524.6 [N] at -0.011 [s]



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CFC_60

Time [s]

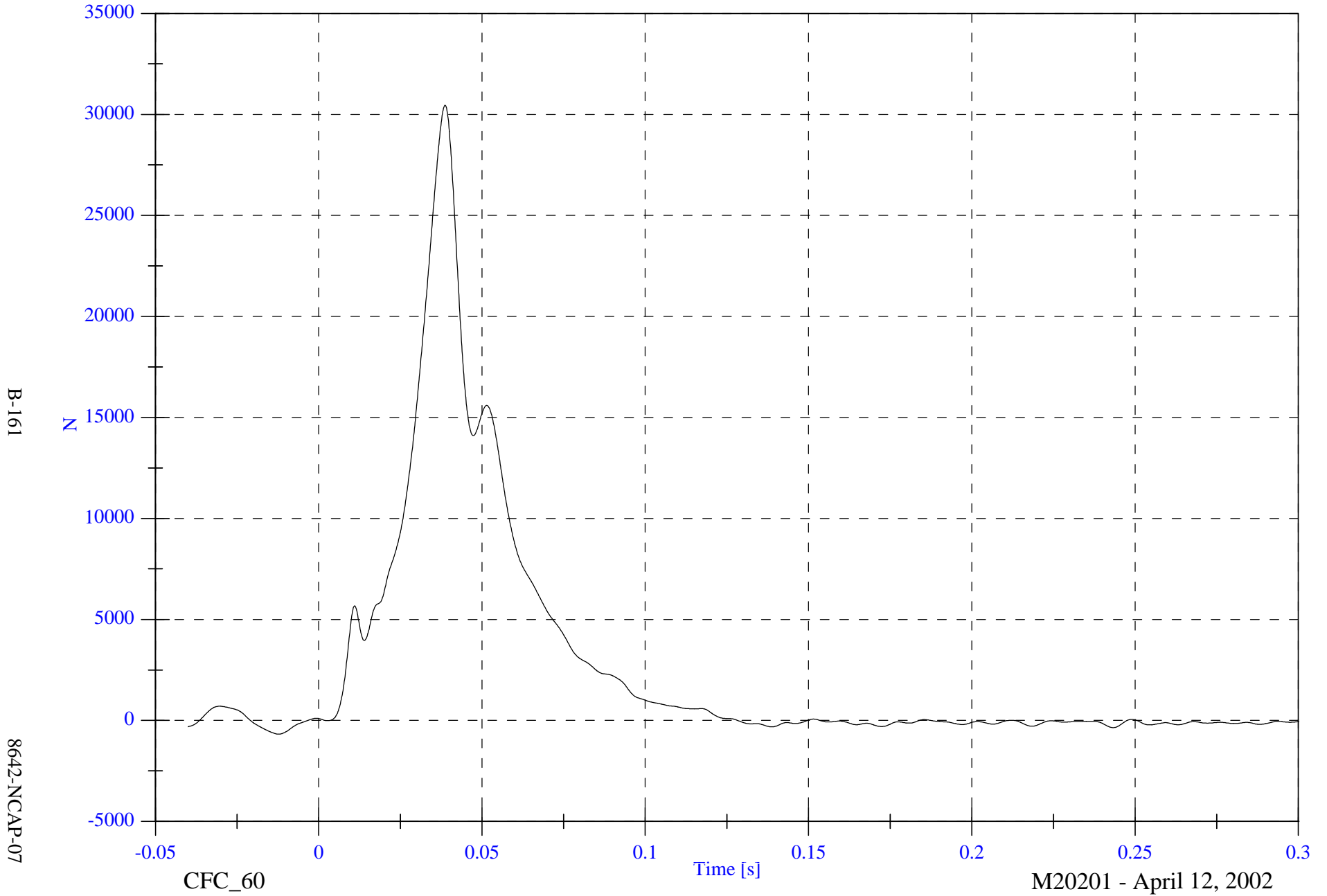
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

Barrier Load Cell C3 Fx

Max: 30450.9 [N] at 0.039 [s]

Min: -676.3 [N] at -0.012 [s]



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CFC_60

Time [s]

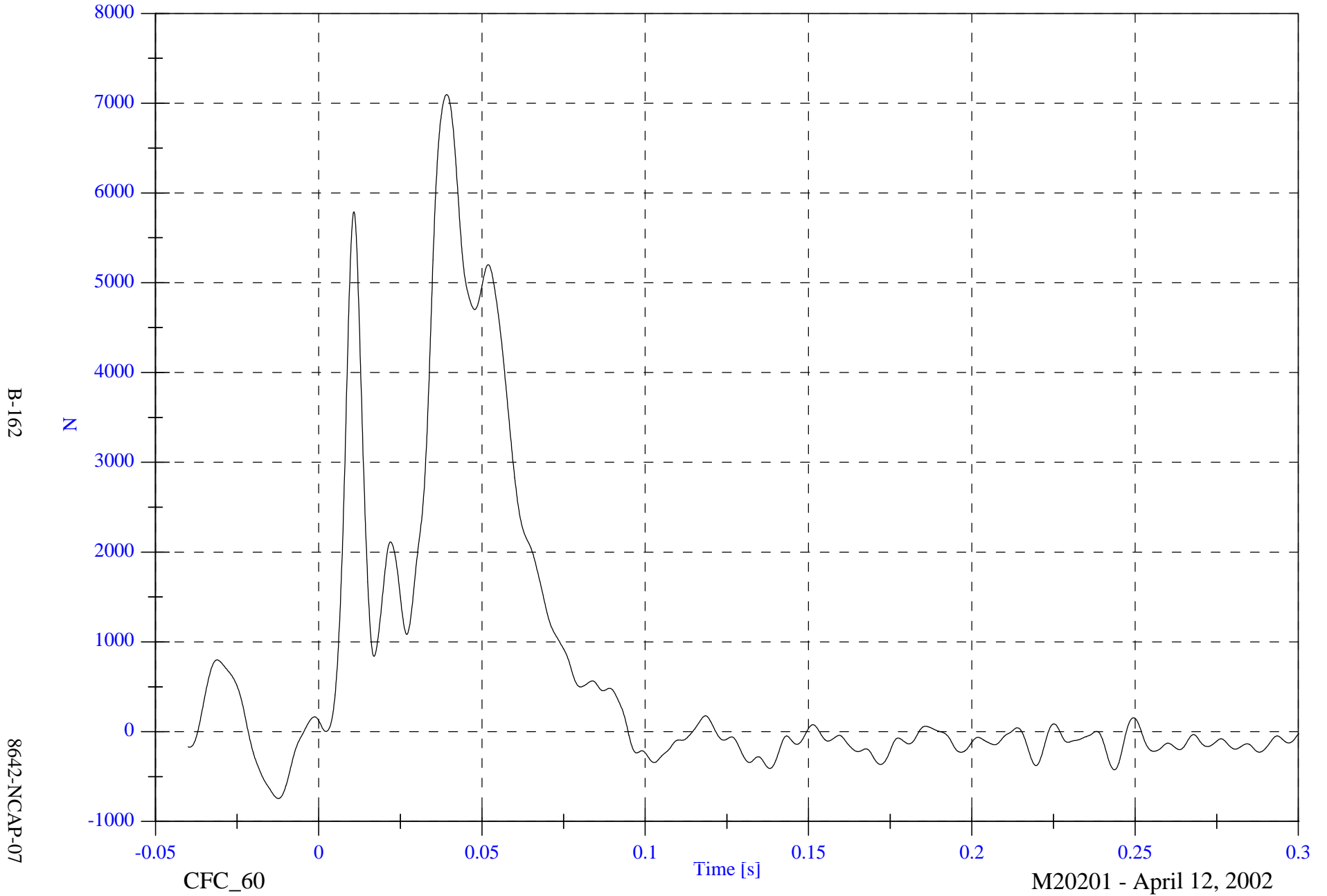
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

Barrier Load Cell C4 Fx

Max: 7095.9 [N] at 0.039 [s]

Min: -744.9 [N] at -0.012 [s]

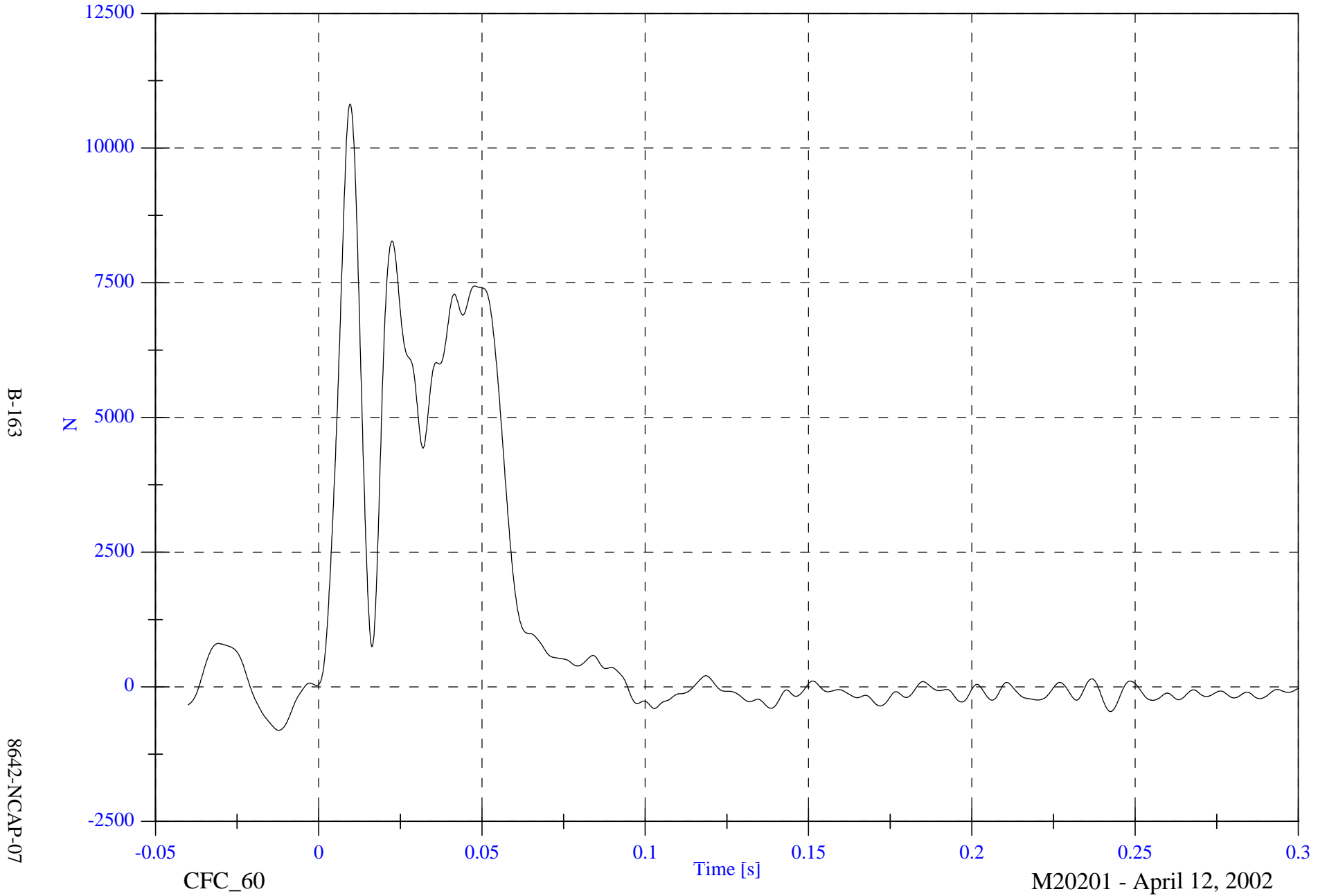


NCAP Test 7 - 2002 Ford Focus

Barrier Load Cell C5 Fx

Max: 10820.5 [N] at 0.010 [s]

Min: -808.5 [N] at -0.012 [s]



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8642-NCAP-07

CFC_60

Time [s]

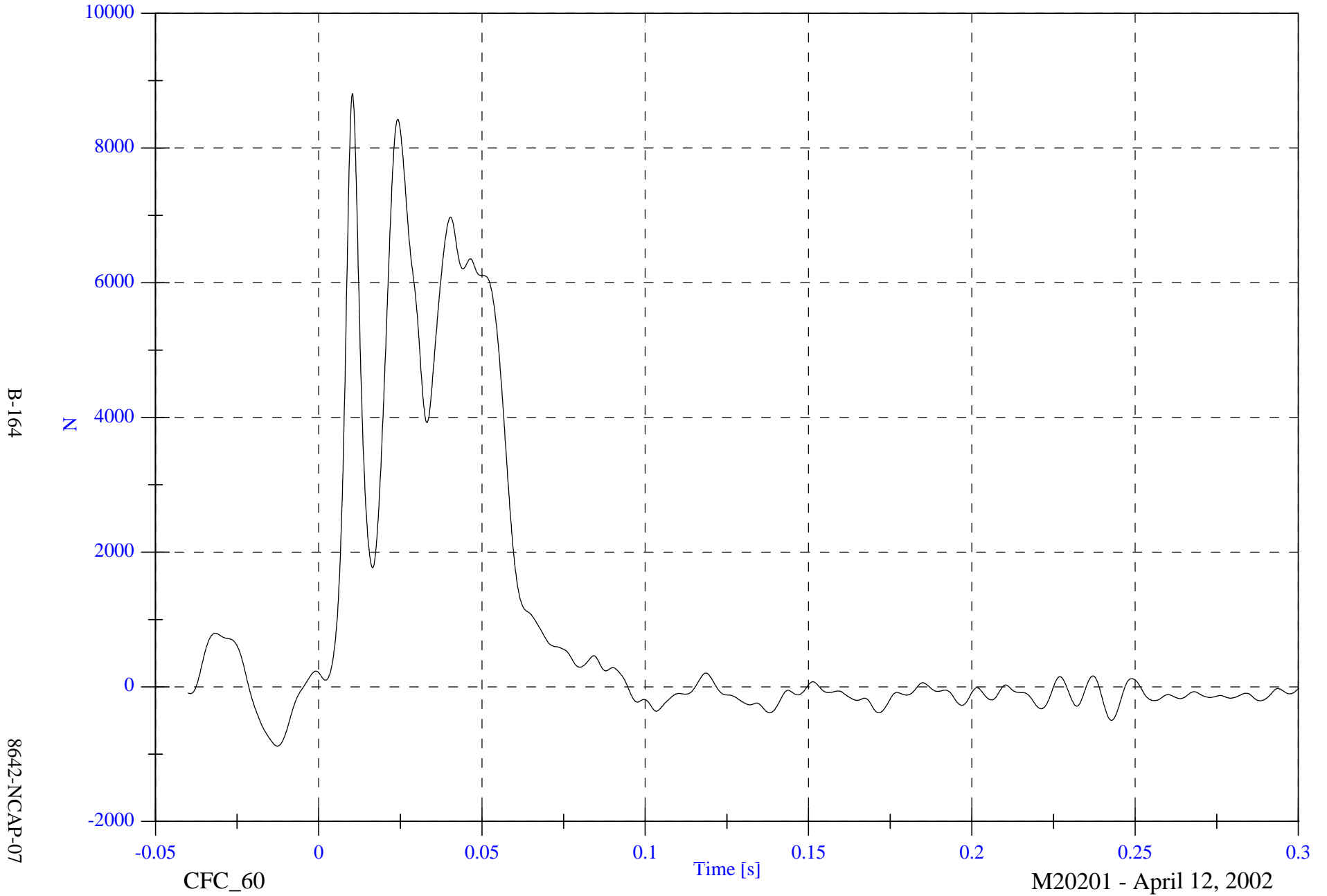
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

Barrier Load Cell C6 Fx

Max: 8809.3 [N] at 0.010 [s]

Min: -881.5 [N] at -0.013 [s]



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CFC_60

Time [s]

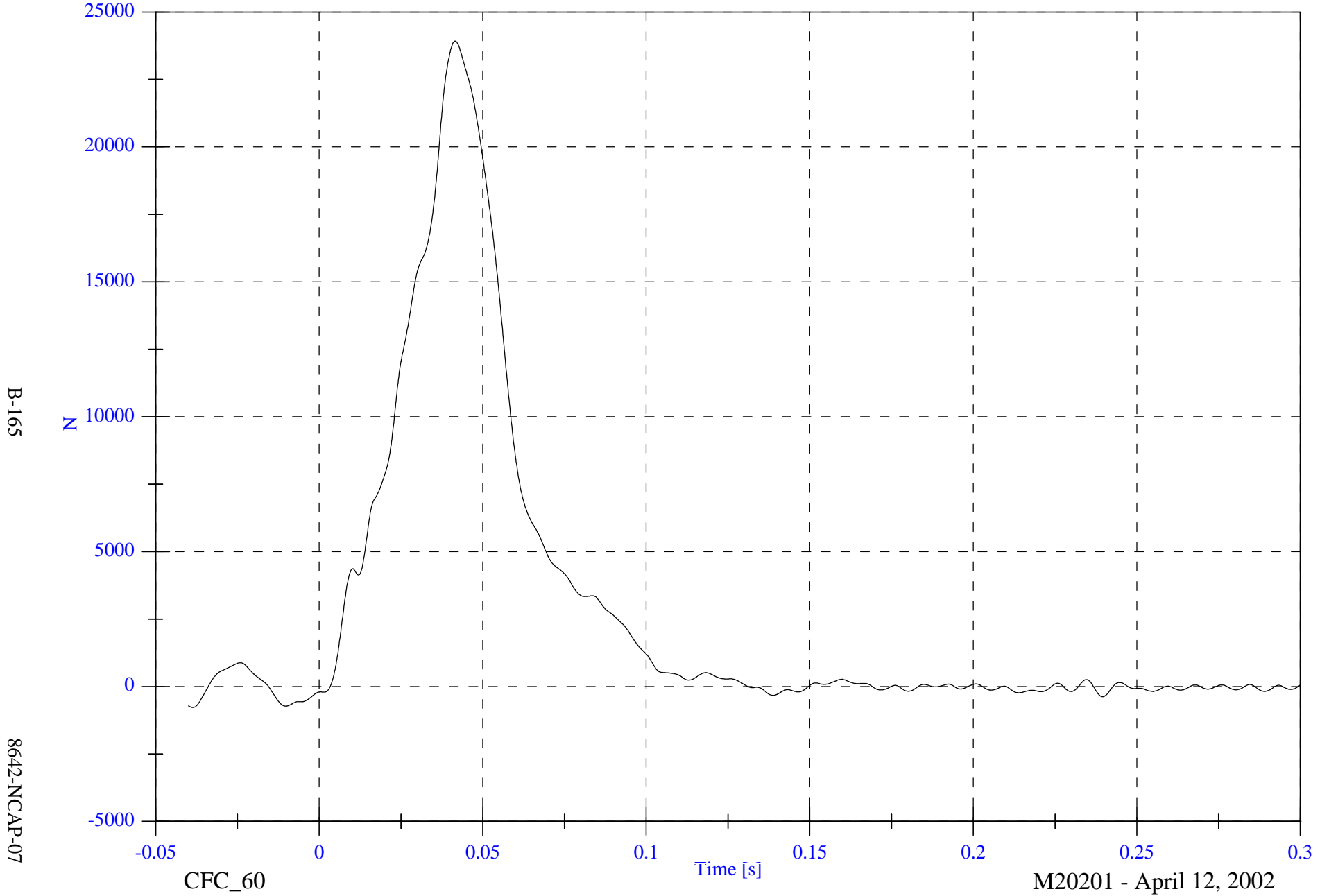
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

Barrier Load Cell C7 Fx

Max: 23925.9 [N] at 0.041 [s]

Min: -782.1 [N] at -0.039 [s]



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8642-NCAP-07

CFC_60

Time [s]

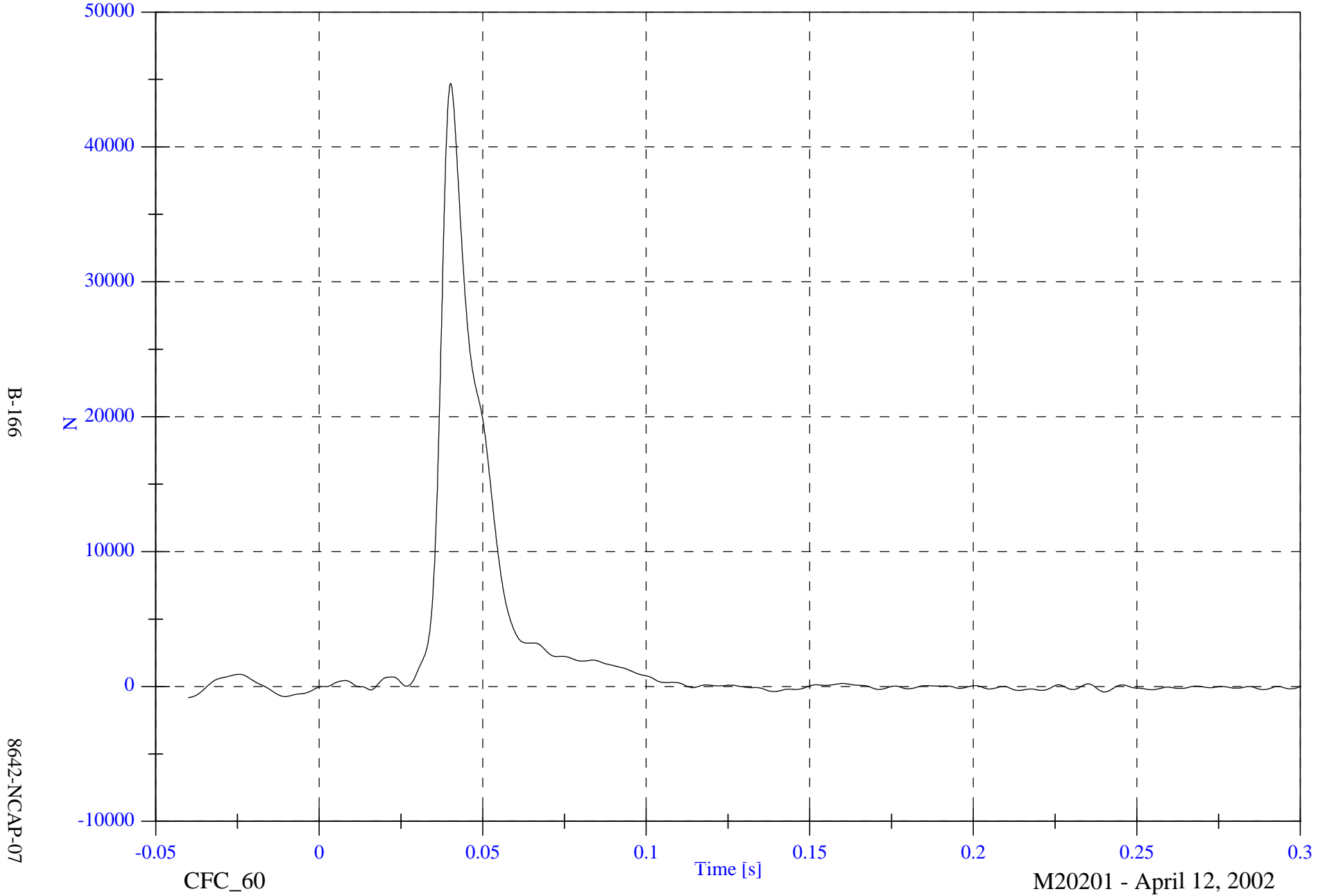
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

Barrier Load Cell C8 Fx

Max: 44714.1 [N] at 0.040 [s]

Min: -834.9 [N] at -0.040 [s]



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CFC_60

Time [s]

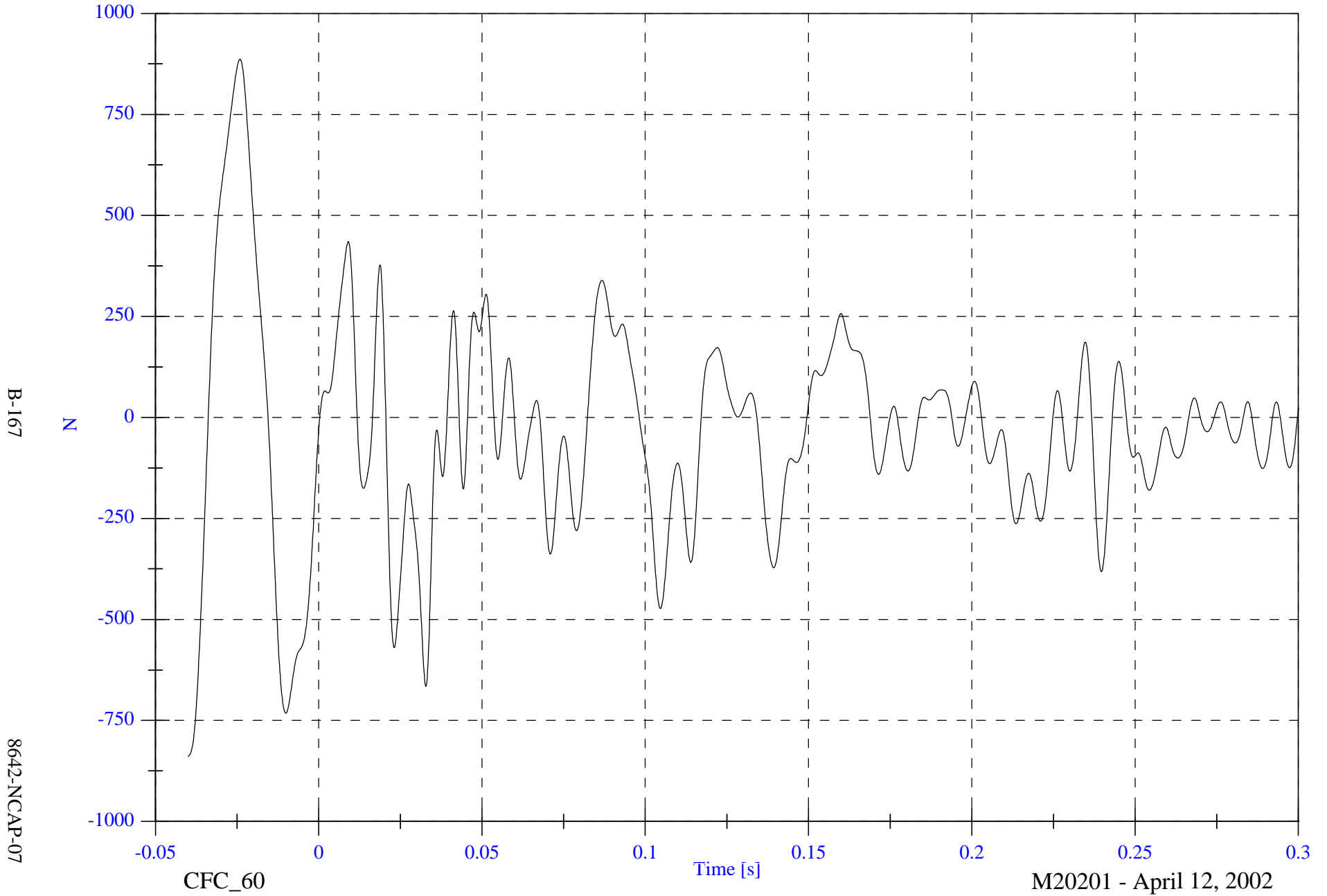
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

Barrier Load Cell C9 Fx

Max: 886.7 [N] at -0.024 [s]

Min: -839.0 [N] at -0.040 [s]



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8642-NCAP-07

CFC_60

Time [s]

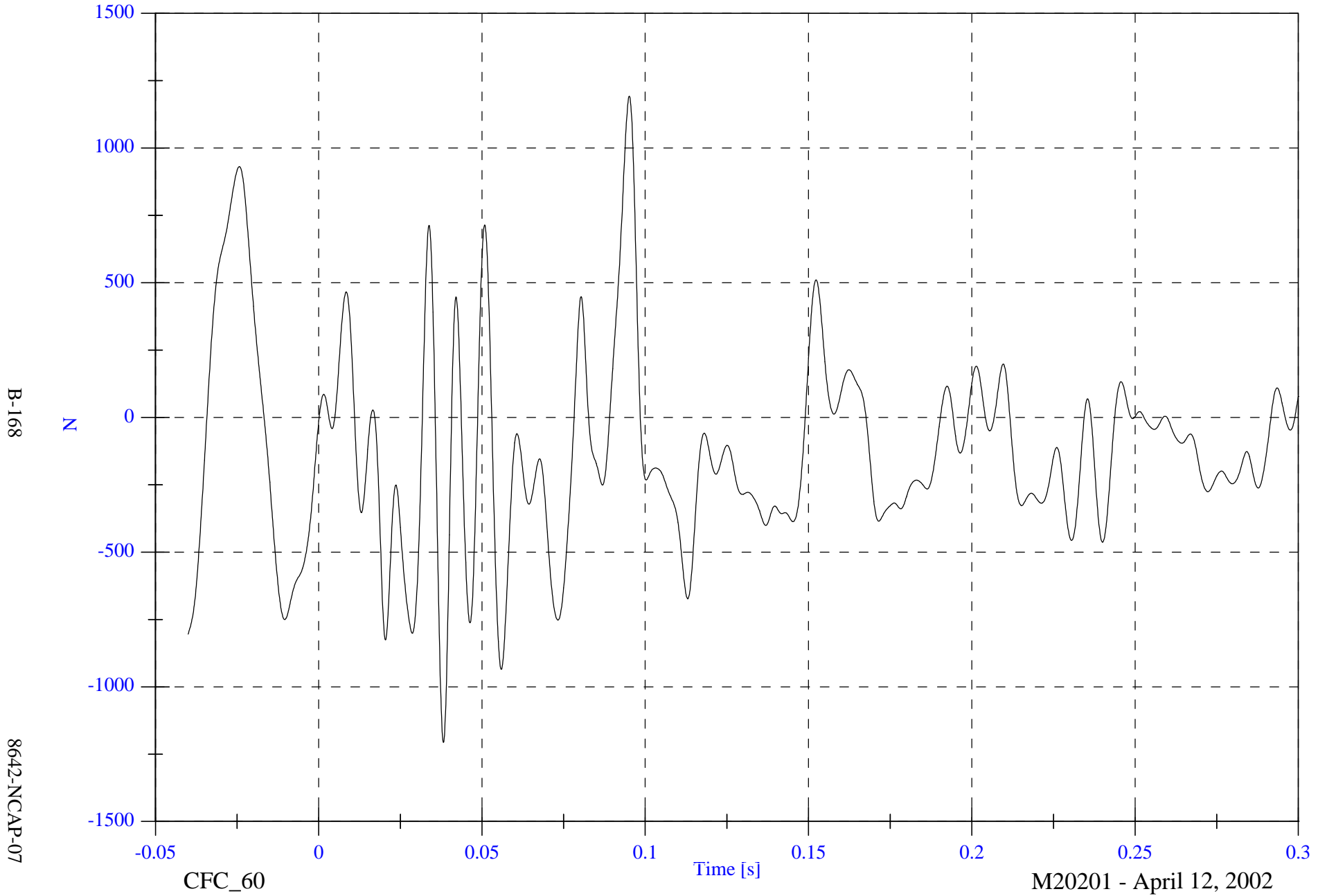
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

Barrier Load Cell D1 Fx

Max: 1192.4 [N] at 0.095 [s]

Min: -1207.0 [N] at 0.038 [s]



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CFC_60

Time [s]

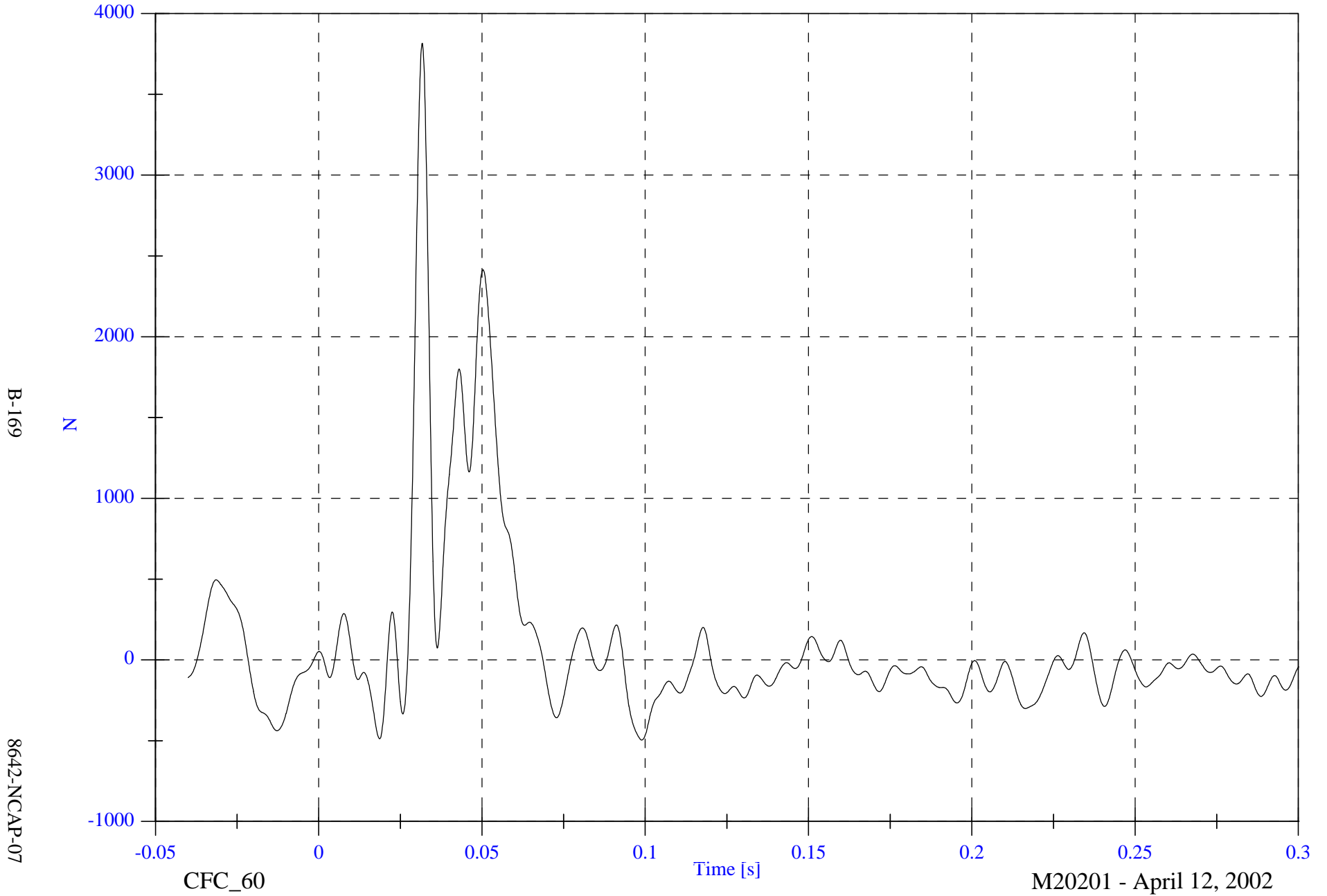
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

Barrier Load Cell D2 Fx

Max: 3816.0 [N] at 0.032 [s]

Min: -496.1 [N] at 0.099 [s]



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8642-NCAP-07

CFC_60

Time [s]

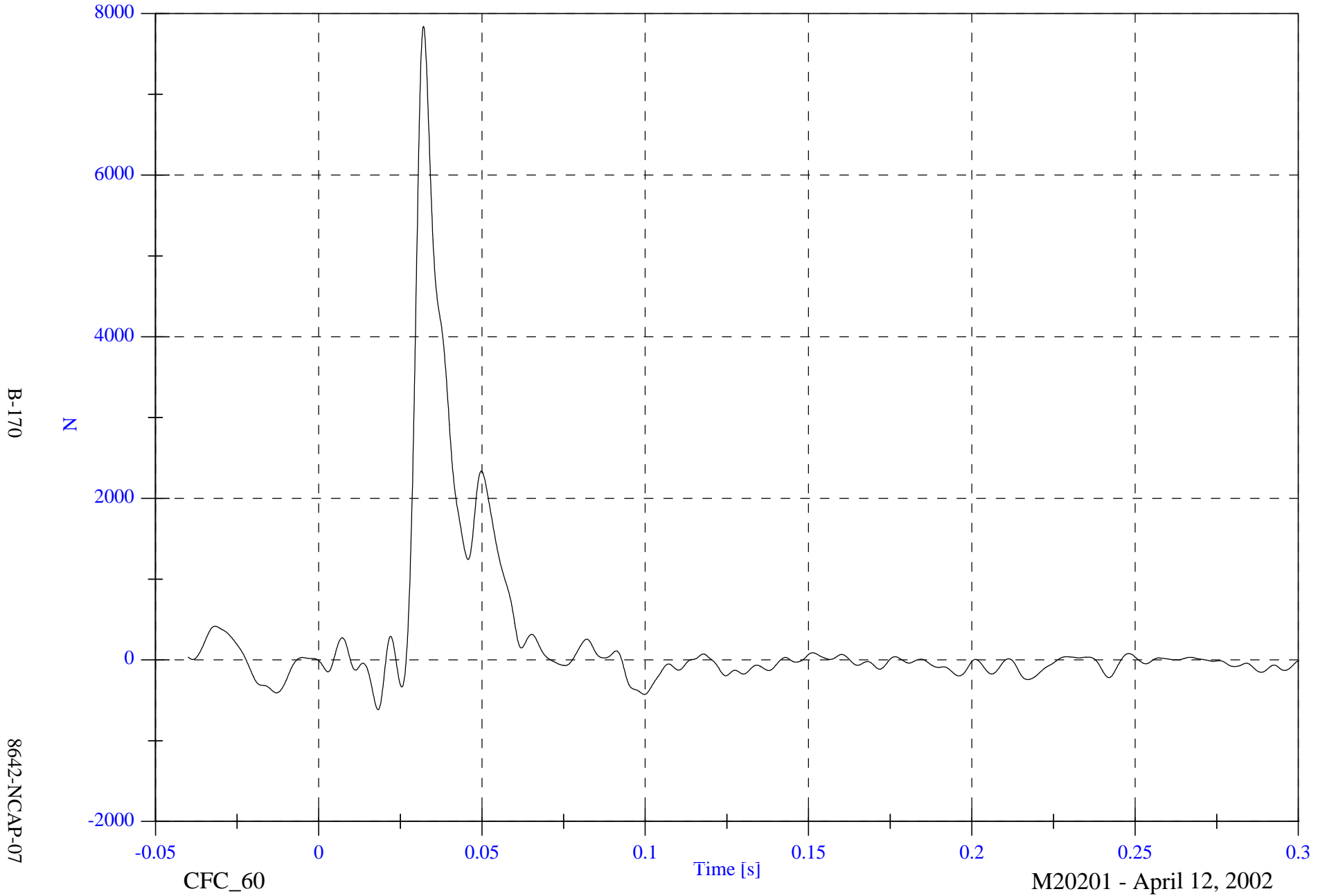
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

Barrier Load Cell D3 Fx

Max: 7840.3 [N] at 0.032 [s]

Min: -616.1 [N] at 0.018 [s]



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8642-NCAP-07

CFC_60

Time [s]

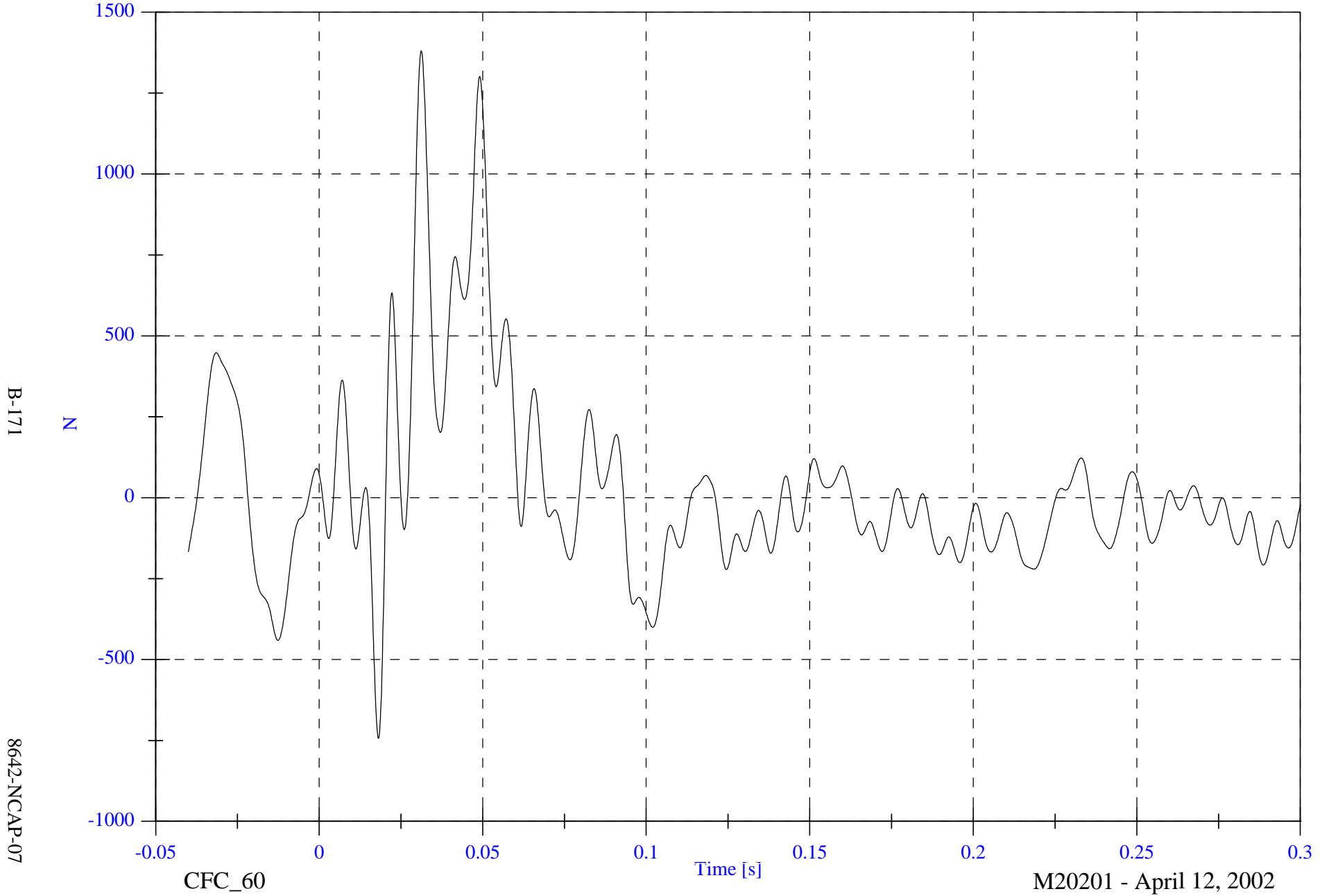
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

Barrier Load Cell D4 Fx

Max: 1380.5 [N] at 0.031 [s]

Min: -743.2 [N] at 0.018 [s]

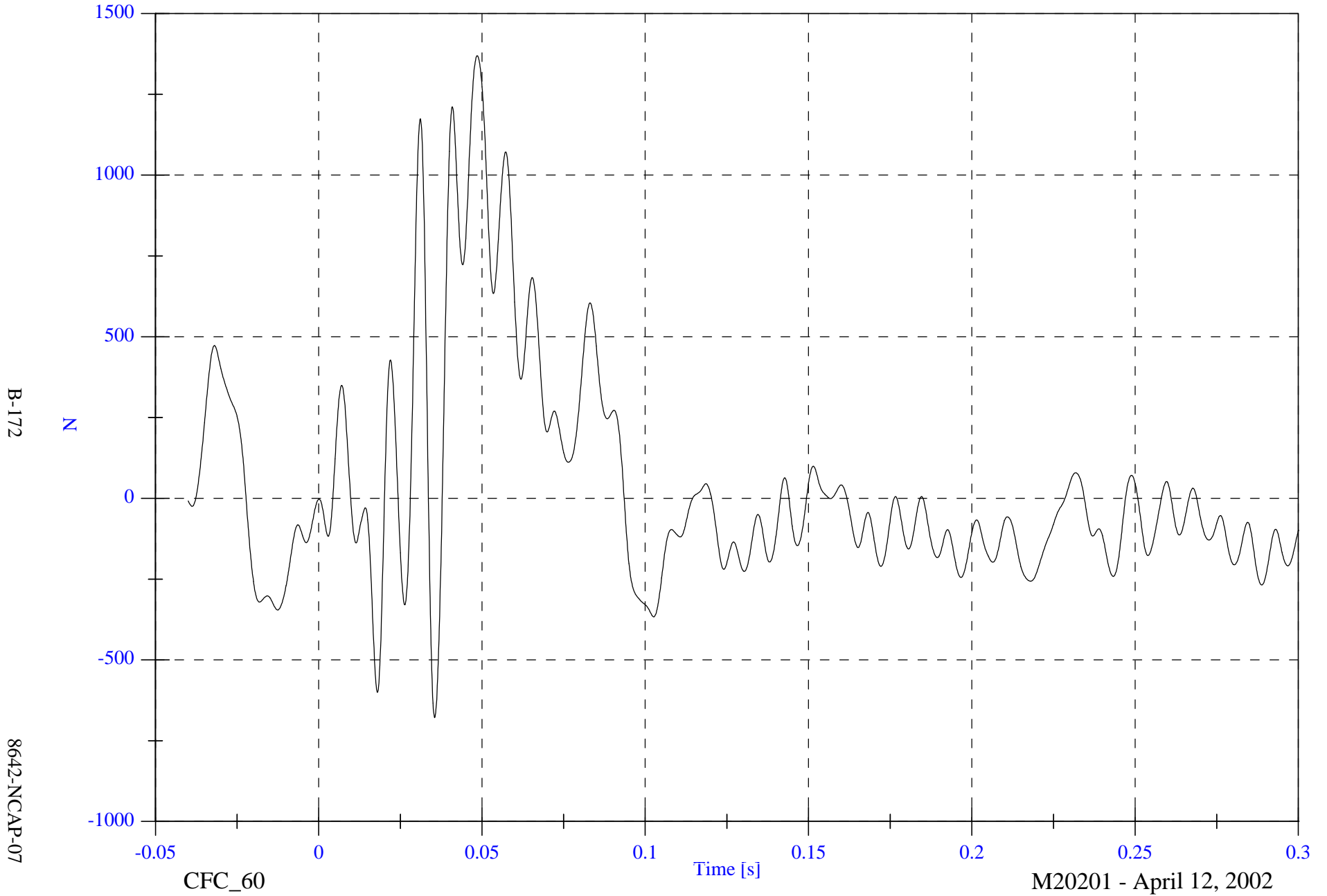


NCAP Test 7 - 2002 Ford Focus

Barrier Load Cell D5 Fx

Max: 1369.1 [N] at 0.048 [s]

Min: -678.5 [N] at 0.035 [s]



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8642-NCAP-07

CFC_60

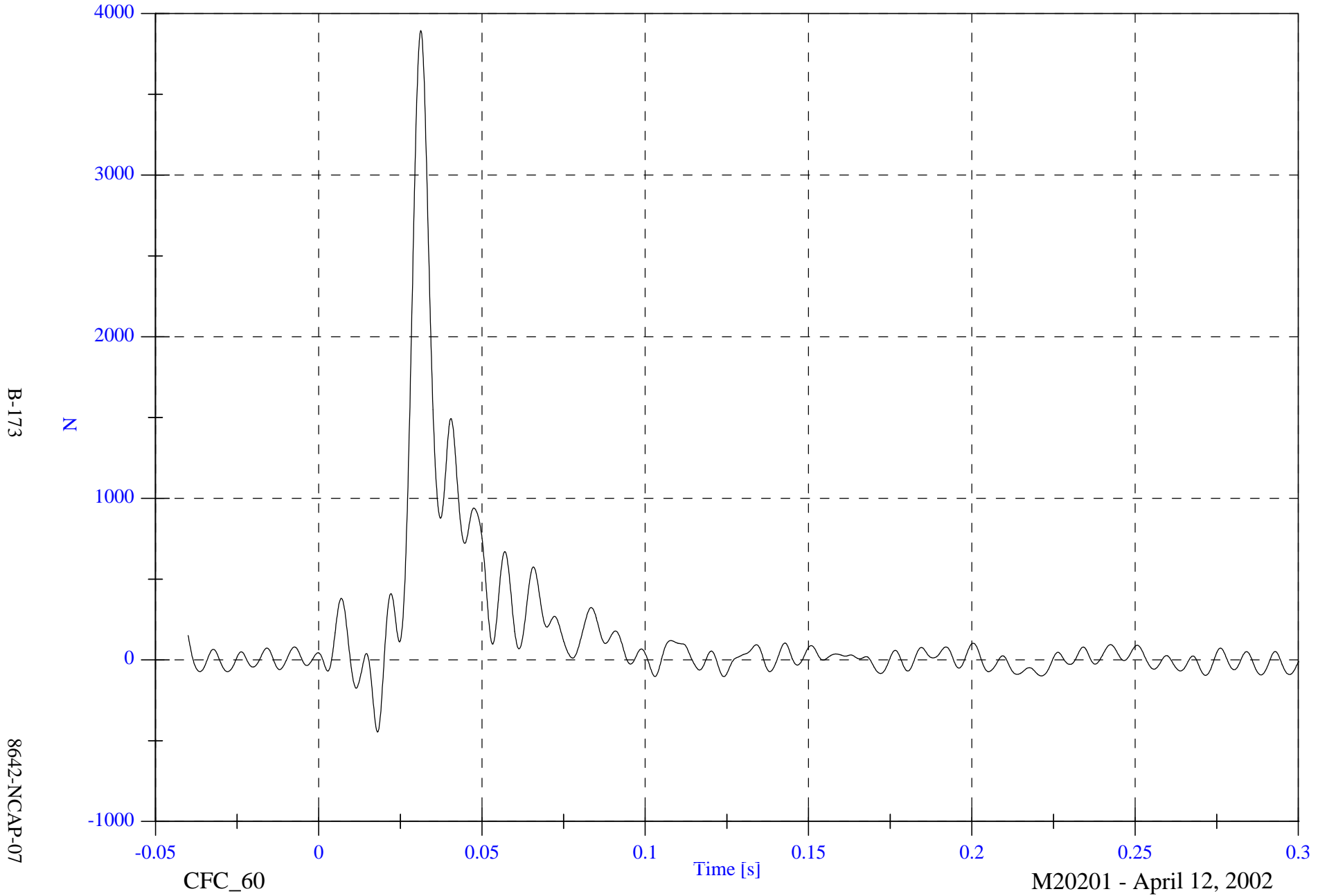
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

Barrier Load Cell D6 Fx

Max: 3893.5 [N] at 0.031 [s]

Min: -446.6 [N] at 0.018 [s]

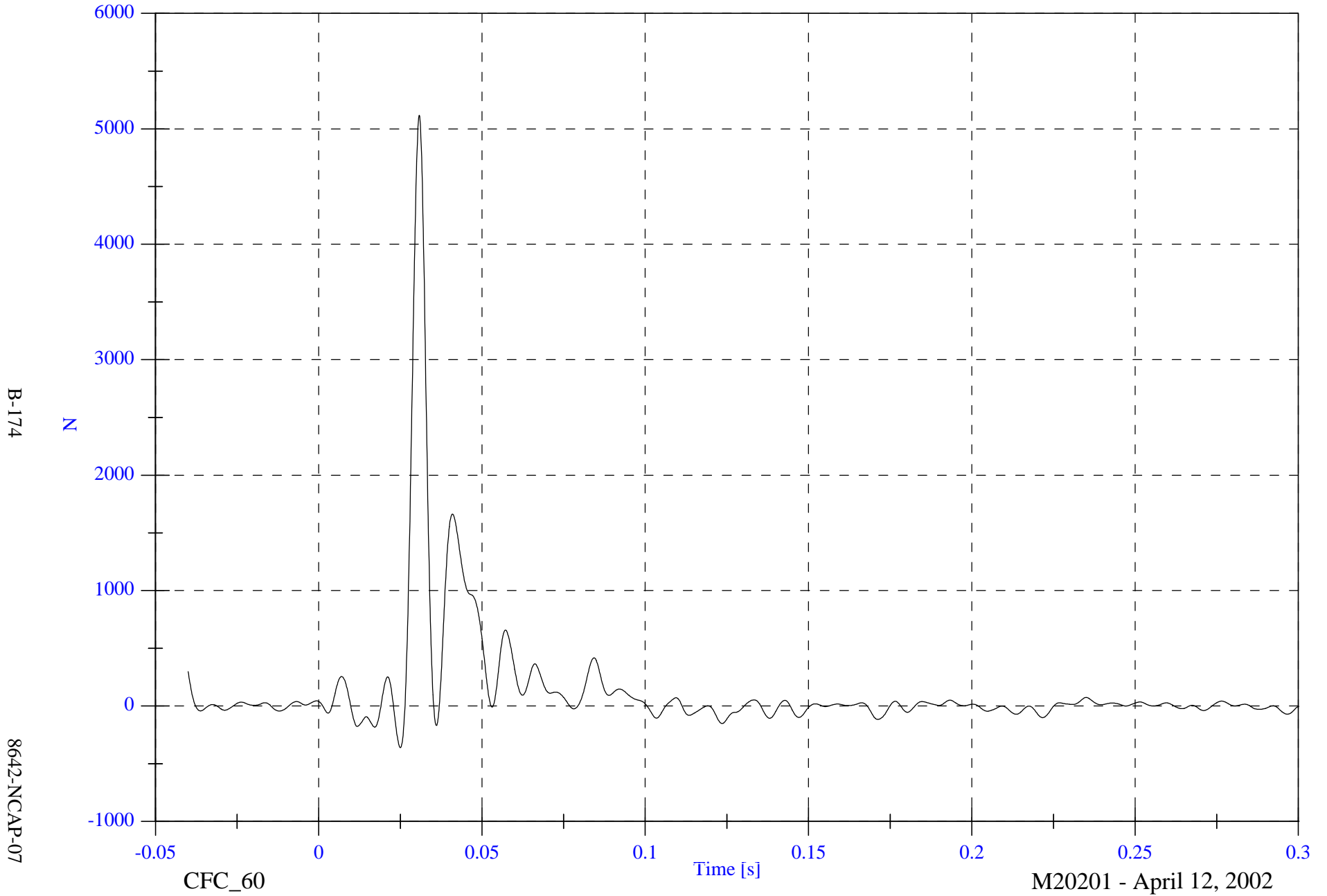


NCAP Test 7 - 2002 Ford Focus

Barrier Load Cell D7 Fx

Max: 5118.0 [N] at 0.031 [s]

Min: -360.8 [N] at 0.025 [s]



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8642-NCAP-07

CFC_60

Time [s]

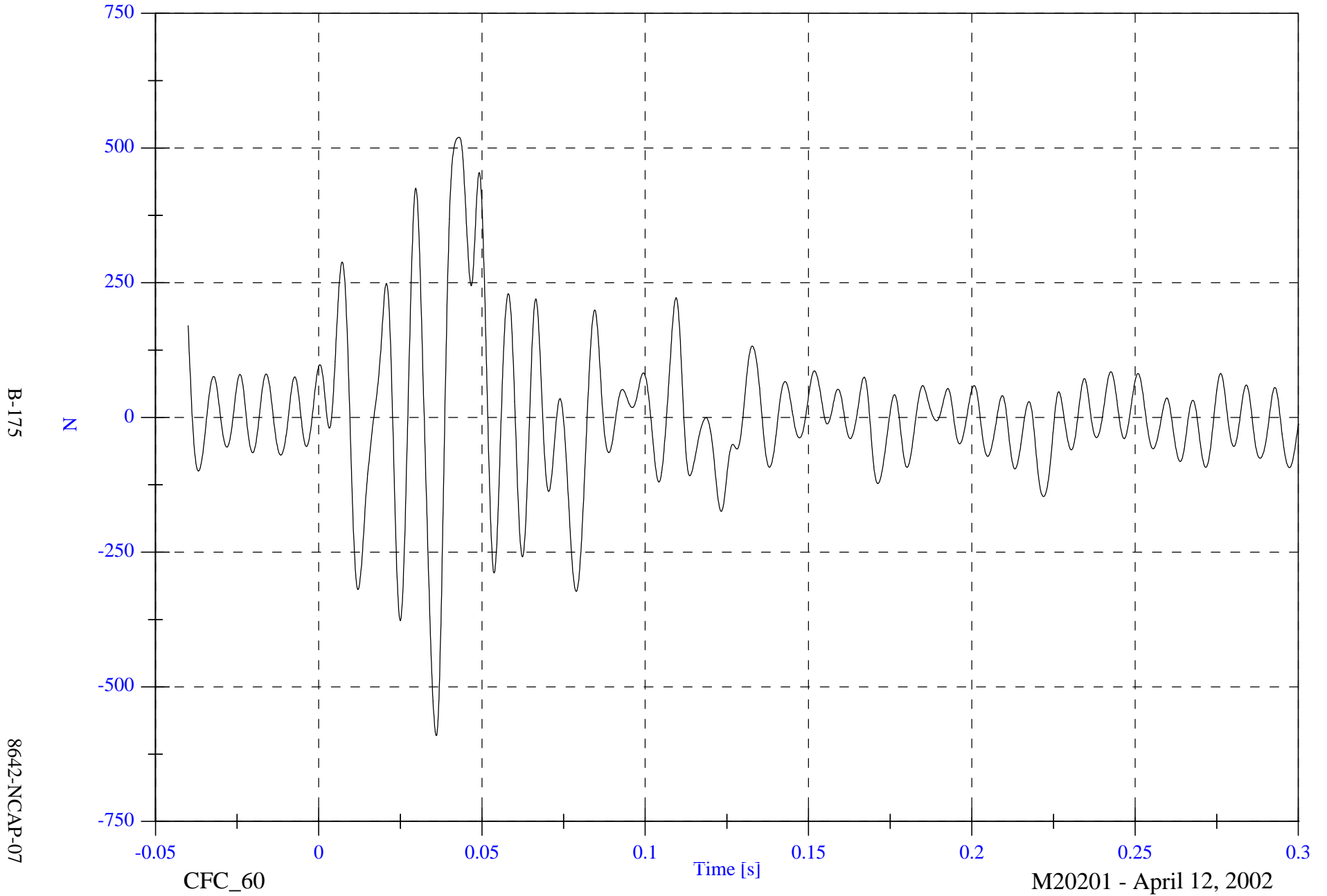
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

Barrier Load Cell D8 Fx

Max: 520.1 [N] at 0.043 [s]

Min: -590.8 [N] at 0.036 [s]



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8642-NCAP-07

CFC_60

Time [s]

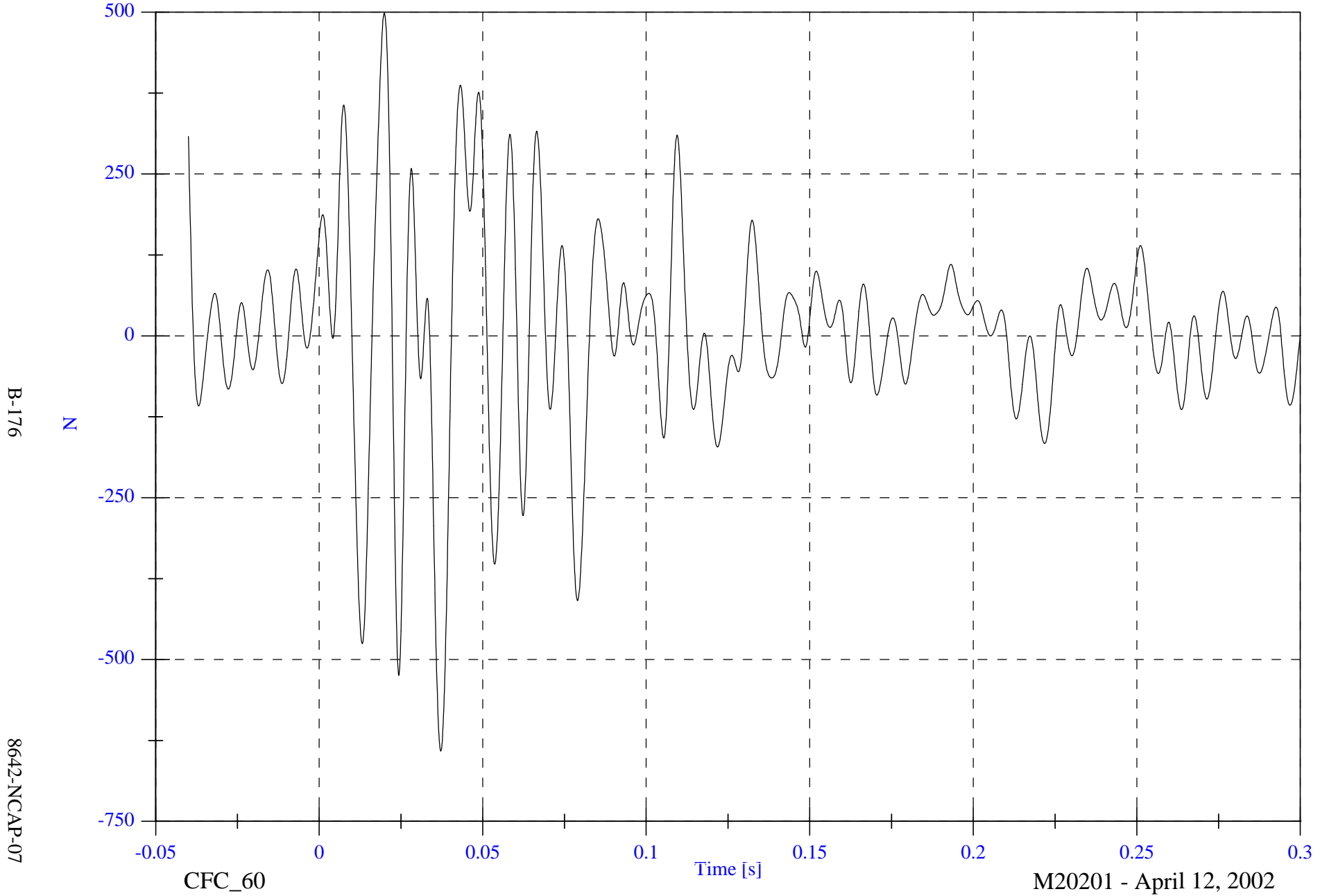
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

Barrier Load Cell D9 Fx

Max: 498.6 [N] at 0.020 [s]

Min: -641.7 [N] at 0.037 [s]



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8642-NCAP-07

CFC_60

Time [s]

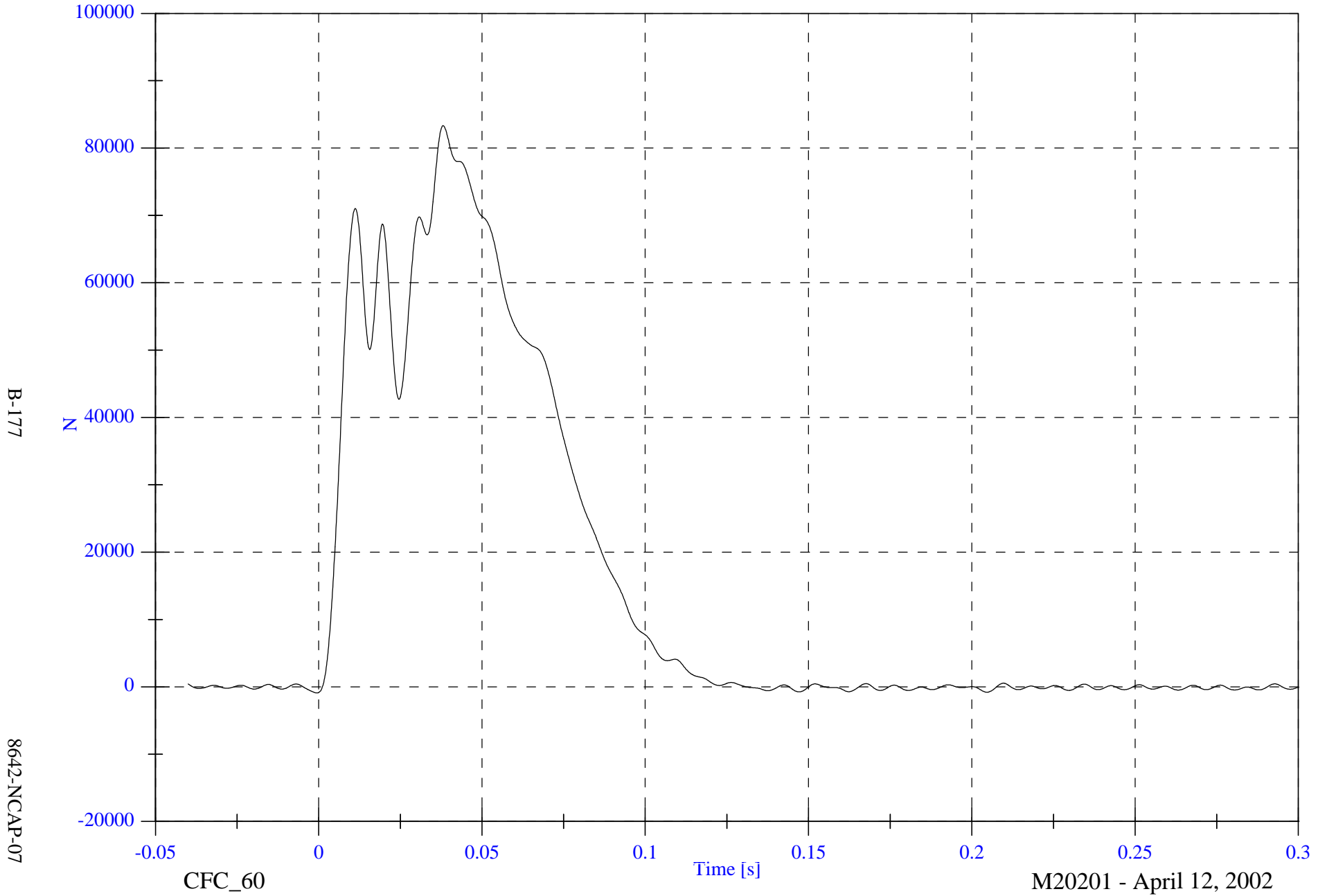
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

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

Max: 83328.9 [N] at 0.038 [s]

Min: -915.8 [N] at -0.001 [s]



B-177

8642-NCAP-07

CFC_60

Time [s]

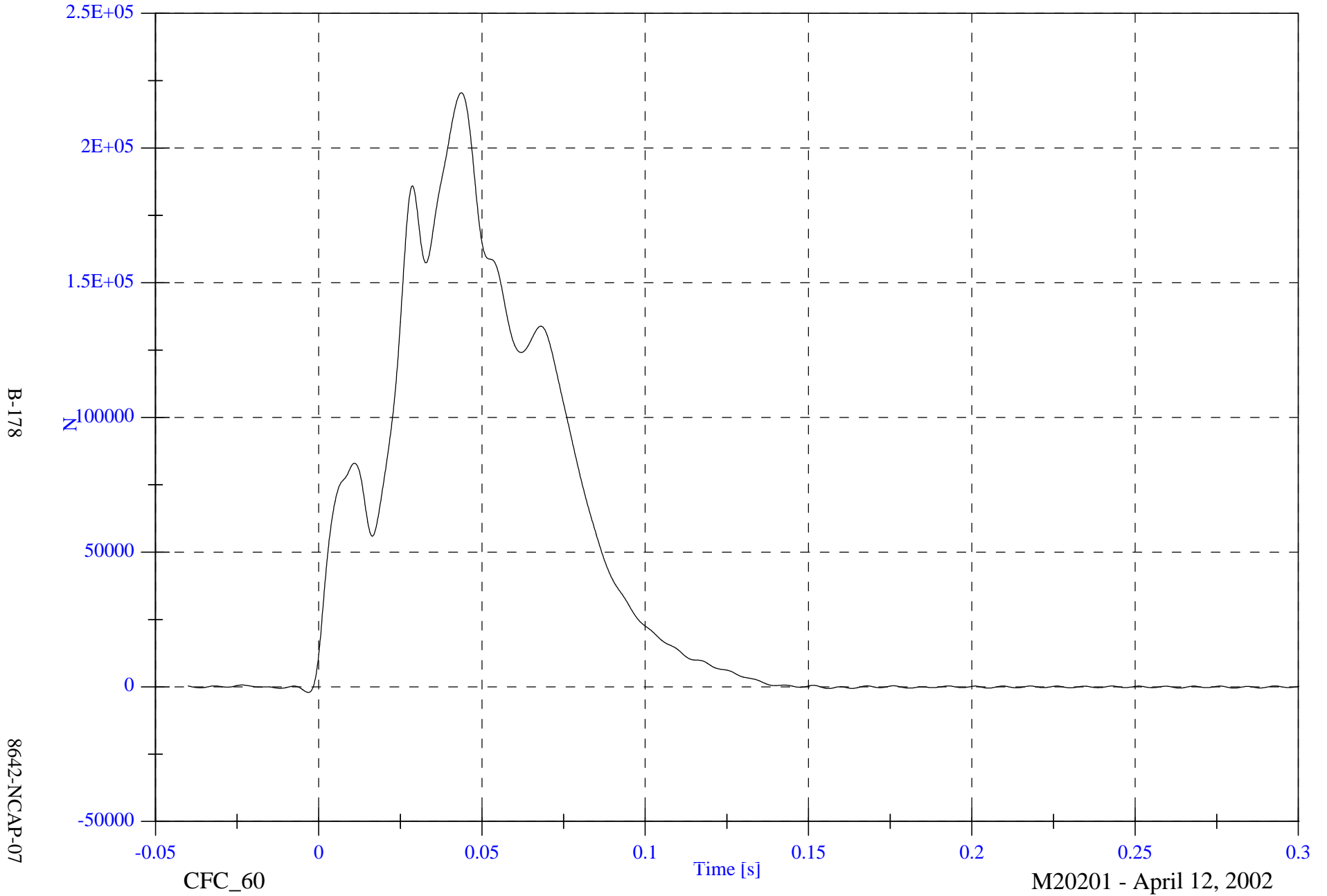
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

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

Max: 220557.5 [N] at 0.044 [s]

Min: -2115.1 [N] at -0.003 [s]



B-178

8642-NCAP-07

CFC_60

Time [s]

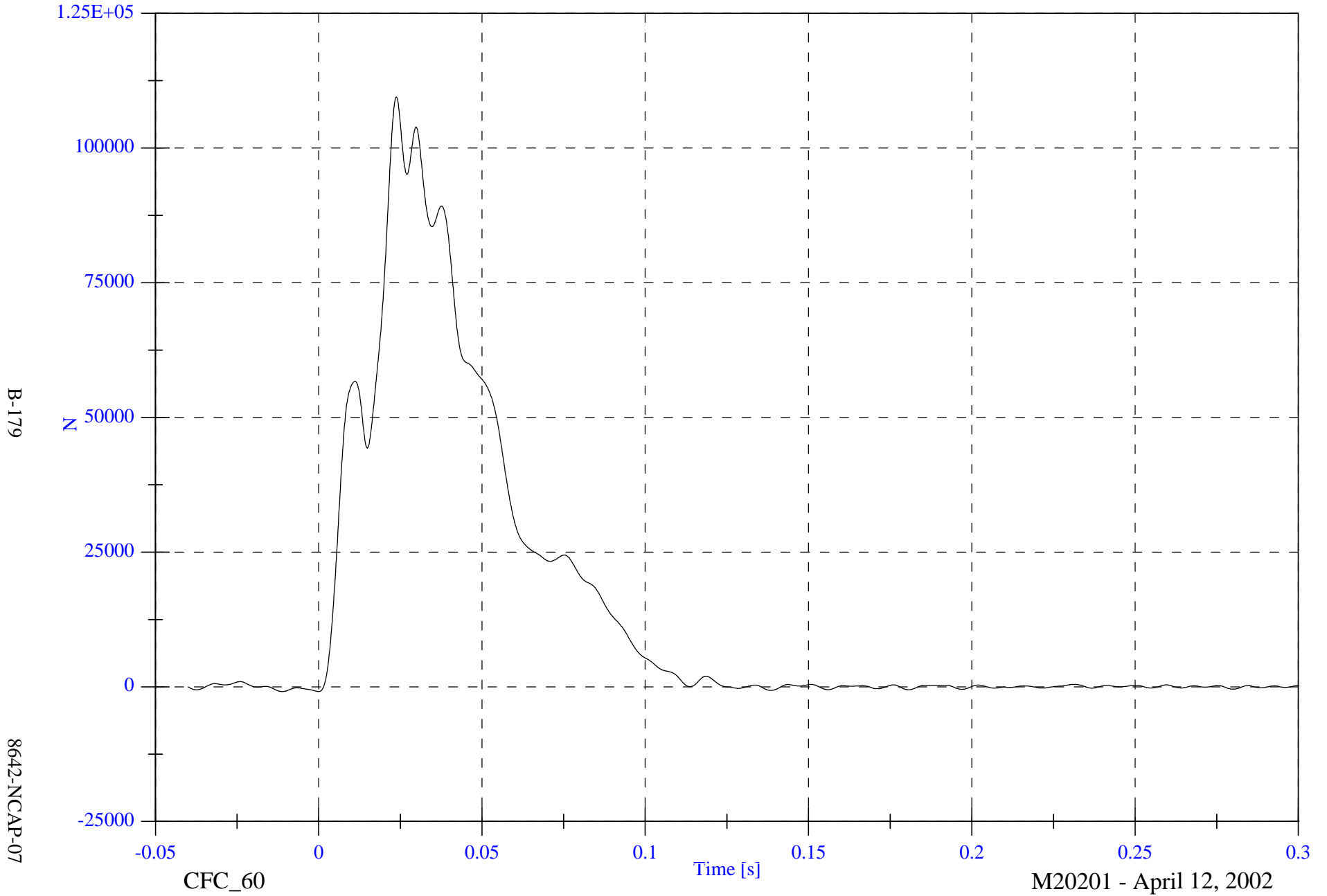
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

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

Max: 109494.6 [N] at 0.024 [s]

Min: -894.4 [N] at -0.011 [s]

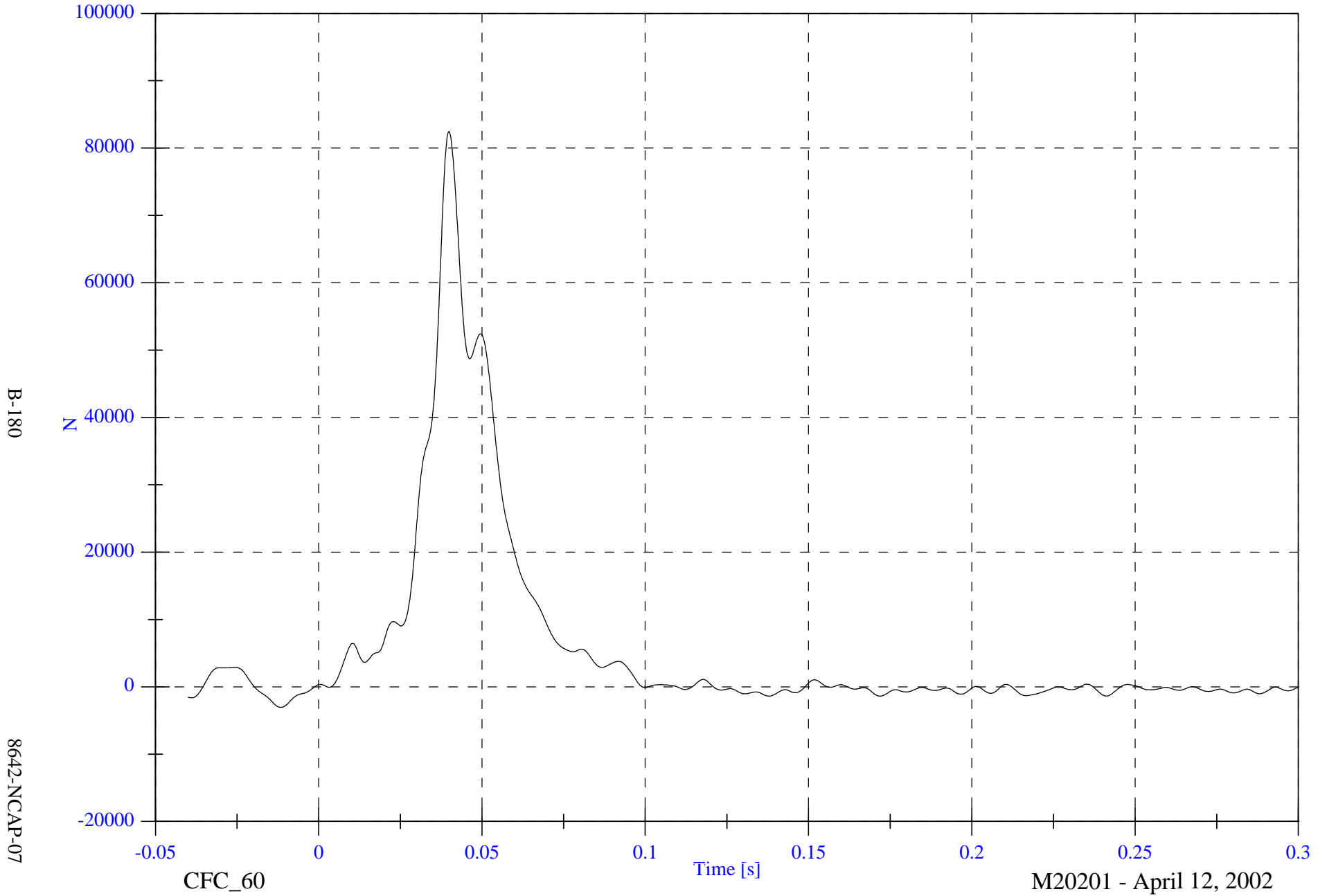


NCAP Test 7 - 2002 Ford Focus

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

Max: 82471.8 [N] at 0.040 [s]

Min: -3059.9 [N] at -0.012 [s]

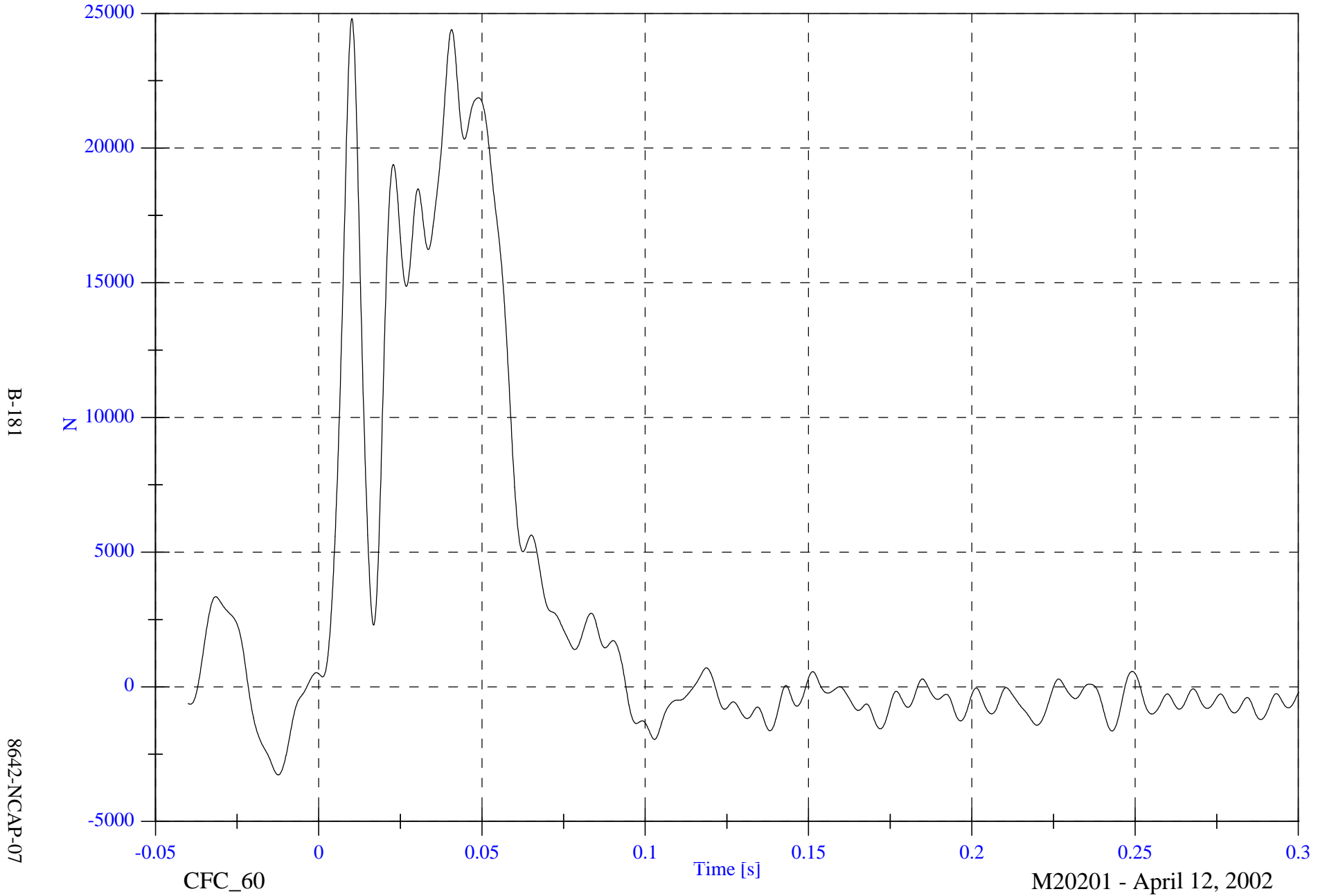


NCAP Test 7 - 2002 Ford Focus

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

Max: 24811.9 [N] at 0.010 [s]

Min: -3274.1 [N] at -0.012 [s]



B-181

8642-NCAP-07

CFC_60

Time [s]

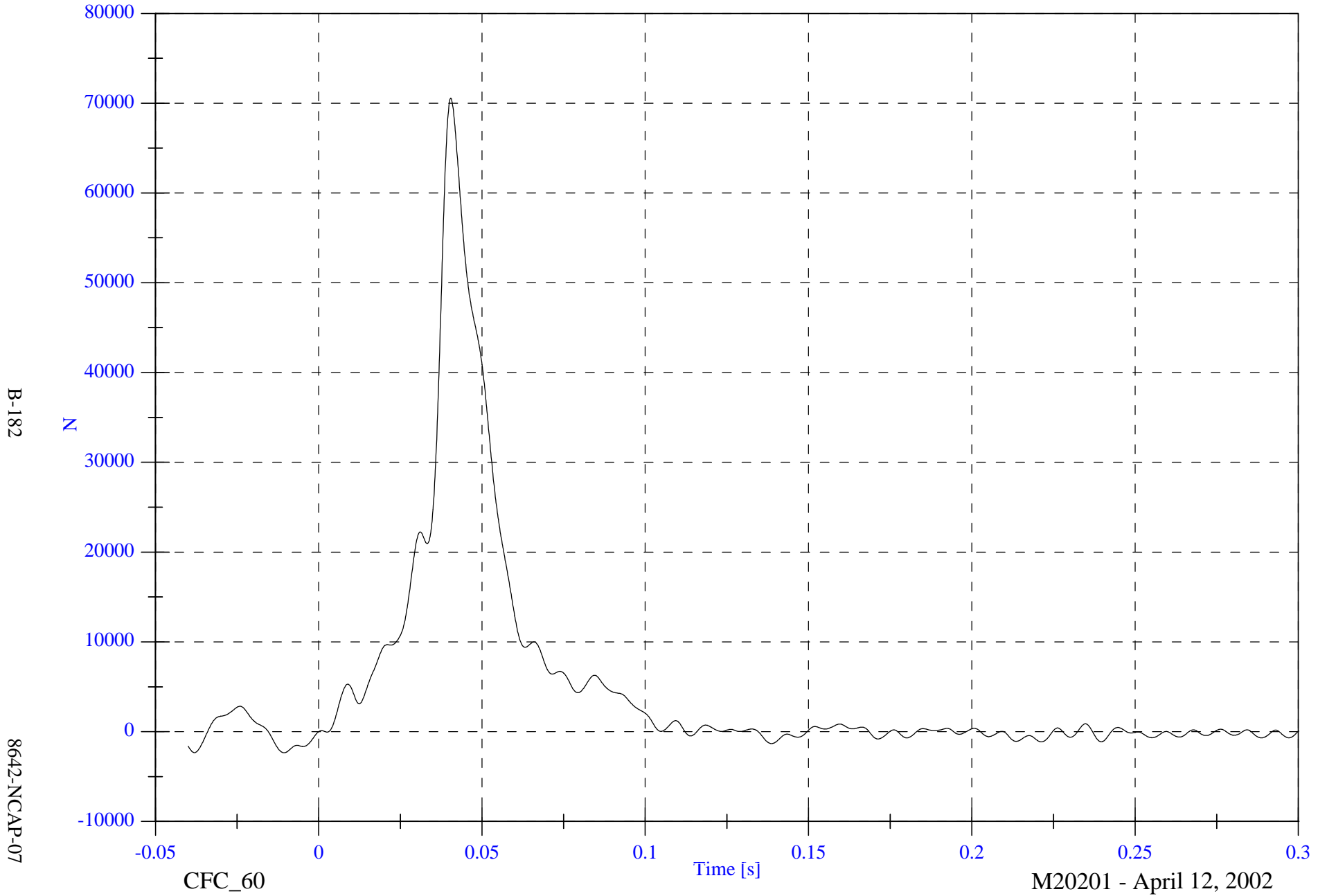
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

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

Max: 70548.1 [N] at 0.040 [s]

Min: -2349.0 [N] at -0.011 [s]

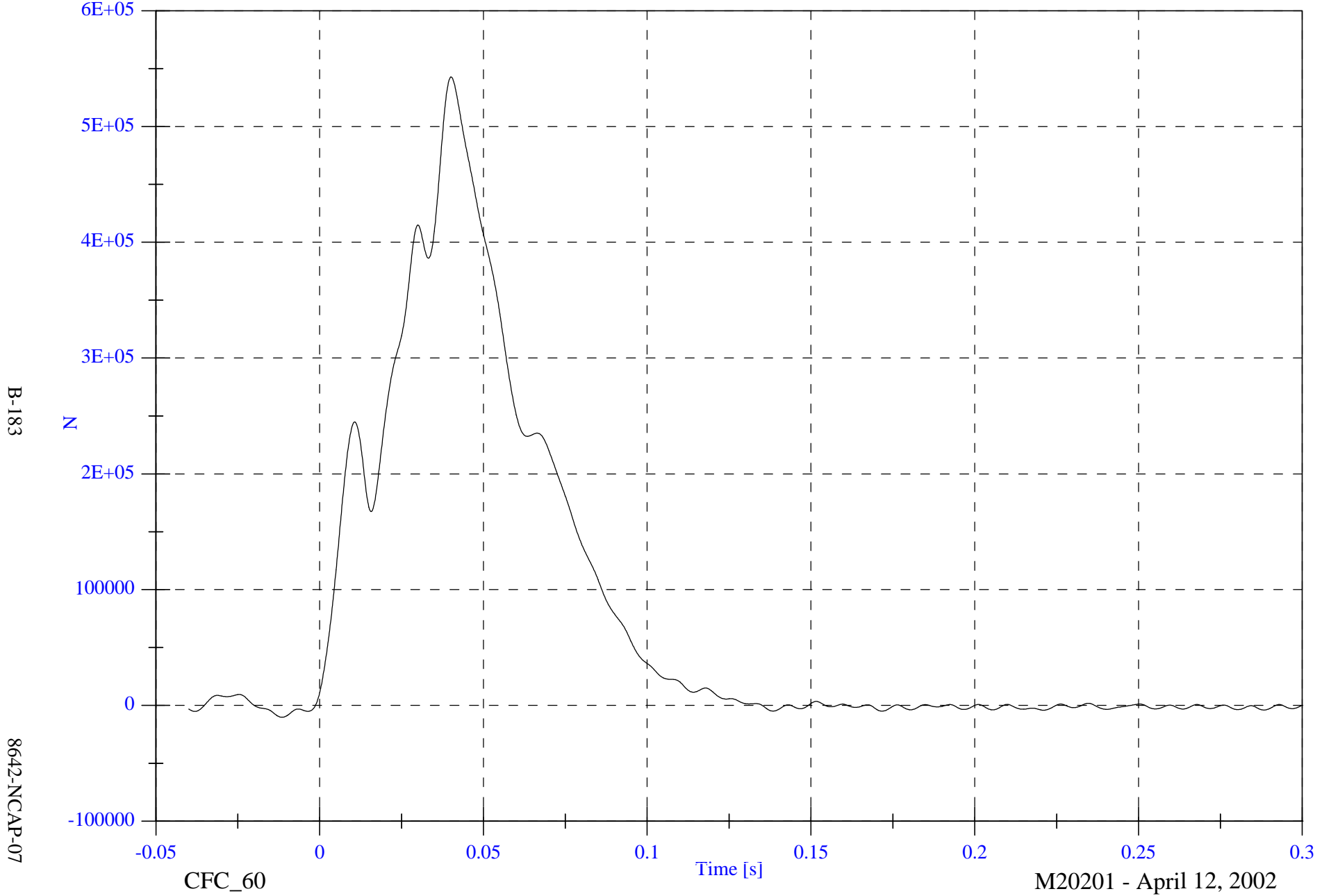


NCAP Test 7 - 2002 Ford Focus

Total Load Cell Sum (All 6 Groups)

Max: 542707.6 [N] at 0.040 [s]

Min: -10230.1 [N] at -0.012 [s]



B-183

8642-NCAP-07

CFC_60

Time [s]

M20201 - April 12, 2002

APPENDIX C

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

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

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

Dummy serial numbers and certification dates are:

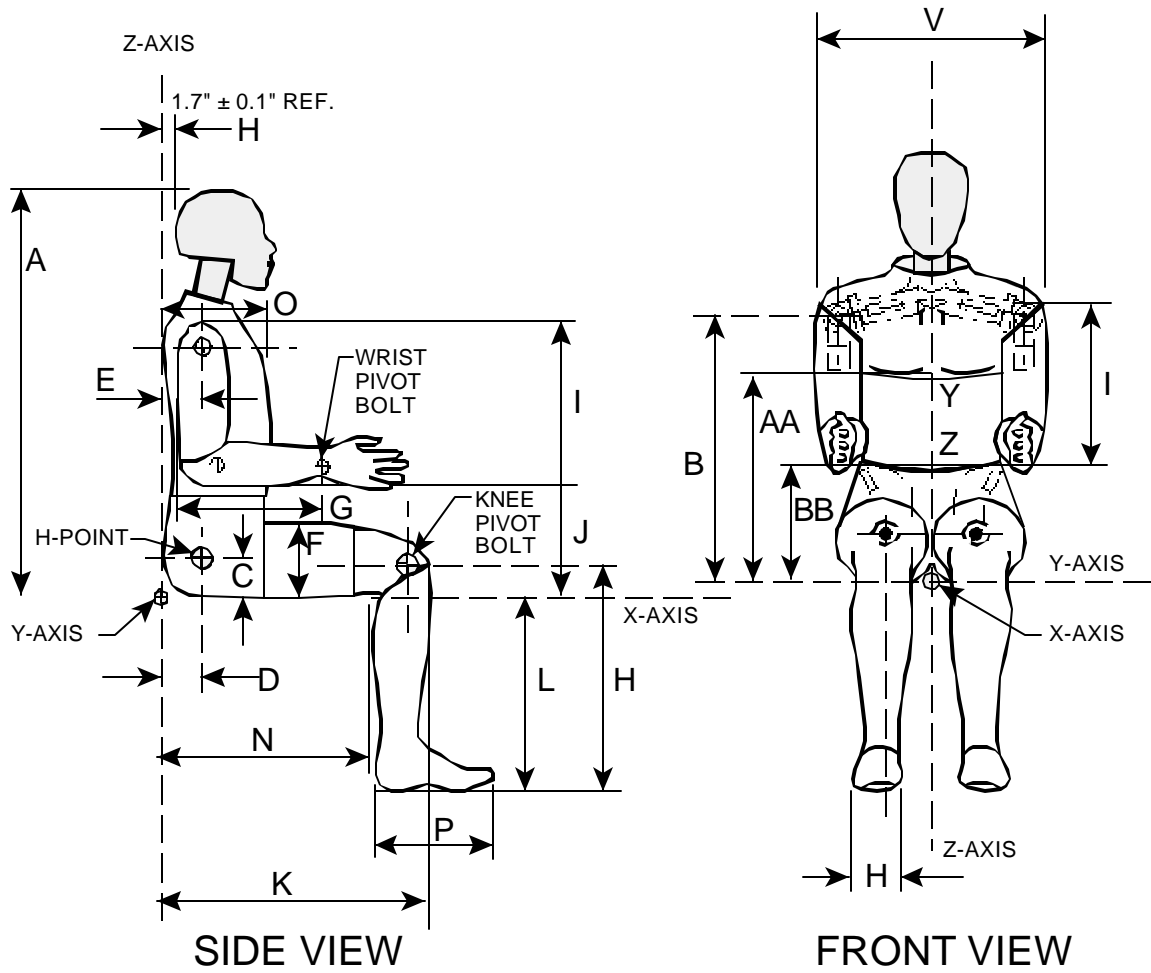
<u>Position No./Location</u>	<u>Serial No.</u>	<u>Completion Date</u>
#1/Driver	061	February 26, 2002
#2/Right Front Passenger	064	February 26, 2002

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 Indicant Testing Final Report No. 6525-V-1.

DUMMY CONFIGURATION DIMENSIONS

EXTERNAL DIMENSIONS SPECIFICATIONS



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

PART 572E
HEAD DROP TEST

Dummy Serial Number 061
Sequential Test Number 1
Date February 4, 2002
Workfile 061H 2-04-02

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	66-78 Deg F	70.0
Relative Humidity	10% - 70%	29.00
Peak Resultant Acceleration	225-275 G's	257.30
Peak Lateral Acceleration	15 G's Max	3.61
Is Acceleration Curve Unimodal?	YES	YES

Remarks:

Laboratory Technician:

B. Swiecicki

PART 572E
NECK FLEXION TEST

Dummy Serial Number	061	
Sequential Test Number	4	
Date	February 20, 2002	6 Axis Neck Transducer
Workfile	061Flx4 2-20-02	

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	70.00
Relative Humidity		10% - 70%	30.00
Impact Velocity		22.60 - 23.40 Ft/s	23.07
Pendulum Deceleration	10 ms	22.50 - 27.50 G's	23.78
	20 ms	17.60 - 22.60 G's	21.27
	30 ms	12.50 - 18.50 G's	15.88
Max Pendulum G's Above 30 ms		29 G's Max	15.88
Deceleration - Time Curve Decay Time to 5 G's		34 - 42 ms	36.60
D Plane Rotation	Max	64 - 78 Deg	67.14
	Time	57 - 64 ms	59.10
Moment About Occipital Condyle	Max	65 - 80 Ft-Lbs	79.19
	Time	47 - 58 ms	49.40
Rotation Angle - Time Curve Decay Time to Zero		113 - 128 ms	115.30
Positive Moment - Time Curve Decay Time to Zero		97 - 107 ms	97.20

Remarks:

Laboratory Technician:

B. Swiecicki

PART 572E
NECK EXTENSION TEST

Dummy Serial Number	061	
Sequential Test Number	1	
Date	February 21, 2002	6 Axis Neck Transducer
Workfile	061Extra 2-21-02	

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	69-72 Deg F	69.00
Relative Humidity	10% - 70%	31.00
Impact Velocity	19.50 - 20.30 Ft/s	19.72
Pendulum Deceleration	10 ms	17.20 - 21.20 G's
	20 ms	14.00 - 19.00 G's
	30 ms	11.00 - 16.00 G's
Max Pendulum G's Above 30 ms	22 G's Max	13.66
Deceleration - Time Curve Decay Time to 5 G's	38 - 46 ms	44.40
D Plane Rotation	Max	81 - 106 Deg
	Time	72 - 82 ms
Moment About Occipital Condyle	Max	-59.0 - -39.0 Ft-Lbs
	Time	65 - 79 ms
Rotation Angle - Time Curve Decay Time to Zero	147 - 174 ms	159.20
Positive Moment - Time Curve Decay Time to Zero	120 - 148 ms	74.30

Remarks:

Laboratory Technician:

B. Swiecicki

PART 572E
THORAX IMPACT TEST

Dummy Serial Number 061
Sequential Test Number 1
Date February 26, 2002
Workfile 061T 2-25-02

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	69-72 Deg F	70.0
Relative Humidity	10% - 70%	29.00
Pendulum Velocity	21.6 - 22.4 Ft/s	21.81
Maximum Deflection	2.50 - 2.86 in	2.52
Maximum Resistive Force	1160 - 1325 Lbs	1281.62
Internal Hysteresis	69 - 85 %	76.88

Remarks:

Laboratory Technician:

_____ B. Swiecicki

PART 572E
KNEE IMPACT TEST

Dummy Serial Number 061
 Sequential Test Number 1
 Date February 26, 2002
 Workfile 061RF 2-26-02/061LF 2-26-02

TEST PARAMETER	SPECIFICATION	TEST RESULTS
LEFT KNEE		
Temperature	66 - 78 Deg F	69.0
Relative Humidity	10% - 70%	28.00
Probe Velocity	6.8 - 7.0 Ft/s	7.00
Peak Knee Impact Force	1060 - 1300 Lbs	1157.96
RIGHT KNEE		
Temperature	66 - 78 Deg F	69.0
Relative Humidity	10% - 70%	28.00
Probe Velocity	6.8 - 7.0 Ft/s	7.00
Peak Knee Impact Force	1060 - 1300 Lbs	1269.68

Remarks:

Laboratory Technician:

B. Swiecicki

PART 572E
EXTERNAL DIMENSIONS

Dummy Serial Number 061
Sequential Test Number 1
Date February 26, 2002

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature			70
Relative Humidity			29
Location for Chest Circumference	AA	16.9 - 17.1 in	17.0
Location for Waist Circumference	BB	8.9 - 9.1 in	9.0
Chest Circumference (With Jacket)	Y	38.2 - 39.4 in	39.2
Waist Circumference	Z	32.9 - 34.1 in	33.5
Chest Depth	O	8.4 - 9.0 in	8.4
H-Point Height	C	3.3 - 3.5 in	3.4
H-Point from Backline	D	5.3 - 5.5 in	5.4
Skull Cap to Backline	H	1.6 - 1.8 in	1.7
Total Sitting Height	A	34.6 - 35.0 in	34.9
Thigh Clearance	F	5.5 - 6.1 in	6.1
Buttock Knee Length	K	22.8 - 23.8 in	23.6
Buttock Popliteal Length	N	17.8 - 18.8 in	18.5
Popliteal Height	L	16.9 - 17.9 in	17.7
Knee Pivot Height	M	19.1 - 19.7 in	19.4
Foot Length	P	9.9 - 10.5 in	10.1
Foot Breadth	W	3.6 - 4.2 in	3.8
Shoulder Pivot from Backline	E	3.3 - 3.7 in	3.5
Shoulder Breadth	V	16.6 - 17.2 in	16.8
Shoulder Pivot Height	B	19.9 - 20.5 in	20.1
Elbow Rest Height	J	7.5 - 8.3 in	7.7
Shoulder - Elbow Length	I	13.0 - 13.6 in	13.3
Back of Elbow to Wrist Pivot	G	11.4 - 12.0 in	11.6

Remarks:

Laboratory Technician:

B. Swiecicki

PART 572E
HEAD DROP TEST

Dummy Serial Number 064
Sequential Test Number 1
Date February 4, 2002
Workfile 064H 2-04-02

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	66-78 Deg F	70.0
Relative Humidity	10% - 70%	29.00
Peak Resultant Acceleration	225-275 G's	245.67
Peak Lateral Acceleration	15 G's Max	7.34
Is Acceleration Curve Unimodal?	YES	YES

Remarks:

Laboratory Technician:

B. Swiecicki

PART 572E
NECK FLEXION TEST

Dummy Serial Number	064	
Sequential Test Number	1	
Date	February 21, 2002	6 Axis Neck Transducer
Workfile	064Flxz 2-21-02	

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	69-72 Deg F	70.00
Relative Humidity	10% - 70%	30.00
Impact Velocity	22.60 - 23.40 Ft/s	23.13
Pendulum Deceleration 10 ms	22.50 - 27.50 G's	23.42
20 ms	17.60 - 22.60 G's	20.82
30 ms	12.50 - 18.50 G's	16.12
Max Pendulum G's Above 30 ms	29 G's Max	16.12
Deceleration - Time Curve Decay Time to 5 G's	34 - 42 ms	41.30
D Plane Rotation Max	64 - 78 Deg	65.57
Time	57 - 64 ms	59.50
Moment About Occipital Max	65 - 80 Ft-Lbs	79.39
Condyle Time	47 - 58 ms	52.90
Rotation Angle - Time Curve Decay Time to Zero	113 - 128 ms	113.30
Positive Moment - Time Curve Decay Time to Zero	97 - 107 ms	101.30

Remarks:

Laboratory Technician: _____ B. Swiecicki _____

PART 572E
NECK EXTENSION TEST

Dummy Serial Number	064	
Sequential Test Number	2	
Date	February 21, 2002	6 Axis Neck Transducer
Workfile	064Extb 2-21-02	

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	69.00
Relative Humidity		10% - 70%	31.00
Impact Velocity		19.50 - 20.30 Ft/s	19.58
Pendulum Deceleration	10 ms	17.20 - 21.20 G's	18.54
	20 ms	14.00 - 19.00 G's	15.68
	30 ms	11.00 - 16.00 G's	11.74
Max Pendulum G's Above 30 ms		22 G's Max	11.74
Deceleration - Time Curve Decay Time to 5 G's		38 - 46 ms	46.00
D Plane Rotation	Max	81 - 106 Deg	88.91
	Time	72 - 82 ms	77.40
Moment About Occipital Condyle	Max	-59.0 - -39.0 Ft-Lbs	-49.62
	Time	65 - 79 ms	71.50
Rotation Angle - Time Curve Decay Time to Zero		147 - 174 ms	154.90
Positive Moment - Time Curve Decay Time to Zero		120 - 148 ms	137.10

Remarks:

Laboratory Technician:

B. Swiecicki

PART 572E
THORAX IMPACT TEST

Dummy Serial Number 064
Sequential Test Number 1
Date February 26,2002
Workfile 064T 2-26-02

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	69-72 Deg F	70.0
Relative Humidity	10% - 70%	29.00
Pendulum Velocity	21.6 - 22.4 Ft/s	21.86
Maximum Deflection	2.50 - 2.86 in	2.55
Maximum Resistive Force	1160 - 1325 Lbs	1277.17
Internal Hysteresis	69 - 85 %	75.96

Remarks:

Laboratory Technician:

_____ B. Swiecicki

PART 572E
KNEE IMPACT TEST

Dummy Serial Number 064
Sequential Test Number 1
Date February 26, 2002
Workfile 064LF 2-26-02/064RF 2-26-02

TEST PARAMETER	SPECIFICATION	TEST RESULTS
LEFT KNEE		
Temperature	66 - 78 Deg F	69.0
Relative Humidity	10% - 70%	28.00
Probe Velocity	6.8 - 7.0 Ft/s	7.00
Peak Knee Impact Force	1060 - 1300 Lbs	1233.90
RIGHT KNEE		
Temperature	66 - 78 Deg F	69.0
Relative Humidity	10% - 70%	28.00
Probe Velocity	6.8 - 7.0 Ft/s	7.00
Peak Knee Impact Force	1060 - 1300 Lbs	1244.41

Remarks:

Laboratory Technician:

B. Swiecicki

PART 572E
EXTERNAL DIMENSIONS

Dummy Serial Number 064
Sequential Test Number 1
Date February 26, 2002

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature			70.0
Relative Humidity			29.0
Location for Chest Circumference	AA	16.9 - 17.1 in	17.0
Location for Waist Circumference	BB	8.9 - 9.1 in	9.0
Chest Circumference (With Jacket)	Y	38.2 - 39.4 in	39.2
Waist Circumference	Z	32.9 - 34.1 in	33.6
Chest Depth	O	8.4 - 9.0 in	8.6
H-Point Height	C	3.3 - 3.5 in	3.4
H-Point from Backline	D	5.3 - 5.5 in	5.4
Skull Cap to Backline	H	1.6 - 1.8 in	1.7
Total Sitting Height	A	34.6 - 35.0 in	34.8
Thigh Clearance	F	5.5 - 6.1 in	6.0
Buttock Knee Length	K	22.8 - 23.8 in	23.6
Buttock Popliteal Length	N	17.8 - 18.8 in	18.4
Popliteal Height	L	16.9 - 17.9 in	17.2
Knee Pivot Height	M	19.1 - 19.7 in	19.4
Foot Length	P	9.9 - 10.5 in	10.1
Foot Breadth	W	3.6 - 4.2 in	3.8
Shoulder Pivot from Backline	E	3.3 - 3.7 in	3.6
Shoulder Breadth	V	16.6 - 17.2 in	16.8
Shoulder Pivot Height	B	19.9 - 20.5 in	20.4
Elbow Rest Height	J	7.5 - 8.3 in	8.0
Shoulder - Elbow Length	I	13.0 - 13.6 in	13.3
Back of Elbow to Wrist Pivot	G	11.4 - 12.0 in	11.6

Remarks:

Laboratory Technician:

B. Swiecicki

APPENDIX D

DUMMY, VEHICLE AND LABORATORY INSTRUMENT CALIBRATION

INSTRUMENT CALIBRATION FOR DRIVER DUMMY
(Six Month Calibration Minimum)

DRIVER DUMMY (S/N 061)		Manufacturer	Serial #	Calibration	
				Last	Next
Head 9 Array	X Arm Y	ENTRAN	AC-01G18-F06	21-Jan-02	21-Jul-02
	X Arm Z	ENTRAN	AC-00L13-F39	22-Jan-02	22-Jul-02
	Y Arm X	ENTRAN	AC-00L13-F14	21-Jan-02	21-Jul-02
	Y Arm Z	ENTRAN	AC-01G18-F16	22-Jan-02	22-Jul-02
	Z Arm X	ENTRAN	AC-00L13-F72	21-Jan-02	21-Jul-02
	Z Arm Y	ENTRAN	AC-01G18-F12	21-Jan-02	21-Jul-02
Head	X	ENTRAN	AC-00L13-F04	22-Jan-02	22-Jul-02
	Y	ENTRAN	AC-01G18-F15	21-Jan-02	21-Jul-02
	Z	ENTRAN	AC-01G18-F14	22-Jan-02	22-Jul-02
Head	X (R)	ENTRAN	AC-01G18-F20	21-Jan-02	21-Jul-02
	Y (R)	ENTRAN	AC-01G18-F05	22-Jan-02	22-Jul-02
	Z (R)	ENTRAN	AC-00L13-F16	21-Jan-02	21-Jul-02
Neck Load Cell	X	DENTON	LC-205Fx	22-Jan-02	22-Jul-02
	Y	DENTON	LC-205Fy	22-Jan-02	22-Jul-02
	Z	DENTON	LC-205Fz	22-Jan-02	22-Jul-02
Neck Moment	X	DENTON	LC-205Mx	22-Jan-02	22-Jul-02
	Y	DENTON	LC-205My	22-Jan-02	22-Jul-02
	Z	DENTON	LC-205Mz	22-Jan-02	22-Jul-02
Chest	X	ENDEVCO	AC-P21373	14-Mar-02	14-Sep-02
	Y	ENDEVCO	AC-P22639	14-Mar-02	14-Sep-02
	Z	ENDEVCO	AC-P21297	14-Mar-02	14-Sep-02
Chest	X (R)	ENDEVCO	AC-P21171	14-Mar-02	14-Sep-02
	Y (R)	ENDEVCO	AC-P23136	14-Mar-02	14-Sep-02
	Z (R)	ENDEVCO	AC-P23128	14-Mar-02	14-Sep-02
Chest Deflection	X	SERVO	DS-061	14-Mar-02	14-Sep-02
Pelvic	X	ENDEVCO	AC-P21441	14-Mar-02	14-Sep-02
	Y	ENDEVCO	AC-P19246	14-Mar-02	14-Sep-02
	Z	ENDEVCO	AC-P21516	14-Mar-02	14-Sep-02

INSTRUMENT CALIBRATION FOR DRIVER DUMMY
(Six Month Calibration Minimum)

DRIVER DUMMY (S/N 061)	Manufacturer	Serial #	Calibration		
			Last	Next	
Left Femur Load Cell Fz	GSE	LC-659	12-Feb-02	12-Aug-02	
Right Femur Load Cell Fz	GSE	LC-723	12-Feb-02	12-Aug-02	
Left Knee Shear Dx	SpaceAge Control	DS-821	07-Dec-01	07-Jun-02	
Right Knee Shear Dx	SpaceAge Control	DS-817	07-Dec-01	07-Jun-02	
Left Upper Tibia	Mx	DENTON	LC-016Mx	08-Apr-02	08-Oct-02
	My	DENTON	LC-016My	08-Apr-02	08-Oct-02
Left Lower Tibia	Fz	DENTON	LC-123Fz	08-Apr-02	08-Oct-02
	Mx	DENTON	LC-123Mx	08-Apr-02	08-Oct-02
	My	DENTON	LC-123My	08-Apr-02	08-Oct-02
Right Upper Tibia	Mx	DENTON	LC-023Mx	08-Apr-02	08-Oct-02
	My	DENTON	LC-023My	08-Apr-02	08-Oct-02
Right Lower Tibia	Fz	DENTON	LC-111Fz	08-Apr-02	08-Oct-02
	Mx	DENTON	LC-111Mx	08-Apr-02	08-Oct-02
	My	DENTON	LC-111My	08-Apr-02	08-Oct-02
Left Foot Rear	X	ENDEVCO	AC-P19343	04-Apr-02	04-Oct-02
	Z	ENDEVCO	AC-P16583	04-Apr-02	04-Oct-02
Left Foot Front	Z	ENDEVCO	AC-P18728	04-Apr-02	04-Oct-02
Right Foot Rear	X	ENDEVCO	AC-P18628	04-Apr-02	04-Oct-02
	Z	ENDEVCO	AC-P18741	04-Apr-02	04-Oct-02
Right Foot Front	Z	ENDEVCO	AC-P16587	04-Apr-02	04-Oct-02

INSTRUMENT CALIBRATION FOR PASSENGER DUMMY
(Six Month Calibration Minimum)

PASSENGER DUMMY (S/N 064)	Manufacturer	Serial #	Calibration		
			Last	Next	
Head 9 Array	X Arm Y	ENTRAN	AC-01G18-F08	22-Jan-02	22-Jul-02
	X Arm Z	ENTRAN	AC-00L20-A13	22-Jan-02	22-Jul-02
	Y Arm X	ENTRAN	AC-00L20-A08	21-Jan-02	21-Jul-02
	Y Arm Z	ENTRAN	AC-01G18-F13	22-Jan-02	22-Jul-02
	Z Arm X	ENTRAN	AC-01J02-F18	22-Jan-02	22-Jul-02
	Z Arm Y	ENTRAN	AC-01G25-N11	21-Jan-02	21-Jul-02
Head	X	ENTRAN	AC-01G18-F18	22-Jan-02	22-Jul-02
	Y	ENTRAN	AC-01G18-F07	21-Jan-02	21-Jul-02
	Z	ENTRAN	AC-01G18-F10	21-Jan-02	21-Jul-02
Head	X (R)	ENTRAN	AC-01J02-F09	21-Jan-02	21-Jul-02
	Y (R)	ENTRAN	AC-01G18-F03	22-Jan-02	22-Jul-02
	Z (R)	ENTRAN	AC-01G18-F09	22-Jan-02	22-Jul-02
Neck Load Cell	X	DENTON	LC-440Fx	22-Jan-02	22-Jul-02
	Y	DENTON	LC-440Fy	22-Jan-02	22-Jul-02
	Z	DENTON	LC-440Fz	22-Jan-02	22-Jul-02
Neck Moment	X	DENTON	LC-440Mx	22-Jan-02	22-Jul-02
	Y	DENTON	LC-440My	22-Jan-02	22-Jul-02
	Z	DENTON	LC-440Mz	22-Jan-02	22-Jul-02
Chest	X	ENDEVCO	AC-P23155	15-Mar-02	15-Sep-02
	Y	ENDEVCO	AC-P23358	15-Mar-02	15-Sep-02
	Z	ENDEVCO	AC-P23282	15-Mar-02	15-Sep-02
Chest	X (R)	ENDEVCO	AC-P21484	15-Mar-02	15-Sep-02
	Y (R)	ENDEVCO	AC-P16951	15-Mar-02	15-Sep-02
	Z (R)	ENDEVCO	AC-P21399	15-Mar-02	15-Sep-02
Chest Deflection	X	SERVO	DS-064	20-Mar-02	20-Sep-02
Pelvic	X	ENDEVCO	AC-P23174	15-Mar-02	15-Sep-02
	Y	ENDEVCO	AC-P23164	15-Mar-02	15-Sep-02
	Z	ENDEVCO	AC-P23137	15-Mar-02	15-Sep-02

INSTRUMENT CALIBRATION FOR PASSENGER DUMMY
(Six Month Calibration Minimum)

PASSENGER DUMMY (S/N 064)	Manufacturer	Serial #	Calibration		
			Last	Next	
Left Femur Load Cell	Fz	GSE	LC-954	12-Feb-02	12-Aug-02
Right Femur Load Cell	Fz	GSE	LC-955	12-Feb-02	12-Aug-02
Left Knee Shear	Dx	SpaceAge Control	DS-819	07-Dec-01	07-Jun-02
Right Knee Shear	Dx	SpaceAge Control	DS-815	07-Dec-01	07-Jun-02
Left Upper Tibia	Mx	DENTON	LC-045Mx	08-Apr-02	08-Oct-02
	My	DENTON	LC-045My	08-Apr-02	08-Oct-02
Left Lower Tibia	Fz	DENTON	LC-125Fz	08-Apr-02	08-Oct-02
	Mx	DENTON	LC-125Mx	08-Apr-02	08-Oct-02
	My	DENTON	LC-125My	08-Apr-02	08-Oct-02
Right Upper Tibia	Mx	DENTON	LC-038Mx	08-Apr-02	08-Oct-02
	My	DENTON	LC-038My	08-Apr-02	08-Oct-02
Right Lower Tibia	Fz	DENTON	LC-124Fz	08-Apr-02	08-Oct-02
	Mx	DENTON	LC-124Mx	08-Apr-02	08-Oct-02
	My	DENTON	LC-124My	08-Apr-02	08-Oct-02
Left Foot Rear	X	ENDEVCO	AC-J30491	21-Mar-02	21-Sep-02
	Z	ENDEVCO	AC-J31026	21-Mar-02	21-Sep-02
Left Foot Front	Z	ENDEVCO	AC-J32831	21-Mar-02	21-Sep-02
Right Foot Rear	X	ENDEVCO	AC-J33376	21-Mar-02	21-Sep-02
	Z	ENDEVCO	AC-J32832	21-Mar-02	21-Sep-02
Right Foot Front	Z	ENDEVCO	AC-J31095	21-Mar-02	21-Sep-02

INSTRUMENT CALIBRATION FOR VEHICLE ACCELEROMETERS
(Six Month Calibration Minimum)

	Manufacturer	Serial #	Calibration	
			Last	Next
Left Seat Rear Crossmember X	ICS	AC-D30	30-Oct-01	30-Oct-01
Right Rear Seat Crossmember X	ICS	AC-X92	25-Sep-01	25-Sep-01
Top of Engine	ENDEVCO	AC-B10955	11-Feb-02	11-Aug-02
Bottom of Engine	ENDEVCO	AC-P16665	15-Jan-02	15-Jul-02
Right Disc Brake Caliper	ENDEVCO	AC-A13883	11-Feb-02	11-Aug-02
Instrument Panel	ENDEVCO	AC-P17247	26-Feb-02	26-Aug-02
Left Disc Brake Caliper	ENDEVCO	AC-J32965	25-Mar-02	25-Sep-02
Left Seat Rear Crossmember Z	ICS	AC-Y112	04-Apr-02	04-Oct-02
Right Seat Rear Crossmember Z	ICS	AC-Y07	04-Apr-02	04-Oct-02

REPORT NUMBER: CAL-02-7

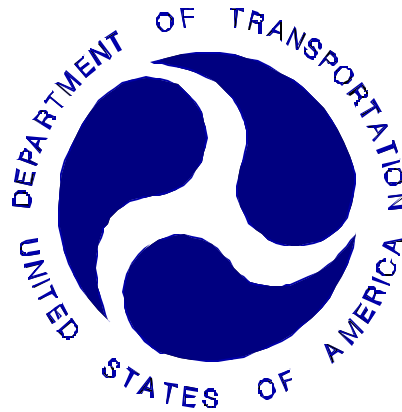
**NEW CAR ASSESSMENT PROGRAM (NCAP)
FRONTAL BARRIER IMPACT TEST**

SAFETY FIRST FORERUNNER LATCH

NHTSA NUMBER: M20201

VERIDIAN ENGINEERING TEST NUMBER: 8642-NCAP-07

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



April 12, 2002

FINAL REPORT

U. S. DEPARTMENT OF TRANSPORTATION
National Highway Traffic Safety Administration
Safety Performance Standards
Office of Crashworthiness Standards
Mail Code: NPS-10
400 Seventh Street, SW, Room No. 5313
Washington, DC 20590

This Final Test Report was prepared for the U.S. Department of Transportation, National Highway Traffic Safety Administration, under Contract No. DTNH22-01-D-32005. This document is disseminated under the sponsorship of the U.S. Department of Transportation in the interest of information exchange. The United States Government assumes no liability for its contents or use thereof.

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Approval Date:

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Accepted By:

Acceptance Date:

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1. Report No. SNCAP-CAL-02-7	2. Government Accession No.	3. Recipient's Catalog No.	
4. Title and Subtitle Final Report of Safety First Forerunner LATCH NHTSA No.: M20201		5. Report Date April 12, 2002	6. Performing Organization Code CAL
		8. Performing Organization Report No. 8642-NCAP-07	
7. Author(s) Patrick G. MacDiarmid, Jr., Project Engineer David J. Travale, Program Manager		10. Work Unit No.	
9. Performing Organization Name and Address Veridian Engineering Transportation Sciences Center P.O. Box 400 Buffalo, New York 14225		11. Contract or Grant No. DTNH22-01-D-32005	
		13. Type of Report and Period Covered Final Report, April 2002	
12. Sponsoring Agency Name and Address U.S. Department of Transportation National Highway Traffic Safety Administration Office of Crashworthiness Standards Mail Code: NPS-10 400 Seventh SW, Room 5313 Washington, D.C. 20590		14. Sponsoring Agency Code NPS-10	
		15. Supplementary Notes	
16. Abstract A frontal load cell barrier test was conducted on the subject CRS Safety First Forerunner LATCH in accordance with the specifications of the Office of Crashworthiness Standards Test Procedure for the determination of CRS crashworthiness. This test was conducted at the Veridian Engineering Crash Test Facility in Buffalo, New York, on April 12, 2002.			
17. Key Words New Car Assessment Program (NCAP)		18. Distribution Statement Copies of this report are available from: National Highway Traffic Safety Administration Technical Reference Division Room 5108 (NAD-52) 400 Seventh St., S.W. Washington, D.C. 20590 Telephone No. (202) 366-4946 ATTN: Robert Hornicle	
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SECTION 1

PURPOSE AND SUMMARY OF TEST M20201

The purpose of this test was to obtain CRS performance data in a frontal impact NCAP condition.

The 56.17 kph NCAP frontal impact test was conducted in accordance with the Office of Crashworthiness Standards (OCS) NCAP Laboratory Test Procedure.

SUMMARY

The child dummy was instrumented with head, chest, and pelvic triaxial accelerometers. In addition, redundant head z acceleration, chest displacement and upper and lower six axial neck force and moment load cell sensors were utilized.

The right rear (Position 3) child dummy (serial no. 042) was calibrated previous to this test. Child dummy certification information is found in section 5.

The right rear child dummy's HIC was 459.8, maximum chest deceleration over 3 ms was 45.2 g's.

SECTION 2
DATA SHEET NO. 1
CRASH TEST SUMMARY

TEST DUMMY INFORMATION:

DESCRIPTION	Position #3 CRS
ATD Type/Serial No.	Hybrid III 3C/042
Restraint System:	Safety First Forerunner LATCH

Number of Data Channels _____ 23
Number of Cameras: _____ 1 Real Time
_____ 3 High Speed

POST TEST DOOR OPENING

DESCRIPTION	FRONT	REAR
Left Side Doors	Closed, latched and operable without tools	Closed, latched and operable without tools
Right Side Doors	Closed, latched and operable without tools	Closed, latched and operable without tools
Hatch/Other Door	N/A	N/A

POST TEST SEAT DATA

LOCATION	SEAT MOVEMENT (mm)	SEAT BACK FAILURE
P1 (Left Front)	0	None
P2 (Right Front)	0	None
P3 (Right Rear)	0	None
P4 (Left Rear)	0	None

VISIBLE DUMMY CONTACT POINTS

Position #3 CRS	
Head Contact:	The chin to the chest clip.
Upper Torso Contact:	None
Lower Torso Contact:	None
Left Knee Contact:	None
Right Knee Contact:	None

DATA SHEET NO. 2

CRS PARAMETER DATA

CRS: _Safety First Forerunner LATCH

NHTSA No. M20201

CALCULATION OF VEHICLE'S TARGET TEST WEIGHT:

Delivered Weight of Vehicle with Maximum Fluids = 1227.5 kg (A)

AS TESTED WEIGHT OF VEHICLE (2 P572E + 1 P572C w/ CRS +CARGO+EQUIPMENT & INSTRUMENTATION):

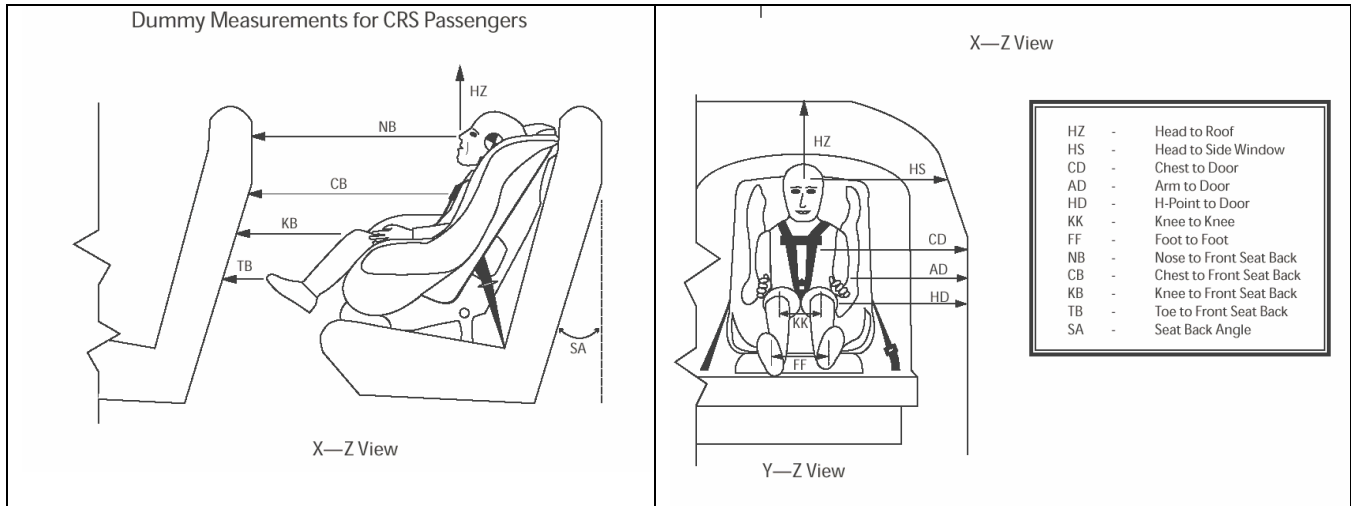
Left Front	=	<u>408.0</u>	kg	Left Rear	=	<u>290.0</u>	kg
Right Front	=	<u>418.0</u>	kg	Right Rear	=	<u>294.0</u>	kg
TOTAL FRONT	=	<u>826.0</u>	kg	TOTAL REAR	=	<u>584.0</u>	kg
TOTAL TEST WEIGHT =		<u>1410.0</u>	kg				

DATA SHEET NO. 3

CHILD DUMMY POSITIONING IN VEHICLE

CRS: Safety First Forerunner LATCH

NHTSA No. M20201



Measurement	Pre-Test (mm)	Post Test (mm)
	P3 CRS (042)	P3 CRS (042)
SA	22°	22°
HS	308	263
CD	317	295
AD	177	165
HD	234	228
HZ	334	341
NB	530	534
CB	499	490
KK	140	151
FF	153	189
KB – LEFT	340	335
KB – RIGHT	335	330
TB – LEFT	55	37
TB – RIGHT	60	48

All dimensions in mm (unless noted)

DATA SHEET 4

CHILD DUMMY INJURY CRITERIA VALUES

CRS: Safety First Forerunner LATCH

NHTSA No. M20201

DESCRIPTION	Unit	MAXIMUM VALUE			
		Position #3			
		Pos	msec	Neg	msec
Head X	g	40.8	208.7	-24.4	96.9
Head Y	g	1.8	139.7	-4.1	75.2
Head Z	g	65.8	77.5	-12.5	46.7
Head Resultant	g	67.7	77.5	0.0	-33.6
Redundant Head Z	g	80.5	77.6	-24.1	47.0
Upper Neck Fx	N	660.3	97.5	-26.4	244.2
Upper Neck Fy	N	37.4	137.4	-96.7	75.5
Upper Neck Fz	N	1816.3	77.8	-331.0	46.1
Upper Neck F Resultant	N	1851.1	77.8	0.7	-26.5
Upper Neck Mx	N-m	7.5	82.8	-3.0	143.4
Upper Neck My	N-m	6.0	152.6	-7.0	100.3
Upper Neck Mz	N-m	3.1	158.0	-3.2	125.2
Upper Neck M Resultant	N-m	7.6	83.2	0.0	-48.4
Lower Neck Fx	N	883.4	81.3	-125.9	206.3
Lower Neck Fy	N	95.8	55.7	-85.4	78.4
Lower Neck Fz	N	1269.9	77.5	-634.2	48.0
Lower Neck F Resultant	N	1543.4	77.6	0.3	11.6
Lower Neck Mx	N-m	17.8	81.6	-5.3	139.3
Lower Neck My	N-m	100.8	89.9	-10.4	206.1
Lower Neck Mz	N-m	3.5	147.9	-7.0	79.5
Lower Neck M Resultant	N-m	102.1	89.7	0.1	-49.2
Chest X	g	5.6	226.7	-36.2	73.0
Chest Y	g	2.0	241.6	-4.3	46.2
Chest Z	g	26.3	80.8	-38.0	49.8
Chest Resultant	g	46.3	50.1	0.1	-28.3
Chest Displacement	g	0.0	-26.5	-28.7	94.5
Pelvic X	g	6.6	131.3	-32.8	49.6
Pelvic Y	g	7.0	66.4	-5.5	47.0
Pelvic Z	g	11.2	212.0	-39.4	54.0
Pelvic Resultant	g	49.7	52.2	0.0	-28.5

DATA SHEET NO. 5

CRS PERFORMANCE DATA

CRS: Safety First Forerunner LATCH

NHTSA No. M20201

POSITION #3 CRS POST-TEST INSPECTION (Serial No. 02-925-BRD)

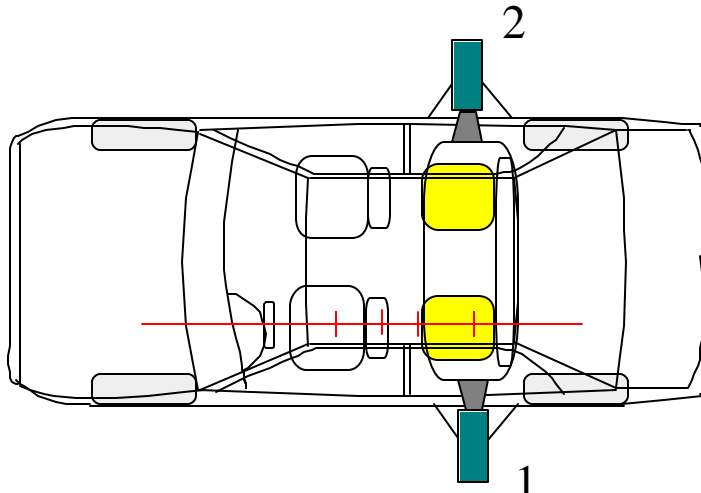
LOCATION	DAMAGE	REMARKS
Upper Tether Strap	No	None
Upper Tether Buckle	No	None
Upper Tether Hook	No	None
Vehicle Upper Tether Anchor	No	None
Lower Anchor Strap	No	None
Lower Anchor Buckle	No	None
Lower Anchor Hooks	No	None
Vehicle Lower CRS Anchors	No	None
Five Point Harness Connections	No	None
Cracks on CRS	No	None
Fabric Tears on CRS	No	None
Vehicle Seat Structure	No	None
Vehicle Seat Fabric Tears	No	None
Child Dummy	No	None

DATA SHEET NO. 6

CRS CAMERA DATA

CRS: Safety First Forerunner LATCH

NHTSA No. M20201



Camera No.	View	Coordinates (millimeters)			Angle (deg.)	Lens (mm)	Film Speed (fps)
		X*	Y*	Z*			
1	Left side CRS lateral view	8360	2840	-2300	-10	13	510
2	Right side CRS lateral view	3962	0	-2117	-19	13	500

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

- X = + Forward
- Y = + To Right
- Z = + Down

SECTION 3

PHOTOGRAPHS

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Figure 3-1 CLOSE-UP VIEW OF POSITION 3 CRS LABEL



Figure 3-2 PRE-TEST FRONTAL VIEW OF POSITION 3 CRS



Figure 3-3 POST-TEST FRONTAL VIEW OF POSITION 3 CRS



Figure 3-4 PRE-TEST REAR VIEW OF POSITION 3 CRS



Figure 3-5 POST-TEST REAR VIEW OF POSITION 3 CRS



Figure 3-6 PRE-TEST LEFT SIDE VIEW OF POSITION 3 CRS



Figure 3-7 POST-TEST LEFT SIDE VIEW OF POSITION 3 CRS



Figure 3-8 PRE-TEST RIGHT SIDE VIEW OF POSITION 3 CRS



Figure 3-9 POST-TEST RIGHT SIDE VIEW OF POSITION 3 CRS



Figure 3-10 PRE-TEST POSITION 3 LEFT SIDE VIEW



Figure 3-11 POST-TEST POSITION 3 LEFT SIDE VIEW



Figure 3-12 PRE-TEST POSITION 3 RIGHT SIDE VIEW



Figure 3-13 POST-TEST POSITION 3 RIGHT SIDE VIEW



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Figure 3-14 PRE-TEST POSITION 3 REAR VIEW



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Figure 3-15 POST-TEST POSITION 3 REAR VIEW

SECTION 4

CHILD DUMMY RESPONSE AND CRS DATA TRACES

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1	P3 Head x [g, CFC_1000]	4-3
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20	P3 Lower Neck Mz [N-m, CFC_600]	4-22
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22	P3 Chest x [g, CFC_180]	4-24
23	P3 Chest y [g, CFC_180]	4-25
24	P3 Chest z [g, CFC_180]	4-26
25	P3 Chest Resultant [g, CFC_180]	4-27
26	P3 Chest Compression [mm, CFC_600]	4-28
27	P3 Pelvic x [g, CFC_1000]	4-29
28	P3 Pelvic y [g, CFC_1000]	4-30
29	P3 Pelvic z [g, CFC_1000]	4-31
30	P3 Pelvic Resultant [g, CFC_1000]	4-32

NCAP Test 7 - 2002 Ford Focus

P3 Head x

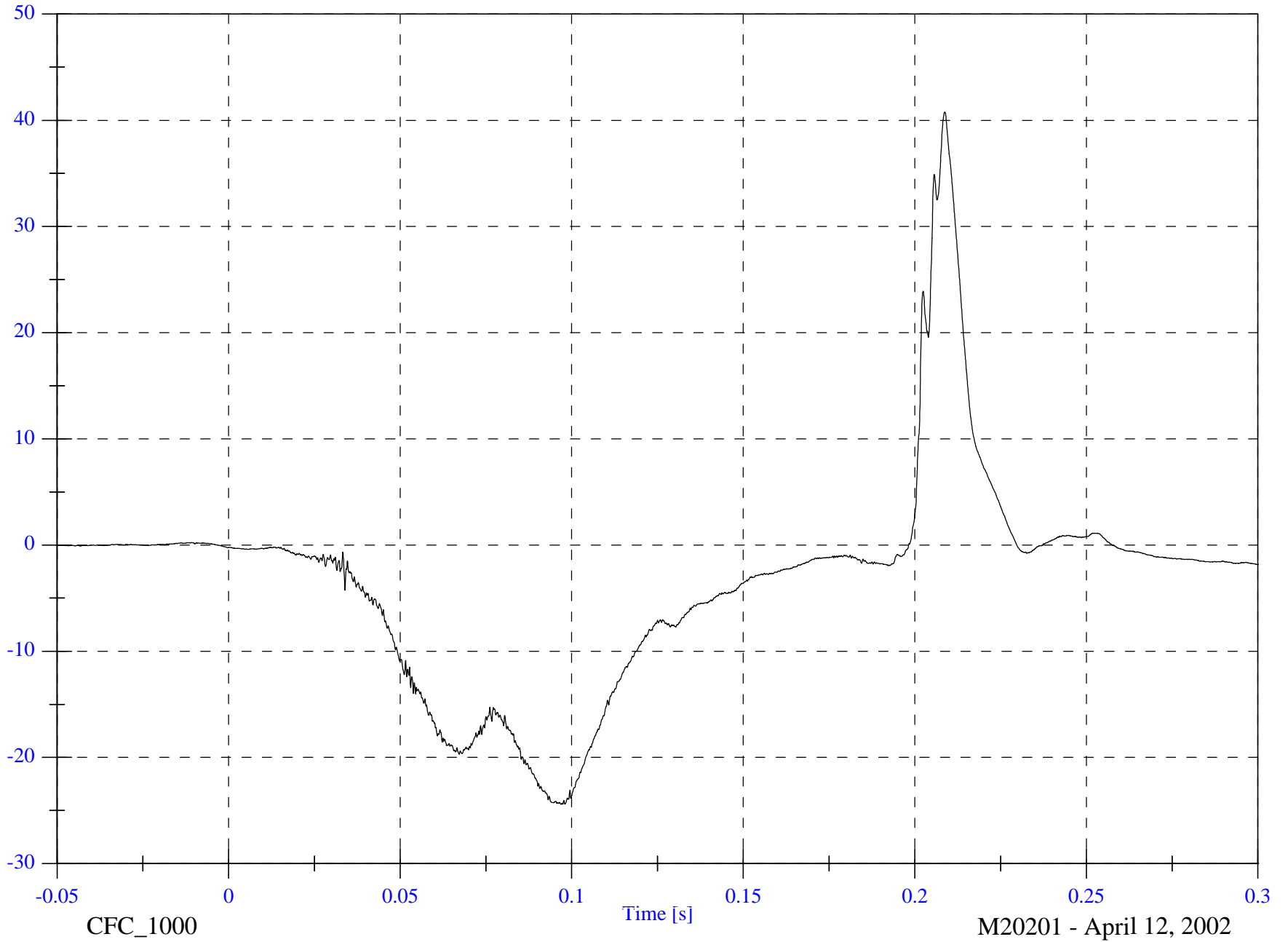
Max: 40.8 [g] at 0.209 [s]

Min: -24.4 [g] at 0.097 [s]

4-3

g

8462-NCAP-07



CFC_1000

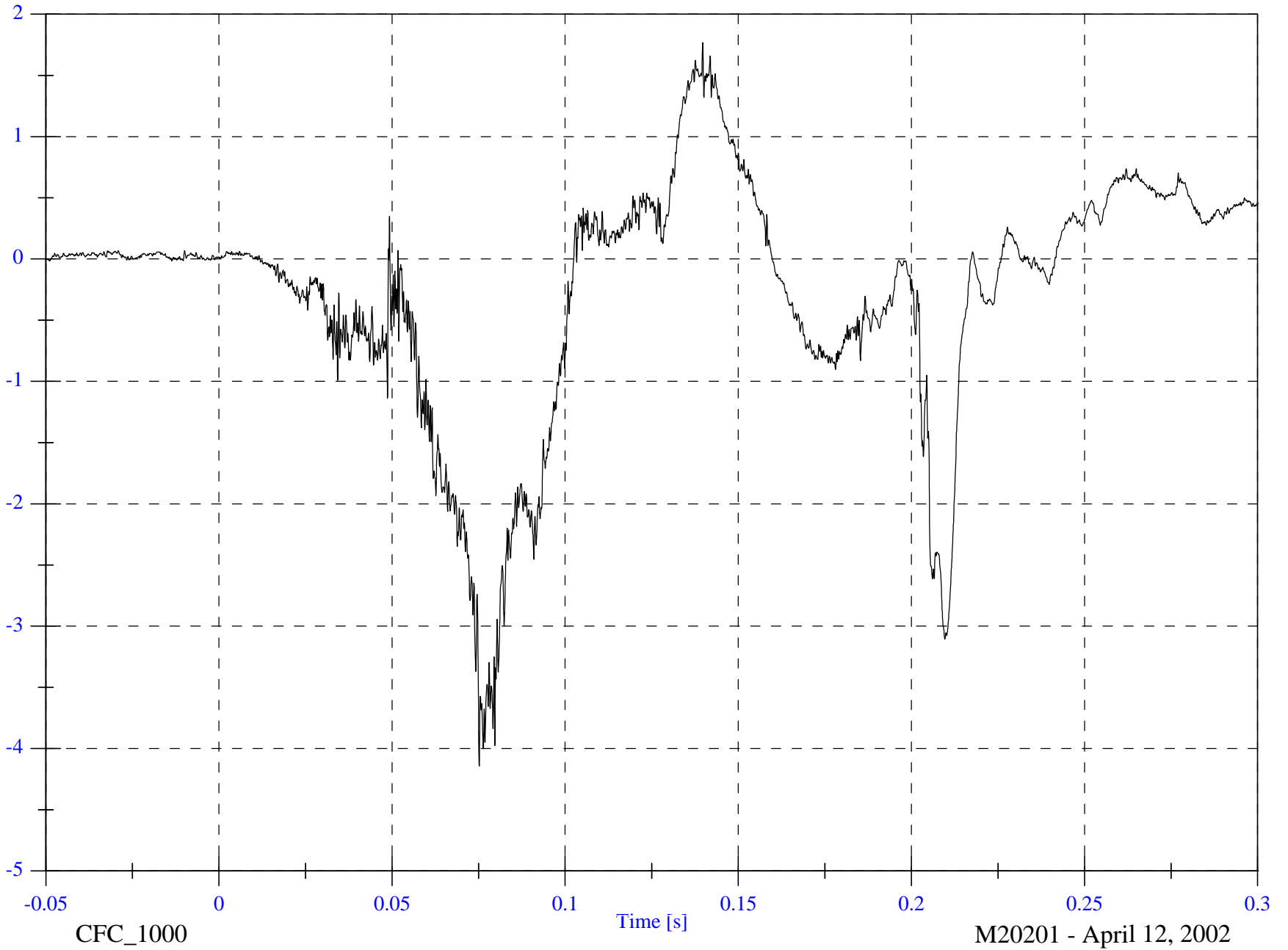
Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

Max: 1.8 [g] at 0.140 [s]
Min: -4.1 [g] at 0.075 [s]

P3 Head y



4-4

g

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CFC_1000

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

P3 Head z

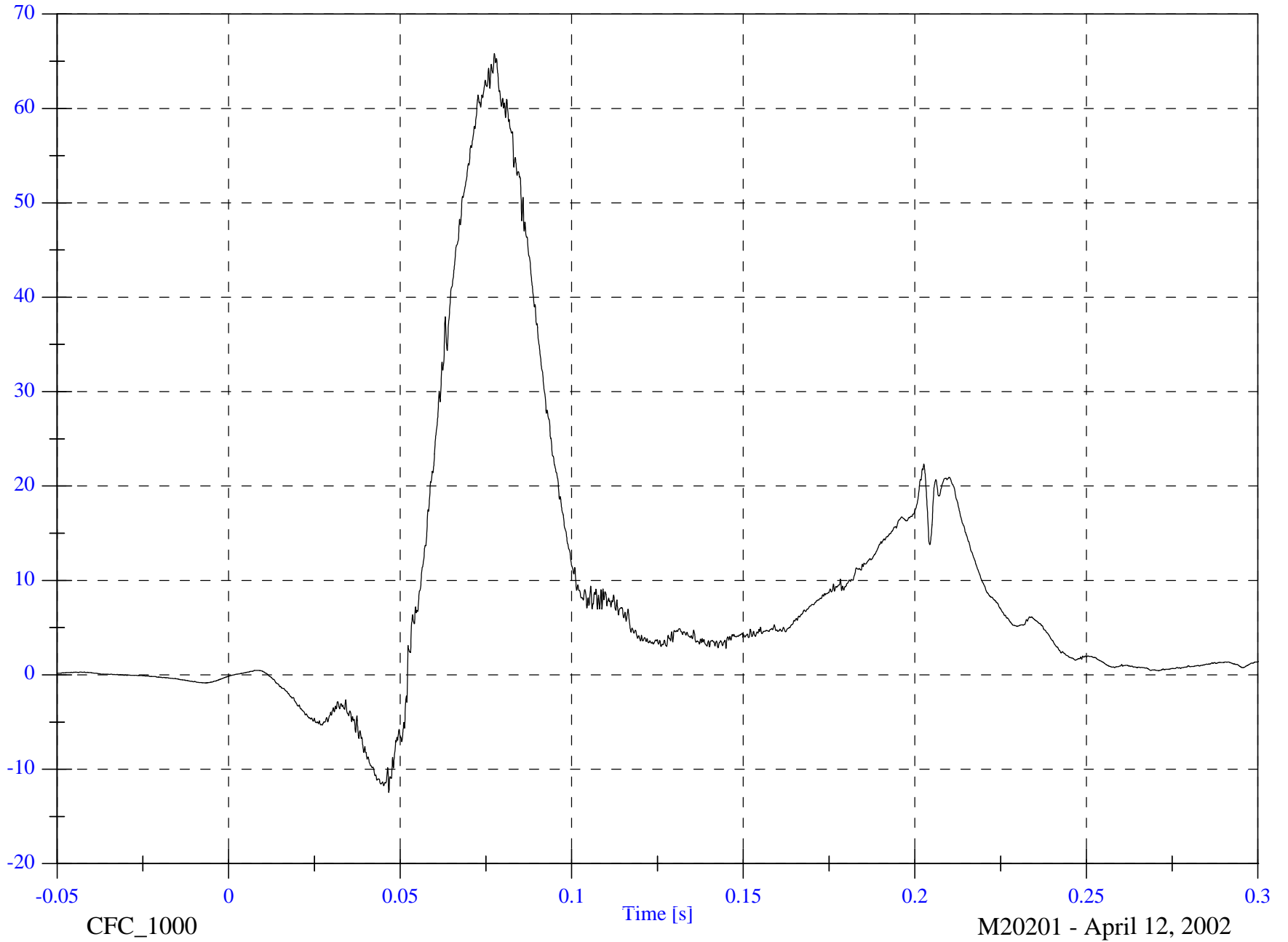
Max: 65.8 [g] at 0.077 [s]

Min: -12.5 [g] at 0.047 [s]

4-5

g

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CFC_1000

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

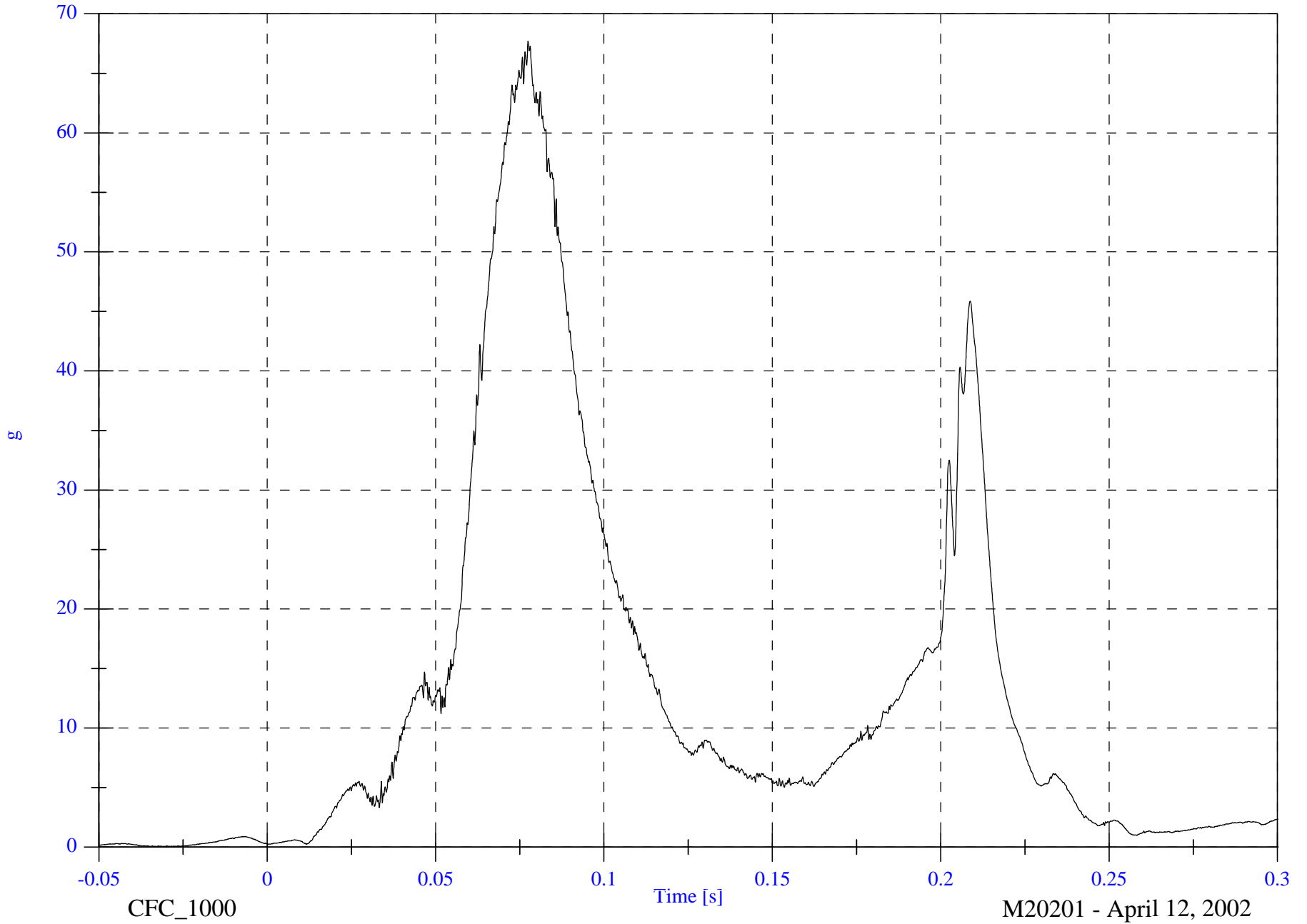
P3 Head Resultant

Max: 67.7 [g] at 0.077 [s]

Min: 0.0 [g] at -0.034 [s]

4-6

8462-NCAP-07



CFC_1000

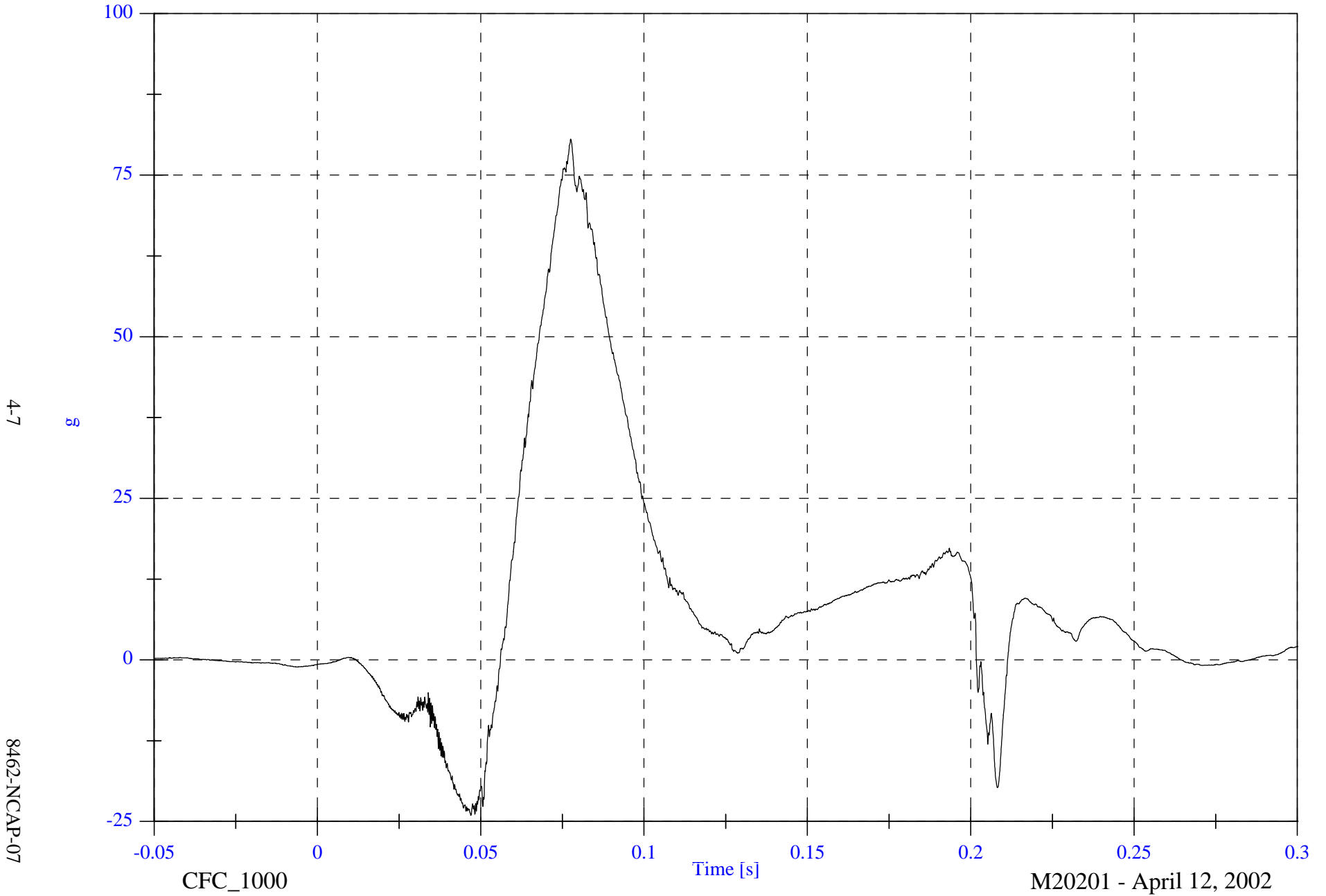
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

P3 Head Red z

Max: 80.5 [g] at 0.078 [s]

Min: -24.1 [g] at 0.047 [s]



NCAP Test 7 - 2002 Ford Focus

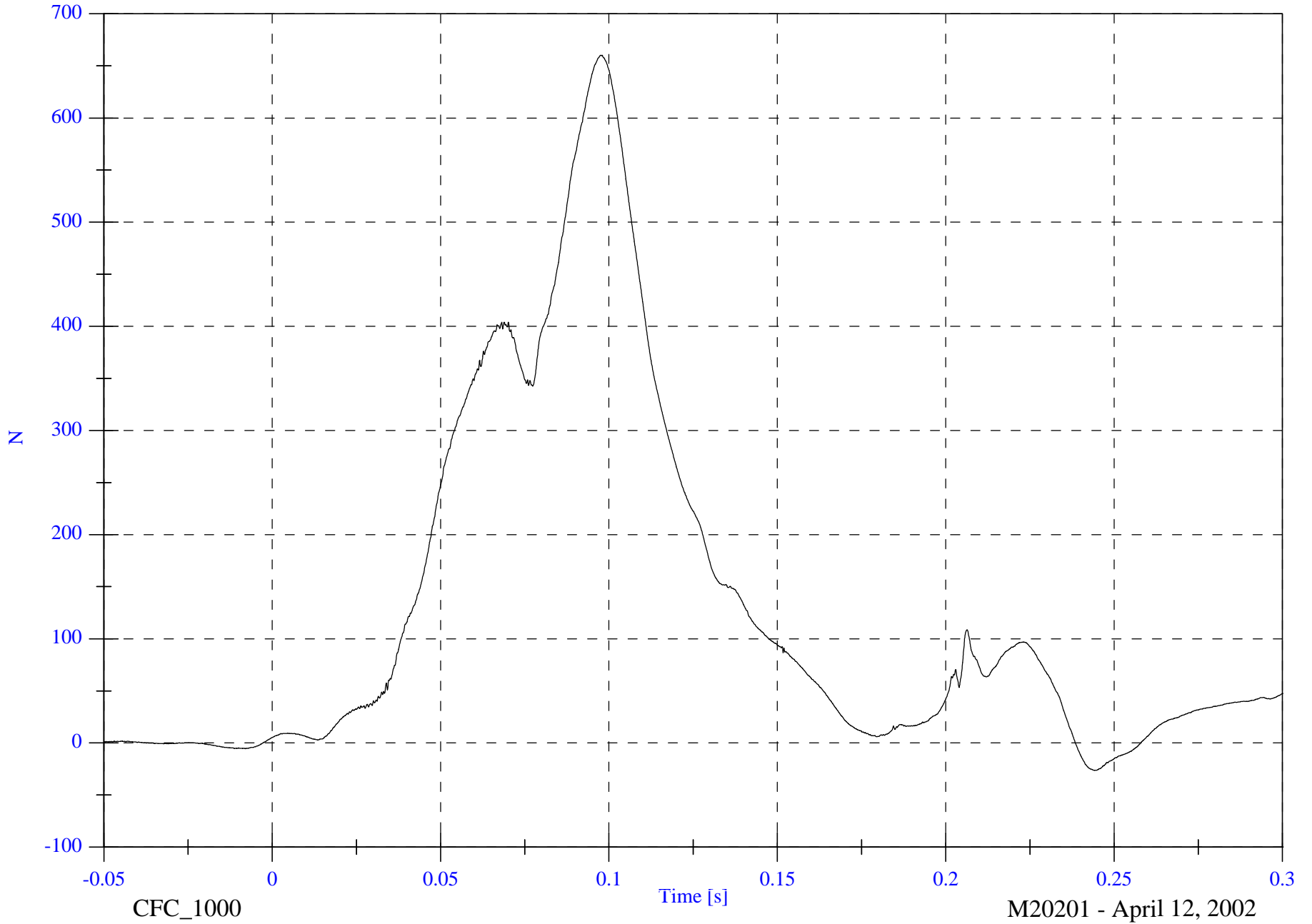
P3 Upper Neck Fx

Max: 660.3 [N] at 0.098 [s]

Min: -26.4 [N] at 0.244 [s]

4-8

8462-NCAP-07

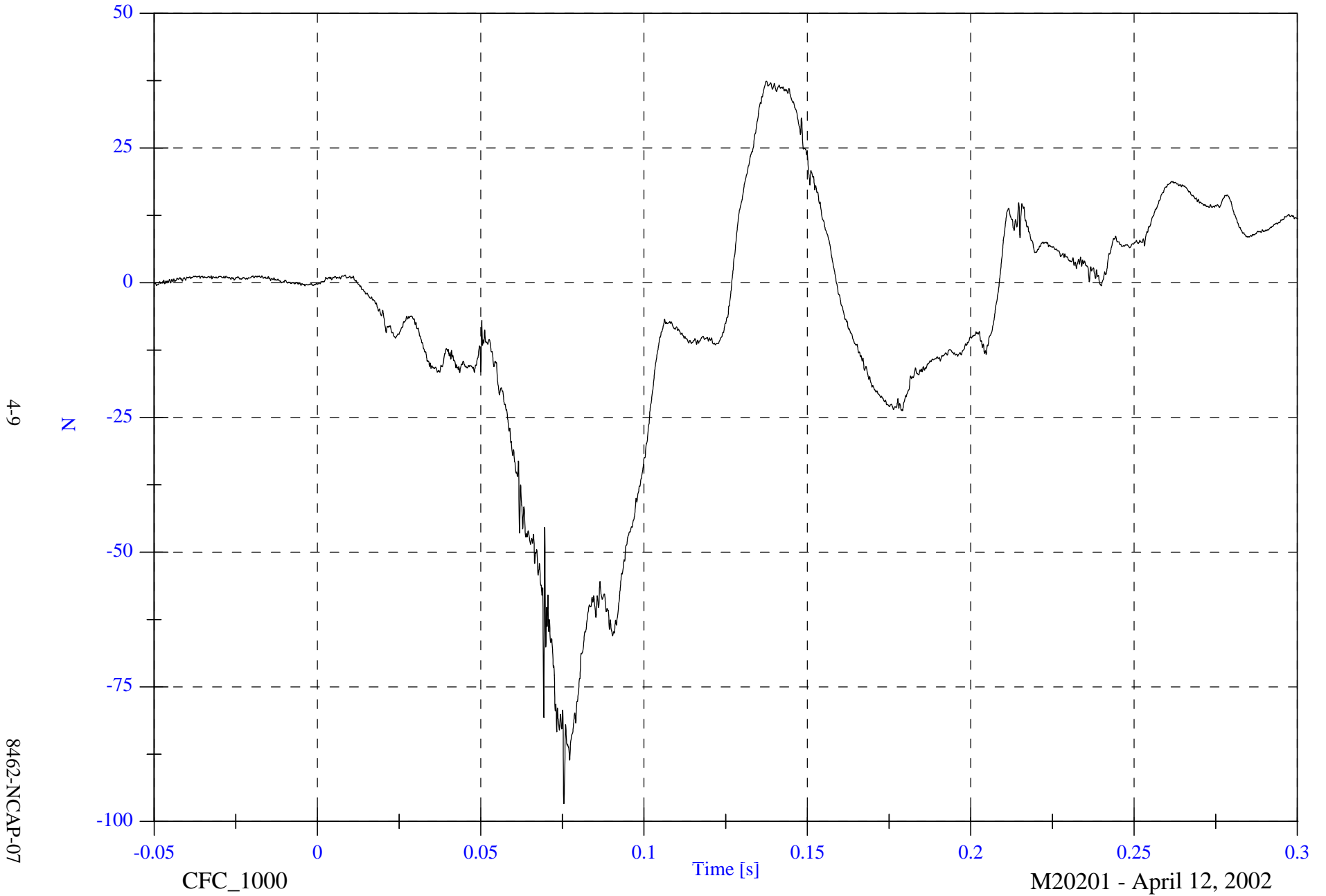


NCAP Test 7 - 2002 Ford Focus

P3 Upper Neck Fy

Max: 37.4 [N] at 0.137 [s]

Min: -96.7 [N] at 0.075 [s]



4-9

8462-NCAP-07

CFC_1000

Time [s]

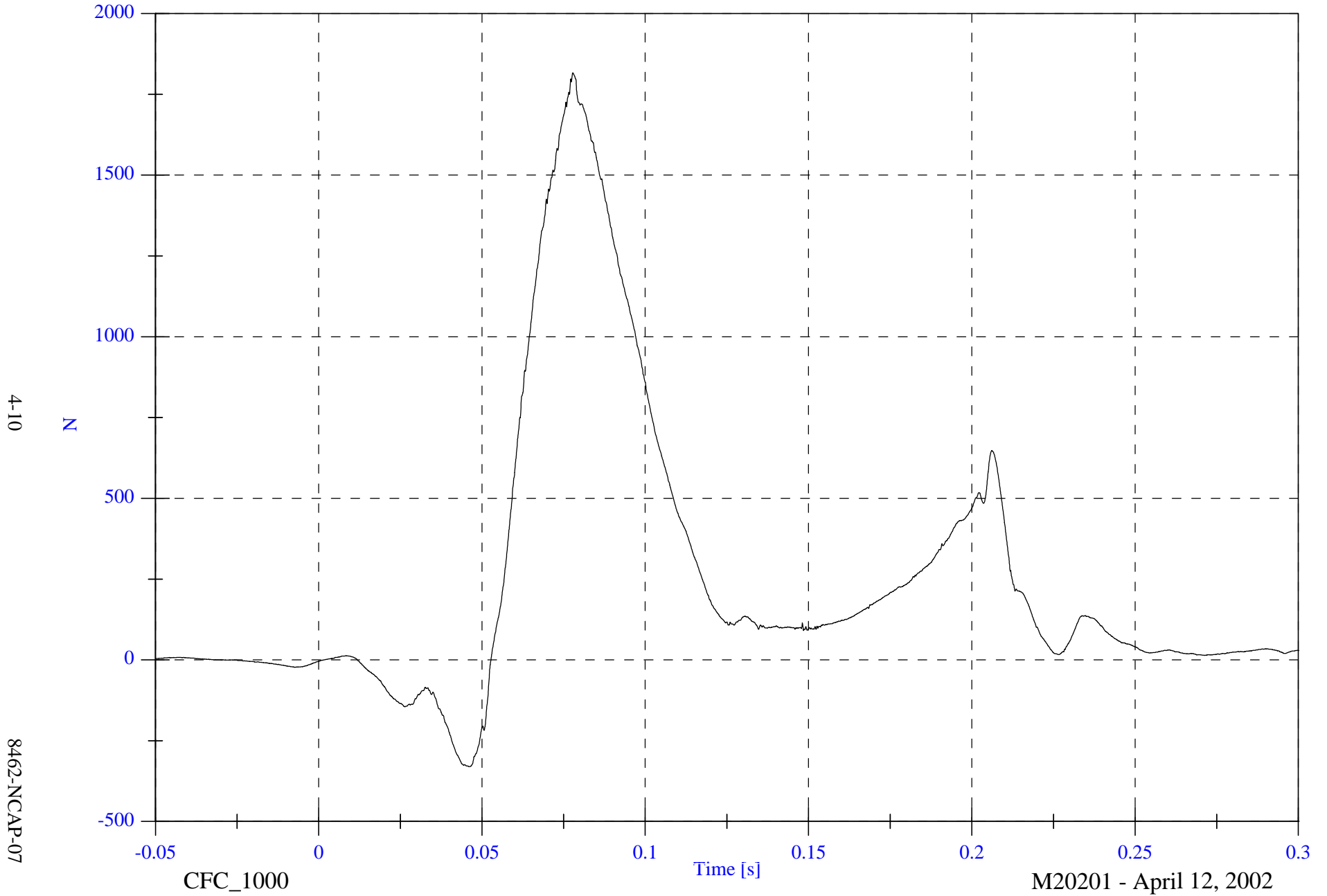
M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

P3 Upper Neck Fz

Max: 1816.3 [N] at 0.078 [s]

Min: -331.0 [N] at 0.046 [s]



4-10

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CFC_1000

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

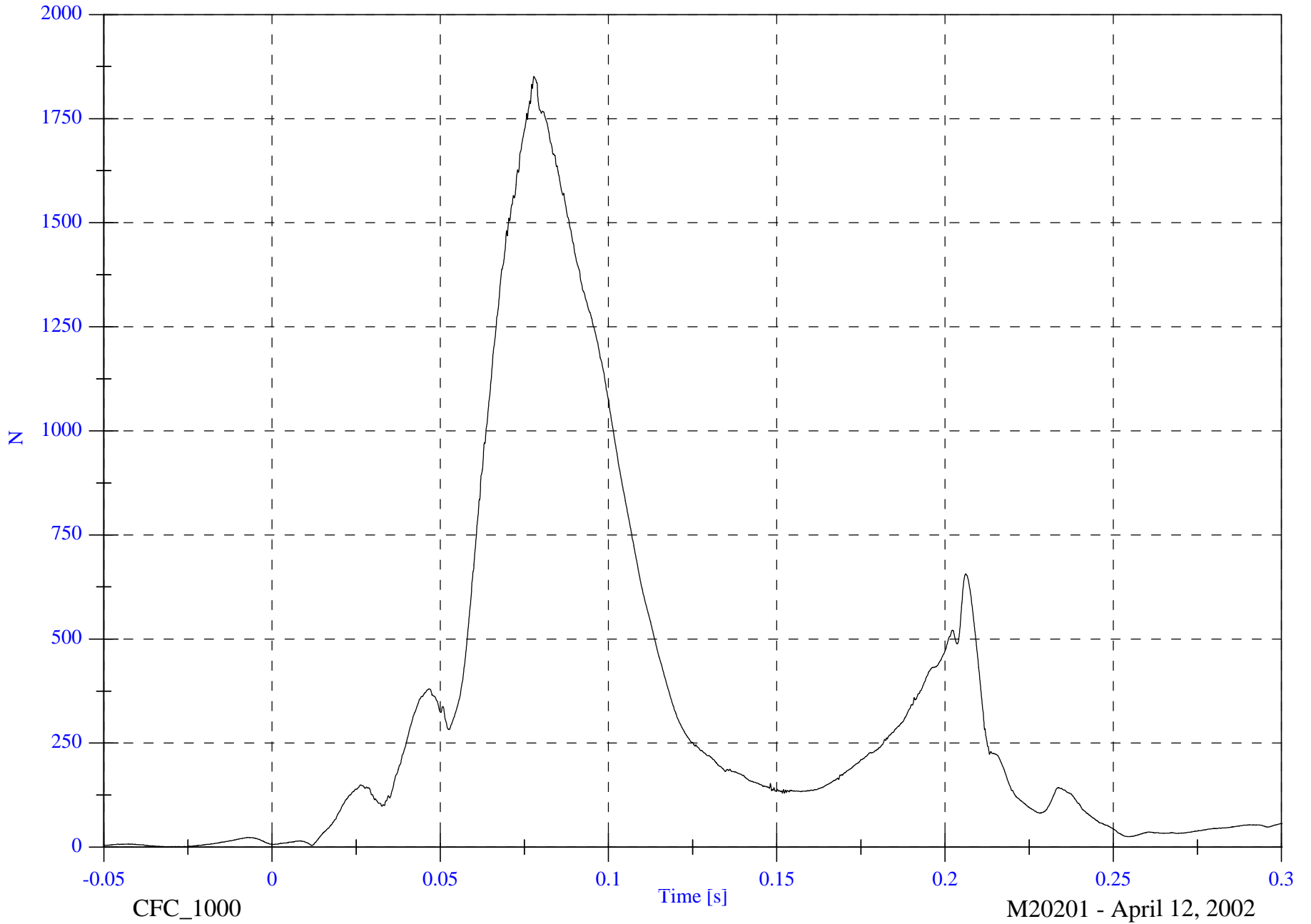
Max: 1851.1 [N] at 0.078 [s]

P3 Upper Neck F Resultant

Min: 0.7 [N] at -0.027 [s]

4-11

8462-NCAP-07



NCAP Test 7 - 2002 Ford Focus

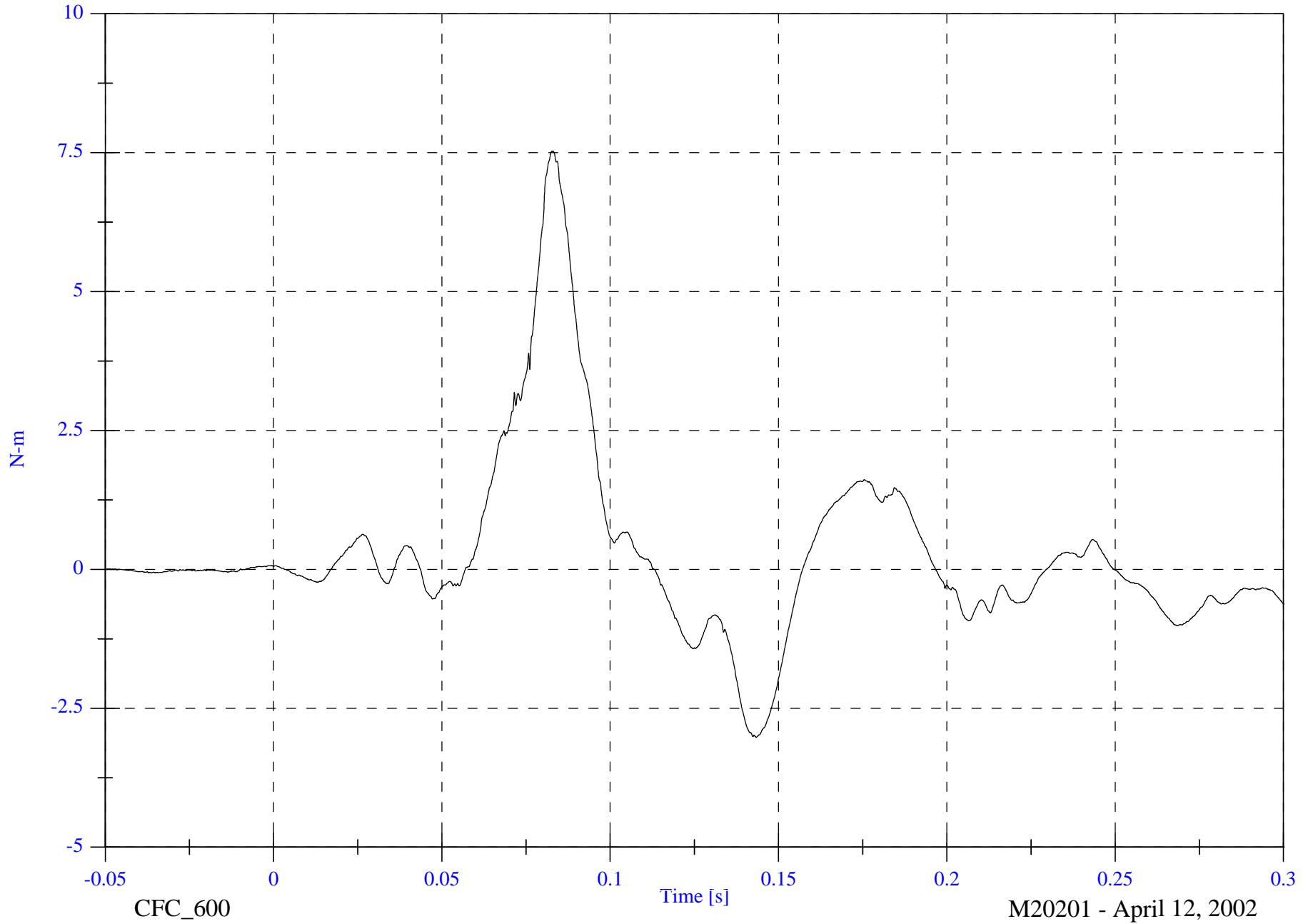
P3 Upper Neck Mx

Max: 7.5 [N-m] at 0.083 [s]

Min: -3.0 [N-m] at 0.143 [s]

4-12

8462-NCAP-07



NCAP Test 7 - 2002 Ford Focus

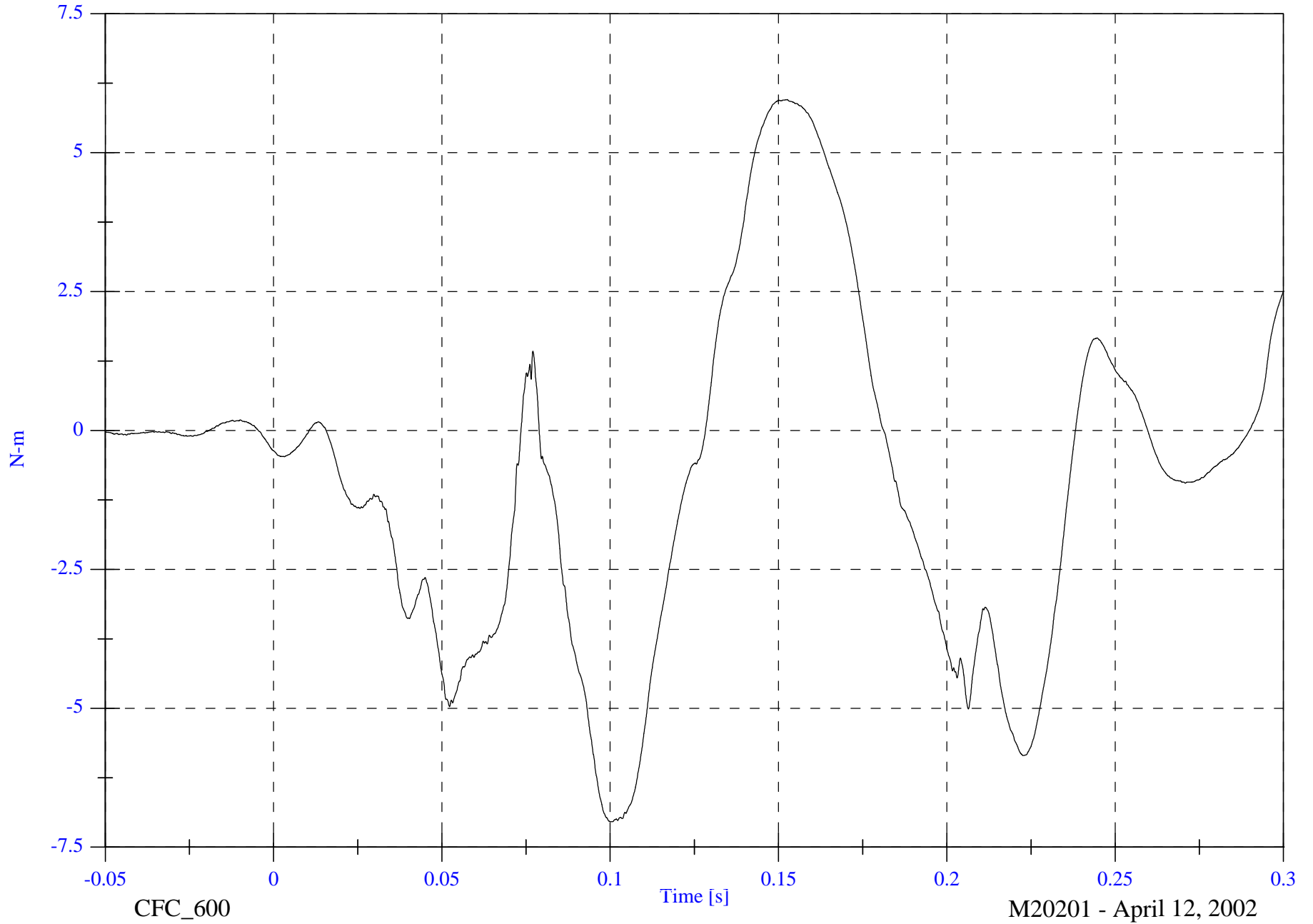
P3 Upper Neck My

Max: 6.0 [N-m] at 0.153 [s]

Min: -7.0 [N-m] at 0.100 [s]

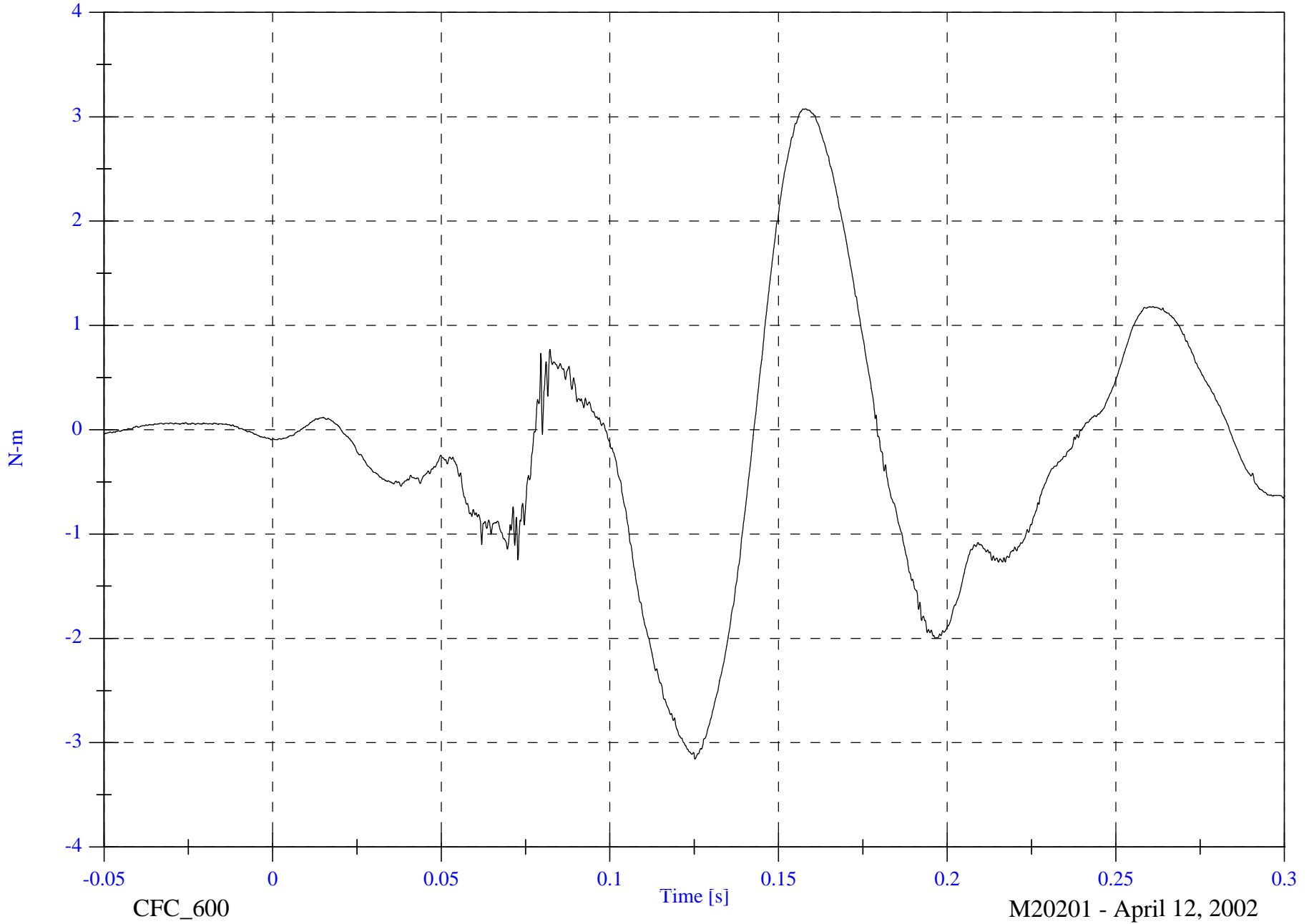
4-13

8462-NCAP-07



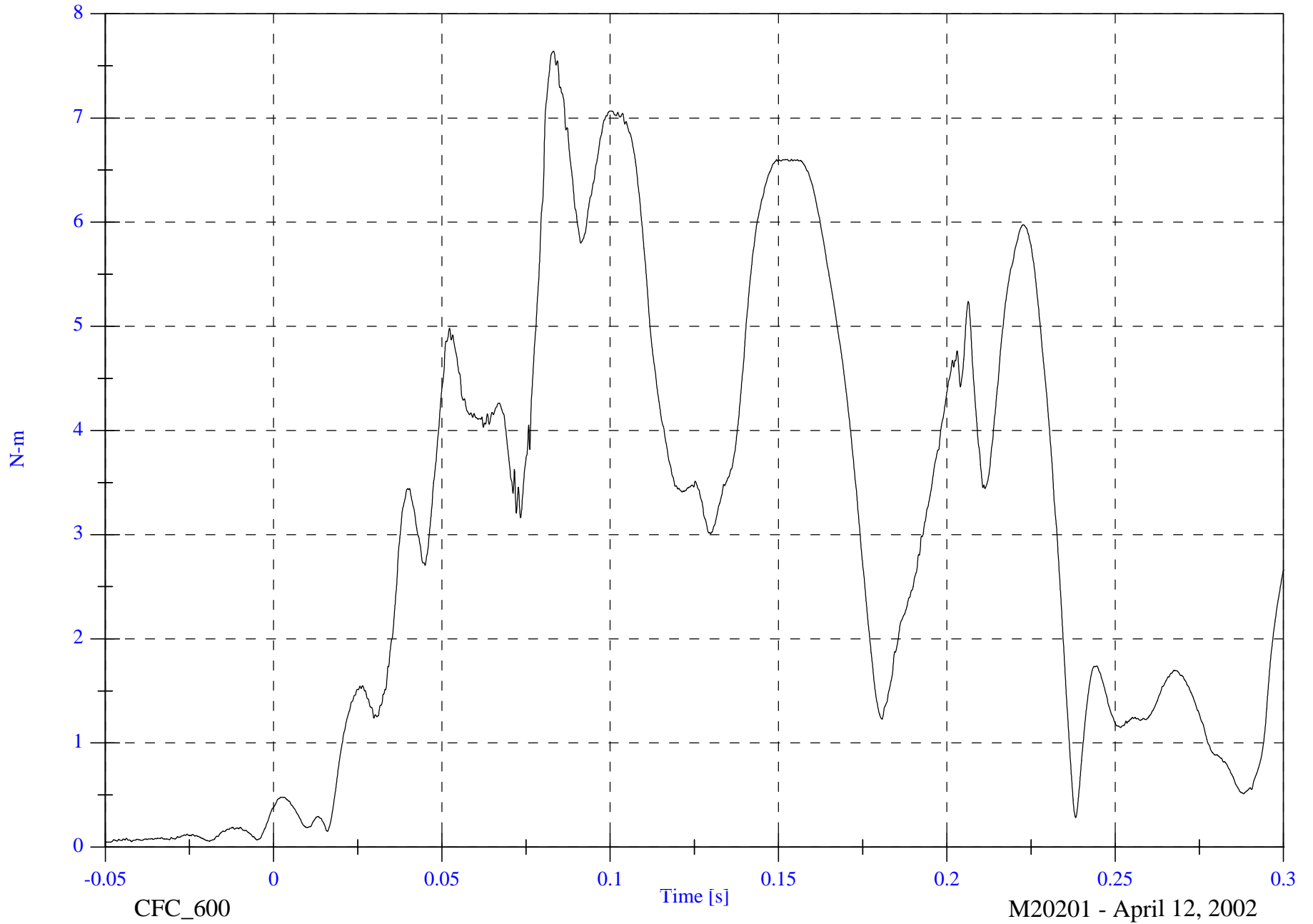
4-14

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4-15

8462-NCAP-07

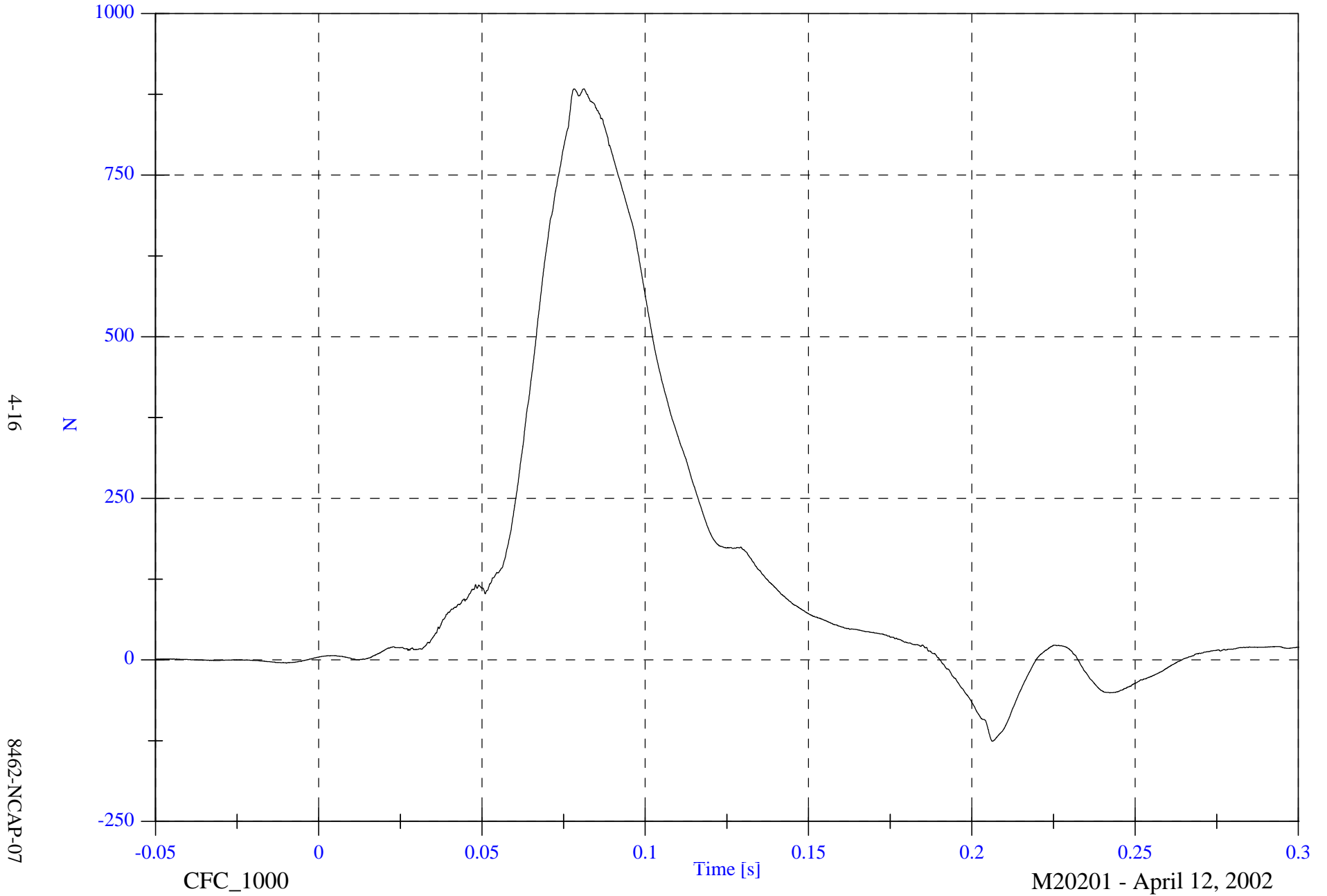


NCAP Test 7 - 2002 Ford Focus

P3 Lower Neck Fx

Max: 883.4 [N] at 0.081 [s]

Min: -125.9 [N] at 0.206 [s]



4-16

8462-NCAP-07

CFC_1000

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

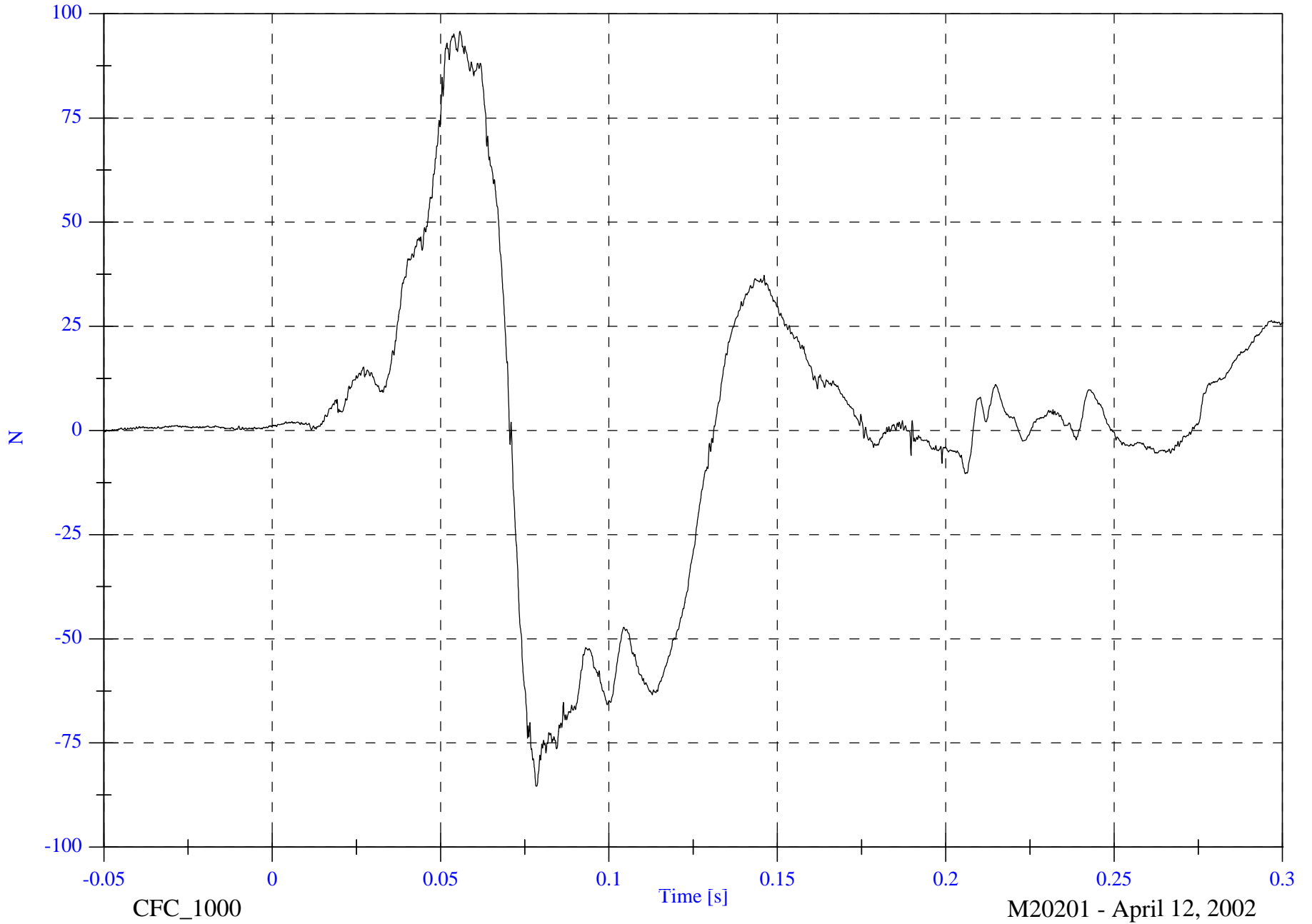
P3 Lower Neck Fy

Max: 95.8 [N] at 0.056 [s]

Min: -85.4 [N] at 0.078 [s]

4-17

8462-NCAP-07



NCAP Test 7 - 2002 Ford Focus

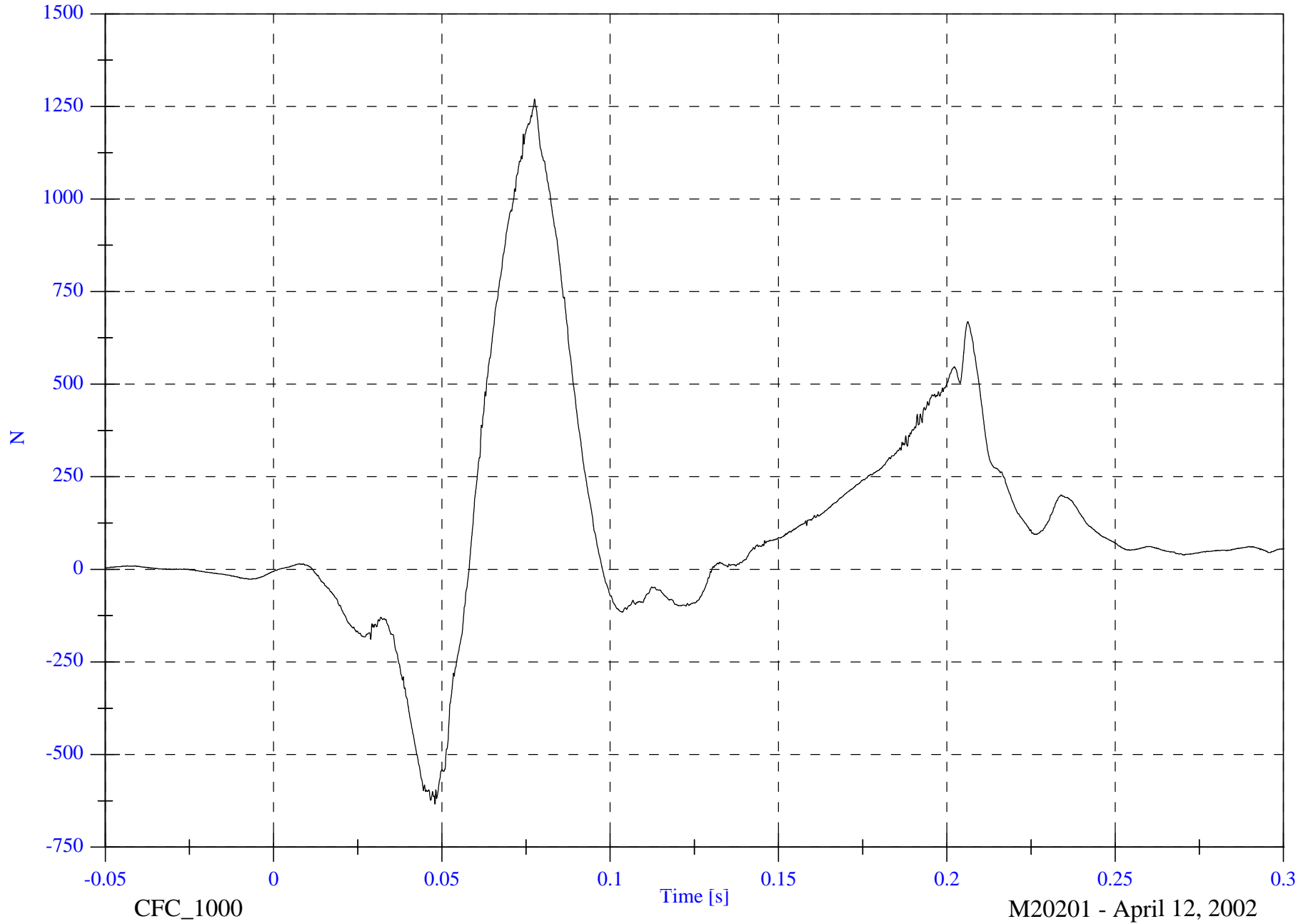
P3 Lower Neck Fz

Max: 1269.9 [N] at 0.078 [s]

Min: -634.2 [N] at 0.048 [s]

4-18

8462-NCAP-07



NCAP Test 7 - 2002 Ford Focus

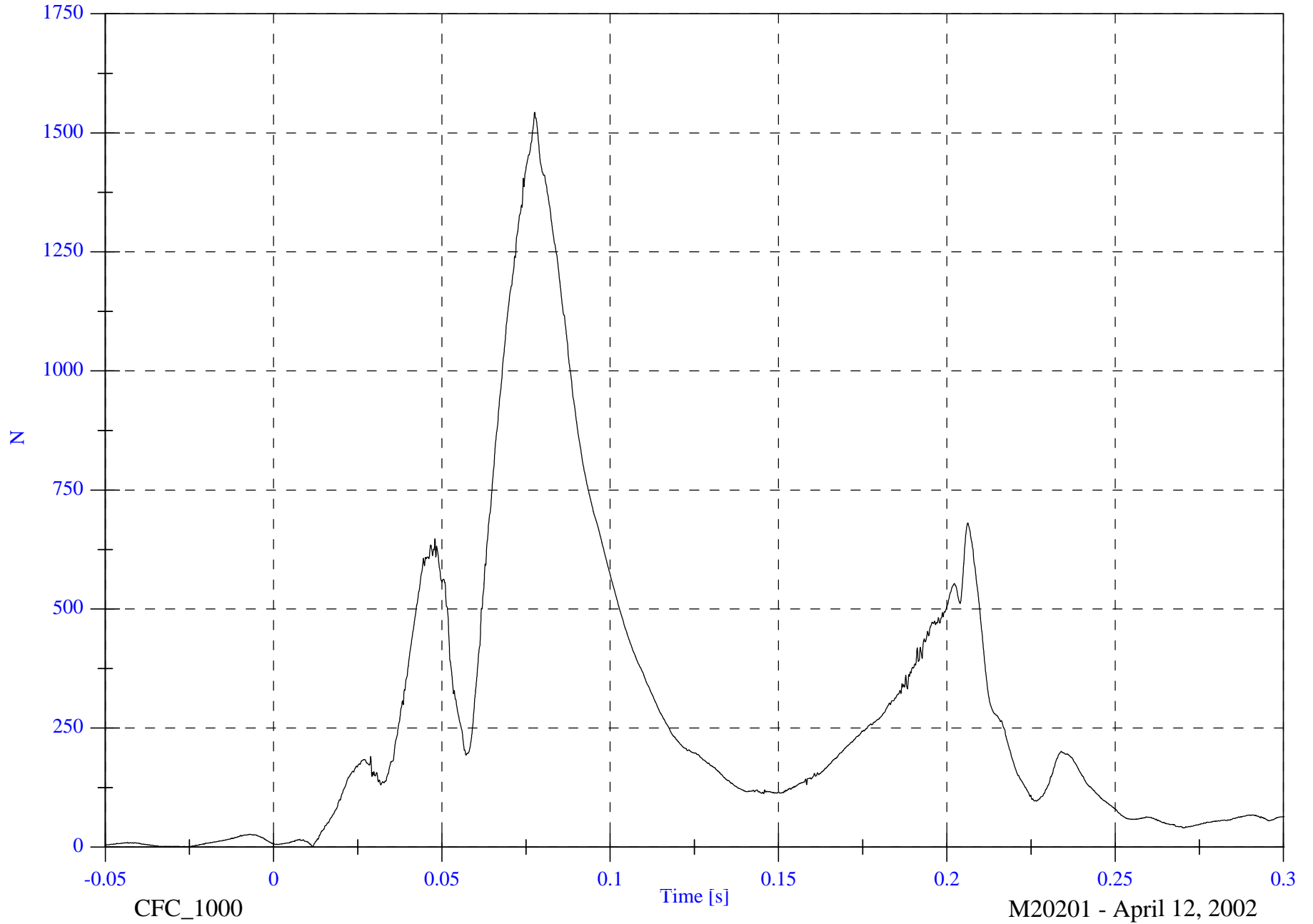
P3 Lower Neck F Resultant

Max: 1543.4 [N] at 0.078 [s]

Min: 0.3 [N] at 0.012 [s]

4-19

8462-NCAP-07



CFC_1000

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

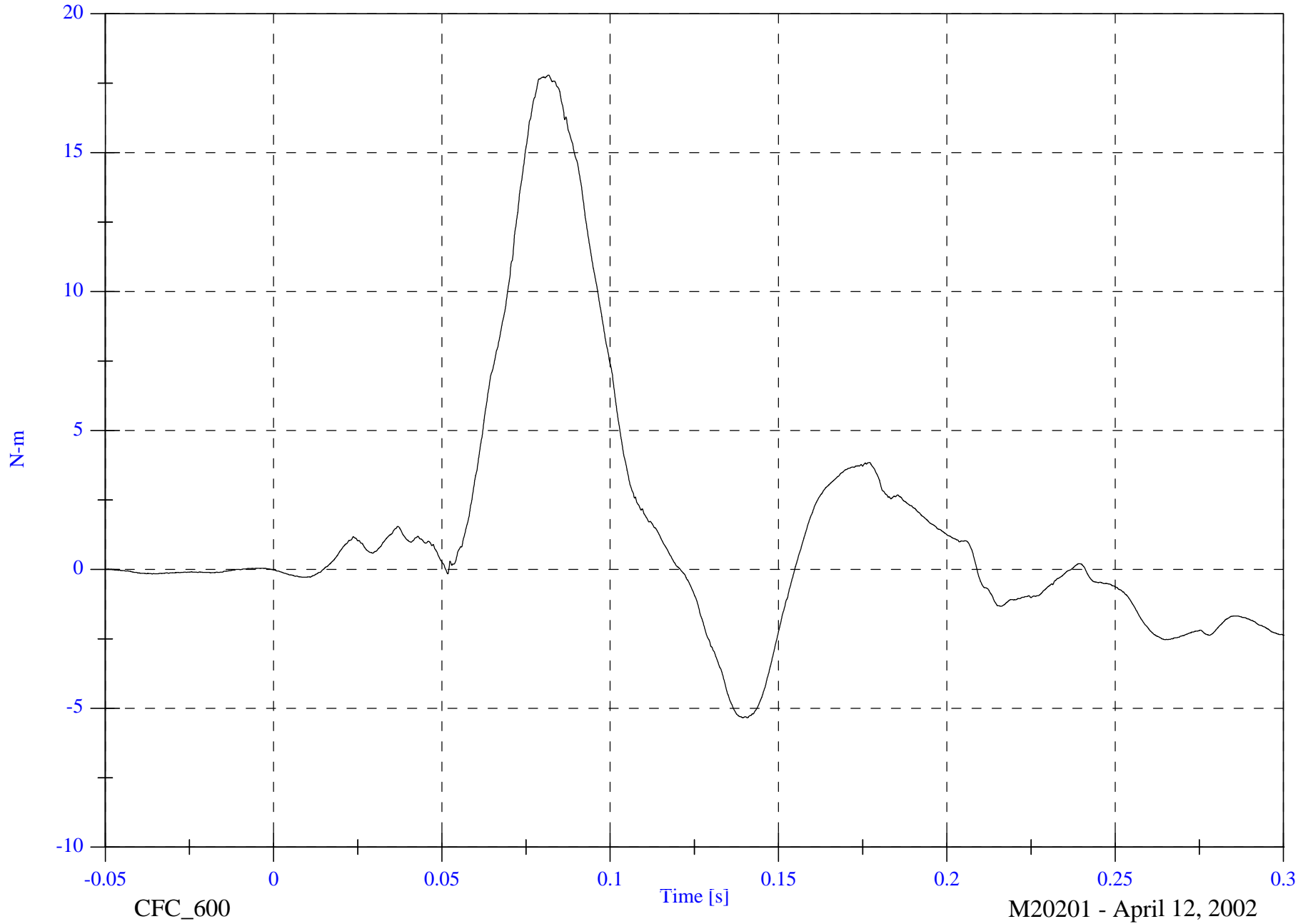
P3 Lower Neck Mx

Max: 17.8 [N-m] at 0.082 [s]

Min: -5.3 [N-m] at 0.139 [s]

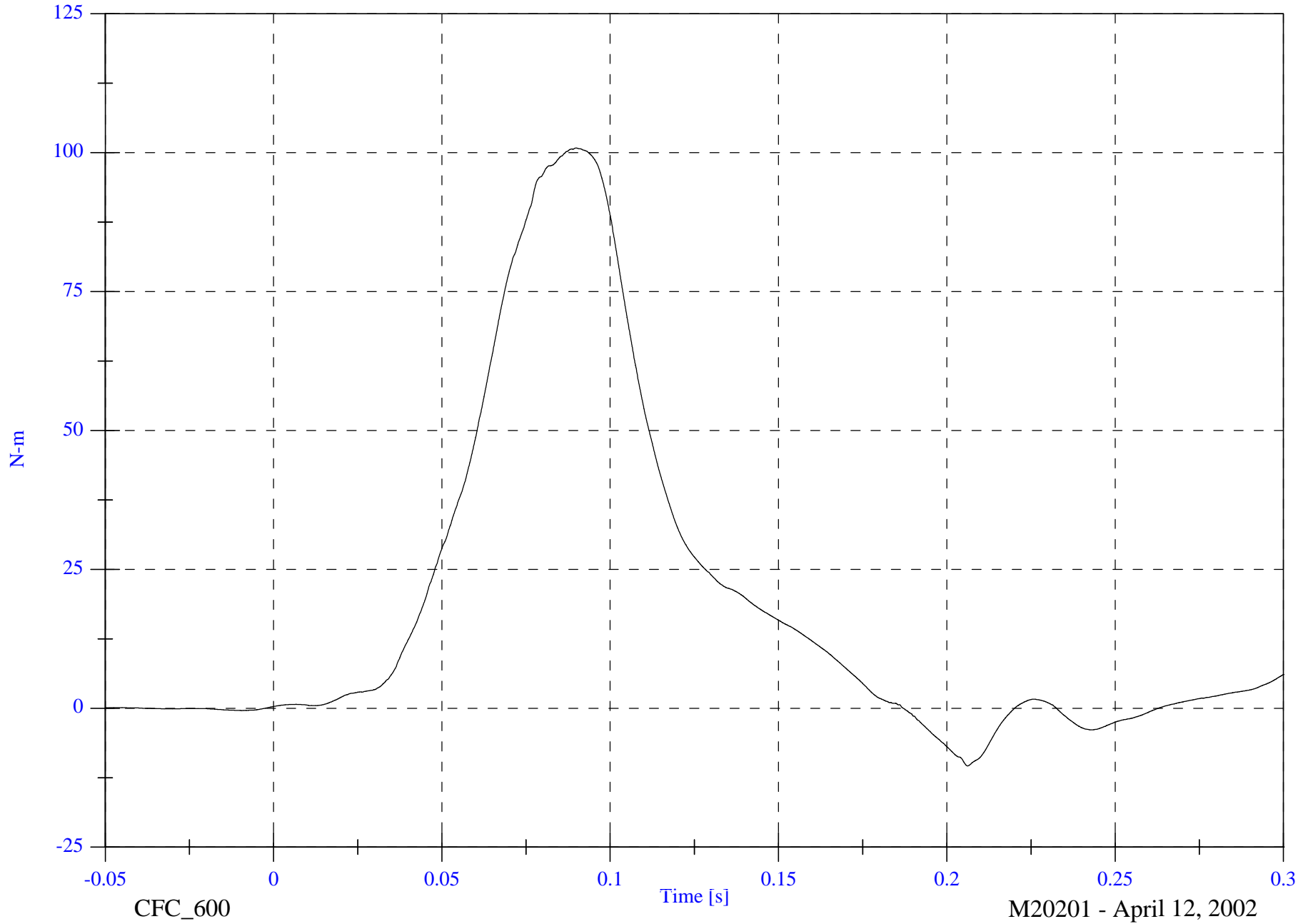
4-20

8462-NCAP-07



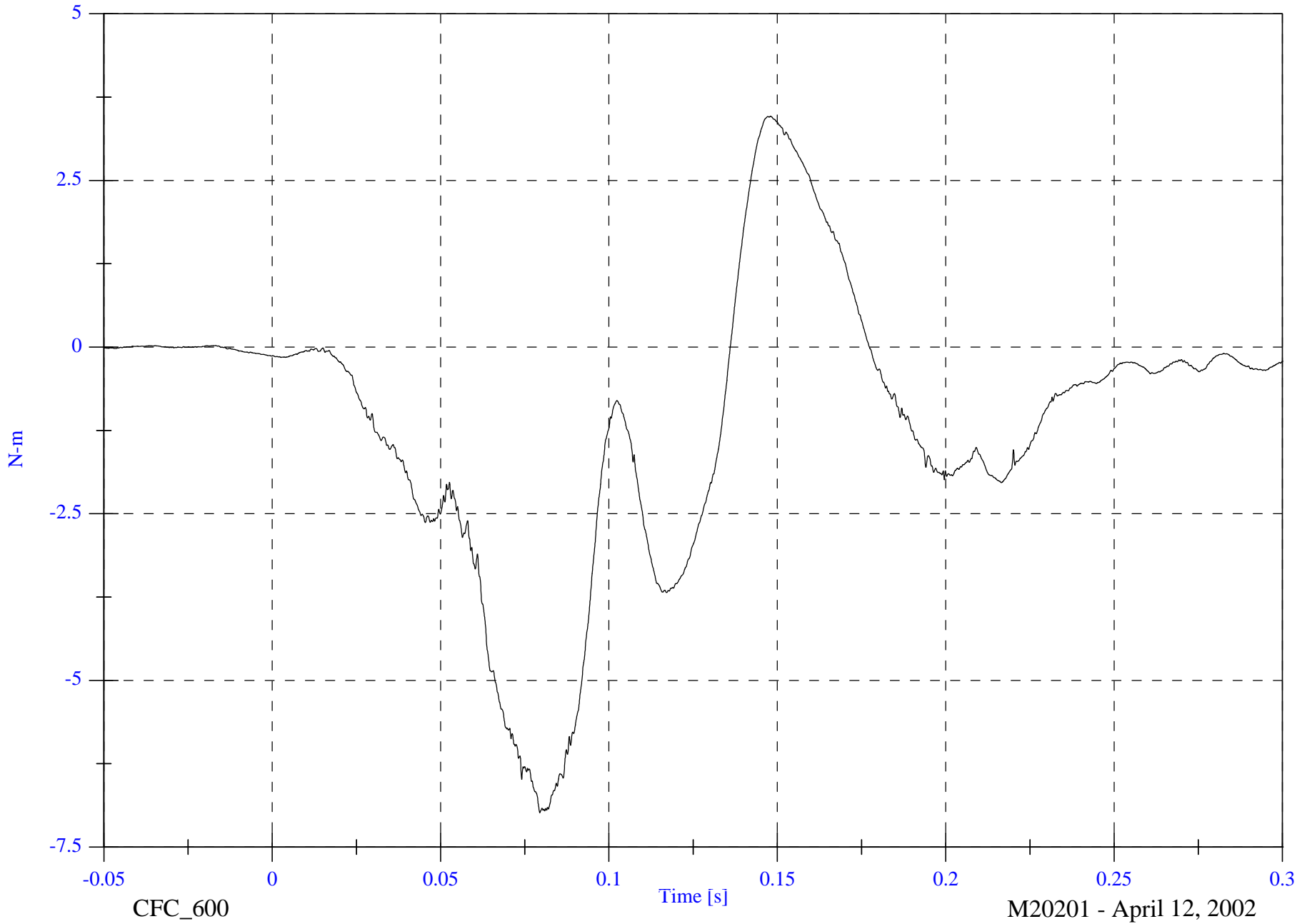
4-21

8462-NCAP-07



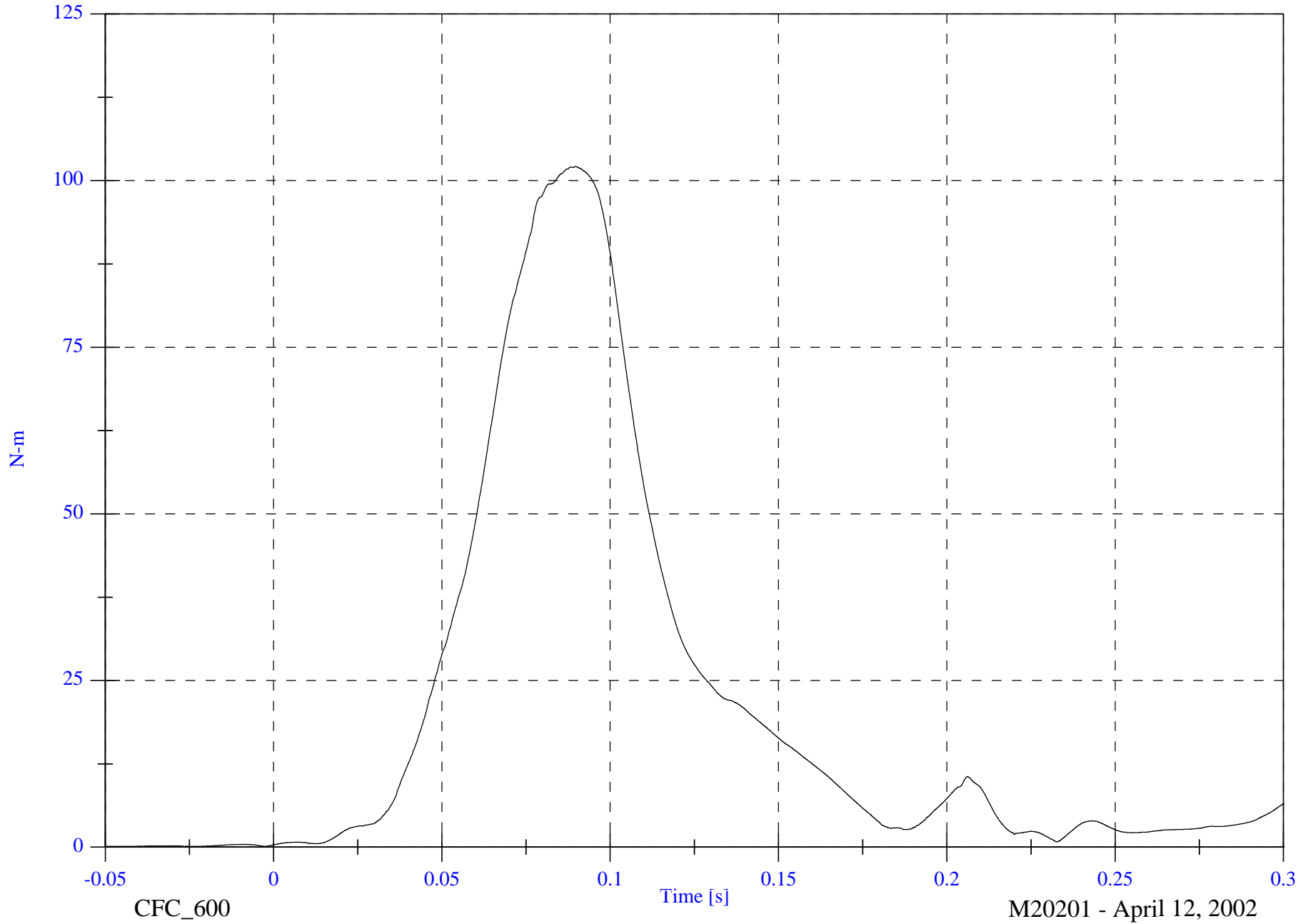
4-22

8462-NCAP-07



4-23

8462-NCAP-07



CFC_600

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

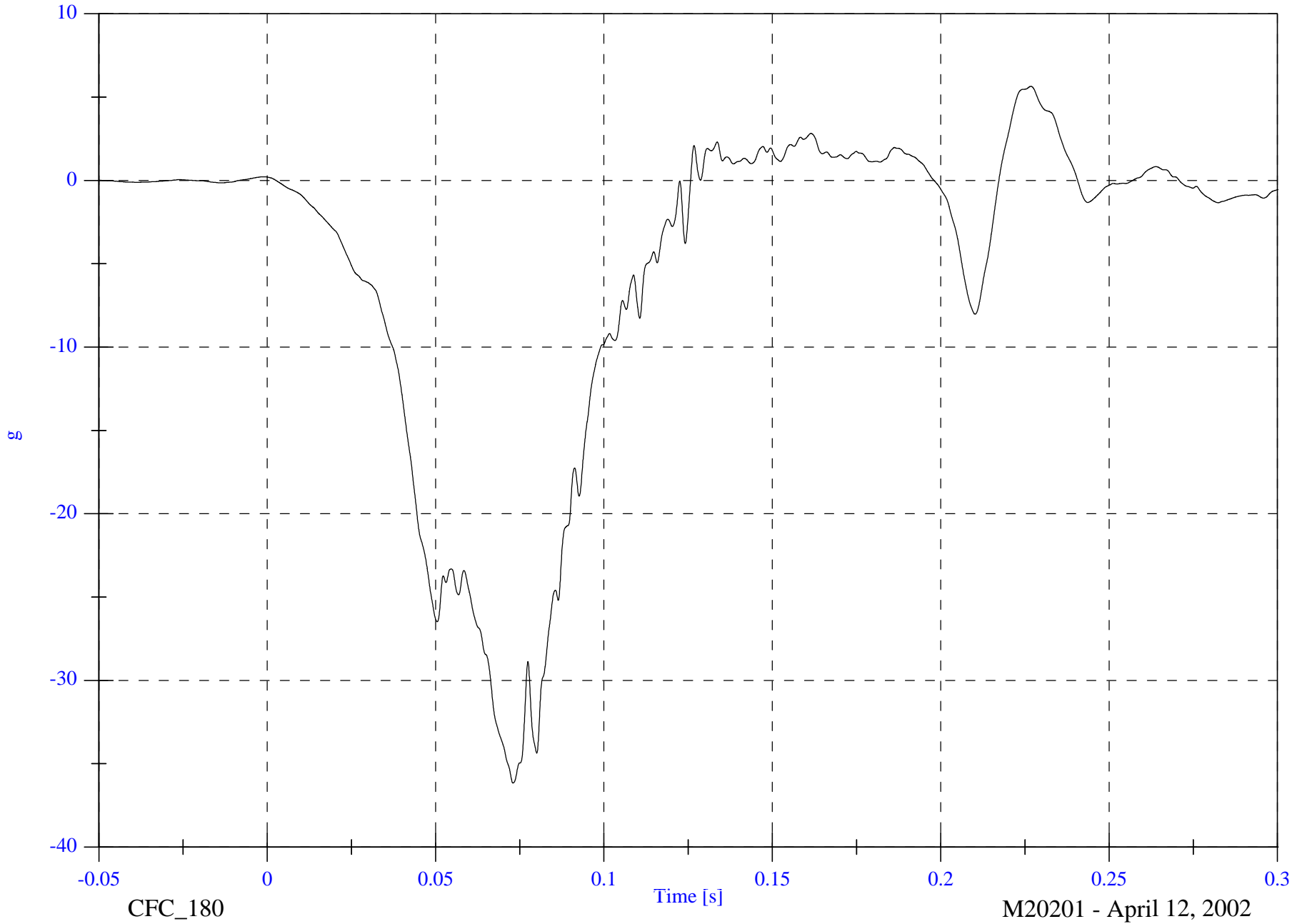
P3 Chest x

Max: 5.6 [g] at 0.227 [s]

Min: -36.2 [g] at 0.073 [s]

4-24

8462-NCAP-07



NCAP Test 7 - 2002 Ford Focus

P3 Chest y

Max: 2.0 [g] at 0.242 [s]

Min: -4.3 [g] at 0.046 [s]

4-25

8462-NCAP-07



CFC_180

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

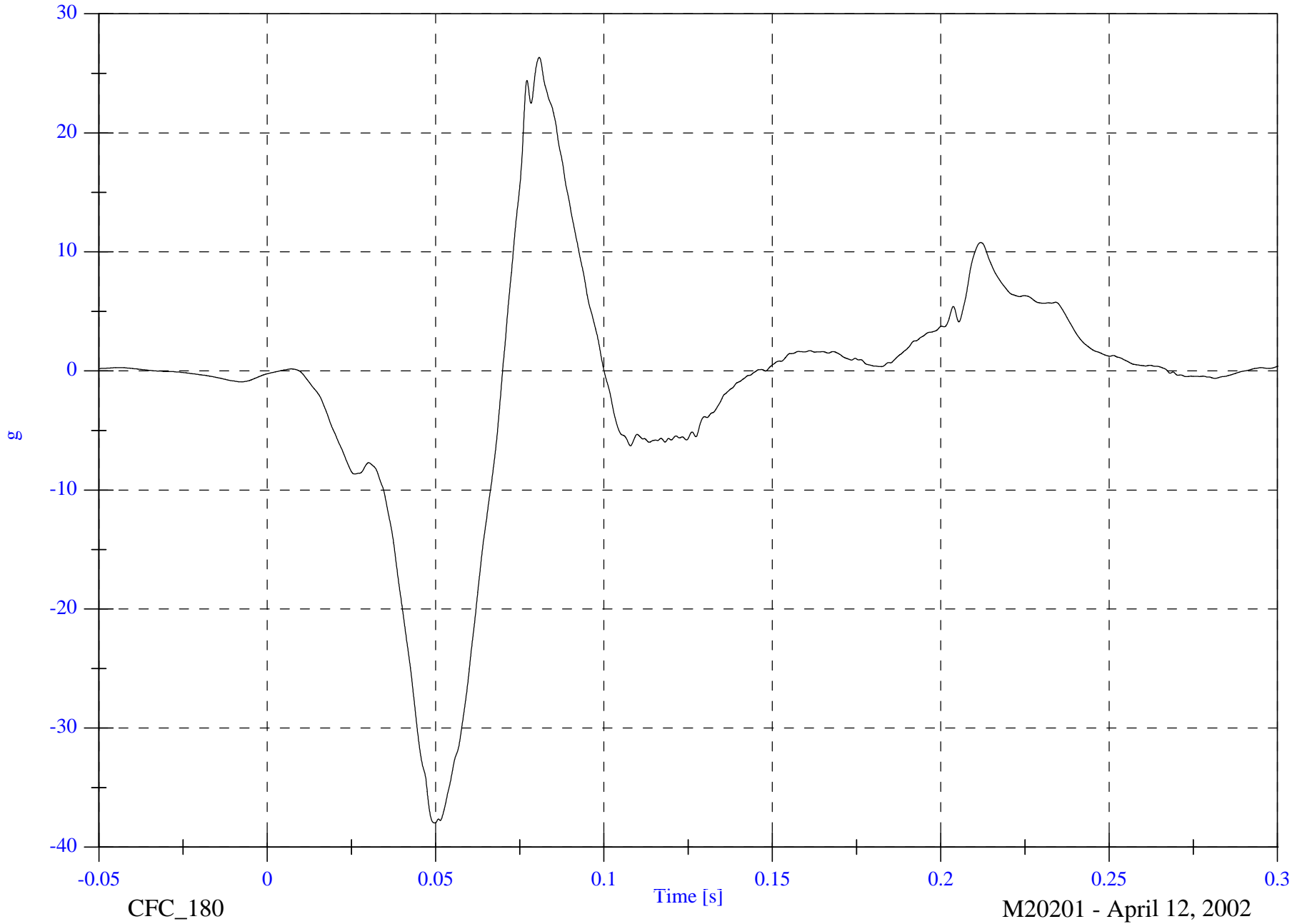
P3 Chest z

Max: 26.3 [g] at 0.081 [s]

Min: -38.0 [g] at 0.050 [s]

4-26

8462-NCAP-07



CFC_180

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

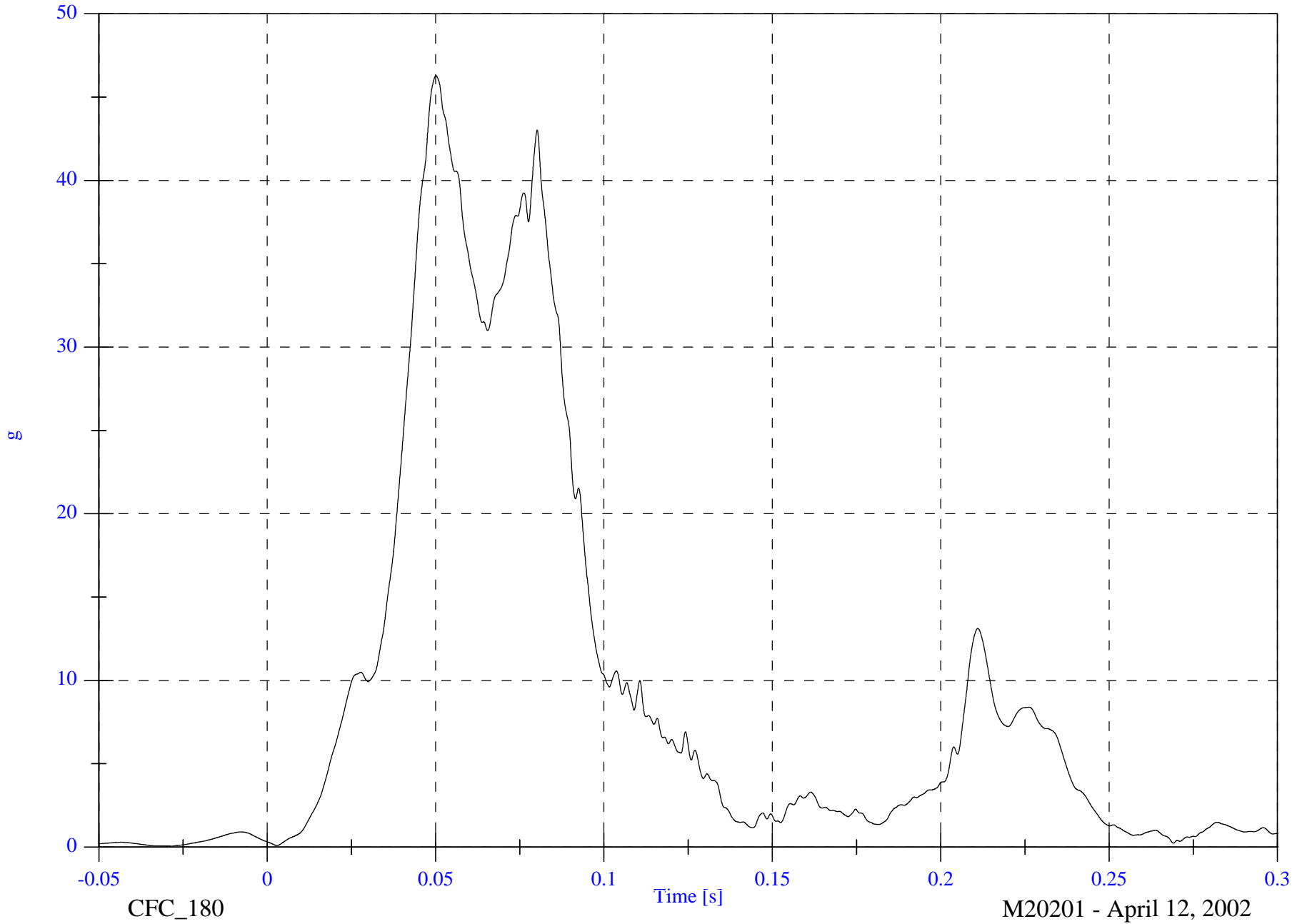
P3 Chest Resultant

Max: 46.3 [g] at 0.050 [s]

Min: 0.1 [g] at -0.028 [s]

4-27

8462-NCAP-07



NCAP Test 7 - 2002 Ford Focus

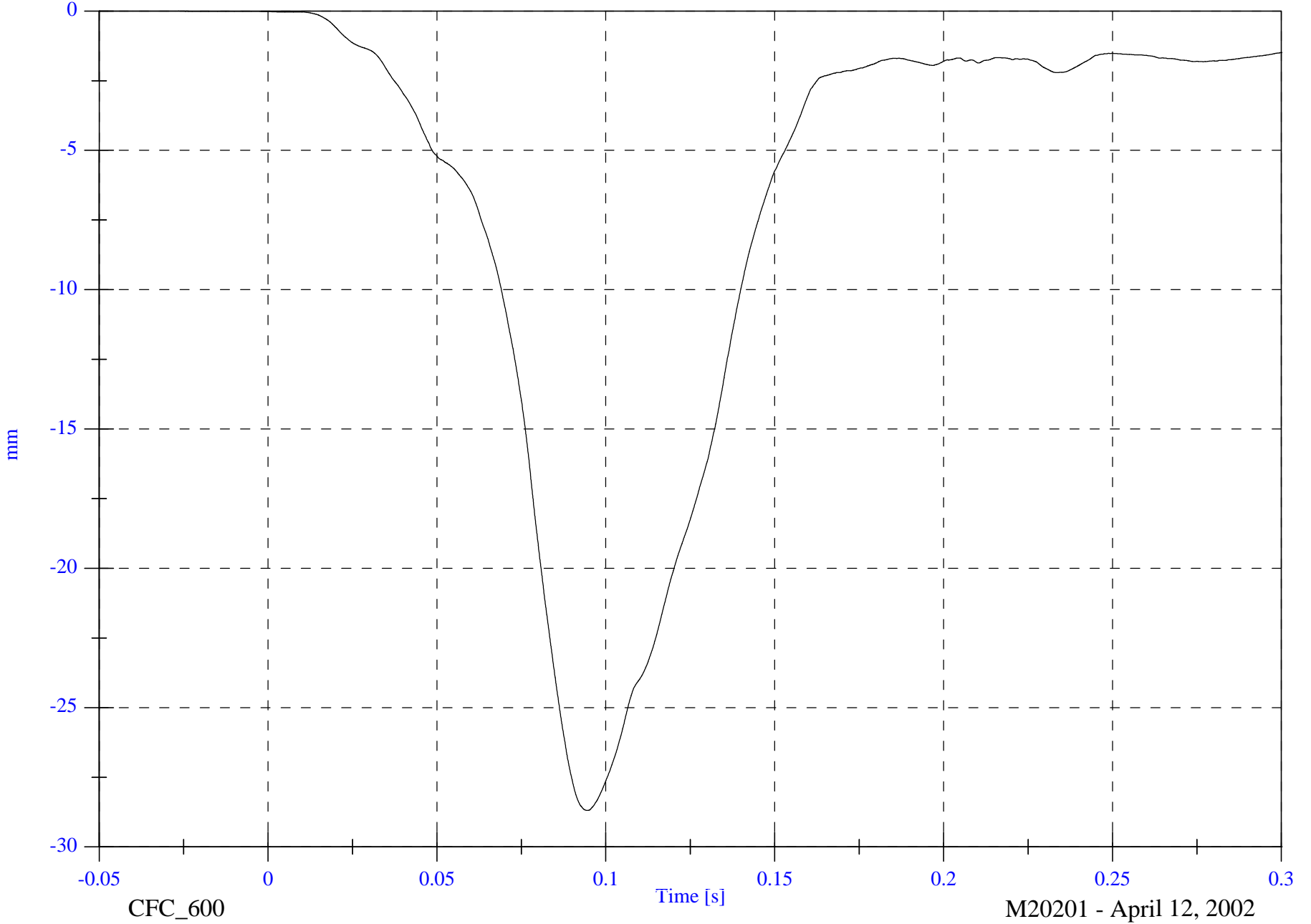
P3 Chest Compression

Max: 0.0 [mm] at -0.026 [s]

Min: -28.7 [mm] at 0.095 [s]

4-28

8462-NCAP-07



NCAP Test 7 - 2002 Ford Focus

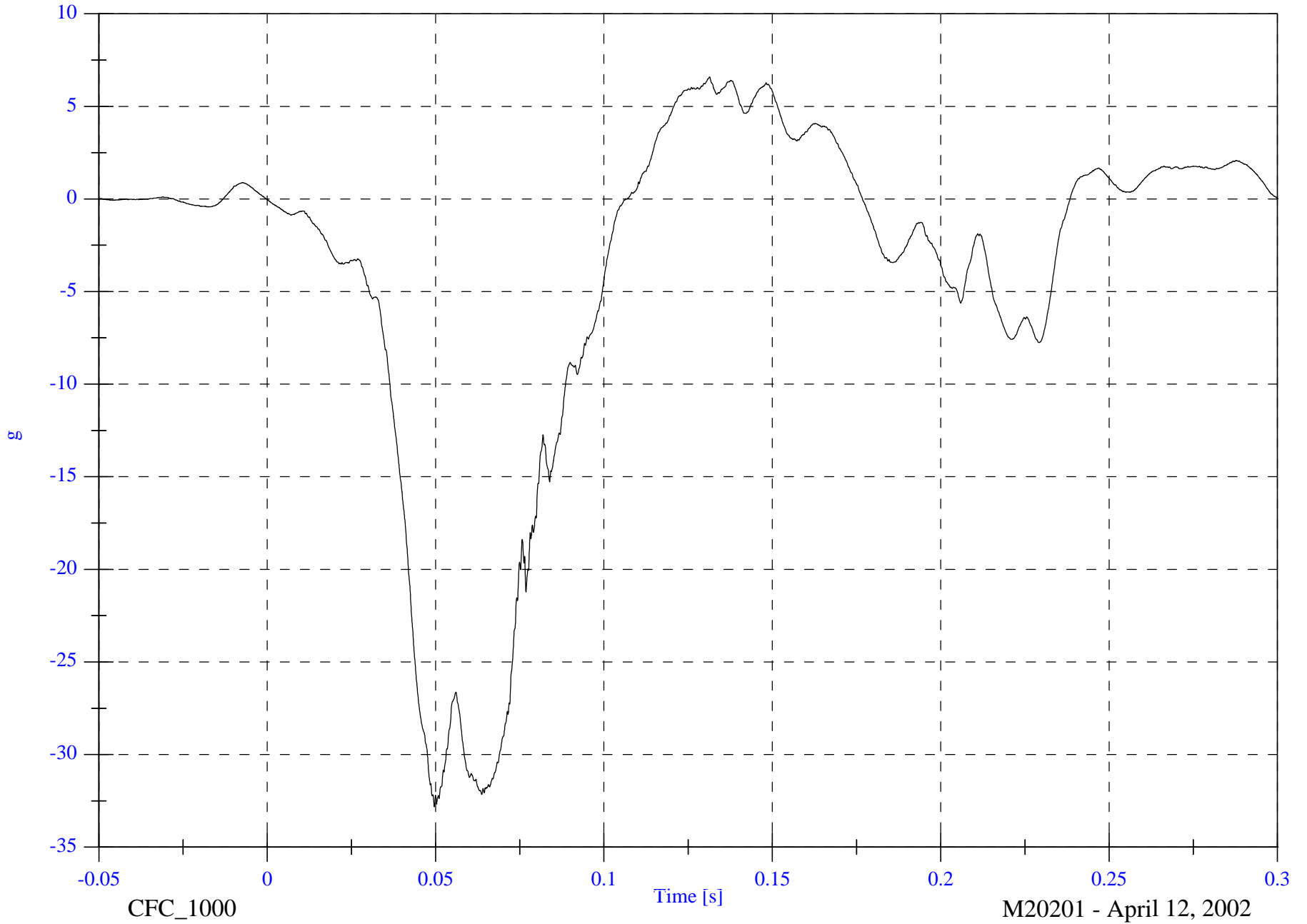
P3 Pelvic x

Max: 6.6 [g] at 0.131 [s]

Min: -32.8 [g] at 0.050 [s]

4-29

8462-NCAP-07



NCAP Test 7 - 2002 Ford Focus

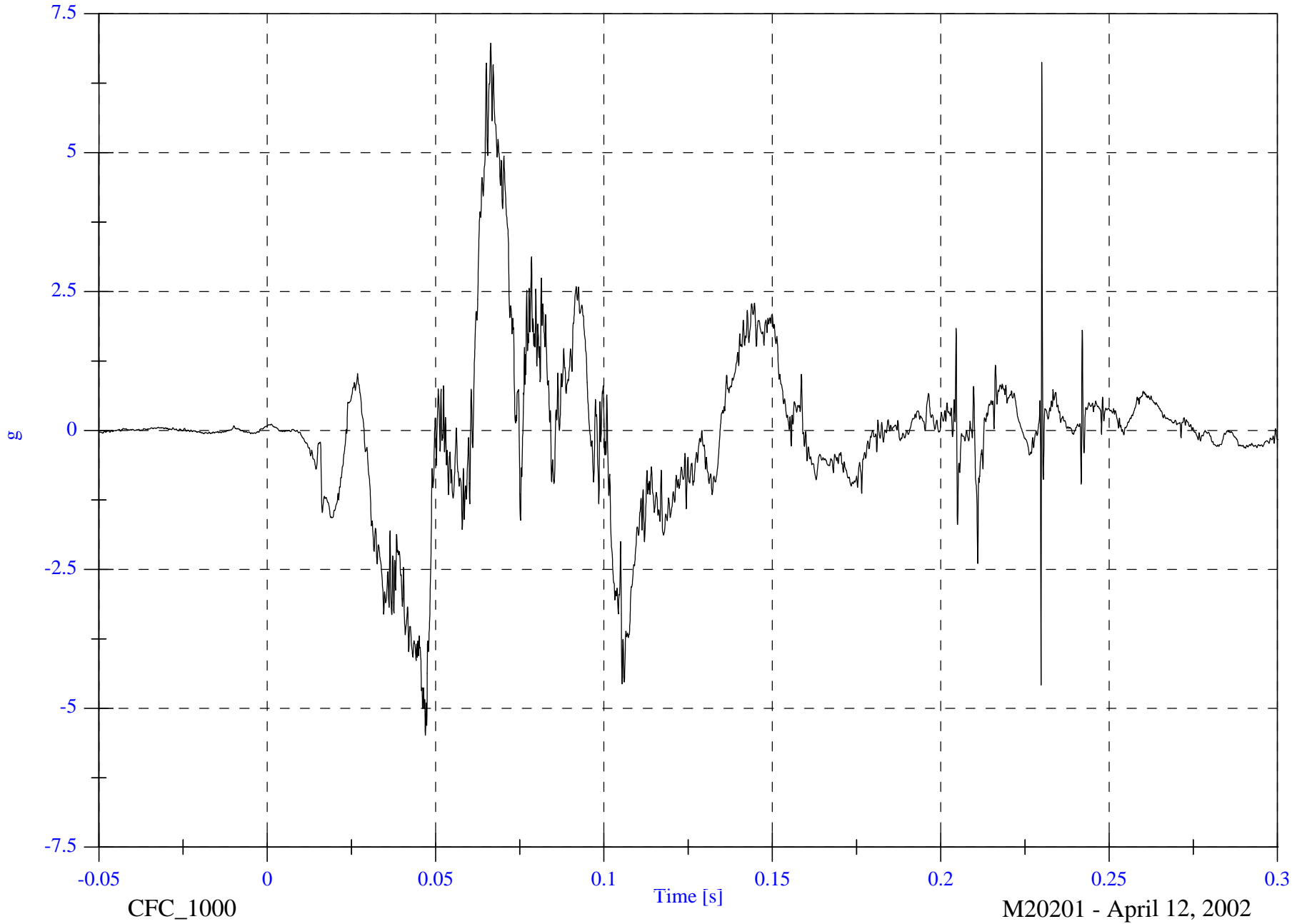
P3 Pelvic y

Max: 7.0 [g] at 0.066 [s]

Min: -5.5 [g] at 0.047 [s]

4-30

8462-NCAP-07



CFC_1000

Time [s]

M20201 - April 12, 2002

NCAP Test 7 - 2002 Ford Focus

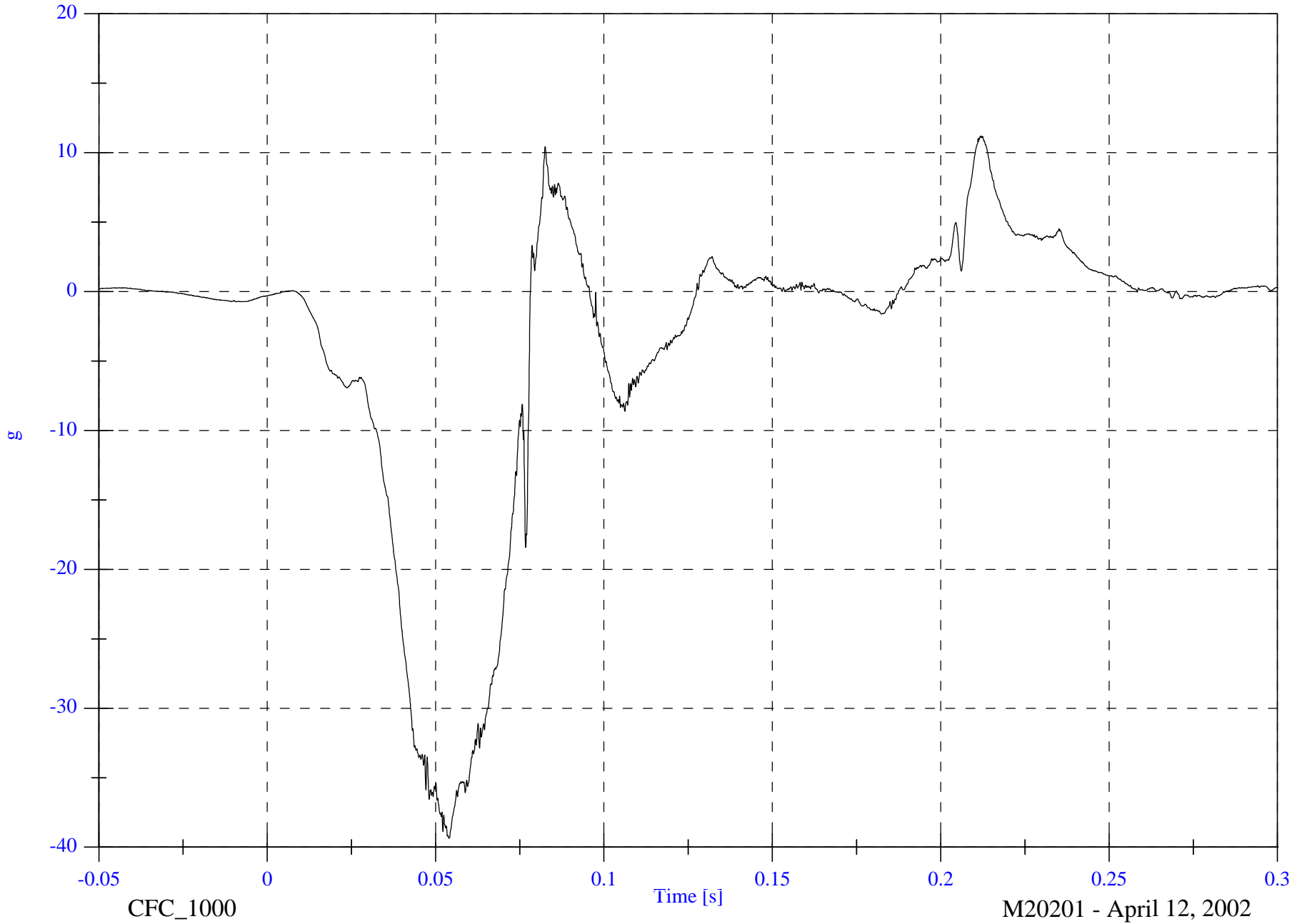
P3 Pelvic z

Max: 11.2 [g] at 0.212 [s]

Min: -39.4 [g] at 0.054 [s]

4-31

8462-NCAP-07



NCAP Test 7 - 2002 Ford Focus

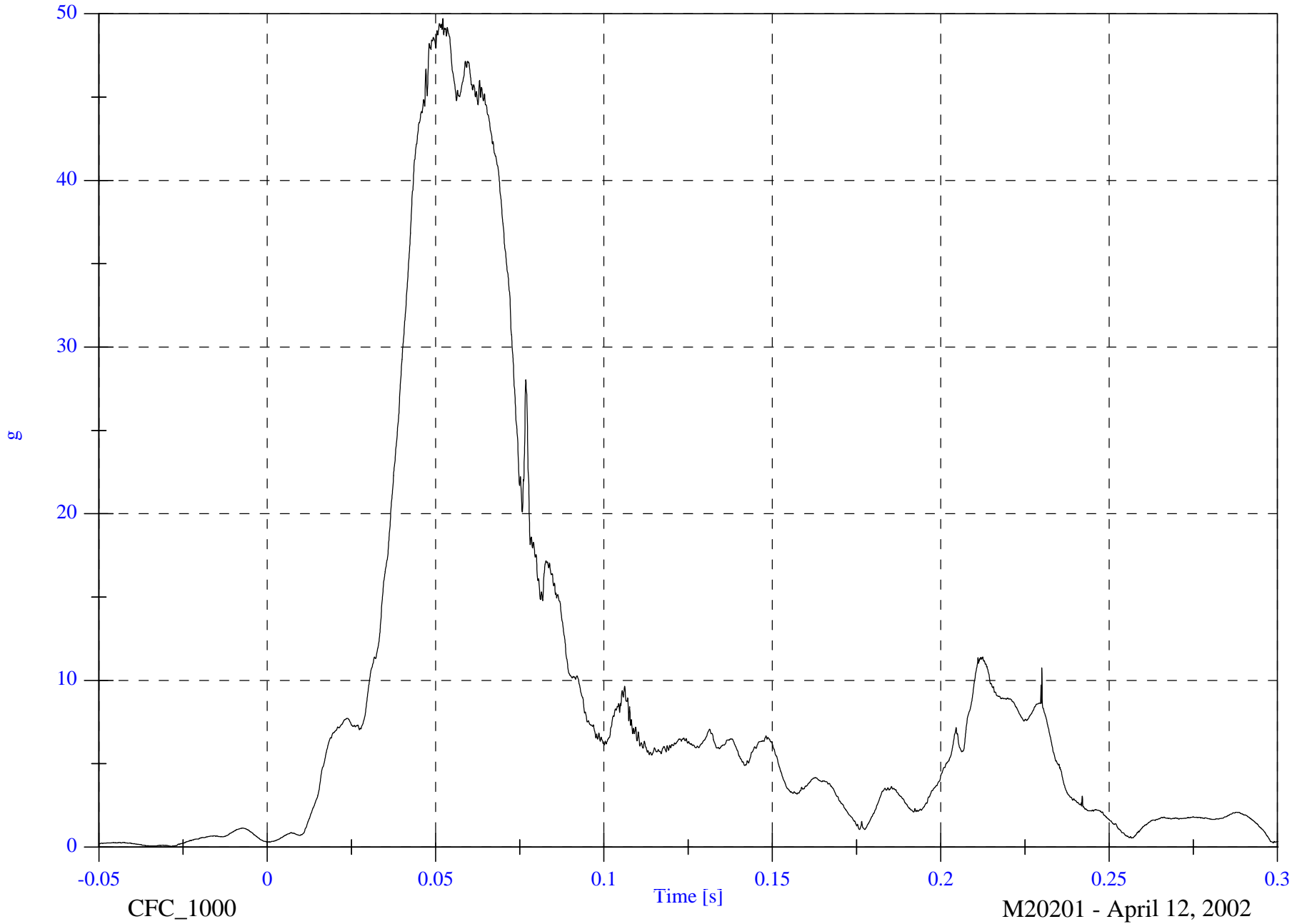
P3 Pelvic Resultant

Max: 49.7 [g] at 0.052 [s]

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

4-32

8462-NCAP-07



SECTION 5

CHILD DUMMY CALIBRATION INFORMATION

Child ATD certified by VRTC prior to test program
Certification details and data traces can be found in the bound report

SECTION 6

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

P572C INSTRUMENTATION

	POSITION #3 (RIGHT) SERIAL NO.: 042		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
HEAD AX	AC-98H10-F10	ENTRAN	27-Dec-01
HEAD AY	AC-98H10-F12	ENTRAN	26-Dec-01
HEAD AZ	AC-AJ4L1	ENDEVCO	27-Dec-01
HEAD RAZ	AC-ADAT0	ENDEVCO	27-Dec-01
UPPER NECK FX	LC-213-Fx	Denton	7-Jan-02
UPPER NECK FY	LC-213-Fy	Denton	7-Jan-02
UPPER NECK FZ	LC-213-Fz	Denton	7-Jan-02
UPPER NECK MX	LC-213-Mx	Denton	7-Jan-02
UPPER NECK MY	LC-213-My	Denton	7-Jan-02
UPPER NECK MZ	LC-213-Mz	Denton	7-Jan-02
LOWER NECK FX	LC-215-Fx	Denton	5-Jan-02
LOWER NECK FY	LC-215-Fy	Denton	5-Jan-02
LOWER NECK FZ	LC-215-Fz	Denton	5-Jan-02
LOWER NECK MX	LC-215-Mx	Denton	5-Jan-02
LOWER NECK MY	LC-215-My	Denton	5-Jan-02
LOWER NECK MZ	LC-215-Mz	Denton	5-Jan-02
CHEST AX	AC-P23138	ENDEVCO	24-Oct-01
CHEST AY	AC-P19253	ENDEVCO	24-Oct-01
CHEST AZ	AC-P21392	ENDEVCO	24-Oct-01
CHEST DISPLACEMENT X	DS-042	SERVO	4-Jan-02
PELVIS AX	AC-BE95J	ENDEVCO	27-Dec-01
PELVIS AY	AC-DE54J	ENDEVCO	27-Dec-01
PELVIS AZ	AC-99H12-F30	ENTRAN	27-Dec-01