

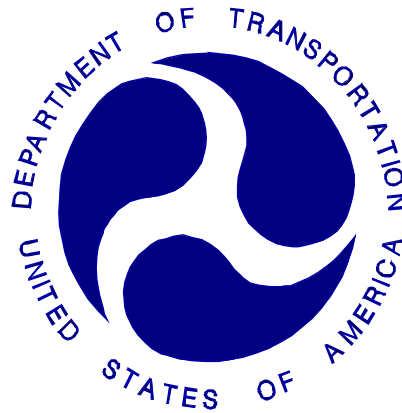
REPORT NUMBER: 214-CAL-02-04

**SAFETY COMPLIANCE TESTING FOR FMVSS 214  
SIDE IMPACT PROTECTION  
INDICANT**

ISUZU MOTORS LIMITED  
2002 ISUZU AXIOM  
MPV

NHTSA NUMBER: C25701

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



January 11, 2002

FINAL REPORT

U. S. DEPARTMENT OF TRANSPORTATION  
National Highway Traffic Safety Administration  
Safety Assurance  
Office of Vehicle Safety Compliance  
400 Seventh Street, SW  
Room 6111 (NSA-30)  
Washington, DC 20590

This Final Test Report was prepared for the U.S. Department of Transportation, National Highway Traffic Safety Administration, under Contract No. DTNH22-97-C-01033. This publication is distributed by the U.S. Department of Transportation, National Highway Traffic Safety Administration, in the interest of information exchange. The opinions, findings and conclusions expressed in this publication are those of the author(s) and not necessarily those of the Department of Transportation or the National Highway Traffic Safety Administration. The United States Government assumes no liability for its contents or use thereof. If trade or manufactures' names or products are mentioned, it is only because they are considered essential to the object of the publication and should not be construed as an endorsement. The United States Government does not endorse products or manufacturers.

Prepared By:

\_\_\_\_\_  
Lawrence Q. Valvo, Project Engineer

Approved By:

\_\_\_\_\_  
David J. Travale, Program Manager  
Transportation Sciences Center

Approval Date:

\_\_\_\_\_

FINAL REPORT ACCEPTANCE BY:

Accepted By:

\_\_\_\_\_

Acceptance Date:

\_\_\_\_\_

**TECHNICAL REPORT STANDARD TITLE PAGE**

1. Report No. 214-CAL-02-04	2. Government Accession No.	3. Recipient's Catalog No.																															
4. Title and Subtitle Final Report of FMVSS 214 Compliance Side Impact Testing of a 2002 Isuzu Axiom MPV NHTSA No.: C25701		5. Report Date January 11, 2002	6. Performing Organization Code CAL																														
		8. Performing Organization Report No.																															
7. Author(s) Lawrence Q. Valvo, Project Engineer David J. Travale, Program Manager		10. Work Unit No.																															
9. Performing Organization Name and Address Veridian Engineering Transportation Sciences Center P.O. Box 400 Buffalo, New York 14225		11. Contract or Grant No. DTNH22-97-C-01033																															
		13. Type of Report and Period Covered Final Report, January 2002 - February 2002																															
12. Sponsoring Agency Name and Address U.S. Department of Transportation National Highway Traffic Safety Administration Office of Vehicle Safety Compliance 400 Seventh Street, SW, Room 6111 Washington, D.C. 20590		14. Sponsoring Agency Code NSA-30																															
		15. Supplementary Notes																															
16. Abstract <p>A 55/28 kph 90<sup>0</sup> Side Impact (Moving Deformable Barrier) Indicant Test was conducted on the subject Isuzu Axiom MPV. This test was performed at the New Car Assessment Program (NCAP) target test velocity of 62.0 kph, which is 8 kph faster than the target velocity required by the Office of Vehicle Safety Compliance's Laboratory Test Procedure (TP-214D-05, dated August 2, 1999). This test was conducted at the Veridian Engineering Crash Test Facility in Buffalo, New York, on January 11, 2002.</p> <p>The impact velocity of the Moving Deformable Barrier (MDB) was 62.0 kph, and the ambient temperature at the struck (driver's) side of the target vehicle at the time of impact was 21.1<sup>0</sup>C. The target vehicle post-test maximum crush was 282 mm at level 3.</p> <p>The test vehicle's performance follows:</p> <table border="0" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th style="text-align: center;"><u>Front SID</u></th> <th></th> <th style="text-align: center;"><u>Rear SID</u></th> <th></th> </tr> </thead> <tbody> <tr> <td>Left Upper Rib Acceleration (LUR):</td> <td style="text-align: center;">30.1</td> <td style="text-align: center;">g's</td> <td style="text-align: center;">32.4</td> <td style="text-align: center;">g's</td> </tr> <tr> <td>Left Lower Rib Acceleration (LLR):</td> <td style="text-align: center;">27</td> <td style="text-align: center;">g's</td> <td style="text-align: center;">38</td> <td style="text-align: center;">g's</td> </tr> <tr> <td>Lower Spine Acceleration (T<sub>12</sub>):</td> <td style="text-align: center;">31.5</td> <td style="text-align: center;">g's</td> <td style="text-align: center;">32.8</td> <td style="text-align: center;">g's</td> </tr> <tr> <td>Thoracic Trauma Index (TTI):</td> <td style="text-align: center;">31</td> <td style="text-align: center;">g's</td> <td style="text-align: center;">35</td> <td style="text-align: center;">g's</td> </tr> <tr> <td>Pelvis Acceleration (PEV):</td> <td style="text-align: center;">62</td> <td style="text-align: center;">g's</td> <td style="text-align: center;">38</td> <td style="text-align: center;">g's</td> </tr> </tbody> </table> <p>The two doors on the struck side of the vehicle did not separate from the body at the hinges or latches and the opposite doors did not open during the side impact event.</p>					<u>Front SID</u>		<u>Rear SID</u>		Left Upper Rib Acceleration (LUR):	30.1	g's	32.4	g's	Left Lower Rib Acceleration (LLR):	27	g's	38	g's	Lower Spine Acceleration (T <sub>12</sub> ):	31.5	g's	32.8	g's	Thoracic Trauma Index (TTI):	31	g's	35	g's	Pelvis Acceleration (PEV):	62	g's	38	g's
	<u>Front SID</u>		<u>Rear SID</u>																														
Left Upper Rib Acceleration (LUR):	30.1	g's	32.4	g's																													
Left Lower Rib Acceleration (LLR):	27	g's	38	g's																													
Lower Spine Acceleration (T <sub>12</sub> ):	31.5	g's	32.8	g's																													
Thoracic Trauma Index (TTI):	31	g's	35	g's																													
Pelvis Acceleration (PEV):	62	g's	38	g's																													
17. Key Words Compliance Testing Side Impact Protection FMVSS 214 Side Impact Dummy (SID)		18. Distribution Statement <u>Copies of this report are available from:</u> National Highway Traffic Safety Administration Technical Reference Division (TIS) Room 5108 (NAD-40) 400 Seventh St., S.W. Washington, D.C. 20590 Telephone No. (202) 366-4946																															
19. Security Classification of Report UNCLASSIFIED	20. Security Classification of Page UNCLASSIFIED	21. No. of Pages 276	22. Price																														

## TABLE OF CONTENTS

<u>Section</u>		<u>Page No.</u>
1	PURPOSE AND TEST PROCEDURE	1-1
2	SUMMARY OF SIDE IMPACT TEST	2-1
3	VEHICLE TEST DATA	3-1
	Data Sheet 1 - General Vehicle Test Parameter Data	3-2
	Data Sheet 2 - Test Vehicle Summary of Results	3-5
	Data Sheet 3 - Moving Deformable Barrier (MDB) Summary	3-6
	Data Sheet 4 - Post Test Observations	3-7
4	OCCUPANT AND VEHICLE INFORMATION	4-1
	Data Sheet 5 - SID Instrumentation Data	4-2
	Data Sheet 6 - Vehicle Pre- And Post Test Measurements	4-3
	Data Sheet 7 - SID Longitudinal Clearance Dimensions	4-4
	Data Sheet 8 - SID Lateral Clearance Dimensions	4-5
	Data Sheet 9 - Vehicle Side Measurements	4-6
	Data Sheet 10 - Vehicle Exterior Crush Profiles - All Levels	4-7
	Data Sheet 11 - Vehicle Damage Profile Distances	4-8
	Data Sheet 12 - Exterior Static Crush For Impactor Face	4-9
	Data Sheet 13 - Test Vehicle Accelerometer Locations And Data Summary	4-10
	Data Sheet 14 - MDB Accelerometer Locations and Data Summary	4-13
	Data Sheet 15 - High Speed Camera Locations and Data	4-14
5	VEHICLE FUEL SYSTEM INTEGRITY	5-1
	Data Sheet 16 - FMVSS 301 Fuel System Integrity Data	5-2
	Data Sheet 17 - FMVSS 301 Rollover Data	5-3
APPENDIX A	PHOTOGRAPHS	A-1
APPENDIX B	VEHICLE, MDB AND SID RESPONSE DATA	B-1
APPENDIX C	SID CONFIGURATION AND PERFORMANCE VERIFICATION DATA	C-1
APPENDIX D	TEST EQUIPMENT LIST AND CALIBRATION INFORMATION	D-1

## **SECTION 1**

### **PURPOSE AND TEST PROCEDURE**

This side impact test is part of the FMVSS 214 Side Impact Protection Compliance Test Program sponsored by the National Highway Traffic Safety Administration (NHTSA) under Contract No. DTNH22-97-C-01033. The purpose of this indicant test was to evaluate side impact protection in a 2002 Isuzu Axiom MPV when tested at the New Car Assessment Program (NCAP) target test velocity of 62.0 kph, which is 8 kph faster than the target velocity required by the Office of Vehicle Safety Compliance's Laboratory Test Procedure (TP-214D-06).

## SECTION 2

### SUMMARY OF SIDE IMPACT TEST

This Side Impact Protection Indicant Test was performed at the New Car Assessment Program (NCAP) target test velocity of 62.0 kph, which is 8 kph faster than the target velocity required by the Office of Vehicle Safety Compliance's Laboratory Test Procedure (TP-214D-06).

A 2002 Isuzu Axiom MPV was impacted on the left or driver's side by a Moving Deformable Barrier (MDB) which was moving forward in a 27° crabbed position to the monorail at a velocity of 62.0 kph (38.5 mph). The target vehicle was stationary and was positioned at an angle of 63° to the line of forward motion. The side impact test was conducted by the Veridian Engineering Transportation Sciences Center in Buffalo, New York on January 11, 2002. Pre- and post-test photographs of the test vehicle, the moving deformable barrier (MDB), and the side impact dummies (SIDs) are included in Appendix A.

Two restrained Side Impact Dummies (SIDs) were placed in the driver (Pos. #1) and left rear (Pos. #4) designated seating positions according to the instructions specified in the OVSC Side Impact Laboratory Test Procedure. Both SIDs were certified prior to this test. The side impact test was documented by one real-time camera and 10 high-speed cameras. Camera locations and other pertinent camera information are included in this report.

The SIDs were instrumented with the following accelerometers:

1. Left Upper Rib (LUR) uniaxial and redundant accelerometer (Y-direction)
2. Left Lower Rib (LLR) uniaxial and redundant accelerometer (Y-direction)
3. Lower Thoracic Spine (T<sub>12</sub>) uniaxial and redundant accelerometer (Y-direction)
4. Pelvic (PEV) section uniaxial and redundant accelerometer (Y-direction)
5. Head triaxial accelerometers (X-, Y- and Z-direction)

A summary of the side impact dummy (SID) configuration and verification test data can be found in Appendix C. A total of 48 channels of data were recorded. Appendix B contains the vehicle, MDB and dummy response data traces.

The following table summarizes the results of the test.

Injury Criteria	Front SID	Rear SID
TTI (g)	31	35
PEV (g)	62	38

**SECTION 3**

**SUMMARY OF TEST RESULTS**

## DATA SHEET 1

### GENERAL TEST AND VEHICLE PARAMETER DATA

#### TEST VEHICLE INFORMATION:

Year/Make/Model/Body Style: 2002 Isuzu Axiom MPV

Vehicle Body Color: Blue VIN: 4S2CE58X524607136

Vehicle NHTSA No.: C25701 Month & Year of Manufacture: May.01

Engine Data: 6 Cylinders; - CID; 3.5 Liters; - cc

Engine Placement: X Longitudinal; or - Lateral

Transmission: 4 Speed; - Manual; X Automatic; X Overdrive

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

Odometer Reading 454 km

Options: X A/C; X Power Steering; X Power Brakes; X Power Windows

#### DATA FROM TIRE PLACARD

Tire Pressure\* (at capacity); 180 kPa FRONT  
180 kPa REAR

Recommended Tire Size: P235/65R17

Tires on Test Vehicle: P235/65R17 ; Manufacturer: Goodyear

#### Vehicle Capacity Data:

Number of Occupants: 2 Front; 3 Rear; - 3rd Seat; 5 Total

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

Type of Rear Seat: - Bucket; - Bench; X Contoured

Type of Front Seat Back: - Fixed; X Adjustable with X Lever or - Knob

Type of Rear Seat Back: - Fixed; X Adjustable with X Lever or - Knob

Vehicle Max Capacity Loading = 493.5 kg (A)

No. of Occupants x 68.04 kg. = 340.2 kg (B)

Vehicle Cargo Capacity = 153.3 kg (A-B) \*\*

#### TEST VEHICLE DELIVERED WEIGHT WITH MAXIMUM FLUIDS:

Left Front = <u>470.0</u> kg	Left Rear = <u>421.5</u> kg
Right Front = <u>447.5</u> kg	Right Rear = <u>412.5</u> kg
TOTAL FRONT = <u>917.5</u> kg	TOTAL REAR = <u>834.0</u> kg
% of Total Weight = <u>52.4</u> %	% of Total Weight = <u>47.6</u> %
TOTAL WEIGHT = <u>1751.5</u> kg	

\* Tire pressure used in test.

\*\* Maximum of 136.1 kg used for target weight calculation.

**DATA SHEET 1 (continued)**

**GENERAL TEST VEHICLE PARAMETER DATA**

Vehicle: 2002 Isuzu Axiom MPV

NHTSA No. C25701

CALCULATION OF VEHICLE'S TARGET TEST WEIGHT:

Total Test Vehicle Delivered Weight with Max. Fluids = 1751.5 kg (A)  
Maximum Cargo Carrying Capacity of Test Vehicle = 136.1 kg (B)  
Weight of instrumented Side Impact Dummies ( 2 X 81.2 kg) = 162.4 kg (C)  
TEST VEHICLE TARGET WEIGHT: = 2050.0 kg (A+B+C)

FULLY LOADED TEST VEHICLE (UDVW + 1 or 2 SID(s) + CARGO):

Left Front	=	<u>529.0</u>	kg	Left Rear	=	<u>558.0</u>	kg
Right Front	=	<u>441.0</u>	kg	Right Rear	=	<u>522.0</u>	kg
TOTAL FRONT	=	<u>970.0</u>	kg	TOTAL REAR	=	<u>1080.0</u>	kg
% of Total Weight	=	<u>47.3%</u>	%	% of Total Weight	=	<u>52.7%</u>	%
TOTAL TEST WEIGHT =		<u>2050.0</u>	kg				

AS TESTED WEIGHT OF TEST VEHICLE (1 OR 2 SID(s) + CARGO + EQUIPMENT & INSTRUMENTATION):

Left Front	=	<u>560.0</u>	kg	Left Rear	=	<u>536.0</u>	kg
Right Front	=	<u>455.5</u>	kg	Right Rear	=	<u>493.5</u>	kg
TOTAL FRONT	=	<u>1015.5</u>	kg	TOTAL REAR	=	<u>1029.5</u>	kg
% of Total Weight	=	<u>49.7%</u>	%	% of Total Weight	=	<u>50.3%</u>	%
TOTAL TEST WEIGHT =		<u>2045</u>	kg				

TEST VEHICLE ATTITUDE (all dimensions in millimeters):

AS DELIVERED:

Left Front 822 Right Front 829 Left Rear 855 Right Rear 860

FULLY LOADED:

Left Front 797 Right Front 820 Left Rear 793 Right Rear 825

READY FOR TEST:

Left Front 797 Right Front 820 Left Rear 809 Right Rear 831

Test Vehicle Wheelbase: 2696 millimeters

C.G. = 1357 millimeters rearward of front wheel centerline

TOTAL VEHICLE LENGTH:

Right Side = 4460 millimeters

Left Side = 4460 millimeters

Centerline = 4641 millimeters

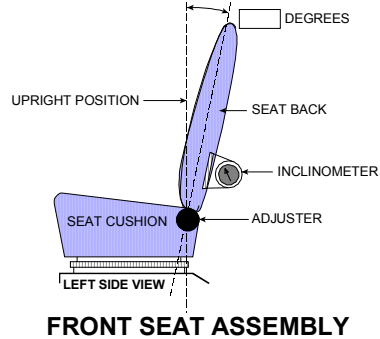
**DATA SHEET 1 (continued)**

**GENERAL TEST VEHICLE PARAMETER DATA**

Vehicle: 2002 Isuzu Axiom MPV

NHTSA No. C25701

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 CUSHION PLACEMENT: Seat track was positioned at mid travel position.

Total Length of Adjustment Travel: 200 millimeters

Total Number of Adjustment Positions or Detents: Infinitely adjustable (power seat track)

FRONT SEAT BACK ADJUSTMENT POSITION: Seat back was reclined 8° back from its most upright position.

Seat Back Torso Angle: 23° degrees

SECOND POSITION SEAT:

Total Length of Fore/Aft Adjustment Travel: 0 millimeters

Seat Back Adjustment Position: fixed

ADJUSTABLE STEERING COLUMN POSITION: Placed in detent 3, where the highest position is detent 0.

WINDOW POSITIONS: Left Front: Closed Left Rear: Closed

Right Front: Removed Right Rear: Removed

Note: Windows will be in closed position on struck side of test vehicle and in open position on opposite side.

AMOUNT OF STODDARD SOLVENT IN FUEL TANK:

74 liters (Fuel Tank Usable Capacity)

68.1 liters used for test (92%-94% of Fuel Tank Usable Capacity)

LOCATION OF IMPACT POINT ON TEST VEHICLE SIDE TO BE IMPACTED:

Wheelbase = 2696 millimeters

Impact Point is 408 millimeters rearward of front axle centerline  
(which is 940 millimeters forward of the wheelbase midpoint)

Actual Impact Point is 401 millimeters rearward of front axle centerline

## DATA SHEET 2

### TEST VEHICLE SUMMARY OF RESULTS

#### VEHICLE IDENTIFICATION:

Vehicle Year/Make/Model: 2002 Isuzu Axiom

Body Style: MPV

VIN: 4S2CE58X524607136

NHTSA No.: C25701

Test Date: January 11, 2002

Overall Length = 4641 millimeters; Overall Width = 1774 millimeters

#### VEHICLE TEST WEIGHT (Pre-Test):

Left Front = 560.0 kg      Left Rear = 536.0 kg

Right Front = 455.5 kg      Right Rear = 493.5 kg

TOTAL FRONT = 1015.5 kg      TOTAL REAR = 1029.5 kg

TOTAL VEHICLE WEIGHT 2045.0 kg

Wheelbase = 2696 millimeters

Longitudinal C.G. from Center of Front Axle = 1357 millimeters

Impact Angle with Respect to Impactor = 90 degrees

#### ACTUAL IMPACT POINT

Actual Impact Point is 7 mm forward of nominal impact ref. line (Lateral)

Actual Impact Point is 7 mm below nominal impact point (Vertical)

#### MAXIMUM EXTERIOR STATIC CRUSH:

1. LEVEL 1 ( 376 mm above ground) = 151 millimeters

2. LEVEL 2 ( 714 mm above ground) = 280 millimeters

3. LEVEL 3 ( 780 mm above ground) = 282 millimeters

4. LEVEL 4 ( 1037 mm above ground) = 243 millimeters

5. LEVEL 5 ( 1591 mm above ground) = 53 millimeters

Maximum Post-Test Intrusion = 282 millimeters

#### OCCUPANTS:

##### Front Passenger:

##### Rear Passenger:

Dummy Identification 016      027

Restraints Used 3-point active seat belt      3-point active seat belt

#### INSTRUMENTATION:

Number of Vehicle Data Channels: = 21

Number of Cameras:      Onboard = 3

                                 Offboard = 7

                                 TOTAL = 10

### DATA SHEET 3

#### MOVING DEFORMABLE BARRIER (MDB) SUMMARY

Vehicle: 2002 Isuzu Axiom MPV

NHTSA No. C25701

MDB FACE MANUFACTURER AND SERIAL NUMBER:

Plascore Inc.: 015A0901-2; 020C1001

---

POSITION OF IMPACT (MDB) ON MONORAIL:

Crabbed 27° to left

MDB DETAILS:

Overall Width of Framework Carriage	=	<u>1250</u>	millimeters
Overall Length of MDB (incl. honeycomb impact face)	=	<u>4120</u>	millimeters
Wheelbase of Framework Carriage	=	<u>2590</u>	millimeters
Tread of Framework Carriage (Front & Rear)	=	<u>1875</u>	millimeters
C.G. Location Rearward of Front Axle	=	<u>1104</u>	millimeters

MDB WEIGHT:

Left Front	=	<u>409.5</u>	kg	Left Rear	=	<u>281.5</u>	kg
Right Front	=	<u>372.5</u>	kg	Right Rear	=	<u>299.0</u>	kg
TOTAL FRONT	=	<u>782.0</u>	kg	TOTAL REAR	=	<u>580.5</u>	kg
TOTAL MDB WEIGHT	=	<u>1362.5</u>	kg				
Impact Angle (MDB C/L to Target Vehicle C/L)	=	<u>90</u>	degrees				
Impact Speed	=	<u>62.0</u>	kph				

MAXIMUM STATIC CRUSH OF HONEYCOMB IMPACT FACE:

1. Row A at Center of Bumper Level	=	<u>190</u>	millimeters
2. Row B at Top of Bumper Level	=	<u>138</u>	millimeters
3. Row C at Mid Level	=	<u>147</u>	millimeters
4. Row D at Top of Stack Level	=	<u>178</u>	millimeters

INSTRUMENTATION:

Number of MDB Data Channels	=	<u>5</u>
-----------------------------	---	----------

**DATA SHEET 4**

**POST-TEST OBSERVATIONS**

Vehicle: 2002 Isuzu Axiom MPV

NHTSA No. C25701

VISIBLE DUMMY CONTACT POINTS:

LEFT FRONT SID

LEFT REAR SID

Head: Back of head to head restraint  
Upper Torso: Left shoulder and arm to upper door trim  
Lower Torso: Pelvis to rear portion of door trim below armrest  
Left Knee: Left knee to door trim below switch cluster  
Right Knee: Right knee to left knee

Back of head to C-pillar, Side of head to side window  
Left shoulder and arm to upper door trim  
Pelvis to rear portion of door trim below armrest  
Left knee to forward edge of armrest  
Right knee to left knee

DOOR OPENING:

LEFT DOOR

RIGHT DOOR

Front: Closed / Inoperable  
Rear: Closed / Inoperable

Closed / Operable  
Closed / Operable

MDB DISTANCE FROM TARGET IMPACT POINT:

Vertical: 7 mm below target  
Horizontal: 7 mm forward of target

ARM REST LOCATIONS:

Front: 210 mm below the side window opening  
Rear: 235 mm below the side window opening

SEAT MOVEMENT:

Front: Seat was deformed inboard against the center console  
Rear: None

GLAZING DAMAGE:

Windshield: None  
Window: Left side door windows shattered during the impact

PILLAR PERFORMANCE:

No visible tears or separations

SILL SEPARATION:

None

AIR BAG DEPLOYMENT STATUS:

	DRIVER	FRONT PASSENGER	REAR PASSENGER
FRONT	Yes	Yes	N/A
SIDE	N/A	N/A	N/A

OTHER NOTABLE IMPACT EFFECTS:

The right rear tire deflated as a result of the impact

**SECTION 4**

**OCCUPANT AND VEHICLE INFORMATION**

**DATA SHEET 5**

**SID INSTRUMENTATION DATA**

Vehicle: 2002 Isuzu Axiom MPV

NHTSA No. C25701

	Front Dummy ID# 016				Rear Dummy ID# 027			
	Pos. Direction		Neg. Direction		Pos. Direction		Neg. Direction	
	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)
<b>HEAD ACCELERATIONS:</b>								
Longitudinal X	2.5	23.9	-12.8	88.5	20.5	152.1	-12.8	78.2
Lateral Y	18.4	90.6	-4.0	172.4	59.1	55.9	-10.9	87.3
Vertical Z	29.0	67.3	-2.1	31.5	24.9	99.8	-15.0	77.6
Resultant R	31.4	67.3	-	-	60.2	55.9	-	-
HIC	84.9				165.5			
<b>RIB ACCELERATIONS:</b>								
Upper Rib Lateral Y	30.1	35.7	-5.4	93.2	32.4	50.7	-4.3	89.4
Upper Rib Lateral Y(R)	30.6	35.6	-5.7	93.8	31.8	50.7	-4.9	89.4
Lower Rib Lateral Y	27.0	56.9	-2.8	122.5	38.0	51.9	-4.3	88.2
Lower Rib Lateral Y(R)	27.6	35.0	-3.0	95.7	37.0	51.9	-3.9	88.1
<b>SPINE ACCELERATIONS:</b>								
Lower Lateral Y	31.5	36.9	-4.6	67.5	32.8	55.0	-11.3	130.0
Lower Lateral Y(R)	31.1	43.8	-4.4	67.5	34.1	54.4	-12.1	130.0
<b>PELVIC ACCELERATIONS:</b>								
Lateral Y	62.3	44.4	-10.2	60.0	38.3	42.5	-2.9	71.9
Lateral Y(R)	62.1	44.4	-10.3	60.0	38.7	42.5	-3.3	71.9

REFERENCE: Positive Direction –  
 Longitudinal (X) = forward  
 Lateral (Y) = to right  
 Vertical (Z) = down

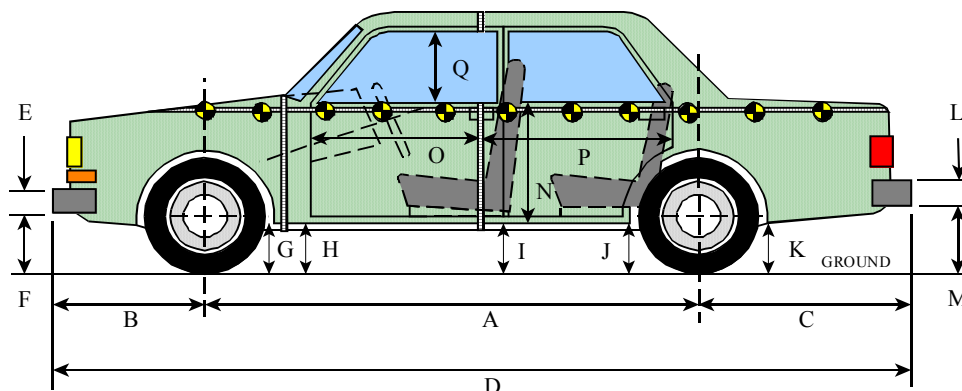
Note: Above data has been FIR filtered, Y(R) denotes redundant Y direction accelerometer.  
 Head Accelerations are filtered at SAE Class 1000.

## DATA SHEET 6

### VEHICLE SIDE MEASUREMENTS

Vehicle: 2002 Isuzu Axiom MPV

NHTSA No. C25701



#### LEFT SIDE VIEW

NOTE: all dimensions are in millimeters with tolerance of  $\pm 3$  mm

	PRE-TEST (as delivered)	PRE-TEST (as tested)	POST-TEST (as tested)	<sup>a</sup> CHANGE
A	2700	2696	2705	9
B	873	872	890	18
C	1068	1073	1038	-35
D	4641	-	4633	-8
E	484	-	484	0
F	311	312	288	-24
G	327	298	272	-26
H	332	298	355	57
I	362	320	233	-87
J1	365	319	282	-37
J2	364	319	315	-4
K	403	344	363	19
L	198	-	198	0
M	454	399	375	-24
N	695	-	690	-5
O	743	-	740	-3
P	1362	-	1299	-63
Q	467	-	459	-8
R	4460	-	4468	8
S	4460	-	4431	-29
T	1774	-	1541	-233

D = Length at Centerline

E&L = Bumper Thickness

R = Right Side Length

S = Left Side Length

T = Width at B-Pillar

J1 = To Pinch Weld

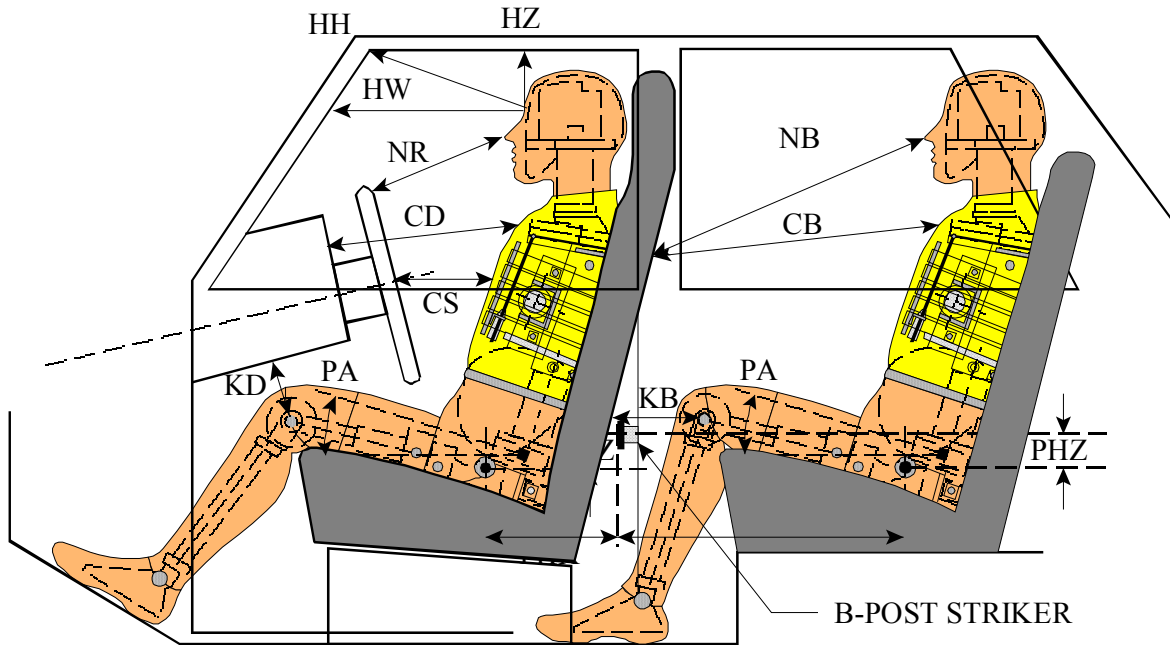
J2 = To Sill

DATA SHEET 7

SID LONGITUDINAL CLEARANCE DIMENSIONS

Vehicle: 2002 Isuzu Axiom MPV

NHTSA No. C25701



LEFT SIDE VIEW

NOTE: 2-DOOR VEHICLE SHOWN.  
REAR DUMMY PHX & PHZ  
MEASUREMENTS FOR A 4-DOOR  
VEHICLE WOULD USE THE C-POST  
STRIKER AS A REFERENCE POINT

NOTE: All dimensions are in millimeters with tolerance of  $\pm 3$  mm

	DRIVER ID# 016	LEFT REAR PASS. ID# 027
HH	350	N/A
HW	573	N/A
HZ	176	199
NR/NB	435	678
CD/CB	520	612
CS	159	N/A
KDL(KDA°)/KBL(KDA°)	178 / ( 28 °)	272 / ( 25 °)
KDR(KBA°)/KBR(KBA°)	156 / ( 28 °)	266 / ( 25 °)
PA°	23 °	23 °
PHX	256	242
PHZ	103	232

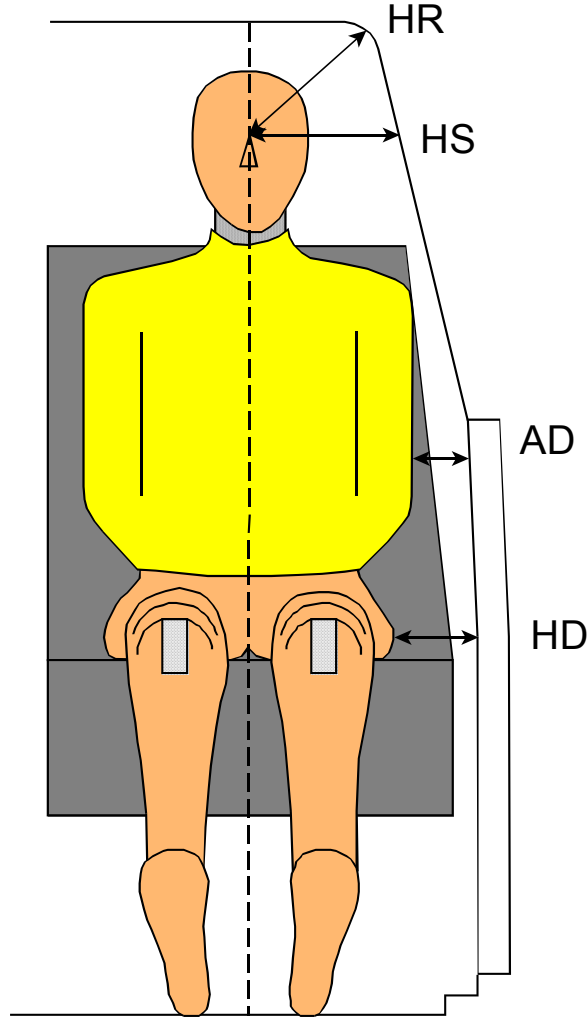
Note: 2-door vehicle shown. Rear dummy PHX & PHZ measurements for 4-door vehicle would use the C-post striker as a reference point.

**DATA SHEET 8**

**SID LATERAL CLEARANCE DIMENSIONS**

Vehicle: 2002 Isuzu Axiom MPV

NHTSA No. C25701



NOTE: All dimensions are in millimeters with tolerance of  $\pm 3$  mm

	DRIVER ID # 016		LEFT REAR PASS. ID # 027	
HR	208		208	
HS	318		316	
AD*	LOWER: 115	UPPER: 170 (to side window)	LOWER: 107	UPPER: 159 (to side window)
HD	172		136	

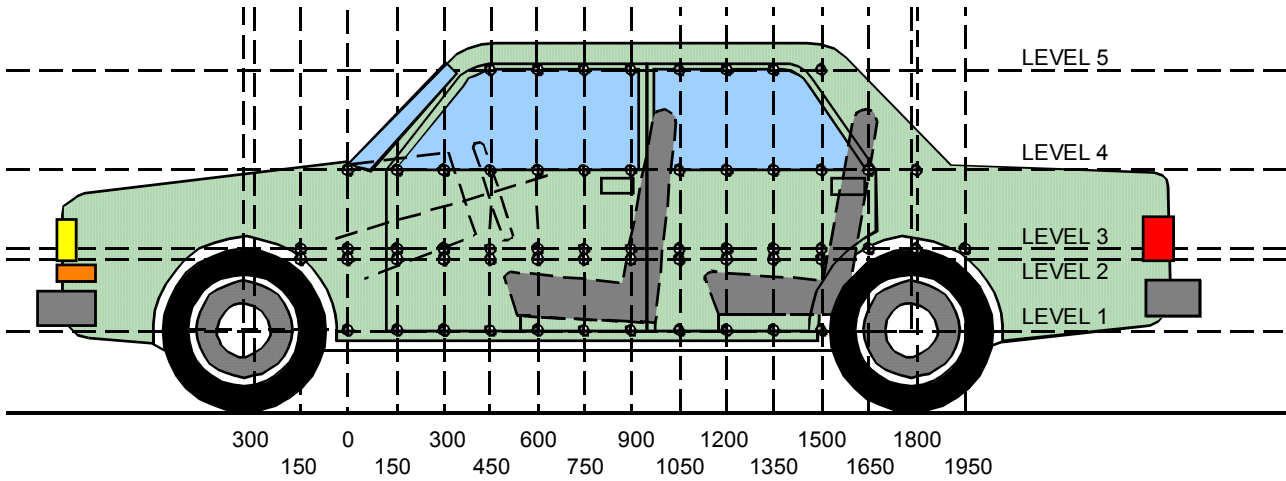
\* Lower measurement is taken laterally at the center of the lower rib accelerometer height from the SID arm to the closest part of the vehicle side. Upper measurement is taken laterally at the center of the upper rib accelerometer height from the SID arm to the closest part of the vehicle side.

**DATA SHEET 9**

**VEHICLE SIDE MEASUREMENTS**

Vehicle: 2002 Isuzu Axiom MPV

NHTSA No. C25701



**LEFT SIDE VIEW**

**NOTE: All measurements are in millimeters (mm)**

- LEVEL 5 - WINDOW TOP
- LEVEL 4 - WINDOW SILL
- LEVEL 3 - MID-DOOR
- LEVEL 2 - OCCUPANT H-POINT
- LEVEL 1 - SILL TOP HEIGHT

MEASUREMENTS ARE TAKEN WHEN THE VEHICLE IS IN THE "AS TESTED" CONFIGURATION.

Measurements Along the Vertical 750 mm Line Shown Above:

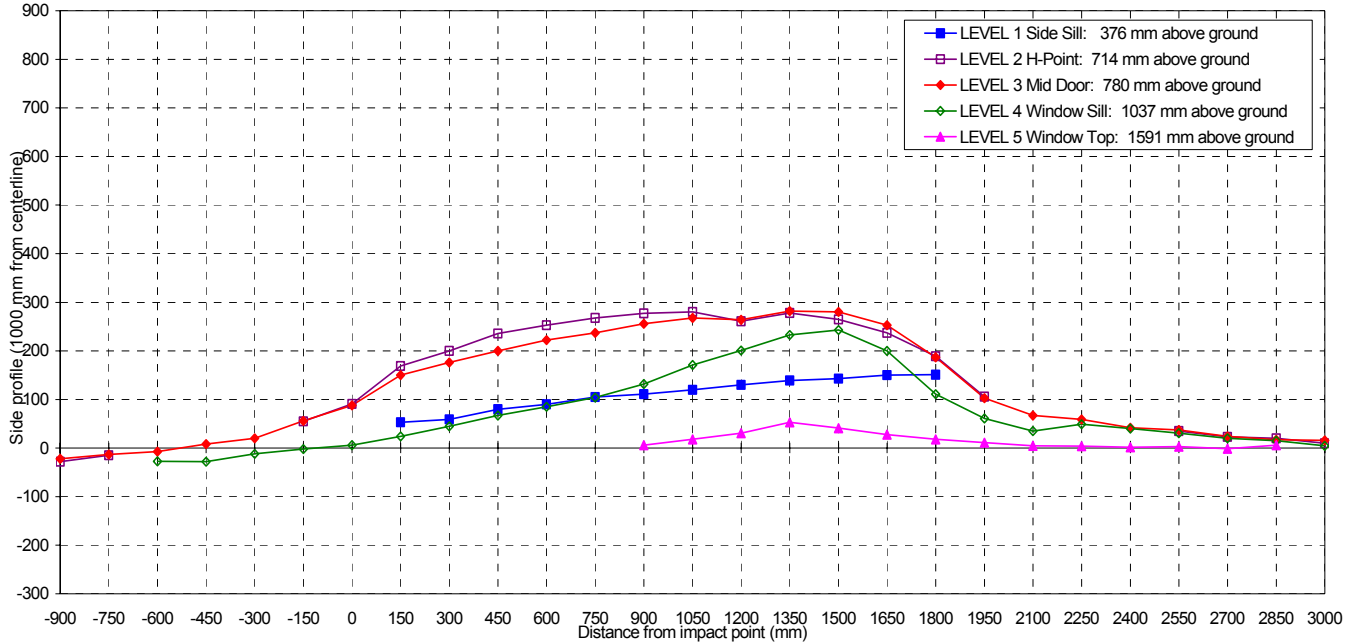
Level 5 @ Window Top	=	<u>1591</u>	millimeters
Level 4 @ Window Sill	=	<u>1037</u>	millimeters
Level 3 @ Mid Door	=	<u>780</u>	millimeters
Level 2 @ Occupant H-Point	=	<u>714</u>	millimeters
Level 1 @ Sill Top Height	=	<u>376</u>	millimeters

DATA SHEET 10

VEHICLE EXTERIOR CRUSH PROFILES - ALL LEVELS

Vehicle: 2002 Isuzu Axiom MPV

NHTSA No. C25701



NOTE: All dimensions are in millimeters with a tolerance of  $\pm 3$  mm

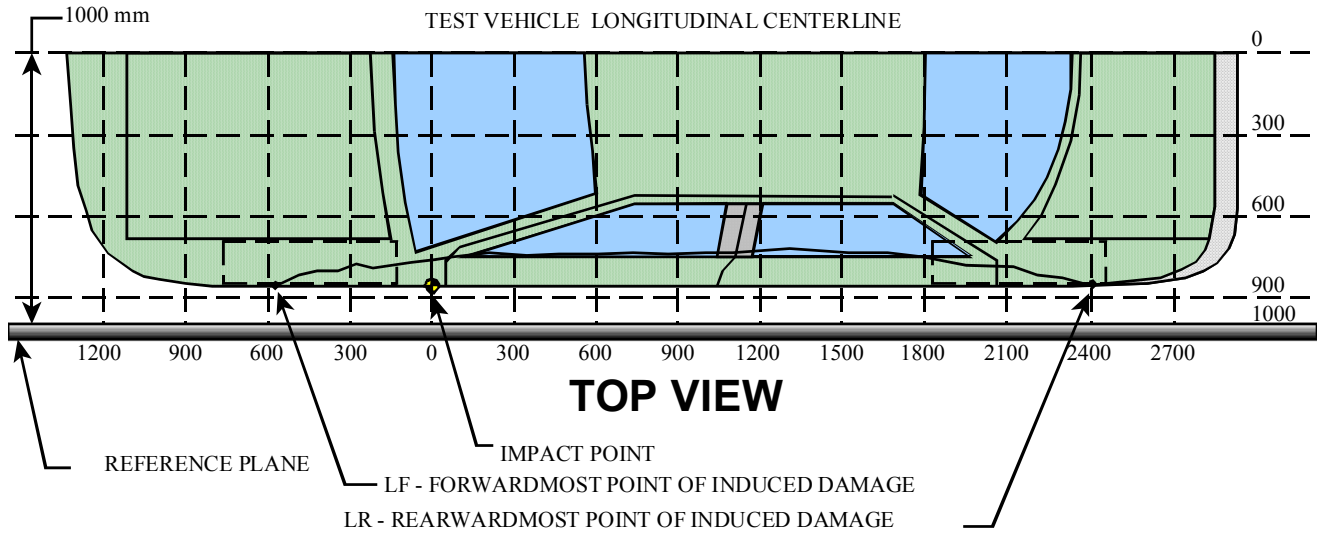
LEVEL	HEIGHT (mm)		DISTANCE IN MILLIMETERS (mm) FROM IMPACT POINT																											
			-900	-750	-600	-450	-300	-150	0	150	300	450	600	750	900	1050	1200	1350	1500	1650	1800	1950	2100	2250	2400	2550	2700	2850	3000	
LEVEL 1 SIDE SILL	376	PRE	--	--	--	--	--	--	199	203	197	197	193	197	199	195	193	195	193	154	--	--	--	--	--	--	--	--	--	
		POST	--	--	--	--	--	--	252	262	277	287	298	308	319	325	332	338	343	305	--	--	--	--	--	--	--	--	--	
		CRUSH	N/A	N/A	N/A	N/A	N/A	N/A	53	59	80	90	105	111	120	130	139	143	150	151	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
LEVEL 2 H POINT	714	PRE	225	152	--	--	136	139	139	147	135	135	135	135	132	132	134	135	138	144	121	--	--	--	118	167	197	228		
		POST	197	137	--	--	191	230	308	347	371	388	403	412	412	393	412	400	375	333	227	--	--	--	153	190	217	238		
		CRUSH	-28	-15	N/A	N/A	55	91	169	200	236	253	268	277	280	261	278	265	237	189	106	N/A	N/A	N/A	35	23	20	10		
LEVEL 3 MID DOOR	780	PRE	227	175	143	135	136	120	140	138	139	133	126	128	125	130	131	133	136	138	139	125	115	127	122	116	175	195	223	
		POST	205	162	136	143	156	176	228	288	315	333	348	365	381	398	395	415	416	391	326	228	182	186	164	153	199	212	239	
		CRUSH	-22	-13	-7	8	20	56	88	150	176	200	222	237	256	268	264	282	280	253	187	103	67	59	42	37	24	17	16	
LEVEL 4 WINDOW SILL	1037	PRE	--	--	280	246	219	204	196	194	184	177	175	175	170	169	171	173	165	170	172	171	174	184	191	205	218	250		
		POST	--	--	253	218	207	202	202	218	229	244	260	279	307	341	370	404	416	365	281	233	206	223	224	222	225	233	255	
		CRUSH	N/A	N/A	-27	-28	-12	-2	6	24	45	67	85	104	132	171	201	233	243	200	111	61	35	49	40	31	20	15	5	
LEVEL 5 WINDOW TOP	1591	PRE	--	--	--	--	--	--	--	--	--	--	--	416	399	392	392	395	399	400	403	407	413	420	433	456	506	--		
		POST	--	--	--	--	--	--	--	--	--	--	--	422	417	423	445	436	427	418	414	412	417	422	436	455	512	--		
		CRUSH	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6	18	31	53	41	28	18	11	5	4	2	3	-1	6	N/A		

**DATA SHEET 11**

**VEHICLE DAMAGE PROFILE DISTANCES**

Vehicle: 2002 Isuzu Axiom MPV

NHTSA No. C25701



MEASUREMENT CONVENTIONS:  
 Forward of the impact point (towards front of vehicle) is considered negative (—).  
 Rearward of the impact point (toward rearend of vehicle) is considered positive (+).

NOTE: All dimensions are in millimeters with tolerance of  $\pm 3$  mm.

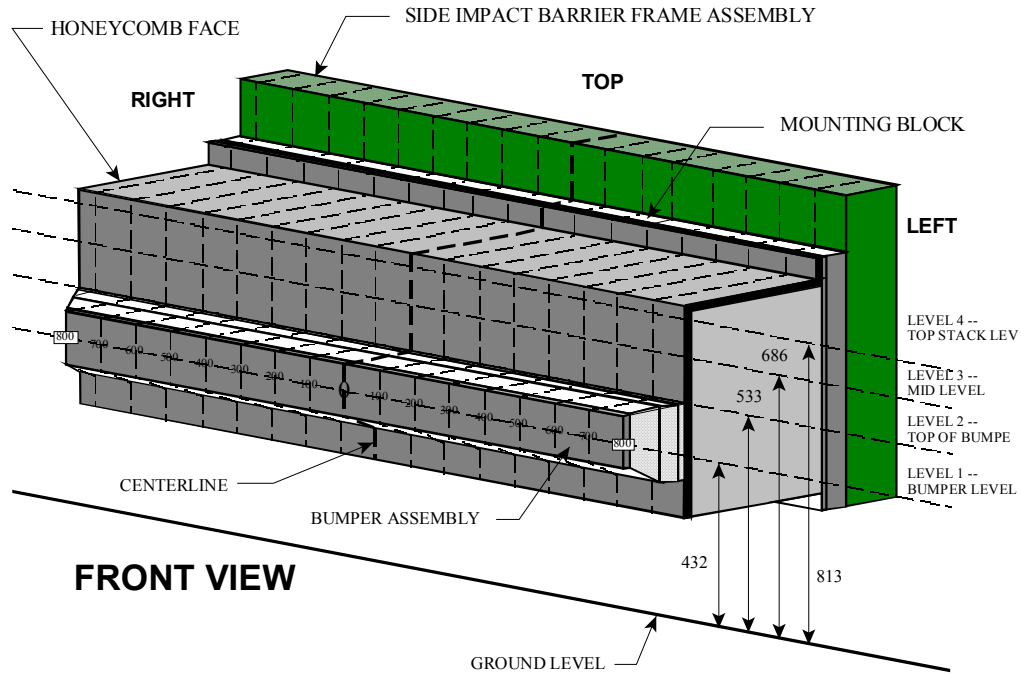
DPD MEASUREMENTS		POST TEST (mm)	PRETEST (mm)	STATIC CRUSH (mm)
1	(LR =3000 mm)	239	223	16
2	2295	179	126	53
3	1590	401	137	264
4	885	411	135	276
5	180	316	141	175
6	(LF = -525 mm)	140	139	1

DATA SHEET 12

EXTERIOR STATIC CRUSH FOR IMPACTOR FACE

Vehicle: 2002 Isuzu Axiom MPV

NHTSA No. C25701



NOTE: Dimensions are shown in millimeters, mm

NOTE: All dimensions are in millimeters with a tolerance of  $\pm 3$  mm

LEVEL	HEIGHT AT CL (mm)*		DISTANCE RIGHT OF CENTER (mm)									DISTANCE LEFT OF CENTER (mm)								
			800	700	600	500	400	300	200	100	0	100	200	300	400	500	600	700	800	
LEVEL 4 TOP STACK	813	PRE	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	
		POST	740	691	671	669	688	684	681	685	686	696	709	723	725	735	753	772	797	
		CRUSH	121	72	52	50	69	65	62	66	67	77	90	104	106	116	134	153	178	
LEVEL 3 MID LEVEL	686	PRE	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	
		POST	766	728	701	669	680	679	663	655	652	650	651	650	660	670	689	723	749	
		CRUSH	147	109	82	50	61	60	44	36	33	31	32	31	41	51	70	104	130	
LEVEL 2 TOP BUMPER	533	PRE	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	
		POST	741	720	718	716	715	720	723	727	729	732	737	739	742	746	749	754	757	
		CRUSH	122	101	99	97	96	101	104	108	110	113	118	120	123	127	130	135	138	
LEVEL 1 MID BUMPER	432	PRE	535	519	518	518	518	518	518	518	518	518	518	518	518	518	519	535	535	
		POST	697	685	671	671	673	676	676	680	682	686	689	692	696	700	704	709	725	
		CRUSH	162	166	153	153	155	158	158	162	164	168	171	174	178	182	186	190	190	

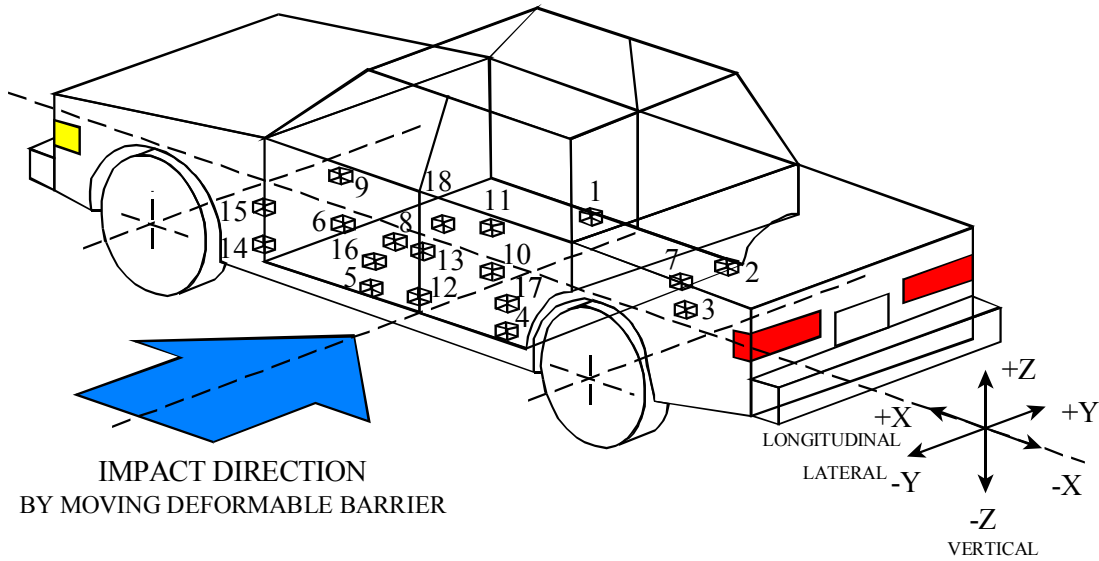
\*Heights measured above ground level.

**DATA SHEET 13**

**TEST VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY**

Vehicle: 2002 Isuzu Axiom MPV

NHTSA No. C25701



- 1-Right Side Sill @ Front Seat
- 2-Right Side Sill @ Rear Seat
- 3-Rear Floorpan Above Axle
- 4-Left Side Sill @ Rear Seat
- 5-Left Side Sill @ Front Seat
- 6-Left Front Door on Centerline
- 7-Right Rear Occupant Compartment
- 8-Midrear of Left Front Door
- 9-Left Front Door Upper Centerline

- 10-Midrear of Left Rear Door
- 11-Left Rear Door Upper Centerline
- 12-Left Lower B-Pillar
- 13-Left Middle B-Pillar
- 14-Left Lower A-Pillar
- 15-Left Middle A-Pillar
- 16-Front Seat Track
- 17-Rear Seat Track
- 18-Vehicle CG

**DATA SHEET 13 (continued)**

**VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY**

Vehicle: 2002 Isuzu Axiom MPV

NHTSA No. C25701

Accel. No.	Location	Coordinates (mm)±3 mm				Lat. (y)		Vert. (z)		Resultant			
		X*	Y*	Z*		Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)
1		2832	660	-476	pos.	3.9	34.4	26.5	14.3	6.9	46.5	29.6	13.4
						-11.3	8.3	-2.7	66.4	-26.3	21.8	-	-
2		1888	640		pos.	4.3		37.9	7.0	17.9	12.5	39.3	7.1
					neg.		9.0	-2.5	156.6	-13.9	19.2	-	-
3	Rear Floorpan Above Axle	1230	79		pos.		61.4	35.6	7.4	30.2	15.0	35.8	7.5
					neg.	-5.0	35.3		186.7	-14.8	21.2	-	-
4	Left Side Sill at Rear Seat		-622	-441	pos.		-	108.6	13.1	-	-	-	-
					neg.		-	-44.3	26.9	-	-	-	-
5		2813		-449	pos.	-		86.0	7.8	-	-	-	-
						-		-12.9	27.8	-	-	-	-
6**	Left Front Door on Centerline	-	-		pos.	-	-		-	-	-	-	-
					neg.	-	-	-	-	-	-	-	-
7	Right Rear Occupant Compartment	2011	354	-457	pos.	-	-	32.5	7.0	-	-	-	-
					neg.	-	-	-1.9	155.8	-	-	-	-
8**	Midrear of Left Front Door	-	-	-	pos.	-	-	-	-	-	-	-	-
					neg.	-	-	-	-	-	-	-	-
9**	Left Front Door Upper Centerline	-	-	-	pos.	-	-	-	-	-	-	-	-
					neg.	-	-	-	-	-	-	-	-
10**	Midrear of Left Rear Door	-	-	-	Pos.	-	-	-	-	-	-	-	-
					neg.	-	-	-	-	-	-	-	-
11**	Left Rear Door Upper Centerline	-	-	-	pos.	-	-	-	-	-	-	-	-
					neg.	-	-	-	-	-	-	-	-

\*Reference: X - Rear Bumper (+ Forward) Y - Vehicle Centerline (+ To Right) Z - Ground Level (+ Down)

\*\*Accelerometer was not requested by COTR.

4-11

8502-31

DATA SHEET 13 (continued)

VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 2002 Isuzu Axiom MPV

NHTSA No. C25701

4-12

Accel. No.	Location	Coordinates (mm)±3 mm				Long. (x)		Lat. (y)		Vert. (z)		Resultant	
		X*	Y*	Z*		Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)
						pos.	neg.	pos.	neg.	pos.	neg.	pos.	neg.
12	Left Lower B-Pillar	2148	-648	-616	pos.	-	-	172.8	6.7	-	-	-	-
					neg.	-	-	-103.6	14.4	-	-	-	-
13	Left Middle B-Pillar	2137	-659	-954	pos.	-	-	169.9	10.2	-	-	-	-
					neg.	-	-	-117.0	15.5	-	-	-	-
14	Left Lower A-Pillar	3227	-613	-636	pos.	-	-	135.8	6.0	-	-	-	-
					neg.	-	-	-75.4	9.5	-	-	-	-
15	Left Middle A-Pillar	3176	-638	-1154	pos.	-	-	19.4	21.8	-	-	-	-
					neg.	-	-	-4.9	38.6	-	-	-	-
16	Front Seat Track	2351	-537	-484	pos.	-	-	89.6	12.2	-	-	-	-
					neg.	-	-	-23.5	26.9	-	-	-	-
17	Rear Seat Track	1262	-505	-645	pos.	-	-	33.6	7.5	-	-	-	-
					neg.	-	-	-2.2	97.3	-	-	-	-
18	Vehicle CG	2580	11	-697	pos.	13.0	19.8	39.8	20.0	44.3	27.5	52.1	47.6
					neg.	-16.4	8.7	-34.7	47.6	-34.9	11.4	-	-

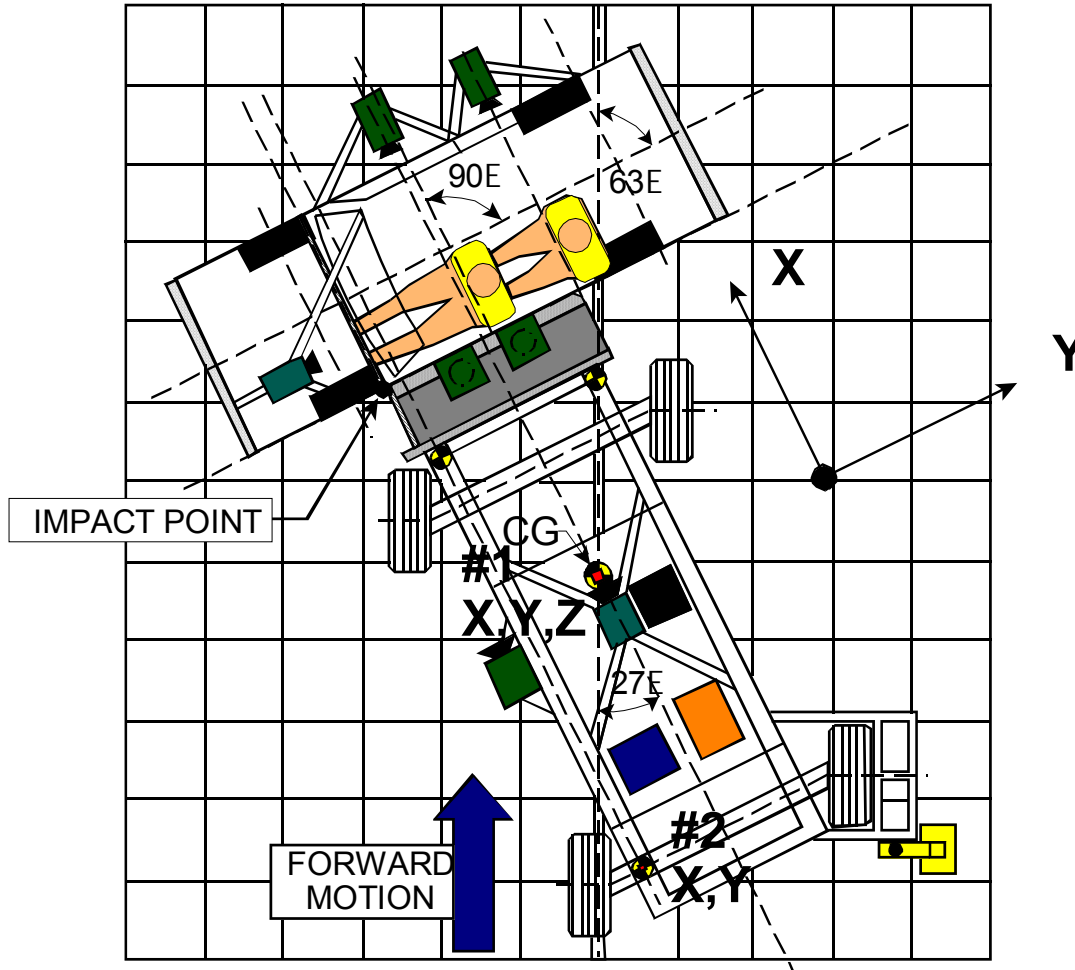
\*Reference: X - Rear Bumper (+ Forward) Y - Vehicle Centerline (+ To Right) Z - Ground Level (+ Down)

DATA SHEET 14

MDB ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 2002 Isuzu Axiom MPV

NHTSA No. C25701



Accel. No.	Location	Coordinates (millimeters)			Pos. Direct.		Neg. Direct.	
		X*	Y*	Z*	Max (g)	Time (msec)	Max (g)	Time (msec)
1	MDB Center of Gravity							
	Longitudinal... X	1859	0	-330	1.3	93.4	-21.1	44.9
	Lateral..... Y				0.8	127.8	-9.0	16.8
	Vertical..... Z				20.8	38.9	-29.4	22.0
	Resultant..... R				33.9	22.0	-	-
2	Rear Frame Member							
	Longitudinal... X	386	-660	-660	1.9	125.2	-21.2	43.9
	Lateral..... Y				5.1	17.9	-3.8	67.4

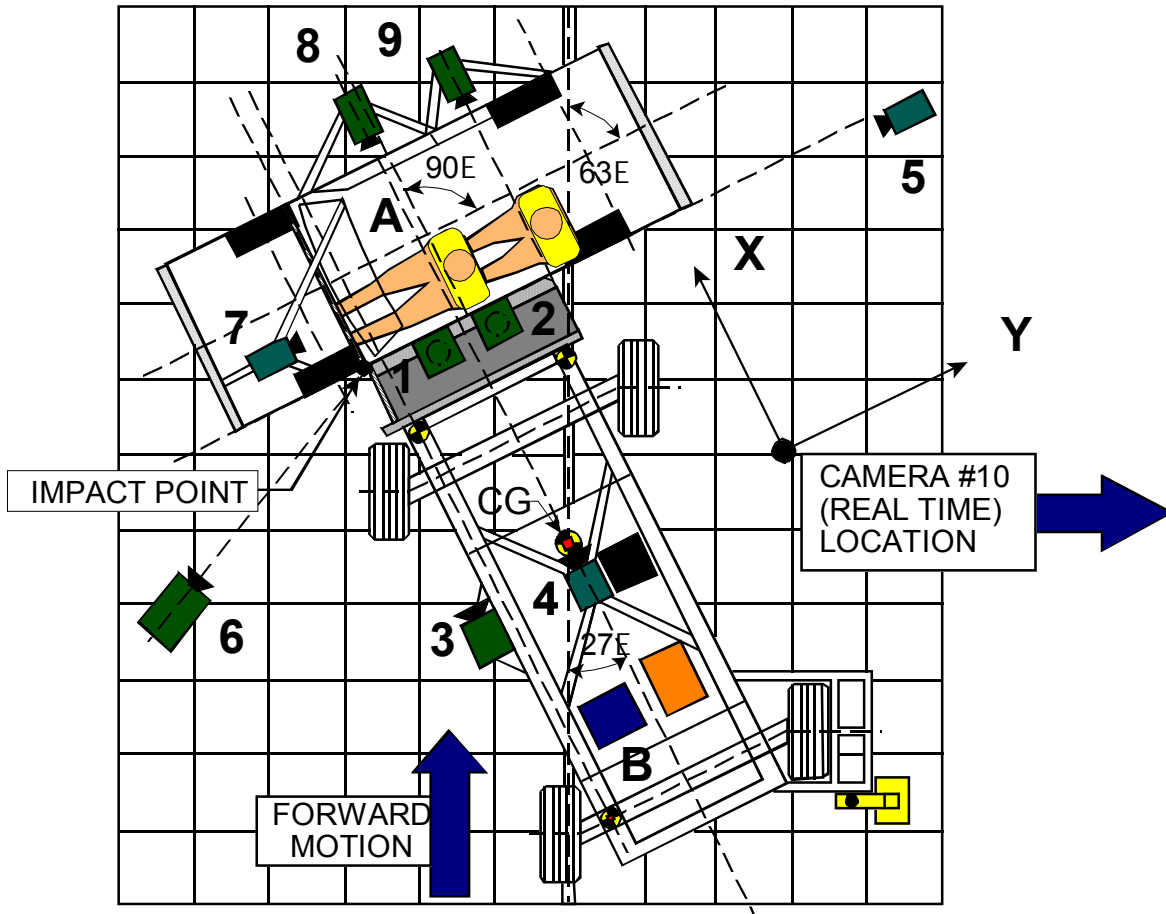
\*Reference: X = MDB Rear Bumper (+ Forward)  
 Y = MDB Centerline (+ To Right)  
 Z = Ground Level (+ Down)  
 All measurements accurate to within ±3 mm.

DATA SHEET 15

HIGH SPEED CAMERA LOCATIONS AND DATA SUMMARY

Vehicle: 2002 Isuzu Axiom MPV

NHTSA No. C25701



Camera No.	View	Coordinates (millimeters)			Angle (deg.)	Lens (mm)	Film Speed (fps)
		X*	Y*	Z*			
1	Overhead view of test vehicle	117	832	-4880	-90	8	1000
2	Overhead closeup view of impact plane	254	898	-4880	-90	12.5	1005
3	MDB onboard closeup view of impact point	-1470	0	-847	0	13	1015
4	MDB onboard view of driver dummy	-1140	838	-1586	-17	7.5	1010
5	Right side ground level overall view	117	6348	-1209	-2	25	1000
6	Left side ground level overall view	-1899	-2123	-1058	-5	13	1000
7	Test vehicle onboard driver front view	468	-330	-1462	-10	13	1020
8	Test vehicle onboard driver side view	1708	809	-1168	-8	8	1000
9	Test vehicle onboard passenger side view	1718	1673	-1205	-7	8	710
10	Real time film coverage of test	-	-	-	-	-	24

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

X = (Impact Point) + Forward

Y = (Impact Point) + To Right

Z = (Ground Level) + Down

**SECTION 5**

**FUEL SYSTEM INTEGRITY**

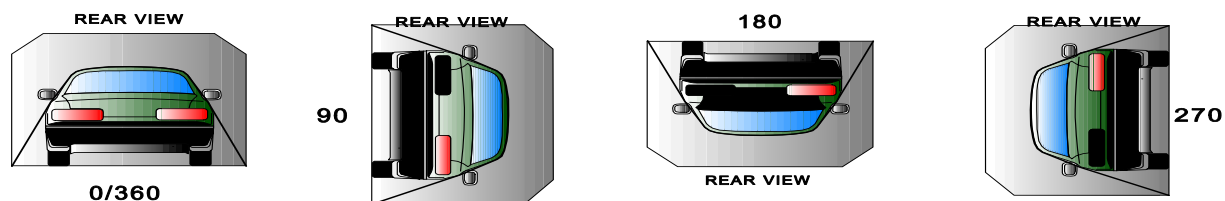


## DATA SHEET 17

### ROLLOVER DATA

Vehicle: 2002 Isuzu Axiom MPV

NHTSA No.: C25701



#### 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	
	minutes	seconds	minutes	seconds	minutes	seconds	minutes	seconds	minutes	seconds	minutes	seconds
0° - 90°	1	11	5	6	11	7	6	11	7	6	11	7
90° - 180°	1	7	5	6	7	7	6	7	7	6	7	7
180°-270°	1	12	5	6	12	7	6	12	7	6	12	7
270°-360°	1	8	5	6	8	7	6	8	7	6	8	7

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

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

#### III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

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

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

#### IV. SOLVENT SPILLAGE LOCATION(S):

Rollover Stage	Spillage Location
0° - 90°	-
90° - 180°	-
180°-270°	-
270°-360°	-

**APPENDIX A**

**PHOTOGRAPHS**

## TABLE OF PHOTOGRAPHS

<u>Figure</u>	<u>Photograph Title</u>	<u>Page</u>
Figure A- 1	PRE-TEST FRONTAL VIEW OF TEST VEHICLE	A- 3
Figure A- 2	POST-TEST FRONTAL VIEW OF TEST VEHICLE	A- 4
Figure A- 3	PRE-TEST REAR VIEW OF TEST VEHICLE	A- 5
Figure A- 4	POST-TEST REAR VIEW OF TEST VEHICLE	A- 6
Figure A- 5	PRE-TEST IMPACTED SIDE VIEW OF TEST VEHICLE	A- 7
Figure A- 6	POST-TEST IMPACTED SIDE VIEW OF TEST VEHICLE	A- 8
Figure A- 7	PRE-TEST FRONTAL VIEW OF IMPACTOR FACE	A- 9
Figure A- 8	POST-TEST FRONTAL VIEW OF IMPACTOR FACE	A- 10
Figure A- 9	PRE-TEST LEFT SIDE VIEW OF IMPACTOR FACE	A- 11
Figure A- 10	POST-TEST LEFT SIDE VIEW OF IMPACTOR FACE	A- 12
Figure A- 11	PRE-TEST RIGHT SIDE VIEW OF IMPACTOR FACE	A- 13
Figure A- 12	POST-TEST RIGHT SIDE VIEW OF IMPACTOR FACE	A- 14
Figure A- 13	PRE-TEST TOP VIEW OF IMPACTOR FACE	A- 15
Figure A- 14	POST-TEST TOP VIEW OF IMPACTOR FACE	A- 16
Figure A- 15	PRE-TEST OVERHEAD VIEW OF ALIGNED MDB AND VEHICLE	A- 17
Figure A- 16	POST-TEST OVERHEAD VIEW OF MDB AND VEHICLE	A- 18
Figure A- 17	PRE-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF FRONT SID	A- 19
Figure A- 18	POST-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF FRONT SID	A- 20
Figure A- 19	PRE-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF REAR SID	A- 21
Figure A- 20	POST-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF REAR SID	A- 22
Figure A- 21	PRE-TEST LEFT OCCUPANT COMPARTMENT VIEW OF FRONT SID	A- 23
Figure A- 22	POST-TEST LEFT OCCUPANT COMPARTMENT VIEW OF FRONT SID	A- 24
Figure A- 23	PRE-TEST LEFT OCCUPANT COMPARTMENT VIEW OF REAR SID	A- 25
Figure A- 24	POST-TEST LEFT OCCUPANT COMPARTMENT VIEW OF REAR SID	A- 26
Figure A- 25	PRE-TEST INTERIOR OF FRONT DOOR	A- 27
Figure A- 26	POST-TEST INTERIOR OF FRONT DOOR SHOWING SID IMPACT LOCATIONS	A- 28
Figure A- 27	PRE-TEST INTERIOR OF REAR DOOR	A- 29
Figure A- 28	POST-TEST INTERIOR OF REAR DOOR SHOWING SID IMPACT LOCATIONS	A- 30
Figure A- 29	PRE-TEST LEFT SIDE VIEW OF MDB WITH IMPACTOR FACE IN POSITION	A- 31
Figure A- 30	PRE-TEST RIGHT SIDE VIEW OF MDB WITH IMPACTOR FACE IN POSITION	A- 32
Figure A- 31	POST-TEST CLOSE-UP VIEW OF IMPACT POINT TARGET	A- 33
Figure A- 32	CLOSE-UP VIEW OF VEHICLE'S CERTIFICATION LABEL	A- 34
Figure A- 33	CLOSE-UP VIEW OF VEHICLE'S TIRE PLACARD LABEL	A- 35
Figure A- 34	IMPACT PHOTO	A- 36
Figure A- 35	ROLLOVER 90 DEGREES	A- 37
Figure A- 36	ROLLOVER 180 DEGREES	A- 38
Figure A- 37	ROLLOVER 270 DEGREES	A- 39
Figure A- 38	ROLLOVER 360 DEGREES	A- 40



Figure A-1: PRE-TEST FRONTAL VIEW OF TEST VEHICLE



A-4

8502-31

**C25701**

Figure A-2: POST-TEST FRONTAL VIEW OF TEST VEHICLE



A-5

8502-31

Figure A-3: PRE-TEST REAR VIEW OF TEST VEHICLE



A-6

8502-31

**C25701**

Figure A-4: POST-TEST REAR VIEW OF TEST VEHICLE



A-7

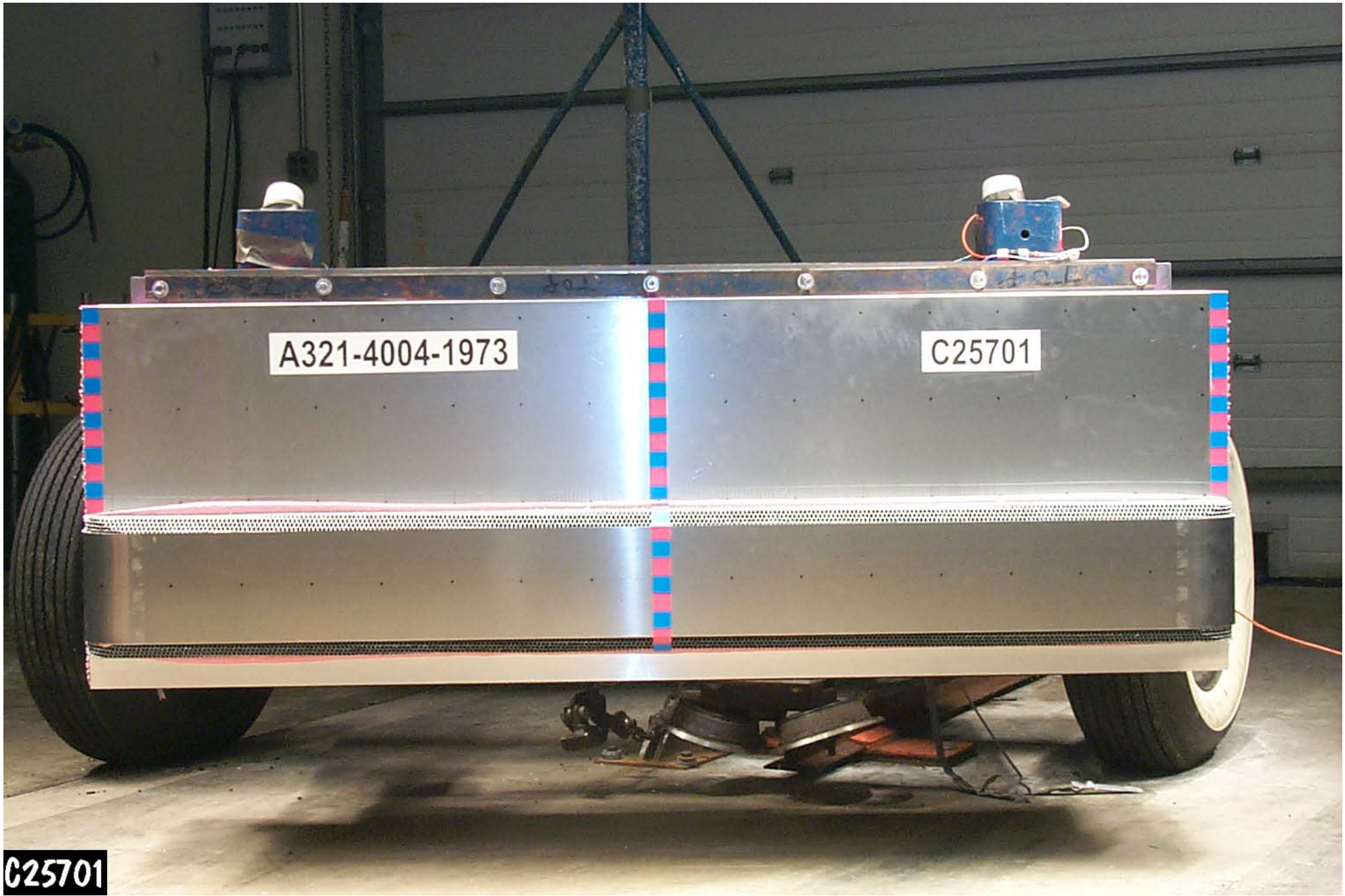
8502-31

**C25701**

Figure A-5: PRE-TEST IMPACTED SIDE VIEW OF TEST VEHICLE



Figure A-6: POST-TEST IMPACTED SIDE VIEW OF TEST VEHICLE



A-9

8502-31

**C25701**

Figure A-7: PRE-TEST FRONTAL VIEW OF IMPACTOR FACE



A-10

8502-31

Figure A-8: POST-TEST FRONTAL VIEW OF IMPACTOR FACE

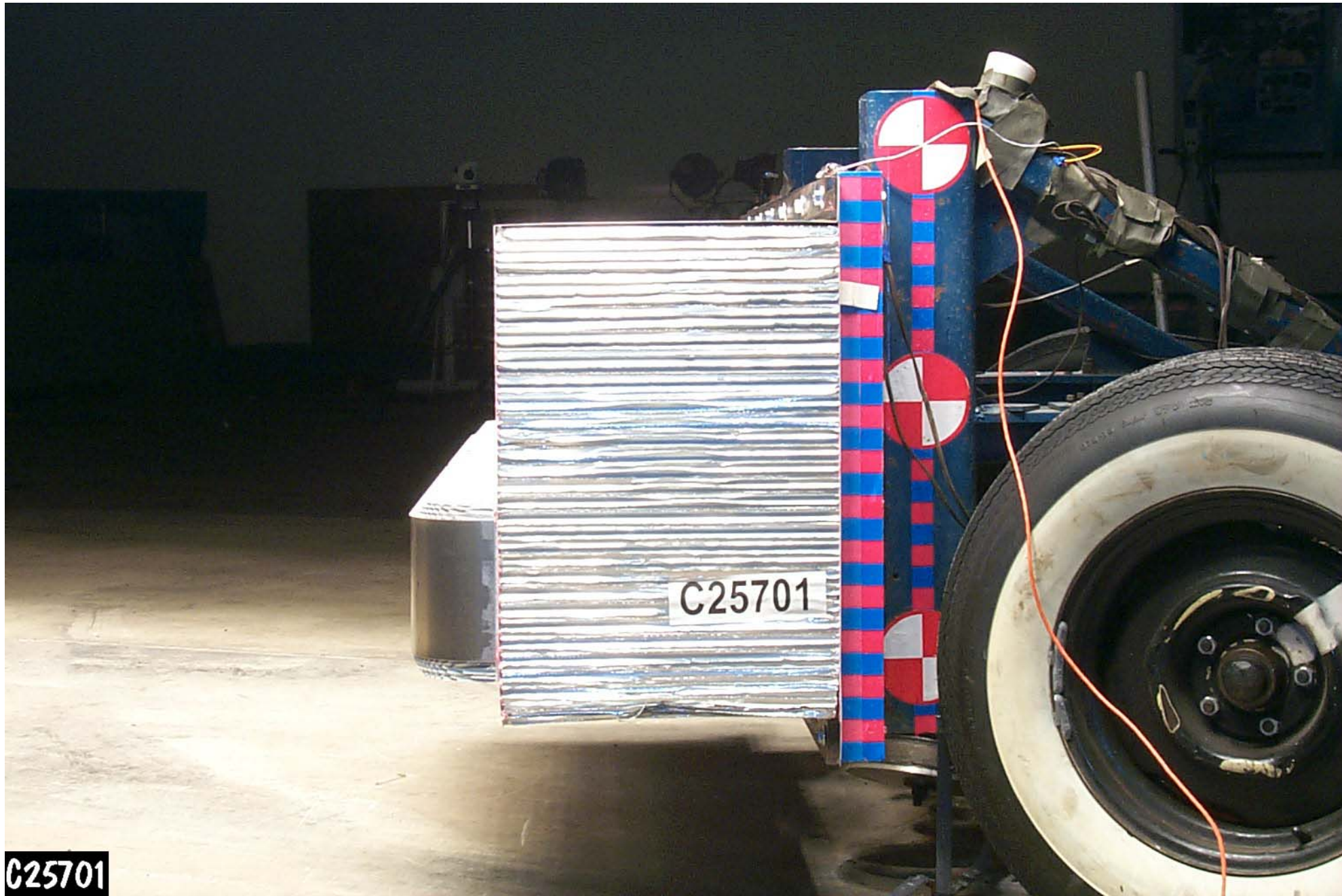


Figure A-9: PRE-TEST LEFT SIDE VIEW OF IMPACTOR FACE



**C25701**

Figure A-10: POST-TEST LEFT SIDE VIEW OF IMPACTOR FACE

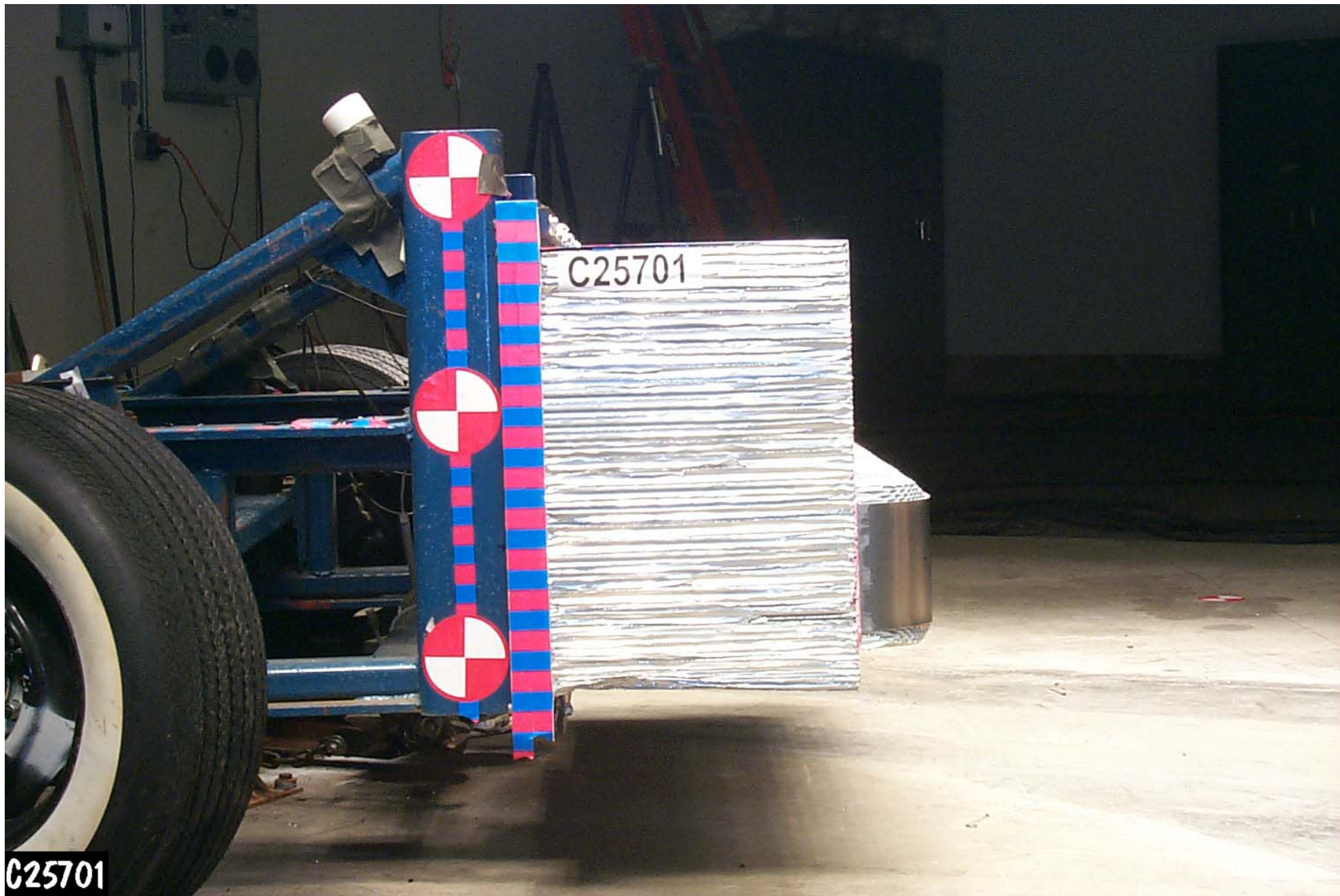


Figure A-11: PRE-TEST RIGHT SIDE VIEW OF IMPACTOR FACE



A-14

8502-31

**C25701**

Figure A-12: POST-TEST RIGHT SIDE VIEW OF IMPACTOR FACE

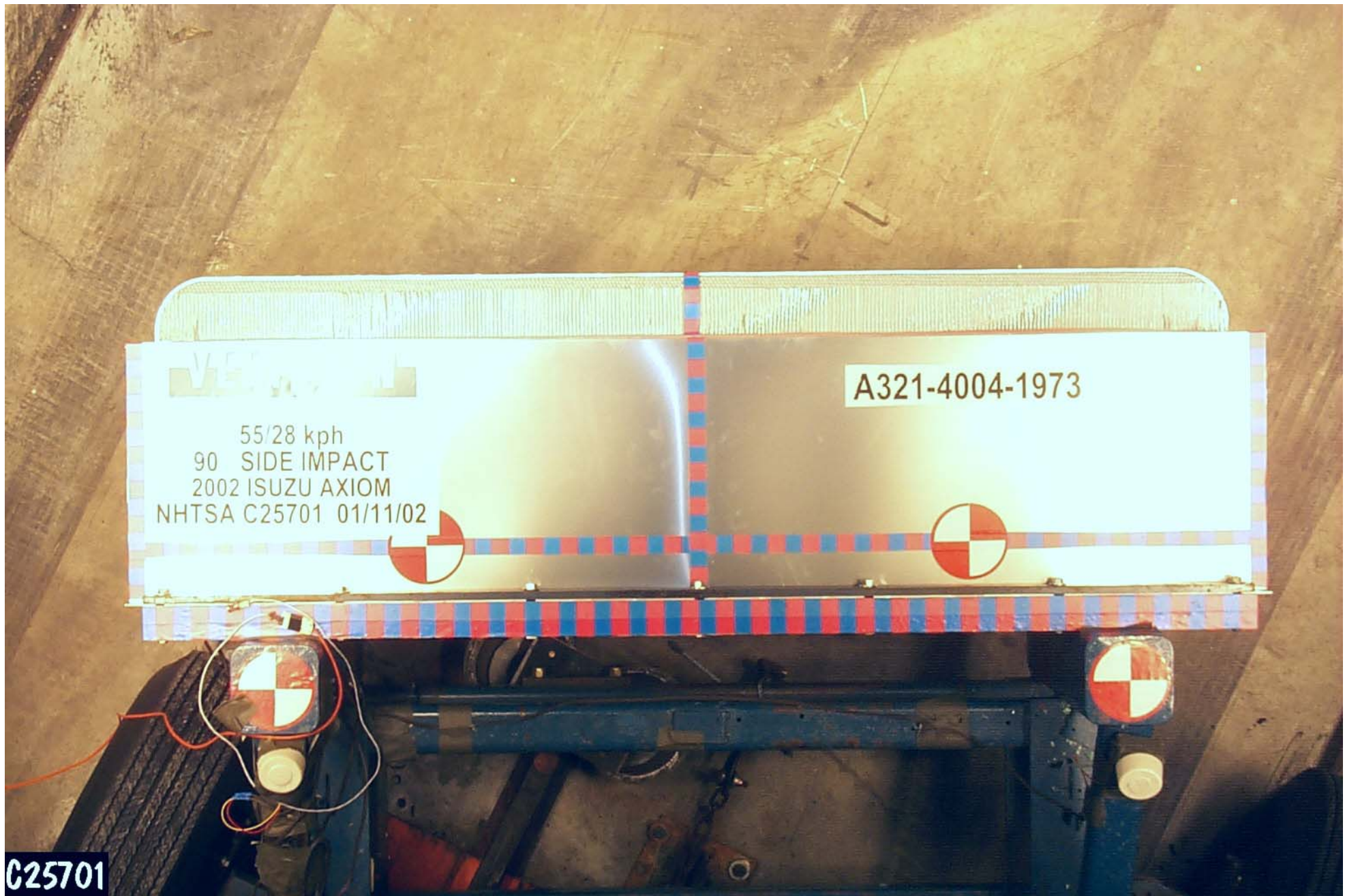
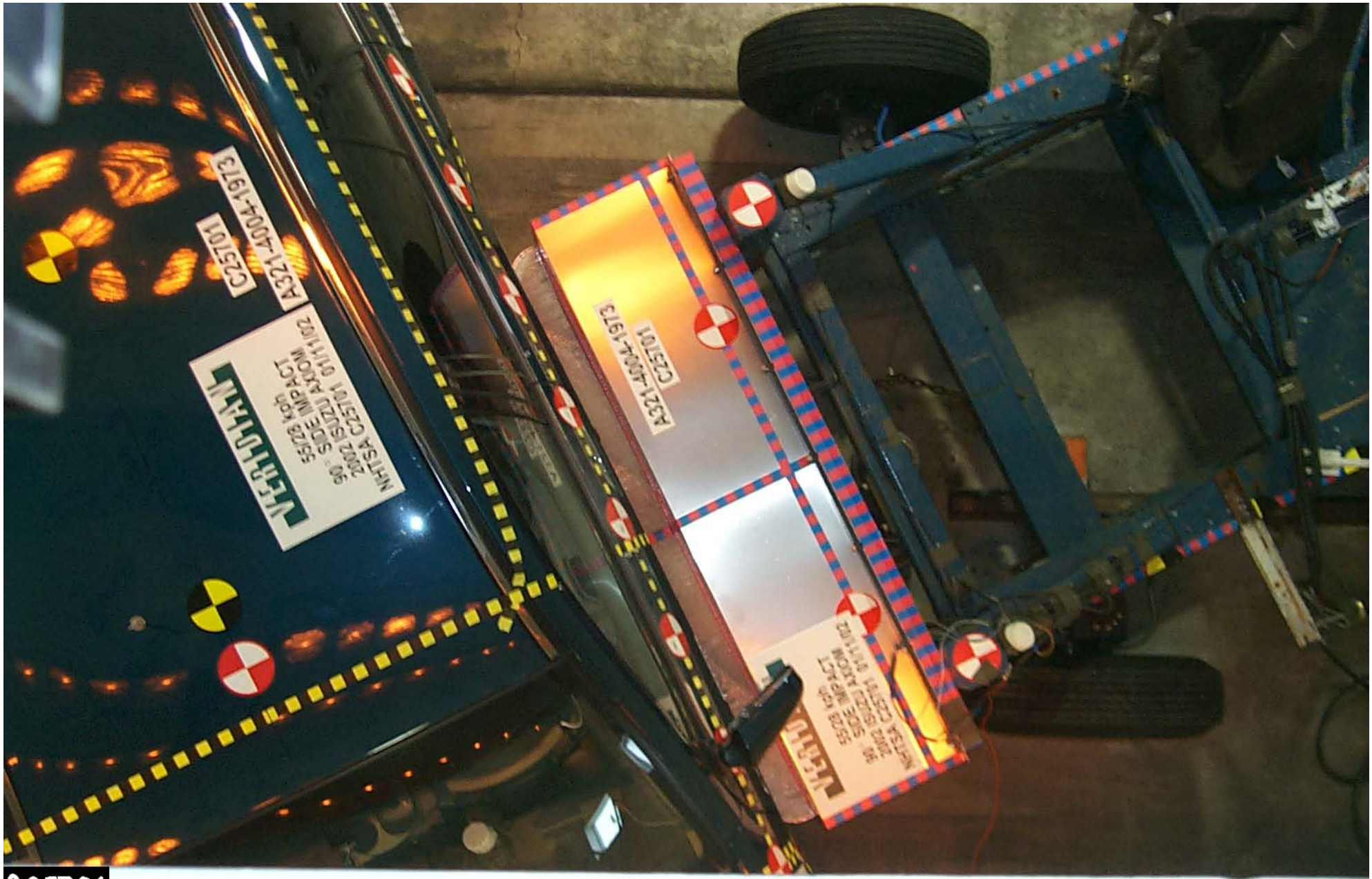


Figure A-13: PRE-TEST TOP VIEW OF IMPACTOR FACE



Figure A-14: POST-TEST TOP VIEW OF IMPACTOR FACE



**C25701**

Figure A-15: PRE-TEST OVERHEAD VIEW OF ALIGNED MDB AND VEHICLE



Figure A-16: POST-TEST OVERHEAD VIEW OF MDB AND VEHICLE

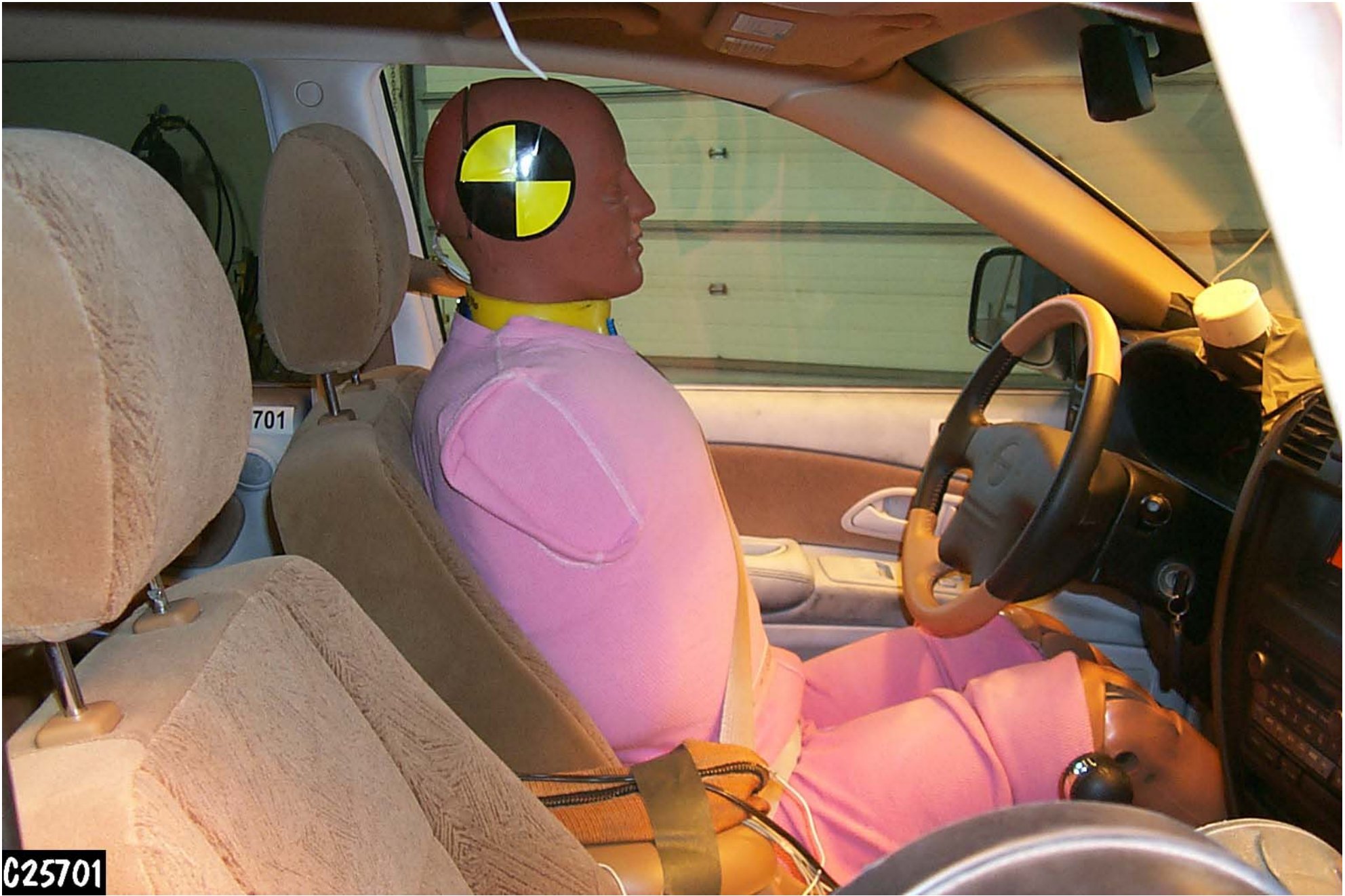


Figure A-17: PRE-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF FRONT SID



Figure A-18: POST-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF FRONT SID



A-21

8502-31

C25701

Figure A-19: PRE-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF REAR SID



Figure A-20: POST-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF REAR SID



Figure A-21: PRE-TEST LEFT OCCUPANT COMPARTMENT VIEW OF FRONT SID



Figure A-22: POST-TEST LEFT OCCUPANT COMPARTMENT VIEW OF FRONT SID



Figure A-23: PRE-TEST LEFT OCCUPANT COMPARTMENT VIEW OF REAR SID

A-25

8502-31

C25701

A321-4004-1973

A-26

8502-31



Figure A-24: POST-TEST LEFT OCCUPANT COMPARTMENT VIEW OF REAR SID



A-27

8502-31

Figure A-25: PRE-TEST FRONT INTERIOR TRIM



Figure A-26: POST-TEST FRONT INTERIOR TRIM SHOWING SID IMPACT LOCATIONS



Figure A-27: PRE-TEST REAR INTERIOR TRIM



Figure A-28: POST-TEST REAR INTERIOR TRIM SHOWING SID IMPACT LOCATIONS

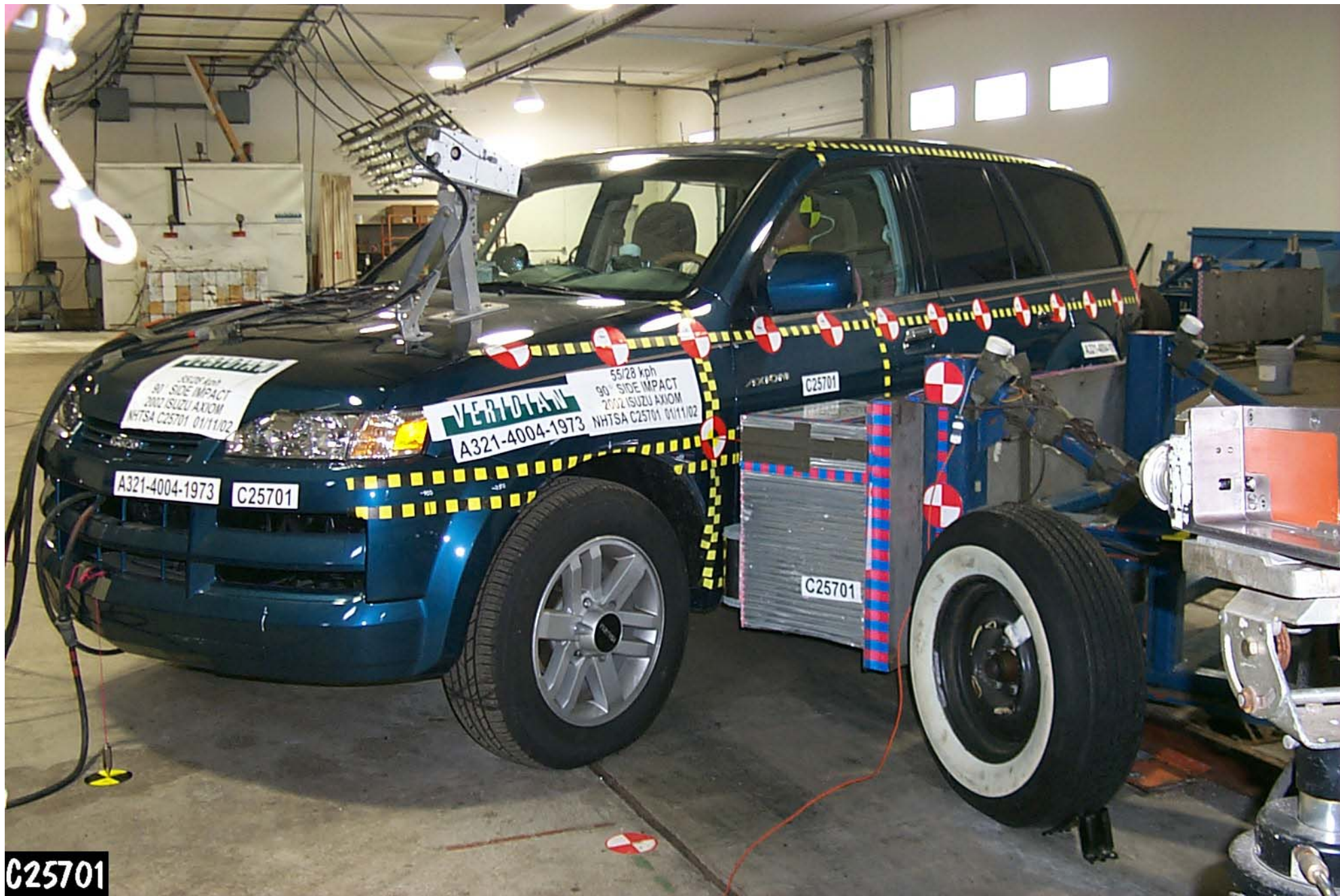


Figure A-29: PRE-TEST LEFT SIDE VIEW OF MDB WITH IMPACTOR FACE IN POSITION



**C25701**

Figure A-30: PRE-TEST RIGHT SIDE VIEW OF MDB WITH IMPACTOR FACE IN POSITION



A-33

8502-31

C25701

Figure A-31: POST-TEST CLOSE-UP VIEW OF IMPACT POINT TARGET

**MANUFACTURED BY**

**ISUZU MOTORS LIMITED**

**MAY,01**

**GVWR: 2245KG (4950LBS)**

**GAWR: FRONT-1135KG**

**(2500LBS) WITH**

**P235/65R17 TIRES &**

**17X7 RIMS AT 180KPA**

**(26PSI) COLD.**

**GAWR: REAR-1315KG**

**(2900LBS) WITH**

**P235/65R17 TIRES &**

**17X7 RIMS AT 180KPA**

**(26PSI) COLD.**

**THIS VEHICLE CONFORMS TO**

**ALL APPLICABLE FEDERAL**

**MOTOR VEHICLE SAFETY AND**

**THEFT PREVENTION STANDARDS**

**IN EFFECT ON THE DATE OF**

**MANUFACTURE SHOWN ABOVE.**

**4S2CE58X524607136**

**MPV**

**ASSEMBLED BY SUBARU-ISUZU  
AUTOMOTIVE INC.**

**C25701**

Figure A-32: CLOSE-UP VIEW OF VEHICLE'S CERTIFICATION LABEL

TIRE INFORMATION IS LOCATED ON CERTIFICATION LABEL

Figure A-33: CLOSE-UP VIEW OF VEHICLE'S TIRE PLACARD LABEL



Figure A-34: IMPACT PHOTO



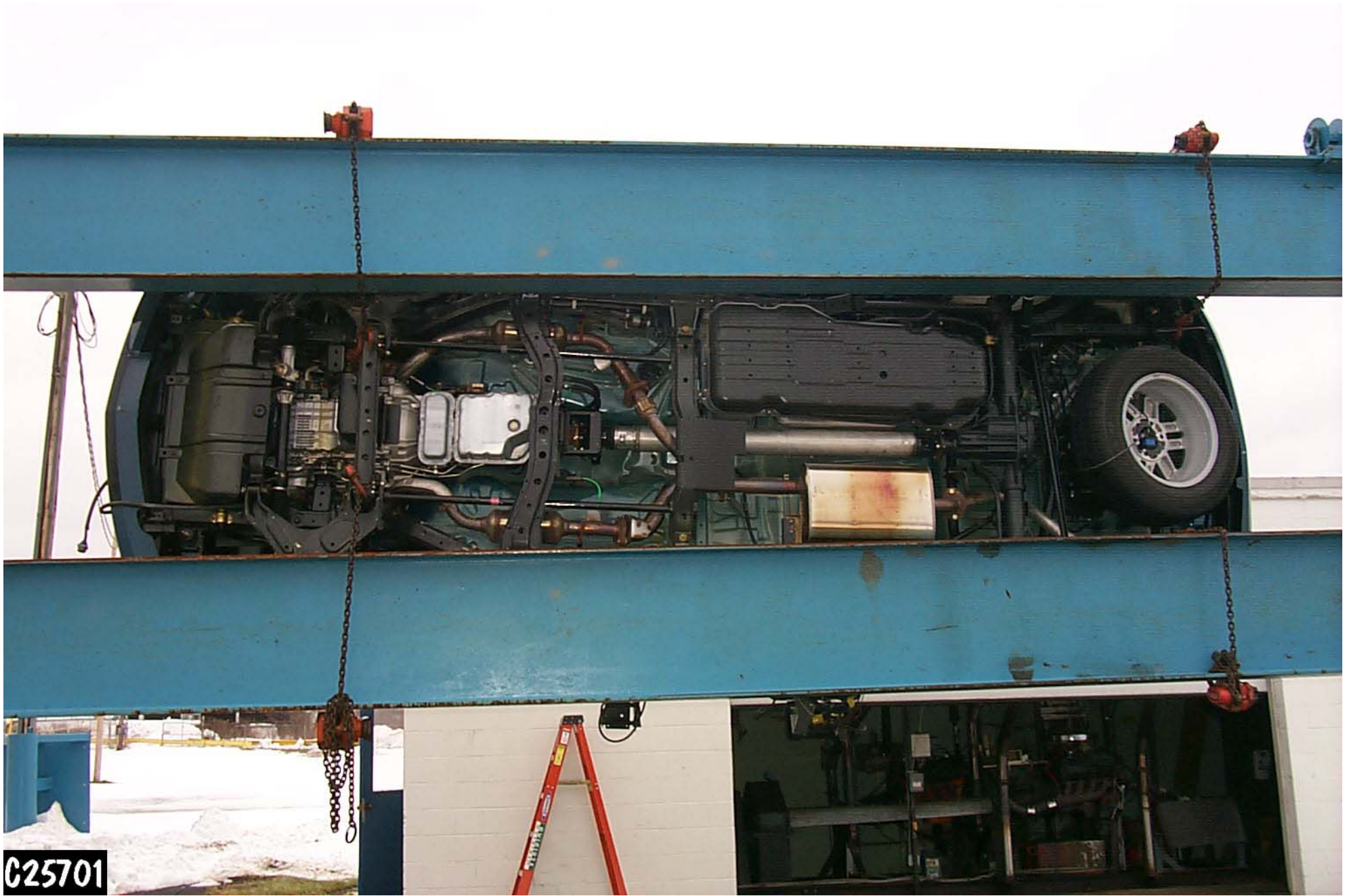
Figure A-35: ROLLOVER 90 DEGREES



Figure A-36: ROLLOVER 180 DEGREES

A-39

8502-31



C25701

Figure A-37: ROLLOVER 270 DEGREES

A-40

8502-31



**C25701**

Figure A-38: ROLLOVER 360 DEGREES

**APPENDIX B**

**VEHICLE, MDB AND SID RESPONSE DATA**

## TABLE OF DATA PLOTS

### DRIVER AND PASSENGER DUMMY INSTRUMENTATION PLOTS ACCELERATION DATA - FILTER CLASS 1000, LOWER SPINE - FILTER CLASS 180 INTEGRATION DATA - FILTER CLASS 180

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
1	DRIVER HEAD (X) ACCELERATION VS TIME	B- 6
2	DRIVER HEAD (X) VELOCITY VS TIME	B- 7
3	DRIVER HEAD (Y) ACCELERATION VS TIME	B- 8
4	DRIVER HEAD (Y) VELOCITY VS TIME	B- 9
5	DRIVER HEAD (Z) ACCELERATION VS TIME	B- 10
6	DRIVER HEAD (Z) VELOCITY VS TIME	B- 11
7	DRIVER HEAD RESULTANT ACCELERATION VS TIME	B- 12
8	DRIVER UPPER RIB (Y) ACCELERATION VS TIME	B- 13
9	DRIVER UPPER RIB (Y) VELOCITY VS TIME	B- 14
10	DRIVER LOWER RIB (Y) ACCELERATION VS TIME	B- 15
11	DRIVER LOWER RIB (Y) VELOCITY VS TIME	B- 16
12	DRIVER LOWER SPINE (Y) ACCELERATION VS TIME	B- 17
13	DRIVER LOWER SPINE (Y) VELOCITY VS TIME	B- 18
14	DRIVER PELVIC (Y) ACCELERATION VS TIME	B- 19
15	DRIVER PELVIC (Y) VELOCITY VS TIME	B- 20
16	PASSENGER HEAD (X) ACCELERATION VS TIME	B- 21
17	PASSENGER HEAD (X) VELOCITY VS TIME	B- 22
18	PASSENGER HEAD (Y) ACCELERATION VS TIME	B- 23
19	PASSENGER HEAD (Y) VELOCITY VS TIME	B- 24
20	PASSENGER HEAD (Z) ACCELERATION VS TIME	B- 25
21	PASSENGER HEAD (Z) VELOCITY VS TIME	B- 26
22	PASSENGER HEAD RESULTANT ACCELERATION VS TIME	B- 27
23	PASSENGER UPPER RIB (Y) ACCELERATION VS TIME	B- 28
24	PASSENGER UPPER RIB (Y) VELOCITY VS TIME	B- 29
25	PASSENGER LOWER RIB (Y) ACCELERATION VS TIME	B- 30
26	PASSENGER LOWER RIB (Y) VELOCITY VS TIME	B- 31
27	PASSENGER LOWER SPINE (Y) ACCELERATION VS TIME	B- 32
28	PASSENGER LOWER SPINE (Y) VELOCITY VS TIME	B- 33
29	PASSENGER PELVIC (Y) ACCELERATION VS TIME	B- 34
30	PASSENGER PELVIC (Y) VELOCITY VS TIME	B- 35

### DRIVER & PASSENGER DUMMY INSTRUMENTATION PLOTS ACCELERATION DATA - FIR FILTERED

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
31	DRIVER UPPER RIB (Y) ACCELERATION VS TIME	B- 36
32	DRIVER LOWER RIB (Y) ACCELERATION VS TIME	B- 37
33	DRIVER LOWER SPINE (Y) ACCELERATION VS TIME	B- 38
34	DRIVER PELVIC (Y) ACCELERATION VS TIME	B- 39
35	PASSENGER UPPER RIB (Y) ACCELERATION VS TIME	B- 40
36	PASSENGER LOWER RIB (Y) ACCELERATION VS TIME	B- 41
37	PASSENGER LOWER SPINE (Y) ACCELERATION VS TIME	B- 42
38	PASSENGER PELVIC (Y) ACCELERATION VS TIME	B- 43

**TEST VEHICLE INSTRUMENTATION PLOTS**  
**ACCELERATION DATA - FILTER CLASS 60**  
**INTEGRATION DATA - FILTER CLASS 180**

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
39	RIGHT SIDE SILL AT FRONT SEAT (X) ACCELERATION VS TIME	B- 44
40	RIGHT SIDE SILL AT FRONT SEAT (X) VELOCITY VS TIME	B- 45
41	RIGHT SIDE SILL AT FRONT SEAT (Y) ACCELERATION VS TIME	B- 46
42	RIGHT SIDE SILL AT FRONT SEAT (Y) VELOCITY VS TIME	B- 47
43	RIGHT SIDE SILL AT FRONT SEAT (Z) ACCELERATION VS TIME	B- 48
44	RIGHT SIDE SILL AT FRONT SEAT (Z) VELOCITY VS TIME	B- 49
45	RIGHT SIDE SILL AT FRONT SEAT RESULTANT ACCELERATION VS TIME	B- 50
46	RIGHT SIDE SILL AT REAR SEAT (X) ACCELERATION VS TIME	B- 51
47	RIGHT SIDE SILL AT REAR SEAT (X) VELOCITY VS TIME	B- 52
48	RIGHT SIDE SILL AT REAR SEAT (Y) ACCELERATION VS TIME	B- 53
49	RIGHT SIDE SILL AT REAR SEAT (Y) VELOCITY VS TIME	B- 54
50	RIGHT SIDE SILL AT REAR SEAT (Z) ACCELERATION VS TIME	B- 55
51	RIGHT SIDE SILL AT REAR SEAT (Z) VELOCITY VS TIME	B- 56
52	RIGHT SIDE SILL AT REAR SEAT RESULTANT ACCELERATION VS TIME	B- 57
53	REAR FLOORPAN ABOVE AXLE (X) ACCELERATION VS TIME	B- 58
54	REAR FLOORPAN ABOVE AXLE (X) VELOCITY VS TIME	B- 59
55	REAR FLOORPAN ABOVE AXLE (Y) ACCELERATION VS TIME	B- 60
56	REAR FLOORPAN ABOVE AXLE (Y) VELOCITY VS TIME	B- 61
57	REAR FLOORPAN ABOVE AXLE (Z) ACCELERATION VS TIME	B- 62
58	REAR FLOORPAN ABOVE AXLE (Z) VELOCITY VS TIME	B- 63
59	REAR FLOORPAN ABOVE AXLE RESULTANT ACCELERATION VS TIME	B- 64
60	LEFT SIDE SILL AT REAR SEAT (Y) ACCELERATION VS TIME	B- 65
61	LEFT SIDE SILL AT REAR SEAT (Y) VELOCITY VS TIME	B- 66
62	LEFT SIDE SILL AT FRONT SEAT (Y) ACCELERATION VS TIME	B- 67
63	LEFT SIDE SILL AT FRONT SEAT (Y) VELOCITY VS TIME	B- 68
64	RIGHT REAR OCCUPANT COMPARTMENT (Y) ACCELERATION VS TIME	B- 69
65	RIGHT REAR OCCUPANT COMPARTMENT (Y) VELOCITY VS TIME	B- 70
66	LOWER B-POST (Y) ACCELERATION VS TIME	B- 71
67	LOWER B-POST (Y) VELOCITY VS TIME	B- 72
68	MIDDLE B-POST (Y) ACCELERATION VS TIME	B- 73
69	MIDDLE B-POST (Y) VELOCITY VS TIME	B- 74
70	LOWER A-POST (Y) ACCELERATION VS TIME	B- 75
71	LOWER A-POST (Y) VELOCITY VS TIME	B- 76
72	MIDDLE A-POST (Y) ACCELERATION VS TIME	B- 77
73	MIDDLE A-POST (Y) VELOCITY VS TIME	B- 78
74	FRONT SEAT TRACK (Y) ACCELERATION VS TIME	B- 79
75	FRONT SEAT TRACK (Y) VELOCITY VS TIME	B- 80
76	REAR SEAT TRACK (Y) ACCELERATION VS TIME	B- 81
77	REAR SEAT TRACK (Y) VELOCITY VS TIME	B- 82
78	VEHICLE CENTER OF GRAVITY (X) ACCELERATION VS TIME	B- 83
79	VEHICLE CENTER OF GRAVITY (X) VELOCITY VS TIME	B- 84
80	VEHICLE CENTER OF GRAVITY (Y) ACCELERATION VS TIME	B- 85

**TEST VEHICLE INSTRUMENTATION PLOTS**  
 ACCELERATION DATA - FILTER CLASS 60  
 INTEGRATION DATA - FILTER CLASS 180

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
81	VEHICLE CENTER OF GRAVITY (Y) VELOCITY ACCELERATION VS TIME	B- 86
82	VEHICLE CENTER OF GRAVITY (Z) ACCELERATION VS TIME	B- 87
83	VEHICLE CENTER OF GRAVITY (Z) VELOCITY VS TIME	B- 88
84	VEHICLE CENTER OF GRAVITY RESULTANT ACCELERATION VS TIME	B- 89

**MDB INSTRUMENTATION PLOTS**  
 ACCELERATION DATA - FILTER CLASS 60  
 INTEGRATION DATA - FILTER CLASS 180

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
85	MDB CENTER OF GRAVITY (X) ACCELERATION VS TIME	B- 90
86	MDB CENTER OF GRAVITY (X) VELOCITY VS TIME	B- 91
87	MDB CENTER OF GRAVITY (Y) ACCELERATION VS TIME	B- 92
88	MDB CENTER OF GRAVITY (Y) VELOCITY VS TIME	B- 93
89	MDB CENTER OF GRAVITY (Z) ACCELERATION VS TIME	B- 94
90	MDB CENTER OF GRAVITY (Z) VELOCITY VS TIME	B- 95
91	MDB CENTER OF GRAVITY RESULTANT ACCELERATION VS TIME	B- 96
92	MDB REAR (X) ACCELERATION VS TIME	B- 97
93	MDB REAR (X) VELOCITY VS TIME	B- 98
94	MDB REAR (Y) ACCELERATION VS TIME	B- 99
95	MDB REAR (Y) VELOCITY VS TIME	B- 100

**DRIVER & PASSENGER DUMMY INSTRUMENTATION PLOTS (REDUNDANT)**  
 ACCELERATION DATA - FILTER CLASS 1000, LOWER SPINE - FILTER CLASS 180  
 INTEGRATION DATA - FILTER CLASS 180

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
96	DRIVER UPPER RIB (Y) ACCELERATION VS TIME	B- 101
97	DRIVER UPPER RIB (Y) VELOCITY VS TIME	B- 102
98	DRIVER LOWER RIB (Y) ACCELERATION VS TIME	B- 103
99	DRIVER LOWER RIB (Y) VELOCITY VS TIME	B- 104
100	DRIVER LOWER SPINE (Y) ACCELERATION VS TIME	B- 105
101	DRIVER LOWER SPINE (Y) VELOCITY VS TIME	B- 106
102	DRIVER PELVIC (Y) ACCELERATION VS TIME	B- 107
103	DRIVER PELVIC (Y) VELOCITY VS TIME	B- 108
104	PASSENGER UPPER RIB (Y) ACCELERATION VS TIME	B- 109
105	PASSENGER UPPER RIB (Y) VELOCITY VS TIME	B- 110
106	PASSENGER LOWER RIB (Y) ACCELERATION VS TIME	B- 111
107	PASSENGER LOWER RIB (Y) VELOCITY VS TIME	B- 112
108	PASSENGER LOWER SPINE (Y) ACCELERATION VS TIME	B- 113
109	PASSENGER LOWER SPINE (Y) VELOCITY VS TIME	B- 114
110	PASSENGER PELVIC (Y) ACCELERATION VS TIME	B- 115
111	PASSENGER PELVIC (Y) VELOCITY VS TIME	B- 116

**DRIVER & PASSENGER DUMMY INSTRUMENTATION PLOTS (REDUNDANT)**  
 ACCELERATION DATA - FIR FILTERED

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
112	DRIVER UPPER RIB (Y) ACCELERATION VS TIME	B- 117
113	DRIVER LOWER RIB (Y) ACCELERATION VS TIME	B- 118
114	DRIVER LOWER SPINE (Y) ACCELERATION VS TIME	B- 119
115	DRIVER PELVIC (Y) ACCELERATION VS TIME	B- 120
116	PASSENGER UPPER RIB (Y) ACCELERATION VS TIME	B- 121
117	PASSENGER LOWER RIB (Y) ACCELERATION VS TIME	B- 122
118	PASSENGER LOWER SPINE (Y) ACCELERATION VS TIME	B- 123
119	PASSENGER PELVIC (Y) ACCELERATION VS TIME	B- 124

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

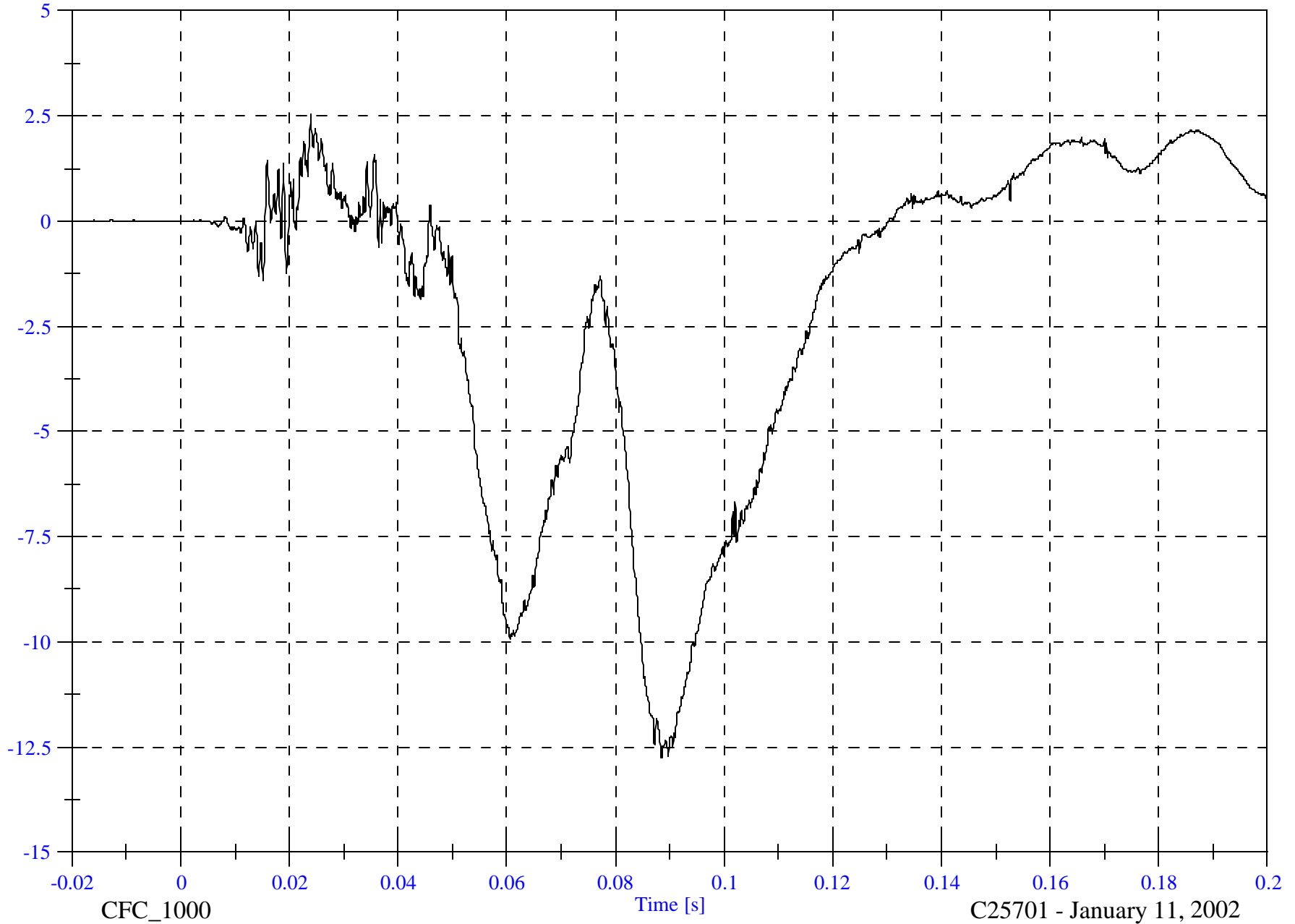
P1 Head CG Ax

Max: 2.5 [g] at 0.024 [s]

Min: -12.8 [g] at 0.088 [s]

B-6

g



8502-31

CFC\_1000

Time [s]

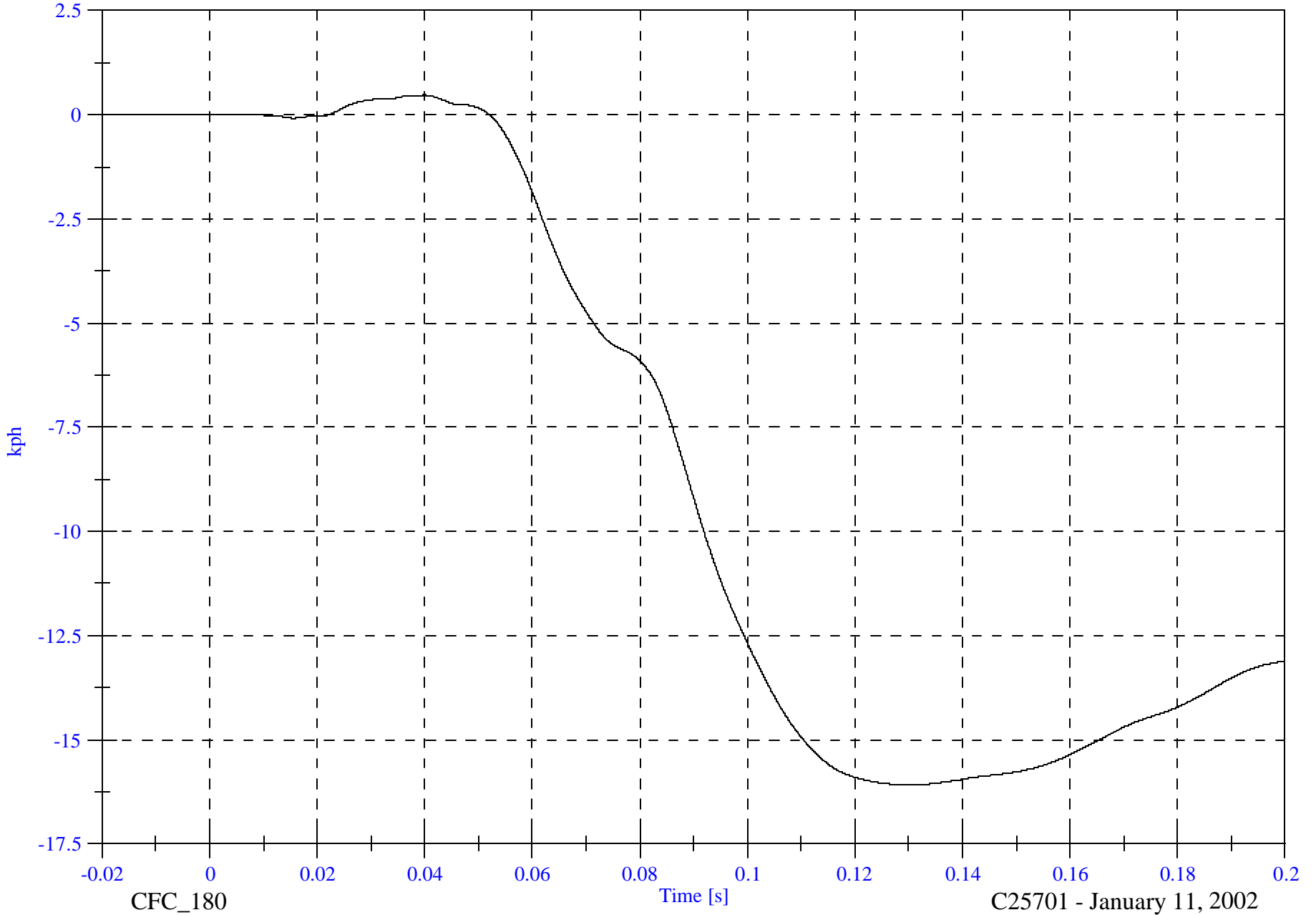
C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

P1 Head CG Ax Velocity

Max: 0.5 [kph] at 0.040 [s]

Min: -16.1 [kph] at 0.130 [s]



B-7

8502-31

CFC\_180

Time [s]

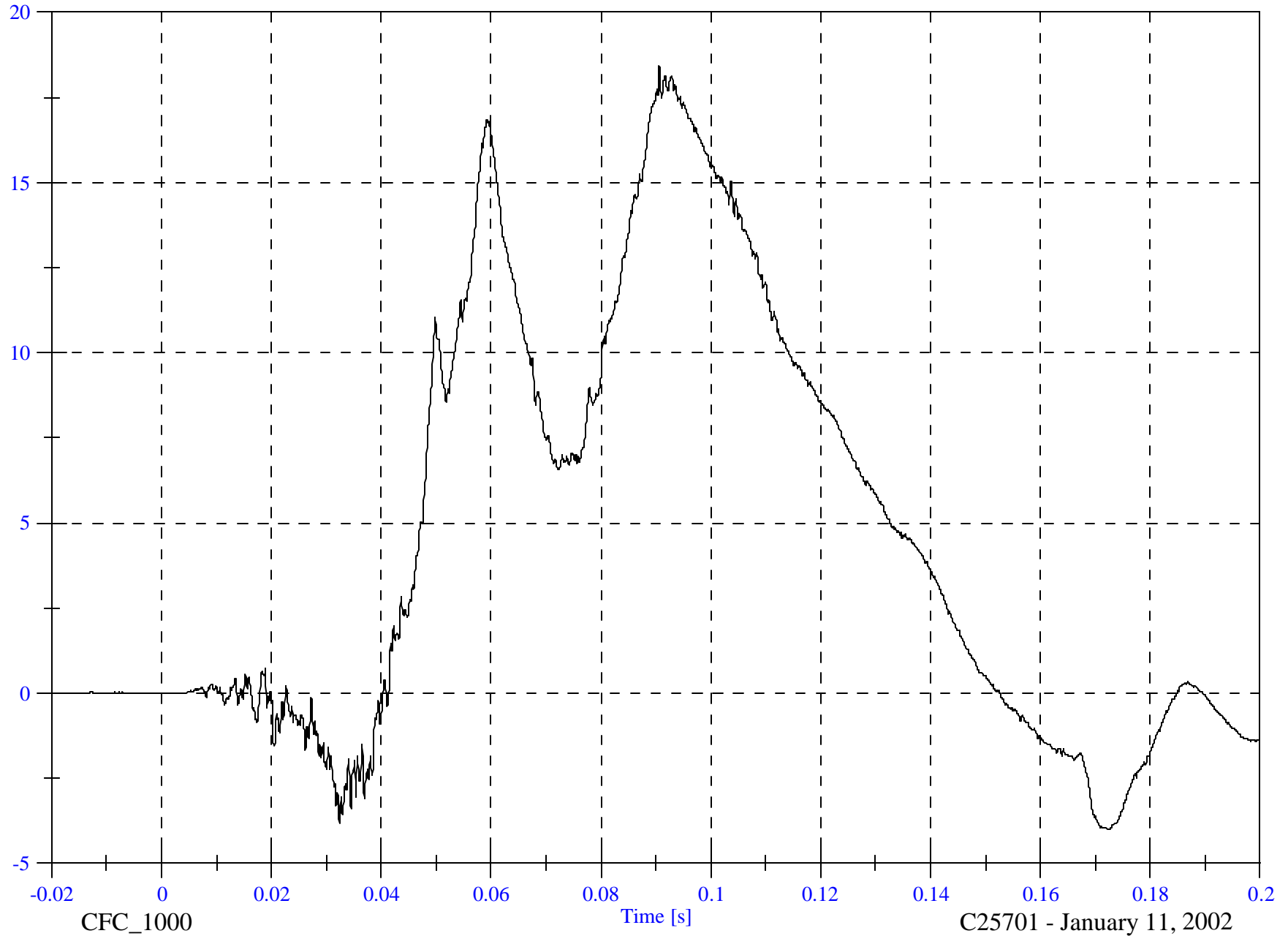
C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

Max: 18.4 [g] at 0.091 [s]

P1 Head CG Ay

Min: -4.0 [g] at 0.172 [s]



B-8

g

8502-31

CFC\_1000

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

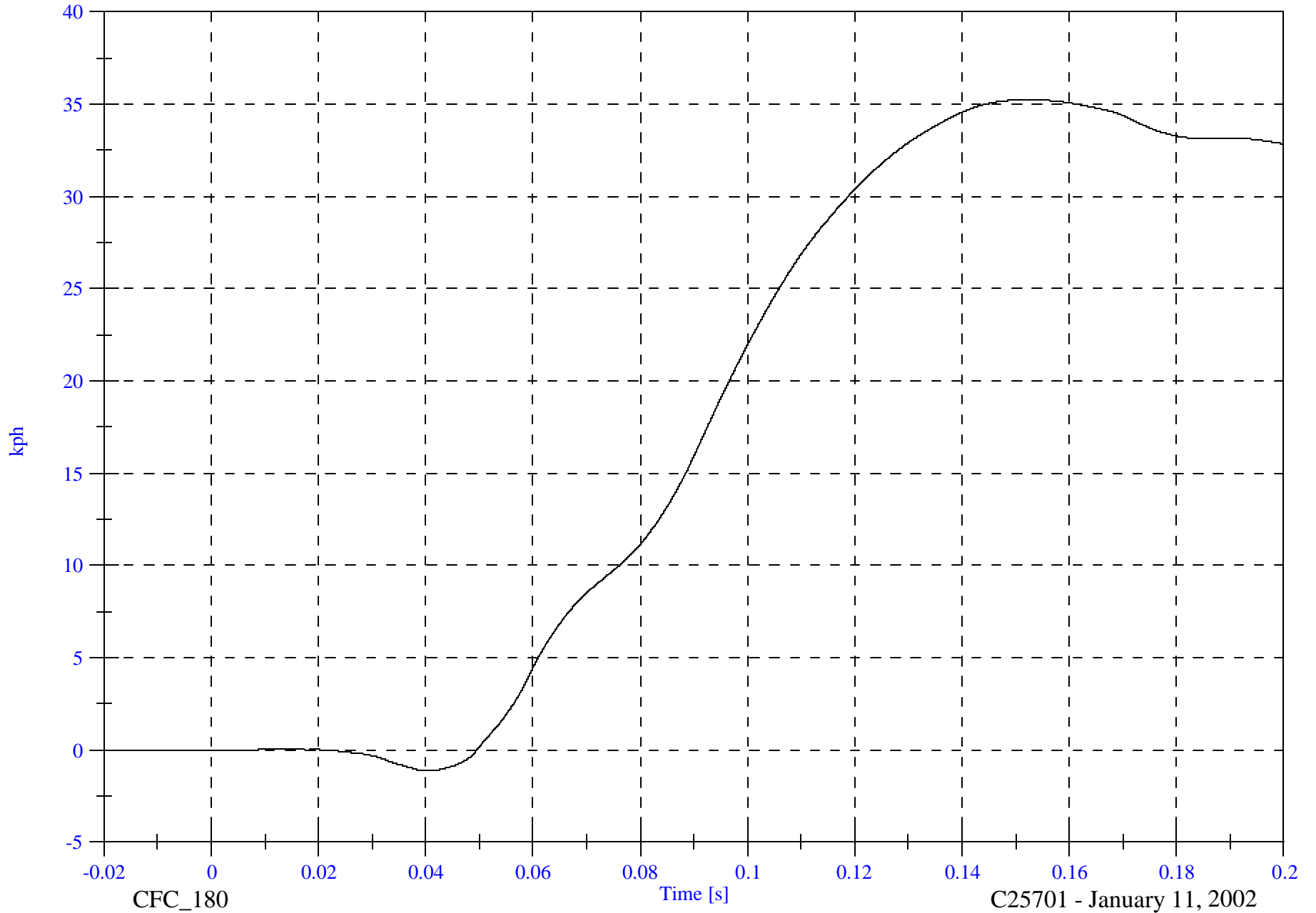
Max: 35.3 [kph] at 0.152 [s]

P1 Head CG Ay Velocity

Min: -1.1 [kph] at 0.041 [s]

B-9

8502-31



CFC\_180

Time [s]

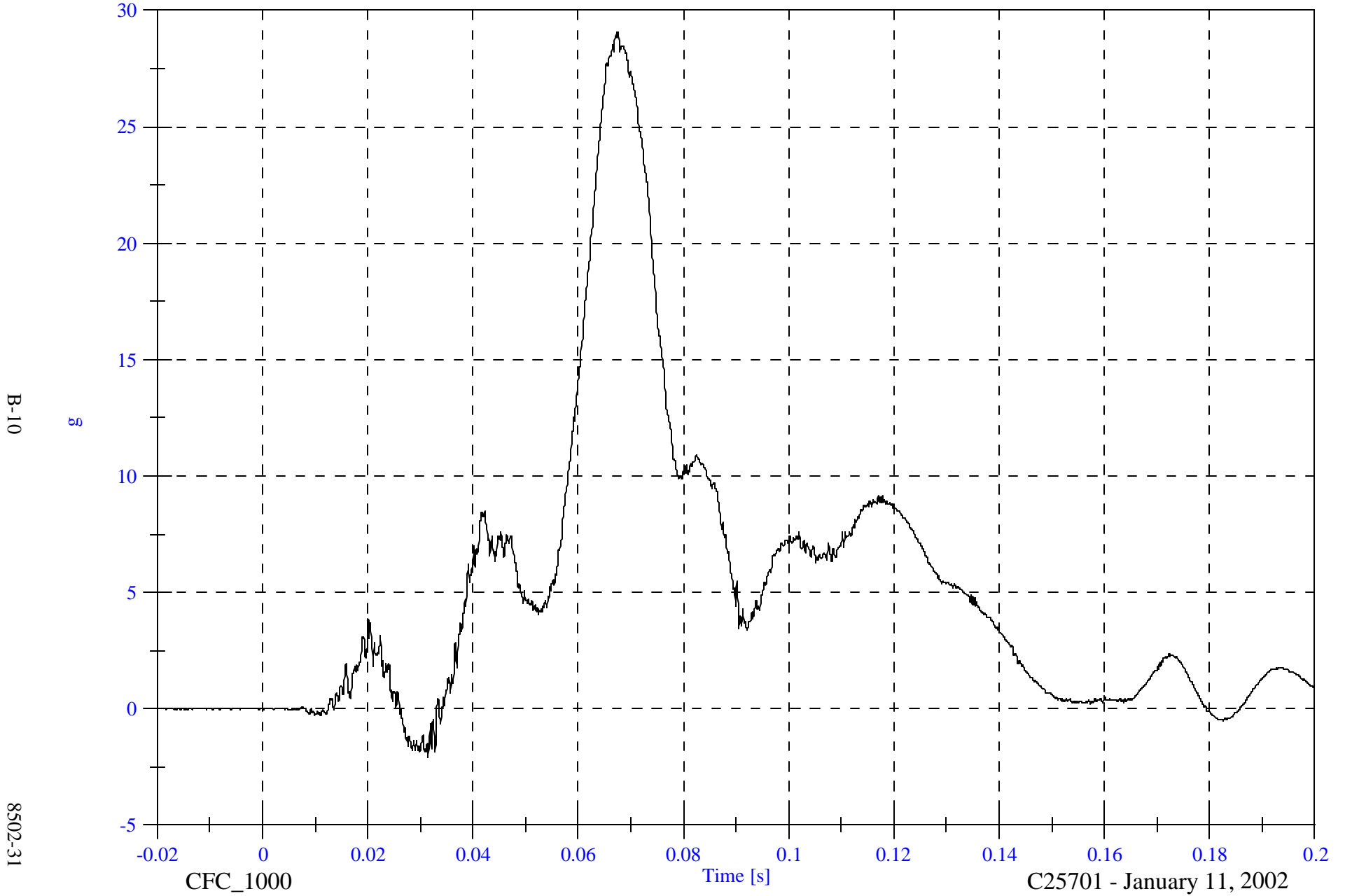
C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

P1 Head CG Az

Max: 29.0 [g] at 0.067 [s]

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



B-10

8502-31

CFC\_1000

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

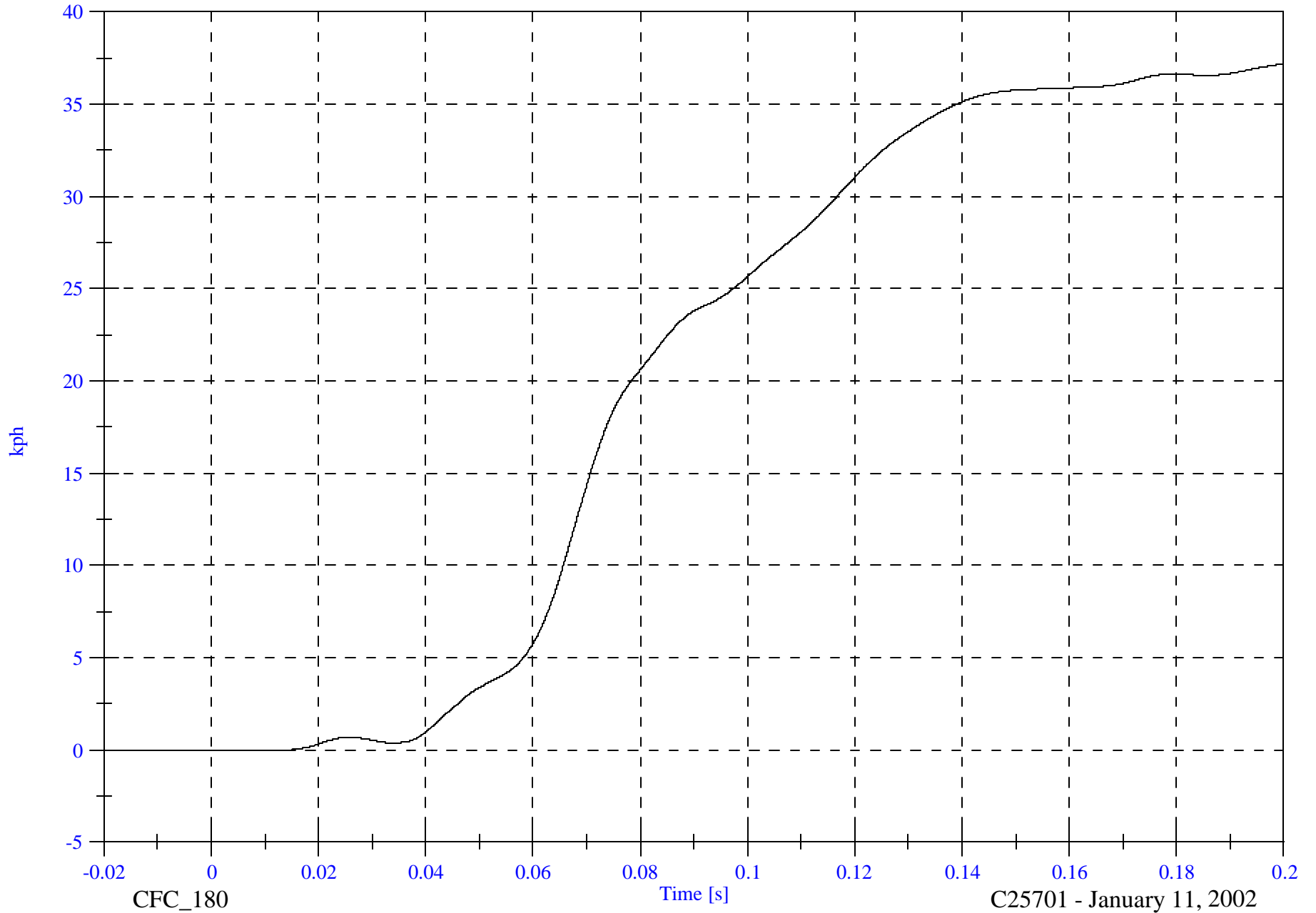
P1 Head CG Az Velocity

Max: 37.2 [kph] at 0.200 [s]

Min: -0.0 [kph] at 0.012 [s]

B-11

8502-31



CFC\_180

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

P1 Head CG A Resultant

Max: 31.4 [g] at 0.067 [s]

Min: 0.0 [g] at -0.015 [s]

B-12

8502-31



CFC\_1000

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

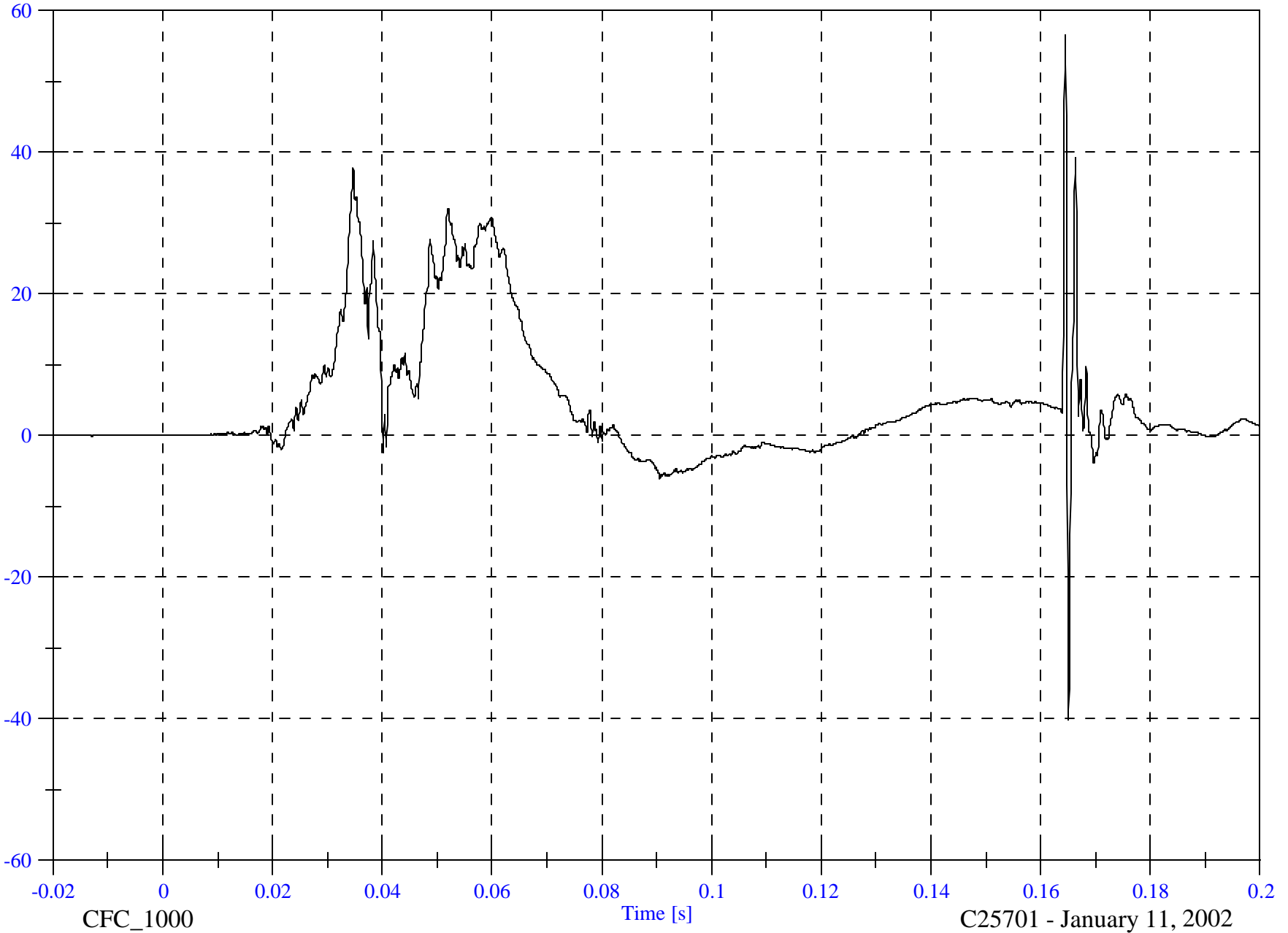
P1 Upper Rib y

Max: 56.6 [g] at 0.164 [s]

Min: -40.0 [g] at 0.165 [s]

B-13

g



8502-31

CFC\_1000

Time [s]

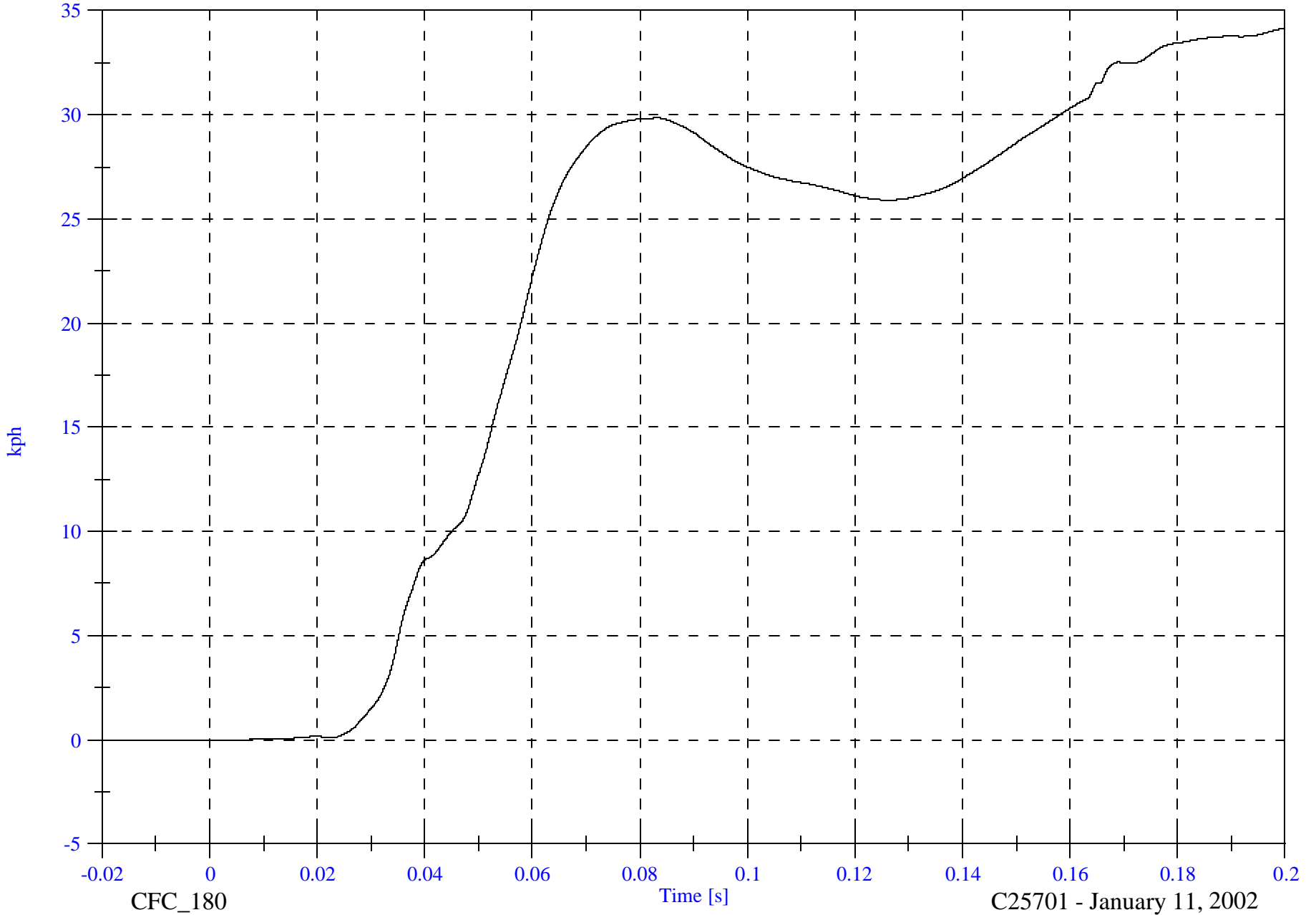
C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

P1 Upper Rib y Velocity

Max: 34.2 [kph] at 0.200 [s]

Min: -0.0 [kph] at -0.018 [s]



B-14

8502-31

CFC\_180

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

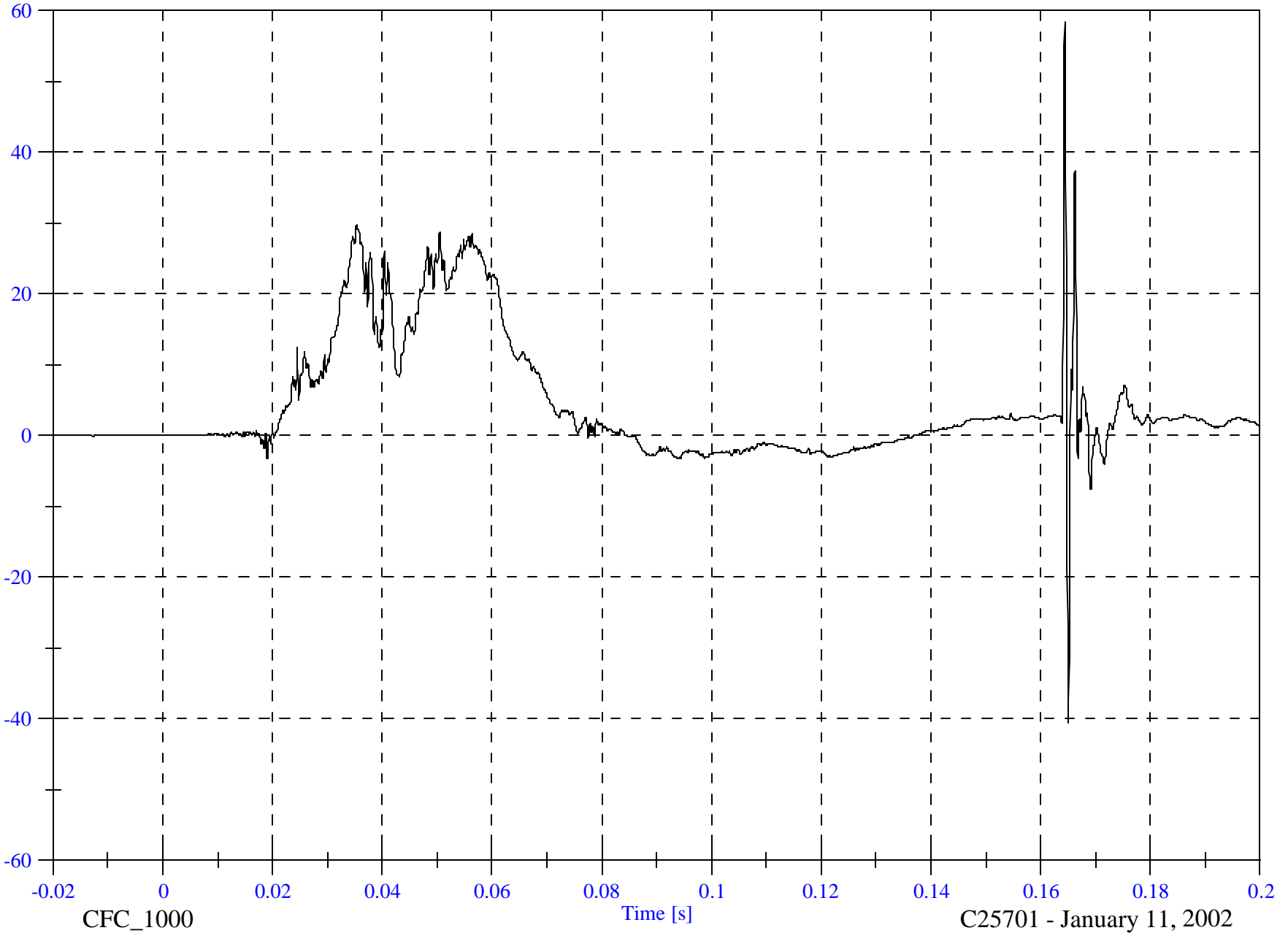
P1 Lower Rib y

Max: 58.5 [g] at 0.164 [s]

Min: -40.5 [g] at 0.165 [s]

B-15

g



8502-31

CFC\_1000

Time [s]

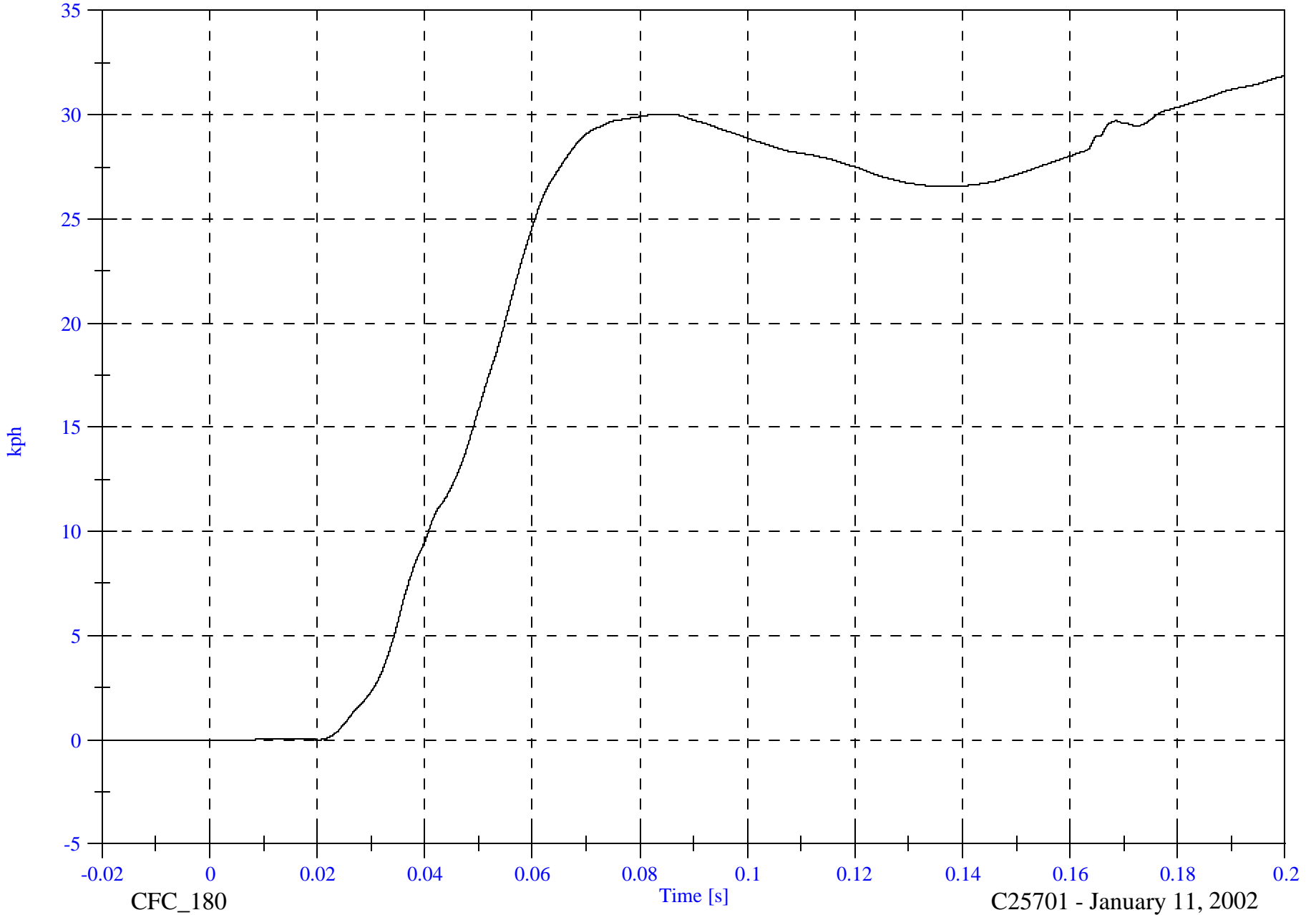
C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

P1 Lower Rib y Velocity

Max: 31.9 [kph] at 0.200 [s]

Min: -0.0 [kph] at -0.020 [s]



B-16

8502-31

CFC\_180

Time [s]

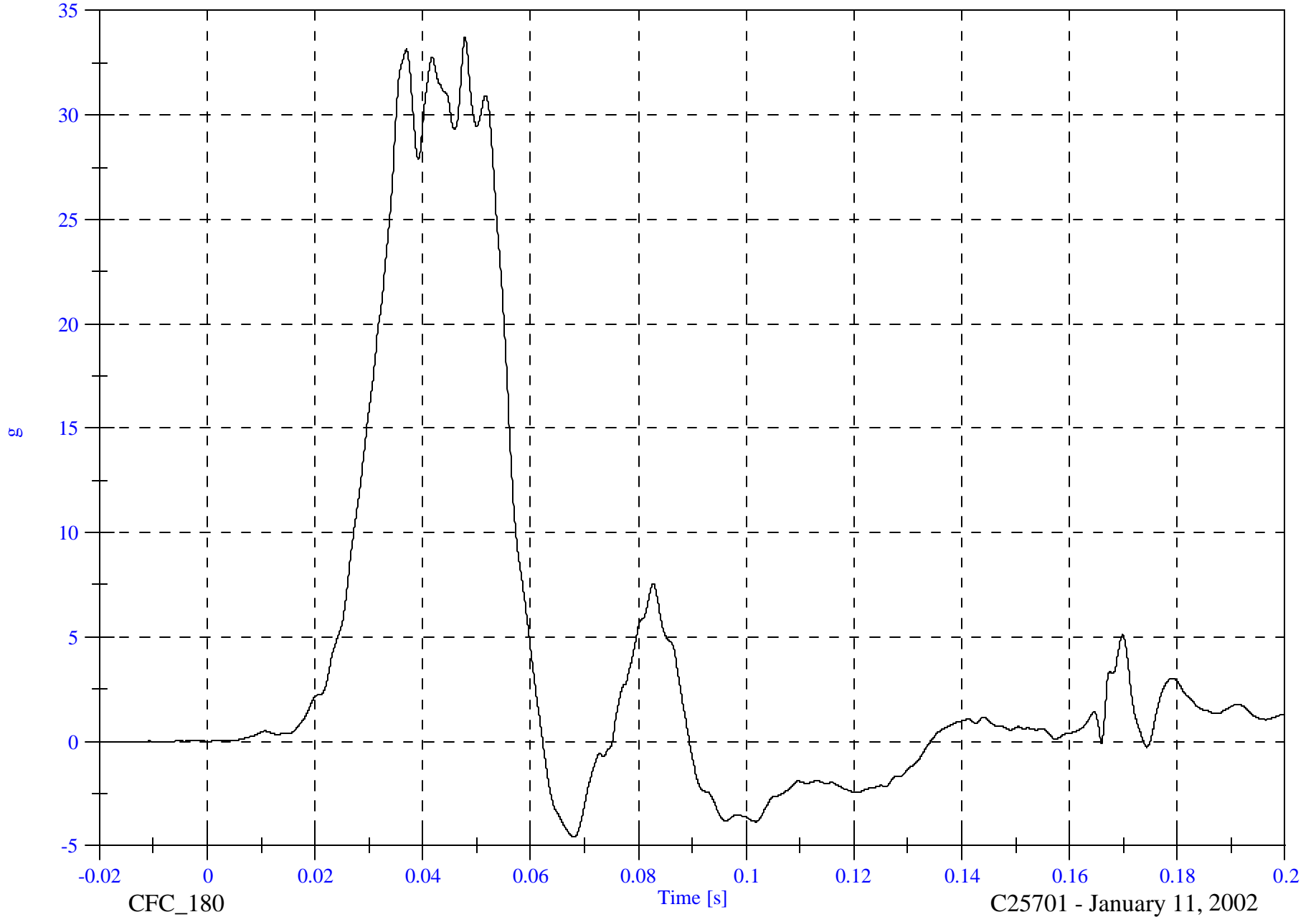
C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

P1 Lower Spine y

Max: 33.7 [g] at 0.048 [s]

Min: -4.6 [g] at 0.068 [s]



B-17

8502-31

CFC\_180

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

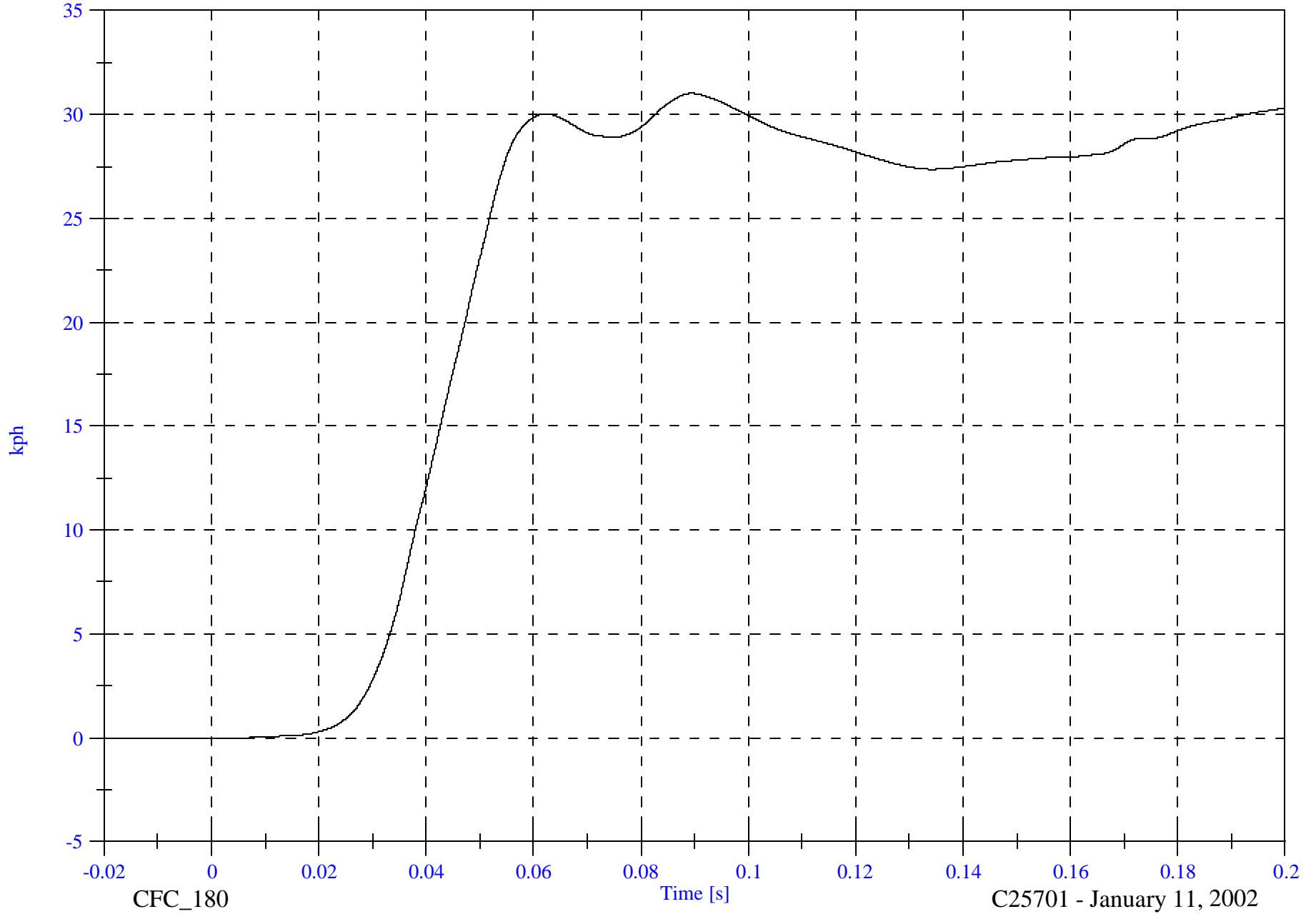
Max: 31.0 [kph] at 0.089 [s]

P1 Lower Spine y Velocity

Min: -0.0 [kph] at -0.020 [s]

B-18

8502-31



CFC\_180

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

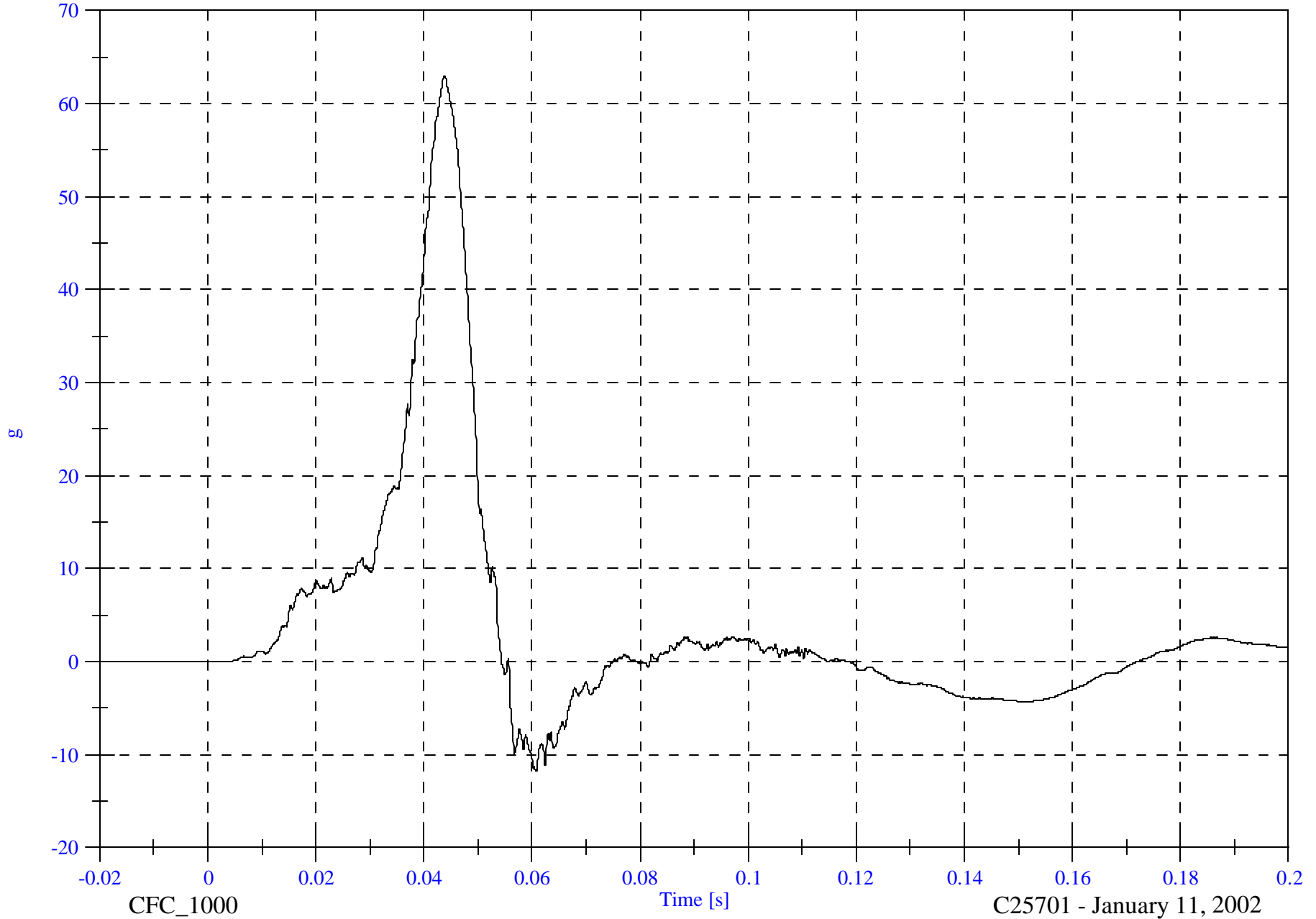
Max: 63.0 [g] at 0.044 [s]

Min: -11.7 [g] at 0.061 [s]

P1 Pelvic y

B-19

8502-31



CFC\_1000

Time [s]

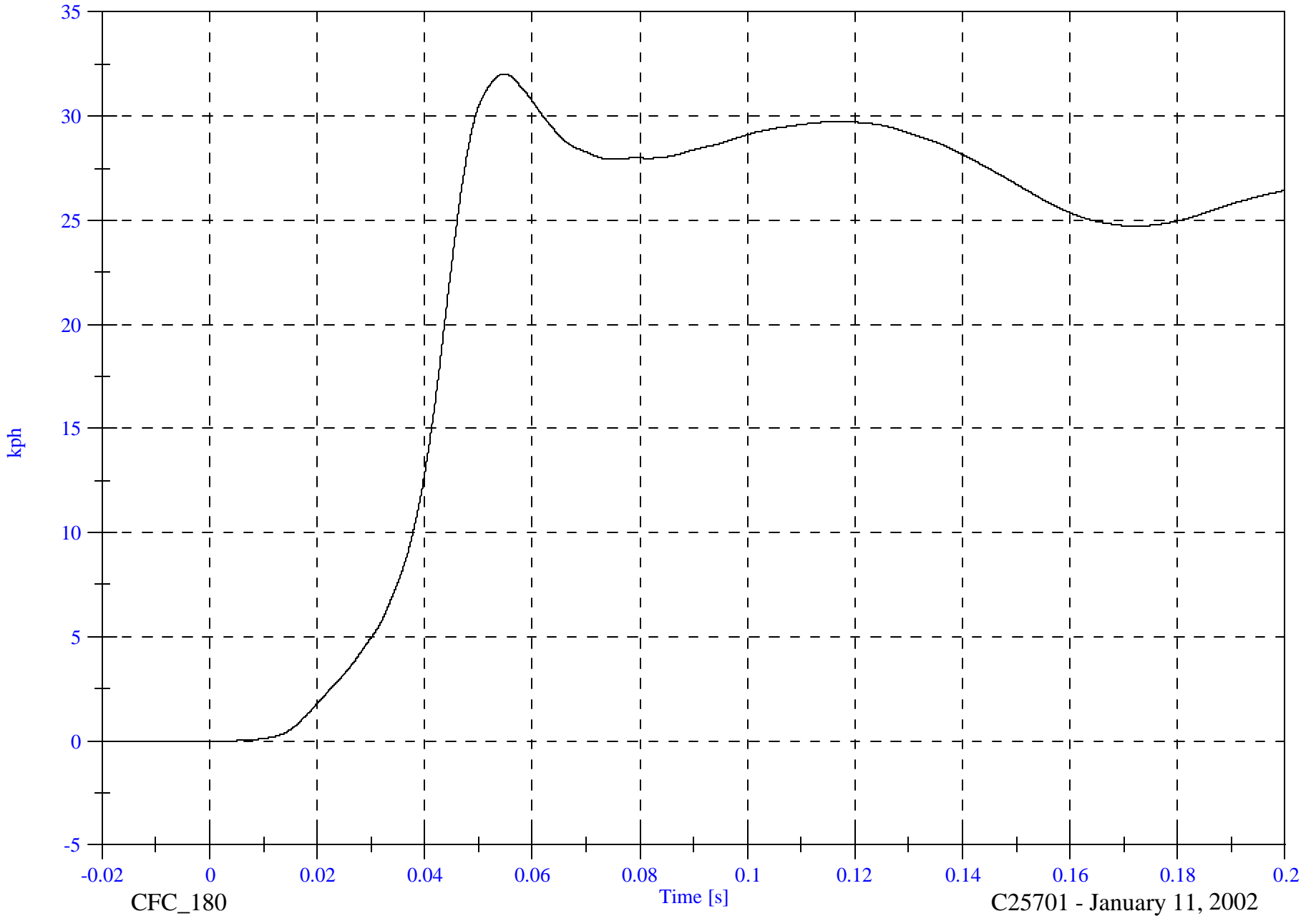
C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

Max: 32.0 [kph] at 0.055 [s]

P1 Pelvic y Velocity

Min: -0.0 [kph] at -0.017 [s]



B-20

8502-31

CFC\_180

Time [s]

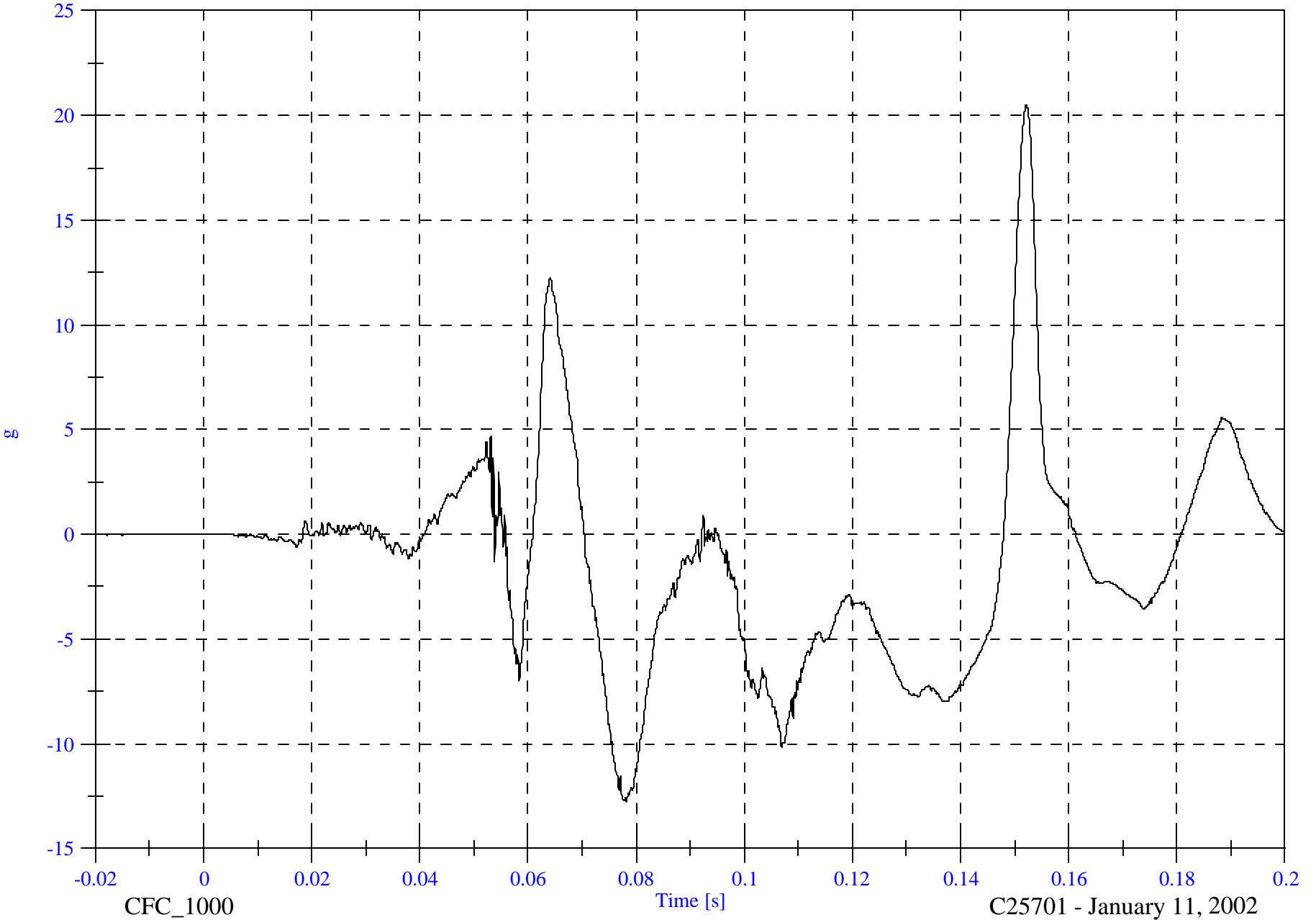
C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

P4 Head CG Ax

Max: 20.5 [g] at 0.152 [s]

Min: -12.8 [g] at 0.078 [s]



B-21

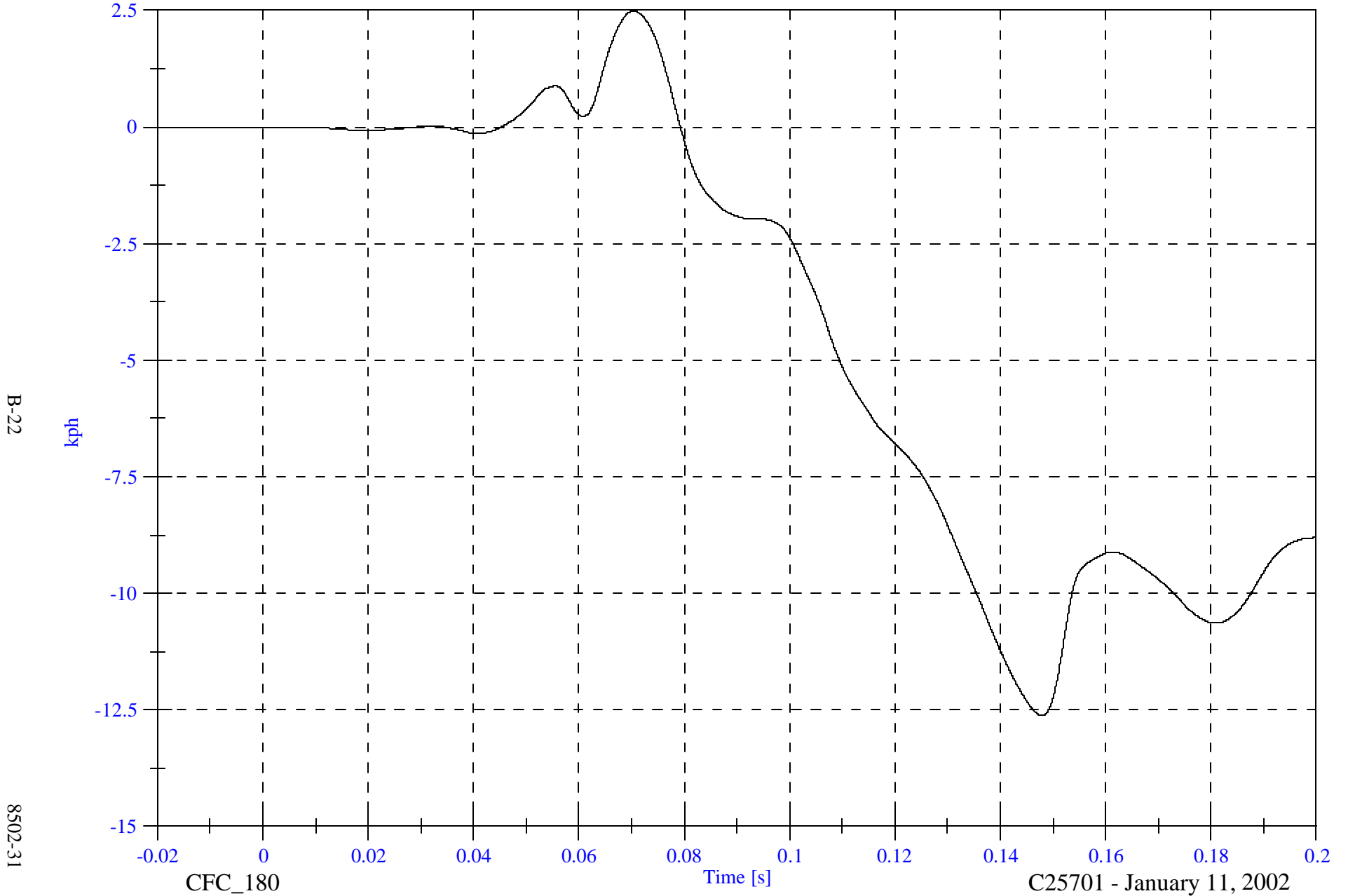
8502-31

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

Max: 2.5 [kph] at 0.070 [s]

Min: -12.6 [kph] at 0.148 [s]

P4 Head CG Ax Velocity



B-22

8502-31

CFC\_180

Time [s]

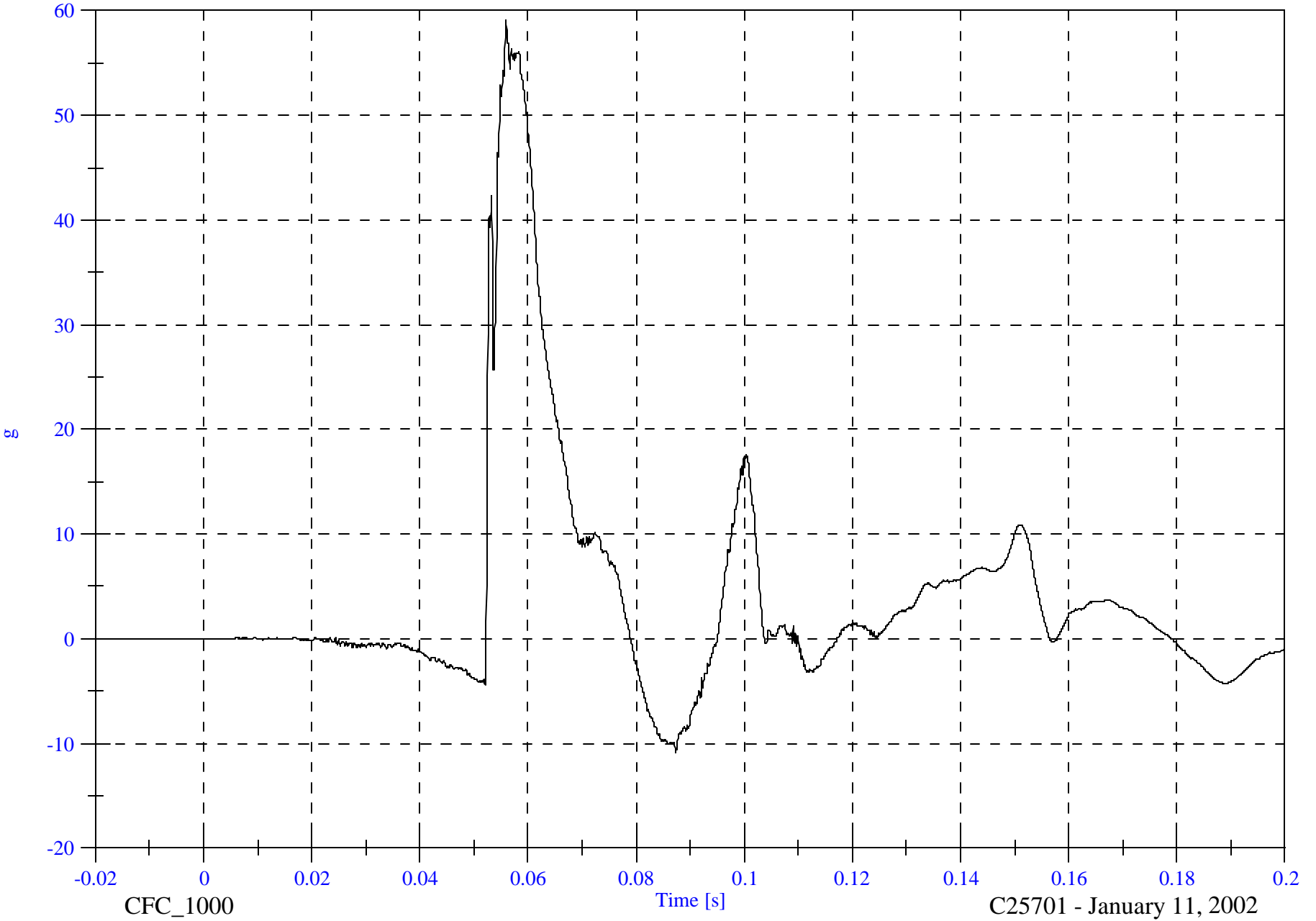
C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

P4 Head CG Ay

Max: 59.1 [g] at 0.056 [s]

Min: -10.9 [g] at 0.087 [s]



B-23

8502-31

CFC\_1000

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

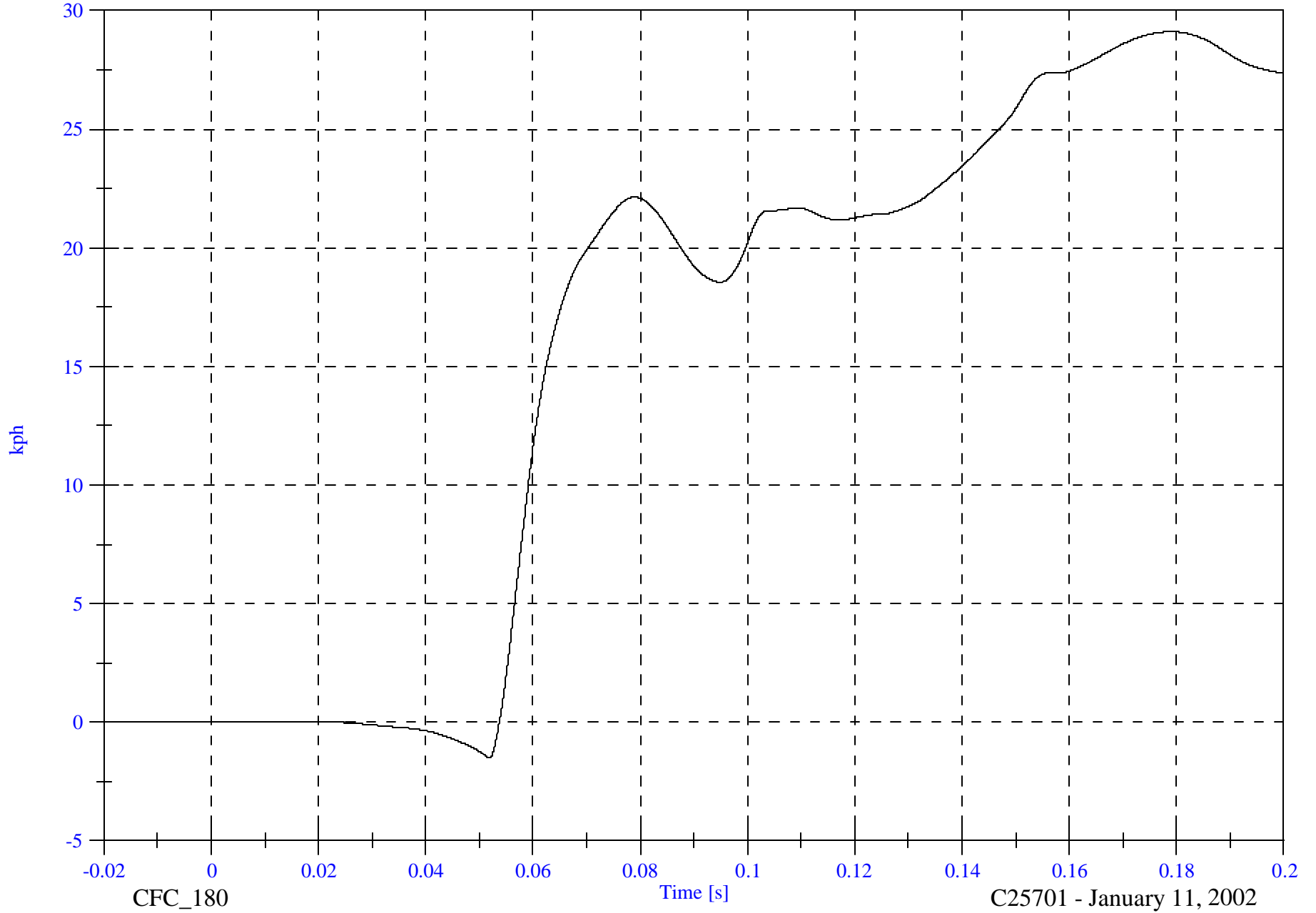
P4 Head CG Ay Velocity

Max: 29.1 [kph] at 0.179 [s]

Min: -1.5 [kph] at 0.052 [s]

B-24

8502-31



CFC\_180

Time [s]

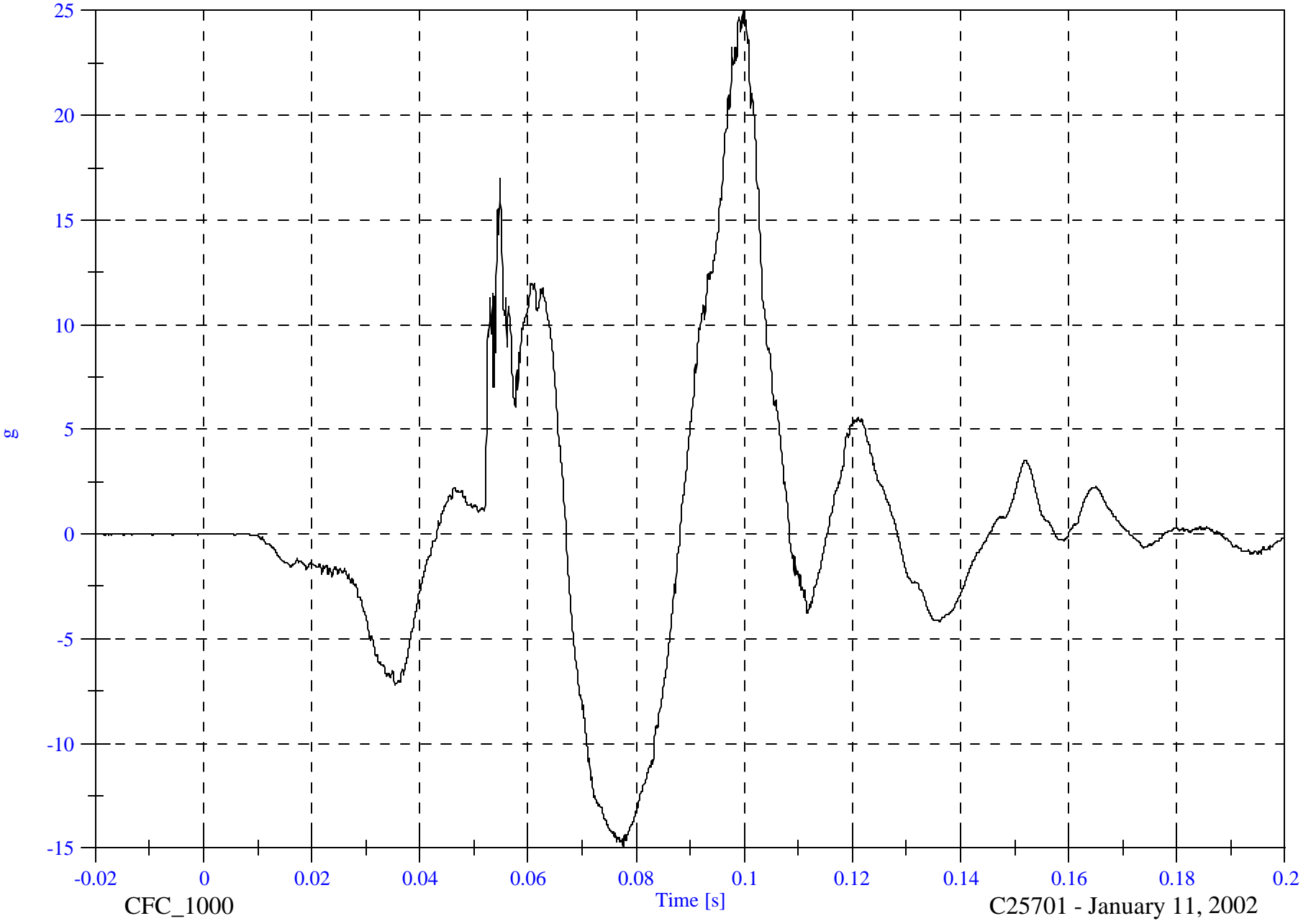
C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

P4 Head CG Az

Max: 24.9 [g] at 0.100 [s]

Min: -15.0 [g] at 0.078 [s]



B-25

8502-31

CFC\_1000

Time [s]

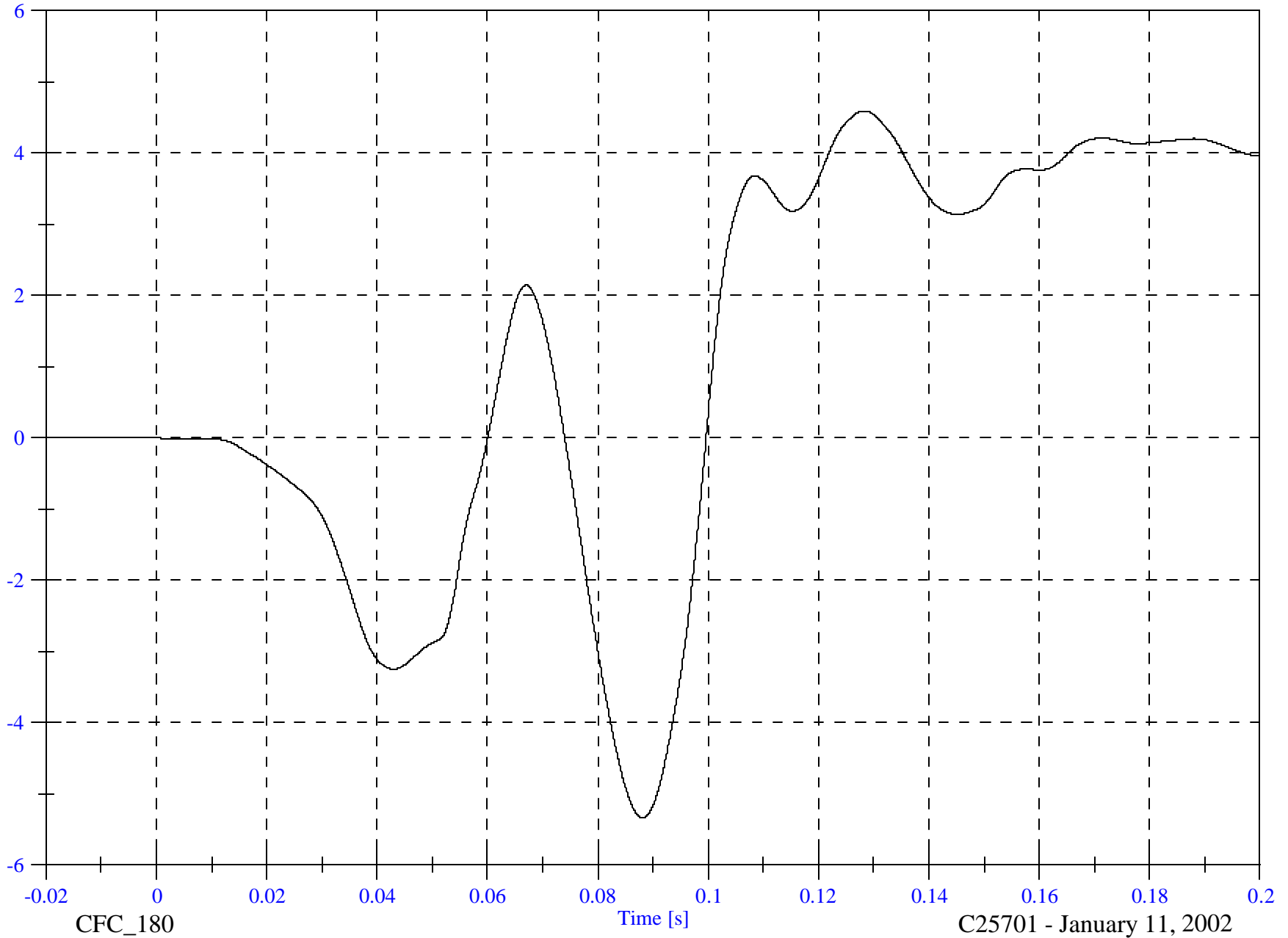
C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

P4 Head CG Az Velocity

Max: 4.6 [kph] at 0.128 [s]

Min: -5.3 [kph] at 0.088 [s]



B-26

8502-31

CFC\_180

Time [s]

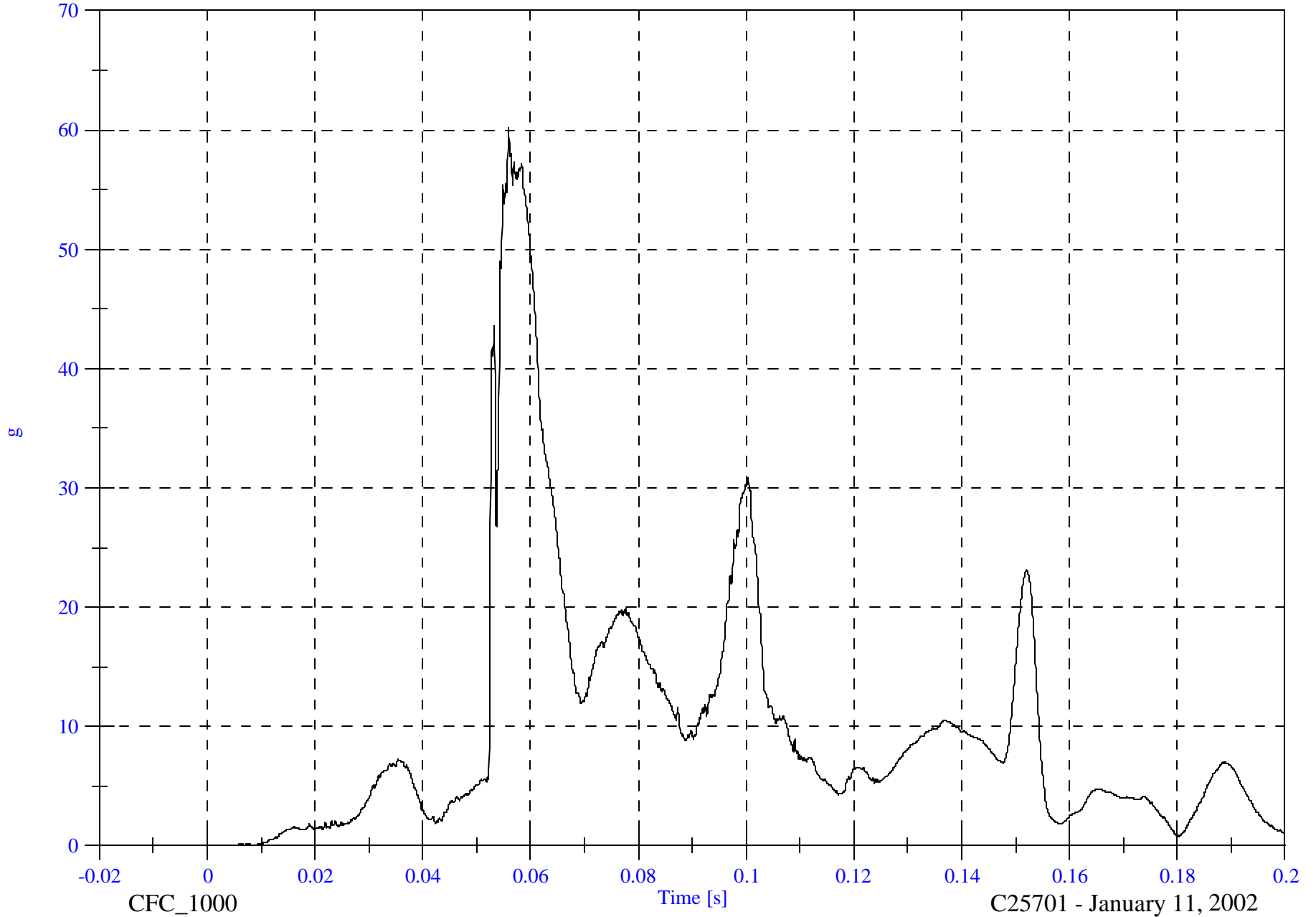
C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

P4 Head CG A Resultant

Max: 60.2 [g] at 0.056 [s]

Min: 0.0 [g] at -0.012 [s]



B-27

8502-31

CFC\_1000

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

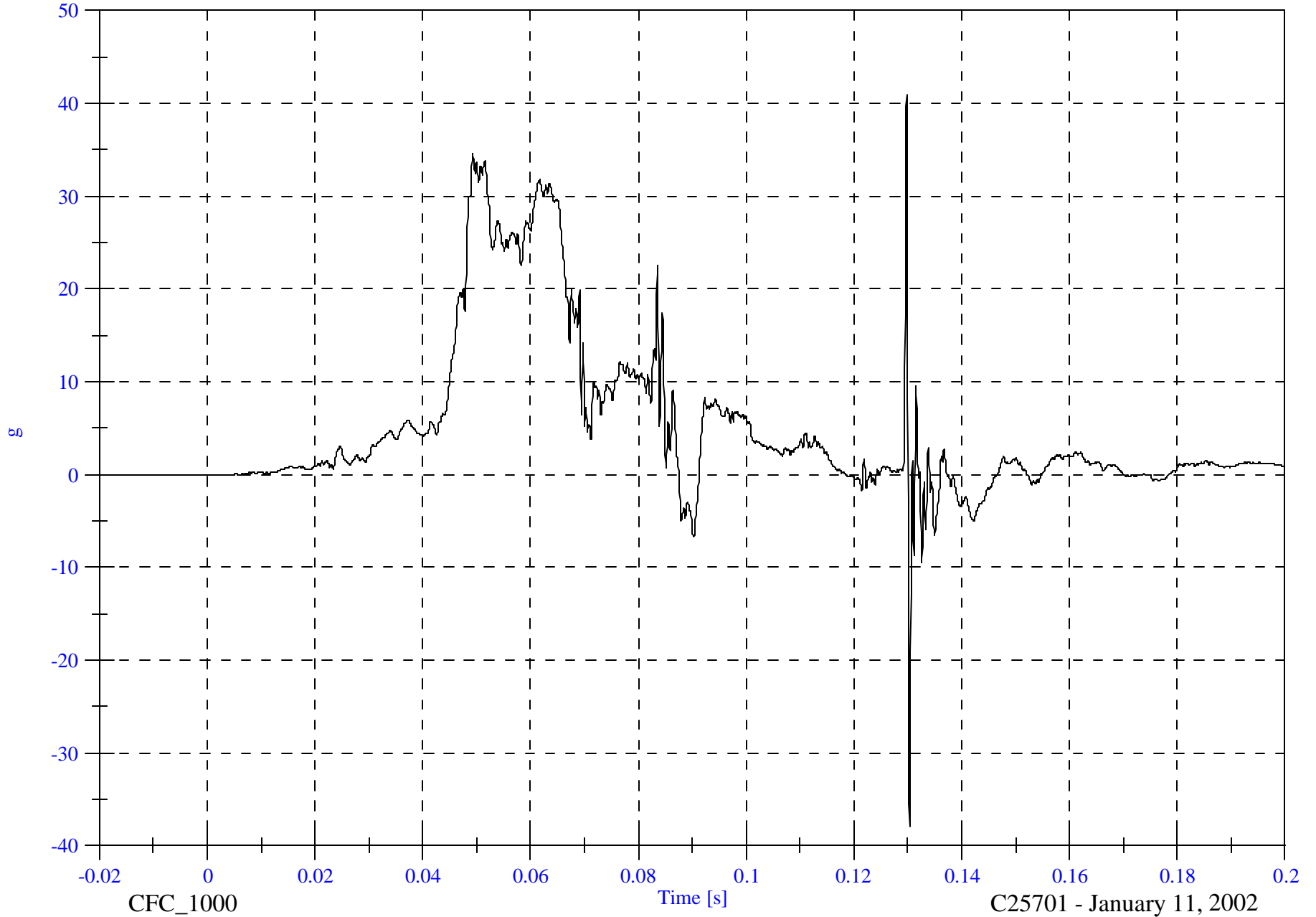
P4 Upper Rib y

Max: 40.9 [g] at 0.130 [s]

Min: -37.9 [g] at 0.130 [s]

B-28

8502-31



CFC\_1000

Time [s]

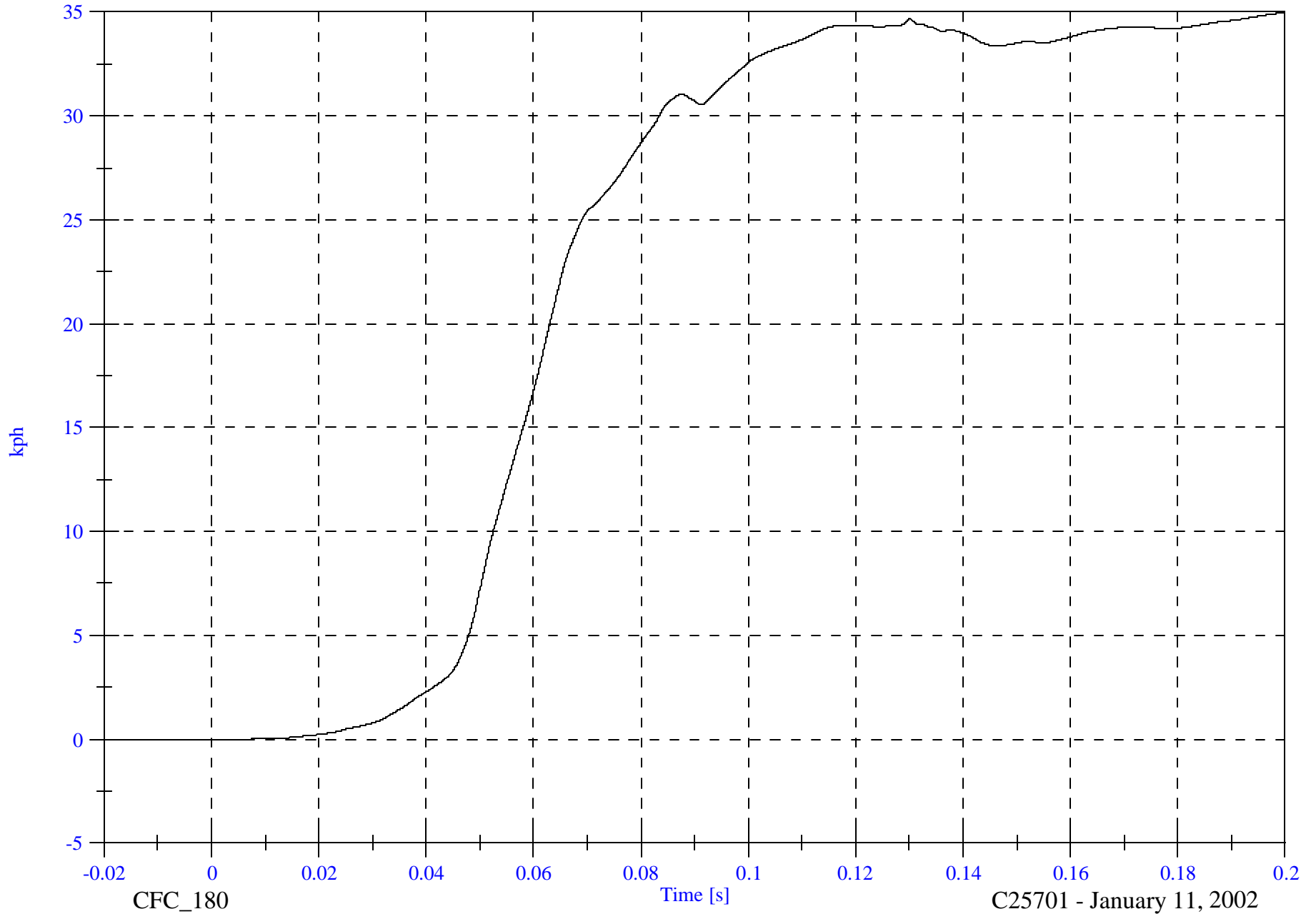
C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

P4 Upper Rib y Velocity

Max: 35.0 [kph] at 0.200 [s]

Min: -0.0 [kph] at -0.020 [s]



FMVSS 214D Indicant Test - 2002 Isuzu Axiom

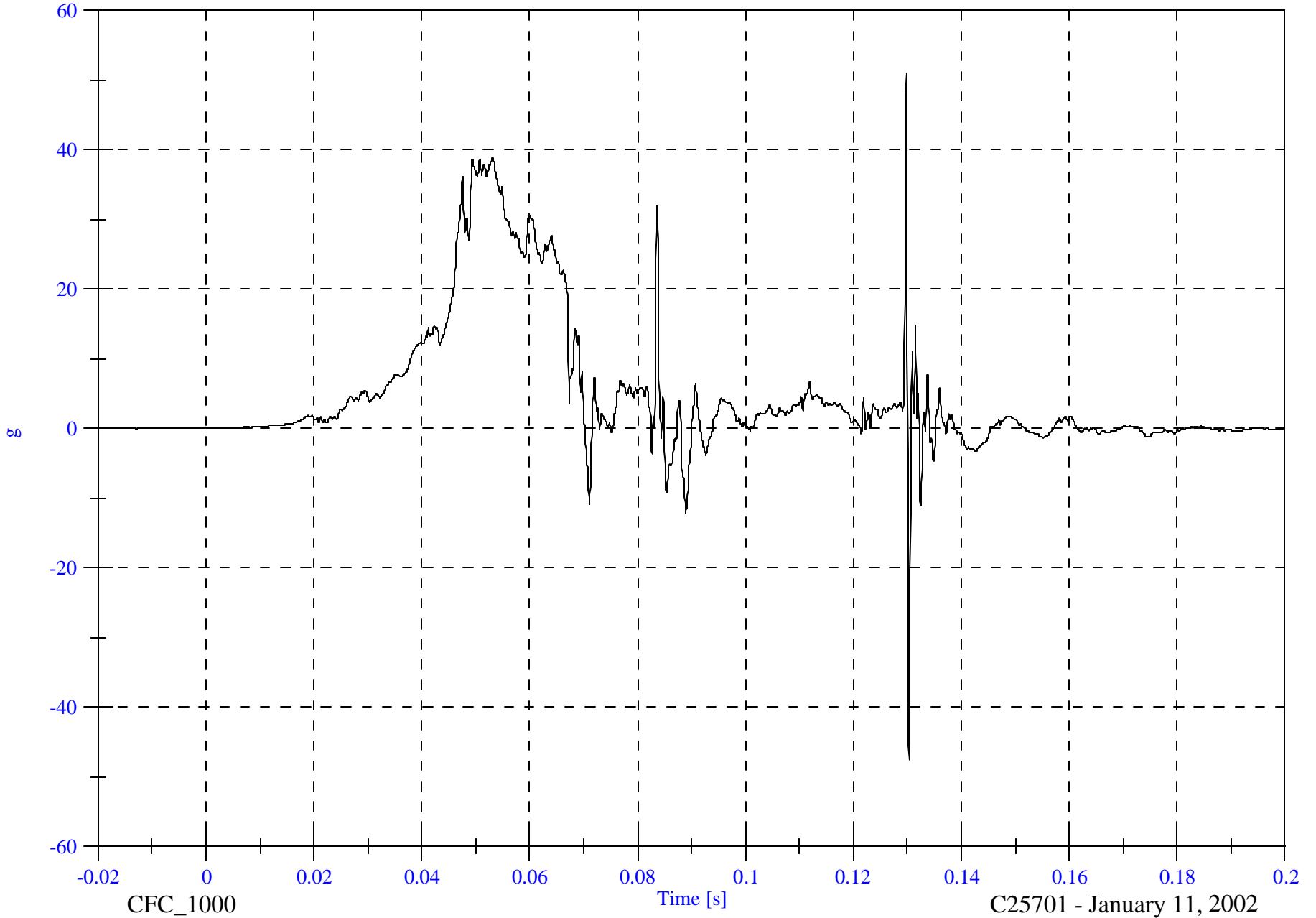
P4 Lower Rib y

Max: 50.9 [g] at 0.130 [s]

Min: -47.6 [g] at 0.130 [s]

B-30

8502-31

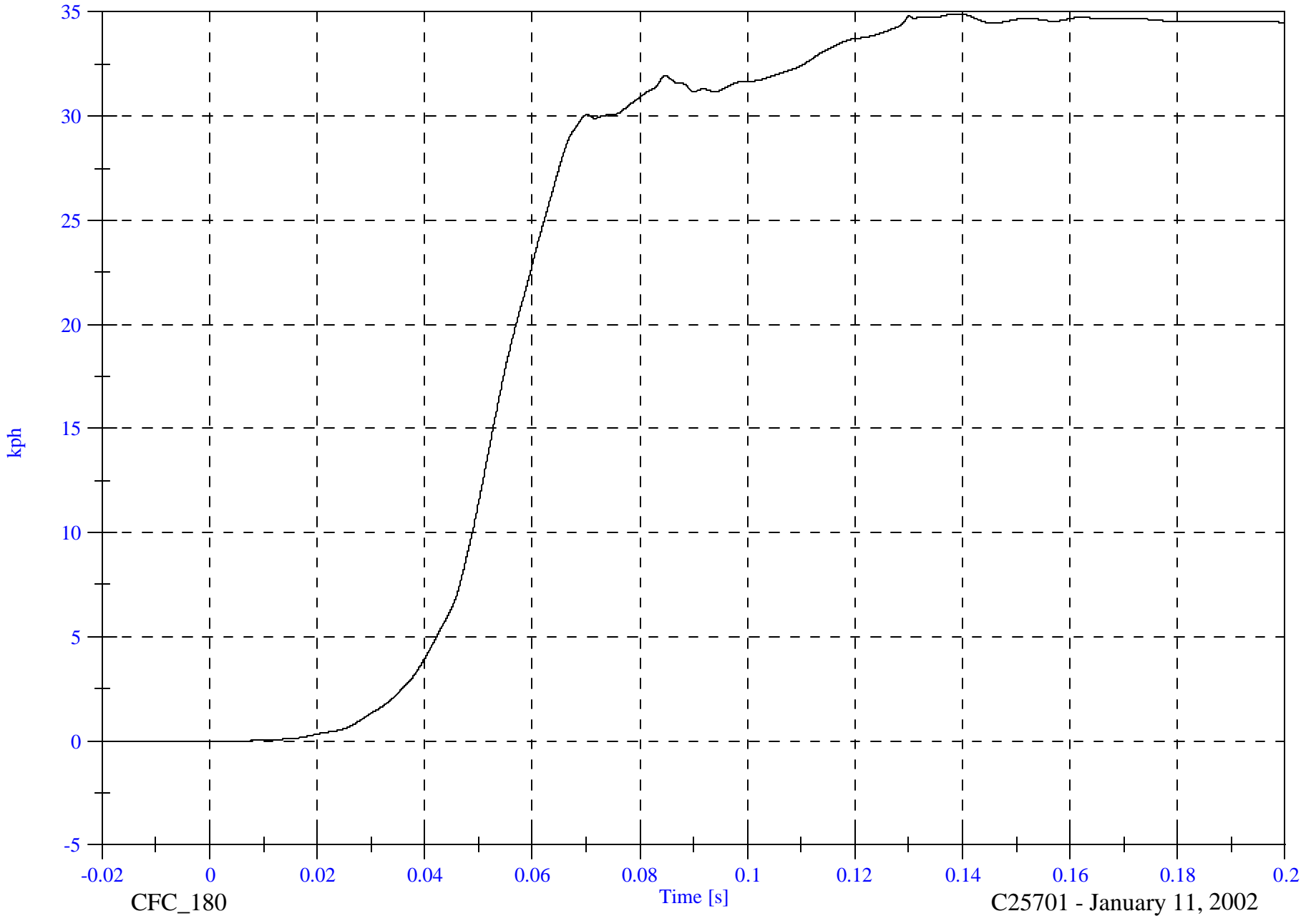


FMVSS 214D Indicant Test - 2002 Isuzu Axiom

Max: 34.9 [kph] at 0.139 [s]

P4 Lower Rib y Velocity

Min: -0.0 [kph] at -0.020 [s]



B-31

8502-31

CFC\_180

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

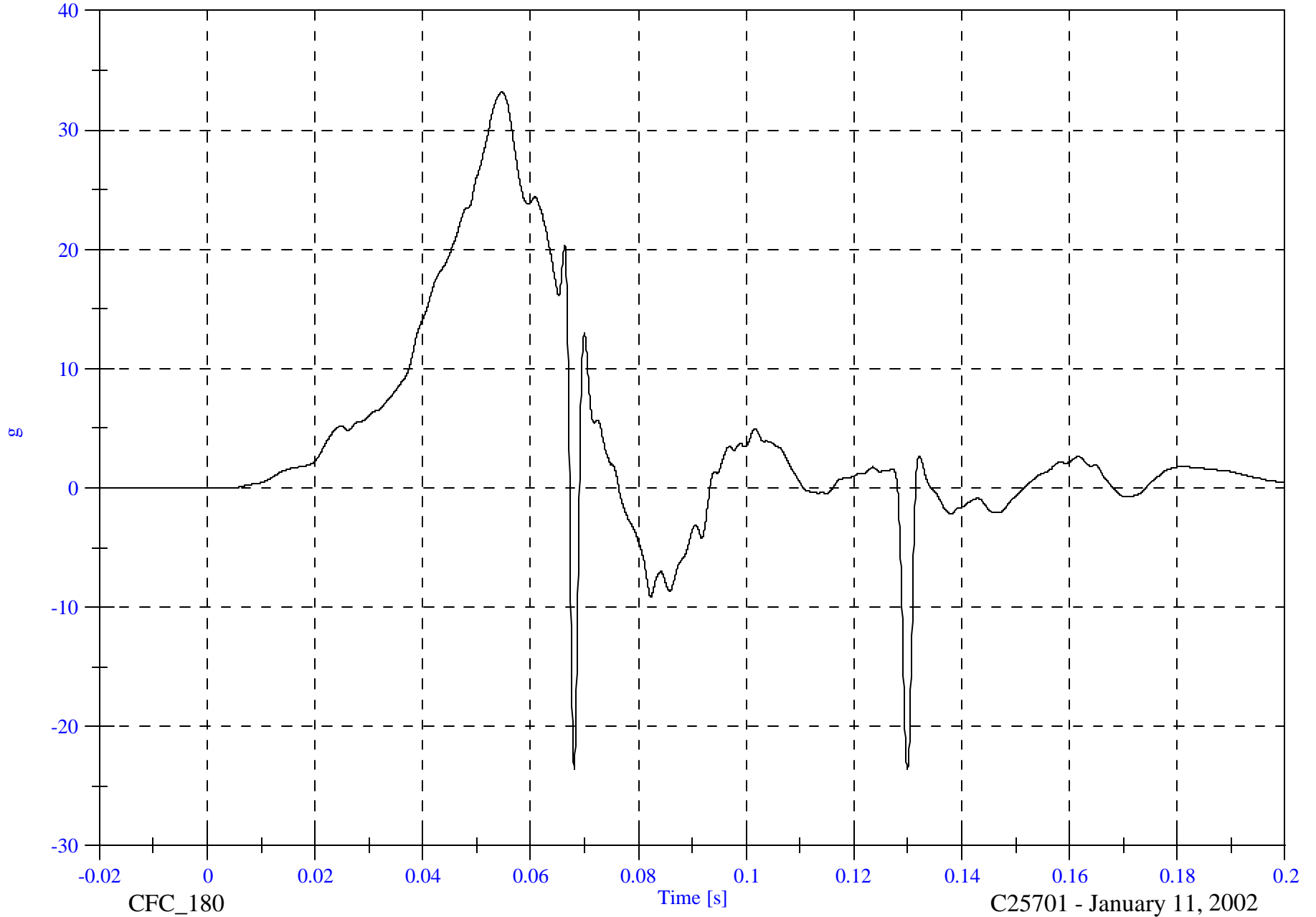
P4 Lower Spine y

Max: 33.2 [g] at 0.055 [s]

Min: -23.6 [g] at 0.130 [s]

B-32

8502-31

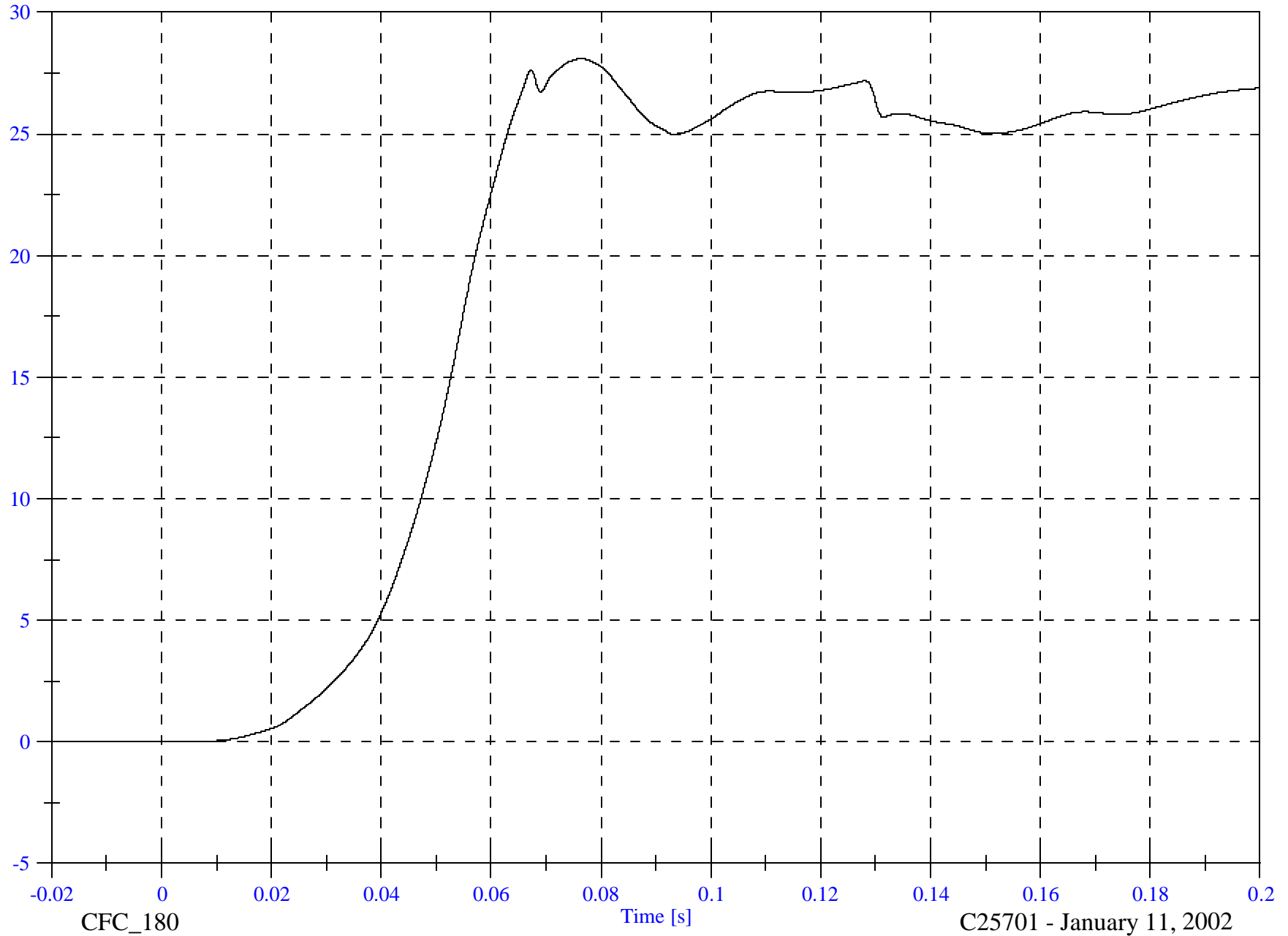


FMVSS 214D Indicant Test - 2002 Isuzu Axiom

Max: 28.1 [kph] at 0.076 [s]

P4 Lower Spine y Velocity

Min: -0.0 [kph] at -0.020 [s]



B-33

8502-31

CFC\_180

Time [s]

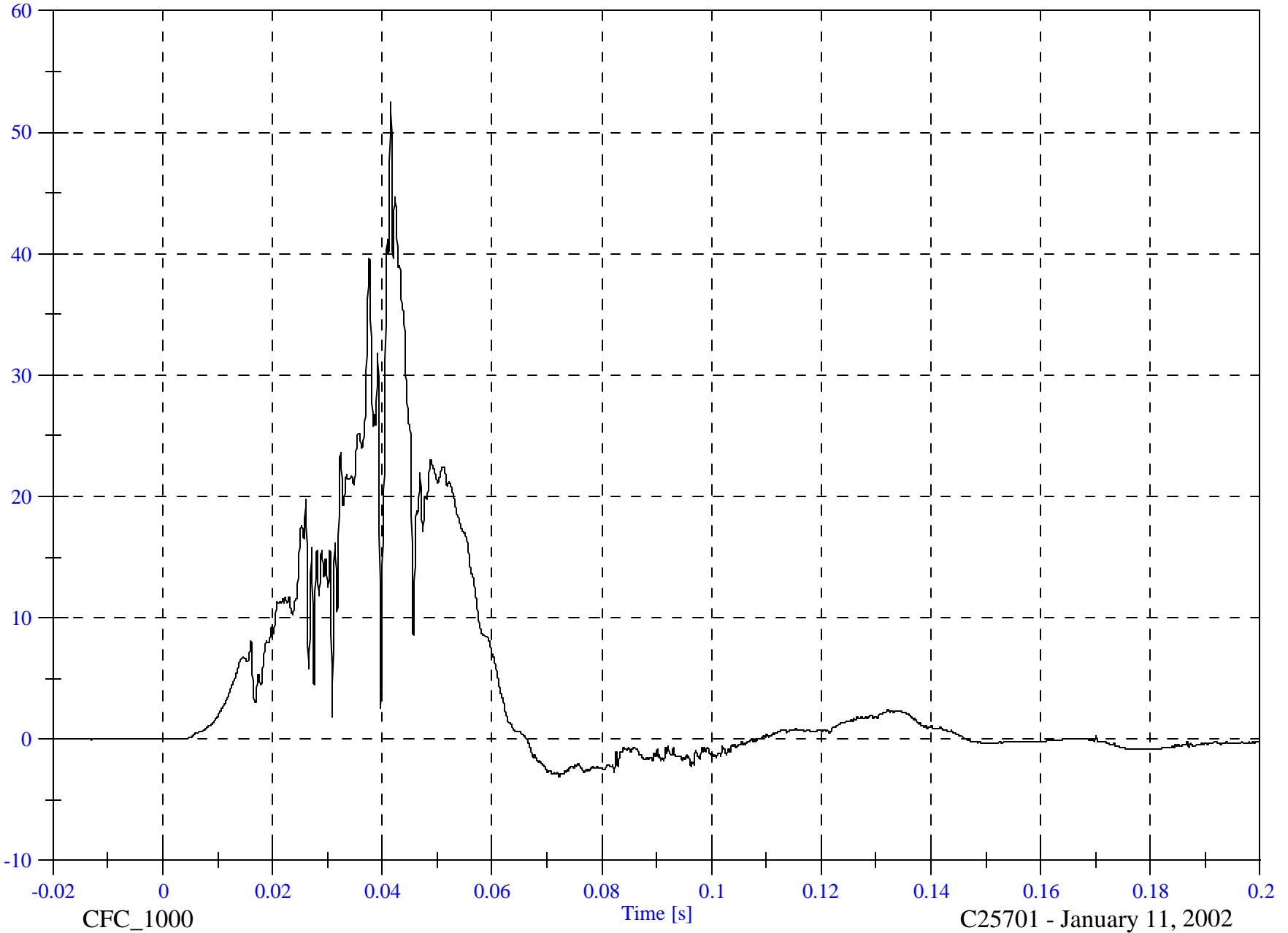
C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

Max: 52.4 [g] at 0.042 [s]

P4 Pelvic y

Min: -3.1 [g] at 0.072 [s]



B-34

g

8502-31

CFC\_1000

Time [s]

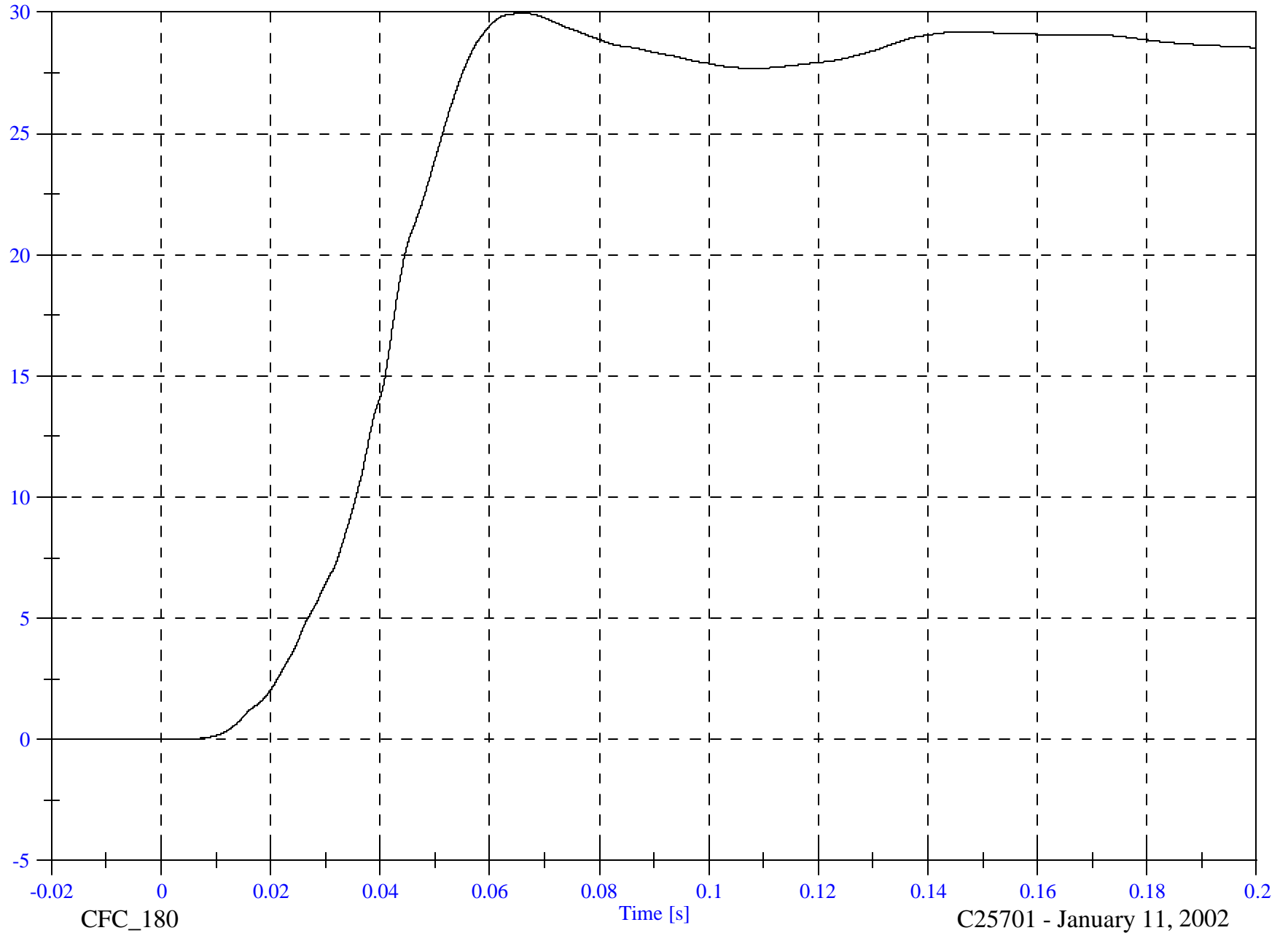
C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

Max: 30.0 [kph] at 0.066 [s]

P4 Pelvic y Velocity

Min: -0.0 [kph] at -0.020 [s]



B-35

8502-31

CFC\_180

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

P1 Upper Rib y

Max: 30.1 [g] at 0.036 [s]

Min: -5.4 [g] at 0.093 [s]

B-36

8502-31



FIR\_100

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

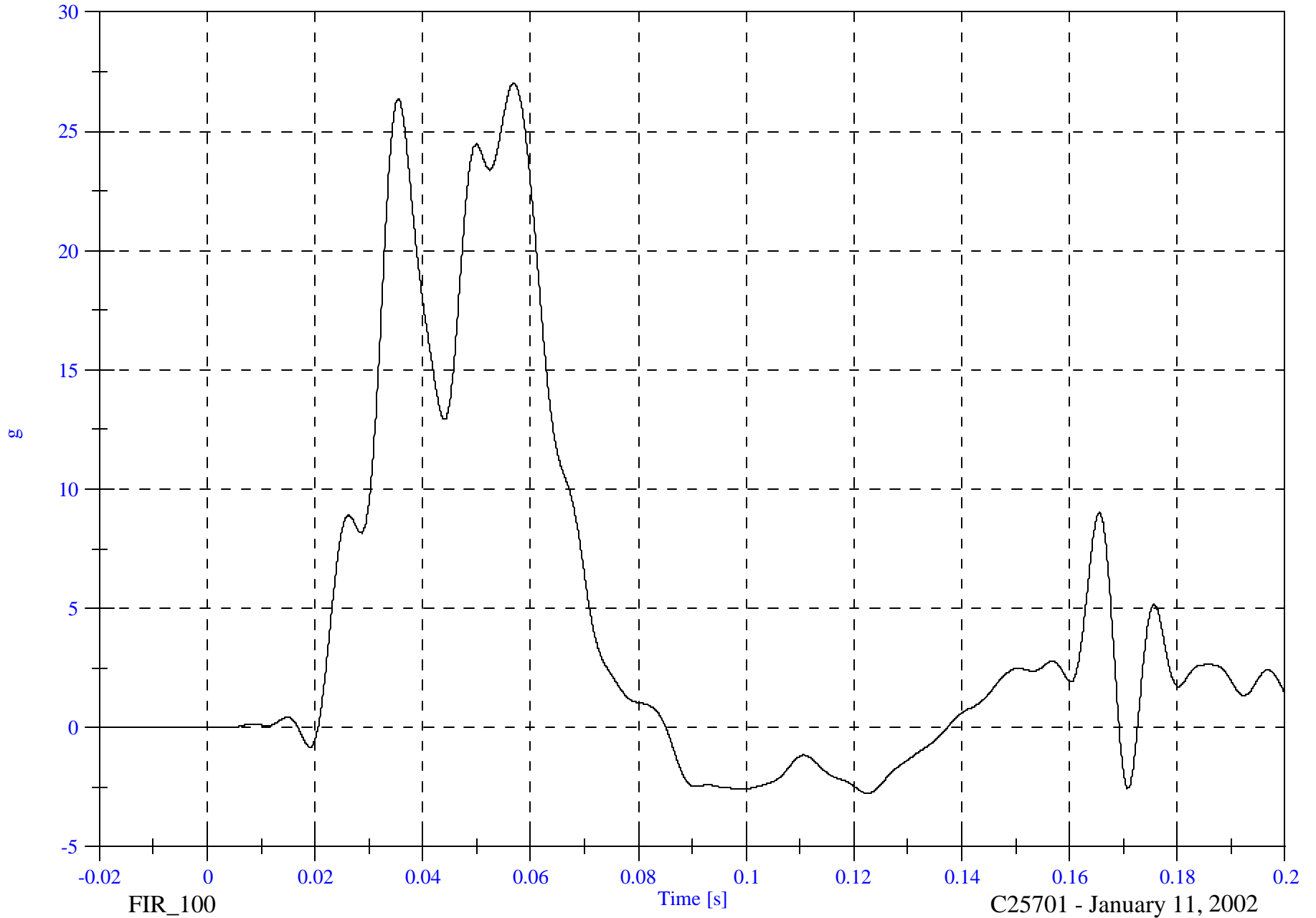
P1 Lower Rib y

Max: 27.0 [g] at 0.057 [s]

Min: -2.8 [g] at 0.122 [s]

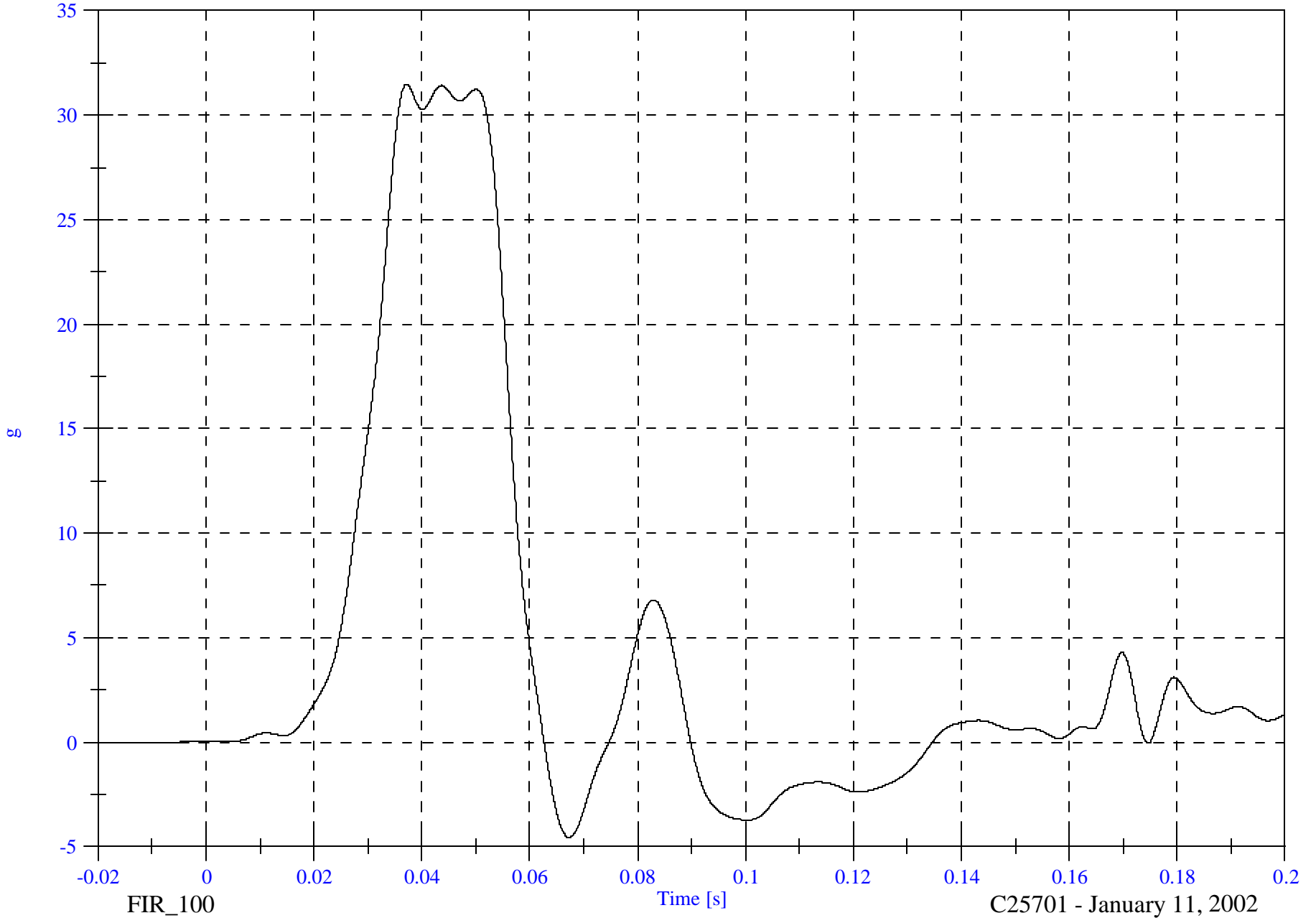
B-37

8502-31

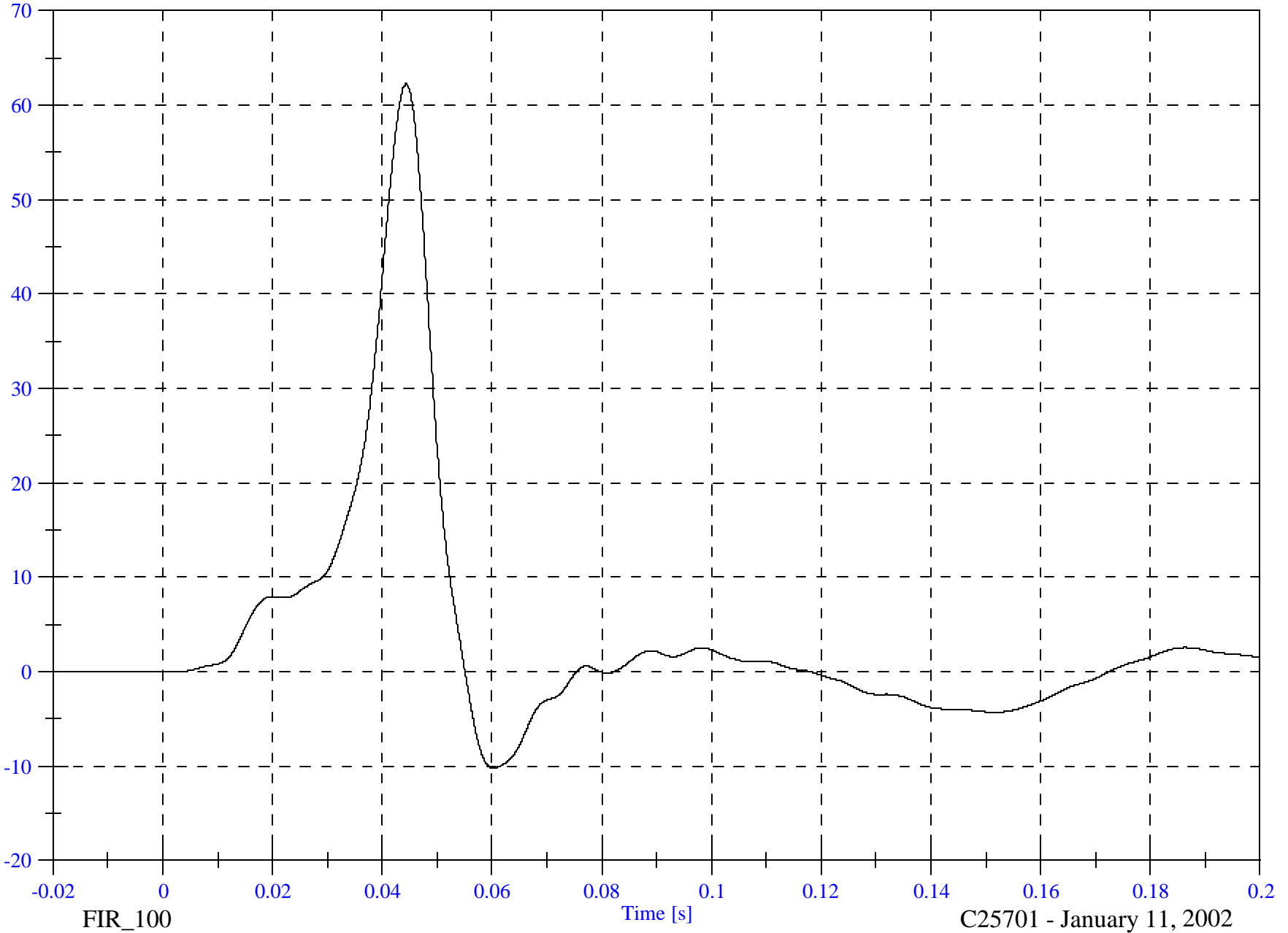


B-38

8502-31



P1 Pelvic y



B-39

8502-31

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

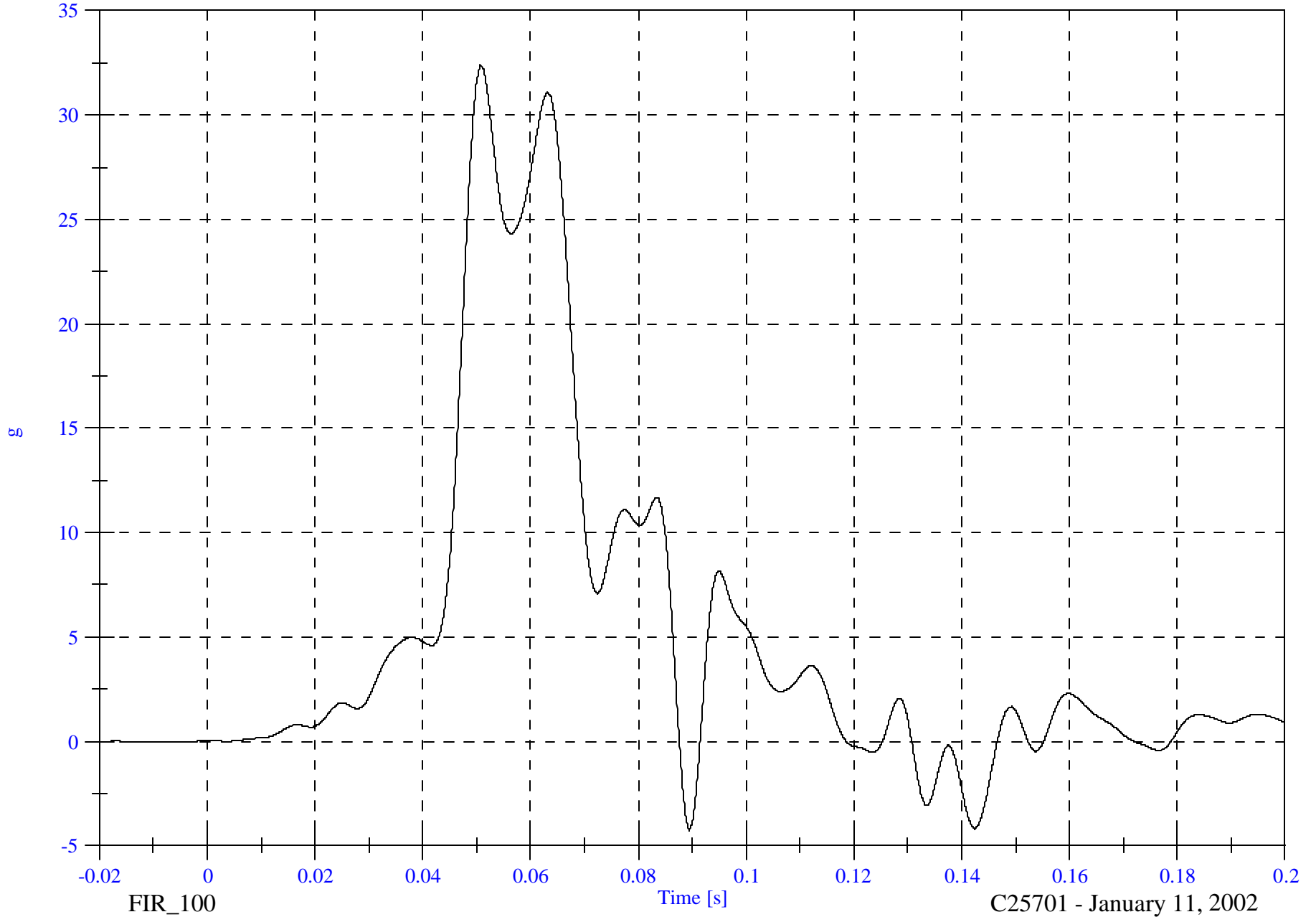
P4 Upper Rib y

Max: 32.4 [g] at 0.051 [s]

Min: -4.3 [g] at 0.089 [s]

B-40

8502-31



FIR\_100

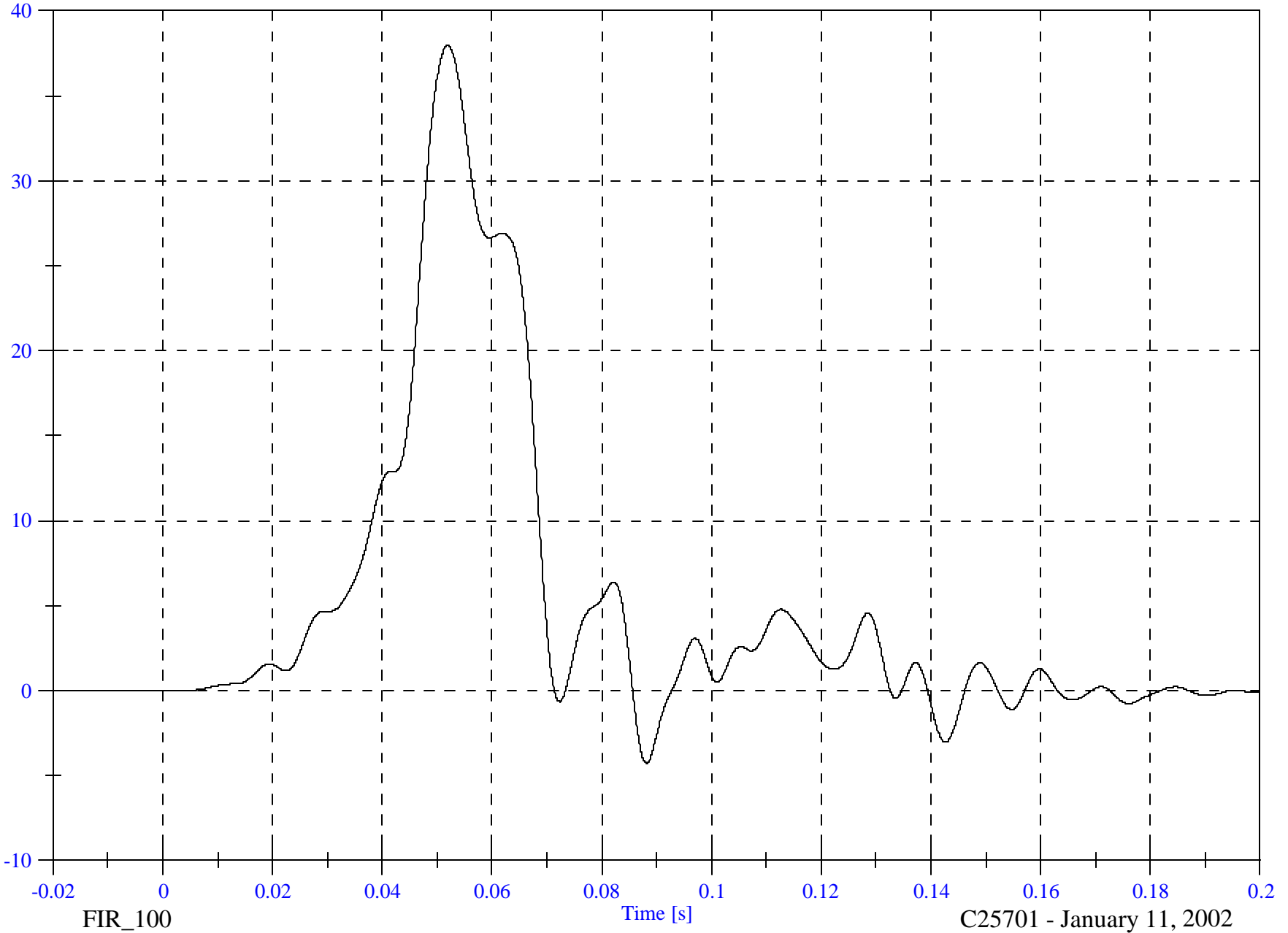
C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

Max: 38.0 [g] at 0.052 [s]

P4 Lower Rib y

Min: -4.3 [g] at 0.088 [s]



B-41

g

8502-31

FIR\_100

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

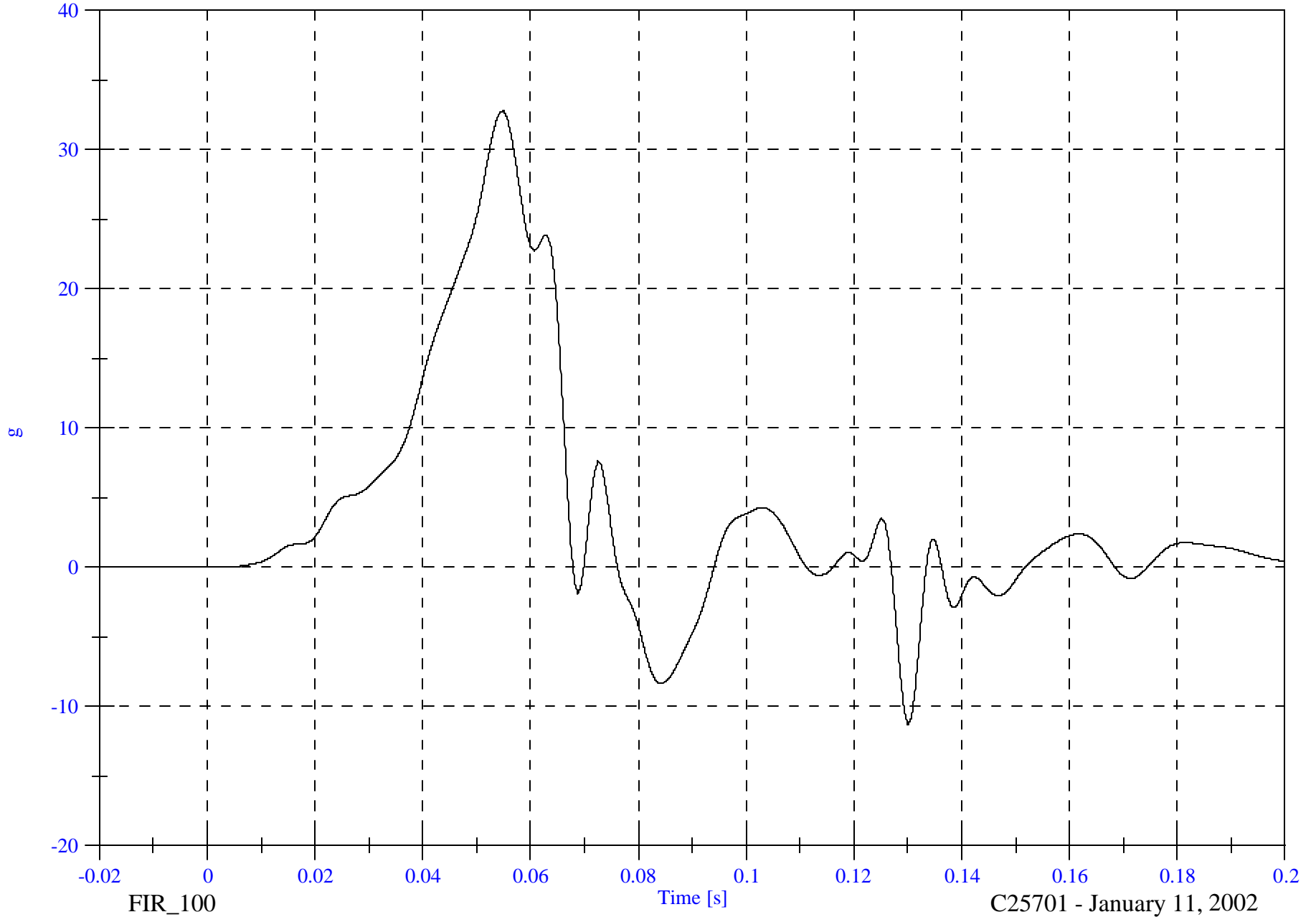
P4 Lower Spine y

Max: 32.8 [g] at 0.055 [s]

Min: -11.3 [g] at 0.130 [s]

B-42

8502-31

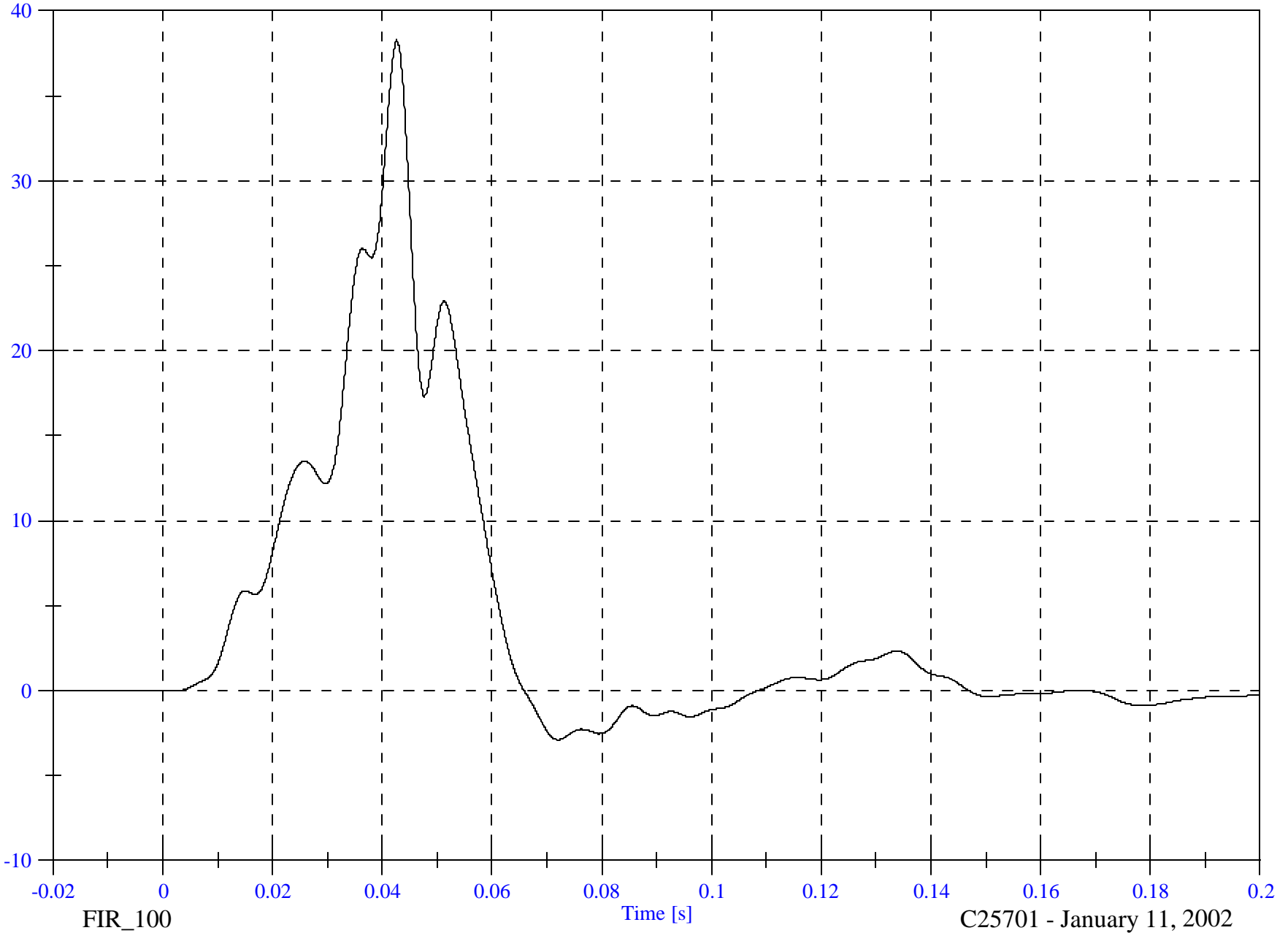


FMVSS 214D Indicant Test - 2002 Isuzu Axiom

Max: 38.3 [g] at 0.043 [s]

P4 Pelvic y

Min: -2.9 [g] at 0.072 [s]



B-43

g

8502-31

FIR\_100

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

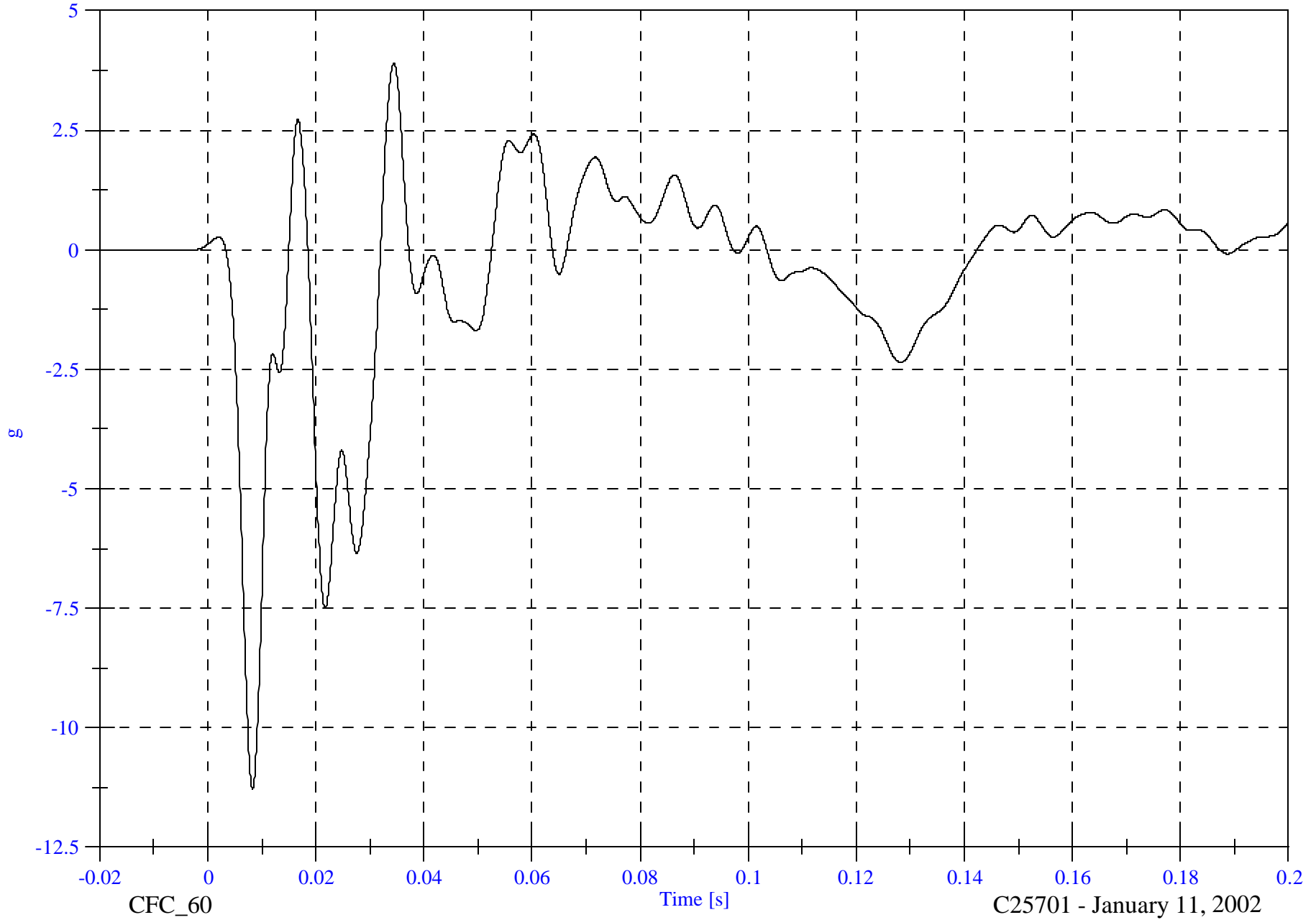
Acc 1 Right Front Sill at Front Seat X

Max: 3.9 [g] at 0.034 [s]

Min: -11.3 [g] at 0.008 [s]

B-44

8502-31



FMVSS 214D Indicant Test - 2002 Isuzu Axiom

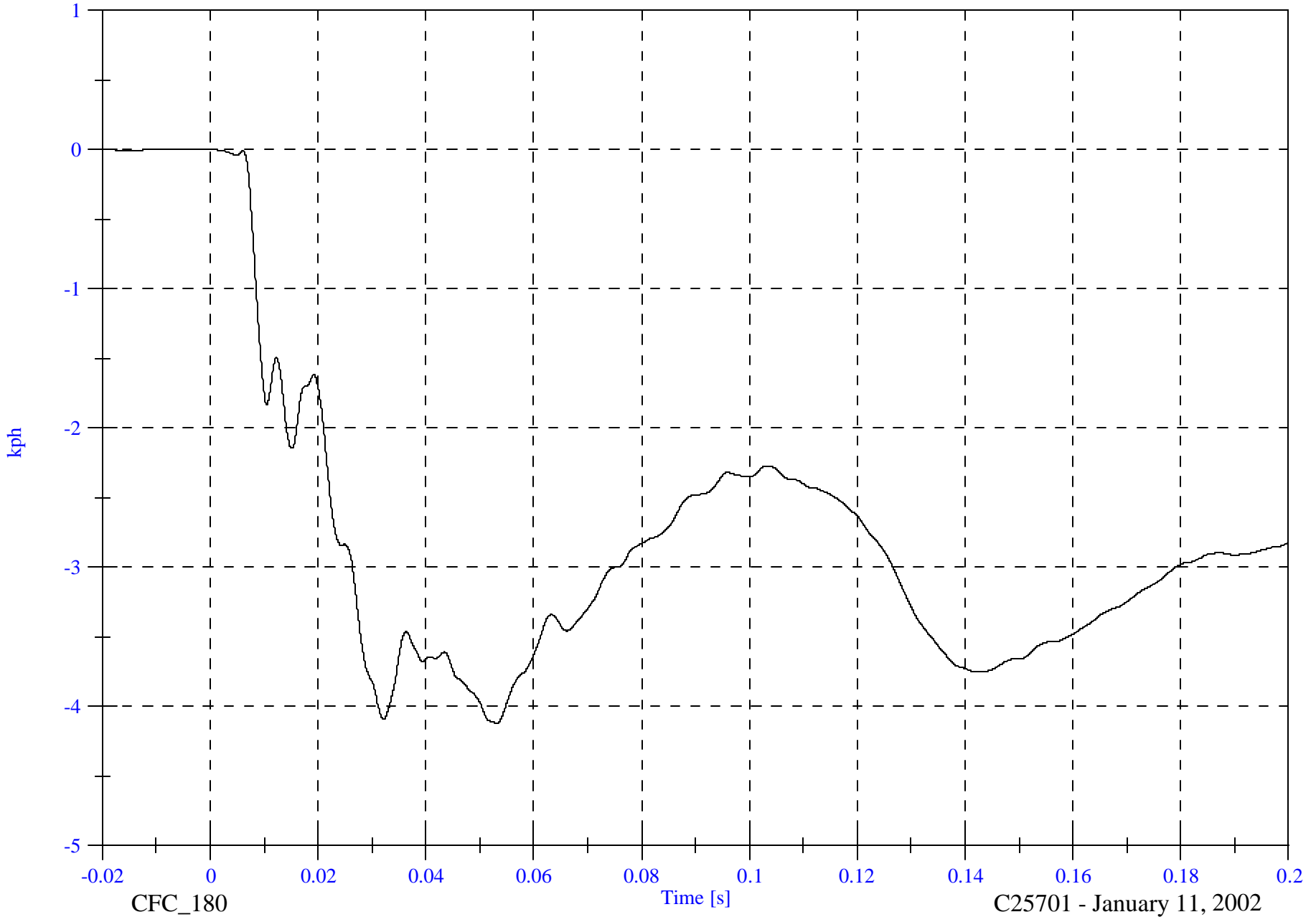
Acc 1 Right Front Sill at Front Seat X Velocity

Max: 0.0 [kph] at -0.001 [s]

Min: -4.1 [kph] at 0.053 [s]

B-45

8502-31



CFC\_180

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

Acc 1 Right Front Sill at Front Seat Y

Max: 26.5 [g] at 0.014 [s]

Min: -2.7 [g] at 0.066 [s]

B-46

8502-31



CFC\_60

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

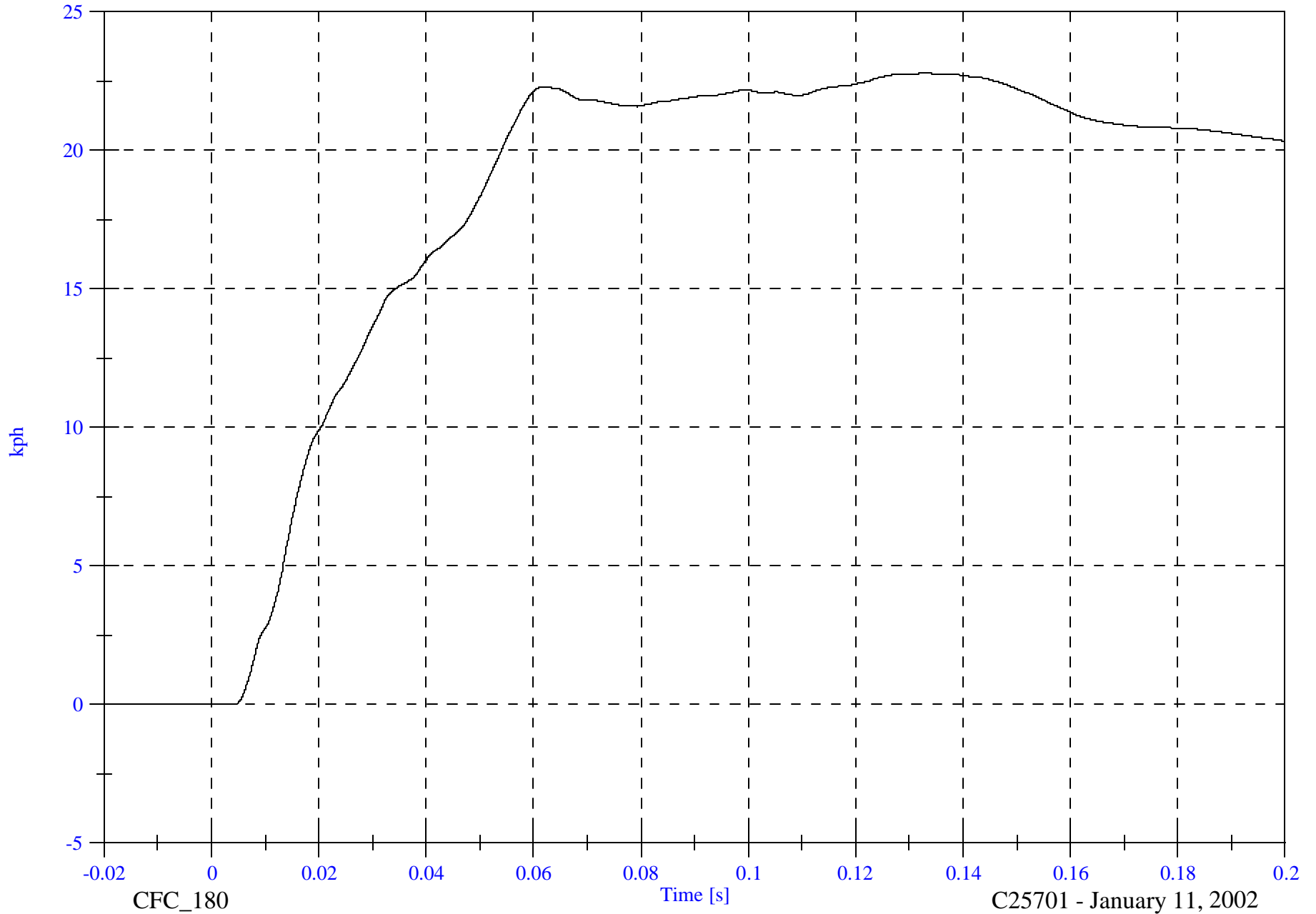
Acc 1 Right Front Sill at Front Seat Y Velocity

Max: 22.8 [kph] at 0.133 [s]

Min: -0.0 [kph] at -0.020 [s]

B-47

8502-31

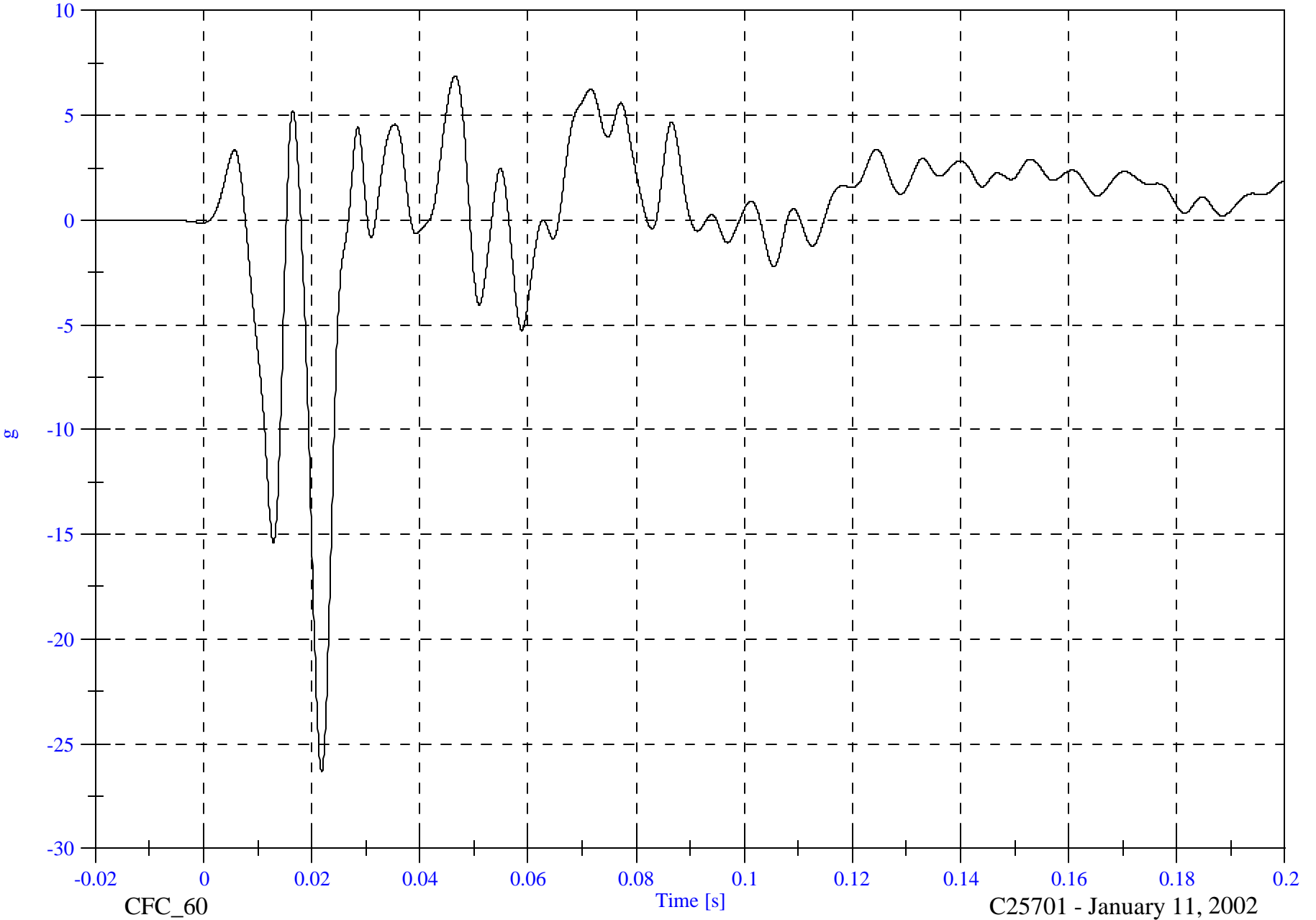


FMVSS 214D Indicant Test - 2002 Isuzu Axiom

Acc 1 Right Front Sill at Front Seat Z

Max: 6.9 [g] at 0.047 [s]

Min: -26.3 [g] at 0.022 [s]



B-48

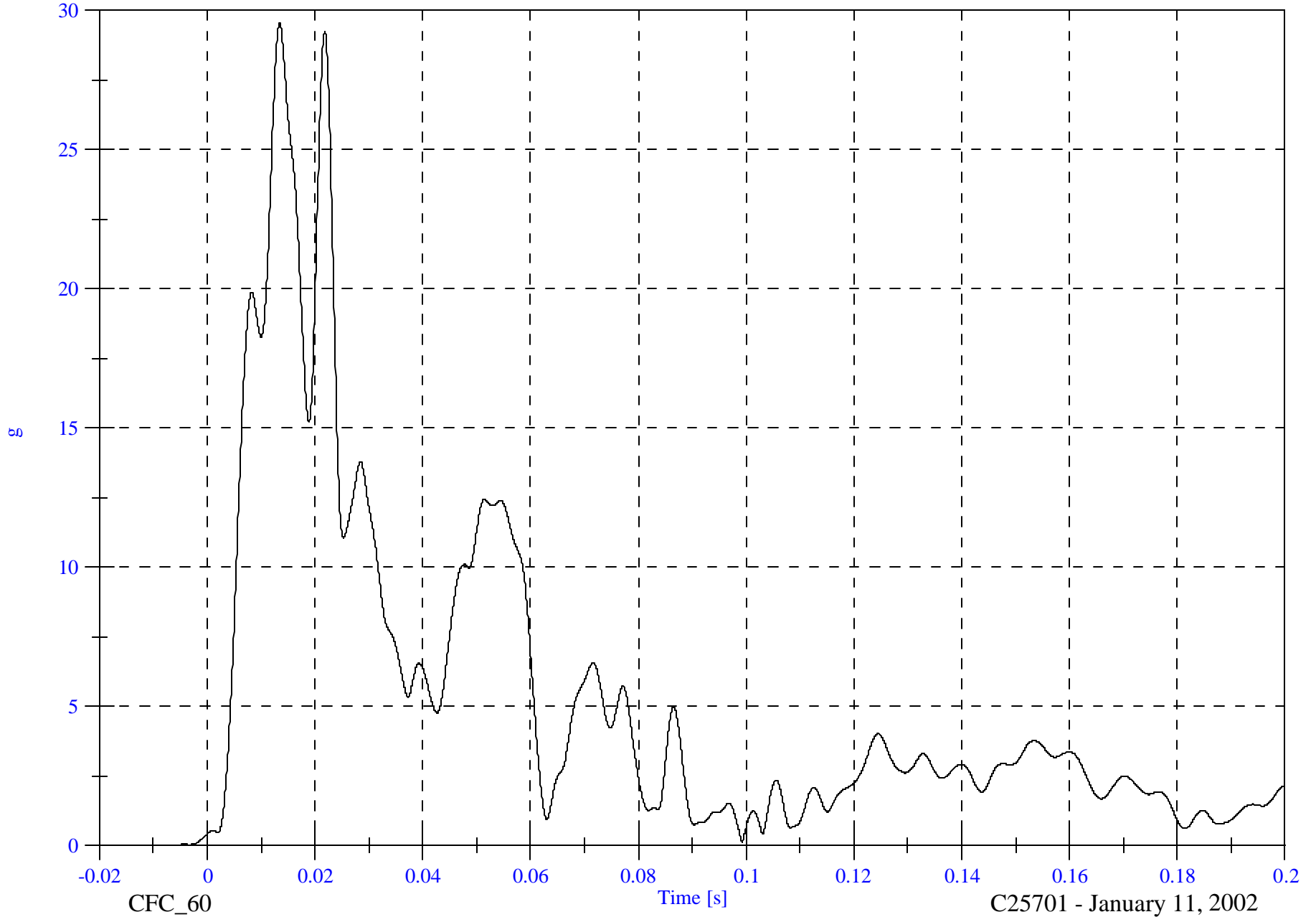
8502-31

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

Acc 1 Right Front Sill at Front Seat Resultant

Max: 29.6 [g] at 0.013 [s]

Min: 0.0 [g] at -0.020 [s]



B-49

8502-31

CFC\_60

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

Acc 1 Right Front Sill at Front Seat Z Velocity

Max: 3.7 [kph] at 0.200 [s]

Min: -5.8 [kph] at 0.028 [s]

B-50

8502-31

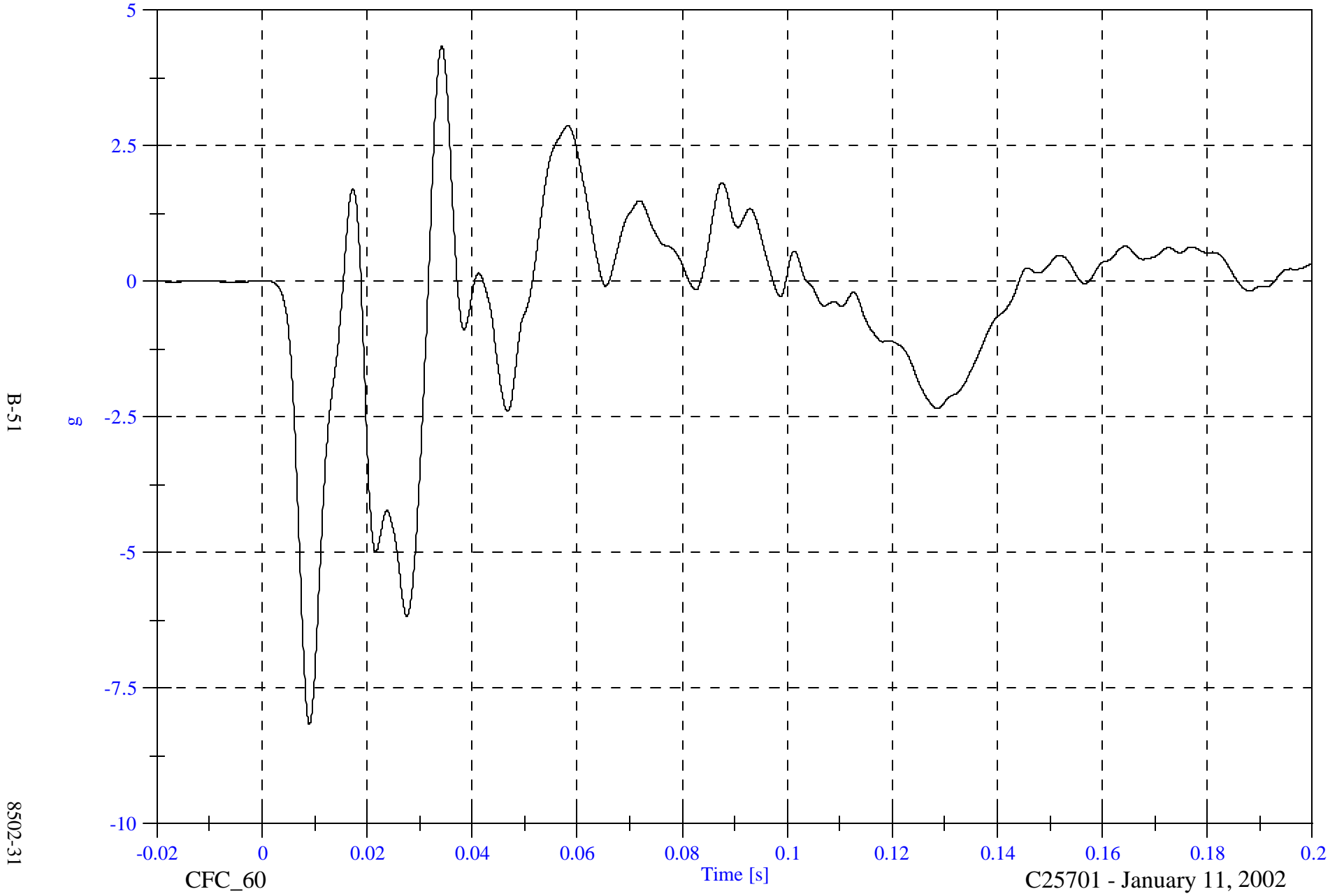


FMVSS 214D Indicant Test - 2002 Isuzu Axiom

Acc 2 Right Rear Sill at Rear Seat X

Max: 4.3 [g] at 0.034 [s]

Min: -8.2 [g] at 0.009 [s]



B-51

8502-31

CFC\_60

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

Acc 2 Right Rear Sill at Rear Seat X Velocity

Max: 0.0 [kph] at -0.008 [s]

Min: -3.4 [kph] at 0.032 [s]



B-52

8502-31

CFC\_180

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

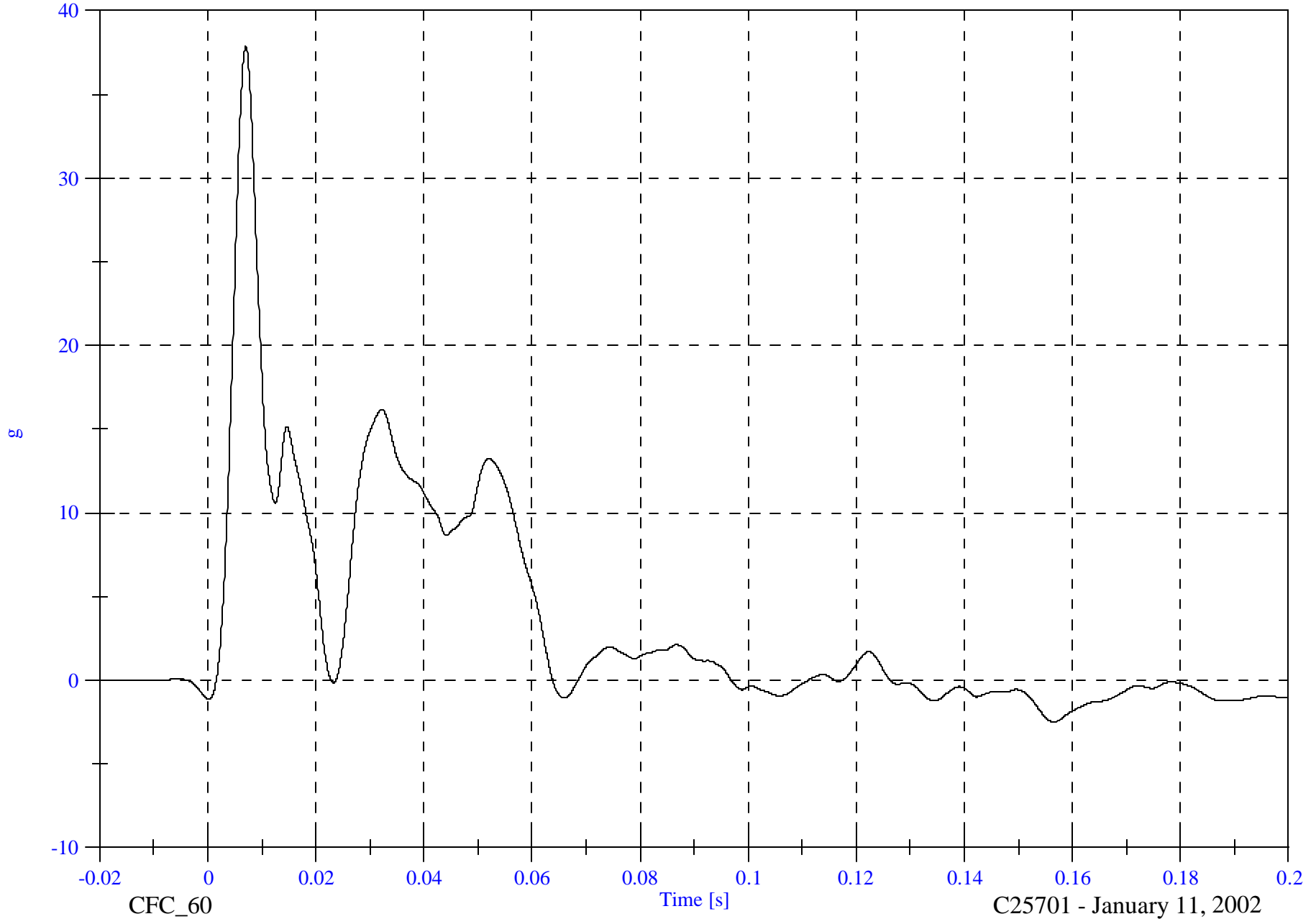
Acc 2 Right Rear Sill at Rear Seat Y

Max: 37.9 [g] at 0.007 [s]

Min: -2.5 [g] at 0.157 [s]

B-53

8502-31

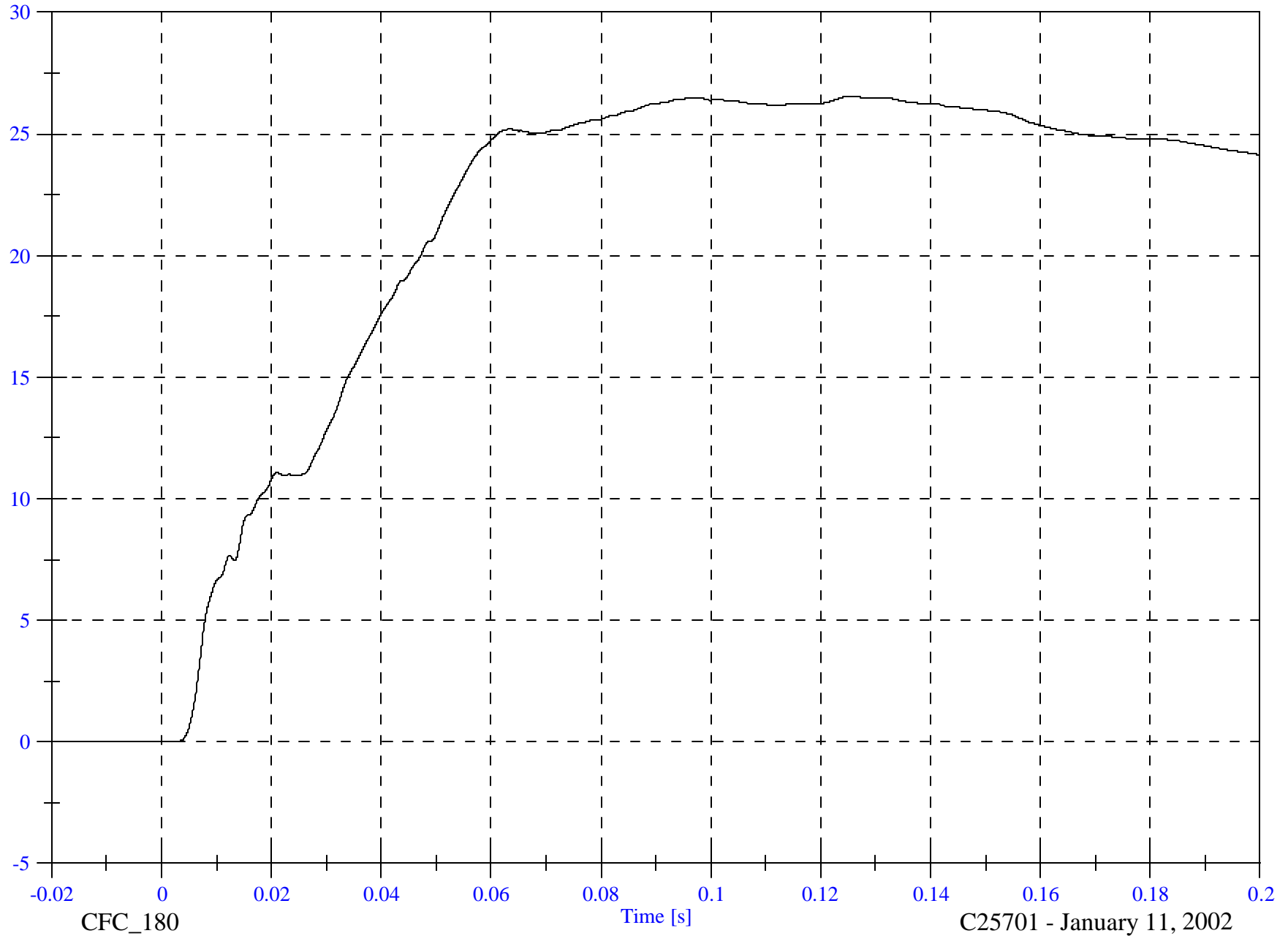


FMVSS 214D Indicant Test - 2002 Isuzu Axiom

Max: 26.5 [kph] at 0.126 [s]

Acc 2 Right Rear Sill at Rear Seat Y Velocity

Min: -0.0 [kph] at -0.009 [s]



B-54

8502-31

CFC\_180

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

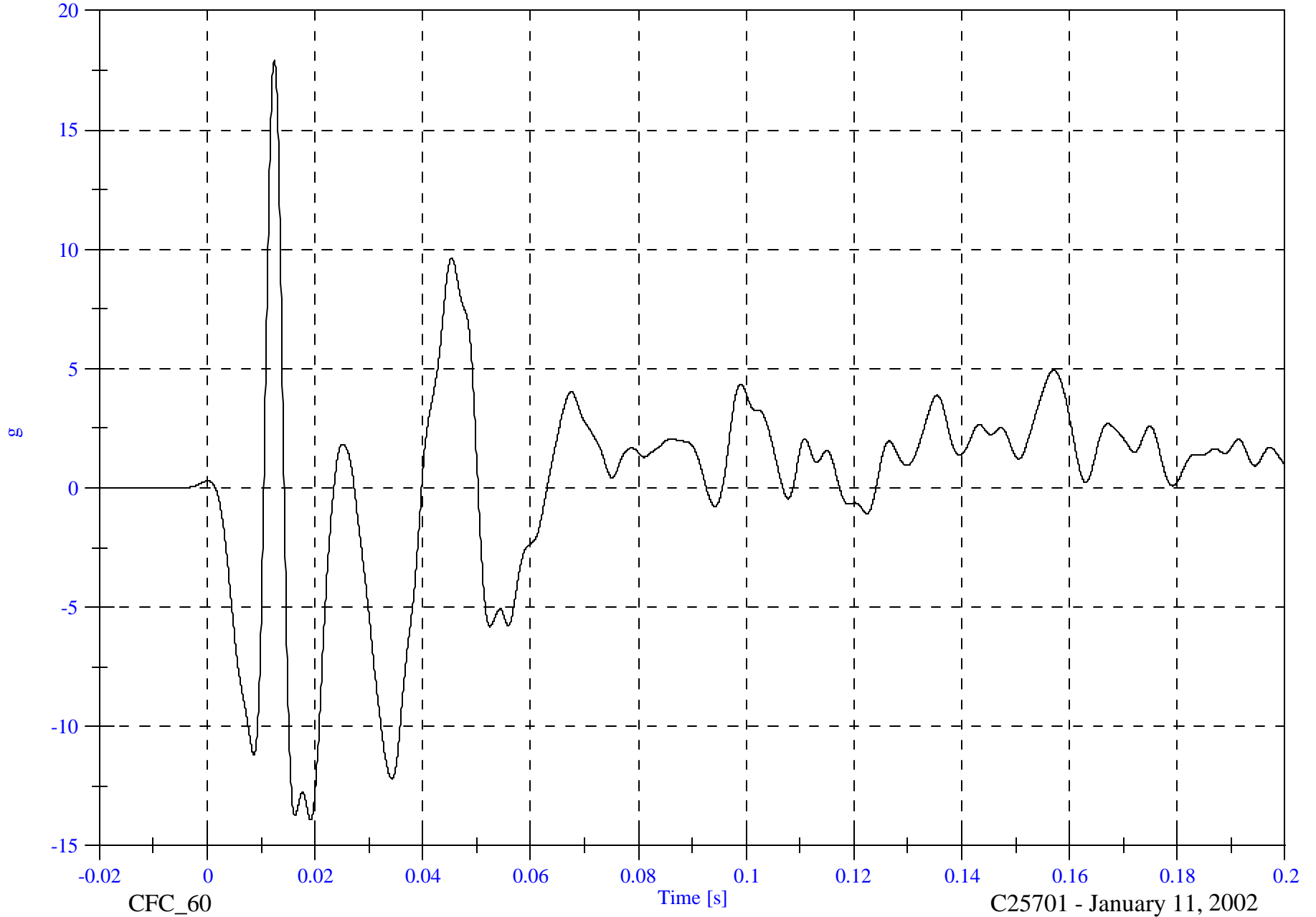
Acc 2 Right Rear Sill at Rear Seat Z

Max: 17.9 [g] at 0.012 [s]

Min: -13.9 [g] at 0.019 [s]

B-55

8502-31

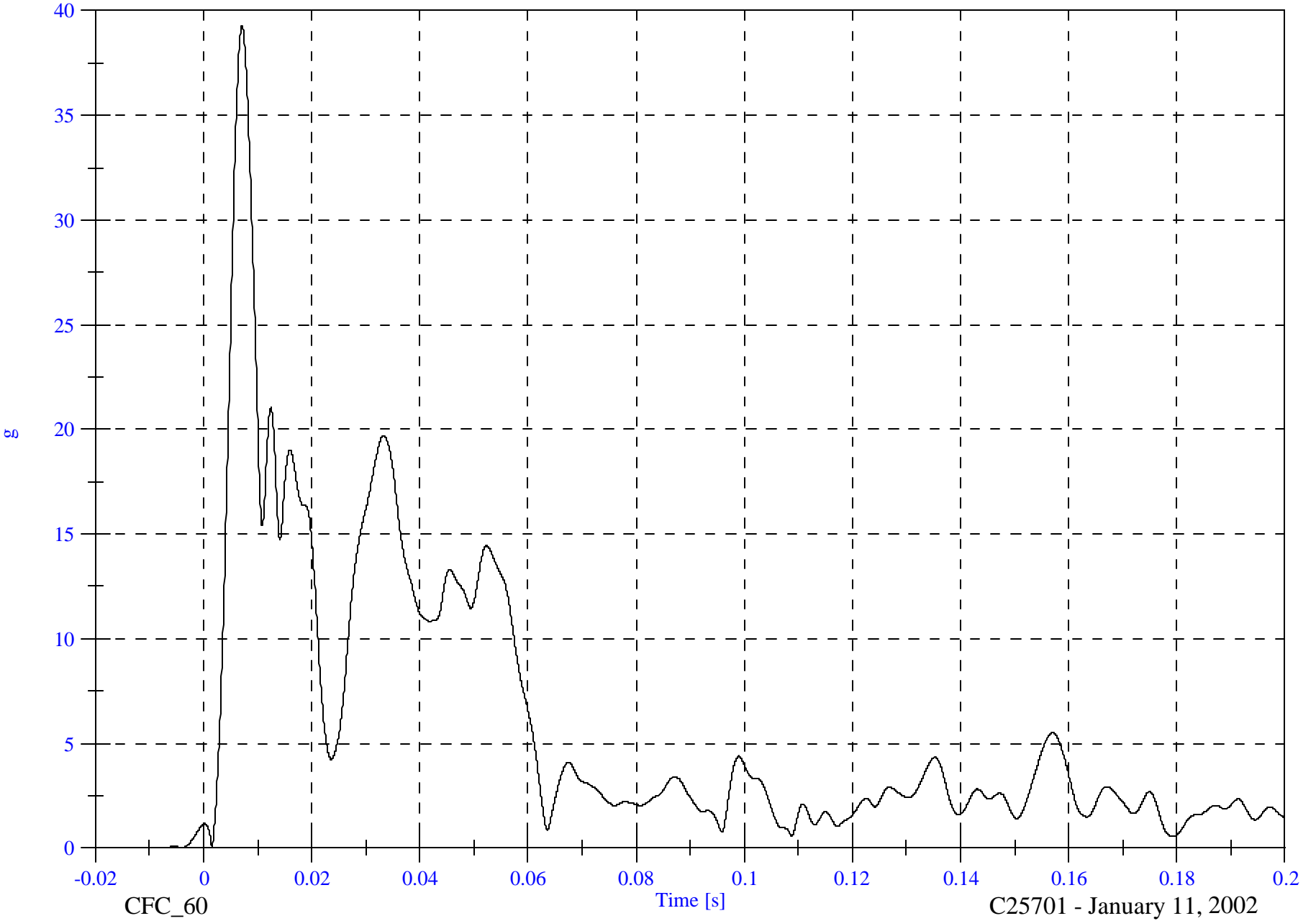


FMVSS 214D Indicant Test - 2002 Isuzu Axiom

Acc 2 Right Rear Sill at Rear Seat Resultant

Max: 39.3 [g] at 0.007 [s]

Min: 0.0 [g] at -0.016 [s]



B-56

8502-31

CFC\_60

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

Acc 2 Right Rear Sill at Rear Seat Z Velocity

Max: 2.3 [kph] at 0.200 [s]

Min: -6.7 [kph] at 0.039 [s]

B-57

8502-31



CFC\_180

Time [s]

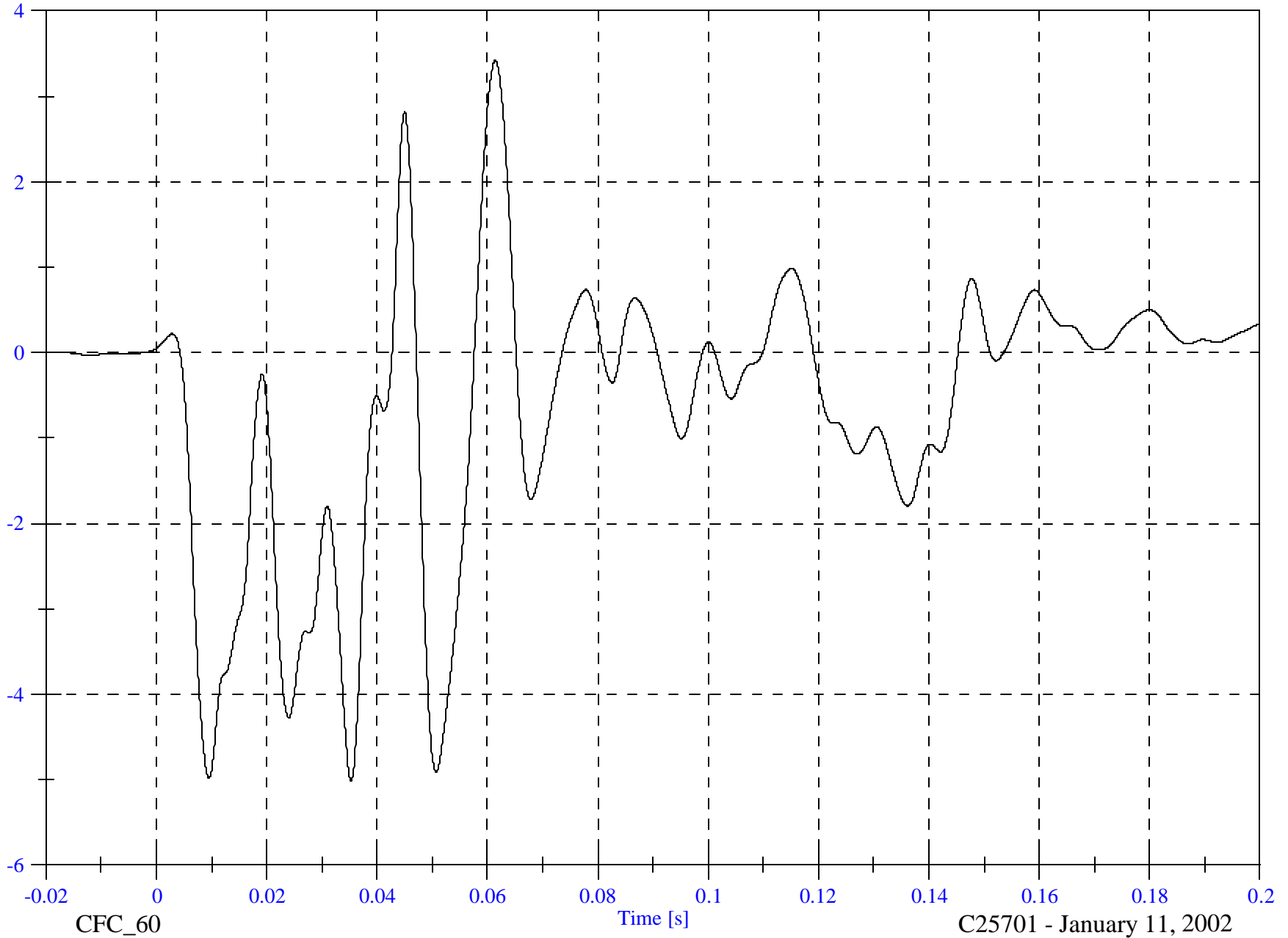
C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

Acc 3 Rear Floorpan X

Max: 3.4 [g] at 0.061 [s]

Min: -5.0 [g] at 0.035 [s]



B-58

g

8502-31

CFC\_60

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

Acc 3 Rear Floorpan X Velocity

Max: 0.0 [kph] at 0.006 [s]

Min: -5.1 [kph] at 0.145 [s]

B-59

8502-31



CFC\_180

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

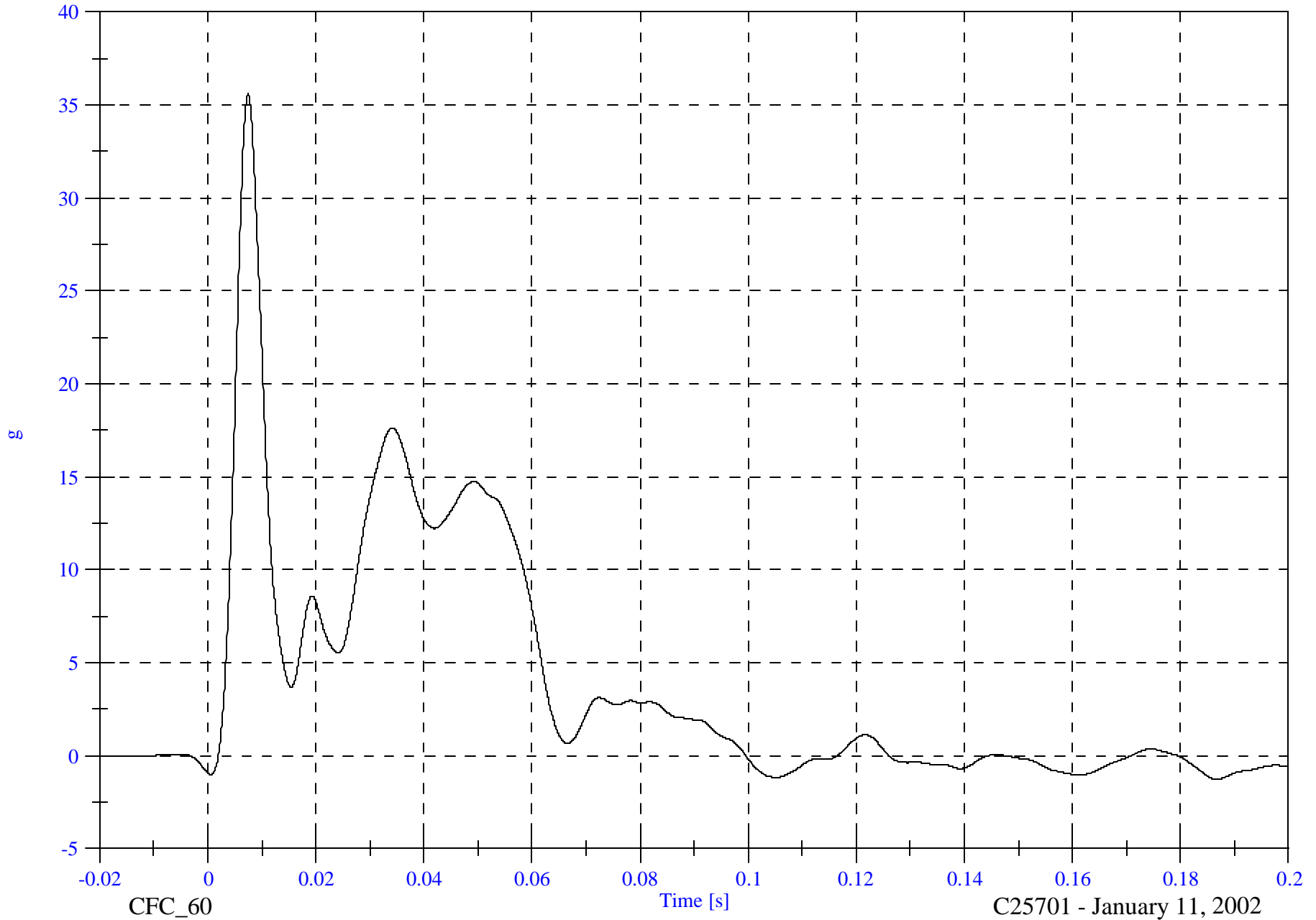
Acc 3 Rear Floorpan Y

Max: 35.6 [g] at 0.007 [s]

Min: -1.3 [g] at 0.187 [s]

B-60

8502-31

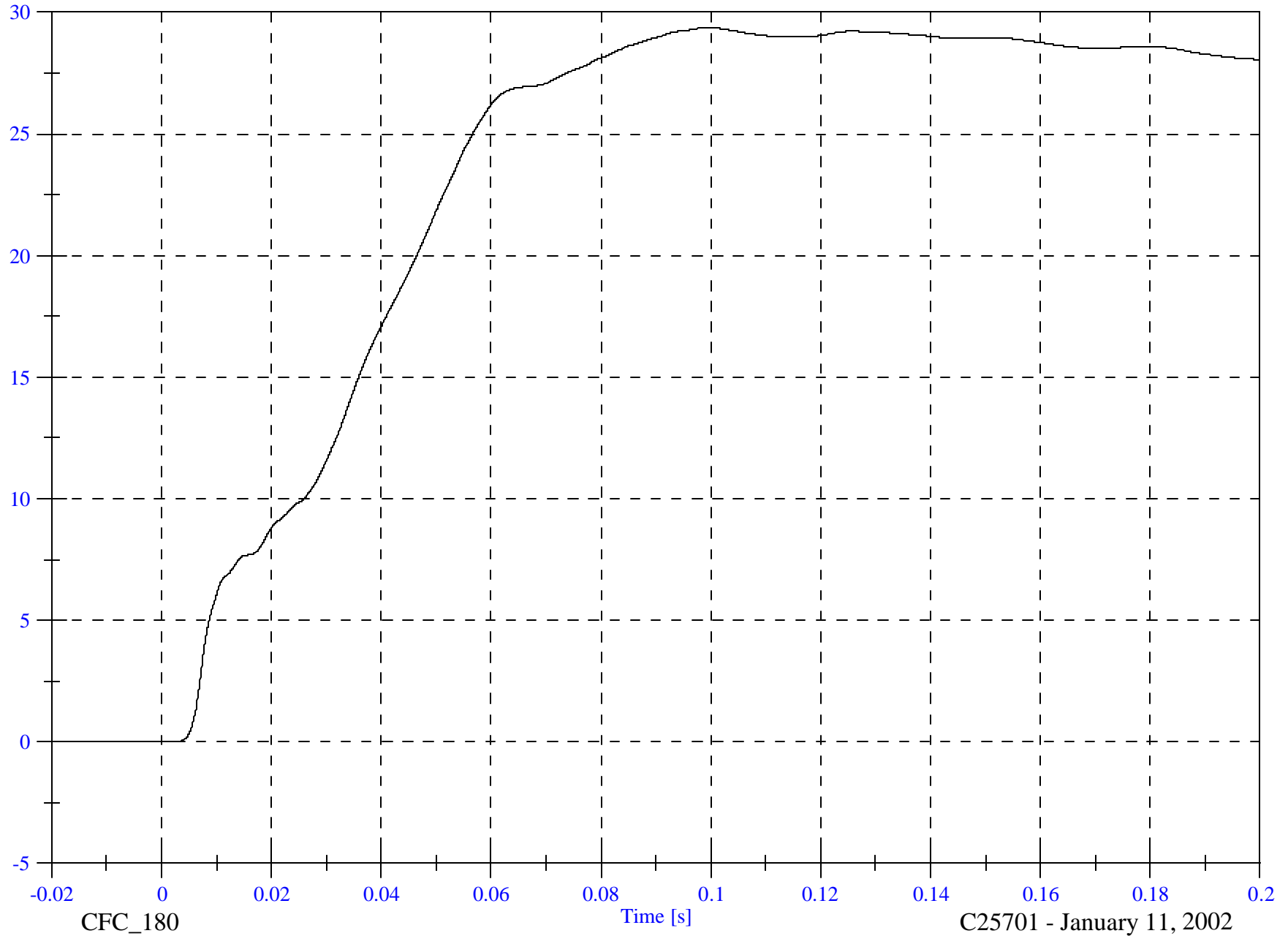


FMVSS 214D Indicant Test - 2002 Isuzu Axiom

Max: 29.4 [kph] at 0.099 [s]

Acc 3 Rear Floorpan Y Velocity

Min: -0.0 [kph] at -0.014 [s]



B-61

8502-31

CFC\_180

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

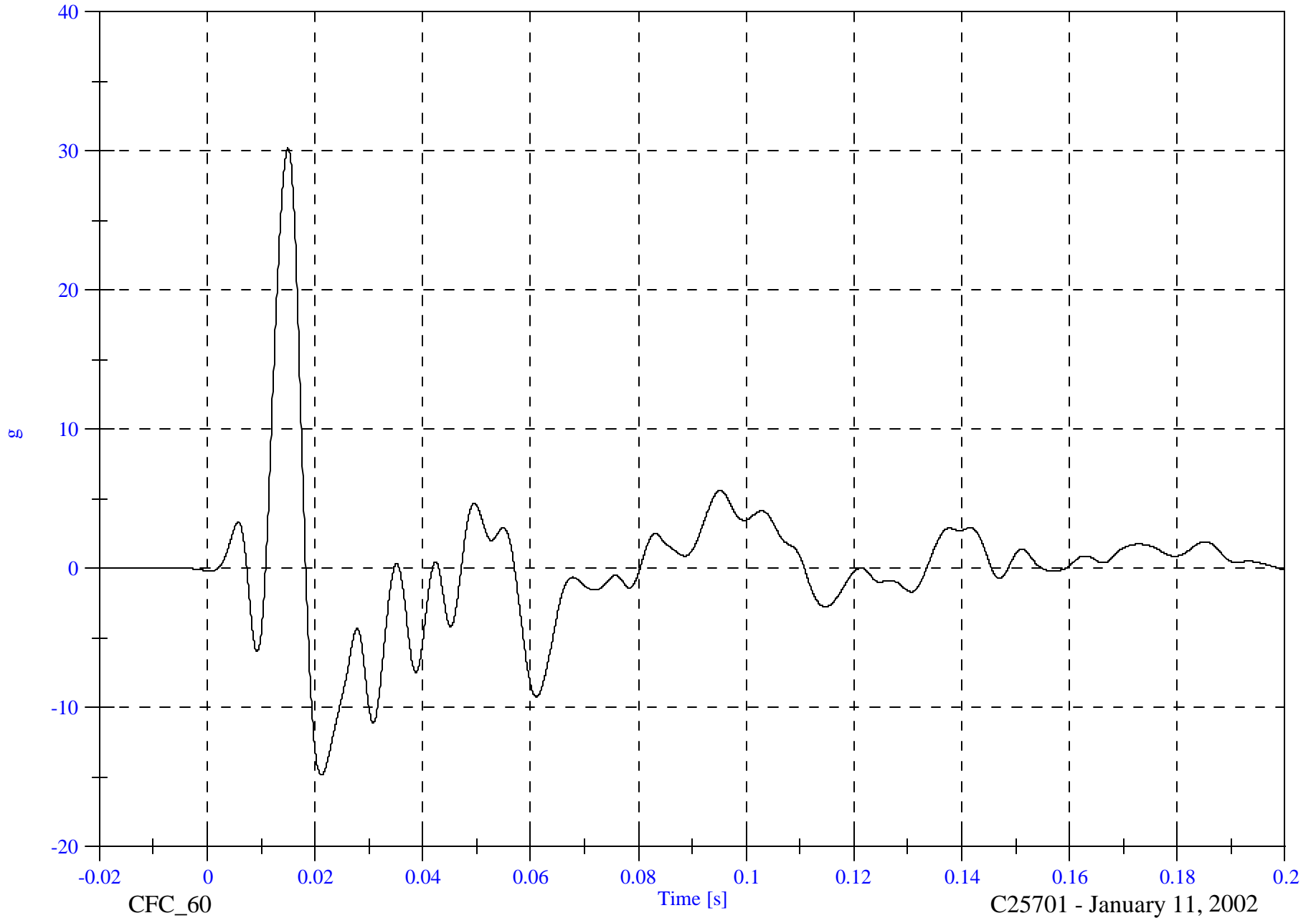
Acc 3 Rear Floorpan Z

Max: 30.2 [g] at 0.015 [s]

Min: -14.8 [g] at 0.021 [s]

B-62

8502-31



FMVSS 214D Indicant Test - 2002 Isuzu Axiom

Acc 3 Rear Floorpan Resultant

Max: 35.8 [g] at 0.007 [s]

Min: 0.0 [g] at -0.016 [s]



B-63

8502-31

CFC\_60

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

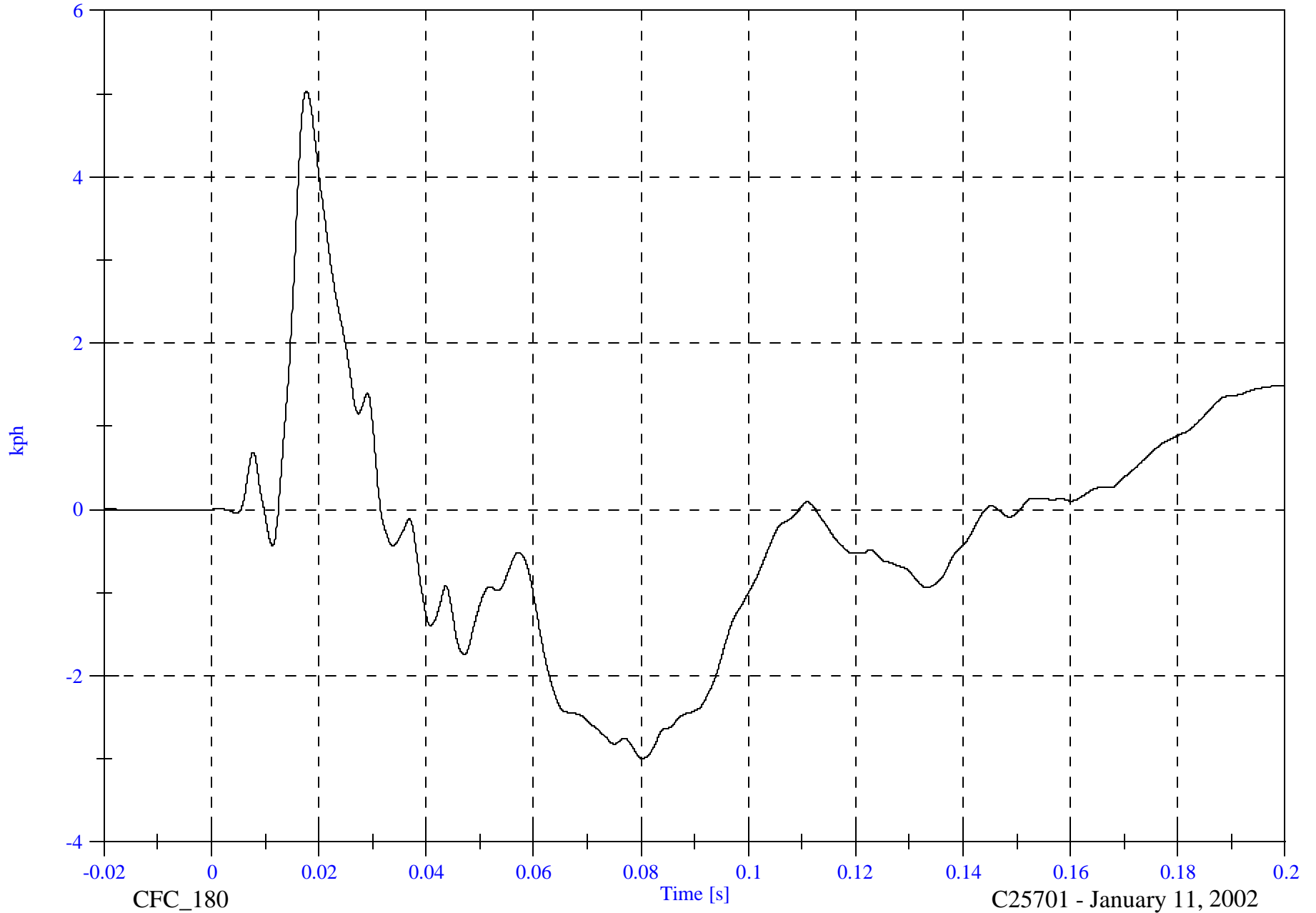
Acc 3 Rear Floorpan Z Velocity

Max: 5.0 [kph] at 0.018 [s]

Min: -3.0 [kph] at 0.080 [s]

B-64

8502-31



CFC\_180

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

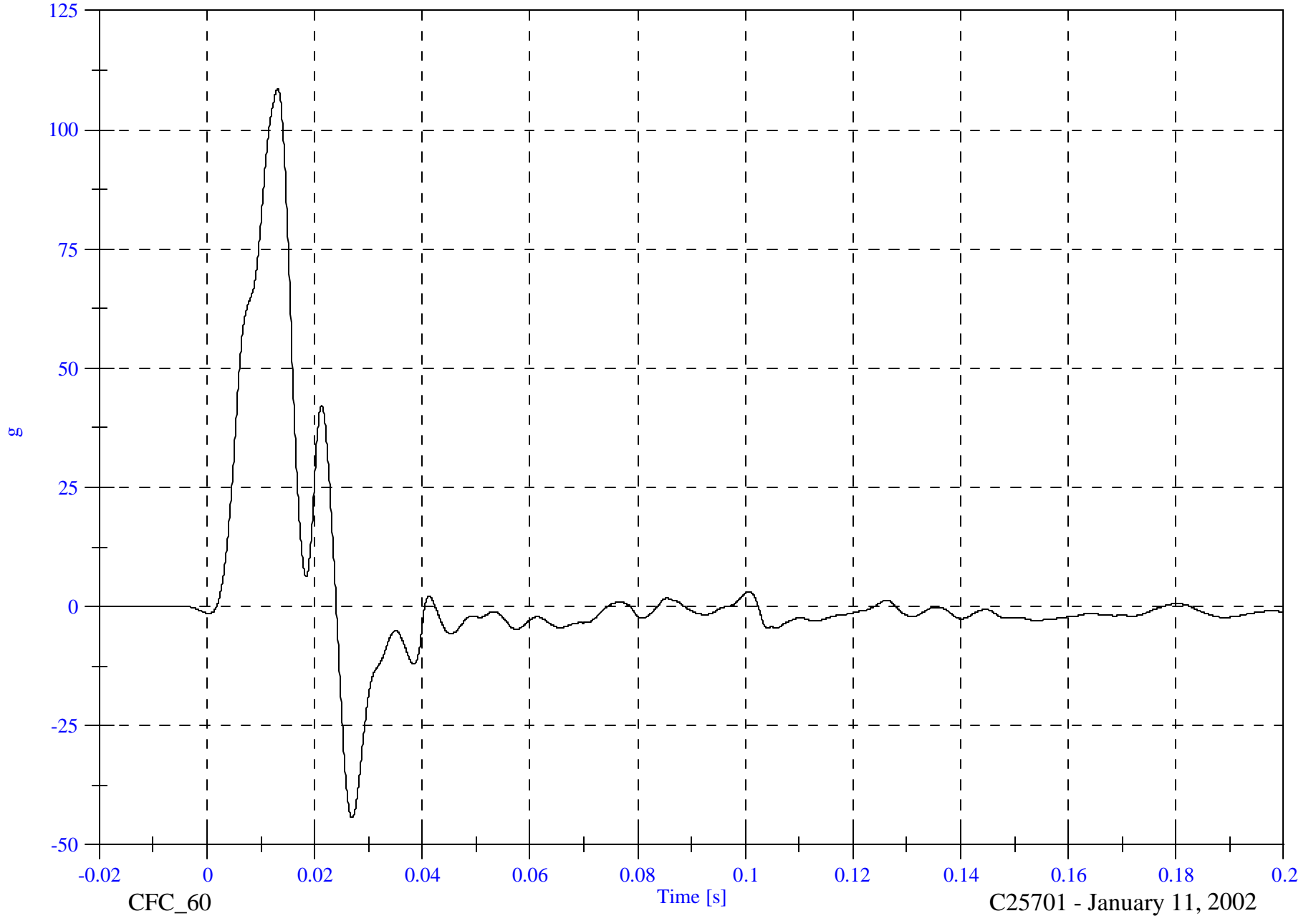
Acc 4 Left Rear Sill Y

Max: 108.6 [g] at 0.013 [s]

Min: -44.3 [g] at 0.027 [s]

B-65

8502-31



CFC\_60

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

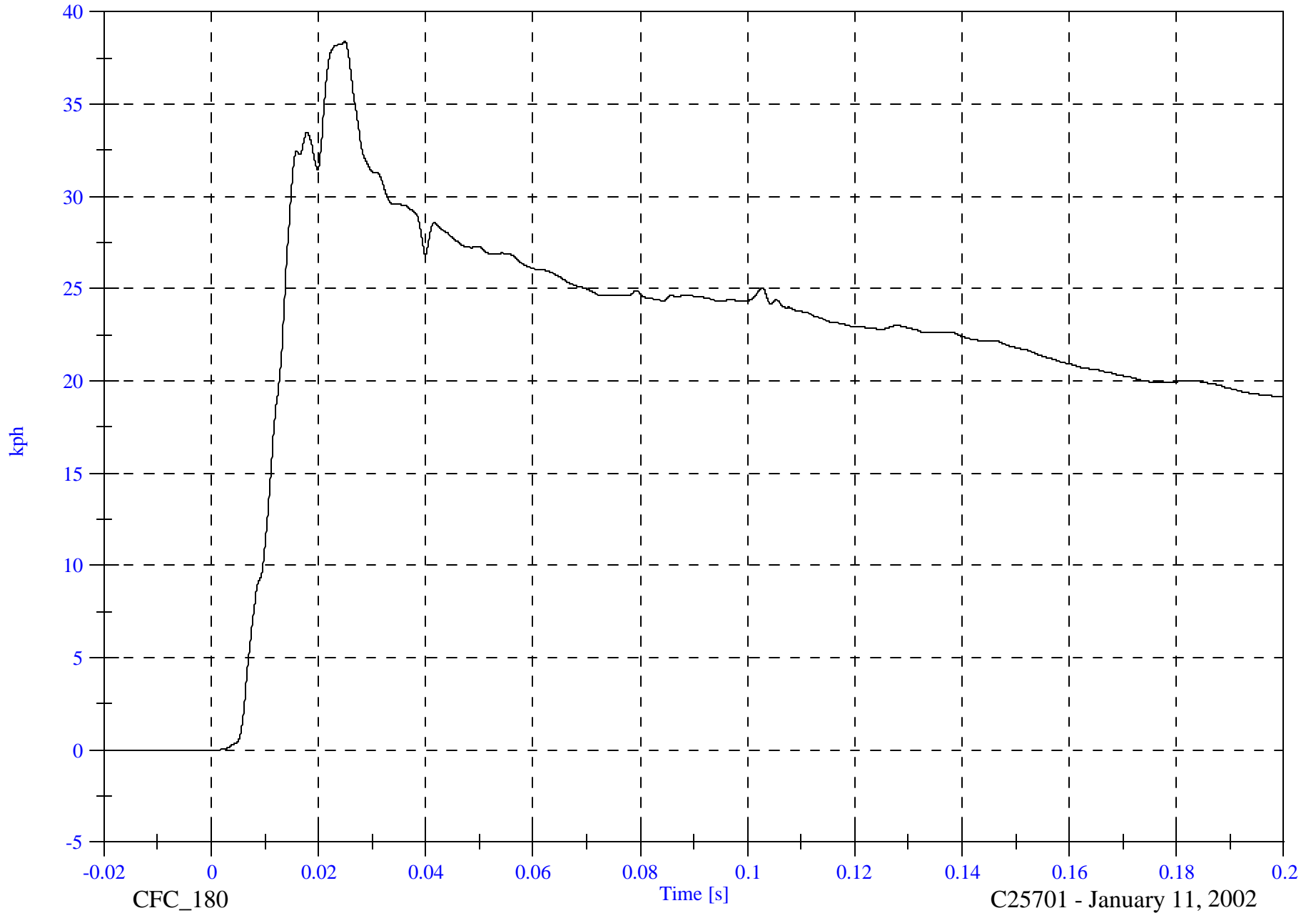
Acc 4 Left Rear Sill Y Velocity

Max: 38.4 [kph] at 0.025 [s]

Min: -0.0 [kph] at -0.020 [s]

B-66

8502-31

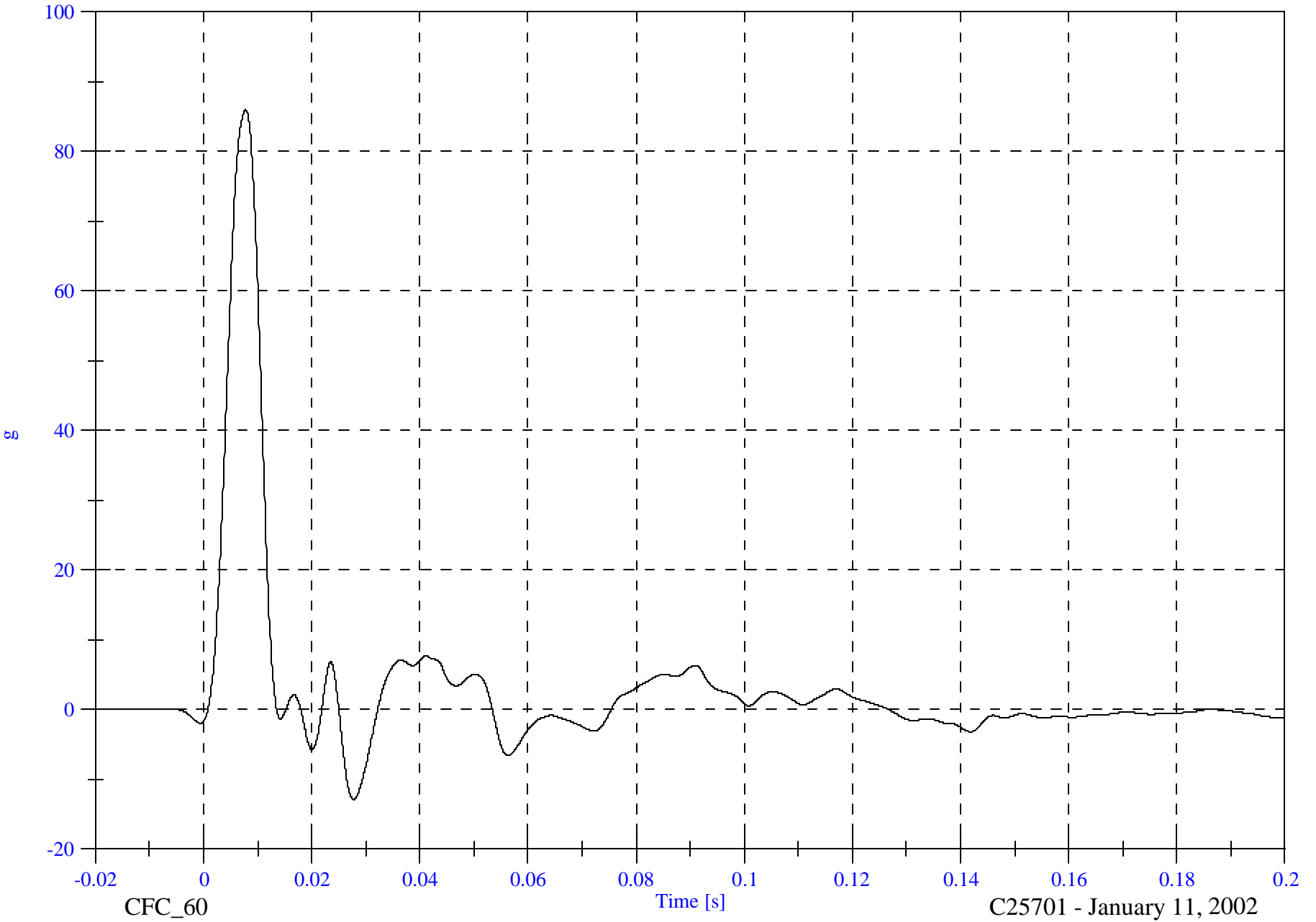


FMVSS 214D Indicant Test - 2002 Isuzu Axiom

Acc 5 Left Front Sill Y

Max: 86.0 [g] at 0.008 [s]

Min: -12.9 [g] at 0.028 [s]



B-67

8502-31

CFC\_60

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

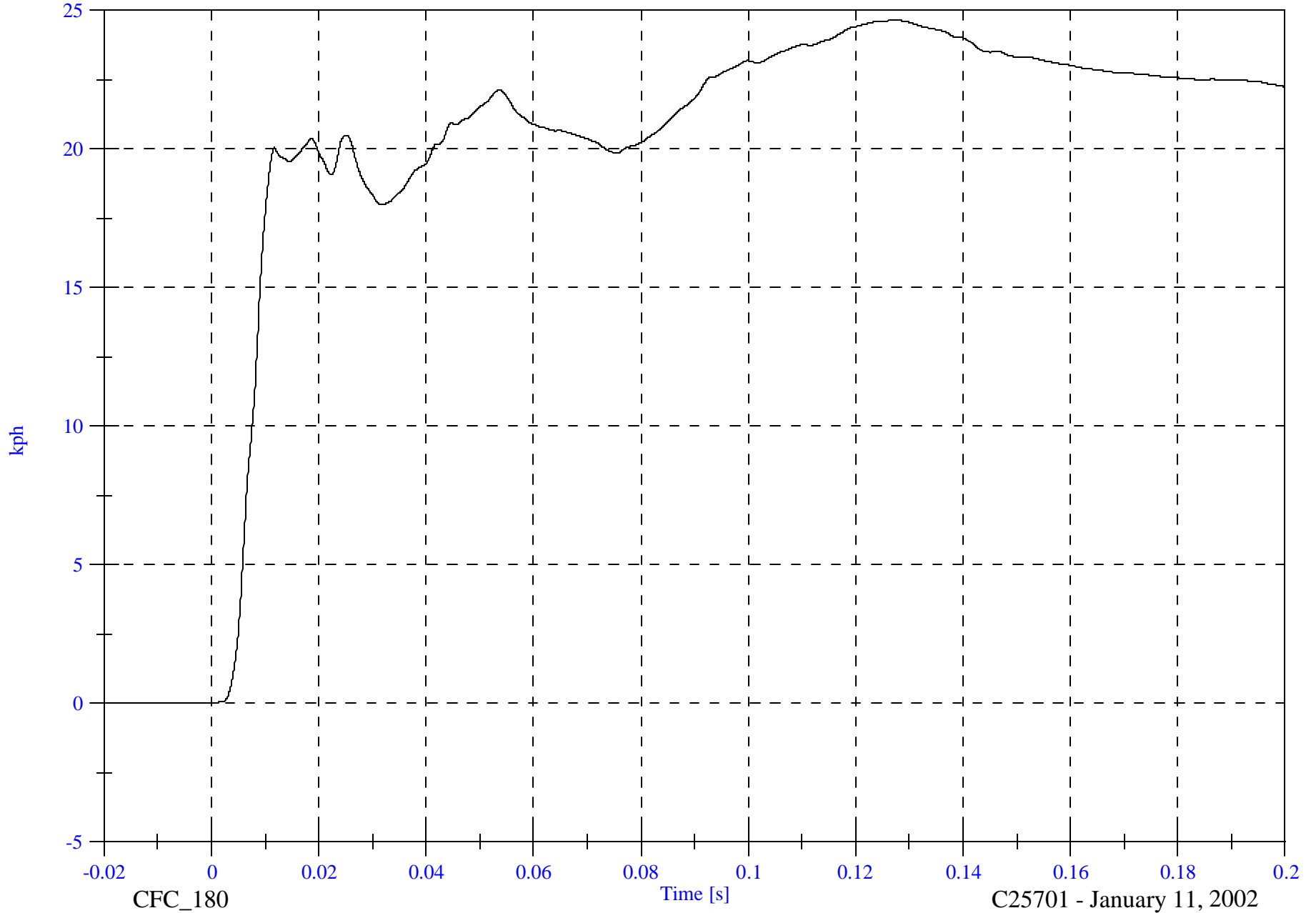
Acc 5 Left Front Sill Y Velocity

Max: 24.7 [kph] at 0.127 [s]

Min: -0.0 [kph] at -0.020 [s]

B-68

8502-31



CFC\_180

Time [s]

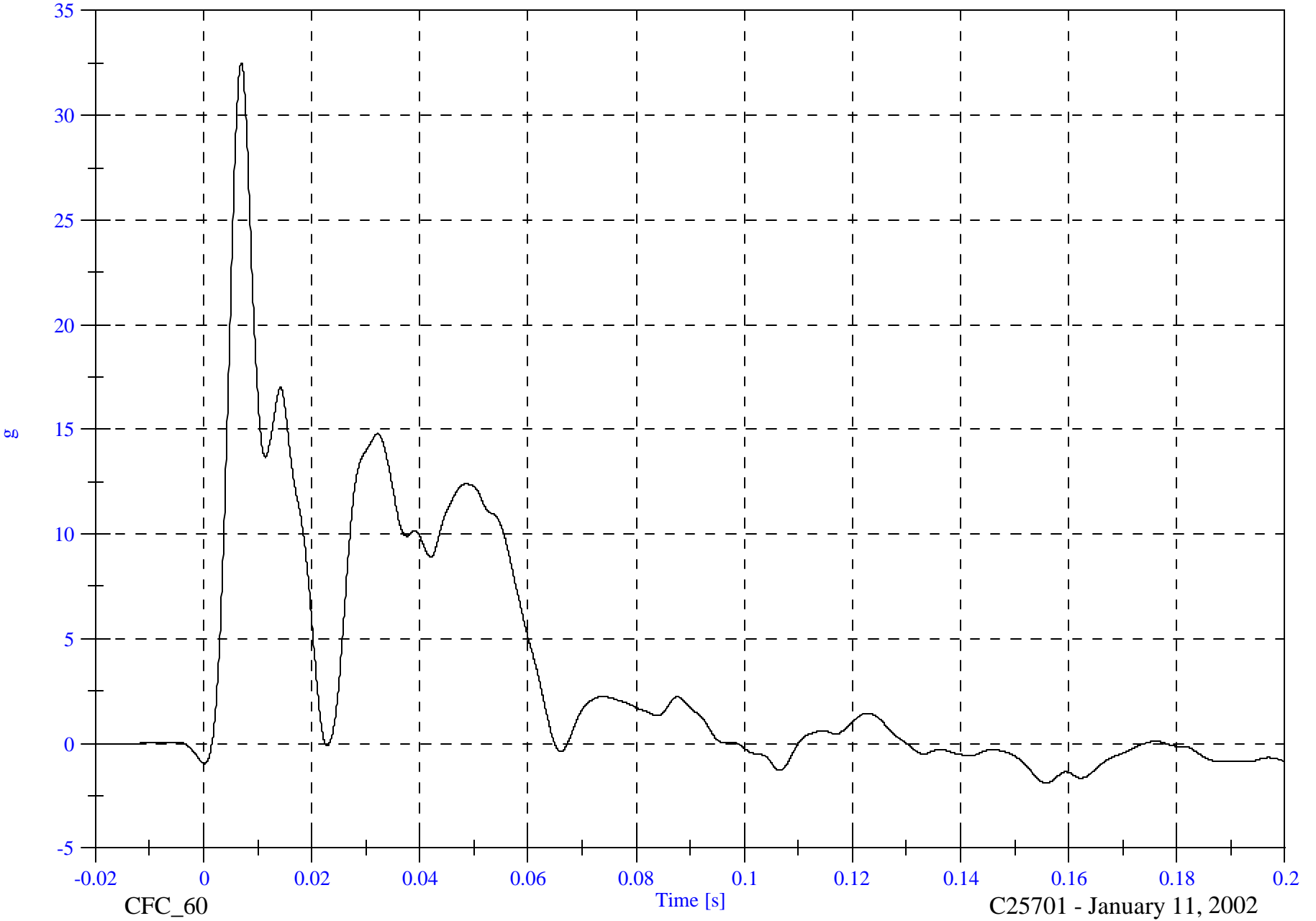
C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

Acc 7 Right Rear Compartment Y

Max: 32.5 [g] at 0.007 [s]

Min: -1.9 [g] at 0.156 [s]



B-69

8502-31

CFC\_60

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

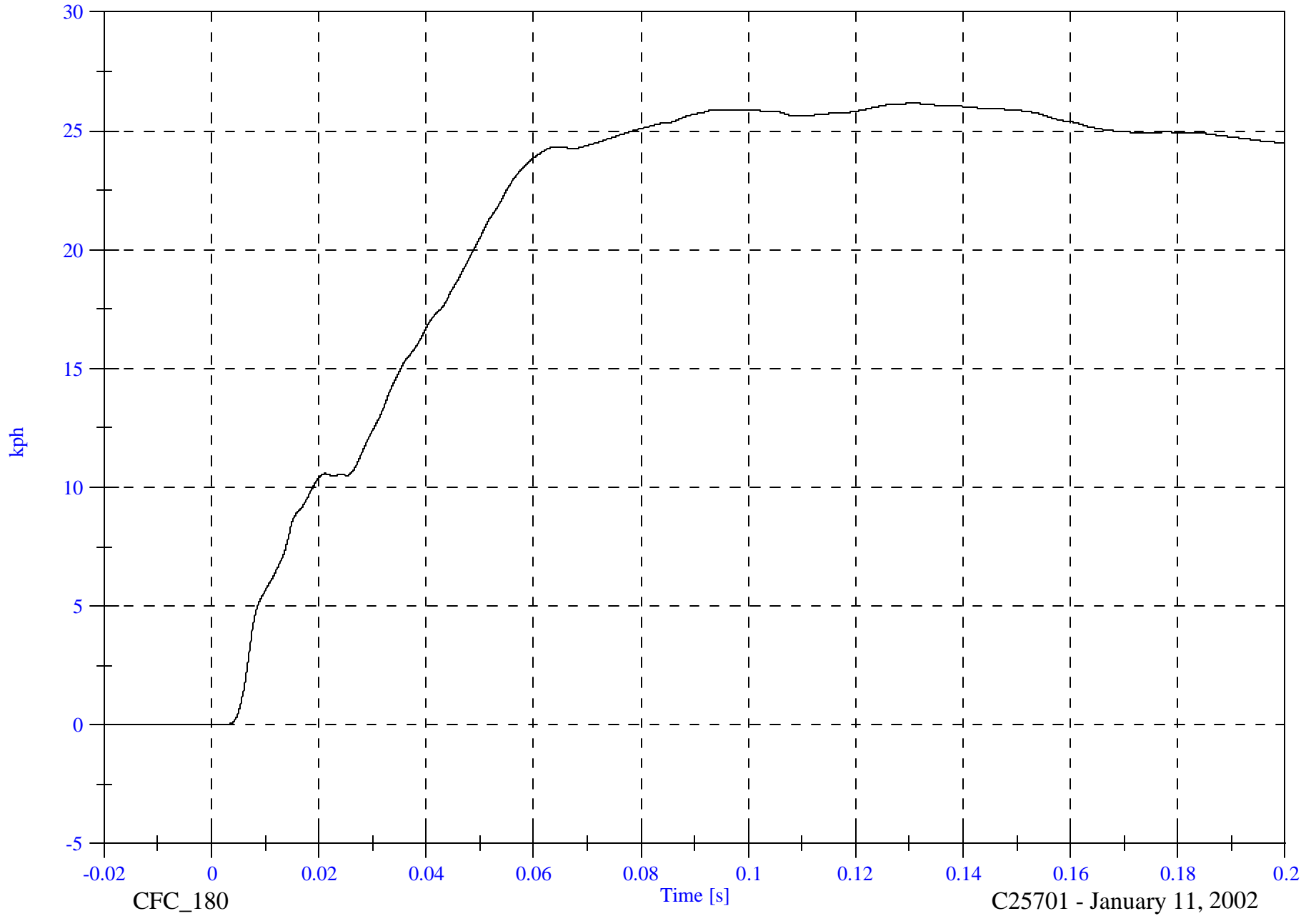
Acc 7 Right Rear Compartment Y Velocity

Max: 26.2 [kph] at 0.131 [s]

Min: -0.0 [kph] at -0.020 [s]

B-70

8502-31



CFC\_180

Time [s]

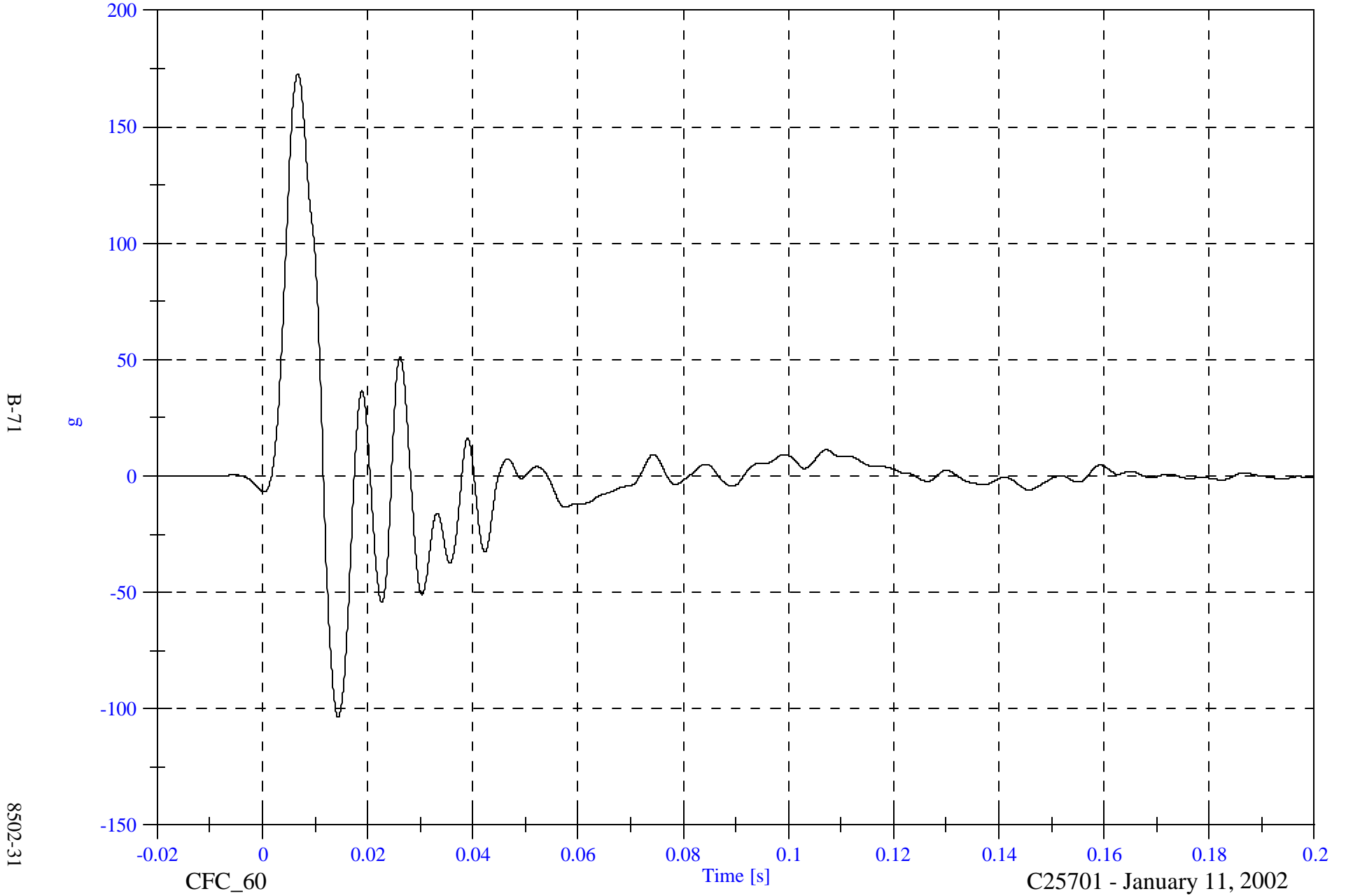
C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

Acc 12 Left Lower B-Pillar Y

Max: 172.8 [g] at 0.007 [s]

Min: -103.6 [g] at 0.014 [s]



FMVSS 214D Indicant Test - 2002 Isuzu Axiom

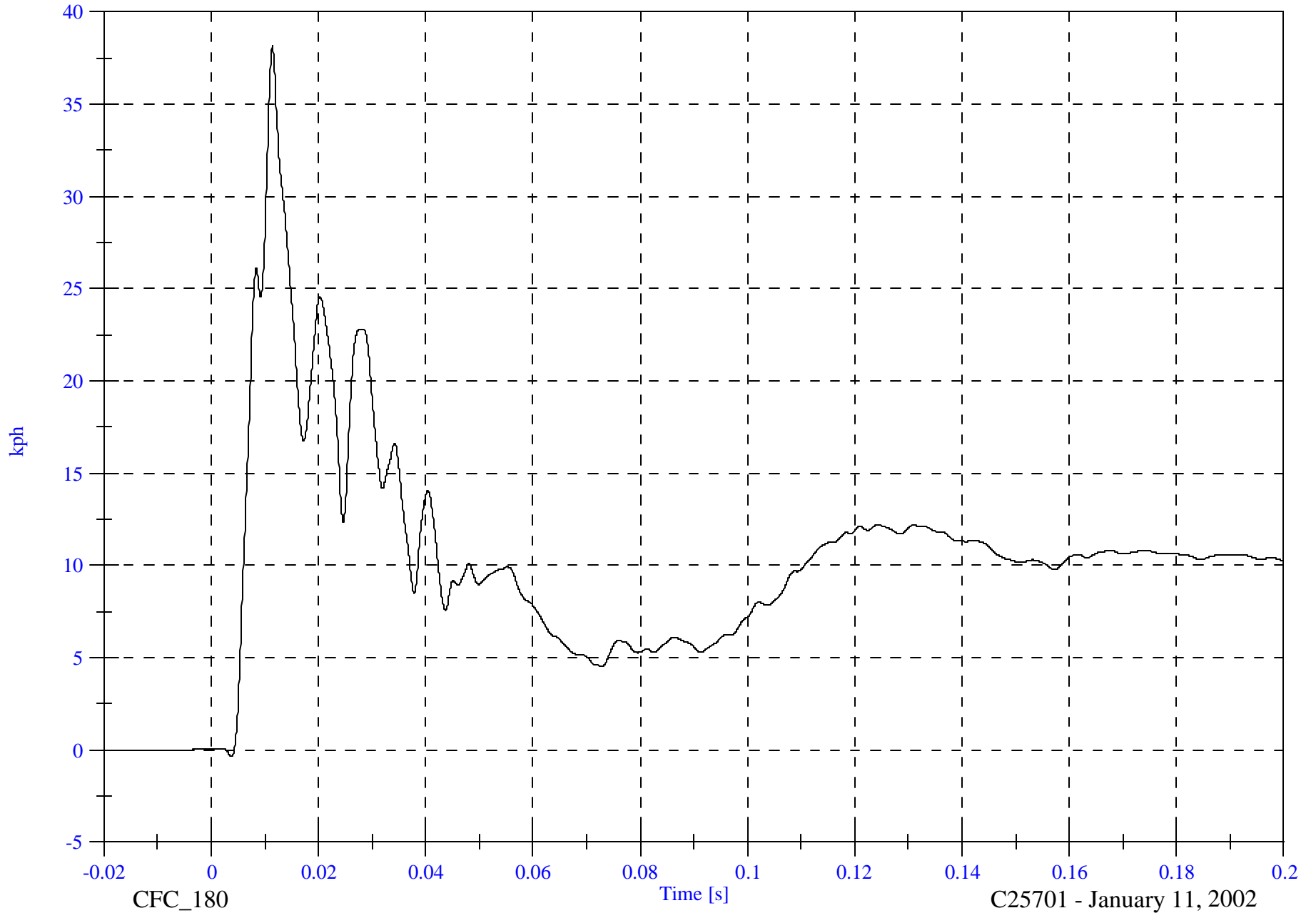
Max: 38.1 [kph] at 0.011 [s]

Acc 12 Left Lower B-Pillar Y Velocity

Min: -0.4 [kph] at 0.004 [s]

B-72

8502-31



CFC\_180

Time [s]

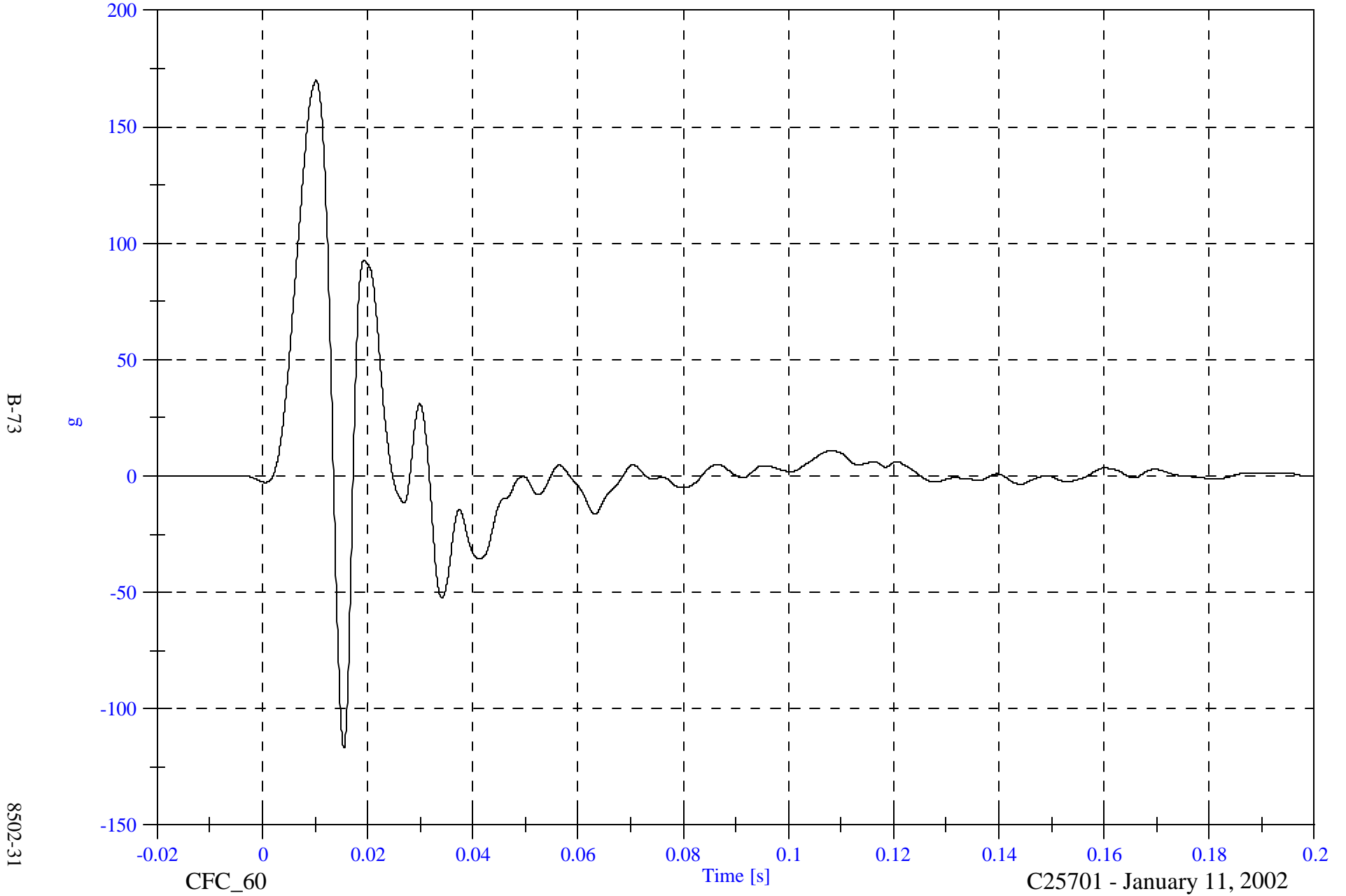
C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

Acc 13 Left Middle B-Pillar Y

Max: 169.9 [g] at 0.010 [s]

Min: -117.0 [g] at 0.015 [s]



FMVSS 214D Indicant Test - 2002 Isuzu Axiom

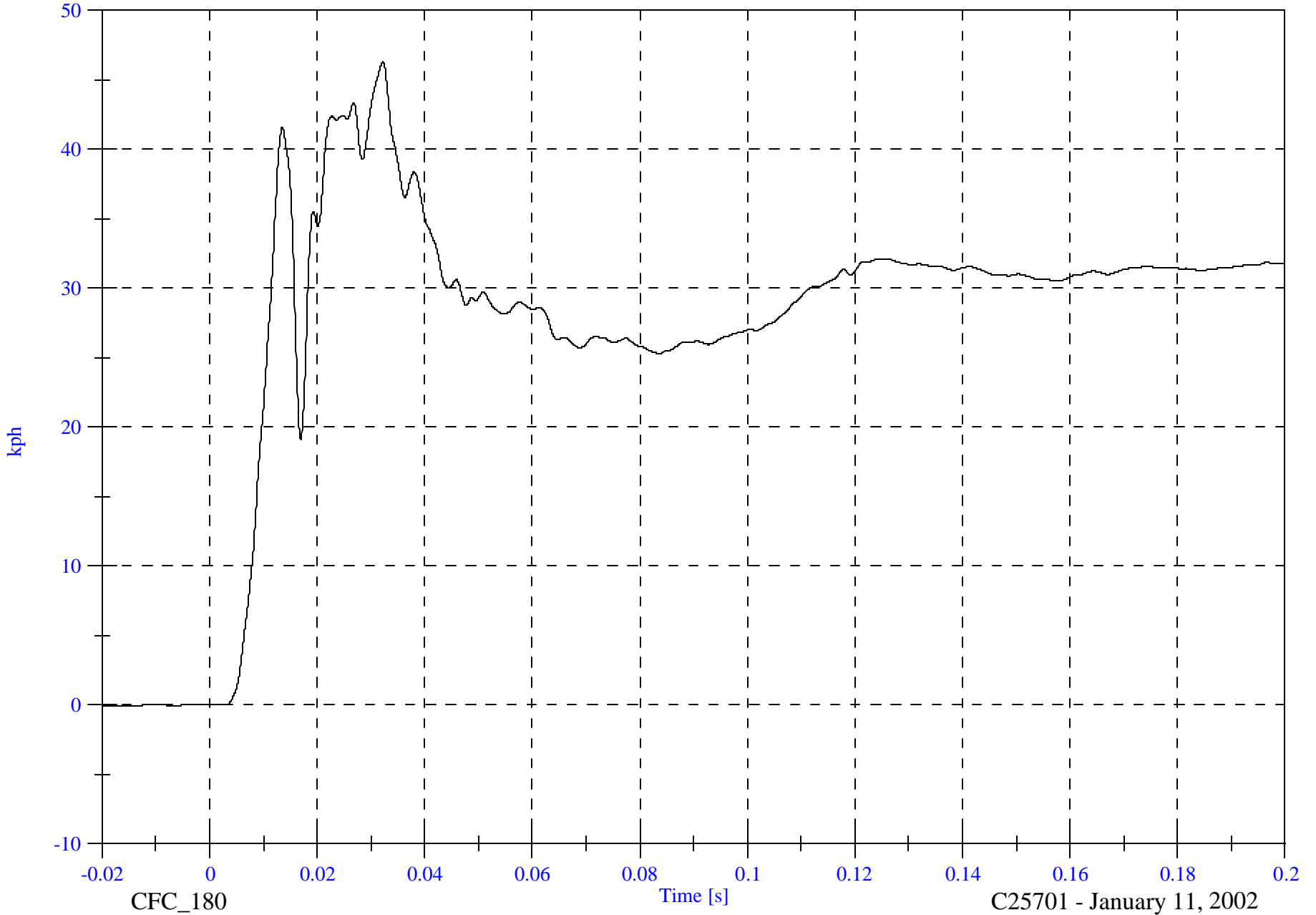
Max: 46.3 [kph] at 0.032 [s]

Acc 13 Left Middle B-Pillar Y Velocity

Min: -0.0 [kph] at -0.020 [s]

B-74

8502-31



CFC\_180

Time [s]

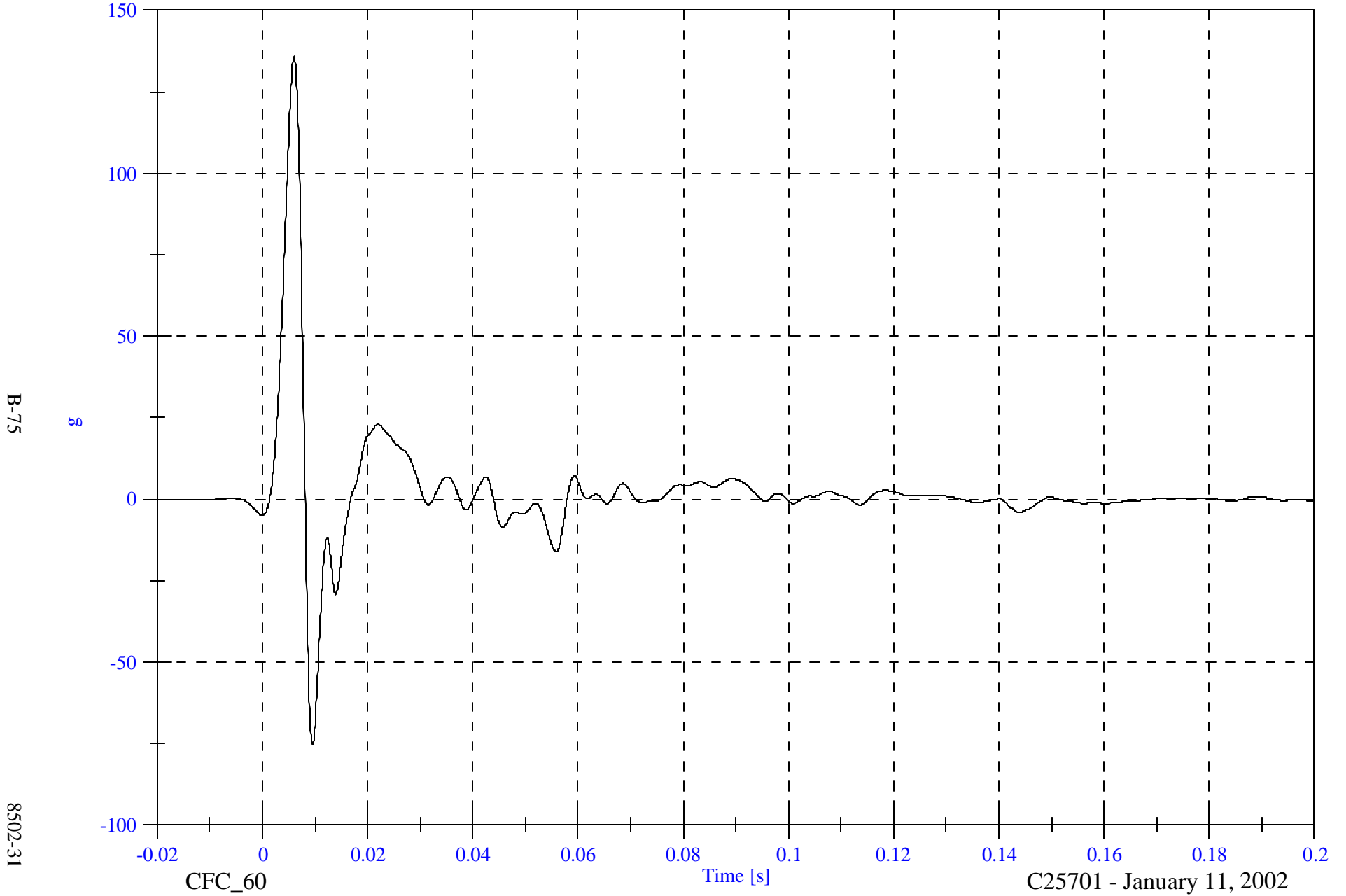
C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

Acc 14 Left Lower A-Pillar Y

Max: 135.8 [g] at 0.006 [s]

Min: -75.4 [g] at 0.010 [s]



B-75

8502-31

CFC\_60

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

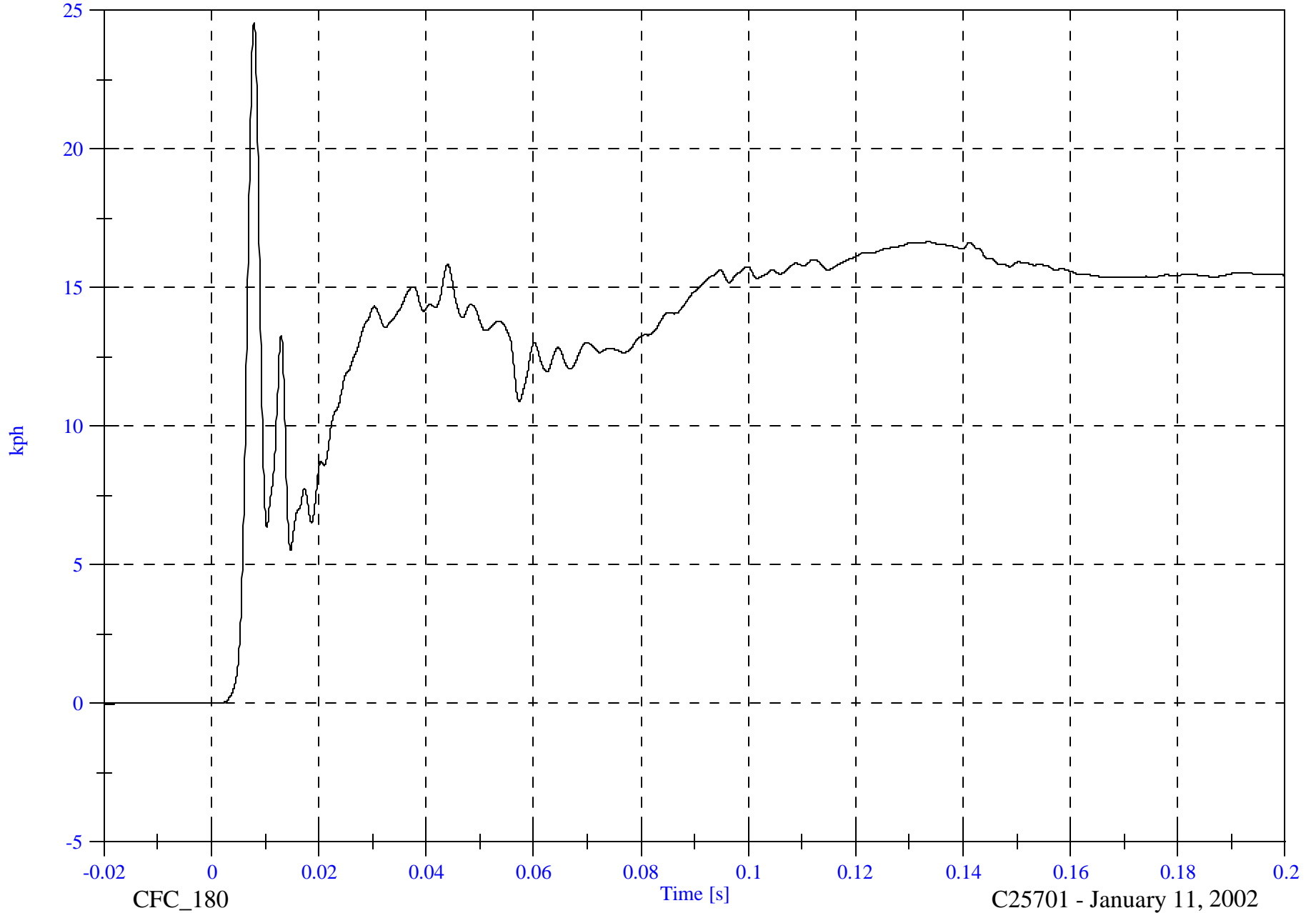
Max: 24.6 [kph] at 0.008 [s]

Acc 14 Left Lower A-Pillar Y Velocity

Min: -0.0 [kph] at -0.020 [s]

B-76

8502-31



CFC\_180

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

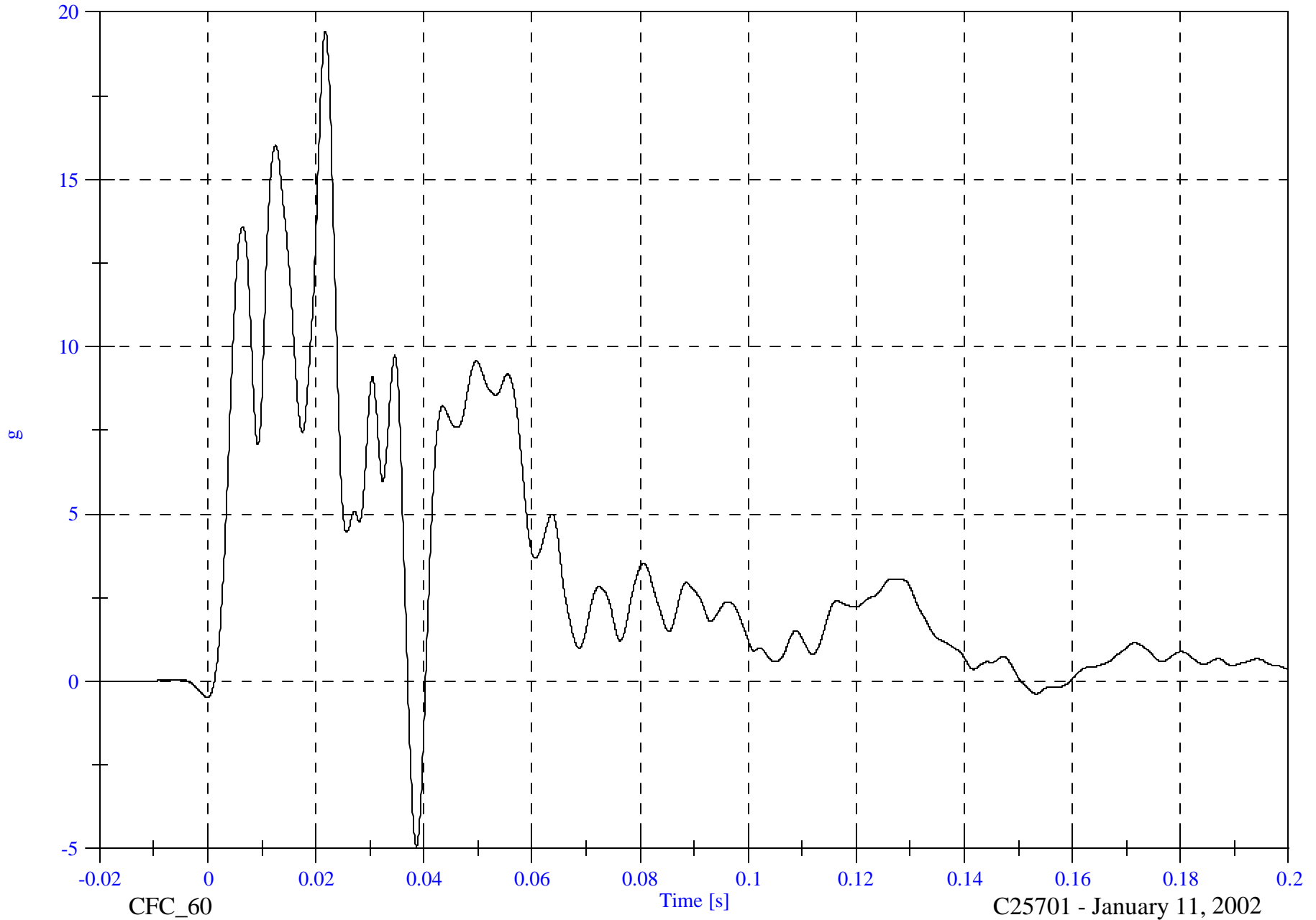
Acc 15 Left Middle A-Pillar Y

Max: 19.4 [g] at 0.022 [s]

Min: -4.9 [g] at 0.039 [s]

B-77

8502-31



FMVSS 214D Indicant Test - 2002 Isuzu Axiom

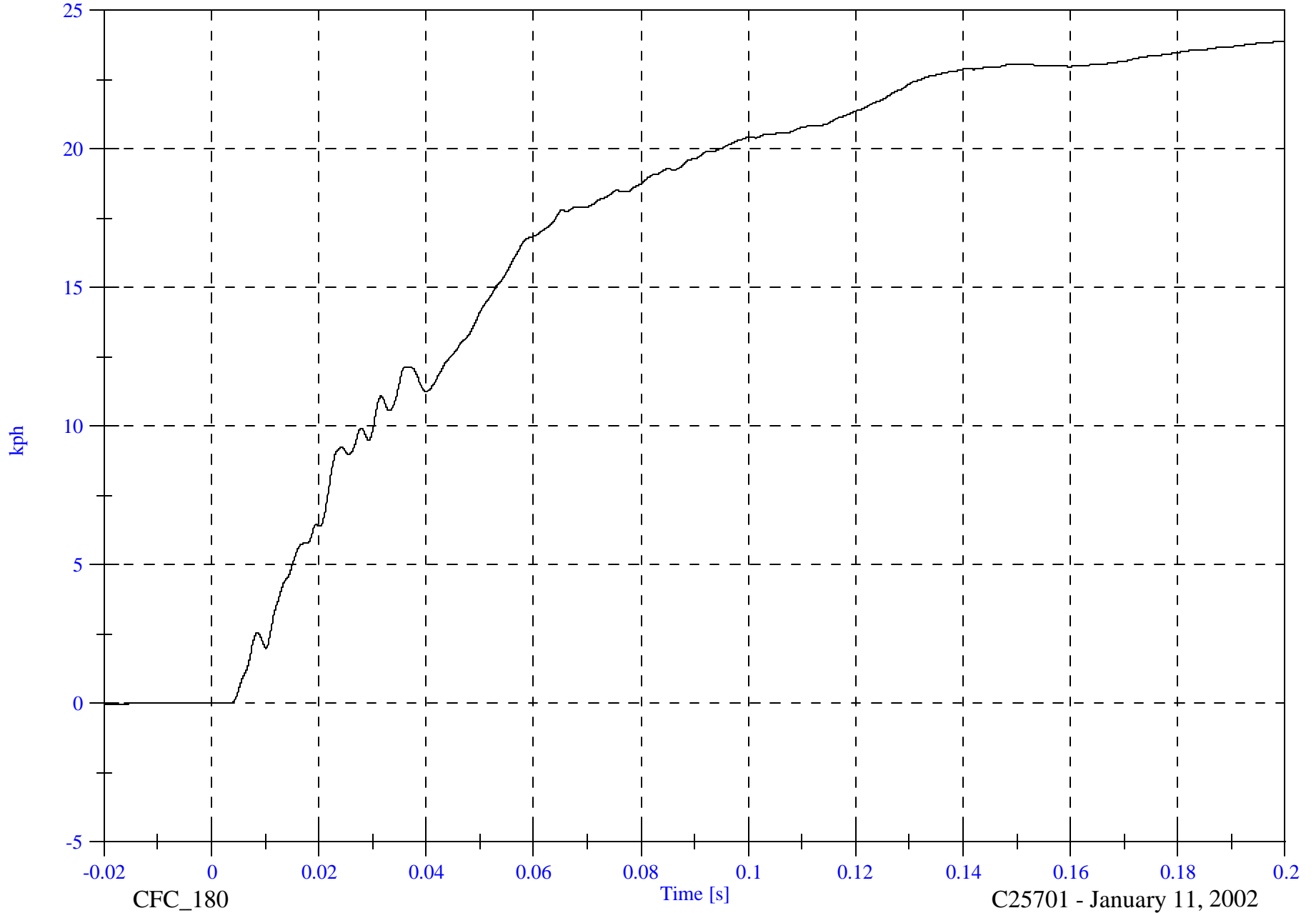
Acc 15 Left Middle A-Pillar Y Velocity

Max: 23.9 [kph] at 0.200 [s]

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

B-78

8502-31



FMVSS 214D Indicant Test - 2002 Isuzu Axiom

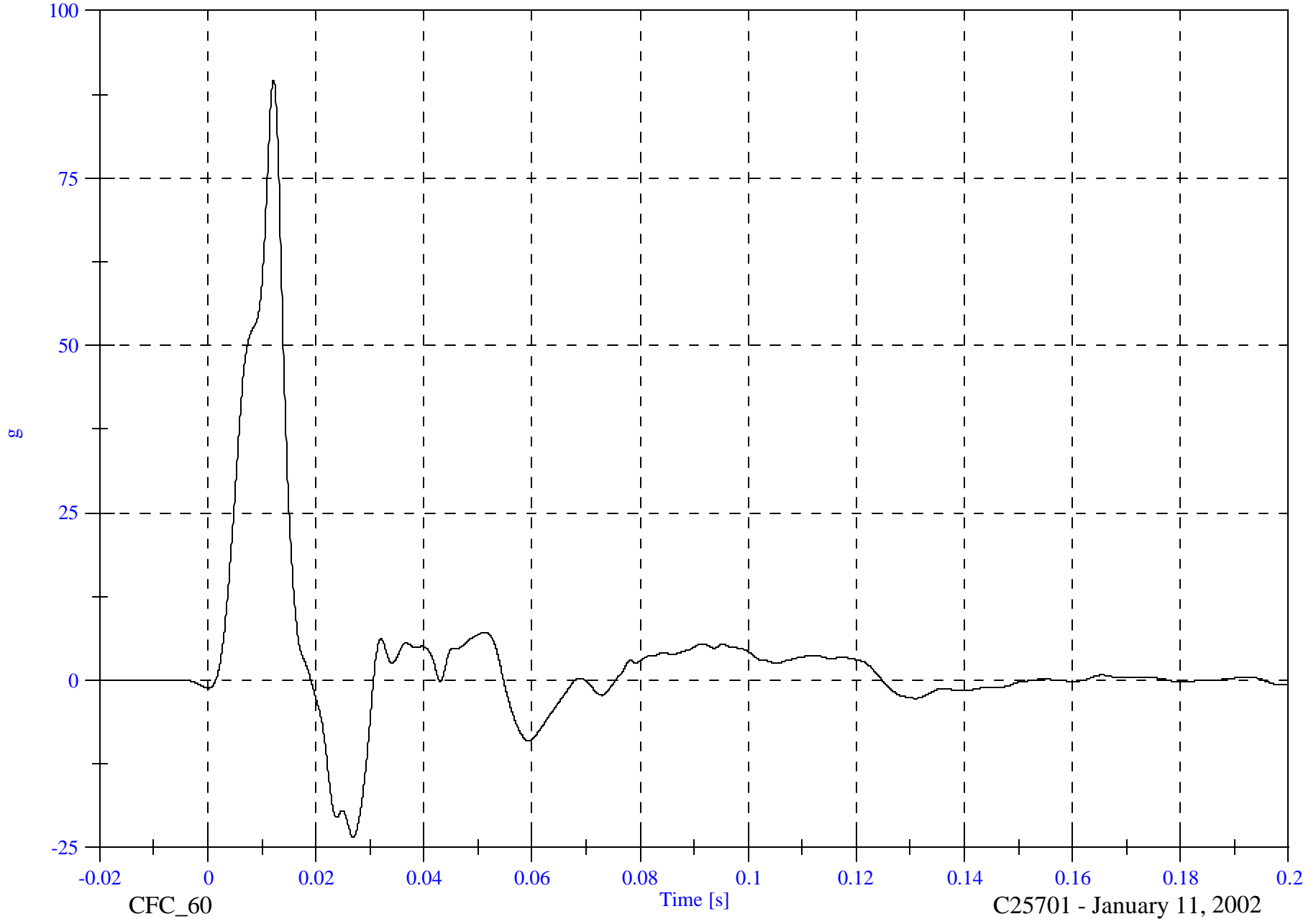
Acc 16 Front Seat Track Y

Max: 89.6 [g] at 0.012 [s]

Min: -23.5 [g] at 0.027 [s]

B-79

8502-31



CFC\_60

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

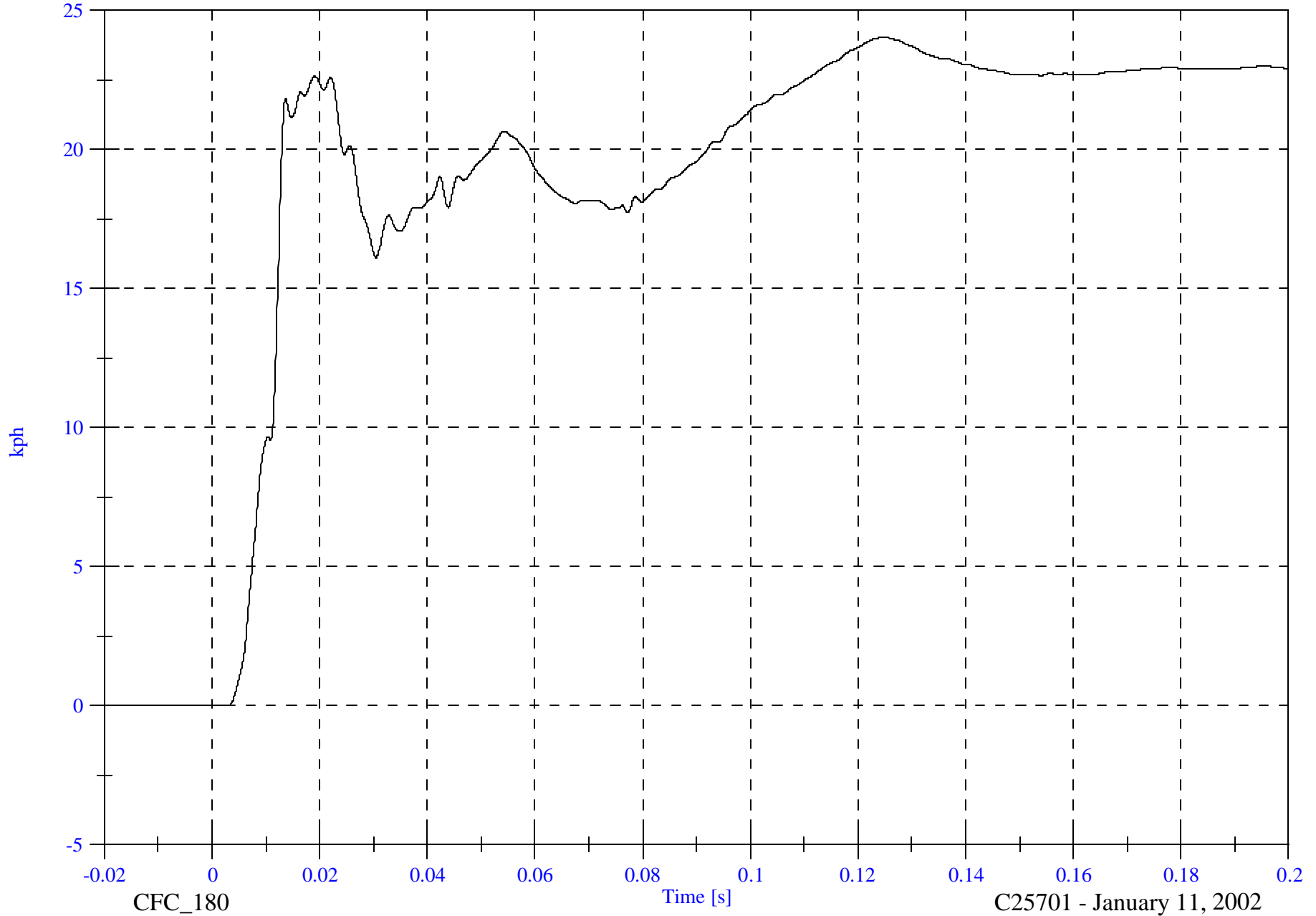
Max: 24.0 [kph] at 0.125 [s]

Acc 16 Front Seat Track Y Velocity

Min: -0.0 [kph] at -0.020 [s]

B-80

8502-31



CFC\_180

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

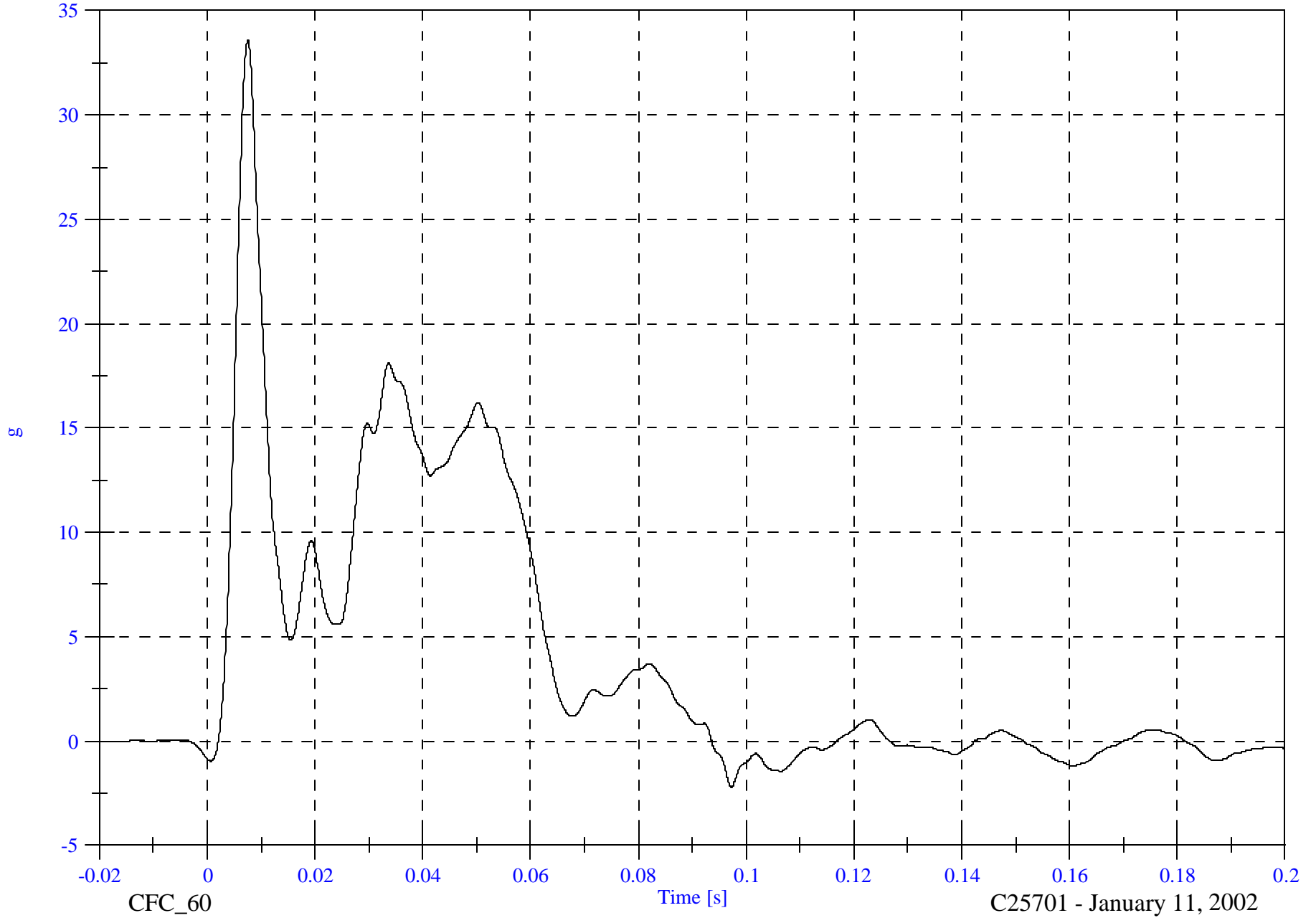
Acc 17 Rear Seat Track Y

Max: 33.6 [g] at 0.008 [s]

Min: -2.2 [g] at 0.097 [s]

B-81

8502-31



FMVSS 214D Indicant Test - 2002 Isuzu Axiom

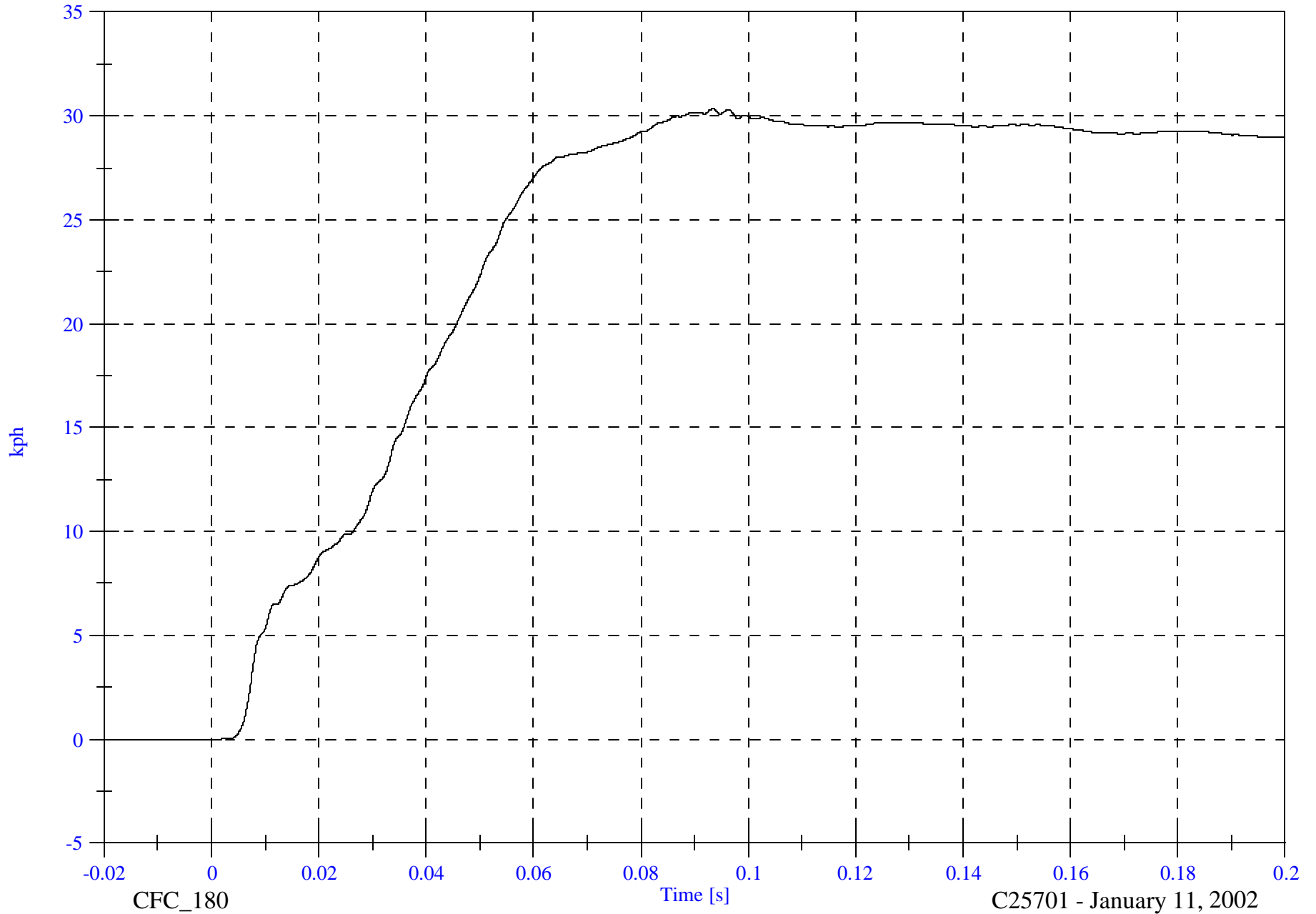
Acc 17 Rear Seat Track Y Velocity

Max: 30.3 [kph] at 0.093 [s]

Min: -0.0 [kph] at -0.020 [s]

B-82

8502-31



CFC\_180

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

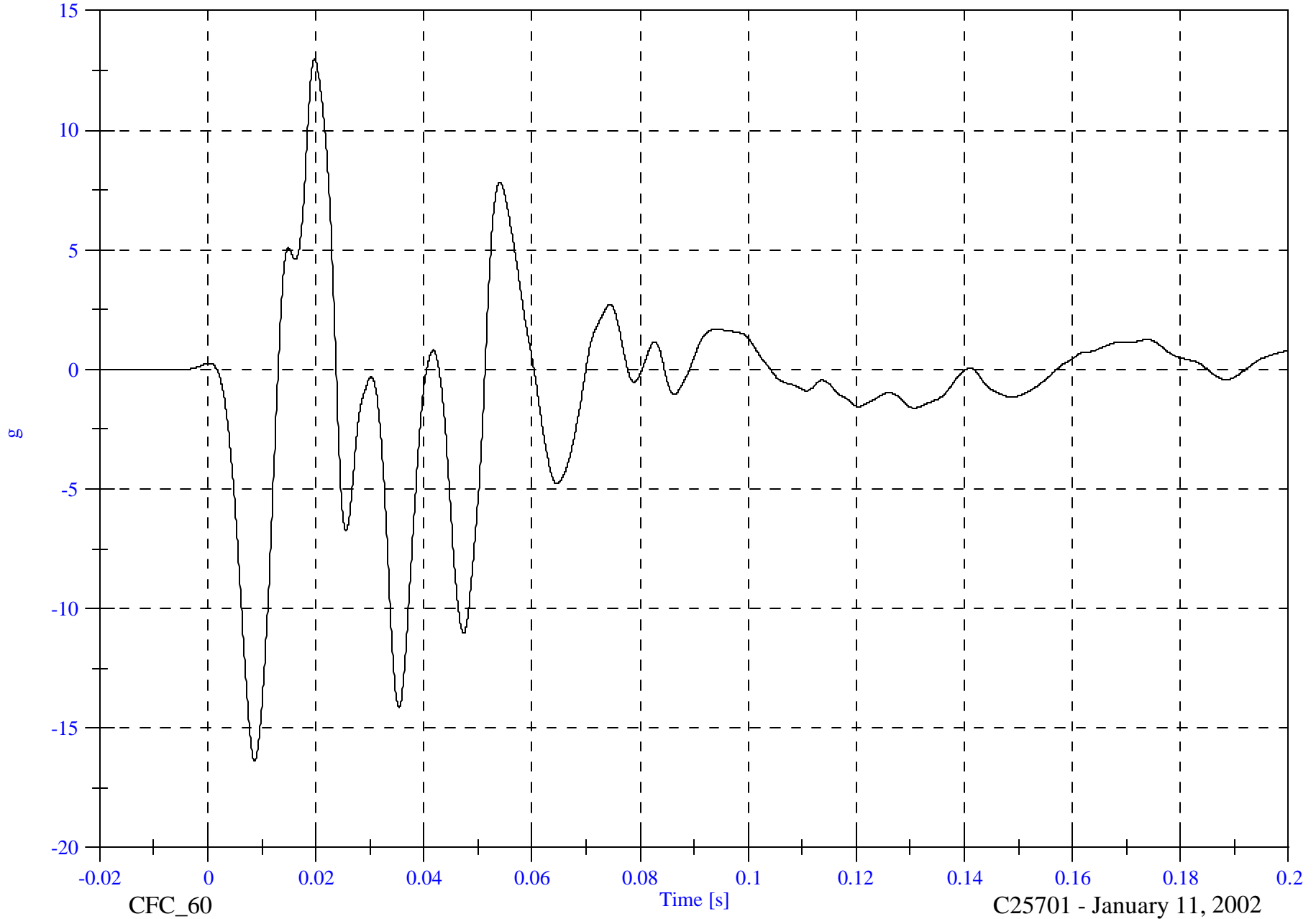
Acc 18 Target CG X

Max: 13.0 [g] at 0.020 [s]

Min: -16.4 [g] at 0.009 [s]

B-83

8502-31



CFC\_60

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

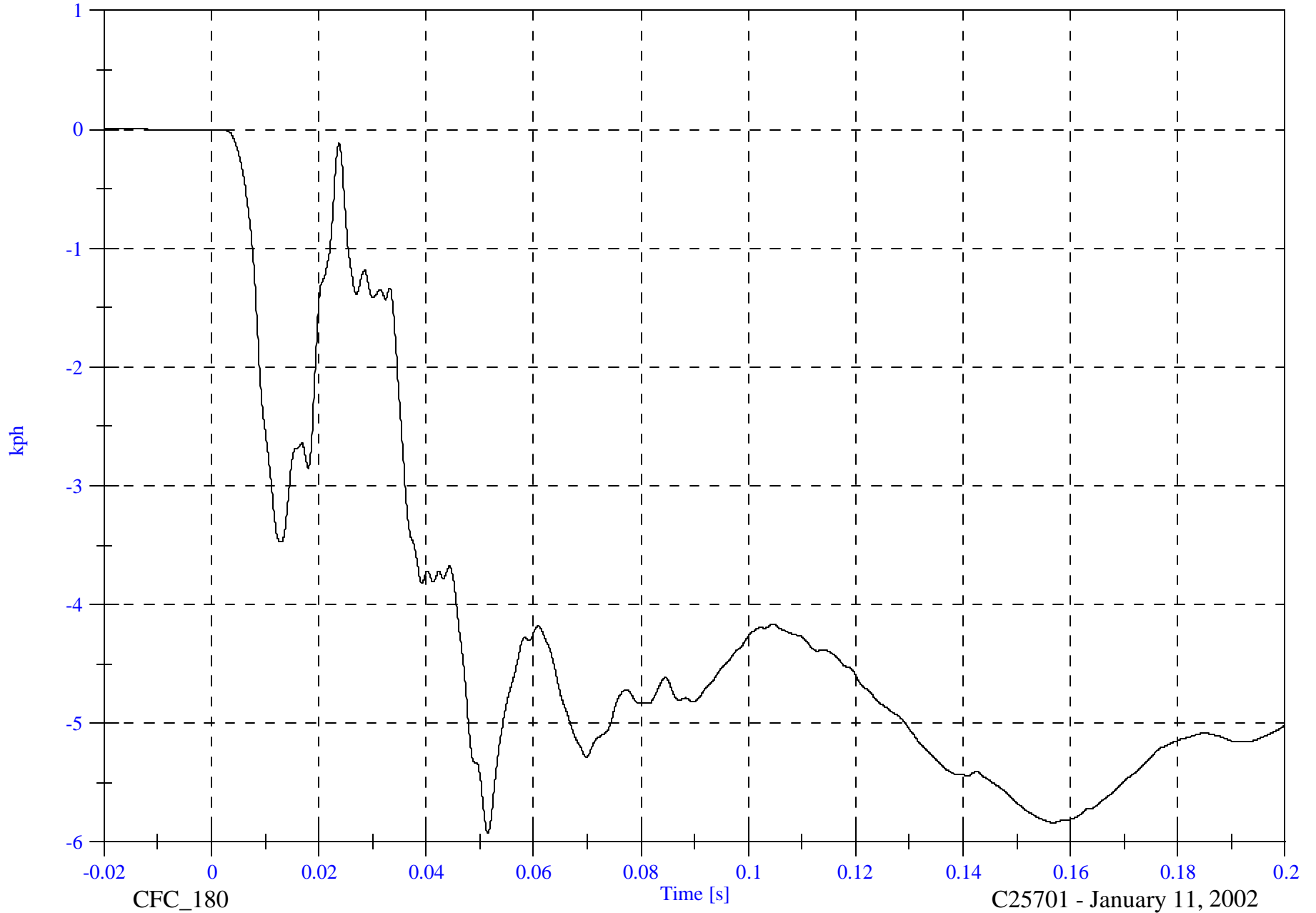
Acc 18 Target CG X Velocity

Max: 0.0 [kph] at -0.018 [s]

Min: -5.9 [kph] at 0.051 [s]

B-84

8502-31



CFC\_180

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

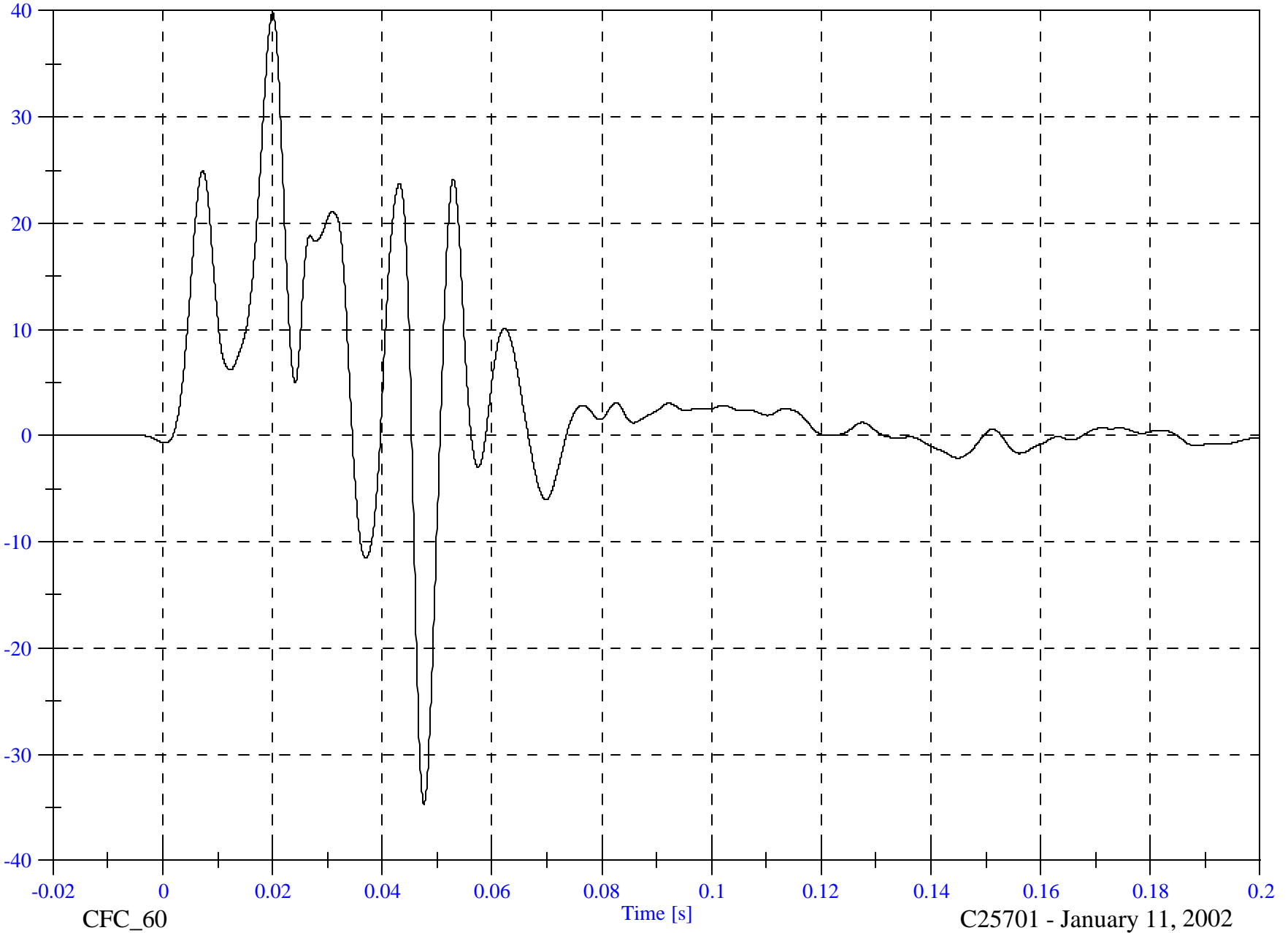
Acc 18 Target CG Y

Max: 39.8 [g] at 0.020 [s]

Min: -34.7 [g] at 0.048 [s]

B-85

g



8502-31

CFC\_60

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

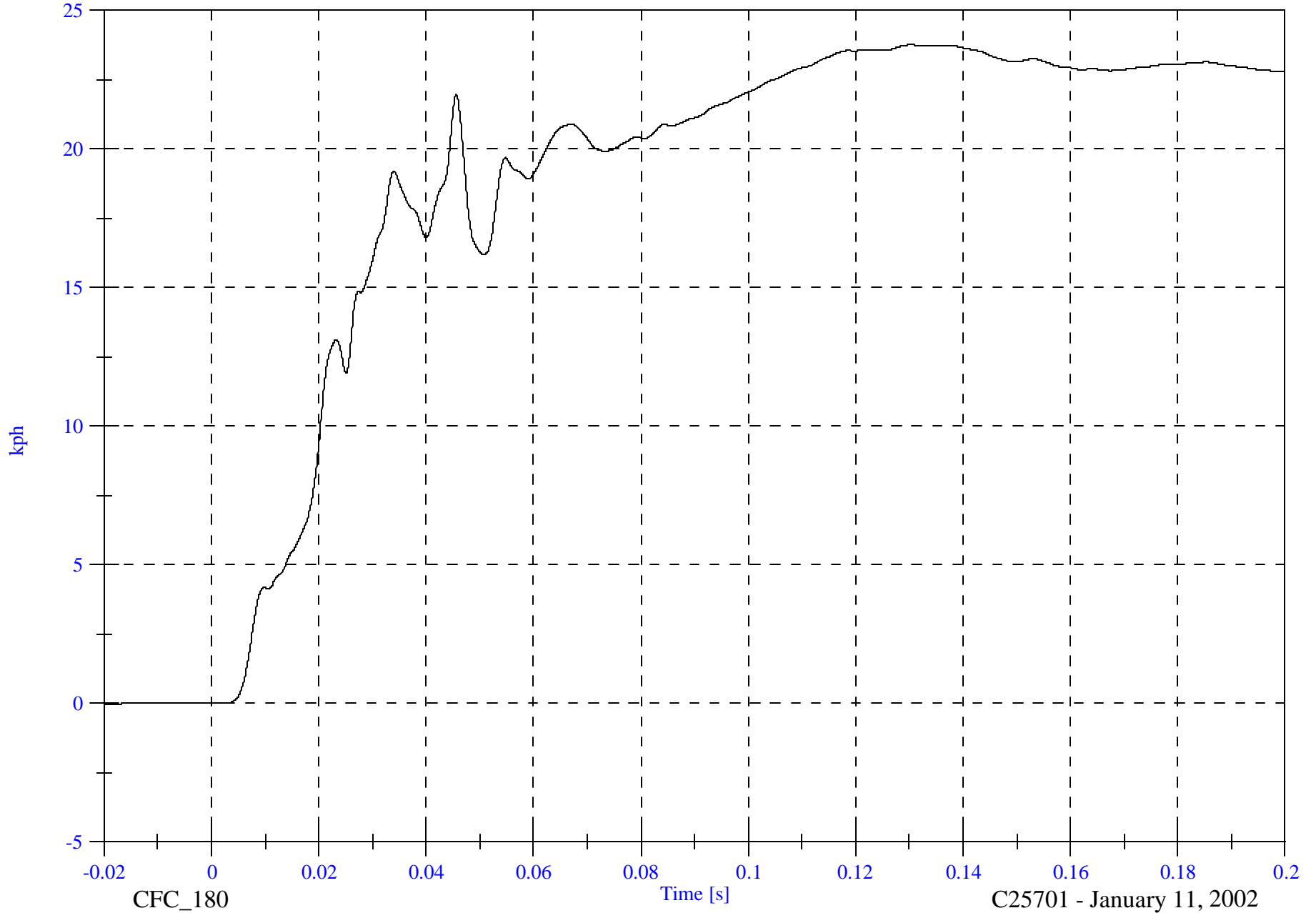
Acc 18 Target CG Y Velocity

Max: 23.8 [kph] at 0.130 [s]

Min: -0.0 [kph] at -0.020 [s]

B-86

8502-31



CFC\_180

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

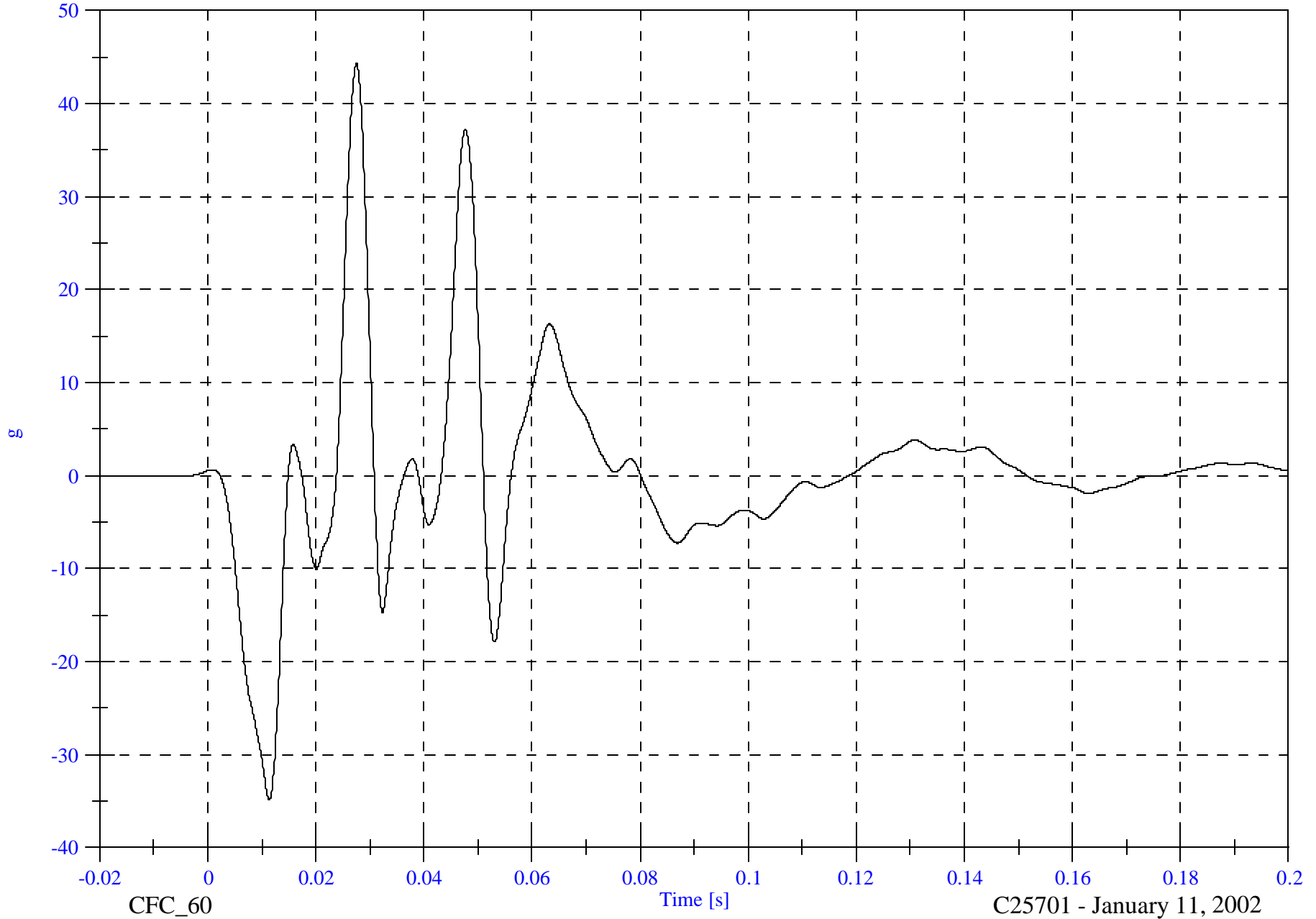
Acc 18 Target CG Z

Max: 44.3 [g] at 0.028 [s]

Min: -34.9 [g] at 0.011 [s]

B-87

8502-31



CFC\_60

Time [s]

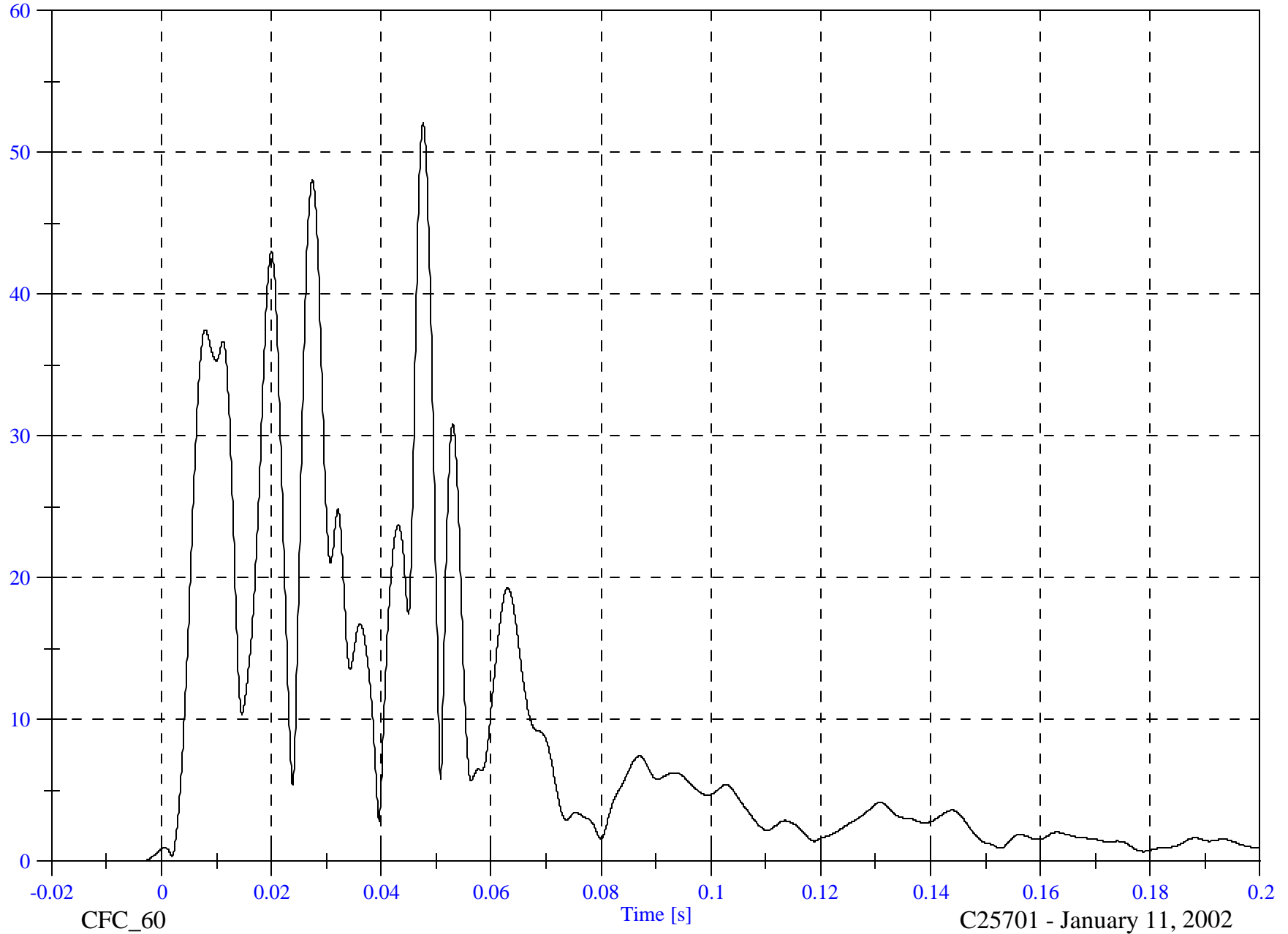
C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

Acc 18 Target CG Resultant

Max: 52.1 [g] at 0.048 [s]

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



B-88

8502-31

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

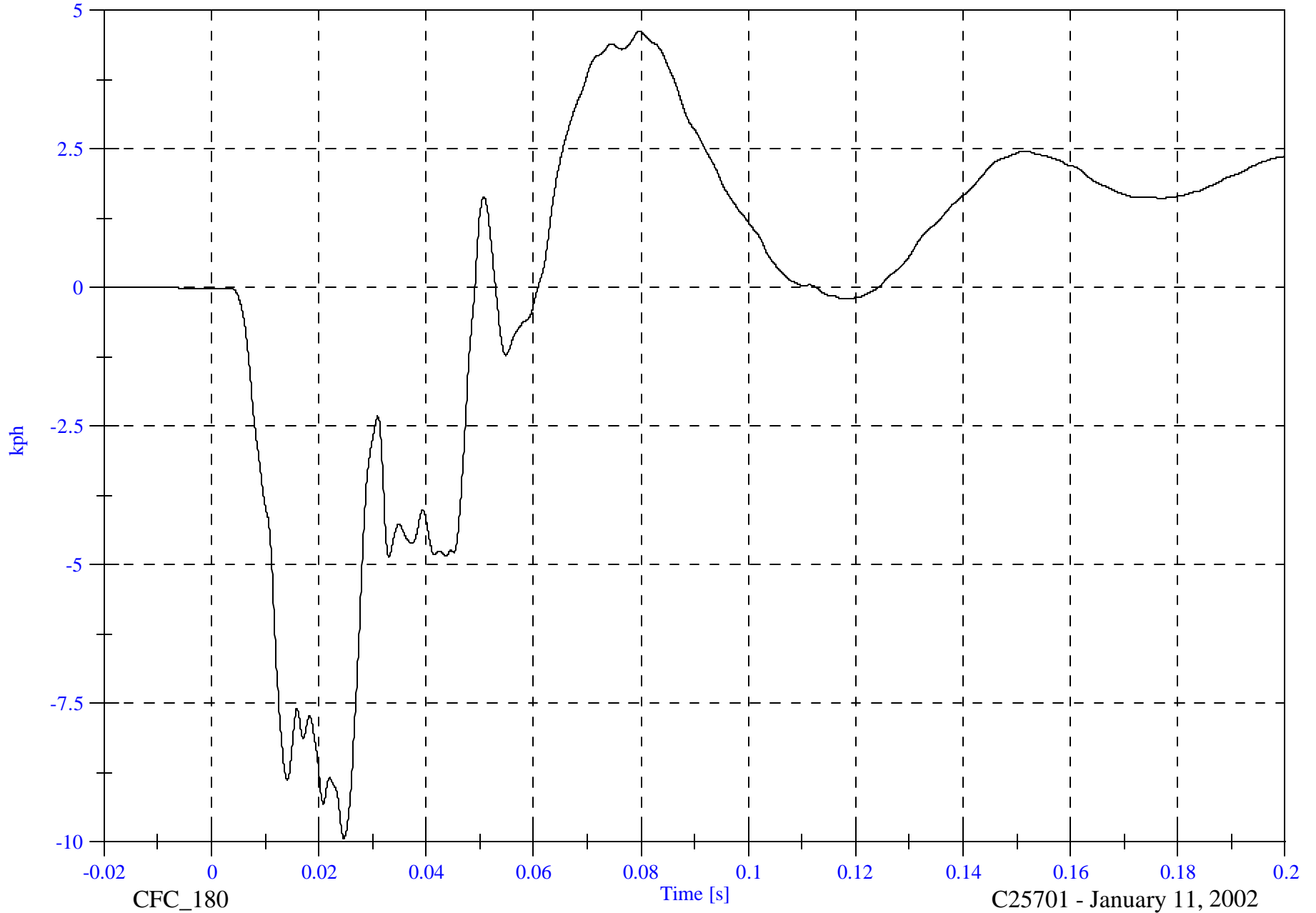
Acc 18 Target CG Z Velocity

Max: 4.6 [kph] at 0.080 [s]

Min: -9.9 [kph] at 0.025 [s]

B-89

8502-31



CFC\_180

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

Moving Barrier CG X

Max: 1.3 [g] at 0.093 [s]

Min: -21.1 [g] at 0.045 [s]

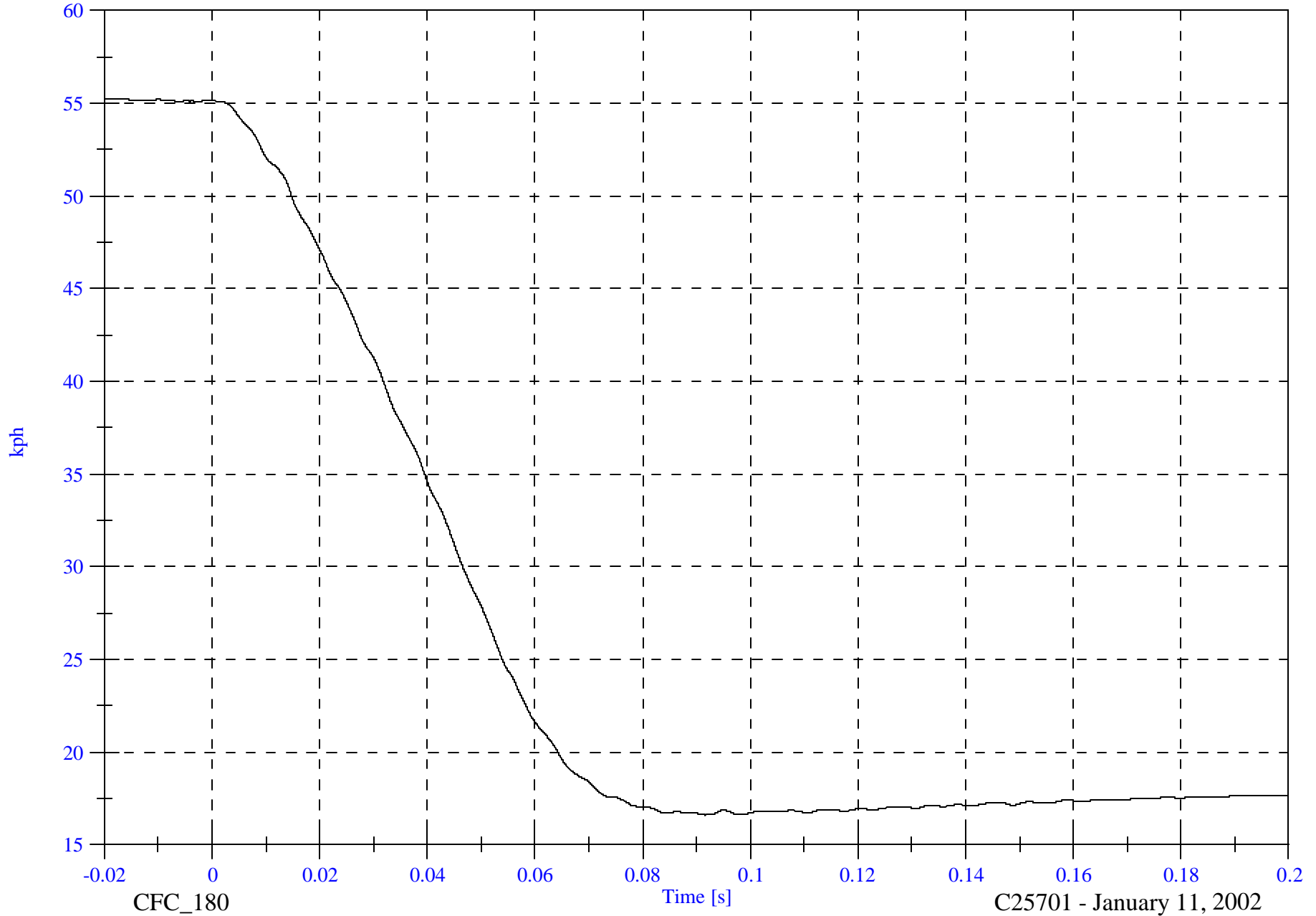


FMVSS 214D Indicant Test - 2002 Isuzu Axiom

Max: 55.3 [kph] at -0.018 [s]

Moving Barrier CG X Velocity

Min: 16.6 [kph] at 0.092 [s]



B-91

8502-31

CFC\_180

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

Moving Barrier CG Y

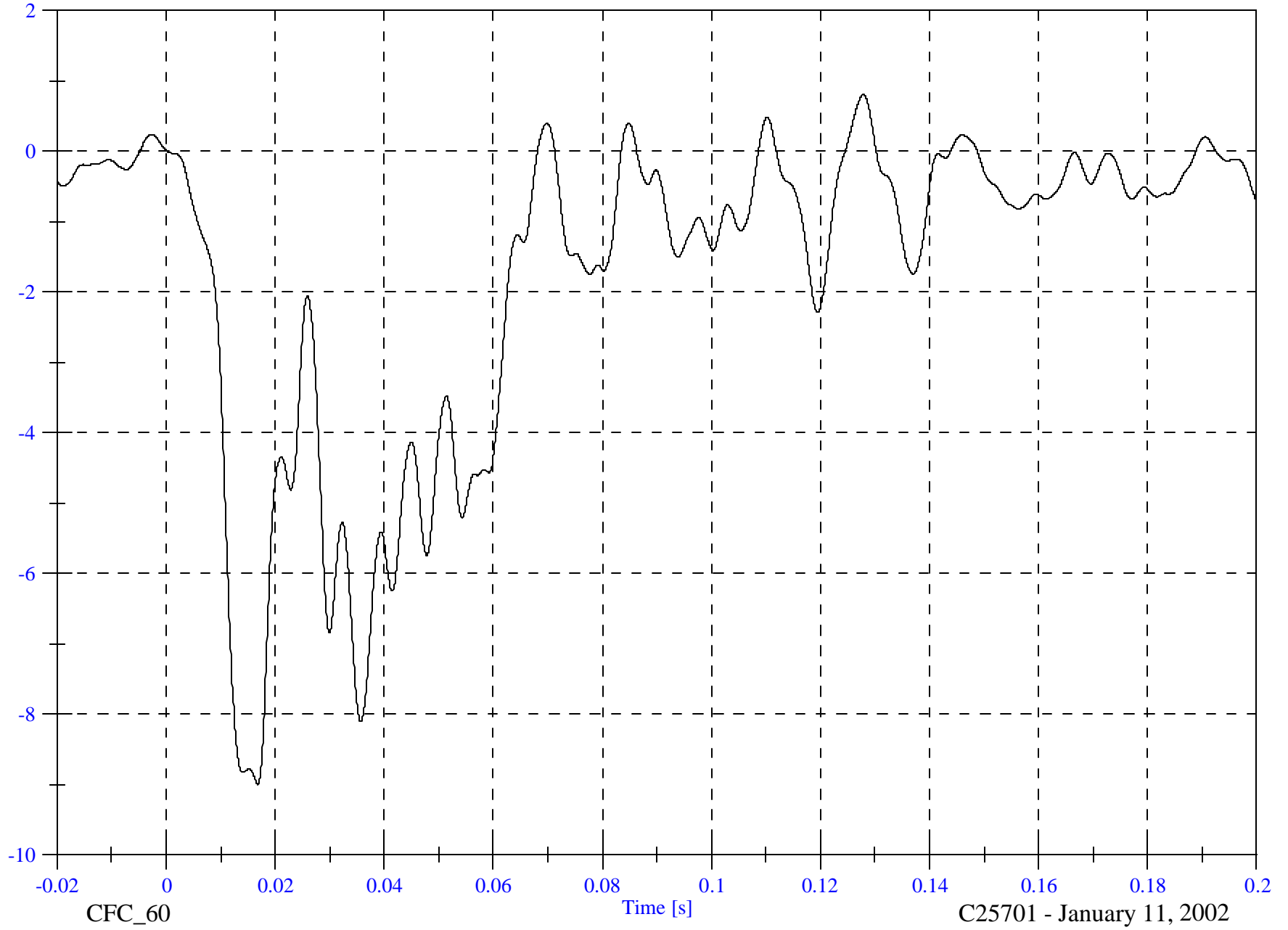
Max: 0.8 [g] at 0.128 [s]

Min: -9.0 [g] at 0.017 [s]

B-92

g

8502-31



CFC\_60

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

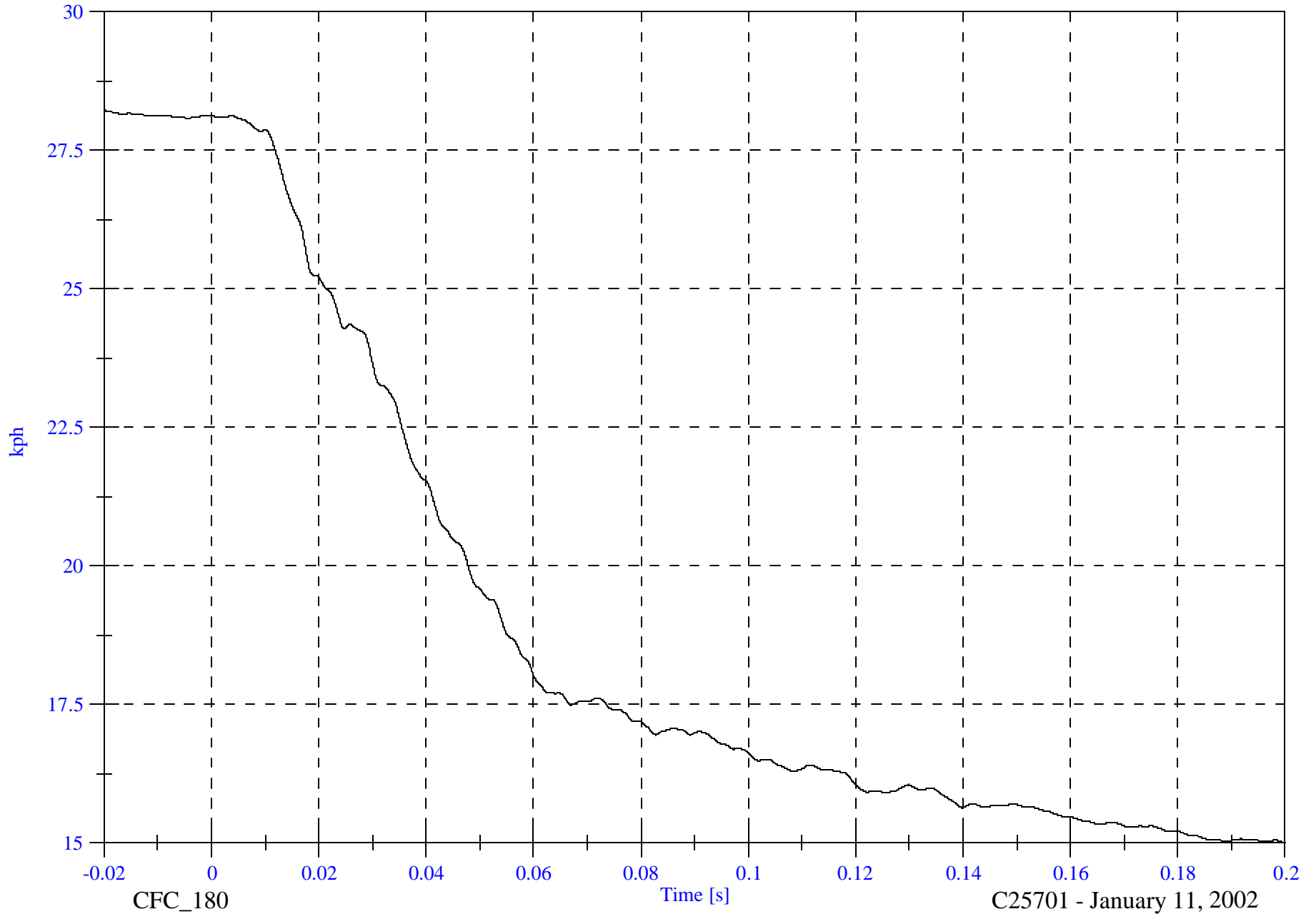
Moving Barrier CG Y Velocity

Max: 28.2 [kph] at -0.020 [s]

Min: 15.0 [kph] at 0.200 [s]

B-93

8502-31



CFC\_180

Time [s]

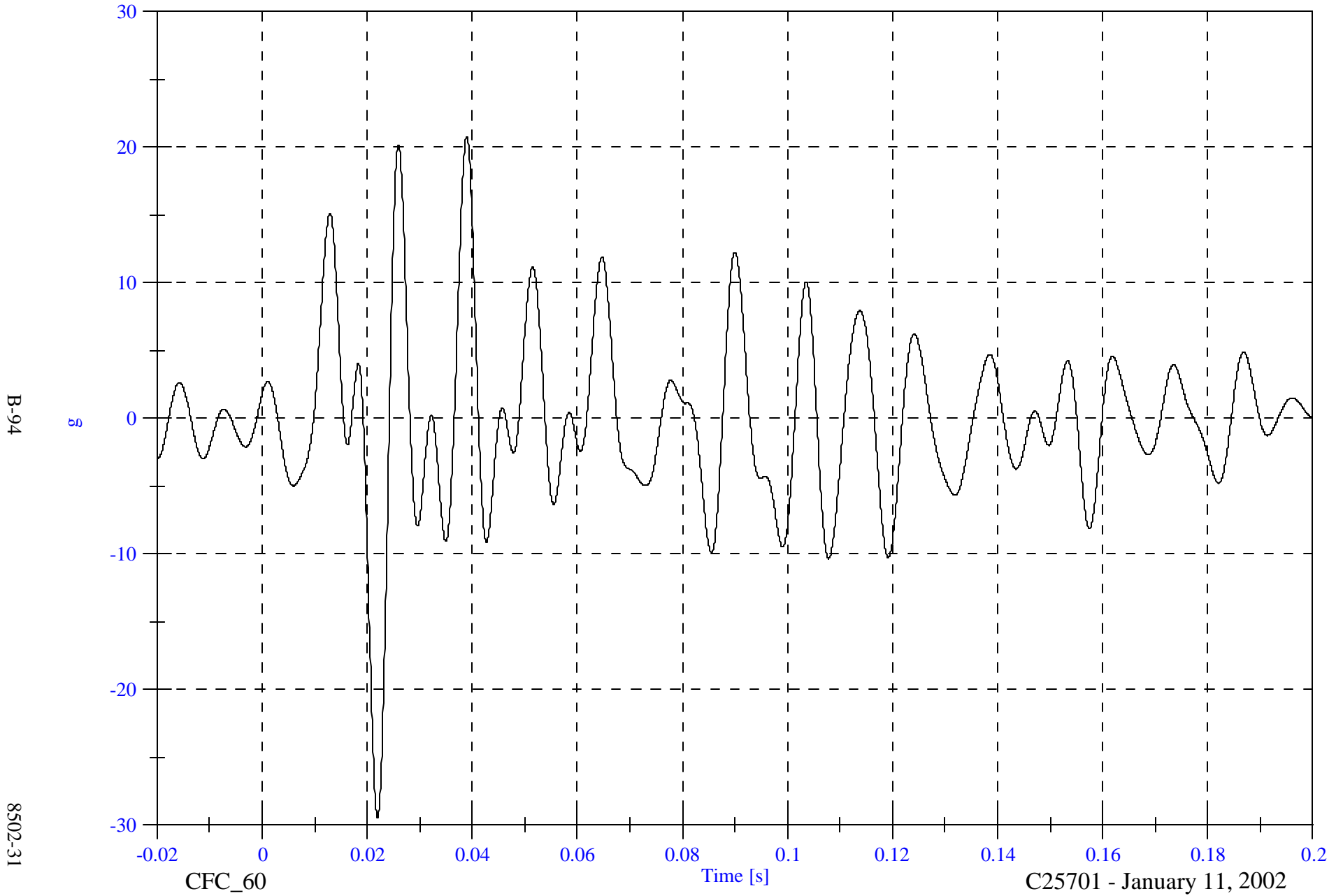
C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

Moving Barrier CG Z

Max: 20.8 [g] at 0.039 [s]

Min: -29.4 [g] at 0.022 [s]



FMVSS 214D Indicant Test - 2002 Isuzu Axiom

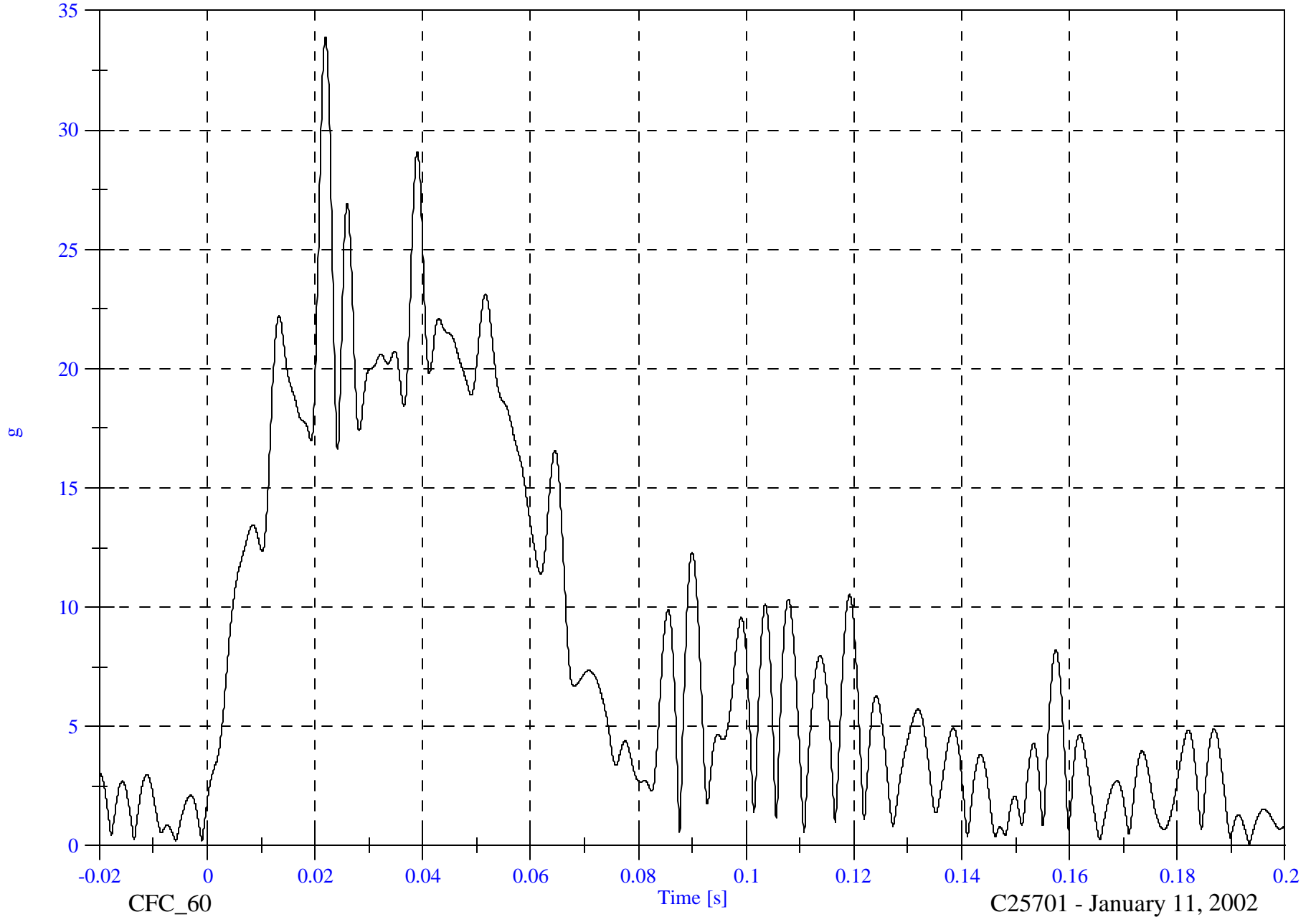
Moving Barrier CG Resultant

Max: 33.9 [g] at 0.022 [s]

Min: 0.1 [g] at 0.193 [s]

B-95

8502-31



FMVSS 214D Indicant Test - 2002 Isuzu Axiom

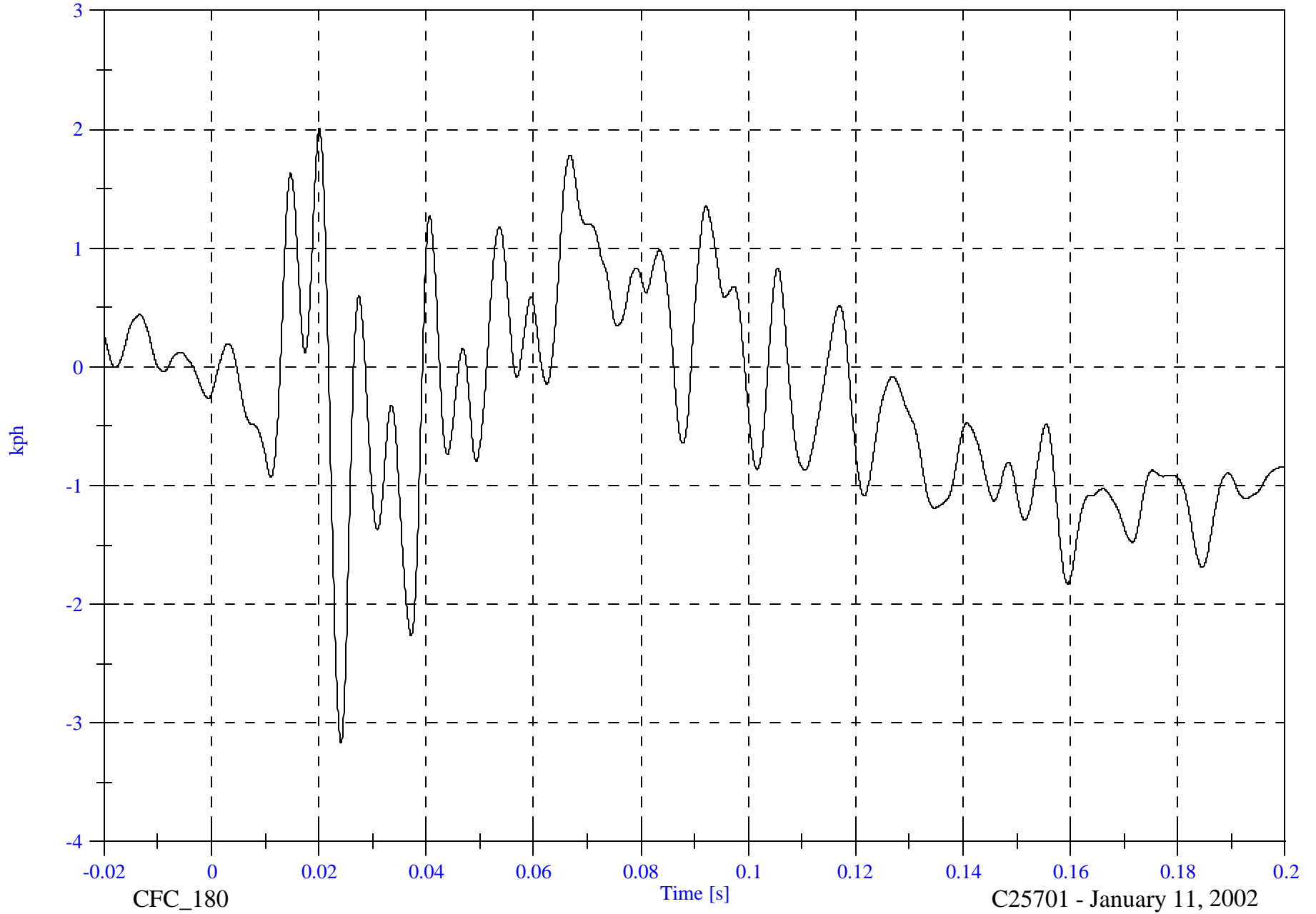
Moving Barrier CG Z Velocity

Max: 2.0 [kph] at 0.020 [s]

Min: -3.2 [kph] at 0.024 [s]

B-96

8502-31



CFC\_180

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

Moving Barrier Left Rail X

Max: 1.9 [g] at 0.125 [s]

Min: -21.2 [g] at 0.044 [s]

B-97

8502-31



CFC\_60

Time [s]

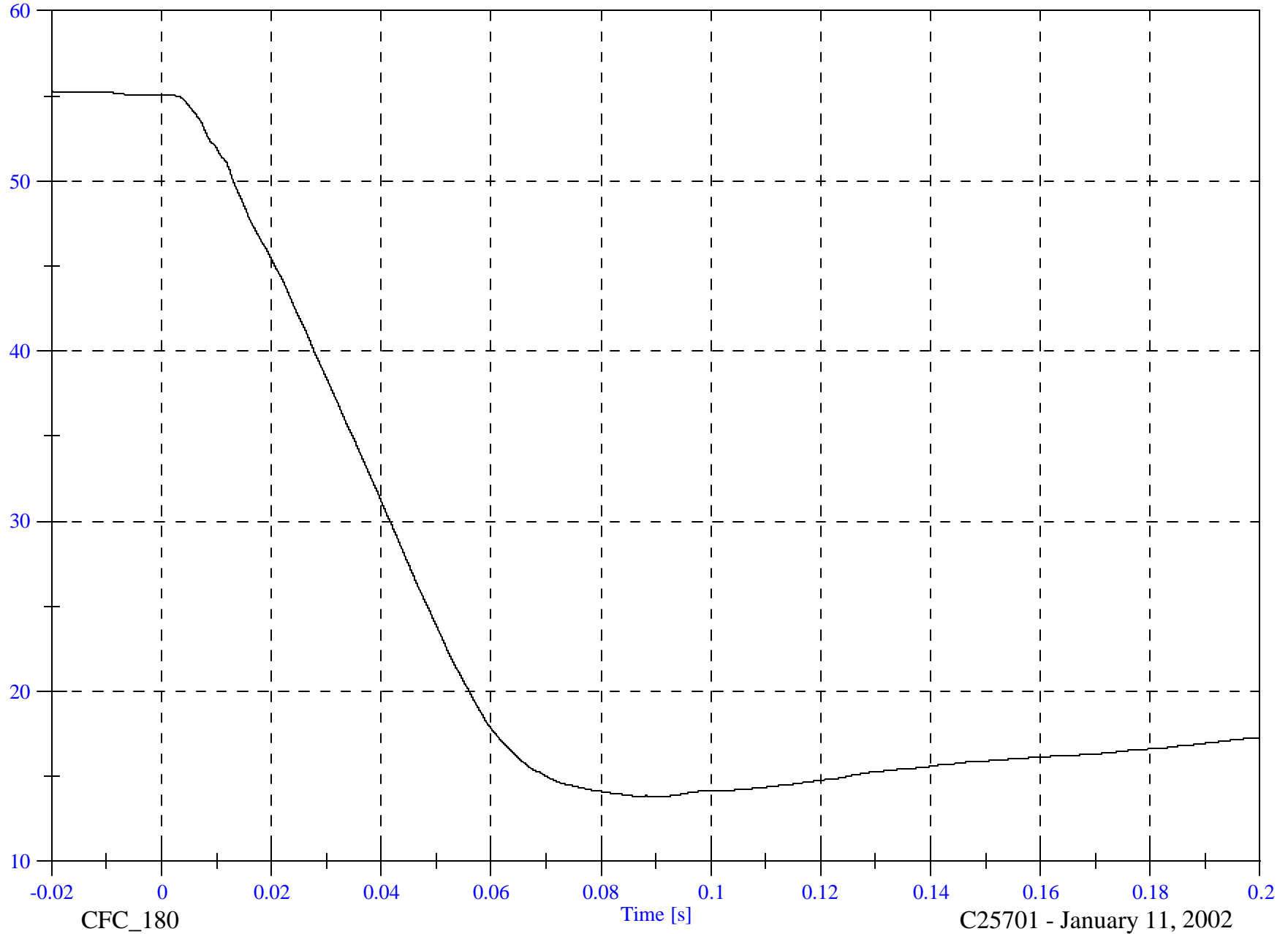
C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

Max: 55.3 [kph] at -0.020 [s]

Moving Barrier Left Rail X Velocity

Min: 13.8 [kph] at 0.087 [s]



B-98

8502-31

CFC\_180

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

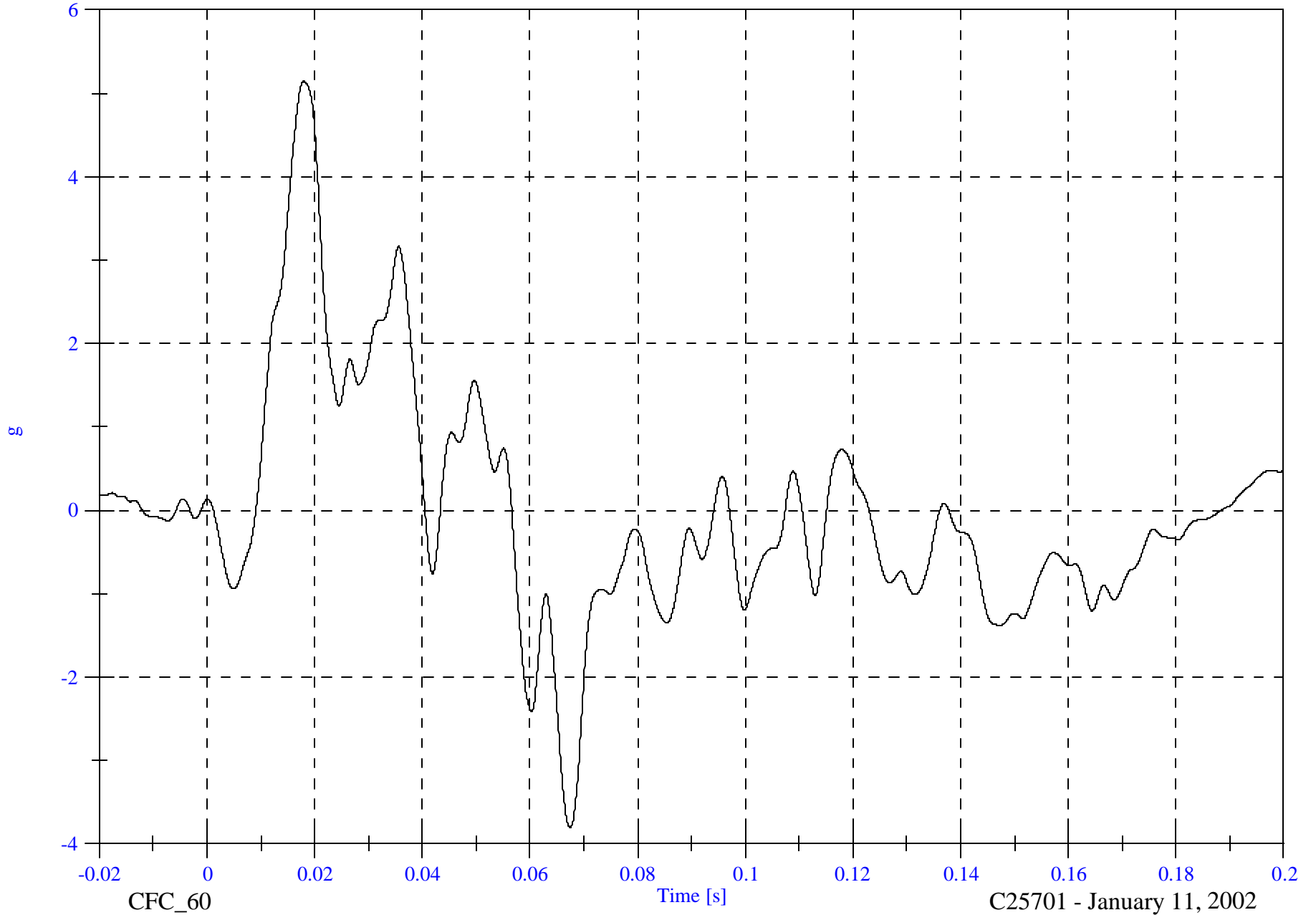
Moving Barrier Left Rail Y

Max: 5.1 [g] at 0.018 [s]

Min: -3.8 [g] at 0.067 [s]

B-99

8502-31



CFC\_60

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

Max: 31.1 [kph] at 0.057 [s]

Moving Barrier Left Rail Y Velocity

Min: 27.7 [kph] at 0.191 [s]

B-100

8502-31

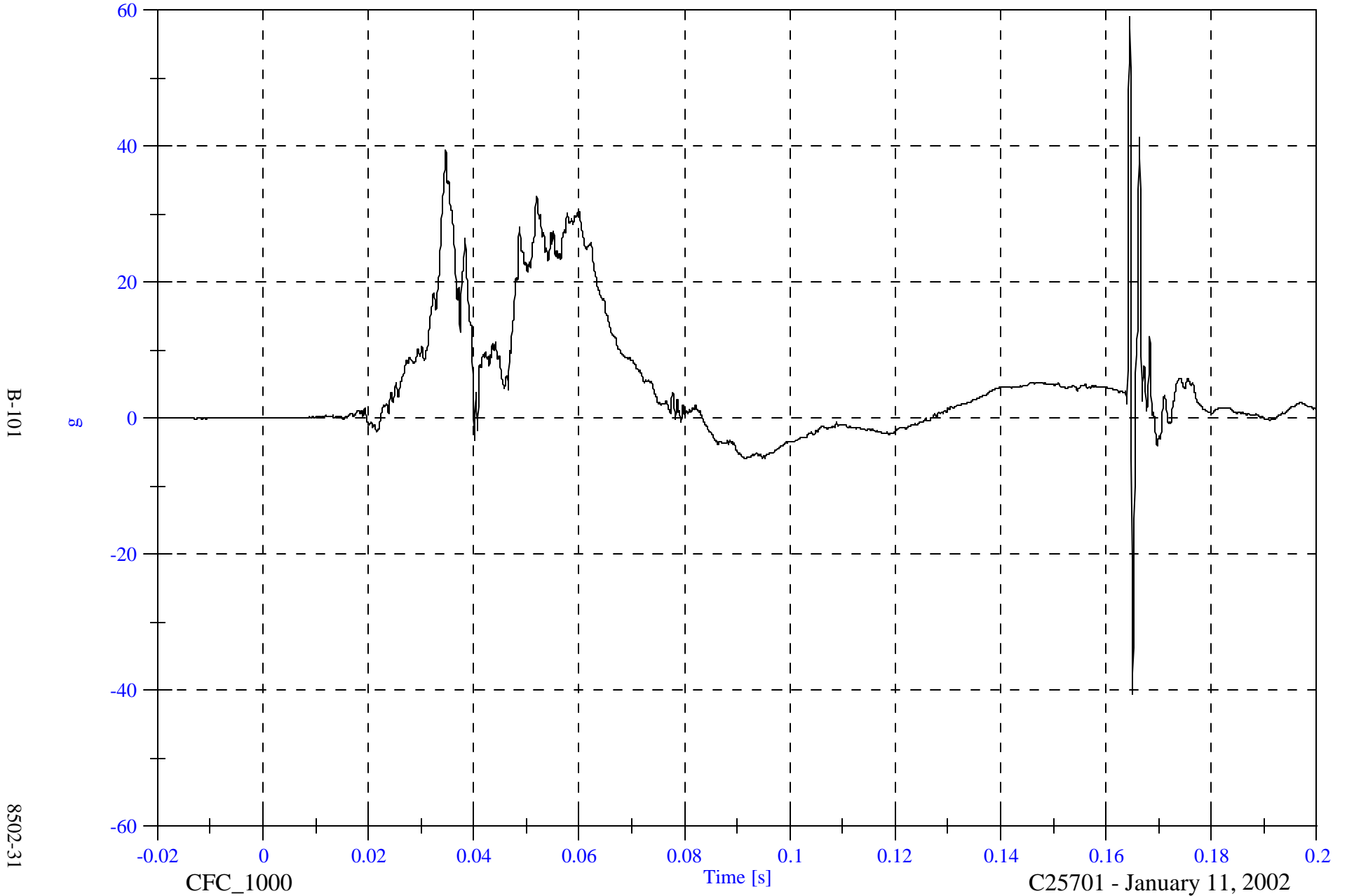


FMVSS 214D Indicant Test - 2002 Isuzu Axiom

P1 Upper Rib Ry

Max: 59.1 [g] at 0.165 [s]

Min: -40.6 [g] at 0.165 [s]

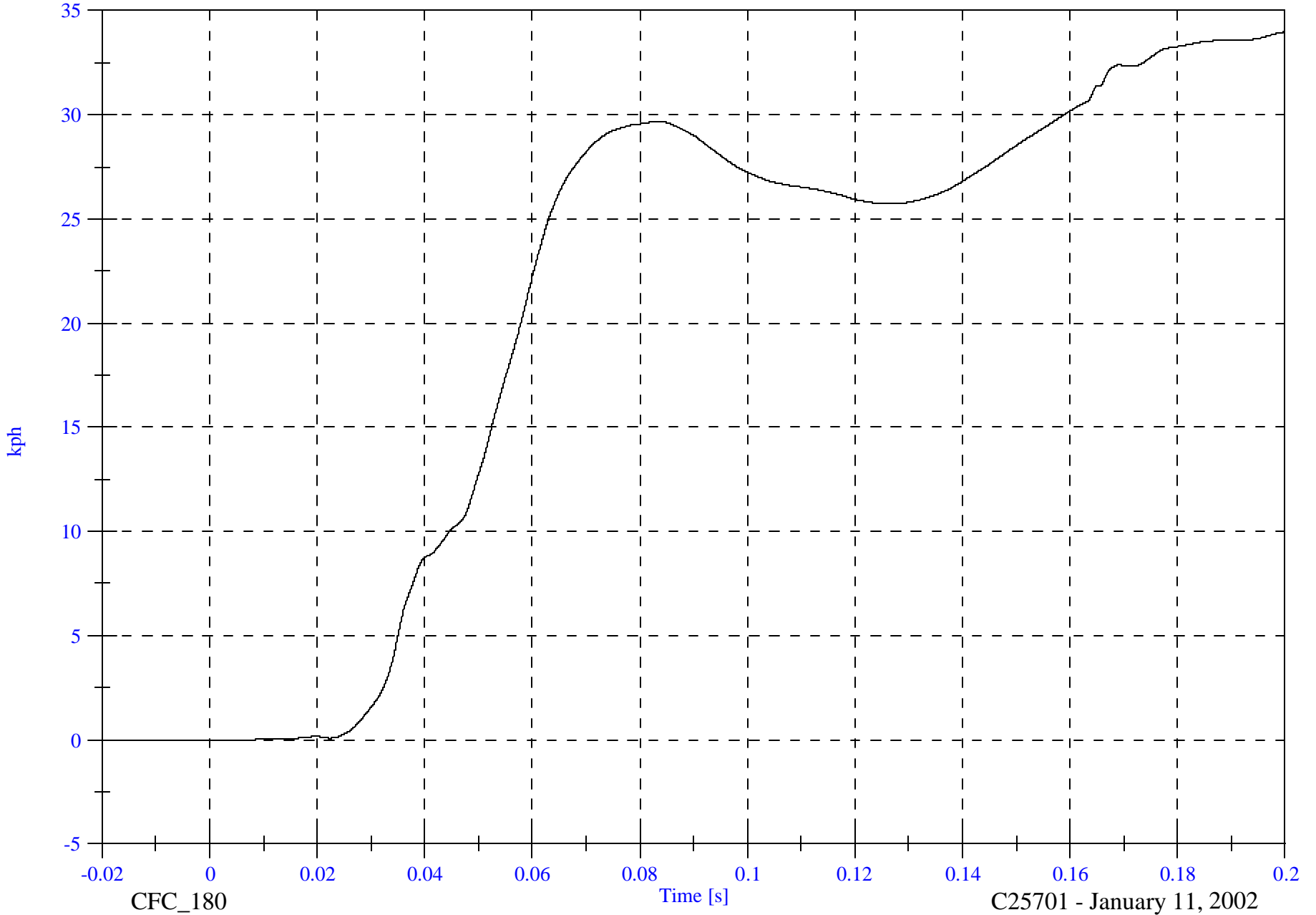


FMVSS 214D Indicant Test - 2002 Isuzu Axiom

Max: 34.0 [kph] at 0.200 [s]

P1 Upper Rib Ry Velocity

Min: -0.0 [kph] at -0.007 [s]



B-102

8502-31

CFC\_180

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

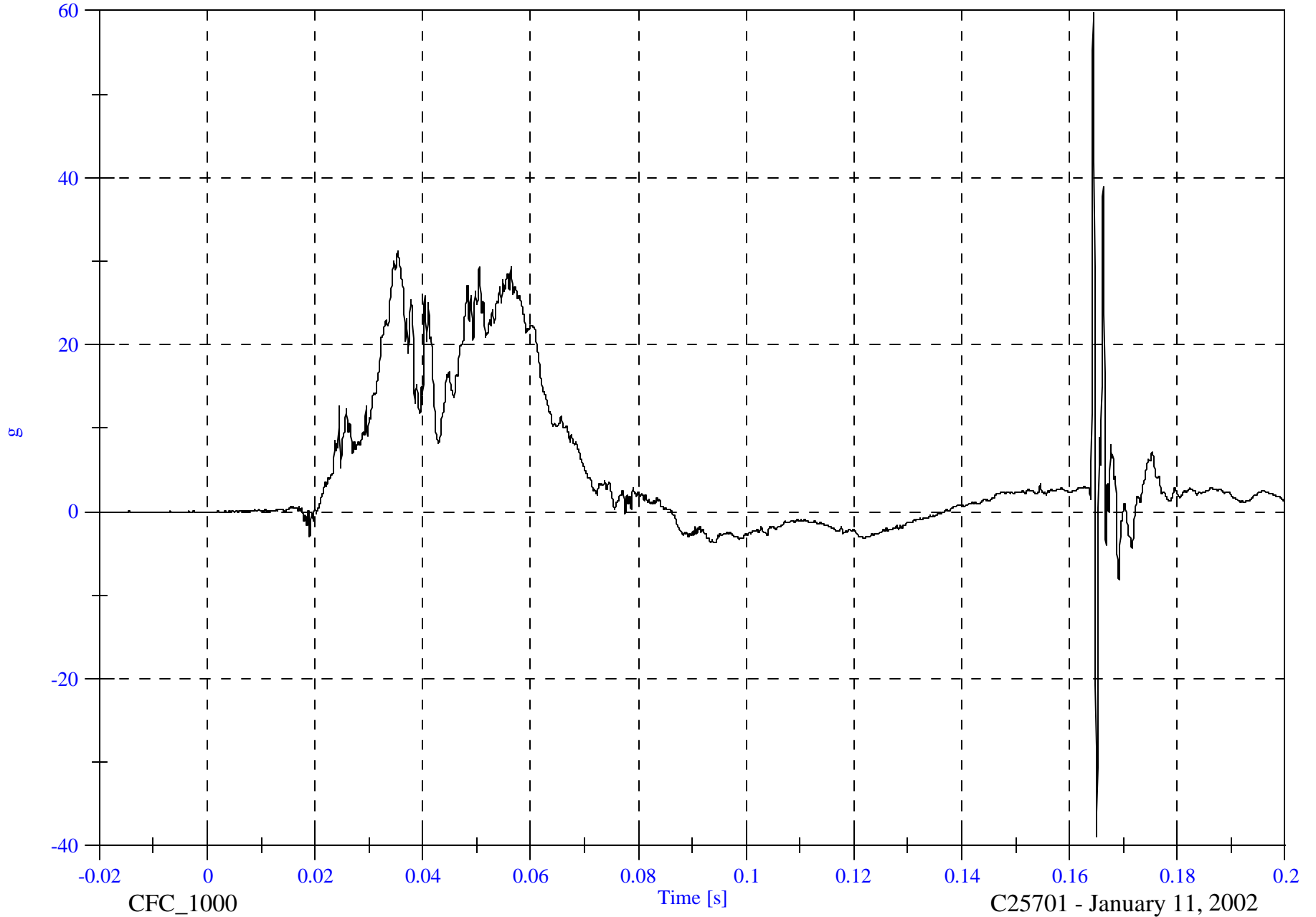
P1 Lower Rib Ry

Max: 59.8 [g] at 0.164 [s]

Min: -38.9 [g] at 0.165 [s]

B-103

8502-31



CFC\_1000

Time [s]

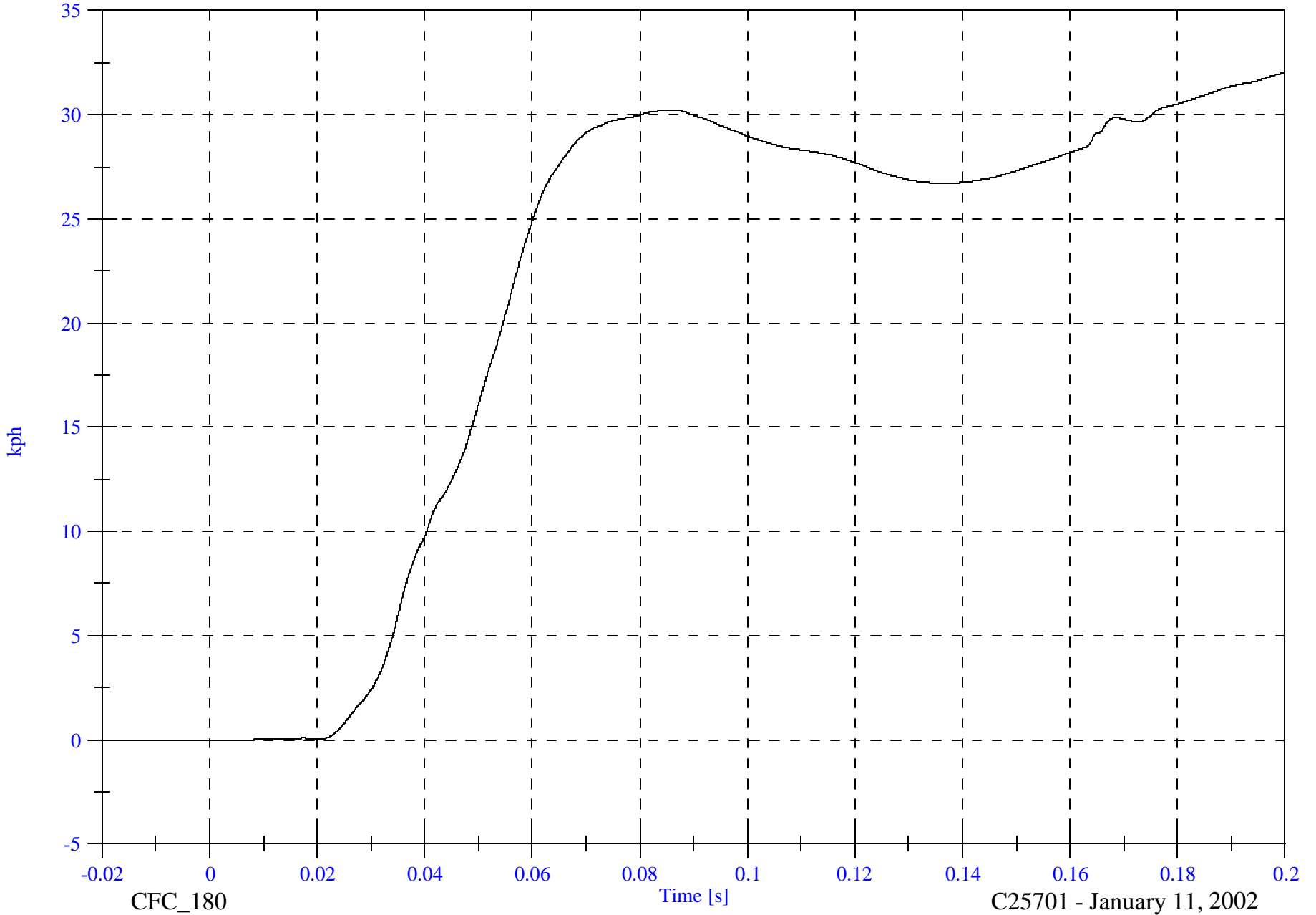
C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

P1 Lower Rib Ry Velocity

Max: 32.0 [kph] at 0.200 [s]

Min: -0.0 [kph] at -0.008 [s]



B-104

8502-31

CFC\_180

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

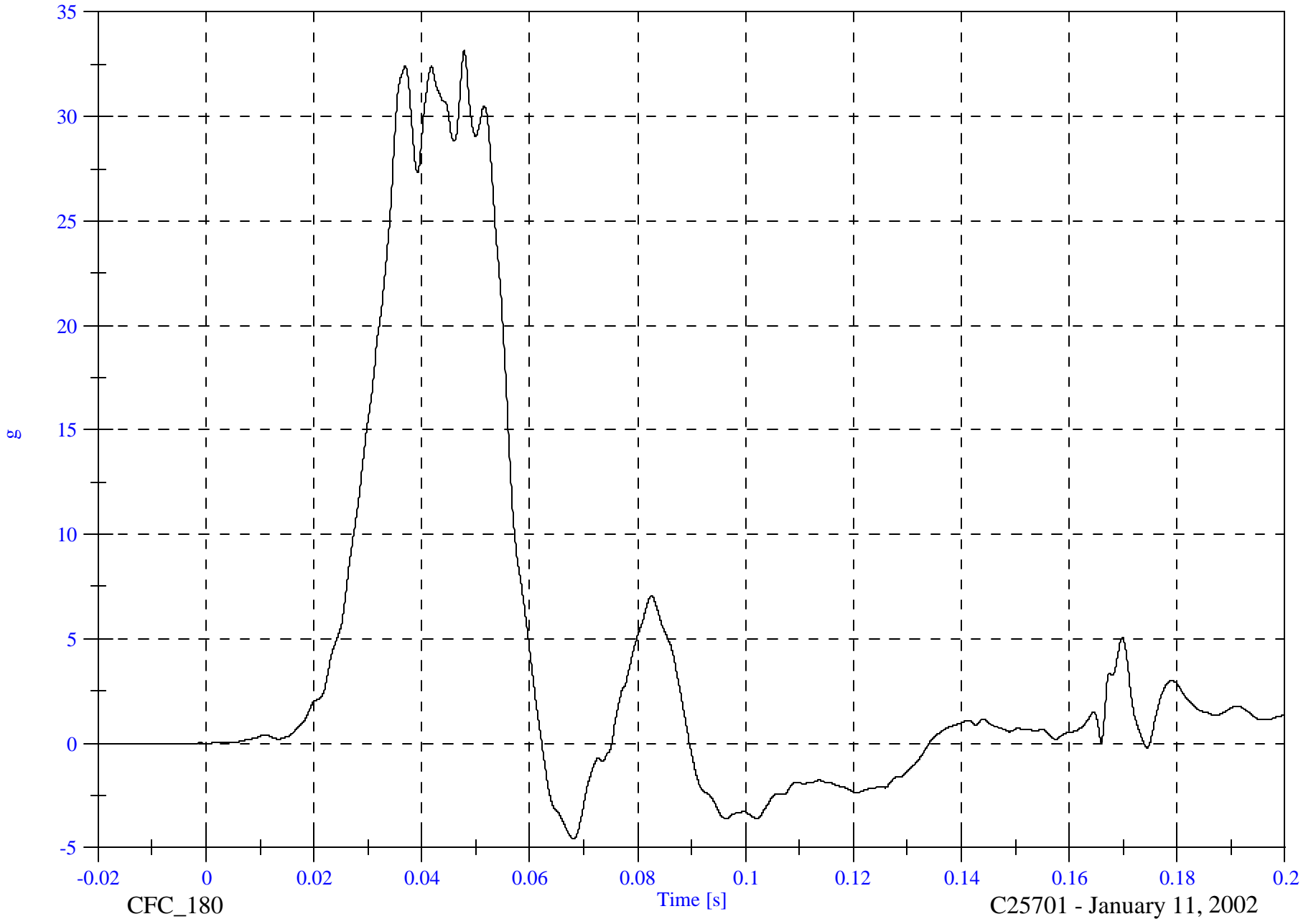
P1 Lower Spine Ry

Max: 33.1 [g] at 0.048 [s]

Min: -4.6 [g] at 0.068 [s]

B-105

8502-31



CFC\_180

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

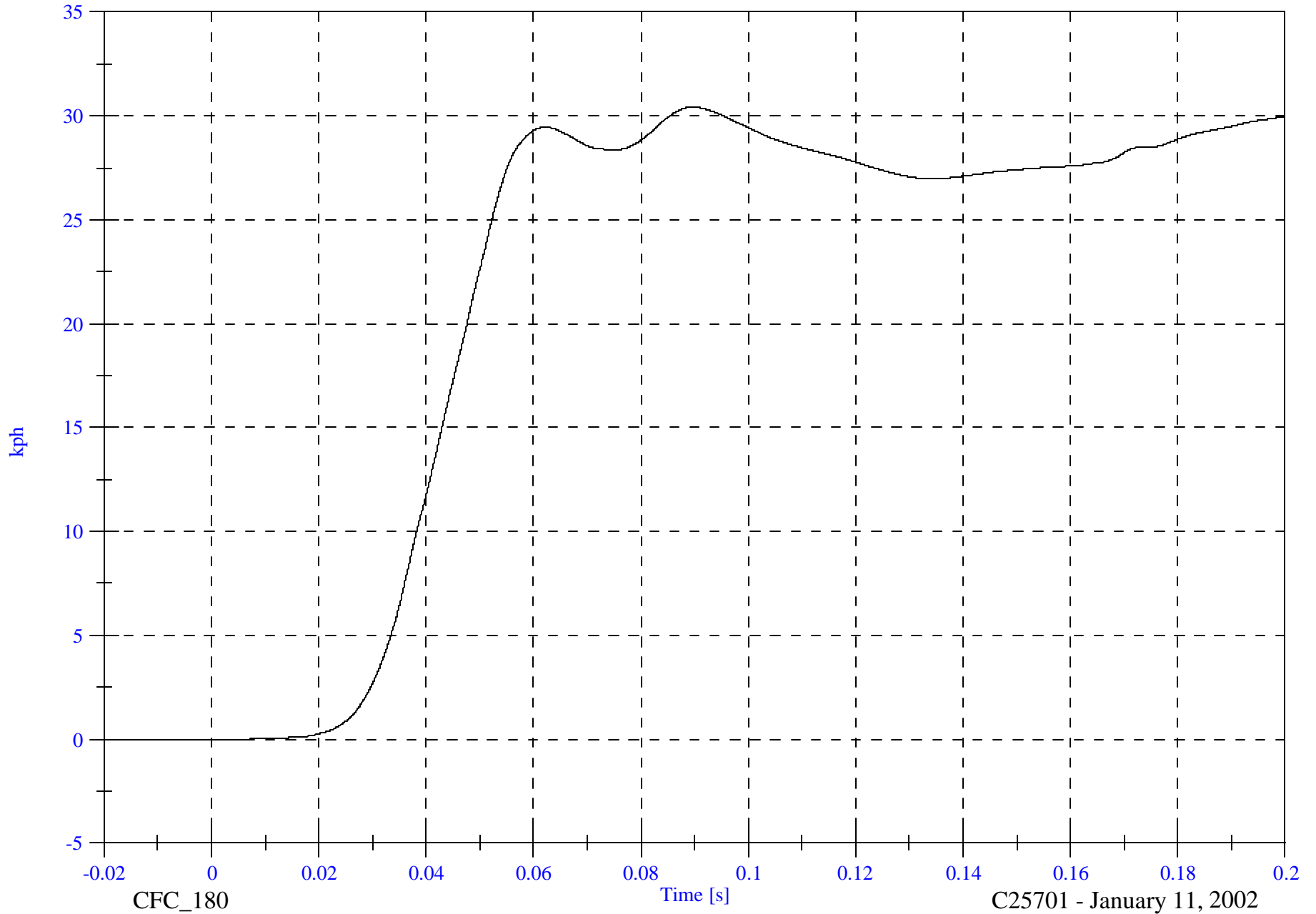
P1 Lower Spine Ry Velocity

Max: 30.4 [kph] at 0.090 [s]

Min: -0.0 [kph] at -0.018 [s]

B-106

8502-31



CFC\_180

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

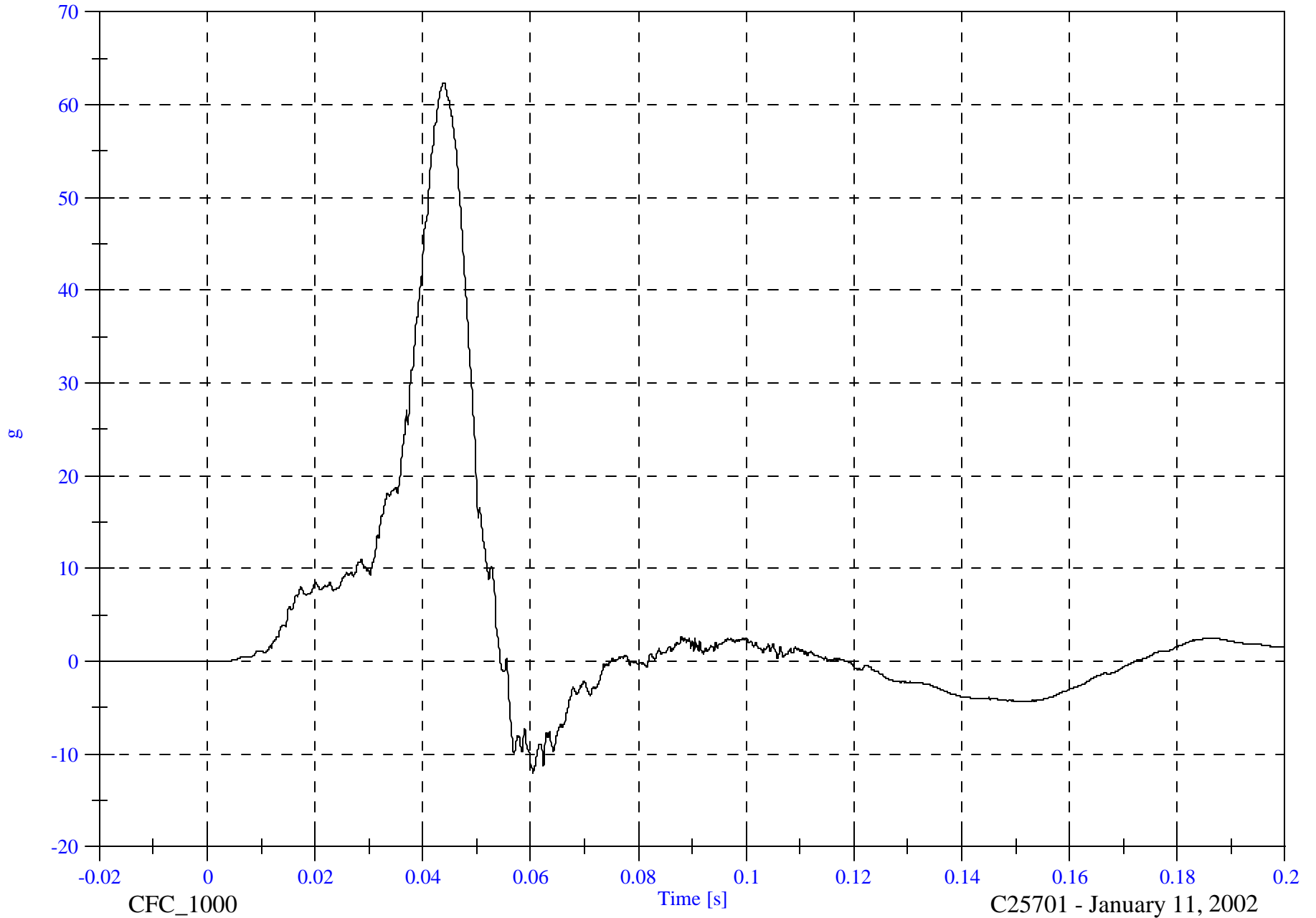
P1 Pelvic Ry

Max: 62.4 [g] at 0.044 [s]

Min: -12.0 [g] at 0.060 [s]

B-107

8502-31



CFC\_1000

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

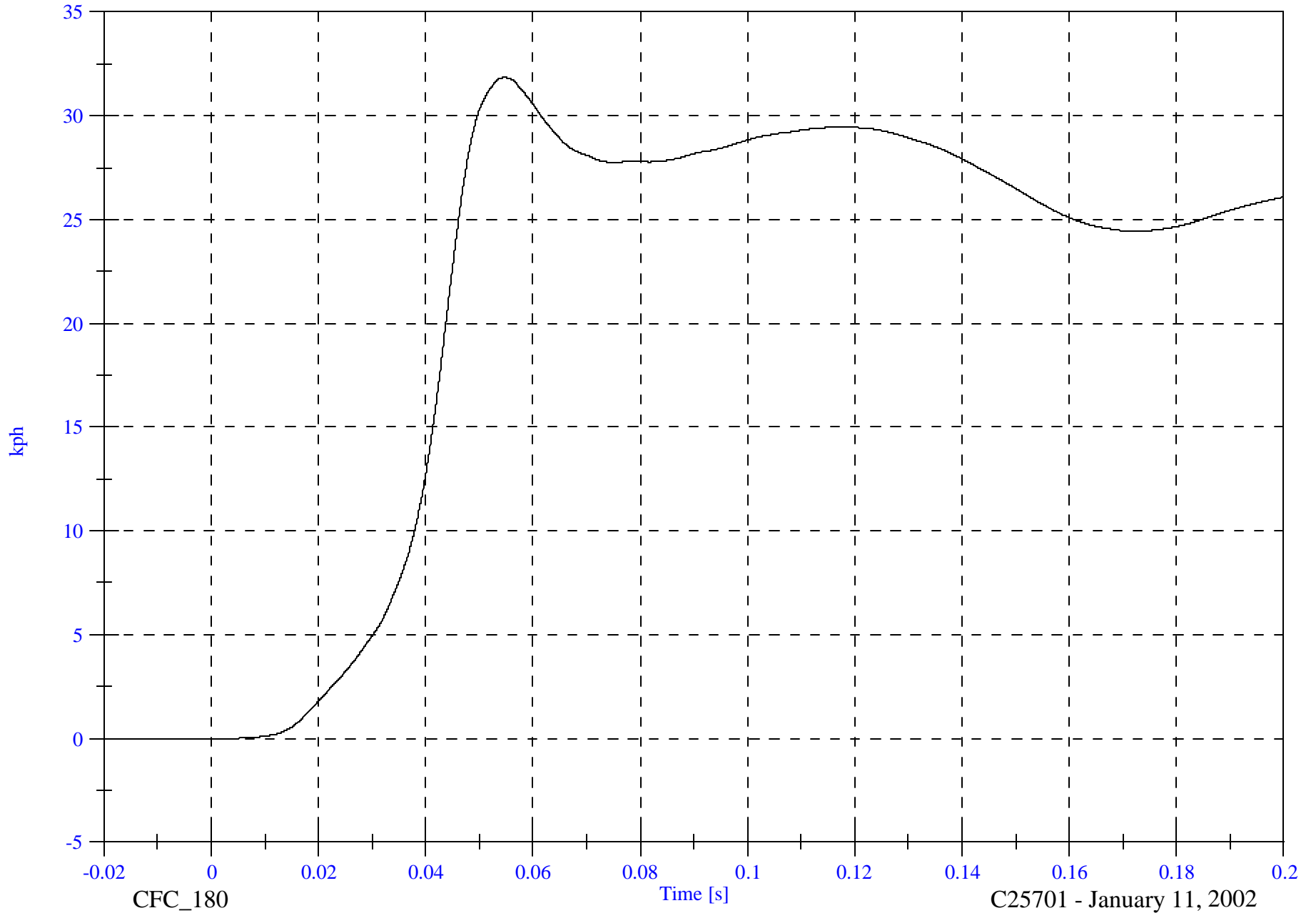
Max: 31.8 [kph] at 0.055 [s]

P1 Pelvic Ry Velocity

Min: -0.0 [kph] at -0.020 [s]

B-108

8502-31



CFC\_180

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

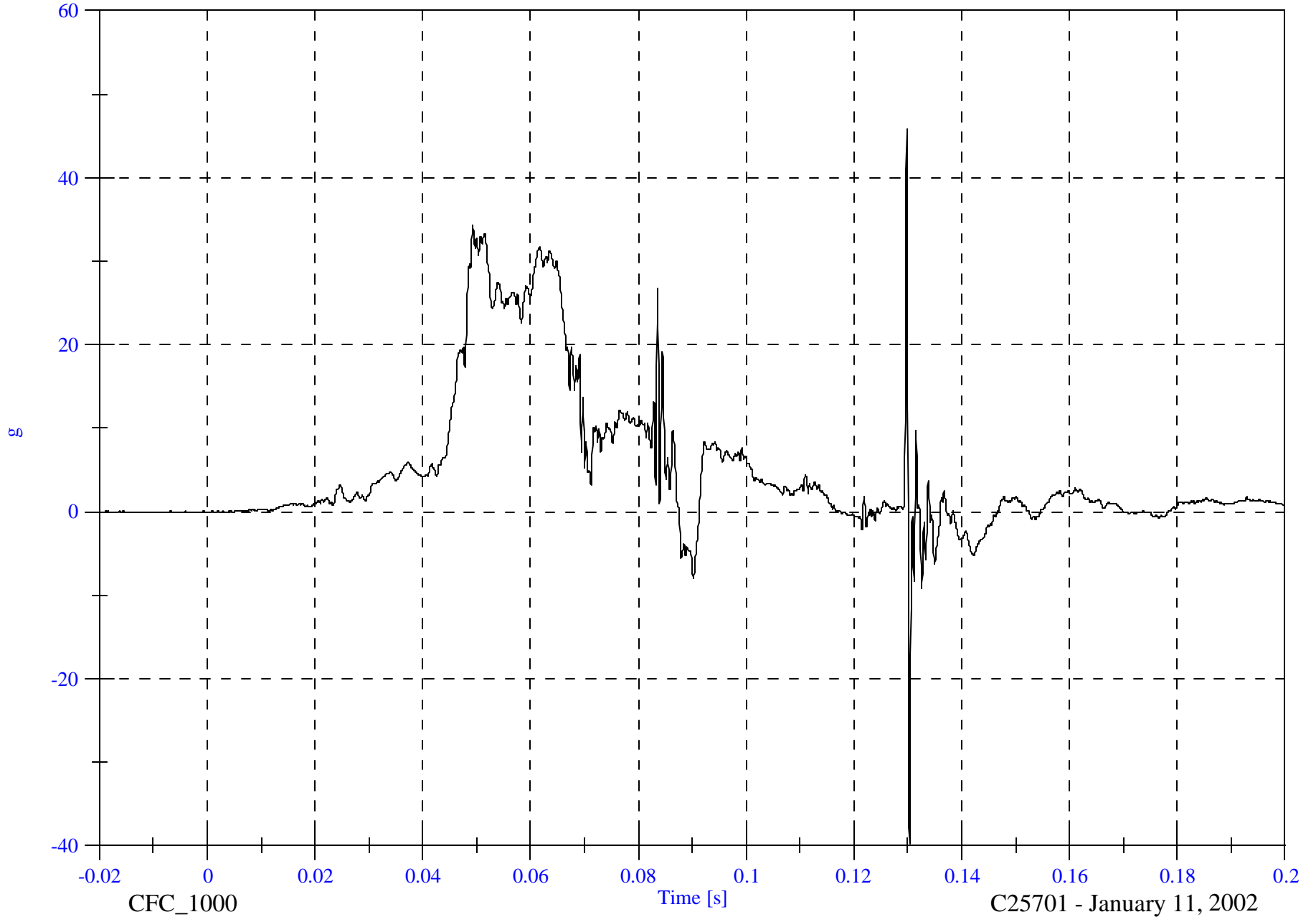
P4 Upper Rib Ry

Max: 45.9 [g] at 0.130 [s]

Min: -39.8 [g] at 0.130 [s]

B-109

8502-31



CFC\_1000

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

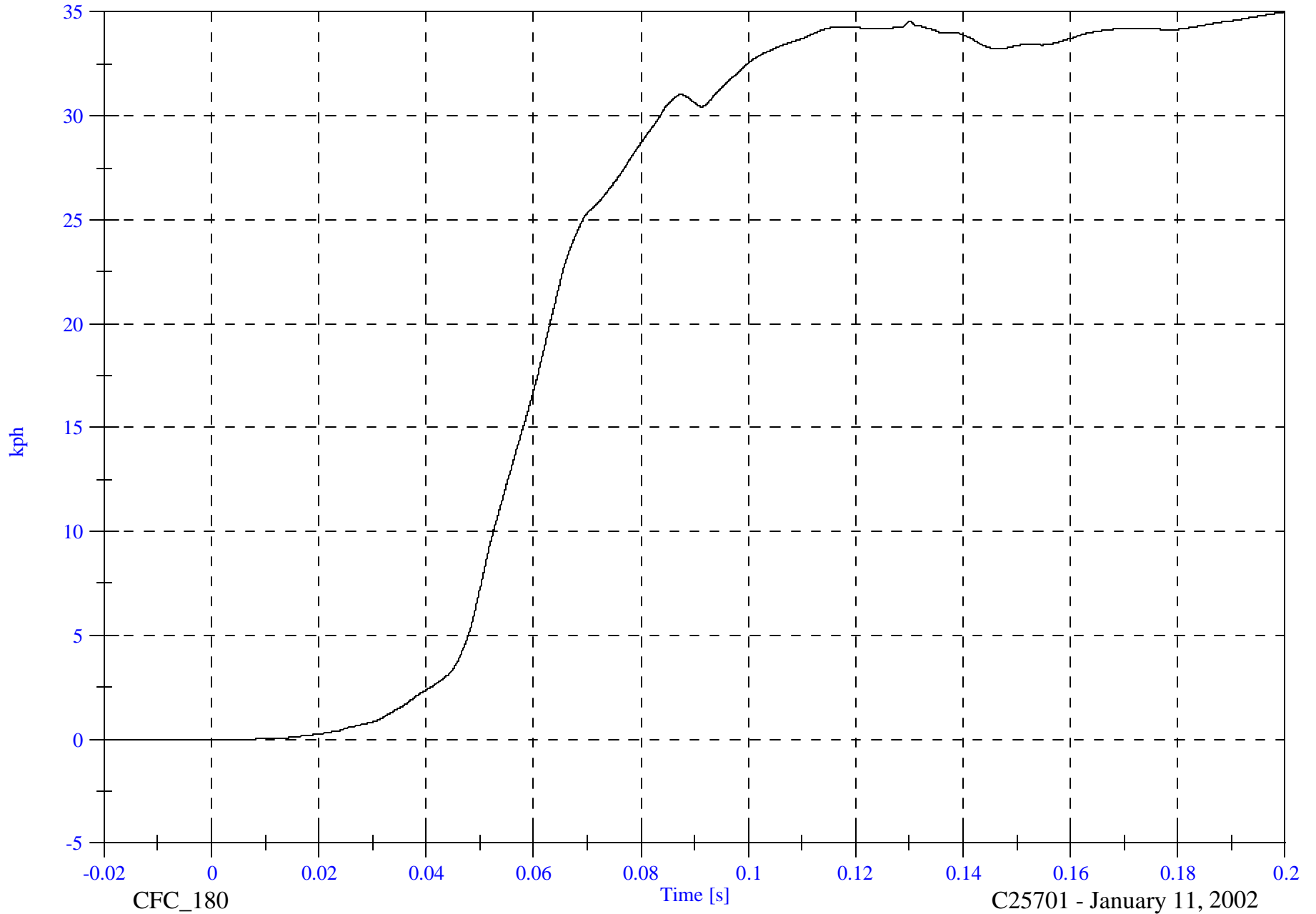
Max: 35.0 [kph] at 0.200 [s]

P4 Upper Rib Ry Velocity

Min: -0.0 [kph] at -0.020 [s]

B-110

8502-31



CFC\_180

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

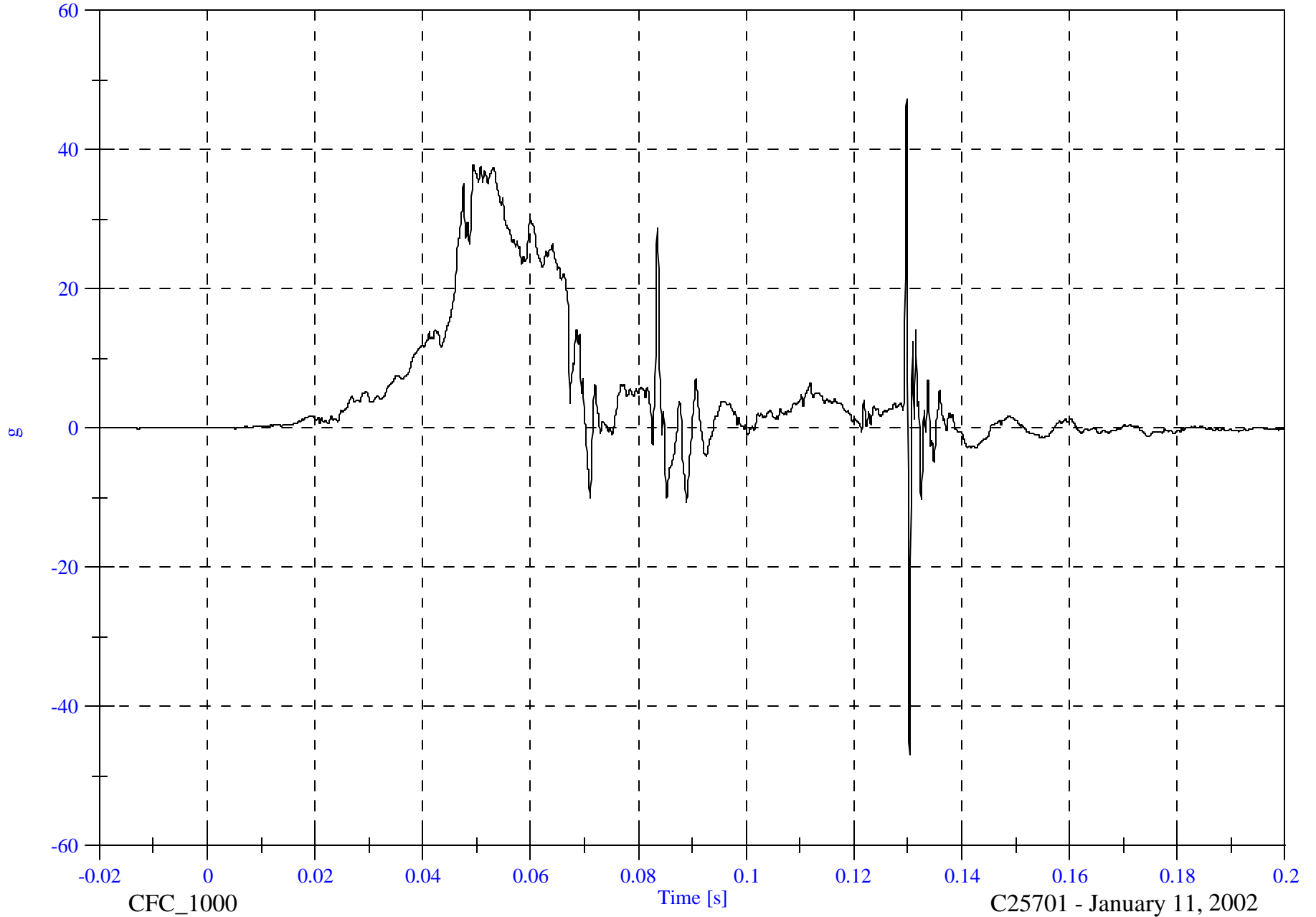
P4 Lower Rib Ry

Max: 47.3 [g] at 0.130 [s]

Min: -46.9 [g] at 0.130 [s]

B-111

8502-31



CFC\_1000

Time [s]

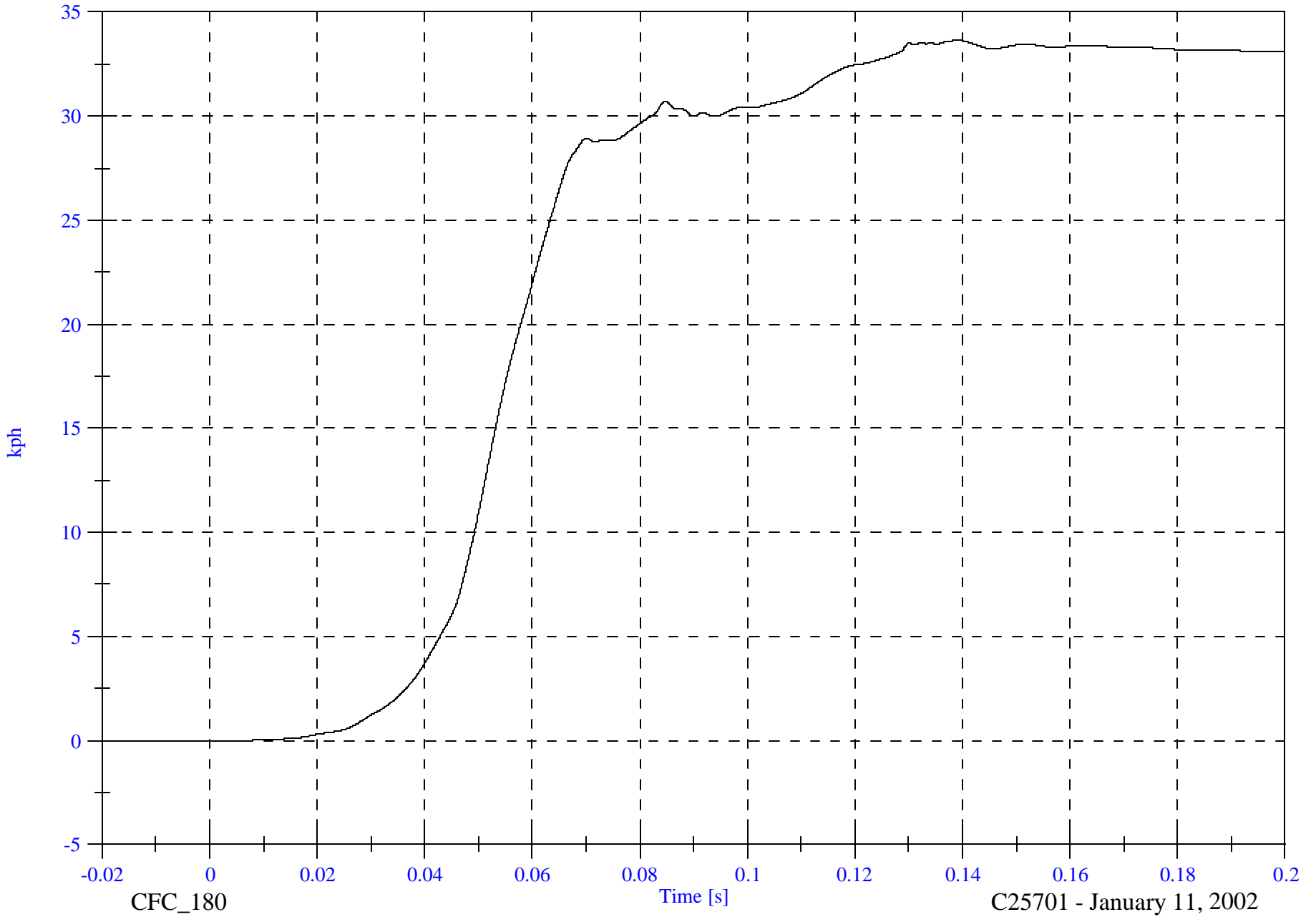
C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

Max: 33.6 [kph] at 0.139 [s]

P4 Lower Rib Ry Velocity

Min: -0.0 [kph] at -0.020 [s]



B-112

8502-31

CFC\_180

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

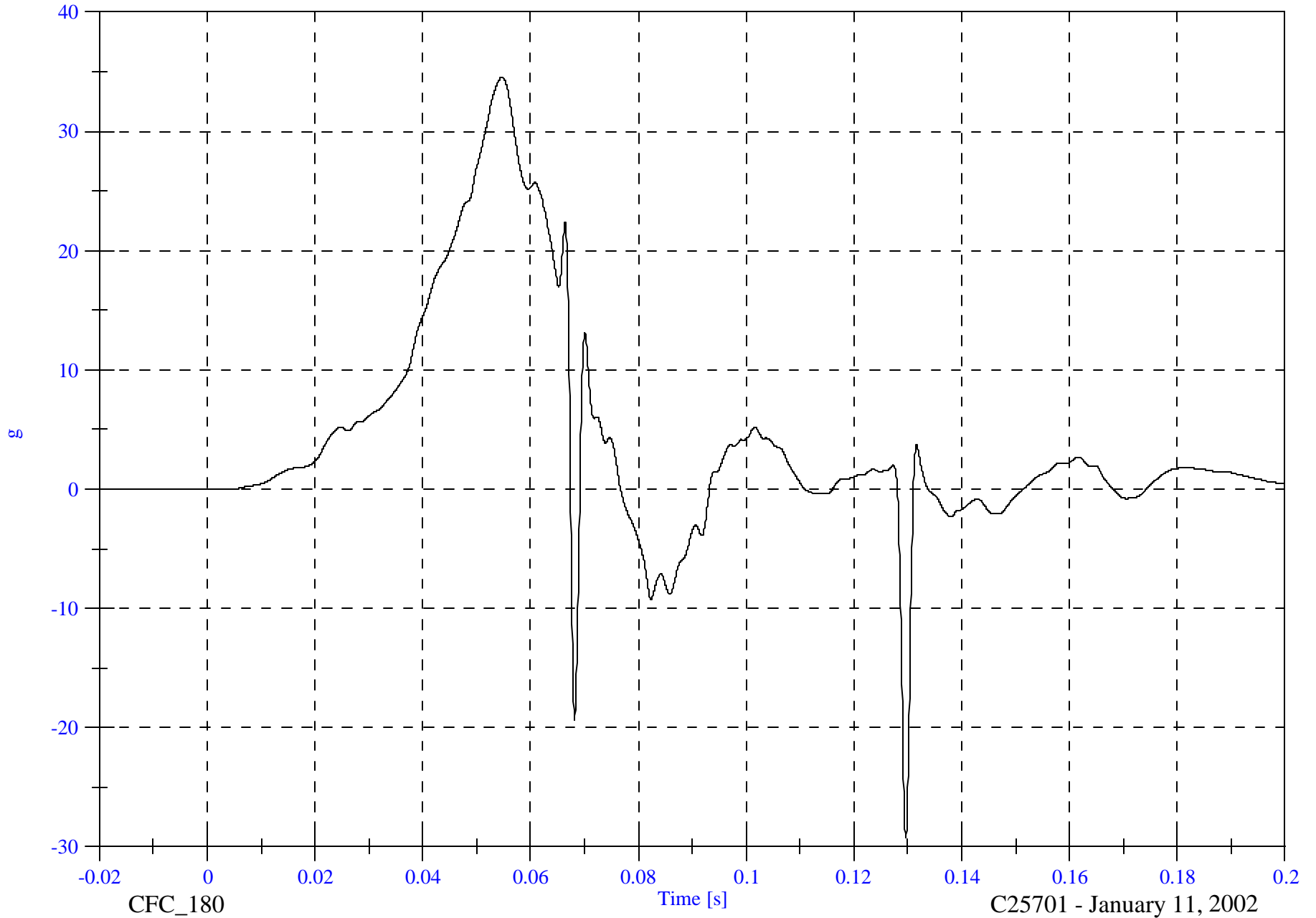
P4 Lower Spine Ry

Max: 34.5 [g] at 0.055 [s]

Min: -29.3 [g] at 0.130 [s]

B-113

8502-31



CFC\_180

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

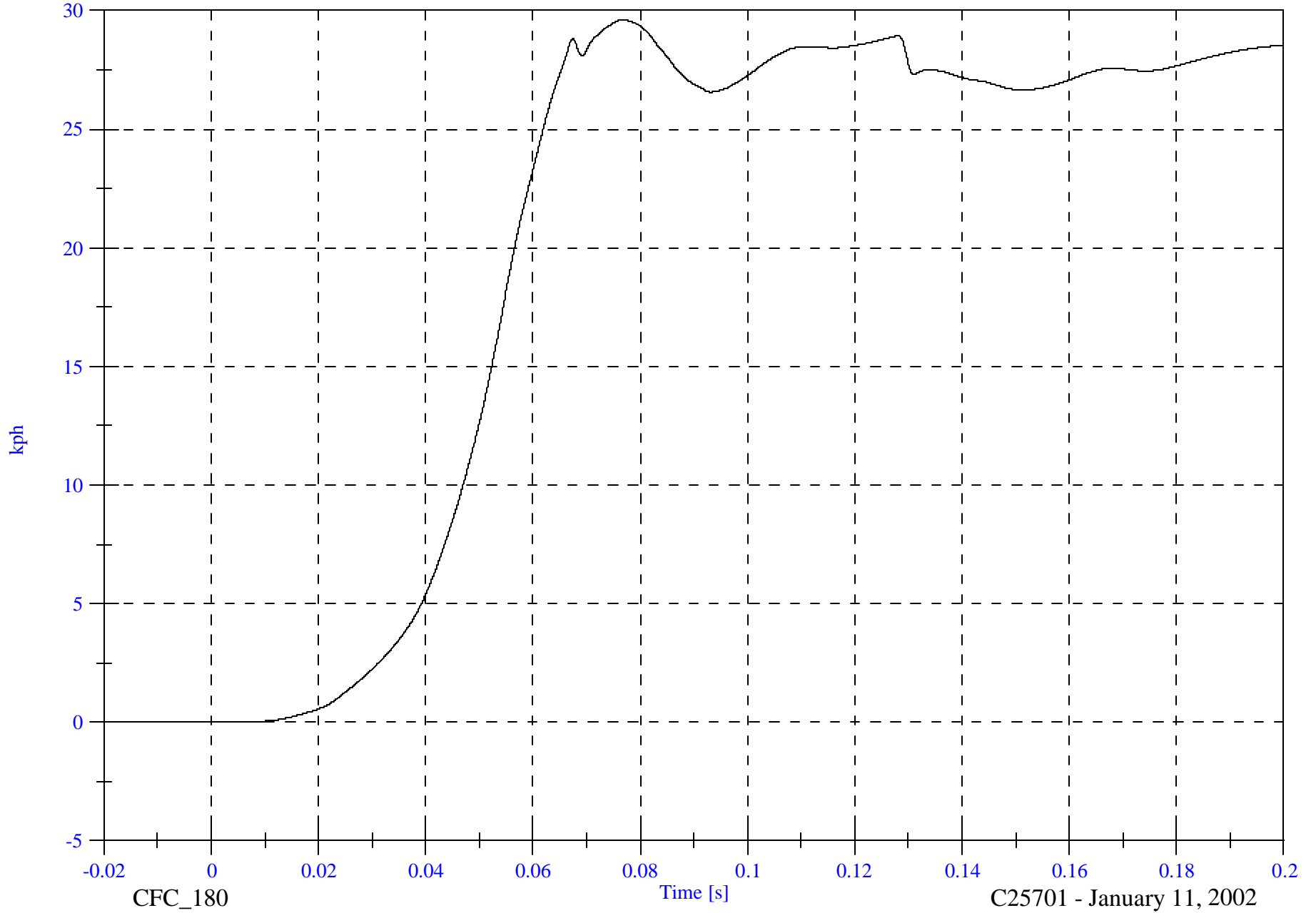
Max: 29.6 [kph] at 0.077 [s]

P4 Lower Spine Ry Velocity

Min: -0.0 [kph] at -0.020 [s]

B-114

8502-31



FMVSS 214D Indicant Test - 2002 Isuzu Axiom

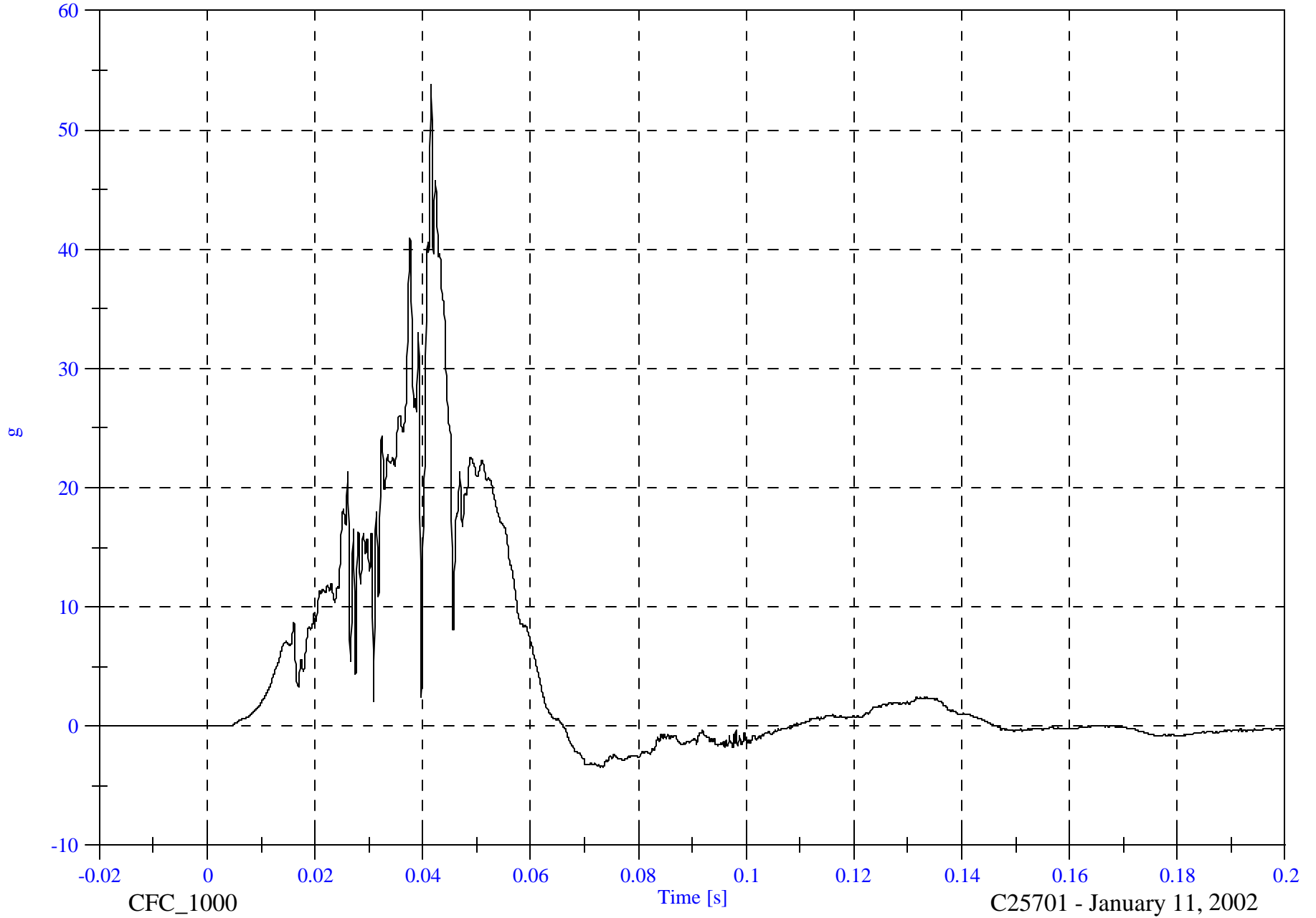
P4 Pelvic Ry

Max: 53.8 [g] at 0.042 [s]

Min: -3.4 [g] at 0.073 [s]

B-115

8502-31

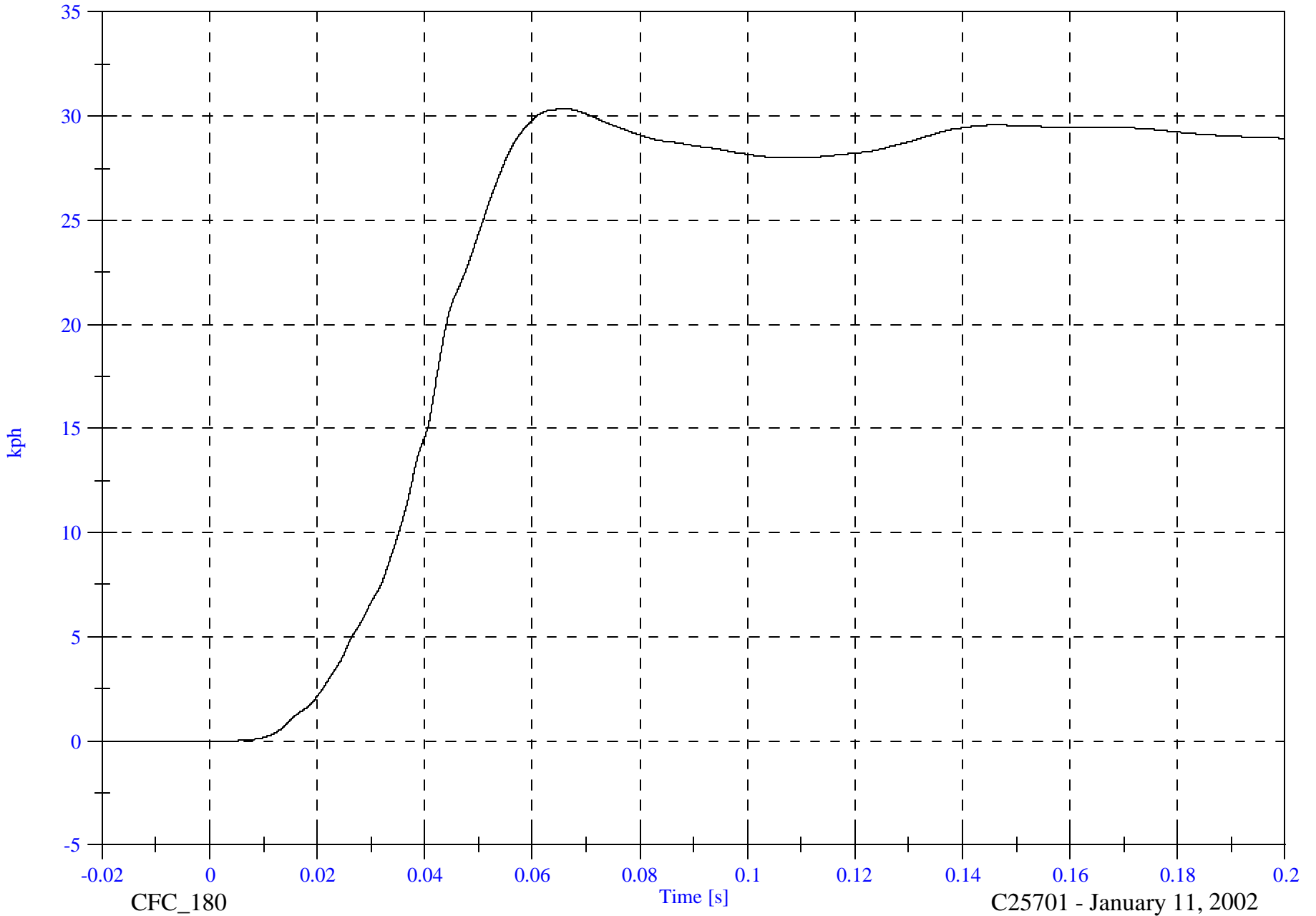


FMVSS 214D Indicant Test - 2002 Isuzu Axiom

P4 Pelvic Ry Velocity

Max: 30.3 [kph] at 0.066 [s]

Min: -0.0 [kph] at -0.014 [s]



B-116

8502-31

CFC\_180

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

P1 Upper Rib Ry

Max: 30.6 [g] at 0.036 [s]

Min: -5.7 [g] at 0.094 [s]

B-117

8502-31



FIR\_100

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

P1 Lower Rib Ry

Max: 27.6 [g] at 0.035 [s]

Min: -3.0 [g] at 0.096 [s]

B-118

8502-31



FMVSS 214D Indicant Test - 2002 Isuzu Axiom

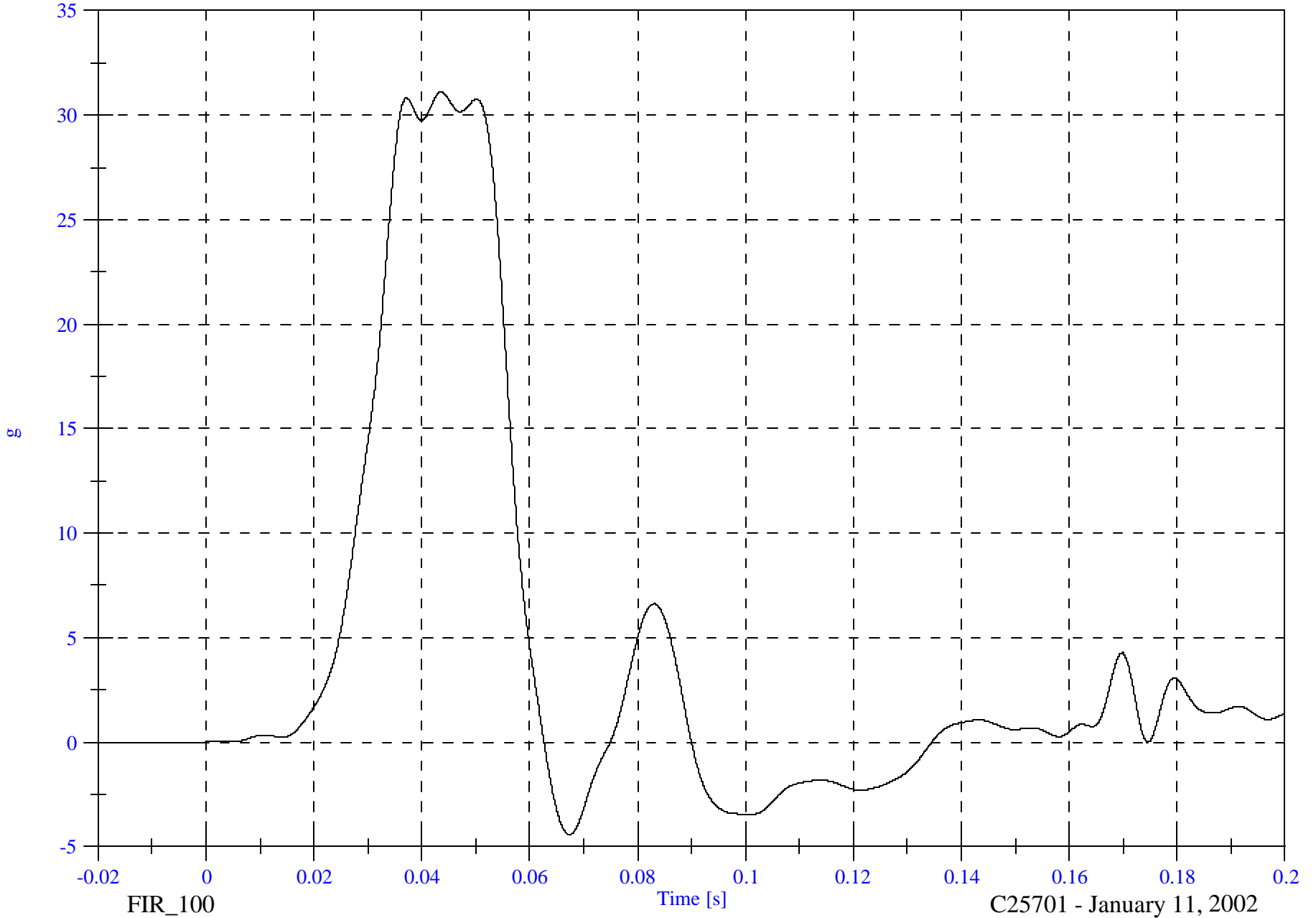
P1 Lower Spine Ry

Max: 31.1 [g] at 0.044 [s]

Min: -4.4 [g] at 0.068 [s]

B-119

8502-31



FIR\_100

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

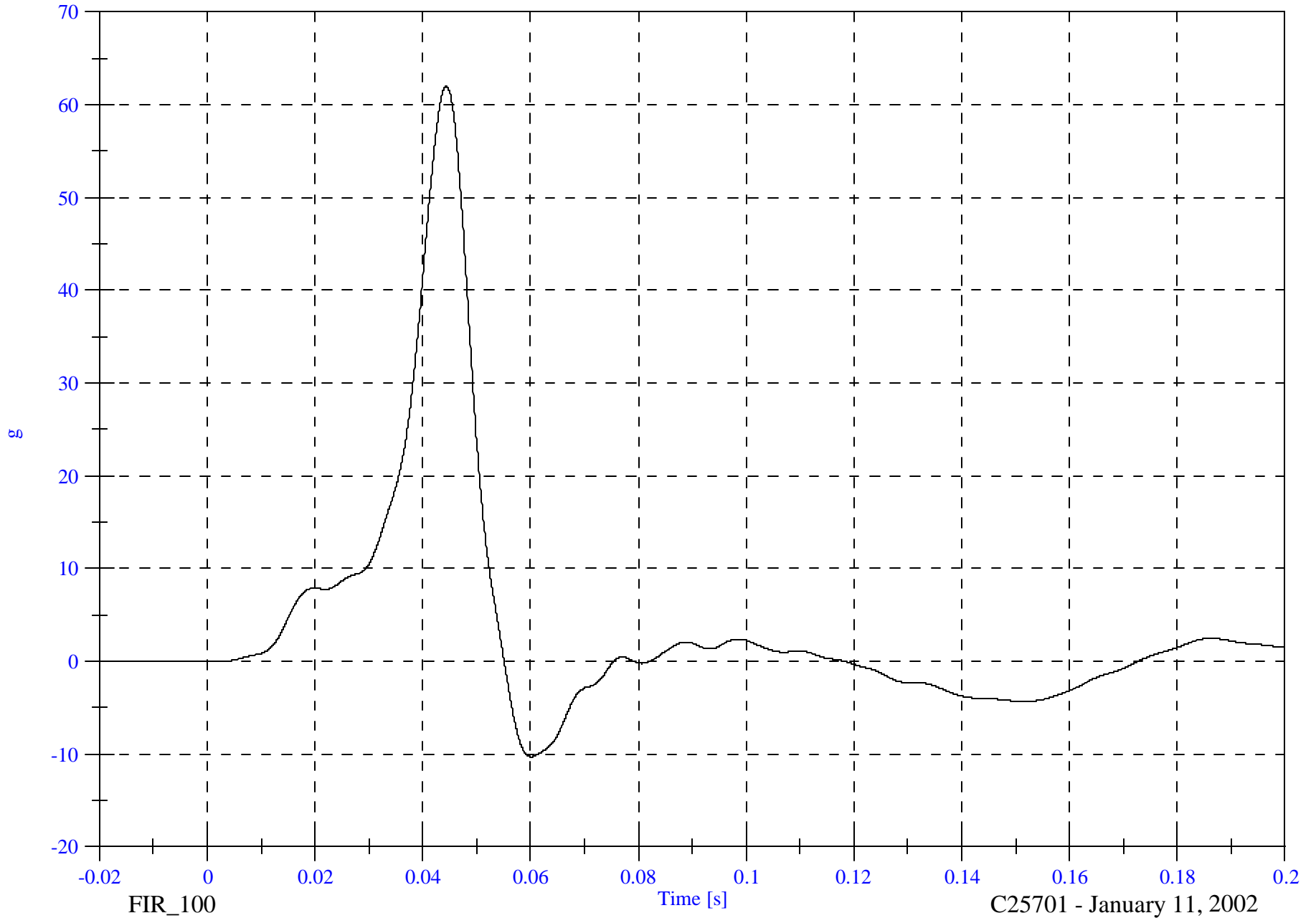
P1 Pelvic Ry

Max: 62.1 [g] at 0.044 [s]

Min: -10.3 [g] at 0.060 [s]

B-120

8502-31



FIR\_100

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

P4 Upper Rib Ry

Max: 31.8 [g] at 0.051 [s]

Min: -4.9 [g] at 0.089 [s]

B-121

8502-31



FIR\_100

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

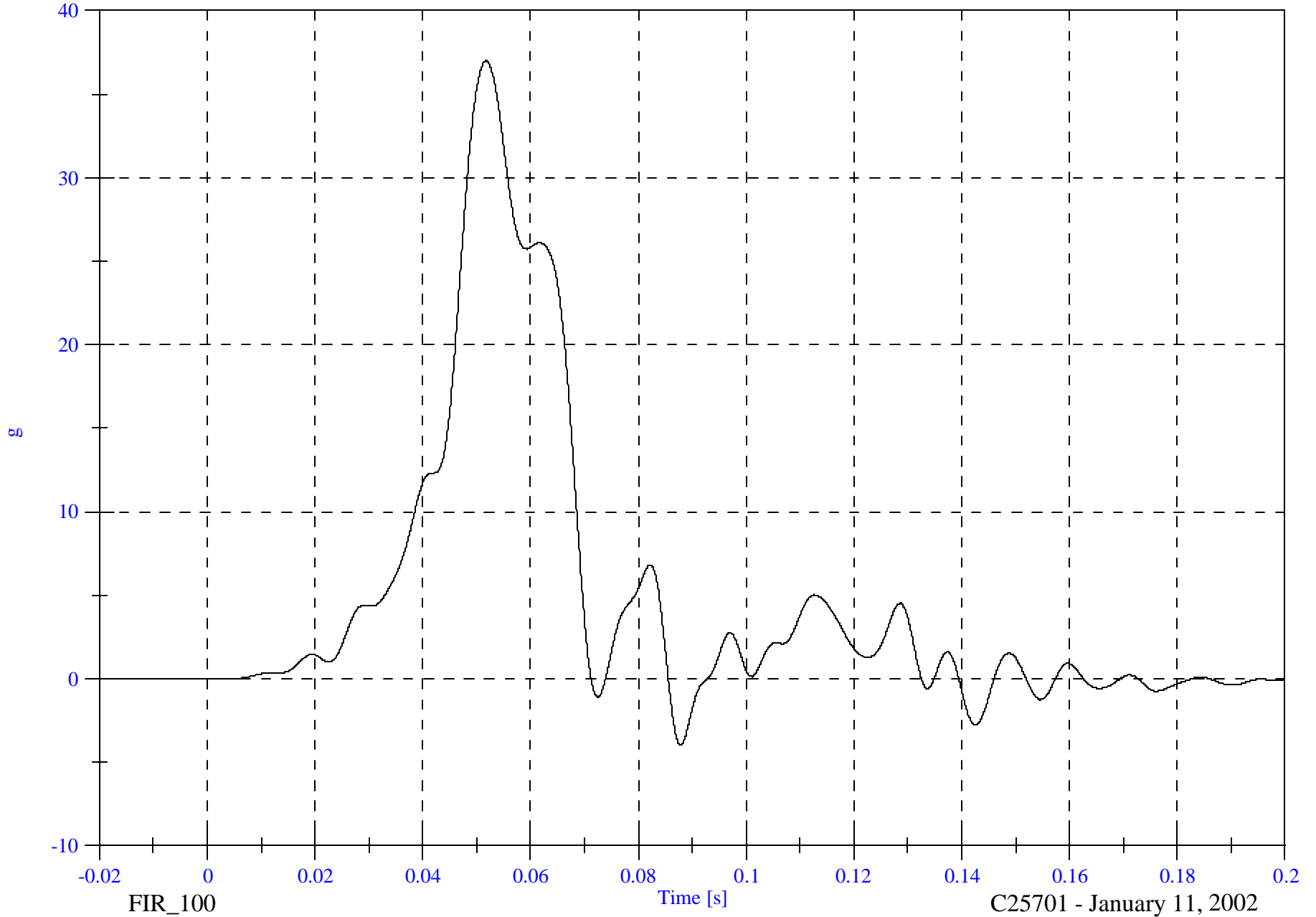
P4 Lower Rib Ry

Max: 37.0 [g] at 0.052 [s]

Min: -3.9 [g] at 0.088 [s]

B-122

8502-31



FIR\_100

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

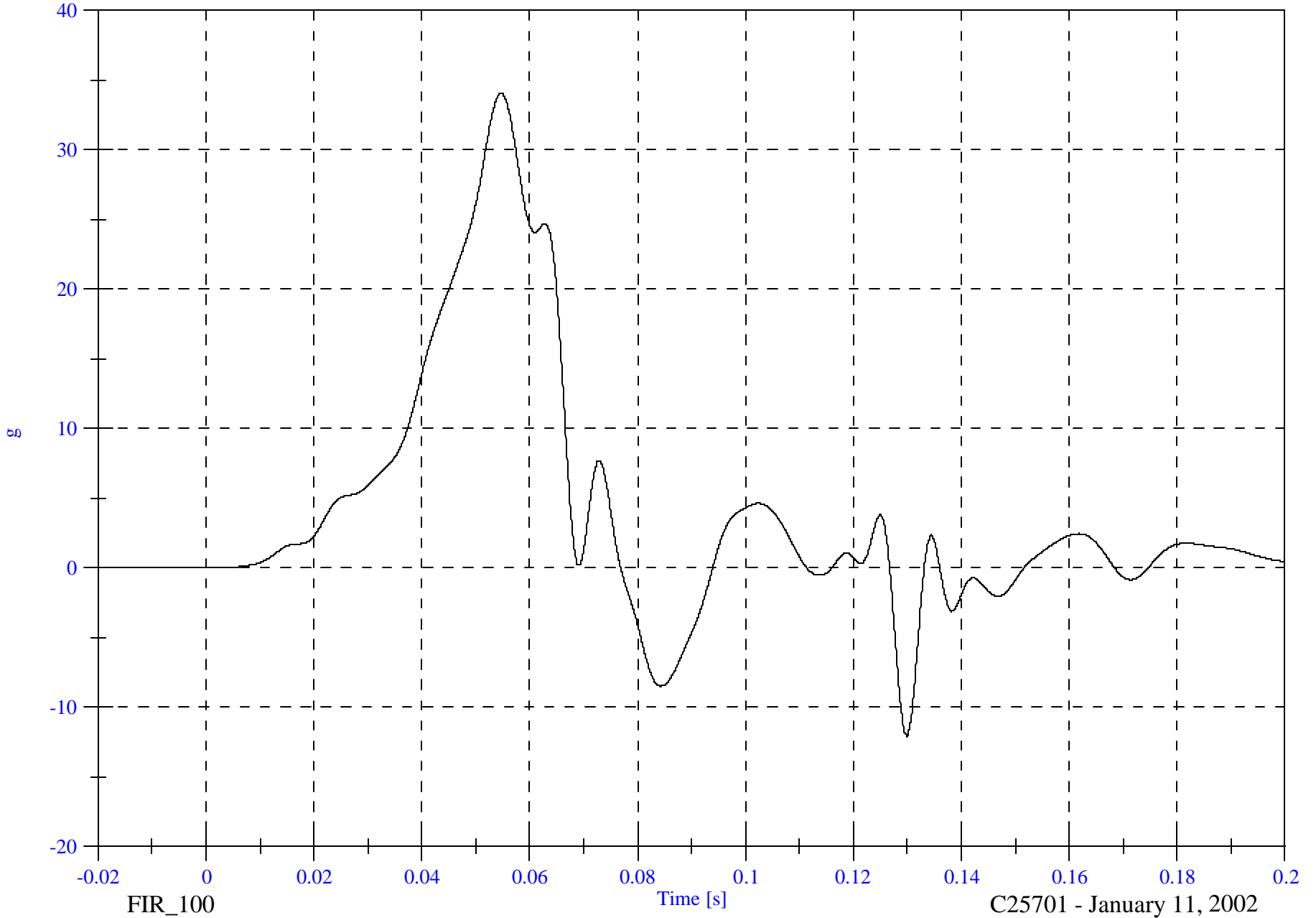
P4 Lower Spine Ry

Max: 34.1 [g] at 0.054 [s]

Min: -12.1 [g] at 0.130 [s]

B-123

8502-31



FIR\_100

Time [s]

C25701 - January 11, 2002

FMVSS 214D Indicant Test - 2002 Isuzu Axiom

P4 Pelvic Ry

Max: 38.7 [g] at 0.043 [s]

Min: -3.3 [g] at 0.072 [s]

B-124

8502-31



FIR\_100

Time [s]

C25701 - January 11, 2002

## APPENDIX C

### SID CONFIGURATION AND PERFORMANCE VERIFICATION DATA

**SUMMARY  
SID PRE & POST TEST CALIBRATION**

**CONFIGURED FOR LEFT SIDE IMPACT**

Date: 1/4/02, 1/30/02, 1/3/02, 1/30/02

Sequential Test Number:

2,3; 3,4

Laboratory Technician:

B. Swiecicki

TEST PARAMETER	SPECIFICATION	SID NO.: 016		SID NO.: 027	
		PRE TEST	POST TEST	PRE TEST	POST TEST
SH- Seated Height (mm)	889 - 909	904	902	904	904
RH- Rib Height (mm)	501 - 521	511	513	518	518
HP- Hip Pivot Height (mm)	99 ref.	99	99	99	99
RD- Rib from Back Line (mm)	229 - 241	239	239	236	236
KV- Knee Pivot from Back Line (mm)	511 - 526	526	526	519	518
SW- Knee Pivot to Floor (mm)	490 - 505	495	495	493	493
HW- Hip Width (mm)	356 - 391	371	366	369	371
<b>THORAX IMPACTS</b>					
TEMPERATURE (EC)	18.9 - 25.5	21.1	21.1	21.7	21.1
RELATIVE HUMIDITY (%)	10 - 70	31	30	32	29.0
PROBE SPEED (m/s)	4.27 - 4.33	4.33	4.31	4.3	4.30
UPPER RIB (g's)	37 - 46	38.4	39.70	41.1	45.5
LOWER RIB (g's)	37 - 46	38.5	40.01	40.1	45.9
LOWER SPINE (g's)	15 - 22	20.1	20.38	17.7	17.8
<b>PELVIS IMPACT</b>					
TEMPERATURE (EC)	18.9 - 25.5	21.7	21.1	21.7	21.1
RELATIVE HUMIDITY (%)	10 - 70	32	30.0	32	29.0
PROBE SPEED (m/s)	4.27 - 4.33	4.28	4.32	4.28	4.31
PELVIS (g's)	40 - 60	44.3	50.6	37.63	54.9

**REMARKS:** None

**CALIBRATION TEST RESULTS**

**PRE-TEST**

**SID NO.: 016**

**CONFIGURED FOR LEFT SIDE IMPACT**

**CALIBRATION TEST RESULTS SUMMARY  
PRE-TEST**

**CONFIGURED FOR LEFT SIDE IMPACT**

SID Serial No.: 016 Sequential Test Number: 2  
Date: January 4, 2002 Laboratory Technician: B. Swiecicki

TEST	COMMENTS
EXTERNAL DIMENSIONS	Passed all requirements.
THORACIC SHOCK ABSORBER TEST	Passed all requirements.
LATERAL THORAX IMPACT TEST	Passed all requirements.
LATERAL PELVIS IMPACT TEST	Passed all requirements.
HEAD DROP TEST*	Passed all requirements.
ABDOMINAL COMPRESSION TEST*	Passed all requirements.
LUMBAR FLEXION TEST*	Passed all requirements.

\* Test not required for SID certification.

**REMARKS:** None

**EXTERNAL DIMENSIONS  
PRE-TEST**

**CONFIGURED FOR LEFT SIDE IMPACT**

SID Serial No.: 016 Sequential Test Number: 2  
Date: January 4, 2002 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 – 909	904
RH- Rib Height (mm)	502 – 520	511
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 – 241	239
KH- Knee Pivot from Back Line (mm)	511 – 526	526
KV- Knee Pivot to Floor (mm)	490 – 505	495
HW- Hip Width (mm)	356 - 391	371

**REMARKS:** None

**THORACIC SHOCK ABSORBER TESTS  
PRE-TEST**

**CONFIGURED FOR LEFT SIDE IMPACT**

SID Serial No.: 016 Sequential Test Number: 1.2  
 Date: September 19, 2001 Laboratory Technician: B. Swiecicki

DAMPER IDENTIFICATION: 016

TEST PARAMETER		SPECIFICATION	TEST RESULTS
TEMPERATURE (EC)		18.9 - 25.5	21.7
RELATIVE HUMIDITY (%)		10 - 70	32
VELOCITY 3.05 m/s	FORCE (N)	836 - 1125	934
	DISPLACEMENT (mm)	30 - 35	32.7
VELOCITY 4.27 m/s	FORCE (N)	1730 - 2099	1828.5
	DISPLACEMENT (mm)	32 - 37	36.1
VELOCITY 6.10 m/s	FORCE (N)	3741 - 4448	3876.1
	DISPLACEMENT (mm)	33 - 40	36.7

DAMPER SETTING: 5

**REMARKS:** None

**LATERAL THORAX IMPACT TEST  
PRE-TEST**

**CONFIGURED FOR LEFT SIDE IMPACT**

SID Serial No.: 016 Sequential Test Number: 2  
Date: January 3, 2002 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (EC)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	31
PROBE SPEED (m/s)	4.27 - 4.33	4.33
UPPER RIB (g's)	37 - 46	38.4
LOWER RIB (g's)	37 - 46	38.5
LOWER SPINE (g's)	15 - 22	20.1

**REMARKS:** None

**LATERAL PELVIS IMPACT TEST  
PRE-TEST**

**CONFIGURED FOR LEFT SIDE IMPACT**

SID Serial No.: 016 Sequential Test Number: 2  
Date: January 4, 2002 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (EC)	18.9 - 25.5	21.7
RELATIVE HUMIDITY (%)	10 - 70	32
PROBE SPEED (m/s)	4.27 - 4.33	4.28
PELVIS ACCELERATION (g's)	40 - 60	44.3

**REMARKS:** None

**HEAD DROP TEST  
PRE-TEST**  
(Test not required for SID certification)

**CONFIGURED FOR LEFT SIDE IMPACT**

SID Serial No.: 016 Sequential Test Number: 2  
Date: January 2, 2002 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (EC)	18.9 - 25.5	21.7
RELATIVE HUMIDITY (%)	10 - 70	31
PEAK RESULTANT ACCELERATION (Gs)	210 - 260	211.3
PEAK LATERAL ACCELERATION (Gs)	Not to Exceed 10	2.23
UNIMODAL CRITERIA ABOVE 100 Gs (ms)	0.9 - 1.5	1.25

**REMARKS:** None

**ABDOMINAL COMPRESSION TEST  
PRE-TEST**  
(Test not required for SID certification)

**CONFIGURED FOR LEFT SIDE IMPACT**

SID Serial No.: 016 Sequential Test Number: 2  
Date: January 4, 2002 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (EC)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	32
FORCE @ 13 mm (N)	104 - 162	119.2
FORCE @ 19 mm (N)	163 - 221	178.4
FORCE @ 25 mm (N)	222 - 280	260.2
FORCE @ 33 mm (N)	325 - 391	373.7

**REMARKS:** None

**LUMBAR FLEXION TEST**  
**PRE-TEST**  
 (Test not required for SID certification)

**CONFIGURED FOR LEFT SIDE IMPACT**

SID Serial No.: 016 Sequential Test Number: 2  
 Date: January 4, 2002 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (EC)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	32
FORCE @ 0E (N)	0 - 26.7	0
FORCE @ 20E (N)	97.8 - 151.2	117.9
FORCE @ 30E (N)	151.2 - 204.6	169.0
FORCE @ 40E (N)	204.6 - 258	233.5
RETURN ANGLE	12E max.	3°

**REMARKS:** None

**PRE-TEST DUMMY INSPECTION LIST**

**CONFIGURED FOR LEFT SIDE IMPACT**

SID Serial No.: 016 Sequential Test Number: 2  
 Date: January 4, 2002 Laboratory Technician: B. Swiecicki

PART	ITEMS CHECKED	COMMENTS
SKIN	VISUAL INSPECTION	OK
HEAD	VISUAL, BALLAST, ACCELEROMETER MOUNT	OK
NECK	VISUAL, CABLE TORQUE	OK
SPINE BOX	VISUAL, BALLAST, WELDMENT, ACCELEROMETER MOUNT	OK
RIB CAGE	VISUAL, MEASURE, STIFFENERS	OK
STERNUM	VISUAL	OK
LUMBAR SPINE	VISUAL	OK
ABDOMEN	VISUAL	OK
PELVIS	VISUAL, PALPATE, ACCELEROMETER MOUNT	OK
UPPER LEGS	VISUAL	OK
KNEES	VISUAL, STOPS, INSERTS	OK
LOWER LEGS	VISUAL, RANGE OF MOTION	OK
ANKLES	VISUAL, RANGE OF MOTION	OK
FEET	VISUAL, RANGE OF MOTION	OK
JOINTS	1 TO 2 g RANGE	OK
OTHER	NONE	-

**REMARKS:** None

**CALIBRATION TEST RESULTS**

**PRE-TEST**

**SID NO.: 027**

**CONFIGURED FOR LEFT SIDE IMPACT**

**CALIBRATION TEST RESULTS SUMMARY  
PRE-TEST**

**CONFIGURED FOR LEFT SIDE IMPACT**

SID Serial No.: 027 Sequential Test Number: 3  
Date: January 3, 2002 Laboratory Technician: B. Swiecicki

TEST	COMMENTS
EXTERNAL DIMENSIONS	Passed all requirements.
THORACIC SHOCK ABSORBER TEST	Passed all requirements.
LATERAL THORAX IMPACT TEST	Passed all requirements.
LATERAL PELVIS IMPACT TEST	Passed all requirements.
HEAD DROP TEST*	Passed all requirements.
ABDOMINAL COMPRESSION TEST*	Passed all requirements.
LUMBAR FLEXION TEST*	Passed all requirements.

\* Test not required for SID certification.

**REMARKS:** None

**EXTERNAL DIMENSIONS  
PRE-TEST**

**CONFIGURED FOR LEFT SIDE IMPACT**

SID Serial No.: 027 Sequential Test Number: 3  
Date: January 3, 2002 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	904
RH- Rib Height (mm)	502 - 520	518
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	236
KH- Knee Pivot from Back Line (mm)	511 - 526	519
KV- Knee Pivot to Floor (mm)	490 - 505	493
HW- Hip Width (mm)	356 - 391	369

**REMARKS:** None

**THORACIC SHOCK ABSORBER TESTS  
PRE-TEST**

**CONFIGURED FOR LEFT SIDE IMPACT**

SID Serial No.: 027 Sequential Test Number: 1.3  
 Date: August 30, 2001 Laboratory Technician: B. Swiecicki

DAMPER IDENTIFICATION: 027

TEST PARAMETER		SPECIFICATION	TEST RESULTS
TEMPERATURE (EC)		18.9 - 25.5	20.7
RELATIVE HUMIDITY (%)		10 - 70	31
VELOCITY 3.05 m/s	FORCE (N)	836 - 1125	932.6
	DISPLACEMENT (mm)	30 - 35	32.5
VELOCITY 4.27 m/s	FORCE (N)	1730 - 2099	1804.4
	DISPLACEMENT (mm)	32 - 37	36.1
VELOCITY 6.10 m/s	FORCE (N)	3741 - 4448	3983.6
	DISPLACEMENT (mm)	33 - 40	35.9

DAMPER SETTING: 5

**REMARKS:** None

**LATERAL THORAX IMPACT TEST  
PRE-TEST**

**CONFIGURED FOR LEFT SIDE IMPACT**

SID Serial No.: 027 Sequential Test Number: 3  
Date: January 3, 2002 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (EC)	18.9 - 25.5	21.7
RELATIVE HUMIDITY (%)	10 - 70	32
PROBE SPEED (m/s)	4.27 - 4.33	4.30
UPPER RIB (g's)	37 - 46	41.1
LOWER RIB (g's)	37 - 46	40.1
LOWER SPINE (g's)	15 - 22	17.7

**REMARKS:** None

**LATERAL PELVIS IMPACT TEST  
PRE-TEST**

**CONFIGURED FOR LEFT SIDE IMPACT**

SID Serial No.: 027 Sequential Test Number: 3  
Date: January 3, 2002 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (EC)	18.9 - 25.5	21.7
RELATIVE HUMIDITY (%)	10 - 70	32
PROBE SPEED (m/s)	4.27 - 4.33	4.28
PELVIS ACCELERATION (g's)	40 - 60	37.63

**REMARKS:** None

**HEAD DROP TEST**  
**PRE-TEST**  
(Test not required for SID certification)

**CONFIGURED FOR LEFT SIDE IMPACT**

SID Serial No.: 027 Sequential Test Number: 3  
Date: December 11, 2001 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (EC)	18.9 - 25.5	21.7
RELATIVE HUMIDITY (%)	10 - 70	32.0
PEAK RESULTANT ACCELERATION (Gs)	210 - 260	227.24
PEAK LATERAL ACCELERATION (Gs)	Not to Exceed 10	6.21
UNIMODAL CRITERIA ABOVE 100 Gs (ms)	0.9 - 1.5	1.12

**REMARKS:** None

**ABDOMINAL COMPRESSION TEST  
PRE-TEST**  
(Test not required for SID certification)

**CONFIGURED FOR LEFT SIDE IMPACT**

SID Serial No.: 027 Sequential Test Number: 3  
Date: January 3, 2002 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (EC)	18.9 - 25.5	21.7
RELATIVE HUMIDITY (%)	10 - 70	31
FORCE @ 13 mm (N)	104 - 162	120.1
FORCE @ 19 mm (N)	163 - 221	182.4
FORCE @ 25 mm (N)	222 - 280	258.0
FORCE @ 33 mm (N)	325 - 391	373.7

**REMARKS:** None

**LUMBAR FLEXION TEST**  
**PRE-TEST**  
 (Test not required for SID certification)

**CONFIGURED FOR LEFT SIDE IMPACT**

SID Serial No.: 027 Sequential Test Number: 3  
 Date: January 3, 2002 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (EC)	18.9 - 25.5	21.7
RELATIVE HUMIDITY (%)	10 - 70	31
FORCE @ 0E (N)	0 - 26.7	0
FORCE @ 20E (N)	97.8 - 151.2	117.9
FORCE @ 30E (N)	151.2 - 204.6	180.2
FORCE @ 40E (N)	204.6 - 258	229.1
RETURN ANGLE	12E max.	4.5°

**REMARKS:** None

**PRE-TEST DUMMY INSPECTION LIST**

**CONFIGURED FOR LEFT SIDE IMPACT**

SID Serial No.: 027 Sequential Test Number: 3  
 Date: January 3, 2002 Laboratory Technician: B. Swiecicki

PART	ITEMS CHECKED	COMMENTS
SKIN	VISUAL INSPECTION	OK
HEAD	VISUAL, BALLAST, ACCELEROMETER MOUNT	OK
NECK	VISUAL, CABLE TORQUE	OK
SPINE BOX	VISUAL, BALLAST, WELDMENT, ACCELEROMETER MOUNT	OK
RIB CAGE	VISUAL, MEASURE, STIFFENERS	OK
STERNUM	VISUAL	OK
LUMBAR SPINE	VISUAL	OK
ABDOMEN	VISUAL	OK
PELVIS	VISUAL, PALPATE, ACCELEROMETER MOUNT	OK
UPPER LEGS	VISUAL	OK
KNEES	VISUAL, STOPS, INSERTS	OK
LOWER LEGS	VISUAL, RANGE OF MOTION	OK
ANKLES	VISUAL, RANGE OF MOTION	OK
FEET	VISUAL, RANGE OF MOTION	OK
JOINTS	1 TO 2 g RANGE	OK
OTHER	NONE	-

**REMARKS:** None

**CALIBRATION TEST RESULTS**

**POST TEST**

**SID NO.: 016**

**CONFIGURED FOR LEFT SIDE IMPACT**

**CALIBRATION TEST RESULTS SUMMARY  
POST TEST**

**CONFIGURED FOR LEFT SIDE IMPACT**

SID Serial No.: 016 Sequential Test Number: 3  
Date: 1/30/02 Laboratory Technician: B. Swiecicki

TEST	COMMENTS
EXTERNAL DIMENSIONS	Passed all requirements.
LATERAL THORAX IMPACT TEST	Passed all requirements.
LATERAL PELVIS IMPACT TEST	Passed all requirements.
HEAD DROP TEST*	Passed all requirements.
ABDOMINAL COMPRESSION TEST*	Passed all requirements.
LUMBAR FLEXION TEST*	Passed all requirements.

\* Test not required for SID certification.

**REMARKS:** None

**EXTERNAL DIMENSIONS  
POST TEST**

**CONFIGURED FOR LEFT SIDE IMPACT**

SID Serial No.: 016 Sequential Test Number: 3  
Date: 1/30/02 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	902
RH- Rib Height (mm)	502 - 520	513
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	239
KH- Knee Pivot from Back Line (mm)	511 - 526	526
KV- Knee Pivot to Floor (mm)	490 - 505	495
HW- Hip Width (mm)	356 - 391	366

**REMARKS:** None

**LATERAL THORAX IMPACT TEST  
POST TEST**

**CONFIGURED FOR LEFT SIDE IMPACT**

SID Serial No.: 016 Sequential Test Number: 3  
Date: 1/29/02 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (EC)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	30
PROBE SPEED (m/s)	4.27 - 4.33	4.31
UPPER RIB (g's)	37 - 46	39.70
LOWER RIB (g's)	37 - 46	40.01
LOWER SPINE (g's)	15 - 22	20.38

**REMARKS:** None

**LATERAL PELVIS IMPACT TEST  
POST TEST**

**CONFIGURED FOR LEFT SIDE IMPACT**

SID Serial No.: 016 Sequential Test Number: 3  
Date: 1/29/02 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (EC)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	30.0
PROBE SPEED (m/s)	4.27 - 4.33	4.32
PELVIS ACCELERATION (g's)	40 - 60	50.6

**REMARKS:** None

**HEAD DROP TEST  
POST-TEST**  
(Test not required for SID certification)

**CONFIGURED FOR LEFT SIDE IMPACT**

SID Serial No.: 016 Sequential Test Number: 3  
 Date: 1/29/02 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (EC)	18.9 - 25.5	21.7
RELATIVE HUMIDITY (%)	10 - 70	29.0
PEAK RESULTANT ACCELERATION (Gs)	210 - 260	212.9
PEAK LATERAL ACCELERATION (Gs)	Not to Exceed 10	3.28
UNIMODAL CRITERIA ABOVE 100 Gs (ms)	0.9 - 1.5	1.27

**REMARKS:** None

**ABDOMINAL COMPRESSION TEST  
POST TEST**

(Test not required for SID certification)

**CONFIGURED FOR LEFT SIDE IMPACT**

SID Serial No.: 016 Sequential Test Number: 3  
Date: 1/30/02 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (EC)	18.9 - 25.5	21.7
RELATIVE HUMIDITY (%)	10 - 70	29
FORCE @ 13 mm (N)	104 - 162	104.5
FORCE @ 19 mm (N)	163 - 221	168.6
FORCE @ 25 mm (N)	222 - 280	241.5
FORCE @ 33 mm (N)	325 - 391	355.9

**REMARKS:** None

**LUMBAR FLEXION TEST  
POST TEST**  
(Test not required for SID certification)

**CONFIGURED FOR LEFT SIDE IMPACT**

SID Serial No.: 016 Sequential Test Number: 3  
 Date: 1/30/02 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (EC)	18.9 - 25.5	21.7
RELATIVE HUMIDITY (%)	10 - 70	29
FORCE @ 0E (N)	0 - 26.7	0.0
FORCE @ 20E (N)	97.8 - 151.2	122.8
FORCE @ 30E (N)	151.2 - 204.6	171.7
FORCE @ 40E (N)	204.6 - 258	231.3
RETURN ANGLE	12E max.	4.5°

**REMARKS:** None

**POST TEST DUMMY INSPECTION LIST**  
**CONFIGURED FOR LEFT SIDE IMPACT**

SID Serial No.: 016 Sequential Test Number: 3  
 Date: 1/30/02 Laboratory Technician: B. Swiecicki

PART	ITEMS CHECKED	COMMENTS
SKIN	VISUAL INSPECTION	OK
HEAD	VISUAL, BALLAST, ACCELEROMETER MOUNT	OK
NECK	VISUAL, CABLE TORQUE	OK
SPINE BOX	VISUAL, BALLAST, WELDMENT, ACCELEROMETER MOUNT	OK
RIB CAGE	VISUAL, MEASURE, STIFFENERS	OK
STERNUM	VISUAL	OK
LUMBAR SPINE	VISUAL	OK
ABDOMEN	VISUAL	OK
PELVIS	VISUAL, PALPATE, ACCELEROMETER MOUNT	OK
UPPER LEGS	VISUAL	OK
KNEES	VISUAL, STOPS, INSERTS	OK
LOWER LEGS	VISUAL, RANGE OF MOTION	OK
ANKLES	VISUAL, RANGE OF MOTION	OK
FEET	VISUAL, RANGE OF MOTION	OK
JOINTS	1 TO 2 g RANGE	OK
OTHER	NONE	-

**REMARKS:** None

**CALIBRATION TEST RESULTS**

**POST TEST**

**SID NO.: 027**

**CONFIGURED FOR LEFT SIDE IMPACT**

**CALIBRATION TEST RESULTS SUMMARY  
POST TEST**

**CONFIGURED FOR LEFT SIDE IMPACT**

SID Serial No.: 027 Sequential Test Number: 4  
Date: 1/30/02 Laboratory Technician: B. Swiecicki

TEST	COMMENTS
EXTERNAL DIMENSIONS	Passed all requirements.
LATERAL THORAX IMPACT TEST	Passed all requirements.
LATERAL PELVIS IMPACT TEST	Passed all requirements.
HEAD DROP TEST*	Passed all requirements.
ABDOMINAL COMPRESSION TEST*	Passed all requirements.
LUMBAR FLEXION TEST*	Passed all requirements.

\* Test not required for SID certification.

**REMARKS:** None

**EXTERNAL DIMENSIONS  
POST TEST**

**CONFIGURED FOR LEFT SIDE IMPACT**

SID Serial No.: 027 Sequential Test Number: 4  
Date: 1/30/02 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	904
RH- Rib Height (mm)	502 - 520	518
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	236
KH- Knee Pivot from Back Line (mm)	511 - 526	518
KV- Knee Pivot to Floor (mm)	490 - 505	493
HW- Hip Width (mm)	356 - 391	371

**REMARKS:** None

**LATERAL THORAX IMPACT TEST  
POST TEST**

**CONFIGURED FOR LEFT SIDE IMPACT**

SID Serial No.: 027 Sequential Test Number: 4  
Date: 1/29/02 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (EC)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	29.0
PROBE SPEED (m/s)	4.27 - 4.33	4.30
UPPER RIB (g's)	37 - 46	45.5
LOWER RIB (g's)	37 - 46	45.9
LOWER SPINE (g's)	15 - 22	17.8

**REMARKS:** None

**LATERAL PELVIS IMPACT TEST  
POST TEST**

**CONFIGURED FOR LEFT SIDE IMPACT**

SID Serial No.: 027 Sequential Test Number: 4  
Date: 1/29/02 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (EC)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	29.0
PROBE SPEED (m/s)	4.27 - 4.33	4.31
PELVIS ACCELERATION (g's)	40 - 60	54.9

**REMARKS:** None

**HEAD DROP TEST  
POST-TEST**  
(Test not required for SID certification)

**CONFIGURED FOR LEFT SIDE IMPACT**

SID Serial No.: 027 Sequential Test Number: 4  
Date: 1/29/02 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (EC)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	29
PEAK RESULTANT ACCELERATION (Gs)	210 - 260	213.81
PEAK LATERAL ACCELERATION (Gs)	Not to Exceed 10	5.89
UNIMODAL CRITERIA ABOVE 100 Gs (ms)	0.9 - 1.5	1.33

**REMARKS:** None

**ABDOMINAL COMPRESSION TEST  
POST TEST**

(Test not required for SID certification)

**CONFIGURED FOR LEFT SIDE IMPACT**

SID Serial No.: 027 Sequential Test Number: 4  
Date: 1/30/03 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (EC)	18.9 - 25.5	21.7
RELATIVE HUMIDITY (%)	10 - 70	29
FORCE @ 13 mm (N)	104 - 162	108.5
FORCE @ 19 mm (N)	163 - 221	176.6
FORCE @ 25 mm (N)	222 - 280	253.1
FORCE @ 33 mm (N)	325 - 391	369.2

**REMARKS:** None

**LUMBAR FLEXION TEST  
POST TEST**  
(Test not required for SID certification)

**CONFIGURED FOR LEFT SIDE IMPACT**

SID Serial No.: 027 Sequential Test Number: 4  
Date: 1/30/02 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (EC)	18.9 - 25.5	21.7
RELATIVE HUMIDITY (%)	10 - 70	29
FORCE @ 0E (N)	0 - 26.7	0.0
FORCE @ 20E (N)	97.8 - 151.2	111.2
FORCE @ 30E (N)	151.2 - 204.6	170.8
FORCE @ 40E (N)	204.6 - 258	234.0
RETURN ANGLE	12E max.	5.5

**REMARKS:** None

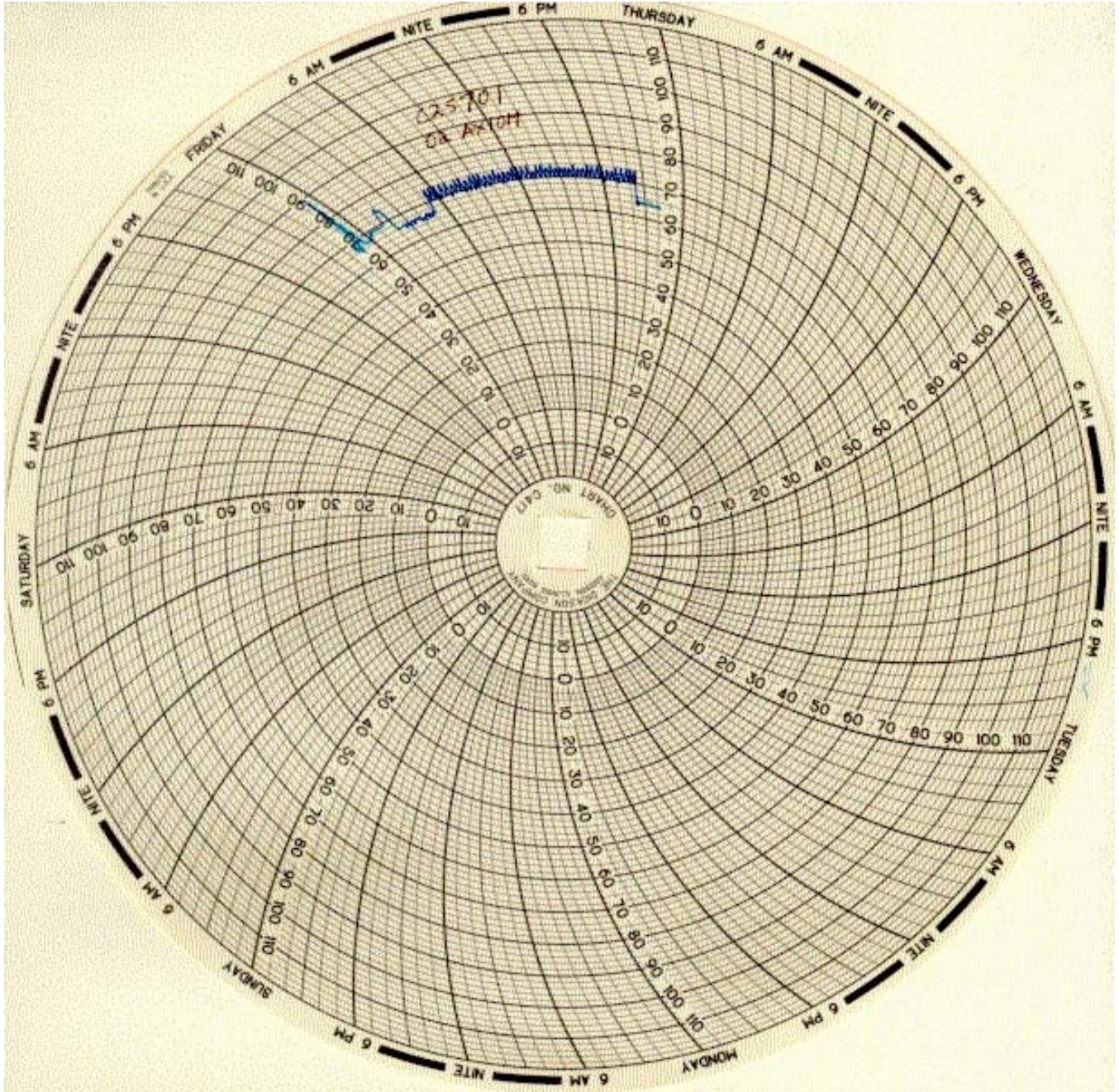
**POST TEST DUMMY INSPECTION LIST**  
**CONFIGURED FOR LEFT SIDE IMPACT**

SID Serial No.: 027 Sequential Test Number: 4  
 Date: 1/30/02 Laboratory Technician: B. Swiecicki

PART	ITEMS CHECKED	COMMENTS
SKIN	VISUAL INSPECTION	OK
HEAD	VISUAL, BALLAST, ACCELEROMETER MOUNT	OK
NECK	VISUAL, CABLE TORQUE	OK
SPINE BOX	VISUAL, BALLAST, WELDMENT, ACCELEROMETER MOUNT	OK
RIB CAGE	VISUAL, MEASURE, STIFFENERS	OK
STERNUM	VISUAL	OK
LUMBAR SPINE	VISUAL	OK
ABDOMEN	VISUAL	OK
PELVIS	VISUAL, PALPATE, ACCELEROMETER MOUNT	OK
UPPER LEGS	VISUAL	OK
KNEES	VISUAL, STOPS, INSERTS	OK
LOWER LEGS	VISUAL, RANGE OF MOTION	OK
ANKLES	VISUAL, RANGE OF MOTION	OK
FEET	VISUAL, RANGE OF MOTION	OK
JOINTS	1 TO 2 g RANGE	OK
OTHER	NONE	-

**REMARKS:** None

TEMPERATURE TRACE



**APPENDIX D**

**TEST EQUIPMENT LIST AND CALIBRATION INFORMATION**

**TEST EQUIPMENT LIST AND CALIBRATION INFORMATION**

**SID INSTRUMENTATION**

	FRONT SID NO.: 016		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
HEAD AX	AC-P18785	ENDEVCO	08/30/01
HEAD AY	AC-P18516	ENDEVCO	08/30/01
HEAD AZ	AC-P18537	ENDEVCO	08/30/01
UPPER RIB	AC-P18524	ENDEVCO	08/30/01
LOWER RIB	AC-P18533	ENDEVCO	08/30/01
LOWER SPINE	AC-P18514	ENDEVCO	08/30/01
PELVIS	AC-P18515	ENDEVCO	08/31/01
UPPER RIB REDUNDANT	AC-P18528	ENDEVCO	08/30/01
LOWER RIB REDUNDANT	AC-P18518	ENDEVCO	08/30/01
LOWER SPINE REDUNDANT	AC-P18688	ENDEVCO	08/30/01
PELVIS REDUNDANT	AC-P18529	ENDEVCO	08/30/01

	REAR SID NO.: 027		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
HEAD AX	AC-P17237	ENDEVCO	08/21/01
HEAD AY	AC-P15747	ENDEVCO	08/21/01
HEAD AZ	AC-P14438	ENDEVCO	08/21/01
UPPER RIB	AC-P18545	ENDEVCO	08/16/01
LOWER RIB	AC-P18532	ENDEVCO	08/16/01
LOWER SPINE	AC-P18525	ENDEVCO	08/16/01
PELVIS	AC-P18531	ENDEVCO	08/16/01
UPPER RIB REDUNDANT	AC-P18536	ENDEVCO	08/16/01
LOWER RIB REDUNDANT	AC-P18792	ENDEVCO	08/16/01
LOWER SPINE REDUNDANT	AC-P18682	ENDEVCO	08/16/01
PELVIS REDUNDANT	AC-P18519	ENDEVCO	08/16/01

**REMARKS:** None

**TEST EQUIPMENT LIST AND CALIBRATION INFORMATION**

**VEHICLE AND MDB INSTRUMENTATION**

	VEHICLE AND MDB INSTRUMENTS		
	SERIAL NUMBER	MANUFACTURER	DATE
RIGHT FRONT SILL (X)	AC-B10827	ENDEVCO	08/29/01
RIGHT FRONT SILL (Y)	AC-A13513		08/29/01
RIGHT FRONT SILL (Z)	AC-B11408	ENDEVCO	08/29/01
RIGHT REAR SILL (X)	AC-J32186	ENDEVCO	09/05/01
RIGHT REAR SILL (Y)		ENDEVCO	09/05/01
RIGHT REAR SILL (Z)	AC-J32383	ENDEVCO	
REAR FLOORPAN ABOVE AXLE (X)	AC-BB14	ENDEVCO	08/29/01
REAR FLOORPAN ABOVE AXLE (Y)	AC-AP064	ENDEVCO	08/29/01
REAR FLOORPAN ABOVE AXLE (Z)	AC-B10955		08/29/01
LEFT REAR SILL (Y)	AC-D61	ICS	10/30/01
	AC-X86	ICS	10/30/01
LEFT FRONT DOOR CENTERLINE (Y)	-	-	
RIGHT REAR SEAT OCCUPANT COMP. (Y)	AC-D36	ICS	10/30/01
MID REAR OF LEFT FRONT DOOR (Y)	-	-	-
LEFT FRONT DOOR UPPER C\L (Y)	-	-	-
MID REAR OF LEFT REAR DOOR (Y)	-	-	-
	-	-	-
LOWER LEFT B- PILLAR (Y)	AC-B11073	ENDEVCO	
MIDDLE LEFT B-PILLAR (Y)	AC-J31050	ENDEVCO	
LOWER LEFT A-PILLAR (Y)	AC-J26604	ENDEVCO	10/05/01
UPPER LEFT A-PILLAR (Y)	AC-J29805	ENDEVCO	08/13/01
FRONT SEAT TRACK (Y)	AC-J24754	ENDEVCO	09/25/01
REAR SEAT TRACK (Y)	AC-X92	ICS	09/25/01
	AC-J33019	ENDEVCO	08/28/01
VEHICLE CG (Y)	AC-J32782	ENDEVCO	08/28/01
	AC-J33127	ENDEVCO	08/28/01
MDB CG (X)	AC-C16682	ENDEVCO	09/06/01
MDB CG (Y)	AC-CJ54	ENDEVCO	09/06/01
MDB CG (Z)		ENDEVCO	09/06/01
	AC-CX05	ENDEVCO	09/06/01
MDB REAR FRAME MEMBER (Y)	AC-C16685	ENDEVCO	09/06/01

**REMARKS:** None