REPORT NUMBER: CAL-03-03

NEW CAR ASSESSMENT PROGRAM (NCAP)
FRONTAL BARRIER IMPACT TEST

HONDA OF AMERICA MFG., INC.
2003 HONDA S2000
2-DOOR

NHTSA NUMBER: M35307

VERIDIAN TEST NUMBER: 8642-NCAP-25

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

December 13, 2002

FINAL REPORT

PREPARED FOR:

U. S. DEPARTMENT OF TRANSPORTATION
National Highway Traffic Safety Administration
Rulemaking
Office of Crashworthiness Standards
Mail Code: NVS-111
400 Seventh Street, SW, Room No. 5313
Washington, DC 20590

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Approval Date:

FINAL REPORT ACCEPTANCE BY OCS:

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NHTSA, Office of Crashworthiness Standards

Date of Report Acceptance

COTR, New Car Assessment Program (NCAP)
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16. Abstract

A frontal load cell barrier test of a 2003 Honda S2000 2-Door was performed at Veridian Engineering crash test facility in Buffalo, New York, on December 13, 2002.

The impact velocity was 56.97 kph and the temperature at the barrier face was 21.1 °C. The maximum post-test vehicle crush was 545 mm. The test vehicle was equipped with 3-point pretensioning restraint systems, knee bolsters, and airbags at both the driver and right outboard passenger seating positions.

With respect to FMVSS 208 "Occupant Crash Protection - Injury Criteria" both the driver and passenger appeared to comply with head, chest, and femur requirements.

ATD Position	**HIC**	**Clip (g's)**	**Chest Disp (mm)**	**Left Femur (N)**	**Right Femur (N)**
Driver (150)	605.9	46.8	34.3	635.8	1646.8
Passenger (245)	488.6	45.6	31.1	2120	1060

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TABLE OF CONTENTS

SECTION 1

PURPOSE AND SUMMARY OF TEST

1.1 PURPOSE

This 56.97 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 56.97 kph frontal barrier impact test was conducted in accordance with the Office of Crashworthiness Standards Laboratory Indicant Test procedure.

1.2 TEST PROCEDURE

This 56.97 kph frontal barrier impact test was conducted in accordance with the Office of Crashworthiness Standards (OCS) New Car Assessment Program (NCAP) Laboratory Indicant Test Procedure, dated December 1999. Data was obtained indicant of FMVSS 208, "Occupant Crash Protection"; FMVSS 212, "Windshield Retention"; FMVSS 219, "Windshield Zone Intrusion (Partial)"; and FMVSS 301 "Fuel System Integrity" performance. Procedures for receiving, inspection testing and reporting of test results are described in the test procedures and are not repeated in this report.

One real-time camera and 14 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 head, chest and pelvis triaxial accelerometers, chest displacement potentiometers, upper neck transducers, right/left femur load cells, and lower leg instrumentation. Seat belt load cells were also on the driver's and passenger's lap belts to measure dummy pelvic section loading. The driver (position 1) ATD (Serial No. 150) and the right-front passenger (position 2) ATD (Serial No.245) were calibrated previous to this test. Certification details, along with instrumentation calibration data, are found in Appendix C.

The vehicle, occupant, camera and measurement data are presented in Section 2. Appendix A contains the still photograph prints. The 127 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 2003 Honda S2000 2-Door at a velocity of 56.97 kph. The test was performed at Veridian Engineering on December 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	605.9	46.8	34.3	635.8	1646.8	†	0
Passenger ATD	488.6	45.6	31.1	2120	1060	†	0

† Vehicle seat belts contained pretensioners, measurement is not available.

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 545 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: Face to center of airbag, chest to airbag, left knee to knee bolster left of steering column, and right knee to knee bolster right of steering column. The passenger's visible contact points were as follows: Face to right third of airbag, chest to airbag, left knee to left quarter of knee bolster, right knee to right third of knee bolster.

The 2003 Honda S2000 2-Door did not exceed the requirements of FMVSS 208, FMVSS 212, FMVSS 219, and FMVSS 301. Data pertaining to these standards are presented in the data sheets.

SECTION 2

GENERAL TEST AND VEHICLE PARAMETER DATA

DATA SHEET NO. 1 CRASH TEST SUMMARY

Vehicle NHTSA No.: M35307 Test Mode: 56.3 kph Frontal Barrier

Test Date: December 13, 2002 Time: 14:30 Temperature: 21.1 °C

Vehicle Make/Model/Body Style: 2003 Honda S2000 2-Door

Vehicle Test Weight: 1465.0 kg

Vehicle/Barrier Impact Angle: 0 °

Impact Velocity: 56.97 kph

Maximum Static Crush: 545 mm

Vehicle Rebound: 528 mm

DUMMIES:	DRIVER	PASSENGER
Type:	572E	572E
Restraint System:	Seatbelt with pretensioner, Airbag, Knee Bolster	Seatbelt with pretensioner, Airbag, Knee Bolster

Number of Data Channels: 127

Number of Cameras: 1 Real Time

16 High Speed

DOOR OPENING DATA: Closed, Latched, and Operable without Tools - Left Front

Closed, Latched, and Operable without Tools - Right Front

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

VISIBLE DUMMY CONTACT POINTS:	DRIVER	PASSENGER
Head:	Face to center of airbag	Face to right third of airbag
Abdomen:	None	None
Chest:	Airbag	Airbag
Knees:	Left knee to knee bolster left of steering column, Right knee to knee bolster right of steering column	Left knee to left quarter of knee bolster; Right knee to right third of knee bolster

DATA SHEET NO. 2 GENERAL TEST AND VEHICLE PARAMETER DATA

TEST VEHICLE INFORMATION:

Year/Make/Model/Body Style: 2003 Honda S2000 2-Door

NHTSA No. : M35307 ; VIN: JHMAP11403T001383 ; Color: Yellow

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

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

Transmission Data: 6 speeds; X Manual; - Automatic; - Overdrive

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

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

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

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

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

Date Received: 10/02/2002 ; Odometer Reading 133.9 km

Selling Dealer: Hartley Honda

& Address: 1505 Washington St., Jamestown NY 14701

DATA FROM TIRE VEHICLE'S CERTIFICATION LABEL:

Vehicle Manufactured by: Honda of America Mfg., Inc.

Date of Manufacture 10/02

GVWR: 3385 kg; GAWR: 1565 kg FRONT; 1850 kg REAR

DATA FROM TIRE PLACARD:

Recommended Tire Size: Front: P205/55R16 89W Rear: P225/50R16 92W

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

DATA FROM TIRE SIDEWALL:

Size of Tires on Test Vehicle: Front: P205/55R16 89W Rear: P225/50R16 92W ; Manufacturer: Bridgestone

Tire Pressure with Maximum Capacity Vehicle Load: Front: 300 kPa; Rear: 300 kPa

Treadwear: 140 ; Traction: A ; Temperature: A

VEHICLE CAPACITY DATA:

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

Number of Occupants: 2 Front; - Rear; 2 Total

Vehicle Capacity Weight (VCW) = 181.44 kg

No. of Occupants x 68.04 kg = 136.08 kg

Rated Cargo/Luggage Weight (RCLW) = 45.36 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 =	321.0	kg	Right Rear =	317.5	kg
Left Front =	303.0	kg	Left Rear =	331.0	kg
TOTAL FRONT =	624.0	kg	TOTAL REAR =	648.5	kg

TOTAL DELIVERED WEIGHT = 1272.5 kg

% of Total Front of Vehicle Weight = 49.0% % of Total Rear Weight = 51.0 %

CALCULATION OF VEHICLE'S TARGET TEST WEIGHT:

Total Delivered Weight (UDW) =	1272.5	kg
Rated Cargo/Luggage Weight (RCLW) =	45.36	kg
Weight of 2 p.572 Dummies @ 76 each =	152	kg
TARGET TEST WEIGHT =	1469.9	kg

WEIGHT OF TEST VEHICLE WITH TWO DUMMIES AND 41.0 KG OF CARGO WEIGHT:

Right Front =	342.0	kg	Right Rear =	390.5	kg
Left Front =	324.5	kg	Left Rear =	408.5	kg
TOTAL FRONT =	666.5	kg	TOTAL REAR =	799.0	kg

TOTAL TEST WEIGHT = 1465.5 kg

% of Total Front Weight = 45.5% % % of Total Rear Weight = 54.5 %

Weight of Ballast Secured in Vehicle Trunk Area = 0 kg

Vehicle Components Removed for Weight Reduction: Mufflers, tail lights, and side mirrors

VEHICLE ATTITUDE (all dimension in millimeters):

AS DELIVERED:	RF	675	LF	679	RR	685	LR	687
FULLY LOADED:	RF	668	LF	674	RR	665	LR	668
AS TESTED:	RF	670	LF	674	RR	666	LR	668

Vehicle's Wheel Base: 2400 mm

Location of Vehicle's C.G.: 1308 mm rearward of front wheel center.

FUEL SYSTEM DATA:

Fuel System Capacity From Owner's Manual = 50 liters

Usable Capacity Figure Furnished by COTR = 50 liters

Test Volume Range (92 to 94% of Usable Capacity) = 46 to 47 liters

ACTUAL TEST VOLUME= 46.2 liters (with entire fuel system filled)

Test Fluid Type: Stoddard Solution ; Spec. Grav. = 0.764

Kinematic Viscosity = 0.96 centistokes; Color = Orange

Type of Fuel Pump: Electric- X ; Mechanical- -

Does Electric Pump operate with ignition switch "ON" & engine "OFF" Yes- X No- -

Details of Fuel System: Filler Neck – Left rear quarter rear of the axle; Fuel Lines – inboard of the left frame stiffener; Tank: above the rear axle.

DATA SHEET NO. 3 POST IMPACT DATA

TYPE OF TEST:

Type of Test: Frontal Barrier Impact Angle: 0°

Test Date: December 13, 2002 Time: 14:30 Temperature: 21.1 °C

Vehicle NHTSA No.: M35307

Required Impact Velocity Range: 55.5 to 57.1 kph

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

Trap No. 1 = 56.97 kph; Trap No. 2 = 56.97 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 =	4029	; C/L =	4126	; Right =	4040
Post-Test	Left =	3580	; C/L =	3591	; Right =	3532
Crush	Left =	449	; C/L =	535	; Right =	508

AVERAGE = 497 mm

VEHICLE REBOUND: (From rigid barrier only.)

Distance from front of test vehicle to impact point:

	Left =	550	; C/L =	482	; Right =	552

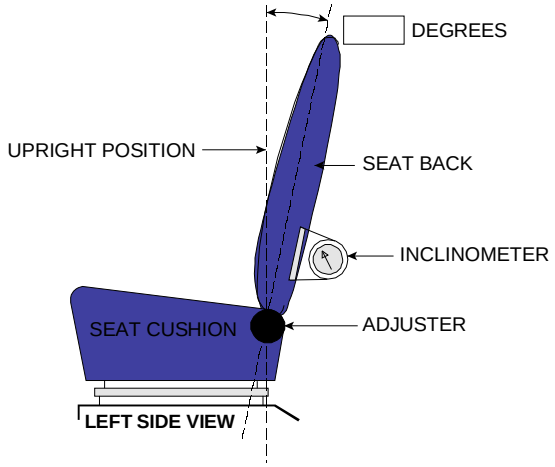
AVERAGE = 528 mm

DATA SHEET NO. 4 TEST VEHICLE INFORMATION

VEHICLE IDENTIFICATION:

Model Year : 2003 Vehicle Model: Honda S2000 Body Style : 2-Door

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: 20 degrees

Measurement instructions: Where the most upright position is defined as detent 0, recline the seat back to detent 5.

Seat back angle for passenger's seat: 20 degrees

Measurement instructions: Where the most upright position is defined as detent 0, recline the seat back to detent 5.

2. Seat Fore and Aft Positioning

Positioning of the driver's seat: Where the rearmost locking position is defined as detent 0, move the seat forward to detent 11 (mid-travel position).

Positioning of the passenger's seat: Where the rearmost locking position is defined as detent 0, move the seat forward to detent 11 (mid-travel 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) = 46.2 liters

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

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

When the ignition is switched to the “on” position (engine not running), the fuel pump operates for 2 seconds then shuts off. The fuel pump operates continuously while the engine is running.

4. STEERING COLUMN ADJUSTMENTS:

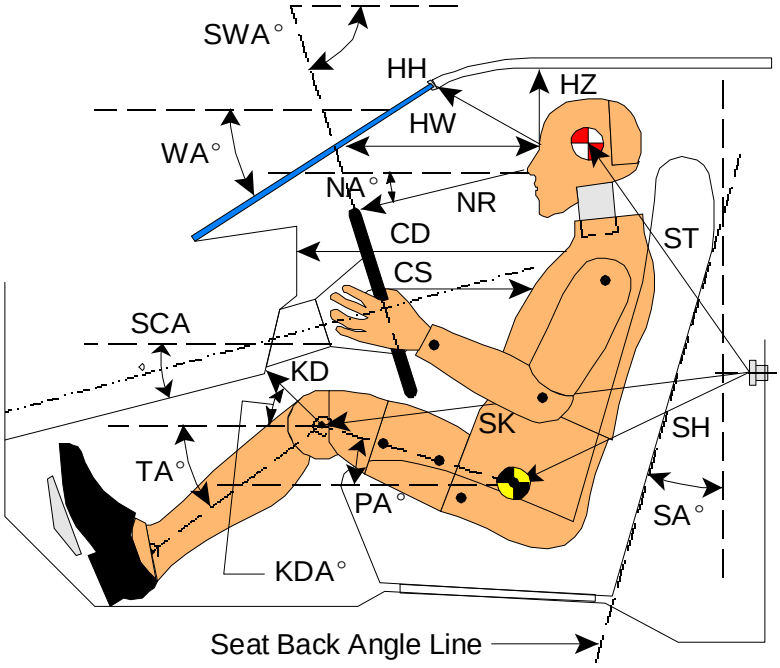
Steering wheel and column adjustments are made so that the steering wheel hub is at the geometric center of the locus it describes when it is moved through its full range of driving positions. If the tested vehicle has any of these adjustments, does your company use any specific procedures to determine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

Operational Instructions: Fixed

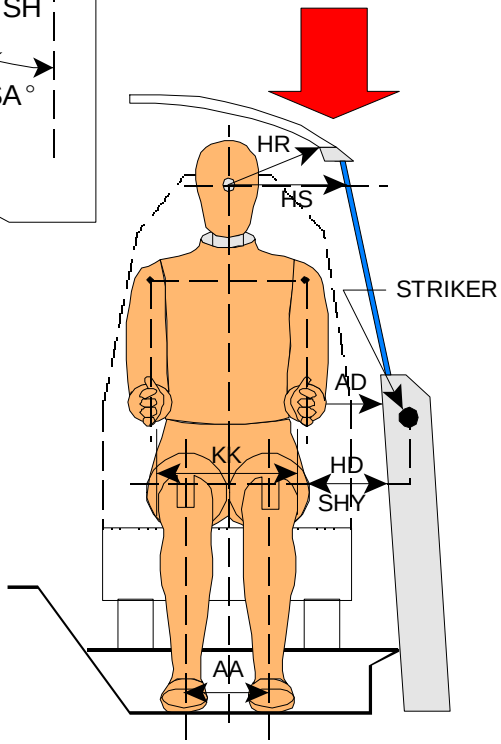
5. SEAT BELT UPPER ANCHORAGE

Nominal design riding position: Fixed

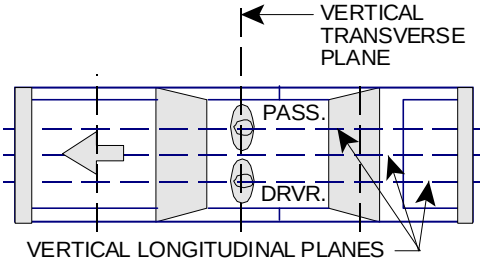
DUMMY MEASUREMENT FOR FRONT SEAT PASSENGERS



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



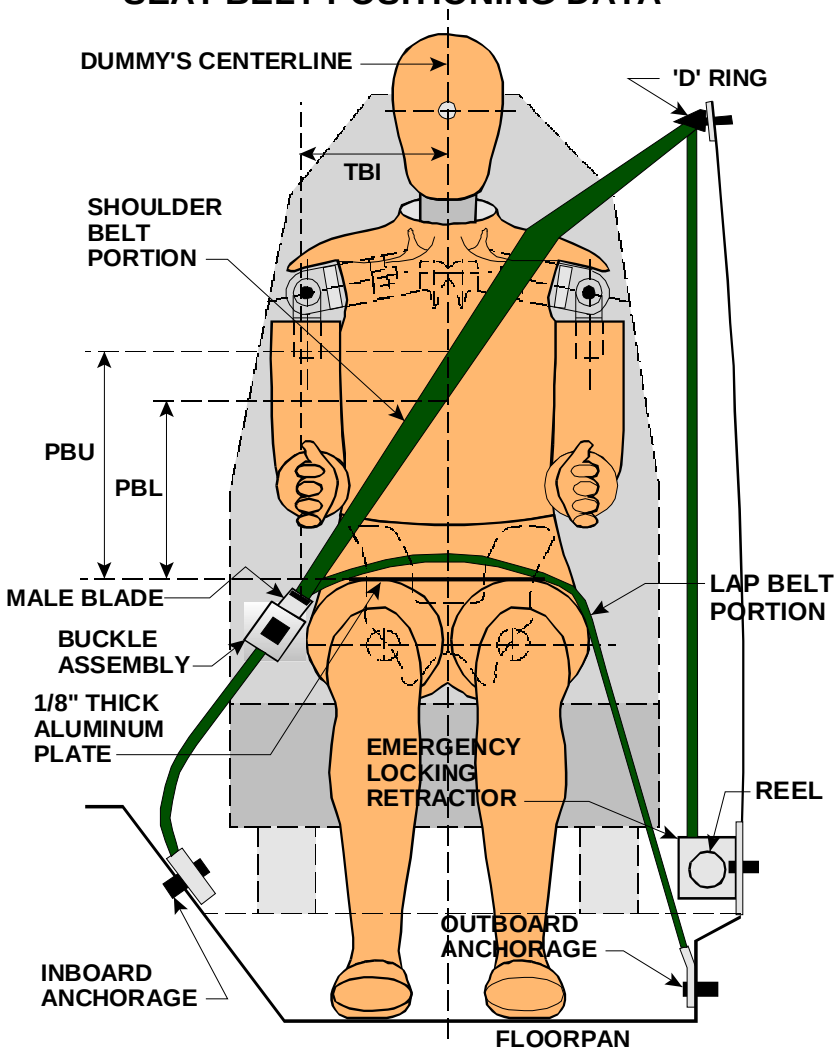
DATA SHEET NO. 5 FRONT SEAT DUMMY POSITIONING MEASUREMENTS IN VEHICLE (cont.)

	DRIVER (Serial #150)			PASS. (Serial #245)		
WA^O	35.2 deg.			N/A		
SWA^O	73.4 deg.			N/A		
SCA^O	16.6 deg.			N/A		
SA^O	20 deg.			20 deg.		
HZ	183			181		
HH	462			456		
HW	620			596		
HR	200			211		
NR	412	Angle	12 deg.	N/A		
CD	484			462		
CS	306			N/A		
RA	213			N/A		
KDL	140	Angle (KDA)	56 deg.	139		
KDR	148			142	Angle (KDA)	68 deg.
PA^O	25 deg.			25 deg.		
TA^O	36 deg.			26 deg.		
KK	335			273		
AA	340			215		
ST	402	Angle	16 deg.	404	Angle	17 deg.
SK	689	Angle	99 deg.	695	Angle	100 deg.
SH	389	Angle	128 deg.	382	Angle	127 deg.
SHY	175			173		
HS	256			257		
HD	110			105		
AD	40			55		

Dimensions in millimeters

DATA SHEET NO. 6 SEAT BELT POSITIONING DATA

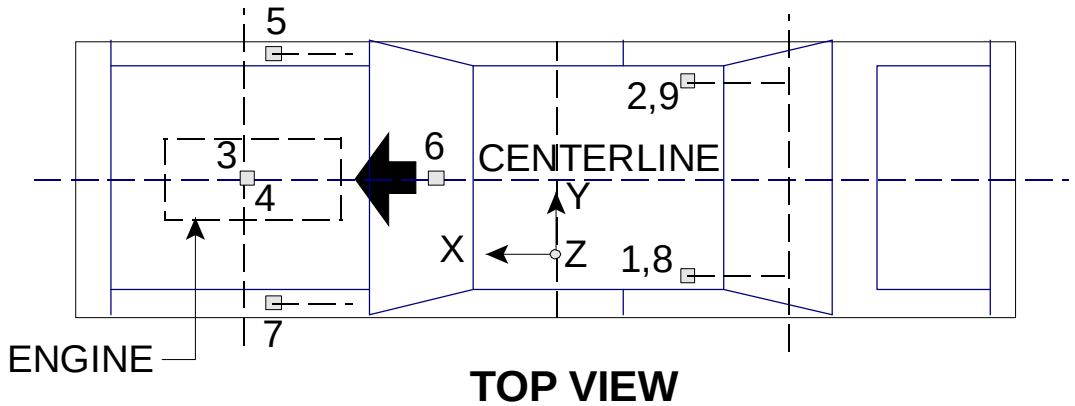
SEAT BELT POSITIONING DATA



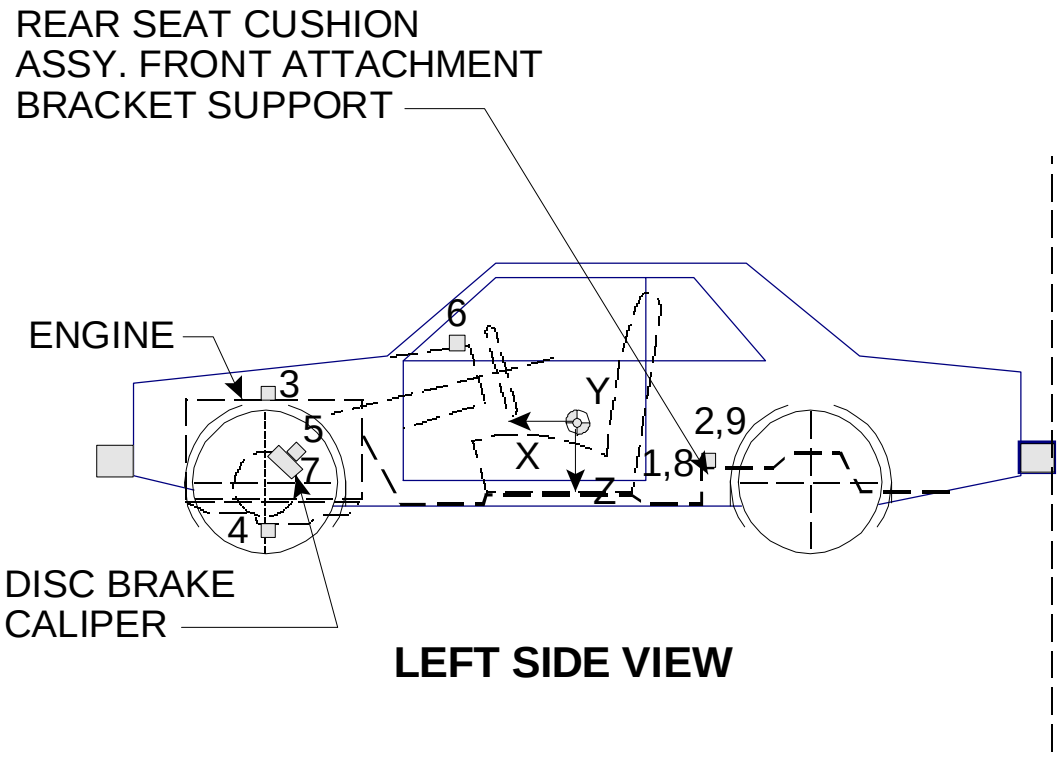
FRONT VIEW OF DUMMY

	DRIVER DUMMY (mm)	PASSENGER DUMMY (mm)
PBU -- Top surface of alum. plate to upper edge	340	329
PBL-- Top surface of alum. plate to belt lower edge	265	256
LAP BELT TENSION	10 N	10 N
SHOULDER BELT TENSION	Retractor	Retractor

VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY



TOP VIEW



LEFT SIDE VIEW

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	1525	-491	-211
2	Right Rear Seat Cross Member X	1521	477	-221
3	Top of Engine Block	3190	-79	-755
4	Bottom of Engine	3341	3	-144
5	Disc Brake Caliper @ Right Side	3339	677	-449
6	Instrument Panel	2200	46	-717
7	Disc Brake Caliper @Left Side	3334	-669	-451
8	Left Rear Seat Cross Member Z	1525	-491	-211
9	Right Rear Seat Cross Member Z	1521	477	-221

LOCATION NUMBER	DESCRIPTION	MAXIMUM VALUE (g's)			
		Pos.	msec.	Neg.	msec.
1	Left Rear Seat Cross Member X	5.9	100.0	-36.1	63.9
2	Right Rear Seat Cross Member X	1.8	125.7	-37.9	61.8
3	Top of Engine Block	15.3	71.9	-66.6	52.9
4	Bottom of Engine	2.8	120.6	-60.7	50.6
5	Disc Brake Caliper @ Right Side	†	-	†	-
6	Instrument Panel	14.5	23.9	-66.1	42.0
7	Disc Brake Caliper @Left Side	22.0	51.2	-80.5	43.0
8	Left Rear Seat Cross Member Z	11.3	78.9	-14.0	36.8
9	Right Rear Seat Cross Member Z	10.9	76.6	-12.1	57.5

† Transducer wire was damaged.

DATA SHEET NO. 8 DUMMY INJURY CRITERIA VALUES

Vehicle Year/Make/Model/Body Style: 2003 Honda S2000 2-Door

NHTSA Test No.: M35307 Test Date: December 13, 2002

		MAXIMUM VALUE							
		Driver				Passenger			
DESCRIPTION	**Unit**	**Pos**	**msec**	**Neg**	**msec**	**Pos**	**msec**	**Neg**	**msec**
Head X	**g**	22.7	203.3	-59.2	79.0	4.2	215.3	-47.4	81.6
Head Y	**g**	3.9	203.8	-4.9	87.7	3.1	37.5	-18.1	83.4
Head Z	**g**	21.9	63.0	-6.8	95.7	21.8	66.2	-3.1	117.8
Head Resultant	**g**	60.7	79.0	-	-	52.0	81.7	-	-
Redundant Head X	**g**	23.4	203.3	-59.6	78.1	4.2	211.9	-46.6	69.8
Redundant Head Y	**g**	4.0	203.8	-5.0	85.9	2.9	34.1	-18.7	82.4
Redundant Head Z	**g**	22.3	63.5	-6.6	96.3	21.5	63.5	-3.2	117.8
Redundant Head Resultant	**g**	61.3	78.1	-	-	51.1	79.3	-	-
Upper Neck Fx	**N**	475.6	73.5	-433.0	110.8	146.8	214.6	-578.4	114.8
Upper Neck Fy	**N**	200.2	74.0	-114.4	111.6	82.4	48.5	-244.0	94.9
Upper Neck Fz	**N**	1488.5	61.8	-234.0	96.4	1278.5	60.3	-97.3	121.5
Upper Neck F Resultant	**N**	1493.4	61.8	-	-	1328.5	60.3	-	-
Upper Neck Mx	**N-m**	14.3	84.4	-9.3	116.3	14.4	82.9	-18.9	110.1
Upper Neck My	**N-m**	50.6	68.5	-36.2	217.6	52.5	120.3	-23.9	204.5
Upper Neck Mz	**N-m**	2.6	196.3	-7.1	75.2	22.5	90.2	-7.6	133.6
Upper Neck M Resultant	**N-m**	50.6	68.5	-	-	53.6	119.6	-	-
Chest X	**g**	3.5	243.8	-47.8	69.5	3.4	299.9	-45.5	71.2
Chest Y	**g**	2.8	57.2	-3.5	79.0	1.3	17.9	-8.2	79.4
Chest Z	**g**	5.4	37.5	-13.1	97.2	4.1	19.8	-13.3	94.1
Chest Resultant	**g**	47.8	69.5	-	-	46.2	71.3	-	-
Redundant Chest X	**g**	3.5	243.9	-48.1	69.4	3.5	299.9	-44.7	71.1
Redundant Chest Y	**g**	3.1	57.0	-3.2	78.0	1.4	17.9	-7.7	78.4
Redundant Chest Z	**g**	5.0	37.4	-13.3	95.1	4.2	19.9	-13.5	94.5
Redundant Chest Resultant	**g**	48.1	69.4	-	-	45.5	71.4	-	-
Chest Displacement	**mm**	0.0	8.3	-34.3	82.5	0.0	6.7	-31.1	81.8

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

Vehicle Year/Make/Model/Body Style: 2003 Honda S2000 2-Door

NHTSA Test No.: M35307 Test Date: December 13, 2002

		MAXIMUM VALUE							
		Driver				Passenger			
DESCRIPTION	**Unit**	**Pos**	**msec**	**Neg**	**msec**	**Pos**	**msec**	**Neg**	**msec**
Pelvic X	**g**	17.2	93.9	-47.5	64.6	†	-	†	-
Pelvic Y	**g**	10.1	74.7	-5.8	34.5	3.7	64.2	-5.5	73.2
Pelvic Z	**g**	3.1	241.3	-38.5	70.9	2.5	24.6	-36.1	72.8
Pelvic Resultant	**g**	58.6	69.7	-	-	†	-	-	-
Left Femur	**N**	586.5	39.8	-635.8	89.9	208.4	123.8	-2119.8	59.3
Right Femur	**N**	597.3	41.6	-1646.8	69.8	637.8	51.9	-1059.5	56.2
Left Upper Tibia Mx	**N-m**	29.0	49.2	-24.6	71.7	4.9	111.7	-70.7	65.5
Left Upper Tibia My	**N-m**	27.6	98.5	-88.7	56.9	128.3	65.5	-67.3	28.8
Left Lower Tibia Fz	**N**	111.9	176.1	-1840.3	28.1	133.3	121.2	-3577.5	66.1
Left Lower Tibia Mx	**N-m**	36.3	62.8	-6.0	157.0	13.5	34.4	-51.3	63.4
Left Lower Tibia My	**N-m**	31.9	85.3	-31.2	55.9	187.1	66.0	-54.4	27.6
Right Upper Tibia Mx	**N-m**	16.4	291.0	-32.8	70.7	13.0	57.0	-22.8	111.1
Right Upper Tibia My	**N-m**	32.8	101.3	-108.3	58.1	60.6	57.5	-83.6	51.7
Right Lower Tibia Fz	**N**	76.8	222.4	-3119.5	66.7	76.3	173.9	-2231.9	68.3
Right Lower Tibia Mx	**N-m**	31.3	78.3	-8.7	23.9	8.4	57.5	-6.4	65.8
Right Lower Tibia My	**N-m**	27.7	65.8	-51.7	57.5	49.5	57.7	-68.1	23.6
Left Foot Aft Ax	**g**	15.3	30.9	-36.1	55.2	32.1	76.2	-55.7	60.7
Left Foot Aft Az	**g**	7.7	129.3	-32.4	27.1	5.9	38.9	-41.2	64.1
Left Foot Fore Az	**g**	16.2	21.1	-65.9	13.6	25.3	16.0	-67.2	64.4
Right Foot Aft Ax	**g**	17.6	43.8	-68.1	38.2	18.7	74.1	-79.0	53.9
Right Foot Aft Az	**g**	5.8	48.8	-81.0	29.9	††	-	††	-
Right Foot Fore Az	**g**	24.6	48.0	-223.3	29.9	††	-	††	-
Lap Belt Load	**N**	7119.6	66.4	-1.5	-50.0	7999.7	65.7	-4.0	-46.1

† Pelvic X accelerometer data is invalid after 67 ms.

†† Channel failed.

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

Vehicle Year/Make/Model/Body Style: 2003 Honda S2000 2-Door

NHTSA Test No.: M35307 Test Date: December 13, 2002

	HEAD INJURY CRITERIA (HIC)			
	HIC**	t_1 (msec)	t_2 (msec)	Average Acceleration t_1 to t_2
Position #1 - Driver	605.9	54.3	90.3	49.0
Position #2 - Passenger	488.6	57.7	93.7	45.0

** HIC is as defined in FMVSS 208. The maximum time interval from t_1 to t_2 is 36 milliseconds.

	CLIP SUMMARY*			
	CLIP (g's)	t_1 (msec)	t_2 (msec)	CSI
Position #1 - Driver	46.8	67.6	70.6	472.8
Position #2 - Passenger	45.6	70.5	73.5	424.1

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

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

Vehicle Year/Make/Model/Body Style: 2003 Honda S2000 2-Door

NHTSA Test No.: M35307 Test Date: December 13, 2002

	HEAD INJURY CRITERIA (HIC) **REDUNDANT**			
	HIC**	t_1 (msec)	t_2 (msec)	Average Acceleration t_1 to t_2
Position #1 - Driver	603.2	54.3	90.3	48.9
Position #2 - Passenger	453.0	57.7	93.7	43.6

** HIC is as defined in FMVSS 208. The maximum time interval from t_1 to t_2 is 36 milliseconds.

	CLIP SUMMARY* **REDUNDANT**			
	CLIP (g's)	t_1 (msec)	t_2 (msec)	CSI
Position #1 - Driver	46.6	67.7	70.7	473.3
Position #2 - Passenger	45.1	70.5	74.1	421.6

* 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:	Driver	Passenger
Belt length from trim panel exit to bolt hole anchor point for continuous webbing systems.	1713	1730
Shoulder belt length as measured on Part 572 Dummy.	818	845
Lap belt length as measured on Part 572 Dummy.	710	700
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.	0 mm/M	0 mm/M

† Vehicle did not have room for onboard cameras.
†† Vehicle seat belts contained pretensioners, device could not be installed.

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 25 mm molding.

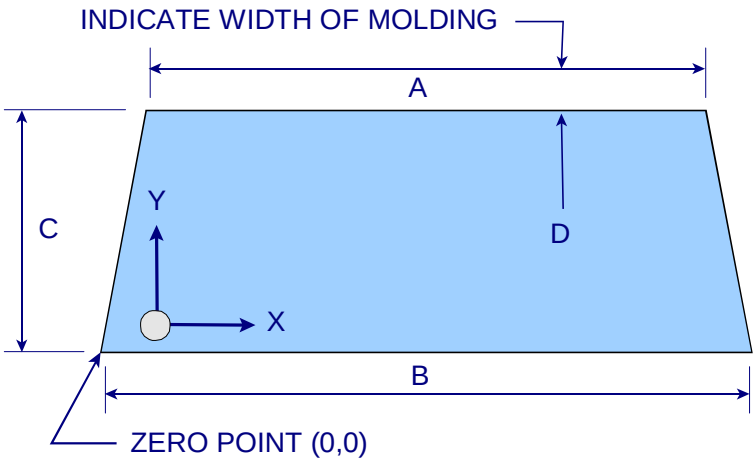
FMVSS 212 REQUIREMENTS:

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	1785	1785	100.0%
LEFT SIDE	1785	1785	100.0%
TOTAL	3570	3570	100.0%

AREA OF RETENTION FAILURE:



FRONT VIEW OF WINDSHIELD

DIMENSIONS (mm)	
A	1090
B	1470
C	505
D	25

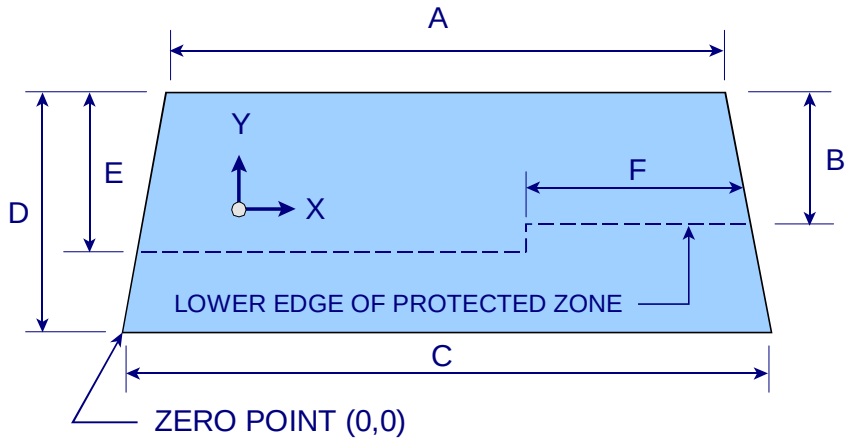
FAILURE DETAILS: None

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

PROTECTED ZONE LOWER EDGE REQUIREMENT:

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

FMVSS 219 TEST DATA:



DIMENSIONS (mm)	
A	1090
B	235
C	1470
D	505
E	290
F	510

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.:	M35307	TEST DATE:	December 13, 2002

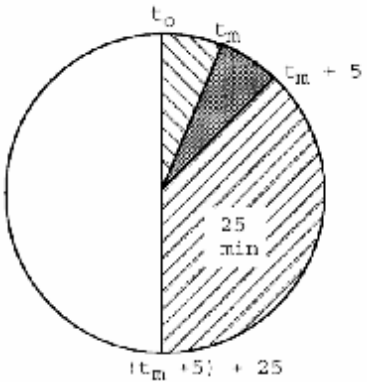
VEHICLE MAKE/MODEL: 2003 Honda S2000 2-Door

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

= =

TEST VEHICLE IMPACT TYPE:		
	X	Frontal (56 kph)
		Oblique (48 kph) with _____ deg. barrier face first contacting _____
	-	(driver/passenger) side
	-	Rear Moving Barrier (48 kph)
	-	Lateral Moving Barrier (32 kph)

FUEL SPILLAGE MEASUREMENT:

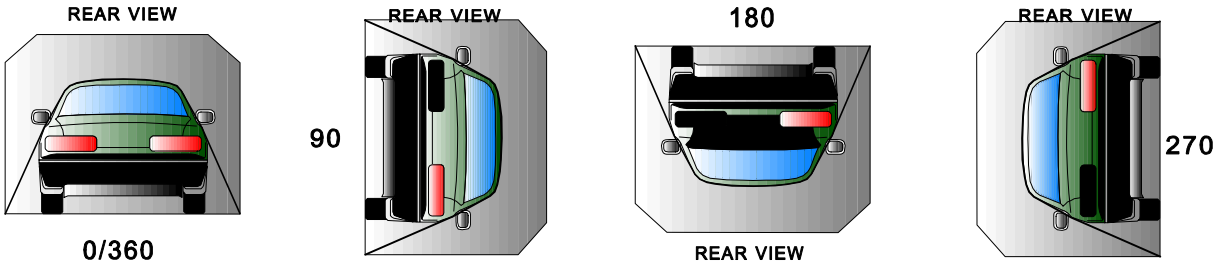


	ACTUAL	MAX ALLOWED
1. From impact until vehicle motion ceases	0	28 g
2. For 5 minute period after vehicle motion ceases	0	141 g
3. For next 25 minutes	0	28 g/min.

SOLVENT SPILLAGE DETAILS: None

DATA SHEET NO. 13 - ROLLOVER DATA

Vehicle: 2003 Honda S2000 2-Door NHTSA No.: M35307



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	
0º - 90º	1	minutes	14	seconds	5	minutes	6	minutes	14	seconds	7	minutes
90º - 180º	1	minutes	4	seconds	5	minutes	6	minutes	4	seconds	7	minutes
180º-270º	1	minutes	9	seconds	5	minutes	6	minutes	9	seconds	7	minutes
270º-360º	1	minutes	11	seconds	5	minutes	6	minutes	11	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:

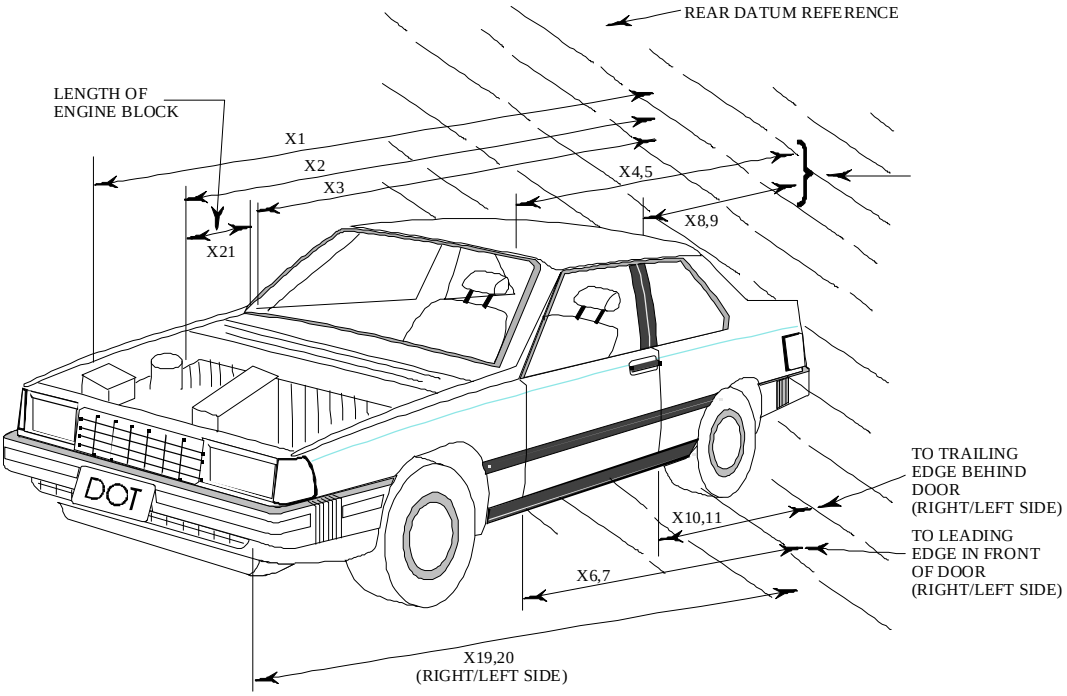
Rollover Stage	First 5 minutes from onset of rotation (g)	6th min. (g)	7th min. (g)	8th min. (if required) (g)
0º - 90º	0	0	0	N/A
90º - 180º	0	0	0	N/A
180º-270º	0	0	0	N/A
270º-360º	0	0	0	N/A

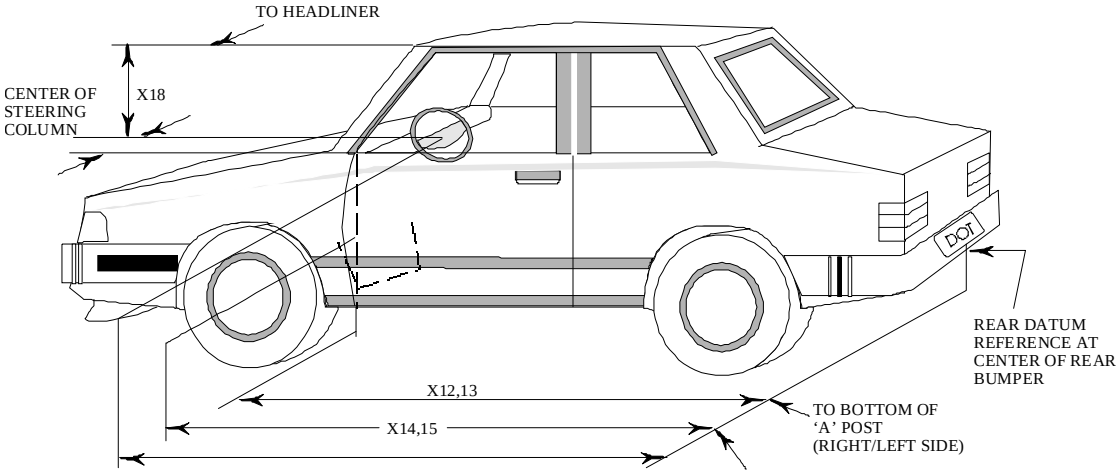
Note: Record spillage for whole minute intervals only as determined above.

IV. SOLVENT SPILLAGE LOCATION(S):

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

DATA SHEET NO. 14 TEST VEHICLE MEASUREMENTS





DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)

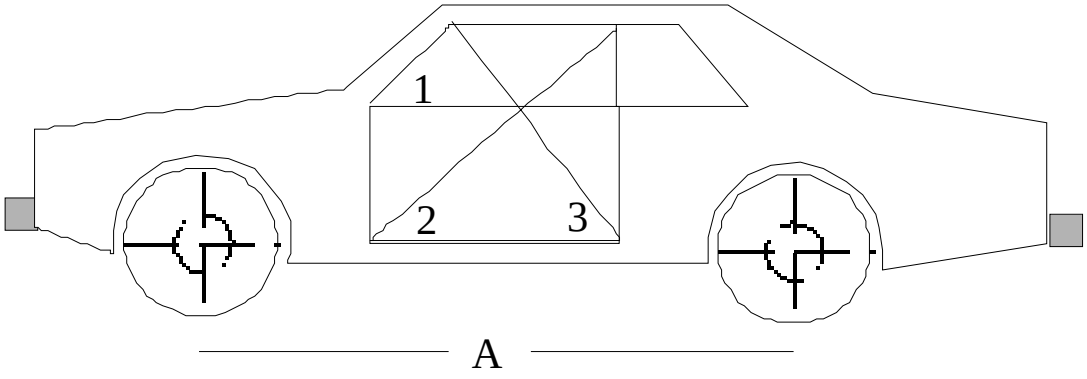
No.		Pre-Test	Post-Test	Difference
X1	Total Length of Vehicle at Centerline	4126	3591	535
X2	Rear Surface of Vehicle to Front of Engine	3261	3226	35
X3	Rear Surface of Vehicle to Firewall	2732	2721	11
X4	Rear Surface of Vehicle to Upper Leading Edge of Right Door	2393	2377	16
X5	Rear Surface of Vehicle to Upper Leading Edge of Left Door	2394	2388	6
X6	Rear Surface of Vehicle to Lower Leading Edge of Right Door	2485	2449	36
X7	Rear Surface of Vehicle to Lower Leading Edge of Left Door	2480	2473	7
X8	Rear Surface of Vehicle to Upper Trailing Edge of Right Door	1384	1375	9
X9	Rear Surface of Vehicle to Upper Trailing Edge of Left Door	1384	1379	5
X10	Rear Surface of Vehicle to Lower Trailing Edge of Right Door	1458	1431	27
X11	Rear Surface of Vehicle to Lower Trailing Edge of Left Door	1458	1451	7
X12	Rear Surface of Vehicle to Bottom of "A" Post of Right Side	2465	2433	32
X13	Rear Surface of Vehicle to Bottom of "A" Post of Left Side	2459	2449	10
X14	Rear Surface of Vehicle to Firewall, Right Side	2797	2786	11
X15	Rear Surface of Vehicle to Firewall, Left Side	2790	2773	17
X16	Rear Surface of Vehicle to Steering Column	2050	2037	13
X17	Center of Steering Column to "A" Post	251	259	-8
X18	Center of Steering Column to Headliner	407	391	16
X19	Rear Surface of Vehicle to Right Side of Front Bumper	4040	3532	508
X20	Rear Surface of Vehicle to Left Side of Front Bumper	4029	3580	449
X21	Length of Engine Block	447	446	1
RD	Rear Surface of Vehicle to Right Side of Dash Panel	2123	2106	17
CD	Rear Surface of Vehicle to Center of Dash Panel	2215	2222	-7
LD	Rear Surface of Vehicle to Left Side of Dash Panel	2147	2140	7

All Dimensions in mm

DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)

VEHICLE INTRUSION MEASUREMENTS

DOOR OPENING WIDTH



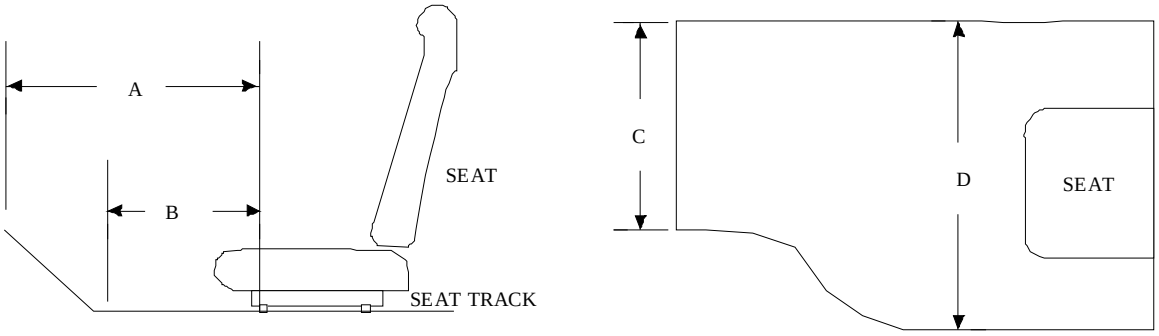
UNITS (mm)	LEFT			RIGHT		
MEASUREMENT	1	2	3	1	2	3
BEFORE TEST	1031	1228	857	1039	1216	854
AFTER TEST	1029	2502	854	1047	2488	855
DIFFERENCE	2	-1274	3	-8	-1272	-1

UNITS (mm)	A = WHEELBASE LEFT	A = WHEELBASE RIGHT
BEFORE TEST	2400	2400
AFTER TEST	2318	2302
DIFFERENCE	82	98

DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)

VEHICLE INTRUSION MEASUREMENTS

STATIC FOOTWELL DEFORMATION



DRIVER

Measurement	Pre-Test	Post-Test	Difference
A	799	773	26
B	591	615	-24
C	423	415	8
D	353	347	6

PASSENGER

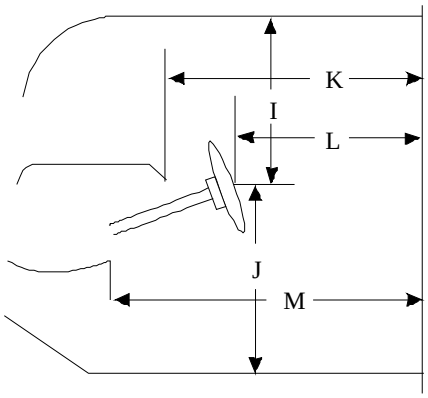
Measurement	Pre-Test	Post-Test	Difference
A	773	759	14
B	483	506	-23
C	299	322	-23
D	366	307	59

Units = mm

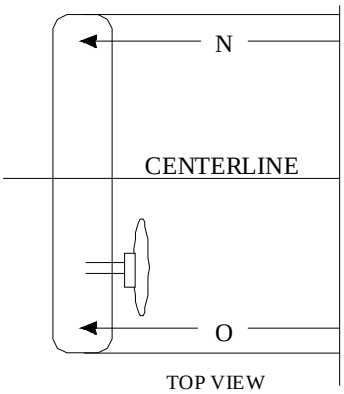
DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)

VEHICLE INTRUSION MEASUREMENTS

STATIC PASSENGER COMPARTMENT INTRUSION

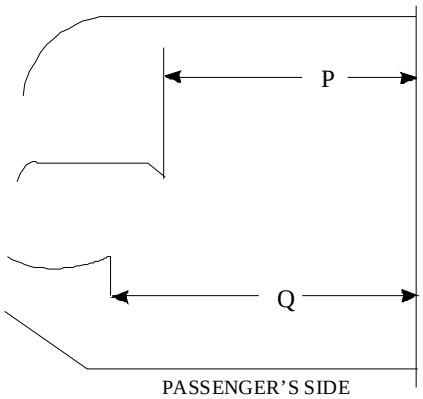


DRIVER'S SIDE



TOP VIEW

MEASUREMENTS
FROM C-PILLAR
BELT ANCHORAGE



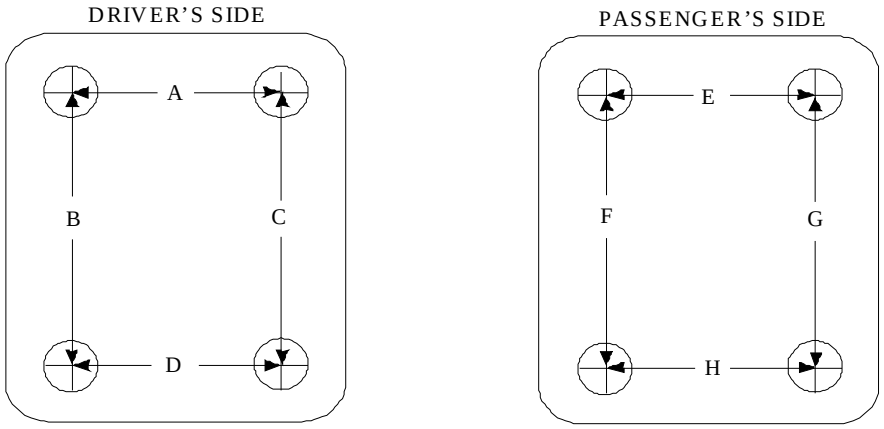
PASSENGER'S SIDE

Measurement	Pre-Test	Post-Test	Difference
I	407	391	16
J	532	552	-20
K	1247	1258	-11
L	1111	1102	9
M	1323	1325	-2
N	1184	1176	8
O	1208	1205	3
P = K (PASS.)	1358	1350	8
Q = M (PASS.)	1394	1377	17

Units = mm

DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)

FLOORBOARD DEFORMATION



TOP VIEW THROUGH FLOOR PAN

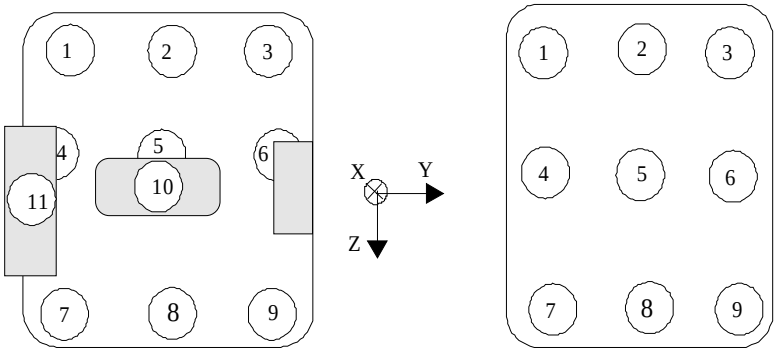
Measurement	Pre-Test	Post-Test	Difference
A	423	415	8
B	370	363	7
C	368	375	-7
D	353	347	6
E	299	322	-23
F	344	408	-64
G	317	296	21
H	366	307	59

Units = mm

DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)

TOE-PAN INTRUSION

DRIVER'S SIDE PASSENGER'S SIDE



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	2754	2766	-12	-310	-454	144
2	2798	2764	34	-492	-475	-17
3	2720	2721	-1	-461	-469	8
4	2760	2745	15	-324	-321	-3
5	2751	2748	3	-329	-321	-8
6	2741	2728	13	-330	-329	-1
7	2616	2631	-15	-195	-194	-1
8	2590	2606	-16	-122	-137	15
9	2629	2614	15	-238	-207	-31
10	2609	2592	17	-398	-378	-20
11	2646	2636	10	-389	-369	-20

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	2747	2654	93	-387	-365	-22
2	2775	2729	46	-345	-286	-59
3	2786	2720	66	-354	-252	-102
4	2616	2609	7	-239	-221	-18
5	2639	2622	17	-271	-225	-46
6	2631	2608	23	-249	-209	-40
7	2497	2299	198	-228	-123	-105
8	2485	2476	9	-203	-148	-55
9	2519	2479	40	-209	-152	-57

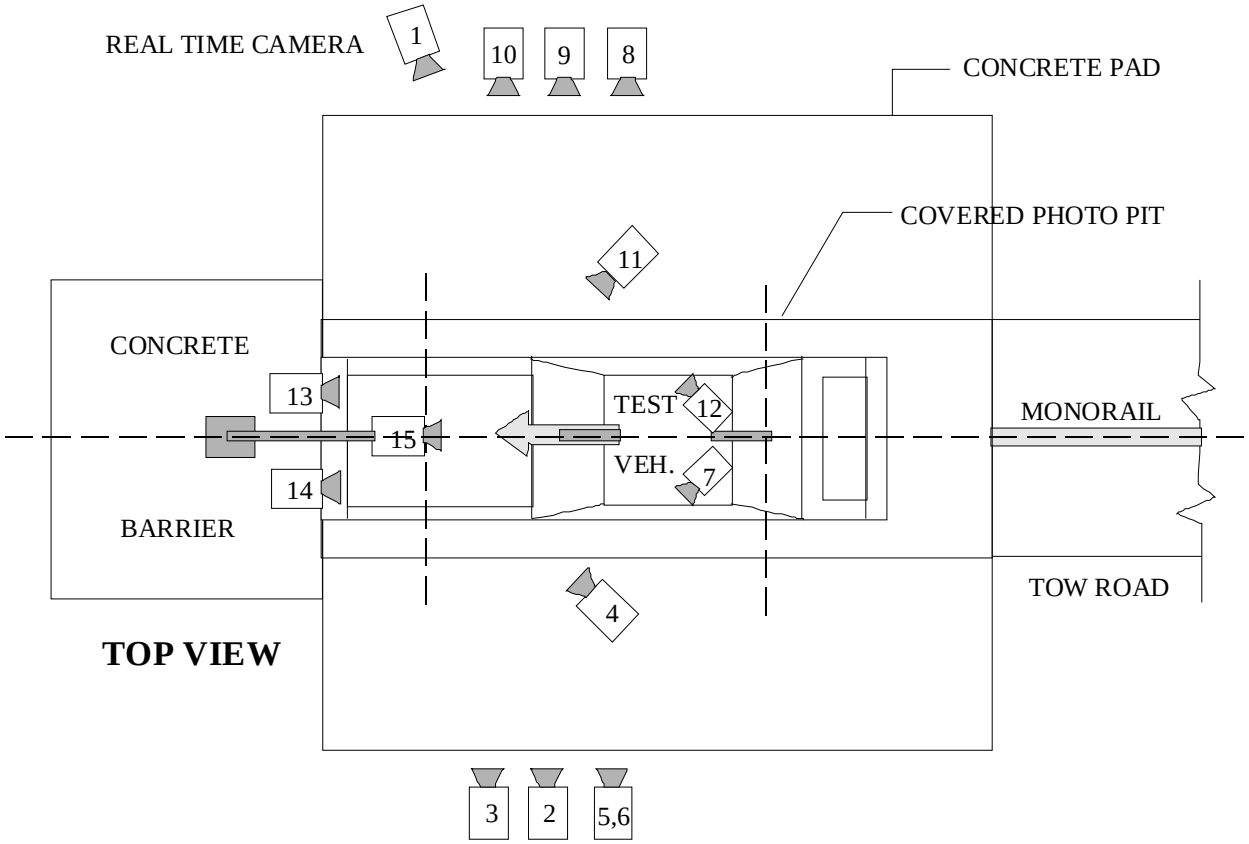
Reference: SAE: X = Rear Bumper (Positive: forward); Z = Ground (Positive: down)

DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)
TARGET VEHICLE STRUCTURAL MEASUREMENTS

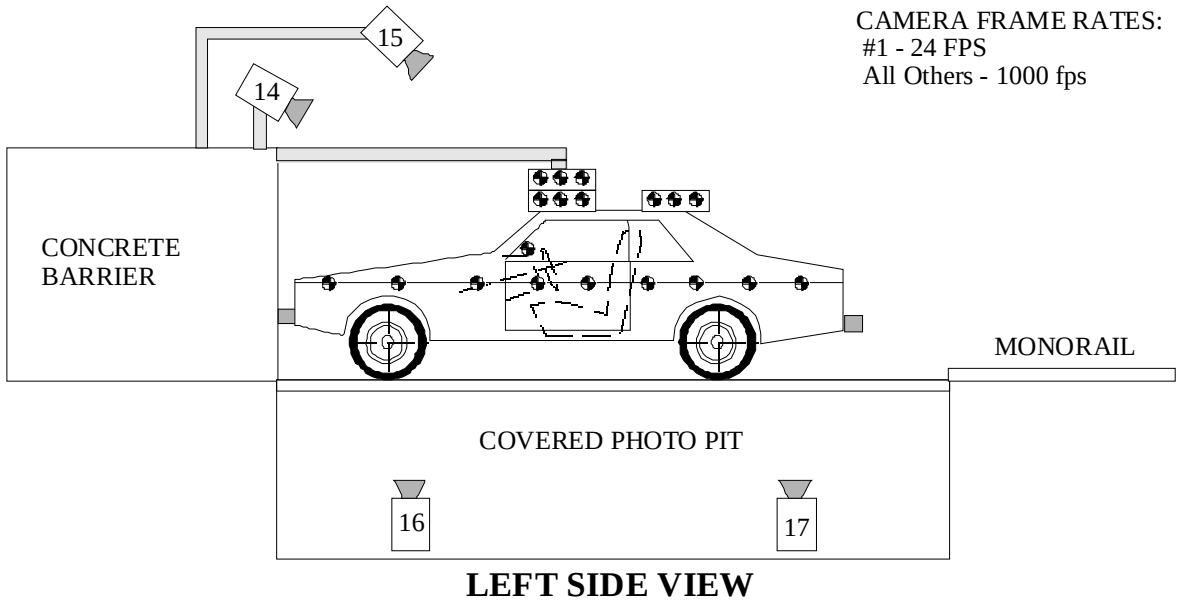
	Elements	Pre-Test (mm)
1	Total length	4126
2	Total Width	1717
3	Bumper Top Height	505
4	Bumper Bottom Height	415
5	Longitudinal Member Top Height	490
6	Distance Between Longitudinal Members	818
7	Longitudinal Member Width	55
8	Engine top height	795
9	Engine bottom height	155
10	Engine and gearbox width	500
11	Front bumper-engine distance	853
12	Front shock absorber fixing height	725
13	Bonnet leading edge height	615
14	Front shock absorber fixing width	834
15	Front bumper – front axle distance	800
16	Front axle – a pillar distance	870
17	A-pillar – B pillar distance	1105
18	B-pillar – rear axle distance	420
19	B-pillar – C Pillar distance	-
20	Roof sill bottom height	1150
21	Roof sill top height	1215
22	Floor sill bottom height	170
23	Floor sill top height	392

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.: M35307 Vehicle: 2003 Honda S2000 2-Door

CAMERA NO.	VIEW	CAMERA POSITIONS (mm)* X	Y	Z	ANGLE (deg)**	FILM PLANE TO HEAD TARGET	LENS (mm)	SPEED (fps)
1	Real-Time Camera	-	-	-	-	-	-	24
2	Overall Left Side	6006	1560	1090	-3.9	5757	12.5	1020
3	Left Side View	8314	823	1110	-3.5	8065	25	1005
4	Driver and Interior View	7400	2483	1985	-10.3	-	25	1055
5	Steering Column (Bottom)	6646	1807	1170	-5.0	6397	25	1015
6	Steering Column (Top)	6646	1807	1775	-10.8	6397	25	1020
7	Left Belt	-	-	-	-	-	-	-
8	Overall Right Side	6214	1712	1106	-4.7	6475	12.5	1025
9	Right Side View	8105	1125	1116	-3.3	8366	25	1010
10	Right Passenger View	7495	1747	1468	-5.0	7756	35	1005
11	Passenger and Interior View	7505	2617	1995	-9.5	-	25	1005
12	Right Belt	-	-	-	-	-	-	-
13	Passenger Front View	620	-92	1987	-35.9	-	13	1005
14	Driver Front View	620	-92	1987	-35.3	-	13	1005
15	Windshield View	0	-530	3374	-54.0	-	13	1020
16	Pit View of Engine	0	750	-3048	90.0	-	13	1010
17	Pit View of Fuel Tank	0	2700	-3048	90.0	-	13	1030

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

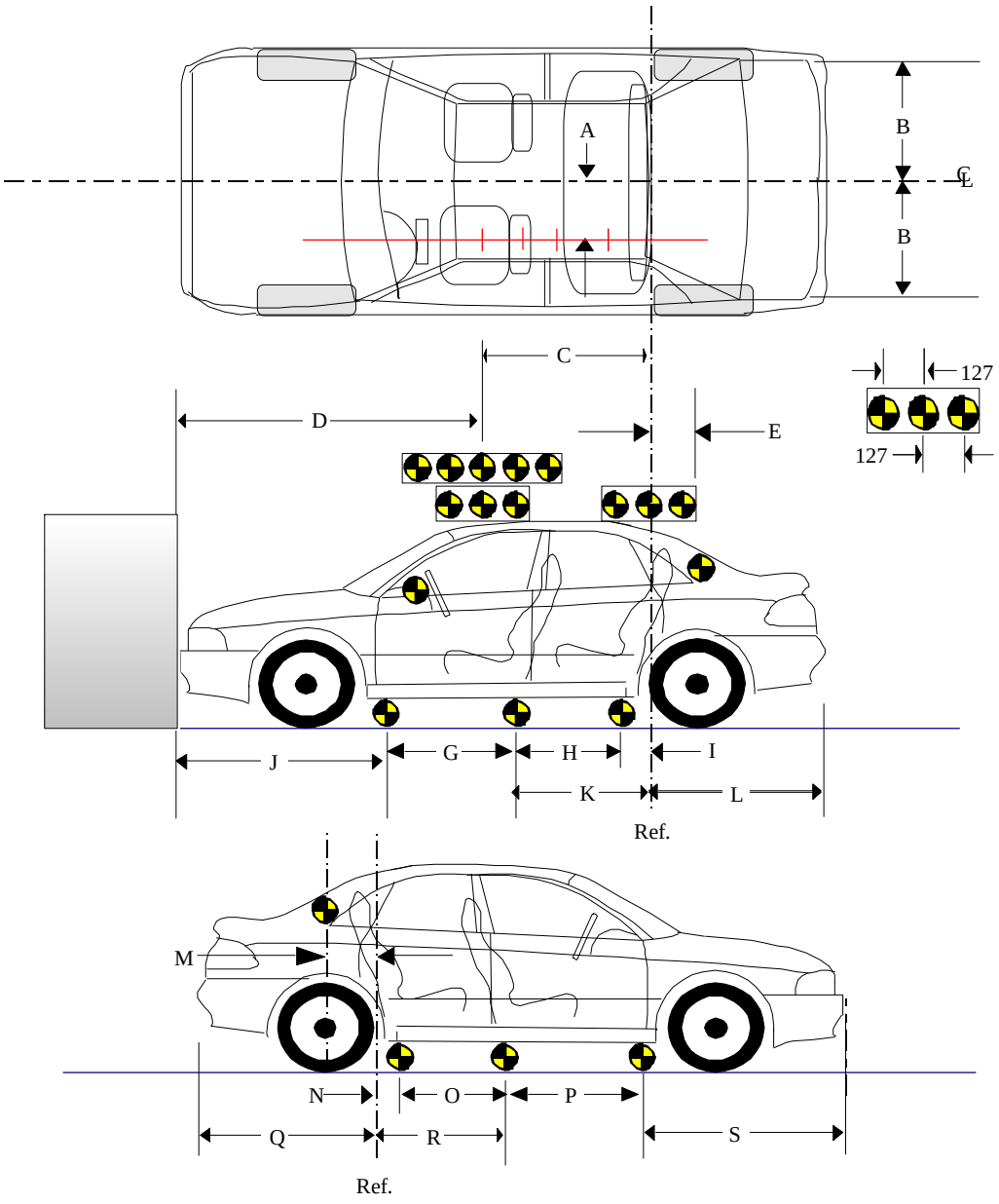
Y = film plane to impact location N.T. indicates No Timing

Z = film plane to ground

DATA SHEET NO. 16 VEHICLE REFERENCE PHOTO TARGET LOCATIONS

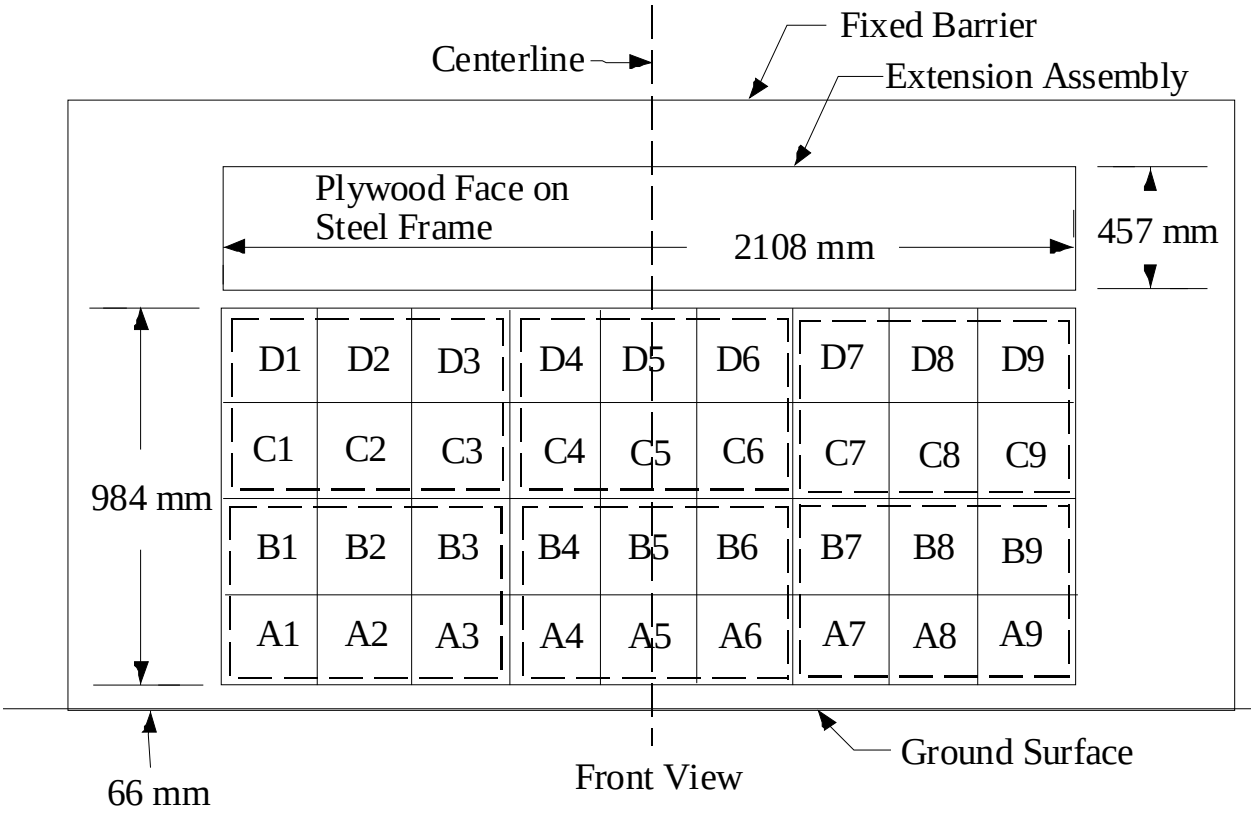
(Dimensions in millimeters)

A	337
B	510
C	865
D	2319
E	3
F	1248
G	778
H	771
I	90
J	1237
K	861
L	1249
M	5
N	109
O	768
P	775
Q	1241
R	877
S	1232



DATA SHEET NO. 17 LOAD CELL LOCATIONS ON FIXED BARRIER

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



6 GROUPS OF 6 LOAD CELLS EACH

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

The following data is presented in Appendix B:

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

DATA SHEET NO. 18 POST TEST AIR BAG DATA

NHTSA No.: M35307; Test Date: December 13, 2002; Technician: Lawrence Q. Valvo

Vehicle Model Year/Make/Model: 2003 Honda S2000 2-Door

A. No. of vent holes: 2 -Driver 2 -Passenger

B. Size of vent holes: (mm^2) 1257 -Driver 1257 -Passenger

C. Total vent area: (mm^2) 2514 -Driver 2514 -Passenger

D. Deflated air bag length and width dimensions or, if round, diameter. (mm)

Driver: 610 -Height; 610 -Width; 300 -Depth

Passenger: 710 -Height; 675 -Width; 3101 -Depth

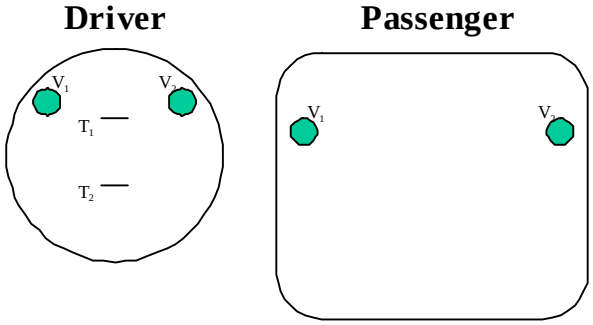
E. Is the air bag tethered?

Driver: X -Yes; - -No; If yes, record length of tether- 310

Passenger: - -Yes; X -No; If yes, record length of tether- -

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

(Note: Not to scale; V_n = Vent hole$_n$, T_n = Tether$_n$).



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

Driver: Air bag: -

Generator: HAKN99MEADW

Passenger: Air bag: P6007880-00A; TRN276JA0025

Generator: P6N0XGAA100; HMA NXG J2 AH1; 77850-52A-A820-M1; 12231-21; 10/16/02

DATA SHEET NO. 19 ACCIDENT INVESTIGATION DIVISION DATA

FOR FRONTAL BARRIER IMPACT

Vehicle Make/Model/Body Style: Honda S2000 2-Door

NHTSA Test No.: M35307 VIN: JHMAP11403T001383

Model Year: 2003 Build Date: 10/02 Test Date: December 13, 2002

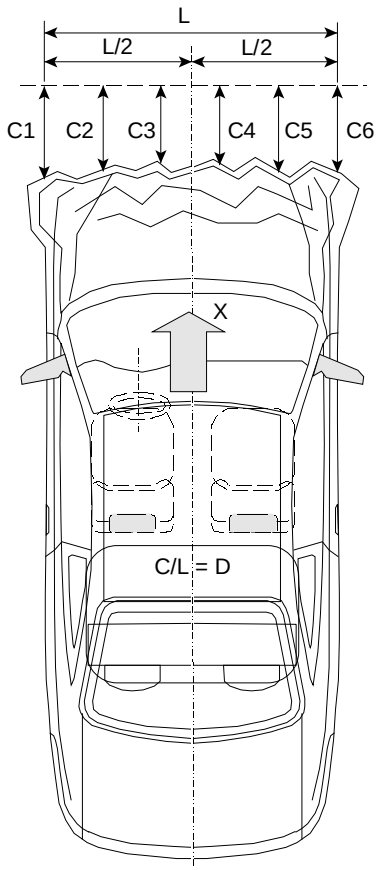
Vehicle Size Category: passenger car Test Weight: 1465.0 kg

Vehicle Wheelbase: 2400 mm; Front Overhang: 787 mm; Overall Width: 1717 mm

Collision Deformation Classification (CDC) Code: 12FDEW2

Crush Depth Dimensions

	PRE (mm)	POST (mm)	DIFF (mm)
C1 =	3742	3733	9
C2 =	4003	3598	405
C3 =	4115	3596	519
C4 =	4118	3573	545
C5 =	3992	3567	425
C6 =	3737	3694	43



Midpoint of Damage: D = Vehicle Centerline (Longitudinal)

Length of Damaged Region: L1= 1590 mm

L2= 795.0 mm

L5= 318 mm

APPENDIX A

PHOTOGRAPHS

TABLE OF PHOTOGRAPHS

TABLE OF PHOTOGRAPHS (CONTINUED)

Figure A-1 LOAD CELL LOCATIONS

Figure A-2 VEHICLE CERTIFICATION PLACARD

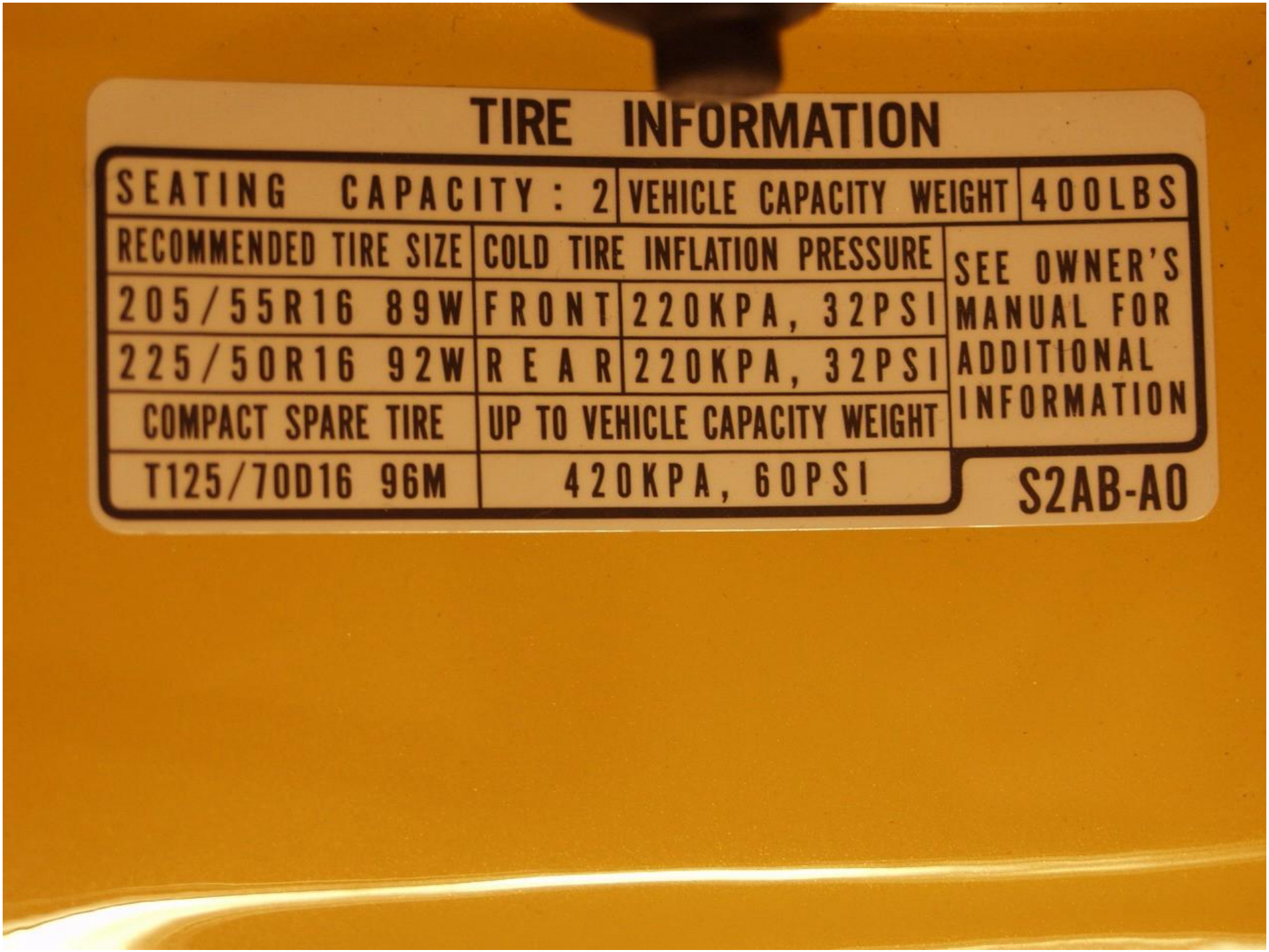


Figure A-3 VEHICLE TIRE PLACARD

Figure A-4 RIGHT FRONT, AS RECEIVED

Figure A-5 LEFT REAR, AS RECEIVED

Figure A-6 PRE-TEST FRONT VIEW

Figure A-7 POST-TEST FRONT VIEW

Figure A-8 PRE-TEST LEFT SIDE VIEW

Figure A-9 POST-TEST LEFT SIDE VIEW

Figure A-10 PRE-TEST RIGHT SIDE VIEW

Figure A-11 POST-TEST RIGHT SIDE VIEW

Figure A-12 PRE-TEST RIGHT FRONT THREE-QUARTER VIEW

Figure A-13 POST-TEST RIGHT FRONT THREE-QUARTER VIEW

Figure A-14 PRE-TEST LEFT REAR THREE-QUARTER VIEW

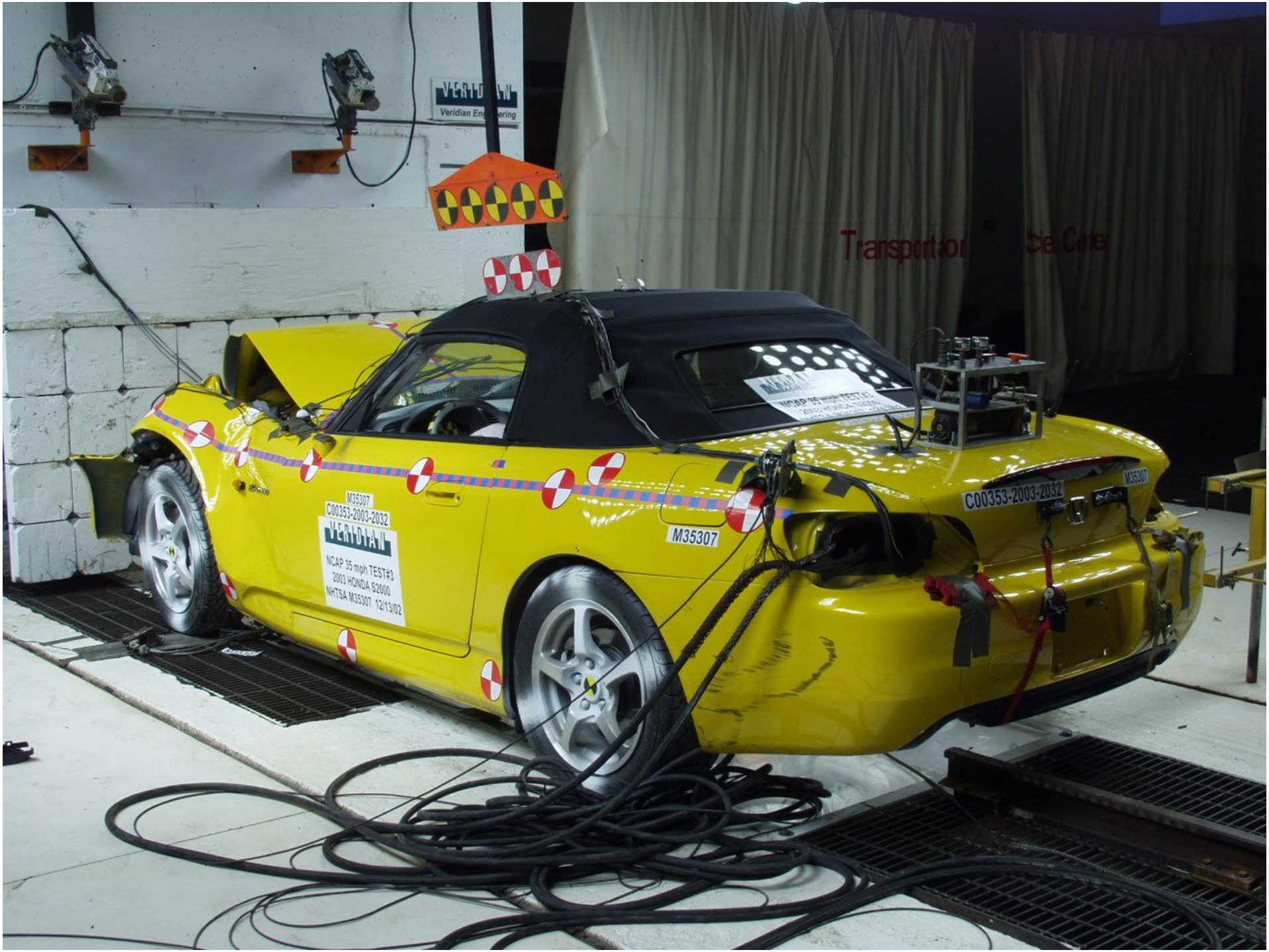


Figure A-15 POST-TEST LEFT REAR THREE-QUARTER VIEW

Figure A-16 LEFT REAR THREE-QUARTER VIEW OF DOORS AFTER IMPACT

Figure A-17 RIGHT REAR THREE-QUARTER VIEW OF DOORS AFTER IMPACT

Figure A-18 PRE-TEST WINDSHIELD VIEW

Figure A-19 POST-TEST WINDSHIELDVIEW

Figure A-20 PRE-TEST ENGINE COMPARTMENT VIEW

Figure A-21 POST-TEST ENGINE COMPARTMENT VIEW

Figure A-22 PRE-TEST FUEL CAP VIEW

Figure A-23 POST-TEST FUEL CAP VIEW

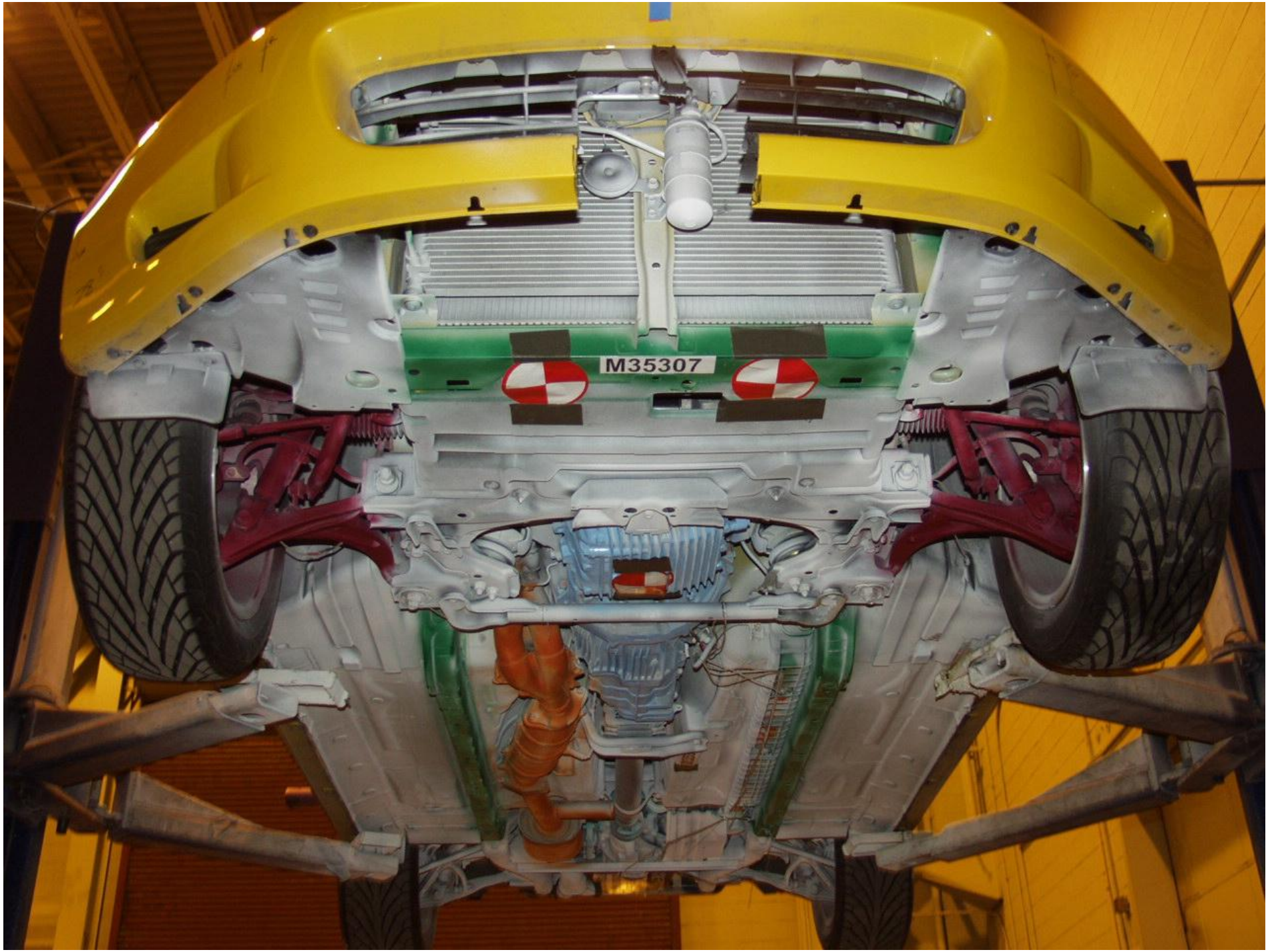


Figure A-24 PRE-TEST FRONT UNDERBODY VIEW

Figure A-25 POST-TEST FRONT UNDERBODY VIEW

Figure A-26 PRE-TEST MID UNDERBODY VIEW

Figure A-27 POST-TEST MID UNDERBODY VIEW

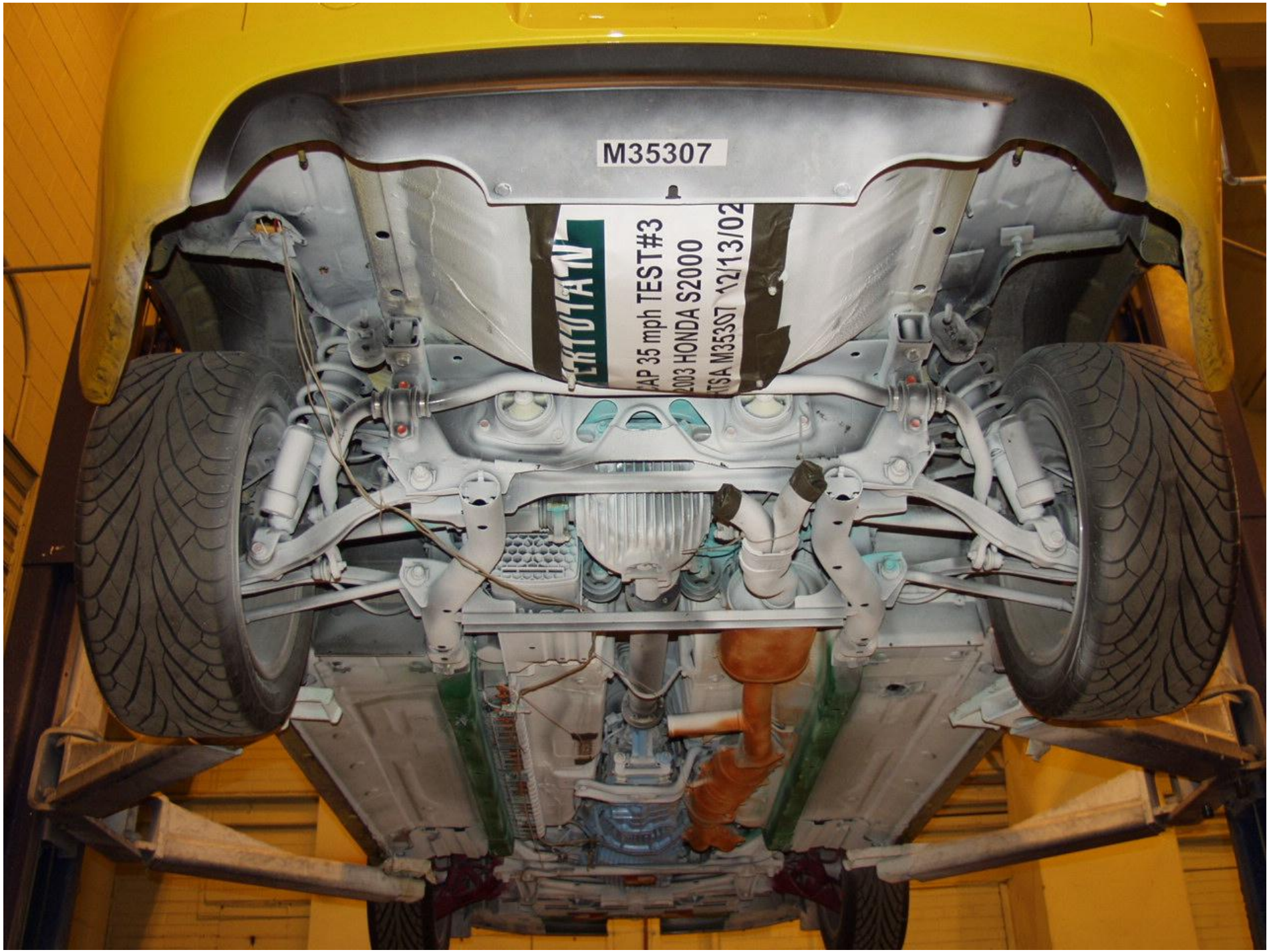


Figure A-28 PRE-TEST REAR UNDERBODY VIEW

Figure A-29 POST-TEST REAR UNDERBODY VIEW

Figure A-30 PRE-TEST DRIVER HEAD LOCATION

Figure A-31 POST-TEST DRIVER HEAD LOCATION

Figure A-32 PRE-TEST DRIVER POSITION VIEW

Figure A-33 POST-TEST DRIVER POSITION VIEW

Figure A-34 PRE-TEST DRIVER AND INTERIOR VIEW

Figure A-35 POST-TEST DRIVER AND INTERIOR VIEW

Figure A-36 PRE-TEST DRIVER FEET VIEW

Figure A-37 POST-TEST DRIVER FEET VIEW

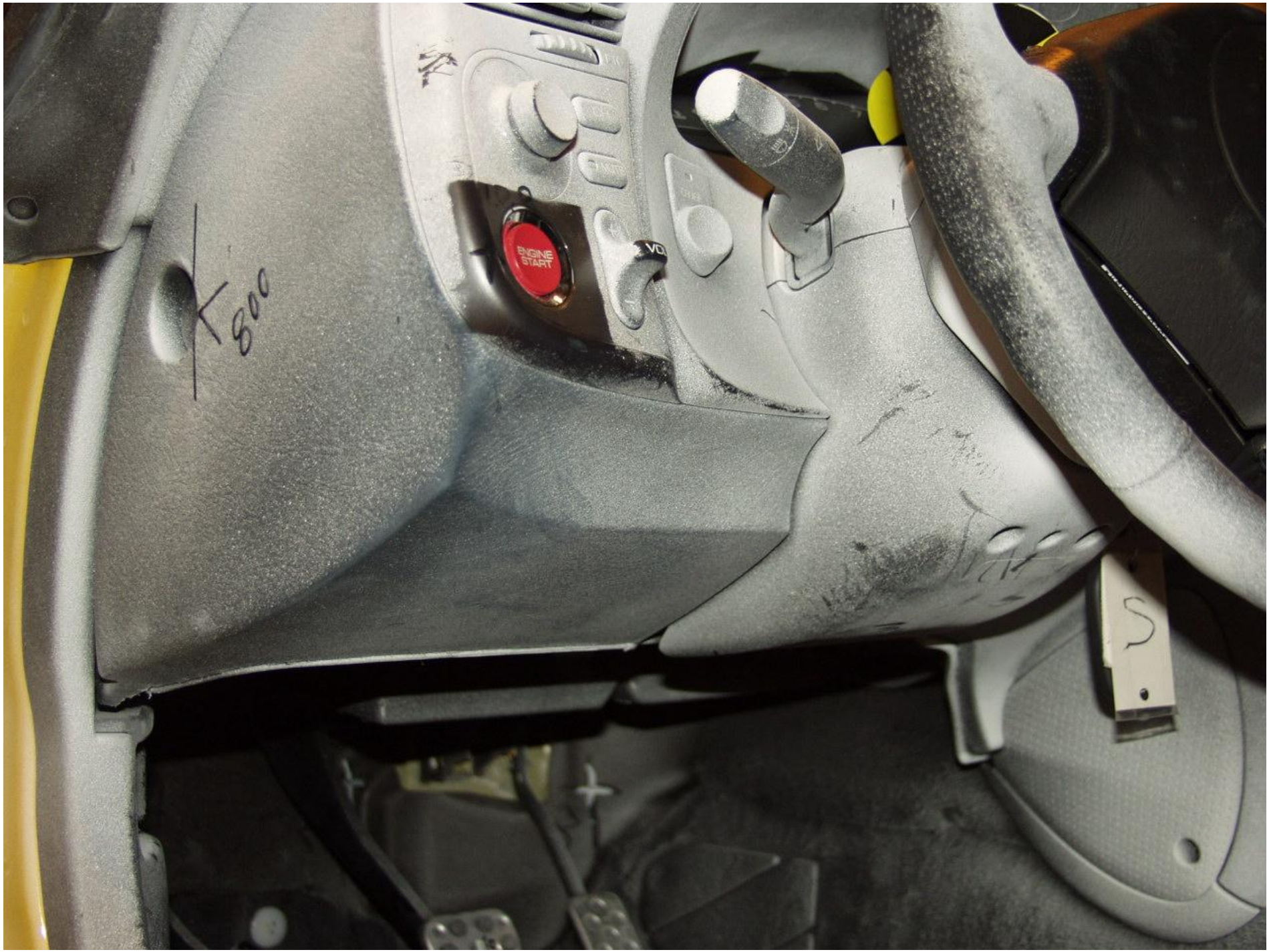


Figure A-38 PRE-TEST DRIVER KNEE BOLSTER VIEW

Figure A-39 POST-TEST DRIVER KNEE BOLSTER VIEW

Figure A-40 PRE-TEST DRIVER FLOOR PAN VIEW

Figure A-41 POST-TEST DRIVER FLOOR PAN VIEW

Figure A-42 POST-TEST DRIVER HEAD VIEW

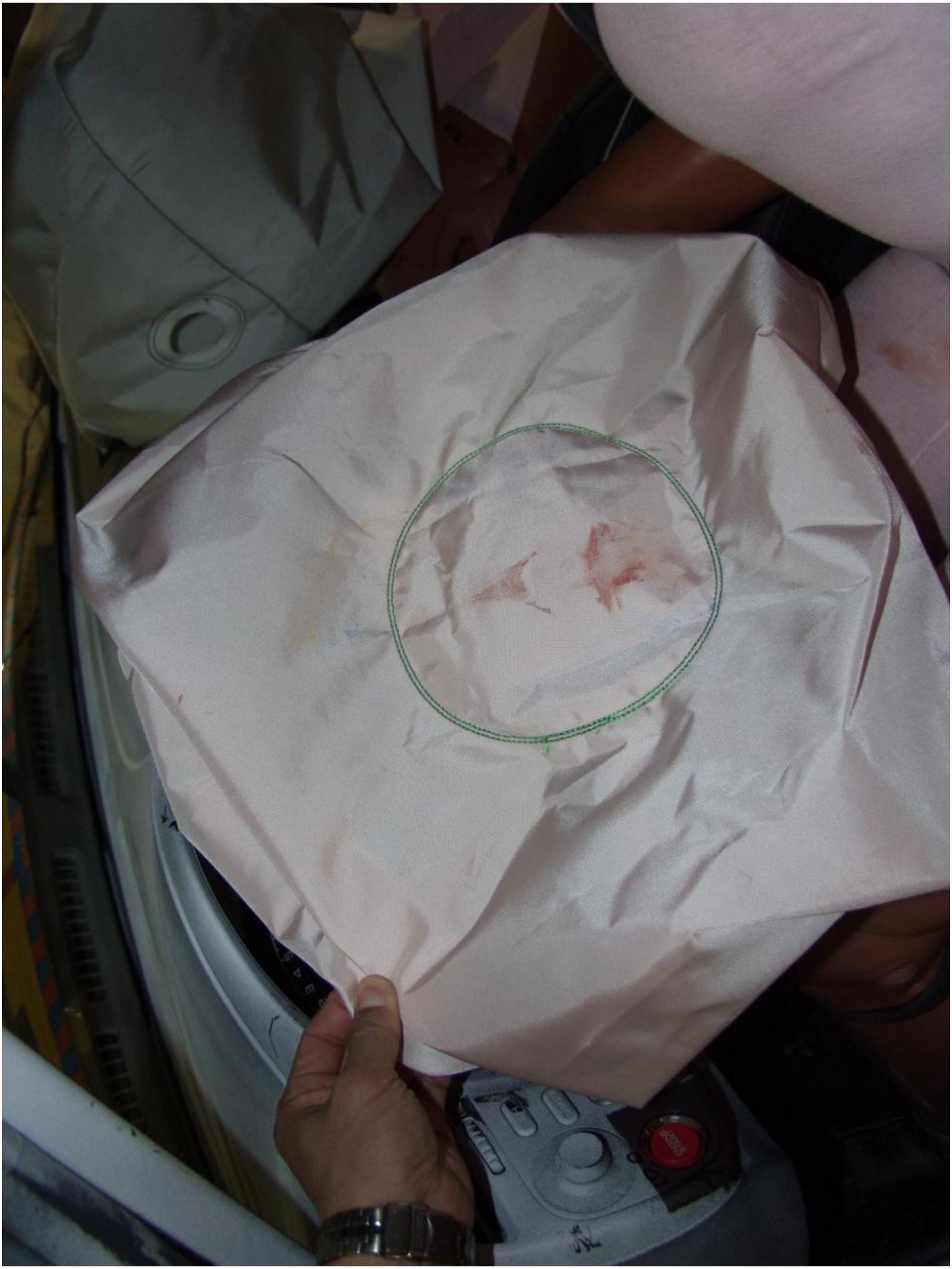


Figure A-43 POST-TEST DRIVER CONTACT TO AIRBAG

Figure A-44 PRE-TEST PASSENGER HEAD LOCATION

Figure A-45 POST-TEST PASSENGER HEAD LOCATION

Figure A-46 PRE-TEST PASSENGER POSITION VIEW

Figure A-47 POST-TEST PASSENGER POSITION VIEW

Figure A-48 PRE-TEST PASSENGER AND INTERIOR VIEW

Figure A-49 POST-TEST PASSENGER AND INTERIOR VIEW

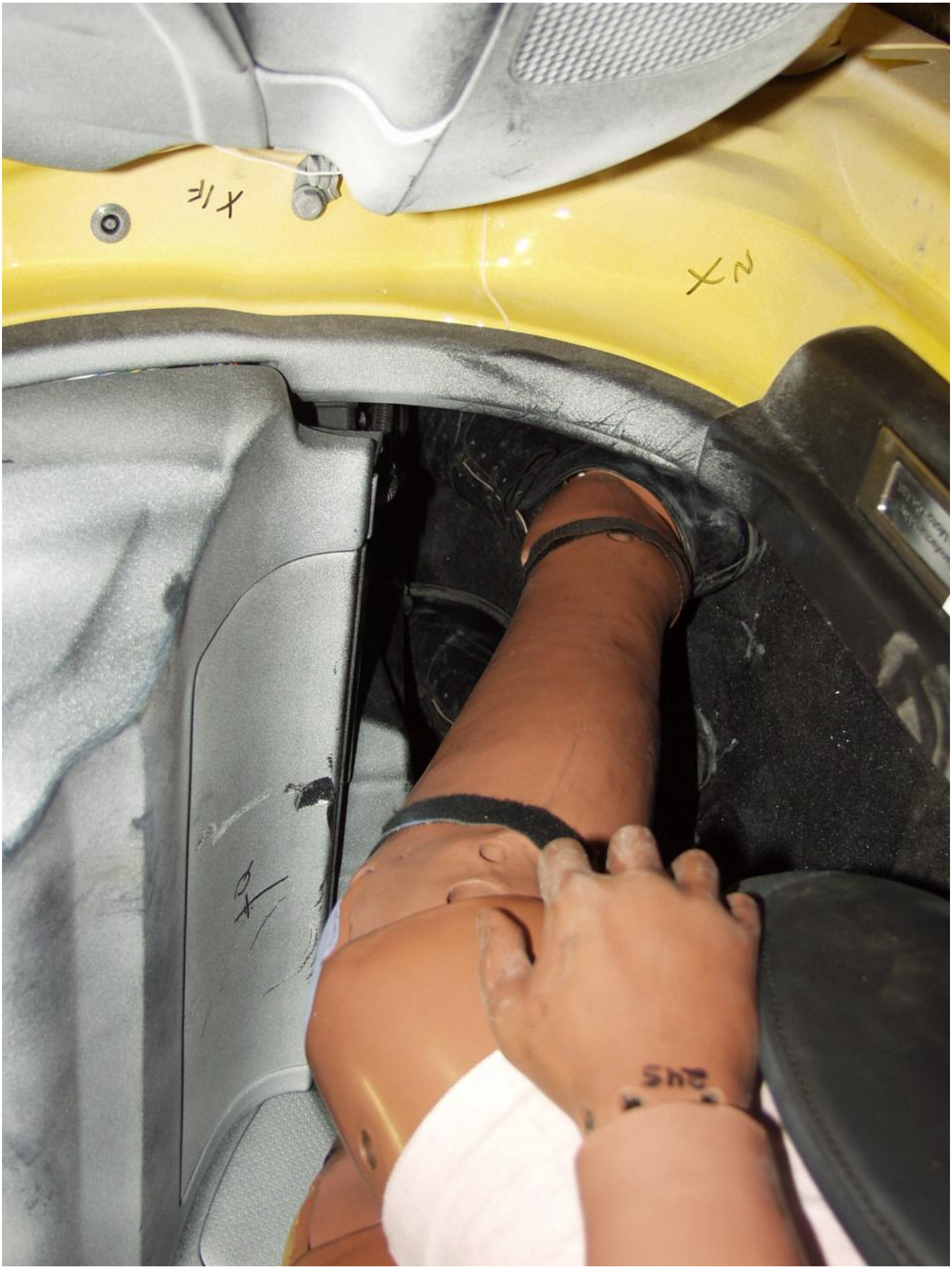


Figure A-50 PRE-TEST FEET VIEW

Figure A-51 POST-TEST FEET VIEW

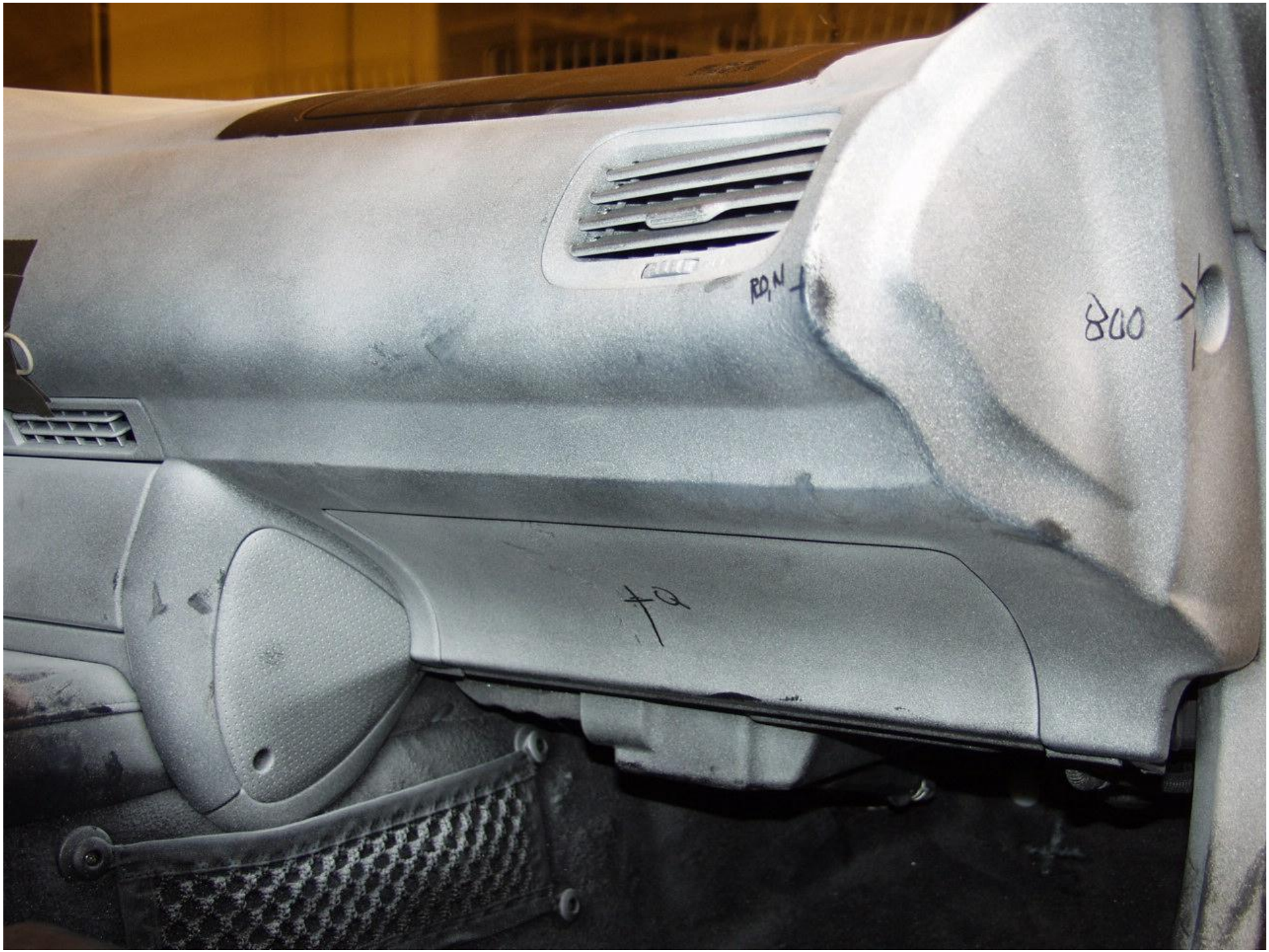


Figure A-52 PRE-TEST PASSENGER KNEE BOLSTER VIEW

Figure A-53 POST-TEST PASSENGER KNEE BOLSTER VIEW

Figure A-54 PRE-TEST PASSENGER FLOOR PAN VIEW

Figure A-55 POST-TEST PASSENGER FLOOR PAN VIEW

Figure A-56 POST-TEST PASSENGER HEAD VIEW

Figure A-57 POST-TEST PASSENGER CONTACT TO AIRBAG

Figure A-58 ROLLOVER VIEW

Figure A-59 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. M35307

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

46	V1P1 Right Foot Aft z [g, CFC_600]	B-53
47	V1P1 Right Foot Fore z [g, CFC_600]	B-54
48	V1P1 Lap Belt [N, CFC_60]	B-55
49	V1P2 Head CG x [g, CFC_1000]	B-56
50	V1P2 Head CG y [g, CFC_1000]	B-57
51	V1P2 Head CG z [g, CFC_1000]	B-58
52	V1P2 Head CG Resultant [g, CFC_1000]	B-59
53	V1P2 Head CG Red x [g, CFC_1000]	B-60
54	V1P2 Head CG Red y [g, CFC_1000]	B-61
55	V1P2 Head CG Red z [g, CFC_1000]	B-62
56	V1P2 Head CG Red Resultant [g, CFC_1000]	B-63
57	V1P2 Upper Neck Fx [N, CFC_1000]	B-64
58	V1P2 Upper Neck Fy [N, CFC_1000]	B-65
59	V1P2 Upper Neck Fz [N, CFC_1000]	B-66
60	V1P2 Upper Neck F Resultant [N, CFC_1000]	B-67
61	V1P2 Upper Neck Mx [N-m, CFC_600]	B-68
62	V1P2 Upper Neck My [N-m, CFC_600]	B-69
63	V1P2 Upper Neck Mz [N-m, CFC_600]	B-70
64	V1P2 Upper Neck M Resultant [N-m, CFC_600]	B-71
65	V1P2 Chest x [g, CFC_180]	B-72
66	V1P2 Chest y [g, CFC_180]	B-73
67	V1P2 Chest z [g, CFC_180]	B-74
68	V1P2 Chest Resultant [g, CFC_180]	B-75
69	V1P2 Chest Red x [g, CFC_180]	B-76
70	V1P2 Chest Red y [g, CFC_180]	B-77
71	V1P2 Chest Red z [g, CFC_180]	B-78
72	V1P2 Chest Red Resultant [g, CFC_180]	B-79
73	V1P2 Chest Compression [mm, CFC_600]	B-80
74	V1P2 Pelvic x [g, CFC_1000]	B-81
75	V1P2 Pelvic y [g, CFC_1000]	B-82
76	V1P2 Pelvic z [g, CFC_1000]	B-83
77	V1P2 Pelvic Resultant [g, CFC_1000]	B-84
78	V1P2 Left Femur [N, CFC_600]	B-85
79	V1P2 Right Femur [N, CFC_600]	B-86
80	V1P2 Left Upper Tibia Mx [N-m, CFC_600]	B-87
81	V1P2 Left Upper Tibia My [N-m, CFC_600]	B-88
82	V1P2 Left Lower Tibia Fz [N, CFC_600]	B-89
83	V1P2 Left Lower Tibia Mx [N-m, CFC_600]	B-90
84	V1P2 Left Lower Tibia My [N-m, CFC_600]	B-91
85	V1P2 Right Upper Tibia Mx [N-m, CFC_600]	B-92
86	V1P2 Right Upper Tibia My [N-m, CFC_600]	B-93
87	V1P2 Right Lower Tibia Fz [N, CFC_600]	B-94
88	V1P2 Right Lower Tibia Mx [N-m, CFC_600]	B-95
89	V1P2 Right Lower Tibia My [N-m, CFC_600]	B-96
90	V1P2 Left foot Aft x [g, CFC_600]	B-97
91	V1P2 Left Foot Aft z [g, CFC_600]	B-98
92	V1P2 Left Foot Fore z [g, CFC_600]	B-99
93	V1P2 Right Foot Aft x [g, CFC_600]	B-100

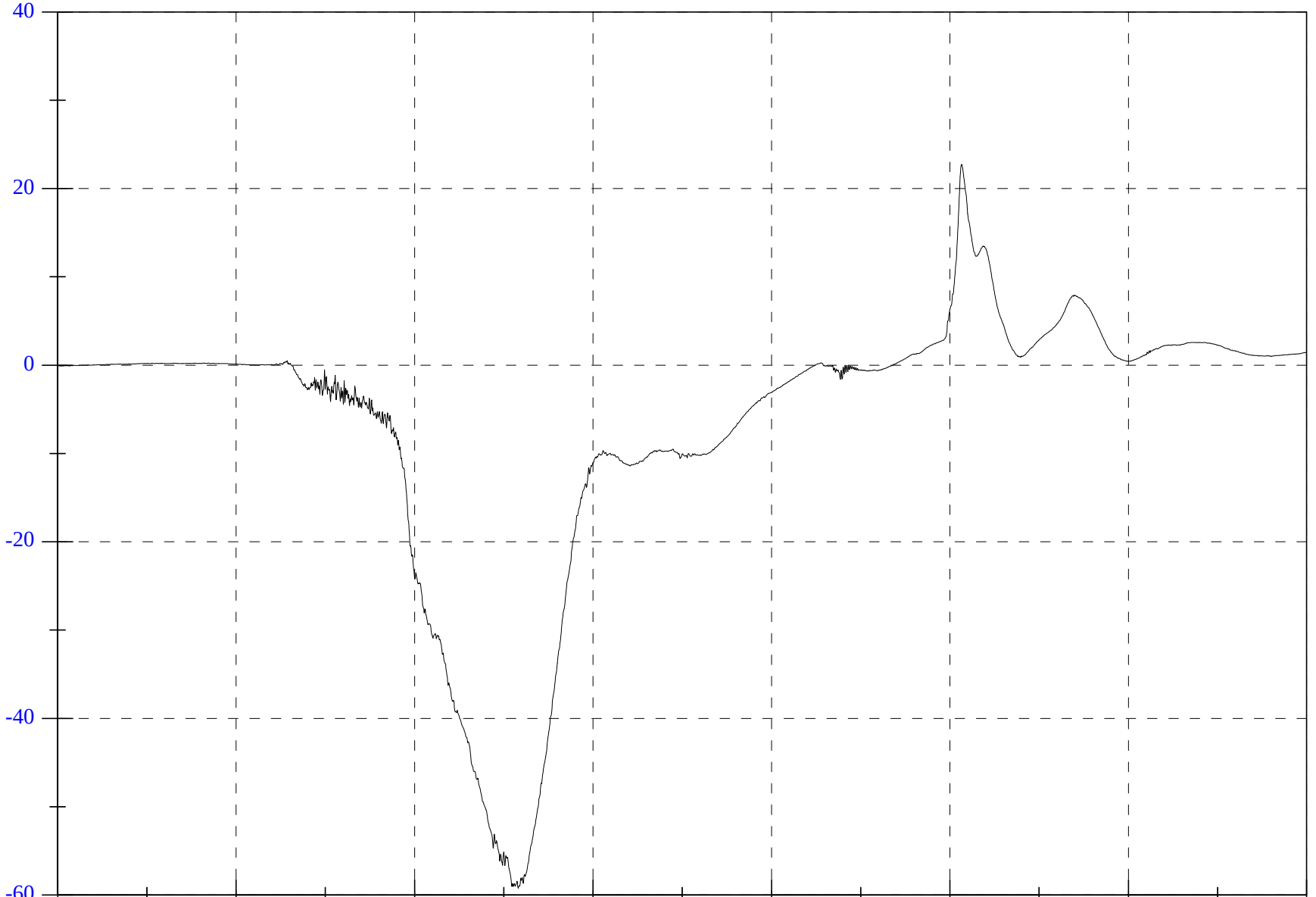
94	V1P2 Right Foot Aft z [g, CFC_600]	B-101
95	V1P2 Right Foot Fore z [g, CFC_600]	B-102
96	V1P2 Lap Belt [N, CFC_60]	B-103
97	V1 Left Rear #1x [g, CFC_60]	B-104
98	V1 Left Rear #1x Velocity [kph, CFC_180]	B-105
99	V1 Left Rear #1x Displacement [mm, CFC_180]	B-106
100	V1 Right Rear #2x [g, CFC_60]	B-107
101	V1 Right Rear #2x Velocity [kph, CFC_180]	B-108
102	V1 Right Rear #2x Displacement [mm, CFC_180]	B-109
103	V1 Engine Top #3x [g, CFC_60]	B-110
104	V1 Engine Top #3x Velocity [kph, CFC_180]	B-111
105	V1 Engine Top #3x Displacement [mm, CFC_180]	B-112
106	V1 Engine Bottom #4x [g, CFC_60]	B-113
107	V1 Engine Bottom #4x Velocity [kph, CFC_180]	B-114
108	V1 Engine Bottom #4x Displacement [mm, CFC_180]	B-115
109	V1 Right Caliper #5x [g, CFC_60]	B-116
110	V1 Right Caliper #5x Velocity [kph, CFC_180]	B-117
111	V1 Right Caliper #5x Displacement [mm, CFC_180]	B-118
112	V1 Instrument Panel #6x [g, CFC_60]	B-119
113	V1 Instrument Panel #6x Velocity [kph, CFC_180]	B-120
114	V1 Instrument Panel #6x Displacement [mm, CFC_180]	B-121
115	V1 Left Caliper #7x [g, CFC_60]	B-122
116	V1 Left Caliper #7x Velocity [kph, CFC_180]	B-123
117	V1 Left Caliper #7x Displacement [mm, CFC_180]	B-124
118	V1 Left Rear #8z [g, CFC_60]	B-125
119	V1 Left Rear #8z Velocity [kph, CFC_180]	B-126
120	V1 Left Rear #8z Displacement [mm, CFC_180]	B-127
121	V1 Right Rear #9z [g, CFC_60]	B-128
122	V1 Right Rear #9z Velocity [kph, CFC_180]	B-129
123	V1 Right Rear #9z Displacement [mm, CFC_180]	B-130
124	Barrier Load Cell A1 Fx [N, CFC_60]	B-131
125	Barrier Load Cell A2 Fx [N, CFC_60]	B-132
126	Barrier Load Cell A3 Fx [N, CFC_60]	B-133
127	Barrier Load Cell A4 Fx [N, CFC_60]	B-134
128	Barrier Load Cell A5 Fx [N, CFC_60]	B-135
129	Barrier Load Cell A6 Fx [N, CFC_60]	B-136
130	Barrier Load Cell A7 Fx [N, CFC_60]	B-137
131	Barrier Load Cell A8 Fx [N, CFC_60]	B-138
132	Barrier Load Cell A9 Fx [N, CFC_60]	B-139
133	Barrier Load Cell B1 Fx [N, CFC_60]	B-140
134	Barrier Load Cell B2 Fx [N, CFC_60]	B-141
135	Barrier Load Cell B3 Fx [N, CFC_60]	B-142
136	Barrier Load Cell B4 Fx [N, CFC_60]	B-143
137	Barrier Load Cell B5 Fx [N, CFC_60]	B-144
138	Barrier Load Cell B6 Fx [N, CFC_60]	B-145
139	Barrier Load Cell B7 Fx [N, CFC_60]	B-146
140	Barrier Load Cell B8 Fx [N, CFC_60]	B-147
141	Barrier Load Cell B9 Fx [N, CFC_60]	B-148

142	Barrier Load Cell C1 Fx [N, CFC_60]	B-149
143	Barrier Load Cell C2 Fx [N, CFC_60]	B-150
144	Barrier Load Cell C3 Fx [N, CFC_60]	B-151
145	Barrier Load Cell C4 Fx [N, CFC_60]	B-152
146	Barrier Load Cell C5 Fx [N, CFC_60]	B-153
147	Barrier Load Cell C6 Fx [N, CFC_60]	B-154
148	Barrier Load Cell C7 Fx [N, CFC_60]	B-155
149	Barrier Load Cell C8 Fx [N, CFC_60]	B-156
150	Barrier Load Cell C9 Fx [N, CFC_60]	B-157
151	Barrier Load Cell D1 Fx [N, CFC_60]	B-158
152	Barrier Load Cell D2 Fx [N, CFC_60]	B-159
153	Barrier Load Cell D3 Fx [N, CFC_60]	B-160
154	Barrier Load Cell D4 Fx [N, CFC_60]	B-161
155	Barrier Load Cell D5 Fx [N, CFC_60]	B-162
156	Barrier Load Cell D6 Fx [N, CFC_60]	B-163
157	Barrier Load Cell D7 Fx [N, CFC_60]	B-164
158	Barrier Load Cell D8 Fx [N, CFC_60]	B-165
159	Barrier Load Cell D9 Fx [N, CFC_60]	B-166
160	Group 1 Load Cell Sum (A1,A2,A3,B1,B2,B3)	B-167
161	Group 2 Load Cell Sum (A4,A5,A6,B4,B5,B6)	B-168
162	Group 3 Load Cell Sum (A7,A8,A9,B7,B8,B9)	B-169
163	Group 4 Load Cell Sum (C1,C2,C3,D1,D2,D3)	B-170
164	Group 5 Load Cell Sum (C4,C5,C6,D4,D5,D6)	B-171
165	Group 6 Load Cell Sum (C7,C8,C9,D7,D8,D9)	B-172
166	Total Load Cell Sum (All 6 Groups)	B-173

NCAP Test #3 - 2003 Honda S2000

V1P1 Head CG x

Max: 22.7 [g] at 0.203 [s]
Min: -59.2 [g] at 0.079 [s]

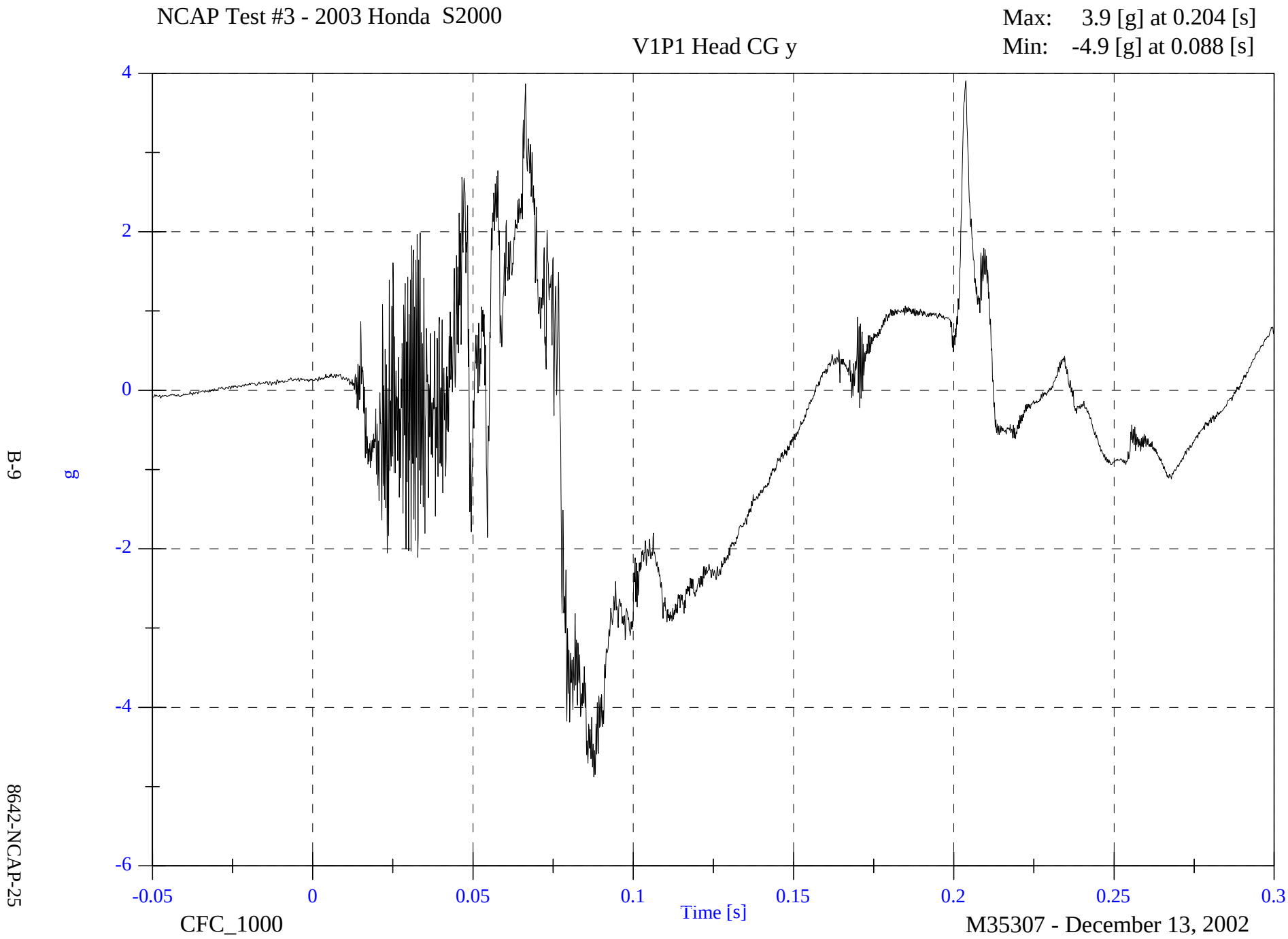


B-8

8642-NCAP-25

CFC_1000

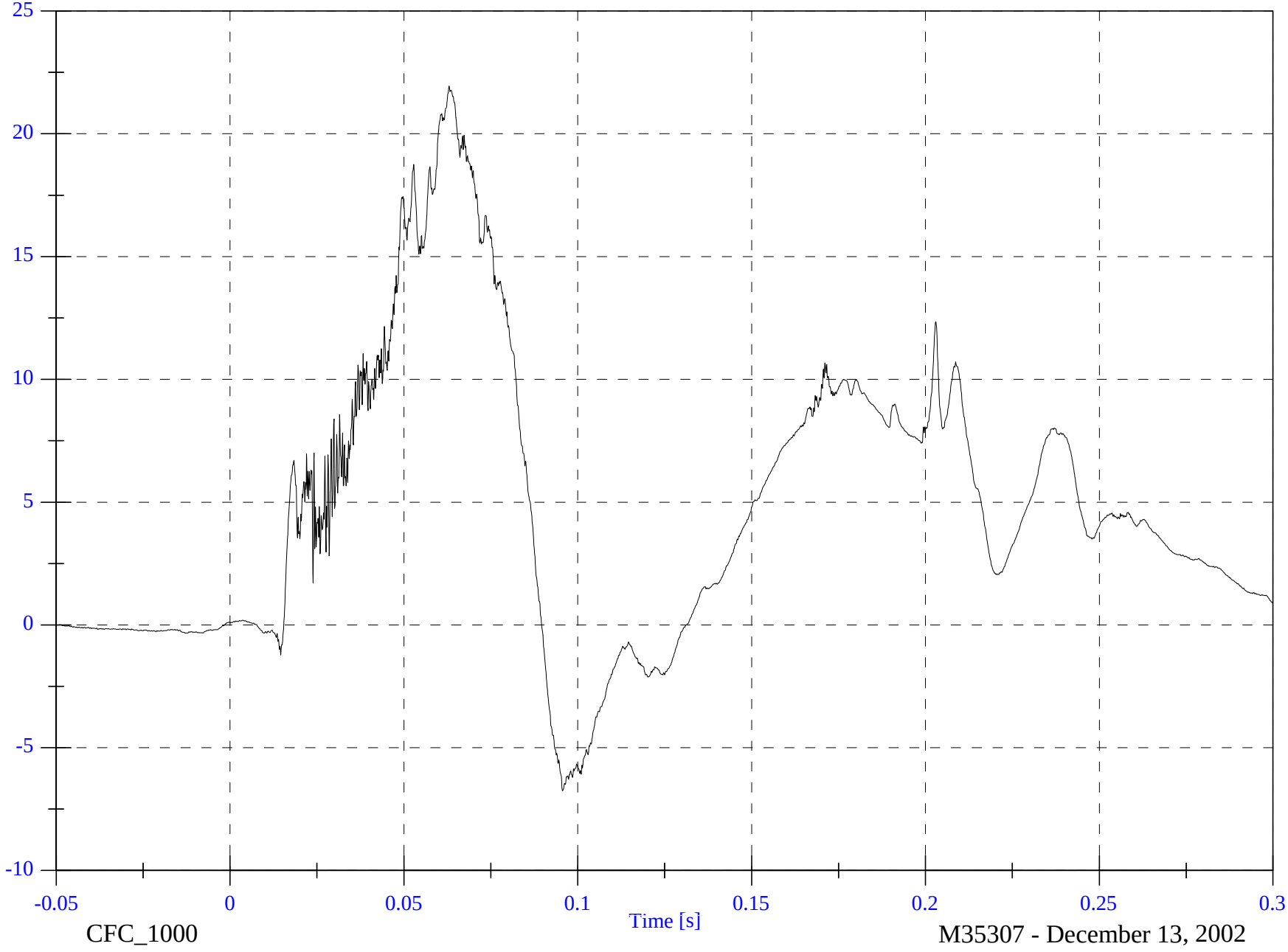
M35307 - December 13, 2002


NCAP Test #3 - 2003 Honda S2000
V1P1 Head CG y
Max: 3.9 [g] at 0.204 [s]
Min: -4.9 [g] at 0.088 [s]
4
2
0
-2
-4
-6
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_1000
M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1P1 Head CG z

Max: 21.9 [g] at 0.063 [s]
Min: -6.8 [g] at 0.096 [s]



B-10

8642-NCAP-25

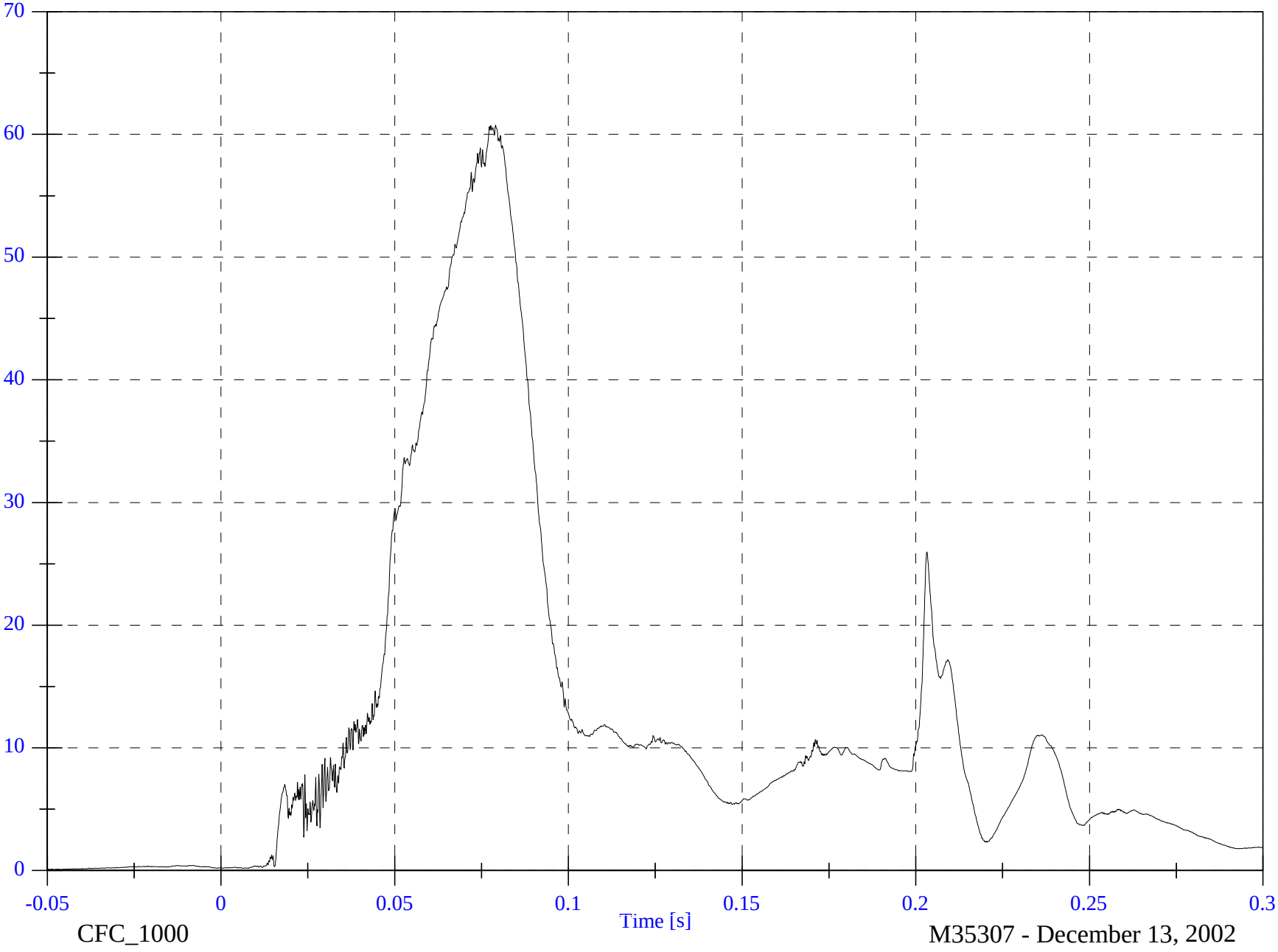
CFC_1000

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1P1 Head CG Resultant

Max: 60.7 [g] at 0.079 [s]
Min: 0.1 [g] at -0.048 [s]

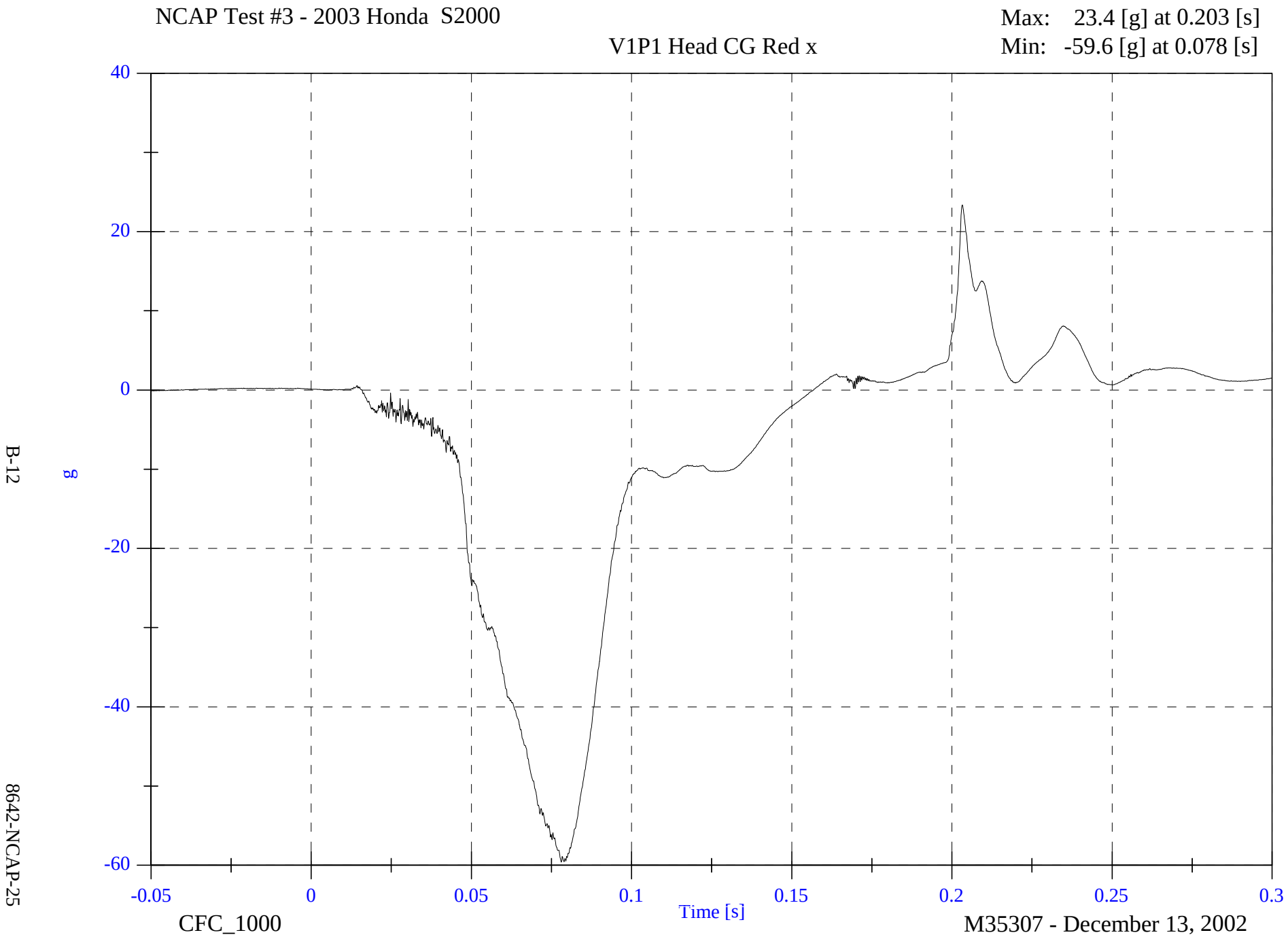


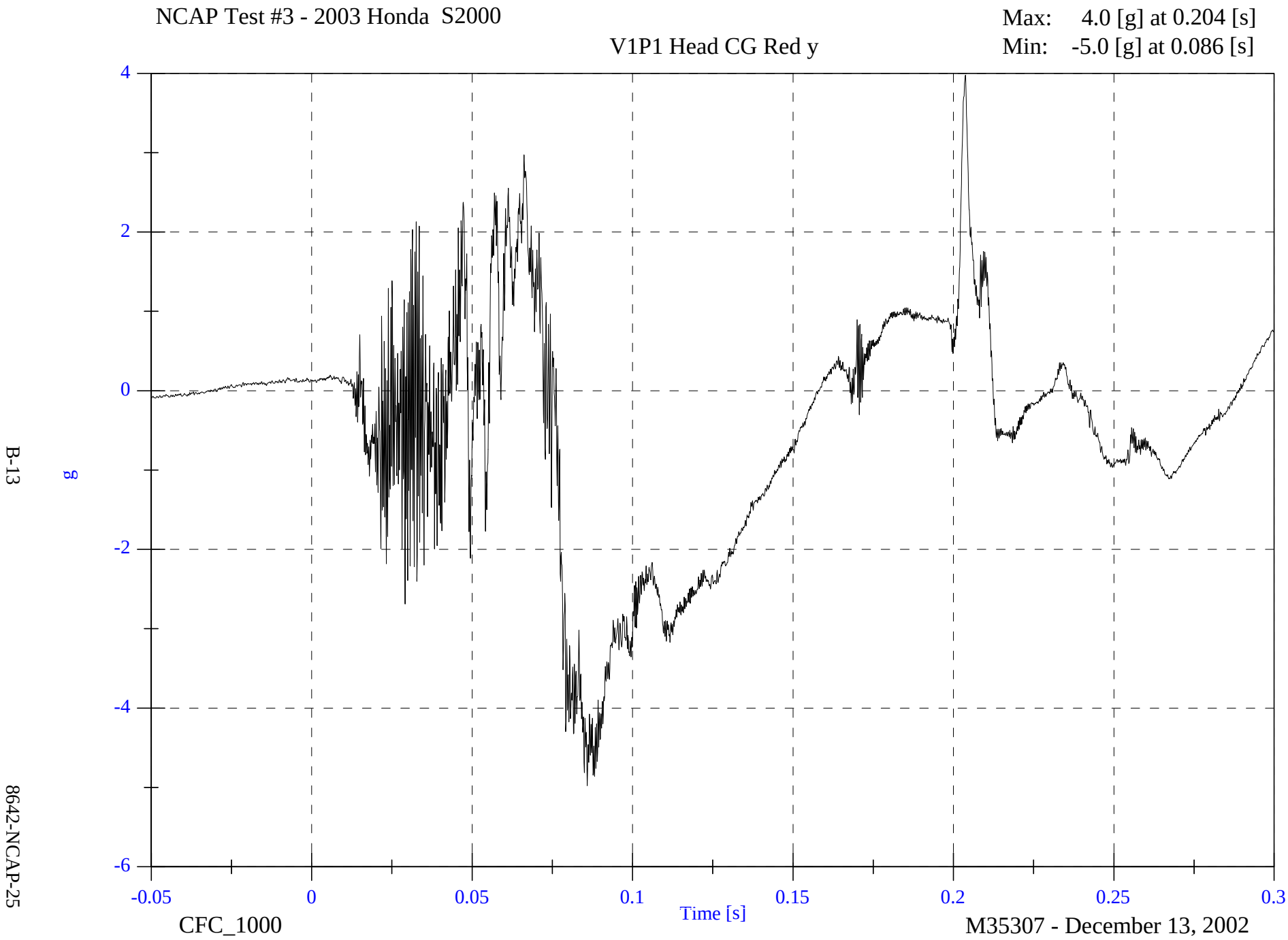
B-11

8642-NCAP-25

CFC_1000

M35307 - December 13, 2002

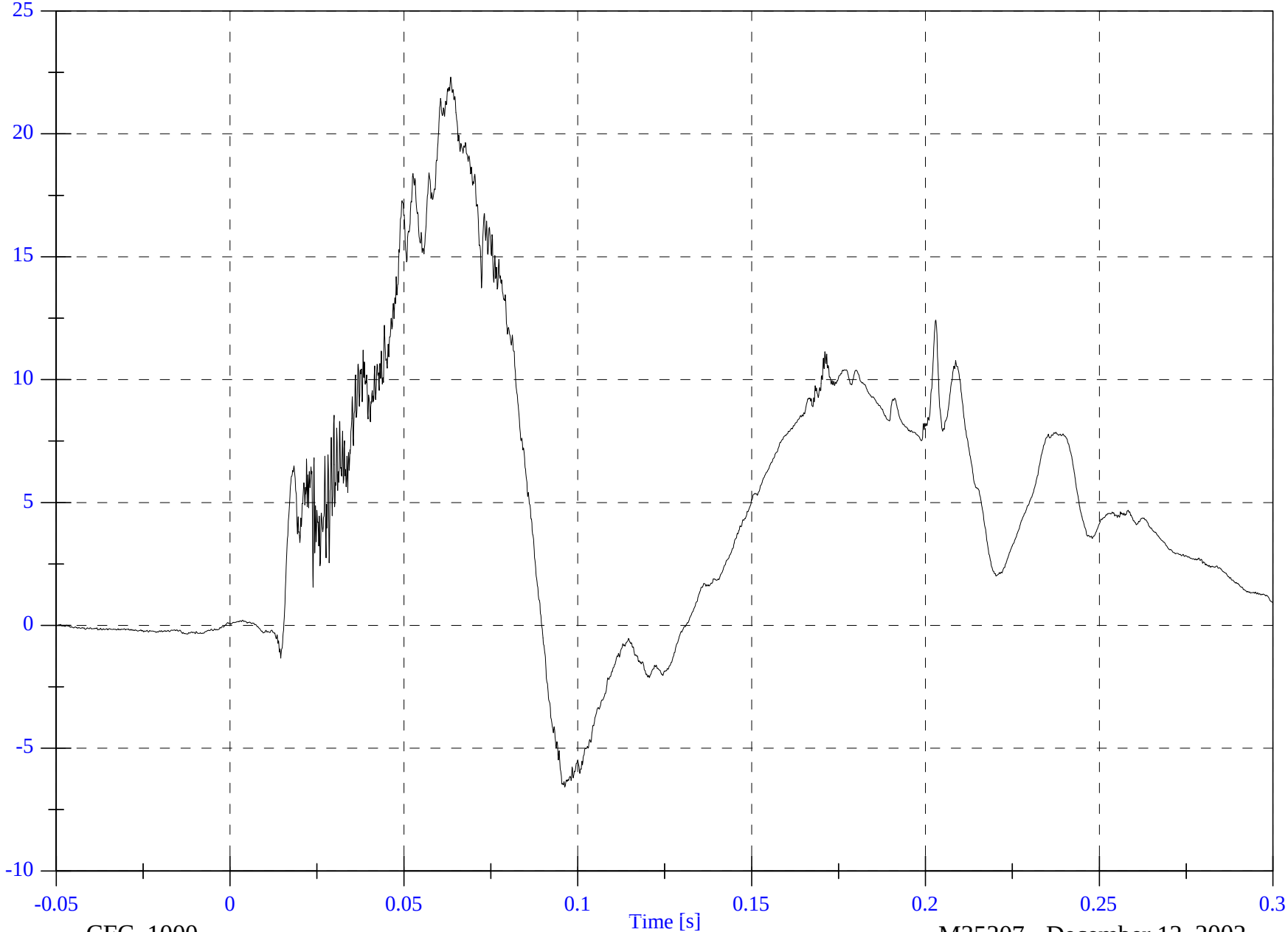

NCAP Test #3 - 2003 Honda S2000
V1P1 Head CG Red x
Max: 23.4 [g] at 0.203 [s]
Min: -59.6 [g] at 0.078 [s]
40
20
0
-20
-40
-60
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_1000
M35307 - December 13, 2002


NCAP Test #3 - 2003 Honda S2000
V1P1 Head CG Red y
Max: 4.0 [g] at 0.204 [s]
Min: -5.0 [g] at 0.086 [s]
4
2
0
-2
-4
-6
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_1000
M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1P1 Head CG Red z

Max: 22.3 [g] at 0.063 [s]
Min: -6.6 [g] at 0.096 [s]



B-14

8642-NCAP-25

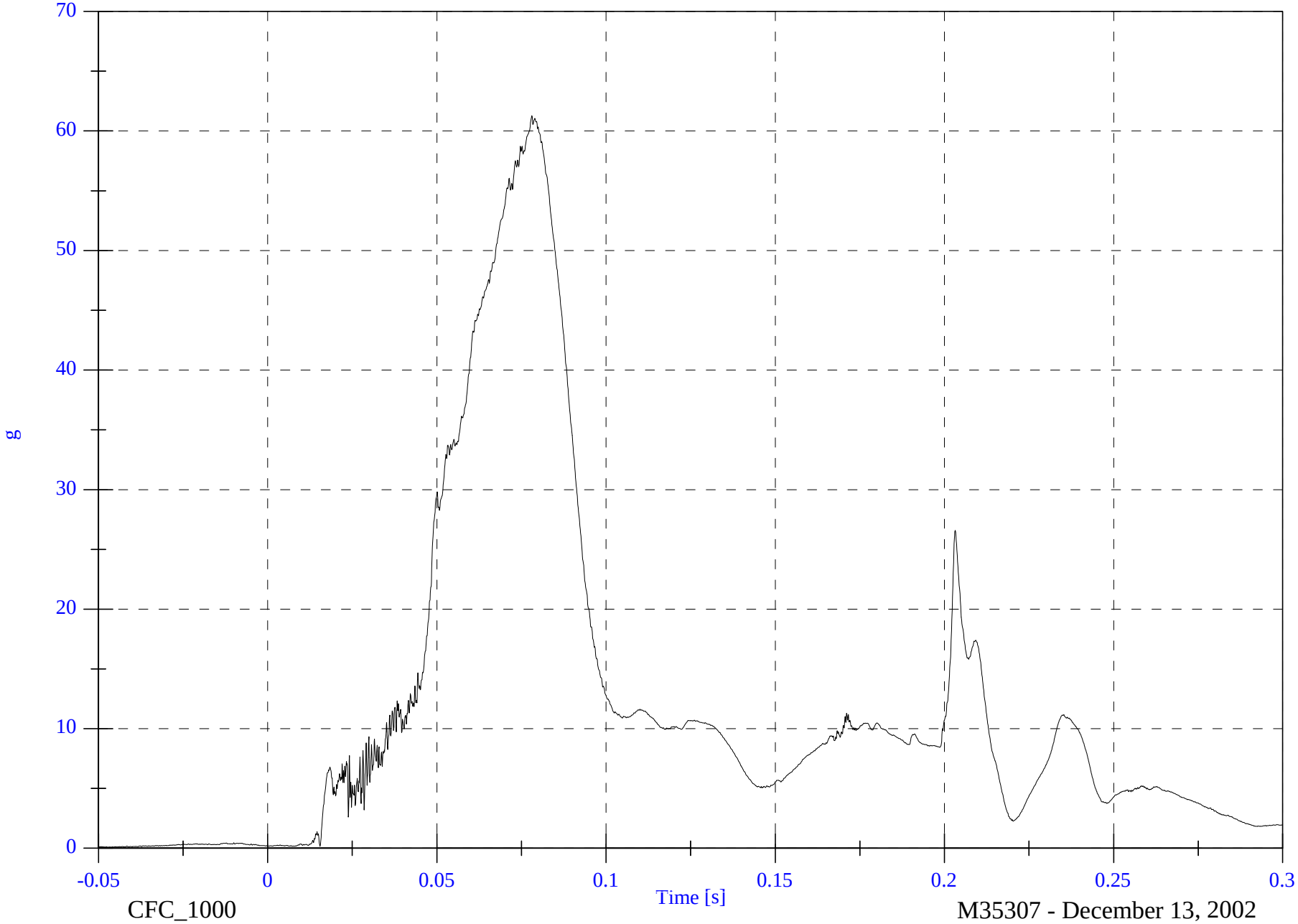
CFC_1000

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1P1 Head CG Red Resultant

Max: 61.3 [g] at 0.078 [s]
Min: 0.1 [g] at -0.047 [s]



B-15

8642-NCAP-25

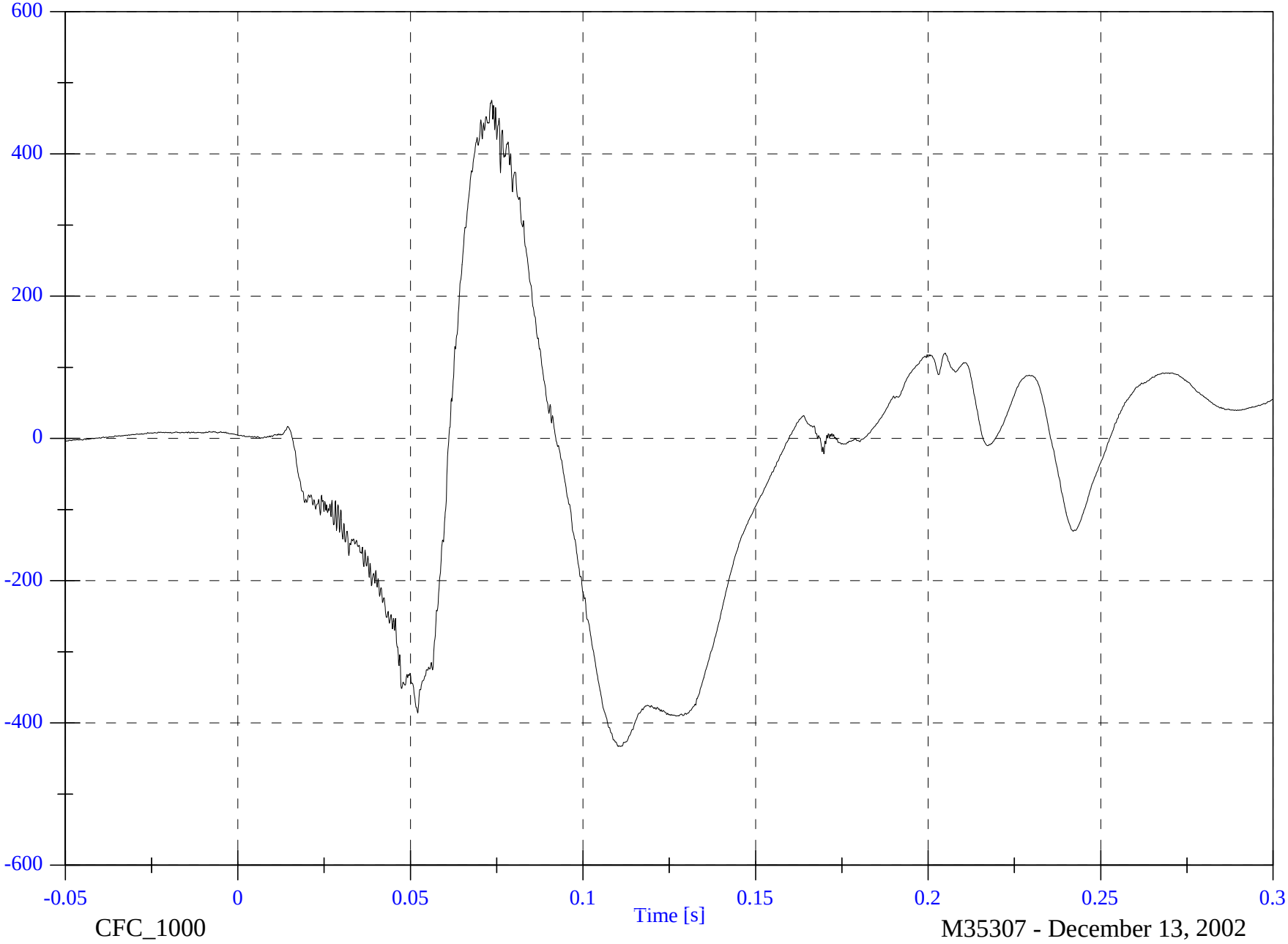
CFC_1000

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1P1 Upper Neck Fx

Max: 475.6 [N] at 0.073 [s]
Min: -433.0 [N] at 0.111 [s]



CFC_1000

M35307 - December 13, 2002

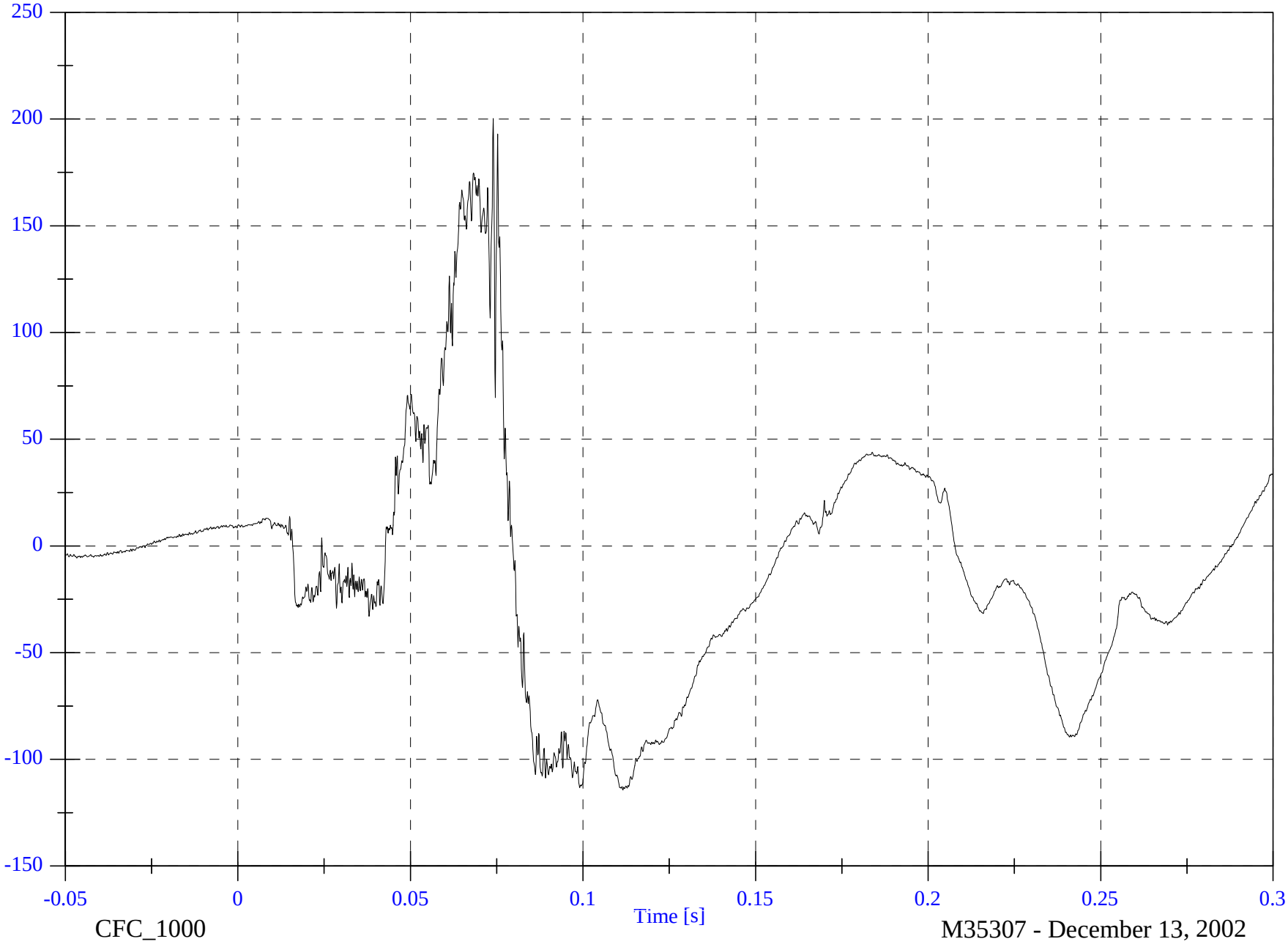
B-16

8642-NCAP-25

NCAP Test #3 - 2003 Honda S2000

V1P1 Upper Neck Fy

Max: 200.2 [N] at 0.074 [s]
Min: -114.4 [N] at 0.112 [s]



CFC_1000

M35307 - December 13, 2002

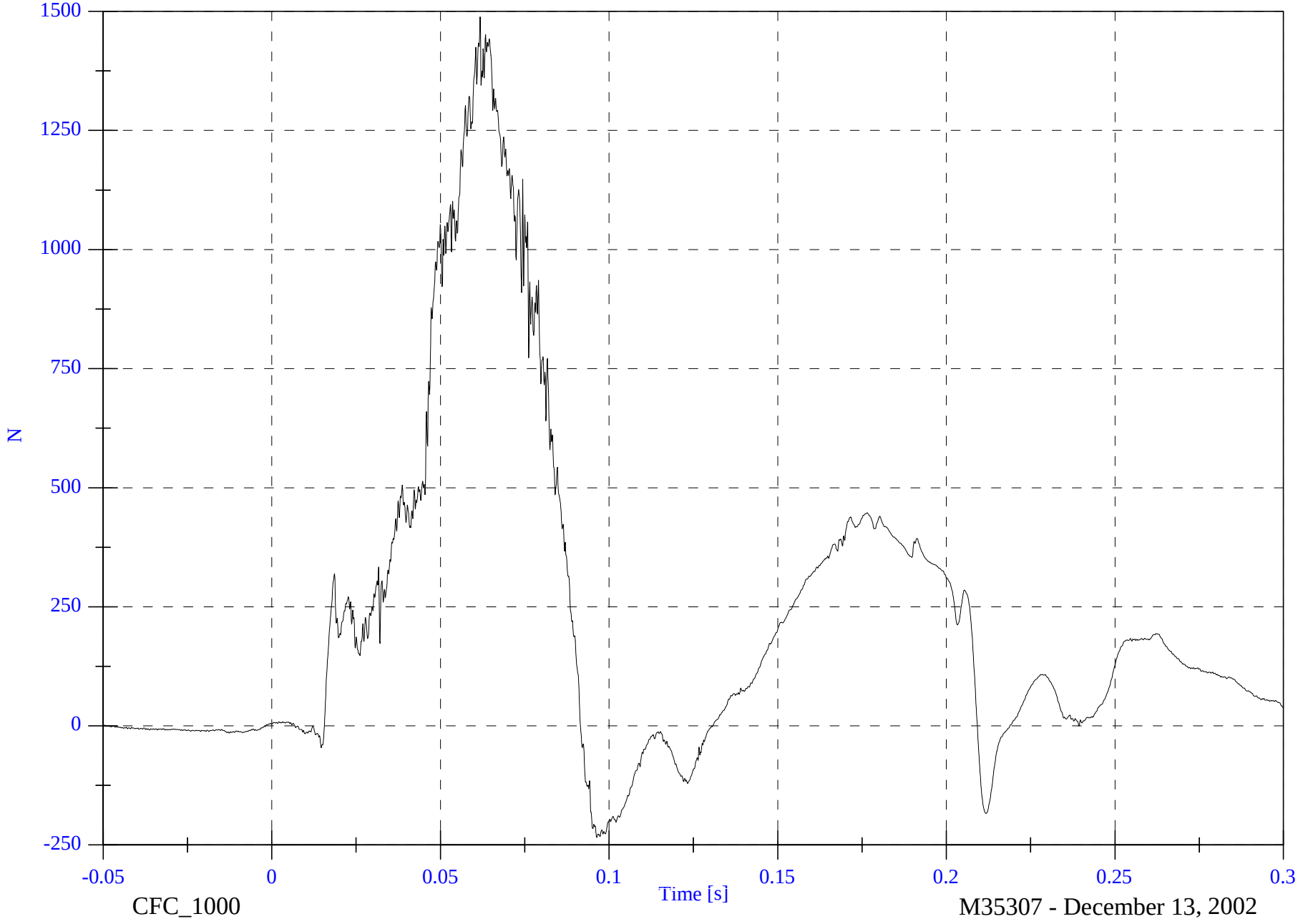
B-17

8642-NCAP-25

NCAP Test #3 - 2003 Honda S2000

V1P1 Upper Neck Fz

Max: 1488.5 [N] at 0.062 [s]
Min: -234.0 [N] at 0.096 [s]



CFC_1000

M35307 - December 13, 2002

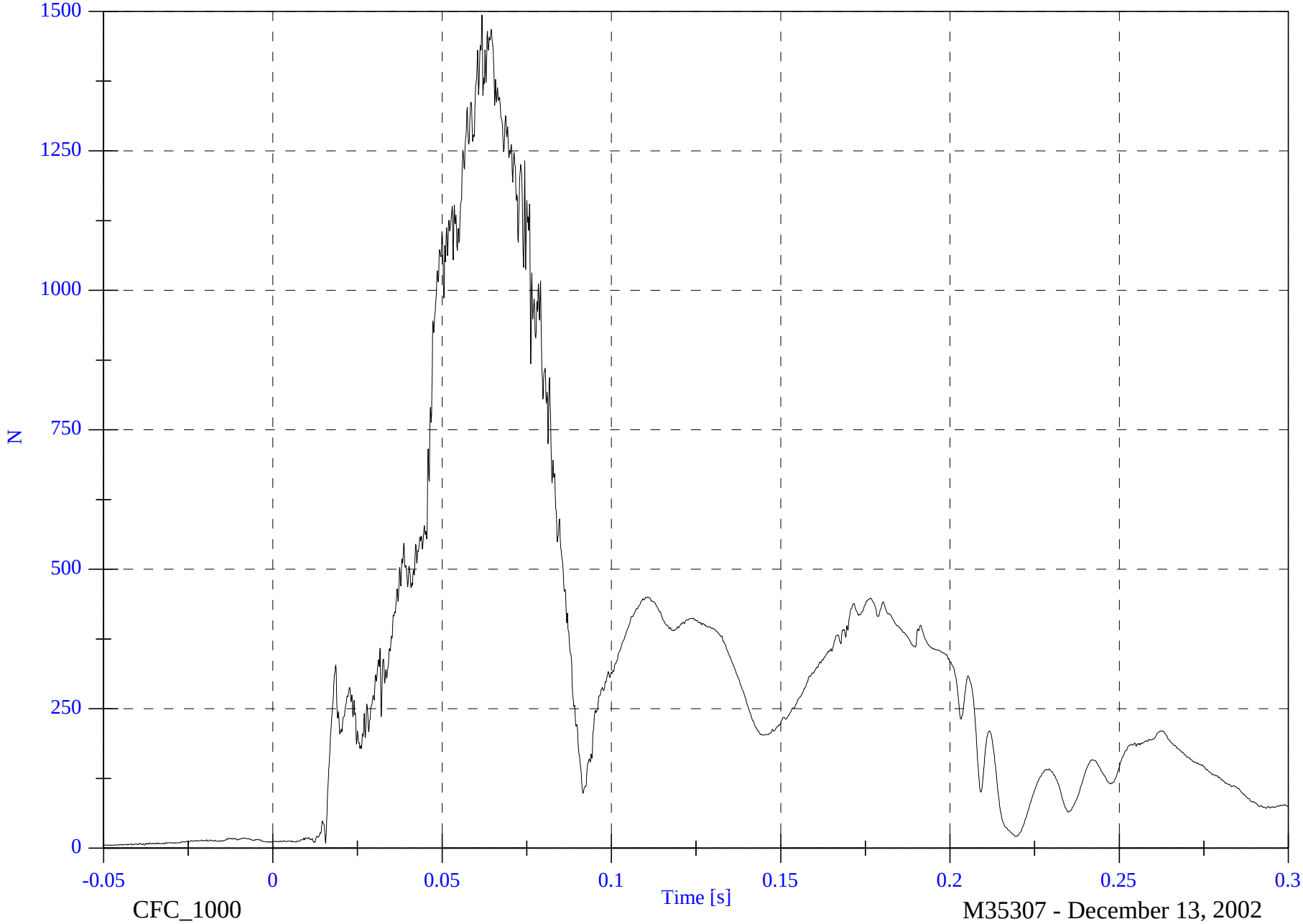
B-18

8642-NCAP-25

NCAP Test #3 - 2003 Honda S2000

V1P1 Upper Neck F Resultant

Max: 1493.4 [N] at 0.062 [s]
Min: 4.9 [N] at -0.048 [s]



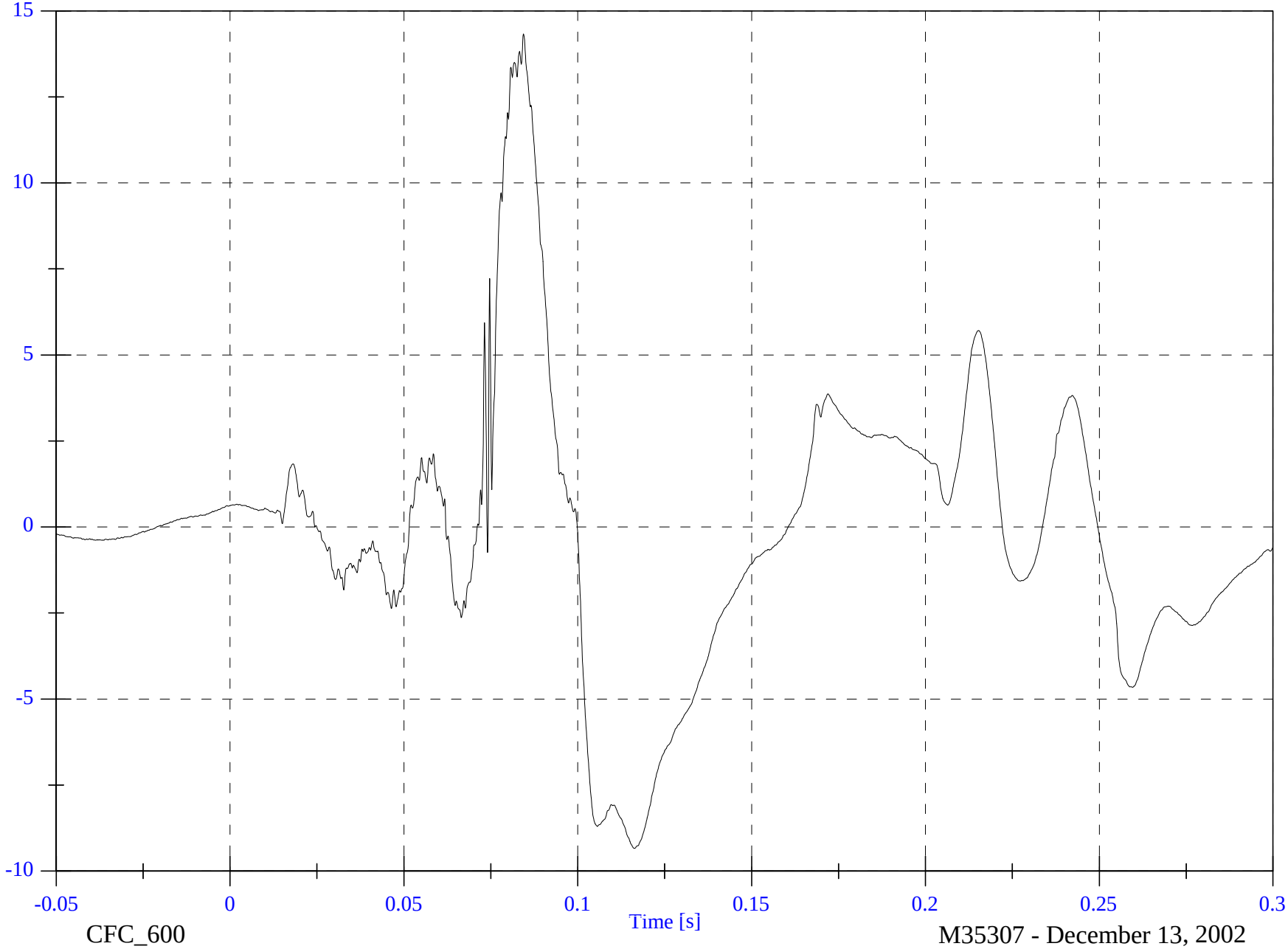
CFC_1000

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1P1 Upper Neck Mx

Max: 14.3 [N-m] at 0.084 [s]
Min: -9.3 [N-m] at 0.116 [s]



CFC_600

M35307 - December 13, 2002

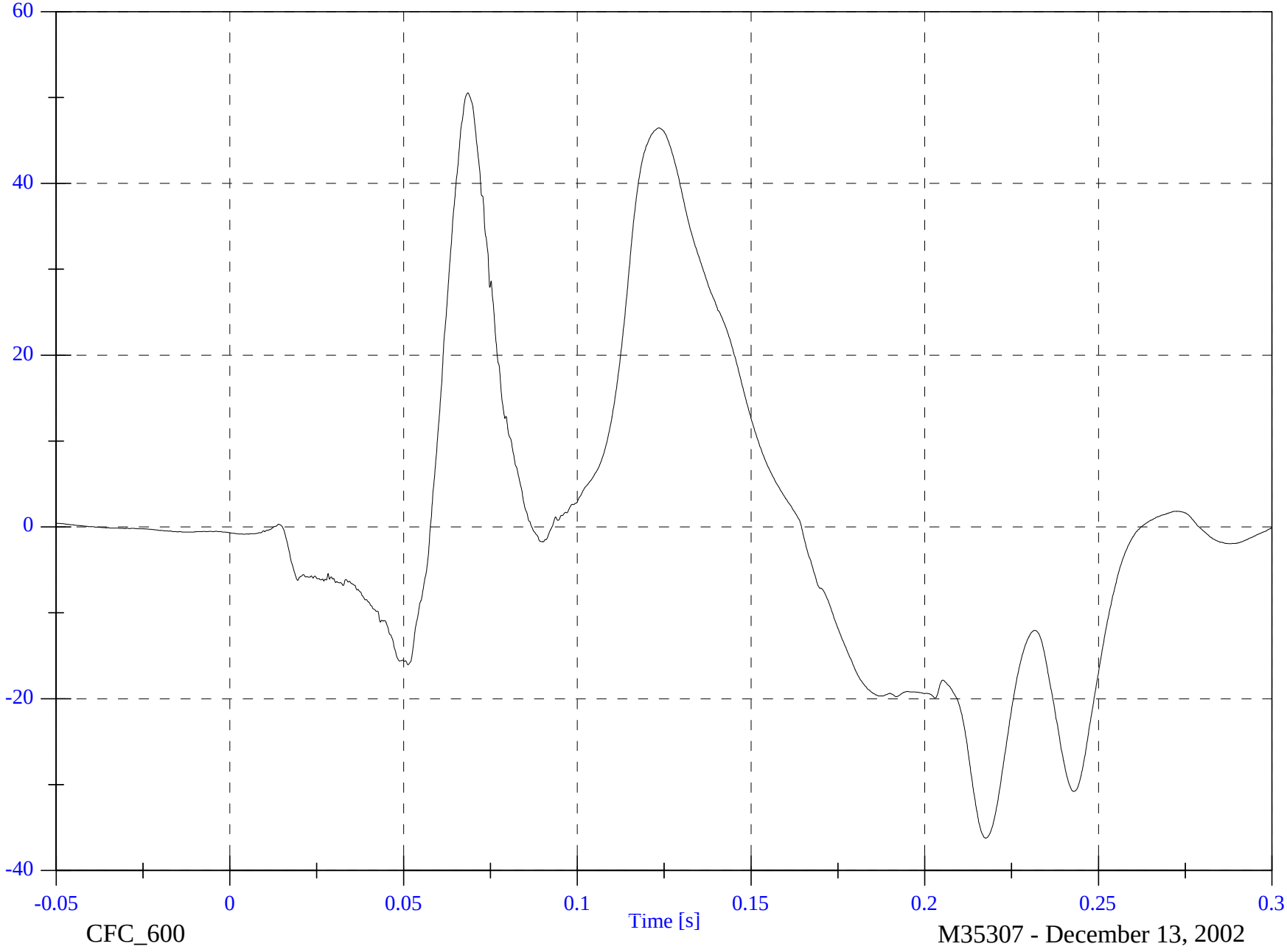
B-20

8642-NCAP-25

NCAP Test #3 - 2003 Honda S2000

V1P1 Upper Neck My

Max: 50.6 [N-m] at 0.068 [s]
Min: -36.2 [N-m] at 0.218 [s]



CFC_600

M35307 - December 13, 2002

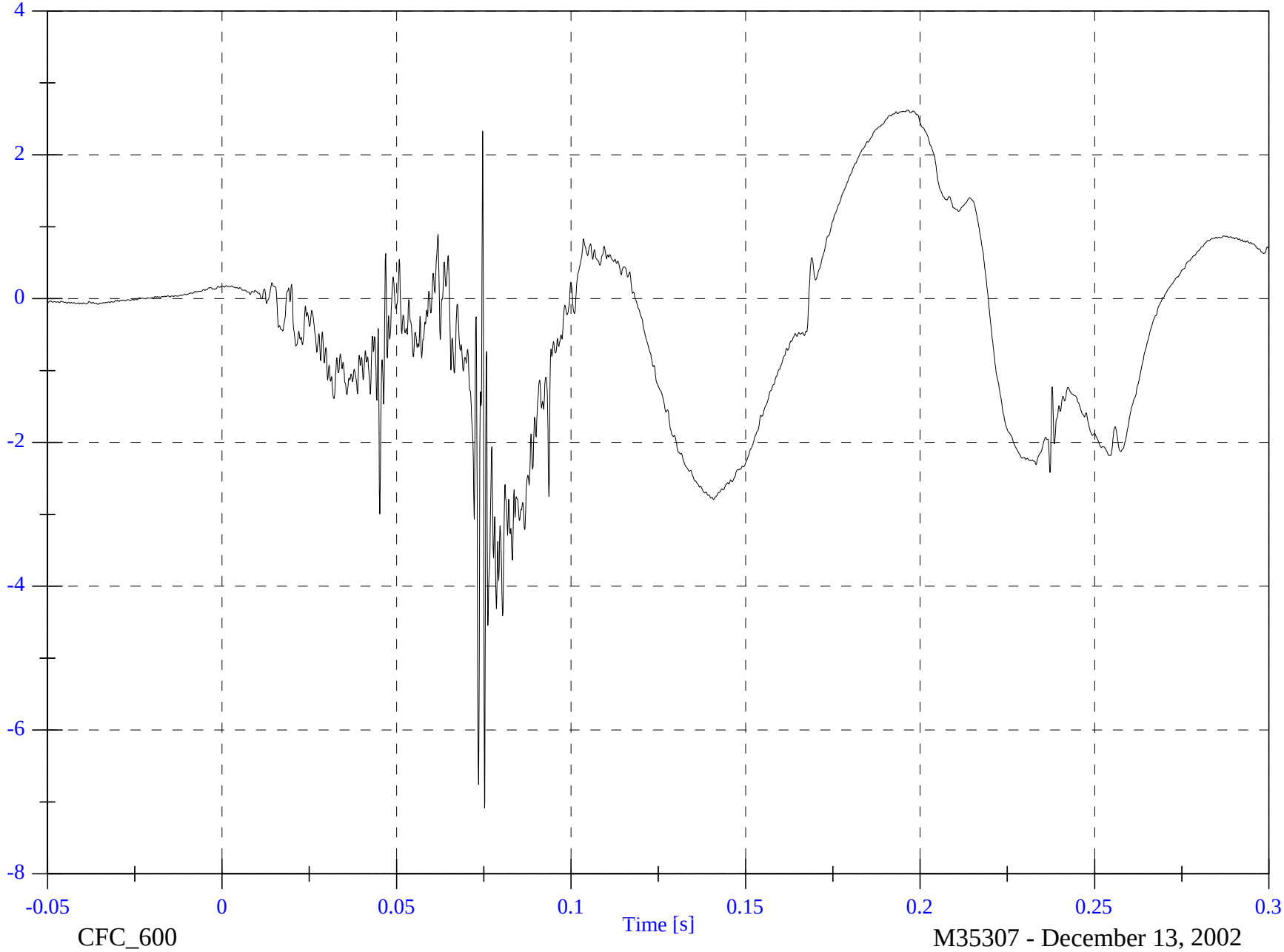
B-21

8642-NCAP-25

NCAP Test #3 - 2003 Honda S2000

V1P1 Upper Neck Mz

Max: 2.6 [N-m] at 0.196 [s]
Min: -7.1 [N-m] at 0.075 [s]



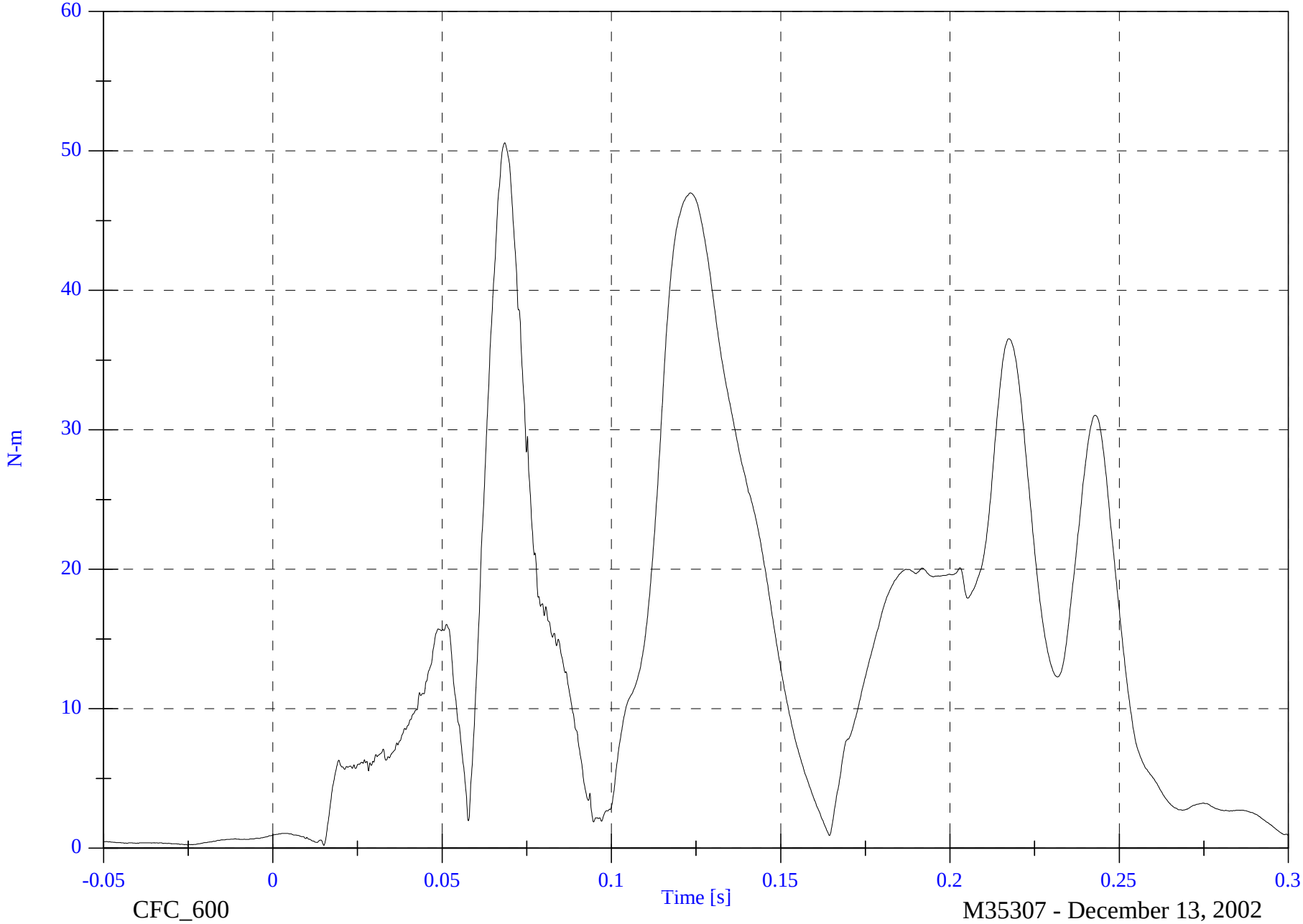
CFC_600

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1P1 Upper Neck M Resultant

Max: 50.6 [N-m] at 0.068 [s]
Min: 0.2 [N-m] at 0.015 [s]

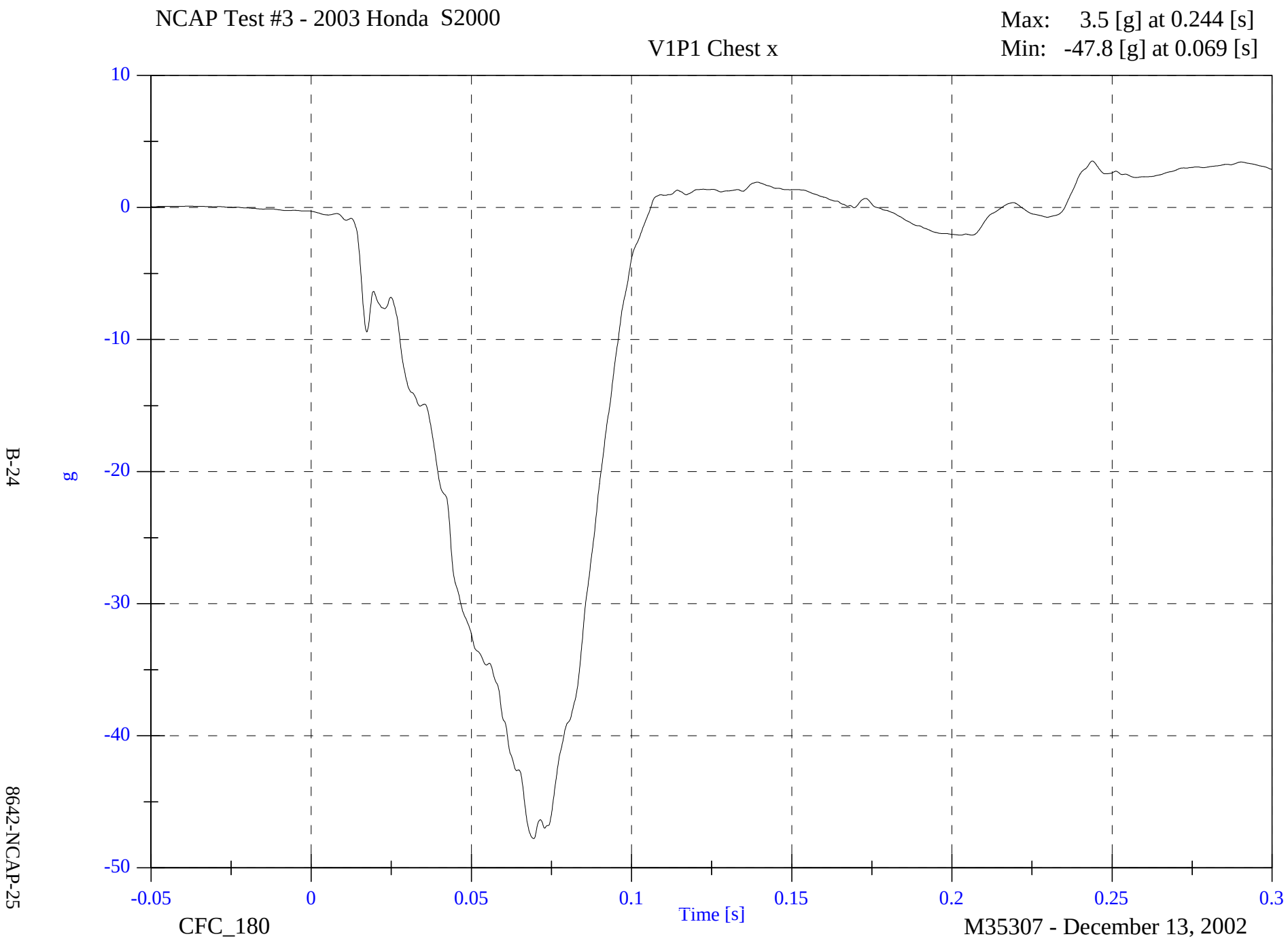


CFC_600

M35307 - December 13, 2002

B-23

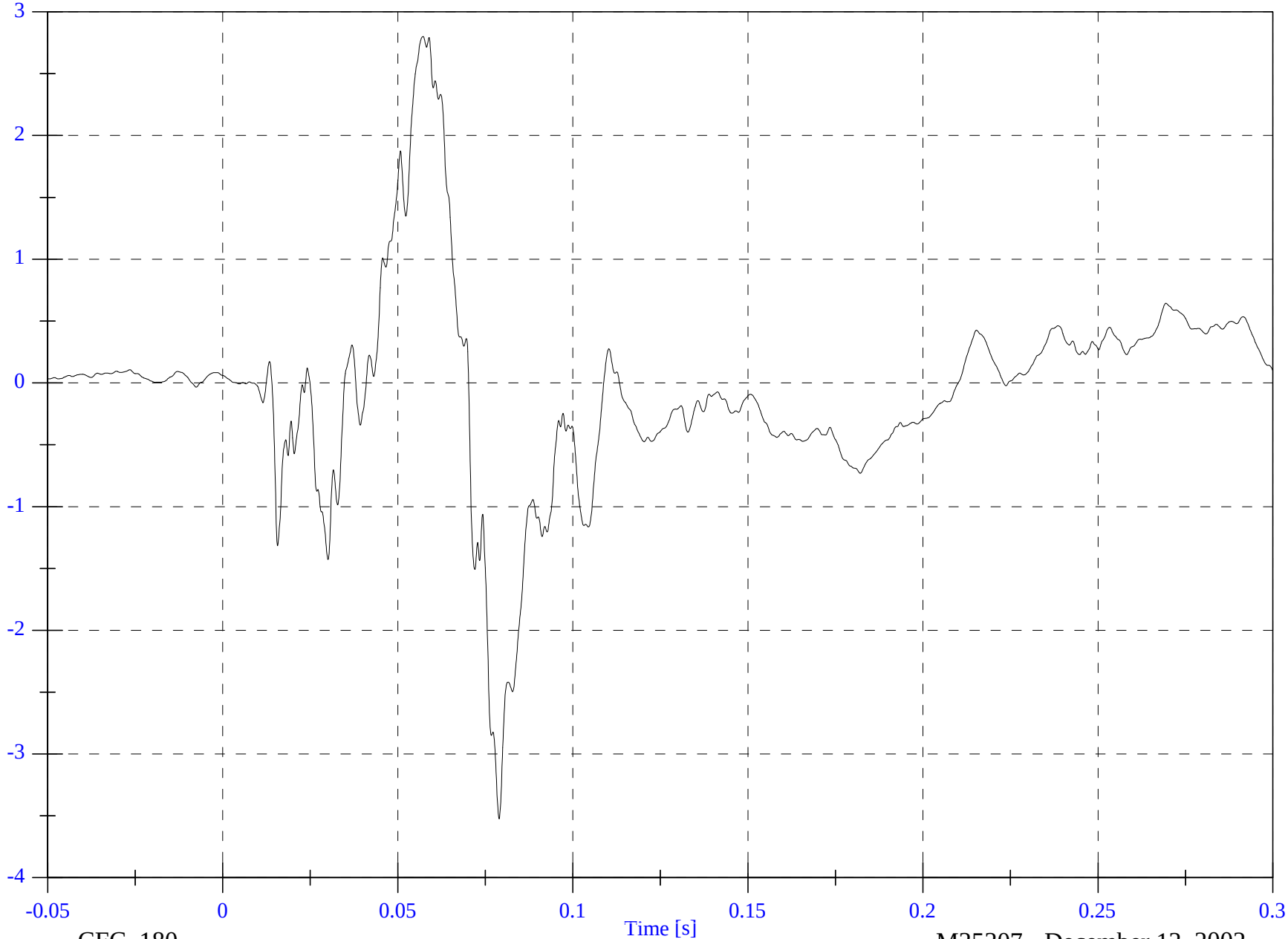
8642-NCAP-25


NCAP Test #3 - 2003 Honda S2000
V1P1 Chest x
Max: 3.5 [g] at 0.244 [s]
Min: -47.8 [g] at 0.069 [s]
10
0
-10
-20
-30
-40
-50
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_180
M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1P1 Chest y

Max: 2.8 [g] at 0.057 [s]
Min: -3.5 [g] at 0.079 [s]



B-25

8642-NCAP-25

CFC_180

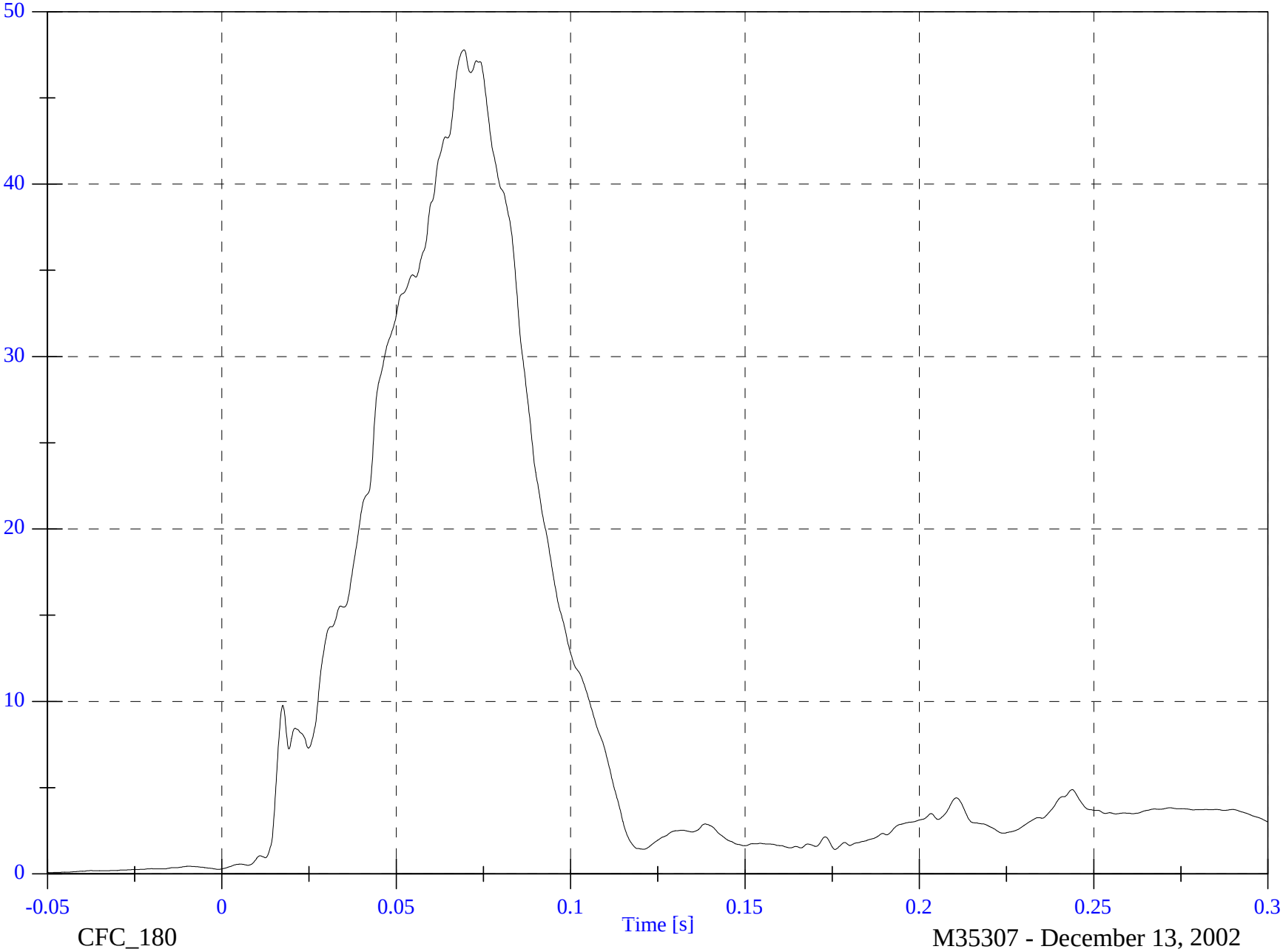
M35307 - December 13, 2002


NCAP Test #3 - 2003 Honda S2000
V1P1 Chest z
Max: 5.4 [g] at 0.037 [s]
Min: -13.1 [g] at 0.097 [s]
7.5
5
2.5
0
-2.5
-5
-7.5
-10
-12.5
-15
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_180
M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1P1 Chest Resultant

Max: 47.8 [g] at 0.069 [s]
Min: 0.1 [g] at -0.049 [s]

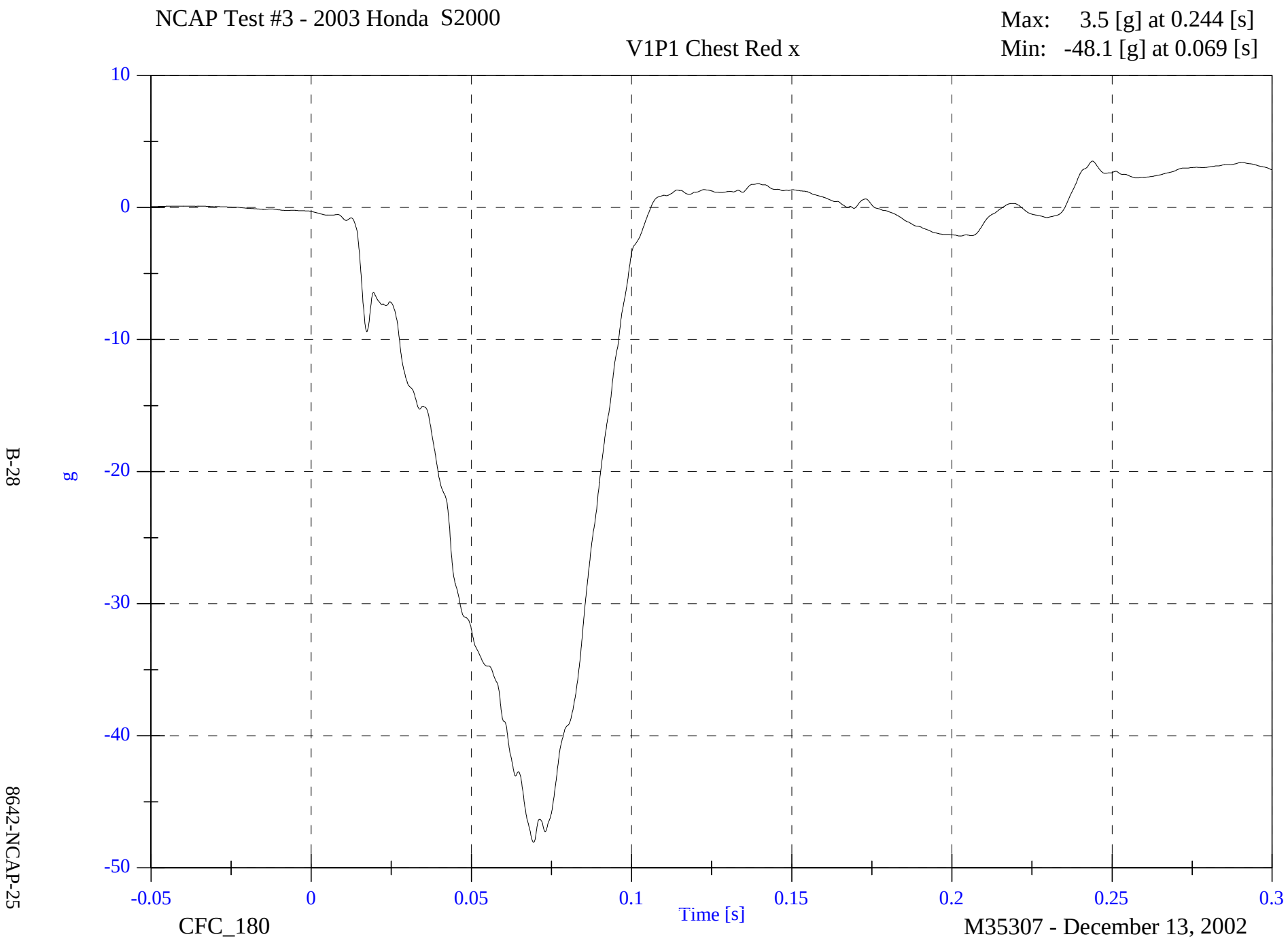


B-27

8642-NCAP-25

CFC_180

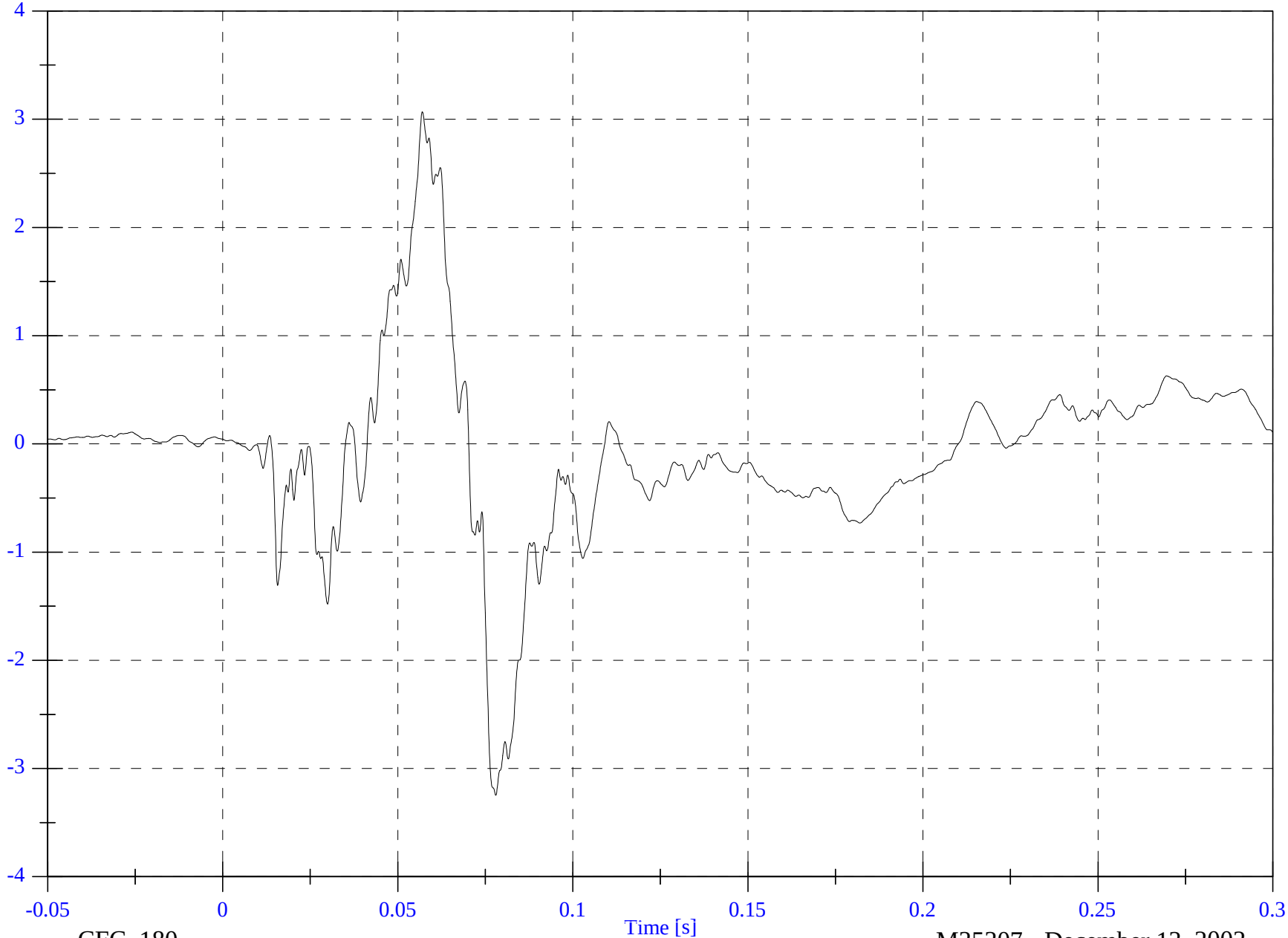
M35307 - December 13, 2002


NCAP Test #3 - 2003 Honda S2000
V1P1 Chest Red x
Max: 3.5 [g] at 0.244 [s]
Min: -48.1 [g] at 0.069 [s]
10
0
-10
-20
-30
-40
-50
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_180
M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1P1 Chest Red y

Max: 3.1 [g] at 0.057 [s]
Min: -3.2 [g] at 0.078 [s]



CFC_180

M35307 - December 13, 2002

B-29

8642-NCAP-25

NCAP Test #3 - 2003 Honda S2000

V1P1 Chest Red z

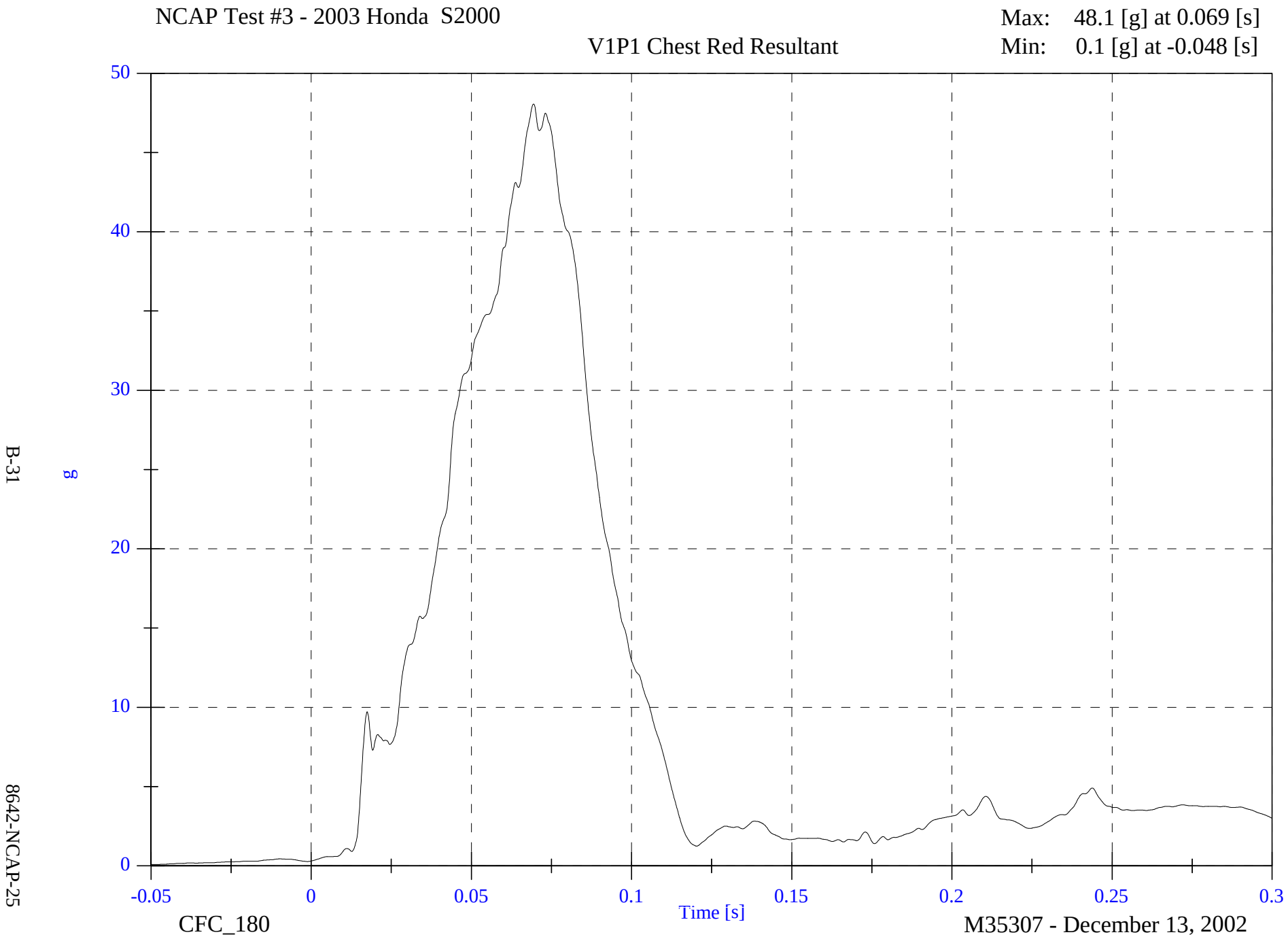
Max: 5.0 [g] at 0.037 [s]
Min: -13.3 [g] at 0.095 [s]

CFC_180

M35307 - December 13, 2002

B-30

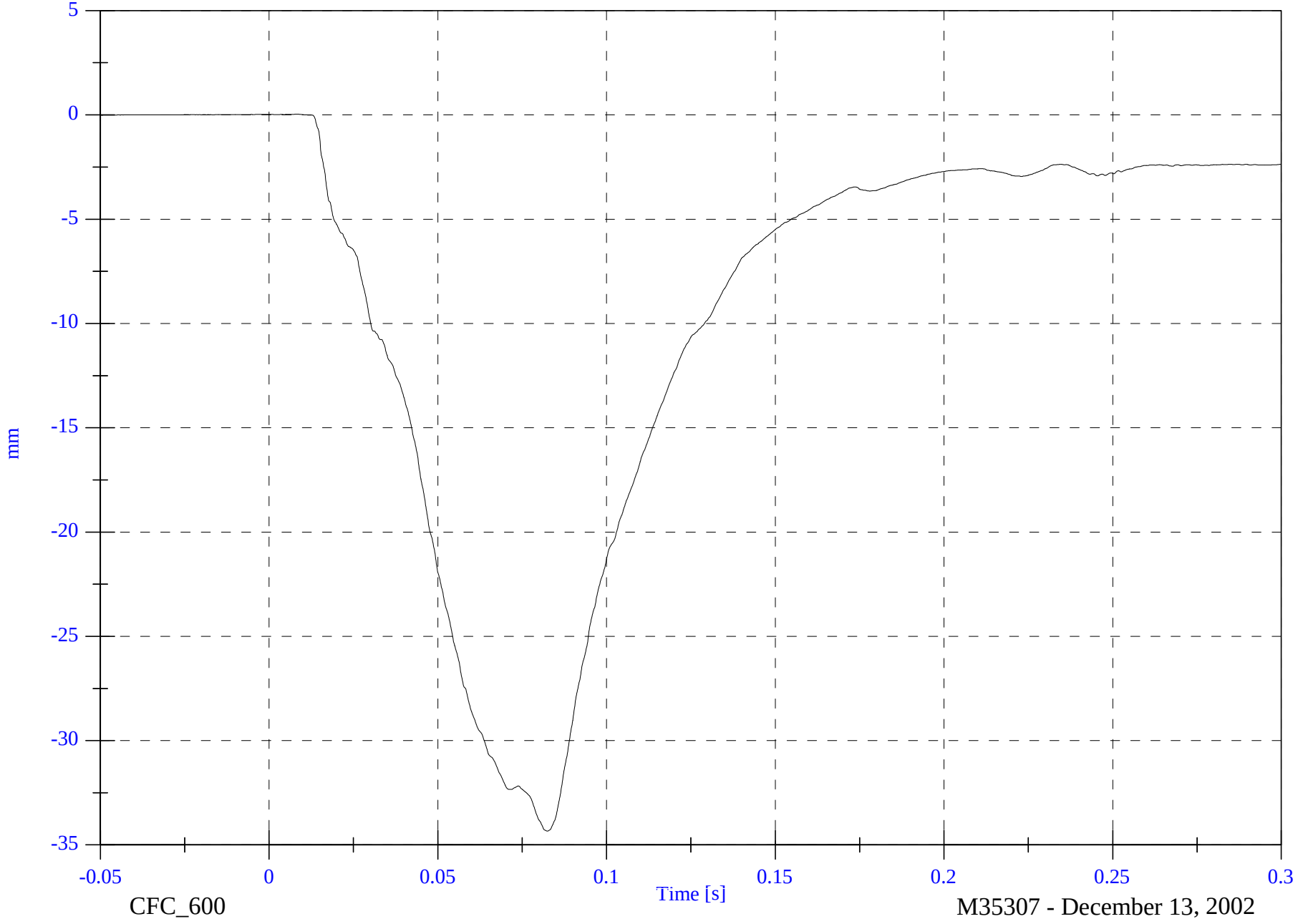
8642-NCAP-25


NCAP Test #3 - 2003 Honda S2000
V1P1 Chest Red Resultant
Max: 48.1 [g] at 0.069 [s]
Min: 0.1 [g] at -0.048 [s]
50
40
30
20
10
0
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_180
M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1P1 Chest Compression

Max: 0.0 [mm] at 0.008 [s]
Min: -34.3 [mm] at 0.082 [s]



CFC_600

M35307 - December 13, 2002

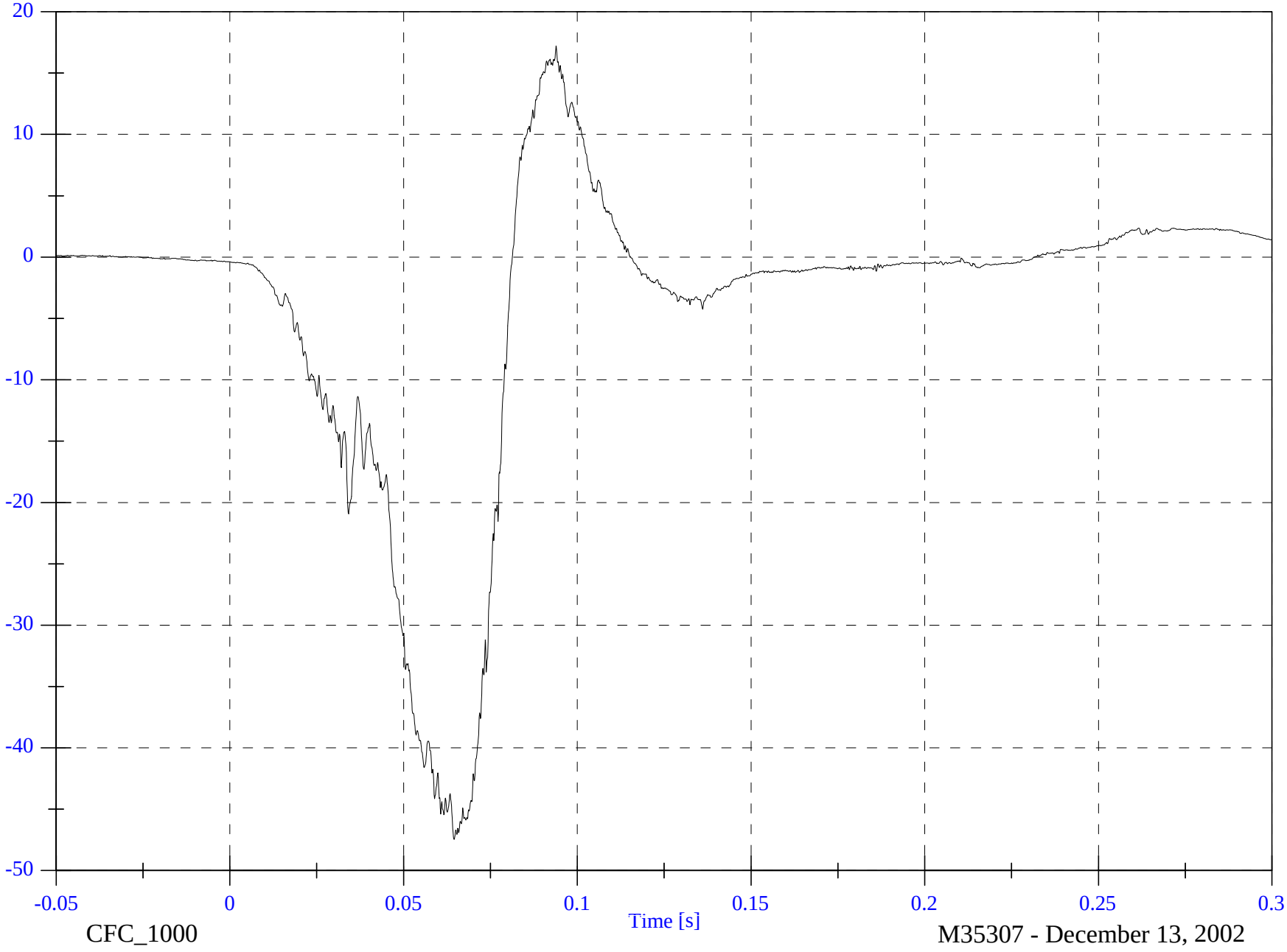
B-32

8642-NCAP-25

NCAP Test #3 - 2003 Honda S2000

V1P1 Pelvic x

Max: 17.2 [g] at 0.094 [s]
Min: -47.5 [g] at 0.065 [s]



B-33

8642-NCAP-25

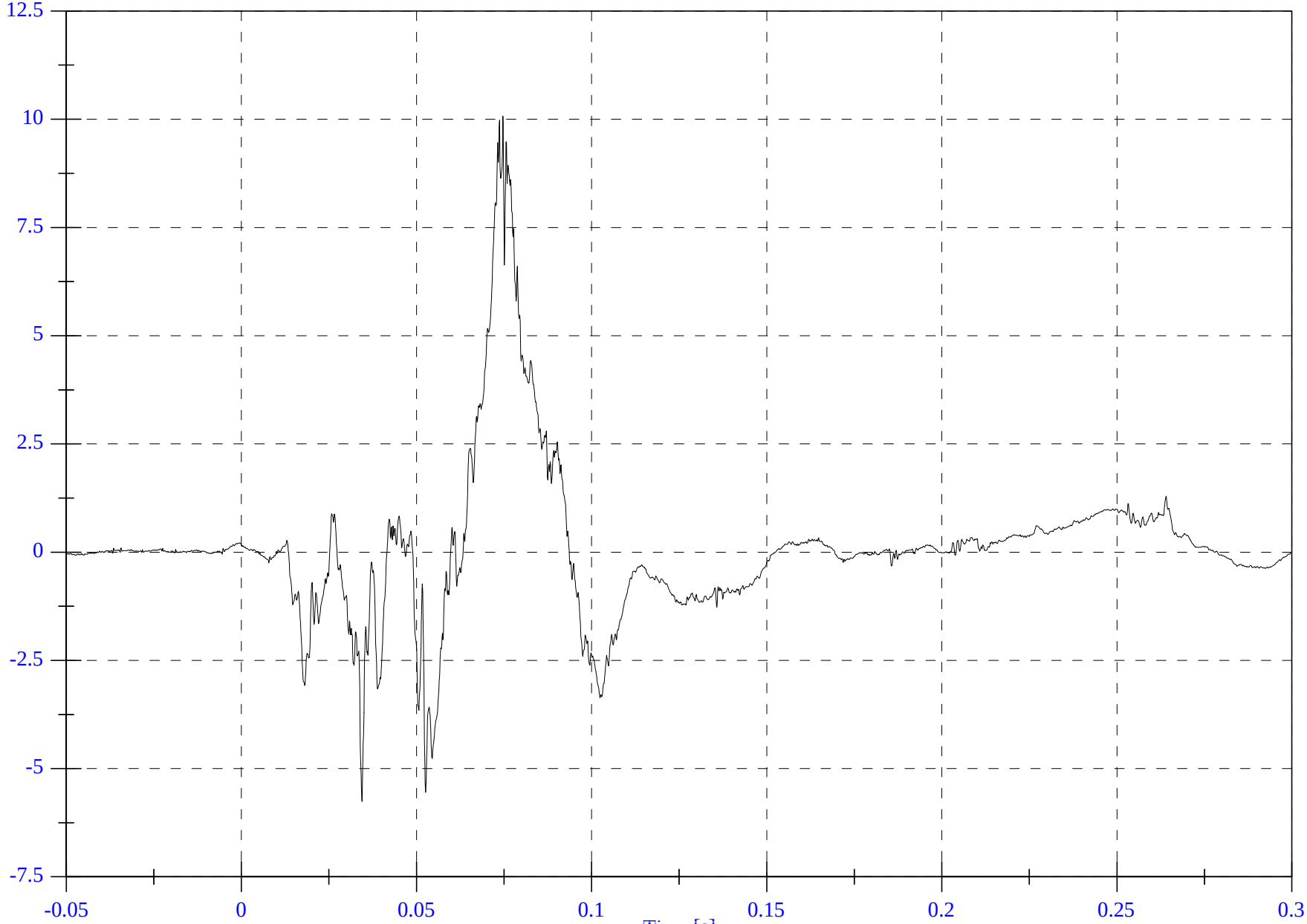
CFC_1000

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1P1 Pelvic y

Max: 10.1 [g] at 0.075 [s]
Min: -5.8 [g] at 0.034 [s]

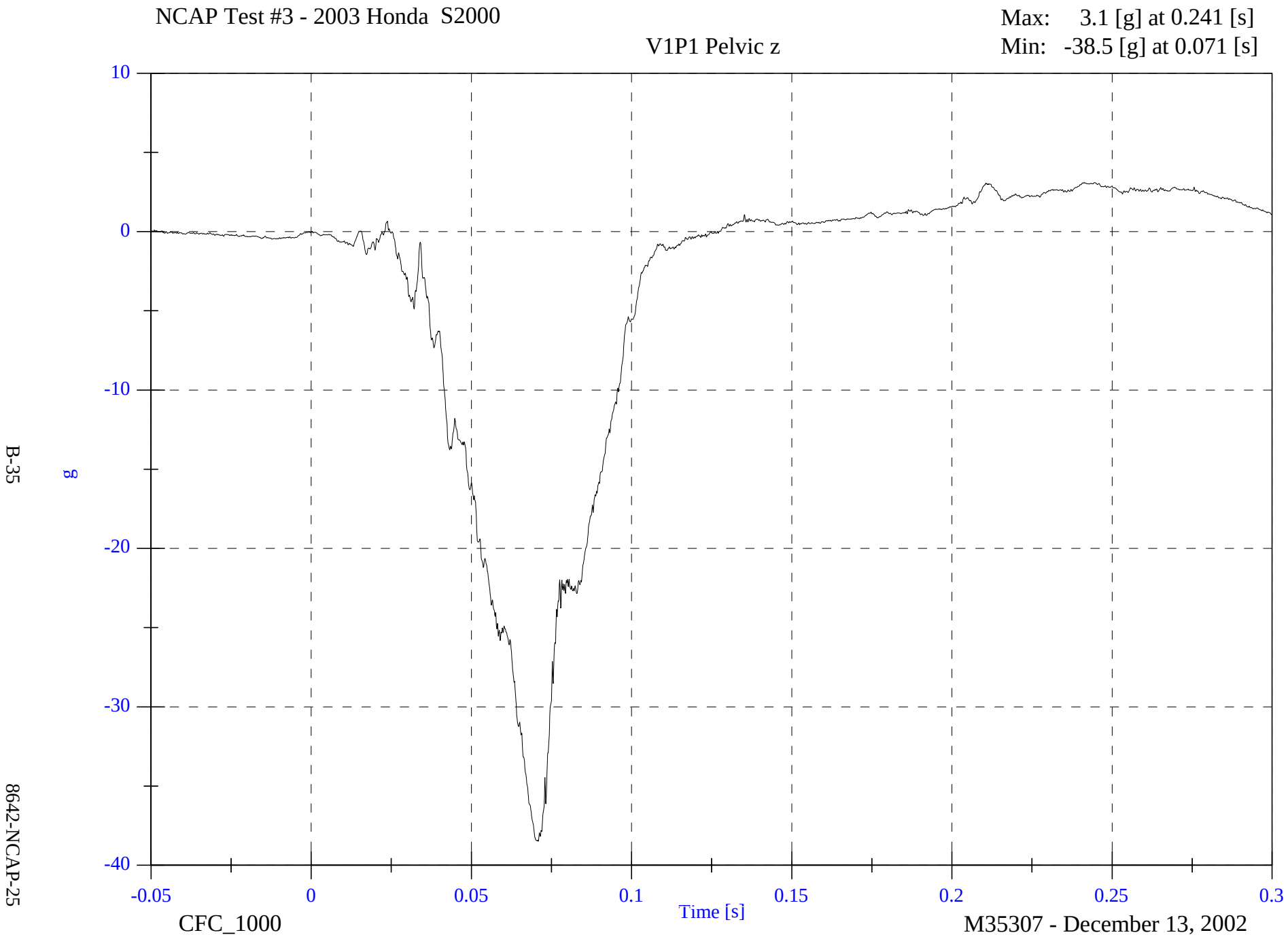


CFC_1000

M35307 - December 13, 2002

B-34

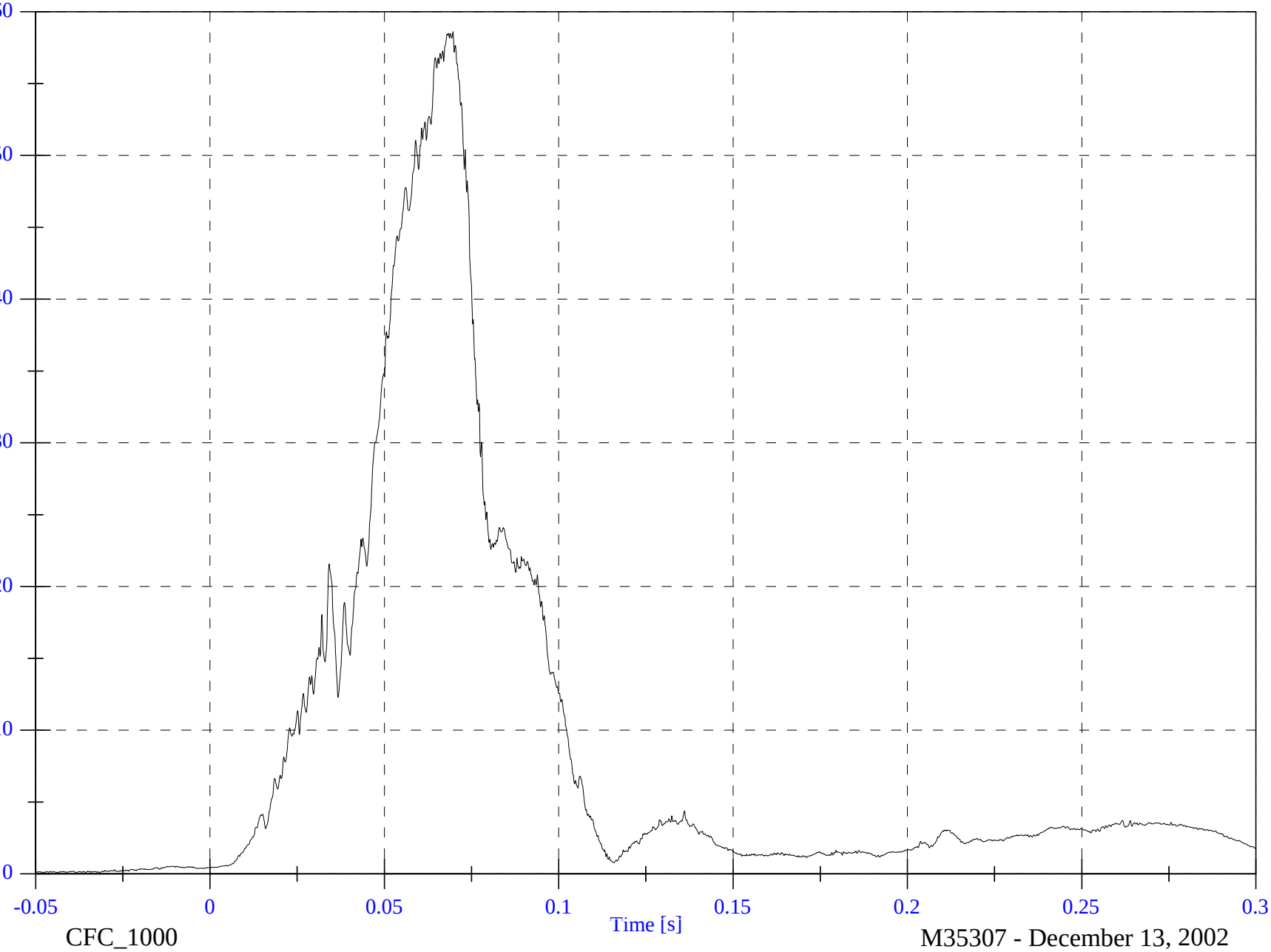
8642-NCAP-25


NCAP Test #3 - 2003 Honda S2000
V1P1 Pelvic z
Max: 3.1 [g] at 0.241 [s]
Min: -38.5 [g] at 0.071 [s]
10
0
-10
-20
-30
-40
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_1000
M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1P1 Pelvic Resultant

Max: 58.6 [g] at 0.070 [s]
Min: 0.1 [g] at -0.032 [s]



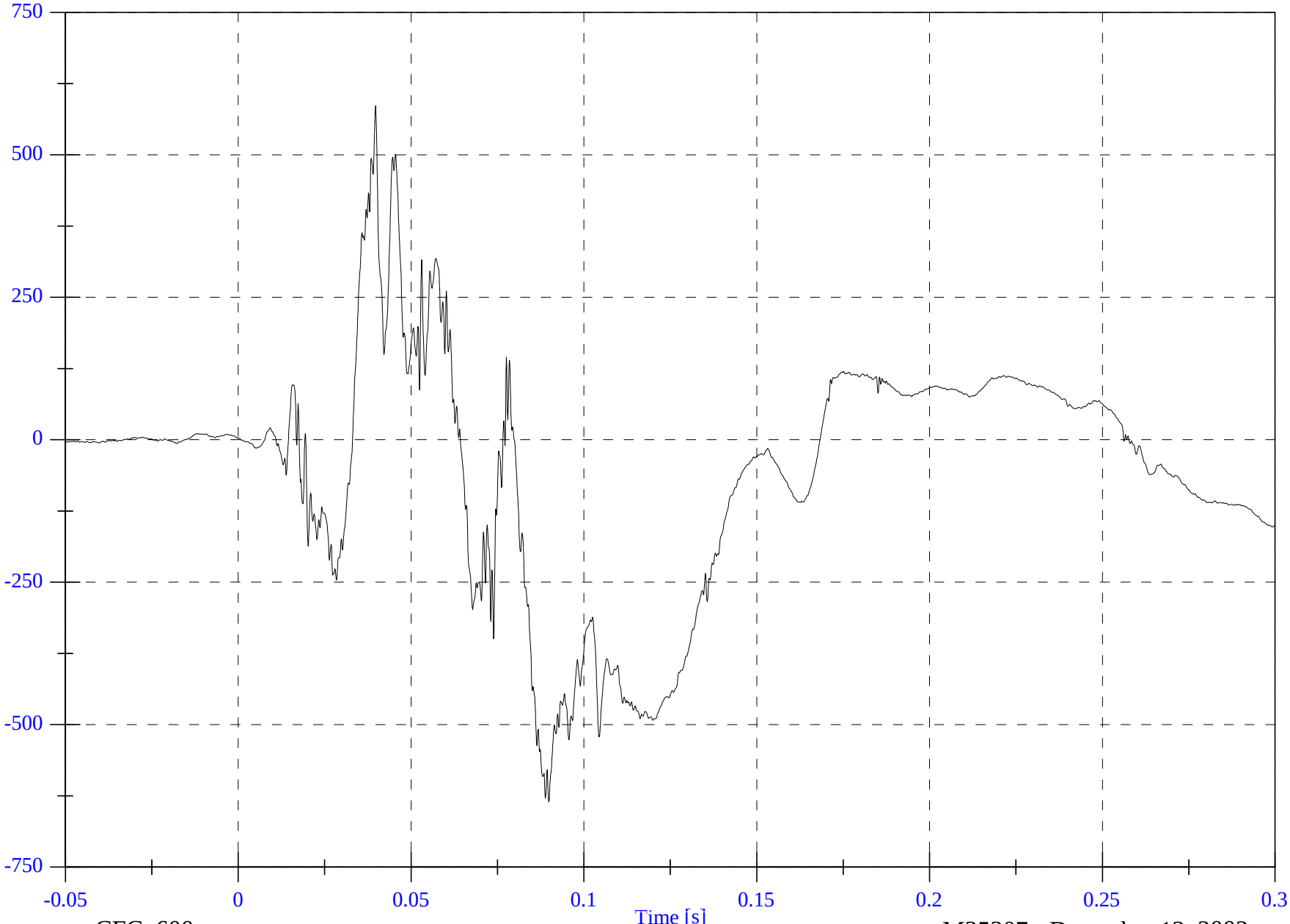
CFC_1000

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1P1 Left Femur

Max: 586.5 [N] at 0.040 [s]
Min: -635.8 [N] at 0.090 [s]



CFC_600

M35307 - December 13, 2002

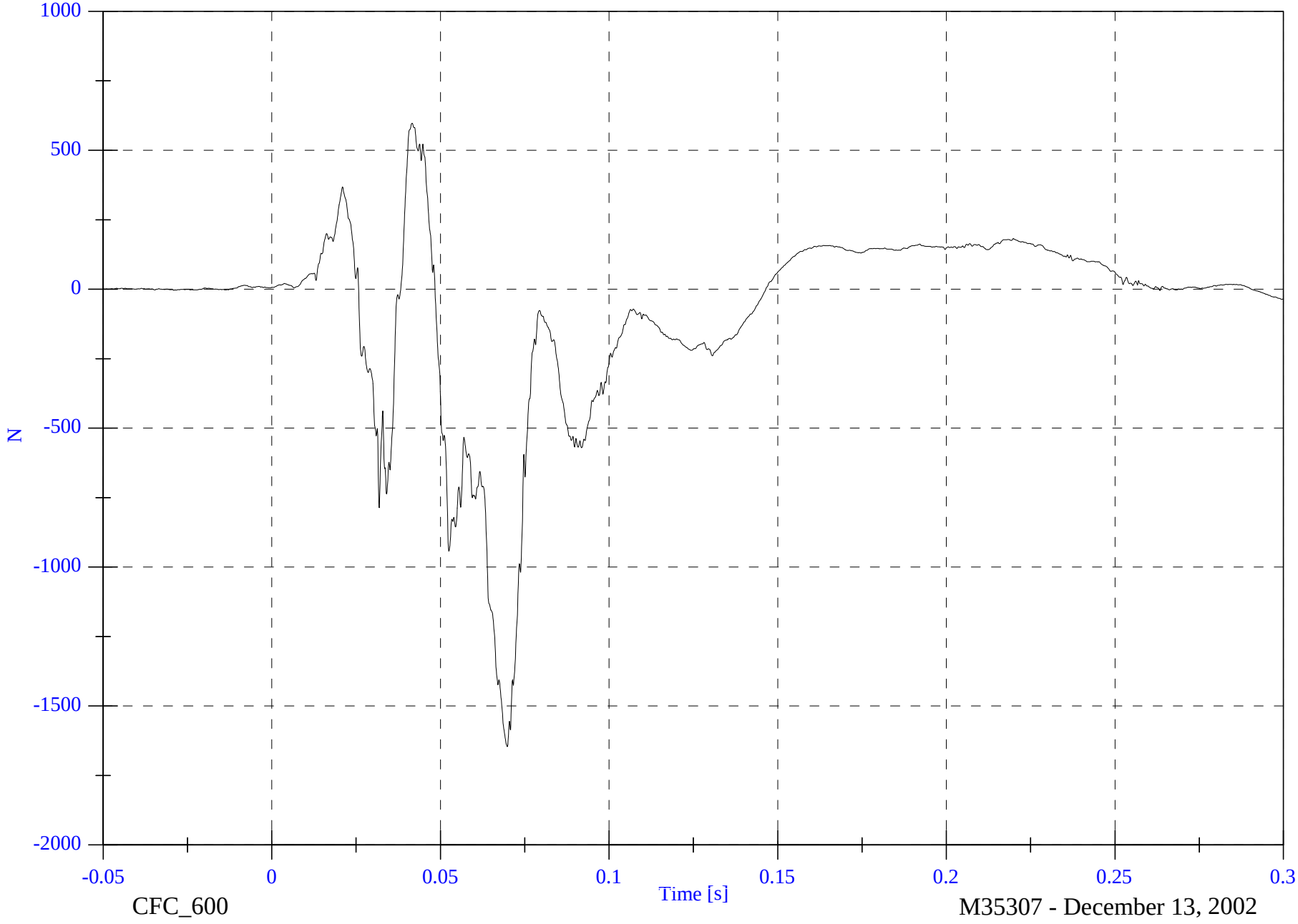
B-37

8642-NCAP-25

NCAP Test #3 - 2003 Honda S2000

V1P1 Right Femur

Max: 597.3 [N] at 0.042 [s]
Min: -1646.8 [N] at 0.070 [s]



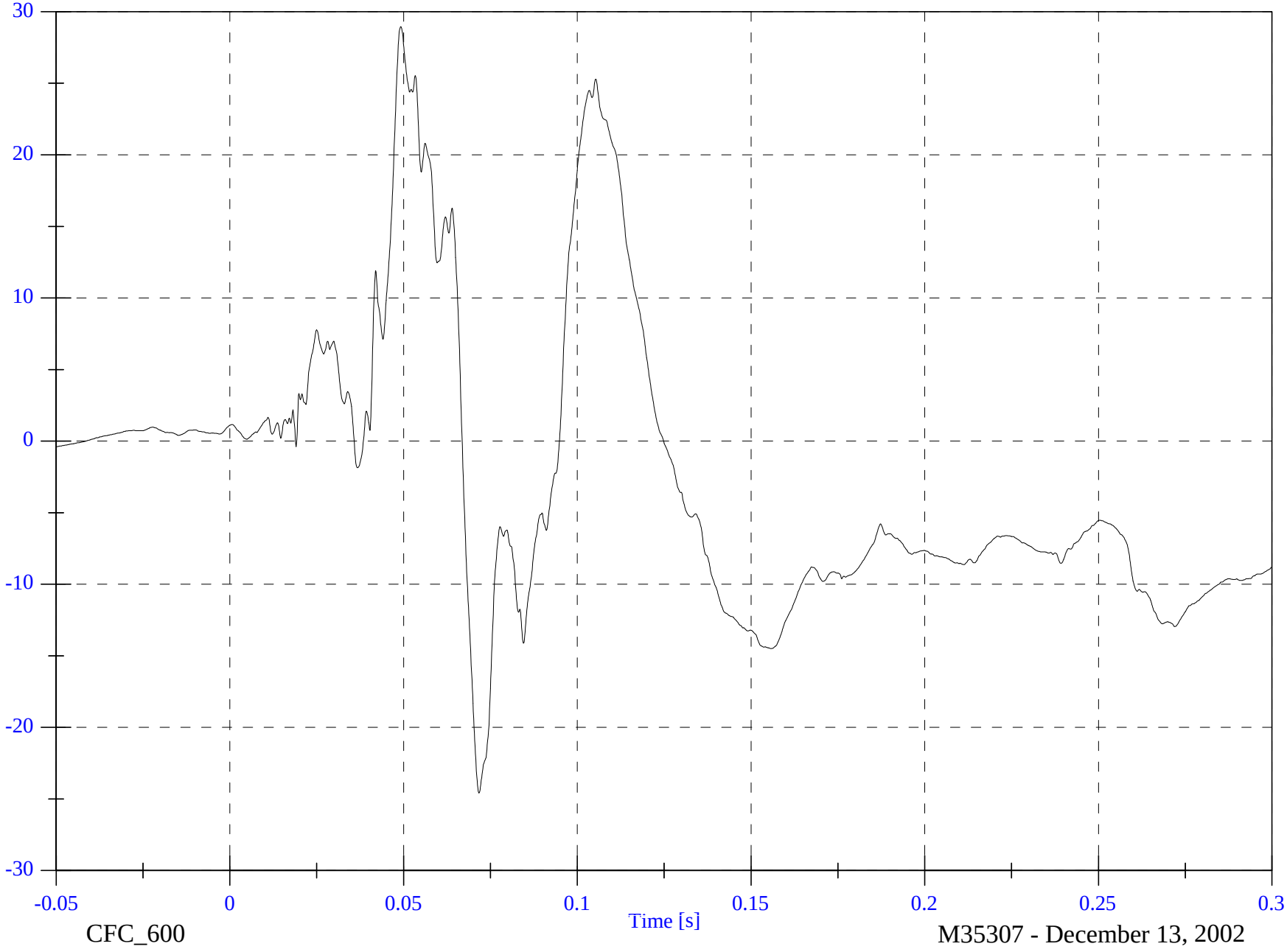
CFC_600

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1P1 Left Upper Tibia Mx

Max: 29.0 [N-m] at 0.049 [s]
Min: -24.6 [N-m] at 0.072 [s]



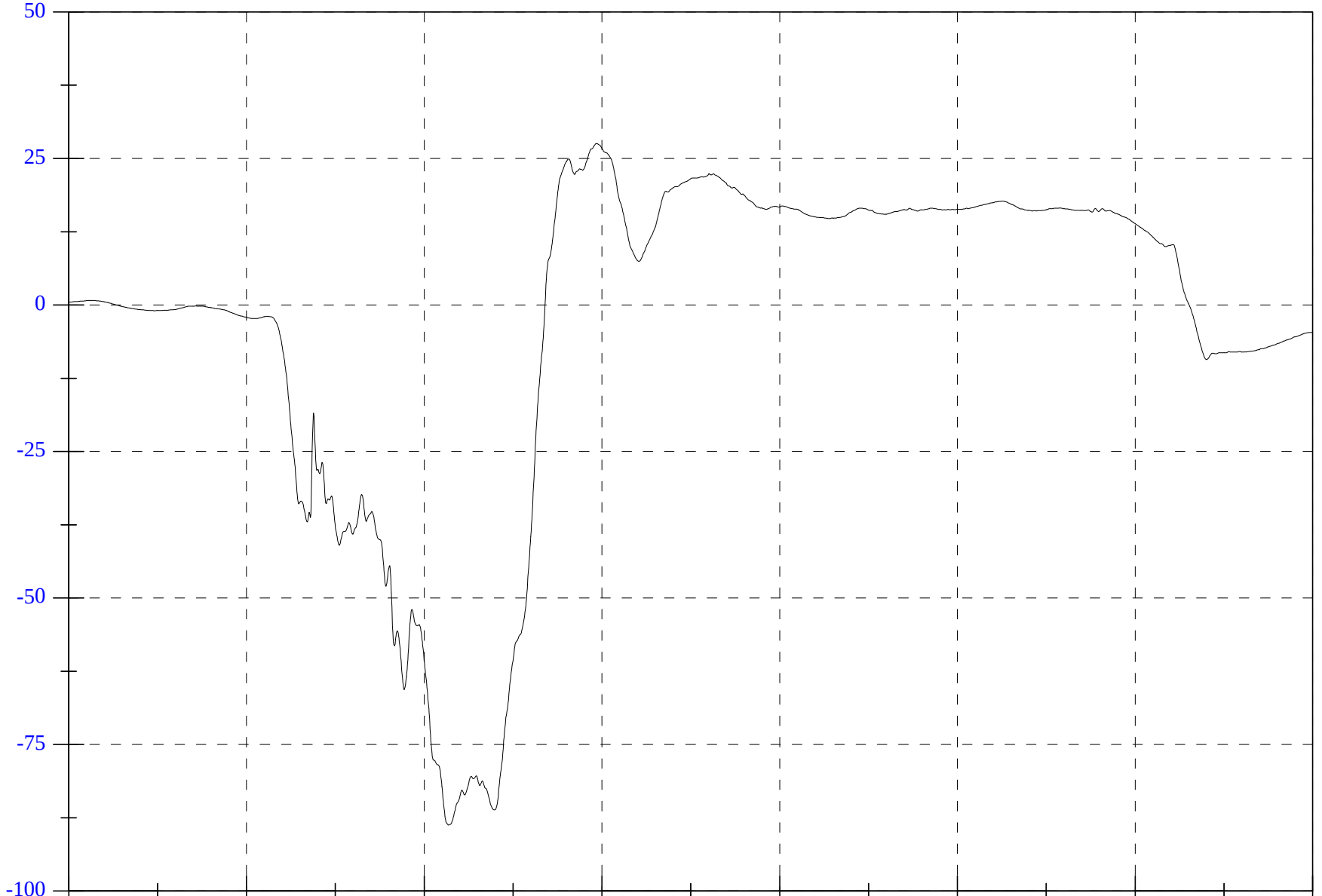
CFC_600

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1P1 Left Upper Tibia My

Max: 27.6 [N-m] at 0.098 [s]
Min: -88.7 [N-m] at 0.057 [s]



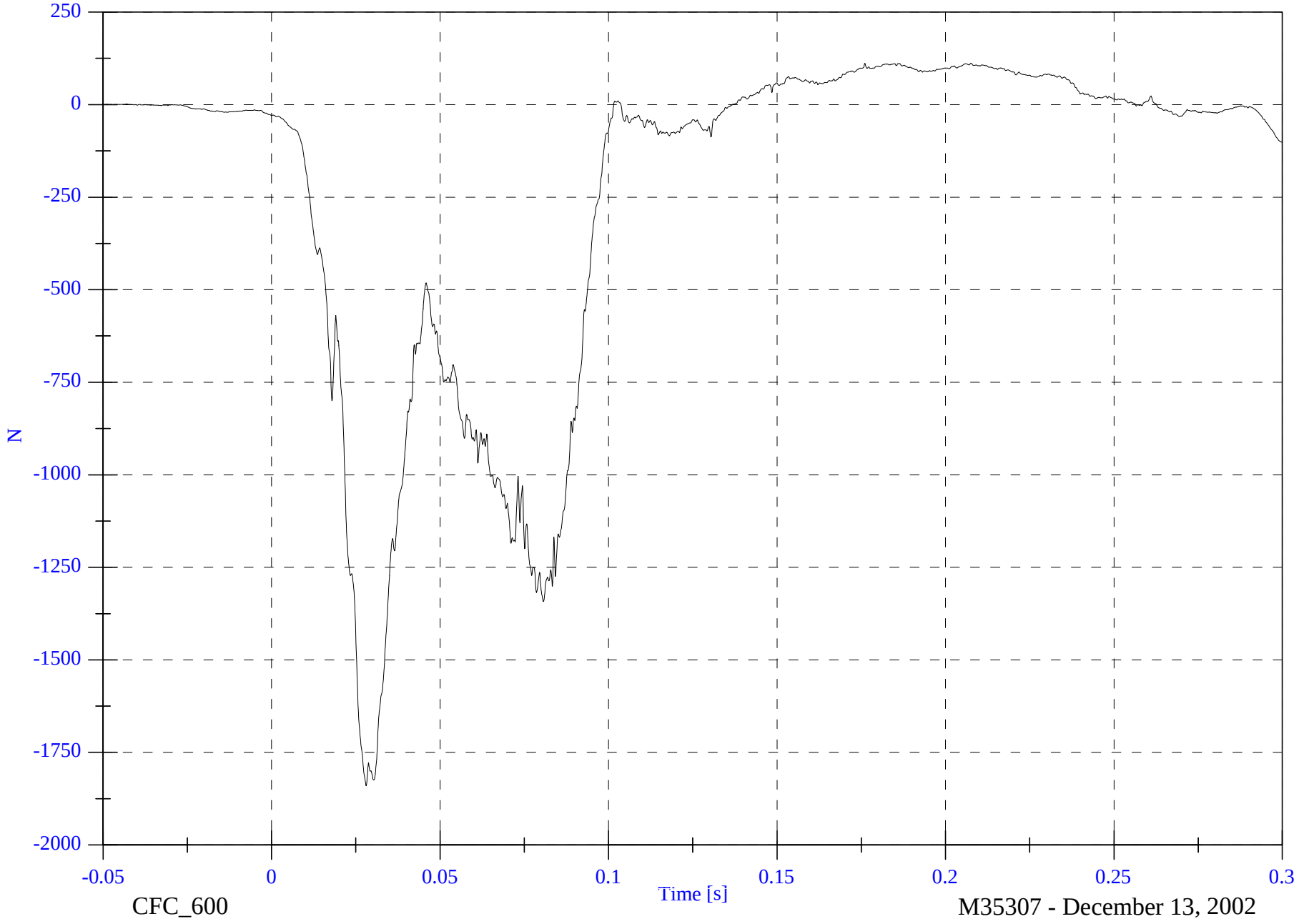
CFC_600

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1P1 Left Lower Tibia Fz

Max: 111.9 [N] at 0.176 [s]
Min: -1840.3 [N] at 0.028 [s]



CFC_600

M35307 - December 13, 2002

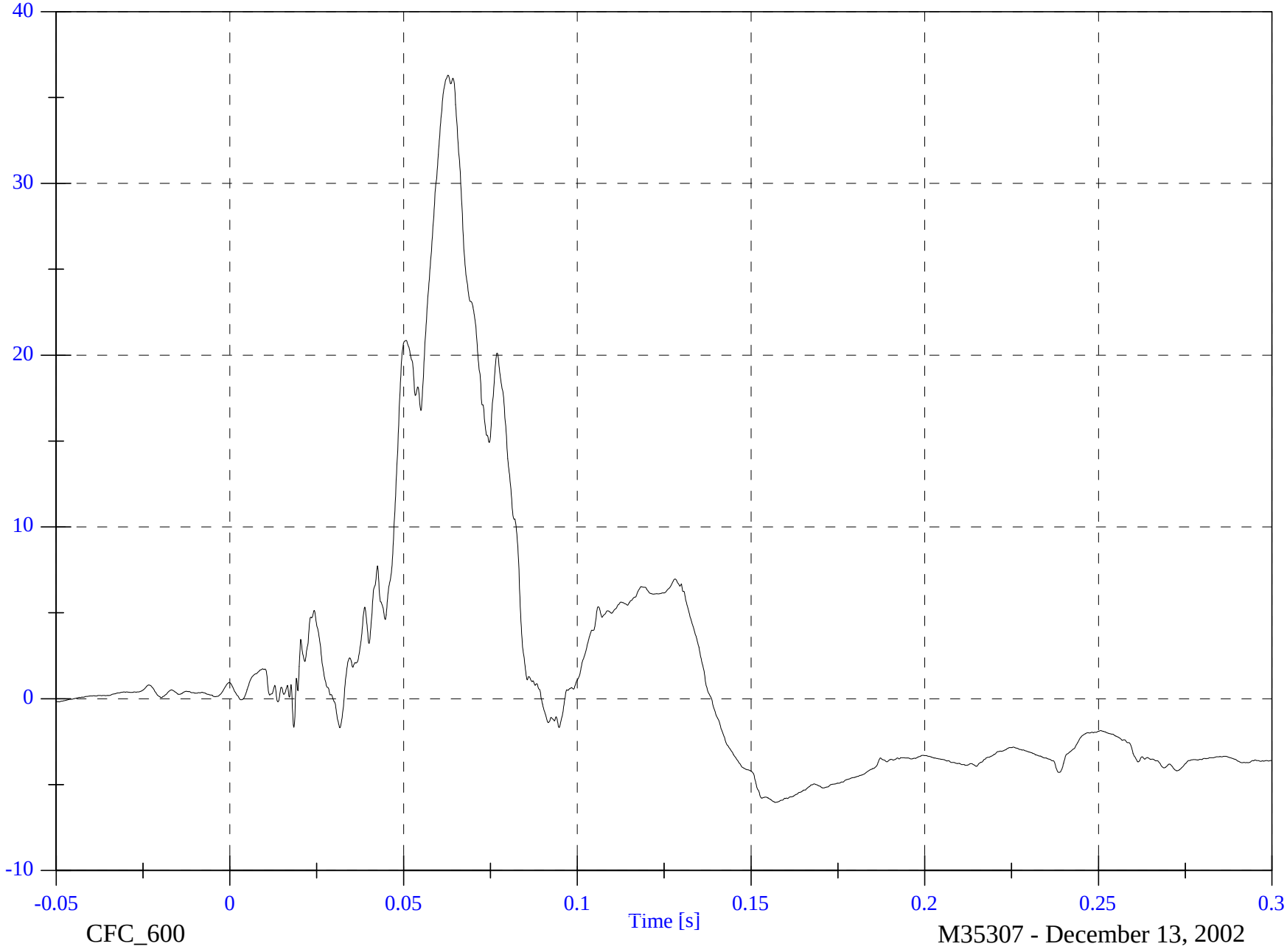
B-41

8642-NCAP-25

NCAP Test #3 - 2003 Honda S2000

V1P1 Left Lower Tibia Mx

Max: 36.3 [N-m] at 0.063 [s]
Min: -6.0 [N-m] at 0.157 [s]



CFC_600

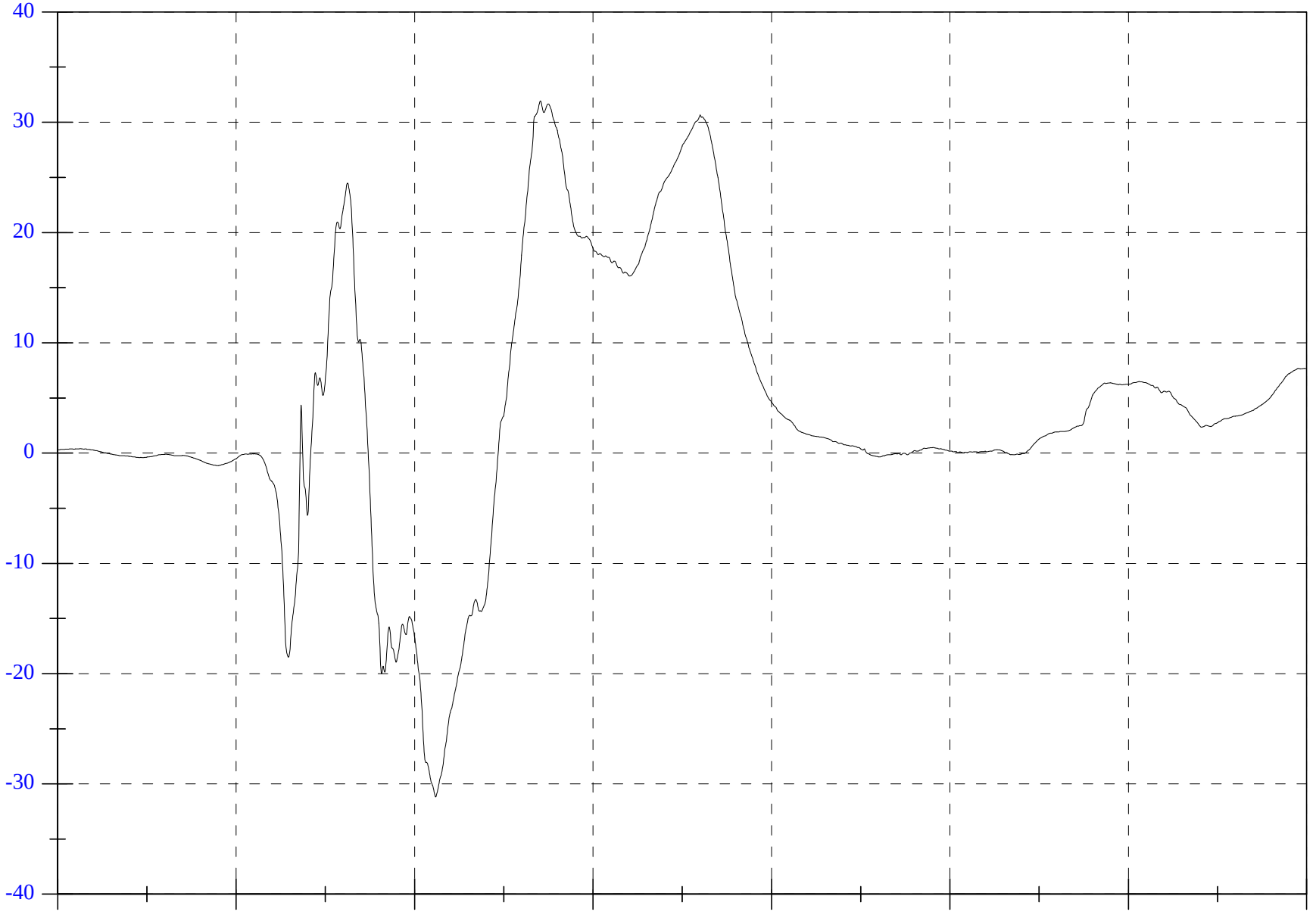
M35307 - December 13, 2002

8642-NCAP-25

NCAP Test #3 - 2003 Honda S2000

V1P1 Left Lower Tibia My

Max: 31.9 [N-m] at 0.085 [s]
Min: -31.2 [N-m] at 0.056 [s]



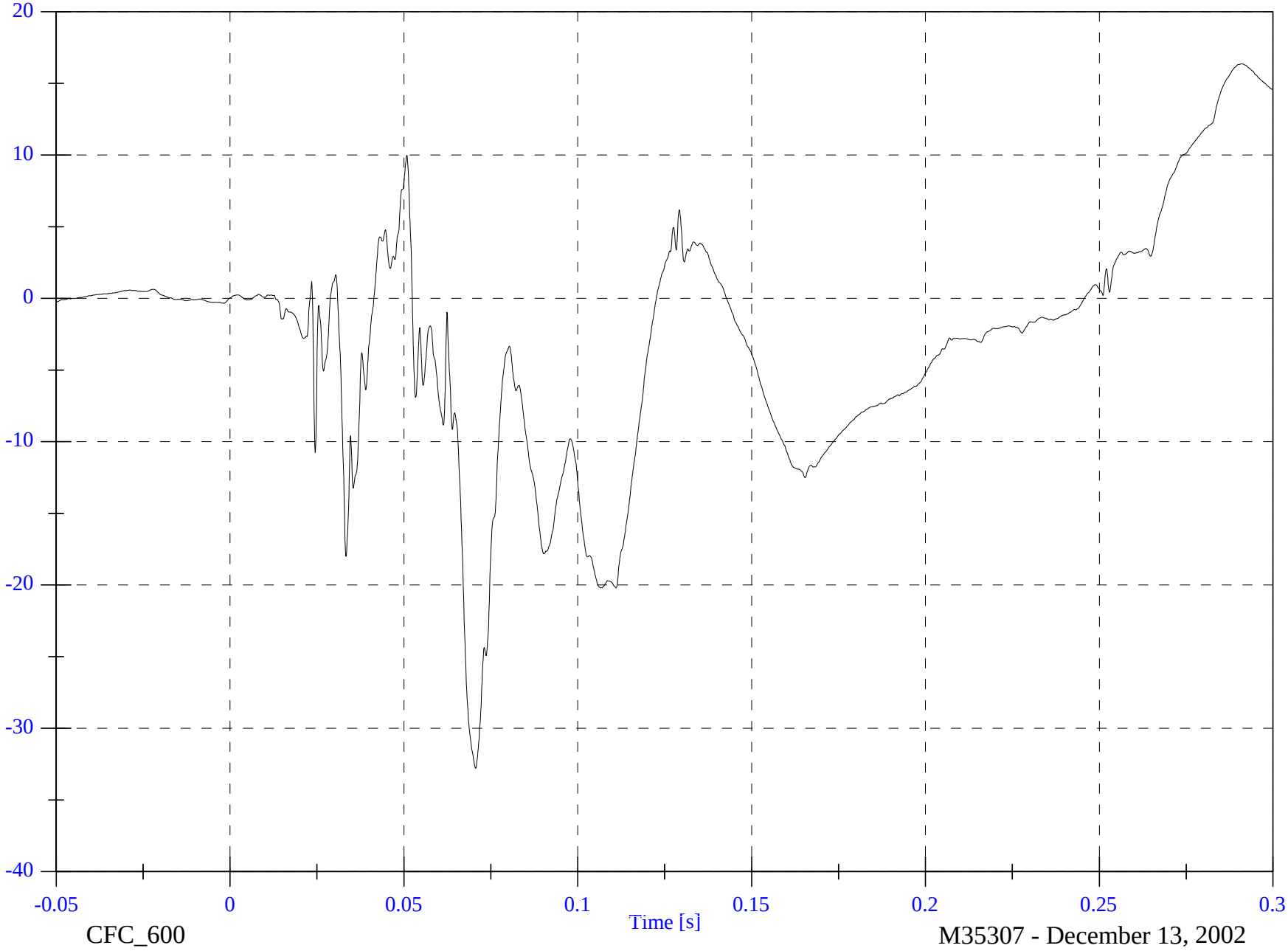
CFC_600

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1P1 Right Upper Tibia Mx

Max: 16.4 [N-m] at 0.291 [s]
Min: -32.8 [N-m] at 0.071 [s]



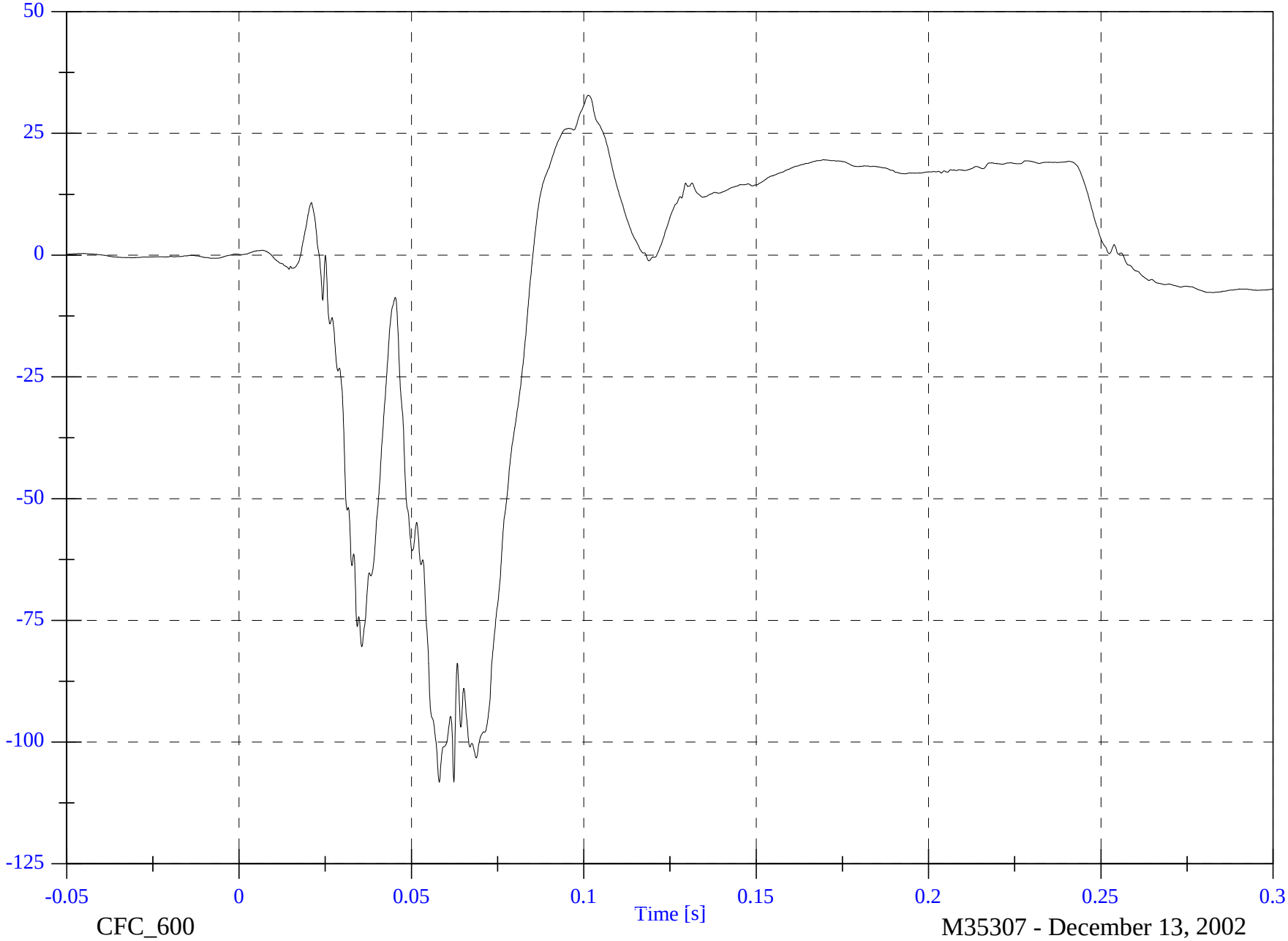
CFC_600

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1P1 Right Upper Tibia My

Max: 32.8 [N-m] at 0.101 [s]
Min: -108.3 [N-m] at 0.058 [s]



CFC_600

M35307 - December 13, 2002

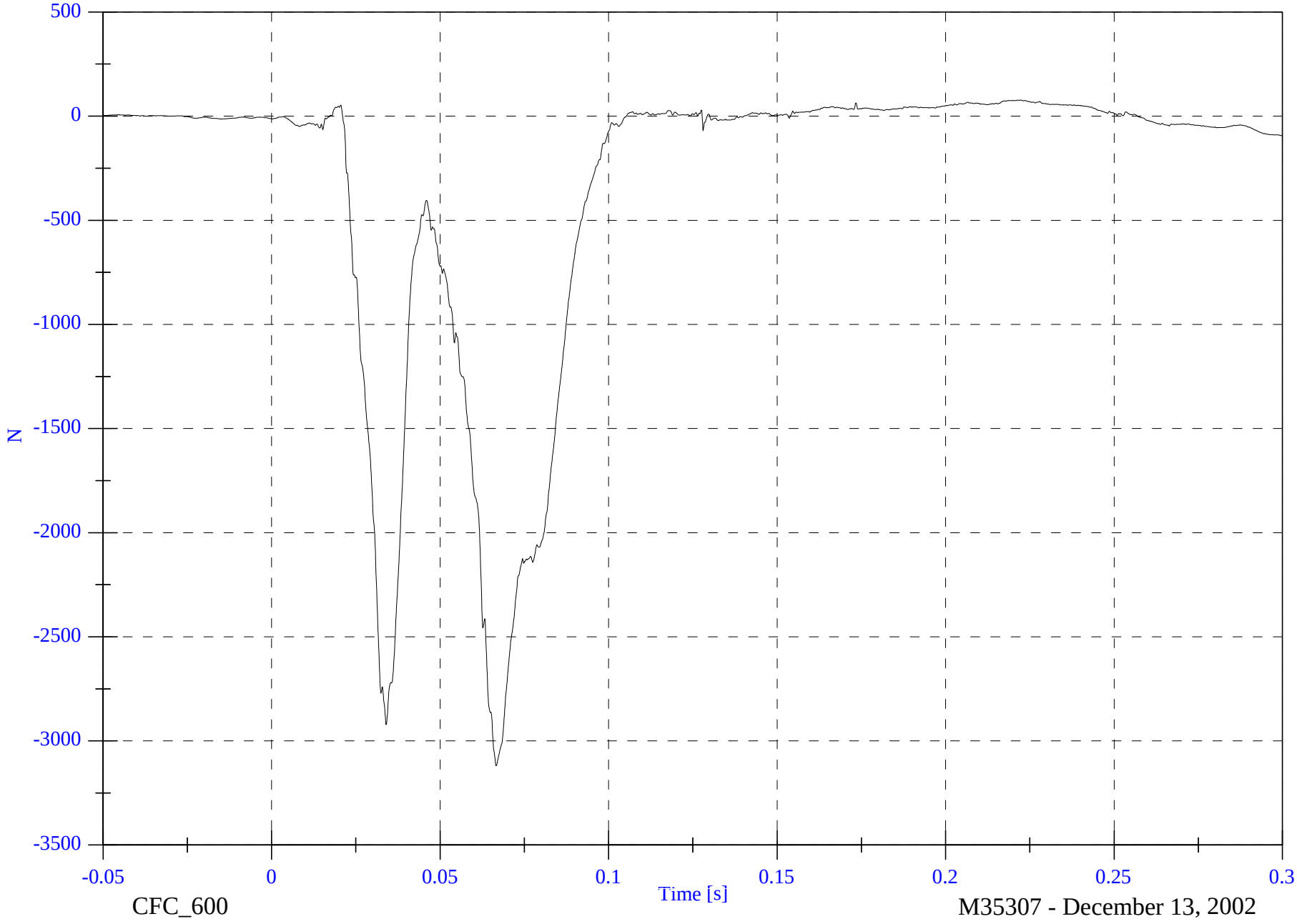
B-45

8642-NCAP-25

NCAP Test #3 - 2003 Honda S2000

V1P1 Right Lower Tibia Fz

Max: 76.8 [N] at 0.222 [s]
Min: -3119.5 [N] at 0.067 [s]



CFC_600

M35307 - December 13, 2002

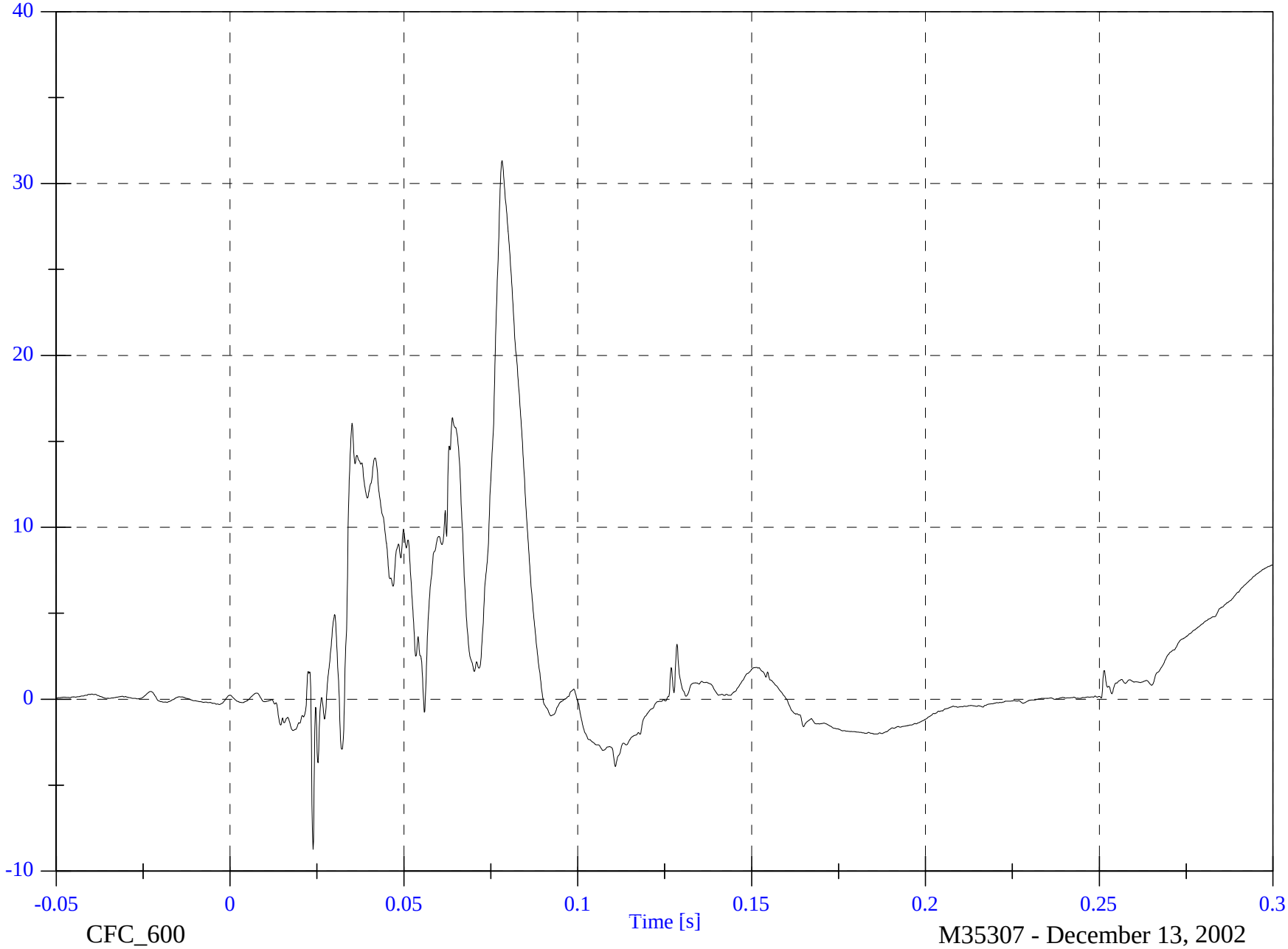
B-46

8642-NCAP-25

NCAP Test #3 - 2003 Honda S2000

V1P1 Right Lower Tibia Mx

Max: 31.3 [N-m] at 0.078 [s]
Min: -8.7 [N-m] at 0.024 [s]



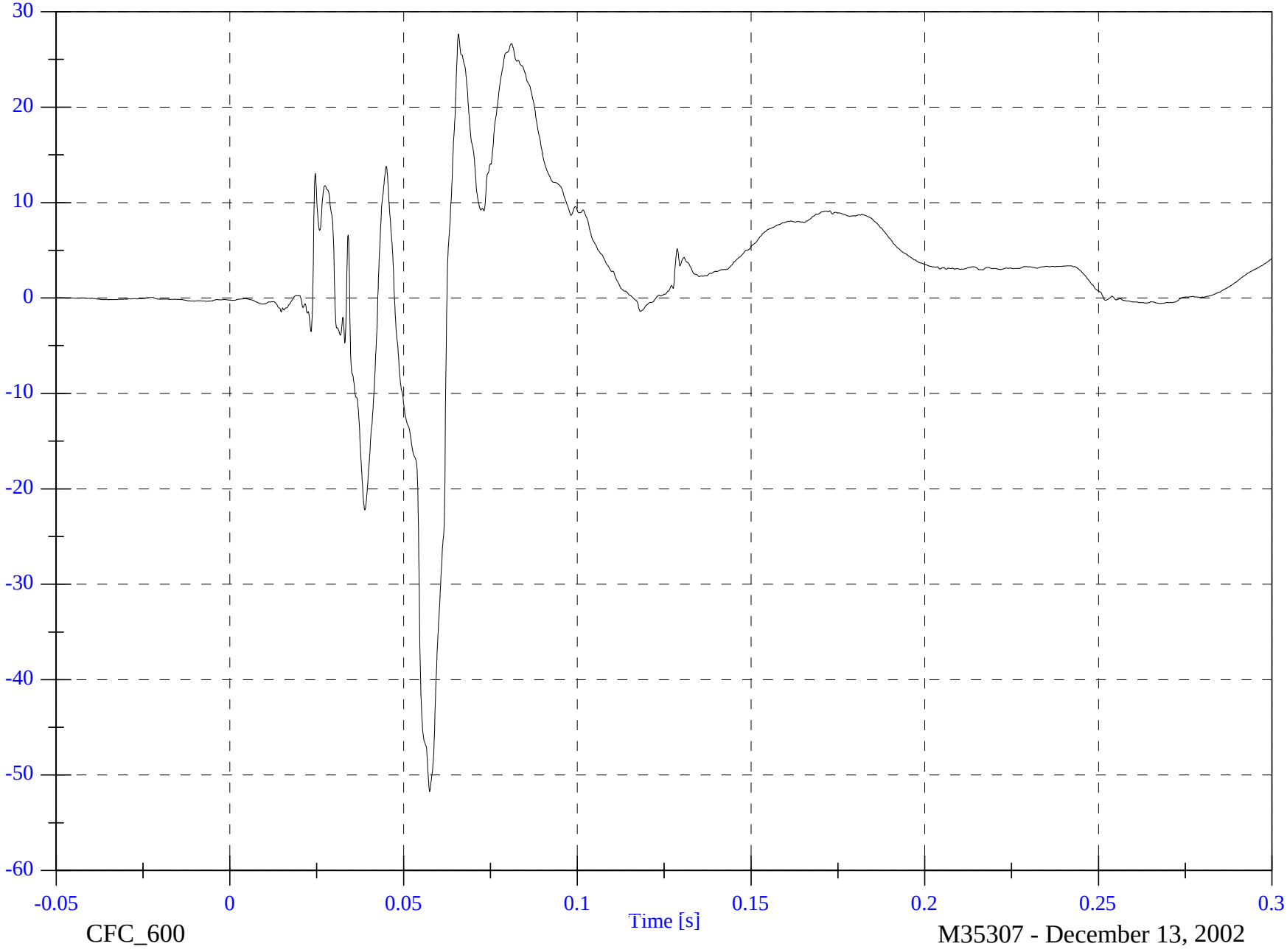
CFC_600

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1P1 Right Lower Tibia My

Max: 27.7 [N-m] at 0.066 [s]
Min: -51.7 [N-m] at 0.057 [s]



CFC_600

M35307 - December 13, 2002

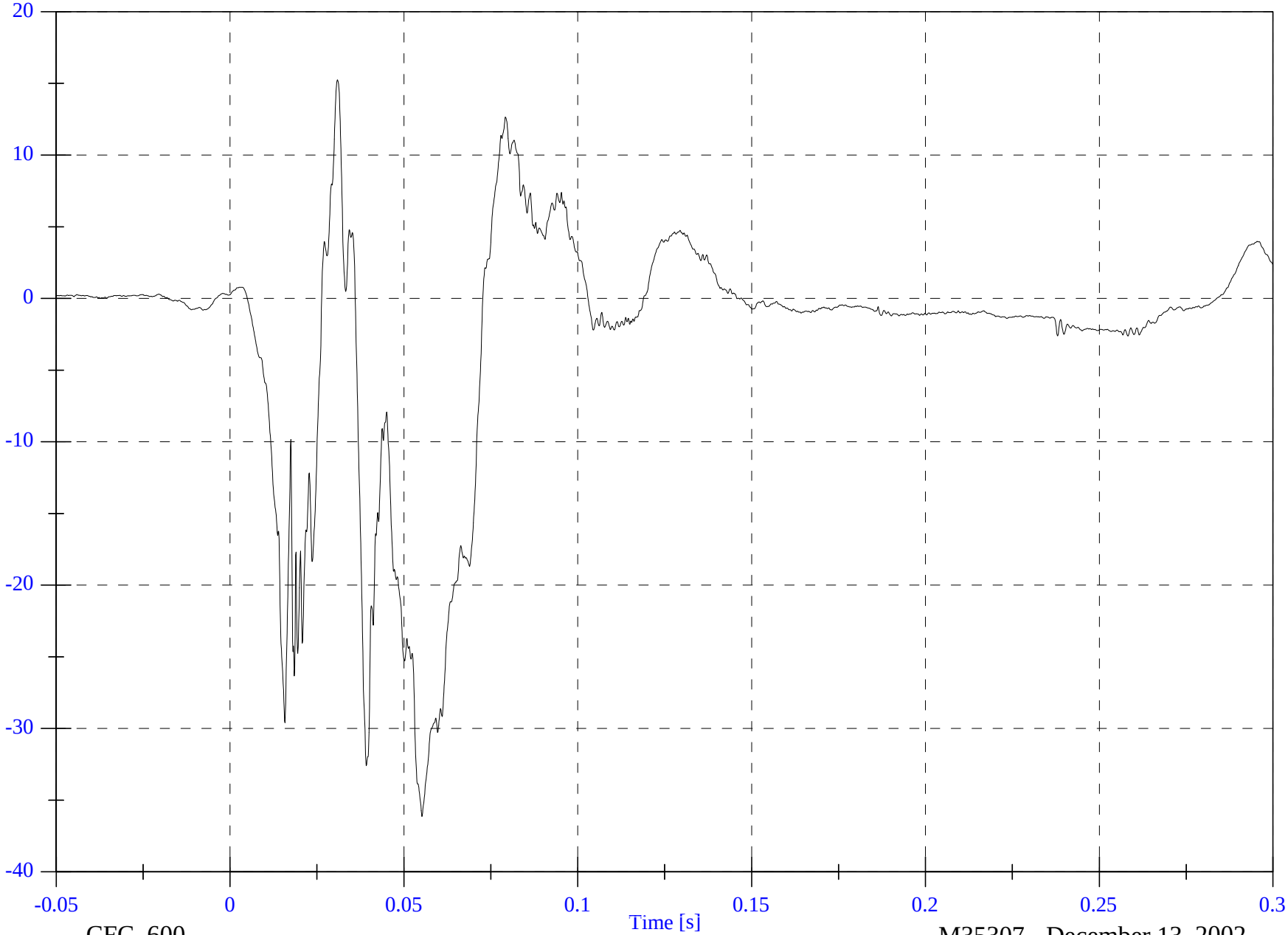
B-48

8642-NCAP-25

NCAP Test #3 - 2003 Honda S2000

V1P1 Left Foot Aft Ax

Max: 15.3 [g] at 0.031 [s]
Min: -36.1 [g] at 0.055 [s]



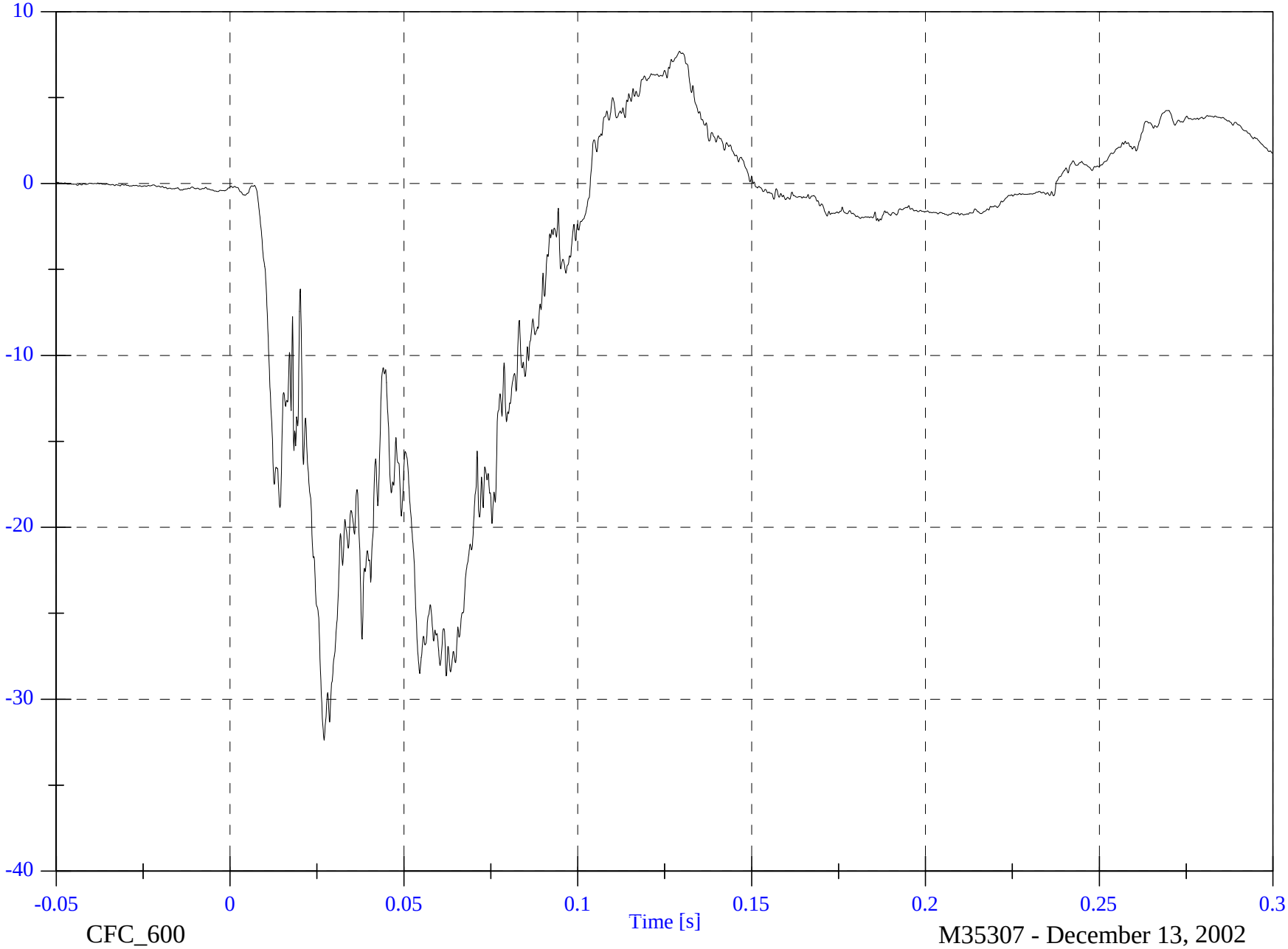
CFC_600

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1P1 Left Foot Aft Az

Max: 7.7 [g] at 0.129 [s]
Min: -32.4 [g] at 0.027 [s]



B-50

8642-NCAP-25

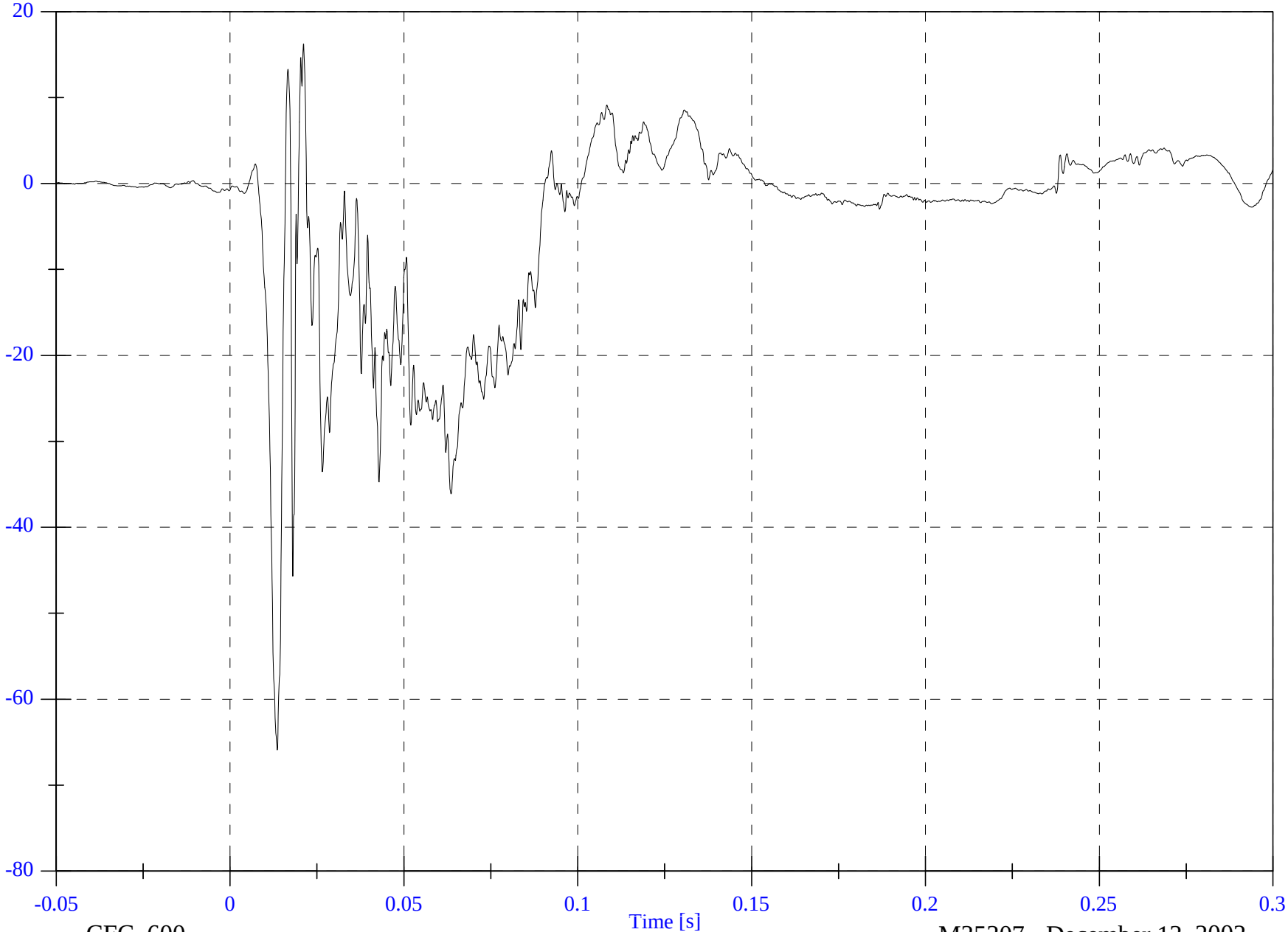
CFC_600

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1P1 Left Foot Fore Az

Max: 16.2 [g] at 0.021 [s]
Min: -65.9 [g] at 0.014 [s]



CFC_600

M35307 - December 13, 2002

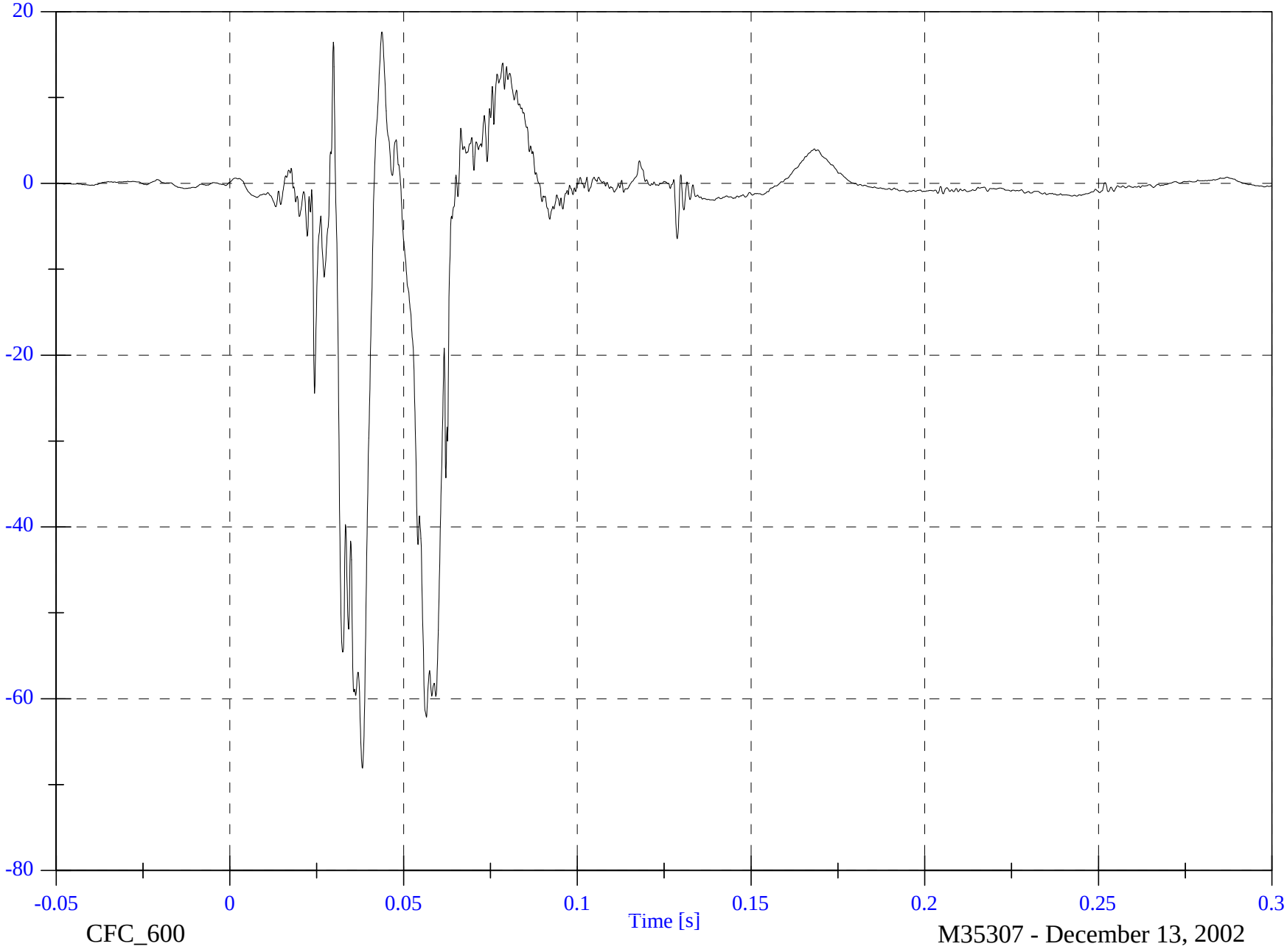
B-51

8642-NCAP-25

NCAP Test #3 - 2003 Honda S2000

V1P1 Right Foot Aft x

Max: 17.6 [g] at 0.044 [s]
Min: -68.1 [g] at 0.038 [s]



B-52

8642-NCAP-25

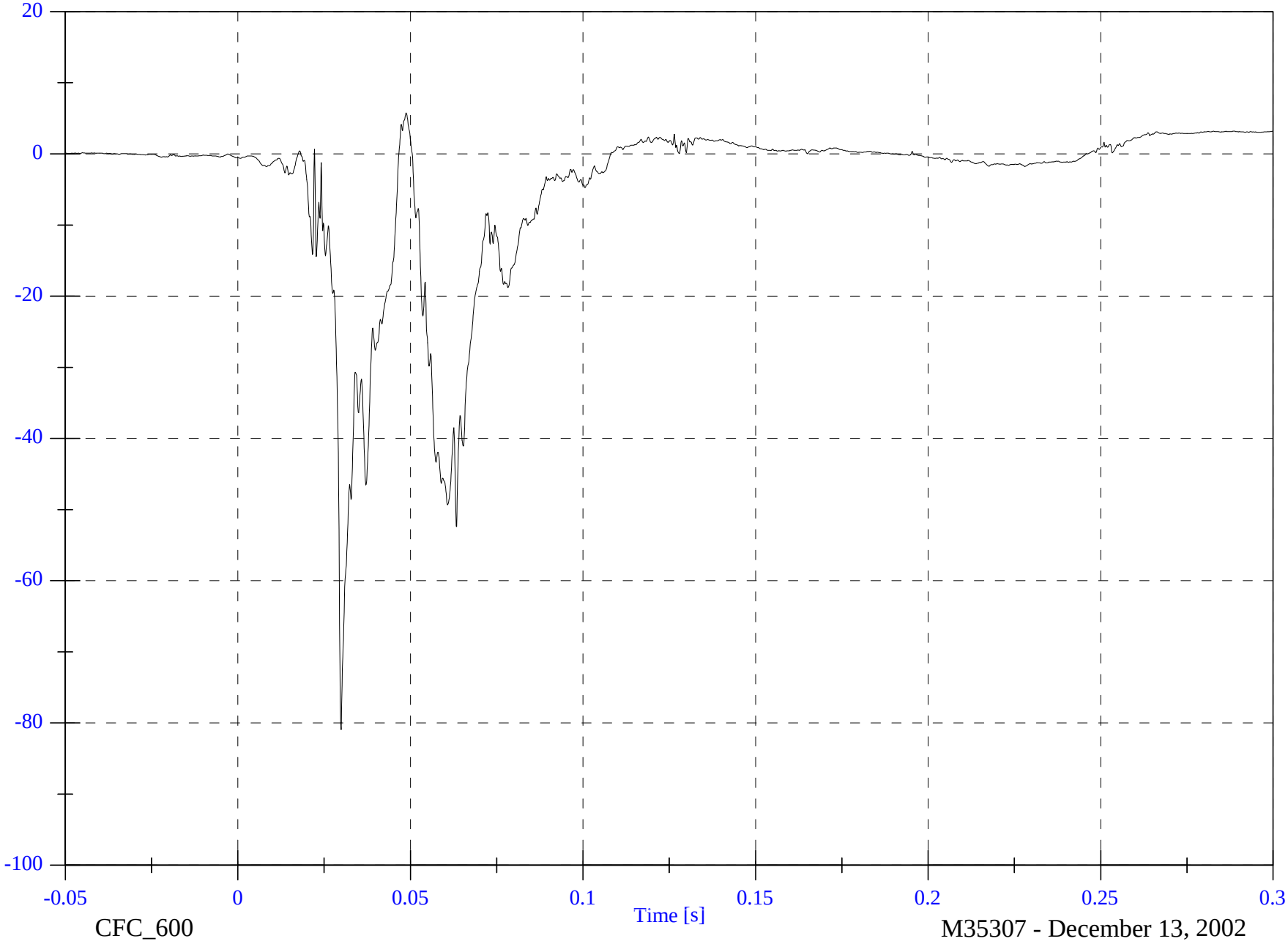
CFC_600

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1P1 Right Foot Aft z

Max: 5.8 [g] at 0.049 [s]
Min: -81.0 [g] at 0.030 [s]



B-53

8642-NCAP-25

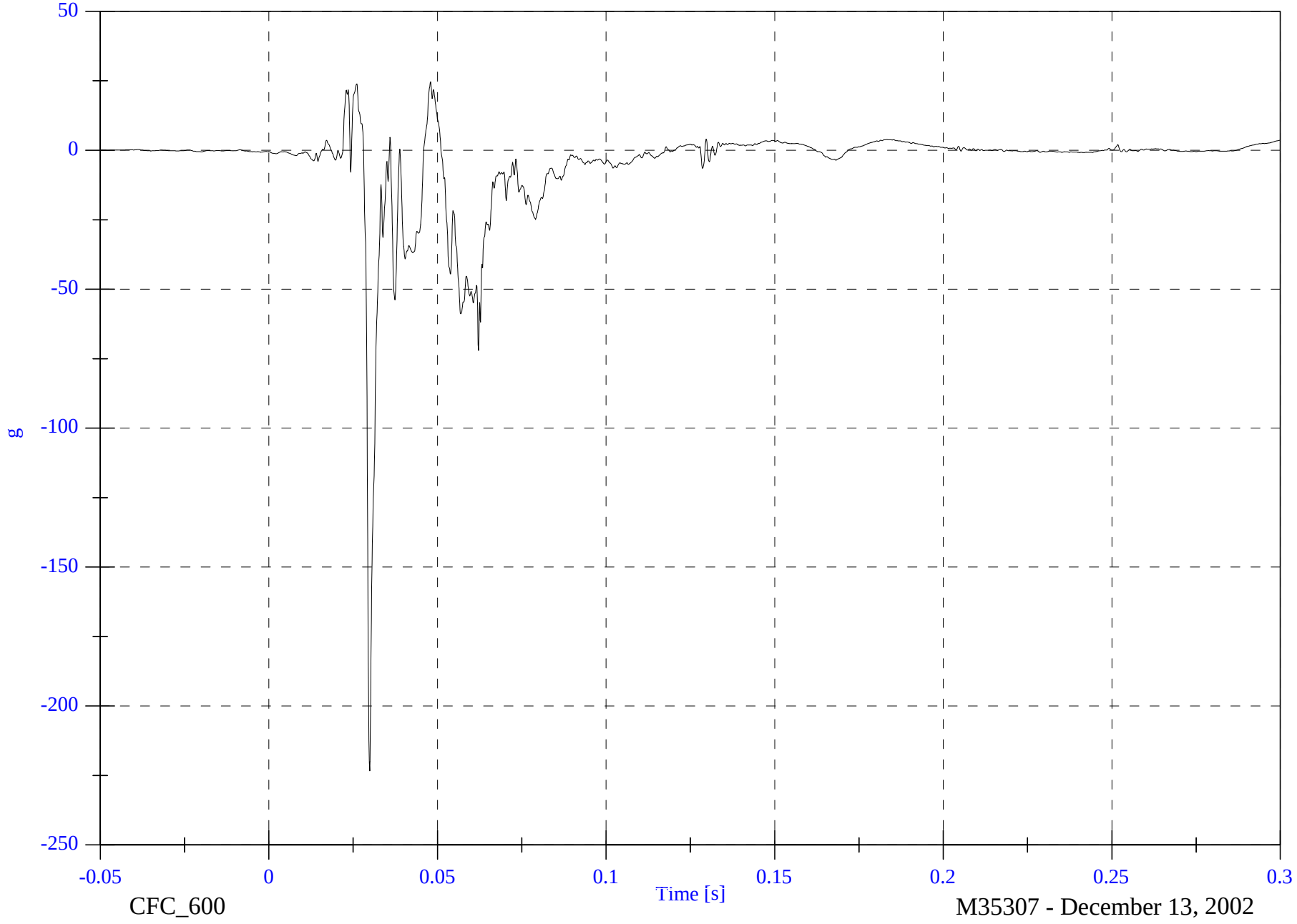
CFC_600

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1P1 Right Foot Fore z

Max: 24.6 [g] at 0.048 [s]
Min: -223.3 [g] at 0.030 [s]



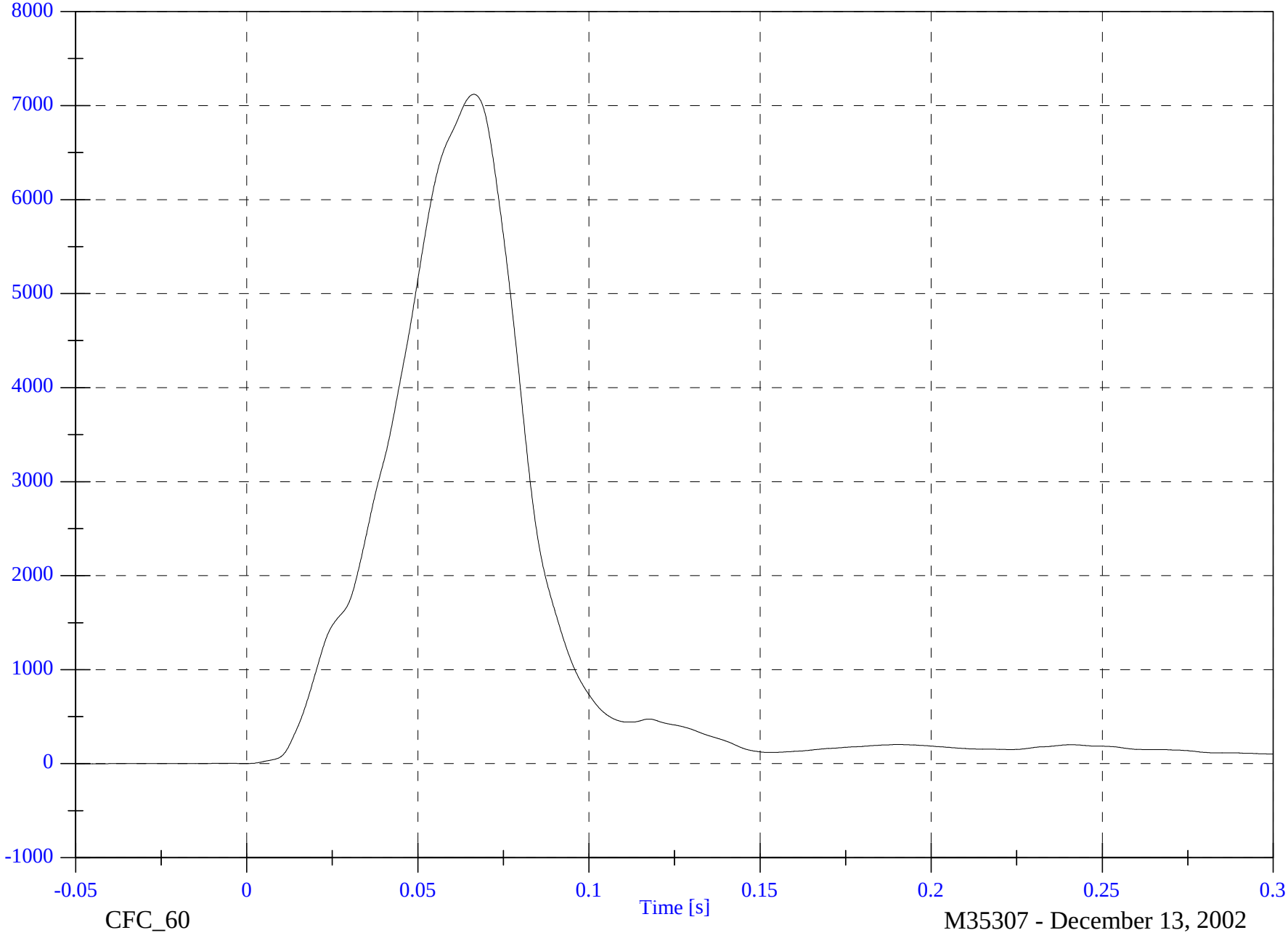
CFC_600

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1P1 Lap Belt

Max: 7119.6 [N] at 0.066 [s]
Min: -1.5 [N] at -0.050 [s]



CFC_60

M35307 - December 13, 2002

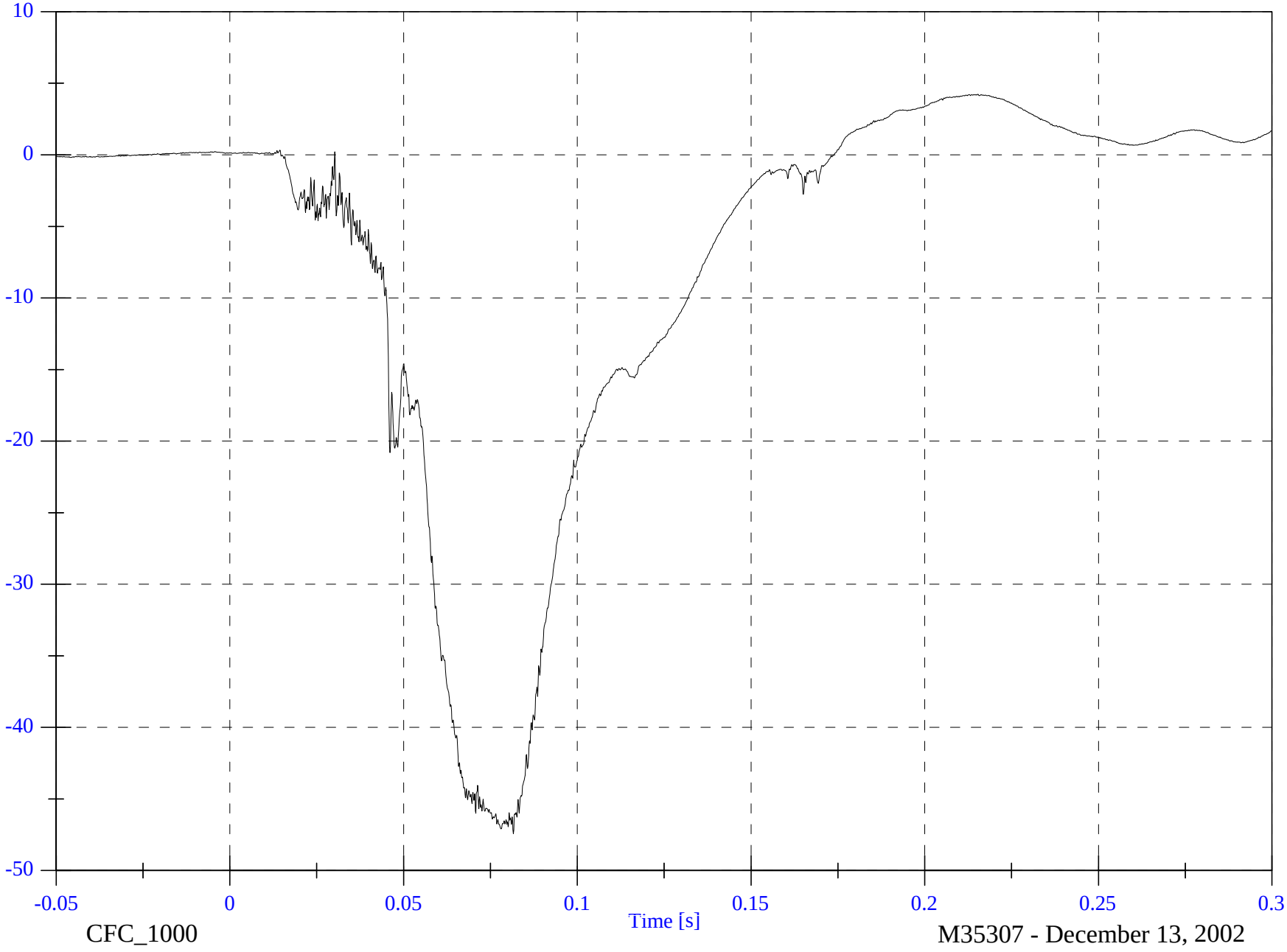
B-55

8642-NCAP-25

NCAP Test #3 - 2003 Honda S2000

V1P2 Head CG x

Max: 4.2 [g] at 0.215 [s]
Min: -47.4 [g] at 0.082 [s]

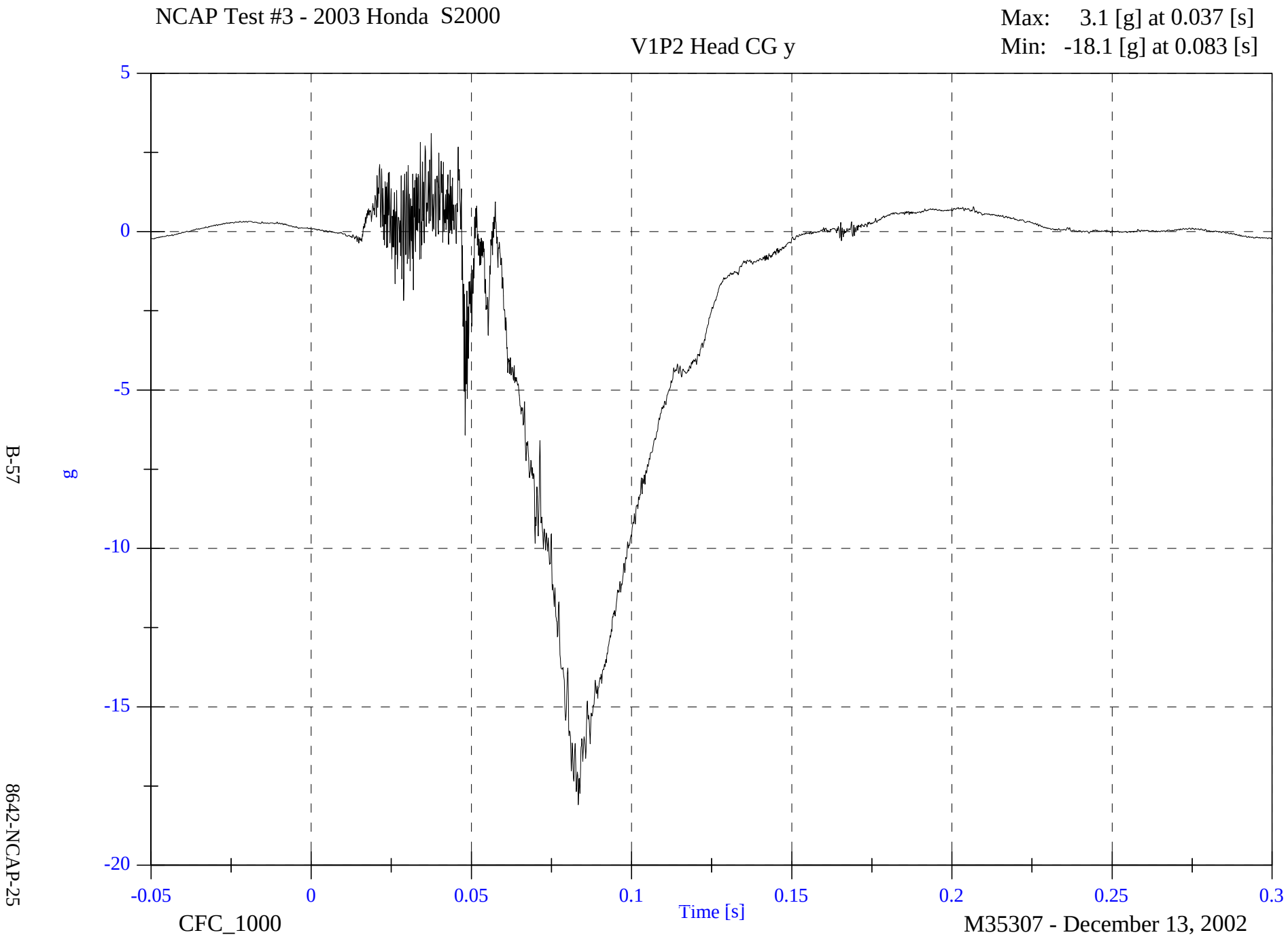


B-56

8642-NCAP-25

CFC_1000

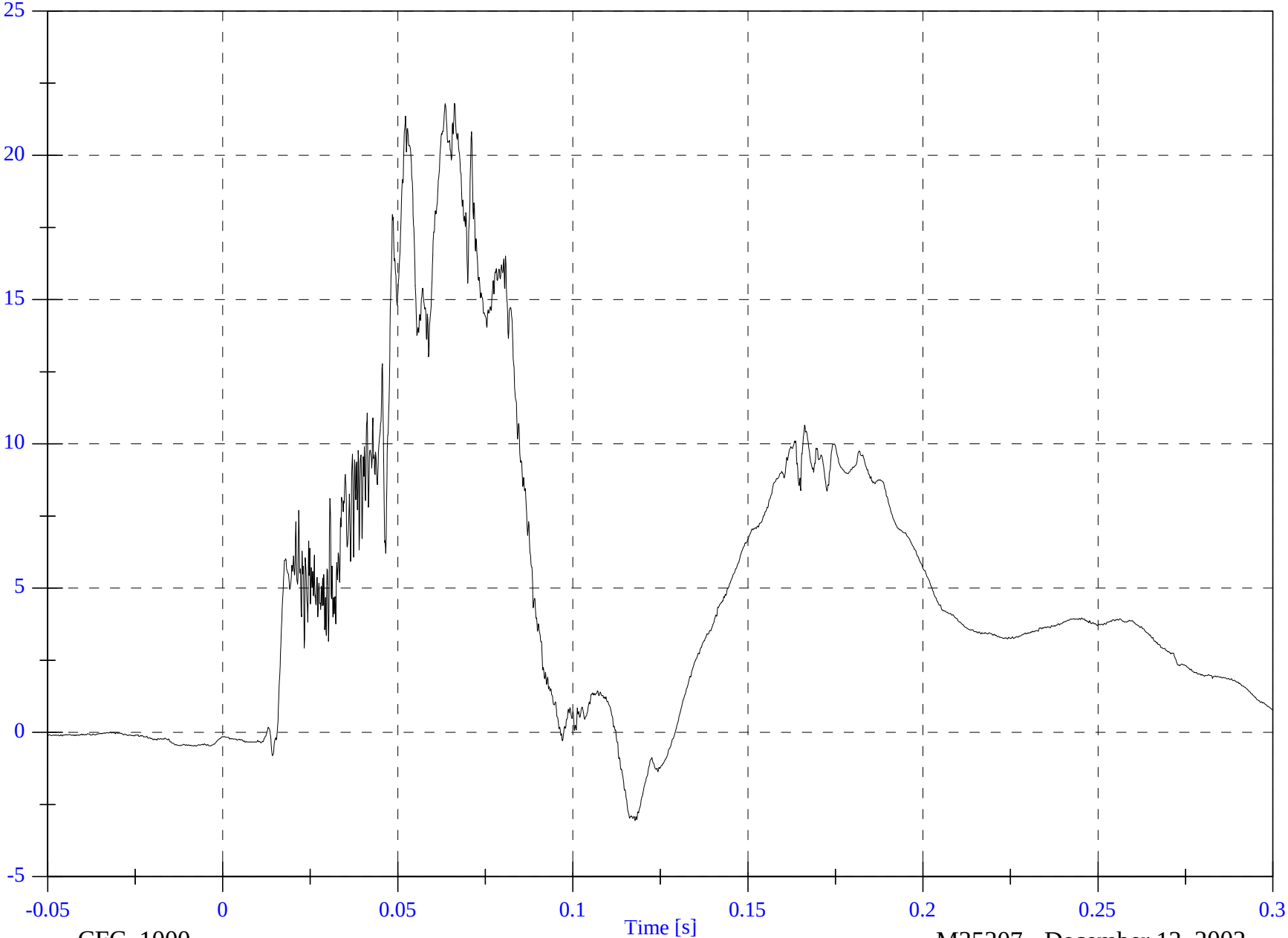
M35307 - December 13, 2002


NCAP Test #3 - 2003 Honda S2000
V1P2 Head CG y
Max: 3.1 [g] at 0.037 [s]
Min: -18.1 [g] at 0.083 [s]
5
0
-5
-10
-15
-20
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_1000
M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1P2 Head CG z

Max: 21.8 [g] at 0.066 [s]
Min: -3.1 [g] at 0.118 [s]



CFC_1000

M35307 - December 13, 2002

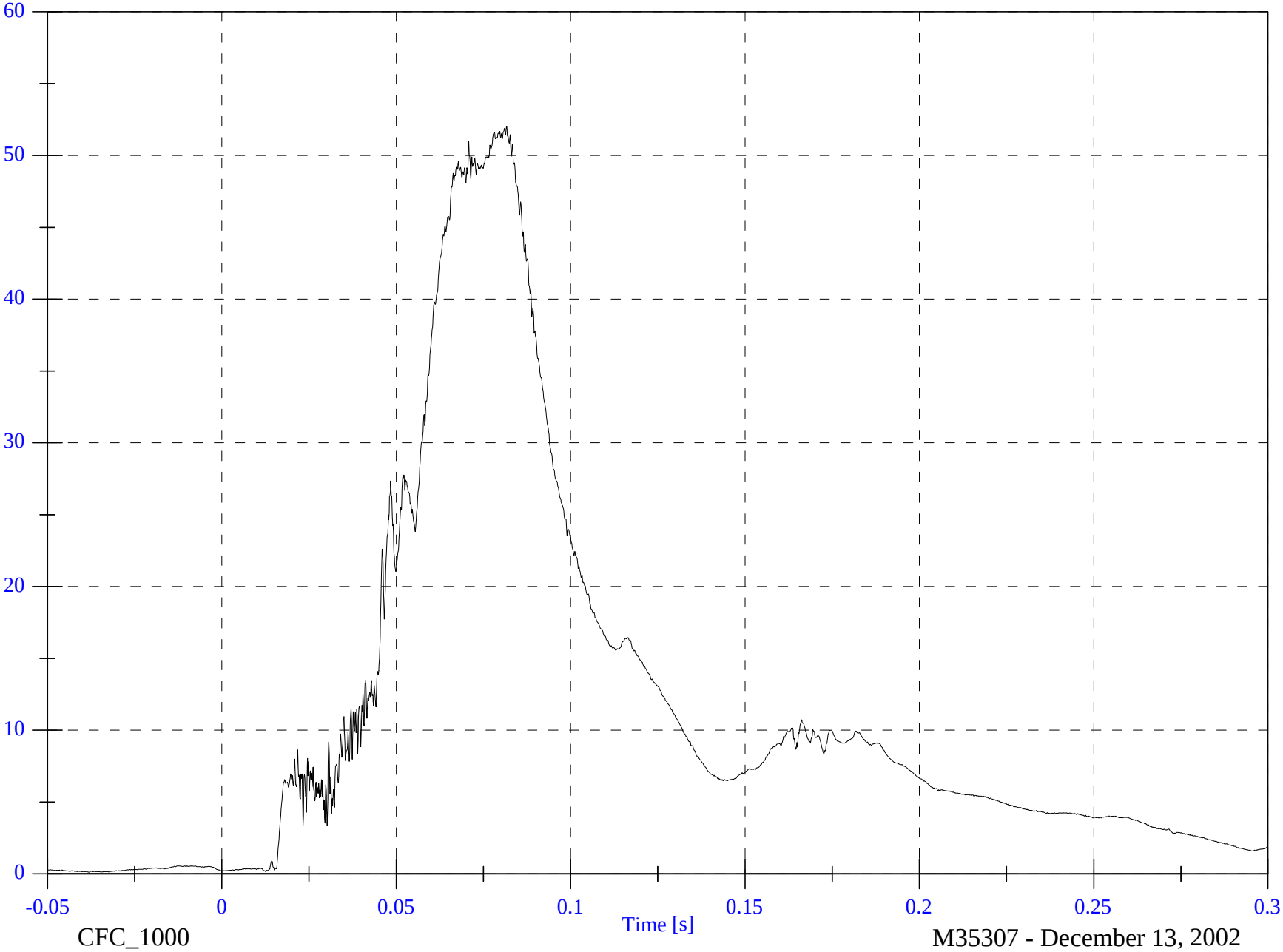
B-58

8642-NCAP-25

NCAP Test #3 - 2003 Honda S2000

V1P2 Head CG Resultant

Max: 52.0 [g] at 0.082 [s]
Min: 0.1 [g] at -0.038 [s]



CFC_1000

M35307 - December 13, 2002

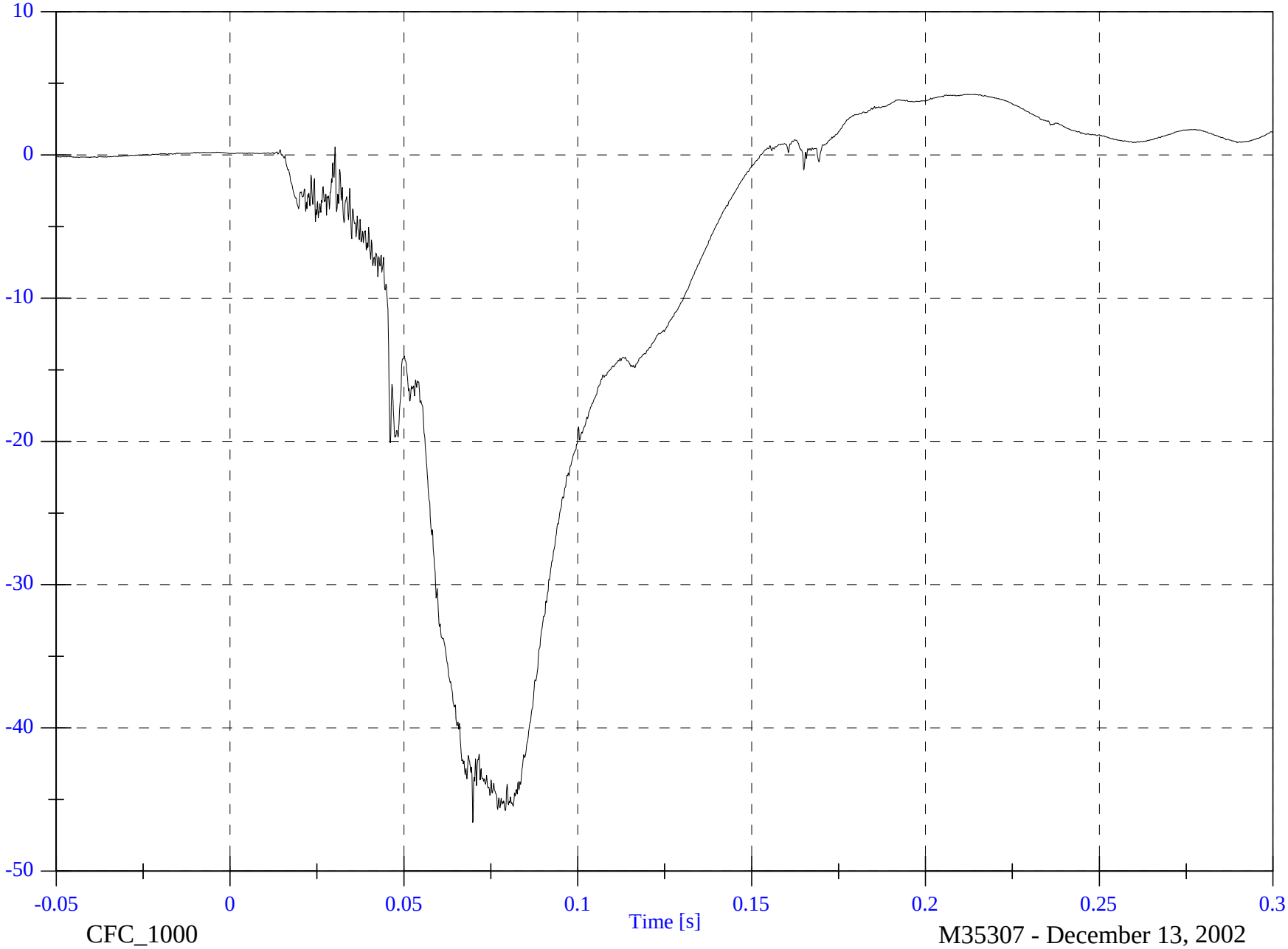
B-59

8642-NCAP-25

NCAP Test #3 - 2003 Honda S2000

V1P2 Head CG Red x

Max: 4.2 [g] at 0.212 [s]
Min: -46.6 [g] at 0.070 [s]

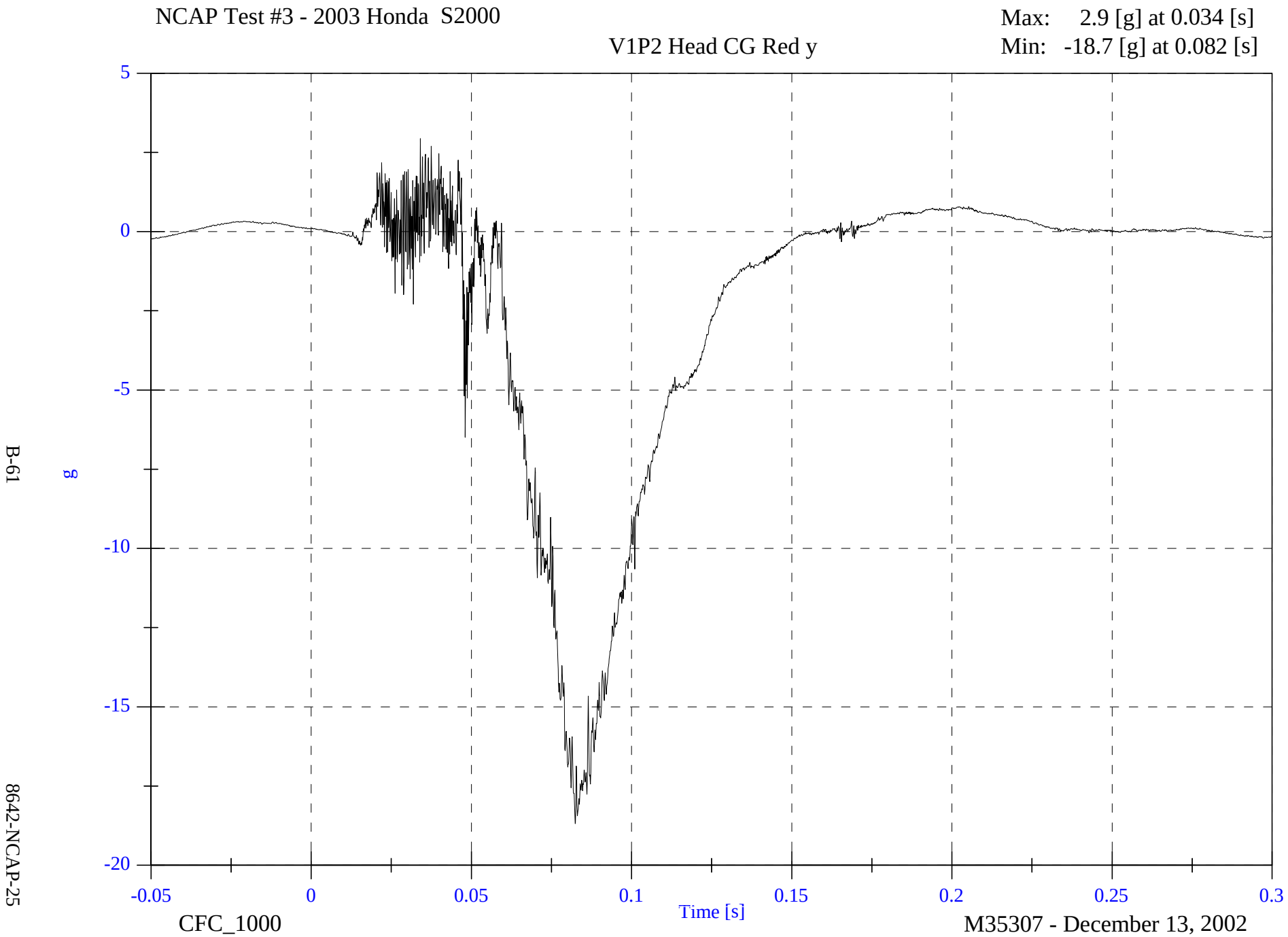


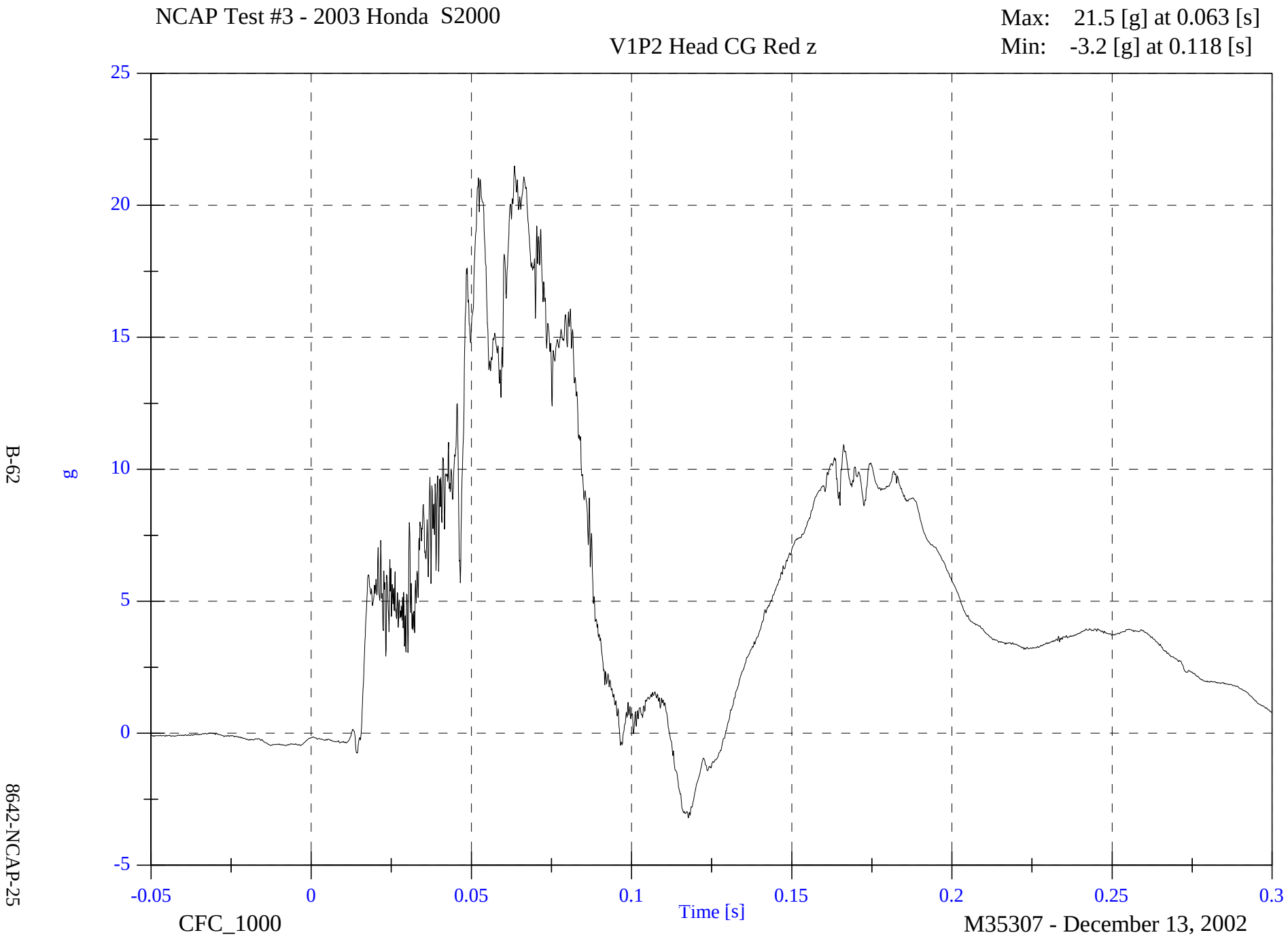
B-60

8642-NCAP-25

CFC_1000

M35307 - December 13, 2002

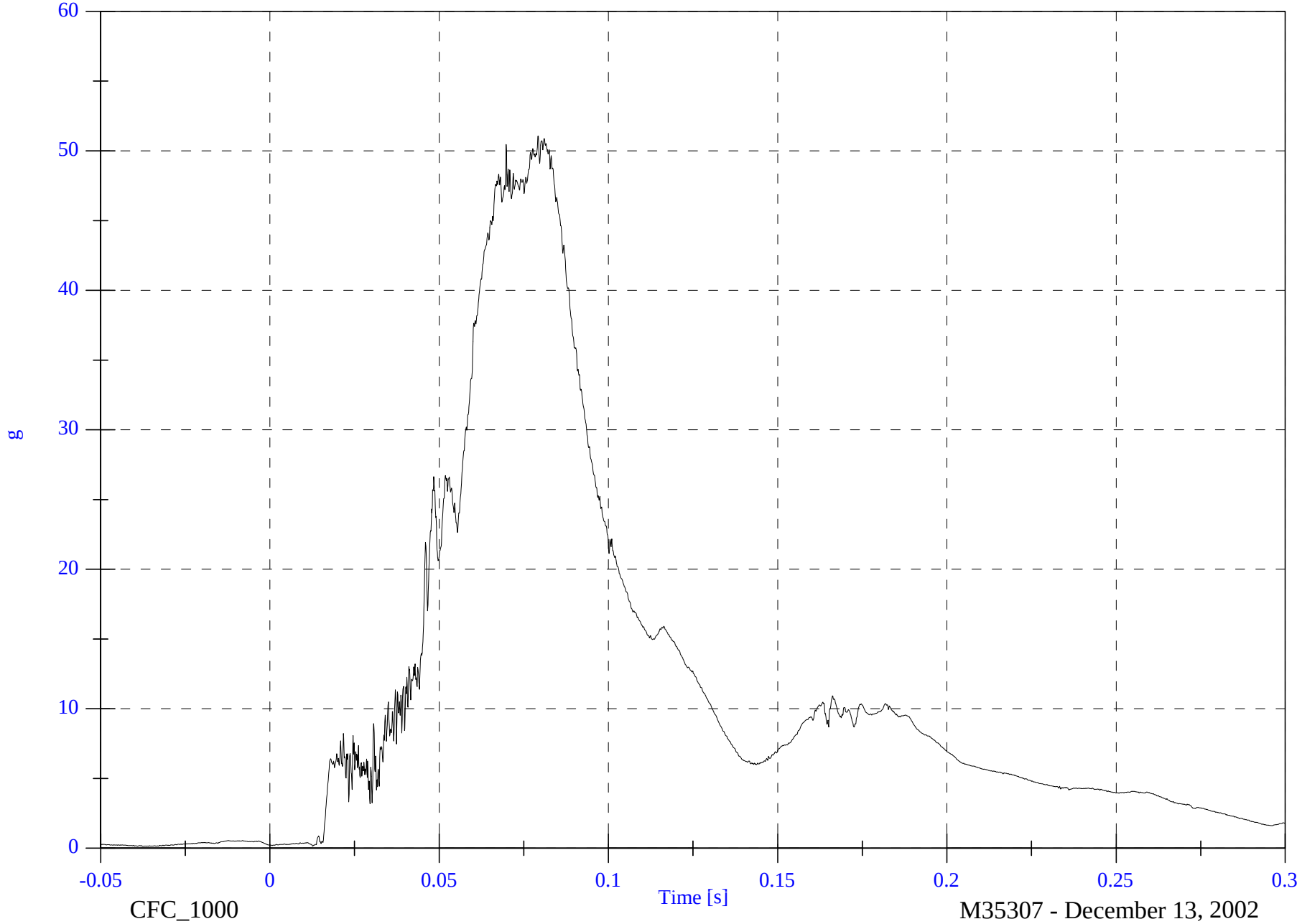

NCAP Test #3 - 2003 Honda S2000
V1P2 Head CG Red y
Max: 2.9 [g] at 0.034 [s]
Min: -18.7 [g] at 0.082 [s]
5
0
-5
-10
-15
-20
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_1000
M35307 - December 13, 2002


NCAP Test #3 - 2003 Honda S2000
V1P2 Head CG Red z
Max: 21.5 [g] at 0.063 [s]
Min: -3.2 [g] at 0.118 [s]
25
20
15
10
5
0
-5
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_1000
M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1P2 Head CG Red Resultant

Max: 51.1 [g] at 0.079 [s]
Min: 0.1 [g] at -0.037 [s]



B-63

8642-NCAP-25

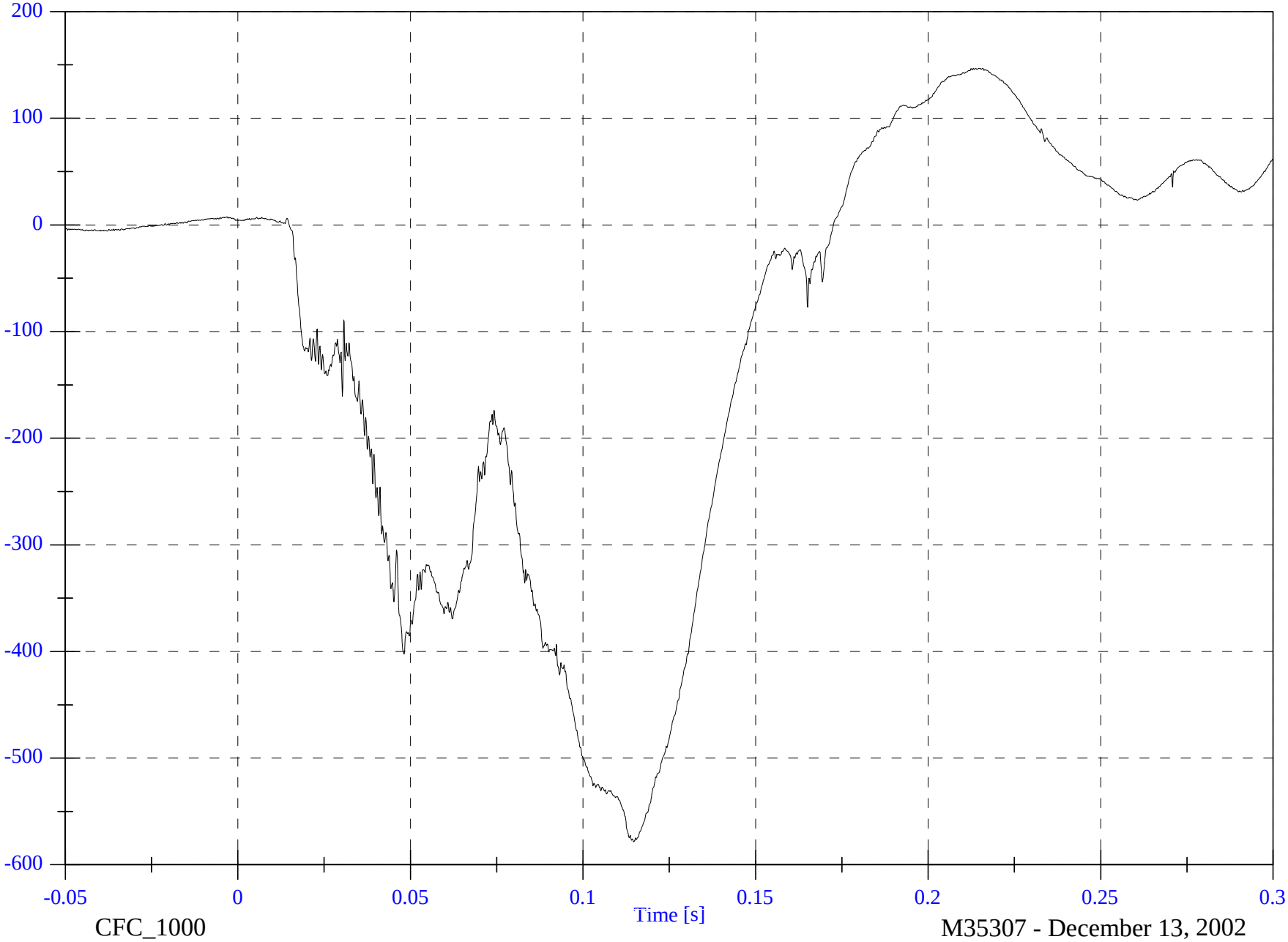
CFC_1000

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1P2 Upper Neck Fx

Max: 146.8 [N] at 0.215 [s]
Min: -578.4 [N] at 0.115 [s]



CFC_1000

M35307 - December 13, 2002

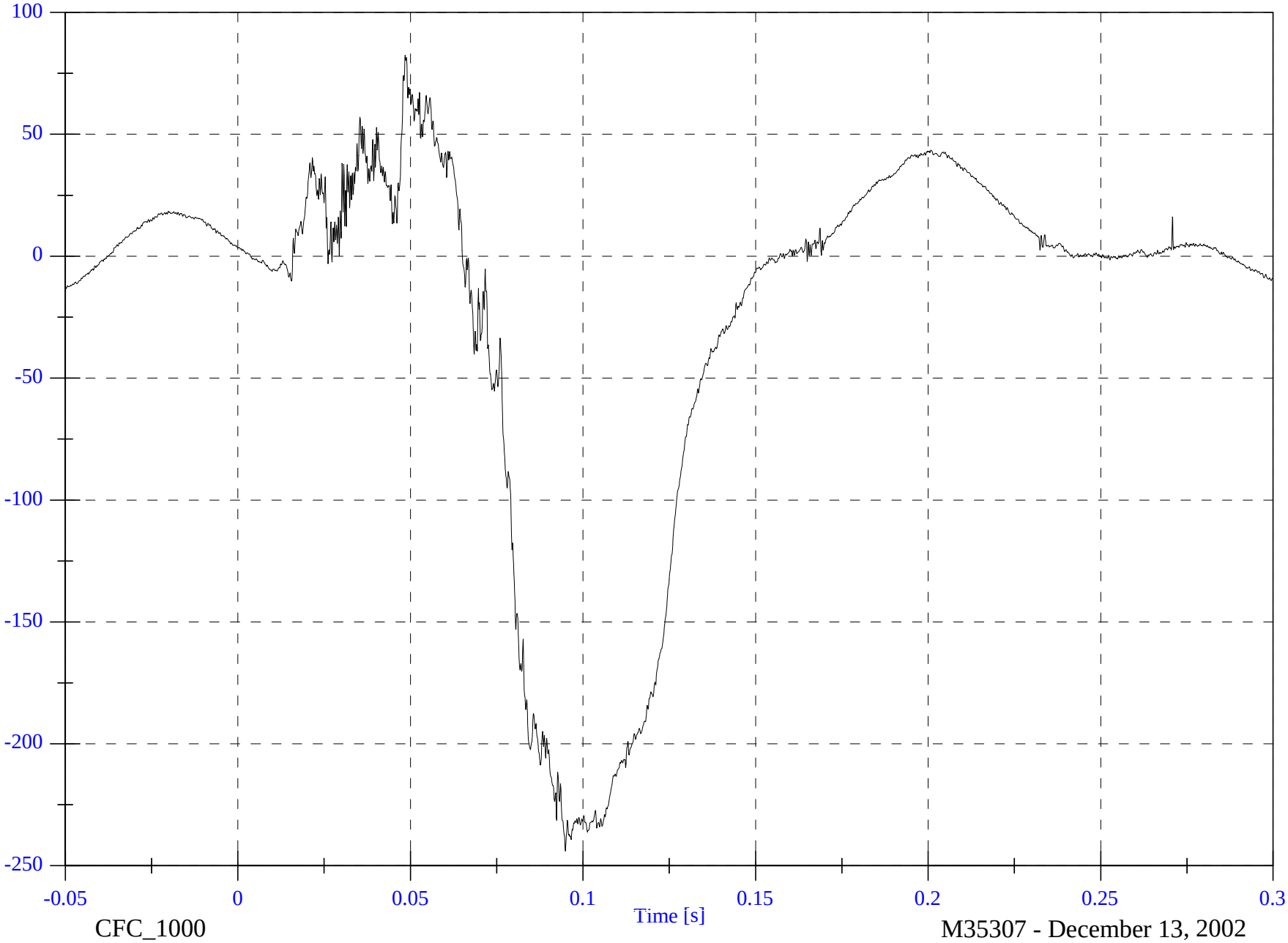
B-64

8642-NCAP-25

NCAP Test #3 - 2003 Honda S2000

V1P2 Upper Neck Fy

Max: 82.4 [N] at 0.048 [s]
Min: -244.0 [N] at 0.095 [s]



B-65

8642-NCAP-25

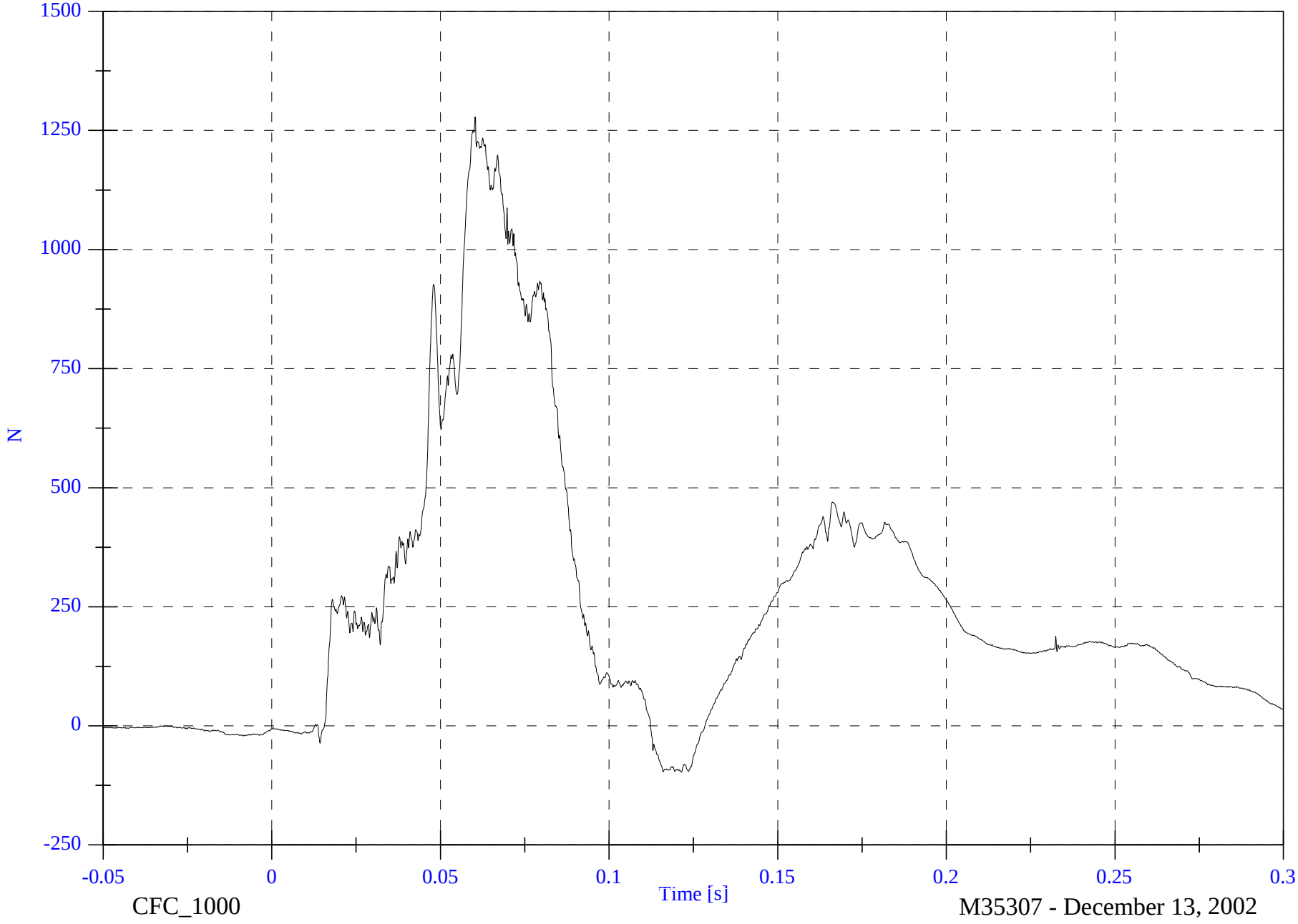
CFC_1000

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1P2 Upper Neck Fz

Max: 1278.5 [N] at 0.060 [s]
Min: -97.3 [N] at 0.121 [s]



B-66

8642-NCAP-25

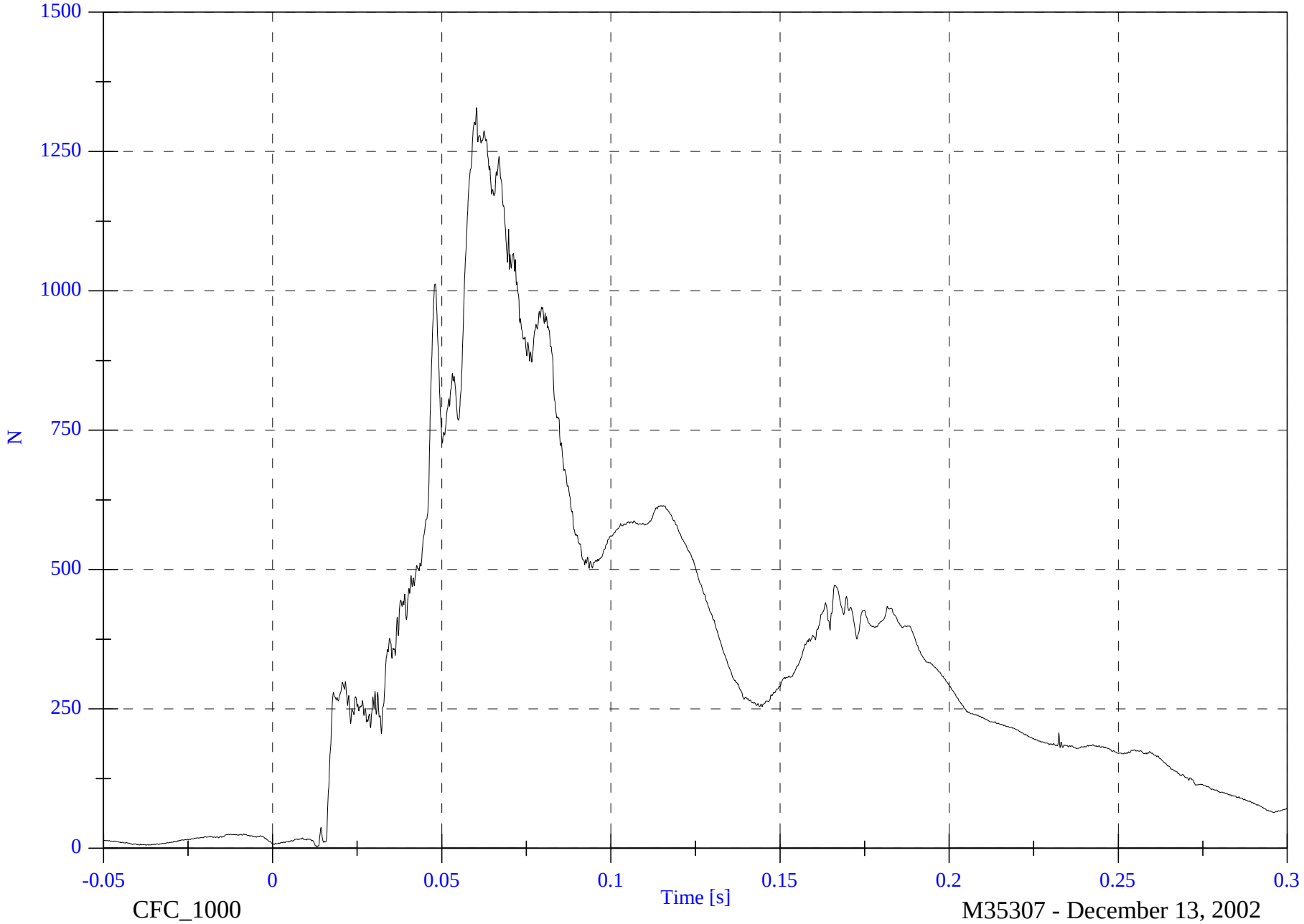
CFC_1000

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1P2 Upper Neck F Resultant

Max: 1328.5 [N] at 0.060 [s]
Min: 2.7 [N] at 0.013 [s]



CFC_1000

M35307 - December 13, 2002

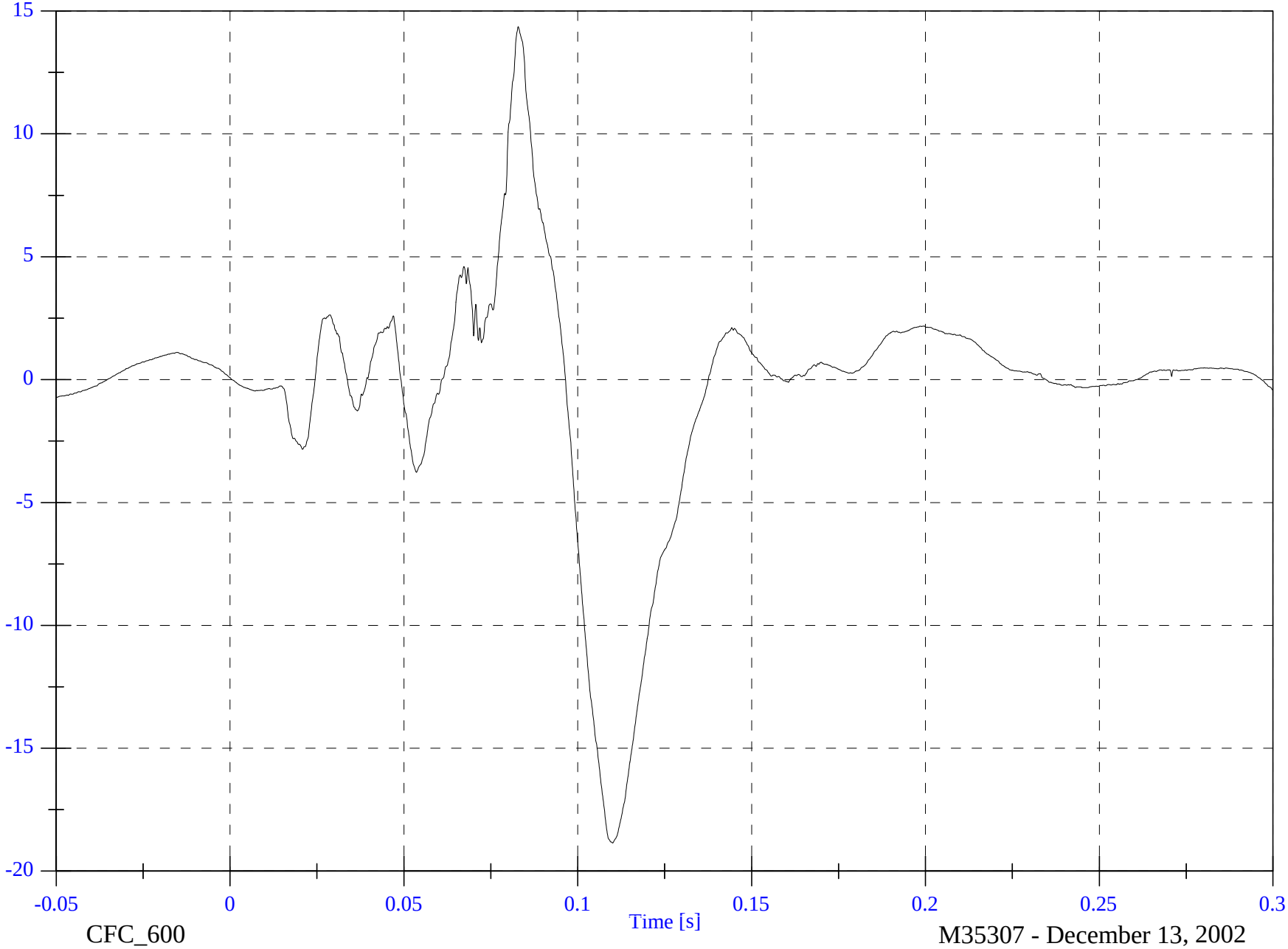
B-67

8642-NCAP-25

NCAP Test #3 - 2003 Honda S2000

V1P2 Upper Neck Mx

Max: 14.4 [N-m] at 0.083 [s]
Min: -18.9 [N-m] at 0.110 [s]



CFC_600

M35307 - December 13, 2002

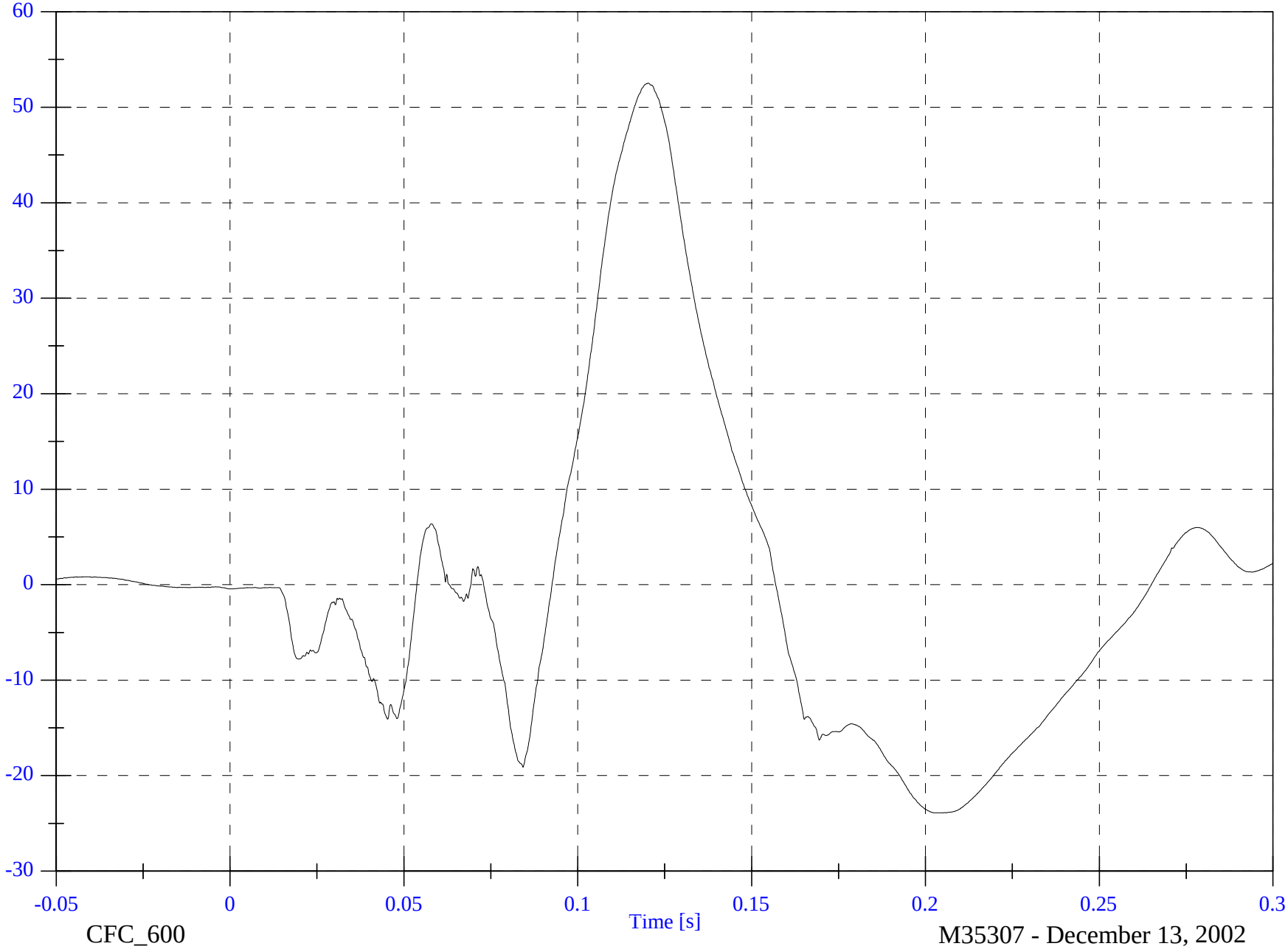
B-68

8642-NCAP-25

NCAP Test #3 - 2003 Honda S2000

V1P2 Upper Neck My

Max: 52.5 [N-m] at 0.120 [s]
Min: -23.9 [N-m] at 0.204 [s]



CFC_600

M35307 - December 13, 2002

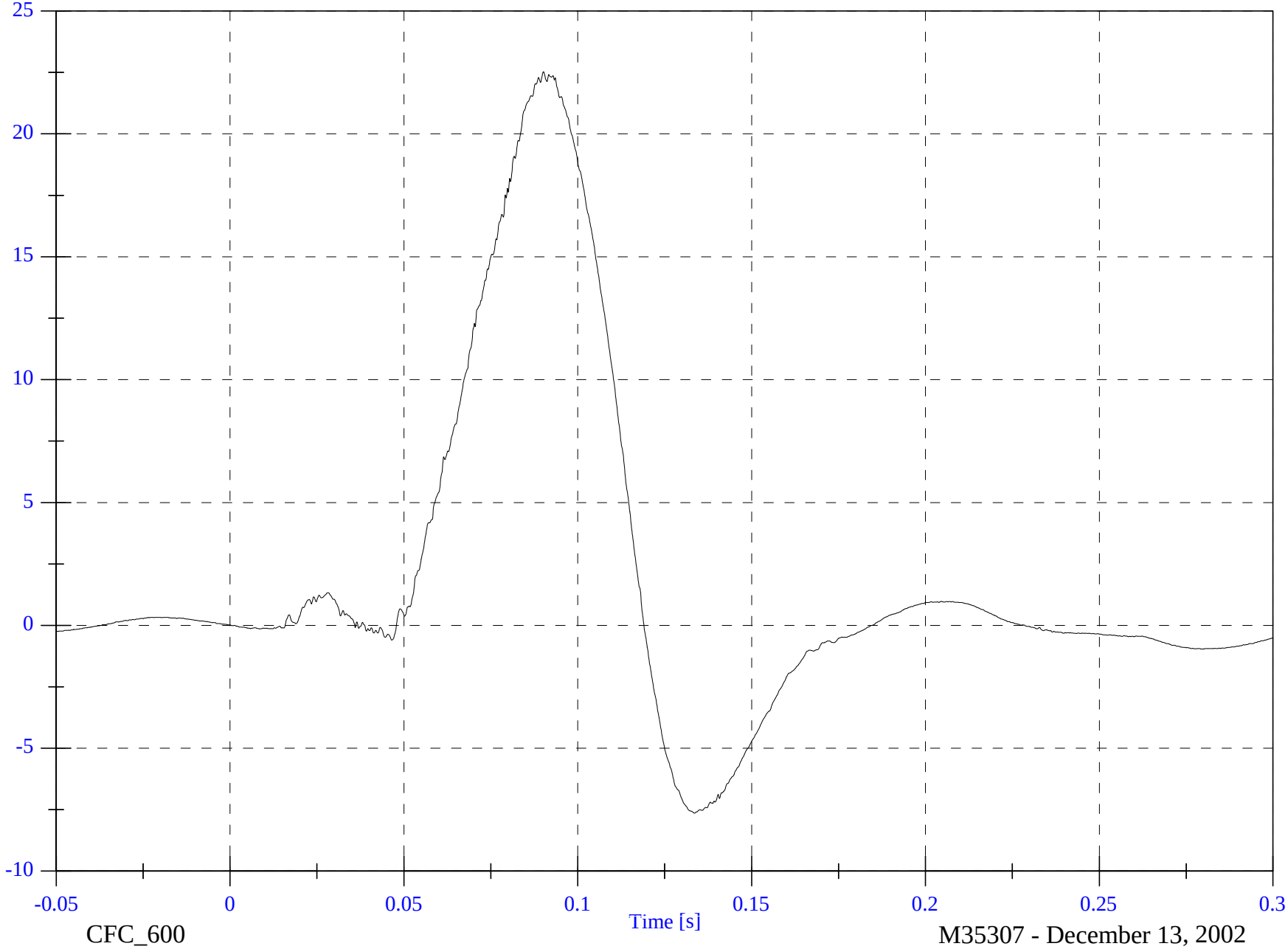
B-69

8642-NCAP-25

NCAP Test #3 - 2003 Honda S2000

V1P2 Upper Neck Mz

Max: 22.5 [N-m] at 0.090 [s]
Min: -7.6 [N-m] at 0.134 [s]



CFC_600

M35307 - December 13, 2002

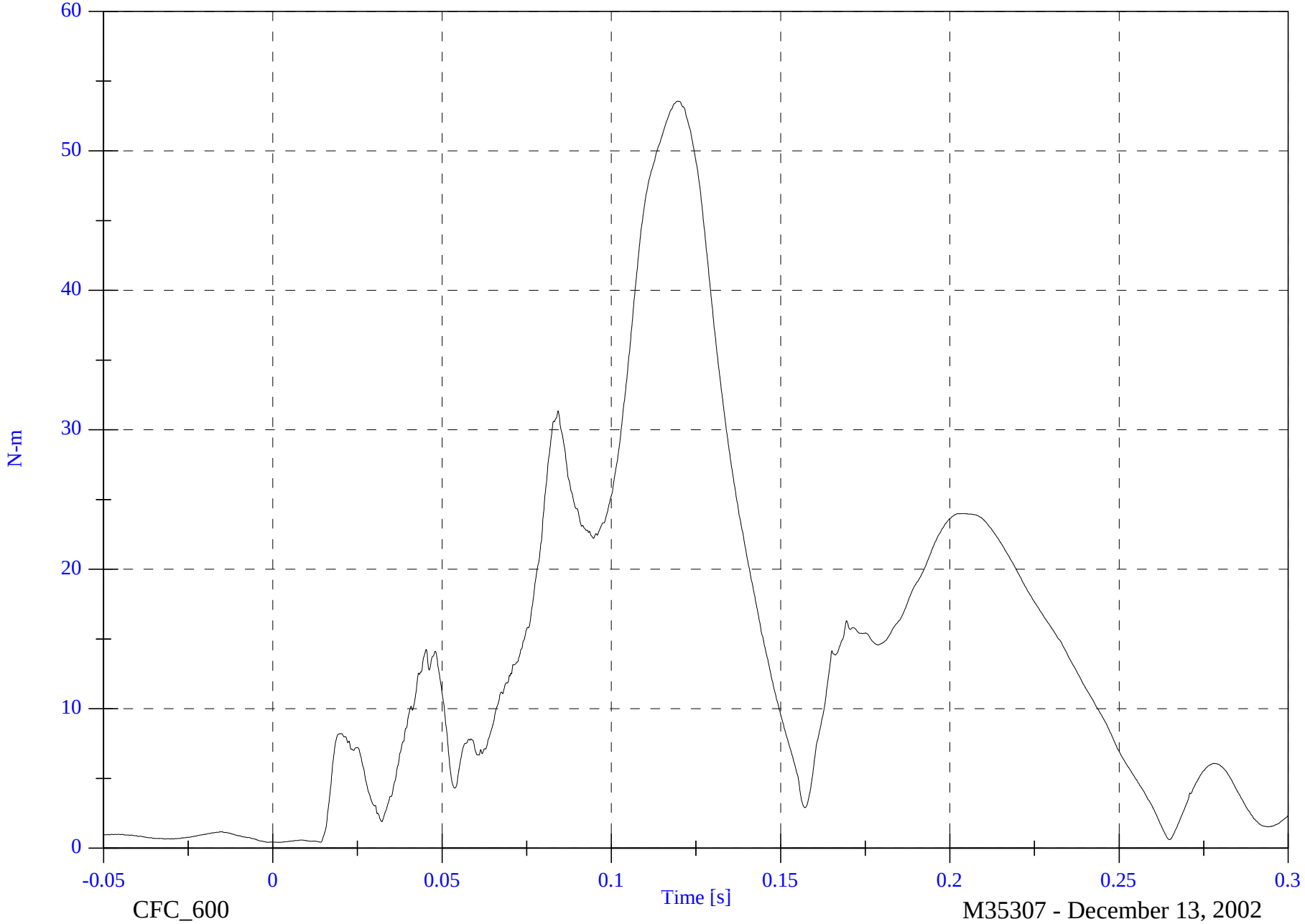
B-70

8642-NCAP-25

NCAP Test #3 - 2003 Honda S2000

V1P2 Upper Neck M Resultant

Max: 53.6 [N-m] at 0.120 [s]
Min: 0.4 [N-m] at -0.002 [s]



CFC_600

M35307 - December 13, 2002

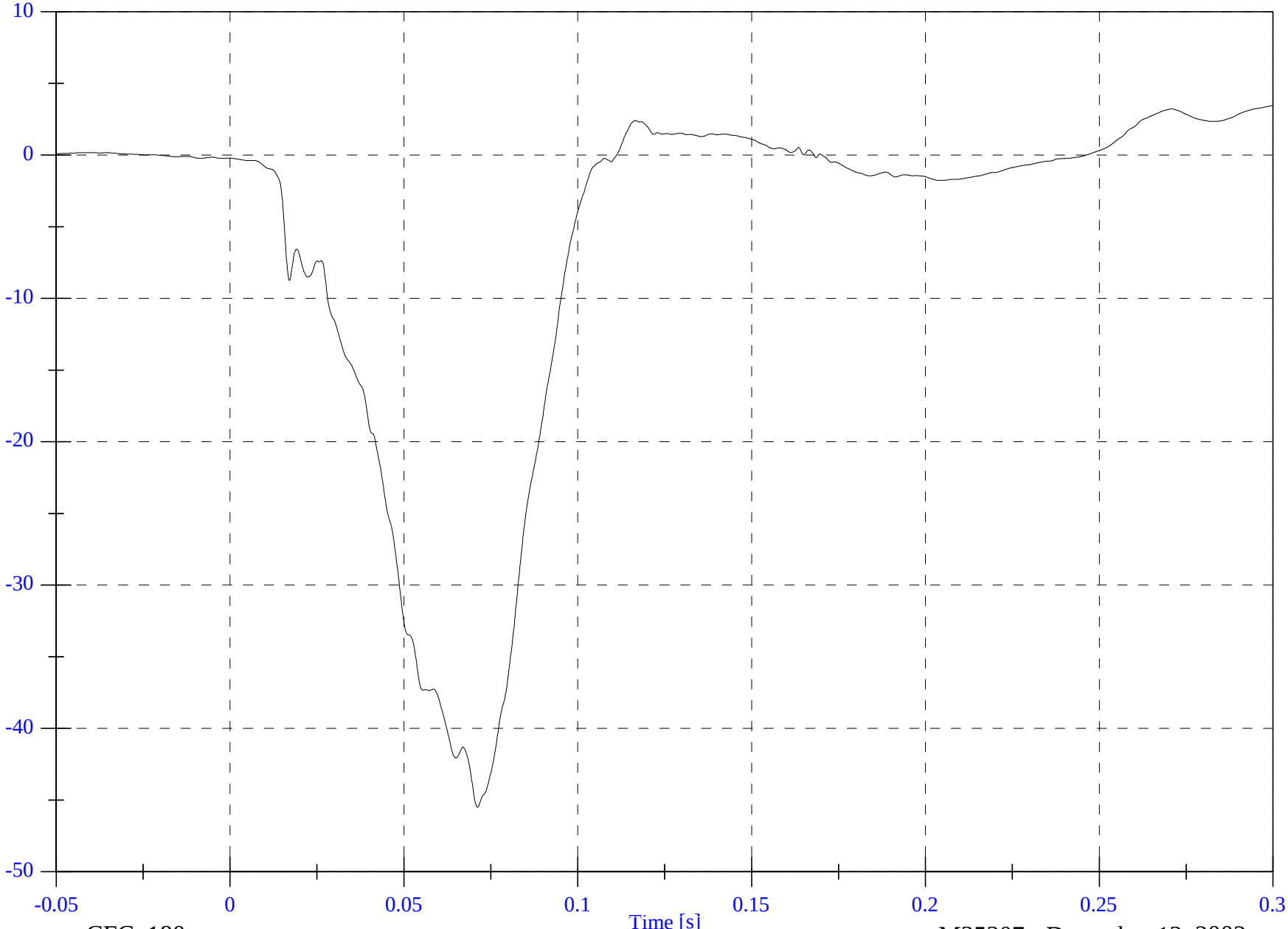
B-71

8642-NCAP-25

NCAP Test #3 - 2003 Honda S2000

V1P2 Chest x

Max: 3.4 [g] at 0.300 [s]
Min: -45.5 [g] at 0.071 [s]

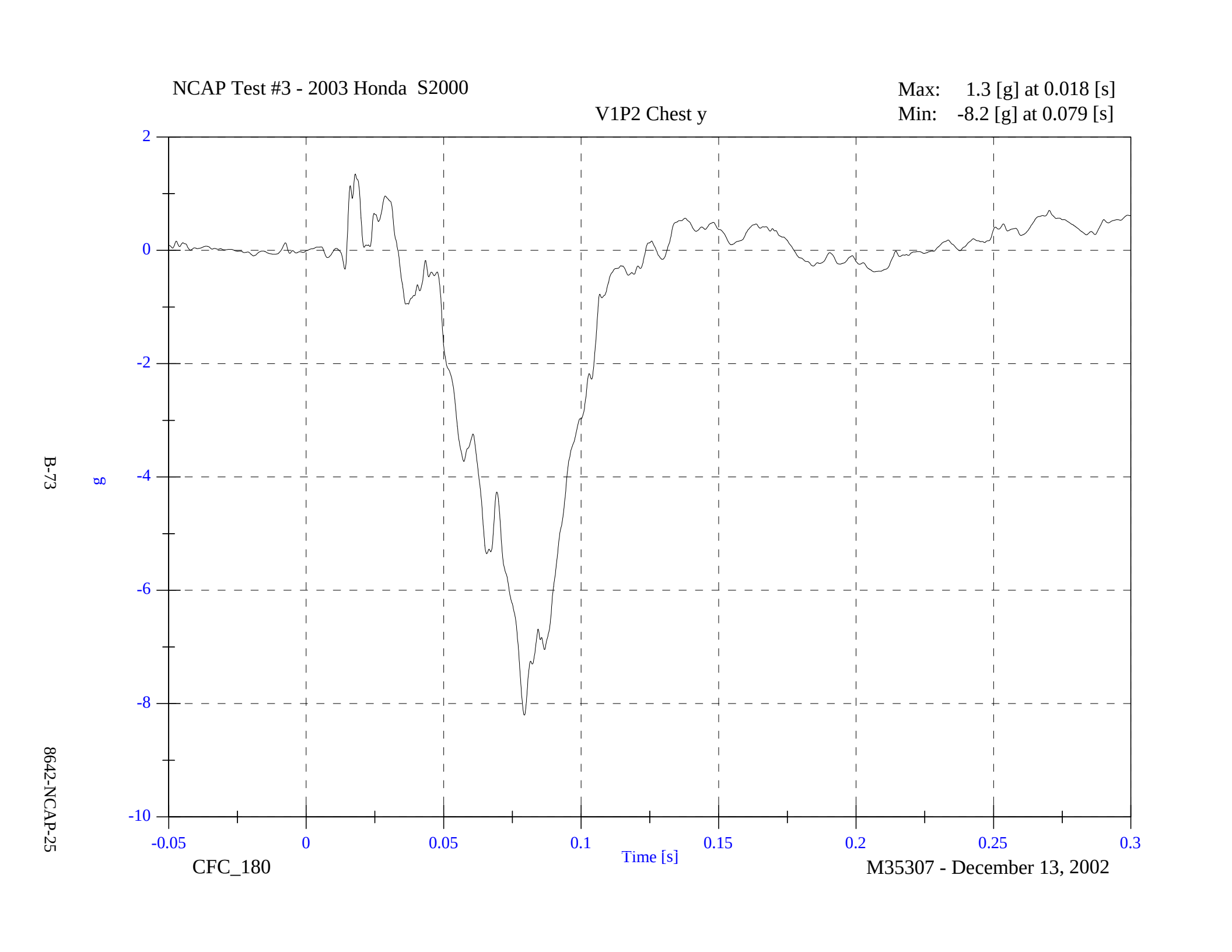


B-72

8642-NCAP-25

CFC_180

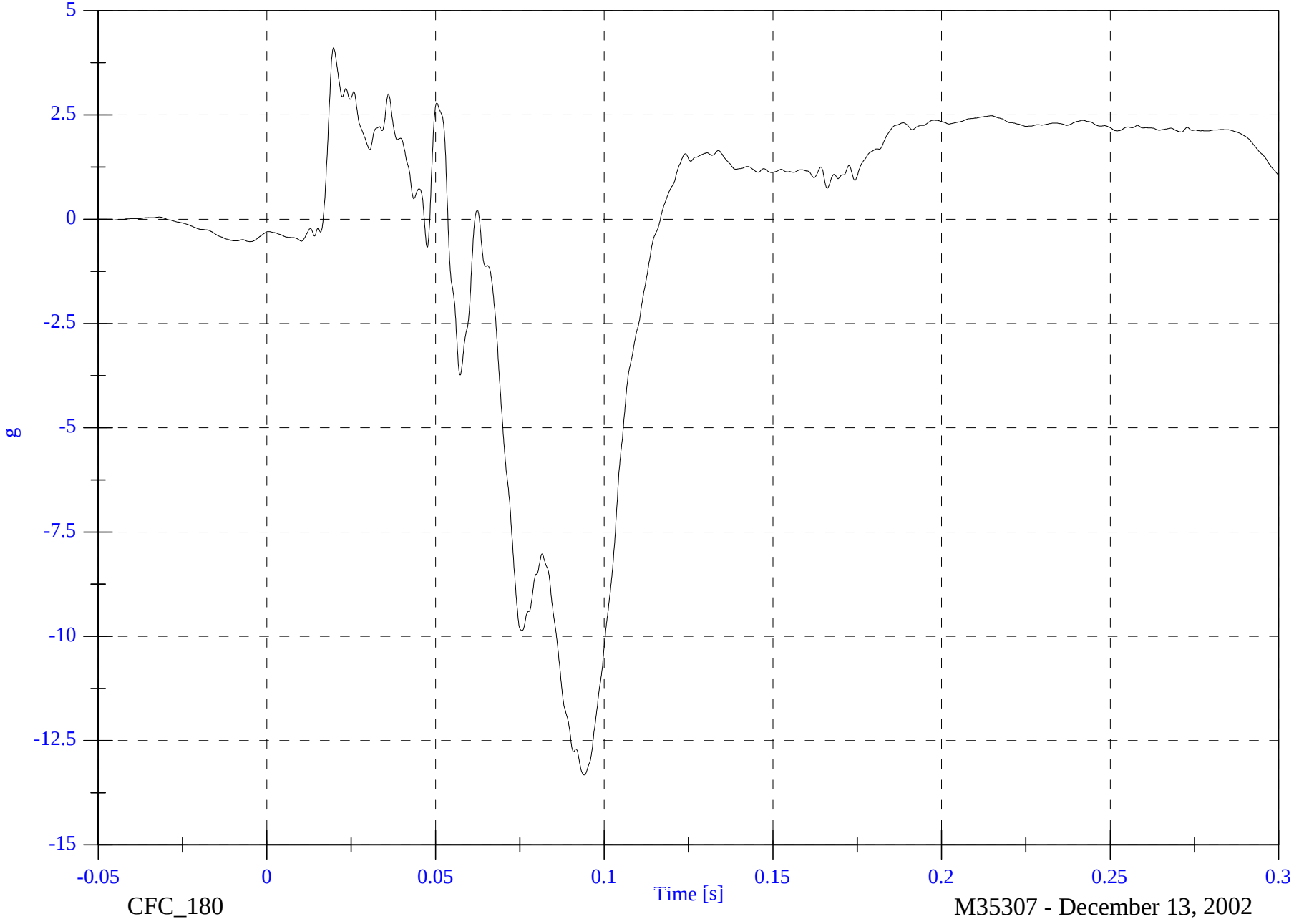
M35307 - December 13, 2002


NCAP Test #3 - 2003 Honda S2000
V1P2 Chest y
Max: 1.3 [g] at 0.018 [s]
Min: -8.2 [g] at 0.079 [s]
2
0
-2
-4
-6
-8
-10
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
CFC_180
M35307 - December 13, 2002
B-73
8642-NCAP-25

NCAP Test #3 - 2003 Honda S2000

V1P2 Chest z

Max: 4.1 [g] at 0.020 [s]
Min: -13.3 [g] at 0.094 [s]

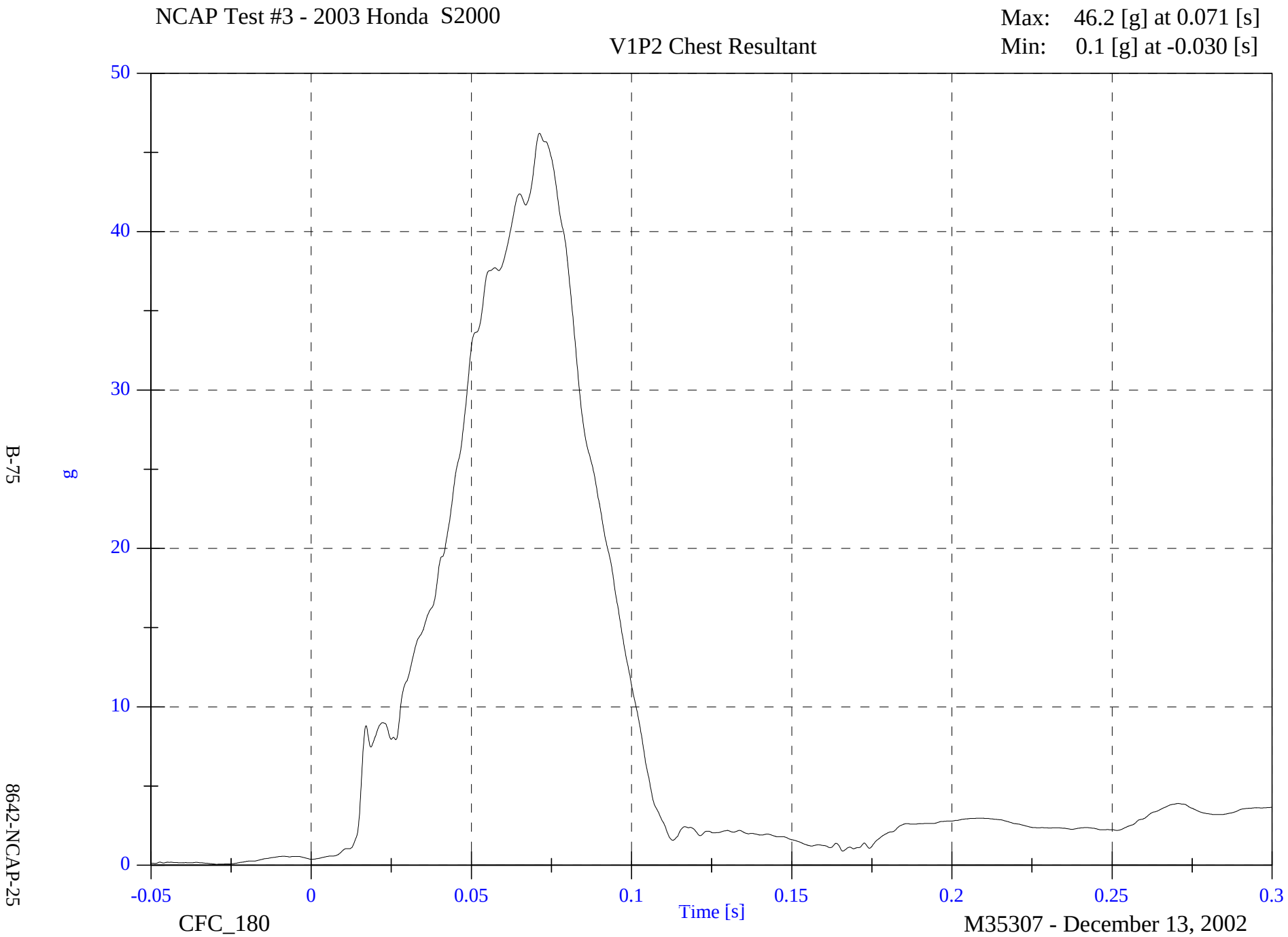


CFC_180

M35307 - December 13, 2002

B-74

8642-NCAP-25



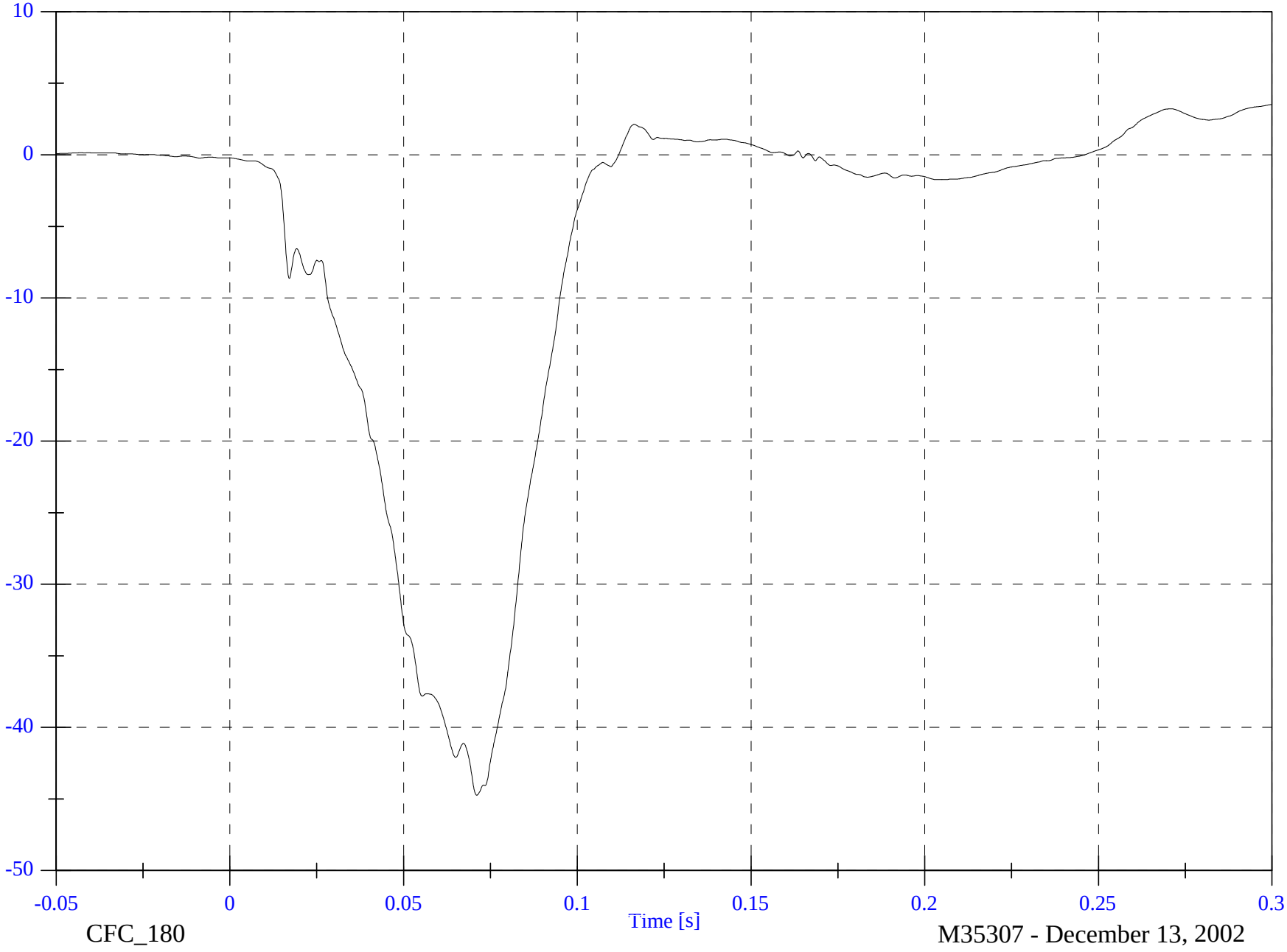
B-75

8642-NCAP-25

NCAP Test #3 - 2003 Honda S2000

V1P2 Chest Red x

Max: 3.5 [g] at 0.300 [s]
Min: -44.7 [g] at 0.071 [s]



CFC_180

M35307 - December 13, 2002

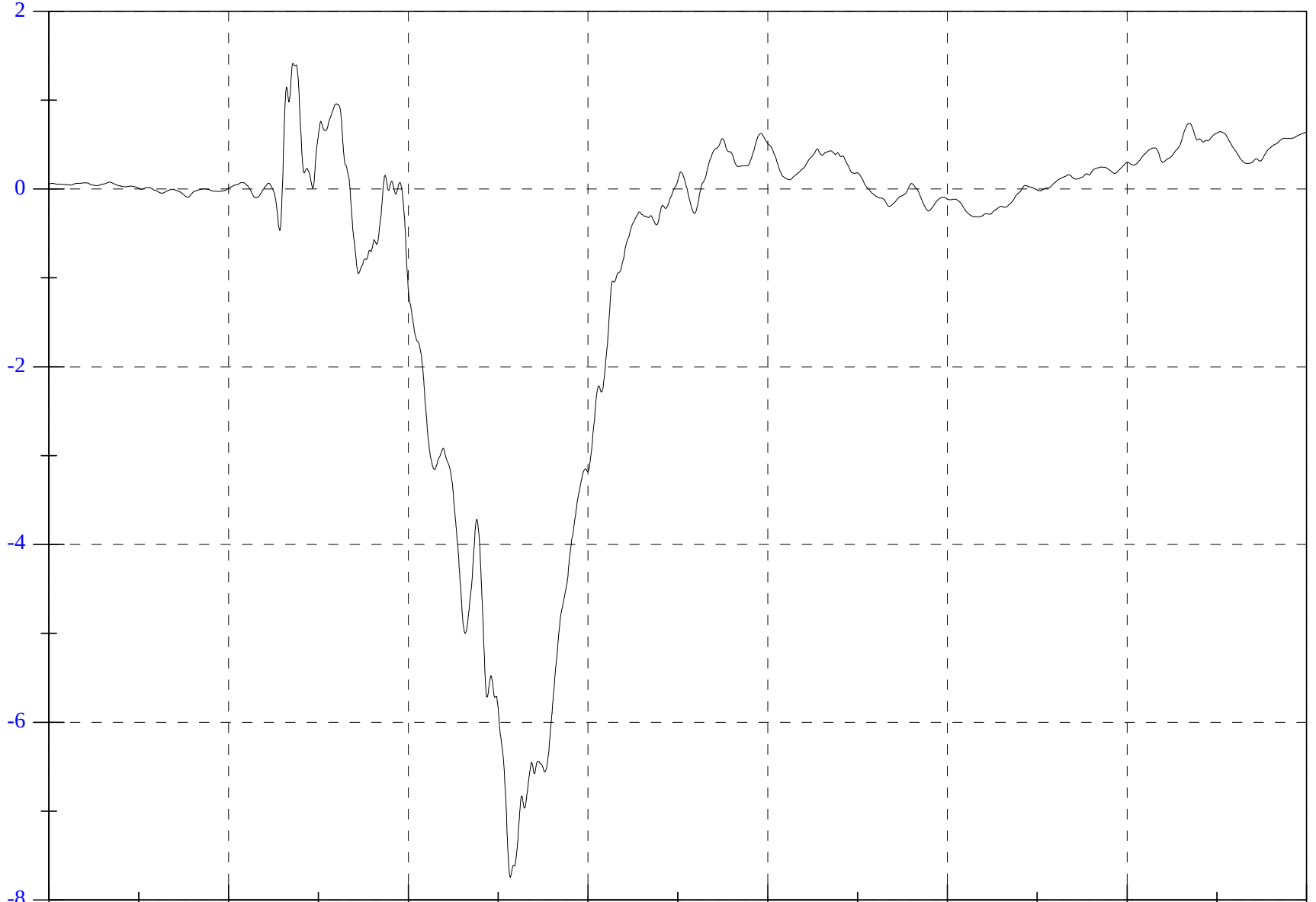
B-76

8642-NCAP-25

NCAP Test #3 - 2003 Honda S2000

V1P2 Chest Red y

Max: 1.4 [g] at 0.018 [s]
Min: -7.7 [g] at 0.078 [s]



B-77

8642-NCAP-25

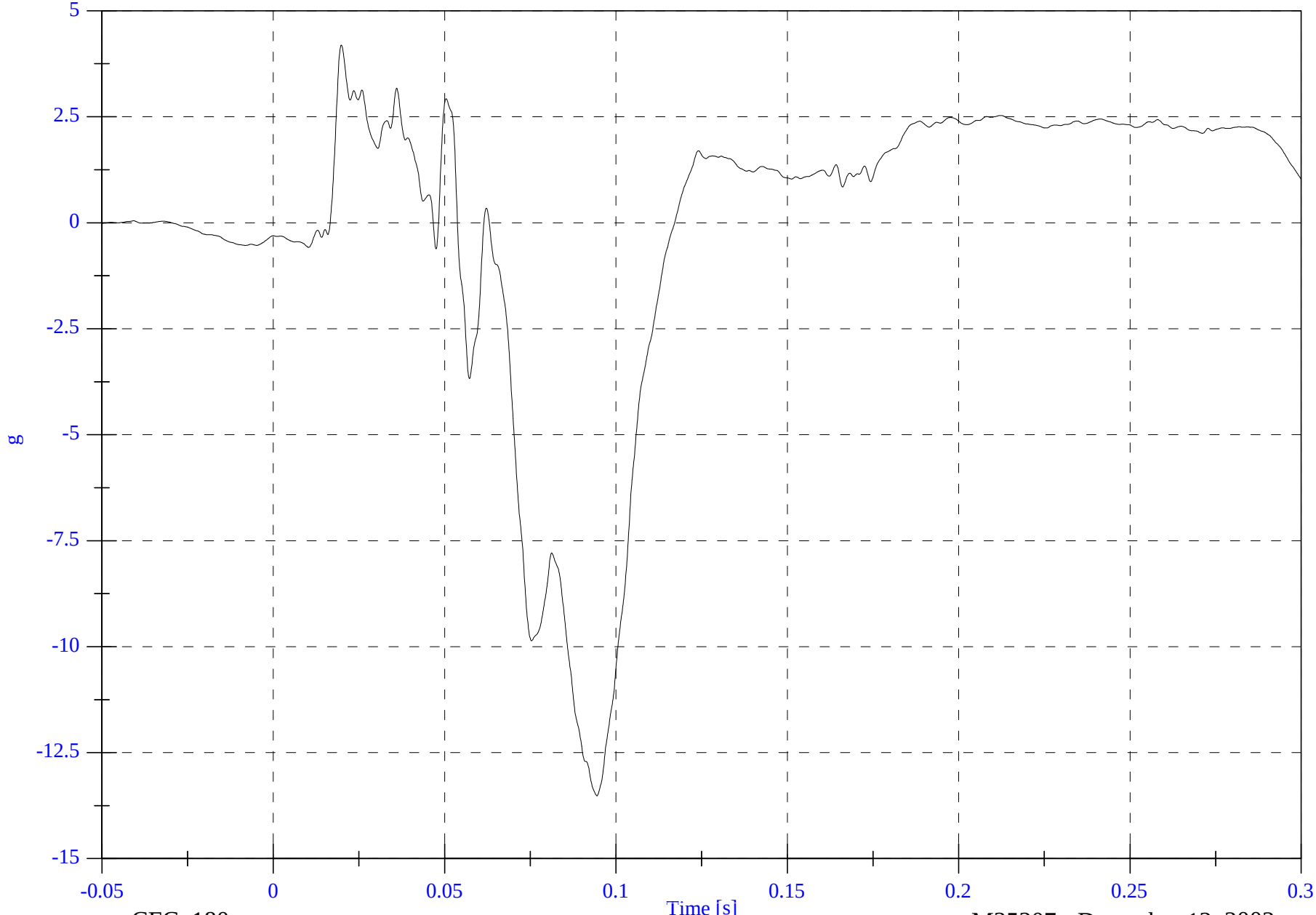
CFC_180

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1P2 Chest Red z

Max: 4.2 [g] at 0.020 [s]
Min: -13.5 [g] at 0.095 [s]



CFC_180

M35307 - December 13, 2002

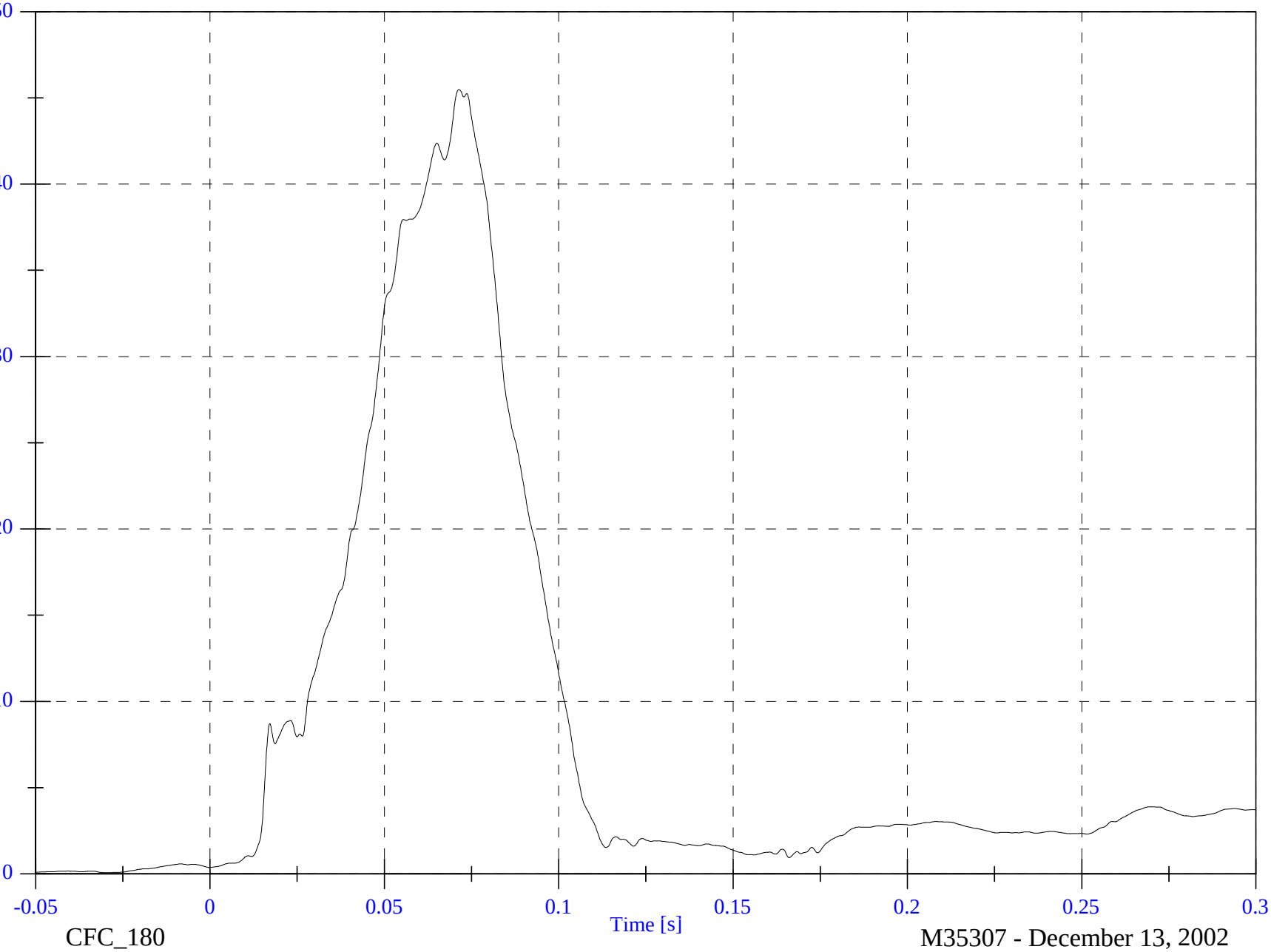
B-78

8642-NCAP-25

NCAP Test #3 - 2003 Honda S2000

V1P2 Chest Red Resultant

Max: 45.5 [g] at 0.071 [s]
Min: 0.1 [g] at -0.029 [s]



CFC_180

M35307 - December 13, 2002

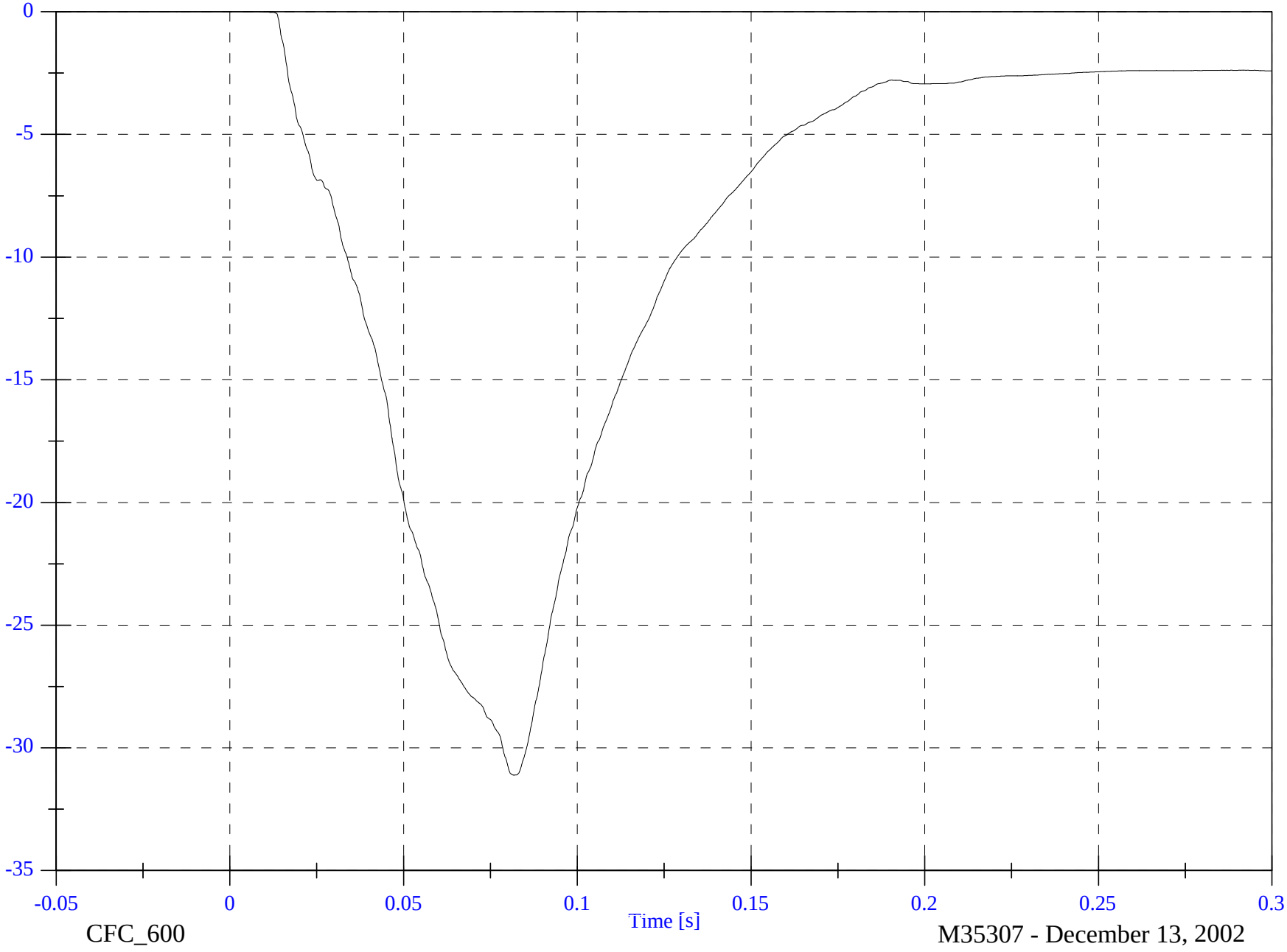
B-79

8642-NCAP-25

NCAP Test #3 - 2003 Honda S2000

V1P2 Chest Compression

Max: 0.0 [mm] at 0.007 [s]
Min: -31.1 [mm] at 0.082 [s]

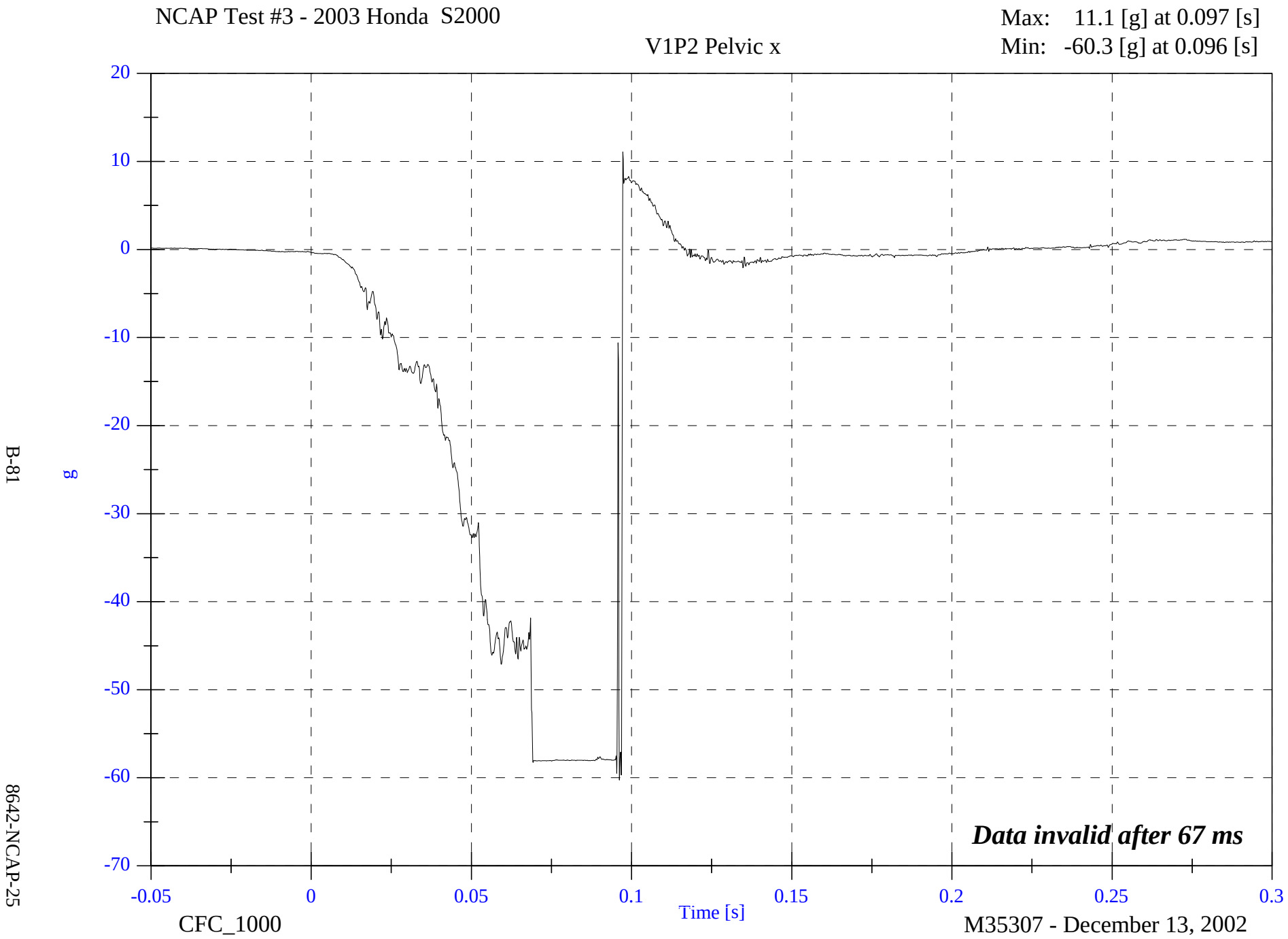


B-80

8642-NCAP-25

CFC_600

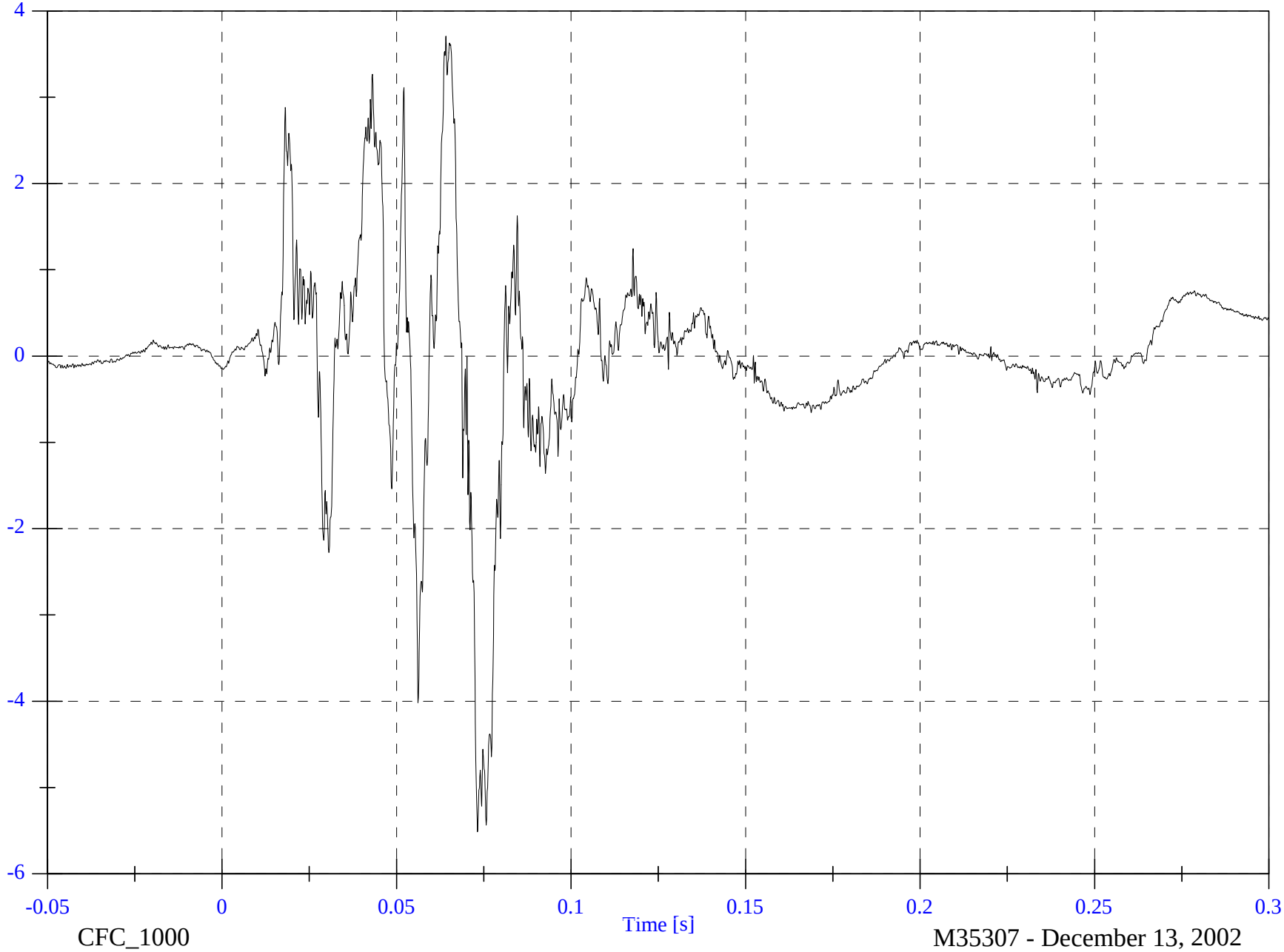
M35307 - December 13, 2002


NCAP Test #3 - 2003 Honda S2000
V1P2 Pelvic x
Max: 11.1 [g] at 0.097 [s]
Min: -60.3 [g] at 0.096 [s]
20
10
0
-10
-20
-30
-40
-50
-60
-70
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
Data invalid after 67 ms
CFC_1000
M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1P2 Pelvic y

Max: 3.7 [g] at 0.064 [s]
Min: -5.5 [g] at 0.073 [s]



CFC_1000

M35307 - December 13, 2002

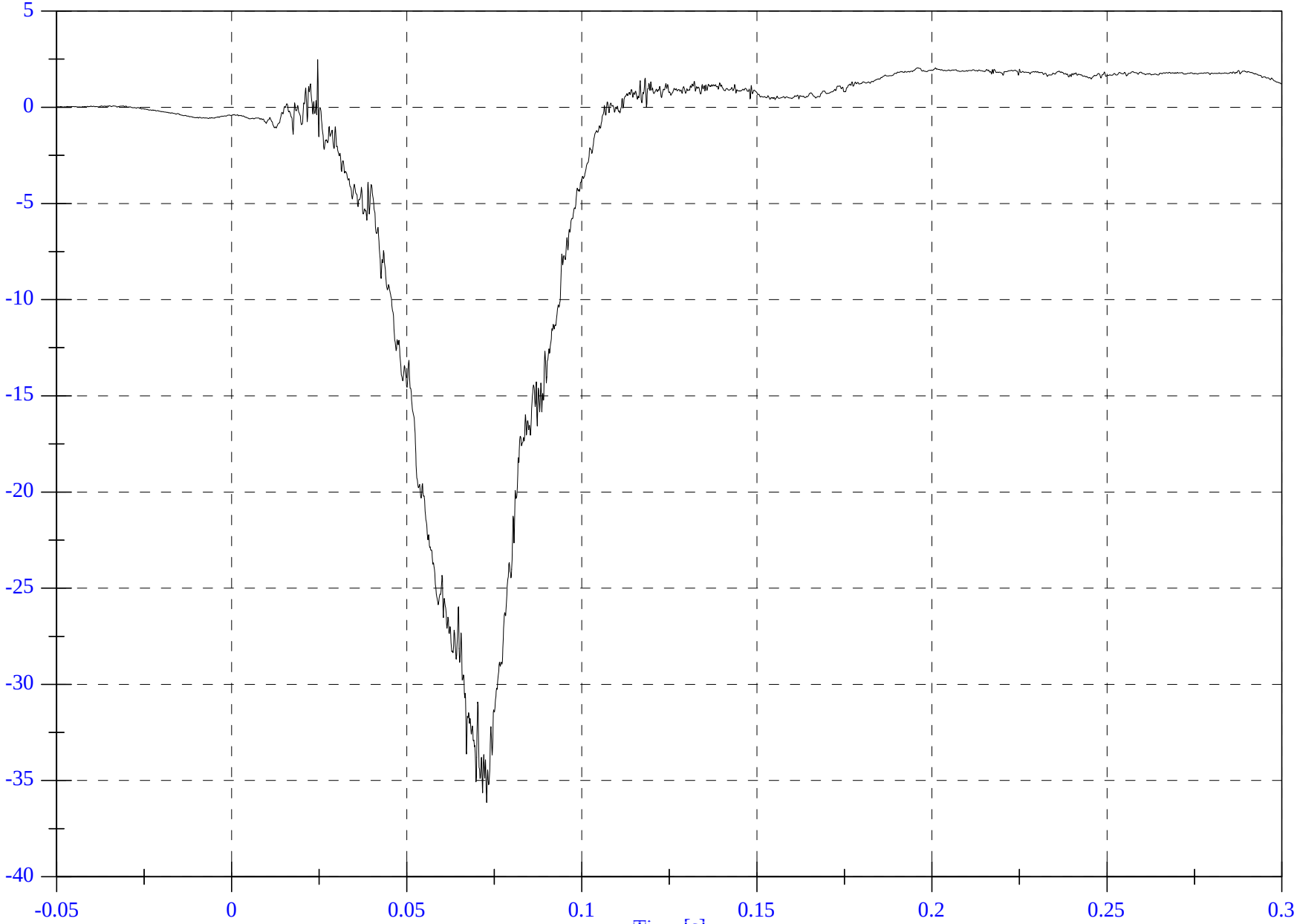
B-82

8642-NCAP-25

NCAP Test #3 - 2003 Honda S2000

V1P2 Pelvic z

Max: 2.5 [g] at 0.025 [s]
Min: -36.1 [g] at 0.073 [s]



B-83

8642-NCAP-25

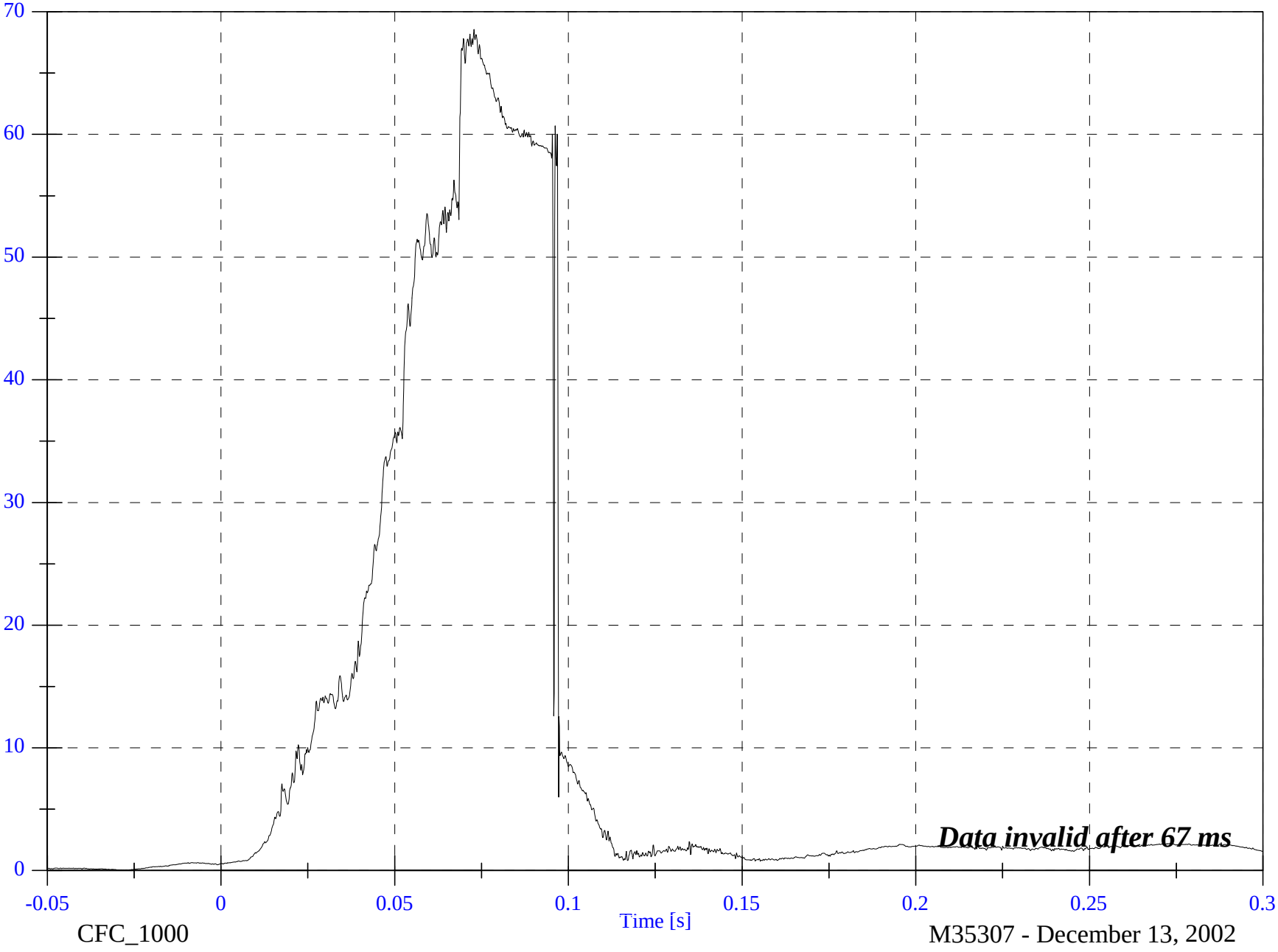
CFC_1000

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1P2 Pelvic Resultant

Max: 68.6 [g] at 0.073 [s]
Min: 0.0 [g] at -0.028 [s]



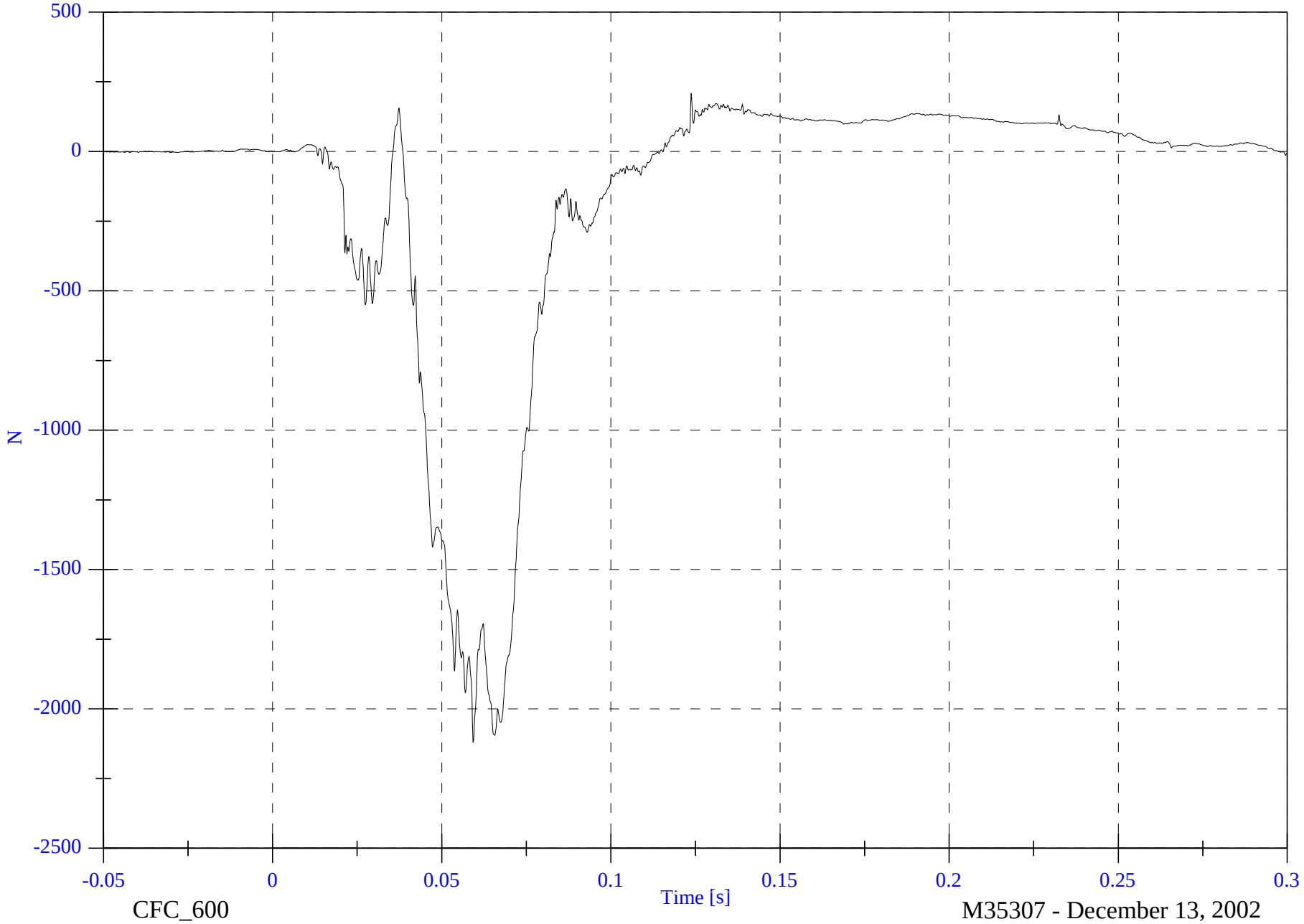
CFC_1000

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1P2 Left Femur

Max: 208.4 [N] at 0.124 [s]
Min: -2119.8 [N] at 0.059 [s]



B-85

8642-NCAP-25

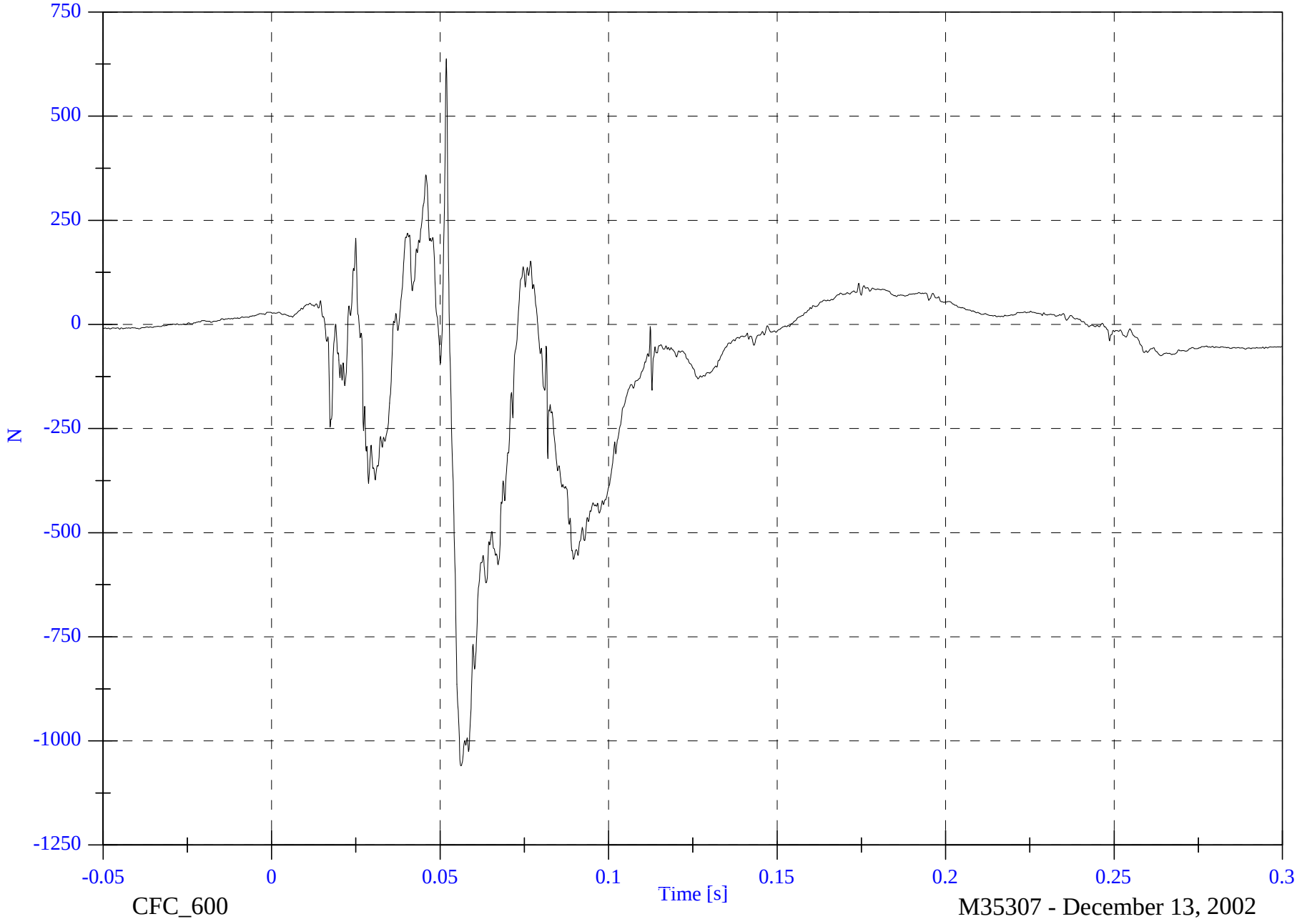
CFC_600

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1P2 Right Femur

Max: 637.8 [N] at 0.052 [s]
Min: -1059.5 [N] at 0.056 [s]



CFC_600

M35307 - December 13, 2002

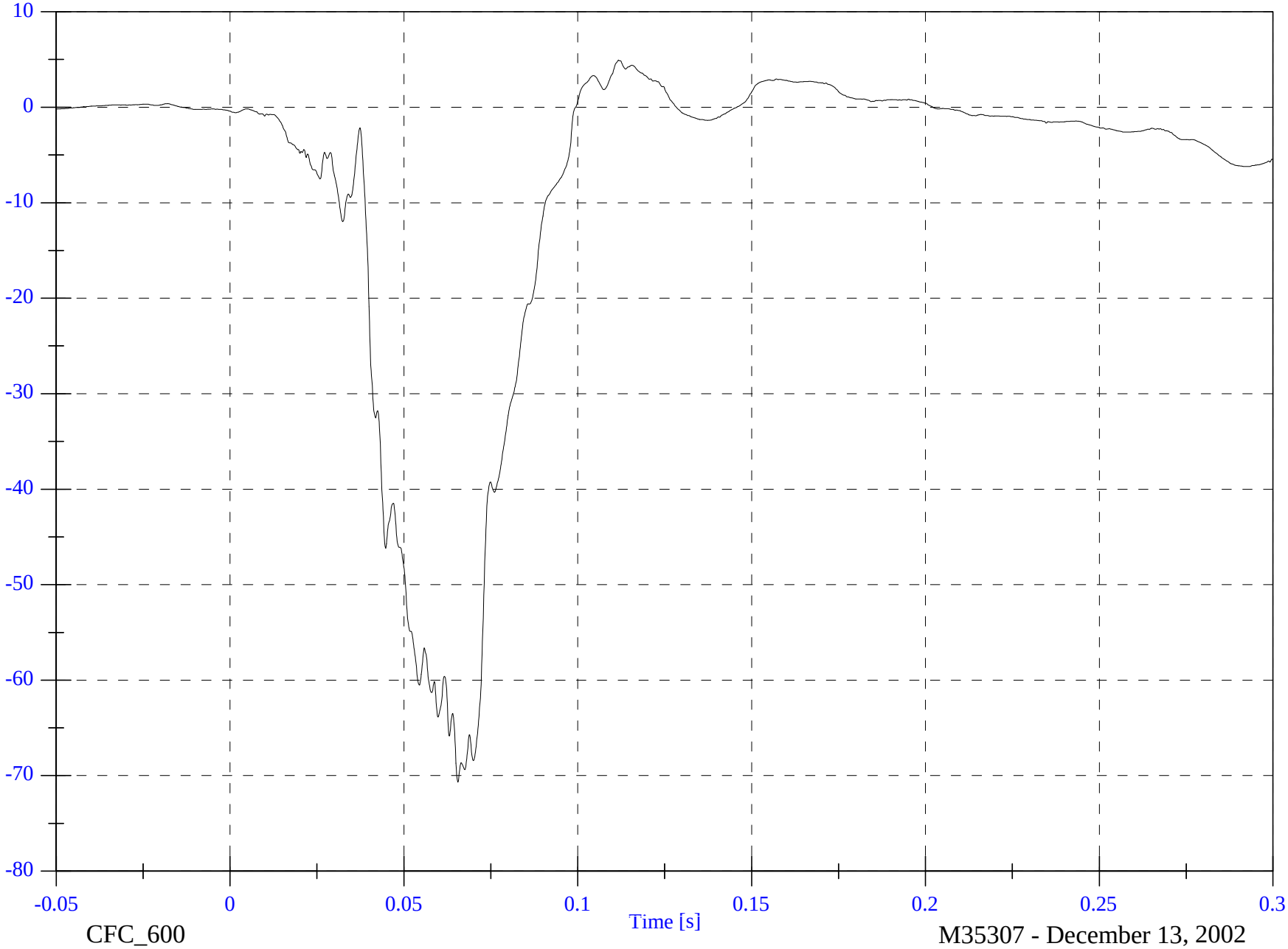
B-86

8642-NCAP-25

NCAP Test #3 - 2003 Honda S2000

V1P2 Left Upper Tibia Mx

Max: 4.9 [N-m] at 0.112 [s]
Min: -70.7 [N-m] at 0.065 [s]



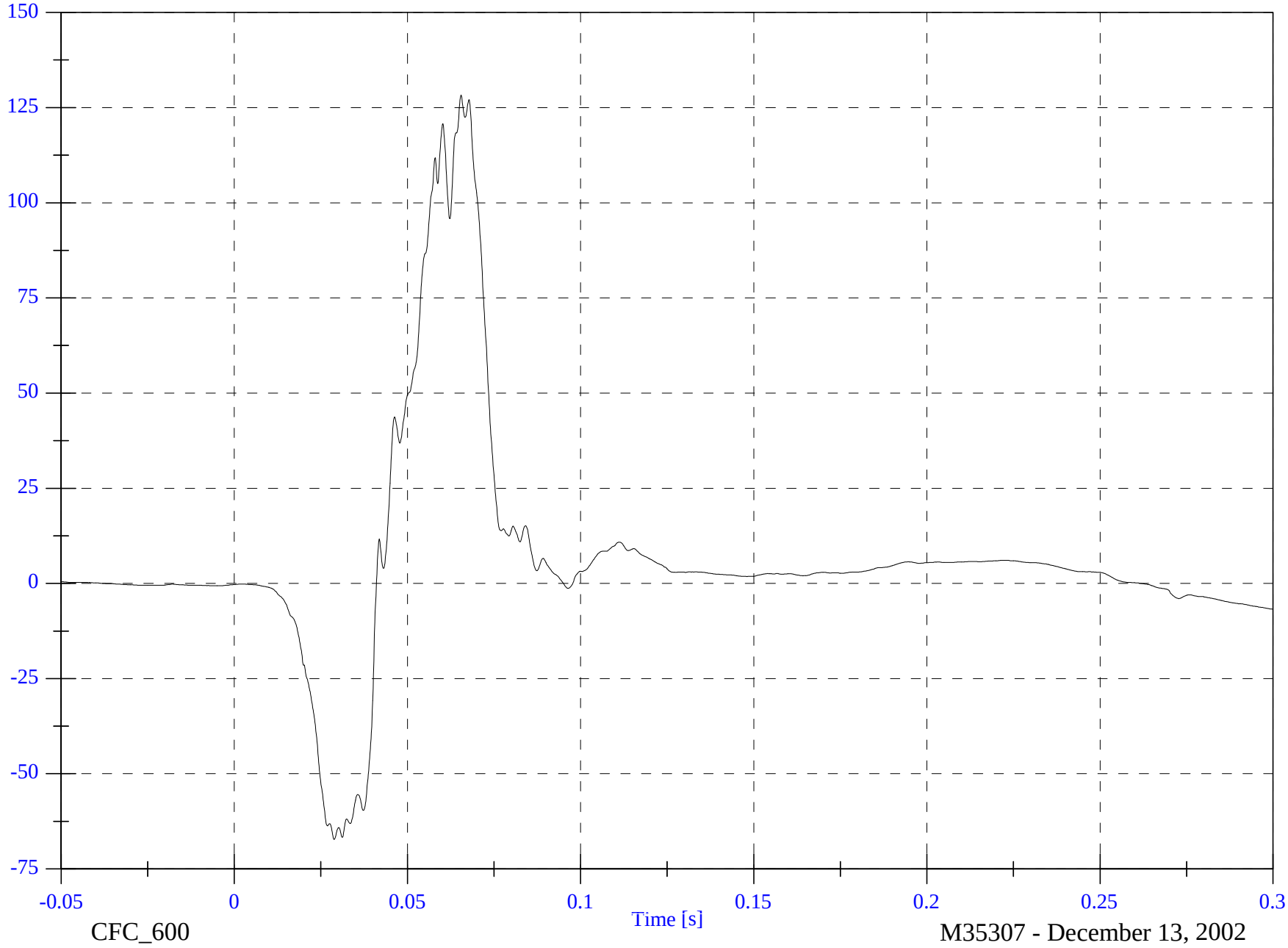
CFC_600

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1P2 Left Upper Tibia My

Max: 128.3 [N-m] at 0.065 [s]
Min: -67.3 [N-m] at 0.029 [s]



CFC_600

M35307 - December 13, 2002

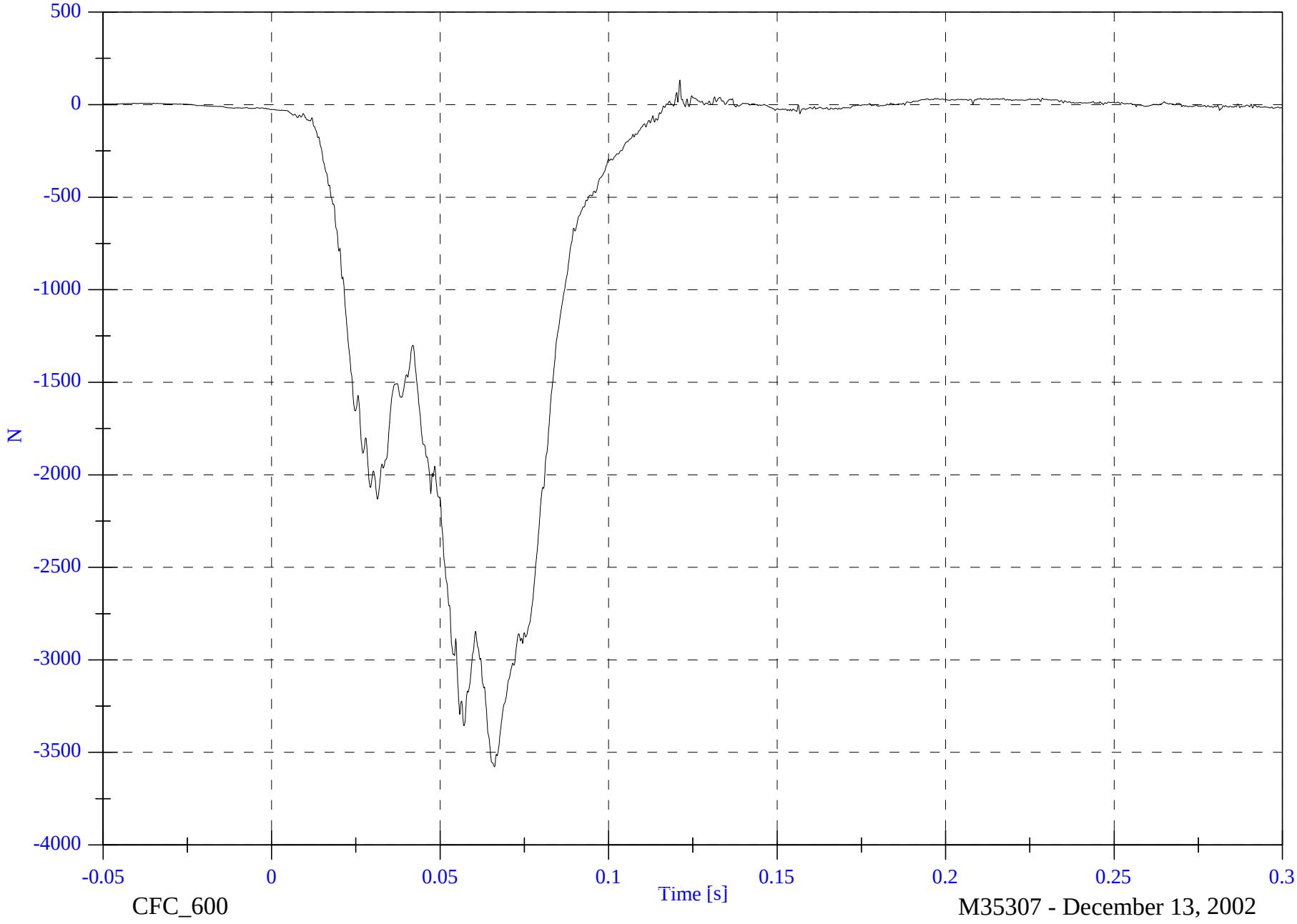
B-88

8642-NCAP-25

NCAP Test #3 - 2003 Honda S2000

V1P2 Left Lower Tibia Fz

Max: 133.3 [N] at 0.121 [s]
Min: -3577.5 [N] at 0.066 [s]



CFC_600

M35307 - December 13, 2002

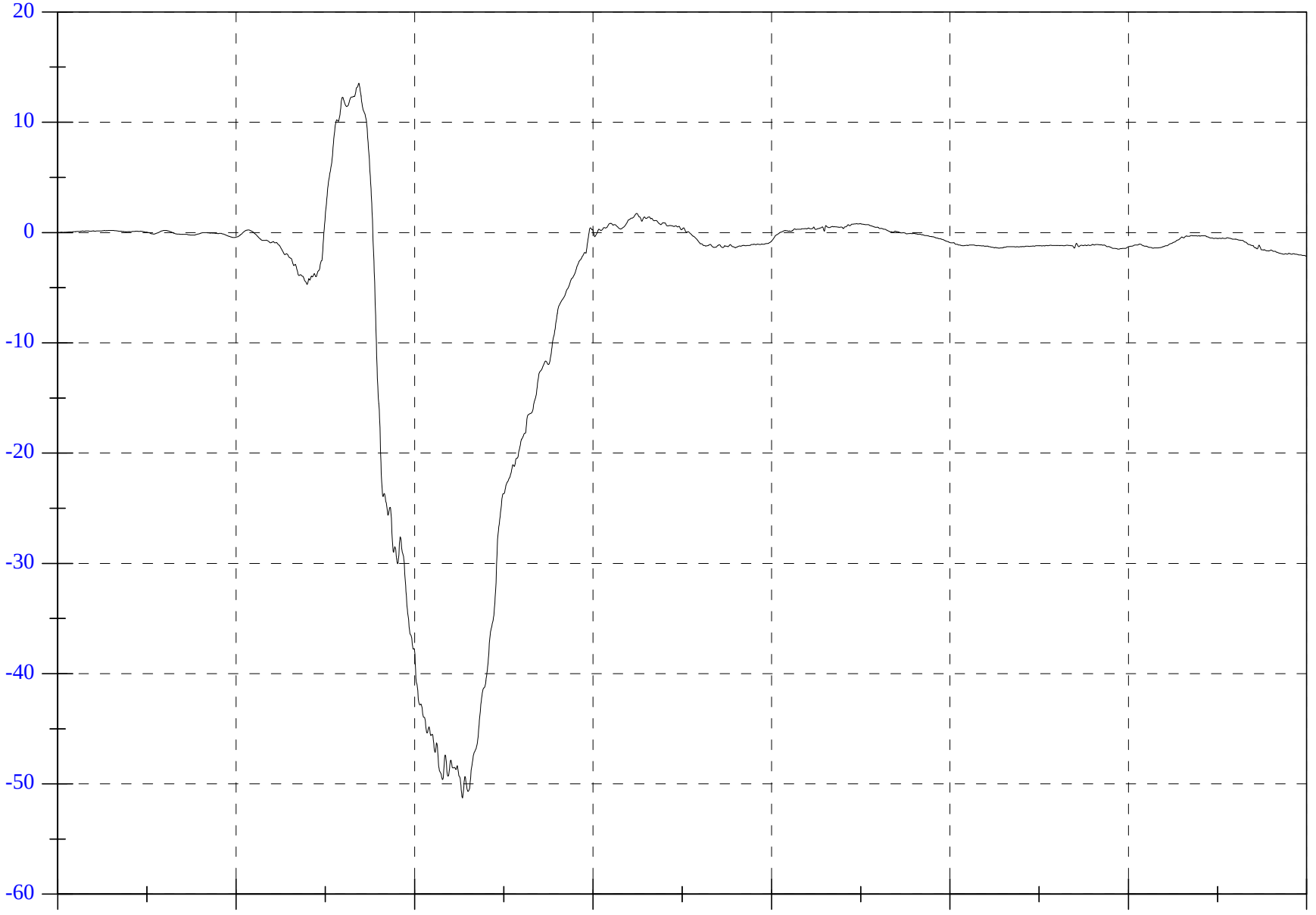
B-89

8642-NCAP-25

NCAP Test #3 - 2003 Honda S2000

V1P2 Left Lower Tibia Mx

Max: 13.5 [N-m] at 0.034 [s]
Min: -51.3 [N-m] at 0.063 [s]



CFC_600

M35307 - December 13, 2002

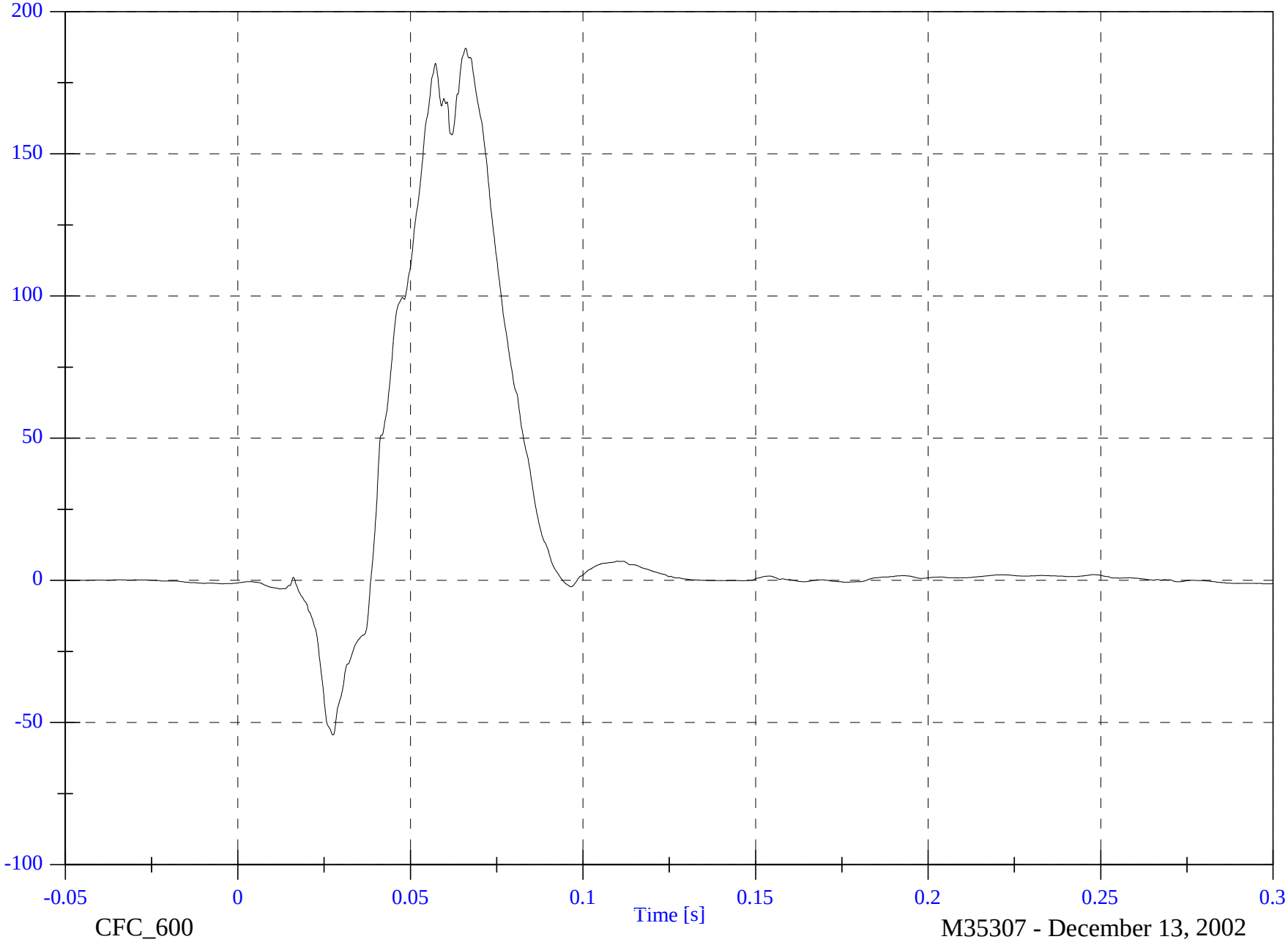
B-90

8642-NCAP-25

NCAP Test #3 - 2003 Honda S2000

V1P2 Left Lower Tibia My

Max: 187.1 [N-m] at 0.066 [s]
Min: -54.4 [N-m] at 0.028 [s]



CFC_600

M35307 - December 13, 2002

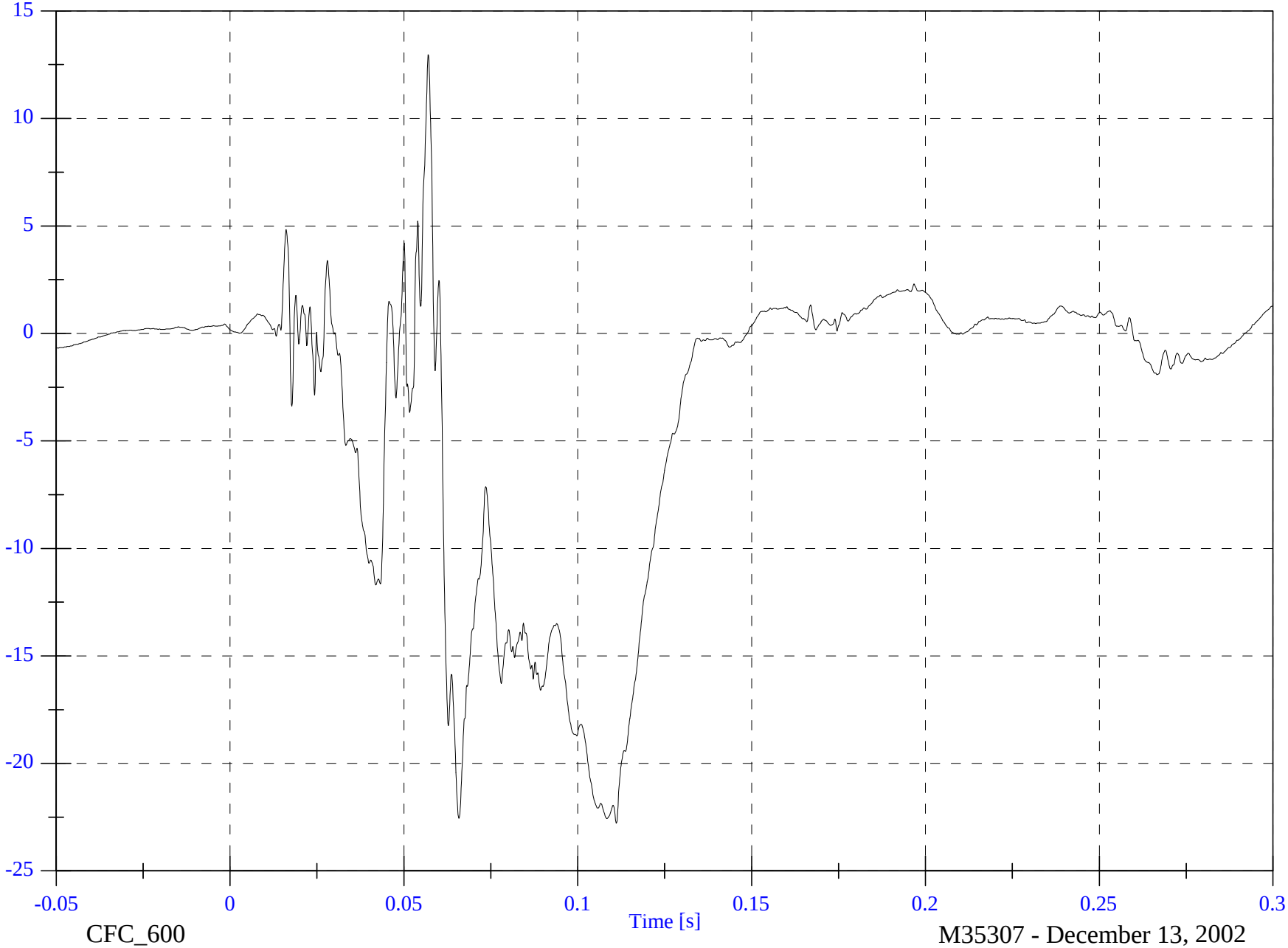
B-91

8642-NCAP-25

NCAP Test #3 - 2003 Honda S2000

V1P2 Right Upper Tibia Mx

Max: 13.0 [N-m] at 0.057 [s]
Min: -22.8 [N-m] at 0.111 [s]



CFC_600

M35307 - December 13, 2002

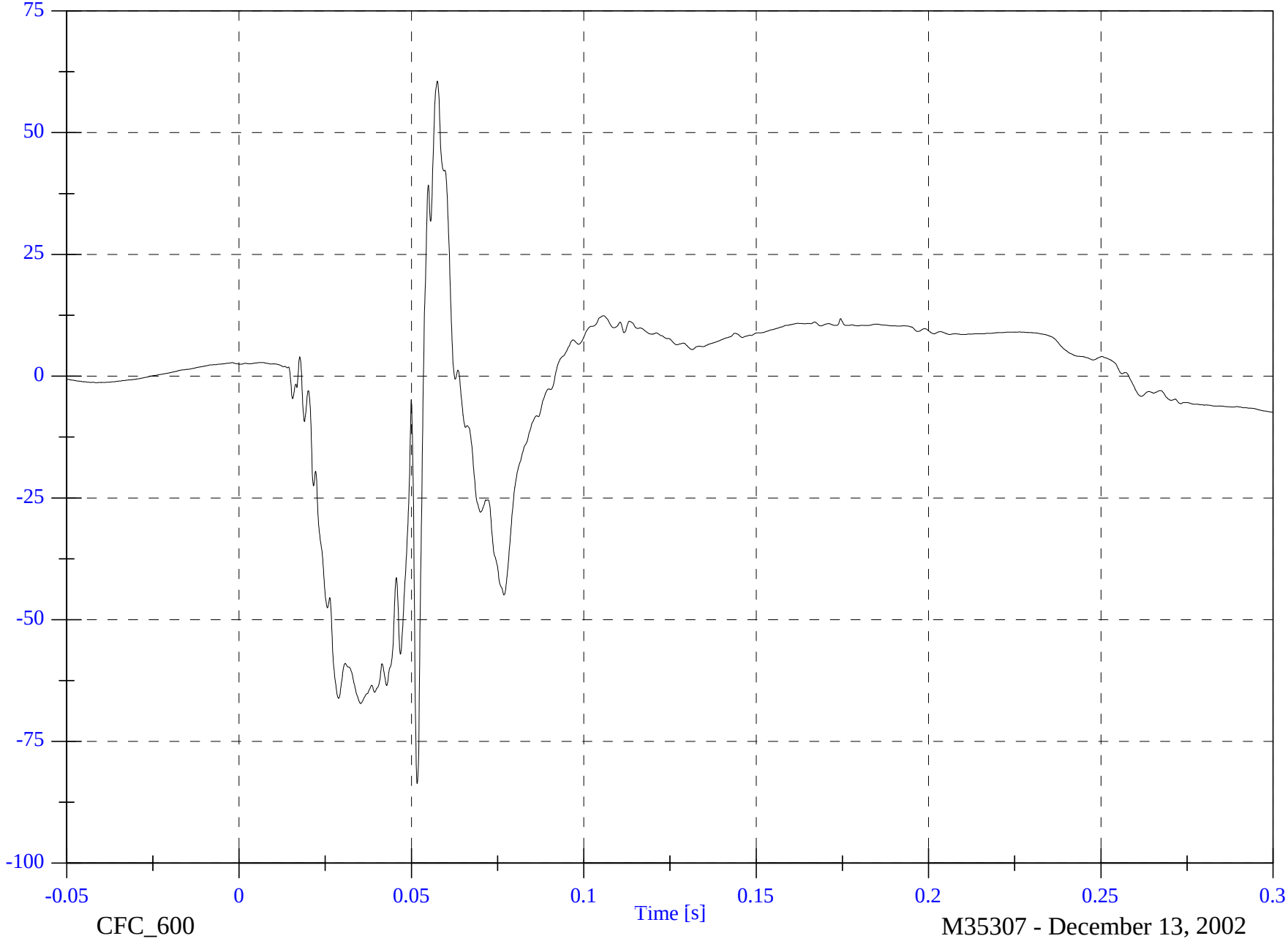
B-92

8642-NCAP-25

NCAP Test #3 - 2003 Honda S2000

V1P2 Right Upper Tibia My

Max: 60.6 [N-m] at 0.057 [s]
Min: -83.6 [N-m] at 0.052 [s]



B-93

8642-NCAP-25

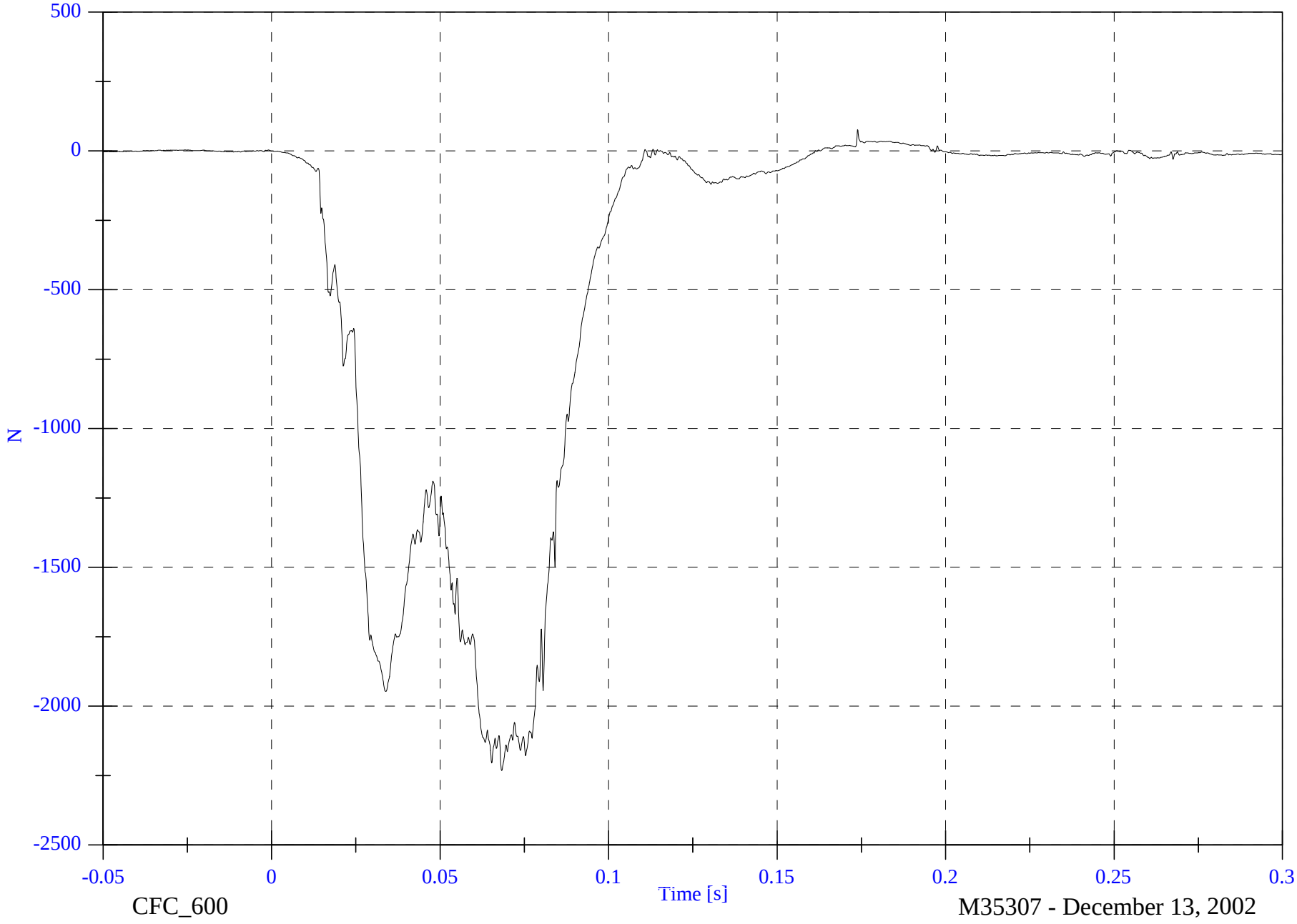
CFC_600

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1P2 Right Lower Tibia Fz

Max: 76.3 [N] at 0.174 [s]
Min: -2231.9 [N] at 0.068 [s]



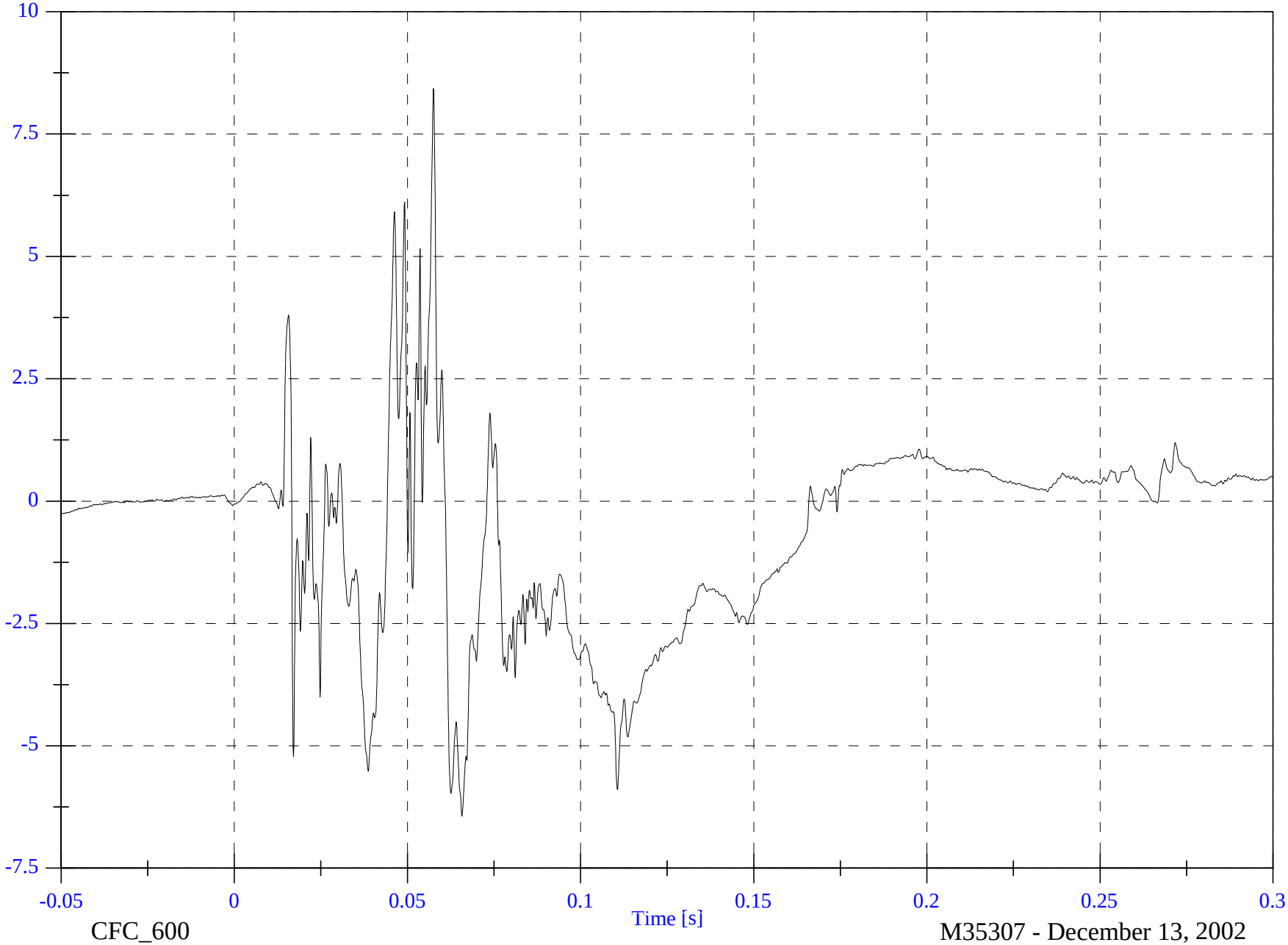
CFC_600

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1P2 Right Lower Tibia Mx

Max: 8.4 [N-m] at 0.057 [s]
Min: -6.4 [N-m] at 0.066 [s]



CFC_600

M35307 - December 13, 2002

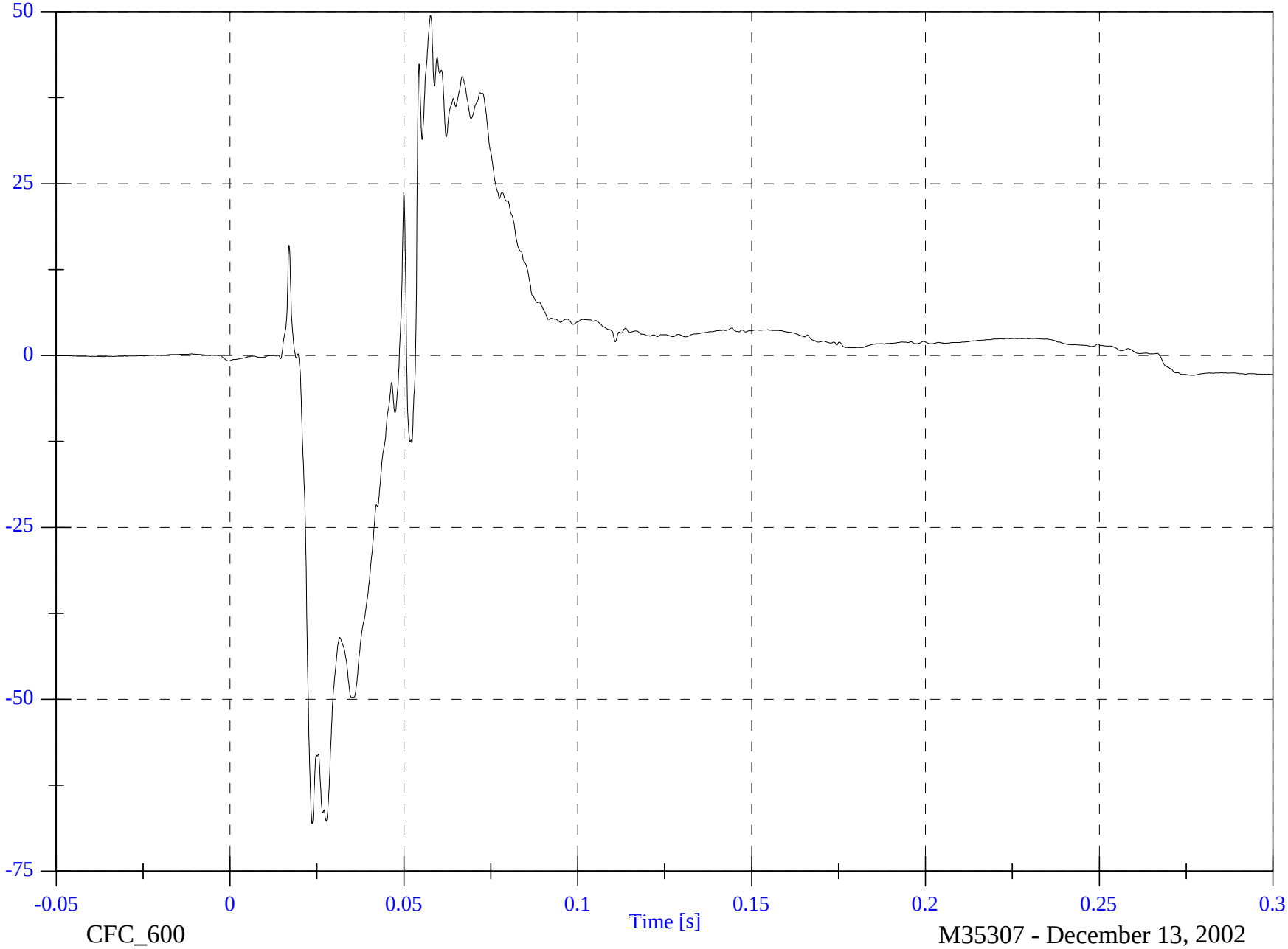
B-95

8642-NCAP-25

NCAP Test #3 - 2003 Honda S2000

V1P2 Right Lower Tibia My

Max: 49.5 [N-m] at 0.058 [s]
Min: -68.1 [N-m] at 0.024 [s]



CFC_600

M35307 - December 13, 2002

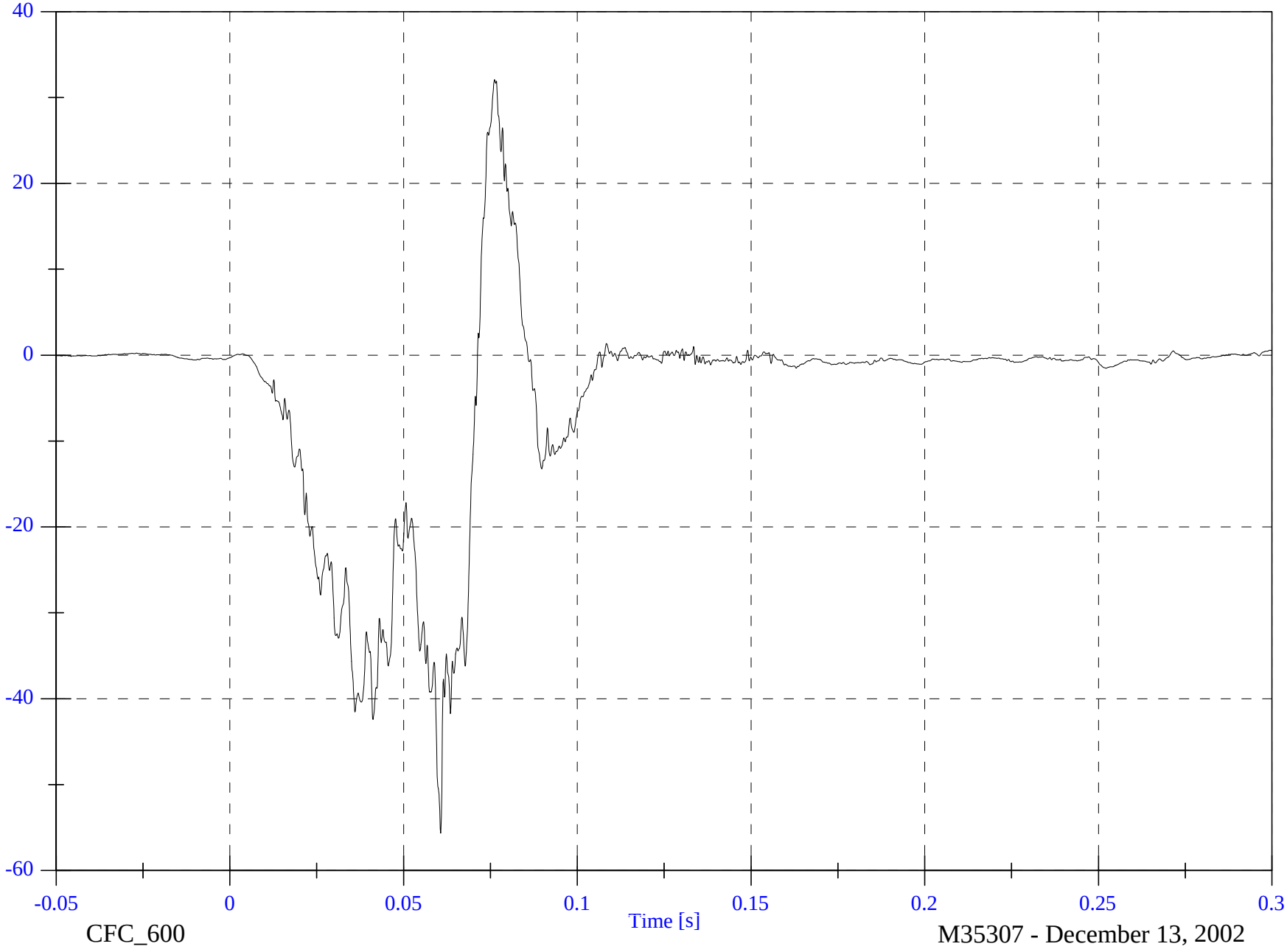
B-96

8642-NCAP-25

NCAP Test #3 - 2003 Honda S2000

V1P2 Left foot Aft x

Max: 32.1 [g] at 0.076 [s]
Min: -55.7 [g] at 0.061 [s]



B-97

8642-NCAP-25

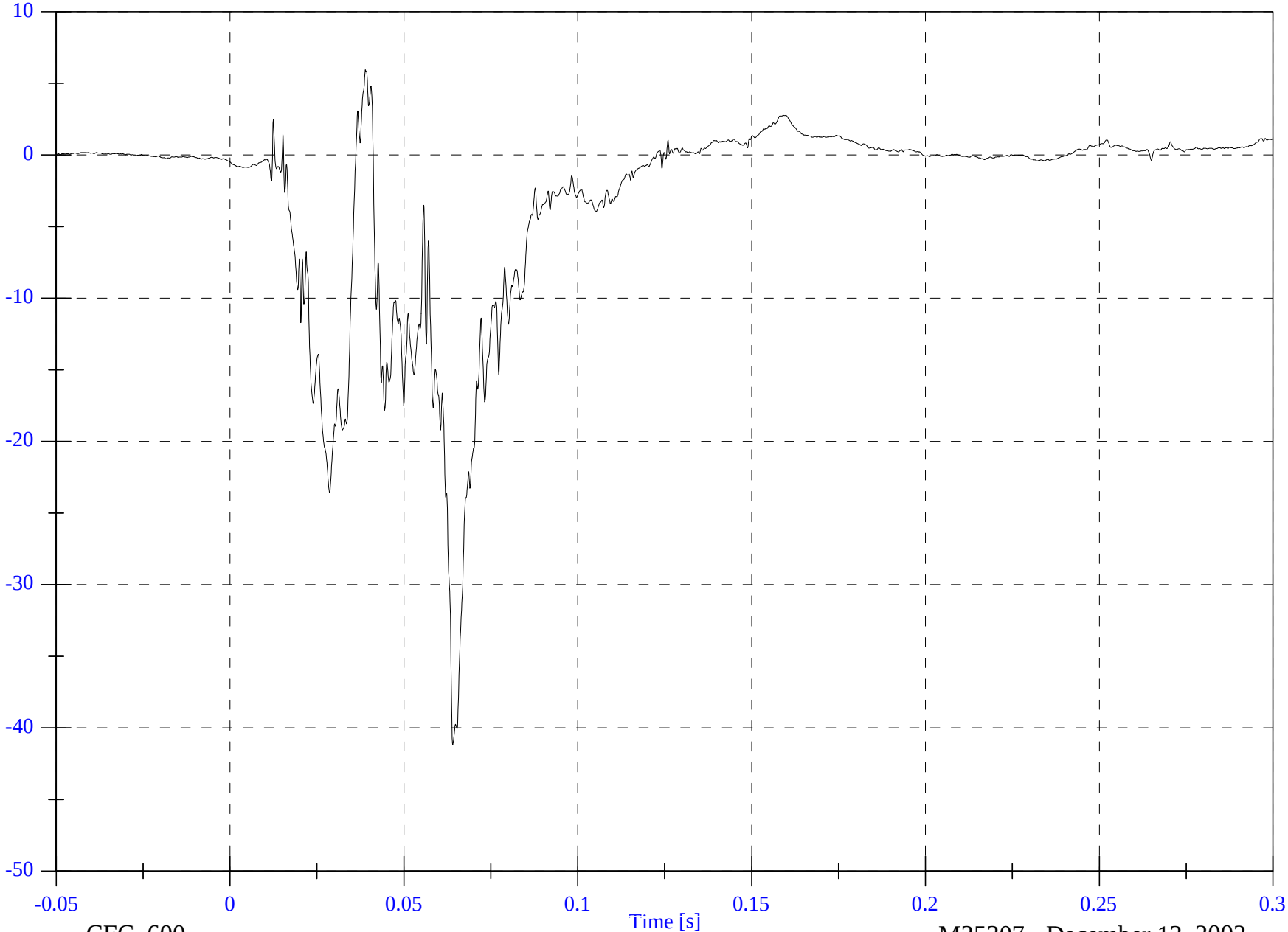
CFC_600

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1P2 Left Foot Aft z

Max: 5.9 [g] at 0.039 [s]
Min: -41.2 [g] at 0.064 [s]

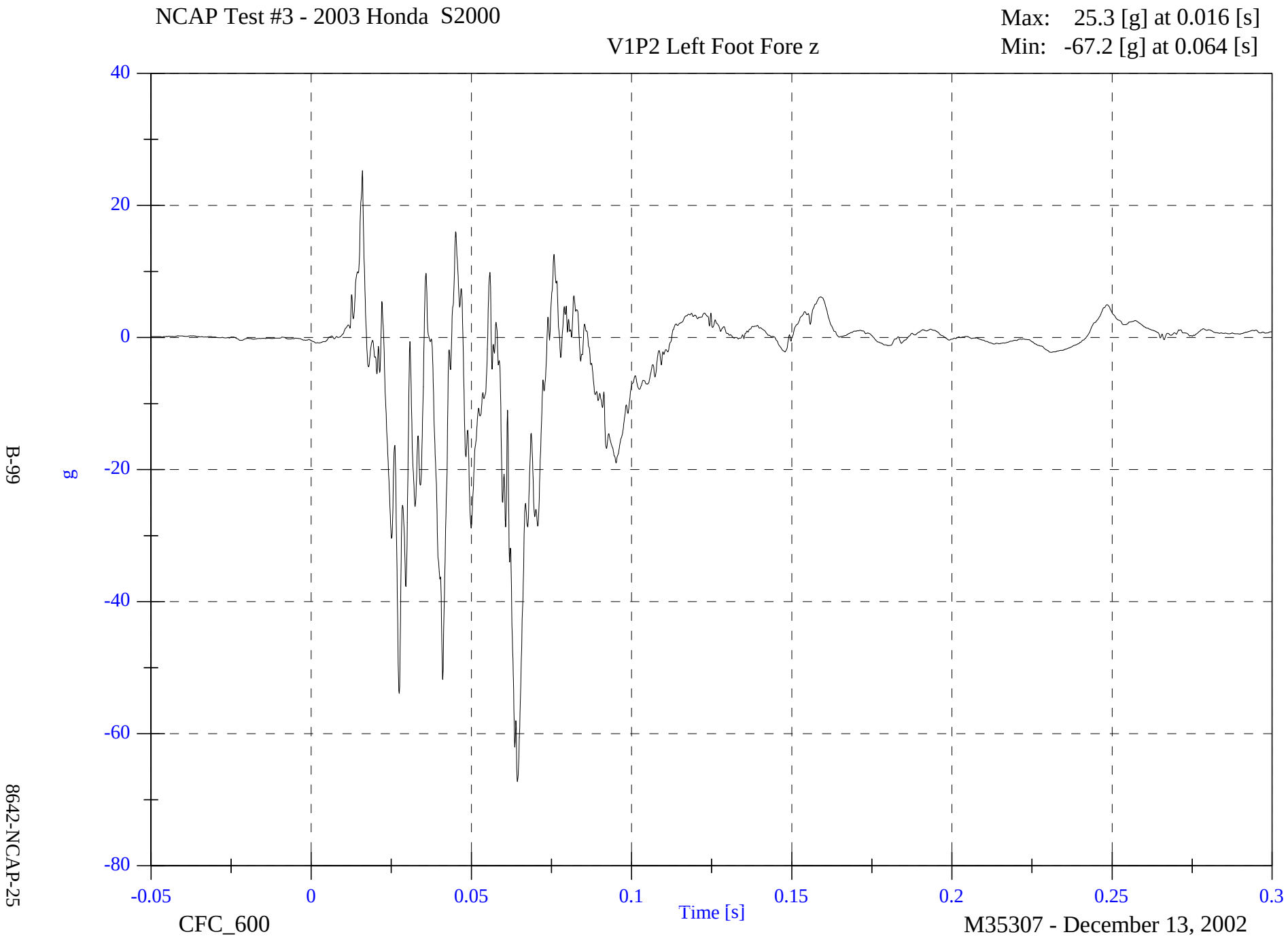


B-98

8642-NCAP-25

CFC_600

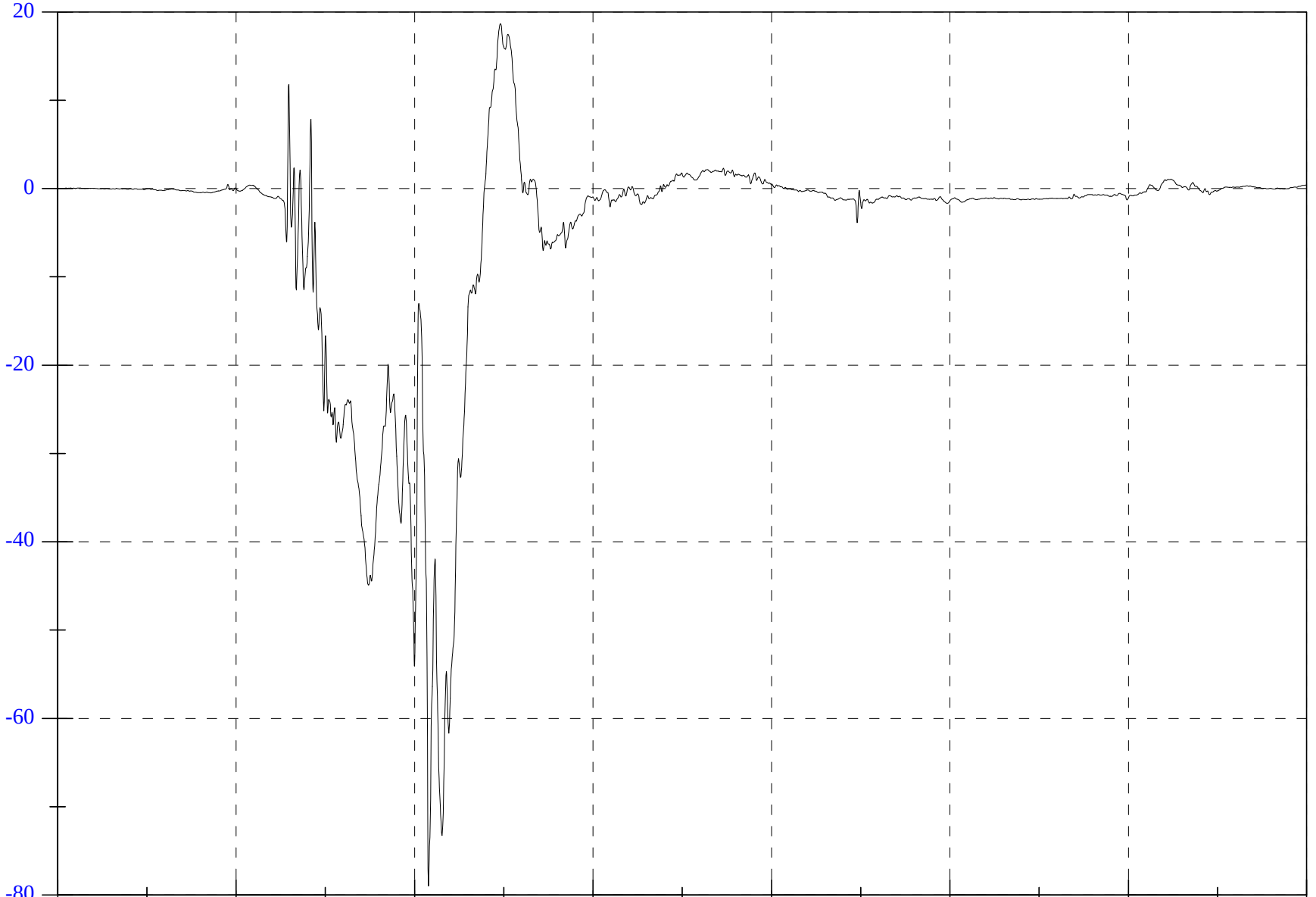
M35307 - December 13, 2002


NCAP Test #3 - 2003 Honda S2000
V1P2 Left Foot Fore z
Max: 25.3 [g] at 0.016 [s]
Min: -67.2 [g] at 0.064 [s]
40
20
0
-20
-40
-60
-80
g
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
B-99
8642-NCAP-25
CFC_600
M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1P2 Right Foot Aft x

Max: 18.7 [g] at 0.074 [s]
Min: -79.0 [g] at 0.054 [s]



B-100

8642-NCAP-25

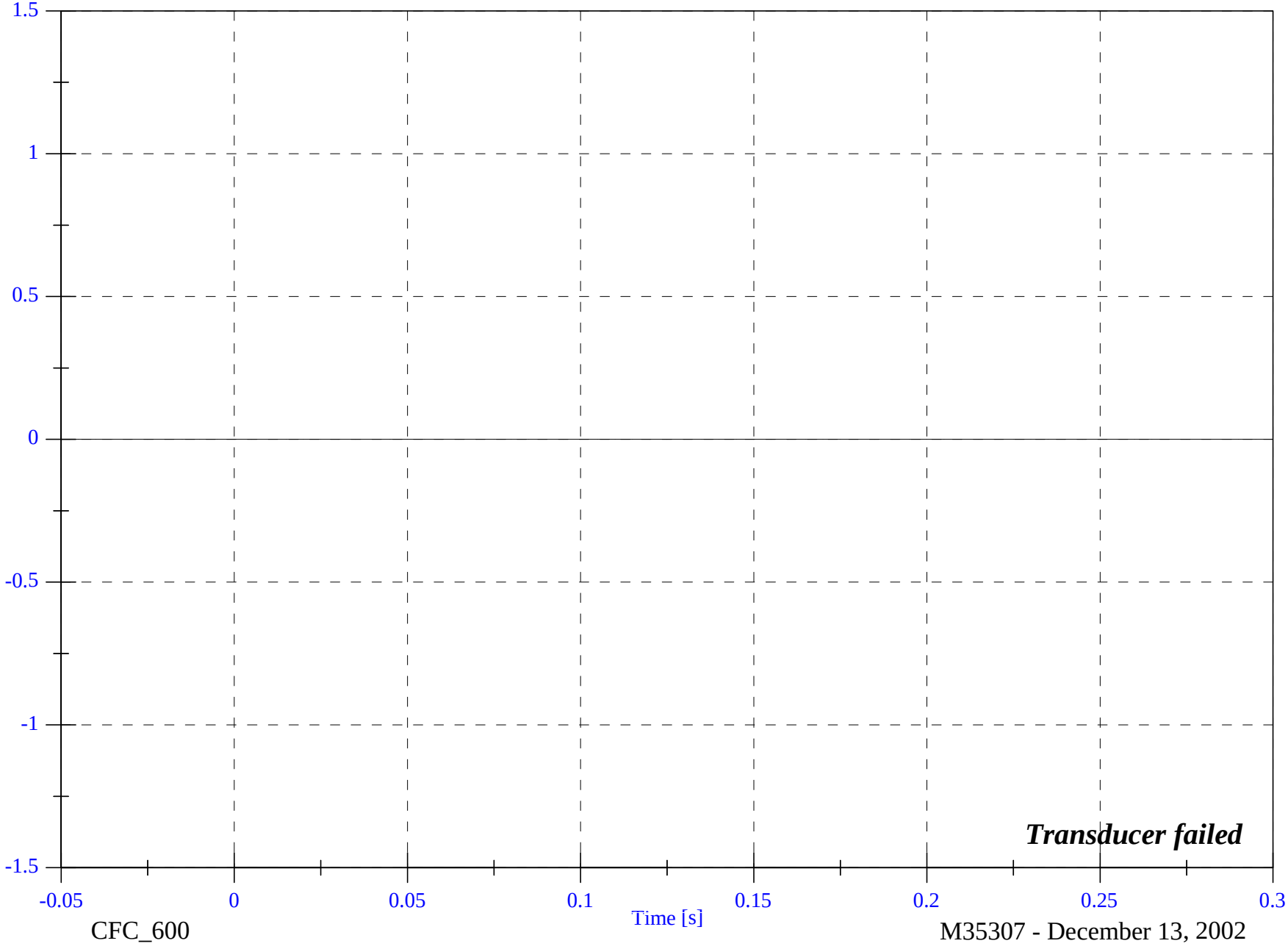
CFC_600

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1P2 Right Foot Aft z

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



B-101

8642-NCAP-25

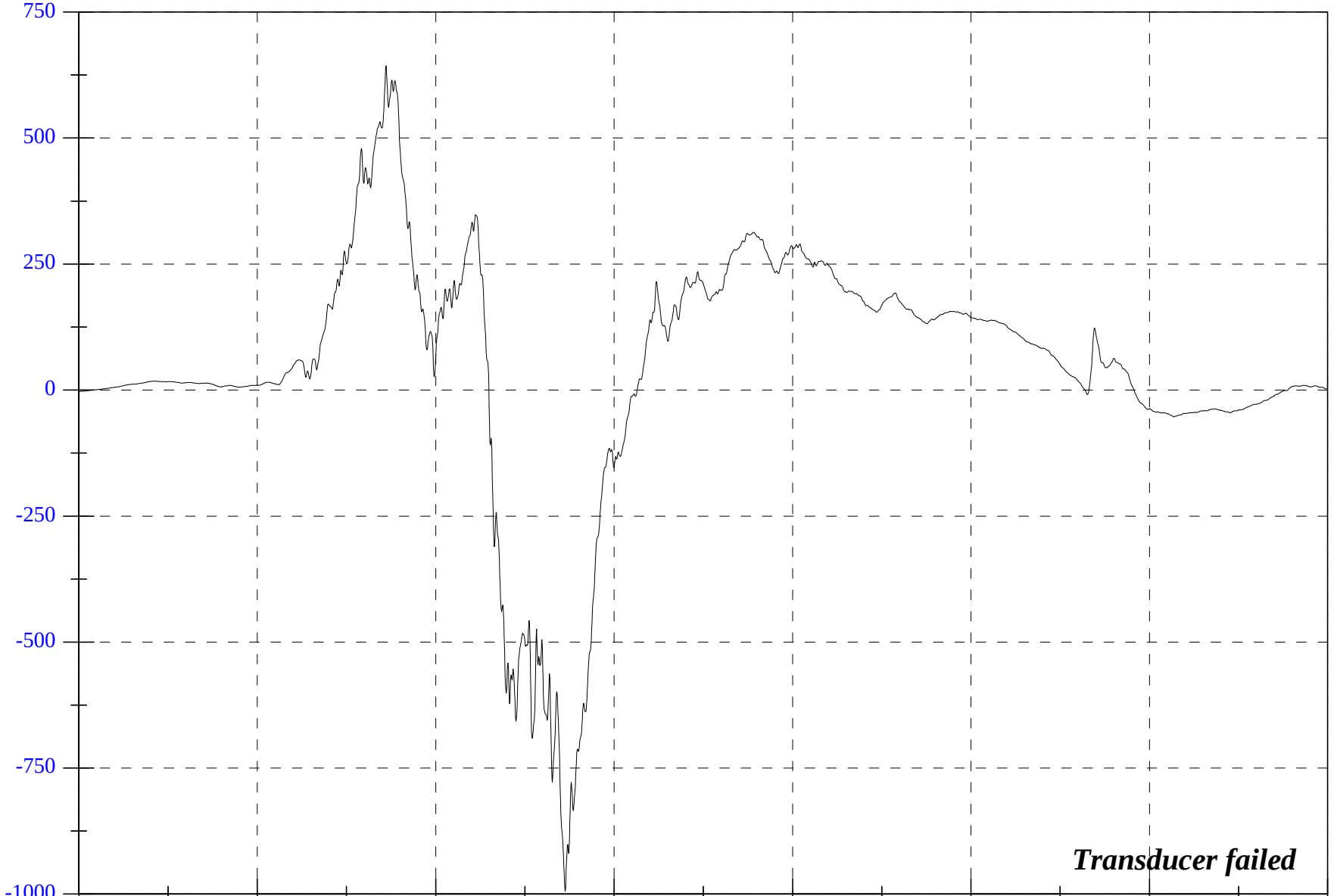
CFC_600

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1P2 Right Foot Fore z

Max: 643.4 [g] at 0.036 [s]
Min: -994.1 [g] at 0.086 [s]

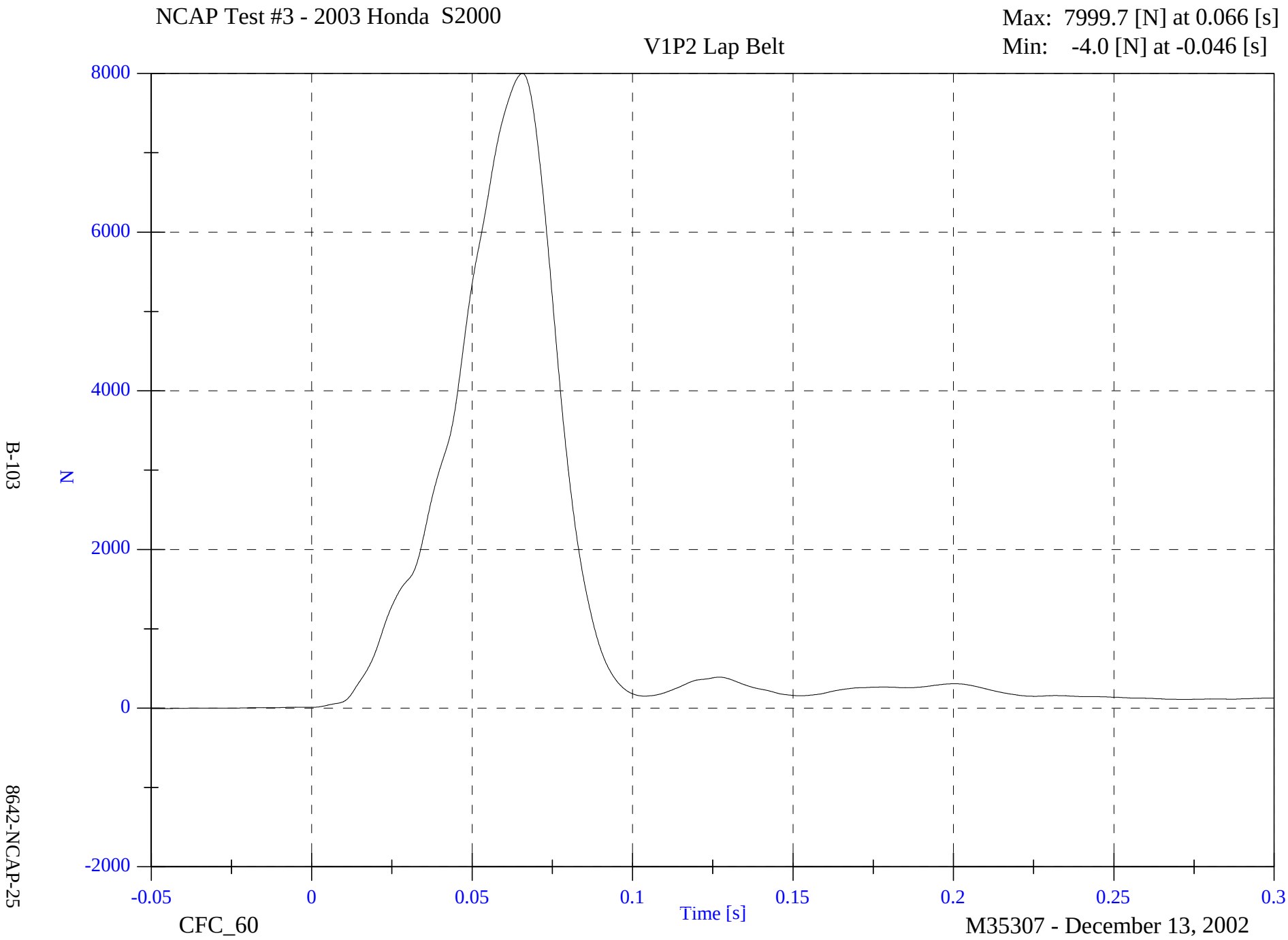


B-102

8642-NCAP-25

CFC_600

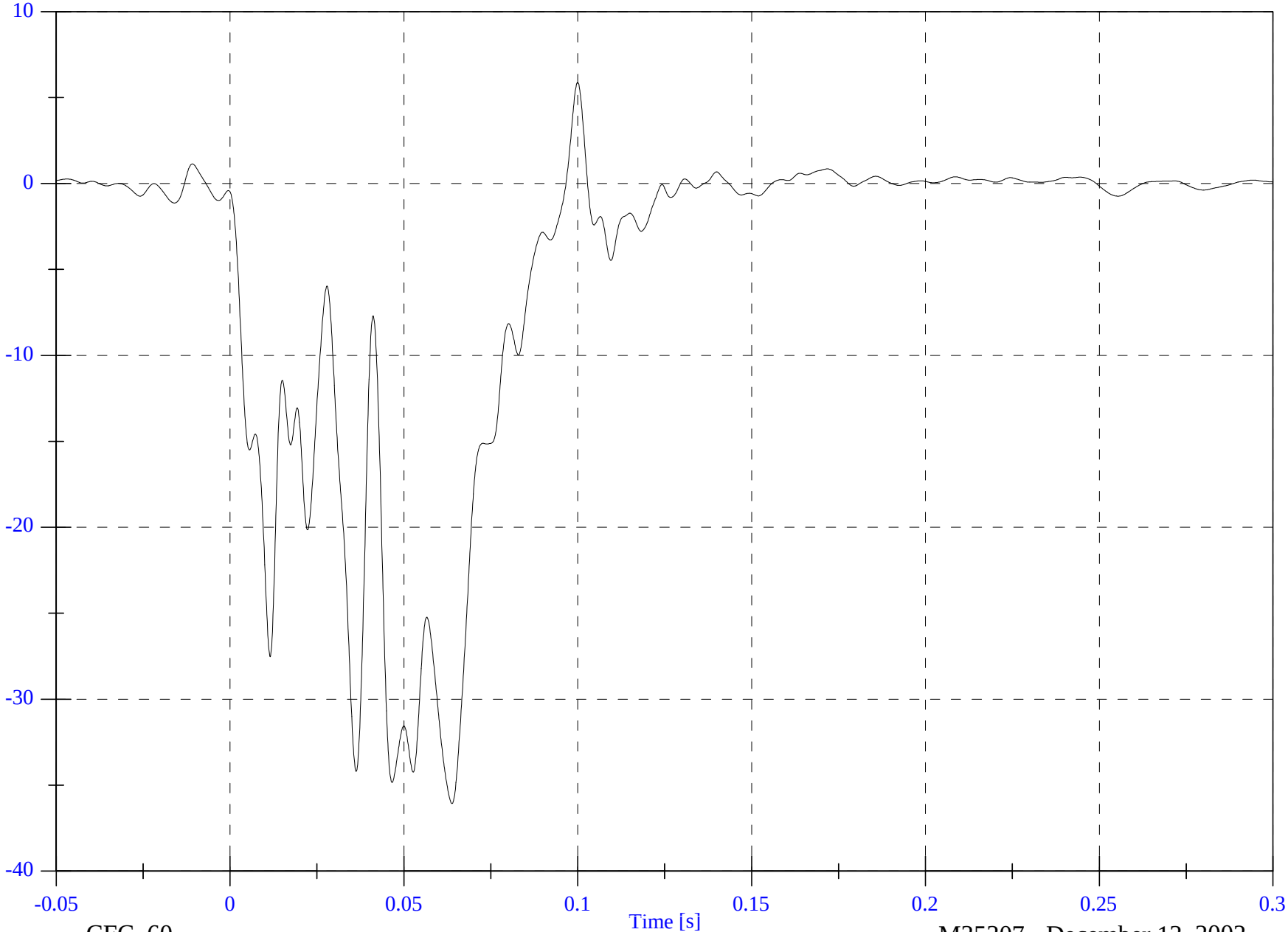
M35307 - December 13, 2002


NCAP Test #3 - 2003 Honda S2000
V1P2 Lap Belt
Max: 7999.7 [N] at 0.066 [s]
Min: -4.0 [N] at -0.046 [s]
8000
6000
4000
2000
0
-2000
N
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [s]
B-103
8642-NCAP-25
CFC_60
M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1 Left Rear #1x

Max: 5.9 [g] at 0.100 [s]
Min: -36.1 [g] at 0.064 [s]



B-104

8642-NCAP-25

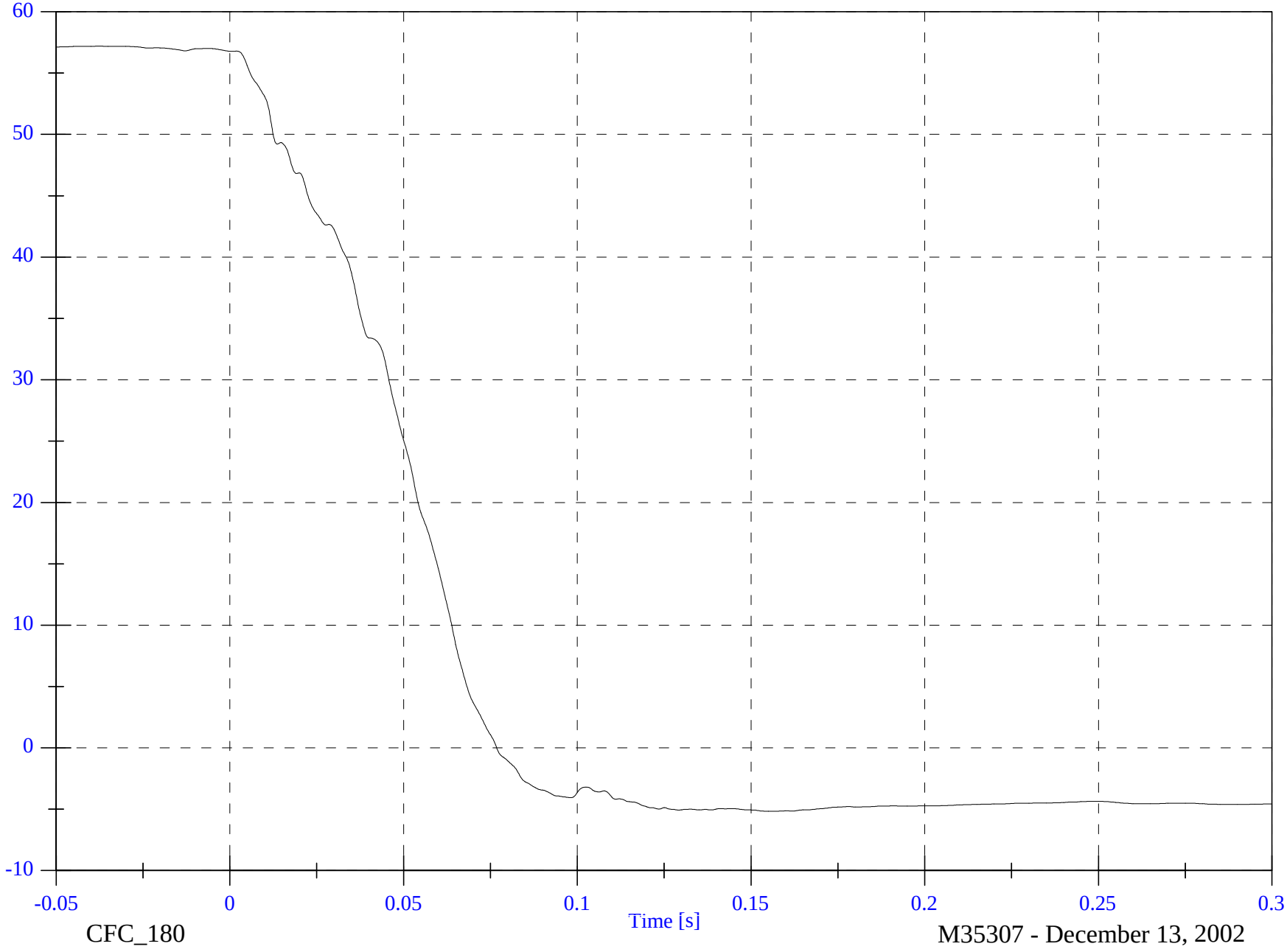
CFC_60

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1 Left Rear #1x Velocity

Max: 57.2 [kph] at -0.038 [s]
Min: -5.2 [kph] at 0.155 [s]



B-105

8642-NCAP-25

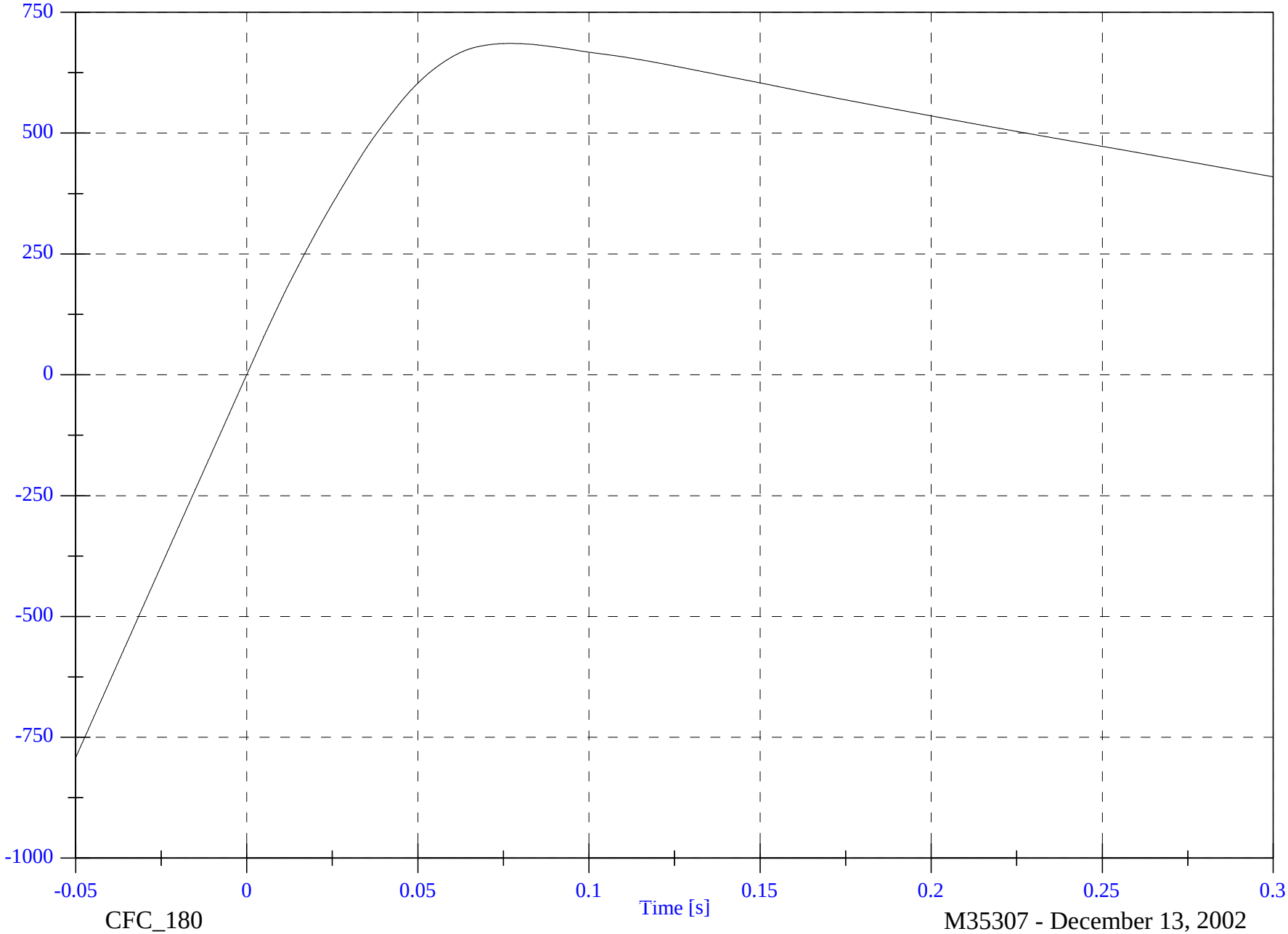
CFC_180

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1 Left Rear #1x Displacement

Max: 685.5 [mm] at 0.077 [s]
Min: -792.5 [mm] at -0.050 [s]



B-106

8642-NCAP-25

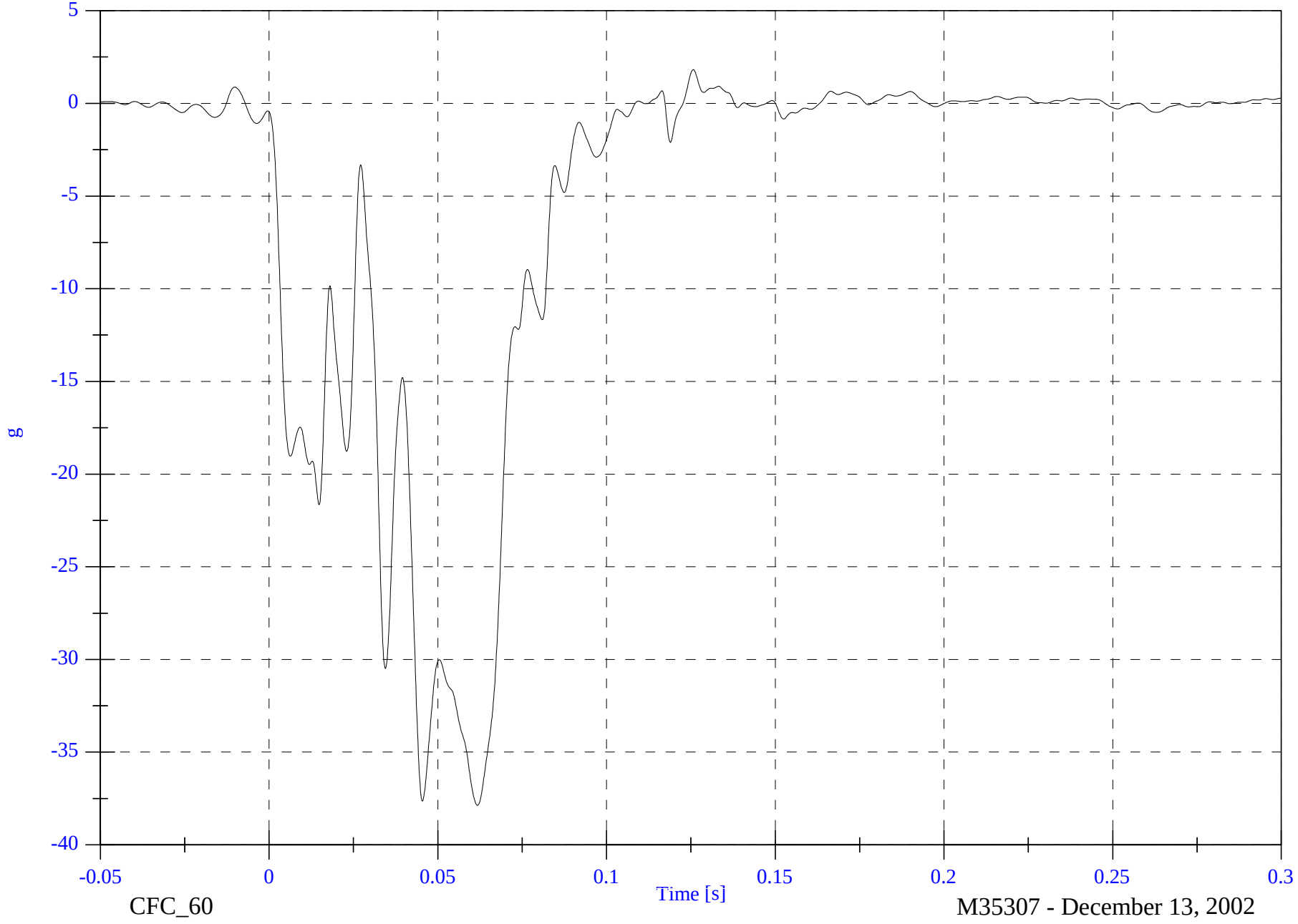
CFC_180

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1 Right Rear #2x

Max: 1.8 [g] at 0.126 [s]
Min: -37.9 [g] at 0.062 [s]



CFC_60

M35307 - December 13, 2002

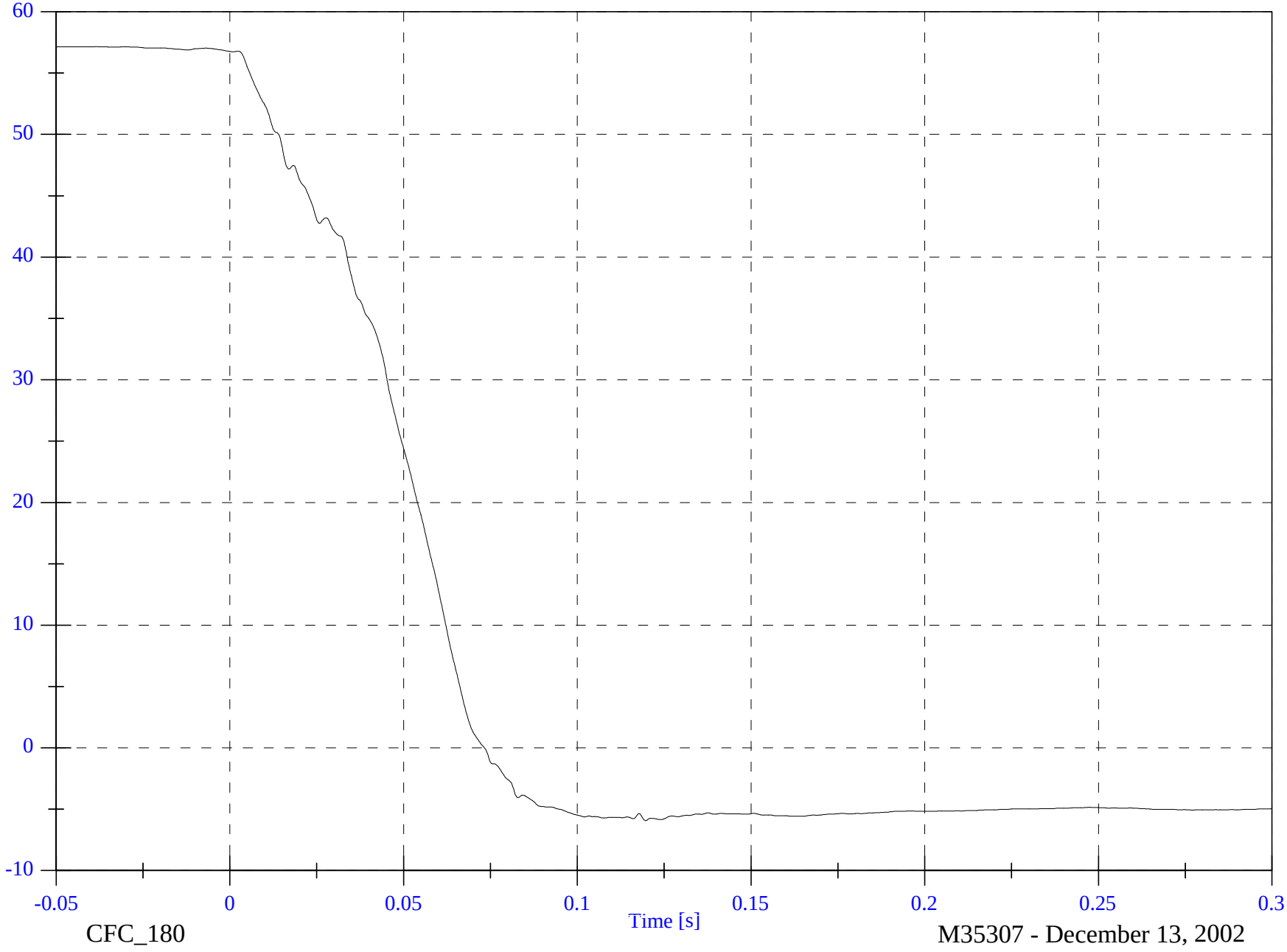
B-107

8642-NCAP-25

NCAP Test #3 - 2003 Honda S2000

V1 Right Rear #2x Velocity

Max: 57.1 [kph] at -0.039 [s]
Min: -5.9 [kph] at 0.120 [s]



B-108

8642-NCAP-25

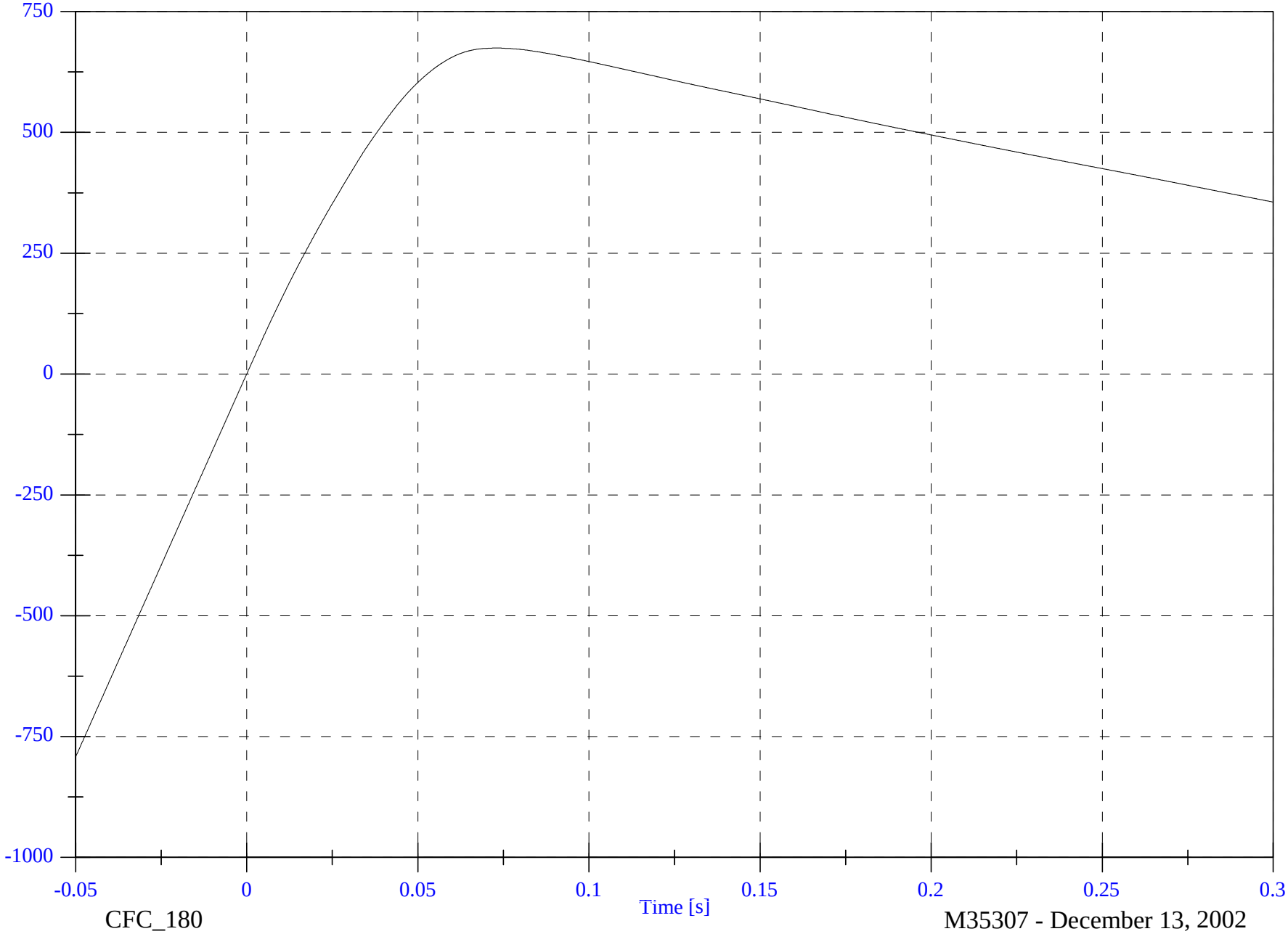
CFC_180

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1 Right Rear #2x Displacement

Max: 674.3 [mm] at 0.073 [s]
Min: -792.3 [mm] at -0.050 [s]



B-109

8642-NCAP-25

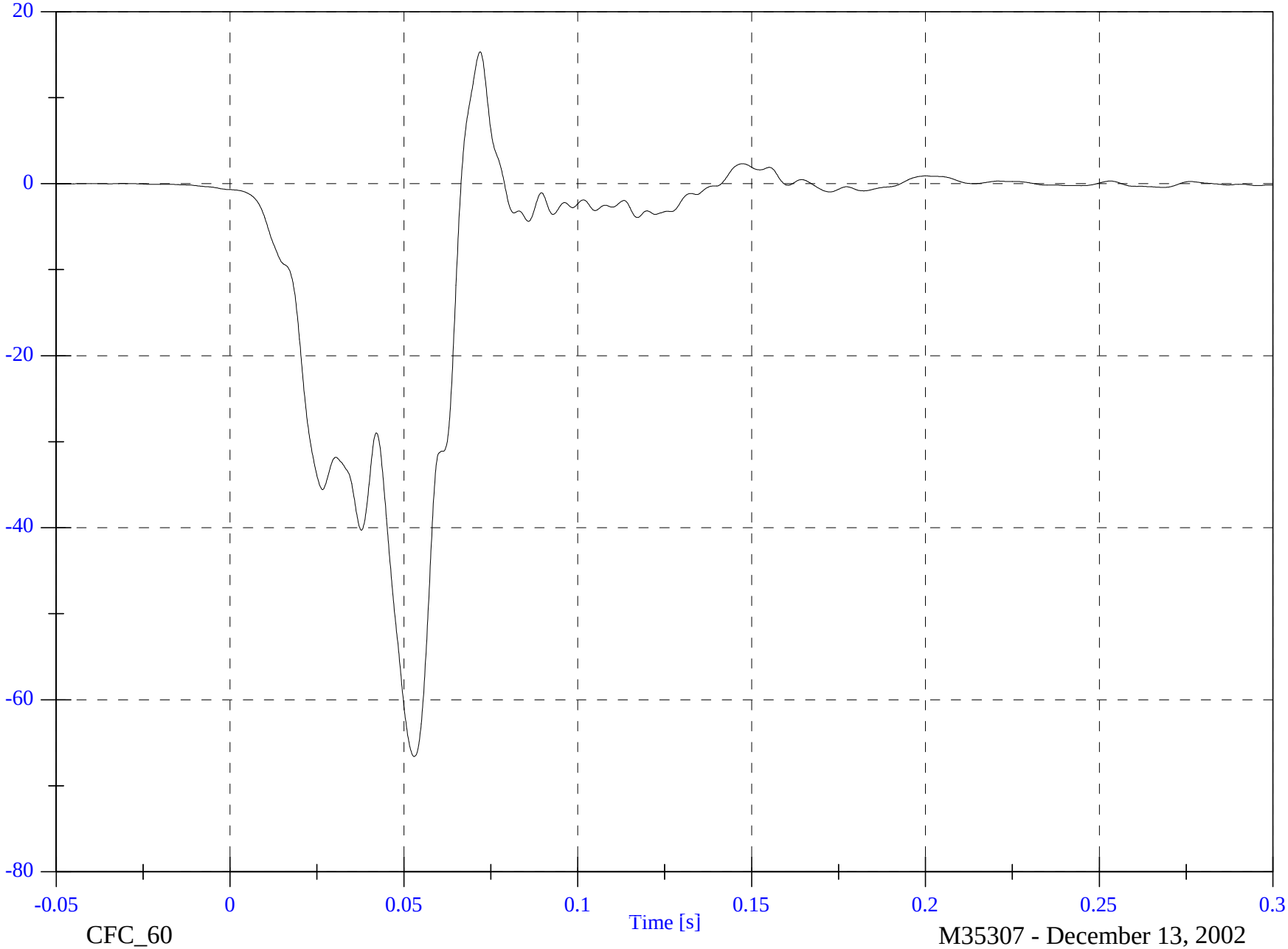
CFC_180

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1 Engine Top #3x

Max: 15.3 [g] at 0.072 [s]
Min: -66.6 [g] at 0.053 [s]



B-110

8642-NCAP-25

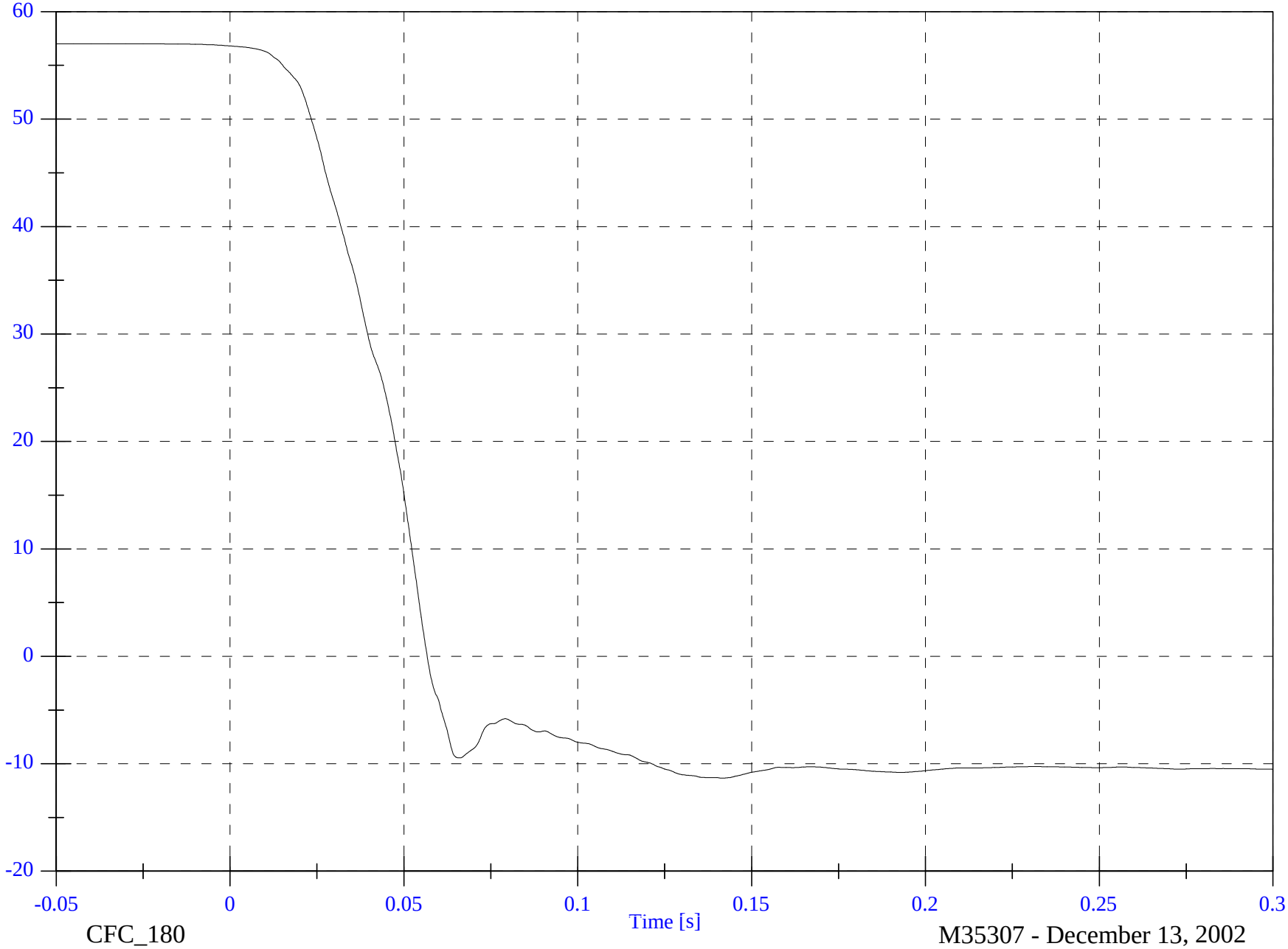
CFC_60

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1 Engine Top #3x Velocity

Max: 57.0 [kph] at -0.025 [s]
Min: -11.3 [kph] at 0.142 [s]



B-111

8642-NCAP-25

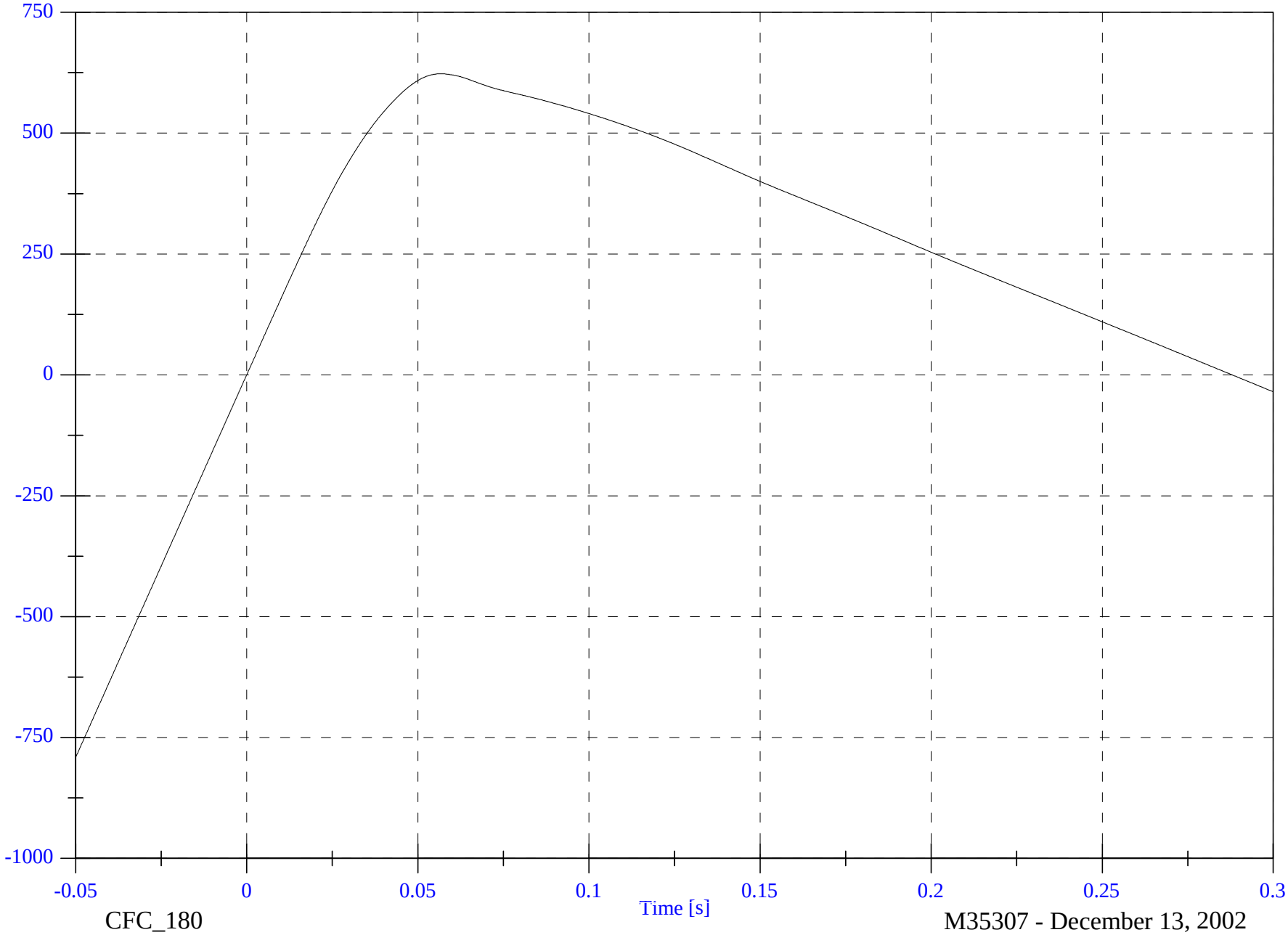
CFC_180

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1 Engine Top #3x Displacement

Max: 622.7 [mm] at 0.057 [s]
Min: -791.5 [mm] at -0.050 [s]



B-112

8642-NCAP-25

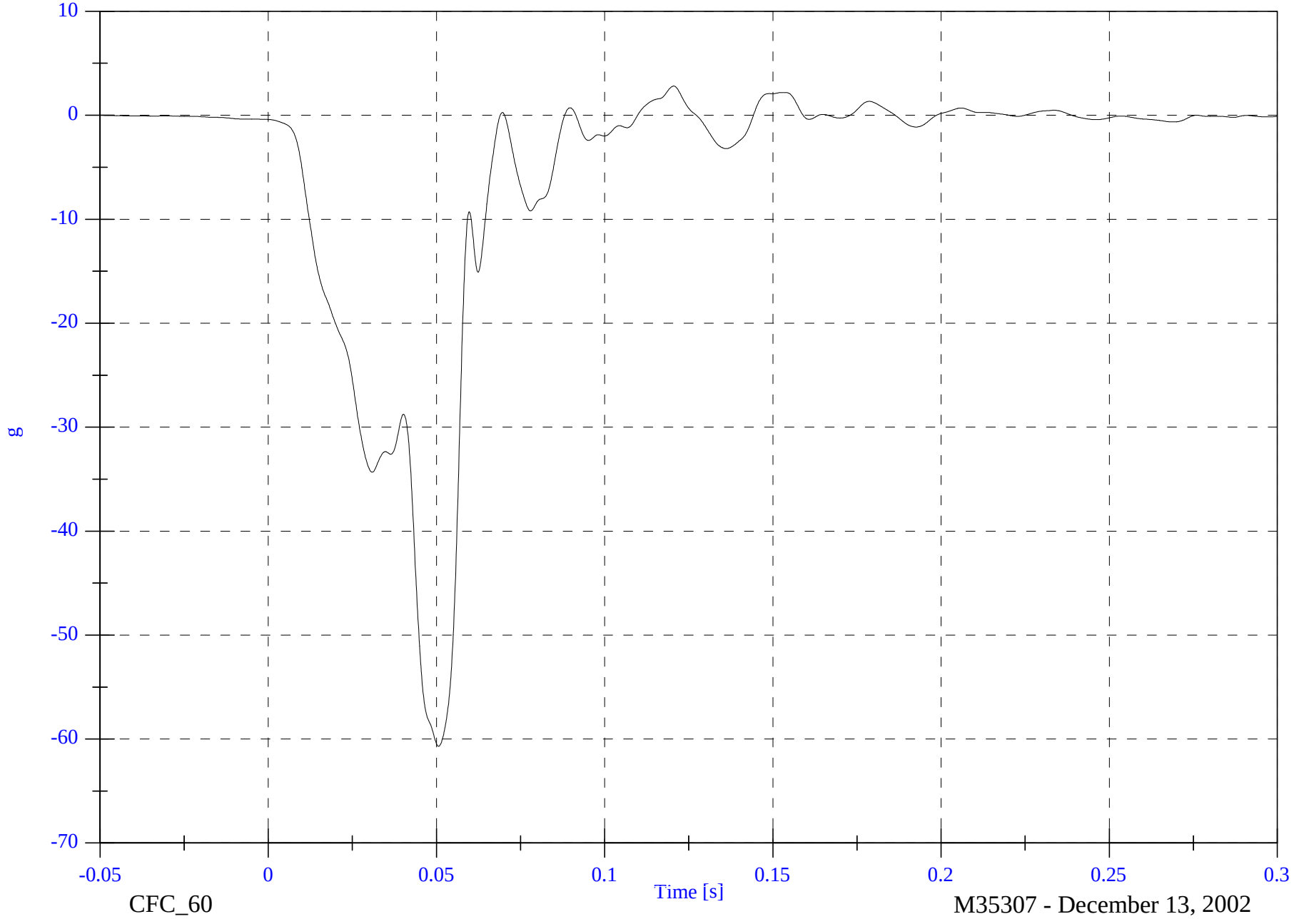
CFC_180

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1 Engine Bottom #4x

Max: 2.8 [g] at 0.121 [s]
Min: -60.7 [g] at 0.051 [s]



B-113

8642-NCAP-25

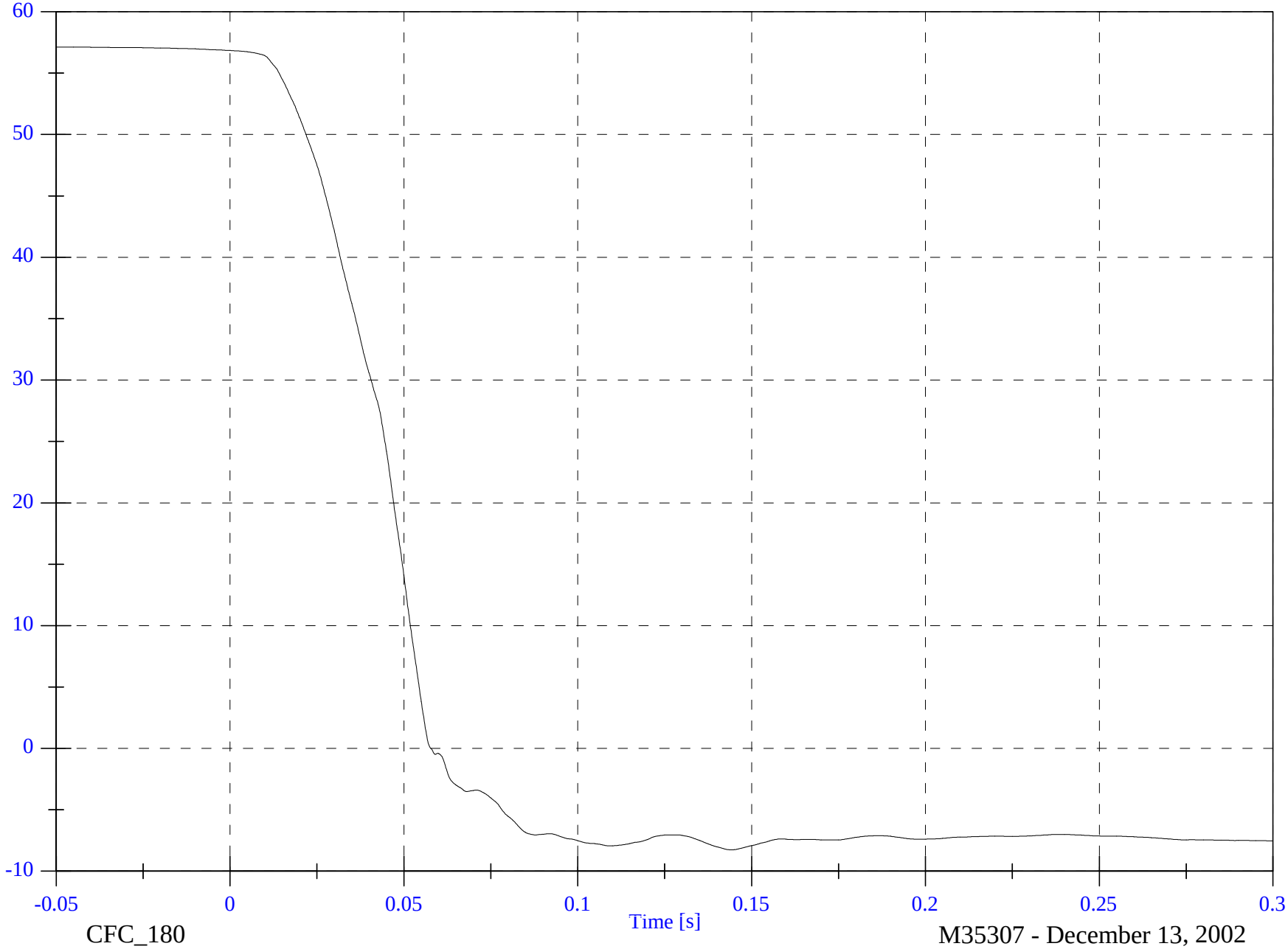
CFC_60

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1 Engine Bottom #4x Velocity

Max: 57.1 [kph] at -0.050 [s]
Min: -8.3 [kph] at 0.144 [s]



B-114

8642-NCAP-25

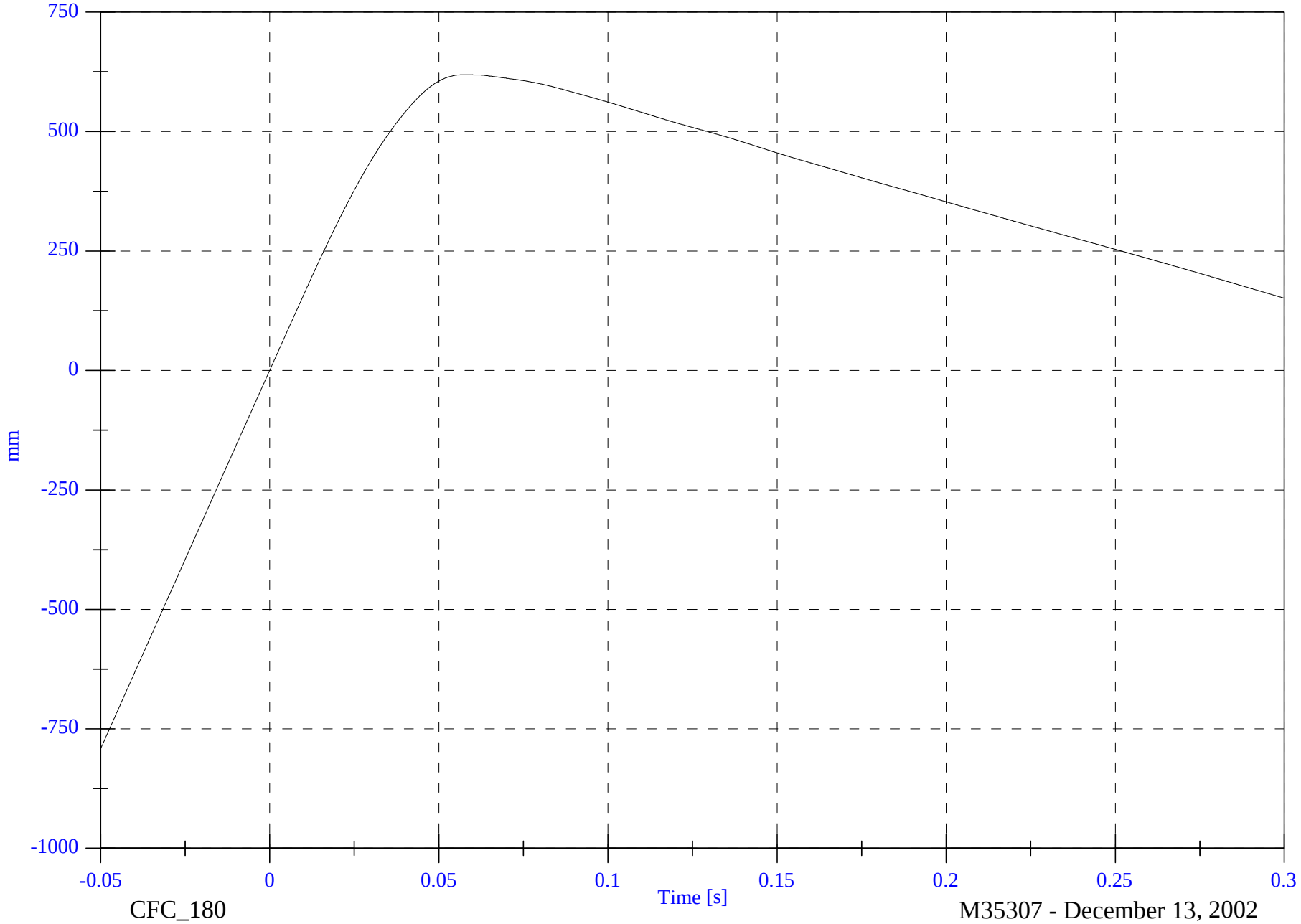
CFC_180

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1 Engine Bottom #4x Displacement

Max: 618.9 [mm] at 0.058 [s]
Min: -792.2 [mm] at -0.050 [s]



B-115

8642-NCAP-25

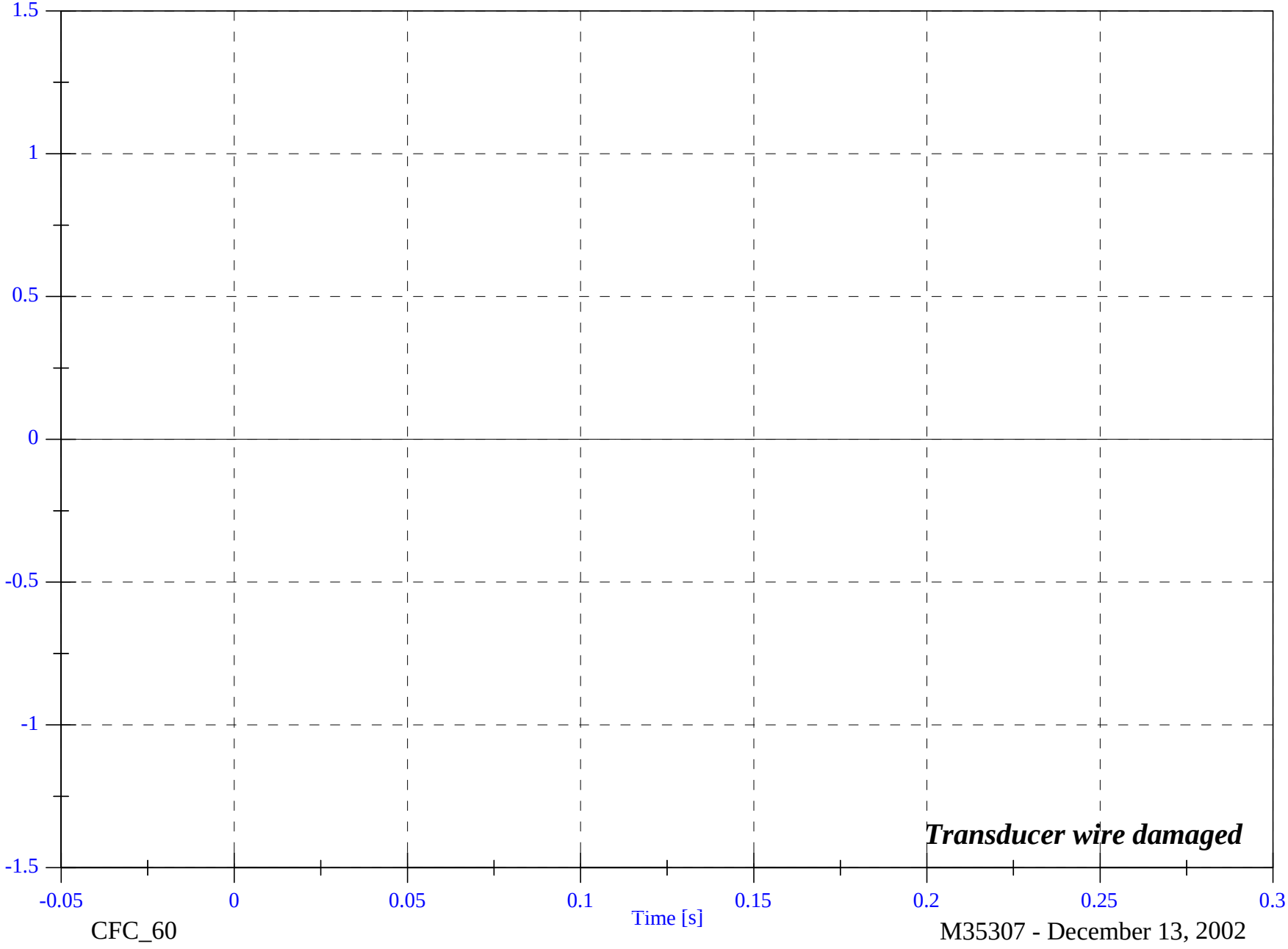
CFC_180

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1 Right Caliper #5x

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



CFC_60

M35307 - December 13, 2002

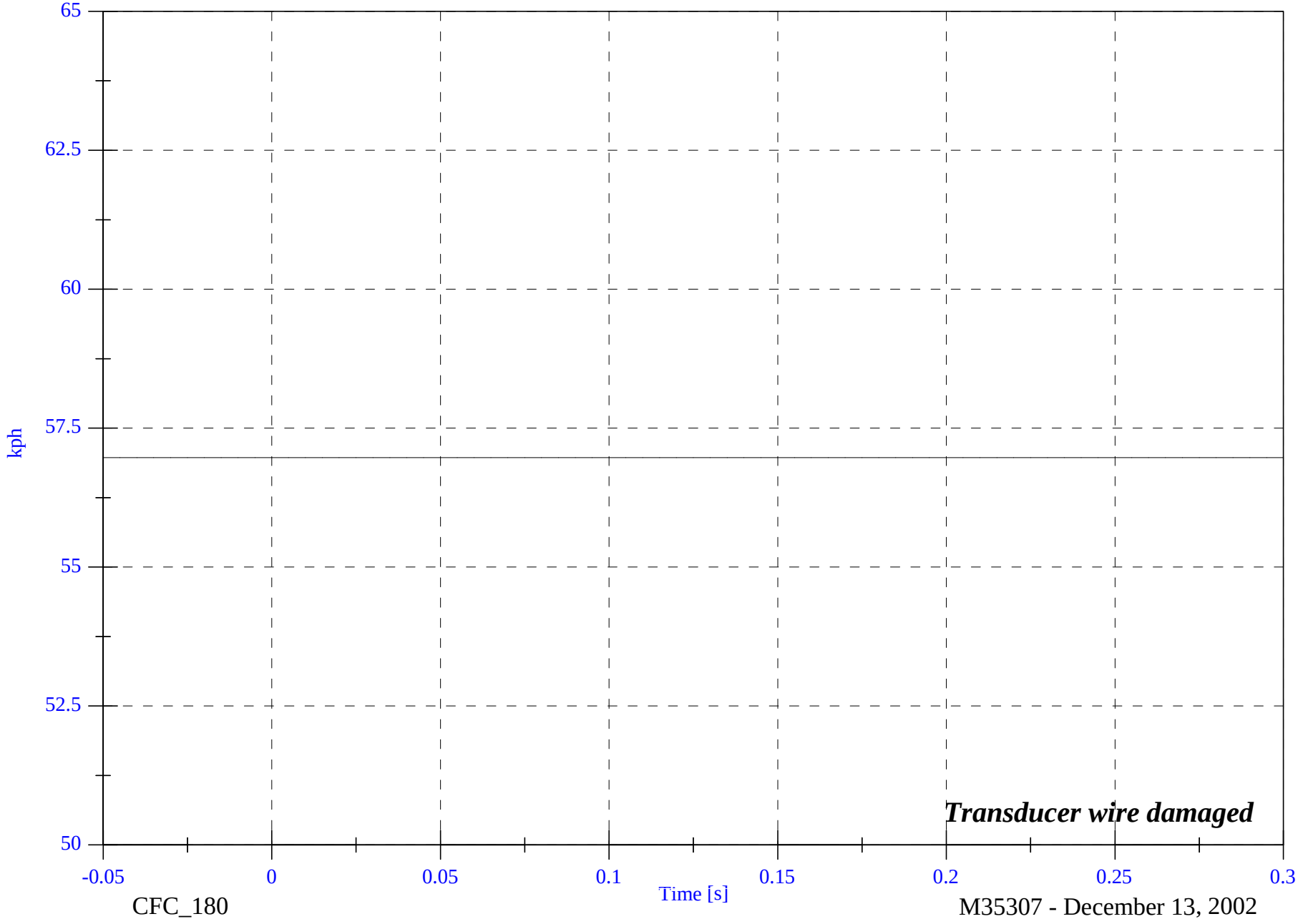
B-116

8642-NCAP-25

NCAP Test #3 - 2003 Honda S2000

V1 Right Caliper #5x Velocity

Max: 57.0 [kph] at -0.050 [s]
Min: 57.0 [kph] at -0.050 [s]



CFC_180

M35307 - December 13, 2002

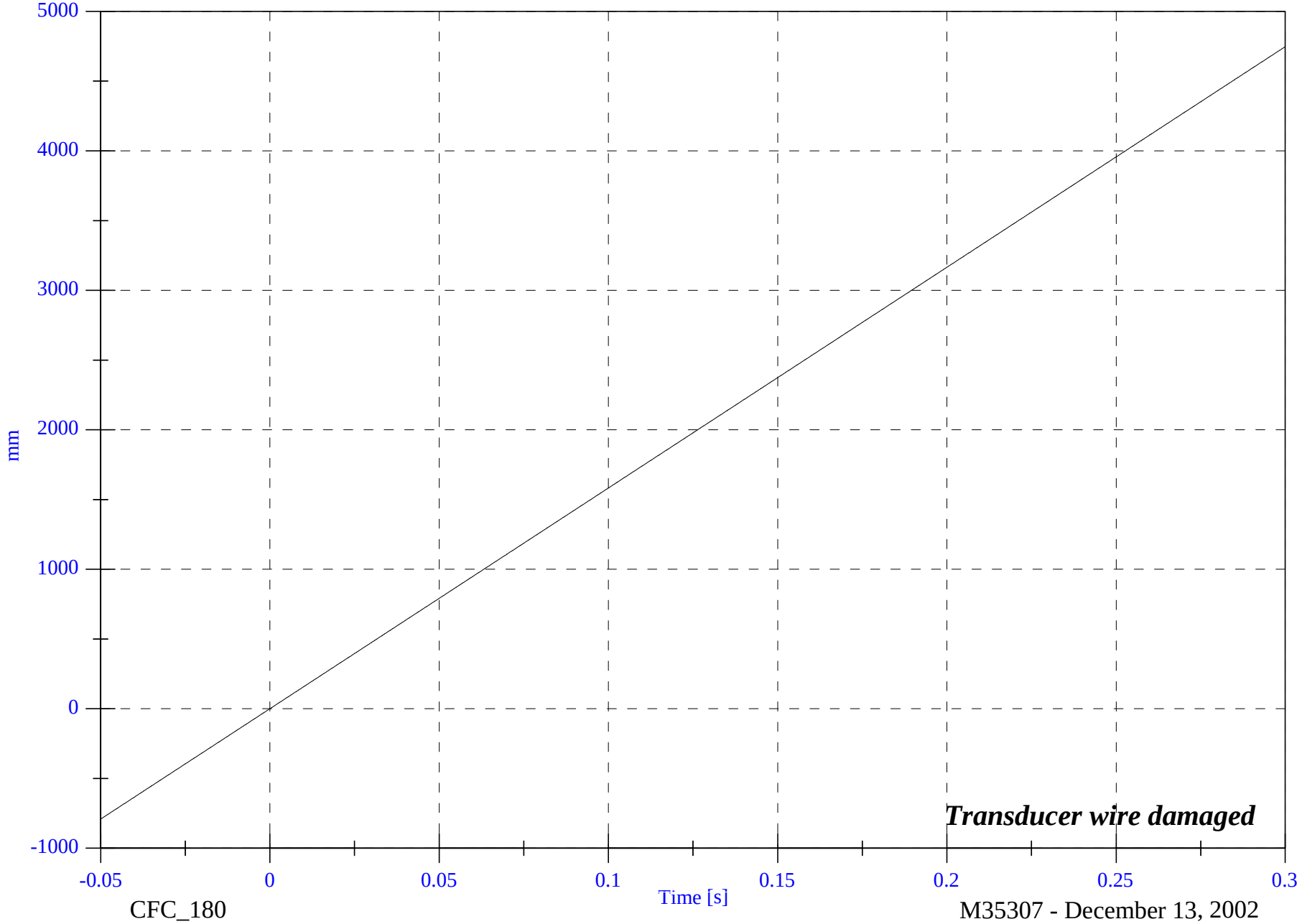
B-117

8642-NCAP-25

NCAP Test #3 - 2003 Honda S2000

V1 Right Caliper #5x Displacement

Max: 4746.0 [mm] at 0.300 [s]
Min: -791.3 [mm] at -0.050 [s]



B-118

8642-NCAP-25

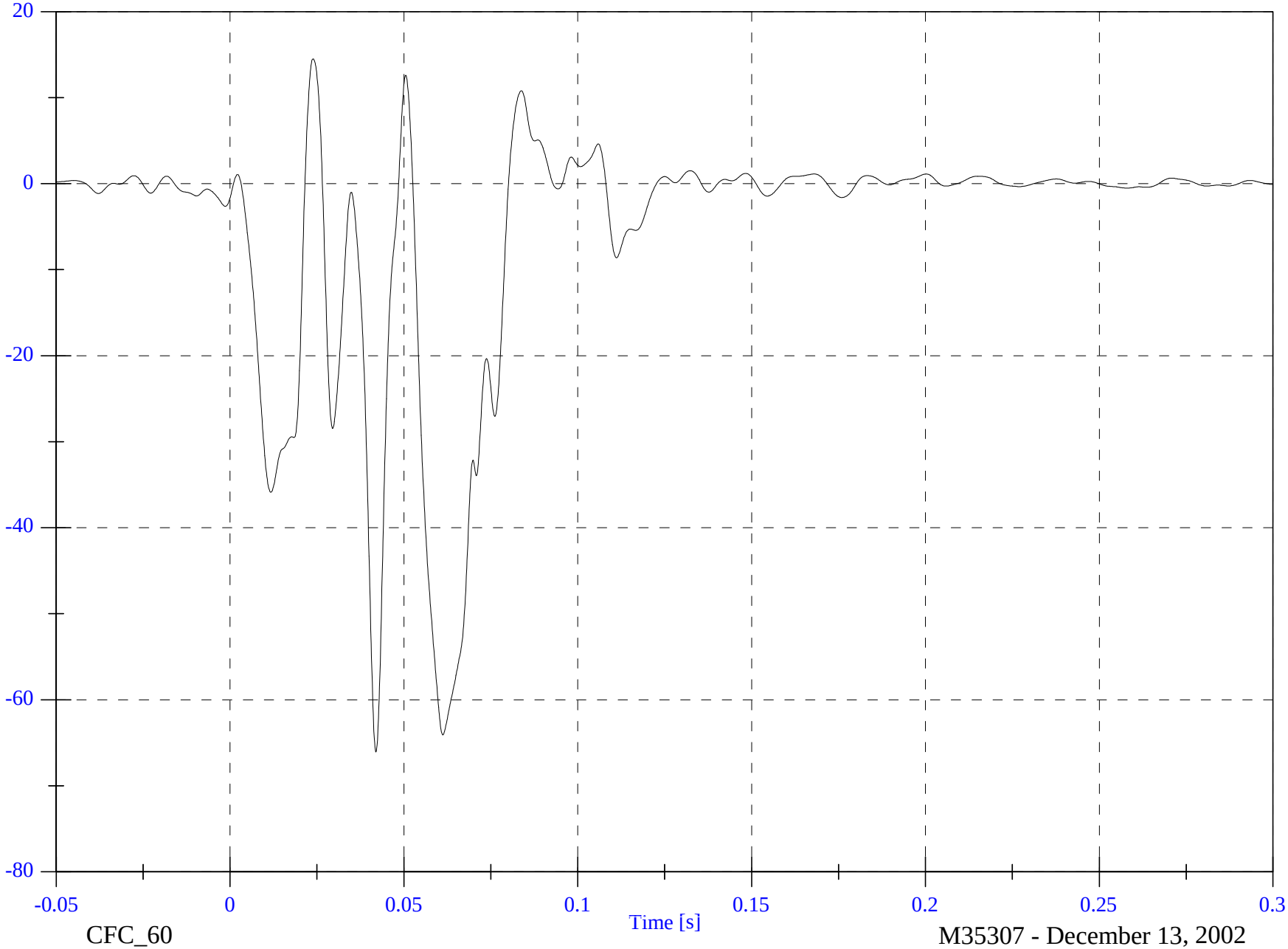
CFC_180

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1 Instrument Panel #6x

Max: 14.5 [g] at 0.024 [s]
Min: -66.1 [g] at 0.042 [s]



CFC_60

M35307 - December 13, 2002

B-119

8642-NCAP-25

NCAP Test #3 - 2003 Honda S2000

V1 Instrument Panel #6x Velocity

Max: 57.2 [kph] at -0.040 [s]
Min: -10.3 [kph] at 0.079 [s]

B-120

8642-NCAP-25

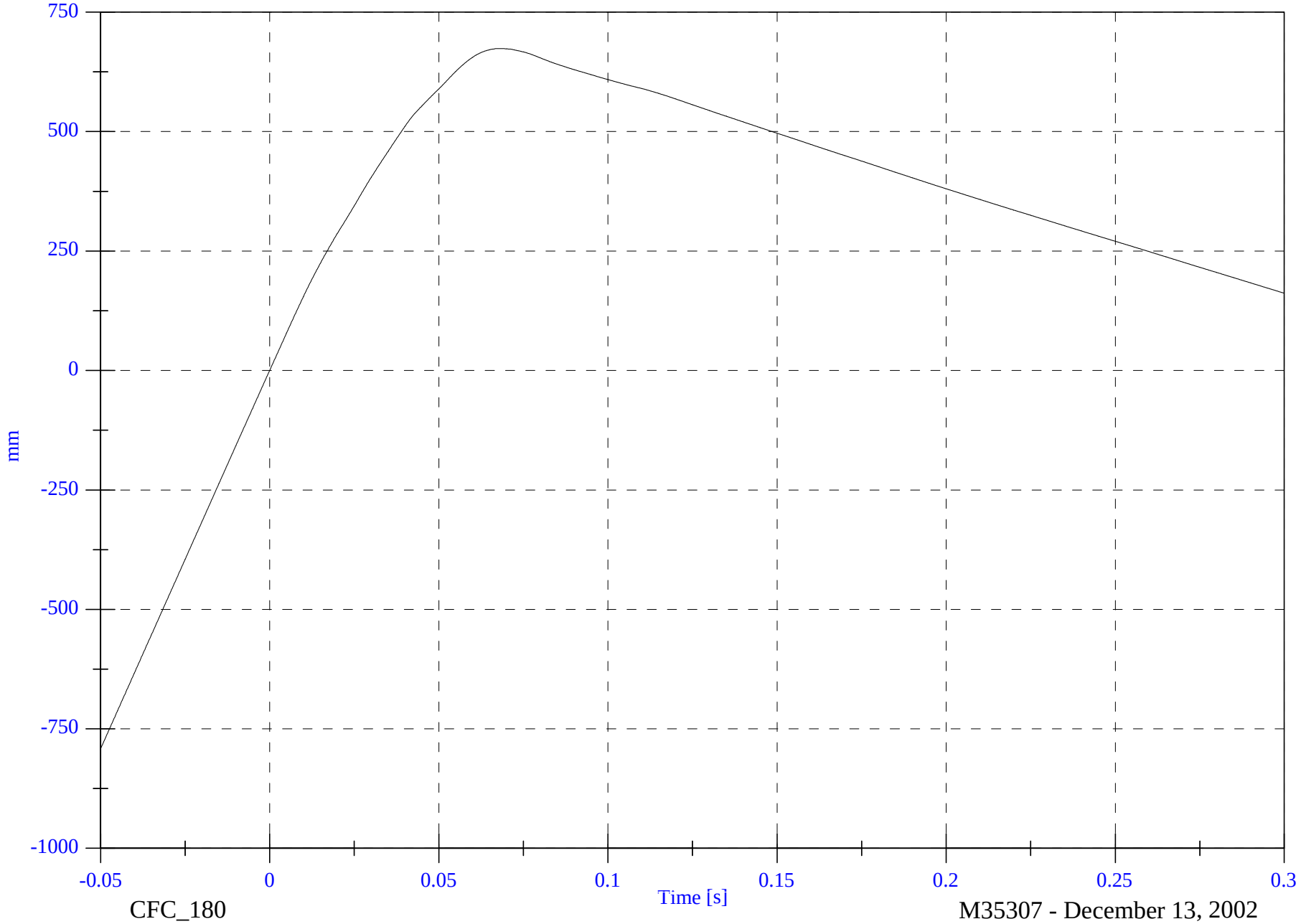
CFC_180

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1 Instrument Panel #6x Displacement

Max: 673.9 [mm] at 0.068 [s]
Min: -792.0 [mm] at -0.050 [s]



B-121

8642-NCAP-25

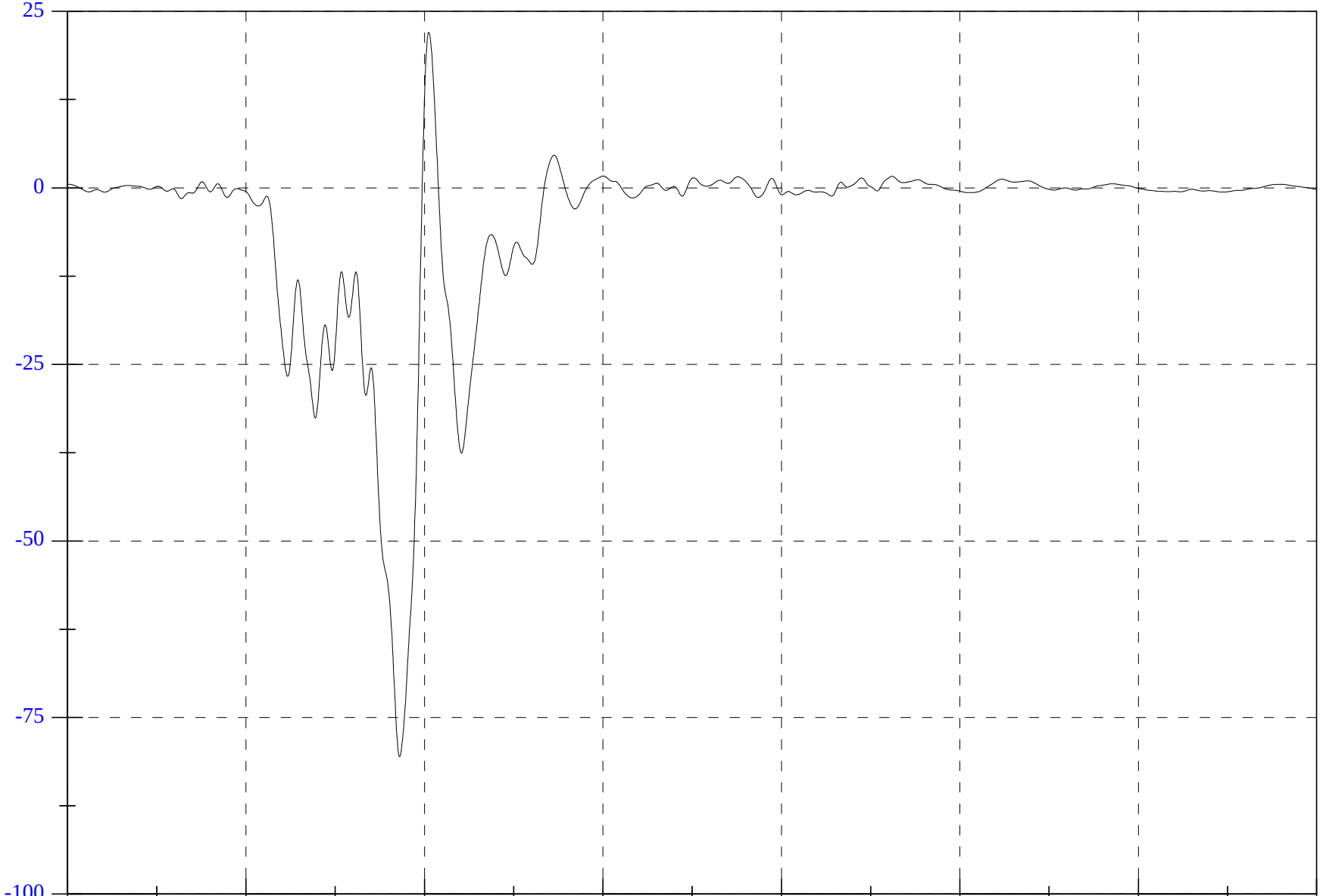
CFC_180

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1 Left Caliper #7x

Max: 22.0 [g] at 0.051 [s]
Min: -80.5 [g] at 0.043 [s]



B-122

8642-NCAP-25

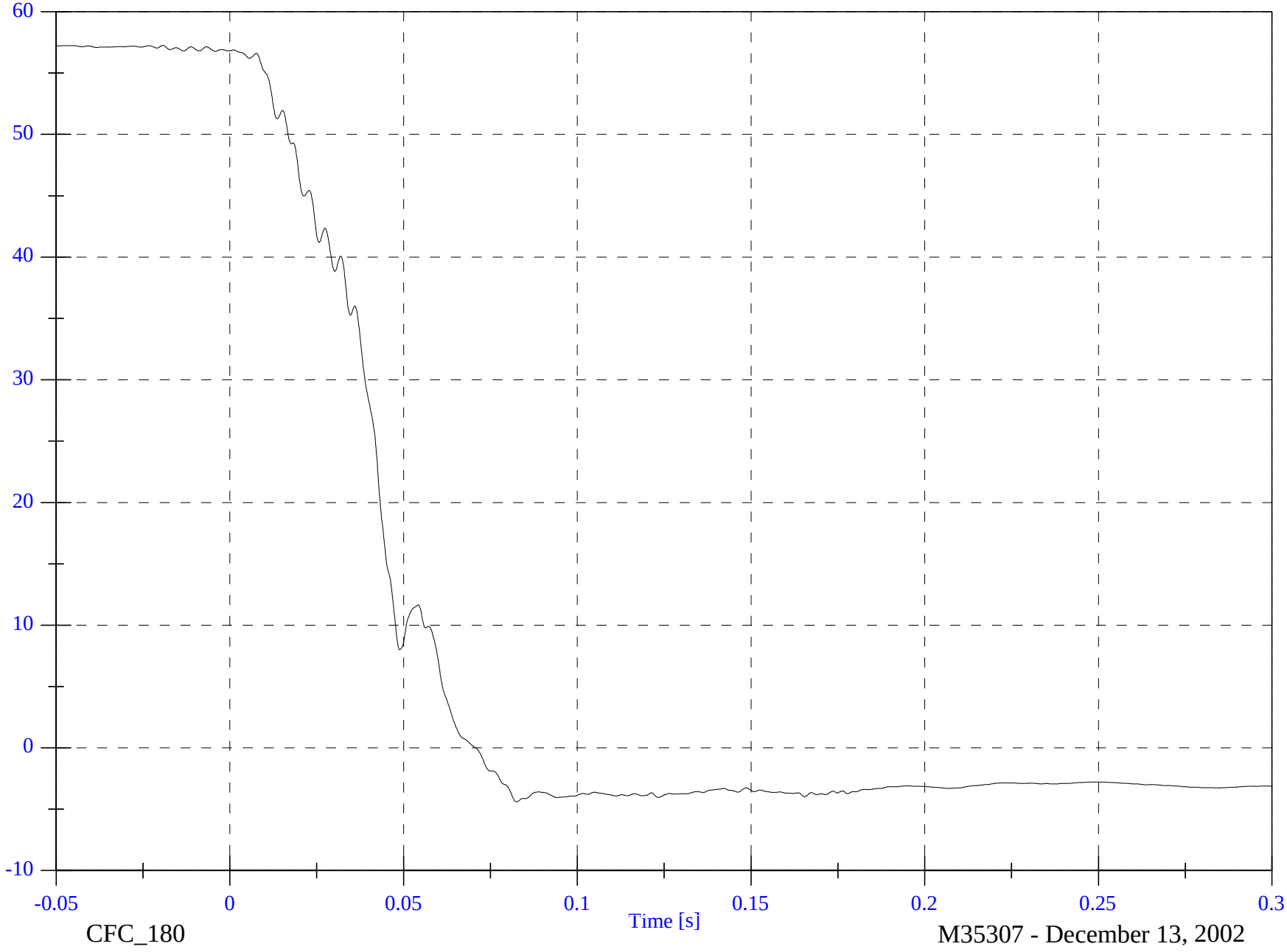
CFC_60

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1 Left Caliper #7x Velocity

Max: 57.3 [kph] at -0.019 [s]
Min: -4.4 [kph] at 0.082 [s]



B-123

8642-NCAP-25

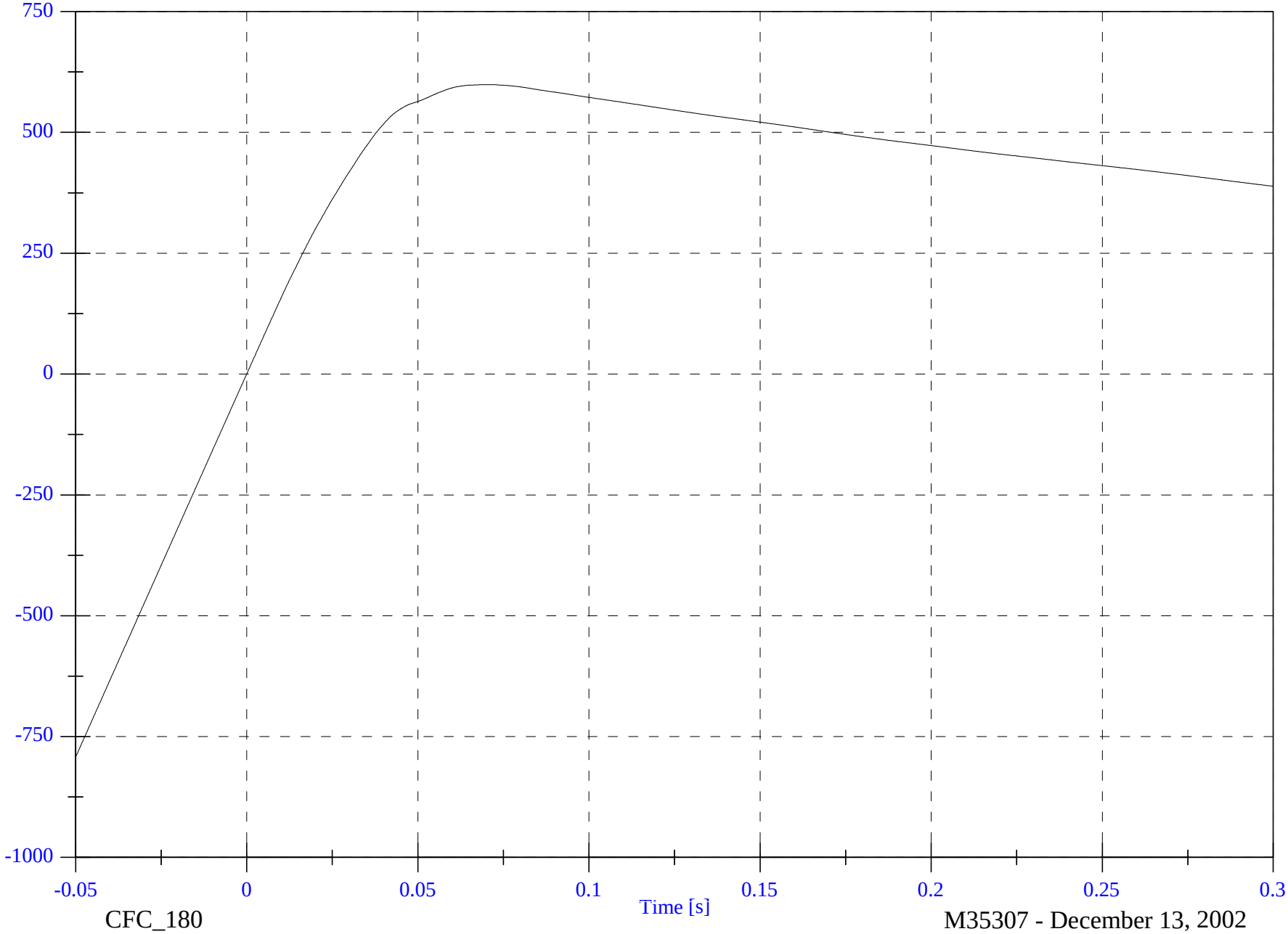
CFC_180

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1 Left Caliper #7x Displacement

Max: 598.6 [mm] at 0.071 [s]
Min: -792.8 [mm] at -0.050 [s]



B-124

8642-NCAP-25

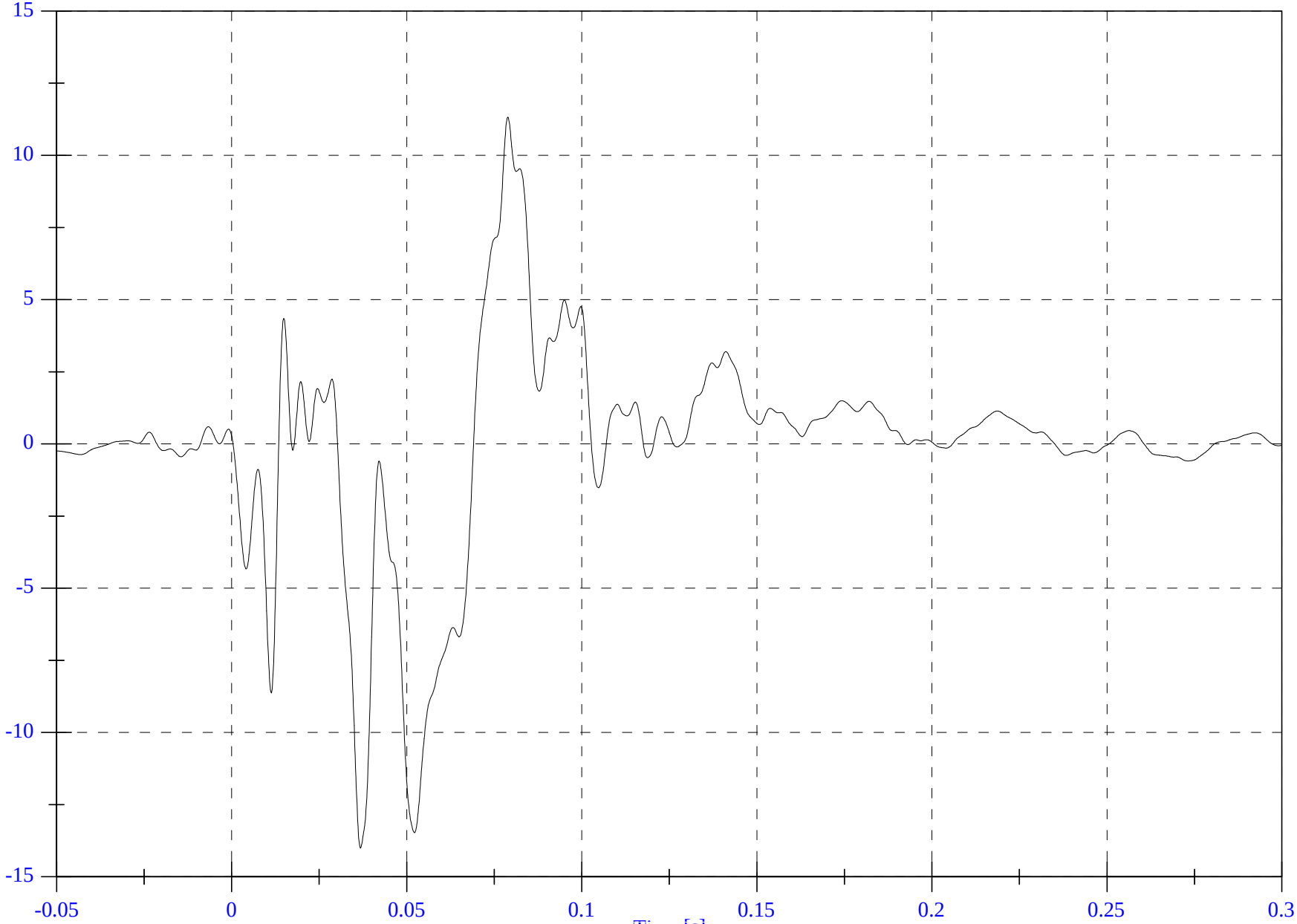
CFC_180

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1 Left Rear #8z

Max: 11.3 [g] at 0.079 [s]
Min: -14.0 [g] at 0.037 [s]



B-125

8642-NCAP-25

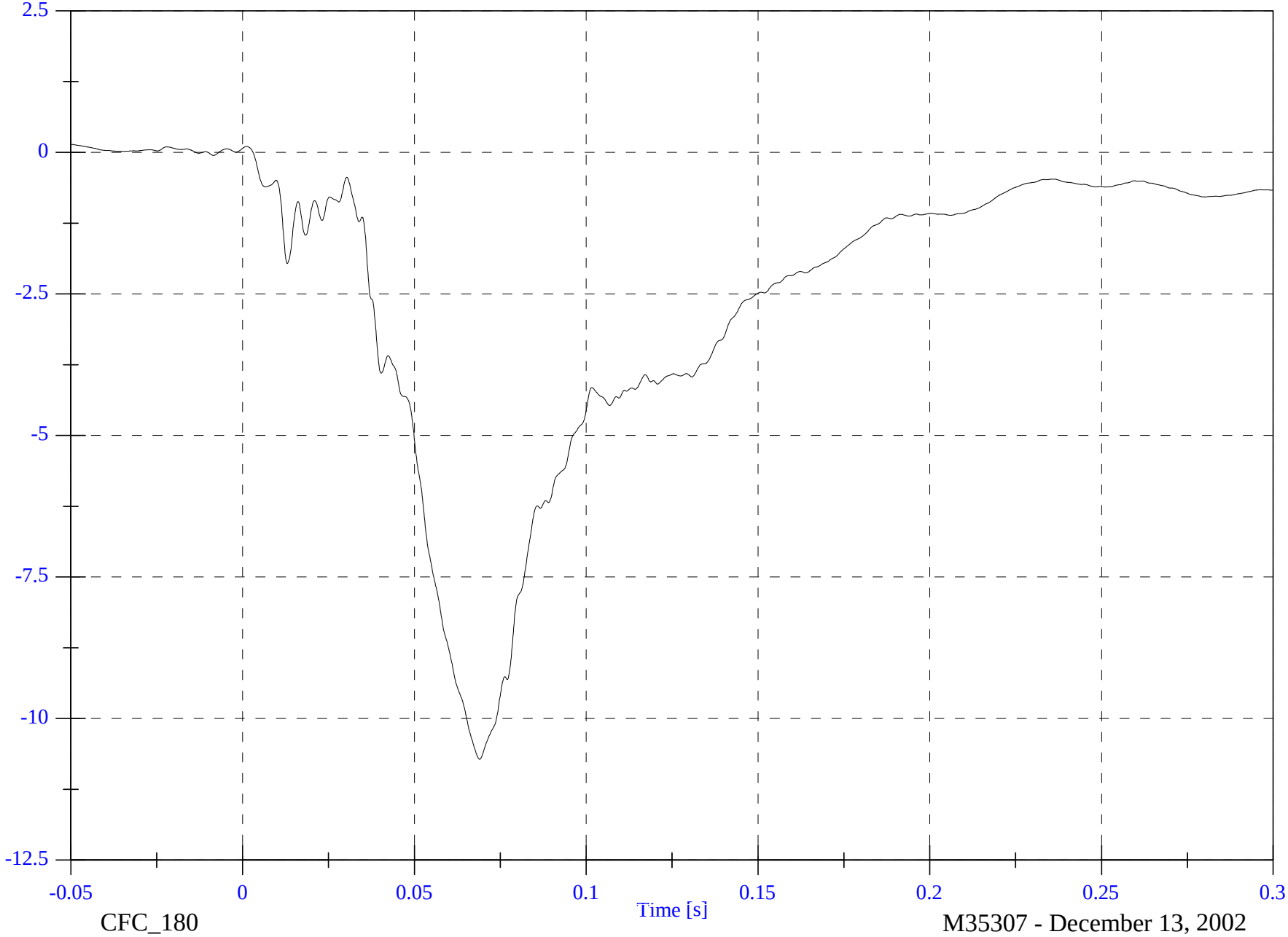
CFC_60

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1 Left Rear #8z Velocity

Max: 0.1 [kph] at -0.050 [s]
Min: -10.7 [kph] at 0.069 [s]



B-126

8642-NCAP-25

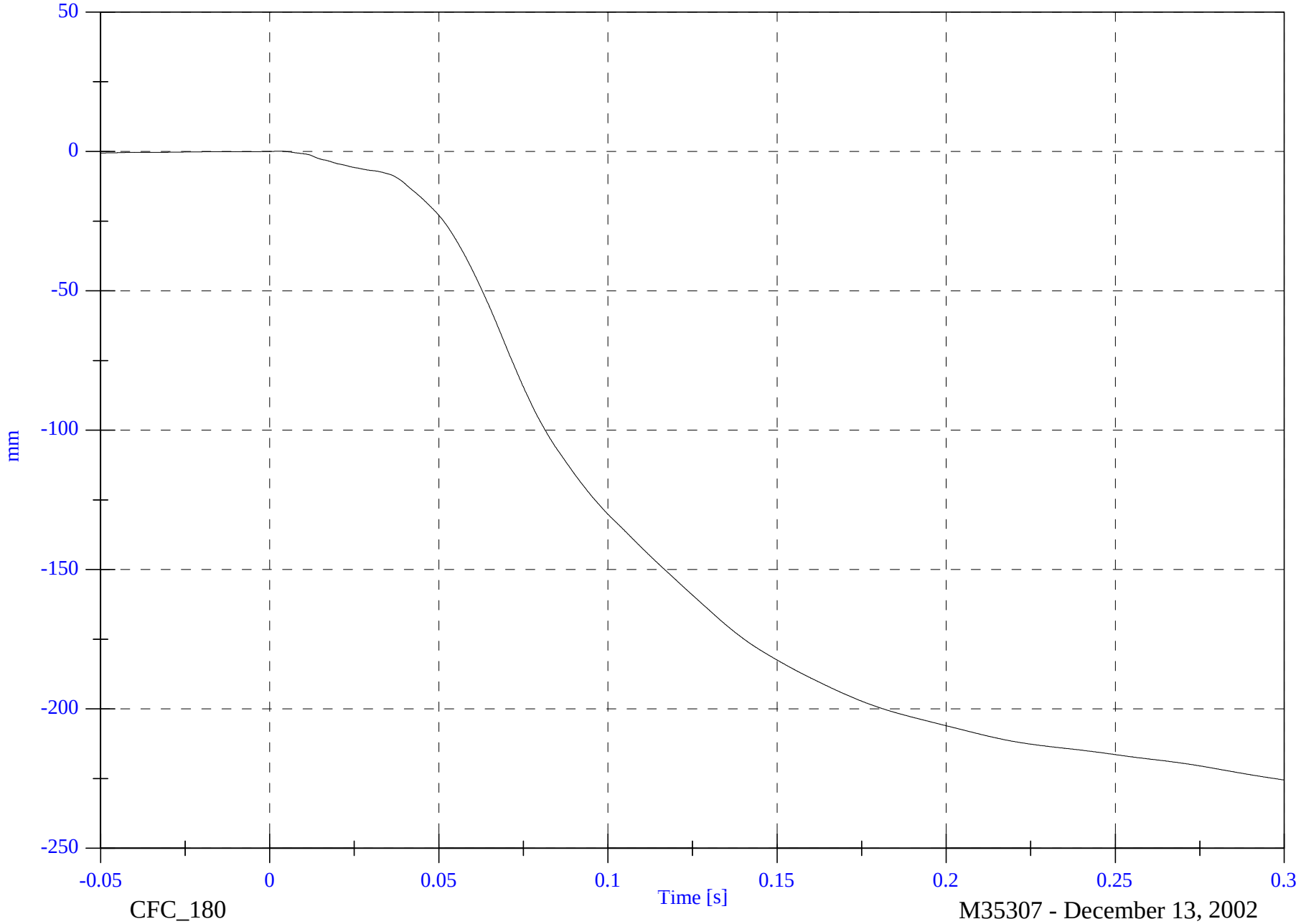
CFC_180

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1 Left Rear #8z Displacement

Max: 0.1 [mm] at 0.003 [s]
Min: -225.5 [mm] at 0.300 [s]



B-127

8642-NCAP-25

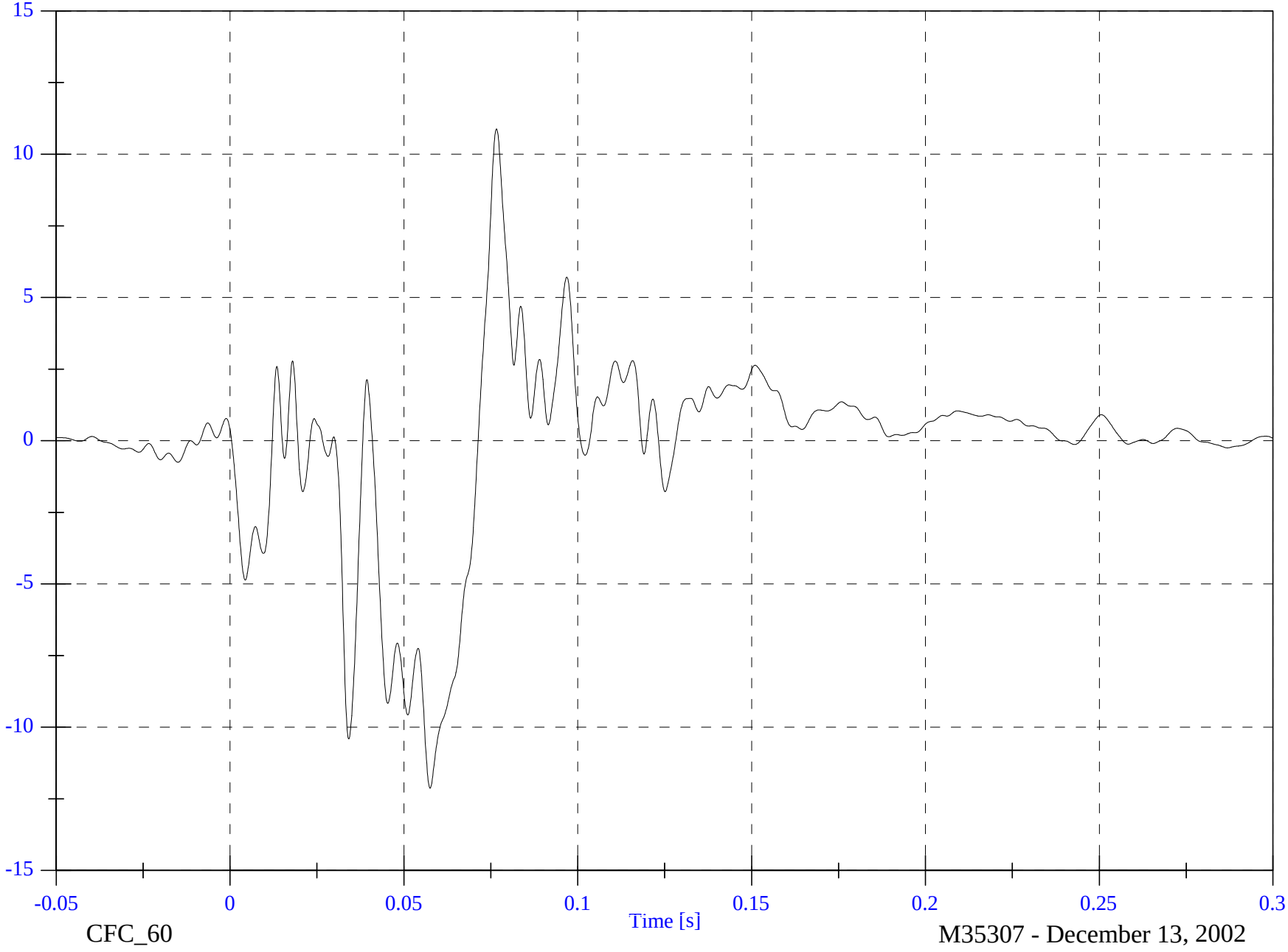
CFC_180

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1 Right Rear #9z

Max: 10.9 [g] at 0.077 [s]
Min: -12.1 [g] at 0.057 [s]



B-128

8642-NCAP-25

CFC_60

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1 Right Rear #9z Velocity

Max: 0.3 [kph] at -0.038 [s]
Min: -10.7 [kph] at 0.071 [s]

B-129

8642-NCAP-25

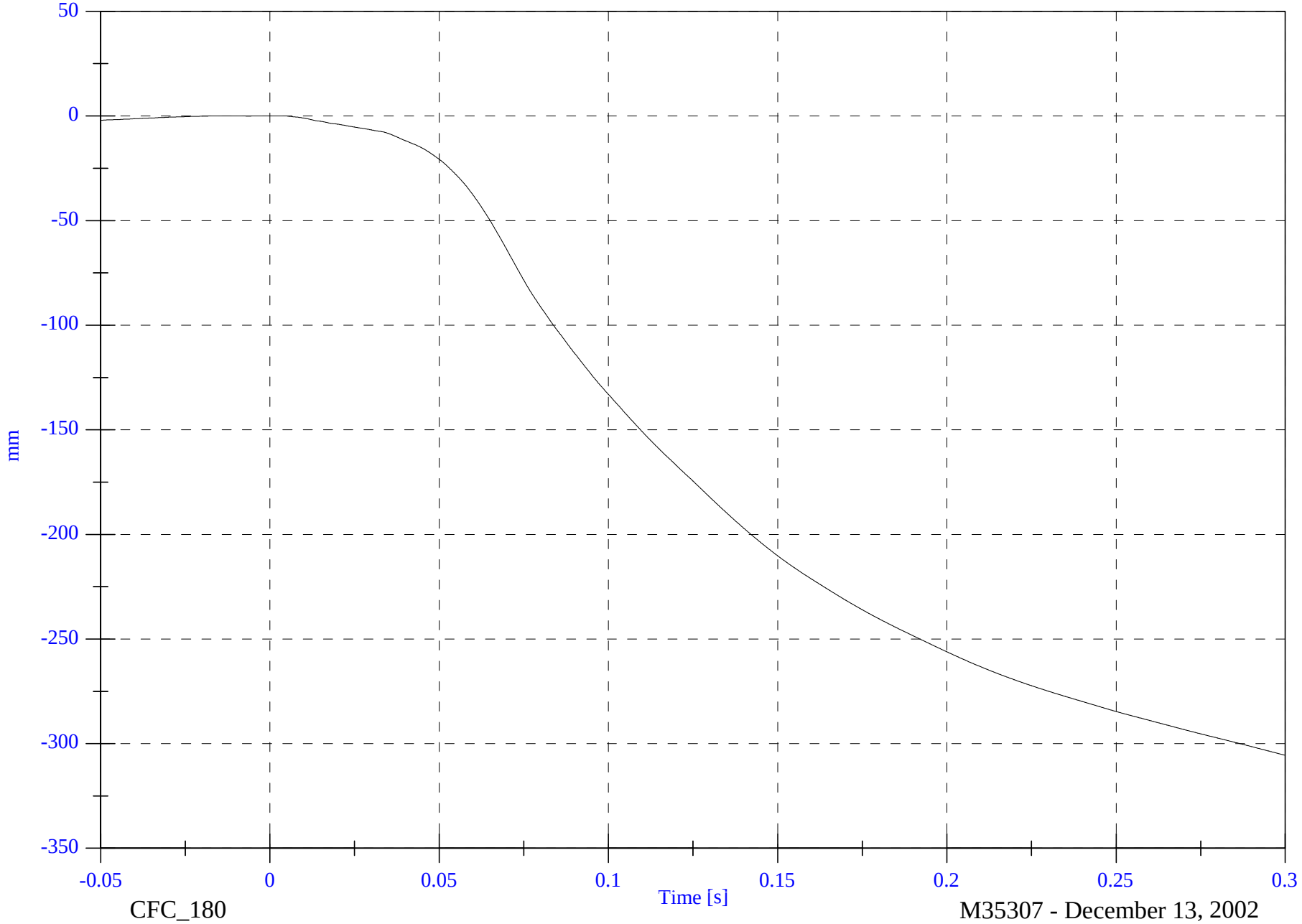
CFC_180

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

V1 Right Rear #9z Displacement

Max: 0.1 [mm] at 0.003 [s]
Min: -305.6 [mm] at 0.300 [s]



B-130

8642-NCAP-25

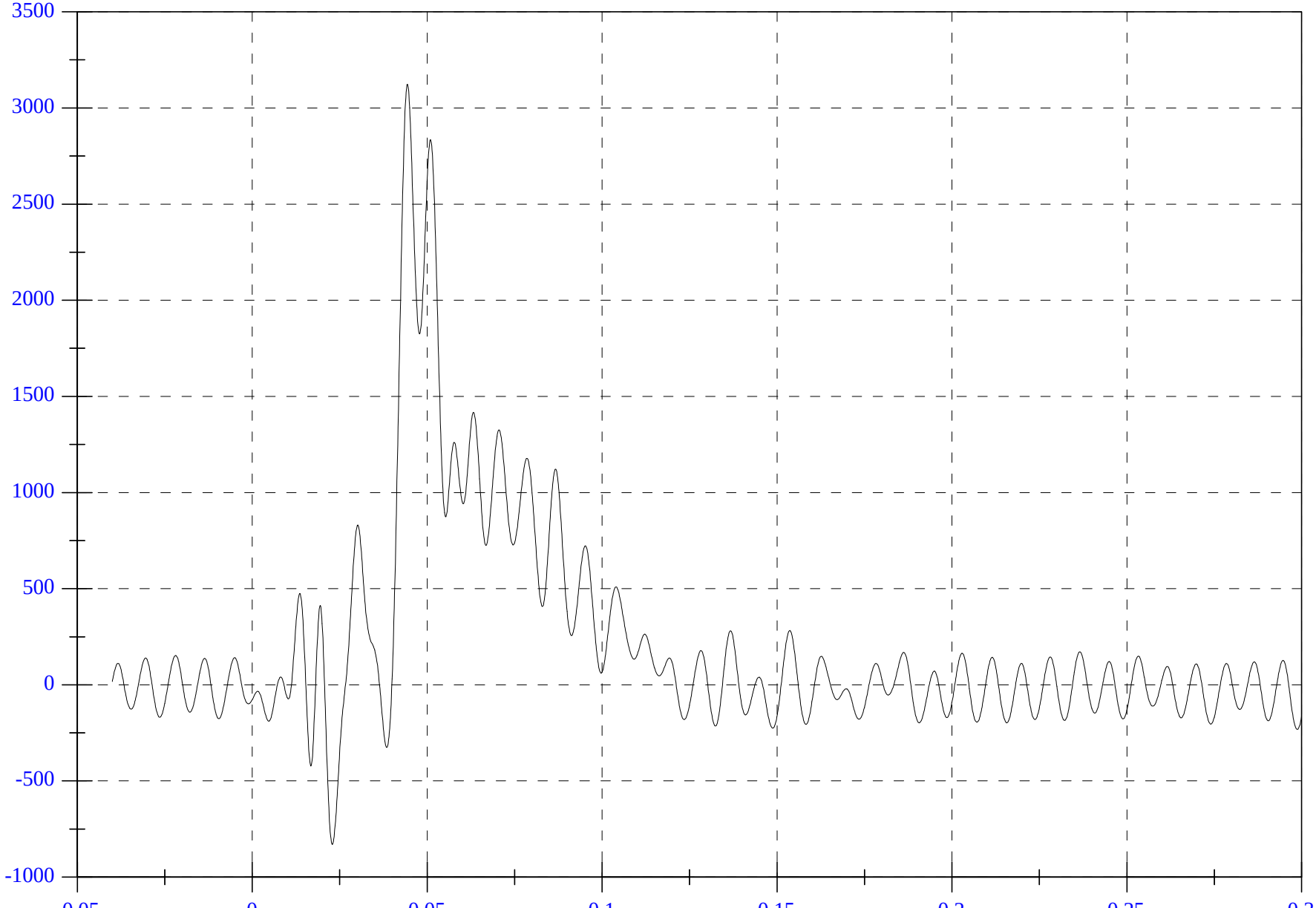
CFC_180

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

Barrier Load Cell A1 Fx

Max: 3123.2 [N] at 0.044 [S]
Min: -829.8 [N] at 0.023 [S]



B-131

8642-SNCAP-25

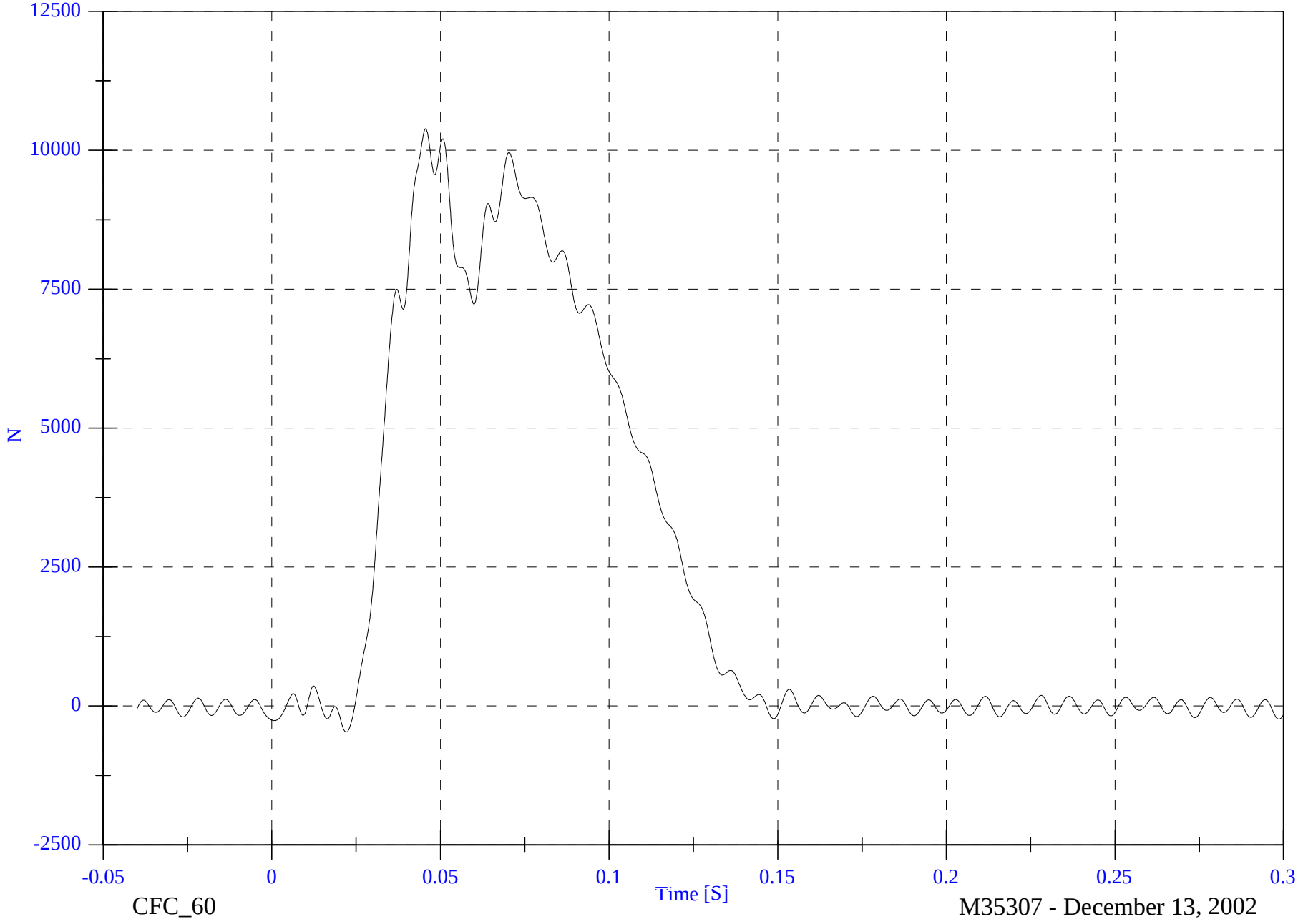
CFC_60

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

Barrier Load Cell A2 Fx

Max: 10389.0 [N] at 0.046 [S]
Min: -468.6 [N] at 0.022 [S]



B-132

8642-SNCAP-25

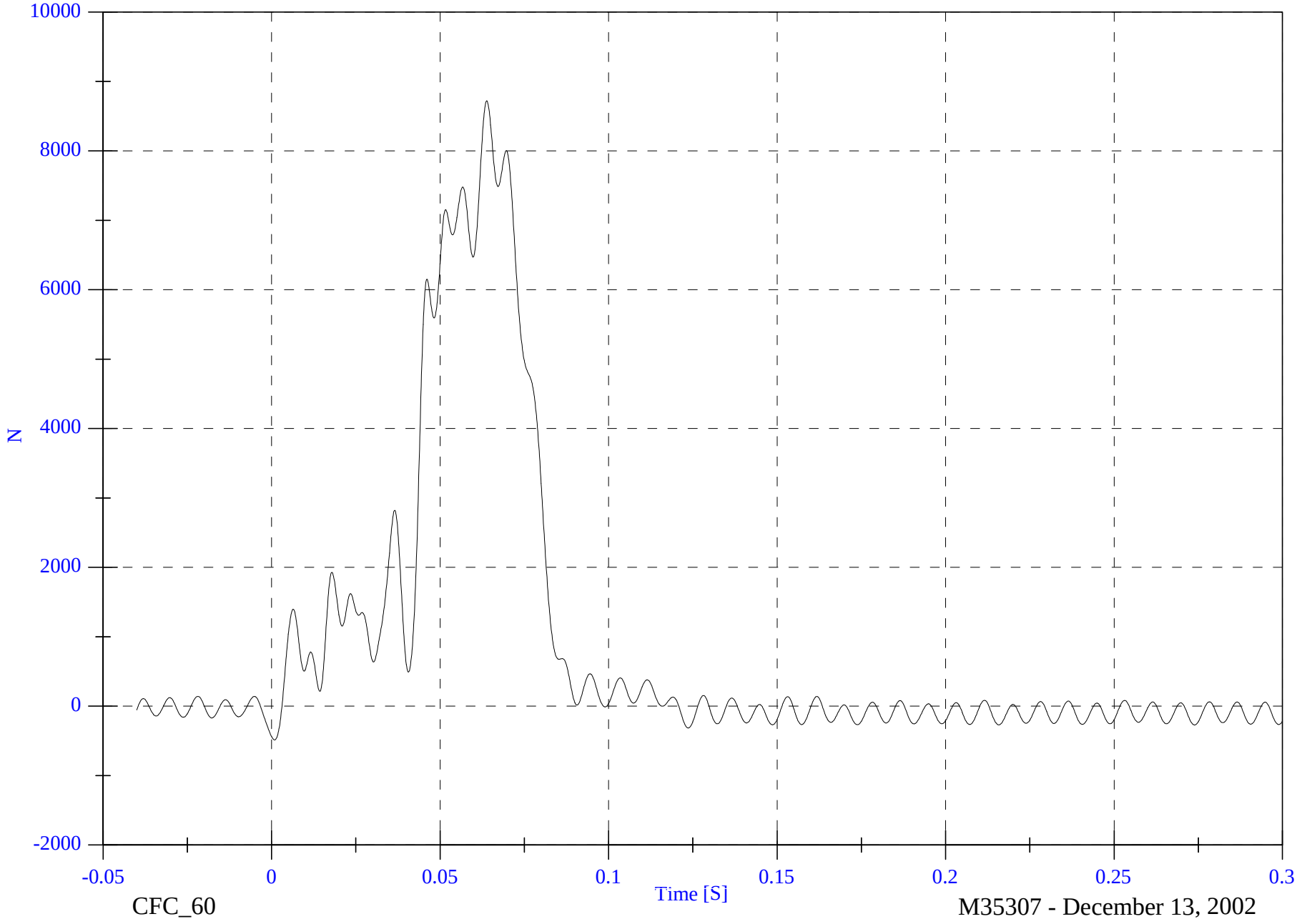
CFC_60

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

Barrier Load Cell A3 Fx

Max: 8720.6 [N] at 0.064 [S]
Min: -485.3 [N] at 0.001 [S]

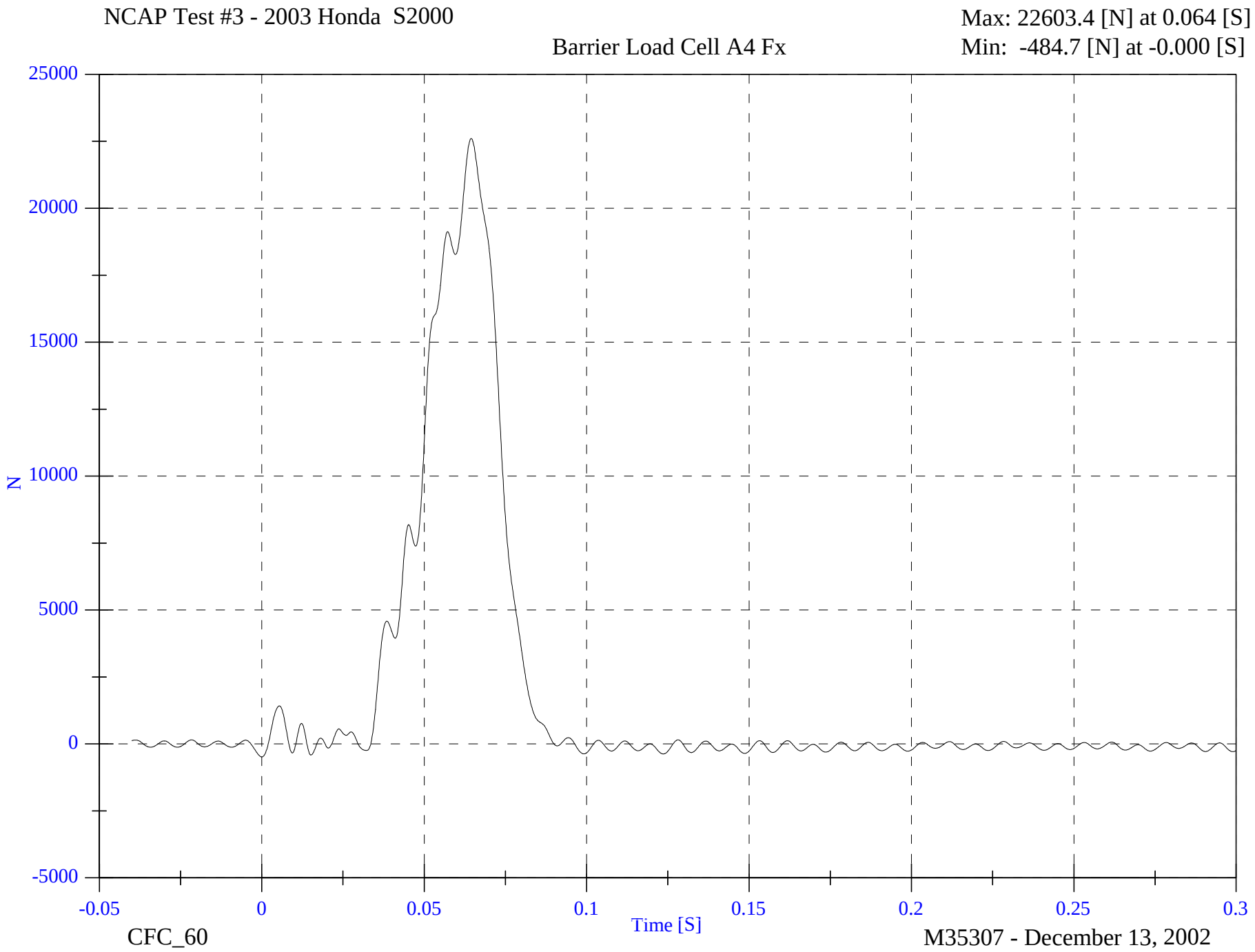


B-133

8642-SNCAP-25

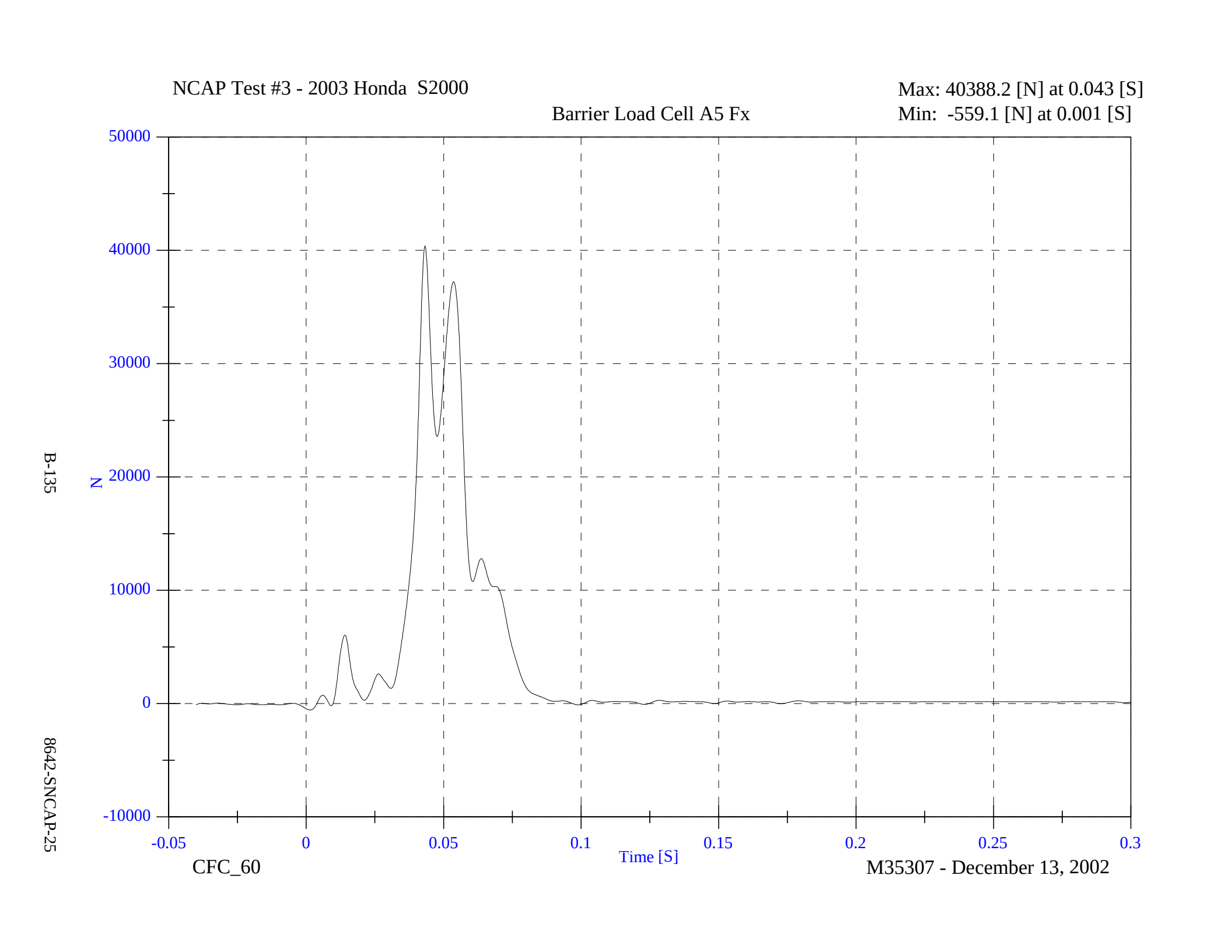
CFC_60

M35307 - December 13, 2002



B-134

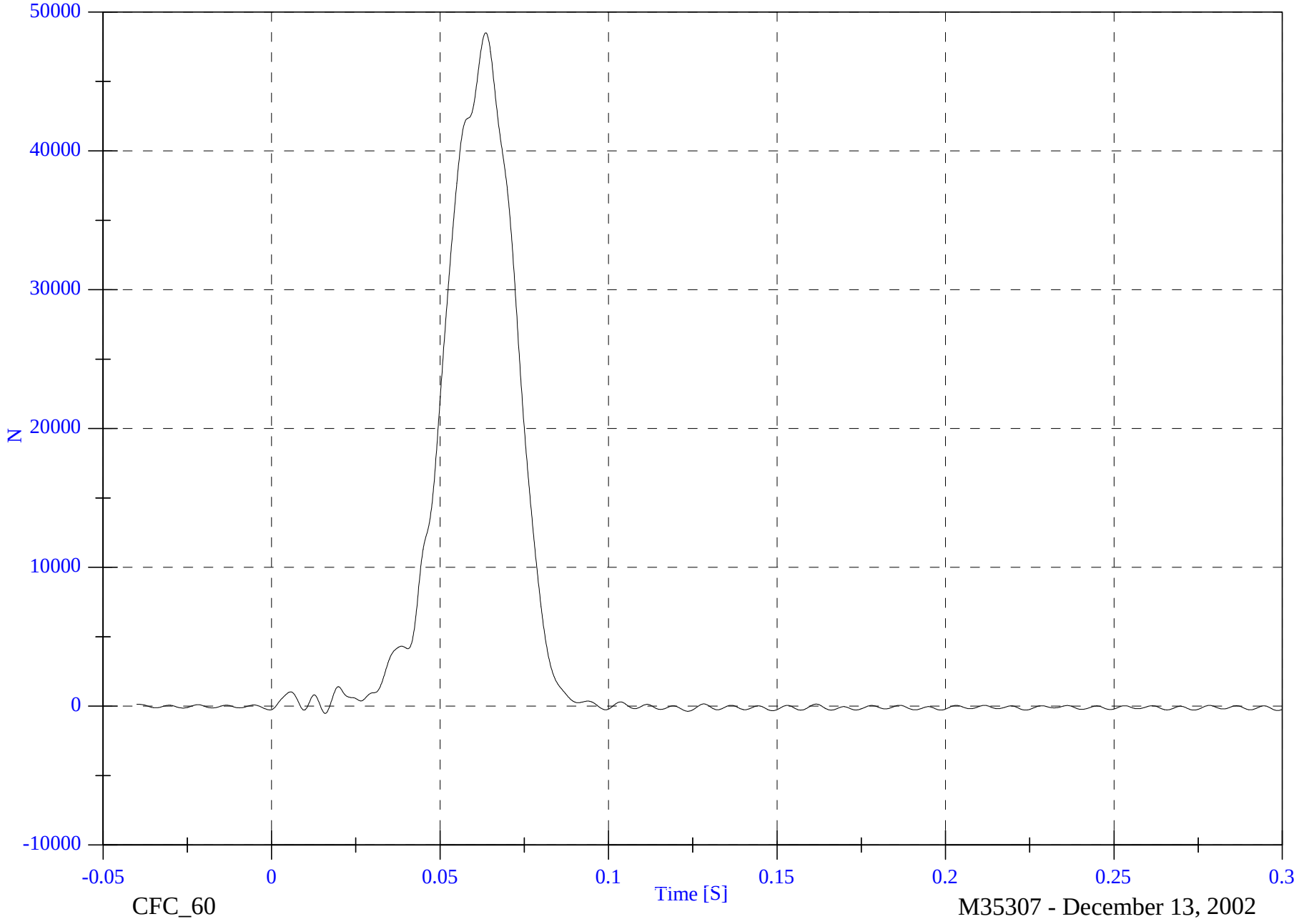
8642-SNCAP-25


NCAP Test #3 - 2003 Honda S2000
Barrier Load Cell A5 Fx
Max: 40388.2 [N] at 0.043 [S]
Min: -559.1 [N] at 0.001 [S]
50000
40000
30000
20000
10000
0
-10000
N
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [S]
B-135
8642-SNCAP-25
CFC_60
M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

Barrier Load Cell A6 Fx

Max: 48505.1 [N] at 0.064 [S]
Min: -524.2 [N] at 0.016 [S]

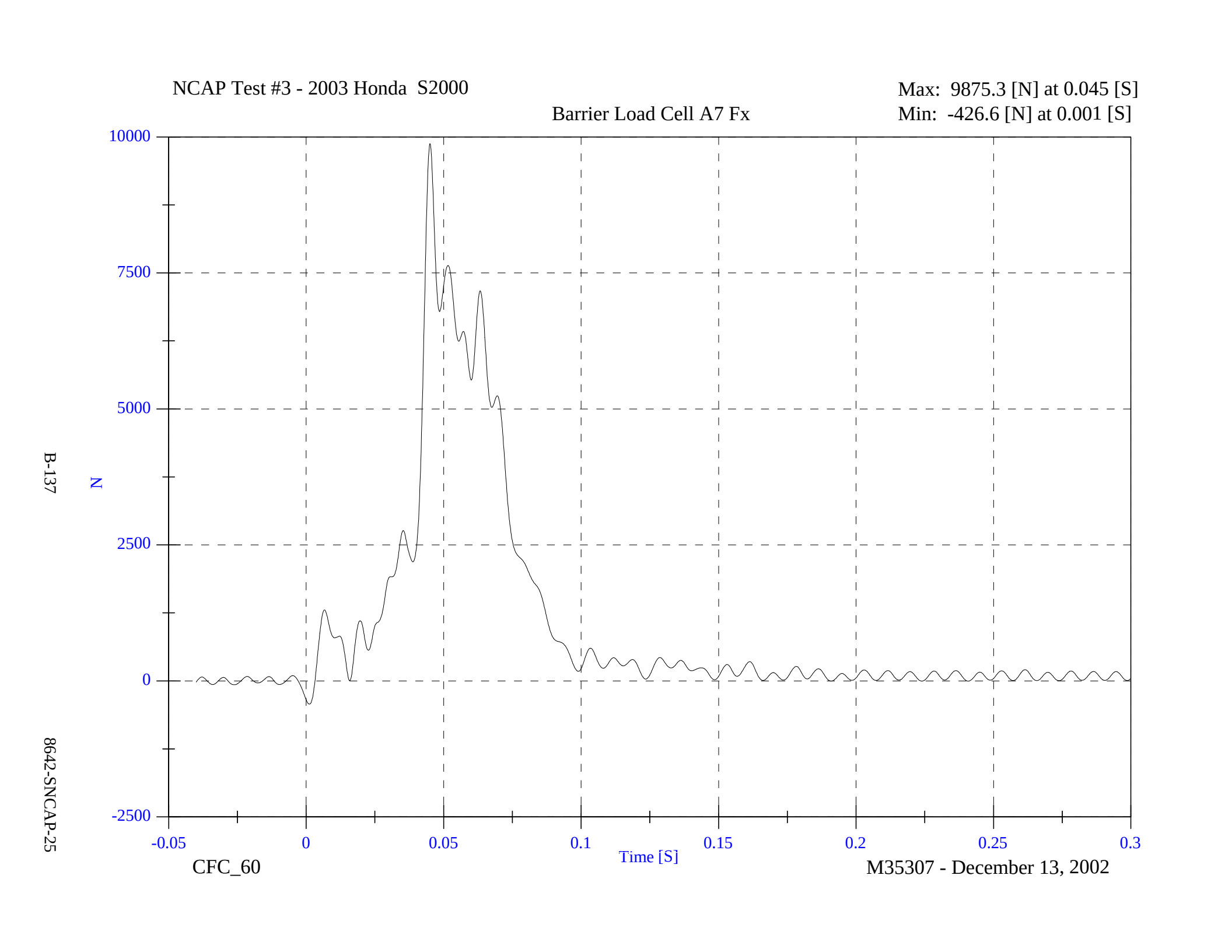


B-136

8642-SNCAP-25

CFC_60

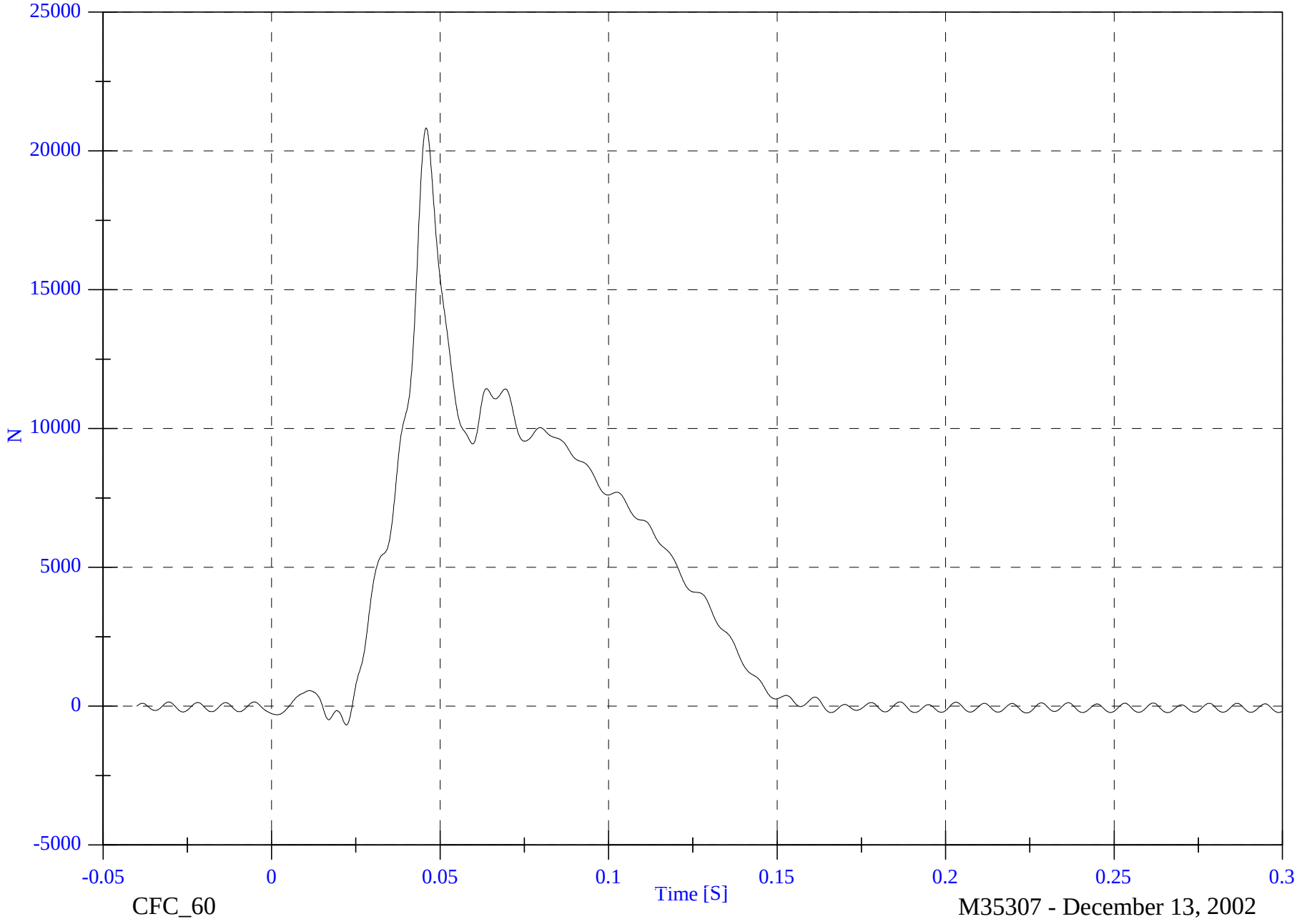
M35307 - December 13, 2002


NCAP Test #3 - 2003 Honda S2000
Barrier Load Cell A7 Fx
Max: 9875.3 [N] at 0.045 [S]
Min: -426.6 [N] at 0.001 [S]
10000
7500
5000
2500
0
-2500
N
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [S]
B-137
8642-SNCAP-25
CFC_60
M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

Barrier Load Cell A8 Fx

Max: 20823.8 [N] at 0.046 [S]
Min: -674.9 [N] at 0.022 [S]



B-138

8642-SNCAP-25

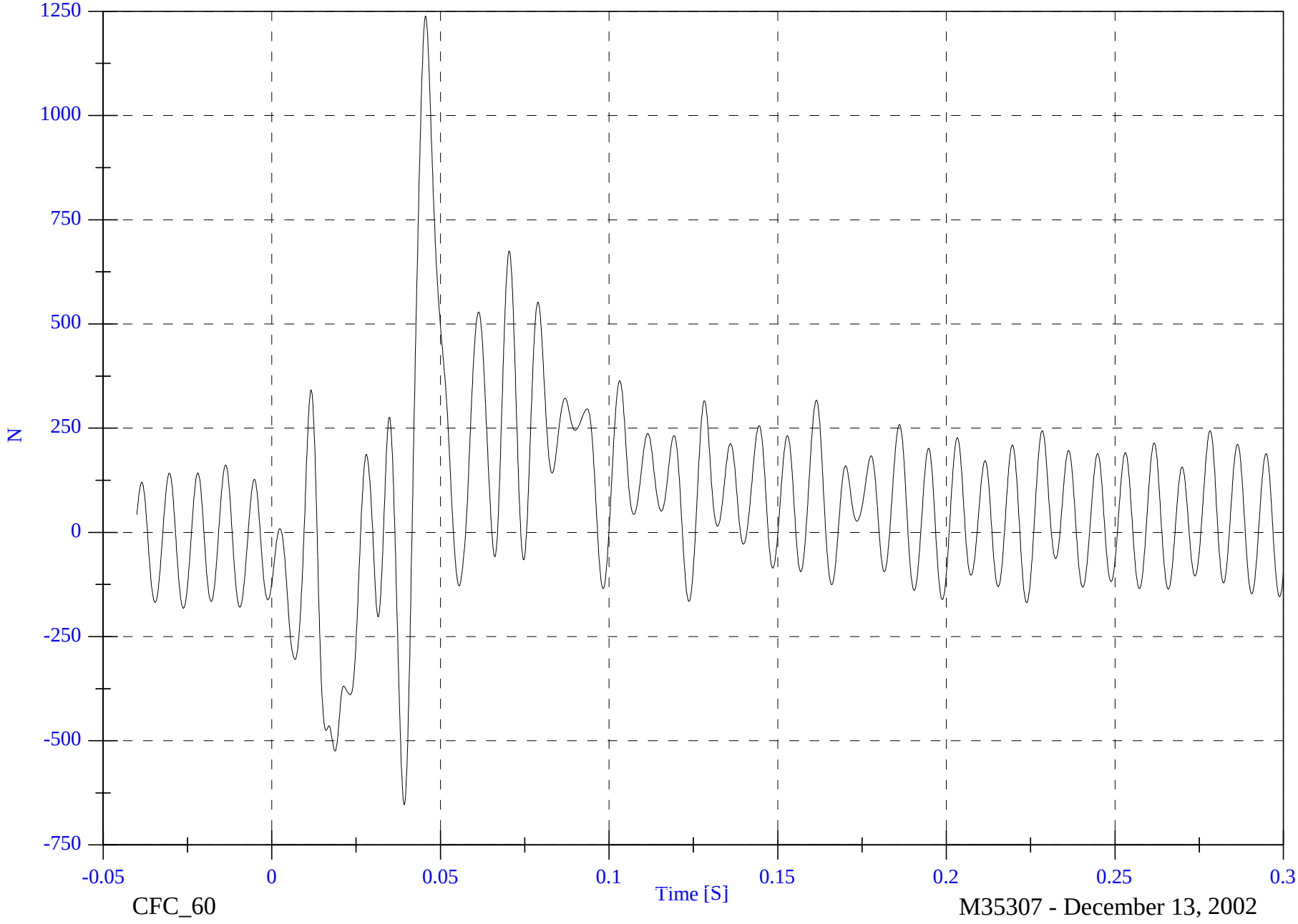
CFC_60

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

Barrier Load Cell A9 Fx

Max: 1238.7 [N] at 0.046 [S]
Min: -653.4 [N] at 0.039 [S]

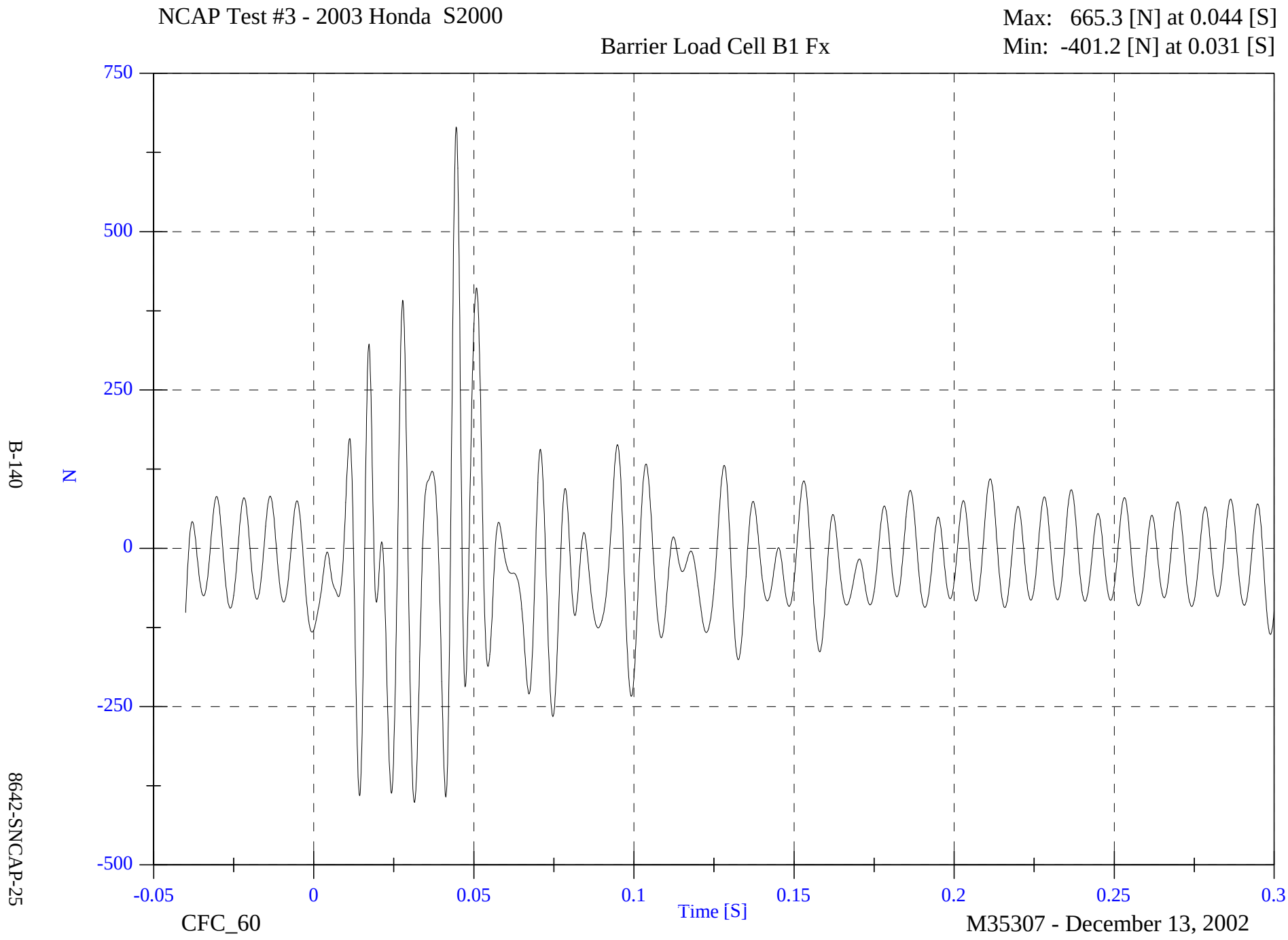


CFC_60

M35307 - December 13, 2002

B-139

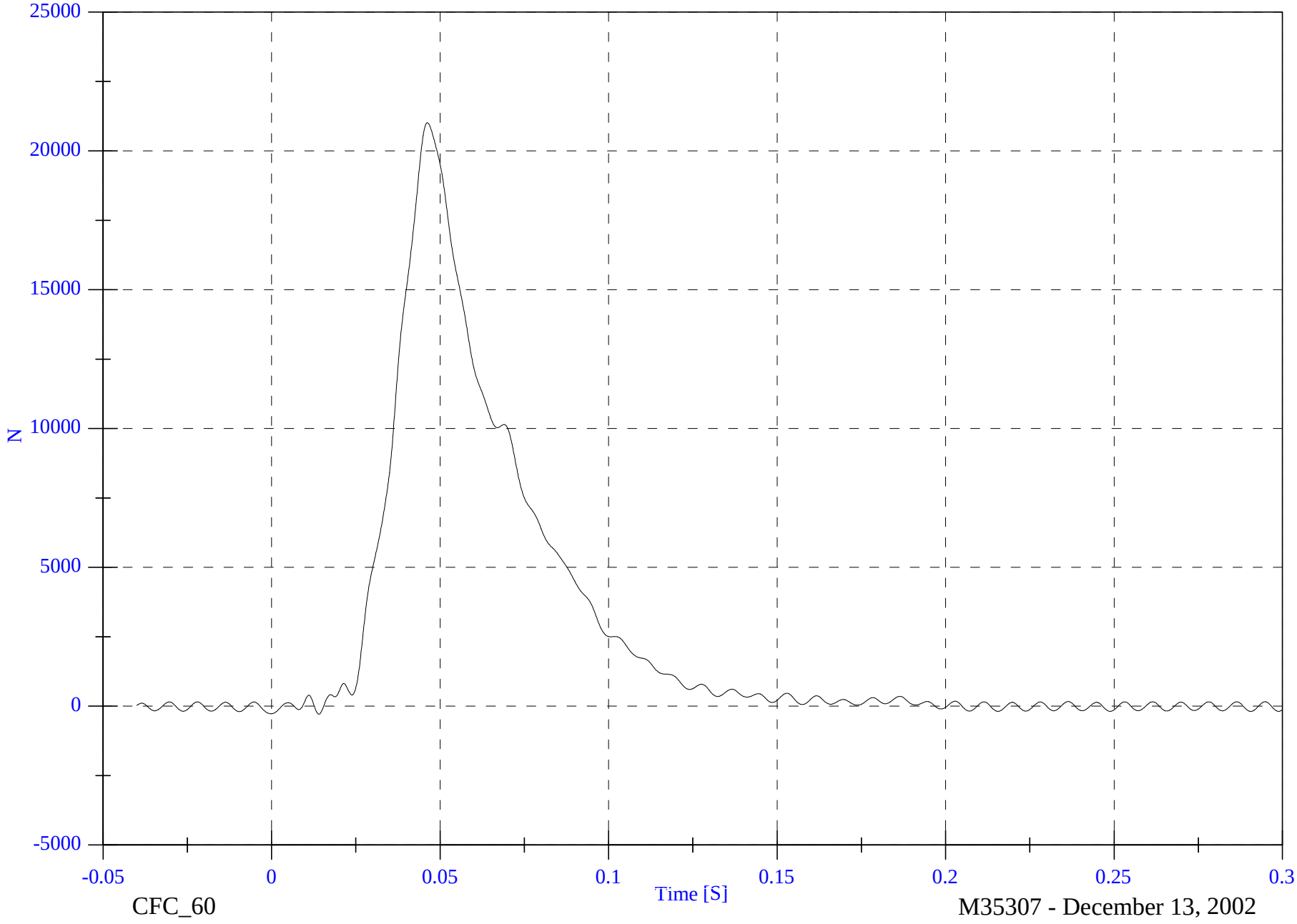
8642-SNCAP-25


NCAP Test #3 - 2003 Honda S2000
Barrier Load Cell B1 Fx
Max: 665.3 [N] at 0.044 [S]
Min: -401.2 [N] at 0.031 [S]
750
500
250
0
-250
-500
N
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [S]
CFC_60
M35307 - December 13, 2002
B-140
8642-SNCAP-25

NCAP Test #3 - 2003 Honda S2000

Barrier Load Cell B2 Fx

Max: 21013.1 [N] at 0.046 [S]
Min: -284.6 [N] at 0.014 [S]

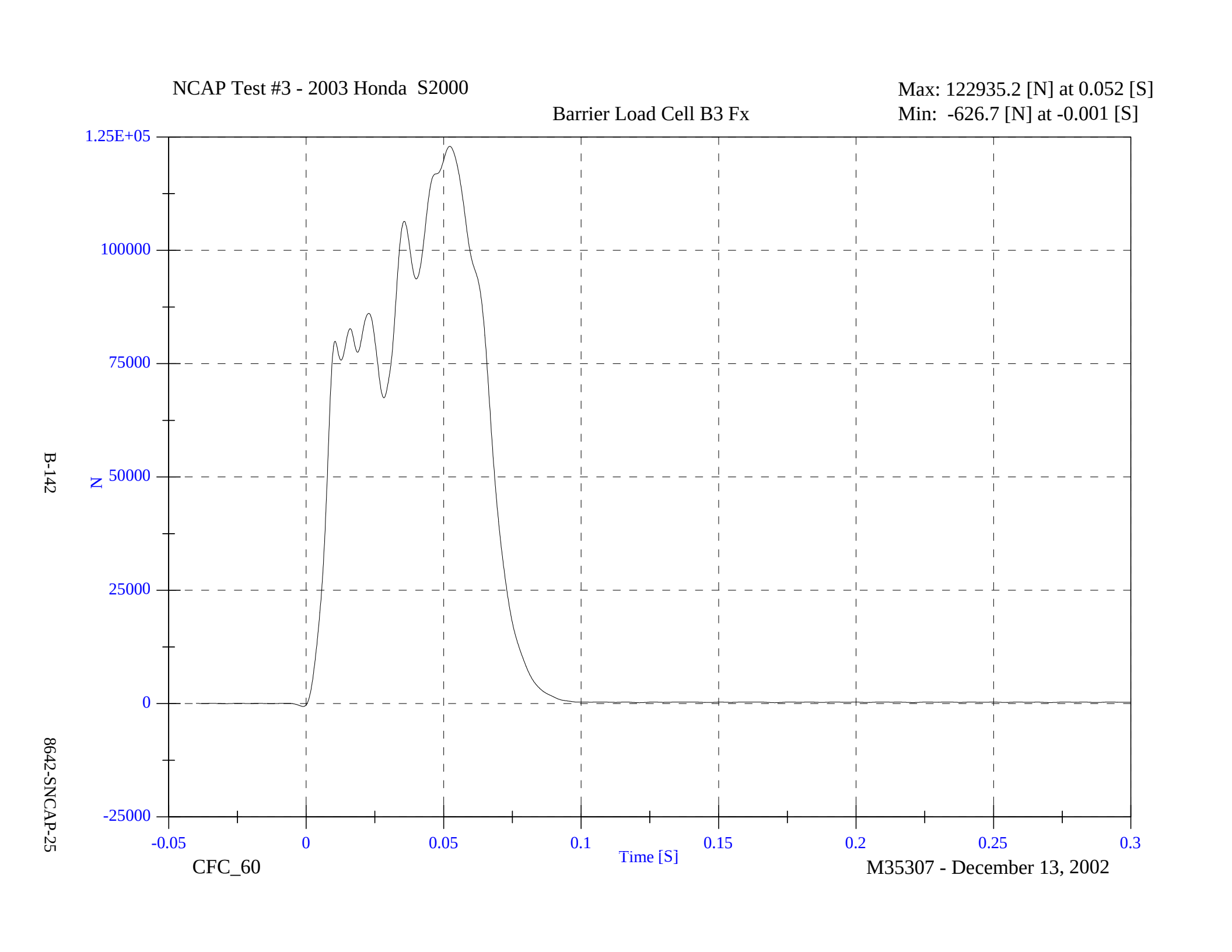


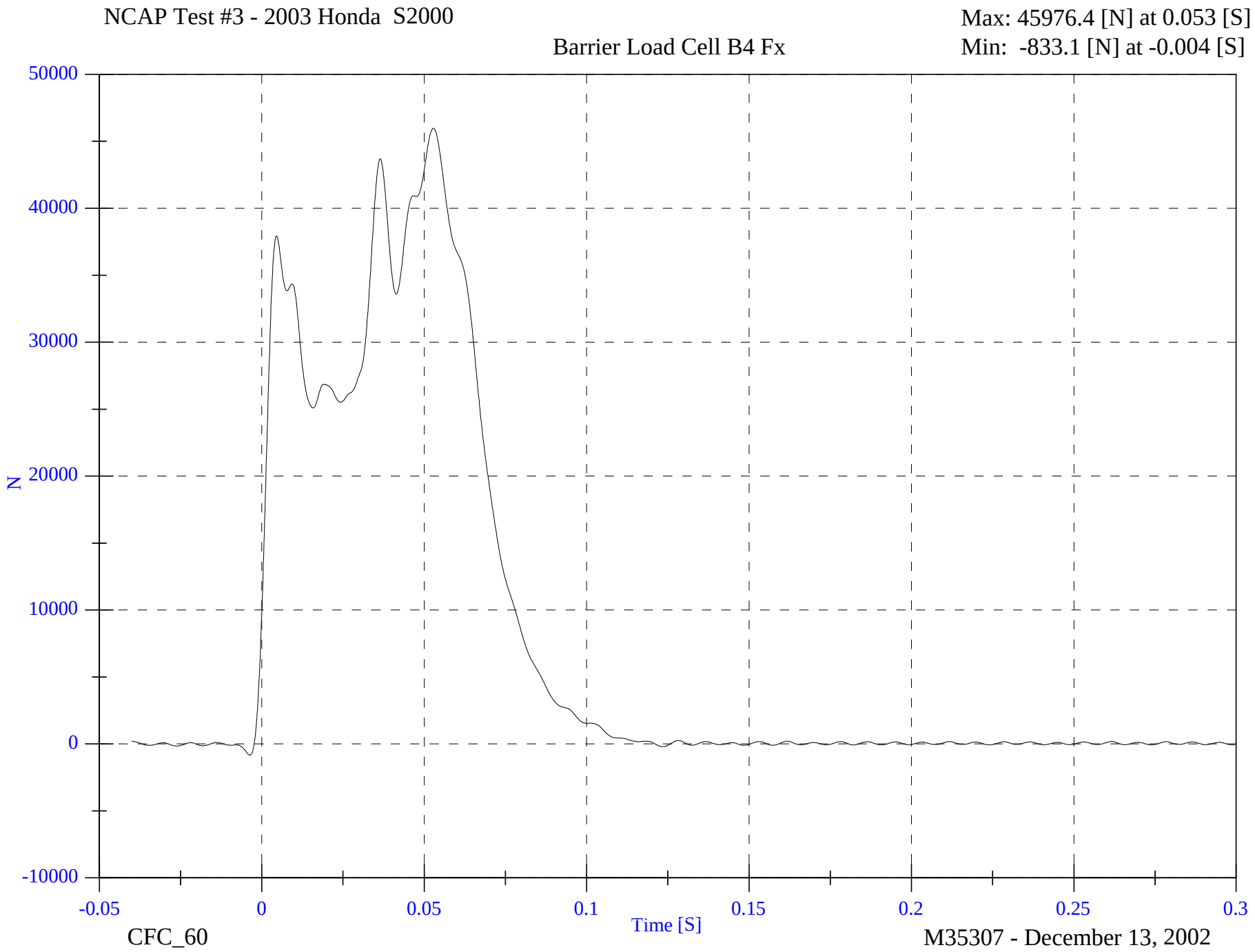
B-141

8642-SNCAP-25

CFC_60

M35307 - December 13, 2002

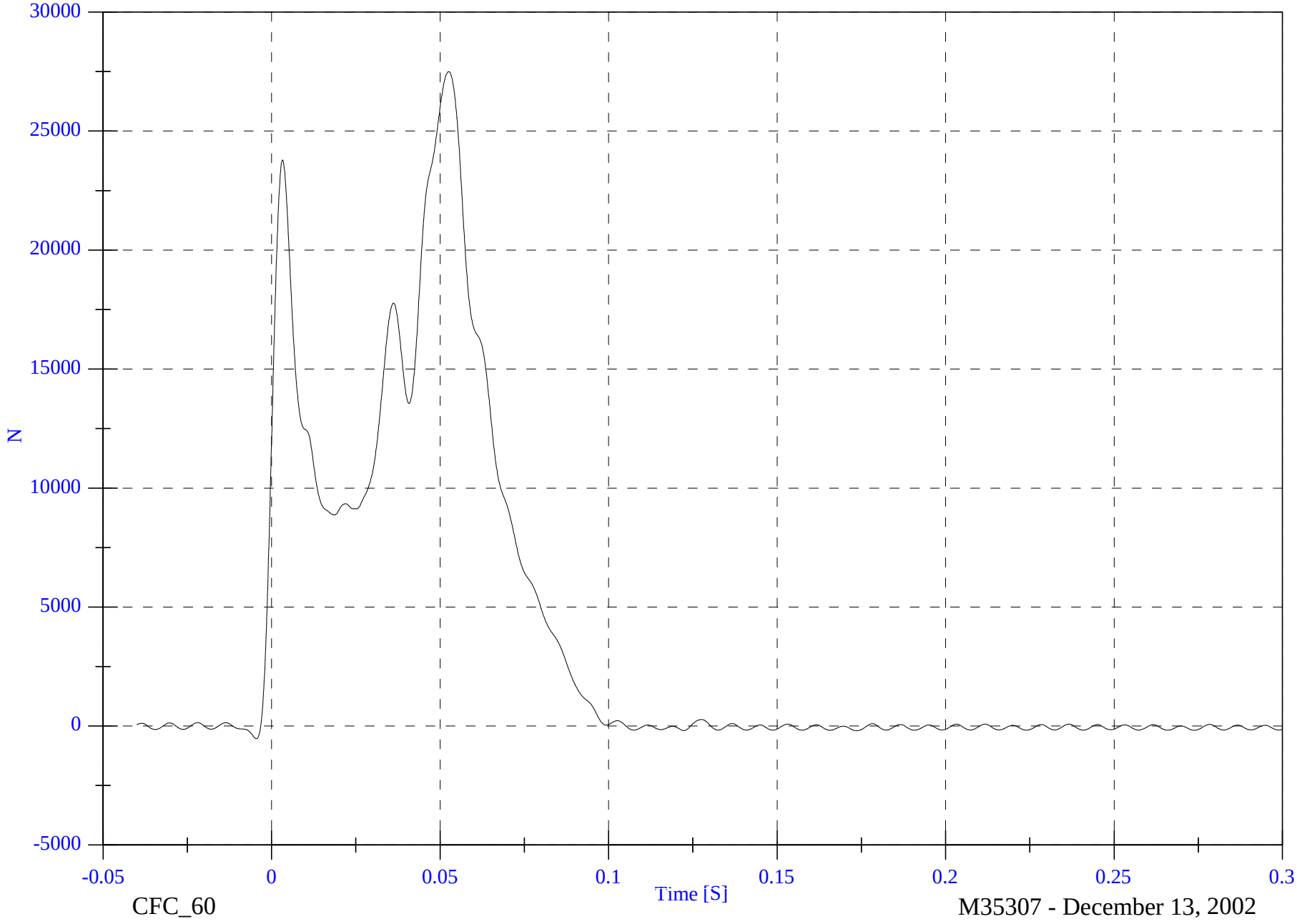

NCAP Test #3 - 2003 Honda S2000
Barrier Load Cell B3 Fx
Max: 122935.2 [N] at 0.052 [S]
Min: -626.7 [N] at -0.001 [S]
1.25E+05
100000
75000
50000
25000
0
-25000
N
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [S]
B-142
8642-SNCAP-25
CFC_60
M35307 - December 13, 2002


NCAP Test #3 - 2003 Honda S2000
Barrier Load Cell B4 Fx
Max: 45976.4 [N] at 0.053 [S]
Min: -833.1 [N] at -0.004 [S]
50000
40000
30000
20000
10000
0
-10000
N
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [S]
CFC_60
M35307 - December 13, 2002
B-143
8642-SNCAP-25

NCAP Test #3 - 2003 Honda S2000

Barrier Load Cell B5 Fx

Max: 27494.9 [N] at 0.053 [S]
Min: -538.0 [N] at -0.005 [S]

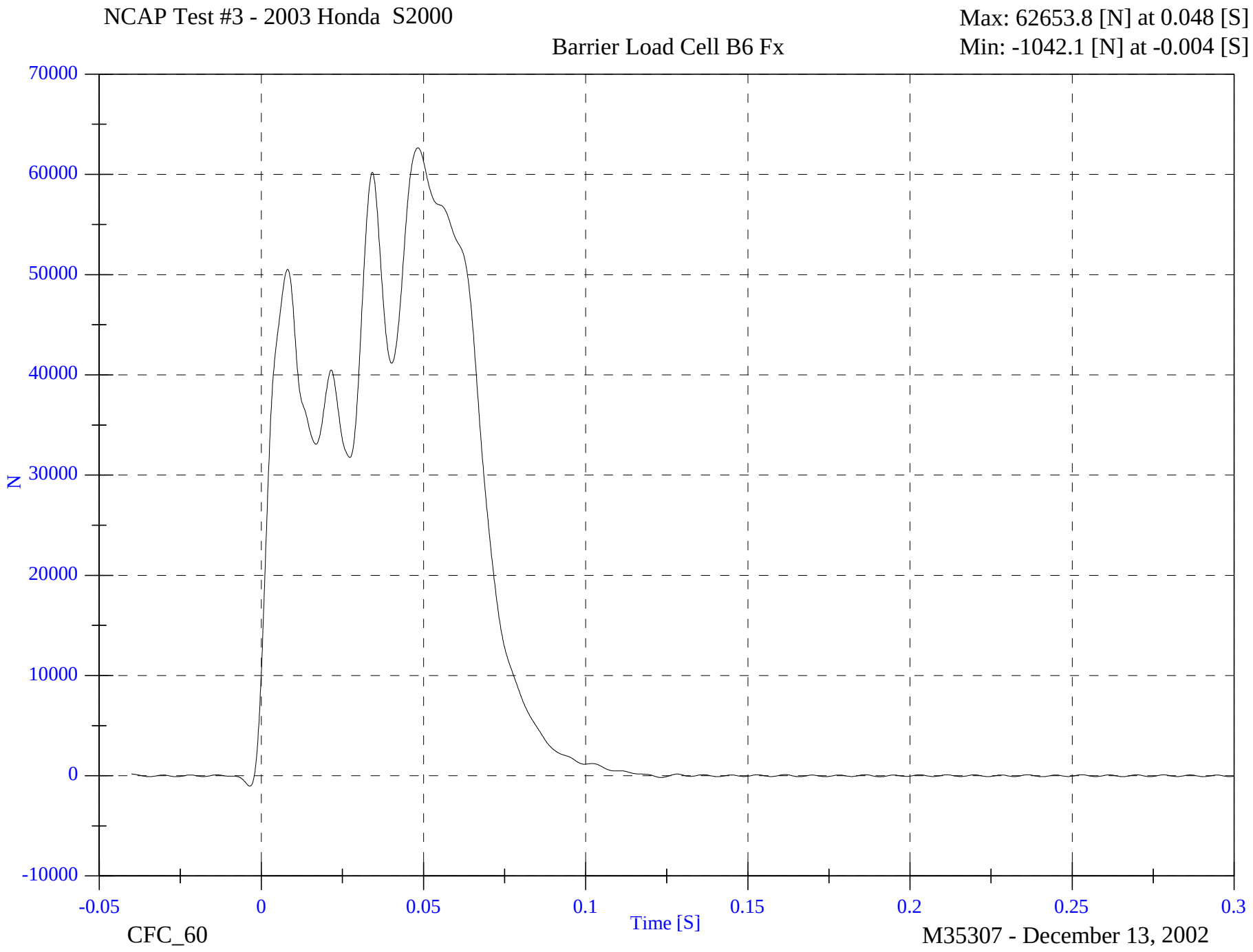


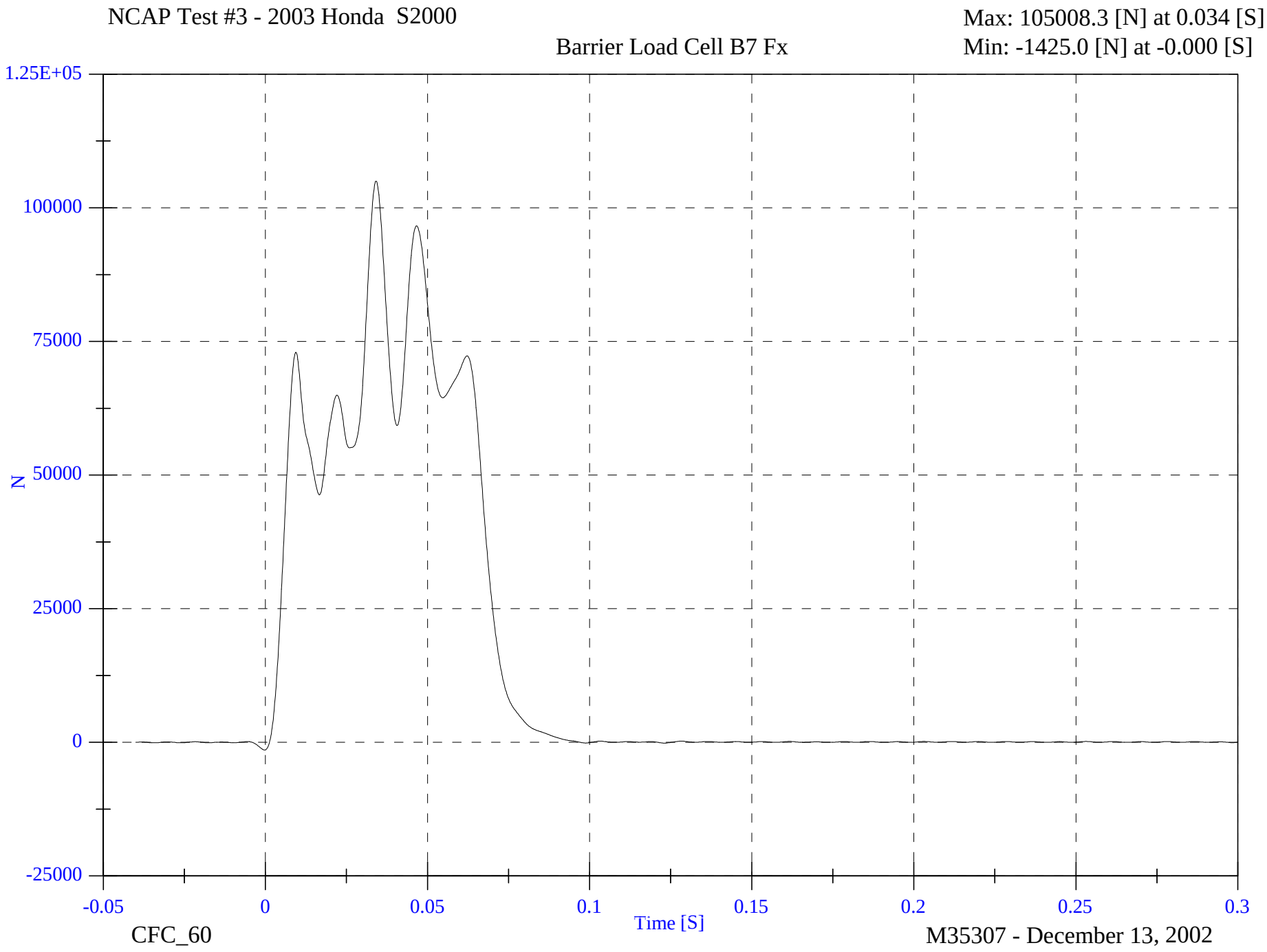
B-144

8642-SNCAP-25

CFC_60

M35307 - December 13, 2002

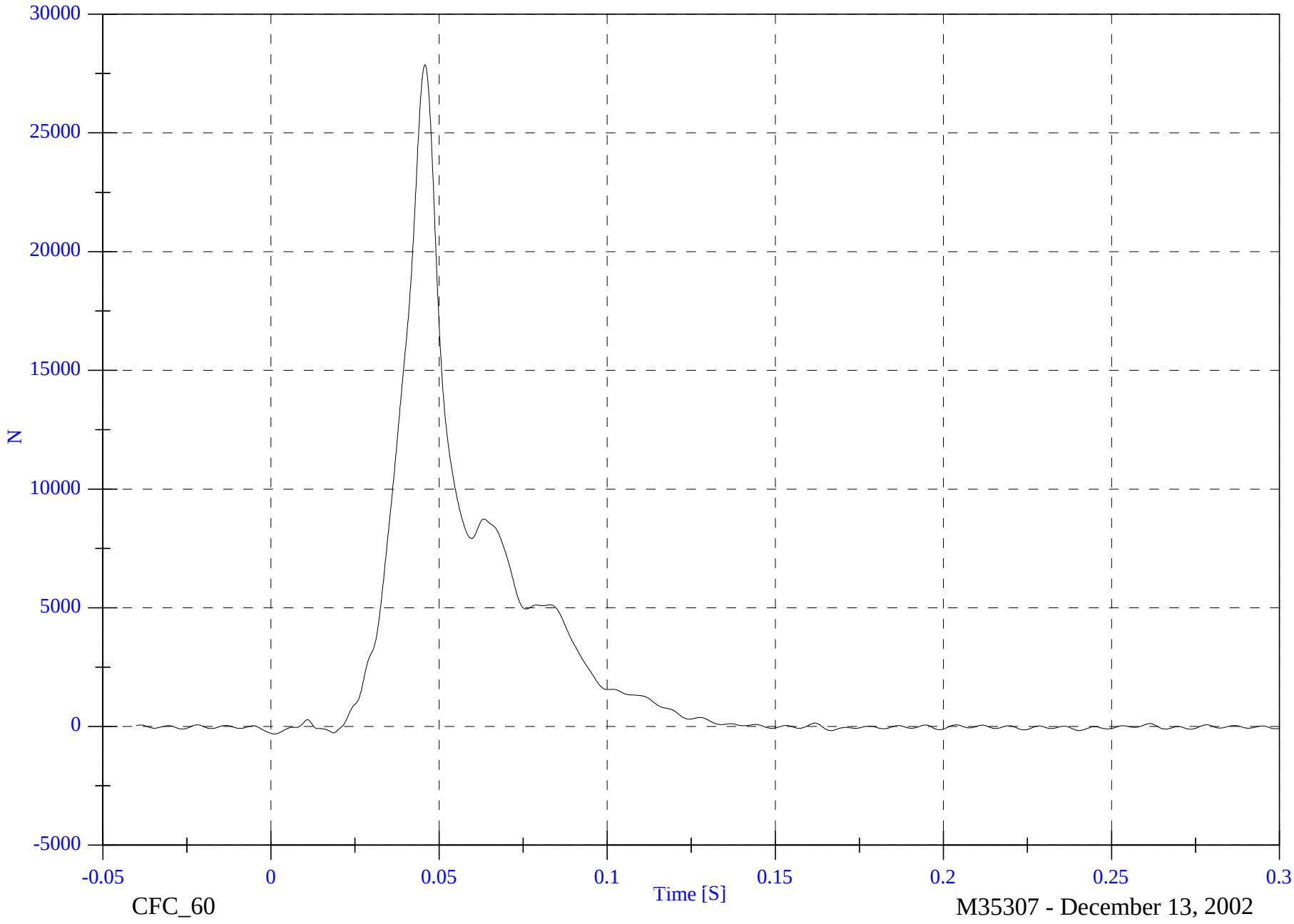

NCAP Test #3 - 2003 Honda S2000
Barrier Load Cell B6 Fx
Max: 62653.8 [N] at 0.048 [S]
Min: -1042.1 [N] at -0.004 [S]
70000
60000
50000
40000
30000
20000
10000
0
-10000
N
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [S]
CFC_60
M35307 - December 13, 2002


NCAP Test #3 - 2003 Honda S2000
Barrier Load Cell B7 Fx
Max: 105008.3 [N] at 0.034 [S]
Min: -1425.0 [N] at -0.000 [S]
1.25E+05
100000
75000
50000
25000
0
-25000
N
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [S]
CFC_60
M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

Barrier Load Cell B8 Fx

Max: 27868.1 [N] at 0.046 [S]
Min: -313.8 [N] at 0.001 [S]



B-147

8642-SNCAP-25

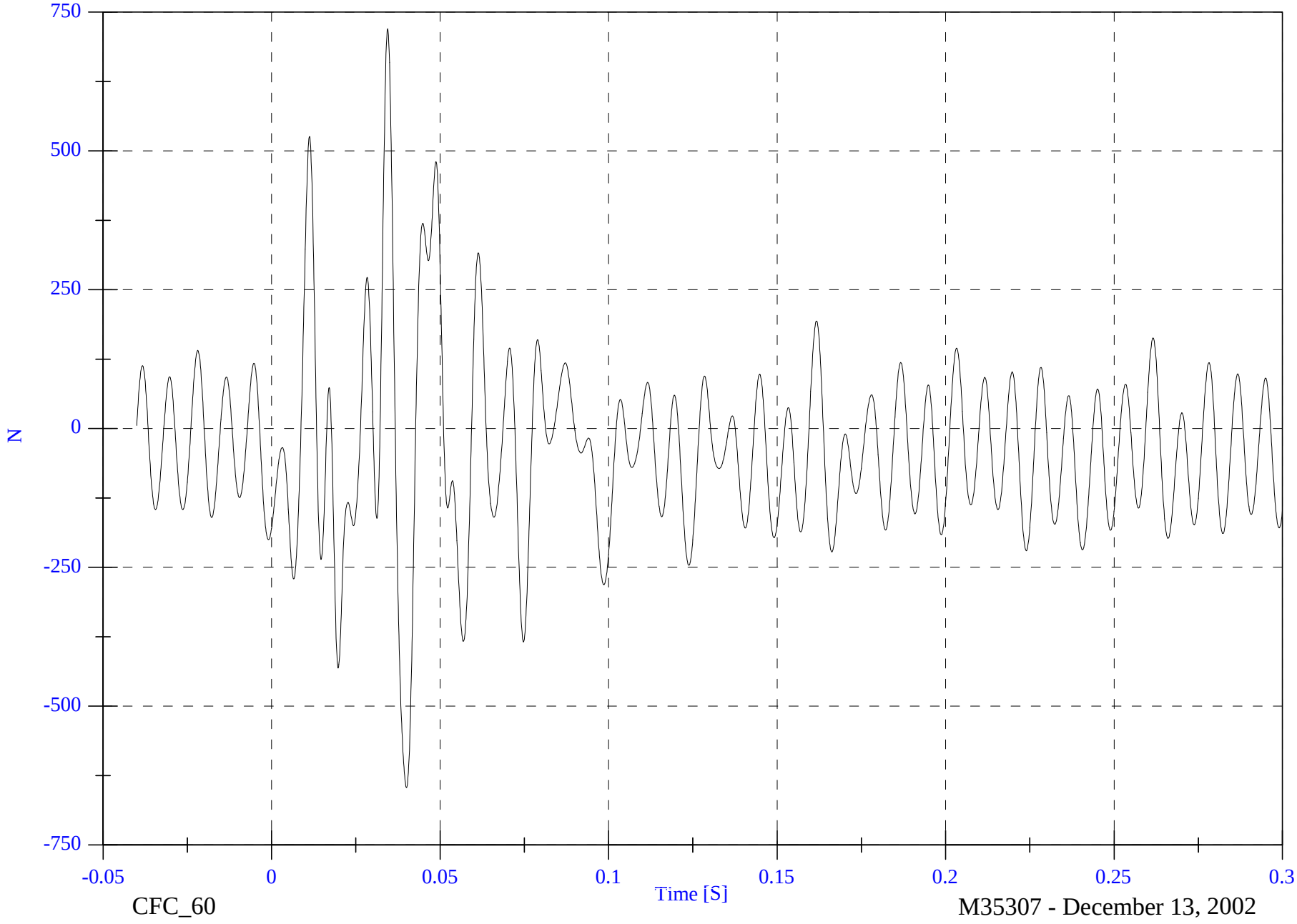
CFC_60

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

Barrier Load Cell B9 Fx

Max: 720.0 [N] at 0.034 [S]
Min: -646.4 [N] at 0.040 [S]



CFC_60

M35307 - December 13, 2002

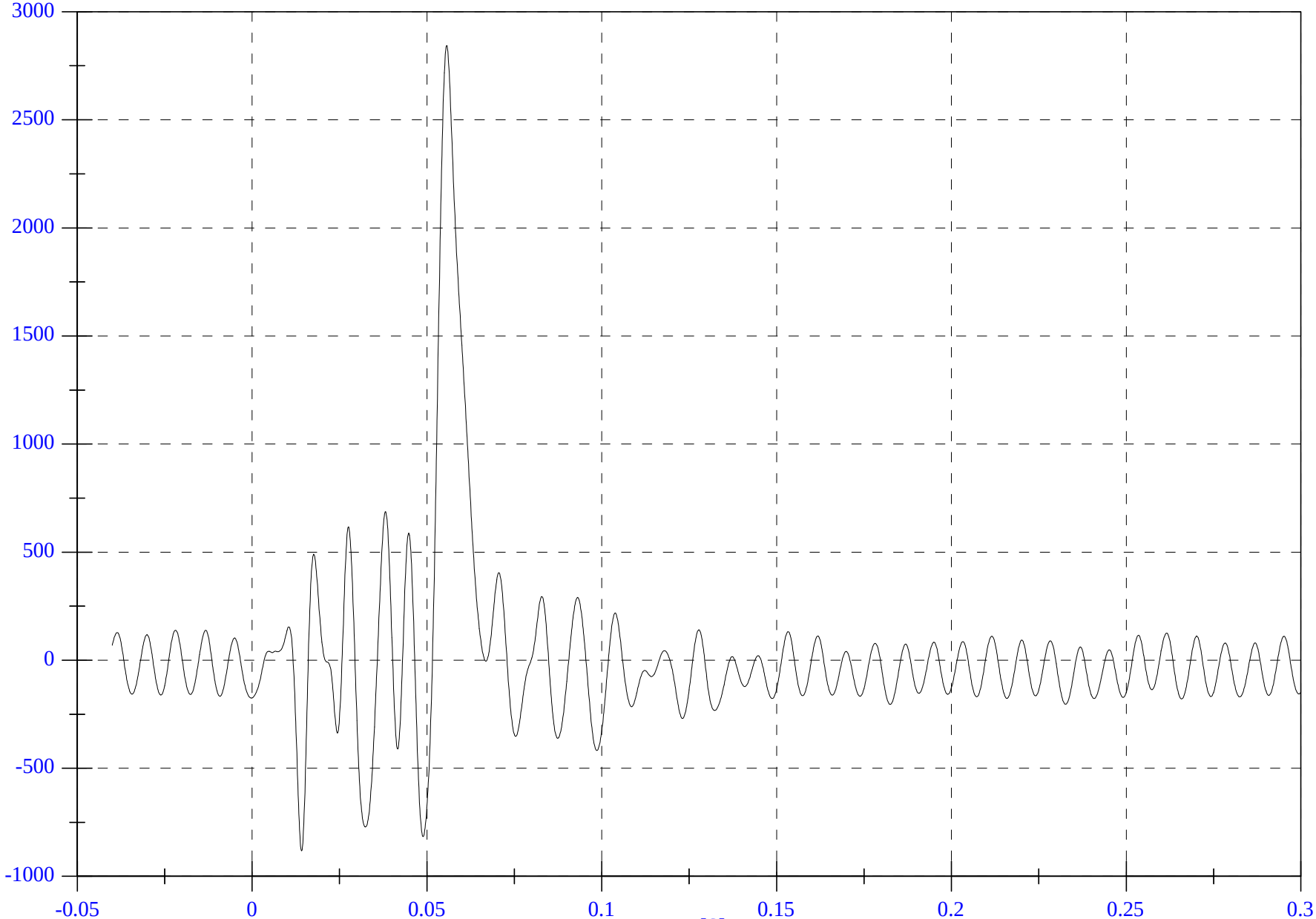
B-148

8642-SNCAP-25

NCAP Test #3 - 2003 Honda S2000

Barrier Load Cell C1 Fx

Max: 2843.8 [N] at 0.056 [S]
Min: -882.8 [N] at 0.014 [S]



B-149

8642-SNCAP-25

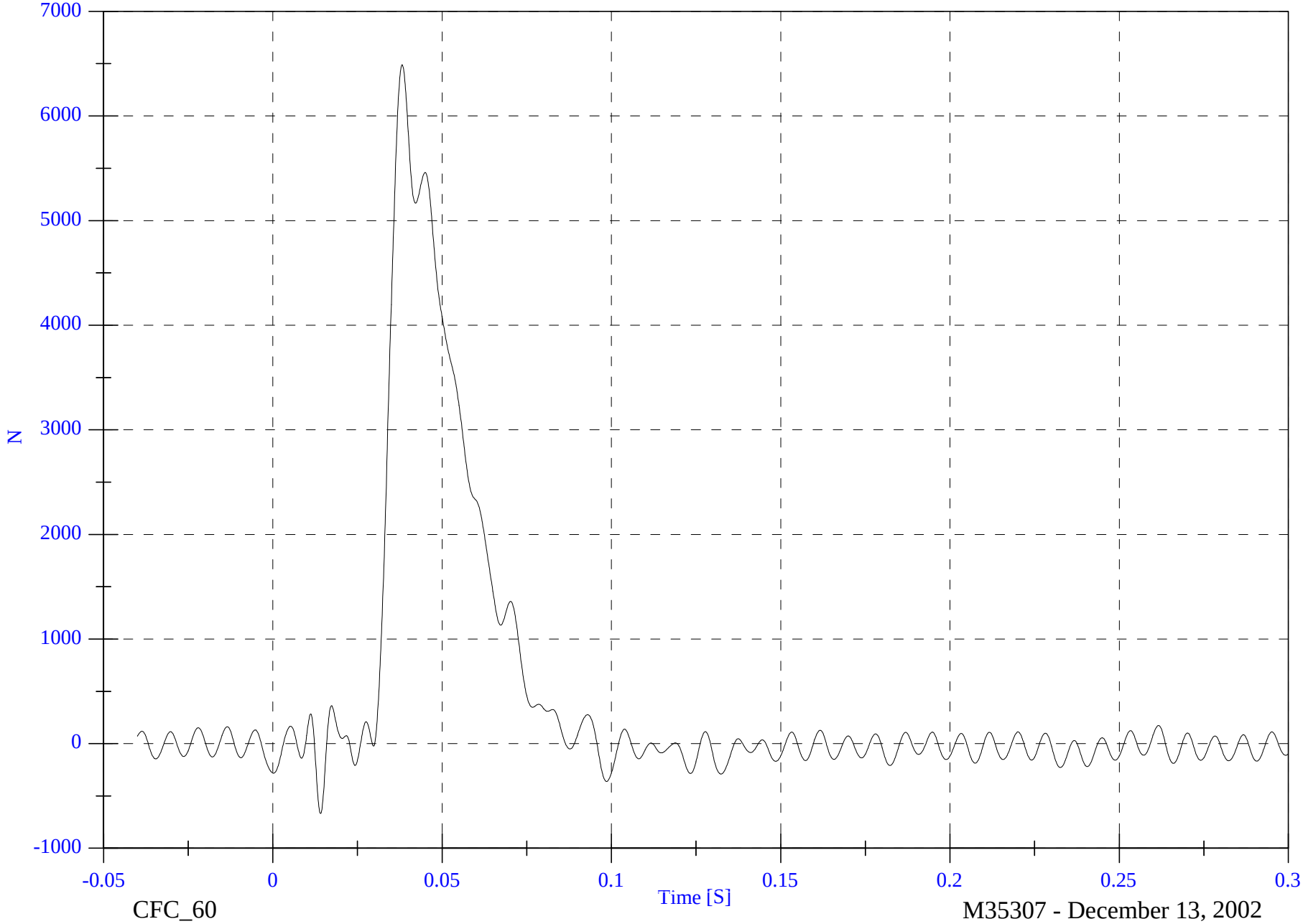
CFC_60

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

Barrier Load Cell C2 Fx

Max: 6490.3 [N] at 0.038 [S]
Min: -668.4 [N] at 0.014 [S]



B-150

8642-SNCAP-25

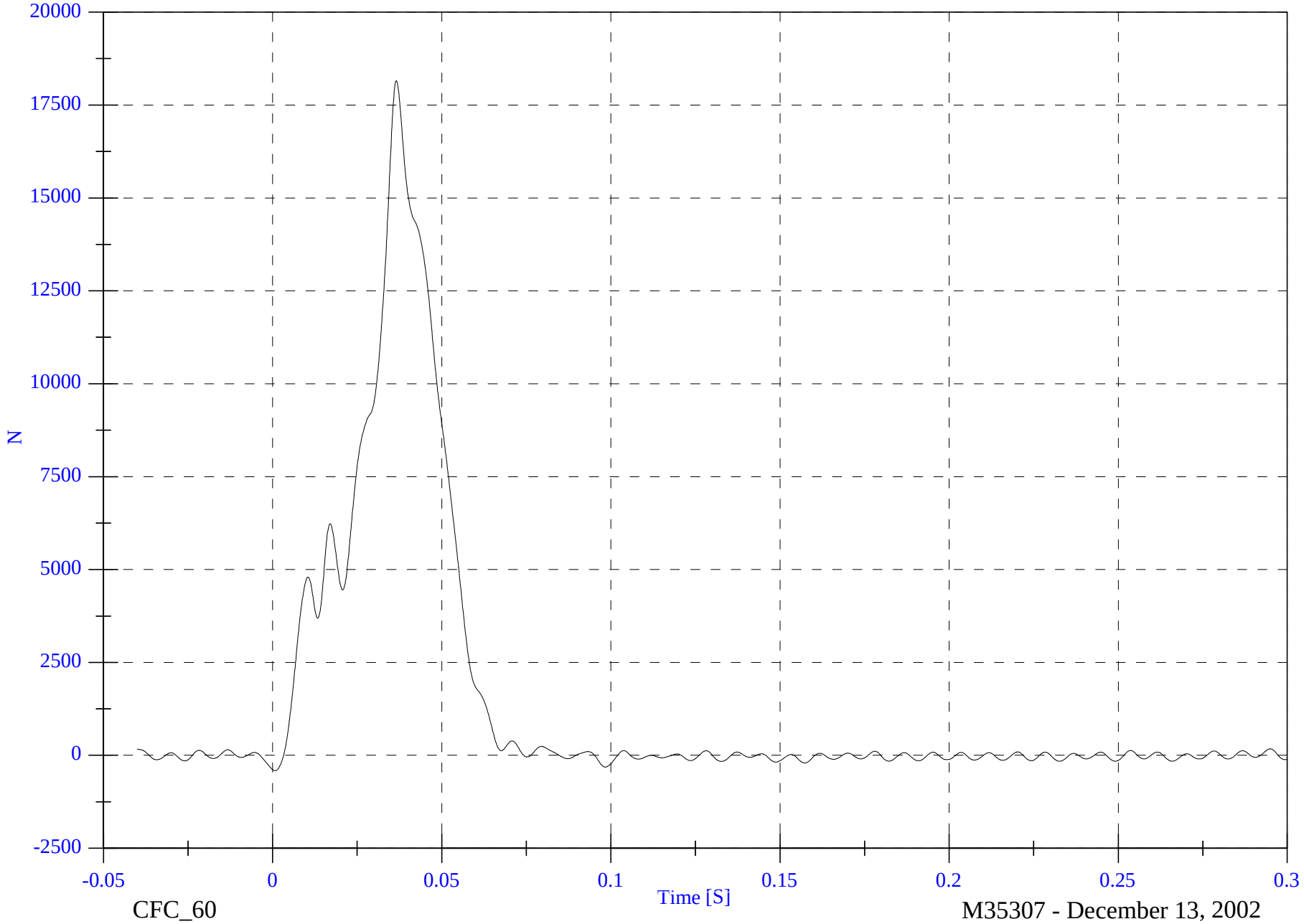
CFC_60

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

Barrier Load Cell C3 Fx

Max: 18152.6 [N] at 0.037 [S]
Min: -413.6 [N] at 0.001 [S]



B-151

8642-SNCAP-25

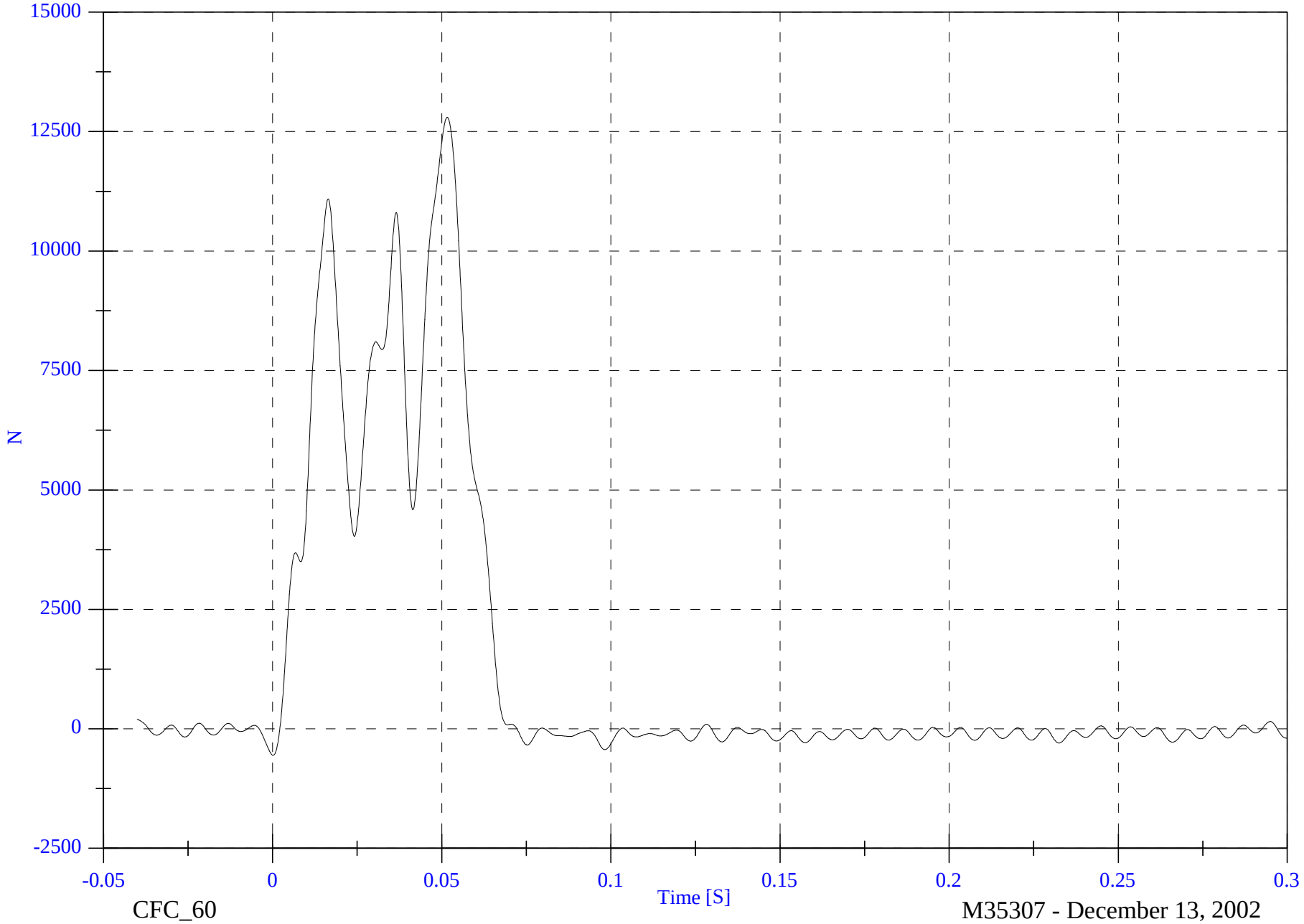
CFC_60

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

Barrier Load Cell C4 Fx

Max: 12799.1 [N] at 0.052 [S]
Min: -555.0 [N] at 0.000 [S]



B-152

8642-SNCAP-25

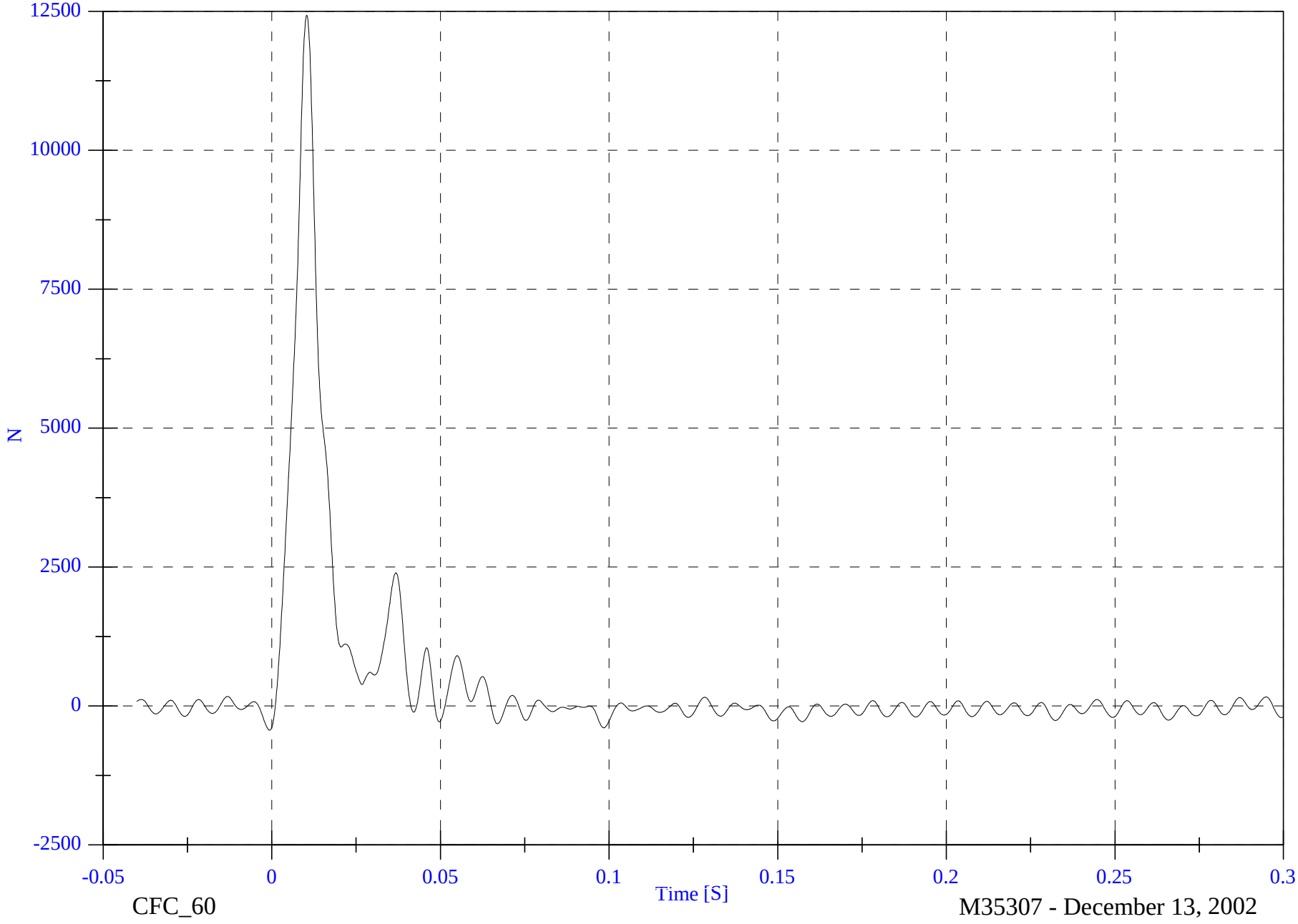
CFC_60

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

Barrier Load Cell C5 Fx

Max: 12428.5 [N] at 0.010 [S]
Min: -435.2 [N] at -0.001 [S]



B-153

8642-SNCAP-25

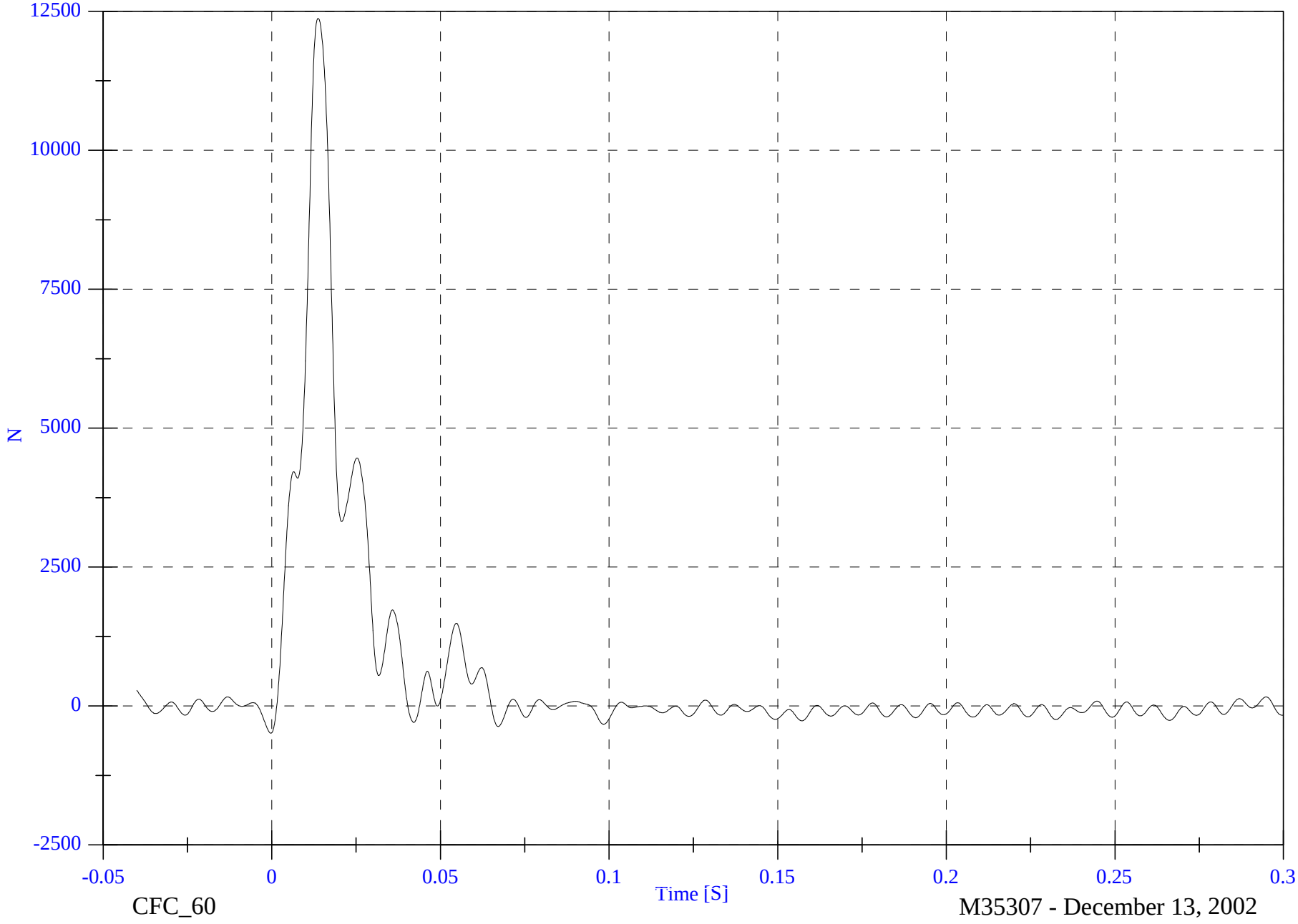
CFC_60

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

Barrier Load Cell C6 Fx

Max: 12373.8 [N] at 0.014 [S]
Min: -489.2 [N] at -0.000 [S]

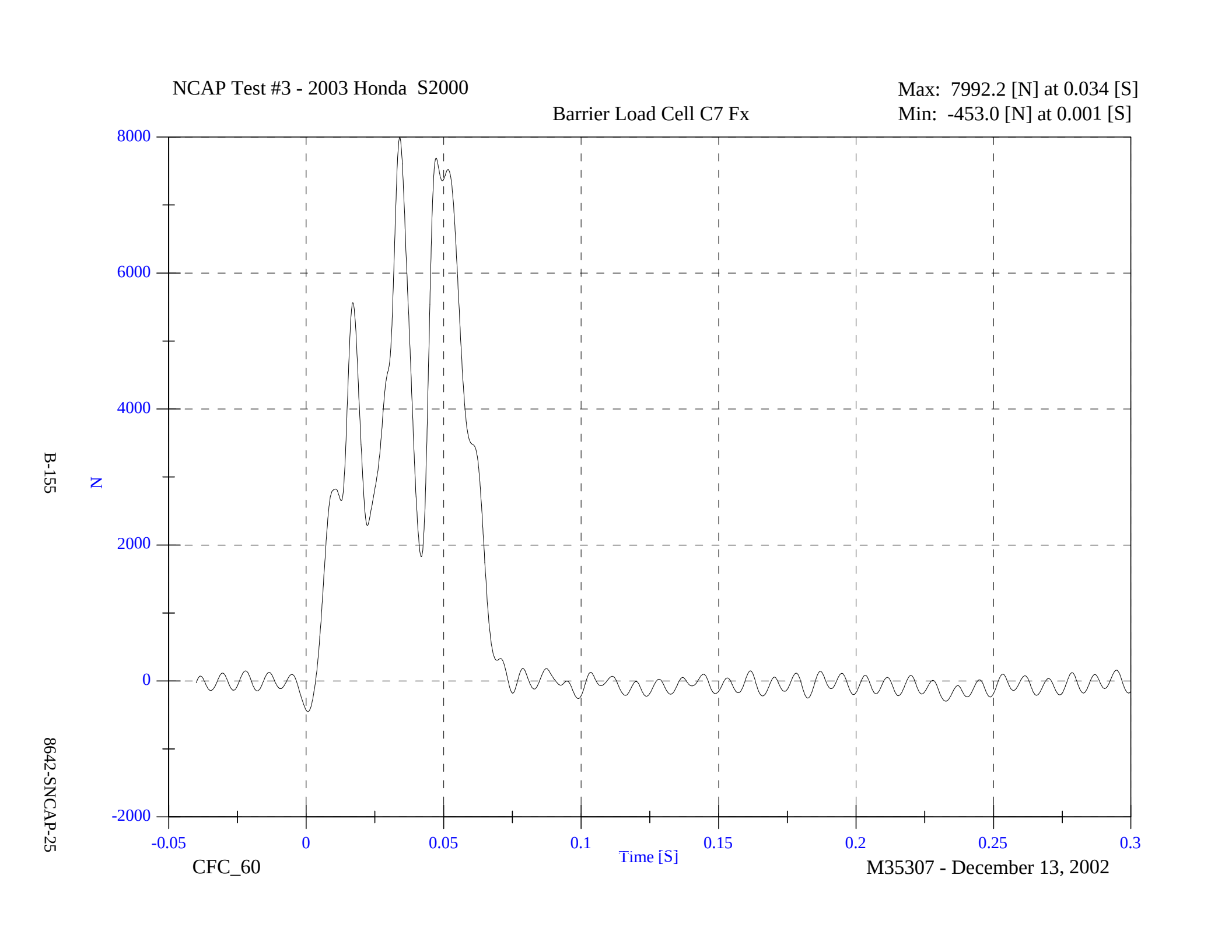


B-154

8642-SNCAP-25

CFC_60

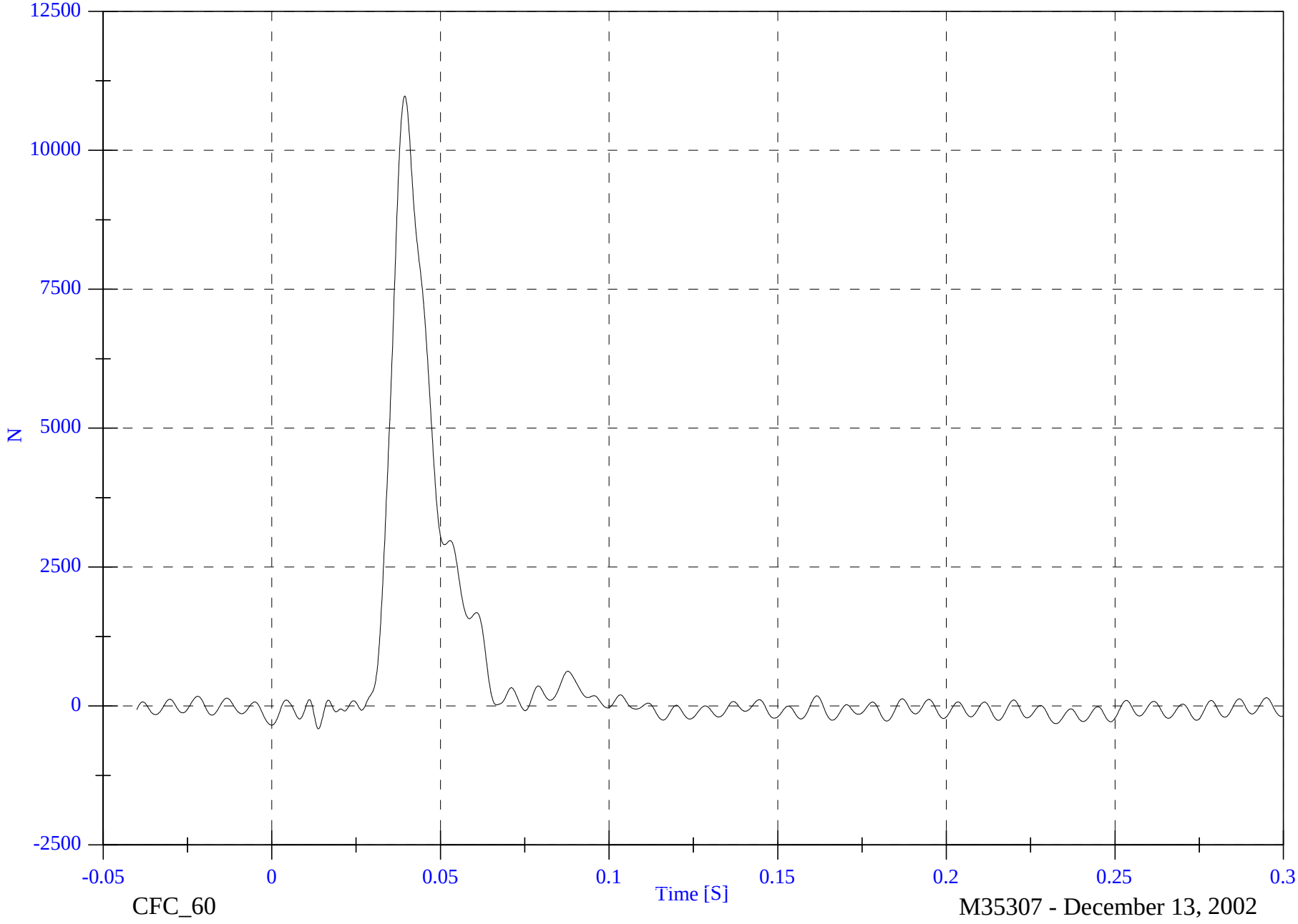
M35307 - December 13, 2002


NCAP Test #3 - 2003 Honda S2000
Barrier Load Cell C7 Fx
Max: 7992.2 [N] at 0.034 [S]
Min: -453.0 [N] at 0.001 [S]
8000
6000
4000
2000
0
-2000
N
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [S]
B-155
8642-SNCAP-25
CFC_60
M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

Barrier Load Cell C8 Fx

Max: 10975.8 [N] at 0.039 [S]
Min: -411.1 [N] at 0.014 [S]



B-156

8642-SNCAP-25

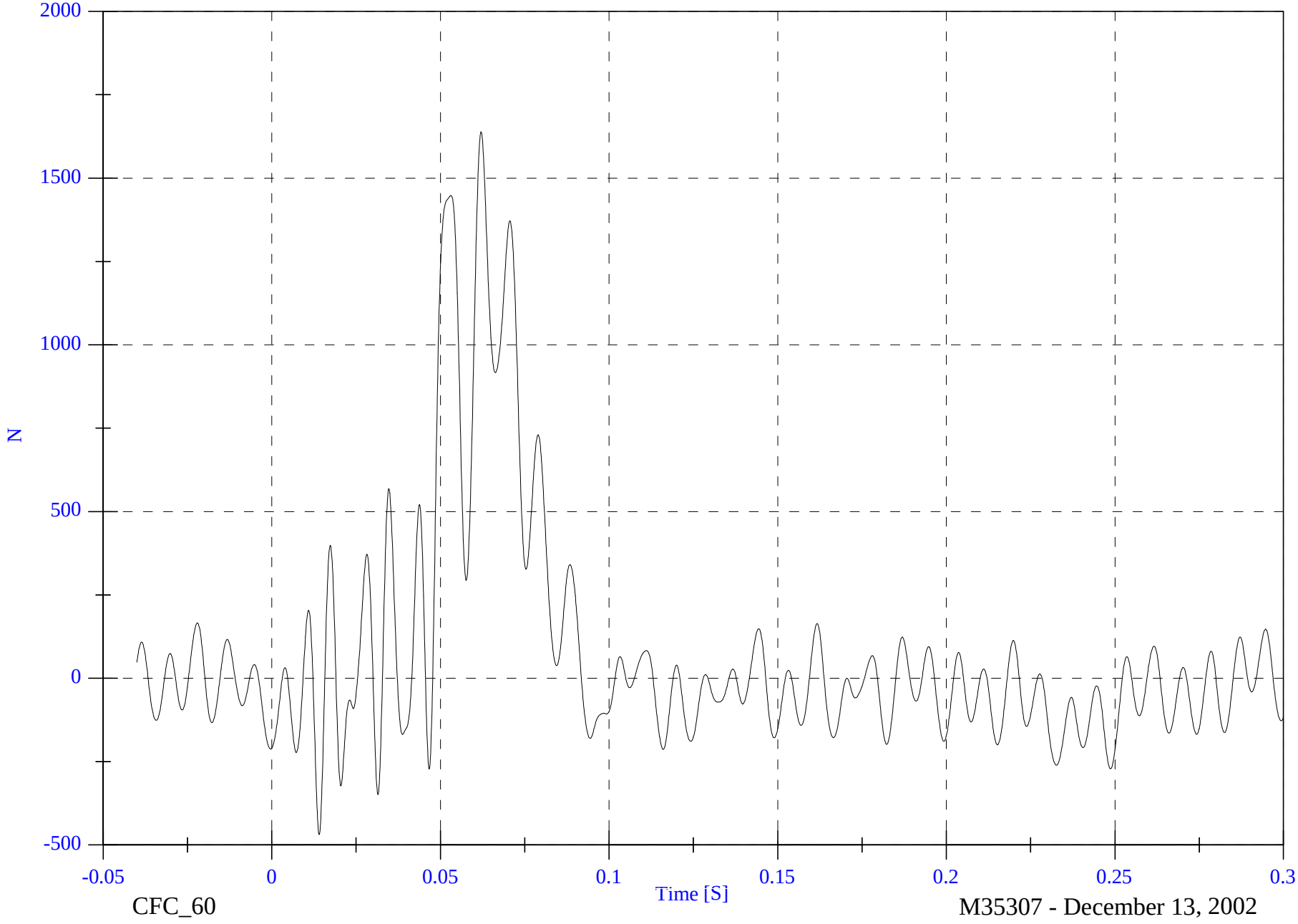
CFC_60

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

Barrier Load Cell C9 Fx

Max: 1638.7 [N] at 0.062 [S]
Min: -468.9 [N] at 0.014 [S]



B-157

8642-SNCAP-25

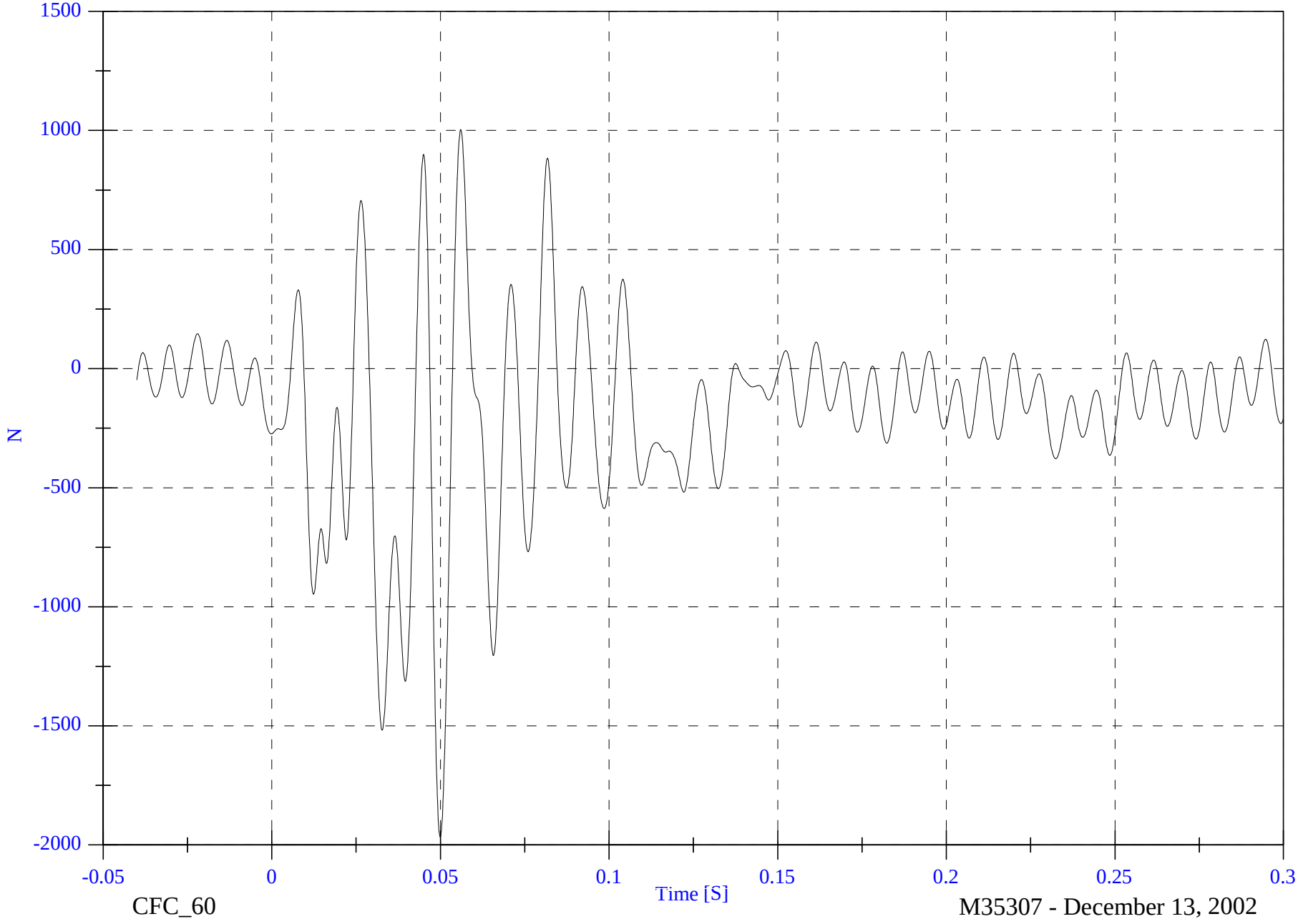
CFC_60

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

Barrier Load Cell D1 Fx

Max: 1004.0 [N] at 0.056 [S]
Min: -1967.2 [N] at 0.050 [S]



B-158

8642-SNCAP-25

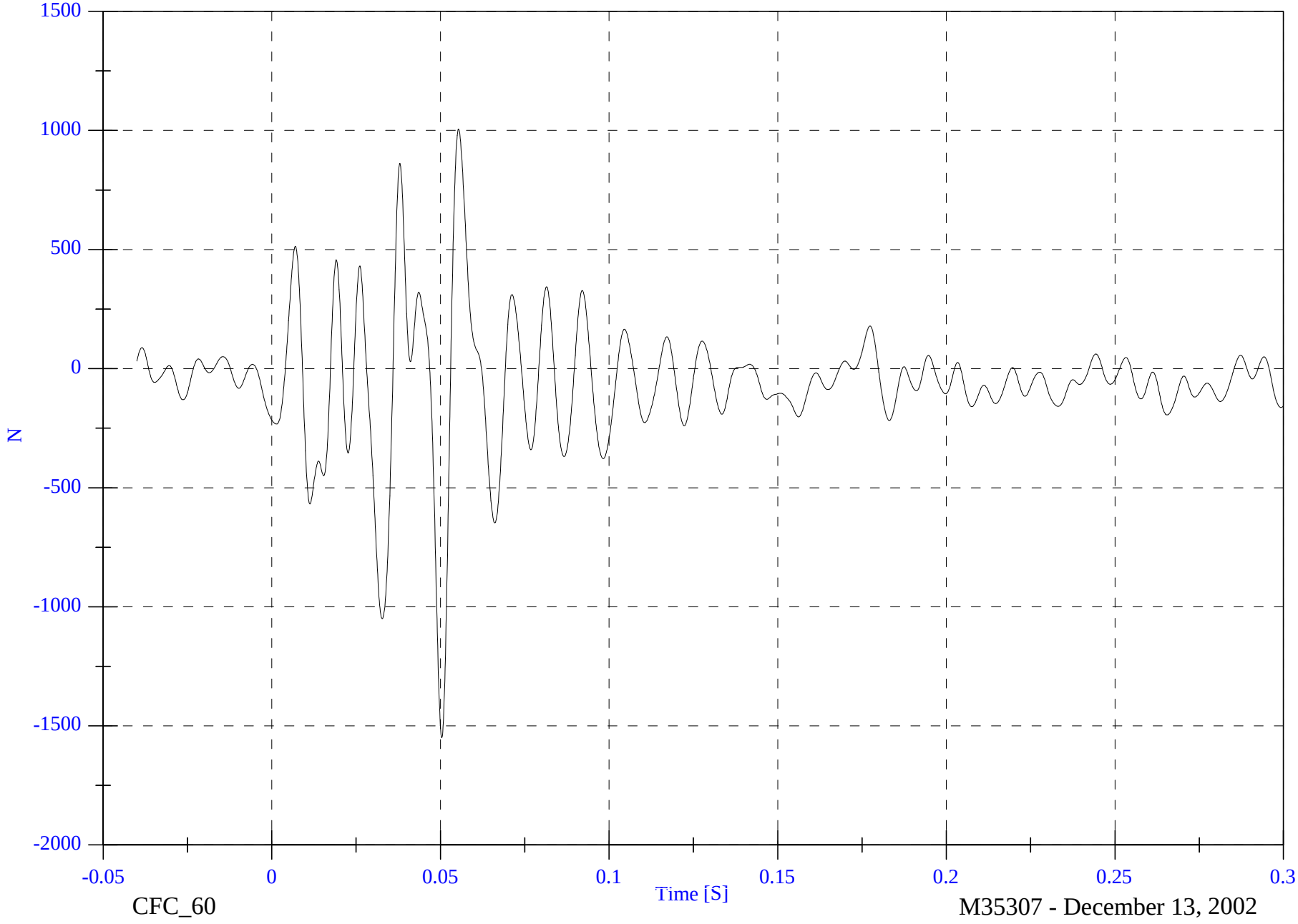
CFC_60

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

Barrier Load Cell D2 Fx

Max: 1005.8 [N] at 0.055 [S]
Min: -1549.7 [N] at 0.050 [S]



B-159

8642-SNCAP-25

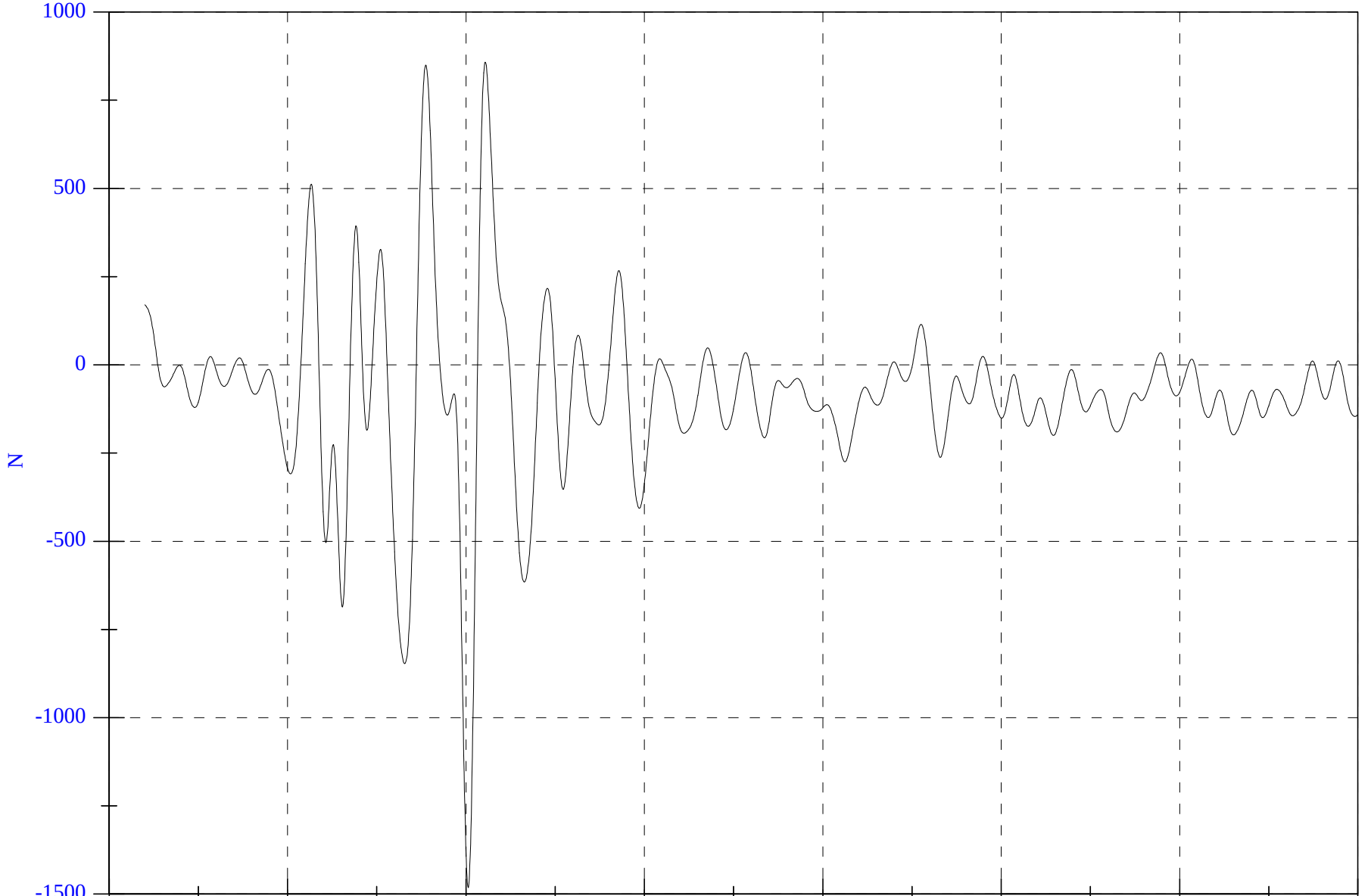
CFC_60

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

Barrier Load Cell D3 Fx

Max: 858.0 [N] at 0.055 [S]
Min: -1482.0 [N] at 0.051 [S]



B-160

8642-SNCAP-25

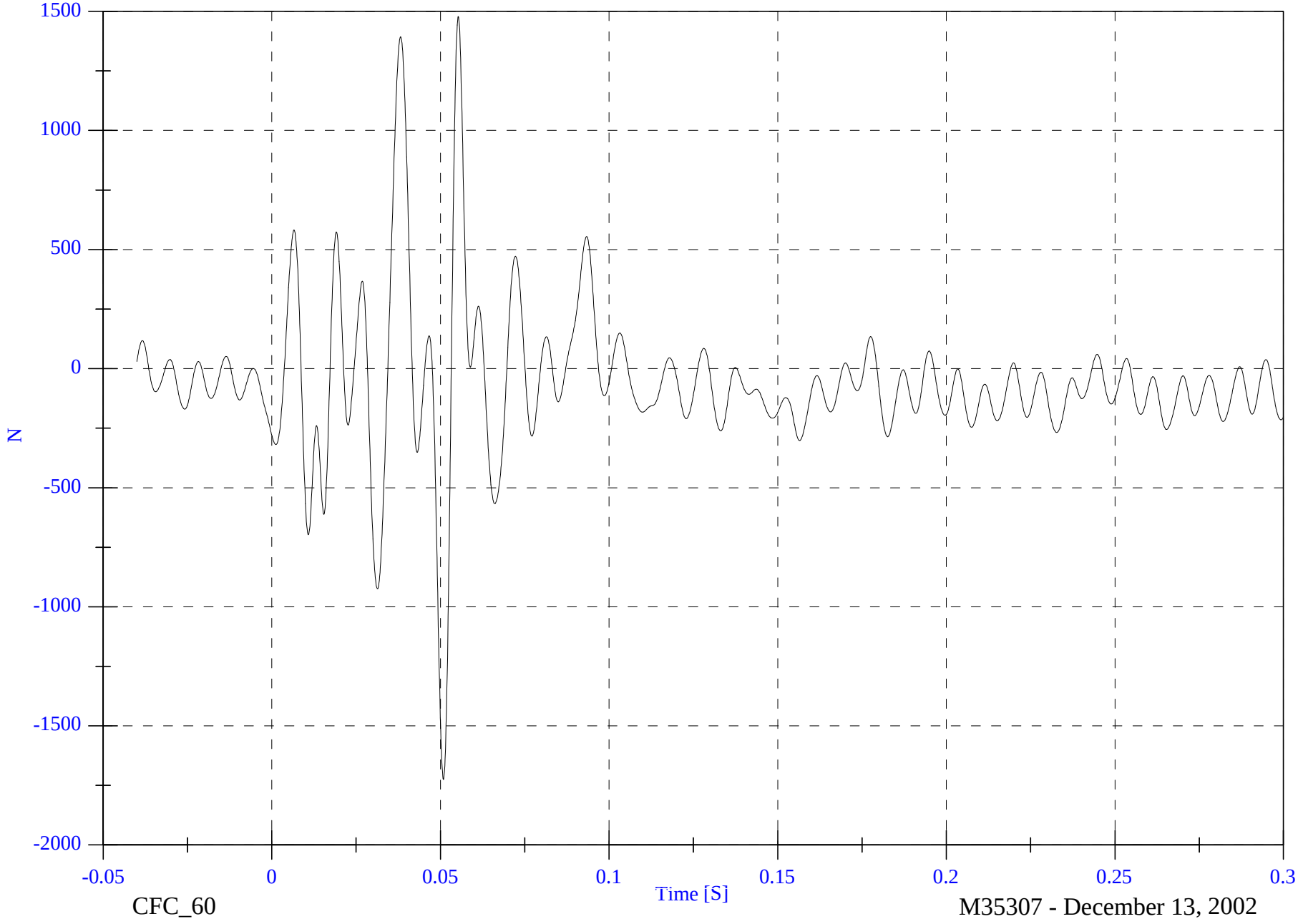
CFC_60

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

Barrier Load Cell D4 Fx

Max: 1479.2 [N] at 0.055 [S]
Min: -1725.6 [N] at 0.051 [S]



B-161

8642-SNCAP-25

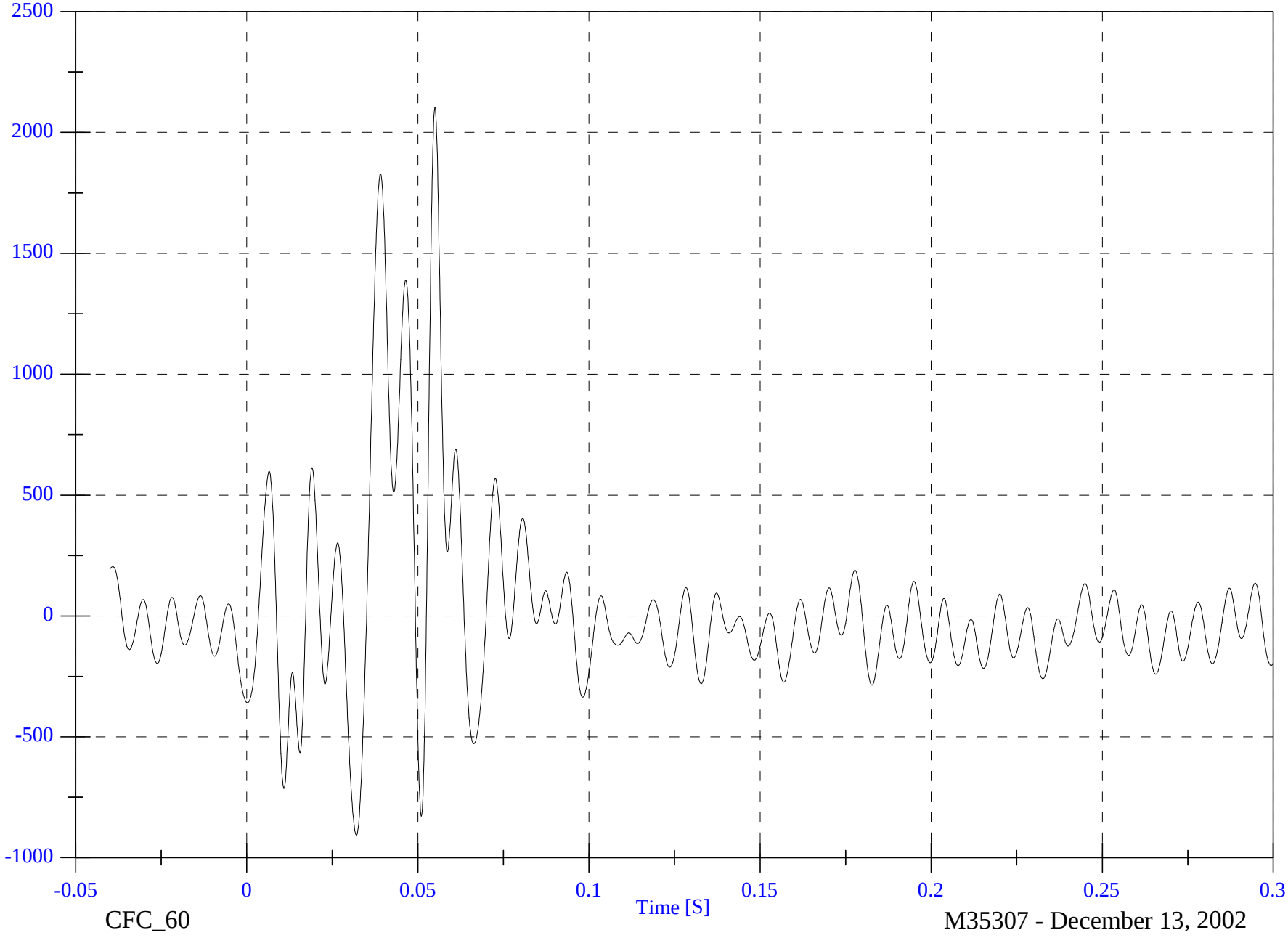
CFC_60

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

Barrier Load Cell D5 Fx

Max: 2105.6 [N] at 0.055 [S]
Min: -906.7 [N] at 0.032 [S]



B-162

8642-SNCAP-25

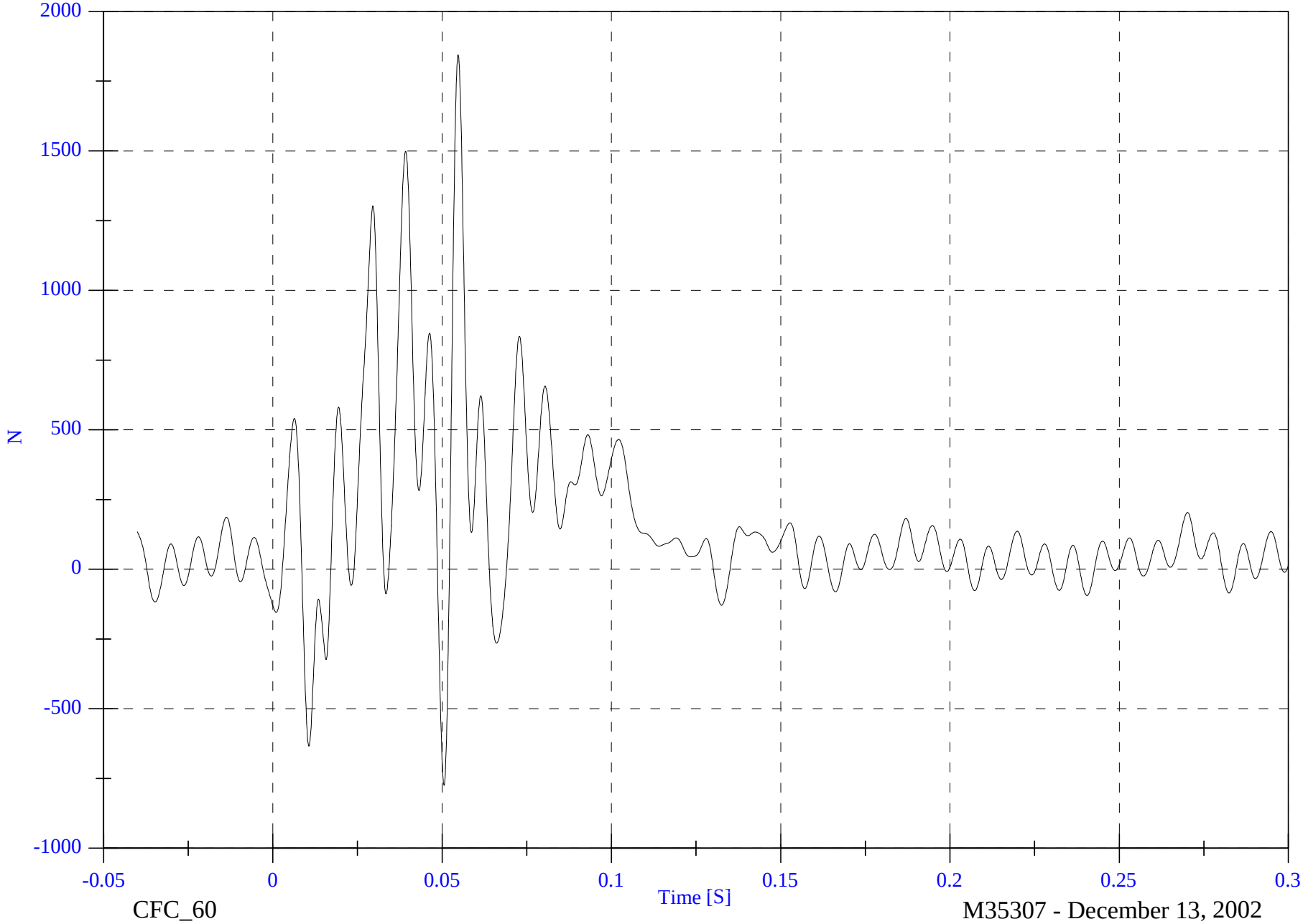
CFC_60

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

Barrier Load Cell D6 Fx

Max: 1844.5 [N] at 0.055 [S]
Min: -774.6 [N] at 0.051 [S]



B-163

8642-SNCAP-25

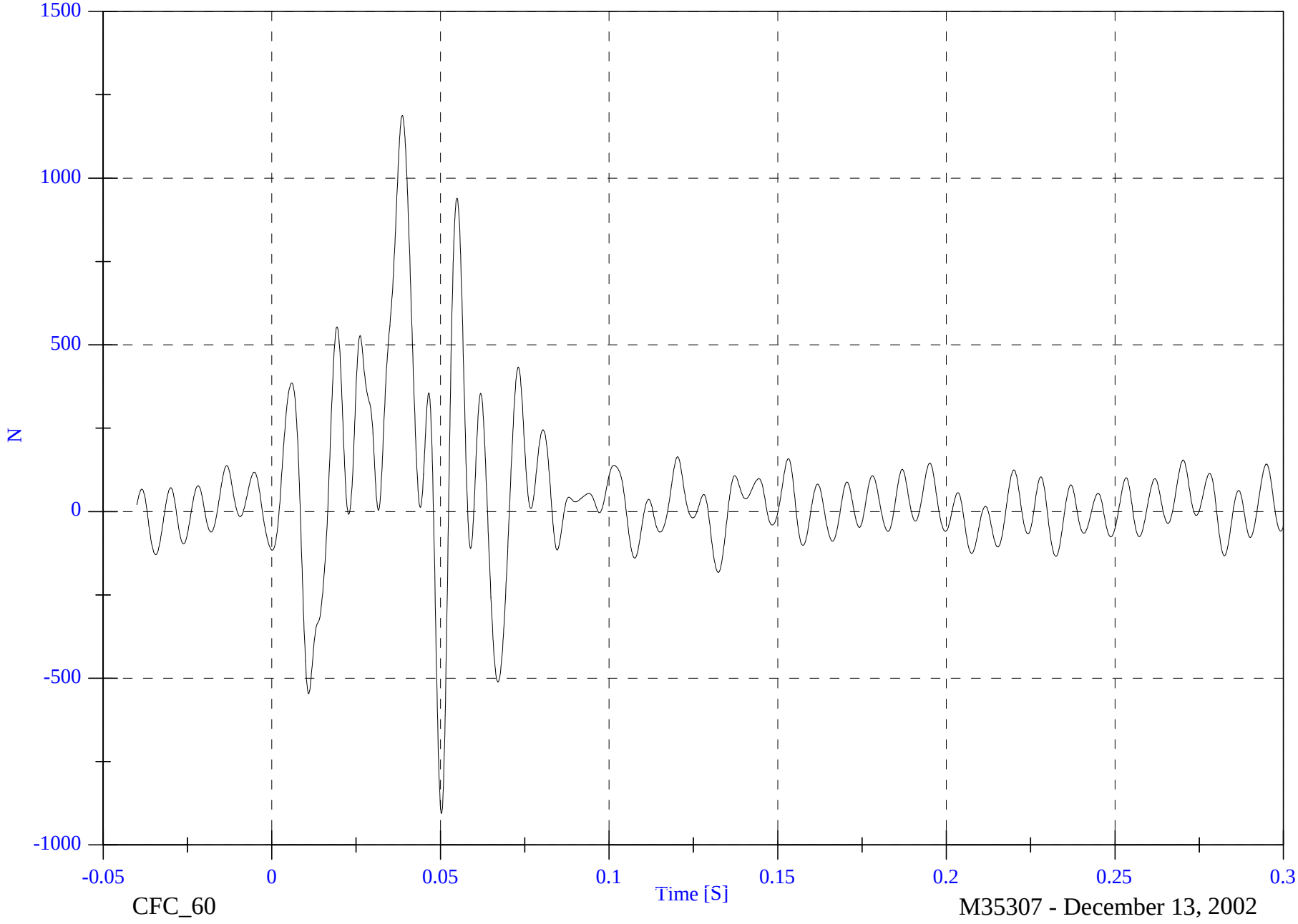
CFC_60

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

Barrier Load Cell D7 Fx

Max: 1188.0 [N] at 0.039 [S]
Min: -905.5 [N] at 0.050 [S]



B-164

8642-SNCAP-25

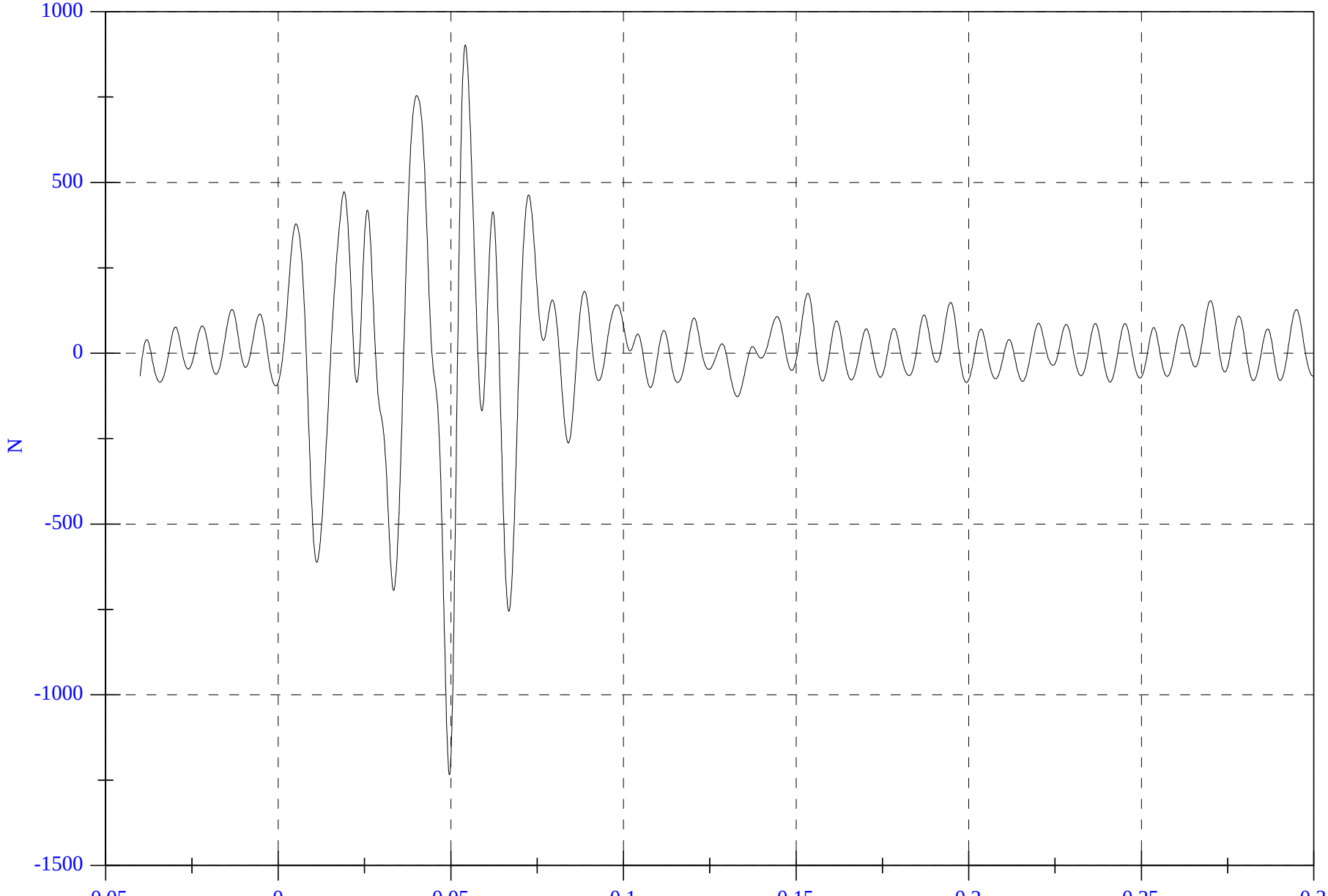
CFC_60

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

Barrier Load Cell D8 Fx

Max: 902.6 [N] at 0.054 [S]
Min: -1234.4 [N] at 0.050 [S]



B-165

8642-SNCAP-25

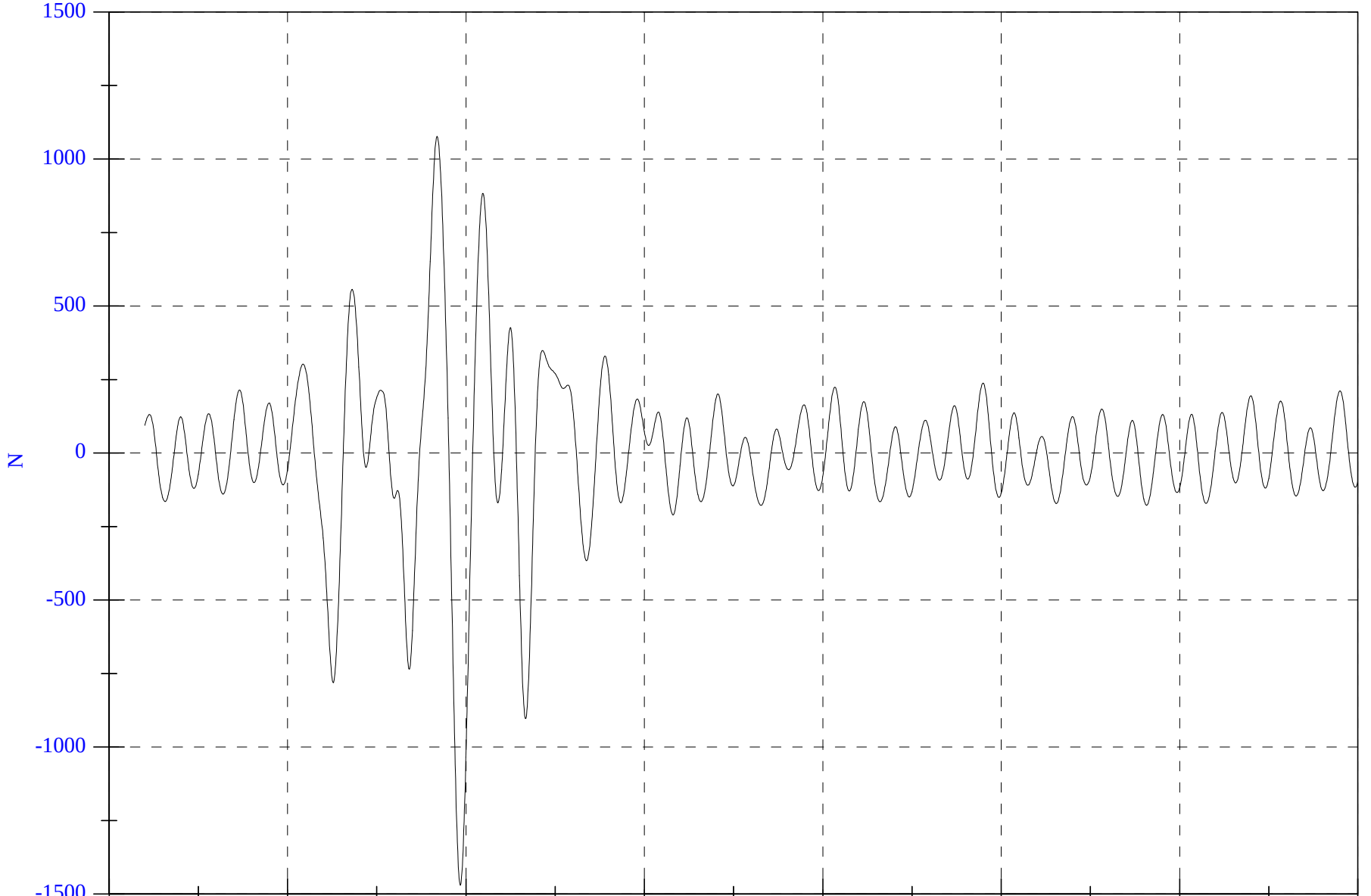
CFC_60

M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

Barrier Load Cell D9 Fx

Max: 1077.3 [N] at 0.042 [S]
Min: -1469.5 [N] at 0.048 [S]

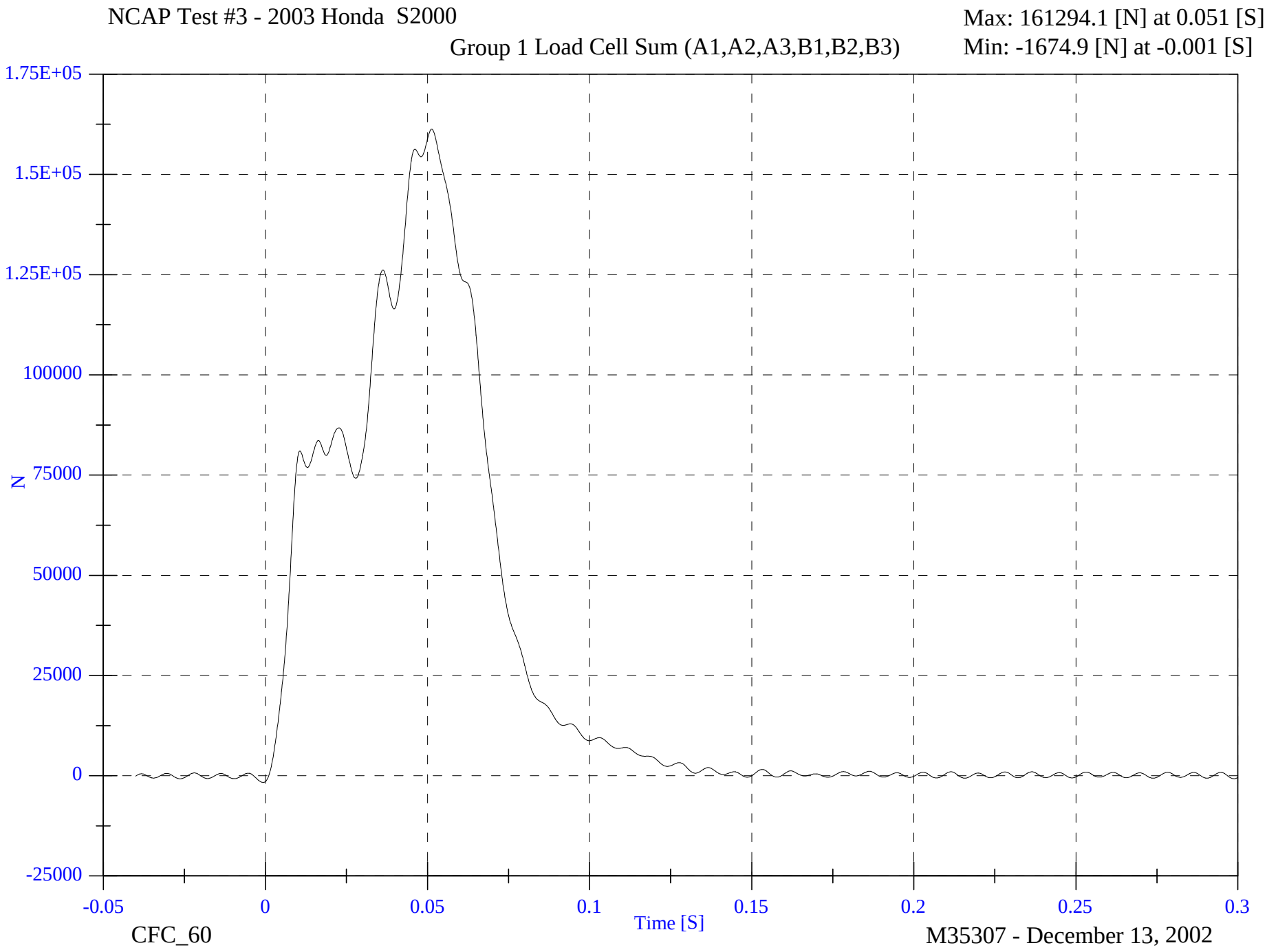


B-166

8642-SNCAP-25

CFC_60

M35307 - December 13, 2002

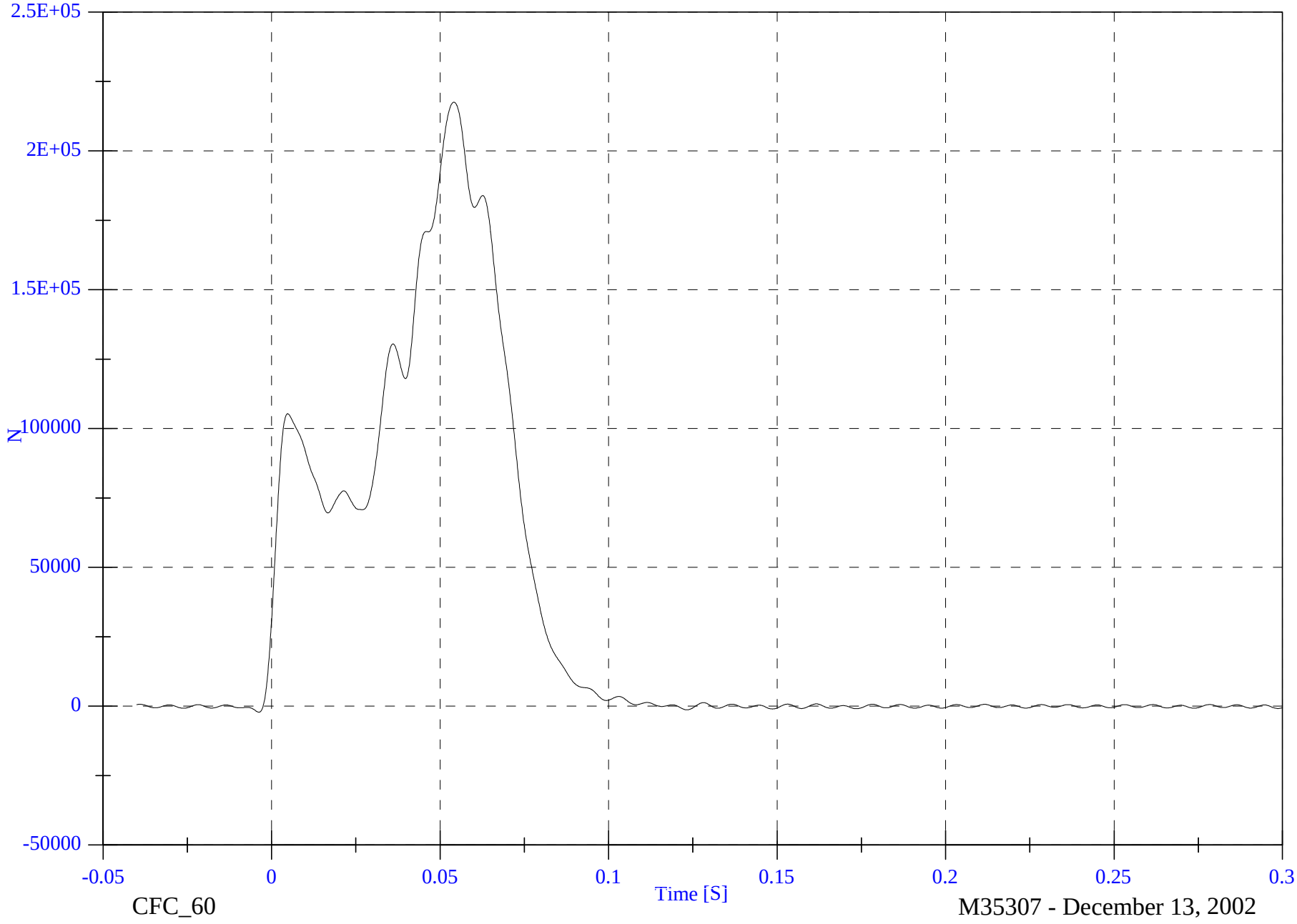

NCAP Test #3 - 2003 Honda S2000
Group 1 Load Cell Sum (A1,A2,A3,B1,B2,B3)
Max: 161294.1 [N] at 0.051 [S]
Min: -1674.9 [N] at -0.001 [S]
1.75E+05
1.5E+05
1.25E+05
100000
75000
50000
25000
0
-25000
N
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [S]
CFC_60
M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

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

Max: 217529.0 [N] at 0.054 [S]

Min: -2182.6 [N] at -0.004 [S]

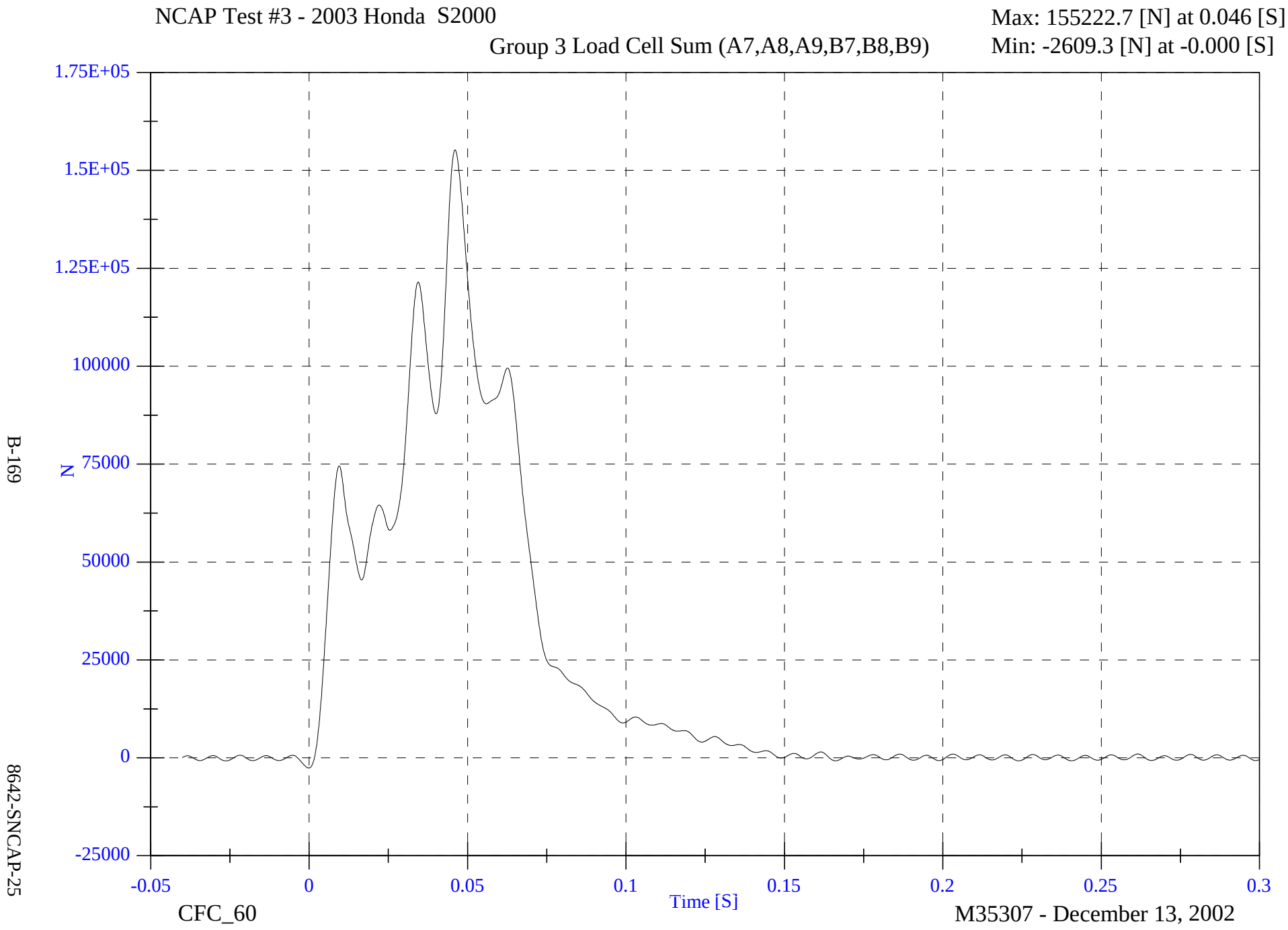


B-168

8642-SNCAP-25

CFC_60

M35307 - December 13, 2002

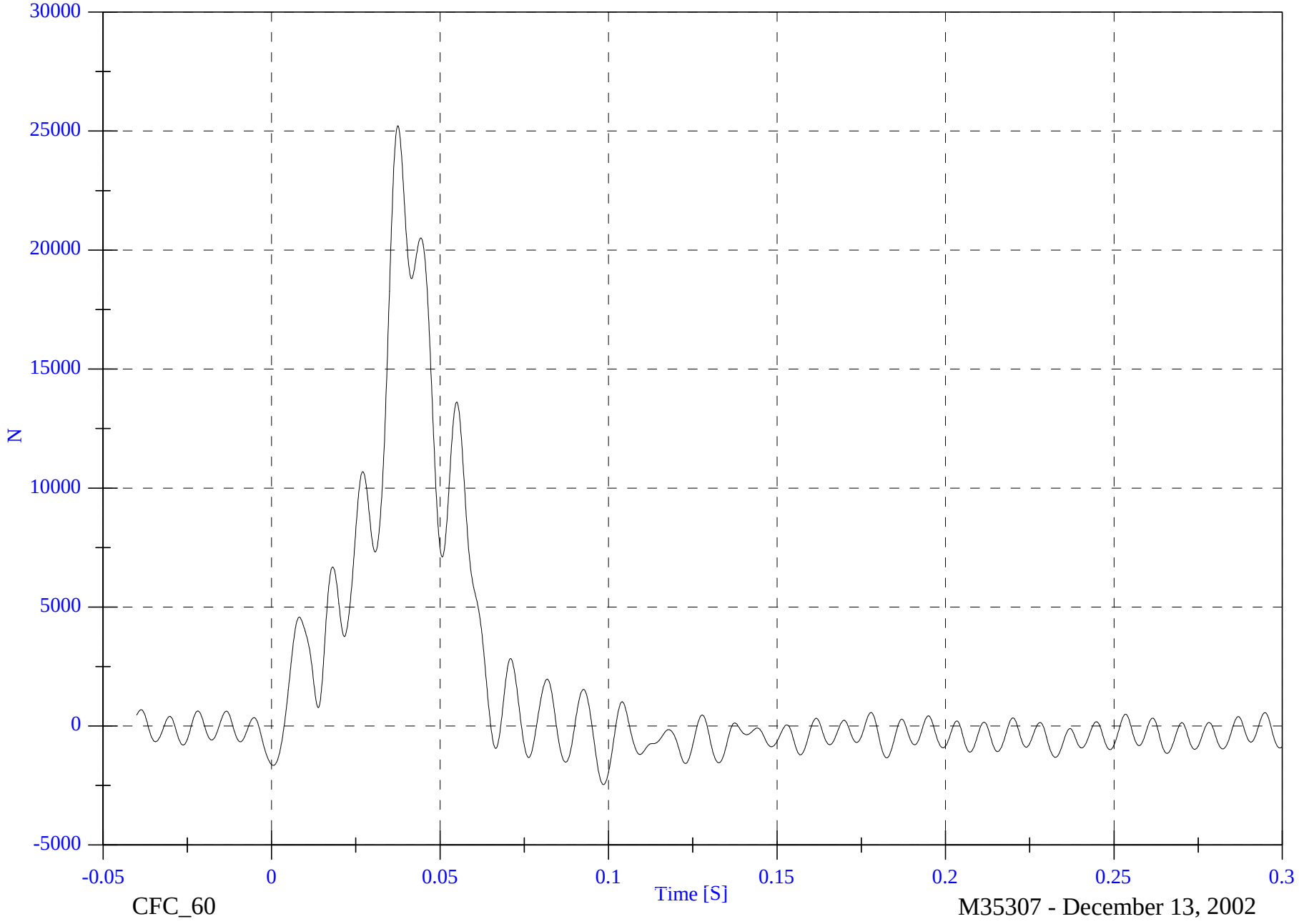

NCAP Test #3 - 2003 Honda S2000
Group 3 Load Cell Sum (A7,A8,A9,B7,B8,B9)
Max: 155222.7 [N] at 0.046 [S]
Min: -2609.3 [N] at -0.000 [S]
1.75E+05
1.5E+05
1.25E+05
100000
75000
50000
25000
0
-25000
N
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
Time [S]
CFC_60
M35307 - December 13, 2002
B-169
8642-SNCAP-25

NCAP Test #3 - 2003 Honda S2000

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

Max: 25224.0 [N] at 0.037 [S]

Min: -2462.8 [N] at 0.098 [S]



B-170

8642-SNCAP-25

CFC_60

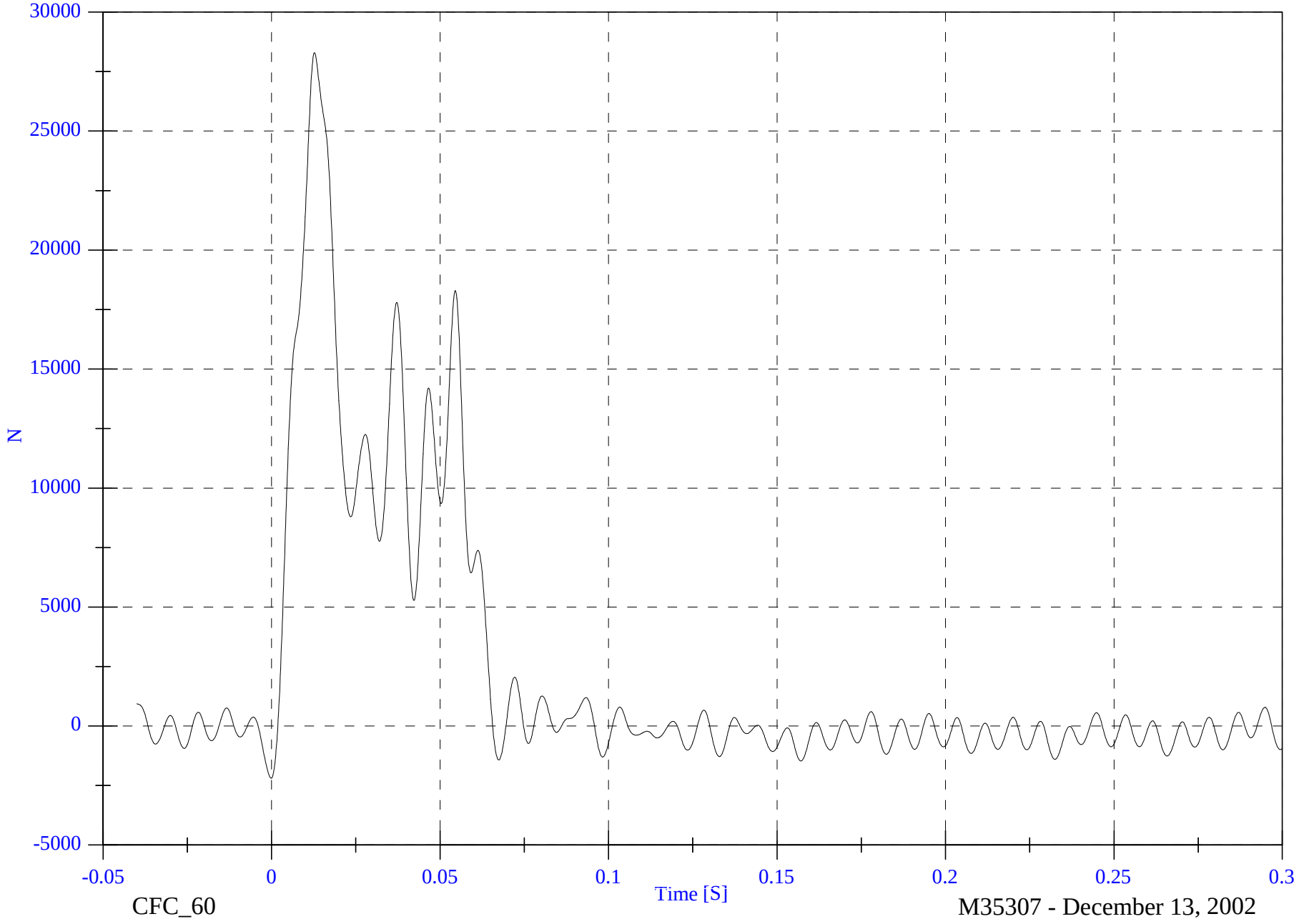
M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

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

Max: 28295.3 [N] at 0.013 [S]

Min: -2192.3 [N] at -0.000 [S]



B-171

8642-SNCAP-25

CFC_60

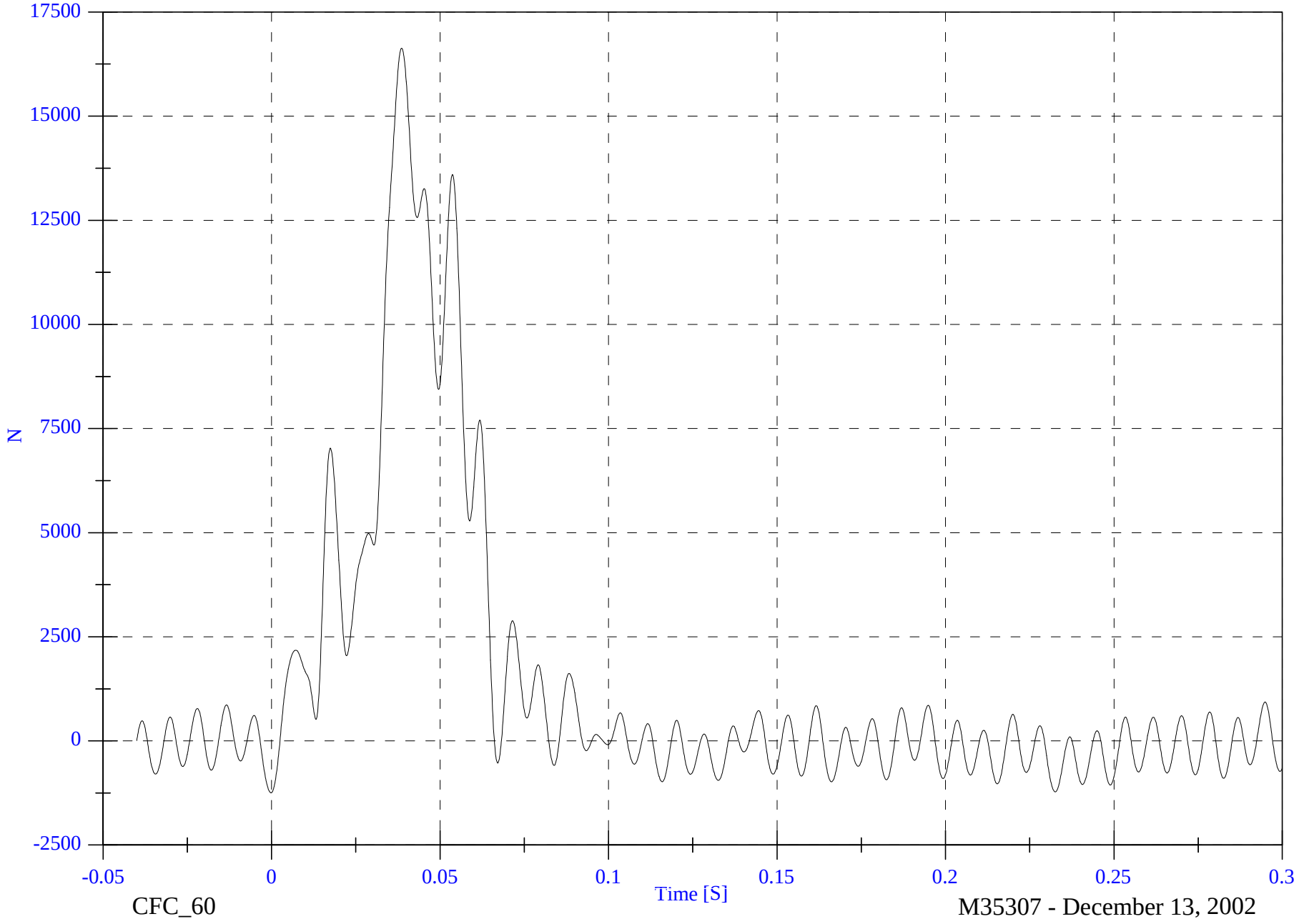
M35307 - December 13, 2002

NCAP Test #3 - 2003 Honda S2000

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

Max: 16630.9 [N] at 0.039 [S]

Min: -1246.4 [N] at -0.000 [S]



CFC_60

M35307 - December 13, 2002

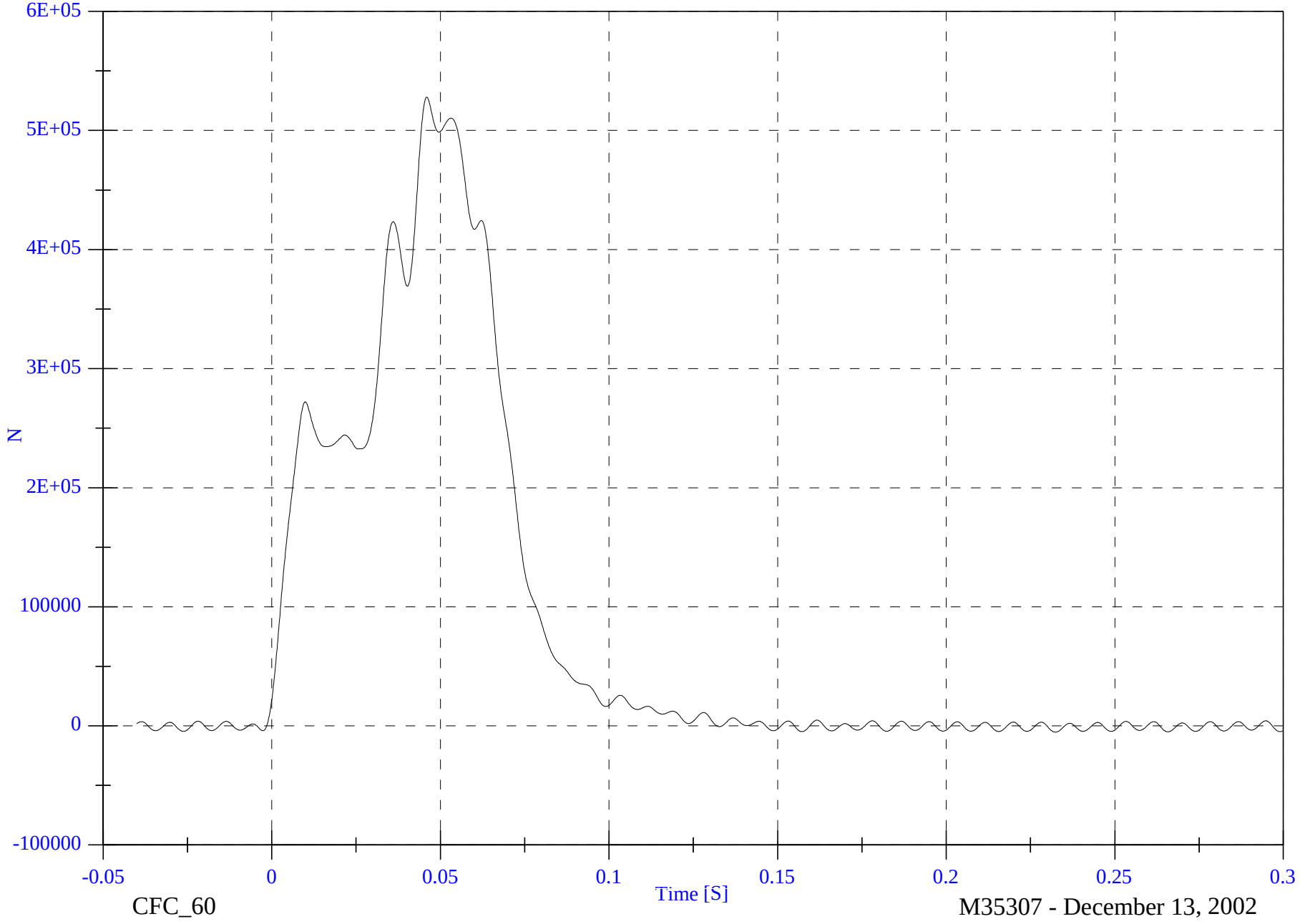
B-172

8642-SNCAP-25

NCAP Test #3 - 2003 Honda S2000

Total Load Cell Sum (All 6 Groups)

Max: 527958.1 [N] at 0.046 [S]
Min: -5276.5 [N] at 0.232 [S]



CFC_60

M35307 - December 13, 2002

B-173

8642-SNCAP-25

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.

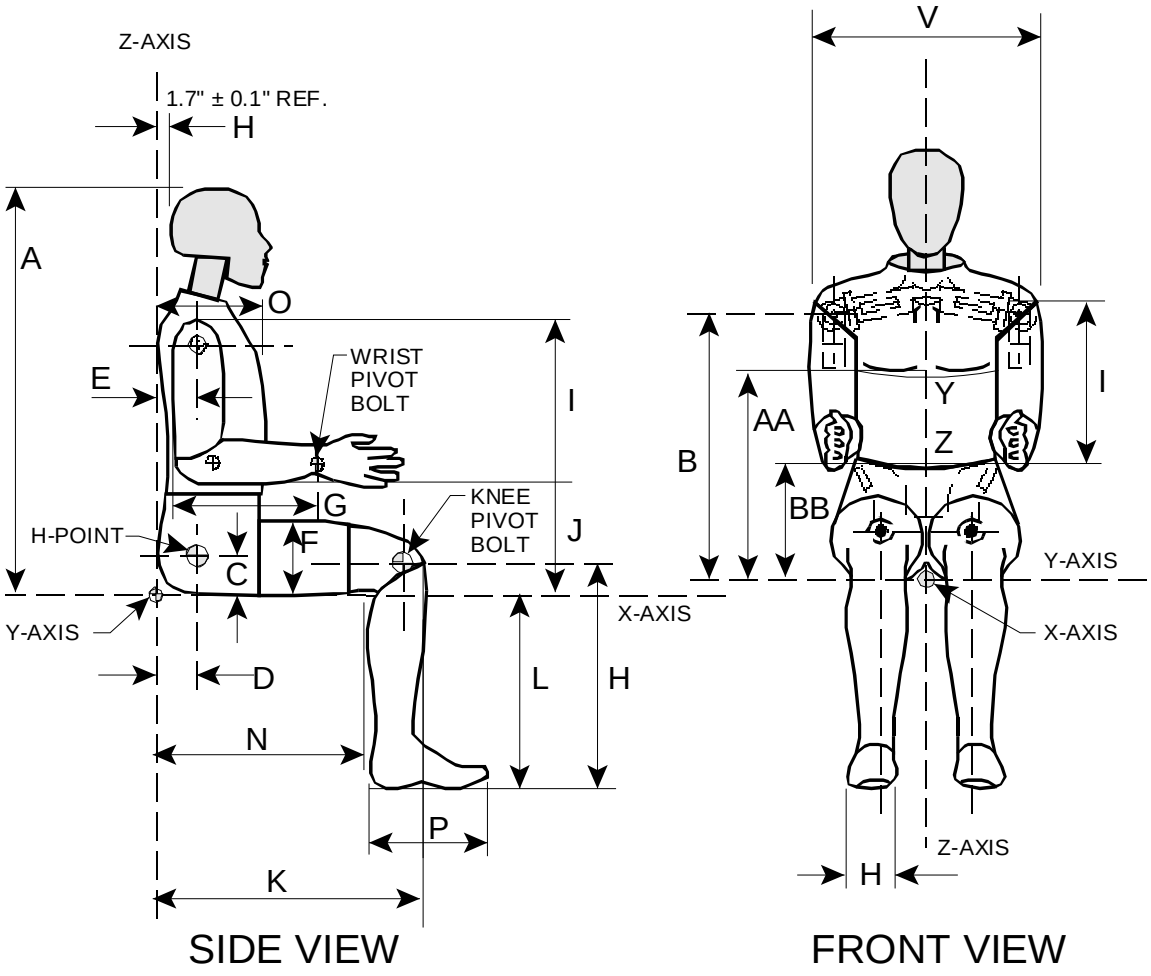
Dummy serial numbers and certification dates are:

Position No./Location	Serial No.	Completion Date
#1/Driver	150	December 11, 2002
#2/Right Front Passenger	245	December 11, 2002

Electronic Test Equipment

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

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	2
Date	December 5, 2002
Workfile	150H2 12-05-02

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	66-78 Deg F	69.0
Relative Humidity	10% - 70%	33.00
Peak Resultant Acceleration	225-275 G's	236.06
Peak Lateral Acceleration	15 G's Max	6.77
Is Acceleration Curve Unimodal?	YES	YES

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
NECK FLEXION TEST

Dummy Serial Number	150	
Sequential Test Number	13	
Date	December 6, 2002	6 Axis Neck Transducer
Workfile	150Flx13 12-06-02	

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	71.00
Relative Humidity		10% - 70%	35.00
Impact Velocity		22.60 - 23.40 Ft/s	22.63
Pendulum Deceleration	10 ms	22.50 - 27.50 G's	24.31
	20 ms	17.60 - 22.60 G's	21.34
	30 ms	12.50 - 18.50 G's	15.65
Max Pendulum G's Above 30 ms		29 G's Max	15.65
Deceleration - Time Curve Decay Time to 5 G's		34 - 42 ms	38.10
D Plane Rotation	Max	64 - 78 Deg	64.10
	Time	57 - 64 ms	58.20
Moment About Occipital Condyle	Max	65 - 80 Ft-Lbs	69.66
	Time	47 - 58 ms	51.20
Rotation Angle - Time Curve Decay Time to Zero		113 - 128 ms	113.10
Positive Moment - Time Curve Decay Time to Zero		97 - 107 ms	102.80

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
NECK EXTENSION TEST

Dummy Serial Number	150	
Sequential Test Number	1	
Date	December 6, 2002	6 Axis Neck Transducer
Workfile	150Ext 12-06-02	

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	71.00
Relative Humidity		10% - 70%	35.00
Impact Velocity		19.50 - 20.30 Ft/s	19.55
Pendulum Deceleration	10 ms	17.20 - 21.20 G's	19.19
	20 ms	14.00 - 19.00 G's	15.97
	30 ms	11.00 - 16.00 G's	13.08
Max Pendulum G's Above 30 ms		22 G's Max	13.95
Deceleration - Time Curve Decay Time to 5 G's		38 - 46 ms	40.40
D Plane Rotation	Max	81 - 106 Deg	86.04
	Time	72 - 82 ms	77.80
Moment About Occipital Condyle	Max	-59.0 - -39.0 Ft-Lbs	-47.39
	Time	65 - 79 ms	73.50
Rotation Angle - Time Curve Decay Time to Zero		147 - 174 ms	157.20
Positive Moment - Time Curve Decay Time to Zero		120 - 148 ms	140.10

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
THORAX IMPACT TEST

Dummy Serial Number	150
Sequential Test Number	1
Date	December 11, 2002
Workfile	150T 12-11-02

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	69-72 Deg F	70.0
Relative Humidity	10% - 70%	38.00
Pendulum Velocity	21.6 - 22.4 Ft/s	22.29
Maximum Deflection	2.50 - 2.86 in	2.56
Maximum Resistive Force	1160 - 1325 Lbs	1321.69
Internal Hysteresis	69 - 85 %	71.98

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
KNEE IMPACT TEST

Dummy Serial Number	150
Sequential Test Number	2; 1
Date	December 11, 2002
Workfile	150LF2 12-11-02; 150RF 12-11-02

TEST PARAMETER	SPECIFICATION	TEST RESULTS
LEFT KNEE		
Temperature	66 - 78 Deg F	68.0
Relative Humidity	10% - 70%	35.00
Probe Velocity	6.8 - 7.0 Ft/s	7.00
Peak Knee Impact Force	1060 - 1300 Lbs	1242.79
RIGHT KNEE		
Temperature	66 - 78 Deg F	68.0
Relative Humidity	10% - 70%	35.00
Probe Velocity	6.8 - 7.0 Ft/s	7.00
Peak Knee Impact Force	1060 - 1300 Lbs	1205.93

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
EXTERNAL DIMENSIONS

Dummy Serial Number 150
Sequential Test Number 1
Date December 11, 2002

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature			70
Relative Humidity			39
Location for Chest Circumference	AA	16.9 -17.1 in	17.0
Location for Waist Circumference	BB	8.9 - 9.1 in	9.0
Chest Circumference (With Jacket)	Y	38.2 - 39.4 in	39.2
Waist Circumference	Z	32.9 - 34.1 in	34.0
Chest Depth	O	8.4 - 9.0 in	8.4
H-Point Height	C	3.3 - 3.5 in	3.4
H-Point from Backline	D	5.3 - 5.5 in	5.4
Skull Cap to Backline	H	1.6 - 1.8 in	1.7
Total Sitting Height	A	34.6 - 35.0 in	34.8
Thigh Clearance	F	5.5 - 6.1 in	5.8
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	December 9, 2002
Workfile	245H1 12-9-02

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	66-78 Deg F	69.0
Relative Humidity	10% - 70%	35.00
Peak Resultant Acceleration	225-275 G's	236.36
Peak Lateral Acceleration	15 G's Max	6.67
Is Acceleration Curve Unimodal?	YES	YES

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
NECK FLEXION TEST

Dummy Serial Number	245	
Sequential Test Number	2	
Date	December 9, 2002	6 Axis Neck Transducer
Workfile	245Flx2 12-09-02	

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	69.00
Relative Humidity		10% - 70%	35.00
Impact Velocity		22.60 - 23.40 Ft/s	23.13
Pendulum Deceleration	10 ms	22.50 - 27.50 G's	24.71
	20 ms	17.60 - 22.60 G's	22.46
	30 ms	12.50 - 18.50 G's	17.69
Max Pendulum G's Above 30 ms		29 G's Max	17.69
Deceleration - Time Curve Decay Time to 5 G's		34 - 42 ms	39.40
D Plane Rotation	Max	64 - 78 Deg	74.63
	Time	57 - 64 ms	63.40
Moment About Occipital Condyle	Max	65 - 80 Ft-Lbs	66.29
	Time	47 - 58 ms	52.70
Rotation Angle - Time Curve Decay Time to Zero		113 - 128 ms	125.20
Positive Moment - Time Curve Decay Time to Zero		97 - 107 ms	97.00

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
NECK EXTENSION TEST

Dummy Serial Number	245	
Sequential Test Number	1	
Date	December 9, 2002	6 Axis Neck Transducer
Workfile	245Ext1 12-09-02	

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	70.00
Relative Humidity		10% - 70%	35.00
Impact Velocity		19.50 - 20.30 Ft/s	19.67
Pendulum Deceleration	10 ms	17.20 - 21.20 G's	17.70
	20 ms	14.00 - 19.00 G's	15.86
	30 ms	11.00 - 16.00 G's	12.78
Max Pendulum G's Above 30 ms		22 G's Max	12.78
Deceleration - Time Curve Decay Time to 5 G's		38 - 46 ms	43.50
D Plane Rotation	Max	81 - 106 Deg	84.72
	Time	72 - 82 ms	76.00
Moment About Occipital Condyle	Max	-59.0 - -39.0 Ft-Lbs	-46.11
	Time	65 - 79 ms	67.20
Rotation Angle - Time Curve Decay Time to Zero		147 - 174 ms	150.90
Positive Moment - Time Curve Decay Time to Zero		120 - 148 ms	133.70

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
THORAX IMPACT TEST

Dummy Serial Number	245
Sequential Test Number	1
Date	December 11, 2002
Workfile	245T 12-11-02

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	69-72 Deg F	70.0
Relative Humidity	10% - 70%	38.00
Pendulum Velocity	21.6 - 22.4 Ft/s	22.23
Maximum Deflection	2.50 - 2.86 in	2.58
Maximum Resistive Force	1160 - 1325 Lbs	1259.15
Internal Hysteresis	69 - 85 %	73.65

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
KNEE IMPACT TEST

Dummy Serial Number	245
Sequential Test Number	1; 1
Date	December 11, 2002
Workfile	245LF 12-11-02; 245RF 12-11-02

TEST PARAMETER	SPECIFICATION	TEST RESULTS
LEFT KNEE		
Temperature	66 - 78 Deg F	68.0
Relative Humidity	10% - 70%	32.00
Probe Velocity	6.8 - 7.0 Ft/s	7.00
Peak Knee Impact Force	1060 - 1300 Lbs	1207.03
RIGHT KNEE		
Temperature	66 - 78 Deg F	68.0
Relative Humidity	10% - 70%	35.00
Probe Velocity	6.8 - 7.0 Ft/s	7.00
Peak Knee Impact Force	1060 - 1300 Lbs	1091.07

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
EXTERNAL DIMENSIONS

Dummy Serial Number 245
Sequential Test Number 1
Date December 11, 2002

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature			70
Relative Humidity			39
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	39.4
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	34.8
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	X	ENDEVCO	AC-P16832	8/22/2002	2/20/2003
	Y	ENDEVCO	AC-P16591	8/22/2002	2/20/2003
	Z	ENDEVCO	AC-P16286	8/22/2002	2/20/2003
Head	X (R)	ENDEVCO	AC-P17141	8/22/2002	2/20/2003
	Y (R)	ENDEVCO	AC-P17242	8/22/2002	2/20/2003
	Z (R)	ENDEVCO	AC-P17152	8/22/2002	2/20/2003
Neck Load Cell	X	DENTON	LC-441FX	10/14/2002	4/14/2003
	Y	DENTON	LC-441FY	10/14/2002	4/14/2003
	Z	DENTON	LC-441FZ	10/14/2002	4/14/2003
Neck Moment	X	DENTON	LC-441MX	10/14/2002	4/14/2003
	Y	DENTON	LC-441MY	10/14/2002	4/14/2003
	Z	DENTON	LC-441MZ	10/14/2002	4/14/2003
Chest	X	ENDEVCO	AC-P17235	8/22/2002	2/20/2003
	Y	ENDEVCO	AC-P14393	8/22/2002	2/20/2003
	Z	ENDEVCO	AC-P17285	8/22/2002	2/20/2003
Chest	X (R)	ENDEVCO	AC-P16863	8/22/2002	2/20/2003
	Y (R)	ENDEVCO	AC-P17248	8/22/2002	2/20/2003
	Z (R)	ENDEVCO	AC-P17283	8/22/2002	2/20/2003
Chest Deflection	X	SERVO	DS-150	9/24/2002	3/25/2003
Pelvic	X	ENDEVCO	AC-J30041	8/22/2002	2/20/2003
	Y	ENDEVCO	AC-P13355	8/22/2002	2/20/2003
	Z	ENDEVCO	AC-P13329	8/22/2002	2/20/2003

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	9/25/2002	3/26/2003
Right Femur Load Cell	Fz	GSE	LC-419	9/25/2002	3/26/2003
Left Upper Tibia	Mx	DENTON	LC-265MX	6/24/2002	12/23/2002
	My	DENTON	LC-265MY	6/24/2002	12/23/2002
Left Lower Tibia	Fz	DENTON	LC-178FZ	10/24/2002	4/24/2003
	Mx	DENTON	LC-178MX	10/24/2002	4/24/2003
	My	DENTON	LC-178MY	10/24/2002	4/24/2003
Right Upper Tibia	Mx	DENTON	LC-199MX	10/24/2002	4/24/2003
	My	DENTON	LC-199MY	10/24/2002	4/24/2003
Right Lower Tibia	Fz	DENTON	LC-128FZ	10/24/2002	4/24/2003
	Mx	DENTON	LC-128MX	10/24/2002	4/24/2003
	My	DENTON	LC-128MY	10/24/2002	4/24/2003
Left Foot Rear	X	ENDEVCO	AC-J19868	8/22/2002	2/20/2003
	Z	ENDEVCO	AC-AJ8C0	8/22/2002	2/20/2003
Left Foot Front	Z	ENDEVCO	AC-J34378	8/22/2002	2/20/2003
Right Foot Rear	X	ENDEVCO	AC-AJ7F6	8/22/2002	2/20/2003
	Z	ENDEVCO	AC-J27079	8/22/2002	2/20/2003
Right Foot Front	Z	ENDEVCO	AC-J23997	8/22/2002	2/20/2003
Lap Belt Load Cell		LEBOW	LC-706	11/12/2002	5/13/2003

INSTRUMENT CALIBRATION FOR PASSENGER DUMMY
(Six Month Calibration Minimum)

PASSENGER DUMMY (S/N 245)		Manufacturer	Serial #	Calibration	
				Last	Next
Head	X	ENDEVCO	AC-P19216	8/6/2002	2/4/2003
	Y	ENDEVCO	AC-P15534	8/6/2002	2/4/2003
	Z	ENDEVCO	AC-P23303	8/6/2002	2/4/2003
Head	X (R)	ENDEVCO	AC-P16576	8/6/2002	2/4/2003
	Y (R)	ENDEVCO	AC-P15526	8/6/2002	2/4/2003
	Z (R)	ENDEVCO	AC-P19255	8/6/2002	2/4/2003
Neck Load Cell	X	DENTON	LC-076FX	10/15/2002	4/15/2003
	Y	DENTON	LC-076FY	10/15/2002	4/15/2003
	Z	DENTON	LC-076FZ	10/15/2002	4/15/2003
Neck Moment	X	DENTON	LC-076MX	10/15/2002	4/15/2003
	Y	DENTON	LC-076MY	10/15/2002	4/15/2003
	Z	DENTON	LC-076MZ	10/15/2002	4/15/2003
Chest	X	ENTRAN	AC-01G18-F03	8/23/2002	2/21/2003
	Y	ENTRAN	AC-01G18-F07	8/23/2002	2/21/2003
	Z	ENTRAN	AC-01J02-F09	8/23/2002	2/21/2003
Chest	X (R)	ENTRAN	AC-01G18-F18	8/23/2002	2/21/2003
	Y (R)	ENTRAN	AC-01G18-F10	8/23/2002	2/21/2003
	Z (R)	ENTRAN	AC-01G18-F09	8/23/2002	2/21/2003
Chest Deflection	X	SERVO	DS-245	10/11/2002	4/11/2003
Pelvic	X	ENDEVCO	AC-J31034	8/28/2002	2/26/2003
	Y	ENDEVCO	AC-P17258	8/28/2002	2/26/2003
	Z	ENDEVCO	AC-J31010	8/28/2002	2/26/2003

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	9/25/2002	3/26/2003
Right Femur Load Cell	Fz	GSE	LC-951	9/25/2002	3/26/2003
Left Upper Tibia	Mx	DENTON	LC-200MX	10/24/2002	4/24/2003
	My	DENTON	LC-200MY	10/24/2002	4/24/2003
Left Lower Tibia	Fz	DENTON	LC-129FZ	10/24/2002	4/24/2003
	Mx	DENTON	LC-129MX	10/24/2002	4/24/2003
	My	DENTON	LC-129MY	10/24/2002	4/24/2003
Right Upper Tibia	Mx	DENTON	LC-264MX	10/24/2002	4/24/2003
	My	DENTON	LC-264MY	10/24/2002	4/24/2003
Right Lower Tibia	Fz	DENTON	LC-177FZ	10/24/2002	4/24/2003
	Mx	DENTON	LC-177MX	10/24/2002	4/24/2003
	My	DENTON	LC-177MY	10/24/2002	4/24/2003
Left Foot Rear	X	ENDEVCO	AC-J18059	8/27/2002	2/25/2003
	Z	ENDEVCO	AC-J18662	8/27/2002	2/25/2003
Left Foot Front	Z	ENDEVCO	AC-J36176	8/27/2002	2/25/2003
Right Foot Rear	X	ENDEVCO	AC-J20084	8/27/2002	2/25/2003
	Z	ENDEVCO	AC-J28727	8/27/2002	2/25/2003
Right Foot Front	Z	ENDEVCO	AC-J18738	8/27/2002	2/25/2003
Lap Belt Load Cell		LEBOW	LC-707	11/12/2002	5/13/2003

INSTRUMENT CALIBRATION FOR VEHICLE ACCELEROMETERS
(Six Month Calibration Minimum)

	Manufacturer	Serial #	Calibration	
			Last	Next
Left Seat Rear Crossmember X	ICS	AC-8062-003	11/11/2002	5/12/2003
Right Rear Seat Crossmember X	ICS	AC-8084-020	11/20/2002	5/21/2003
Top of Engine	ENDEVCO	AC-P24011	10/4/2002	4/4/2003
Bottom of Engine	ENDEVCO	AC-P18728	10/1/2002	4/1/2003
Right Disc Brake Caliper	ENDEVCO	AC-J32098	7/30/2002	1/28/2003
Instrument Panel	ENDEVCO	AC-P17535	8/6/2002	2/4/2003
Left Disc Brake Caliper	ENDEVCO	AC-J32791	9/18/2002	3/19/2003
Left Seat Rear Crossmember Z	ICS	AC-8083-028	11/11/2002	5/12/2003
Right Seat Rear Crossmember Z	ICS	AC-6917-012	11/11/2002	5/12/2003