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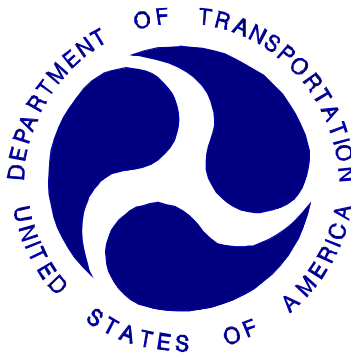
**NEW CAR ASSESSMENT PROGRAM (NCAP)
FRONTAL BARRIER IMPACT TEST**

FORD MOTOR CO.
2002 FORD FOCUS
2-DOOR HATCHBACK

NHTSA NUMBER: M20207

VERIDIAN TEST NUMBER: 8462-NCAP-05

VERIDIAN ENGINEERING
TRANSPORTATION SCIENCES CENTER
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BUFFALO, NEW YORK 14225



February 13, 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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NHTSA, Office of Crashworthiness Standards

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15. <i>Supplementary Notes</i>					
16. <i>Abstract</i> A frontal load cell barrier test of a 2002 Ford Focus 2-Door Hatchback was performed at Veridian Engineering crash test facility in Buffalo, New York, on February 13, 2002. The impact velocity was 56.00 kph and the temperature at the barrier face was 21EC. The maximum post-test vehicle crush was 499 mm. The test vehicle was equipped with 3-point restraint systems with a driver side torso belt pretensioner and a passenger side lap pretensioner, knee bolsters, and airbags at both the driver and right outboard passenger seating positions. With respect to FMVSS 208 "Occupant Crash Protection - Injury Criteria" both the driver and passenger appeared to comply with head, chest, and femur requirements.					
ATD Position	HIC	Clip (g's)	Chest Disp (mm)	Left Femur (N)	Right Femur (N)
Driver (150)	403.0	45.5	29.0	3985.6	4487.6
Passenger (245)	364.9	45.9	21.9	4720.5	5353.5
17. <i>Key Words</i> 56 kph Frontal Barrier Impact test New Car Assessment Program (NCAP)				18. <i>Distribution Statement</i> 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 56.00 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 56.00 kph frontal barrier impact test was conducted in accordance with the Office of Crashworthiness Standards Laboratory Indicant Test procedure.

1.2 TEST PROCEDURE

This 56.3-km/h 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. 150) and the right-front passenger (position 2) ATD (Serial No.245) were used in one test previous to this test (M25103) 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 143 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 2-Door Hatchback at a velocity of 56.00 kph. The test was performed at Veridian Engineering on February 13, 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	403.0	45.5	29.0	3985.6	4487.6	-	-
Passenger ATD	364.9	45.9	21.9	4720.5	5353.5	-	-

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 499 mm and both the driver and passenger side doors remained closed during the impact event and were operable after the impact.

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

The 2002 Ford Focus 2-Door Hatchback 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.

DATA SHEET NO. 2 GENERAL TEST AND VEHICLE PARAMETER DATA

TEST VEHICLE INFORMATION:

Year/Make/Model/Body Style: 2002 Ford Focus 2-Door Hatchback

NHTSA No. : M20207 ; VIN: 3FAFP31312R160140 ; Color: White

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

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

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

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

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

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

Date Received: February 6, 2002 ; Odometer Reading 92 km

Selling Dealer: West Herr Ford, Inc.

& Address: 5025 Camp Road Hamburg, NY 14075

DATA FROM TIRE VEHICLE'S CERTIFICATION LABEL:

Vehicle Manufactured by: Ford Motor Co.

Date of Manufacture 1/02

GVWR: 1632 kg; GAWR: 895 kg FRONT; 766 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>365.5</u> kg	Right Rear =	<u>233.5</u> kg
Left Front =	<u>371.0</u> kg	Left Rear =	<u>223.0</u> kg
TOTAL FRONT =	<u>736.5</u> kg	TOTAL REAR =	<u>456.5</u> kg
TOTAL DELIVERED WEIGHT =	<u>1193.0</u> kg		
% of Total Front of Vehicle Weight =	<u>61.7%</u>	% of Total Rear Weight =	<u>38.3%</u> %

CALCULATION OF VEHICLE'S TARGET TEST WEIGHT:

Total Delivered Weight (UDW) =	<u>1193.0</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>1379.8</u> kg

WEIGHT OF TEST VEHICLE WITH TWO DUMMIES AND

30.0

KG OF CARGO WEIGHT:

Right Front =	<u>408.0</u> kg	Right Rear =	<u>280.0</u> kg
Left Front =	<u>403.0</u> kg	Left Rear =	<u>284.0</u> kg
TOTAL FRONT =	<u>811.0</u> kg	TOTAL REAR =	<u>564.0</u> kg
TOTAL TEST WEIGHT =	<u>1375.0</u> kg		
% of Total Front Weight =	<u>59.0%</u> %	% of Total Rear Weight =	<u>41.0%</u> %
Weight of Ballast Secured in Vehicle Trunk Area =	<u>0</u> kg		
Vehicle Components Removed for Weight Reduction:	<u>Muffler, tail lights, side mirrors, rear wiper, rear trim</u>		

VEHICLE ATTITUDE (all dimension in millimeters):

AS DELIVERED:	RF	<u>680</u>	LF	<u>680</u>	RR	<u>690</u>	LR	<u>688</u>
FULLY LOADED:	RF	<u>664</u>	LF	<u>661</u>	RR	<u>670</u>	LR	<u>666</u>
AS TESTED:	RF	<u>667</u>	LF	<u>665</u>	RR	<u>670</u>	LR	<u>670</u>
Vehicle's Wheel Base:	<u>2612</u> mm							
Location of Vehicle's C.G.:	<u>1071</u> mm rearward of front wheel center.							

FUEL SYSTEM DATA:

Fuel System Capacity From Owner's Manual =	<u>50</u> liters
Usable Capacity Figure Furnished by COTR =	<u>50</u> liters
Test Volume Range (92 to 94% of Usable Capacity) =	<u>46</u> to <u>47</u> liters
ACTUAL TEST VOLUME=	<u>46.0</u> liters (with entire fuel system filled)
Test Fluid Type:	<u>Stoddard Solution</u> ; Spec. Grav. = <u>0.764</u>
Kinematic Viscosity =	<u>0.96</u> centistokes; Color = <u>Orange</u>
Type of Fuel Pump: Electric-	<u>X</u> ; Mechanical- <u>-</u>
Does Electric Pump operate with ignition switch "ON" & engine "OFF"	Yes- <u>X</u> No- <u>-</u>
<u>Details of Fuel System: Tank- right of center ahead of rear axle; lines – inside right frame stiffener; filler - right side behind rear axle.</u>	

DATA SHEET NO. 3 POST IMPACT DATA

TYPE OF TEST:

Type of Test: Frontal Barrier Impact Angle: 0°
Test Date: February 13, 2002 Time: 11:53 Temperature: 21 °C
Vehicle NHTSA No.: M20207
Required Impact Velocity Range: 55.5 to 57.1 kph

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

Trap No. 1 = 56.00 kph; Trap No. 2 = 56.00 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 = <u>4230</u> ; C/L = <u>4265</u> ; Right = <u>4233</u>
Post-Test	Left = <u>3749</u> ; C/L = <u>3766</u> ; Right = <u>3737</u>
Crush	Left = <u>481</u> ; C/L = <u>499</u> ; Right = <u>496</u>
AVERAGE	= <u>492</u> mm

VEHICLE REBOUND: (From rigid barrier only.)

Distance from front of test vehicle to impact point:

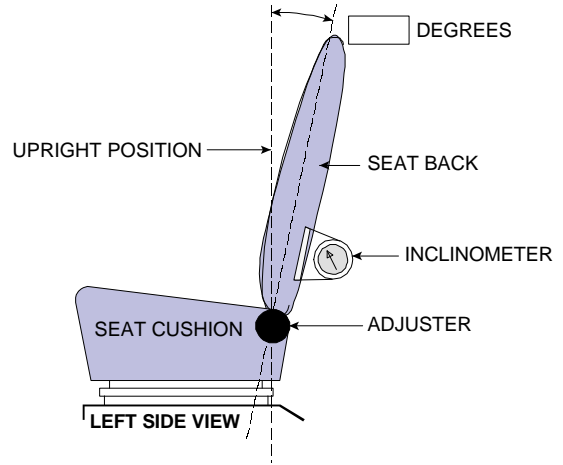
	Left = <u>472</u> ; C/L = <u>449</u> ; Right = <u>480</u>
AVERAGE	= <u>467</u> mm

DATA SHEET NO. 4 TEST VEHICLE INFORMATION

VEHICLE IDENTIFICATION:

Model Year : 2002 Vehicle Model: Ford Focus Body Style : 2-Door Hatchback

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: 22

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

Seat back angle for passenger's seat: 22

Measurement instructions: Same as the driver's seat

2. Seat Fore and Aft Positioning

Positioning of the driver's seat: Mid-position

Positioning of the passenger's seat: Mid-position

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:

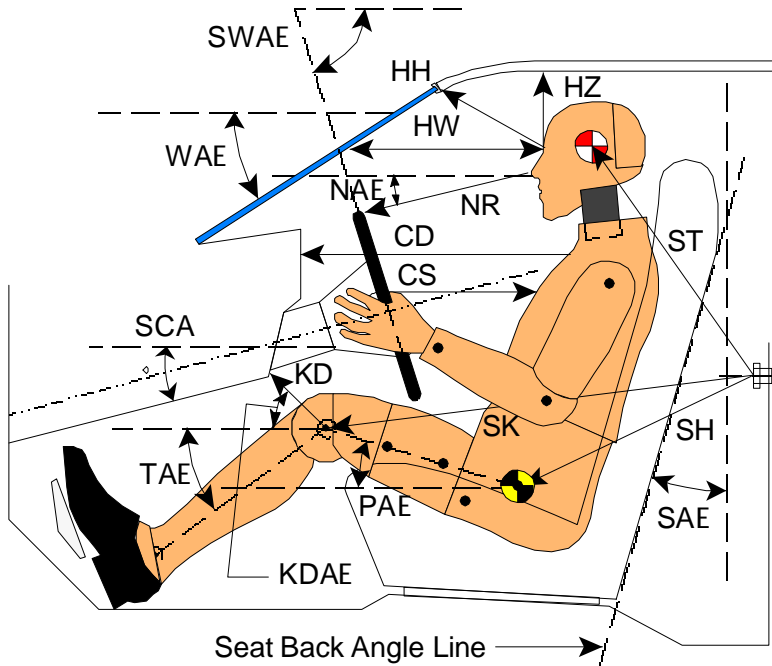
Steering wheel and column adjustments are made so that the steering wheel hub is at the geometric center of the locus it describes when it is moved through its full range of driving positions. If the tested vehicle has any of these adjustments, does your company use any specific procedures to determine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

Operational Instructions: Not adjustable

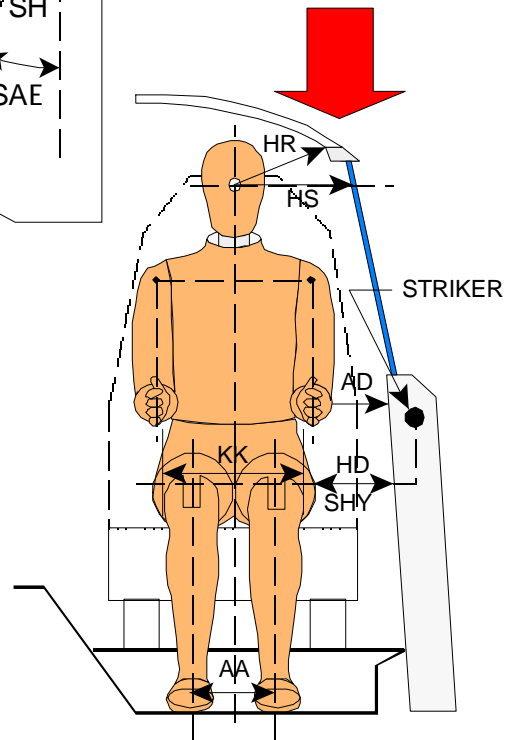
5. SEAT BELT UPPER ANCHORAGE

Nominal design riding position: One notch below full up

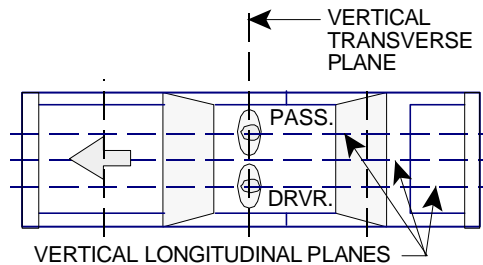
DATA SHEET NO. 5 FRONT SEAT DUMMY POSITIONING MEASUREMENTS IN VEHICLE
DUMMY MEASUREMENT FOR FRONT SEAT PASSENGERS



- AD - Arm to Door
- HD - H-Point to Door
- HR - Head to Side Header
- HS - Head to Side Window
- KK - Knee to Knee
- AA - Ankle to Ankle
- SHY- Striker to H-Point (Y Direction)



- CD - Chest to Dash
- CS - Steering Wheel to Chest
- HH - Head to Header
- HW - Head to Windshield
- HZ - Head to Roof
- KDA - Knee to Dash Angle
- KDL- Left Knee to Dash
- KDR - Right Knee to Dash
- NA - Nose to Rim Angle
- NR - Nose to Rim
- PA - Pelvic Angle
- RA - Rim to Abdomen
- SA - Seat Back Angle
- SCA - Steering Column Angle
- SH - Striker to H-Point
- SK - Striker to Knee
- ST - Striker to Head
- SWA- Steering Wheel Angle
- TA - Tibial Angle
- WA - Windshield Angle

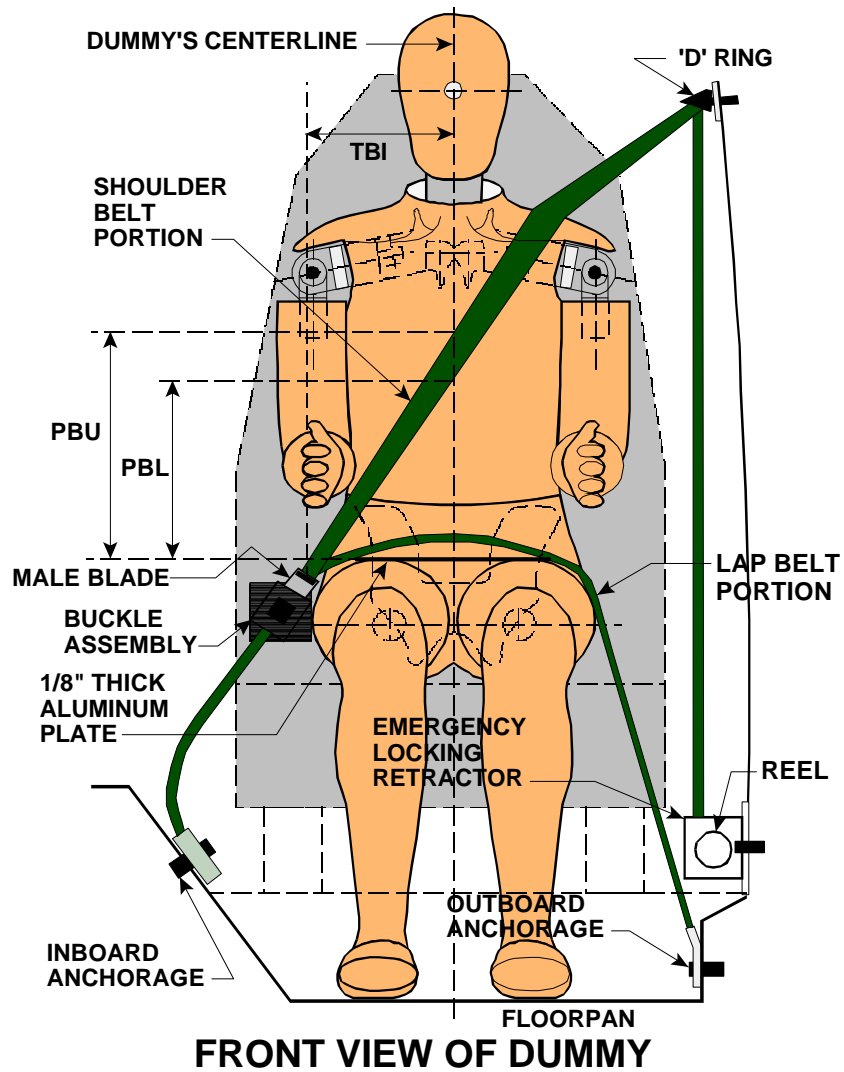


DATA SHEET NO. 5 FRONT SEAT DUMMY POSITIONING MEASUREMENTS IN VEHICLE (cont.)

	DRIVER (Serial #150)			PASS. (Serial #245)		
WA ^o	29.8 deg.			N/A		
SWA ^o	63.9 deg.			N/A		
SCA ^o	24.1 deg.			N/A		
SA ^o	22 deg.			22 deg.		
HZ	192			165		
HH	353			324		
HW	682			542		
HR	200			185		
NR	416	Angle	-12 deg.	N/A		
CD	533			478		
CS	317			N/A		
RA	220			N/A		
KDL	143	Angle (KDA)	40 deg.	86		
KDR	128			135	Angle (KDA)	38 deg.
PA ^o	22.7 deg.			21.6 deg.		
TA ^o	50.0 deg.			49.2 deg.		
KK	330			272		
AA	330			215		
ST	596	Angle	33 deg.	607	Angle	30 deg.
SK	825	Angle	91 deg.	830	Angle	92 deg.
SH	485	Angle	113 deg.	465	Angle	105 deg.
SHY	260			260		
HS	305			295		
HD	103			107		
AD	102			102		

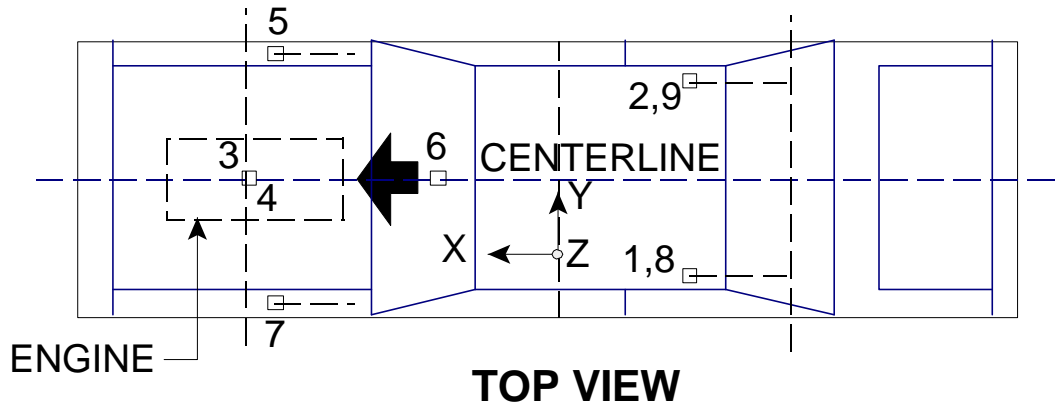
Dimensions in millimeters

SEAT BELT POSITIONING DATA

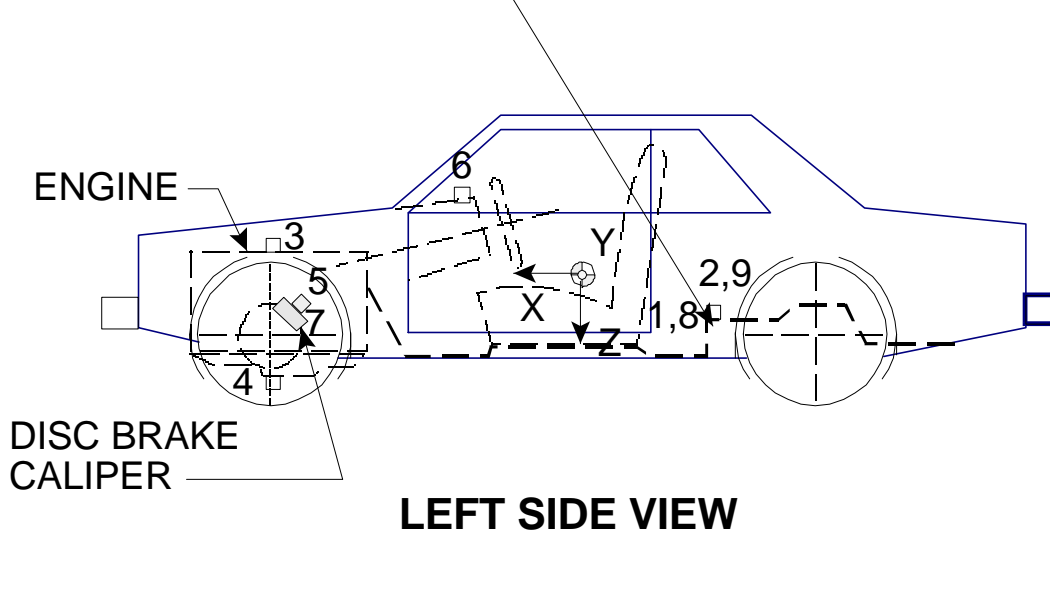


	DRIVER DUMMY (mm)	PASSENGER DUMMY (mm)
PBU -- Top surface of alum. plate to upper edge	200	200
PBL-- Top surface of alum. plate to belt lower edge	115	115
LAP BELT TENSION	10 N	10 N
SHOULDER BELT TENSION	Retractor	Retractor

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	1561	-440	-481
2	Right Rear Seat Cross Member X	1577	430	-499
3	Top of Engine Block	3518	-64	-766
4	Bottom of Engine	3104	-11	-183
5	Disc Brake Caliper @ Right Side	3448	694	-379
6	Instrument Panel	2533	29	-683
7	Disc Brake Caliper @Left Side	3474	-731	-389
8	Left Rear Seat Cross Member Z	1561	-440	-481
9	Right Rear Seat Cross Member Z	1577	430	-499

LOCATION NUMBER	DESCRIPTION	MAXIMUM VALUE (g's)			
		Pos.	msec.	Neg.	msec.
1	Left Rear Seat Cross Member X	3.3	145.3	-40.3	54.4
2	Right Rear Seat Cross Member X	3.7	146.5	-39.4	55.6
3	Top of Engine Block	49.1	52.9	-176.9	59.2
4	Bottom of Engine	51.6	33.6	-94.2	24.3
5	Disc Brake Caliper @ Right Side	119.3	52.2	-87.3	46.6
6	Instrument Panel	21.2	76.4	-84.7	68.8
7	Disc Brake Caliper @Left Side	37.8	73.3	-58.7	54.6
8	Left Rear Seat Cross Member Z	8.2	23.3	-16.2	17.3
9	Right Rear Seat Cross Member Z	9.1	24.4	-10.7	16.9

DATA SHEET NO. 8 DUMMY INJURY CRITERIA VALUES

Vehicle Year/Make/Model/Body Style: 2002 Ford Focus 2-Door Hatchback

NHTSA Test No.: M20207 Test Date: February 13, 2002

DESCRIPTION	Unit	MAXIMUM VALUE							
		Driver				Passenger			
		Pos	msec	Neg	msec	Pos	msec	Neg	msec
Head 9 Array X Arm Y	g	10.4	71.2	-3.4	93.9	8.2	47.6	-12.3	58.5
Head 9 Array X Arm Z	g	21.4	57.2	-14.3	124.4	33.9	76.0	-19.7	92.5
Head 9 Array Y Arm X	g	9.3	243.3	-62.4	82.1	3.1	253.9	-54.0	77.4
Head 9 Array Y Arm Z	g	23.4	56.8	-9.0	100.4	27.4	63.3	-18.5	97.8
Head 9 Array Z Arm X	g	13.5	240.7	-57.2	78.3	13.2	30.8	-44.8	88.0
Head 9 Array Z Arm Y	g	16.5	66.2	-4.9	98.4	6.4	30.6	-13.3	90.6
Head X	g	8.9	243.9	-58.8	82.0	3.6	276.8	-48.0	77.9
Head Y	g	11.9	73.3	-3.9	32.9	3.6	29.2	-15.0	99.1
Head Z	g	21.7	56.9	-9.8	96.3	26.0	64.9	-15.9	97.5
Head Resultant	g	60.3	81.6	0.0	-26.8	51.3	77.0	0.0	10.8
Redundant Head X	g	8.9	243.8	-59.1	81.6	4.5	247.4	-47.0	80.5
Redundant Head Y	g	11.1	74.8	-4.2	32.9	3.4	28.8	-15.0	98.7
Redundant Head Z	g	21.6	57.6	-9.5	96.2	25.1	64.0	-14.3	92.7
Redundant Head Resultant	g	60.9	81.5	0.0	-31.3	51.2	76.1	0.0	-23.6
Upper Neck Fx	N	347.5	71.9	-499.4	112.9	311.3	68.1	-369.8	50.0
Upper Neck Fy	N	91.1	72.8	-182.6	86.8	127.0	92.3	-170.8	133.0
Upper Neck Fz	N	1335.3	80.6	-290.9	290.9	1478.2	64.6	-478.7	103.2
Upper Neck F Resultant	N	1357.0	76.2	1.0	-33.7	1507.1	64.6	3.0	-23.7
Upper Neck Mx	N-m	12.1	63.1	-22.5	75.0	17.7	100.2	-15.0	135.5
Upper Neck My	N-m	62.7	123.4	-23.4	87.1	17.0	63.8	-31.6	77.1
Upper Neck Mz	N-m	3.5	132.1	-12.4	79.8	22.6	100.0	-8.3	159.7
Upper Neck M Resultant	N-m	63.0	123.4	0.0	-46.3	32.8	77.2	0.1	-49.9
Chest X	g	3.5	271.5	-46.7	80.3	2.1	135.1	-44.9	72.3
Chest Y	g	4.4	92.4	-3.4	46.6	1.9	39.6	-11.7	69.5
Chest Z	g	9.5	47.8	-15.7	95.4	16.2	76.4	-11.1	105.0
Chest Resultant	g	46.8	80.3	0.0	-23.7	46.5	72.2	0.0	-19.1

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

Vehicle Year/Make/Model/Body Style: 2002 Ford Focus 2-Door Hatchback

NHTSA Test No.: M20207 Test Date: February 13, 2002

DESCRIPTION	Unit	MAXIMUM VALUE							
		Driver				Passenger			
		Pos	msec	Neg	msec	Pos	msec	Neg	msec
Redundant Chest X	g	3.4	271.4	-46.9	80.4	2.3	136.0	-45.1	72.3
Redundant Chest Y	g	4.7	93.7	-3.4	46.5	2.3	41.7	-12.3	71.2
Redundant Chest Z	g	9.3	47.8	-15.9	95.4	15.5	76.3	-11.5	104.9
Redundant Chest Resultant	g	47.0	80.4	0.0	-24.3	46.8	72.2	0.1	-20.2
Chest Displacement	mm	0.1	1.4	-29.0	75.4	0.0	9.1	-21.9	69.8
Pelvic X	g	8.0	95.5	-71.4	50.7	5.8	114.3	-72.4	49.9
Pelvic Y	g	13.5	81.3	-13.4	49.9	7.8	43.2	-8.1	57.0
Pelvic Z	g	2.8	285.3	-27.2	78.8	3.8	276.5	-20.4	67.7
Pelvic Resultant	g	72.6	50.7	0.0	-27.9	72.6	49.9	0.1	-26.4
Left Femur	N	981.9	46.6	-3985.6	52.2	250.5	31.6	-4720.5	49.7
Right Femur	N	1132.0	45.9	-4487.6	50.6	371.2	37.9	-5353.5	50.6
Left Knee Slider Dx	mm	0.0	79.0	-0.1	65.3	1.1	61.7	-0.1	48.3
Right Knee Slider Dx	mm	0.4	84.1	0.0	-49.3	0.2	84.8	0.0	51.6
Left Upper Tibia Mx	N-m	8.4	46.6	-25.4	52.4	21.2	76.9	-22.6	45.1
Left Upper Tibia My	N-m	6.8	105.8	-98.6	62.7	12.5	137.4	-110.2	57.3
Left Lower Tibia Fz	N	309.3	114.9	-1607.2	36.3	108.4	139.0	-3264.0	74.4
Left Lower Tibia Mx	N-m	80.5	61.1	-9.9	36.7	35.8	84.8	-6.7	69.1
Left Lower Tibia My	N-m	34.5	87.1	-37.9	61.7	33.9	81.2	-40.2	44.4
Right Upper Tibia Mx	N-m	8.0	299.9	-24.7	71.1	11.2	46.9	-116.2	75.4
Right Upper Tibia My	N-m	17.2	93.7	-95.7	55.9	5.9	117.8	-135.3	44.8
Right Lower Tibia Fz	N	161.3	286.6	-2183.4	75.8	141.8	138.1	-2727.9	82.1
Right Lower Tibia Mx	N-m	12.1	55.2	-15.0	70.2	23.5	51.8	-32.1	76.0
Right Lower Tibia My	N-m	22.9	77.8	-55.9	44.7	57.4	84.5	-53.8	45.3
Left Foot Aft Ax	g	14.0	83.4	-51.5	64.1	19.7	74.0	-97.0	42.9
Left Foot Aft Az	g	38.0	45.4	-37.0	39.2	11.9	57.2	-36.6	46.2
Left Foot Fore Az	g	*	*	*	*	19.6	61.1	-74.8	42.8
Right Foot Aft Ax	g	21.3	71.6	-105.6	44.1	34.9	81.5	-85.2	43.3
Right Foot Aft Az	g	5.8	67.7	-67.8	51.7	3.6	25.3	-30.4	41.7
Right Foot Fore Az	g	66.5	50.4	-176.2	42.9	32.6	25.2	-62.5	41.9

* Data not accurate – data spikes present

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

Vehicle Year/Make/Model/Body Style: 2002 Ford Focus 2-Door Hatchback

NHTSA Test No.: M20207 Test Date: February 13, 2002

HEAD INJURY CRITERIA (HIC)				
	HIC**	t ₁ (msec)	t ₂ (msec)	Average Acceleration t ₁ to t ₂
Position #1 - Driver	403.0	64.8	91.7	46.8 g
Position #2 - Passenger	364.9	69.6	105.6	40.0 g

** 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	45.5	79.6	82.6	413.8
Position #2 - Passenger	45.9	69.7	72.7	414.6

* 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 2-Door Hatchback

NHTSA Test No.: M20207 Test Date: February 13, 2002

HEAD INJURY CRITERIA (HIC) REDUNDANT				
	HIC**	t ₁ (msec)	t ₂ (msec)	Average Acceleration t ₁ to t ₂
Position #1 - Driver	403.9	65.0	91.6	47.0 g
Position #2 - Passenger	344.4	69.3	105.3	39.1 g

** 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	45.2	79.4	82.4	417.4
Position #2 - Passenger	46.1	69.8	72.8	426.6

* 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

1875

1910

Shoulder belt length as measured
on Part 572 Dummy.

995

1005

Lap belt length as measured
on Part 572 Dummy.

880

905

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 12 mm molding.

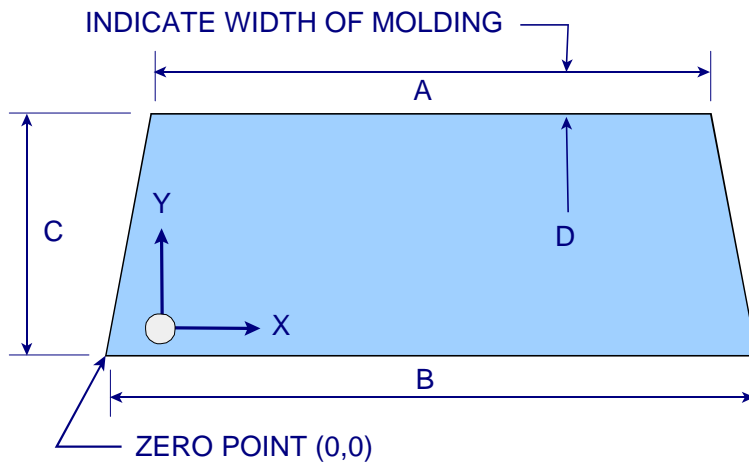
FMVSS 212 REQUIREMENTS:

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	2137.5	2137.5	100.0%
LEFT SIDE	2137.5	2137.5	100.0%
TOTAL	4275	4275	100.0%

AREA OF RETENTION FAILURE:



DIMENSIONS (mm)	
A	1150
B	1525
C	800
D	12

FRONT VIEW OF WINDSHIELD

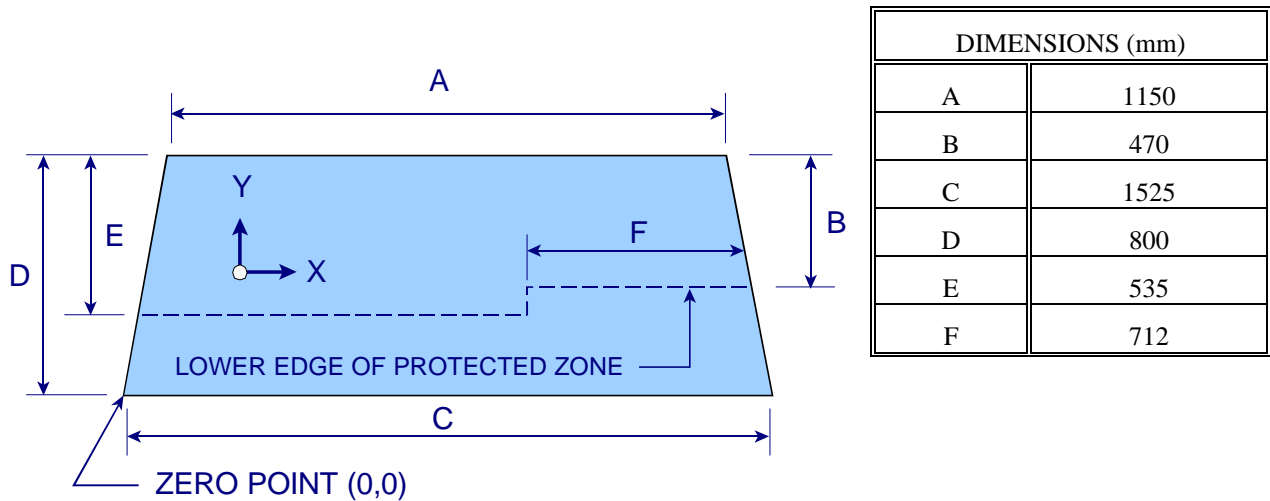
FAILURE DETAILS: None

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

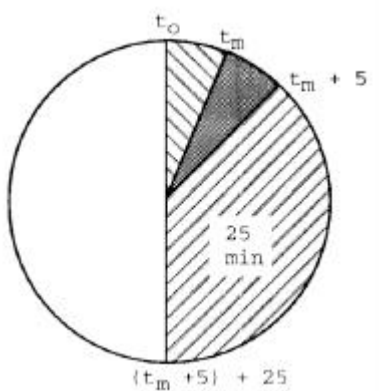
NHTSA TEST No.: M20207 TEST DATE: February 13, 2002
VEHICLE MAKE/MODEL: 2002 Ford Focus 2-Door Hatchback

The test vehicle was filled from 92% to 94% of the manufacturer'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

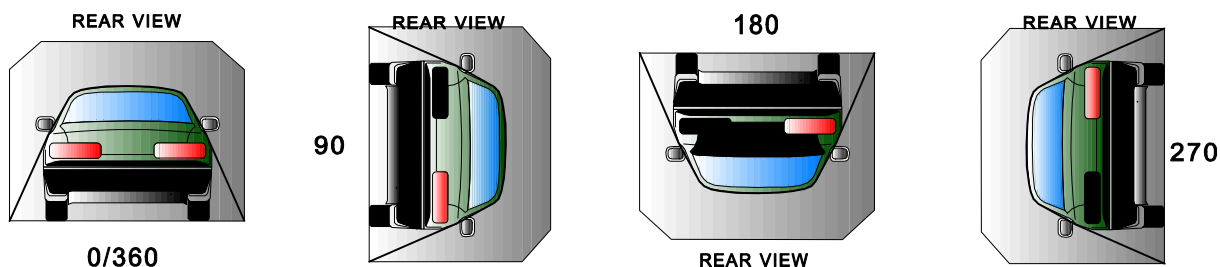
ACTUAL	MAX ALLOWED
0	28 g
0	141 g
0	28 g/min.

SOLVENT SPILLAGE DETAILS: None

DATA SHEET NO. 13 - ROLLOVER DATA

Vehicle: 2002 Ford Focus 2-Door Hatchback

NHTSA No.: M20207



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	18	seconds	5	minutes	6	minutes	18	seconds	7	minutes
0° - 90°	1	minutes	05	seconds	5	minutes	6	minutes	5	seconds	7	minutes
90° - 180°	1	minutes	00	seconds	5	minutes	6	minutes	0	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:

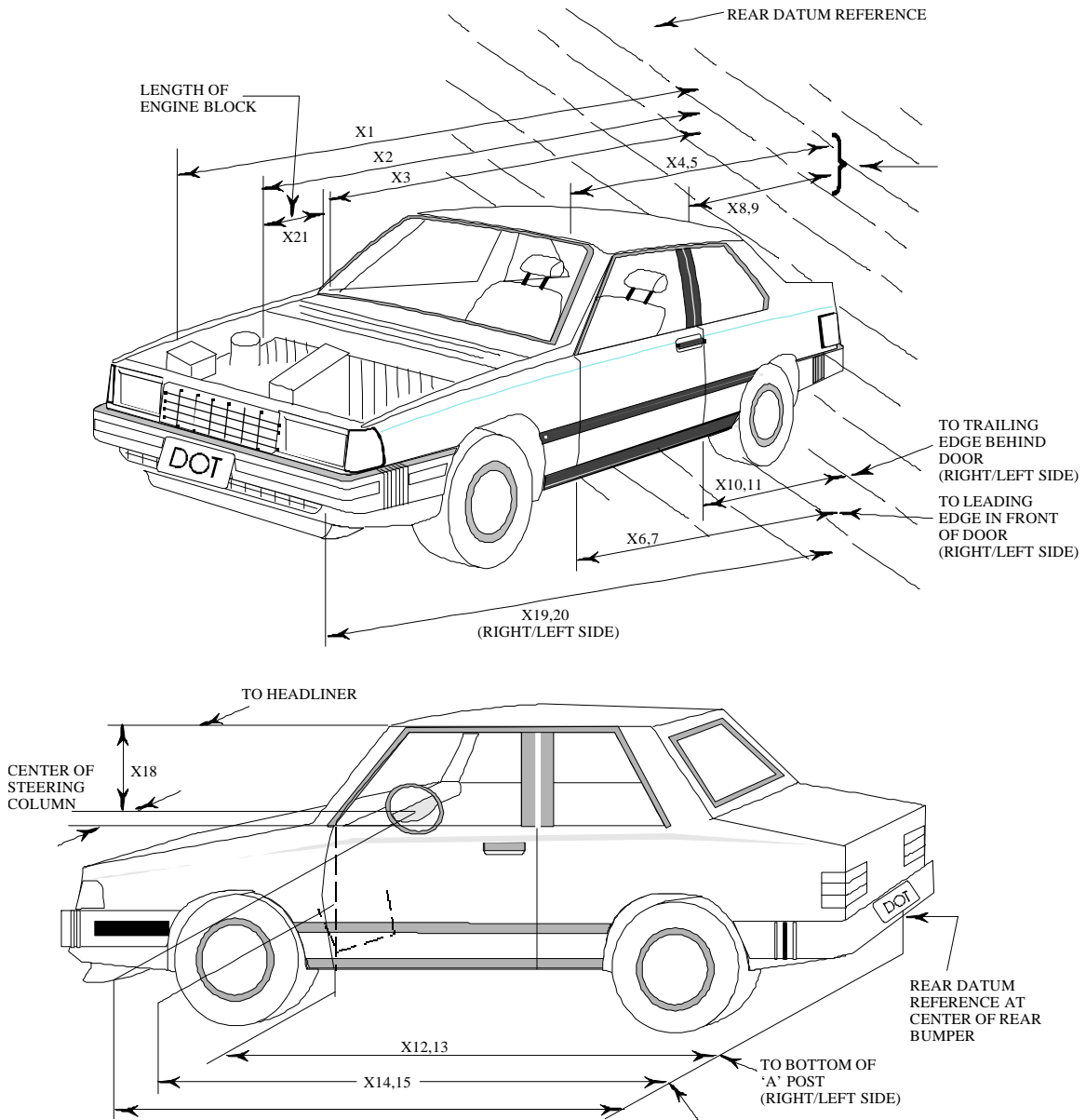
Rollover Stage	First 5 minutes from onset of rotation (g)	6th min. (g)	7th min. (g)	8th min. (if required) (g)
0° - 90°	0	0	0	N/A
90° - 180°	0	0	0	N/A
180°-270°	0	0	0	N/A
270°-360°	0	0	0	N/A

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

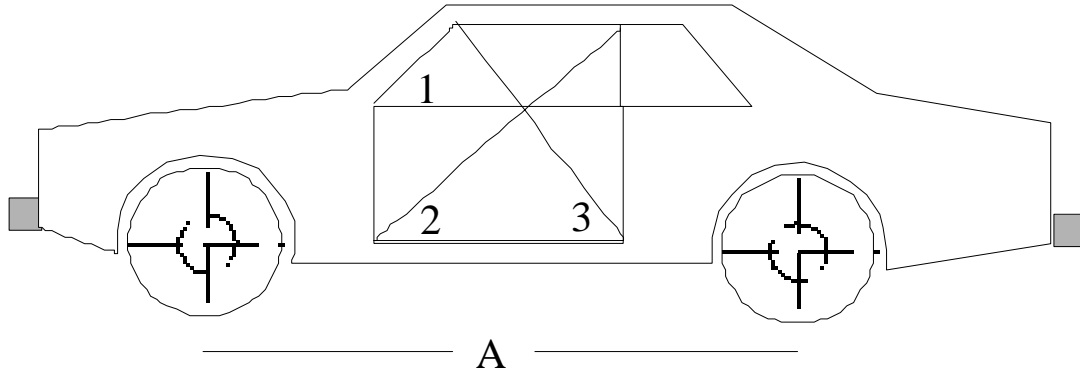


DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)

No.		Pre-Test	Post-Test	Difference
X1	Total Length of Vehicle at Centerline	4265	3766	499
X2	Rear Surface of Vehicle to Front of Engine	3827	3601	226
X3	Rear Surface of Vehicle to Firewall	3313	3313	0
X4	Rear Surface of Vehicle to Upper Leading Edge of Right Door	2913	2926	-13
X5	Rear Surface of Vehicle to Upper Leading Edge of Left Door	2914	2906	8
X6	Rear Surface of Vehicle to Lower Leading Edge of Right Door	2886	2903	-17
X7	Rear Surface of Vehicle to Lower Leading Edge of Left Door	2886	2886	0
X8	Rear Surface of Vehicle to Upper Trailing Edge of Right Door	1648	1652	-4
X9	Rear Surface of Vehicle to Upper Trailing Edge of Left Door	1649	1638	11
X10	Rear Surface of Vehicle to Lower Trailing Edge of Right Door	1693	1708	-15
X11	Rear Surface of Vehicle to Lower Trailing Edge of Left Door	1694	1691	3
X12	Rear Surface of Vehicle to Bottom of "A" Post of Right Side	2990	3000	-10
X13	Rear Surface of Vehicle to Bottom of "A" Post of Left Side	3013	3009	4
X14	Rear Surface of Vehicle to Firewall, Right Side	3297	3240	57
X15	Rear Surface of Vehicle to Firewall, Left Side	3298	3241	57
X16	Rear Surface of Vehicle to Steering Column	2451	2485	-34
X17	Center of Steering Column to "A" Post	292	307	-15
X18	Center of Steering Column to Headliner	404	425	-21
X19	Rear Surface of Vehicle to Right Side of Front Bumper	4233	3737	496
X20	Rear Surface of Vehicle to Left Side of Front Bumper	4230	3749	481
X21	Length of Engine Block	314	314	0
RD	Rear Surface of Vehicle to Right Side of Dash Panel	2602	2601	1
CD	Rear Surface of Vehicle to Center of Dash Panel	2710	2705	5
LD	Rear Surface of Vehicle to Left Side of Dash Panel	2612	2601	11

All Dimensions in mm

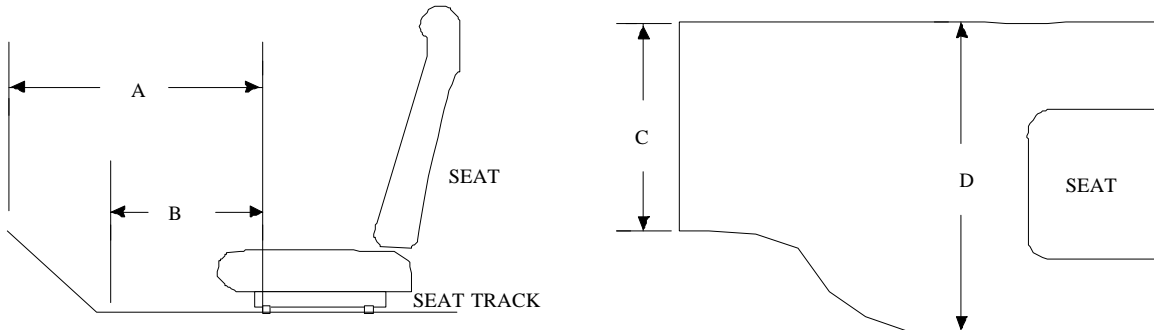
DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)
 VEHICLE INTRUSION MEASUREMENTS
 DOOR OPENING WIDTH



UNITS (mm)	LEFT			RIGHT		
	1	2	3	1	2	3
BEFORE TEST	1176	1552	1146	1161	1533	1155
AFTER TEST	1175	1556	1154	1158	1559	1170
DIFFERENCE	1	-4	-8	3	-26	-15

UNITS (mm)	A = WHEELBASE LEFT	A = WHEELBASE RIGHT
BEFORE TEST	2612	2612
AFTER TEST	2603	2549
DIFFERENCE	9	63

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



DRIVER

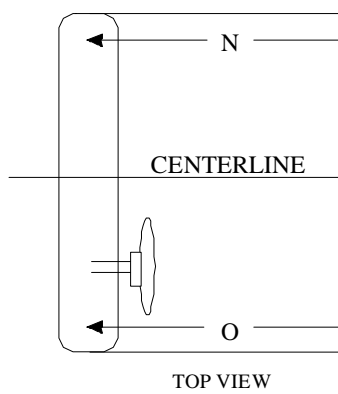
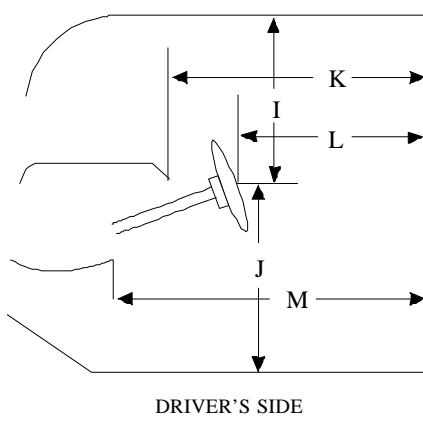
Measurement	Pre-Test	Post-Test	Difference
A	681	631	50
B	518	512	6
C	472	440	32
D	455	467	-12

PASSENGER

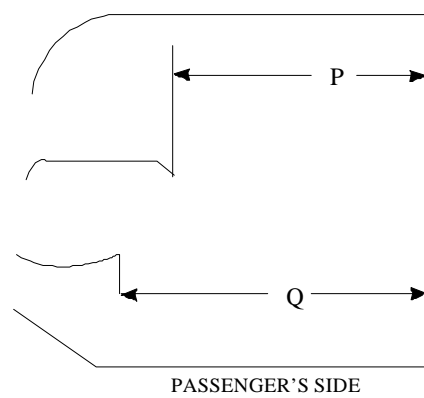
Measurement	Pre-Test	Post-Test	Difference
A	659	590	69
B	496	492	4
C	501	478	23
D	445	453	-8

Units = mm

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



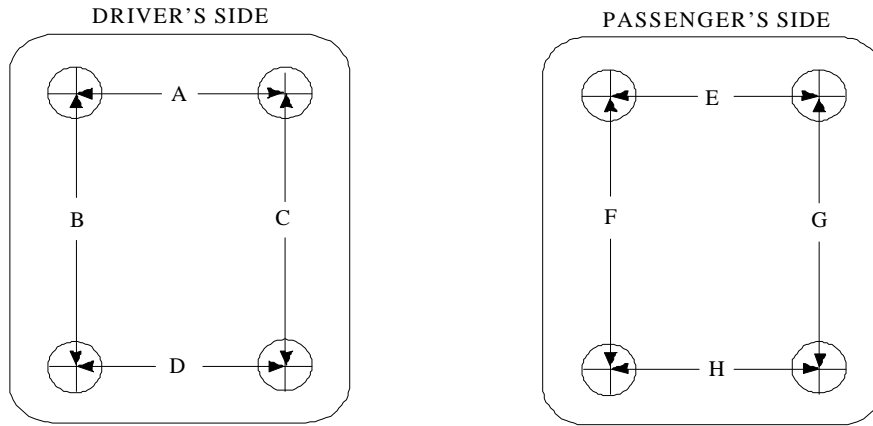
MEASUREMENTS
FROM C-PILLAR
BELT ANCHORAGE



Measurement	Pre-Test	Post-Test	Difference
I	404	425	-21
J	705	723	-18
K	1834	1844	-10
L	1628	1663	-35
M	1877	1889	-12
N	1815	1817	-2
O	1789	1779	10
P = K (PASS.)	2006	2046	-40
Q = M (PASS.)	1927	1940	-13

Units = mm

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

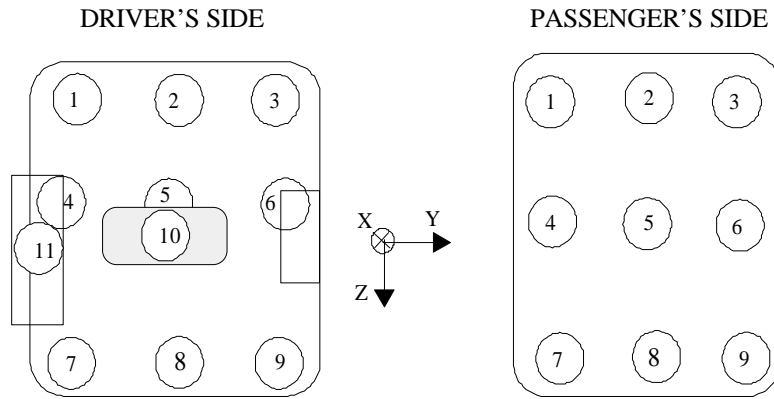


TOP VIEW THROUGH FLOOR PAN

Measurement	Pre-Test	Post-Test	Difference
A	472	440	31
B	404	389	15
C	360	387	-26
D	455	467	-11
E	501	478	24
F	392	384	7
G	340	419	-79
H	445	453	-8

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	3087	3046	41	-445	-475	30
2	3092	3048	44	-416	-437	21
3	3073	3040	33	-403	-407	4
4	3024	3000	24	-364	-384	20
5	3010	2991	19	-350	-365	15
6	2998	2995	3	-344	-341	-3
7	2940	2921	19	-312	-317	5
8	2929	2929	0	-305	-283	-22
9	2857	2922	-65	-290	-285	-5
10	2912	2847	65	-445	-459	14
11	2982	2954	28	-423	-432	9

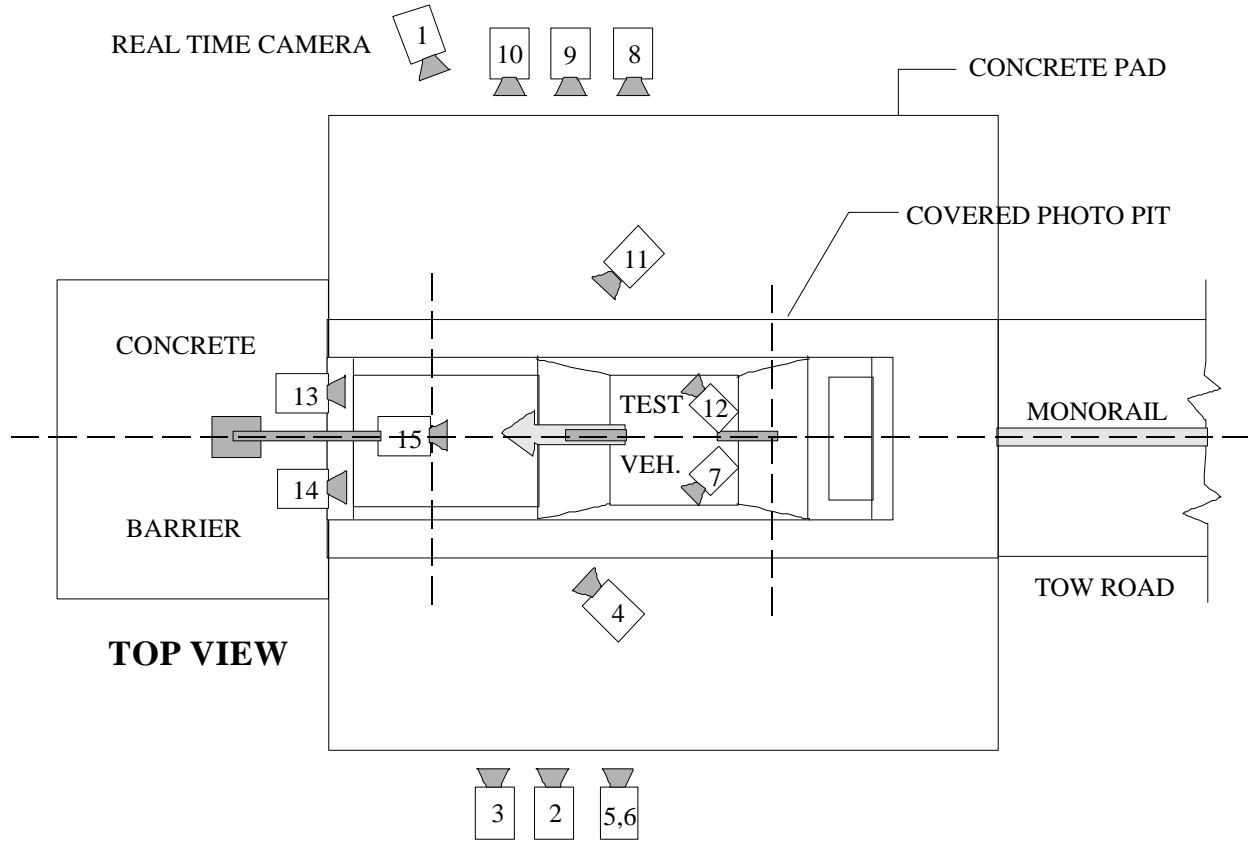
Passenger Side Toe-pan Measurements

Toe-pan Location	X Deformation (mm)			Z Deformation (mm)		
	Pre-Test	Post-Test	Difference	Pre-Test	Post-Test	Difference
1	3084	3025	59	-410	-484	74
2	3079	3022	57	-425	-477	52
3	3070	3011	59	-438	-487	49
4	3020	2997	23	-363	-379	16
5	3000	2973	27	-354	-378	24
6	3000	2976	24	-357	-395	38
7	2918	2925	-7	-295	-310	15
8	2915	2923	-8	-293	-295	2
9	2914	2911	3	-293	-322	29

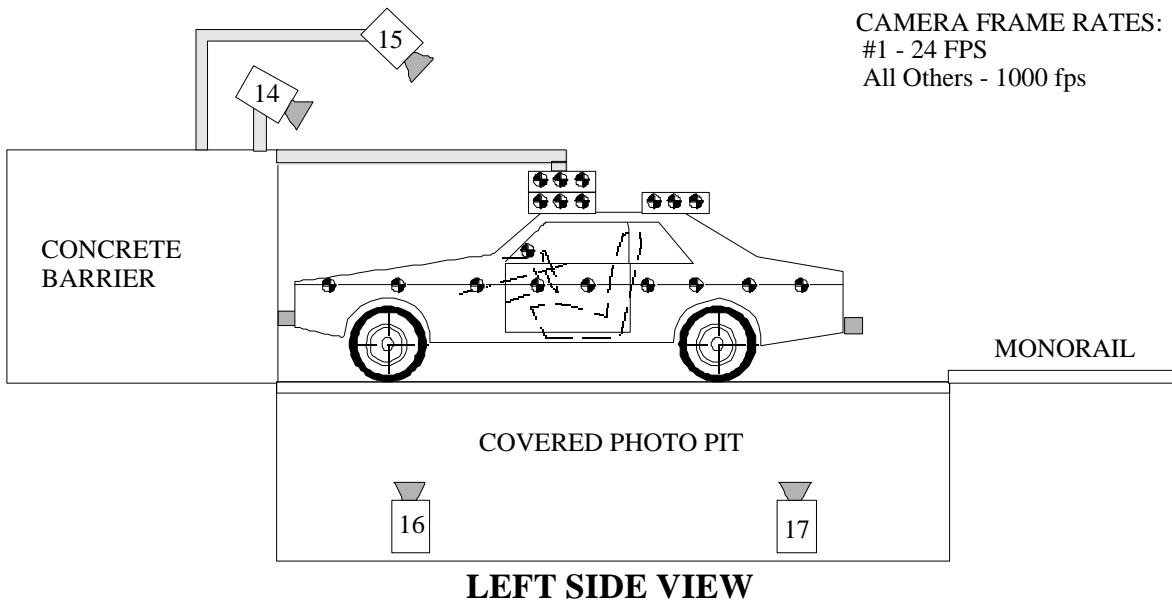
Reference: SAE: X = Rear Bumper (Positive: forward); Z = Ground (Positive: down)

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.: M20207 Vehicle: 2002 Ford Focus 2-Door Hatchback

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	5891	1600	1086	-4	5645	12.5	1010
3	Left Side View	8096	822	1063	-2	7850	25	1010
4	Driver and Interior View	7404	2670	1995	-8	-	25	1000
5	Steering Column (Bottom)	7404	1798	1177	-4	7158	25	1015
6	Steering Column (Top)	7404	1798	1777	-8	7158	25	1010
7	Left Belt	-	-	-	-	-	13	-
8	Overall Right Side	8036	1630	1070	-5	8287	12.5	1005
9	Right Side View	8306	1048	1114	-3	8557	25	1005
10	Right Passenger View	7936	1723	1432	-5	8187	35	1020
11	Passenger and Interior View	7575	2798	1971	-9	-	25	1005
12	Right Belt	-	-	-	-	-	13	-
13	Passenger Front View	620	-92	1987	-42	-	13	1000
14	Driver Front View	620	-92	1987	-37	-	13	1005
15	Windshield View	0	-530	3374	50	-	13	1015
16	Pit View of Engine	0	615	-3048	90	-	13	1040
17	Pit View of Fuel Tank	0	2774	-3048	90	-	13	1005

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

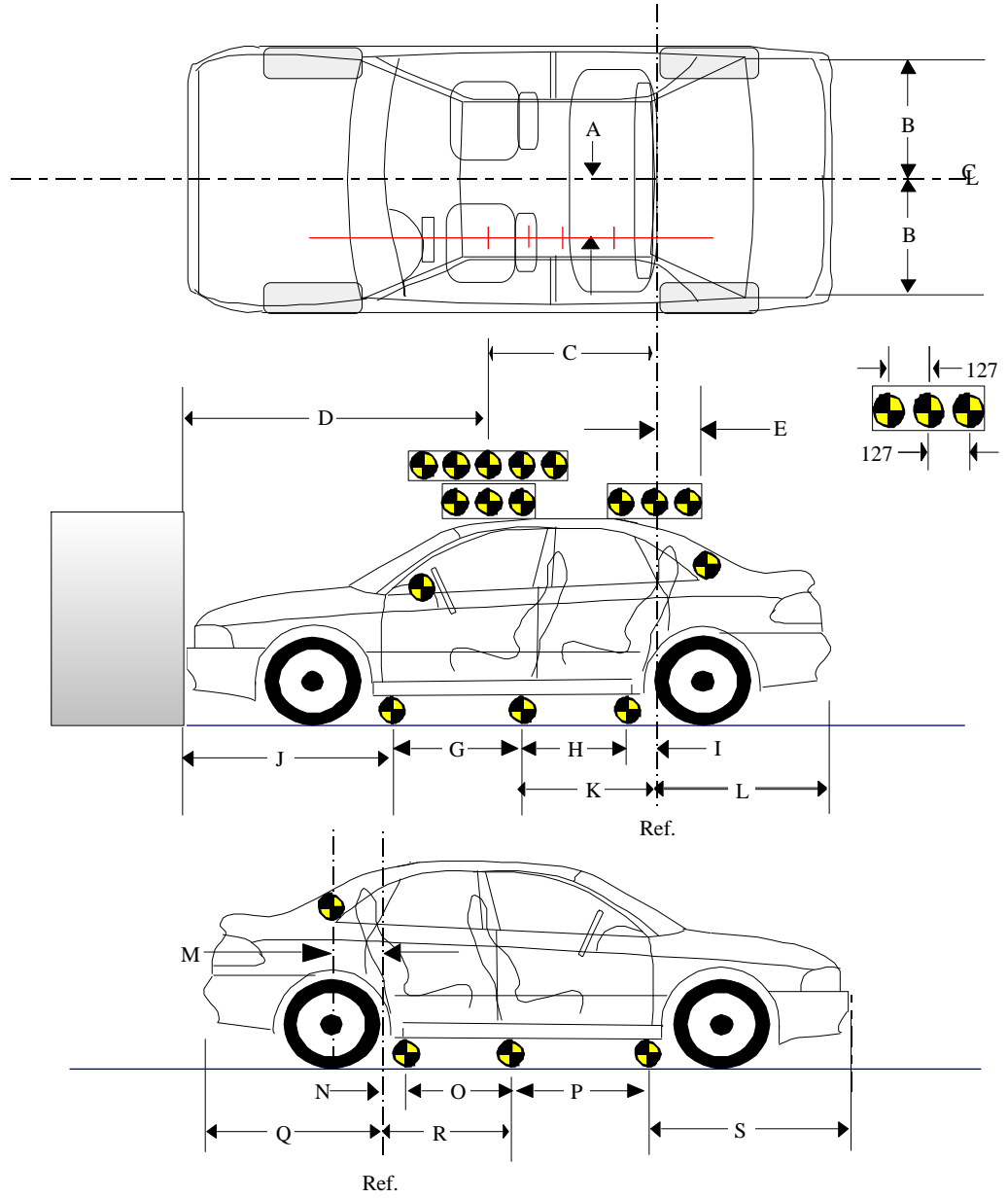
Y = film plane to impact location N.T. indicates No Timing

Z = film plane to ground

DATA SHEET NO. 16 VEHICLE REFERENCE PHOTO TARGET LOCATIONS

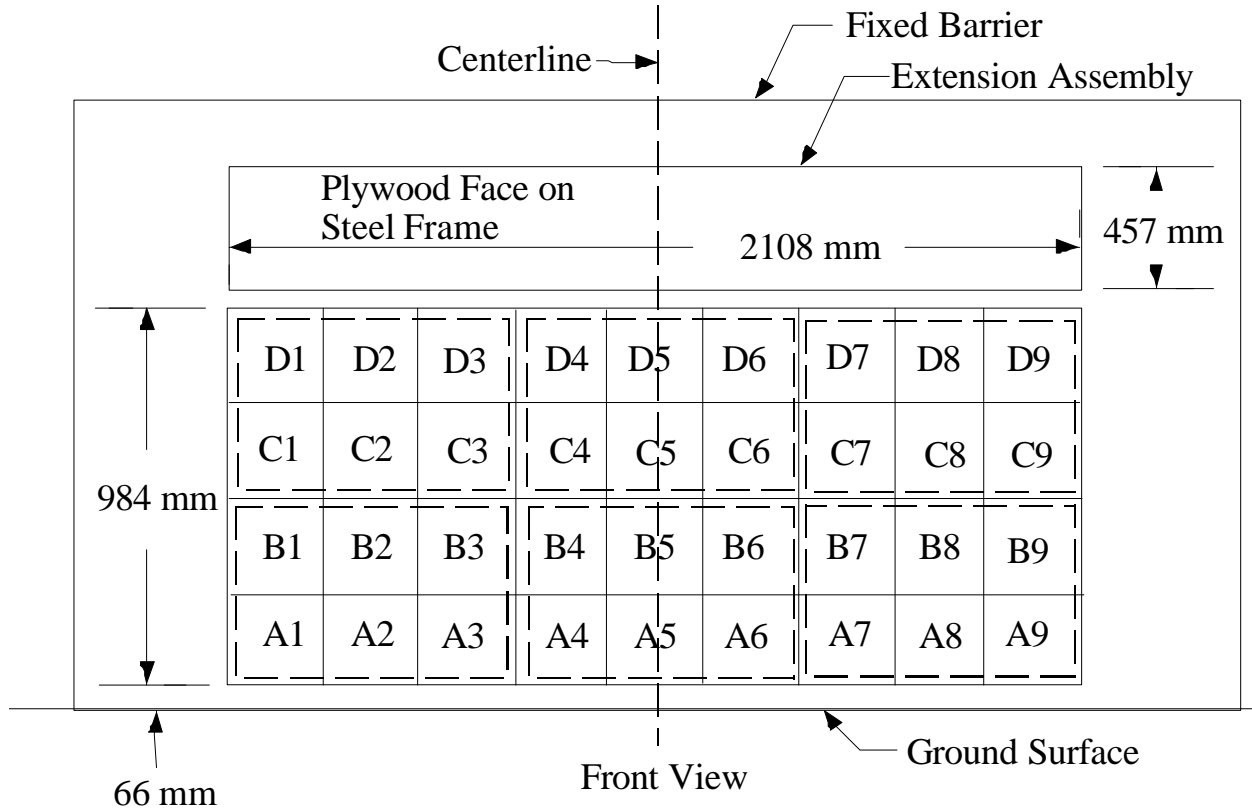
(Dimensions in millimeters)

A	327
B	497
C	1041
D	2113
E	296
F	1472
G	897
H	899
I	95
J	1298
K	994
L	1083
M	329
N	104
O	881
P	905
Q	1081
R	985
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 56.3 KPH FRONTAL BARRIER IMPACT

Vehicle Make/Model/Body Style: Ford Focus 2-Door Hatchback

NHTSA Test No.: M20207 VIN: 3FAFP31312R160140

Model Year: 2002 Build Date: 1/02 Test Date: February 13, 2002

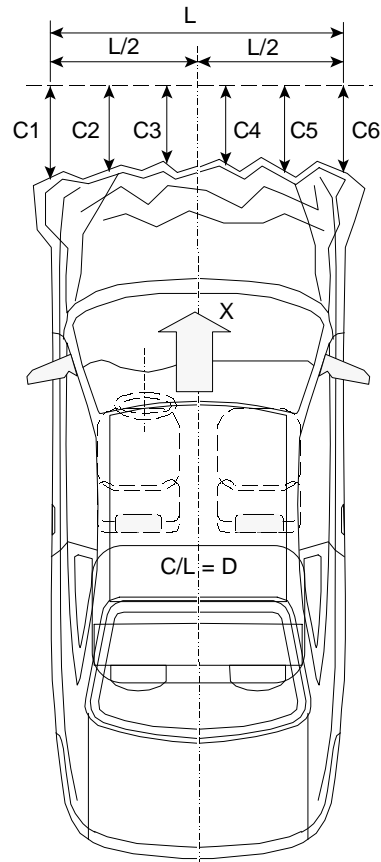
Vehicle Size Category: _____ Test Weight: 1380.0 kg

Vehicle Wheelbase: 2612 mm; Front Overhang: 879 mm; Overall Width: 1998 mm

Collision Deformation Classification (CDC) Code: 12FDEW3

Crush Depth Dimensions

	PRE (mm)	POST (mm)	DIFF (mm)
C1 =	4182	3748	434
C2 =	4249	3764	485
C3 =	4264	3773	491
C4 =	4266	3768	498
C5 =	4253	3756	497
C6 =	4188	3717	471



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

Length of Damaged Region: L1= 1240 mm

L2= 620.0 mm

L5= 248 mm

APPENDIX A
PHOTOGRAPHS

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PHOTOGRAPH NOT AVAILABLE

Figure A-1 LOAD CELL LOCATIONS



A-4

8462-NCAP-05

Figure A-2 PRE-TEST FRONT VIEW



Figure A-3 POST-TEST FRONT VIEW



Figure A-4 PRE-TEST LEFT SIDE VIEW



Figure A-5 POST-TEST LEFT SIDE VIEW



Figure A-6 PRE-TEST RIGHT SIDE VIEW



Figure A-7 POST-TEST RIGHT SIDE VIEW



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



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



A-12

8462-NCAP-05

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

A-15

8462-NCAP-05



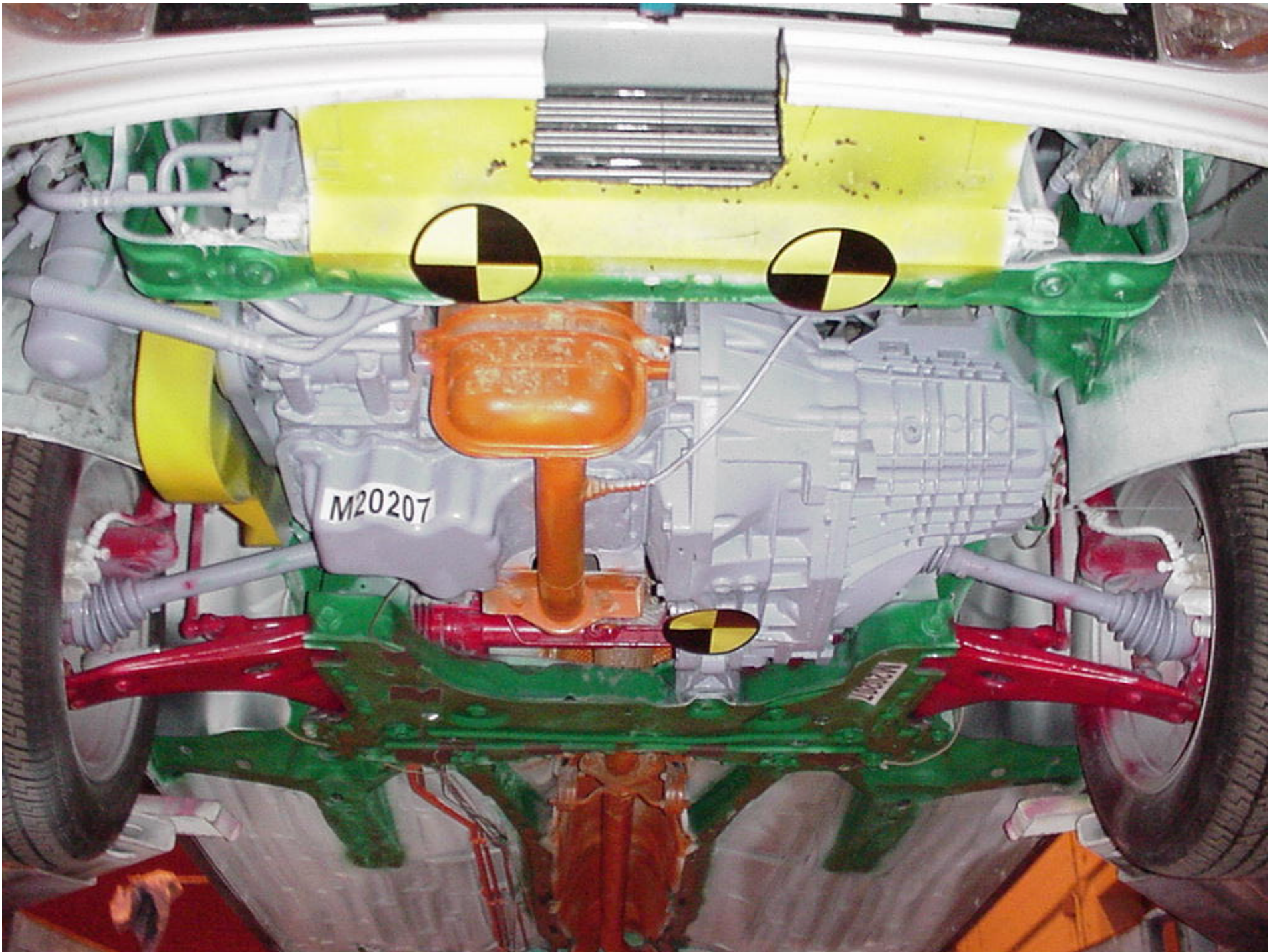
Figure A-13 POST-TEST WINDSHIELD VIEW



Figure A-14 PRE-TEST ENGINE COMPARTMENT VIEW



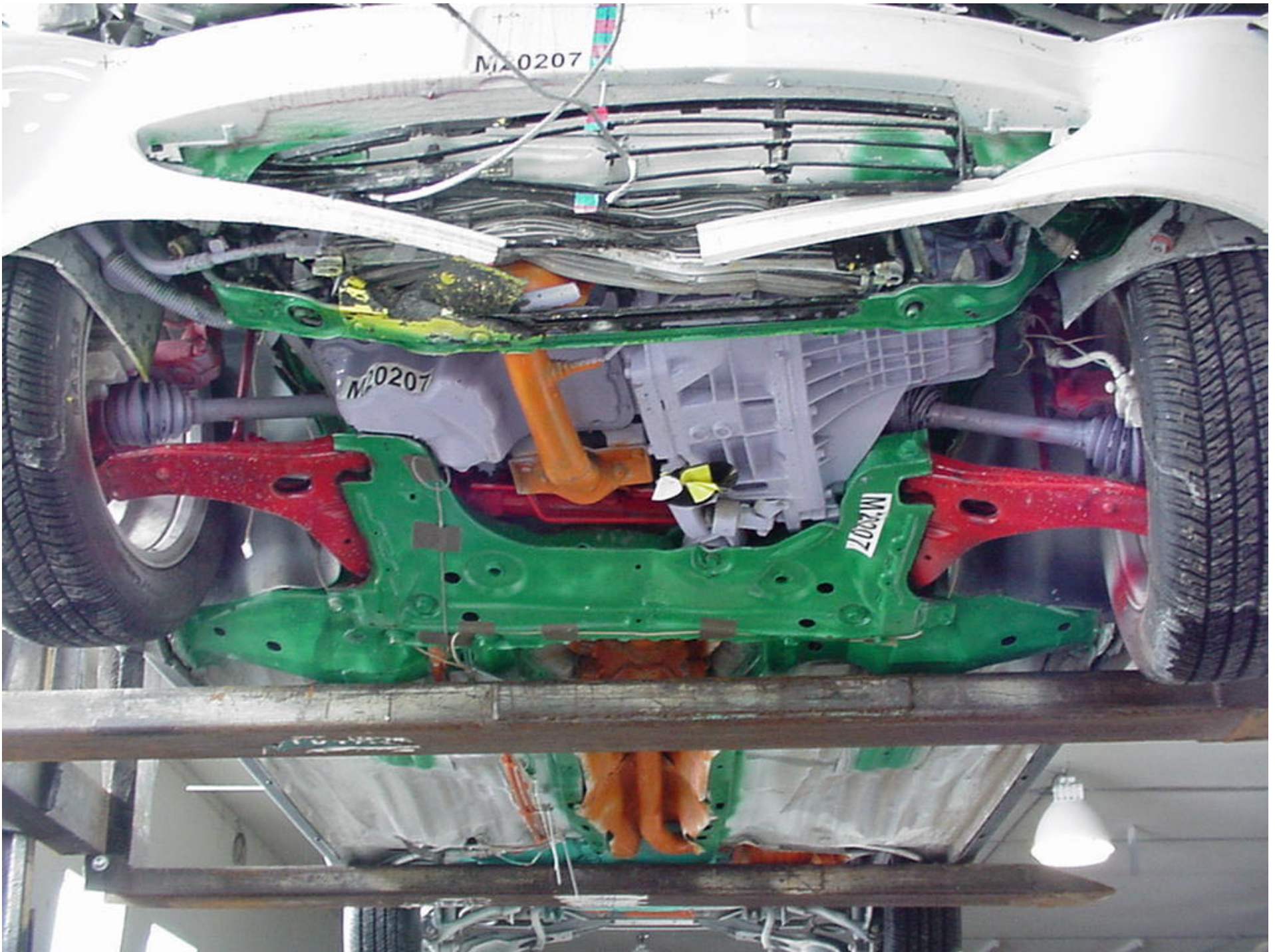
Figure A-15 FUEL CAP VIEW



A-18

8462-NCAP-05

Figure A-16 PRE-TEST FRONT UNDERBODY VIEW



M20207

M20207

M20207

A-19

8462-NCAP-05

Figure A-17 POST-TEST FRONT UNDERBODY VIEW

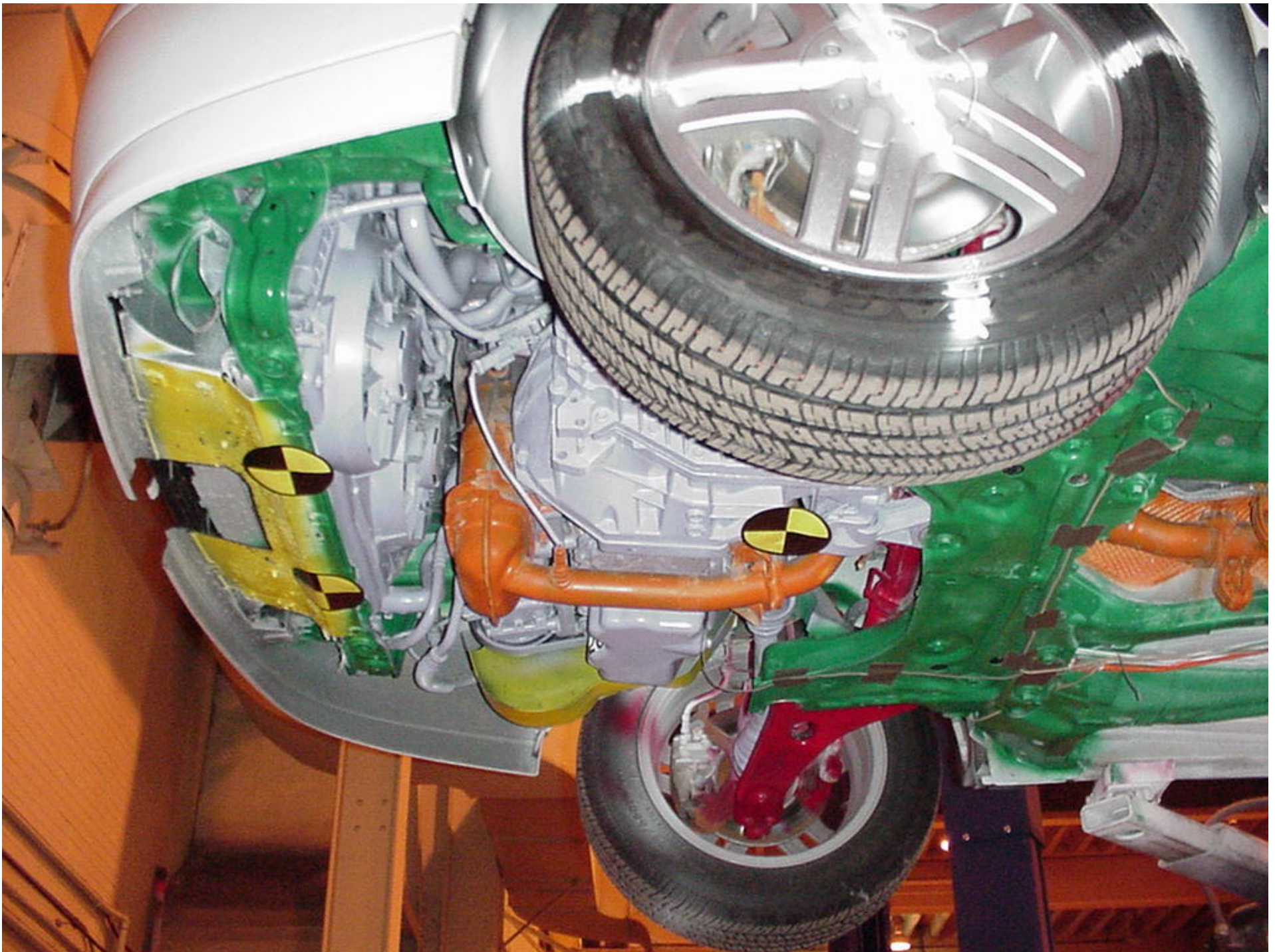
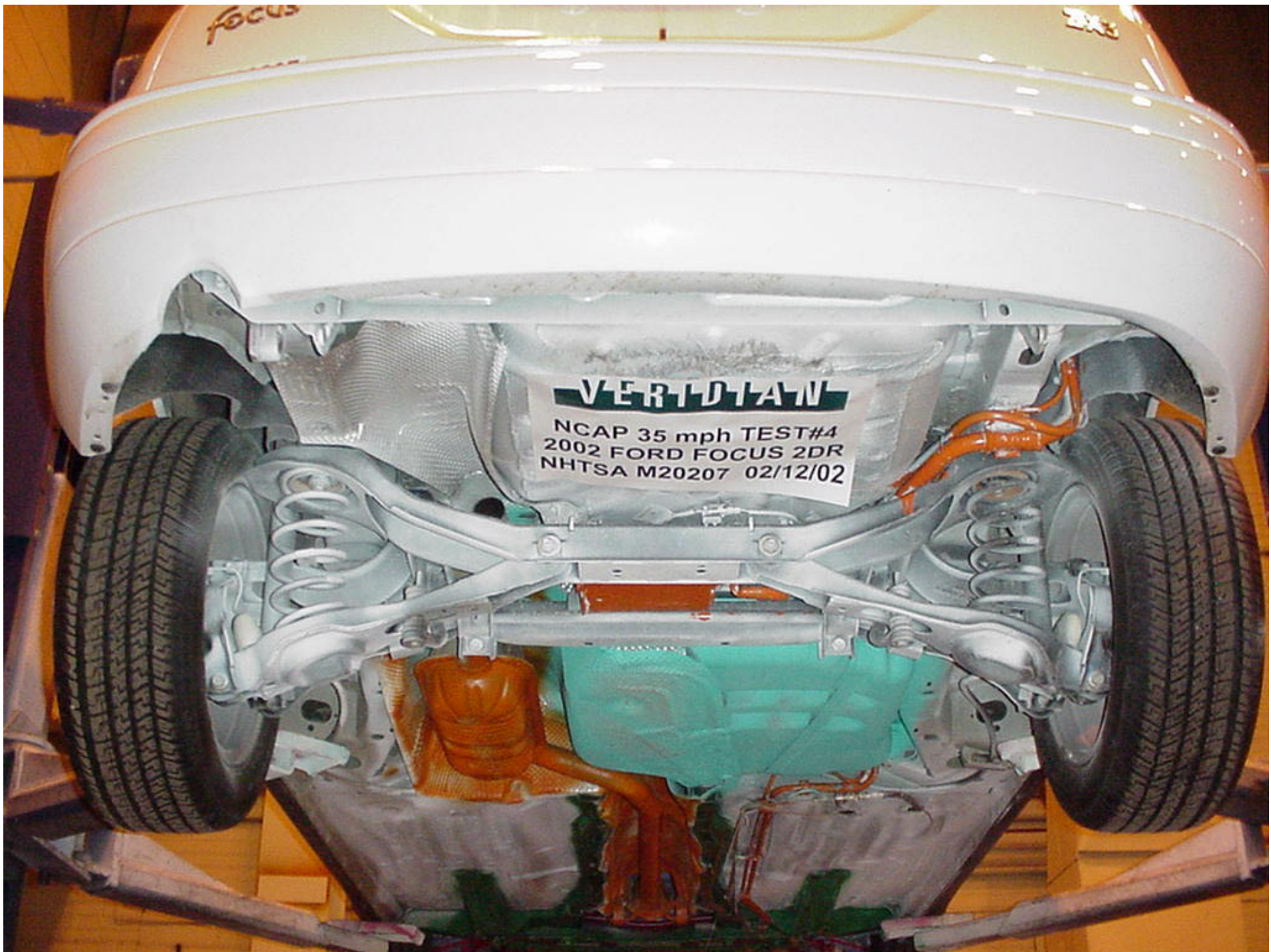


Figure A-18 PRE-TEST FRONT SIDE UNDERBODY VIEW



Figure A-19 POST-TEST FRONT SIDE UNDERBODY VIEW



A-22

8462-NCAP-05

Figure A-20 PRE-TEST REAR UNDERBODY VIEW



Figure A-21 POST-TEST REAR UNDERBODY VIEW



A-24

8462-NCAP-05

Figure A-22 PRE-TEST DRIVER POSITION VIEW



A-25

8462-NCAP-05

Figure A-23 POST-TEST DRIVER POSITION VIEW



Figure A-24 PRE-TEST PASSENGER POSITION VIEW



A-27

8462-NCAP-05

Figure A-25 POST-TEST PASSENGER POSITION VIEW



Figure A-26 PRE-TEST DRIVER AND INTERIOR VIEW



Figure A-27 POST-TEST DRIVER AND INTERIOR VIEW



Figure A-28 PRE-TEST PASSENGER AND INTERIOR VIEW



Figure A-29 POST-TEST PASSENGER AND INTERIOR VIEW



Figure A-30 PRE-TEST DRIVER HEAD LOCATION



A-33

8462-NCAP-05

Figure A-31 POST-TEST DRIVER HEAD LOCATION



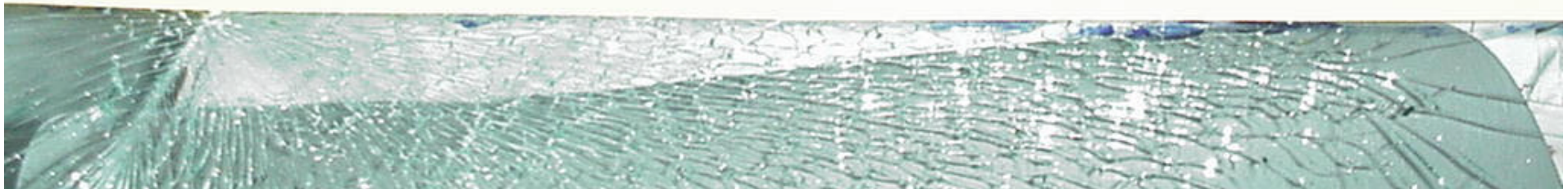
A-34

8462-NCAP-05

Figure A-32 PRE-TEST PASSENGER HEAD LOCATION



A-35

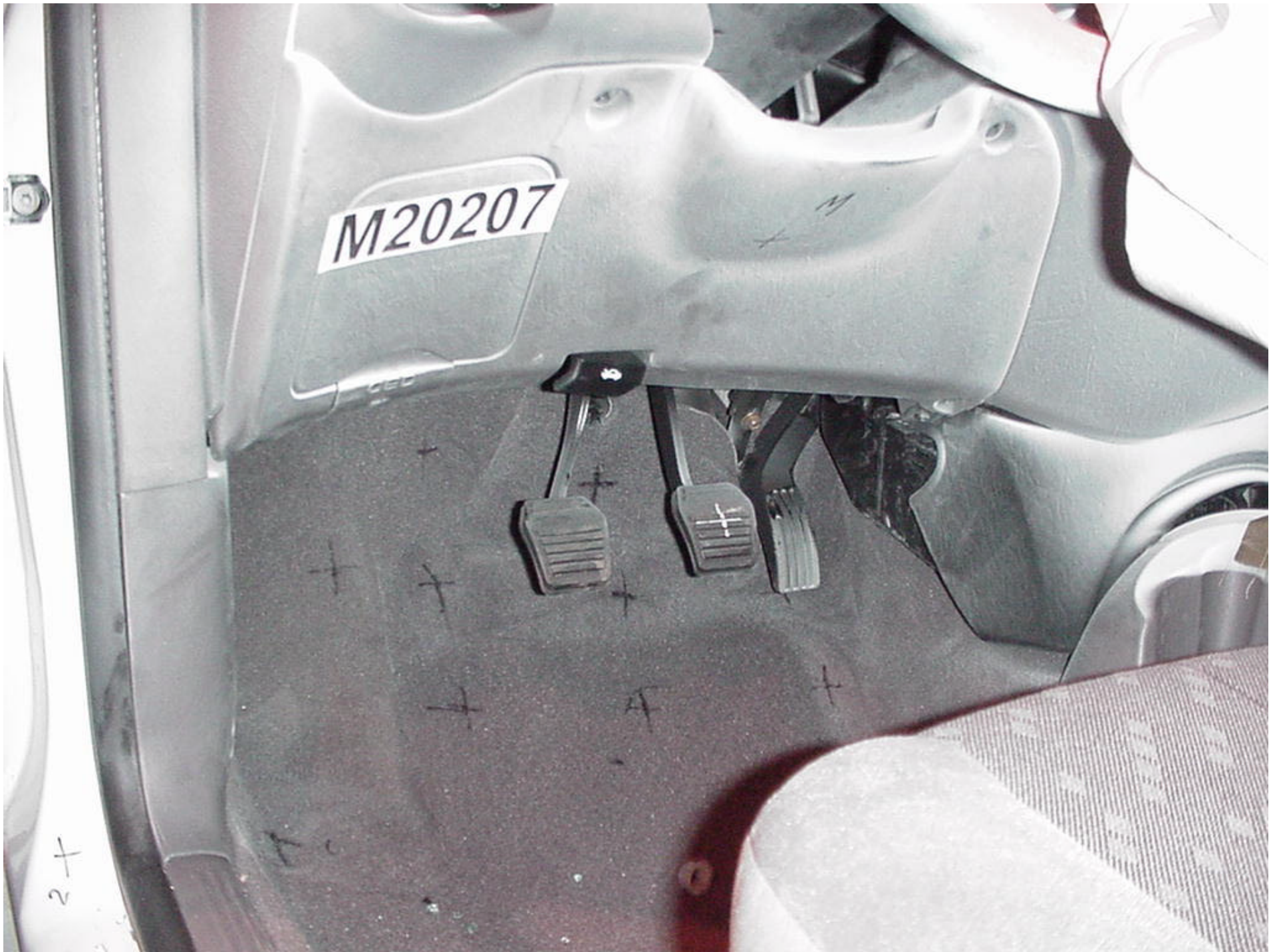


8462-NCAP-05

Figure A-33 POST-TEST PASSENGER HEAD LOCATION



Figure A -34 PRE-TEST DRIVER FLOOR PAN VIEW



A-37

8462-NCAP-05

Figure A-35 POST-TEST DRIVER FLOOR PAN VIEW



Figure A -36 PRE-TEST PASSENGER FLOOR PAN VIEW



Figure A-37 POST-TEST PASSENGER FLOOR PAN VIEW



Figure A-38 ROLLOVER VIEW



Figure A-39 IMPACT VIEW

APPENDIX B

DUMMY, VEHICLE AND LOAD CELL BARRIER RESPONSE DATA

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

Transducer	SAE Sign Convention (positive unless noted)
Upper Neck Load Cell	Fx Head rearward Fy Head left Fz Neck in tension Mx Left ear to left shoulder My Chin to chest (flexion) Mz Chin to left shoulder (look left)
Chest Displacement Potentiometer	Compression is negative
Pelvic Load Cell (Lower Lumbar)	Fx Chest rearward Fy Chest left Fz Spine in tension
Femur Load Cell	Compression is negative
Upper Tibia Load Cell (right and left leg)	Mx Support tibia at ends, load left side center My Support tibia at ends, load front (shin) center
Lower Tibia Load Cell (right and left leg)	Fz Tibia in tension Mx Support tibia at ends, load left side center My Support tibia at ends, load front (shin) center

DATA CHANNEL FILTER CLASS SUMMARY

NHTSA TEST NO.

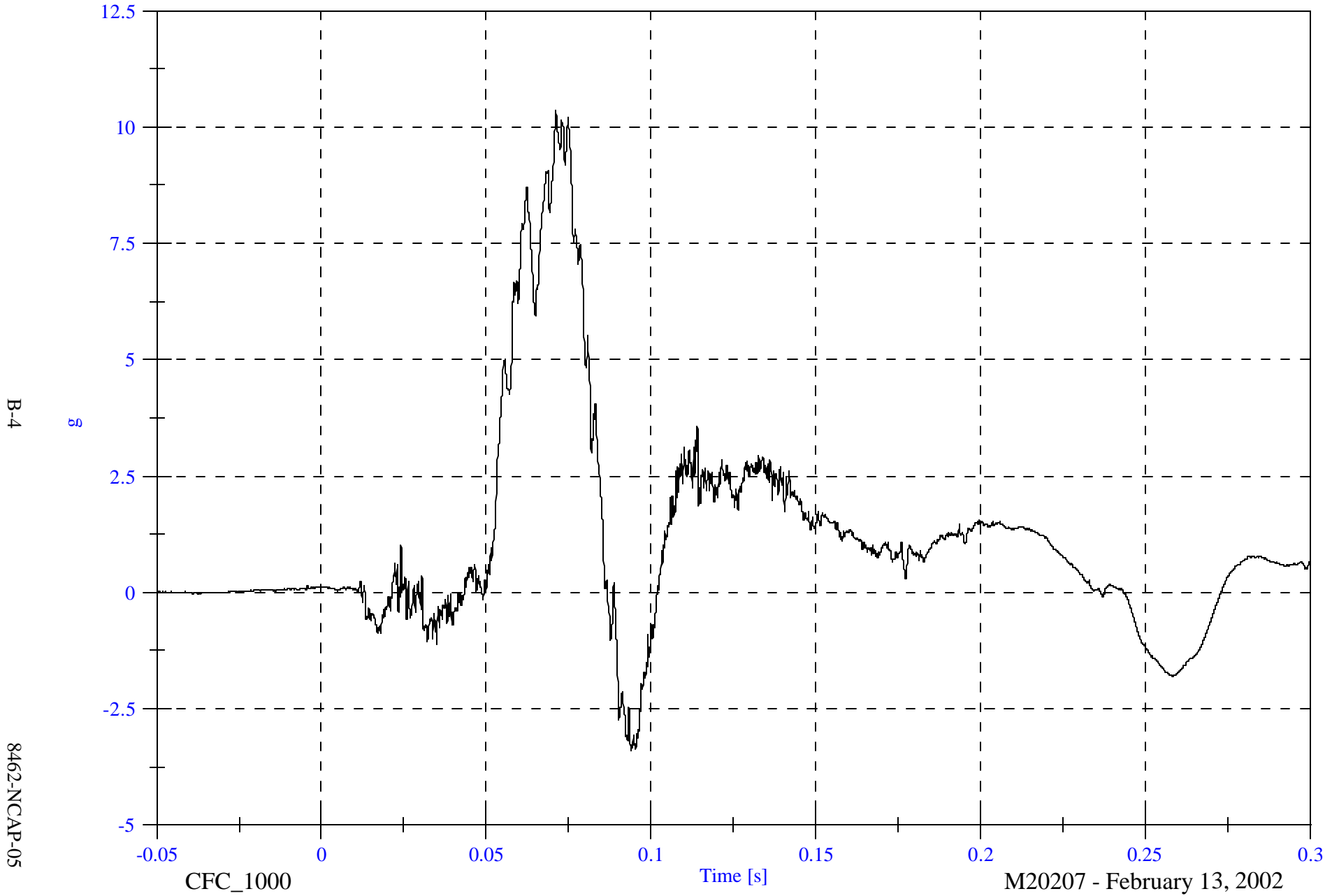
DATA TYPE	SAE FILTER CLASS (Hz)
Dummy Head Accelerations	1000
Dummy Chest Accelerations	180
Dummy Chest Displacements	60
Dummy Femur Forces	600
Dummy Belt Loads	60
Dummy Belt Displacements	180
Dummy Neck Forces	1000
Dummy Neck Moments	600
Vehicle Accelerations	60
Vehicle Velocity Integrations	180
Vehicle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

2002 NCAP Test 5 - 2002 Ford Focus

P1 Head 9 Array X Arm Ay

Max: 10.4 [g] at 0.071 [s]

Min: -3.4 [g] at 0.094 [s]



B-4

8462-NCAP-05

CFC_1000

Time [s]

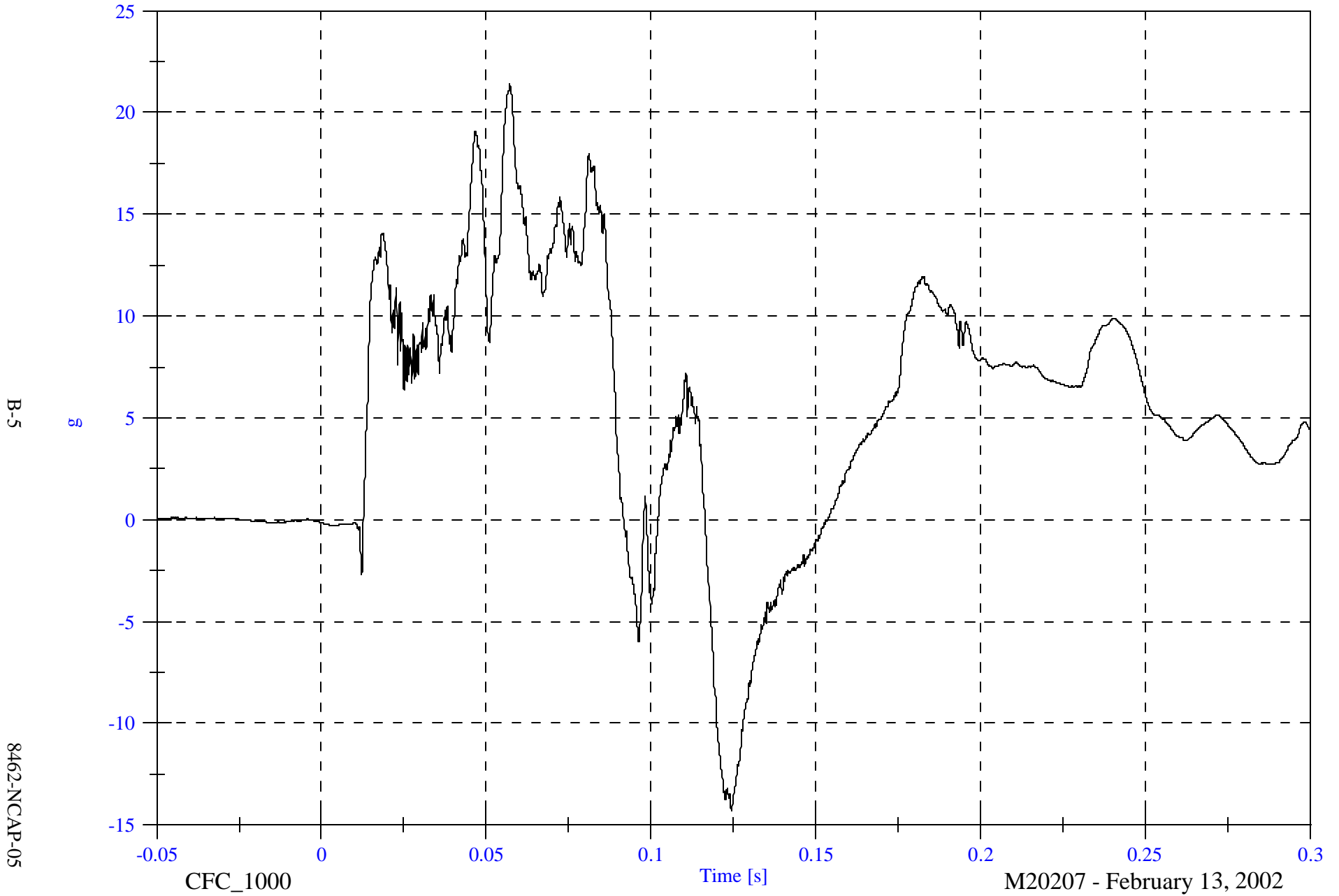
M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

P1 Head 9 Array X Arm Az

Max: 21.4 [g] at 0.057 [s]

Min: -14.3 [g] at 0.124 [s]



B-5

8462-NCAP-05

CFC_1000

M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

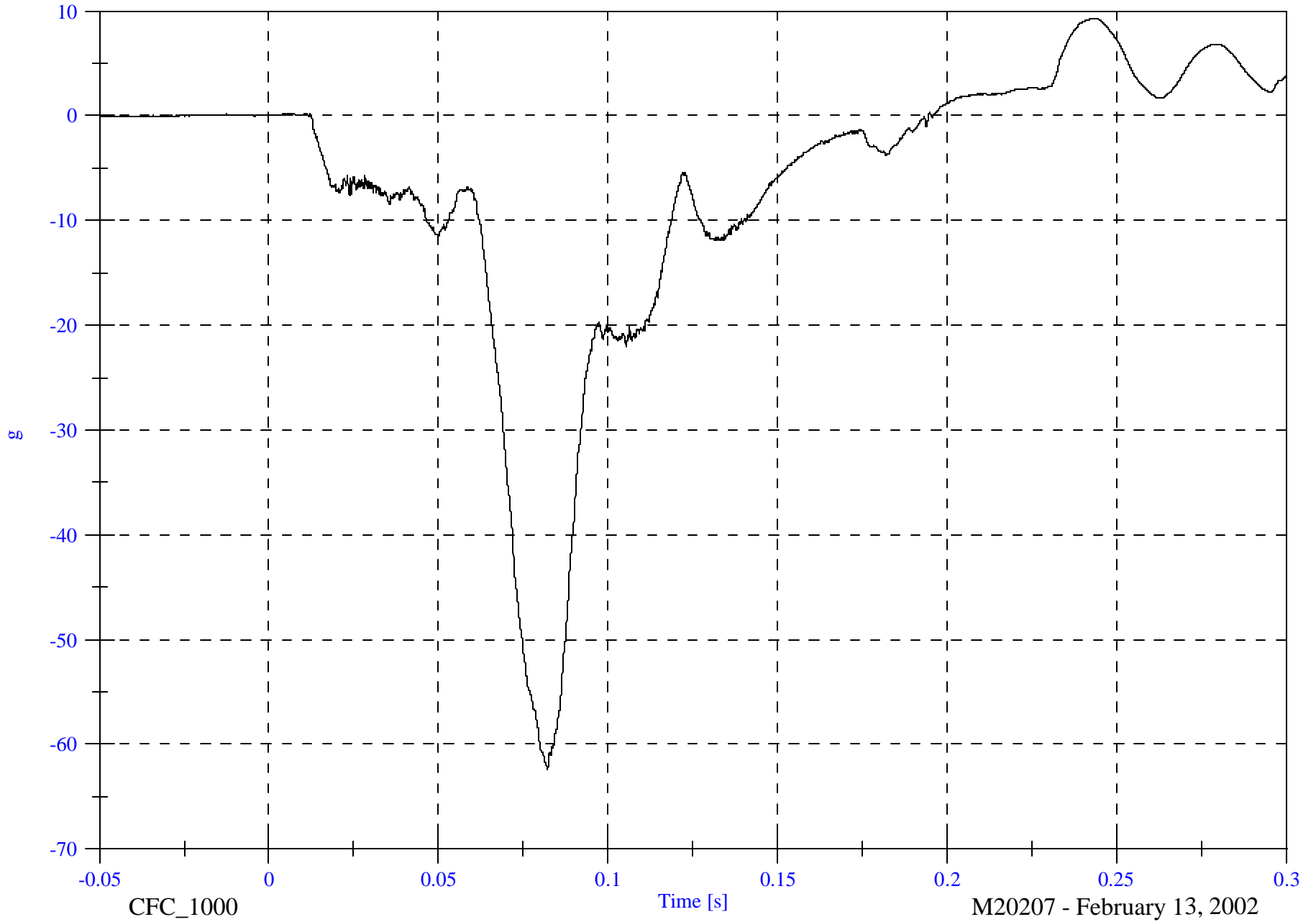
P1 Head 9 Array Y Arm Ax

Max: 9.3 [g] at 0.243 [s]

Min: -62.4 [g] at 0.082 [s]

B-6

8462-NCAP-05

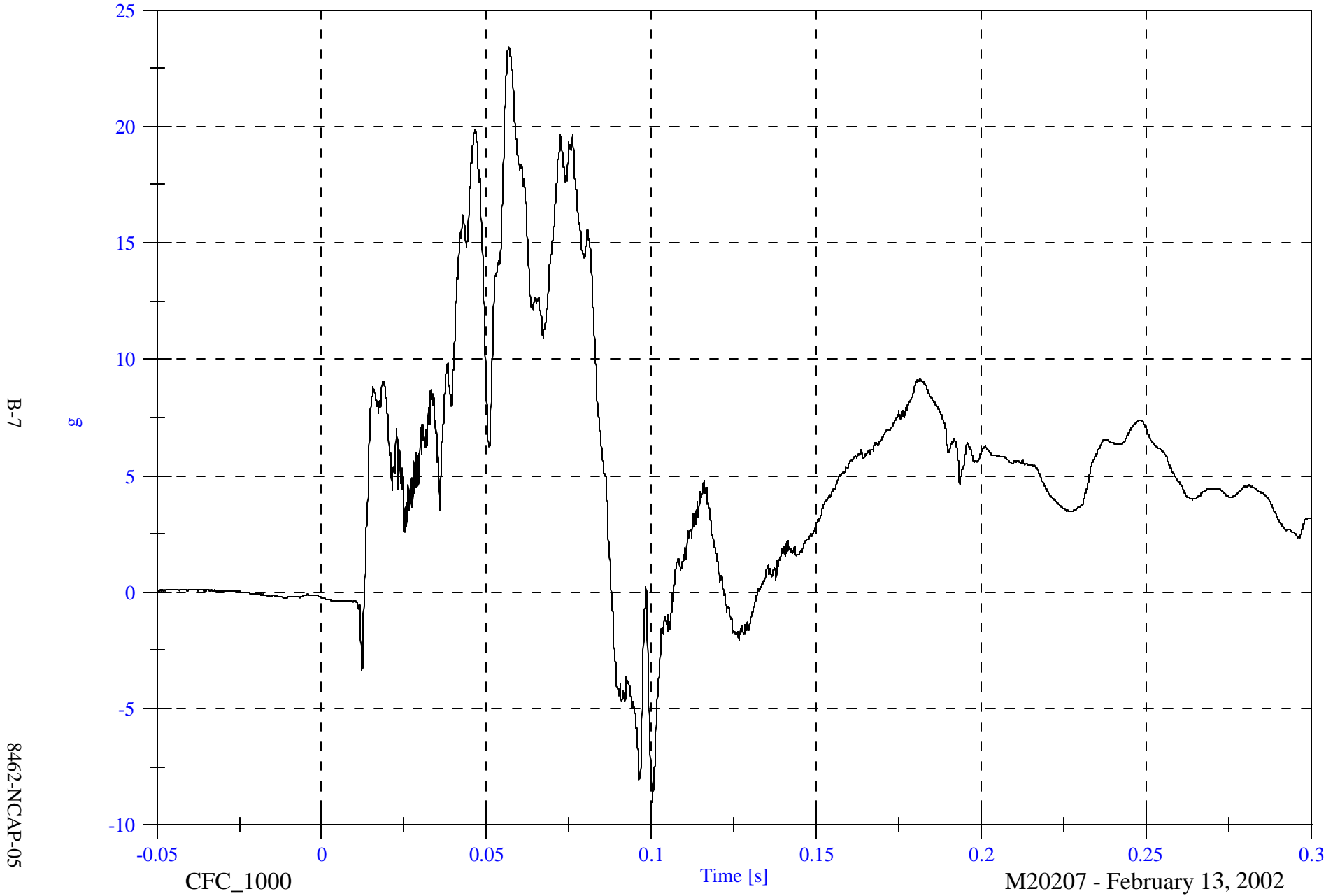


2002 NCAP Test 5 - 2002 Ford Focus

P1 Head 9 Array Y Arm Az

Max: 23.4 [g] at 0.057 [s]

Min: -9.0 [g] at 0.100 [s]



B-7

8462-NCAP-05

2002 NCAP Test 5 - 2002 Ford Focus

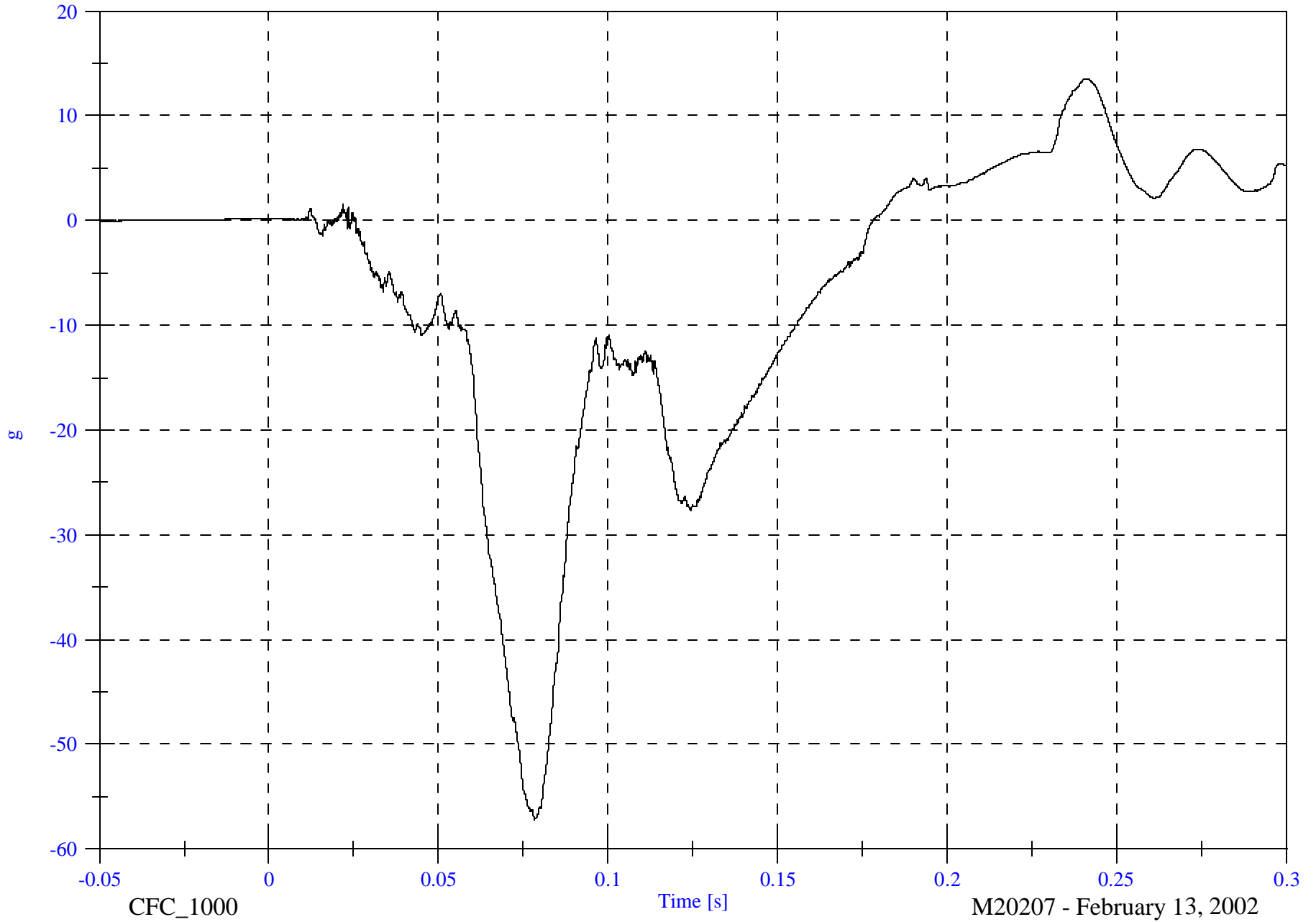
P1 Head 9 Array Z Arm Ax

Max: 13.5 [g] at 0.241 [s]

Min: -57.2 [g] at 0.078 [s]

B-8

8462-NCAP-05

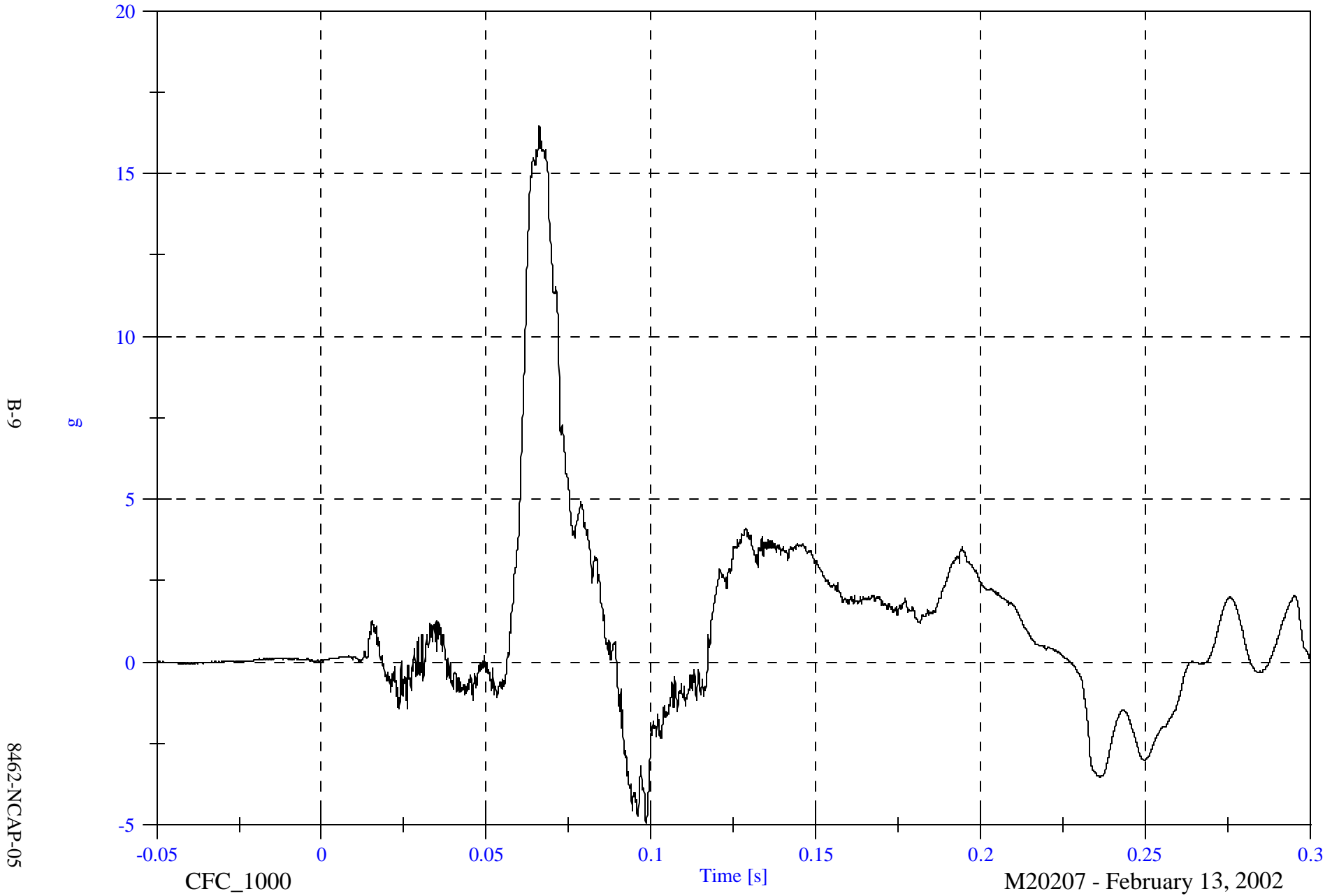


2002 NCAP Test 5 - 2002 Ford Focus

P1 Head 9 Array Z Arm Ay

Max: 16.5 [g] at 0.066 [s]

Min: -4.9 [g] at 0.098 [s]



B-9

8462-NCAP-05

CFC_1000

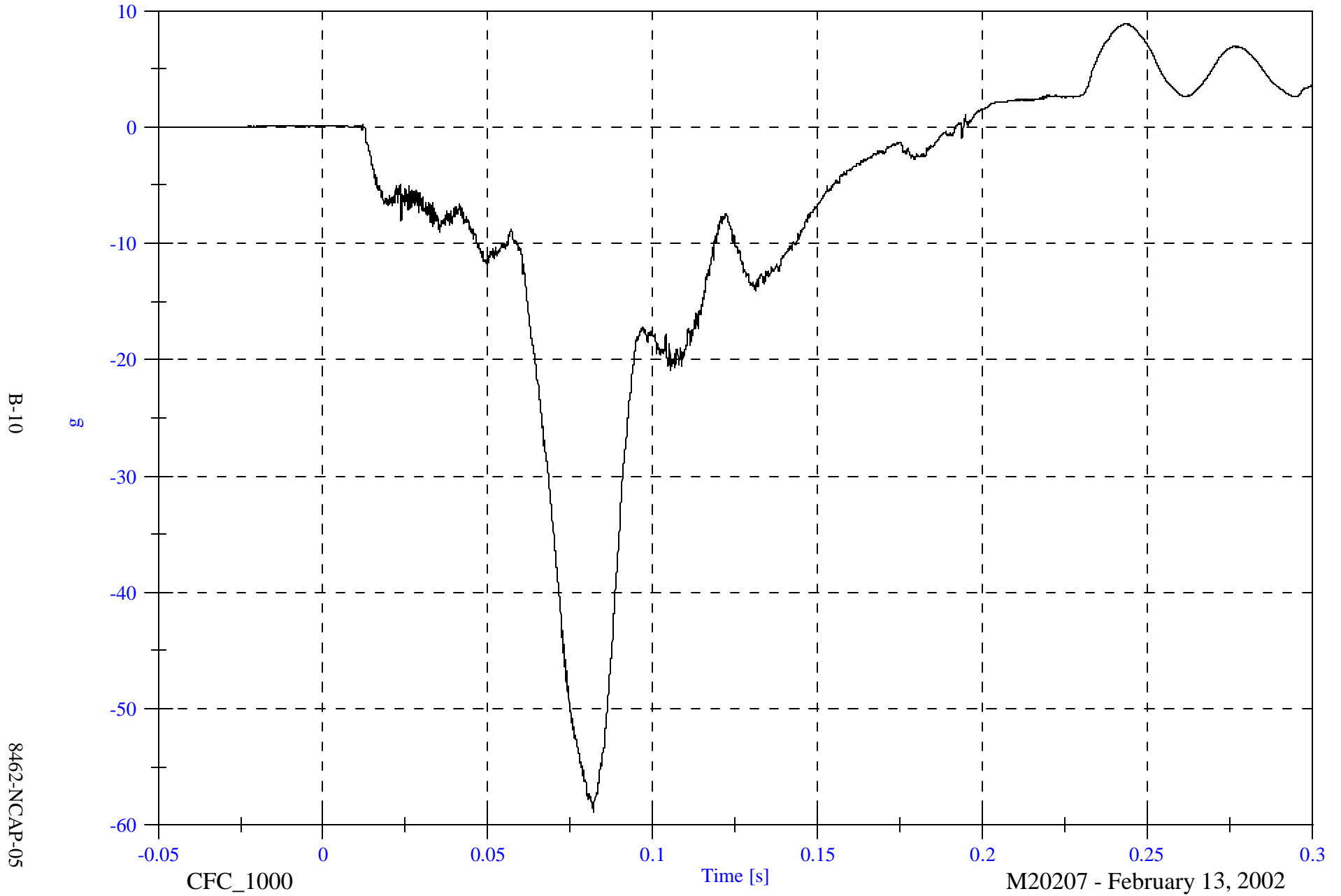
M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

P1 Head CG x

Max: 8.9 [g] at 0.244 [s]

Min: -58.8 [g] at 0.082 [s]



2002 NCAP Test 5 - 2002 Ford Focus

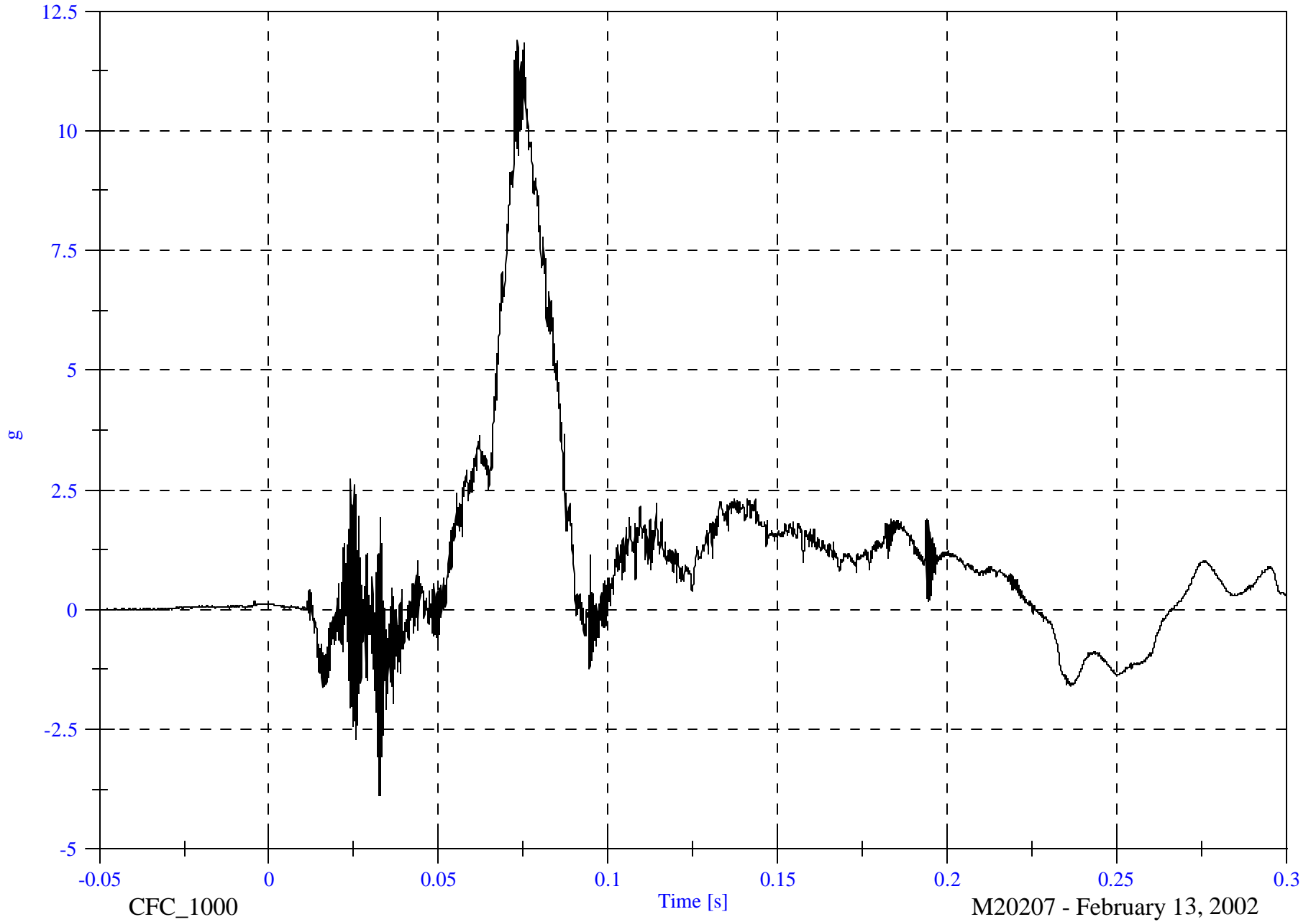
P1 Head CG y

Max: 11.9 [g] at 0.073 [s]

Min: -3.9 [g] at 0.033 [s]

B-11

8462-NCAP-05

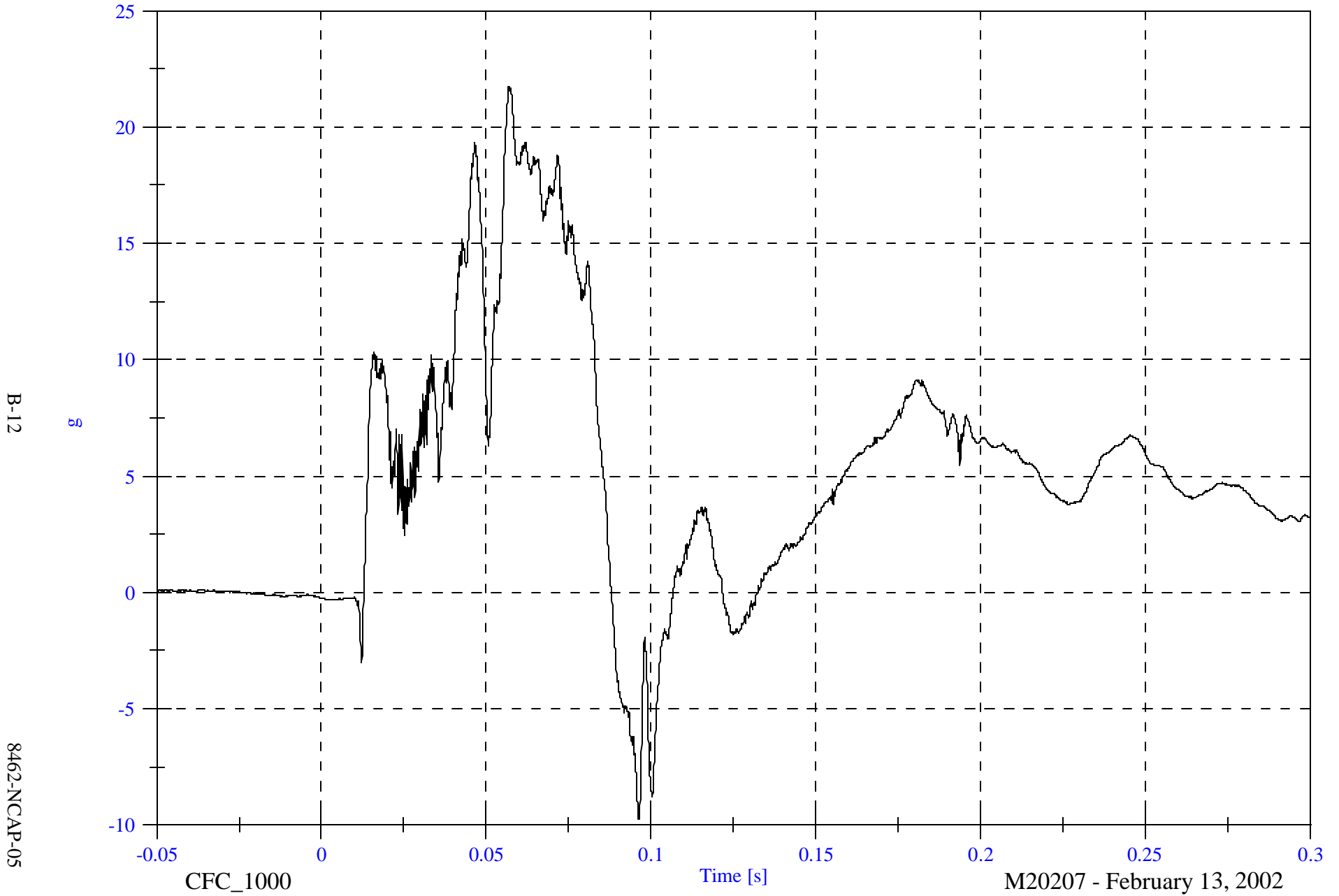


2002 NCAP Test 5 - 2002 Ford Focus

Max: 21.7 [g] at 0.057 [s]

Min: -9.8 [g] at 0.096 [s]

P1 Head CG z



B-12

8462-NCAP-05

CFC_1000

Time [s]

M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

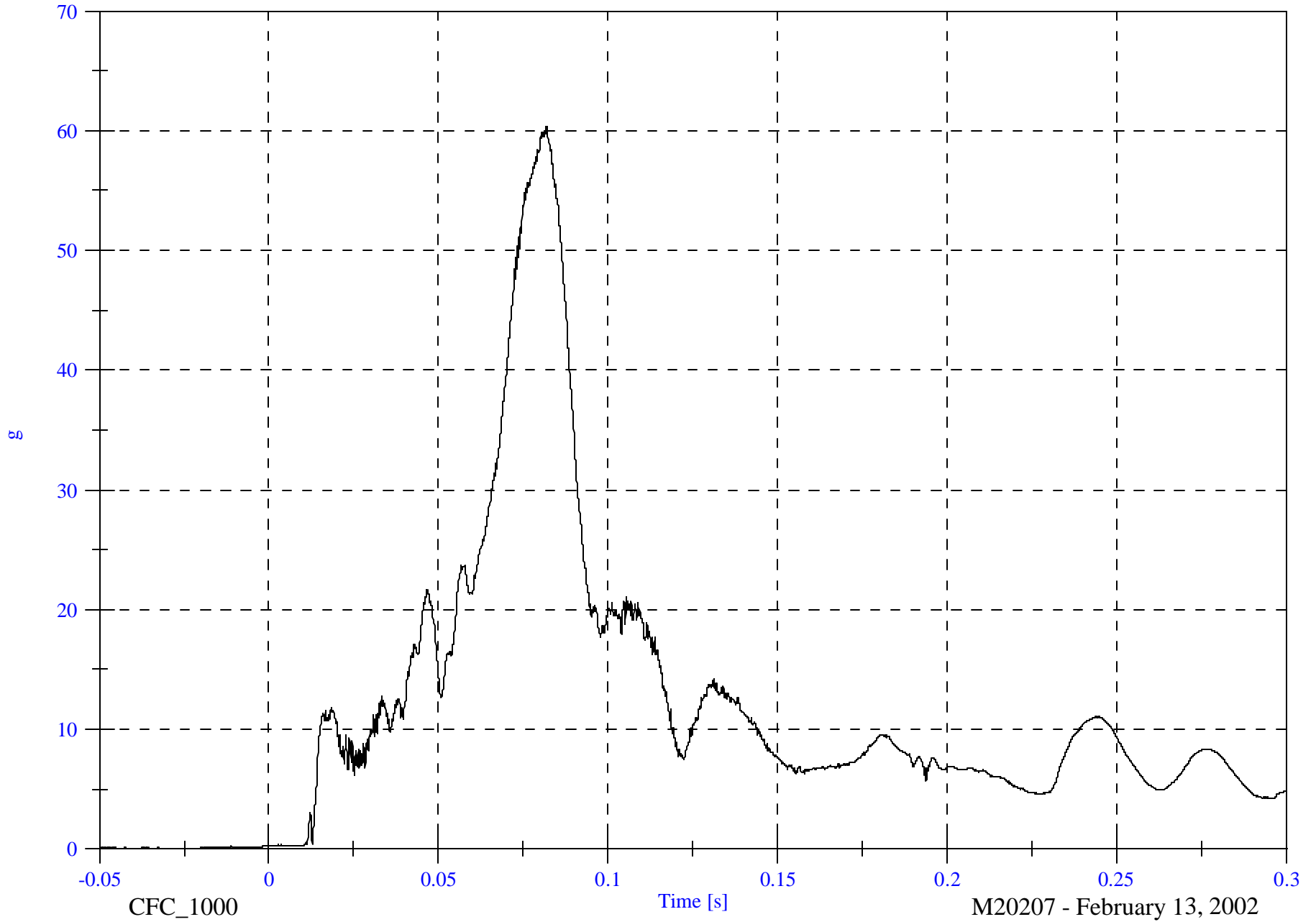
P1 Head CG Resultant

Max: 60.3 [g] at 0.082 [s]

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

B-13

8462-NCAP-05



2002 NCAP Test 5 - 2002 Ford Focus

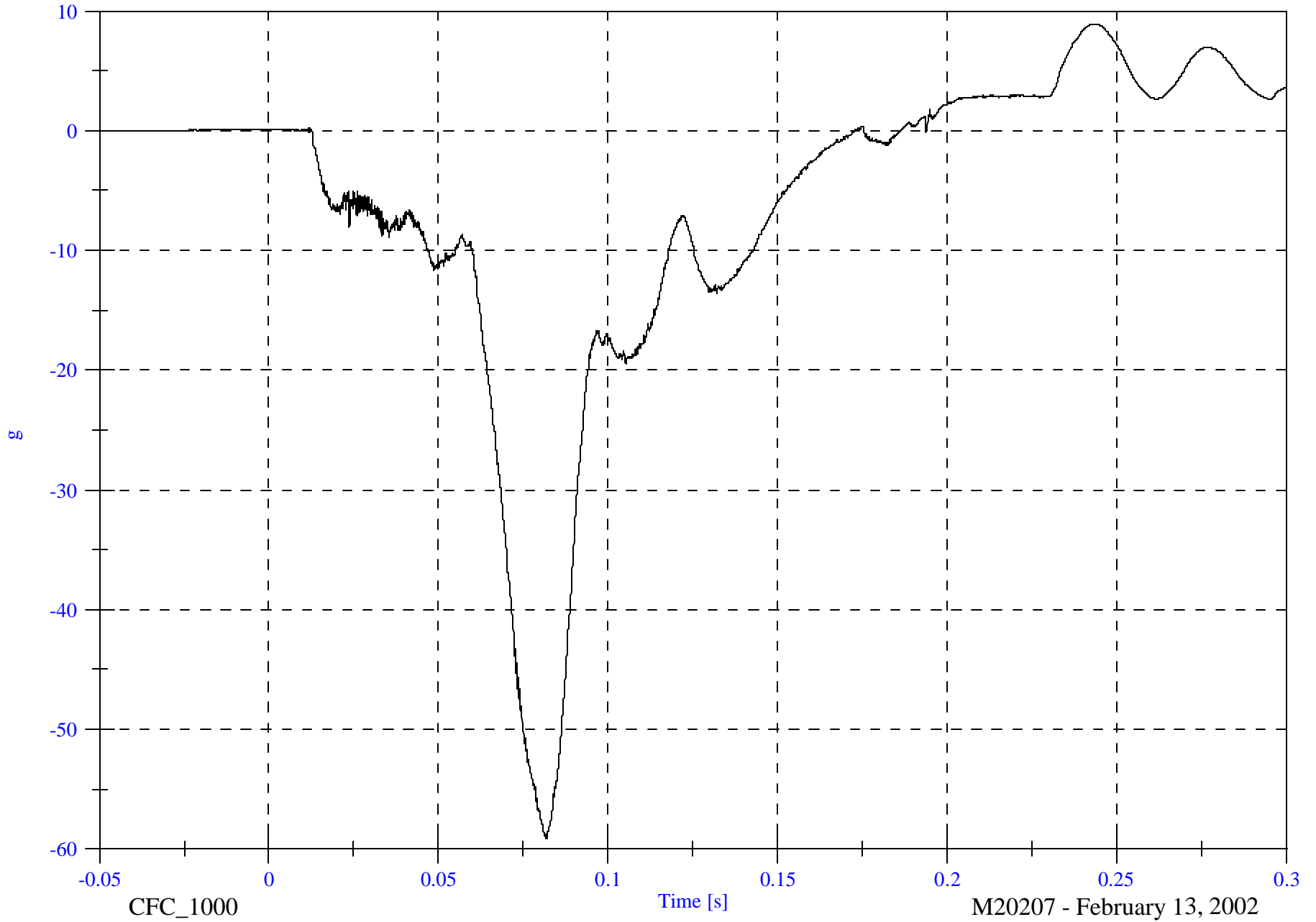
P1 Head CG Red x

Max: 8.9 [g] at 0.244 [s]

Min: -59.1 [g] at 0.082 [s]

B-14

8462-NCAP-05

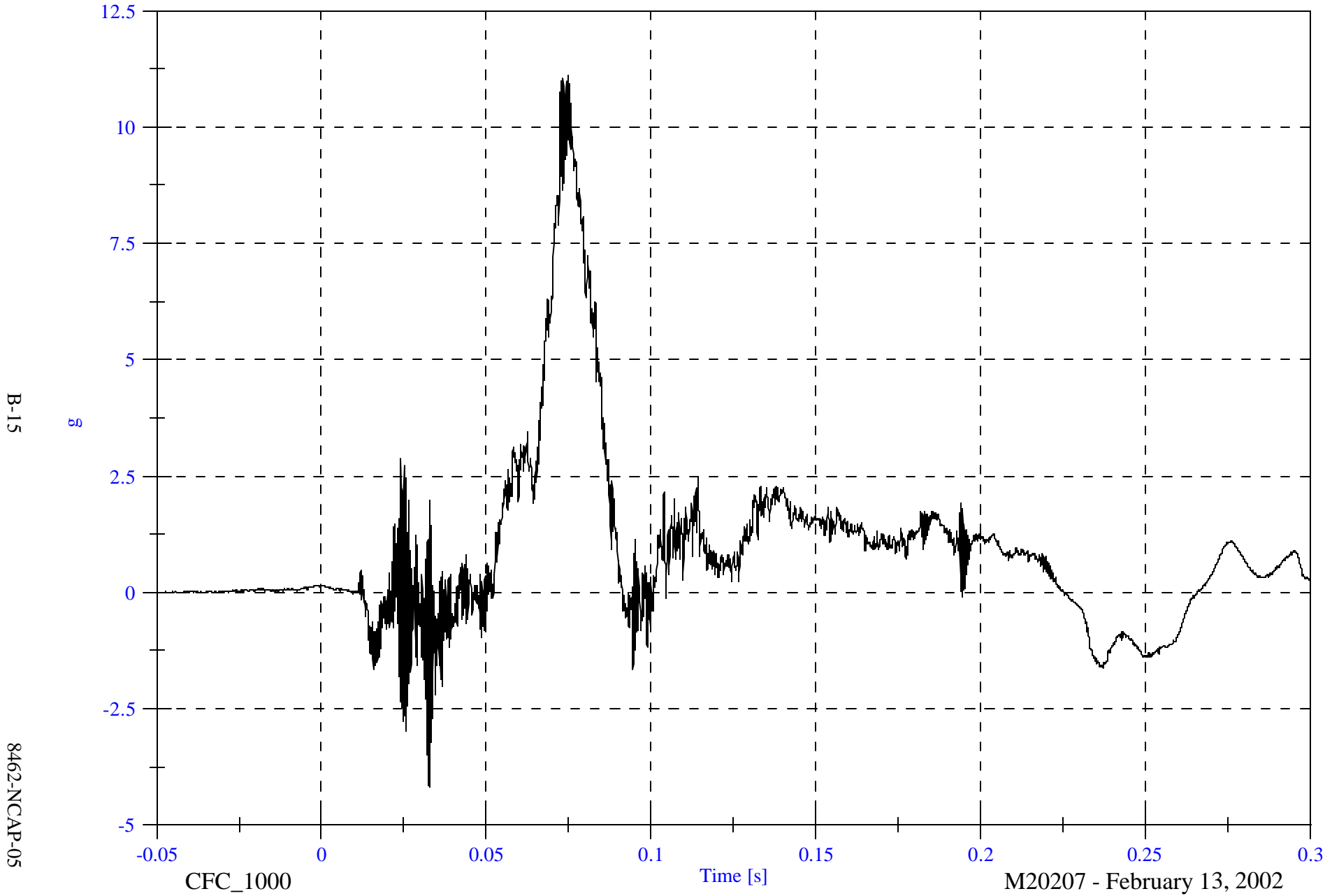


2002 NCAP Test 5 - 2002 Ford Focus

P1 Head CG Red y

Max: 11.1 [g] at 0.075 [s]

Min: -4.2 [g] at 0.033 [s]



B-15

8462-NCAP-05

CFC_1000

Time [s]

M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

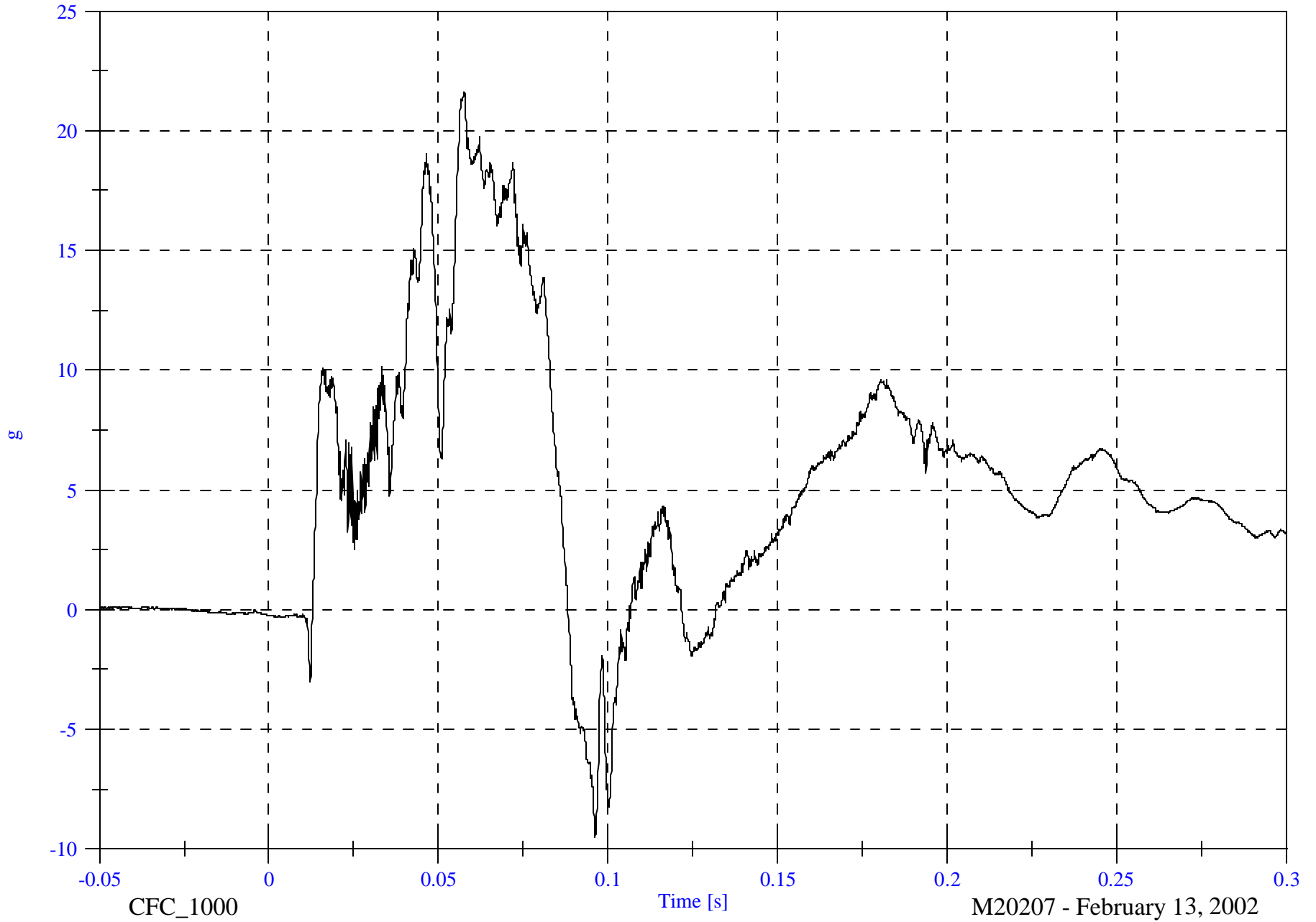
P1 Head CG Red z

Max: 21.6 [g] at 0.058 [s]

Min: -9.5 [g] at 0.096 [s]

B-16

8462-NCAP-05



2002 NCAP Test 5 - 2002 Ford Focus

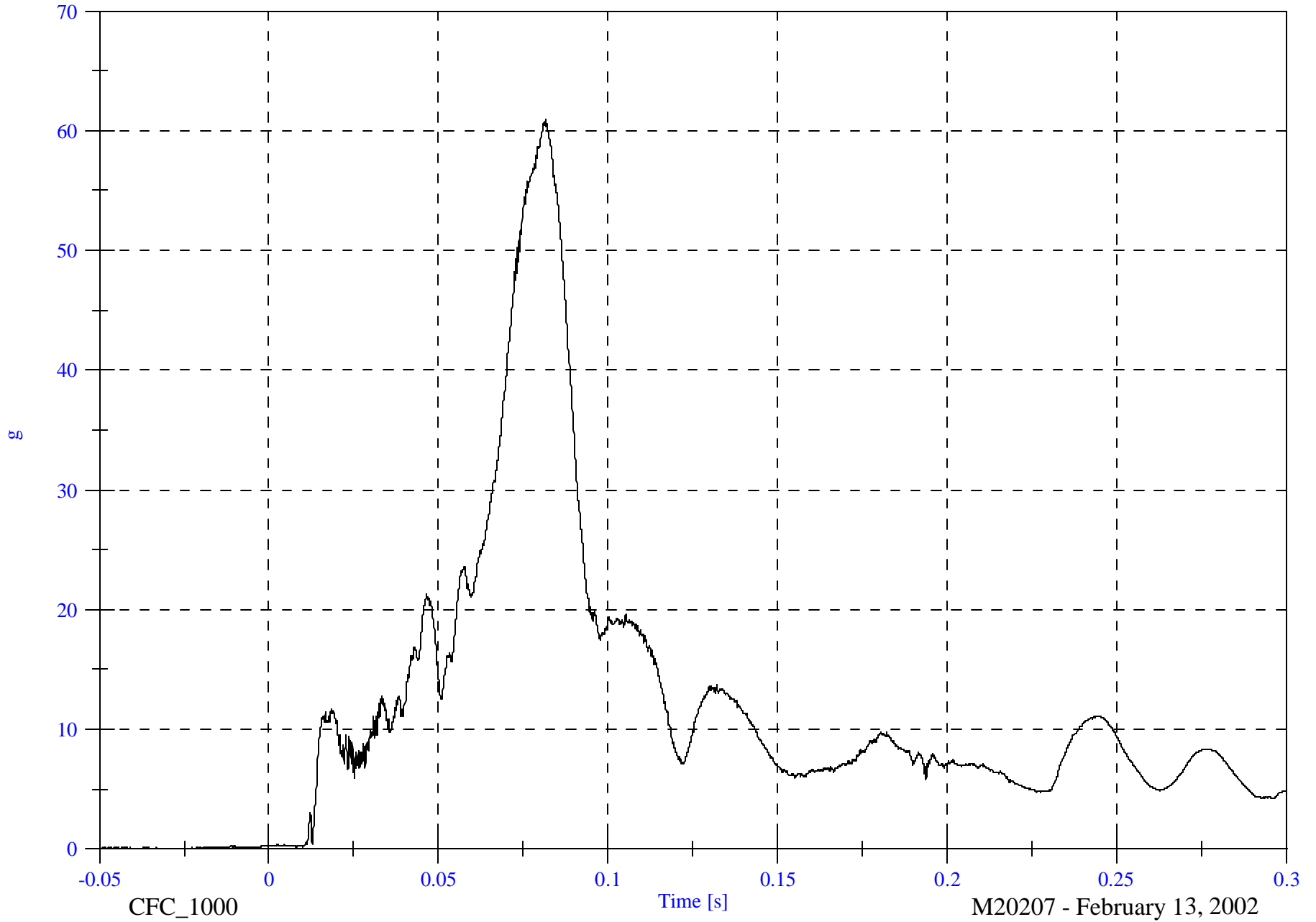
P1 Head CG Red Resultant

Max: 60.9 [g] at 0.081 [s]

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

B-17

8462-NCAP-05

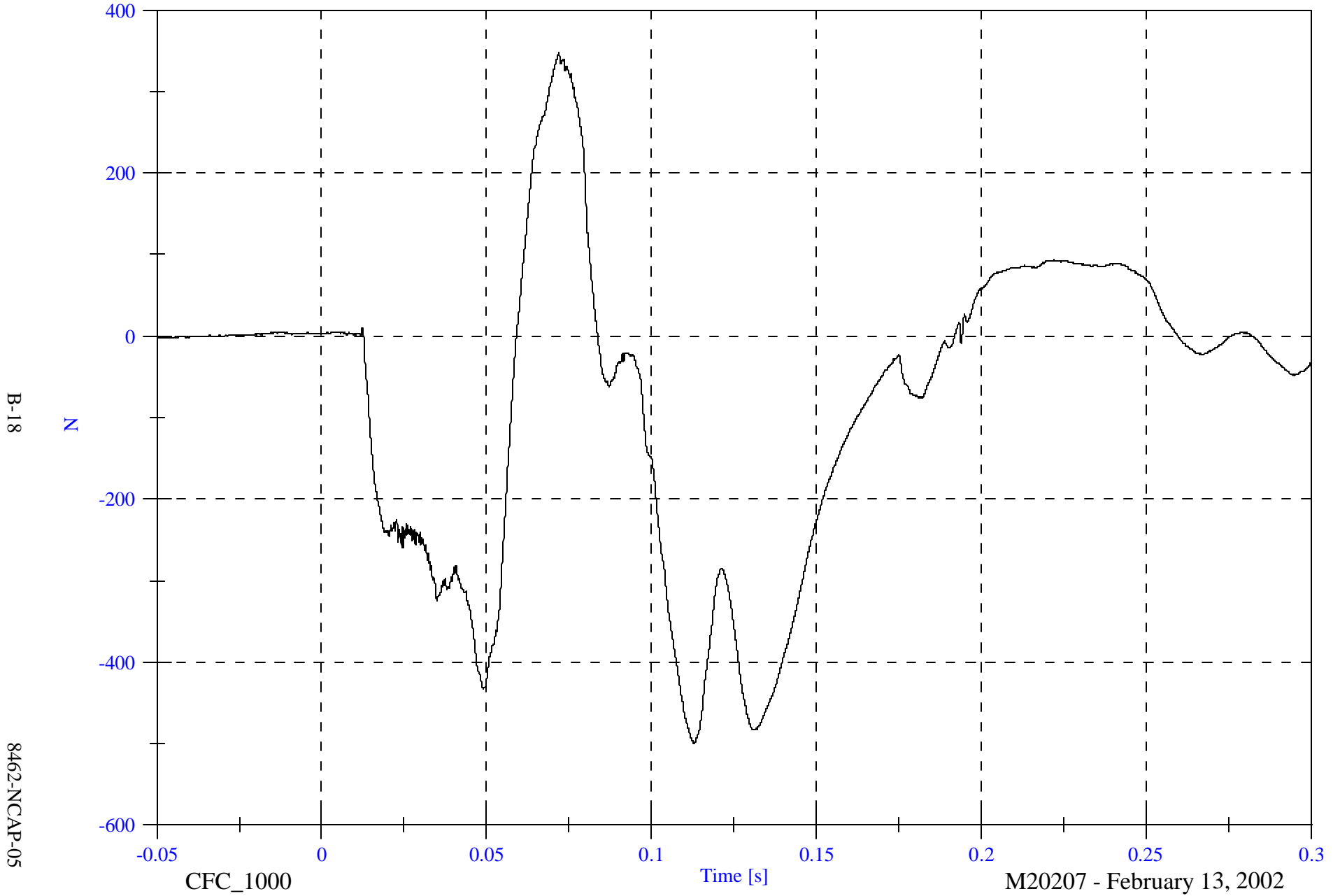


2002 NCAP Test 5 - 2002 Ford Focus

P1 Upper Neck Fx

Max: 347.5 [N] at 0.072 [s]

Min: -499.4 [N] at 0.113 [s]



B-18

8462-NCAP-05

CFC_1000

Time [s]

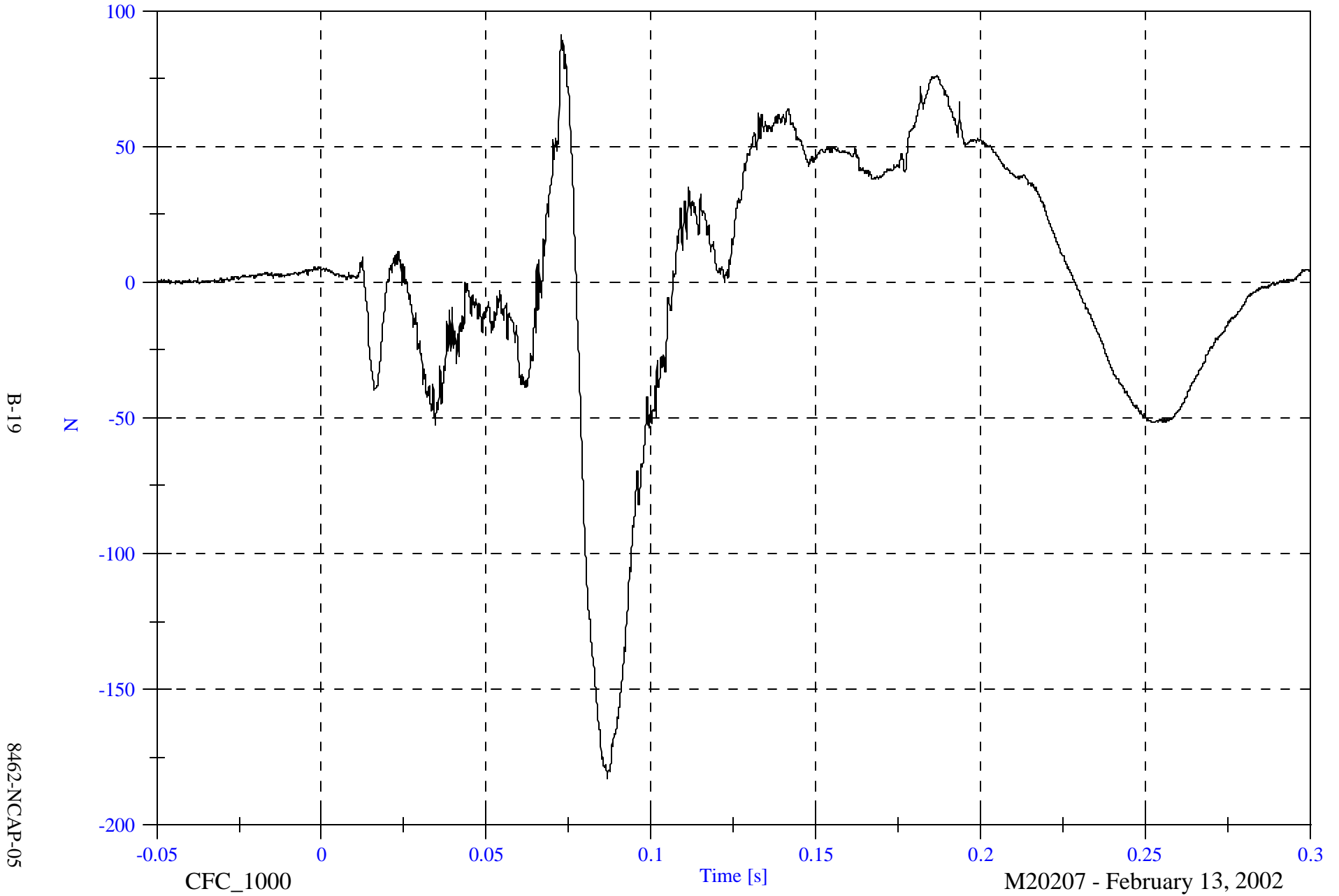
M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

P1 Upper Neck Fy

Max: 91.1 [N] at 0.073 [s]

Min: -182.6 [N] at 0.087 [s]



B-19

8462-NCAP-05

CFC_1000

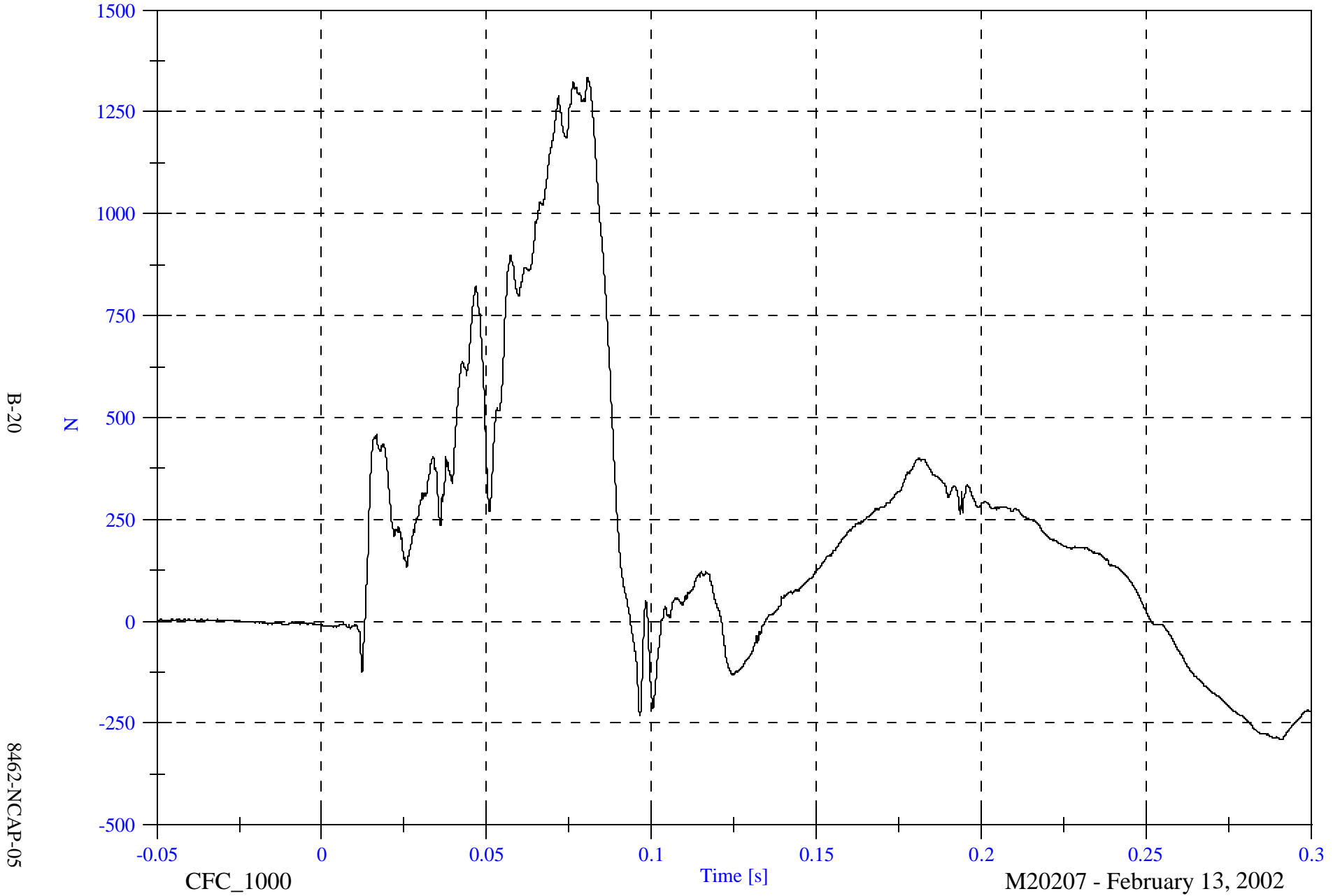
M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

Max: 1335.3 [N] at 0.081 [s]

Min: -290.9 [N] at 0.291 [s]

P1 Upper Neck Fz



2002 NCAP Test 5 - 2002 Ford Focus

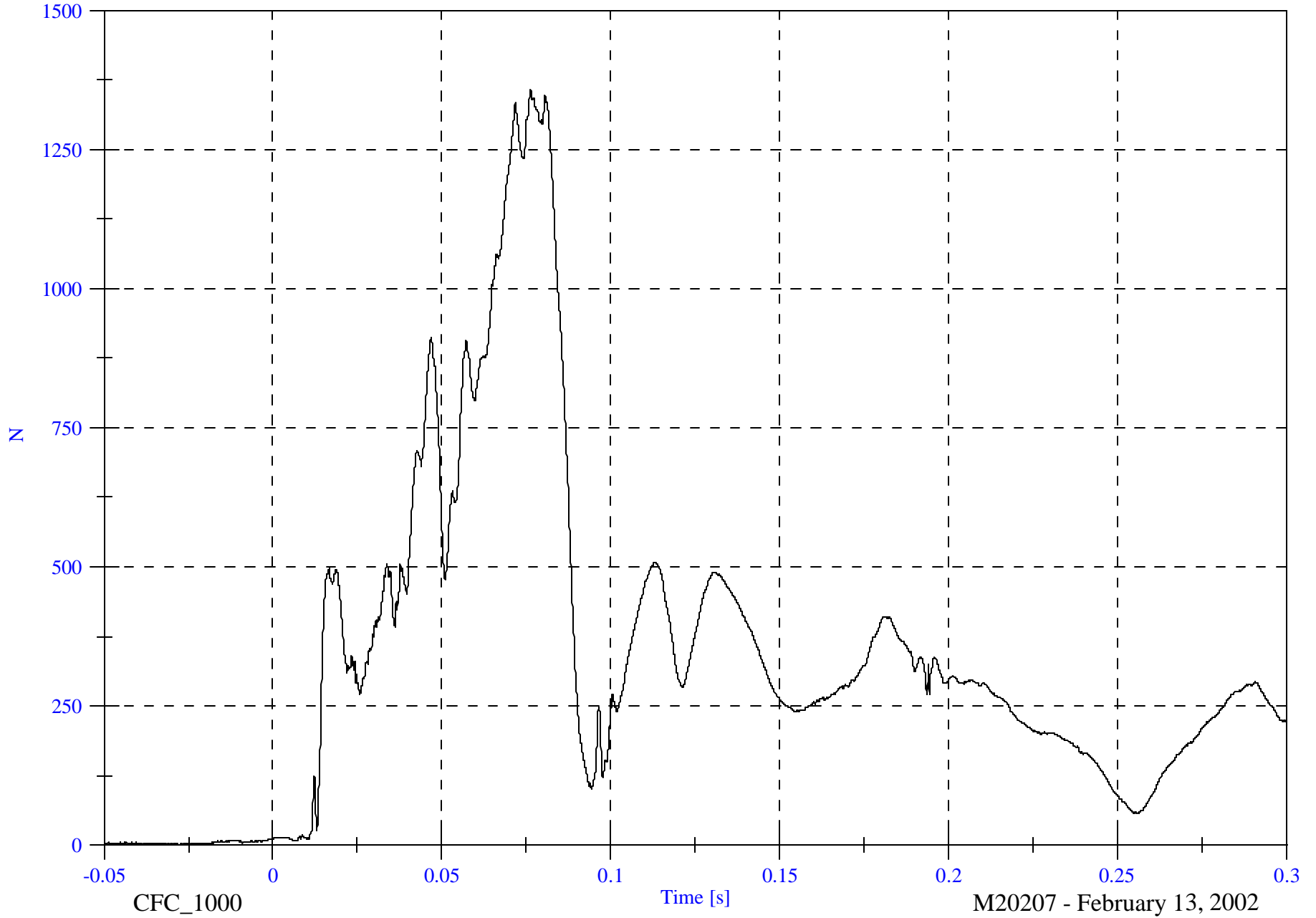
P1 Upper Neck F Resultant

Max: 1357.0 [N] at 0.076 [s]

Min: 1.0 [N] at -0.034 [s]

B-21

8462-NCAP-05



2002 NCAP Test 5 - 2002 Ford Focus

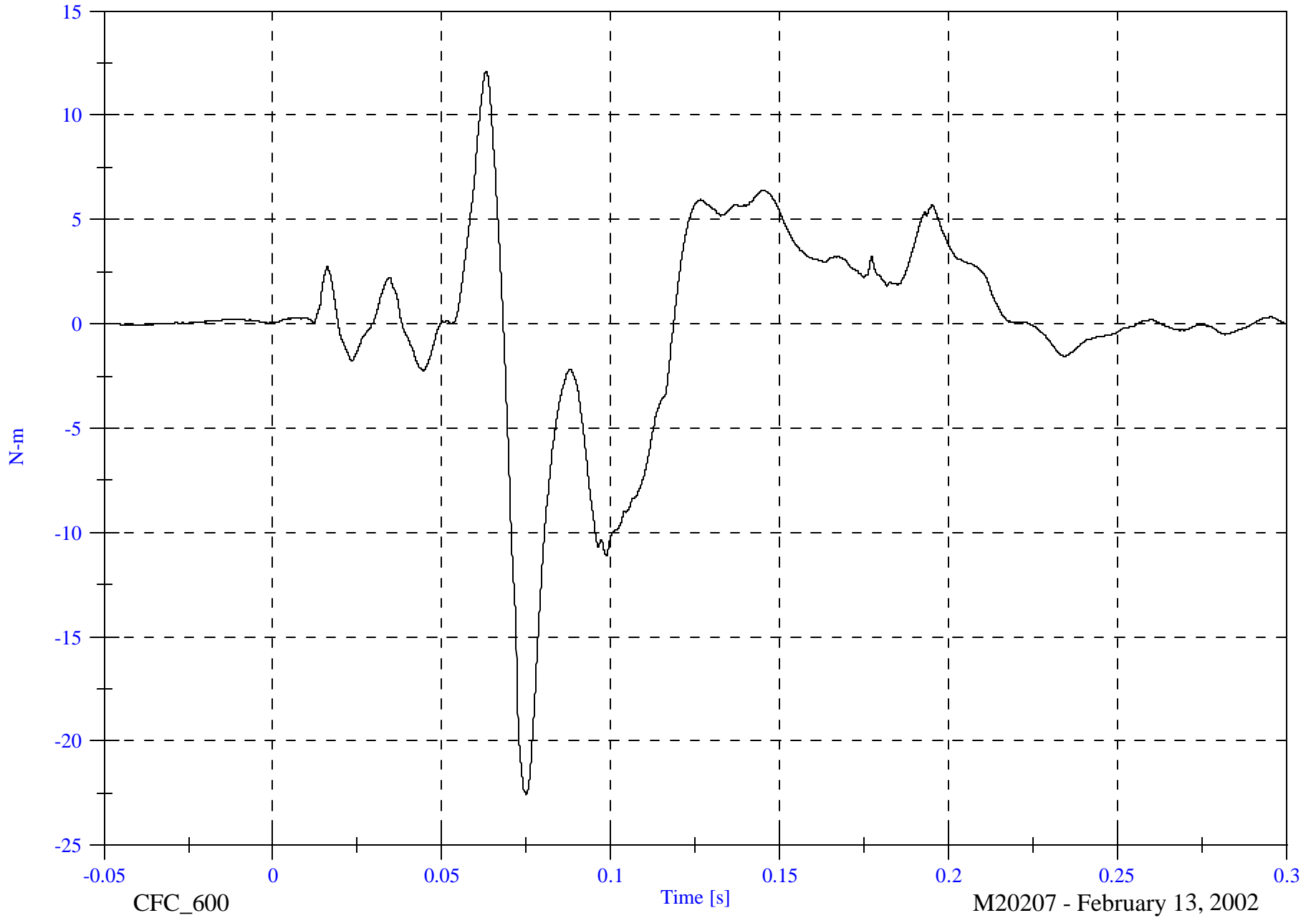
P1 Upper Neck Mx

Max: 12.1 [N-m] at 0.063 [s]

Min: -22.5 [N-m] at 0.075 [s]

B-22

8462-NCAP-05



CFC_600

Time [s]

M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

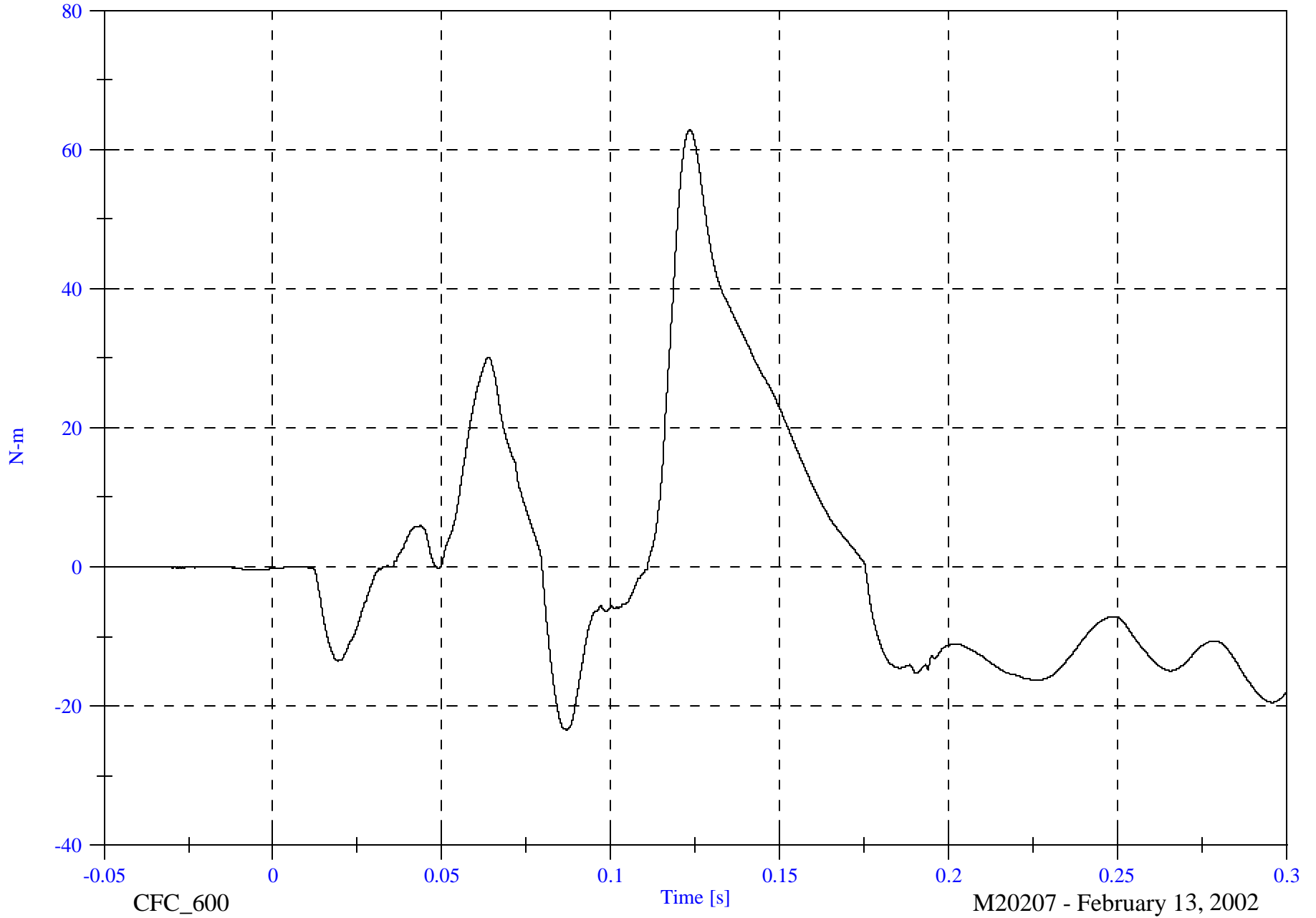
P1 Upper Neck My

Max: 62.7 [N-m] at 0.123 [s]

Min: -23.4 [N-m] at 0.087 [s]

B-23

8462-NCAP-05



CFC_600

Time [s]

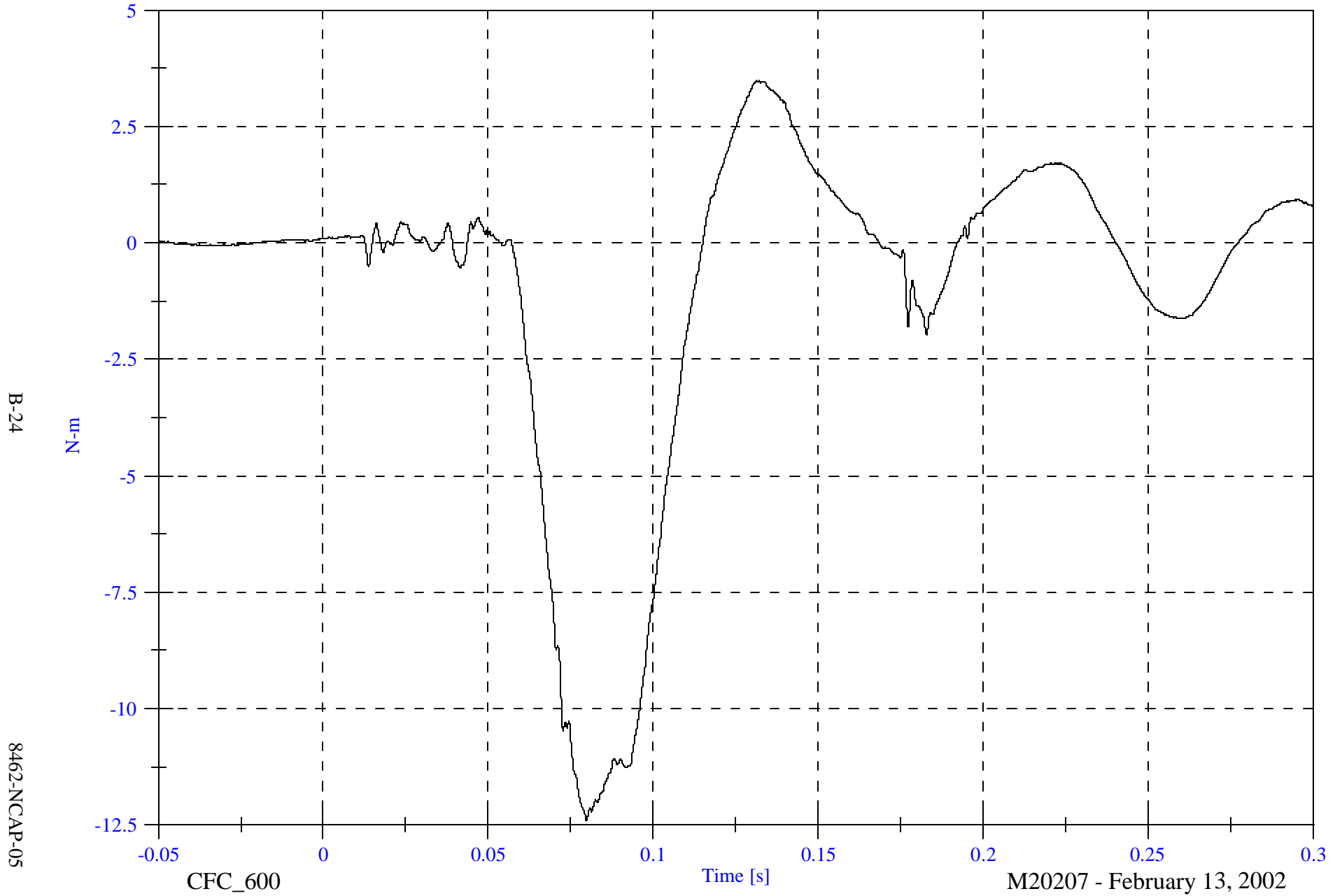
M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

P1 Upper Neck Mz

Max: 3.5 [N-m] at 0.132 [s]

Min: -12.4 [N-m] at 0.080 [s]



B-24

8462-NCAP-05

CFC_600

Time [s]

M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

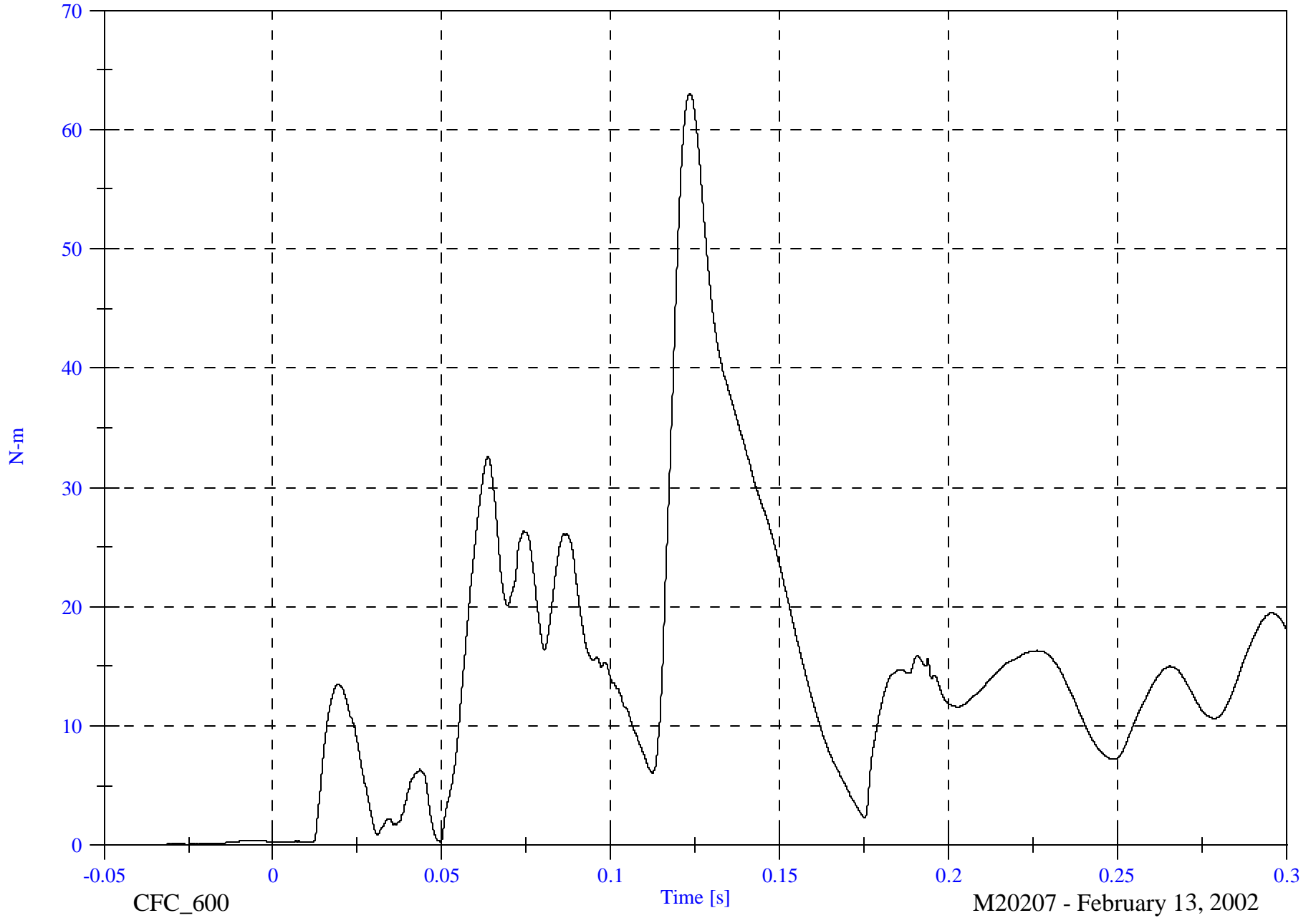
P1 Upper Neck M Resultant

Max: 63.0 [N-m] at 0.123 [s]

Min: 0.0 [N-m] at -0.046 [s]

B-25

8462-NCAP-05



CFC_600

Time [s]

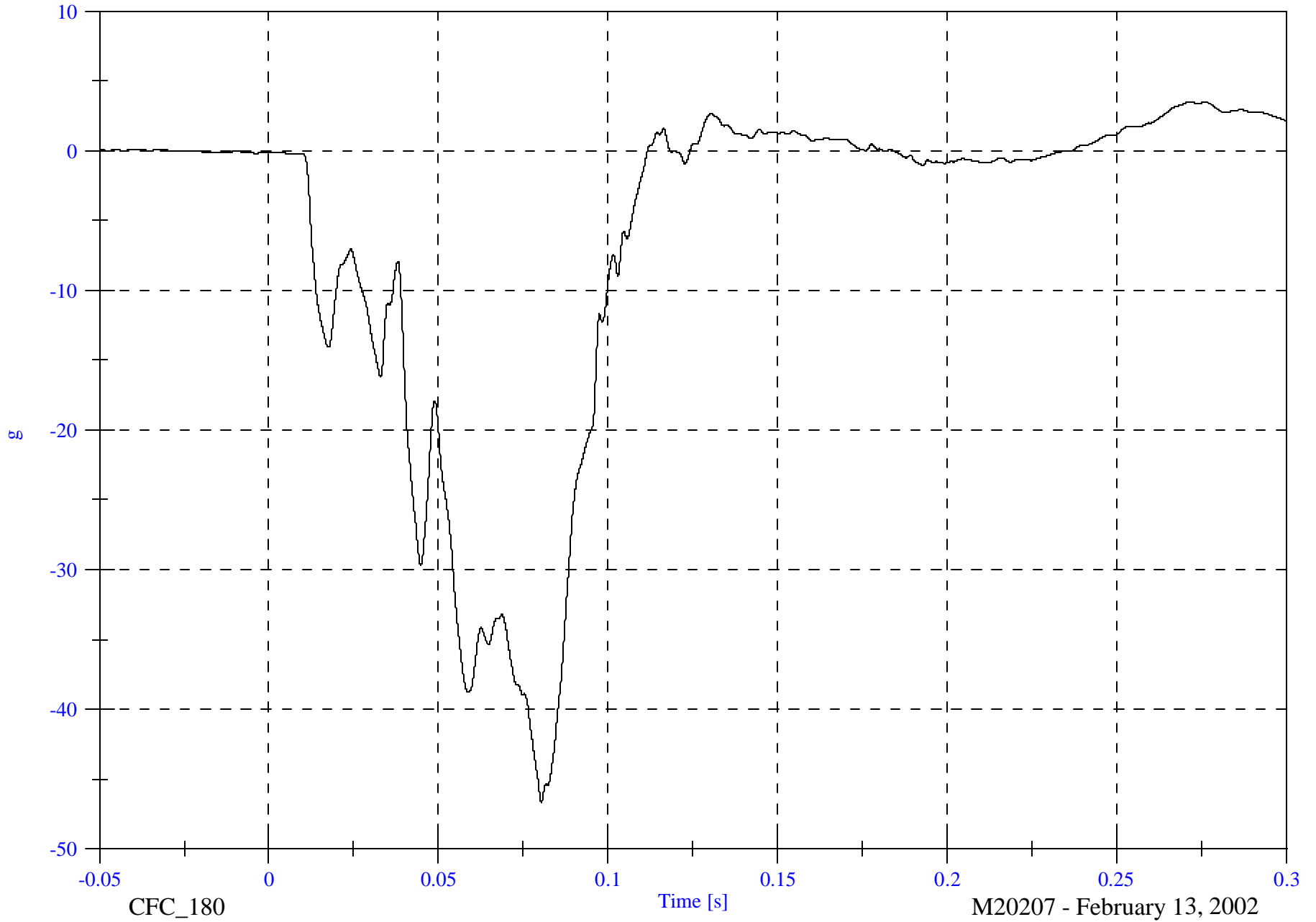
M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

Max: 3.5 [g] at 0.271 [s]

Min: -46.7 [g] at 0.080 [s]

P1 Chest x



B-26

8462-NCAP-05

2002 NCAP Test 5 - 2002 Ford Focus

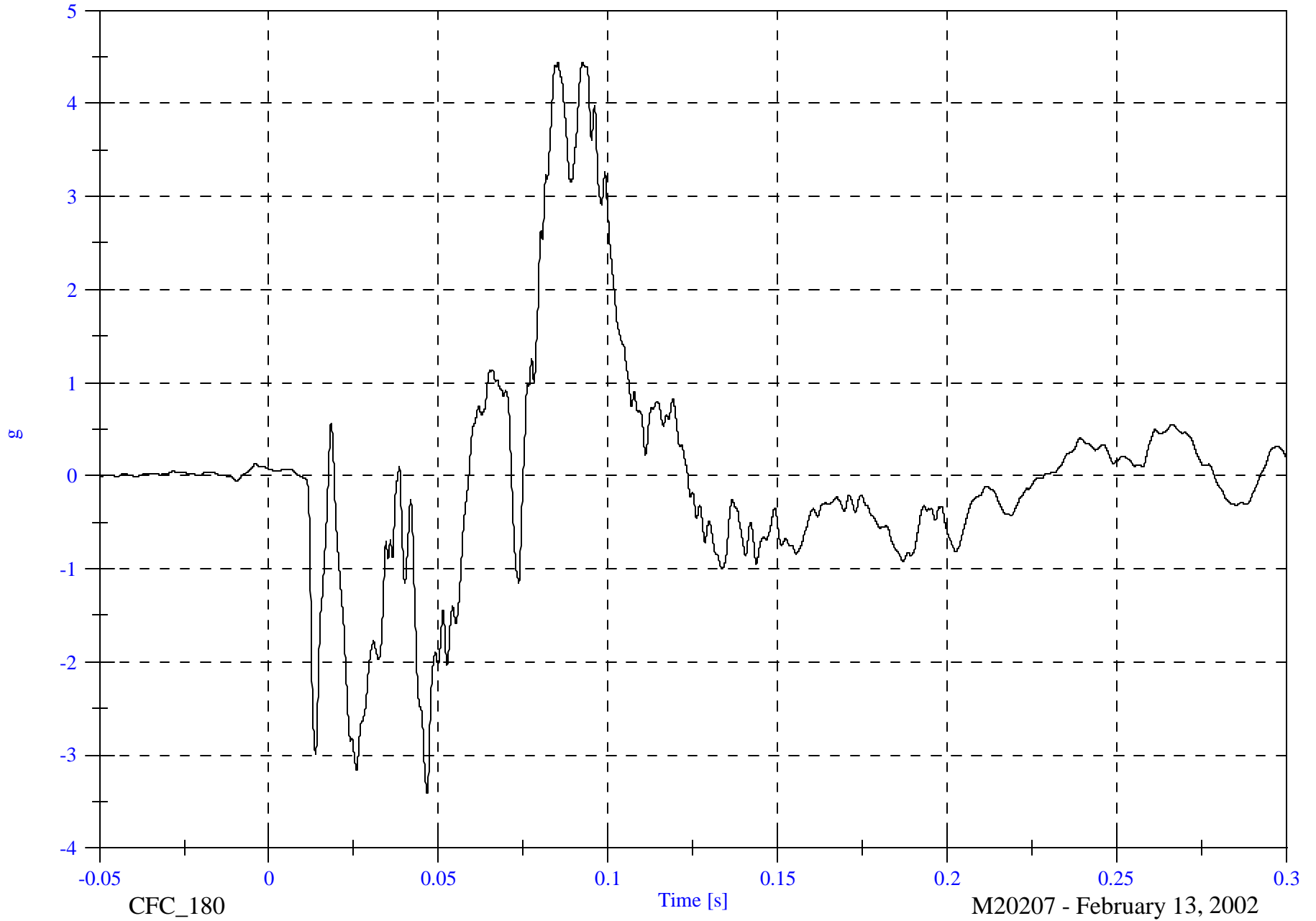
P1 Chest y

Max: 4.4 [g] at 0.092 [s]

Min: -3.4 [g] at 0.047 [s]

B-27

8462-NCAP-05



2002 NCAP Test 5 - 2002 Ford Focus

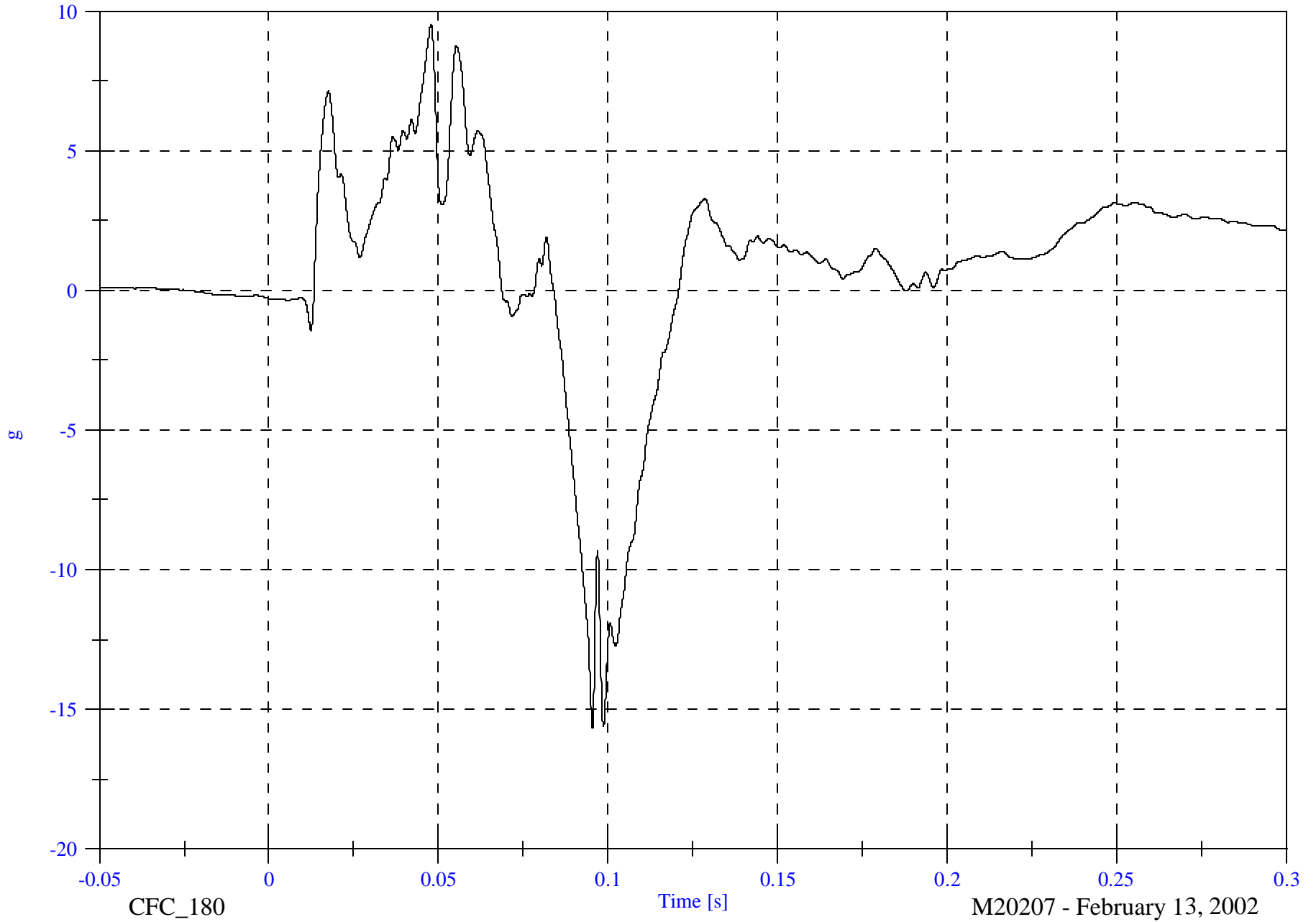
P1 Chest z

Max: 9.5 [g] at 0.048 [s]

Min: -15.7 [g] at 0.095 [s]

B-28

8462-NCAP-05



CFC_180

Time [s]

M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

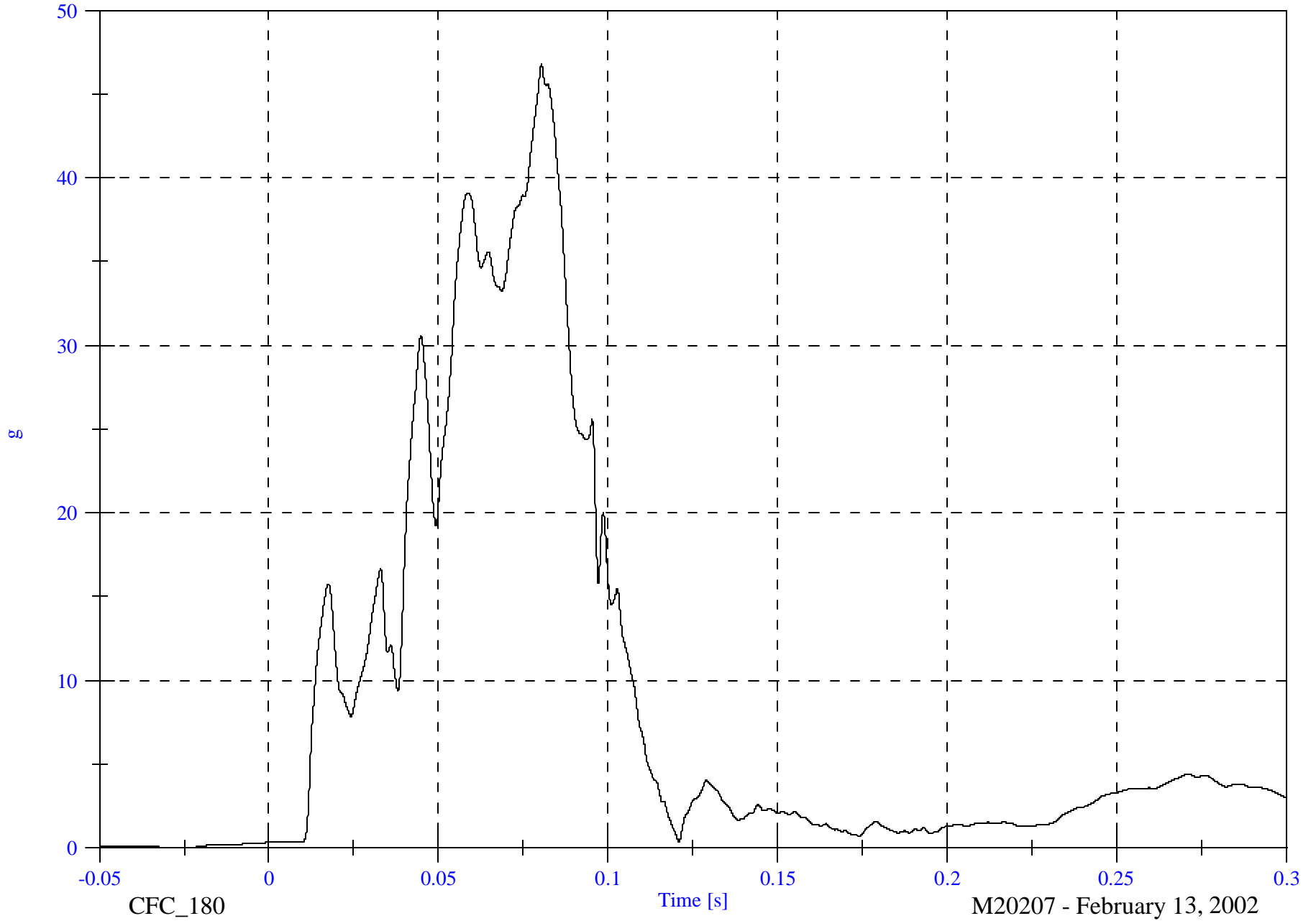
P1 Chest Resultant

Max: 46.8 [g] at 0.080 [s]

Min: 0.0 [g] at -0.024 [s]

B-29

8462-NCAP-05



2002 NCAP Test 5 - 2002 Ford Focus

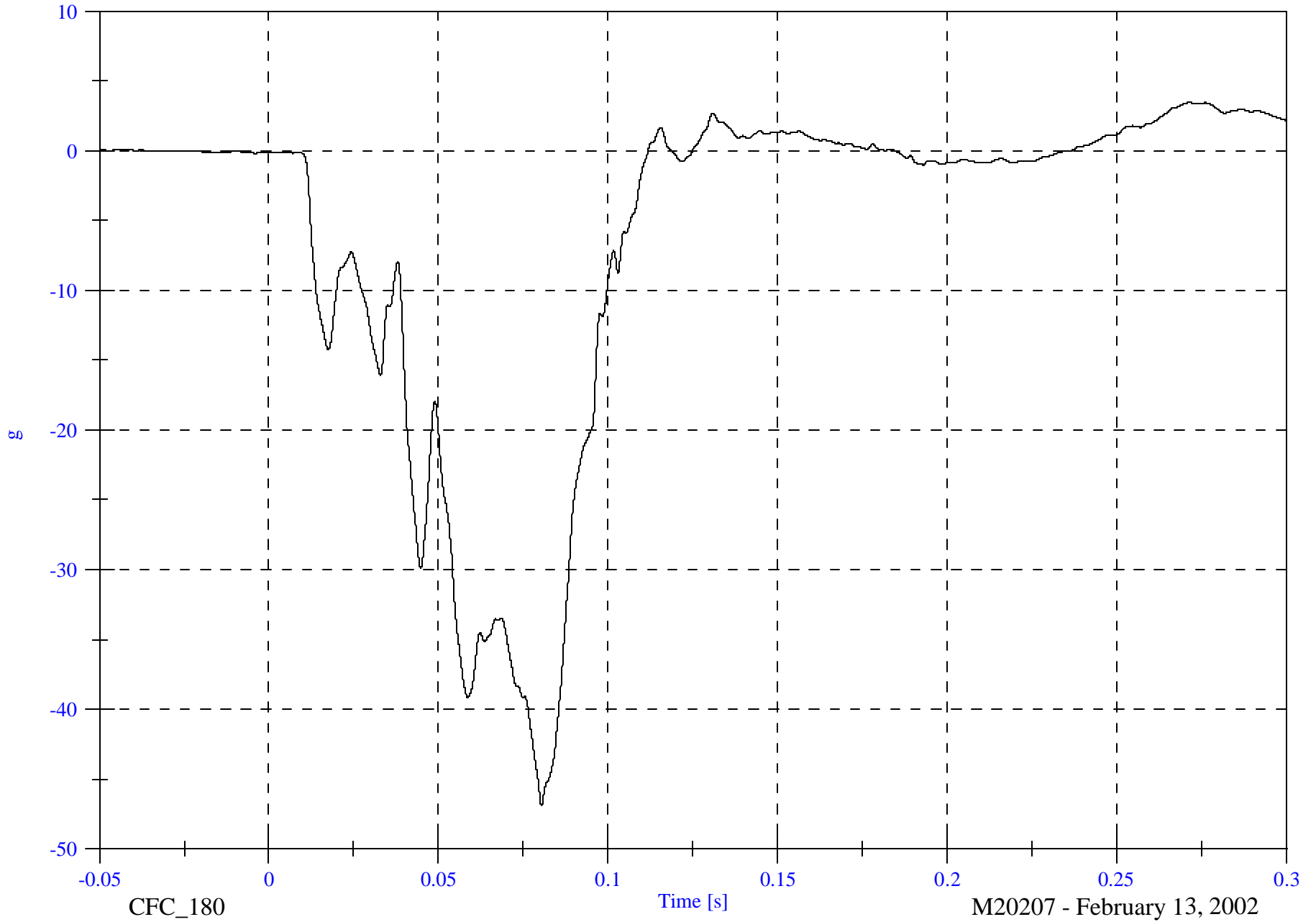
P1 Chest Red x

Max: 3.4 [g] at 0.271 [s]

Min: -46.9 [g] at 0.080 [s]

B-30

8462-NCAP-05



2002 NCAP Test 5 - 2002 Ford Focus

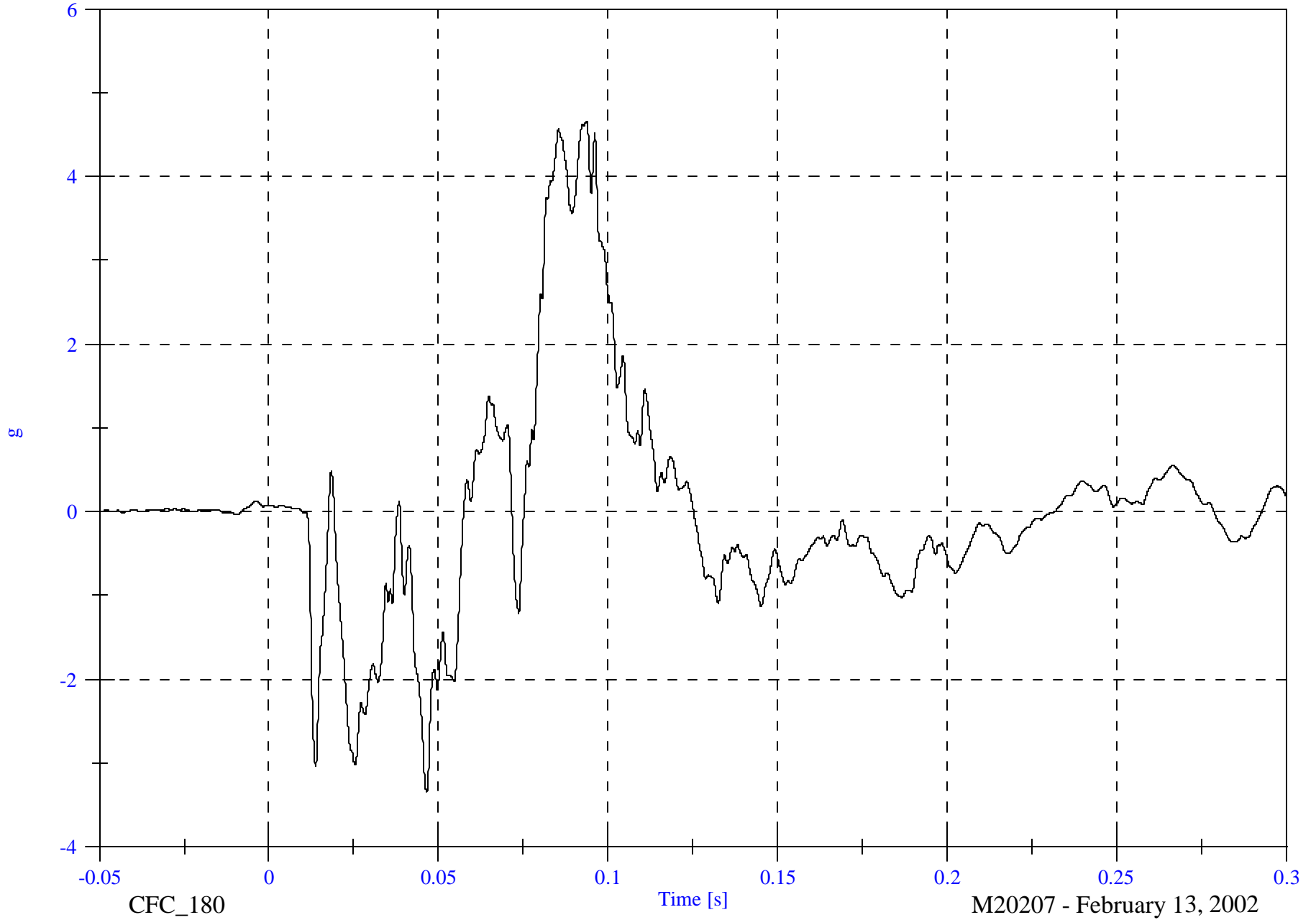
Max: 4.7 [g] at 0.094 [s]

Min: -3.4 [g] at 0.046 [s]

P1 Chest Red y

B-31

8462-NCAP-05



2002 NCAP Test 5 - 2002 Ford Focus

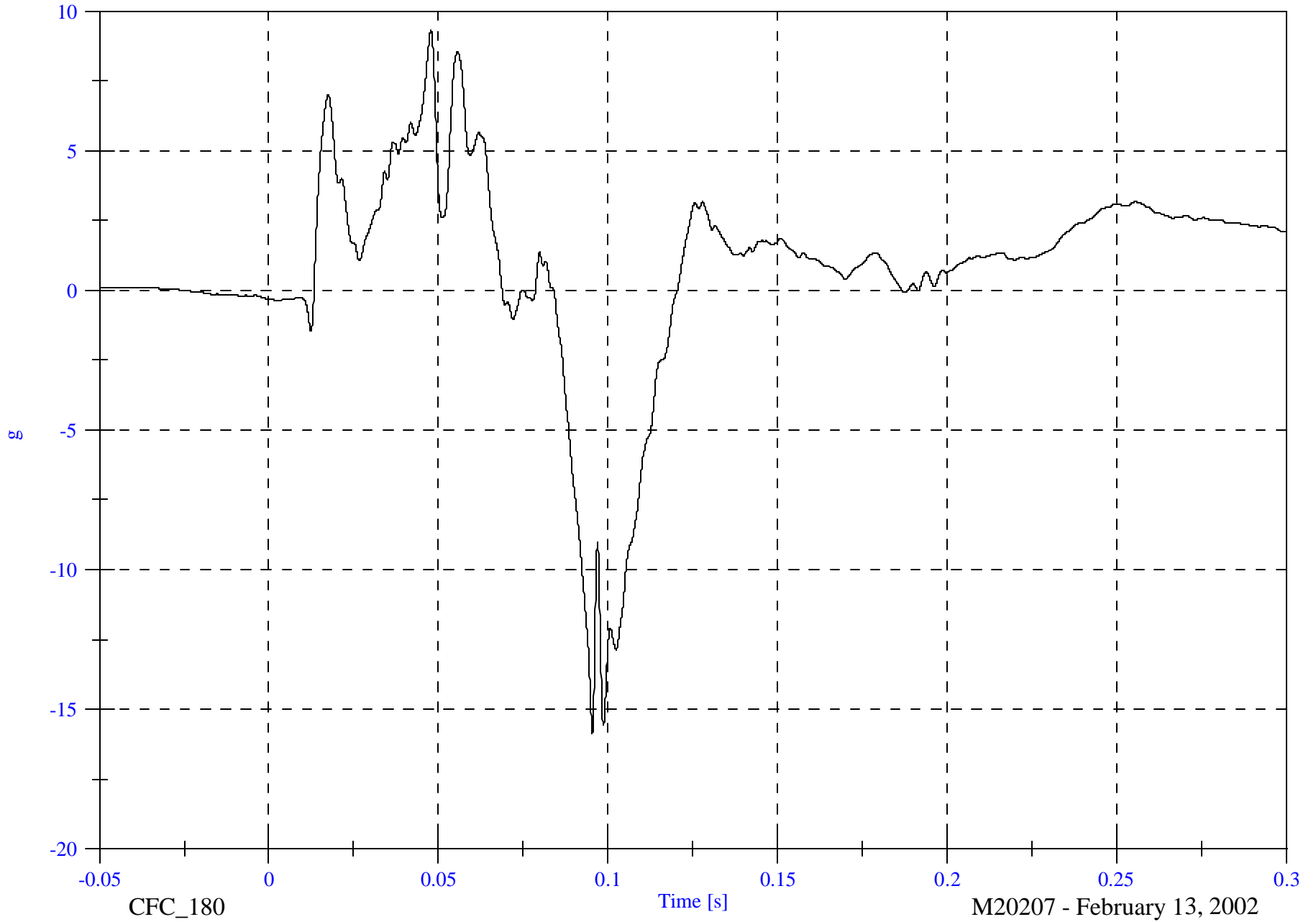
P1 Chest Red z

Max: 9.3 [g] at 0.048 [s]

Min: -15.9 [g] at 0.095 [s]

B-32

8462-NCAP-05



CFC_180

Time [s]

M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

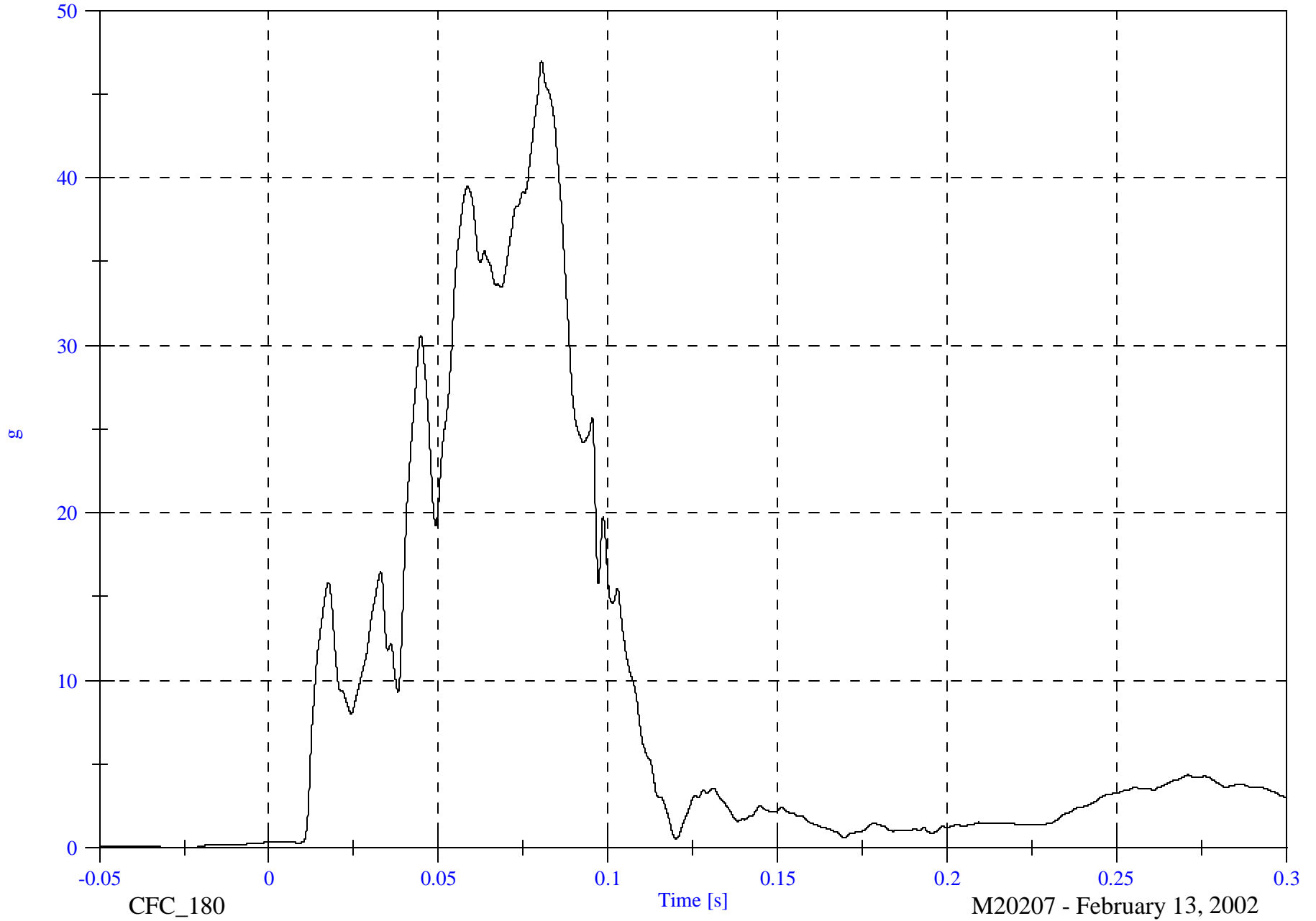
P1 Chest Red Resultant

Max: 47.0 [g] at 0.080 [s]

Min: 0.0 [g] at -0.024 [s]

B-33

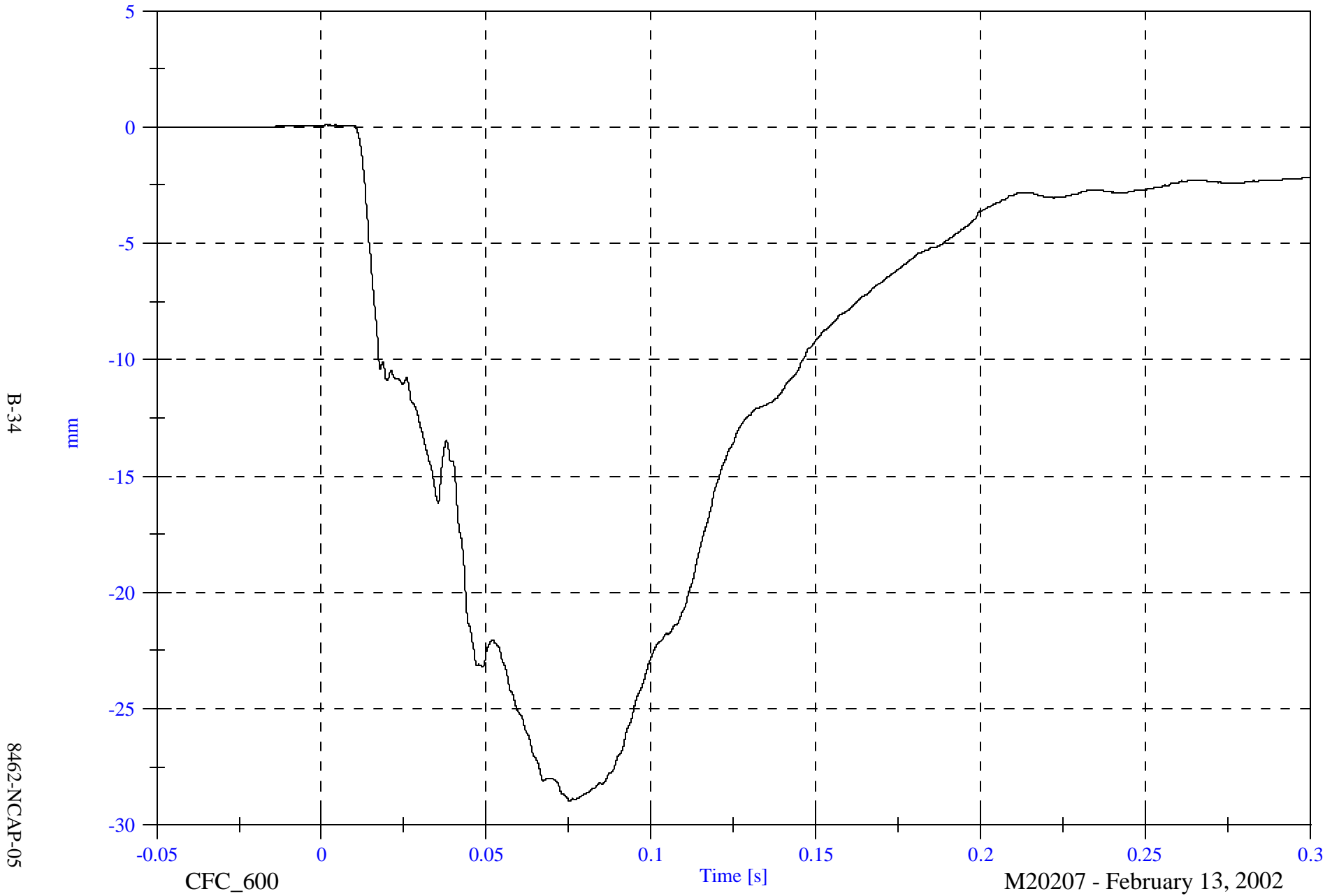
8462-NCAP-05



2002 NCAP Test 5 - 2002 Ford Focus

P1 Chest Compression

Max: 0.1 [mm] at 0.001 [s]
Min: -29.0 [mm] at 0.075 [s]



B-34

8462-NCAP-05

CFC_600

M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

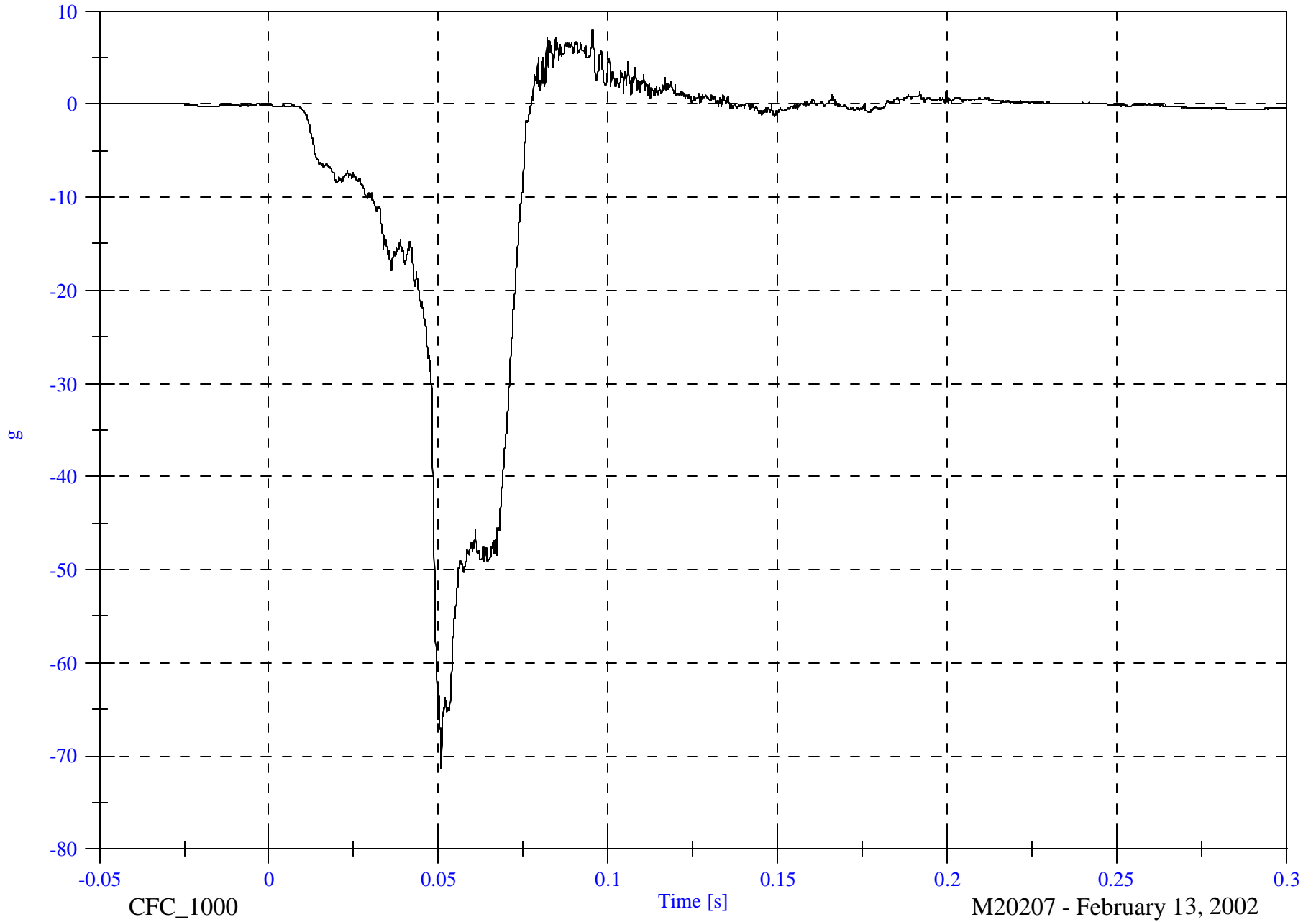
P1 Pelvic x

Max: 8.0 [g] at 0.095 [s]

Min: -71.4 [g] at 0.051 [s]

B-35

8462-NCAP-05



CFC_1000

Time [s]

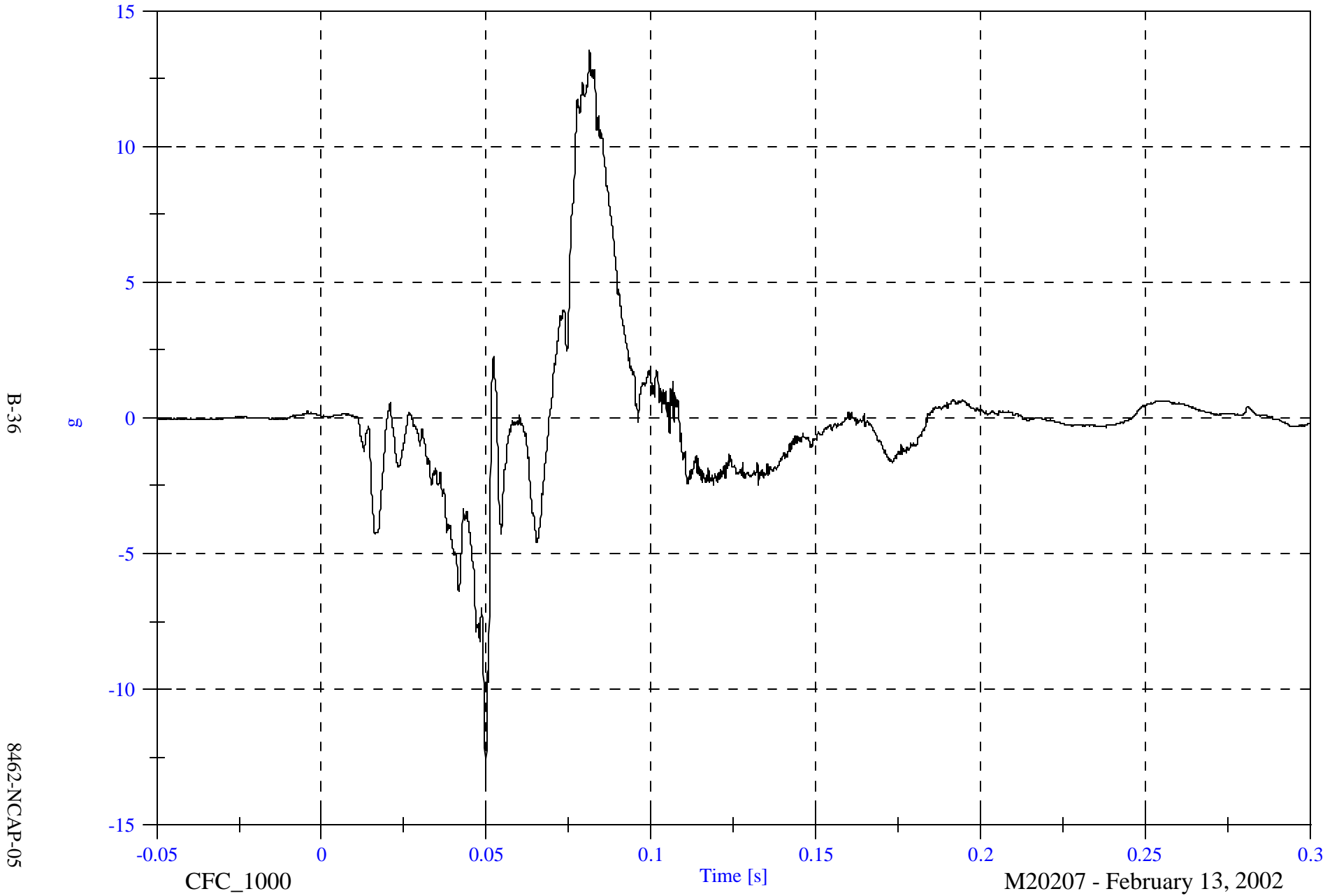
M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

Max: 13.5 [g] at 0.081 [s]

Min: -13.4 [g] at 0.050 [s]

P1 Pelvic y



2002 NCAP Test 5 - 2002 Ford Focus

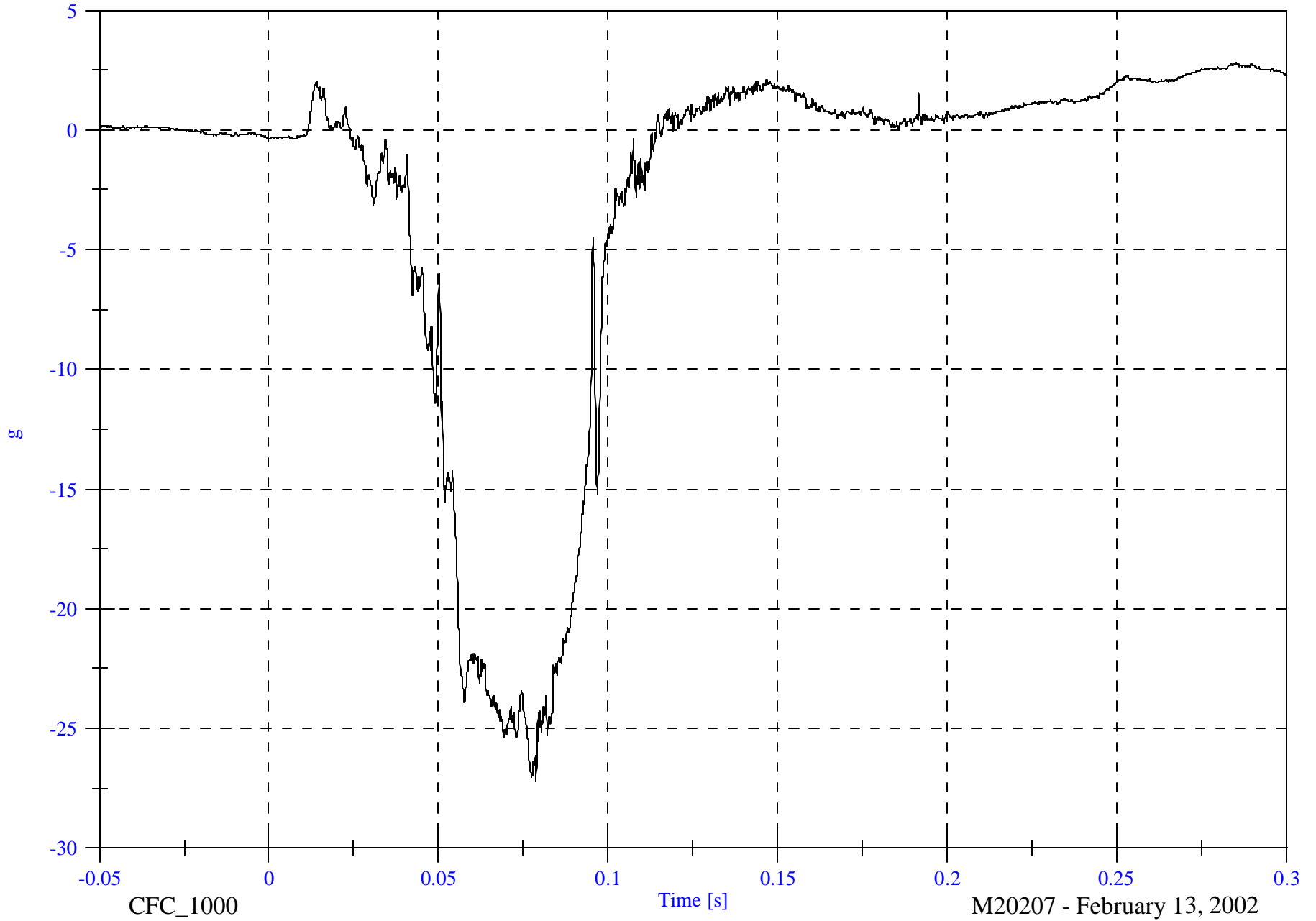
P1 Pelvic z

Max: 2.8 [g] at 0.285 [s]

Min: -27.2 [g] at 0.079 [s]

B-37

8462-NCAP-05



2002 NCAP Test 5 - 2002 Ford Focus

P1 Pelvic Resultant

Max: 72.6 [g] at 0.051 [s]

Min: 0.0 [g] at -0.028 [s]

B-38

8462-NCAP-05

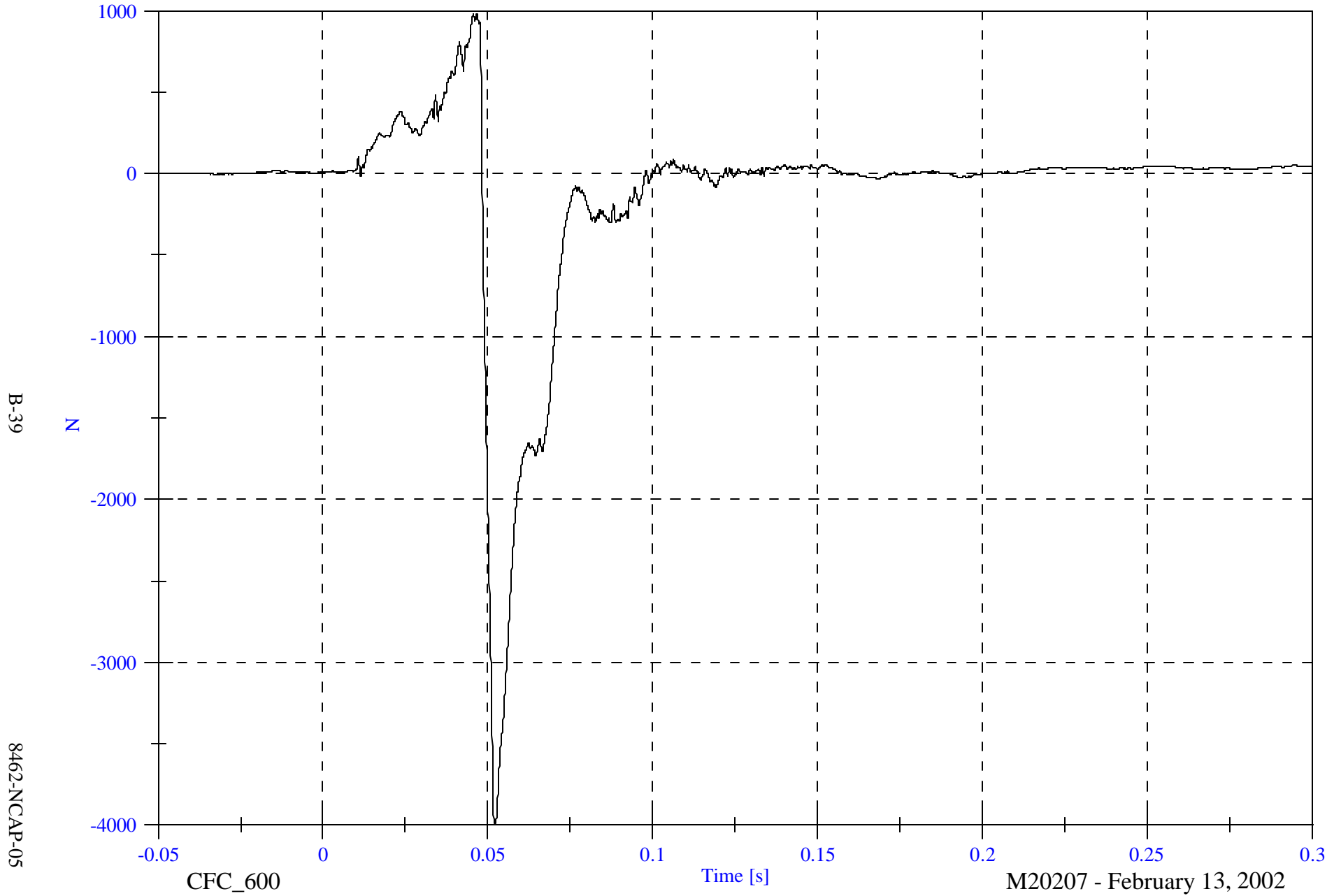


2002 NCAP Test 5 - 2002 Ford Focus

P1 Left Femur

Max: 981.9 [N] at 0.047 [s]

Min: -3985.6 [N] at 0.052 [s]



B-39

8462-NCAP-05

CFC_600

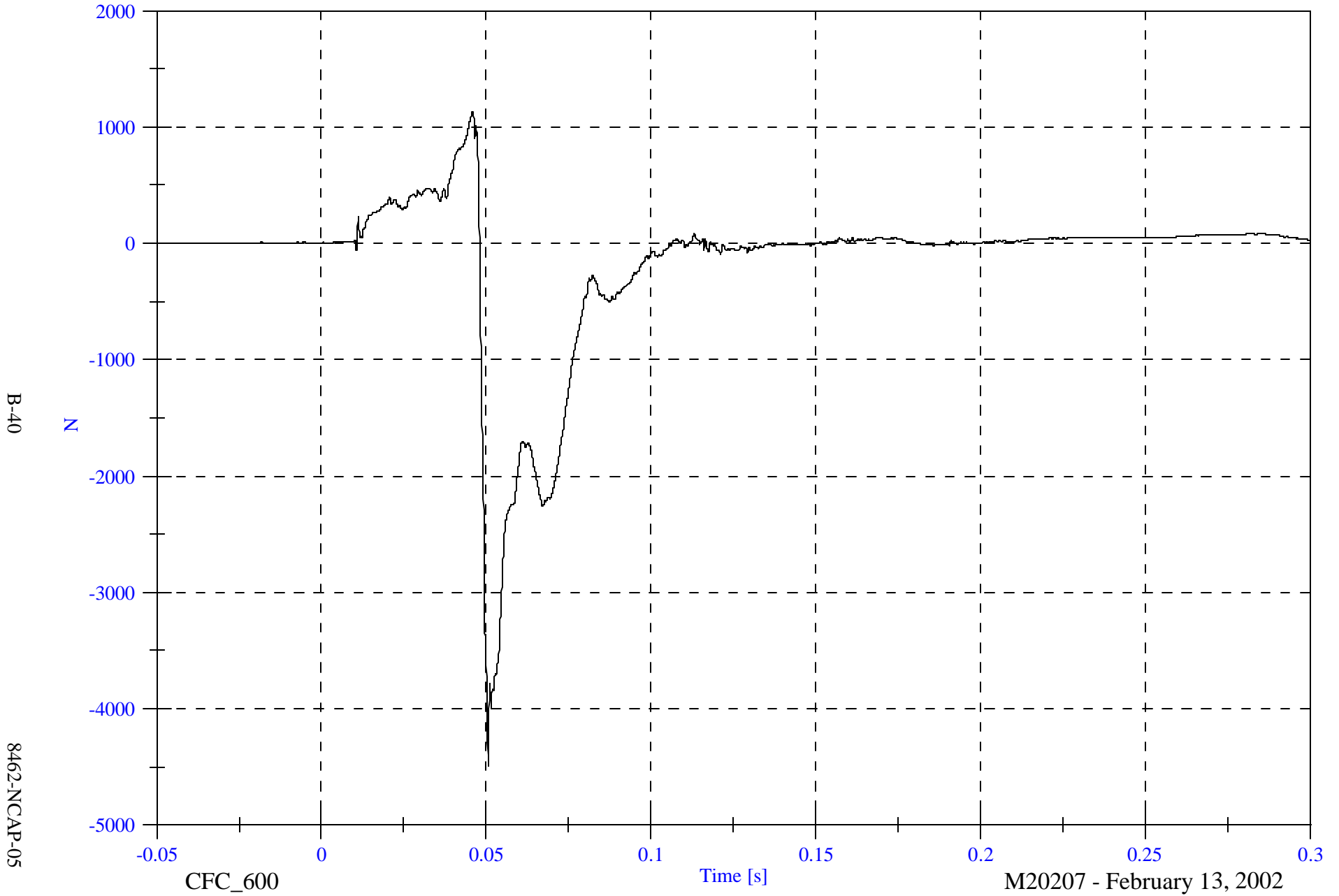
M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

P1 Right Femur

Max: 1132.0 [N] at 0.046 [s]

Min: -4487.6 [N] at 0.051 [s]

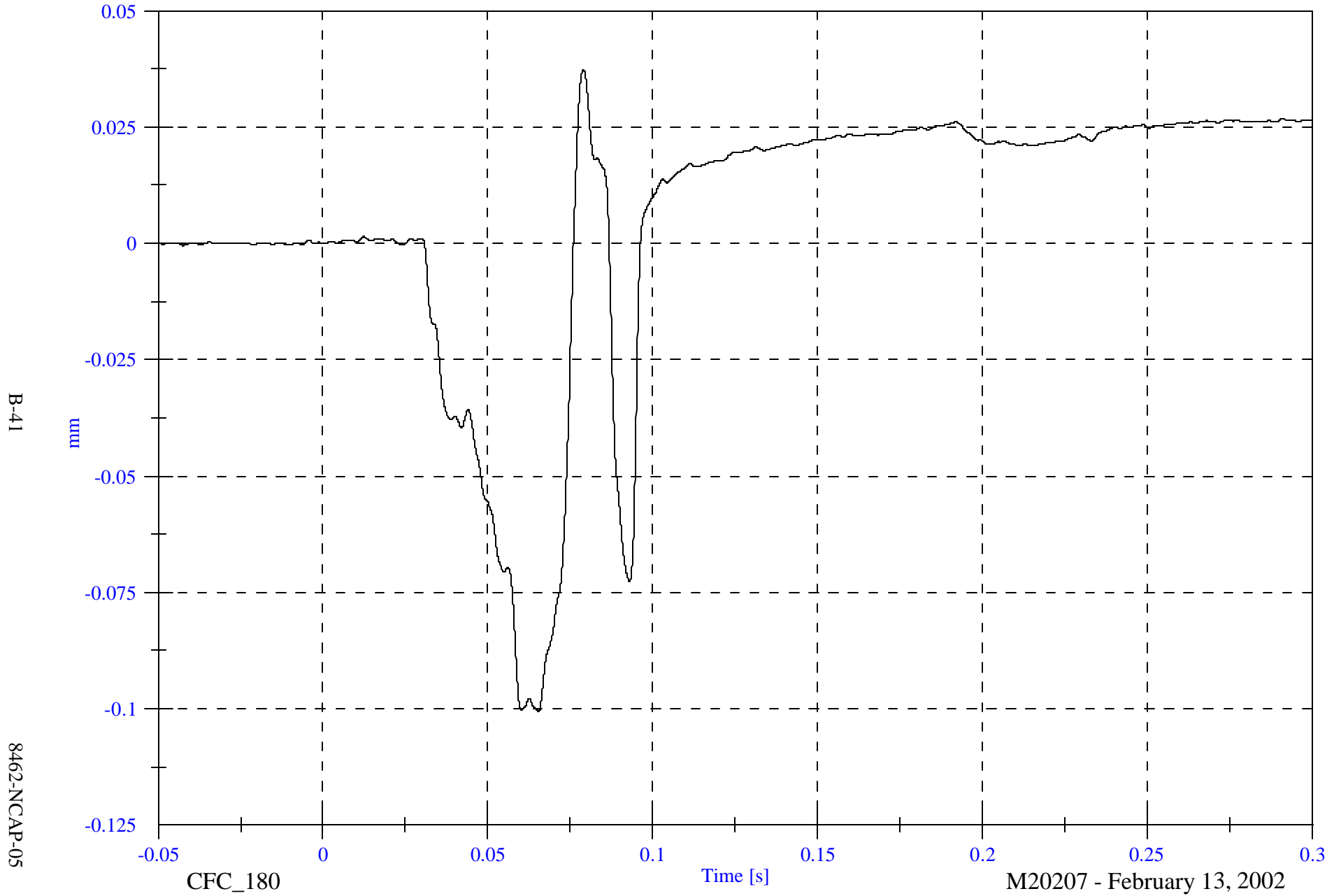


2002 NCAP Test 5 - 2002 Ford Focus

P1 Left Knee Shear

Max: 0.0 [mm] at 0.079 [s]

Min: -0.1 [mm] at 0.065 [s]



B-41

8462-NCAP-05

CFC_180

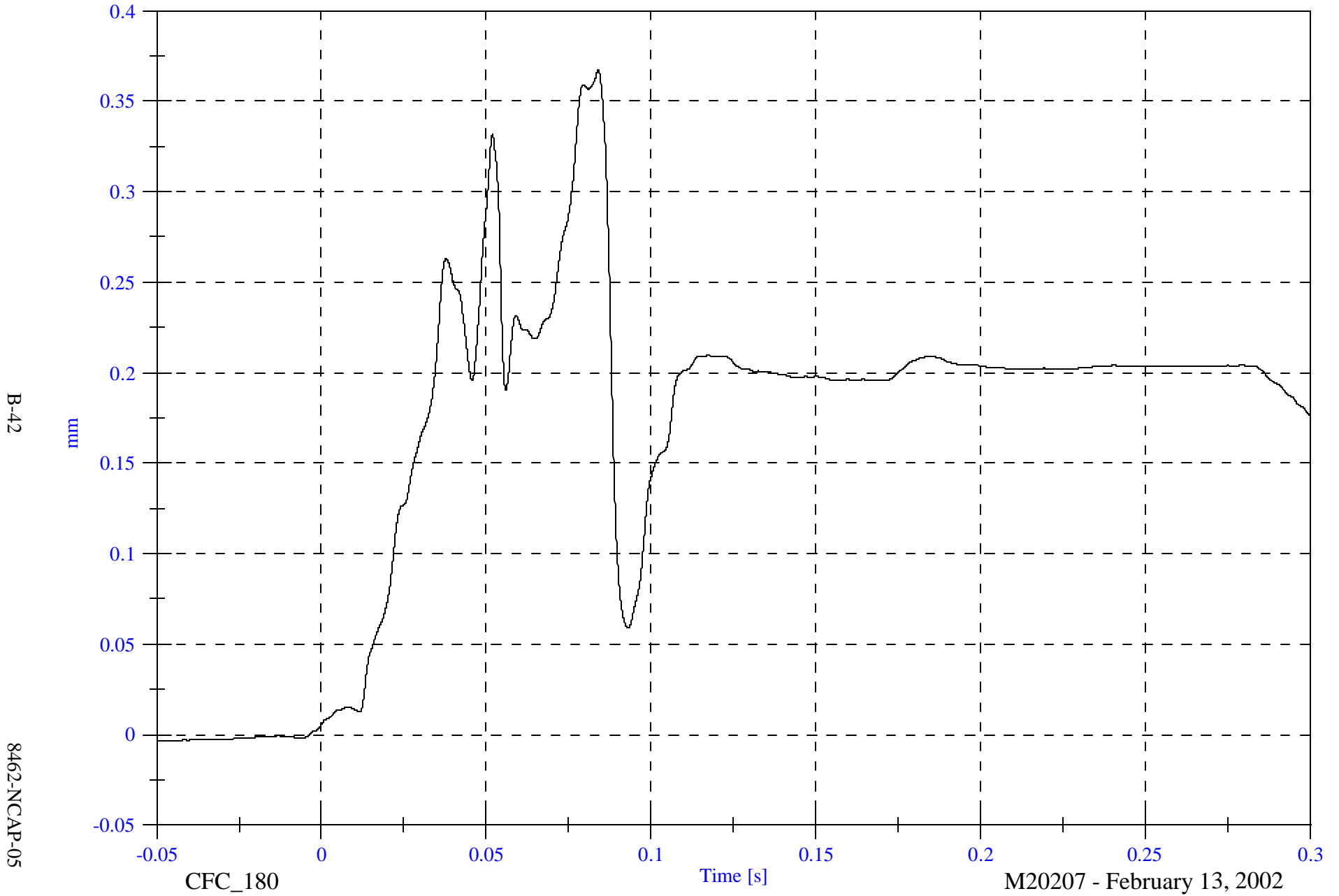
Time [s]

M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

P1 Right Knee Shear

Max: 0.4 [mm] at 0.084 [s]
Min: -0.0 [mm] at -0.049 [s]



B-42

8462-NCAP-05

CFC_180

Time [s]

M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

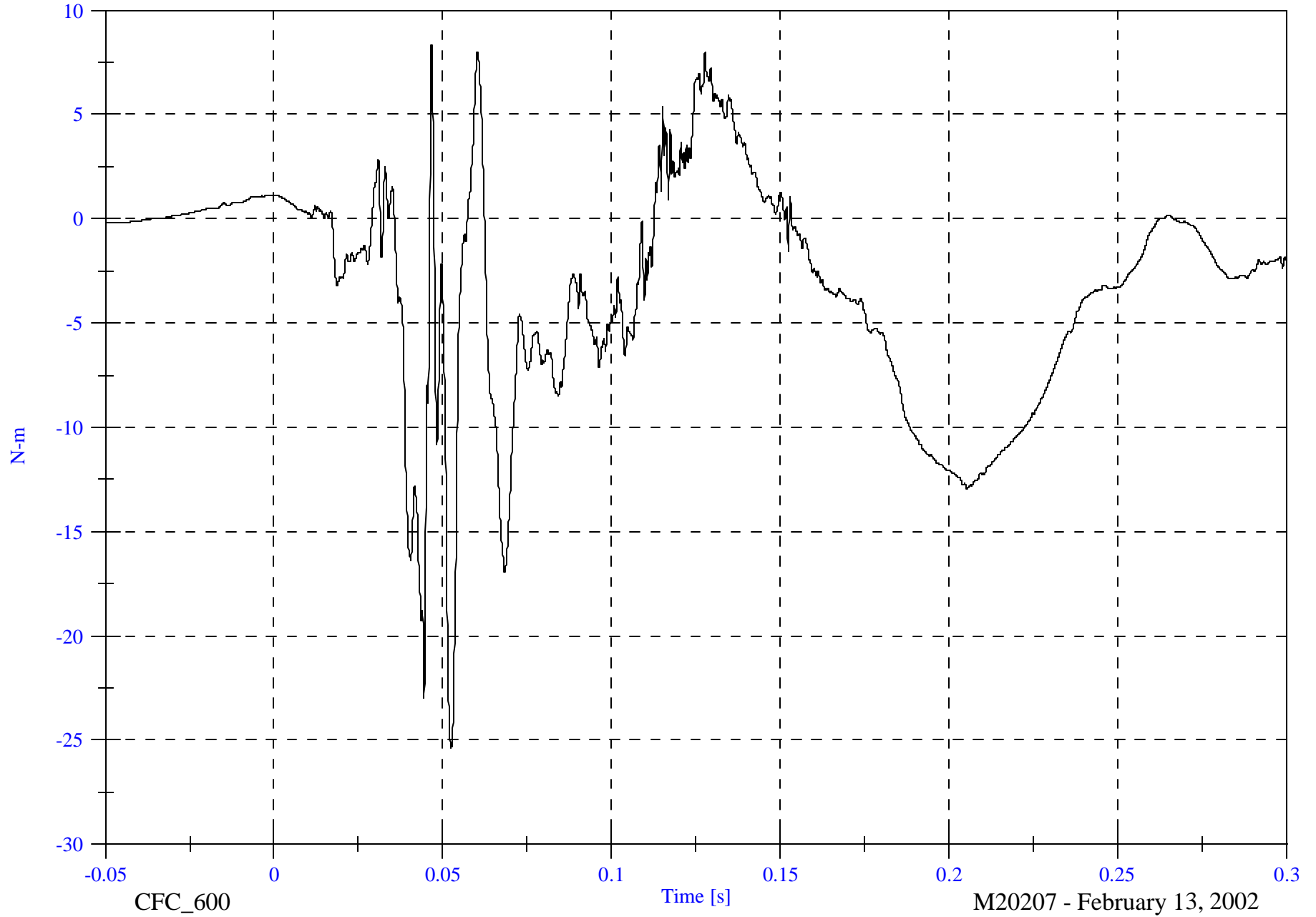
P1 Left Upper Tibia Mx

Max: 8.4 [N-m] at 0.047 [s]

Min: -25.4 [N-m] at 0.052 [s]

B-43

8462-NCAP-05



CFC_600

Time [s]

M20207 - February 13, 2002

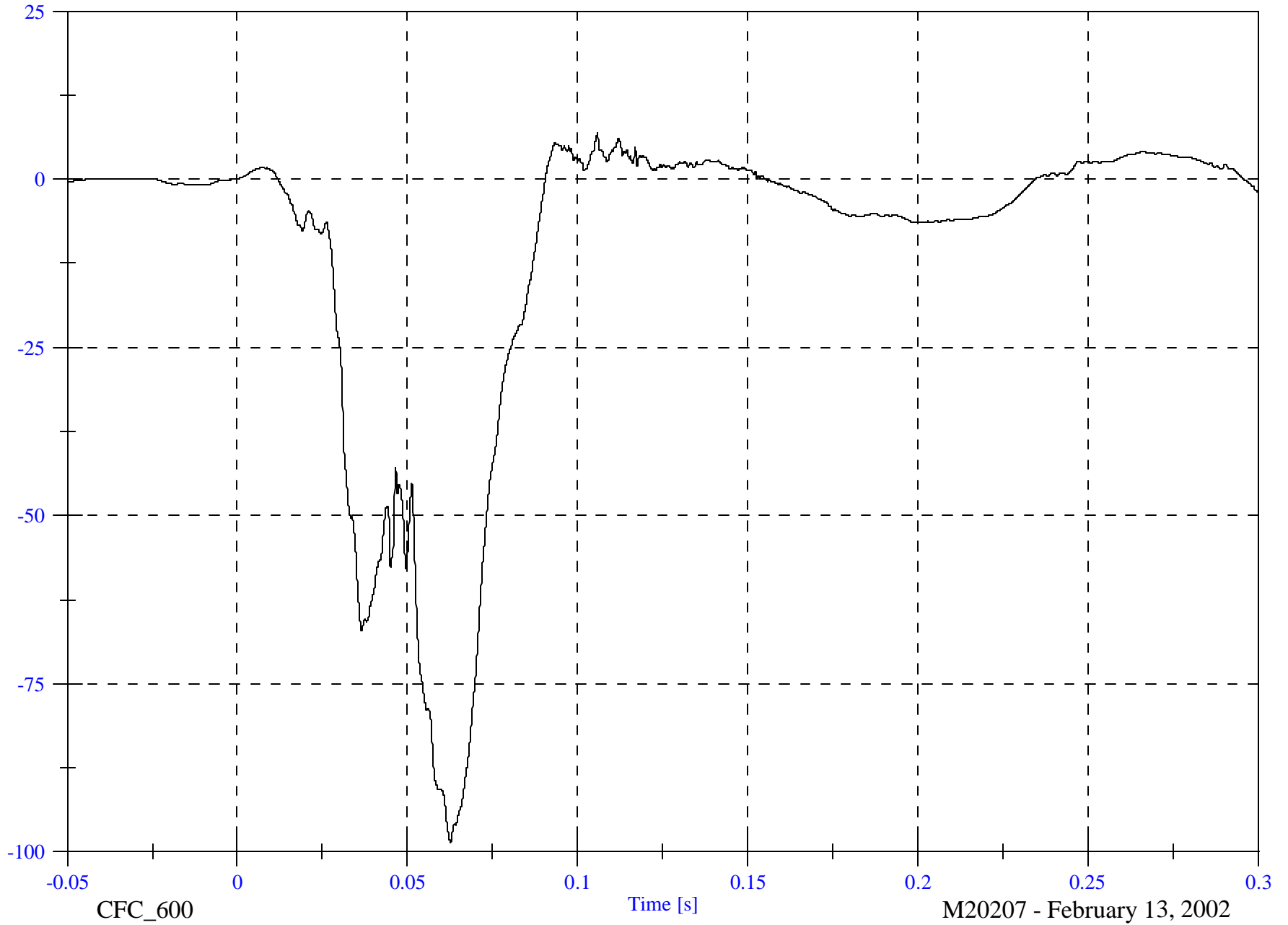
2002 NCAP Test 5 - 2002 Ford Focus

P1 Left Upper Tibia My

Max: 6.8 [N-m] at 0.106 [s]
Min: -98.6 [N-m] at 0.063 [s]

B-44

8462-NCAP-05



CFC_600

Time [s]

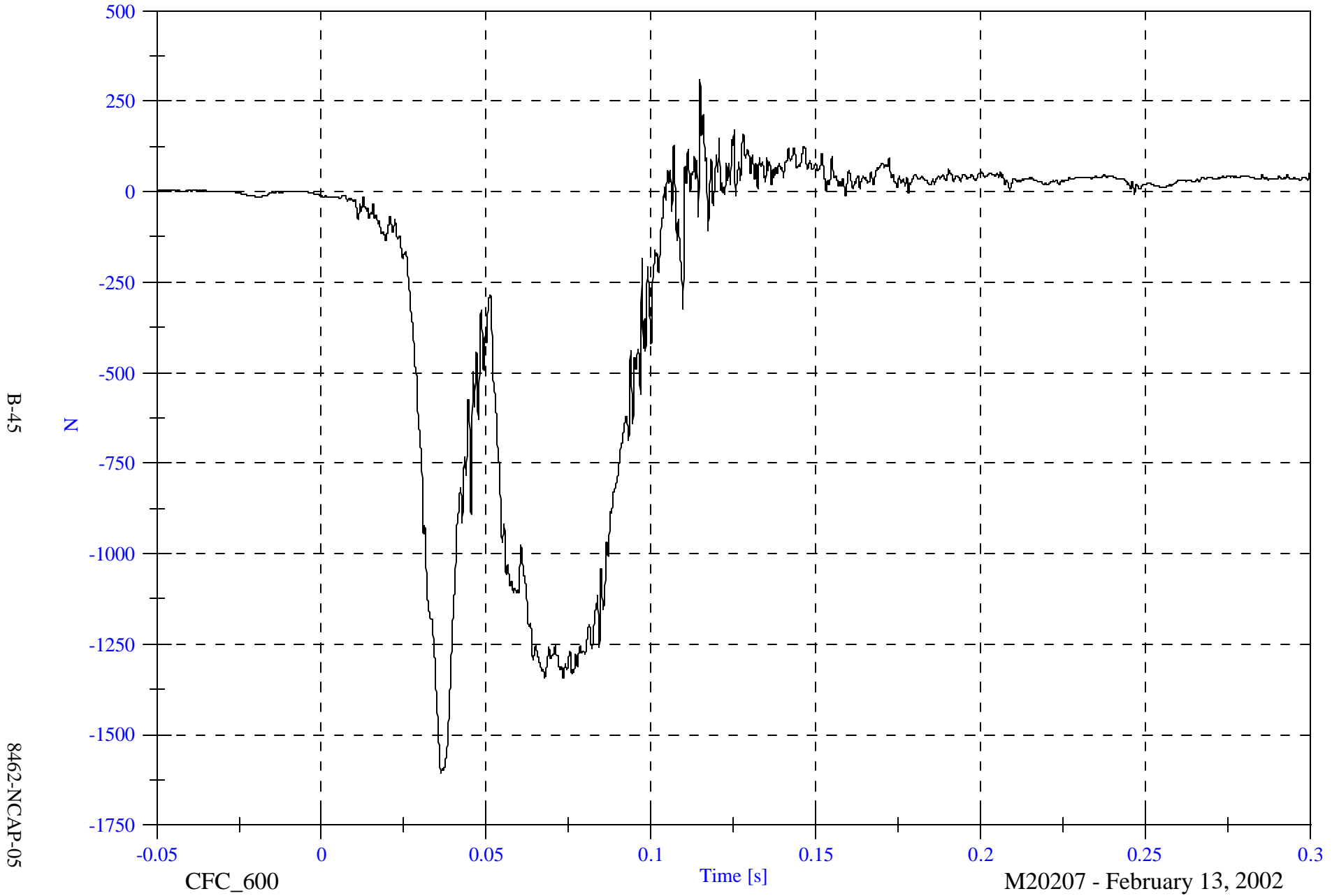
M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

Max: 309.3 [N] at 0.115 [s]

Min: -1607.2 [N] at 0.036 [s]

P1 Left Lower Tibia Fz



B-45

8462-NCAP-05

CFC_600

Time [s]

M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

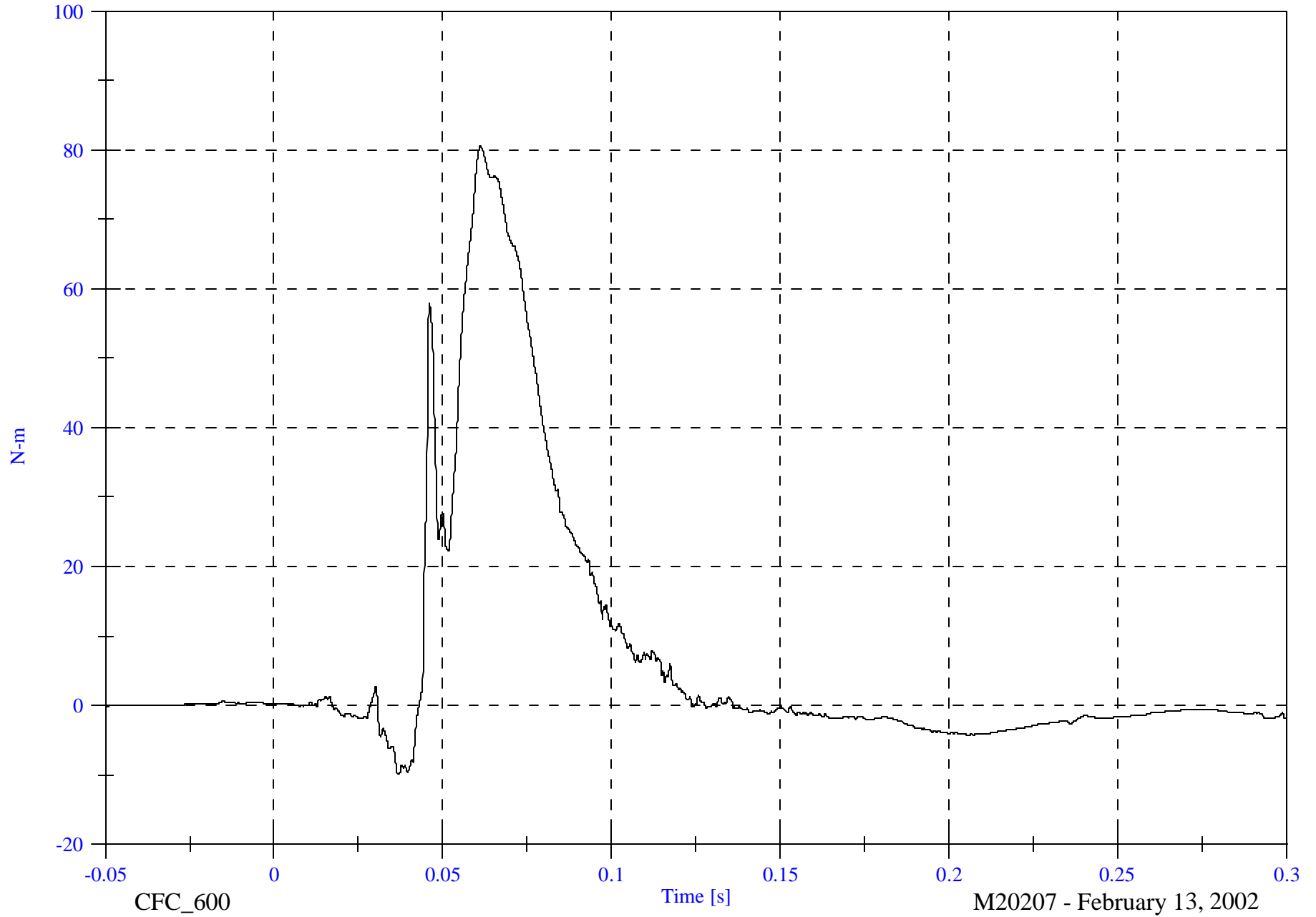
P1 Left Lower Tibia Mx

Max: 80.5 [N-m] at 0.061 [s]

Min: -9.9 [N-m] at 0.037 [s]

B-46

8462-NCAP-05

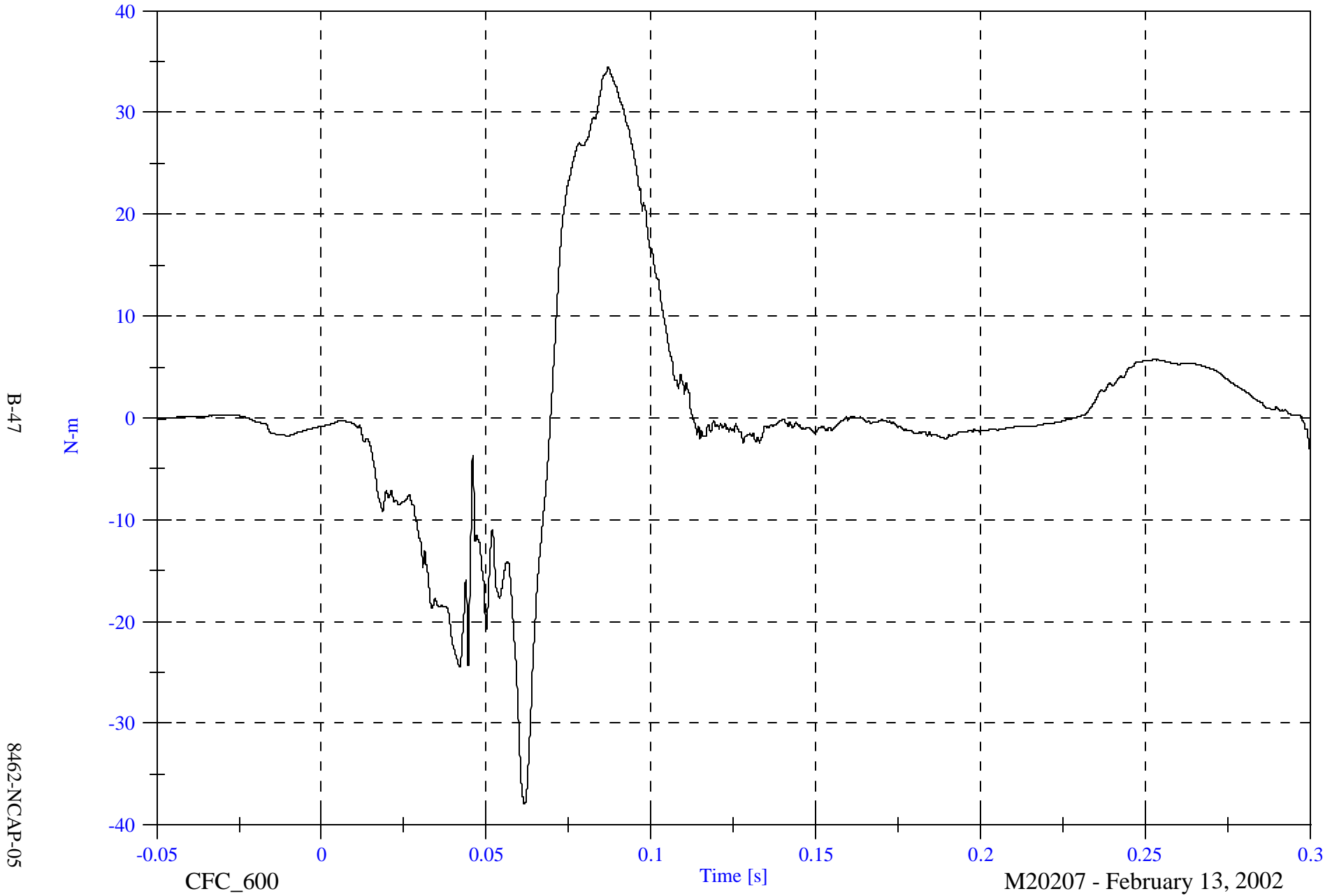


2002 NCAP Test 5 - 2002 Ford Focus

Max: 34.5 [N-m] at 0.087 [s]

Min: -37.9 [N-m] at 0.062 [s]

P1 Left Lower Tibia My



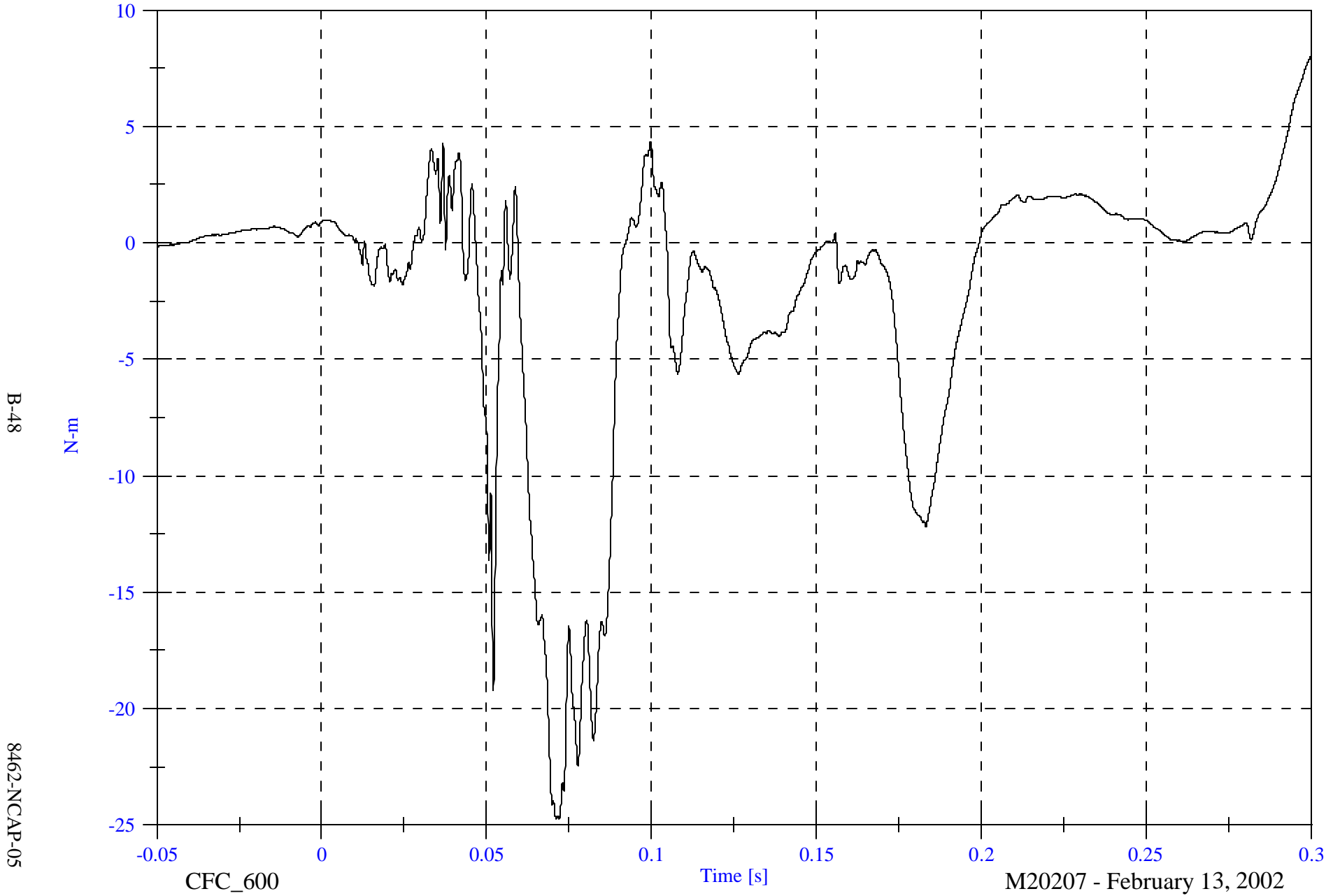
B-47

8462-NCAP-05

2002 NCAP Test 5 - 2002 Ford Focus

Max: 8.0 [N-m] at 0.300 [s]
Min: -24.7 [N-m] at 0.071 [s]

P1 Right Upper Tibia Mx



B-48

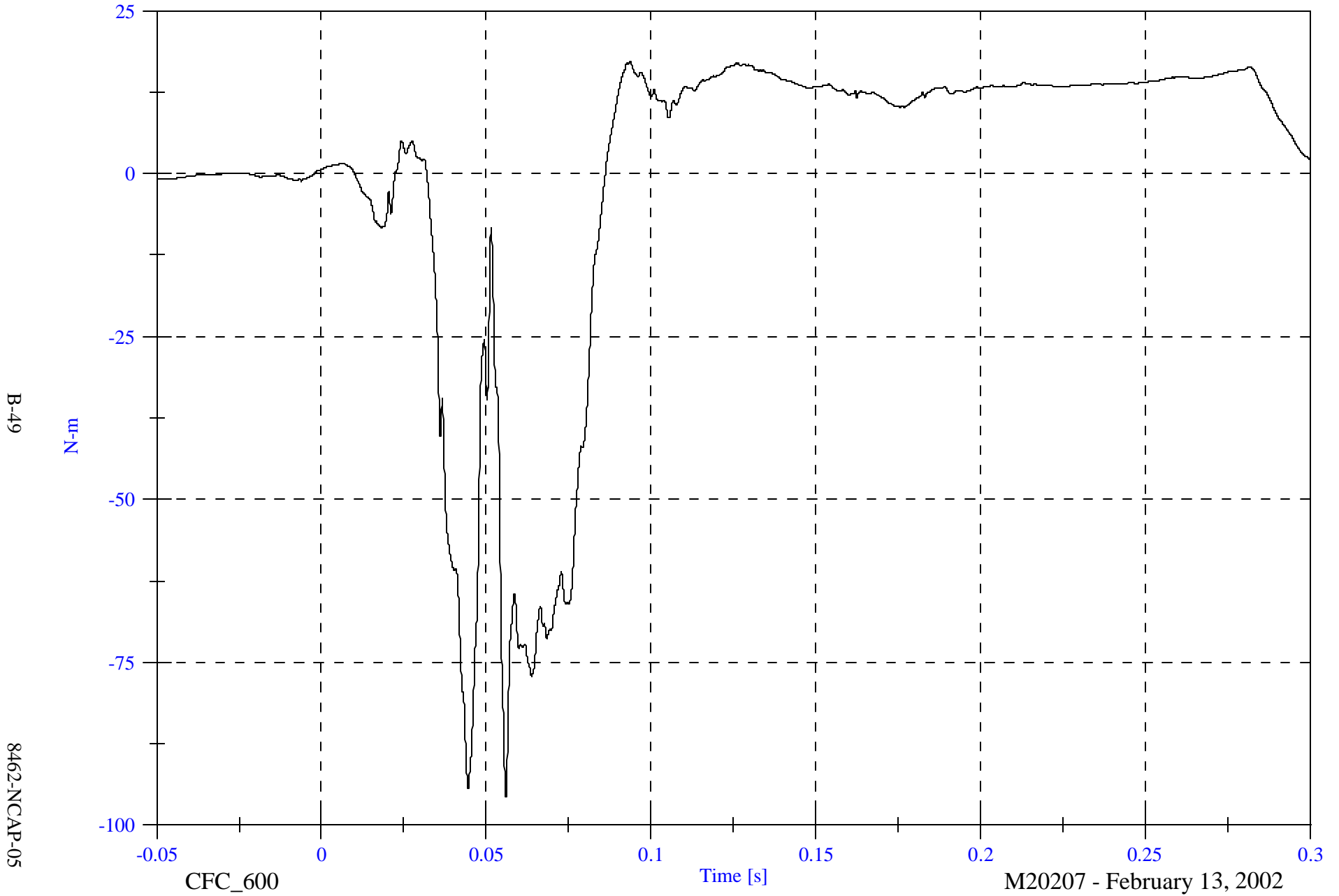
8462-NCAP-05

2002 NCAP Test 5 - 2002 Ford Focus

Max: 17.2 [N-m] at 0.094 [s]

Min: -95.7 [N-m] at 0.056 [s]

P1 Right Upper Tibia My



B-49

8462-NCAP-05

CFC_600

Time [s]

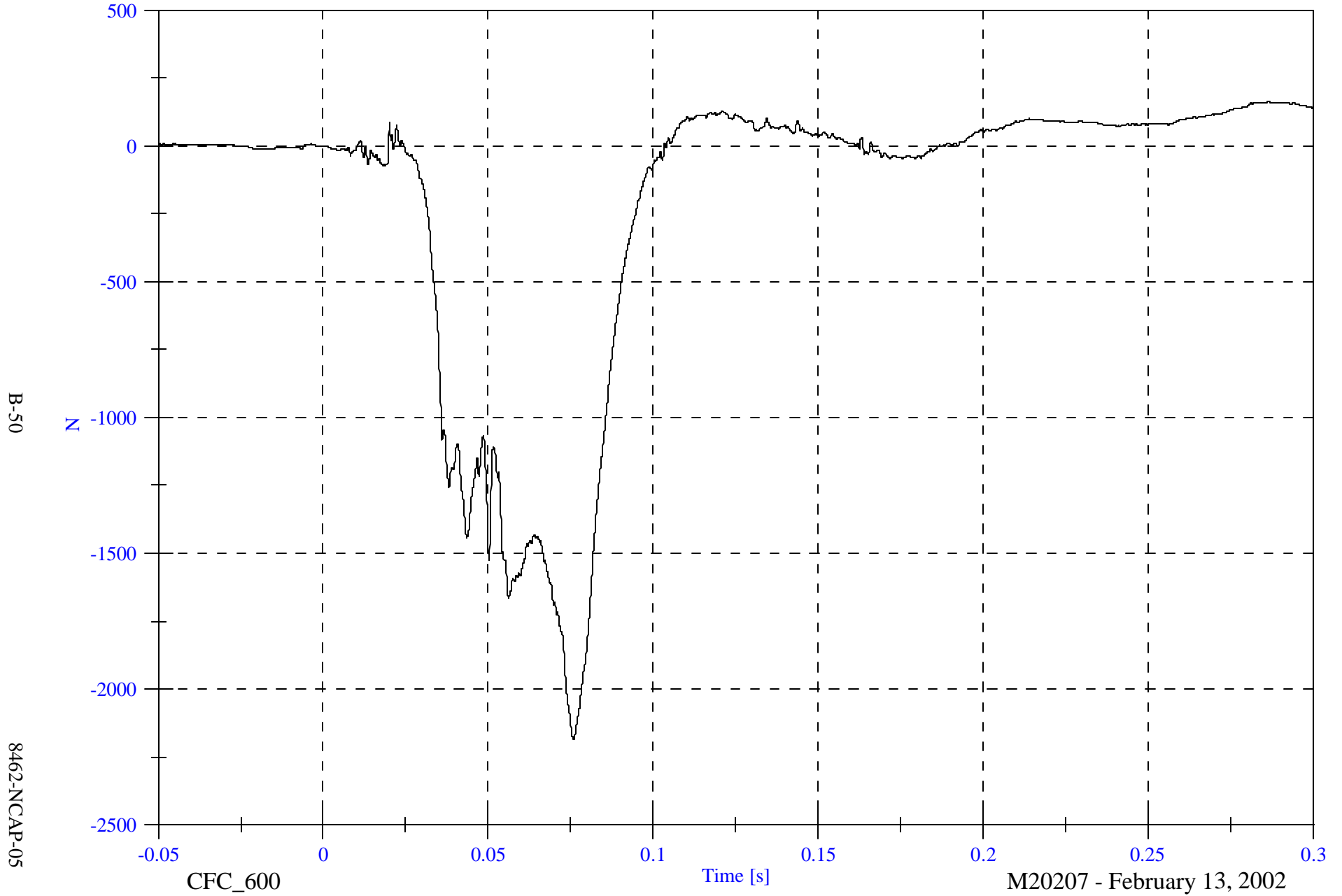
M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

P1 Right Lower Tibia Fz

Max: 161.3 [N] at 0.287 [s]

Min: -2183.4 [N] at 0.076 [s]



B-50

8462-NCAP-05

CFC_600

Time [s]

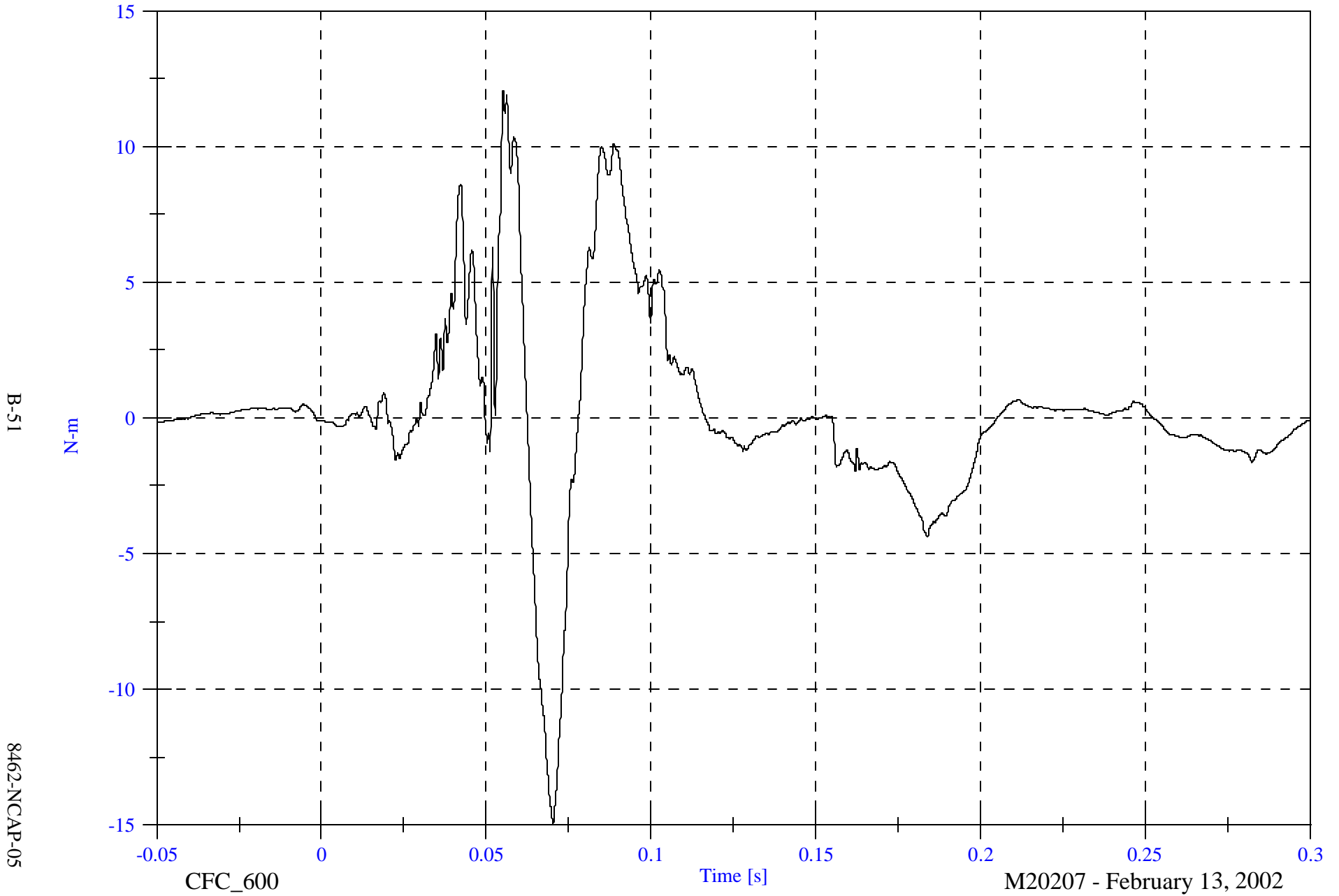
M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

Max: 12.1 [N-m] at 0.055 [s]

P1 Right Lower Tibia Mx

Min: -15.0 [N-m] at 0.070 [s]



B-51

8462-NCAP-05

CFC_600

Time [s]

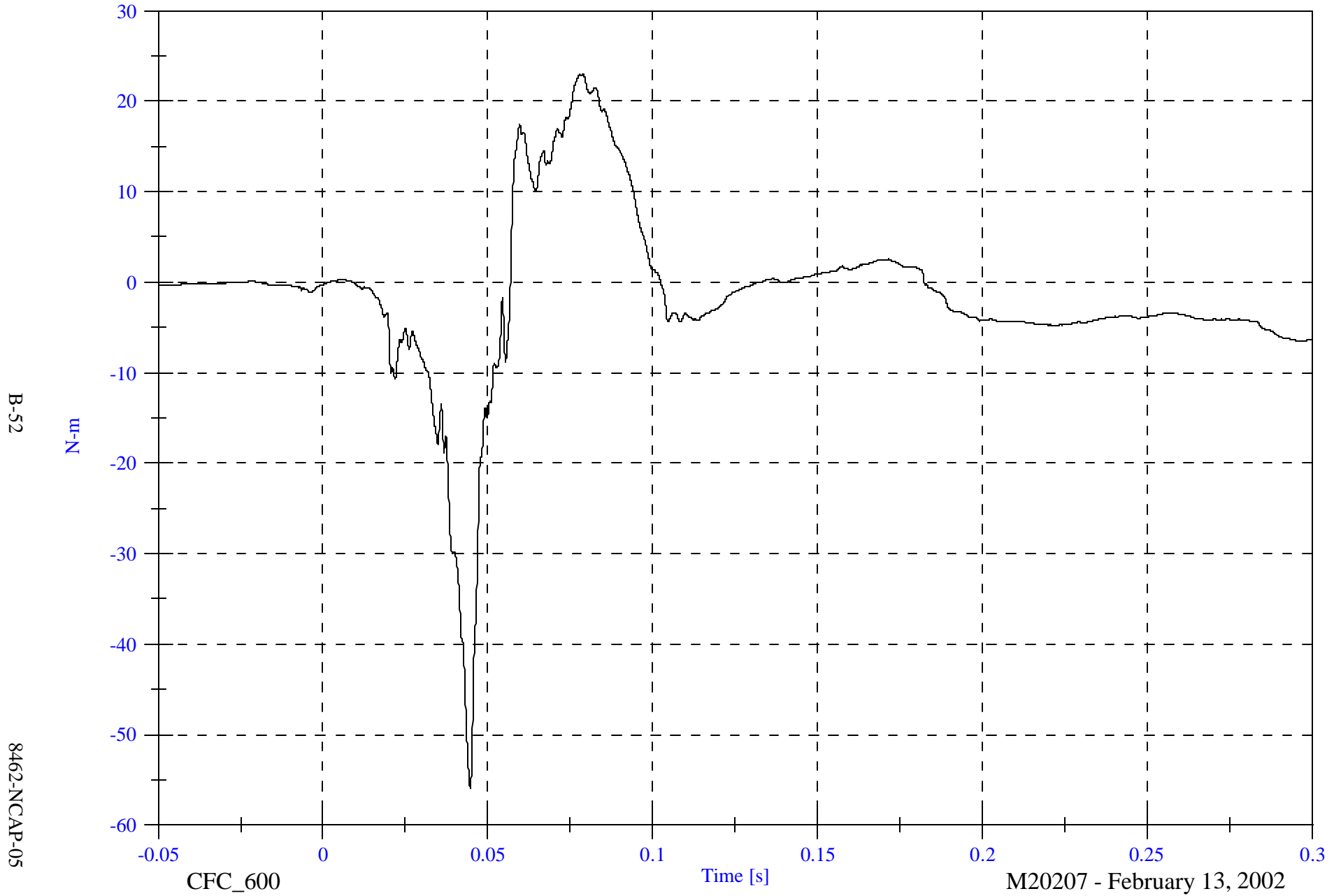
M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

Max: 22.9 [N-m] at 0.078 [s]

Min: -55.9 [N-m] at 0.045 [s]

P1 Right Lower Tibia My



B-52

8462-NCAP-05

CFC_600

Time [s]

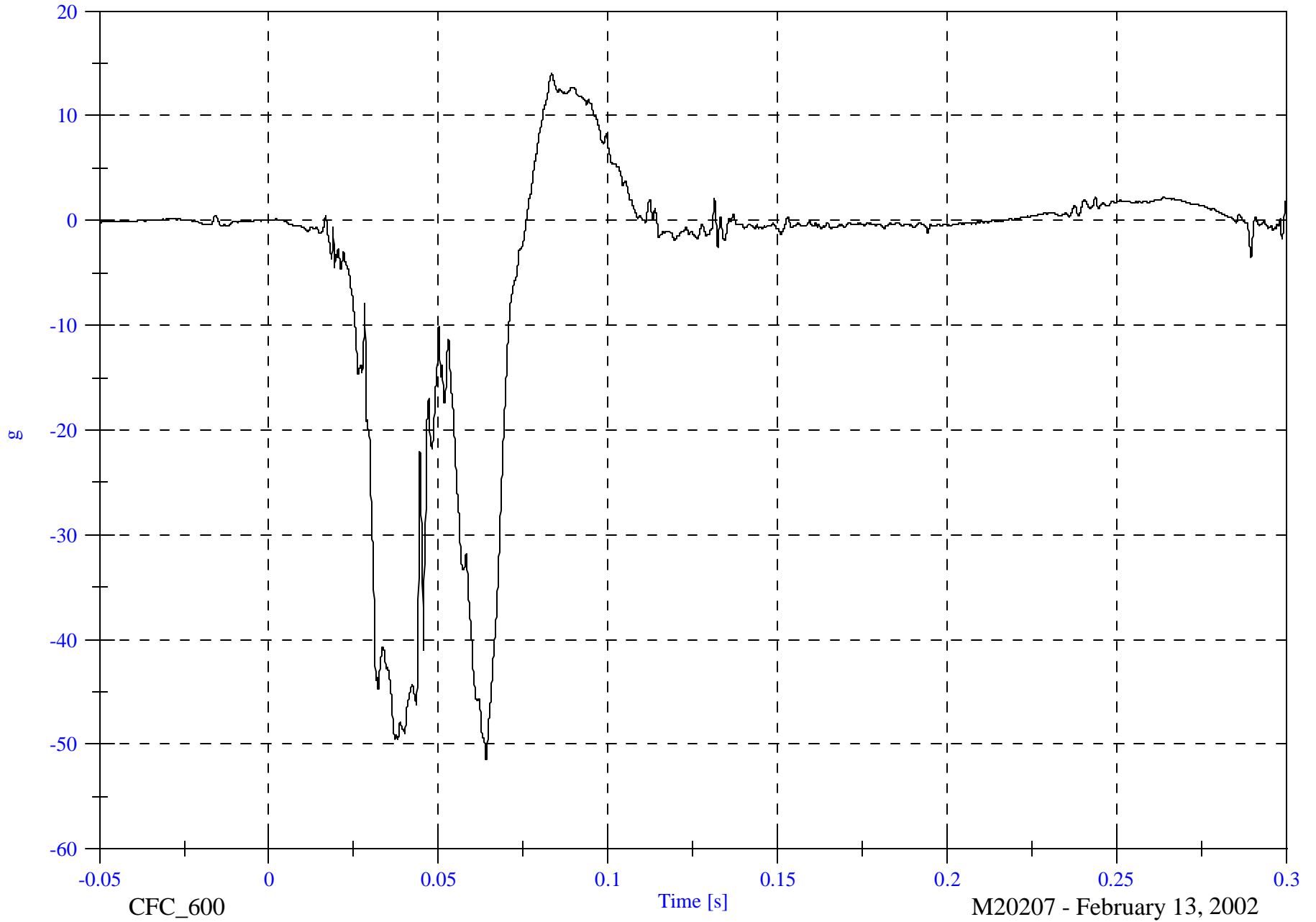
M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

Max: 14.0 [g] at 0.083 [s]

Min: -51.5 [g] at 0.064 [s]

P1 Left Foot Aft x



B-53

8462-NCAP-05

CFC_600

Time [s]

M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

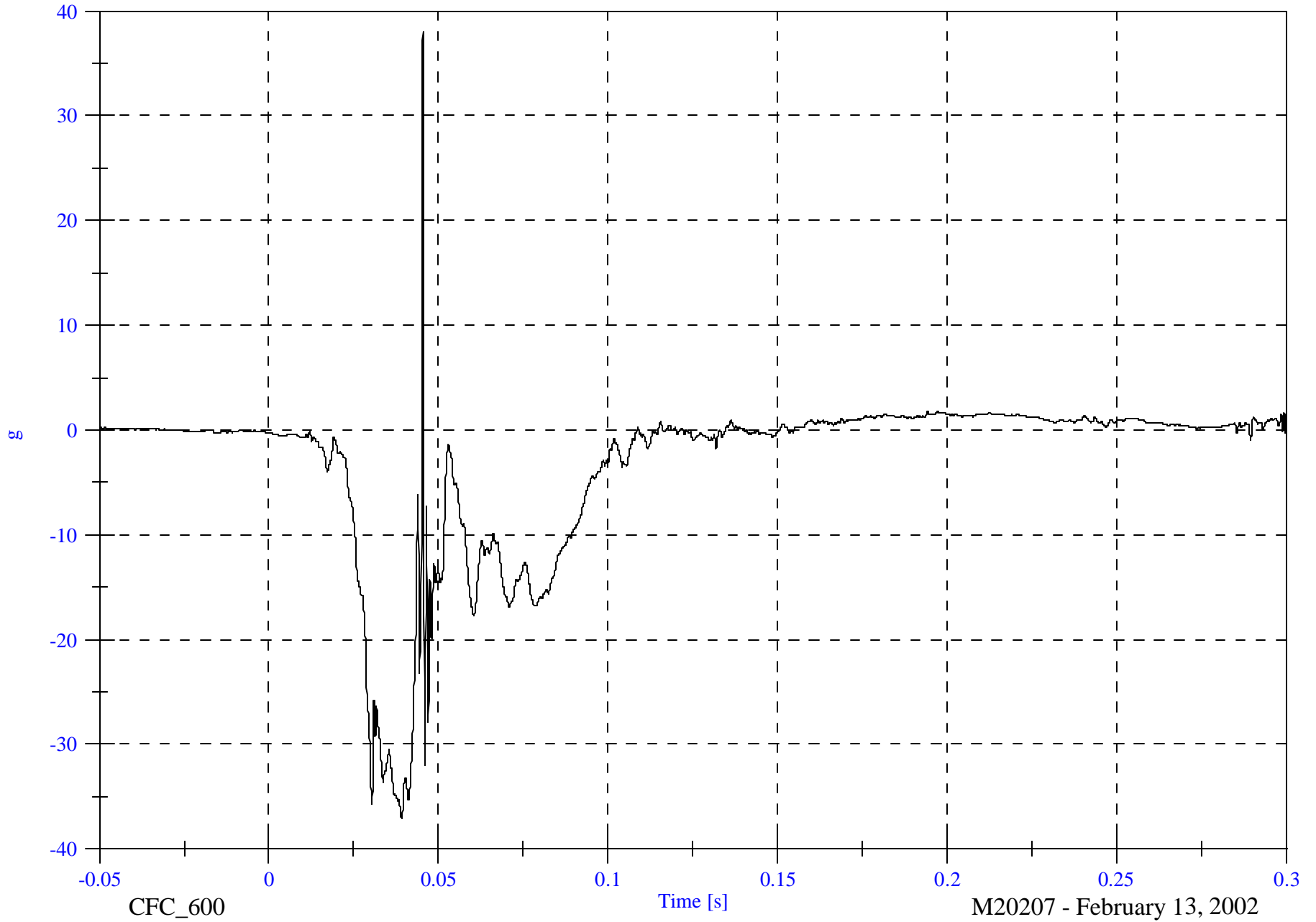
P1 Left Foot Aft z

Max: 38.0 [g] at 0.045 [s]

Min: -37.0 [g] at 0.039 [s]

B-54

8462-NCAP-05



2002 NCAP Test 5 - 2002 Ford Focus

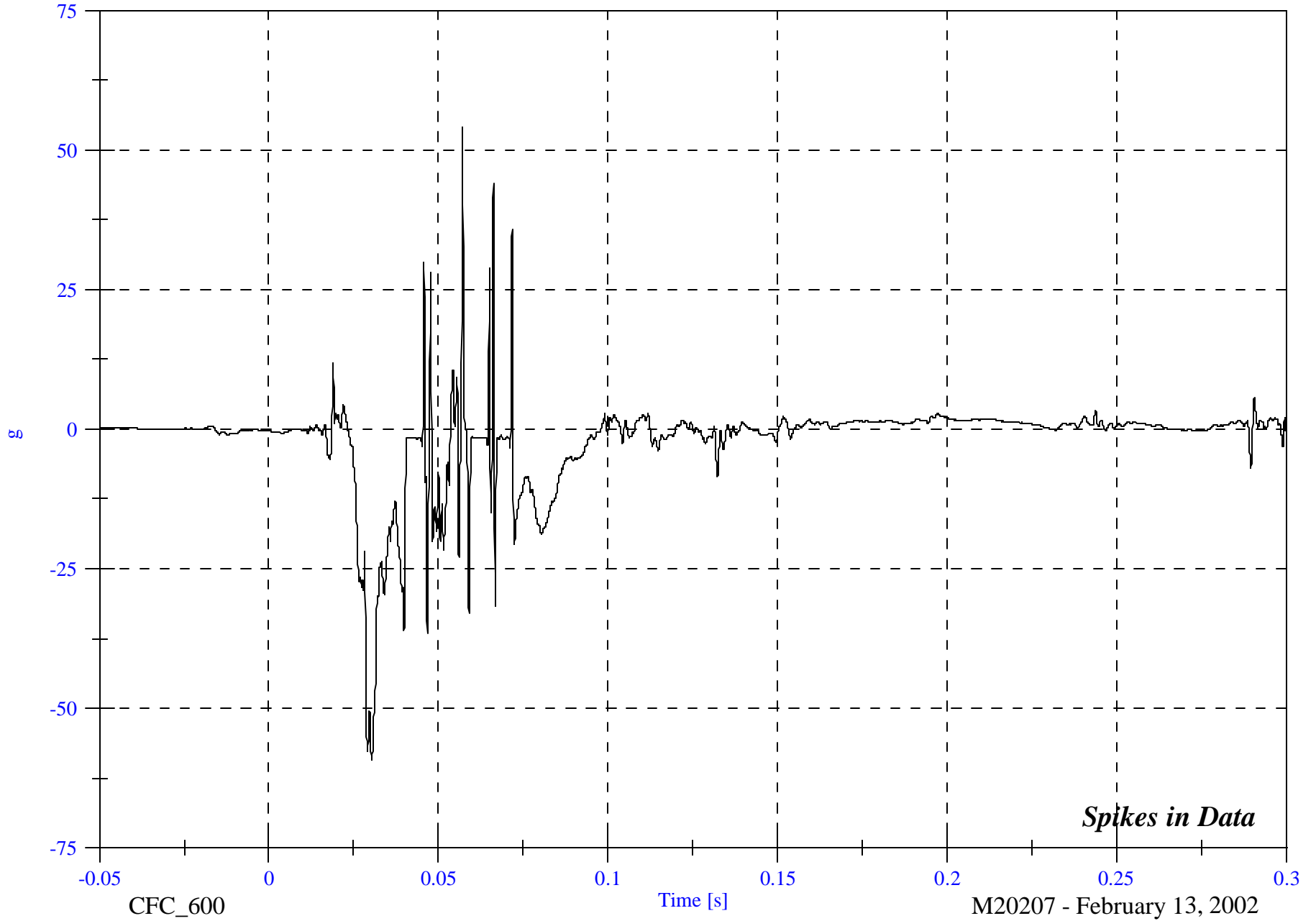
P1 Left Foot Fore z

Max: 53.9 [g] at 0.057 [s]

Min: -59.2 [g] at 0.030 [s]

B-55

8462-NCAP-05



2002 NCAP Test 5 - 2002 Ford Focus

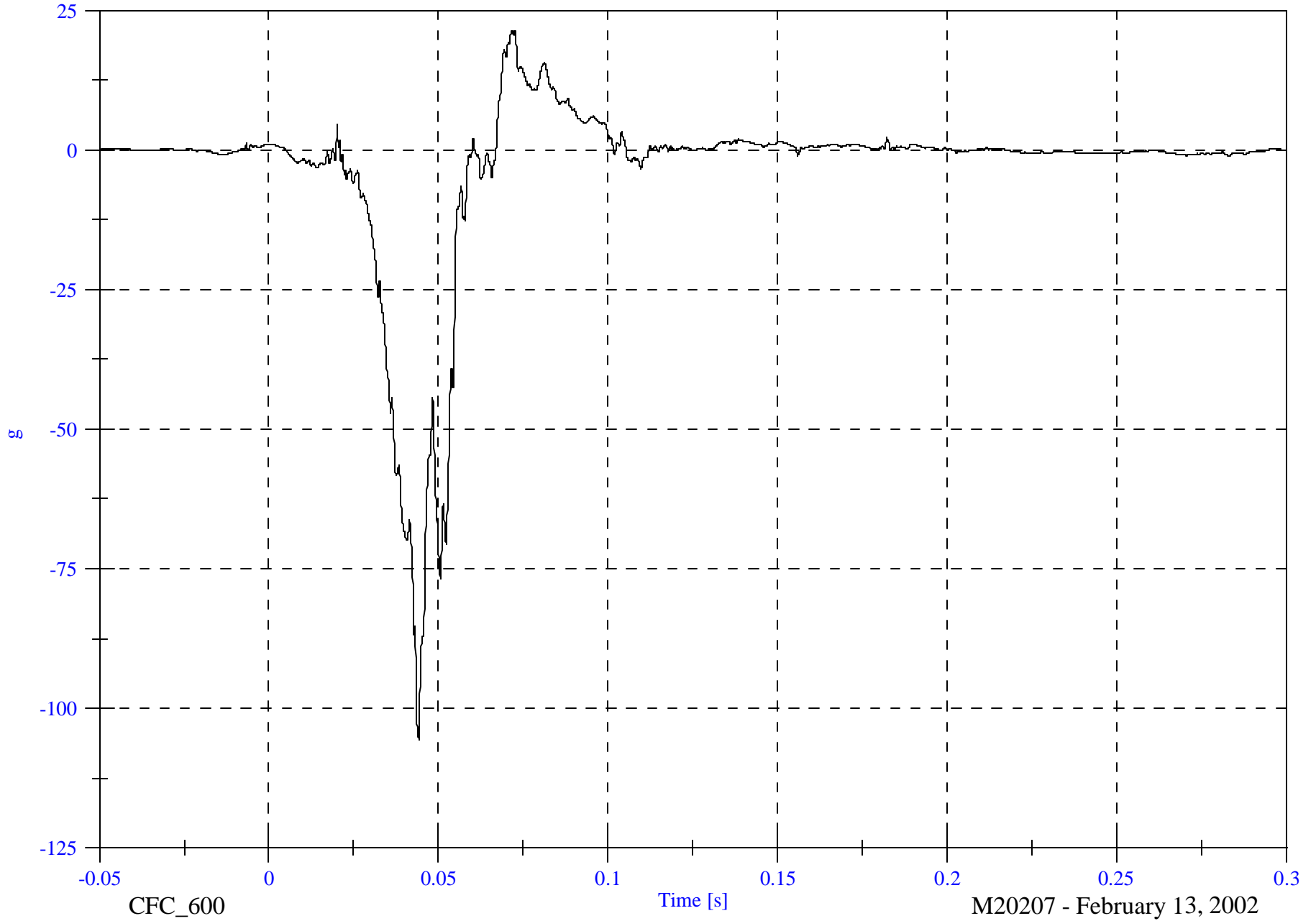
P1 Right Foot Aft x

Max: 21.3 [g] at 0.072 [s]

Min: -105.6 [g] at 0.044 [s]

B-56

8462-NCAP-05



CFC_600

Time [s]

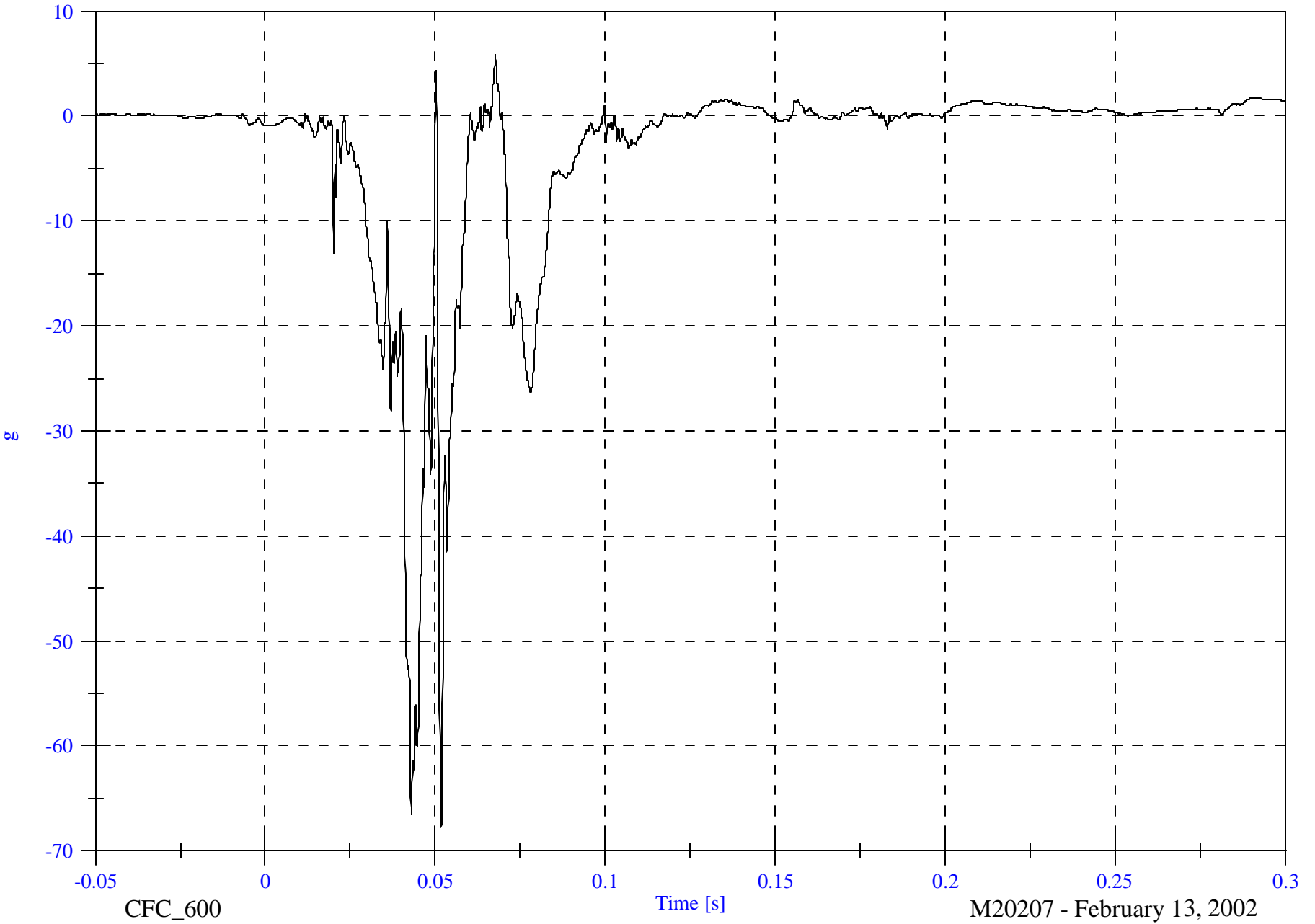
M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

P1 Right Foot Aft z

Max: 5.8 [g] at 0.068 [s]

Min: -67.8 [g] at 0.052 [s]



B-57

8462-NCAP-05

CFC_600

Time [s]

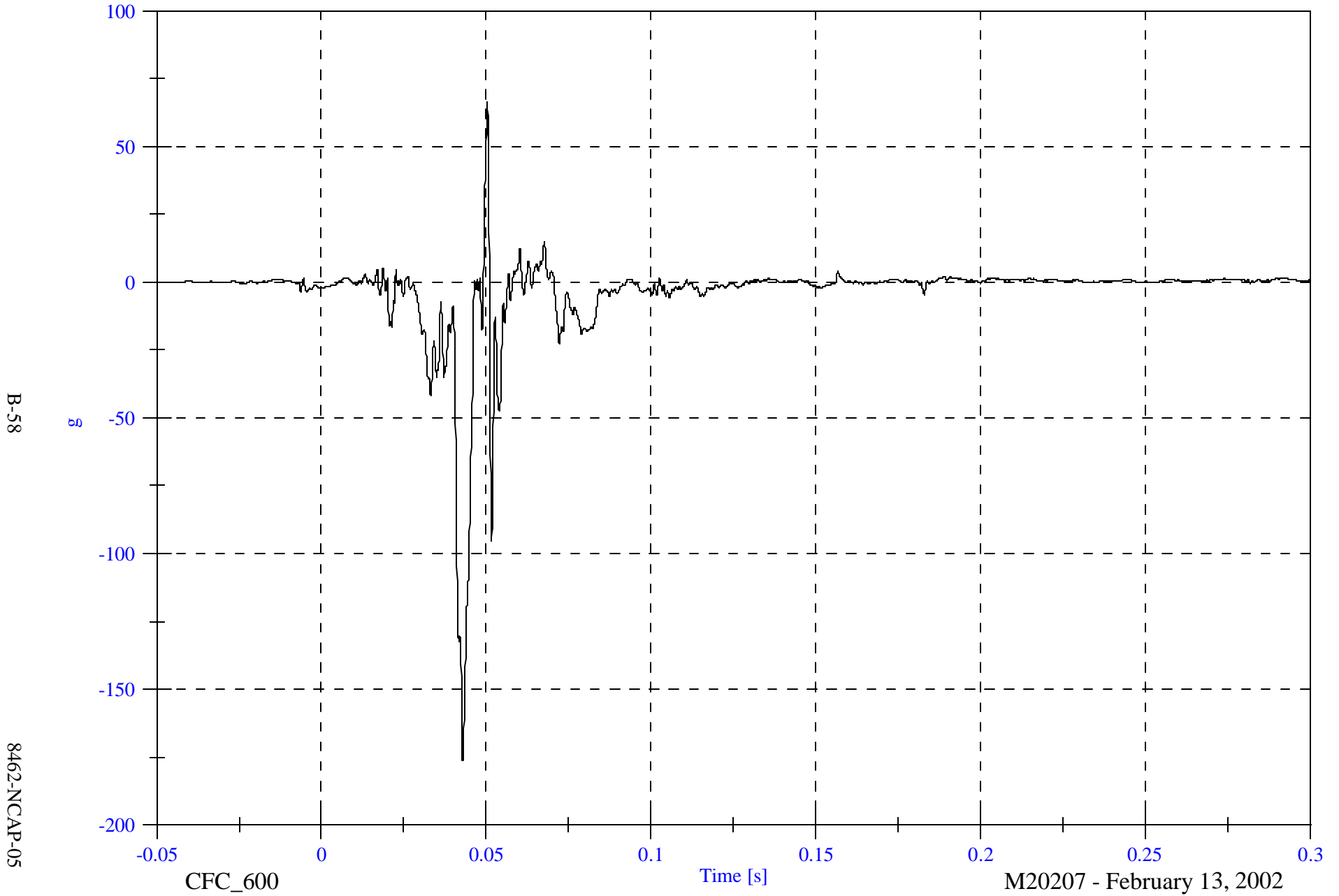
M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

P1 Right Foot Fore z

Max: 66.5 [g] at 0.050 [s]

Min: -176.2 [g] at 0.043 [s]



B-58

8462-NCAP-05

2002 NCAP Test 5 - 2002 Ford Focus

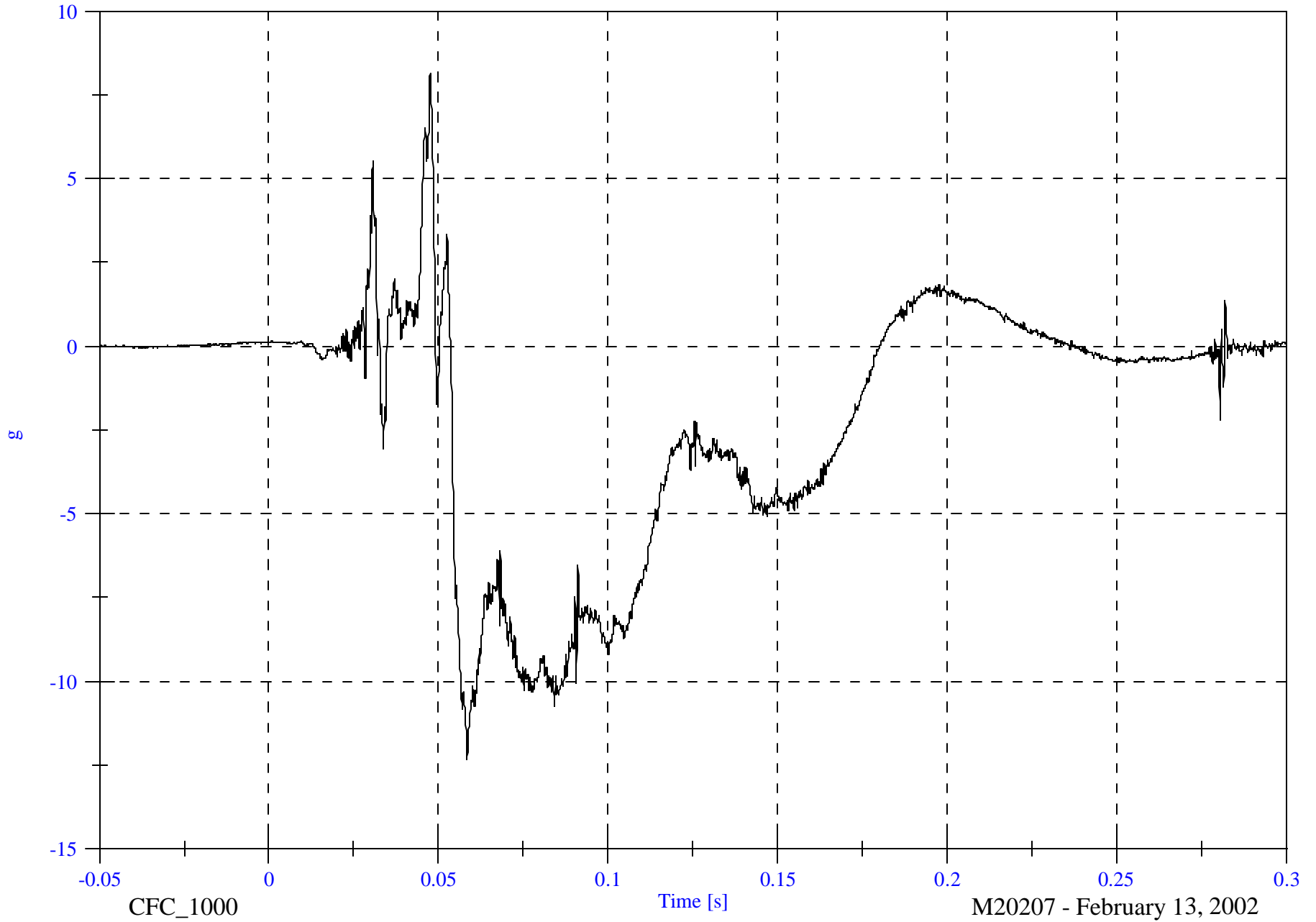
P2 Head 9 Array X Arm Ay

Max: 8.2 [g] at 0.048 [s]

Min: -12.3 [g] at 0.059 [s]

B-59

8462-NCAP-05

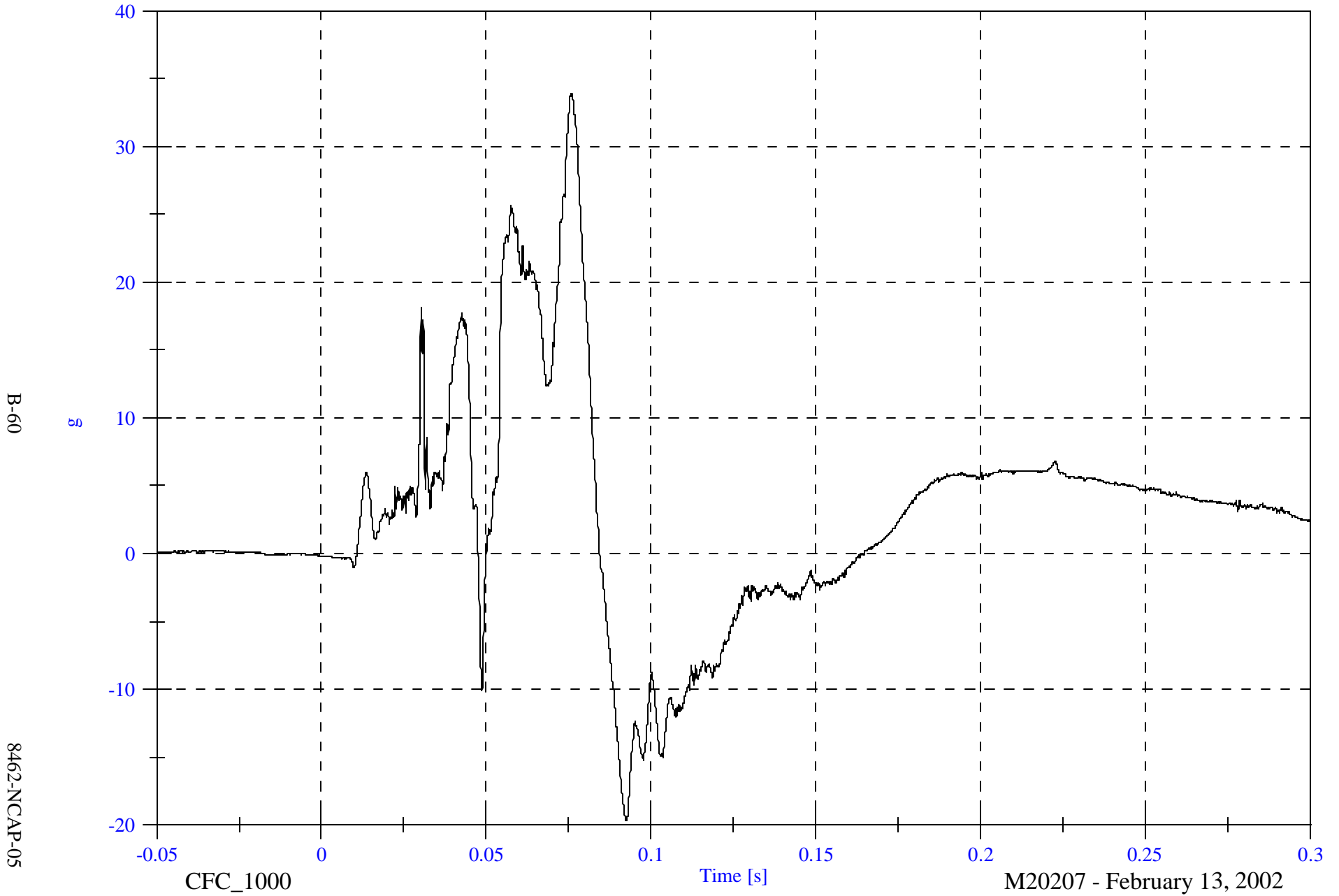


2002 NCAP Test 5 - 2002 Ford Focus

Max: 33.9 [g] at 0.076 [s]

Min: -19.7 [g] at 0.093 [s]

P2 Head 9 Array X Arm Az



B-60

8462-NCAP-05

CFC_1000

Time [s]

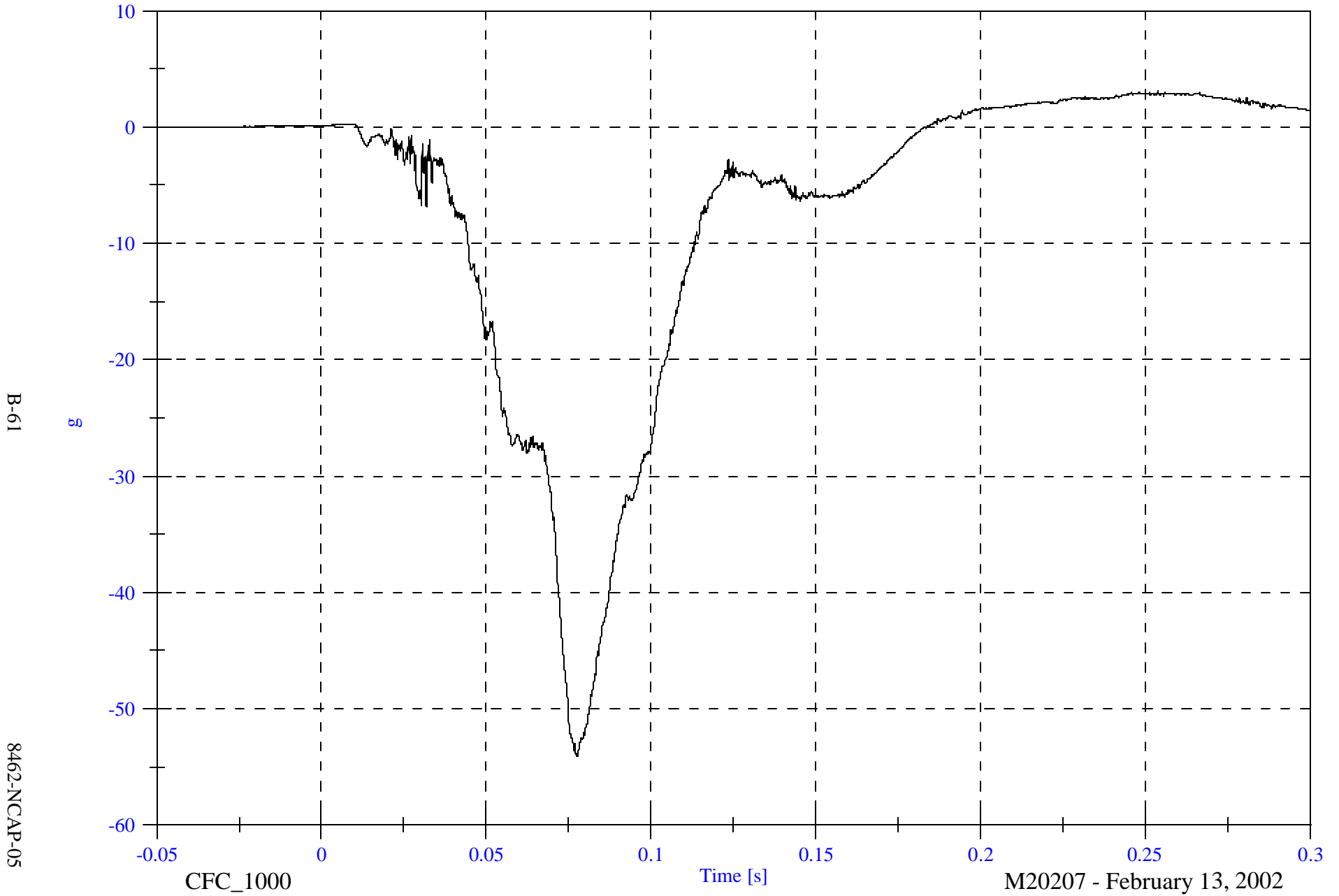
M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

P2 Head 9 Array Y Arm Ax

Max: 3.1 [g] at 0.254 [s]

Min: -54.0 [g] at 0.077 [s]



B-61

8462-NCAP-05

CFC_1000

Time [s]

M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

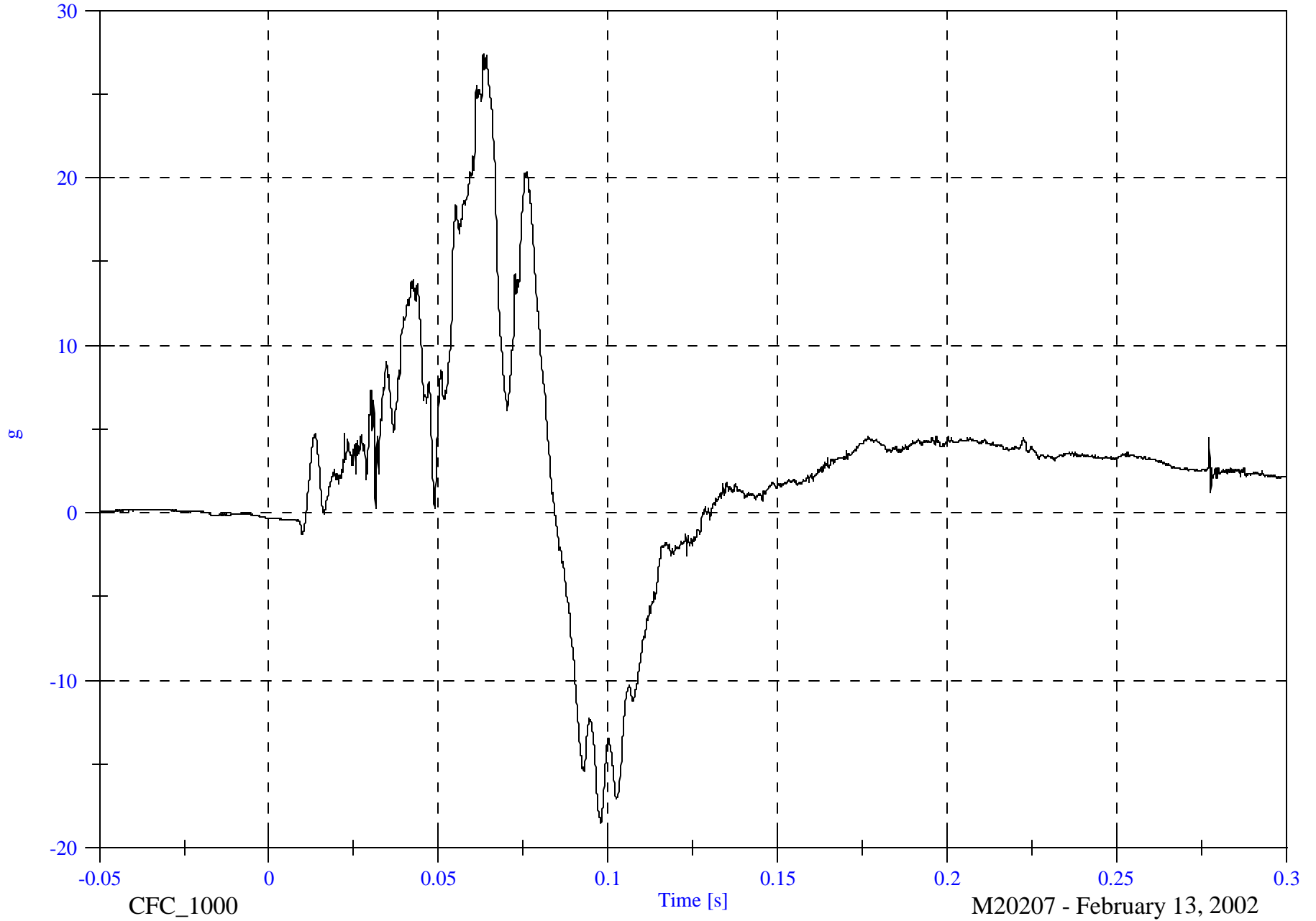
P2 Head 9 Array Y Arm Az

Max: 27.4 [g] at 0.063 [s]

Min: -18.5 [g] at 0.098 [s]

B-62

8462-NCAP-05

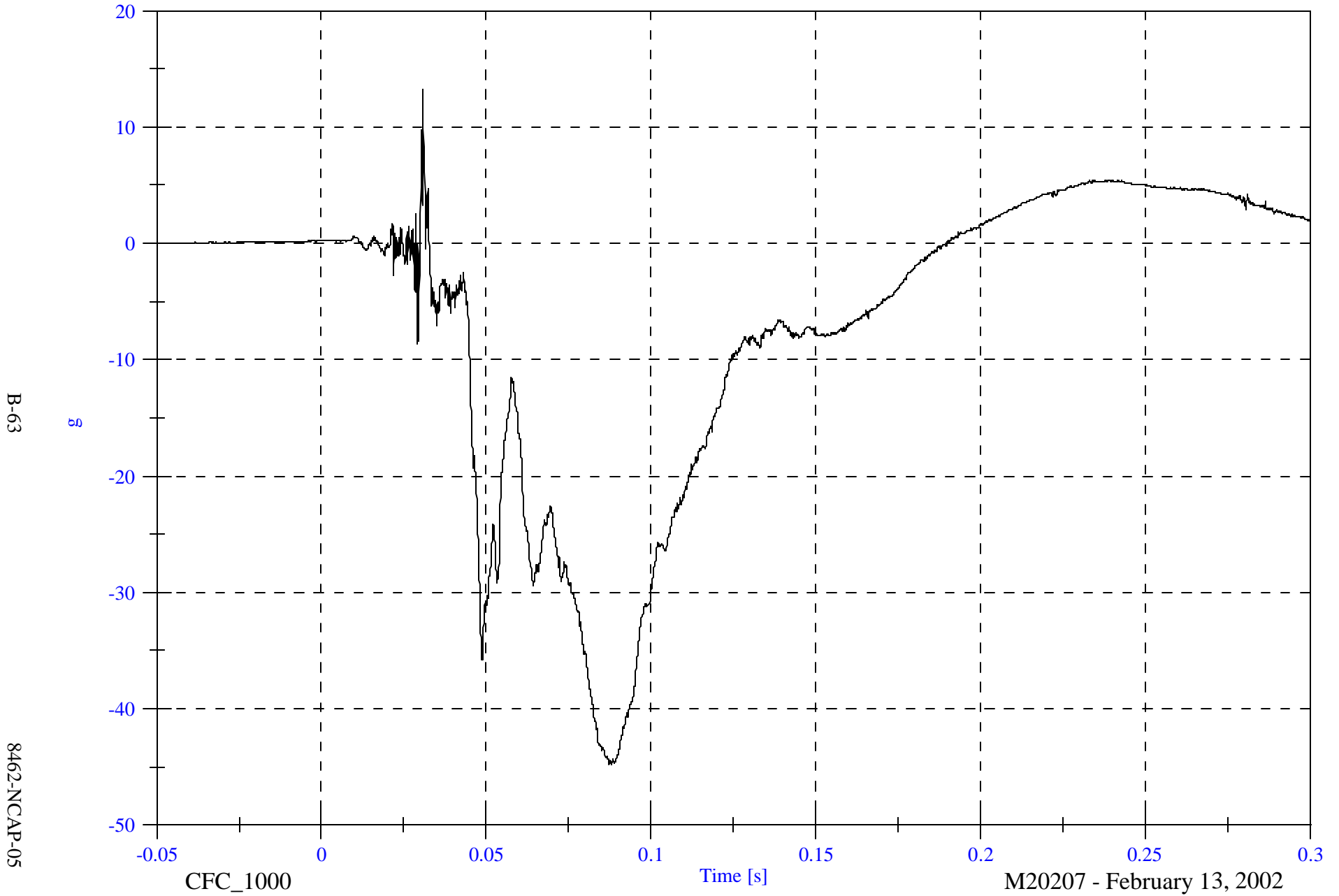


2002 NCAP Test 5 - 2002 Ford Focus

P2 Head 9 Array Z Arm Ax

Max: 13.2 [g] at 0.031 [s]

Min: -44.8 [g] at 0.088 [s]

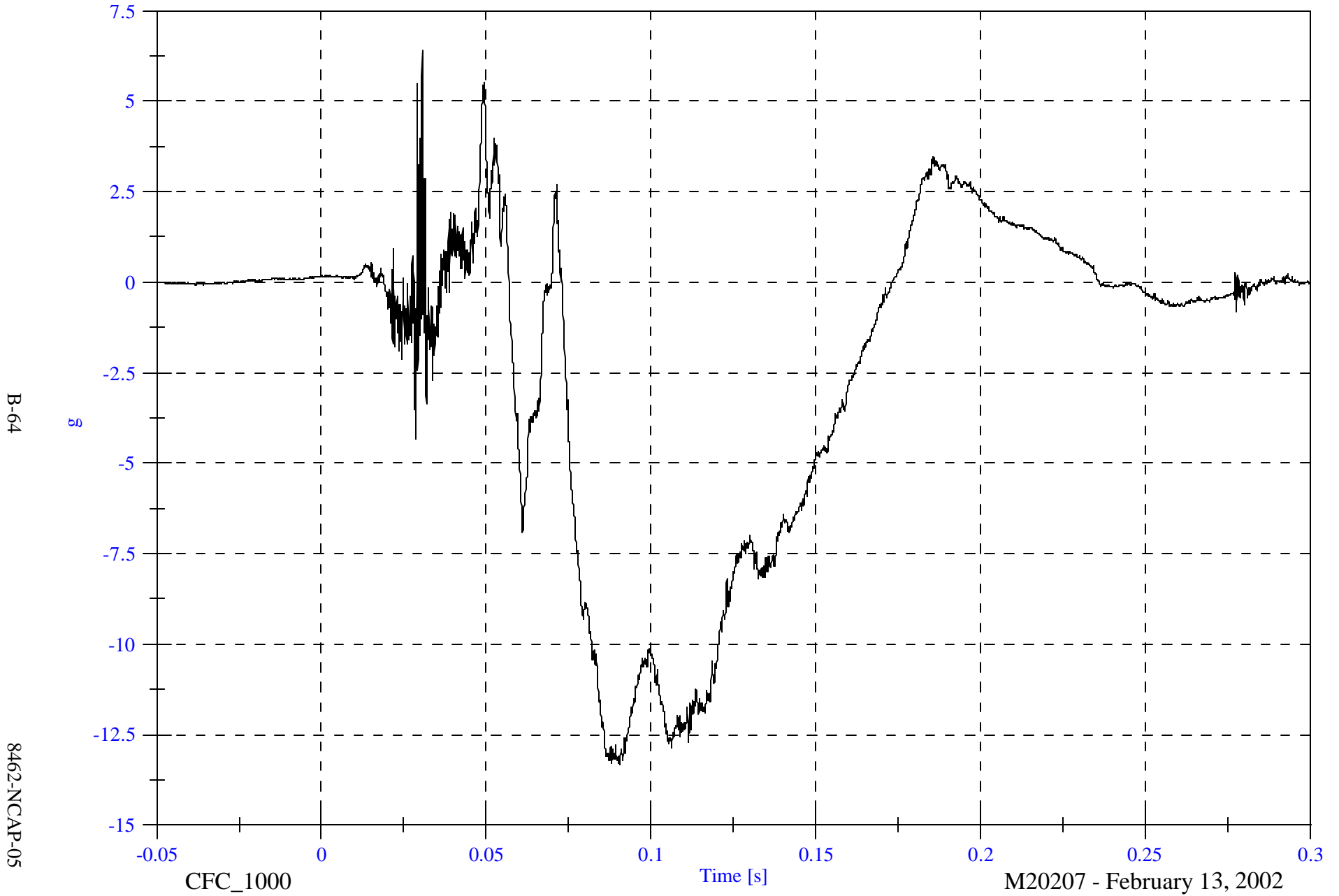


2002 NCAP Test 5 - 2002 Ford Focus

P2 Head 9 Array Z Arm Ay

Max: 6.4 [g] at 0.031 [s]

Min: -13.3 [g] at 0.091 [s]



2002 NCAP Test 5 - 2002 Ford Focus

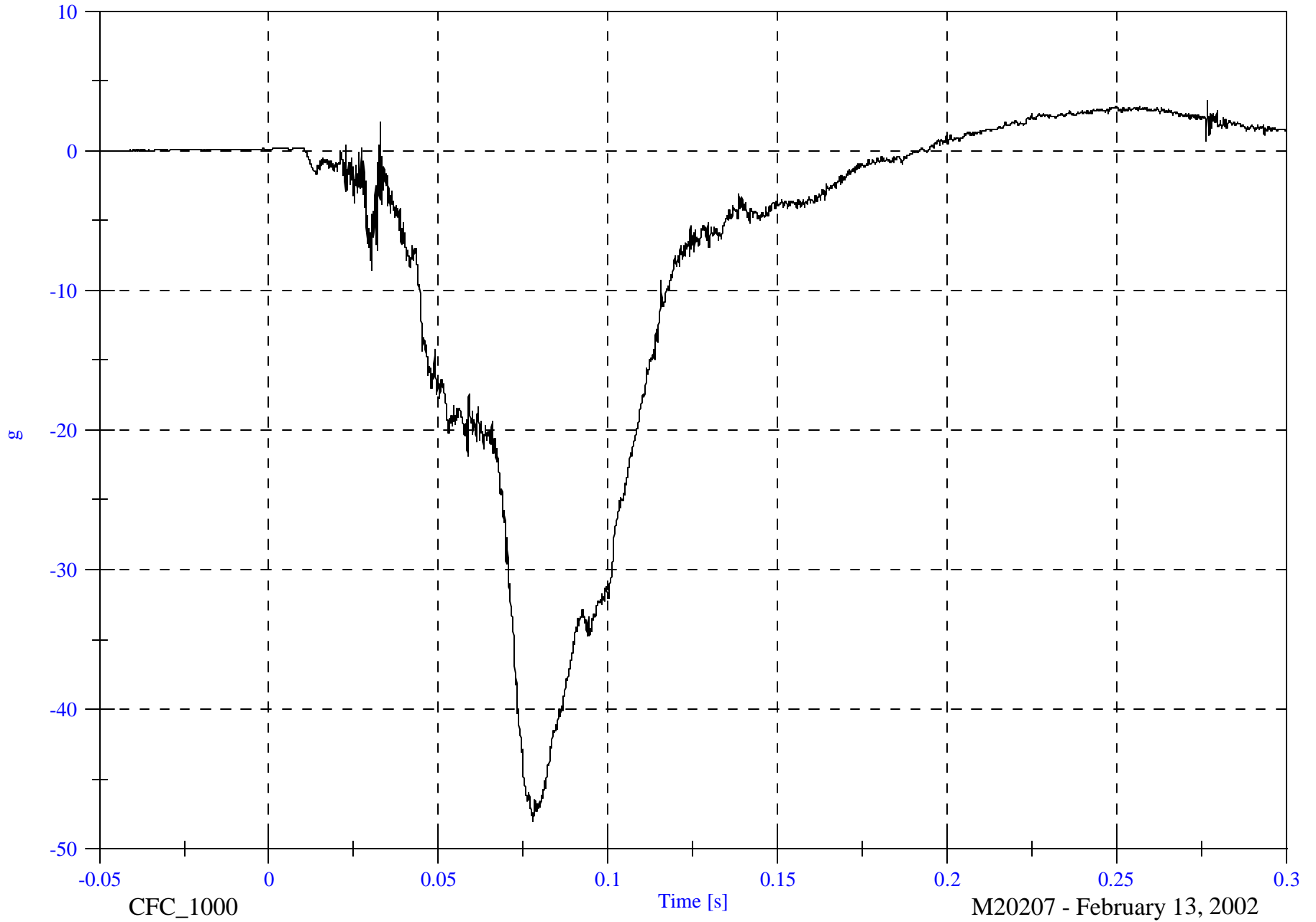
P2 Head CG x

Max: 3.6 [g] at 0.277 [s]

Min: -48.0 [g] at 0.078 [s]

B-65

8462-NCAP-05

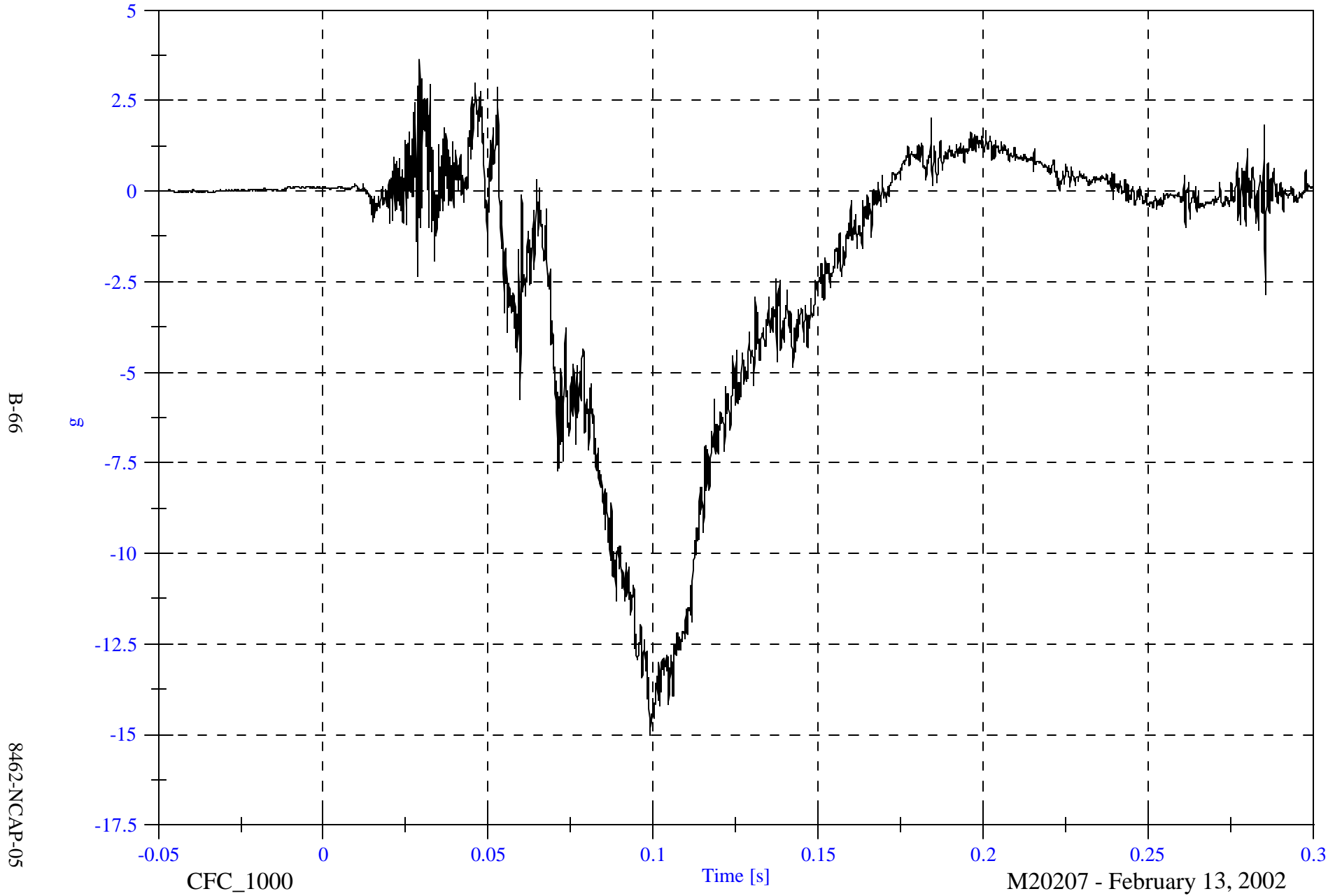


2002 NCAP Test 5 - 2002 Ford Focus

P2 Head CG y

Max: 3.6 [g] at 0.029 [s]

Min: -15.0 [g] at 0.099 [s]

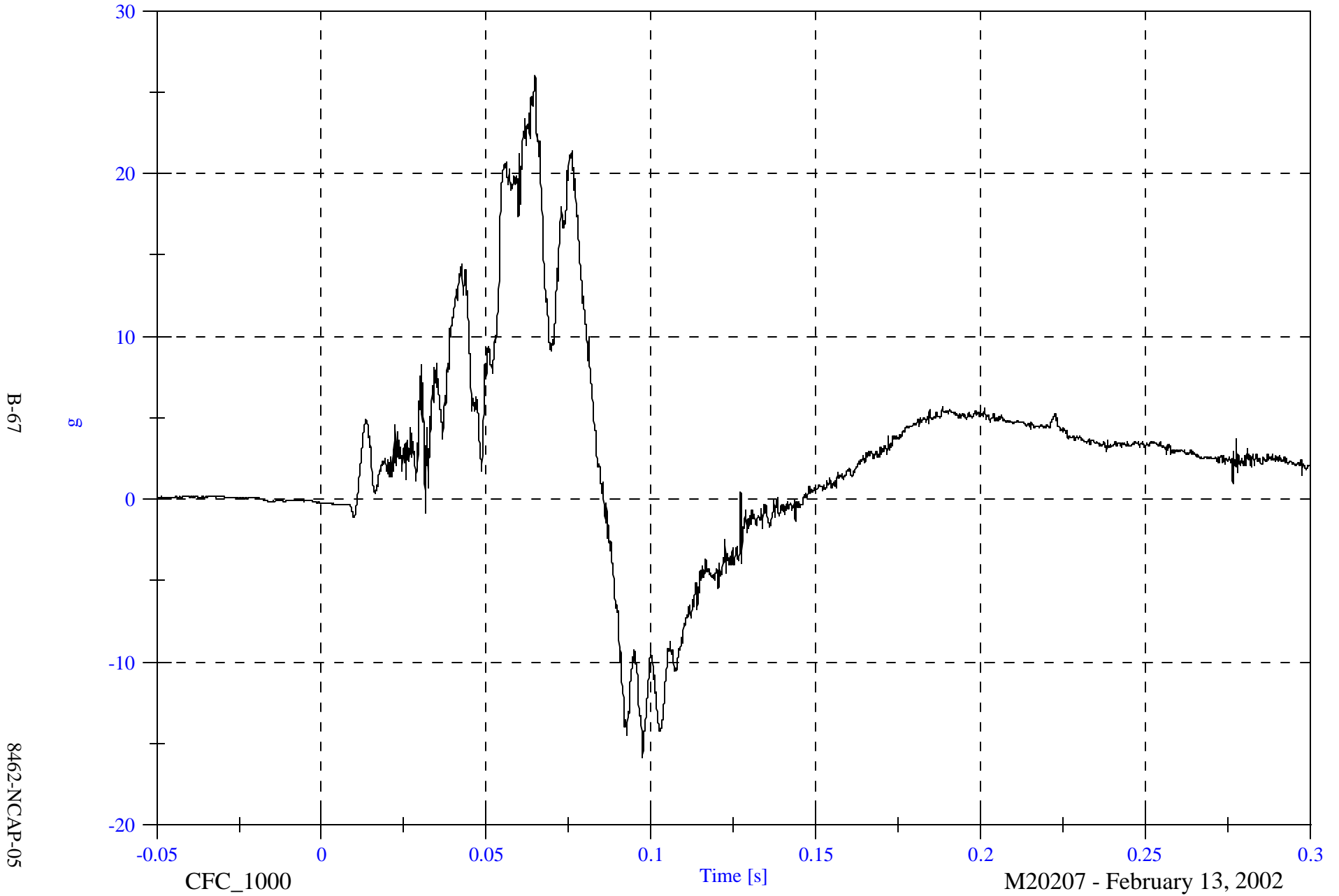


2002 NCAP Test 5 - 2002 Ford Focus

P2 Head CG z

Max: 26.0 [g] at 0.065 [s]

Min: -15.9 [g] at 0.097 [s]



B-67

8462-NCAP-05

CFC_1000

Time [s]

M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

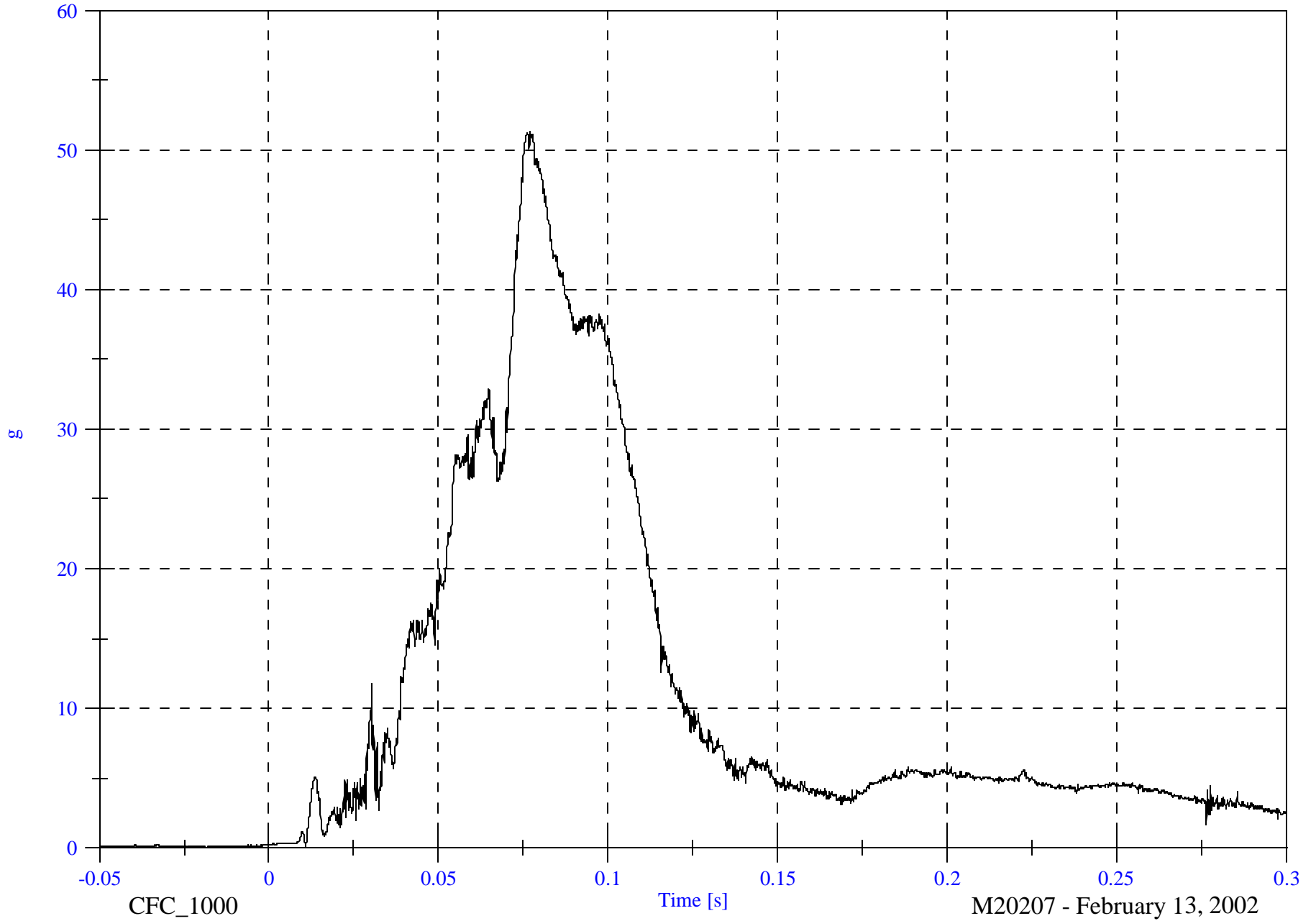
P2 Head CG Resultant

Max: 51.3 [g] at 0.077 [s]

Min: 0.0 [g] at 0.011 [s]

B-68

8462-NCAP-05



2002 NCAP Test 5 - 2002 Ford Focus

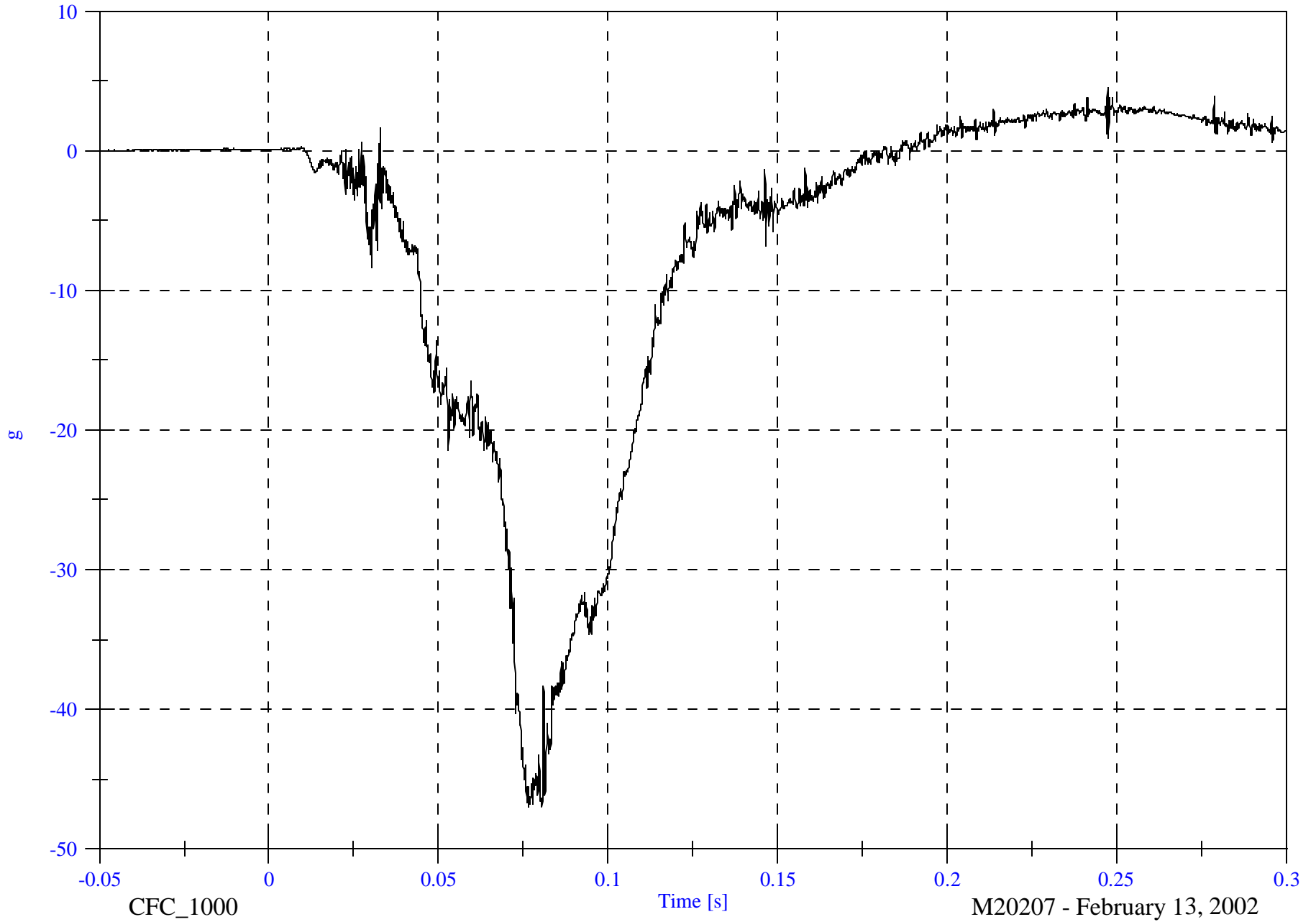
P2 Head CG Red x

Max: 4.5 [g] at 0.247 [s]

Min: -47.0 [g] at 0.080 [s]

B-69

8462-NCAP-05

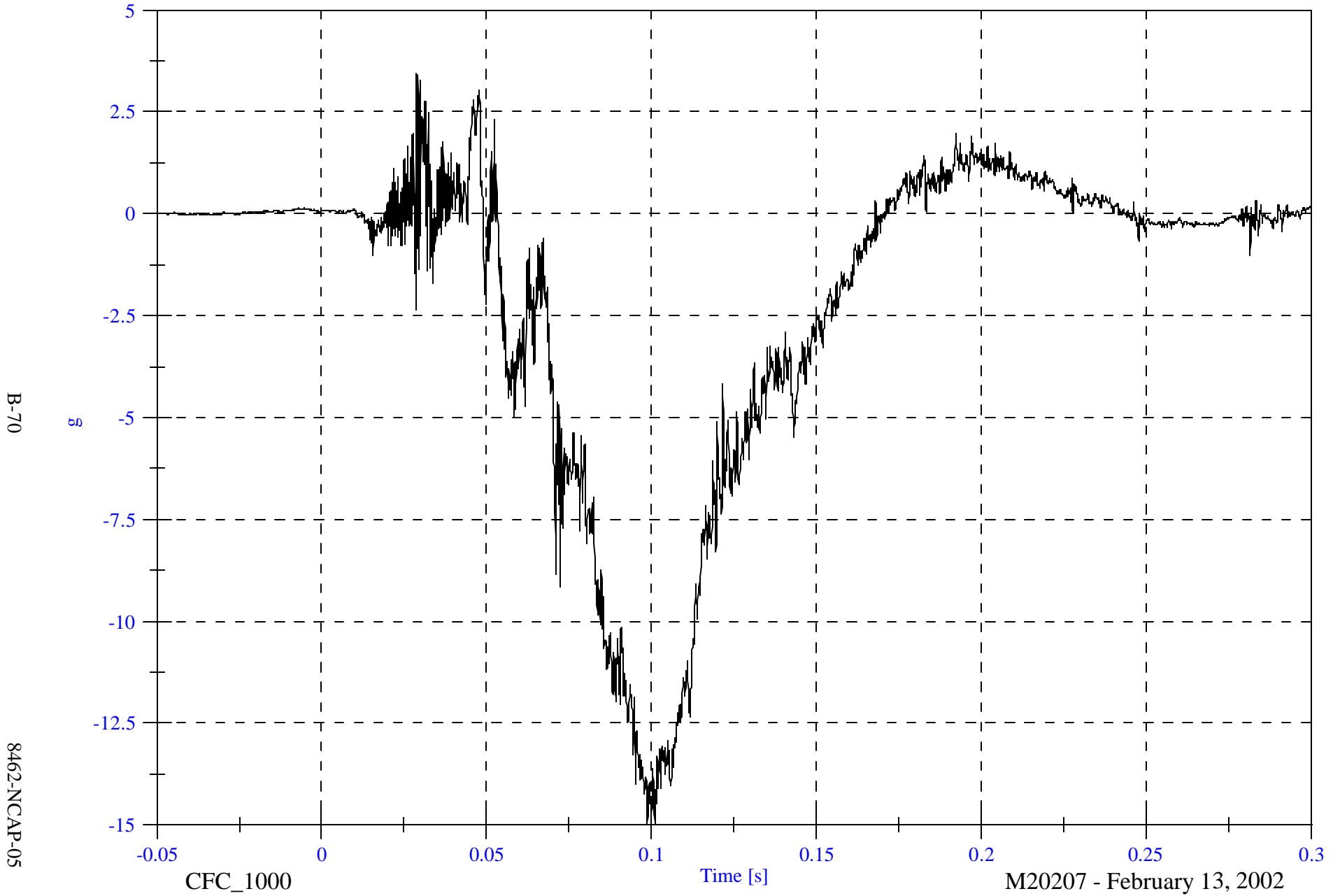


2002 NCAP Test 5 - 2002 Ford Focus

P2 Head CG Red y

Max: 3.4 [g] at 0.029 [s]

Min: -15.0 [g] at 0.099 [s]



B-70

8462-NCAP-05

CFC_1000

Time [s]

M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

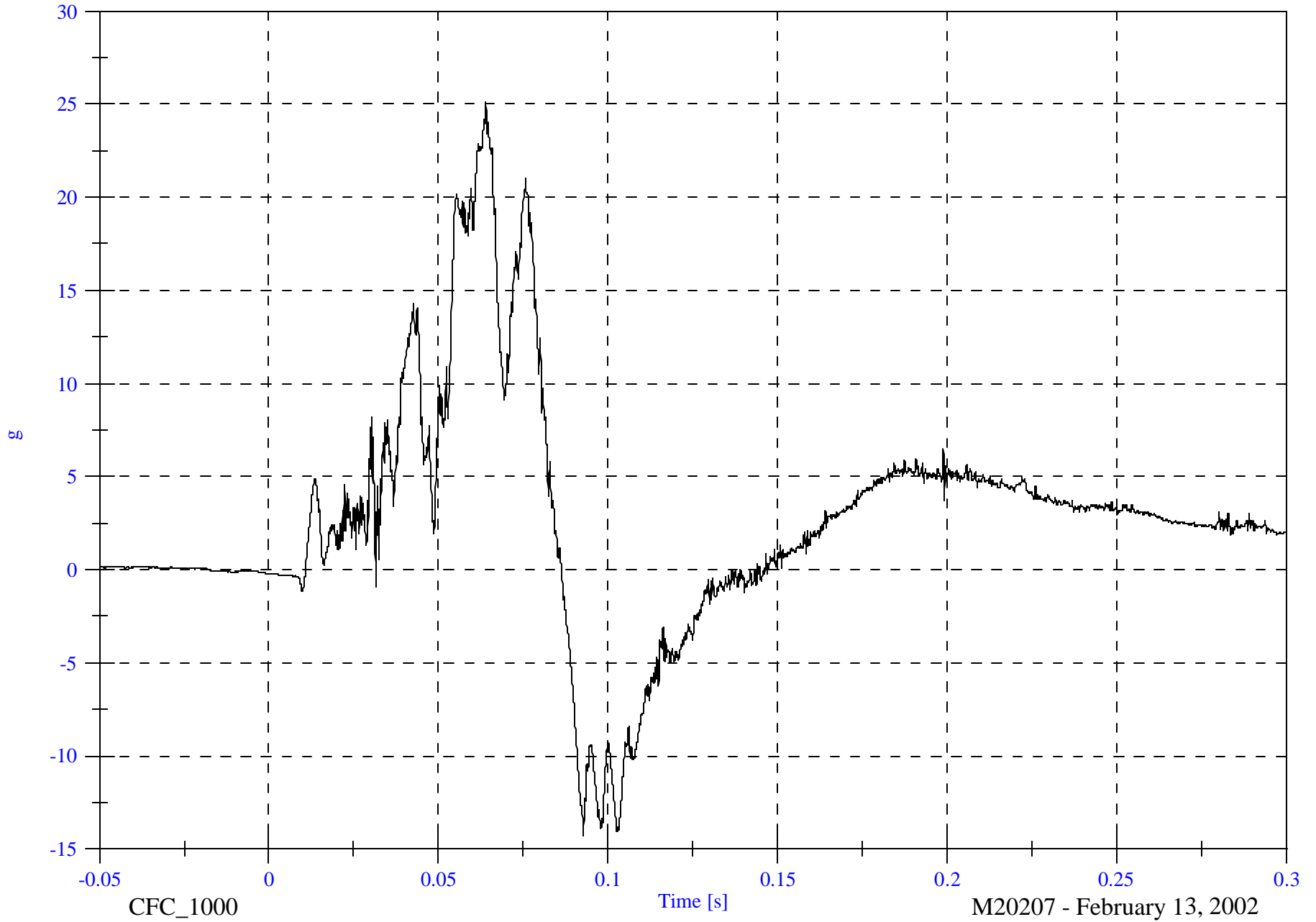
P2 Head CG Red z

Max: 25.1 [g] at 0.064 [s]

Min: -14.3 [g] at 0.093 [s]

B-71

8462-NCAP-05



CFC_1000

Time [s]

M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

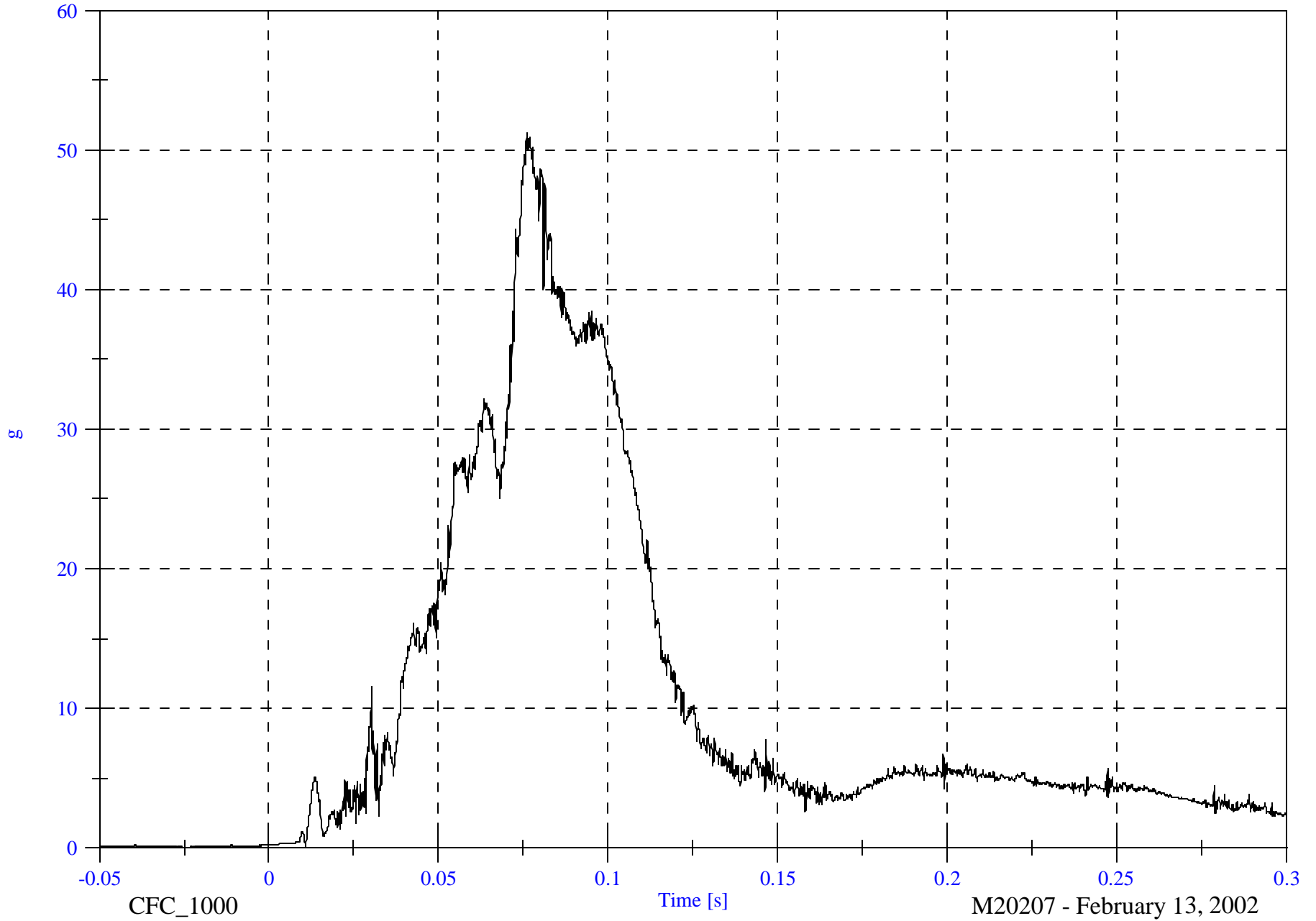
P2 Head CG Red Resultant

Max: 51.2 [g] at 0.076 [s]

Min: 0.0 [g] at -0.024 [s]

B-72

8462-NCAP-05

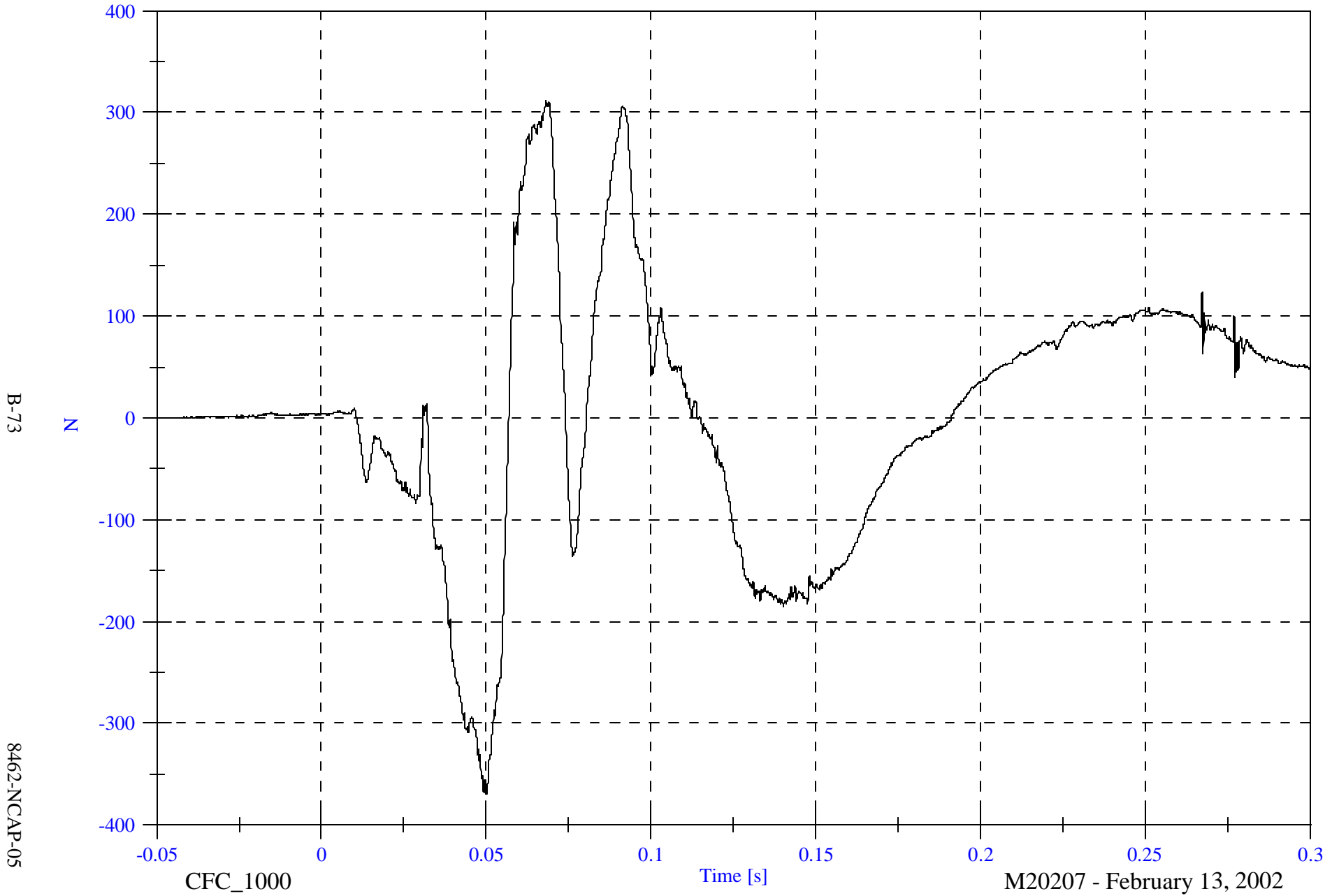


2002 NCAP Test 5 - 2002 Ford Focus

Max: 311.3 [N] at 0.068 [s]

Min: -369.8 [N] at 0.050 [s]

P2 Upper Neck Fx



B-73

8462-NCAP-05

CFC_1000

Time [s]

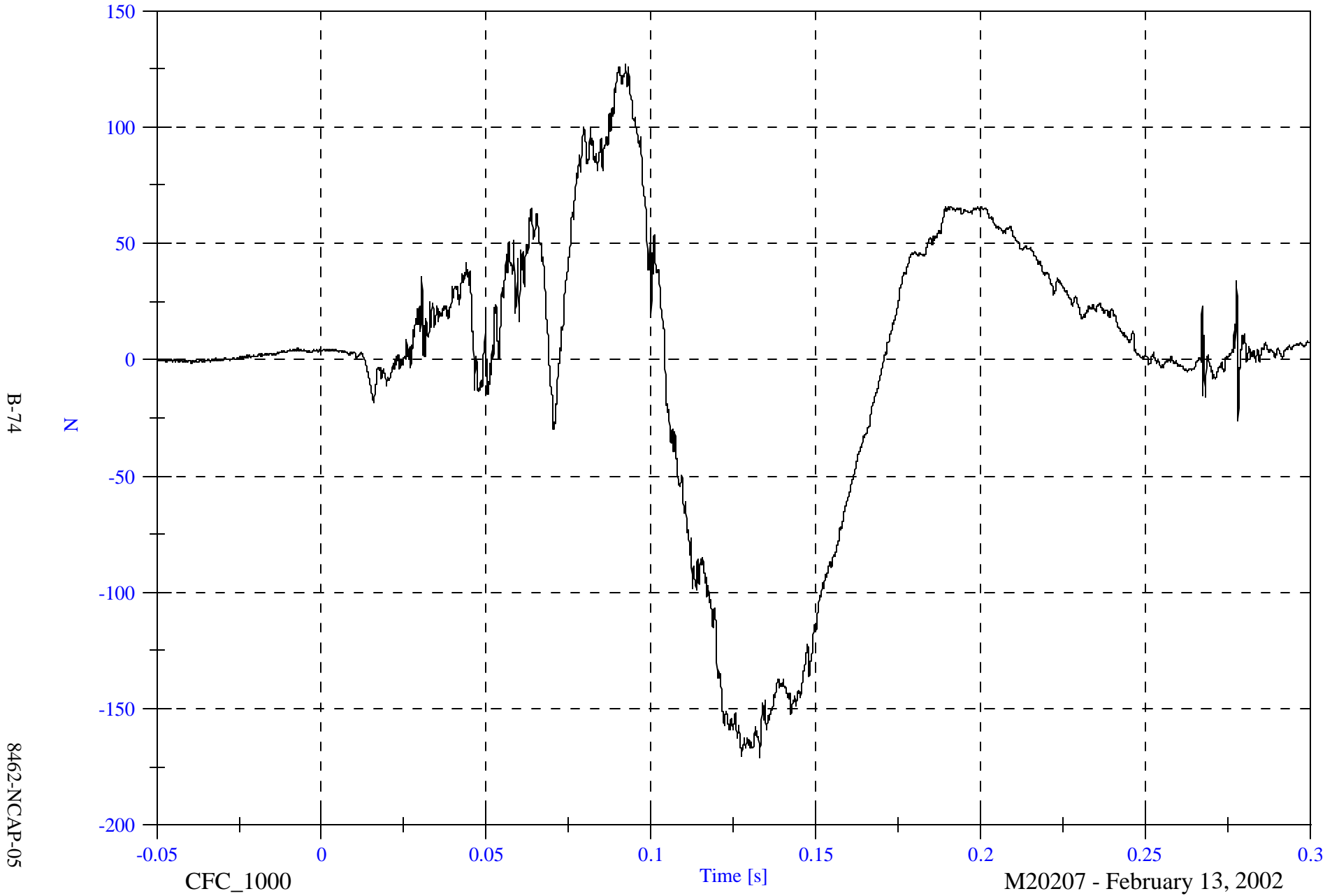
M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

P2 Upper Neck Fy

Max: 127.0 [N] at 0.092 [s]

Min: -170.8 [N] at 0.133 [s]



B-74

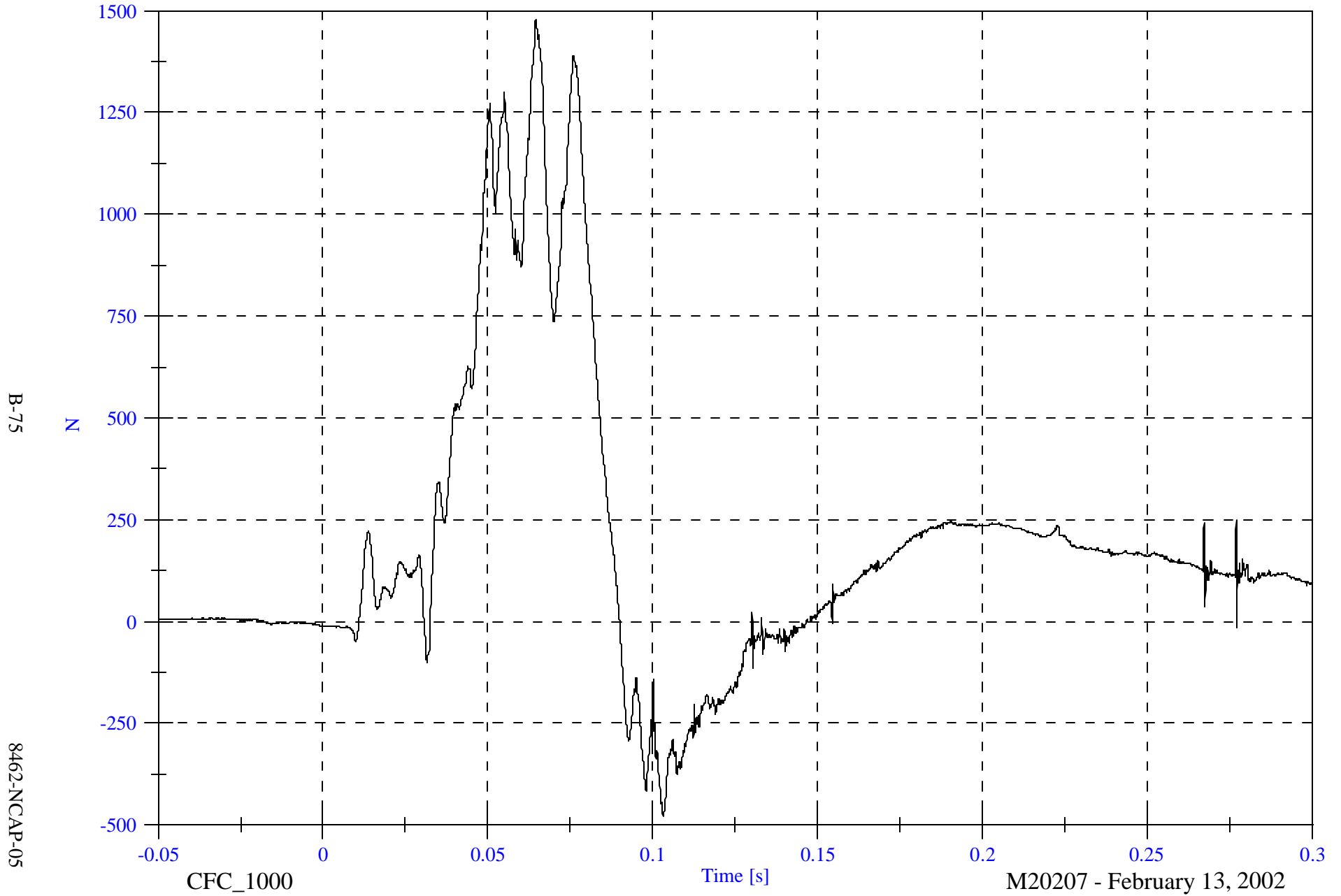
8462-NCAP-05

2002 NCAP Test 5 - 2002 Ford Focus

Max: 1478.2 [N] at 0.065 [s]

P2 Upper Neck Fz

Min: -478.7 [N] at 0.103 [s]

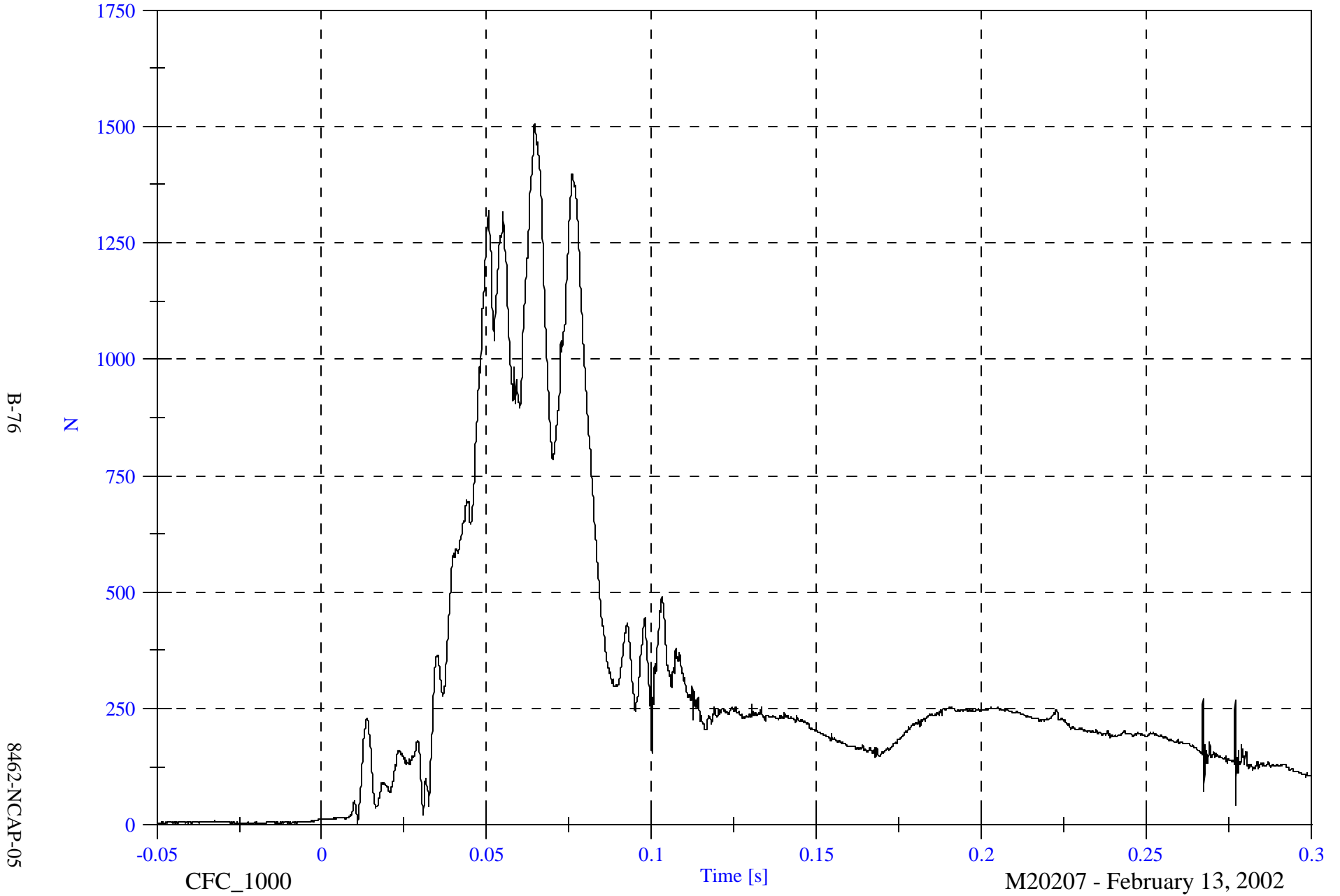


2002 NCAP Test 5 - 2002 Ford Focus

P2 Upper Neck F Resultant

Max: 1507.1 [N] at 0.065 [s]

Min: 3.0 [N] at -0.024 [s]



B-76

8462-NCAP-05

CFC_1000

Time [s]

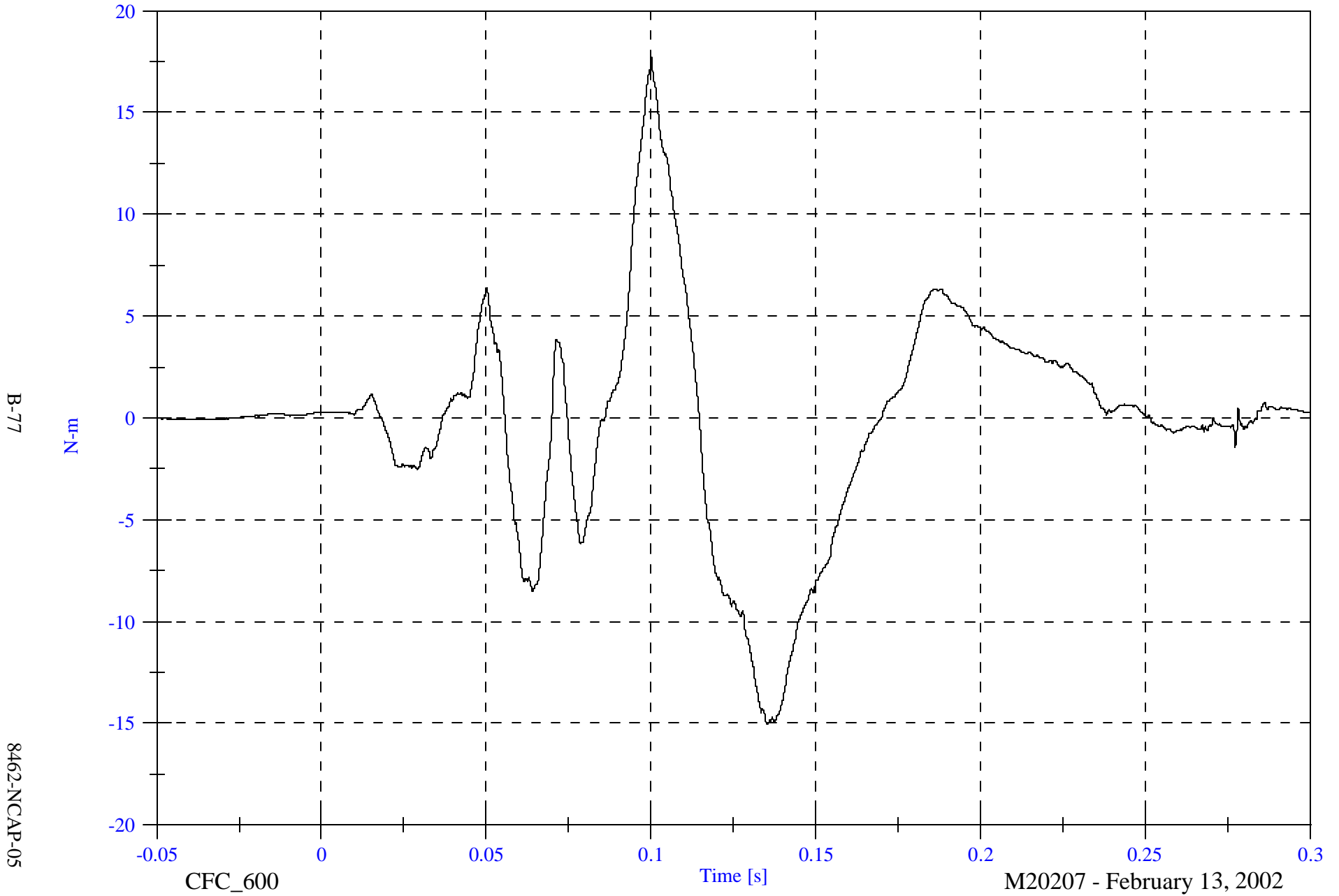
M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

P2 Upper Neck Mx

Max: 17.7 [N-m] at 0.100 [s]

Min: -15.0 [N-m] at 0.136 [s]



B-77

8462-NCAP-05

CFC_600

Time [s]

M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

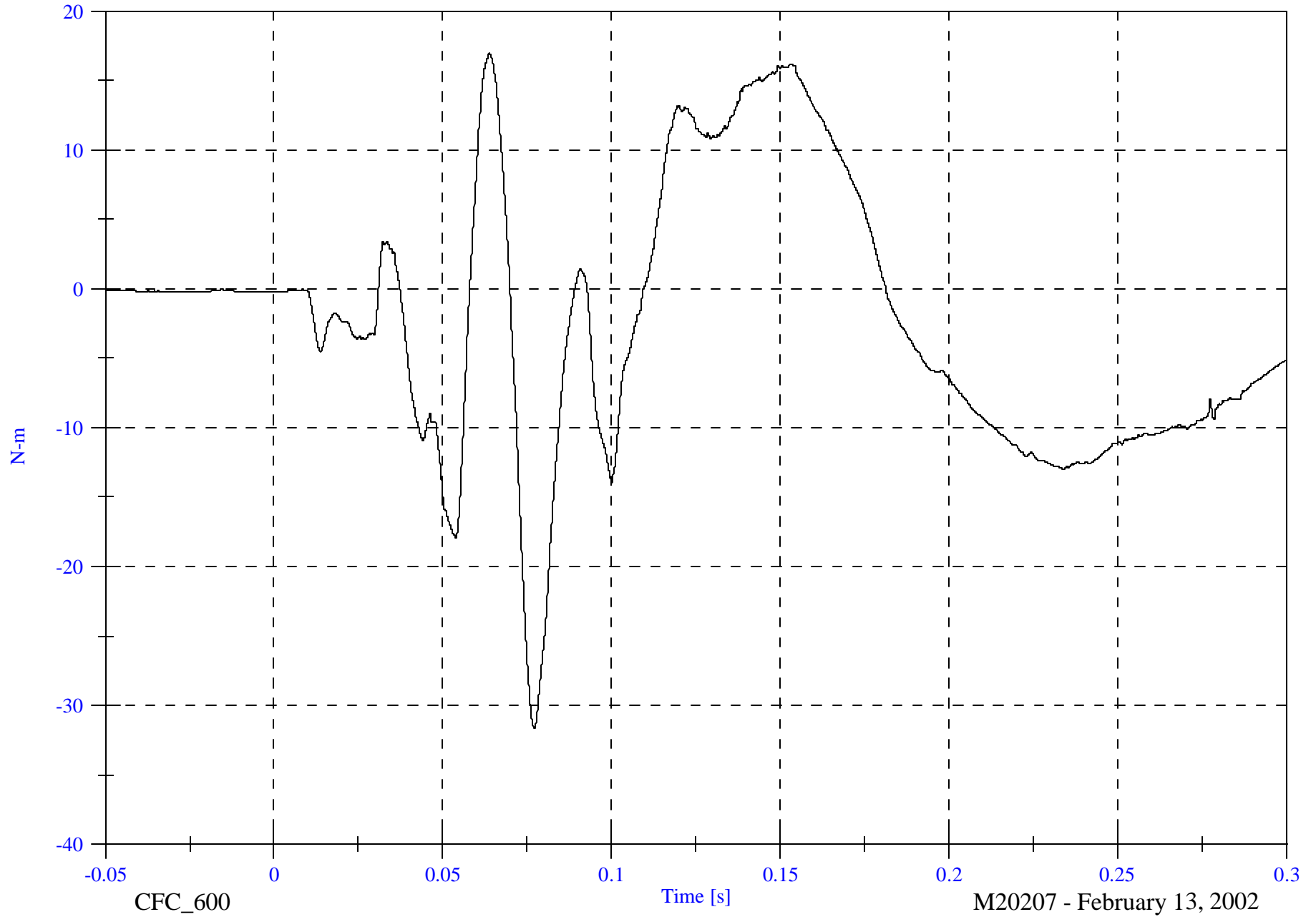
P2 Upper Neck My

Max: 17.0 [N-m] at 0.064 [s]

Min: -31.6 [N-m] at 0.077 [s]

B-78

8462-NCAP-05



CFC_600

Time [s]

M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

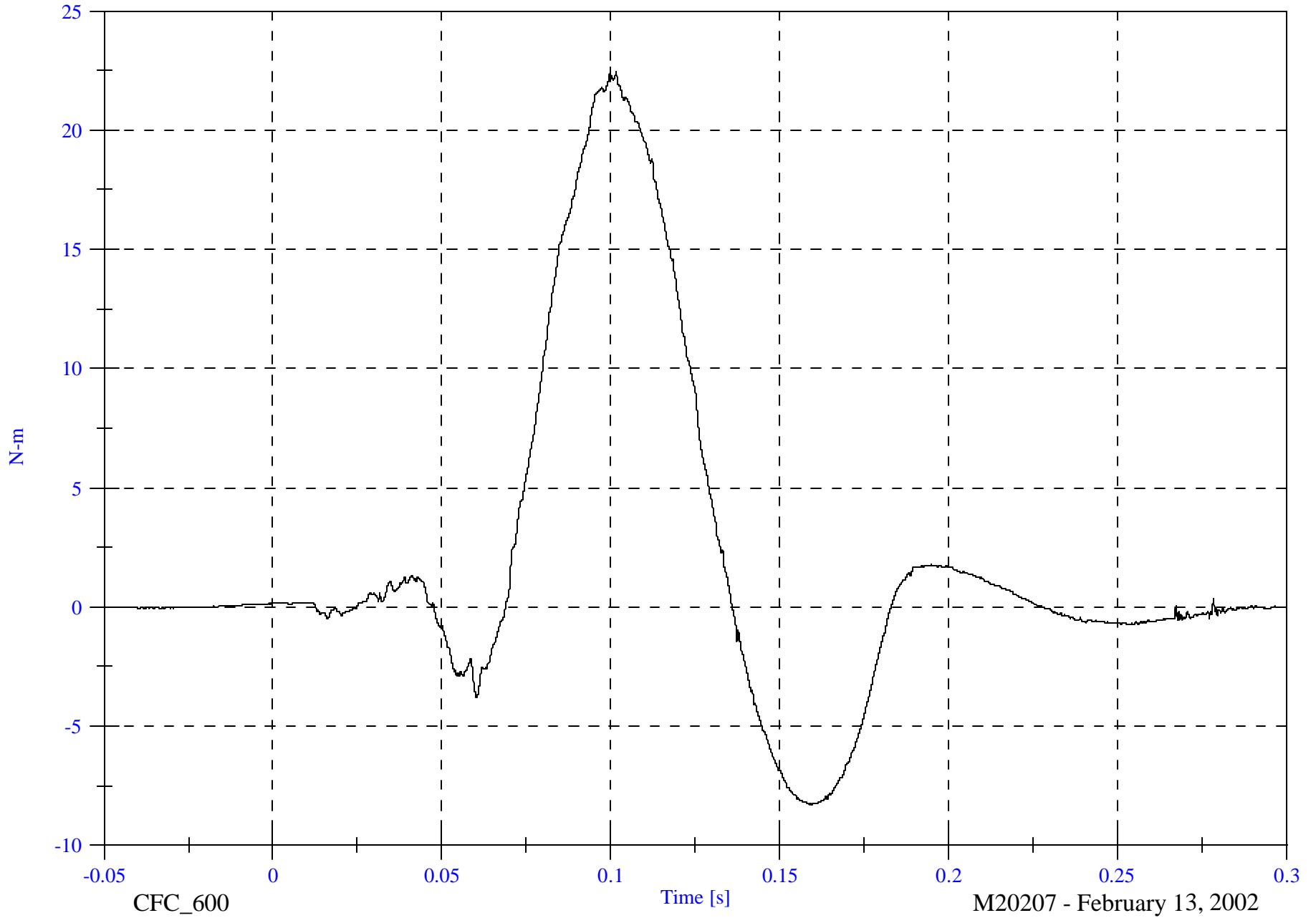
P2 Upper Neck Mz

Max: 22.6 [N-m] at 0.100 [s]

Min: -8.3 [N-m] at 0.160 [s]

B-79

8462-NCAP-05



CFC_600

Time [s]

M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

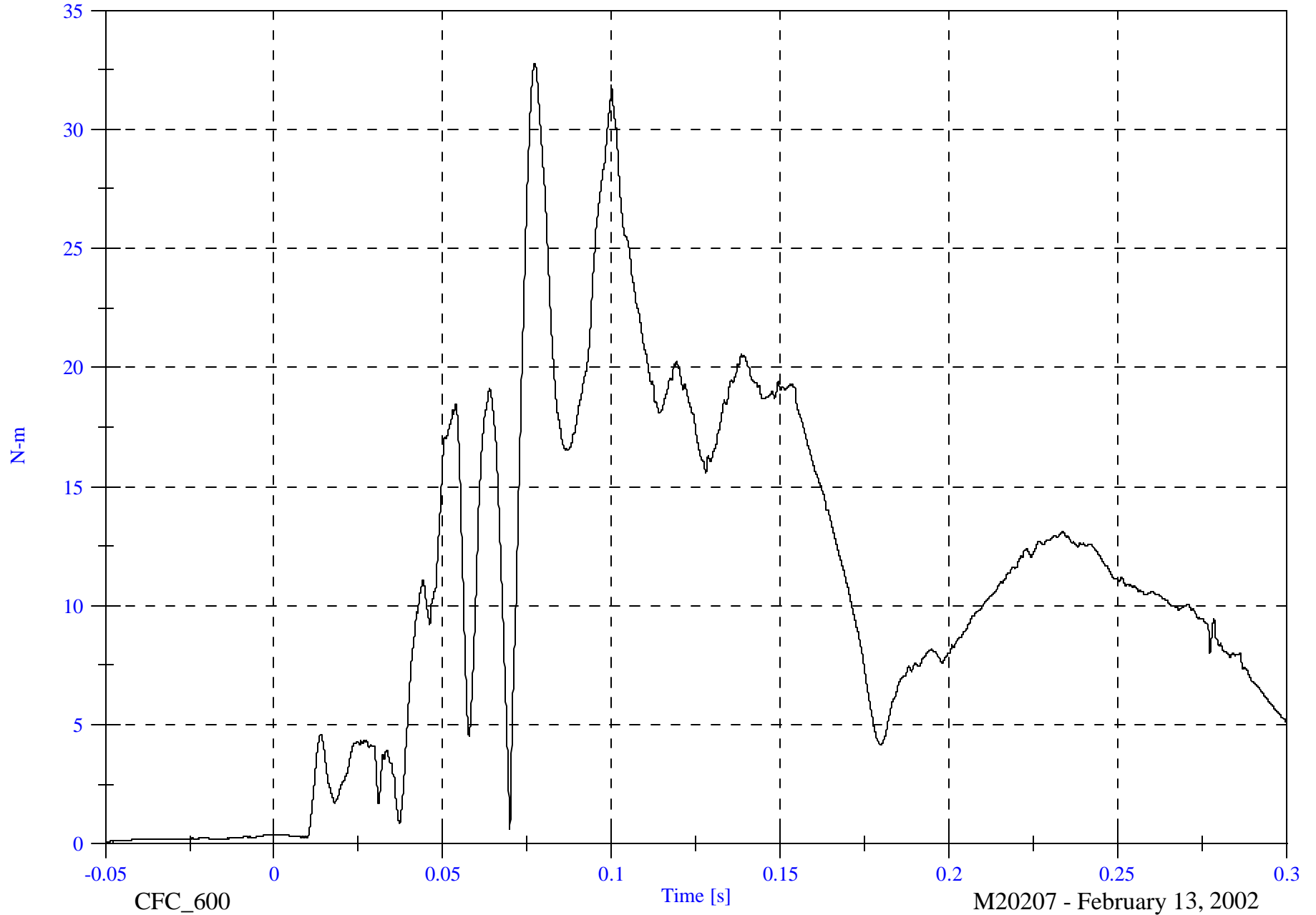
P2 Upper Neck M Resultant

Max: 32.8 [N-m] at 0.077 [s]

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

B-80

8462-NCAP-05

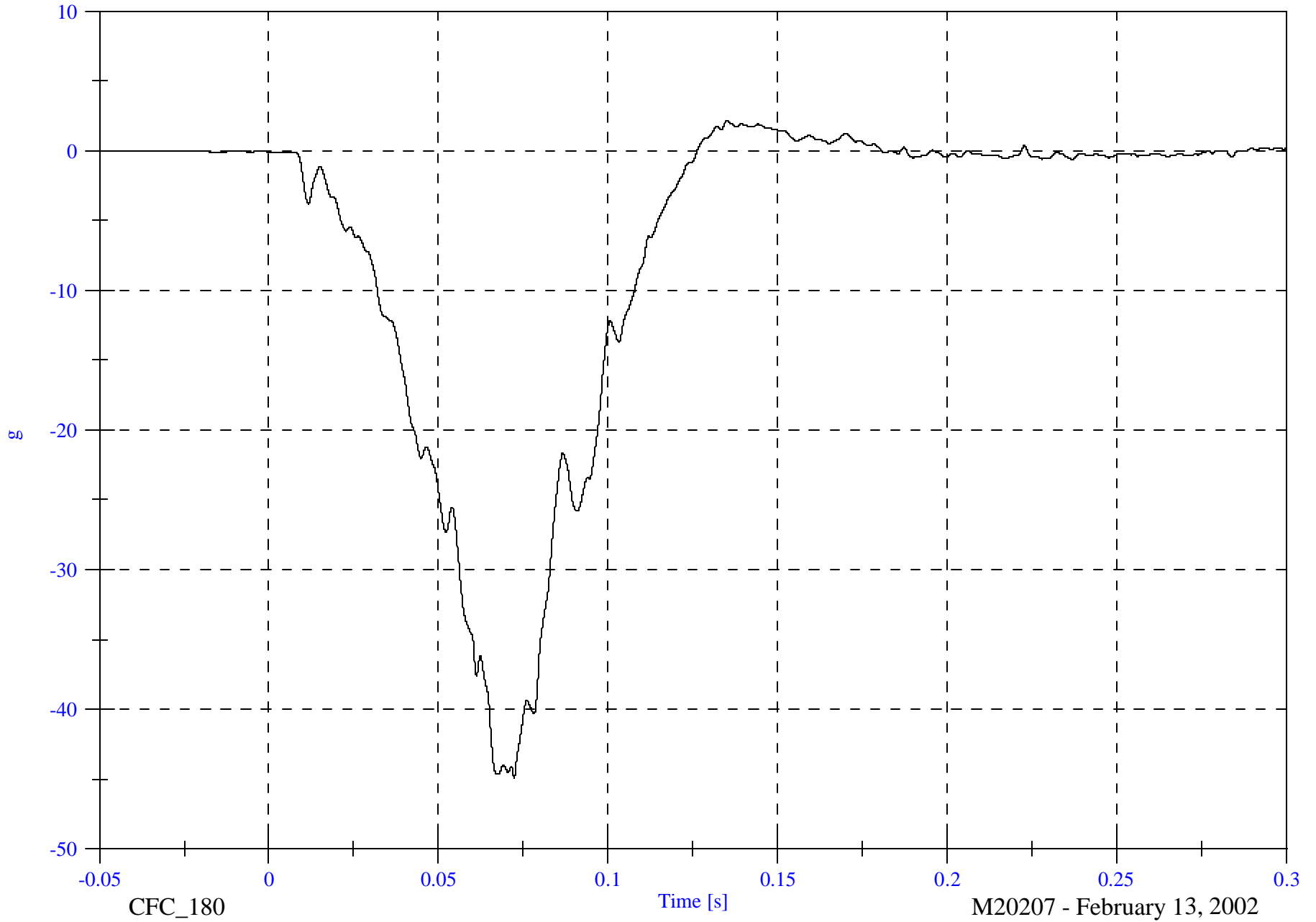


2002 NCAP Test 5 - 2002 Ford Focus

P2 Chest x

Max: 2.1 [g] at 0.135 [s]

Min: -44.9 [g] at 0.072 [s]



B-81

8462-NCAP-05

CFC_180

Time [s]

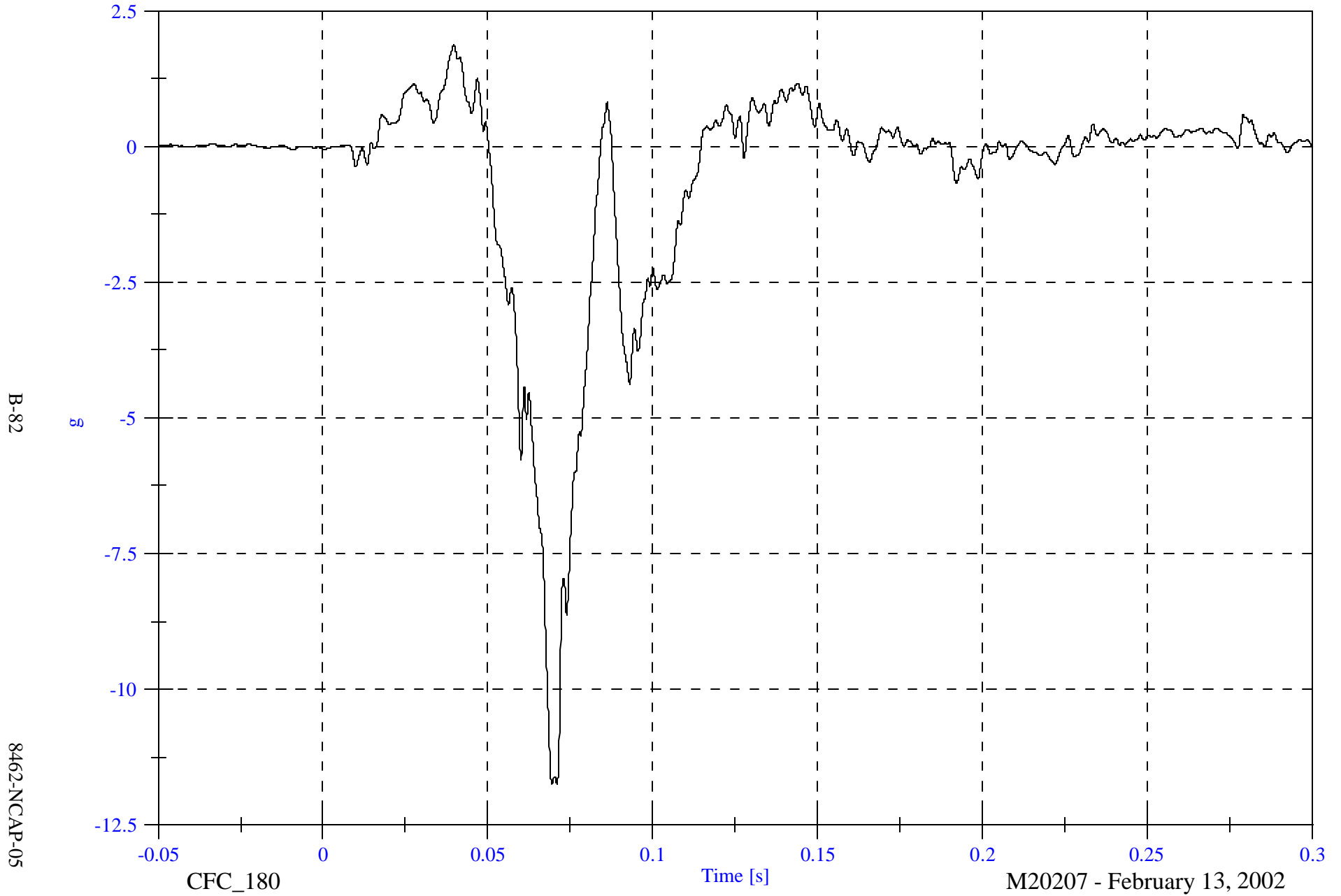
M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

P2 Chest y

Max: 1.9 [g] at 0.040 [s]

Min: -11.7 [g] at 0.069 [s]



B-82

8462-NCAP-05

CFC_180

Time [s]

M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

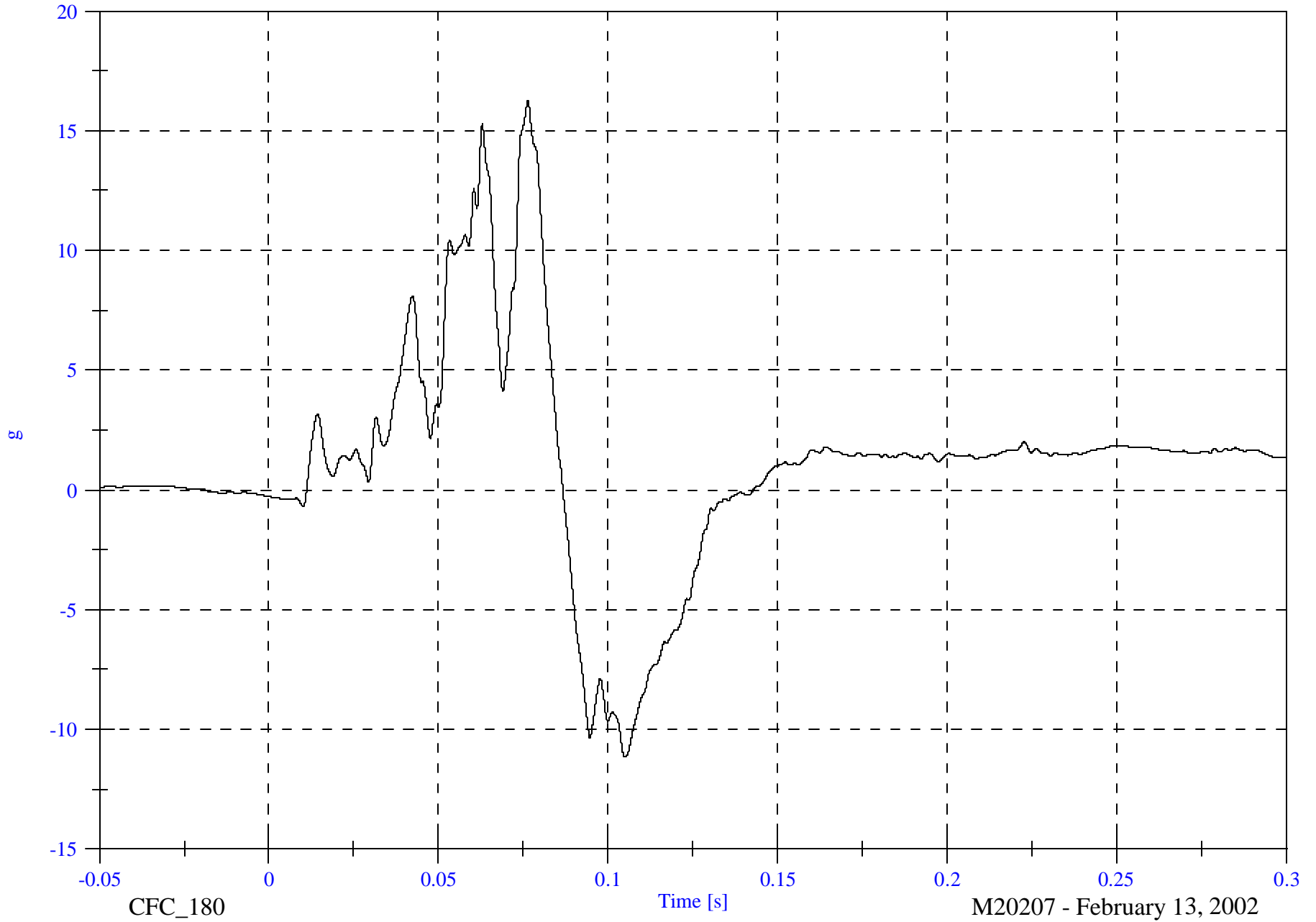
P2 Chest z

Max: 16.2 [g] at 0.076 [s]

Min: -11.1 [g] at 0.105 [s]

B-83

8462-NCAP-05



2002 NCAP Test 5 - 2002 Ford Focus

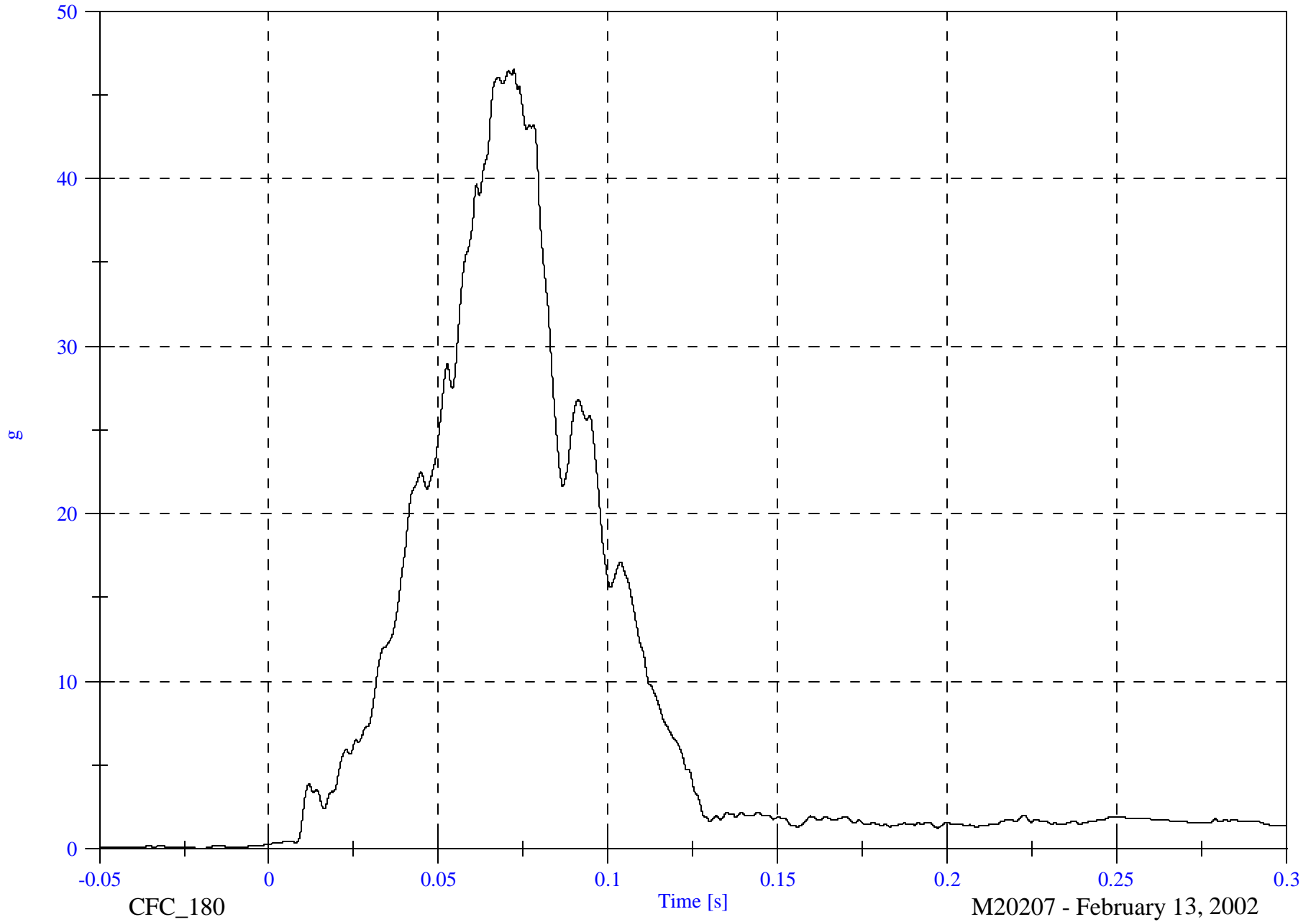
P2 Chest Resultant

Max: 46.5 [g] at 0.072 [s]

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

B-84

8462-NCAP-05



2002 NCAP Test 5 - 2002 Ford Focus

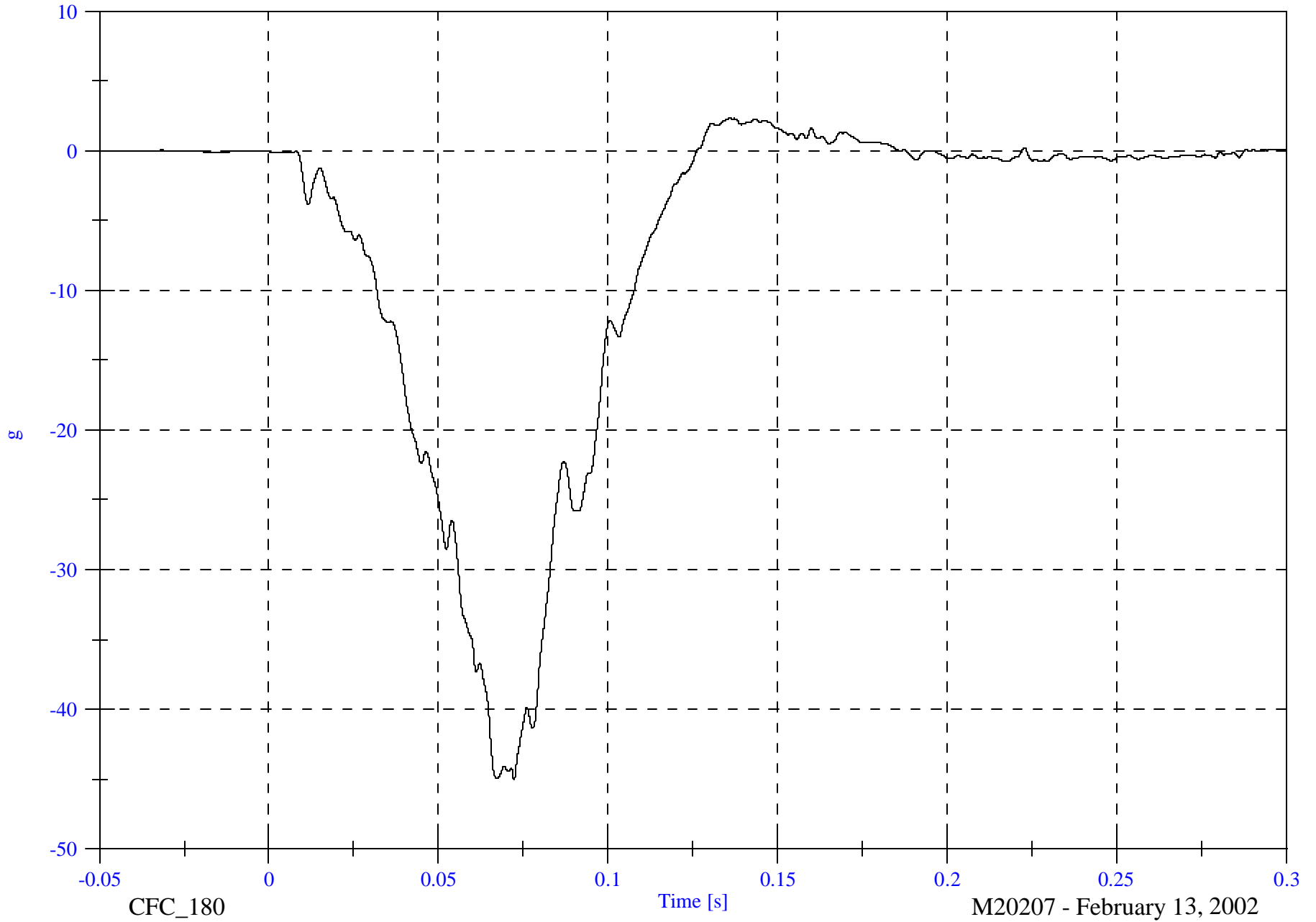
P2 Chest Red x

Max: 2.3 [g] at 0.136 [s]

Min: -45.1 [g] at 0.072 [s]

B-85

8462-NCAP-05



2002 NCAP Test 5 - 2002 Ford Focus

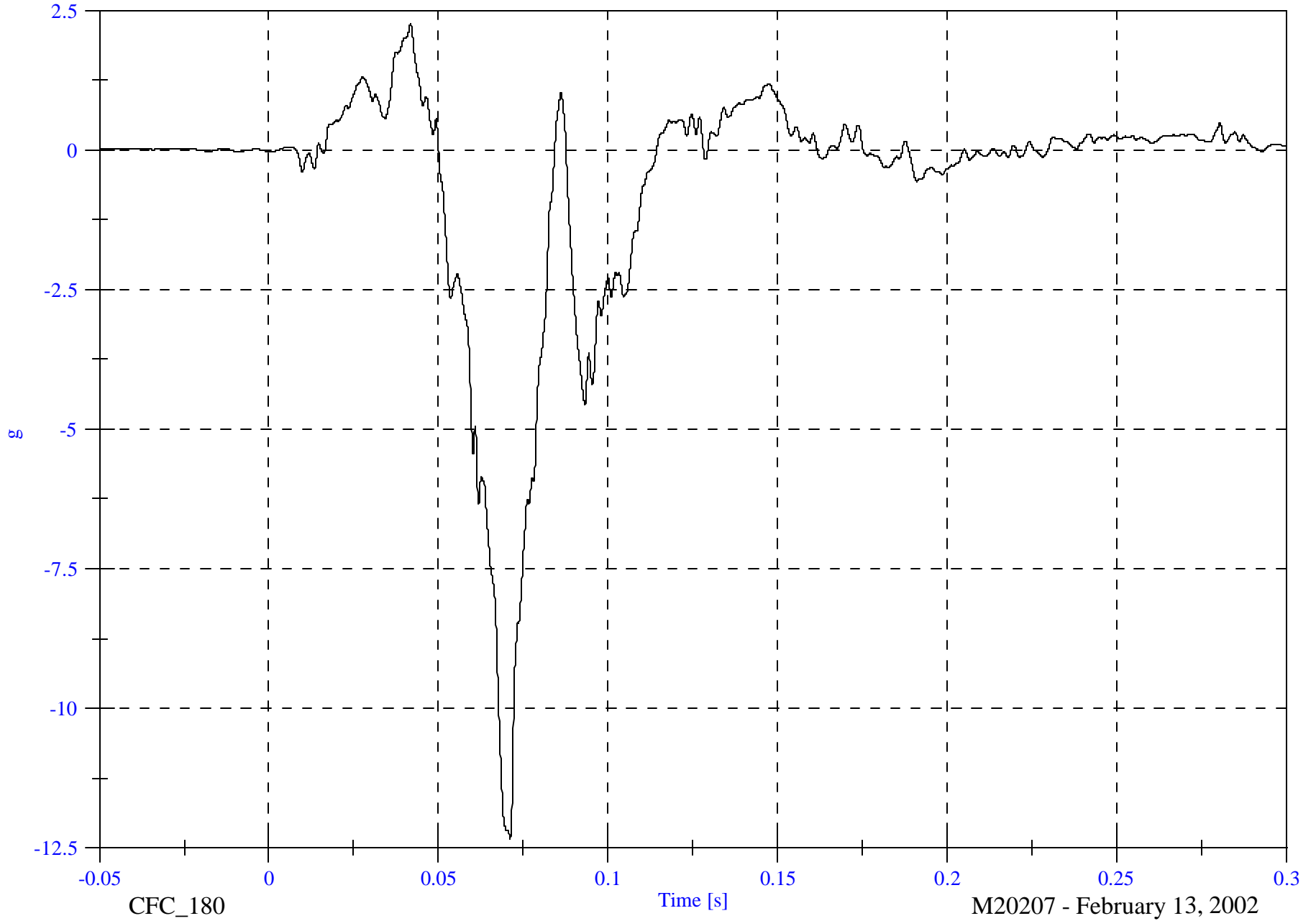
P2 Chest Red y

Max: 2.3 [g] at 0.042 [s]

Min: -12.3 [g] at 0.071 [s]

B-86

8462-NCAP-05



2002 NCAP Test 5 - 2002 Ford Focus

P2 Chest Red z

Max: 15.5 [g] at 0.076 [s]

Min: -11.5 [g] at 0.105 [s]

B-87

8462-NCAP-05



2002 NCAP Test 5 - 2002 Ford Focus

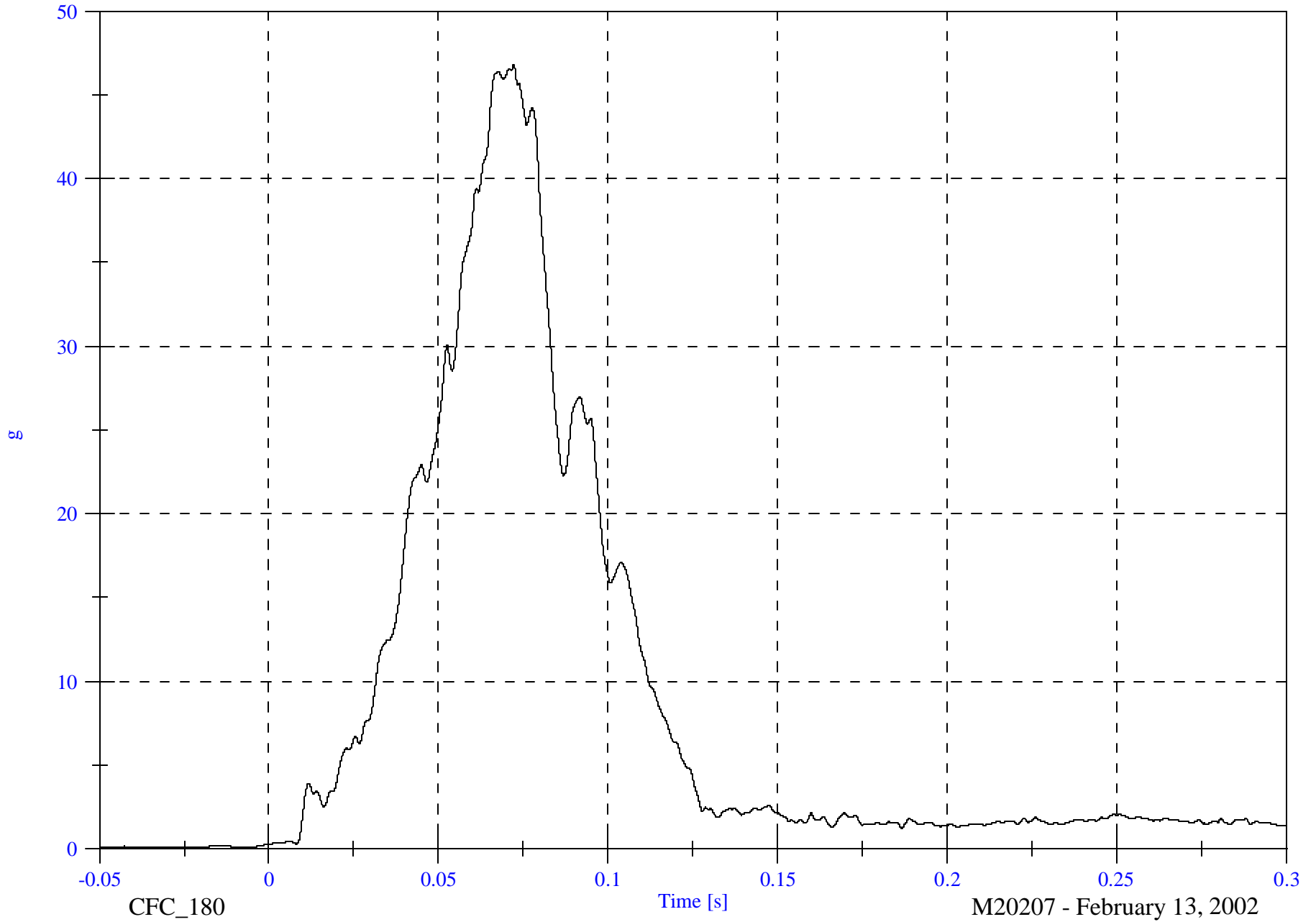
P2 Chest Red Resultant

Max: 46.8 [g] at 0.072 [s]

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

B-88

8462-NCAP-05



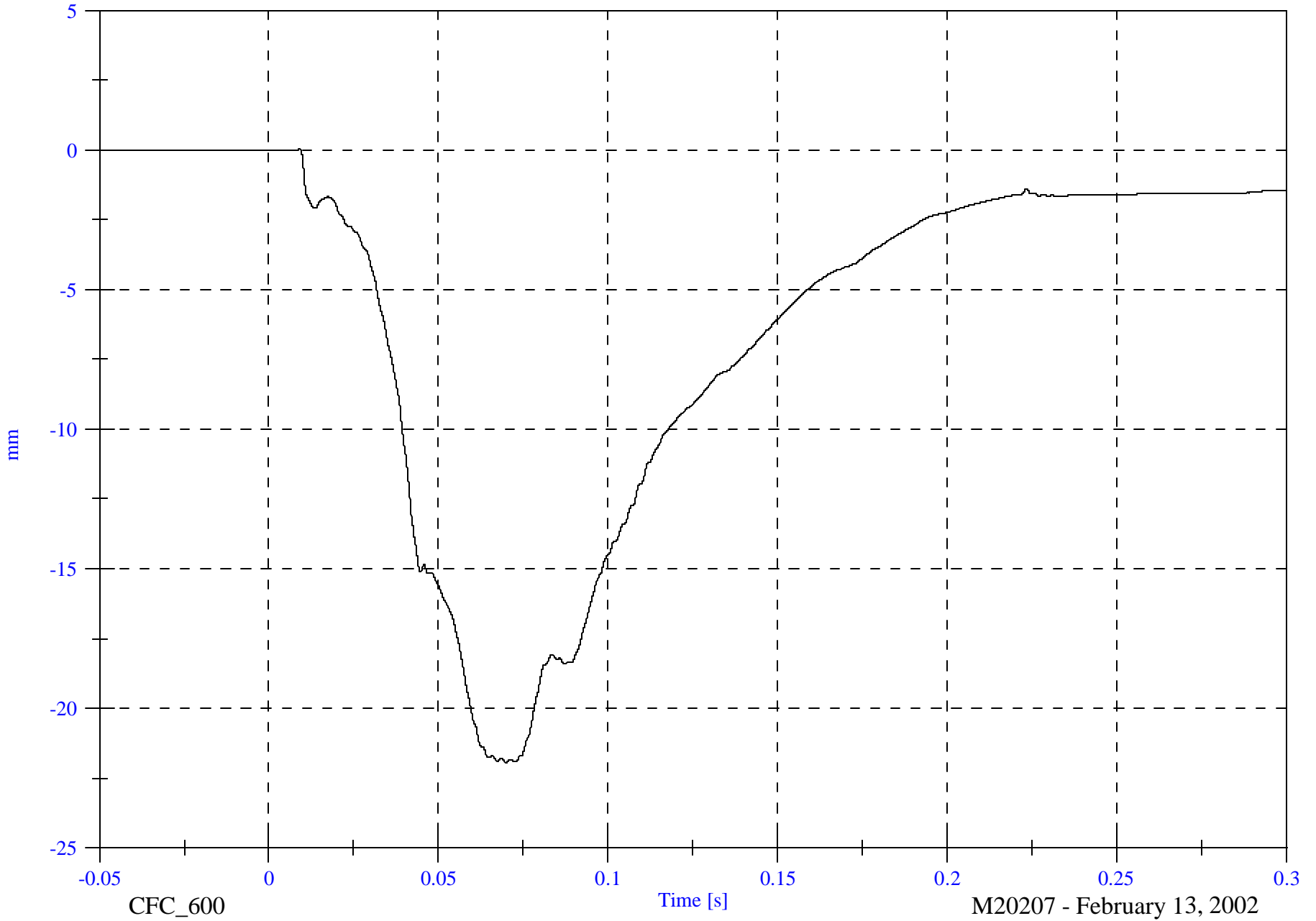
2002 NCAP Test 5 - 2002 Ford Focus

P2 Chest Compression

Max: 0.0 [mm] at 0.009 [s]
Min: -21.9 [mm] at 0.070 [s]

B-89

8462-NCAP-05



CFC_600

Time [s]

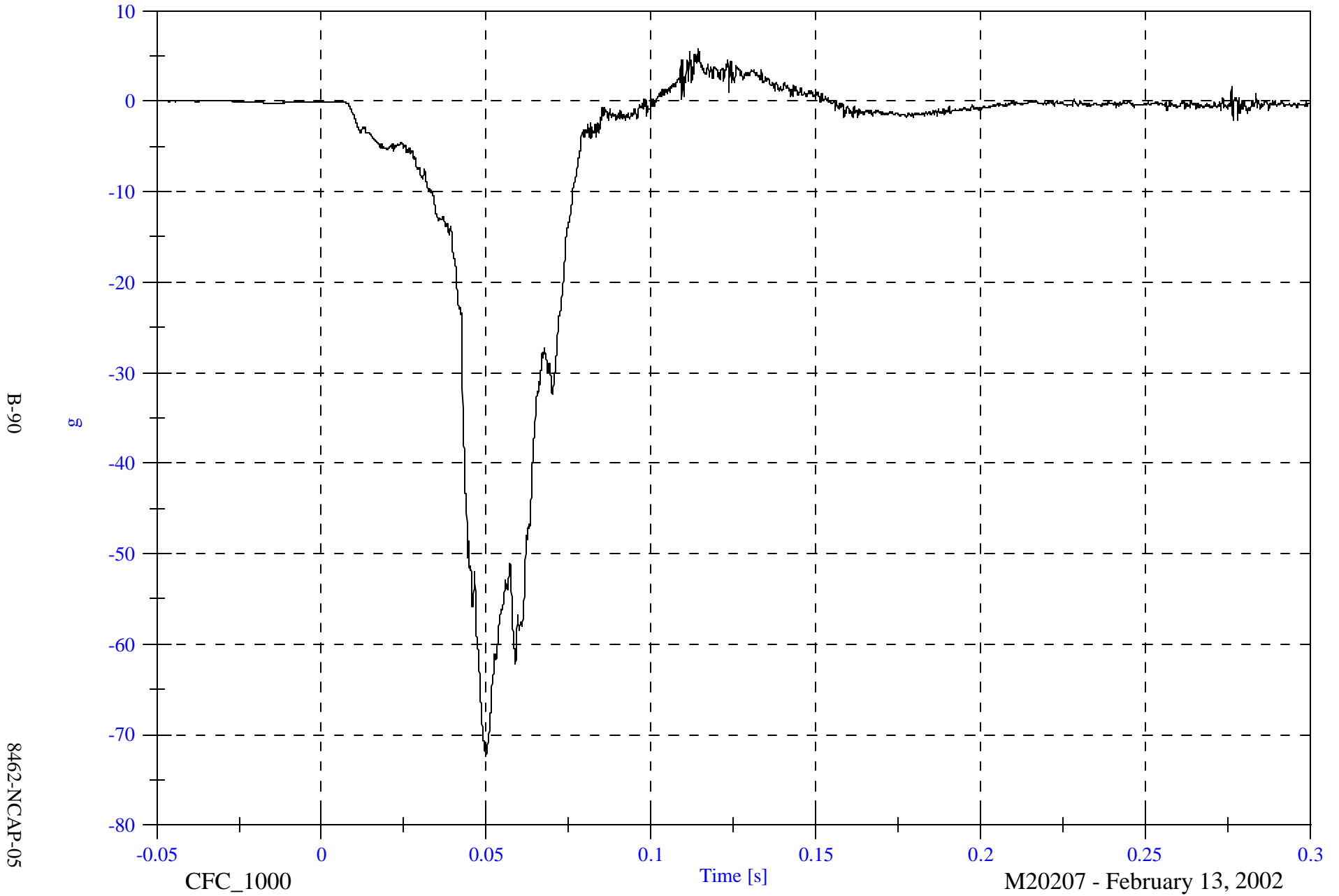
M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

Max: 5.8 [g] at 0.114 [s]

Min: -72.4 [g] at 0.050 [s]

P2 Pelvic x



2002 NCAP Test 5 - 2002 Ford Focus

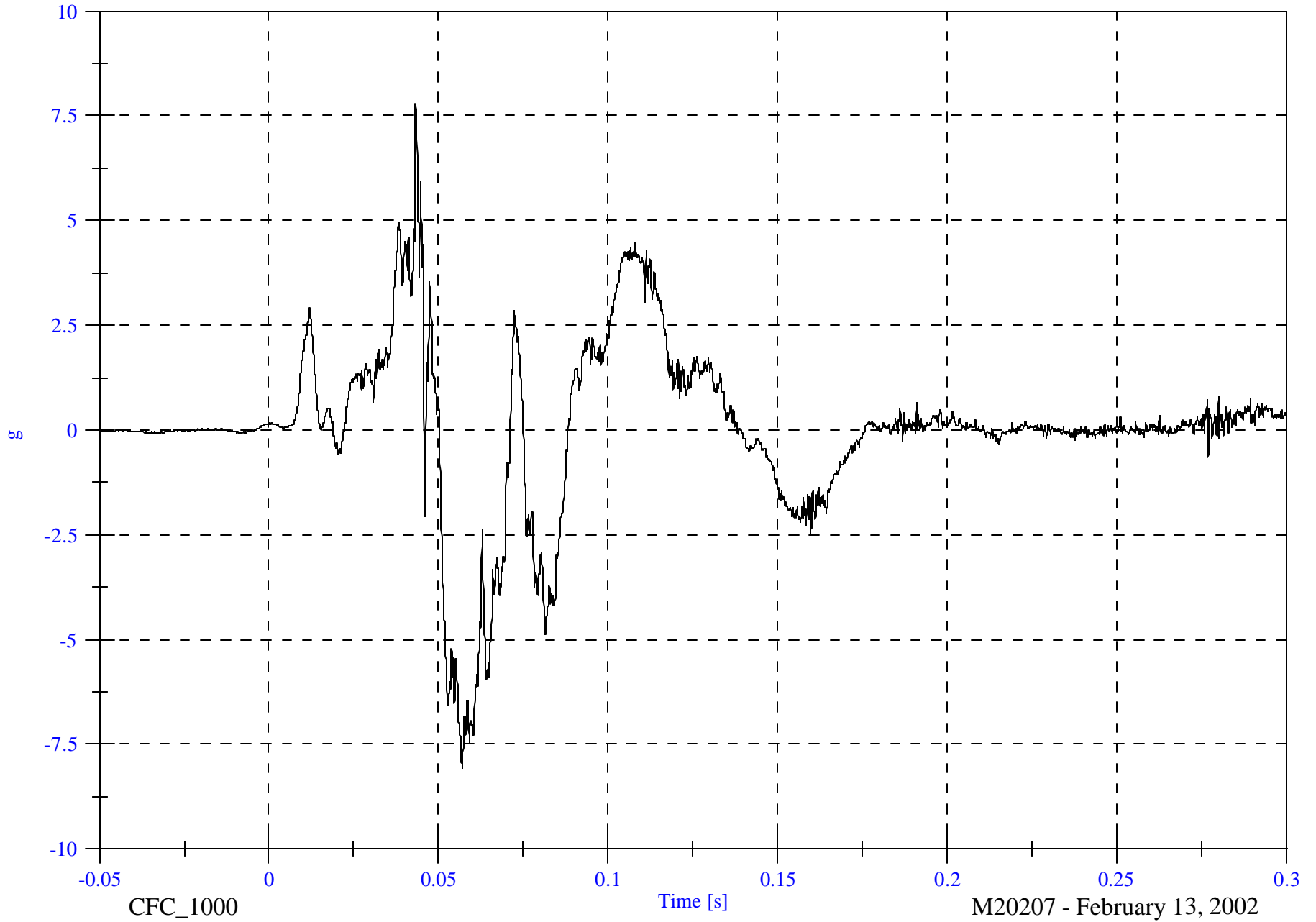
P2 Pelvic y

Max: 7.8 [g] at 0.043 [s]

Min: -8.1 [g] at 0.057 [s]

B-91

8462-NCAP-05



2002 NCAP Test 5 - 2002 Ford Focus

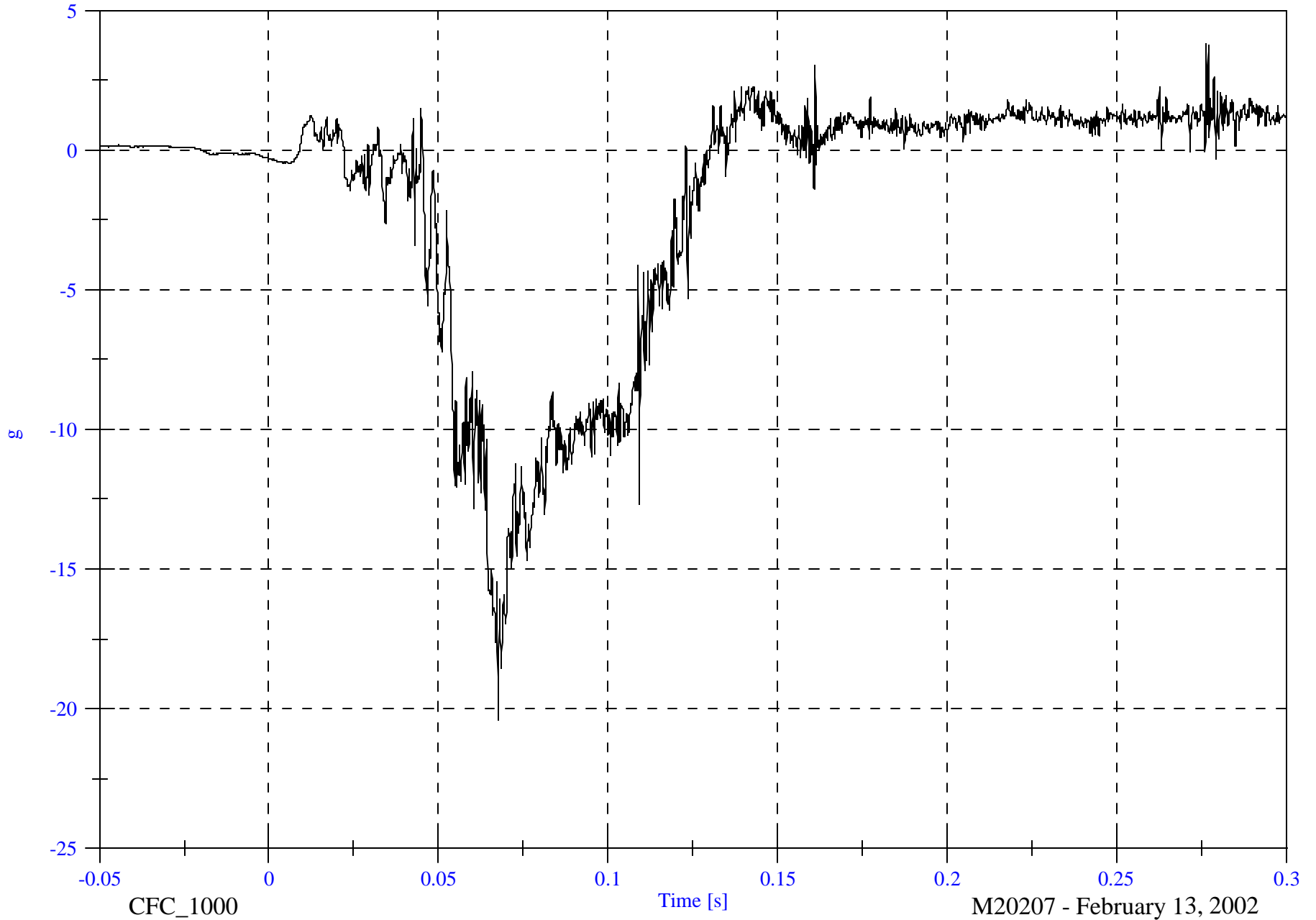
Max: 3.8 [g] at 0.276 [s]

Min: -20.4 [g] at 0.068 [s]

P2 Pelvic z

B-92

8462-NCAP-05



CFC_1000

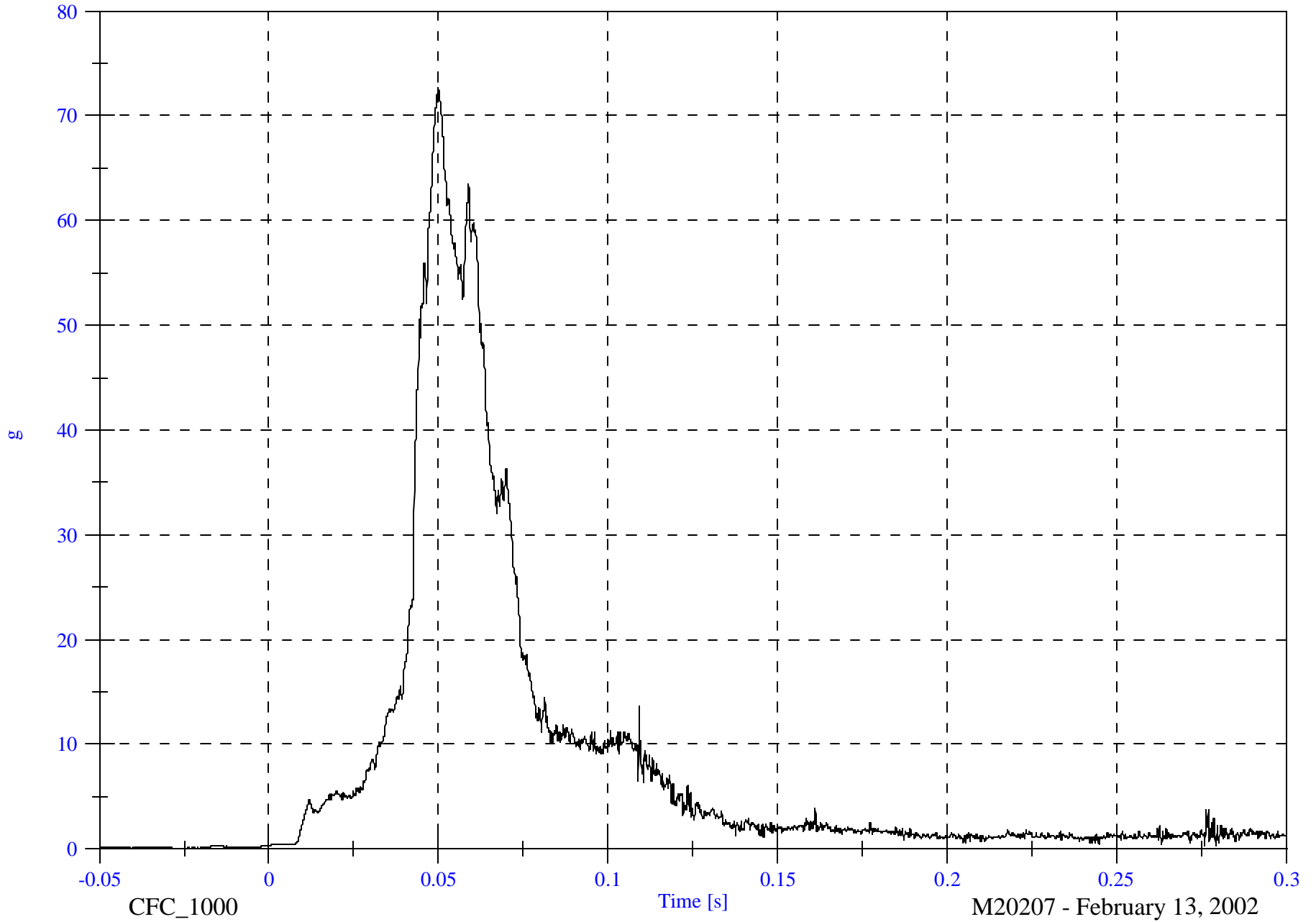
M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

P2 Pelvic Resultant

Max: 72.6 [g] at 0.050 [s]

Min: 0.1 [g] at -0.026 [s]



B-93

8462-NCAP-05

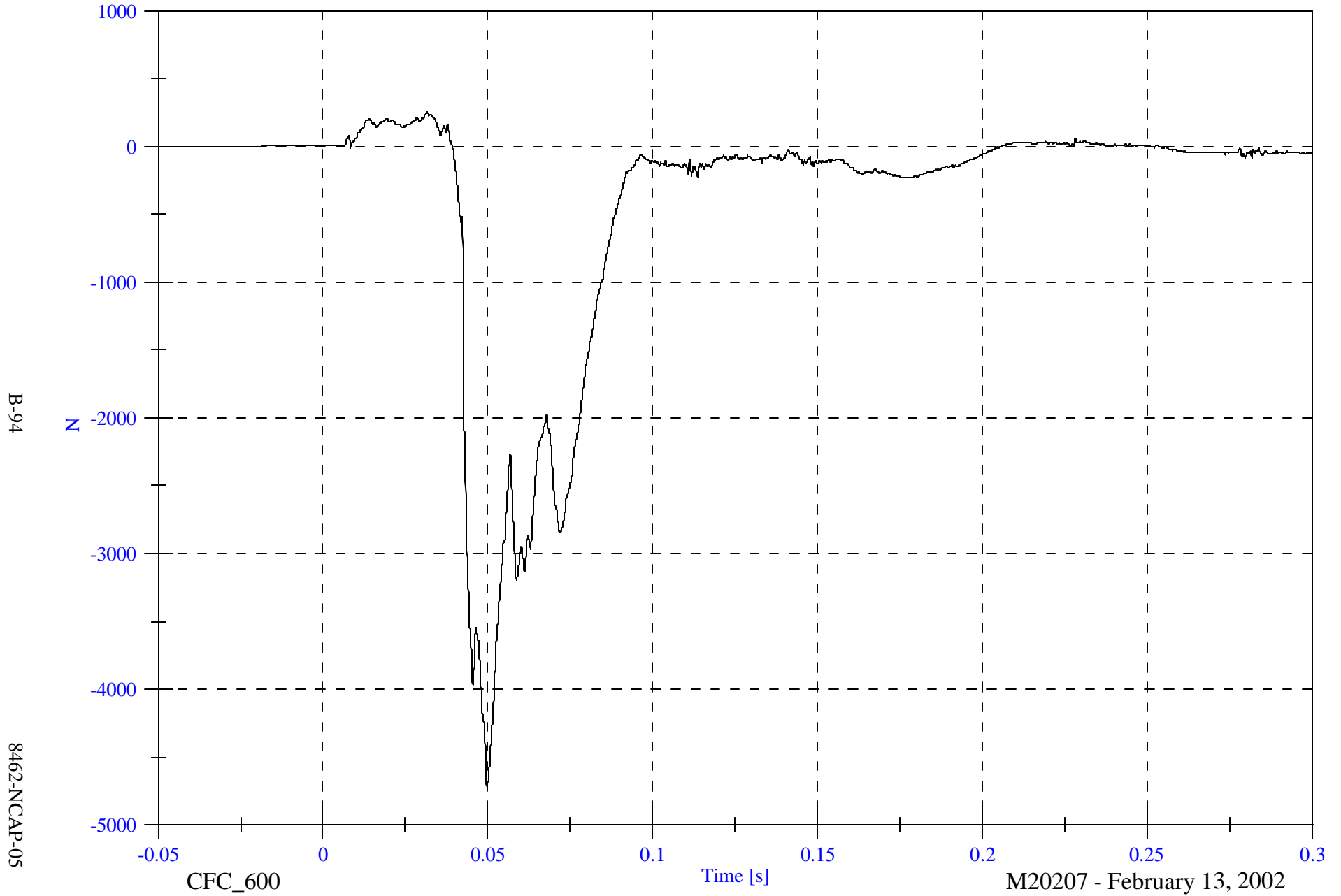
M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

P2 Left Femur

Max: 250.5 [N] at 0.032 [s]

Min: -4720.5 [N] at 0.050 [s]



B-94

8462-NCAP-05

CFC_600

Time [s]

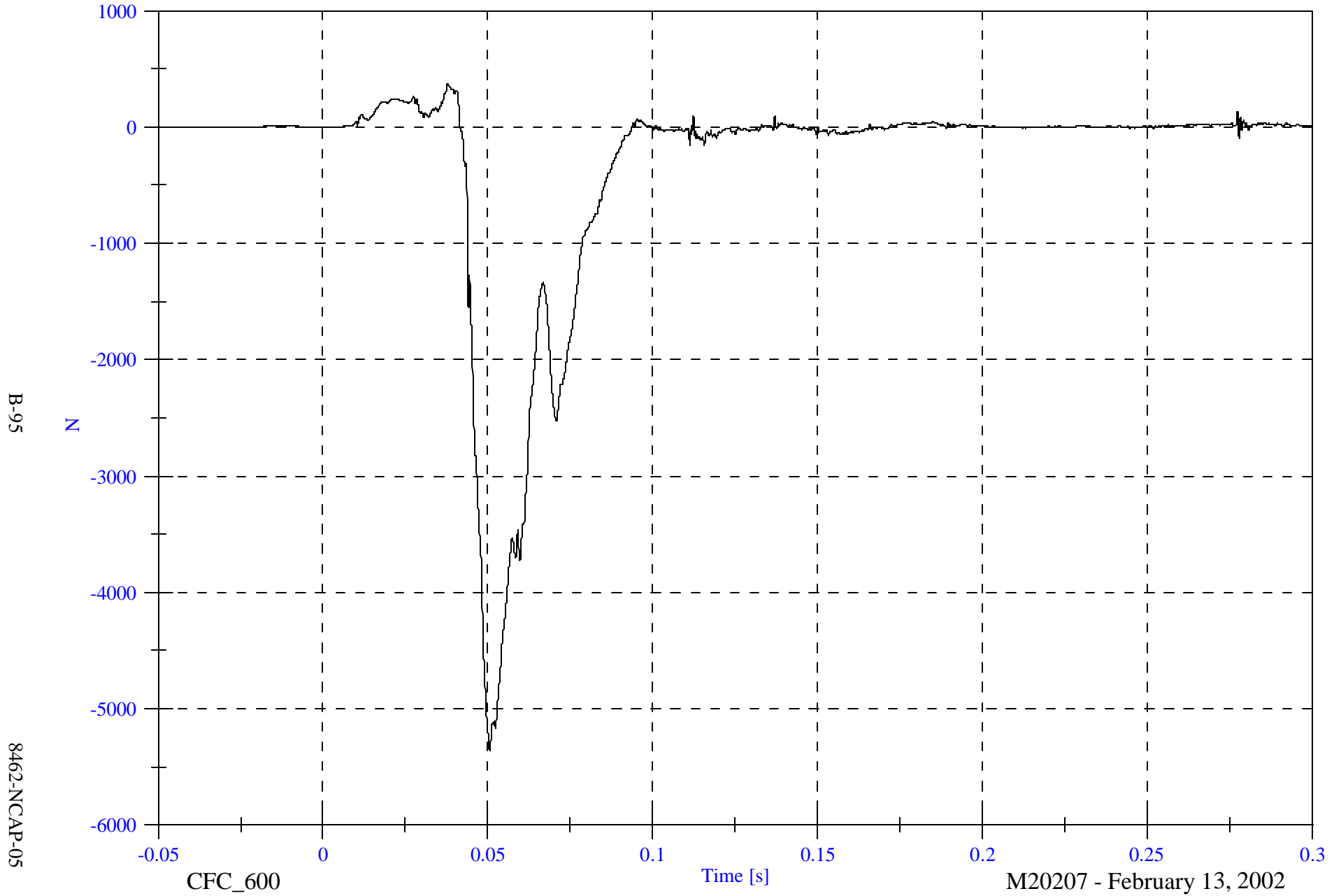
M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

P2 Right Femur

Max: 371.2 [N] at 0.038 [s]

Min: -5353.5 [N] at 0.051 [s]



2002 NCAP Test 5 - 2002 Ford Focus

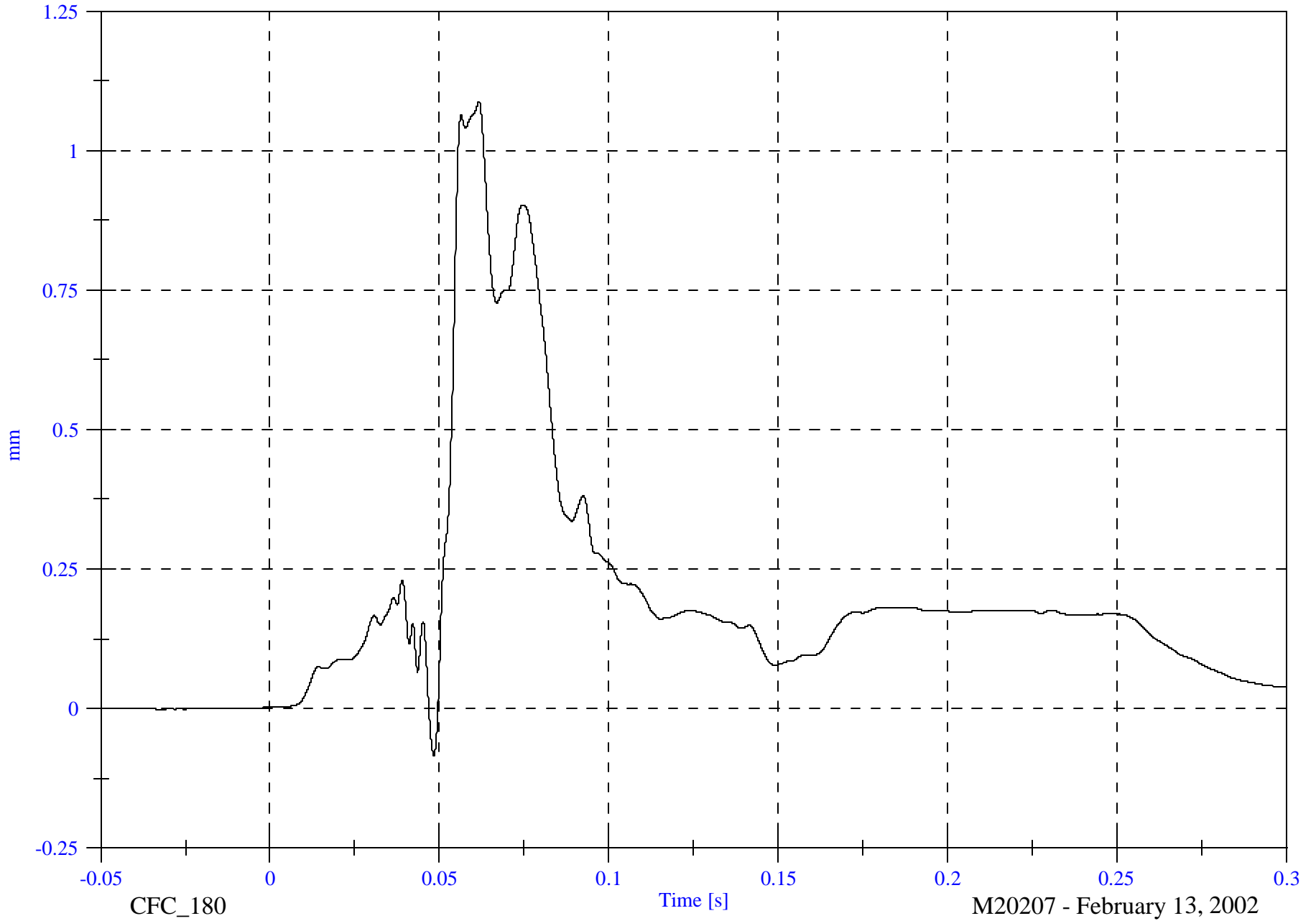
P2 Left Knee Shear

Max: 1.1 [mm] at 0.062 [s]

Min: -0.1 [mm] at 0.048 [s]

B-96

8462-NCAP-05



CFC_180

Time [s]

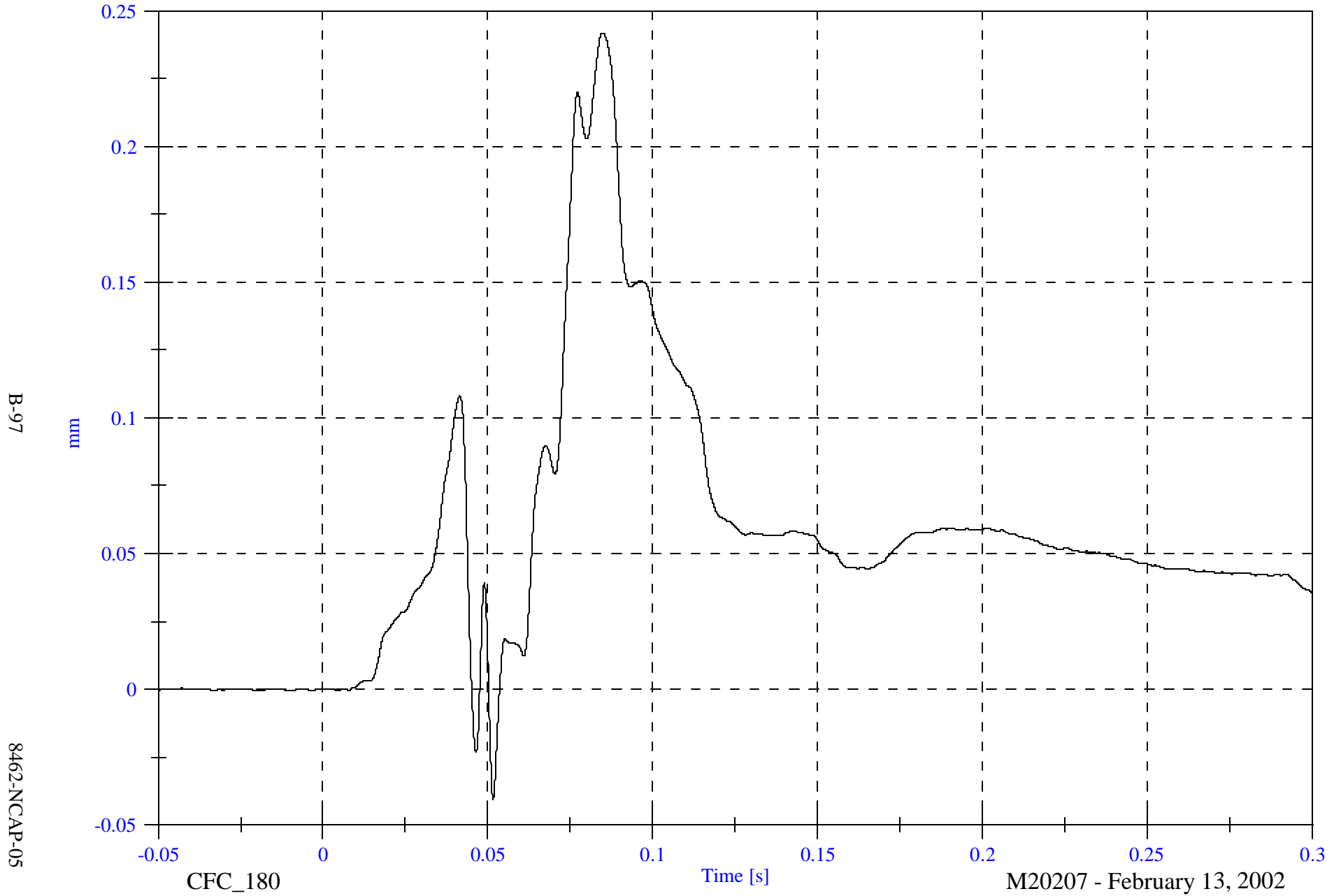
M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

P2 Right Knee Shear

Max: 0.2 [mm] at 0.085 [s]

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



B-97

8462-NCAP-05

CFC_180

Time [s]

M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

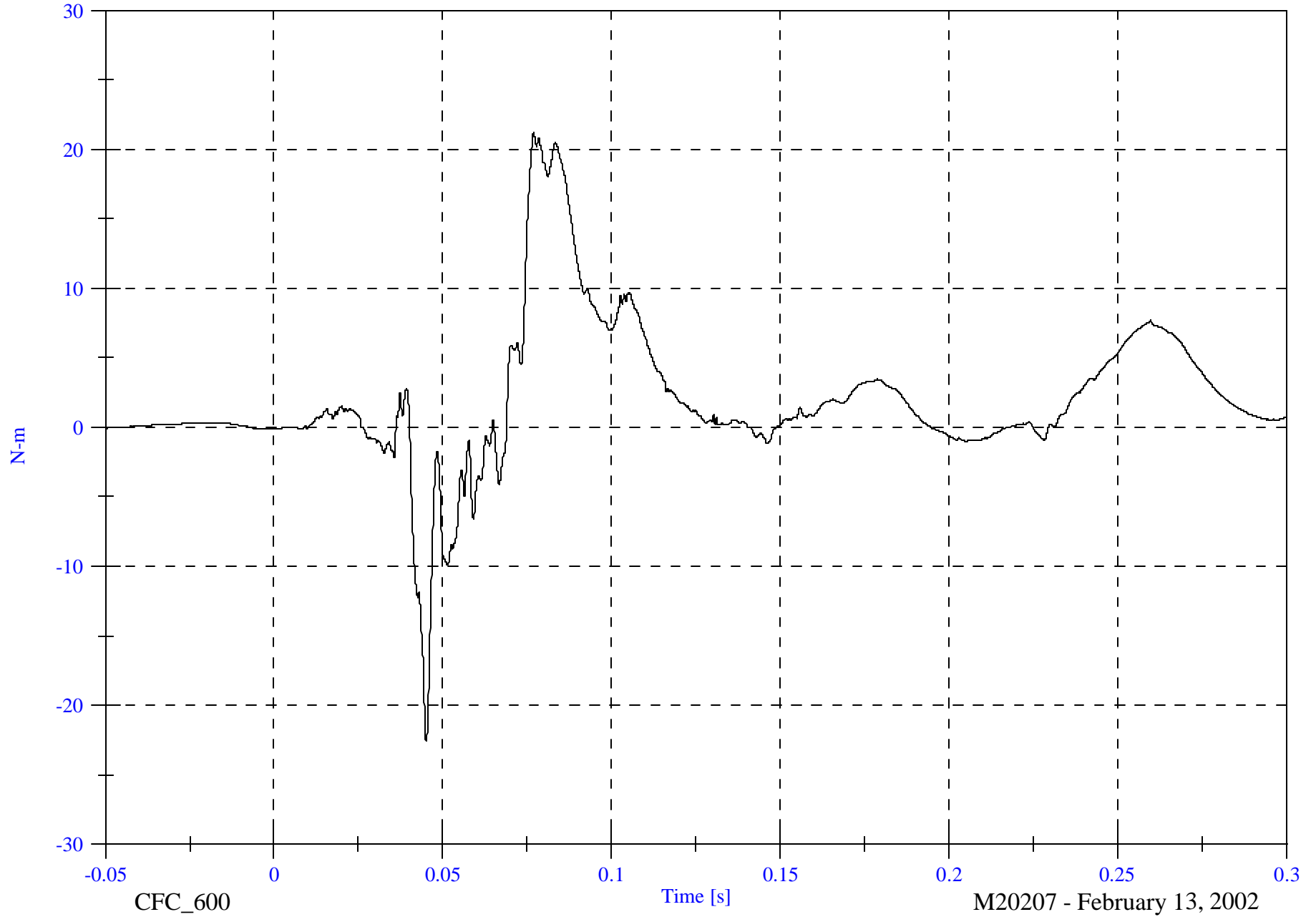
P2 Left Upper Tibia Mx

Max: 21.2 [N-m] at 0.077 [s]

Min: -22.6 [N-m] at 0.045 [s]

B-98

8462-NCAP-05



CFC_600

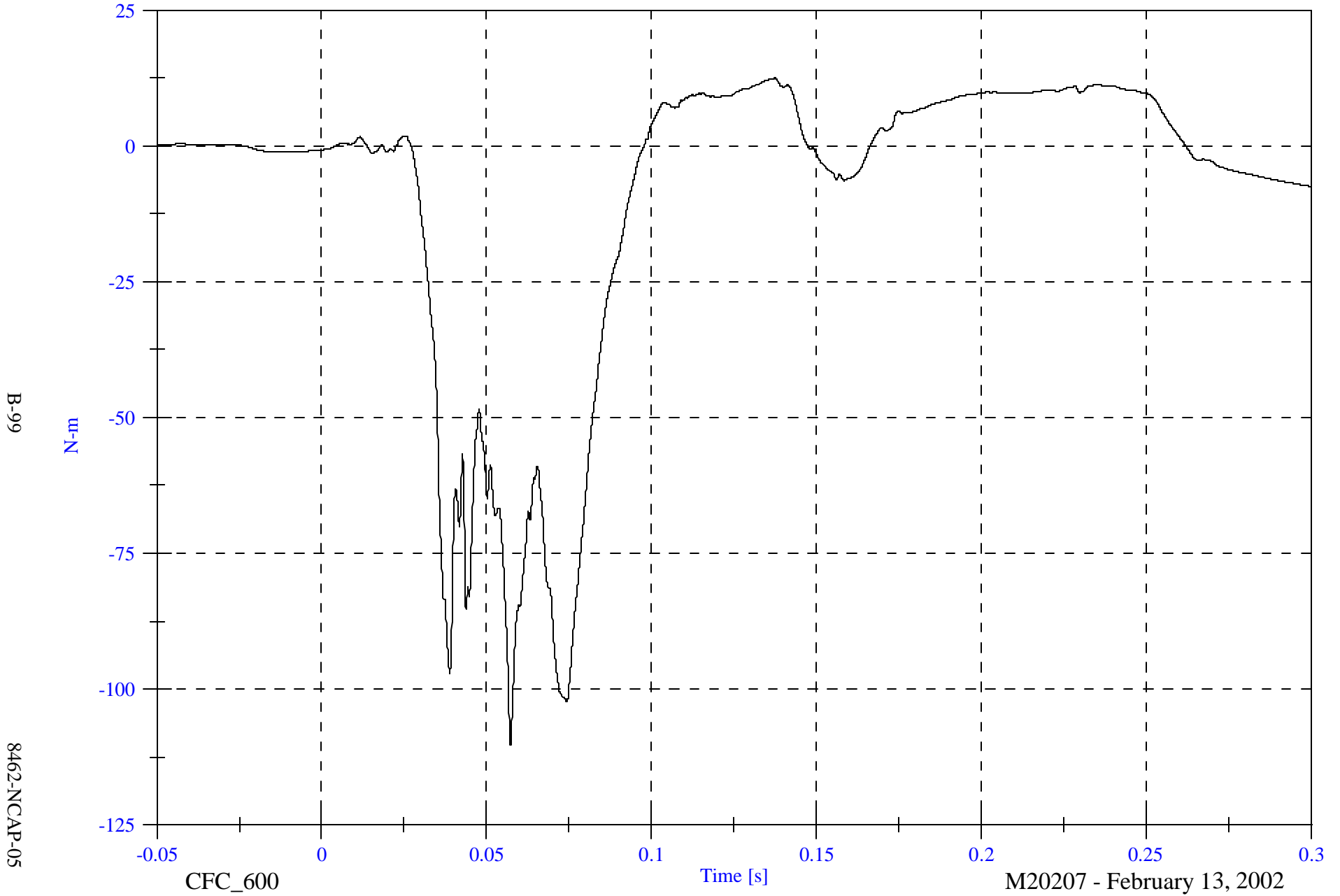
Time [s]

M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

P2 Left Upper Tibia My

Max: 12.5 [N-m] at 0.137 [s]
Min: -110.2 [N-m] at 0.057 [s]



B-99

8462-NCAP-05

CFC_600

Time [s]

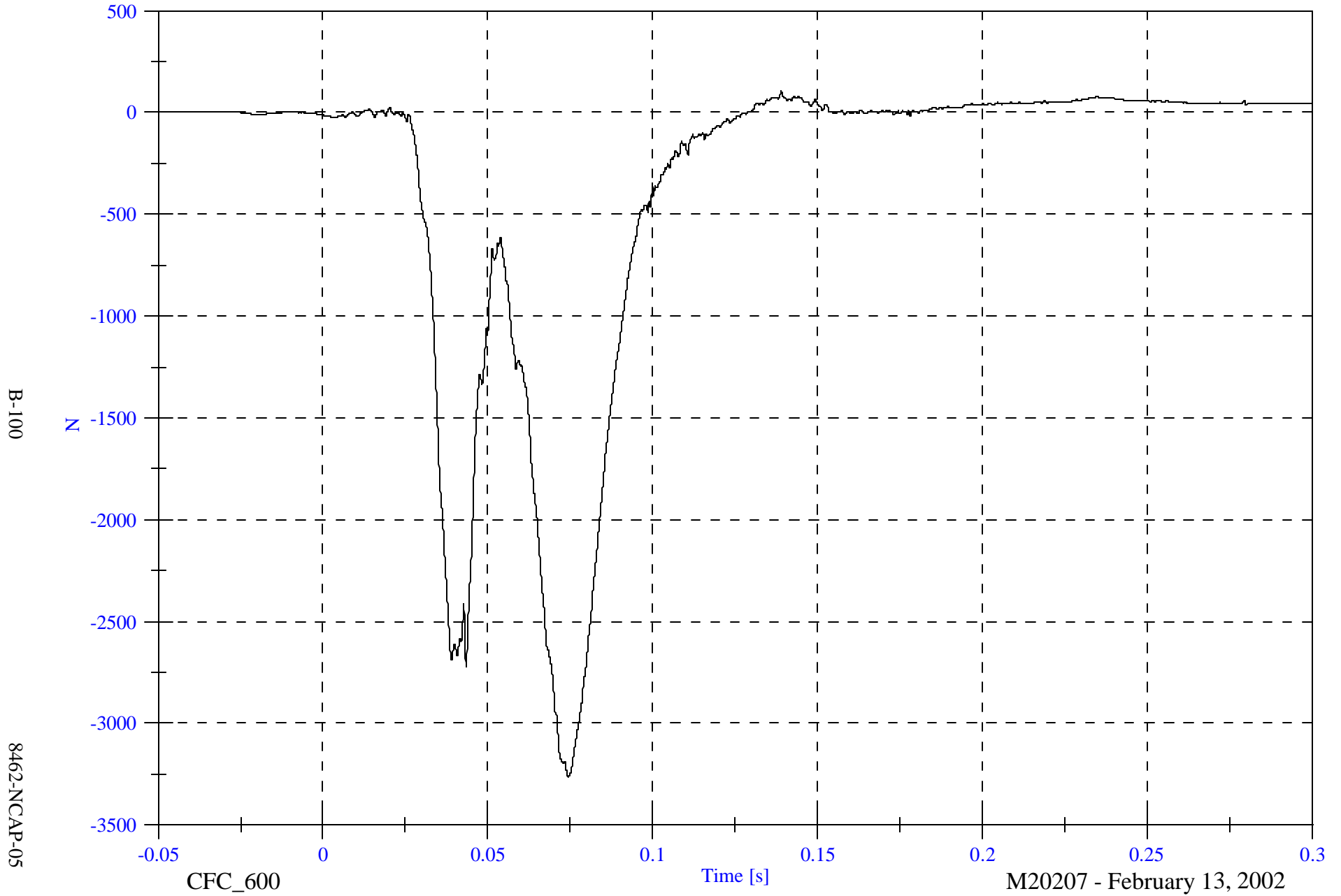
M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

Max: 108.4 [N] at 0.139 [s]

Min: -3264.0 [N] at 0.074 [s]

P2 Left Lower Tibia Fz



B-100

8462-NCAP-05

CFC_600

Time [s]

M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

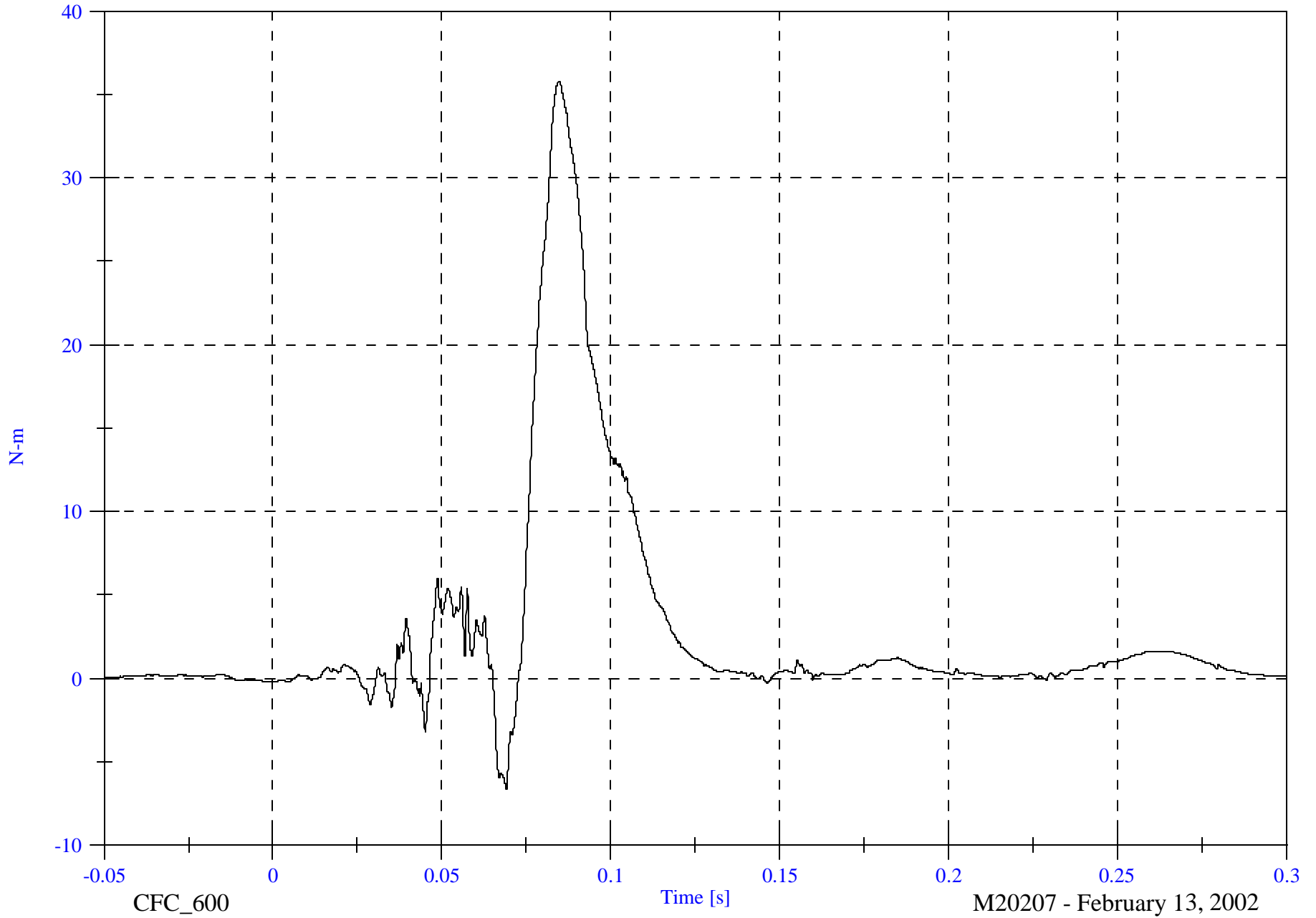
P2 Left Lower Tibia Mx

Max: 35.8 [N-m] at 0.085 [s]

Min: -6.7 [N-m] at 0.069 [s]

B-101

8462-NCAP-05

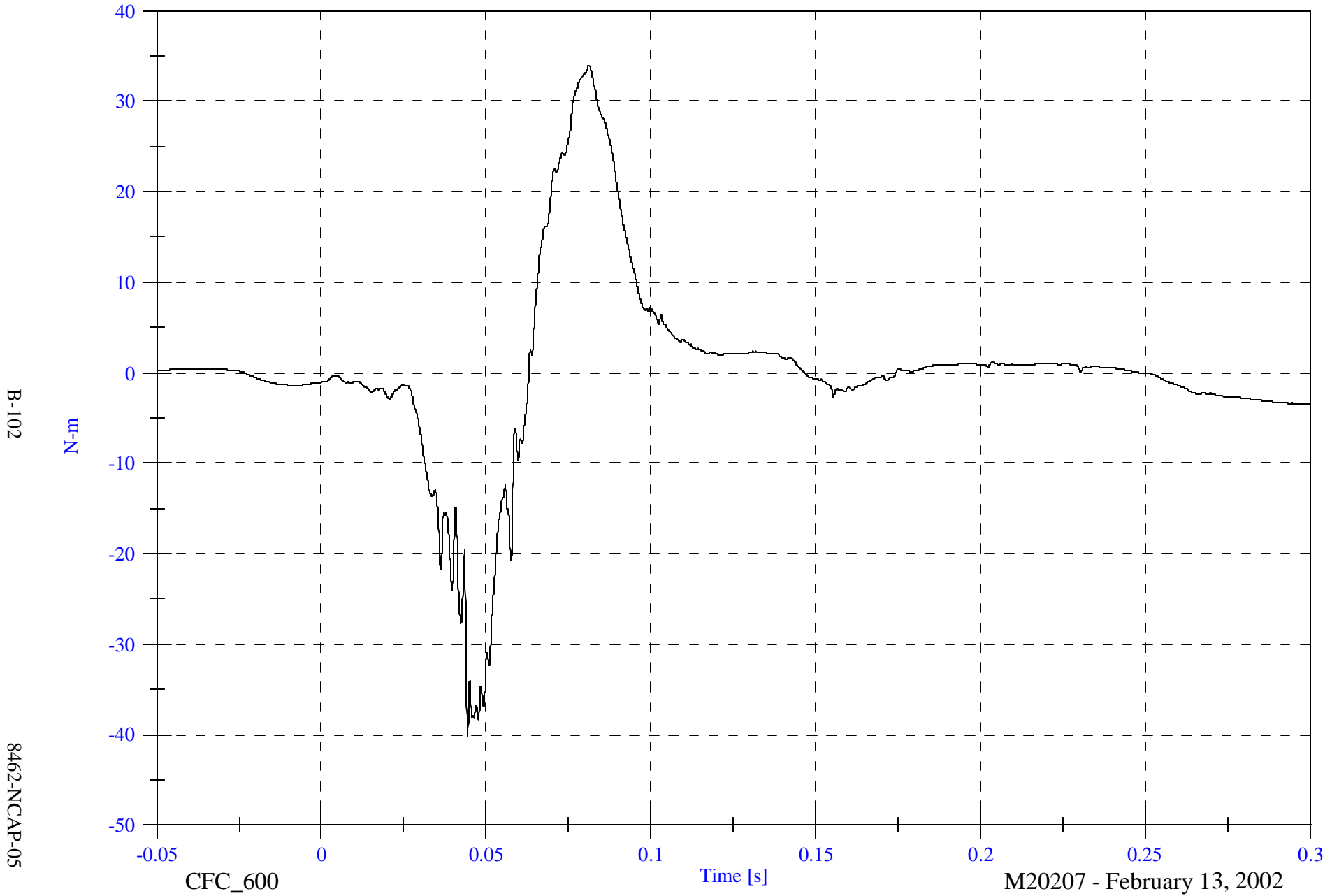


2002 NCAP Test 5 - 2002 Ford Focus

Max: 33.9 [N-m] at 0.081 [s]

Min: -40.2 [N-m] at 0.044 [s]

P2 Left Lower Tibia My



2002 NCAP Test 5 - 2002 Ford Focus

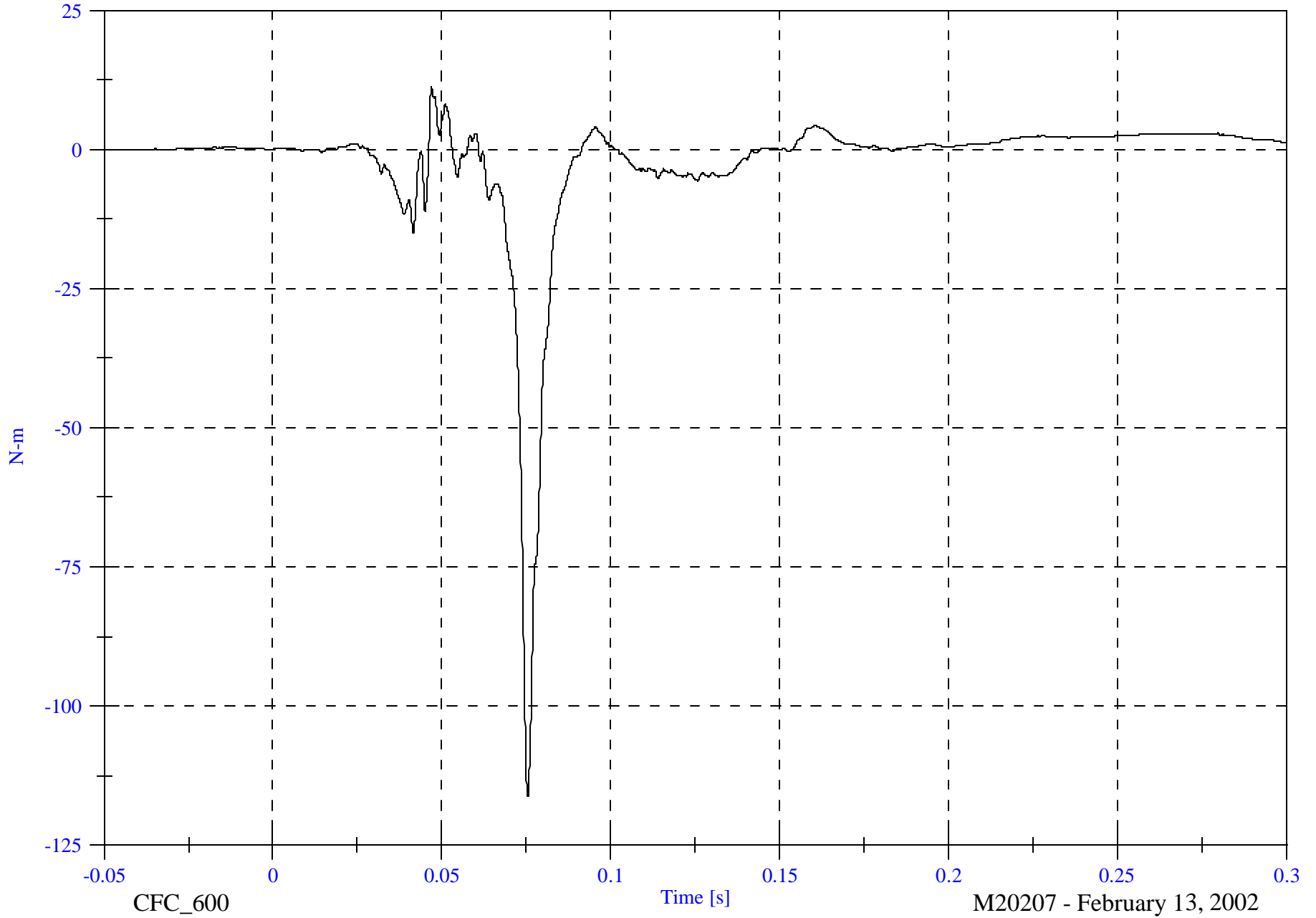
P2 Right Upper Tibia Mx

Max: 11.2 [N-m] at 0.047 [s]

Min: -116.2 [N-m] at 0.075 [s]

B-103

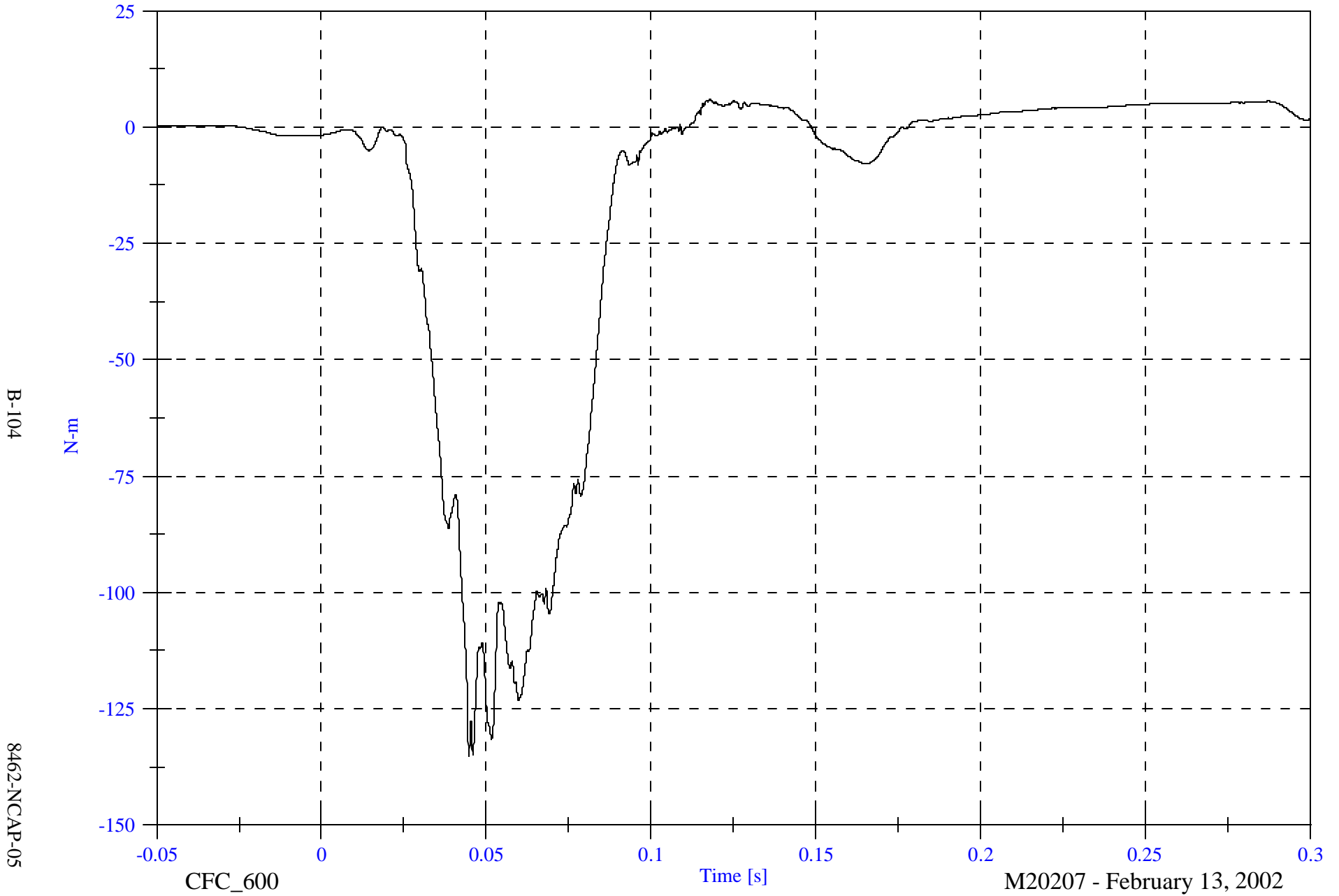
8462-NCAP-05



2002 NCAP Test 5 - 2002 Ford Focus

Max: 5.9 [N-m] at 0.118 [s]
Min: -135.3 [N-m] at 0.045 [s]

P2 Right Upper Tibia My

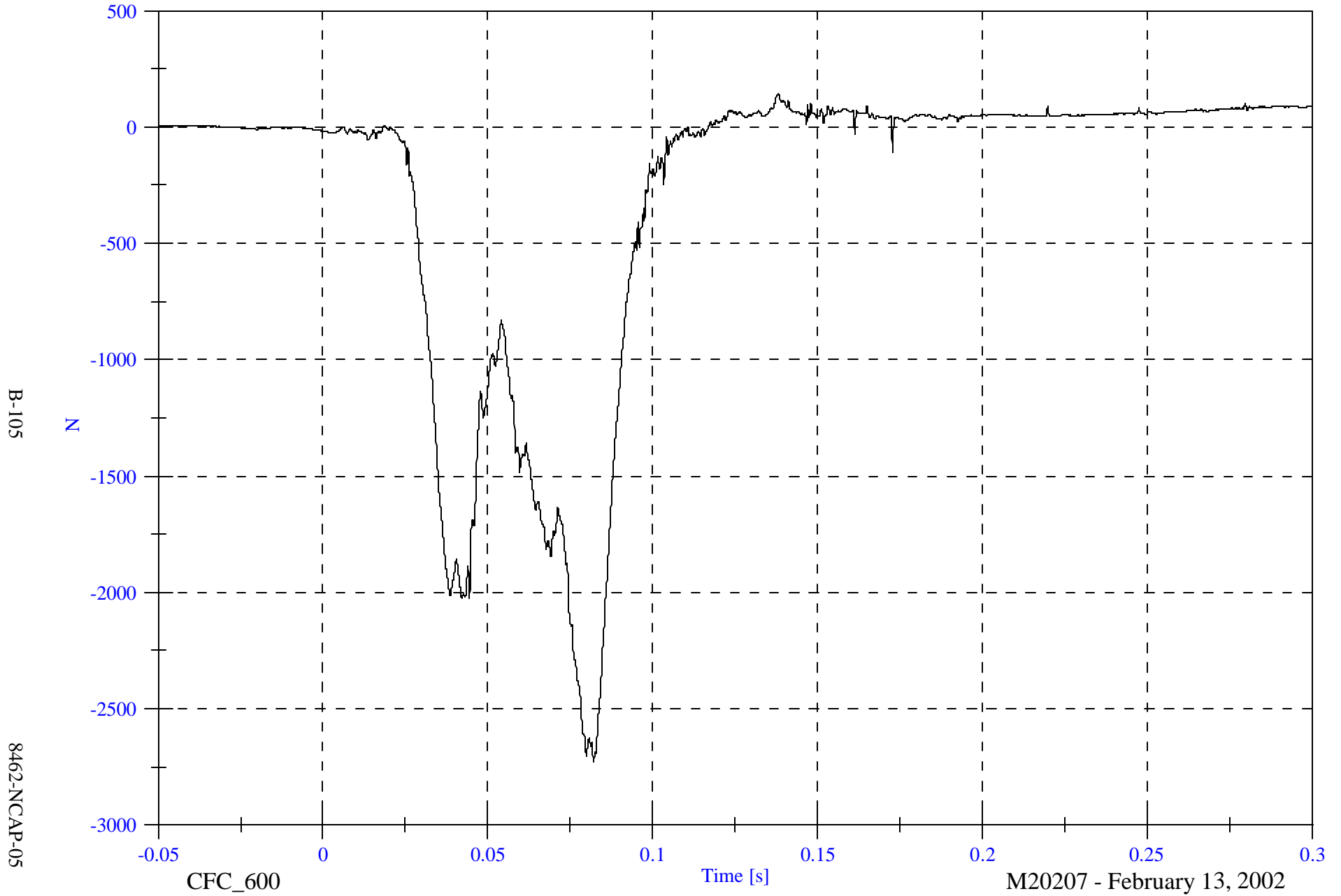


2002 NCAP Test 5 - 2002 Ford Focus

P2 Right Lower Tibia Fz

Max: 141.8 [N] at 0.138 [s]

Min: -2727.9 [N] at 0.082 [s]



B-105

8462-NCAP-05

CFC_600

Time [s]

M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

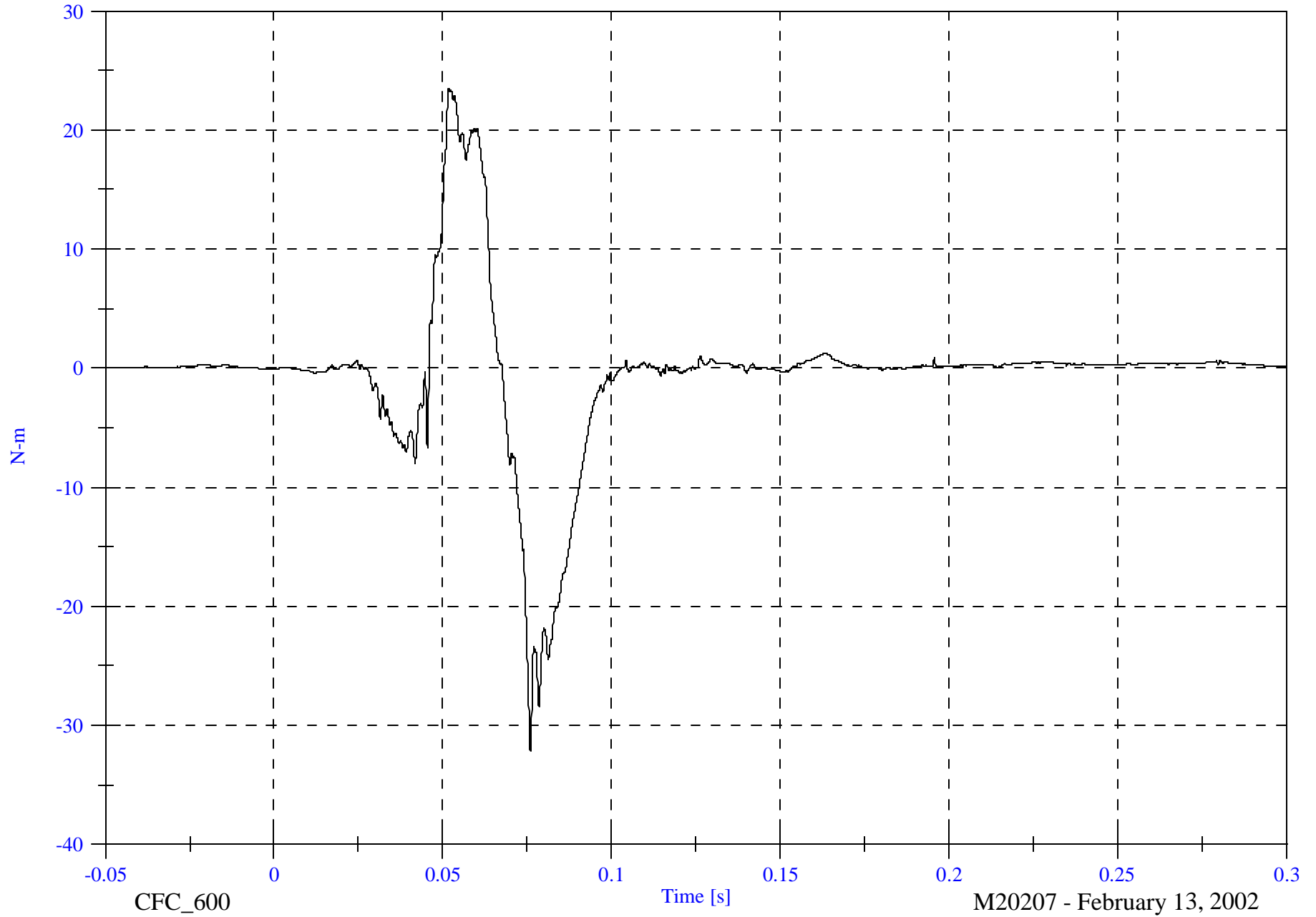
P2 Right Lower Tibia Mx

Max: 23.5 [N-m] at 0.052 [s]

Min: -32.1 [N-m] at 0.076 [s]

B-106

8462-NCAP-05



2002 NCAP Test 5 - 2002 Ford Focus

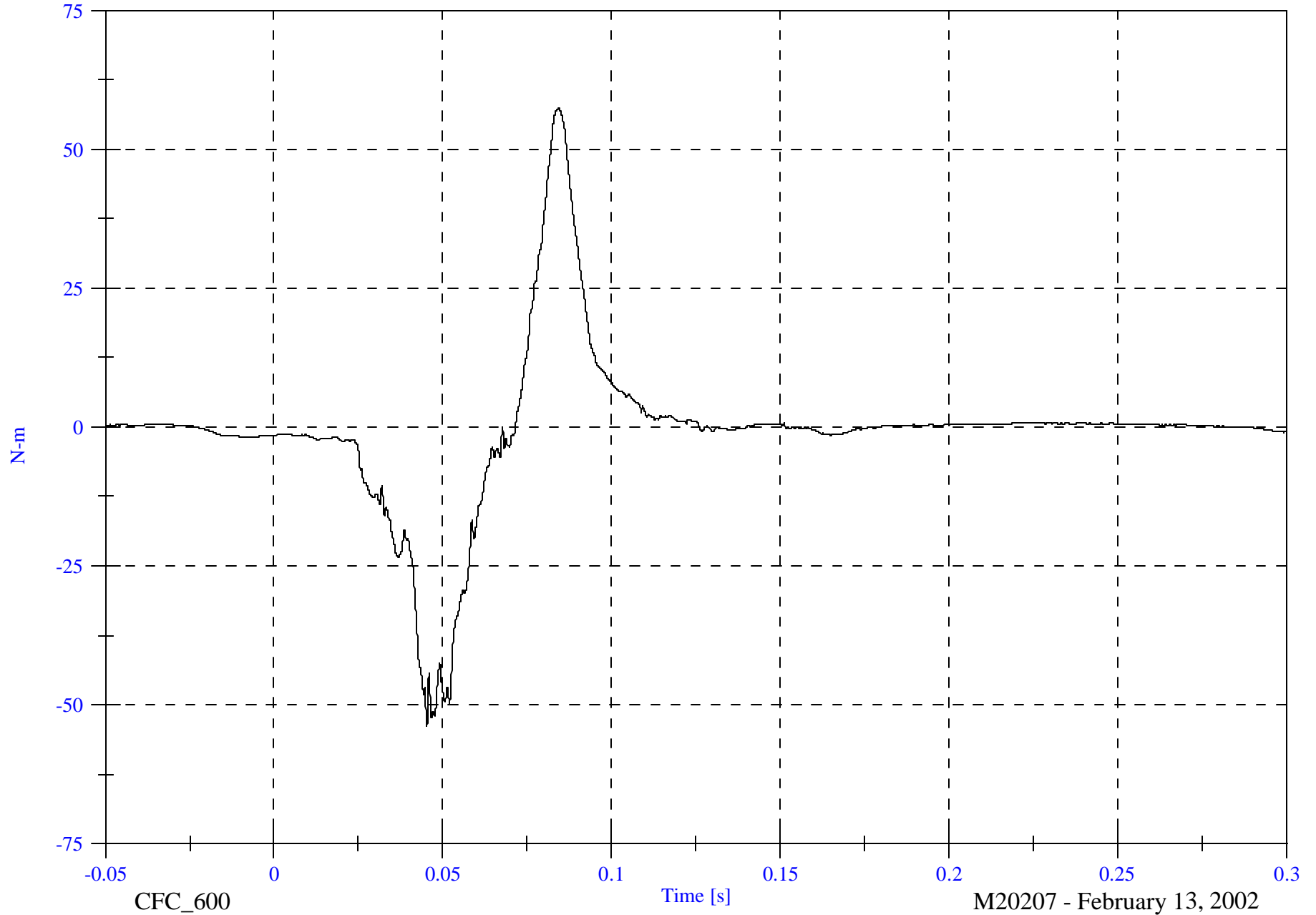
Max: 57.4 [N-m] at 0.085 [s]

Min: -53.8 [N-m] at 0.045 [s]

P2 Right Lower Tibia My

B-107

8462-NCAP-05



CFC_600

Time [s]

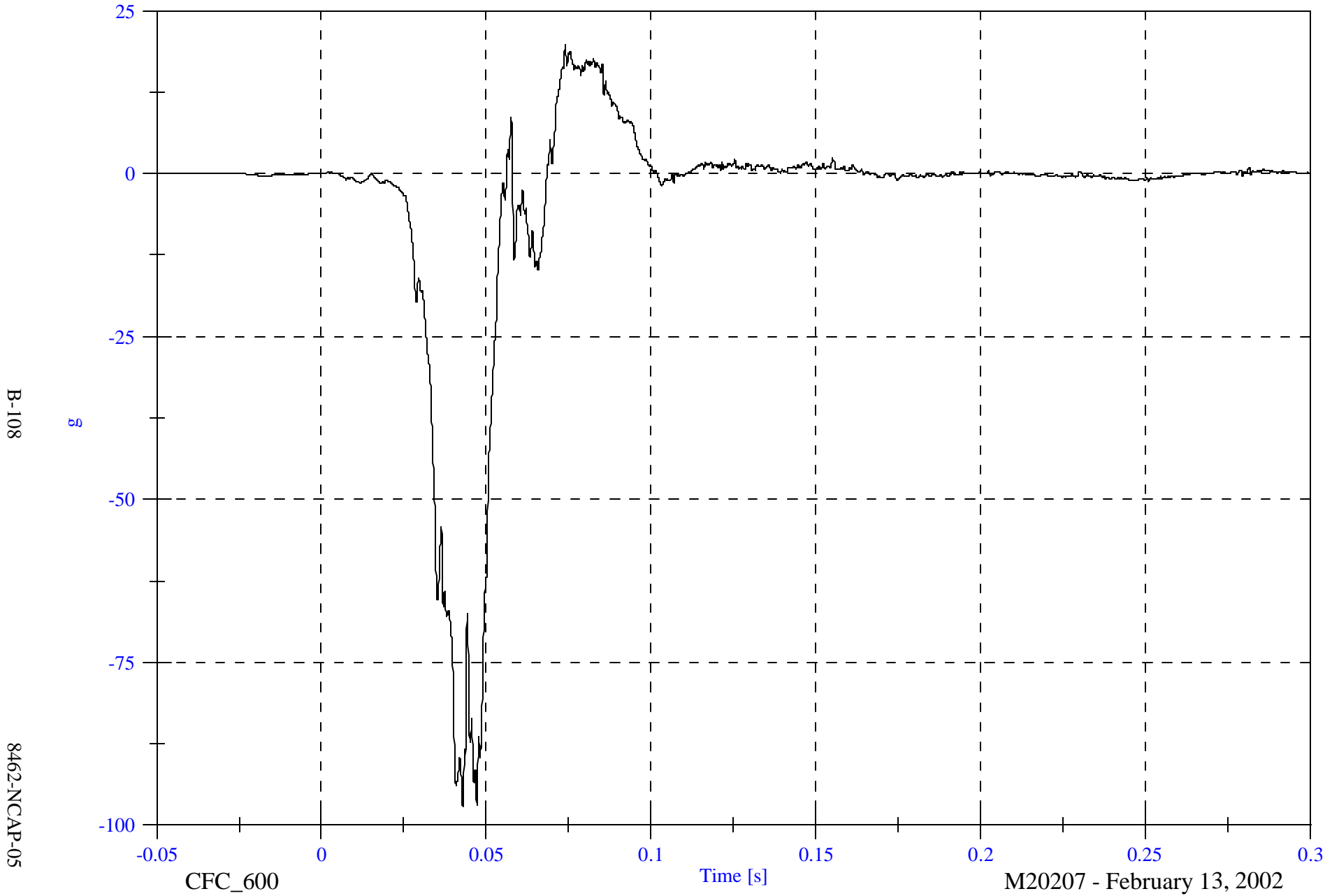
M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

Max: 19.7 [g] at 0.074 [s]

Min: -97.0 [g] at 0.043 [s]

P2 Left Foot Aft x



2002 NCAP Test 5 - 2002 Ford Focus

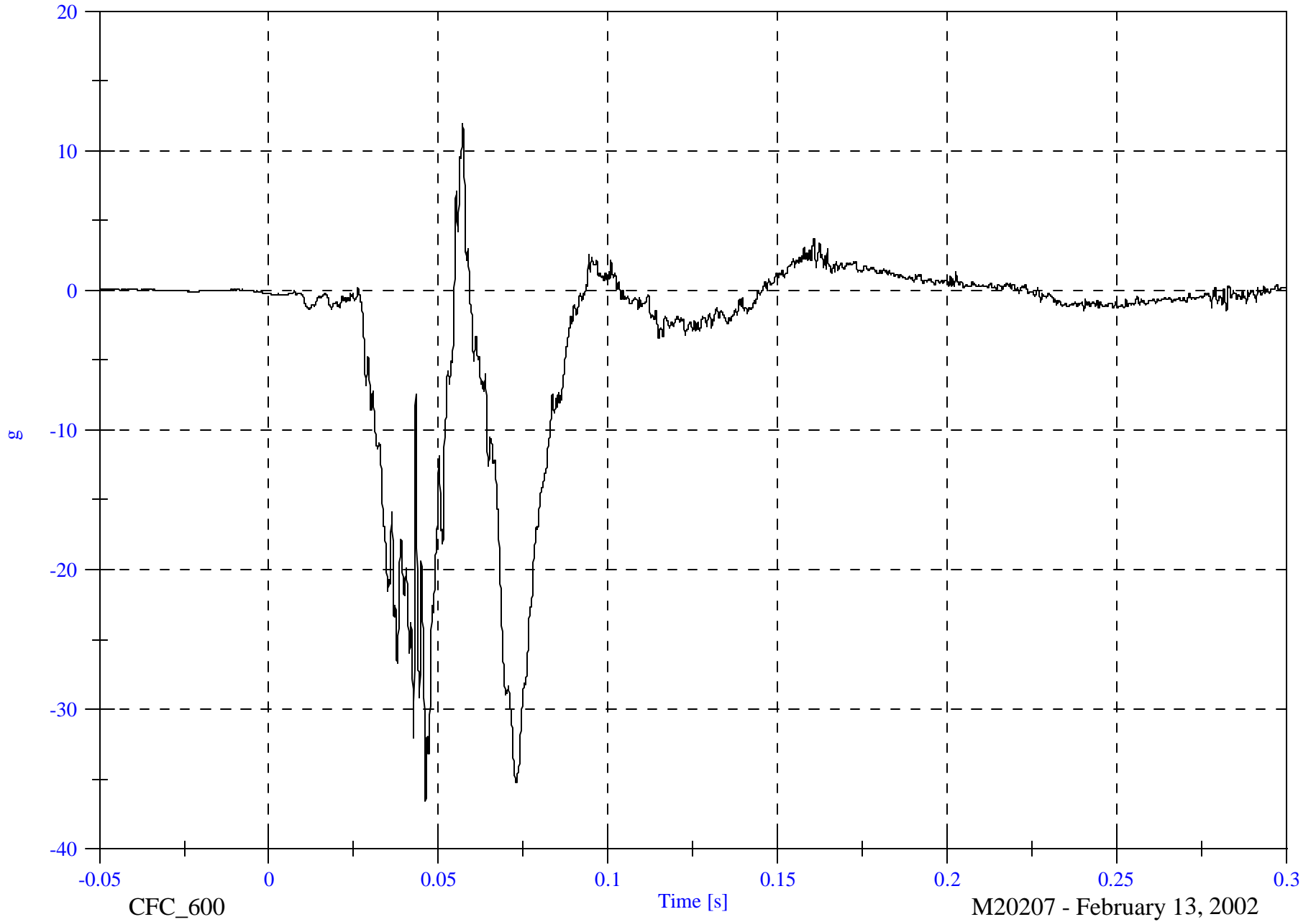
P2 Left Foot Aft z

Max: 11.9 [g] at 0.057 [s]

Min: -36.6 [g] at 0.046 [s]

B-109

8462-NCAP-05



CFC_600

Time [s]

M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

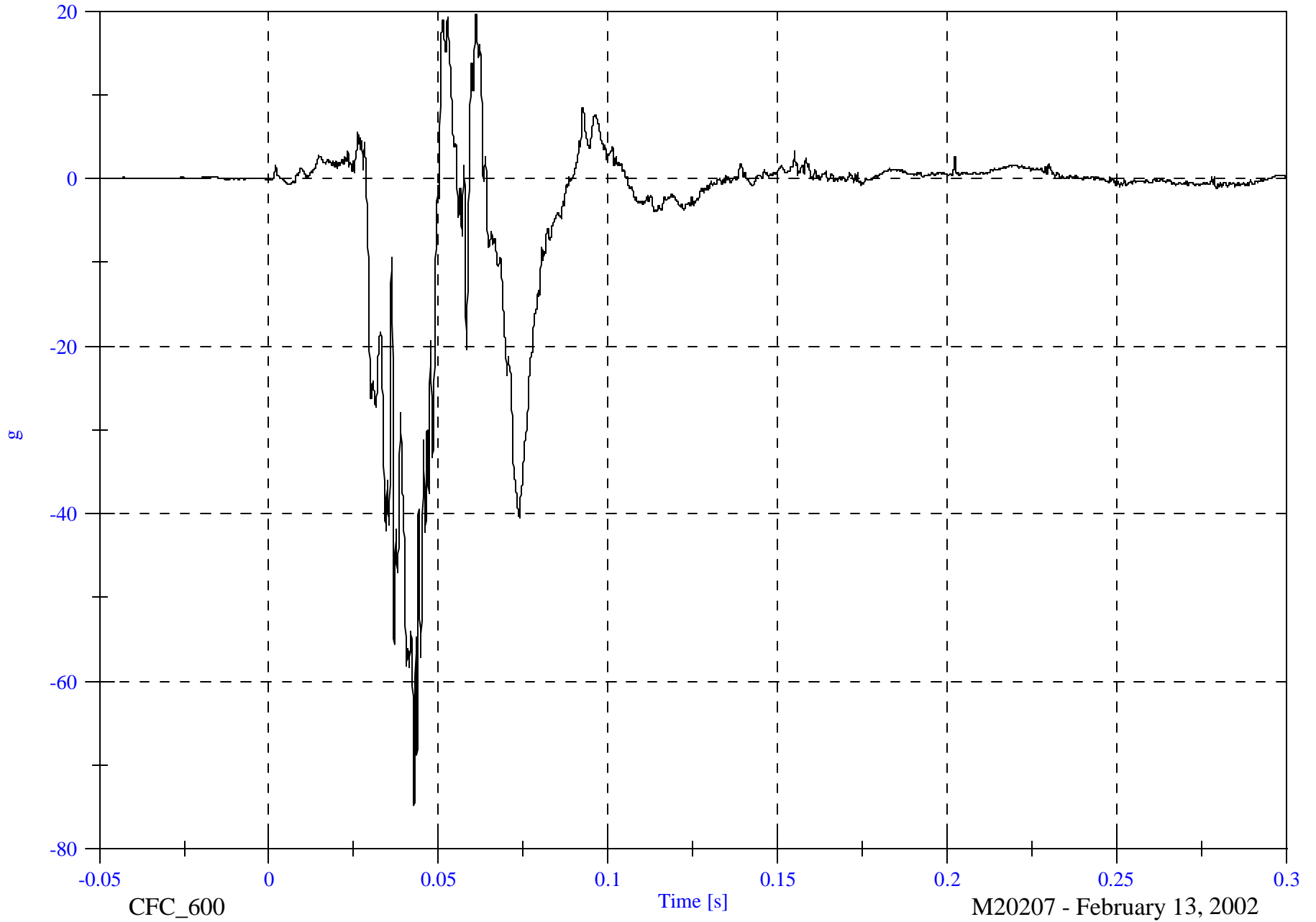
P2 Left Foot Fore z

Max: 19.6 [g] at 0.061 [s]

Min: -74.8 [g] at 0.043 [s]

B-110

8462-NCAP-05



2002 NCAP Test 5 - 2002 Ford Focus

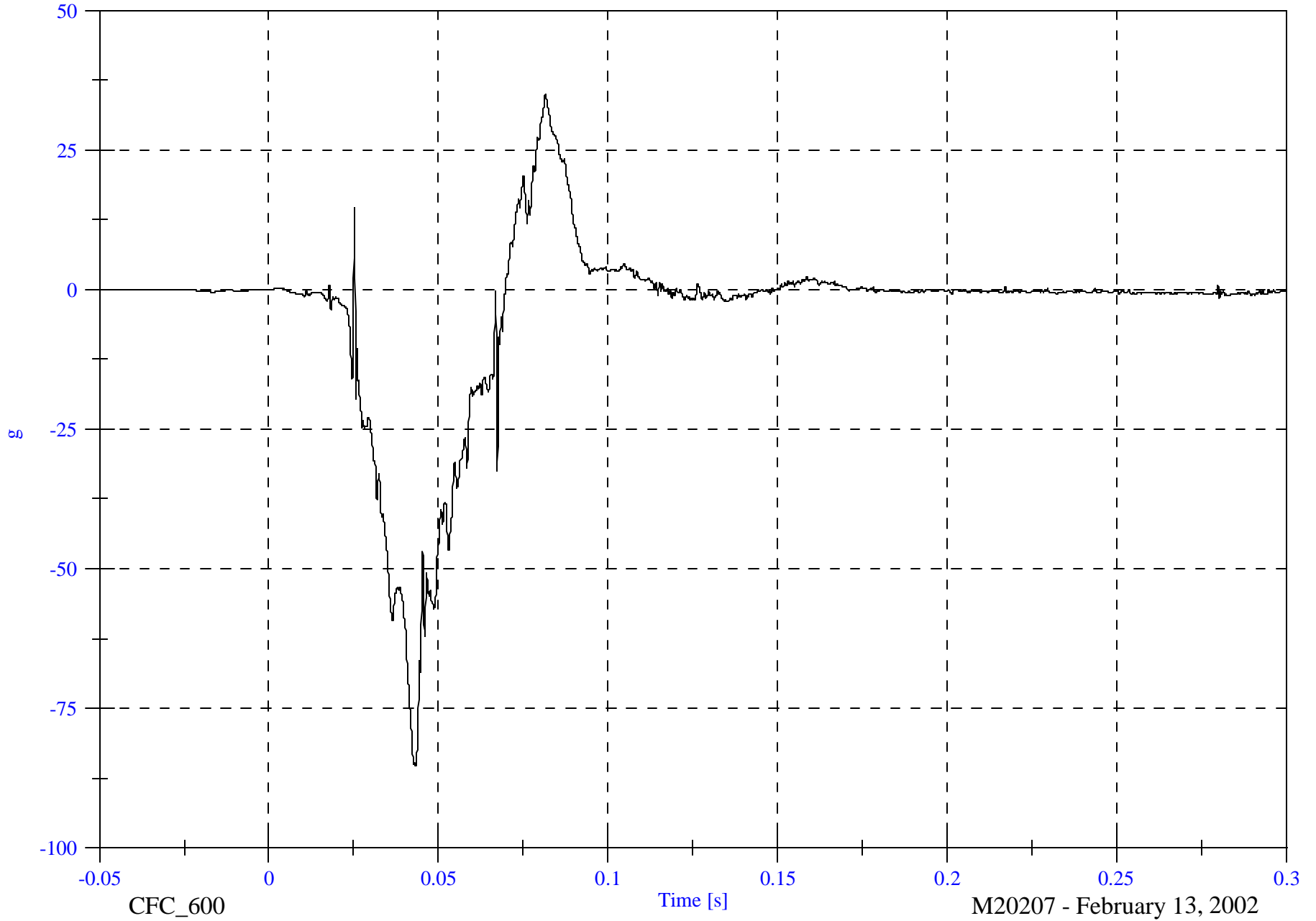
P2 Right Foot Aft x

Max: 34.9 [g] at 0.081 [s]

Min: -85.2 [g] at 0.043 [s]

B-111

8462-NCAP-05



CFC_600

Time [s]

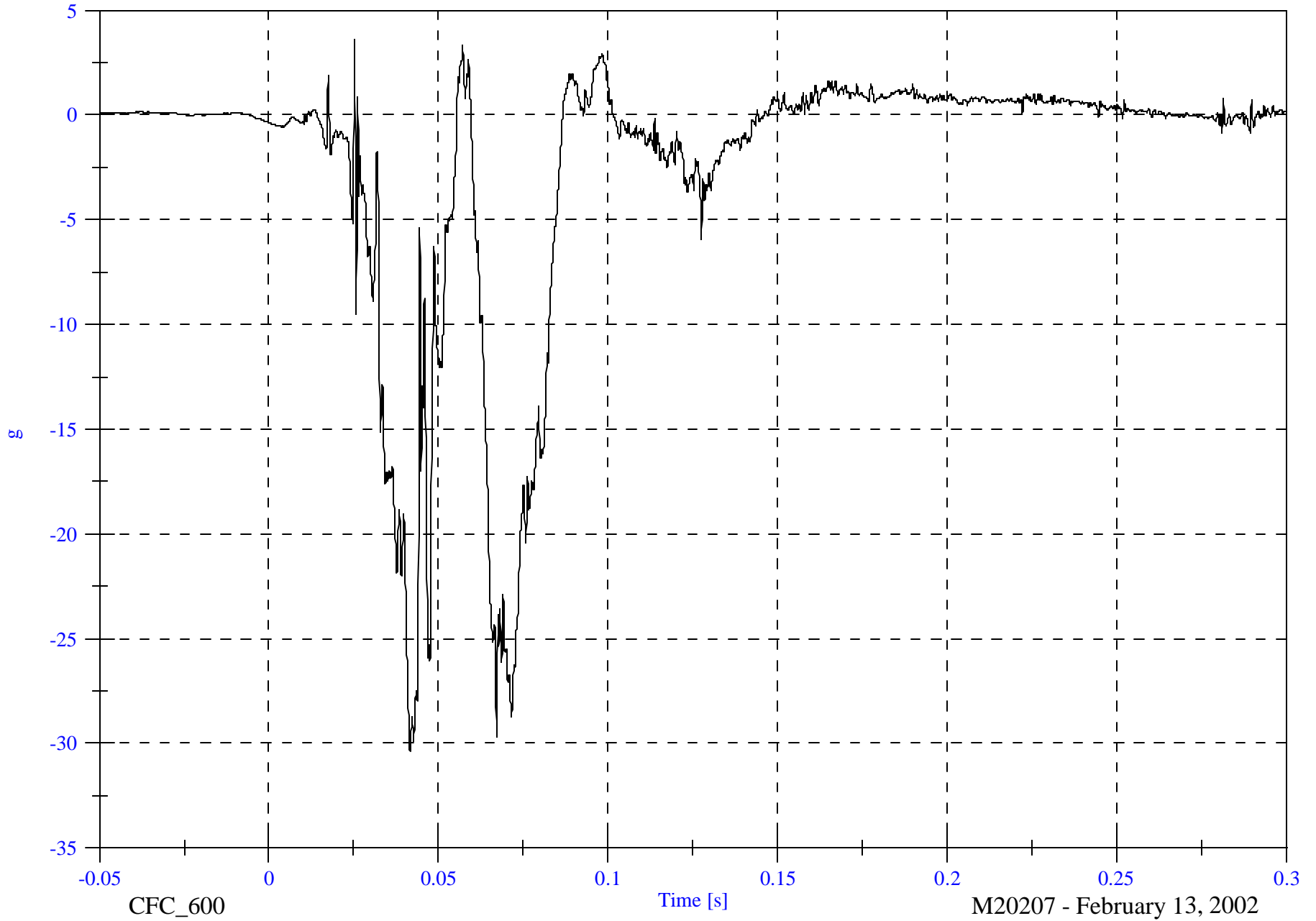
M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

P2 Right Foot Aft z

Max: 3.6 [g] at 0.025 [s]

Min: -30.4 [g] at 0.042 [s]



B-112

8462-NCAP-05

CFC_600

Time [s]

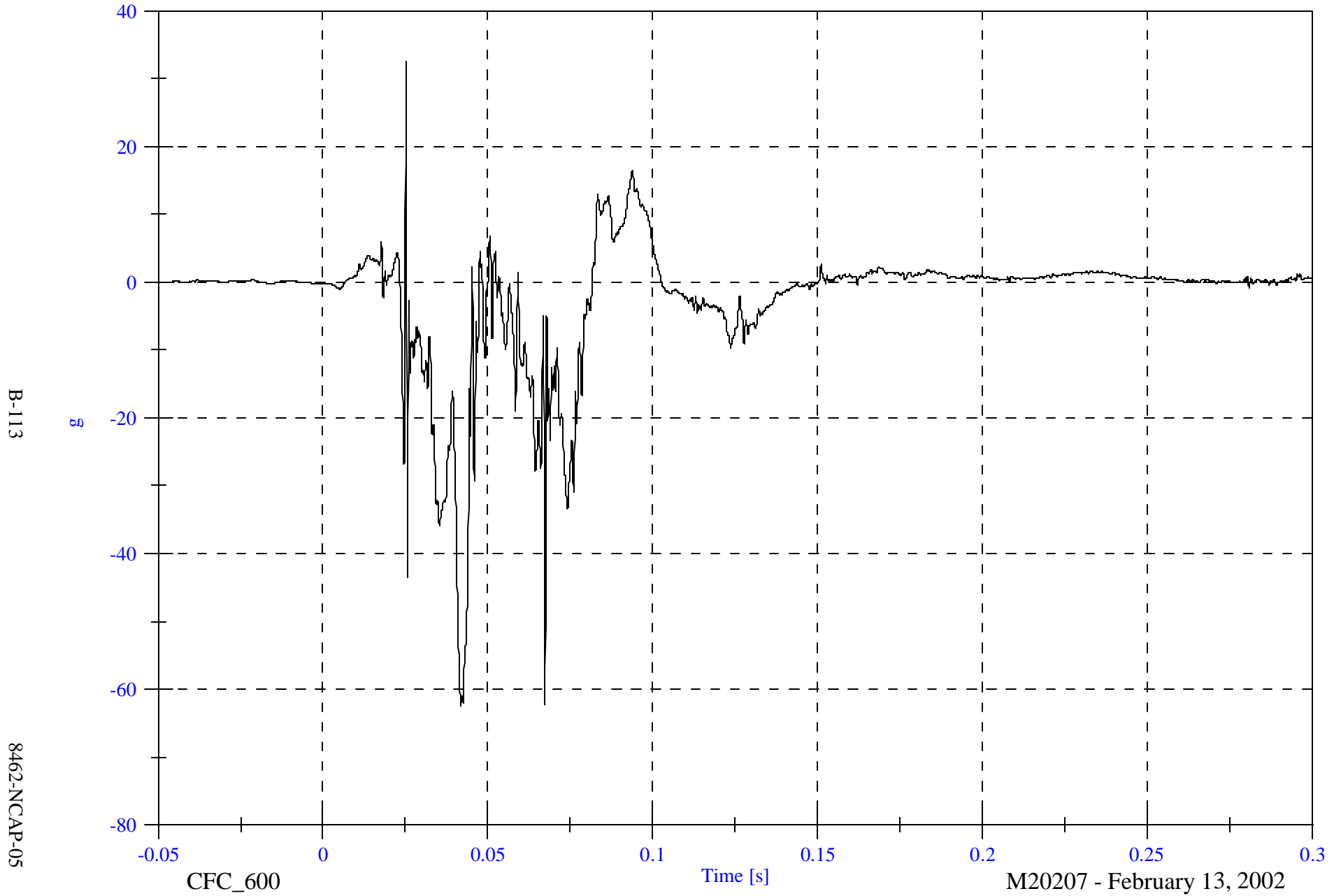
M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

Max: 32.6 [g] at 0.025 [s]

Min: -62.5 [g] at 0.042 [s]

P2 Right Foot Fore z



B-113

8462-NCAP-05

CFC_600

Time [s]

M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

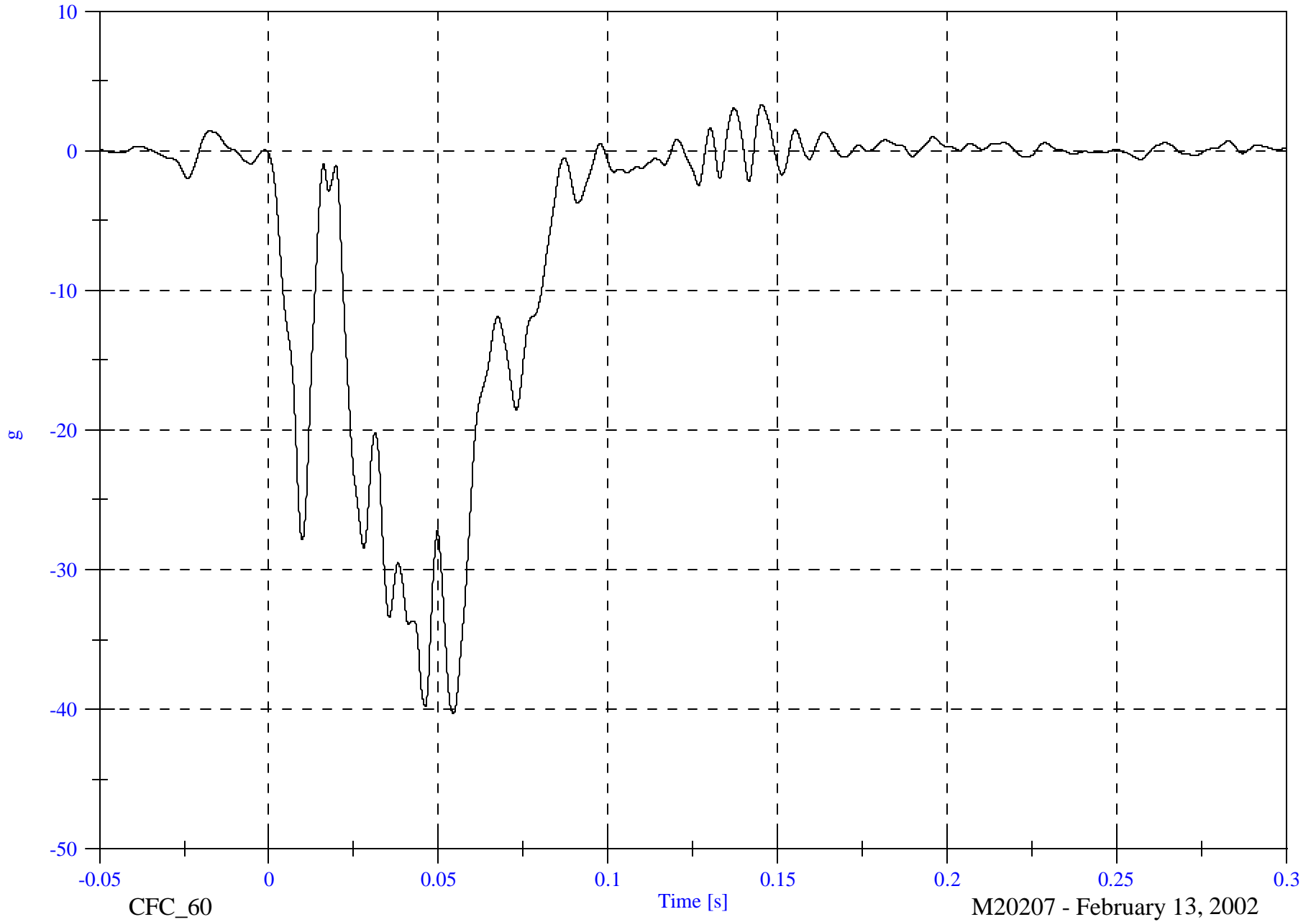
Left Rear #1x

Max: 3.3 [g] at 0.145 [s]

Min: -40.3 [g] at 0.054 [s]

B-114

8462-NCAP-05



2002 NCAP Test 5 - 2002 Ford Focus

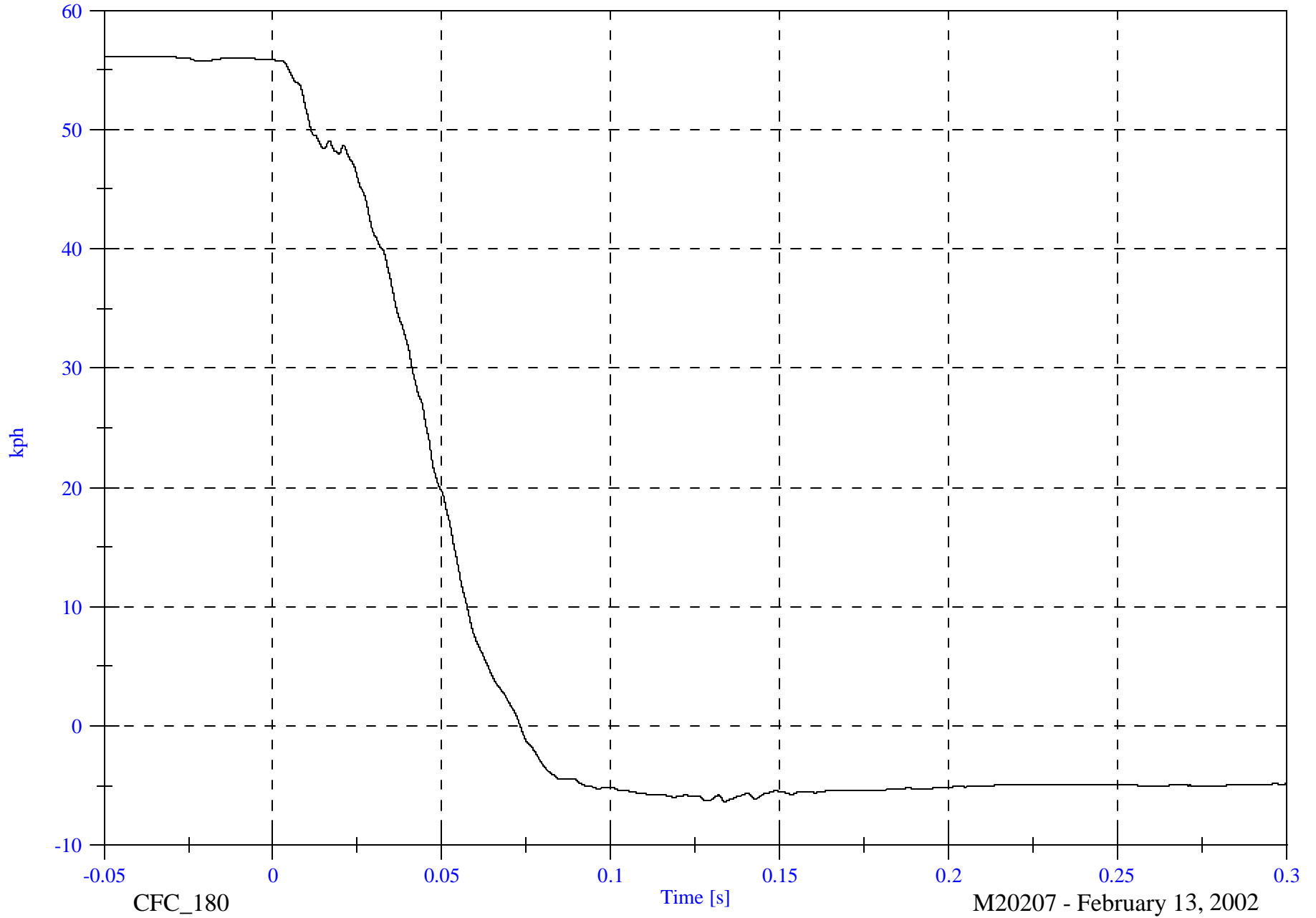
Max: 56.1 [kph] at -0.035 [s]

Left Rear #1x Velocity

Min: -6.3 [kph] at 0.134 [s]

B-115

8462-NCAP-05



CFC_180

Time [s]

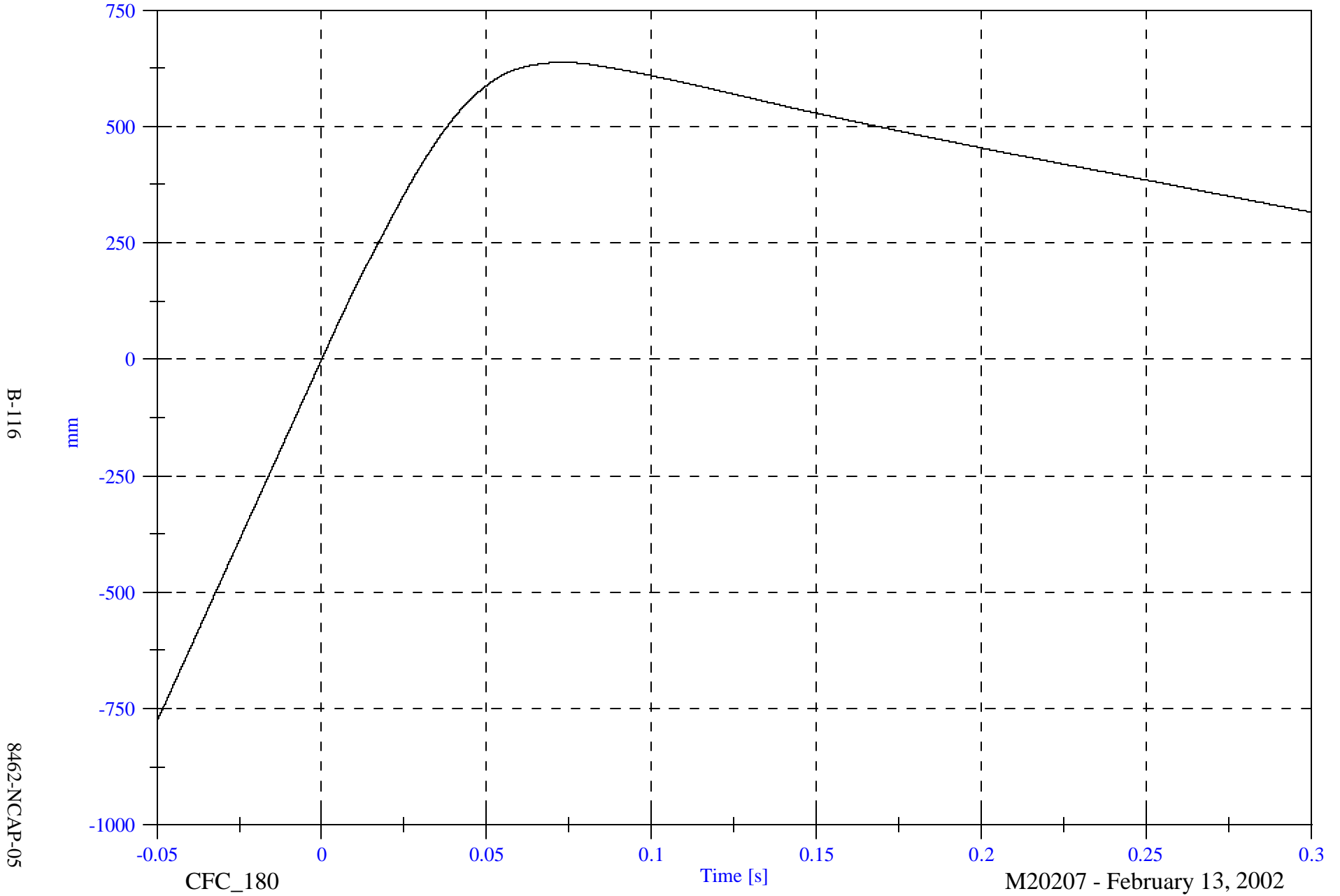
M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

Left Rear #1x Displacement

Max: 637.7 [mm] at 0.073 [s]

Min: -777.6 [mm] at -0.050 [s]



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8462-NCAP-05

CFC_180

Time [s]

M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

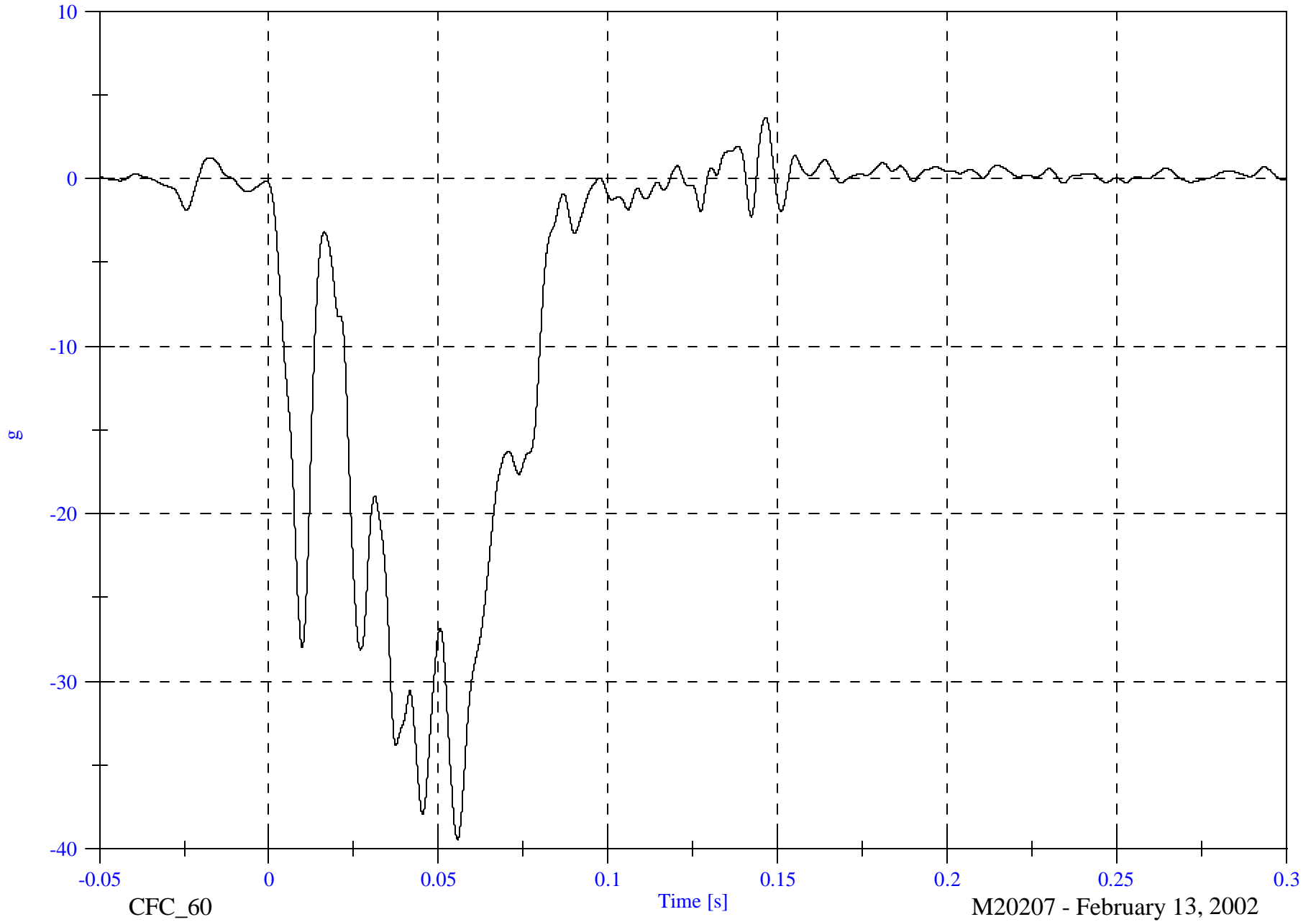
Right Rear #2x

Max: 3.7 [g] at 0.146 [s]

Min: -39.4 [g] at 0.056 [s]

B-117

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CFC_60

Time [s]

M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

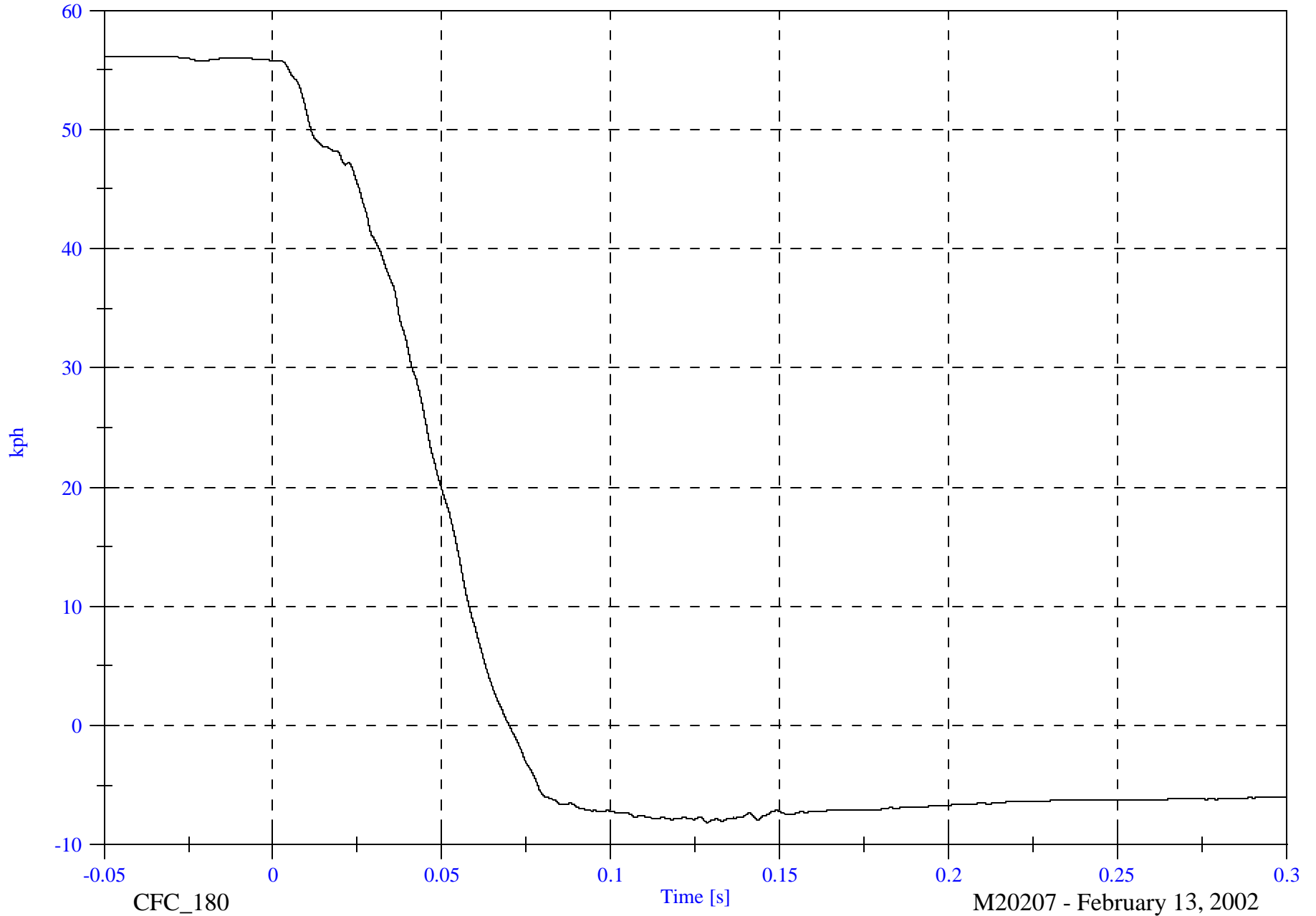
Max: 56.1 [kph] at -0.038 [s]

Right Rear #2x Velocity

Min: -8.1 [kph] at 0.129 [s]

B-118

8462-NCAP-05



CFC_180

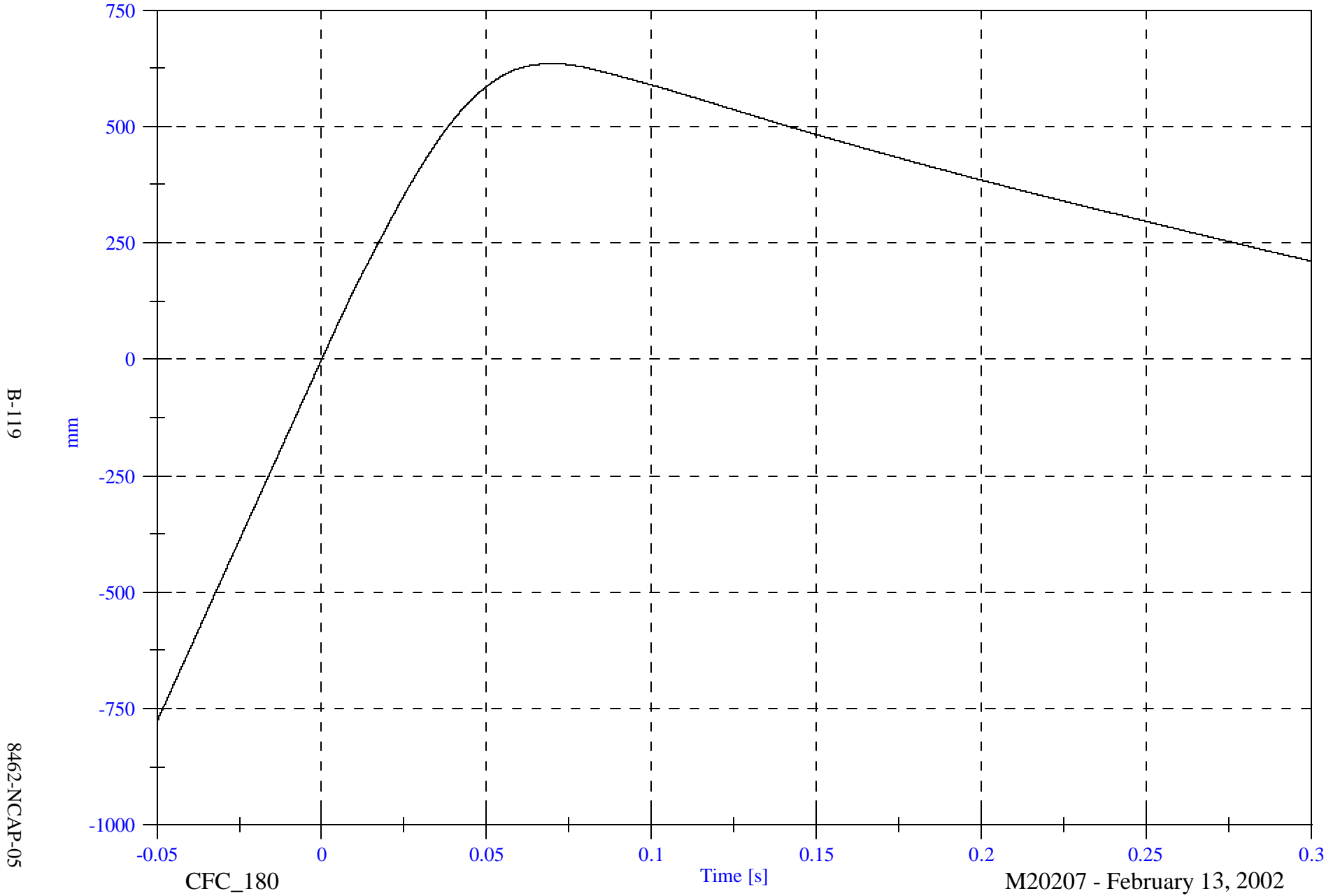
M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

Right Rear #2x Displacement

Max: 634.5 [mm] at 0.070 [s]

Min: -777.7 [mm] at -0.050 [s]



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8462-NCAP-05

CFC_180

Time [s]

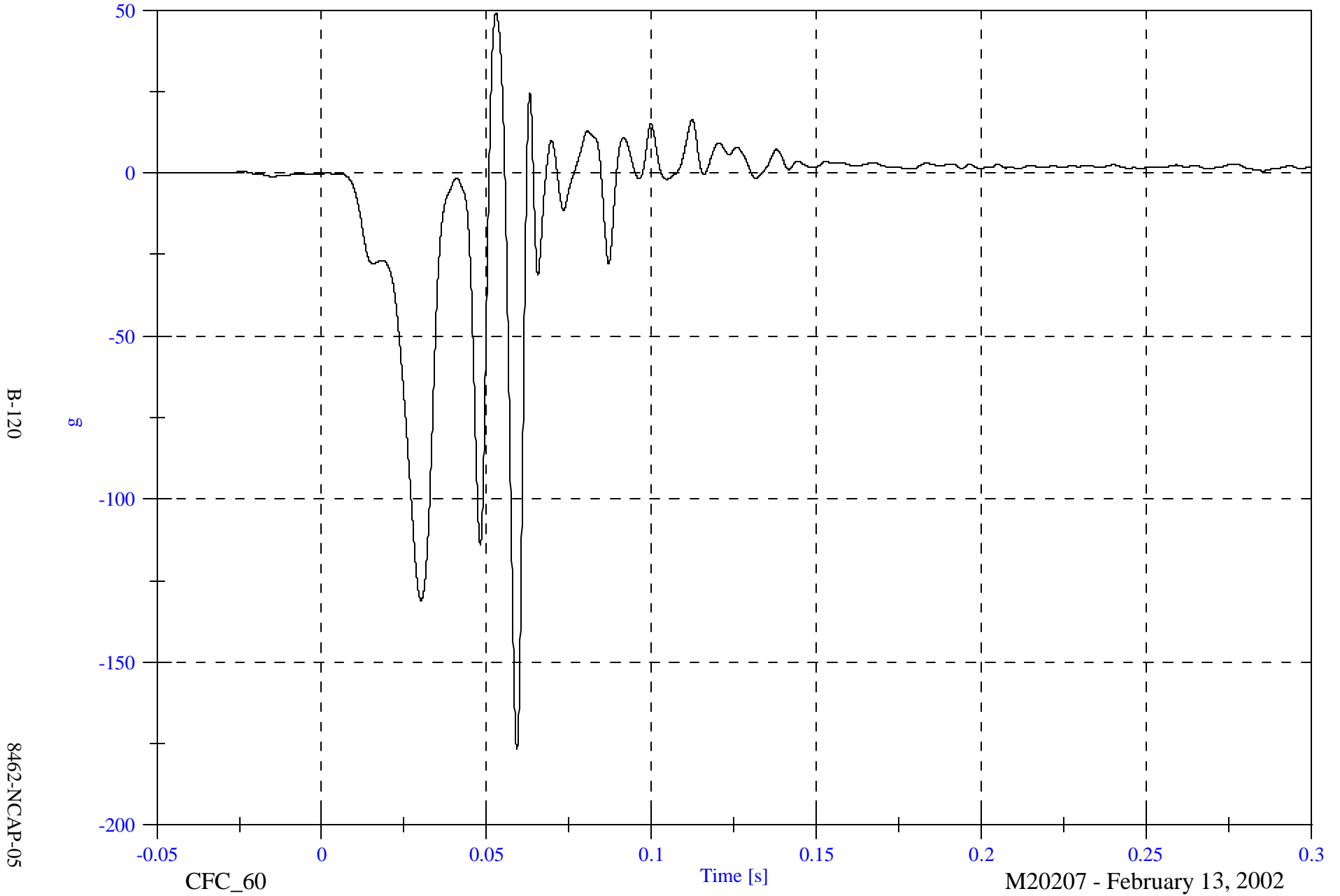
M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

Engine Top #3x

Max: 49.1 [g] at 0.053 [s]

Min: -176.9 [g] at 0.059 [s]

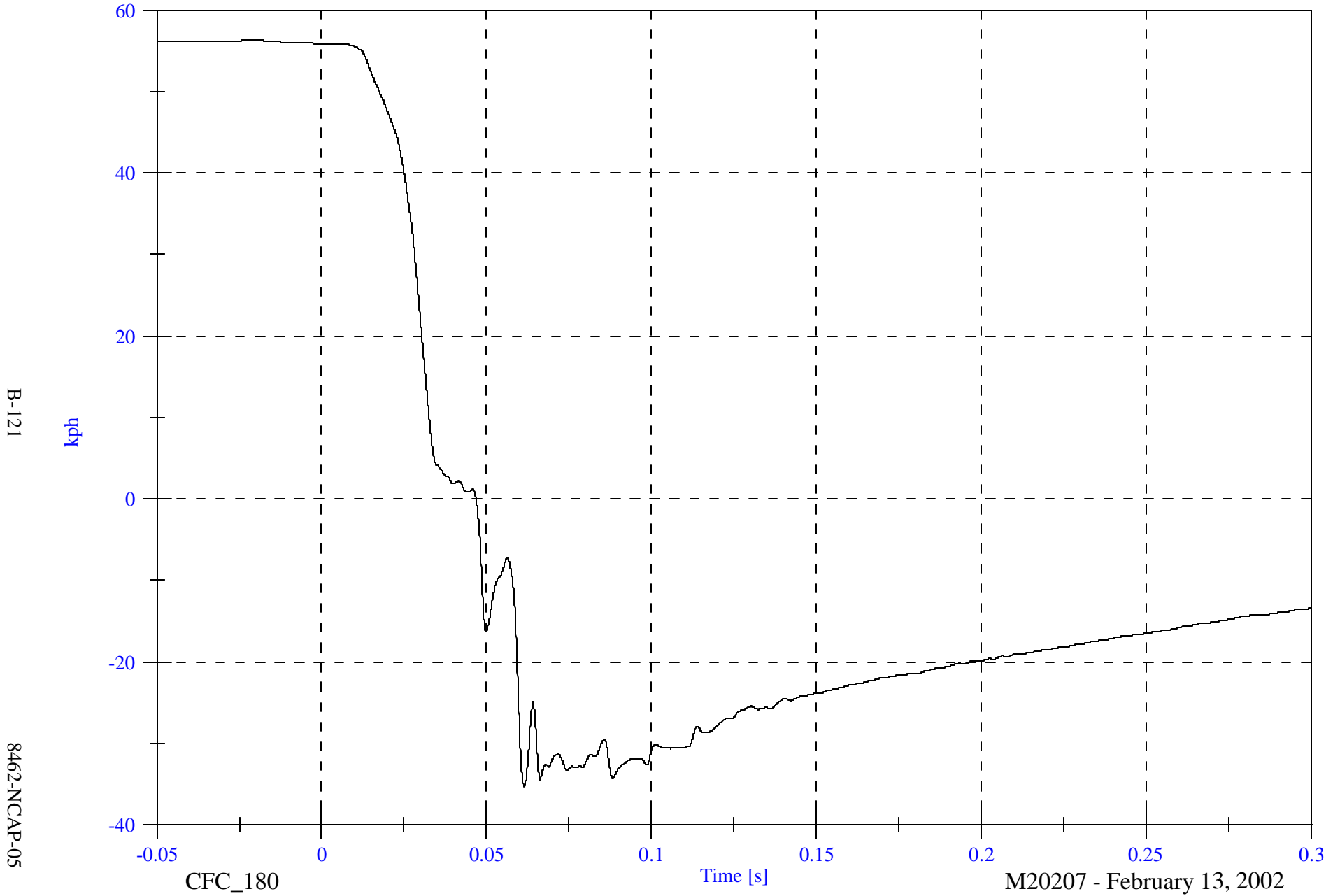


2002 NCAP Test 5 - 2002 Ford Focus

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

Min: -35.2 [kph] at 0.061 [s]

Engine Top #3x Velocity



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8462-NCAP-05

CFC_180

Time [s]

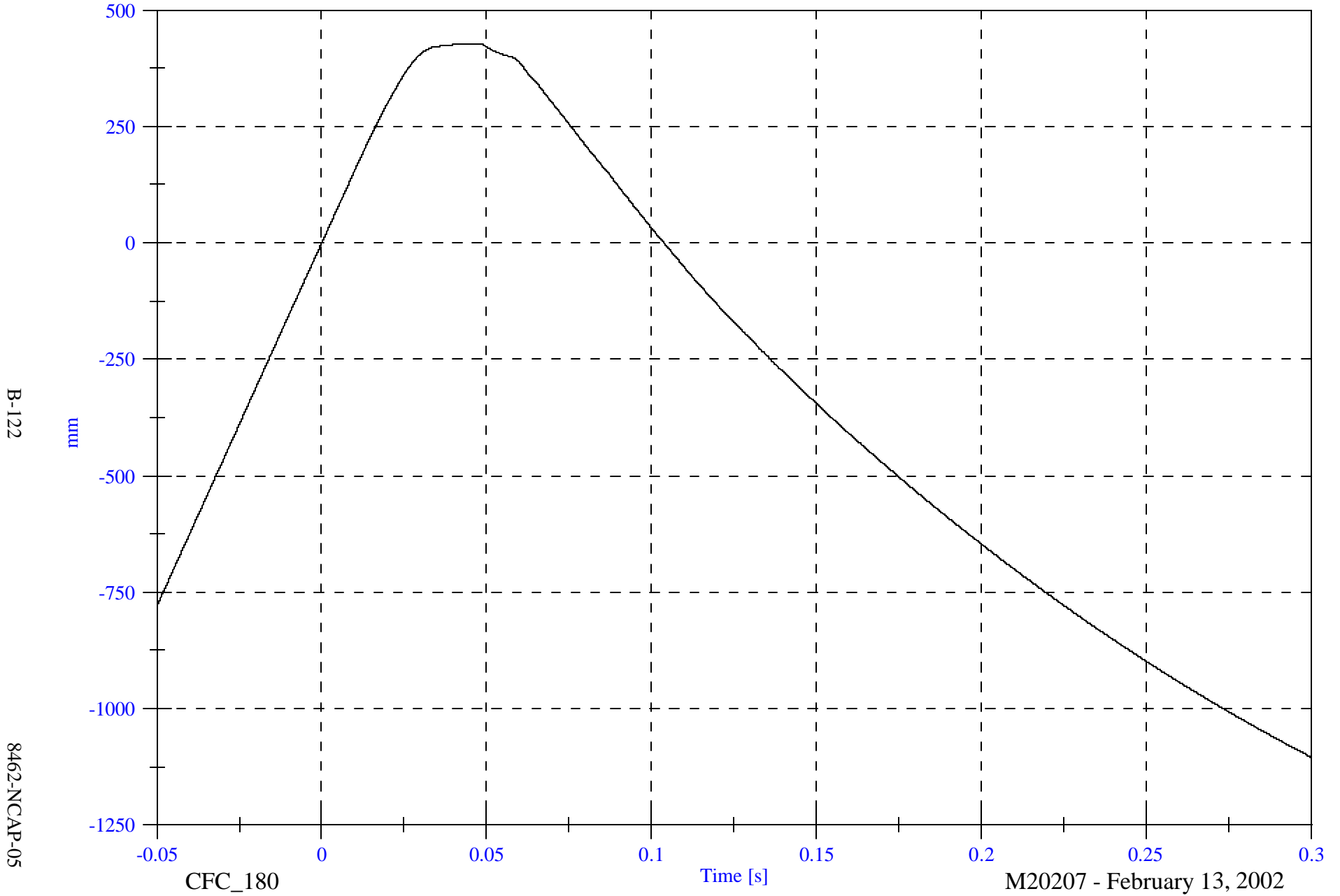
M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

Engine Top #3x Displacement

Max: 428.0 [mm] at 0.047 [s]

Min: -1103.5 [mm] at 0.300 [s]



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8462-NCAP-05

CFC_180

Time [s]

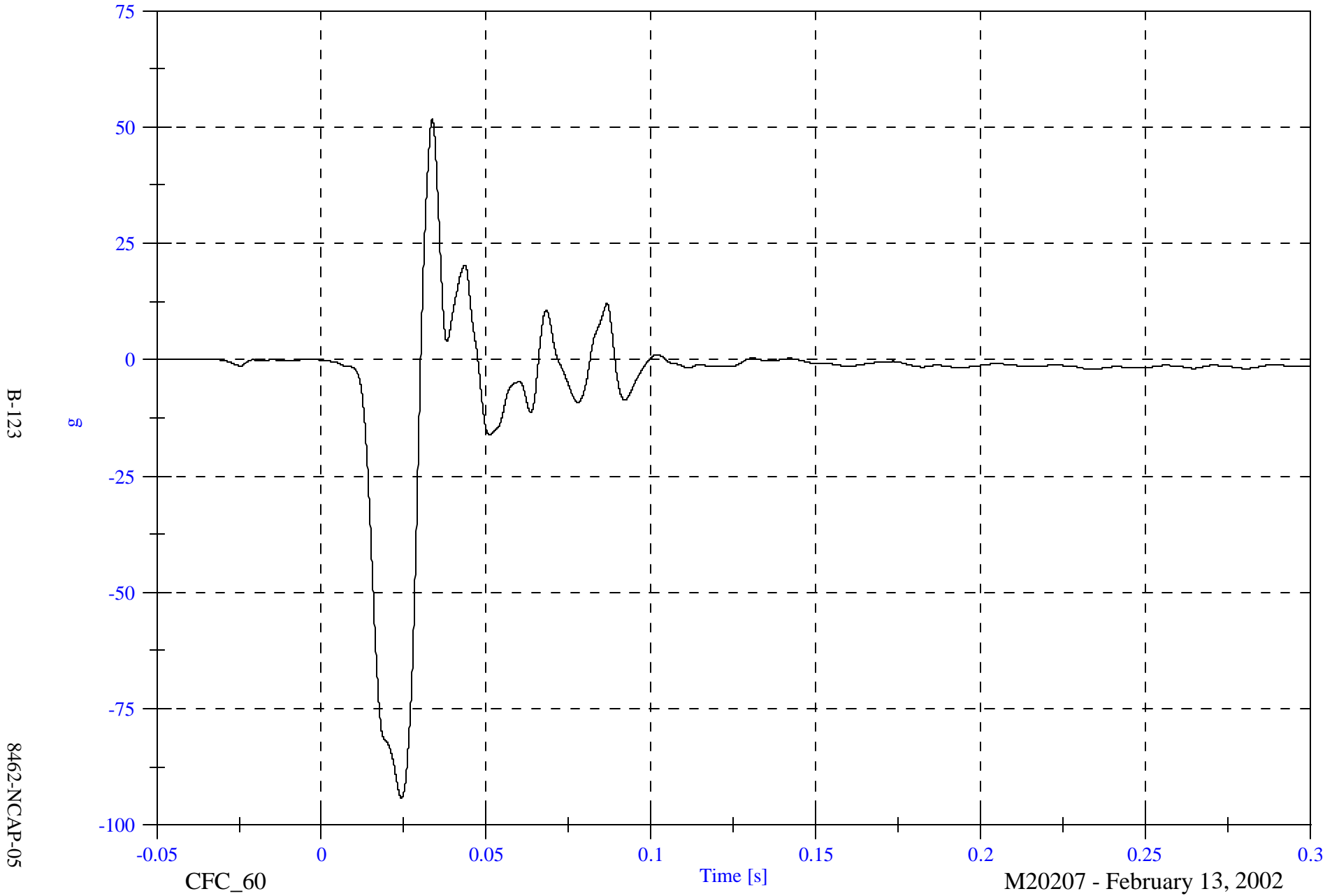
M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

Engine Bottom #4x

Max: 51.6 [g] at 0.034 [s]

Min: -94.2 [g] at 0.024 [s]



2002 NCAP Test 5 - 2002 Ford Focus

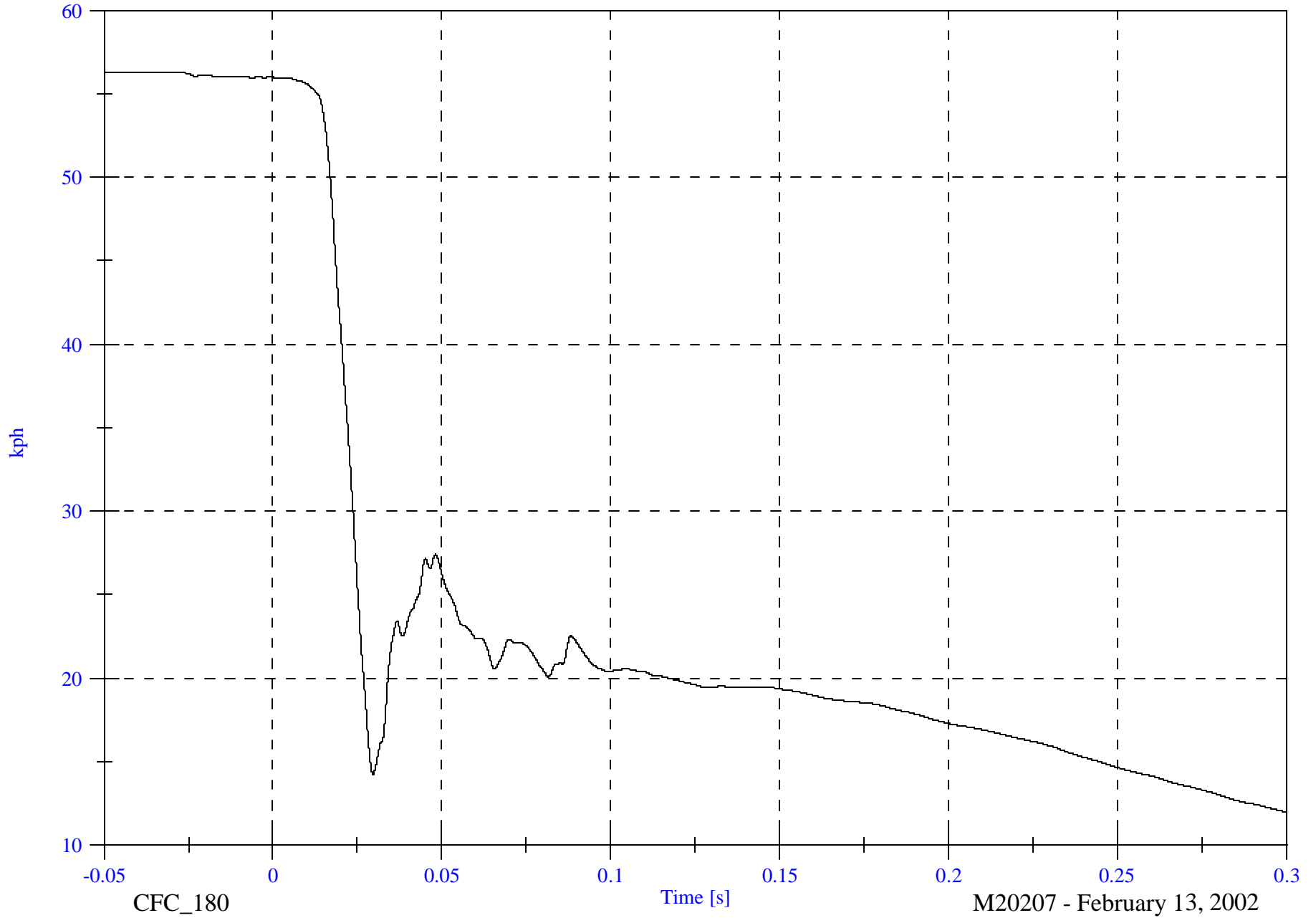
Engine Bottom #4x Velocity

Max: 56.3 [kph] at -0.039 [s]

Min: 12.0 [kph] at 0.300 [s]

B-124

8462-NCAP-05



CFC_180

Time [s]

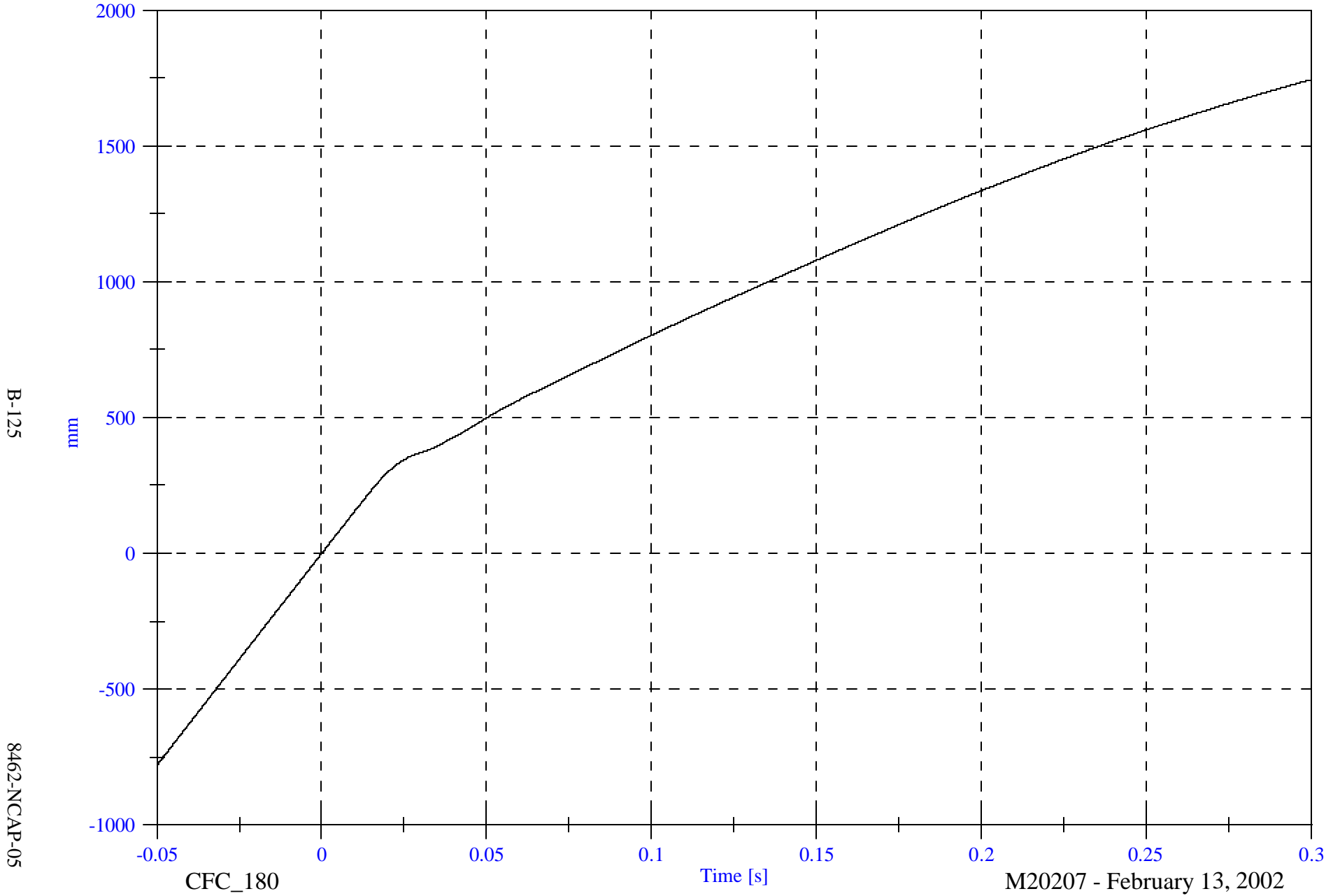
M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

Engine Bottom #4x Displacement

Max: 1742.7 [mm] at 0.300 [s]

Min: -779.9 [mm] at -0.050 [s]



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8462-NCAP-05

CFC_180

Time [s]

M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

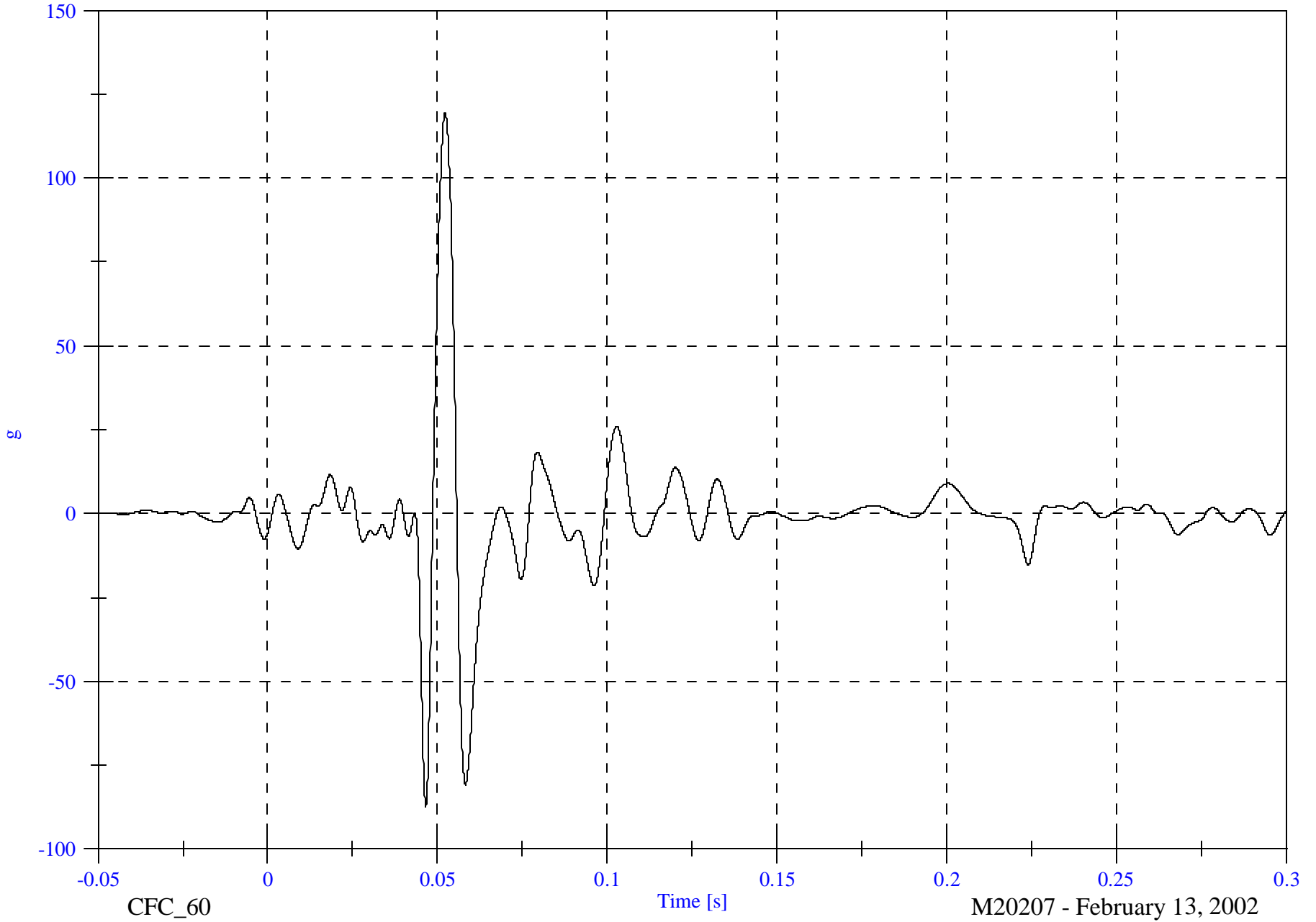
Right Caliper #5x

Max: 119.3 [g] at 0.052 [s]

Min: -87.3 [g] at 0.047 [s]

B-126

8462-NCAP-05



2002 NCAP Test 5 - 2002 Ford Focus

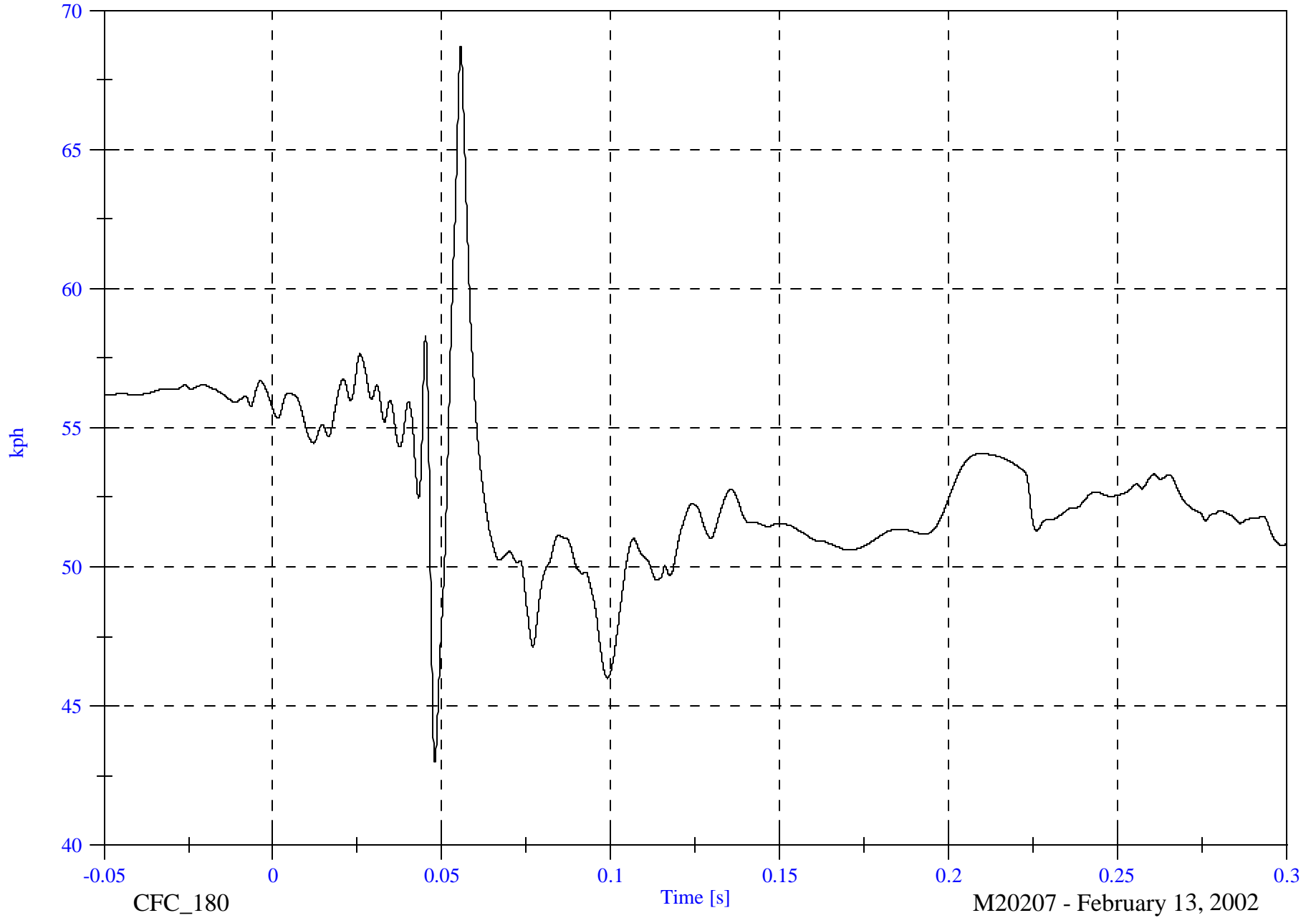
Max: 68.7 [kph] at 0.056 [s]

Right Caliper #5x Velocity

Min: 43.0 [kph] at 0.048 [s]

B-127

8462-NCAP-05



CFC_180

Time [s]

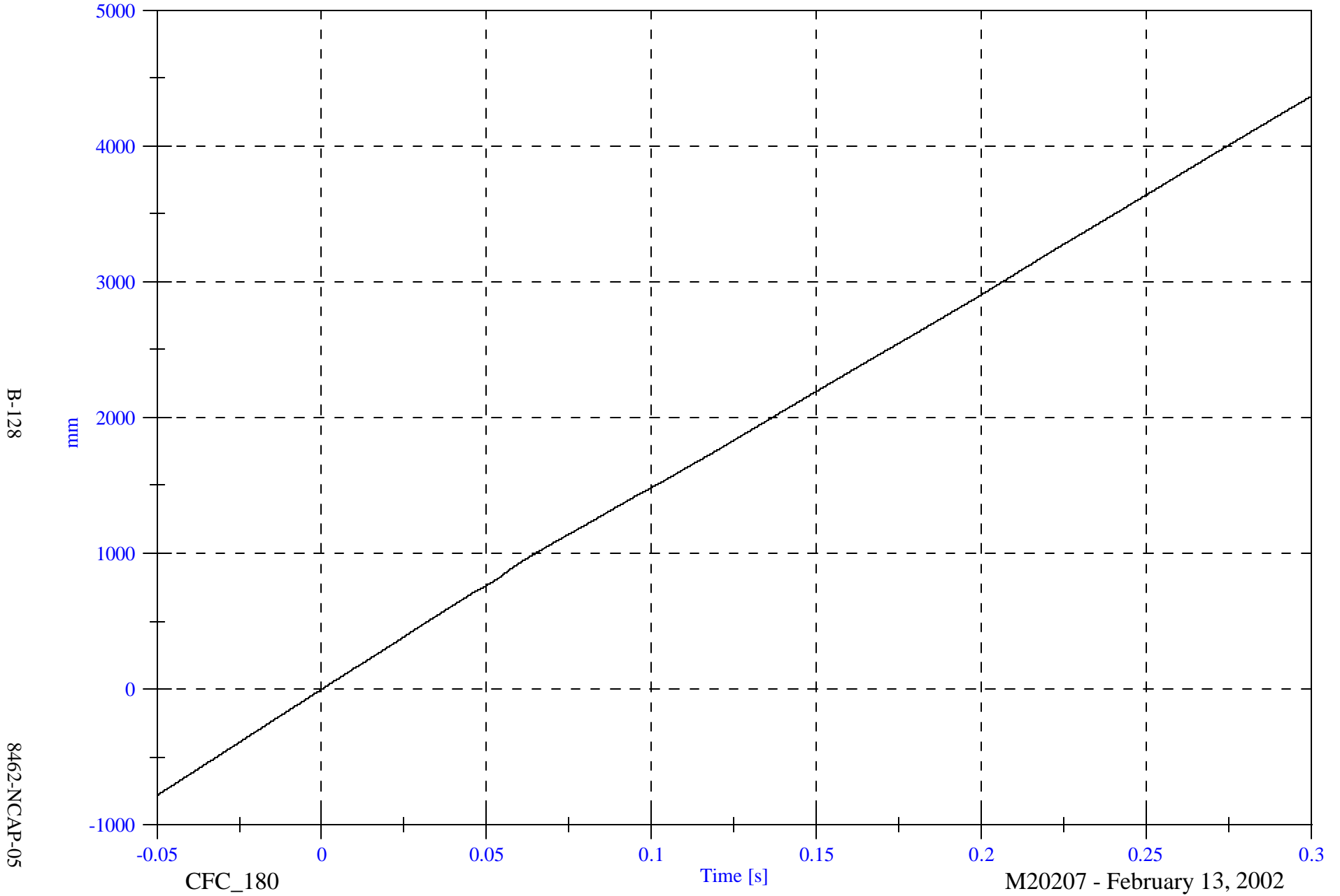
M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

Right Caliper #5x Displacement

Max: 4360.2 [mm] at 0.300 [s]

Min: -781.5 [mm] at -0.050 [s]



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8462-NCAP-05

CFC_180

Time [s]

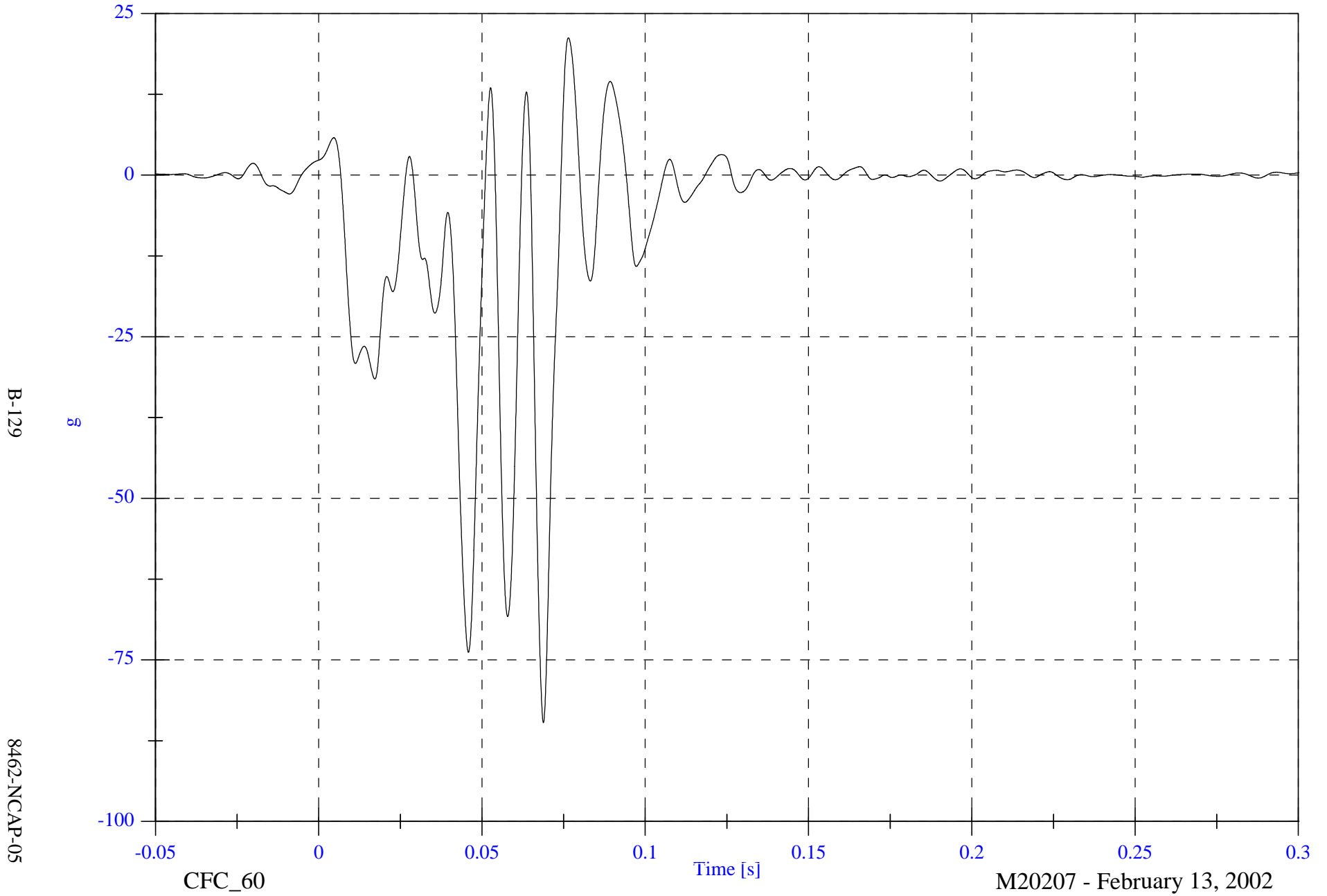
M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

Instrument Panel #6x

Max: 21.2 [g] at 0.076 [s]

Min: -84.7 [g] at 0.069 [s]



B-129

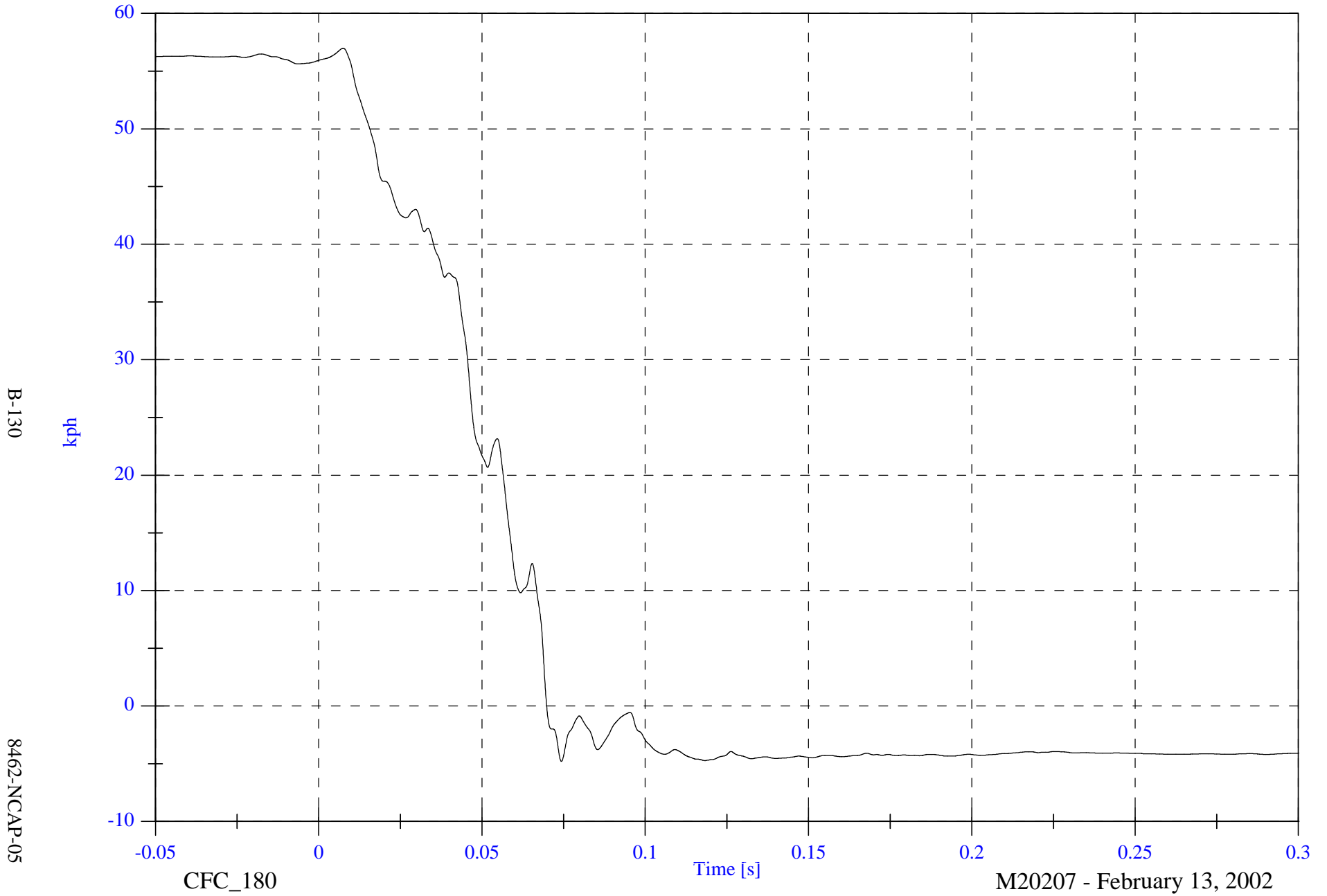
8462-NCAP-05

2002 NCAP Test 5 - 2002 Ford Focus

Instrument Panel #6x Velocity

Max: 57.0 [kph] at 0.007 [s]

Min: -4.8 [kph] at 0.074 [s]



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8462-NCAP-05

CFC_180

Time [s]

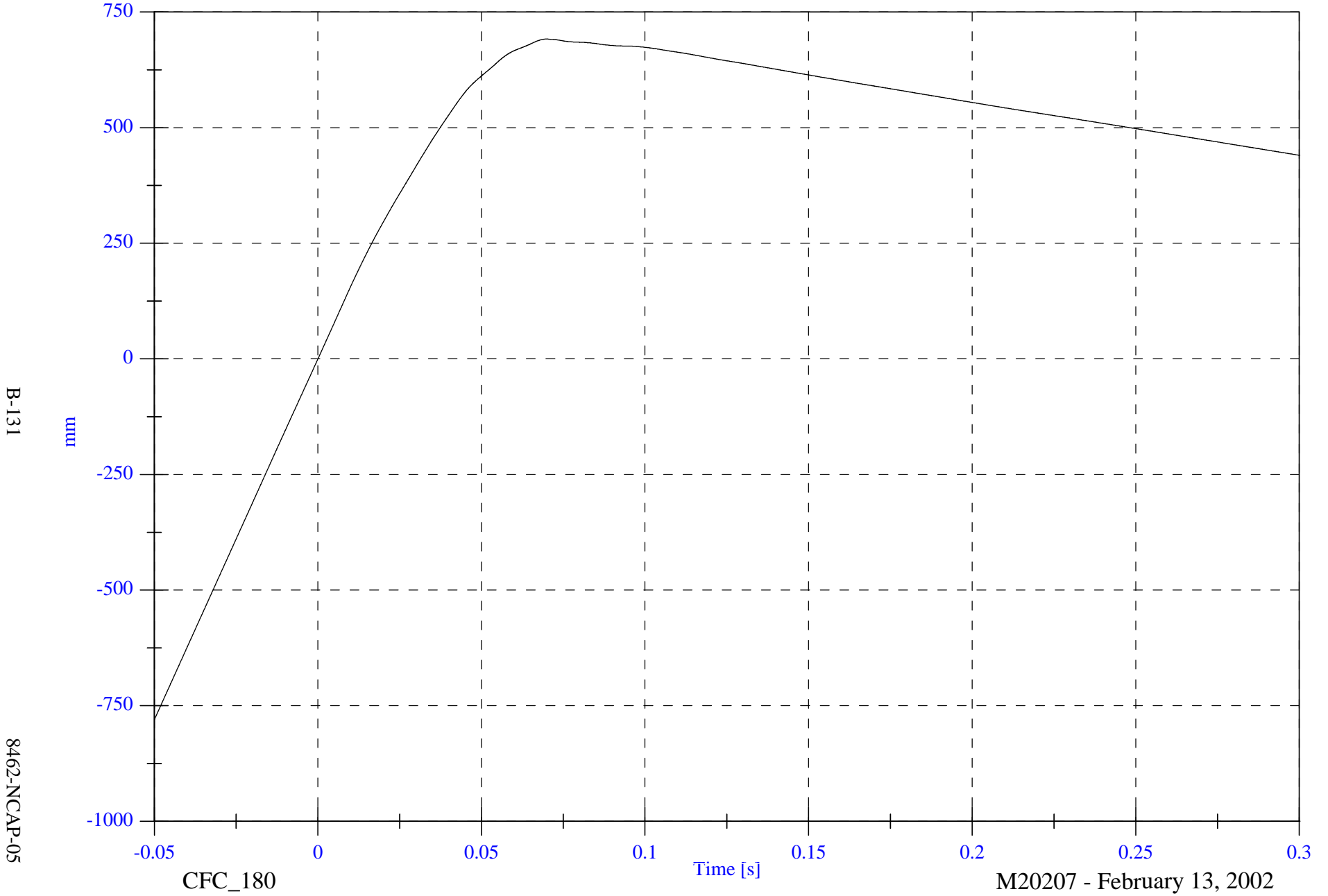
M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

Max: 691.6 [mm] at 0.070 [s]

Instrument Panel #6x Displacement

Min: -780.1 [mm] at -0.050 [s]



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8462-NCAP-05

CFC_180

Time [s]

M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

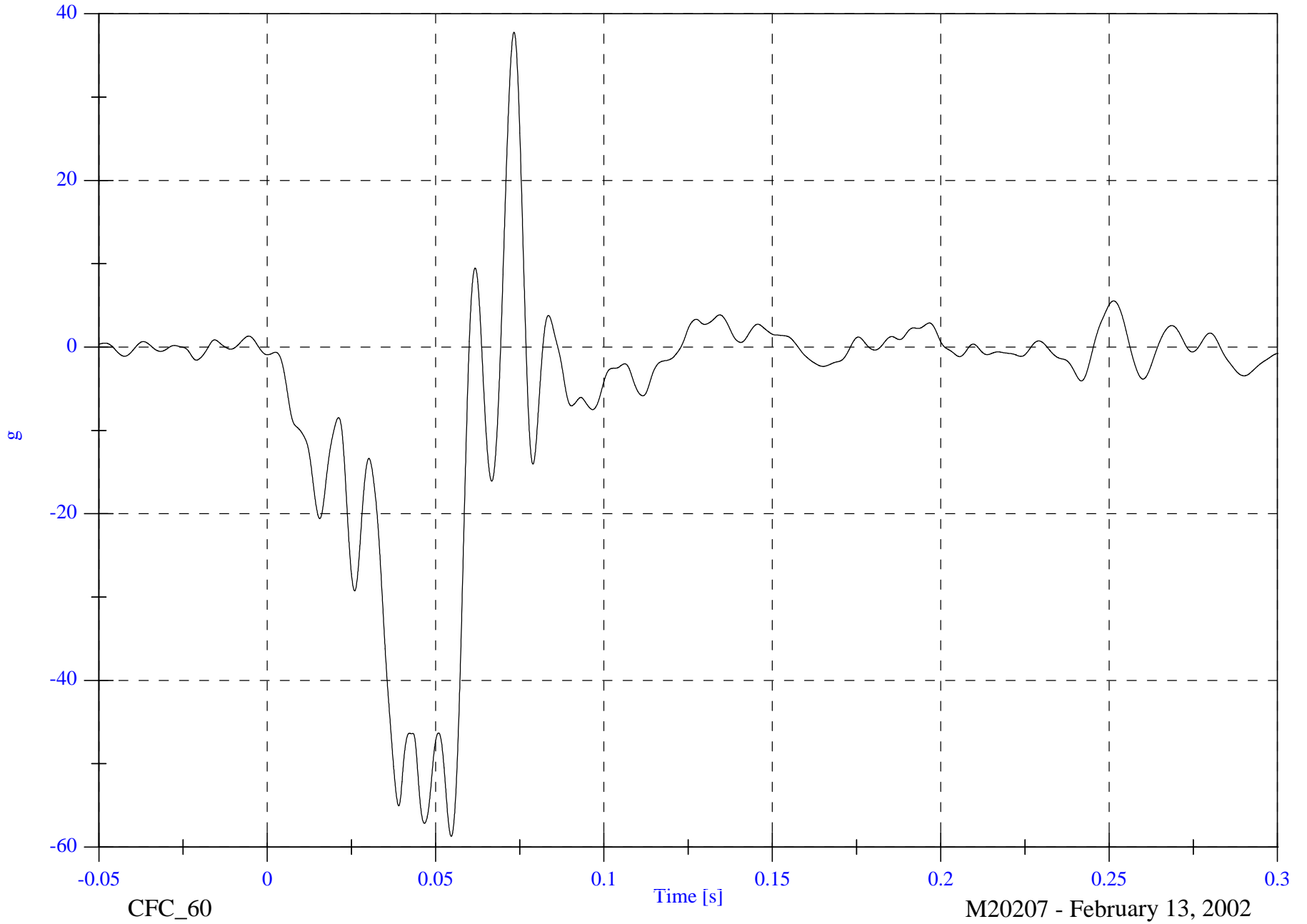
Left Caliper #7x

Max: 37.8 [g] at 0.073 [s]

Min: -58.7 [g] at 0.055 [s]

B-132

8462-NCAP-05



CFC_60

Time [s]

M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

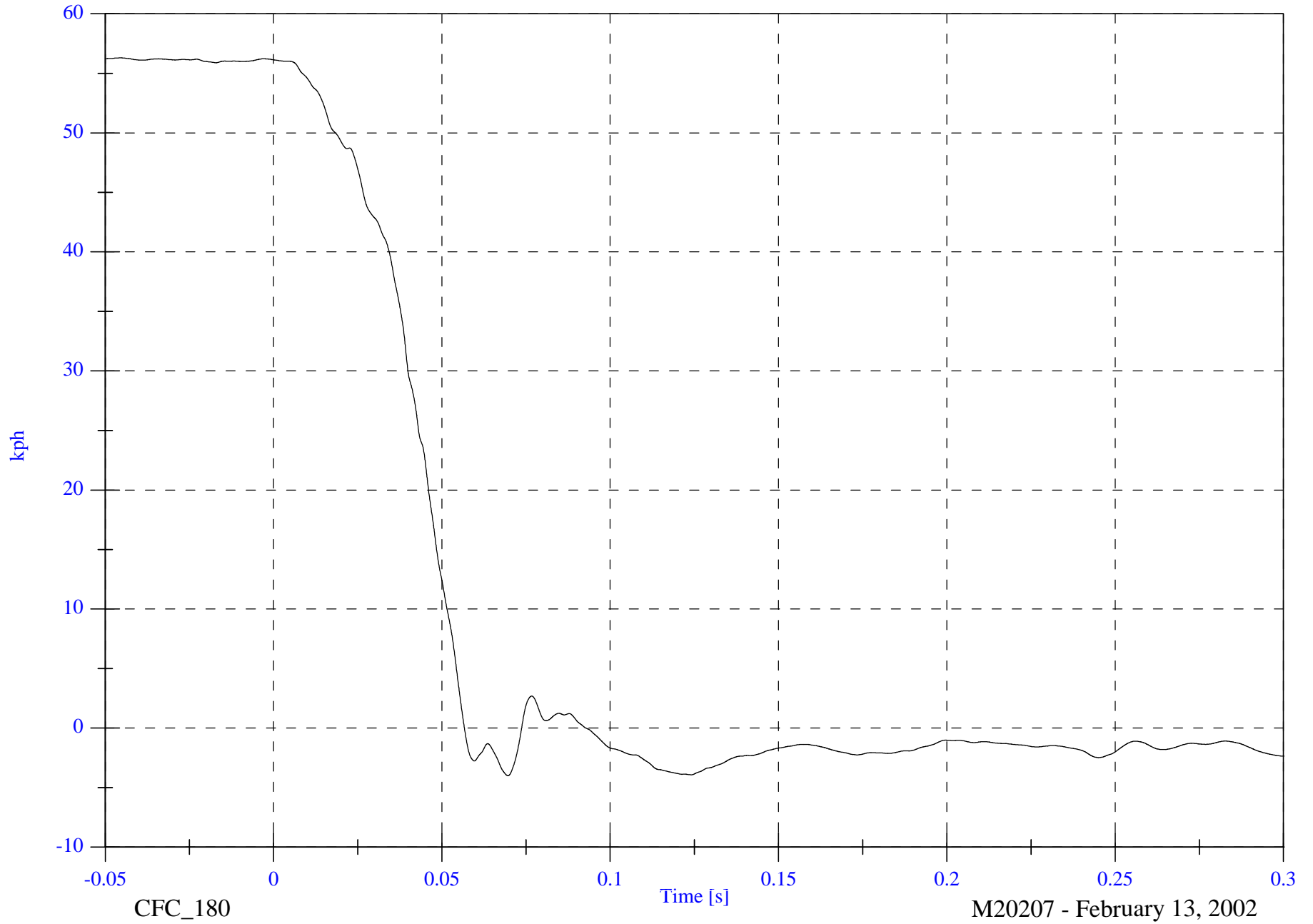
Max: 56.3 [kph] at -0.045 [s]

Left Caliper #7x Velocity

Min: -4.0 [kph] at 0.070 [s]

B-133

8462-NCAP-05



CFC_180

Time [s]

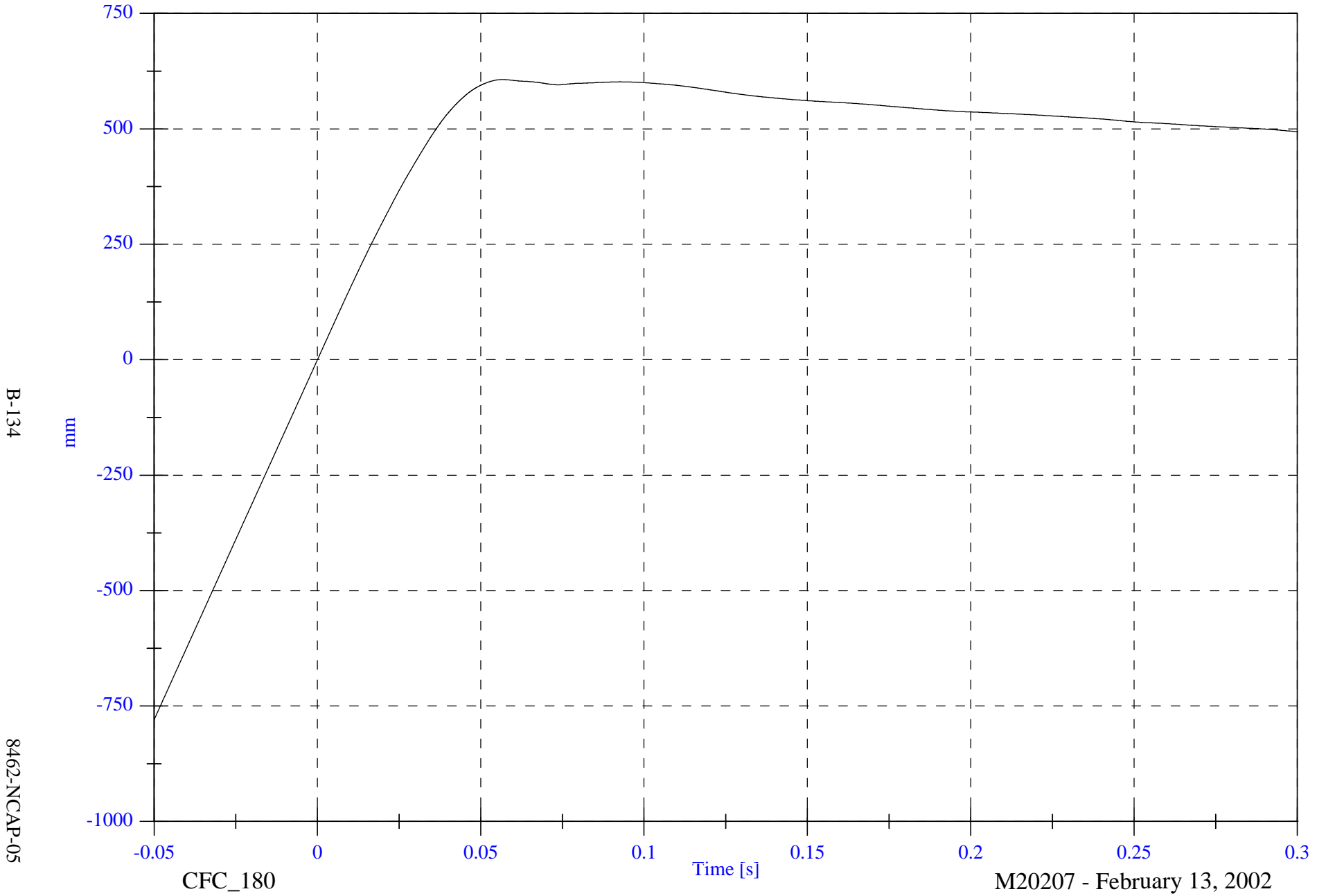
M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

Left Caliper #7x Displacement

Max: 606.7 [mm] at 0.057 [s]

Min: -779.6 [mm] at -0.050 [s]



B-134

8462-NCAP-05

CFC_180

Time [s]

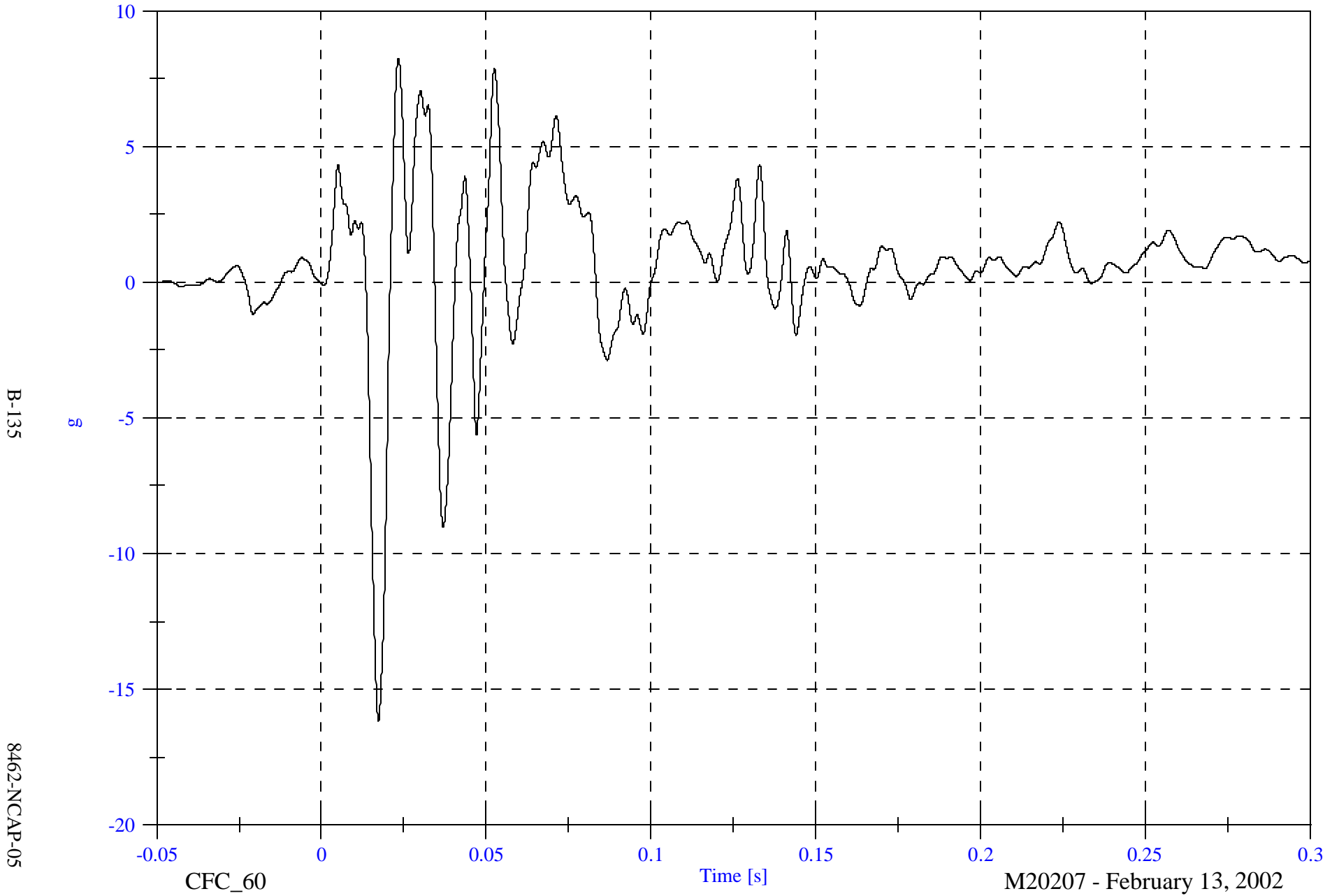
M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

Left Rear #8z

Max: 8.2 [g] at 0.023 [s]

Min: -16.2 [g] at 0.017 [s]



2002 NCAP Test 5 - 2002 Ford Focus

Left Rear #8z Velocity

Max: 8.2 [kph] at 0.300 [s]

Min: -1.7 [kph] at 0.020 [s]

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8462-NCAP-05



CFC_180

Time [s]

M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

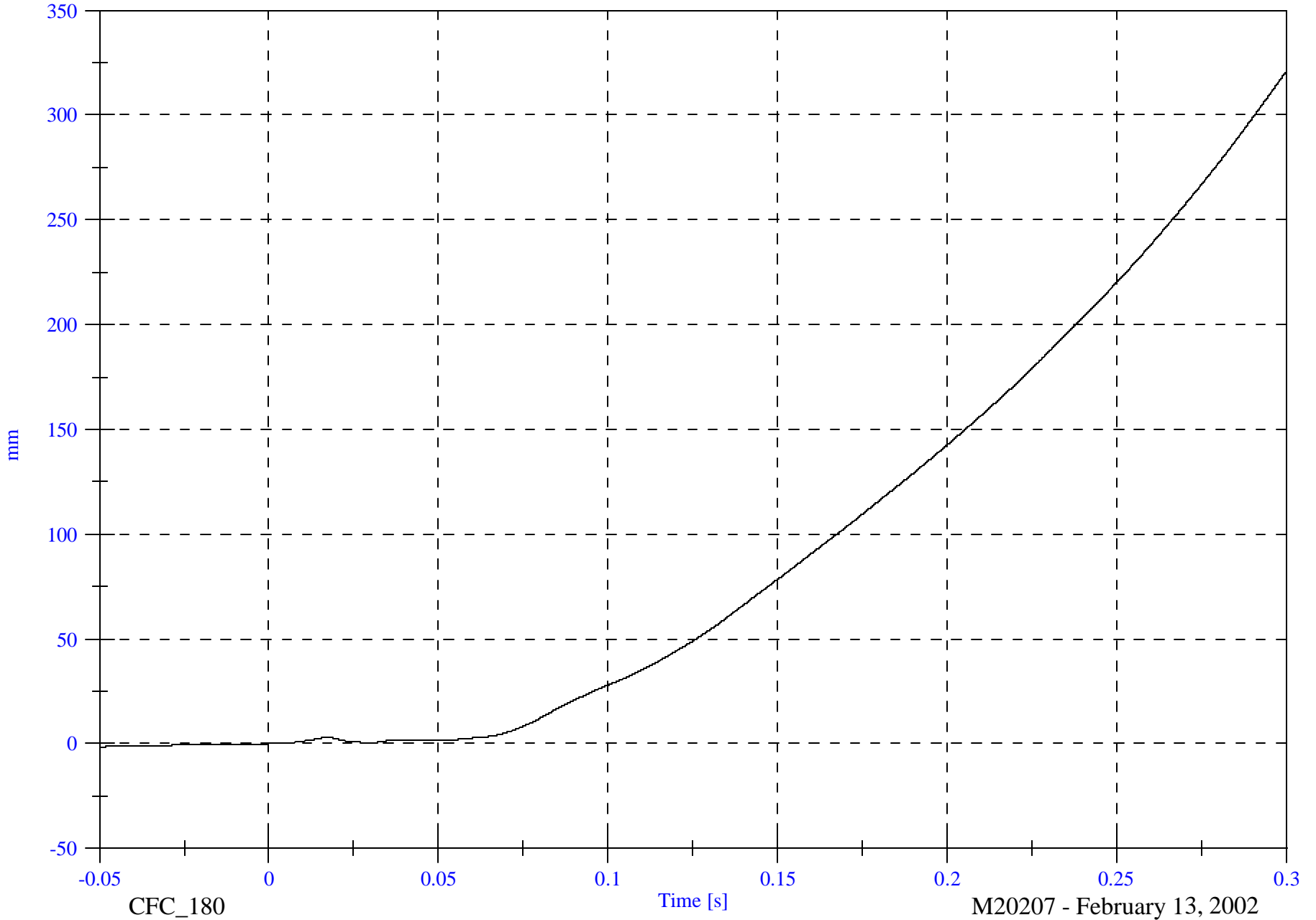
Left Rear #8z Displacement

Max: 320.5 [mm] at 0.300 [s]

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

B-137

8462-NCAP-05



CFC_180

Time [s]

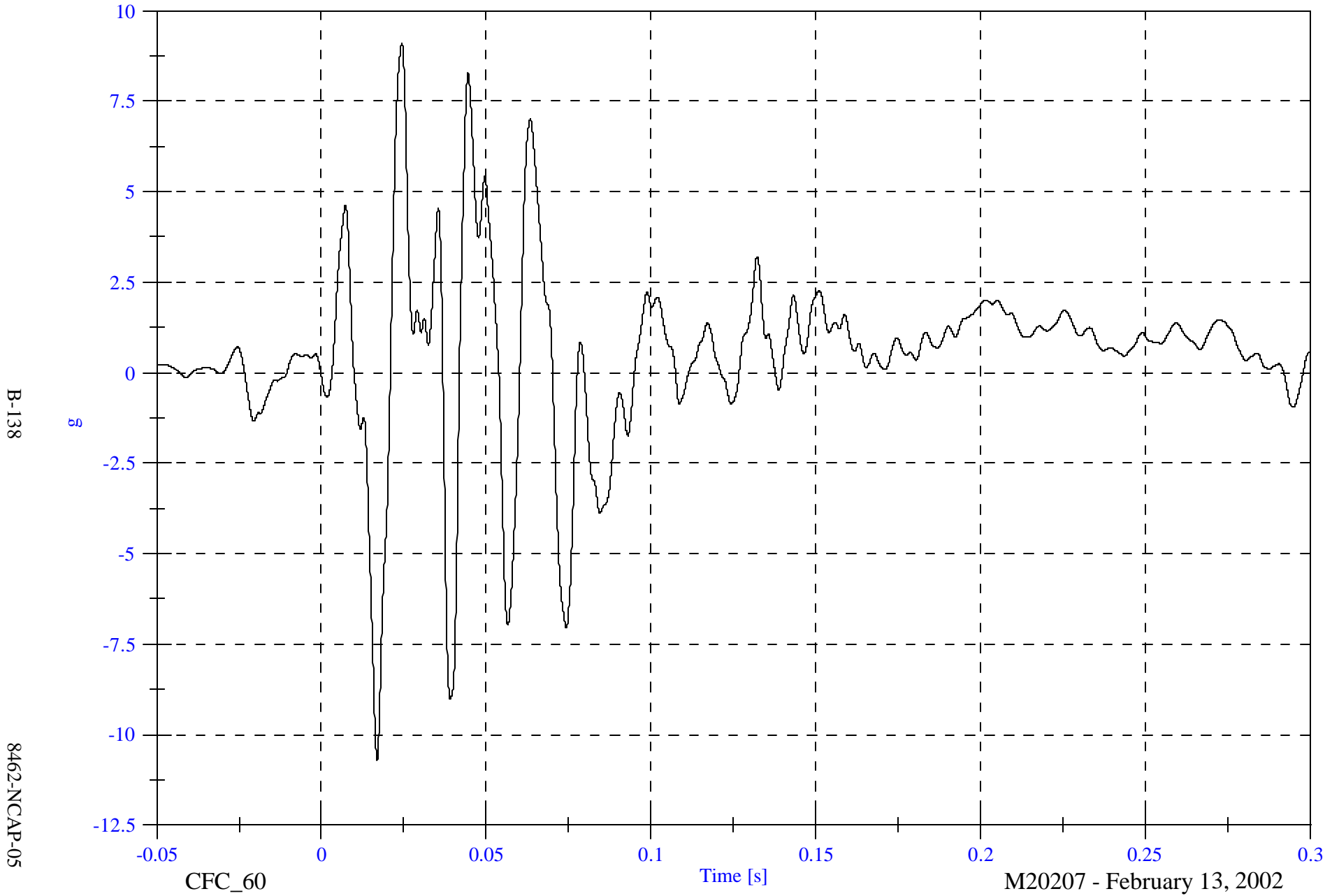
M20207 - February 13, 2002

2002 NCAP Test 5 - 2002 Ford Focus

Right Rear #9z

Max: 9.1 [g] at 0.024 [s]

Min: -10.7 [g] at 0.017 [s]



2002 NCAP Test 5 - 2002 Ford Focus

Right Rear #9z Velocity

Max: 6.5 [kph] at 0.293 [s]

Min: -1.3 [kph] at 0.021 [s]

B-139

8462-NCAP-05

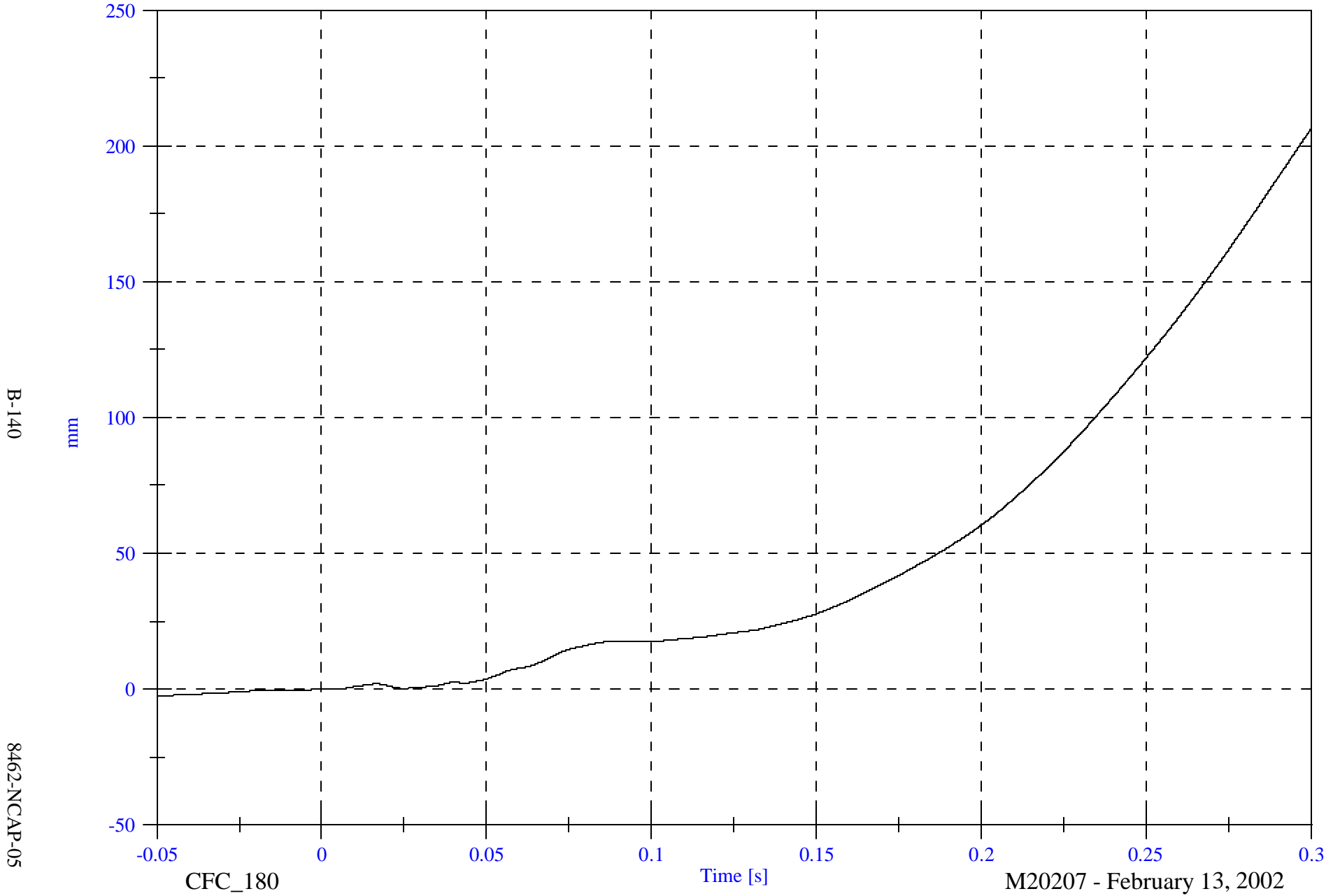


2002 NCAP Test 5 - 2002 Ford Focus

Right Rear #9z Displacement

Max: 205.9 [mm] at 0.300 [s]

Min: -2.5 [mm] at -0.050 [s]



B-140

8462-NCAP-05

CFC_180

Time [s]

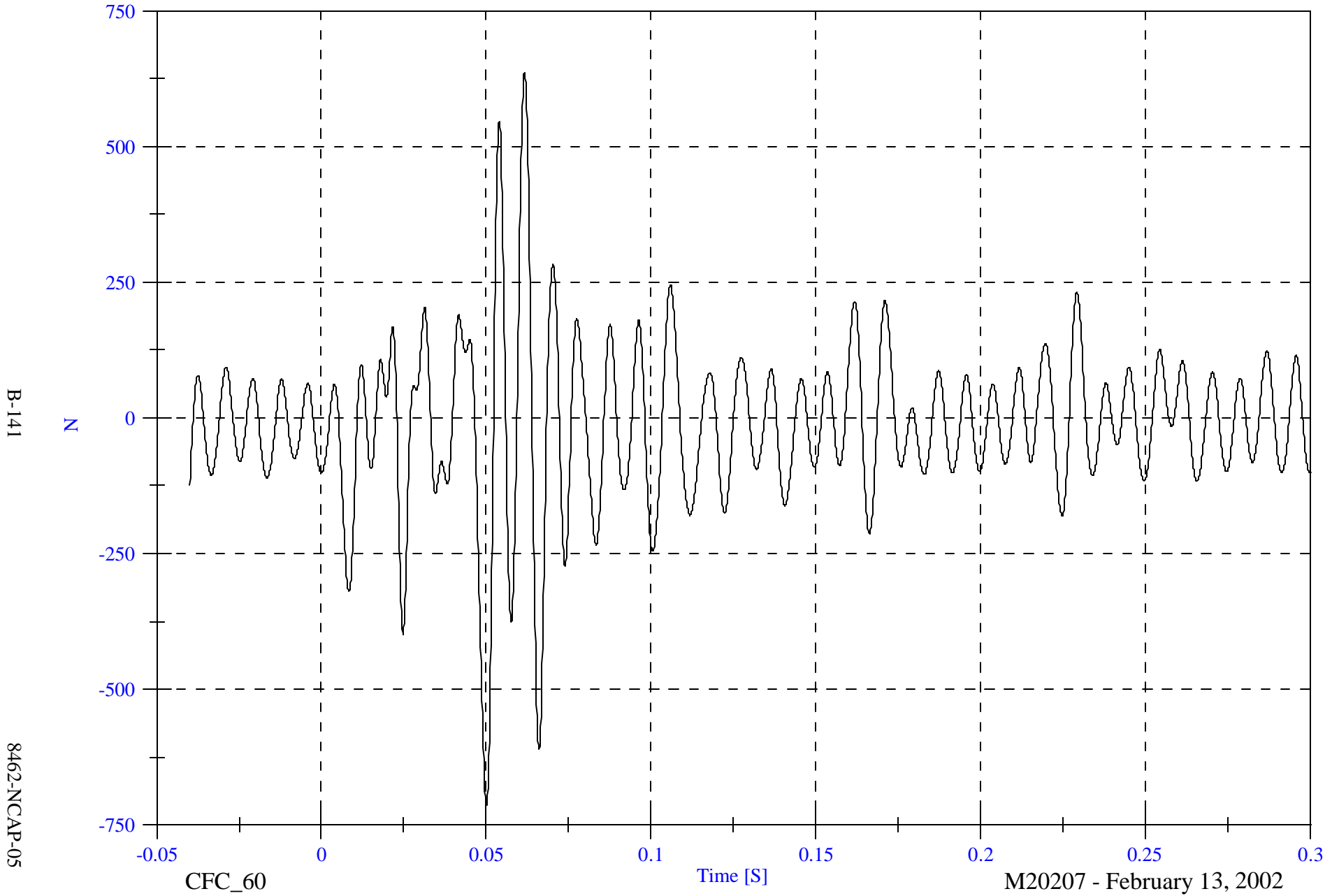
M20207 - February 13, 2002

NCAP TEST #5 - 2002 Ford Focus

Max: 635.9 [N] at 0.062 [S]

Min: -713.9 [N] at 0.050 [S]

Barrier Load Cell A1 Fx



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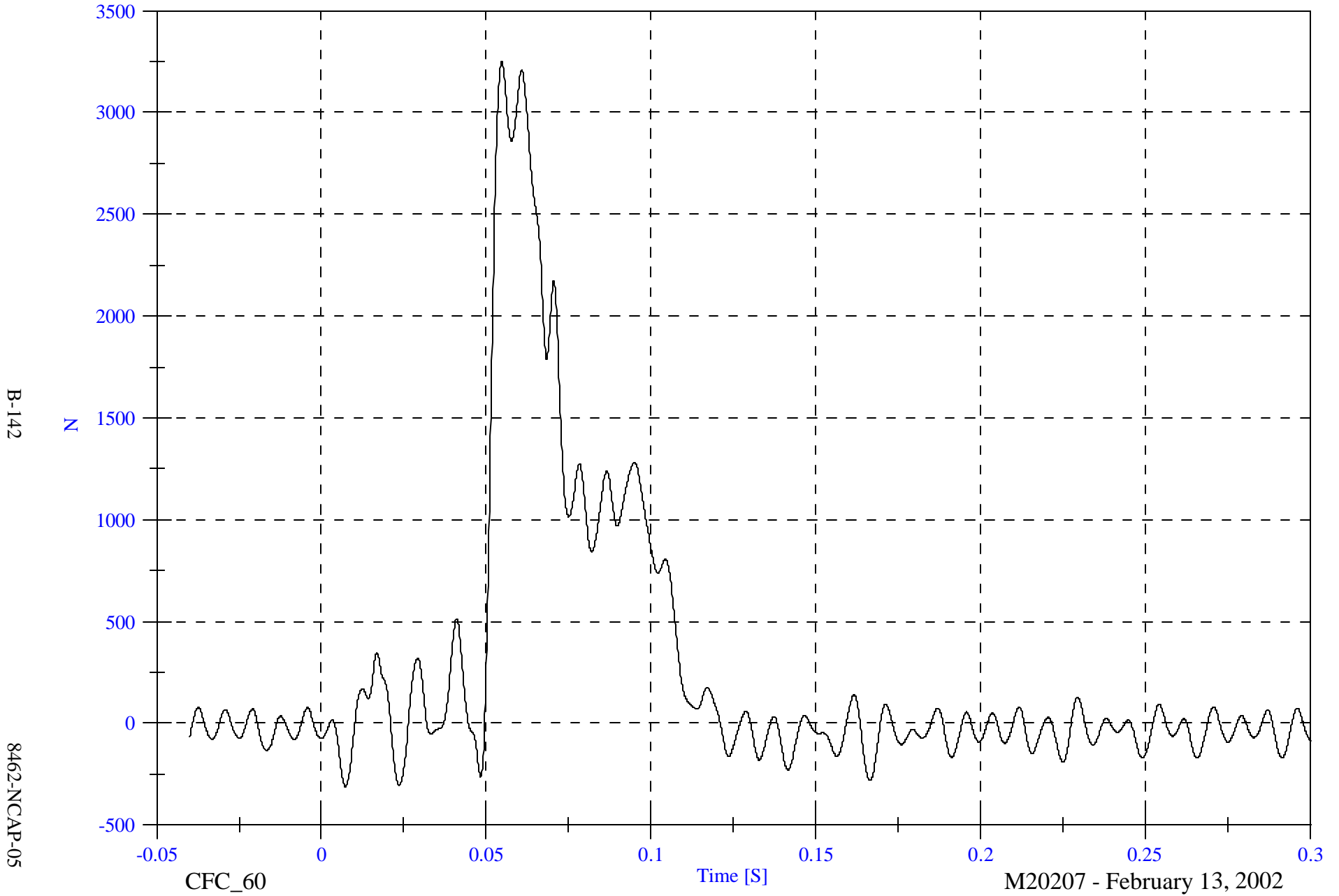
8462-NCAP-05

NCAP TEST #5 - 2002 Ford Focus

Max: 3251.5 [N] at 0.055 [S]

Barrier Load Cell A2 Fx

Min: -312.3 [N] at 0.007 [S]

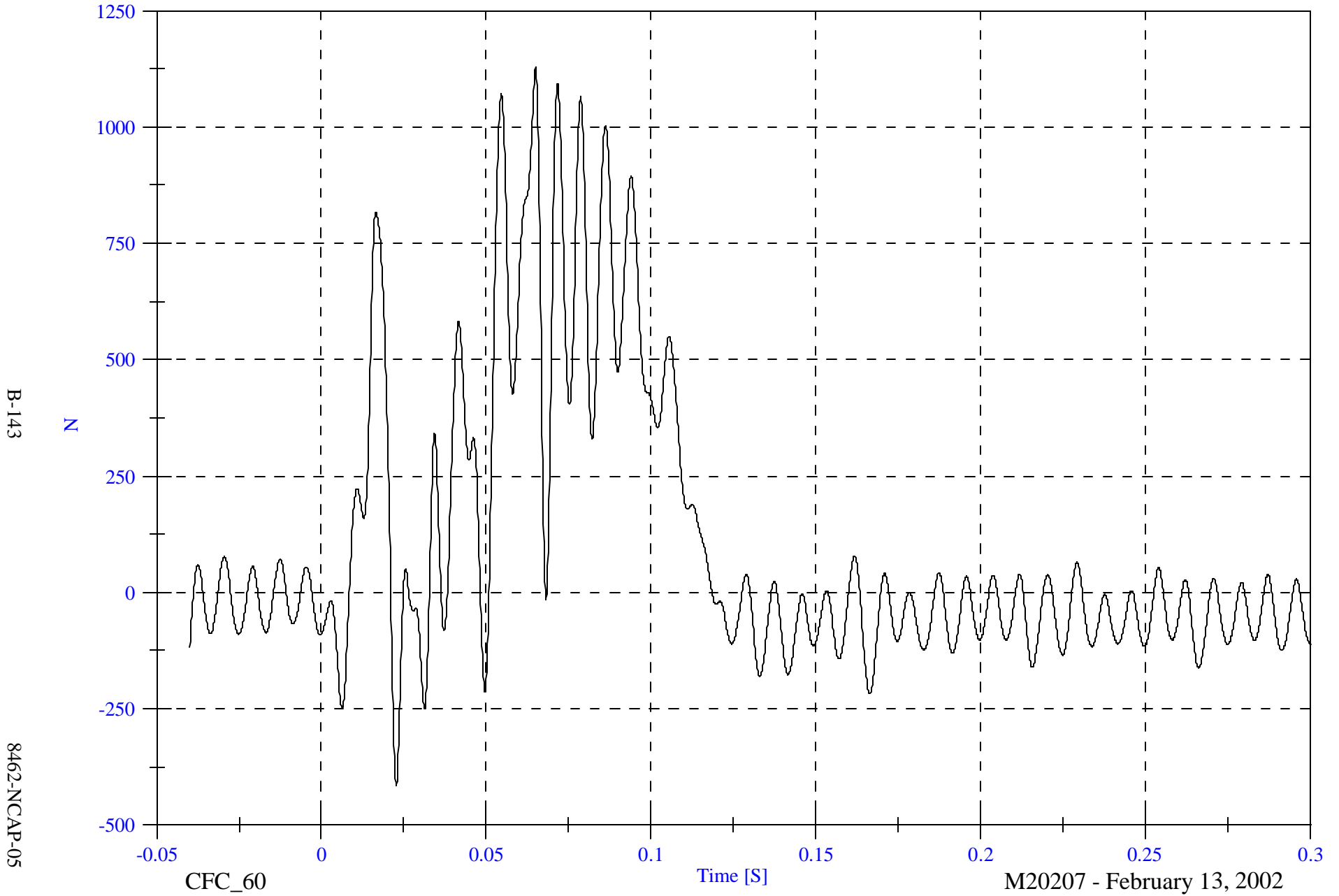


NCAP TEST #5 - 2002 Ford Focus

Max: 1128.5 [N] at 0.065 [S]

Min: -415.5 [N] at 0.023 [S]

Barrier Load Cell A3 Fx

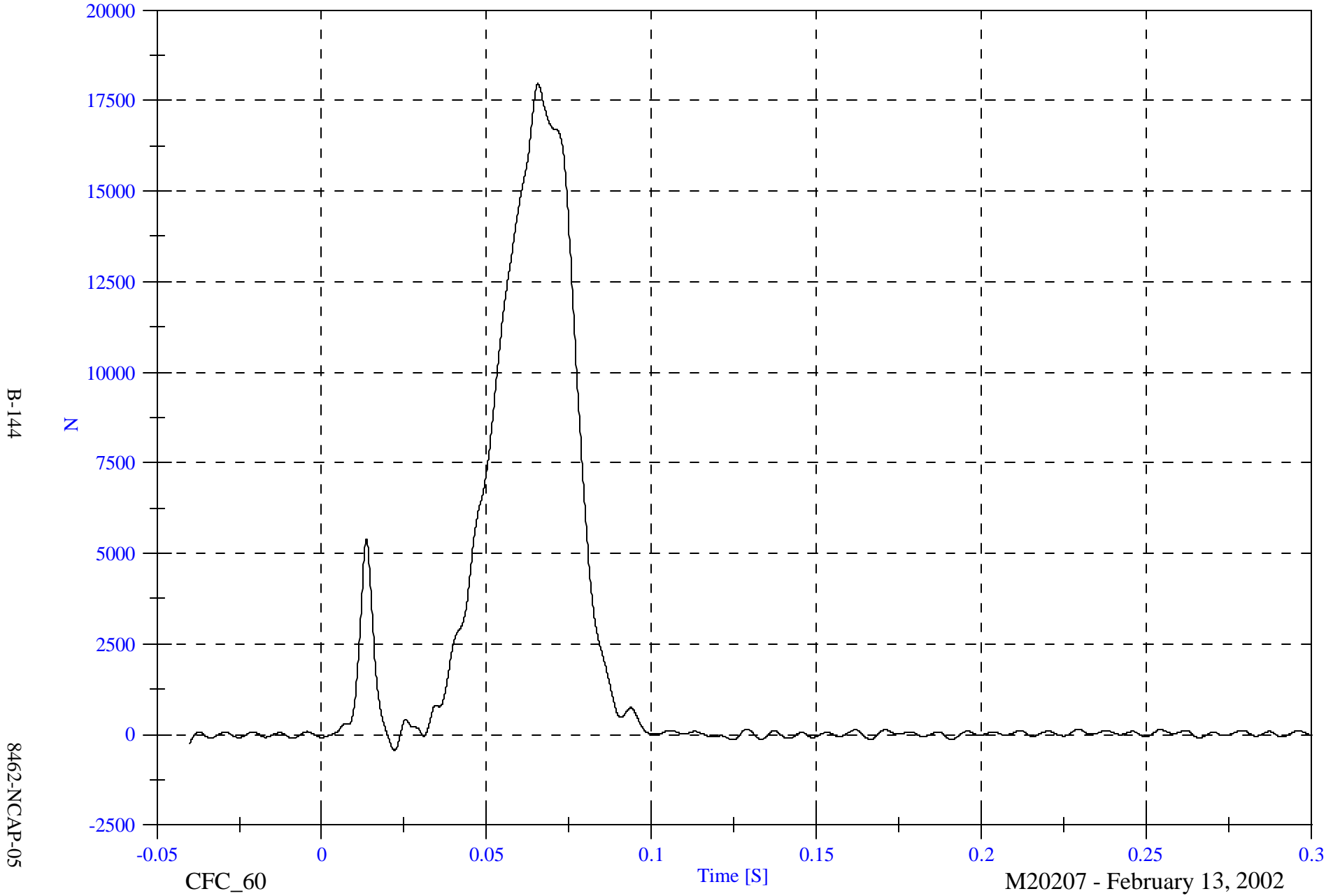


NCAP TEST #5 - 2002 Ford Focus

Barrier Load Cell A4 Fx

Max: 17962.1 [N] at 0.065 [S]

Min: -437.2 [N] at 0.022 [S]

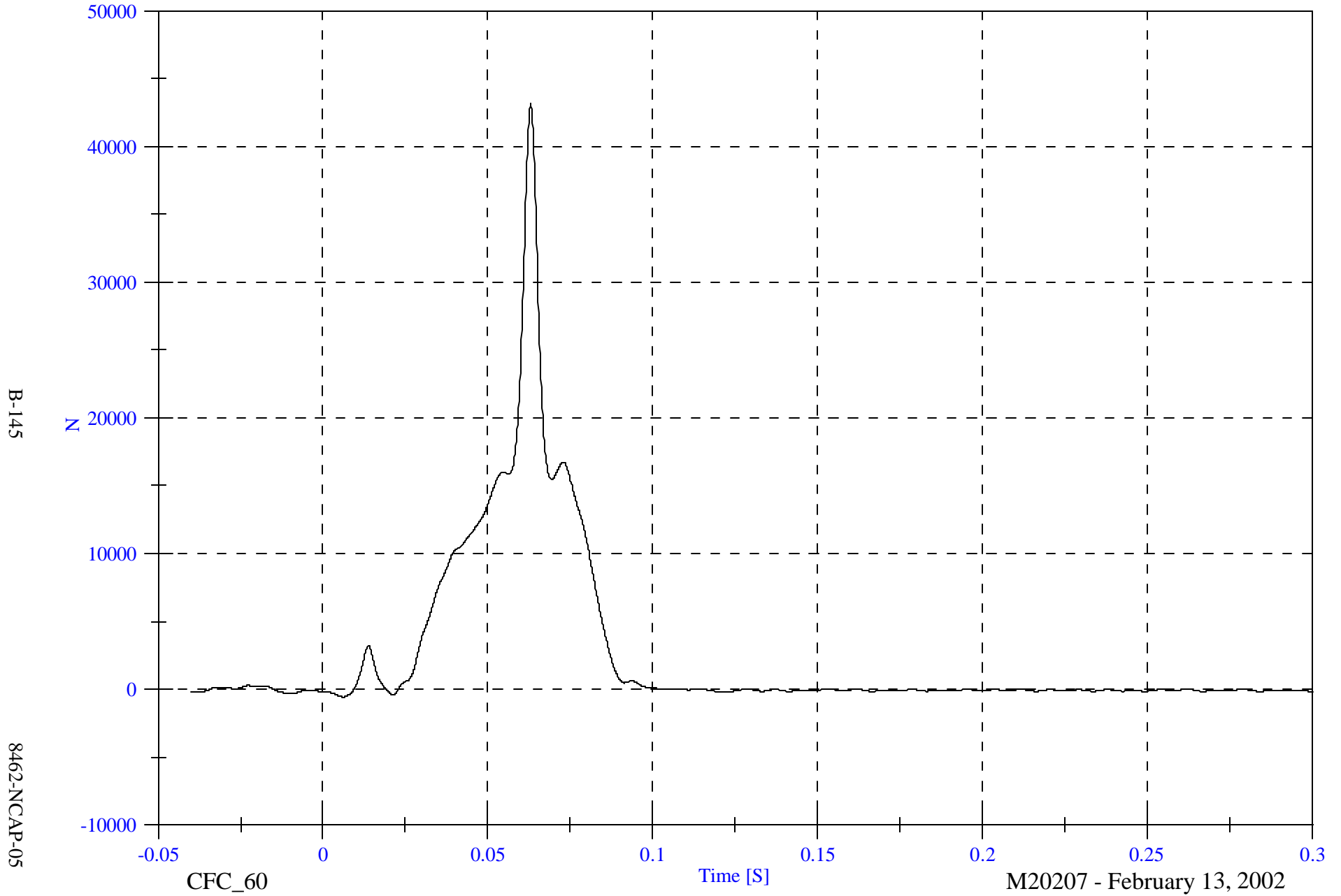


NCAP TEST #5 - 2002 Ford Focus

Barrier Load Cell A5 Fx

Max: 43124.4 [N] at 0.063 [S]

Min: -561.3 [N] at 0.006 [S]



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8462-NCAP-05

CFC_60

Time [S]

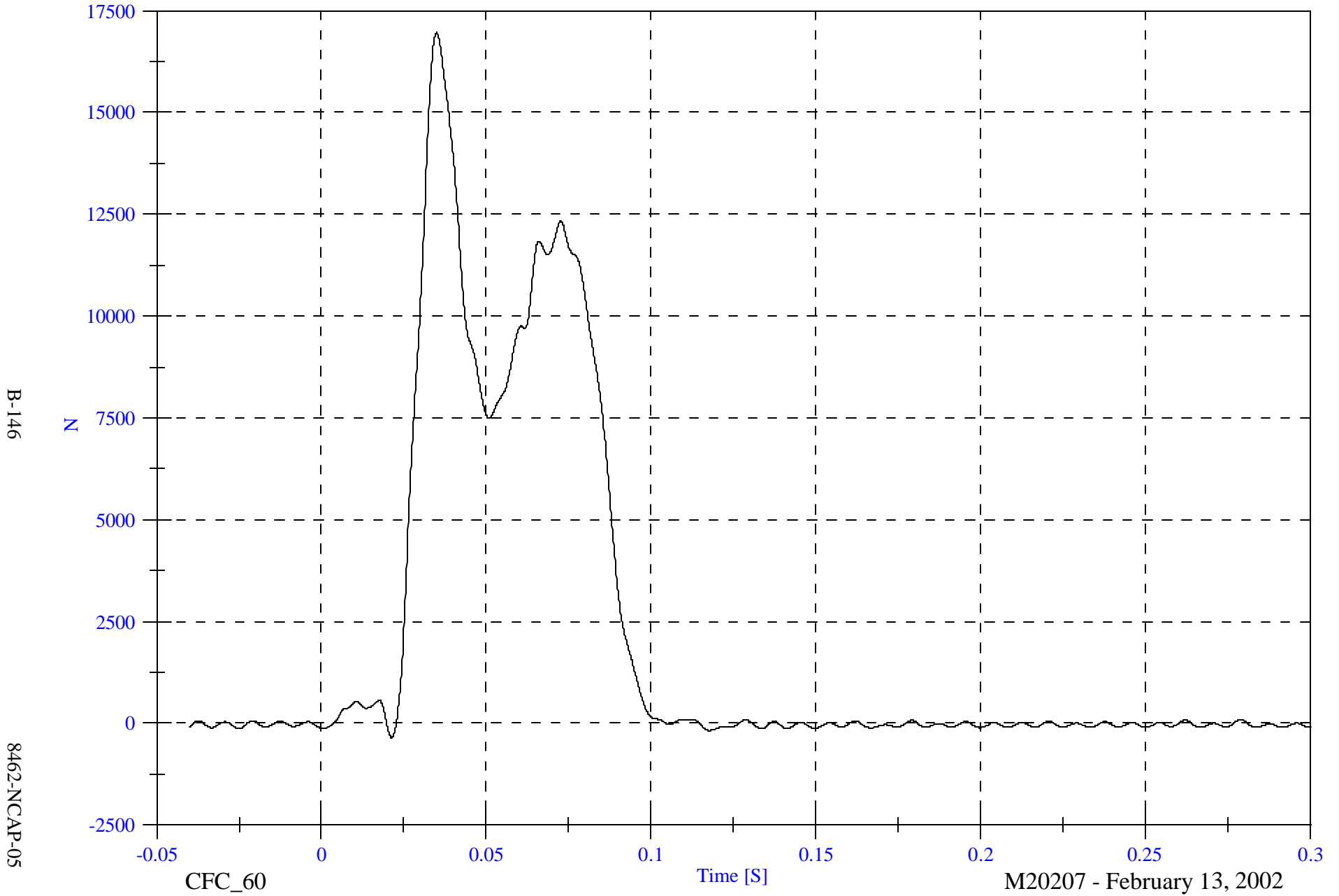
M20207 - February 13, 2002

NCAP TEST #5 - 2002 Ford Focus

Barrier Load Cell A6 Fx

Max: 16953.2 [N] at 0.035 [S]

Min: -346.1 [N] at 0.021 [S]



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8462-NCAP-05

CFC_60

Time [S]

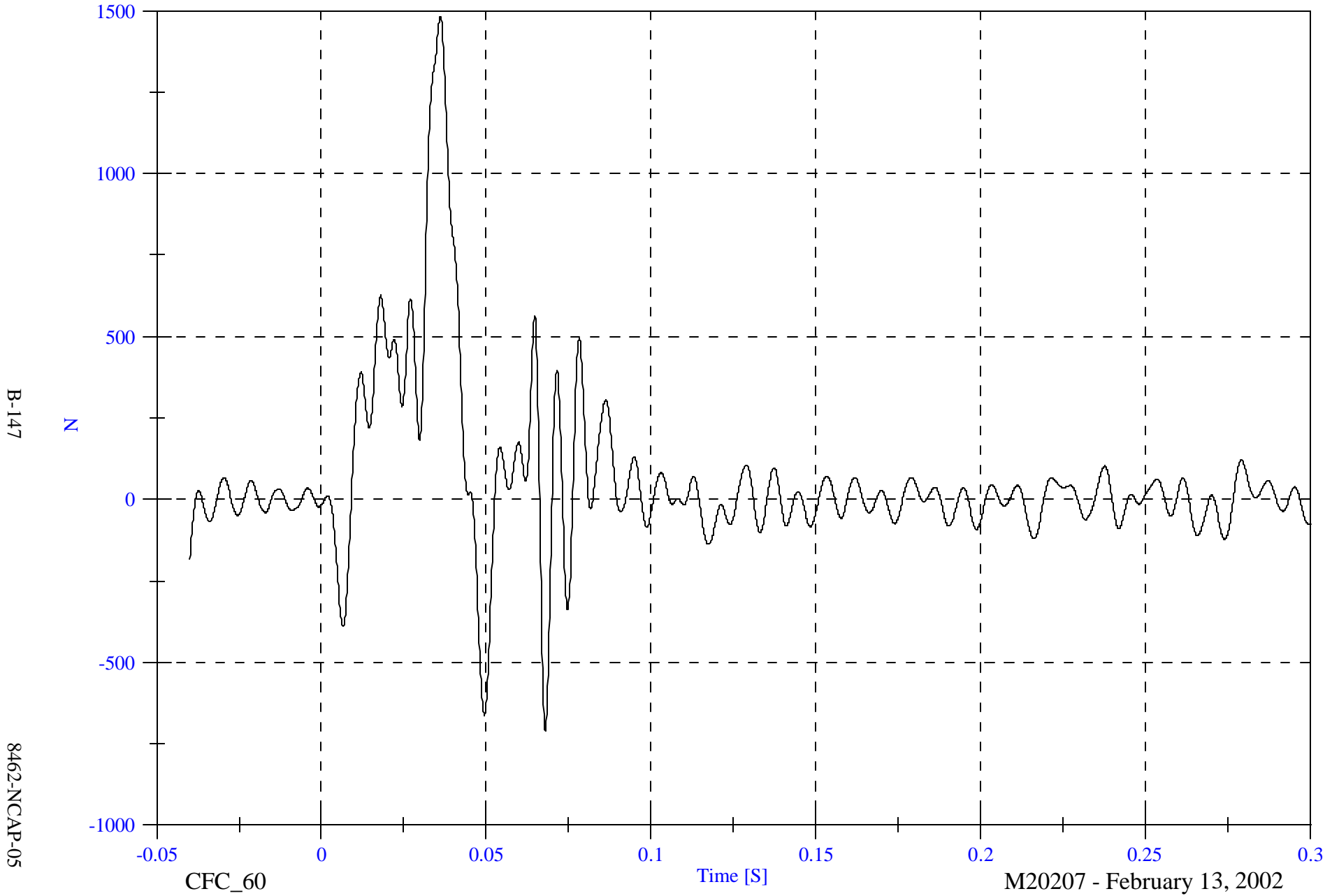
M20207 - February 13, 2002

NCAP TEST #5 - 2002 Ford Focus

Max: 1481.5 [N] at 0.036 [S]

Barrier Load Cell A7 Fx

Min: -711.8 [N] at 0.068 [S]



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8462-NCAP-05

CFC_60

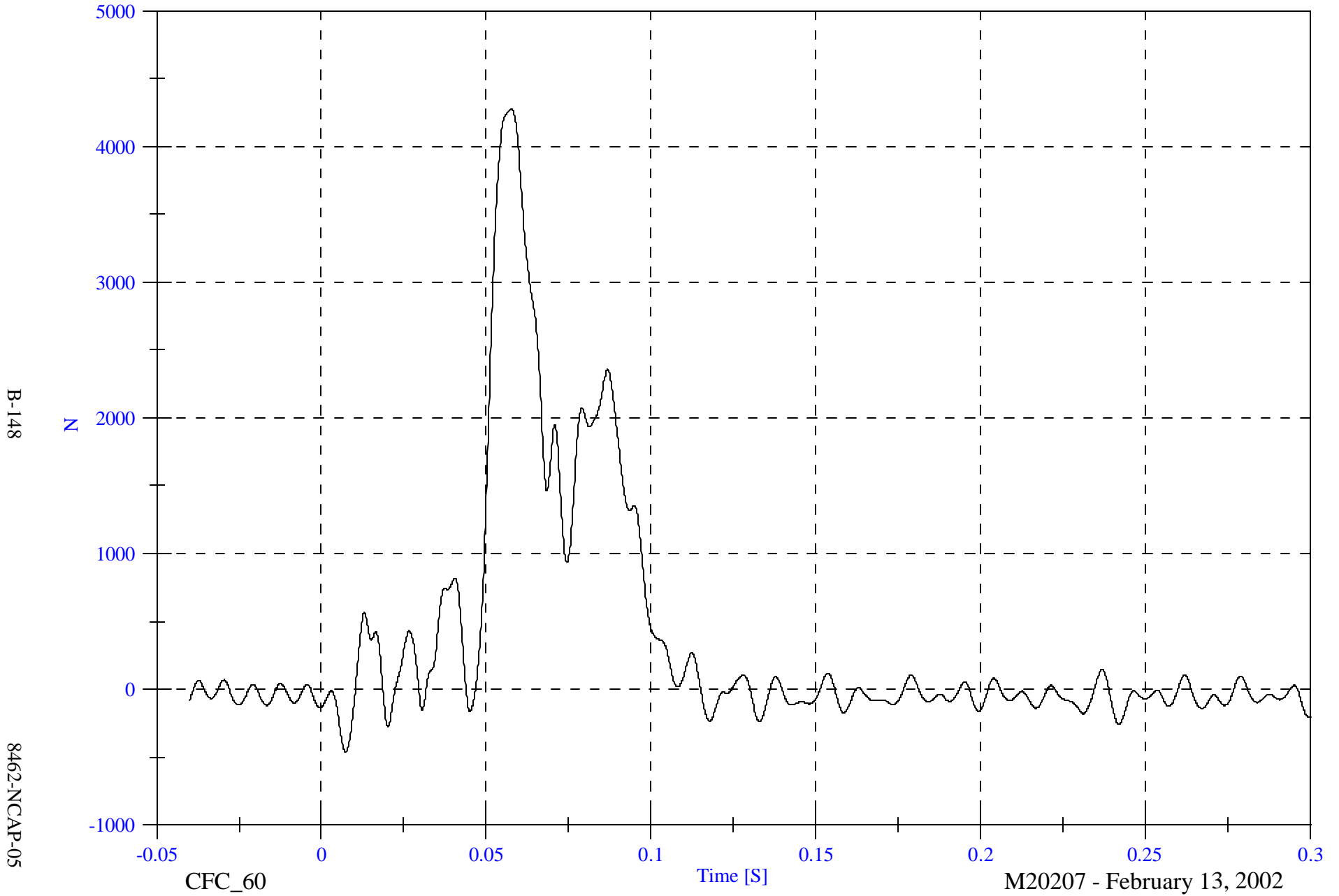
M20207 - February 13, 2002

NCAP TEST #5 - 2002 Ford Focus

Barrier Load Cell A8 Fx

Max: 4275.4 [N] at 0.058 [S]

Min: -462.4 [N] at 0.007 [S]



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8462-NCAP-05

CFC_60

Time [S]

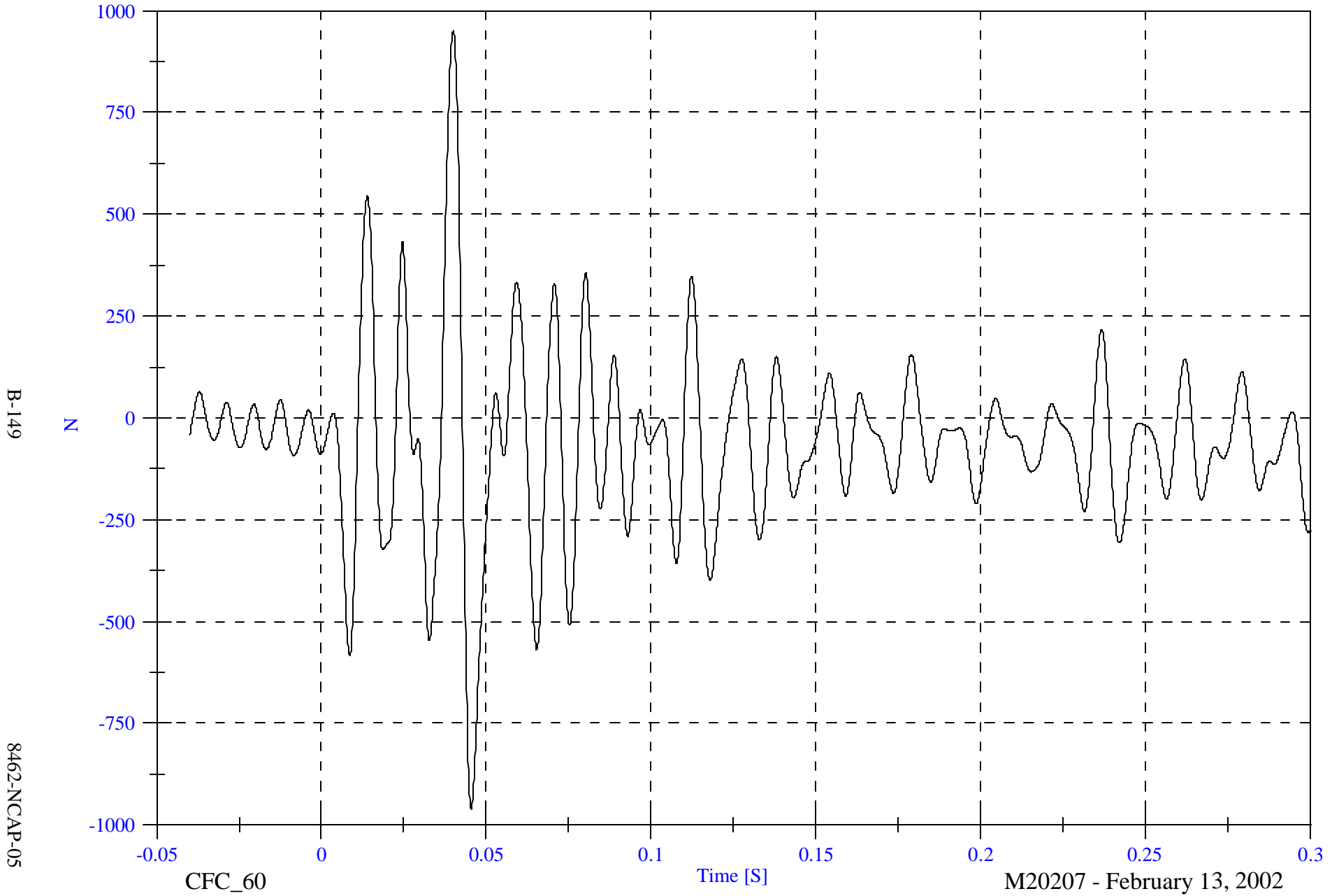
M20207 - February 13, 2002

NCAP TEST #5 - 2002 Ford Focus

Barrier Load Cell A9 Fx

Max: 948.8 [N] at 0.040 [S]

Min: -960.7 [N] at 0.045 [S]

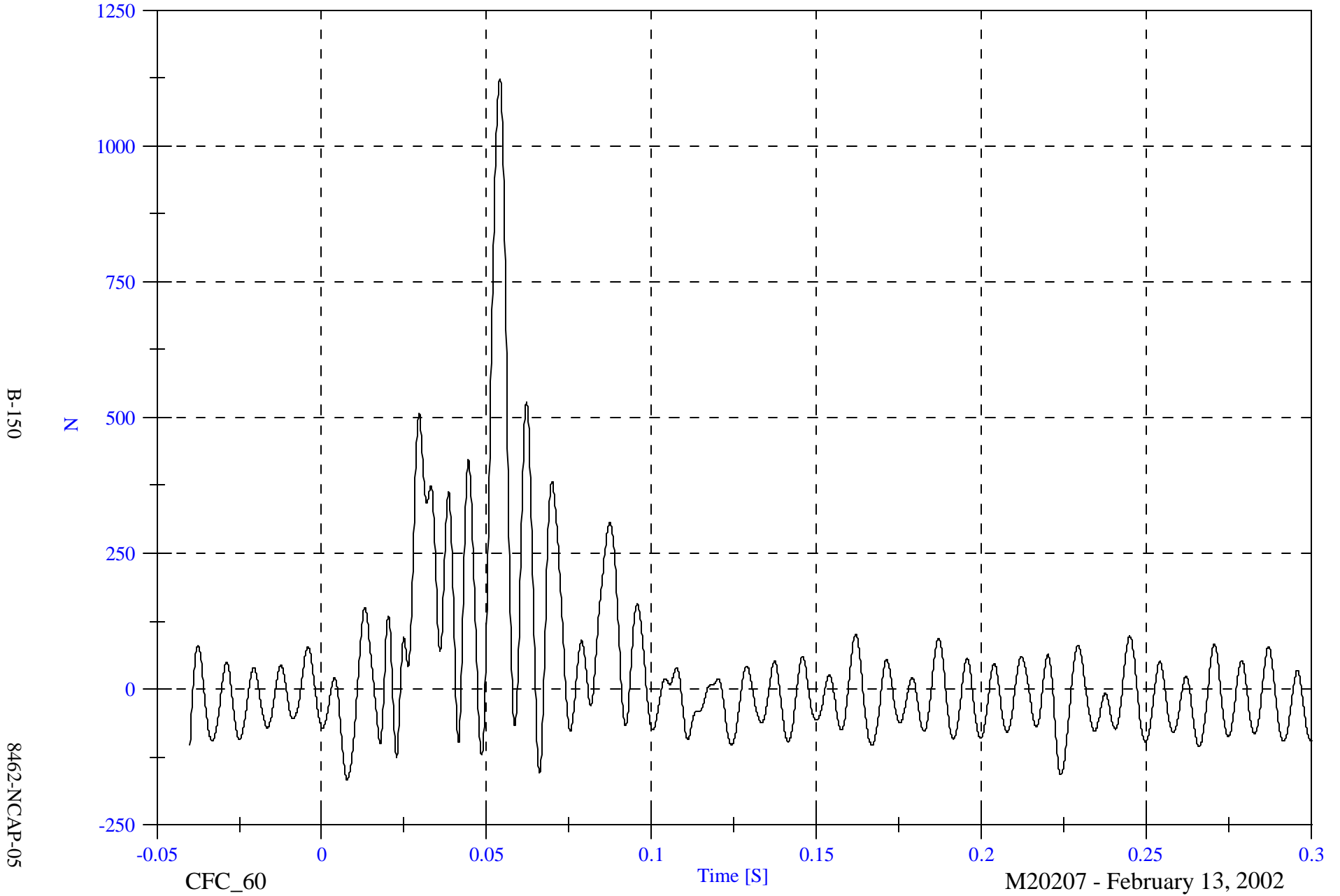


NCAP TEST #5 - 2002 Ford Focus

Max: 1123.6 [N] at 0.054 [S]

Barrier Load Cell B1 Fx

Min: -165.9 [N] at 0.008 [S]



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8462-NCAP-05

CFC_60

Time [S]

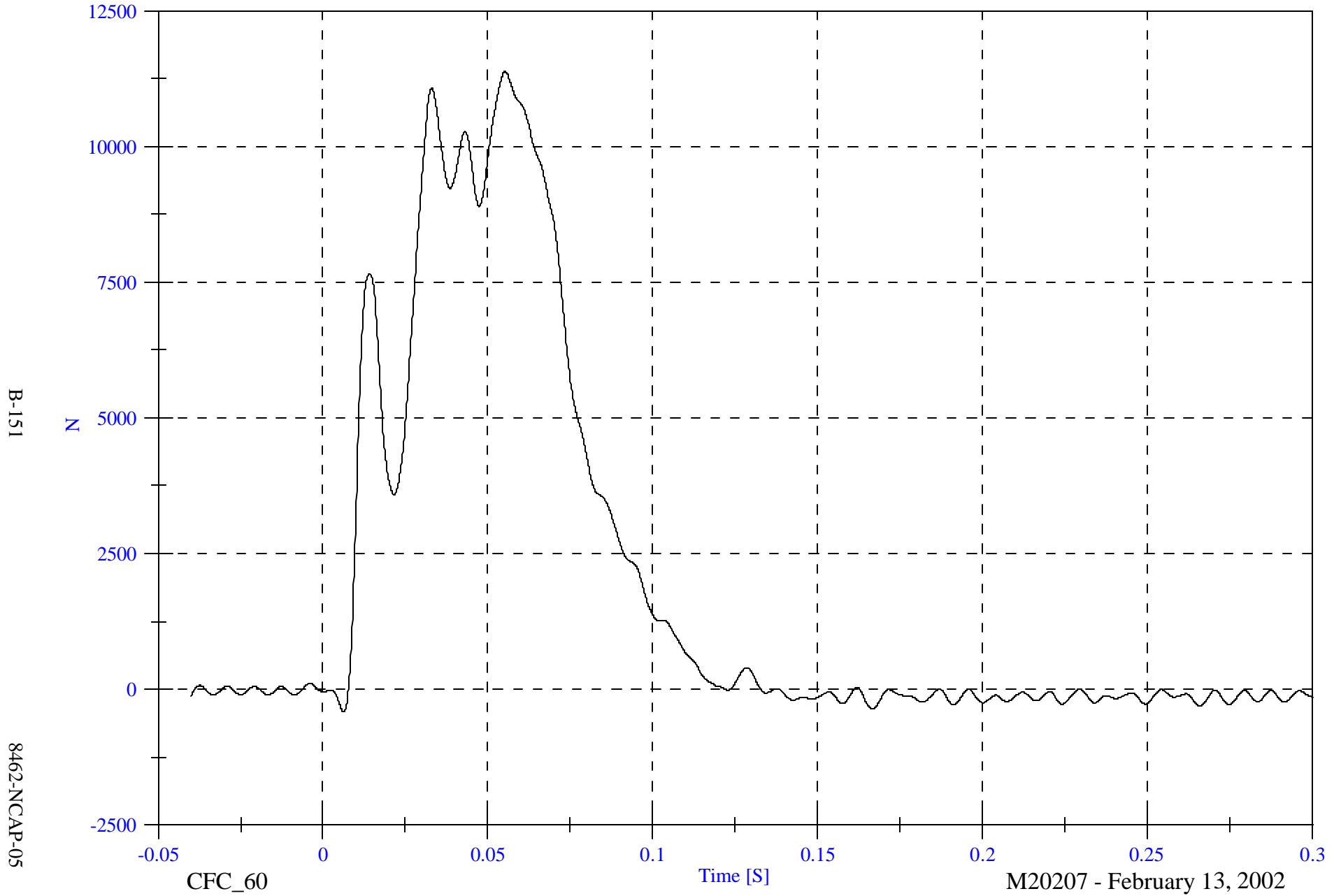
M20207 - February 13, 2002

NCAP TEST #5 - 2002 Ford Focus

Barrier Load Cell B2 Fx

Max: 11375.0 [N] at 0.055 [S]

Min: -409.6 [N] at 0.006 [S]

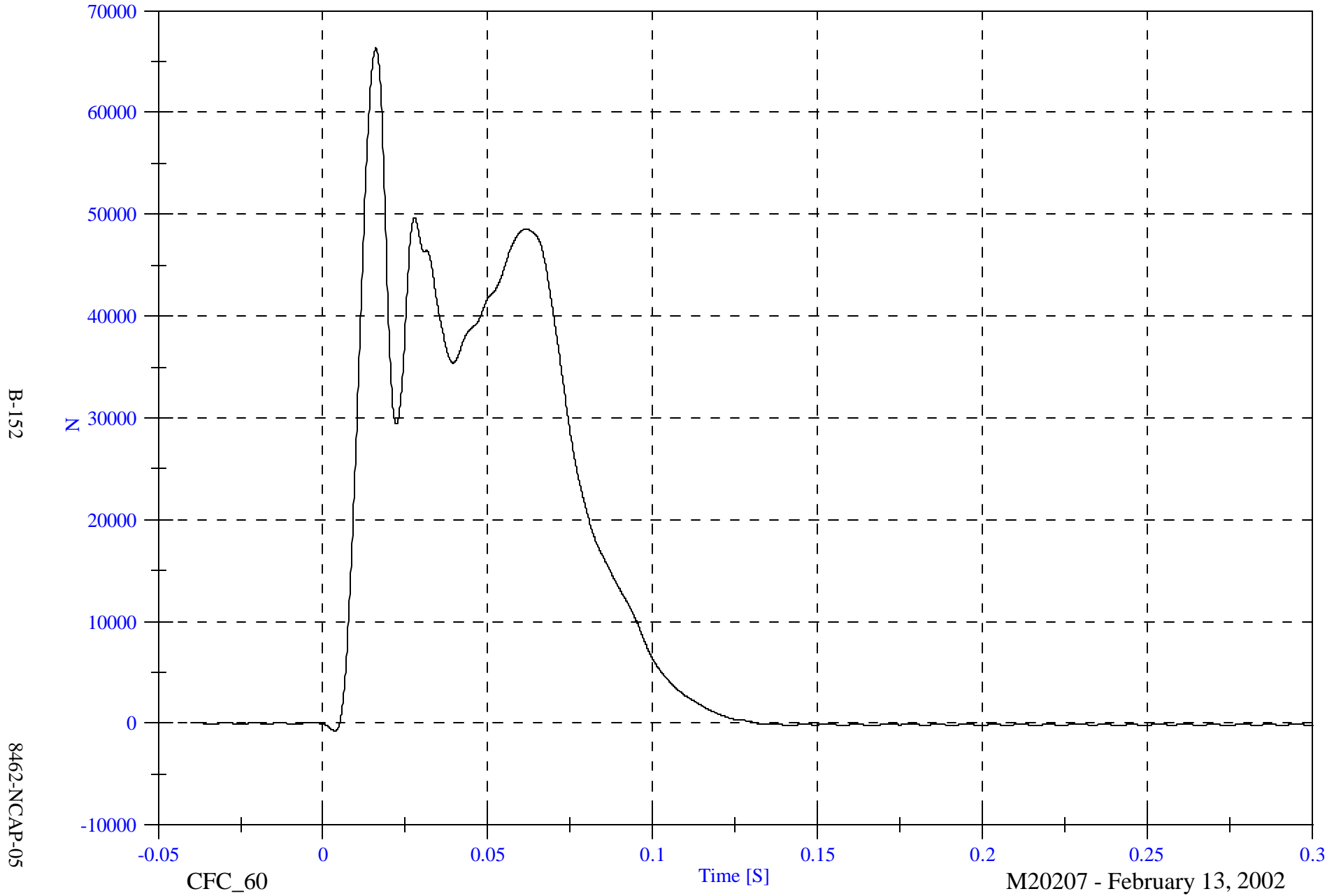


NCAP TEST #5 - 2002 Ford Focus

Barrier Load Cell B3 Fx

Max: 66333.6 [N] at 0.016 [S]

Min: -743.8 [N] at 0.004 [S]



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8462-NCAP-05

CFC_60

Time [S]

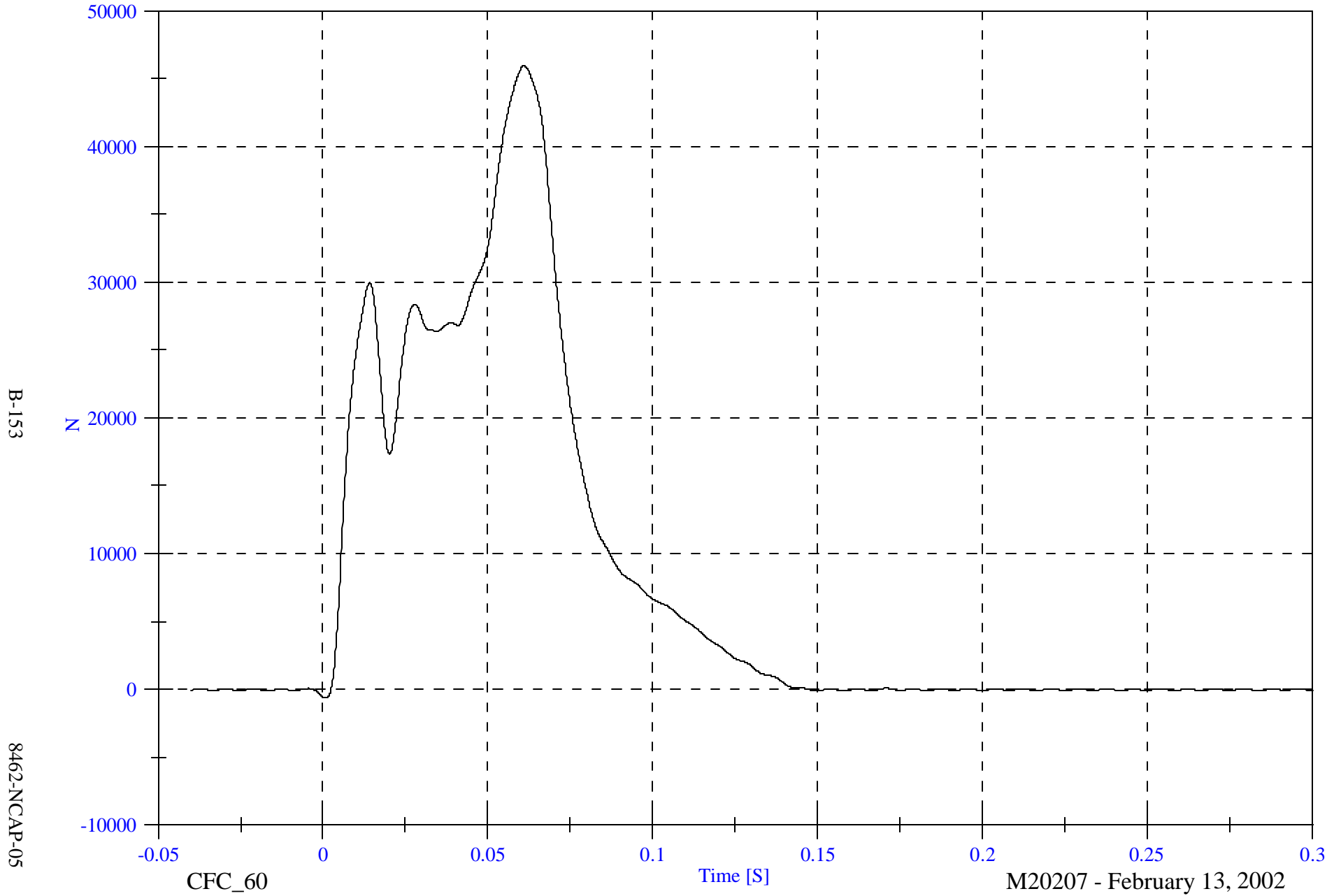
M20207 - February 13, 2002

NCAP TEST #5 - 2002 Ford Focus

Barrier Load Cell B4 Fx

Max: 45935.3 [N] at 0.061 [S]

Min: -645.0 [N] at 0.001 [S]



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8462-NCAP-05

CFC_60

Time [S]

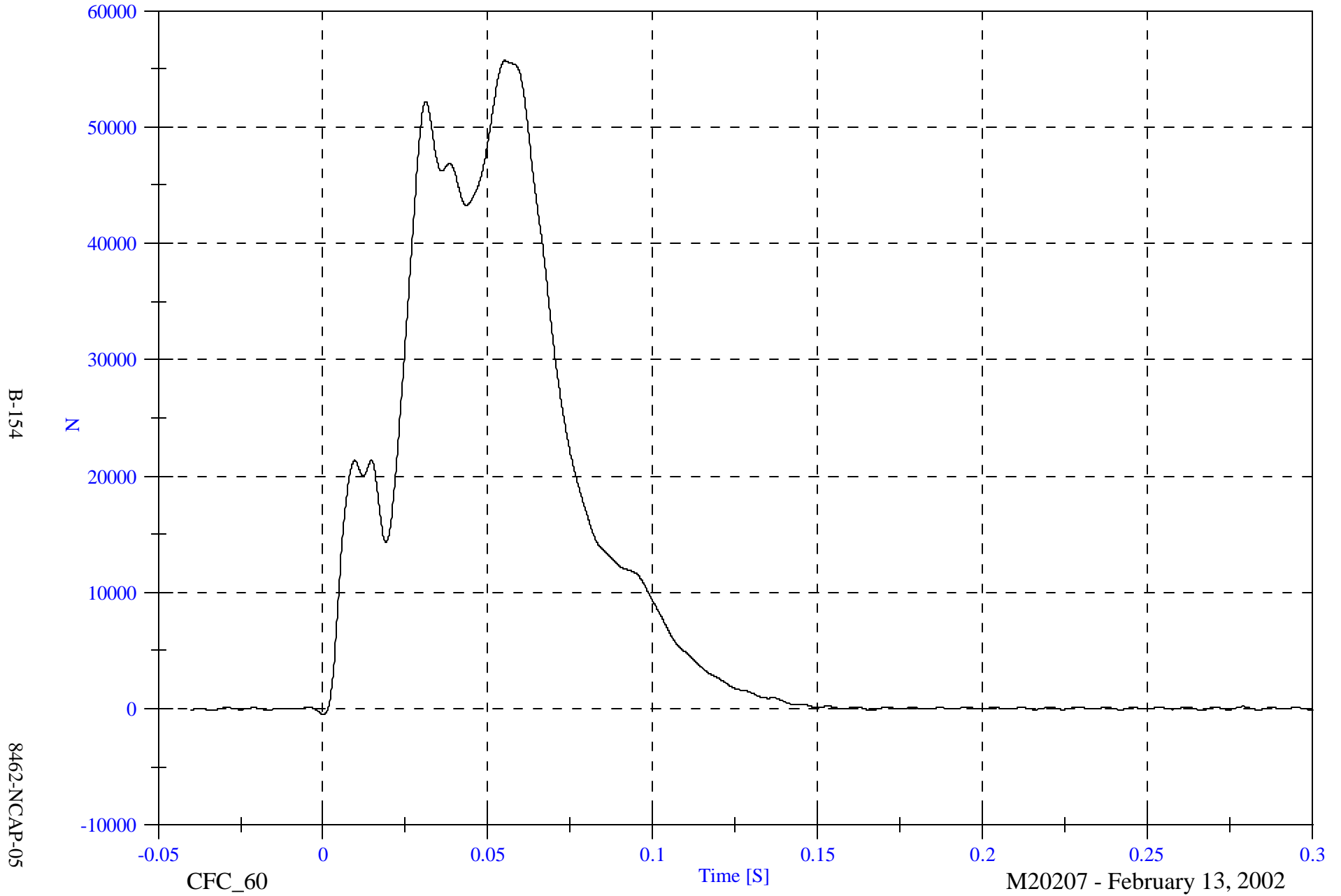
M20207 - February 13, 2002

NCAP TEST #5 - 2002 Ford Focus

Barrier Load Cell B5 Fx

Max: 55705.1 [N] at 0.055 [S]

Min: -475.9 [N] at 0.000 [S]



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8462-NCAP-05

CFC_60

Time [S]

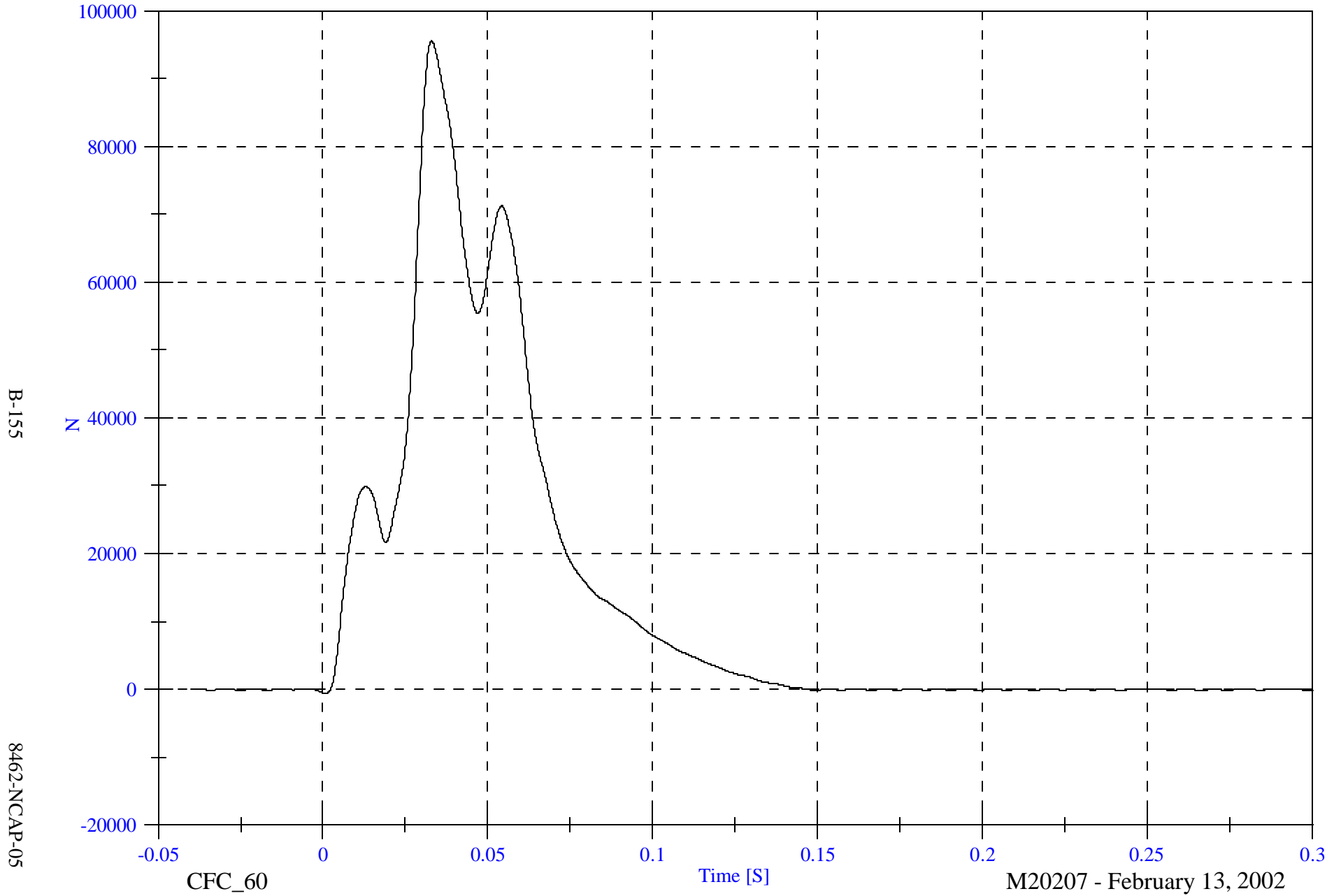
M20207 - February 13, 2002

NCAP TEST #5 - 2002 Ford Focus

Barrier Load Cell B6 Fx

Max: 95511.8 [N] at 0.033 [S]

Min: -621.4 [N] at 0.001 [S]



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8462-NCAP-05

CFC_60

Time [S]

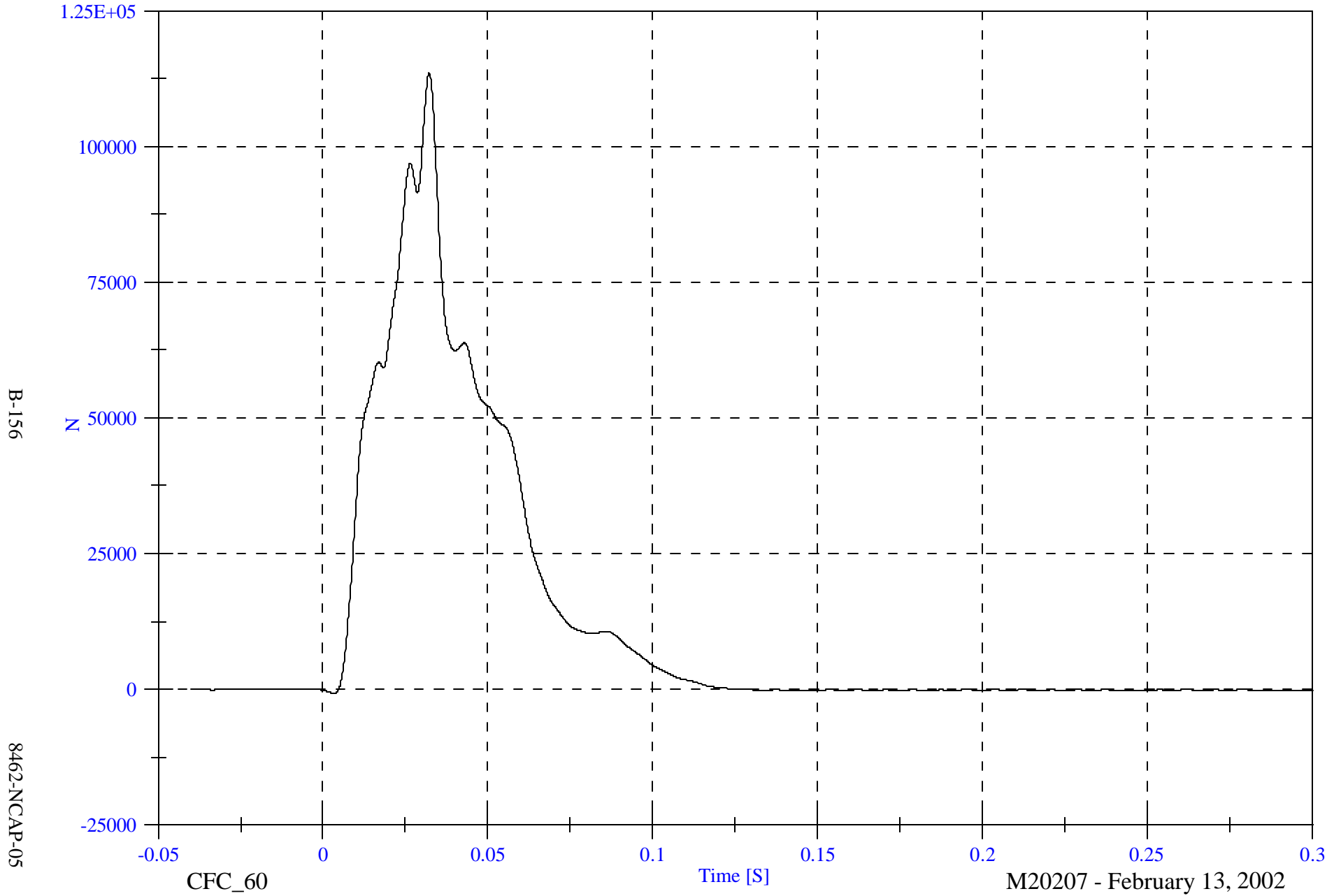
M20207 - February 13, 2002

NCAP TEST #5 - 2002 Ford Focus

Barrier Load Cell B7 Fx

Max: 113478.6 [N] at 0.032 [S]

Min: -813.2 [N] at 0.003 [S]



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CFC_60

Time [S]

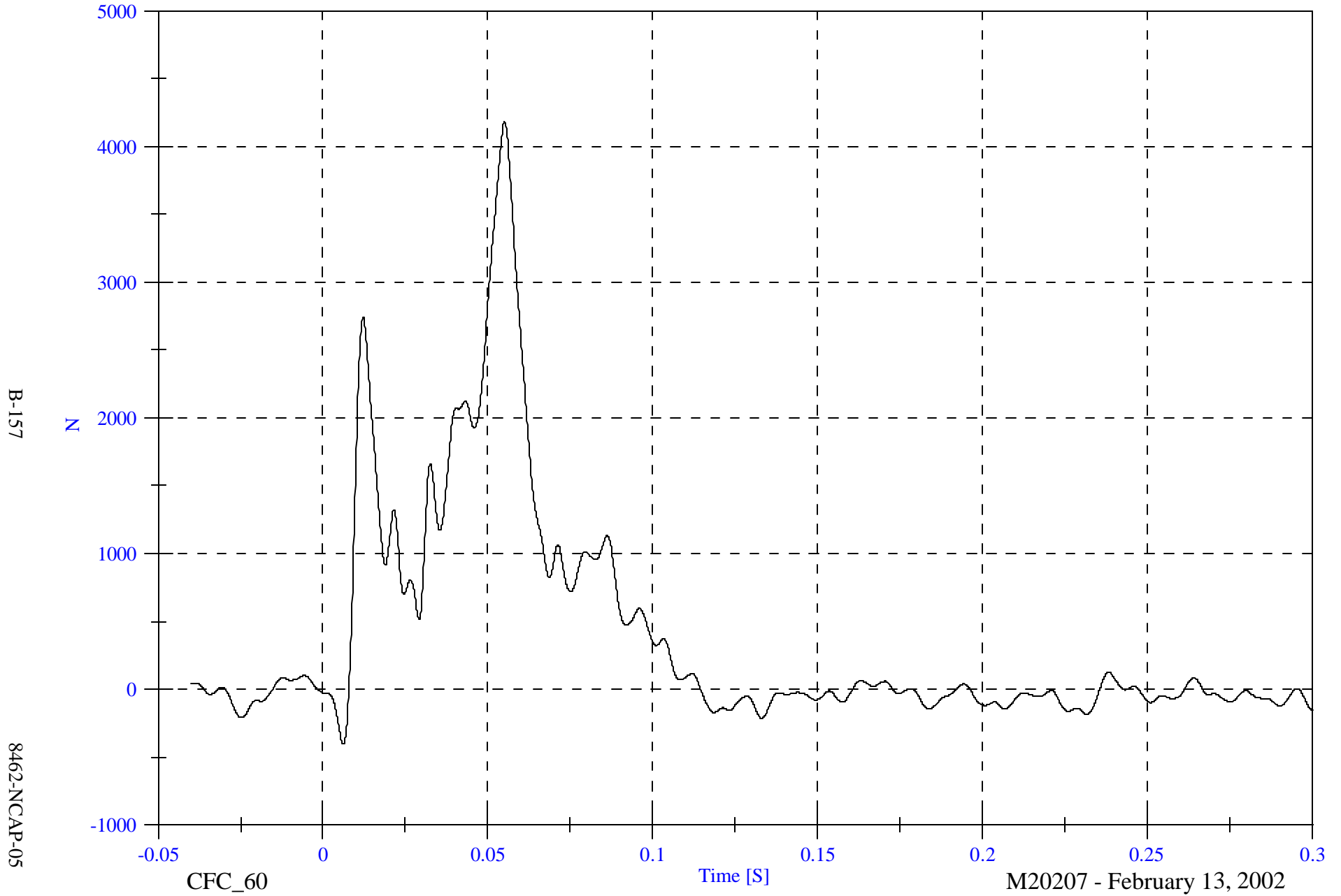
M20207 - February 13, 2002

NCAP TEST #5 - 2002 Ford Focus

Barrier Load Cell B8 Fx

Max: 4179.1 [N] at 0.055 [S]

Min: -402.9 [N] at 0.006 [S]



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8462-NCAP-05

CFC_60

Time [S]

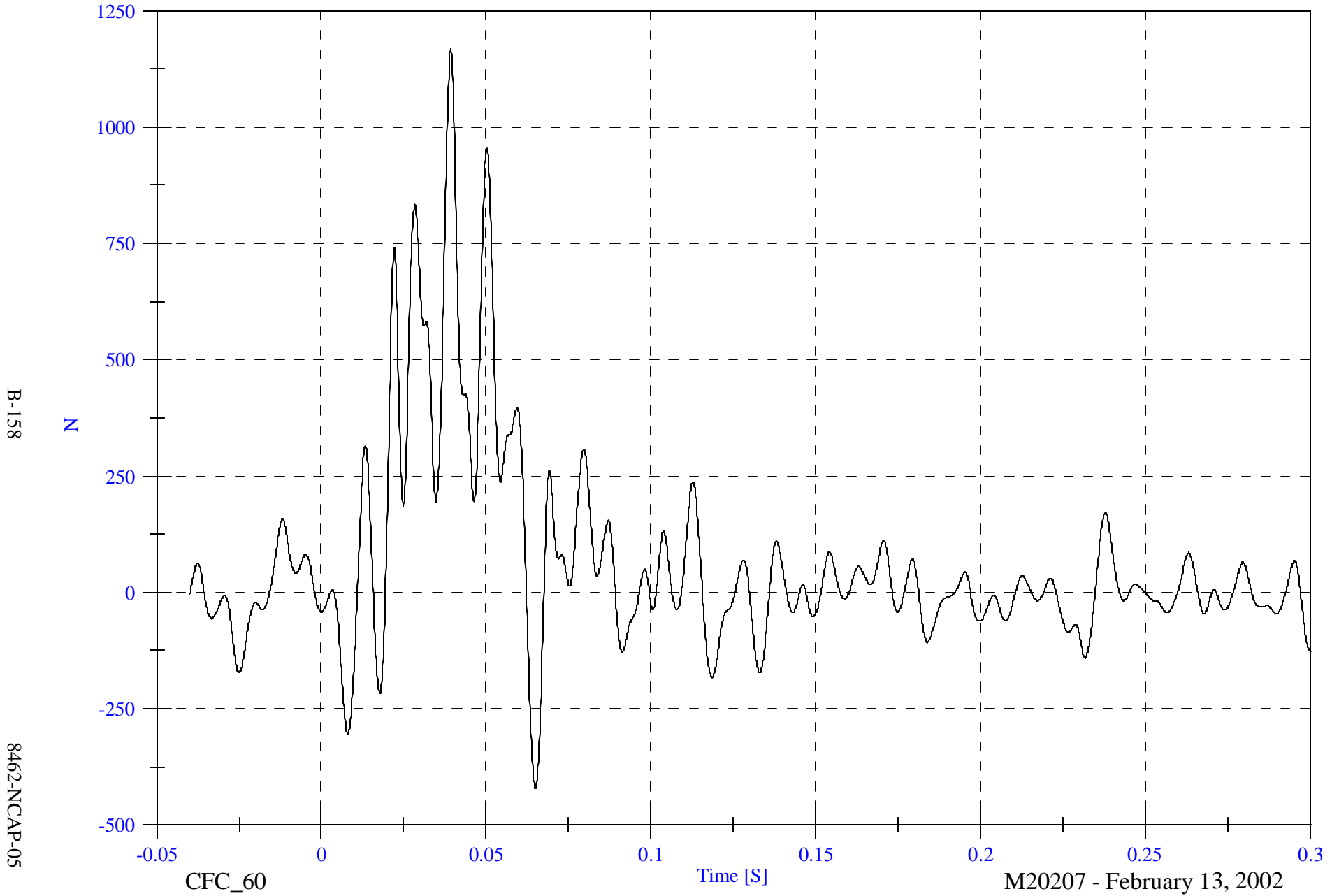
M20207 - February 13, 2002

NCAP TEST #5 - 2002 Ford Focus

Max: 1167.5 [N] at 0.039 [S]

Barrier Load Cell B9 Fx

Min: -420.9 [N] at 0.065 [S]



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CFC_60

Time [S]

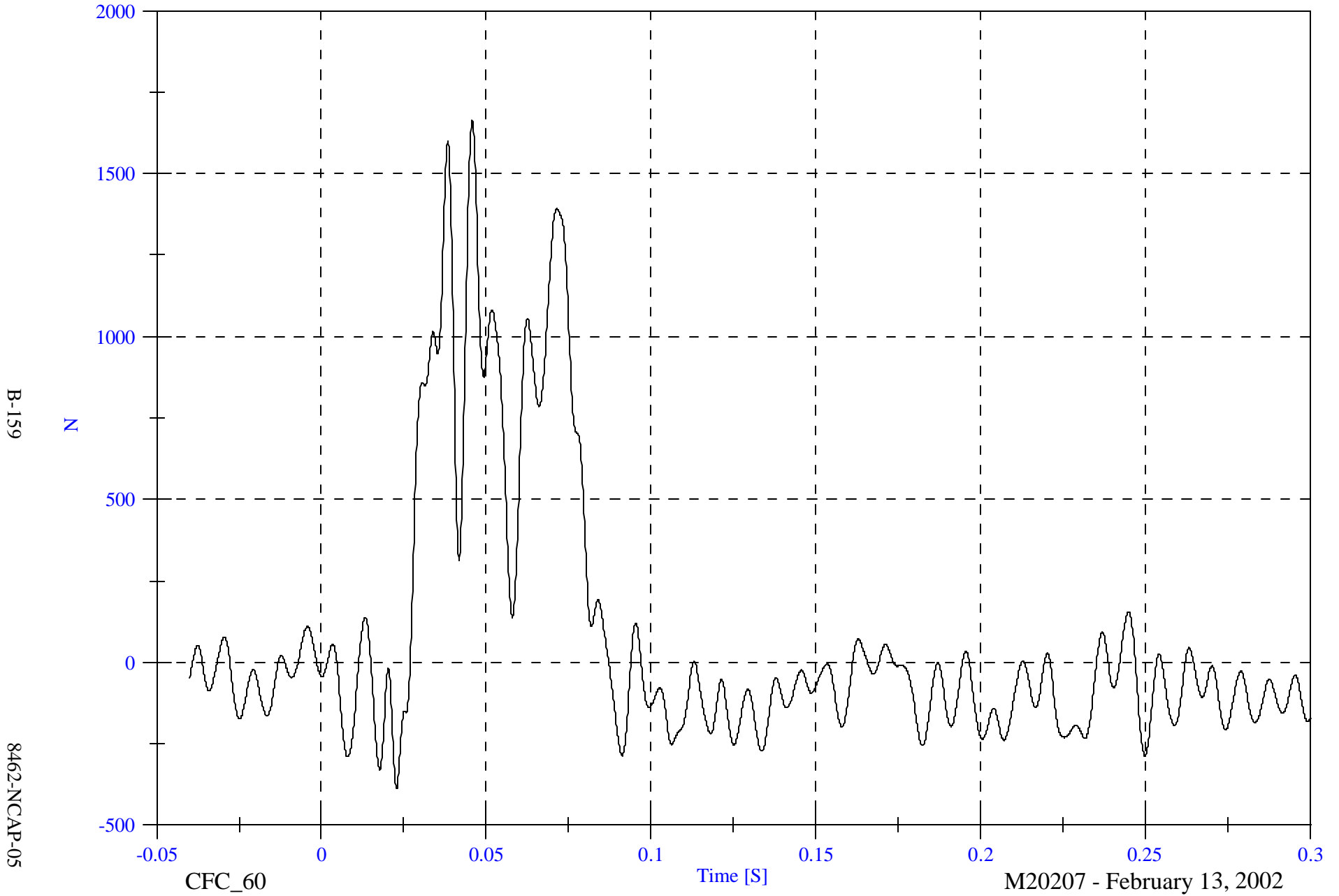
M20207 - February 13, 2002

NCAP TEST #5 - 2002 Ford Focus

Max: 1663.2 [N] at 0.046 [S]

Min: -387.7 [N] at 0.023 [S]

Barrier Load Cell C1 Fx



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CFC_60

Time [S]

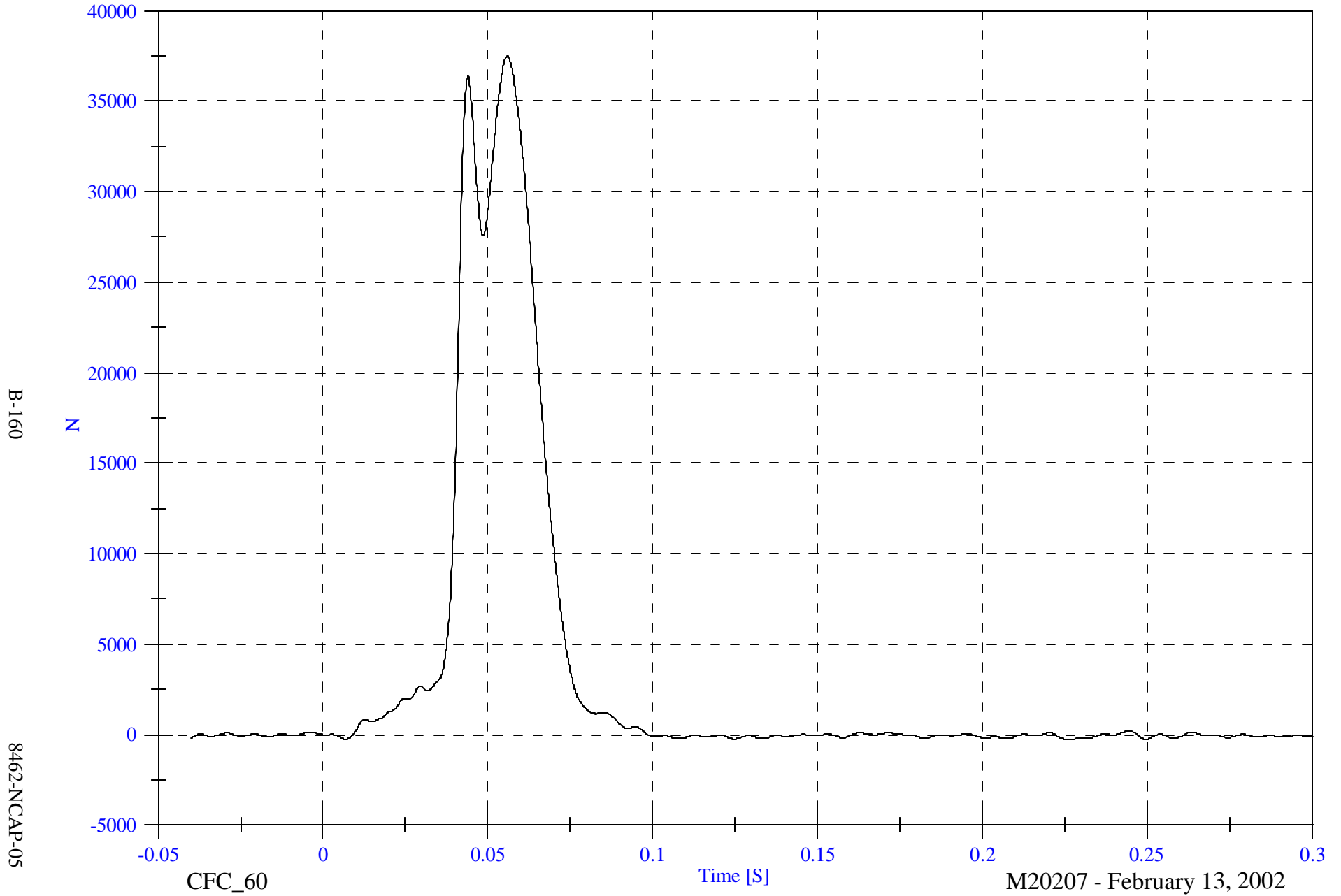
M20207 - February 13, 2002

NCAP TEST #5 - 2002 Ford Focus

Barrier Load Cell C2 Fx

Max: 37487.9 [N] at 0.056 [S]

Min: -272.6 [N] at 0.226 [S]



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CFC_60

Time [S]

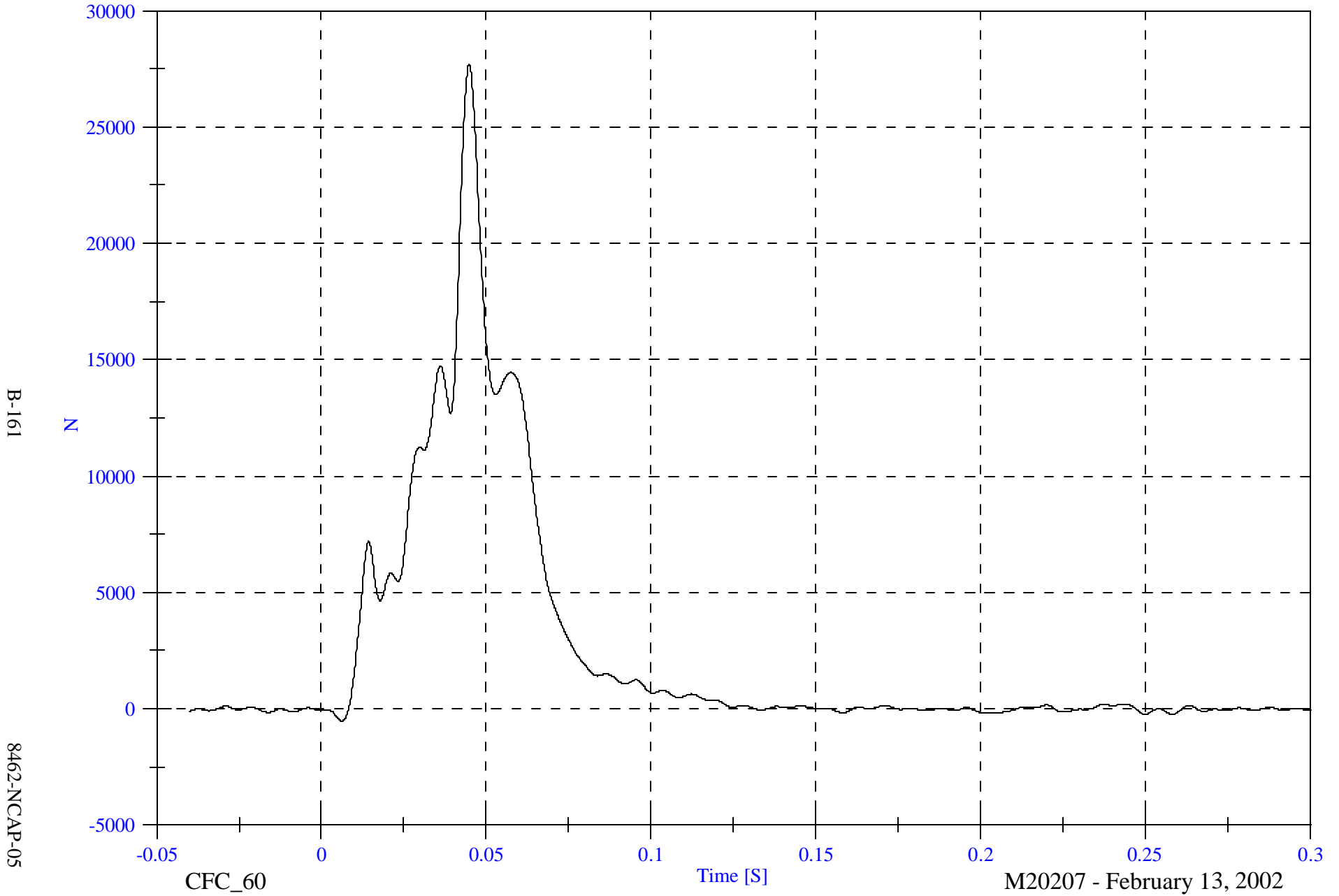
M20207 - February 13, 2002

NCAP TEST #5 - 2002 Ford Focus

Barrier Load Cell C3 Fx

Max: 27683.3 [N] at 0.045 [S]

Min: -527.1 [N] at 0.006 [S]

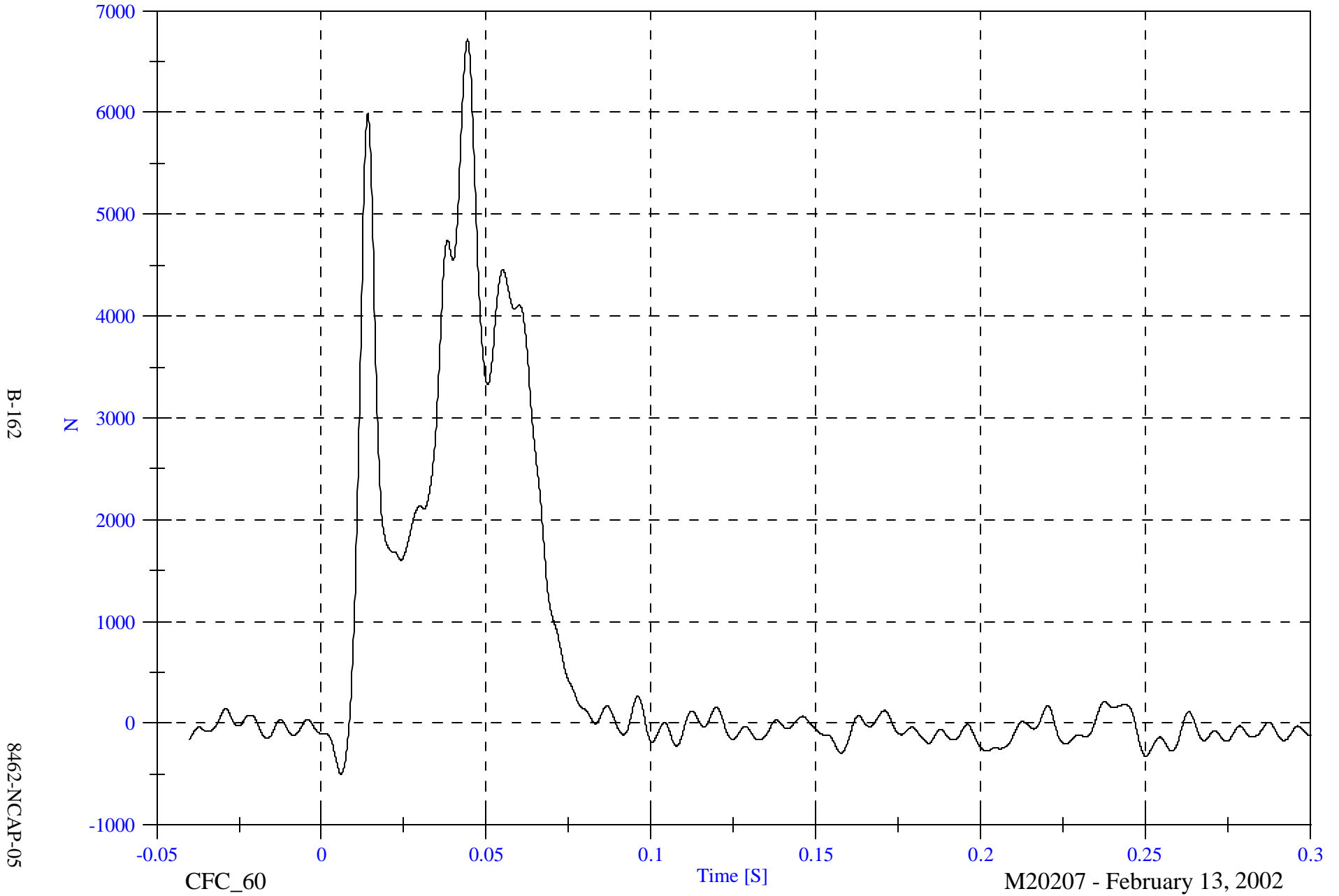


NCAP TEST #5 - 2002 Ford Focus

Max: 6719.4 [N] at 0.044 [S]

Min: -495.4 [N] at 0.006 [S]

Barrier Load Cell C4 Fx

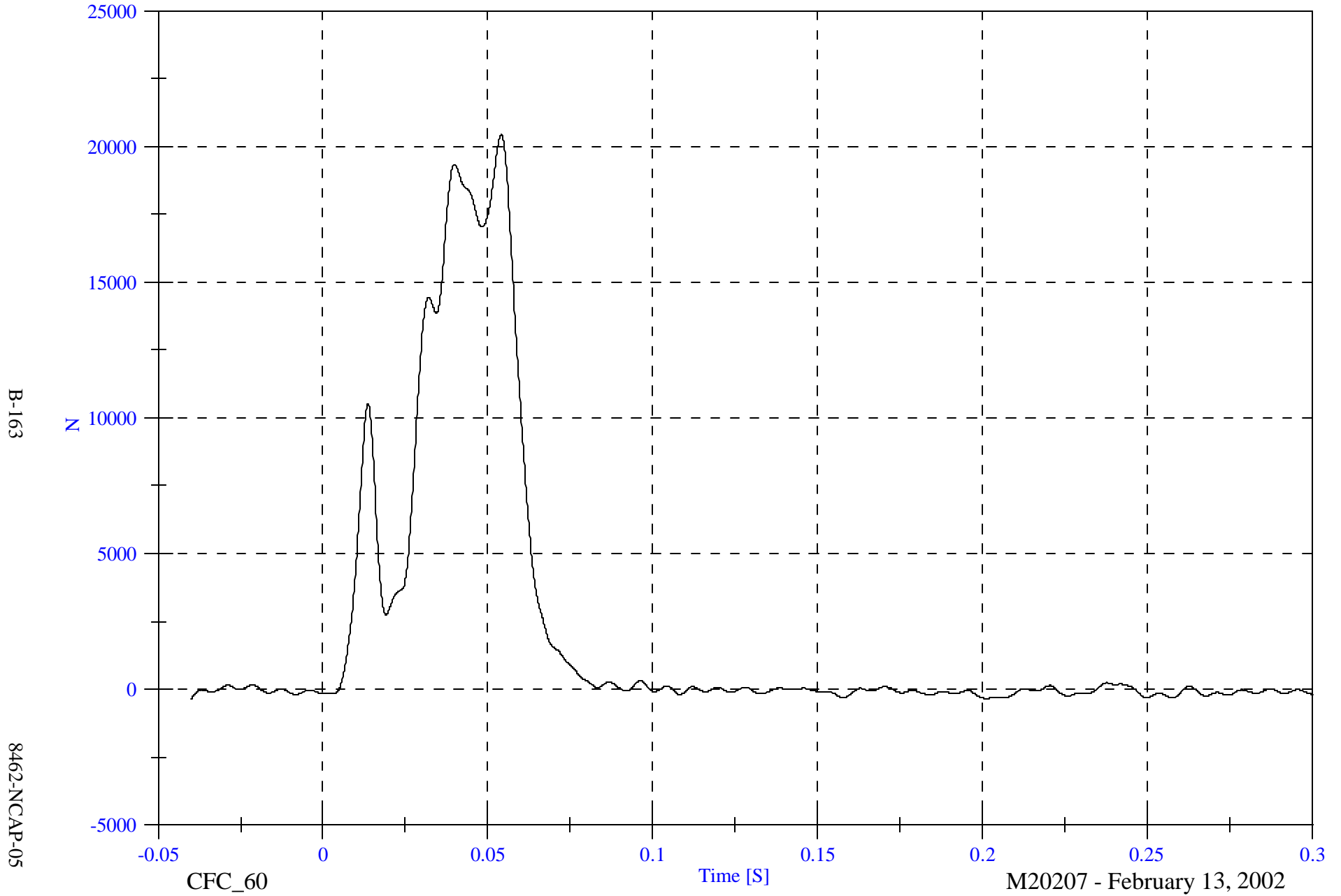


NCAP TEST #5 - 2002 Ford Focus

Barrier Load Cell C5 Fx

Max: 20435.6 [N] at 0.054 [S]

Min: -365.1 [N] at -0.040 [S]

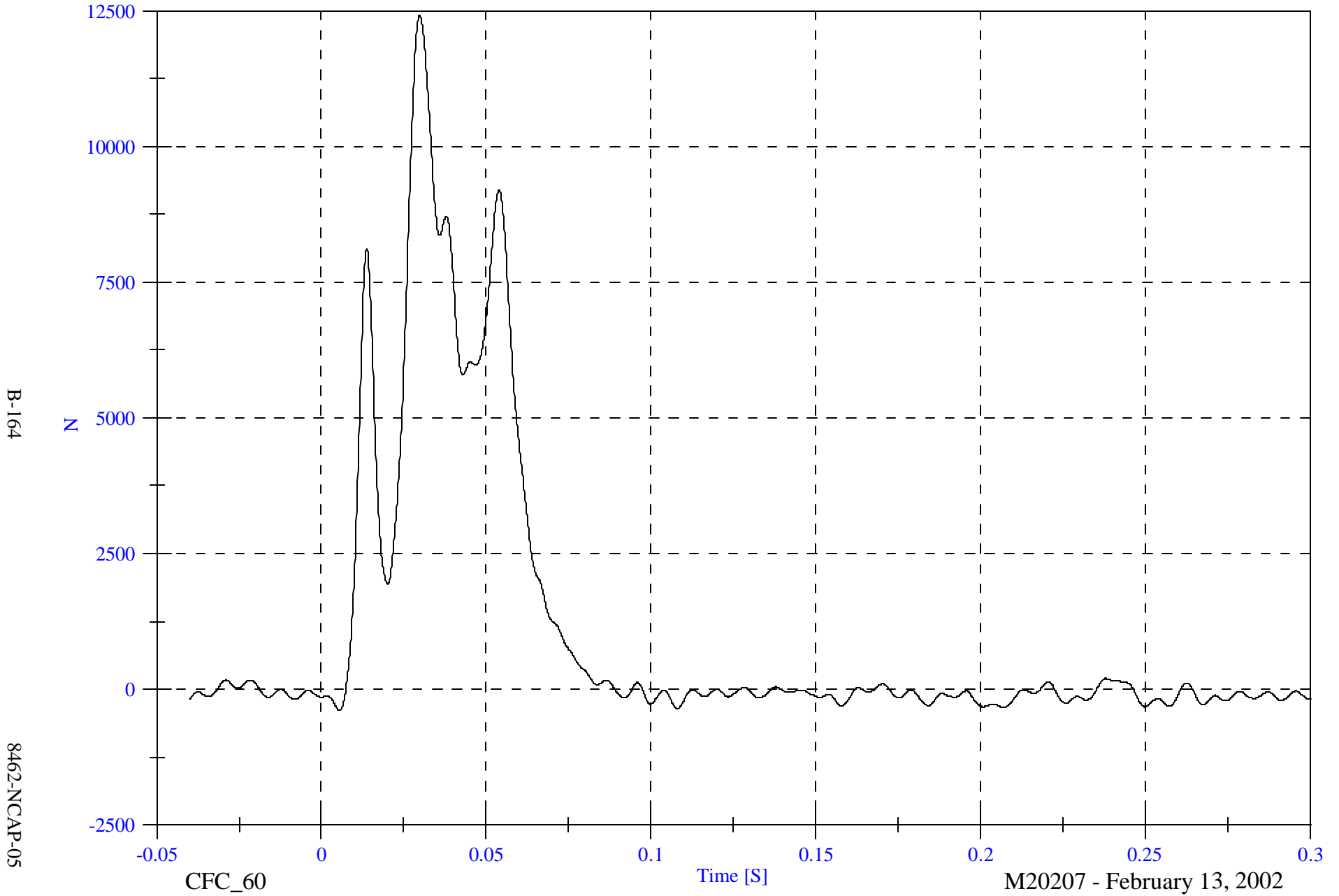


NCAP TEST #5 - 2002 Ford Focus

Barrier Load Cell C6 Fx

Max: 12411.4 [N] at 0.030 [S]

Min: -394.1 [N] at 0.005 [S]



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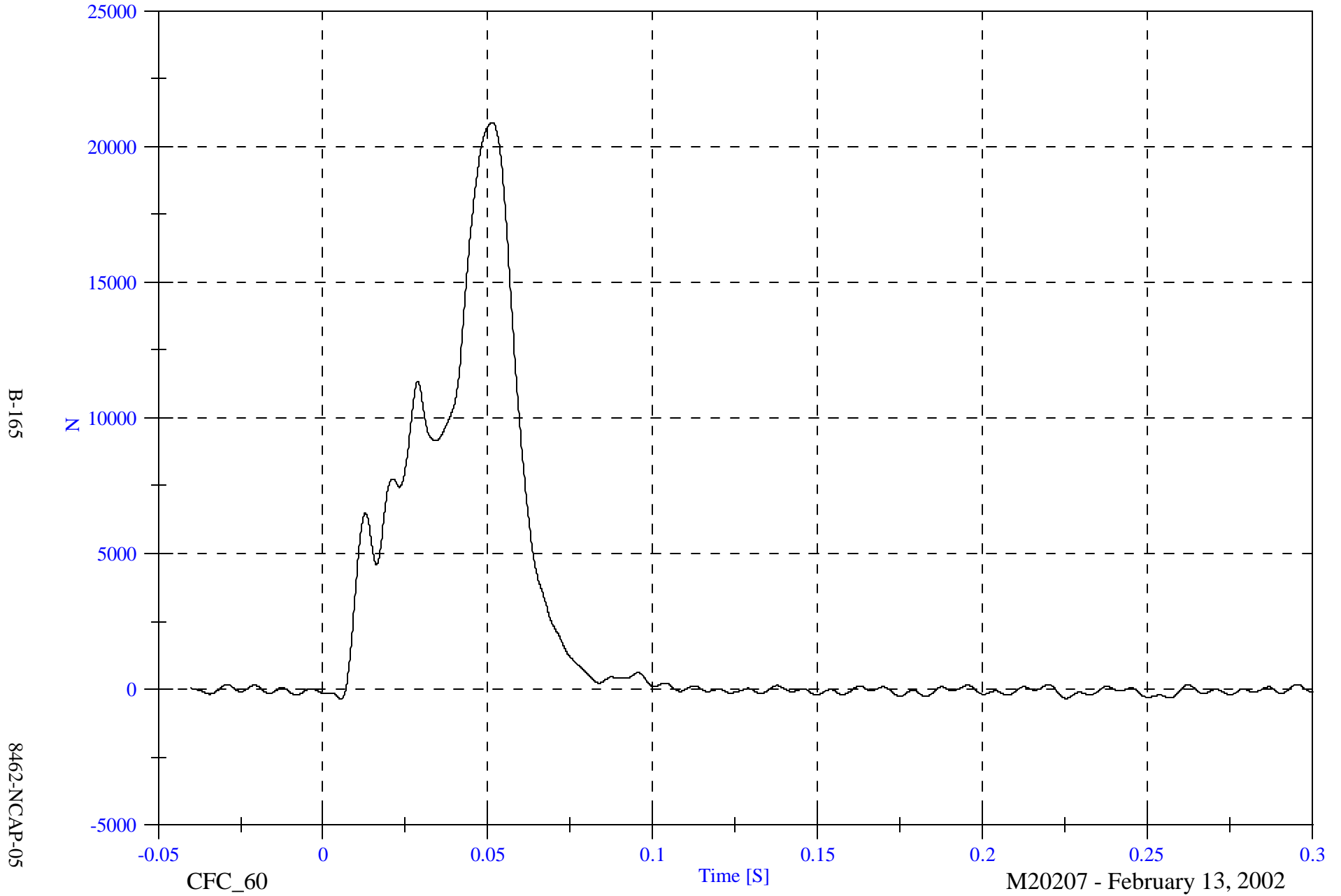
8462-NCAP-05

NCAP TEST #5 - 2002 Ford Focus

Barrier Load Cell C7 Fx

Max: 20870.4 [N] at 0.051 [S]

Min: -358.7 [N] at 0.005 [S]



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CFC_60

Time [S]

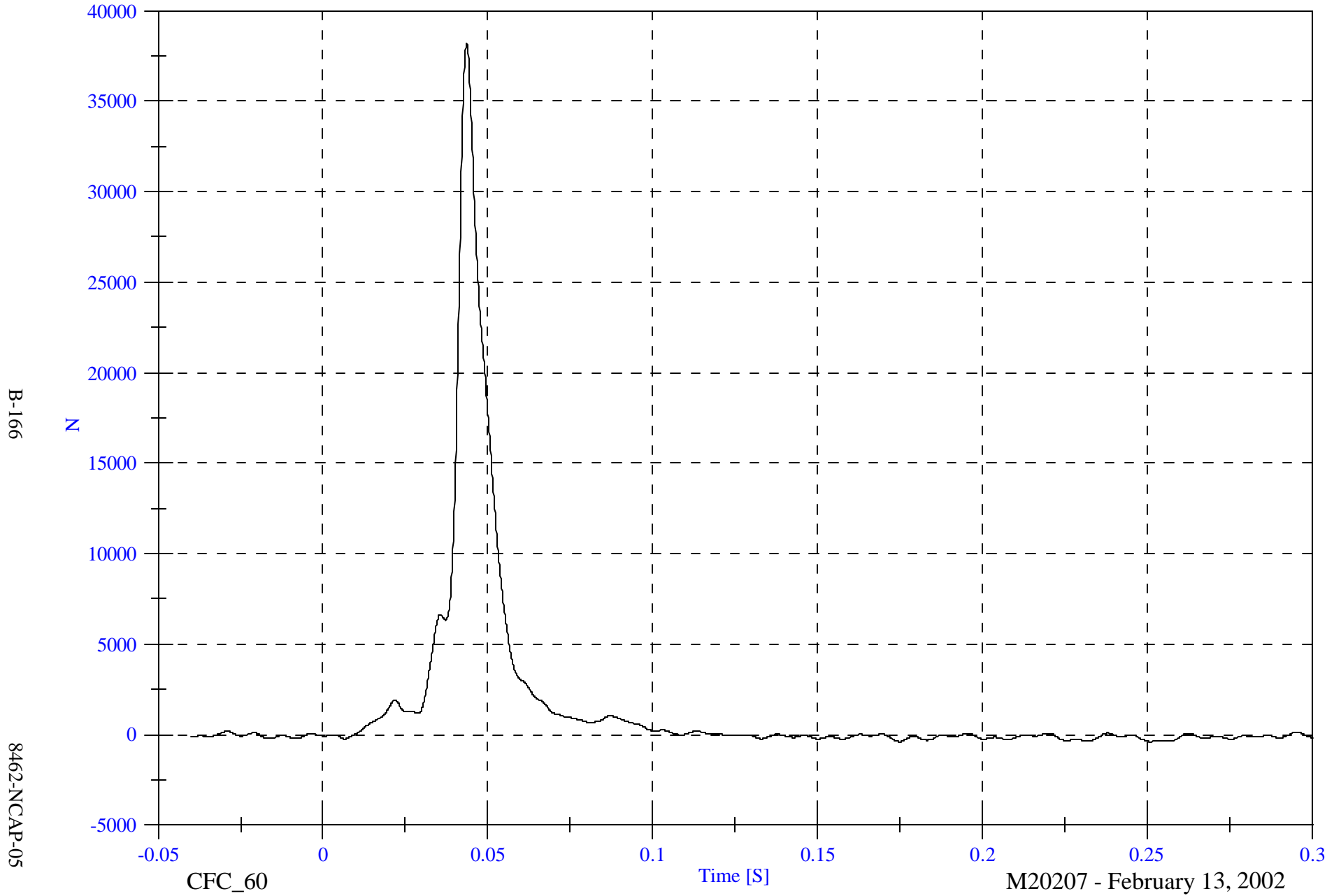
M20207 - February 13, 2002

NCAP TEST #5 - 2002 Ford Focus

Barrier Load Cell C8 Fx

Max: 38161.4 [N] at 0.043 [S]

Min: -380.2 [N] at 0.251 [S]



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CFC_60

Time [S]

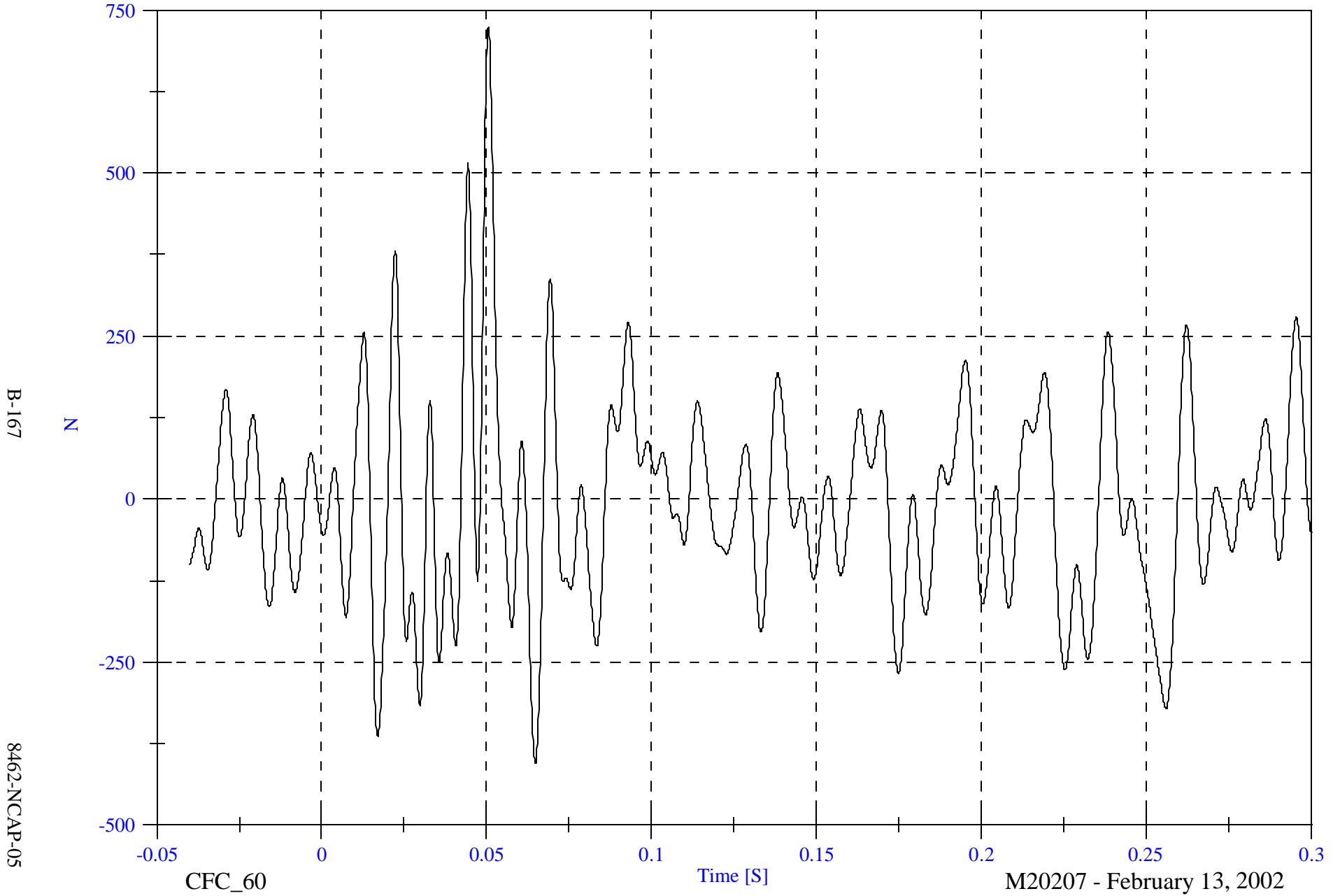
M20207 - February 13, 2002

NCAP TEST #5 - 2002 Ford Focus

Max: 723.8 [N] at 0.050 [S]

Barrier Load Cell C9 Fx

Min: -405.2 [N] at 0.065 [S]



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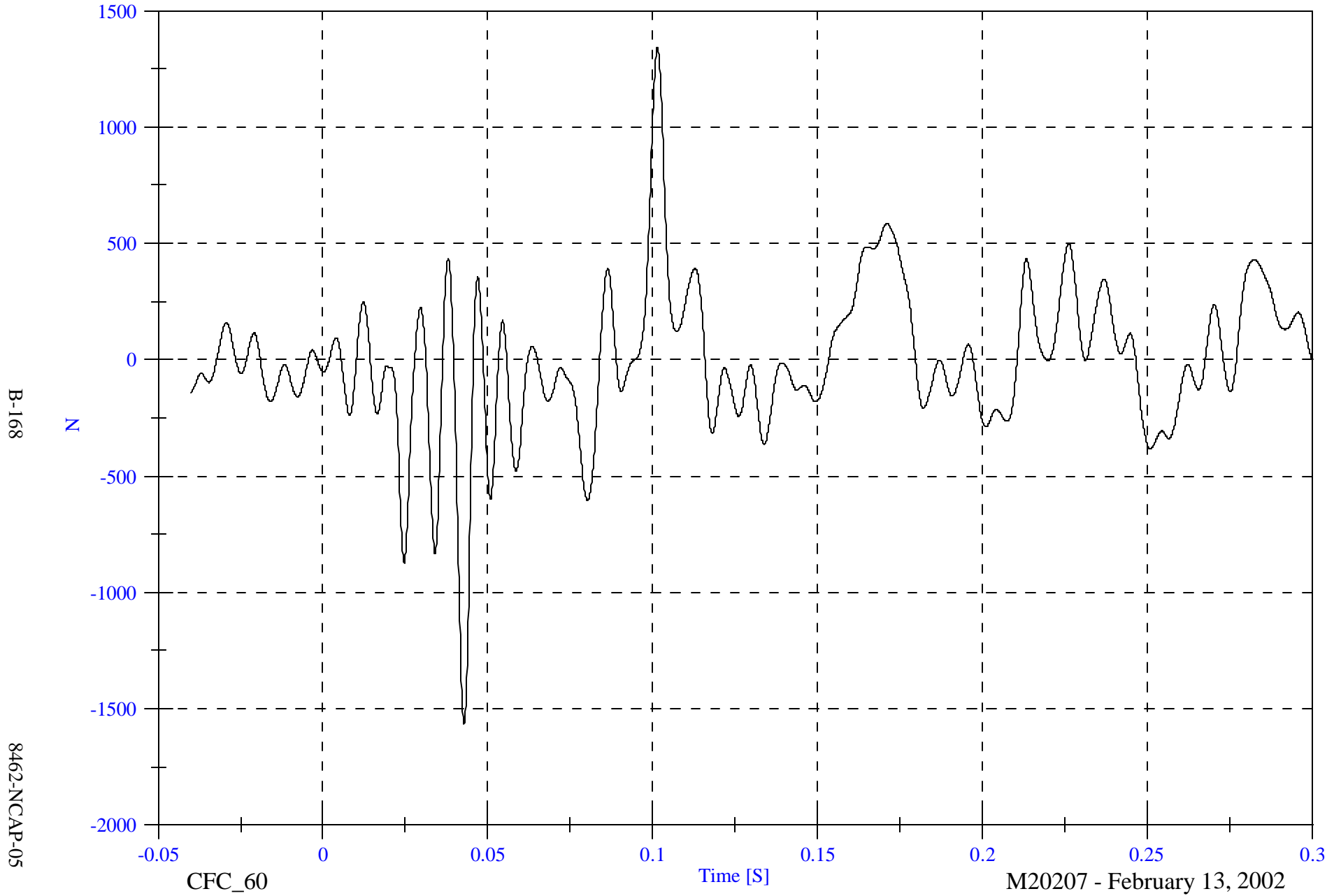
8462-NCAP-05

NCAP TEST #5 - 2002 Ford Focus

Max: 1344.1 [N] at 0.101 [S]

Min: -1564.3 [N] at 0.043 [S]

Barrier Load Cell D1 Fx



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CFC_60

Time [S]

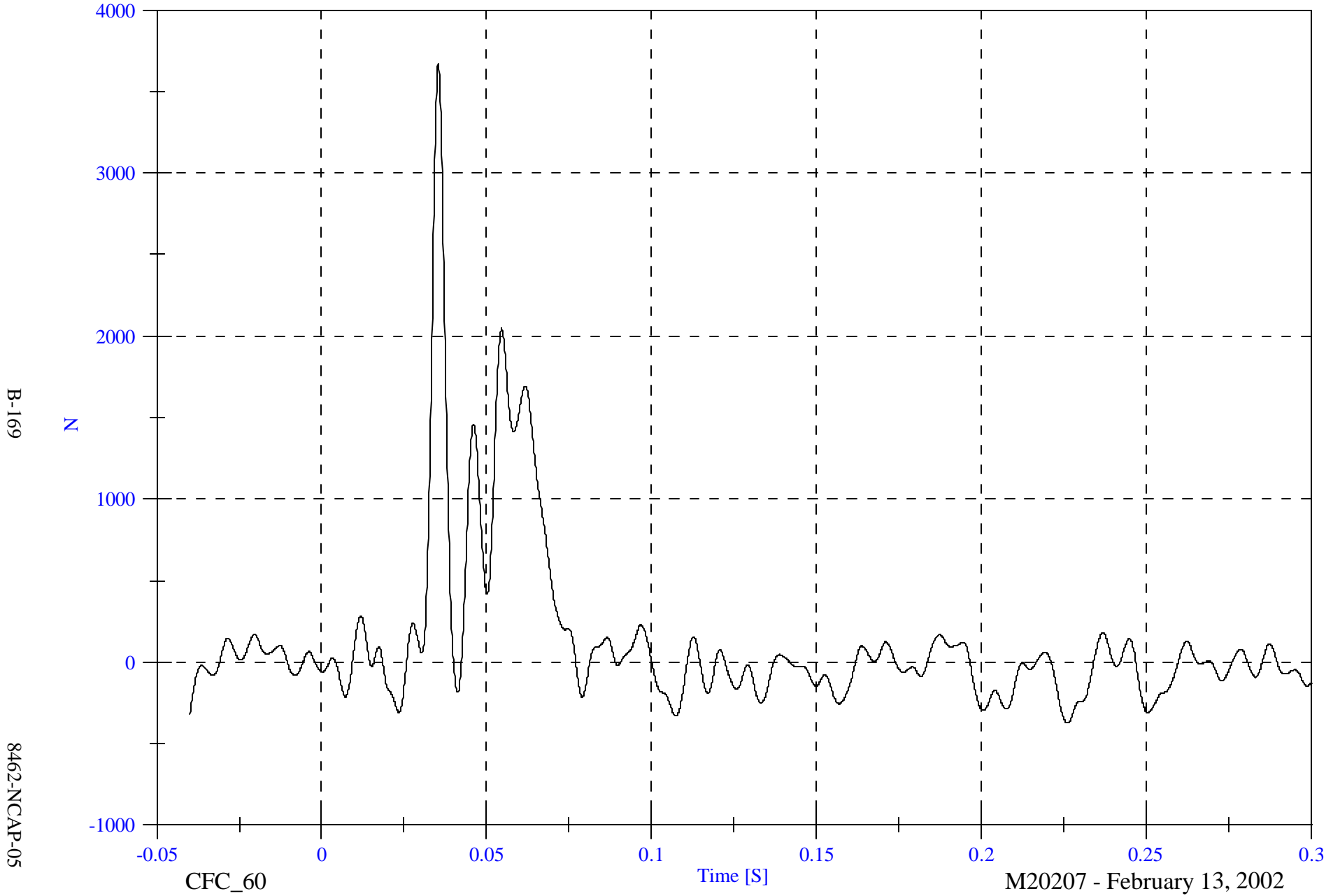
M20207 - February 13, 2002

NCAP TEST #5 - 2002 Ford Focus

Barrier Load Cell D2 Fx

Max: 3668.8 [N] at 0.035 [S]

Min: -372.6 [N] at 0.226 [S]



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CFC_60

Time [S]

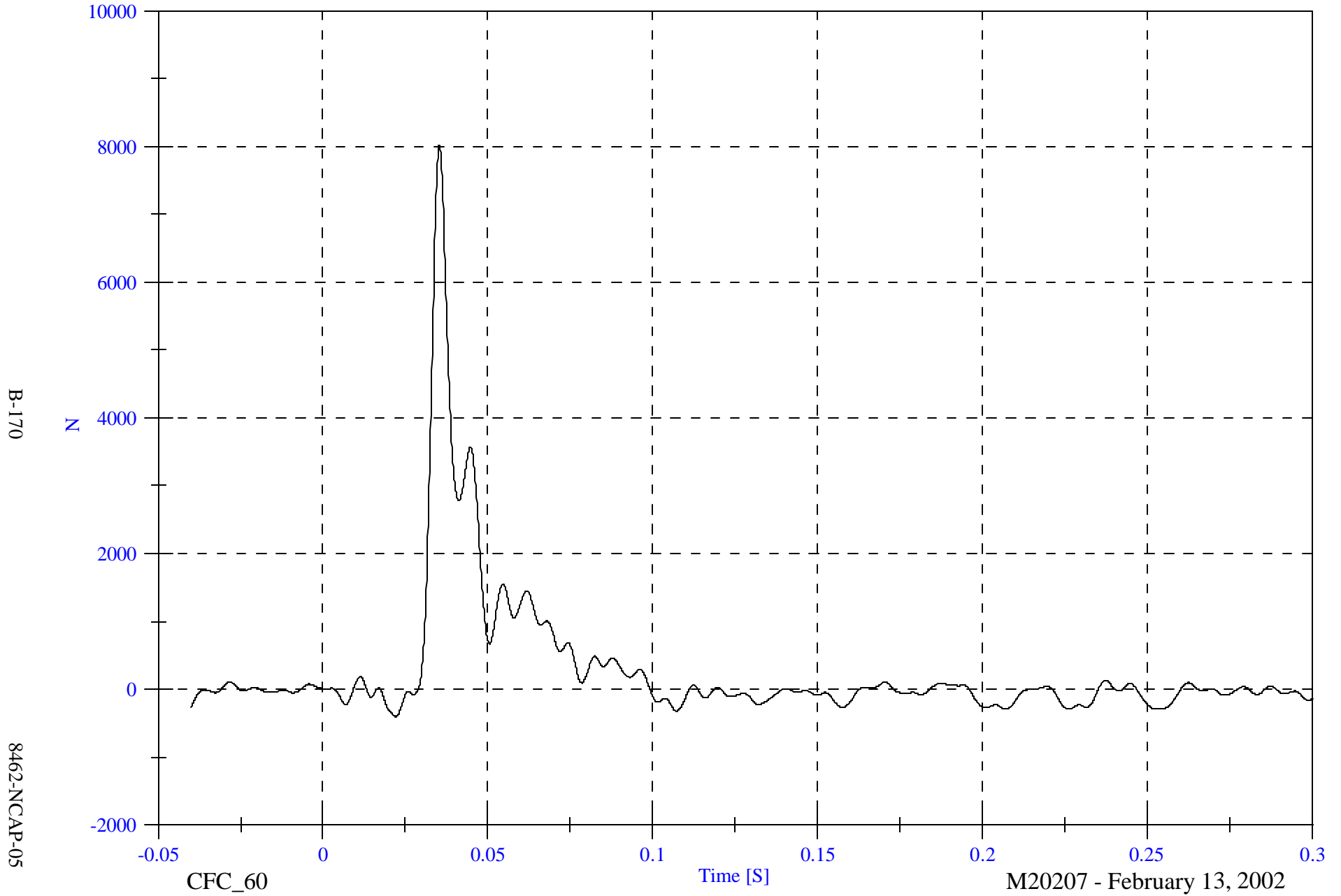
M20207 - February 13, 2002

NCAP TEST #5 - 2002 Ford Focus

Barrier Load Cell D3 Fx

Max: 8018.2 [N] at 0.035 [S]

Min: -399.0 [N] at 0.022 [S]



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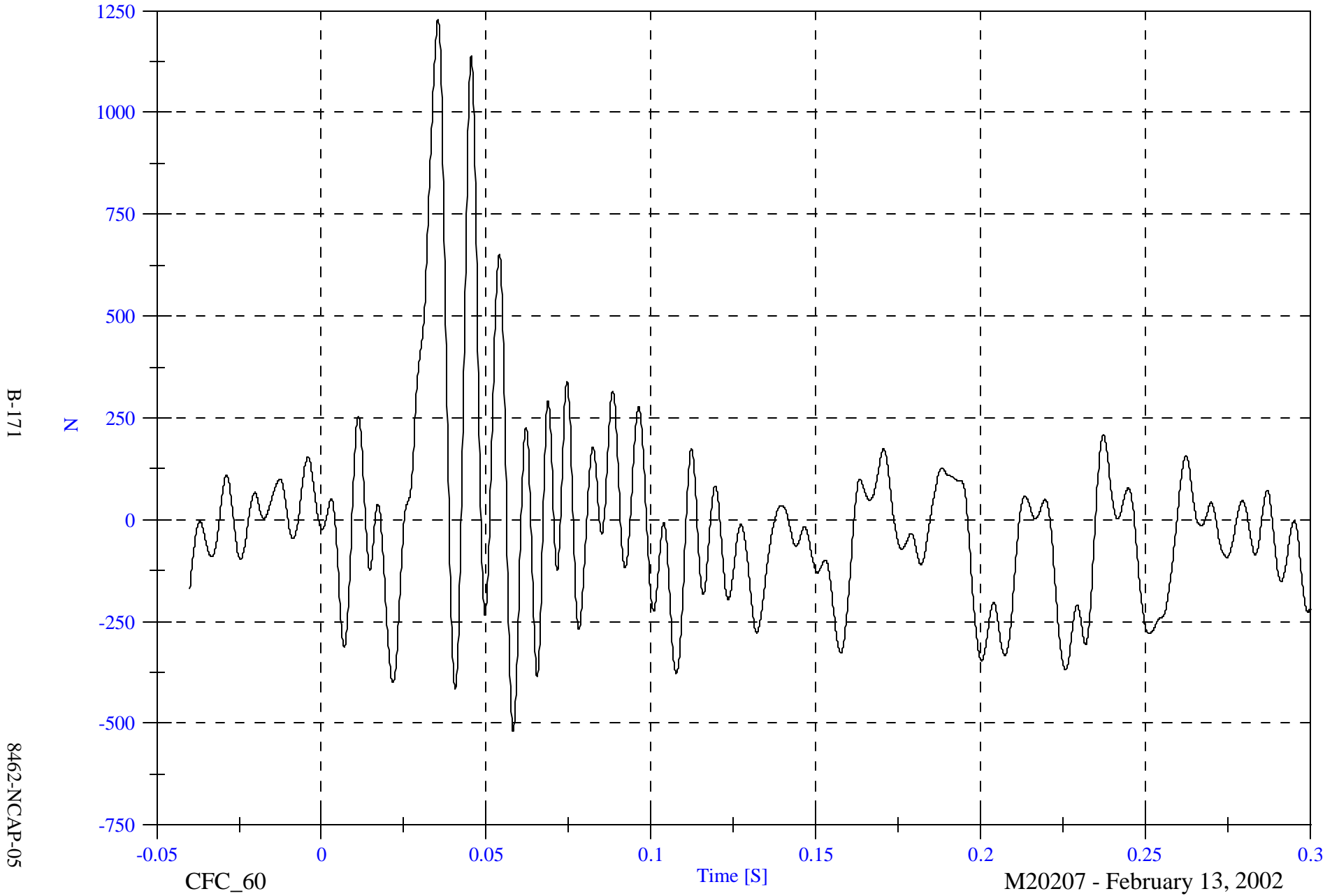
8462-NCAP-05

NCAP TEST #5 - 2002 Ford Focus

Max: 1228.0 [N] at 0.035 [S]

Barrier Load Cell D4 Fx

Min: -519.4 [N] at 0.058 [S]



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CFC_60

Time [S]

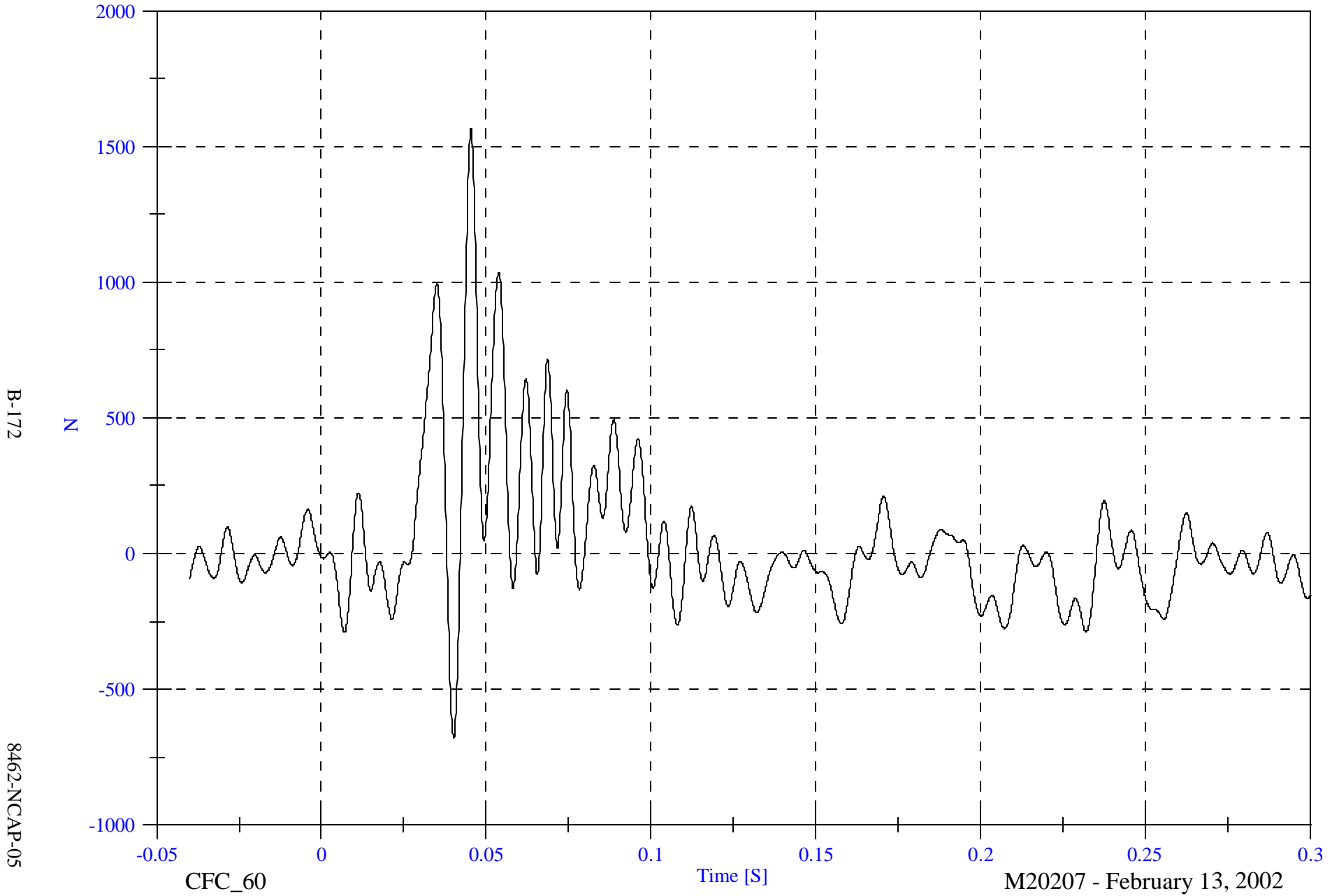
M20207 - February 13, 2002

NCAP TEST #5 - 2002 Ford Focus

Max: 1565.2 [N] at 0.045 [S]

Barrier Load Cell D5 Fx

Min: -678.8 [N] at 0.040 [S]



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CFC_60

Time [S]

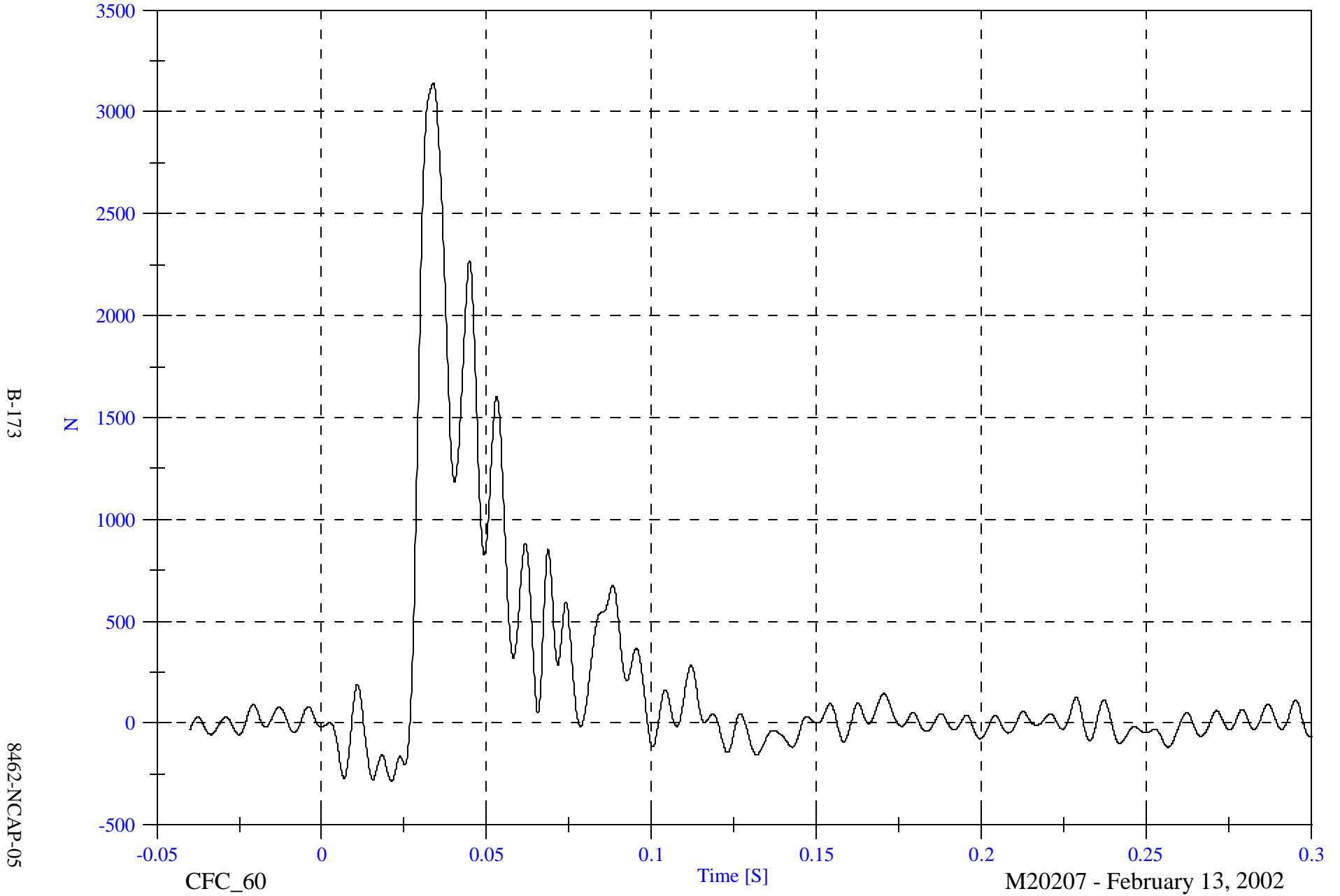
M20207 - February 13, 2002

NCAP TEST #5 - 2002 Ford Focus

Barrier Load Cell D6 Fx

Max: 3140.8 [N] at 0.034 [S]

Min: -286.5 [N] at 0.021 [S]



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CFC_60

Time [S]

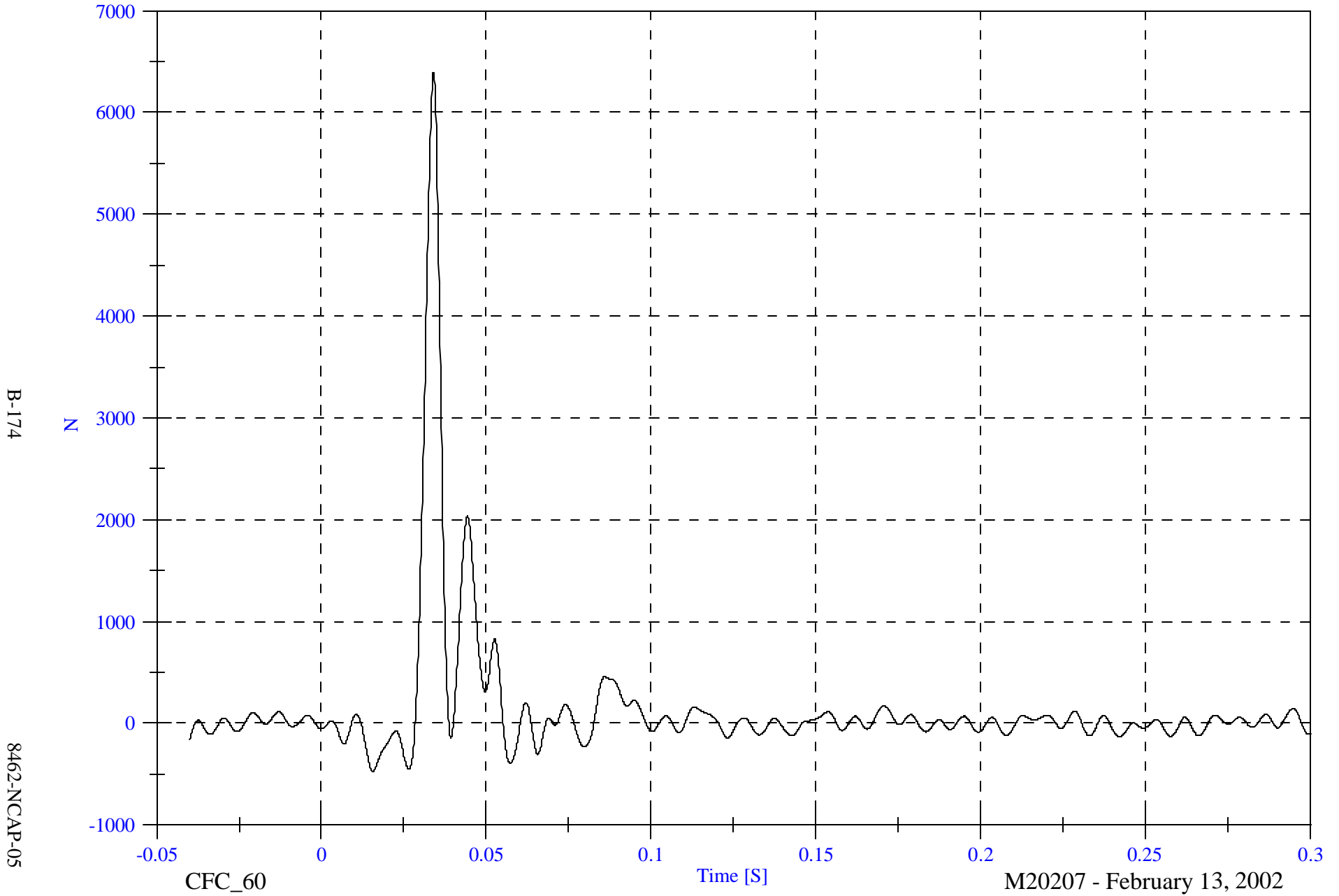
M20207 - February 13, 2002

NCAP TEST #5 - 2002 Ford Focus

Barrier Load Cell D7 Fx

Max: 6396.2 [N] at 0.034 [S]

Min: -474.9 [N] at 0.016 [S]

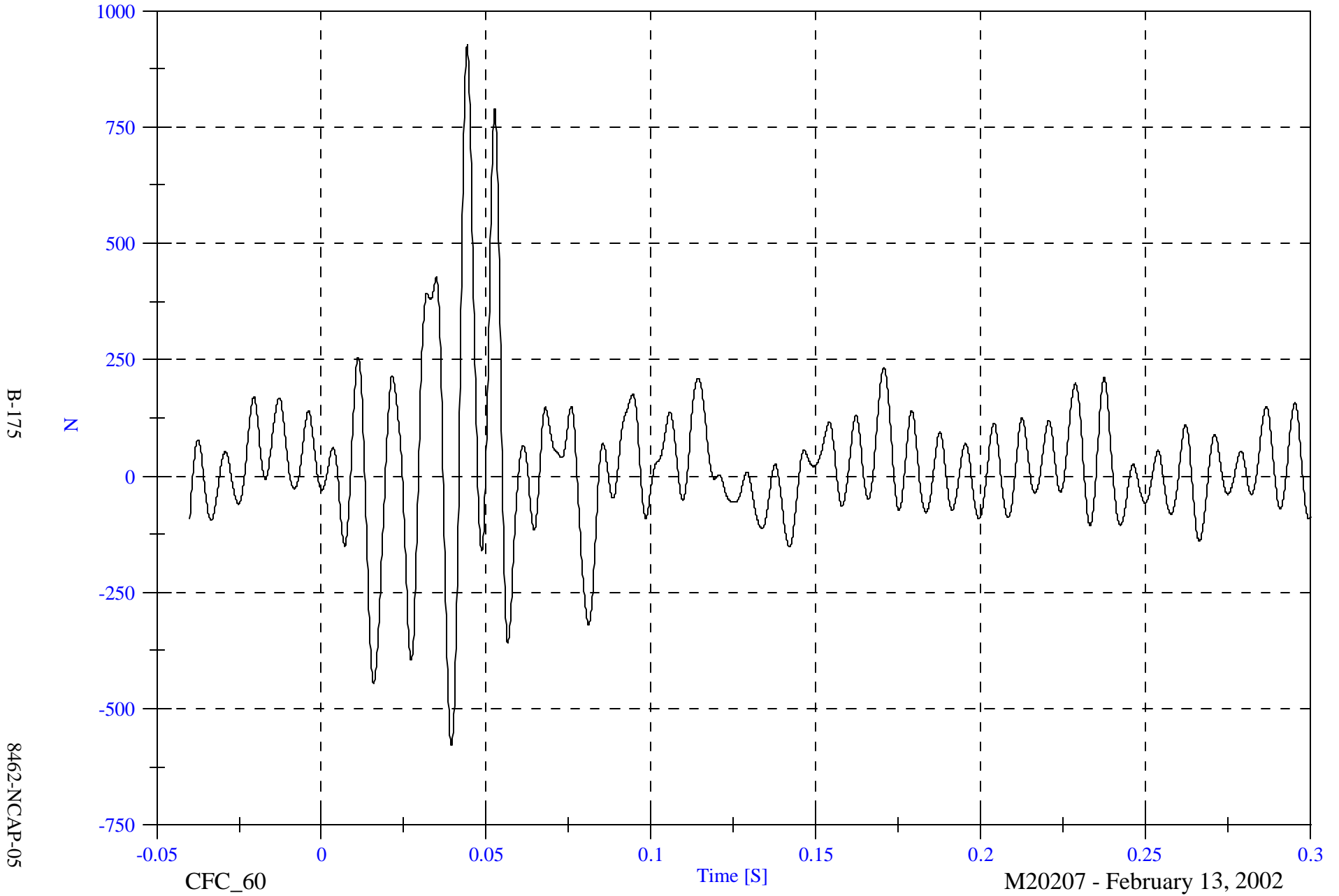


NCAP TEST #5 - 2002 Ford Focus

Max: 926.1 [N] at 0.044 [S]

Min: -577.7 [N] at 0.039 [S]

Barrier Load Cell D8 Fx

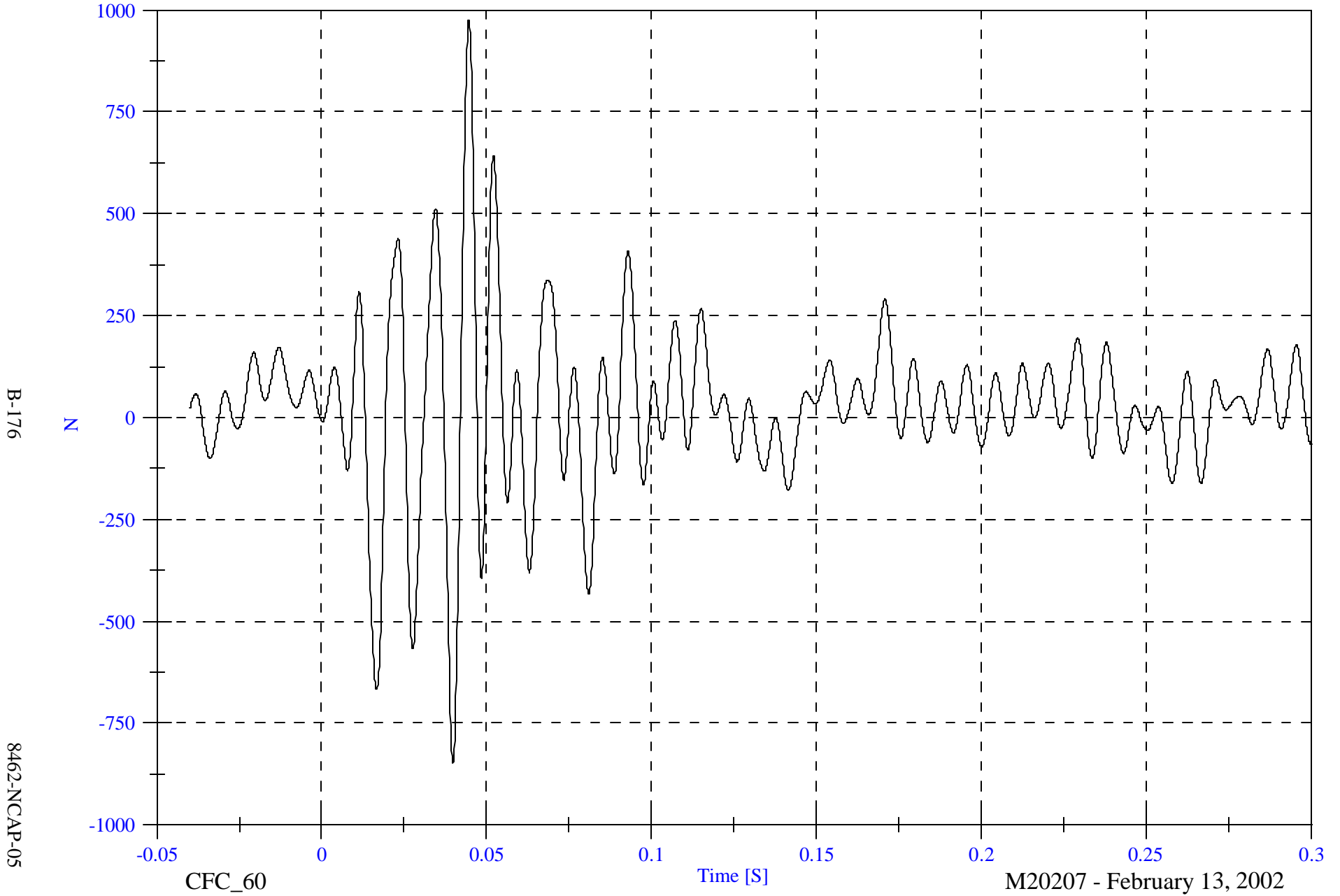


NCAP TEST #5 - 2002 Ford Focus

Barrier Load Cell D9 Fx

Max: 975.1 [N] at 0.045 [S]

Min: -848.2 [N] at 0.040 [S]



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CFC_60

Time [S]

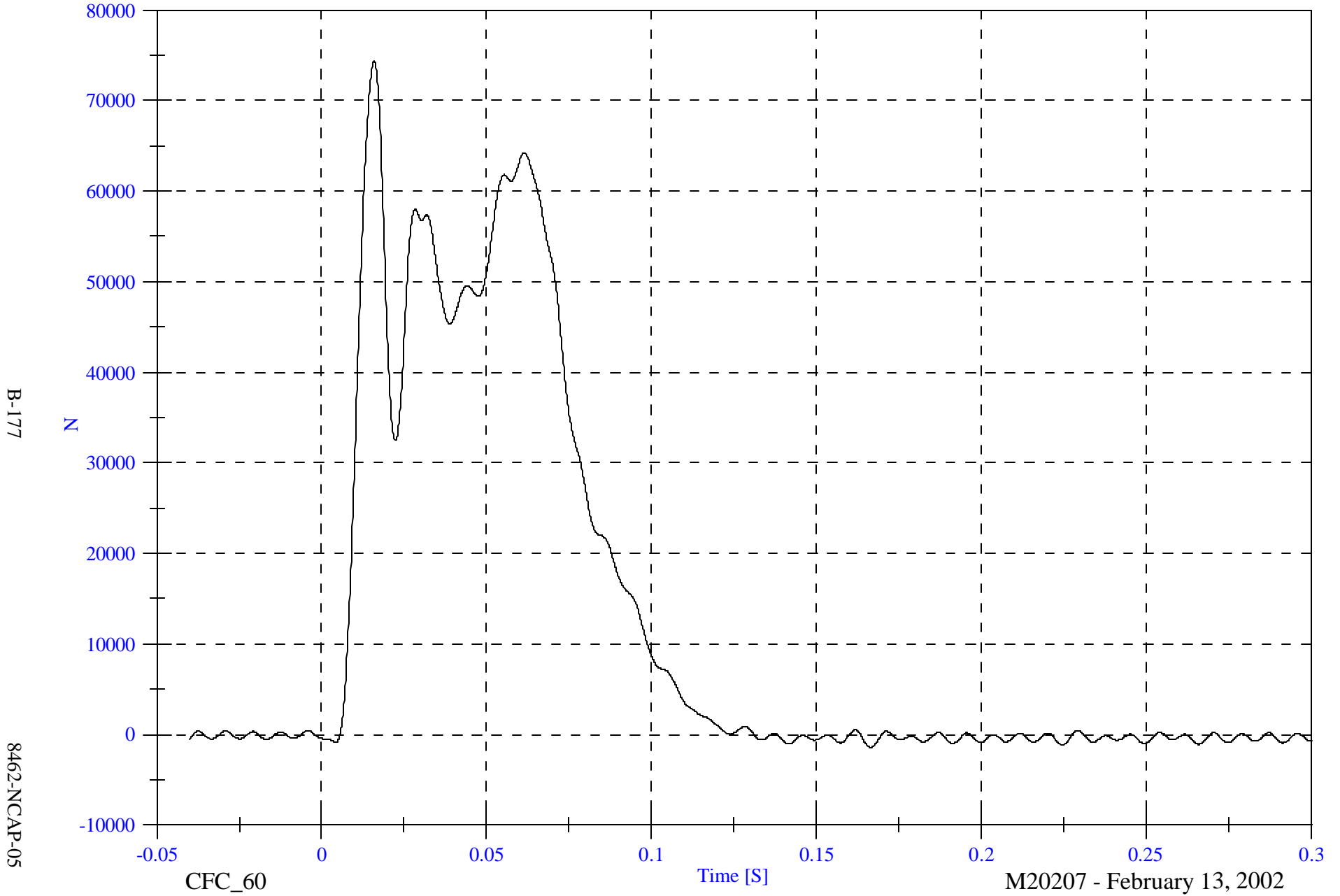
M20207 - February 13, 2002

NCAP TEST #5 - 2002 Ford Focus

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

Max: 74380.9 [N] at 0.016 [S]

Min: -1409.4 [N] at 0.166 [S]



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CFC_60

Time [S]

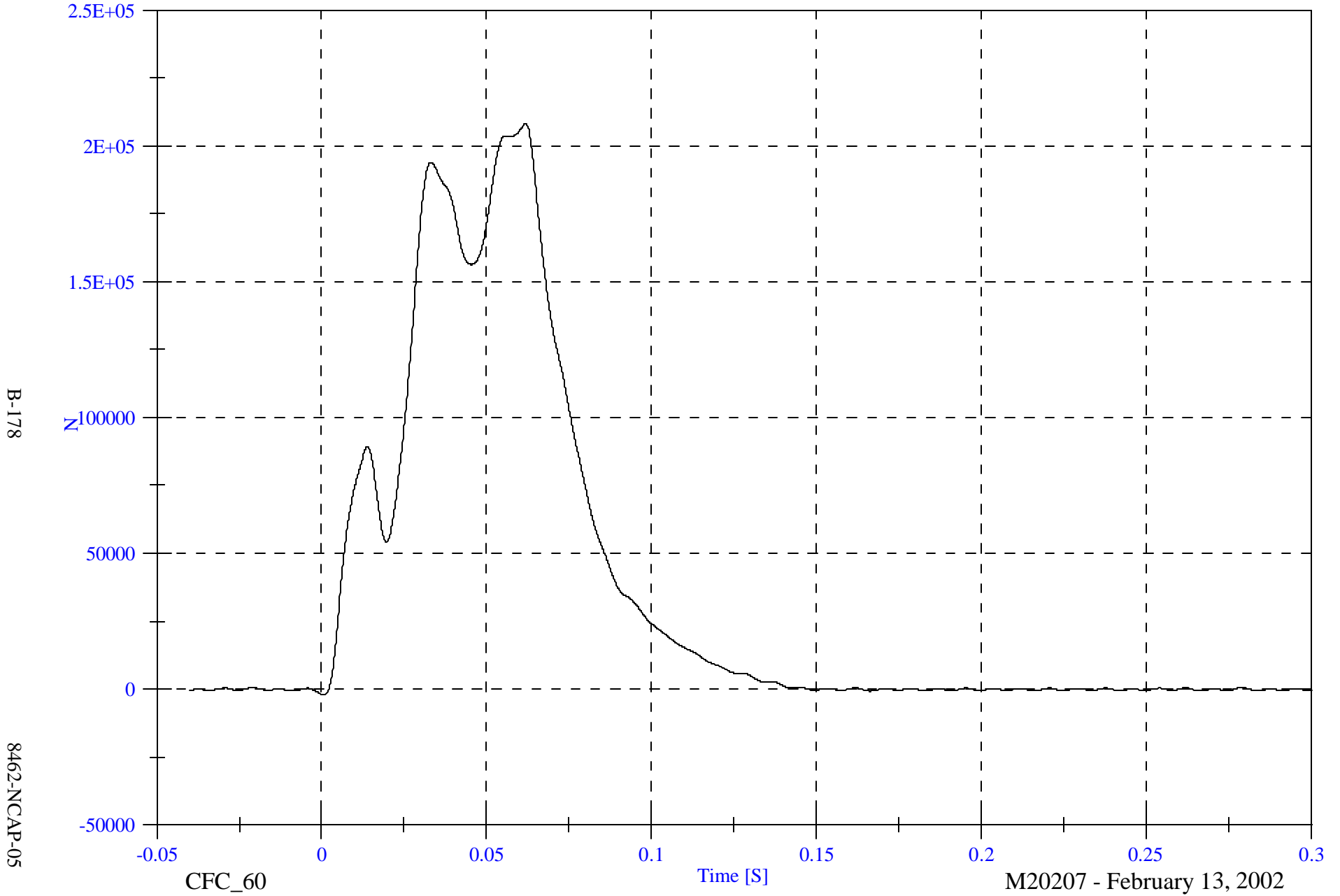
M20207 - February 13, 2002

NCAP TEST #5 - 2002 Ford Focus

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

Max: 207971.2 [N] at 0.062 [S]

Min: -2058.1 [N] at 0.000 [S]



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CFC_60

Time [S]

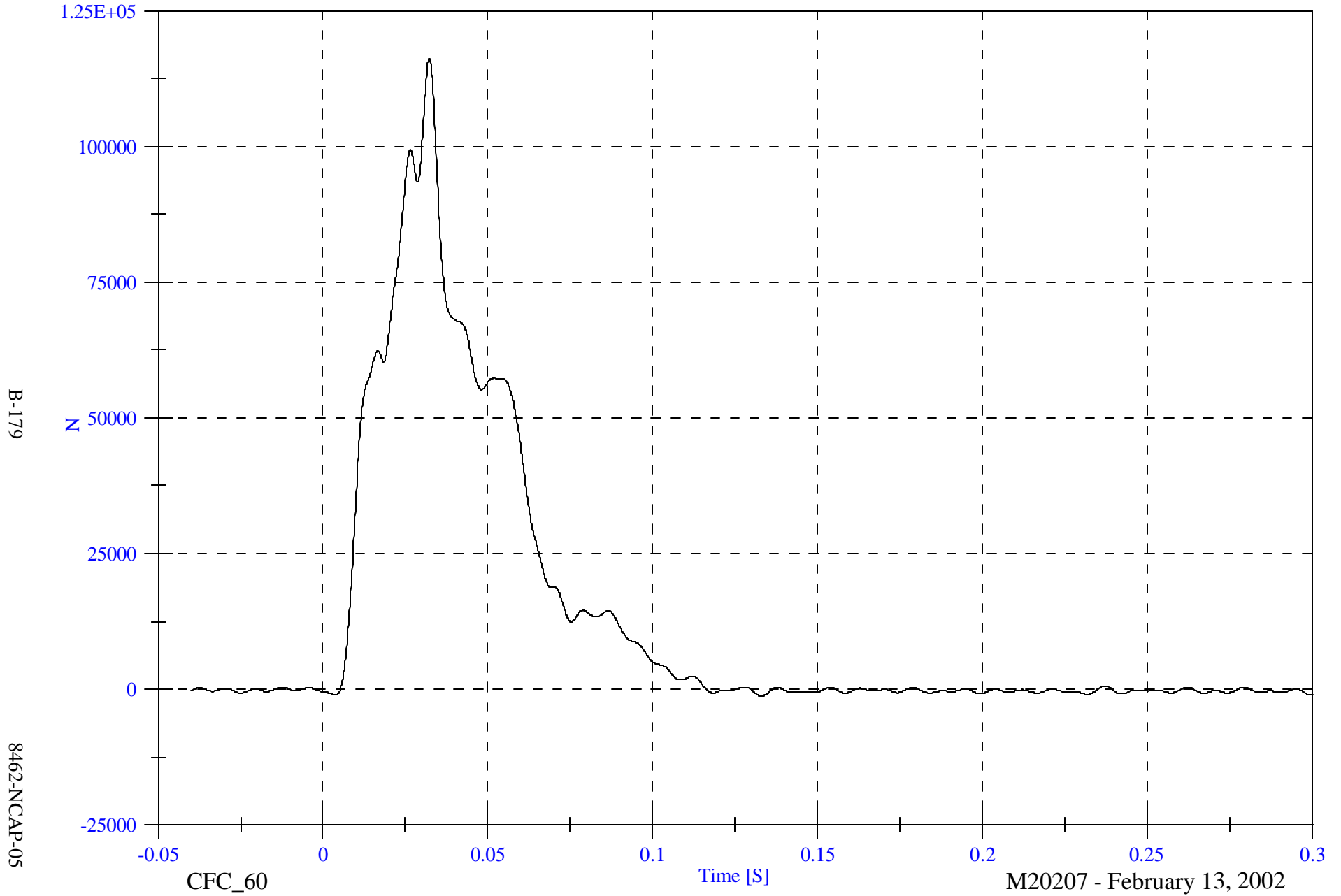
M20207 - February 13, 2002

NCAP TEST #5 - 2002 Ford Focus

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

Max: 116225.8 [N] at 0.032 [S]

Min: -1221.4 [N] at 0.133 [S]



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8462-NCAP-05

CFC_60

Time [S]

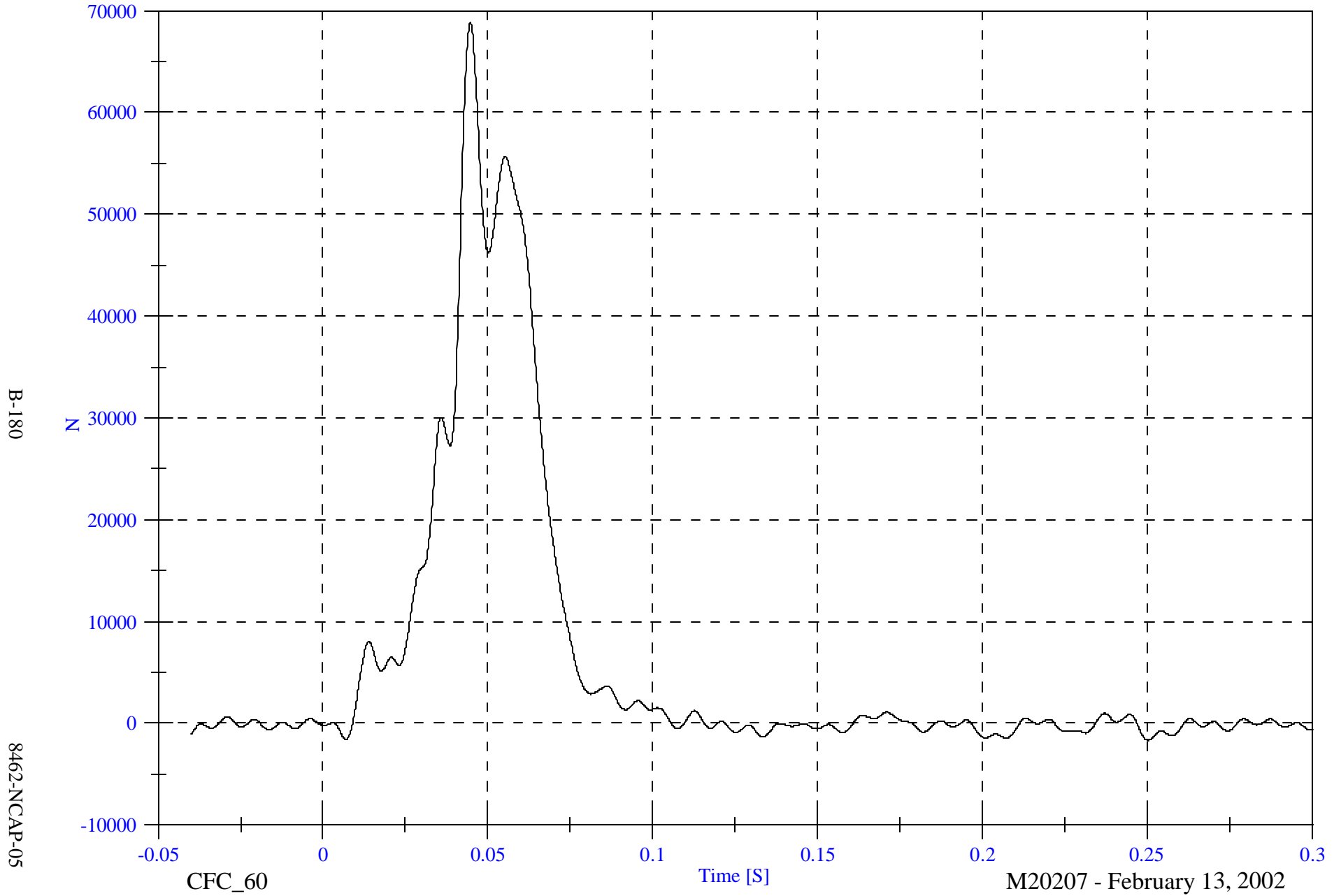
M20207 - February 13, 2002

NCAP TEST #5 - 2002 Ford Focus

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

Max: 68812.2 [N] at 0.045 [S]

Min: -1658.8 [N] at 0.250 [S]



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8462-NCAP-05

CFC_60

Time [S]

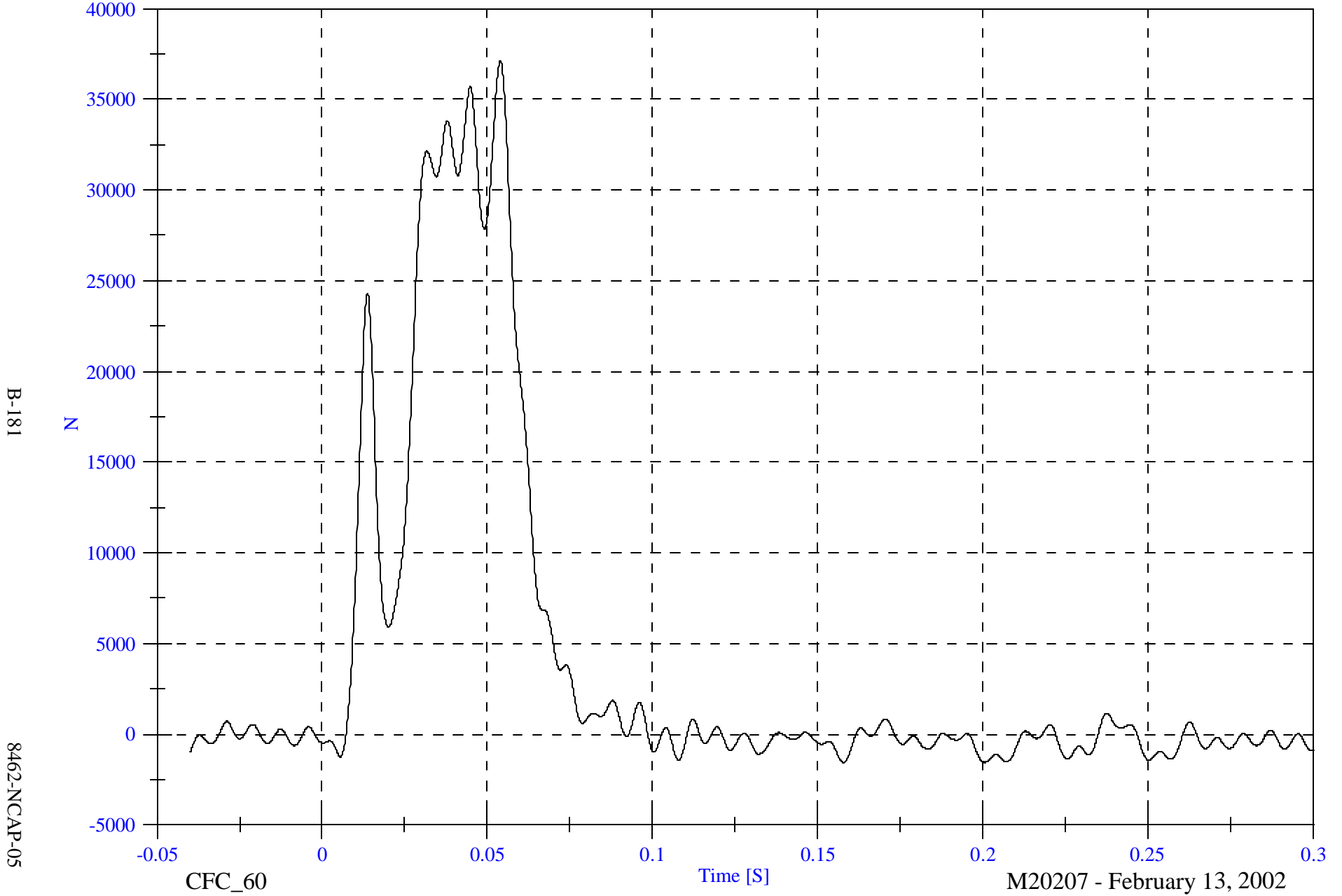
M20207 - February 13, 2002

NCAP TEST #5 - 2002 Ford Focus

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

Max: 37131.9 [N] at 0.054 [S]

Min: -1560.2 [N] at 0.158 [S]



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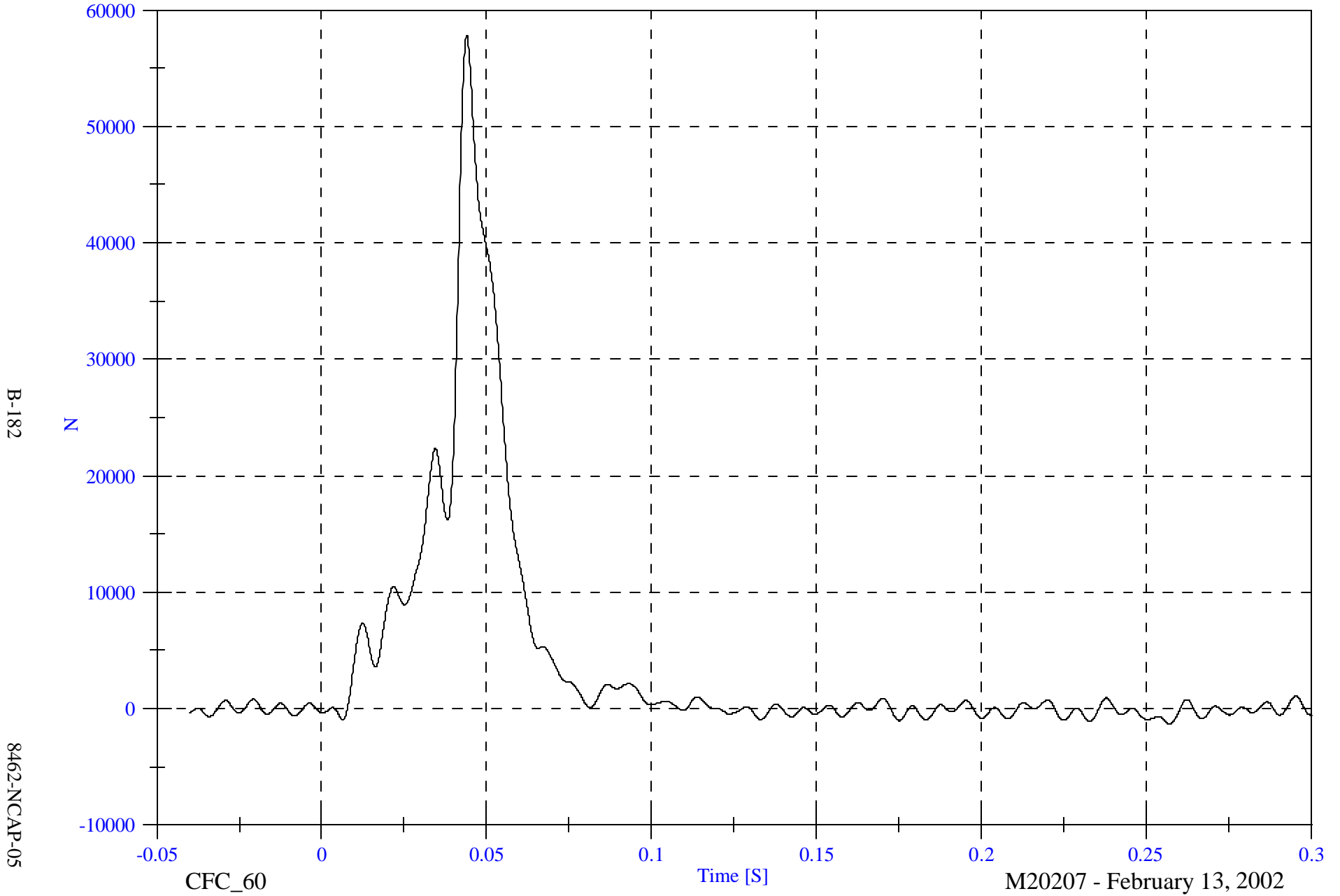
8462-NCAP-05

NCAP TEST #5 - 2002 Ford Focus

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

Max: 57826.8 [N] at 0.044 [S]

Min: -1301.8 [N] at 0.257 [S]

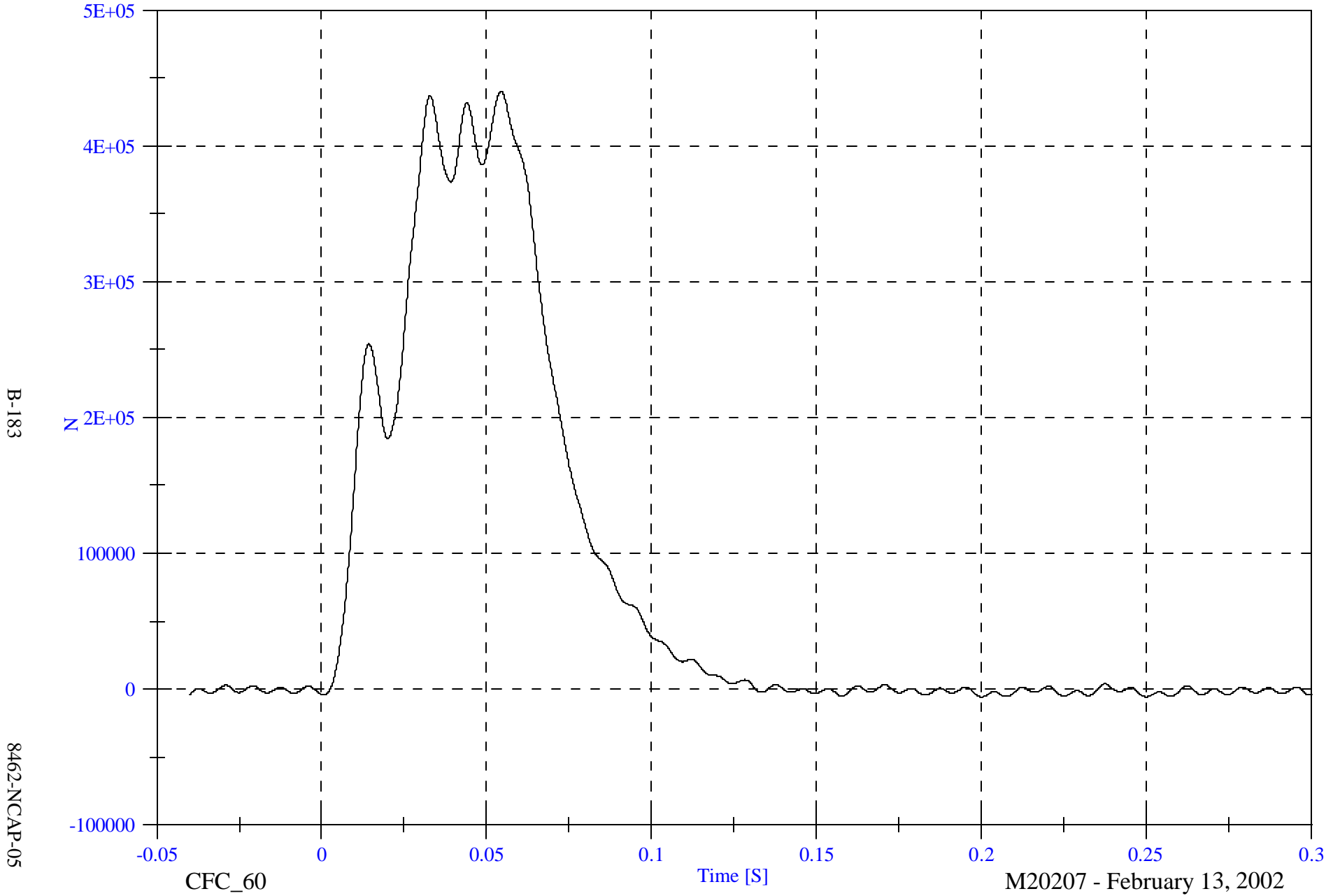


NCAP TEST #5 - 2002 Ford Focus

Max: 440314.2 [N] at 0.054 [S]

Total Load Cell Sum (All 6 Groups)

Min: -5662.8 [N] at 0.200 [S]



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8462-NCAP-05

CFC_60

Time [S]

M20207 - February 13, 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:

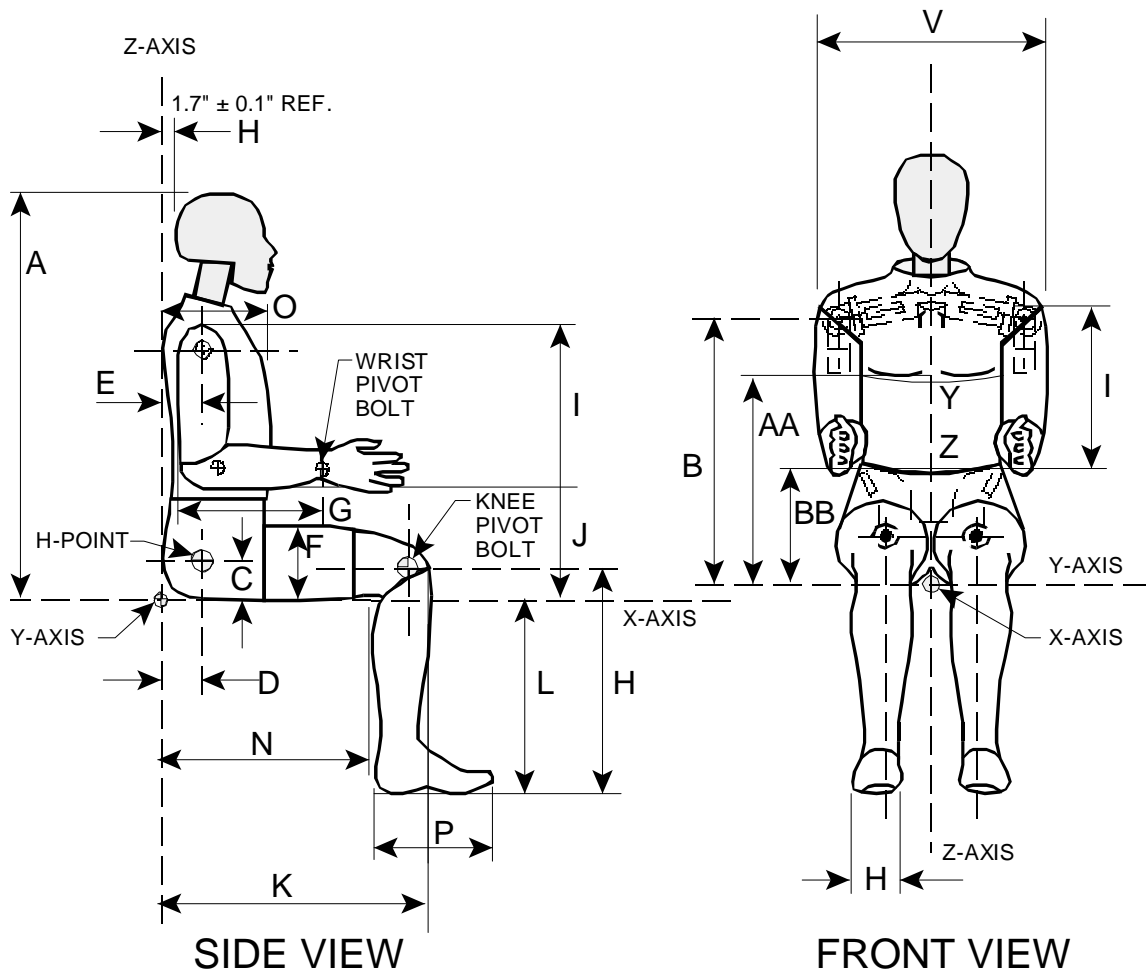
<u>Position No./Location</u>	<u>Serial No.</u>	<u>Completion Date</u>
#1/Driver	150	1/23/02
#2/Right Front Passenger	245	1/23/02

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 150
Sequential Test Number 1
Date 1/18/02
Workfile 150H 1-18-02

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	66-78 Deg F	70
Relative Humidity	10% - 70%	30
Peak Resultant Acceleration	225-275 G's	235.4
Peak Lateral Acceleration	15 G's Max	7.0
Is Acceleration Curve Unimodal?	YES	Yes

Remarks:

Laboratory Technician:

B. Swiecicki

PART 572E
NECK EXTENSION TEST

Dummy Serial Number	150	
Sequential Test Number	1	
Date	1/21/02	6 Axis Neck Transducer
Workfile	150102.nex	

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	69-72 Deg F	71
Relative Humidity	10% - 70%	29
Impact Velocity	19.50 - 20.30 Ft/s	19.70
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	13.64
Deceleration - Time Curve Decay Time to 5 G's	38 - 46 ms	43.38
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	160.88
Positive Moment - Time Curve Decay Time to Zero	120 - 148 ms	135.75

Remarks:

Laboratory Technician:

B. Swiecicki

PART 572E
THORAX IMPACT TEST

Dummy Serial Number 150
Sequential Test Number 1
Date 1/23/02
Workfile 150102.th3

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	69-72 Deg F	70
Relative Humidity	10% - 70%	30
Pendulum Velocity	21.6 - 22.4 Ft/s	22.1
Maximum Deflection	2.50 - 2.86 in	2.52
Maximum Resistive Force	1160 - 1325 Lbs	1318.42
Internal Hysteresis	69 - 85 %	73.3

Remarks:

Laboratory Technician:

_____ B. Swiecicki

PART 572E
KNEE IMPACT TEST

Dummy Serial Number 150
 Sequential Test Number 1
 Date 1/23/02
 Workfile 150102.lf / 150102.rf

TEST PARAMETER	SPECIFICATION	TEST RESULTS
LEFT KNEE		
Temperature	66 - 78 Deg F	70
Relative Humidity	10% - 70%	30
Probe Velocity	6.8 - 7.0 Ft/s	7.0
Peak Knee Impact Force	1060 - 1300 Lbs	1214.61
RIGHT KNEE		
Temperature	66 - 78 Deg F	70
Relative Humidity	10% - 70%	30
Probe Velocity	6.8 - 7.0 Ft/s	7.0
Peak Knee Impact Force	1060 - 1300 Lbs	1202.13

Remarks:

Laboratory Technician:

B. Swiecicki

PART 572E
EXTERNAL DIMENSIONS

Dummy Serial Number 150
 Sequential Test Number 1
 Date 1/22/02

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature			70
Relative Humidity			31
Location for Chest Circumference	AA	16.9 - 17.1 in	17.0
Location for Waist Circumference	BB	8.9 - 9.1 in	9.0
Chest Circumference (With Jacket)	Y	38.2 - 39.4 in	39.1
Waist Circumference	Z	32.9 - 34.1 in	34.0
Chest Depth	O	8.4 - 9.0 in	8.4
H-Point Height	C	3.3 - 3.5 in	3.4
H-Point from Backline	D	5.3 - 5.5 in	5.4
Skull Cap to Backline	H	1.6 - 1.8 in	1.7
Total Sitting Height	A	34.6 - 35.0 in	34.8
Thigh Clearance	F	5.5 - 6.1 in	5.8
Buttock Knee Length	K	22.8 - 23.8 in	23.4
Buttock Popliteal Length	N	17.8 - 18.8 in	18.4
Popliteal Height	L	16.9 - 17.9 in	17.8
Knee Pivot Height	M	19.1 - 19.7 in	19.6
Foot Length	P	9.9 - 10.5 in	10.1
Foot Breadth	W	3.6 - 4.2 in	3.8
Shoulder Pivot from Backline	E	3.3 - 3.7 in	3.7
Shoulder Breadth	V	16.6 - 17.2 in	16.8
Shoulder Pivot Height	B	19.9 - 20.5 in	20.2
Elbow Rest Height	J	7.5 - 8.3 in	8.1
Shoulder - Elbow Length	I	13.0 - 13.6 in	13.2
Back of Elbow to Wrist Pivot	G	11.4 - 12.0 in	11.5

Remarks:

Laboratory Technician:

B. Swiecicki

PART 572E
HEAD DROP TEST

Dummy Serial Number 245
Sequential Test Number 1
Date 1/18/02
Workfile 245H 1-18-02

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	66-78 Deg F	70
Relative Humidity	10% - 70%	30
Peak Resultant Acceleration	225-275 G's	235.4
Peak Lateral Acceleration	15 G's Max	3.0
Is Acceleration Curve Unimodal?	YES	Yes

Remarks:

Laboratory Technician:

B. Swiecicki

PART 572E
NECK EXTENSION TEST

Dummy Serial Number	245	
Sequential Test Number	1	
Date	1/21/02	6 Axis Neck Transducer
Workfile	245102.nex	

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	71
Relative Humidity		10% - 70%	29
Impact Velocity		19.50 - 20.30 Ft/s	19.62
Pendulum Deceleration	10 ms	17.20 - 21.20 G's	18.46
	20 ms	14.00 - 19.00 G's	16.87
	30 ms	11.00 - 16.00 G's	13.19
Max Pendulum G's Above 30 ms		22 G's Max	13.19
Deceleration - Time Curve Decay Time to 5 G's		38 - 46 ms	44.38
D Plane Rotation	Max	81 - 106 Deg	98.46
	Time	72 - 82 ms	77.75
Moment About Occipital Condyle	Max	-59.0 - -39.0 Ft-Lbs	-49.96
	Time	65 - 79 ms	72.62
Rotation Angle - Time Curve Decay Time to Zero		147 - 174 ms	156.0
Positive Moment - Time Curve Decay Time to Zero		120 - 148 ms	141.5

Remarks:

Laboratory Technician:

B. Swiecicki

PART 572E
THORAX IMPACT TEST

Dummy Serial Number 245
Sequential Test Number 1
Date 1/22/02
Workfile 245102.th3

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	69-72 Deg F	70
Relative Humidity	10% - 70%	29
Pendulum Velocity	21.6 - 22.4 Ft/s	21.96
Maximum Deflection	2.50 - 2.86 in	2.52
Maximum Resistive Force	1160 - 1325 Lbs	1320.0
Internal Hysteresis	69 - 85 %	72.6

Remarks:

Laboratory Technician:

_____ B. Swiecicki

PART 572E
KNEE IMPACT TEST

Dummy Serial Number 245
 Sequential Test Number 1
 Date 1/23/02
 Workfile 245102.1f

TEST PARAMETER	SPECIFICATION	TEST RESULTS
LEFT KNEE		
Temperature	66 - 78 Deg F	70
Relative Humidity	10% - 70%	30
Probe Velocity	6.8 - 7.0 Ft/s	7.0
Peak Knee Impact Force	1060 - 1300 Lbs	1199.2
RIGHT KNEE		
Temperature	66 - 78 Deg F	70
Relative Humidity	10% - 70%	30
Probe Velocity	6.8 - 7.0 Ft/s	7.0
Peak Knee Impact Force	1060 - 1300 Lbs	1198.7

Remarks:

Laboratory Technician:

_____ B. Swiecicki

PART 572E
EXTERNAL DIMENSIONS

Dummy Serial Number 245
Sequential Test Number 1
Date 1/22/02

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature			70
Relative Humidity			31
Location for Chest Circumference	AA	16.9 - 17.1 in	17.0
Location for Waist Circumference	BB	8.9 - 9.1 in	9.0
Chest Circumference (With Jacket)	Y	38.2 - 39.4 in	39.2
Waist Circumference	Z	32.9 - 34.1 in	33.8
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	34.7
Thigh Clearance	F	5.5 - 6.1 in	6.0
Buttock Knee Length	K	22.8 - 23.8 in	23.4
Buttock Popliteal Length	N	17.8 - 18.8 in	18.4
Popliteal Height	L	16.9 - 17.9 in	17.5
Knee Pivot Height	M	19.1 - 19.7 in	19.2
Foot Length	P	9.9 - 10.5 in	10.2
Foot Breadth	W	3.6 - 4.2 in	3.8
Shoulder Pivot from Backline	E	3.3 - 3.7 in	3.6
Shoulder Breadth	V	16.6 - 17.2 in	16.8
Shoulder Pivot Height	B	19.9 - 20.5 in	20.2
Elbow Rest Height	J	7.5 - 8.3 in	8.0
Shoulder - Elbow Length	I	13.0 - 13.6 in	13.2
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 150)		Manufacturer	Serial #	Calibration	
				Last	Next
Head 9 Array	X Arm Y	ENDEVCO	AC-P17531	08/29/01	02/27/02
	X Arm Z	ENDEVCO	AC-P14965	08/29/01	02/27/02
	Y Arm X	ENDEVCO	AC-P17563	08/29/01	02/27/02
	Y Arm Z	ENDEVCO	AC-P18551	08/29/01	02/27/02
	Z Arm X	ENDEVCO	AC-P17539	08/29/01	02/27/02
	Z Arm Y	ENDEVCO	AC-P18718	08/29/01	02/27/02
Head	X	ENDEVCO	AC-P16832	08/23/01	02/21/02
	Y	ENDEVCO	AC-P16591	08/23/01	02/21/02
	Z	ENDEVCO	AC-P16286	09/04/01	03/05/02
Head	X (R)	ENDEVCO	AC-P17141	08/23/01	02/21/02
	Y (R)	ENDEVCO	AC-P17242	08/23/01	02/21/02
	Z (R)	ENDEVCO	AC-P17152	01/07/02	07/08/02
Neck Load Cell	X	DENTON	LC-269FX	01/17/02	07/18/02
	Y	DENTON	LC-269FY	01/17/02	07/18/02
	Z	DENTON	LC-269FZ	01/17/02	07/18/02
Neck Moment	X	DENTON	LC-269MX	01/17/02	07/18/02
	Y	DENTON	LC-269MY	01/17/02	07/18/02
	Z	DENTON	LC-269MZ	01/17/02	07/18/02
Chest	X	ENDEVCO	AC-P17235	08/23/01	02/21/02
	Y	ENDEVCO	AC-P14393	08/23/01	02/21/02
	Z	ENDEVCO	AC-P17285	08/23/01	02/21/02
Chest	X (R)	ENDEVCO	AC-P16863	08/23/01	02/21/02
	Y (R)	ENDEVCO	AC-P17248	08/23/01	02/21/02
	Z (R)	ENDEVCO	AC-P17283	08/23/01	02/21/02
Chest Deflection	X	SERVO	DS-150	08/23/01	02/21/02
Pelvic	X	ENDEVCO	AC-J30041	08/23/01	02/21/02
	Y	ENDEVCO	AC-P13355	08/23/01	02/21/02
	Z	ENDEVCO	AC-P13329	08/23/01	02/21/02

INSTRUMENT CALIBRATION FOR DRIVER DUMMY
(Six Month Calibration Minimum)

DRIVER DUMMY (S/N 150)	Manufacturer	Serial #	Calibration		
			Last	Next	
Left Femur Load Cell Fz	GSE	LC-418	01/24/02	07/25/02	
Right Femur Load Cell Fz	GSE	LC-419	01/24/02	07/25/02	
Left Knee Shear Dx	SPACEAGE CONTROL	DS-821	12/07/01	06/07/02	
Right Knee Shear Dx	SPACEAGE CONTROL	DS-817	12/07/01	06/07/02	
Left Upper Tibia	Mx	DENTON	LC-016MX	09/05/01	03/06/02
	My	DENTON	LC-016MY	09/05/01	03/06/02
Left Lower Tibia	Fz	DENTON	LC-123FZ	09/05/01	03/06/02
	Mx	DENTON	LC-123MX	09/05/01	03/06/02
	My	DENTON	LC-123MY	09/05/01	03/06/02
Right Upper Tibia	Mx	DENTON	LC-023MX	09/05/01	03/06/02
	My	DENTON	LC-023MY	09/05/01	03/06/02
Right Lower Tibia	Fz	DENTON	LC-111FZ	09/05/01	03/06/02
	Mx	DENTON	LC-111MX	09/05/01	03/06/02
	My	DENTON	LC-111MY	09/05/01	03/06/02
Left Foot Rear	X	ENDEVCO	AC-P19343	08/27/01	02/25/02
	Z	ENDEVCO	AC-P16583	08/27/01	02/25/02
Left Foot Front	Z	ENDEVCO	AC-P18728	08/27/01	02/25/02
Right Foot Rear	X	ENDEVCO	AC-P18628	08/27/01	02/25/02
	Z	ENDEVCO	AC-P18741	08/27/01	02/25/02
Right Foot Front	Z	ENDEVCO	AC-P16587	08/27/01	02/25/02
Lap Belt Load Cell	-	-	-	-	
Shoulder Belt Load Cell	-	-	-	-	
Belt Stretch Transducer	-	-	-	-	

INSTRUMENT CALIBRATION FOR PASSENGER DUMMY
(Six Month Calibration Minimum)

PASSENGER DUMMY (S/N 245)	Manufacturer	Serial #	Calibration		
			Last	Next	
Head 9 Array	X Arm Y	ENDEVCO	AC-P18558	08/28/01	02/26/02
	X Arm Z	ENDEVCO	AC-P19212	08/28/01	02/26/02
	Y Arm X	ENDEVCO	AC-P19197	08/28/01	02/26/02
	Y Arm Z	ENDEVCO	AC-P18738	08/29/01	02/27/02
	Z Arm X	ENDEVCO	AC-P19217	08/28/01	02/26/02
	Z Arm Y	ENDEVCO	AC-P18739	08/29/01	02/27/02
Head	X	ENDEVCO	AC-J32184	08/22/01	02/20/02
	Y	ENDEVCO	AC-J32185	08/22/01	02/20/02
	Z	ENDEVCO	AC-J31011	08/22/01	02/20/02
Head	X (R)	ENDEVCO	AC-J31020	08/24/01	02/22/02
	Y (R)	ENDEVCO	AC-J31101	08/22/01	02/20/02
	Z (R)	ENDEVCO	AC-J31059	08/22/01	02/20/02
Neck Load Cell	X	DENTON	LC-076FX	01/17/02	07/18/02
	Y	DENTON	LC-076FY	01/17/02	07/18/02
	Z	DENTON	LC-076FZ	01/17/02	07/18/02
Neck Moment	X	DENTON	LC-076MX	01/17/02	07/18/02
	Y	DENTON	LC-076MY	01/17/02	07/18/02
	Z	DENTON	LC-076MZ	01/17/02	07/18/02
Chest	X	ENDEVCO	AC-J34019	08/22/01	02/20/02
	Y	ENDEVCO	AC-J33018	08/22/01	02/20/02
	Z	ENDEVCO	AC-J32783	08/22/01	02/20/02
Chest	X (R)	ENDEVCO	AC-J31066	08/22/01	02/20/02
	Y (R)	ENDEVCO	AC-P16979	08/22/01	02/20/02
	Z (R)	ENDEVCO	AC-J31022	08/22/01	02/20/02
Chest Deflection	X	SERVO	DS-245	08/22/01	02/20/02
Pelvic	X	ENDEVCO	AC-J31034	08/22/01	02/20/02
	Y	ENDEVCO	AC-P17258	08/22/01	02/20/02
	Z	ENDEVCO	AC-J31010	08/22/01	02/20/02

INSTRUMENT CALIBRATION FOR PASSENGER DUMMY
(Six Month Calibration Minimum)

PASSENGER DUMMY (S/N 245)	Manufacturer	Serial #	Calibration		
			Last	Next	
Left Femur Load Cell Fz	GSE	LC-551	01/24/02	07/25/02	
Right Femur Load Cell Fz	GSE	LC-951	01/24/02	07/25/02	
Left Knee Shear Dx	SPACEAGE CONTROL	DS-819	12/07/01	06/07/02	
Right Knee Shear Dx	SPACEAGE CONTROL	DS-815	12/07/01	06/07/02	
Left Upper Tibia	Mx	DENTON	LC-045MX	09/05/01	03/06/02
	My	DENTON	LC-045MY	09/05/01	03/06/02
Left Lower Tibia	Fz	DENTON	LC-125FZ	09/05/01	03/06/02
	Mx	DENTON	LC-125MX	09/05/01	03/06/02
	My	DENTON	LC-125MY	09/05/01	03/06/02
Right Upper Tibia	Mx	DENTON	LC-038MX	09/05/01	03/06/02
	My	DENTON	LC-038MY	09/05/01	03/06/02
Right Lower Tibia	Fz	DENTON	LC-124FZ	09/05/01	03/06/02
	Mx	DENTON	LC-124MX	09/05/01	03/06/02
	My	DENTON	LC-124MY	09/05/01	03/06/02
Left Foot Rear	X	ENDEVCO	AC-J30491	08/28/01	02/26/02
	Z	ENDEVCO	AC-J31026	08/28/01	02/26/02
Left Foot Front	Z	ENDEVCO	AC-J32831	08/28/01	02/26/02
Right Foot Rear	X	ENDEVCO	AC-J33376	08/28/01	02/26/02
	Z	ENDEVCO	AC-J32832	08/28/01	02/26/02
Right Foot Front	Z	ENDEVCO	AC-J31095	08/28/01	02/26/02
Lap Belt Load Cell	-	-	-	-	
Shoulder Belt Load Cell	-	-	-	-	
Belt Stretch Transducer	-	-	-	-	

INSTRUMENT CALIBRATION FOR VEHICLE ACCELEROMETERS
(Six Month Calibration Minimum)

	Manufacturer	Serial #	Calibration	
			Last	Next
Left Seat Rear Crossmember X	ICS	AC-D36	30-Oct-01	30-Apr-02
Right Rear Seat Crossmember X	ICS	AC-X86	30-Oct-01	30-Apr-02
Top of Engine	ENDEVCO	AC-AP064	29-Aug-01	1-Mar-02
Bottom of Engine	ENDEVCO	AC-B10955	29-Aug-01	1-Mar-02
Right Disc Brake Caliper	ENDEVCO	AC-J26604	05-Oct-01	5-Apr-02
Instrument Panel	ENDEVCO	AC-J27927	05-Oct-01	5-Apr-02
Left Disc Brake Caliper	ENDEVCO	AC-J33032	04-Sep-01	4-Mar-02
Left Seat Rear Crossmember Z	ENDEVCO	AC-J32186	05-Sep-01	5-Mar-02
Right Seat Rear Crossmember Z	ENDEVCO	AC-A13883	29-Aug-01	1-Mar-02