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REPORT NUMBER: 214-CAL-03-01

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

**SUZUKI MOTOR CORPORATION
2003 SUZUKI AERIO
4-DOOR SEDAN**

NHTSA NUMBER: C30502

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



December 19, 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 (NVS-220)
Washington, DC 20590**

This Final Test Report was prepared for the U.S. Department of Transportation, National Highway Traffic Safety Administration, under Contract No. DTNH22-02-D-01114. 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.

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15. Supplementary Notes																																
16. Abstract A 48/24 kph 90° Impact Moving Deformable Barrier Side Impact Test was conducted on the subject 2003 Suzuki Aerio 4-Door Sedan in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP-214D-06 (July 26, 2001) to determine FMVSS 214 Side Impact Protection compliance. This test was conducted at the Veridian Engineering Crash Test Facility in Buffalo, New York, on December 19, 2002. The impact velocity of the Moving Deformable Barrier (MDB) was 52.63 kph, and the ambient temperature at the struck (driver's) side of the target vehicle at the time of impact was 20°C. The target vehicle post-test maximum crush was 266 mm at level 2. The test vehicle's performance follows: <table border="0"> <thead> <tr> <th></th> <th align="center"><u>Front SID</u></th> <th></th> <th align="center"><u>Rear SID</u></th> <th></th> </tr> </thead> <tbody> <tr> <td>Left Upper Rib Acceleration (LUR):</td> <td align="center"><u>37.7</u></td> <td align="center">g's</td> <td align="center"><u>55.9</u></td> <td align="center">g's</td> </tr> <tr> <td>Left Lower Rib Acceleration (LLR):</td> <td align="center"><u>39.6</u></td> <td align="center">g's</td> <td align="center"><u>48.9</u></td> <td align="center">g's</td> </tr> <tr> <td>Lower Spine Acceleration (T₁₂):</td> <td align="center"><u>50</u></td> <td align="center">g's</td> <td align="center"><u>51.8</u></td> <td align="center">g's</td> </tr> <tr> <td>Thoracic Trauma Index (TTI):</td> <td align="center"><u>45</u></td> <td align="center">g's</td> <td align="center"><u>54</u></td> <td align="center">g's</td> </tr> <tr> <td>Pelvis Acceleration (PEV):</td> <td align="center"><u>59</u></td> <td align="center">g's</td> <td align="center"><u>66</u></td> <td align="center">g's</td> </tr> </tbody> </table> 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.				<u>Front SID</u>		<u>Rear SID</u>		Left Upper Rib Acceleration (LUR):	<u>37.7</u>	g's	<u>55.9</u>	g's	Left Lower Rib Acceleration (LLR):	<u>39.6</u>	g's	<u>48.9</u>	g's	Lower Spine Acceleration (T ₁₂):	<u>50</u>	g's	<u>51.8</u>	g's	Thoracic Trauma Index (TTI):	<u>45</u>	g's	<u>54</u>	g's	Pelvis Acceleration (PEV):	<u>59</u>	g's	<u>66</u>	g's
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17. Key Words Compliance Testing Side Impact Protection FMVSS 214 Side Impact Dummy (SID)	18. Distribution Statement Copies of this report are available from: National Highway Traffic Safety Administration Technical Reference Division (TIS) Room 5108 (NPO-230) 400 Seventh St., S.W. Washington, D.C. 20590 Telephone No. (202) 366-4946																															
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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. DTNH22-02-D-01114. The purpose of this test was to evaluate side impact protection in a 2003 Suzuki Aerio 4-Door Sedan. The test was conducted in accordance with the Office of Vehicle Safety Compliance's Laboratory Test Procedure (TP-214D-06, dated July 26, 2001).

SECTION 2

SUMMARY OF SIDE IMPACT TEST

A 2003 Suzuki Aerio 4-Door Sedan 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 52.63 kph (32.7 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 December 19, 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 (TP-214D-06, dated July 26, 2001). Both SIDs were certified prior to this test. The side impact test was documented by one real-time camera and 9 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 (T₁₂) 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 49 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)	45	54
PEV (g)	59	66

FMVSS 214D requires that the TTI not exceed 85 g's for 4 door vehicles and not exceed 90 g's for 2 door vehicles. Peak lateral pelvis acceleration shall not exceed 130 g's.

SECTION 3

SUMMARY OF TEST RESULTS

DATA SHEET 1

GENERAL TEST AND VEHICLE PARAMETER DATA

TEST VEHICLE INFORMATION:

Year/Make/Model/Body Style: 2003 Suzuki Aerio 4-Door Sedan

Vehicle Body Color: Silver VIN: JS2RA41S235153410

Vehicle NHTSA No.: C30502 Month & Year of Manufacture: 08/02

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

Engine Placement: - Longitudinal; or X Lateral

Transmission: 5 Speed; X Manual; - Automatic; X Overdrive

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

Odometer Reading 196 km

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

DATA FROM TIRE PLACARD

Tire Pressure* (at capacity): 210 kPa FRONT
210 kPa REAR

Recommended Tire Size: P185/65R14

Tires on Test Vehicle: P185/65R14 ; Manufacturer: Bridgestone

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; X Bench; X Contoured

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

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

Vehicle Max Capacity Loading = 405 kg (A)

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

Vehicle Cargo Capacity = 64.8 kg (A-B)

TEST VEHICLE DELIVERED WEIGHT WITH MAXIMUM FLUIDS:

Left Front =	<u>363.5</u> kg	Left Rear =	<u>236.0</u> kg
Right Front =	<u>359.5</u> kg	Right Rear =	<u>236.5</u> kg
TOTAL FRONT =	<u>723.0</u> kg	TOTAL REAR =	<u>472.5</u> kg
% of Total Weight =	<u>60.5</u> %	% of Total Weight =	<u>39.5</u> %
TOTAL WEIGHT =	<u>1195.5</u> kg		

* Tire pressure used in test.

DATA SHEET 1 (continued)

GENERAL TEST VEHICLE PARAMETER DATA

Vehicle: 2003 Suzuki Aerio 4-Door Sedan

NHTSA No. C30502

CALCULATION OF VEHICLE'S TARGET TEST WEIGHT:

Total Test Vehicle Delivered Weight with Max. Fluids	=	<u>1195.5</u>	kg (A)
Maximum Cargo Carrying Capacity of Test Vehicle	=	<u>64.8</u>	kg (B)
Weight of instrumented Side Impact Dummies (2 X 81.2 kg)	=	<u>162.4</u>	kg (C)
TEST VEHICLE TARGET WEIGHT:	=	<u>1422.7</u>	kg (A+B+C)

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

Left Front	=	<u>415.0</u>	kg	Left Rear	=	<u>344.5</u>	kg
Right Front	=	<u>363.0</u>	kg	Right Rear	=	<u>301.5</u>	kg
TOTAL FRONT	=	<u>778.0</u>	kg	TOTAL REAR	=	<u>646.0</u>	kg
% of Total Weight	=	<u>54.6%</u>	%	% of Total Weight	=	<u>45.4%</u>	%
TOTAL TEST WEIGHT =		<u>1424.0</u>	kg				

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

Left Front	=	<u>398.0</u>	kg	Left Rear	=	<u>331.0</u>	kg
Right Front	=	<u>371.0</u>	kg	Right Rear	=	<u>314.5</u>	kg
TOTAL FRONT	=	<u>769.0</u>	kg	TOTAL REAR	=	<u>645.5</u>	kg
% of Total Weight	=	<u>54.4%</u>	%	% of Total Weight	=	<u>45.6%</u>	%
TOTAL TEST WEIGHT =		<u>1414.5</u>	kg				

TEST VEHICLE ATTITUDE (all dimensions in millimeters):

AS DELIVERED:

Left Front	<u>660</u>	Right Front	<u>655</u>	Left Rear	<u>645</u>	Right Rear	<u>650</u>
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FULLY LOADED:

Left Front	<u>640</u>	Right Front	<u>650</u>	Left Rear	<u>597</u>	Right Rear	<u>625</u>
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READY FOR TEST:

Left Front	<u>647</u>	Right Front	<u>653</u>	Left Rear	<u>605</u>	Right Rear	<u>621**</u>
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Test Vehicle Wheelbase: 2484 millimeters

C.G. = 1133.56 millimeters rearward of front wheel centerline

TOTAL VEHICLE LENGTH:

Right Side = 4215 millimeters

Left Side = 4215 millimeters

Centerline = 4340 millimeters

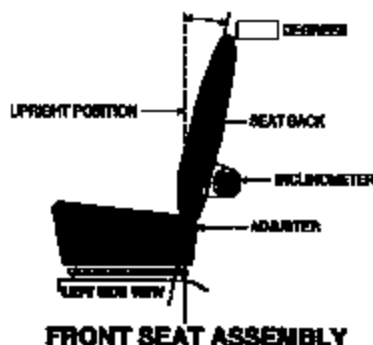
** As tested condition was 4 mm lower than fully loaded condition. Test was performed with permission of COTR.

DATA SHEET 1 (continued)

GENERAL TEST VEHICLE PARAMETER DATA

Vehicle: 2003 Suzuki Aerio 4-Door SedanNHTSA No. C30502

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:Mid-PositionTotal Length of Adjustment Travel: 180 millimetersTotal Number of Adjustment Positions or Detents: 13FRONT SEAT BACK ADJUSTMENT POSITION:Detent 4 from first detent 0Seat Back Torso Angle: 23 degreesSECOND POSITION SEAT:Total Length of Fore/Aft Adjustment Travel: 0 millimetersSeat Back Adjustment Position: N/AADJUSTABLE STEERING COLUMN POSITION:Mid-position 23.5" from level sillWINDOW POSITIONS:Left Front: ClosedLeft Rear: ClosedRight Front: RemovedRight 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:50 liters (Fuel Tank Usable Capacity)46.6 liters used for test (92%-94% of Fuel Tank Usable Capacity)LOCATION OF IMPACT POINT ON TEST VEHICLE SIDE TO BE IMPACTED:Wheelbase = 2484 millimetersImpact Point is 302 millimeters rearward of front axle centerline

(which is 940 millimeters forward of the wheelbase midpoint)

Actual Impact Point is 300 millimeters rearward of front axle centerline

DATA SHEET 2

TEST VEHICLE SUMMARY OF RESULTS

VEHICLE IDENTIFICATION:

Vehicle Year/Make/Model: 2003 Suzuki Aerio

Body Style: 4-Door Sedan

VIN: JS2RA41S235133410

NHTSA No.: C30502

Test Date: December 19, 2002

Overall Length = 4340 millimeters; Overall Width = 1685 millimeters

VEHICLE TEST WEIGHT (Pre-Test):

Left Front = 398.0 kg Left Rear = 331.0 kg

Right Front = 371.0 kg Right Rear = 314.5 kg

TOTAL FRONT = 769.0 kg TOTAL REAR = 645.5 kg

TOTAL VEHICLE WEIGHT 1414.5 kg

Wheelbase = 2484 millimeters

Longitudinal C.G. from Center of Front Axle = 1133.56 millimeters

Impact Angle with Respect to Impactor = 90 degrees

ACTUAL IMPACT POINT

Actual Impact Point is 2 mm forward of nominal impact ref. line (Lateral)

Actual Impact Point is 0 mm on nominal impact point (Vertical)

MAXIMUM EXTERIOR STATIC CRUSH:

1. LEVEL 1 (209 mm above ground) = 64 millimeters

2. LEVEL 2 (547 mm above ground) = 266 millimeters

3. LEVEL 3 (612 mm above ground) = 230 millimeters

4. LEVEL 4 (868 mm above ground) = 210 millimeters

5. LEVEL 5 (1436 mm above ground) = 27 millimeters

Maximum Post-Test Intrusion = 266 millimeters

OCCUPANTS:

Front Passenger:

Rear Passenger:

Dummy Identification 015

016

Restraints Used 3-point safety belt

3-point safety belt

INSTRUMENTATION:

Number of Vehicle Data Channels: = 18

Number of Cameras: Onboard = 3

Offboard = 7

TOTAL = 10

DATA SHEET 3

MOVING DEFORMABLE BARRIER (MDB) SUMMARY

Vehicle: 2003 Suzuki Asrio 4-Door Sedan

NHTSA No. C30502

MDB FACE MANUFACTURER AND SERIAL NUMBER:

Plascore Inc. 018A0502-1 048C0202

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>52.63</u>	kph				

MAXIMUM STATIC CRUSH OF HONEYCOMB IMPACT FACE:

1. Row A at Center of Bumper Level	=	<u>137</u>	millimeters
2. Row B at Top of Bumper Level	=	<u>93</u>	millimeters
3. Row C at Mid Level	=	<u>108</u>	millimeters
4. Row D at Top of Stack Level	=	<u>144</u>	millimeters

INSTRUMENTATION:

Number of MDB Data Channels	=	<u>5</u>
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DATA SHEET 4**POST-TEST OBSERVATIONS**Vehicle: 2003 Suzuki Aerio 4-Door SedanNHTSA No. C30502**VISIBLE DUMMY CONTACT POINTS:****LEFT FRONT SID**

Head: The left side of the face to the left shoulder;
The back of the head to the headrest.

Upper Torso: Interior Door Trim

Lower Torso: Interior Door Trim

Left Knee: Interior Door Trim

Right Knee: Left Knee

LEFT REAR SID

The side and top of the head to the C-Pillar
trim.

Interior Door Trim

Interior Door Trim

Interior Door Trim

Left Knee

DOOR OPENING:**LEFT DOOR**

Front: Closed, latched and inoperable

Rear: Closed, latched and inoperable

RIGHT DOOR

Closed, latched and operable without tools

Closed, latched and operable without tools

MDB DISTANCE FROM TARGET IMPACT POINT:Vertical: 0 mmHorizontal: 2 mm**ARM REST LOCATIONS:**

Front: Moved inboard during the event

Rear: Moved inboard during the event

SEAT MOVEMENT:

Front: Moved inboard during the event

Rear: Moved inboard during the event

GLAZING DAMAGE:

Windshield: Cracked along left A-pillar at roofline

Window: Driver side glass shattered upon impact

PILLAR PERFORMANCE:No visible tears or separations**SILL SEPARATION:**No visible tears or separations**AIR BAG DEPLOYMENT STATUS:**

	DRIVER	FRONT PASSENGER	REAR PASSENGER
FRONT	No	No	N/A
SIDE	N/A	N/A	N/A

OTHER NOTABLE IMPACT EFFECTS:None

SECTION 4

OCCUPANT AND VEHICLE INFORMATION

DATA SHEET 5
SID INSTRUMENTATION DATA

Vehicle: 2003 Suzuki Aerio 4-Door Sedan

NHTSA No. C30502

	Front Dummy ID# 015				Rear Dummy ID# 016			
	Pos. Direction		Neg. Direction		Pos. Direction		Neg. Direction	
	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)
HEAD ACCELERATIONS								
Longitudinal X	4.2	159.1	-22.7	75.1	10.8	58.0	-18.4	78.9
Lateral Y	30.7	52.1	-7.1	64.3	92.4	47.1	-25.1	68.3
Vertical Z	51.4	61.0	-10.2	48.2	37.6	46.8	-36.4	61.4
Resultant R	51.5	61.0	0.0	-12.8	99.9	47.1	0.0	-6.5
HIC	222.8				412.3			
UPPER RIB ACCELERATIONS								
Upper Rib Lateral Y	37.7	38.7	-6.9	93.1	55.9	51.9	-8.5	103.1
Upper Rib Lateral Y(R)	38.2	38.7	-6.6	93.1	55.3	51.9	-9.1	103.1
Lower Rib Lateral Y	39.6	40.6	-6.1	167.5	48.9	44.4	-7.9	102.5
Lower Rib Lateral Y(R)	38.6	40.6	-6.6	168.1	49.1	44.4	-8.2	102.5
LOWER RIB ACCELERATIONS								
Lower Lateral Y	50.0	33.7	-7.8	86.9	51.8	43.1	-12.0	71.3
Lower Lateral Y(R)	49.5	33.7	-7.9	86.9	51.4	43.2	-11.8	71.3
NECK ACCELERATIONS								
Lateral Y	59.2	32.5	-10.9	57.5	65.8	38.1	-9.9	56.3
Lateral Y(R)	60.1	32.5	-10.8	57.5	64.5	38.1	-9.7	56.2

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

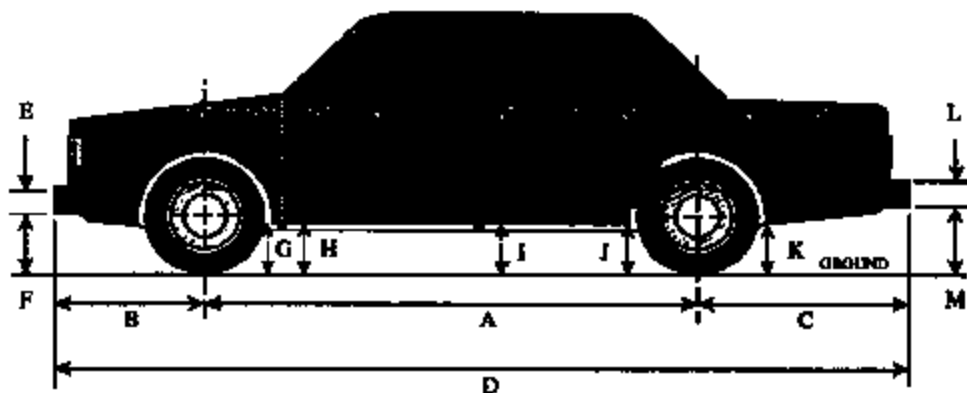
Note: Above data has been FIR filtered, Y(R) denotes redundant Y direction accelerometer.
Head Accelerations are filtered at SAE Class 1000.

DATA SHEET 6

VEHICLE SIDE MEASUREMENTS

Vehicle: 2003 Suzuki Aerio 4-Door Sedan

NHTSA No. C30502



LEFT SIDE VIEW

NOTE: all dimensions are in millimeters with tolerance of ± 3 mm

	PRE-TEST (as delivered)	PRE-TEST (as tested)	POST-TEST (as tested)	Δ CHANGE
A	2480	2484	2478	-6
B	865	861	867	6
C	995	995	995	0
D	4340	-	4340	0
E	310	-	310	0
F	218	216	232	16
G	168	145	151	6
H	175	152	163	11
I	185	150	219	69
J1	172	140	171	31
J2	182	150	239	89
K	237	191	193	2
L	320	-	320	0
M	301	258	260	2
N	724	-	631	-93
O	726	-	722	-4
P	1208	-	1098	-110
Q	495	-	477	-18
R	4215	-	4218	3
S	4215	-	4203	-12
T	1685	-	1640	-45

D = Length at Centerline

T = Width at B-Pillar

E&L = Bumper Thickness

J1 = To Finch Weld

R = Right Side Length

J2 = To Sill

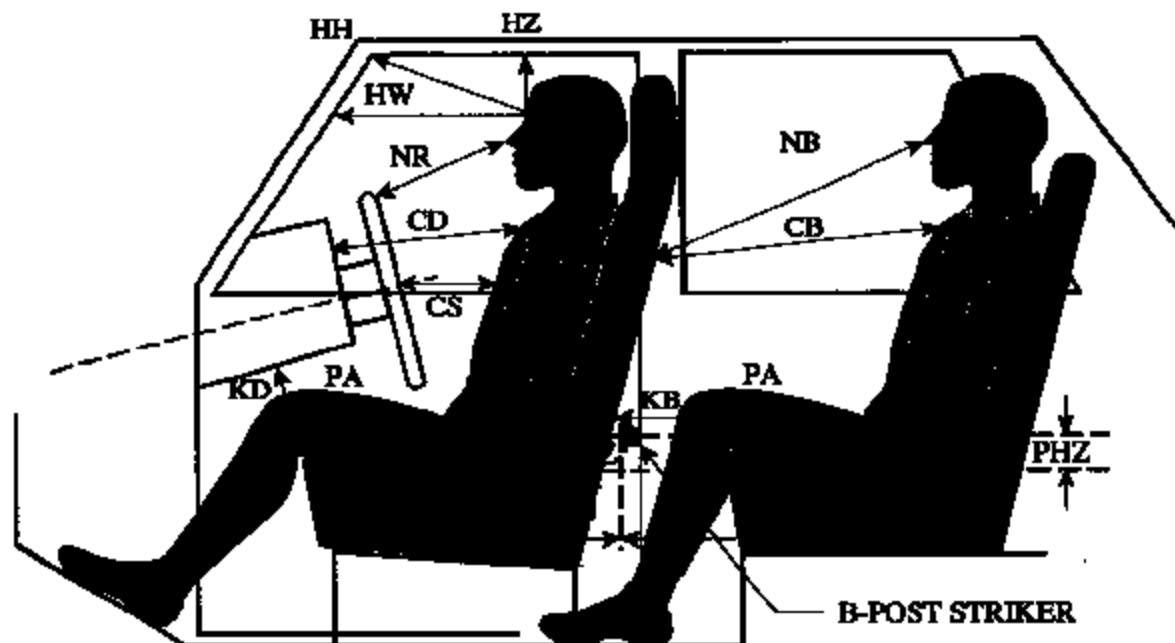
S = Left Side Length

DATA SHEET 7

SID LONGITUDINAL CLEARANCE DIMENSIONS

Vehicle: 2003 Suzuki Aerio 4-Door Sedan

NHTSA No. C30502



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 ± 3 mm

	DRIVER ID# 015	LEFT REAR PASS. ID# 016
HH	452	N/A
HW	723	N/A
HZ	222	167
NR/NB	480	547
CD/CB	658	473
CS	312	N/A
KDL(KDA°)/KBL(KDA°)	183 / (42 °)	189 / (24 °)
KDR(KBA°)/KBR(KBA°)	139 / (36 °)	191 / (23 °)
PA°	24.0 °	23.1 °
PHX	193	252
PHZ	80	180

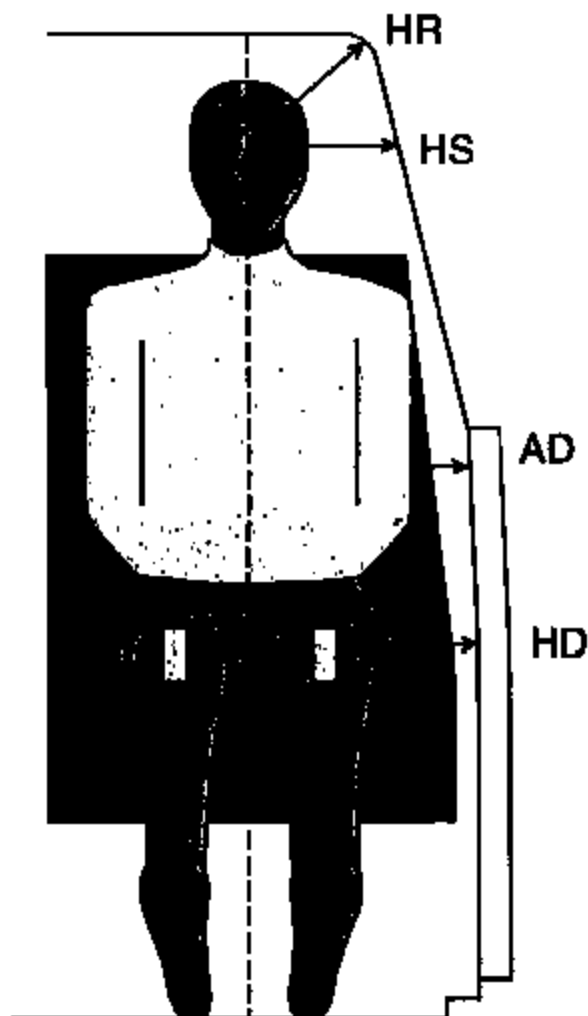
Note: 2-door vehicle shown. Rear dummy PHX & PHZ measurements for 4-door vehicle would use the C-post striker as a reference point.

DATA SHEET 8

SID LATERAL CLEARANCE DIMENSIONS

Vehicle: 2003 Suzuki Aerio 4-Door Sedan

NHTSA No. C30502



NOTE: All dimensions are in millimeters with tolerance of ± 3 mm

	DRIVER ID # 015		LEFT REAR PASS. ID # 016	
HR	215		170	
HS	329		247	
AD*	LOWER: 102	UPPER: 114	LOWER: 76	UPPER: 83
HD	122		106	

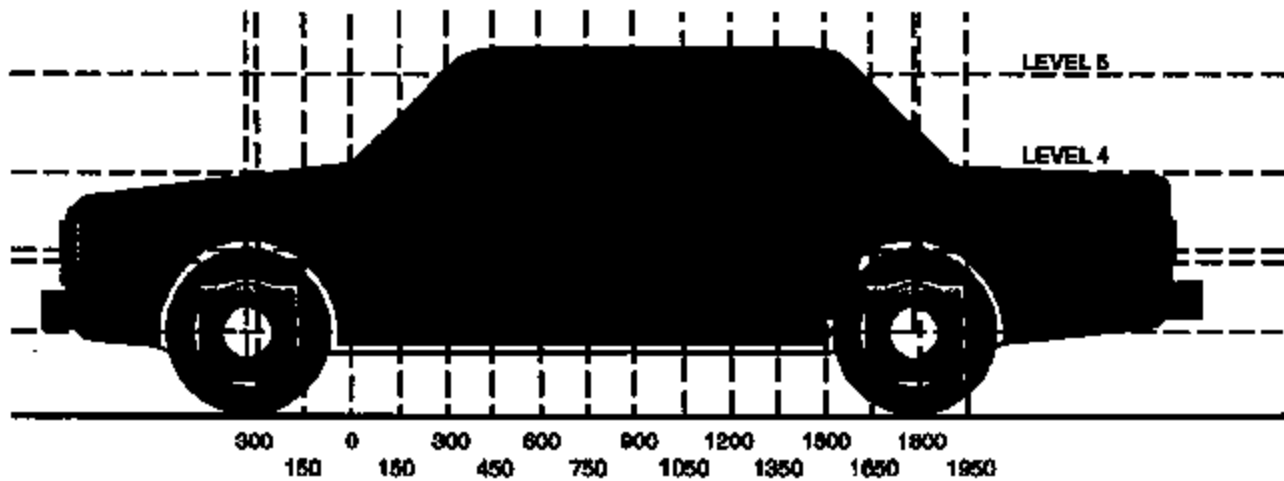
* Lower measurement is taken laterally at the center of the lower rib accelerometer height from the SID arm to the closest part of the vehicle side. Upper measurement is taken laterally at the center of the upper rib accelerometer height from the SID arm to the closest part of the vehicle side.

DATA SHEET 9

VEHICLE SIDE MEASUREMENTS

Vehicle: 2003 Suzuki Aerio 4-Door Sedan

NHTSA No. C30502



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:

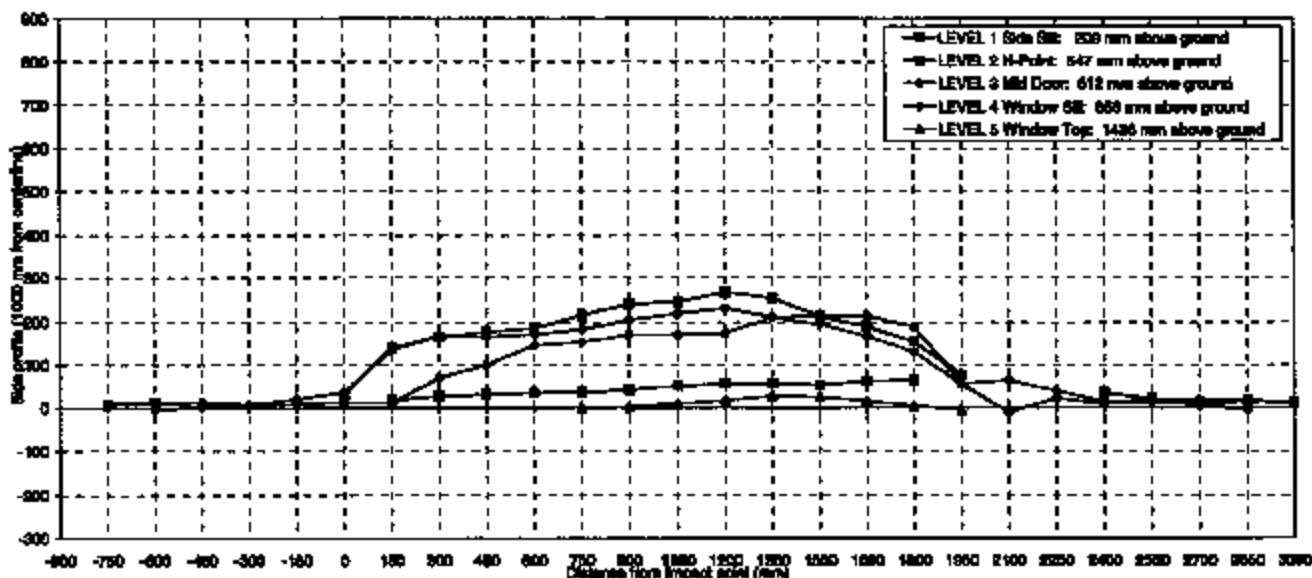
Level 5 @ Window Top	=	<u>1436</u>	millimeters
Level 4 @ Window Sill	=	<u>868</u>	millimeters
Level 3 @ Mid Door	=	<u>612</u>	millimeters
Level 2 @ Occupant H-Point	=	<u>547</u>	millimeters
Level 1 @ Sill Top Height	=	<u>209</u>	millimeters

DATA SHEET 19

VEHICLE EXTERIOR CRUSH PROFILES - ALL LEVELS

Vehicle: 2003 Suzuki Aerio 4-Door Sedan

NHTSA No. C30502



NOTE: All dimensions are in millimeters with a tolerance of ± 3 mm.

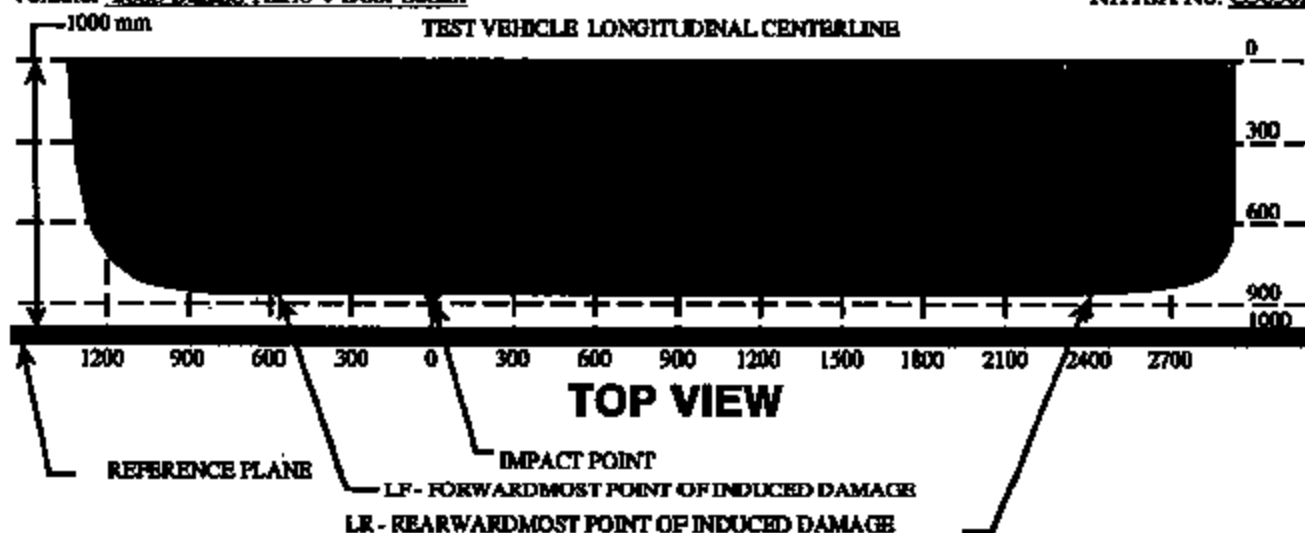
		DISTANCE IN MILLIMETERS (mm) FROM IMPACT POINT																																	
LEVEL	HEIGHT (mm)		-900	-750	-600	-450	-300	-150	150	300	450	600	750	900	1050	1200	1350	1500	1650	1800	1950	2100	2250	2400	2550	2700	2850	3000							
LEVEL 1 SIDE SILL	209	PRE	-	-	-	-	-	-	-262	-260	-258	-256	-254	-252	-250	-248	-247	-246	-245	-244	-243	-242	-241	-240	-239	-238	-237	-236	-235	-234	-233	-232	-231	-230	
		POST	-	-	-	-	-	-	-246	-245	-244	-243	-242	-241	-240	-239	-238	-237	-236	-235	-234	-233	-232	-231	-230	-229	-228	-227	-226	-225	-224	-223	-222	-221	-220
		CRUSH	N/A	N/A	N/A	N/A	N/A	N/A	17	27	31	34	36	41	51	59	57	53	61	64	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEVEL 2 H POINT	547	PRE	-	-293	-290	-	-	-	-202	-201	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200
		POST	-	-267	-277	-	-	-	-182	-187	-117	-112	-81	-56	-52	-40	-44	-50	-103	-140	-238	-	-	-214	-201	-206	-206	-206	-206	-206	-206	-206	-206	-206	-206
		CRUSH	N/A	6	13	N/A	N/A	N/A	140	164	177	185	213	240	243	266	233	213	190	154	76	N/A	N/A	34	20	31	13	13	13	13	13	13	13	13	13
LEVEL 3 MID DOOR	612	PRE	-	-228	-278	-300	-310	-315	-309	-300	-301	-300	-300	-300	-301	-299	-299	-299	-299	-299	-299	-299	-299	-299	-299	-299	-299	-299	-299	-299	-299	-299	-299	-299	-299
		POST	-	-230	-284	-298	-303	-306	-164	-132	-136	-126	-116	-83	-83	-68	-68	-63	-62	-100	-248	-248	-270	-274	-286	-290	-290	-290	-290	-290	-290	-290	-290	-290	
		CRUSH	N/A	9	9	13	7	20	135	168	166	172	183	205	216	230	211	213	214	189	83	63	38	34	17	16	17	16	17	16	17	16	17	16	17
LEVEL 4 WINDOW SILL	669	PRE	-	-	-38	-184	-230	-230	-282	-272	-266	-271	-272	-281	-282	-278	-280	-278	-274	-271	-267	-268	-263	-261	-259	-258	-258	-258	-258	-258	-258	-258	-258	-258	-258
		POST	-	-	-44	-160	-214	-231	-261	-204	-162	-186	-190	-121	-121	-126	-72	-61	-107	-141	-233	-288	-291	-293	-293	-293	-293	-293	-293	-293	-293	-293	-293	-293	-293
		CRUSH	N/A	N/A	-5	4	6	8	11	68	108	146	153	170	171	173	210	193	167	130	54	-10	22	9	13	7	5	7	5	7	5	7	5	7	
LEVEL 5 WINDOW TOP	1406	PRE	-	-	-	-	-	-	-	-	-	-	-	-184	-11	-28	-40	-42	-67	-82	-18	70	-	-	-	-	-	-	-	-	-	-	-	-	
		POST	-	-	-	-	-	-	-	-	-	-	-	-	-134	-9	-50	-25	-15	-12	-16	-9	68	-	-	-	-	-	-	-	-	-	-	-	
		CRUSH	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	2	9	17	27	25	16	4	-4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

DATA SHEET 11

VEHICLE DAMAGE PROFILE DISTANCES

Vehicle: 2003 Suzuki Aerio 4-Door Sedan

NHTSA No. C30502



MEASUREMENT CONVENTIONS:

Forward of the impact point (towards front of vehicle) is considered negative (-).

Rearward of the impact point (toward rear of vehicle) is considered positive (+).

NOTE: All dimensions are in millimeters with tolerance of ± 3 mm.

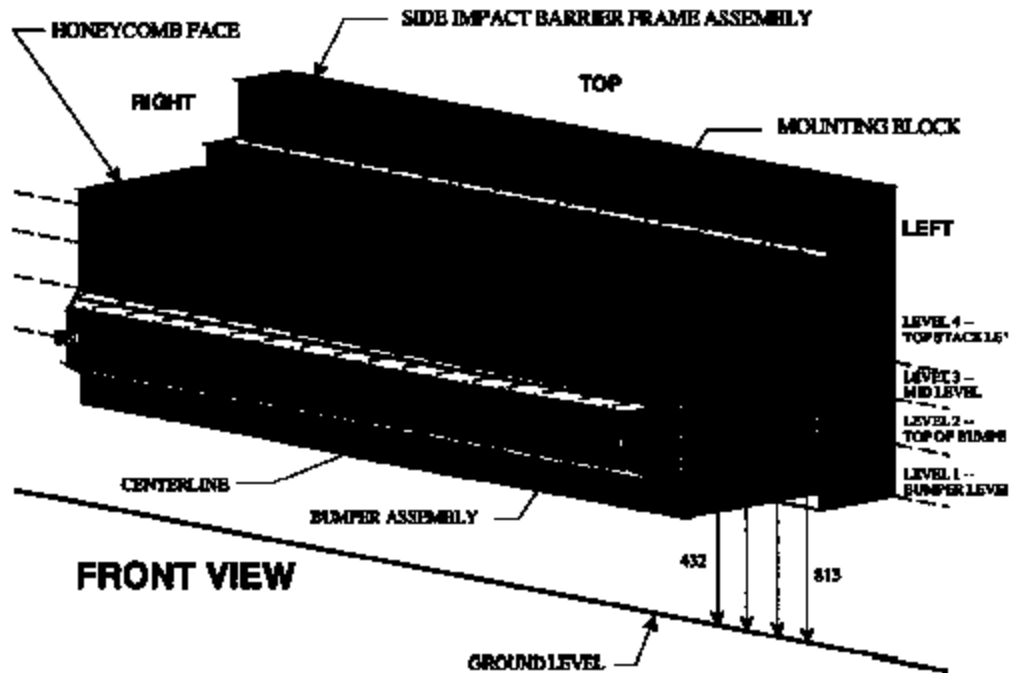
DPD MEASUREMENTS		POST TEST (mm)	PRETEST (mm)	STATIC CRUSH (mm)
1	(LR = 2400 mm)	232	241	-9
2	1860	164	299	-135
3	1320	41	297	-256
4	780	76	296	-220
5	240	145	300	-155
6	(LF = -300 mm)	214	220	-6

DATA SHEET 12

EXTERIOR STATIC CRUSH FOR IMPACTOR FACE

Vehicle: 2003 Suzuki Aerio 4-Door Sedan

NHTSA No. C30502



NOTE: Dimensions are shown in millimeters, mm

NOTE: All dimensions are in millimeters with a tolerance of ± 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	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
		POST	641	617	603	601	604	622	628	613	607	616	617	622	641	681	724	763
		CRUSH	22	-2	-14	-18	-15	3	9	-6	-12	-3	-2	3	22	62	105	144
LEVEL 3 MID LEVEL	586	PRE	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619
		POST	609	603	604	609	612	614	626	621	616	619	623	627	627	644	683	727
		CRUSH	-10	-16	-15	-10	-7	-5	7	2	-3	0	4	8	8	25	64	108
LEVEL 2 TOP BUMPER	533	PRE	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619
		POST	656	643	638	639	640	643	643	647	653	656	658	653	640	671	689	712
		CRUSH	37	24	19	20	21	24	24	28	34	37	39	36	41	52	70	98
LEVEL 1 MID BUMPER	432	PRE	535	519	518	518	518	518	518	518	518	518	518	518	518	518	519	535
		POST	610	588	575	573	576	581	581	584	590	593	597	599	604	621	630	672
		CRUSH	75	69	57	55	58	63	63	66	72	75	79	81	86	103	131	137

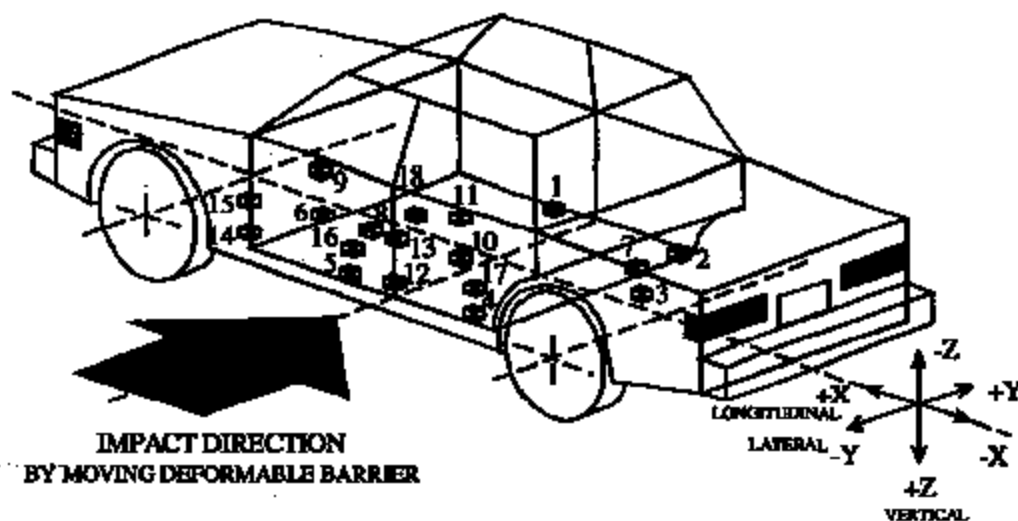
*Heights measured above ground level.

DATA SHEET 13

TEST VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 2003 Suzuki Aerio 4-Door Sedan

NHTSA No. C30502



- 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: 2003 Suzuki Aerio 4-Door Sedan

NHTSA No. C30502

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)
1	Right Side Sill at Front Seat	2844	230	-316	pos.	2.6	54.3	23.8	6.0	45.7	24.0	6.0
2	Right Side Sill at Rear Seat	1904	196	-267	neg.	-7.0	9.7	-2.6	122.8	7.4	0.0	-9.0
3	Rear Floorpan Above Axle	1162	-483	-444	pos.	3.7	53.7	22.9	6.1	72.1	23.3	6.2
4	Left Side Sill at Rear Seat	1891	-1082	-199	neg.	-7.3	9.6	-2.5	122.3	17.0	0.0	-16.8
5	Left Side Sill at Front Seat	2840	-1086	-221	pos.	2.5	54.6	22.4	35.6	15.2	22.8	35.6
6	Left Front Door on Centerline	-	-	-	neg.	-7.0	24.7	-2.3	96.3	10.3	0.0	-18.8
7	Right Rear Occupant Compartment	1840	-90	-242	pos.	-	-	62.3	5.7	-	-	-
8	Midrear of Left Front Door	-	-	-	neg.	-	-	-39.8	14.8	-	-	-
9	Left Front Door Upper Centerline	-	-	-	pos.	-	-	58.0	3.9	-	-	-
10	Midrear of Left Rear Door	-	-	-	neg.	-	-	-2.7	123.8	-	-	-
11	Left Rear Door Upper Centerline	-	-	-	pos.	-	-	-	-	-	-	-

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

Accelerometer was not requested by COTR. * Not accurate - Wire cut at 44 ms.

DATA SHEET 13 (continued)

VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 2003 Suzuki Aerie 4-Door Sedan

NETSA No. C30502

Accel. No.	Location	Coordinates (mm)±3			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)
12	Left Lower B-Pillar	2040	-1082	-253	-	-	198.9	5.6	-	-	-	-
					-	-	-161.1	20.5	-	-	-	-
13	Left Middle B-Pillar	1946	-1110	-907	-	-	216.0	6.8	-	-	-	-
					-	-	-183.1	13.6	-	-	-	-
14	Left Lower A-Pillar	3131	-1046	-363	-	-	120.9	44.1	-	-	-	-
					-	-	-161.9	47.7	-	-	-	-
15	Left Middle A-Pillar	3072	-1101	-1019	-	-	21.3	14.2	-	-	-	-
					-	-	-3.8	68.1	-	-	-	-
16	Front Seat Track	2139	-990	-218	-	-	50.5	13.6	-	-	-	-
					-	-	-7.9	9.7	-	-	-	-
17	Rear Seat Track	1098	-921	-478	-	-	25.7	29.1	-	-	-	-
					-	-	-2.1	69.3	-	-	-	-
18	Vehicle CG	2767	-425	-426	2.6	58.4	**	**	17.2	31.8	**	**
					-11.8	12.2	**	**	-21.4	25.3	**	**

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

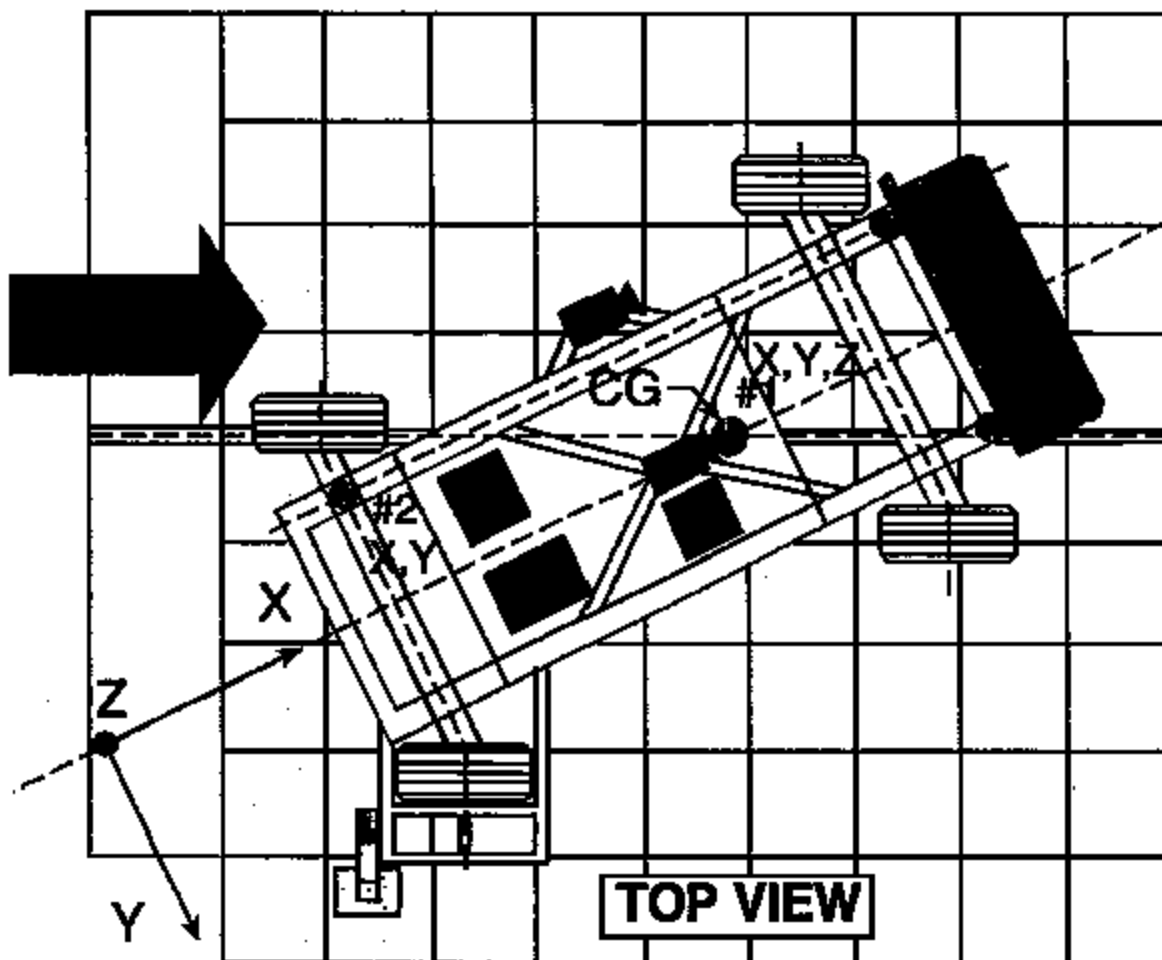
** Data is questionable

DATA SHEET 14

MDB ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 2003 Suzuki Aerio 4-Door Sedan

NHTSA No. C30502



Accel. No.	Location	Coordinates (millimeters)			Pos. Direct.		Neg. Direct.	
					Max (g)	Time (msec)	Max (g)	Time (msec)
		X*	Y*	Z*				
1	MDB Center of Gravity							
	Longitudinal... X	1859	0	-330	1.4	90.7	-19.1	41.3
	Lateral..... Y				2.8	55.8	-8.7	28.8
	Vertical..... Z				13.2	37.2	-15.2	19.9
	Resultant..... R				23.2	43.6	0.1	180.3
2	Rear Frame Member							
	Longitudinal... X	386	-660	-660	1.7	88.3	-19.4	32.6
	Lateral..... Y				4.5	26.6	-2.3	59.3

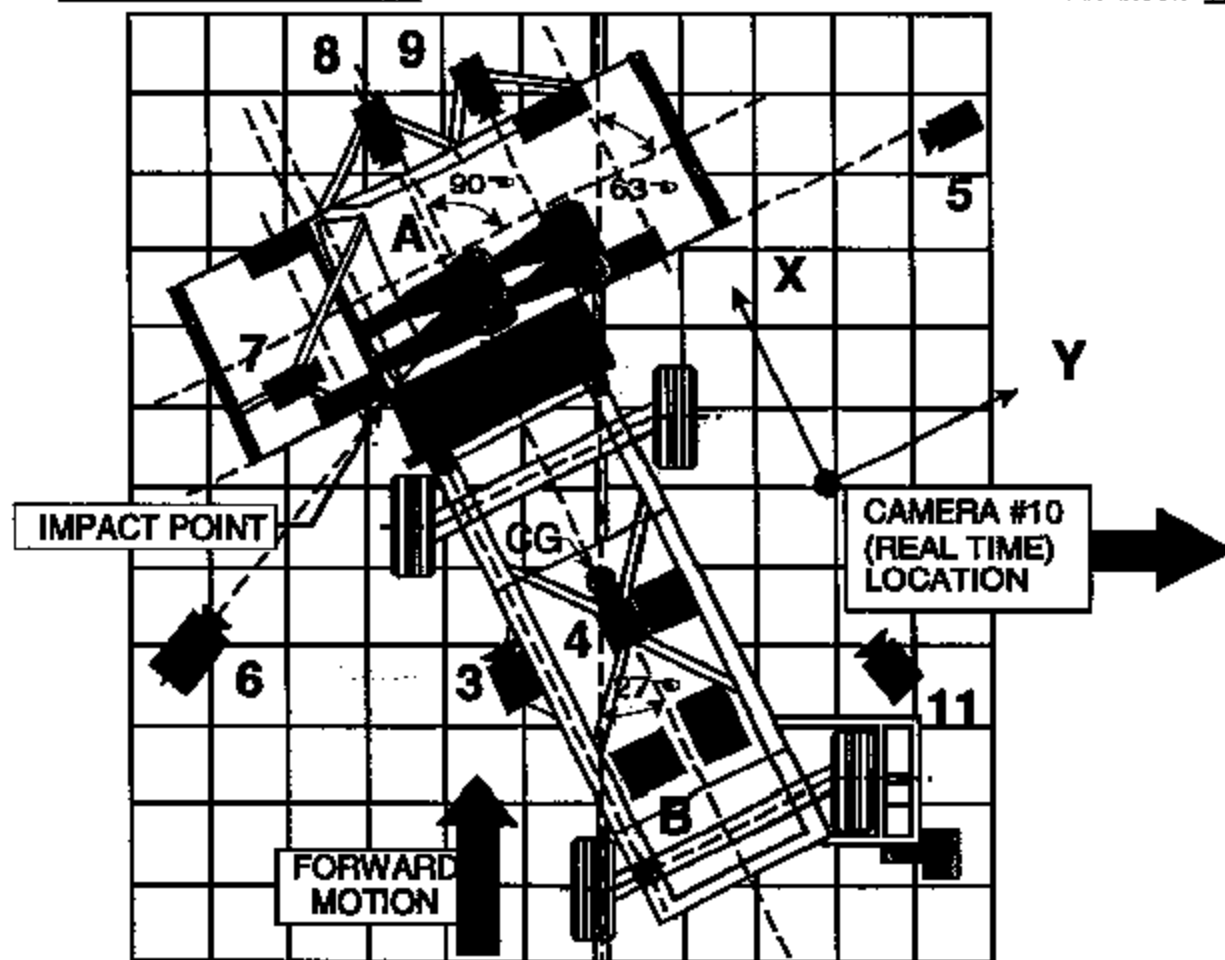
*Reference:
 X = Rear Bumper (+ Forward)
 Y = Vehicle Centerline (+ To Right)
 Z = Ground Level (+ Down)
 All measurements accurate to within ± 3 mm.

DATA SHEET 15

HIGH SPEED CAMERA LOCATIONS AND DATA SUMMARY

Vehicle: 2003 Suzuki Aerio 4-Door Sedan

NHTSA No. C30502



Camera No.	View	Coordinates (millimeters)			Angle (deg.)	Lens (mm)	Film Speed (fps)
		X*	Y*	Z*			
1	Overhead view of test vehicle	150	842	-4880	-90	8	1005
2	Overhead closeup view of impact plane	282	900	-4880	-90	12.5	1010
3	MDB onboard closeup view of impact point	-1470	0	-847	0	13	1010
4	MDB onboard view of driver dummy	-1140	838	-1586	-17	7.5	1015
5	Right side ground level overall view	70	8036	1079	-4	25	1000
6	Left side ground level overall view	-1828	-1637	1085	-8	13	1010
7	Test vehicle onboard driver front view	520	-422	1253	-6	13	1015
8	Test vehicle onboard driver side view	700	102	1069	-4	8	1005
9	Test vehicle onboard passenger side view	666	815	1067	-7	8	1020
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 16

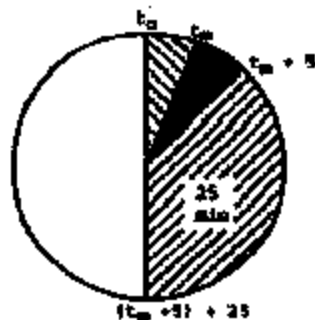
FMVSS 301 FUEL SYSTEM INTEGRITY DATA

NHTSA No.: C30502 TEST DATE: December 19, 2002
 Vehicle Mfr./Make/Model: Suzuki Motor Corporation 2003 Suzuki Aerio 4-Door Sedan

TEST VEHICLE IMPACT TYPE:

- Frontal (48.28 kph)
- Oblique (48.28 kph) with - barrier face first
 contacting the - side
 (driver/passenger)
- Rear Moving Barrier (48.28 kph)
- Lateral Moving Barrier (32.19 kph)
- X Side Impact Moving Deformable Barrier (52.63 kph)
 contacting the driver side side
 (driver/passenger)

FUEL SPILLAGE MEASUREMENT:



1. From impact until vehicle motion ceases
2. For five minute period after vehicle motion ceases
3. For next 25 minutes

ACTUAL	MAX ALLOWED
0 g	28 g
0 g	142 g
0 g	28 g/1 min.

SOLVENT SPILLAGE DETAILS:

None

DATA SHEET 17
ROLLOVER DATA

Vehicle: 2003 Suzuki Aerio 4-Door Sedan

NHTSA No.: C30502



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	
0° - 90°	1	minutes	12	seconds	5	minutes	6	minutes	12	seconds	7	minutes
90° - 180°	1	minutes	04	seconds	5	minutes	6	minutes	4	seconds	7	minutes
180°-270°	1	minutes	01	seconds	5	minutes	6	minutes	1	seconds	7	minutes
270°-360°	1	minutes	09	seconds	5	minutes	6	minutes	9	seconds	7	minutes

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

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

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

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

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

IV. SOLVENT SPILLAGE LOCATION(S):

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

APPENDIX A

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Figure A- 37	ROLLOVER 270 DEGREES	A- 39
Figure A- 38	ROLLOVER 360 DEGREES	A- 40

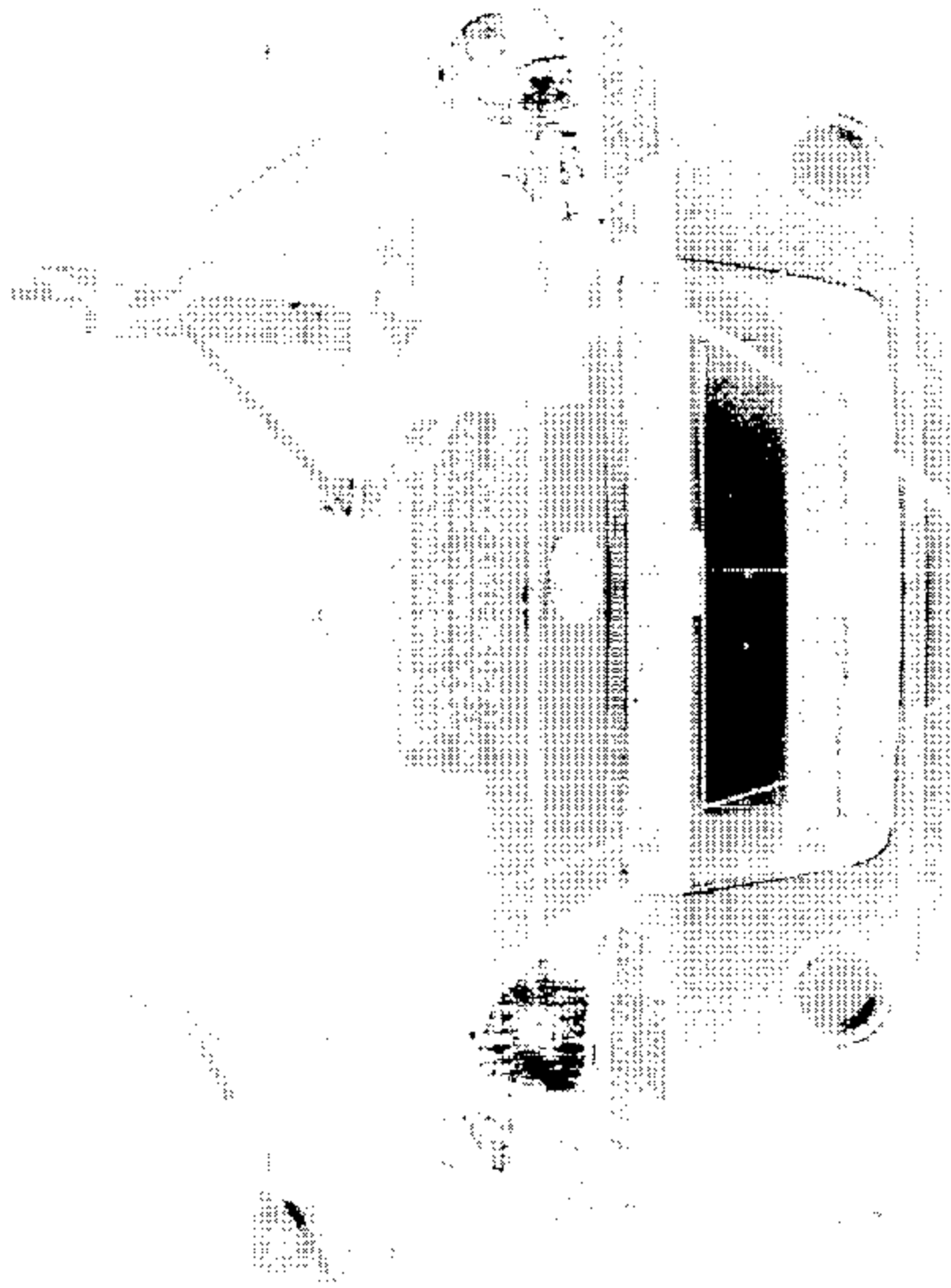


Figure A-1 PRE-TEST FRONTAL VIEW OF TEST VEHICLE.



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

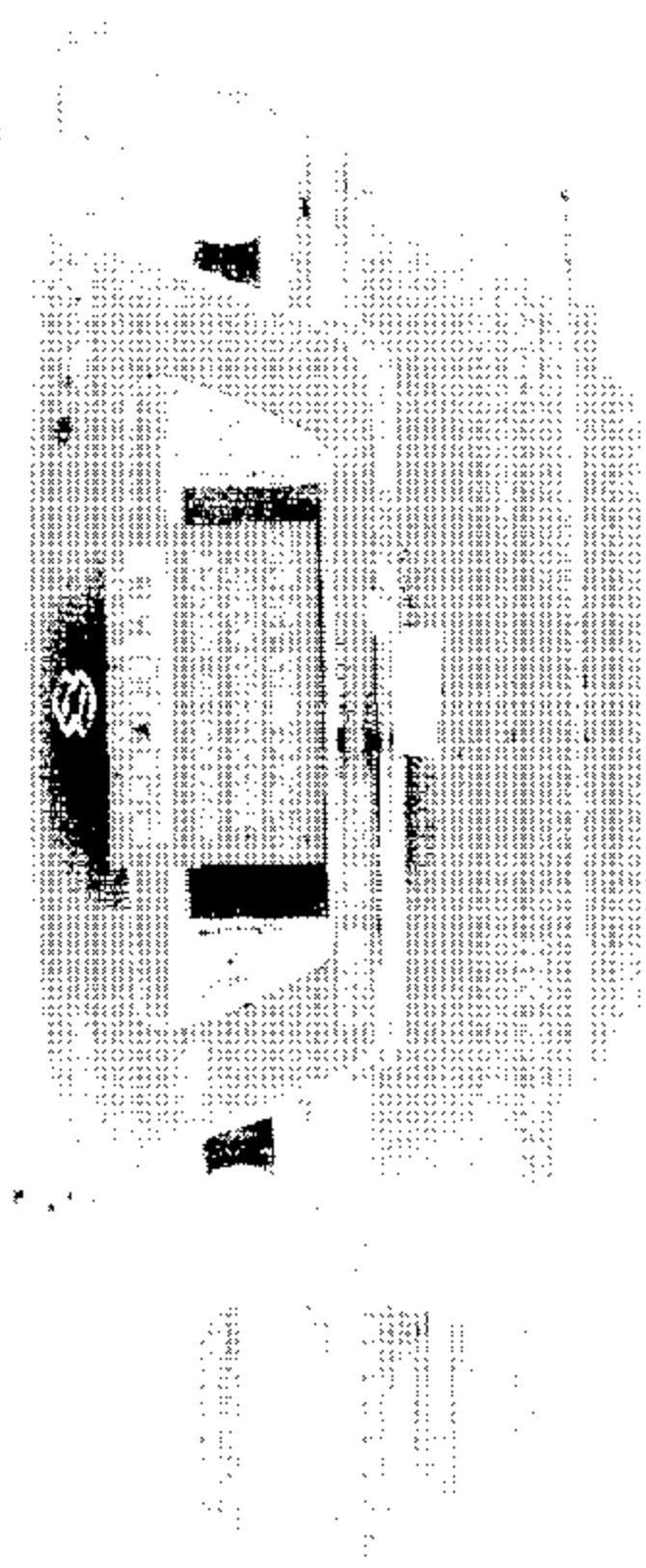


Figure A-31PFC-TEST REAR VIEW OF TEST VEHICLE

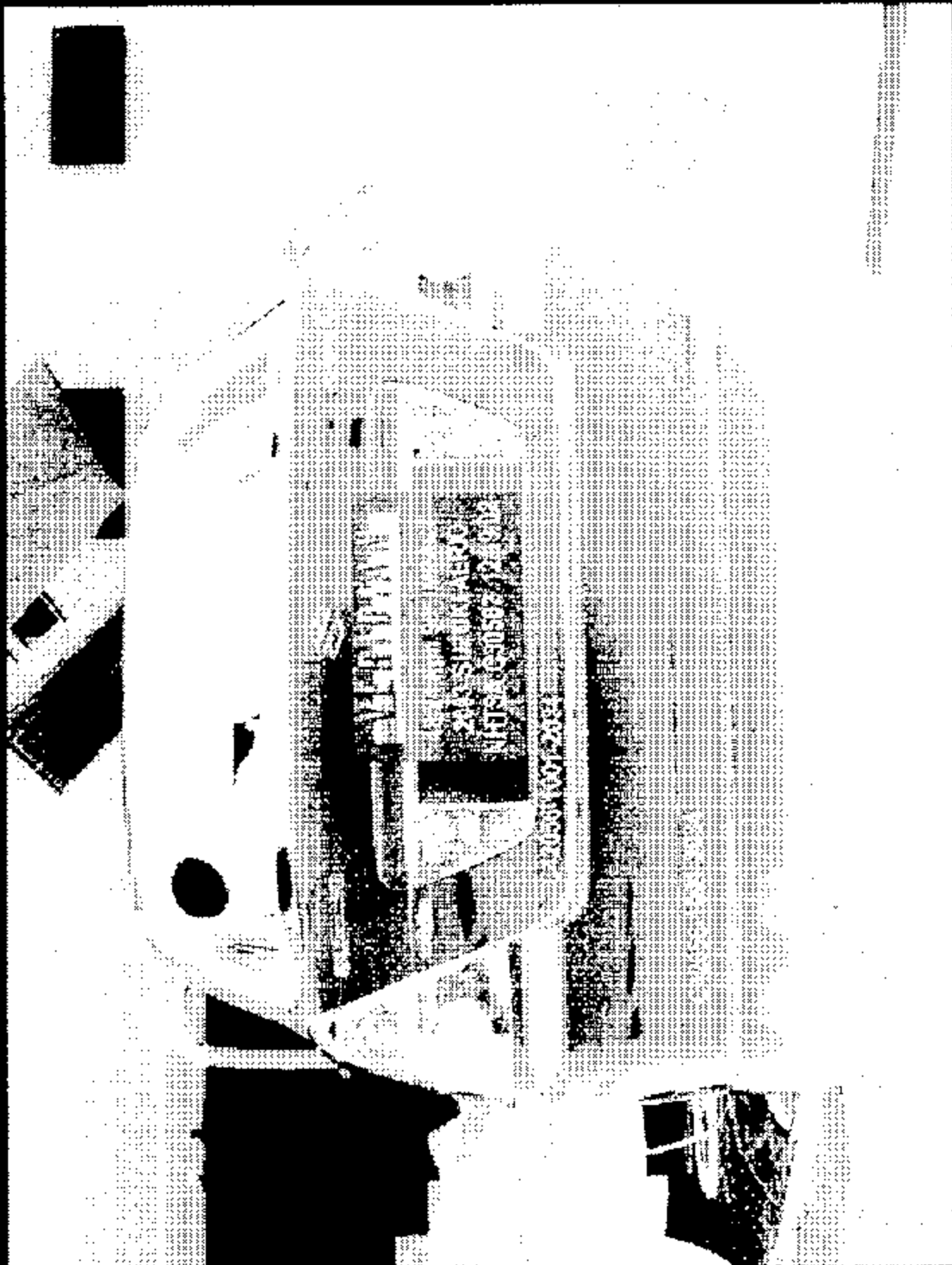


Figure A-4 POST-TEST REAR VIEW OF TEST VEHICLE

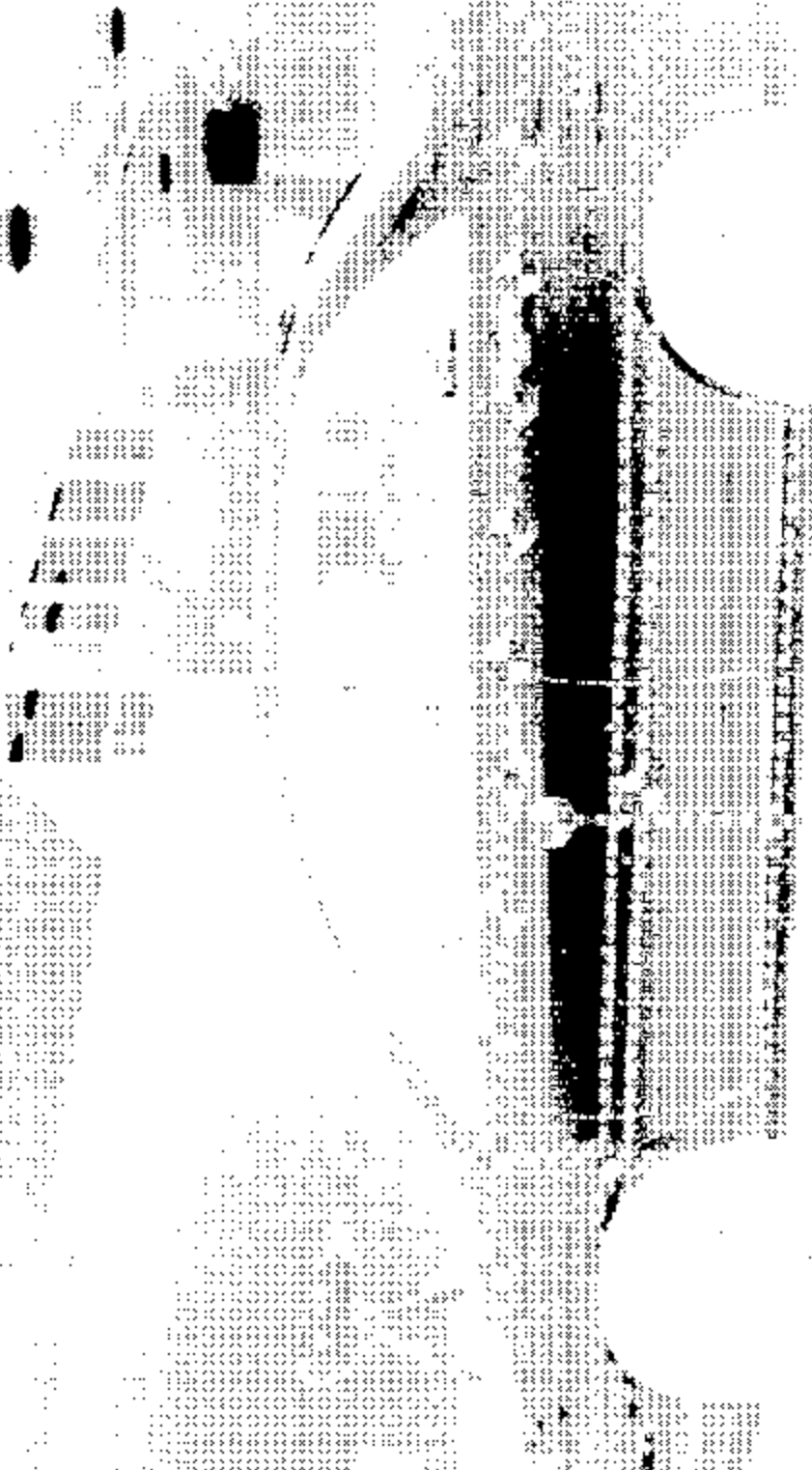


Figure A-5 PRE-TEST IMPACTED SIDE VIEW OF TEST VEHICLE

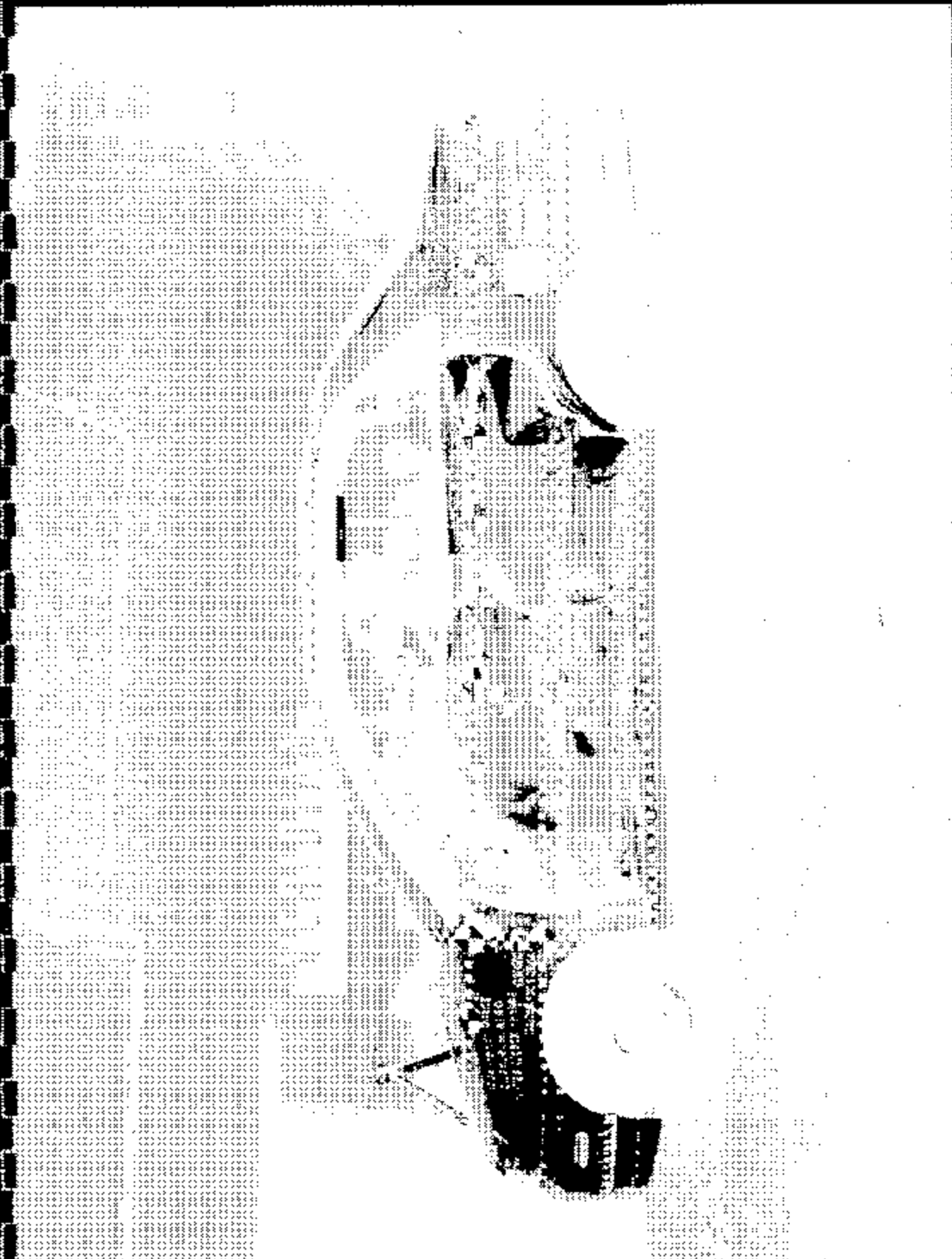


Figure A-6 POST-TEST IMPACTED SIDE VIEW OF TEST VEHICLE

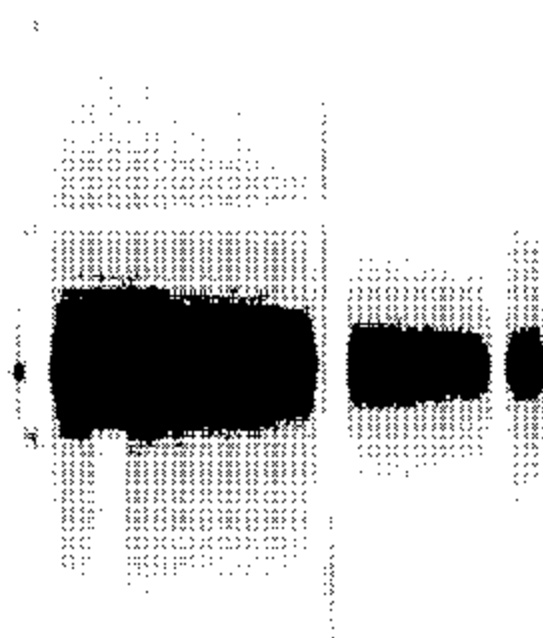


Figure A-7 PRE-TEST FRONTAL VIEW OF IMPACTOR FACE



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

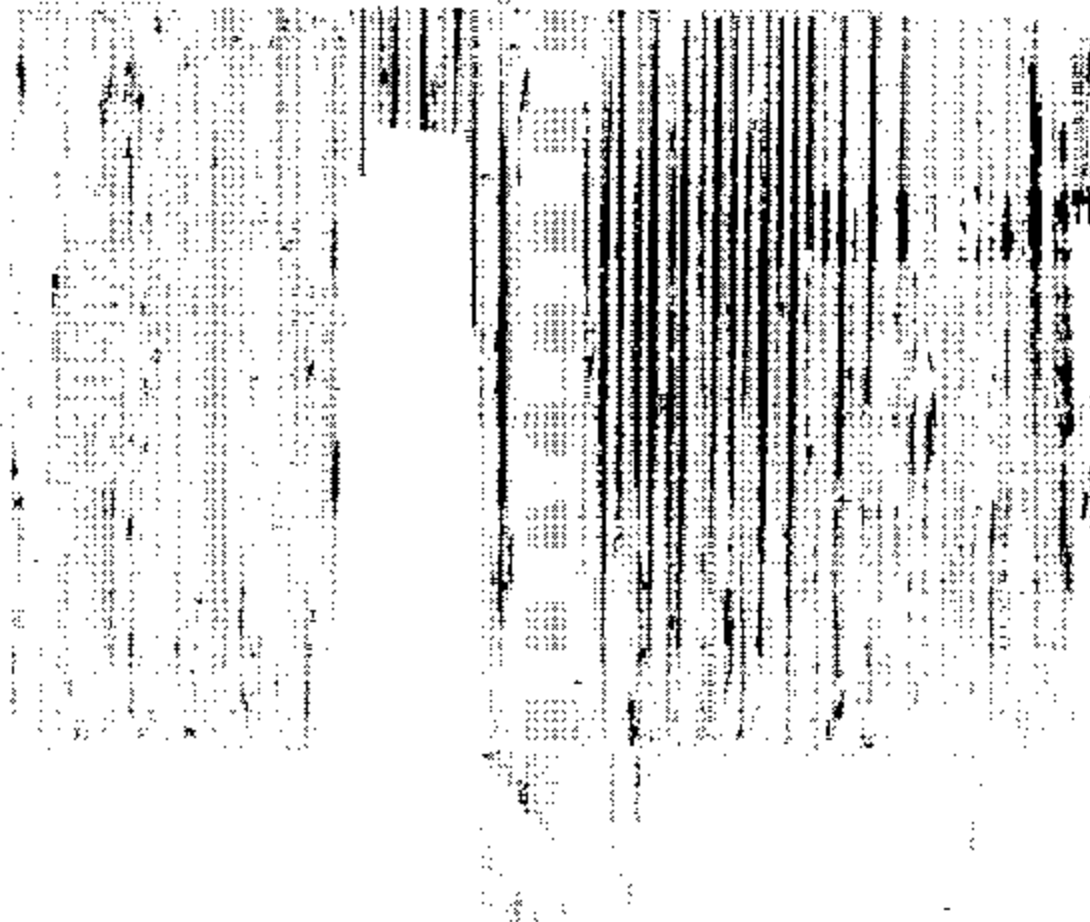


Figure A-9 PRE-TEST LEFT SIDE VIEW OF IMPACTOR FACE



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

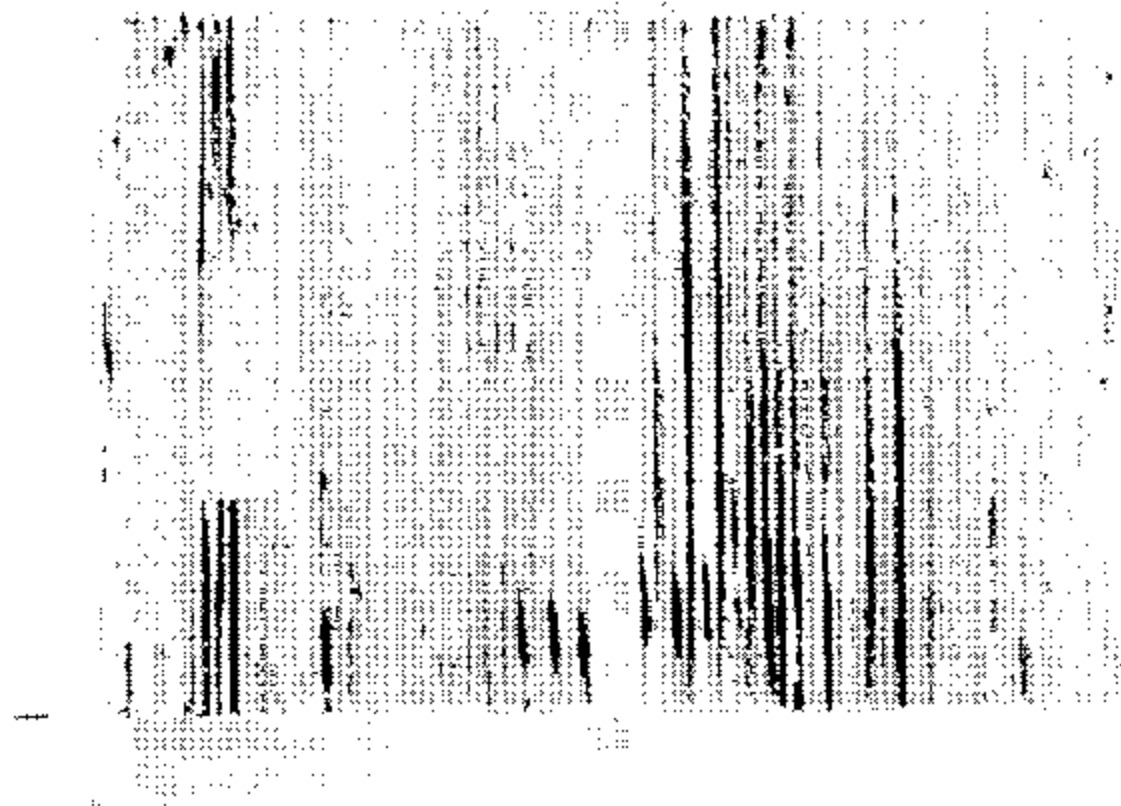


Figure A-1 PRE-TEST RIGHT SIDE VIEW OF IMPACTOR FACE



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

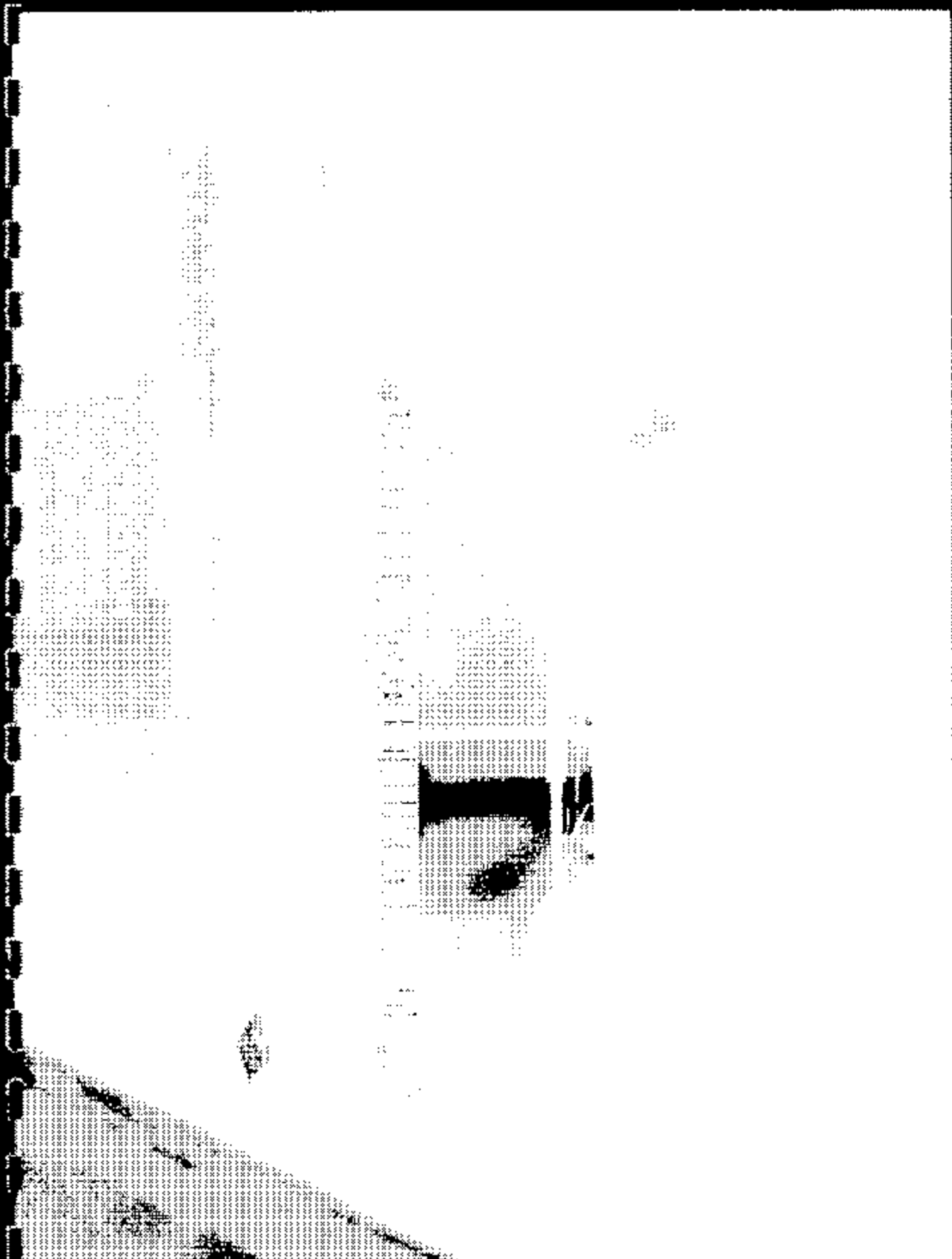


Figure A-13 PRE-TEST TOP VIEW OF IMPACTOR FACE



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

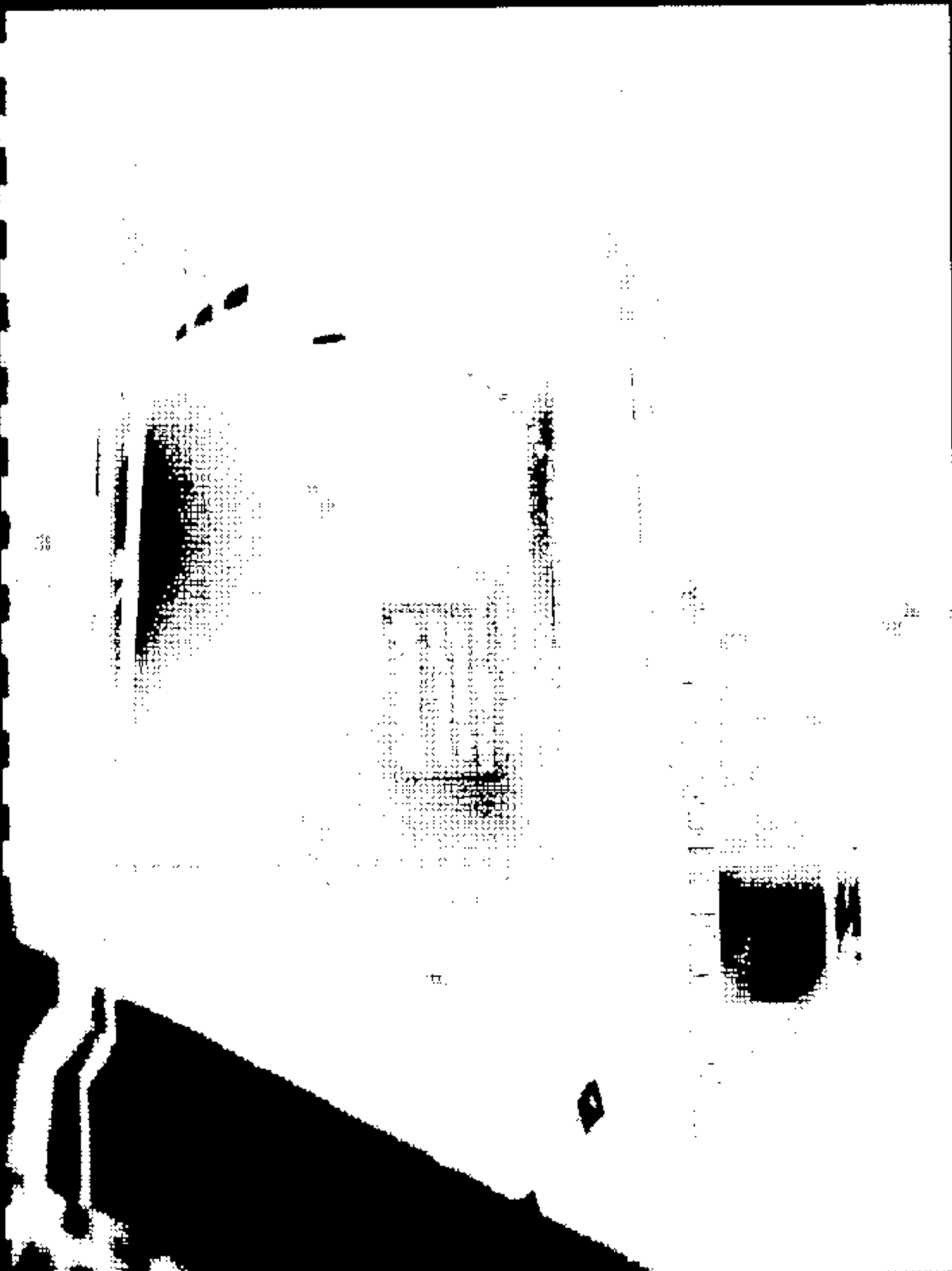


Figure A-15 PRE TEST OVERVIEW VIEW OF ALKNEF DUB AND VTR II



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



Figure A-10 PRE-TEST RUGBY OCCUPANT COMPARTMENT VIEW OF REAR SID



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

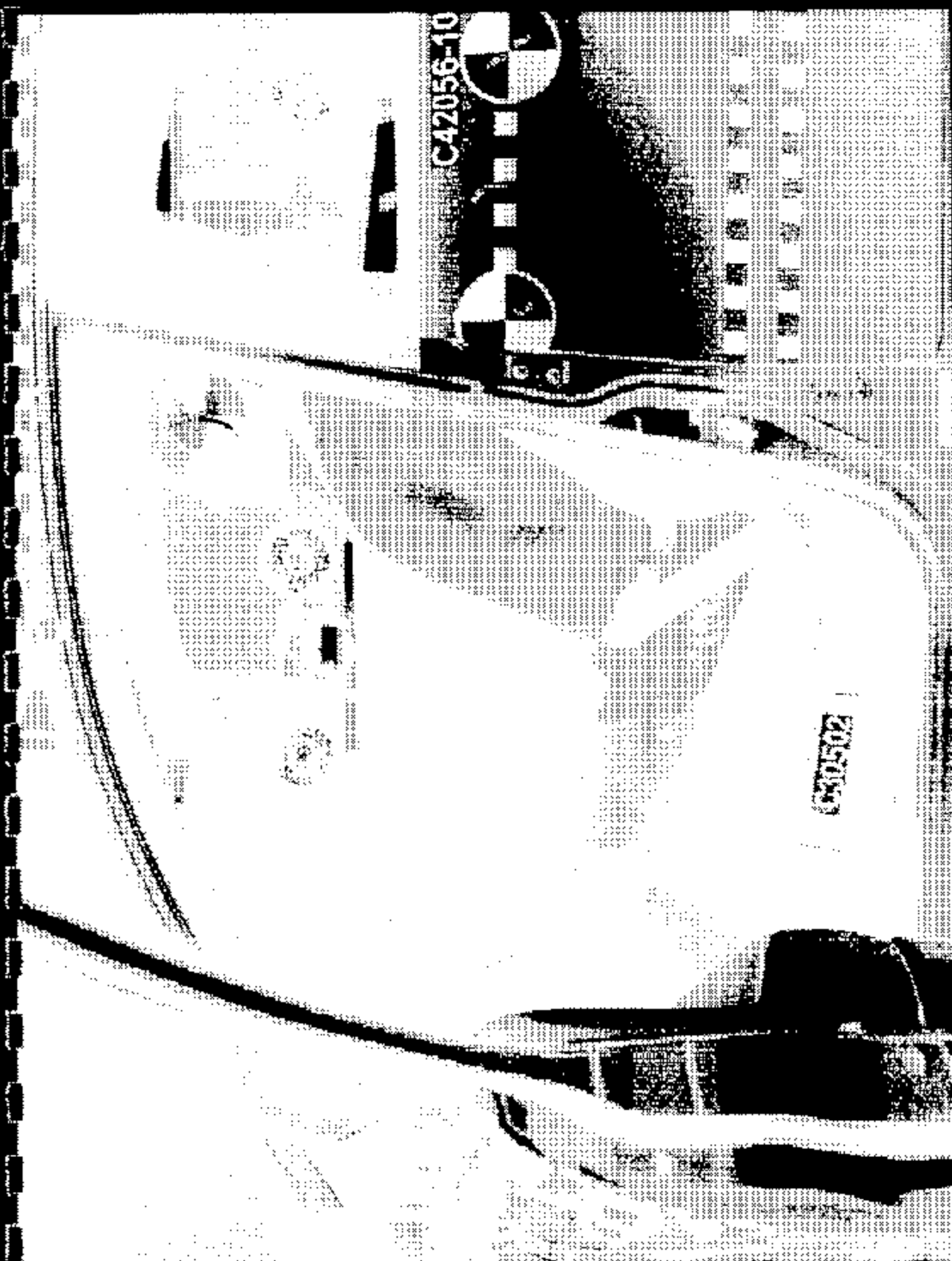


Figure A-21 PRE-TEST LEFT OXIDANT COMPARTMENT VIEW OF FRONT SID

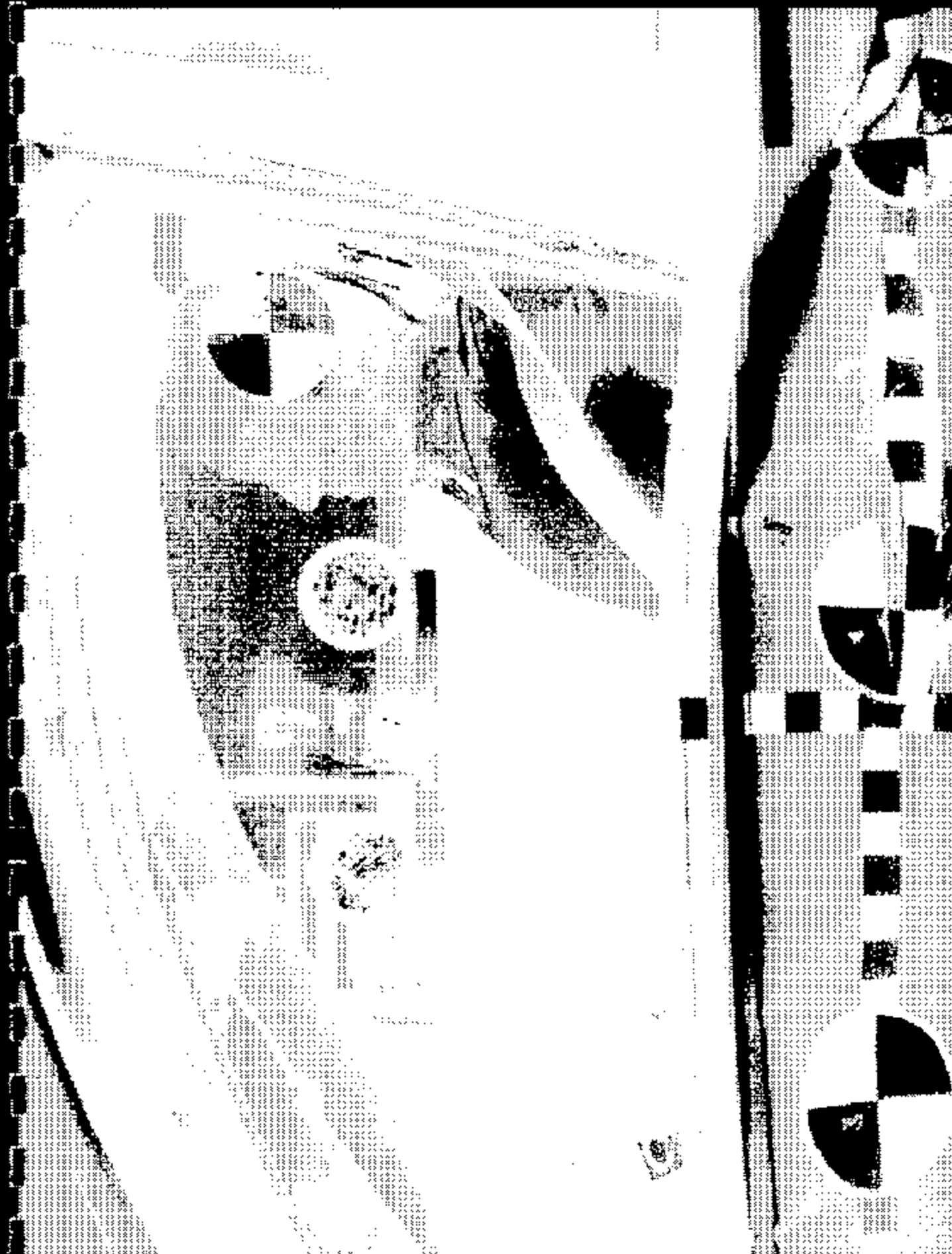


Figure A-22 POST-TEST LEFT OCCUPANT COMPARTMENT VIEW OF FRONT SID



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



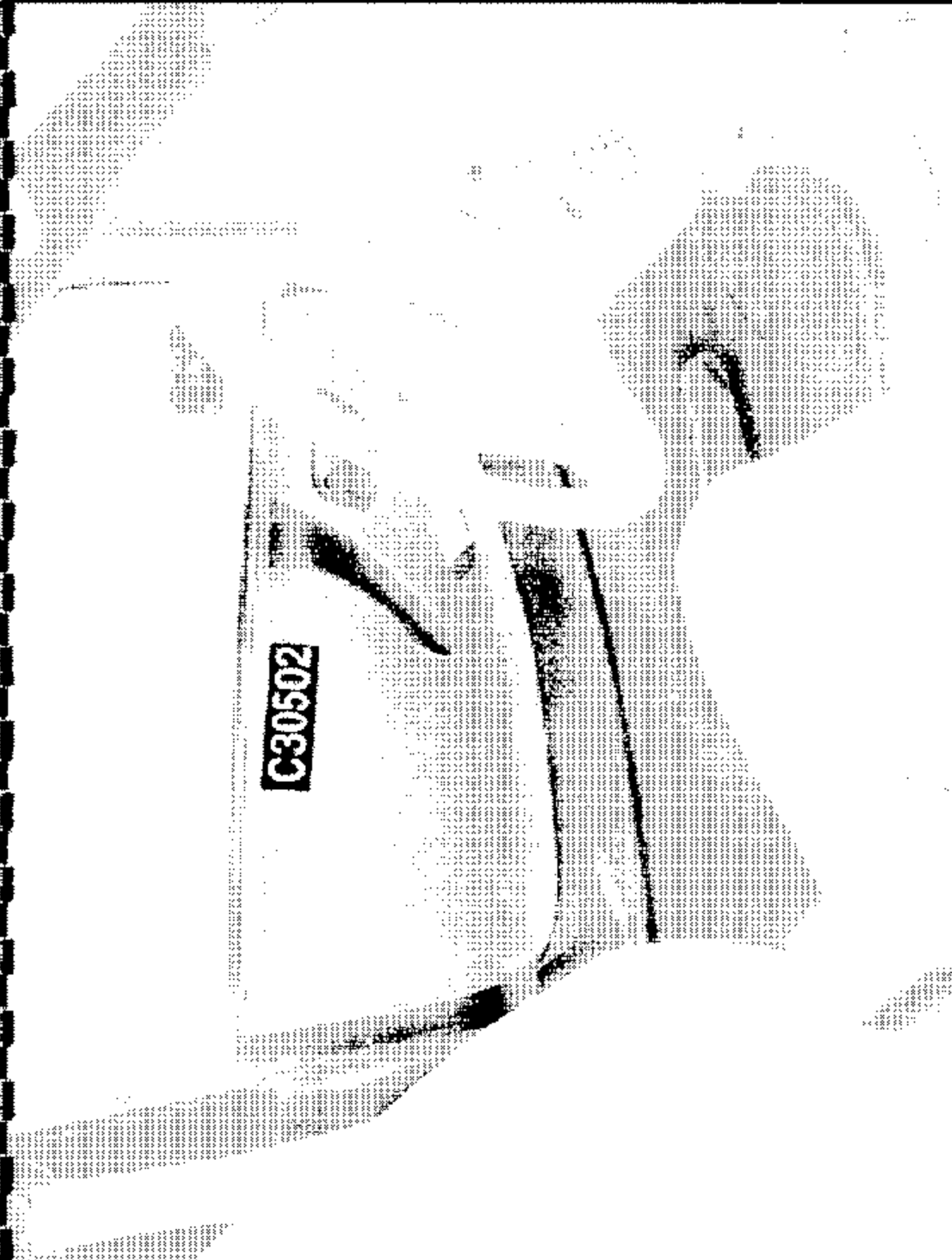
C30502

C42056-1001-2034

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



Figure A-25 PRE-TEST INTERIOR OF FRONT DOOR



A black and white photograph showing the interior of a front door. The door is white and has several dark, curved impact marks on its surface. A black rectangular label with the white text "C30502" is affixed to the door. The background is a light-colored, textured surface.

C30502

Figure A-26 POST-TEST INTERIOR OF FRONT DOOR SHOWING SID IMPACT LOCATIONS

Figure A-27 PRE-TEST INTERIOR OF REAR DOOR



Figure A-26 POST-TEST INTERIOR OF REAR DOOR SHOWING SID IMPACT LOCATIONS



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

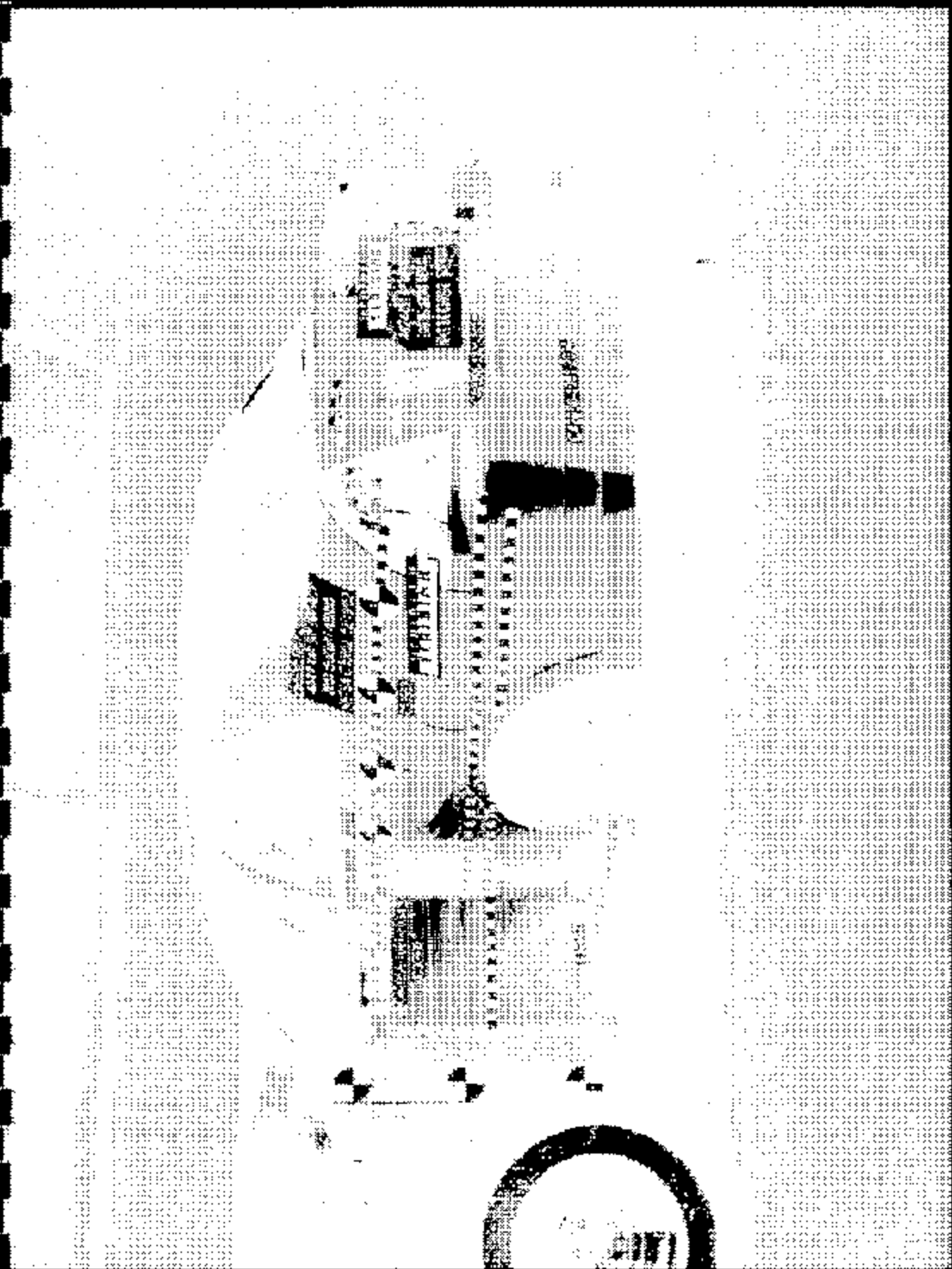


Figure A-8) PRE-TEST RIGHT SIDE VIEW OF MDR WITH IMPACTOR FACE IN POSITION



Figure A-11 POST-TEST CLOSE-UP VIEW OF IMPACT POINT TARGET

SAI W SUZUKI MOTOR CORPORATION JAPAN

DATE GRAMP GAWR FEB 1984 PP
CO 713 3216D 3216B 3216C

14400 3216D 3216C

THIS VEHICLE COMPLIES TO ALL
APPLICABLE US FEDERAL MOTOR
VEHICLE SAFETY STANDARDS AND
THESE STANDARDS ARE IN
EFFECT FROM THE DATE OF MANUFACTURE
DATE SHOWN ABOVE

1984-10-25 3216C PRESS CAP

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

RECOMMENDED				
	FRONT	REAR	FRONT	REAR
TIRE SIZE	P185/65R14	P195/55R15	P175/70D15	
COLD TIRE PRESSURE AT	210 kPa	210 kPa	420 kPa	420 kPa
VEHICLE CAPACITY WEIGHT	130 psi	130 psi	160 psi	160 psi
VEHICLE CAPACITY				
VEHICLE CAPACITY WEIGHT	405 kg (893 lbs.) (OCCUPANTS PLUS GEAR)			
SEATING CAPACITY	TOTAL 5	FRONT 2	REAR 3	
SEE OWNER'S MANUAL FOR ADDITIONAL INFORMATION.				

2011-5014

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

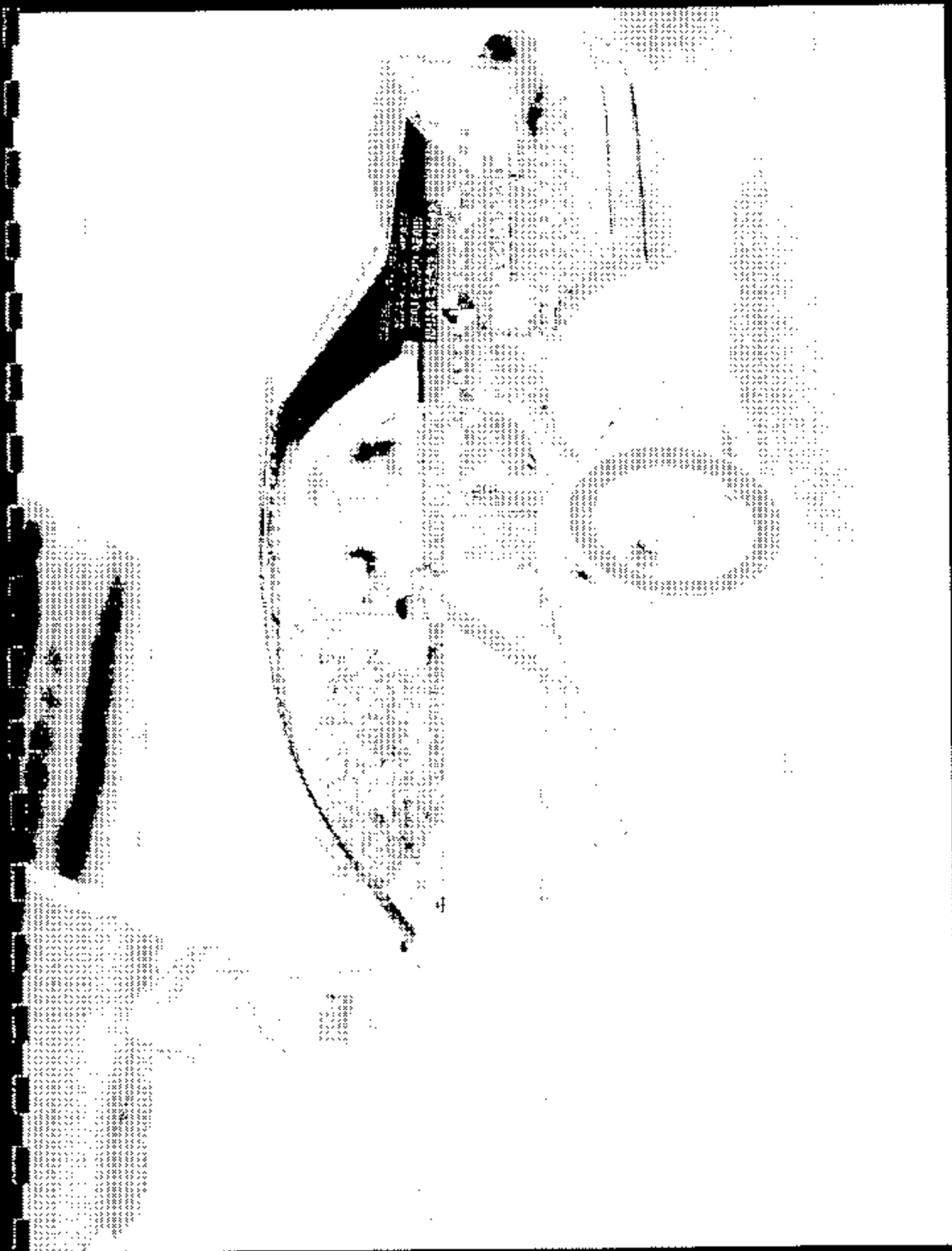


Figure A.14 IMPACT PHOTO

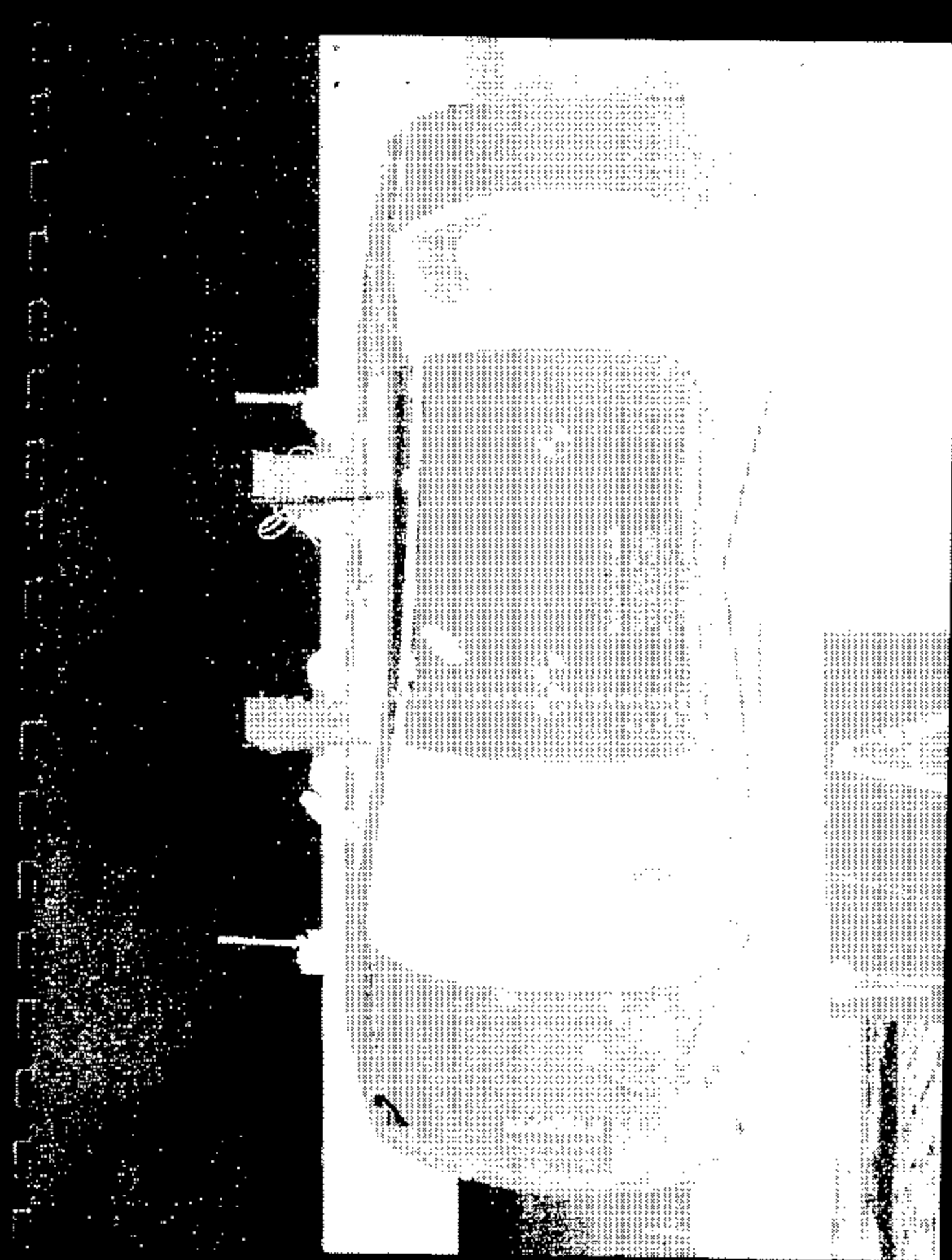


Figure A-35 RCN L O V I E R 90 D E G R E E S



Figure A-36 ROM LOWER 180 DEGREES

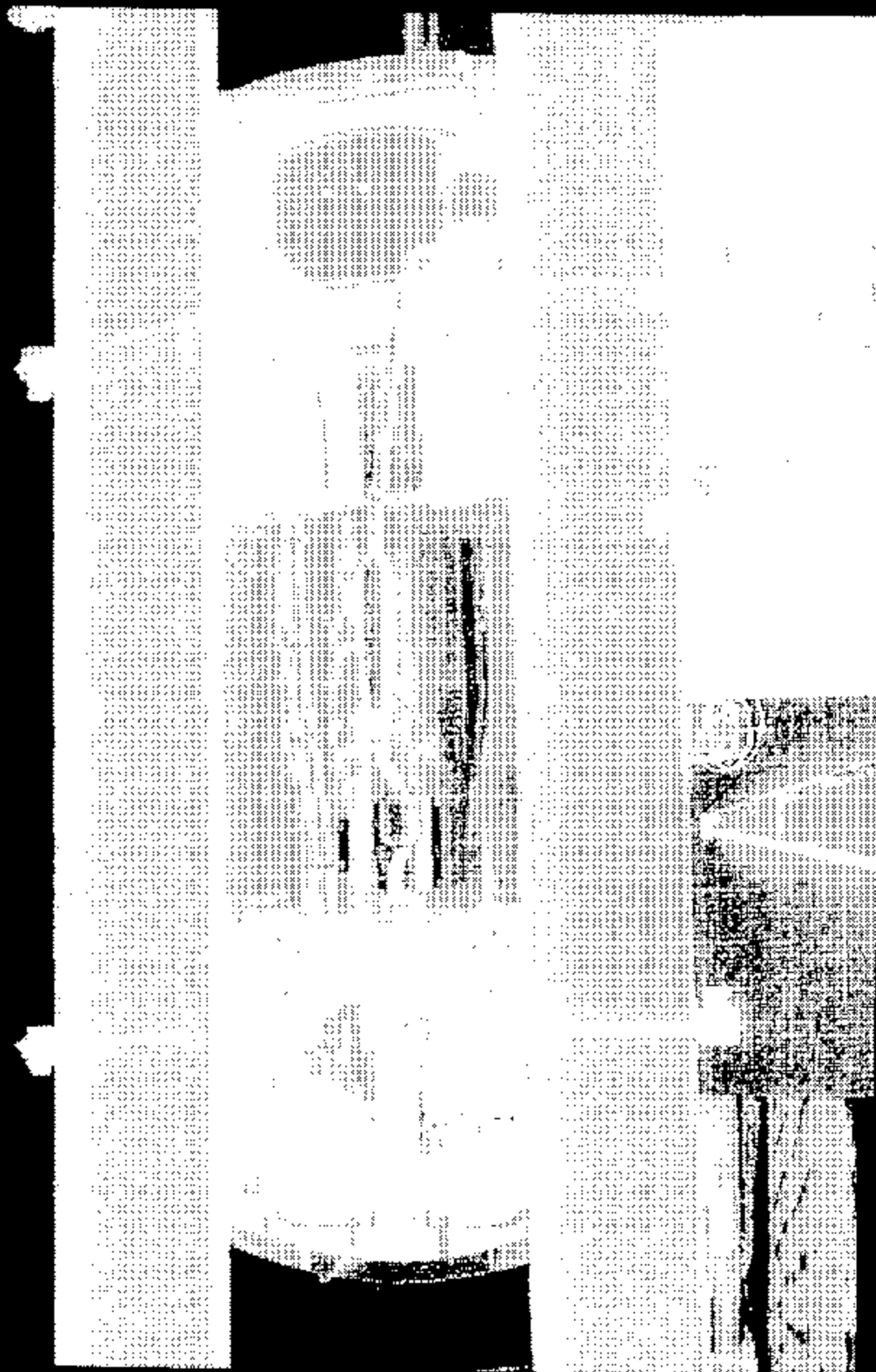
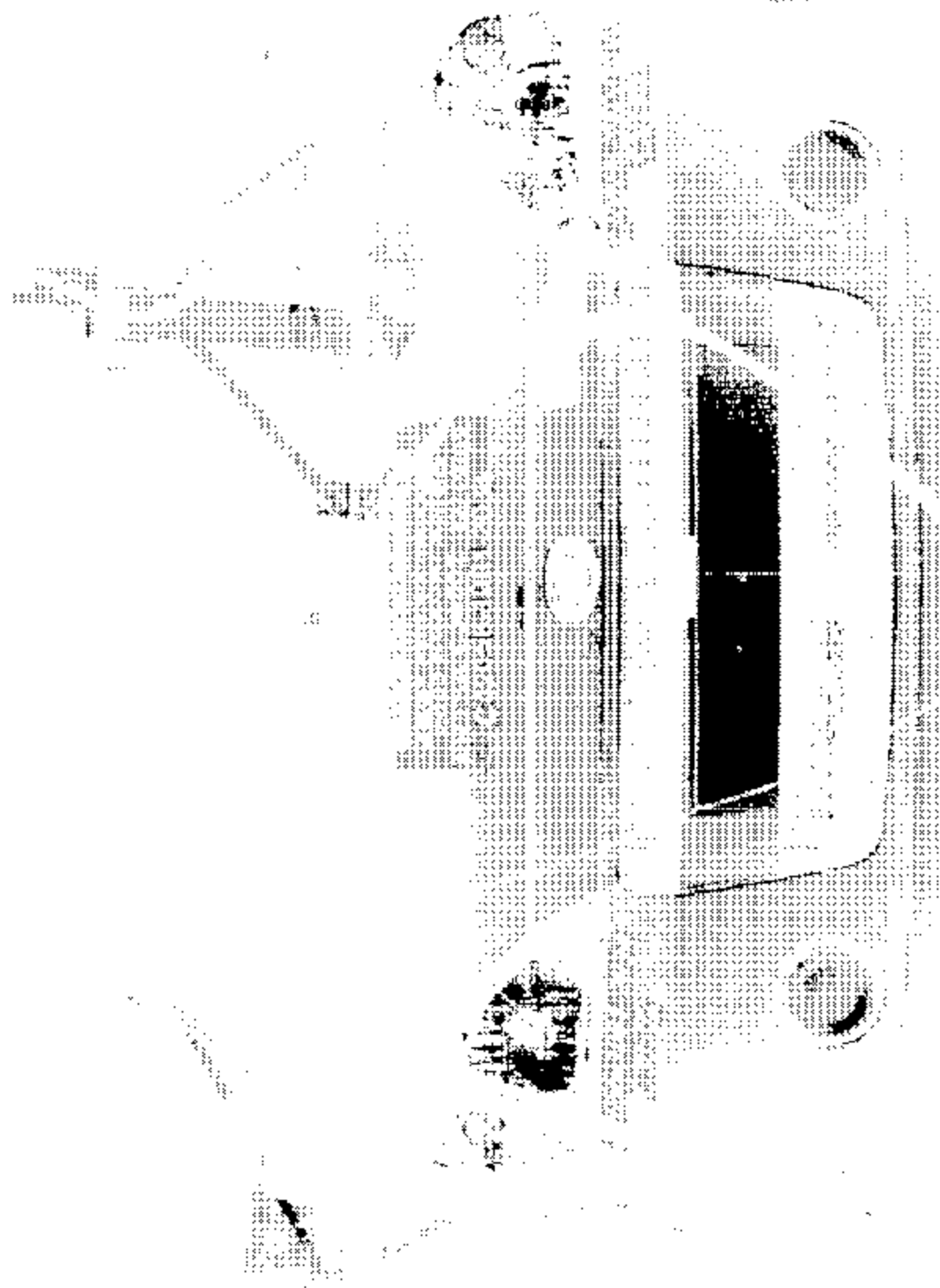


Figure A-37 ROLL OVER 270 DEGREE



Figure A-18 ROIL OVER 90 DEGREES



Here A-J PRE-TEST FRONTAL VIEW OF TEST VEHICLE

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

**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>
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
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

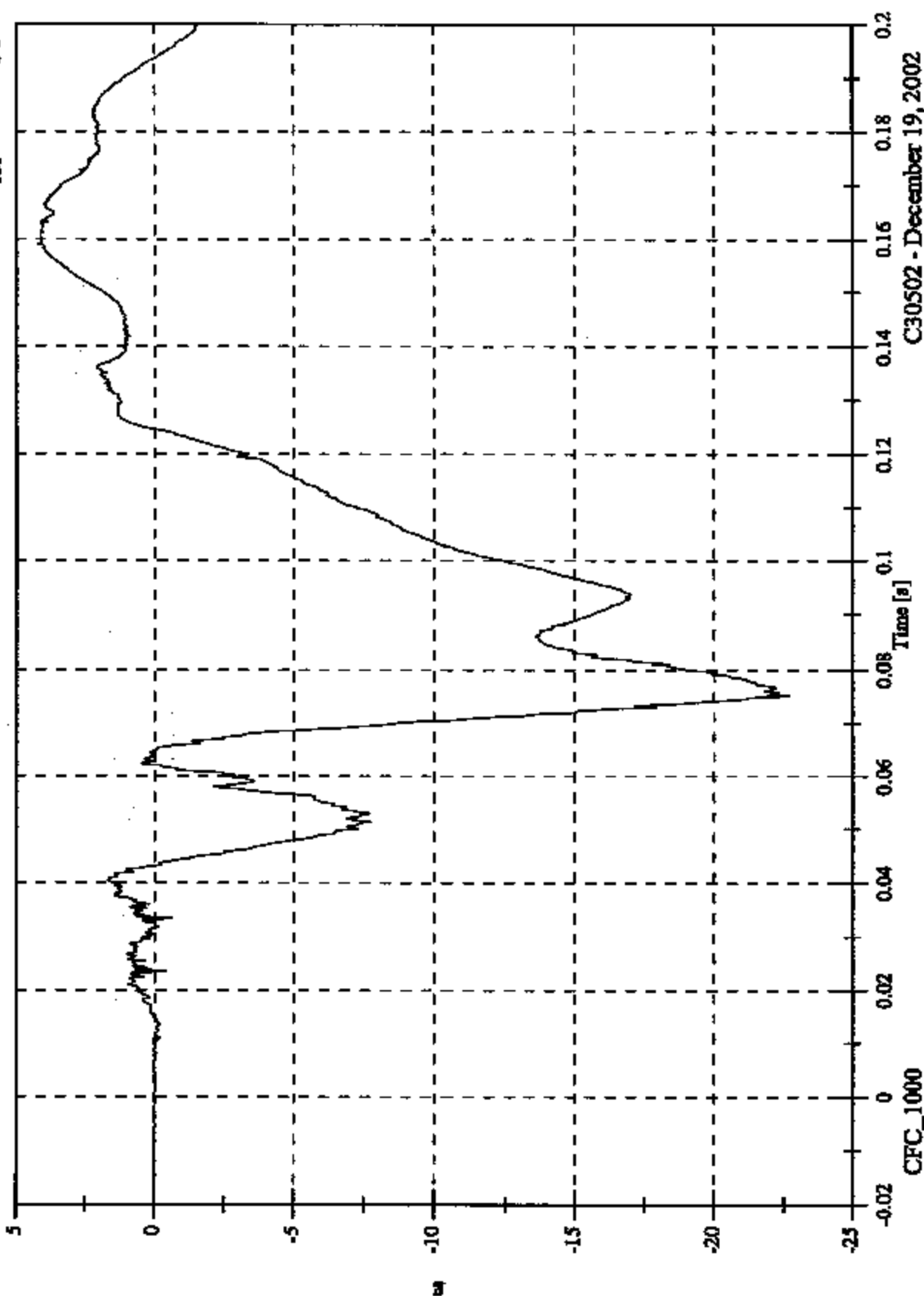
**DRIVER & PASSENGER DUMMY INSTRUMENTATION PLOTS (REDUNDANT)
ACCELERATION DATA - FIR FILTERED**

<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 Test #1 - 2003 Suzuki Aerio

Max: 4.2 [g] at 0.159 [s]
Min: -22.7 [g] at 0.075 [s]

V2P1 Head x

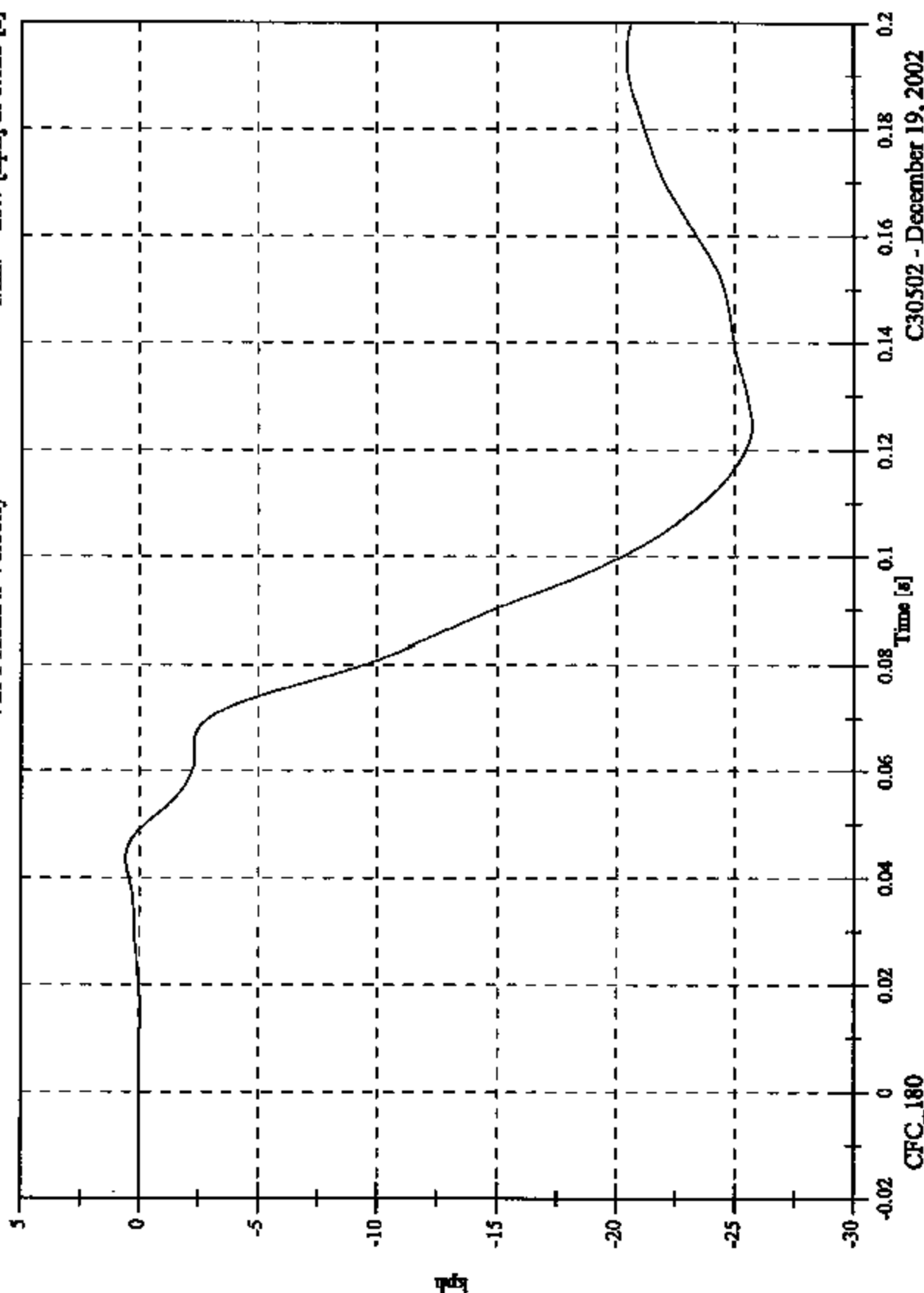


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

Max: 0.6 [kph] at 0.043 [s]
Min: -25.7 [kph] at 0.125 [s]

V2P1 Head x Velocity

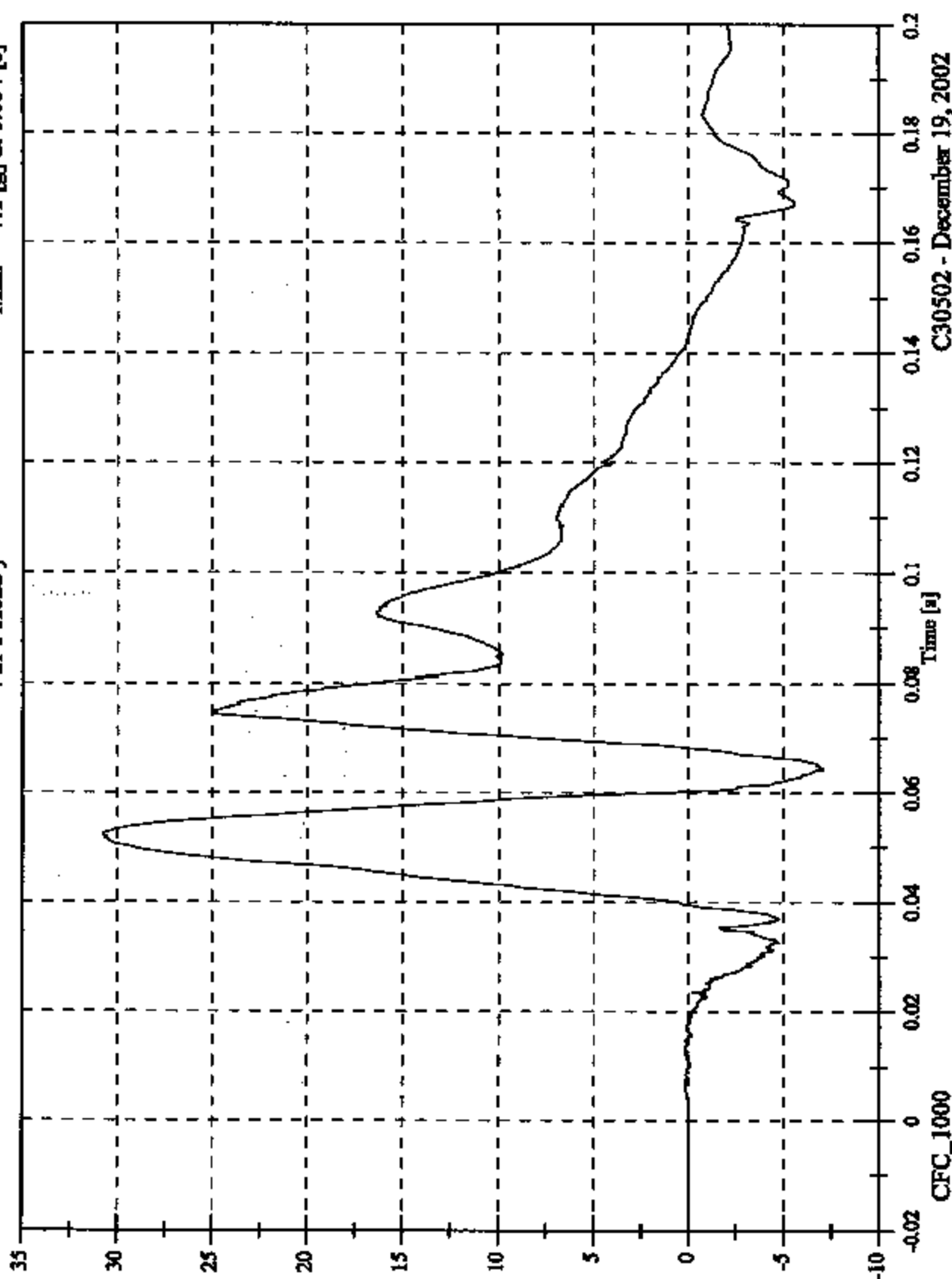


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

V2P1 Head y

Max: 30.7 [g] at 0.052 [s]
Min: -7.1 [g] at 0.064 [s]

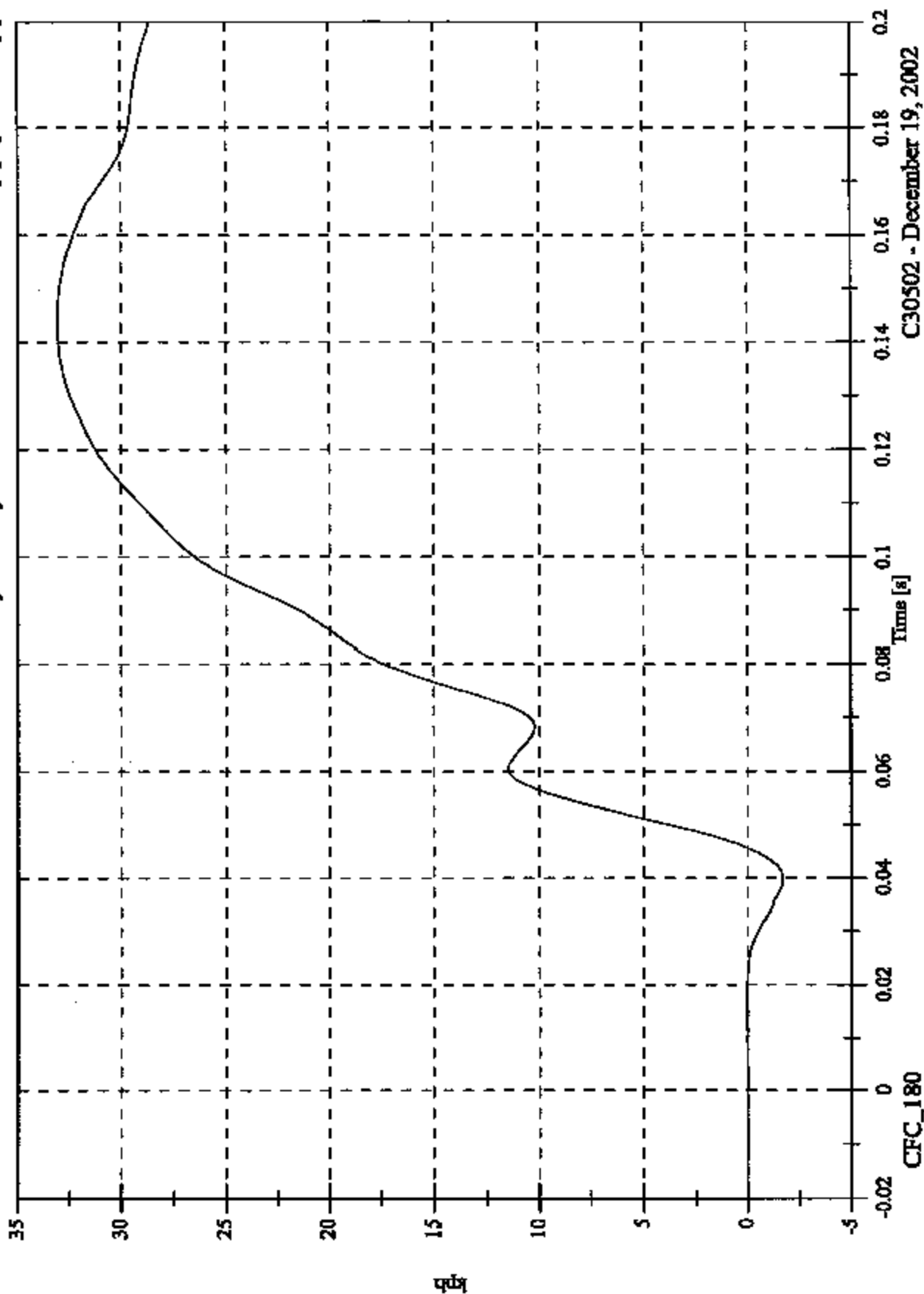


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

Max: 33.1 [kph] at 0.143 [s]
 Min: -1.7 [kph] at 0.040 [s]

V2P1 Head y Velocity

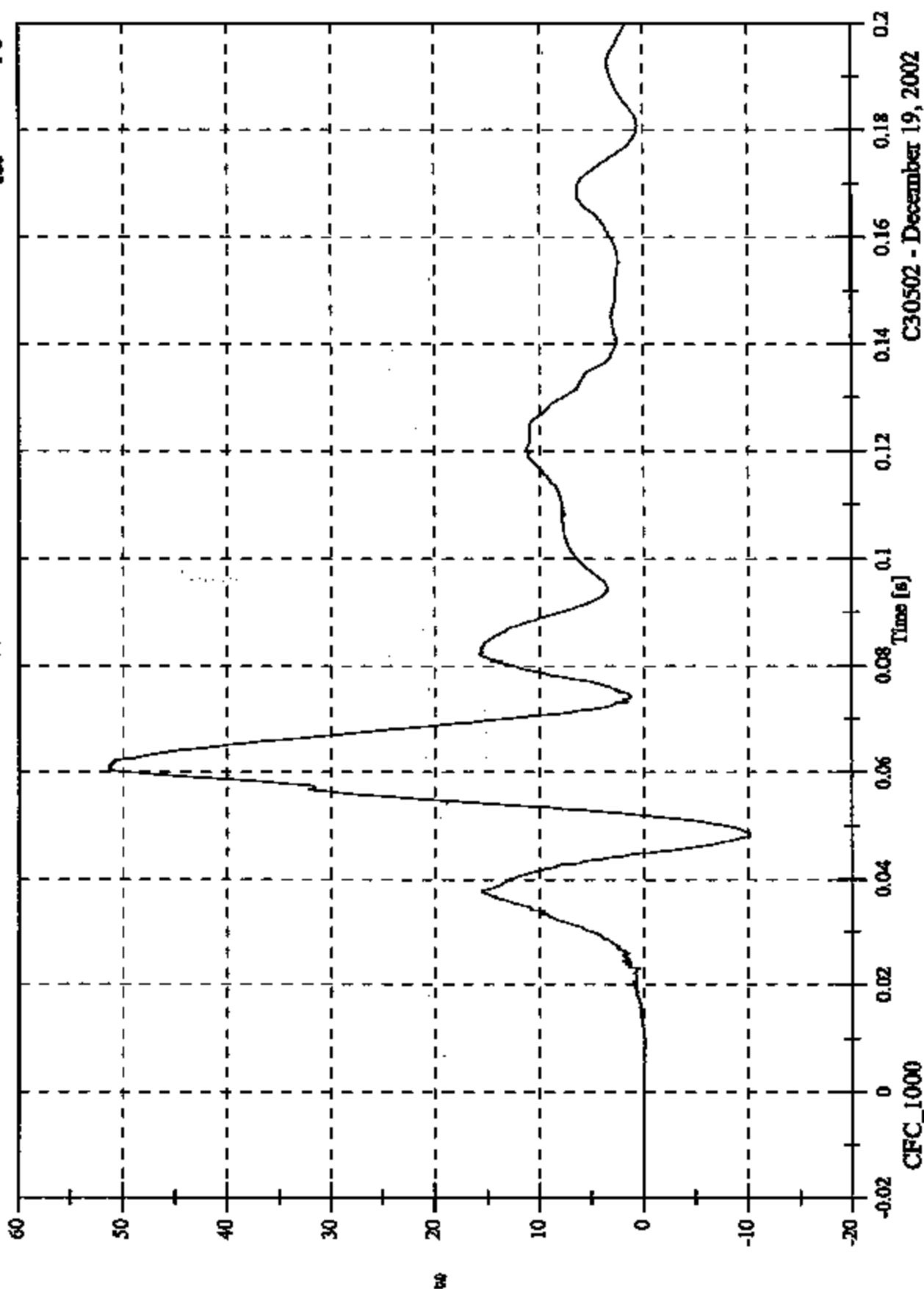


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

Max: 51.4 [g] at 0.061 [s]
Min: -10.2 [g] at 0.048 [s]

V2P1 Head z

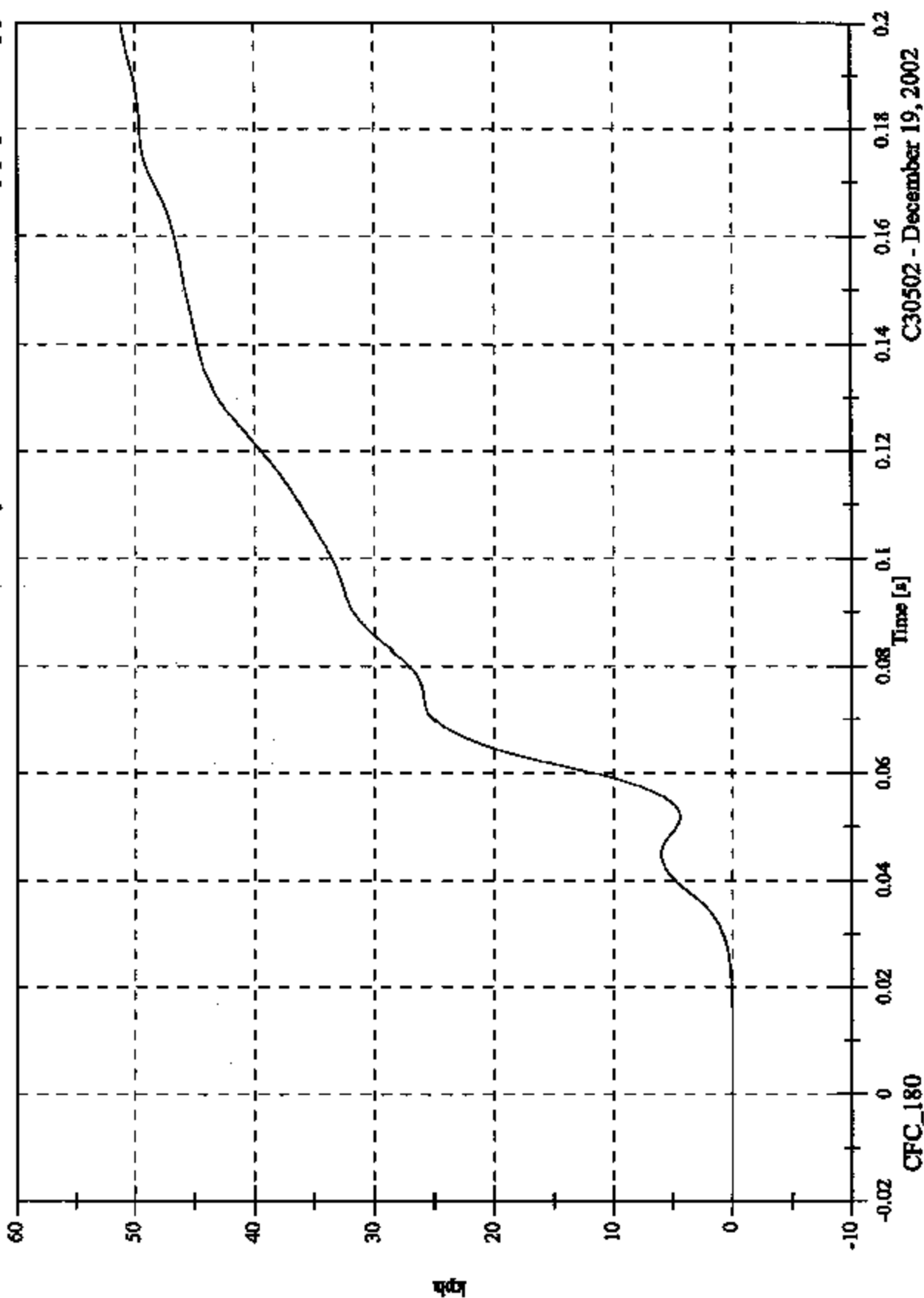


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

V2P1 Head z Velocity

Max: 51.2 [kph] at 0.200 [s]
Min: -0.0 [kph] at 0.012 [s]

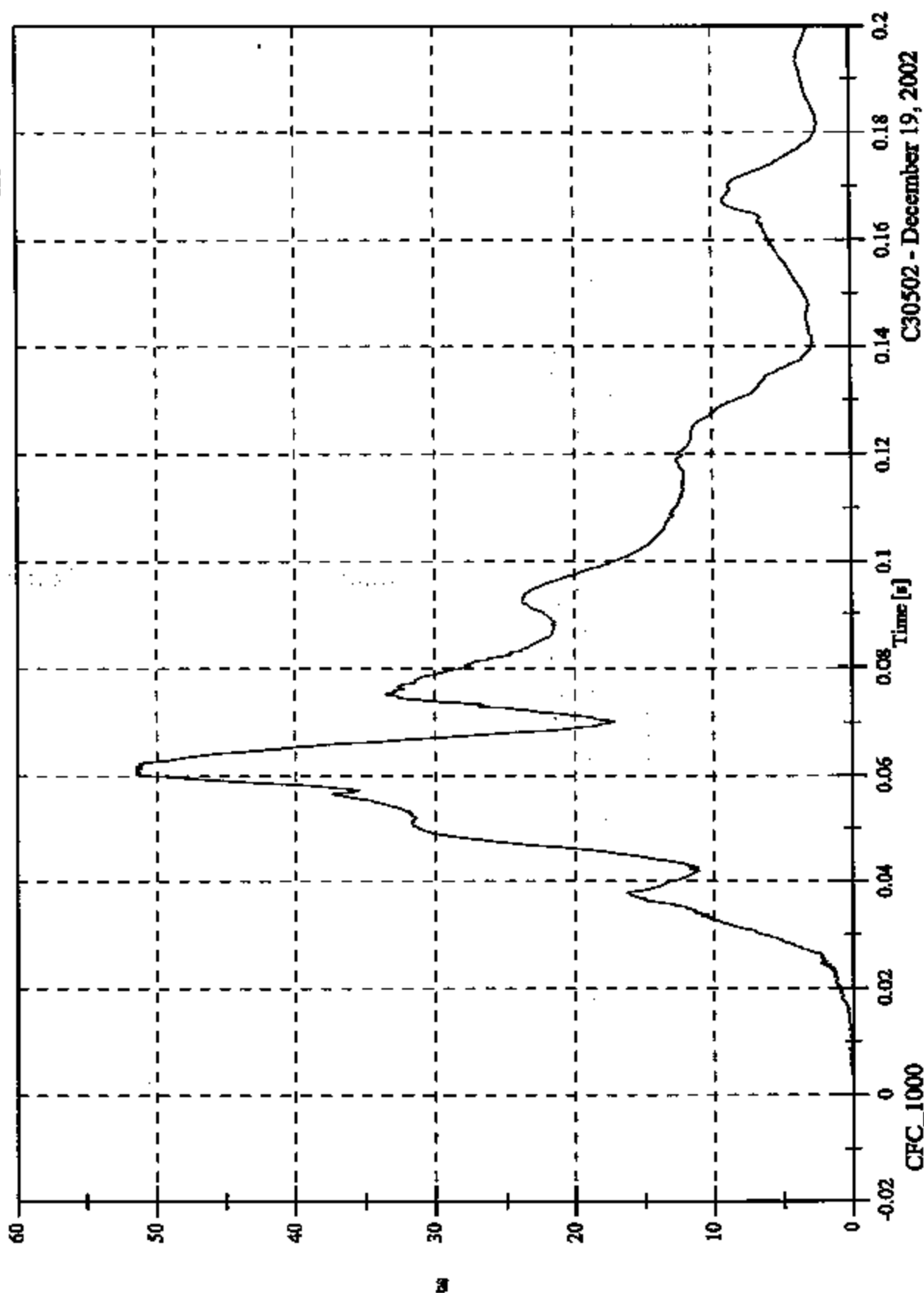


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

Max: 51.5 [g] at 0.061 [s]
Min: 0.0 [g] at -0.013 [s]

V2P1 Head Resultant

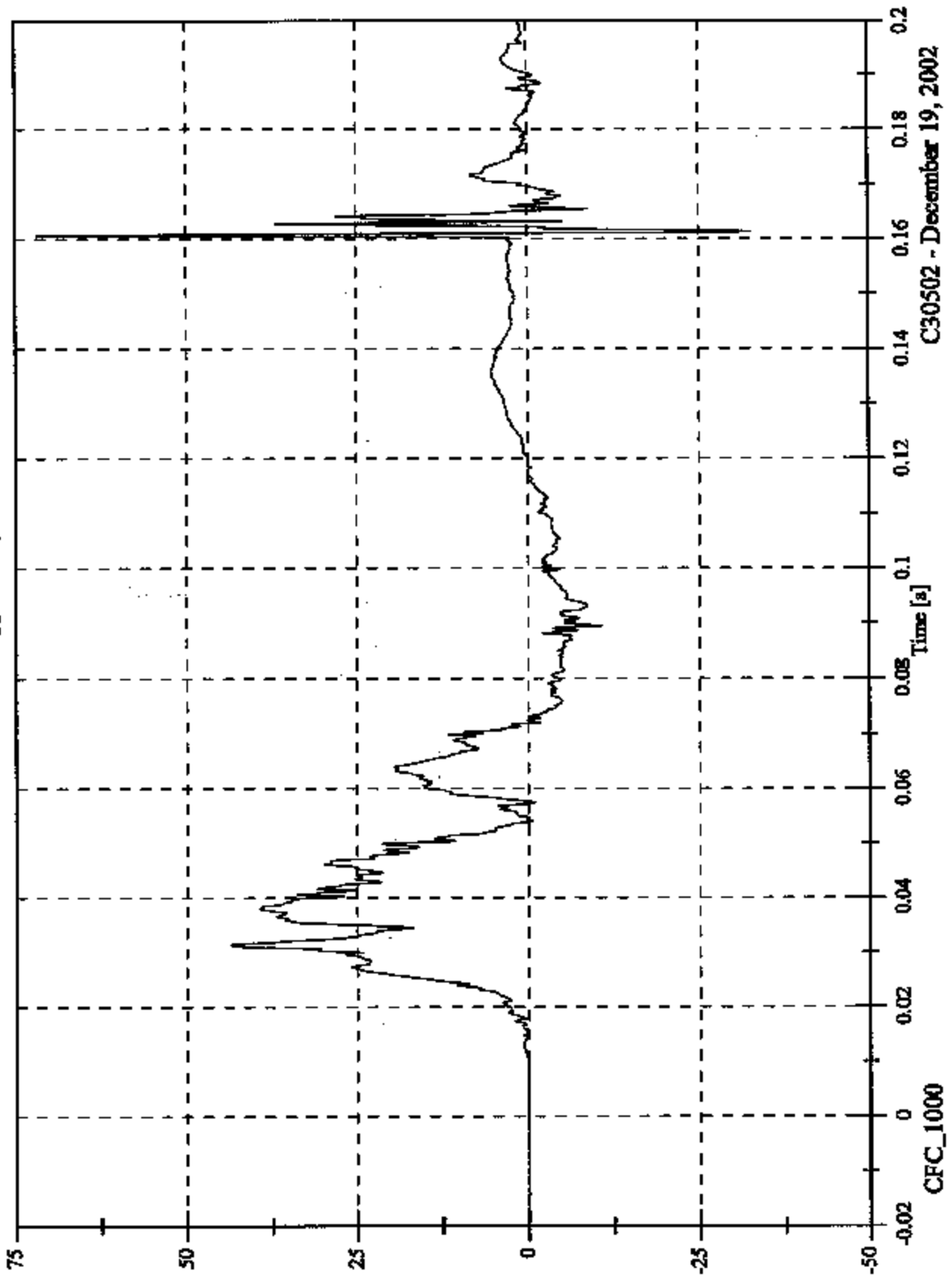


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

Max: 71.9 [g] at 0.161 [s]
Min: -32.7 [g] at 0.161 [s]

V2P1 Upper Rib y



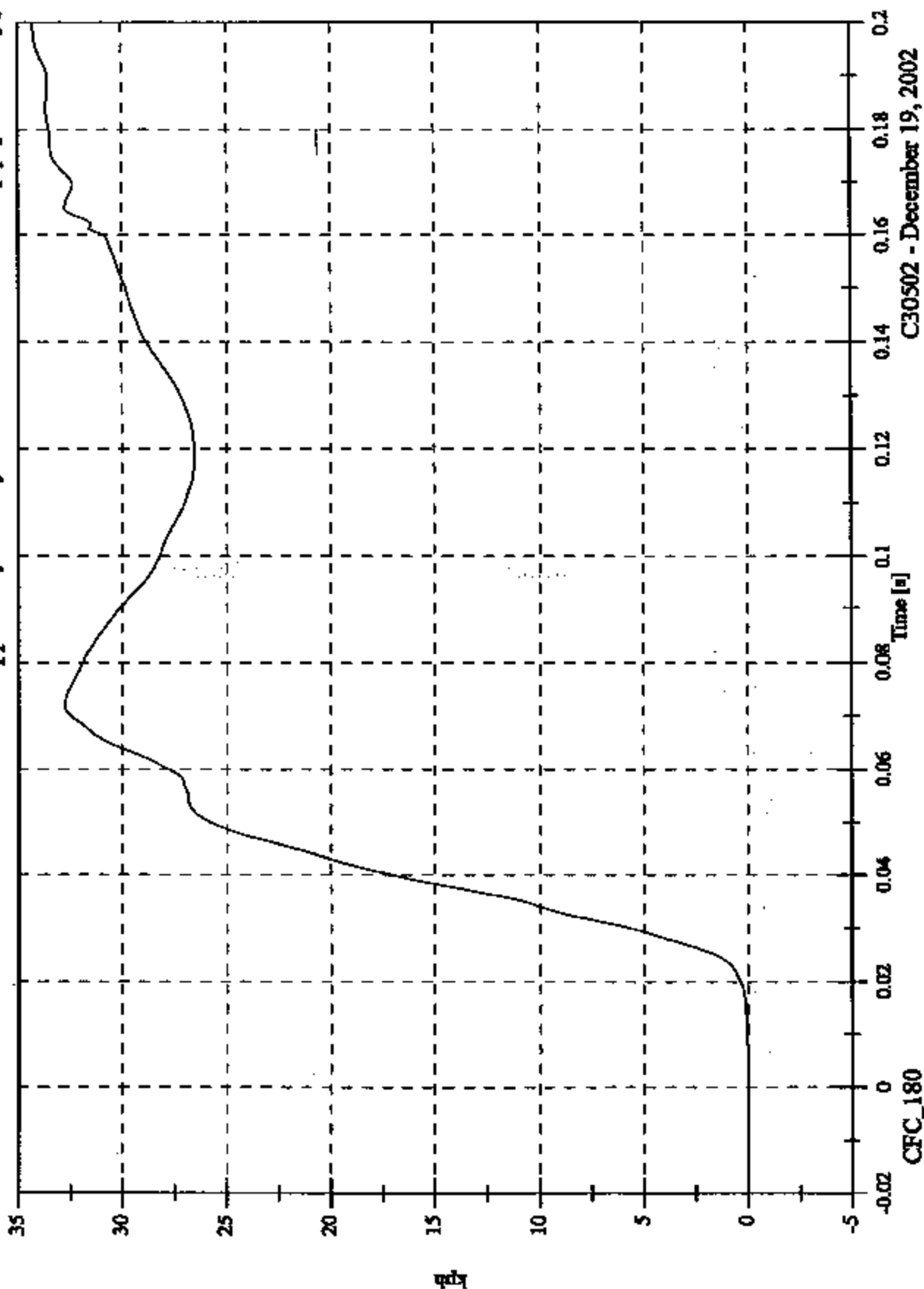
C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aorio

Max: 34.3 [kph] at 0.200 [s]

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

V2P1 Upper Rib y Velocity



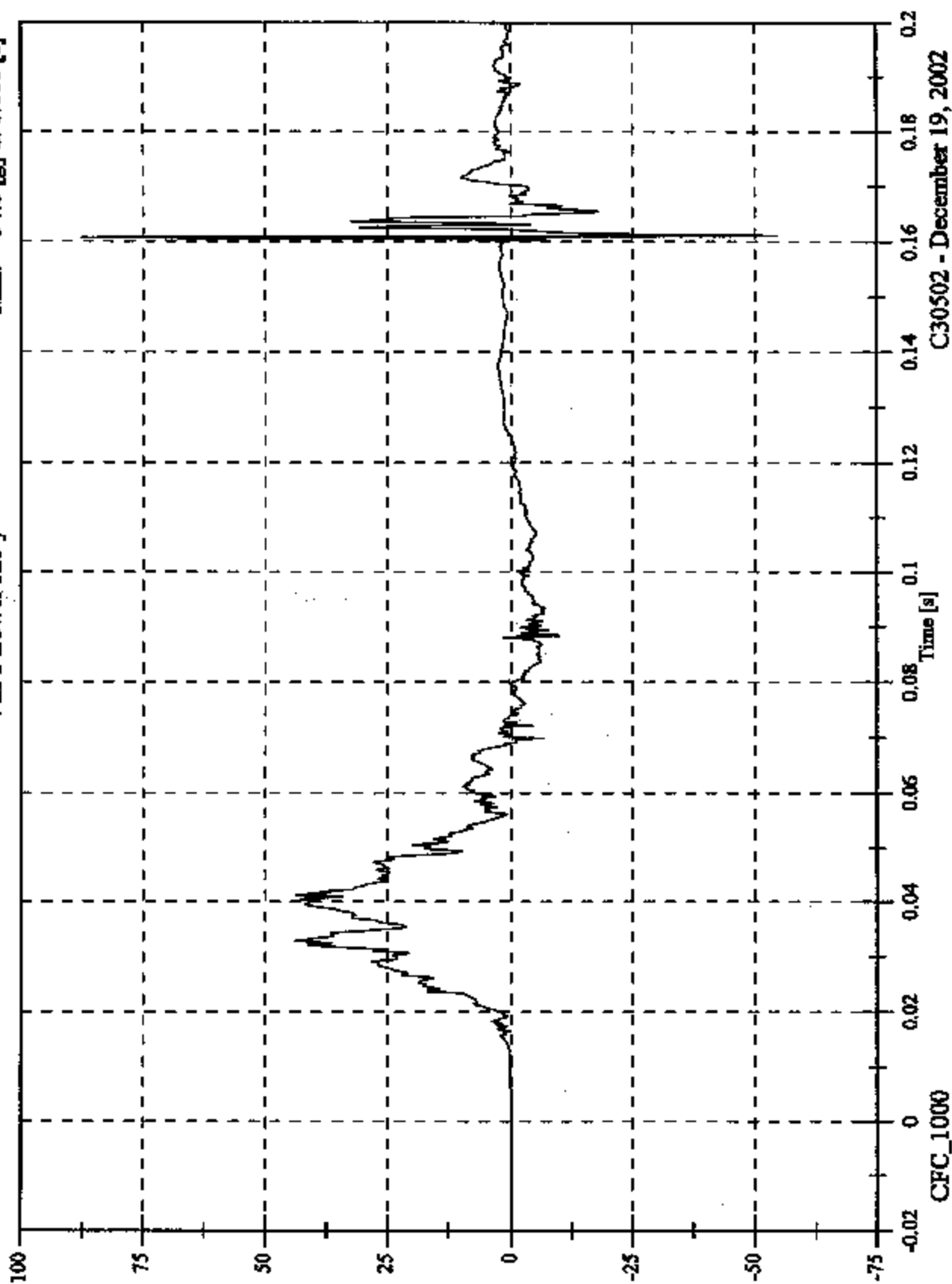
C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

Max: 87.6 [g] at 0.161 [s]

Min: -54.6 [g] at 0.161 [s]

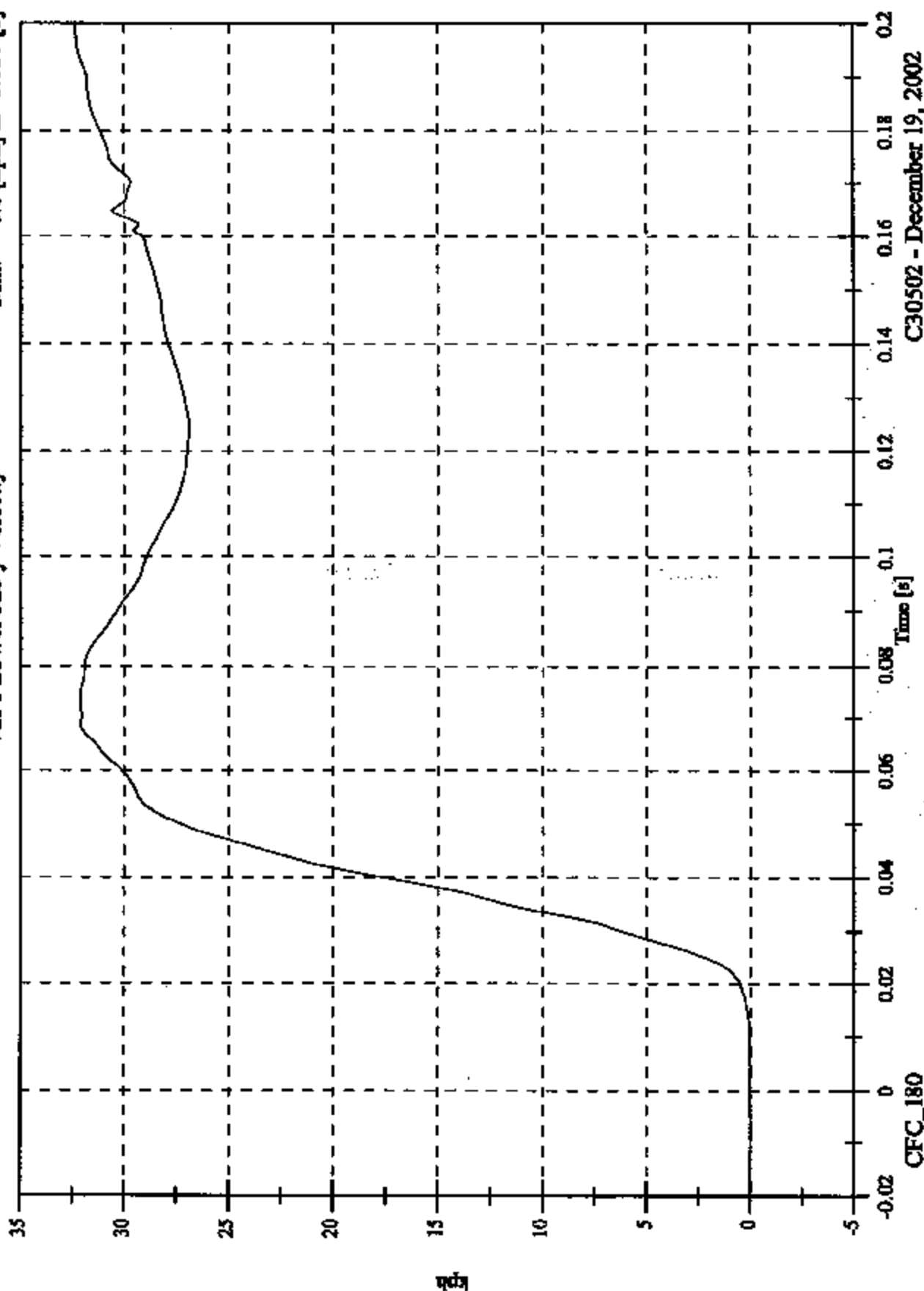
V2P1 Lower Rib y



FMVSS 214D Test #1 - 2003 Suzuki Aerio

Max: 32.4 [kph] at 0.200 [s]
Min: -0.0 [kph] at -0.020 [s]

V2P1 Lower Rib y Velocity



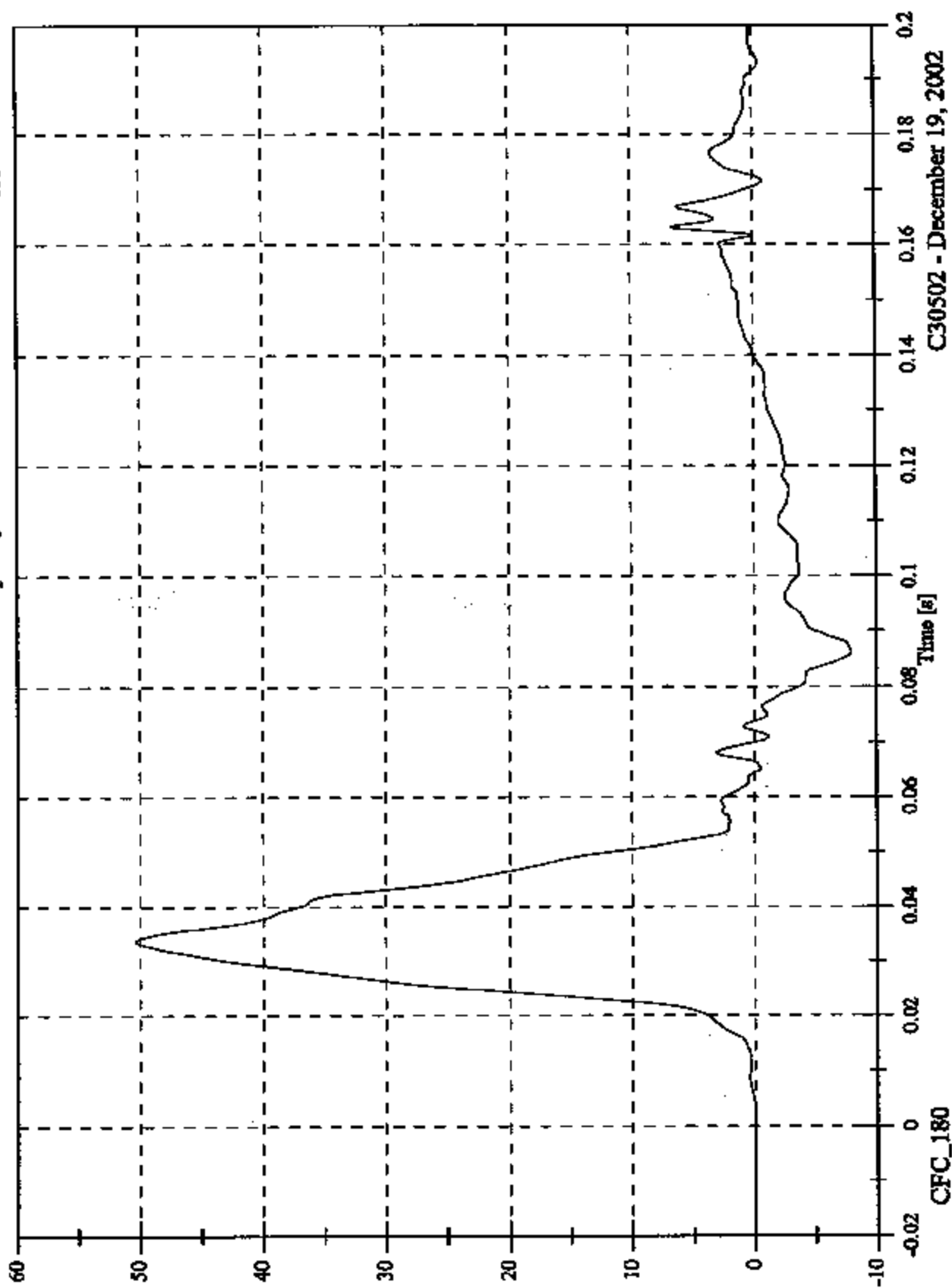
C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

V2P1 Lower Spine y

Max: 50.4 [g] at 0.034 [s]

Min: -7.9 [g] at 0.086 [s]



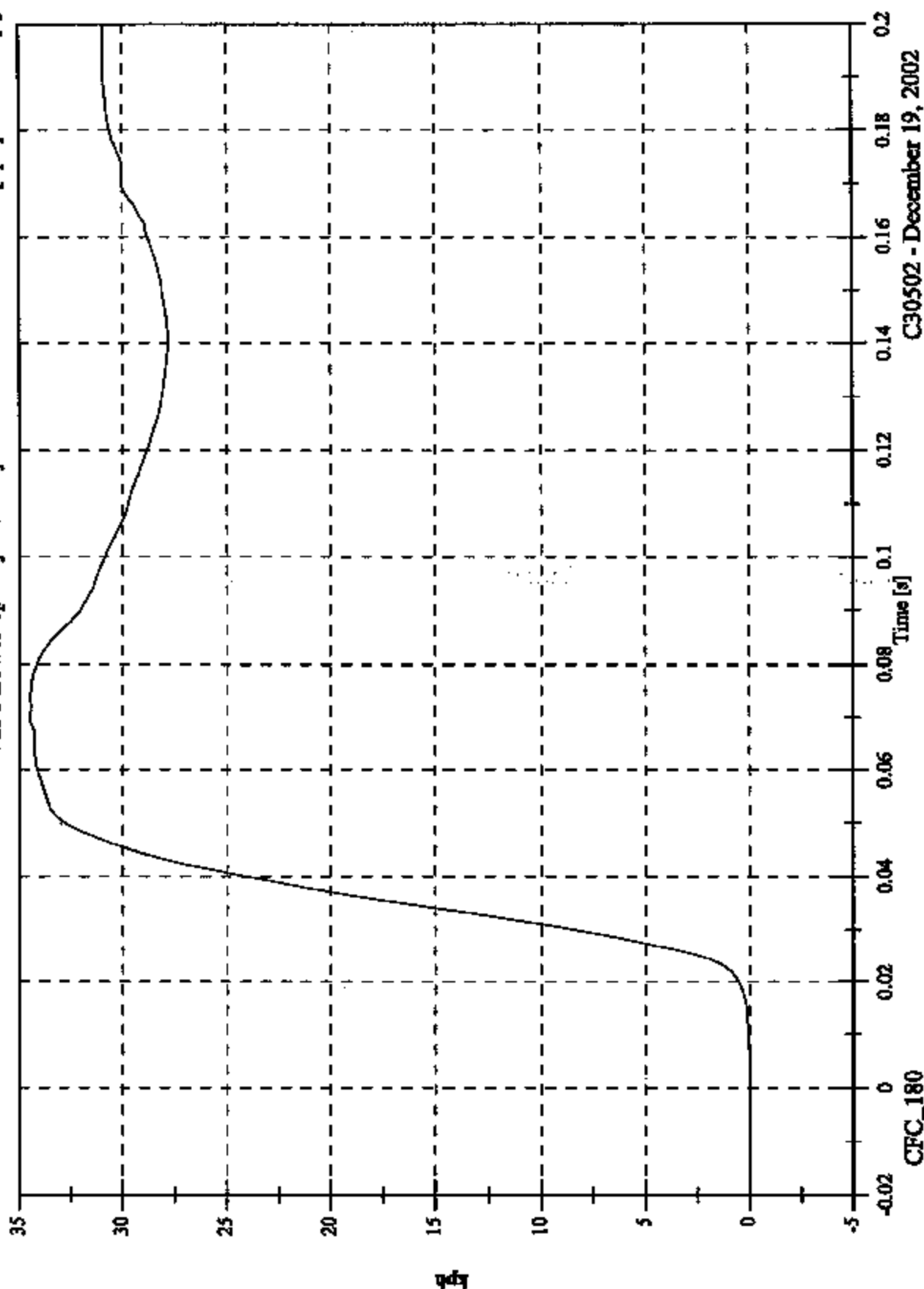
C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

Max: 34.5 [kph] at 0.070 [s]

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

V2P1 Lower Spine y Velocity



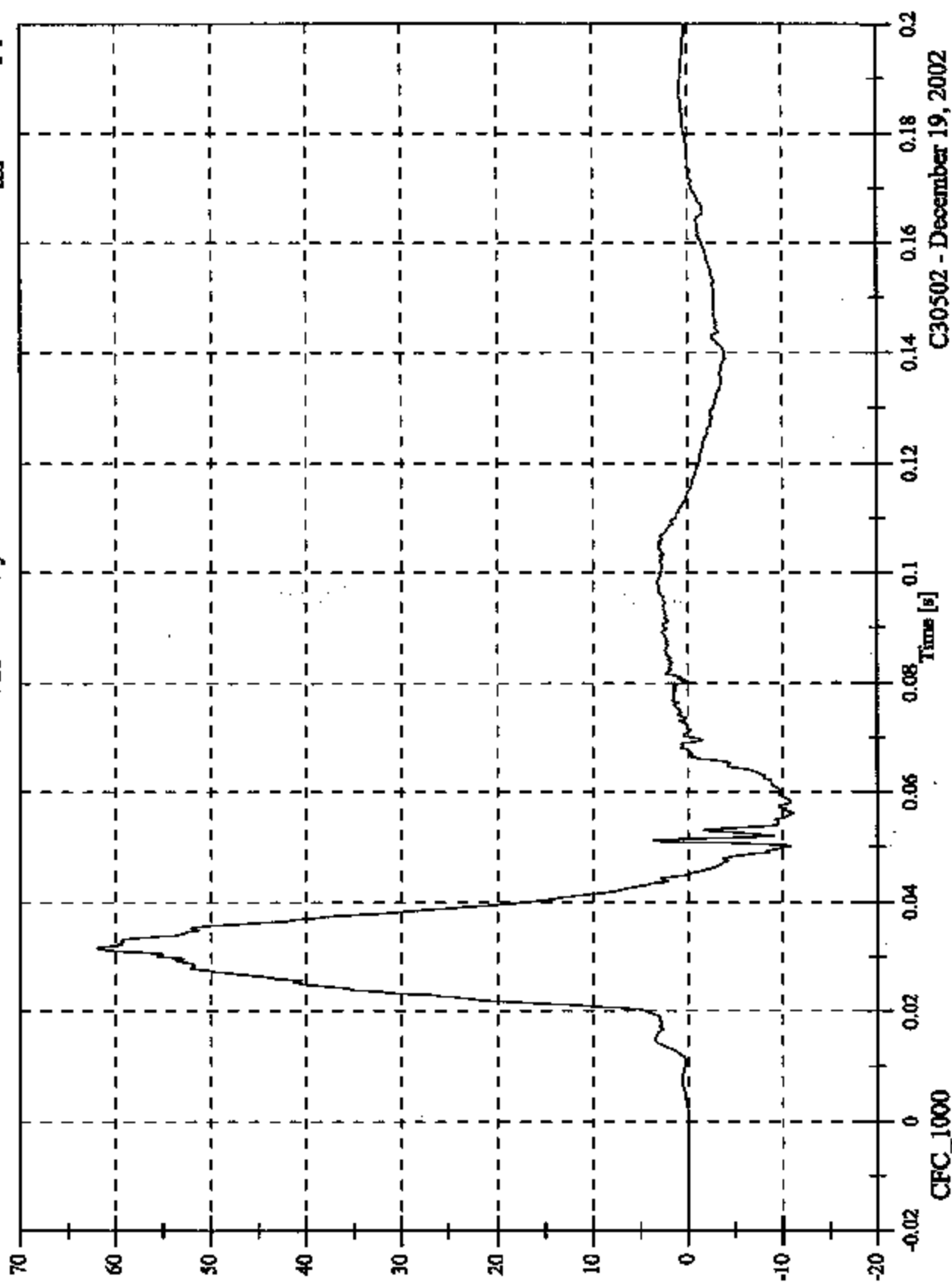
C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

Max: 62.0 [g] at 0.032 [s]

Min: -11.1 [g] at 0.056 [s]

V2P1 Pelvic y

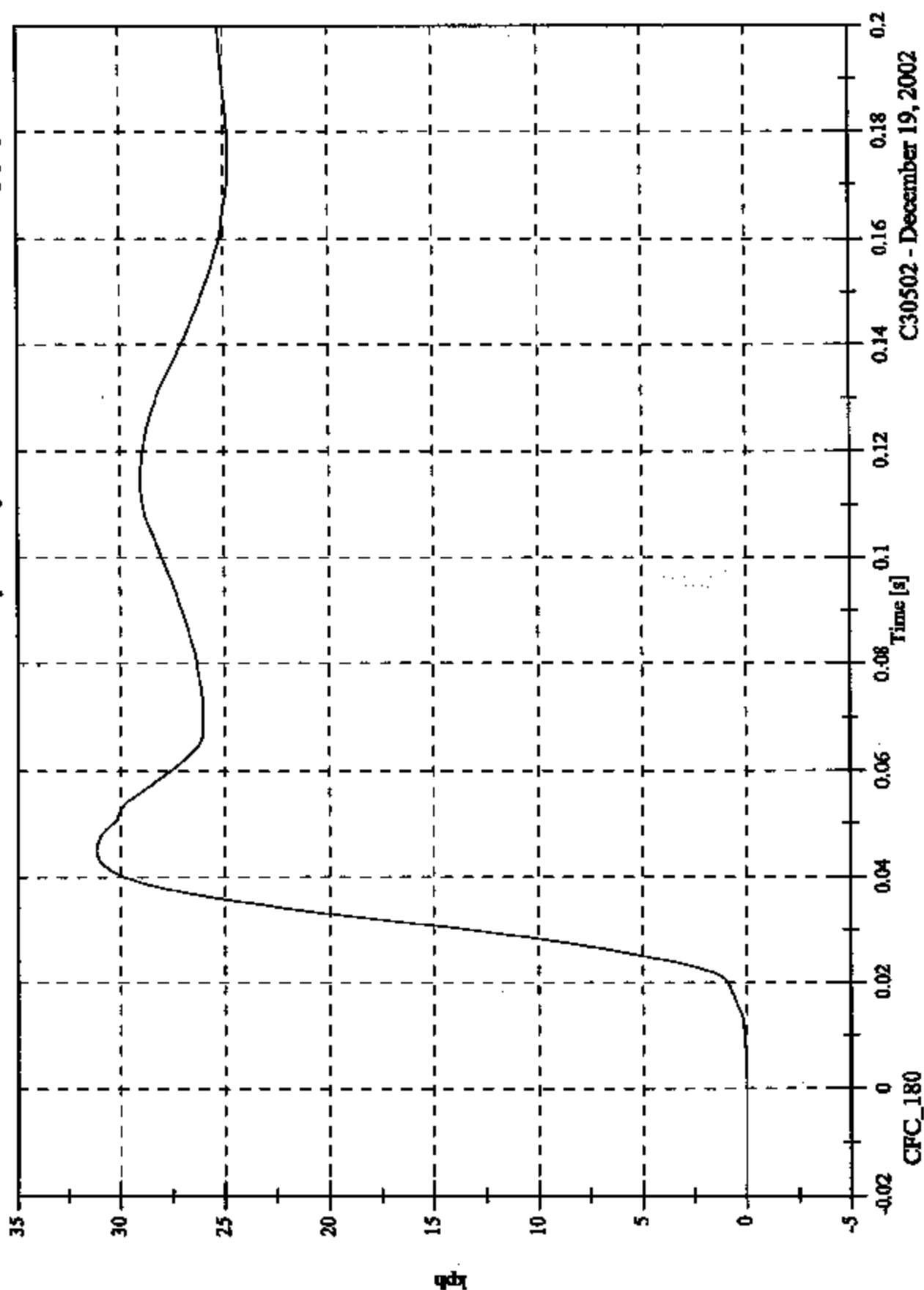


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Acrio

Max: 31.2 [kph] at 0.045 [s]
Min: -0.0 [kph] at -0.010 [s]

V2P1 Pelvic y Velocity



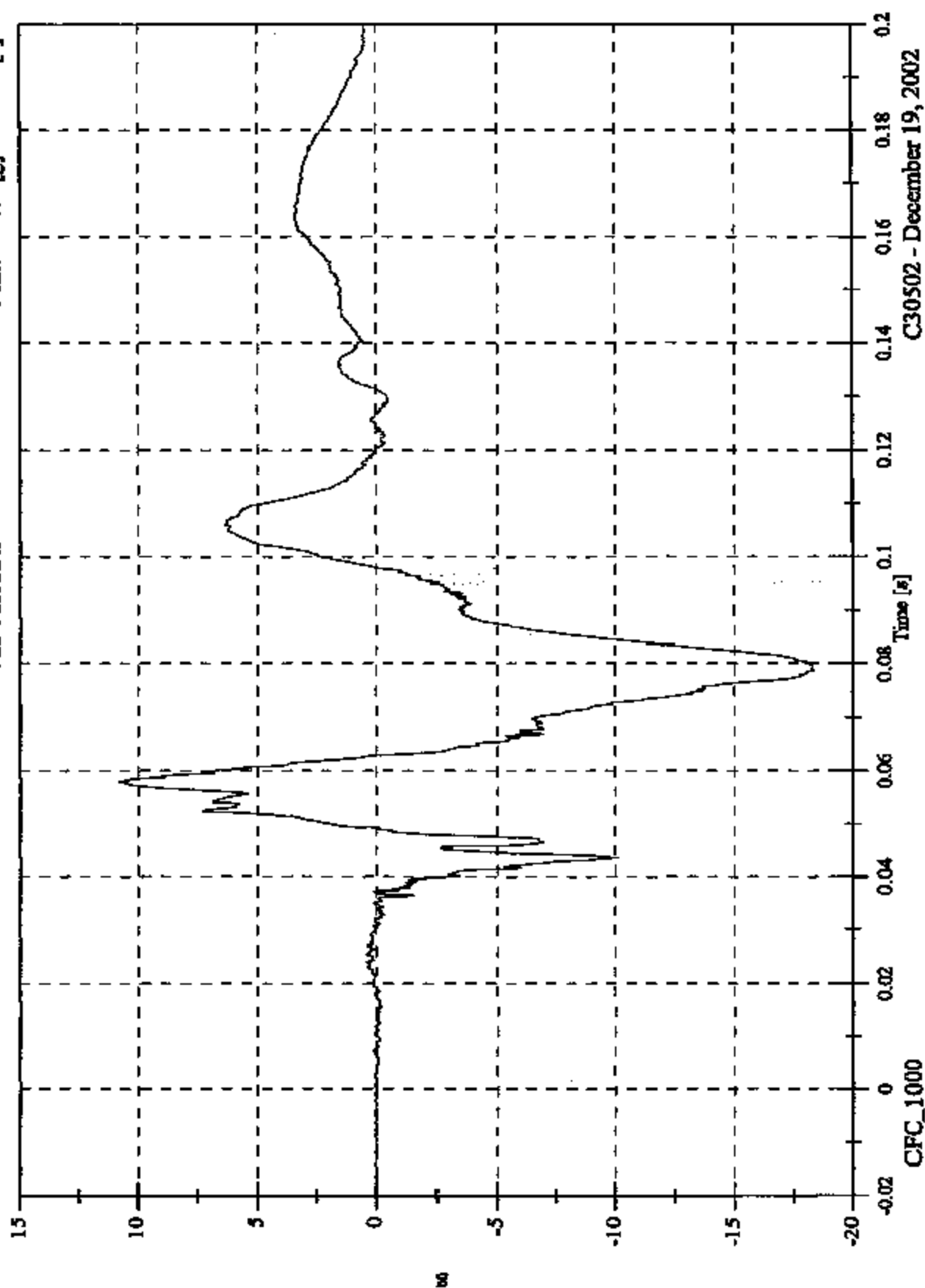
CFC_180

C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

Max: 10.8 [g] at 0.058 [s]
Min: -18.4 [g] at 0.079 [s]

V2P4 Head x

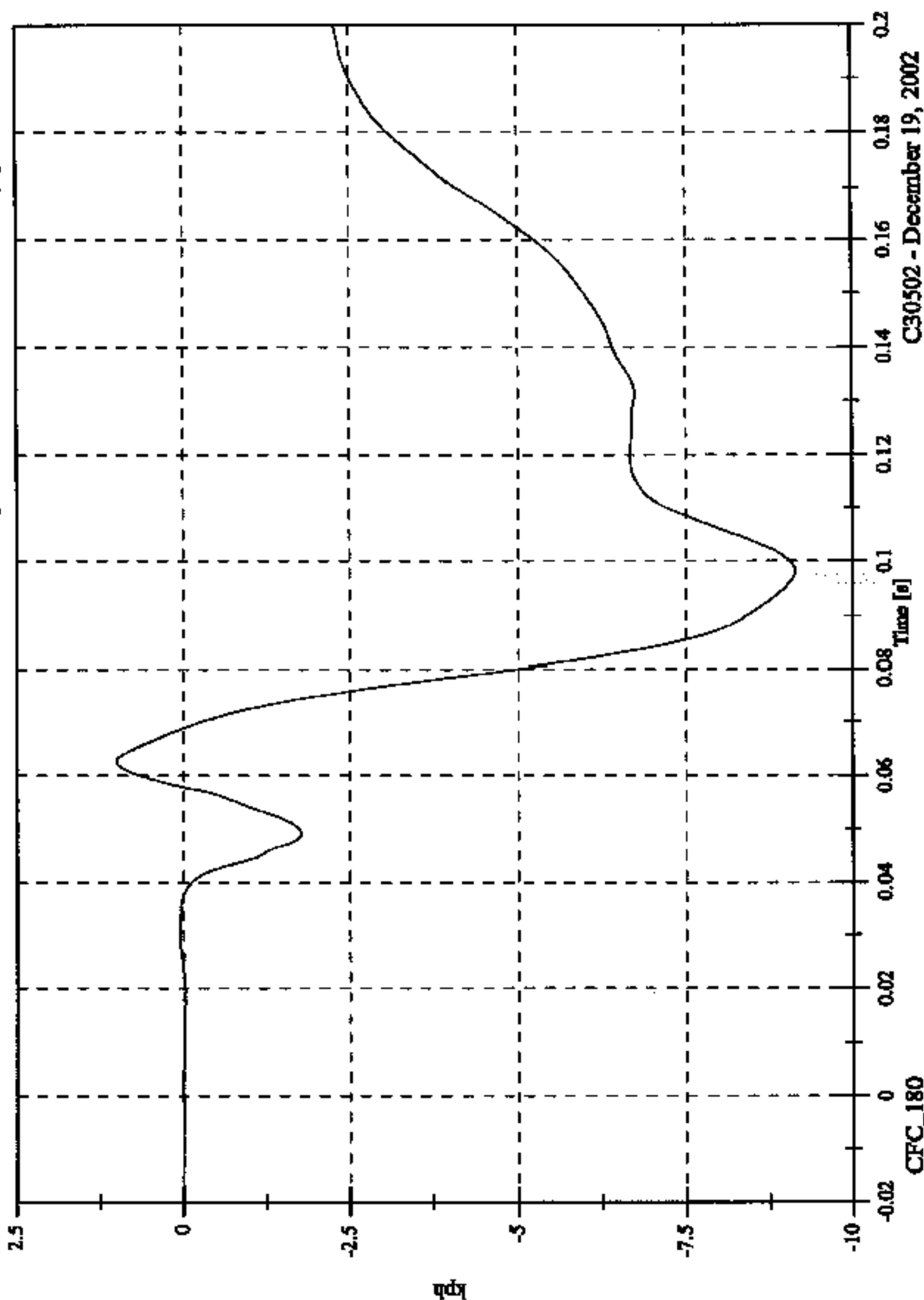


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

Max: 1.0 [kph] at 0.063 [s]
Min: -9.1 [kph] at 0.098 [s]

V2P4 Head x Velocity

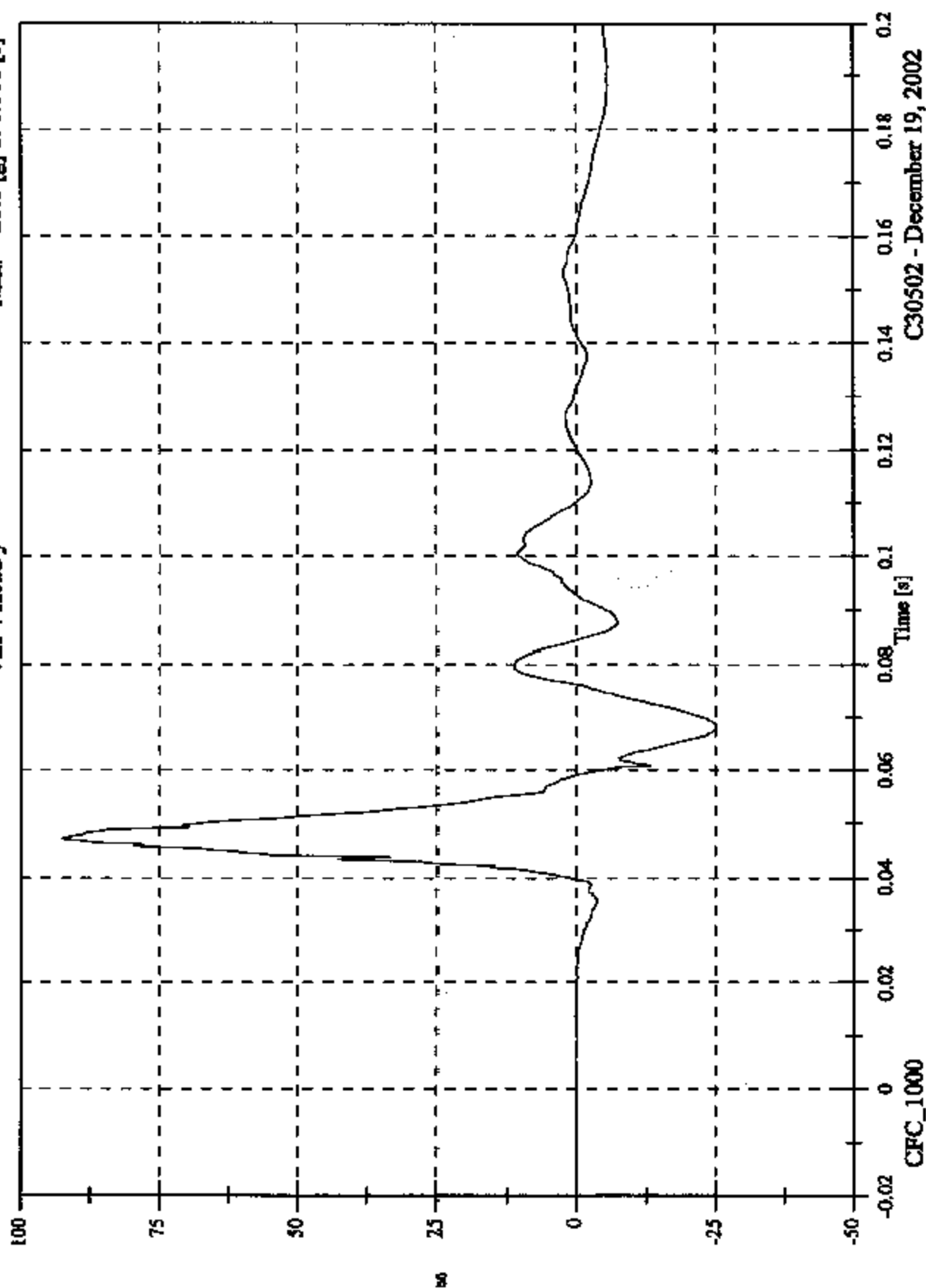


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerieo

Max: 92.4 [g] at 0.047 [s]
Min: -25.1 [g] at 0.068 [s]

V2P4 Head y



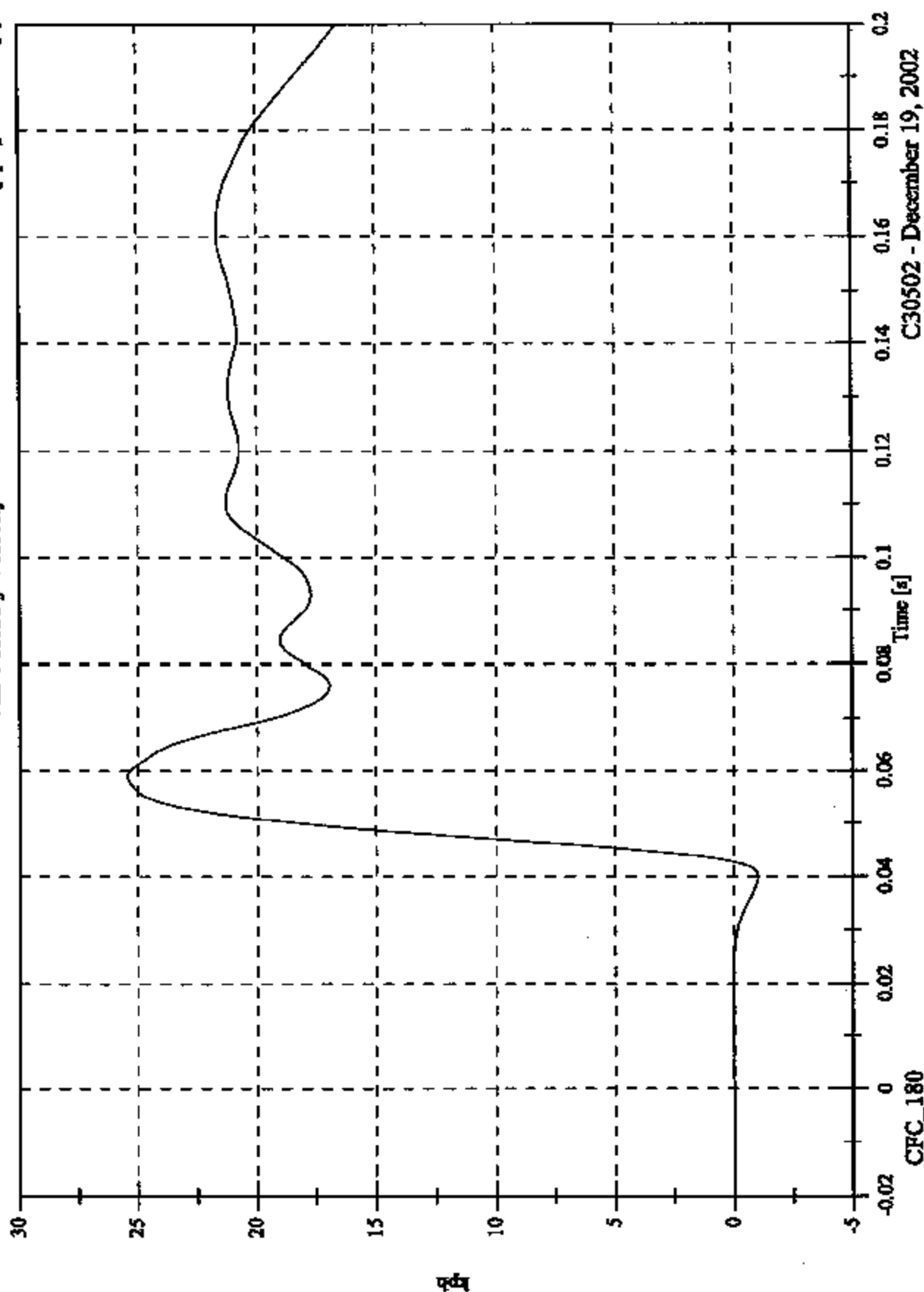
C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aorio

Max: 25.4 [kph] at 0.059 [s]

Min: -1.0 [kph] at 0.040 [s]

V2P4 Head y Velocity



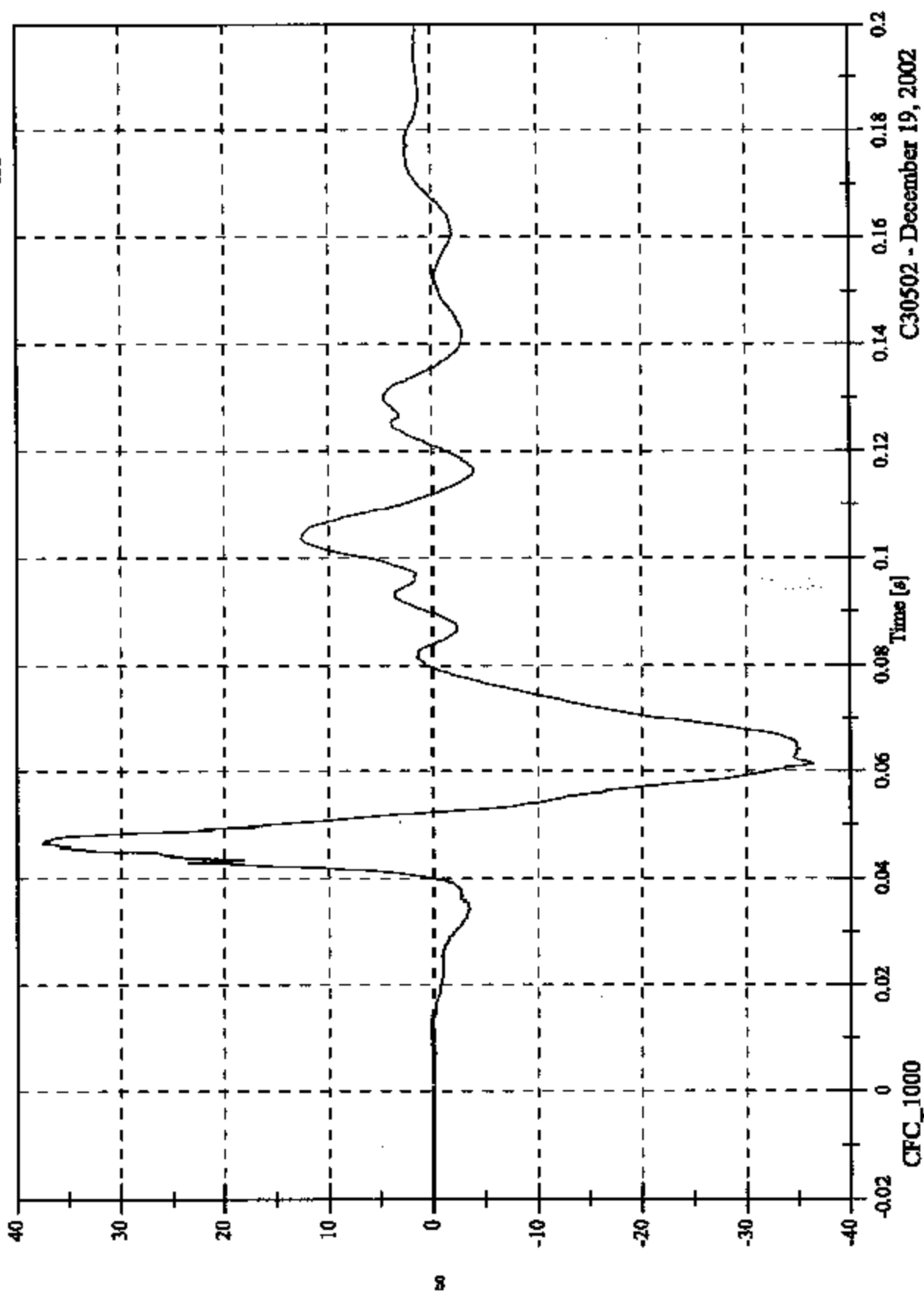
C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

Max: 37.6 [g] at 0.047 [s]

Min: -36.4 [g] at 0.061 [s]

V2P4 Head z

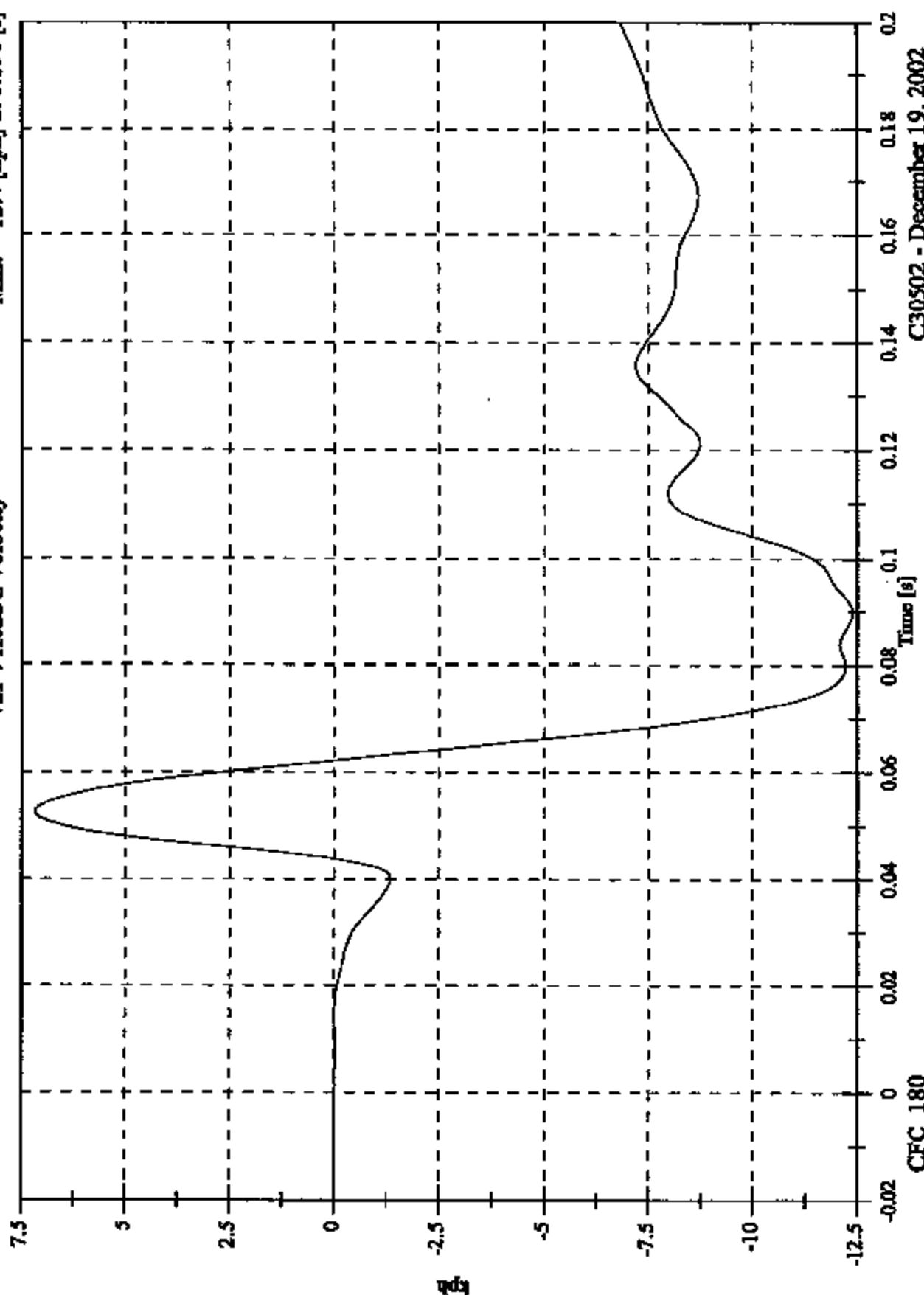


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerieo

Max: 7.2 [kph] at 0.052 [s]
Min: -12.4 [kph] at 0.090 [s]

V2P4 Head z Velocity

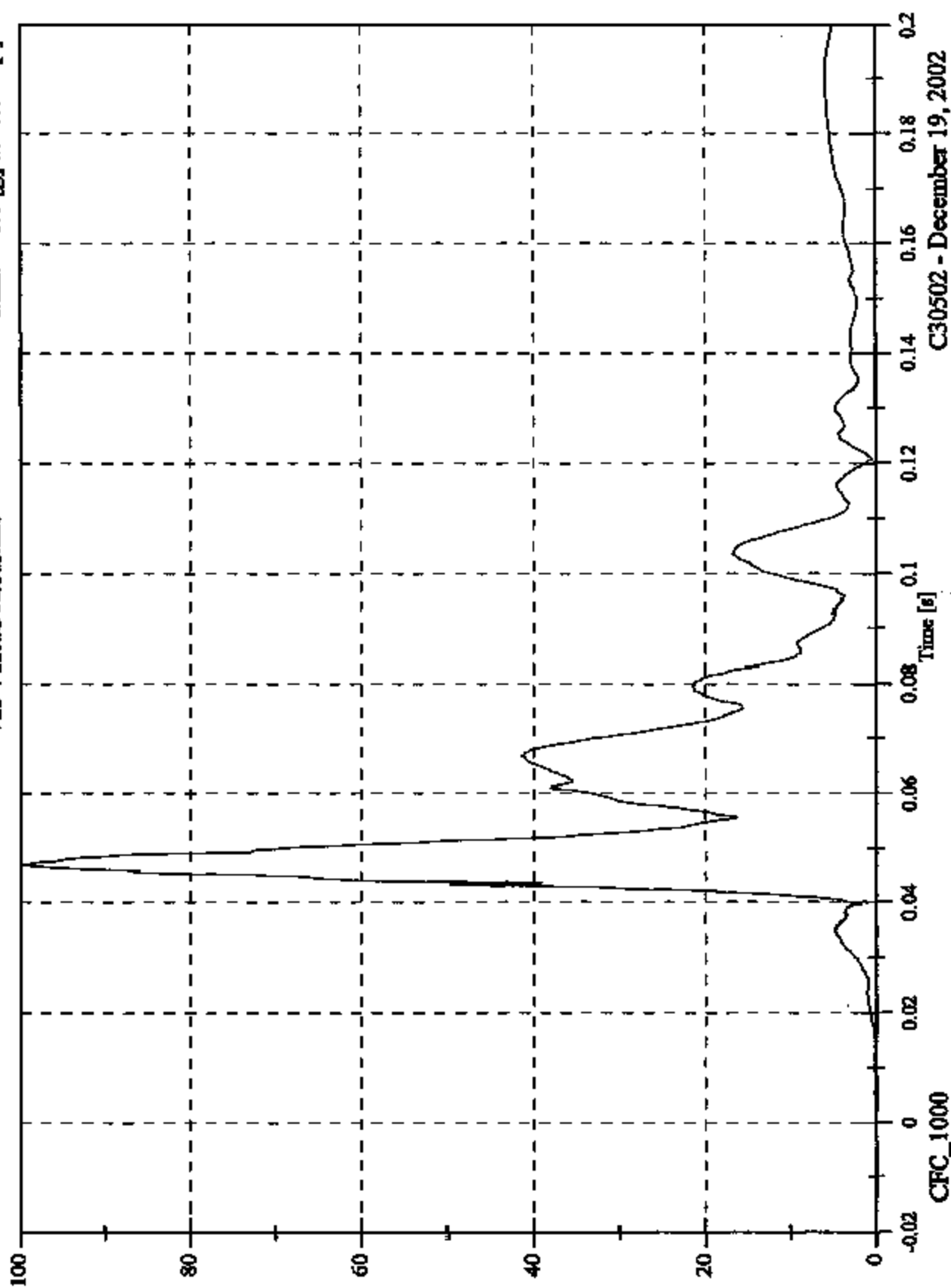


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

V2P4 Head Resultant

Max: 99.9 [g] at 0.047 [s]
Min: 0.0 [g] at -0.007 [s]

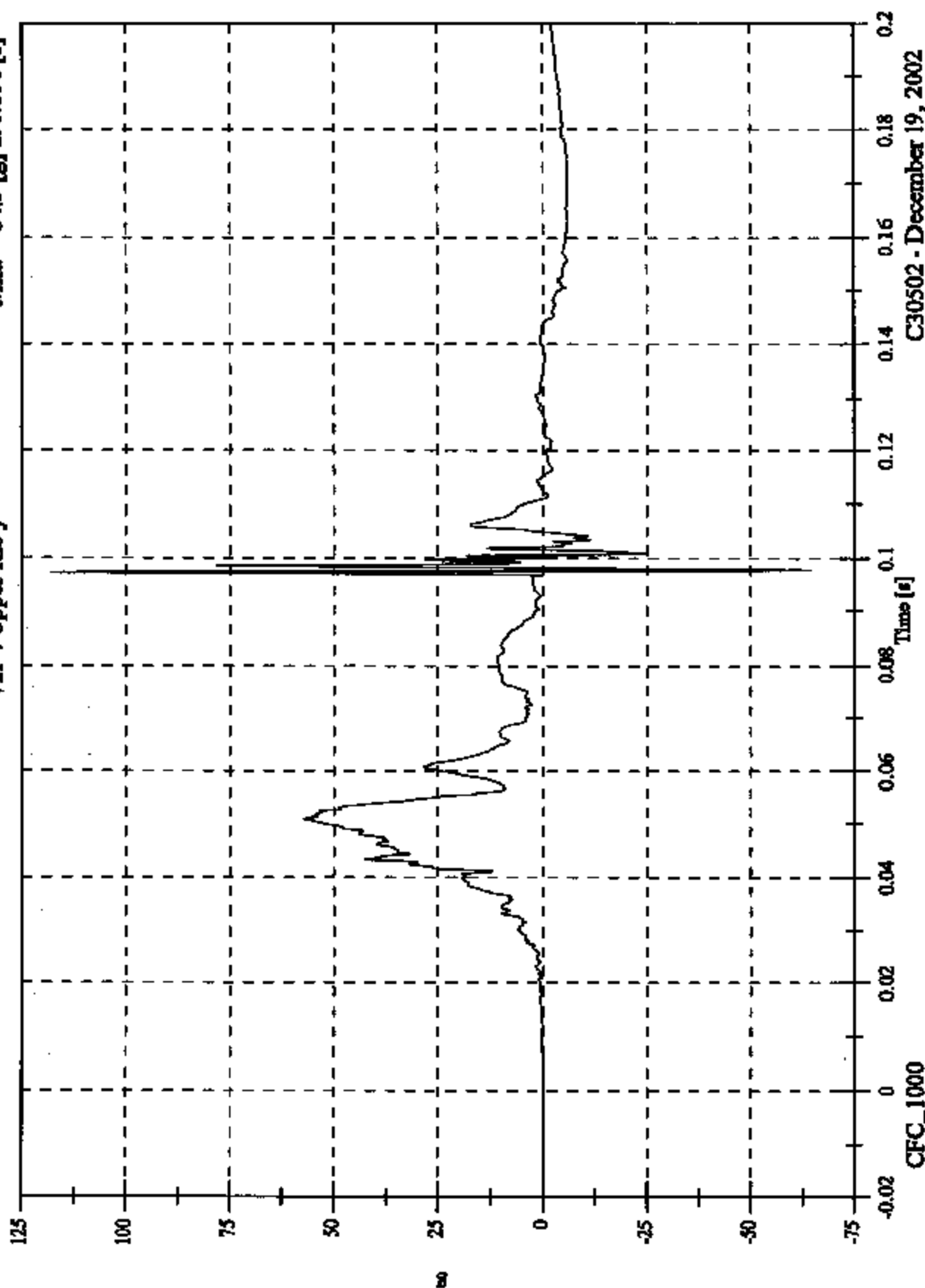


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

Max: 118.1 [g] at 0.097 [s]
Min: -64.3 [g] at 0.098 [s]

V2P4 Upper Rib y

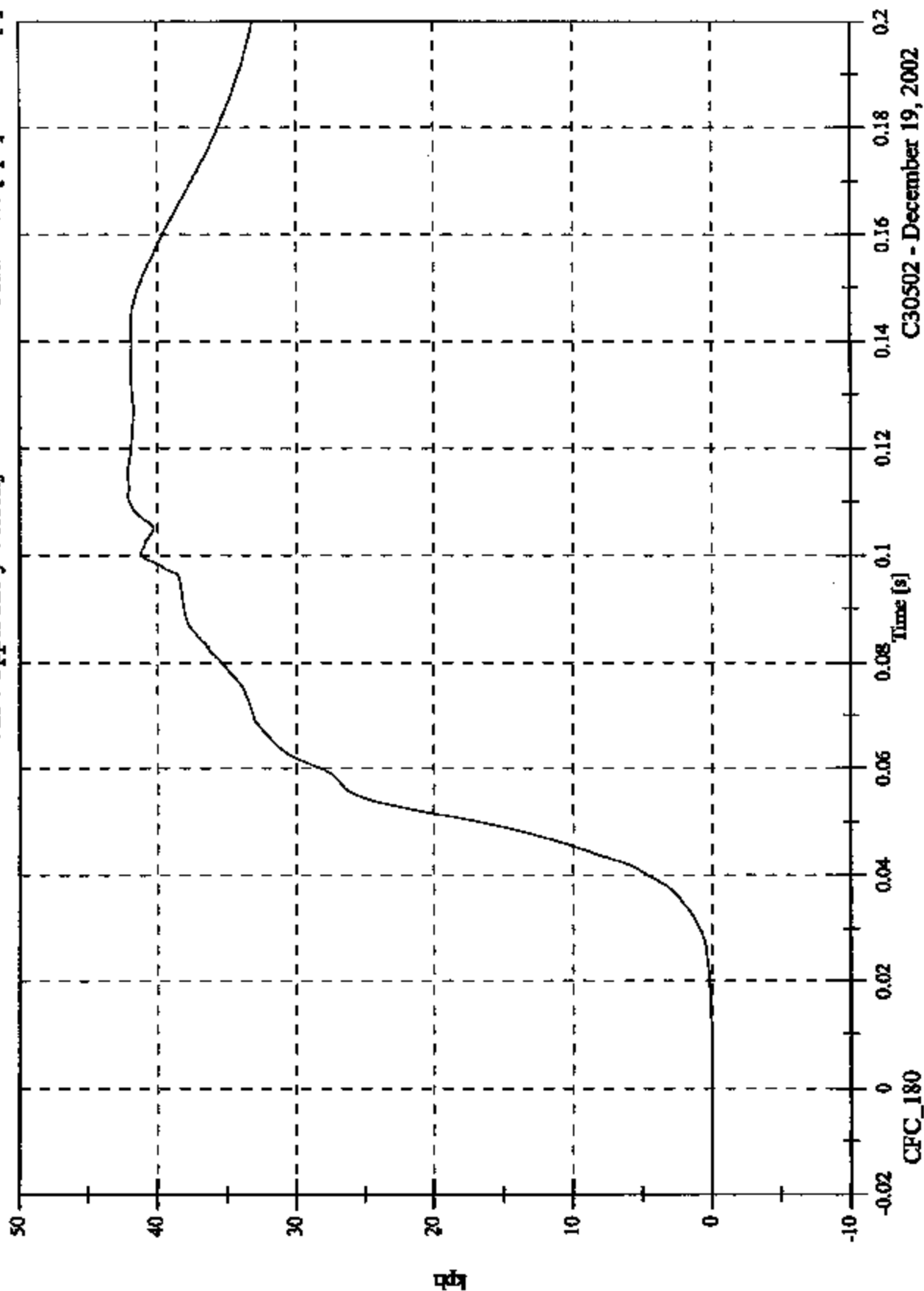


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

Max: 42.1 [kph] at 0.115 [s]
Min: -0.0 [kph] at -0.020 [s]

V2P4 Upper Rib y Velocity

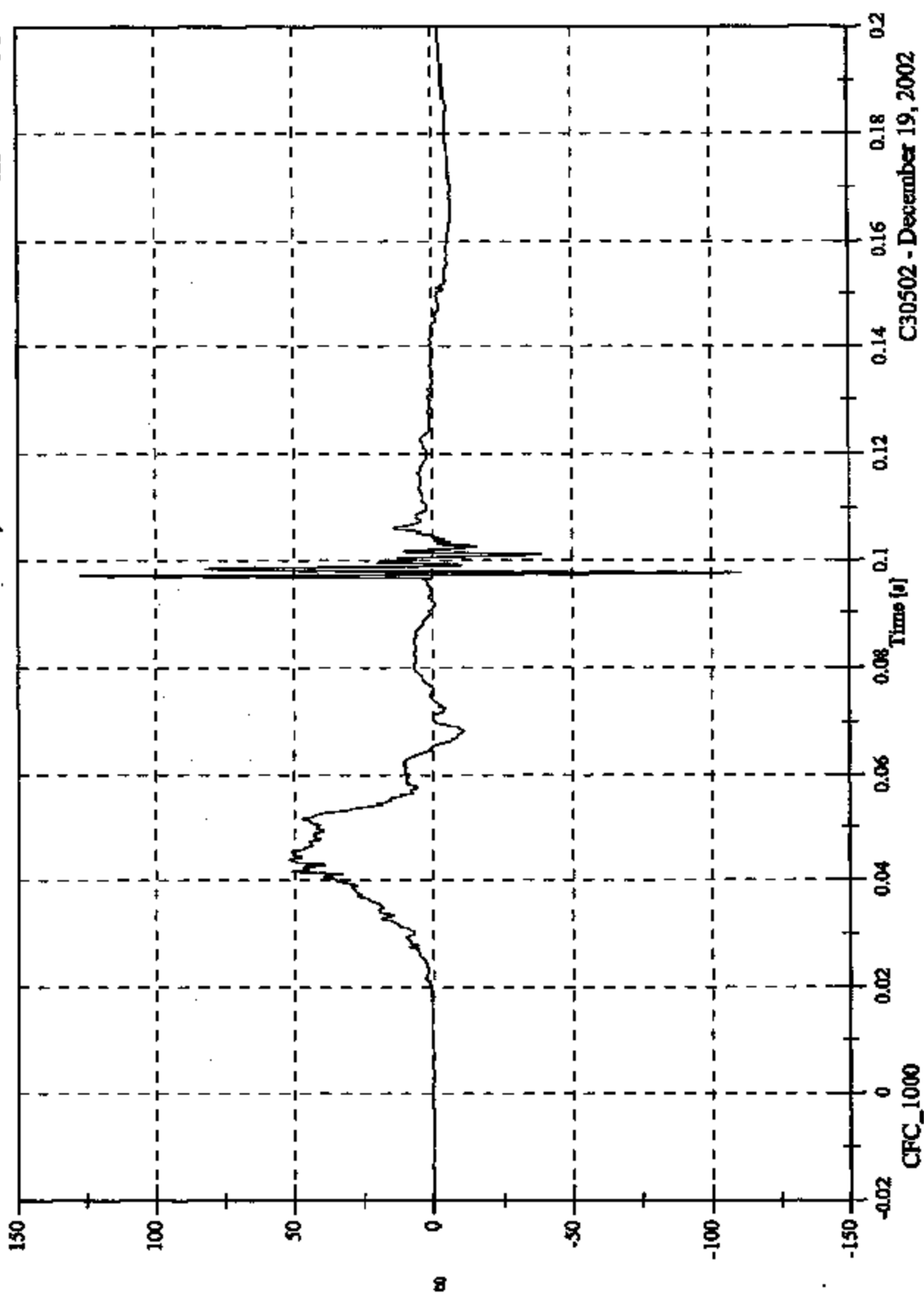


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

V2P4 Lower Rib y

Max: 127.4 [g] at 0.097 [s]
Min: -110.8 [g] at 0.098 [s]

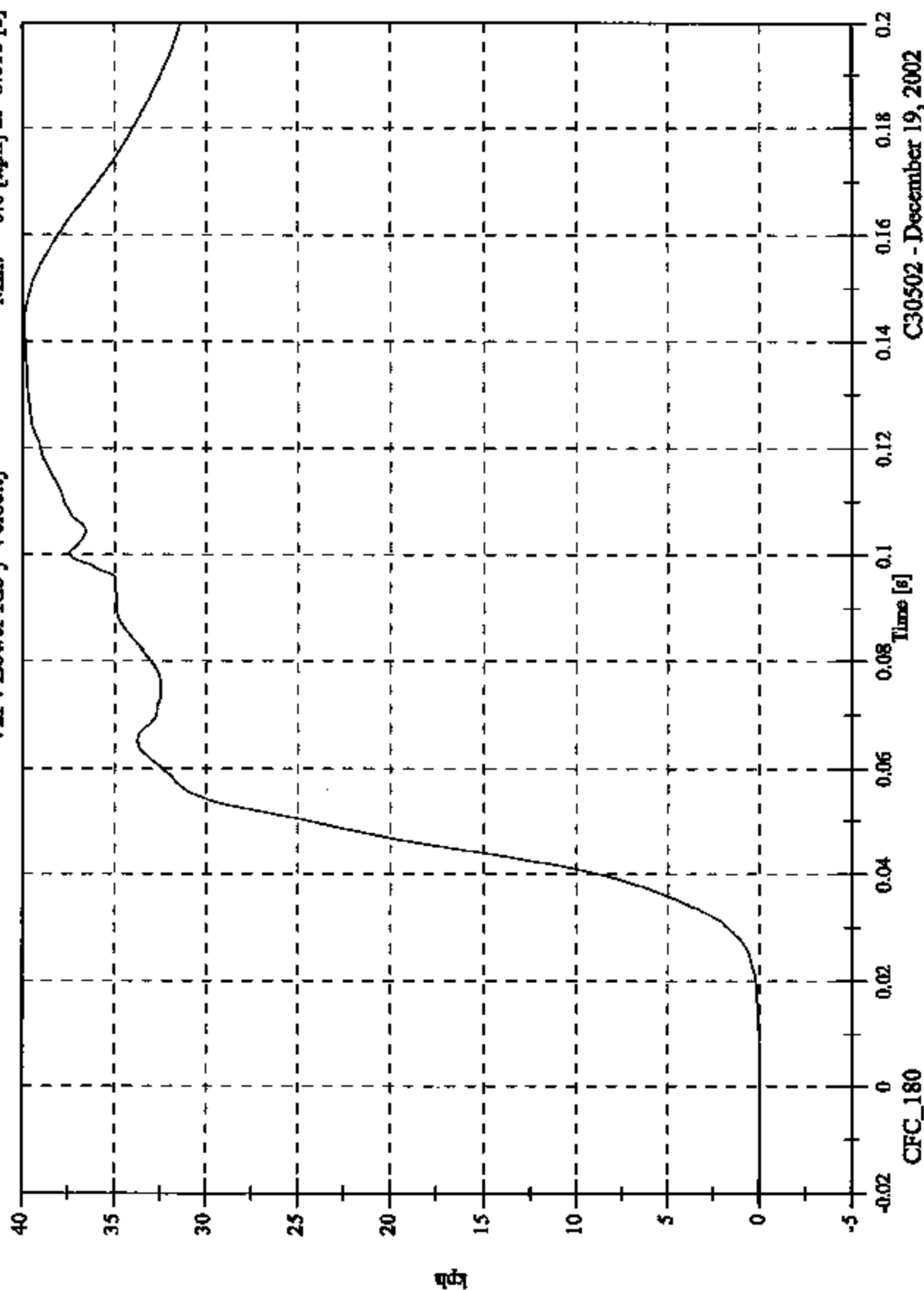


FMVSS 214D Test #1 - 2003 Suzuki Aerio

V2P4 Lower Rib y Velocity

Max: 39.9 [kph] at 0.144 [s]

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

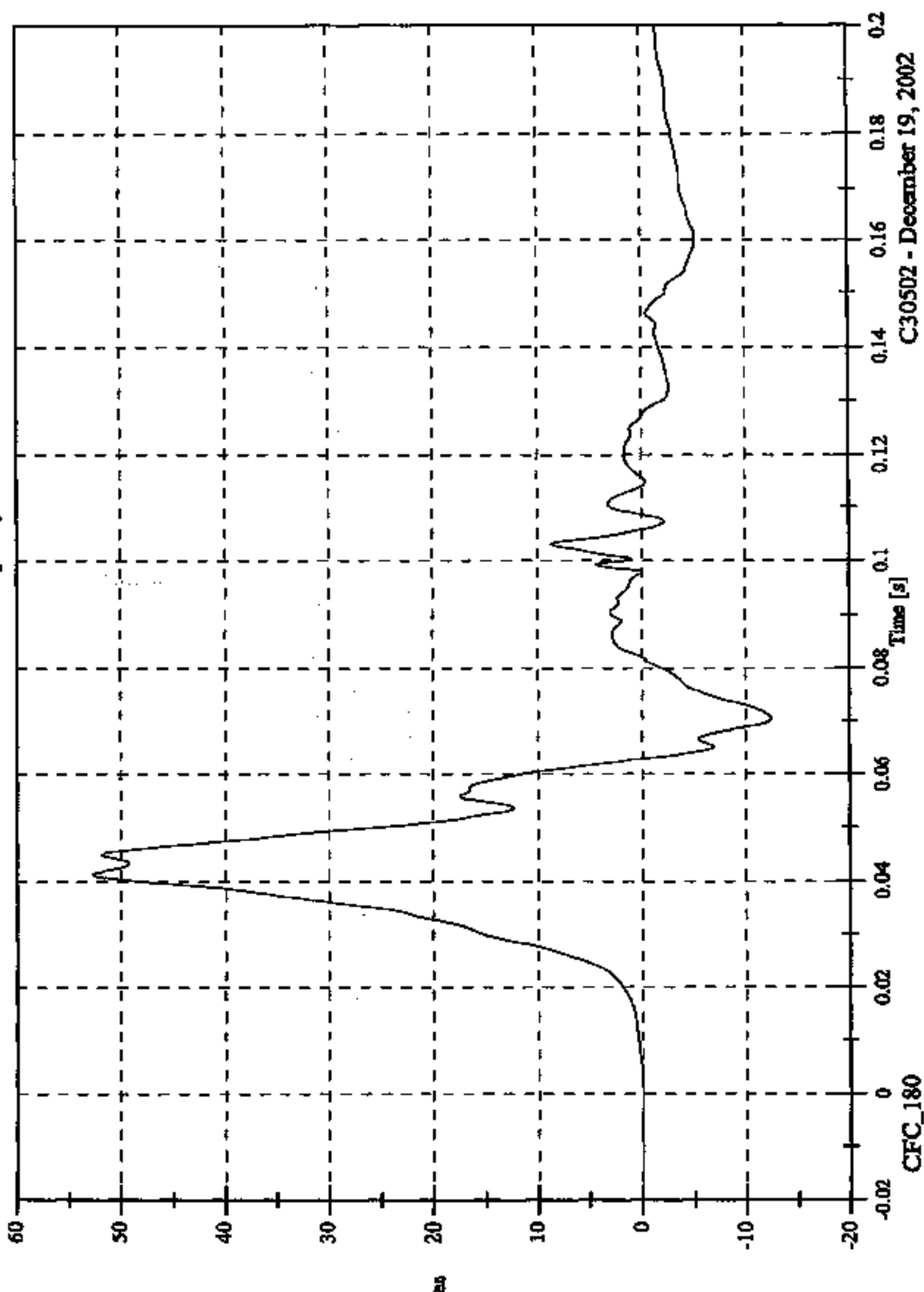


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

Max: 52.7 [g] at 0.041 [s]
Min: -12.5 [g] at 0.070 [s]

V2P4 Lower Spine y



CFC_180

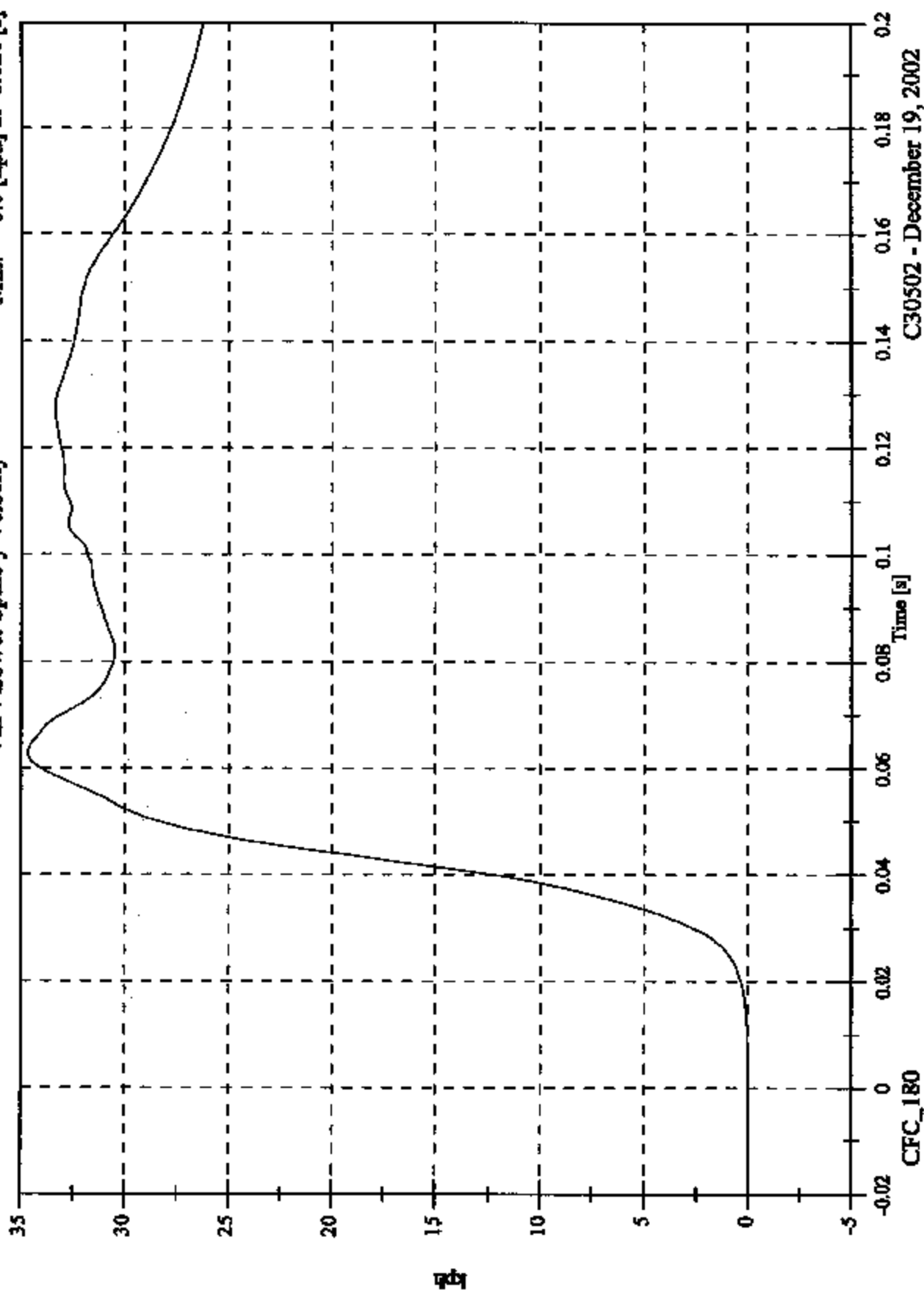
C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

Max: 34.7 [kph] at 0.063 [s]

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

V2P4 Lower Spine y Velocity

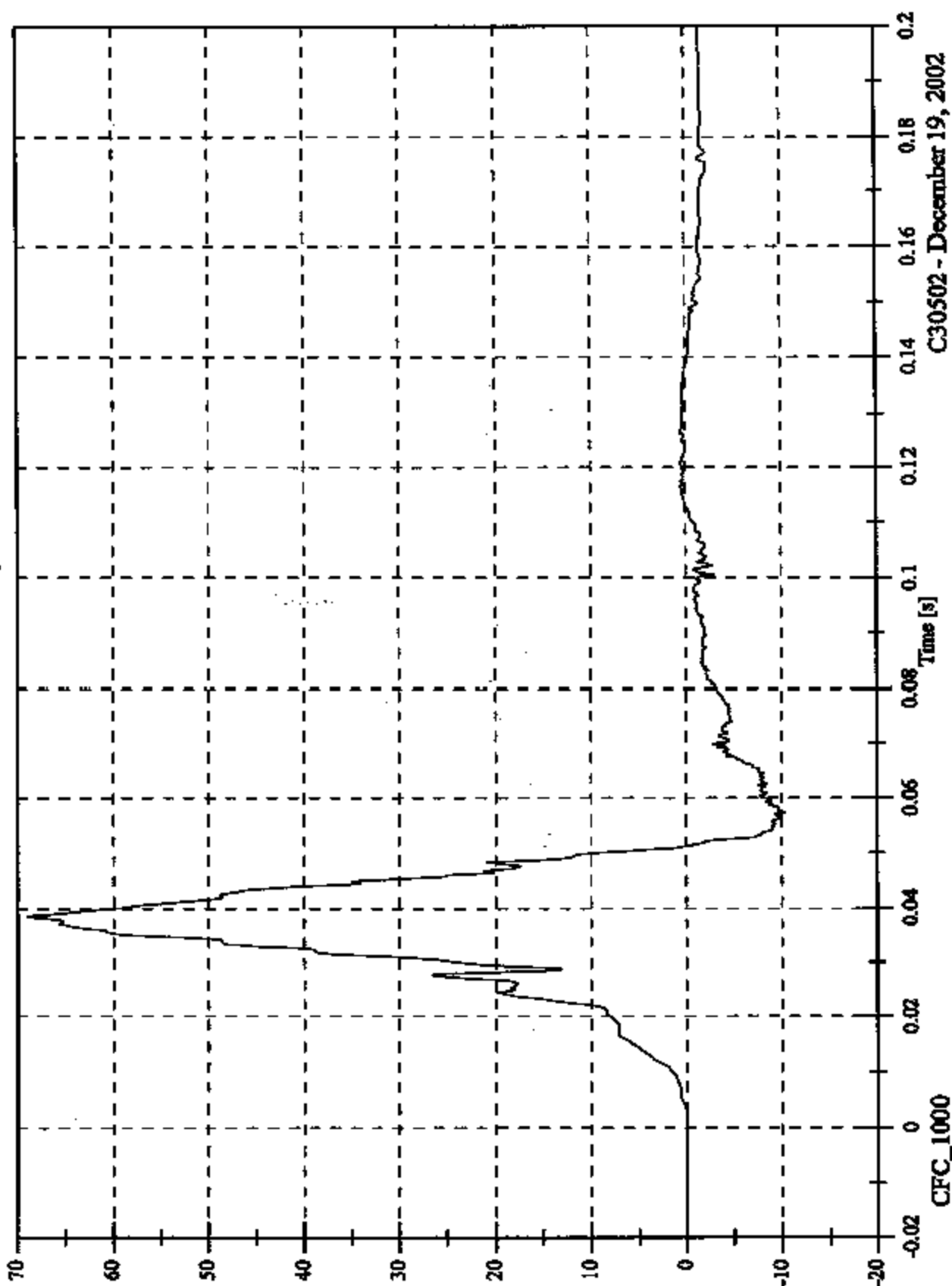


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

Max: 68.9 [g] at 0.039 [s]
Min: -10.2 [g] at 0.057 [s]

V2P4 Pelvic y

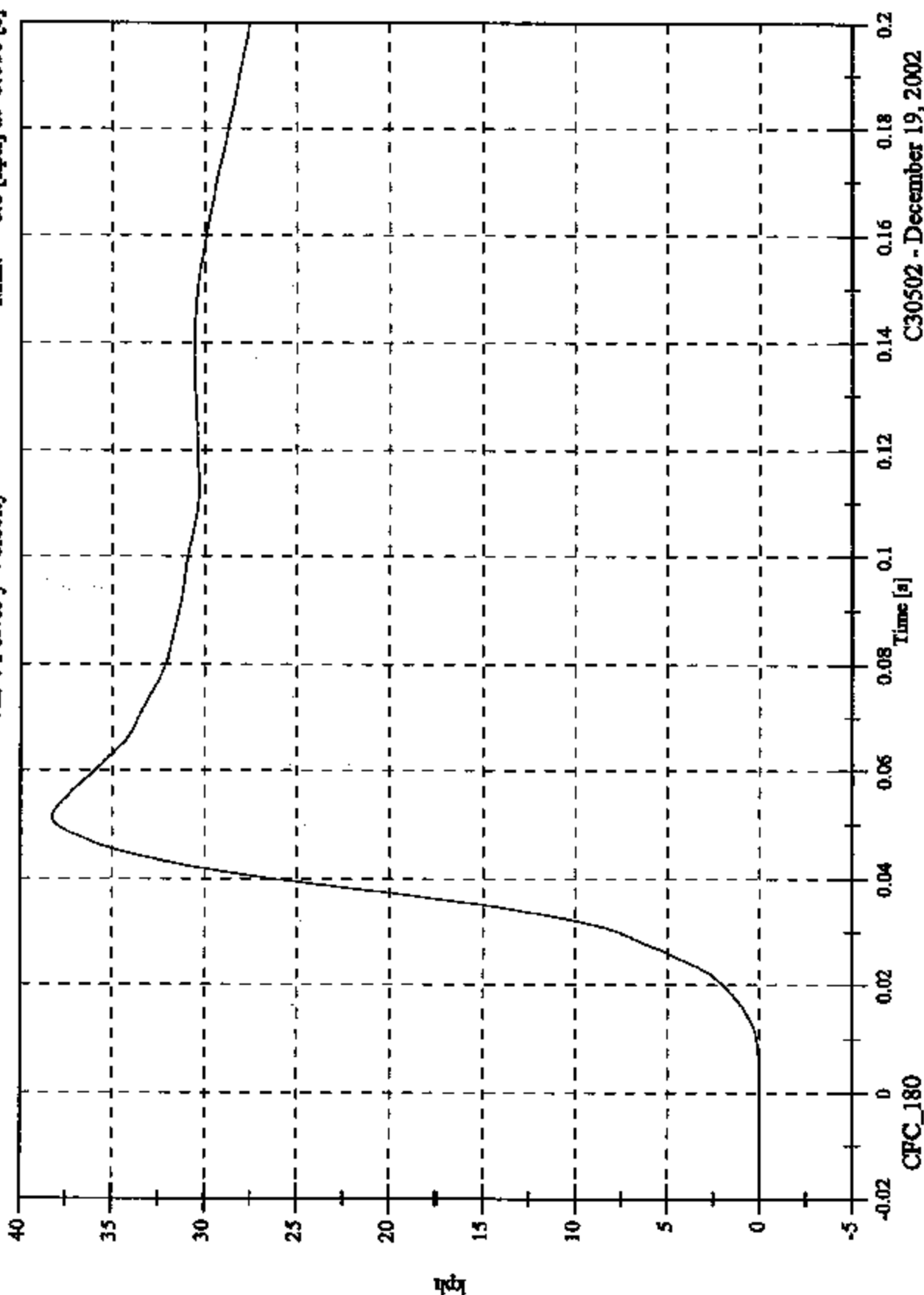


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FMVSS 214D Test #1 - 2003 Suzuki Aerio

V2P4 Pelvic y Velocity

Max: 38.2 [kph] at 0.051 [s]
Min: -0.0 [kph] at -0.016 [s]

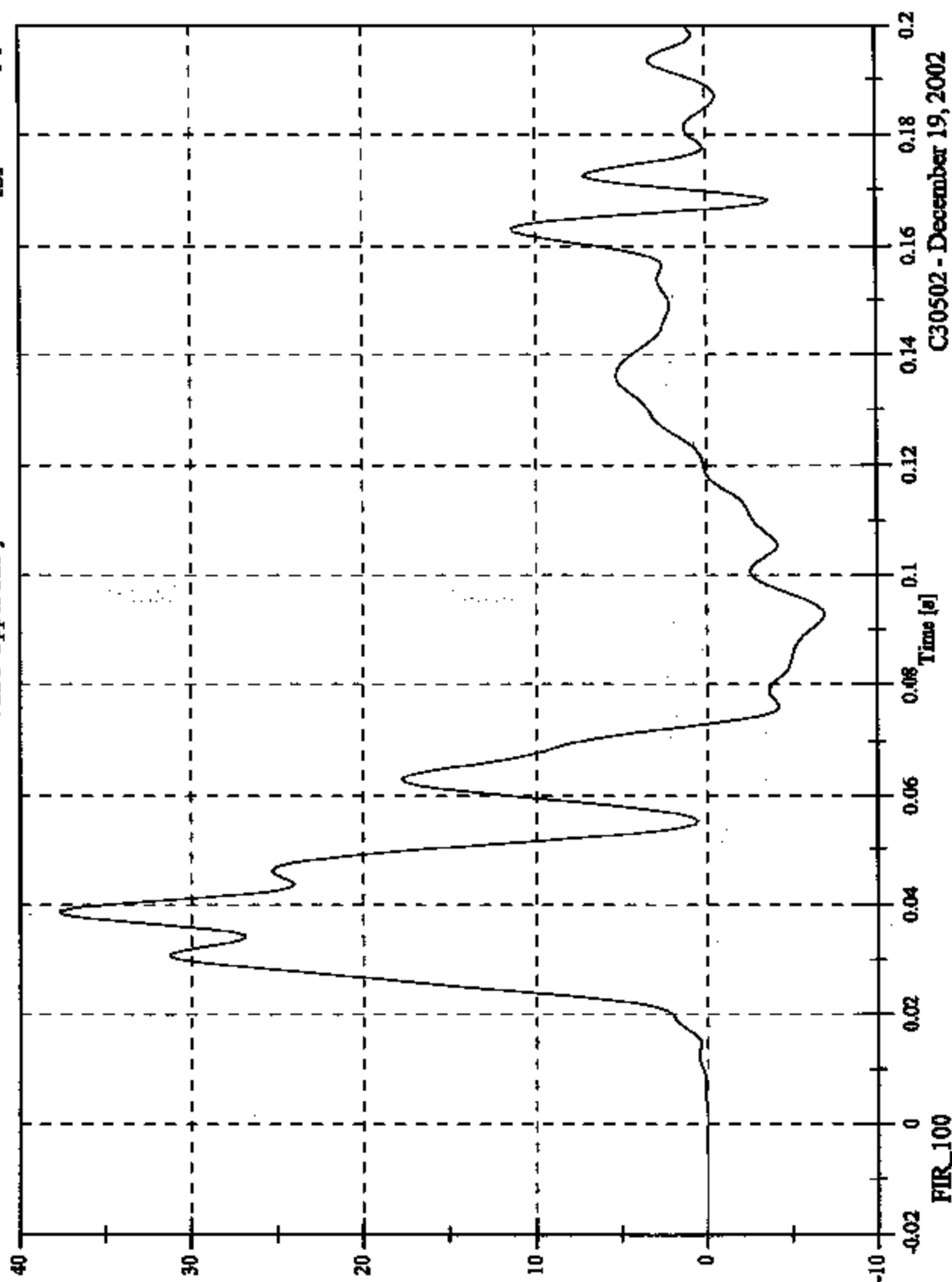


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FMVSS 214D Test #1 - 2003 Suzuki Aerio

Max: 37.7 [g] at 0.039 [s]
Min: -6.9 [g] at 0.093 [s]

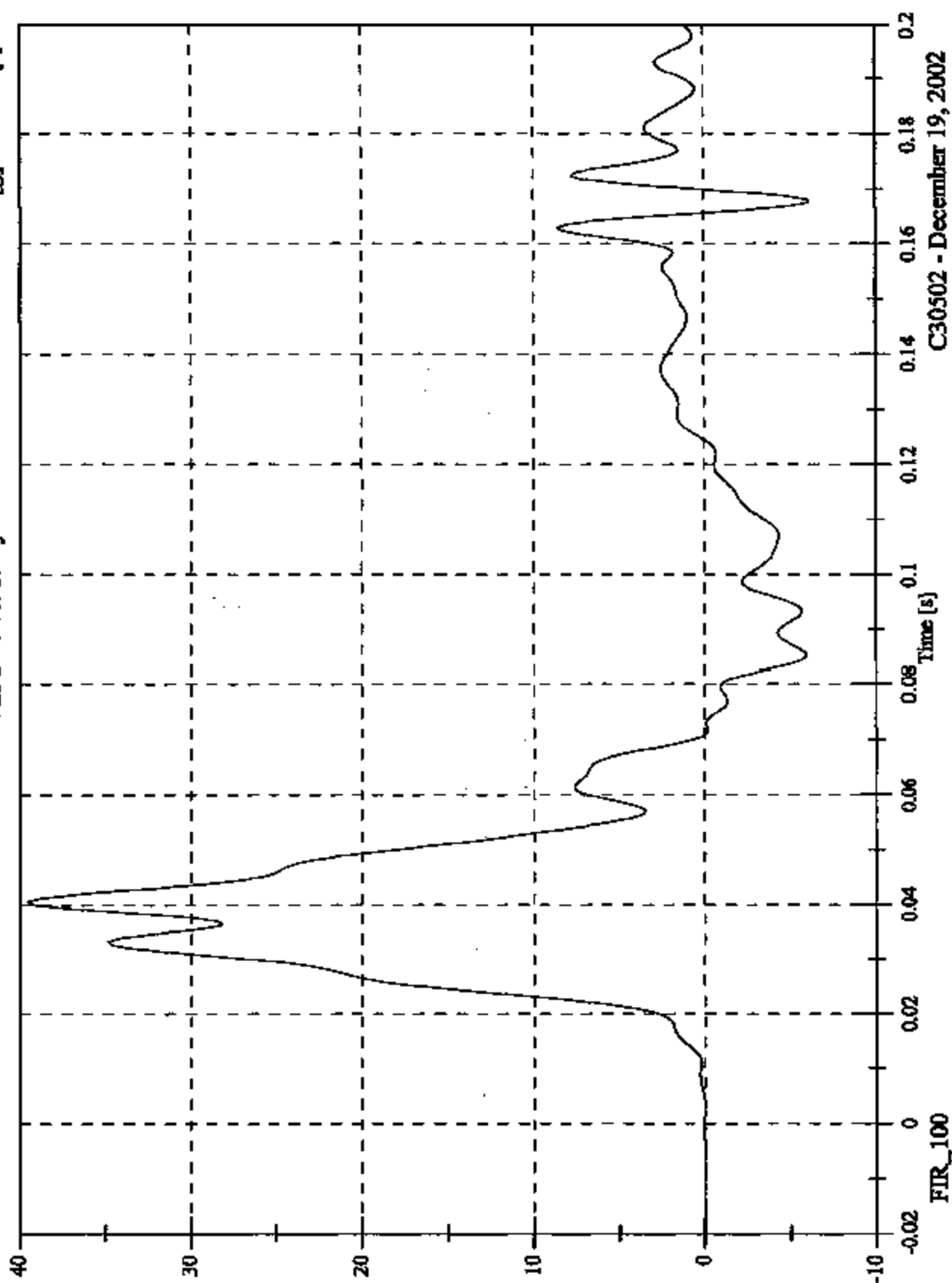
V2P1 Upper Rib y



FMVSS 214D Test #1 - 2003 Suzuki Aerió

V2P1 Lower Rib y

Max: 39.6 [g] at 0.041 [s]
Min: -6.1 [g] at 0.167 [s]

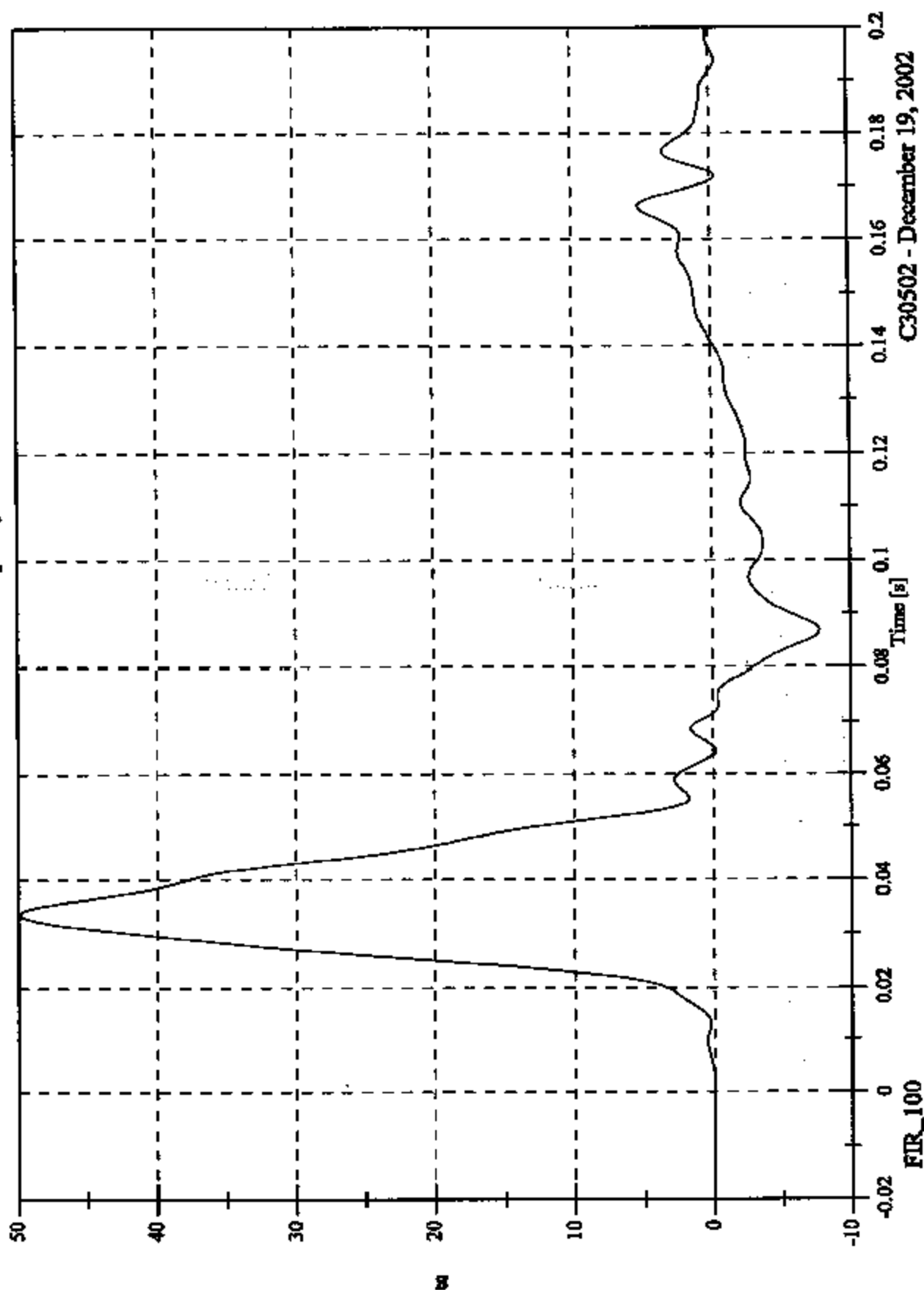


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

Max: 50.0 [g] at 0.034 [s]
Min: -7.8 [g] at 0.087 [s]

V2P1 Lower Spine y

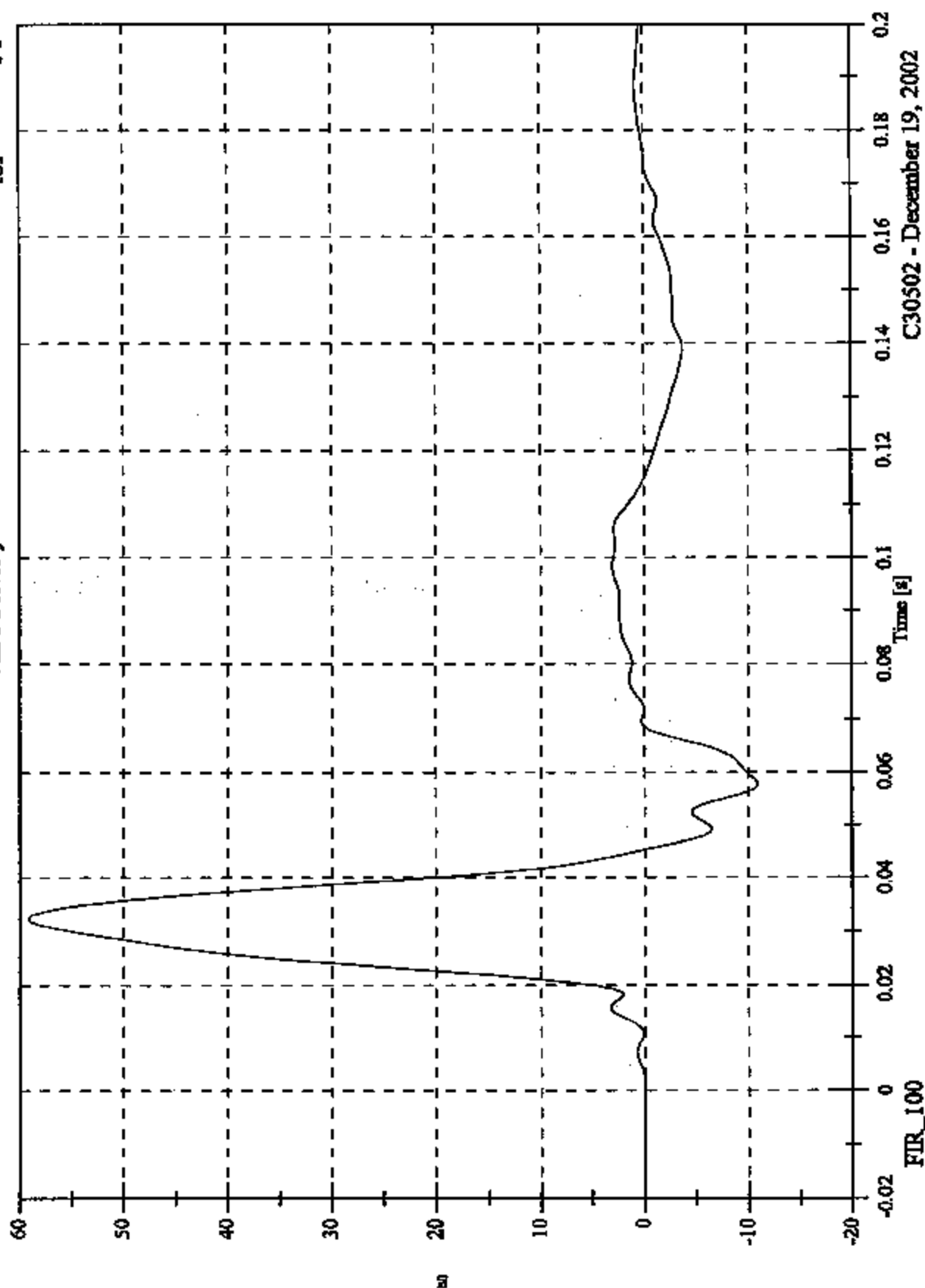


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

Max: 59.2 [g] at 0.032 [s]
Min: -10.9 [g] at 0.057 [s]

V2P1 Pelvic y

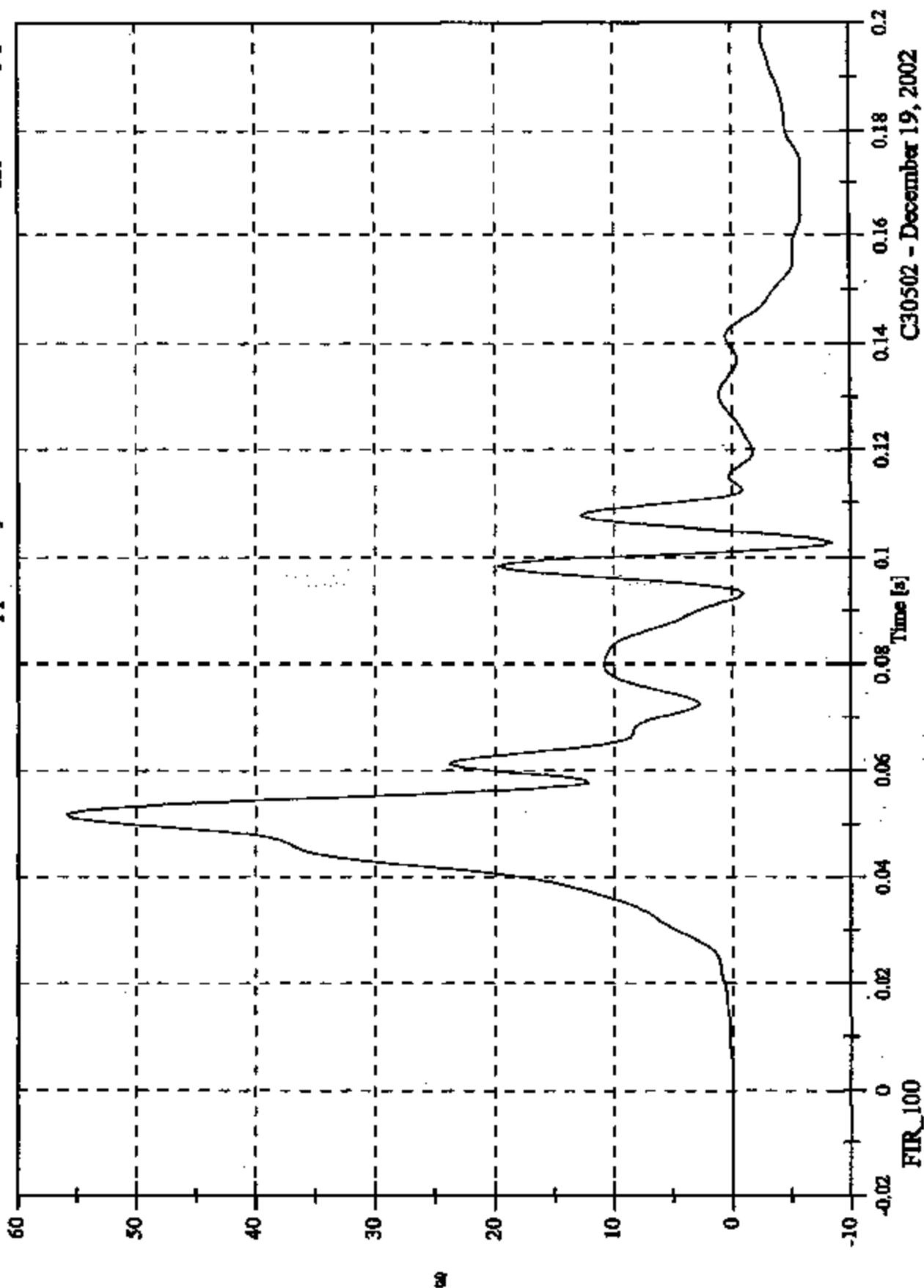


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FMVSS 214D Test #1 - 2003 Suzuki Aerio

V2P4 Upper Rib y

Max: 55.9 [g] at 0.052 [s]
Min: -8.5 [g] at 0.103 [s]



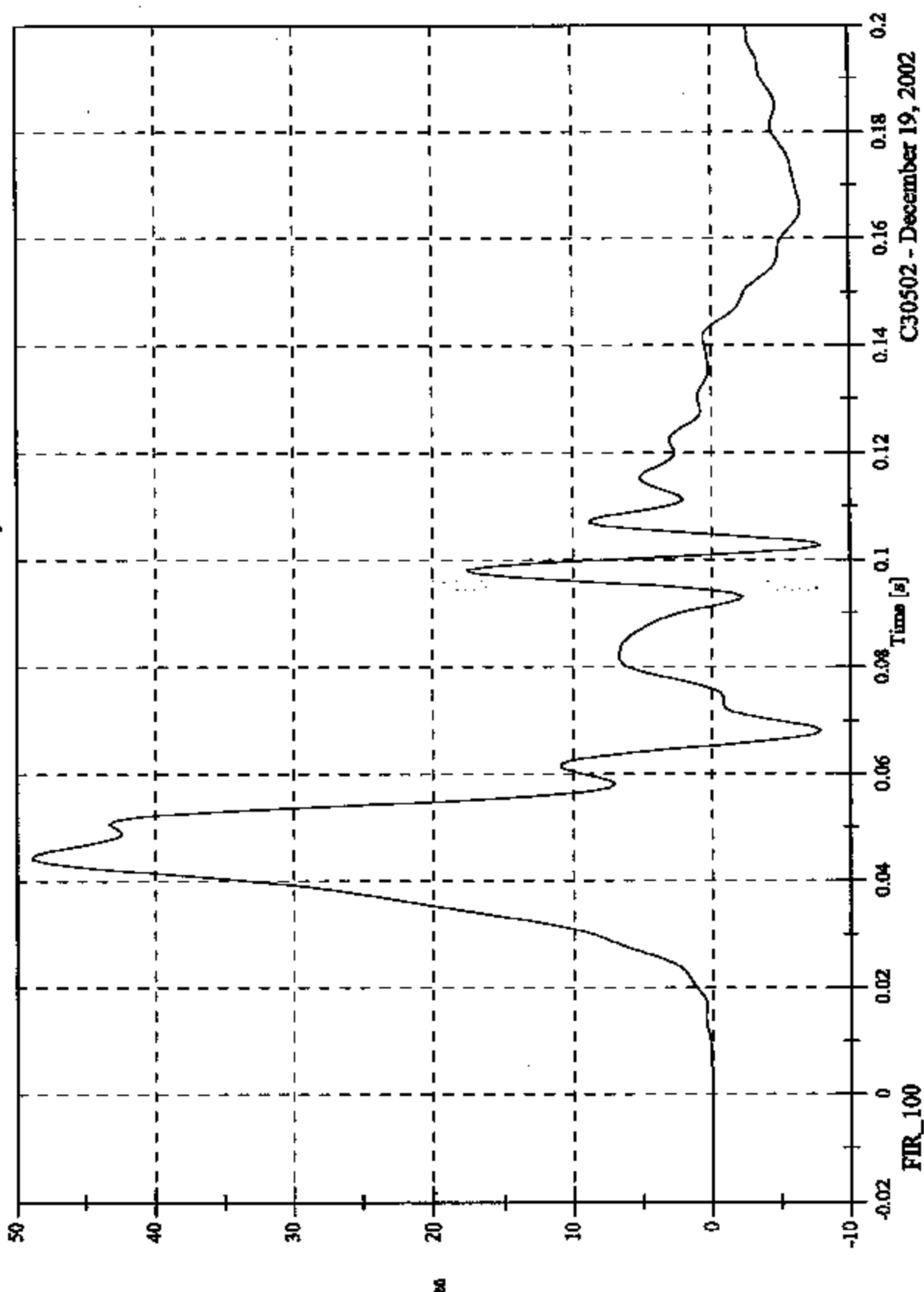
C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

V2P4 Lower Rib y

Max: 48.9 [g] at 0.044 [s]

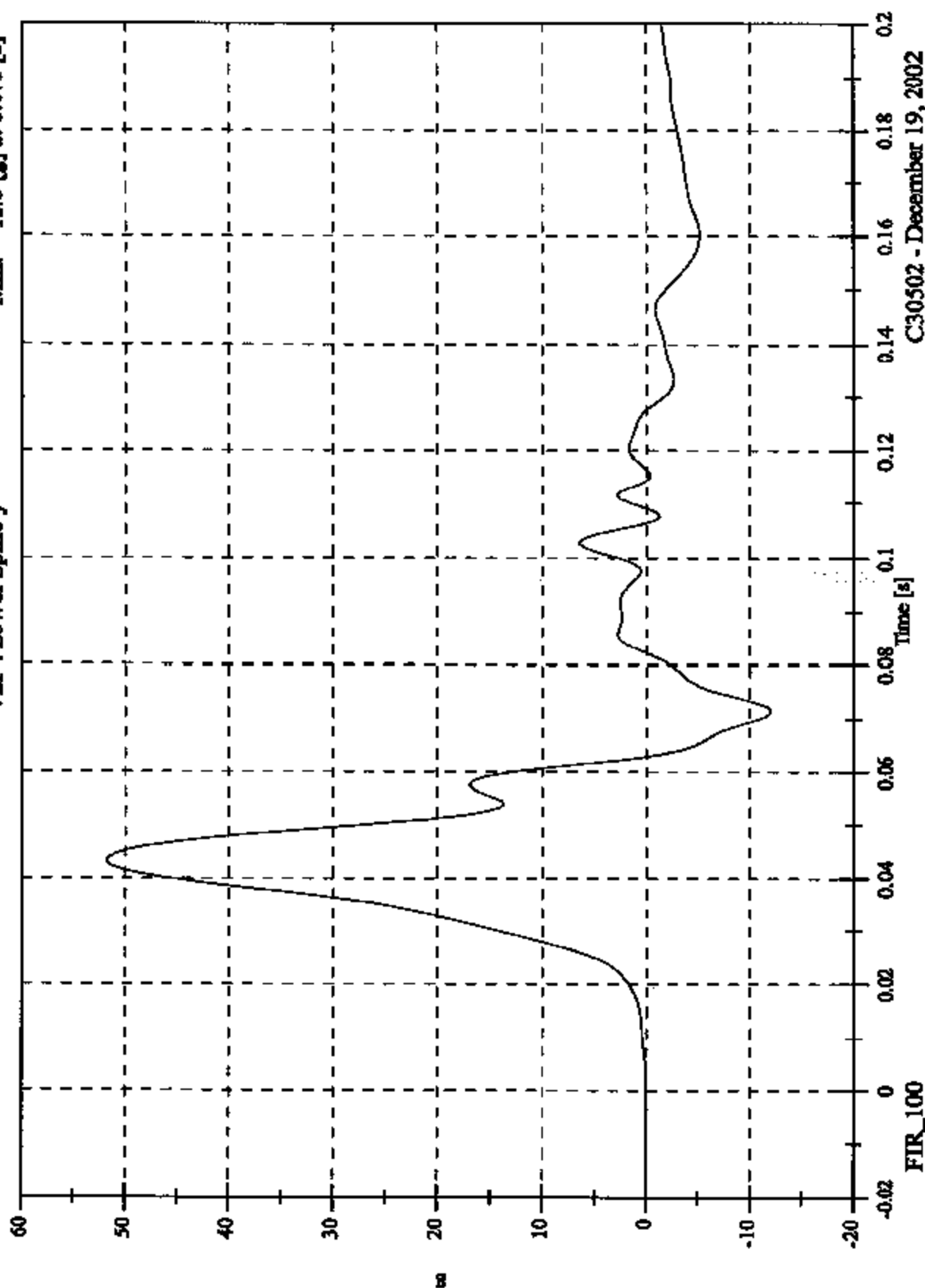
Min: -7.9 [g] at 0.102 [s]



FMVSS 214D Test #1 - 2003 Suzuki Aerio

V2P4 Lower Spine y

Max: 51.8 [g] at 0.043 [s]
Min: -12.0 [g] at 0.071 [s]

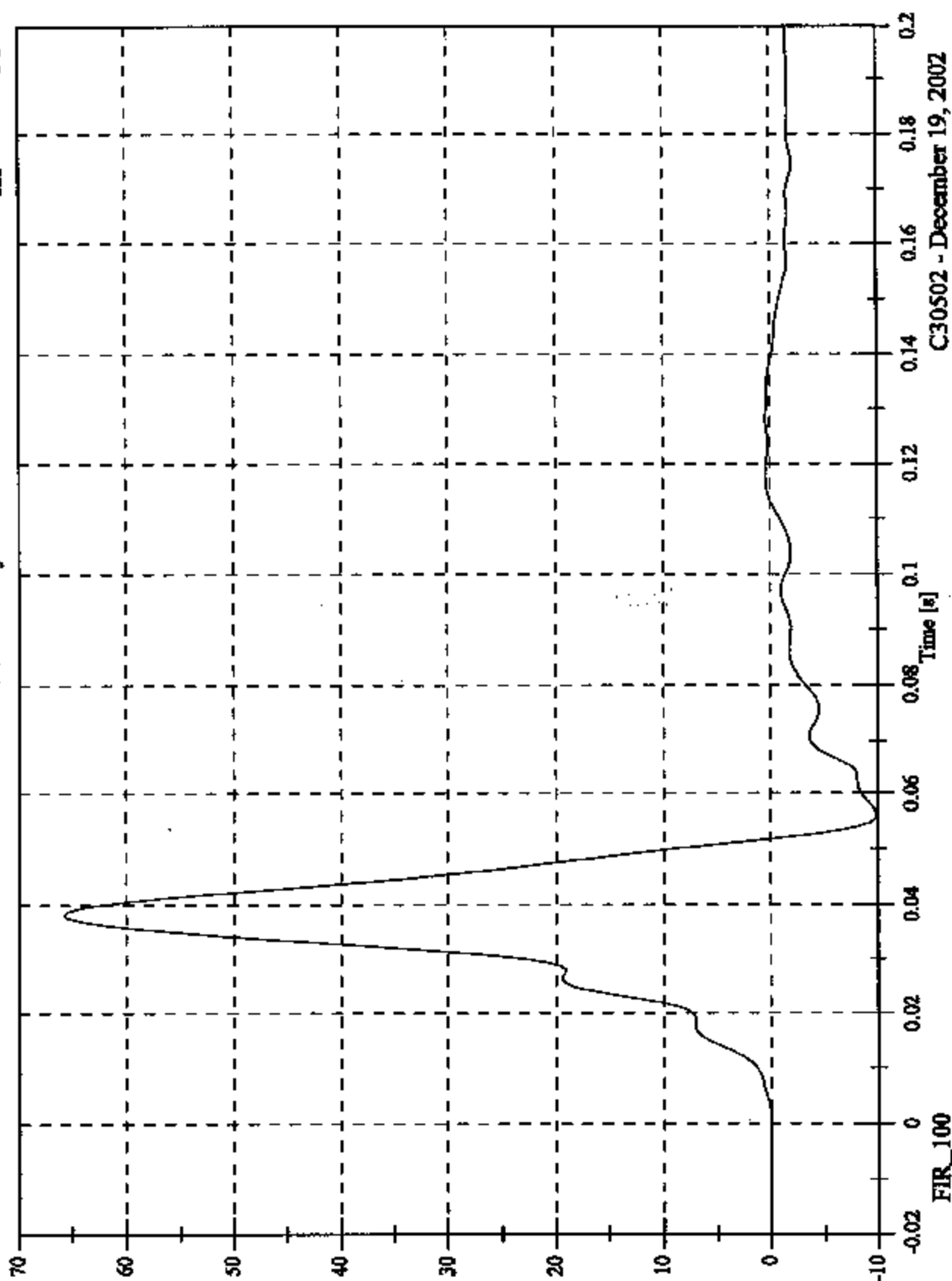


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

V2P4 Pelvic y

Max: 65.8 [g] at 0.038 [s]
Min: -9.9 [g] at 0.056 [s]

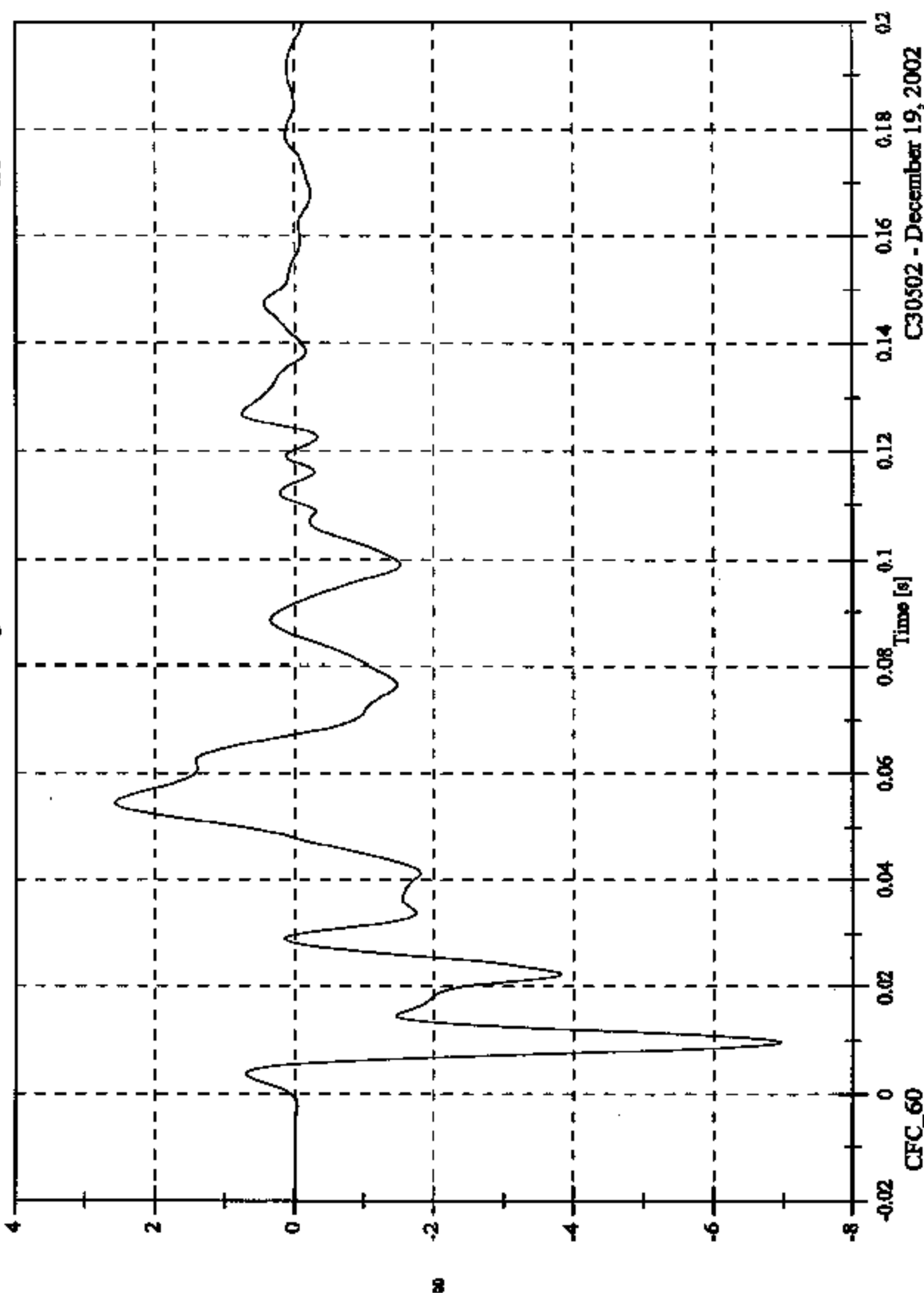


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FMVSS 214D Test #1 - 2003 Suzuki Aerio

V2 A1 Right Front Sill x

Max: 2.6 [g] at 0.054 [s]
Min: -7.0 [g] at 0.010 [s]

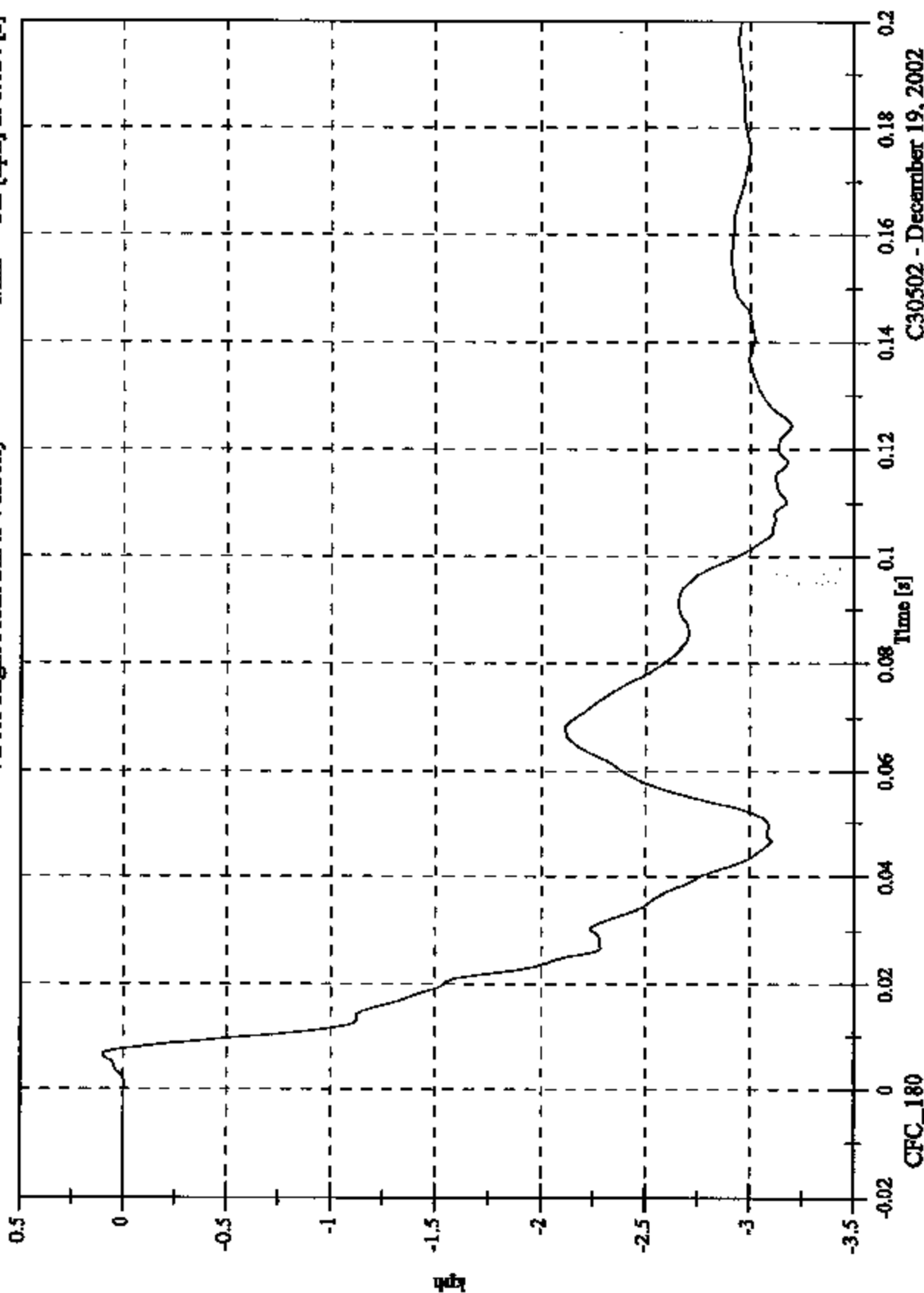


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

V2 A1 Right Front Sill x Velocity

Max: 0.1 [kph] at 0.007 [s]
Min: -3.2 [kph] at 0.124 [s]

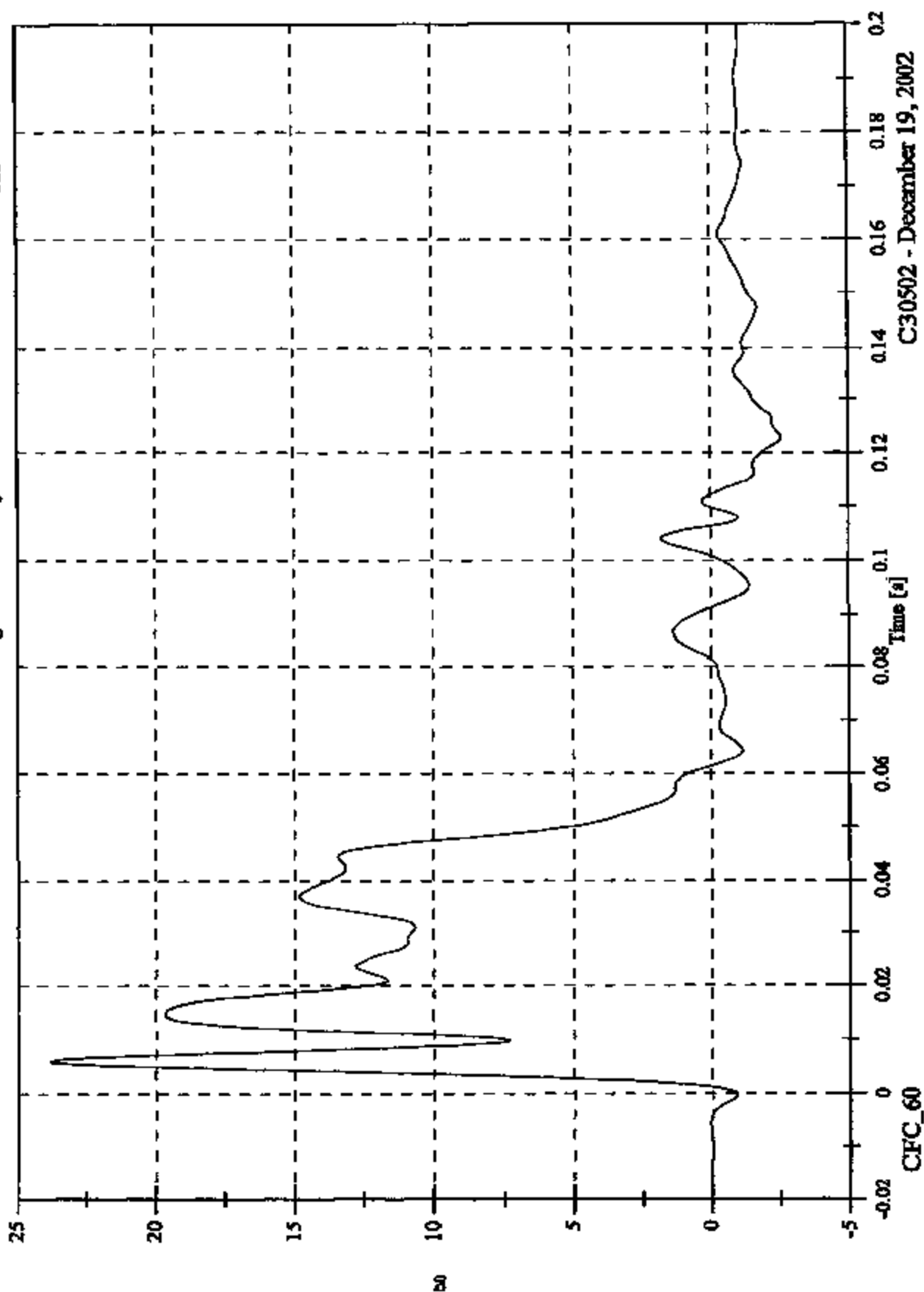


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

V2 A1 Right Front Sill y

Max: 23.8 [g] at 0.006 [s]
Min: -2.6 [g] at 0.123 [s]

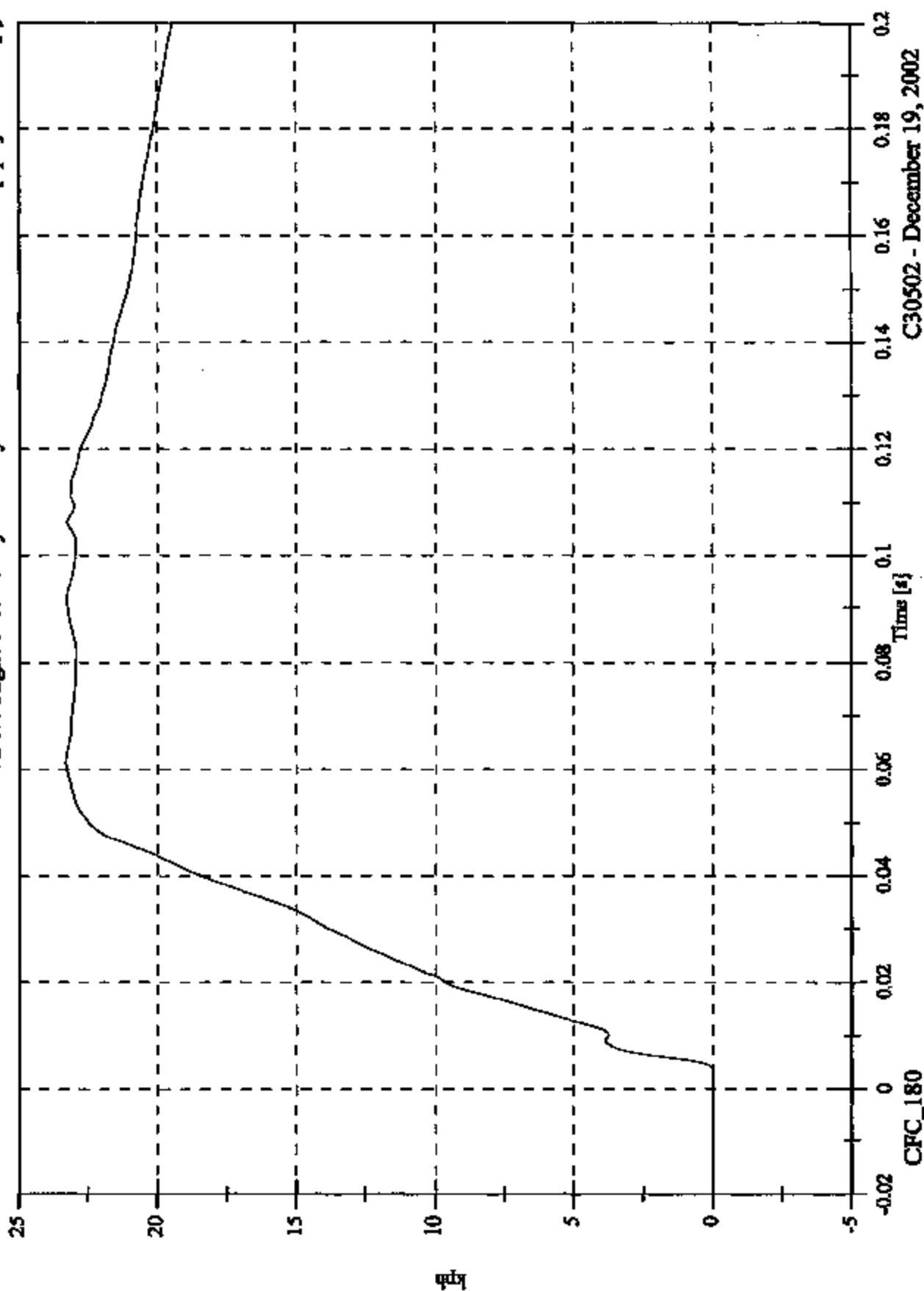


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

V2 A1 Right Front Sill y Velocity

Max: 23.3 [kph] at 0.061 [s]
Min: -0.0 [kph] at 0.003 [s]

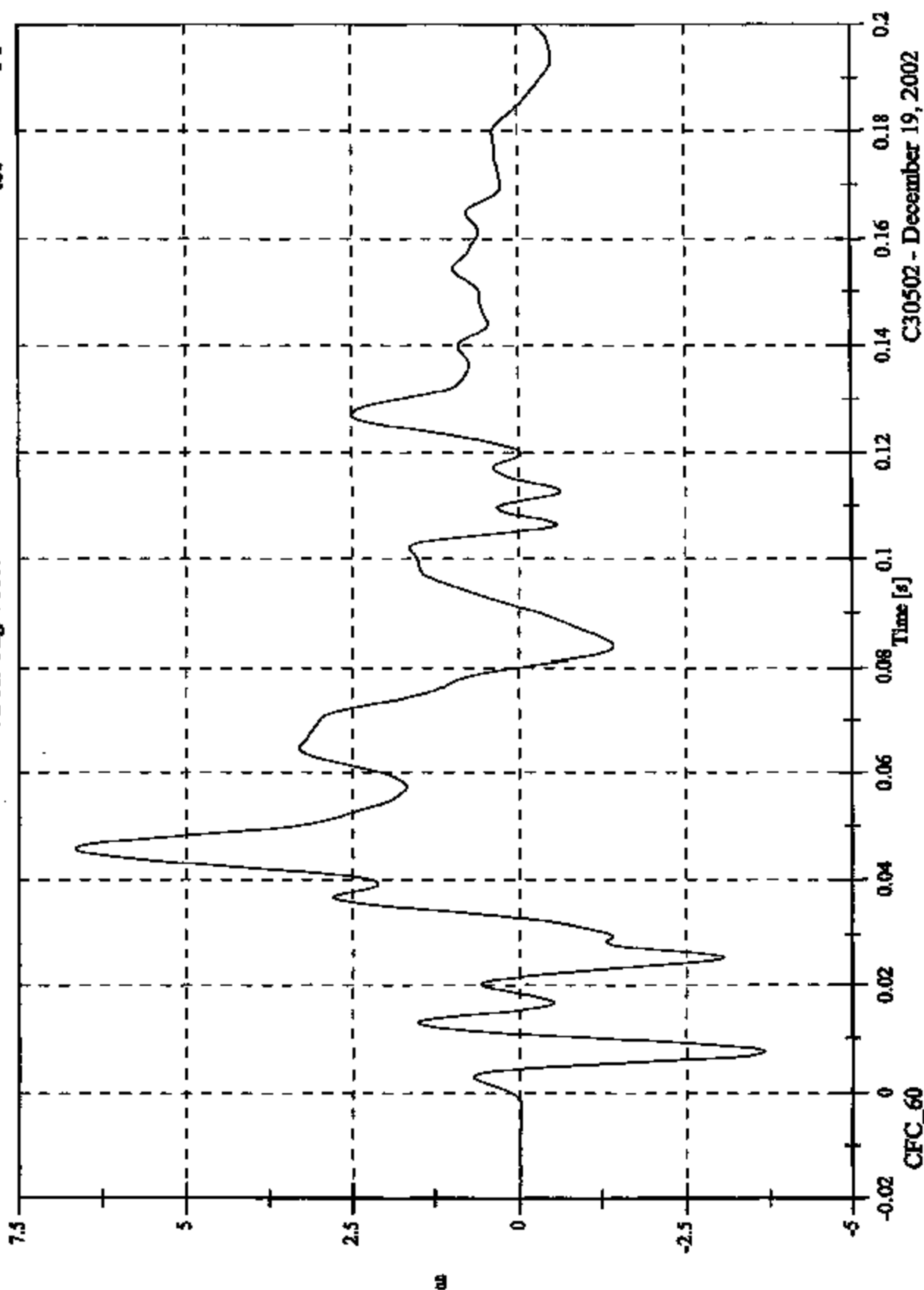


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

V2 A1 Right Front Sill z

Max: 6.7 [g] at 0.046 [s]
Min: -3.7 [g] at 0.007 [s]

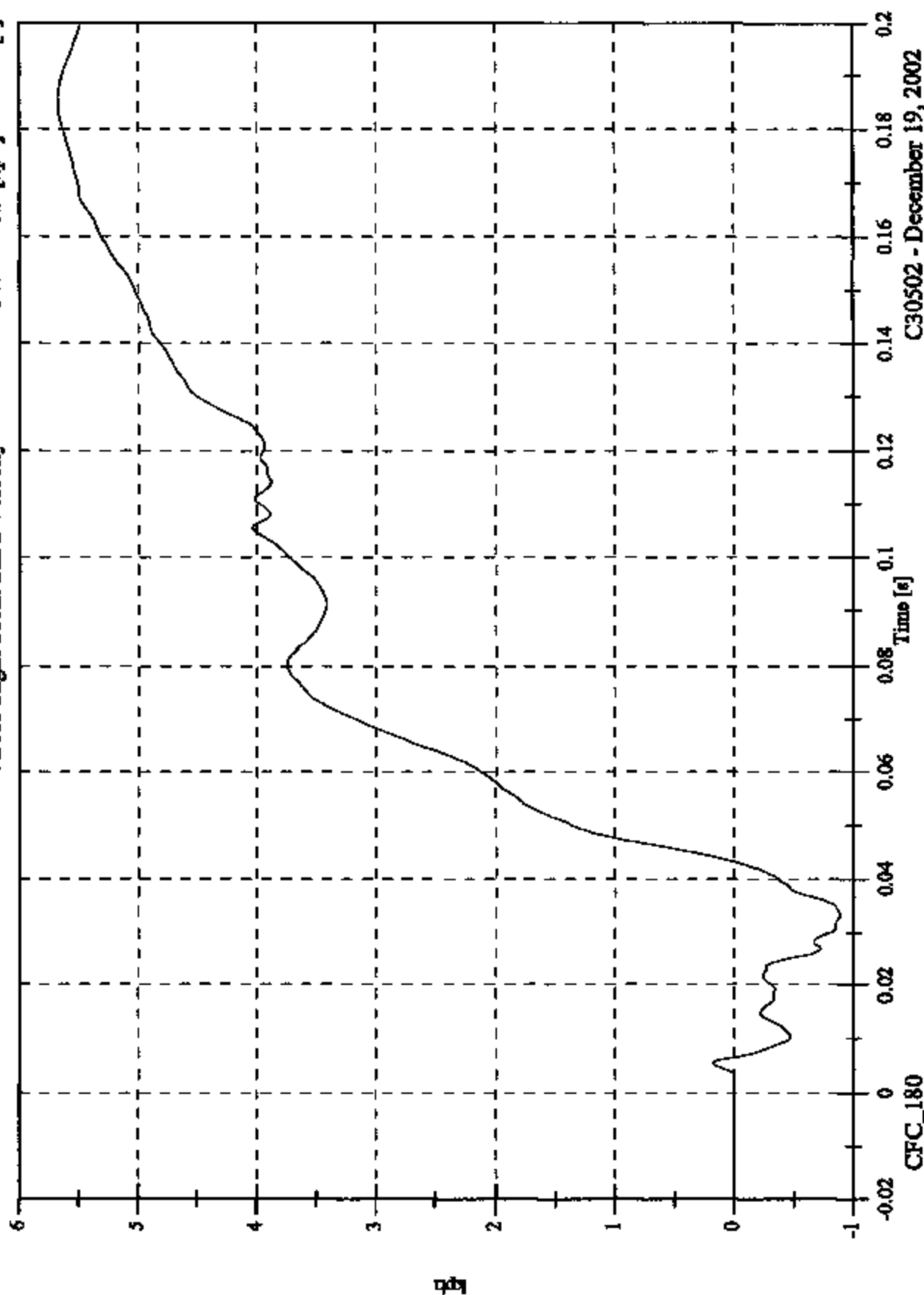


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

V2 A1 Right Front Sill z Velocity

Max: 5.7 [kph] at 0.185 [s]
Min: -0.9 [kph] at 0.033 [s]

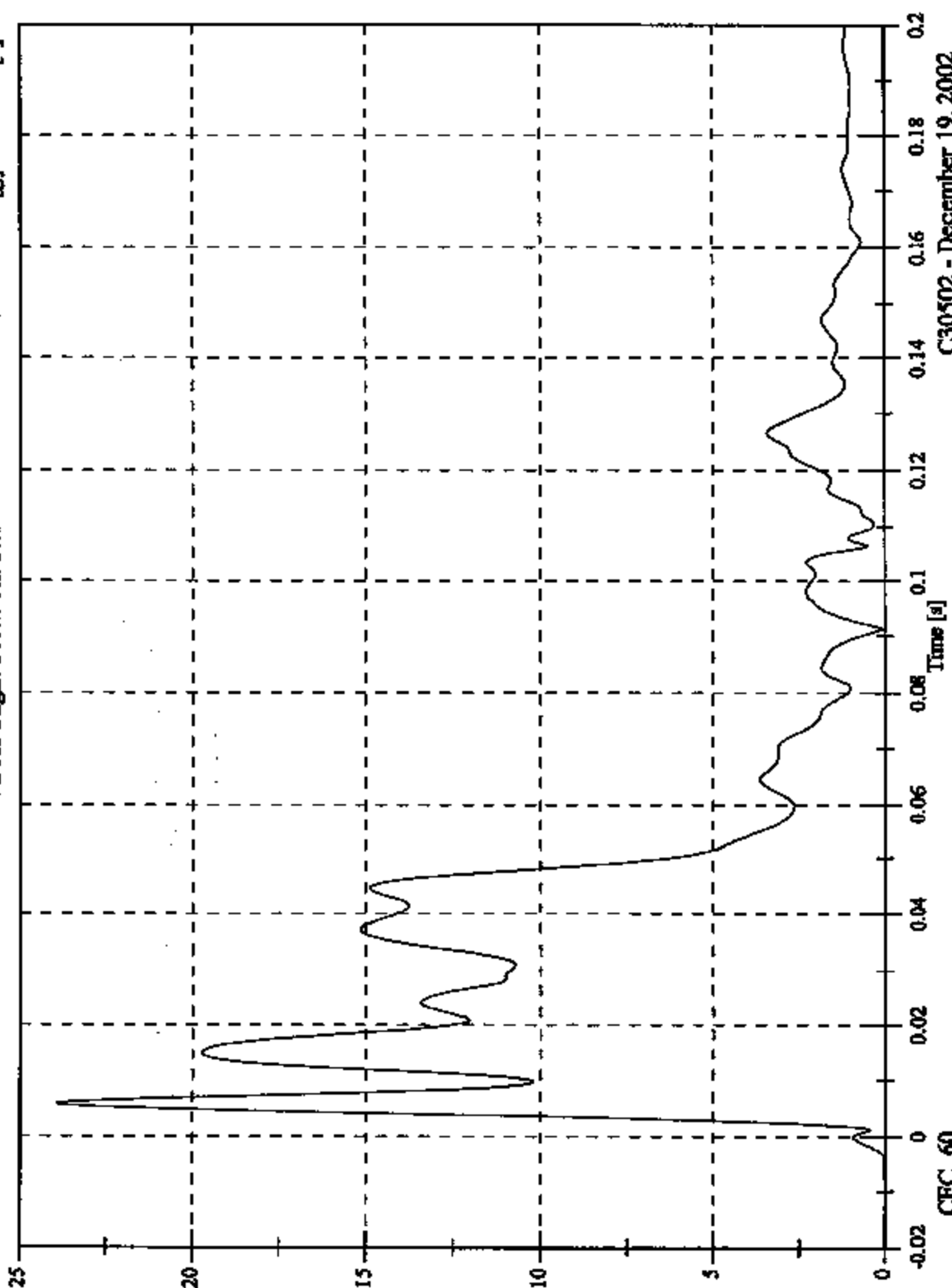


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FMVSS 214D Test #1 - 2003 Suzuki Aerio

V2 A1 Right Front Sill Resultant

Max: 24.0 [g] at 0.006 [s]
Min: 0.0 [g] at -0.009 [s]



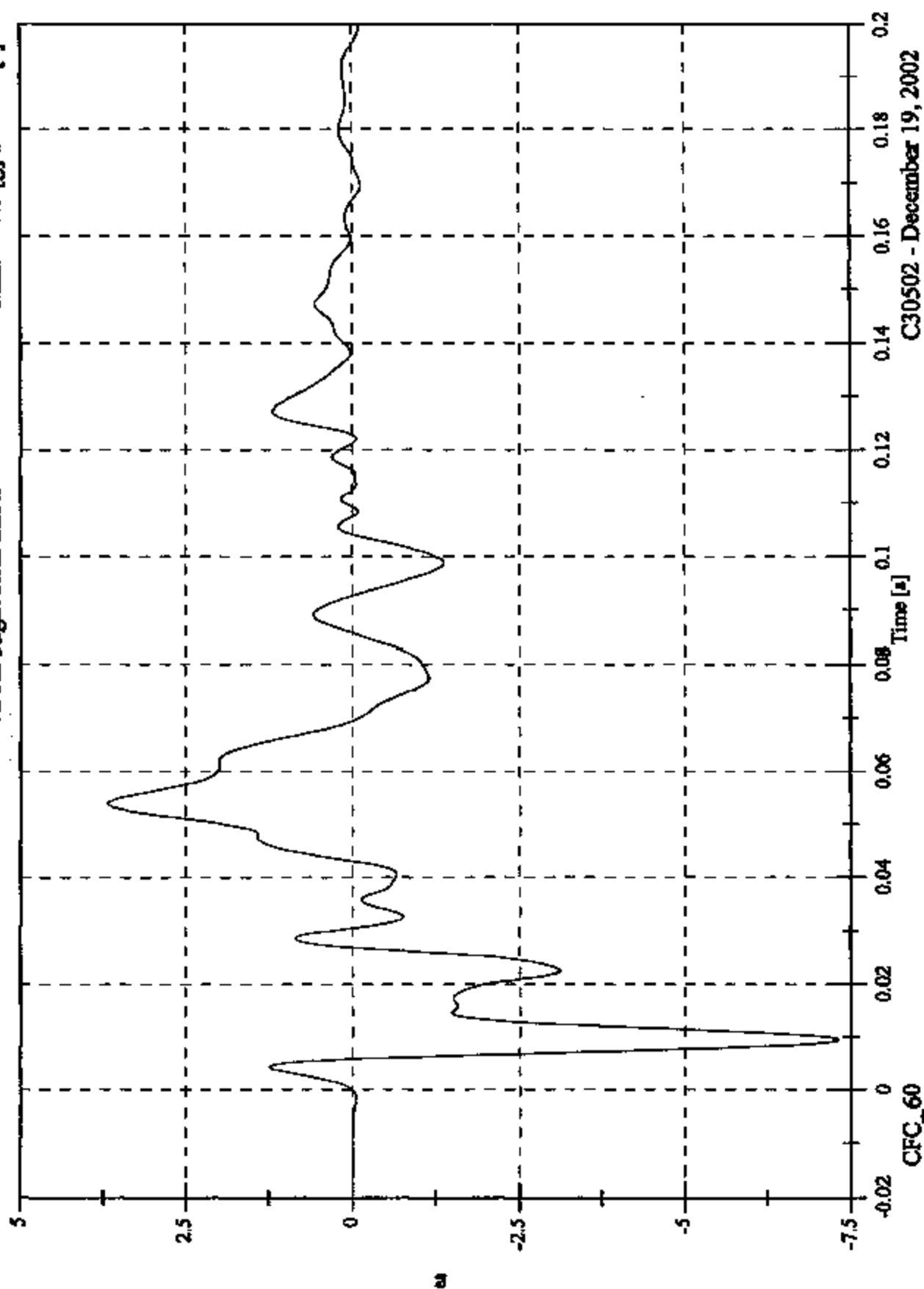
C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

Max: 3.7 [g] at 0.054 [s]

Min: -7.3 [g] at 0.010 [s]

V2 A2 Right Rear Sill x

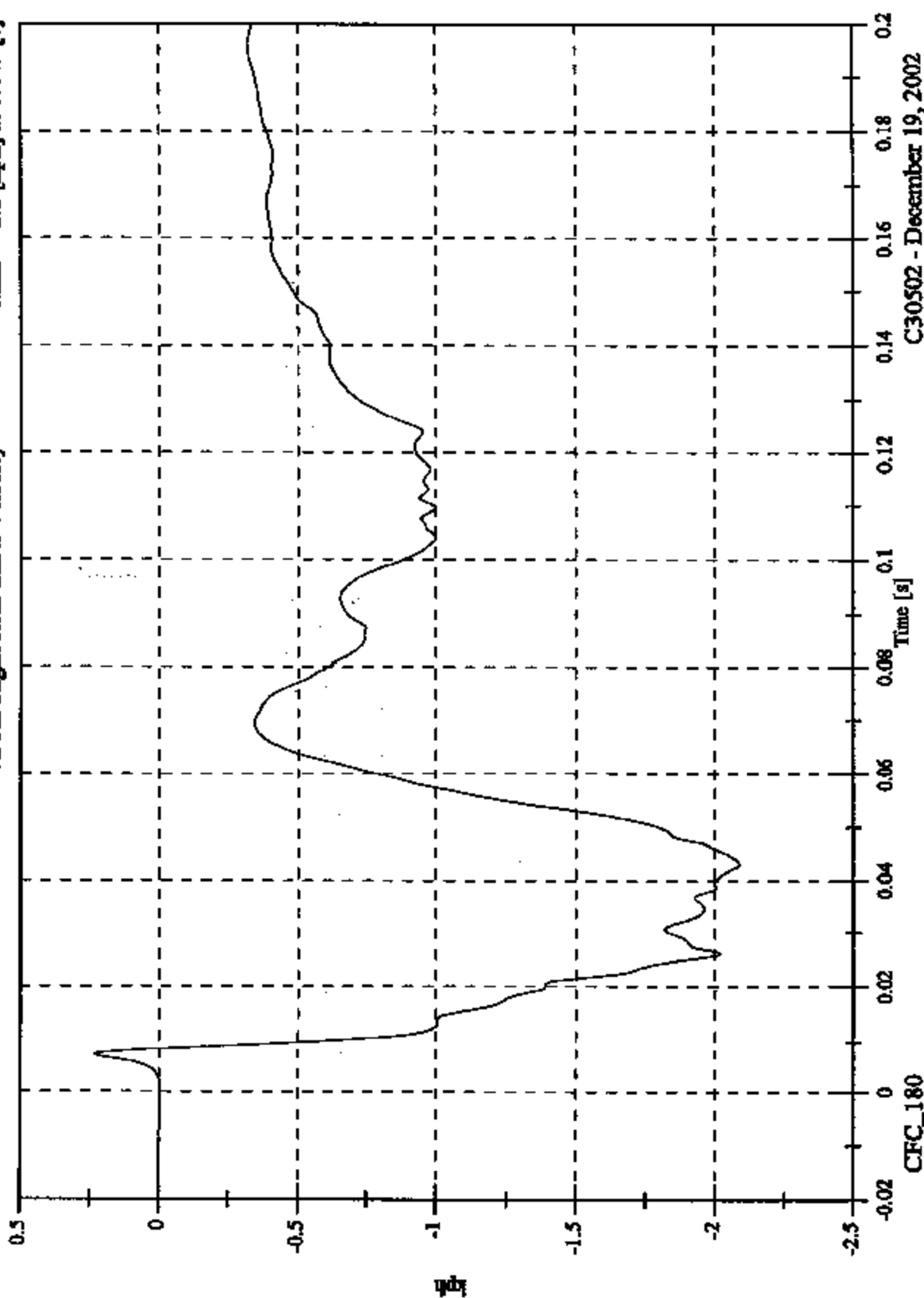


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerieo

V2 A2 Right Rear Sill x Velocity

Max: 0.2 [kph] at 0.007 [s]
Min: -2.1 [kph] at 0.043 [s]



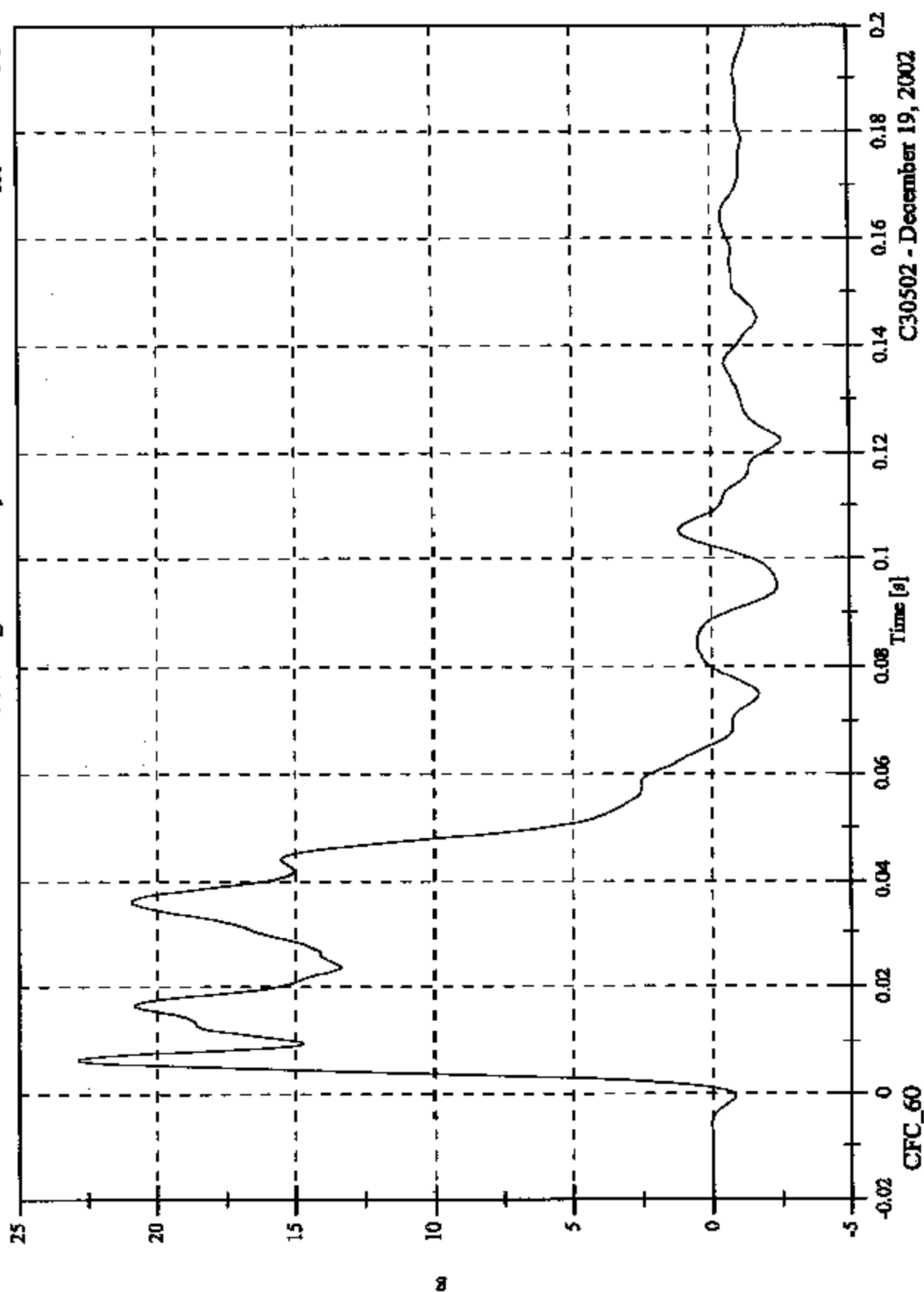
C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerieo

V2 A2 Right Rear Sill y

Max: 22.9 [g] at 0.006 [s]

Min: -2.5 [g] at 0.122 [s]

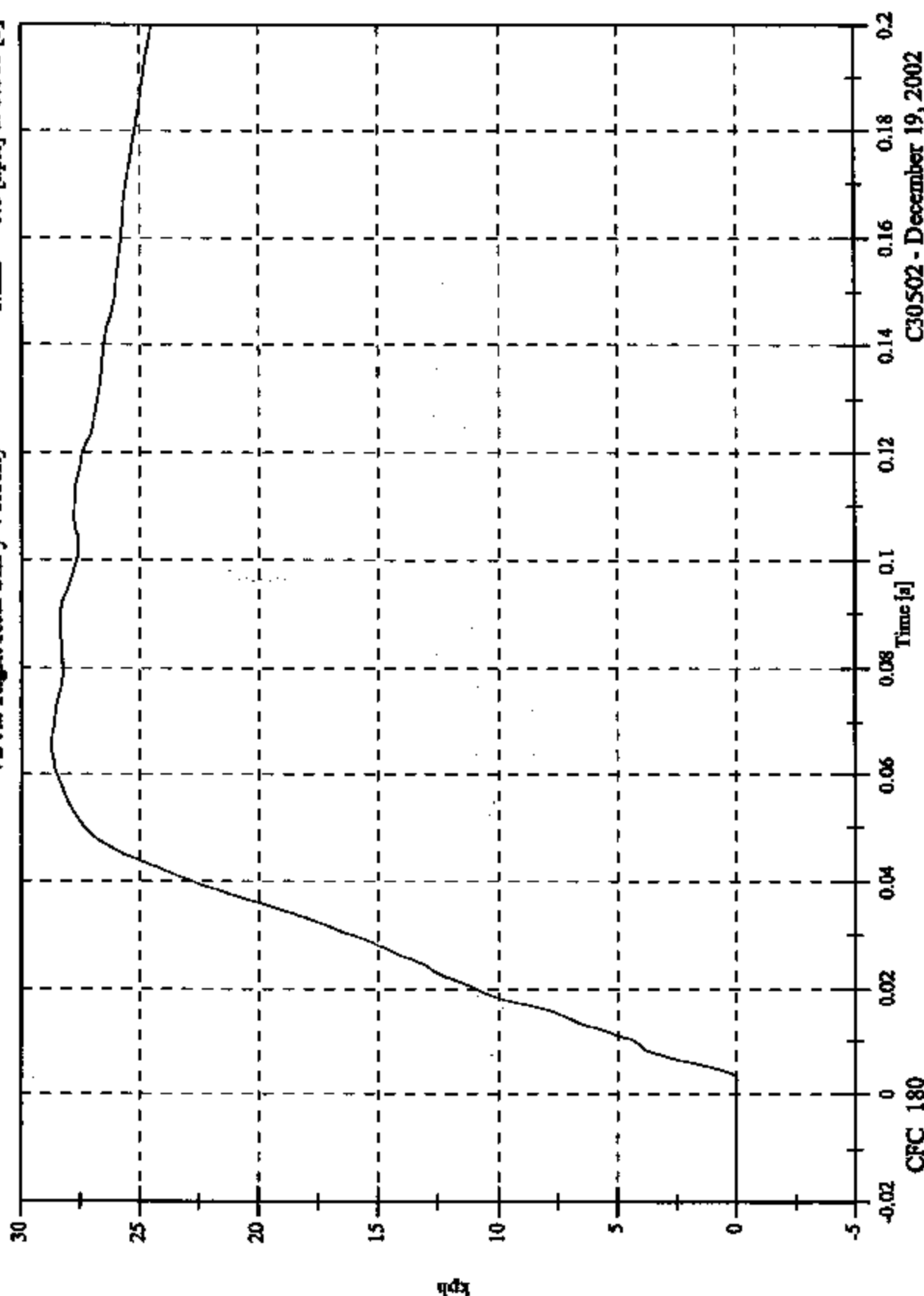


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

V2 A2 Right Rear Sill y Velocity

Max: 28.7 [kph] at 0.065 [s]
Min: -0.0 [kph] at 0.003 [s]

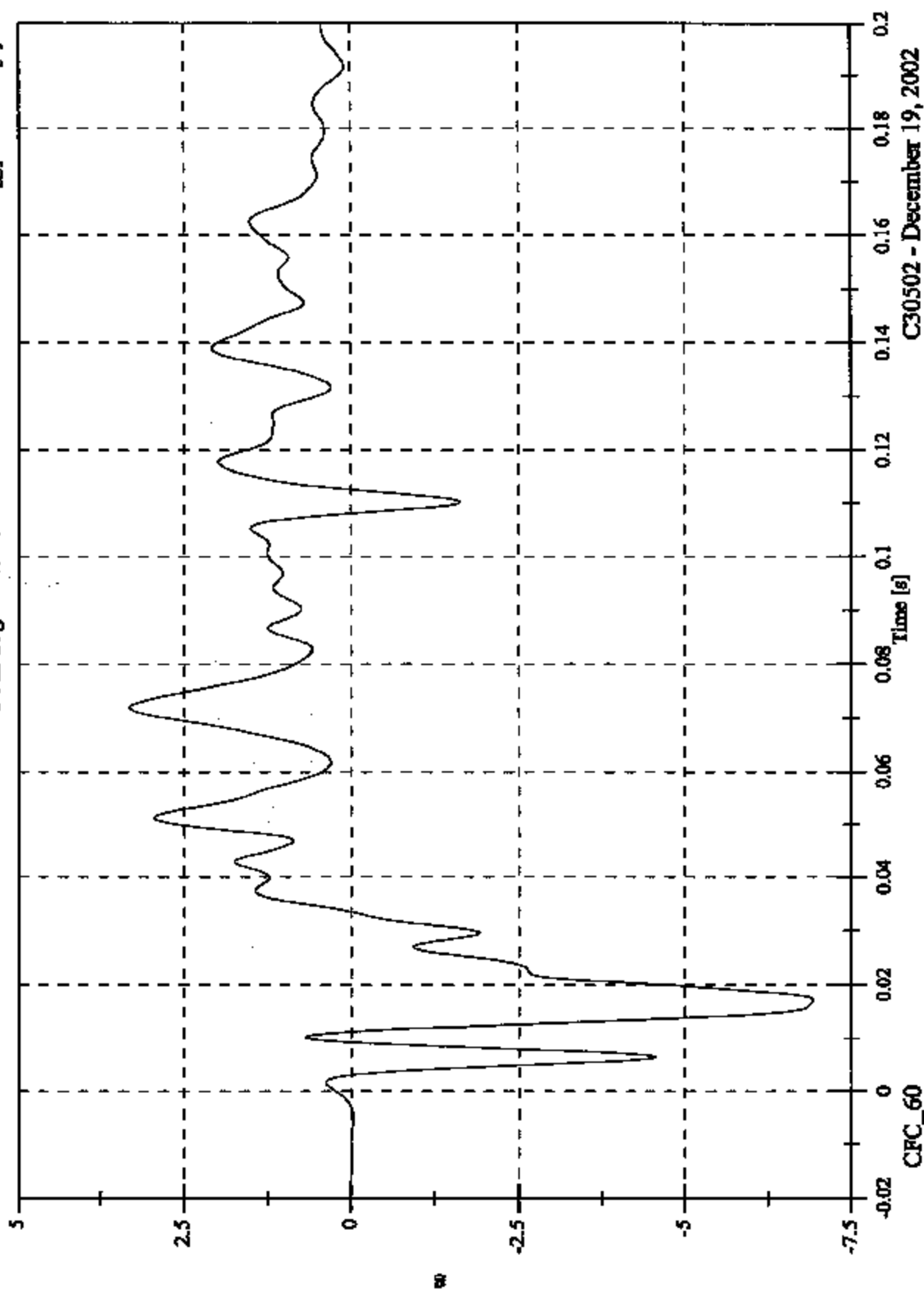


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

V2 A2 Right Rear Sill z

Max: 3.3 [g] at 0.072 [s]
Min: -6.9 [g] at 0.017 [s]

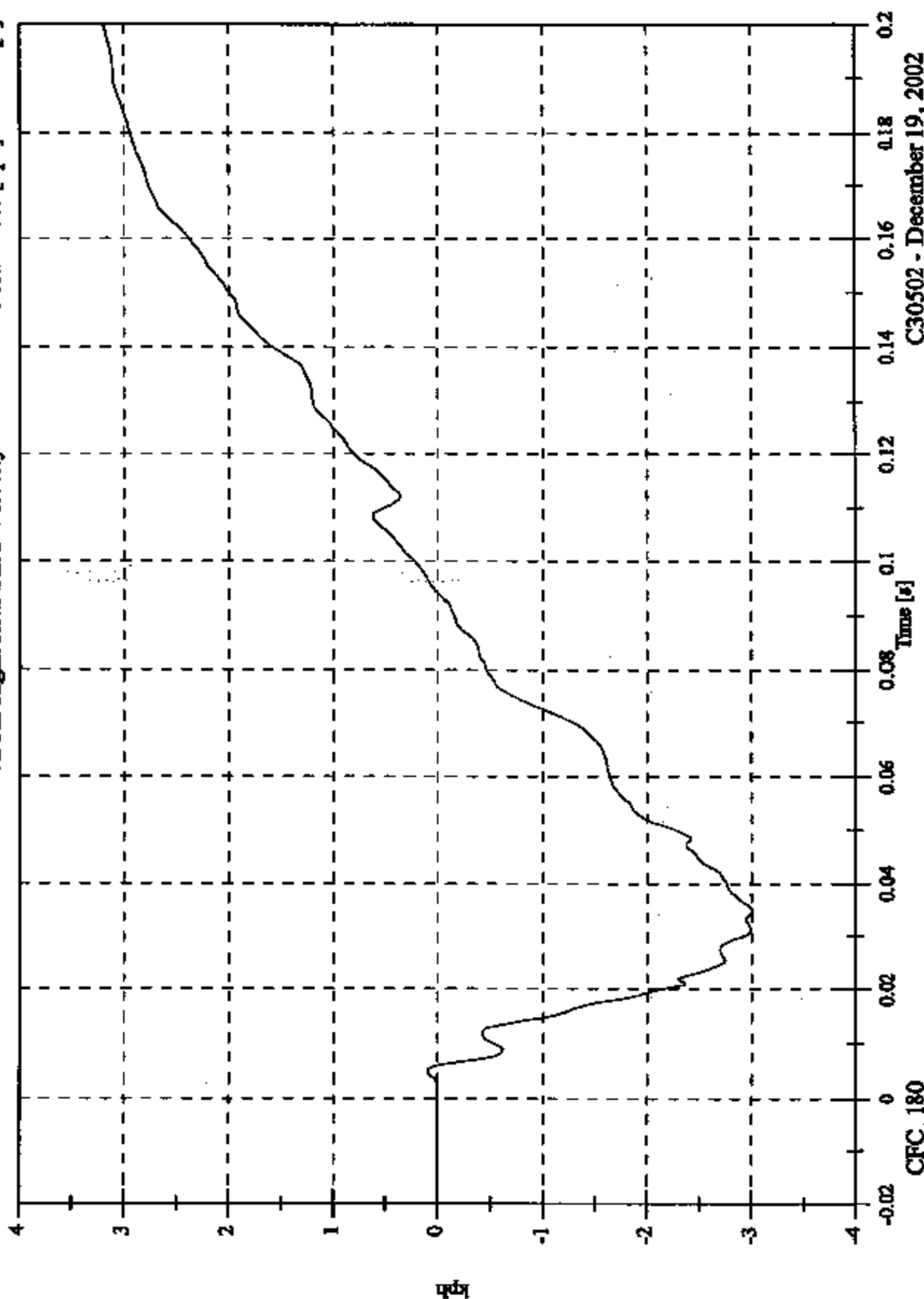


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerie

Max: 3.2 [kph] at 0.200 [s]
Min: -3.0 [kph] at 0.035 [s]

V2 A2 Right Rear Sill z Velocity



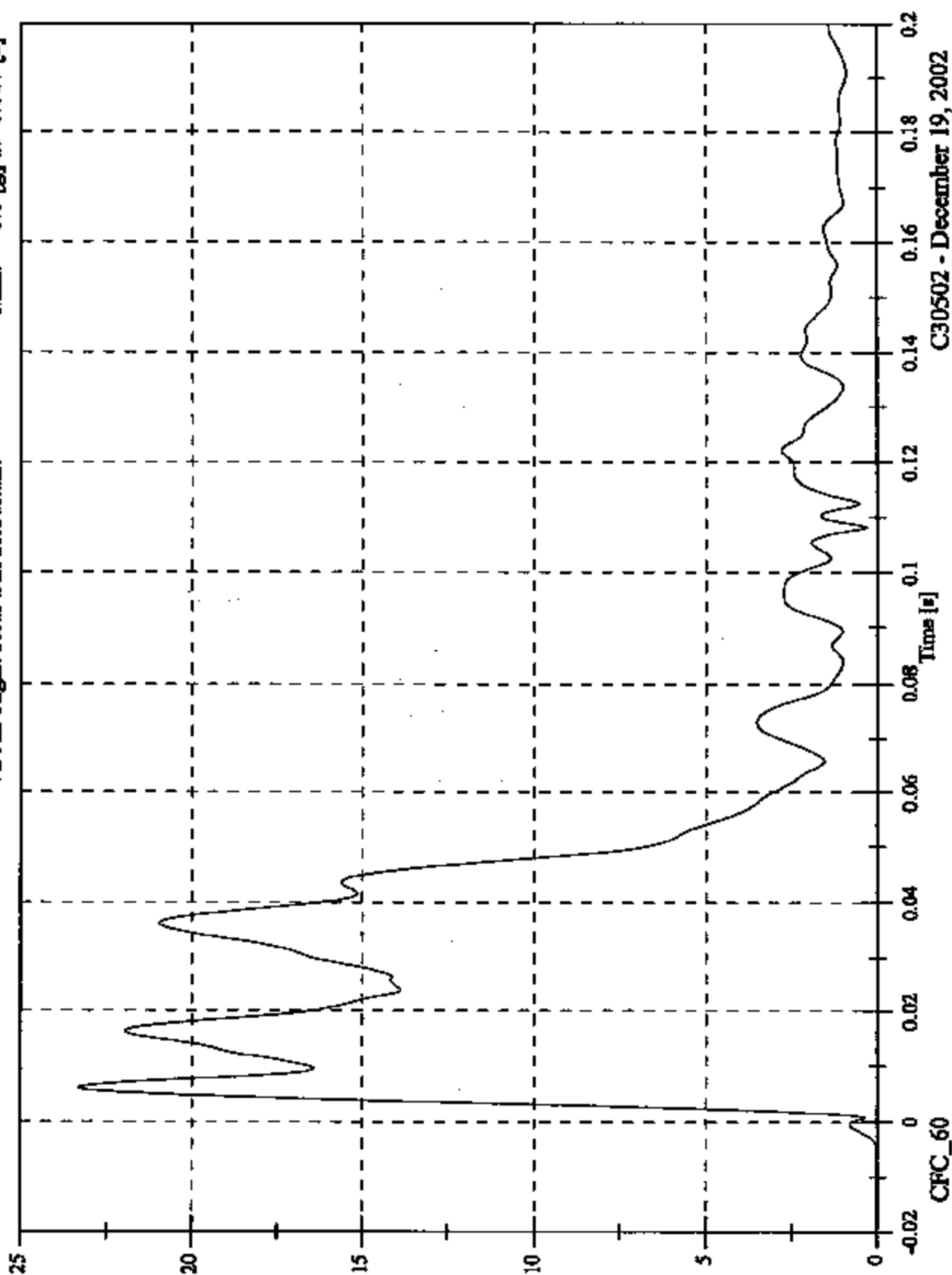
C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

V2 A2 Right Rear Sill Resultant

Max: 23.3 [g] at 0.006 [s]

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

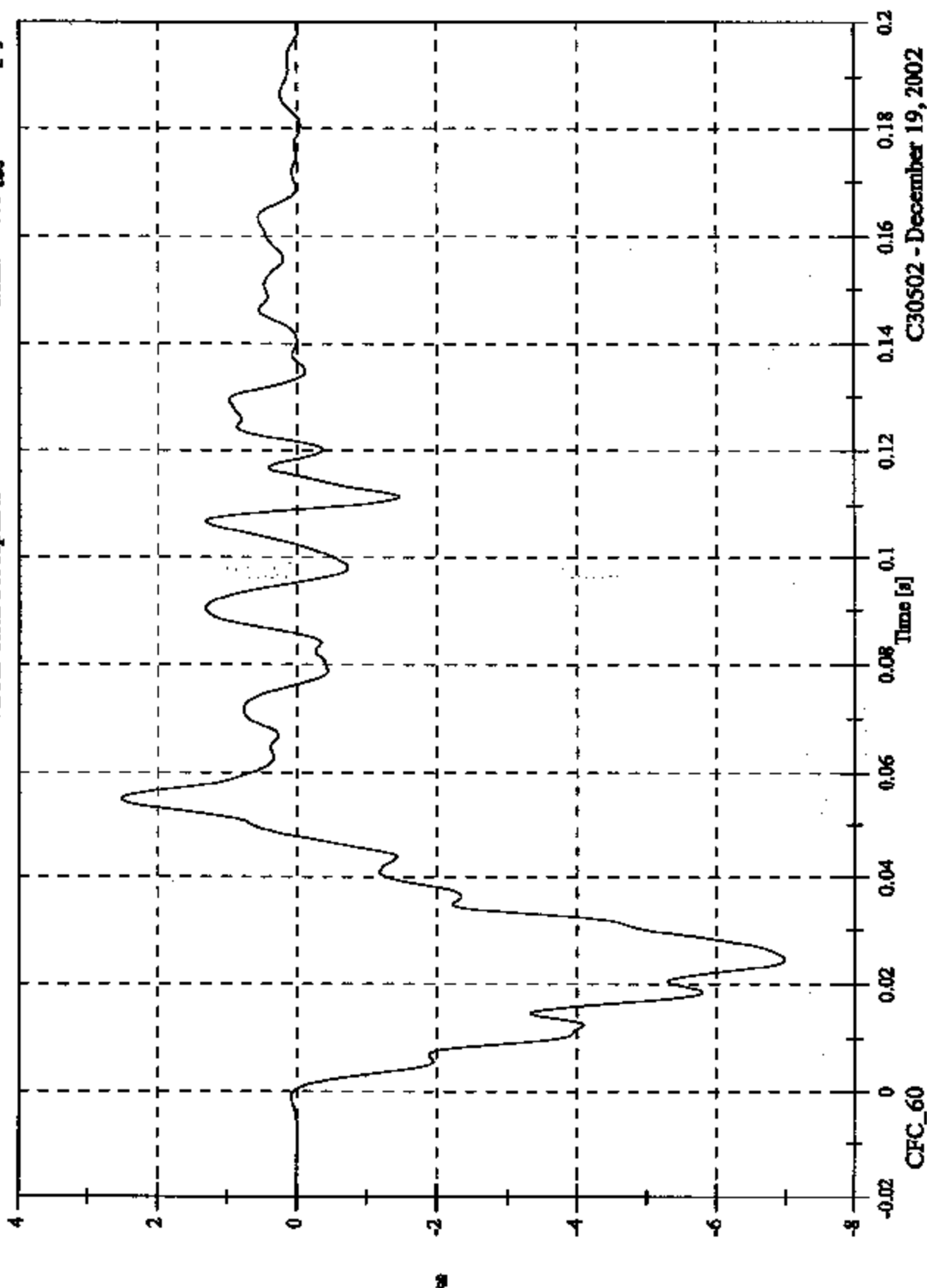


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aero

V2 A3 Rear Floorpan x

Max: 2.5 [g] at 0.055 [s]
Min: -7.0 [g] at 0.025 [s]

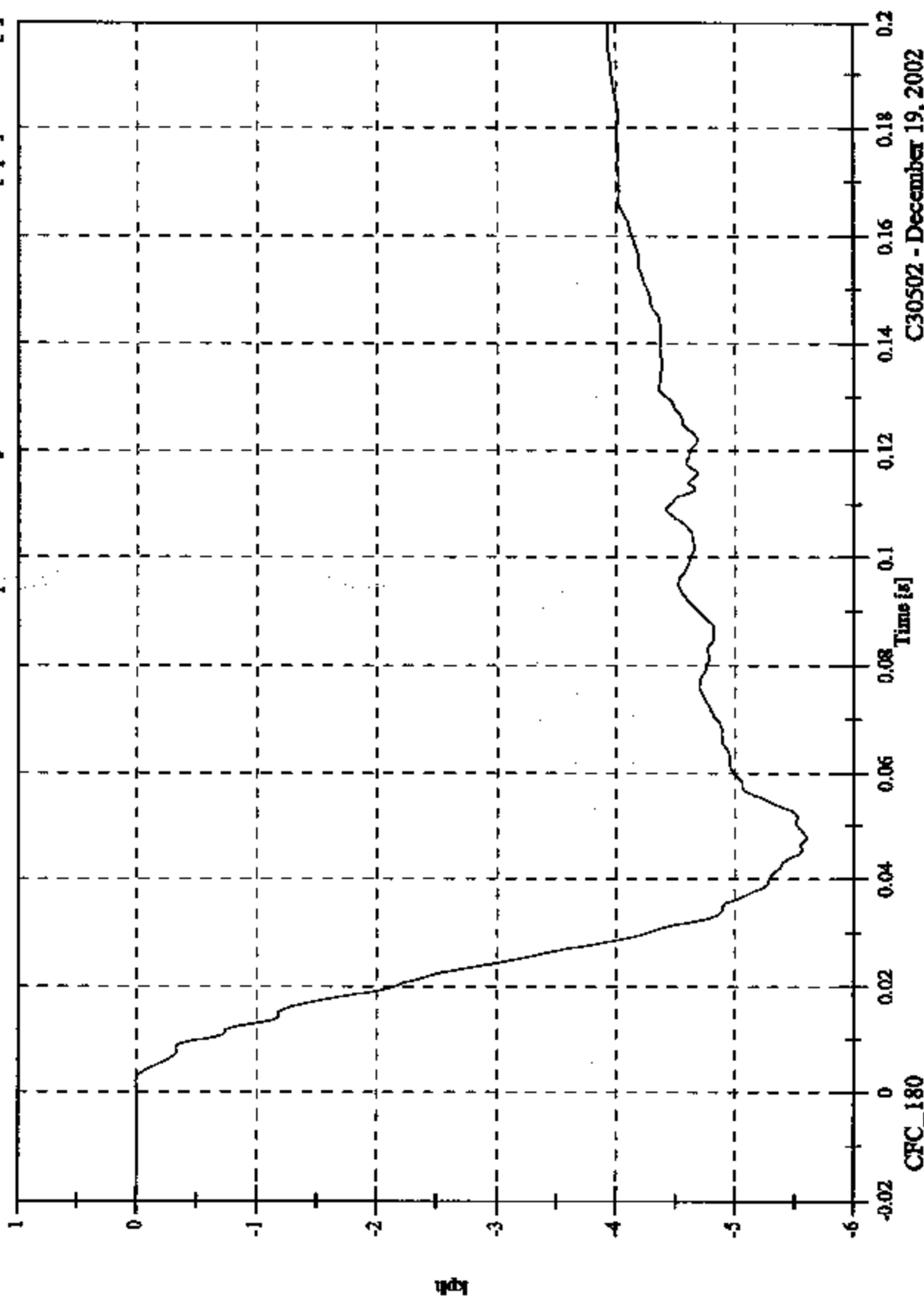


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerieo

V2 A3 Rear Floorpan x Velocity

Max: 0.0 [kph] at 0.002 [s]
Min: -5.6 [kph] at 0.048 [s]

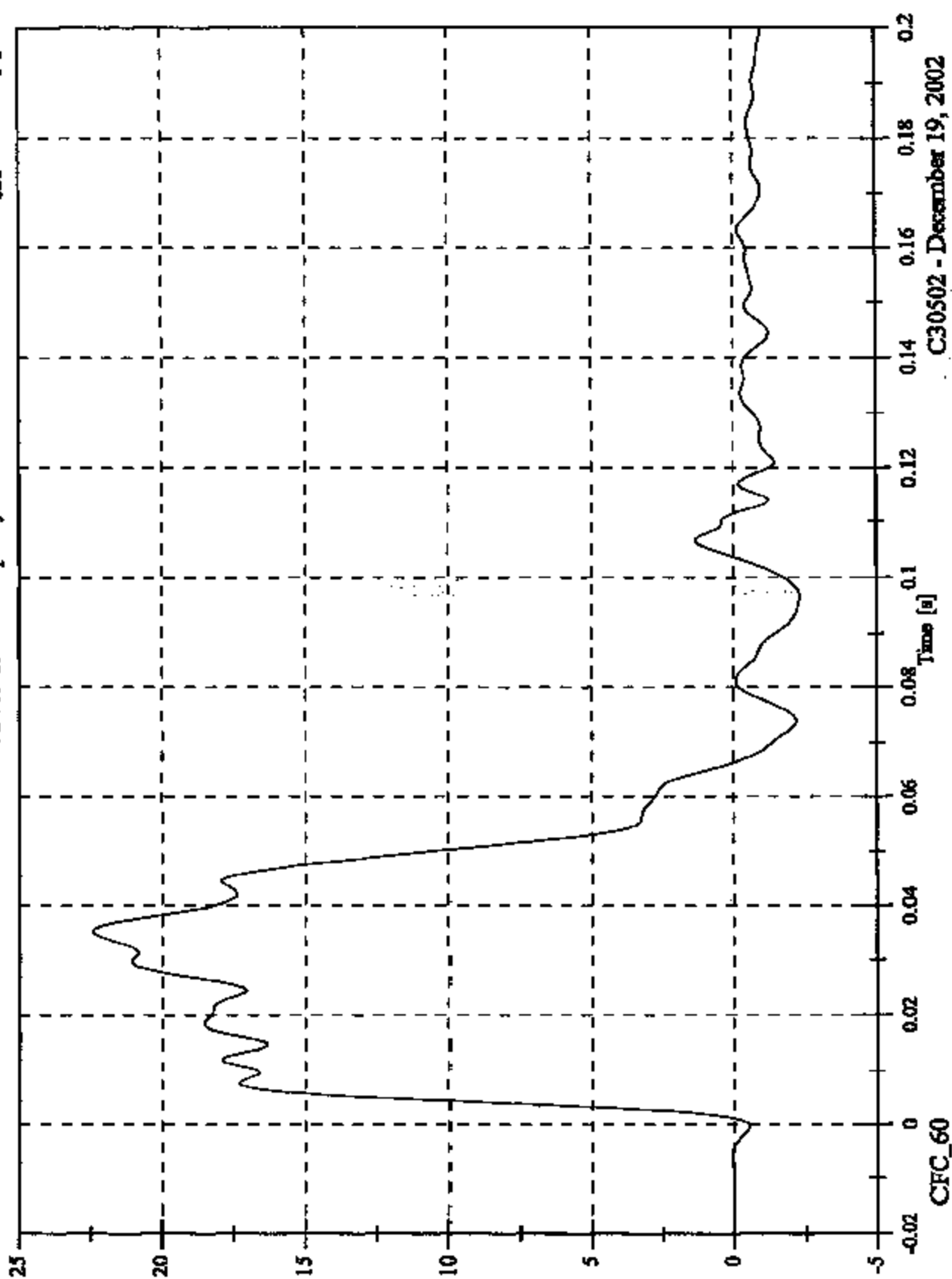


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

V2 A3 Rear Floorpan y

Max: 22.4 [g] at 0.036 [s]
Min: -2.3 [g] at 0.096 [s]



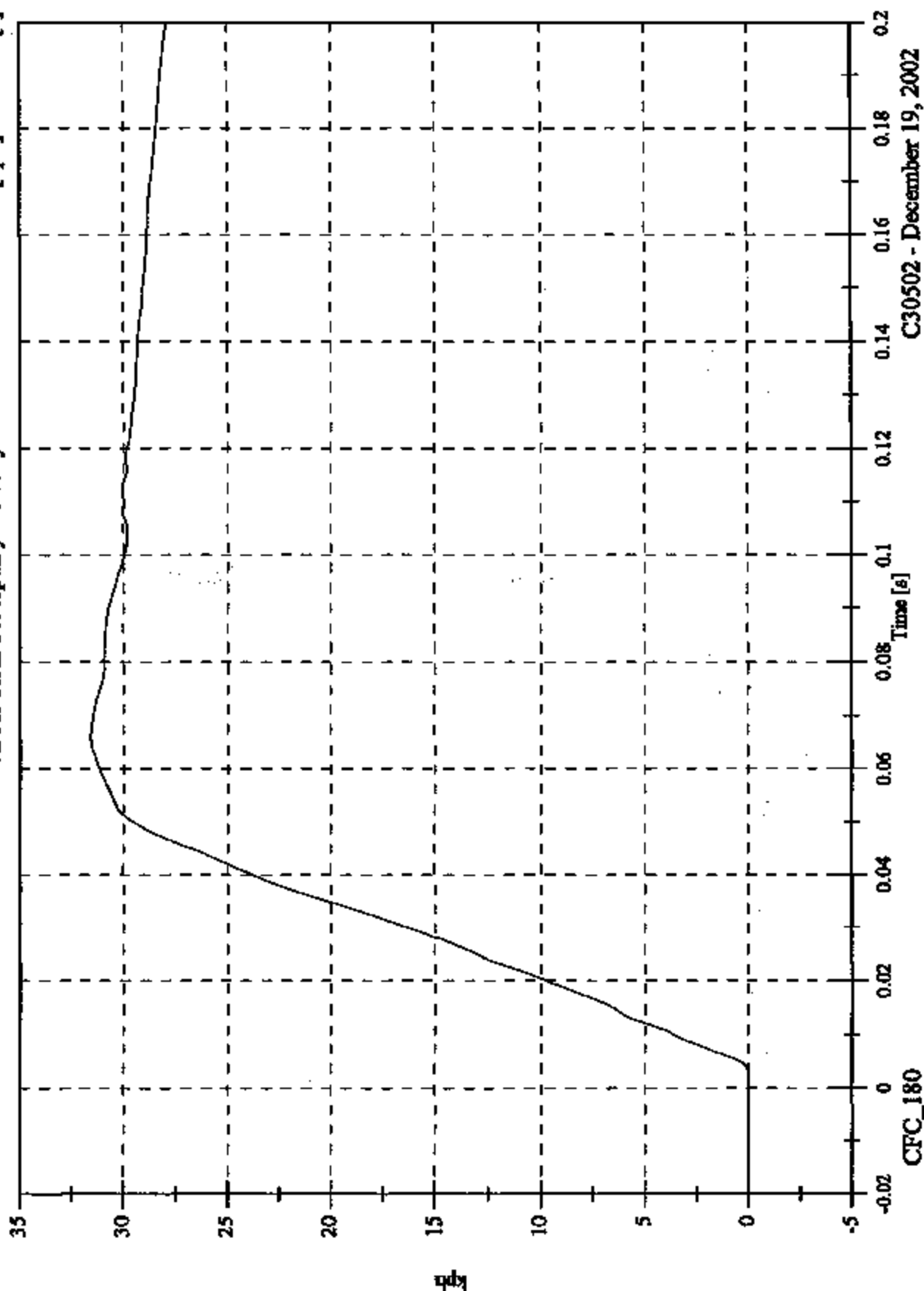
C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerie

Max: 31.6 [kph] at 0.066 [s]

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

V2 A3 Rear Floorpan y Velocity

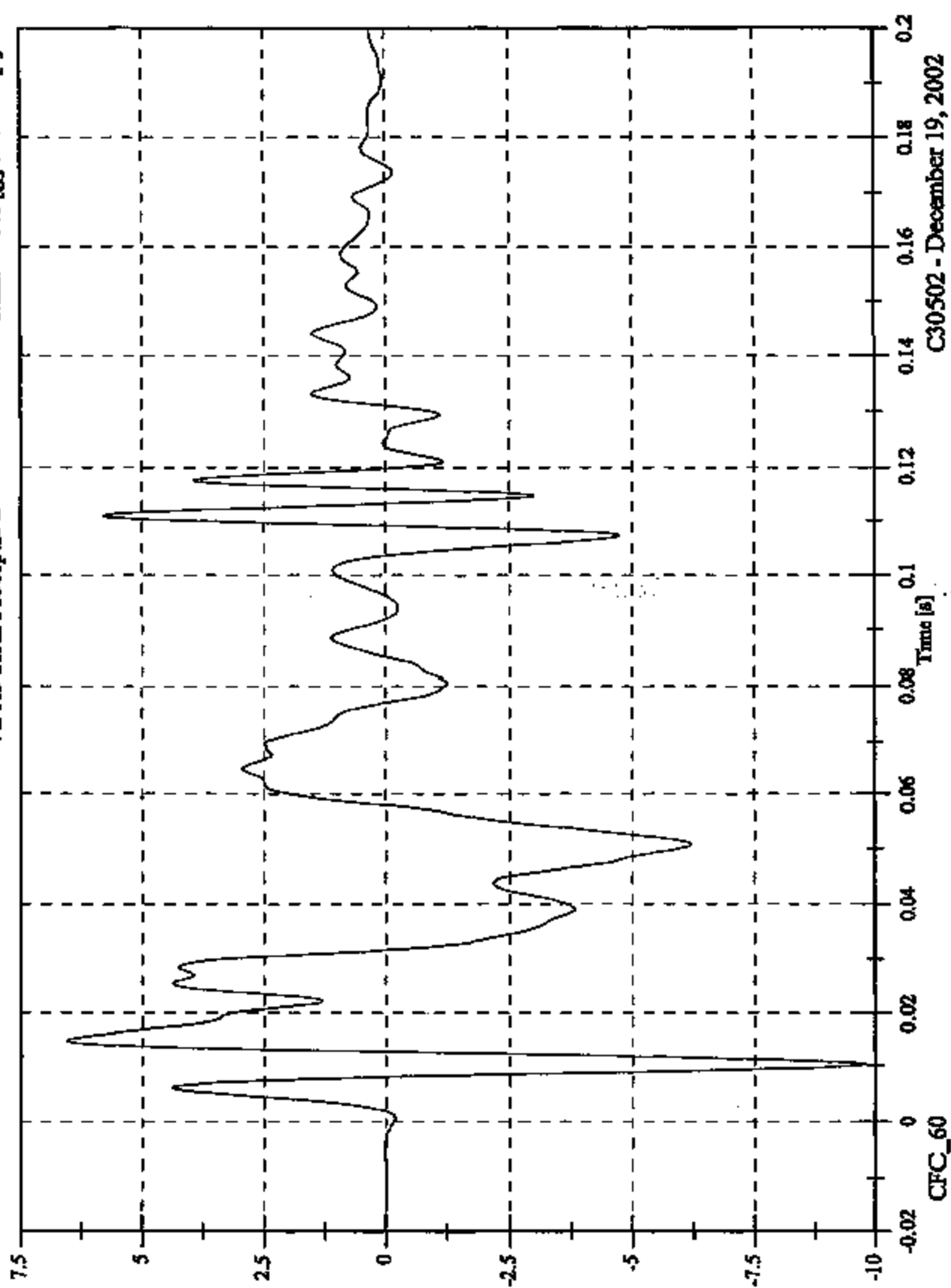


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

V2 A3 Rear Floorpan z

Max: 6.5 [g] at 0.015 [s]
Min: -9.8 [g] at 0.010 [s]

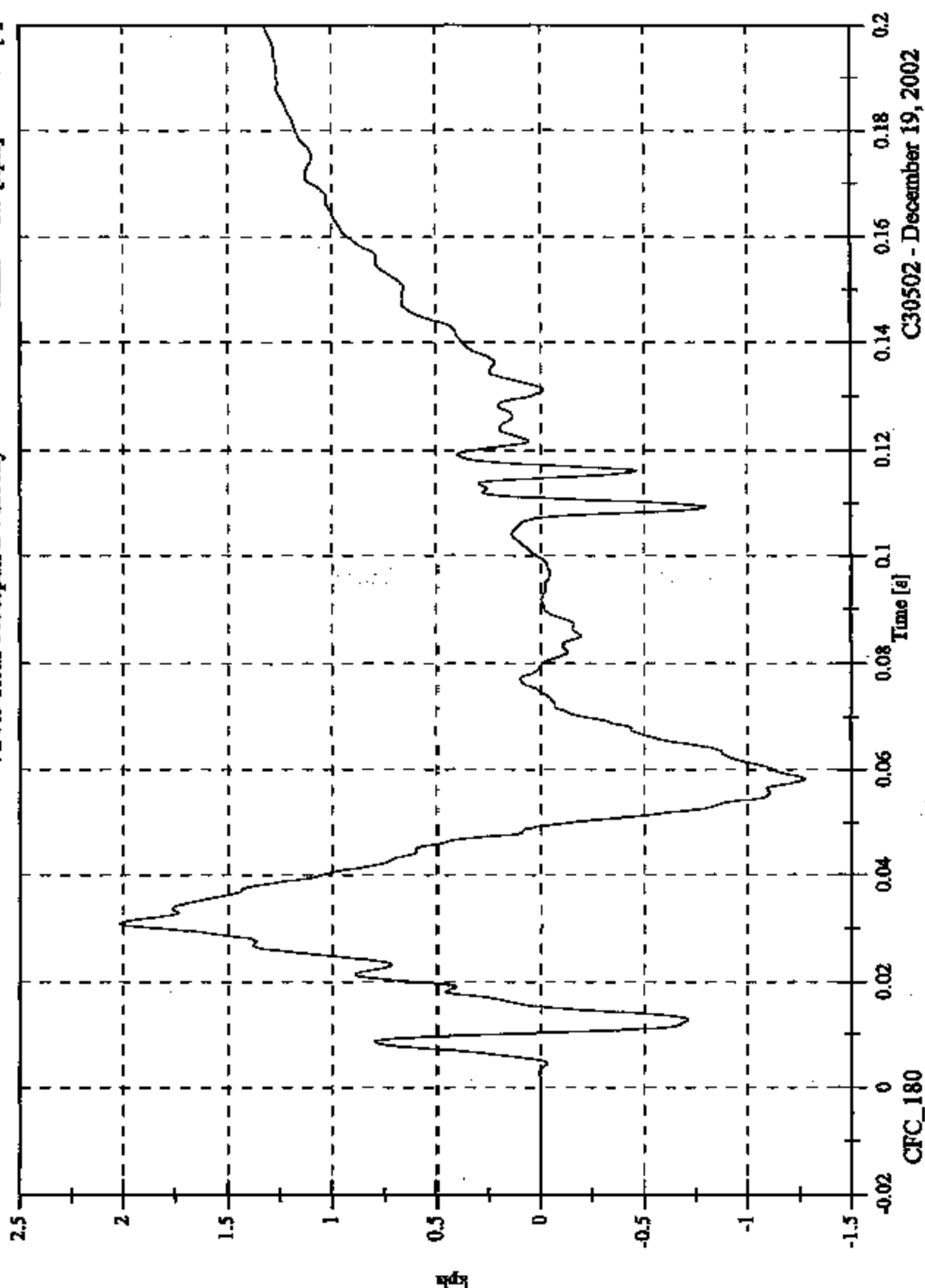


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

Max: 2.0 [kph] at 0.031 [s]
 Min: -1.3 [kph] at 0.058 [s]

V2 A3 Rear Floorpan z Velocity

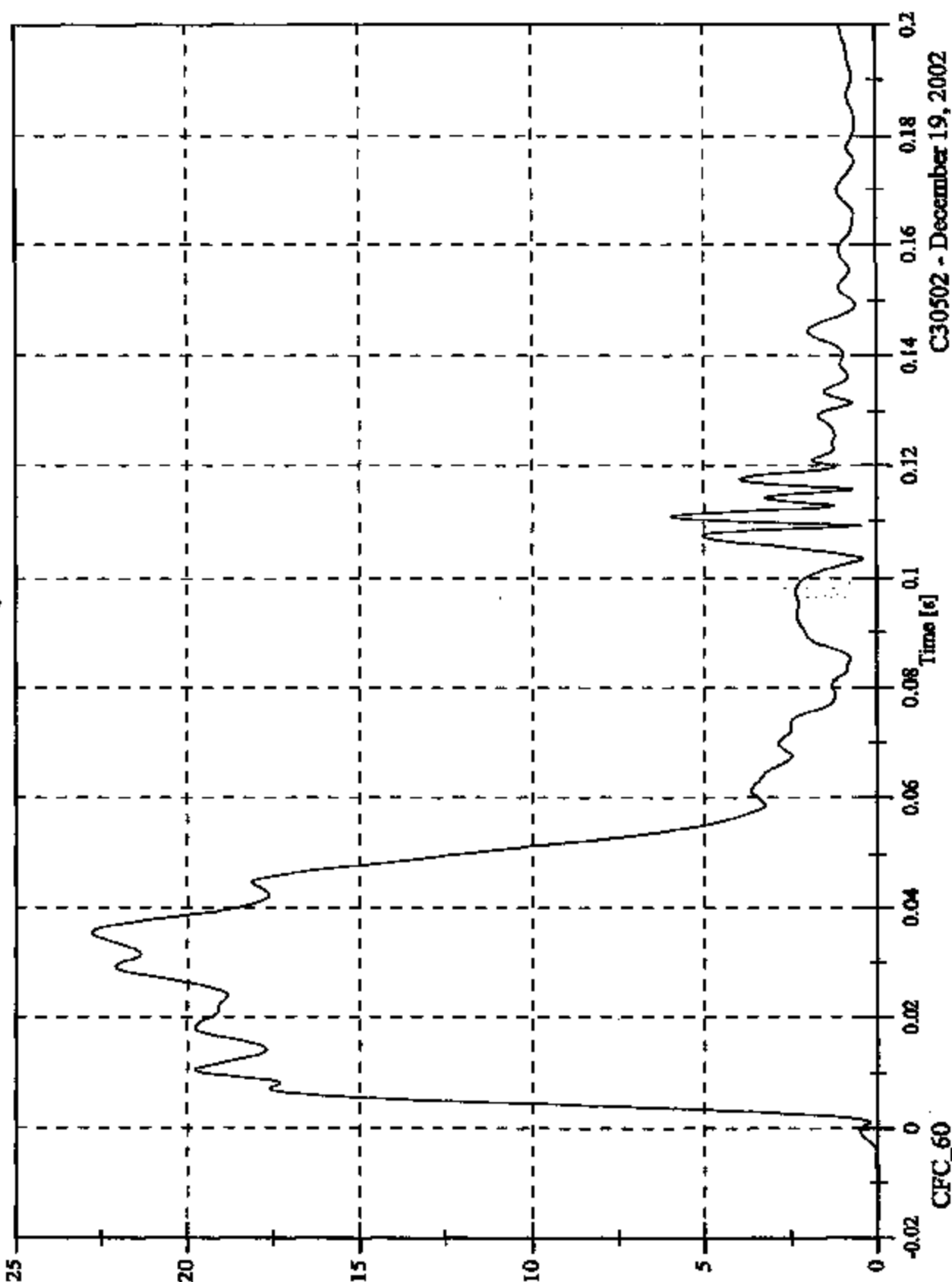


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerie

V2 A3 Rear Floorpan Resultant

Max: 22.8 [g] at 0.036 [s]
Min: 0.0 [g] at -0.019 [s]

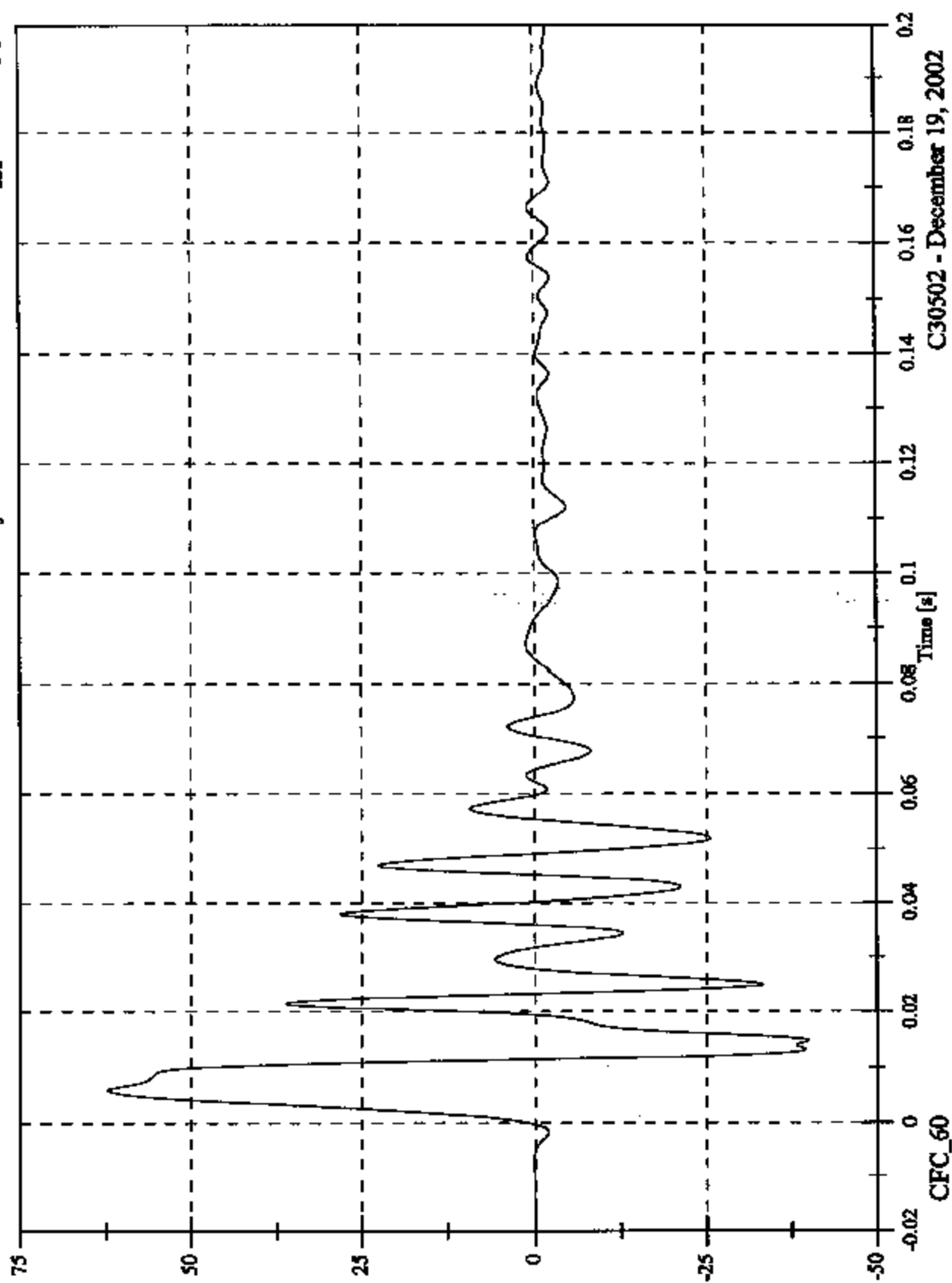


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

V2 A4 Left Rear Sill y

Max: 62.3 [g] at 0.006 [s]
Min: -39.8 [g] at 0.015 [s]

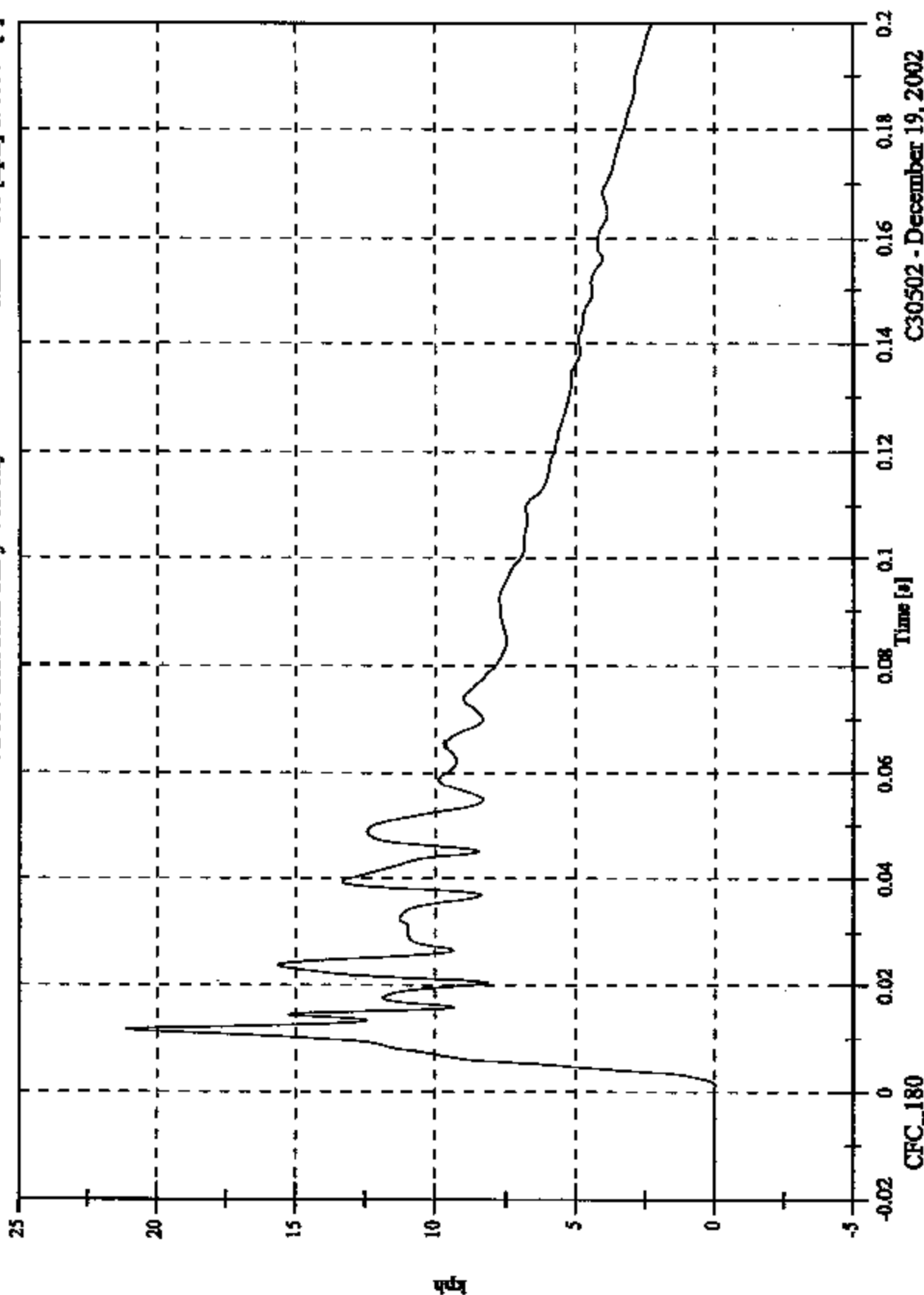


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

Max: 21.1 [kph] at 0.012 [s]
Min: -0.0 [kph] at 0.001 [s]

V2 A4 Left Rear Sill y Velocity

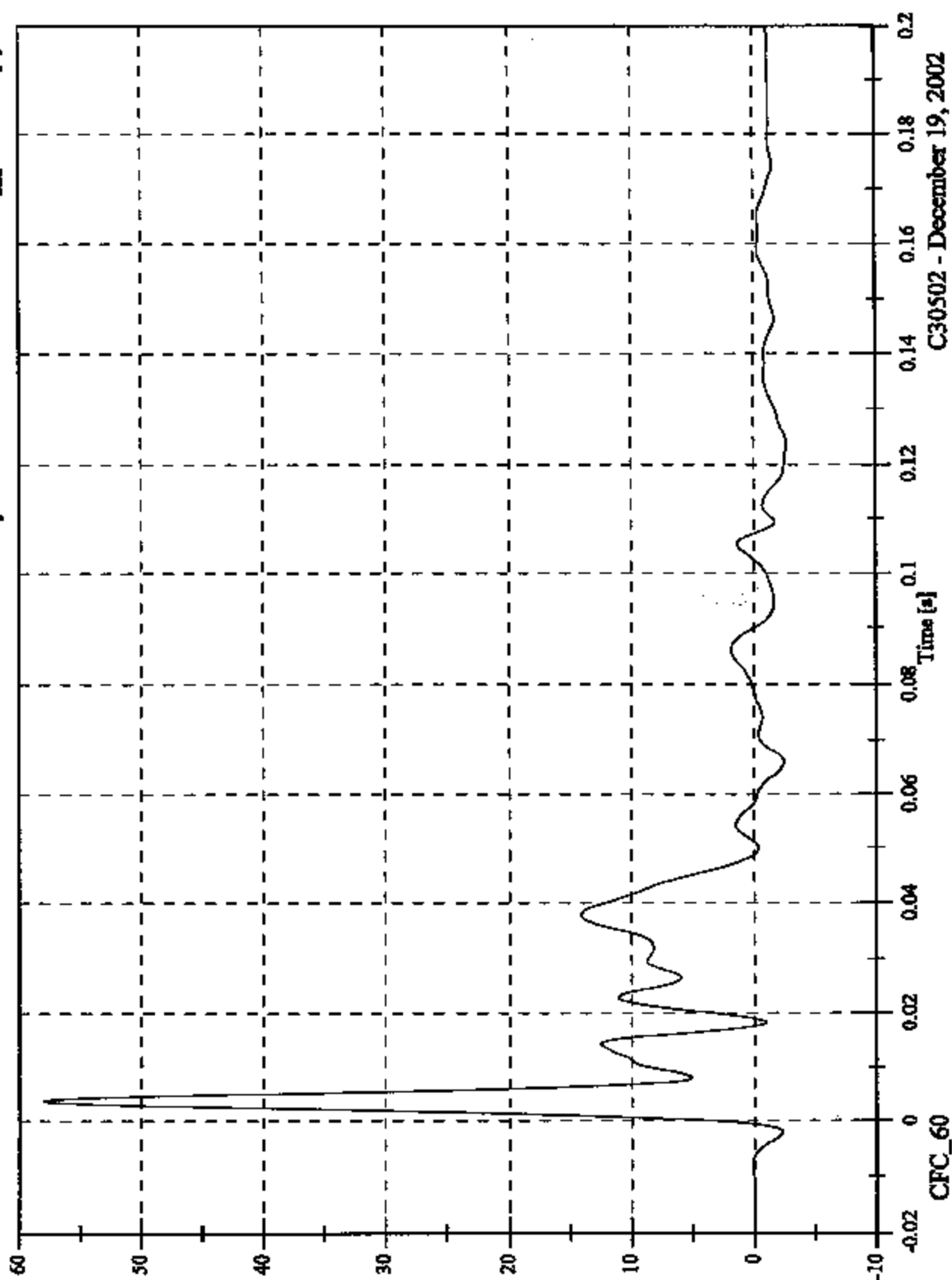


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

V2 A5 Left Front Sill y

Max: 58.0 [g] at 0.004 [s]
Min: -2.7 [g] at 0.124 [s]

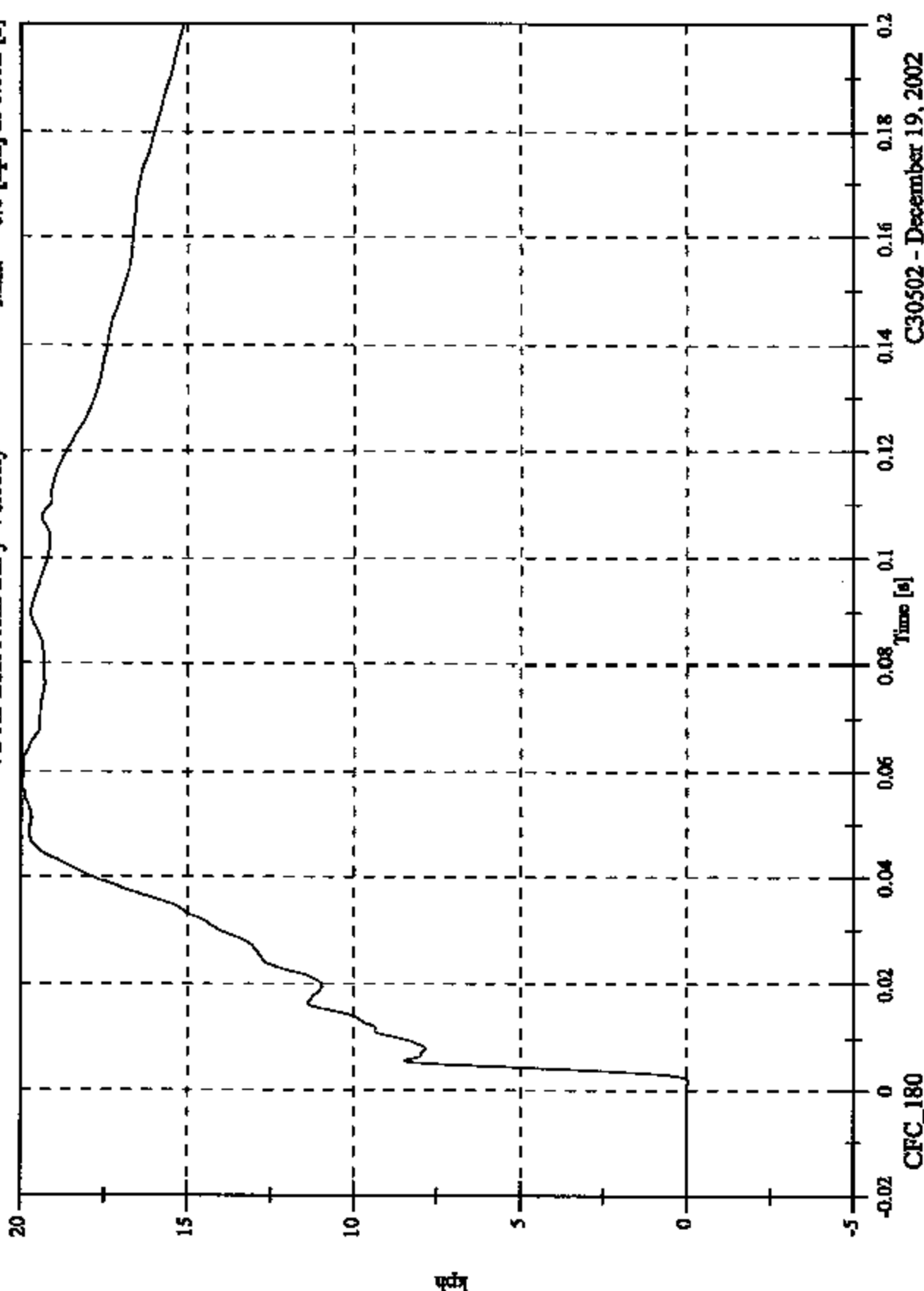


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

Max: 20.0 [kph] at 0.057 [s]
Min: -0.0 [kph] at 0.002 [s]

V2 A5 Left Front Sill y Velocity



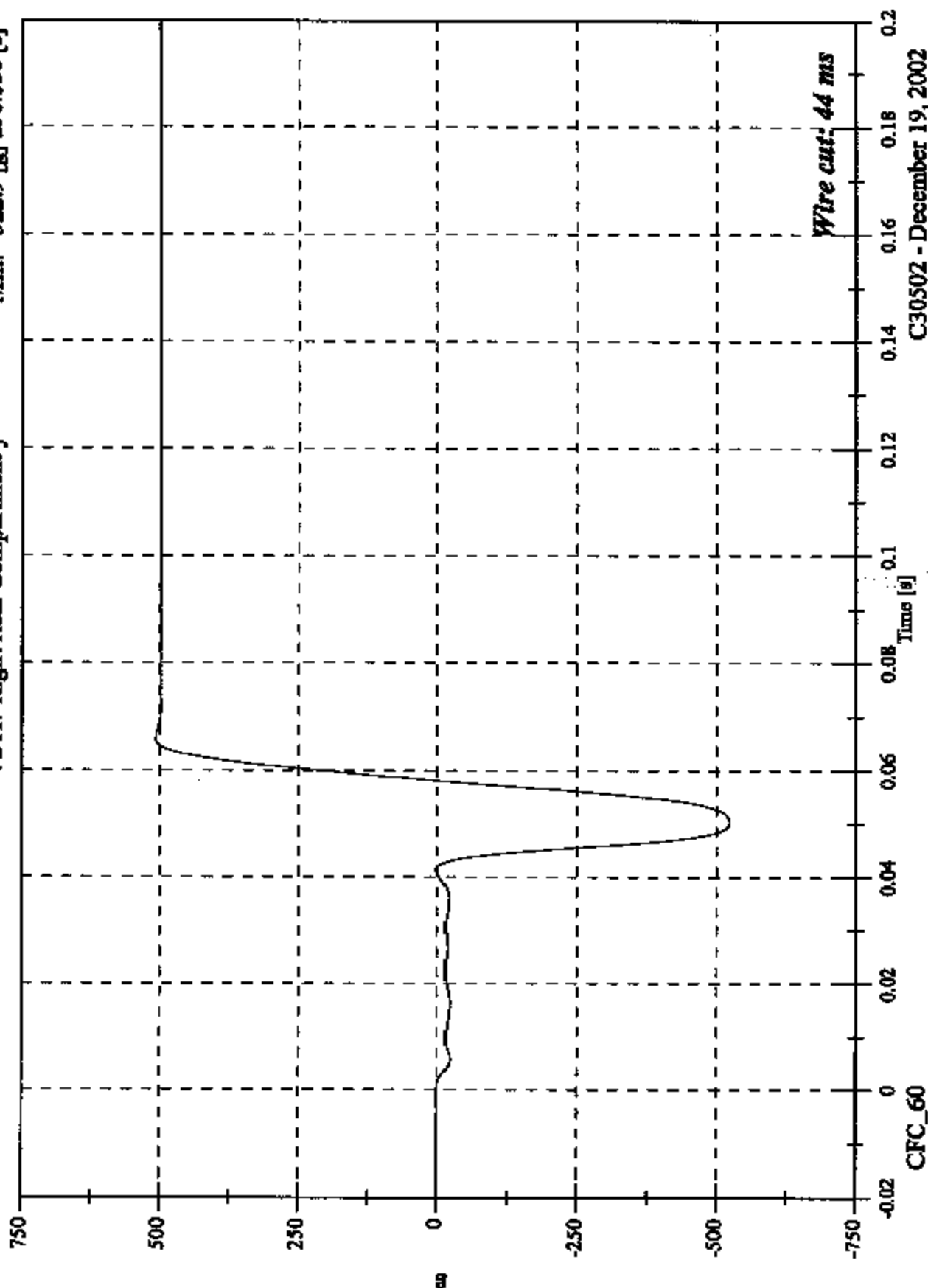
C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

V2 A7 Right Rear Compartment y

Max: 508.1 [g] at 0.066 [s]

Min: -522.9 [g] at 0.050 [s]



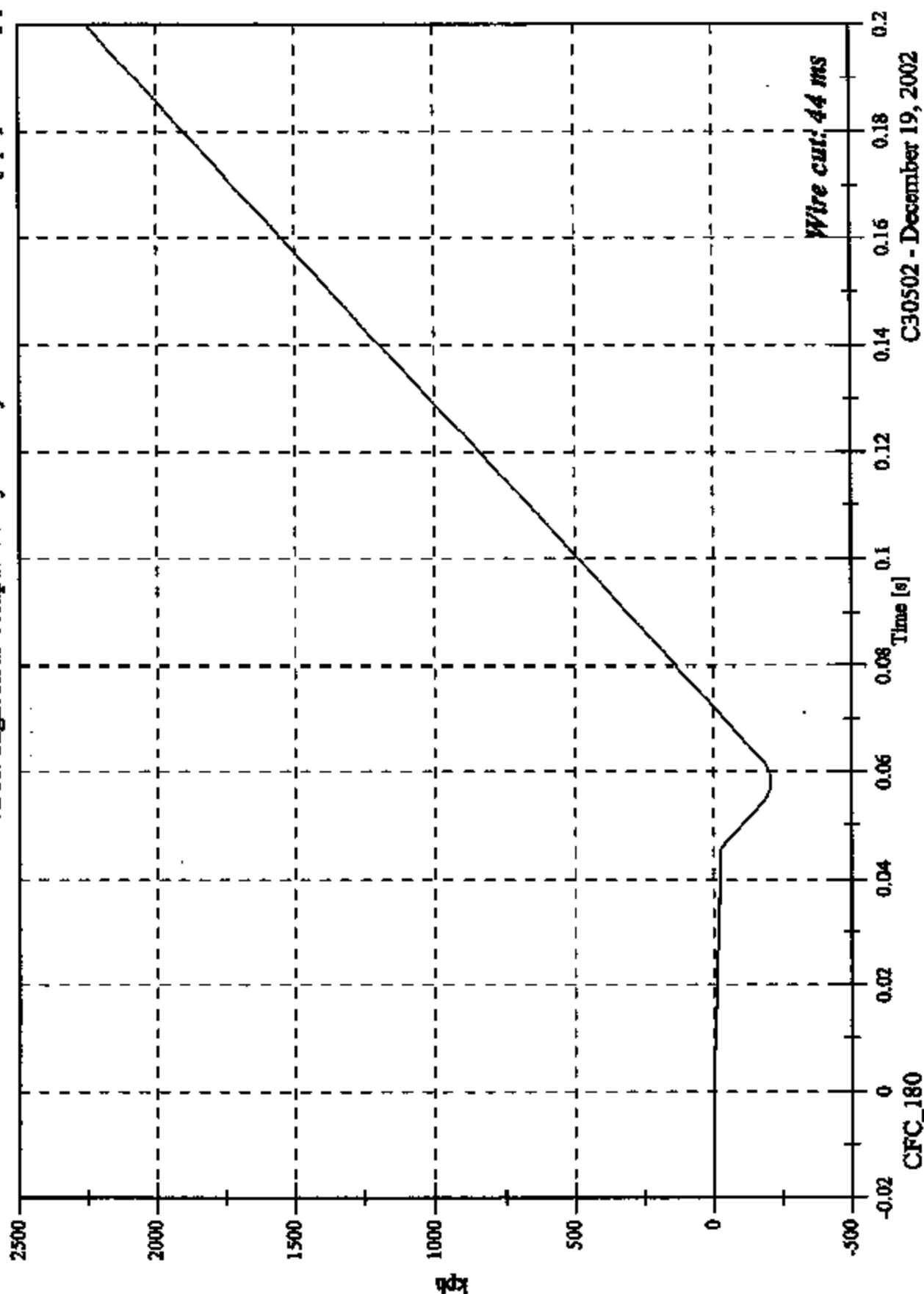
C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerieo

Max: 2248.9 [kph] at 0.200 [s]

V2 A7 Right Rear Compartment y Velocity

Min: -207.9 [kph] at 0.058 [s]

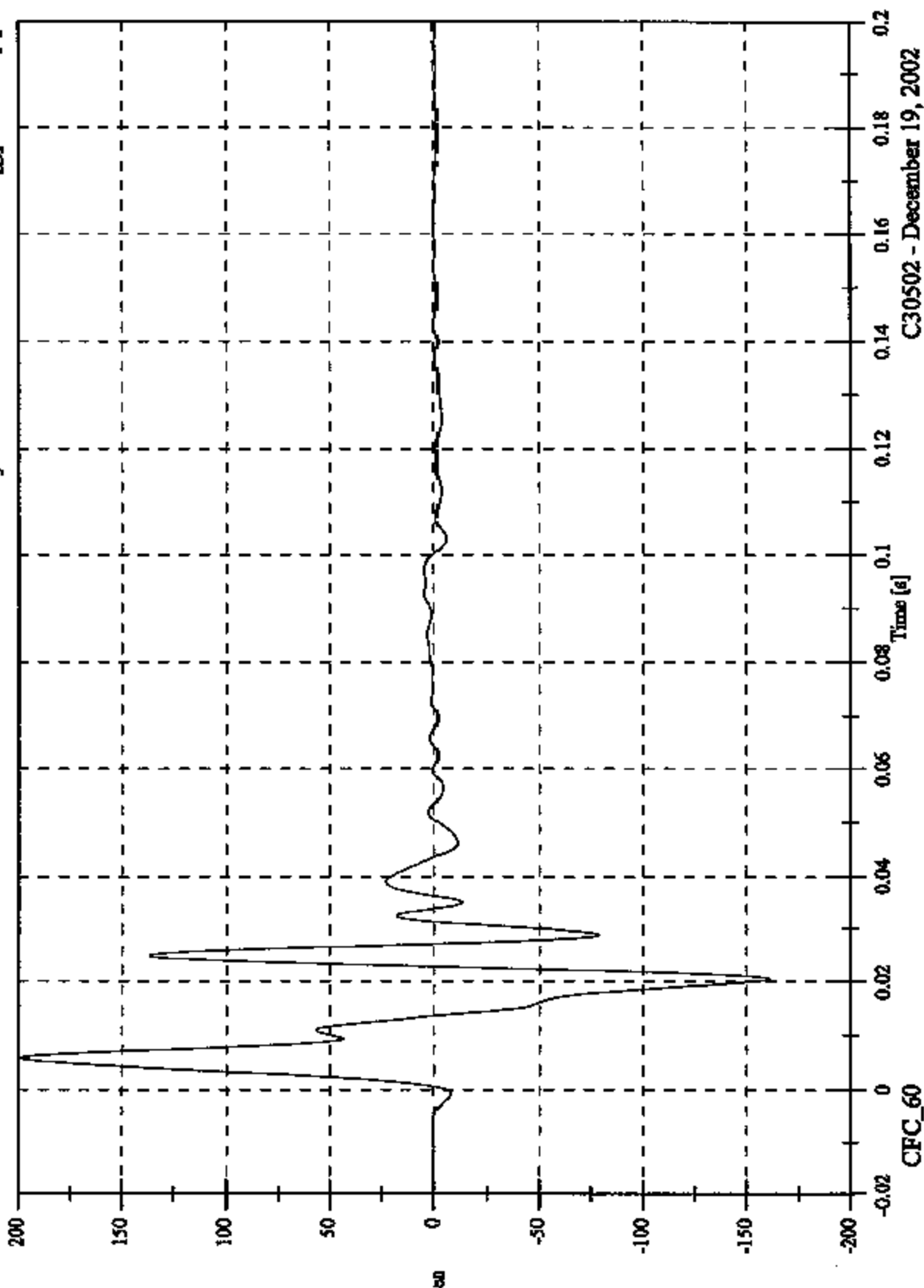


CFC_180

FMVSS 214D Test #1 - 2003 Suzuki Aerio

Max: 198.9 [g] at 0.006 [s]
Min: -161.1 [g] at 0.020 [s]

V2 A12 Left Lower B Post y

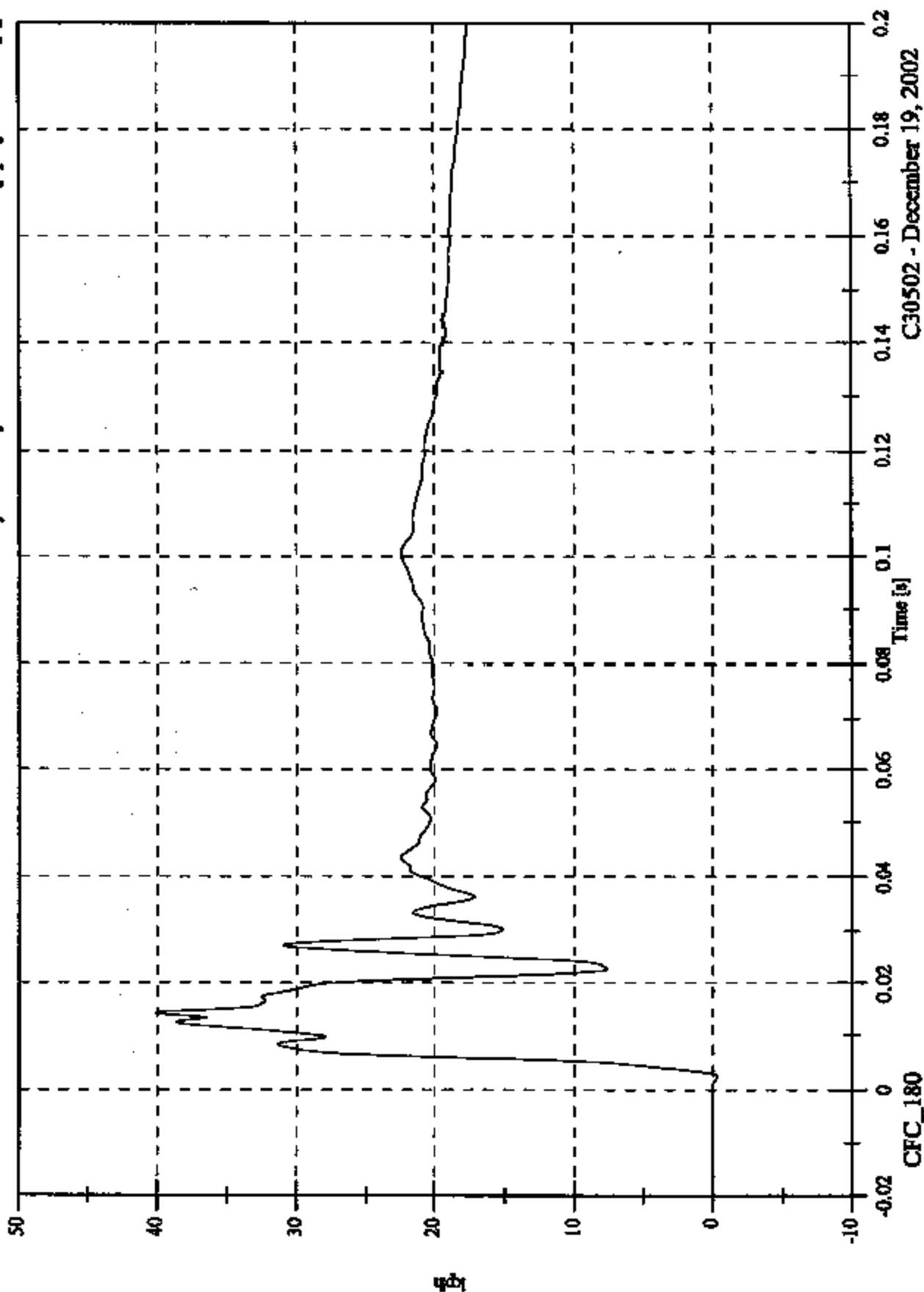


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerieo

V2 AI2 Left Lower B Post y Velocity

Max: 40.2 [kph] at 0.015 [s]
Min: -0.3 [kph] at 0.002 [s]

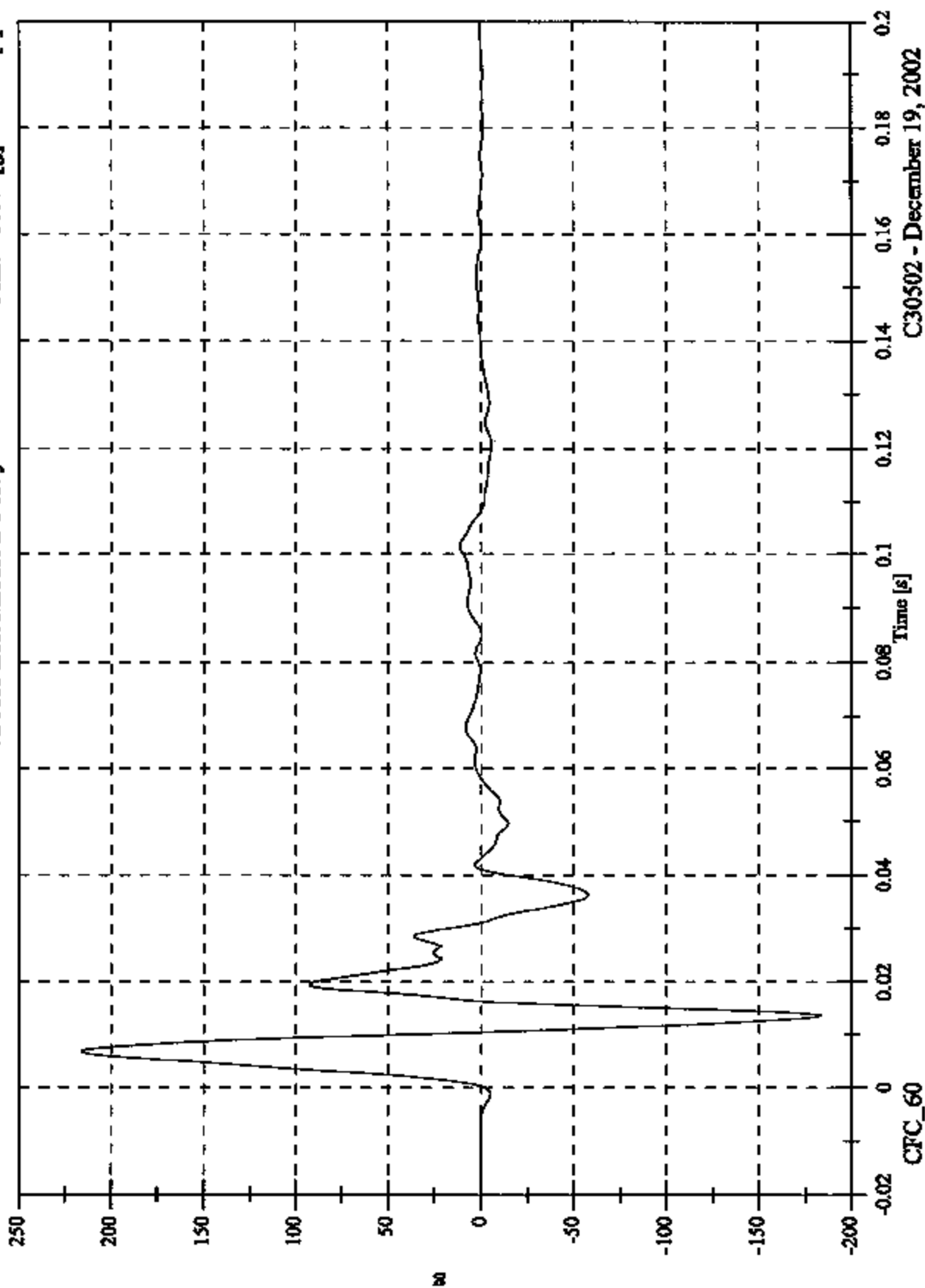


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

V2 A13 Left Middle B Post y

Max: 216.0 [g] at 0.007 [s]
Min: -183.1 [g] at 0.014 [s]



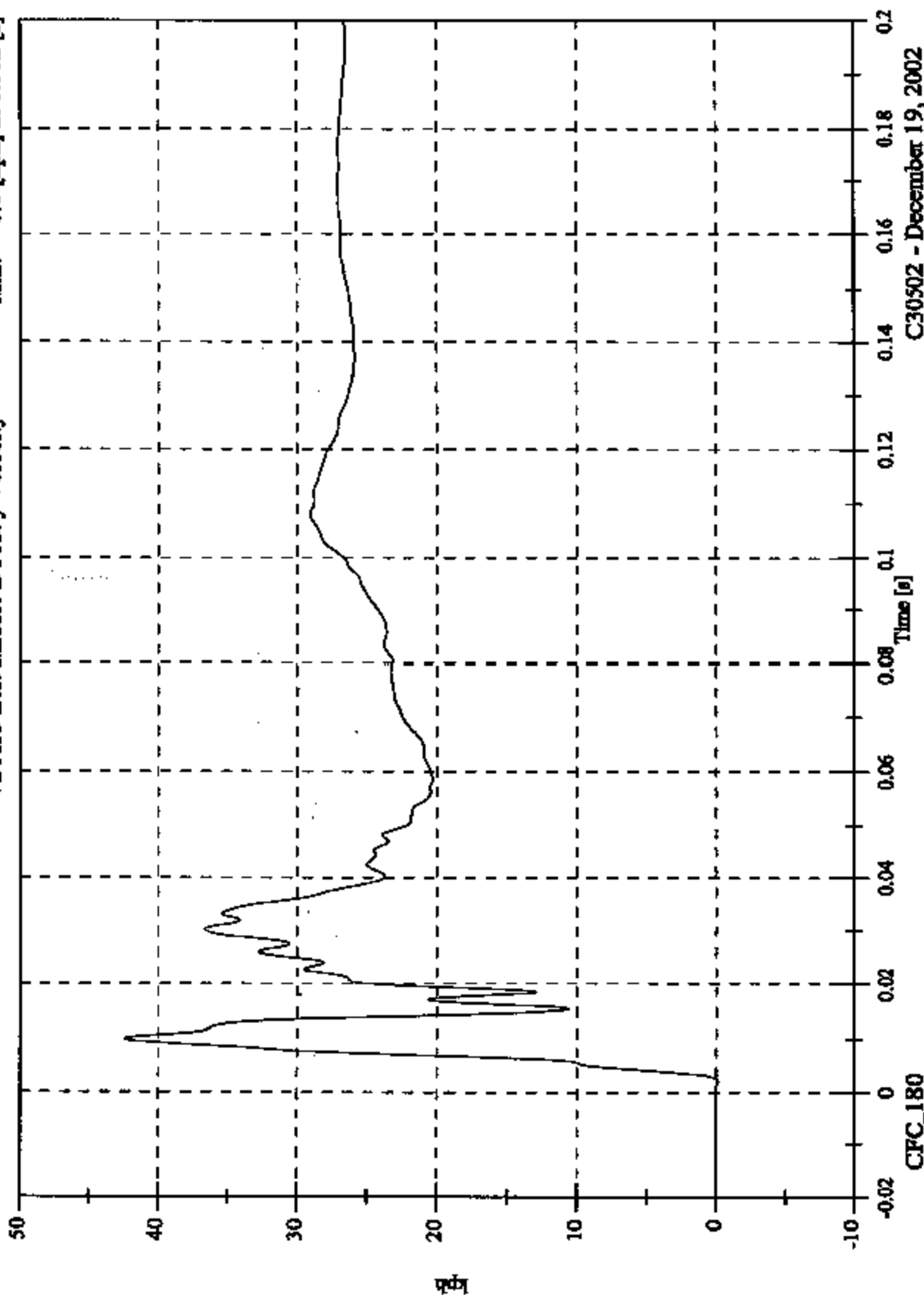
CFC_60

C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

Max: 42.4 [kph] at 0.010 [s]
Min: -0.1 [kph] at 0.002 [s]

V2 A13 Left Middle B Post y Velocity

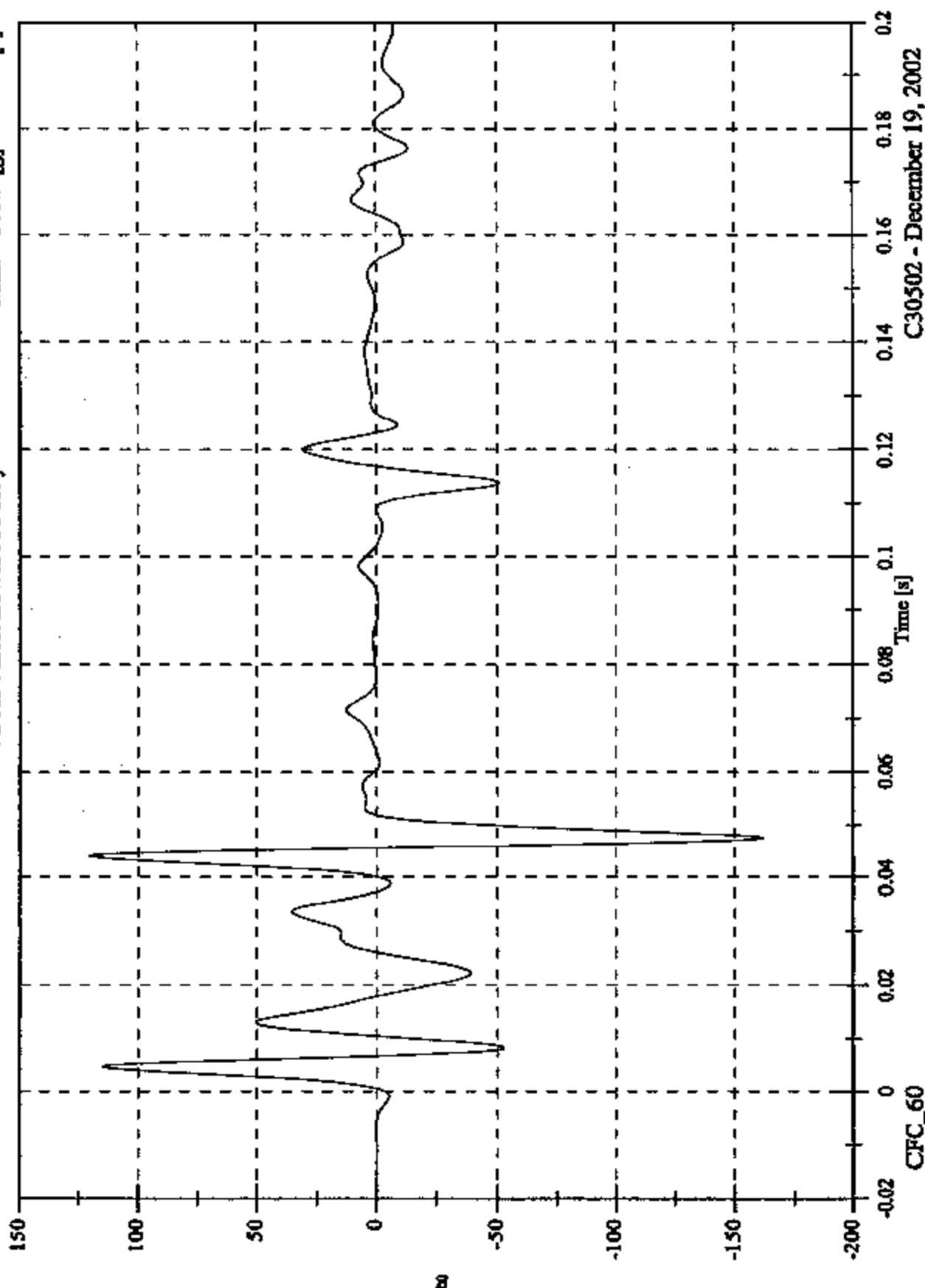


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aero

V2 A14 Left Lower A Post y

Max: 120.9 [g] at 0.044 [s]
Min: -161.9 [g] at 0.048 [s]



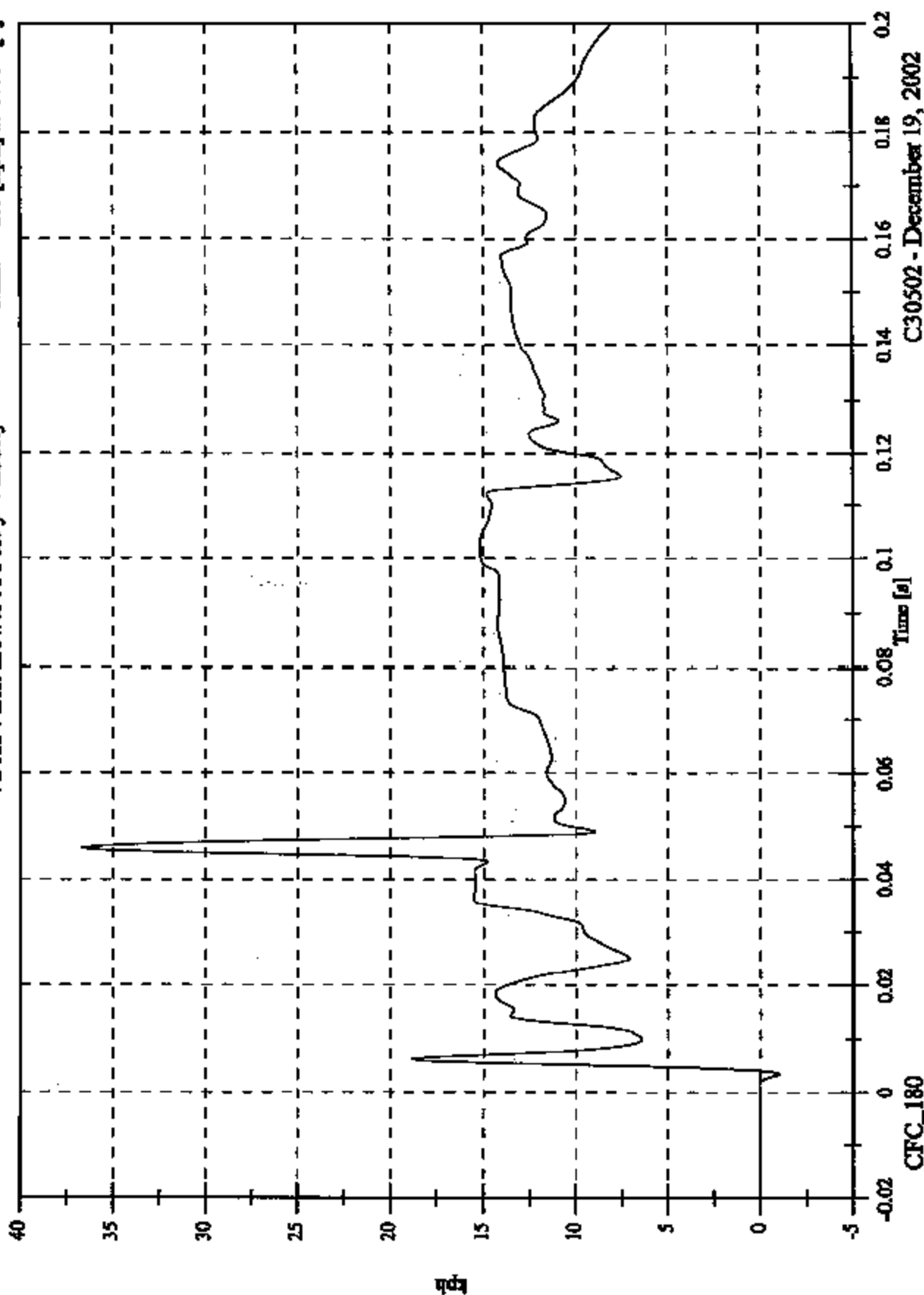
C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

Max: 36.6 [kph] at 0.046 [s]

Min: -1.0 [kph] at 0.004 [s]

V2 A14 Left Lower A Post y Velocity

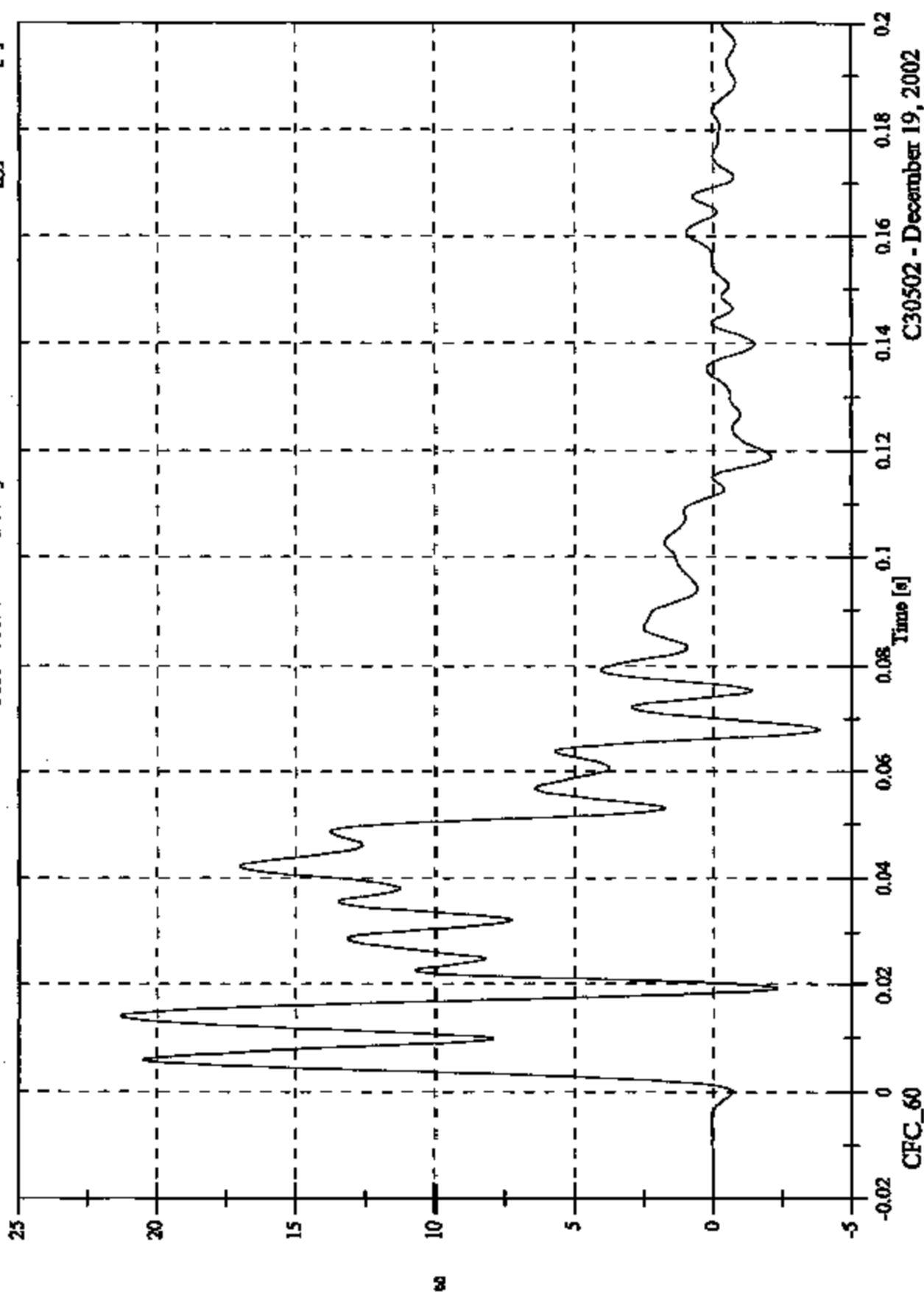


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aorio

V2 A15 Left Mid A Post y

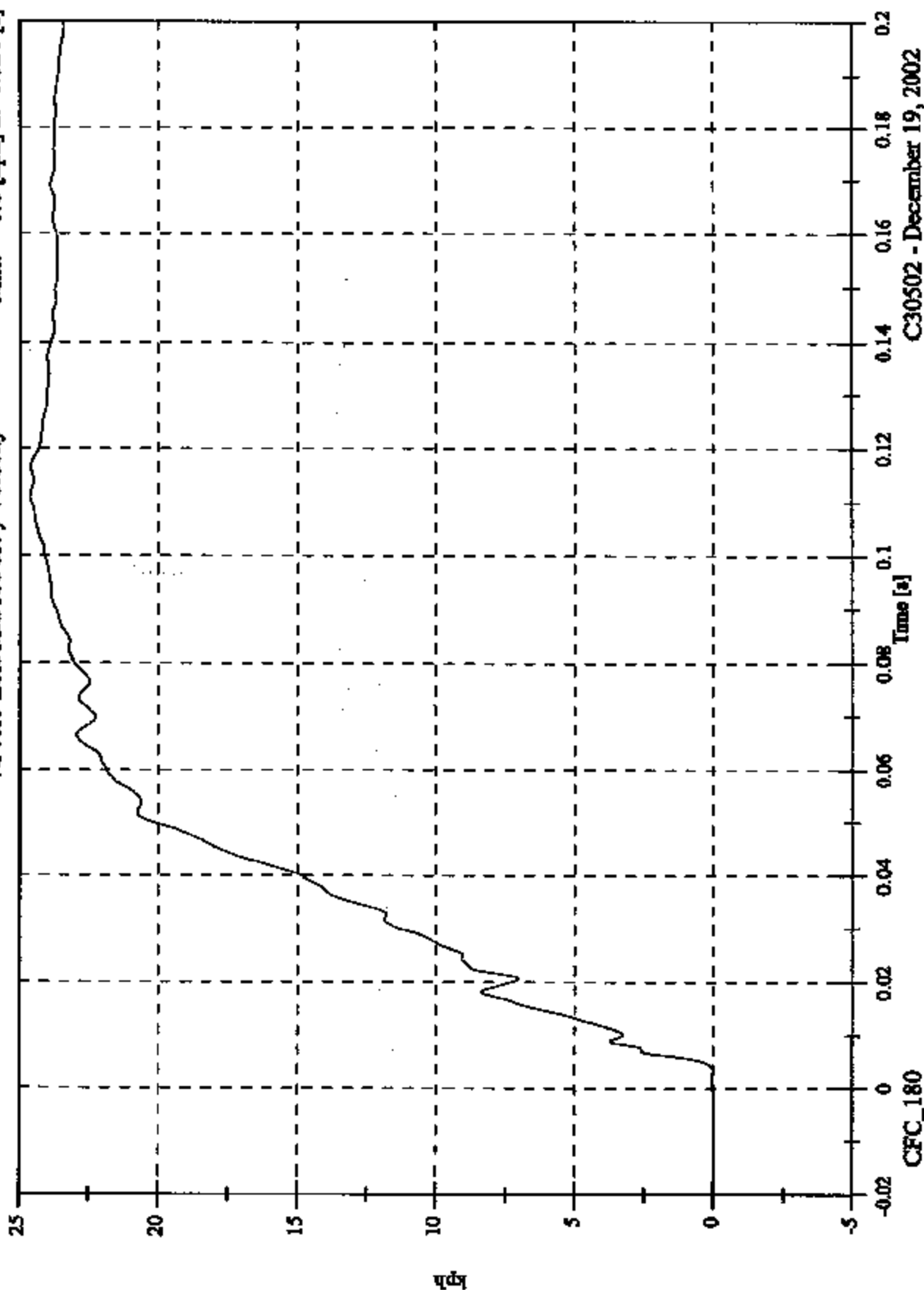
Max: 21.3 [g] at 0.014 [s]
Min: -3.8 [g] at 0.068 [s]



FMVSS 214D Test #1 - 2003 Suzuki Aero

V2 A15 Left Mid A Post y Velocity

Max: 24.6 [kph] at 0.111 [s]
Min: -0.0 [kph] at -0.020 [s]



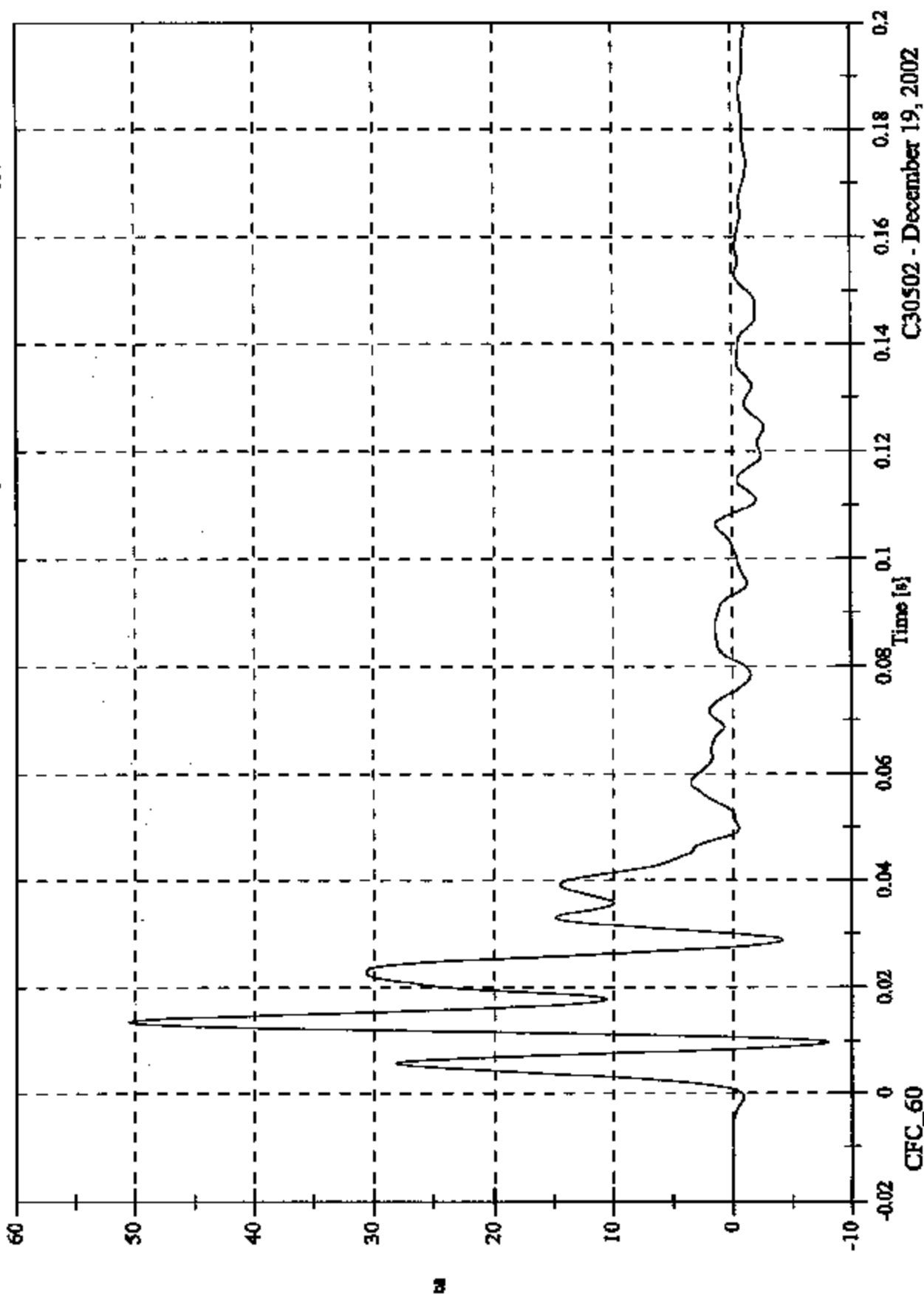
CFC_180

C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

V2 A16 Front Seat Track y

Max: 50.5 [g] at 0.014 [s]
Min: -7.9 [g] at 0.010 [s]

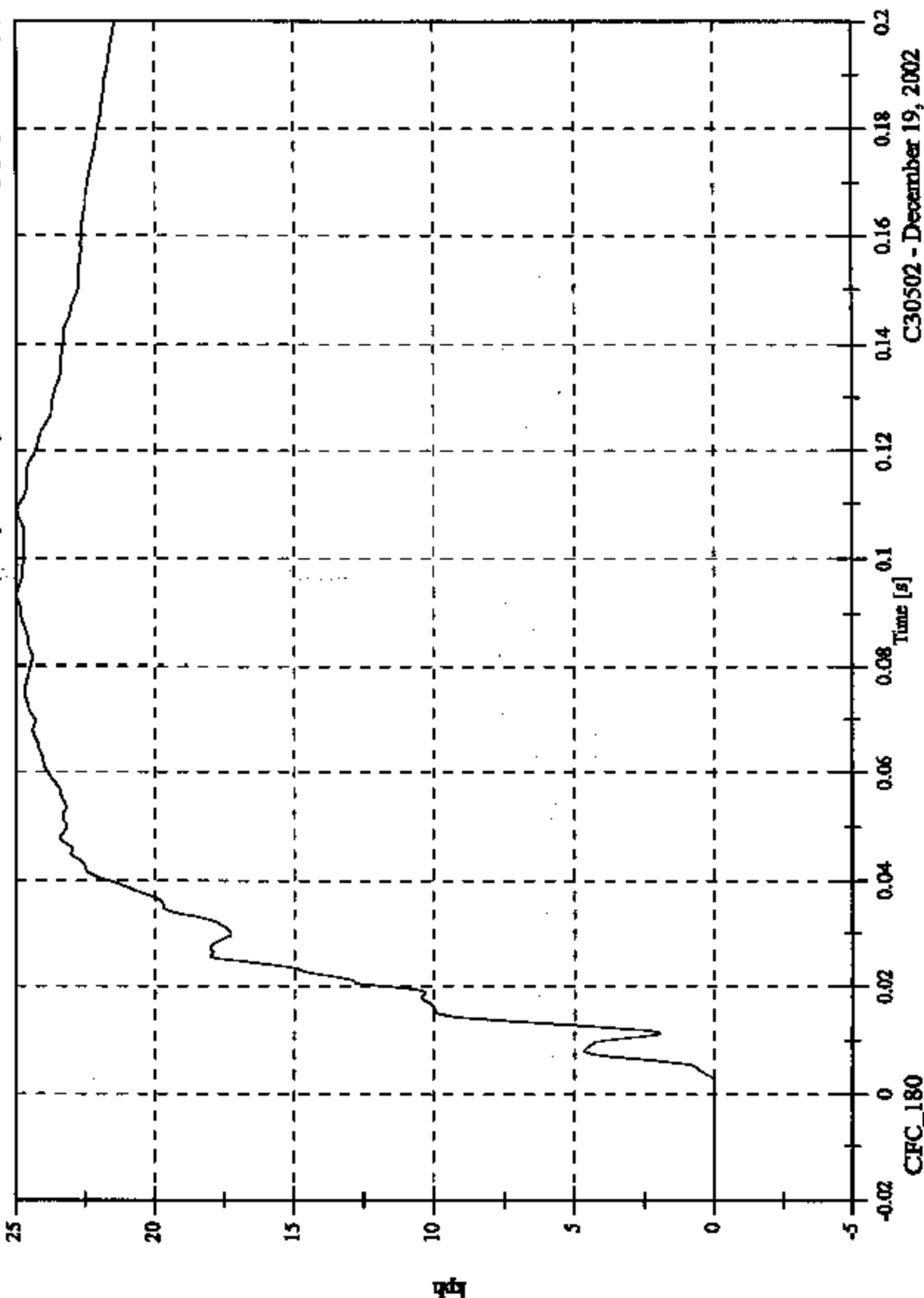


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

V2 A16 Front Seat Track y Velocity

Max: 25.0 [kph] at 0.093 [s]
Min: -0.0 [kph] at 0.002 [s]

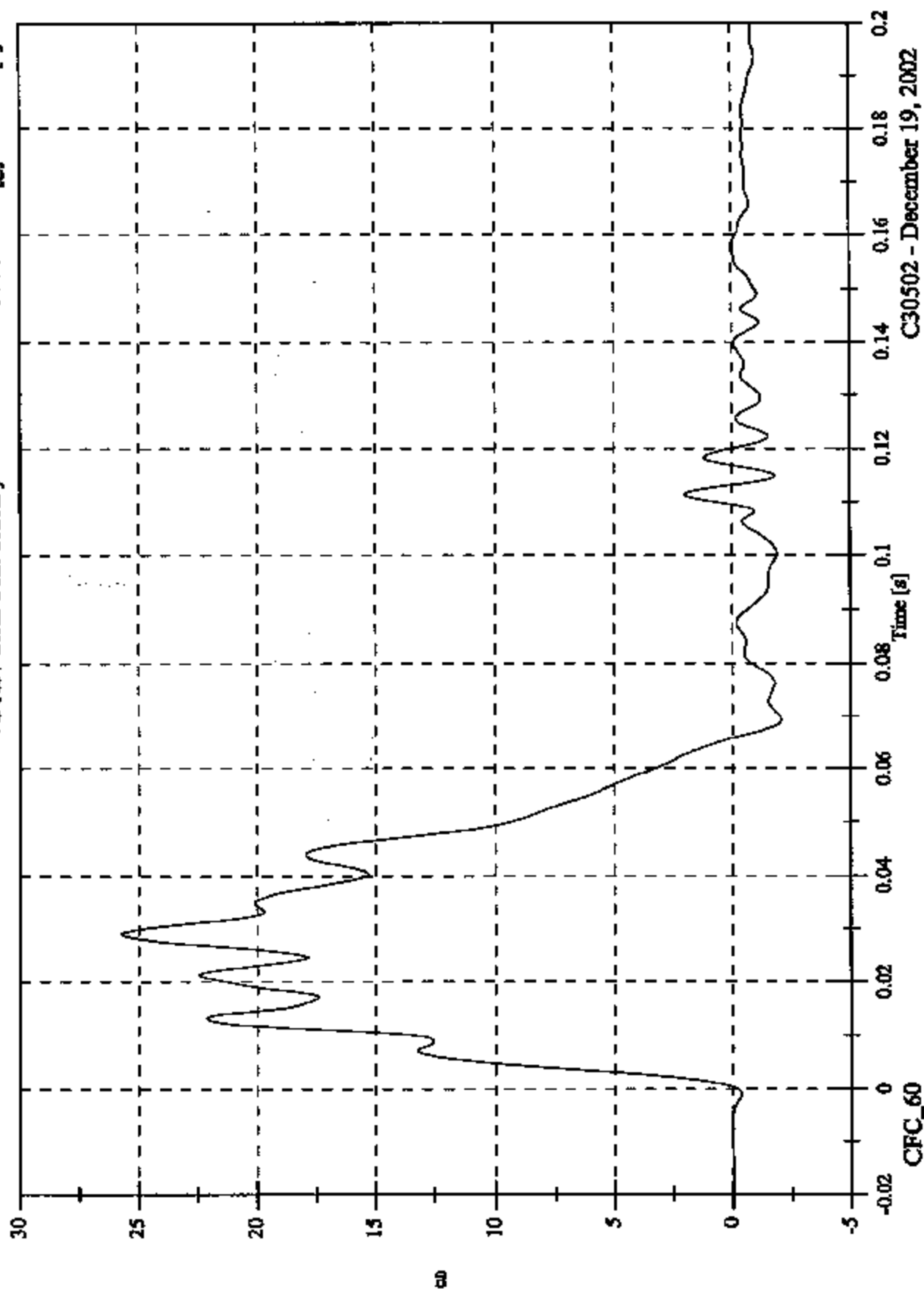


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

V2 A17 Rear Seat Track y

Max: 25.7 [g] at 0.029 [s]
Min: -2.1 [g] at 0.069 [s]

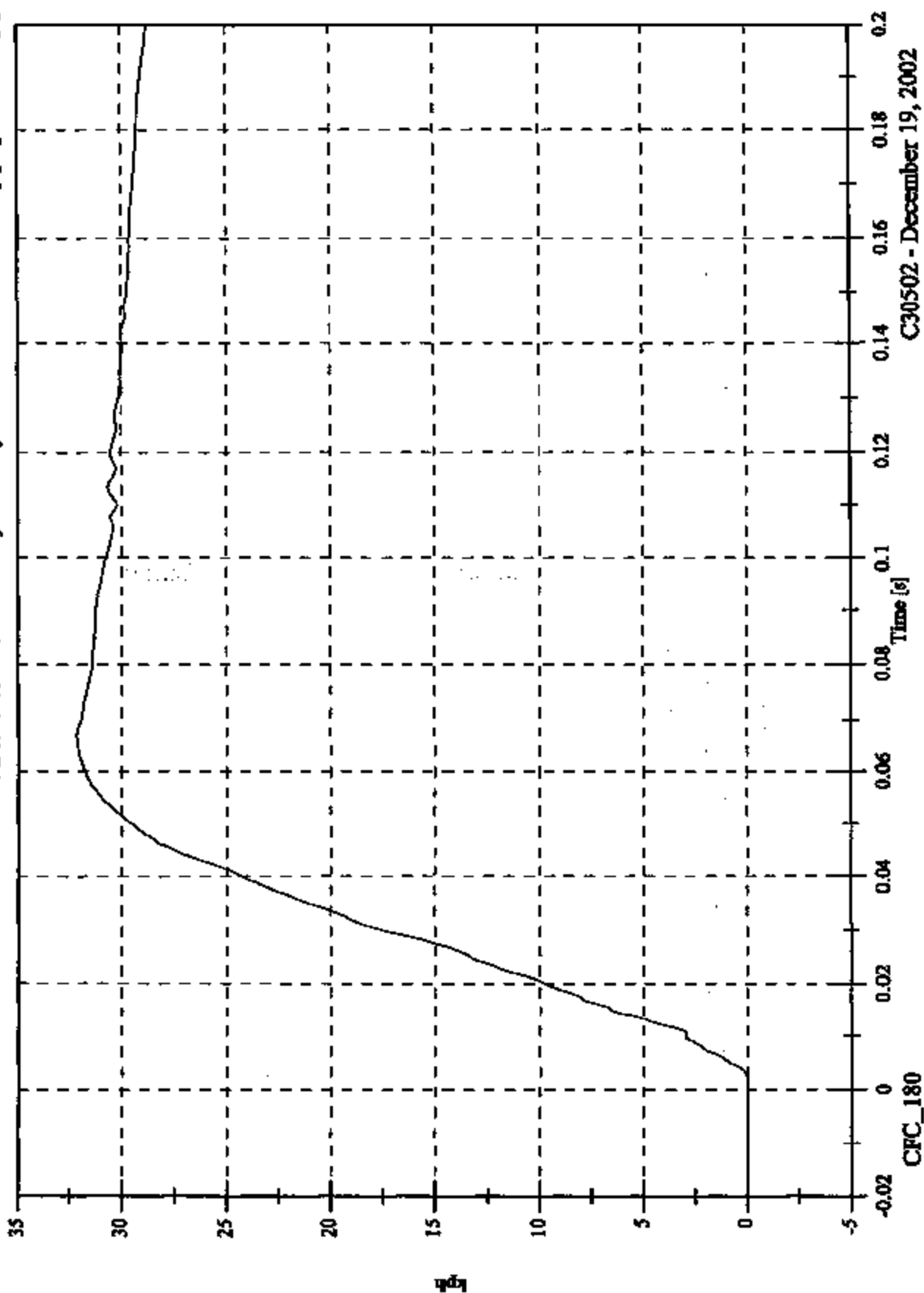


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerie

Max: 32.2 [kph] at 0.067 [s]
Min: -0.0 [kph] at -0.012 [s]

V2 A17 Rear Seat Track y Velocity



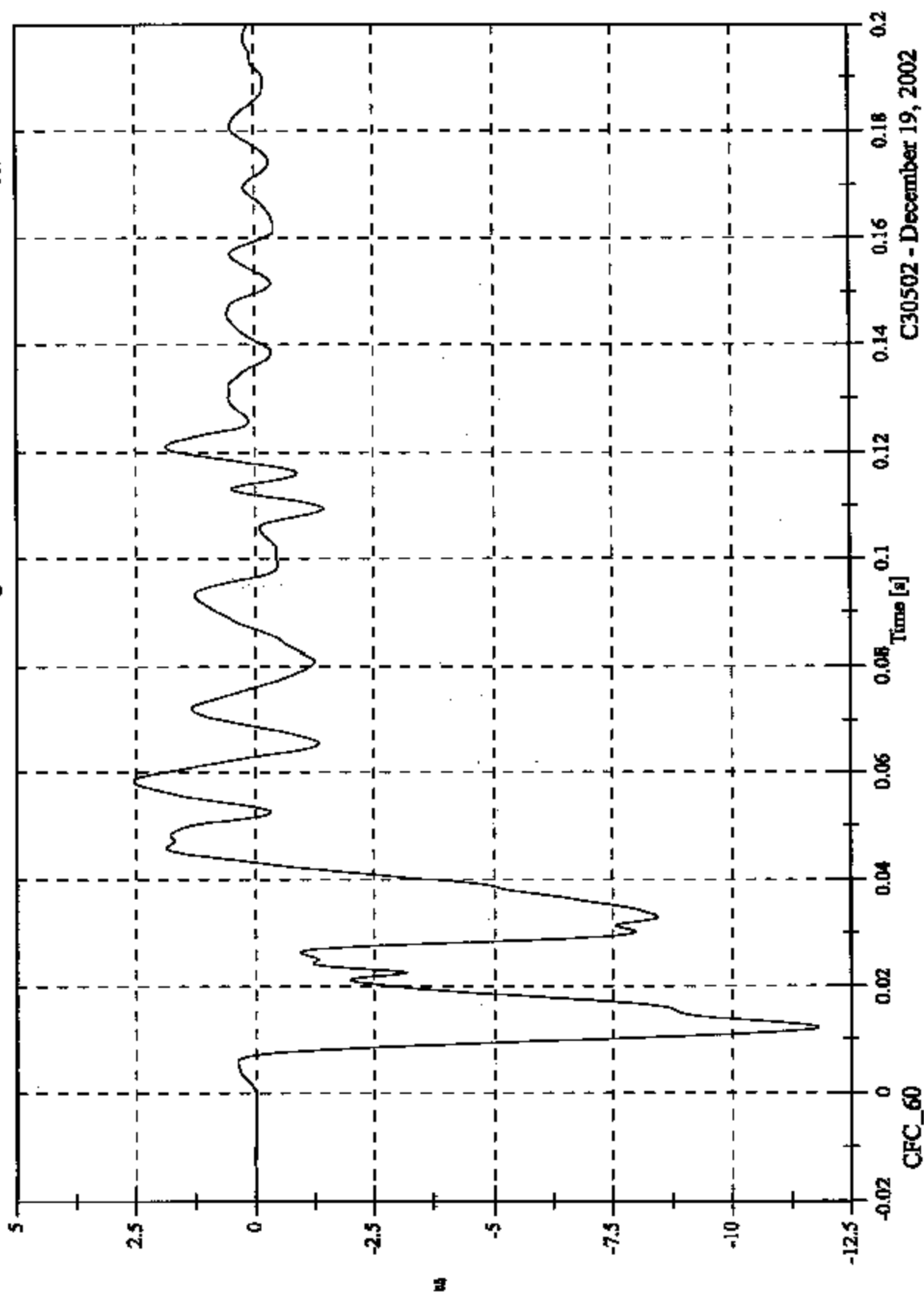
C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

V2 A18 Target CG x

Max: 2.6 [g] at 0.058 [s]

Min: -11.8 [g] at 0.012 [s]

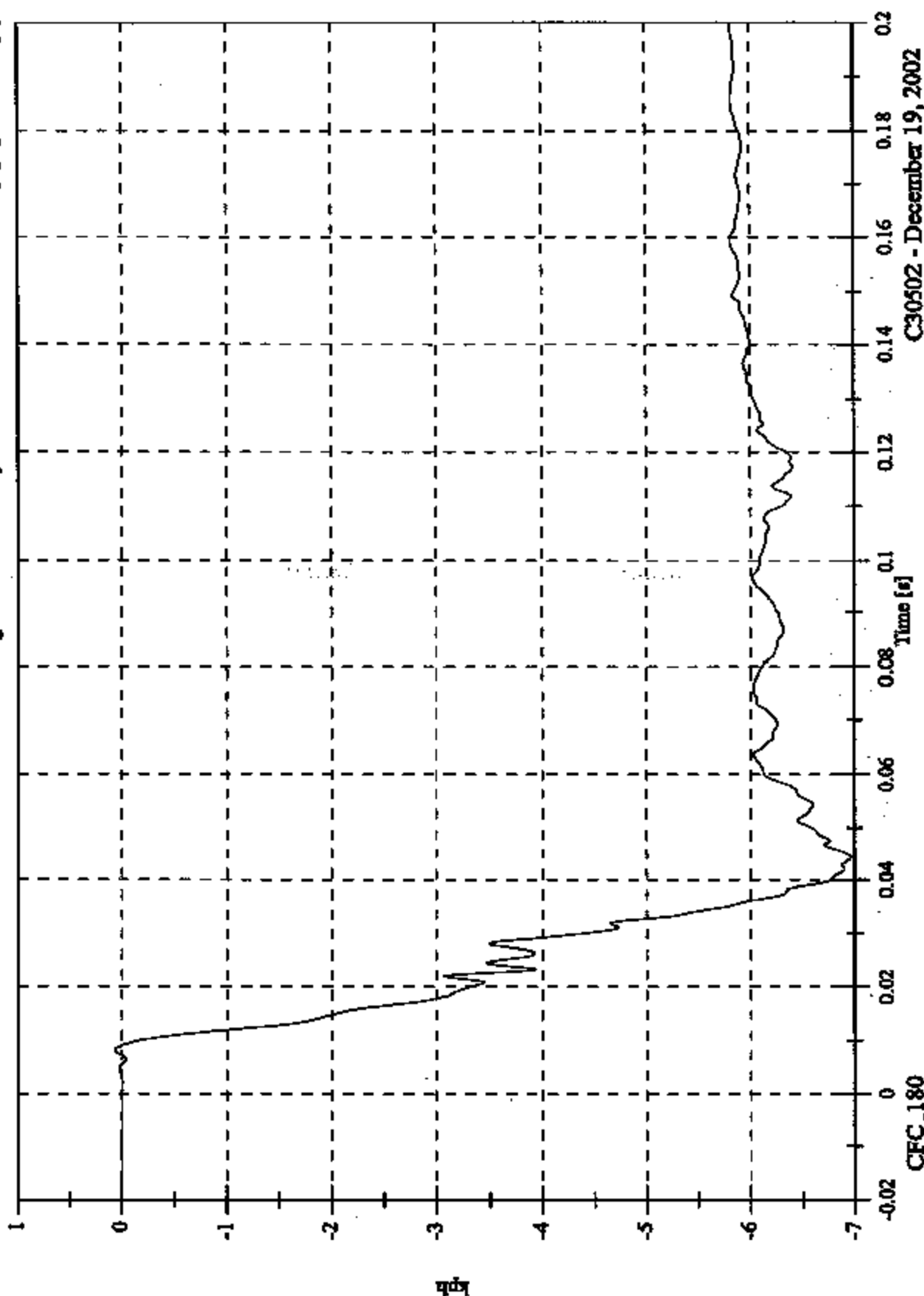


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerie

V2 A18 Target CG x Velocity

Max: 0.1 [kph] at 0.008 [s]
Min: -7.0 [kph] at 0.044 [s]



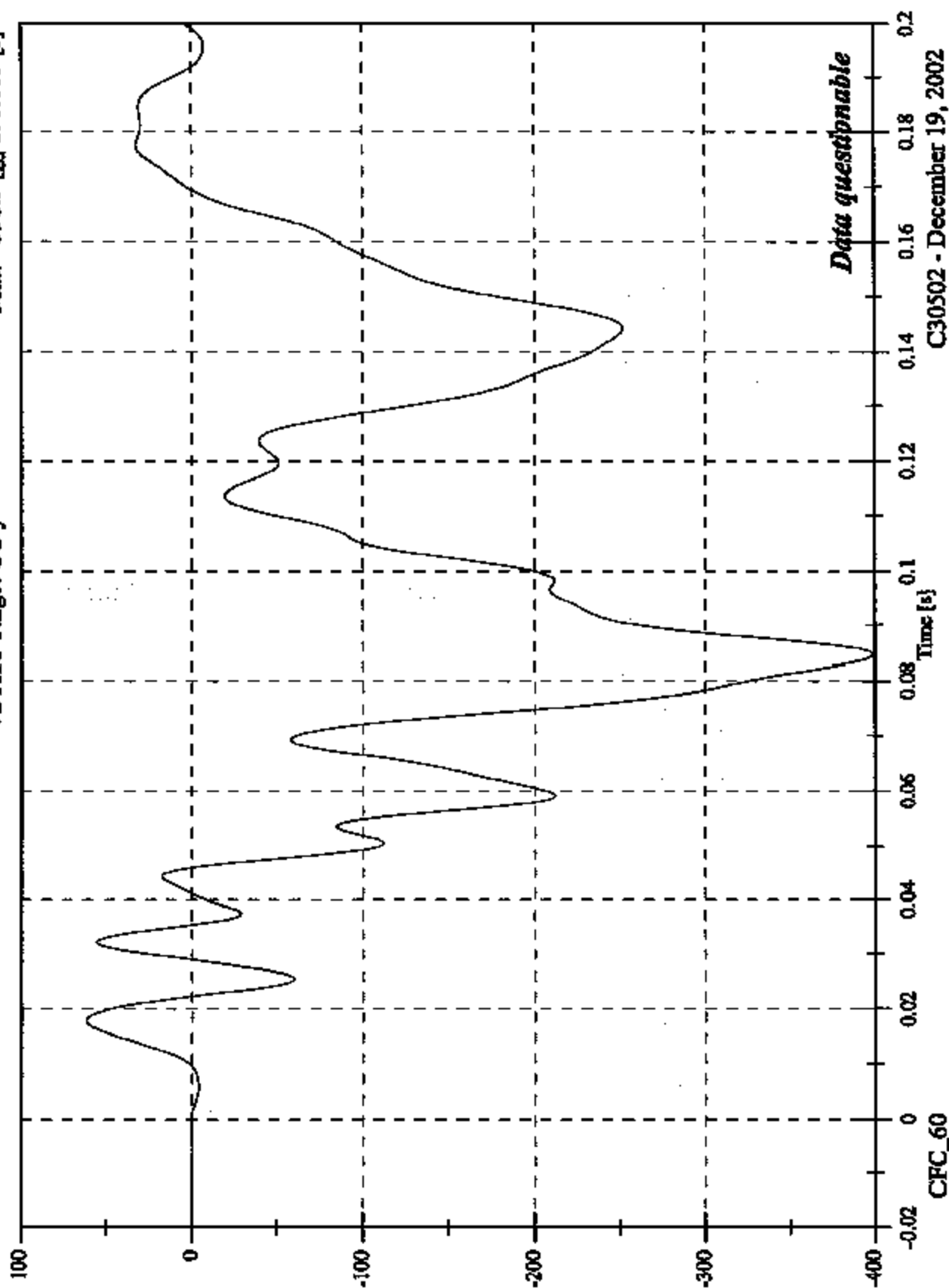
CFC_180

C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

V2 A18 Target CG y

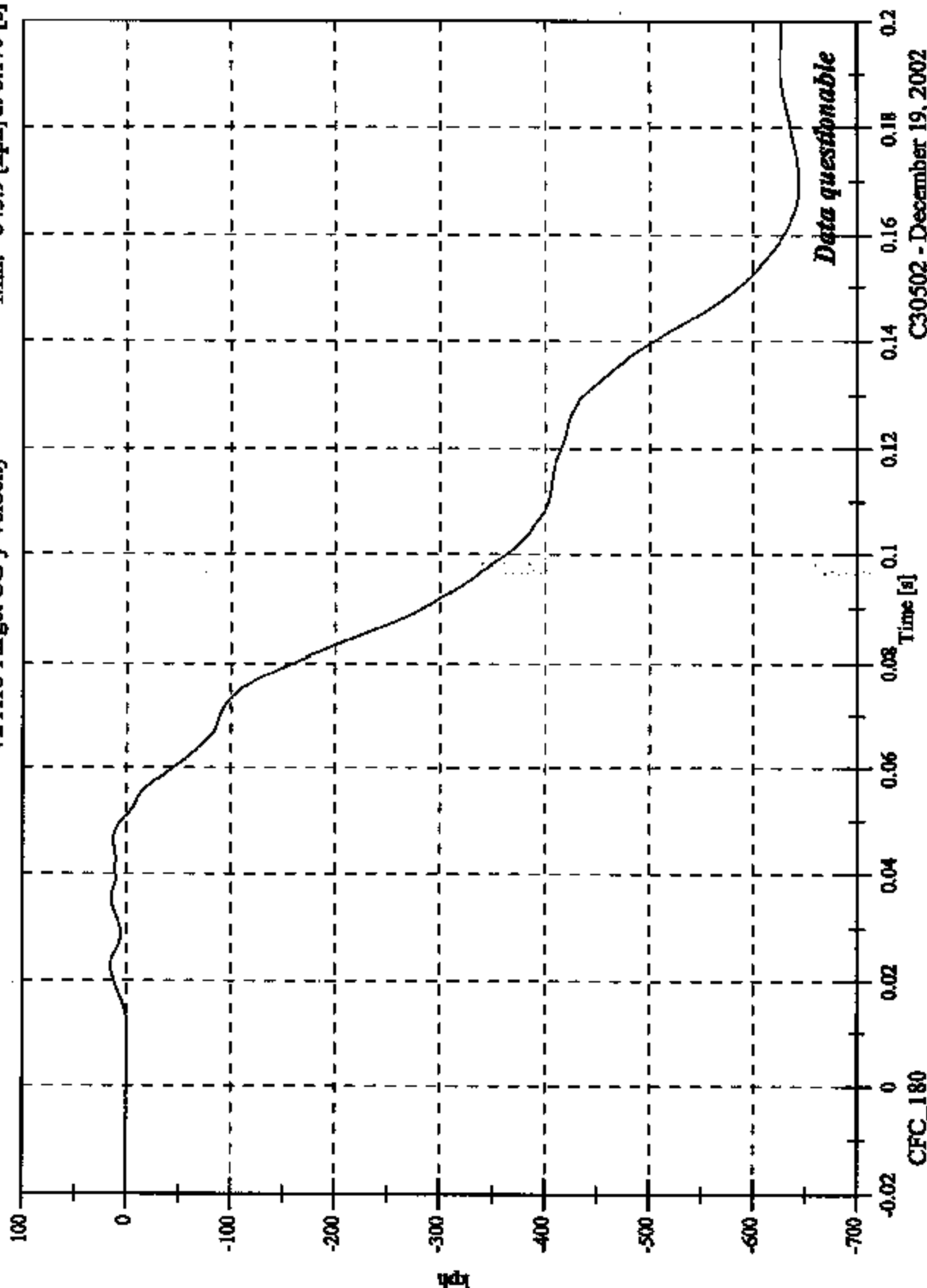
Max: 61.6 [g] at 0.018 [s]
Min: -398.9 [g] at 0.085 [s]



FMVSS 214D Test #1 - 2003 Suzuki Aerio

Max: 15.1 [kph] at 0.023 [s]
 Min: -643.9 [kph] at 0.170 [s]

V2 A18 Target CG y Velocity



Data questionable

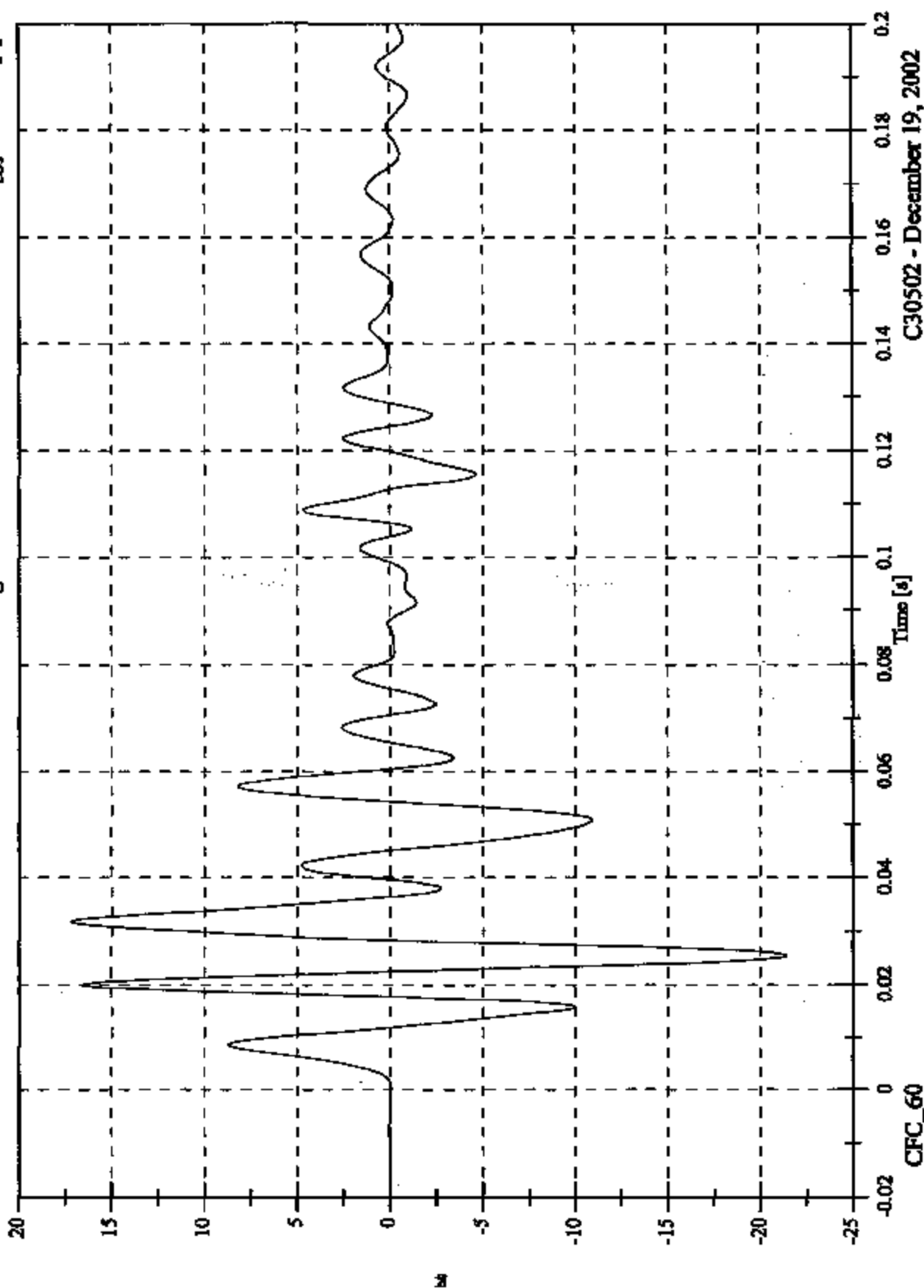
C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

Max: 17.2 [g] at 0.032 [s]

Min: -21.4 [g] at 0.025 [s]

V2 A18 Target CG z



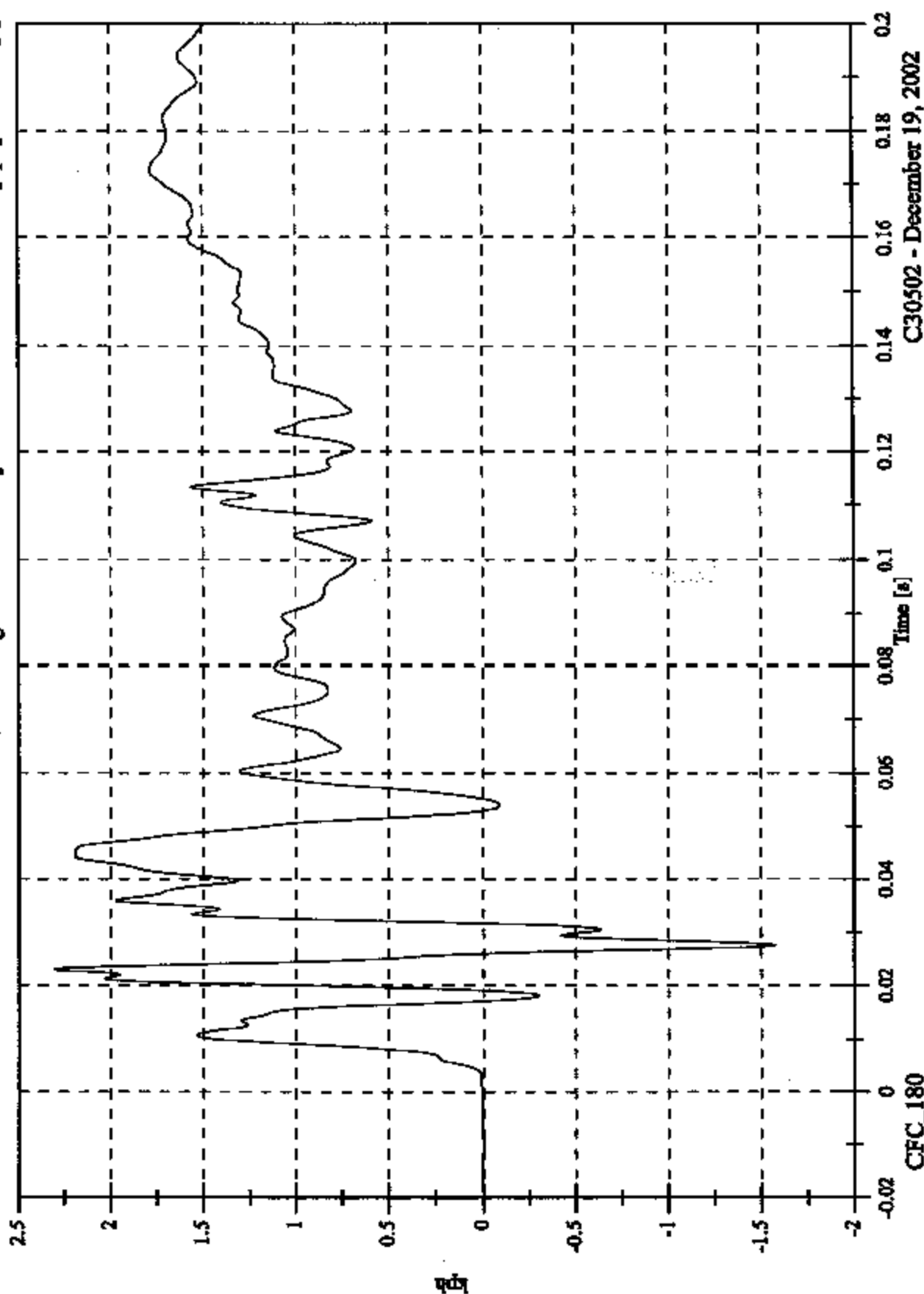
C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

Max: 2.3 [kph] at 0.023 [s]

Min: -1.6 [kph] at 0.028 [s]

V2 A18 Target CG z Velocity

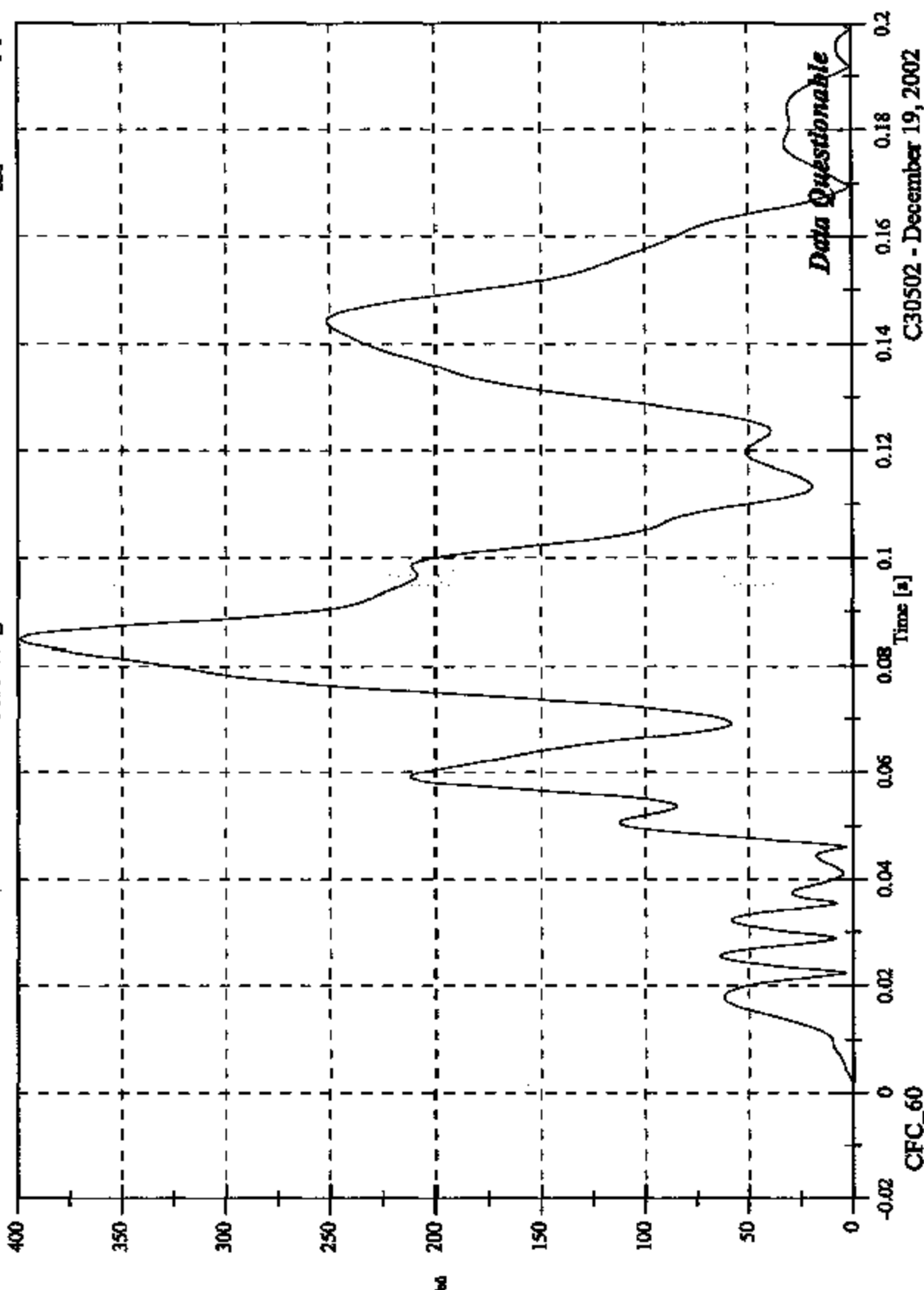


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerie

Max: 398.9 [g] at 0.085 [s]
Min: 0.0 [g] at -0.015 [s]

V2 A18 Target CG Resultant

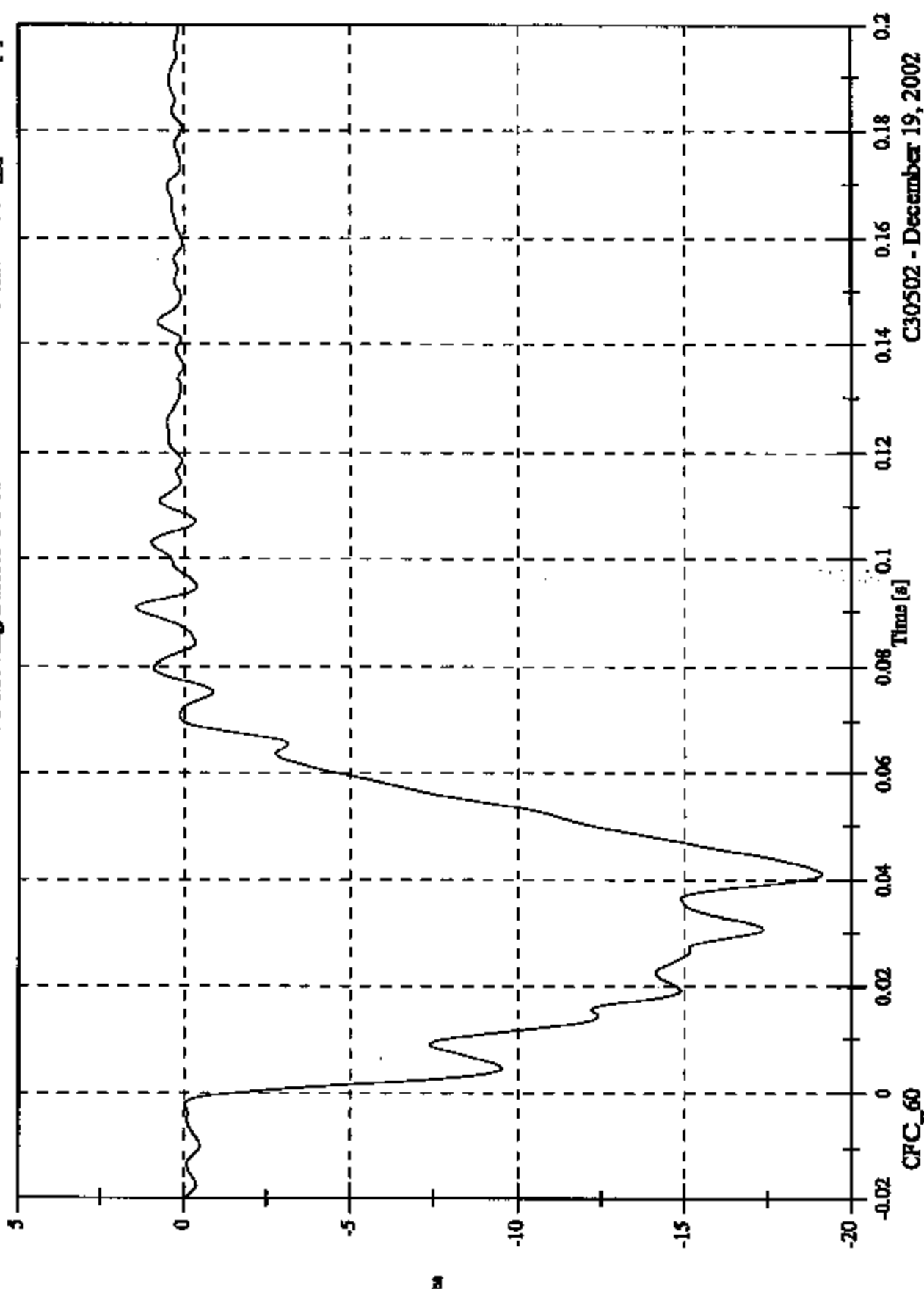


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FMVSS 214D Test #1 - 2003 Suzuki Aerio

V1 Moving Barrier CG X

Max: 1.4 [g] at 0.091 [s]
Min: -19.1 [g] at 0.041 [s]

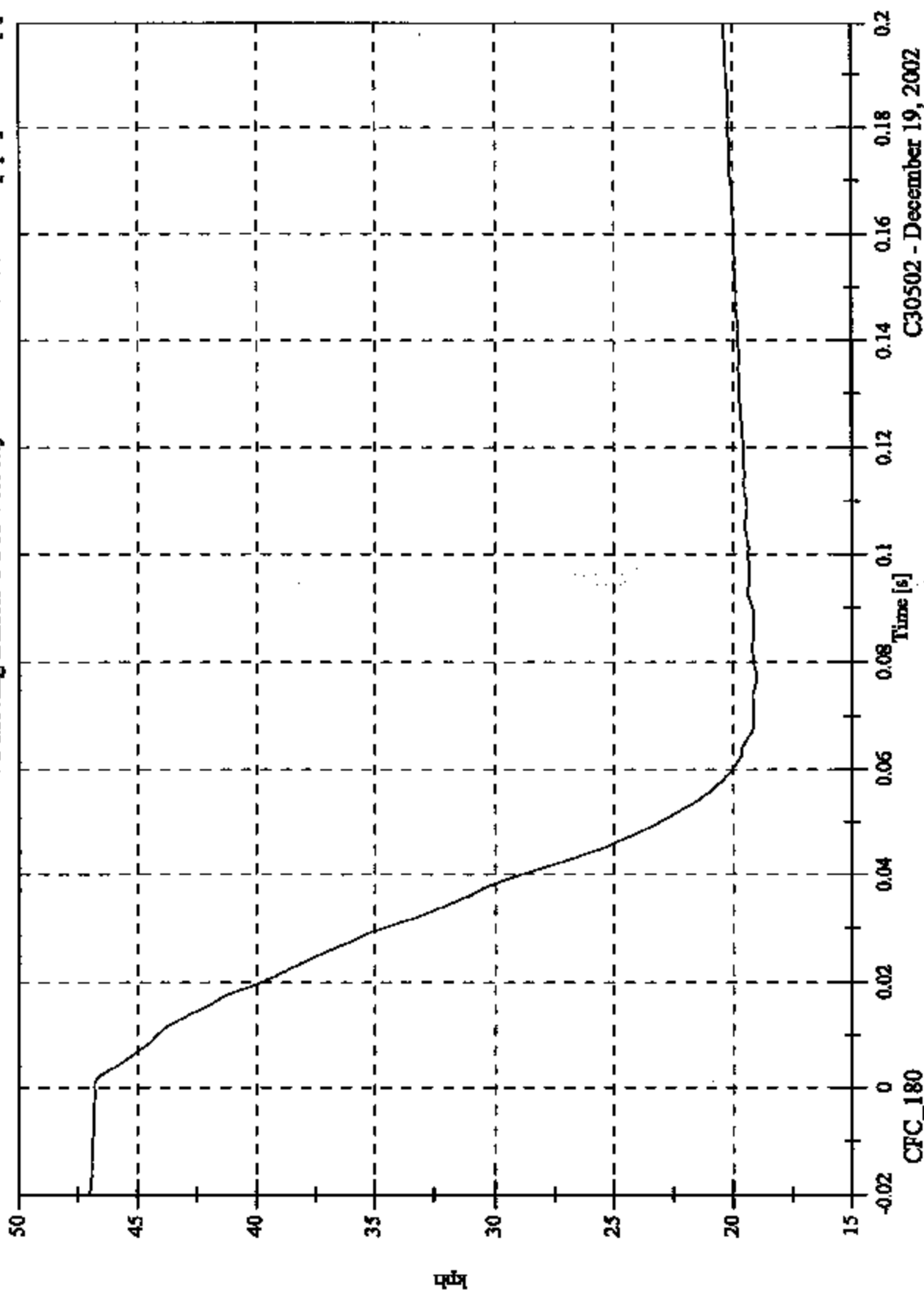


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerieo

V1 Moving Barrier CG X Velocity

Max: 47.0 [kph] at -0.020 [s]
Min: 19.0 [kph] at 0.077 [s]

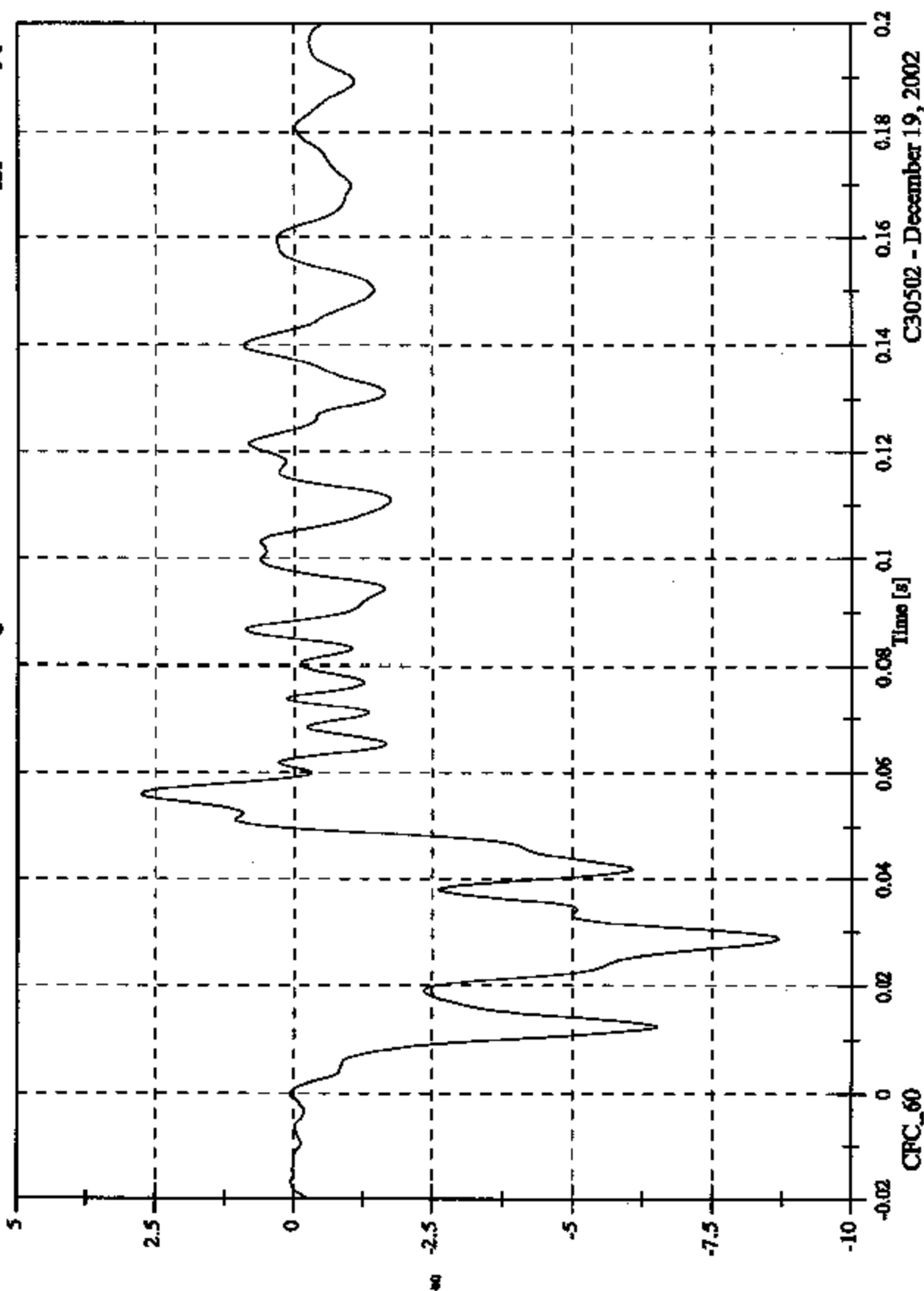


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FMVSS 214D Test #1 - 2003 Suzuki Acrio

V1 Moving Barrier CG Y

Max: 2.8 [g] at 0.056 [s]
Min: -8.7 [g] at 0.029 [s]

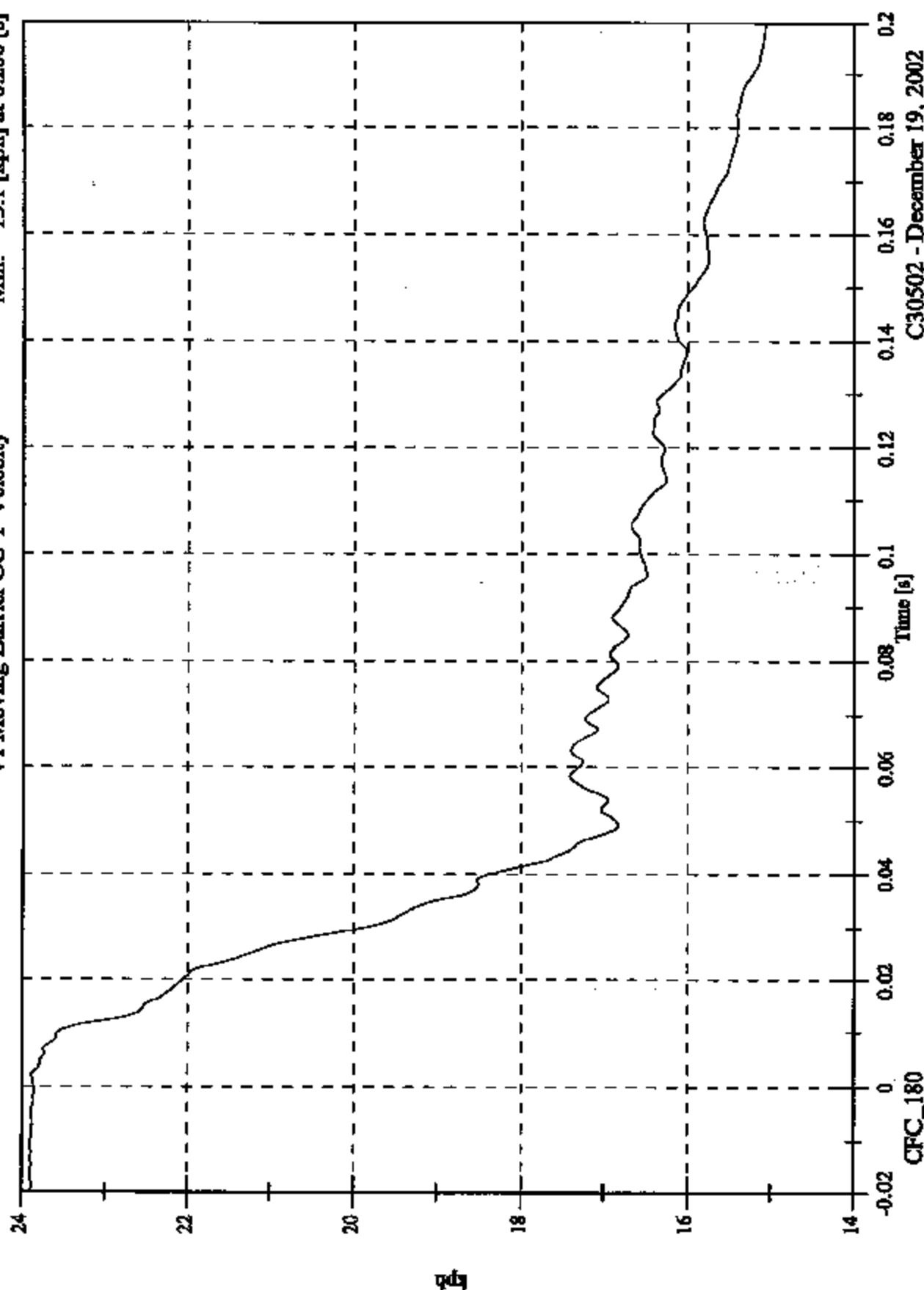


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

Max: 23.9 [kph] at -0.010 [s]
Min: 15.1 [kph] at 0.200 [s]

V1 Moving Barrier CG Y Velocity



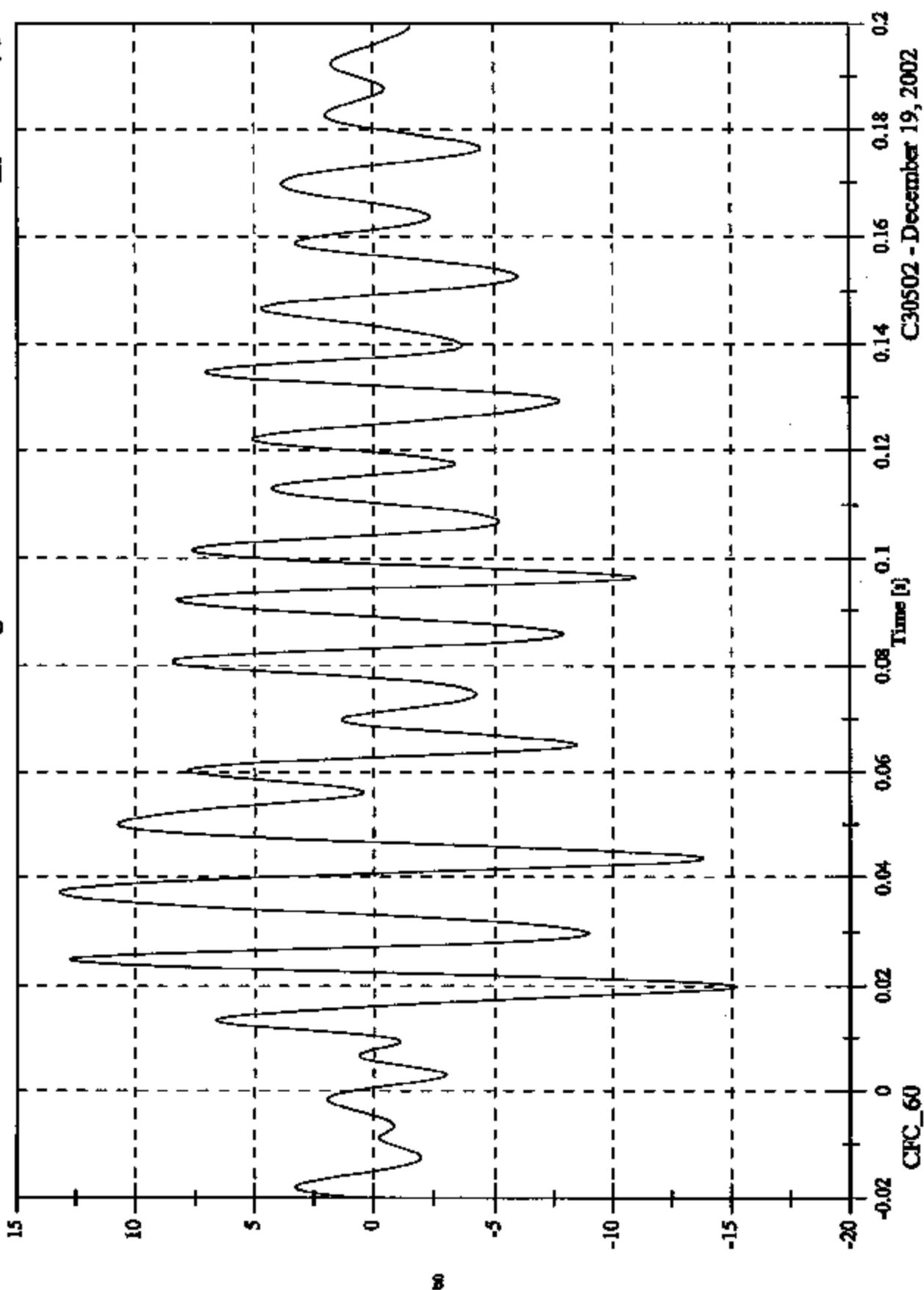
CFC_180

C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

V1 Moving Barrier CG Z

Max: 13.2 [g] at 0.037 [s]
Min: -15.2 [g] at 0.020 [s]

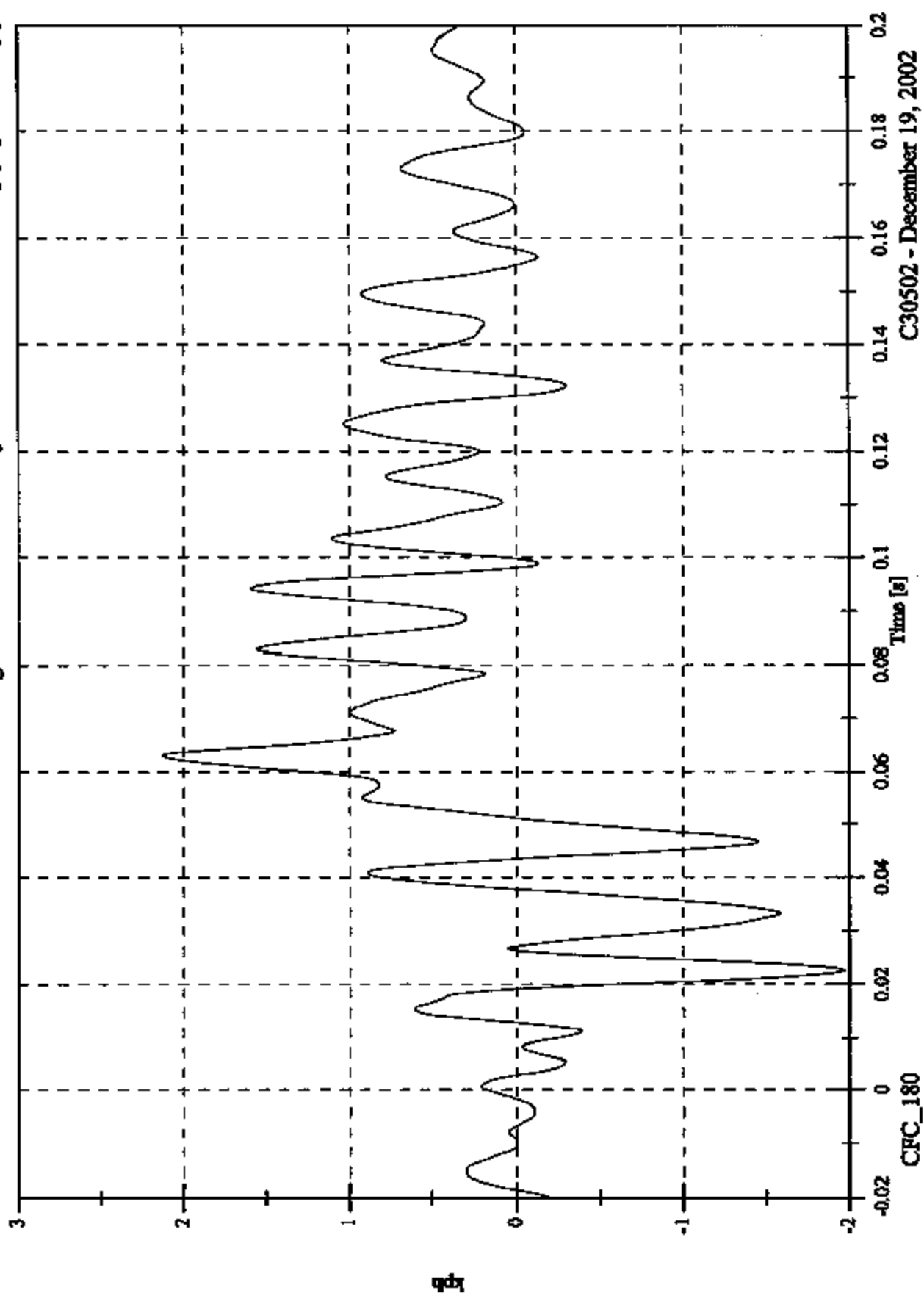


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

V1 Moving Barrier CG Z Velocity

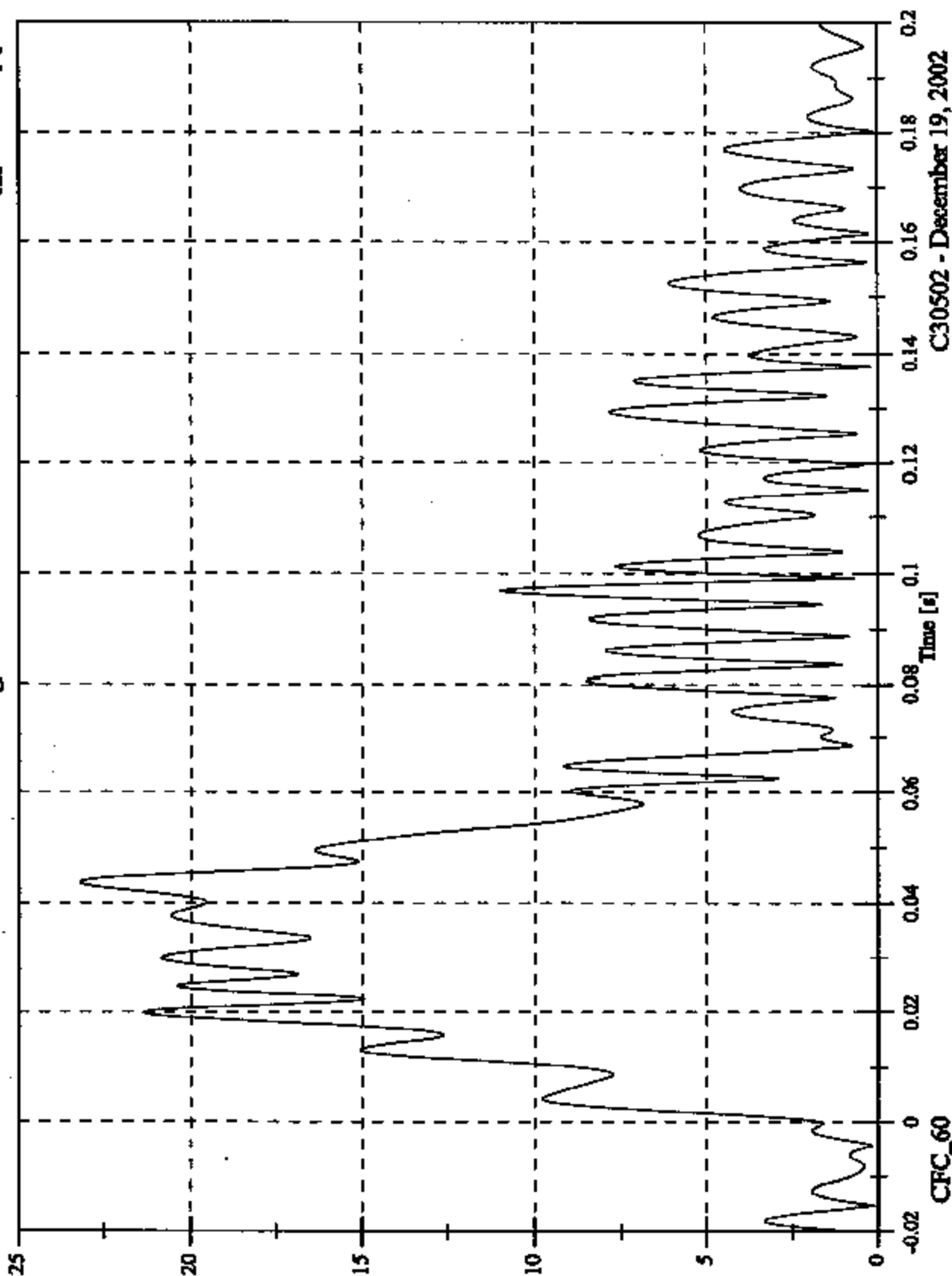
Max: 2.1 [kph] at 0.063 [s]
Min: -2.0 [kph] at 0.023 [s]



FMVSS 214D Test #1 - 2003 Suzuki Aerio

Max: 23.2 [g] at 0.044 [s]
 Min: 0.1 [g] at 0.180 [s]

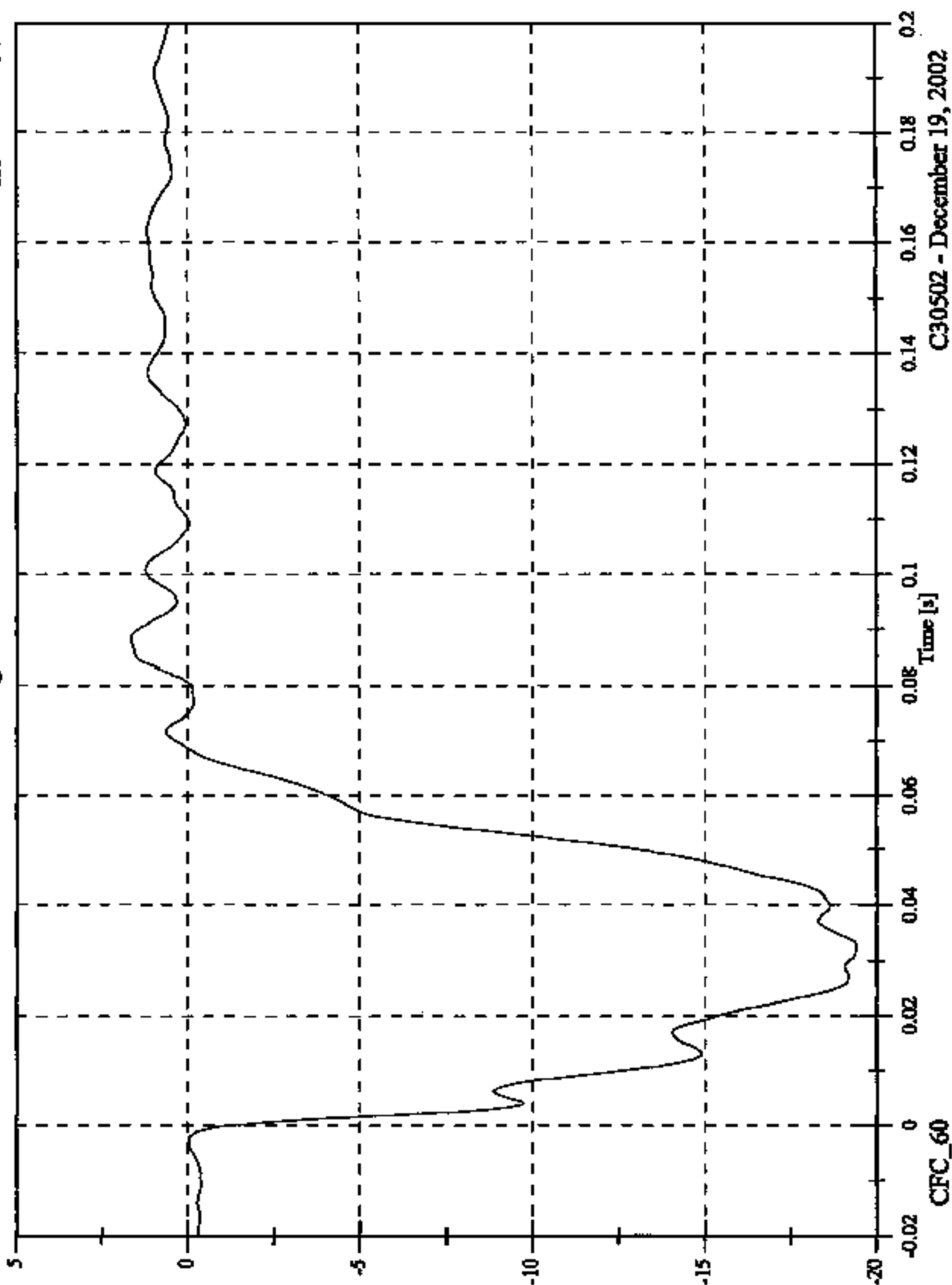
V1 Moving Barrier CG Resultant



FMVSS 214D Test #1 - 2003 Suzuki Aerieo

V1 Moving Barrier Left Rail X

Max: 1.7 [g] at 0.088 [s]
Min: -19.4 [g] at 0.033 [s]

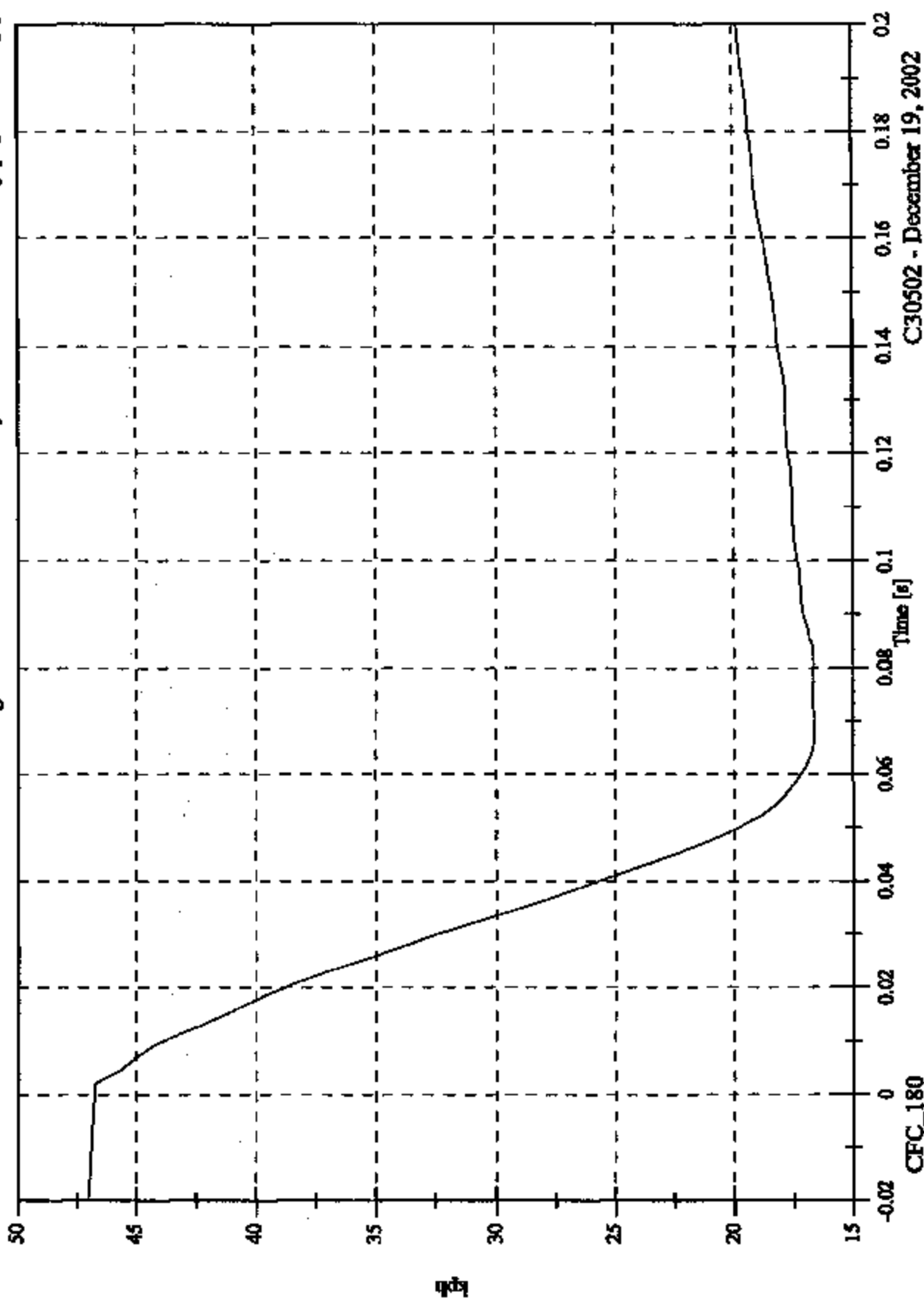


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aorio

V1 Moving Barrier Left Rail X Velocity

Max: 47.0 [kph] at -0.020 [s]
Min: 16.6 [kph] at 0.070 [s]

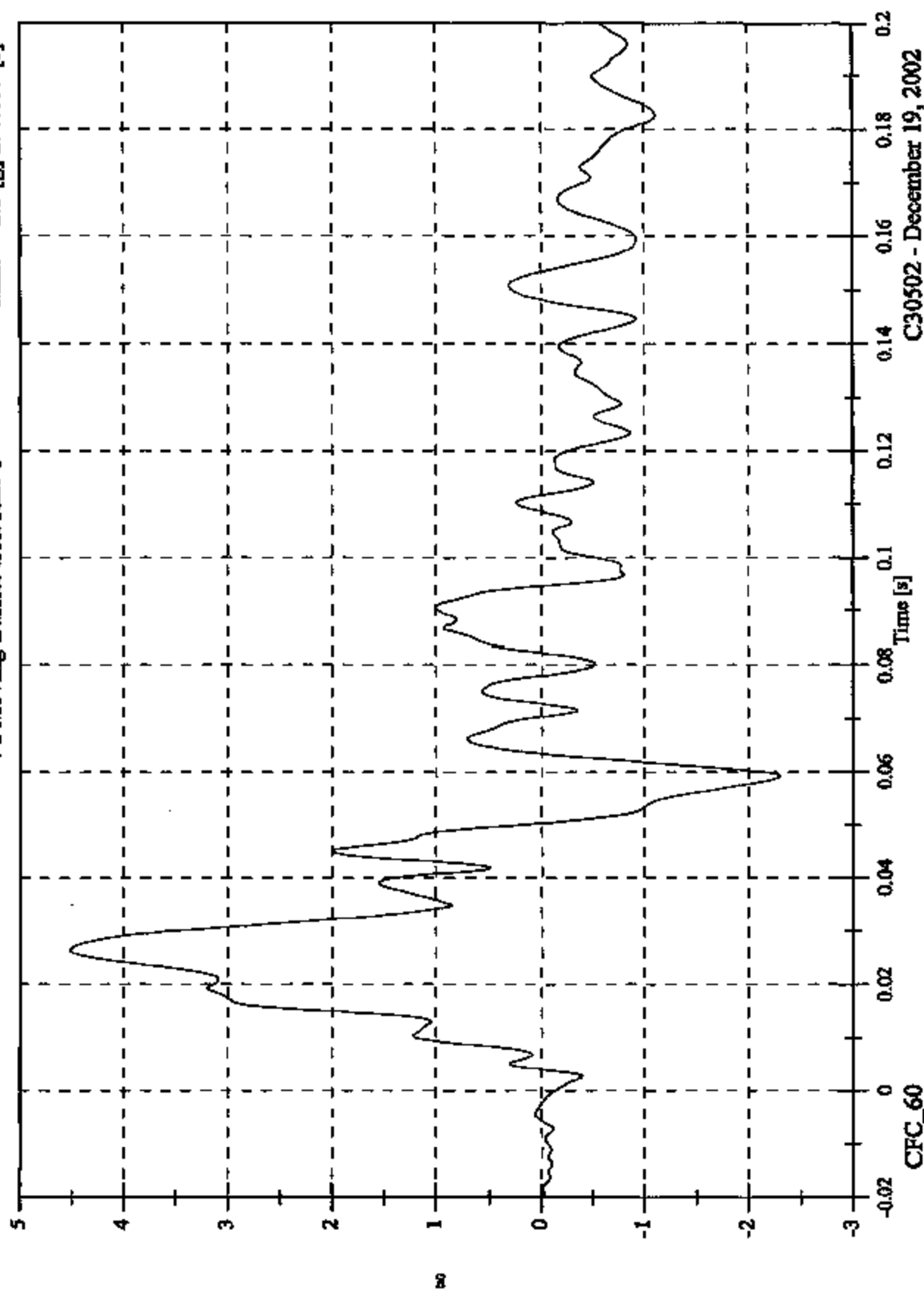


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Acrio

Max: 4.5 [g] at 0.027 [s]
Min: -2.3 [g] at 0.059 [s]

V1 Moving Barrier Left Rail Y

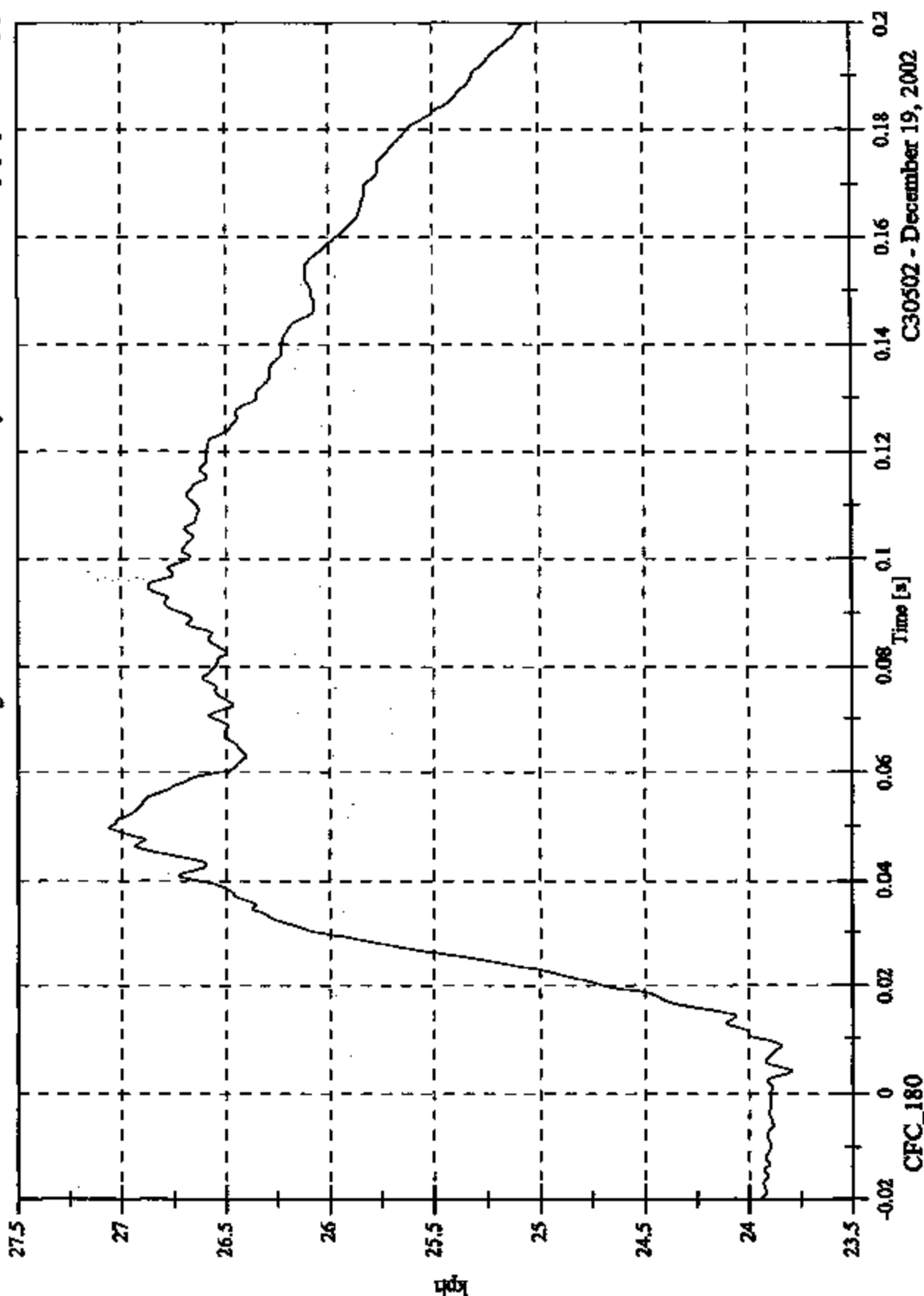


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FMVSS 214D Test #1 - 2003 Suzuki Aerio

V1 Moving Barrier Left Rail Y Velocity

Max: 27.1 [kph] at 0.050 [s]
Min: 23.8 [kph] at 0.004 [s]

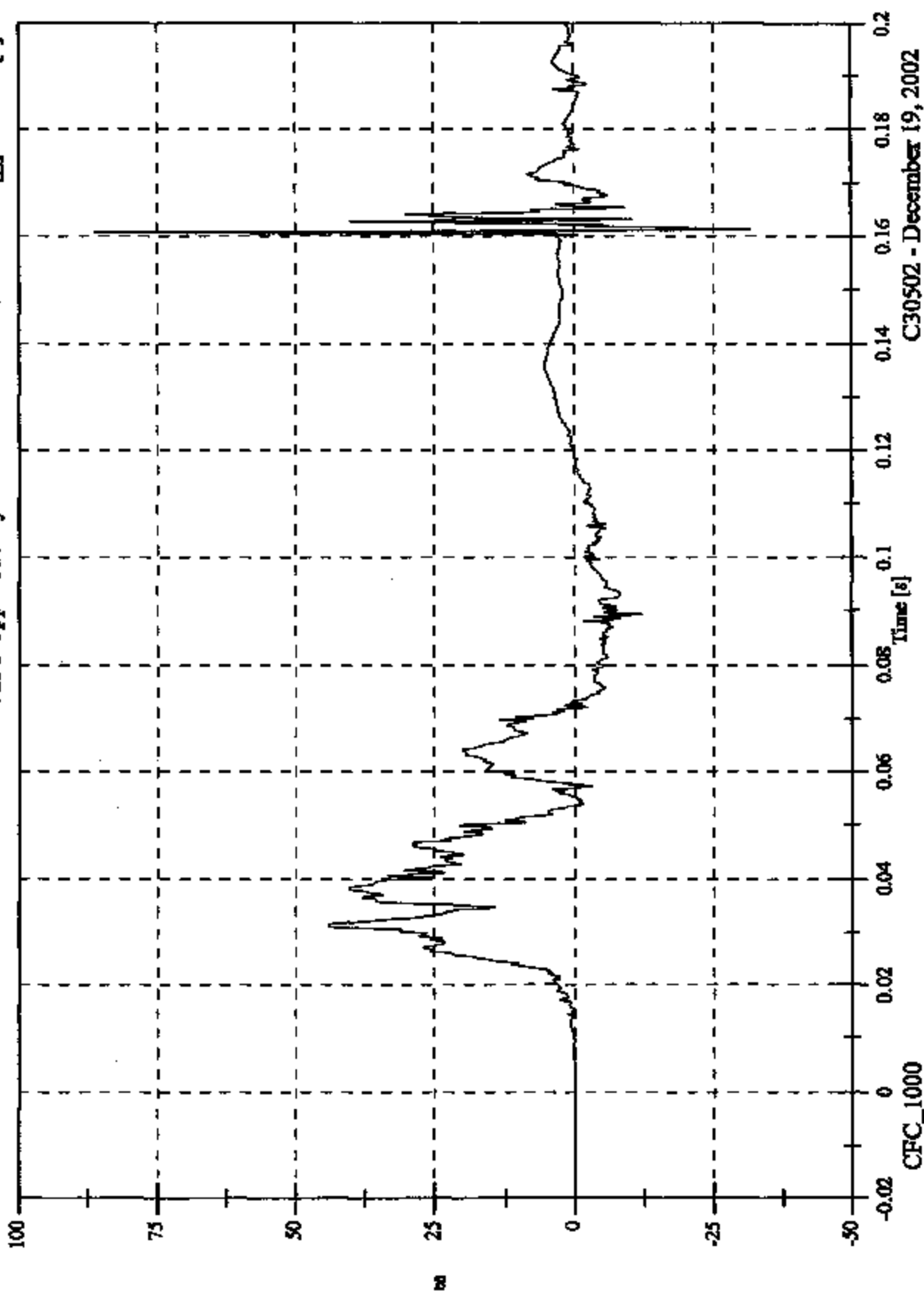


FMVSS 214D Test #1 - 2003 Suzuki Aerio

V2P1 Upper Rib Ry

Max: 86.2 [g] at 0.161 [s]

Min: -31.6 [g] at 0.161 [s]

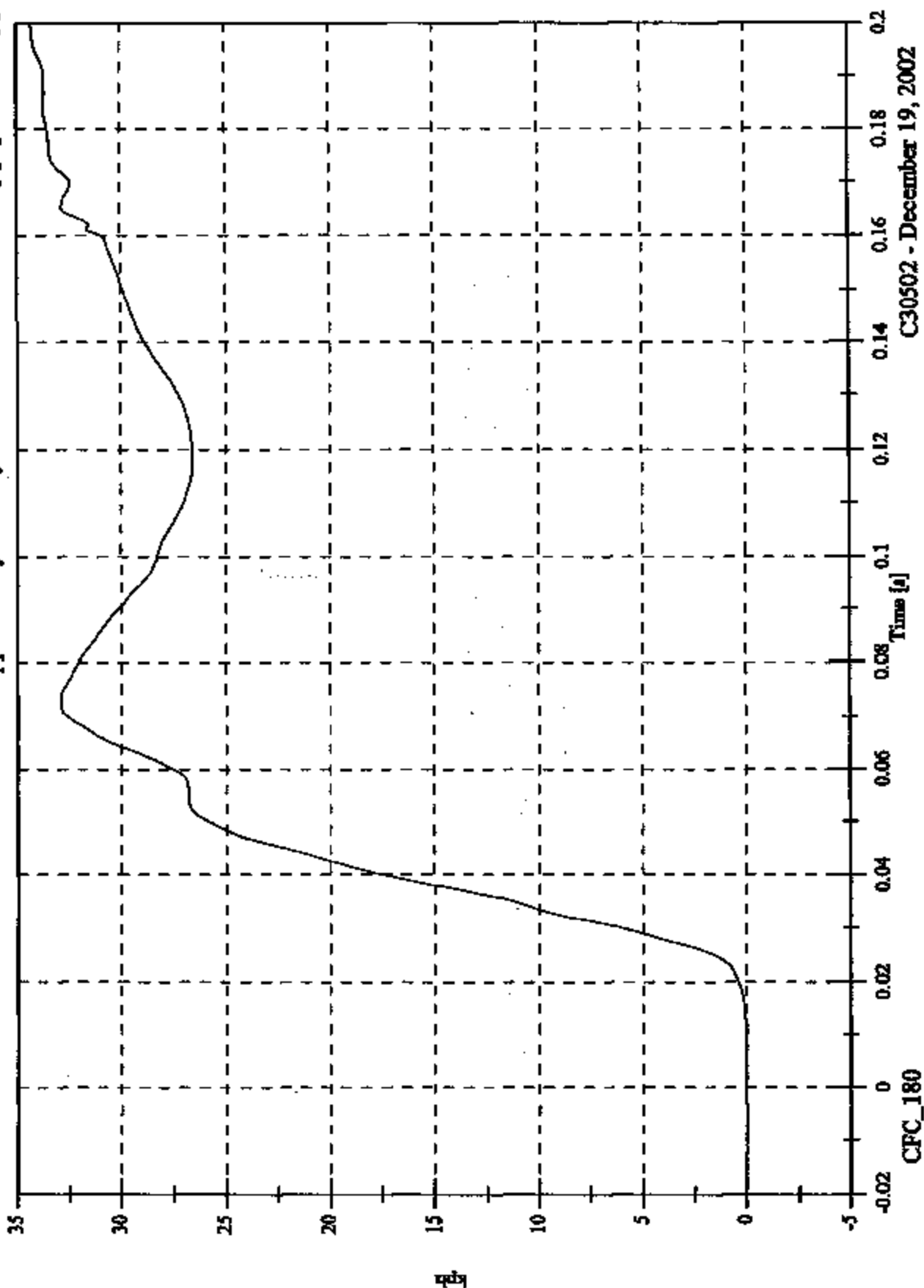


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aero

Max: 34.3 [kph] at 0.200 [s]
Min: -0.0 [kph] at -0.018 [s]

V2P1 Upper Rib Ry Velocity



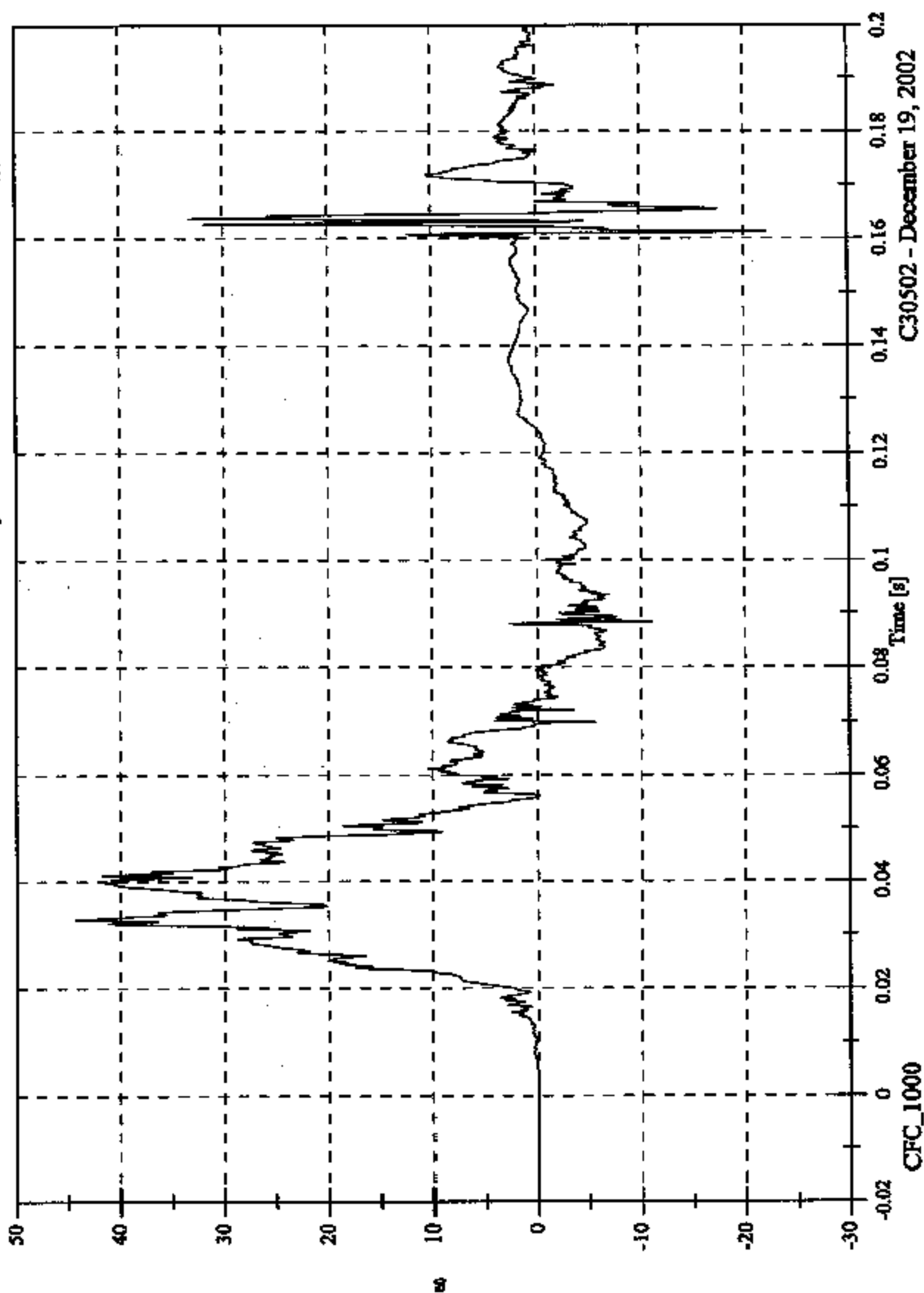
C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

Max: 44.3 [g] at 0.033 [s]

Min: -22.2 [g] at 0.161 [s]

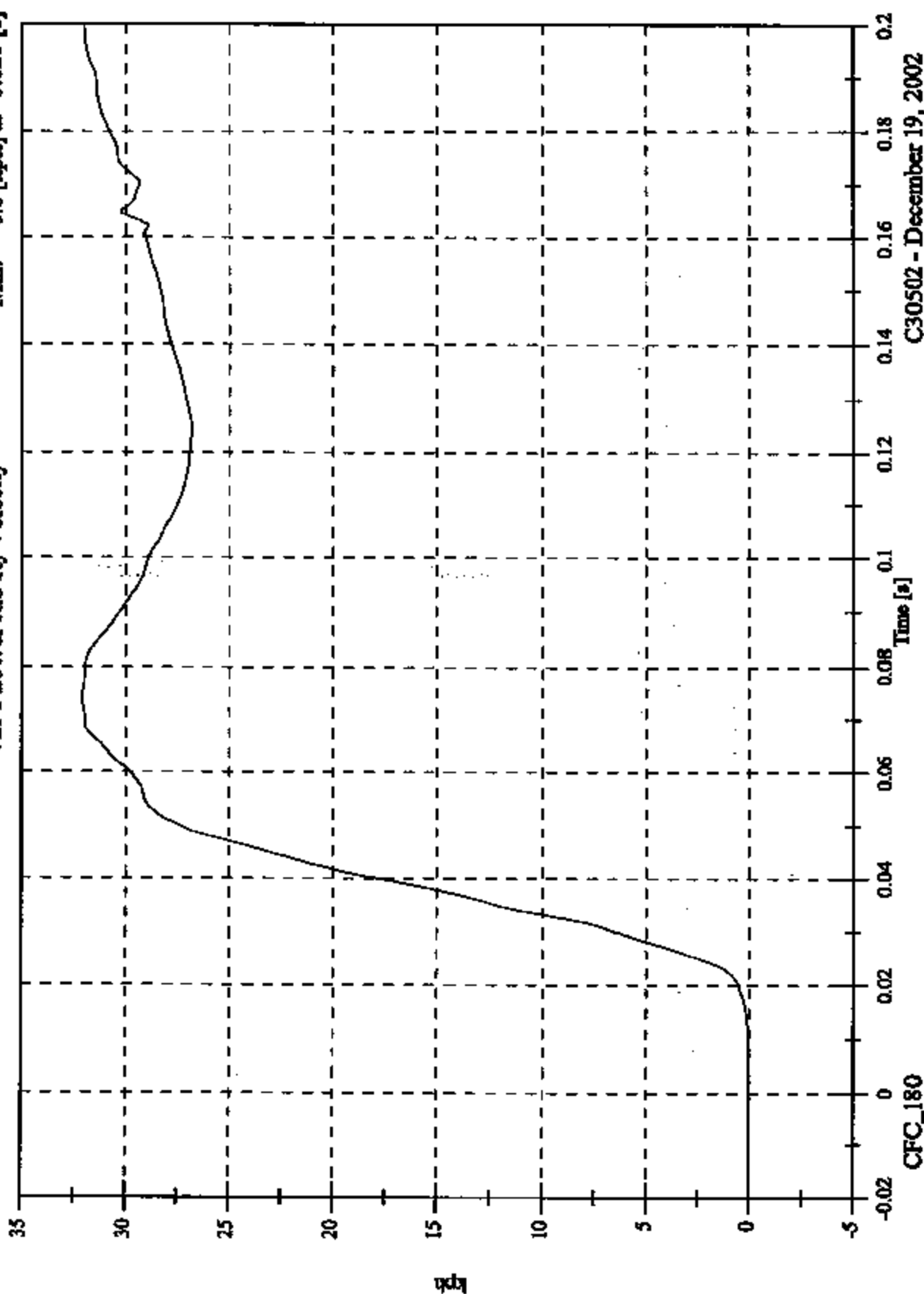
V2P1 Lower Rib Ry



FMVSS214D Test #1 - 2003 Suzuki Aestio

Max: 32.1 [kph] at 0.074 [s]
Min: -0.0 [kph] at -0.020 [s]

V2P1 Lower Rib Ry Velocity



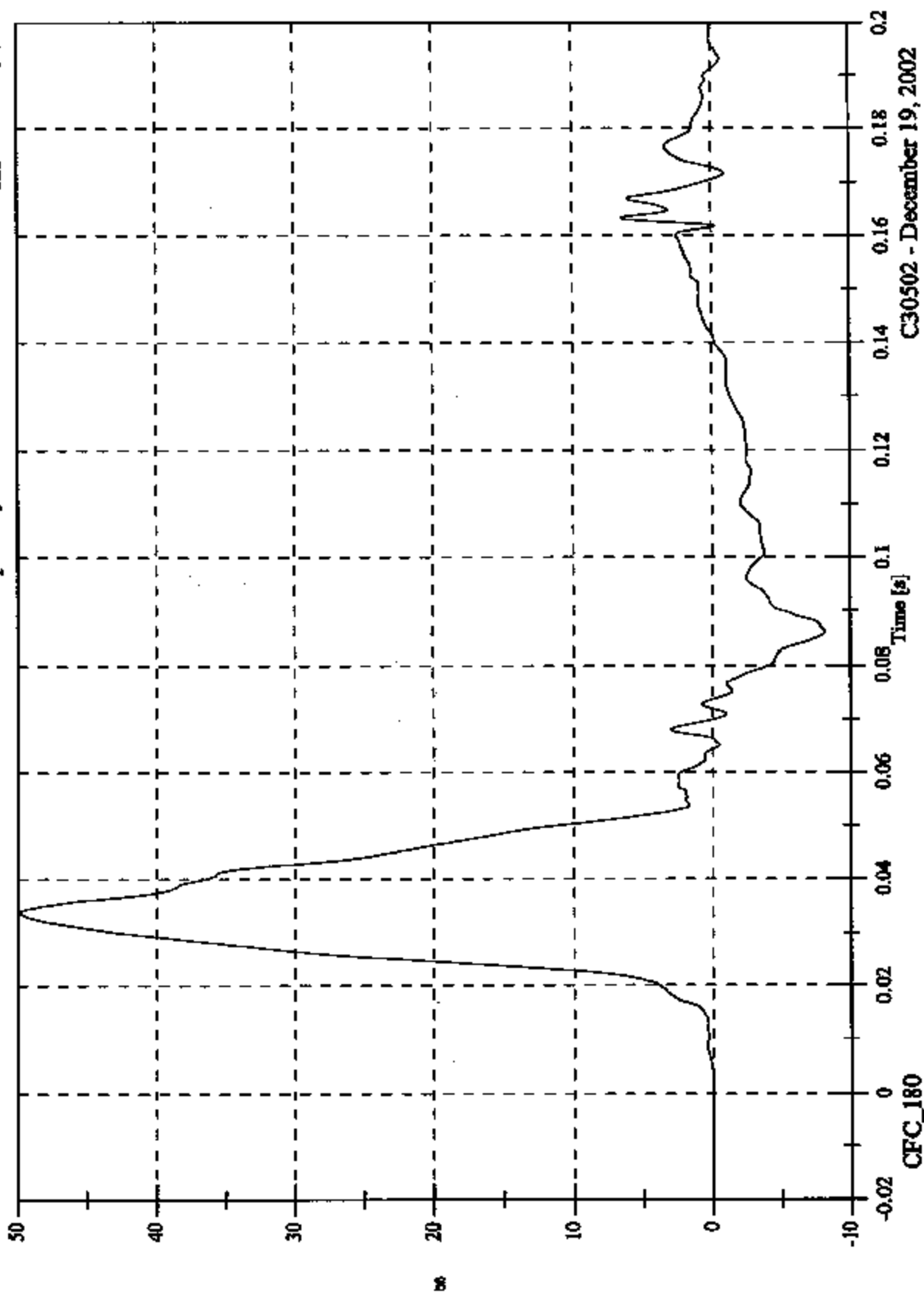
C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

V2P1 Lower Spine Ry

Max: 49.9 [g] at 0.034 [s]

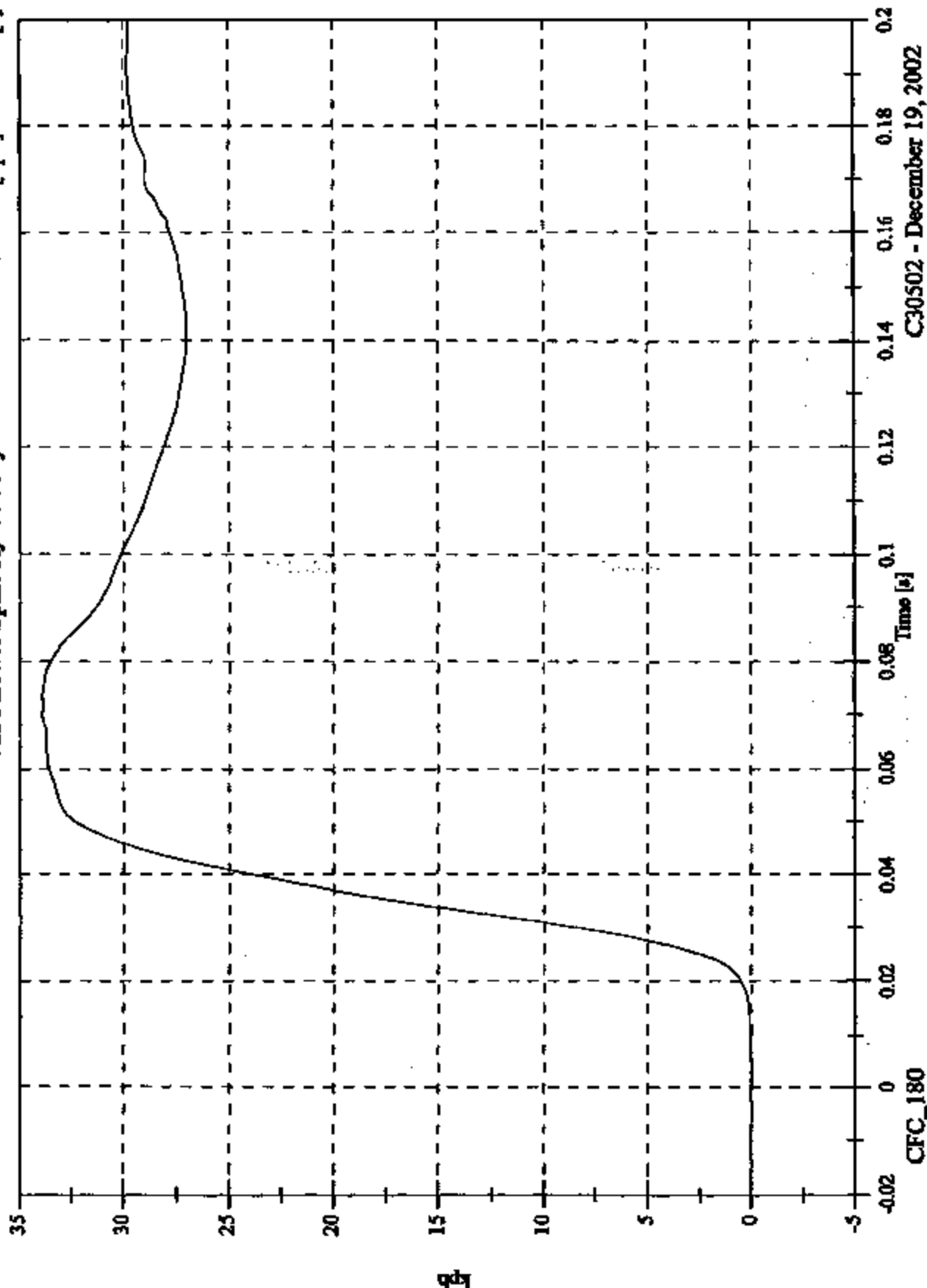
Min: -8.1 [g] at 0.086 [s]



FMVSS 214D Test #1 - 2003 Suzuki Aerio

Max: 33.9 [kph] at 0.070 [s]
 Min: -0.0 [kph] at -0.020 [s]

V2P1 Lower Spine Ry Velocity

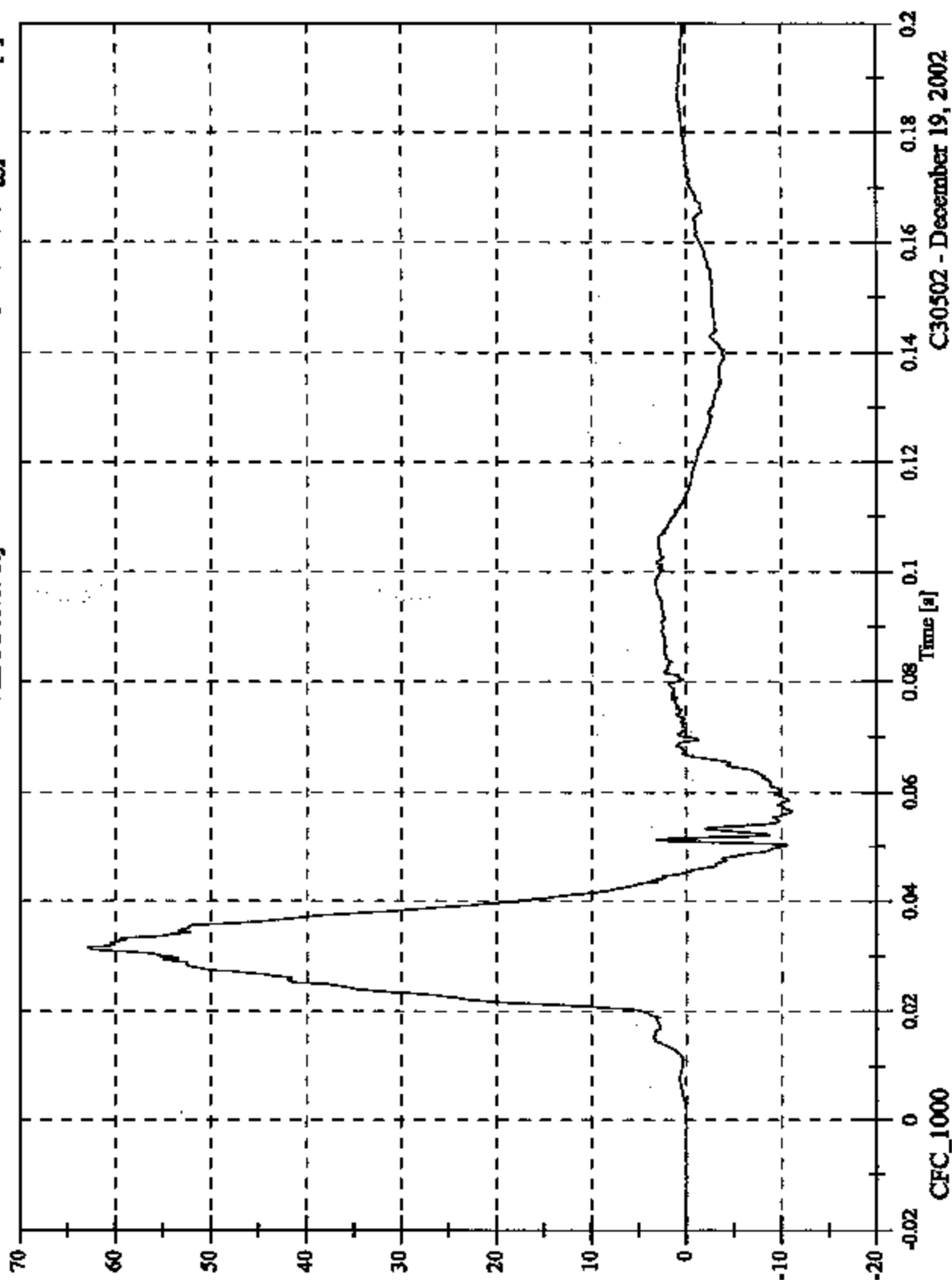


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FMVSS 214D Test #1 - 2003 Suzuki Aerio

V2P1 Pelvic Ry

Max: 62.9 [g] at 0.032 [s]
Min: -11.0 [g] at 0.056 [s]

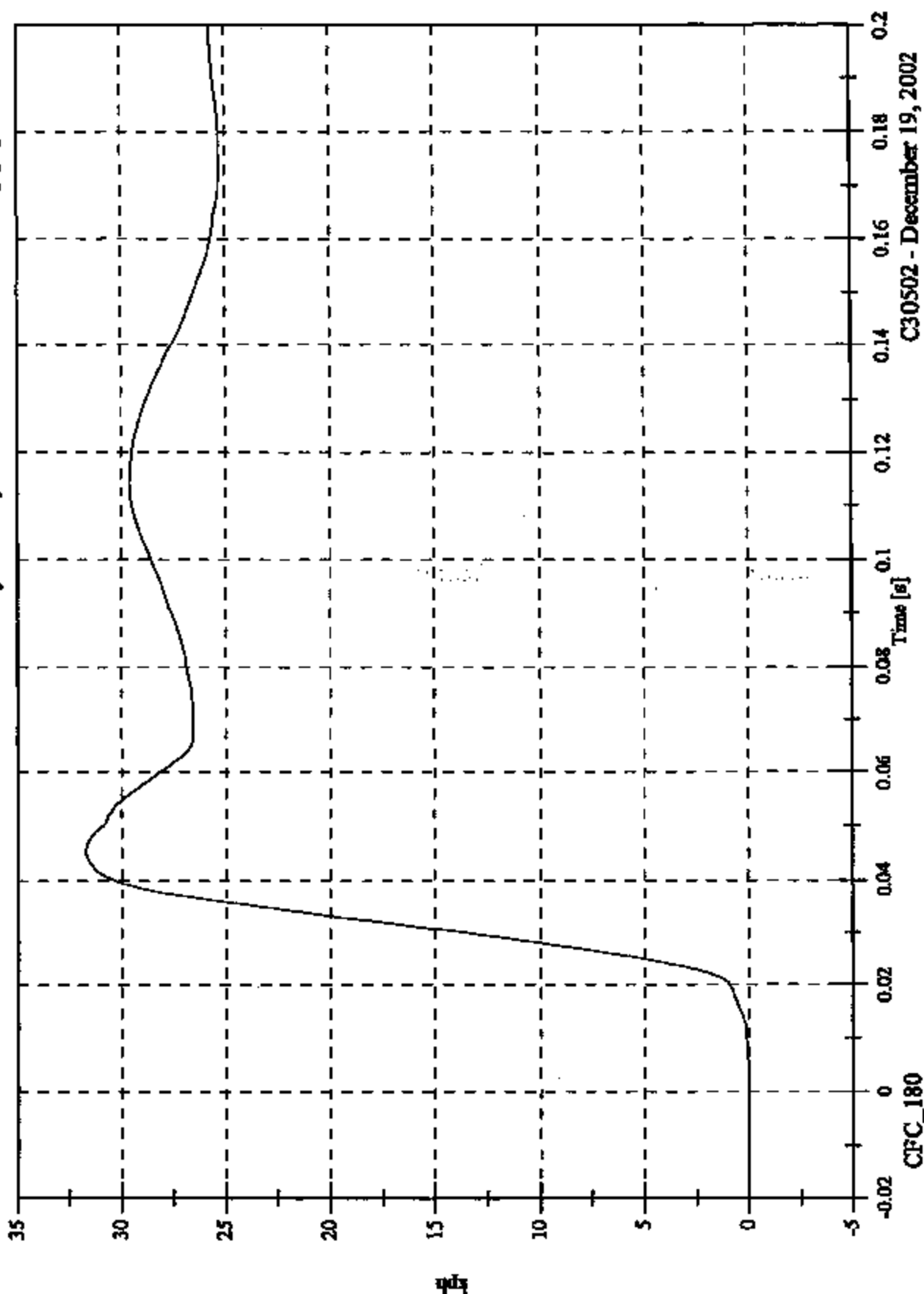


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

Max: 31.7 [kph] at 0.045 [s]
Min: -0.0 [kph] at -0.017 [s]

V2P1 Pelvic Ry Velocity

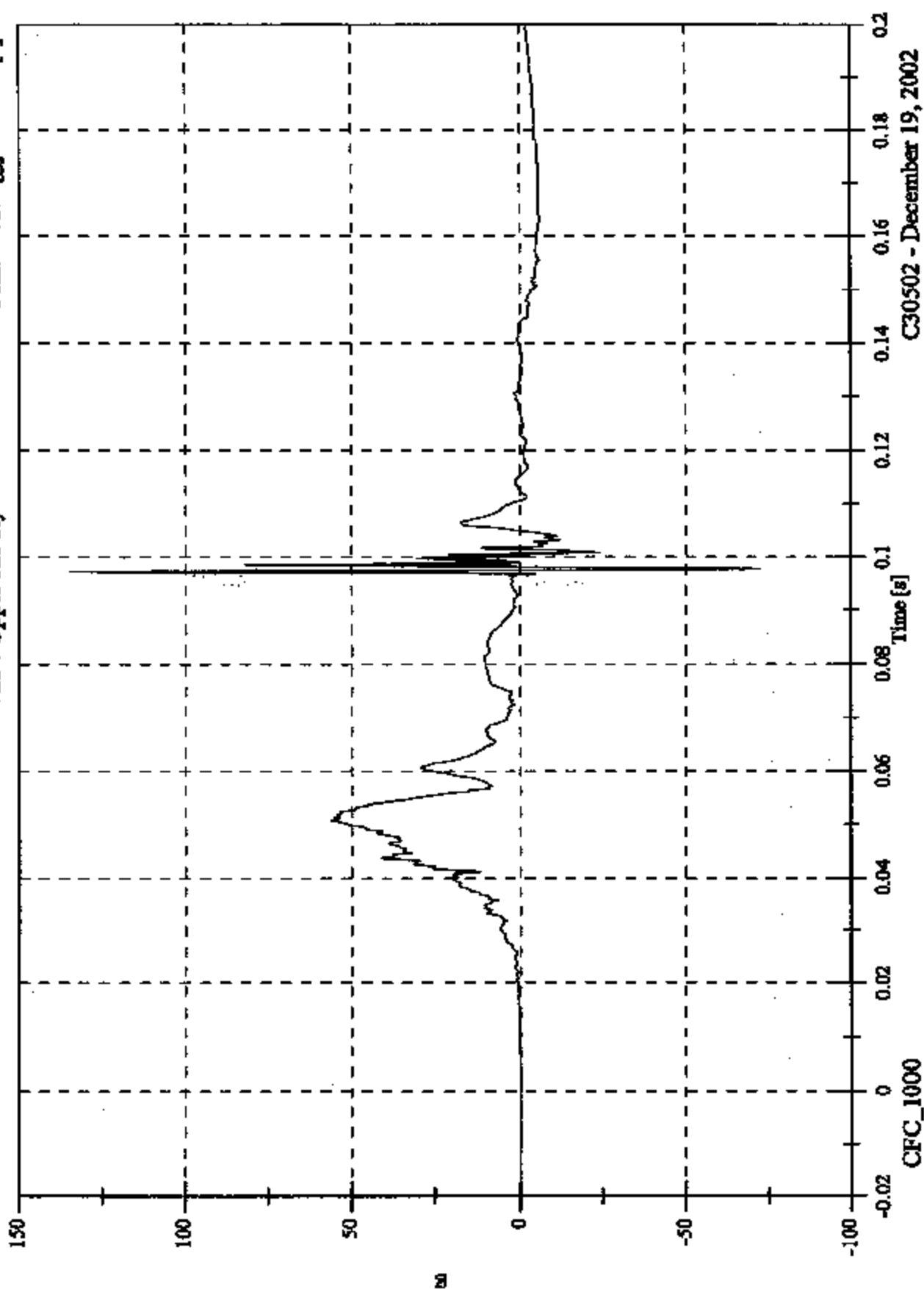


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

V2P4 Upper Rib Ry

Max: 134.8 [g] at 0.097 [s]
Min: -72.4 [g] at 0.098 [s]

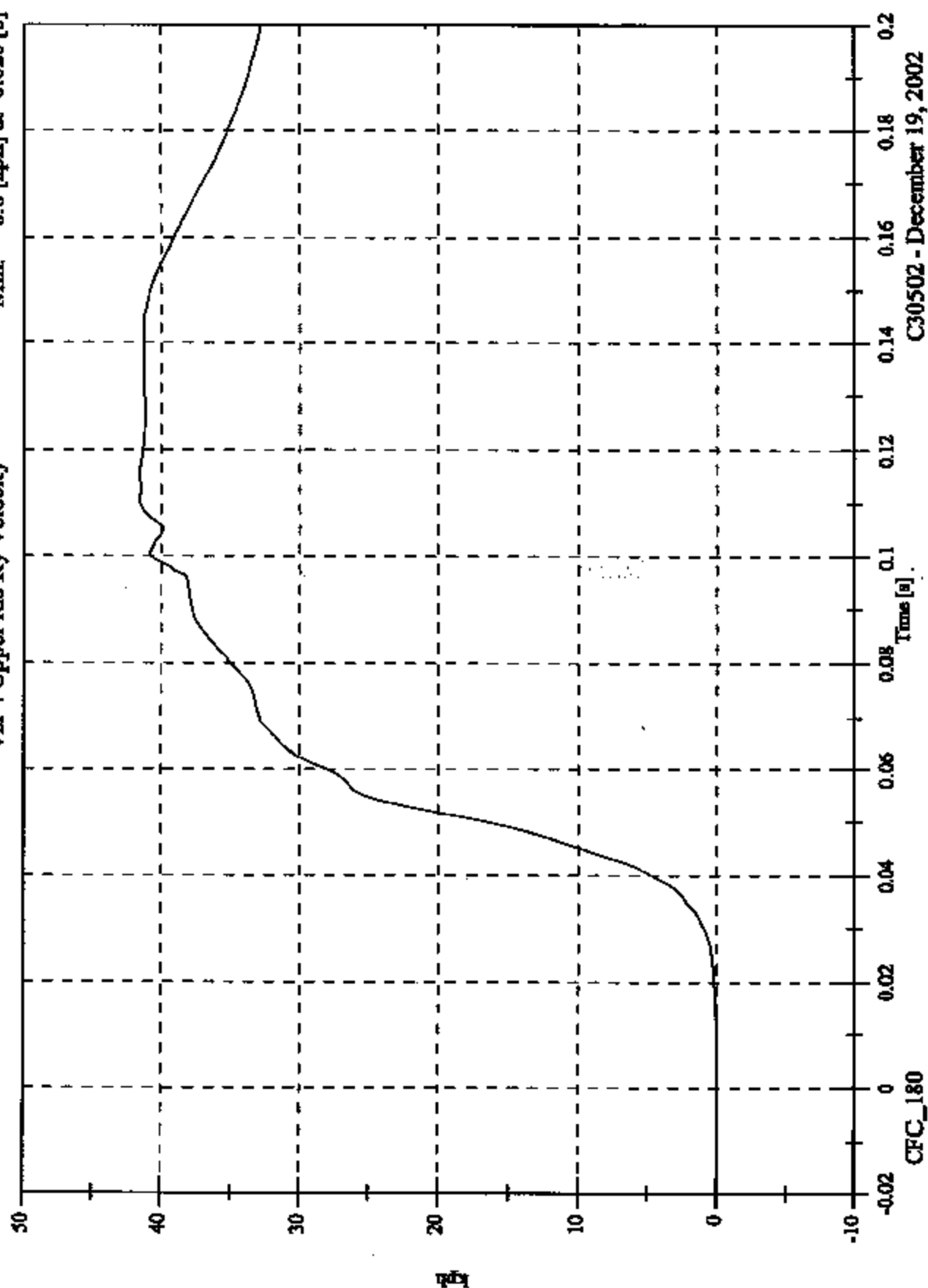


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerieo

Max: 41.5 [kph] at 0.115 [s]
Min: -0.0 [kph] at -0.020 [s]

V2P4 Upper Rib Ry Velocity

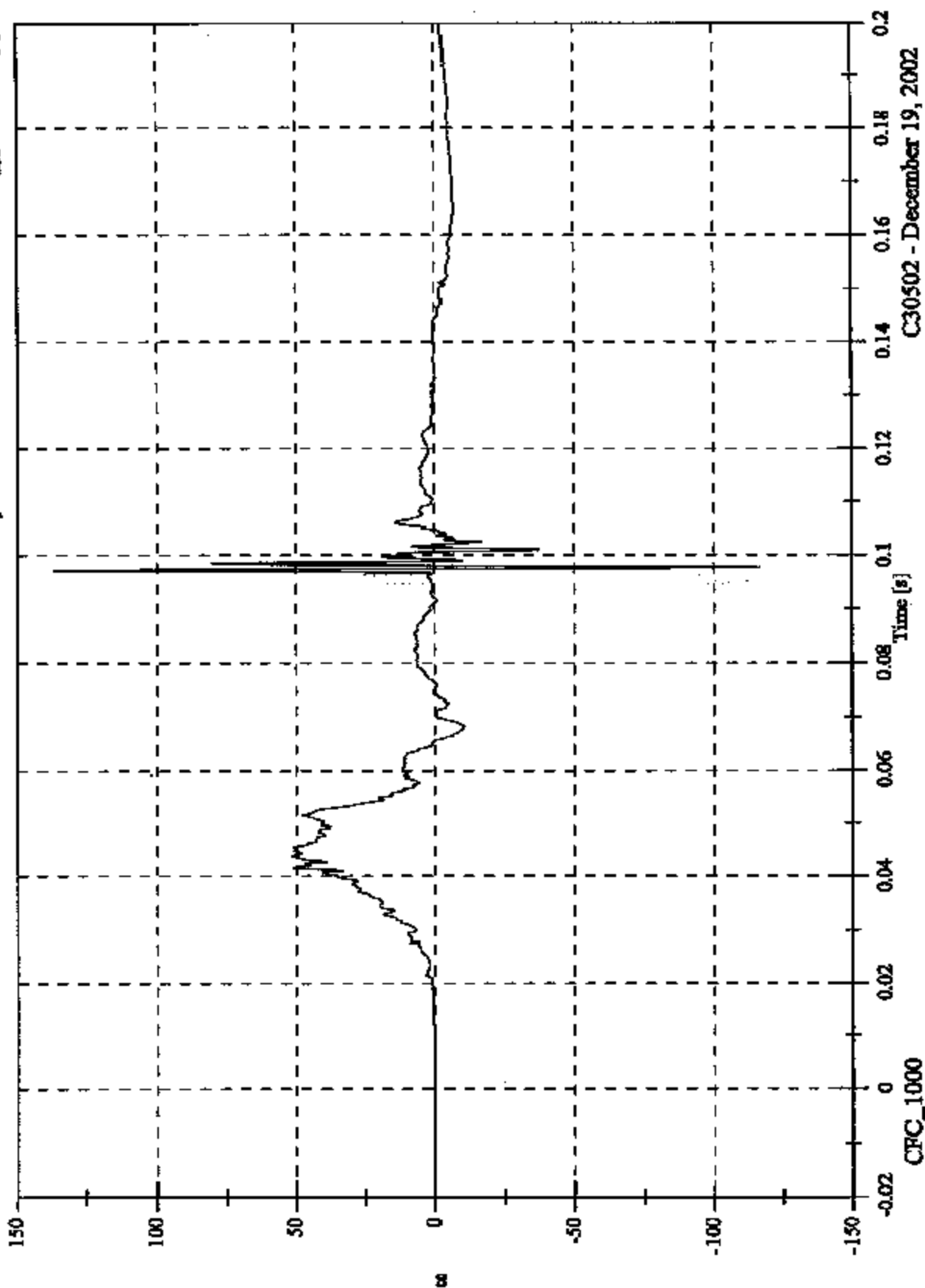


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

V2P4 Lower Rib Ry

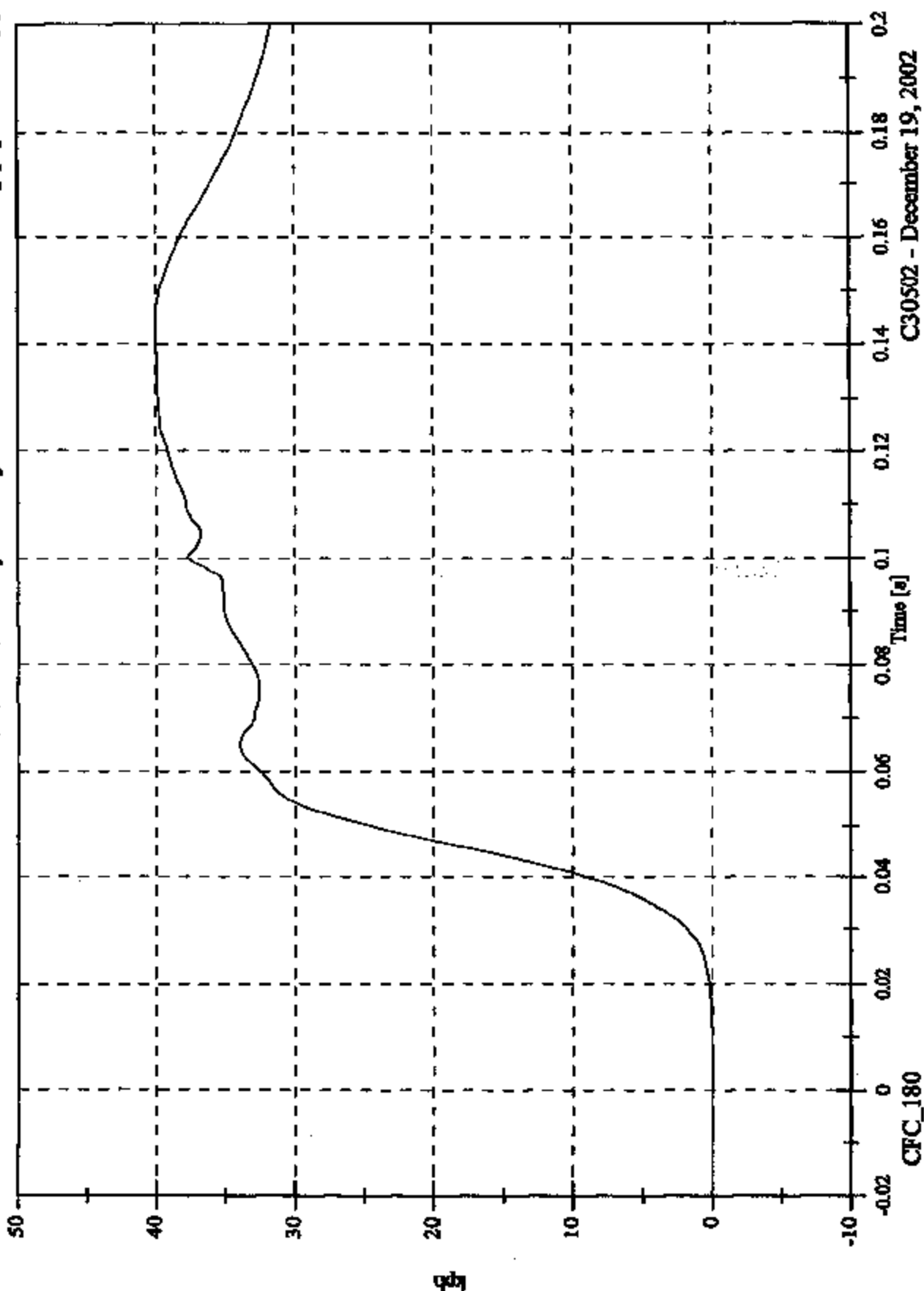
Max: 136.6 [g] at 0.097 [s]
Min: -116.3 [g] at 0.098 [s]



FMVSS 214D Test #1 - 2003 Suzuki Aerio

Max: 40.0 [kph] at 0.144 [s]
Min: -0.0 [kph] at -0.018 [s]

V2P4 Lower Rib Ry Velocity

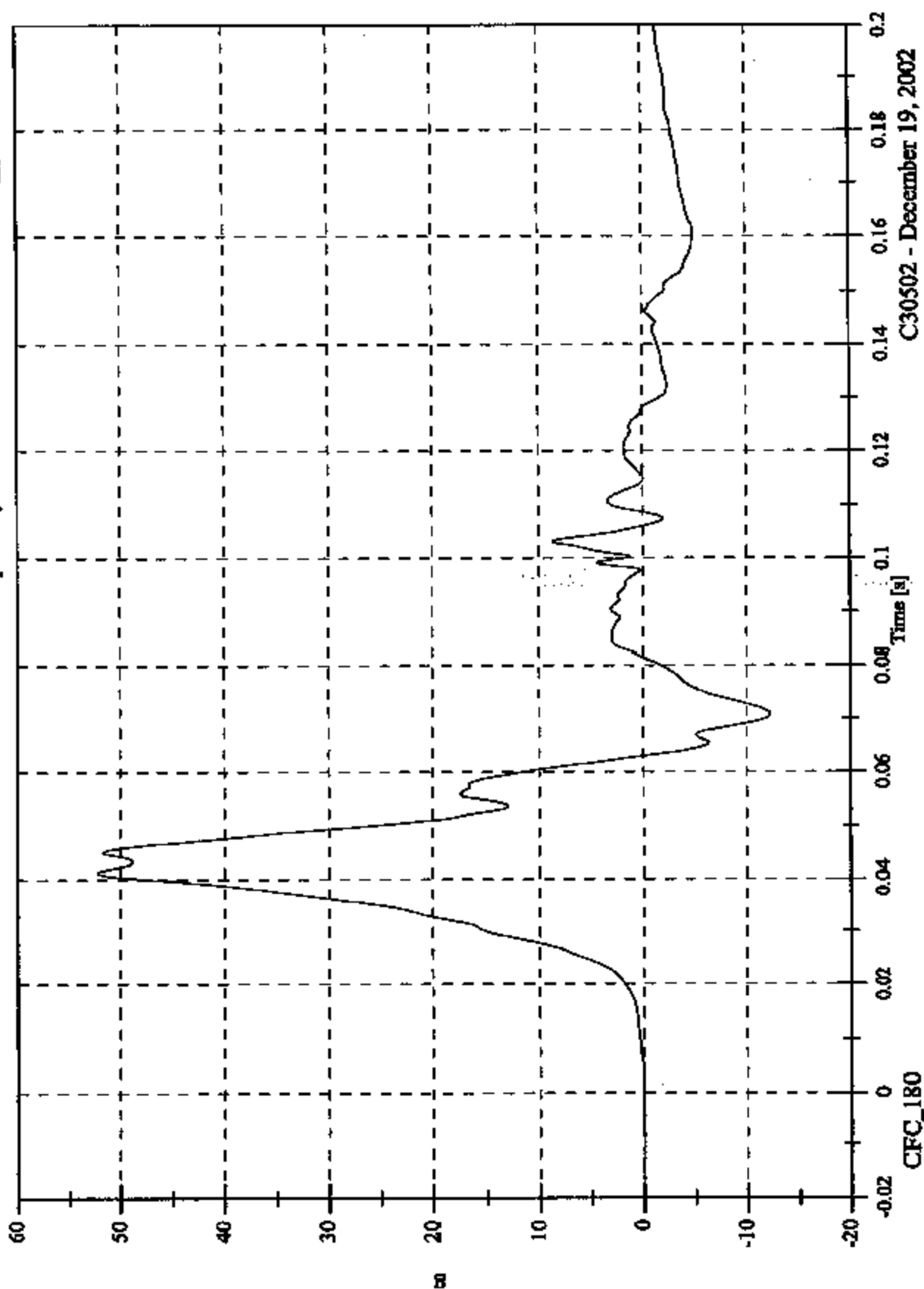


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

V2P4 Lower Spine Ry

Max: 52.2 [g] at 0.041 [s]
Min: -12.2 [g] at 0.071 [s]



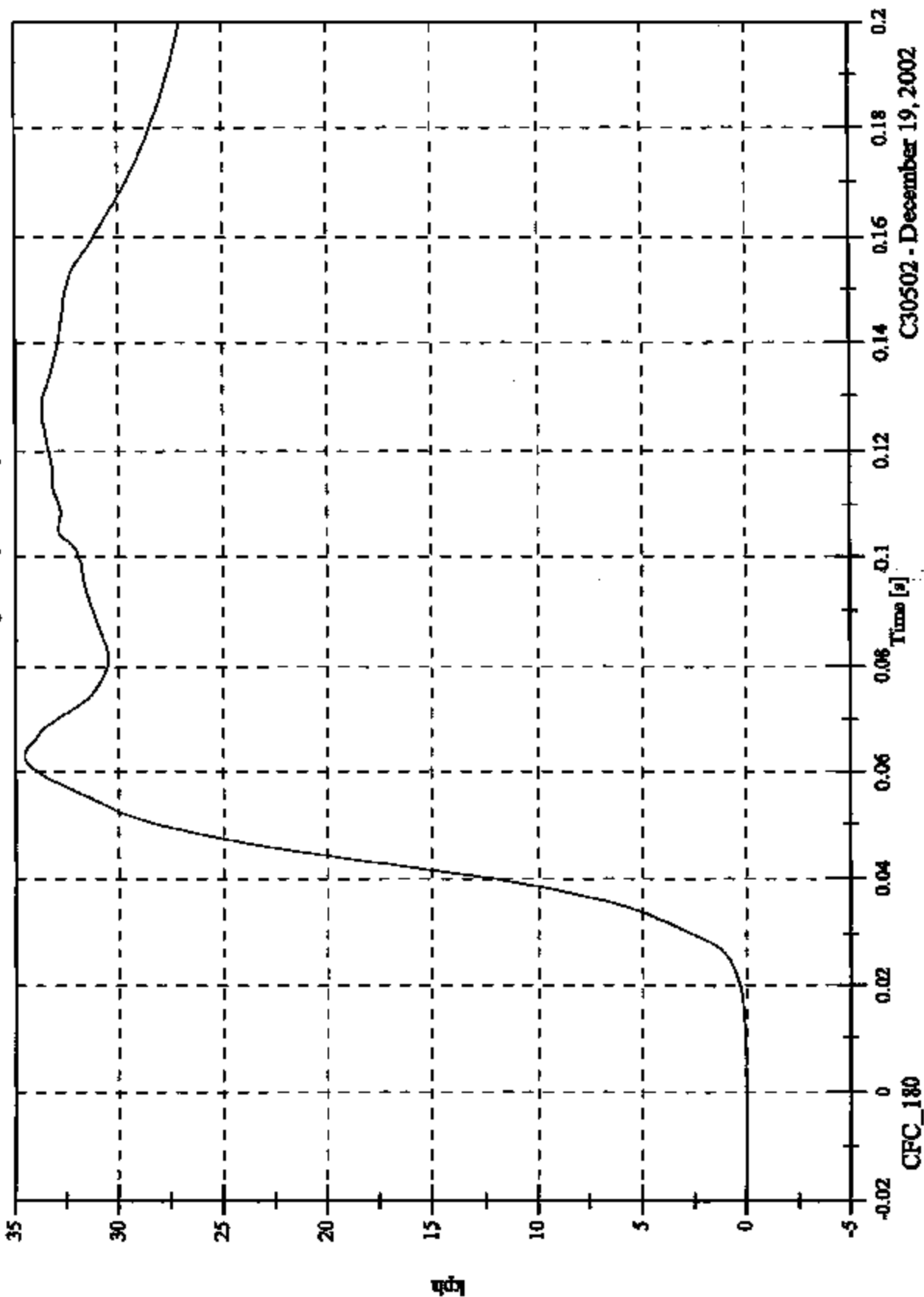
C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

Max: 34.5 [kph] at 0.063 [s]

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

V2P4 Lower Spine Ry Velocity

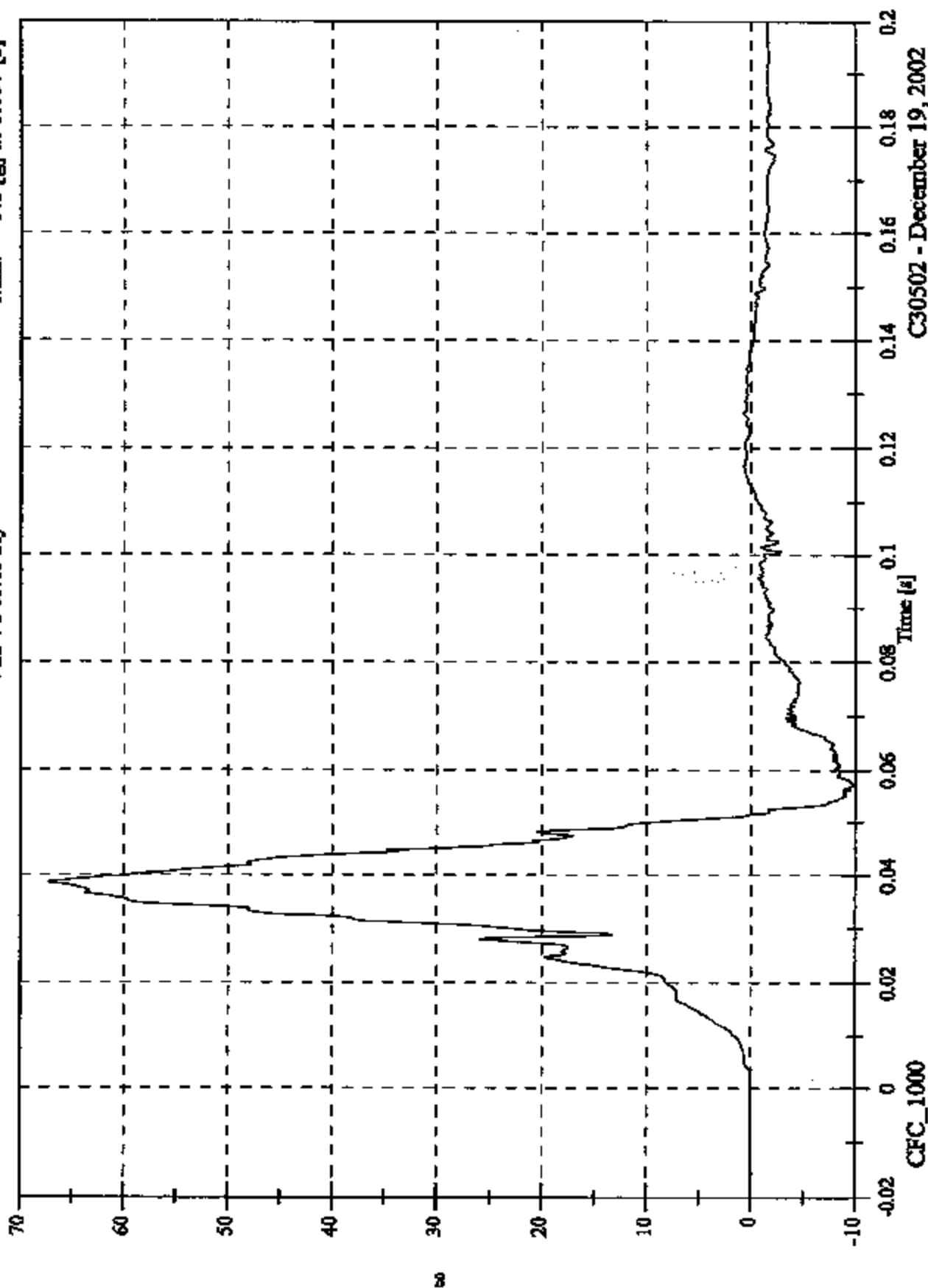


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

V2P4 Pelvic Ry

Max: 67.2 [g] at 0.039 [s]
Min: -9.8 [g] at 0.057 [s]

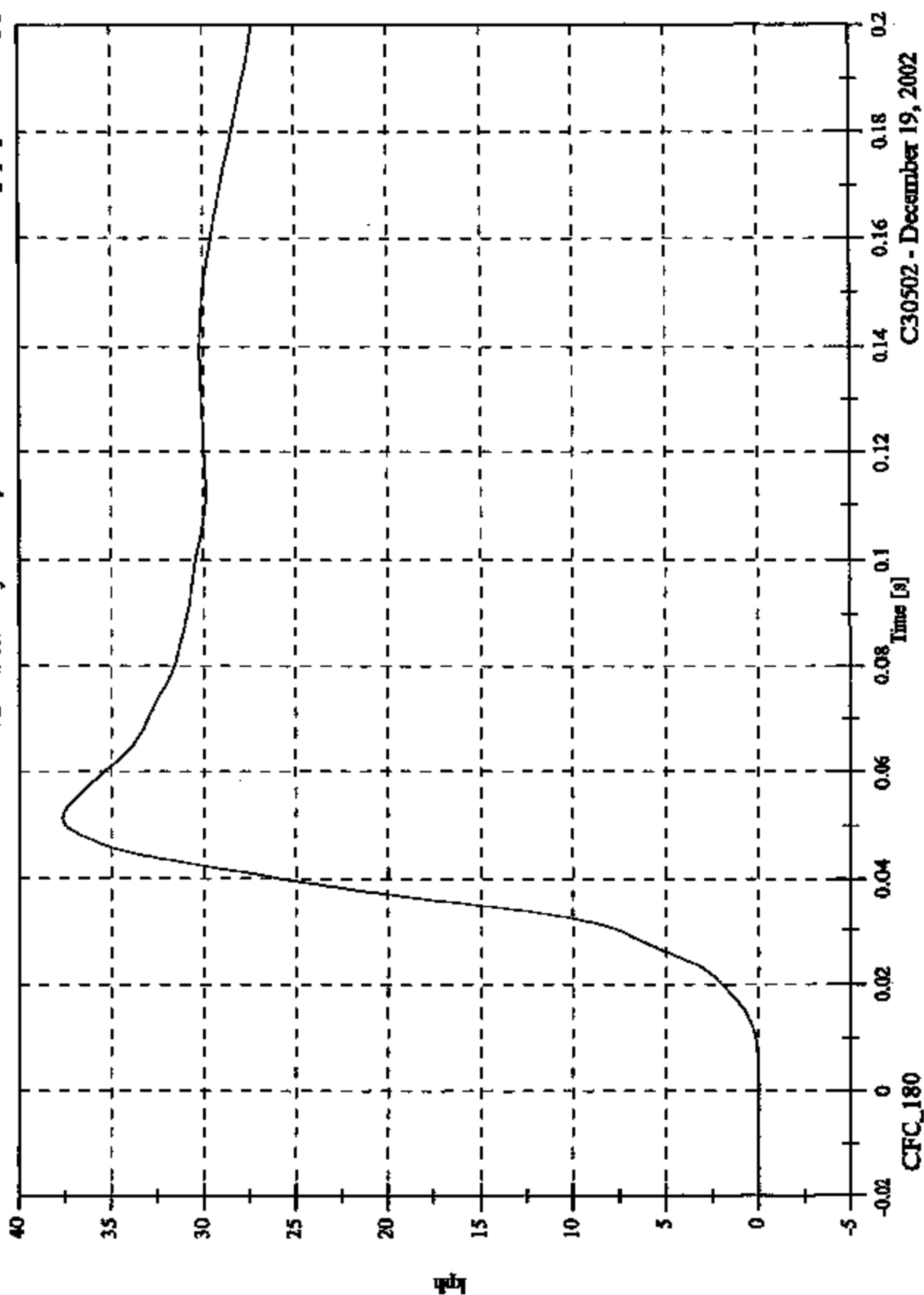


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

V2P4 Pelvic Ry Velocity

Max: 37.6 [kph] at 0.051 [s]
Min: -0.0 [kph] at -0.014 [s]



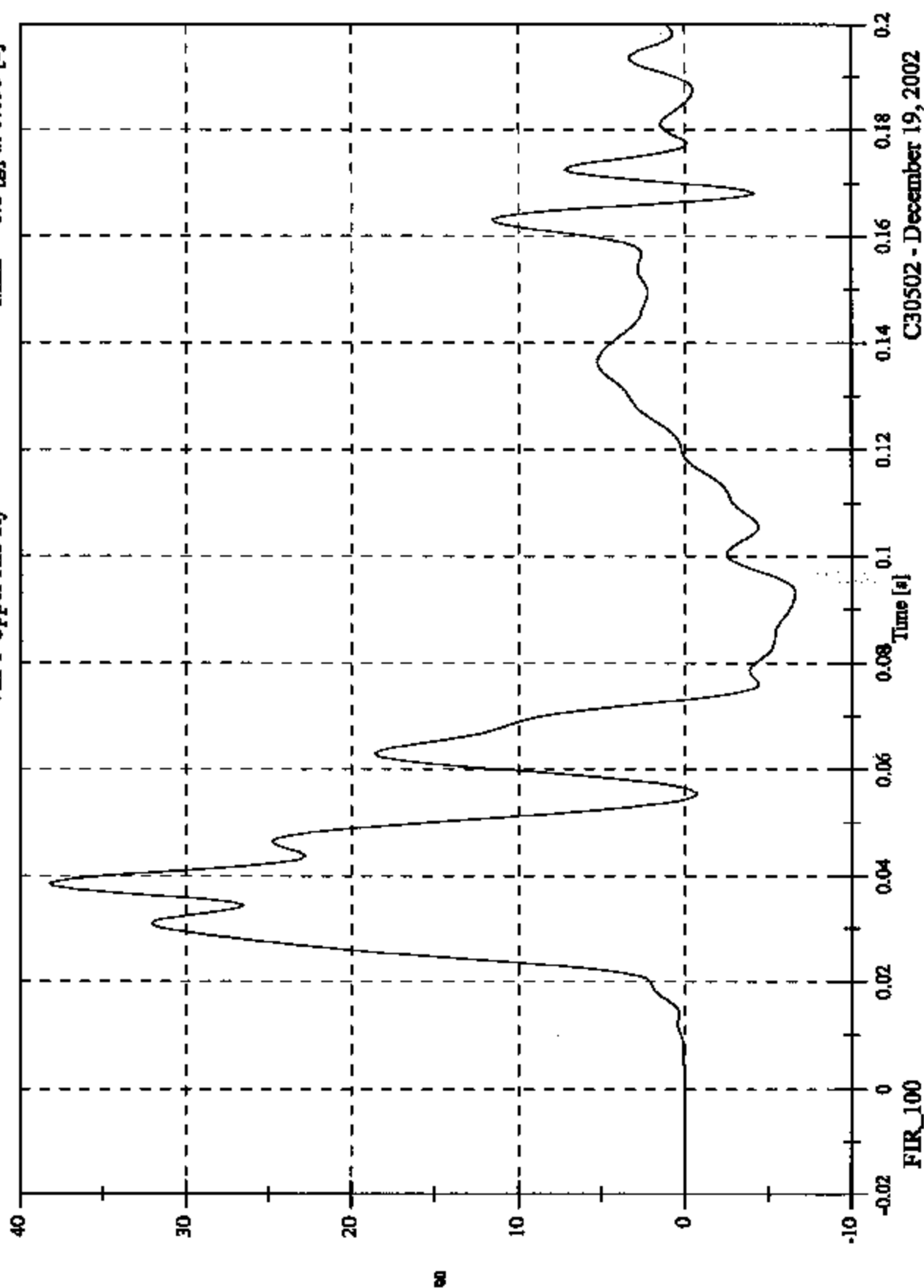
C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aezio

V2P1 Upper Rib Ry

Max: 38.2 [g] at 0.039 [s]

Min: -6.6 [g] at 0.093 [s]

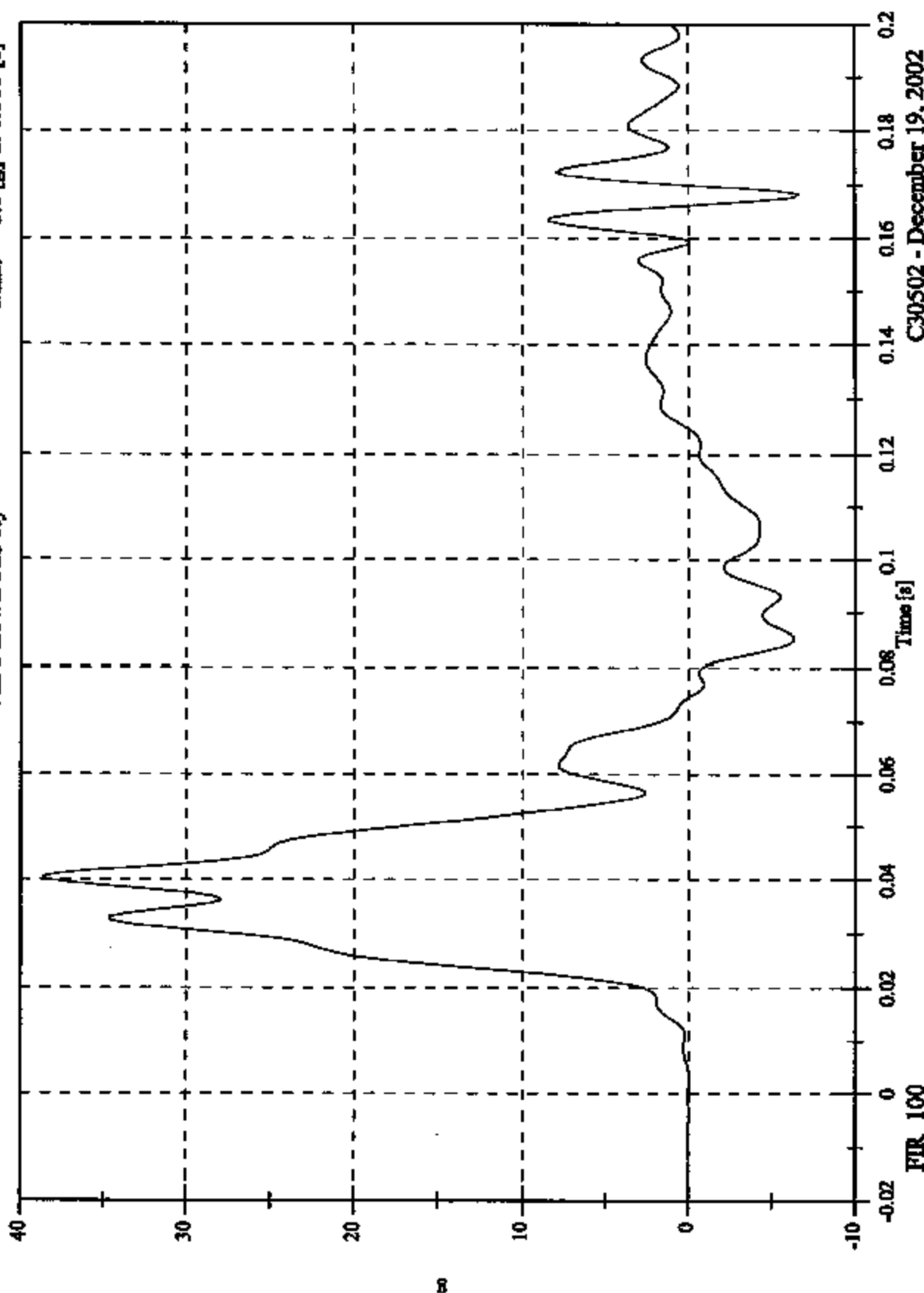


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

V2P1 Lower Rib Ry

Max: 38.6 [g] at 0.041 [s]
Min: -6.6 [g] at 0.168 [s]



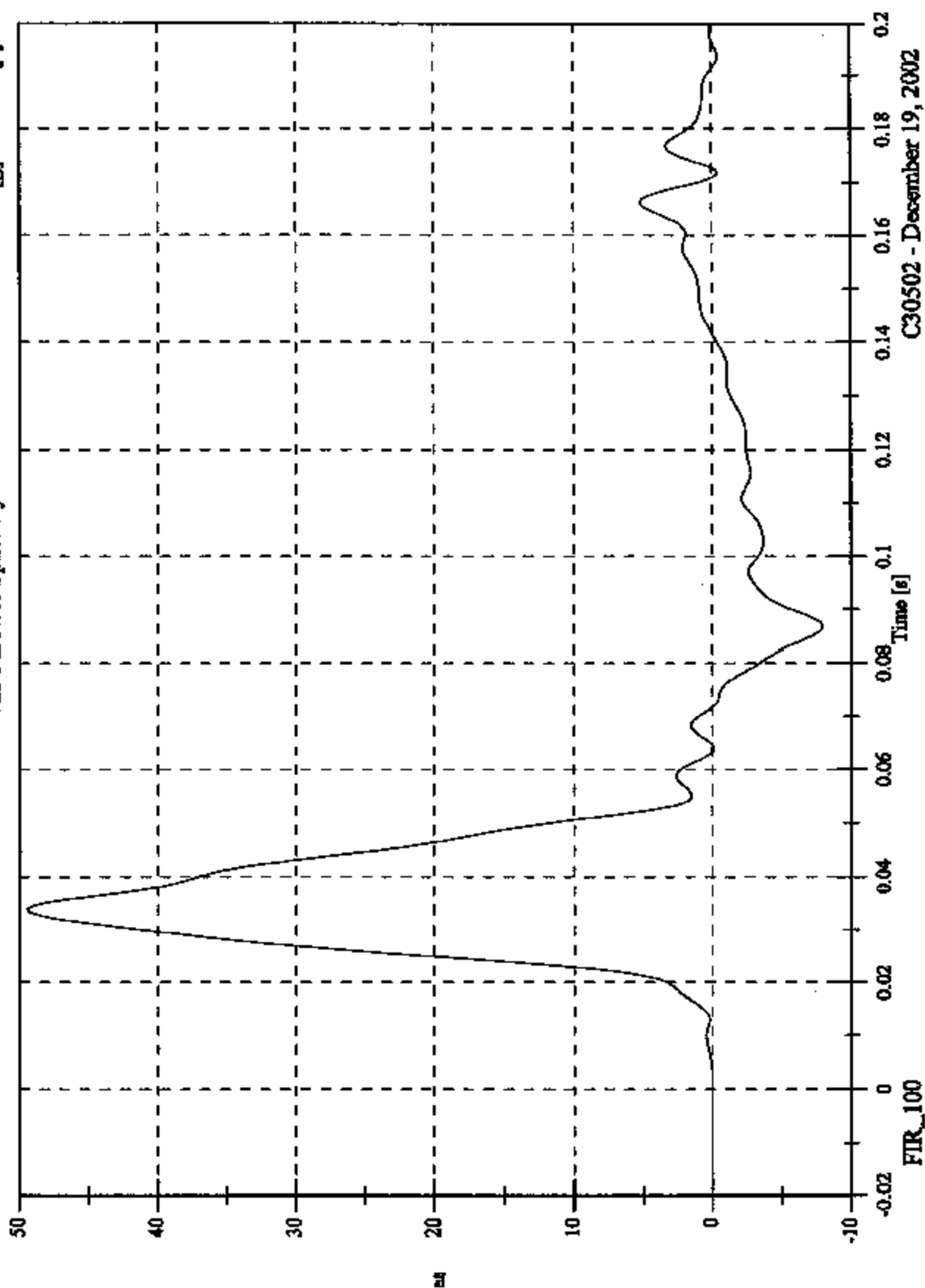
C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

V2P1 Lower Spine Ry

Max: 49.5 [g] at 0.034 [s]

Min: -7.9 [g] at 0.087 [s]

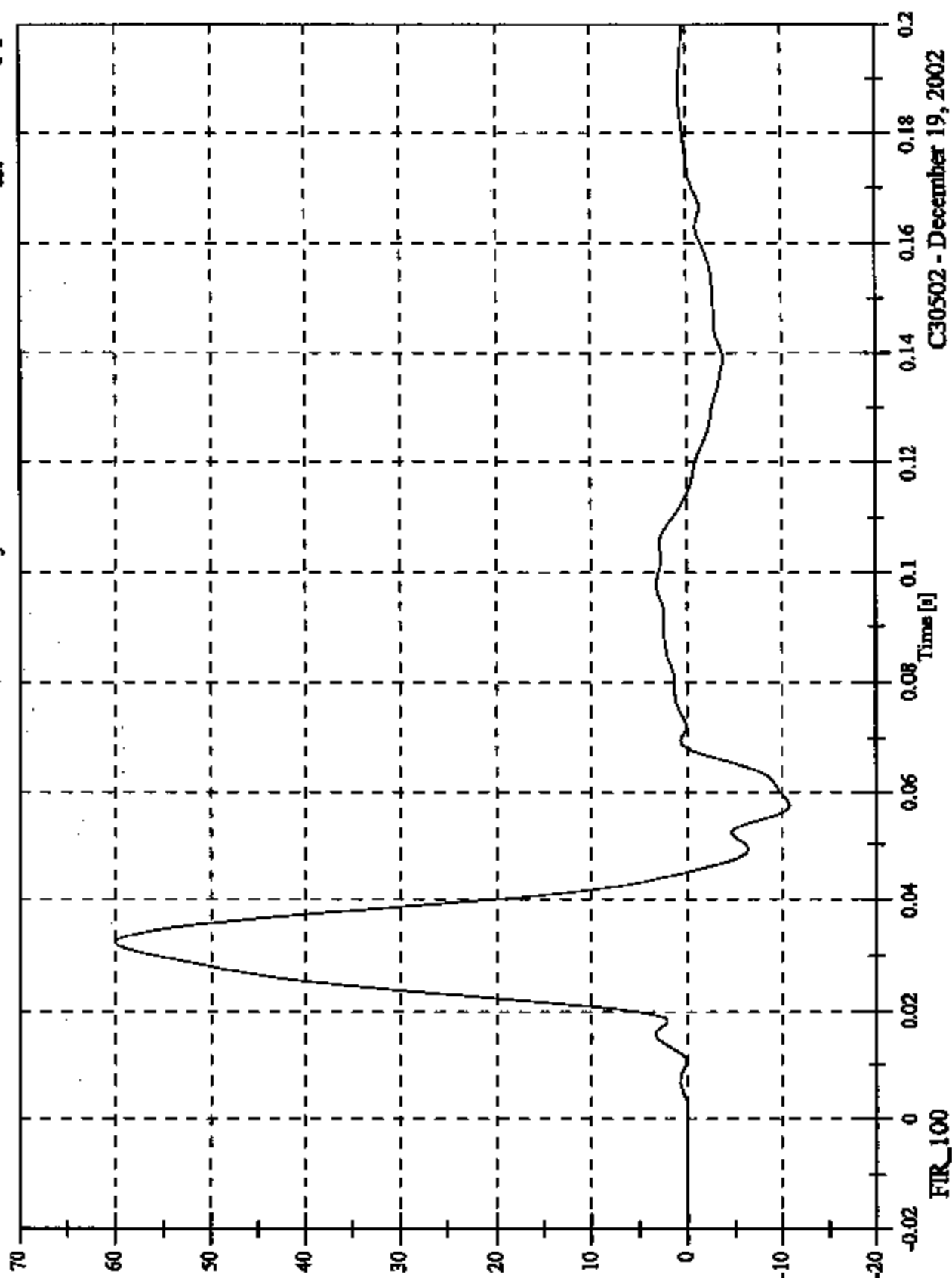


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

V2P1 Pelvic Ry

Max: 60.1 [g] at 0.032 [s]
Min: -10.8 [g] at 0.057 [s]



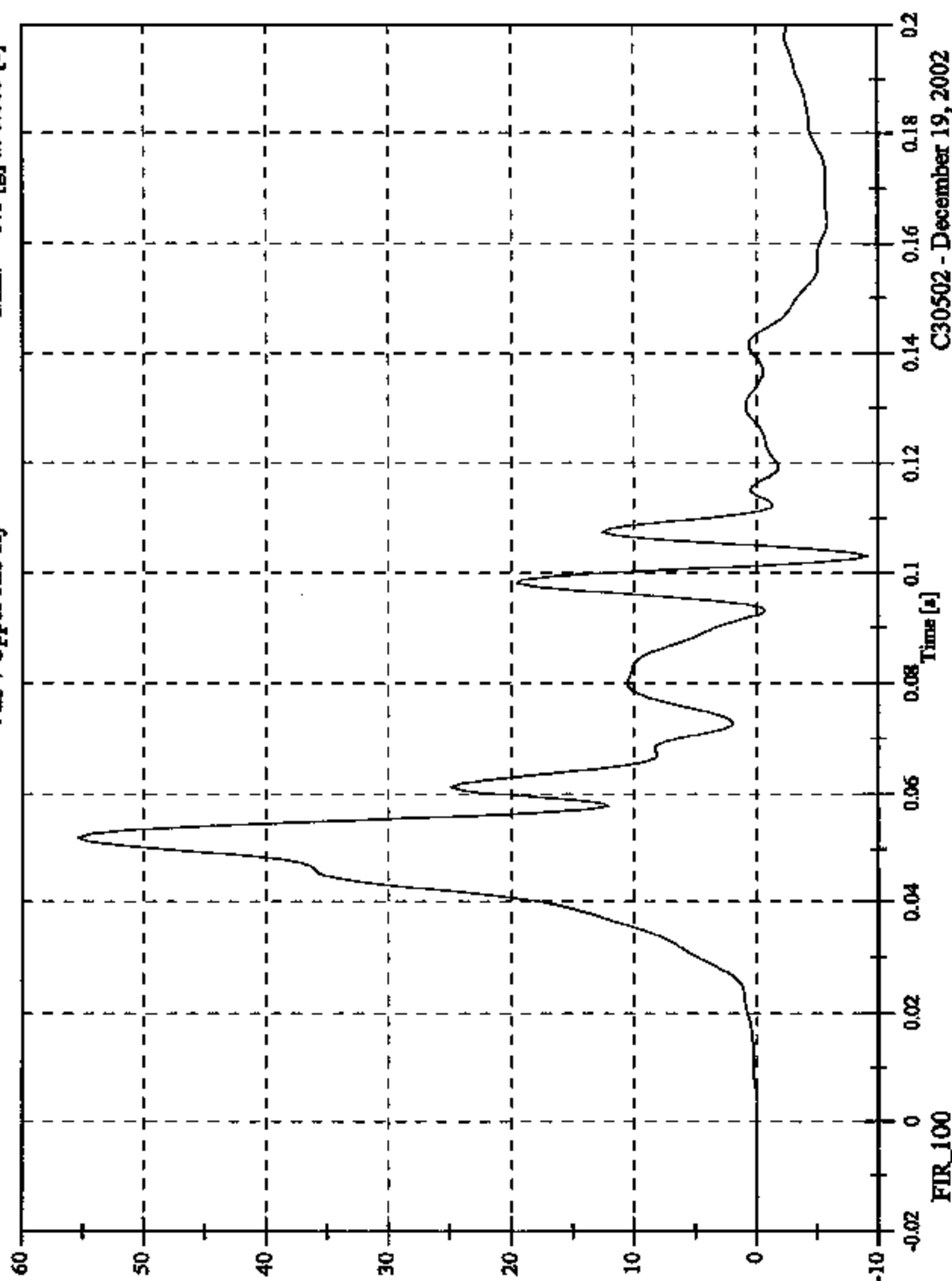
C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

V2P4 Upper Rib Ry

Max: 55.3 [g] at 0.052 [s]

Min: -9.1 [g] at 0.103 [s]



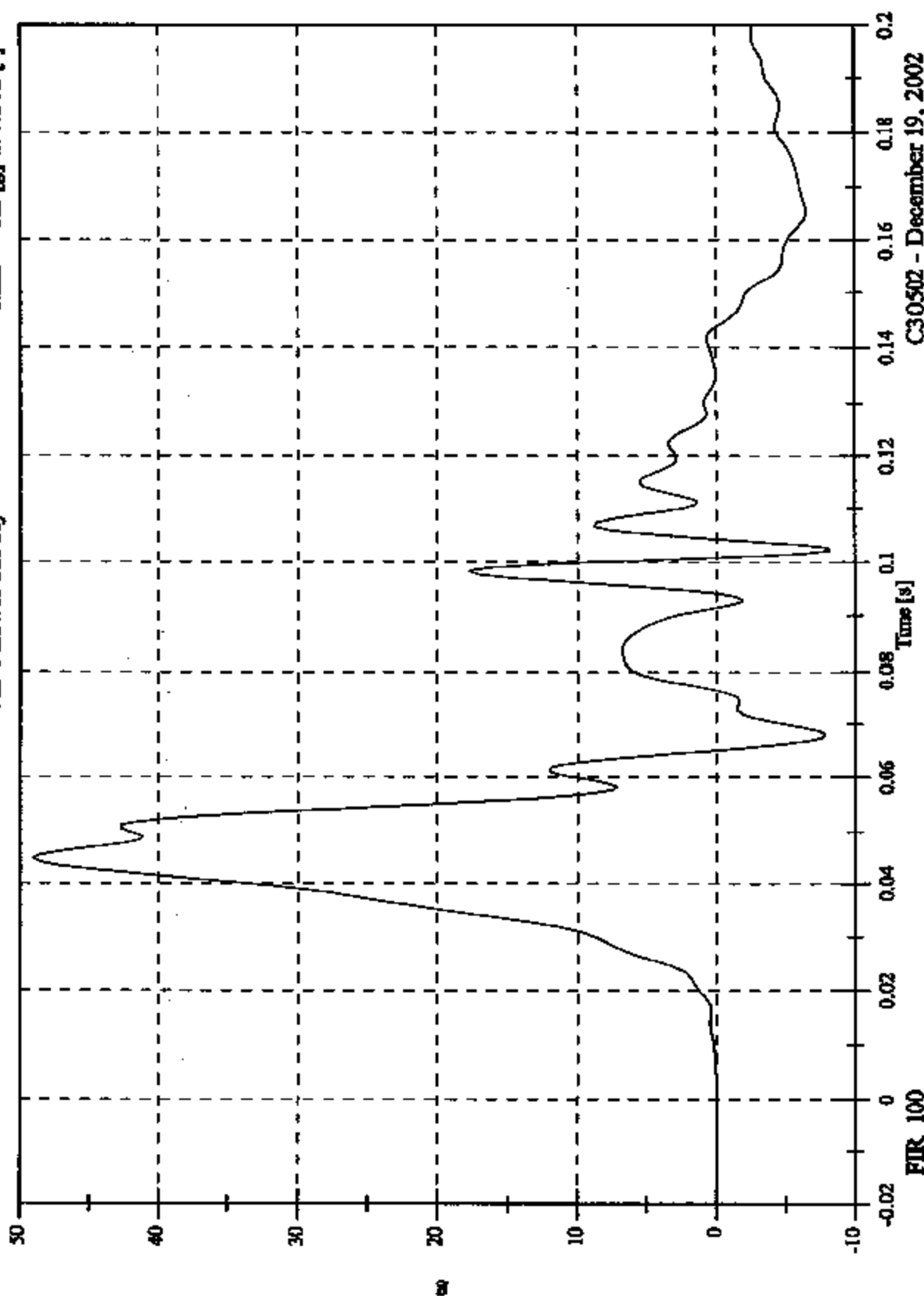
FIR_100

C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

V2P4 Lower Rib Ry

Max: 49.1 [g] at 0.044 [s]
Min: -8.2 [g] at 0.102 [s]



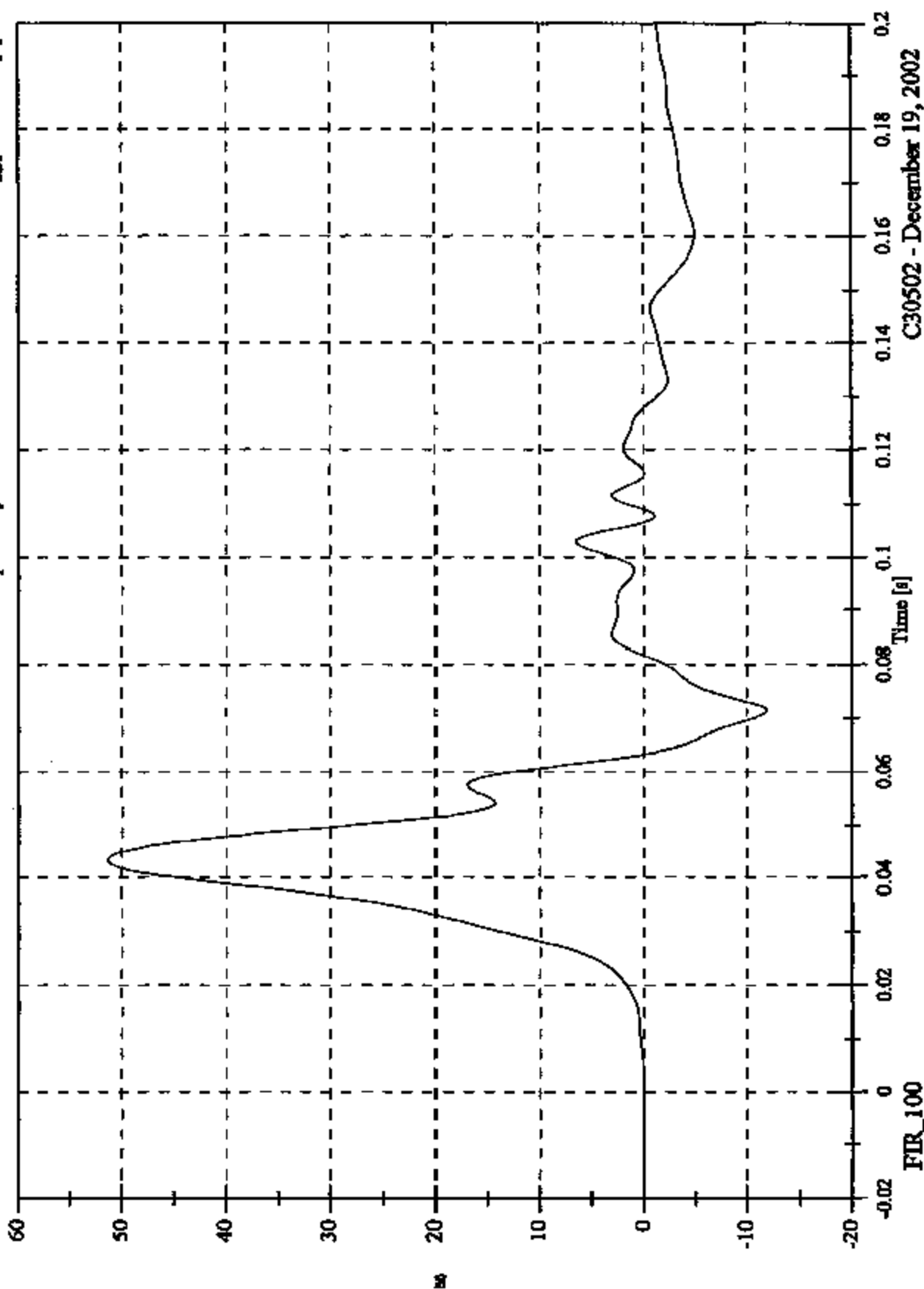
C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aorio

V2P4 Lower Spine Ry

Max: 51.4 [g] at 0.043 [s]

Min: -11.8 [g] at 0.071 [s]

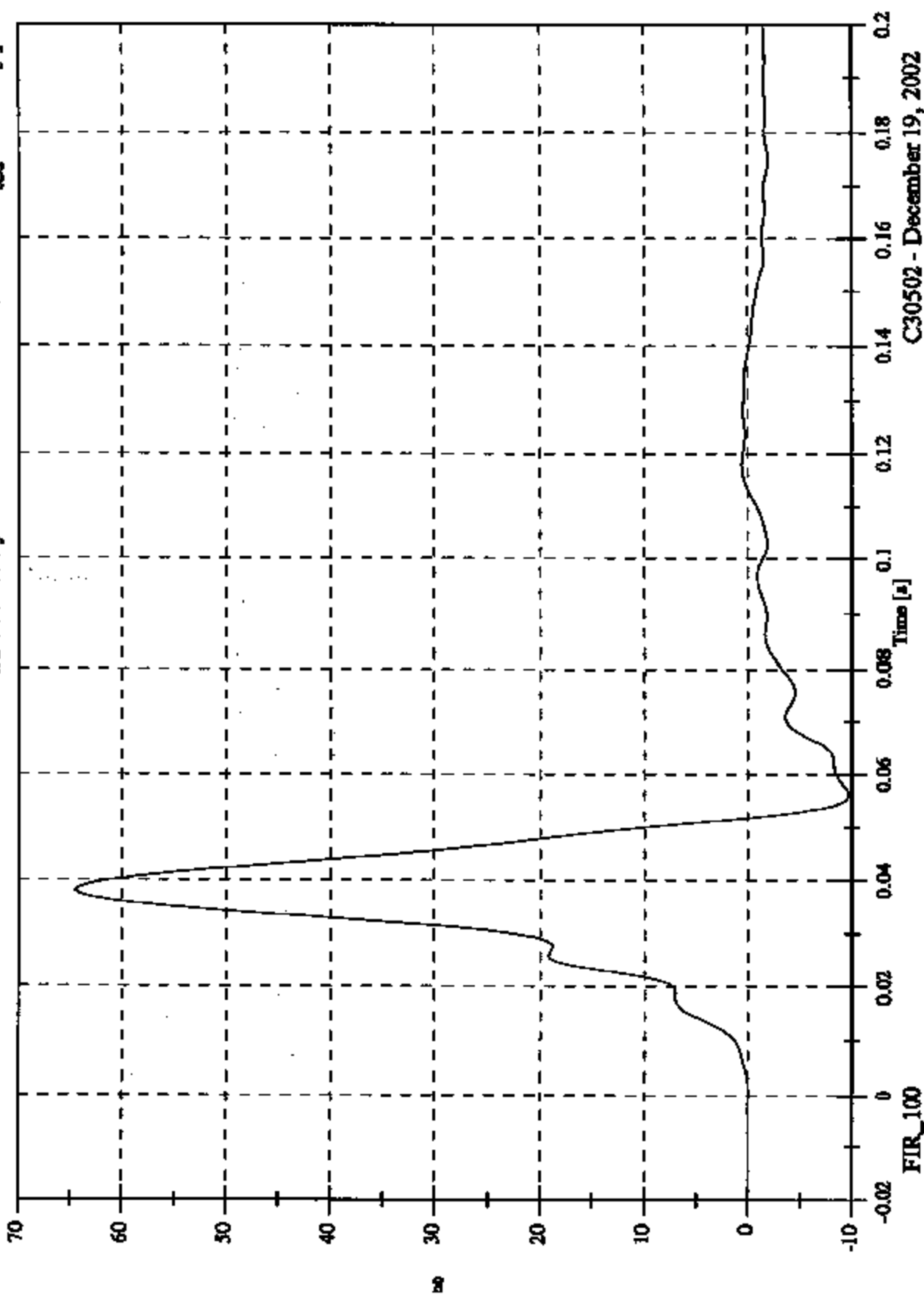


C30502 - December 19, 2002

FMVSS 214D Test #1 - 2003 Suzuki Aerio

V2P4 Pelvic Ry

Max: 64.5 [g] at 0.038 [s]
Min: -9.7 [g] at 0.056 [s]



C30502 - December 19, 2002

APPENDIX C

SID CONFIGURATION AND PERFORMANCE VERIFICATION DATA

SUMMARY
SID PRE & POST TEST CALIBRATION
CONFIGURED FOR LEFT SIDE IMPACT

Date: December 16, 2002, July 11, 2002;
 January 2, 2003

Sequential Test Number:

2,2;

3,3

Laboratory Technician:

B. Swiecicki

TEST PARAMETER	SPECIFICATION	SID NO.: 015		SID NO.: 016	
		PRE TEST	POST TEST	PRE TEST	POST TEST
SH- Seated Height (mm)	889 - 909	902	902	902	902
RH- Rib Height (mm)	501 - 521	511	511	513	511
HP- Hip Pivot Height (mm)	99 ref.	99	99	99	99
RD- Rib from Back Line (mm)	229 - 241	236	236	239	239
KV- Knee Pivot from Back Line (mm)	511 - 526	521	521	526	526
SW- Knee Pivot to Floor (mm)	490 - 505	493	493	495	495
HW- Hip Width (mm)	356 - 391	373	373	366	368
THORAX IMPACTS					
TEMPERATURE (°C)	18.9 - 25.5	21.1	21.1	21.1	21.1
RELATIVE HUMIDITY (%)	10 - 70	35	30	28	31
PROBE SPEED (m/s)	4.27 - 4.33	4.32	4.32	4.3	4.31
UPPER RIB (g's)	37 - 46	40.34	39.83	45.62	44.82
LOWER RIB (g's)	37 - 46	40.76	38.85	43.47	39.51
LOWER SPINE (g's)	15 - 22	19.28	18.97	21.8	20.93
PELVIS IMPACT					
TEMPERATURE (°C)	18.9 - 25.5	21.1	21.1	20.6	21.1
RELATIVE HUMIDITY (%)	10 - 70	35	32	25	31
PROBE SPEED (m/s)	4.27 - 4.33	4.32	4.32	4.32	4.29
PELVIS (g's)	40 - 60	49.86	51.78	55.8	48.58

REMARKS: None

CALIBRATION TEST RESULTS

PRE-TEST

SID NO.: 015

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 015

Sequential Test Number:

Date: _____

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.: 015

Sequential Test Number: 2

Date: December 16, 2002

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 – 909	902
RH- Rib Height (mm)	502 – 520	511
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	521
KV- Knee Pivot to Floor (mm)	490 – 505	493
HW- Hip Width (mm)	356 - 391	373

REMARKS: None

**THORACIC SHOCK ABSORBER TESTS
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

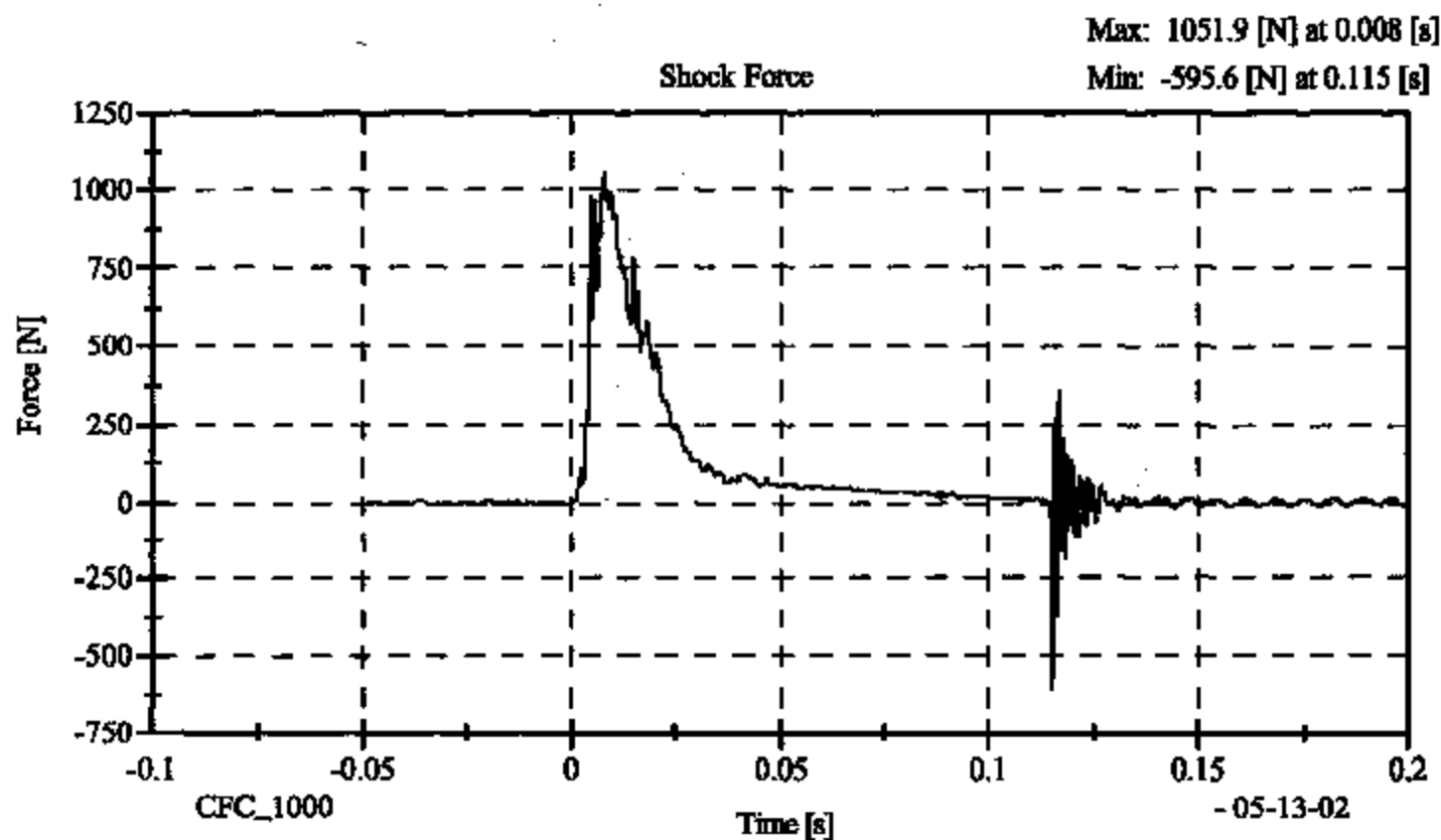
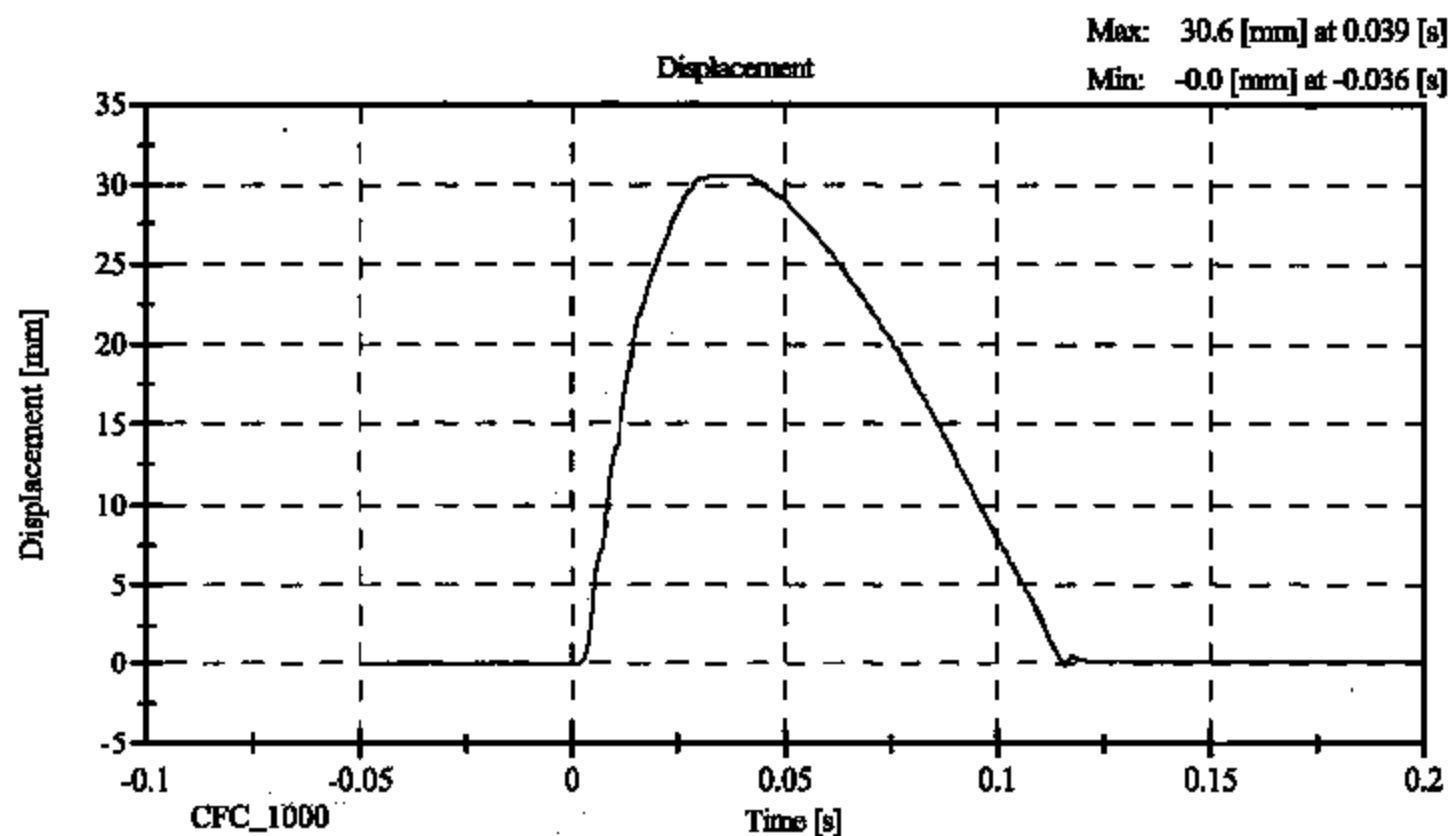
SID Serial No.: 015 Sequential Test Number: 2
Date: May 13, 2002 Laboratory Technician: B. Swisicki

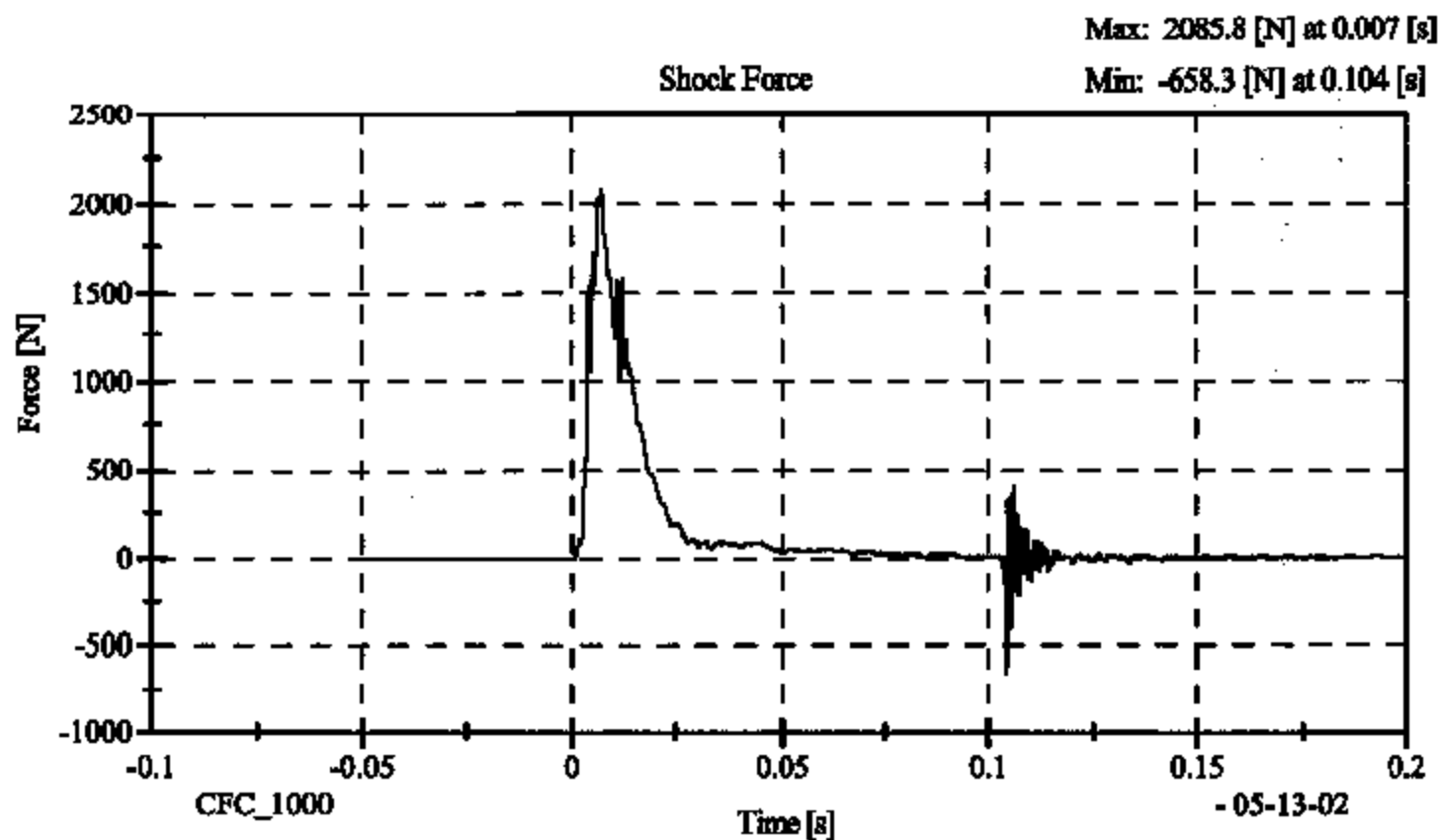
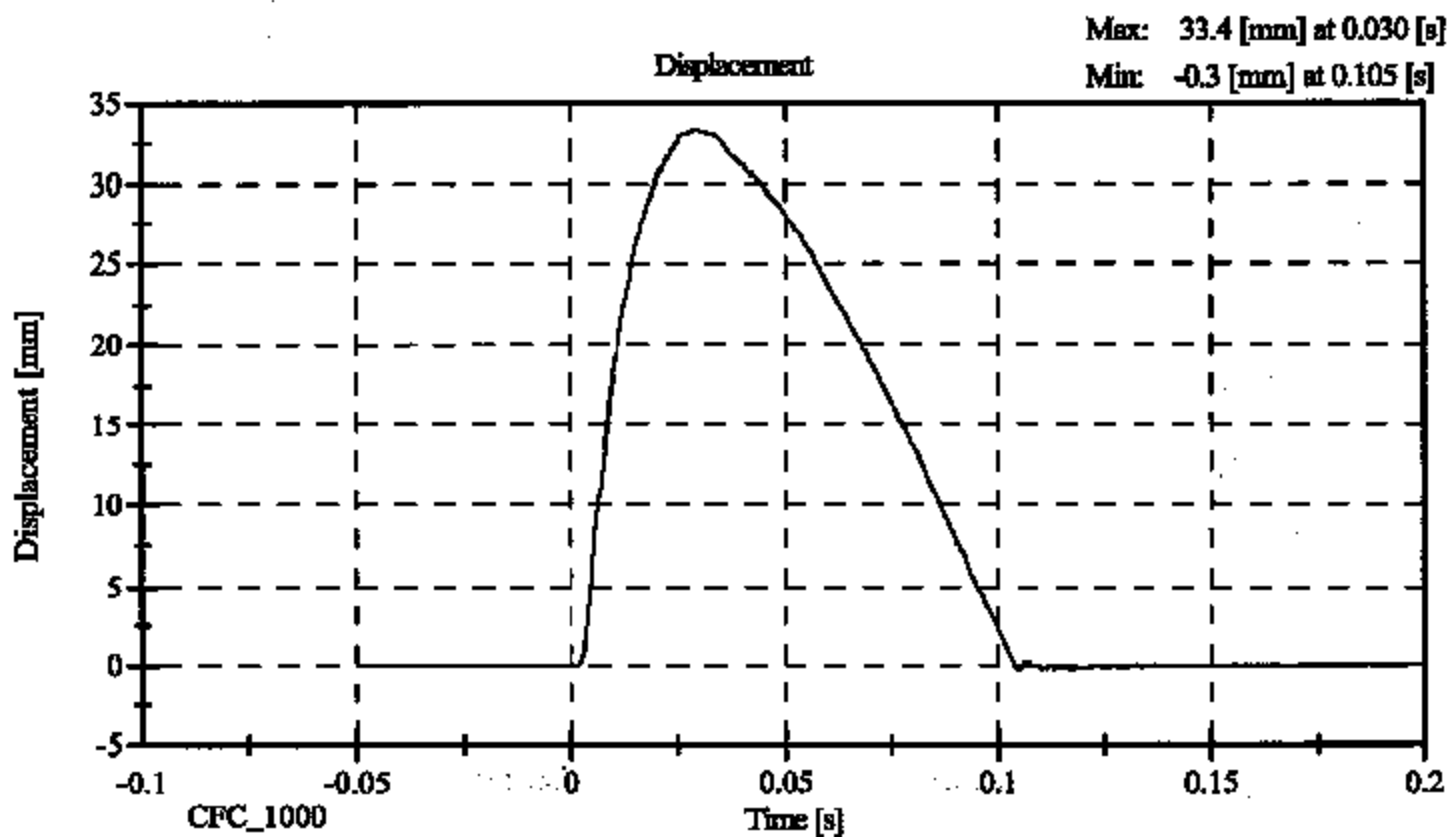
DAMPER IDENTIFICATION: _____

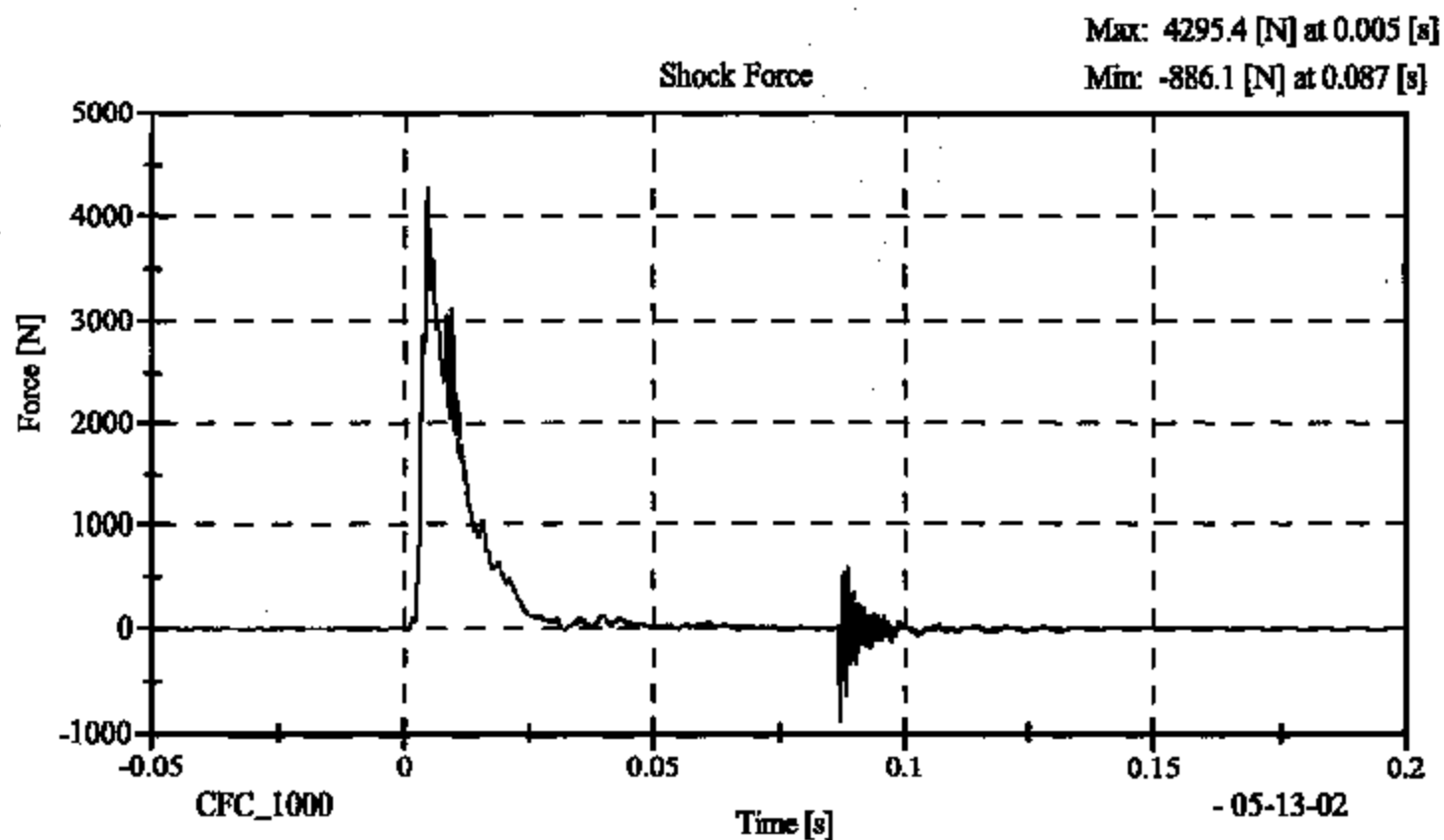
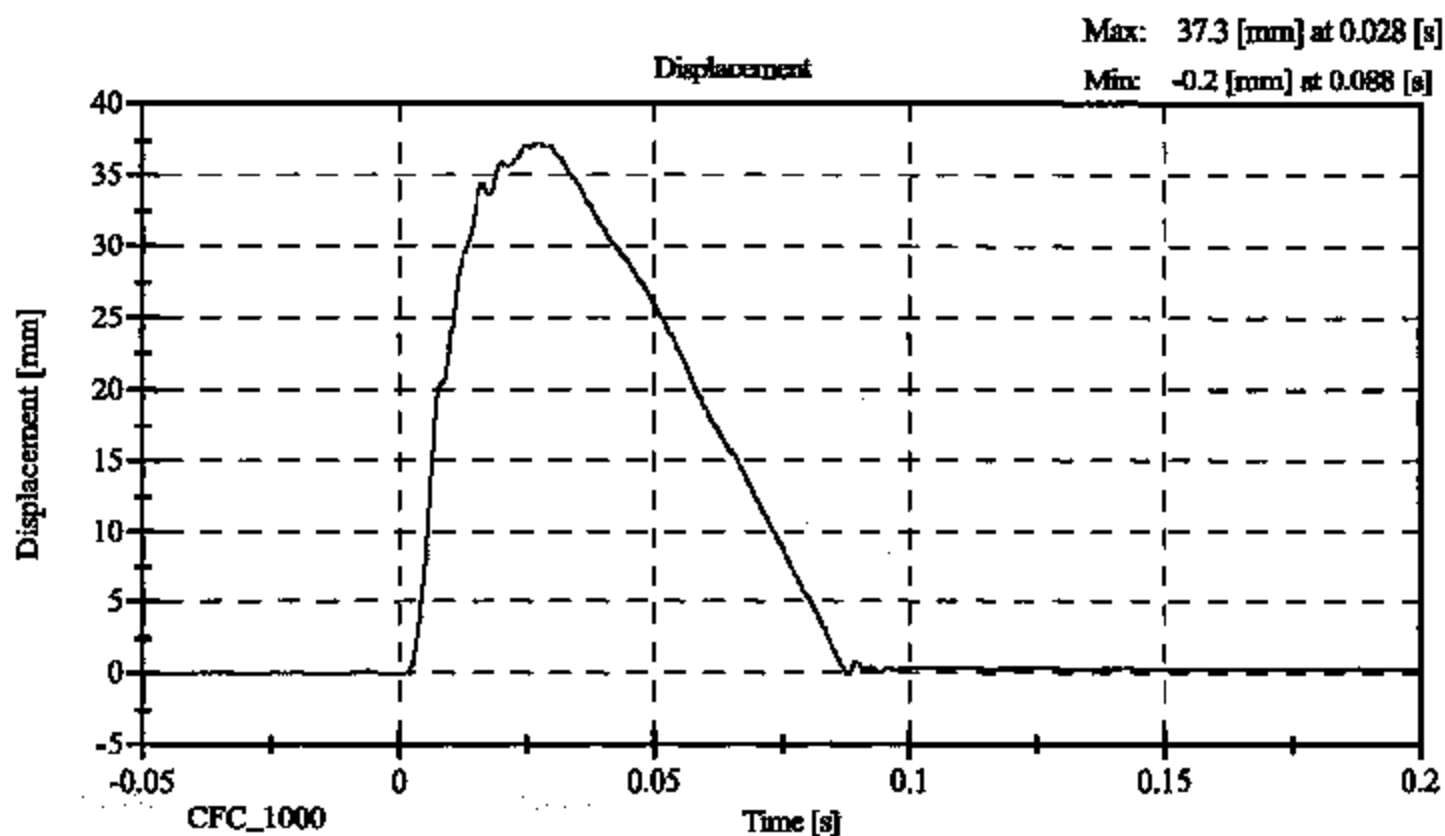
TEST PARAMETER		SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)		18.9 - 25.5	21.7
RELATIVE HUMIDITY (%)		10 - 70	45.0
VELOCITY 3.05 m/s	FORCE (N)	836 - 1125	1051.94
	DISPLACEMENT (mm)	30 - 35	30.61
VELOCITY 4.27 m/s	FORCE (N)	1730 - 2099	2085.78
	DISPLACEMENT (mm)	32 - 37	33.36
VELOCITY 6.10 m/s	FORCE (N)	3741 - 4448	4295.41
	DISPLACEMENT (mm)	33 - 40	37.29

DAMPER SETTING: 5

REMARKS: None







**LATERAL THORAX IMPACT TEST
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 015 Sequential Test Number: 2
Date: December 16, 2002 Laboratory Technician: B. Swicicki

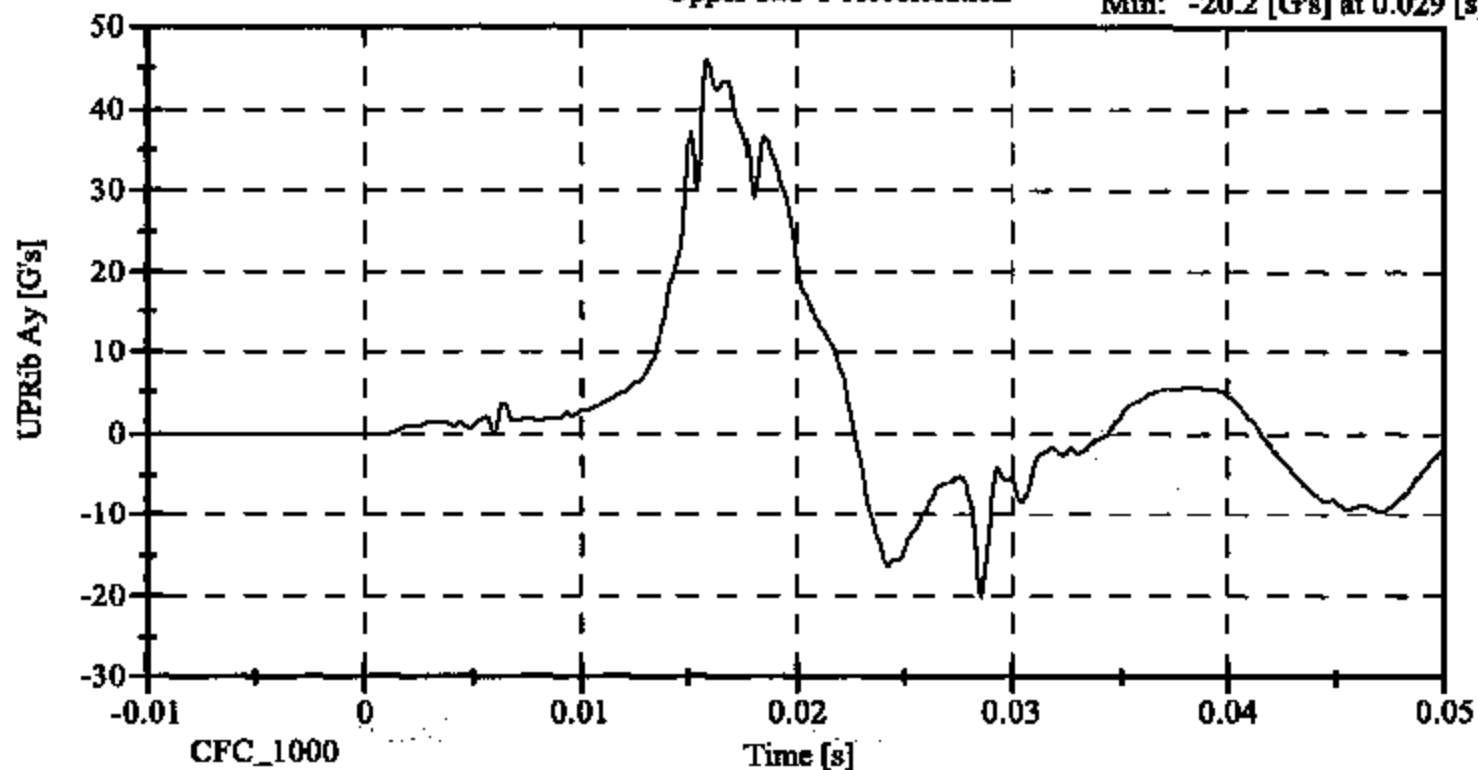
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	35
PROBE SPEED (m/s)	4.27 - 4.33	4.32
UPPER RIB (g's)	37 - 46	40.34
LOWER RIB (g's)	37 - 46	40.76
LOWER SPINE (g's)	15 - 22	19.28

REMARKS: None

Upper Rib Y Acceleration

Max: 46.1 [G's] at 0.016 [s]

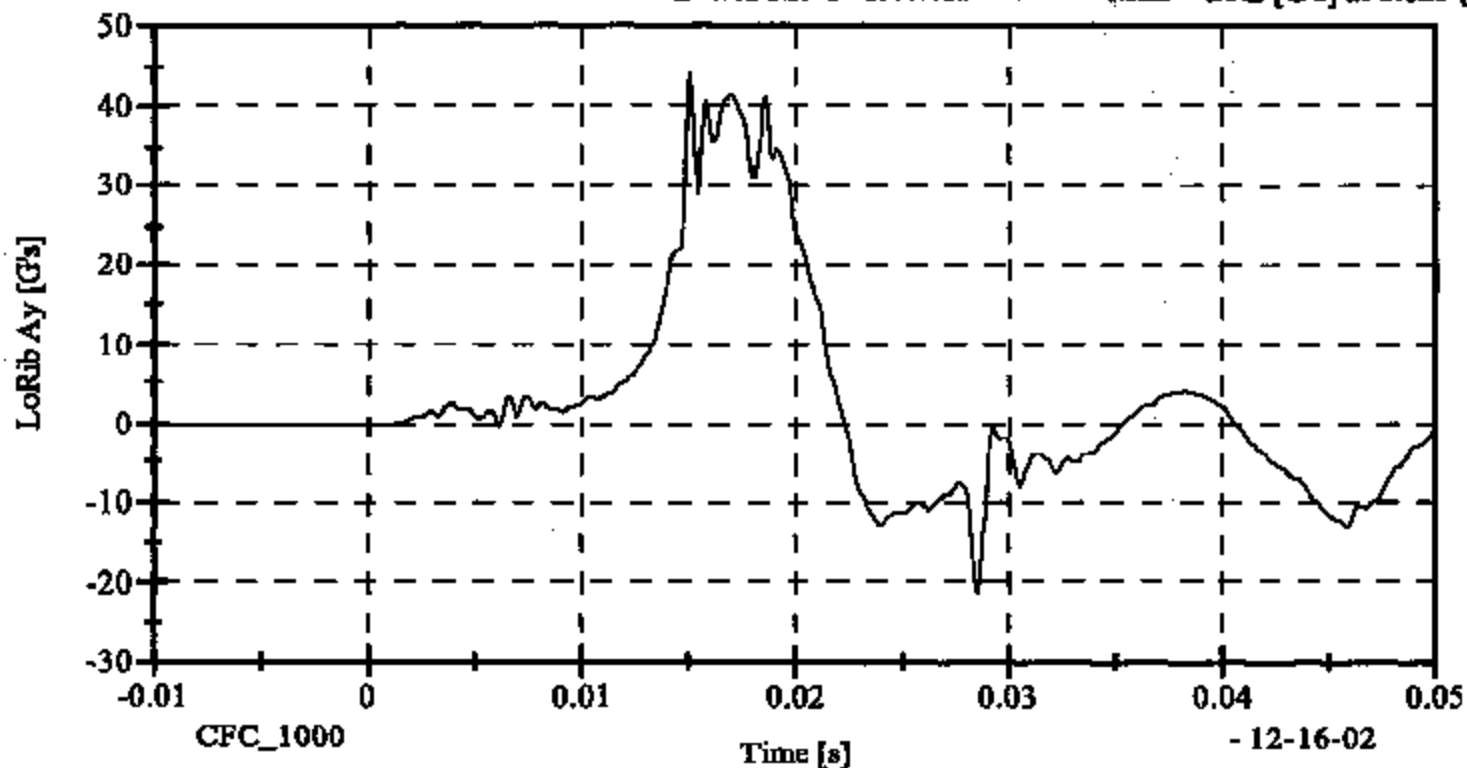
Min: -20.2 [G's] at 0.029 [s]

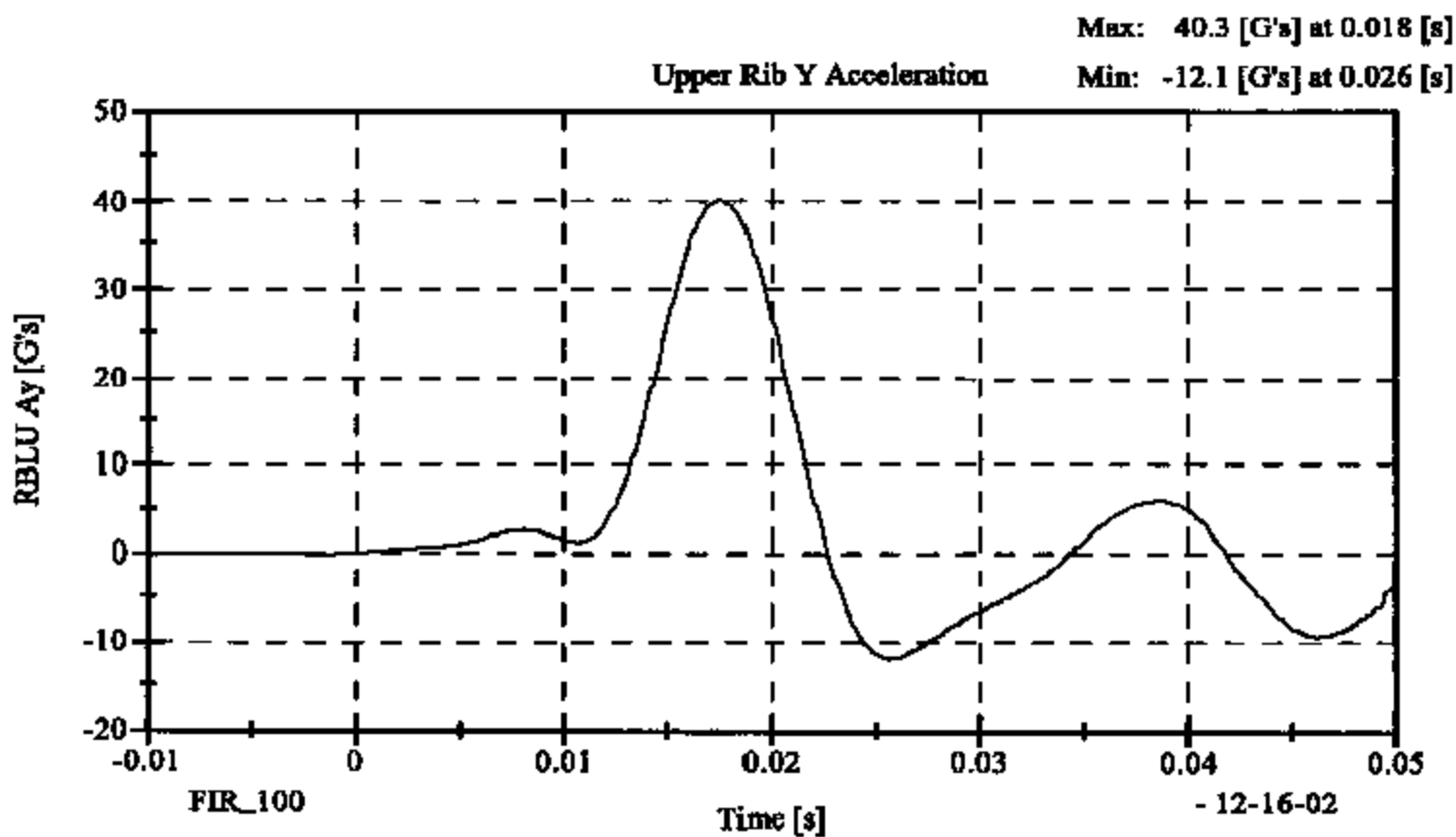
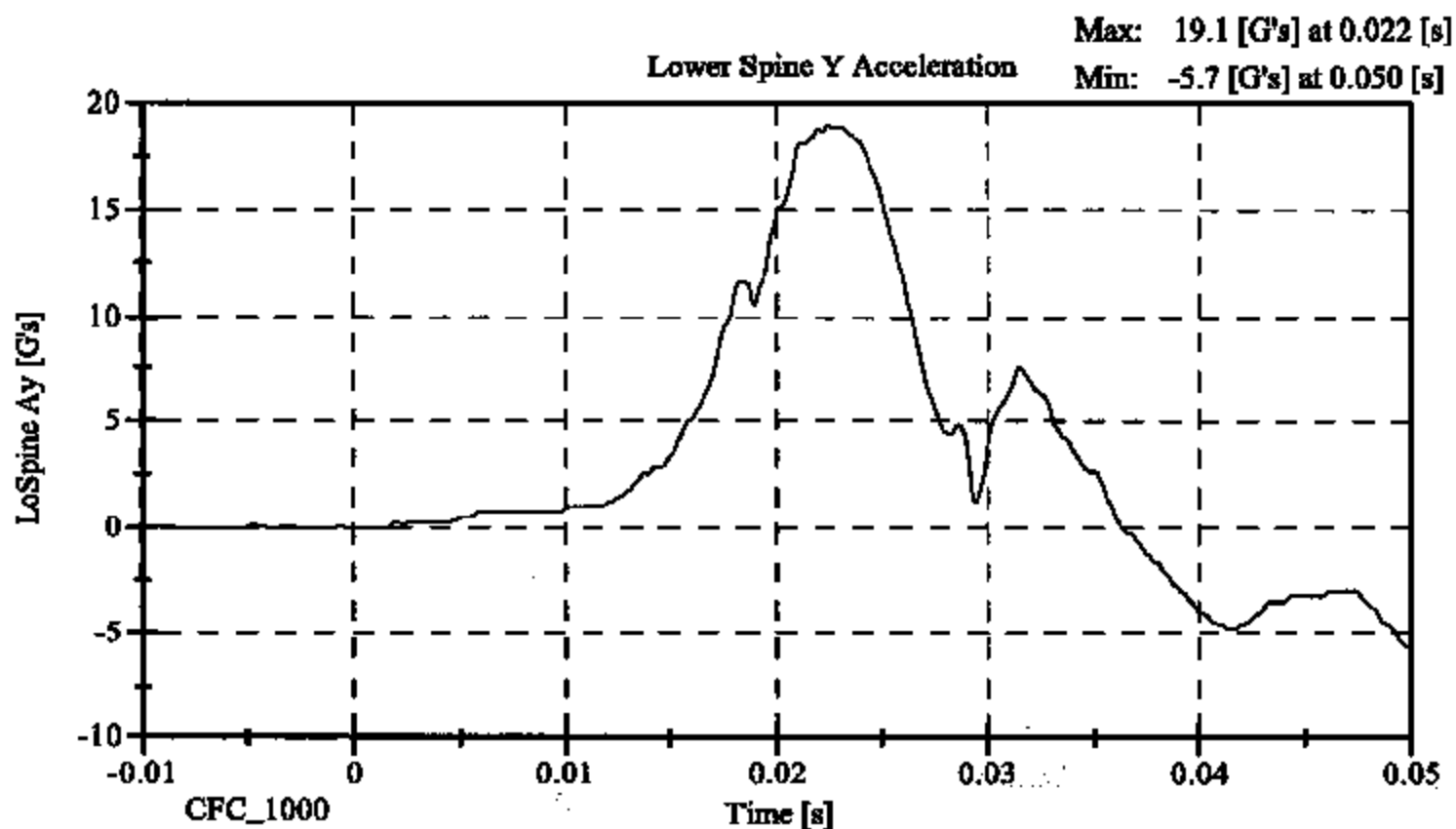


Lower Rib Y Acceleration

Max: 44.2 [G's] at 0.015 [s]

Min: -21.2 [G's] at 0.029 [s]

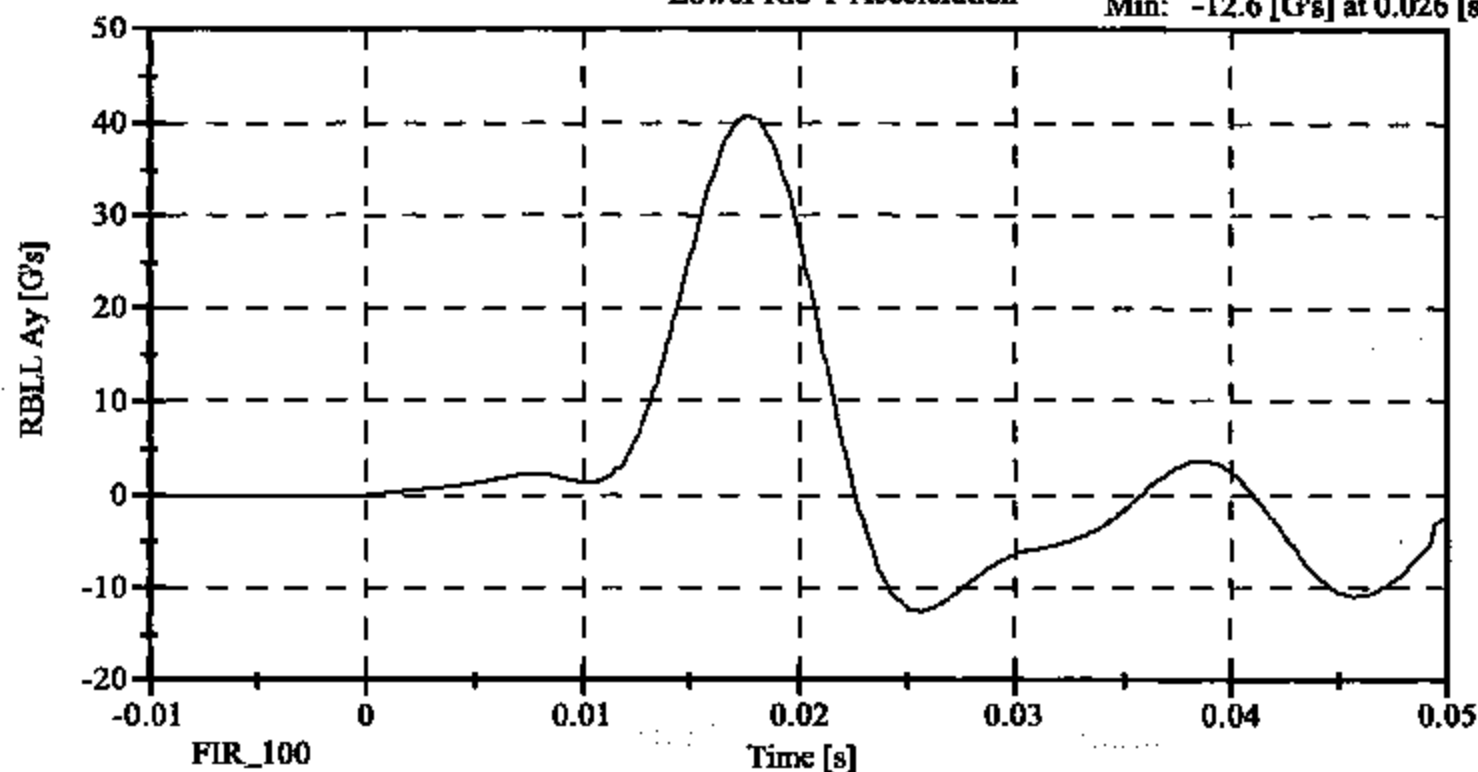




Lower Rib Y Acceleration

Max: 40.8 [G's] at 0.018 [s]

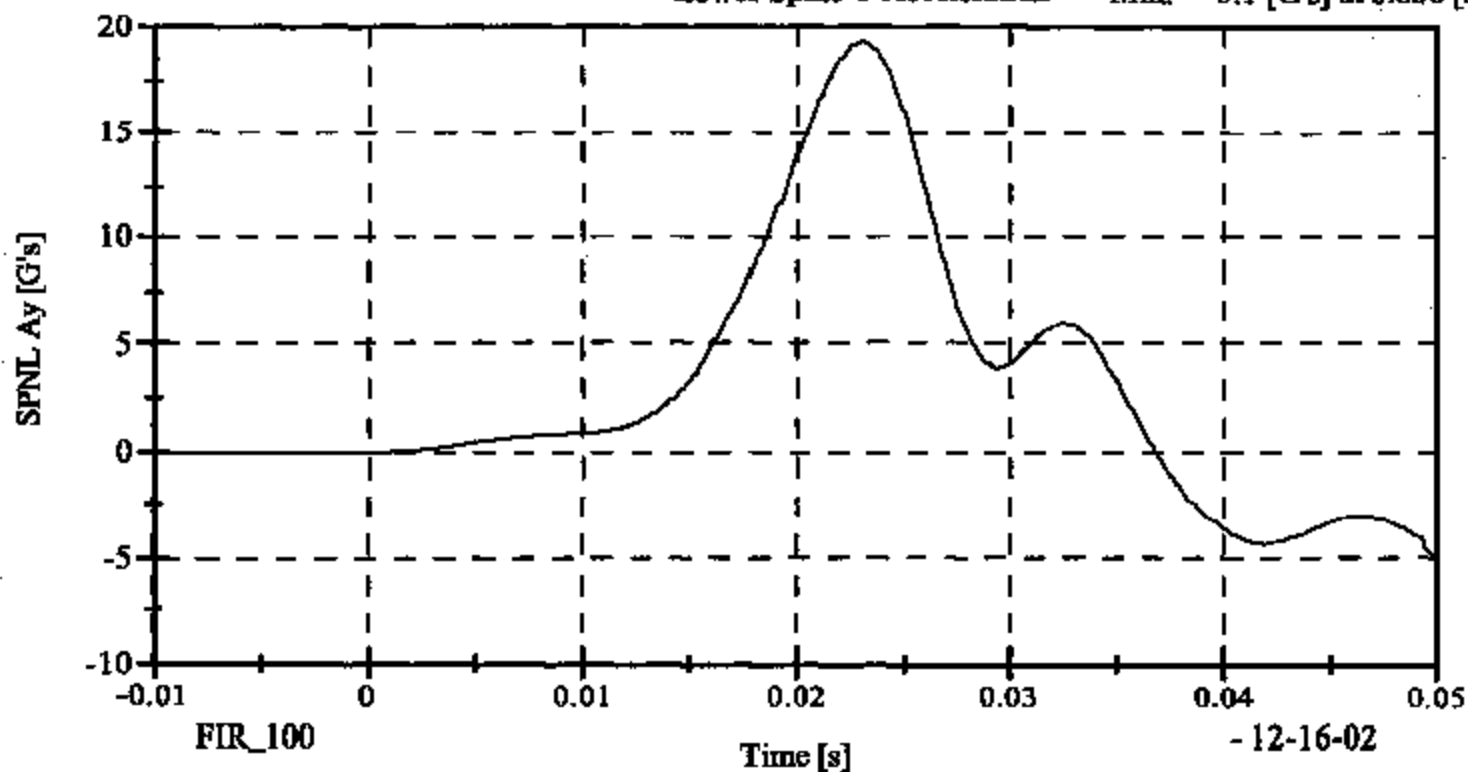
Min: -12.6 [G's] at 0.026 [s]



Lower Spine Y Acceleration

Max: 19.3 [G's] at 0.023 [s]

Min: -5.1 [G's] at 0.050 [s]



-12-16-02

**LATERAL PELVIS IMPACT TEST
PRE-TEST**

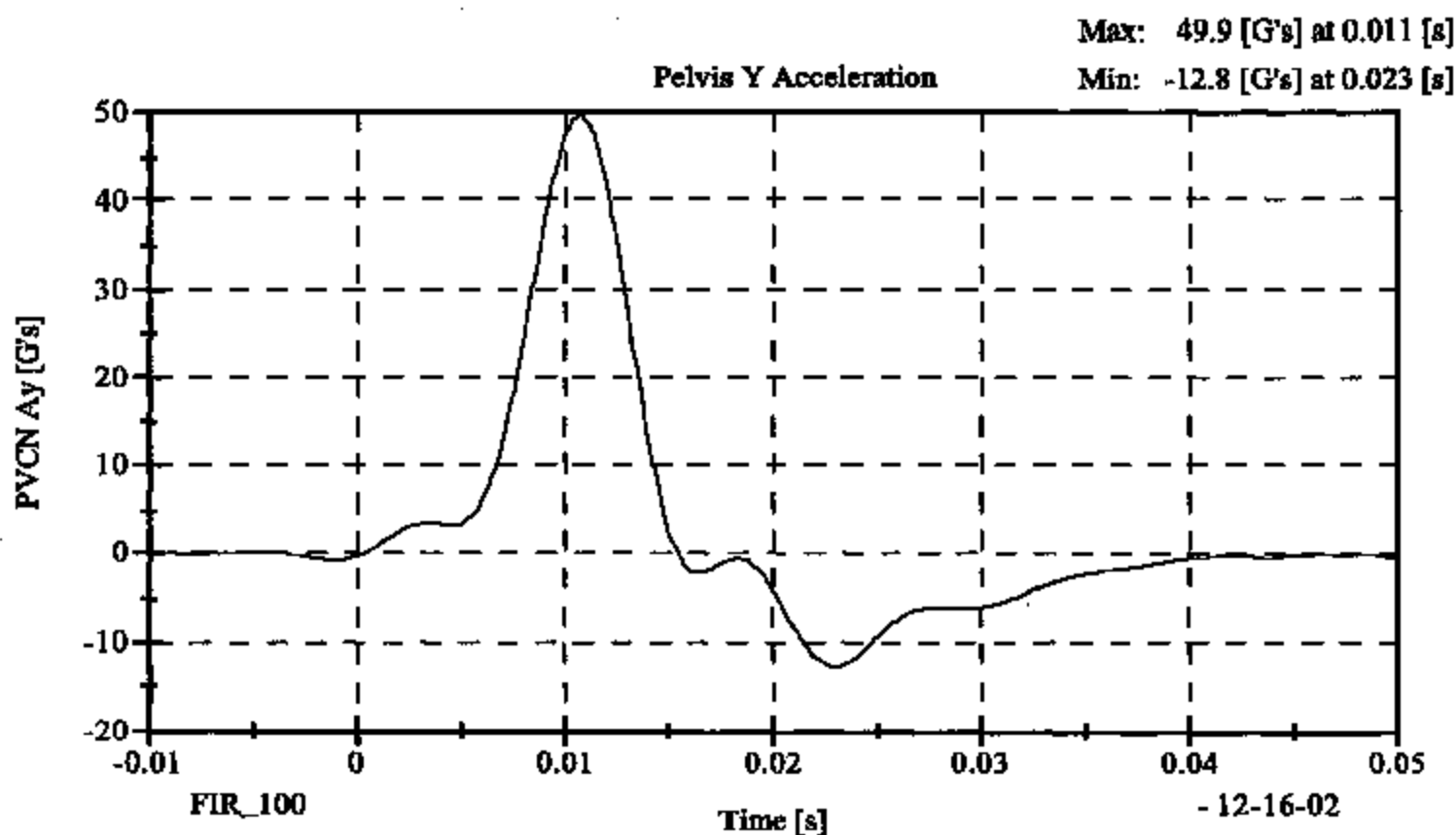
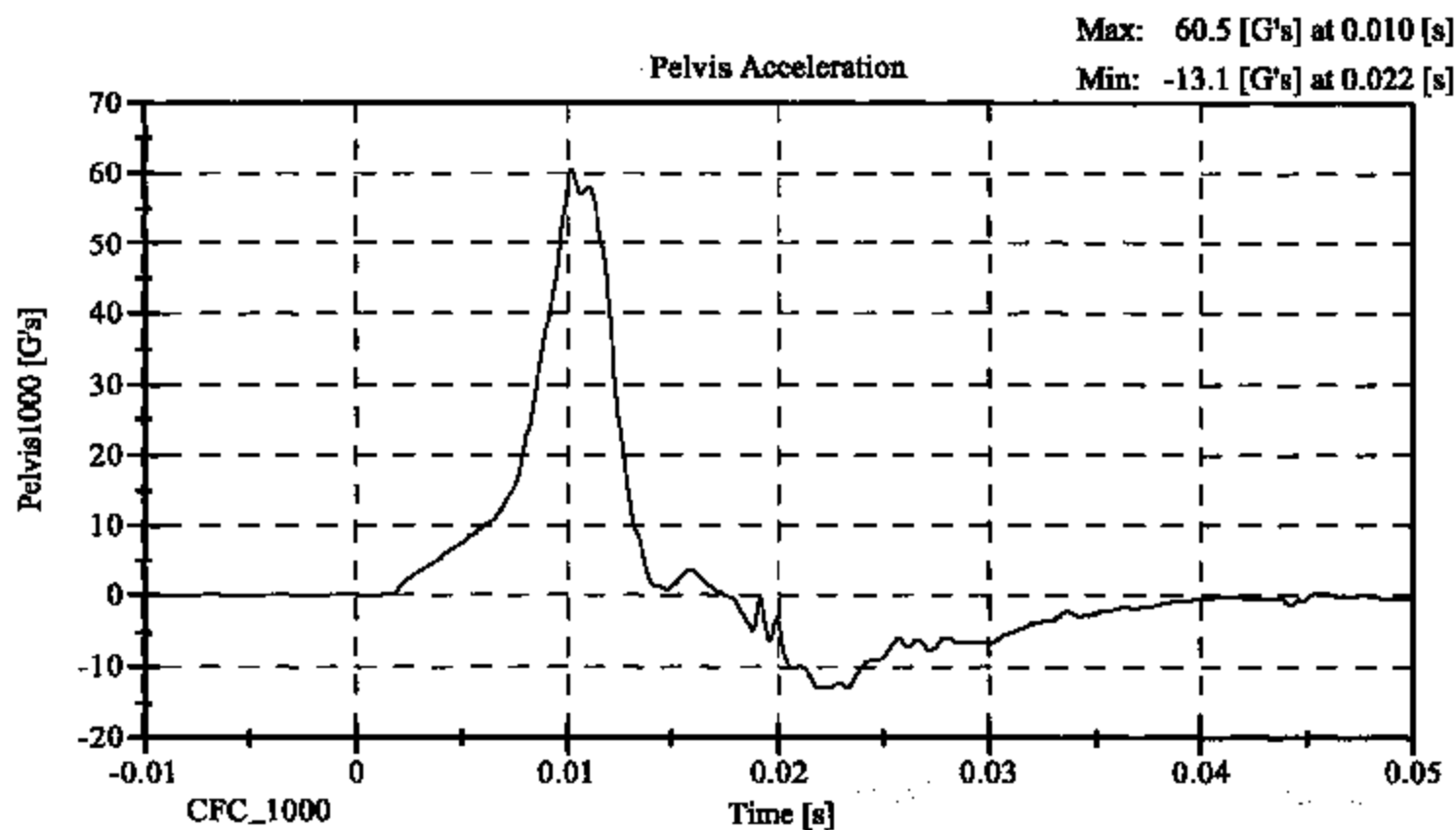
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 015 Sequential Test Number: 2
Date: December 16, 2002 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	35
PROBE SPEED (m/s)	4.27 - 4.33	4.32
PELVIS ACCELERATION (g's)	40 - 60	49.86

REMARKS: None

015 Pelvis Impact



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

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 015 Sequential Test Number: 1
Date: May 10, 2002 Laboratory Technician: B. Swisicki

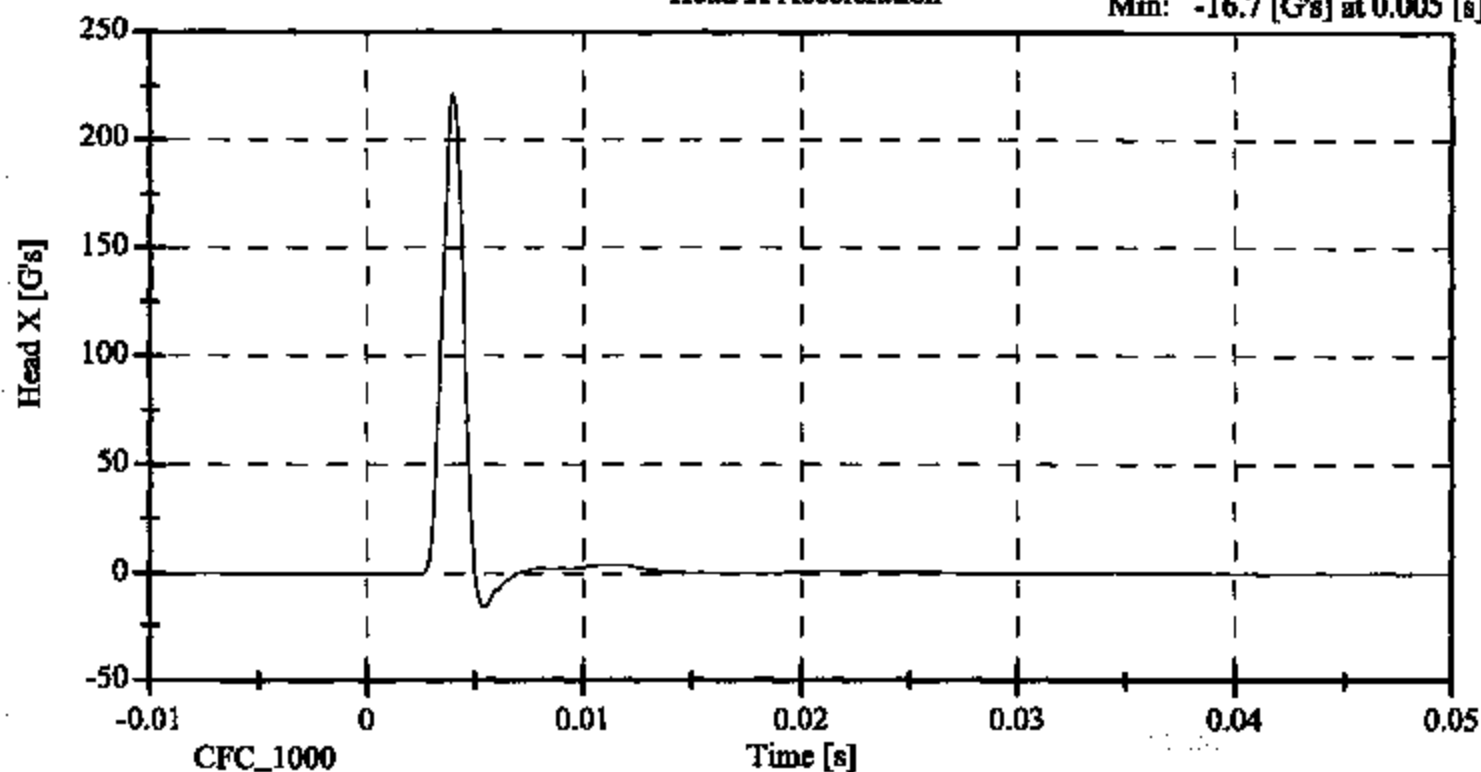
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.7
RELATIVE HUMIDITY (%)	10 - 70	40.0
PEAK RESULTANT ACCELERATION (Gs)	210 - 260	244.68
PEAK LATERAL ACCELERATION (Gs)	Not to Exceed 10	0.77
UNIMODAL CRITERIA ABOVE 100 Gs (ms)	0.9 - 1.5	1.22

REMARKS: None

Head X Acceleration

Max: 221.5 [G's] at 0.004 [s]

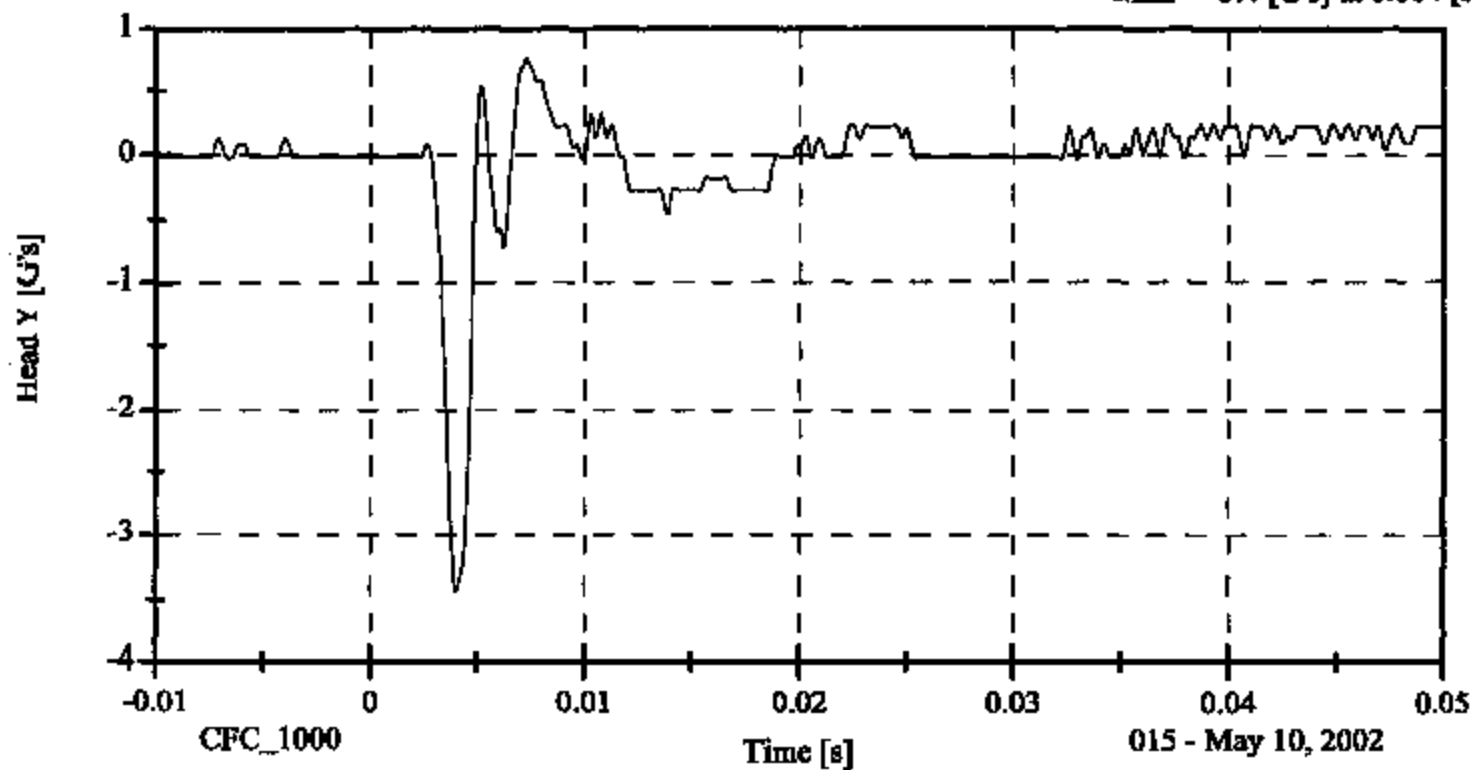
Min: -16.7 [G's] at 0.005 [s]



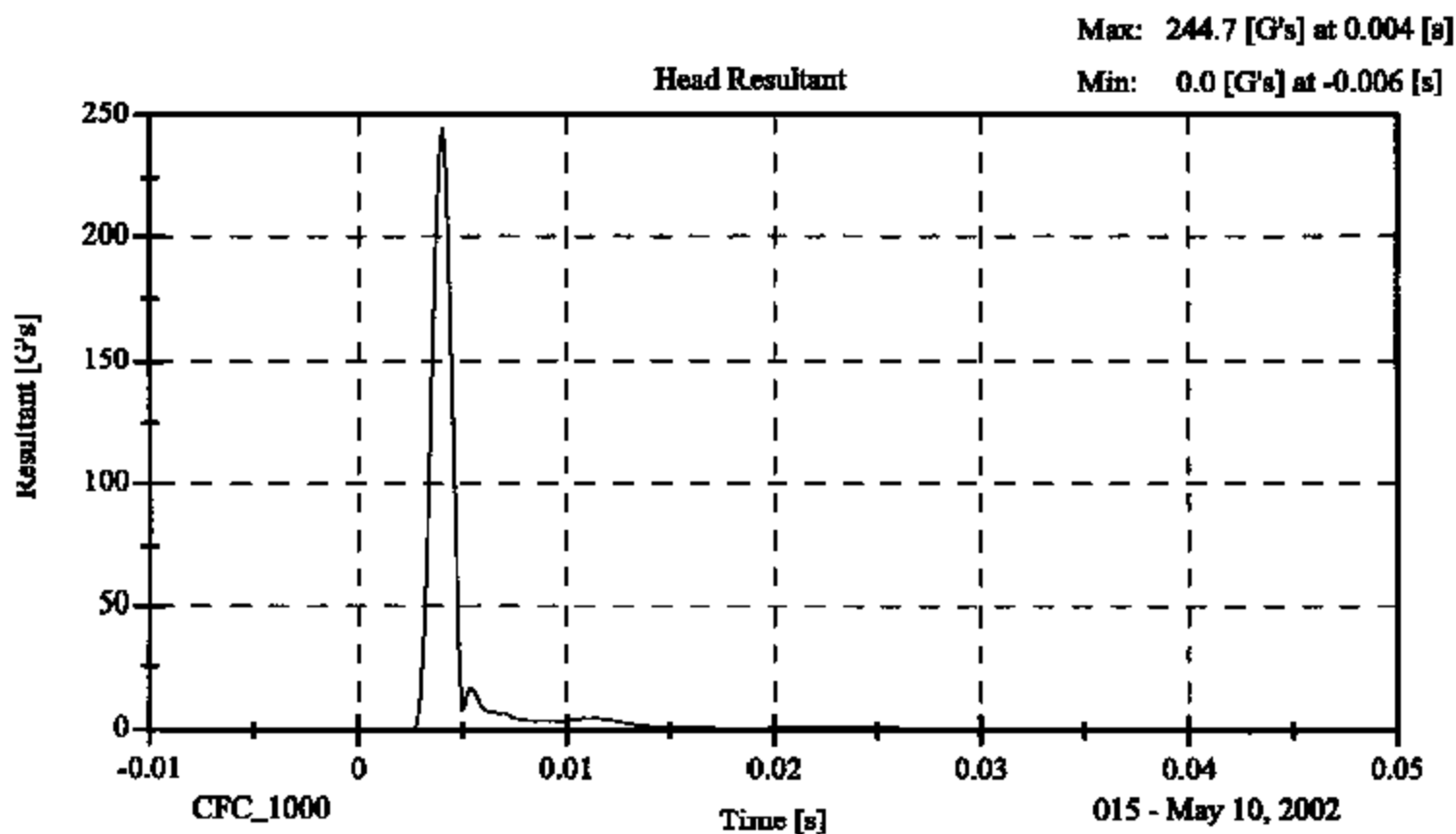
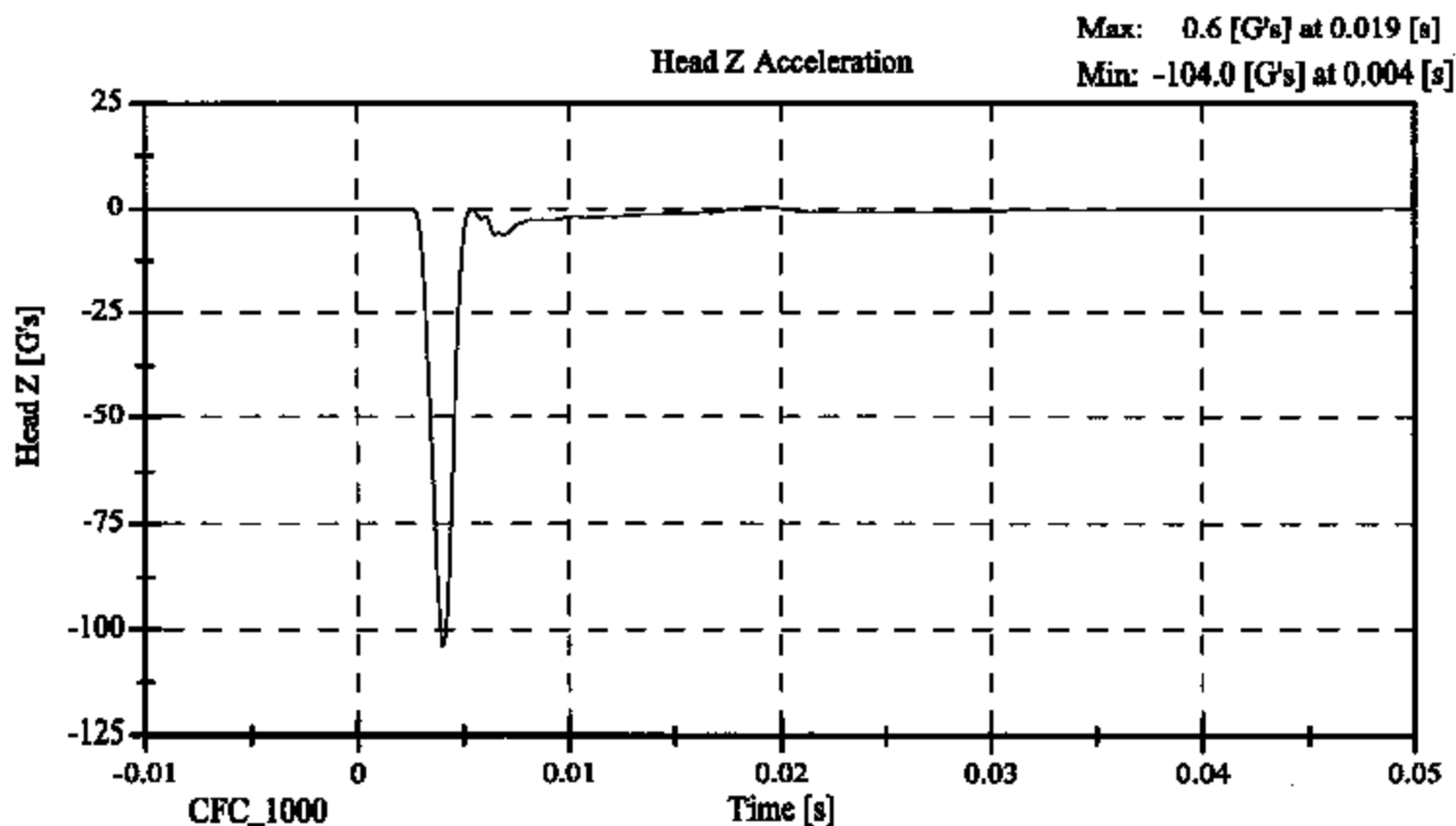
Head Y Acceleration

Max: 0.8 [G's] at 0.007 [s]

Min: -3.4 [G's] at 0.004 [s]



015 - May 10, 2002



**ABDOMINAL COMPRESSION TEST
PRE-TEST**

(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 015 Sequential Test Number: 2
Date: December 16, 2002 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	35
FORCE @ 13 mm (N)	104 - 162	121.4
FORCE @ 19 mm (N)	163 - 221	177.0
FORCE @ 25 mm (N)	222 - 280	244.7
FORCE @ 33 mm (N)	325 - 391	341.6

REMARKS: None

Dummy S/N 015

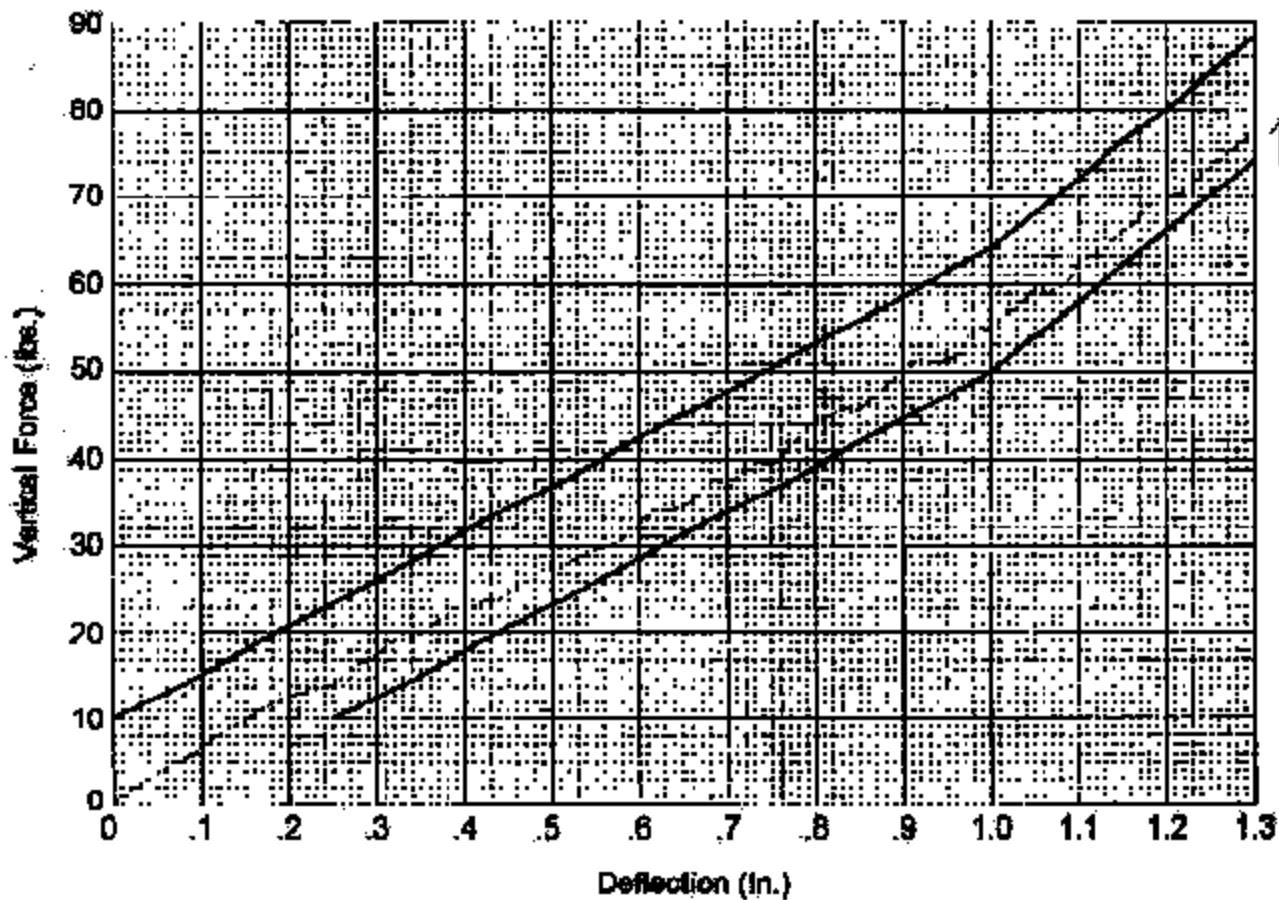
W/A _____

Date 12-16-02

Performed By BS

Temp. 70°

Humidity 35%



Hybrid II
Abdomen Static Press

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

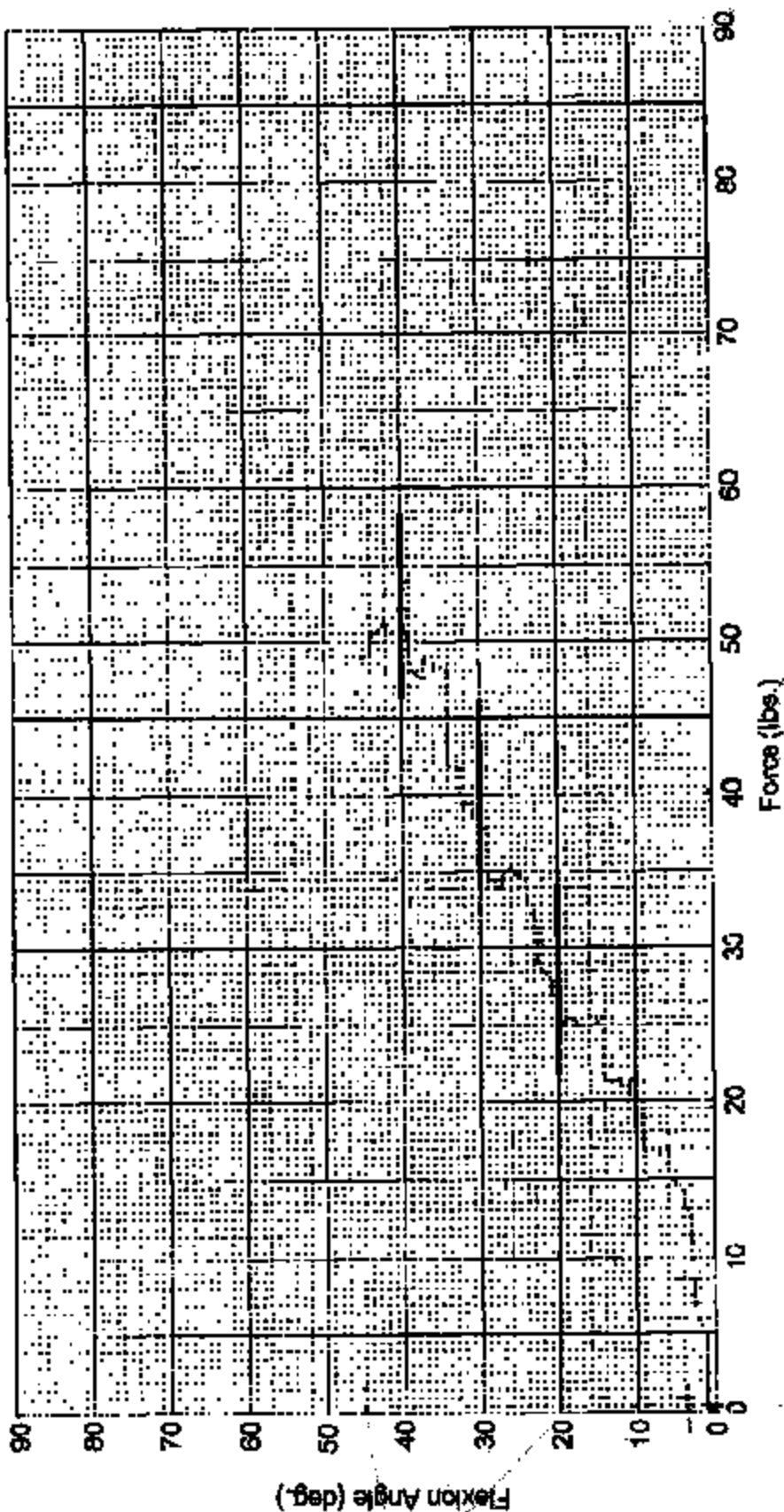
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 015 Sequential Test Number: 2
Date: December 16, 2002 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	35
FORCE @ 0° (N)	0 - 26.7	0.0
FORCE @ 20° (N)	97.8 - 151.2	116.5
FORCE @ 30° (N)	151.2 - 204.6	163.2
FORCE @ 40° (N)	204.6 - 258	225.5
RETURN ANGLE	12° max.	3.7

REMARKS: None

Dummy S/N 015
W/A _____
Date 12-16-02
Performed By [Signature]
Temp 70
Humidity 35%



Hybrid II Lumbar Spine Flexion Test

PRE-TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 015 Sequential Test Number: 2
 Date: December 16, 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.: 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: July 11, 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: July 11, 2002 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

**THORACIC SHOCK ABSORBER TESTS
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

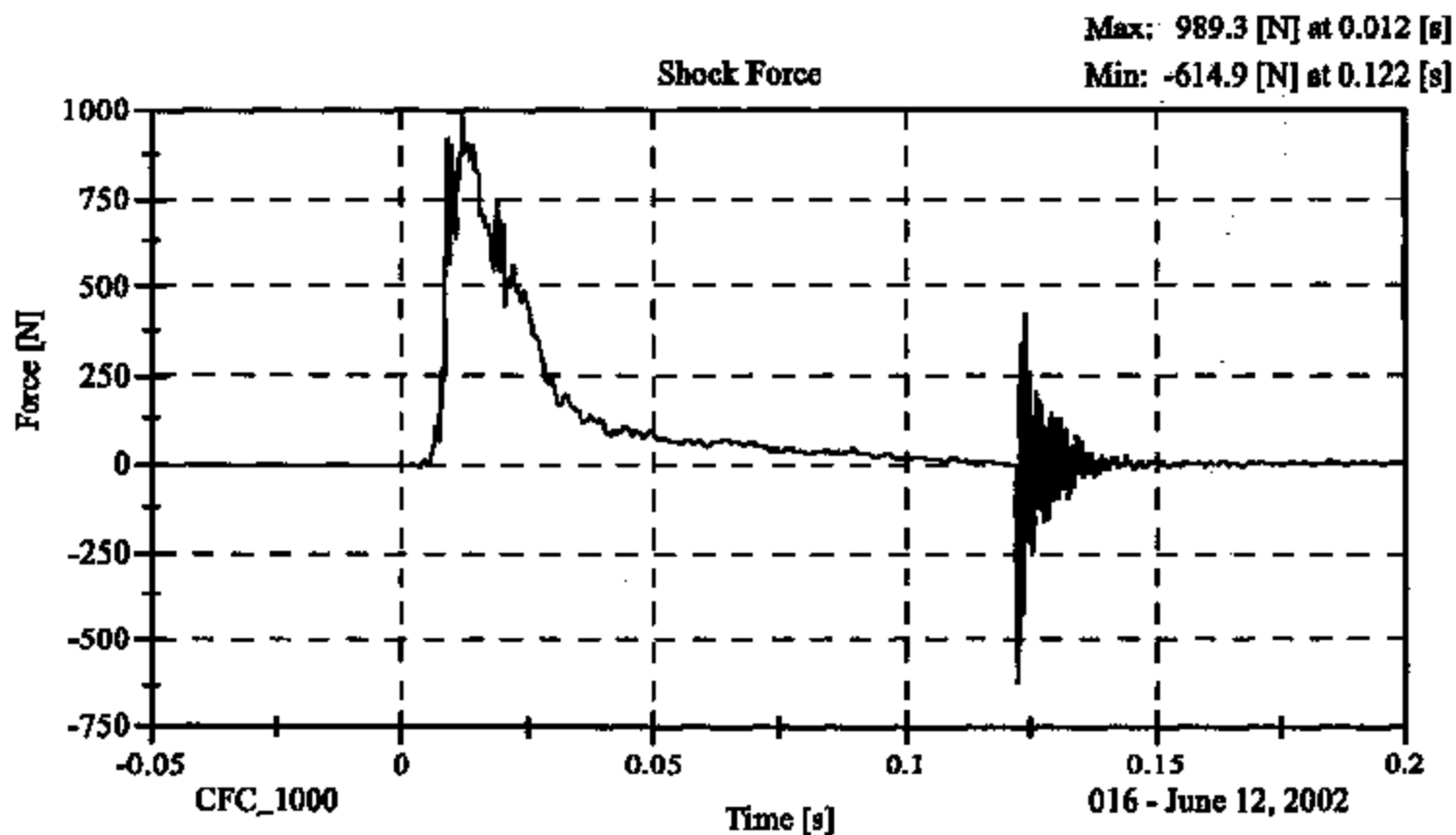
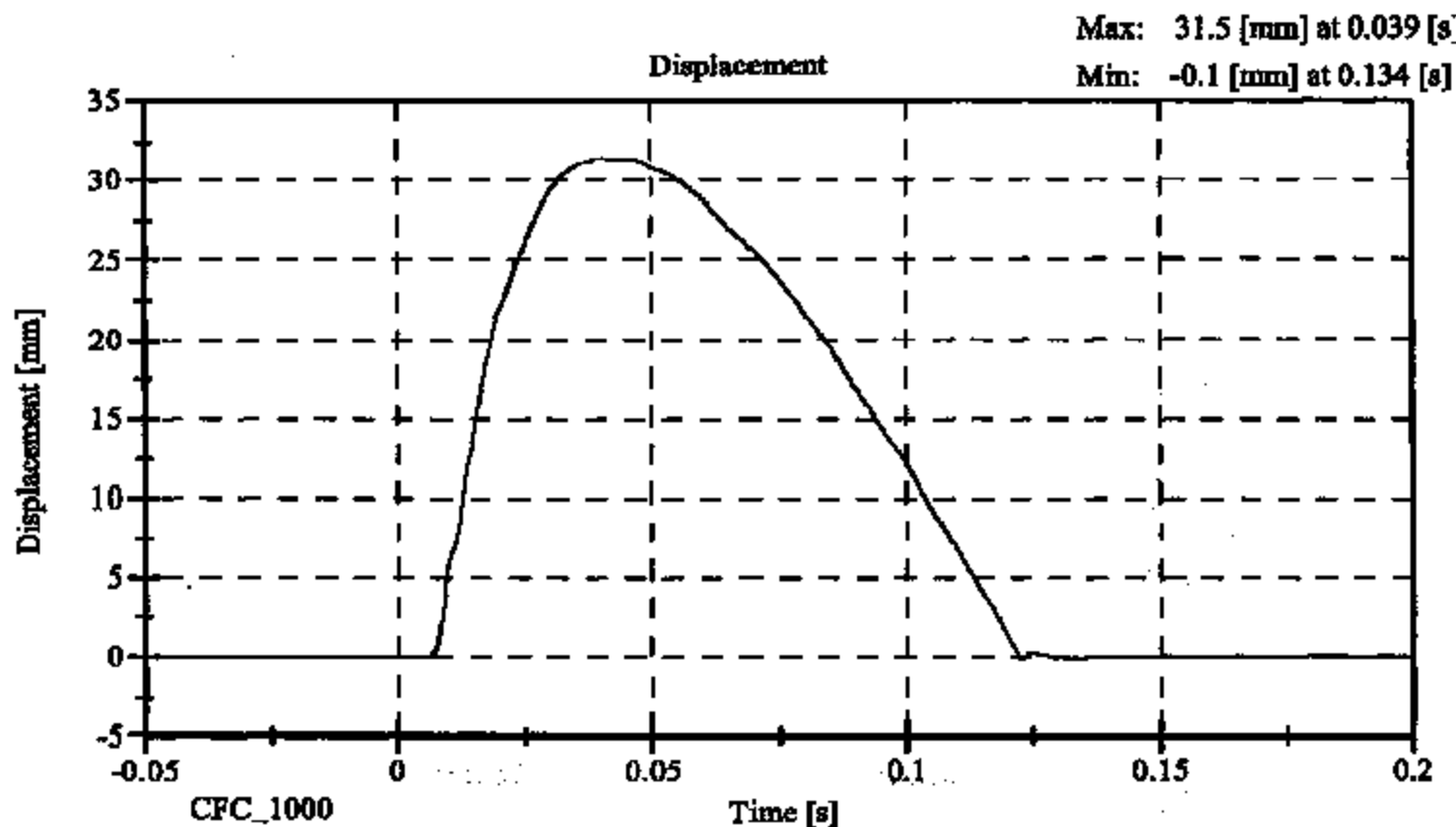
SID Serial No.: 016 Sequential Test Number: 2
 Date: June 13, 2002 Laboratory Technician: B. Swiecicki

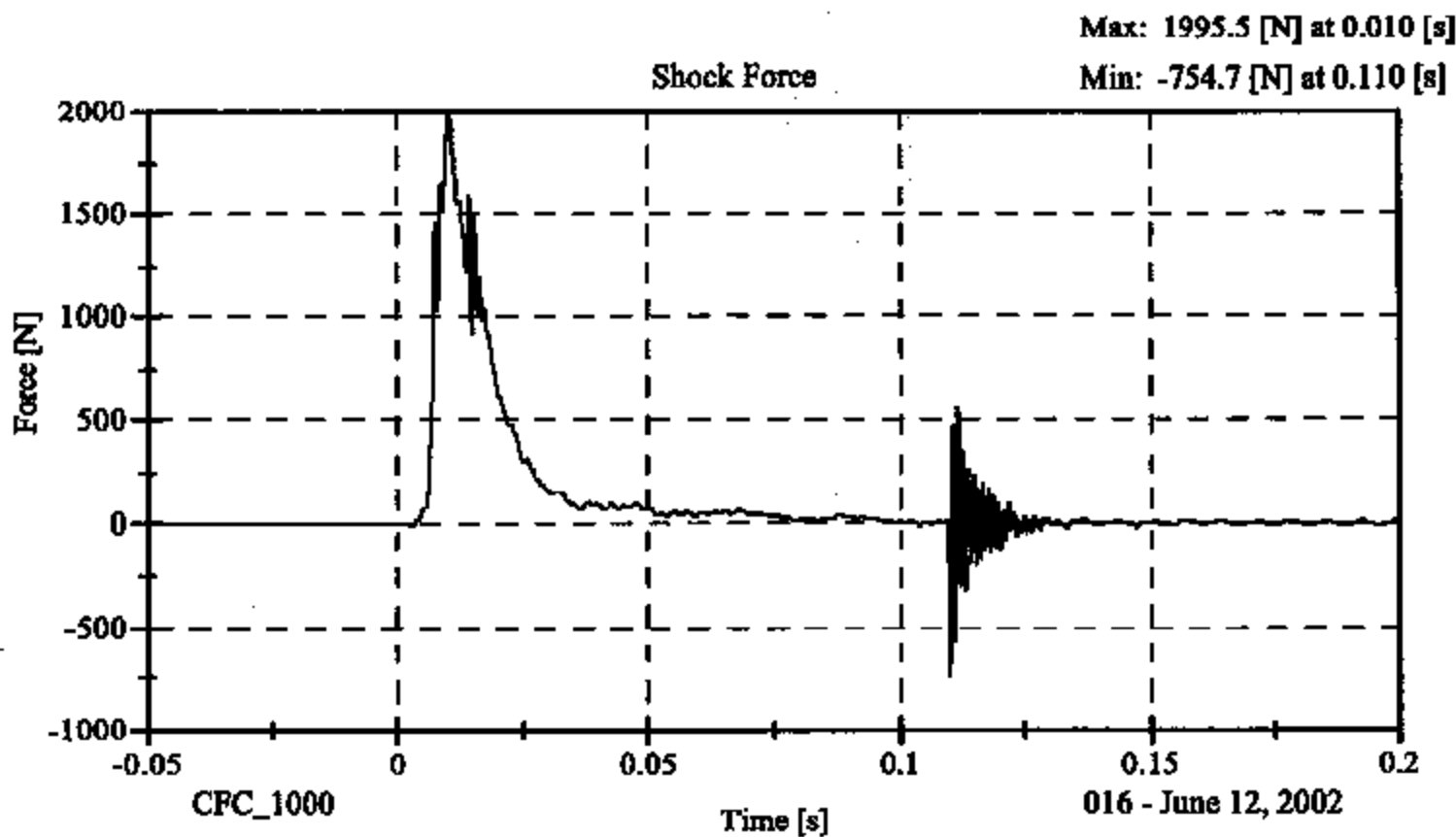
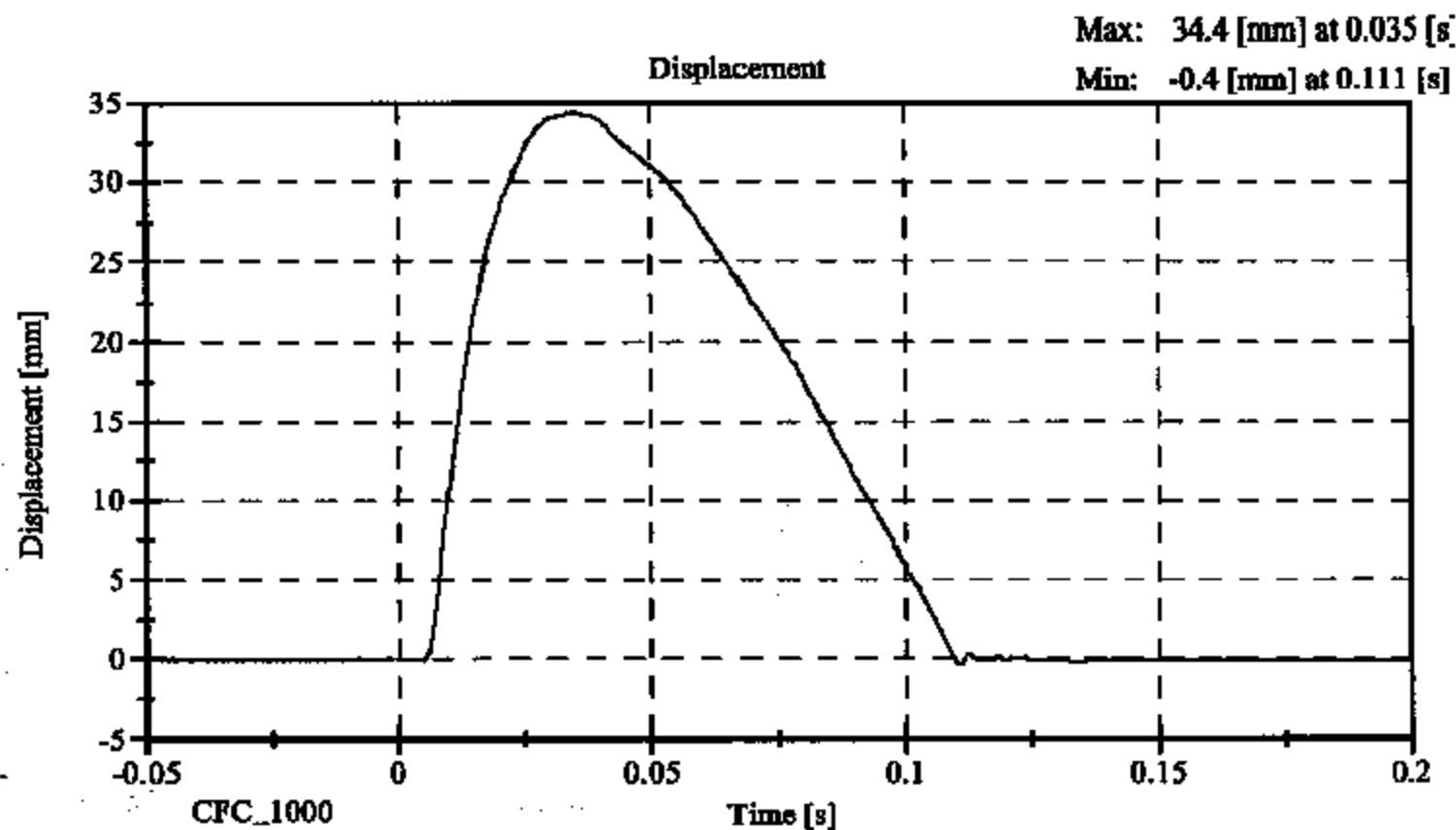
DAMPER IDENTIFICATION: _____

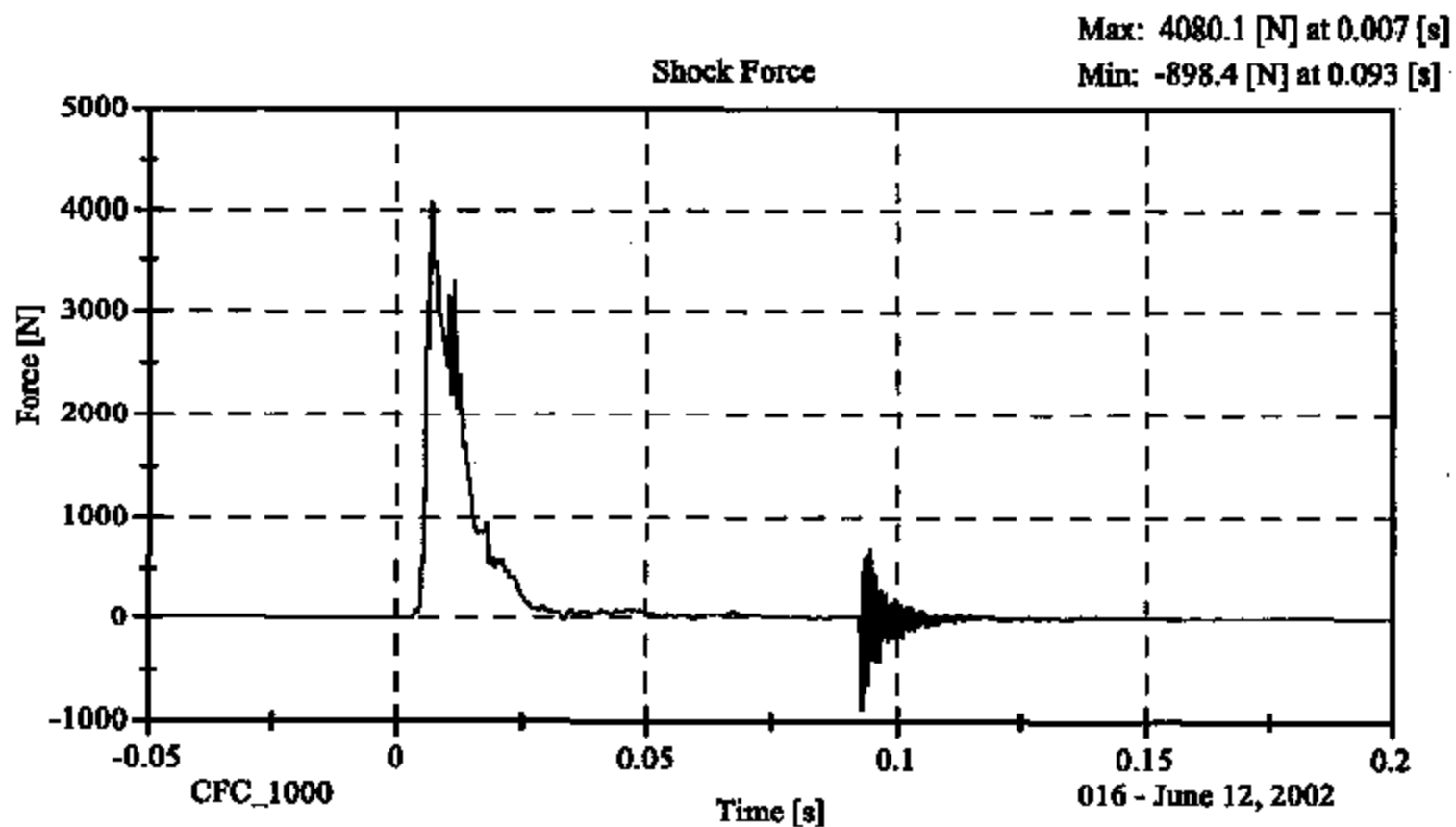
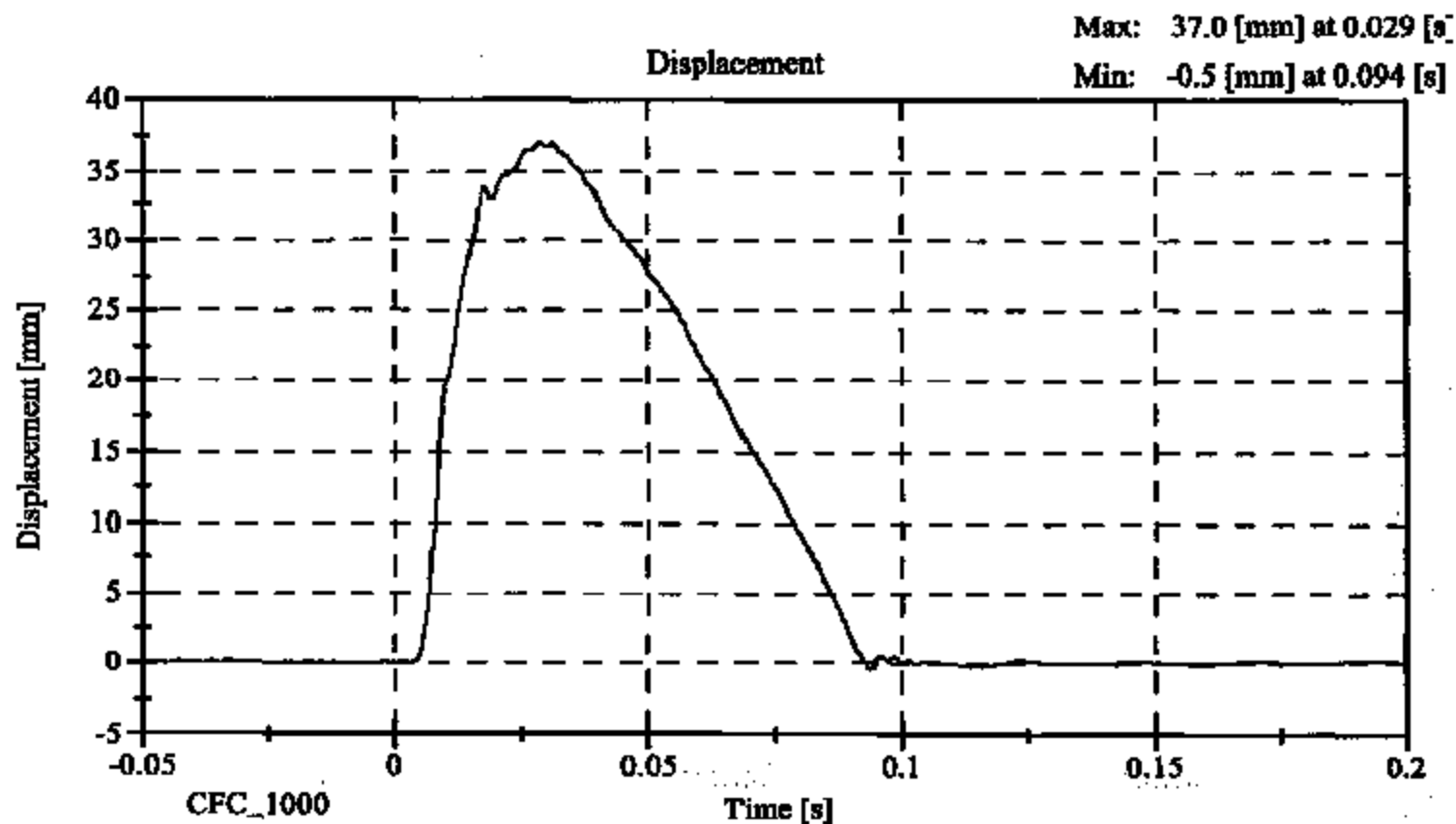
TEST PARAMETER		SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)		18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)		10 - 70	43.0
VELOCITY 3.05 m/s	FORCE (N)	836 - 1125	989.26
	DISPLACEMENT (mm)	30 - 35	31.51
VELOCITY 4.27 m/s	FORCE (N)	1730 - 2099	1995.45
	DISPLACEMENT (mm)	32 - 37	34.37
VELOCITY 6.10 m/s	FORCE (N)	3741 - 4448	4080.09
	DISPLACEMENT (mm)	33 - 40	37.0

DAMPER SETTING: 5

REMARKS: None







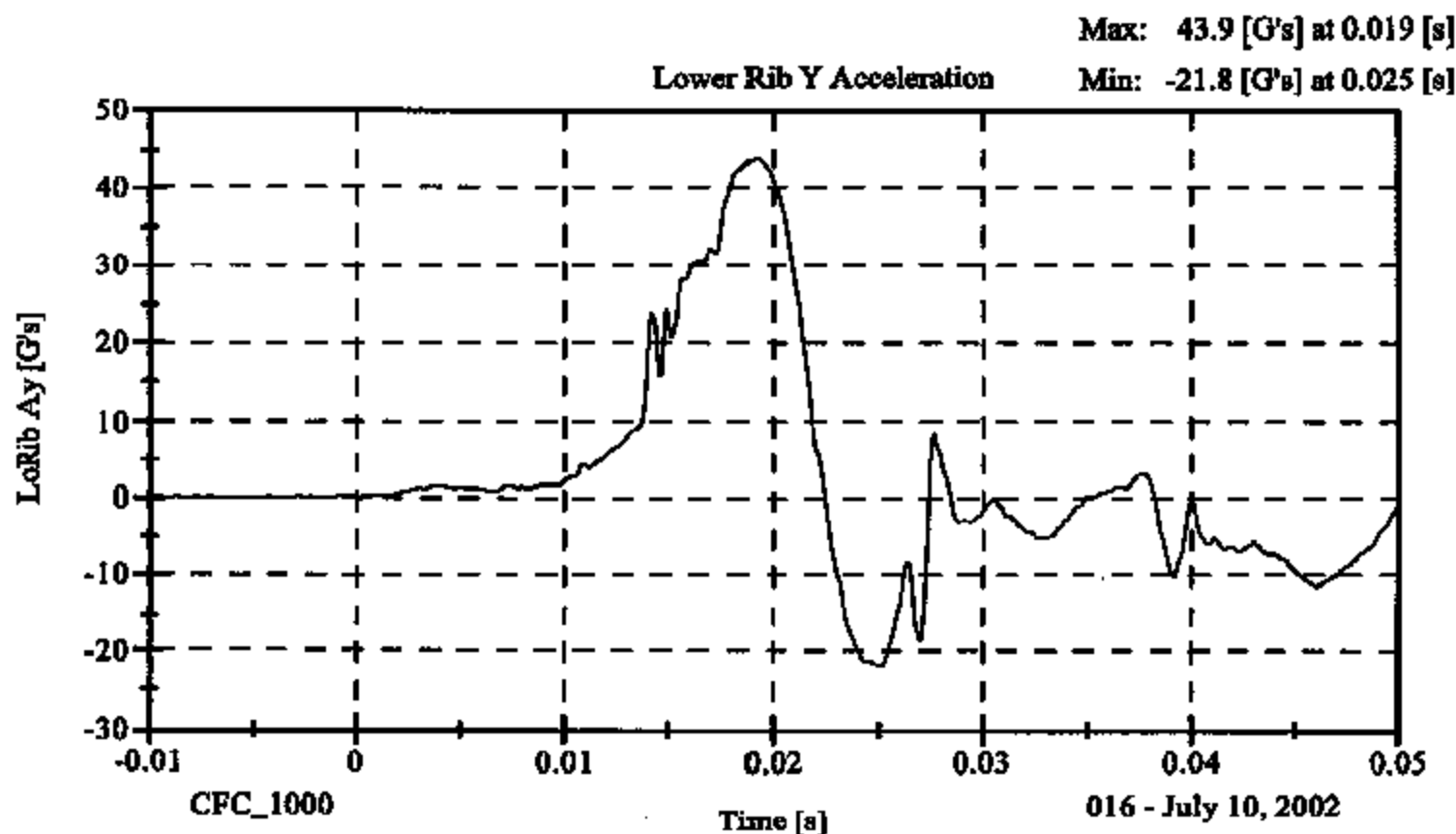
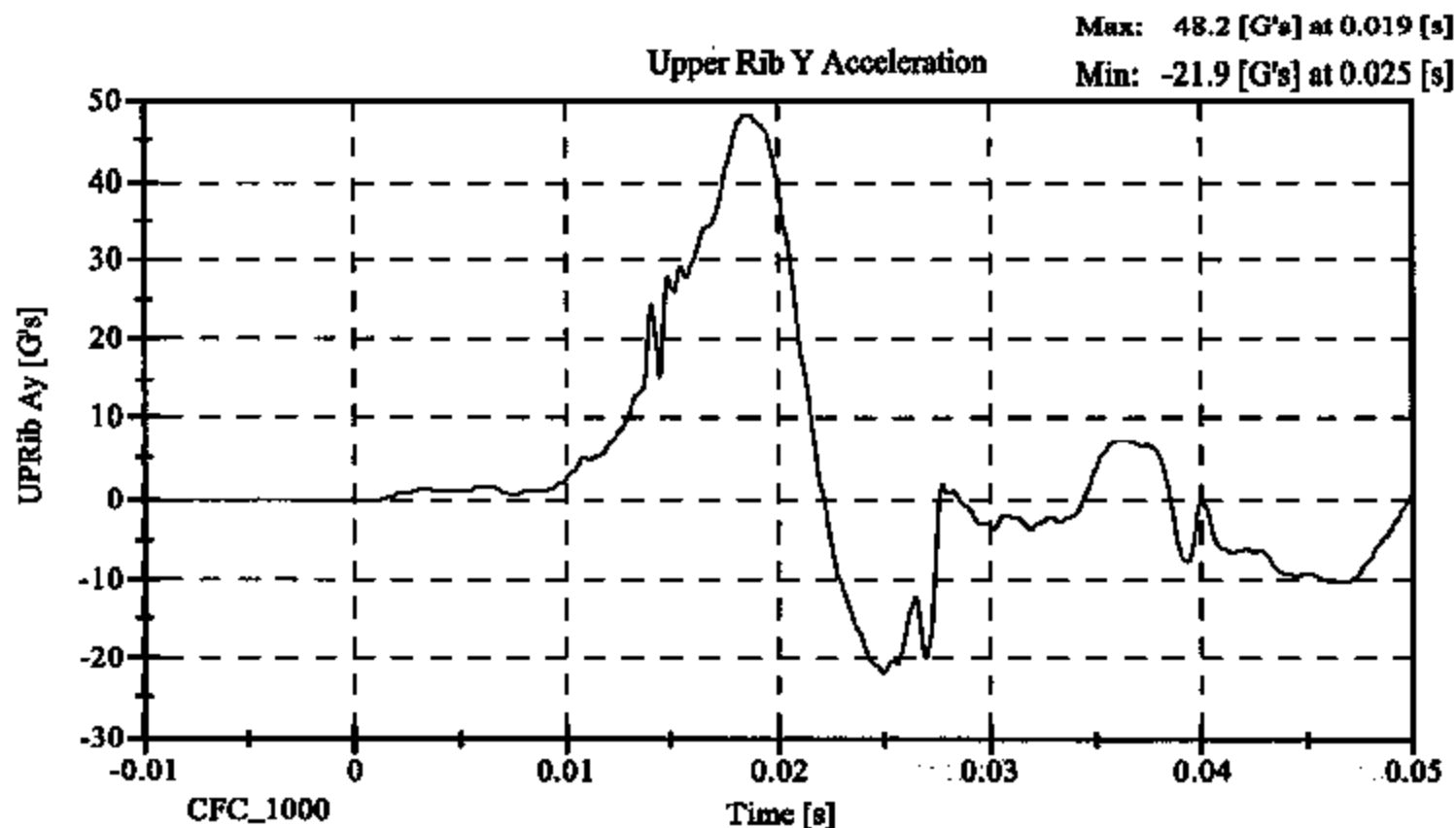
**LATERAL THORAX IMPACT TEST
PRE-TEST**

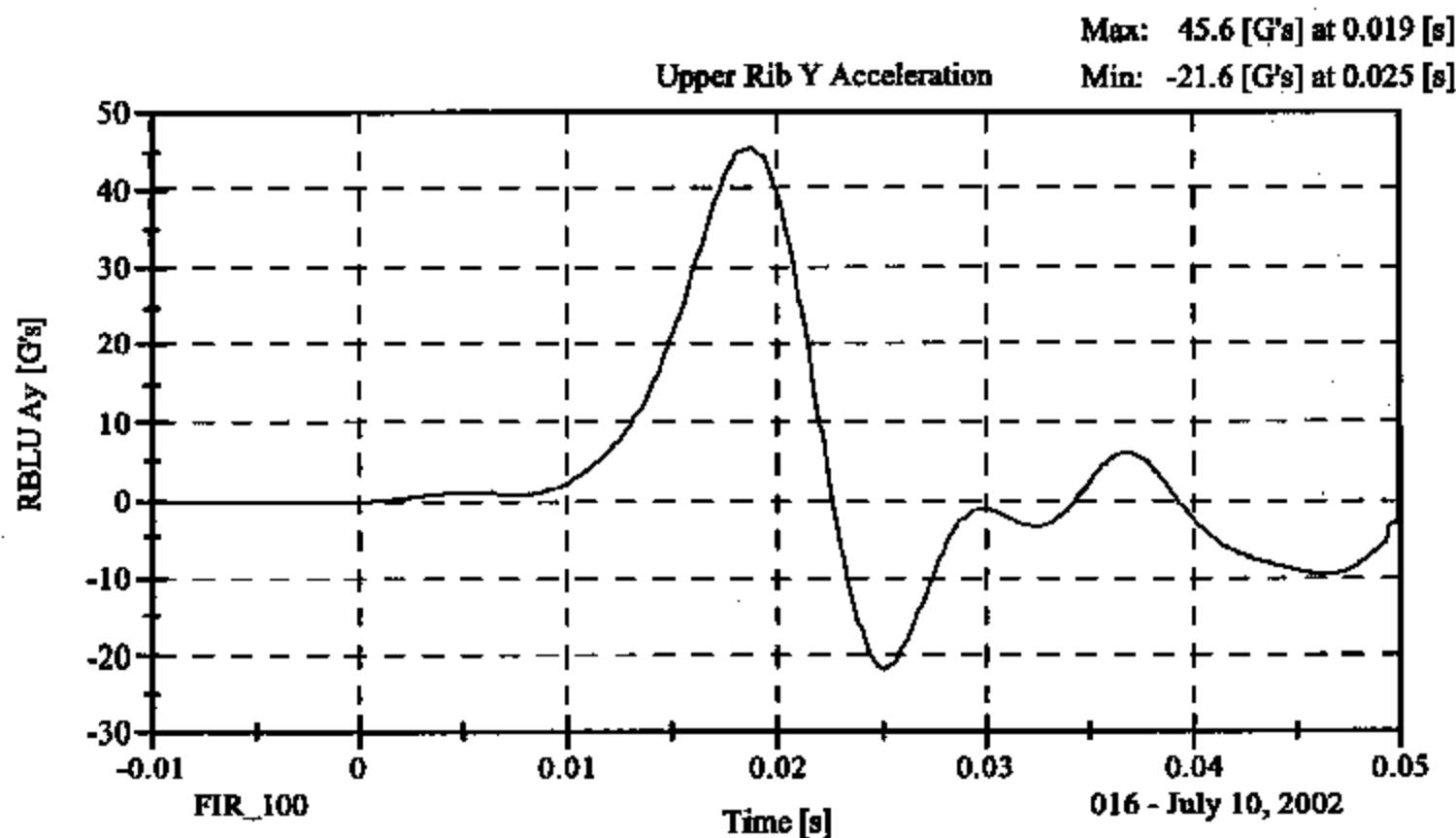
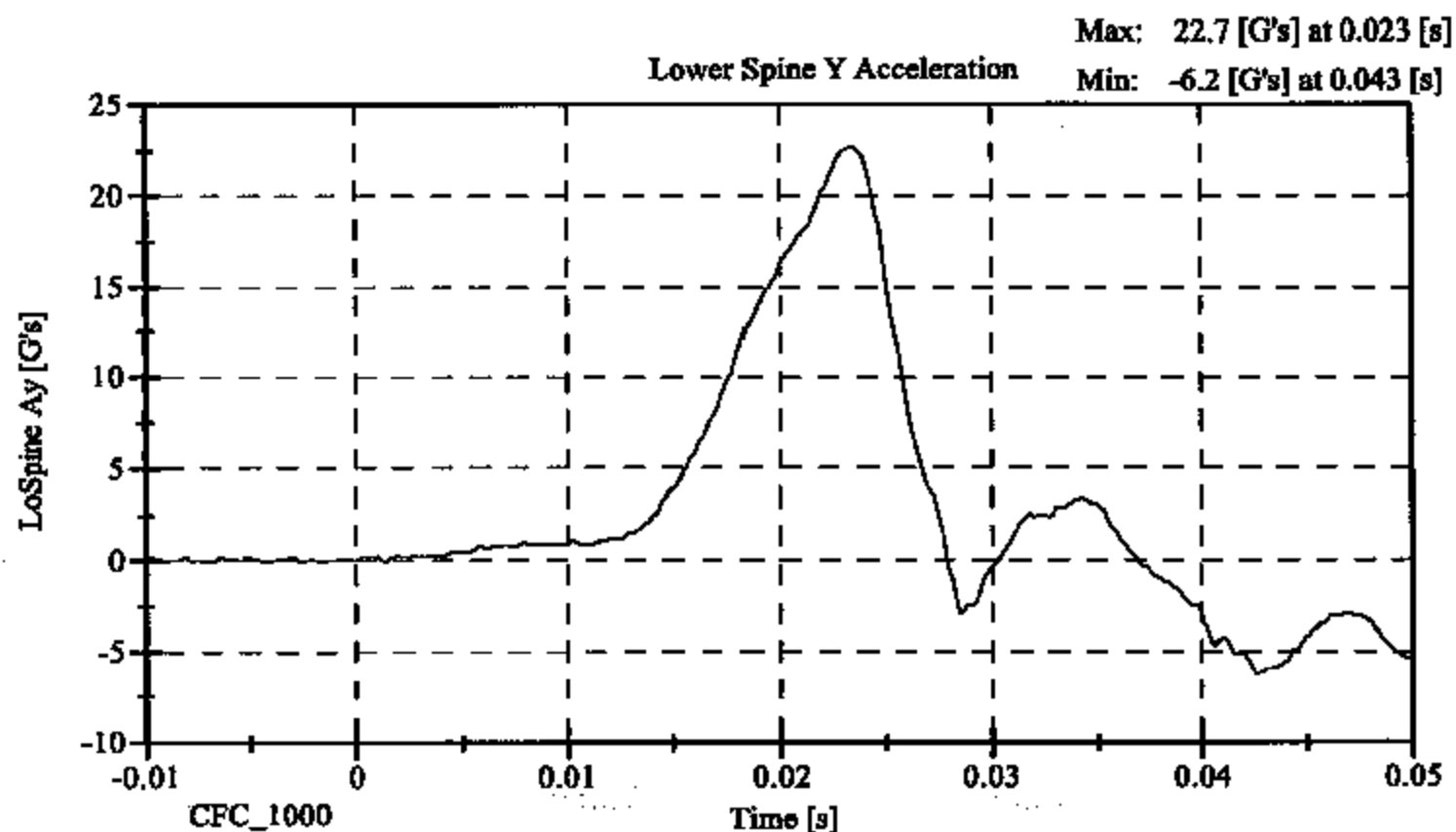
CONFIGURED FOR LEFT SIDE IMPACT

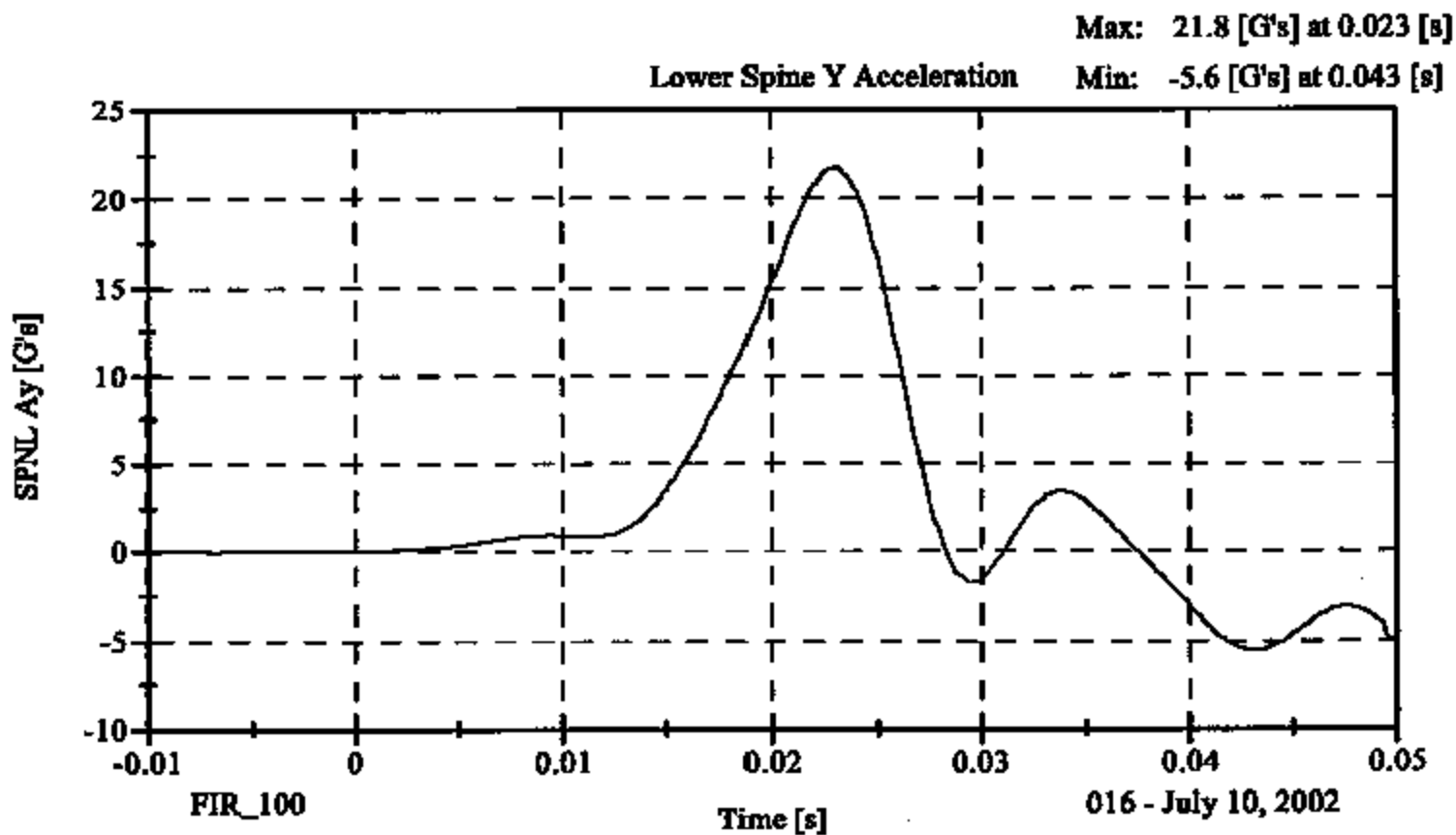
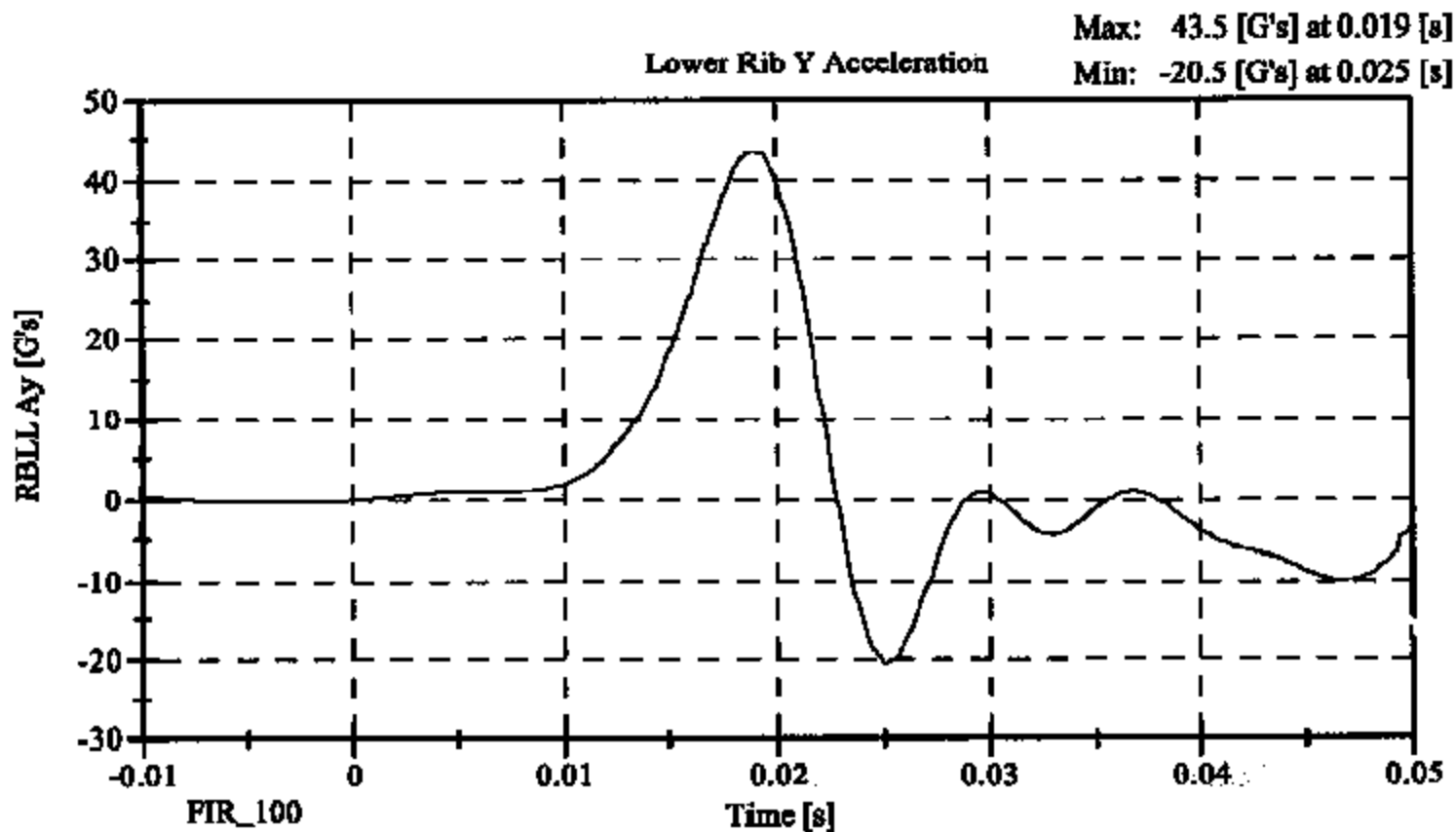
SID Serial No.: 016 Sequential Test Number: 2
Date: July 10, 2002 Laboratory Technician: B. Swieczki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	28.0
PROBE SPEED (m/s)	4.27 - 4.33	4.30
UPPER RIB (g's)	37 - 46	45.62
LOWER RIB (g's)	37 - 46	43.47
LOWER SPINE (g's)	15 - 22	21.80

REMARKS: None







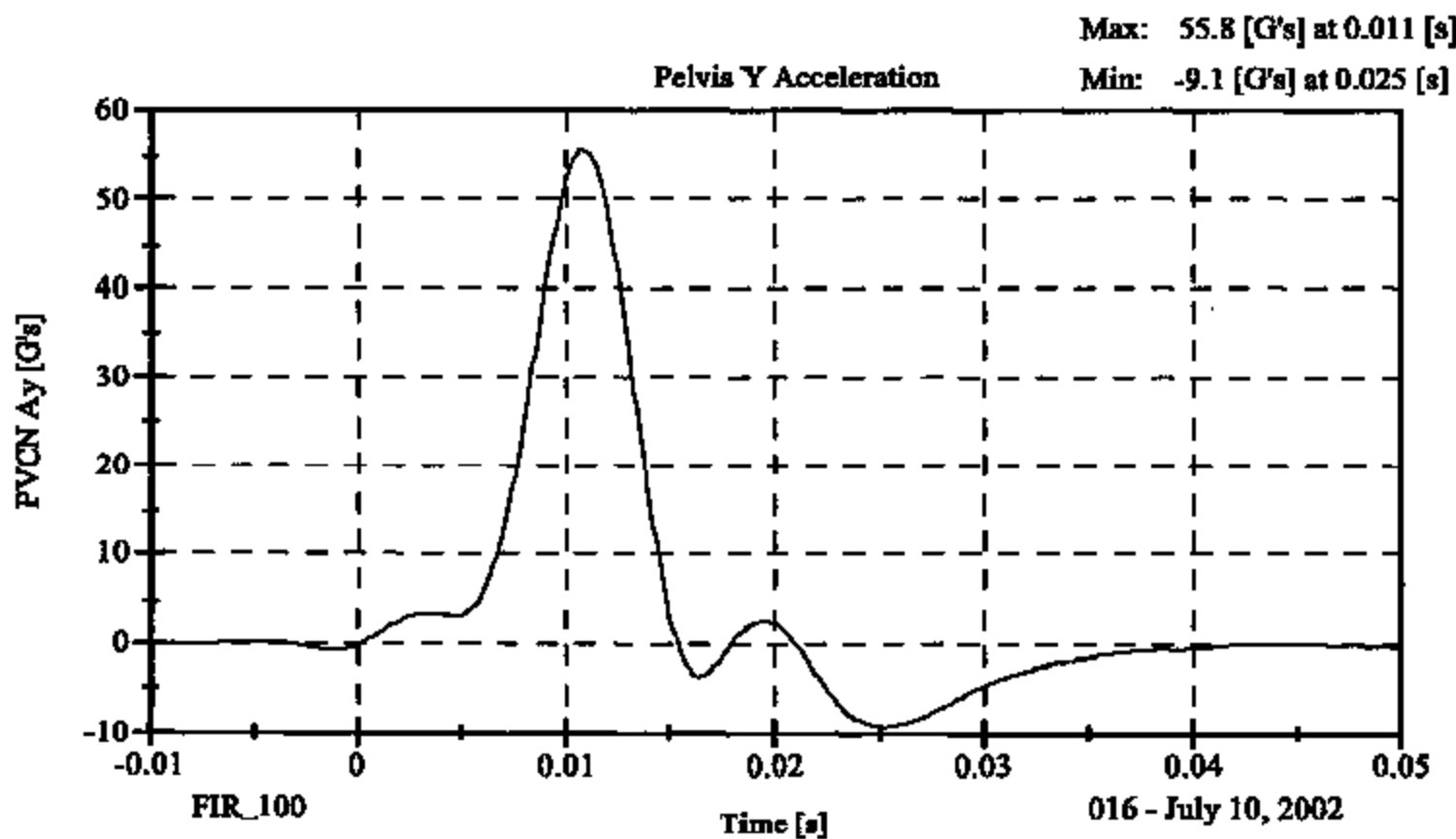
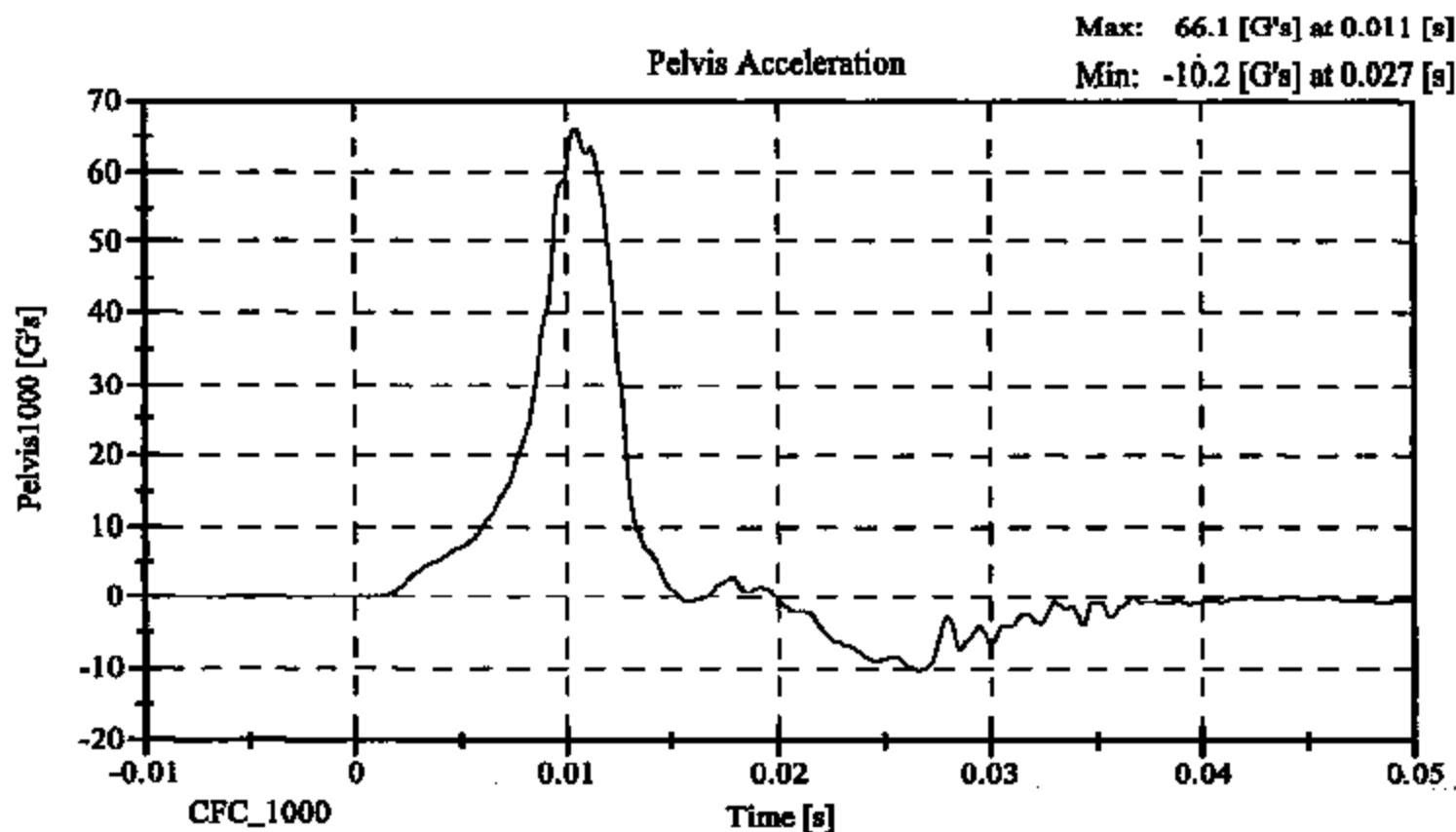
**LATERAL PELVIS IMPACT TEST
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 016 Sequential Test Number: 2
Date: July 10, 2002 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	20.6
RELATIVE HUMIDITY (%)	10 - 70	25.0
PROBE SPEED (m/s)	4.27 - 4.33	4.32
PELVIS ACCELERATION (g's)	40 - 60	55.80

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: July 9, 2002 Laboratory Technician: B. Swieclcki

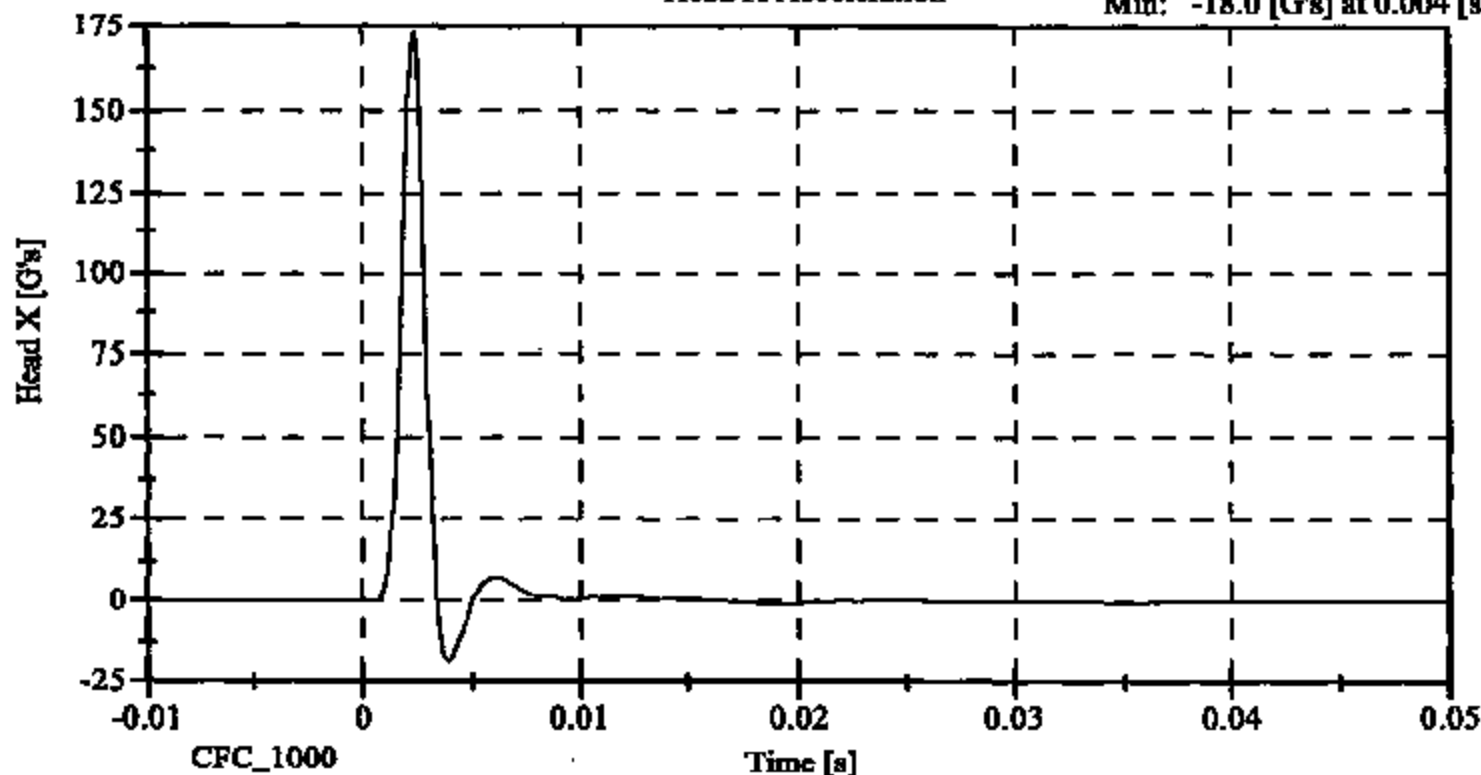
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	20.7
RELATIVE HUMIDITY (%)	10 - 70	32.0
PEAK RESULTANT ACCELERATION (Gs)	210 - 260	218.05
PEAK LATERAL ACCELERATION (Gs)	Not to Exceed 10	3.33
UNIMODAL CRITERIA ABOVE 100 Gs (ms)	0.9 - 1.5	1.23

REMARKS: None

Head X Acceleration

Max: 172.9 [G's] at 0.002 [s]

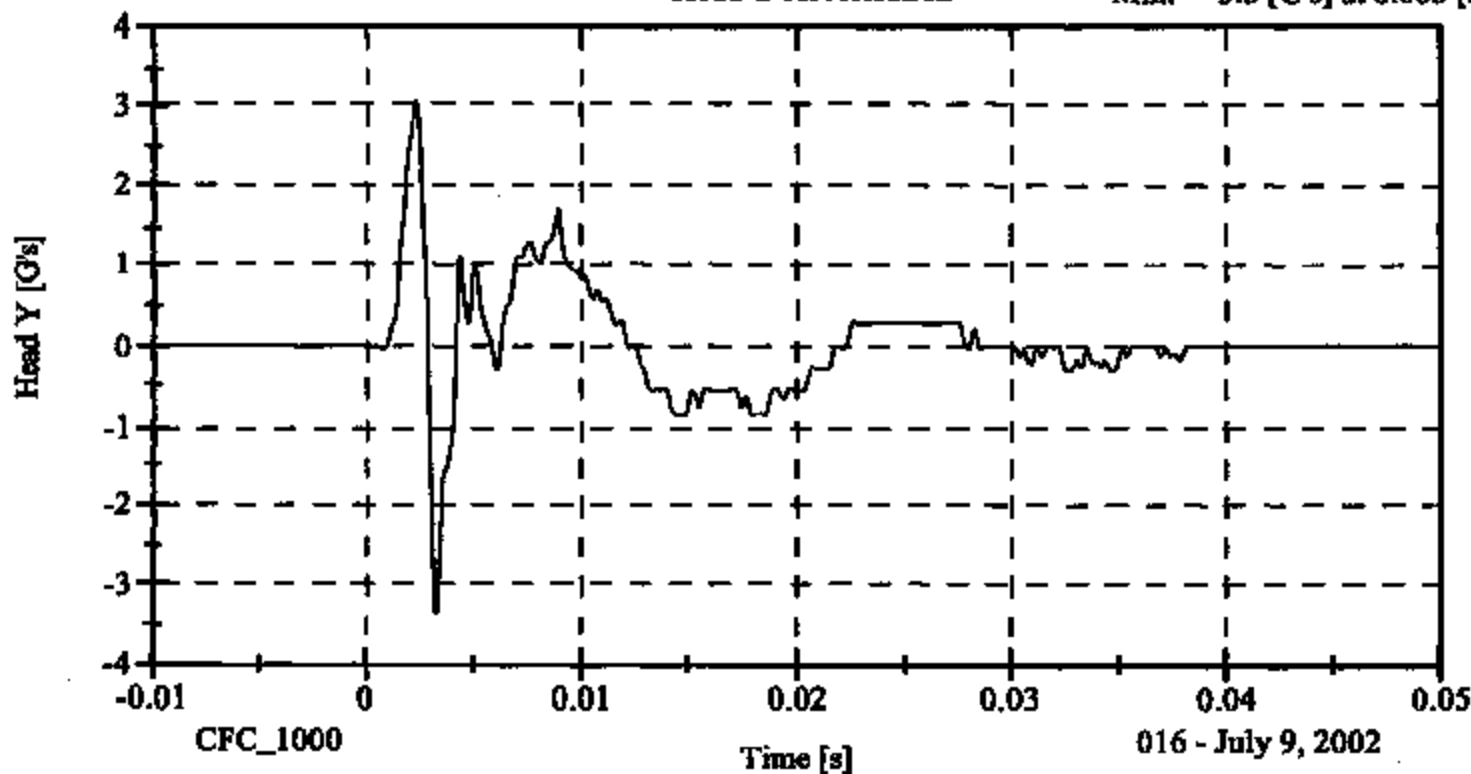
Min: -18.0 [G's] at 0.004 [s]



Head Y Acceleration

Max: 3.0 [G's] at 0.002 [s]

Min: -3.3 [G's] at 0.003 [s]

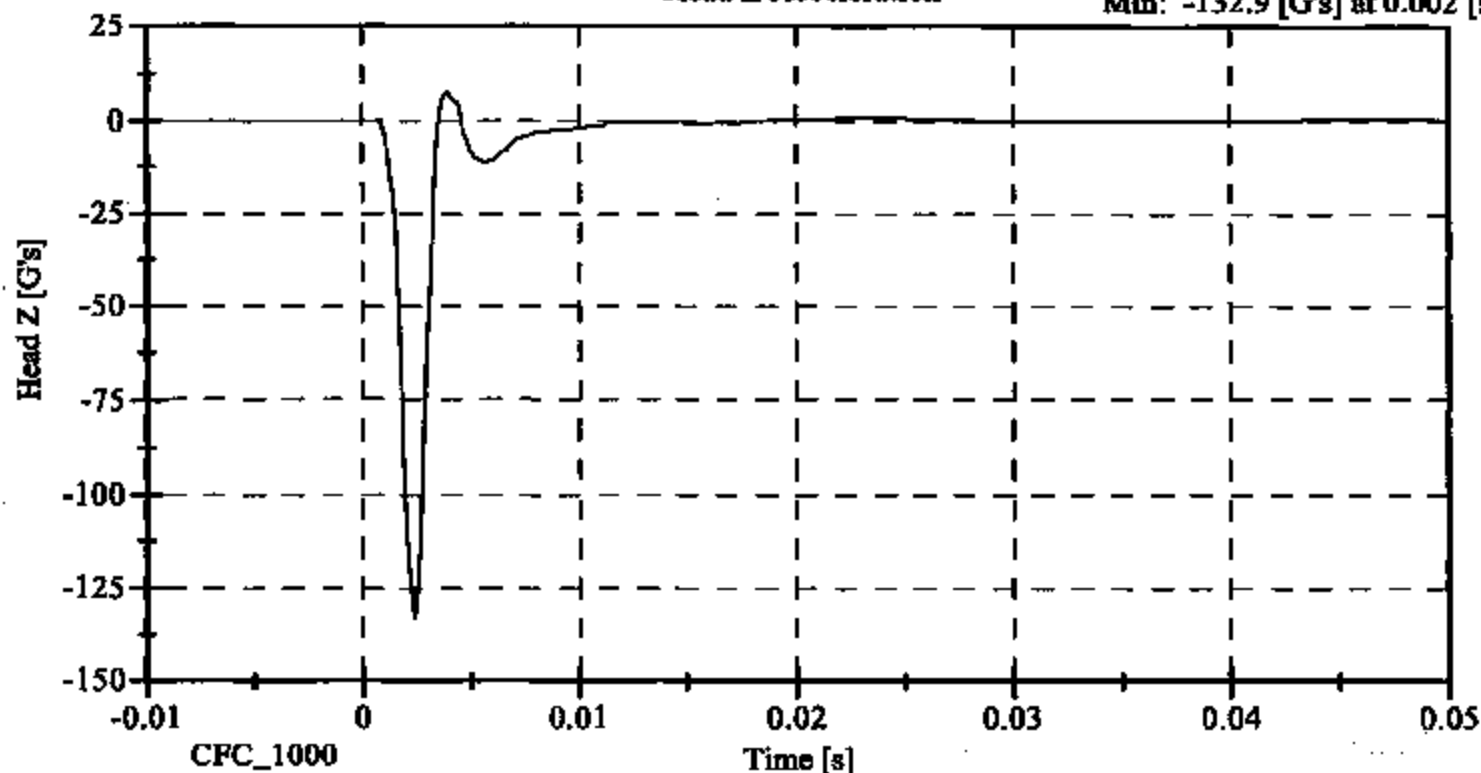


016 - July 9, 2002

016 Head Drop

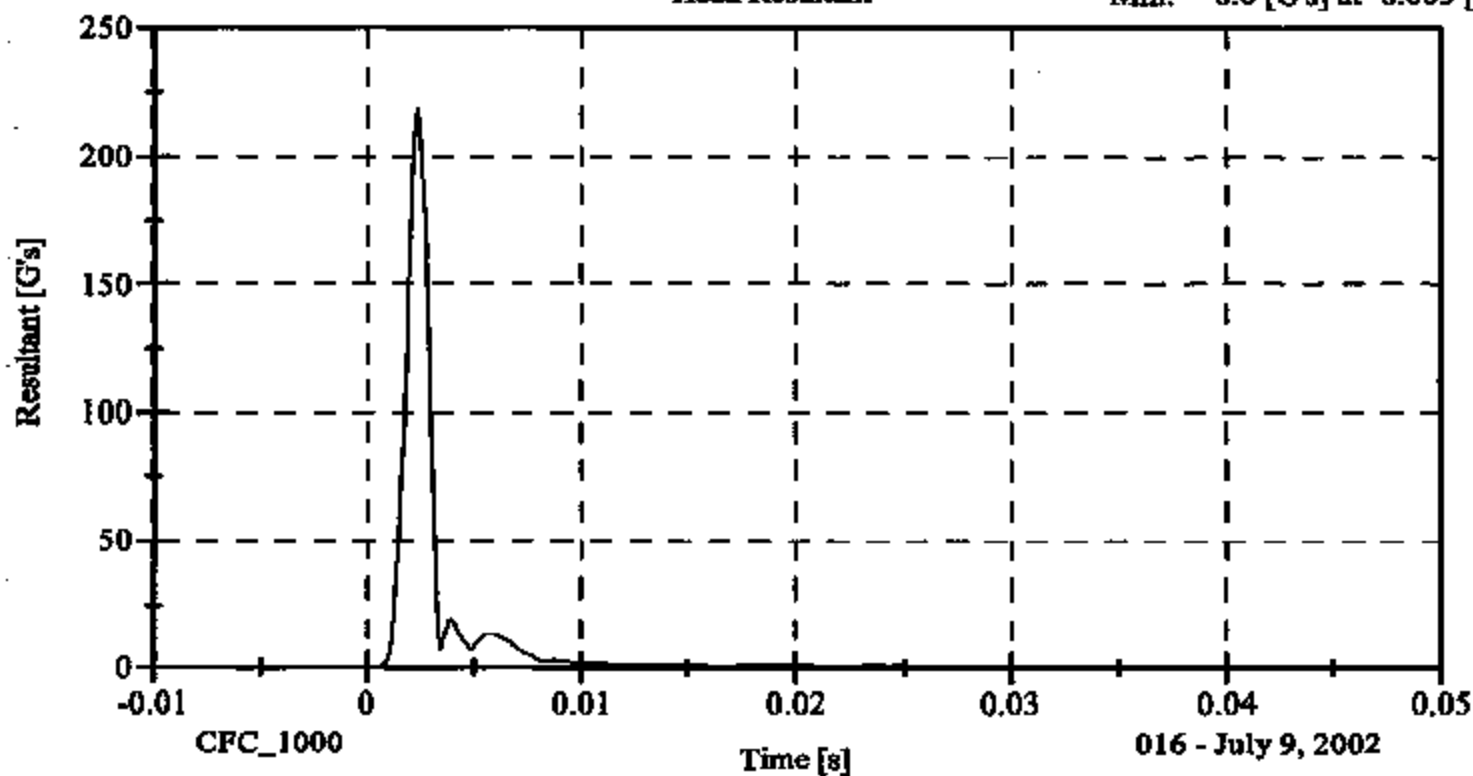
Head Z Acceleration

Max: 7.0 [G's] at 0.004 [s]
Min: -132.9 [G's] at 0.002 [s]



Head Resultant

Max: 218.1 [G's] at 0.002 [s]
Min: 0.0 [G's] at -0.005 [s]



016 - July 9, 2002

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: July 9, 2002

Laboratory Technician:

B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	20.7
RELATIVE HUMIDITY (%)	10 - 70	31.0
FORCE @ 13 mm (N)	104 - 162	111.2
FORCE @ 19 mm (N)	163 - 221	173.5
FORCE @ 25 mm (N)	222 - 280	249.1
FORCE @ 33 mm (N)	325 - 391	356.7

REMARKS: None

Dummy S/N 016

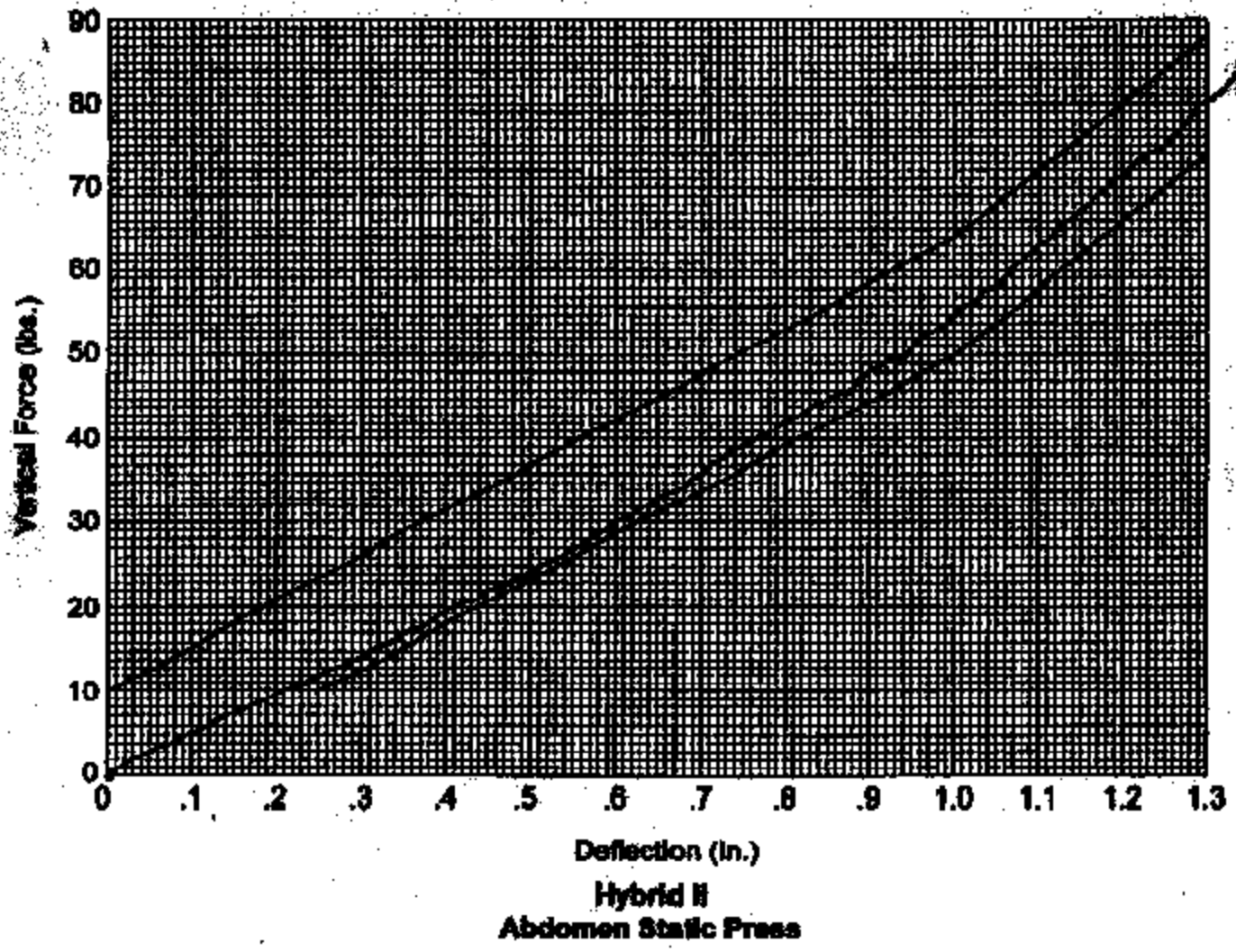
W/A _____

Date 7-9-02

Performed By [Signature]

Temp. 70°

Humidity 31%



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

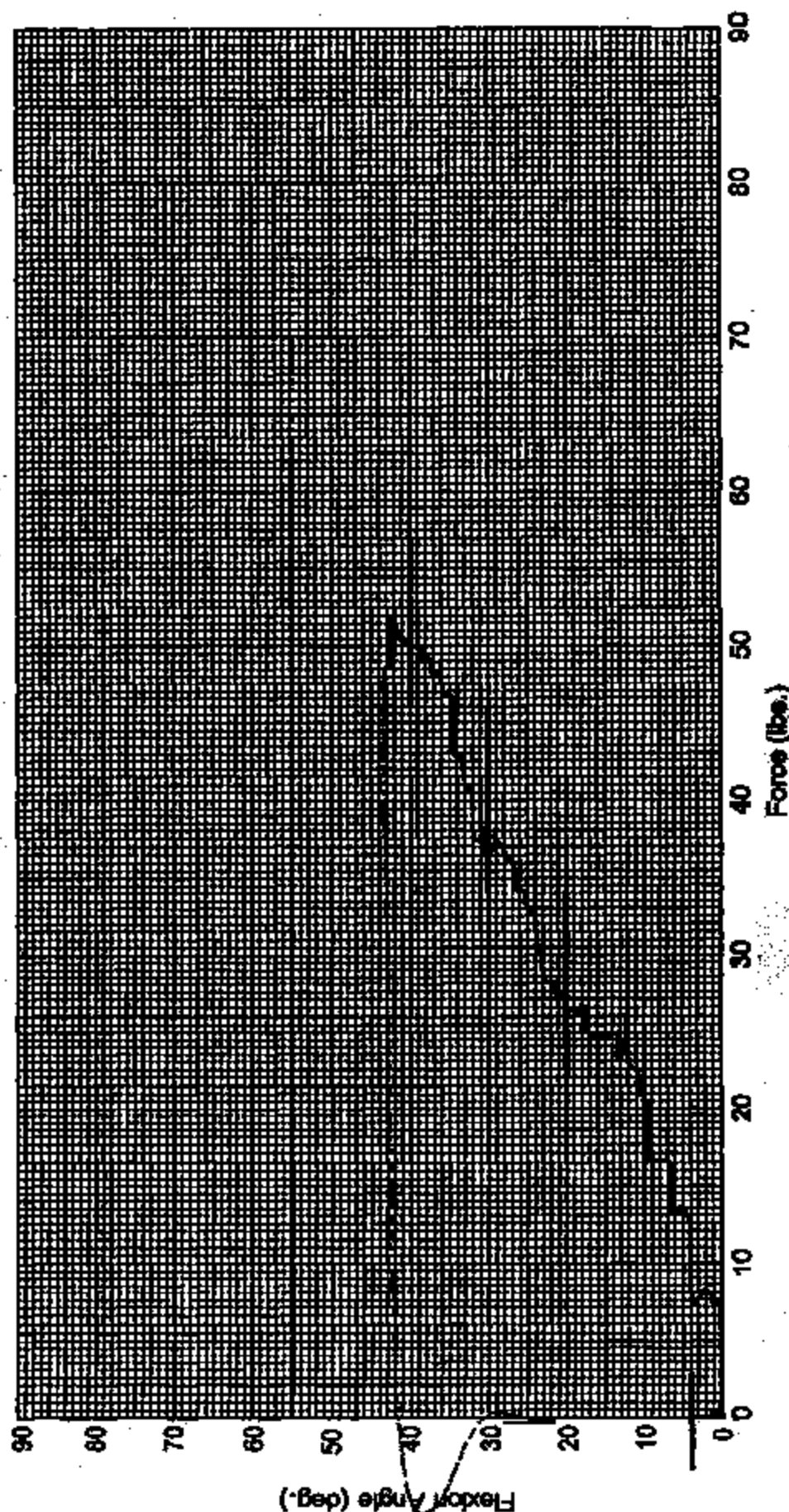
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 016 Sequential Test Number: 2
Date: July 8, 2002 Laboratory Technician: B. Swisciaki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.7
RELATIVE HUMIDITY (%)	10 - 70	32.0
FORCE @ 0° (N)	0 - 26.7	0.0
FORCE @ 20° (N)	97.8 - 151.2	117.9
FORCE @ 30° (N)	151.2 - 204.6	163.5
FORCE @ 40° (N)	204.6 - 258	222.4
RETURN ANGLE	12° max.	4°

REMARKS: None

Duponty SIN 016
 WIA _____
 Date 7-8-02
 Performed By [Signature]
 Temp. 71°
 Humidity 33%



Hybrid II Lumber Spine Flexion Test

PRE-TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 016 Sequential Test Number: 2
 Date: July 11, 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.: 015

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 015 Sequential Test Number: 3
Date: January 2, 2003 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.: 015 Sequential Test Number: 3
Date: January 2, 2003 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SF- Seated Height (mm)	889 - 909	902
RH- Rib Height (mm)	502 - 520	511
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	521
KV- Knee Pivot to Floor (mm)	490 - 505	493
HW- Hip Width (mm)	356 - 391	373

REMARKS: None

**LATERAL THORAX IMPACT TEST
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 015

Sequential Test Number:

3

Date: January 2, 2003

Laboratory Technician:

B. Swiecicki

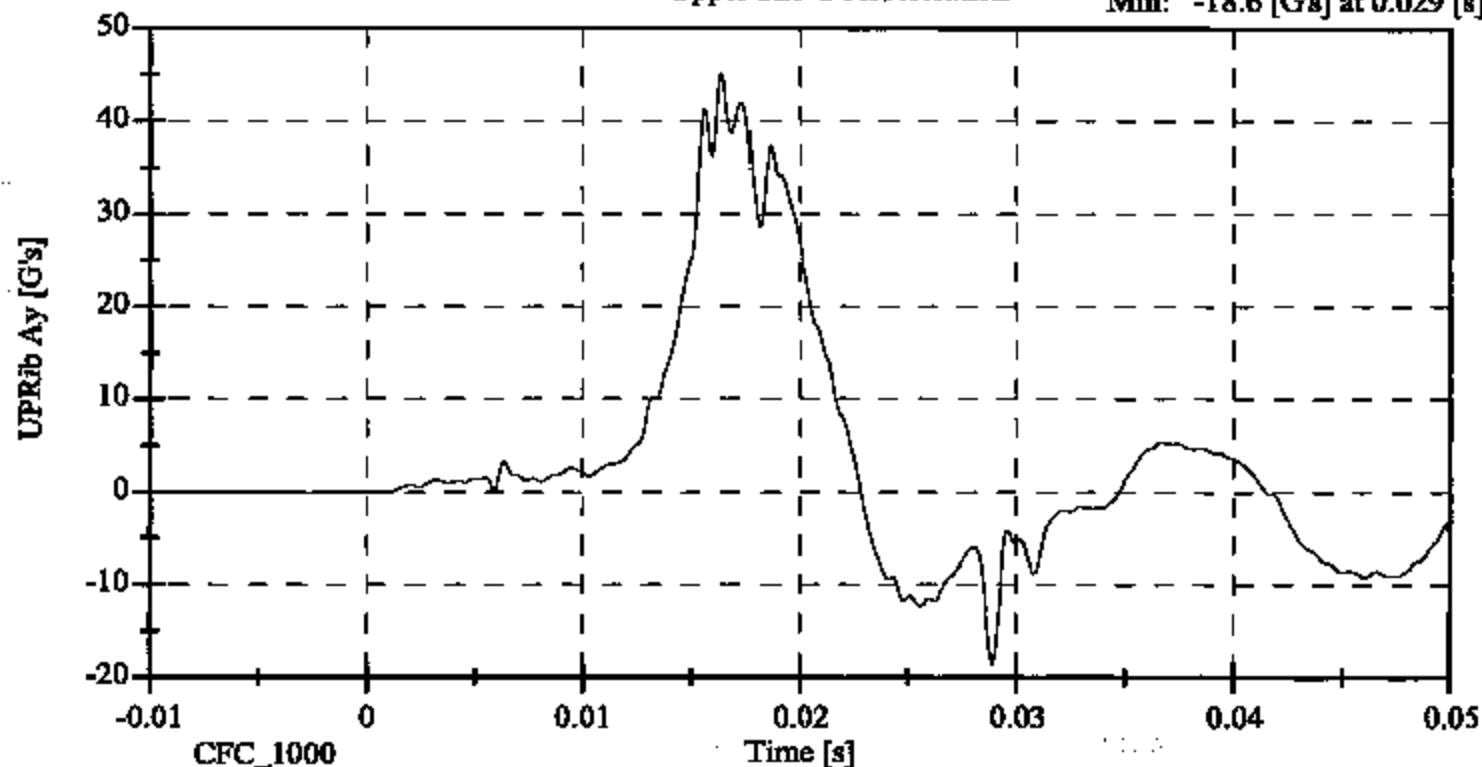
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	30.0
PROBE SPEED (m/s)	4.27 - 4.33	4.32
UPPER RIB (g's)	37 - 46	39.83
LOWER RIB (g's)	37 - 46	38.85
LOWER SPINE (g's)	15 - 22	18.97

REMARKS: None

Upper Rib Y Acceleration

Max: 45.1 [G's] at 0.016 [s]

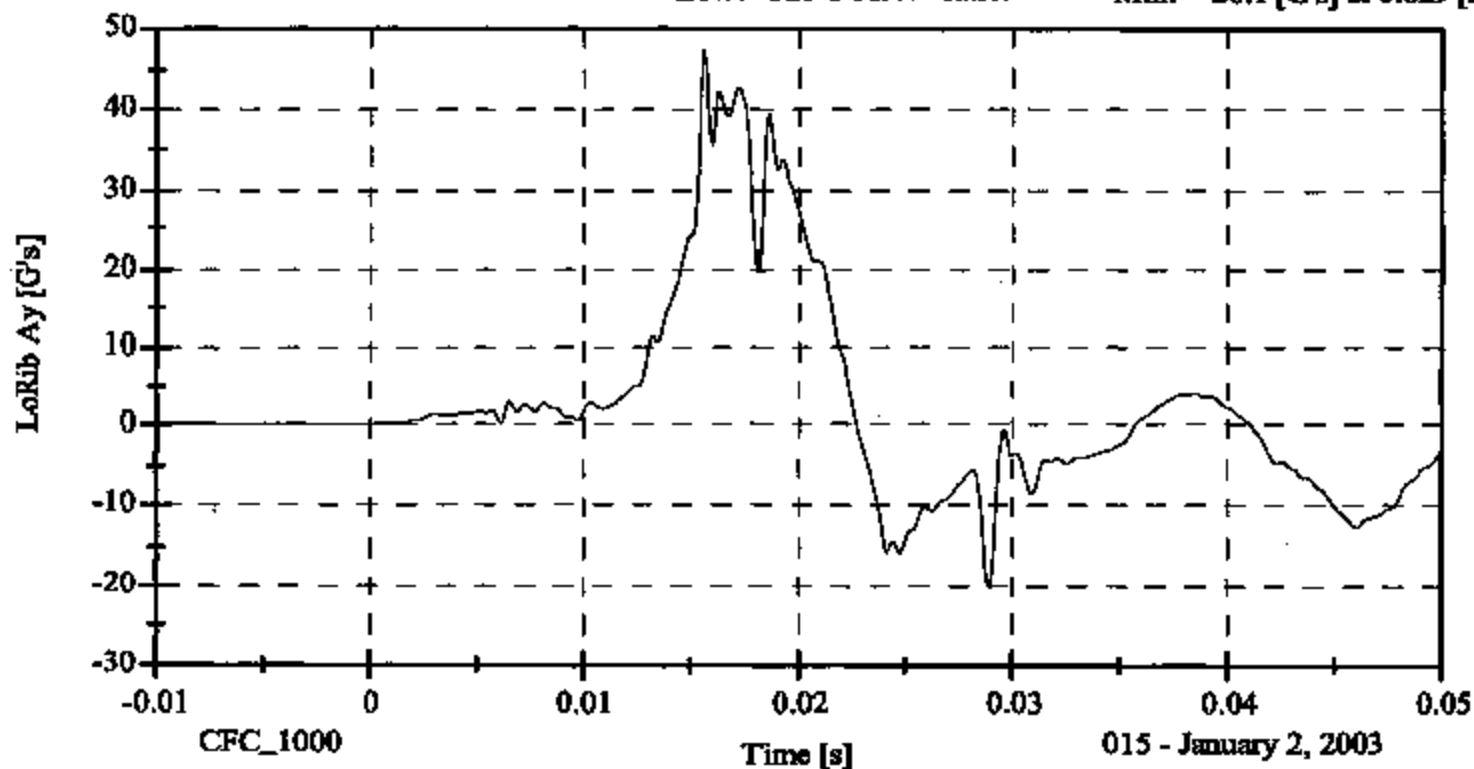
Min: -18.6 [G's] at 0.029 [s]

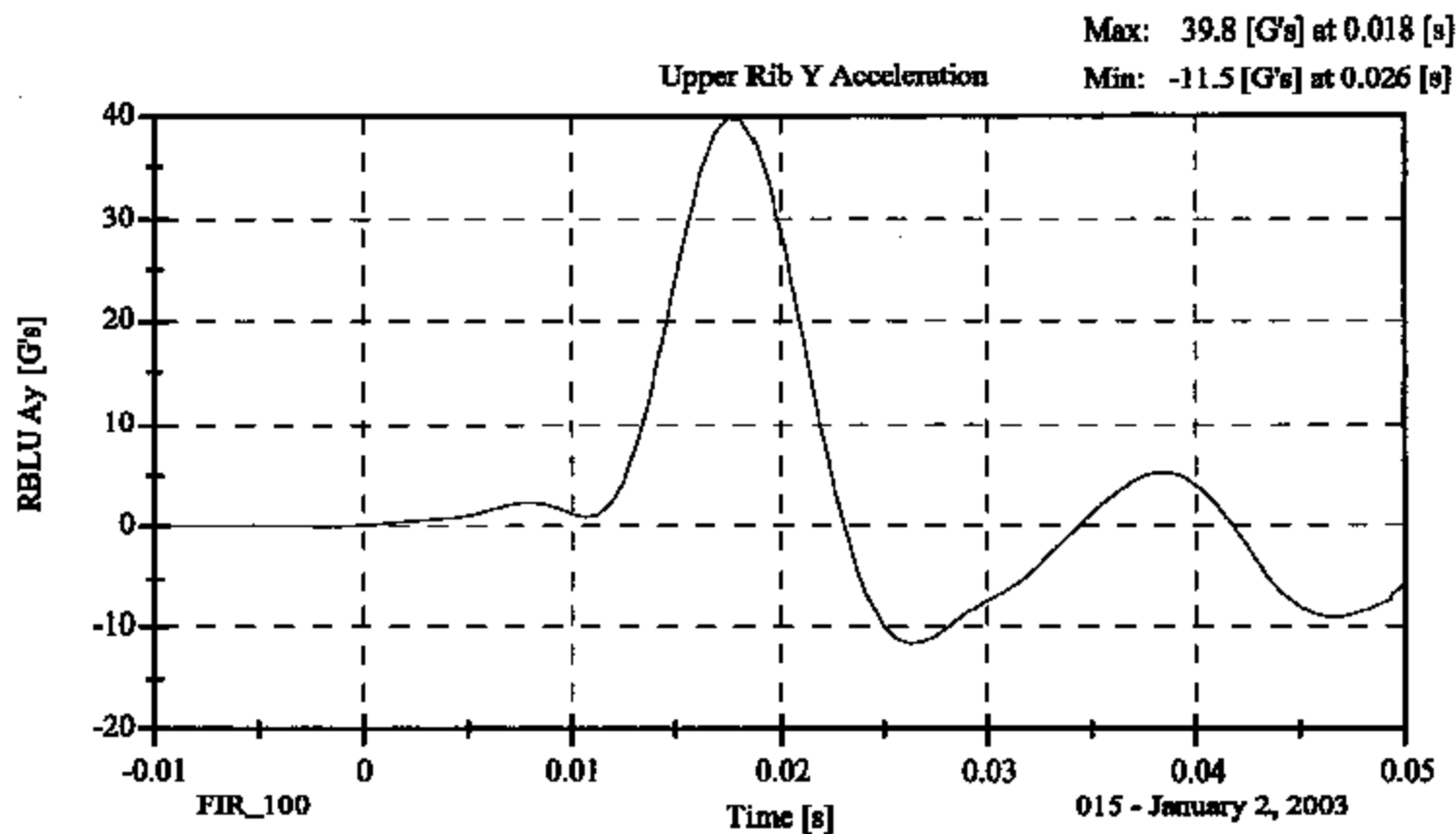
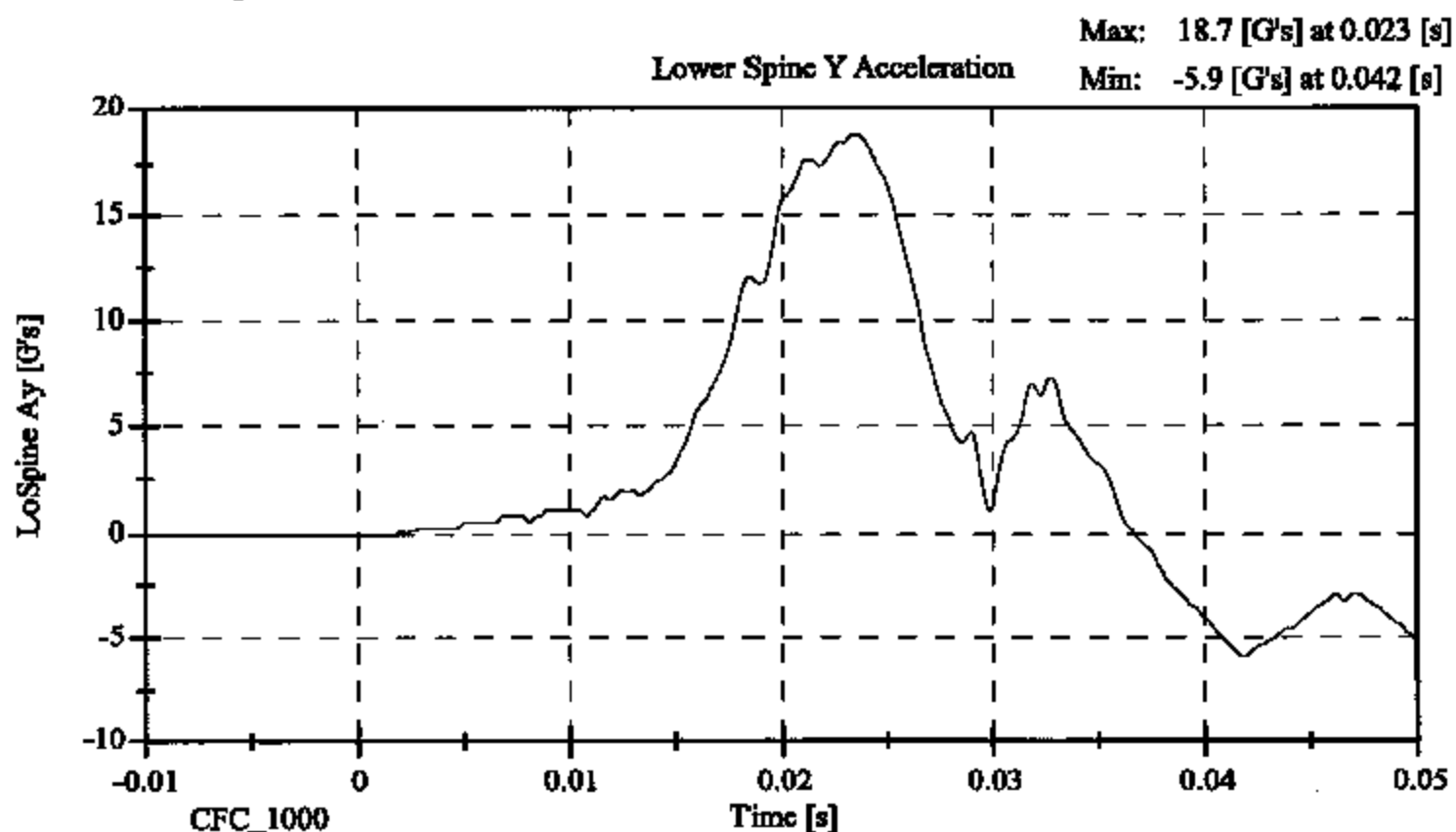


Lower Rib Y Acceleration

Max: 47.2 [G's] at 0.016 [s]

Min: -20.1 [G's] at 0.029 [s]



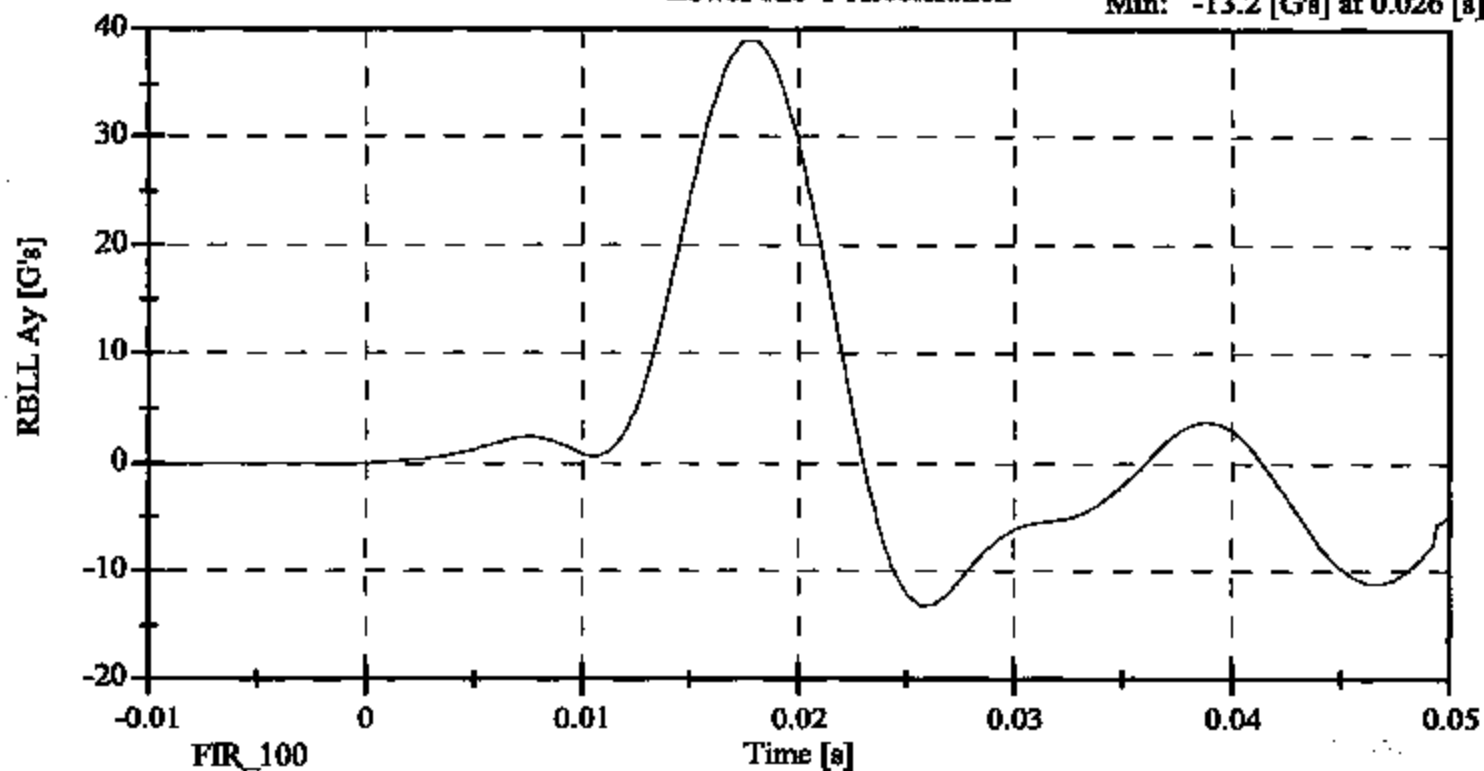


015 - January 2, 2003

Lower Rib Y Acceleration

Max: 38.9 [G's] at 0.018 [s]

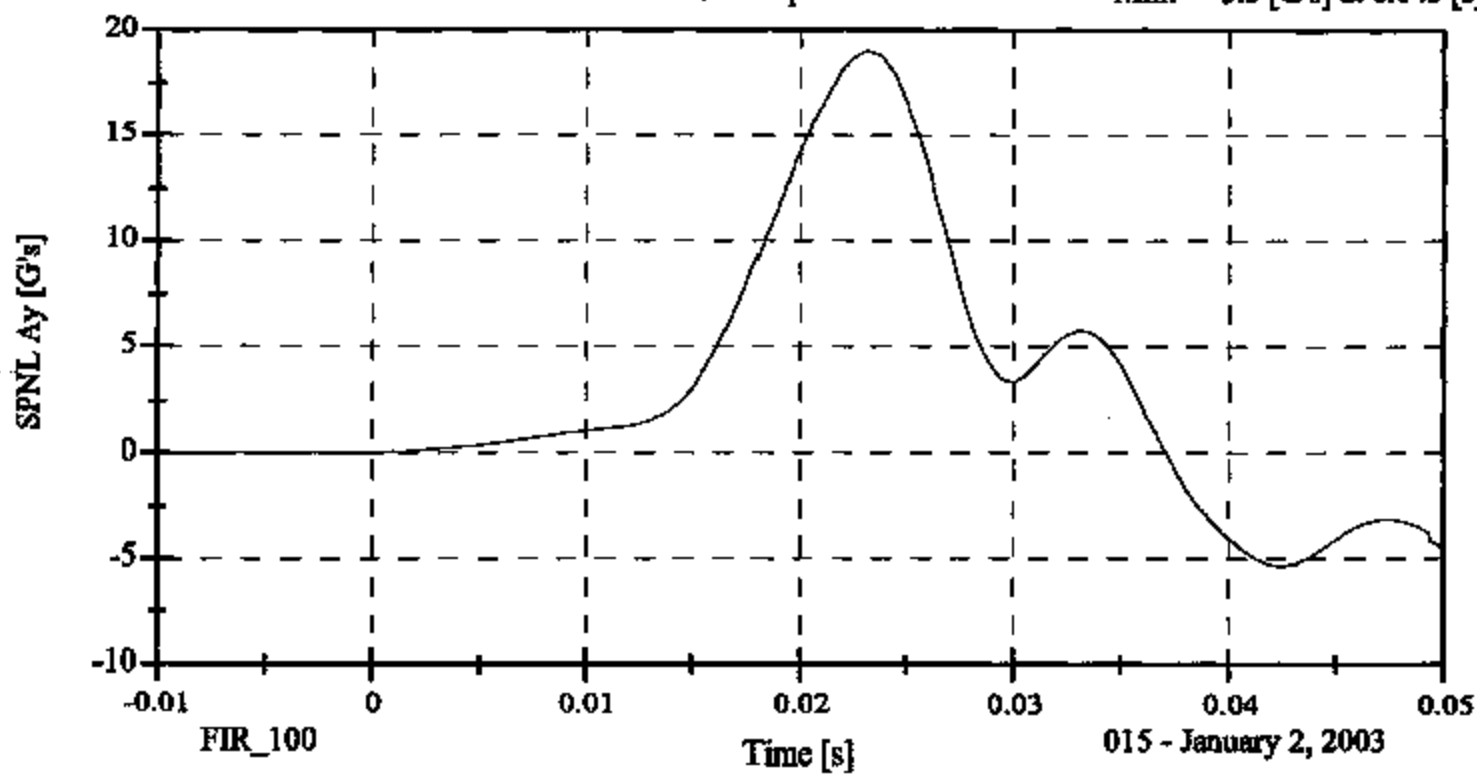
Min: -13.2 [G's] at 0.026 [s]



Lower Spine Y Acceleration

Max: 19.0 [G's] at 0.023 [s]

Min: -5.3 [G's] at 0.043 [s]

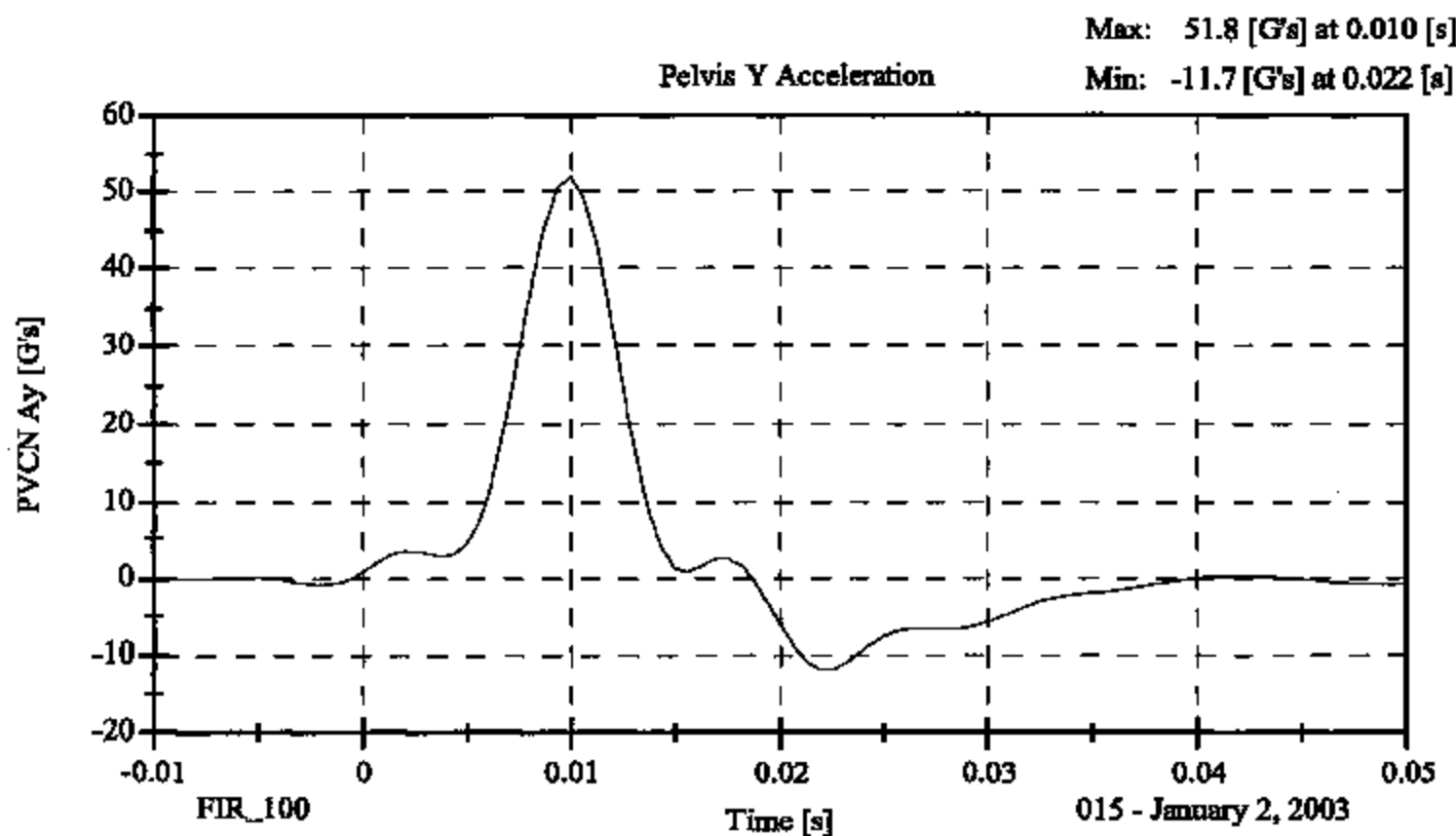
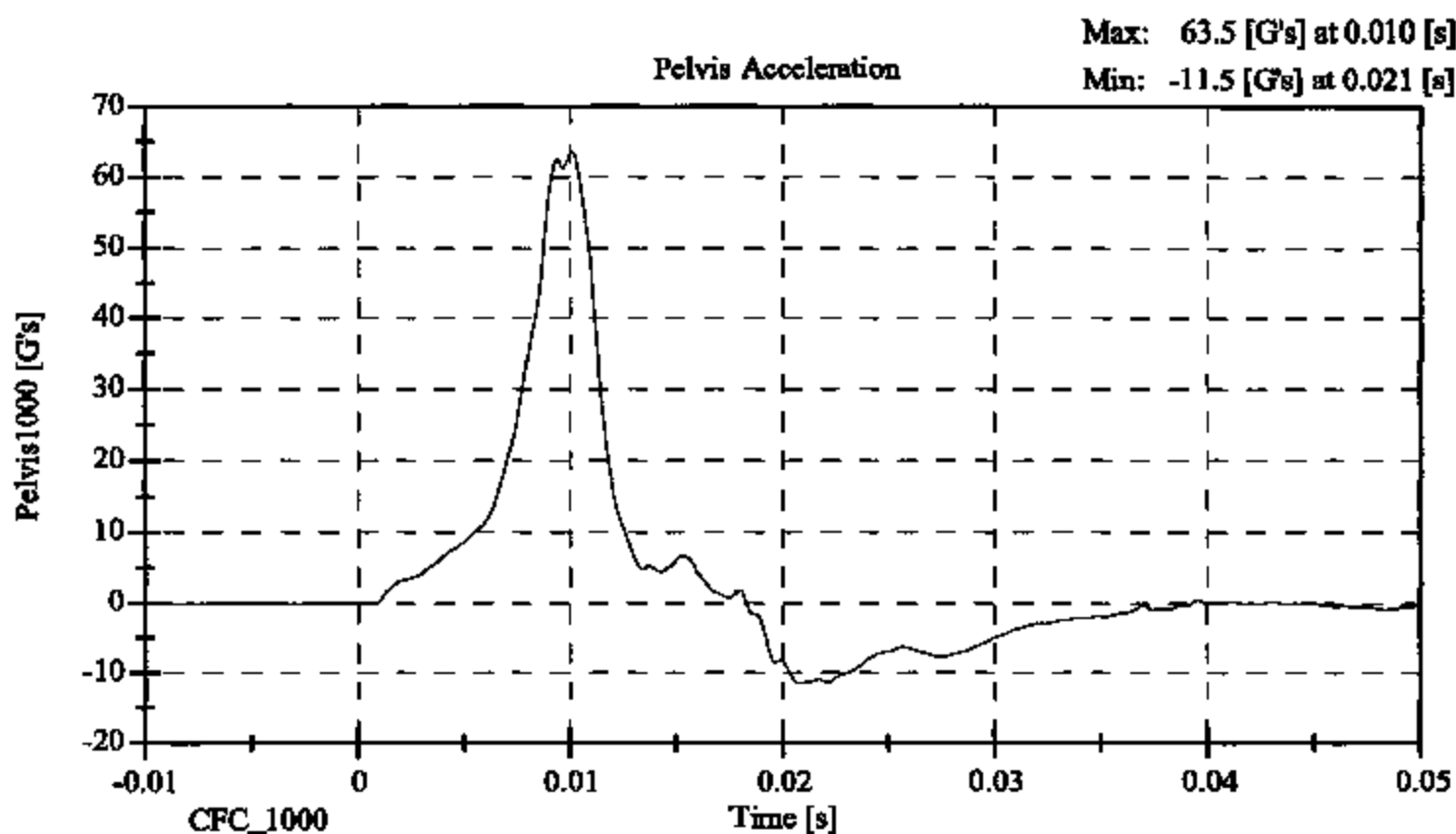


**LATERAL PELVIS IMPACT TEST
POST TEST
CONFIGURED FOR LEFT SIDE IMPACT**

SID Serial No.: 015 Sequential Test Number: 3
Date: January 2, 2003 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	32.0
PROBE SPEED (m/s)	4.27 - 4.33	4.32
PELVIS ACCELERATION (g's)	40 - 60	51.78

REMARKS: None



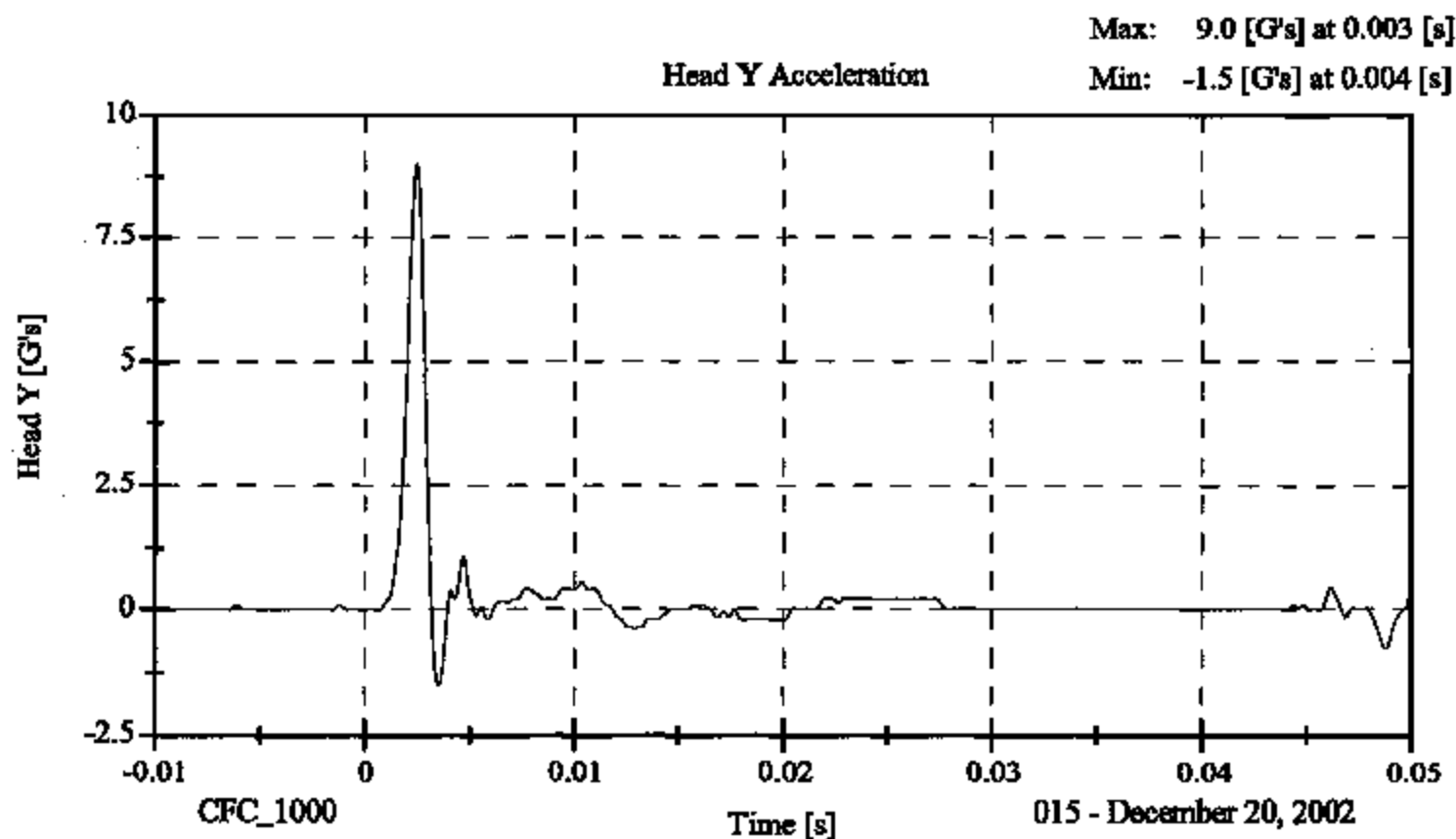
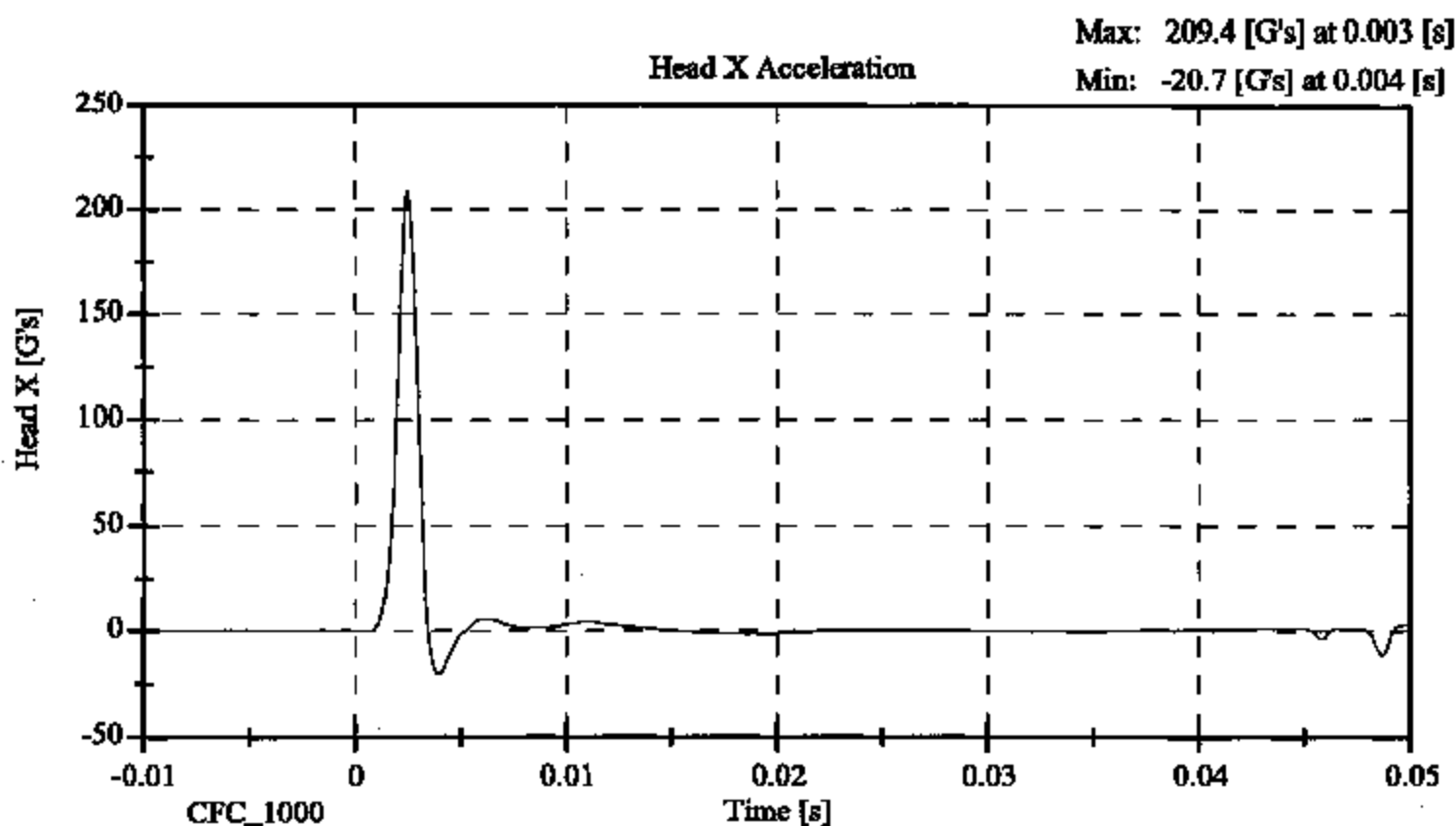
**HEAD DROP TEST
POST-TEST**
(Test not required for SID certification)

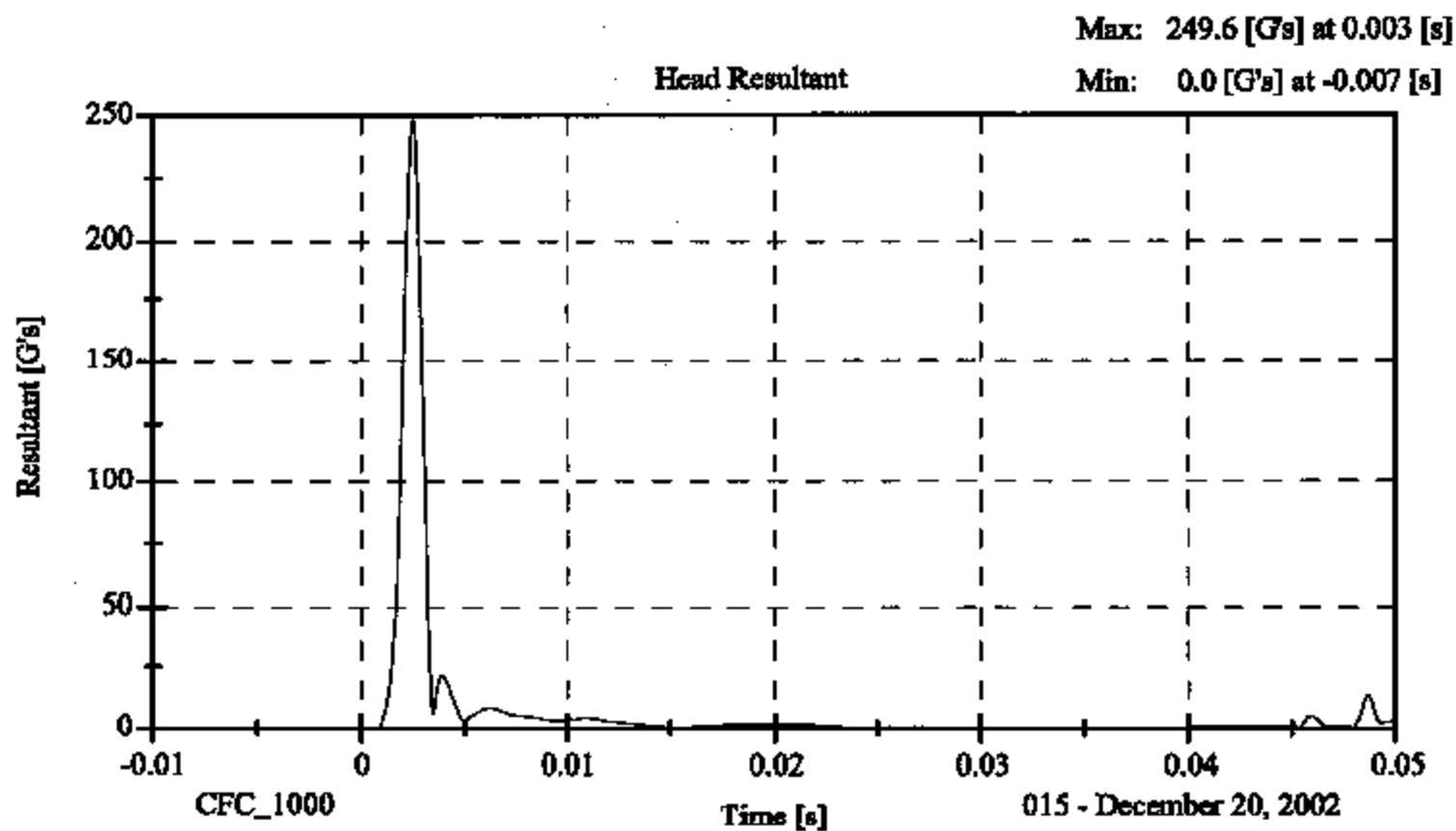
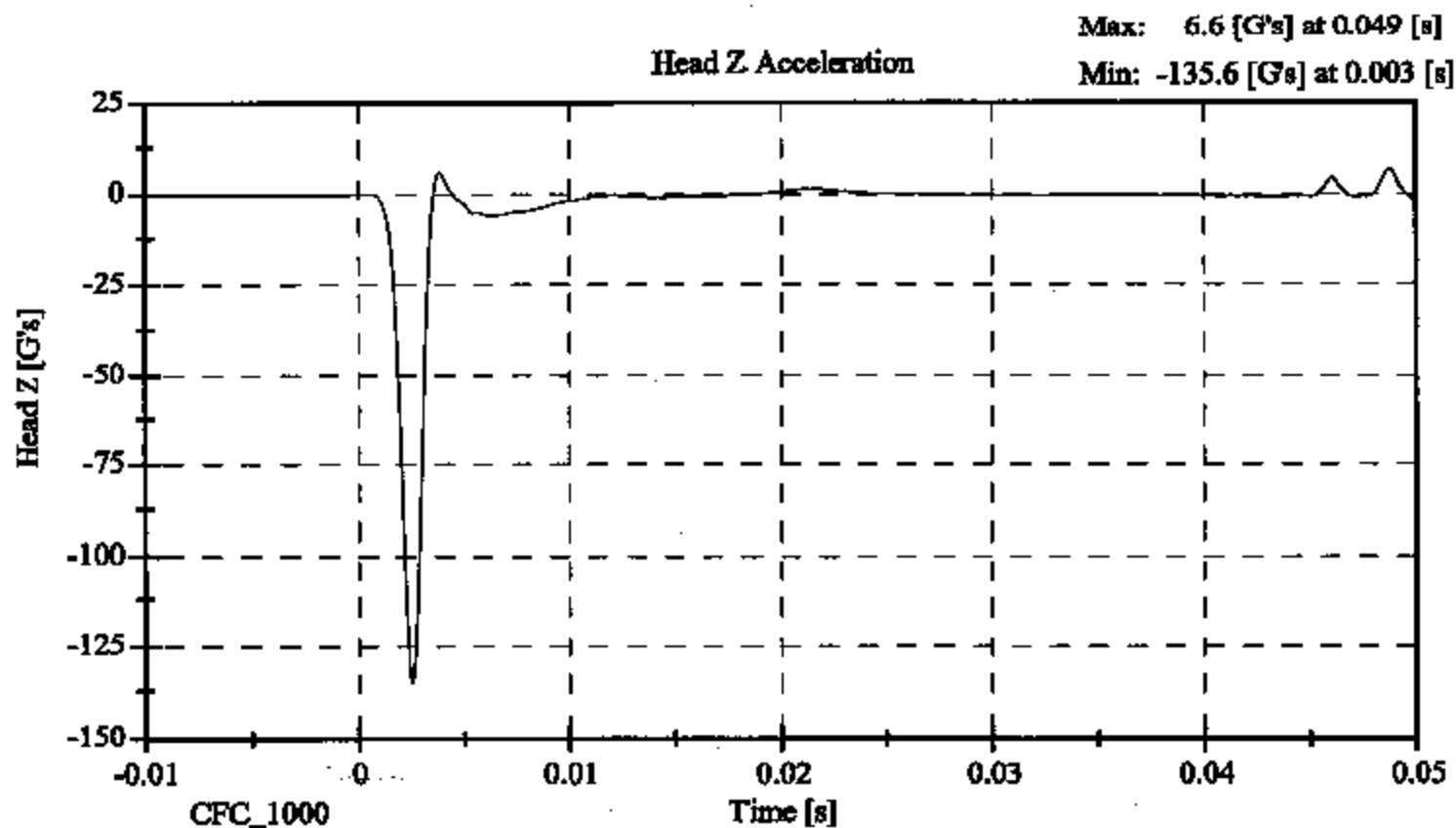
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 015 Sequential Test Number: 3
Date: December 20, 2002 Laboratory Technician: B. Swicicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	31.0
PEAK RESULTANT ACCELERATION (Gs)	210 - 260	249.62
PEAK LATERAL ACCELERATION (Gs)	Not to Exceed 10	8.98
UNIMODAL CRITERIA ABOVE 100 Gs (ms)	0.9 - 1.5	1.17

REMARKS: None





015 - December 20, 2002

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

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 015
Date: January 2, 2003

Sequential Test Number: 3
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	32.0
FORCE @ 13 mm (N)	104 - 162	120.1
FORCE @ 19 mm (N)	163 - 221	173.5
FORCE @ 25 mm (N)	222 - 280	240.2
FORCE @ 33 mm (N)	325 - 391	330.1

REMARKS: None

ORIGINAL

Dummy S/N 015

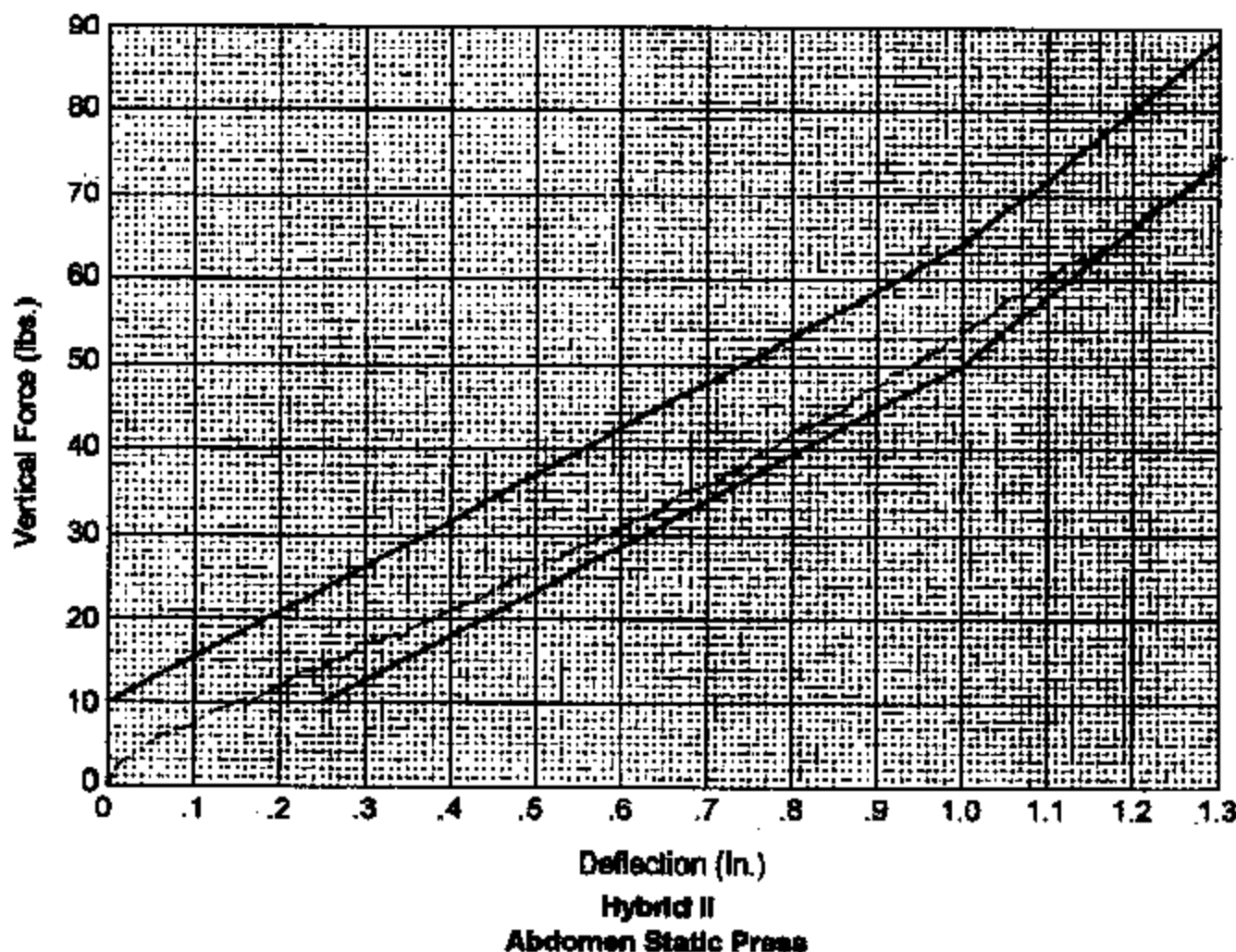
WIA _____

Date 1-02-03

Performed By RS

Temp. 70°

Humidity 32%



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

CONFIGURED FOR LEFT SIDE IMPACT

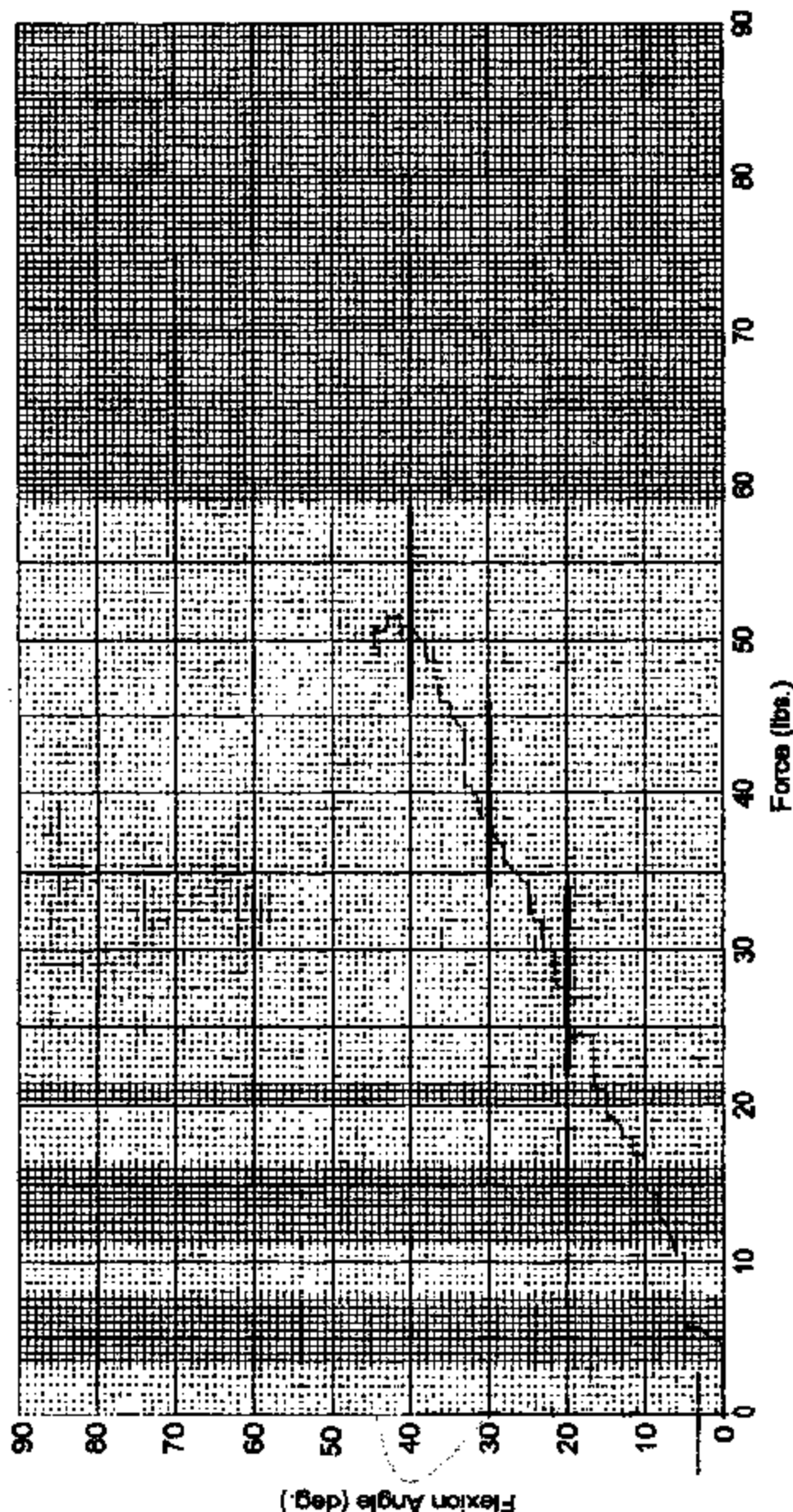
SID Serial No.:	<u>015</u>	Sequential Test Number:	<u>3</u>
Date:	<u>January 2, 2003</u>	Laboratory Technician:	<u>B. Swiecicki</u>

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	31.0
FORCE @ 0° (N)	0 - 26.7	0.0
FORCE @ 20° (N)	97.8 - 151.2	111.2
FORCE @ 30° (N)	151.2 - 204.6	172.4
FORCE @ 40° (N)	204.6 - 258	226.9
RETURN ANGLE	12° MAX.	3.1

REMARKS: None

ORIGINAL

Dummy SN 015
W/A _____
Date 1-02-03
Performed By BEJ
Temp. 70°
Humidity 31%



Hybrid II Lumbar Spine Flexion Test

POST TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 015 Sequential Test Number: 3
 Date: January 2, 2003 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: January 2, 2003 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: January 2, 2003

Laboratory Technician:

B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	902
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	368

REMARKS: None

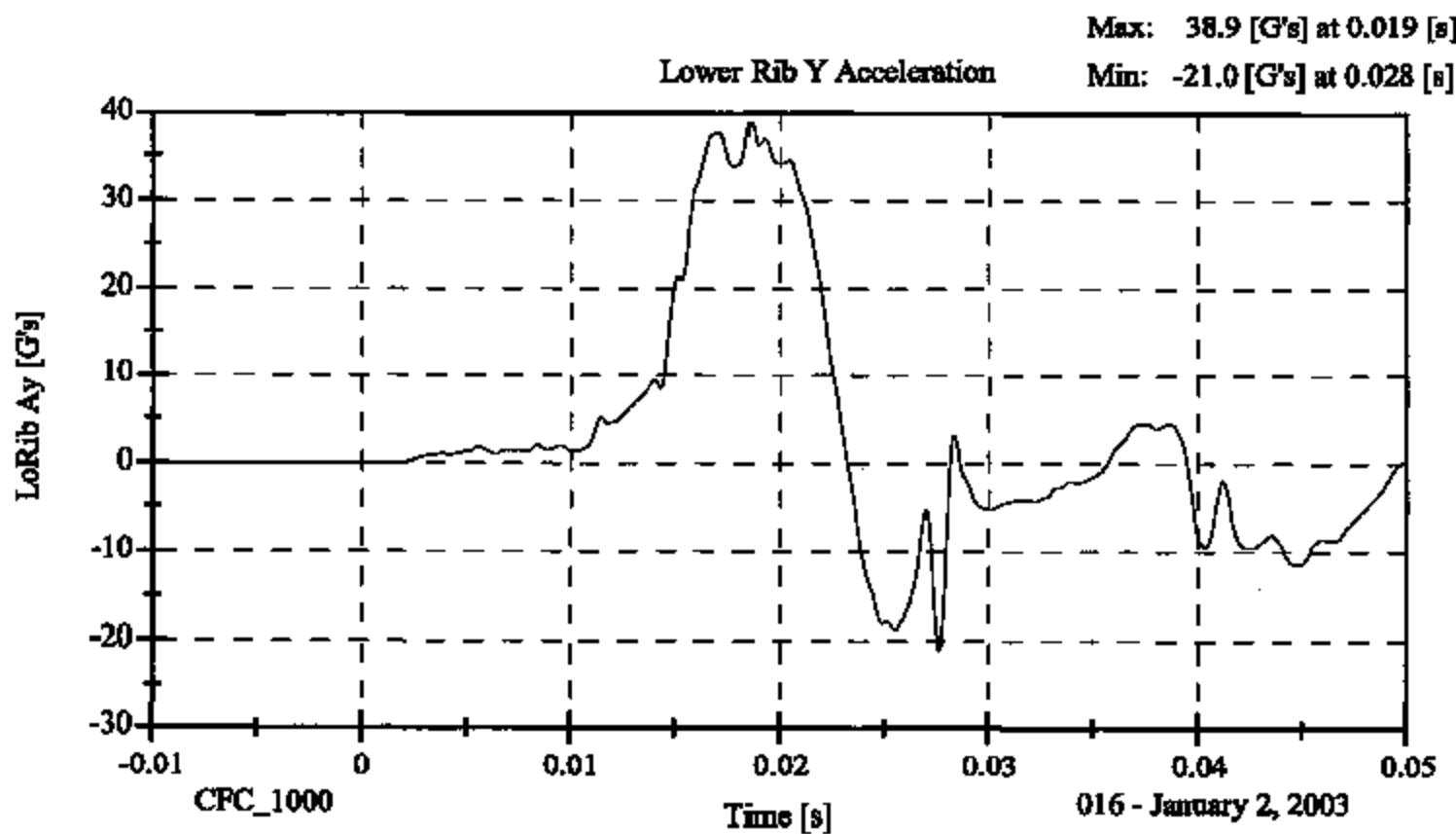
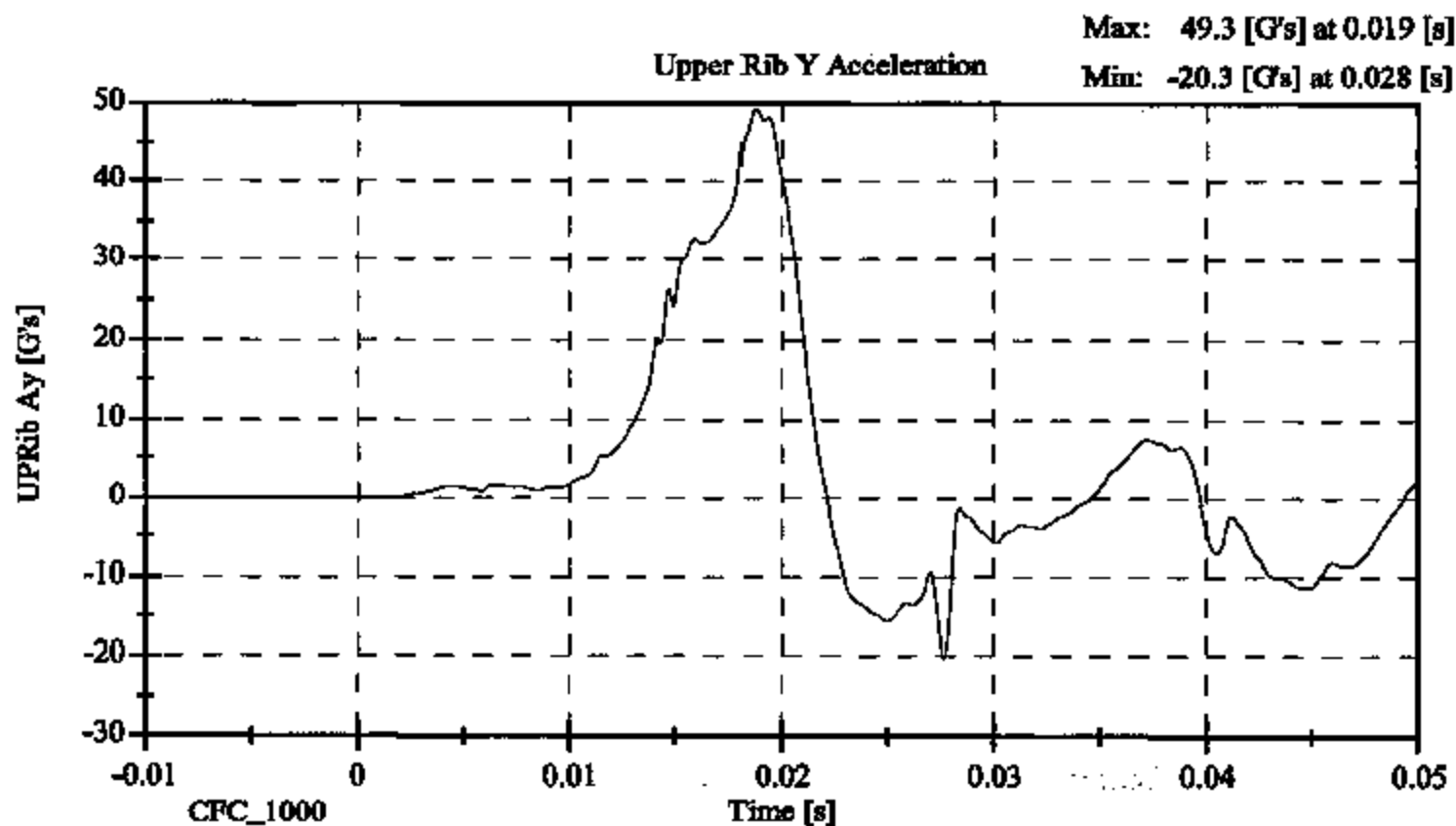
**LATERAL THORAX IMPACT TEST
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 016 Sequential Test Number: 3
Date: January 2, 2003 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	31.0
PROBE SPEED (m/s)	4.27 - 4.33	4.31
UPPER RIB (g's)	37 - 46	44.82
LOWER RIB (g's)	37 - 46	39.51
LOWER SPINE (g's)	15 - 22	20.93

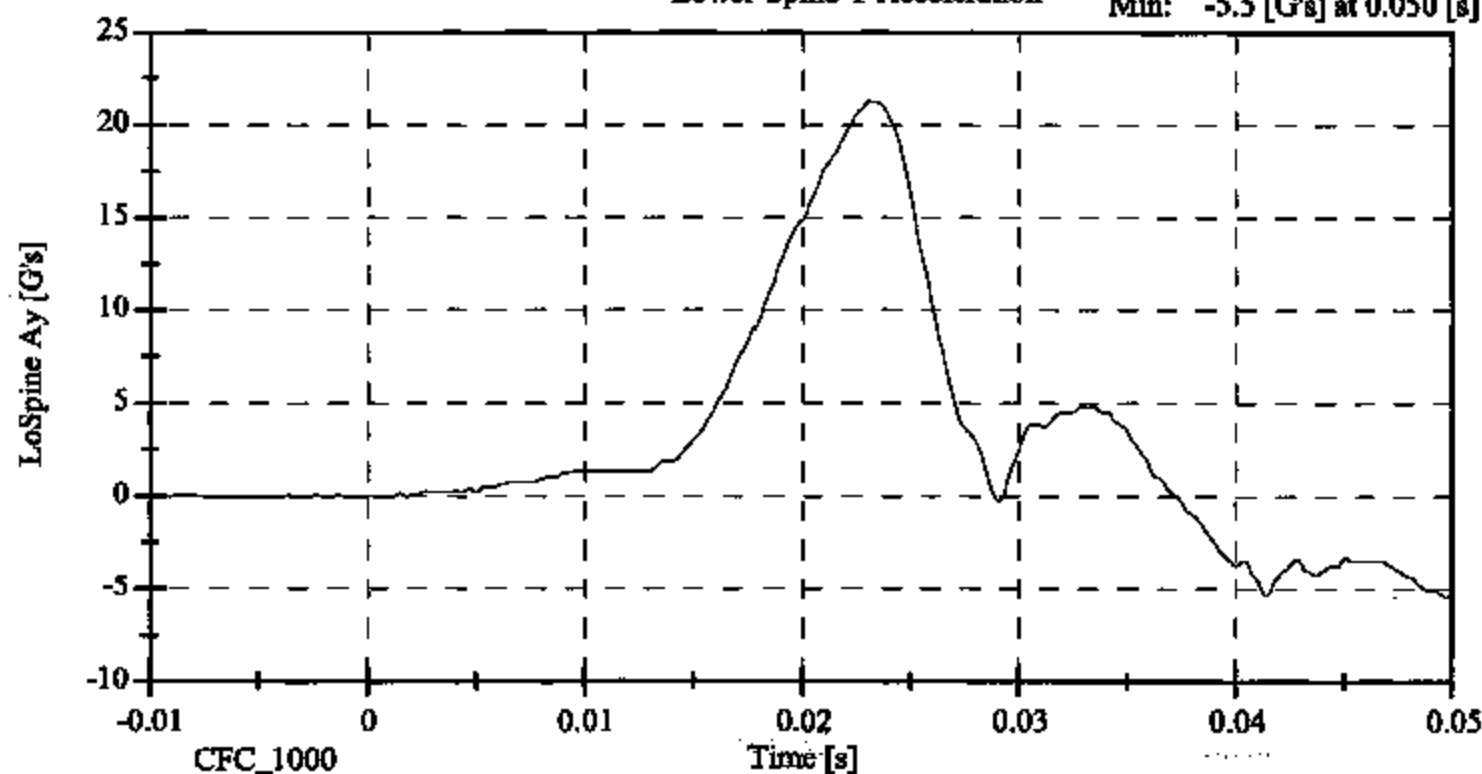
REMARKS: None



Lower Spine Y Acceleration

Max: 21.2 [G's] at 0.023 [s]

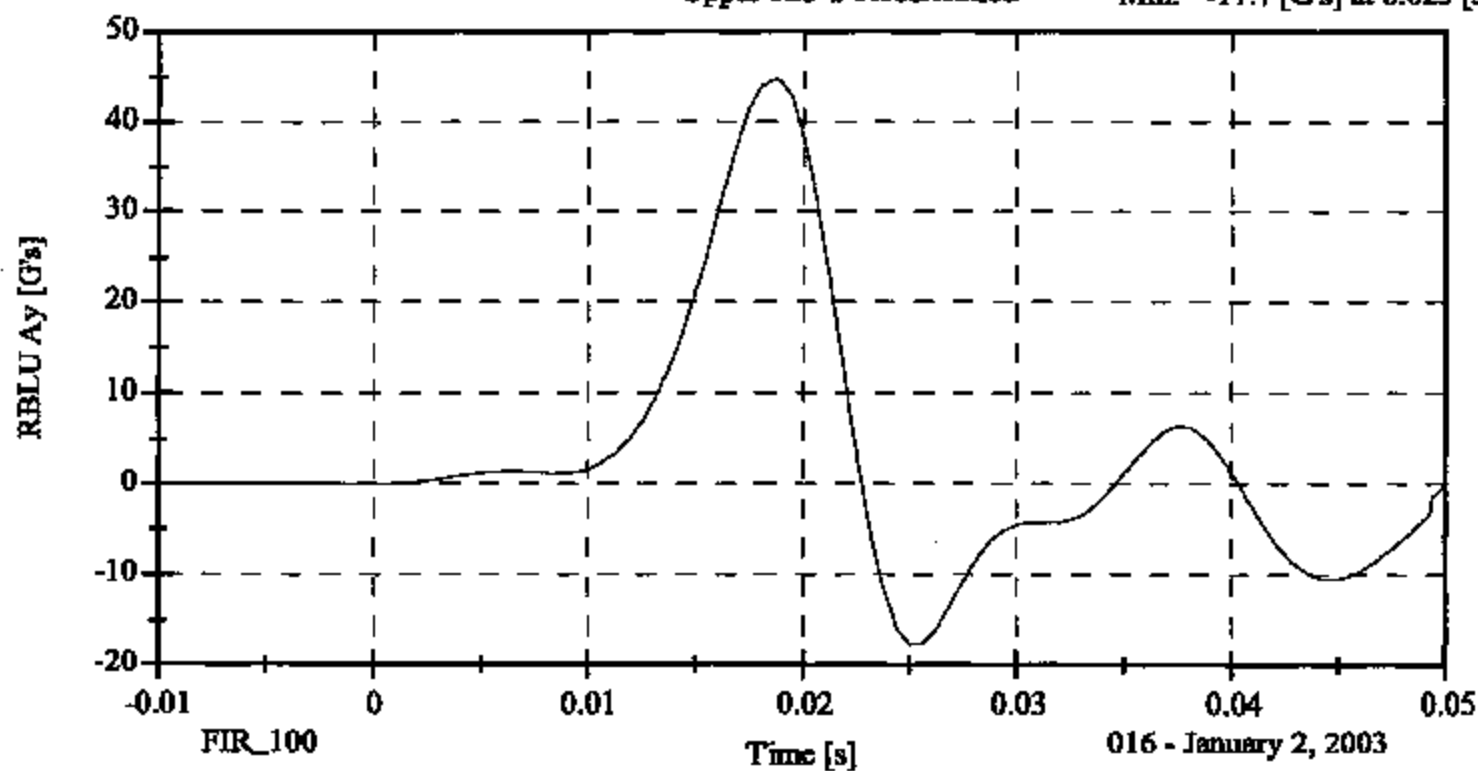
Min: -5.5 [G's] at 0.050 [s]



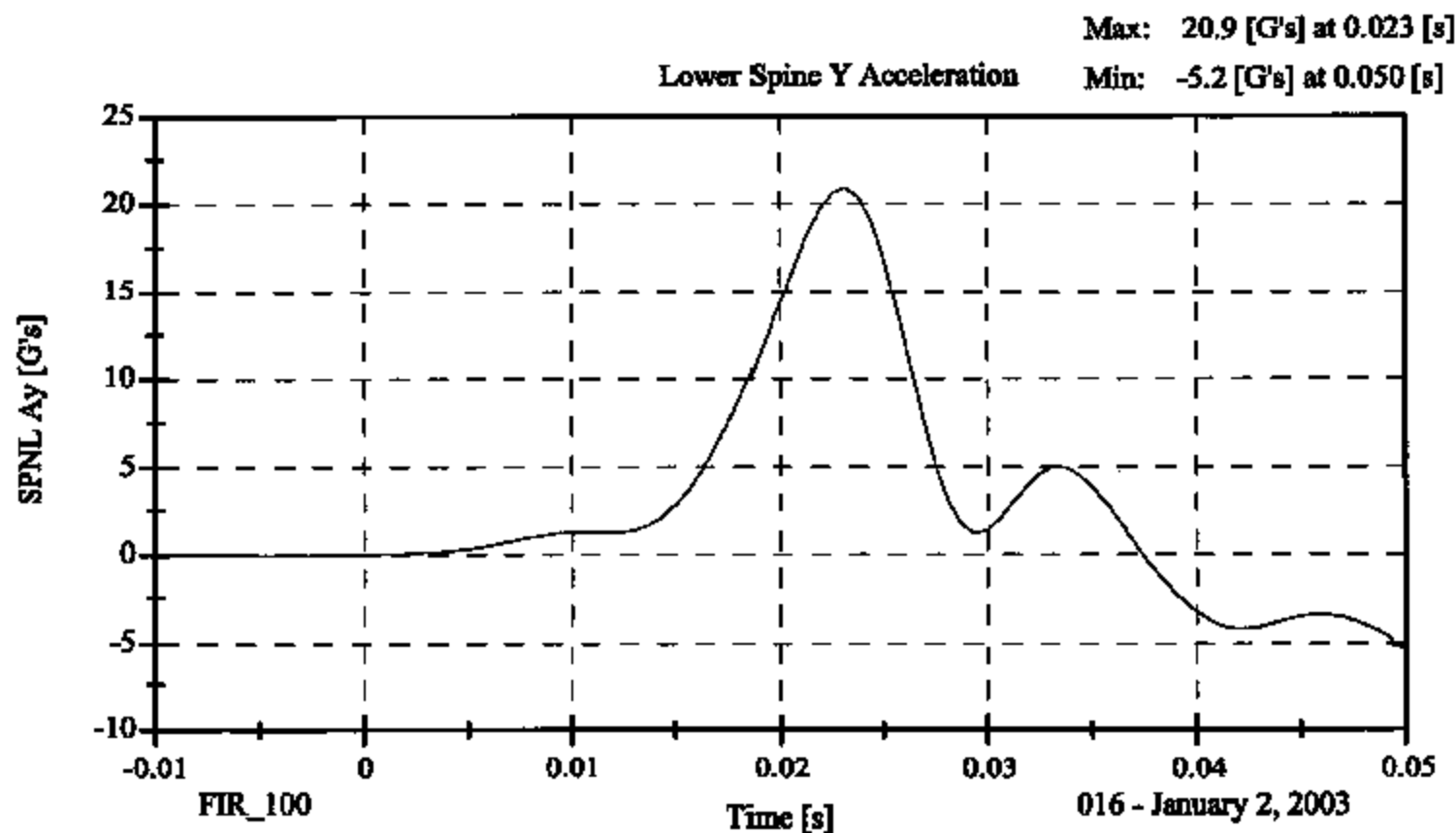
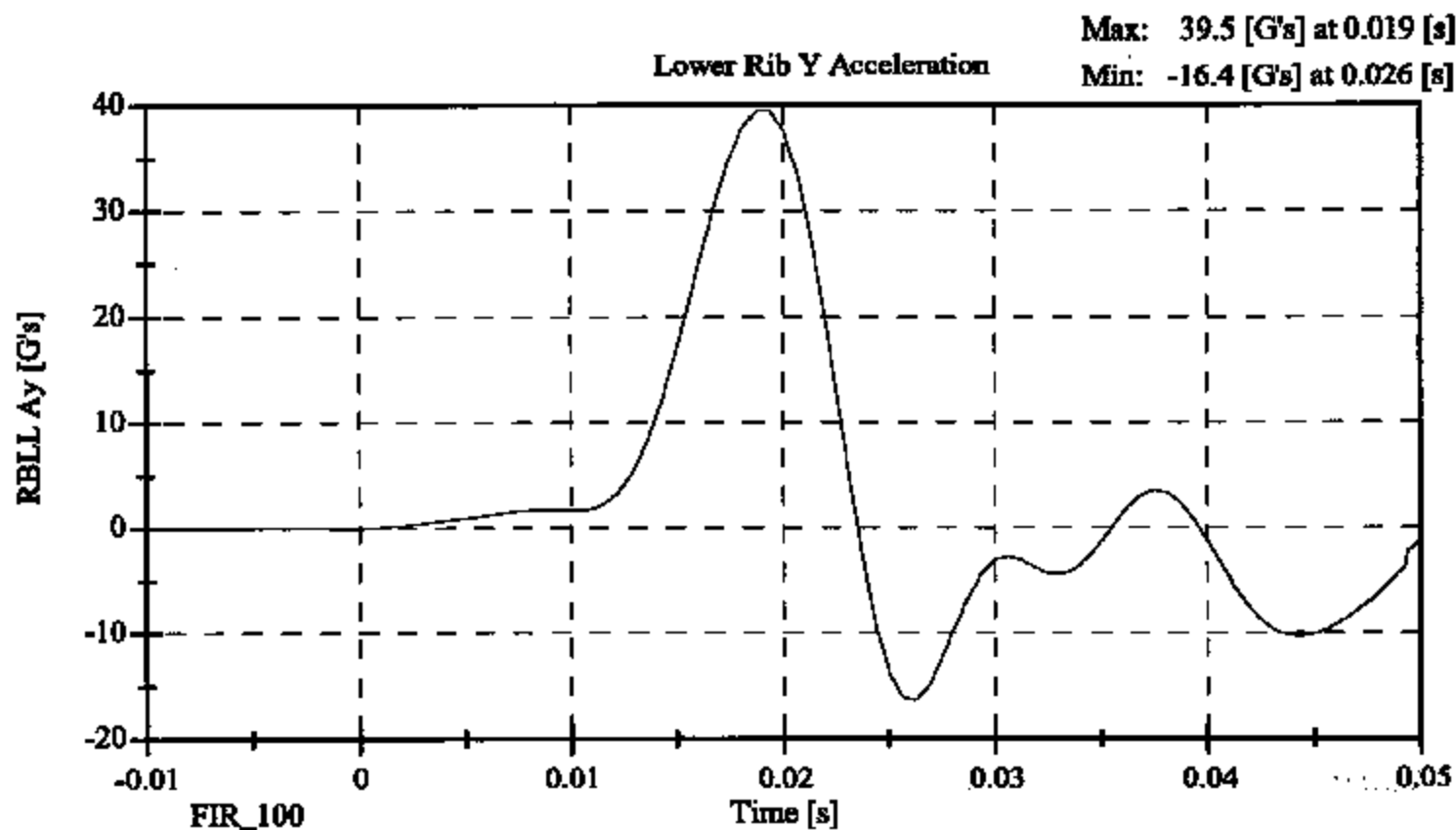
Upper Rib Y Acceleration

Max: 44.8 [G's] at 0.019 [s]

Min: -17.7 [G's] at 0.025 [s]



016 - January 2, 2003



016 - January 2, 2003

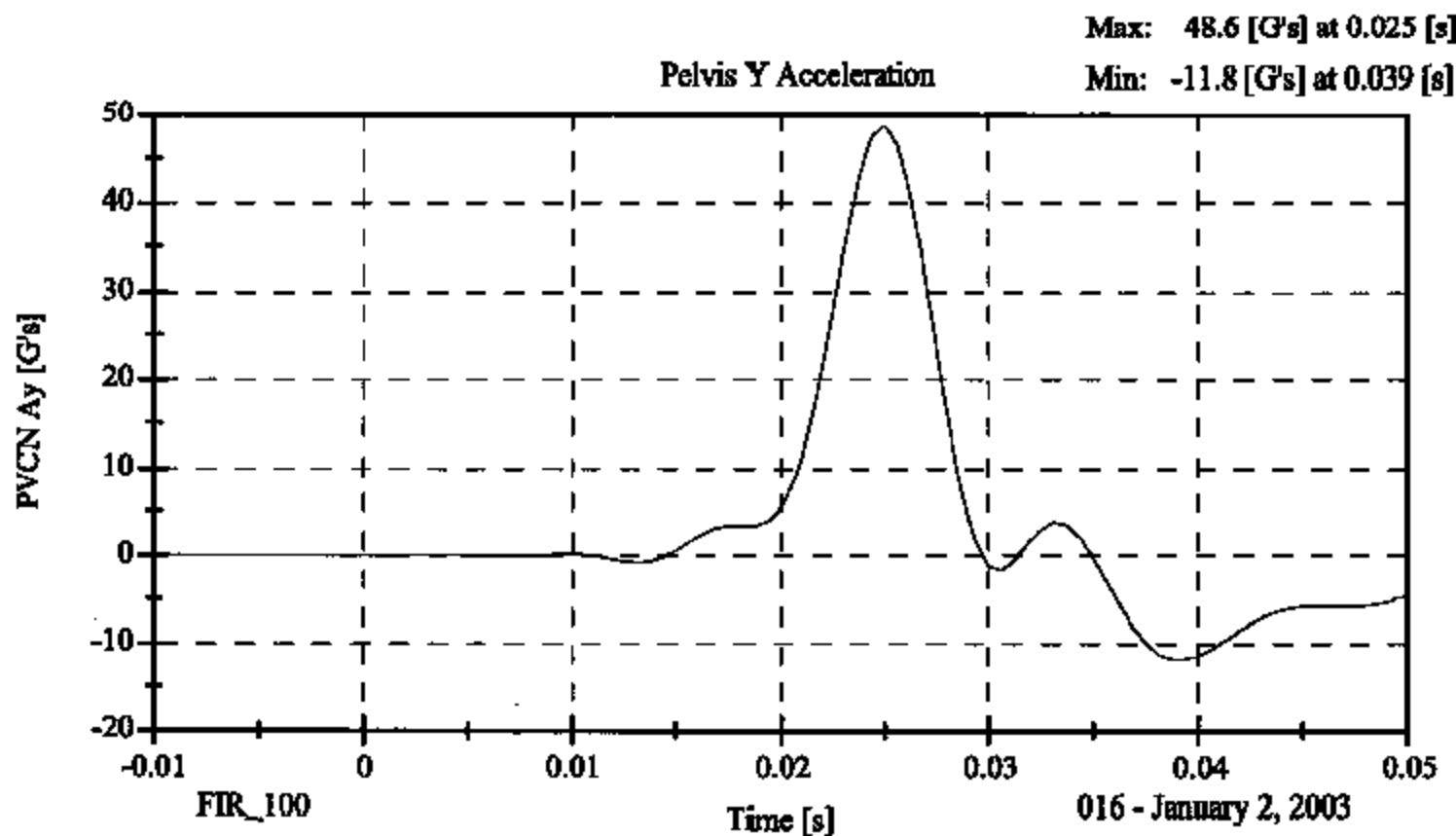
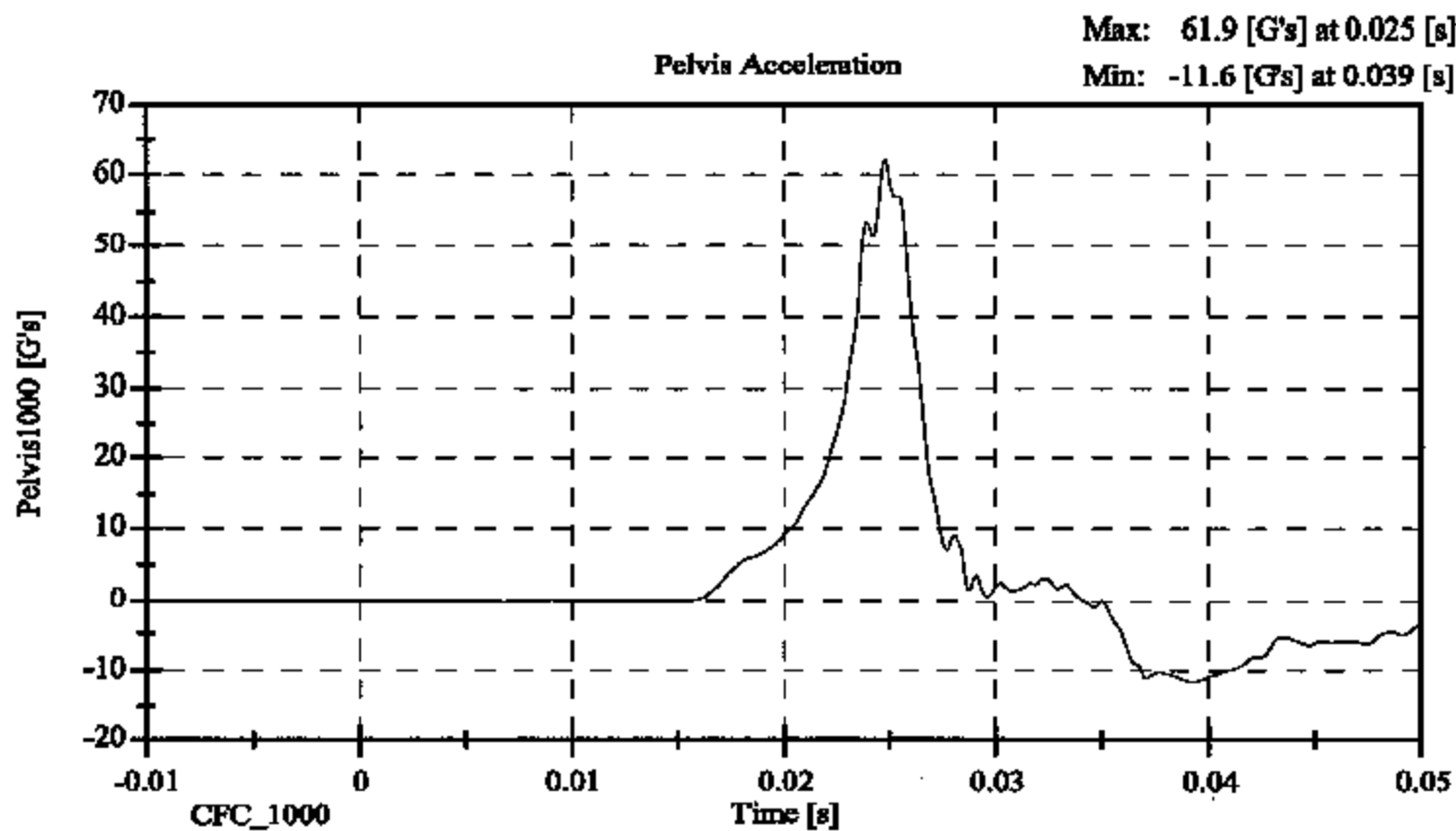
**LATERAL PELVIS IMPACT TEST
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 016 Sequential Test Number: 3
Date: January 2, 2003 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	31.0
PROBE SPEED (m/s)	4.27 - 4.33	4.29
PELVIS ACCELERATION (g's)	40 - 60	48.58

REMARKS: None



016 - January 2, 2003

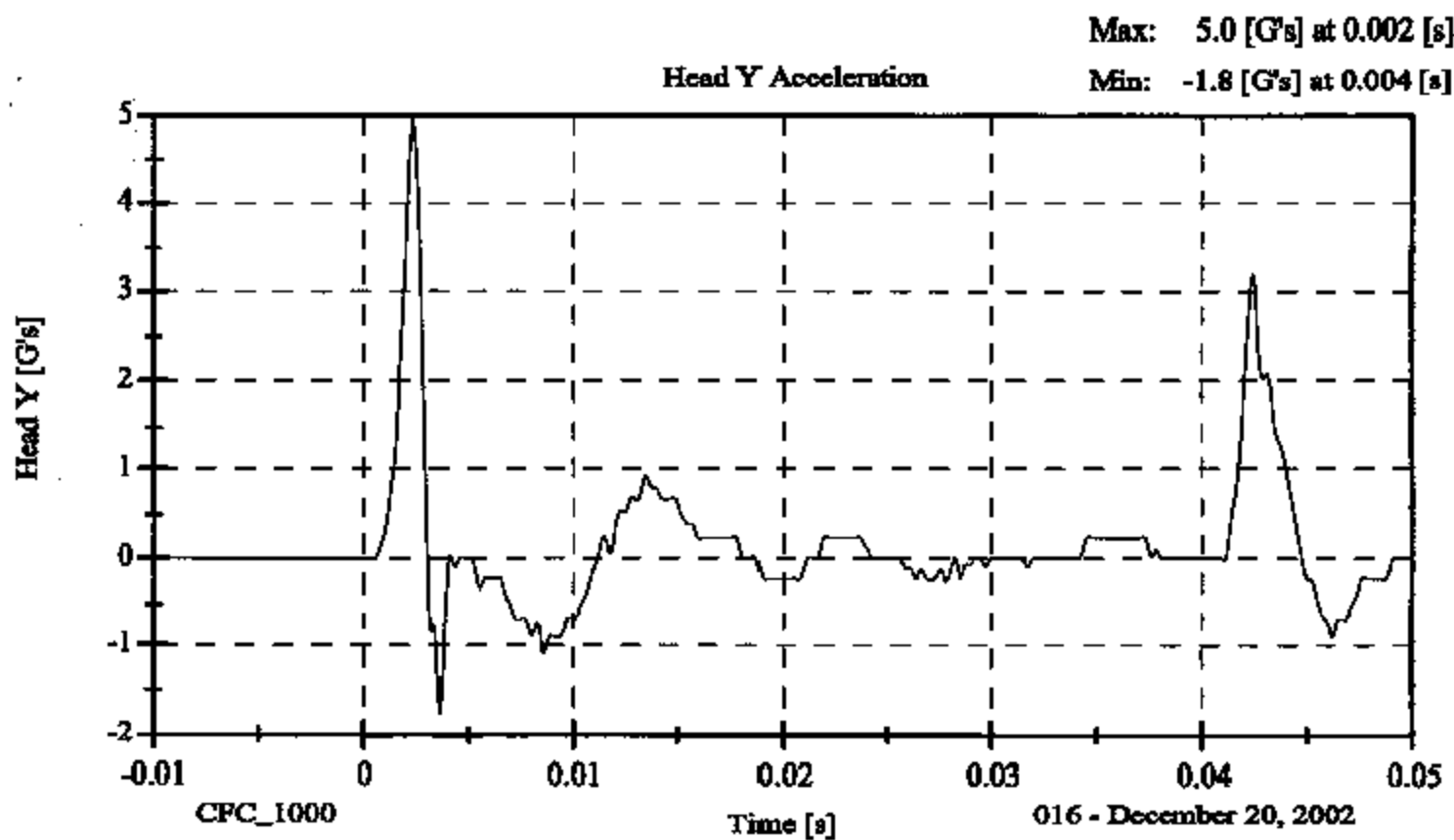
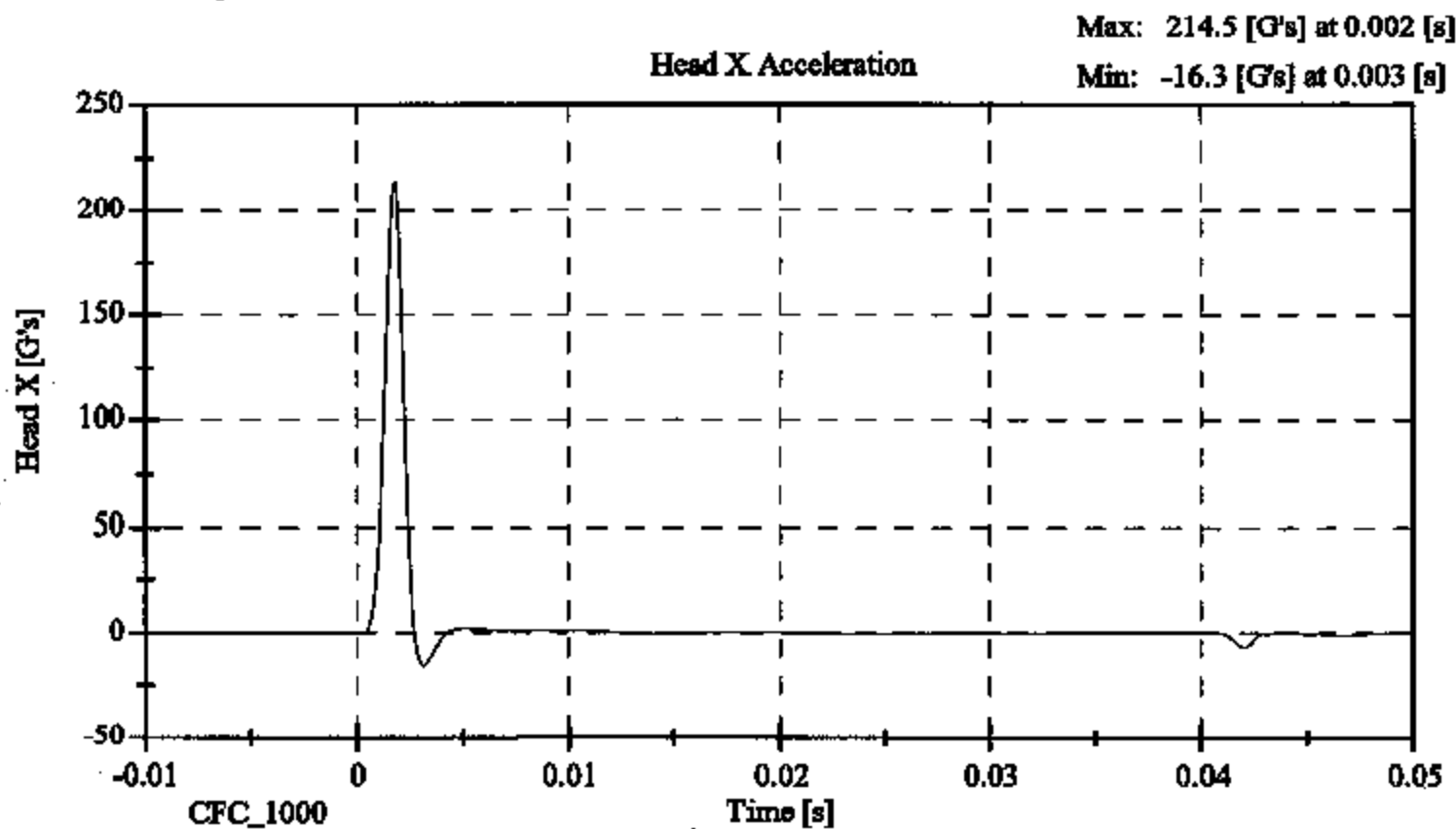
**HEAD DROP TEST
POST-TEST**
(Test not required for SID certification)

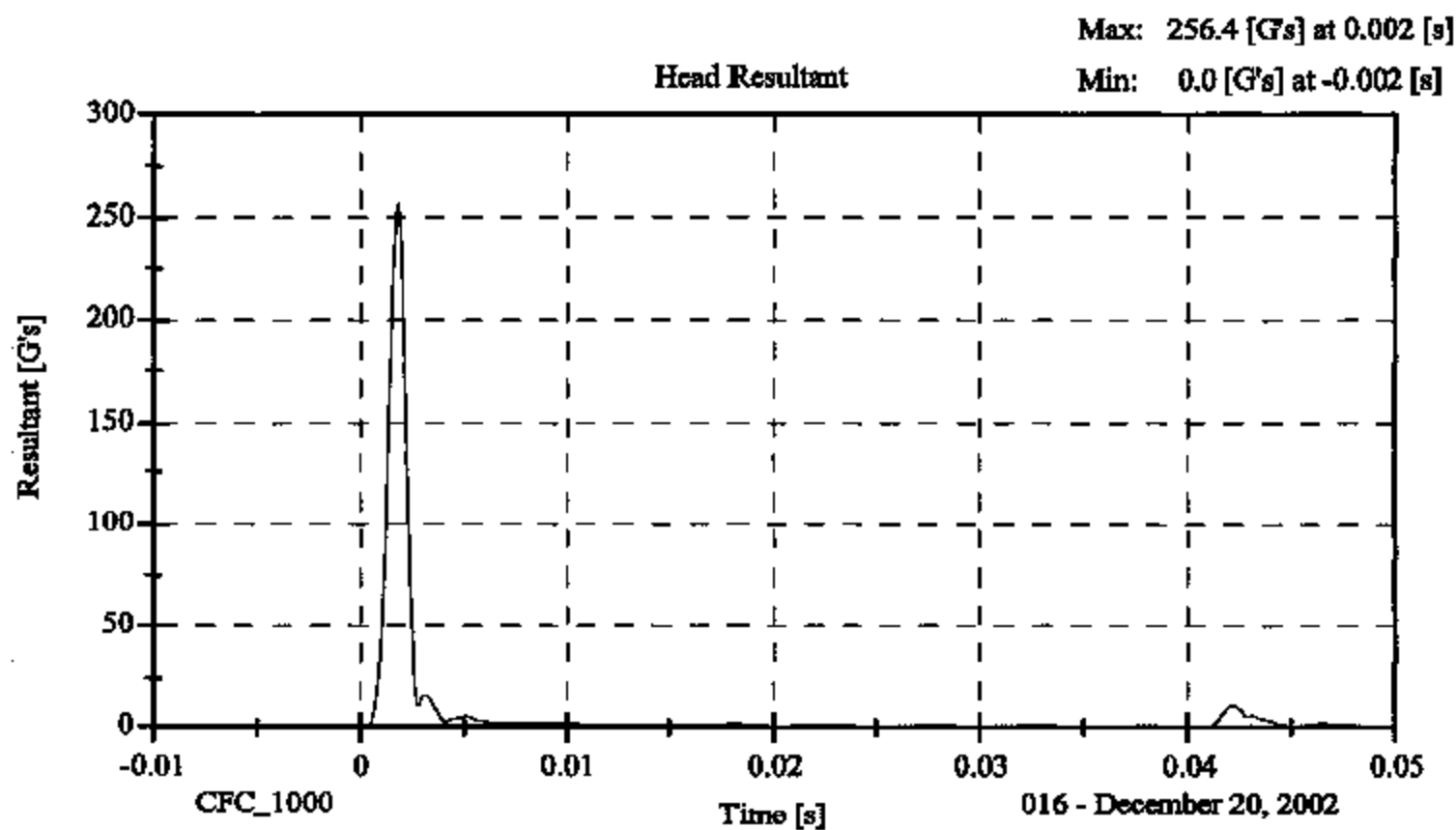
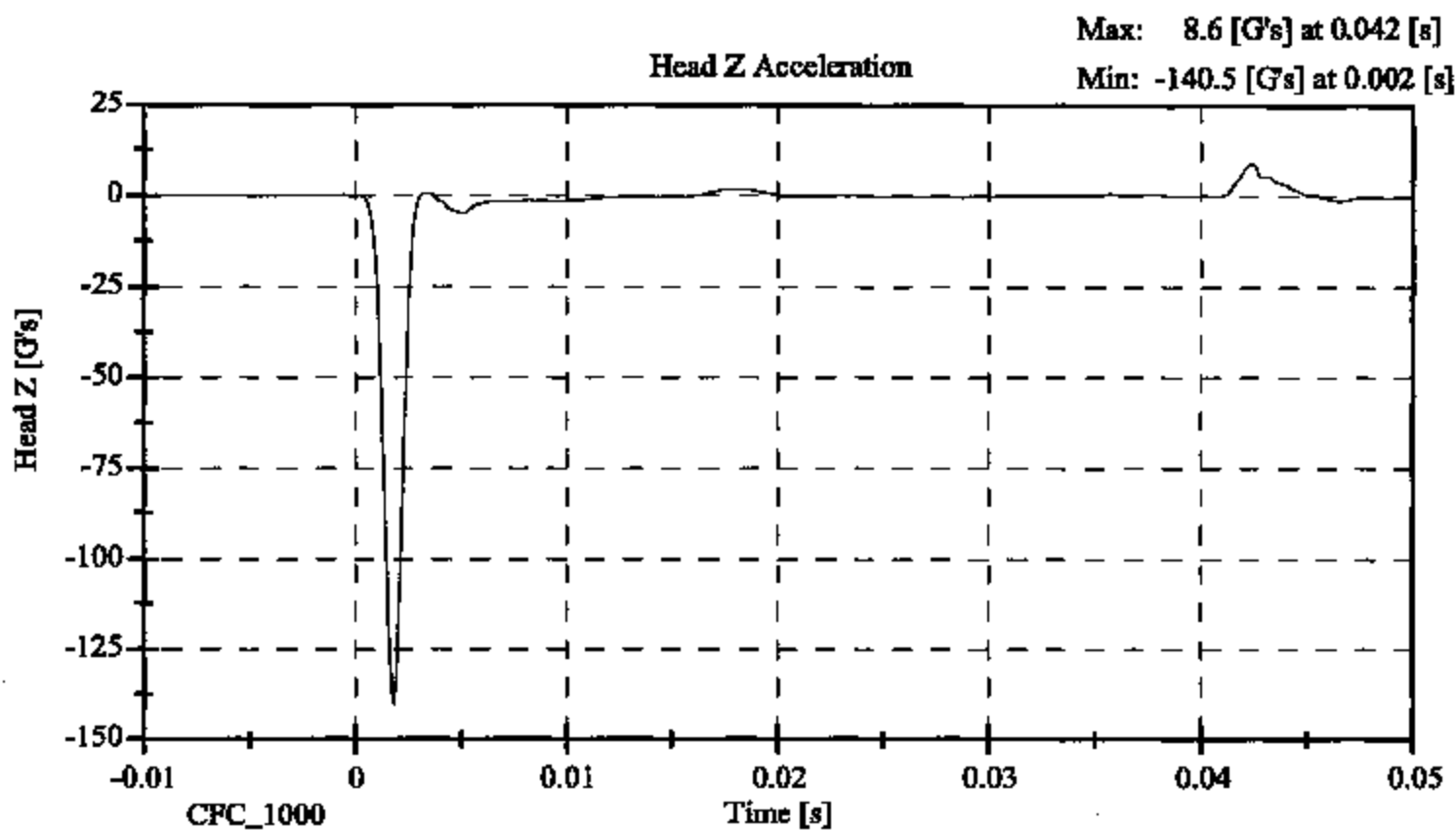
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 016 Sequential Test Number: 3
Date: December 20, 2002 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	31.0
PEAK RESULTANT ACCELERATION (Gs)	210 - 260	256.44
PEAK LATERAL ACCELERATION (Gs)	Not to Exceed 10	4.96
UNIMODAL CRITERIA ABOVE 100 Gs (ms)	0.9 - 1.5	1.10

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: January 2, 2003

Laboratory Technician:

B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	32.0
FORCE @ 13 mm (N)	104 - 162	124.6
FORCE @ 19 mm (N)	163 - 221	173.5
FORCE @ 25 mm (N)	222 - 280	249.1
FORCE @ 33 mm (N)	325 - 391	347.0

REMARKS: None

ORIGINAL

Dummy S/N 016

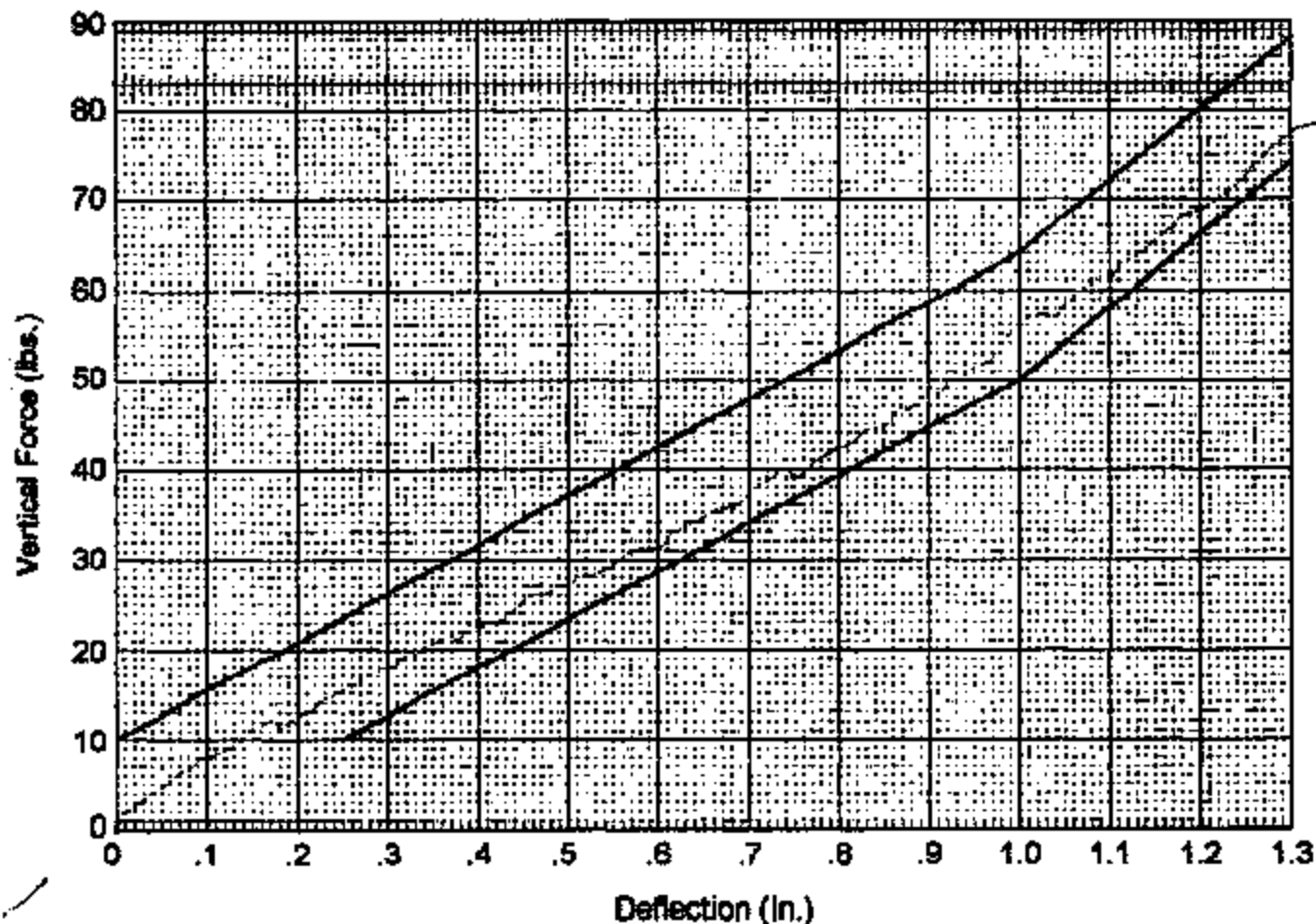
W/A _____

Date 1-02-03

Performed By [Signature]

Temp. 70°

Humidity 32%



Hybrid II
Abdomen Static Press

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: January 2, 2003

Laboratory Technician:

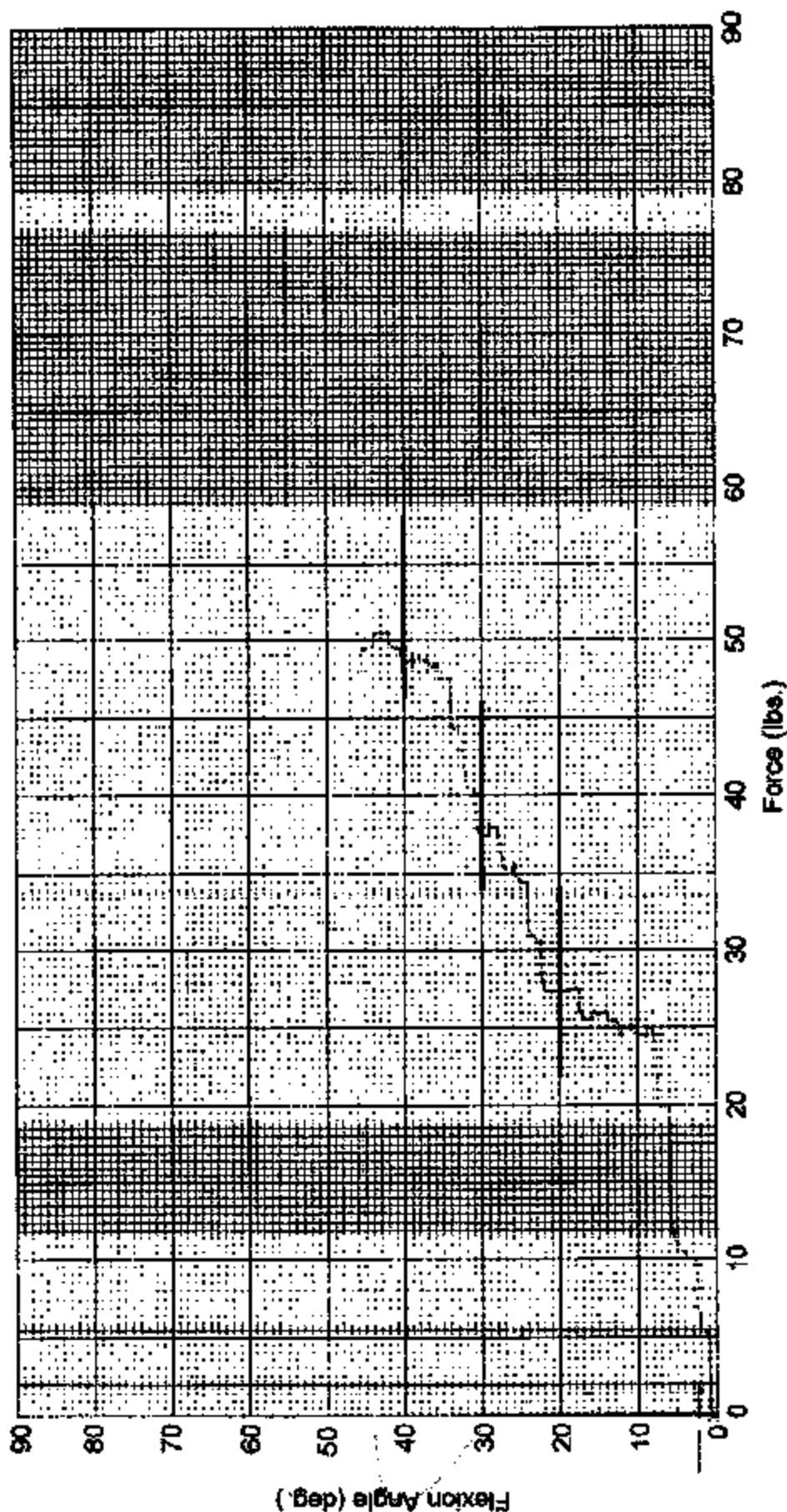
B. Swicicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	31.0
FORCE @ 0° (N)	0 - 26.7	0.0
FORCE @ 20° (N)	97.8 - 151.2	122.3
FORCE @ 30° (N)	151.2 - 204.6	166.8
FORCE @ 40° (N)	204.6 - 258	215.7
RETURN ANGLE	12° max.	2.5

REMARKS: None

ORIGINAL

Dummy S/N 016
WIA _____
Date 1-02-03
Performed By BSB
Temp. 70°
Humidity 31%



Hybrid II Lumber Spine Flexion Test

POST TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 016

Sequential Test Number:

3

Date: January 2, 2003

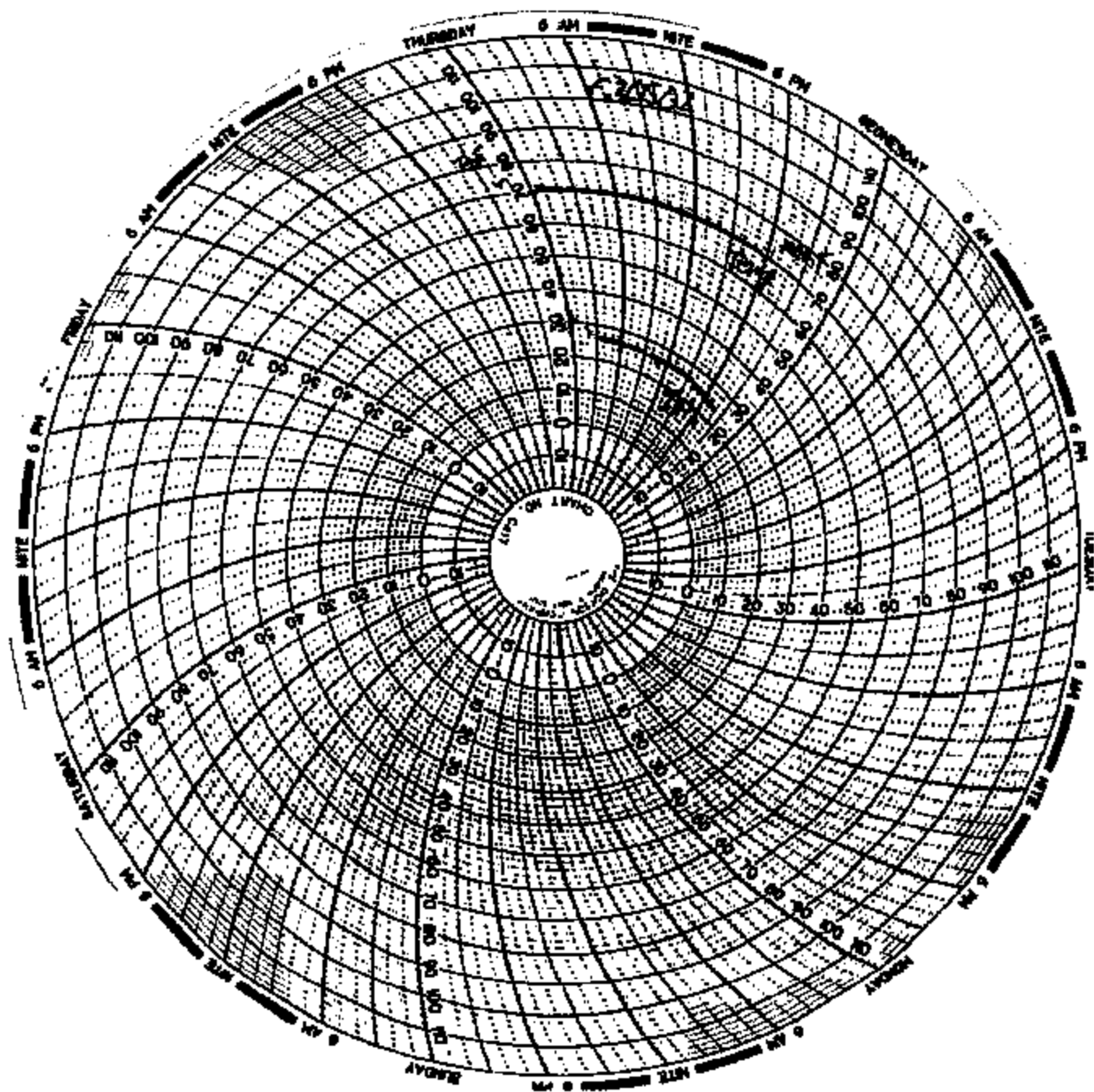
Laboratory Technician:

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.: 015		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
HEAD AX	ENDEVCO	AC-P23993	4-Oct-02
HEAD AY	ENDEVCO	AC-P23939	4-Oct-02
HEAD AZ	ENDEVCO	AC-P23999	4-Oct-02
UPPER RIB	ENDEVCO	AC-P16862	16-Aug-02
LOWER RIB	ENDEVCO	AC-P16656	16-Aug-02
LOWER SPINE	ENDEVCO	AC-P16866	16-Aug-02
PELVIS	ENDEVCO	AC-P16676	16-Aug-02
UPPER RIB REDUNDANT	ENDEVCO	AC-P23156	16-Aug-02
LOWER RIB REDUNDANT	ENDEVCO	AC-P16645	15-Aug-02
LOWER SPINE REDUNDANT	ENDEVCO	AC-P16823	16-Aug-02
PELVIS REDUNDANT	ENDEVCO	AC-P16843	16-Aug-02

	REAR SID NO.: 016		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
HEAD AX	ENDEVCO	AC-P23960	10-Oct-02
HEAD AY	ENDEVCO	AC-P23940	9-Oct-02
HEAD AZ	ENDEVCO	AC-P23899	10-Oct-02
UPPER RIB	ENDEVCO	AC-P18524	14-Aug-02
LOWER RIB	ENDEVCO	AC-P18533	14-Aug-02
LOWER SPINE	ENDEVCO	AC-P18514	14-Aug-02
PELVIS	ENDEVCO	AC-P18519	14-Aug-02
UPPER RIB REDUNDANT	ENDEVCO	AC-P18528	14-Aug-02
LOWER RIB REDUNDANT	ENDEVCO	AC-P18518	14-Aug-02
LOWER SPINE REDUNDANT	ENDEVCO	AC-P18688	14-Aug-02
PELVIS REDUNDANT	ENDEVCO	AC-P18531	14-Aug-02

REMARKS: None

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

VEHICLE AND MDB INSTRUMENTATION

	VEHICLE AND MDB INSTRUMENTS		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
RIGHT FRONT SILL (X)	ENDEVCO	AC-J32383	29-Aug-02
RIGHT FRONT SILL (Y)	ENDEVCO	AC-J25745	27-Aug-02
RIGHT FRONT SILL (Z)	ENDEVCO	AC-J29805	18-Sep-02
RIGHT REAR SILL (X)	ENDEVCO	AC-P17299	15-Aug-02
RIGHT REAR SILL (Y)	ENDEVCO	AC-P16662	15-Aug-02
RIGHT REAR SILL (Z)	ENDEVCO	AC-P18731	15-Aug-02
REAR FLOORPAN ABOVE AXLE (X)	ENDEVCO	AC-P21392	17-Sep-02
REAR FLOORPAN ABOVE AXLE (Y)	ENDEVCO	AC-P19253	17-Sep-02
REAR FLOORPAN ABOVE AXLE (Z)	ENDEVCO	AC-P23138	17-Sep-02
LEFT REAR SILL (Y)	ENDEVCO	AC-J33198	1-Oct-02
LEFT FRONT SILL (Y)	ICS	AC-8086-048	20-Nov-02
LEFT FRONT DOOR CENTERLINE (Y)	-	-	-
RIGHT REAR SEAT OCCUPANT COMP. (Y)	ICS	AC-Y30	5-Aug-02
MID REAR OF LEFT FRONT DOOR (Y)	-	-	-
LEFT FRONT DOOR UPPER CL (Y)	-	-	-
MID REAR OF LEFT REAR DOOR (Y)	-	-	-
LEFT REAR DOOR UPPER CL (Y)	-	-	-
LOWER LEFT B-PILLAR (Y)	ENDEVCO	AC-P17535	6-Aug-02
MIDDLE LEFT B-PILLAR (Y)	ENDEVCO	AC-P16585	6-Aug-02
LOWER LEFT A-PILLAR (Y)	ICS	AC-8086-044	21-Nov-02
UPPER LEFT A-PILLAR (Y)	ENDEVCO	AC-P22943	29-Jul-02
FRONT SEAT TRACK (Y)	ENDEVCO	AC-P18948	29-Jul-02
REAR SEAT TRACK (Y)	ENDEVCO	AC-P17288	17-Jul-02
VEHICLE CG (X)	ENDEVCO	AC-P23134	18-Sep-02
VEHICLE CG (Y)	ENDEVCO	AC-P18536	1-Aug-02
VEHICLE CG (Z)	ENDEVCO	AC-P18792	1-Aug-02
MDB CG (X)	ENDEVCO	AC-C16682	5-Sep-02
MDB CG (Y)	ENDEVCO	AC-CJ54	5-Sep-02
MDB CG (Z)	ENDEVCO	AC-GK12	5-Sep-02
MDB REAR FRAME MEMBER (X)	ENDEVCO	AC-CX05	5-Sep-02
MDB REAR FRAME MEMBER (Y)	ENDEVCO	AC-C16685	5-Sep-02

REMARKS: None