REPORT NUMBER: 5FEM-MGA-2001-021

35 MPH FRONTAL BARRIER IMPACT TEST

DaimlerChrysler Corporation
2001 Dodge Durango MPV
NHTSA NUMBER: M10316

PREPARED BY:
MGA RESEARCH CORPORATION
5000 WARREN ROAD
BURLINGTON, WI 53105

April 2, 2001

FINAL REPORT

PREPARED FOR:
U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
OFFICE OF CRASHWORTHINESS STANDARDS
400 SEVENTH STREET, SW, ROOM 5311
WASHINGTON, D.C. 20590

This final test report was prepared for the U.S. Department of Transportation, National Highway Traffic Safety Administration, in response to Contract Number DTNH22-01-D-12005.

Prepared by:_____ Date: _____
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FINAL REPORT ACCEPTED BY:

_____
Manager

_____
Date of Acceptance

_____
COTR, Frontal Barrier Impact Program

_____
Date of Acceptance

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15. Supplementary Notes

16. Abstract

A 35 mph (56.3 km/h) frontal barrier impact was conducted on a 2001 Dodge Durango MPV at MGA Research Corporation on April 2, 2001. This test was conducted to obtain data indicant of FMVSS 208, 212, 219 (partial), 301, and footwell intrusion performance. The impact velocity was 56.2 km/h. The ambient temperature at the barrier face at the time of impact was 21 degrees Celsius. The vehicle's maximum post test static crush is 492 mm located at the vehicle centerline. The test vehicle is equipped with a 3-point continuous belt system and a second generation supplemental airbag in both front outboard seating positions. With respect to FMVSS 208 "Occupant Crash Protection", the occupant injury criteria summary is as follows:

Measurement Description	Units	Threshold	Driver ATD	Pass. ATD
Head Injury Criteria (HIC_{15})	N/A	700	837	325
N_{te}	N/A	1.0	1.2	1.2
N_{tf}	N/A	1.0	0.1	0.2
N_{ce}	N/A	1.0	0.6	0.3
N_{cf}	N/A	1.0	0.3	0.2
Neck Tension	Newtons	2620	2834	2292
Neck Compression	Newtons	2520	1211	574
3 msec CLIP	N/A	60	59	44
Chest Deflection	mm	52	28	20
Left Femur	Newtons	6805	1790	2659
Right Femur	Newtons	6805	2022	3685

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56.3 km/h Frontal Barrier Impact Test 2001 Dodge Durango MPV NHTSA No. M10316	Copies of this report are available from: National Highway Traffic Safety Adm. Technical Ref. Division, (NAD-52) 400 Seventh Street, S.W., Room 5108 Washington, D.C. 20590

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TABLE OF CONTENTS

SECTION 1

PURPOSE AND TEST PROCEDURE

1.1 PURPOSE

This 35 mph (56.3 km/h) frontal barrier impact test is part of the FY' 01 New Car Assessment Program (NCAP) frontal barrier crashworthiness evaluation program sponsored by the National Highway Traffic Safety Administration (NHTSA) under Contract Number DTNH22-01-D-12005. The purpose of this test is to obtain vehicle crashworthiness, occupant restraint system performance, lower leg data, and child seat research data for a frontal barrier impact. The impact velocity used in this test is in excess of the current 30 mph (48.3 km/h) FMVSS 208/212/219/301 requirements.

1.2 TEST PROCEDURE

This 56.3 km/h frontal barrier impact test was conducted in accordance with the Office of Crashworthiness Standards (OCS) New Car Assessment Program (NCAP) Laboratory Test Procedure, dated December 1999 and the corresponding MGA Research Corporation Test Procedure NHTSA3, dated January 5, 2001. Data was obtained indicant of FMVSS 208, "Occupant Crash Portection"; FMVSS 212, "Windshield Retention"; FMVSS 219, "Windshield Zone Intrusion (Partial)"; and FMVSS 301, "Fuel System Integrity" performance. Procedures for receiving, inspection, and reporting of test results are described in the test procedures and are not repeated in this report.

The test was conducted at MGA Research Corporation on April 2, 2001 at a speed of 56.2 km/h. The test vehicle was instrumented with nine (9) accelerometers to measure longitudinal axis accelerations. The driver's and passenger's restraint systems were instrumented with four(4) seat belt load cells to measure lap and shoulder belt tension. The specified impact velocity range was 55.5 to 57.1 km/h. The frontal barrier impact event was documented by one (1) real-time panning motion picture camera and sixteen (16) high-speed motion picture cameras. The pre- and post-test conditions were recorded by one (1) real-time motion picture camera. Camera locations and pertinent camera information is documented in the data sheets. Pre- and post-test photographs of the vehicle and dummies can be found in Appendix A.

The test vehicle contained four (4) anthropomorphic test devices (ATDs). Two (2) part 572O 5th percentile female ATDs and two (2) part 572P 3 year old ATDs. Both adult ATDs were instrumented with head, chest, and pelvic tri-axial accelerometers, left and right femur load cells, upper and lower tibia sensors, and foot accelerometers. In addition, chest displacement and upper neck six-axis force and moment sensors were utilized. The adult ATDs were positioned in the front outboard seating positions according to the dummy placement procedures specified in the Laboratory Indicant Test Procedure. Both child ATDs were instrumented with head, chest, and pelvic tri-axial accelerometers, and upper and lower neck load cells. The child ATDs were positioned according to the child seat manufacturer’s instructions. One hundred forty three (143) channels of data were recorded with an EME on-board data acquisition system. The data was digitally sampled at 10,000 samples per second and processed per section IP11 of the Laboratory Test Procedure.

The driver (Serial No. 288) and the right-front passenger (Serial No. 273) were calibrated just prior to this test.

1.3 SUMMARY OF FRONTAL IMPACT TEST

A rigid load cell barrier was impacted by a 2001 Dodge Durango MPV at a velocity of 56.2 km/h. The test vehicle weight was 2442.1 kilograms with two (2) part 572O 5th percentile female ATDs and two (2) part 572P 3 year old ATDs. Six (6) load cell barrier data channels were obtained in conducting the NCAP Test. The test vehicle is equipped with a longitudinally mounted 4.7-liter, 8-cylinder engine and an automatic transmission.

The occupant injury criteria summary is as follows:

	Requirement	Driver	Passenger
Head Injury Criteria (HIC_{15})	700	837	325
N_{te}	1.0	1.2	1.2
N_{tf}	1.0	0.1	0.2
N_{ce}	1.0	0.6	0.3
N_{cf}	1.0	0.3	0.2
Neck Tension (N)	2620	2834	2292
Neck Compression (N)	2520	1211	574
3 msec CLIP	60	59	44
Chest Deflection (mm)	52	28	20
Left Femur (N)	6805	1790	2659
Right Femur (N)	6805	2022	3685

Maximum seat belt spool out was not measured by on-board pullout potentiometers at the manufacturer's request.

There was 100 percent windshield retention (minimum 50 percent required for passive restraint systems). No intrusion occurred into the protected or unprotected zone of the windshield. No Stoddard Solvent leakage occurred after impact or during any phase of the rollover.

The test vehicle sustained a maximum static crush of 492 mm located at the vehicle centerline. All but the driver side door opened without the aid of tools.

1.4 GENERAL COMMENTS

The 2001 Dodge Durango MPV passed the requirements of FMVSS 208, FMVSS 212, FMVSS 219, and FMVSS 301-75. Data pertaining to these standards are presented in the data sheets.

The vehicle, occupant, camera, and measurement data are presented in Section 2. Appendix A contains the still photograph prints. Appendix B Contains the dummy and vehicle response data traces. Appendix C contains the dummy calibration data. Appendix D contains the instrumentation calibration data and Appendix E contains the owner's manual instructions for the occupant seating and restraint systems and Appendix F contains the child data and photos.

SECTION 2

OCCUPANT AND VEHICLE INFORMATION / DATA SHEETS

Test Vehicle: 2001/Dodge/Durango/MPV NHTSA No.: M10316

Test Program: 35 mph Frontal Barrier Impact Test Date: April 2, 2001

CONVERSION FACTORS USED IN THIS REPORT*

Quantity	Typical Application	Old Units	Metric Unit	Multiply By
Mass	Vehicle Weight	lb	kg	0.4536
Linear Velocity	Impact Velocity	mile/h	km/h	1.609
Length or Distance	Measurements	in	mm	25.4
Volume	Fuel Systems	gal	liter	3.785
Volume	Small Fluids	oz	mL	29.573
Pressure	Tire Pressure	lbf/in^2	kPa	7.0
Volume	Liquid	gal	liter	3.785
Temperature	General Use	°F	°C	=(tf -32)/1.8
Force	Dynamic Forces	lbf	N	4.448
Moment	Torque	lbf/ft	Nm	1.355

*Based on the Recommended Practice in SAE J916, May 85

DATA SHEET NO. 1

CRASH TEST SUMMARY

Test Vehicle: 2001/Dodge/Durango/MPV NHTSA No.: M10316

Test Program: 35 mph Frontal Barrier Impact Test Date: April 2, 2001

PRIMARY IMPACT DATA

Measured Parameter	Units	Value
Velocity at Impact	km/h	56.2
Test Weight	kg	4224.1
Impact Angle	degrees	90
Average Rebound	mm	1031
Maximum Static Crush	mm	492

DOOR OPENING AND SEAT TRACK INFORMATION

Description	Driver	Passenger
Front Door Opening	no	yes
Rear Door Opening	yes	yes
Seat Track Shift (mm)	none	none
Seat Back Failure	none	none

TEST DUMMY INFORMATION

Description	Driver	Passenger
Dummy Type / Serial No.	HIII 5th / 288	HIII 5th / 273
Head Contact	to airbag and headrest	to airbag and headrest
Chest Contact	to airbag and steering wheel	to airbag
Abdomen Contact	none noted	none noted
Left Knee Contact	to dash panel	to glovebox
Right Knee Contact	to dash panel	to glovebox

16mm MOVIE COVERAGE

High Speed	16
Real Time	1
Total	17

Driver ATD Sensors	42
Passenger ATD Sensors	42
Belt Assessment Sensors	4
Vehicle Structure Accelerometers	9
Rigid Barrier Load Cells	6
Total	103

DATA SHEET NO. 2
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2001/Dodge/Durango/MPV NHTSA No.: M10316

Test Program: 35 mph Frontal Barrier Impact Test Date: April 2, 2001

TEST VEHICLE INFORMATION

Manufacturer	DaimlerChrysler Corp.
Model	Durango
Body Style	MPV
NHTSA No.	M10316
VIN	1B4HS28N11F566141
Color	red
Delivery Date	2/27/01
Odometer Reading (mile)	79
Dealer	Wilde Dodge
Transmission	automatic
Final Drive	4 wheel drive
Number of Cylinders	8
Engine Displacement (L)	4.7
Engine Placement	longitudinal

TEST VEHICLE OPTIONS

Driver Airbag	yes
Passenger Airbag	yes
Power Windows	yes
Power Steering	yes
Power Door Locks	yes
Tilt Wheel	yes
Air Conditioning	yes
Power Brakes	yes
Disc Brakes, Front	yes
Disc Brakes, Rear	no
Anti-lock Brakes	yes (rear)
AM/FM/Cassette	yes
Anti-theft System	no
Cruise Control	yes

DATA FROM CERTIFICATION LABEL

Manufactured By	DaimlerChrysler Corp.
Date of Manufacture	12/00

GVWR (kg)	2903
GAWR Front (kg)	1633
GAWR Rear (kg)	1747

DATA FROM TIRE PLACARD

Measured Parameter	Front	Rear
Maximum Tire Pressure (kPa)	241	282
Cold Pressure (kPa)	241	282
Recommended Tire Size	P235/75R15 XL	P235/75R15
Tire Size on Vehicle	P265/75R15 XL	P265/75R15
Tire Manufacturer	Goodyear	Goodyear

Measured Parameter	Front	Rear	Third	Total
Type of Seats	bucket	40/20/40 bench	bench	
Number of Occupants	2	3	2	7
Capacity Wt. (VCW) (kg)				747.5
Cargo Weight (RCLW) (kg)				289.8

DATA SHEET NO. 2...(continued)

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2001/Dodge/Durango/MPV NHTSA No.: M10316

Test Program: 35 mph Frontal Barrier Impact Test Date: April 2, 2001

TEST VEHICLE WEIGHTS

	Units	As Delivered (UVW)			As Tested (ATW)		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	601.0	485.8		616.0	584.2	
Right	kg	571.1	497.6		619.6	622.3	
Ratio	%	54.4	45.6		50.6	49.4	
Totals	kg	1172.1	983.4	2155.5	1235.6	1206.5	2442.1

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	2155.5
Weight of 2 P572E ATDs	kg	156.0
Rated Cargo/Luggage Weight (RCLW)*	kg	136.1
Calculated Vehicle Target Weight (TVTW)	kg	2447.6

*Cargo wight for MPV's, trucks, and buses is the vehicle's rated cargo and luggage weight from the vehicle's label or 136.1 kg, whichever is less.

TEST VEHICLE ATTITUDES AND CG

	Units	LF	RF	LR	RR	CG (aft of front axle)
As Delivered	mm	900	904	914	909	1343
As Tested	mm	893	895	878	882	1455
Post Test	mm	989	949	880	891	

Vehicle Wheelbase (mm): 2945

Weight of Ballast secured in cargo area (kg): 59.0

Vehicle Components Removed: rear seat

Ballast weight does not include cameras, instrumentation, and brake abort system.

FUEL SYSTEM DATA

Fuel System Capacity From Owner's Manual (L): 95.0

Usable Capacity Figure Furnished by COTR (L): 95.0

Actual Test Volume (L): 88.9

Test Fluid Type: Stoddard Solvent ; Specific Gravity: 0.77

Is Vehicle Fuel Pump Electric or Mechanical?: electric

If electric, does pump operate with ignition switch "ON" & engine "OFF"?: yes

Fuel System Particulars: With the ignition on, the fuel pump will operate for 3 seconds and stop. With the engine running, the pump will run continuously.

DATA SHEET NO. 3

POST IMPACT DATA

Test Vehicle: 2001/Dodge/Durango/MPV NHTSA No.: M10316

Test Program: 35 mph Frontal Barrier Impact Test Date: April 2, 2001

Measured Parameter	Units	Requirement	Value
Trap No. 1 Velocity (Primary)	km/h	55.5 to 57.1	56.2
Trap No. 1 Entry Distance	mm	<1524	1300
Trap No. 1 Exit Distance	mm	<1524	300
Trap No. 2 Velocity (Redundant)	km/h	55.5 to 57.1	56.3
Trap No. 2 Entry Distance	mm	<1524	1425
Trap No. 2 Exit Distance	mm	<1524	425

VEHICLE STATIC CRUSH

Measured Parameter	Units	Pre-Test	Post-Test	Difference
Left Side	mm	4735	4321	414
Center	mm	4850	4358	492
Right Side	mm	4731	4351	380

VEHICLE REBOUND FROM BARRIER

Measured Parameter	Units	Value
Left Side	mm	1034
Center	mm	1039
Right Side	mm	1034
Average	mm	1031

DATA SHEET NO. 4

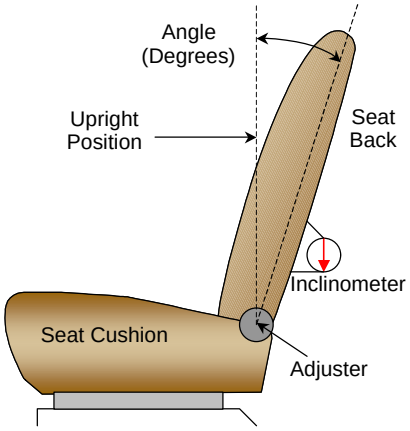
TEST VEHICLE INFORMATION

Test Vehicle: 2001/Dodge/Durango/MPV NHTSA No.: M10316

Test Program: 35 mph Frontal Barrier Impact Test Date: April 2, 2001

NORMAL DESIGN RIDING POSITION

The driver and passenger seat backs are positioned according to a draft procedure supplied to MGA by NHTSA.



FRONT SEAT ASSEMBLY

Driver seat back angle: 15.1E measured on seatback frame

Passenger seat back angle: 15.0E measured on seatback frame

SEAT FORE/AFT POSITIONS

The driver seat is power operated and the passenger seat is manually operated. The total travel on the driver is 220 mm and the passenger is seat positions. The fore/aft position is set as far forward as possible without the ATD's knees touching dash panel.

Driver seat fore/aft total travel: 220 mm

Passenger seat fore/aft total travel: 140 mm

Driver seat fore/aft position: 43 mm rearward of the full forward position

Passenger seat fore/aft position: full forward

SEAT BELT UPPER ANCHORAGE

The test vehicle is equipped with adjustable anchorages for both the driver and passenger seat positions. The anchorages were placed in the lowest position.

DATA SHEET NO. 4...(continued)

TEST VEHICLE INFORMATION

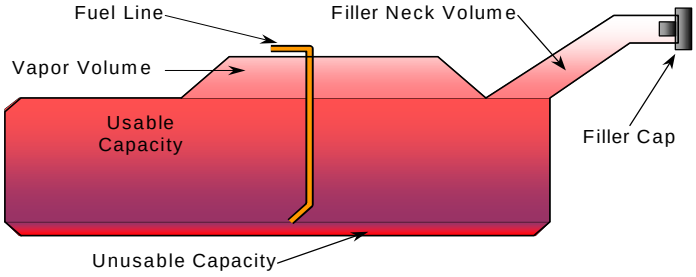
Test Vehicle: 2001/Dodge/Durango/MPV NHTSA No.: M10316

Test Program: 35 mph Frontal Barrier Impact Test Date: April 2, 2001

FUEL TANK CAPACITY DATA

The "Usable Capacity" of the standard equipment fuel tank is:	95.0	liters
The "Usable Capacity" of any optional equipment fuel tank is:	N/A	liters
The "Usable Capacity" used for certification to FMVSS 301 requirements:	95.0	liters
Actual amount of Stoddard solvent added to vehicle for certification test:	88.9	liters

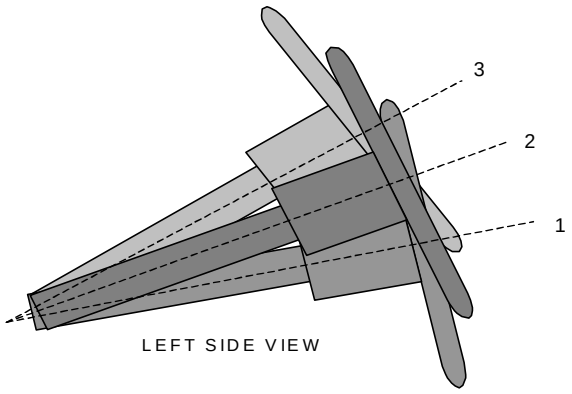
The test vehicle is equipped with an electric fuel pump. The fuel pump operates only when the engine is running. The fuel filler door is located on the left rear fender.



VEHICLE FUEL TANK ASSEMBLY

STEERING COLUMN ADJUSTMENT

Steering wheel and column adjustments are made so that the steering wheel hub is at the geometric center of the locus it describes, when it is moved through its full range of motion. A metal plate is placed across the rim of the steering wheel, and inclinometer is placed onto the plate and the angle is measured.



STEERING COLUMN ASSEMBLY

Lowermost, position 1:	16.0°
Geometric center, position 2:	26.6°
Uppermost, position 3:	37.2°

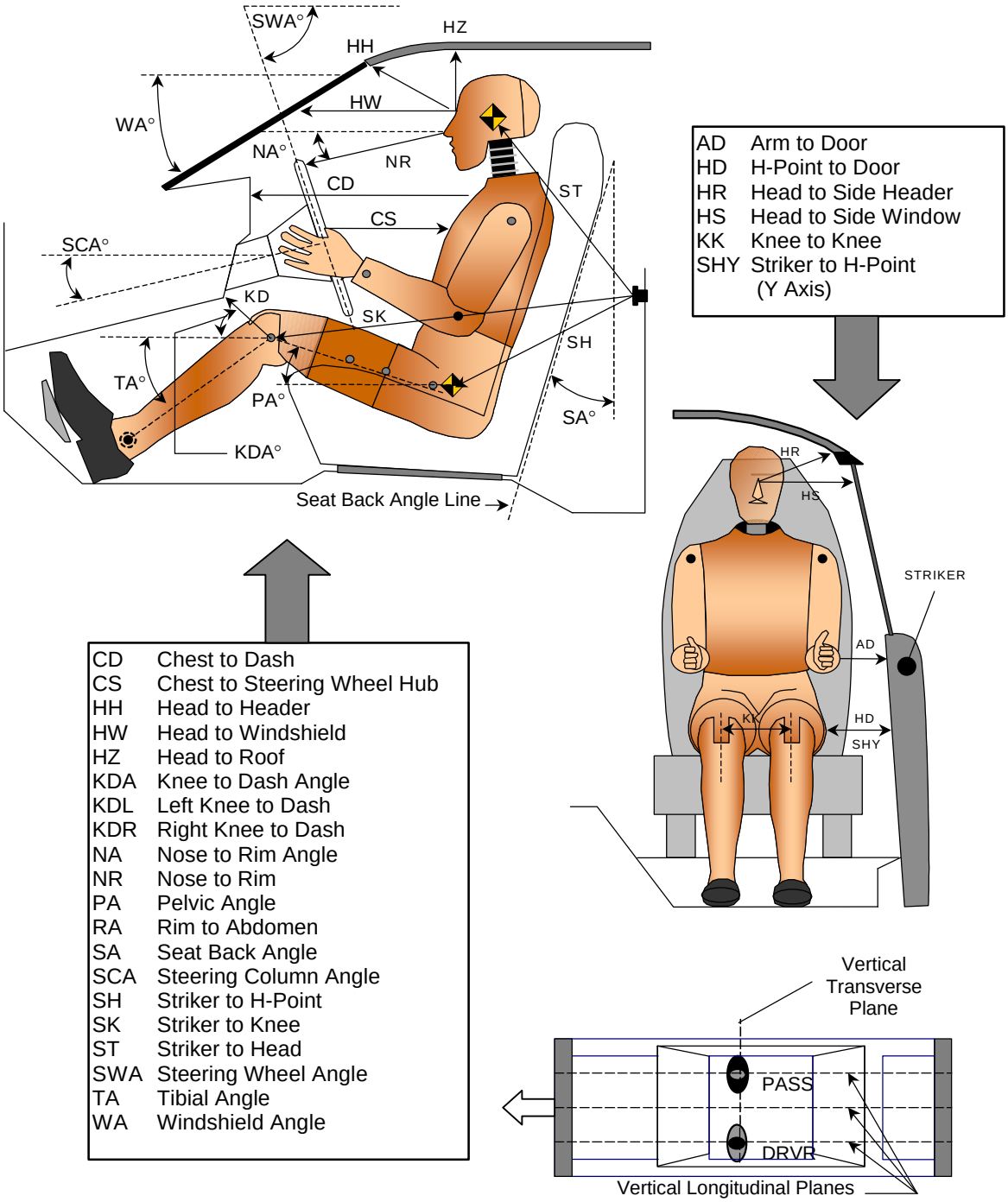
DATA SHEET NO. 5

DUMMY POSITIONING IN VEHICLE

Test Vehicle: 2001/Dodge/Durango/MPV NHTSA No.: M10316

Test Program: 35 mph Frontal Barrier Impact Test Date: April 2, 2001

DUMMY MEASUREMENTS FOR FRONT SEAT OCCUPANTS



DATA SHEET NO. 5...(continued)

DUMMY POSITIONING IN VEHICLE

Test Vehicle: 2001/Dodge/Durango/MPV NHTSA No.: M10316

Test Program: 35 mph Frontal Barrier Impact Test Date: April 2, 2001

TEST DUMMY POSITION MEASUREMENTS

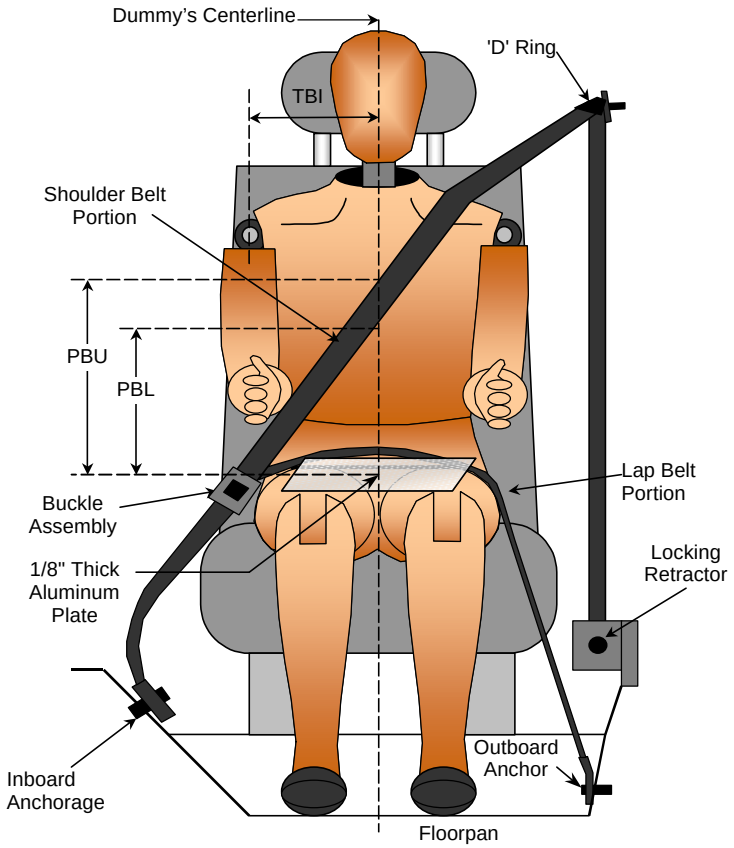
Code	Measurement Description	Driver		Passenger	
		Length (mm)	Angle (°)	Length (mm)	Angle (°)
WA	Windshield Angle		33.5		
SWA	Steering Wheel Angle		63.4		
SCA	Steering Column Angle		26.1		
SA	Seat Back Angle		15.1		15.0
90HZ	Head to Roof (Z)	252	90.0	239	90.0
HH	Head to Header	365	40.5	373	39.5
HW	Head to Windshield	682	0.0	635	0.0
HR	Head to Side Header (Y)	337		298	
NR	Nose to Rim	253	-0.3		
CD	Chest to Dash	416		437	
CS	Chest to Steering Hub	184	-3.3		
RA	Rim to Abdomen	89	0.0		
KDL	Left Knee to Dash	116	0.0	48	
KDR	Right Knee to Dash	92		106	11.9
PA	Pelvic Angle		21.5		20.8
TA	Tibia Angle		64.4		71.2
KK	Knee to Knee (Y)	160		162	
SK	Striker to Knee	670	85.7	679	89.2
ST	Striker to Head	579	21.3	531	27.7
SH	Striker to H-Point	257	90.1	290	96.6
SHY	Striker to H-Point (Y)	324		325	
HS	Head to Side Window	374		355	
HD	H-Point to Door (Y)	223		228	
AD	Arm to Door (Y)	148		144	
AA	Ankle to Ankle	198		160	

DATA SHEET NO. 6

SEAT BELT POSITIONING DATA

Test Vehicle: 2001/Dodge/Durango/MPV NHTSA No.: M10316

Test Program: 35 mph Frontal Barrier Impact Test Date: April 2, 2001



SEAT BELT POSITIONING MEASUREMENTS

Measurement Description	Units	Driver	Passenger
TBI - Dummy centerline to shoulder bolt	mm	162	162
PBU - Top surface of reference to belt upper edge	mm	282	280
PBL - To surface of reference to belt lower edge	mm	201	200

DATA SHEET NO. 7

VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY

Test Vehicle: 2001/Dodge/Durango/MPV NHTSA No.: M10316

Test Program: 35 mph Frontal Barrier Impact Test Date: April 2, 2001

VEHICLE X-AXIS ACCELEROMETER PEAK DATA AND PRE-TEST LOCATIONS

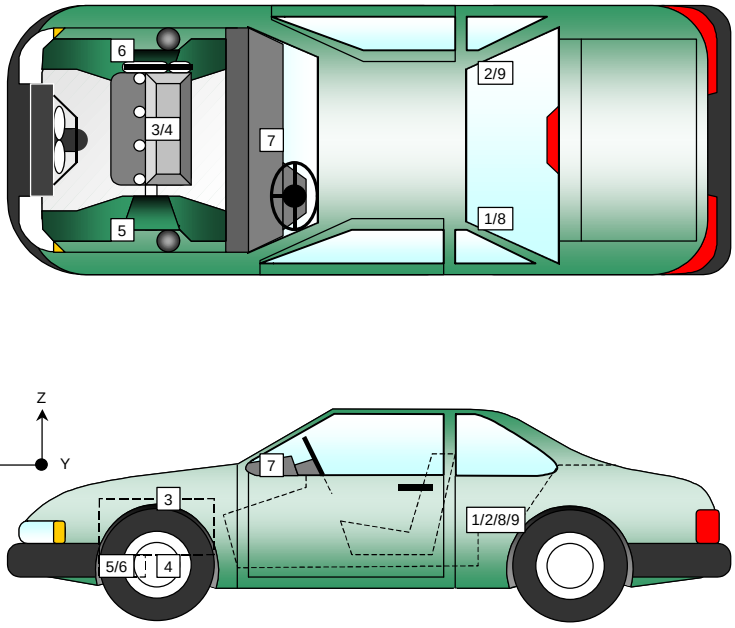
No.	Accelerometer Location	Measurements (mm)			Peak Values				
		X	Y	Z	Units	Max	Time	Min	Time
1	Left Rear X-Member (Primary)	1958	-641	564	G's	3.6	171	38.2	50
2	Right Rear X-Member (Primary)	1954	641	565	G's	2.4	161	40.0	42
3	Engine Top*	4145	-45	1020	G's	---	---	89.1	27
4	Engine Bottom	3855	12	323	G's	30.1	39	120.7	32
5	Left Brake Caliper	4054	-690	246	G's	37.6	67	139.5	45
6	Right Brake Caliper	4054	690	250	G's	26.4	63	163.9	44
7	Instrument Panel	3333	0	1336	G's	29.5	81	72.6	56
8	Left Rear X-Member (Redundant)	1958	-641	564	G's	3.0	171	37.3	50
9	Right Rear X-Member (Redundant)	1954	641	565	G's	2.4	161	40.7	42

Reference Points: X - From Rear Surface of Vehicle (+ forward)

Y - Vehicle Centerline (+ to right)

Z - Ground Plane (+ up)

* Data not valid after 28 msec.



DATA SHEET NO. 8

HYBRID III ATD INJURY CRITERIA AND SENSOR DATA

Test Vehicle: 2001/Dodge/Durango/MPV NHTSA No.: M10316

Test Program: 35 mph Frontal Barrier Impact Test Date: April 2, 2001

HEAD PRIMARY PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Head CG	X	G's	12.0	130	72.9	60	0.4	23	60.3	70
Head CG	Y	G's	33.3	128	63.8	67	1.0	60	10.5	70
Head CG	Z	G's	31.2	73	25.4	122	29.5	58	19.2	121
Head CG Resultant	N/A	G's	88.3	64			61.0	70		

CHEST PRIMARY PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	G's	50.9	119	61.6	70	3.9	178	44.2	65
Chest CG	Y	G's	16.4	72	8.0	58	3.1	128	7.8	77
Chest CG	Z	G's	25.0	64	32.4	118	17.6	59	20.3	124
Chest CG Resultant	N/A	G's	65.2	70			45.0	65		

FEMUR PEAK FORCES

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Femur	Z	Newtons	931	57	1790	79	125	28	2659	60
Right Femur	Z	Newtons	432	78	2022	58	372	105	3685	53

SEAT BELT SENSOR PEAK VALUES

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Lap Belt Force	N/A	Newtons	3287	62			3777	56		
Shoulder Belt Force	N/A	Newtons	5222	66			4275	59		

HEAD INJURY CRITERIA (HIC_{15})

Location	Driver				Passenger			
	HIC	Avg G's	T^1	T^2	HIC	Avg G's	T^1	T^2
Head CG Primary	837	79.2	57.8	72.8	325	54.3	63.3	78.3

CHEST CLIP (3MSEC)

Location	Driver			Passenger		
	CLIP	T^1	T^2	CLIP	T^1	T^2
Chest CG Primary	58.8	67.7	70.7	44.0	63.7	66.8

NECK INJURY CRITERIA

Location	Driver	Passenger
N_{te}	1.2	1.2
N_{tf}	0.1	0.2
N_{ce}	0.6	0.3
N_{cf}	0.3	0.2

DATA SHEET NO. 8...(continued)

HYBRID III ATD INJURY CRITERIA AND SENSOR DATA

Test Vehicle: 2001/Dodge/Durango/MPV NHTSA No.: M10316

Test Program: 35 mph Frontal Barrier Impact Test Date: April 2, 2001

PELVIC PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Pelvis	X	G's	7.8	138	59.6	66	5.5	139	67.1	51
Pelvis	Y	G's	9.0	53	8.5	67	9.4	29	6.8	86
Pelvis	Z	G's	16.1	66	24.7	108	5.6	56	19.9	111

UPPER NECK PEAK FORCES AND MOMENTS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Neck Force	X	Newtons	423	128	922	73	233	113	823	62
Neck Force	Y	Newtons	398	121	188	157	190	72	91	134
Neck Force	Z	Newtons	2834	72	1211	129	2292	64	574	126
Neck Moment	X	N•m	29.6	171	19.2	58	2.9	101	14.4	55
Neck Moment	Y	N•m	10.2	121	53.3	73	23.9	161	60.2	62
Neck Moment	Z	N•m	35.4	83	0.1	19	5.6*	65*	1.5*	45*

*Data not valid after 99 msec.

FOOT PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Foot Aft	X	G's	282.1	59	75.3	69	165.4	48	79.7	99
Left Foot Aft	Z	G's	56.4	68	21.1	60	65.3	98	66.0	48
Left Foot Fore	Z	G's	47.4	72	55.5	61	92.3	49	84.5	100
Right Foot Aft	X	G's	335.1	52	52.5	64	180.4	56	73.3	96
Right Foot Aft	Z	G's	55.0	83	42.2	47	*	*	*	*
Right Foot Fore	Z	G's	156.7	62	222.1	52	120.4	52	158.8	97

* No Valid Data Collected

UPPER AND LOWER TIBIA PEAK FORCES AND MOMENTS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Lower Moment	X	N•m	38.4	82	32.9	63	27.9	50	35.4	101
Left Lower Moment	Y	N•m	38.0	68	104.7	59	49.2	97	157.9	49
Left Lower Force	Z	Newtons	4774	60	225	118	3092	98	95	31
Left Upper Moment	X	N•m	18.9	101	72.6	68	26.3	49	18.1	142
Left Upper Moment	Y	N•m	10.8	131	170.5	60	12.0	137	171.9	49
Left Upper Force	Z	Newtons	3245	60	321	54	1926	49	205	115
Right Lower Moment	X	N•m	22.2	89	23.9	75	38.7	55	48.5	98
Right Lower Moment	Y	N•m	112.0	66	95.9	47	58.1	95	274.6	55
Right Lower Force	Z	Newtons	2873	51	294	47	3485	95	90	121
Right Upper Moment	X	N•m	18.4	137	43.2	75	37.6	54	14.6	79
Right Upper Moment	Y	N•m	15.2	131	150.8	52	7.4	137	165.0	54
Right Upper Force	Z	Newtons	3421	52	140	129	2311	95	155	116

DATA SHEET NO. 8...(continued)

HYBRID III ATD INJURY CRITERIA AND SENSOR DATA

Test Vehicle: 2001/Dodge/Durango/MPV NHTSA No.: M10316

Test Program: 35 mph Frontal Barrier Impact Test Date: April 2, 2001

CHEST PEAK DISPLACEMENTS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	mm			27.9	69			20.3	62

HEAD REDUNDANT PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Head CG	X	G's	17.9	130	72.4	61	0.6	200	57.9	70
Head CG	Y	G's	35.1	127	60.5	65	5.5	70	7.6	80
Head CG	Z	G's	33.0	72	26.4	123	30.3	58	20.4	119
Head CG Resultant	N/A	G's	87.6	64			58.7	70		

CHEST REDUNDANT PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	G's	51.7	119	60.8	70	3.6	194	43.6	64
Chest CG	Y	G's	15.9	71	8.2	58	3.8	127	6.9	77
Chest CG	Z	G's	24.9	63	32.3	118	16.1	59	19.9	123
Chest CG Resultant	N/A	G's	64.6	70			44.3	64		

REDUNDANT HEAD INJURY CRITERIA (HIC)

Location	Driver				Passenger			
	HIC	Avg G's	T^1	T^2	HIC	Avg G's	T^1	T^2
Head CG Redundant	775	76.8	57.7	72.7	315	53.5	63.3	78.3

REDUNDANT CHEST CLIP (3MSEC)

Location	Driver			Passenger		
	CLIP	T^1	T^2	CLIP	T^1	T^2
Chest CG Redundant	57.2	68.0	71.1	43.2	63.2	66.3

DATA SHEET NO. 9

SEAT BELT PERFORMANCE ASSESSMENT TEST DATA

Test Vehicle: 2001/Dodge/Durango/MPV NHTSA No.: M10316

Test Program: 35 mph Frontal Barrier Impact Test Date: April 2, 2001

SEAT BELT PLACEMENT MEASUREMENTS

Measurement Description	Units	Driver	Passenger
TBI - Dummy centerline to shoulder bolt	mm	162	162
PBU - Top surface of reference to belt upper edge	mm	282	280
PBL - Top surface of reference to belt lower edge	mm	201	200

BELT LENGTH DATA

Measurement Description	Units	Driver	Passenger
Retractor reel to "D" ring	mm	268	260
Shoulder belt length as measured on ATD	mm	848	832
Lap belt length as measured on ATD	mm	628	652
Total belt length for continuous webbing systems	mm	1744	1744

SHOULDER BELT SPOOL-OUT DATA

Measurement Description	Units	Driver	Passenger
As determined mechanically	mm	N/A	N/A
As determined electronically	mm	N/A	N/A

DATA SHEET NO. 10

SUMMARY OF FMVSS 212 DATA

Test Vehicle: 2001/Dodge/Durango/MPV NHTSA No.: M10316

Test Program: 35 mph Frontal Barrier Impact Test Date: April 2, 2001

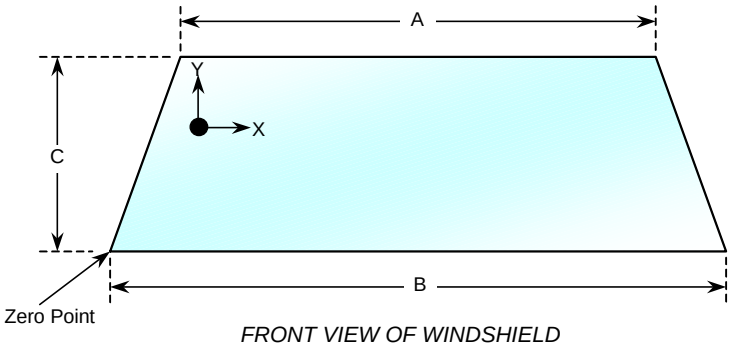
Windshield Mounting Details:
Windshield glass is secured to the vehicle frame with a rubber trim and glue.

The standard requires that the post-test retention measurement be a minimum of 75 percent of the pretest total periphery measurement for vehicles not equipped with occupant passive restraints and 50 percent for each side of the windshield for vehicles, which are equipped with occupant passive restraints.

Temperature of windshield molding during test: 21 °C

WINDSHIELD PERIPHERY MEASUREMENTS

Measurement	Pre-Test (mm)	Post-Test (mm)	% of Retention
Left Side	2068	2068	100
Right Side	2065	2065	100
Total	4133	4133	100



FRONT VIEW OF WINDSHIELD

WINDSHIELD DIMENSIONS

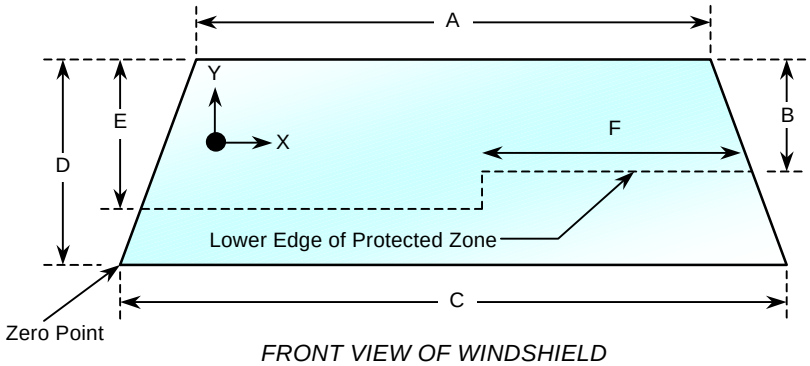
Item	Units	Segment Length	Molding Width
A	mm	1236	21
B	mm	1610	15
C	mm	642	25

DATA SHEET NO. 11

WINDSHIELD ZONE INTRUSION FMVSS 219 (Partial) DATA

Test Vehicle: 2001/Dodge/Durango/MPV NHTSA No.: M10316

Test Program: 35 mph Frontal Barrier Impact Test Date: April 2, 2001



FRONT VIEW OF WINDSHIELD

Item	Units	Value
A	mm	1236
B	mm	430
C	mm	1610
D	mm	642
E	mm	427
F	mm	625

AREA OF PROTECTED ZONE FAILURES

A. Provide coordinates of the area that the protected zone was penetrated more than 0.25 inches by a vehicle component other than one that is normally in contact with the windshield.

X	Y

B. Provide coordinates of the area beneath the protected zone that the inner surface of the windshield was penetrated by a vehicle component.

X	Y

DATA SHEET NO. 12

FMVSS 301 FUEL SYSTEM INTEGRITY POST IMPACT DATA

Test Vehicle: 2001/Dodge/Durango/MPV NHTSA No.: M10316

Test Program: 35 mph Frontal Barrier Impact Test Date: April 2, 2001

Test Time: 11:39 a.m. Temperature at Time of Impact: 21 °C

Stoddard Solvent Spillage Measurements

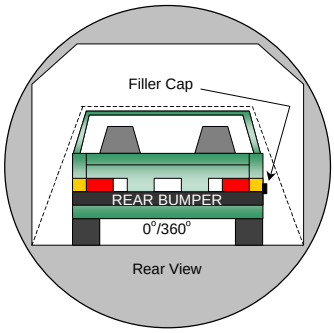
A.	From impact until vehicle motion ceases: (Maximum Allowable = 1 ounce)	0 oz.
B.	For the 5 minute period after motion ceases: (Maximum Allowable = 5 ounces)	0 oz.
C.	For the following 25 minutes: (Maximum Allowable = 1 oz./minute)	0 oz.
D.	Spillage Details:	none

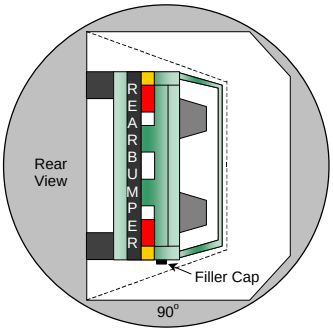
DATA SHEET NO. 13

FMVSS 301 STATIC ROLLOVER DATA

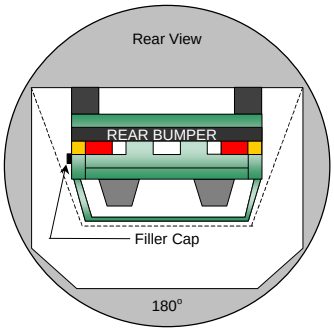
Test Vehicle: 2001/Dodge/Durango/MPV NHTSA No.: M10316

Test Program: 35 mph Frontal Barrier Impact Test Date: April 2, 2001

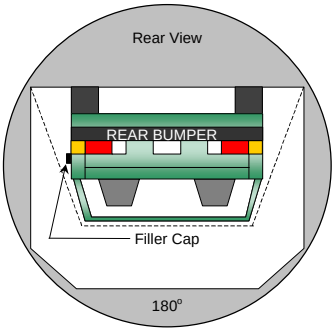




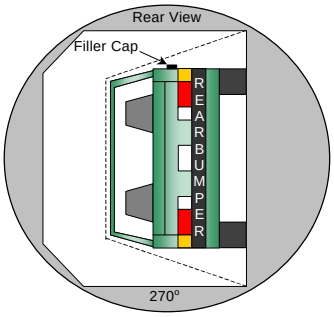
0° TO 90°

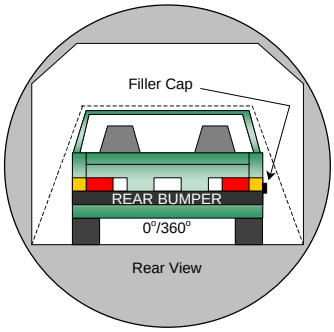


90° TO 180°



180° TO 270°





270° TO 360°

1. The specified fixture rollover rate for each 90° of rotation is 60 to 180 seconds.
2. The position hold time at each position is 300 seconds (minimum).
3. Details of Stoddard Solvent spillage locations:

Test Phase	Rotation Time (sec.)	Hold Time (sec.)	Spillage (oz.)
0° TO 90°	170	300	0
90° TO 180°	152	300	0
180° TO 270°	137	300	0
270° TO 360°	163	300	0

DATA SHEET NO. 14

VEHICLE MEASUREMENTS

Test Vehicle: 2001/Dodge/Durango/MPV NHTSA No.: M10316

Test Program: 35 mph Frontal Barrier Impact Test Date: April 2, 2001

No.	Measurement Description	Units	Pre-Test	Post-Test	Difference
1	Total length of vehicle at centerline	mm	4850	4358	492
2	RSOV to front of engine	mm	4296	4126	170
3	RSOV to firewall centerline	mm	3782	3663	119
4	RSOV to leading edge of right door	mm	3400	3384	16
5	RSOV to leading edge of left door	mm	3397	3357	40
6	RSOV to lower leading edge of right door	mm	3405	3401	4
7	RSOV to lower leading edge of left door	mm	3400	3398	2
8	RSOV to upper leading edge of right door	mm	2342	2314	28
9	RSOV to upper leading edge of left door	mm	2335	2312	23
10	RSOV to lower trailing edge of right door	mm	2335	2326	9
11	RSOV to lower trailing edge of left door	mm	2336	2331	5
12	RSOV to bottom of right 'A' pillar	mm	3415	3406	9
13	RSOV to bottom of left 'A' pillar	mm	3415	3409	6
14	RSOV to firewall on right side	mm	3800	3659	141
15	RSOV to firewall on left side	mm	3775	3554	221
16	RSOV to steering column	mm	2905	2856	49
17	Center of steering column to left 'A' pillar	mm	405	324	81
18	Center of steering column to headlining	mm	414	326	88
19	RSOV to right side of front bumper	mm	4731	4351	380
20	RSOV to left side of front bumper	mm	4735	4321	414
21	Length of engine block	mm	550	550	0
RD	RSOV to right side of dash panel	mm	3140	3113	27
CD	RSOV to center of dash panel	mm	3140	3023	117
LD	RSOV to left side of dash panel	mm	3115	3034	81

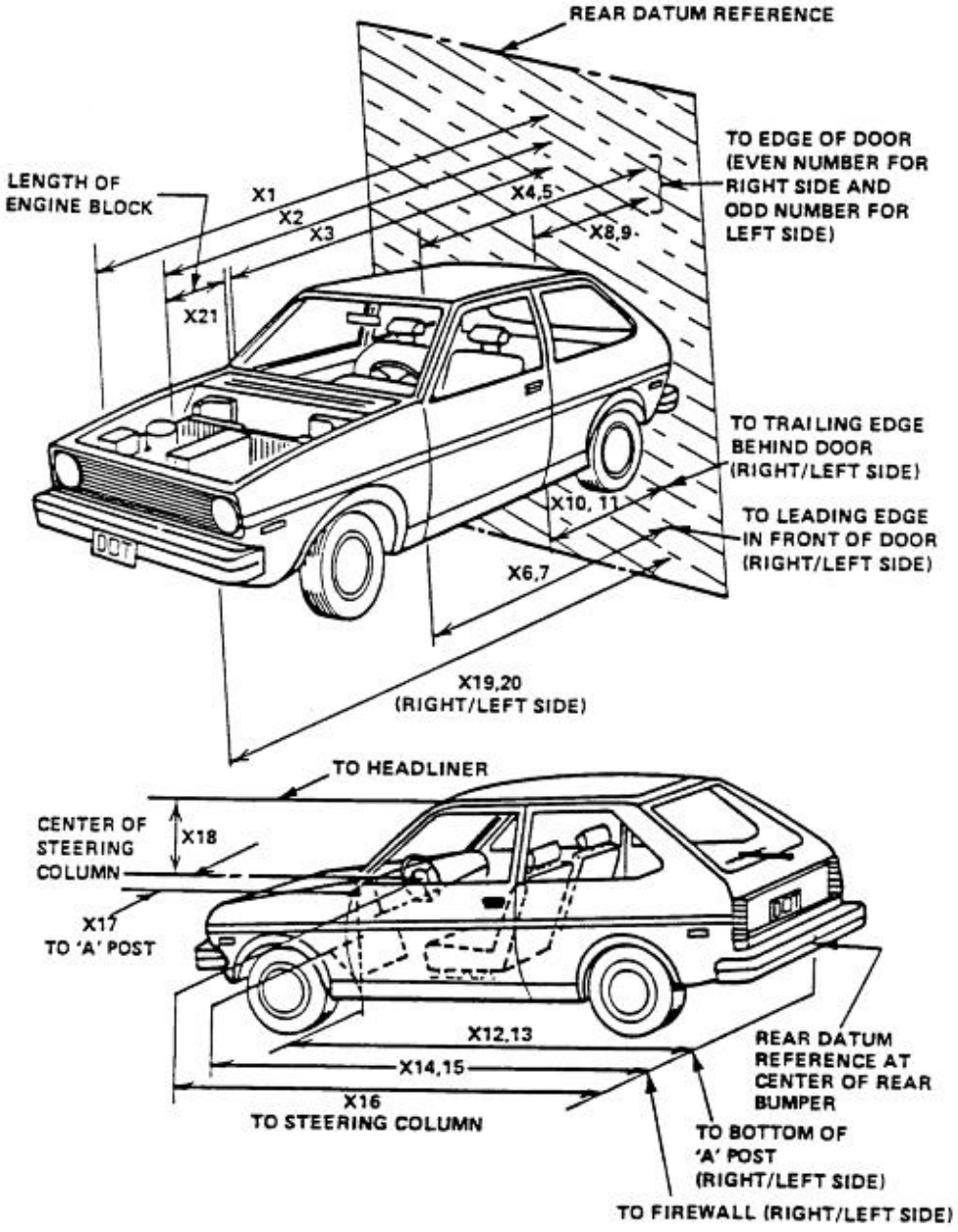
RSOV = Rear Surface of Vehicle

DATA SHEET NO. 14...(continued)

VEHICLE MEASUREMENTS

Test Vehicle: 2001/Dodge/Durango/MPV NHTSA No.: M10316

Test Program: 35 mph Frontal Barrier Impact Test Date: April 2, 2001



DATA SHEET NO. 15

CAMERA LOCATIONS

Test Vehicle: 2001/Dodge/Durango/MPV NHTSA No.: M10316

Test Program: 35 mph Frontal Barrier Impact Test Date: April 2, 2001

No.	Camera View	Location (mm) *			Lens (mm)	Speed (fps)
		X	Y	Z		
1	Real-Time Left Side View				17	32
2	Left Front View	1000	-8200	1560	25	1010
3	Steering Column Top	2000	-7600	1560	25.4	1036
4	Steering Column Bottom	2000	-7600	1830	25	847
5	Driver Close-up	1370	-18220	1470	50	1000
6	Driver Angle	4700	-5020	2030	50	1005
7	Onboard Driver				8	513
8	Onboard Passenger				8	526
9	Right Overall	2070	7220	1510	13	1081
10	Right Passenger Half	1000	7950	1340	25	1015
11	Right Close-up	1410	8300	1440	50	885
12	Right Angle	5400	5560	2130	50	948
13	Windshield	-450	0	2700	13	917
14	Top Driver	76	-440	1780	17	1005
15	Top Passenger	80	400	1780	13	1036
16	Pit Front	1000	0	-3200	13	1064
17	Pit Rear	2800	0	-3200	13	1015

*COORDINATES:

+X = film plane rearward of barrier

+Y = film plane to right of monorail centerline

+Z = film plane to above ground level

ORIGIN: For X and Y it is the Impact Point. For Z it is the Floor.

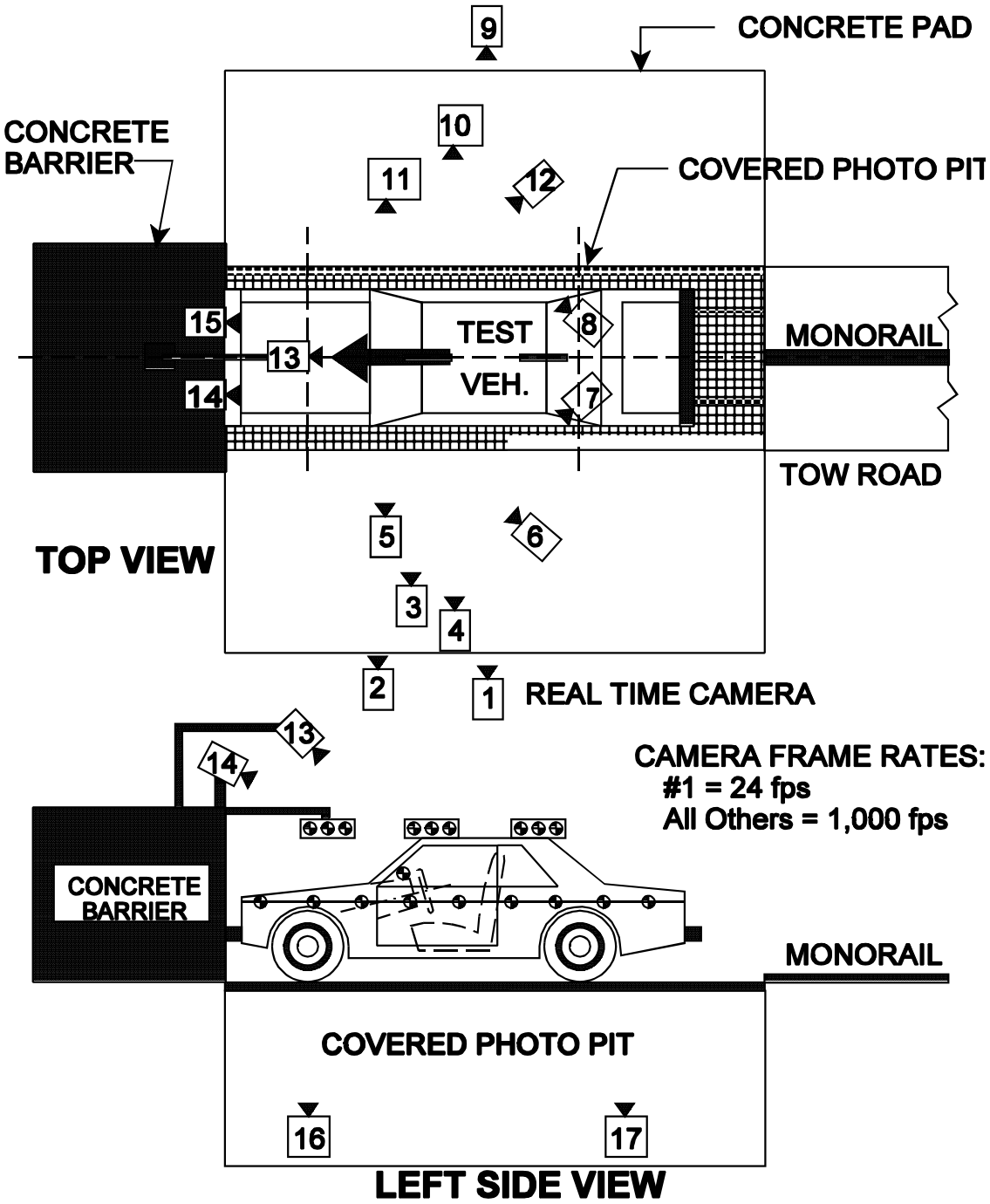
DATA SHEET NO. 15...(continued)

CAMERA LOCATIONS

Test Vehicle: 2001/Dodge/Durango/MPV NHTSA No.: M10316

Test Program: 35 mph Frontal Barrier Impact Test Date: April 2, 2001

CAMERA POSITIONS FOR FRONTAL IMPACTS



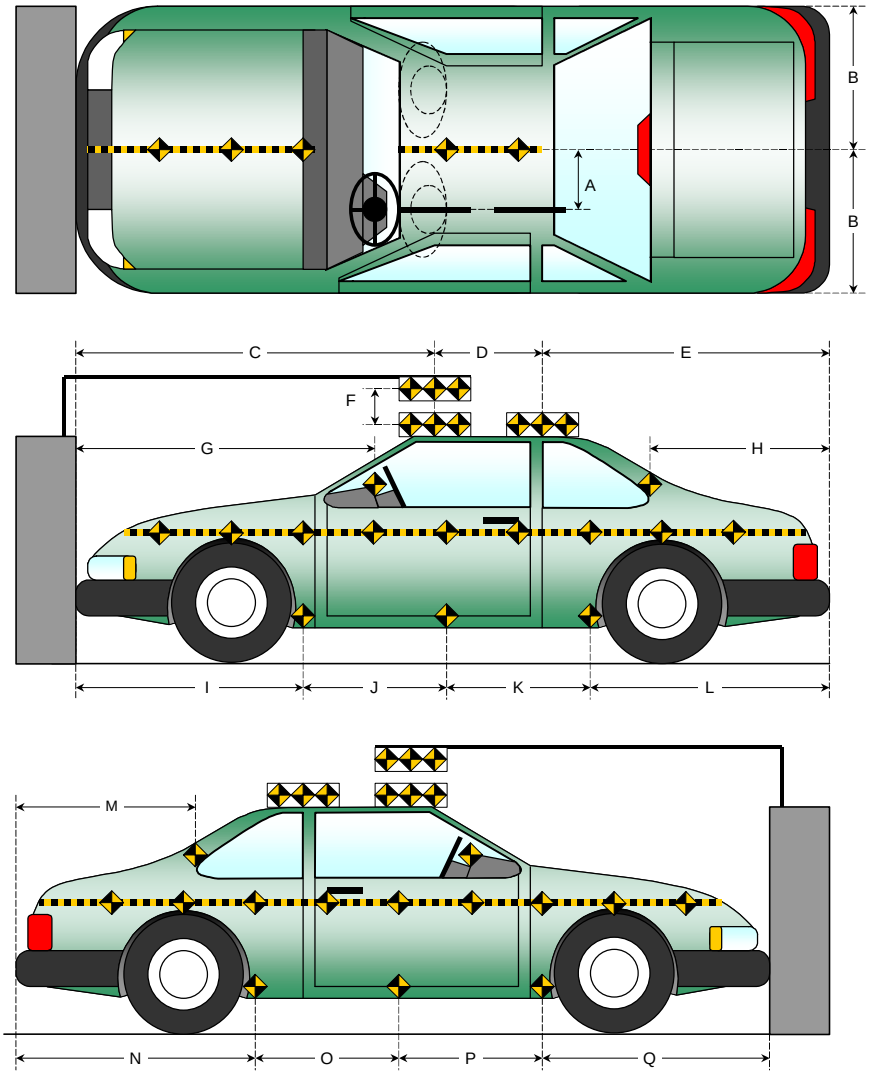
DATA SHEET NO. 16

PHOTOGRAPHIC REFERENCE TARGET LOCATIONS

Test Vehicle: 2001/Dodge/Durango/MPV NHTSA No.: M10316

Test Program: 35 mph Frontal Barrier Impact Test Date: April 2, 2001

Item	Value
A	357
B	925
C	2209
D	610
E	2031
F	610
G	1766
H	1432
I	1420
J	894
K	894
L	1642
M	1438
N	1689
O	896
P	896
Q	1369



DATA SHEET NO. 17

VEHICLE INTRUSION MEASUREMENTS

Test Vehicle: 2001/Dodge/Durango/MPV NHTSA No.: M10316

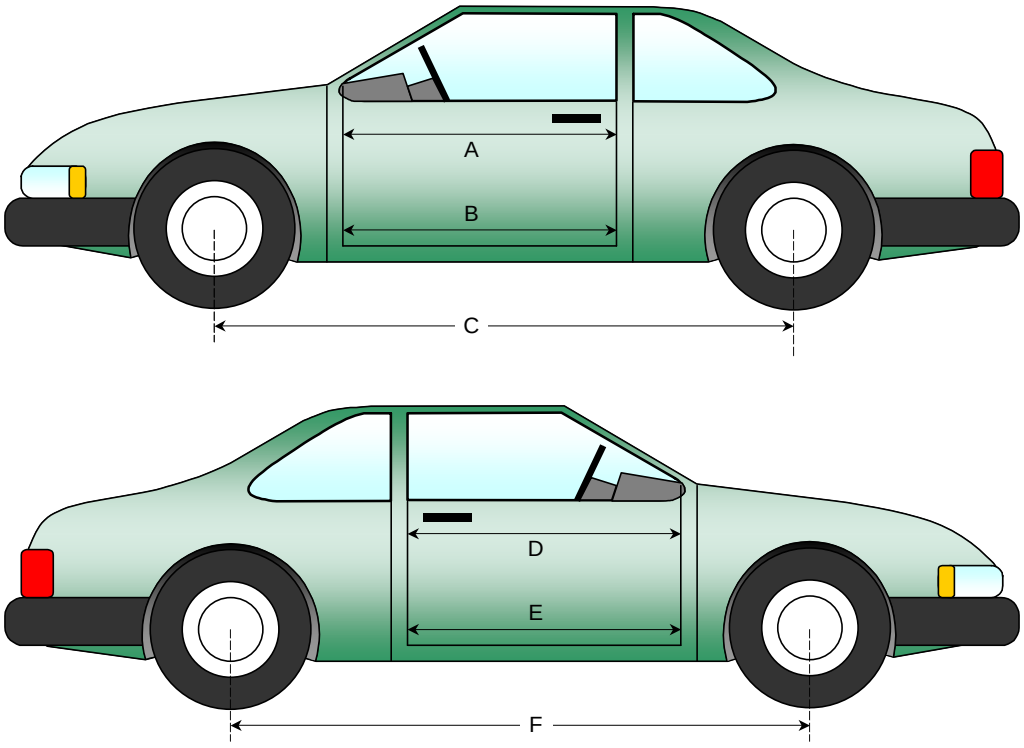
Test Program: 35 mph Frontal Barrier Impact Test Date: April 2, 2001

DOOR OPENING WIDTH

Item	Description	Units	Pre-Test	Post-Test	Difference
A	Left Side Upper	mm	1025	978	47
B	Left Side Lower	mm	950	933	17
D	Right Side Upper	mm	1025	992	33
E	Right Side Lower	mm	945	940	5

WHEELBASE MEASUREMENTS

Item	Description	Units	Pre-Test	Post-Test	Difference
C	Left Side Wheelbase	mm	2958	2889	69
F	Right Side Wheelbase	mm	2960	2877	83



DATA SHEET NO. 17...(continued)

VEHICLE INTRUSION MEASUREMENTS

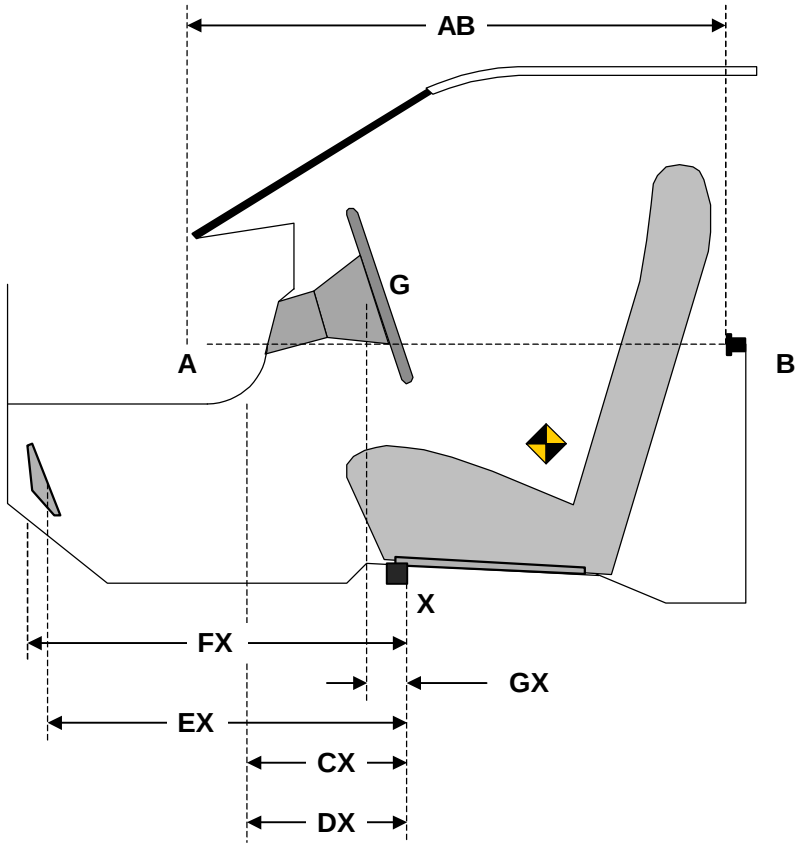
Test Vehicle: 2001/Dodge/Durango/MPV NHTSA No.: M10316

Test Program: 35 mph Frontal Barrier Impact Test Date: April 2, 2001

DRIVER COMPARTMENT INTRUSION

Item	Description	Units	Pre-Test	Post-Test	Difference
AB	Door Opening (Inside window jam)	mm	740	726	14
CX	Left Knee Bolster to X	mm	248	163	85
DX	Right Knee Bolster to X	mm	248	92	156
EX	Brake Pedal to X	mm	535	410	125
FX	Foot Rest to X	mm	N/A	N/A	N/A
GX	Center of Steering Column Wheel Hub to X	mm	25	-27	52

X = Left Front Seat Front Outboard Anchor Bolt Head



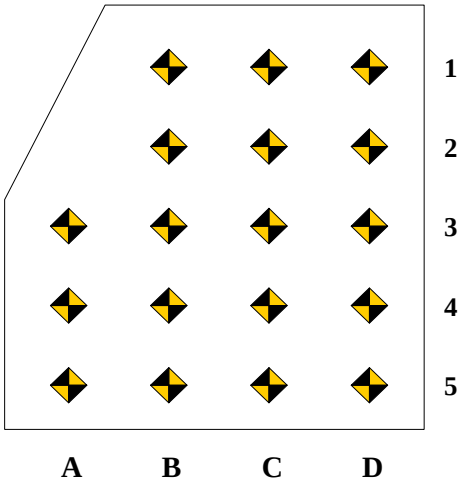
DRIVER COMPARTMENT

DATA SHEET NO. 17...(continued)

VEHICLE INTRUSION MEASUREMENTS

Test Vehicle: 2001/Dodge/Durango/MPV NHTSA No.: M10316

Test Program: 35 mph Frontal Barrier Impact Test Date: April 2, 2001



Measurement reference point for X and Z axis is the forward outboard seat mounting bolt.

Columns A through D are evenly spaced.

Rows 1 and 2 are on the toe kick portion of the floor pan. Rows 3, 4, and 5 are located on the most level portion of the floor pan.

Row 3 will be at the intersection of the toe kick and the level sections of the floor pan.

DRIVER FLOOR PAN X-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	N/A	698	706	702	N/A	650	648	586	N/A	48	58	116
2	N/A	606	611	618	N/A	562	565	537	N/A	49	46	81
3	552	548	543	546	511	511	506	504	41	37	37	42
4	440	436	435	436	390	393	390	390	50	43	45	46
5	343	336	333	342	284	281	279	281	59	52	54	61

DRIVER FLOOR PAN Z-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	N/A	-81	-89	-95	N/A	-26	-25	-23	N/A	55	64	72
2	N/A	-97	-101	-122	N/A	-66	-61	-64	N/A	31	40	58
3	-159	-158	-163	-166	-134	-135	-141	-136	25	23	22	30
4	-160	-168	-165	-167	-136	-159	-171	-163	24	9	-6	4
5	-155	-169	-163	-167	-130	-159	-162	-179	25	4	1	-12

DATA SHEET NO. 17...(continued)

VEHICLE INTRUSION MEASUREMENTS

Test Vehicle: 2001/Dodge/Durango/MPV NHTSA No.: M10316

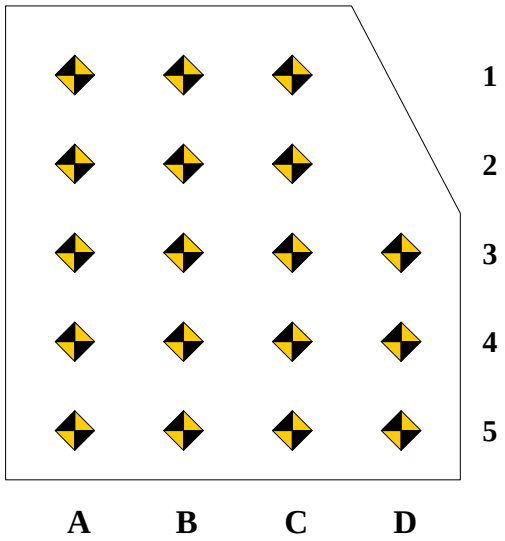
Test Program: 35 mph Frontal Barrier Impact Test Date: April 2, 2001

Measurement reference point for X and Z axis is the forward outboard seat mounting bolt.

Columns A through D are evenly spaced.

Rows 1 and 2 are on the toe kick portion of the floor pan. Rows 3, 4, and 5 are located on the most level portion of the floor pan.

Row 3 will be at the intersection of the toe kick and the level sections of the floor pan.



PASSENGER FLOOR PAN X-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	643	667	677	N/A	509	564	594	N/A	134	103	83	N/A
2	590	598	600	N/A	479	538	556	N/A	111	60	44	N/A
3	531	532	533	538	467	464	476	478	64	68	57	60
4	446	460	464	470	393	382	400	398	53	78	64	72
5	379	382	386	387	317	310	319	326	62	72	67	61

PASSENGER FLOOR PAN Z-AXIS

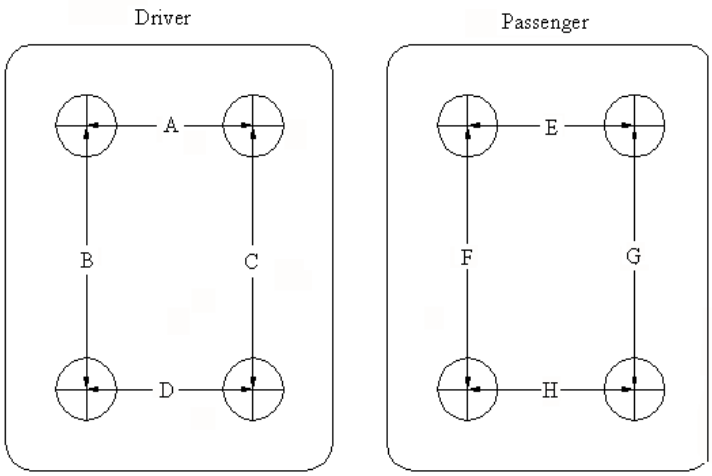
	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	-70	-74	-80	N/A	19	9	-3	N/A	89	83	77	N/A
2	-107	-105	-106	N/A	-58	-65	-64	N/A	49	40	42	N/A
3	-158	-169	-172	-171	-123	-146	-145	-139	35	23	27	33
4	-151	-169	-169	-168	-140	-172	-160	-136	11	-3	9	32
5	-154	-172	-176	-170	-156	-180	-171	-151	-2	-8	5	19

DATA SHEET NO. 17...(continued)

VEHICLE INTRUSION MEASUREMENTS

Test Vehicle: 2001/Dodge/Durango/MPV NHTSA No.: M10316

Test Program: 35 mph Frontal Barrier Impact Test Date: April 2, 2001



UNDERBODY FLOORBOARD DEFORMATION

MEASUREMENT	PRE TEST	POST TEST	DIFFERENCE
A	274	291	17
B	302	305	3
C	340	341	1
D	267	270	3
E	193	180	-13
F	323	315	-8
G	334	327	-7
H	163	159	-4

DATA SHEET NO. 18

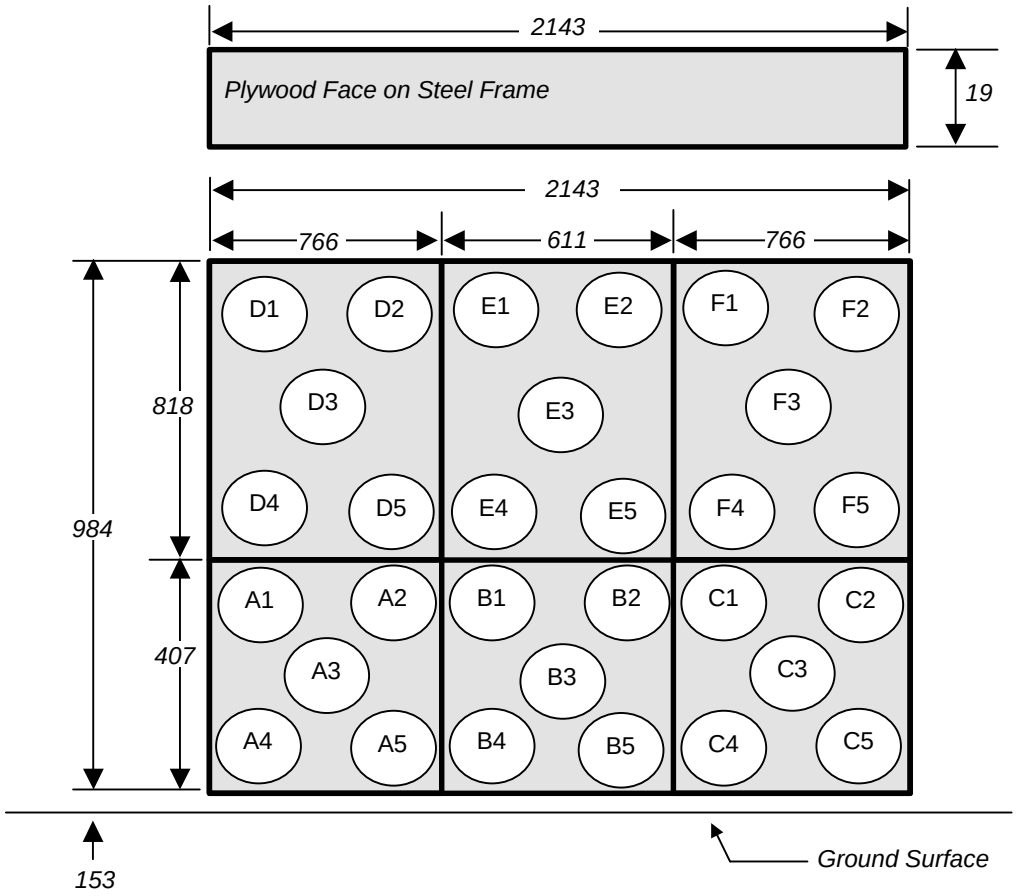
LOAD CELL LOCATIONS ON FIXED BARRIER

Test Vehicle: 2001/Dodge/Durango/MPV NHTSA No.: M10316

Test Program: 35 mph Frontal Barrier Impact Test Date: April 2, 2001

30 Load Cell Rigid Barrier

Load Cell Locations on Fixed Barrier



Group 4 D1-D5	Group 5 E1-E5	Group 6 F1-F5
Group 1 A1-A5	Group 2 B1-B5	Group 3 C1-C5

6 Groups of 5 Load Cells Each

The Data is presented in Appendix C with the following requirements:

1. Data from 30 individual load cells
2. Sum data from 6 groupings shown above (5 cells/group)
3. Total or sum of all 30 individual load cells

DATA SHEET NO. 19

ACCIDENT INVESTIGATION DIVISION DATA

Test Vehicle: 2001/Dodge/Durango/MPV NHTSA No.: M10316

Test Program: 35 mph Frontal Barrier Impact Test Date: April 2, 2001

VEHICLE INFORMATION

VIN: 1B4HS28N11F566141 Wheelbase (mm): 2945

Vehicle Size Category: MPV Test Weight (kg): 2442.1

ACCELEROMETER DATA

Accelerometer Locations: As per measurements on page 13

Cal. Procedure/Interval: MGA procedure / 6 month

Integration Algorithm: Trapezoidal Linearity: >99.9%

Impact Velocity (km/h): 56.2

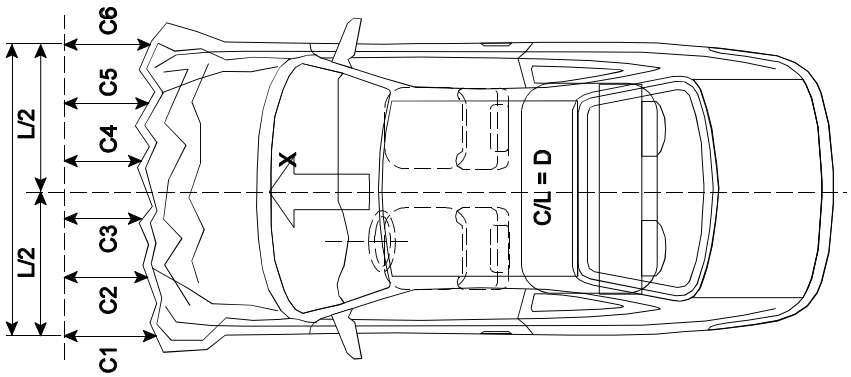
Velocity Change (km/h): 64.1 Time of Separation (msec): 199

CRUSH PROFILE

Collision Deformation Classification: Frontal Midpoint of Damage: Vehicle centerline

Damage Region Length (mm): 1850 Impact Mode: Frontal

No.	Measurement Description	Units	Pre-Test	Post-Test	Difference
C1	Crush zone 1 at left side	mm	4735	4321	414
C2	Crush zone 2 at left side	mm	4810	4344	466
C3	Crush zone 3 at left side	mm	4840	4348	492
C4	Crush zone 4 at right side	mm	4840	4392	448
C5	Crush zone 5 at right side	mm	4811	4372	439
C6	Crush zone 6 at right side	mm	4731	4351	380

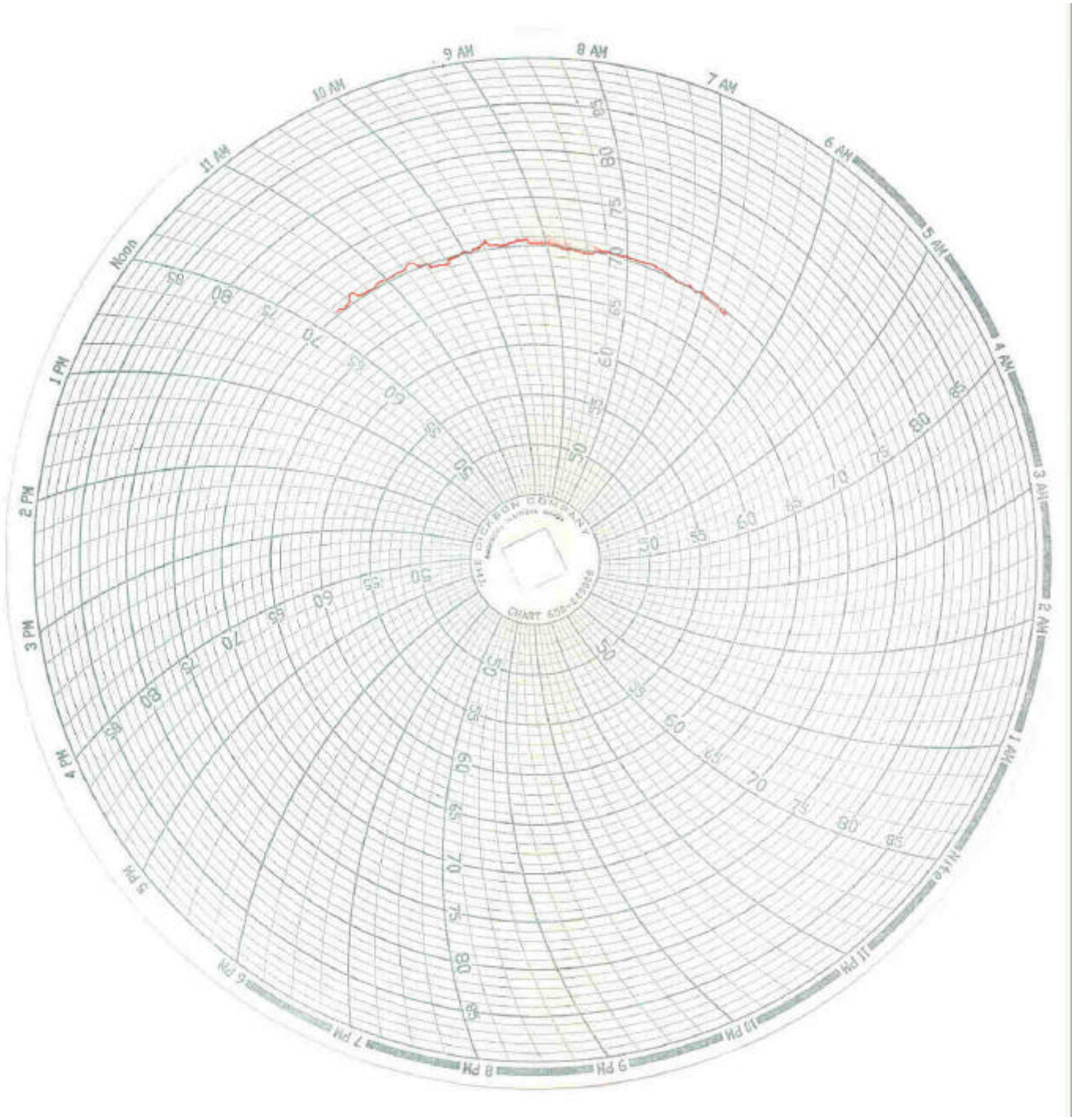


DATA SHEET NO. 20

DUMMY / VEHICLE TEMPERATURE STABILIZATION CHART

Test Vehicle: 2001/Dodge/Durango/MPV NHTSA No.: M10316

Test Program: 35 mph Frontal Barrier Impact Test Date: April 2, 2001



A = Dummies installed in vehicle at 6:50 a.m.

B = Test conducted at 11:39 a.m.

APPENDIX A

PHOTOGRAPHS

TABLE OF PHOTOGRAPHS

TABLE OF PHOTOGRAPHS (Cont'd)

Photo No. A-1 - Pre-Test Front View of Test Vehicle

Photo No. A-2 - Post-Test Front View of Test Vehicle

Photo No. A-3 - Pre-Test Rear View of Test Vehicle

Photo No. A-4 - Post-Test Rear View of Test Vehicle

Photo No. A-5 - Pre-Test Left Side View of Test Vehicle

Photo No. A-6 - Post-Test Left Side View of Test Vehicle

Photo No. A-7 - Pre-Test Left Rear Three-Quarter View of Test Vehicle

Photo No. A-8 - Post-Test Left Rear Three-Quarter View of Test Vehicle

Photo No. A-9 - Pre-Test Right Side View of Test Vehicle

Photo No. A-10 - Post-Test Right Side View of Test Vehicle

Photo No. A-11 - Pre-Test Right Front Three-Quarter View of Test Vehicle

Photo No. A-12 - Post-Test Right Front Three-Quarter View of Test Vehicle

Photo No. A-13 - Pre-Test Fuel Filler Cap View

Photo No. A-14 - Pre-Test Engine Compartment View

Photo No. A-15 - Post-Test Engine Compartment View

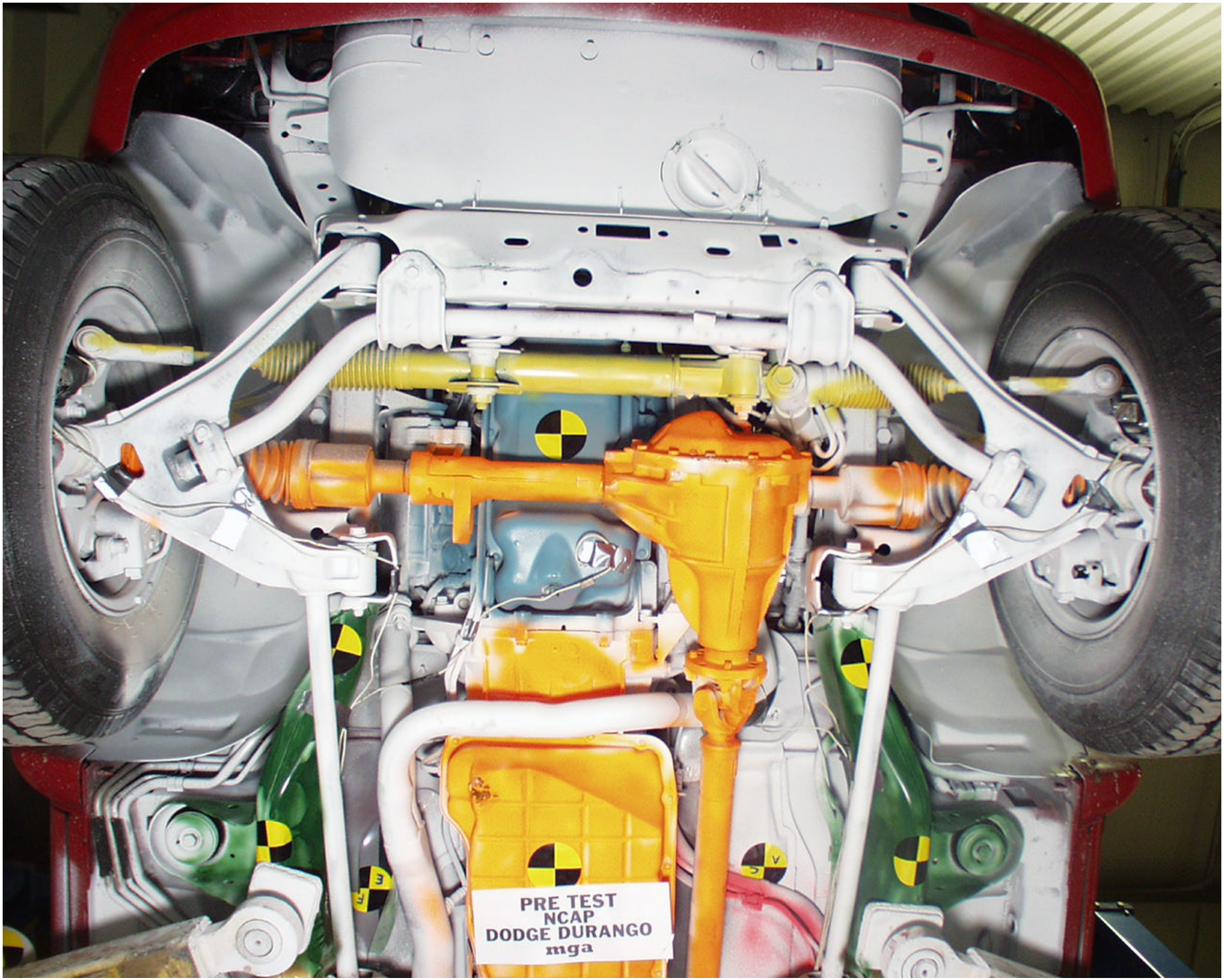


Photo No. A-16 - Pre-Test Front Underbody View

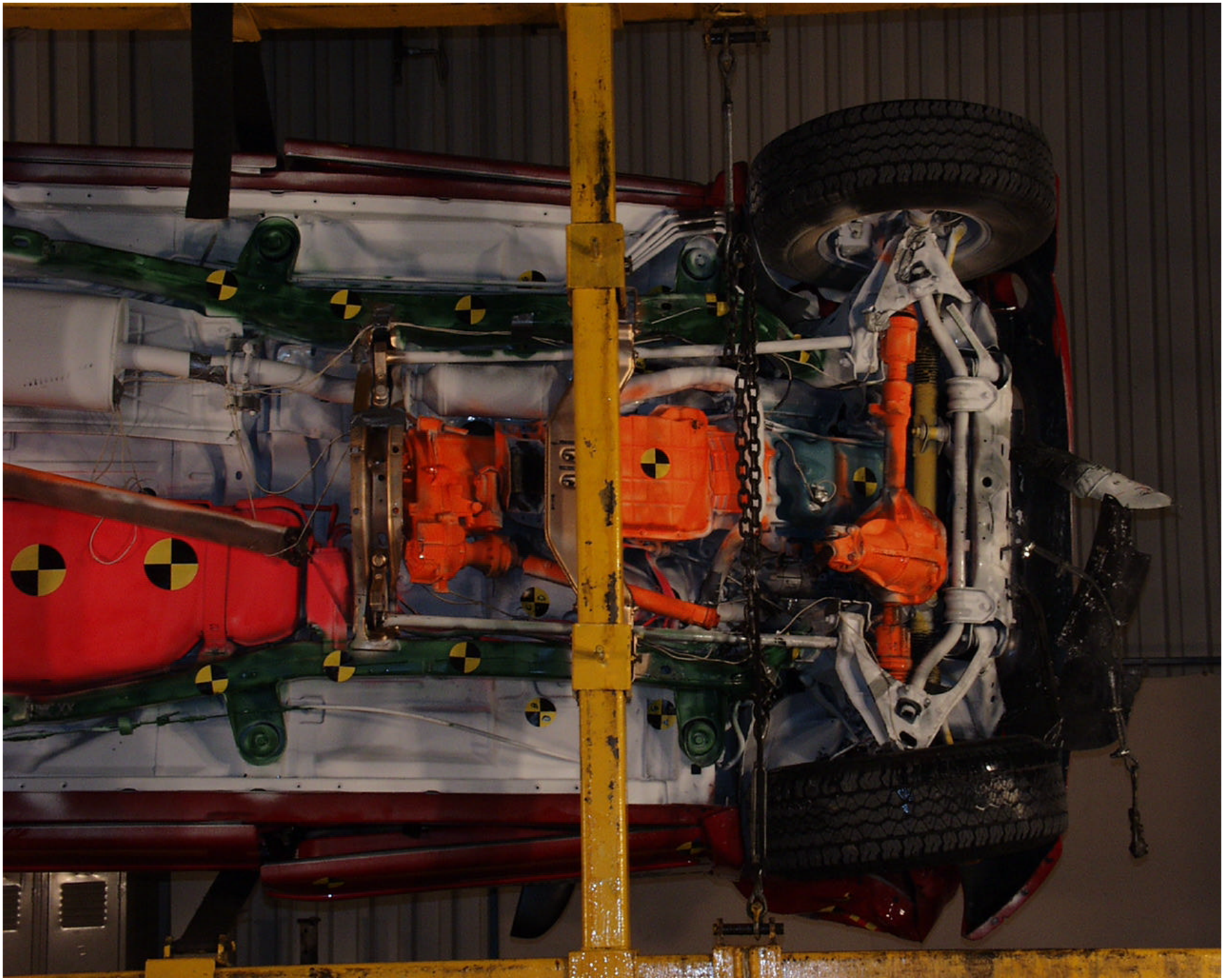


Photo No. A-17 - Post-Test Front Underbody View

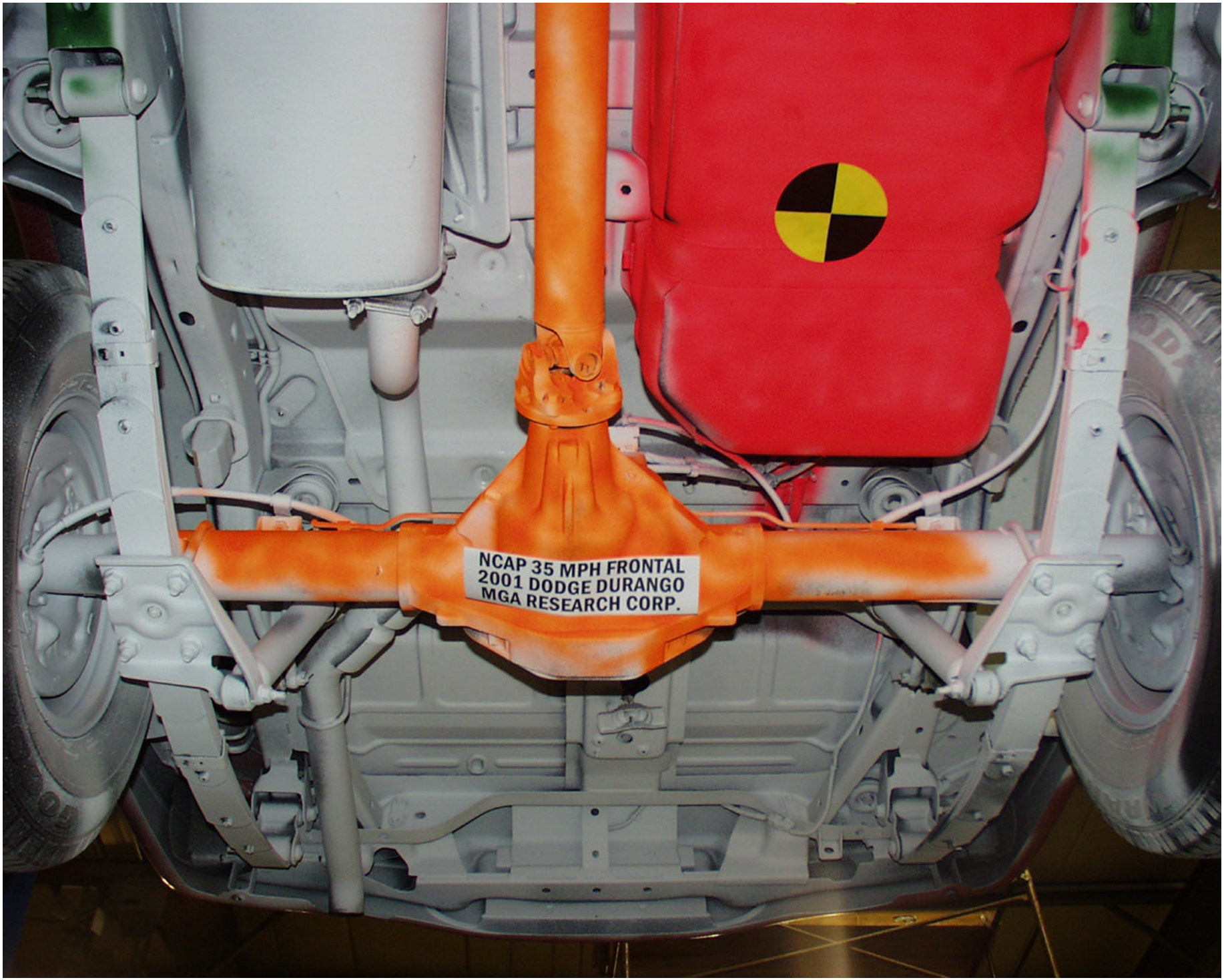


Photo No. A-18 - Pre-Test Rear Underbody View

Photo No. A-19 - Post-Test Rear Underbody View

Photo No. A-20 - Pre-Test Windshield View

Photo No. A-21 - Post-Test Windshield View

Photo No. A-22 - Pre-Test Driver Dummy Position Left Side View

Photo No. A-23 - Post-Test Driver Dummy Position Left Side View

Photo No. A-24 - Pre-Test Driver Dummy Position Left Side View (Door Open)

Photo No. A-25 - Post-Test Driver Dummy Position Left Side View (Door Open)

Photo No. A-26 - Pre-Test Driver Seat Position View

Photo No. A-27 - Post-Test Driver Seat Position View

Photo No. A-28 - Pre-Test Driver Dummy Knee Position

Photo No. A-29 - Post-Test Driver Dummy Knee Position

Photo No. A-30 - Post-Test Driver Airbag Contact

Photo No. A-31 - Post-Test Driver Knee Contact View

Photo No. A-32 - Pre-Test Driver Windshield View

Photo No. A-33 - Post-Test Driver Windshield View

Photo No. A-34 - Pre-Test Passenger Dummy Position Right Side View

Photo No. A-35 - Post-Test Passenger Dummy Position Right Side View

Photo No. A-36 - Pre-Test Pass. Dummy Position Right Side View (Door Open)

Photo No. A-37 - Post-Test Pass. Dummy Position Right Side View (Door Open)

Photo No. A-38 - Pre-Test Passenger Seat Position View

Photo No. A-39 - Post-Test Passenger Seat Position View

Photo No. A-40 - Pre-Test Passenger Dummy Knee Position

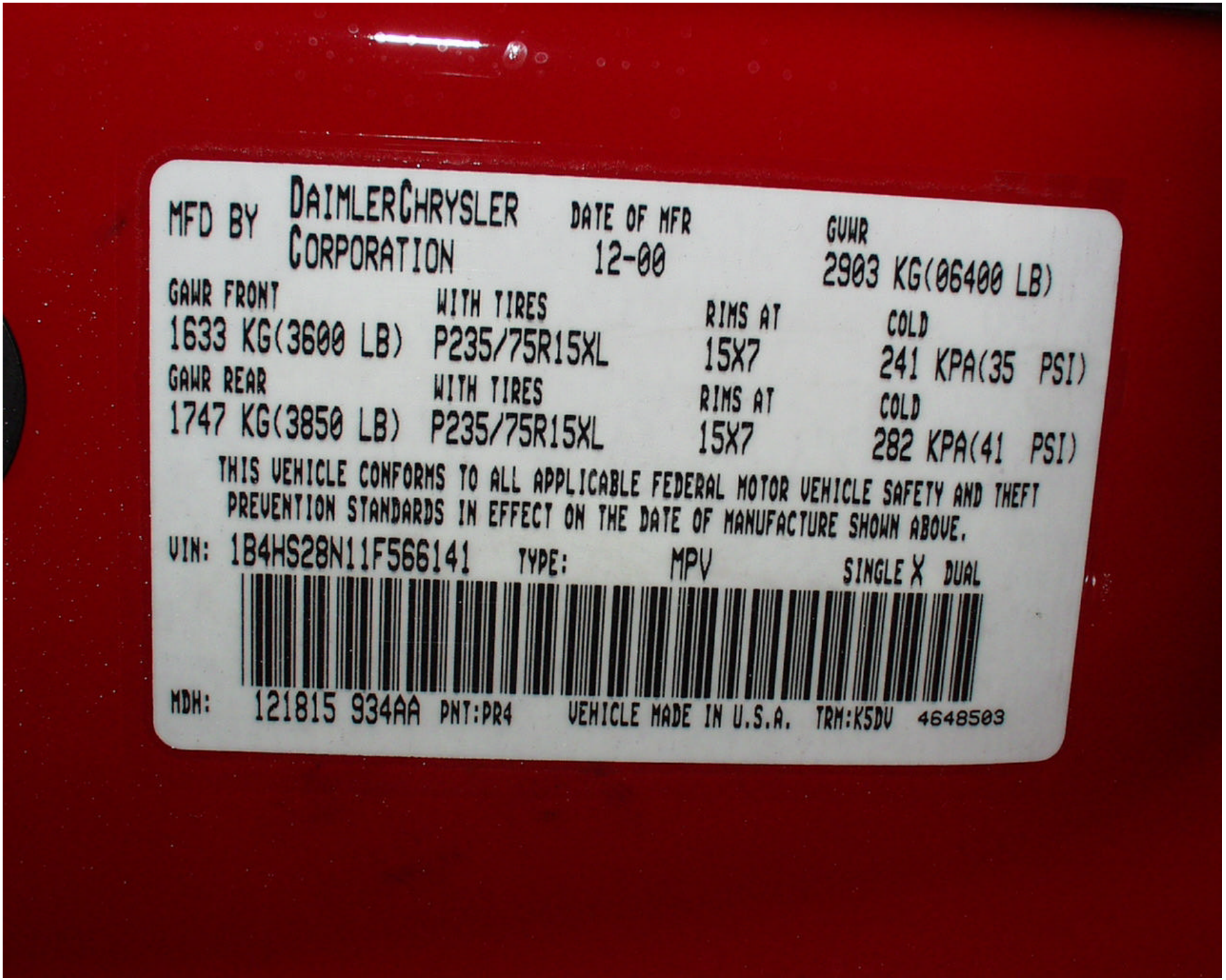
Photo No. A-41 - Post-Test Passenger Dummy Knee Position

Photo No. A-42 - Post-Test Passenger Airbag Contact

Photo No. A-43 - Post-Test Passenger Knee Contact View

Photo No. A-44 - Pre-Test Passenger Windshield View

Photo No. A-45 - Post-Test Passenger Windshield View



A-46

Photo No. A-46 - Vehicle Certification/Tire Placard Label

Photo No. A-47 - Vehicle Impact

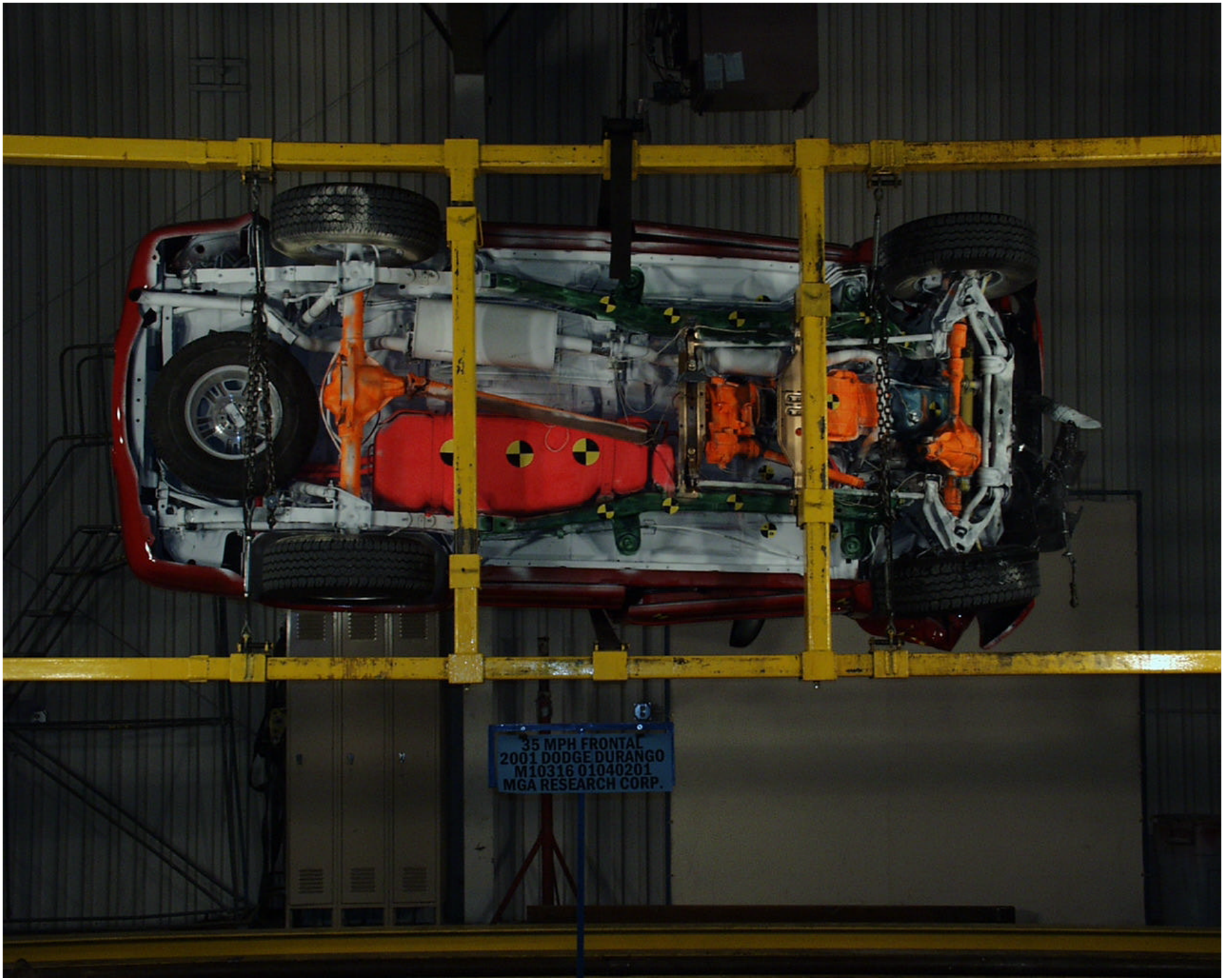


Photo No. A-48 - Rollover 90E

Photo No. A-49 - Rollover 180E

Photo No. A-50 - Rollover 270E

Photo No. A-51 - Rollover 360E

APPENDIX B

DUMMY AND VEHICLE RESPONSE DATA TRACES

TABLE OF DATA PLOTS

VEHICLE DATA FILTER CHANNEL CLASS

Head Accelerations 1000 (1650 Hz)

Chest Accelerations 180 (300 Hz)

Vehicle Accelerations 60 (100 Hz)

Barrier Load Cells 60 (100 Hz)

Femur Load Cells 600 (1000 Hz)

Lap and Torso Belts 60 (100 Hz)

Tibia Load Cells 600 (1000Hz)

Foot Accelerations 180 (300Hz)

TABLE OF DATA PLOTS

TABLE OF DATA PLOTS

*Data not valid after 99 msec.

TABLE OF DATA PLOTS

* No Valid Data Collected

TABLE OF DATA PLOTS

*Data not valid after 28 msec.

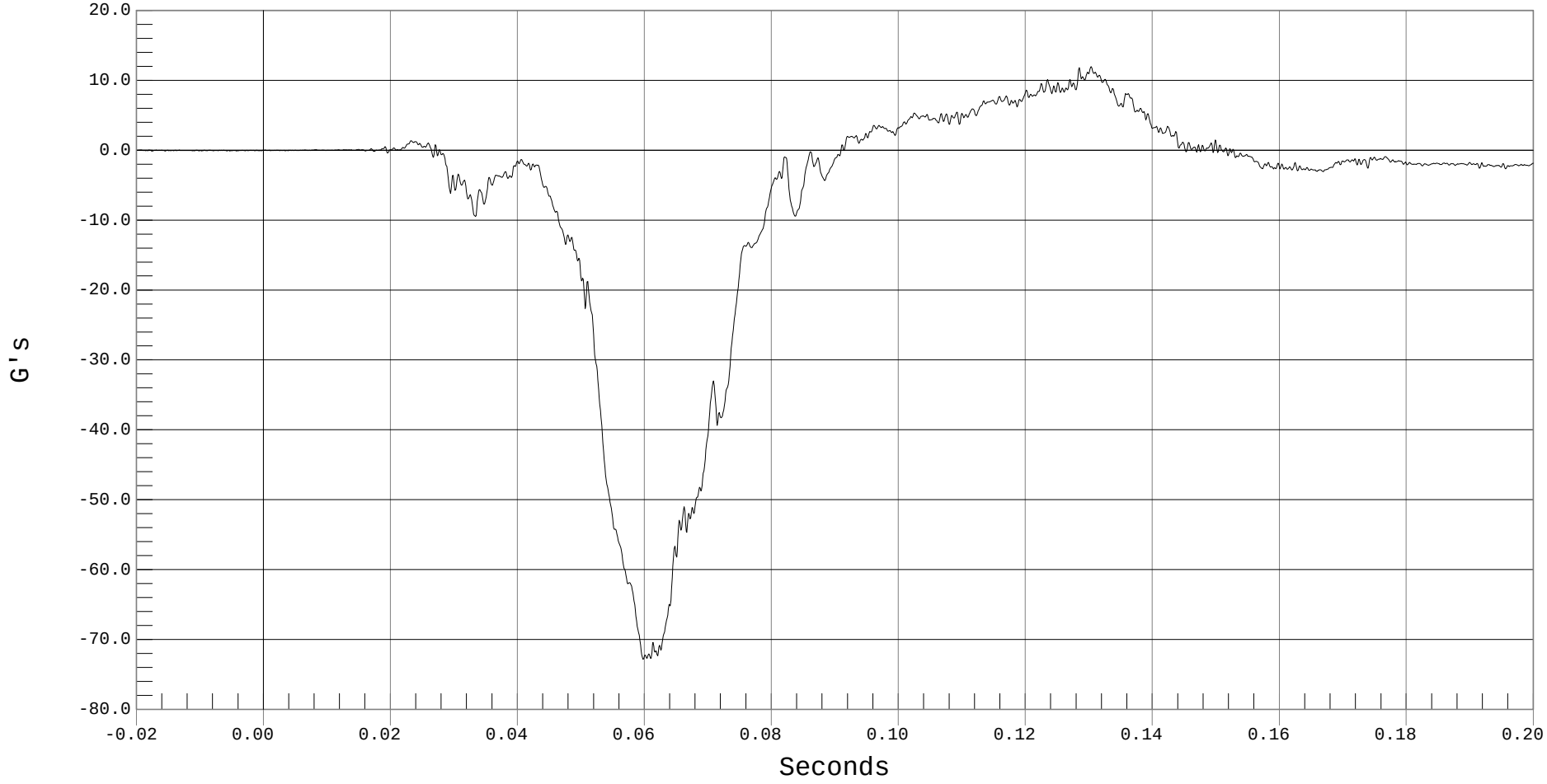
DRIVER HEAD X ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 DRIVER HEAD X, b01036AT.A01

Ymin = -72.85 G's @ 0.0597 Seconds, Ymax = 11.96 G's @ 0.1303 Seconds



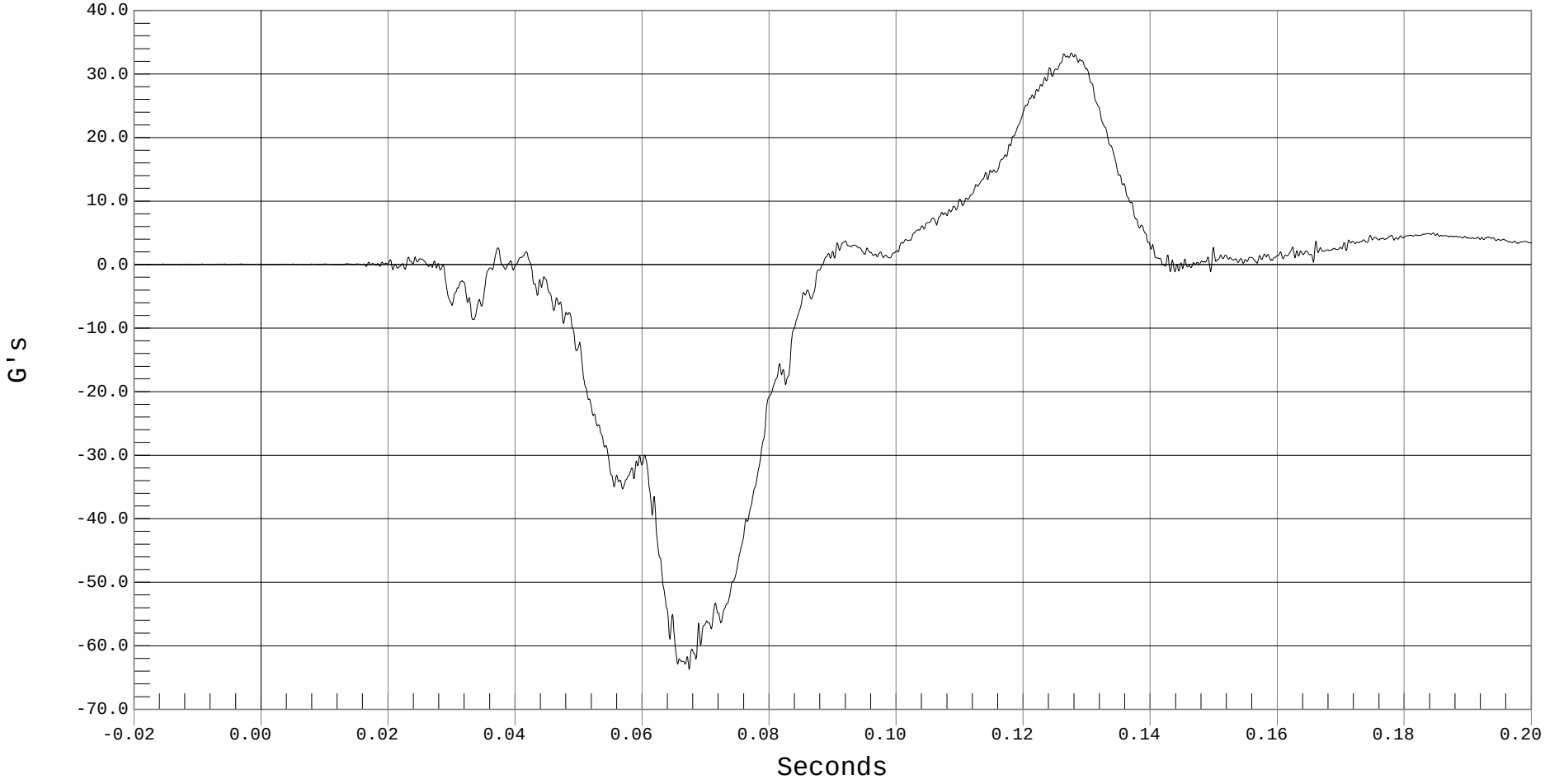
DRIVER HEAD Y ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 DRIVER HEAD Y, b01036AT.A02

Ymin = -63.75 G's @ 0.0673 Seconds, Ymax = 33.33 G's @ 0.1275 Seconds



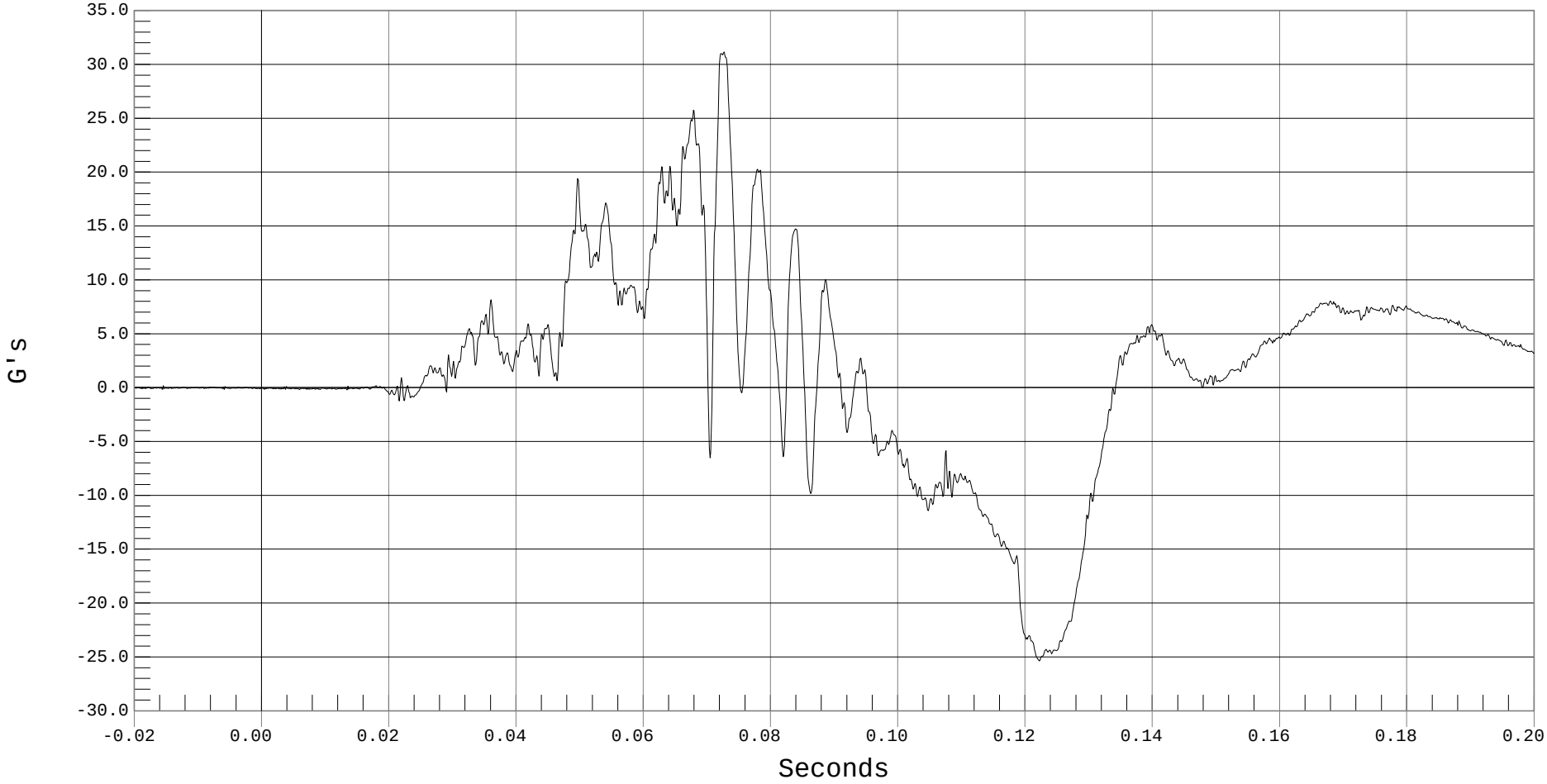
DRIVER HEAD Z ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 DRIVER HEAD Z, b01036AT.A03

Ymin = -25.37 G's @ 0.1222 Seconds, Ymax = 31.15 G's @ 0.0726 Seconds



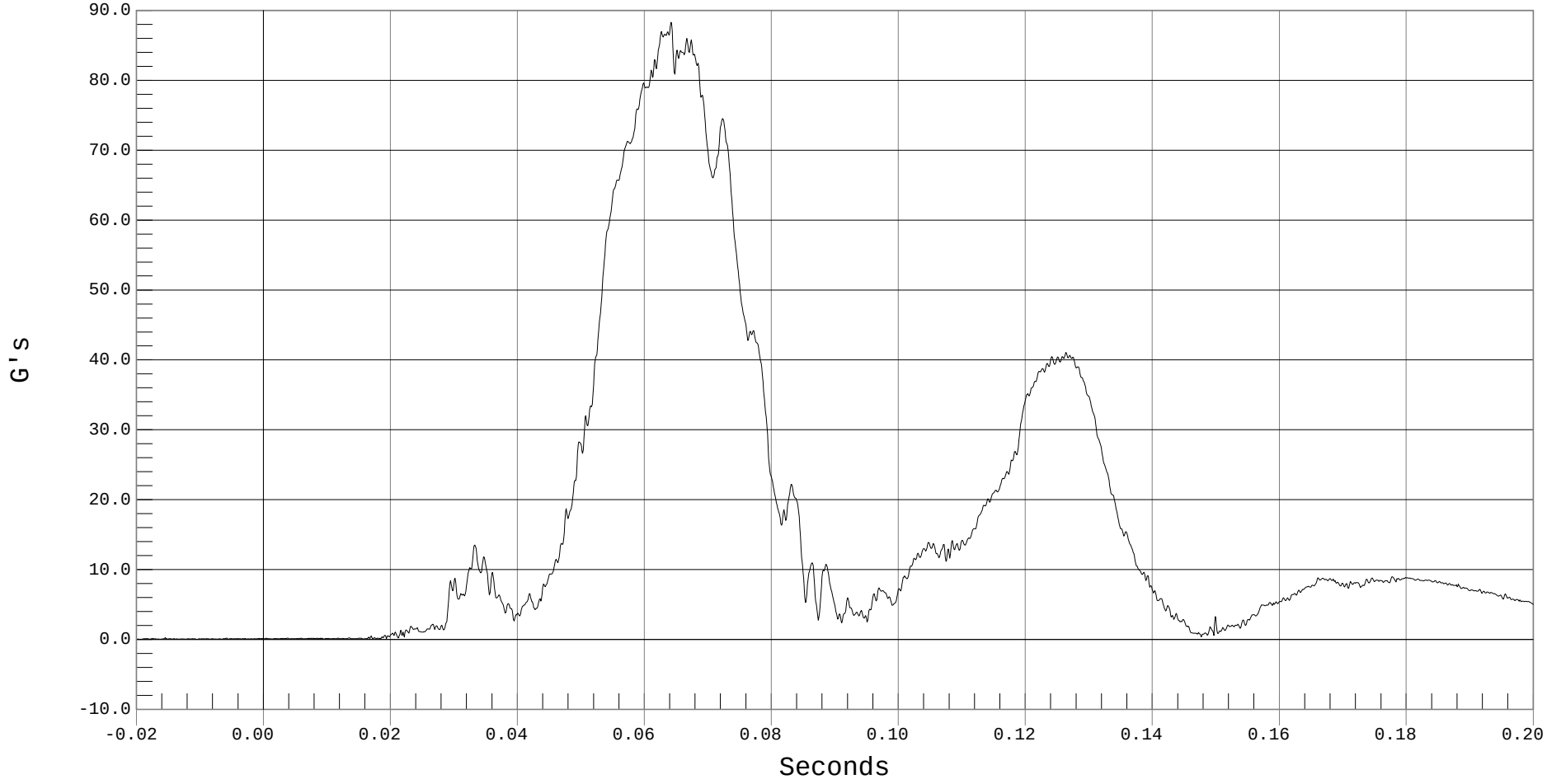
DRIVER HEAD RESULTANT ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 DRIVER HEAD RESULTANT ACCELERATION, b01036AV.A01

Ymin = .01 G's @ -0.0105 Seconds, Ymax = 88.31 G's @ 0.0641 Seconds



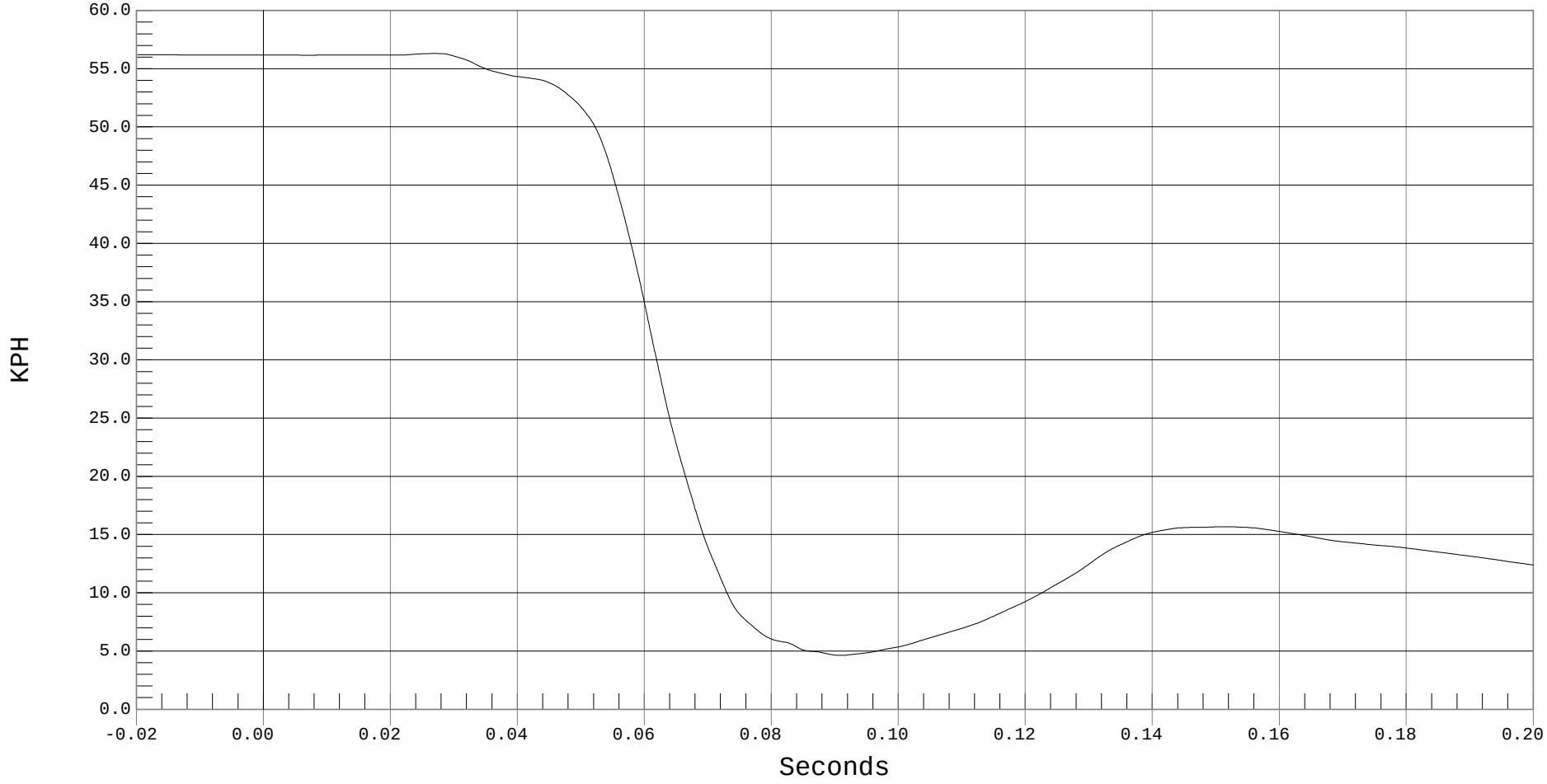
DRIVER HEAD X VELOCITY

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 DRIVER HEAD X VELOCITY, b01036AI.V01

Ymin = 4.63 KPH @ 0.0909 Seconds, Ymax = 56.31 KPH @ 0.0268 Seconds



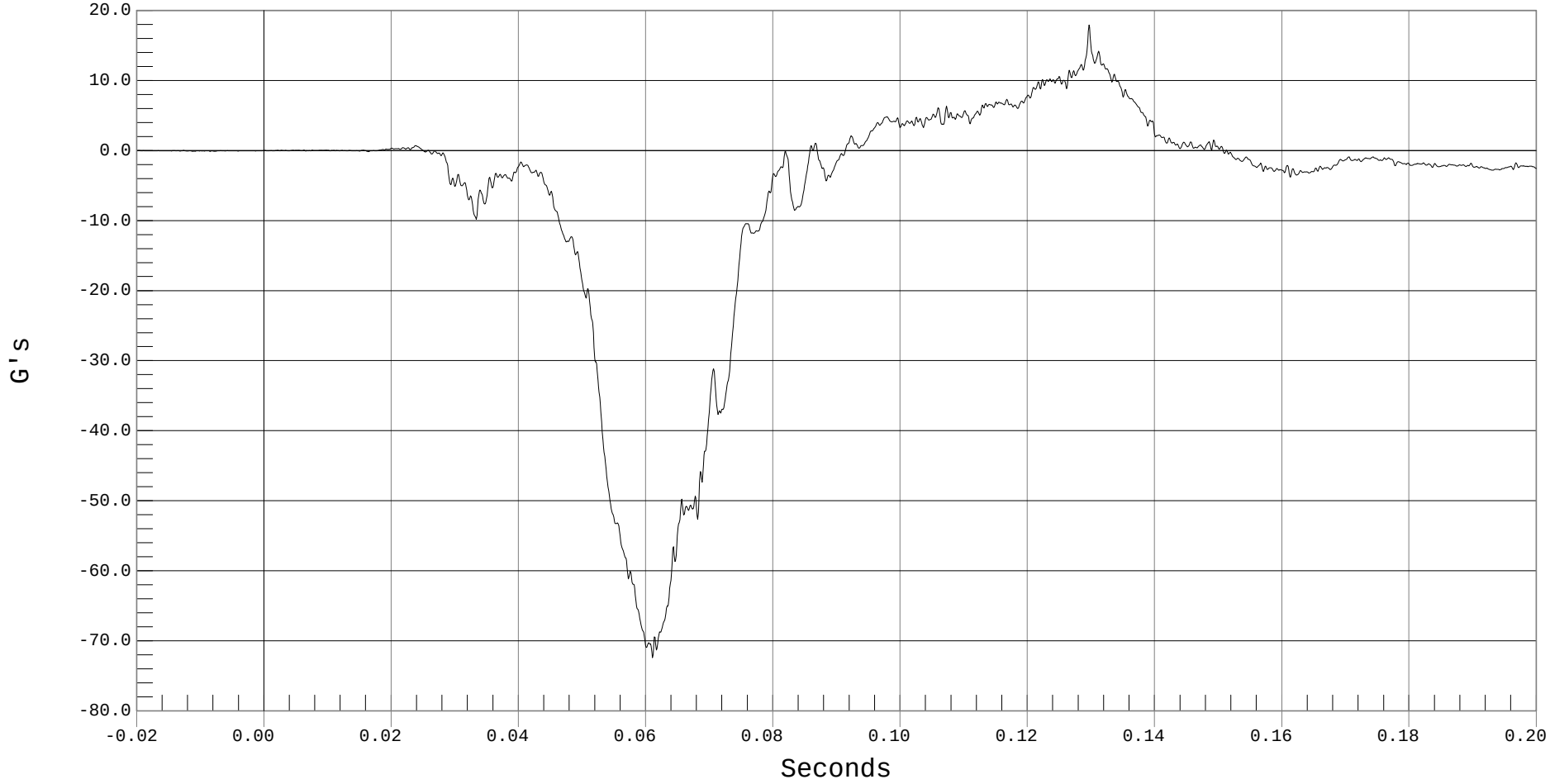
DRIVER HEAD REDUNDANT X ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 DRIVER HEAD Xr, b01036AT.A33

Ymin = -72.41 G's @ 0.0610 Seconds, Ymax = 17.93 G's @ 0.1296 Seconds



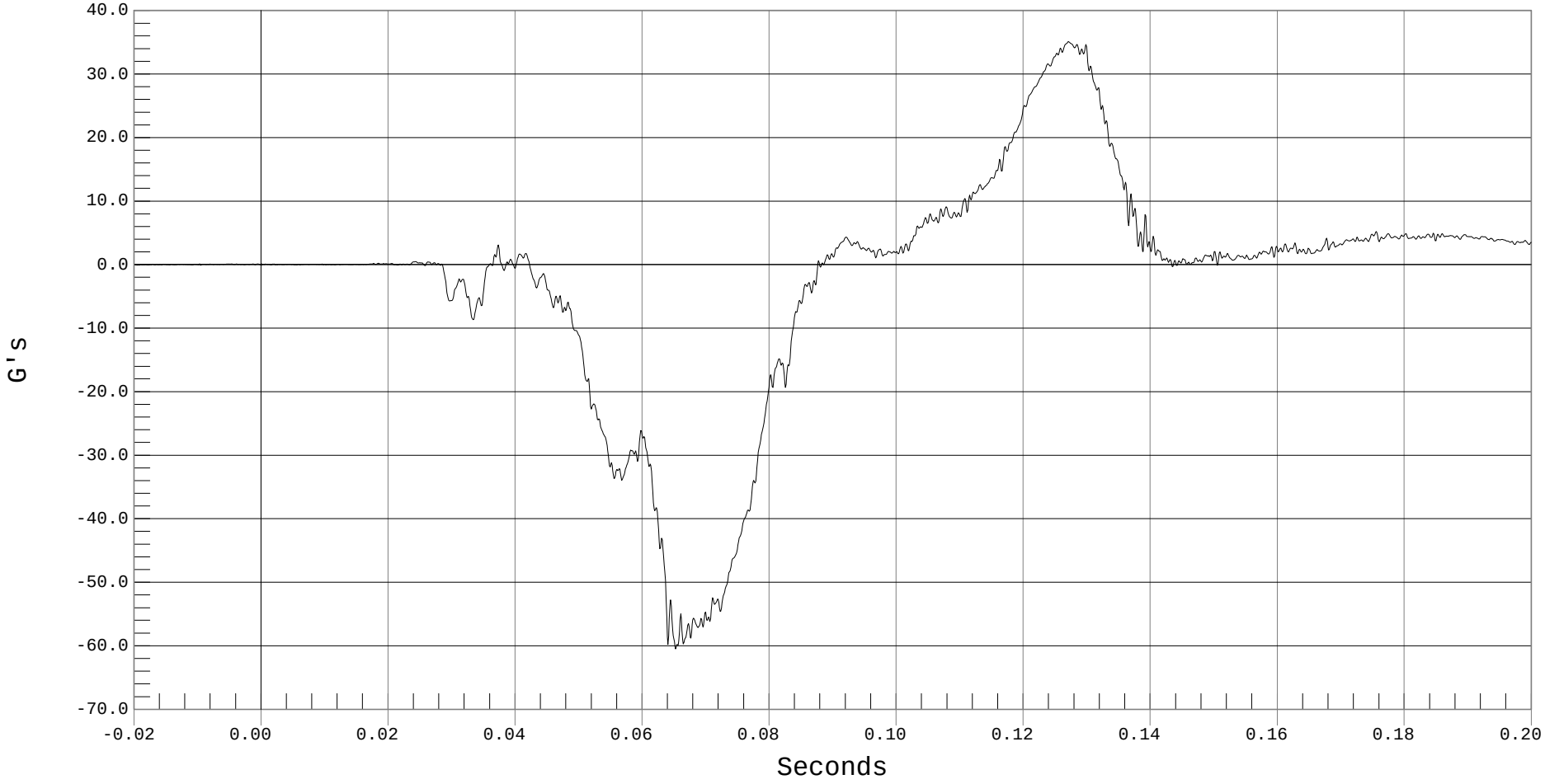
DRIVER HEAD REDUNDANT Y ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 DRIVER HEAD Yr, b01036AT.A34

Ymin = -60.51 G's @ 0.0652 Seconds, Ymax = 35.12 G's @ 0.1270 Seconds



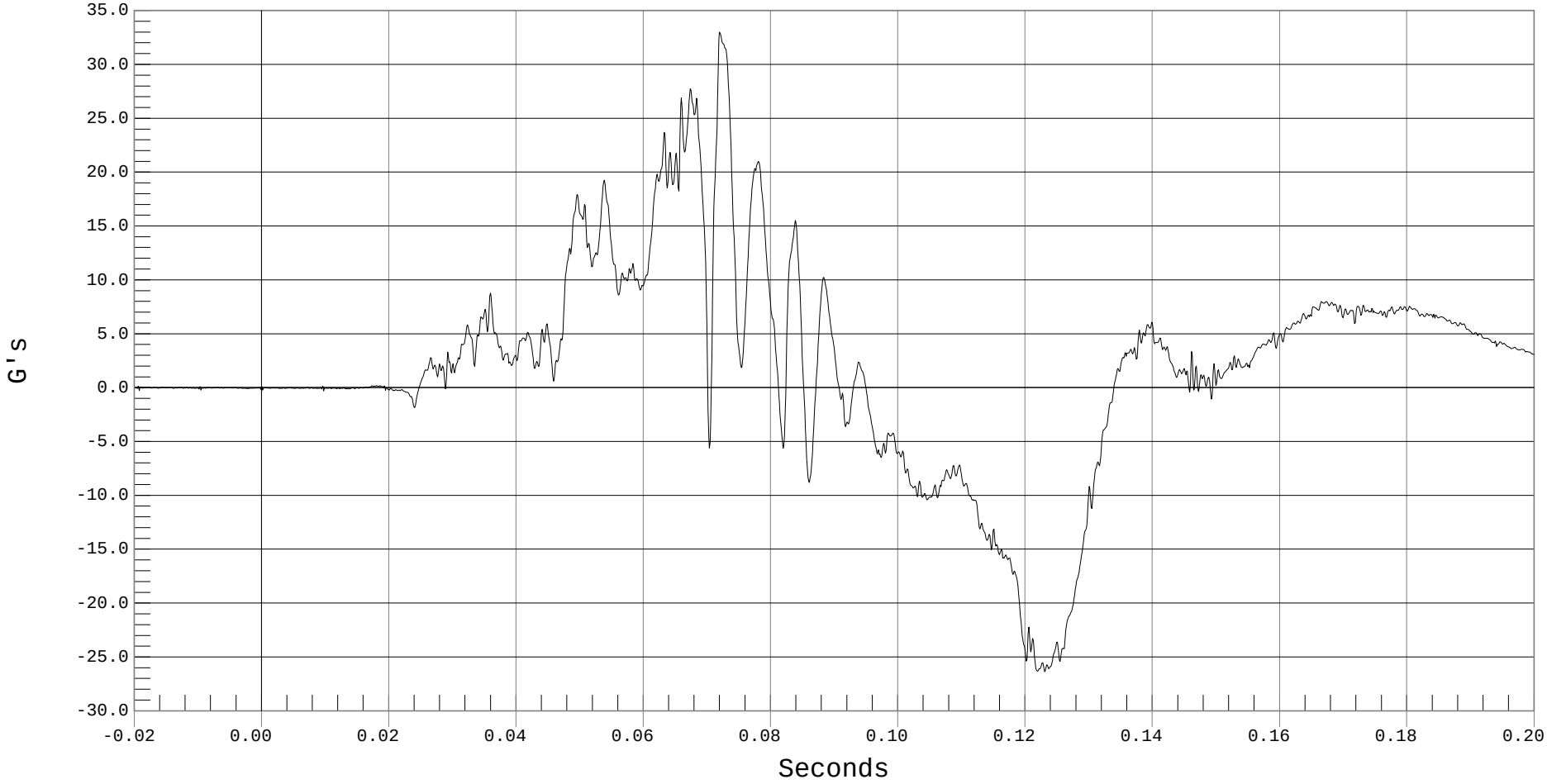
DRIVER HEAD REDUNDANT Z ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 DRIVER HEAD Zr, b01036AT.A35

Ymin = -26.38 G's @ 0.1230 Seconds, Ymax = 33 G's @ 0.0719 Seconds



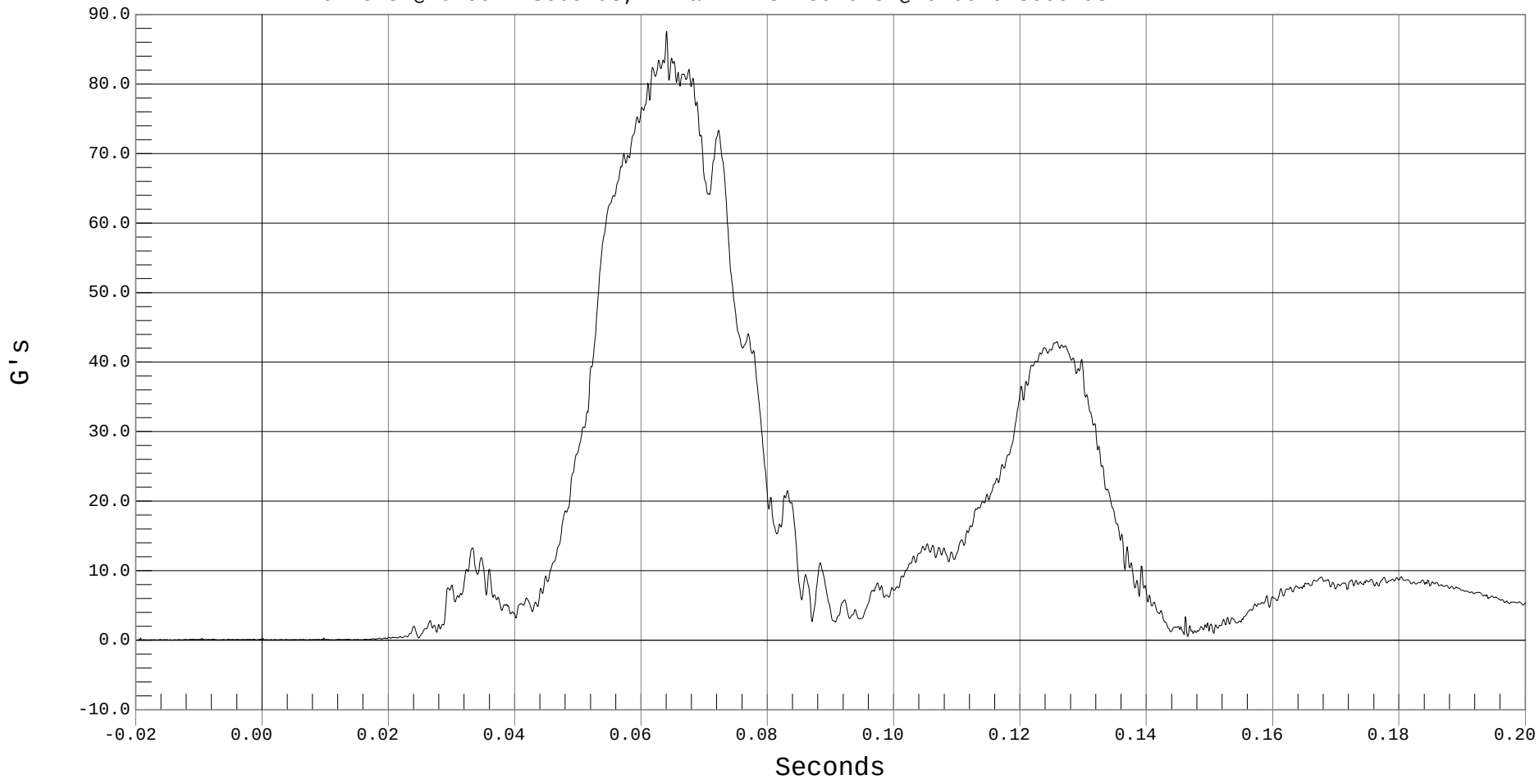
DRIVER HEAD REDUNDANT RESULTANT ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 DRIVER HEAD REDUNDANT RESULTANT ACCELERATION, b01036AV.A33

Ymin = .01 G's @ 0.0047 Seconds, Ymax = 87.59 G's @ 0.0640 Seconds



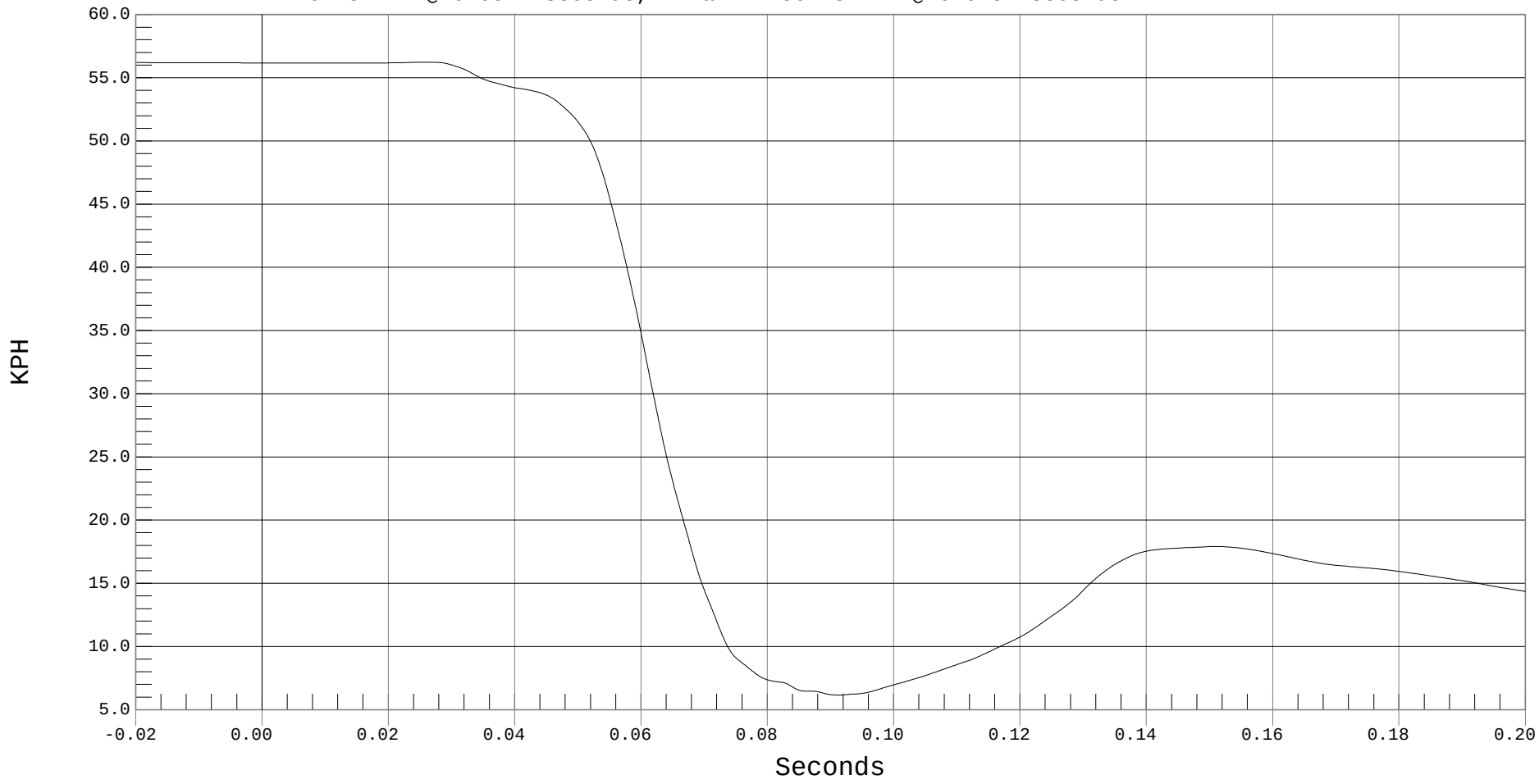
DRIVER HEAD REDUNDANT X VELOCITY

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 DRIVER HEAD REDUNDANT X VELOCITY, b01036AI.V33

Ymin = 6.15 KPH @ 0.0911 Seconds, Ymax = 56.23 KPH @ 0.0251 Seconds



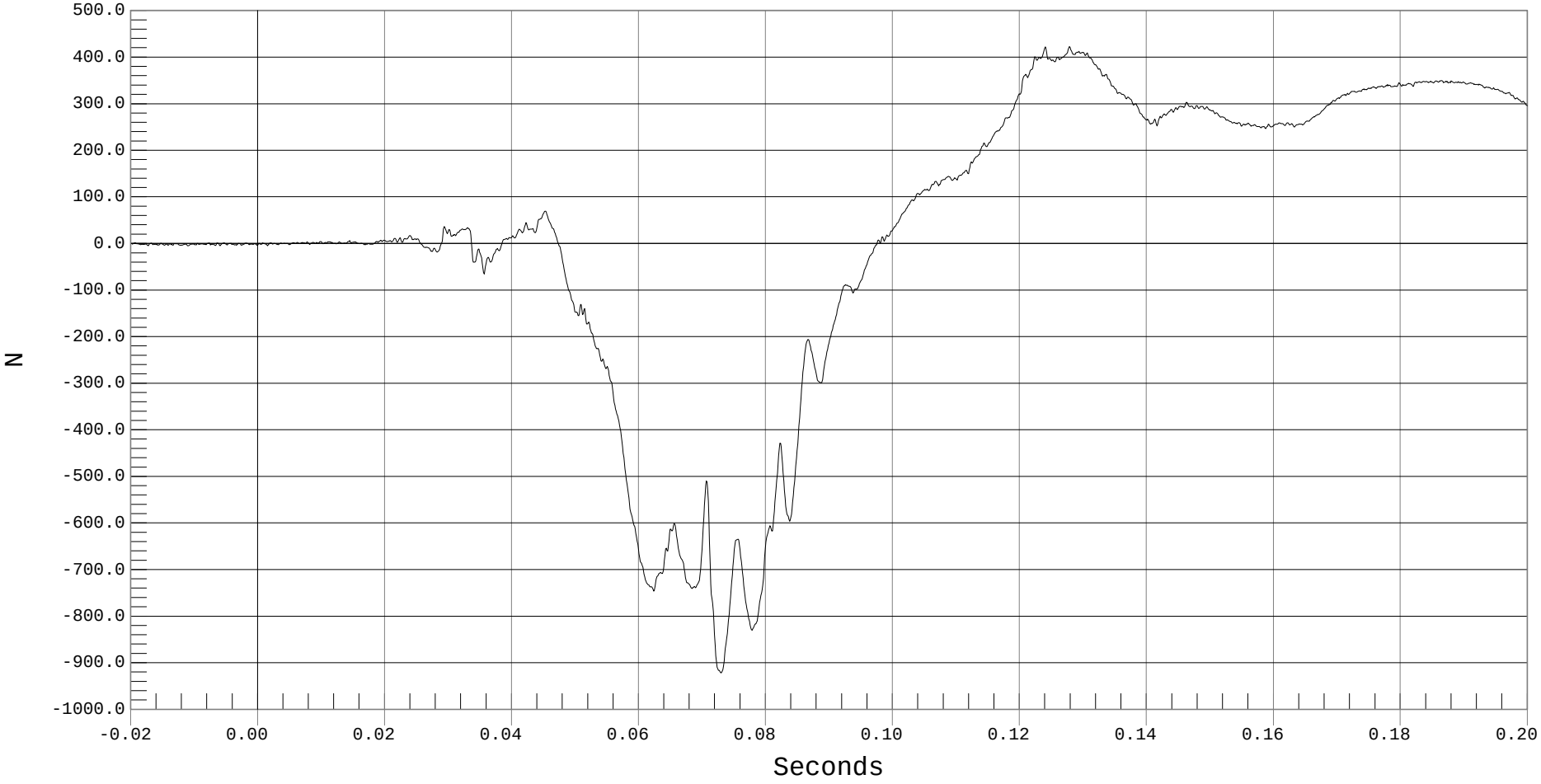
DRIVER NECK FORCE X

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 DRIVER NECK FX, b01036FT.F04

Ymin = -922.29 N @ 0.0729 Seconds, Ymax = 422.59 N @ 0.1278 Seconds



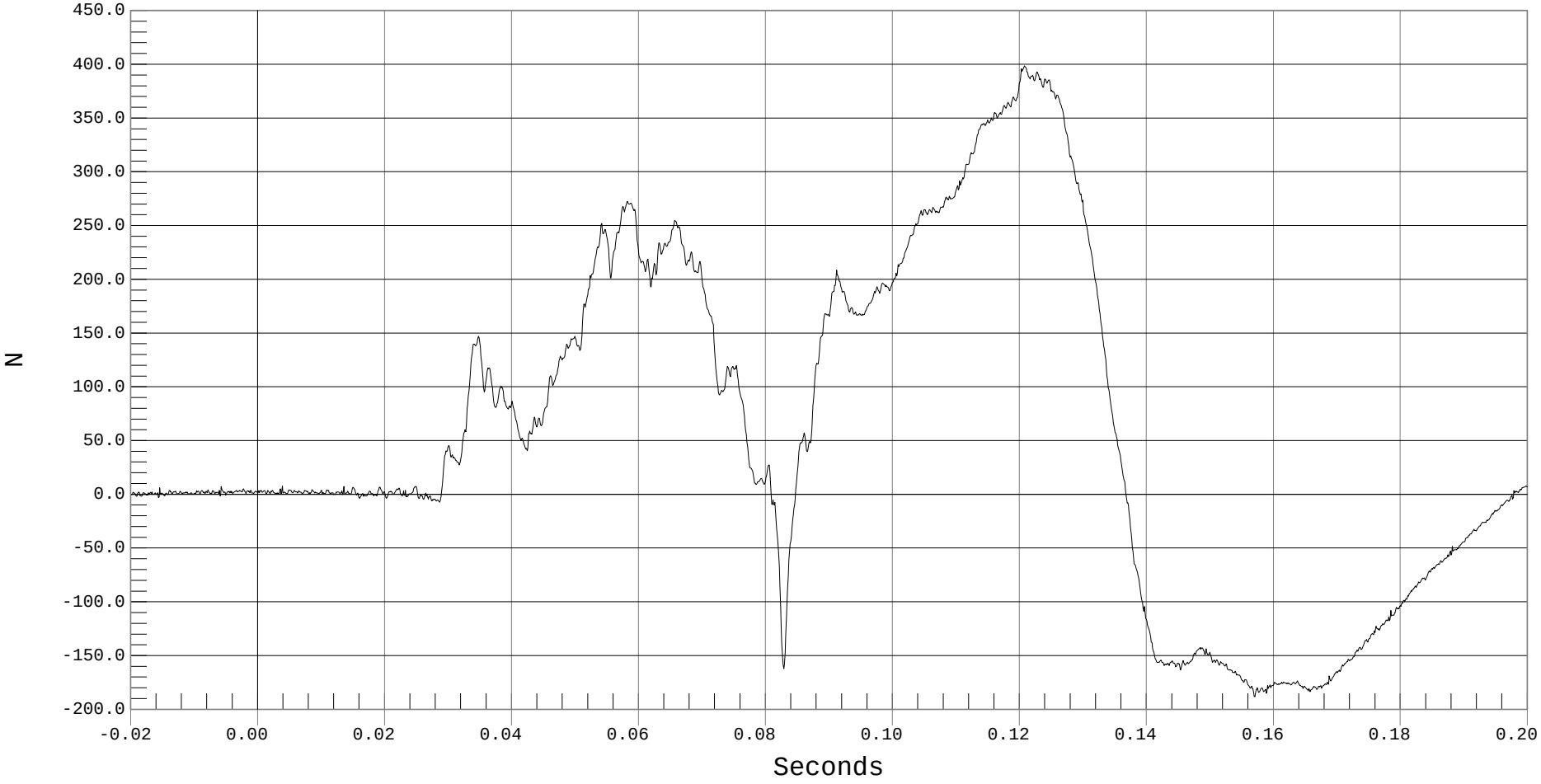
DRIVER NECK FORCE Y

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 DRIVER NECK FY, b01036FT.F05

Ymin = -188.43 N @ 0.1570 Seconds, Ymax = 398.42 N @ 0.1207 Seconds



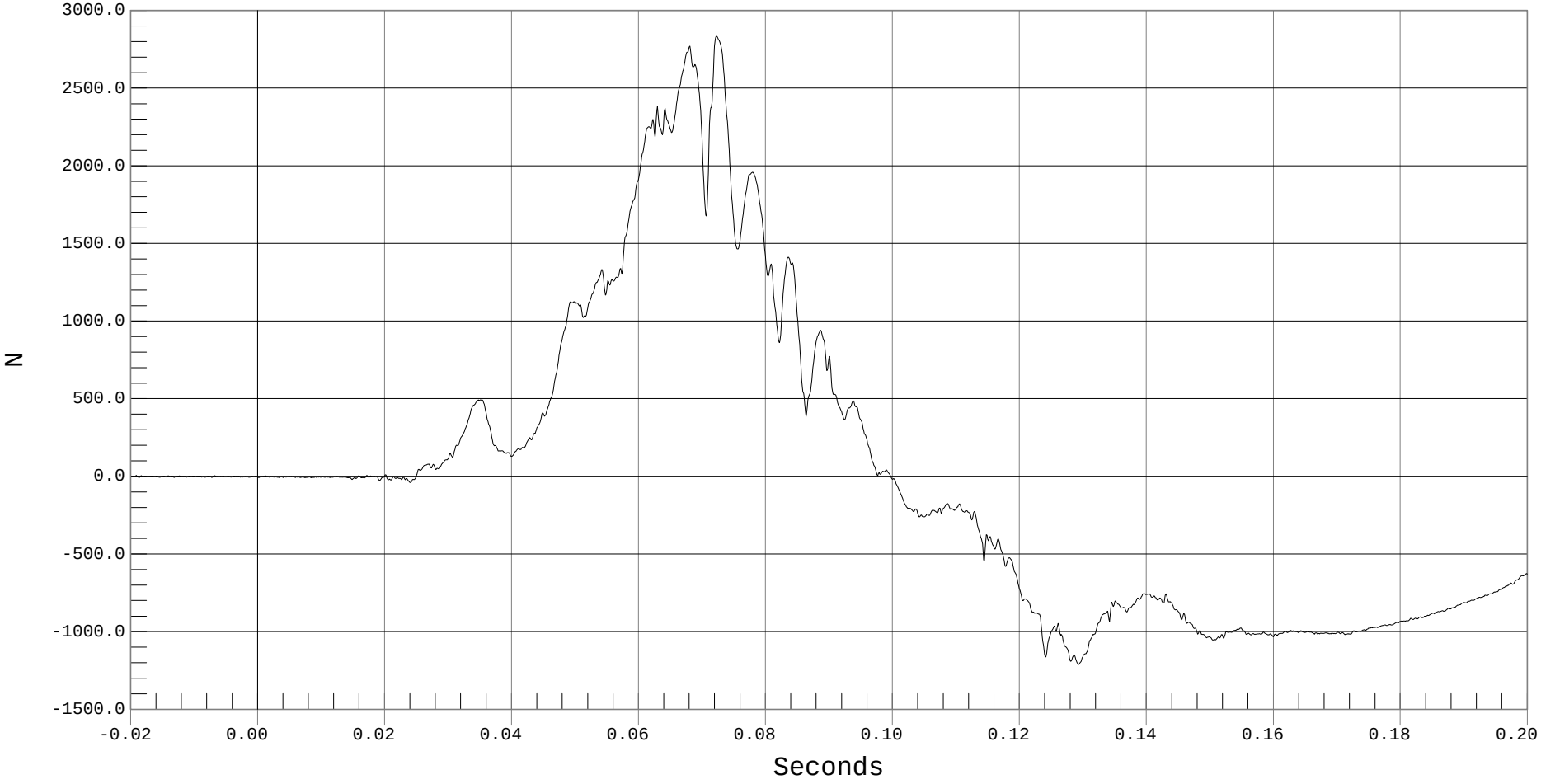
DRIVER NECK FORCE Z

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 DRIVER NECK FZ, b01036FT.F06

Ymin = -1211.33 N @ 0.1292 Seconds, Ymax = 2833.74 N @ 0.0722 Seconds



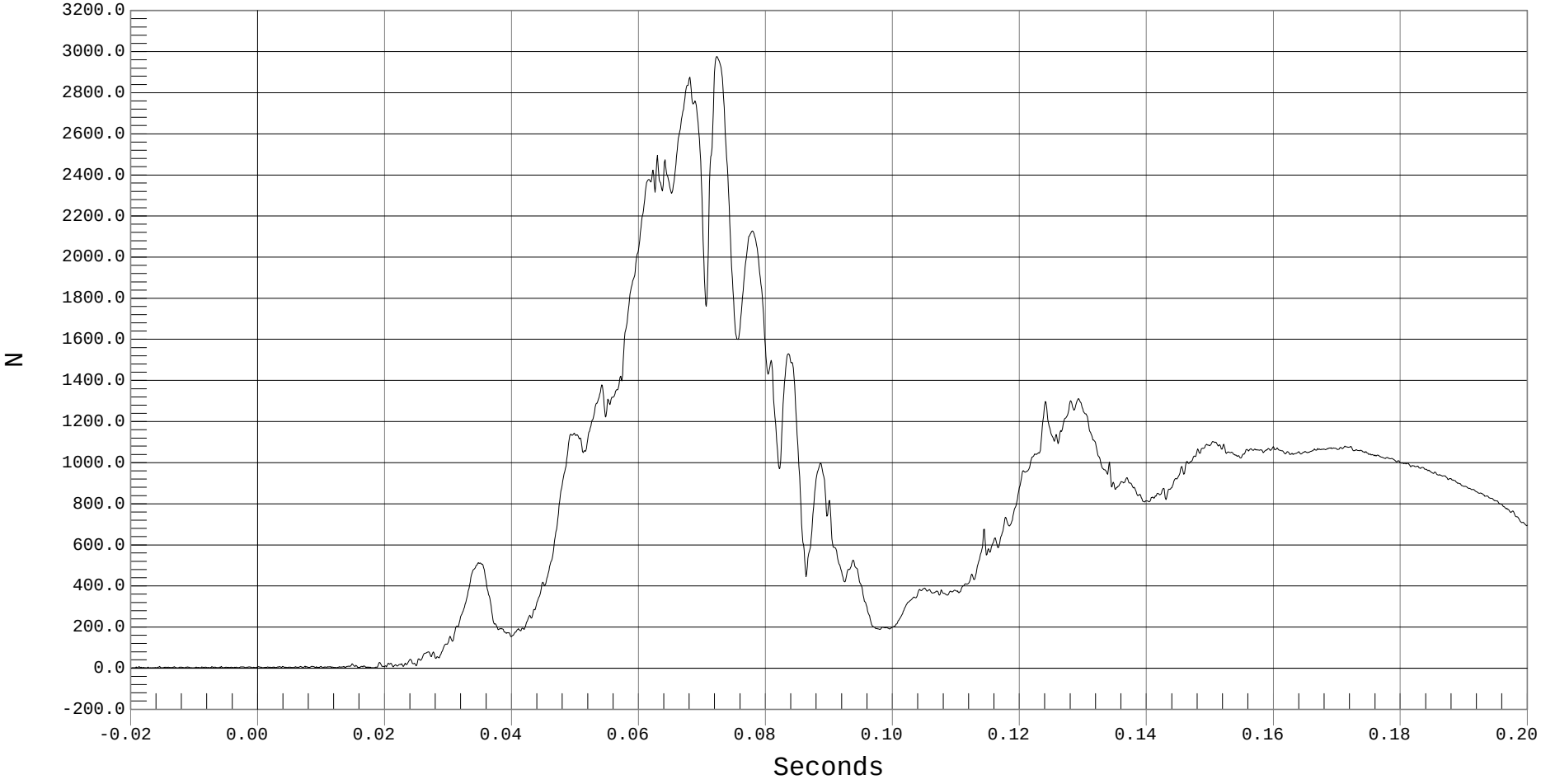
DRIVER NECK FORCE RESULTANT

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 DRIVER NECK FORCE RESULTANT, b01036FV.F04

Ymin = .79 N @ 0.0183 Seconds, Ymax = 2975.64 N @ 0.0723 Seconds



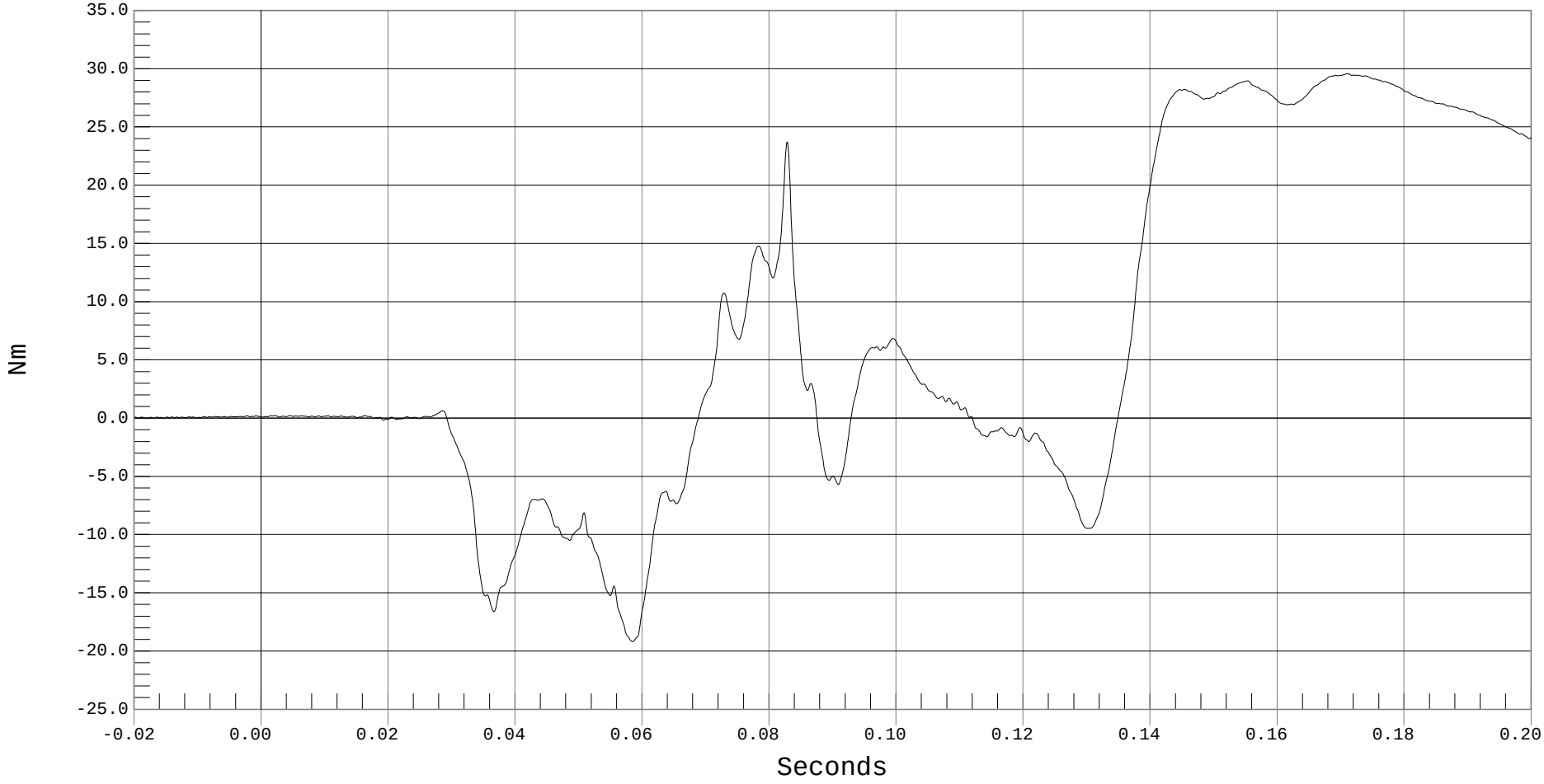
DRIVER NECK MOMENT X

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 DRIVER NECK MX, b01036MF.M07

Ymin = -19.19 Nm @ 0.0584 Seconds, Ymax = 29.57 Nm @ 0.1711 Seconds



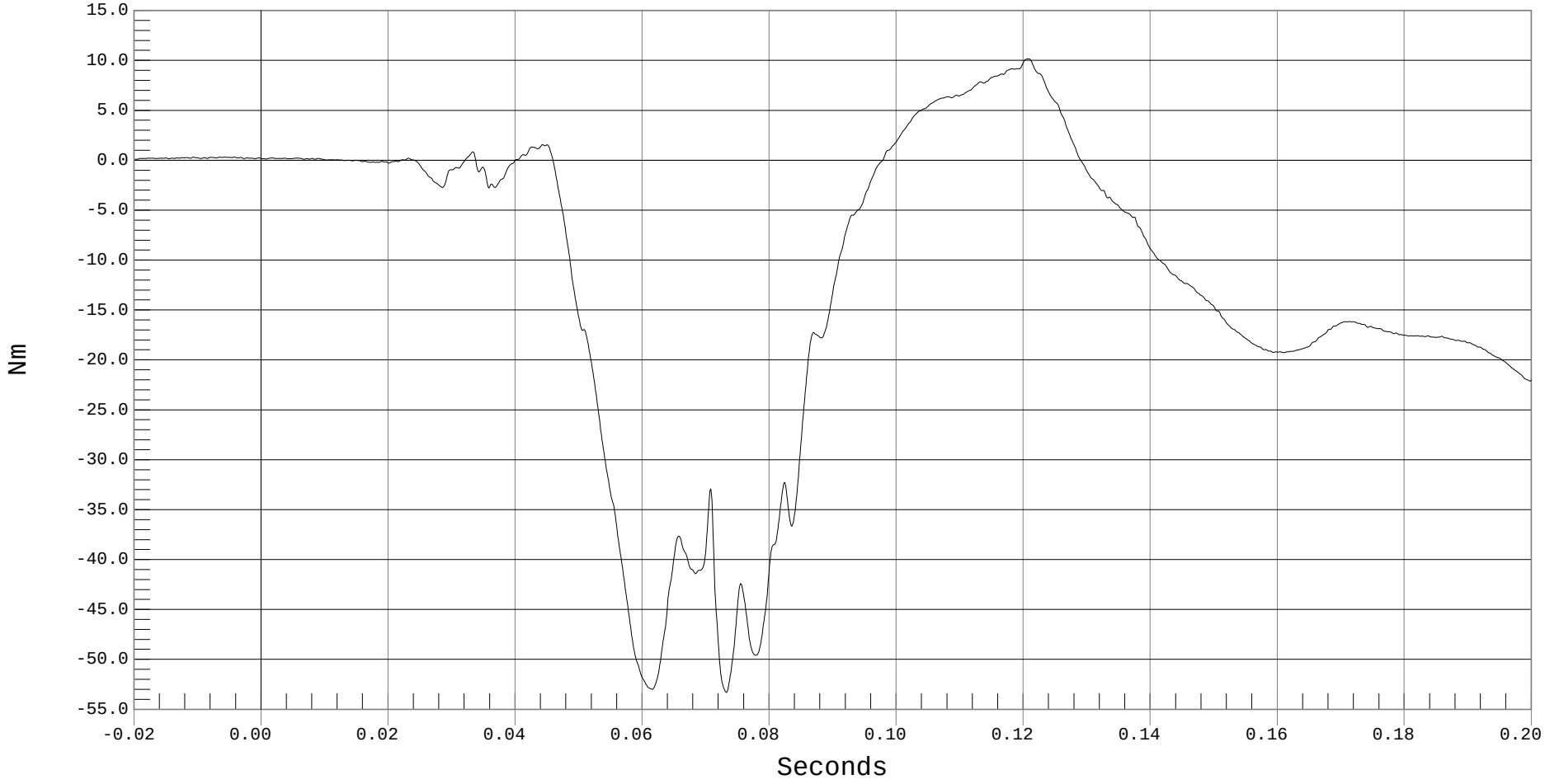
DRIVER NECK MOMENT Y

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 DRIVER NECK MY, b01036MF.M08

Ymin = -53.32 Nm @ 0.0732 Seconds, Ymax = 10.16 Nm @ 0.1208 Seconds



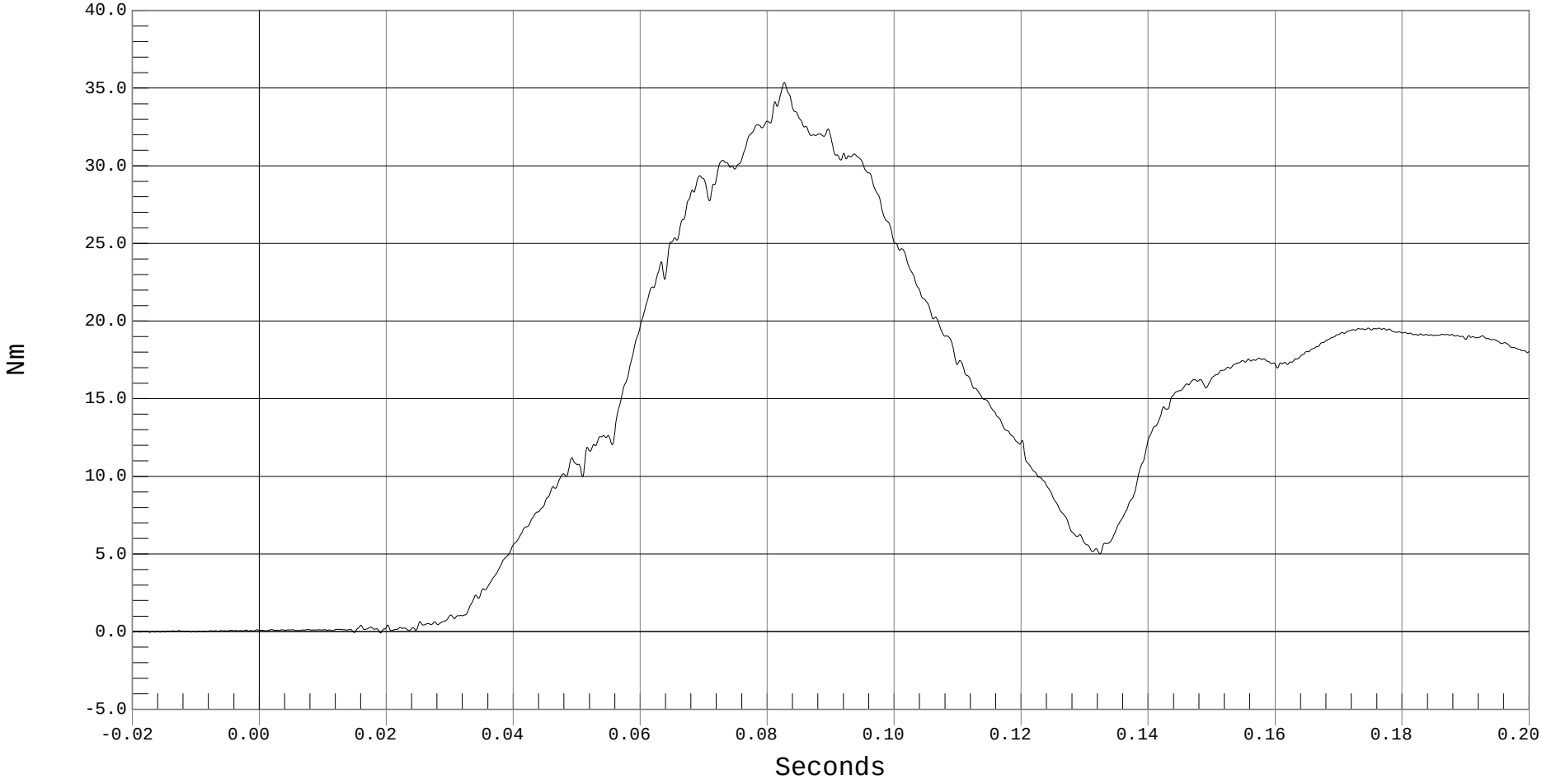
DRIVER NECK MOMENT Z

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 DRIVER NECK MZ, b01036MF.M09

Ymin = -.09 Nm @ 0.0190 Seconds, Ymax = 35.37 Nm @ 0.0826 Seconds



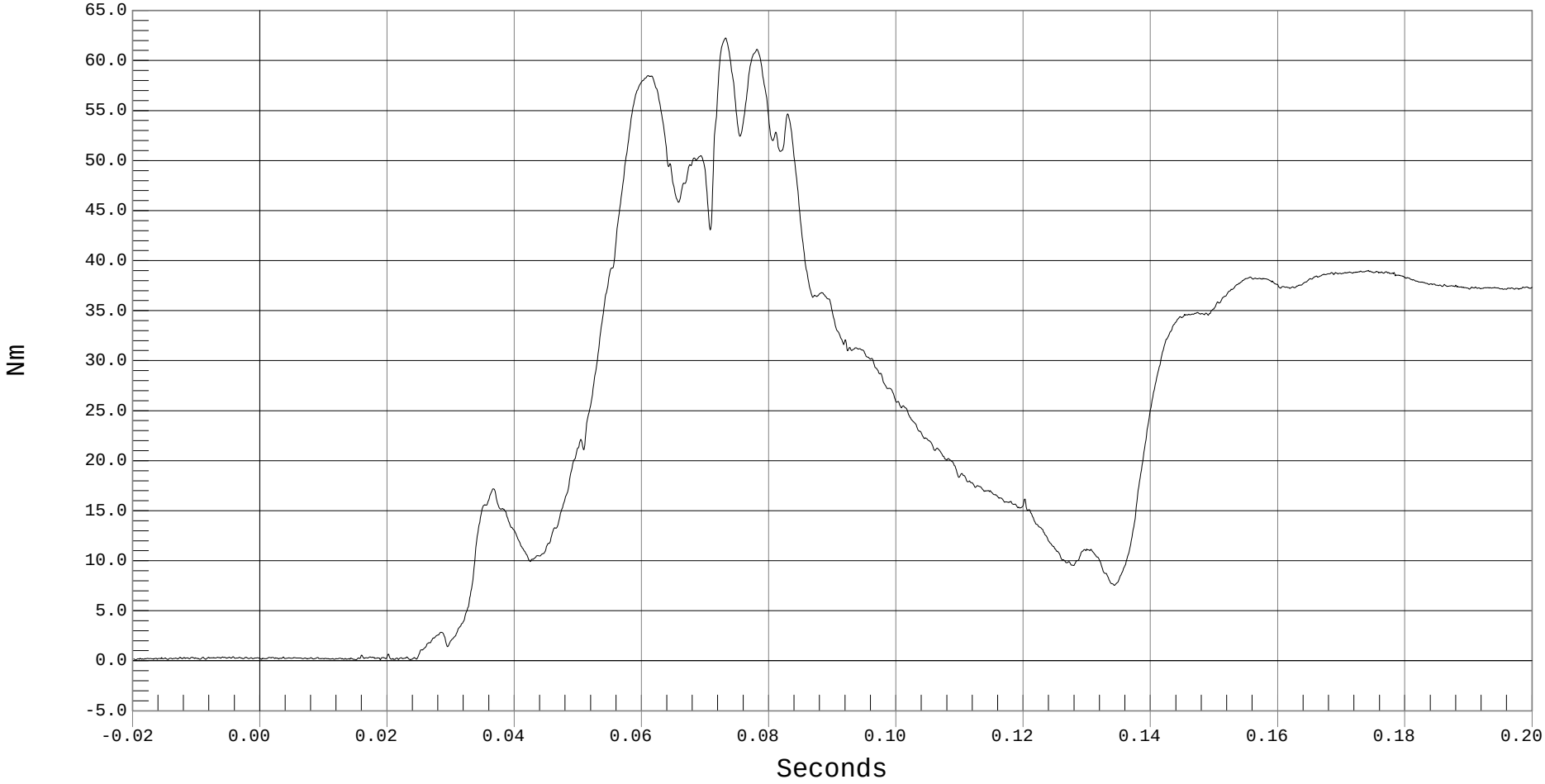
DRIVER NECK MOMENT RESULTANT

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 DRIVER NECK MOMENT RESULTANT, b01036MV.M07

Ymin = .07 Nm @ -0.0196 Seconds, Ymax = 62.25 Nm @ 0.0731 Seconds



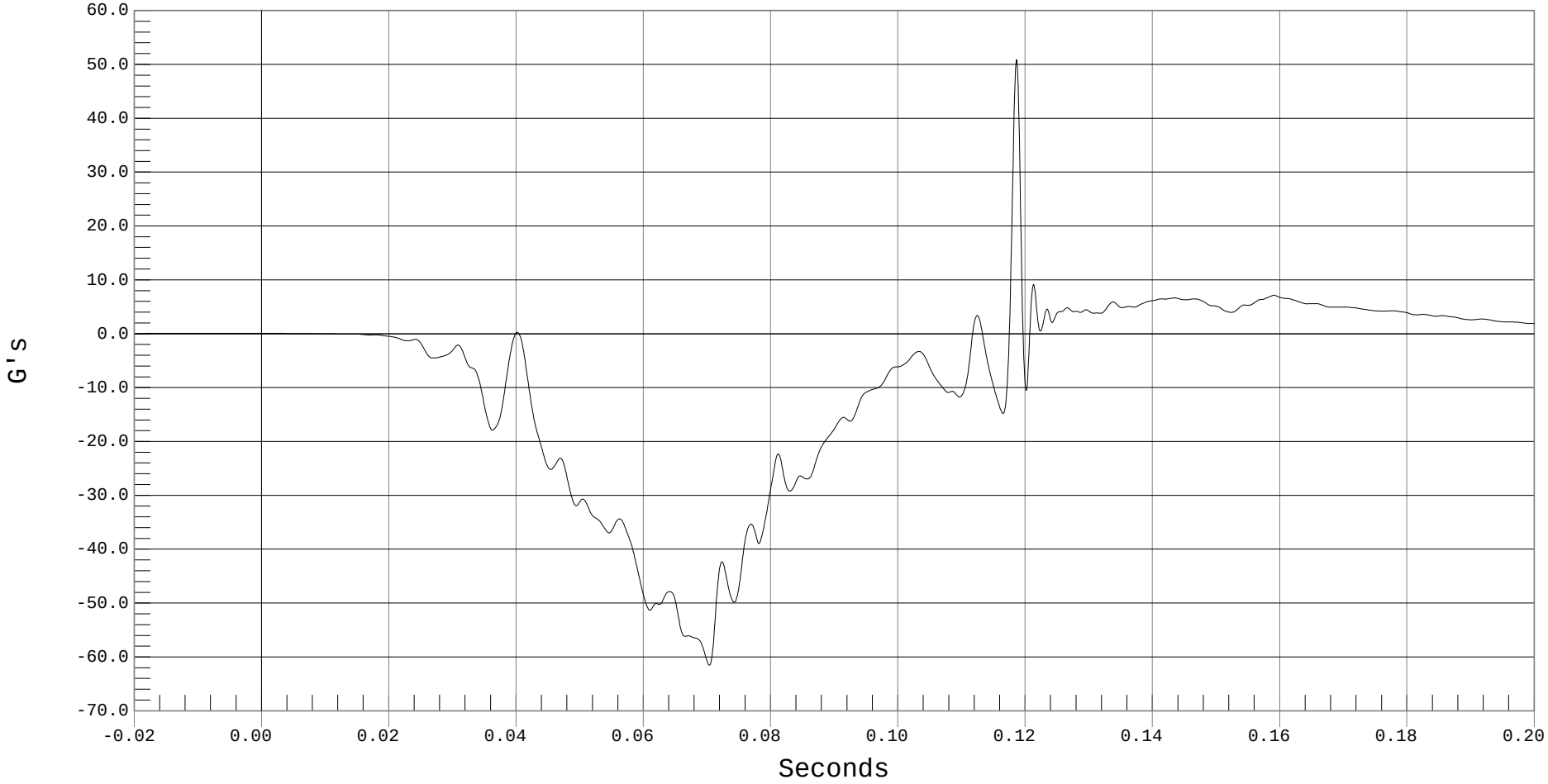
DRIVER CHEST X ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 DRIVER CHEST X, b01036AF.A10

Ymin = -61.55 G's @ 0.0703 Seconds, Ymax = 50.88 G's @ 0.1186 Seconds



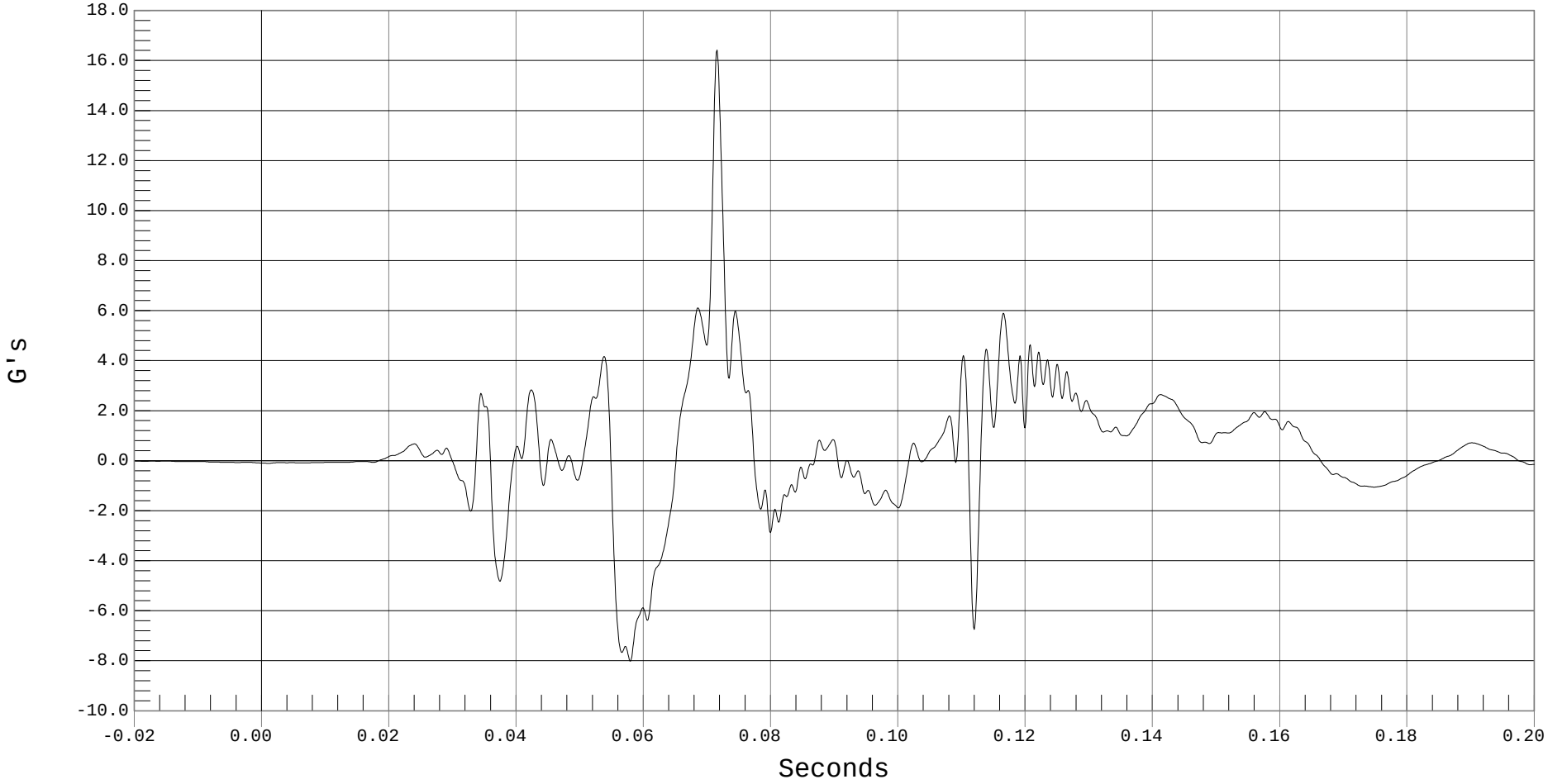
DRIVER CHEST Y ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 DRIVER CHEST Y, b01036AF.A11

Ymin = -8.01 G's @ 0.0579 Seconds, Ymax = 16.42 G's @ 0.0715 Seconds



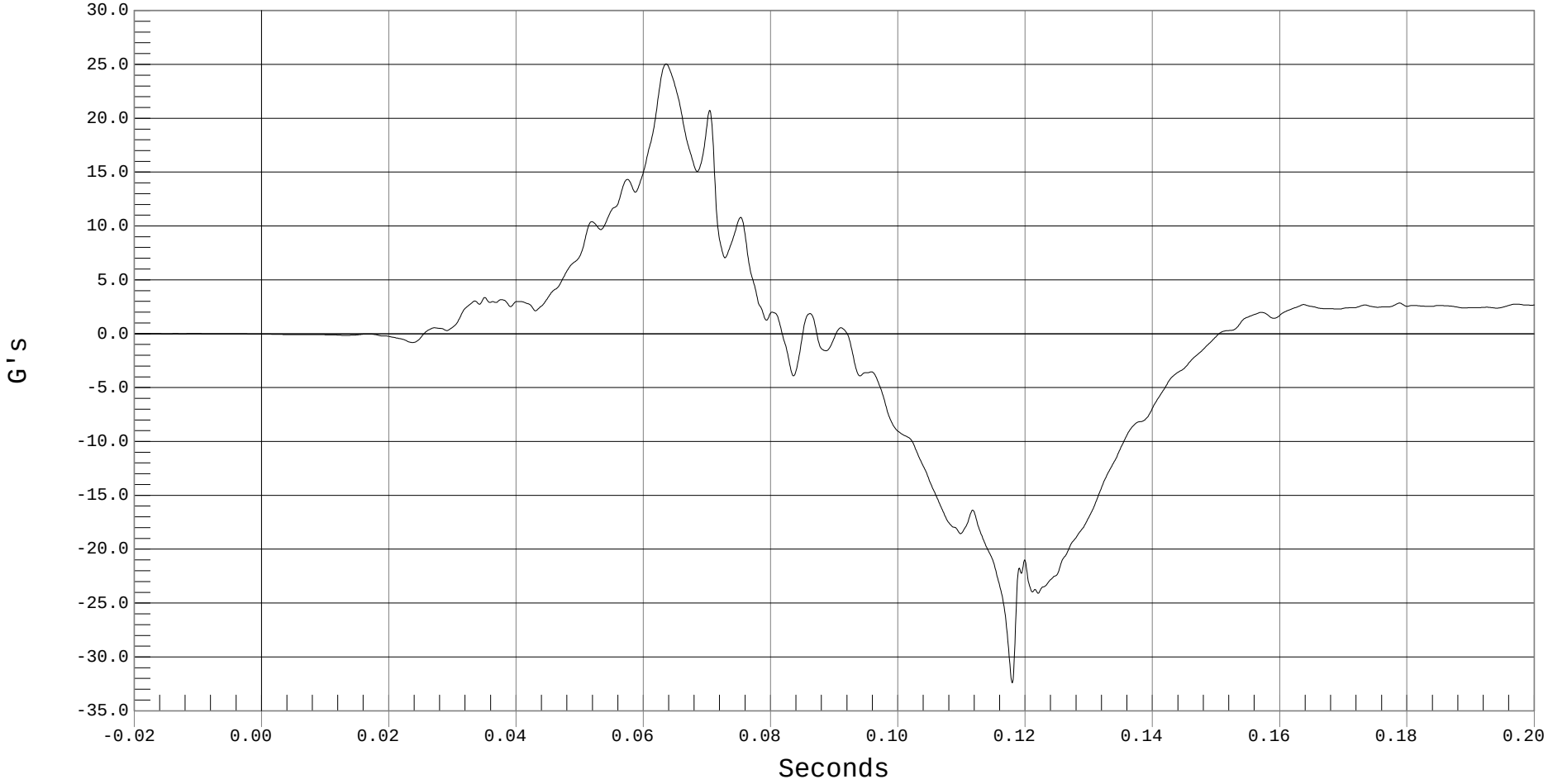
DRIVER CHEST Z ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 DRIVER CHEST Z, b01036AF.A12

Ymin = -32.4 G's @ 0.1179 Seconds, Ymax = 25.04 G's @ 0.0635 Seconds



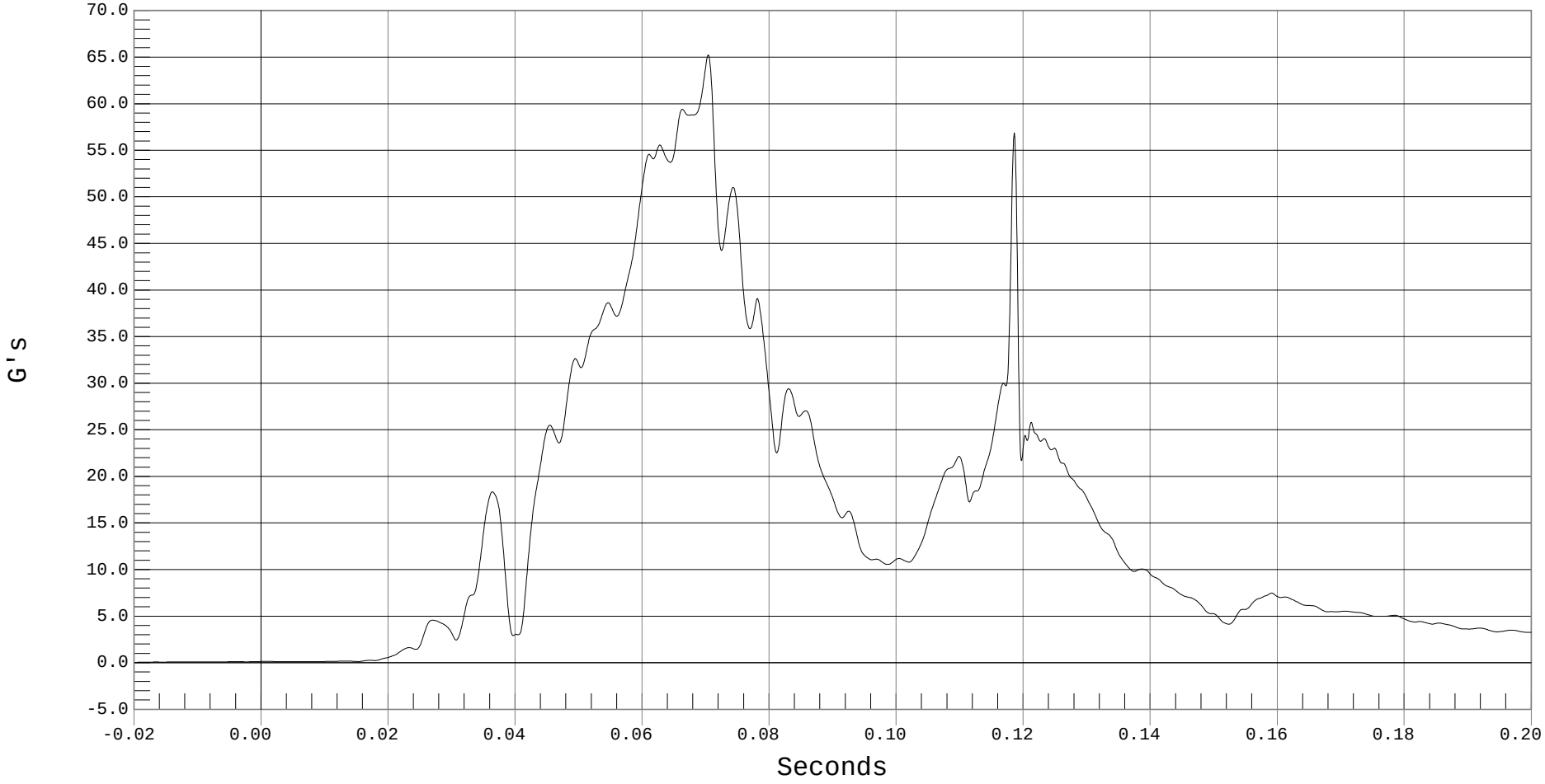
DRIVER CHEST RESULTANT ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 DRIVER CHEST RESULTANT ACCELERATION, b01036AV.A10

Ymin = .04 G's @ -0.0199 Seconds, Ymax = 65.21 G's @ 0.0703 Seconds



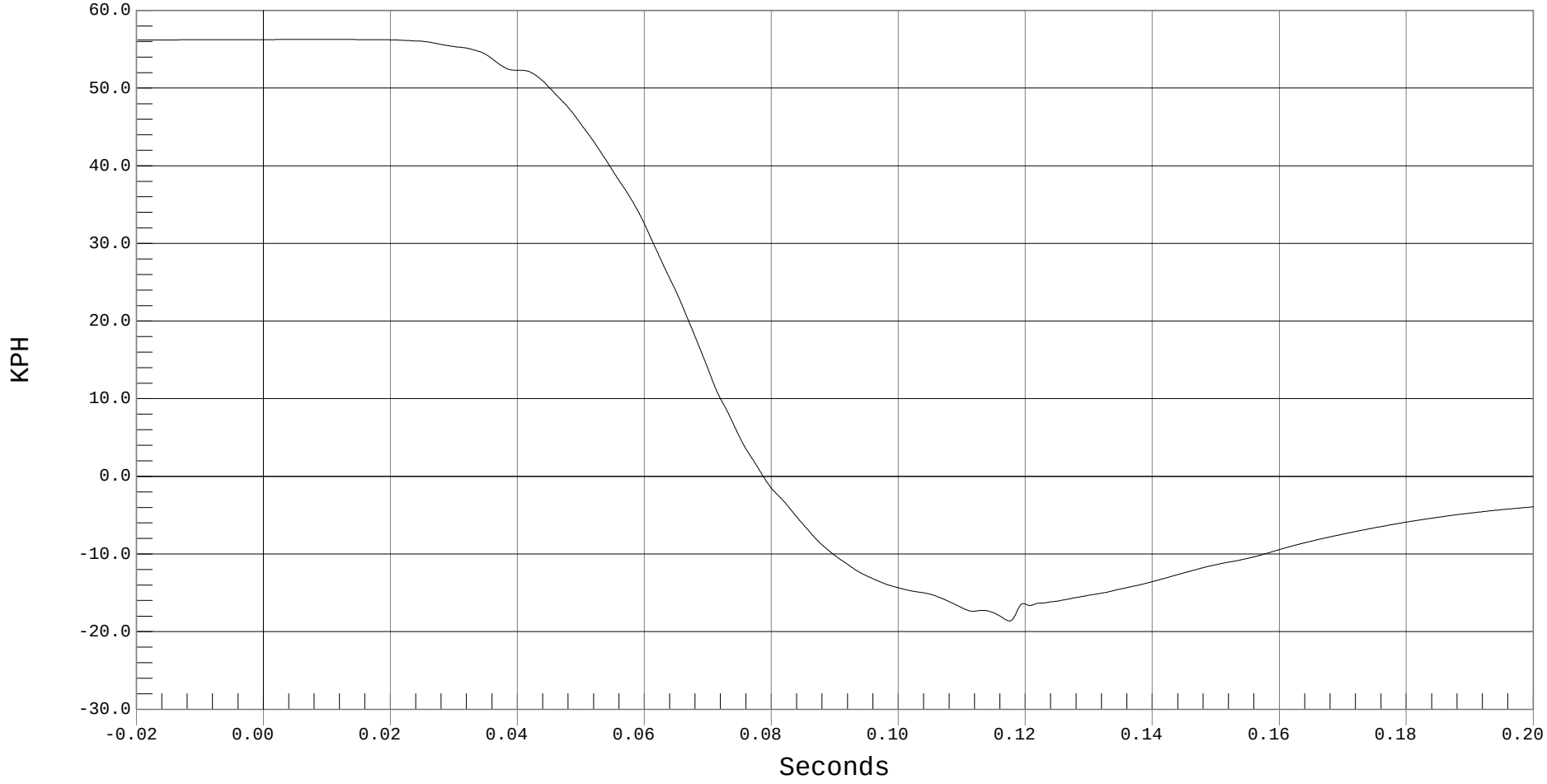
DRIVER CHEST X VELOCITY

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 DRIVER CHEST X VELOCITY, b01036AI.V10

Ymin = -18.62 KPH @ 0.1174 Seconds, Ymax = 56.26 KPH @ 0.0085 Seconds



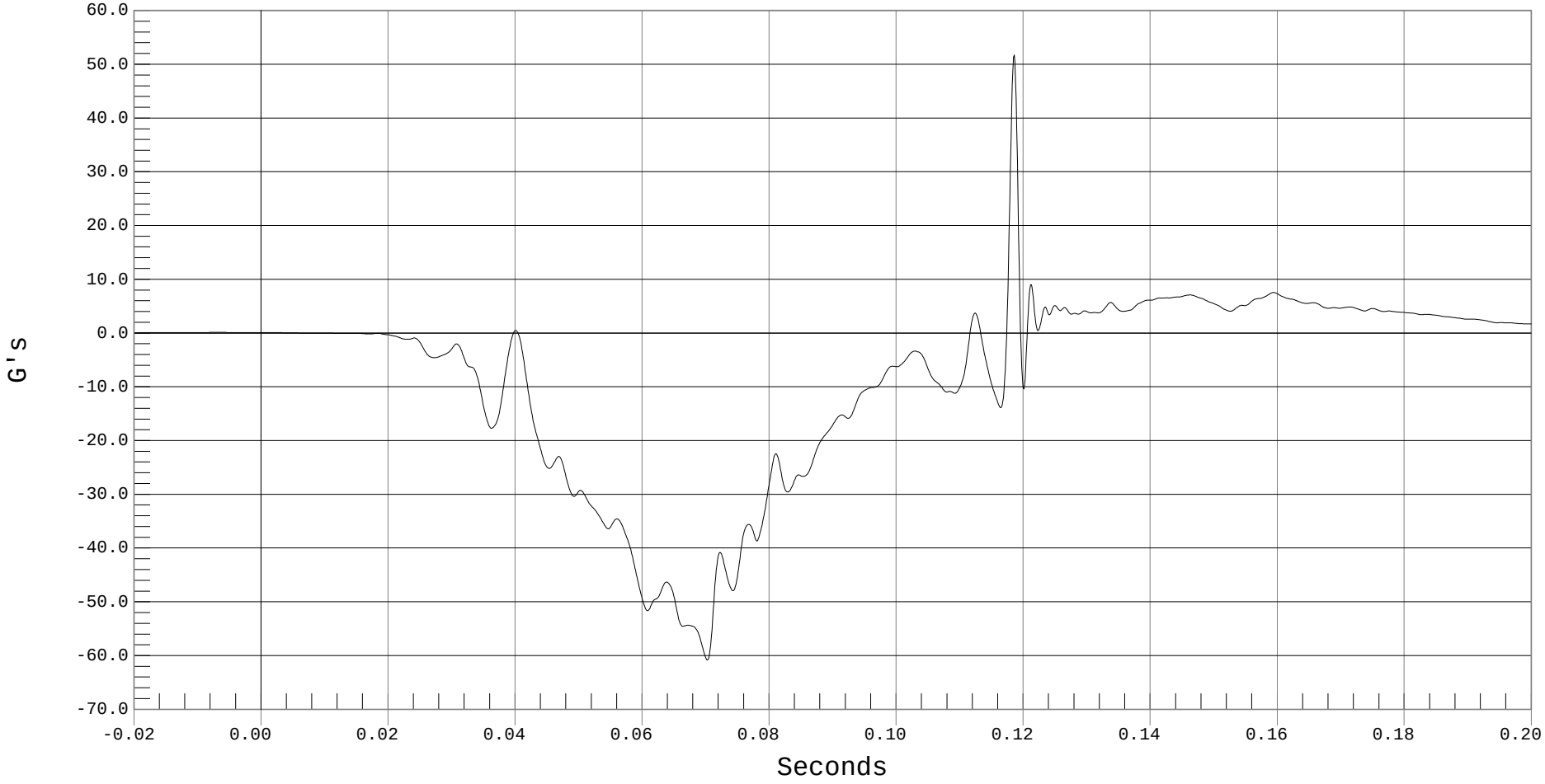
DRIVER CHEST REDUNDANT X ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 DRIVER CHEST Xr, b01036AF.A36

Ymin = -60.84 G's @ 0.0702 Seconds, Ymax = 51.71 G's @ 0.1185 Seconds



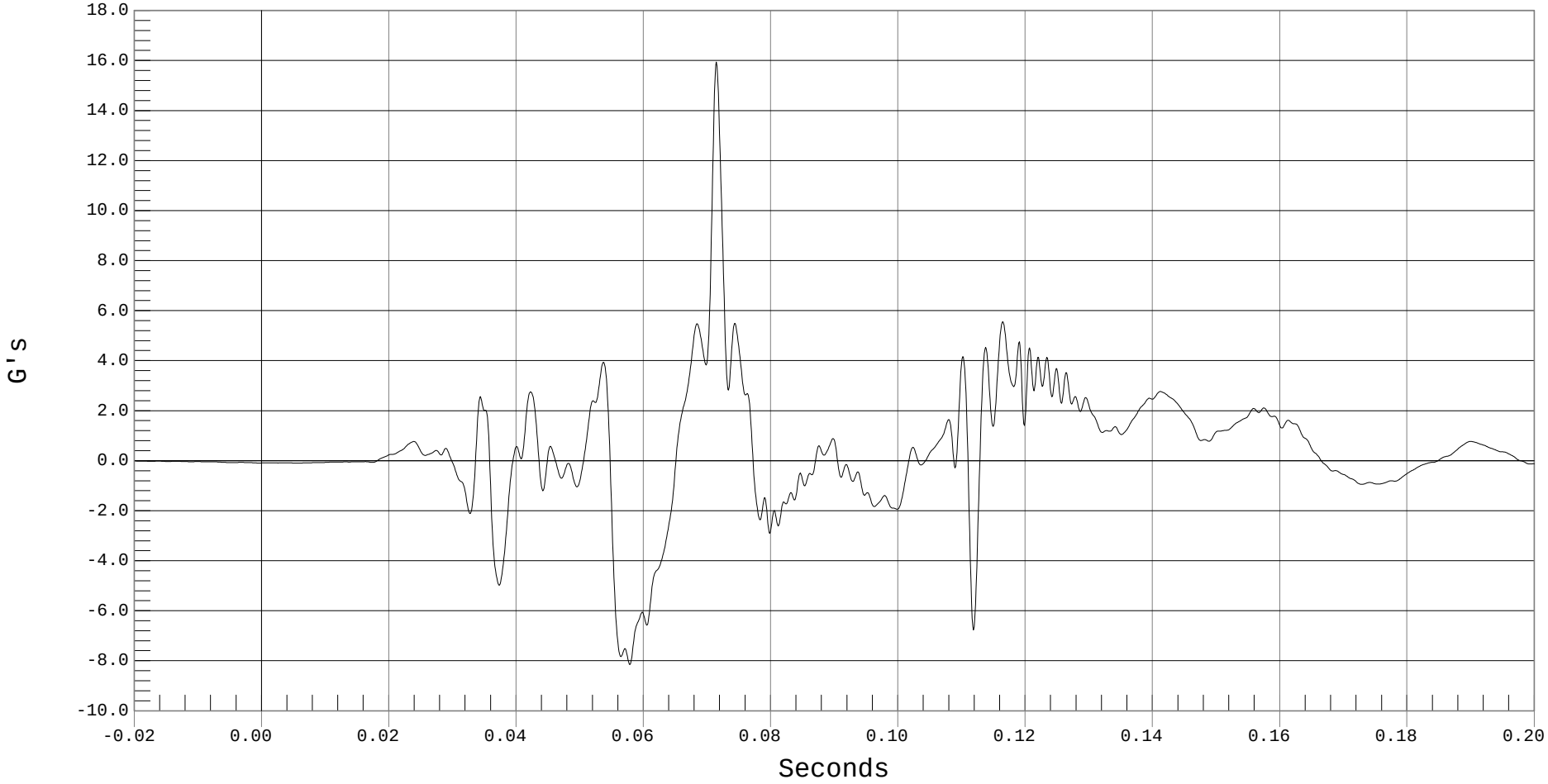
DRIVER CHEST REDUNDANT Y ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 DRIVER CHEST Yr, b01036AF.A37

Ymin = -8.15 G's @ 0.0578 Seconds, Ymax = 15.94 G's @ 0.0714 Seconds



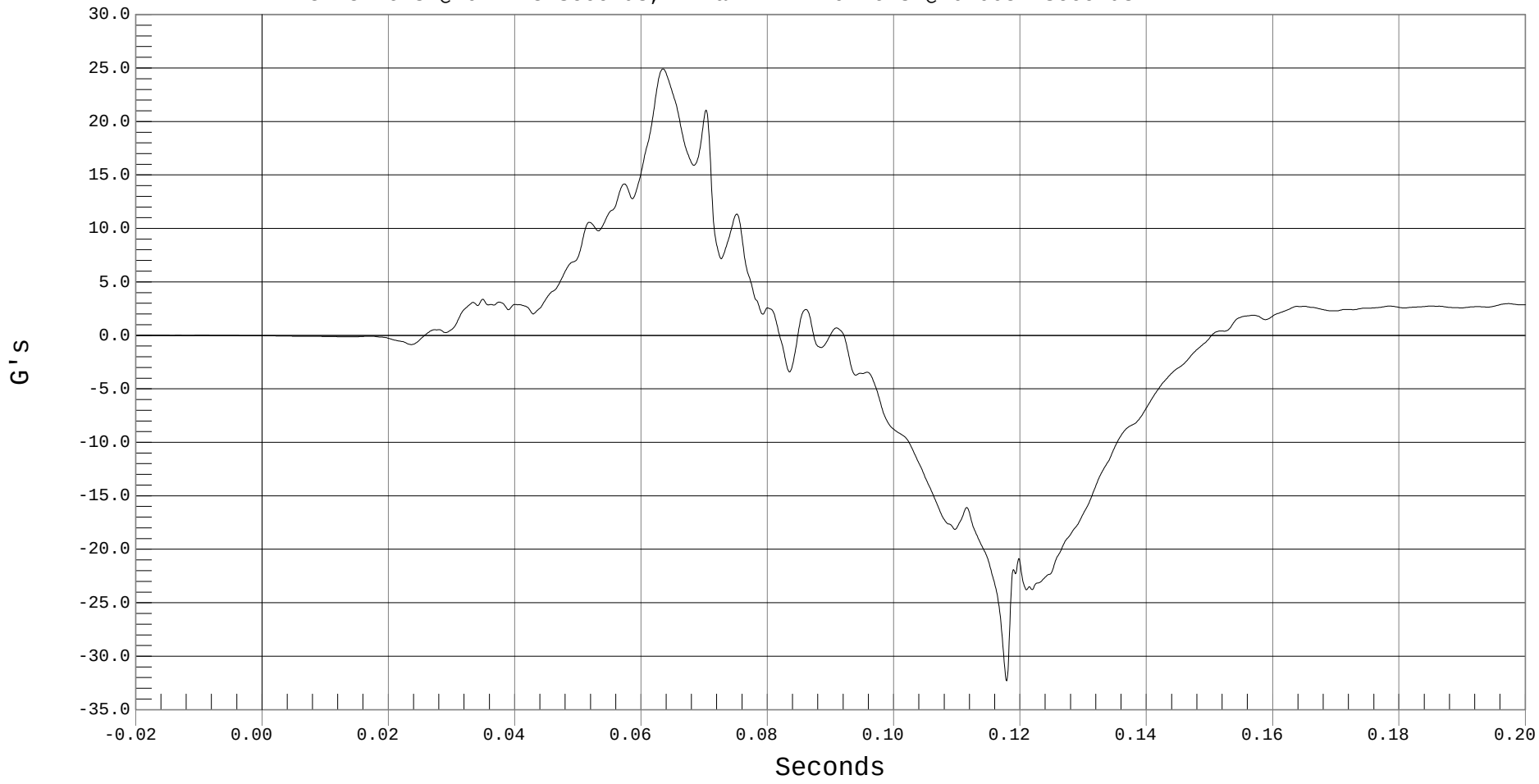
DRIVER CHEST REDUNDANT Z ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 DRIVER CHEST Zr, b01036AF.A38

Ymin = -32.31 G's @ 0.1178 Seconds, Ymax = 24.92 G's @ 0.0634 Seconds



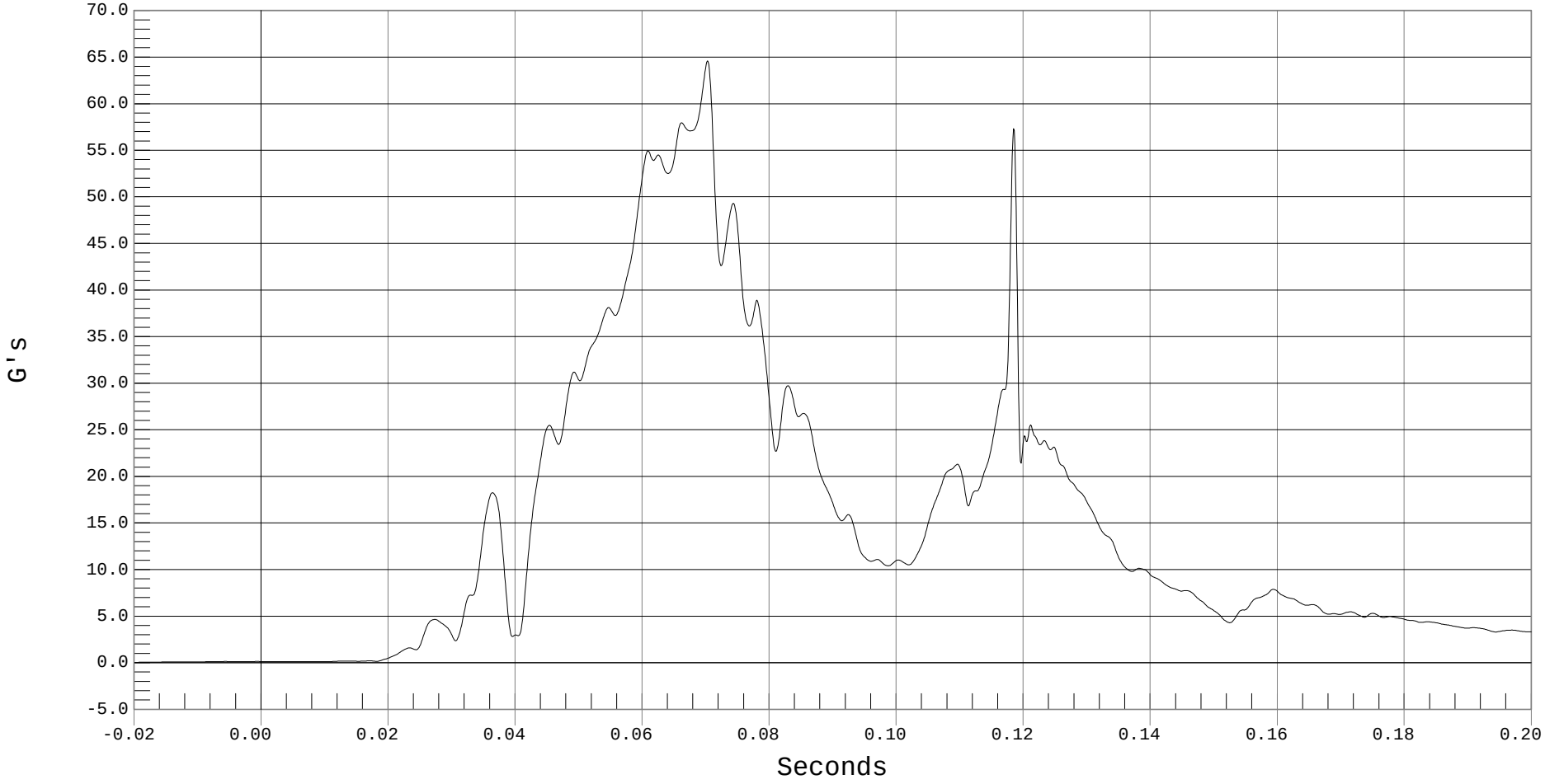
DRIVER CHEST REDUNDANT RESULTANT ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 DRIVER CHEST REDUNDANT RESULTANT ACCELERATION, b01036AV.A36

Ymin = .02 G's @ -0.0199 Seconds, Ymax = 64.58 G's @ 0.0702 Seconds



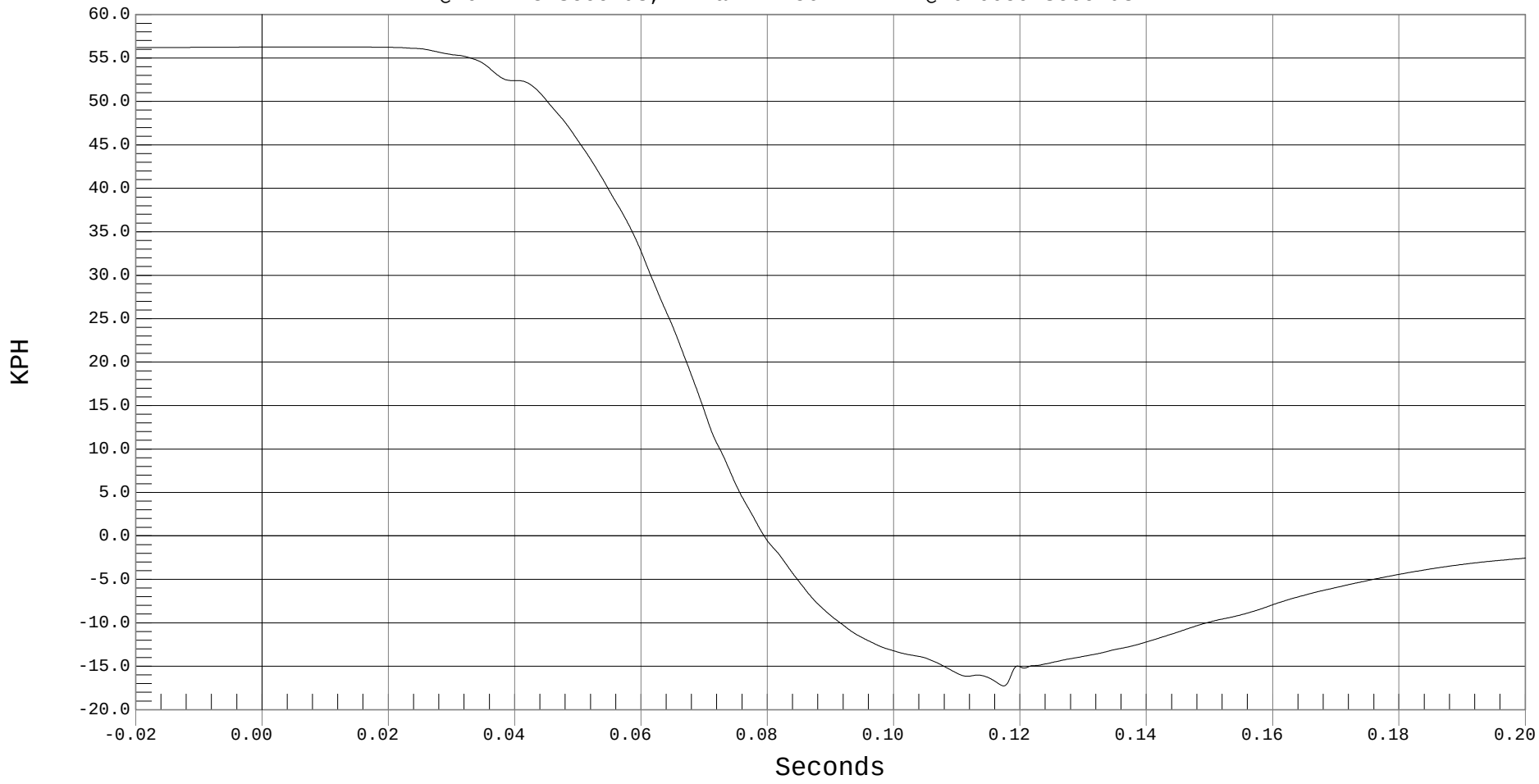
DRIVER CHEST REDUNDANT X VELOCITY

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 DRIVER CHEST REDUNDANT X VELOCITY, b01036AI.V36

Ymin = -17.27 KPH @ 0.1173 Seconds, Ymax = 56.27 KPH @ 0.0059 Seconds



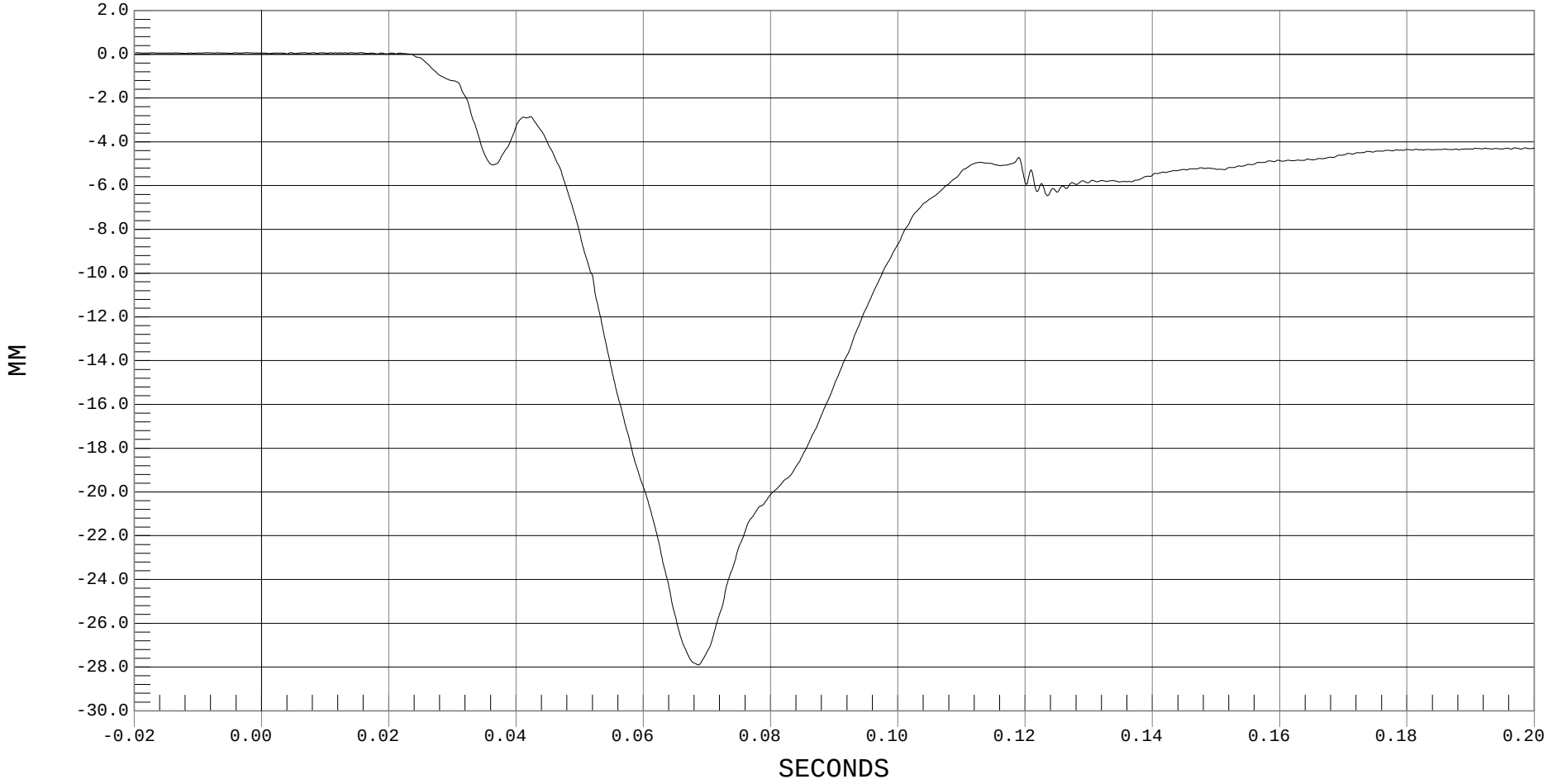
DRIVER CHEST COMPRESSION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 DISPLACEMENT, b01036DF.D13

Ymin = -27.9 MM @ 0.0686 SECONDS, Ymax = .08 MM @ 0.0154 SECONDS



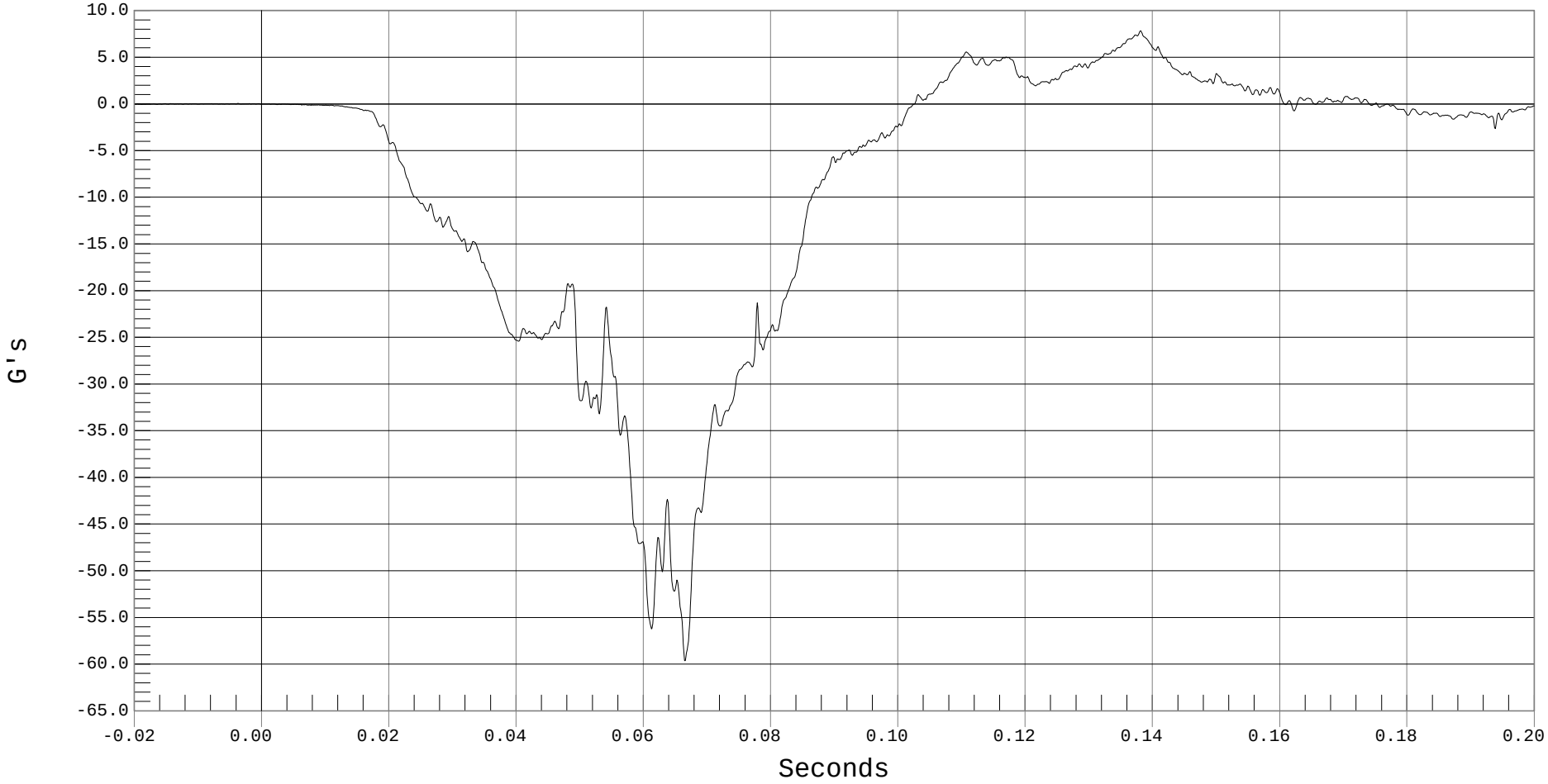
DRIVER PELVIS X ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 DRIVER PELVIS X, b01036AT.A14

Ymin = -59.62 G's @ 0.0664 Seconds, Ymax = 7.82 G's @ 0.1381 Seconds



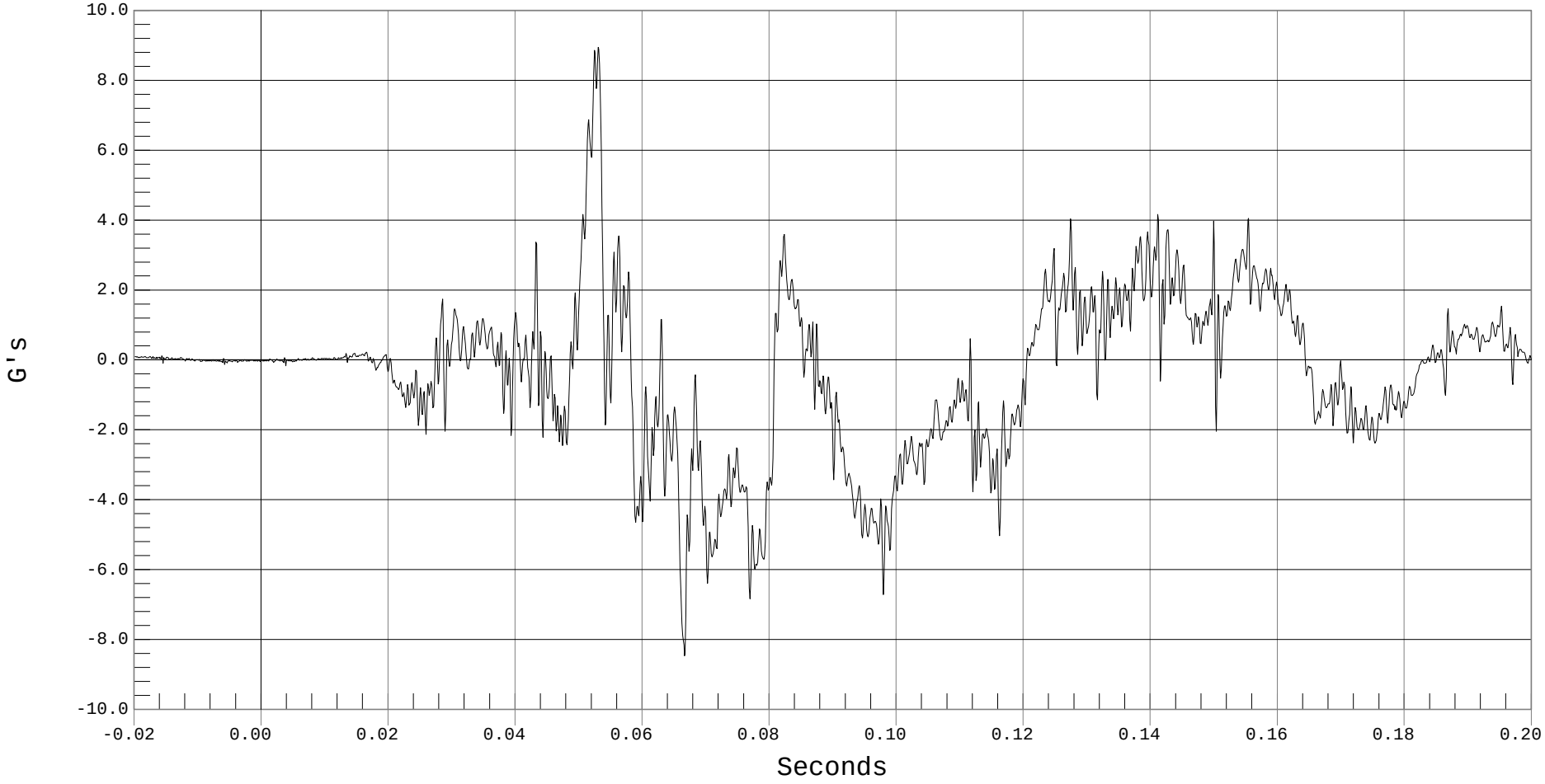
DRIVER PELVIS Y ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 DRIVER PELVIS Y, b01036AT.A15

Ymin = -8.47 G's @ 0.0666 Seconds, Ymax = 8.95 G's @ 0.0530 Seconds



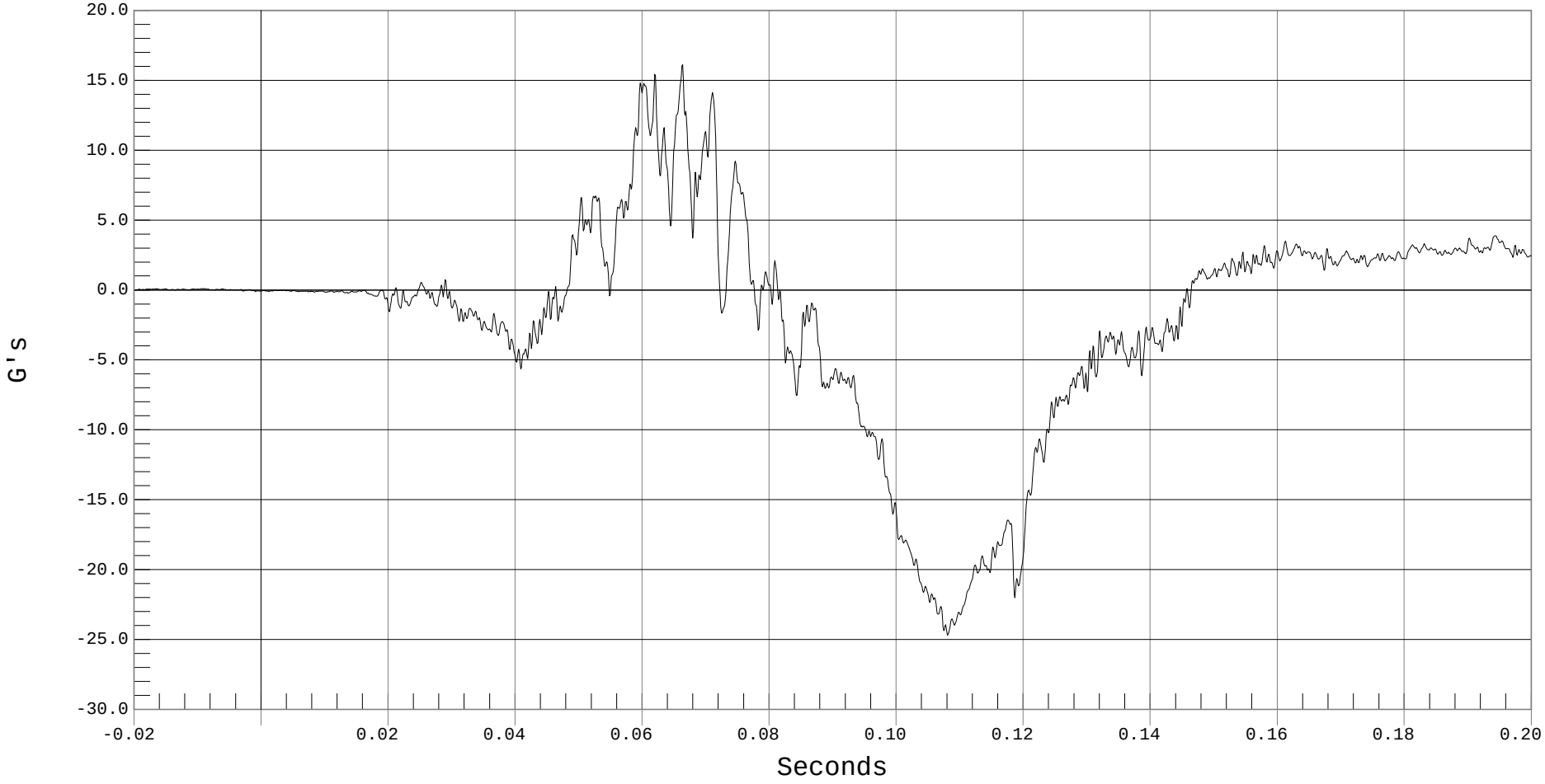
DRIVER PELVIS Z ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 DRIVER PELVIS Z, b01036AT.A16

Ymin = -24.71 G's @ 0.1080 Seconds, Ymax = 16.11 G's @ 0.0663 Seconds



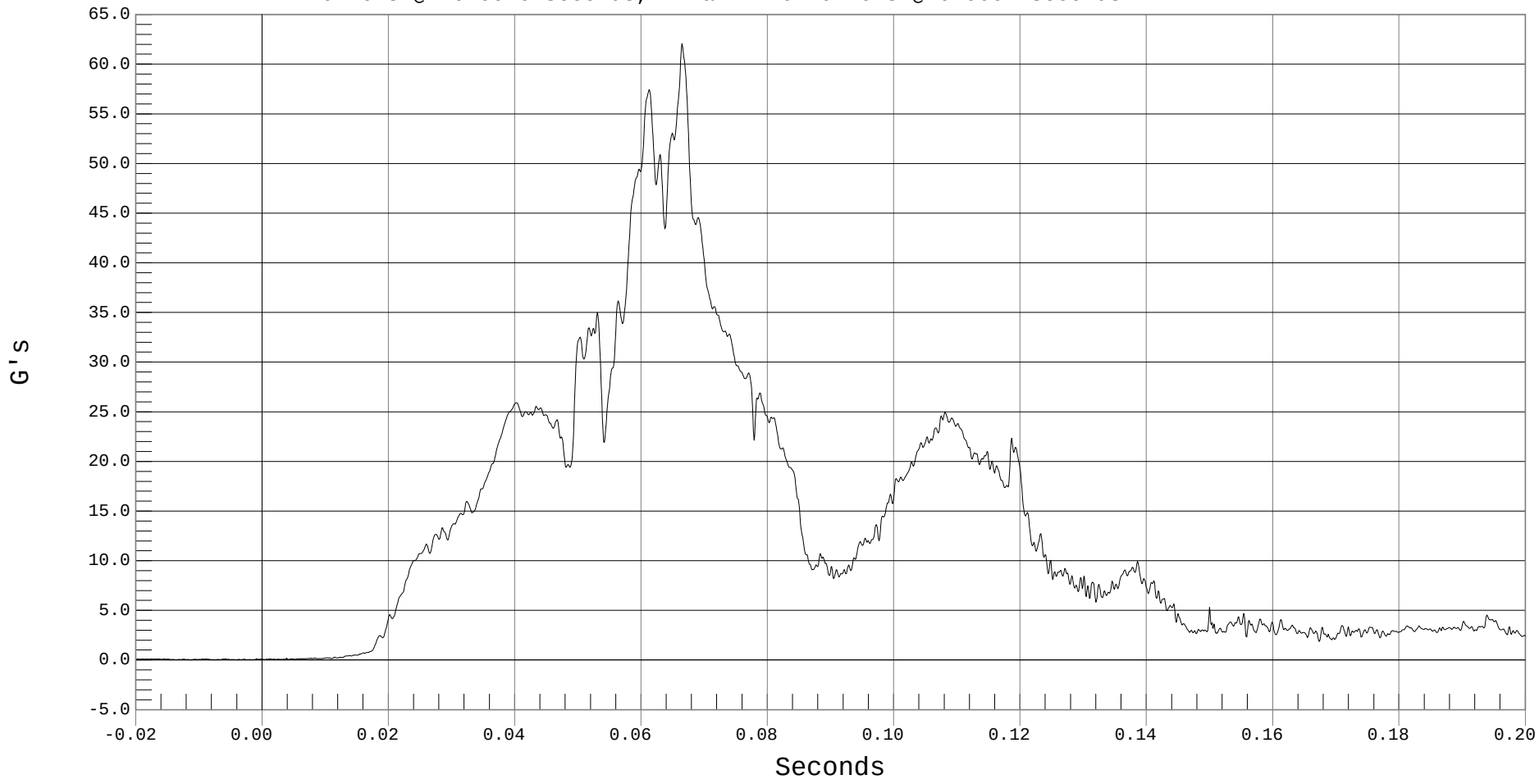
DRIVER PELVIS RESULTANT ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 DRIVER PELVIS RESULTANT ACCELERATION, b01036AV.A14

Ymin = .01 G's @ -0.0026 Seconds, Ymax = 62.07 G's @ 0.0664 Seconds



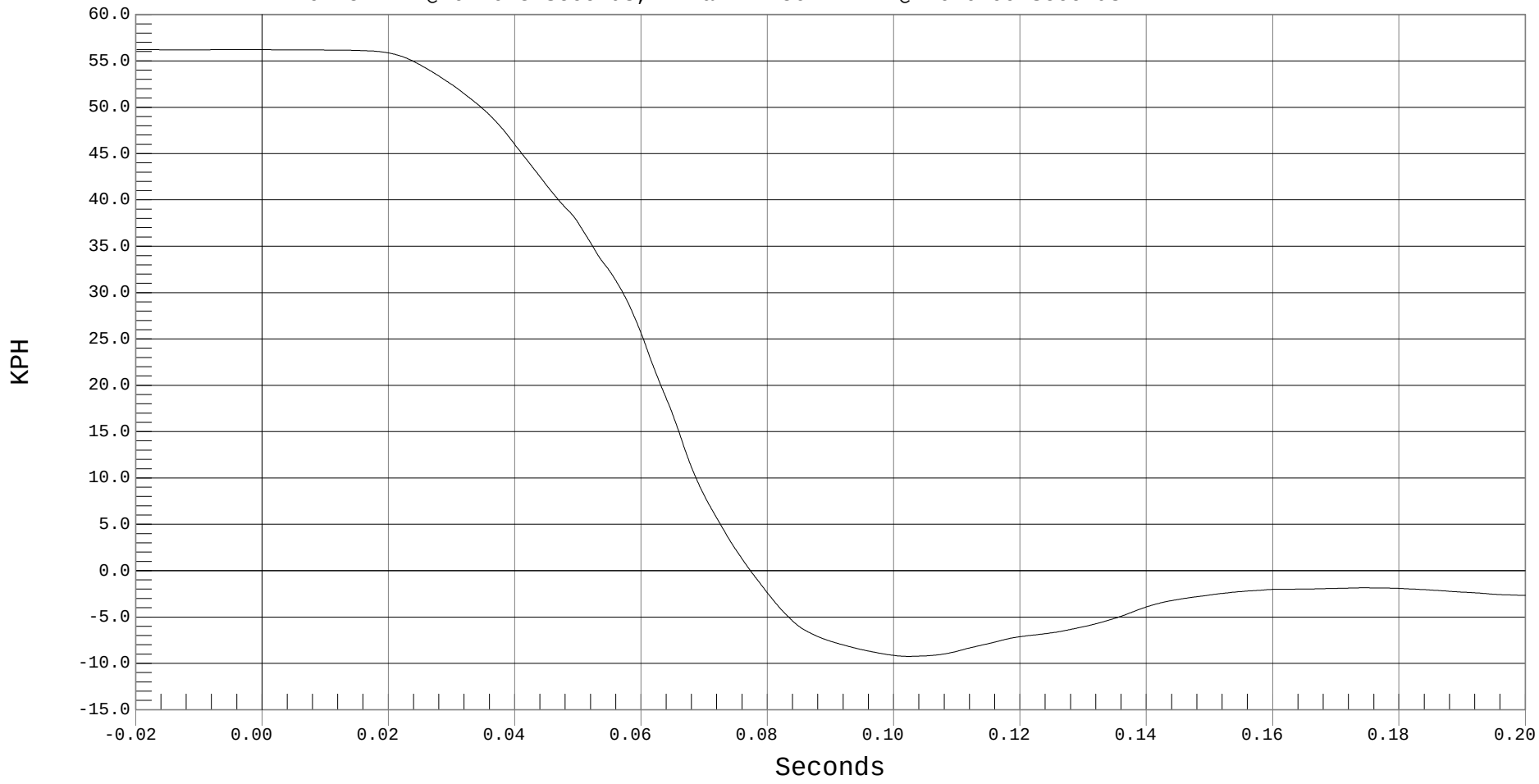
DRIVER PELVIS X VELOCITY

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 DRIVER PELVIS X VELOCITY, b01036AI.V14

Ymin = -9.25 KPH @ 0.1023 Seconds, Ymax = 56.2 KPH @ -0.0199 Seconds



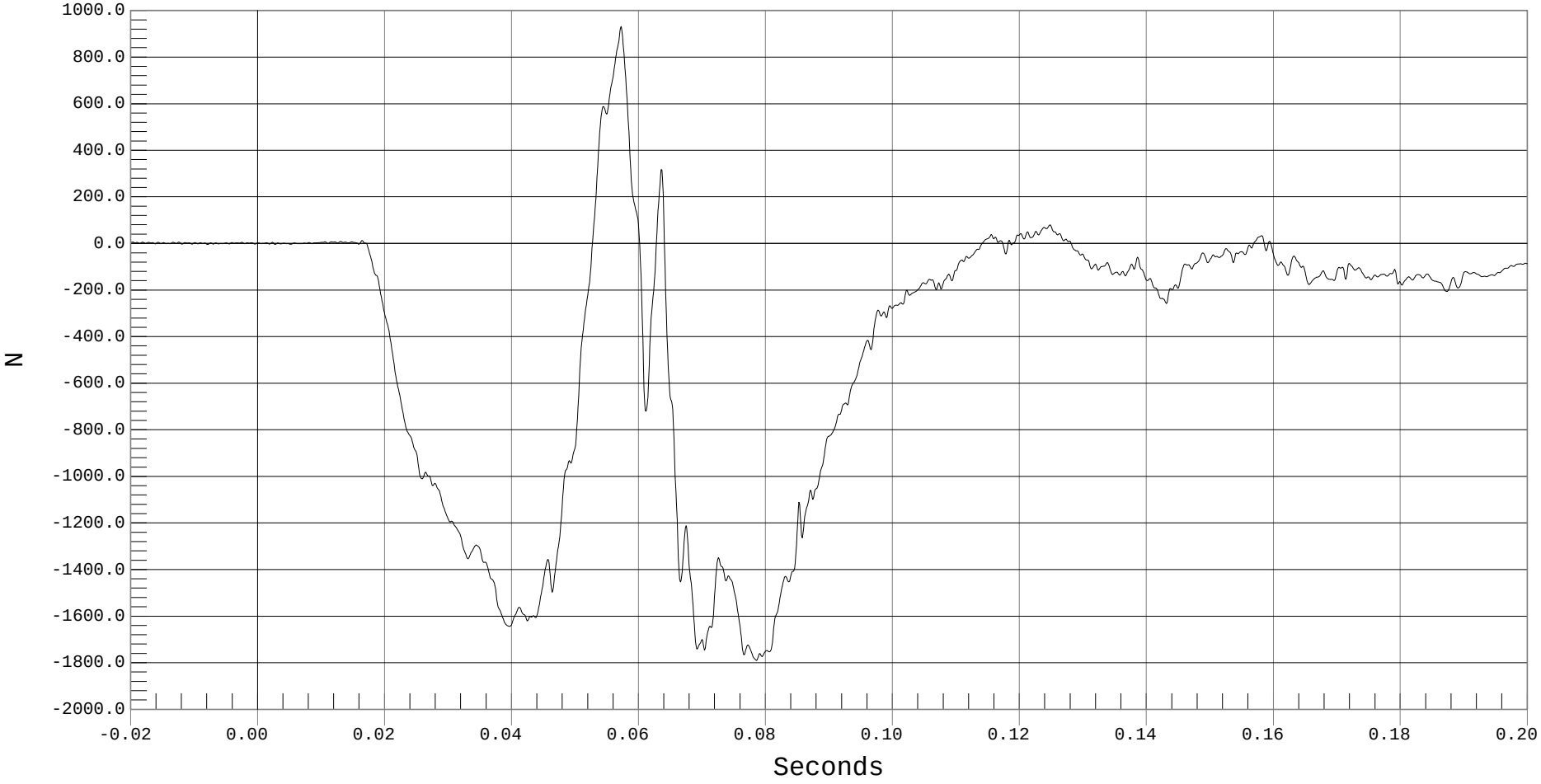
DRIVER LEFT FEMUR FORCE

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 DRIVER LEFT FEMUR X, b01036FF.F18

Ymin = -1790.26 N @ 0.0785 Seconds, Ymax = 930.85 N @ 0.0572 Seconds



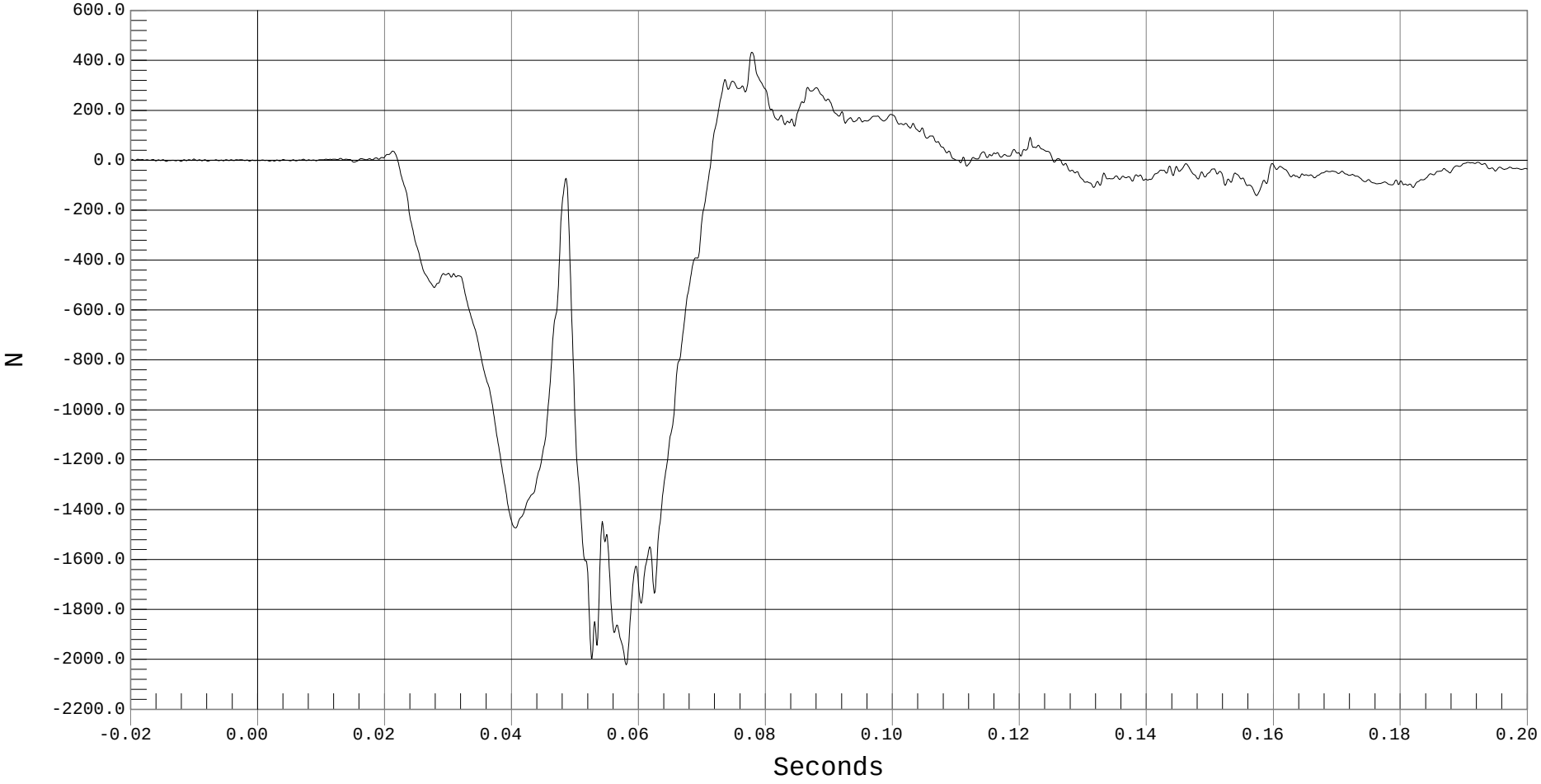
DRIVER RIGHT FEMUR FORCE

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 DRIVER RIGHT FEMUR X, b01036FF.F17

Ymin = -2021.8 N @ 0.0580 Seconds, Ymax = 431.99 N @ 0.0777 Seconds



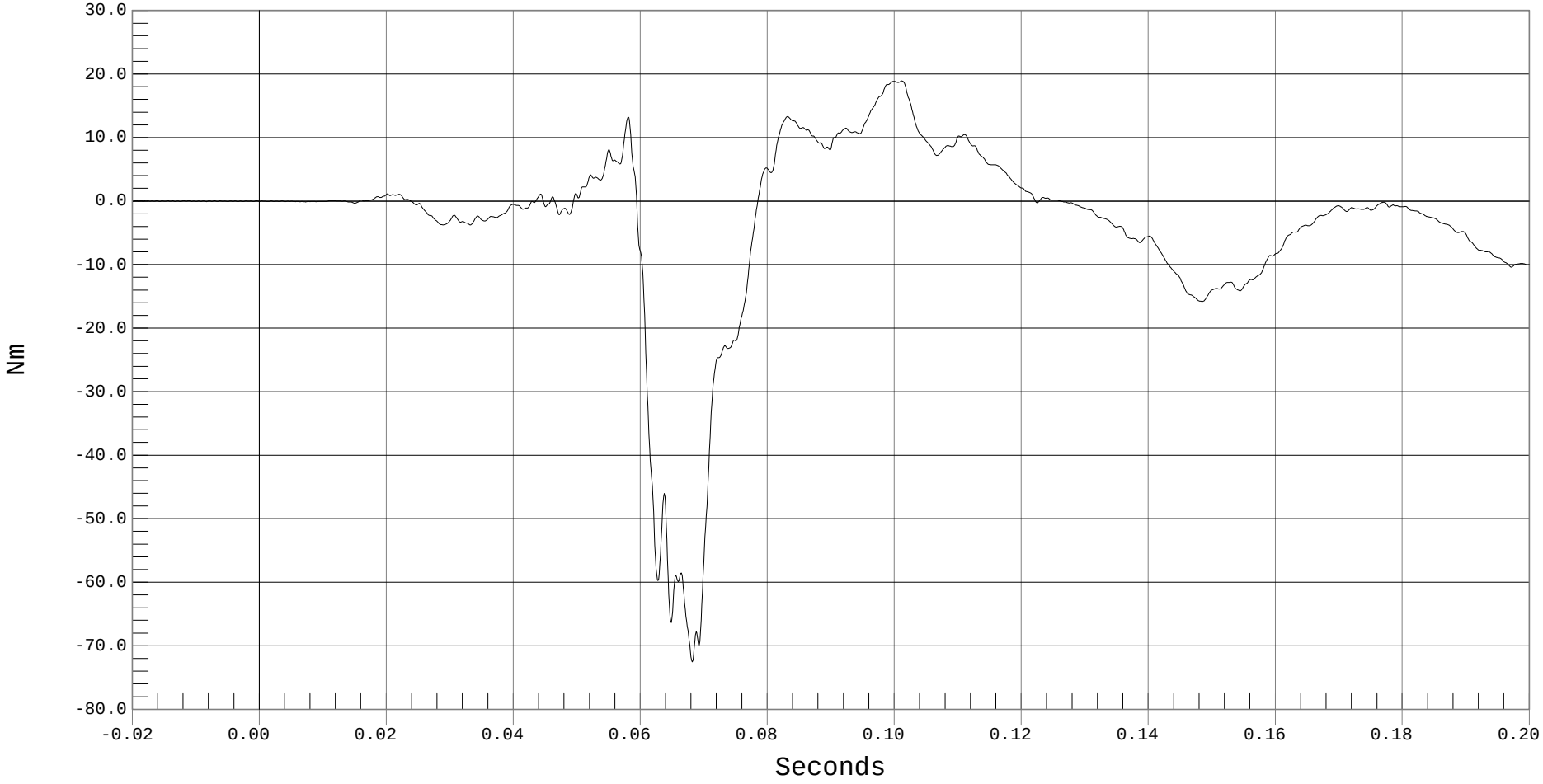
DRIVER LEFT UPPER TIBIA MOMENT X

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 DRIVER LEFT UPPER TIBIA MX, b01036MF.M75

Ymin = -72.56 Nm @ 0.0681 Seconds, Ymax = 18.9 Nm @ 0.1011 Seconds



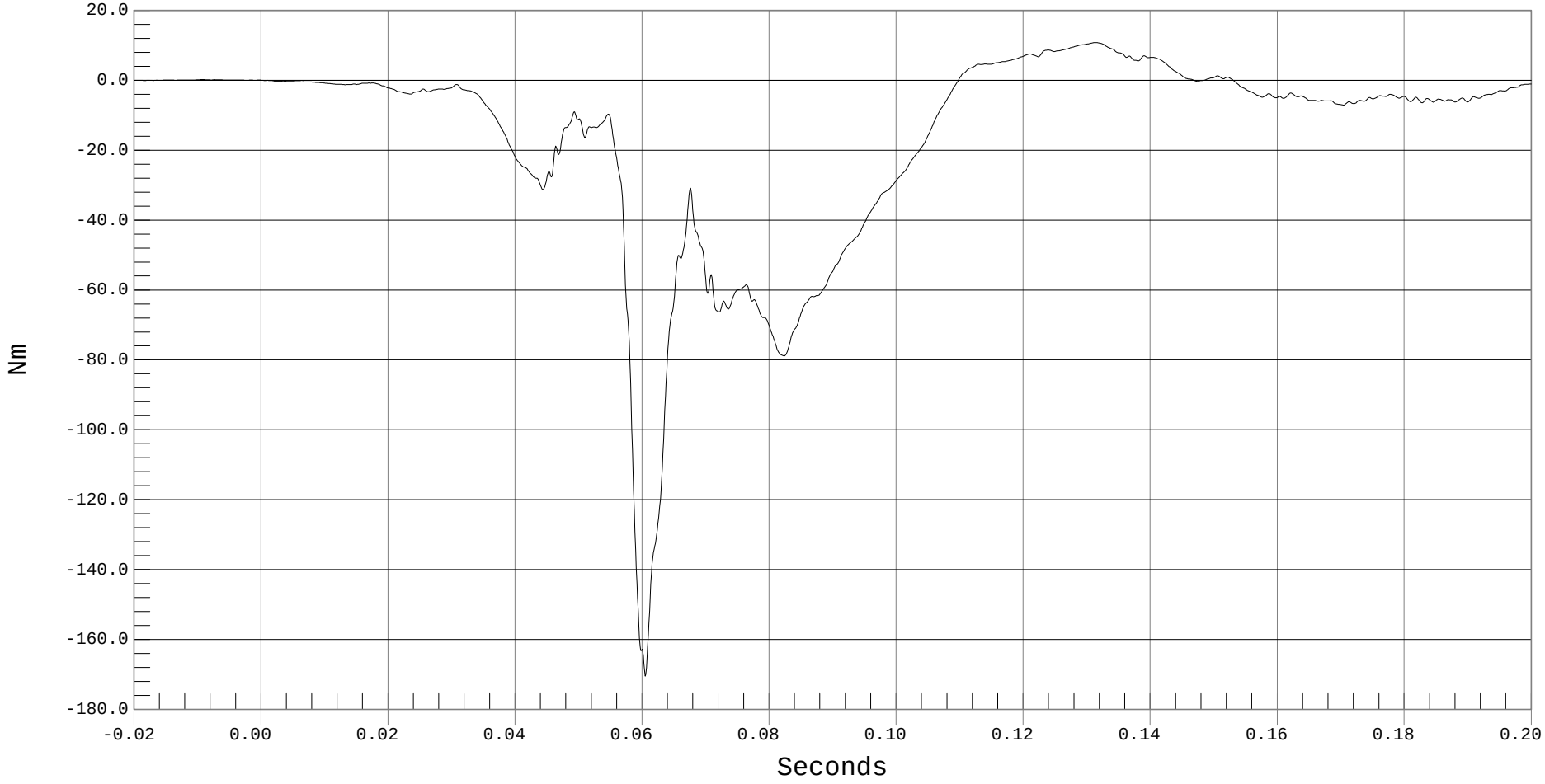
DRIVER LEFT UPPER TIBIA MOMENT Y

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 DRIVER LEFT UPPER TIBIA MY, b01036MF.M76

Ymin = -170.51 Nm @ 0.0604 Seconds, Ymax = 10.8 Nm @ 0.1313 Seconds



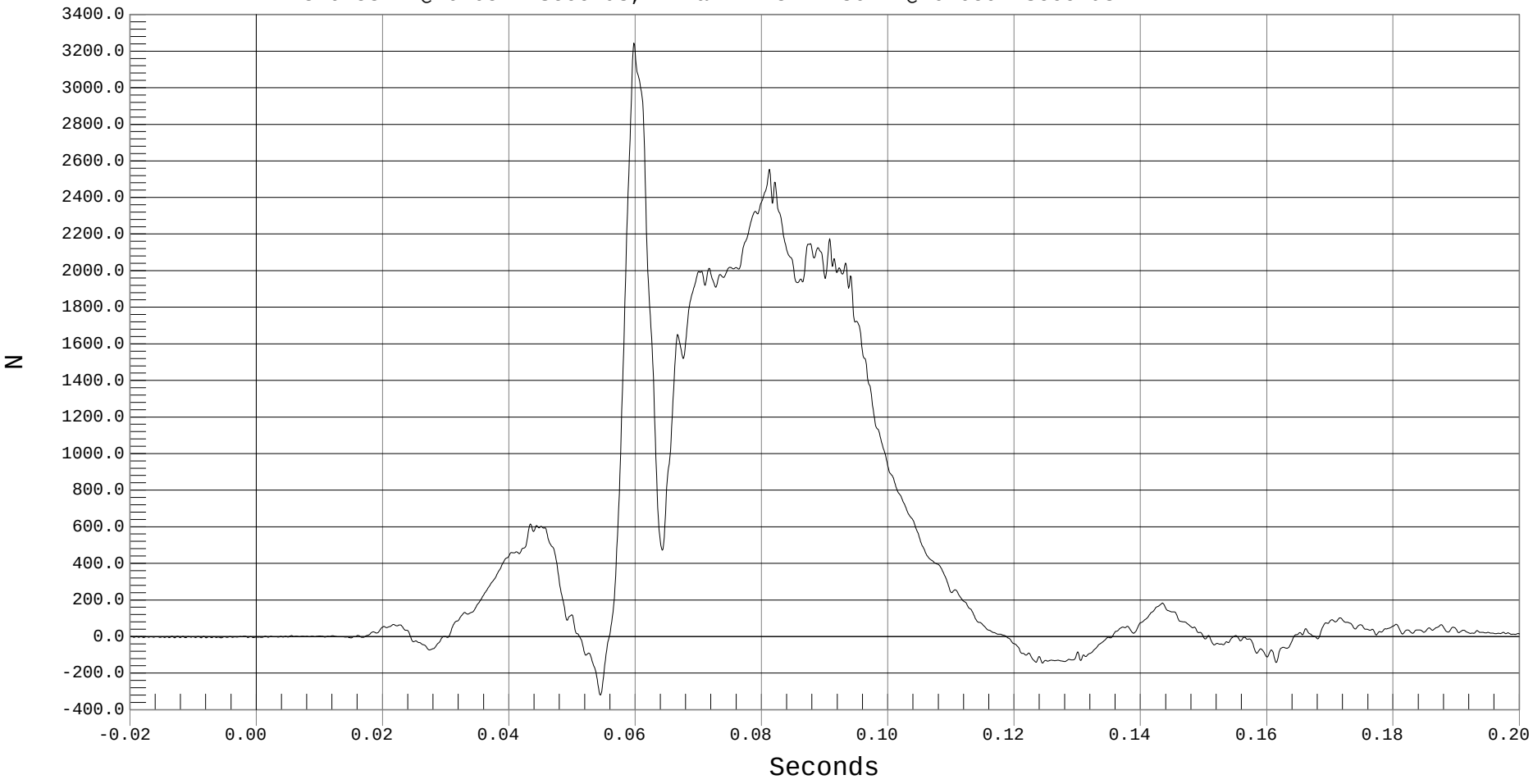
DRIVER LEFT UPPER TIBIA FORCE Z

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 DRIVER LEFT UPPER TIBIA FZ, b01036FF.F77

Ymin = -320.58 N @ 0.0544 Seconds, Ymax = 3244.86 N @ 0.0597 Seconds



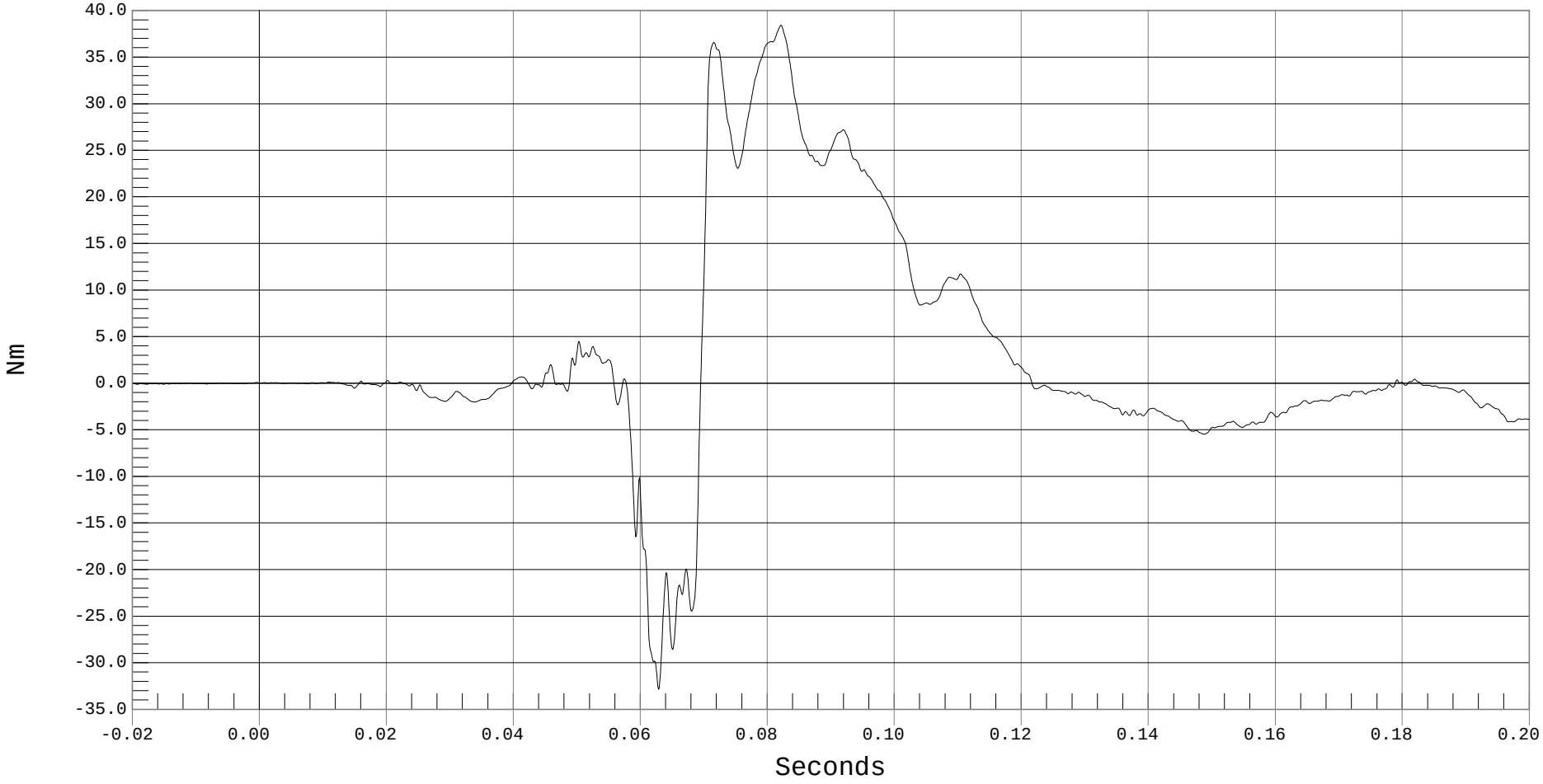
DRIVER LEFT LOWER TIBIA MOMENT X

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 DRIVER LEFT LOWER TIBIA MX, b01036MF.M78

Ymin = -32.85 Nm @ 0.0628 Seconds, Ymax = 38.42 Nm @ 0.0821 Seconds



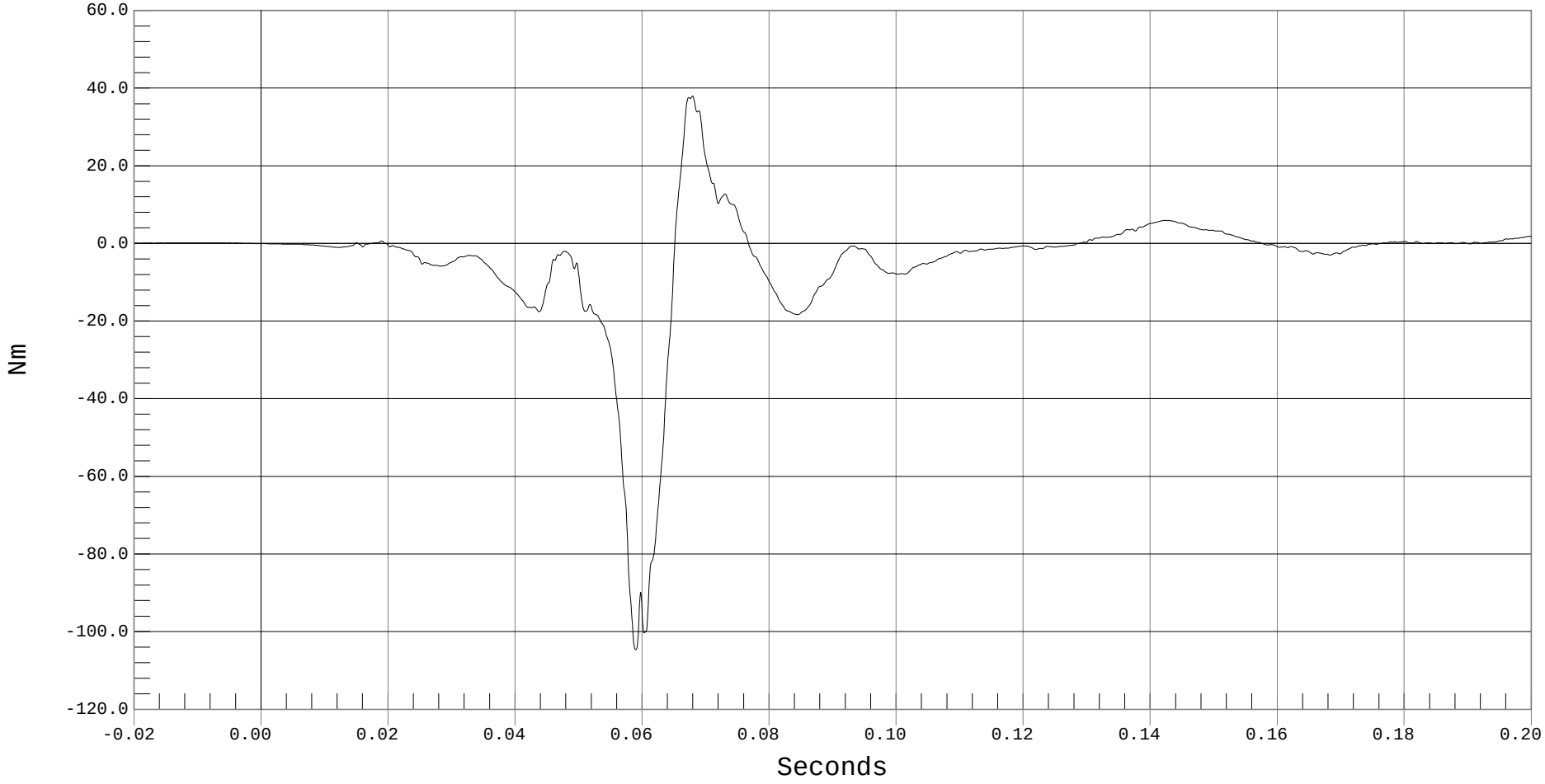
DRIVER LEFT LOWER TIBIA MOMENT Y

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 DRIVER LEFT LOWER TIBIA MY, b01036MF.M79

Ymin = -104.68 Nm @ 0.0589 Seconds, Ymax = 37.98 Nm @ 0.0679 Seconds



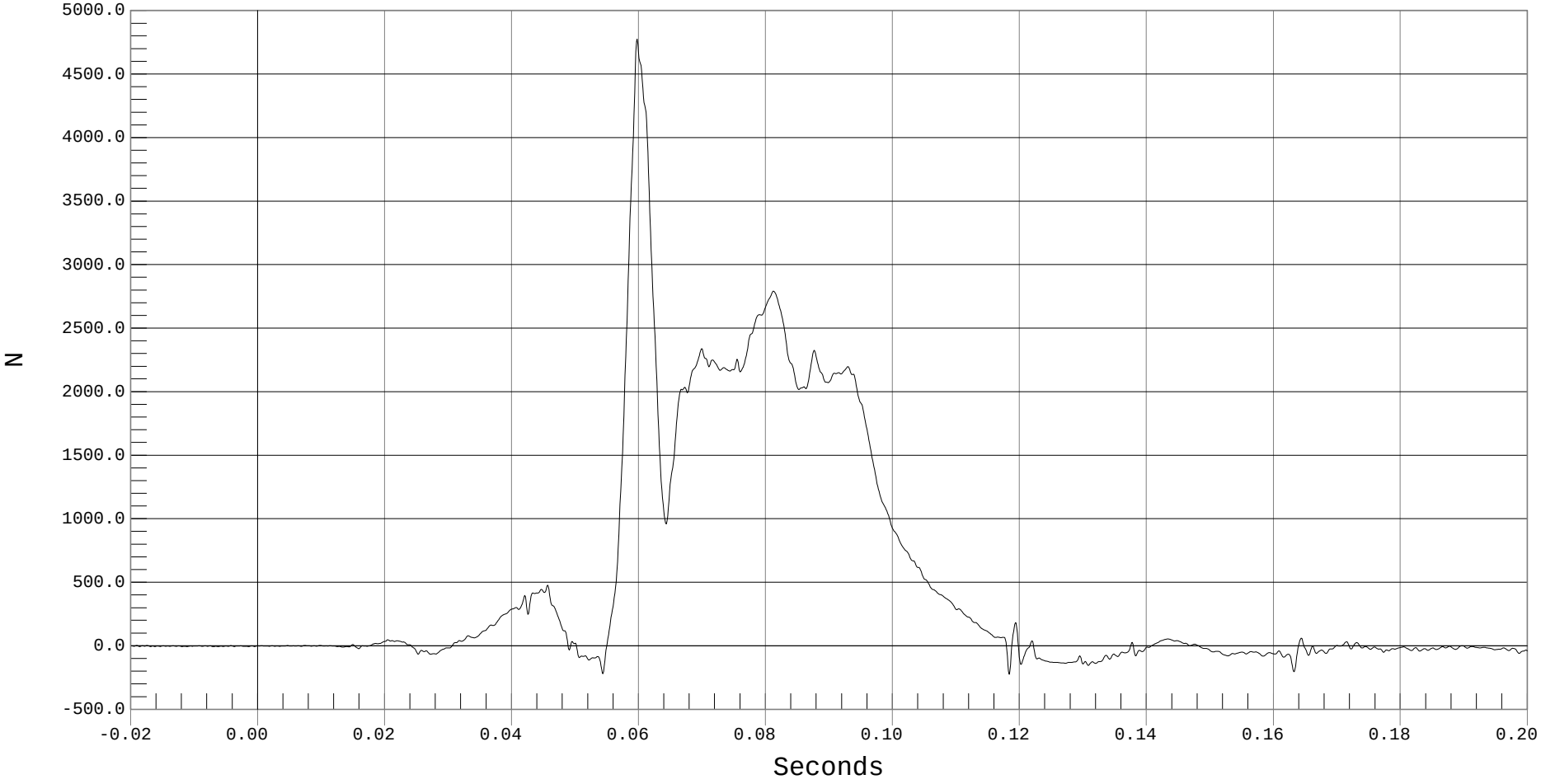
DRIVER LEFT LOWER TIBIA FORCE Z

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 DRIVER LEFT LOWER TIBIA FZ, b01036FF.F80

Ymin = -225.26 N @ 0.1183 Seconds, Ymax = 4774.42 N @ 0.0597 Seconds



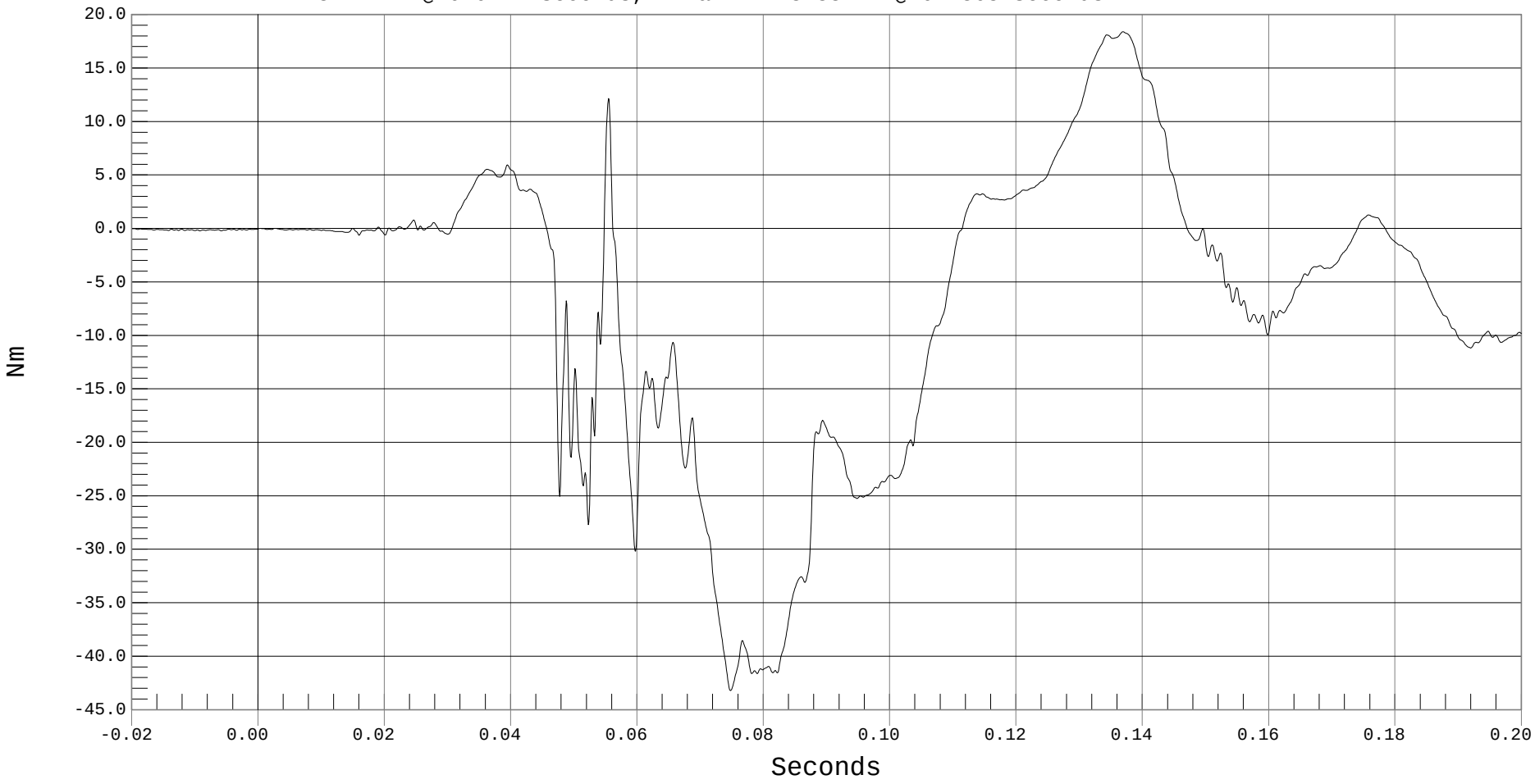
DRIVER RIGHT UPPER TIBIA MOMENT X

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 DRIVER RIGHT UPPER TIBIA MX, b01036MF.M69

Ymin = -43.22 Nm @ 0.0747 Seconds, Ymax = 18.38 Nm @ 0.1368 Seconds



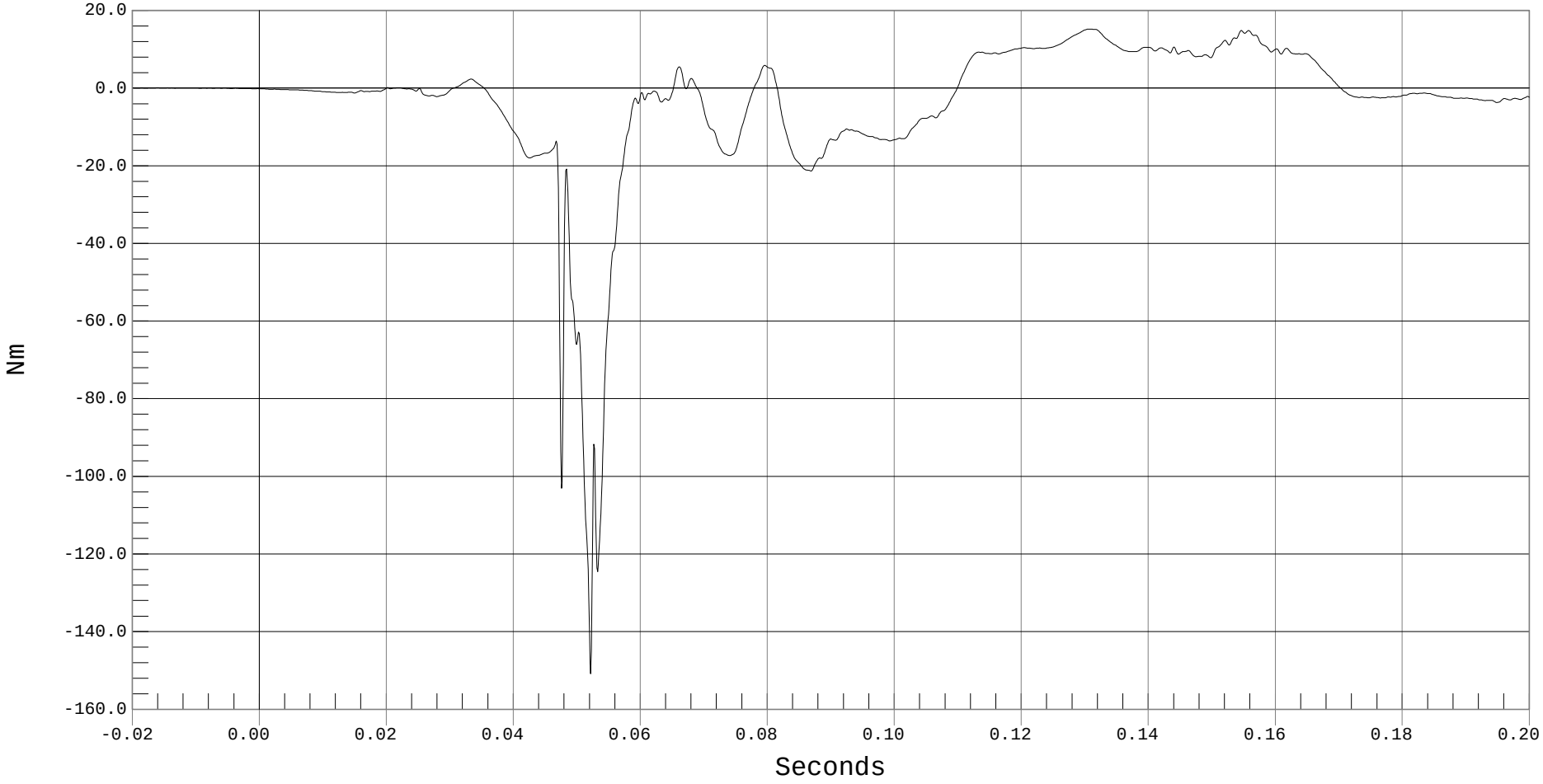
DRIVER RIGHT UPPER TIBIA MOMENT Y

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 DRIVER RIGHT UPPER TIBIA MY, b01036MF.M70

Ymin = -150.83 Nm @ 0.0521 Seconds, Ymax = 15.2 Nm @ 0.1306 Seconds



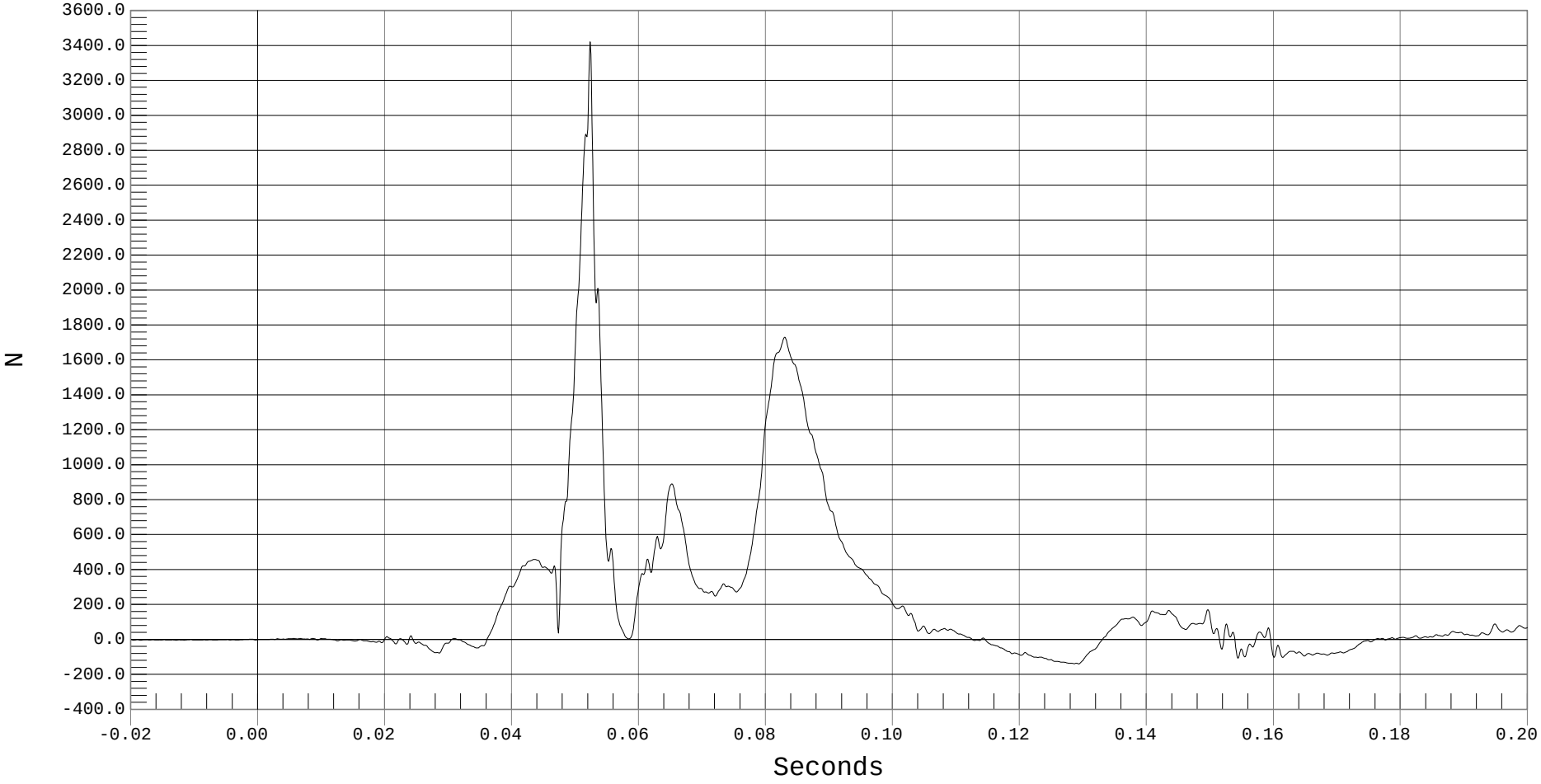
DRIVER RIGHT UPPER TIBIA FORCE Z

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 DRIVER RIGHT UPPER TIBIA FZ, b01036FF.F71

Ymin = -140.32 N @ 0.1293 Seconds, Ymax = 3420.66 N @ 0.0523 Seconds



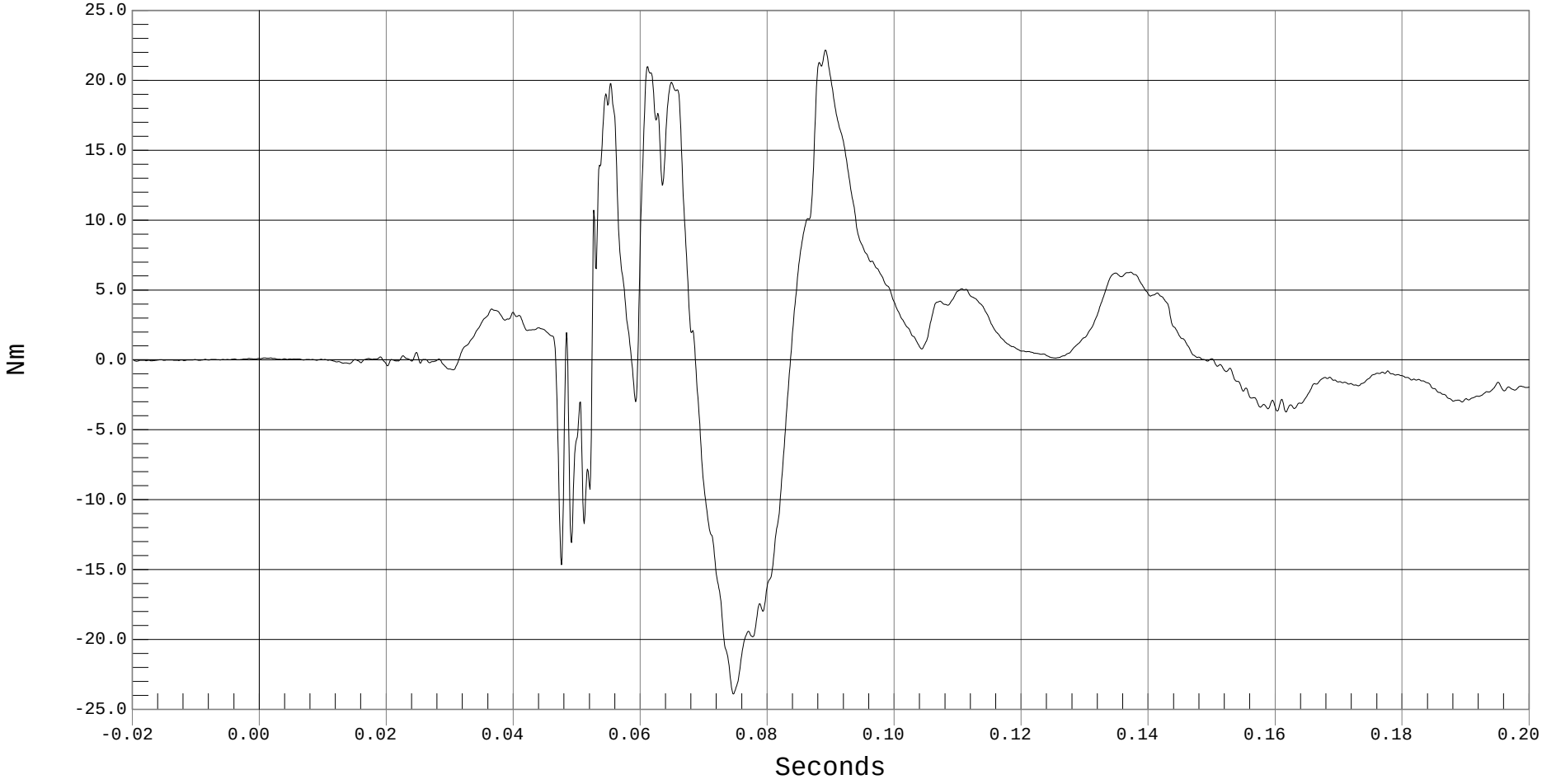
DRIVER RIGHT LOWER TIBIA MOMENT X

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 DRIVER RIGHT LOWER TIBIA MX, b01036MF.M72

Ymin = -23.91 Nm @ 0.0746 Seconds, Ymax = 22.18 Nm @ 0.0891 Seconds



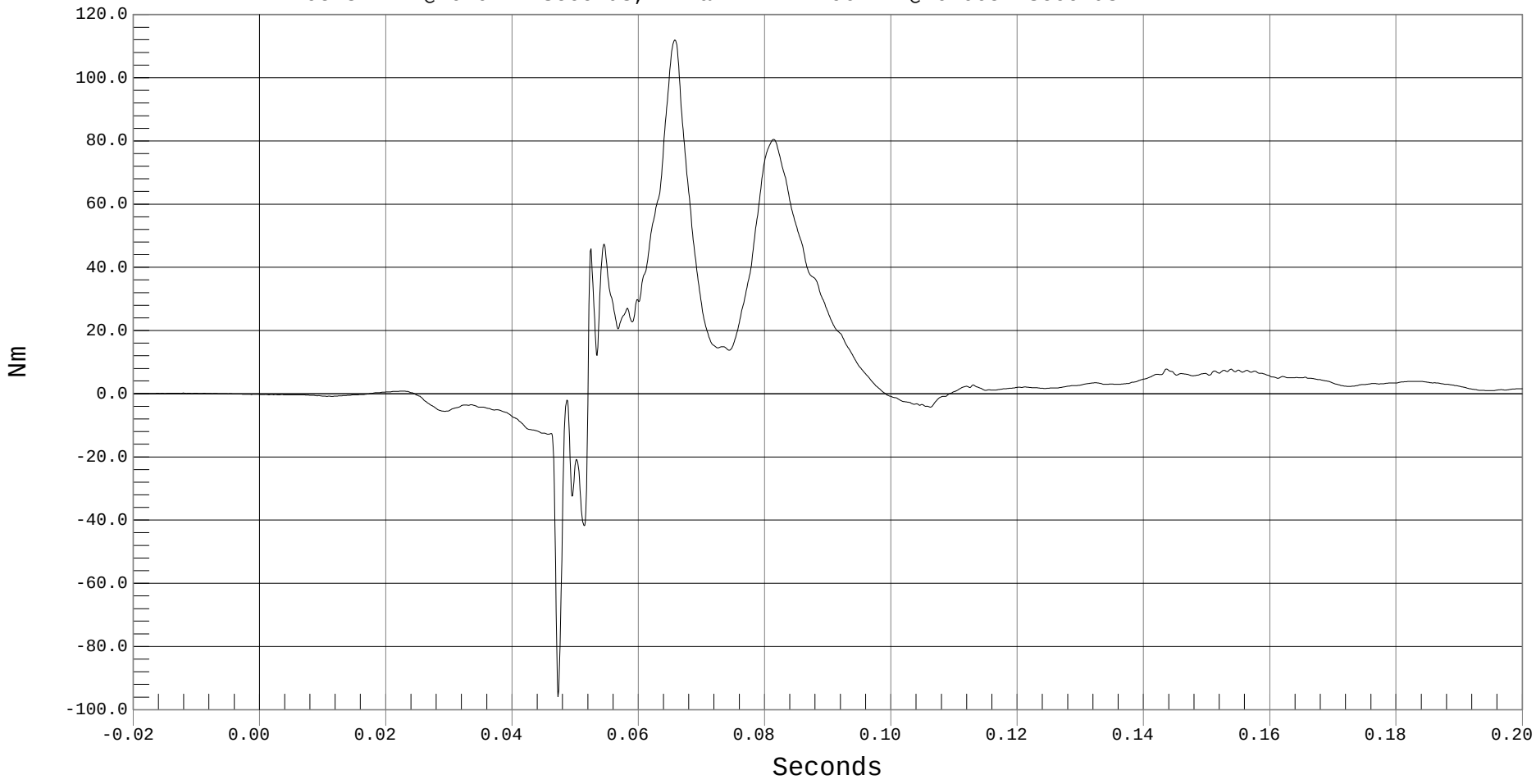
DRIVER RIGHT LOWER TIBIA MOMENT Y

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 DRIVER RIGHT LOWER TIBIA MY, b01036MF.M73

Ymin = -95.87 Nm @ 0.0472 Seconds, Ymax = 111.96 Nm @ 0.0657 Seconds



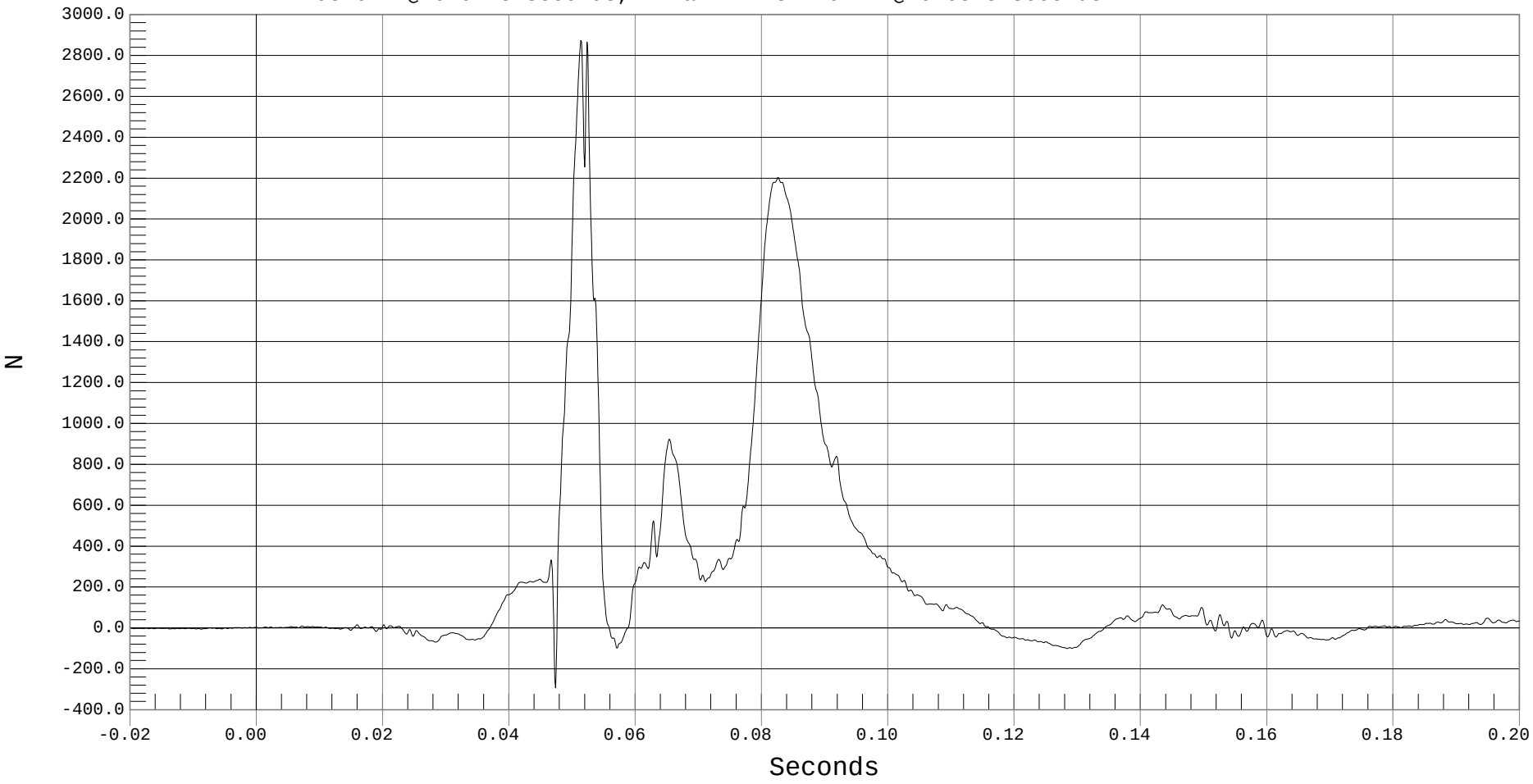
DRIVER RIGHT LOWER TIBIA FORCE Z

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 DRIVER RIGHT LOWER TIBIA FZ, b01036FF.F74

Ymin = -293.6 N @ 0.0473 Seconds, Ymax = 2872.67 N @ 0.0513 Seconds



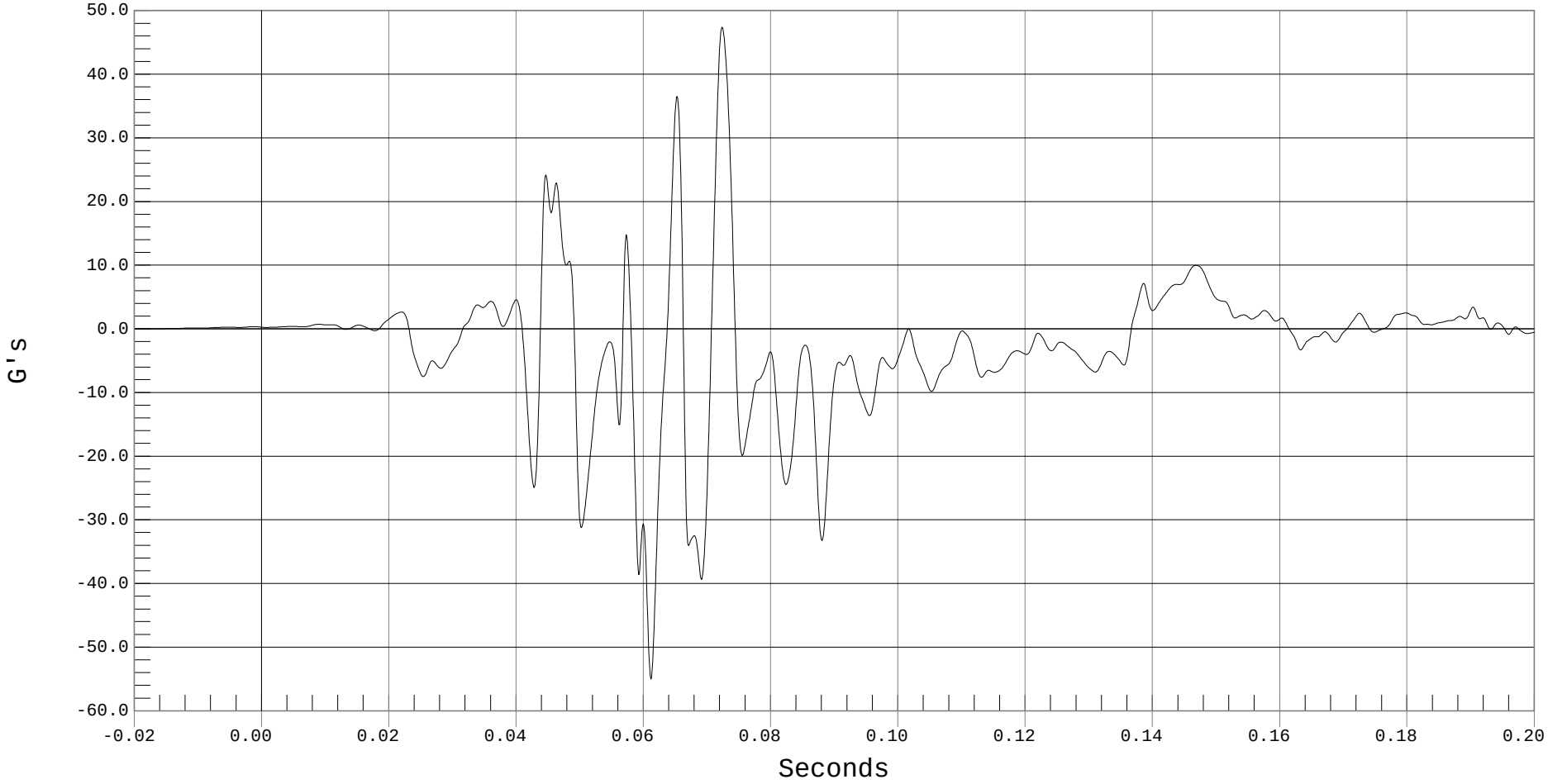
DRIVER LEFT FOOT @ BALL Z ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 DRIVER LEFT FOOT @ BALL Z, b01036AF.A12

Ymin = -55.03 G's @ 0.0611 Seconds, Ymax = 47.39 G's @ 0.0723 Seconds



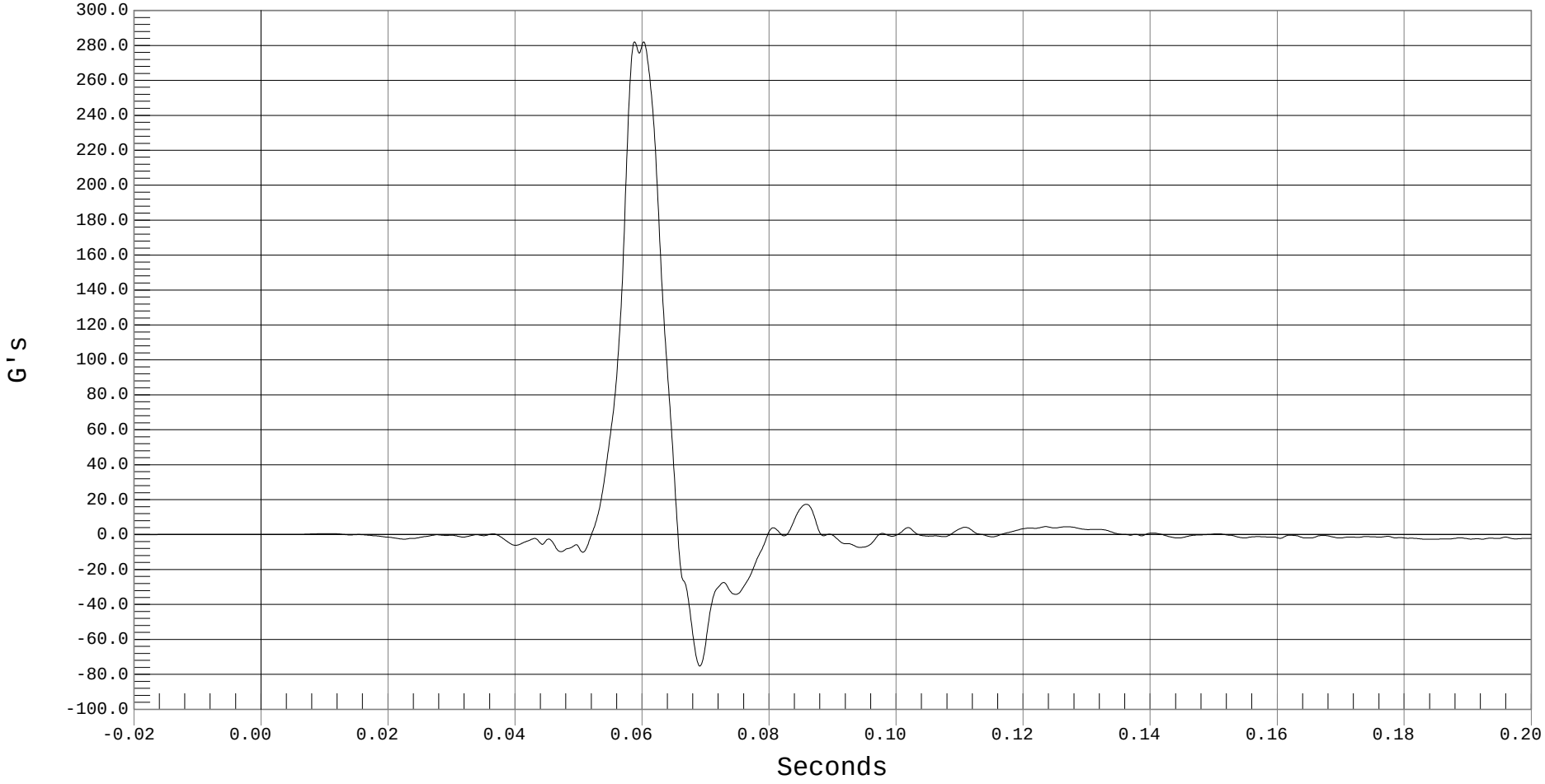
DRIVER LEFT FOOT @ HEEL X ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 DRIVER LEFT FOOT @ HEEL X, b01036AF.A10

Ymin = -75.29 G's @ 0.0690 Seconds, Ymax = 282.06 G's @ 0.0587 Seconds



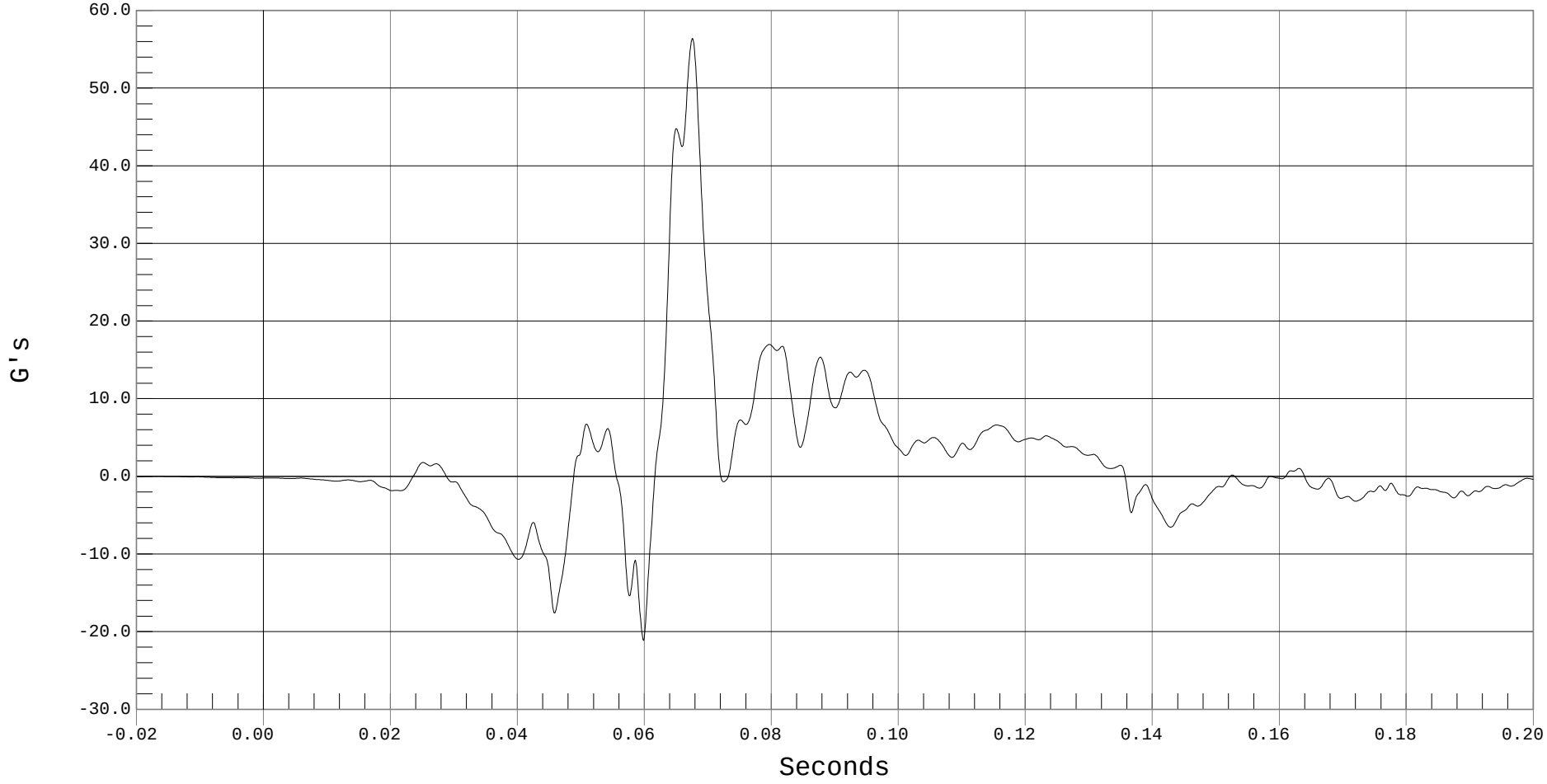
DRIVER LEFT FOOT @ HEEL Z ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 DRIVER LEFT FOOT @ HEEL Z, b01036AF.A11

Ymin = -21.14 G's @ 0.0598 Seconds, Ymax = 56.41 G's @ 0.0675 Seconds



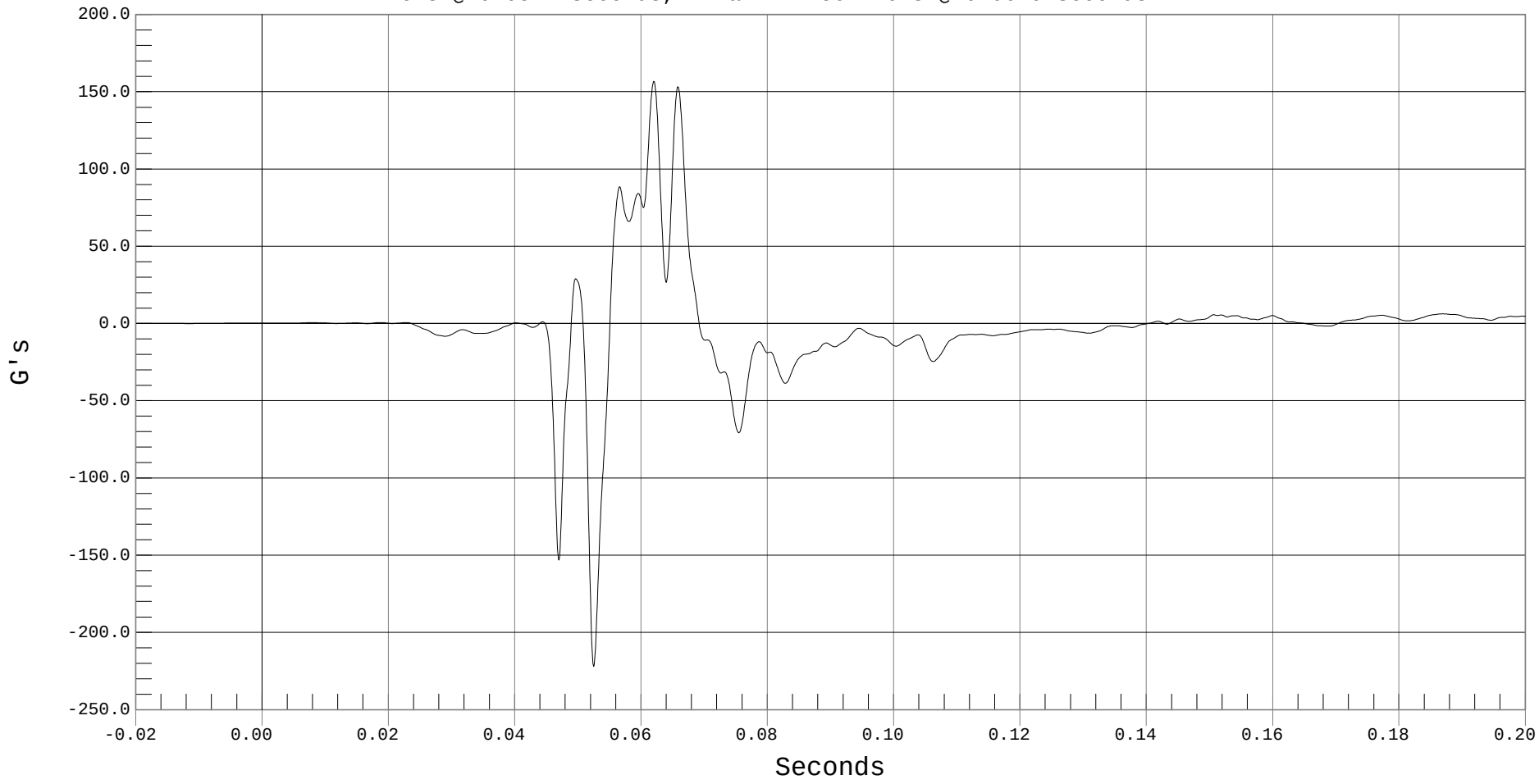
DRIVER RIGHT FOOT @ BALL Z ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 DRIVER RIGHT FOOT @ BALL Z, b01036AF.A95

Ymin = -222.12 G's @ 0.0524 Seconds, Ymax = 156.7 G's @ 0.0619 Seconds



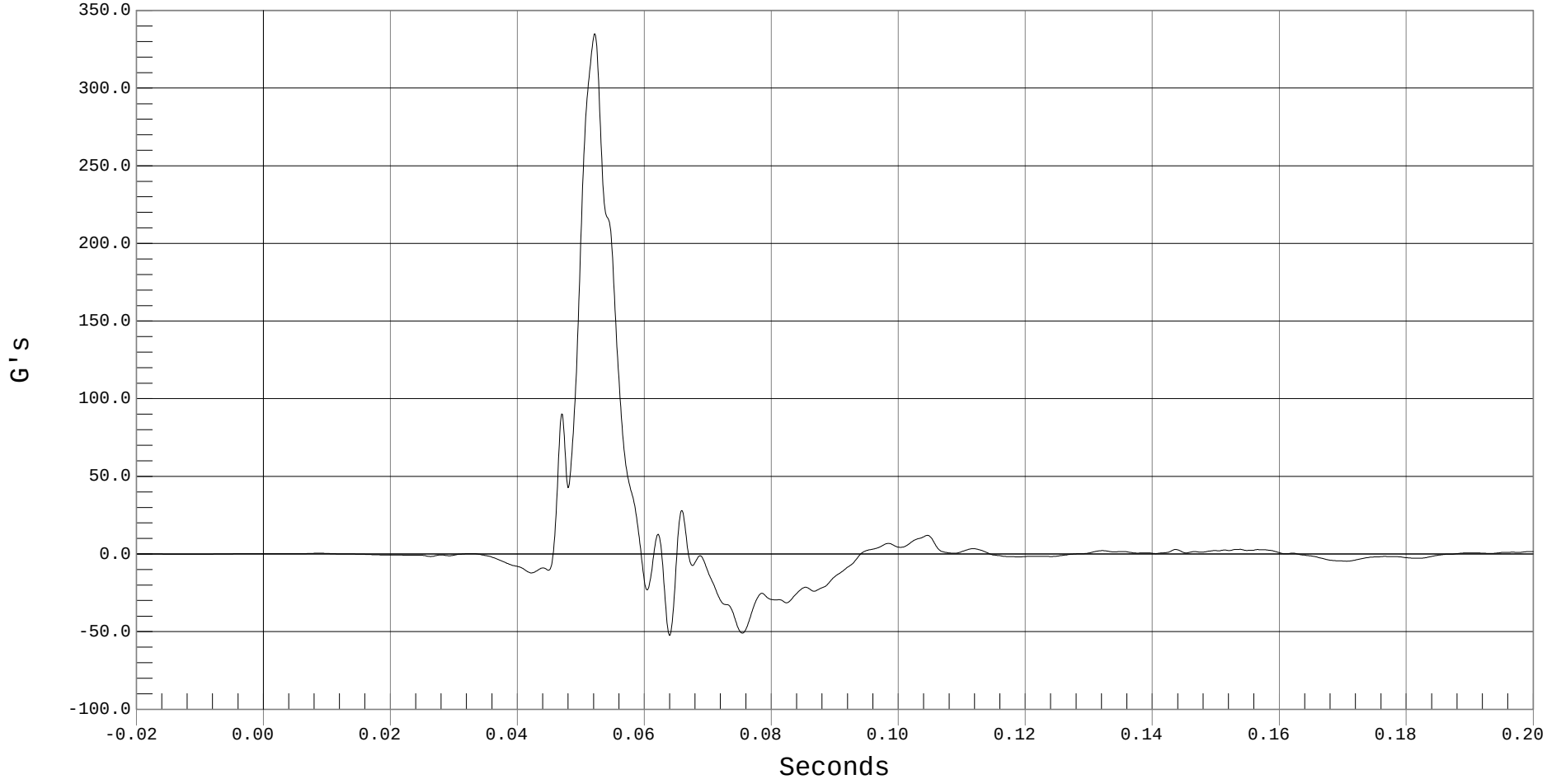
DRIVER RIGHT FOOT @ HEEL X ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 DRIVER RIGHT FOOT @ HEEL X, b01036AF.A93

Ymin = -52.54 G's @ 0.0639 Seconds, Ymax = 335.09 G's @ 0.0521 Seconds



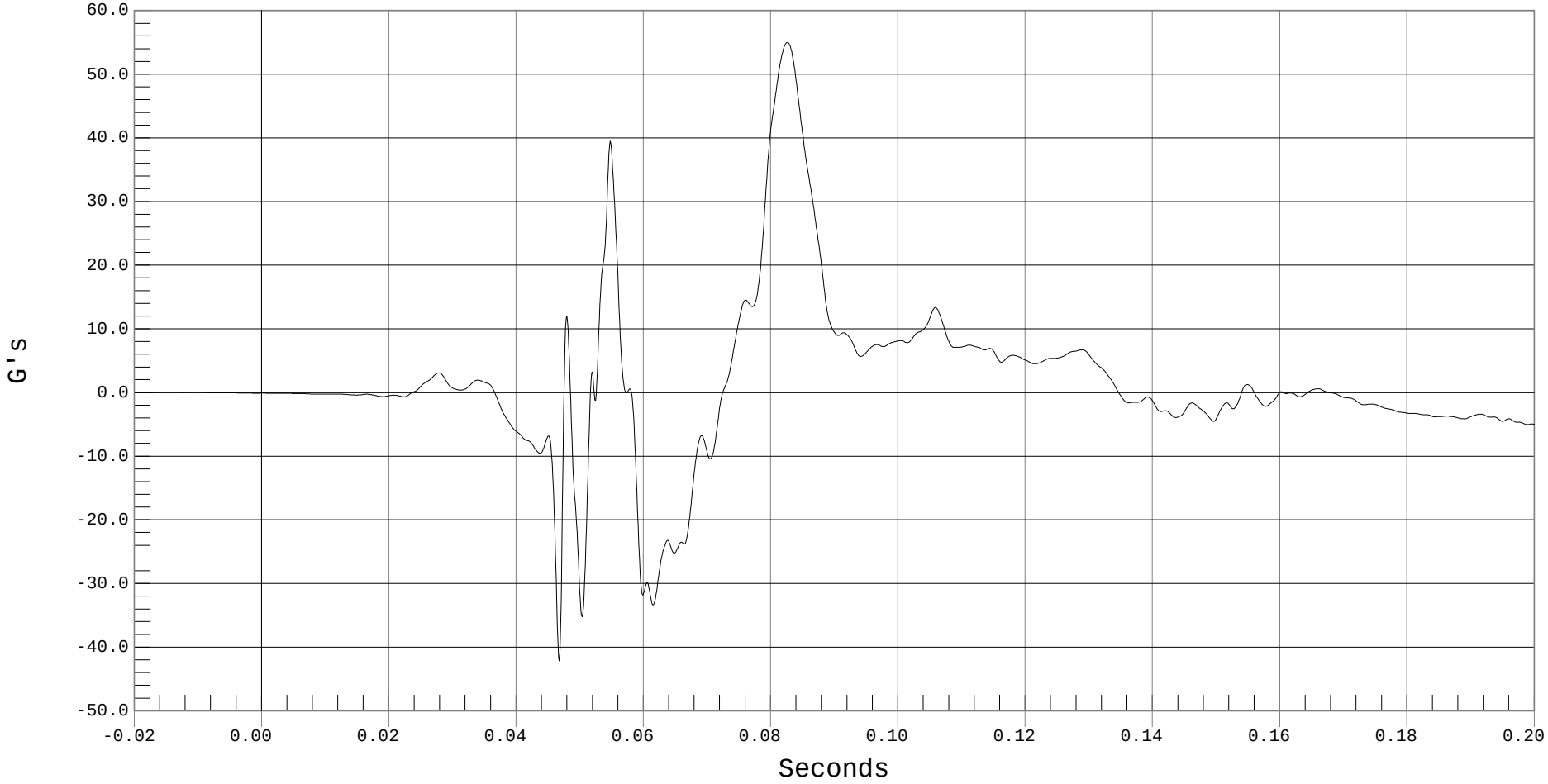
DRIVER RIGHT FOOT @ HEEL Z ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 DRIVER RIGHT FOOT @ HEEL Z, b01036AF.A94

Ymin = -42.16 G's @ 0.0467 Seconds, Ymax = 55.01 G's @ 0.0825 Seconds



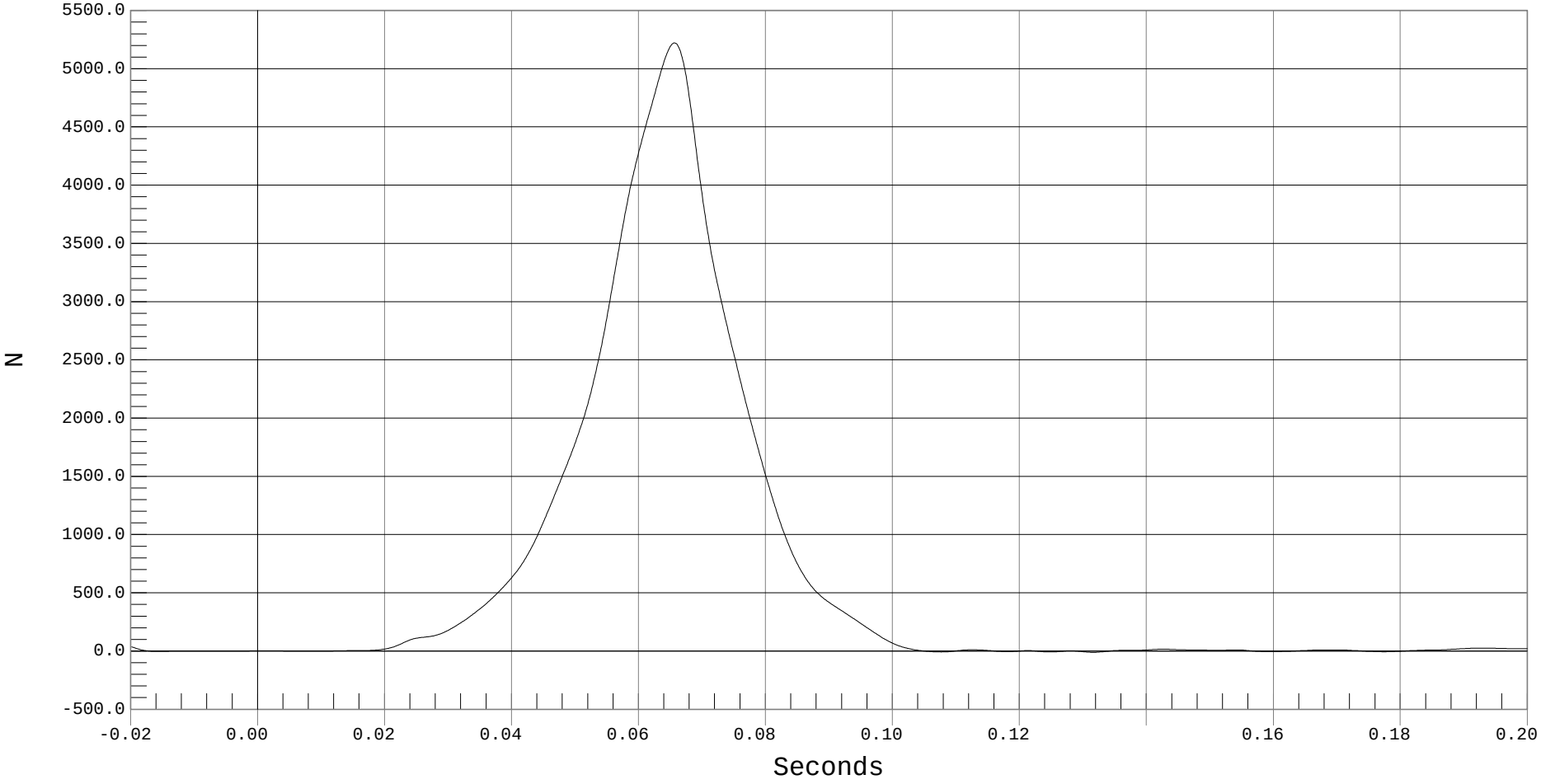
DRIVER SHOULDER BELT FORCE

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 60

1 DRIVER SHOULDER BELT, b01036FF.F65

Ymin = -10.98 N @ 0.1315 Seconds, Ymax = 5221.88 N @ 0.0656 Seconds



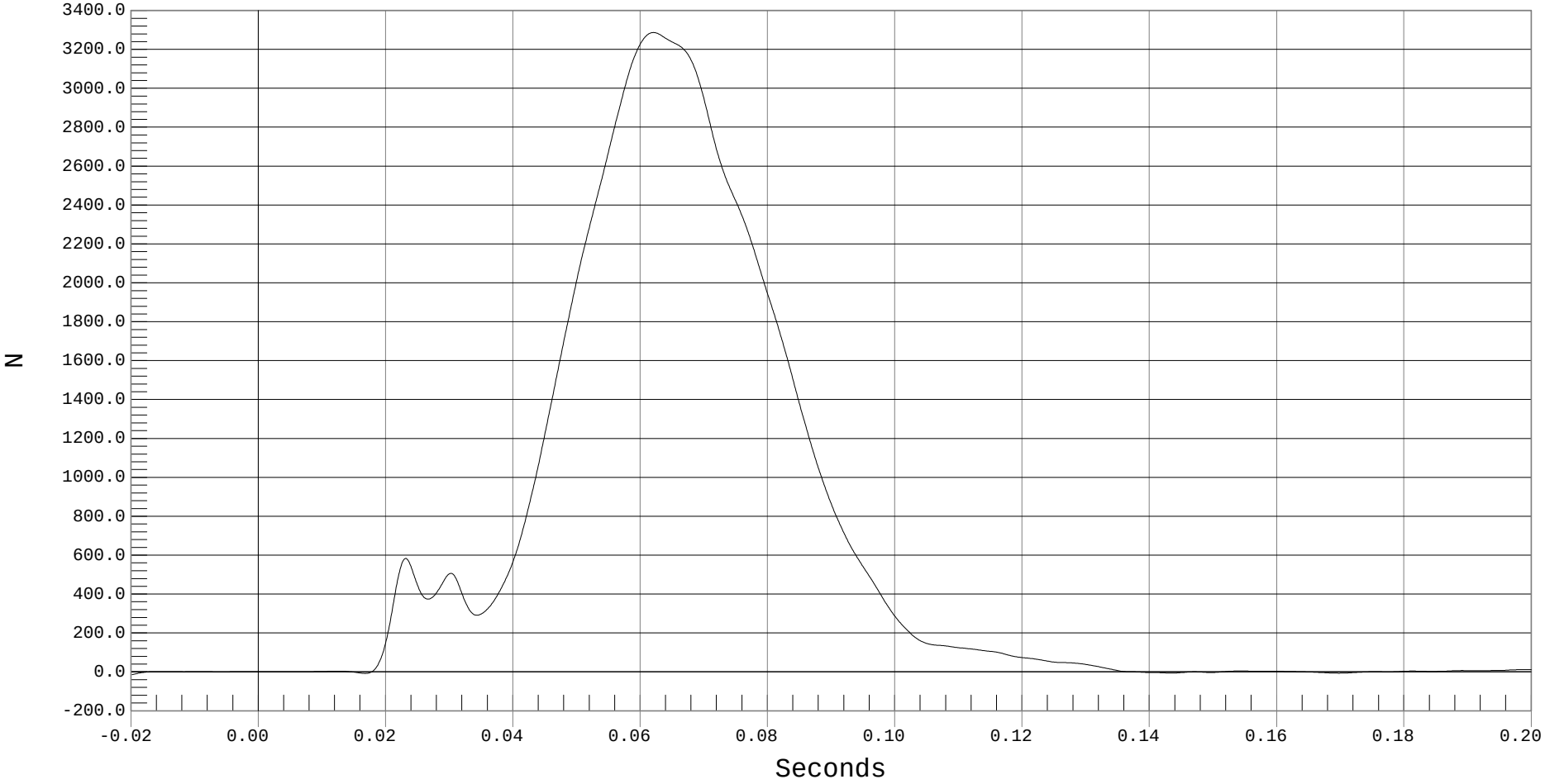
DRIVER LAP BELT FORCE

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 60

1 DRIVER LAP BELT, b01036FF.F66

Ymin = -14.59 N @ -0.0199 Seconds, Ymax = 3287.09 N @ 0.0620 Seconds



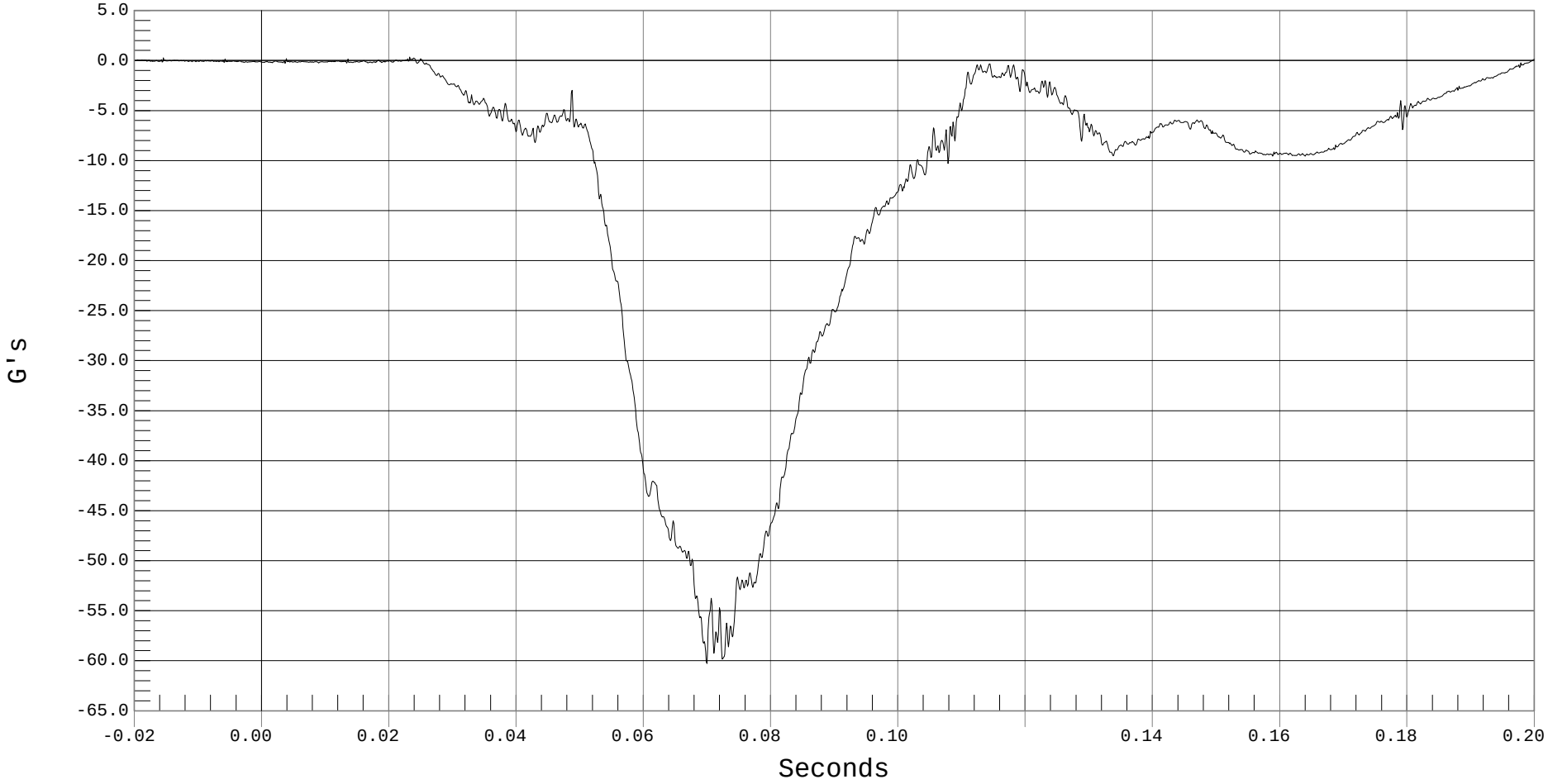
PASSENGER HEAD X ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 PASSENGER HEAD X, b01036AT.A19

Ymin = -60.27 G's @ 0.0699 Seconds, Ymax = .37 G's @ 0.0232 Seconds



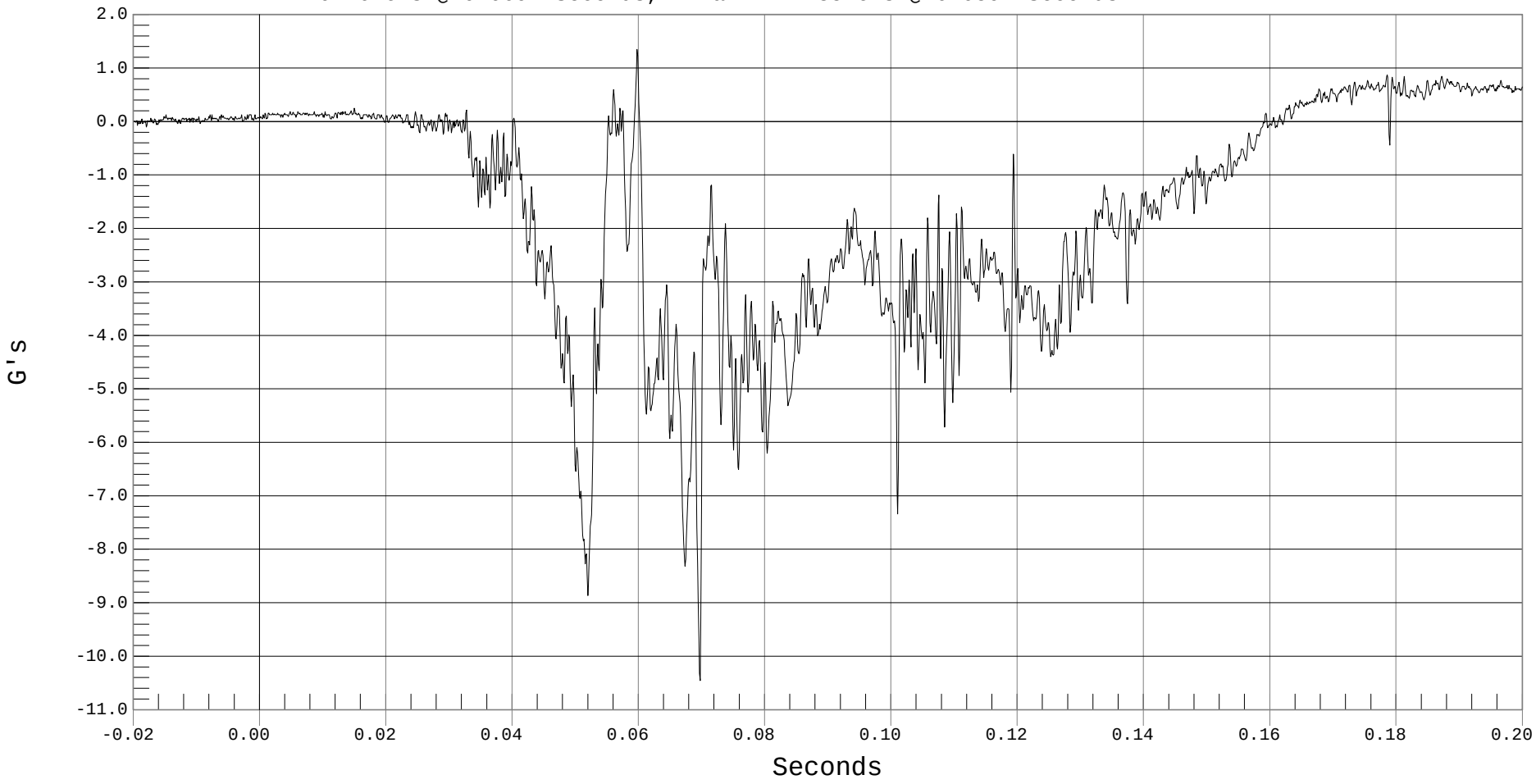
PASSENGER HEAD Y ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 PASSENGER HEAD Y, b01036AT.A20

Ymin = -10.46 G's @ 0.0697 Seconds, Ymax = 1.35 G's @ 0.0597 Seconds



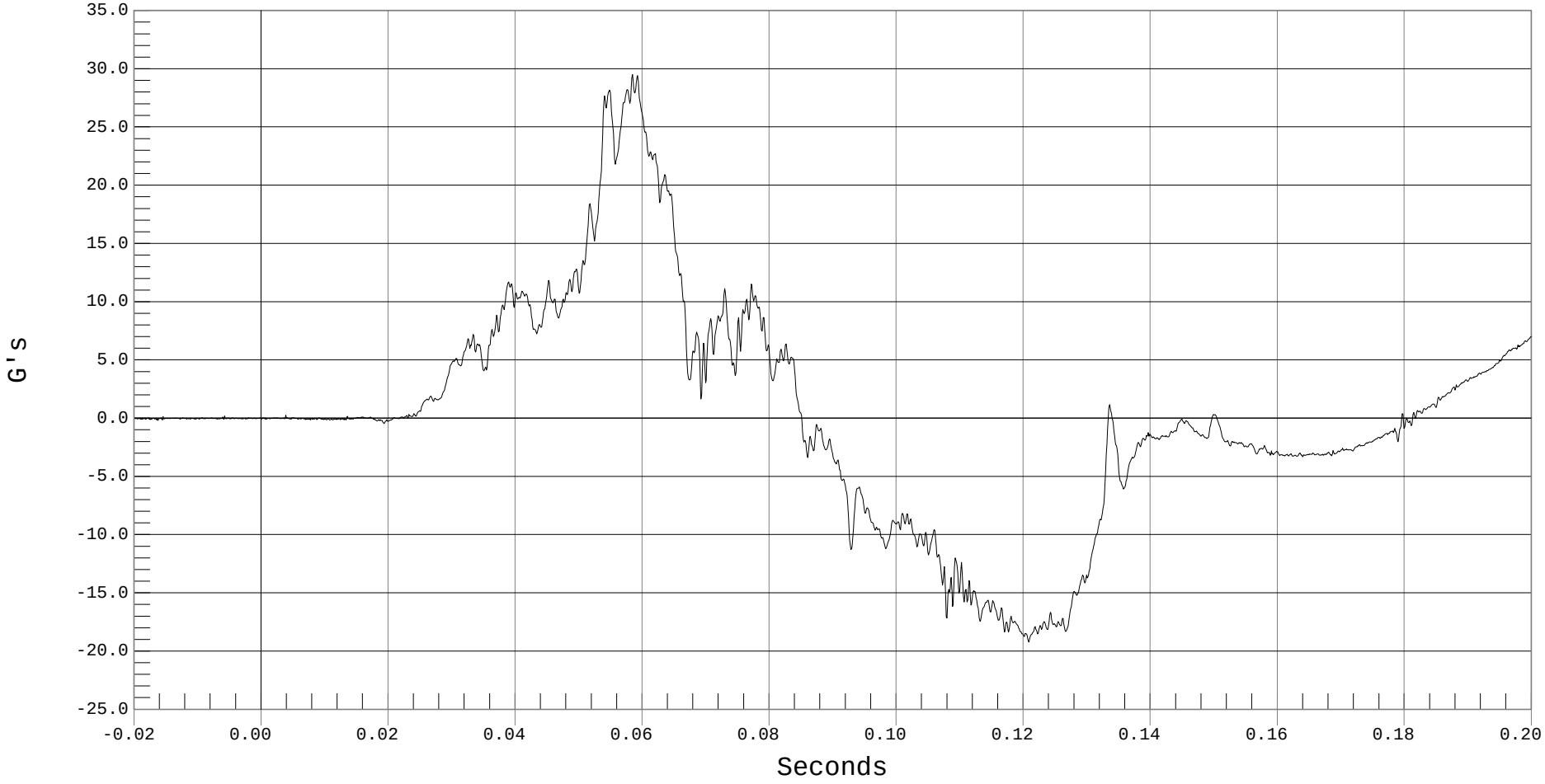
PASSENGER HEAD Z ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 PASSENGER HEAD Z, b01036AT.A21

Ymin = -19.22 G's @ 0.1208 Seconds, Ymax = 29.5 G's @ 0.0584 Seconds



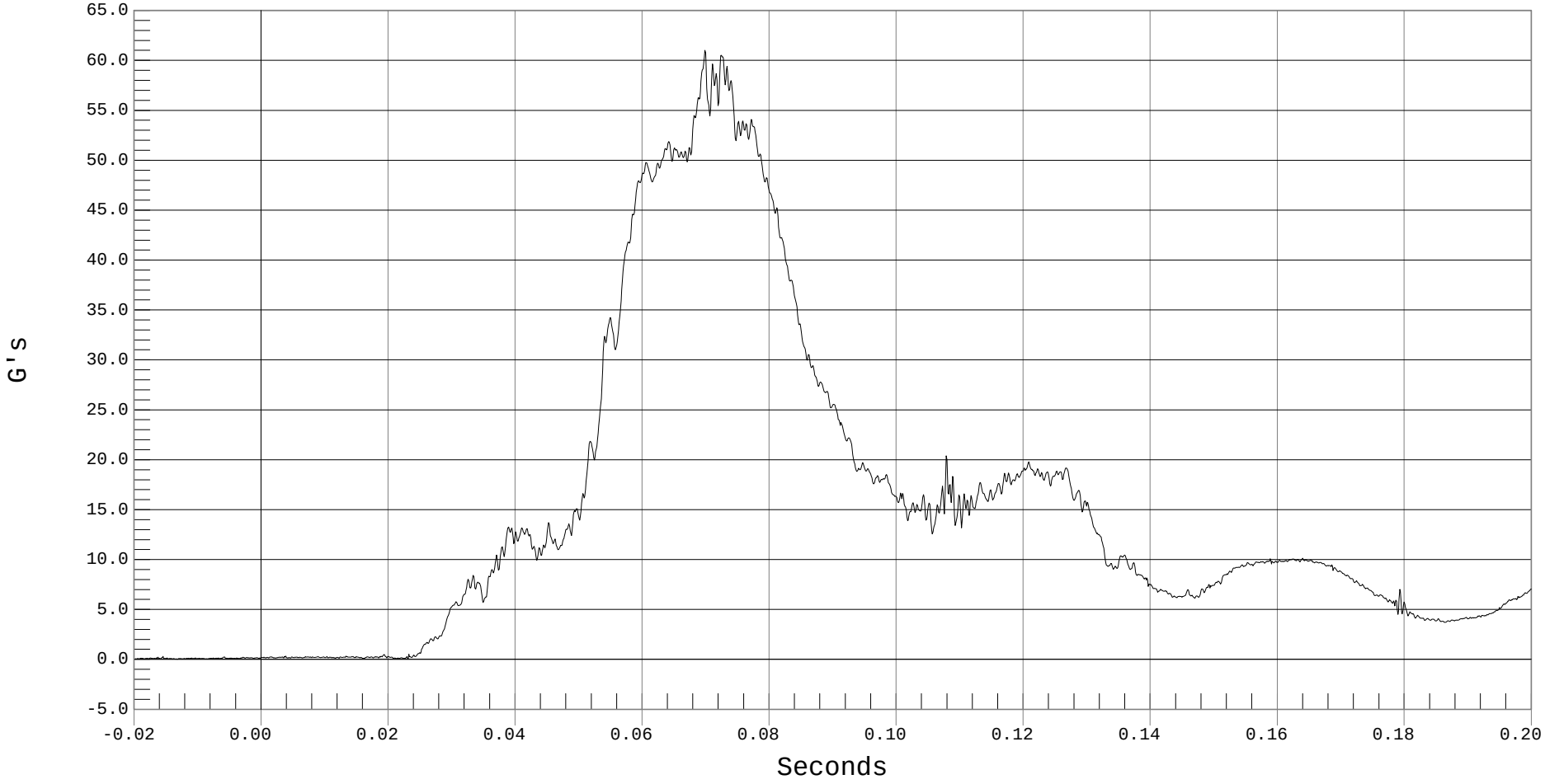
PASSENGER HEAD RESULTANT ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 PASSENGER HEAD RESULTANT ACCELERATION, b01036AV.A19

Ymin = .02 G's @ -0.0193 Seconds, Ymax = 61 G's @ 0.0698 Seconds



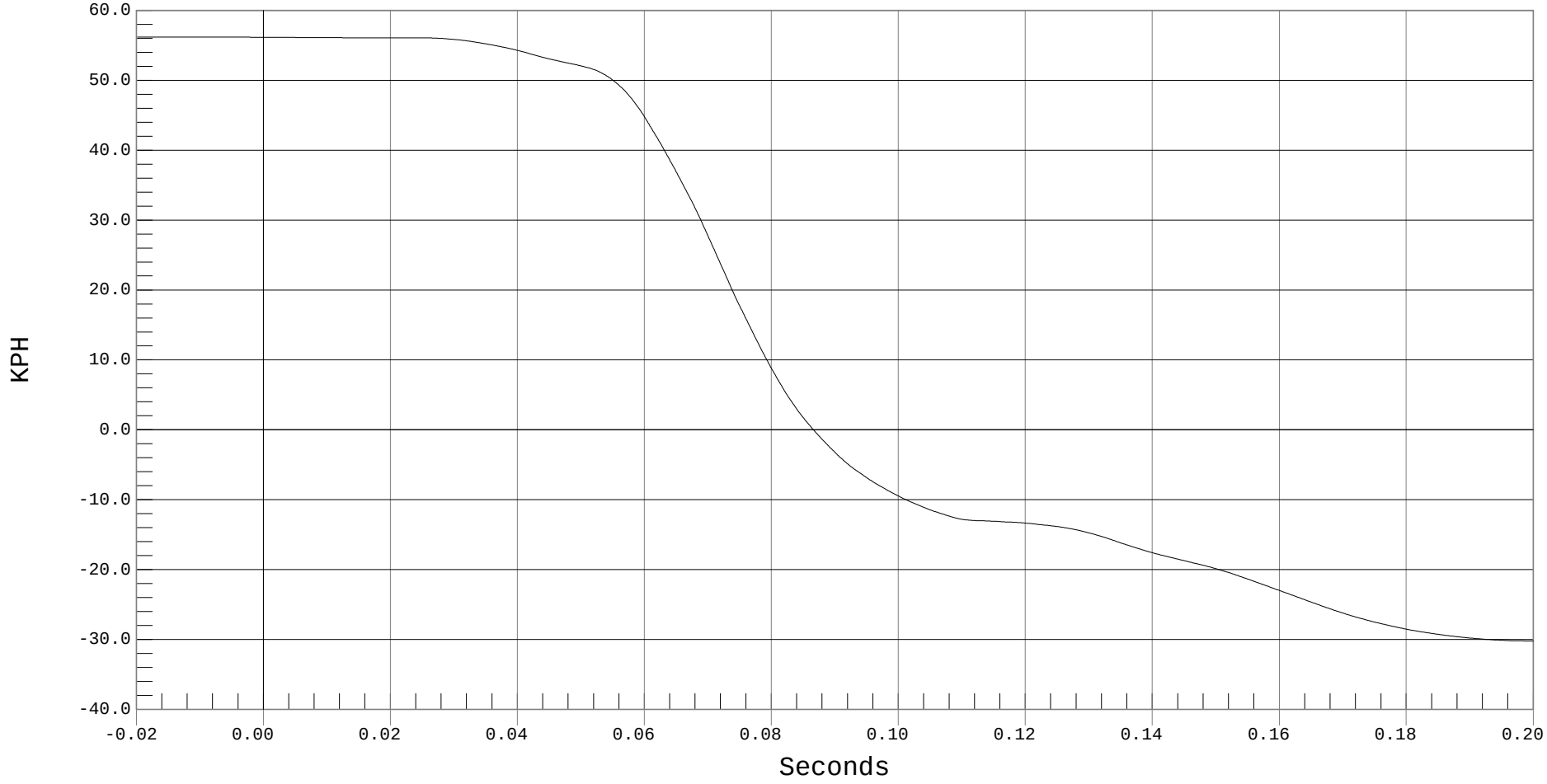
PASSENGER HEAD X VELOCITY

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 PASSENGER HEAD X VELOCITY, b01036AI.V19

Ymin = -30.23 KPH @ 0.2000 Seconds, Ymax = 56.2 KPH @ -0.0183 Seconds



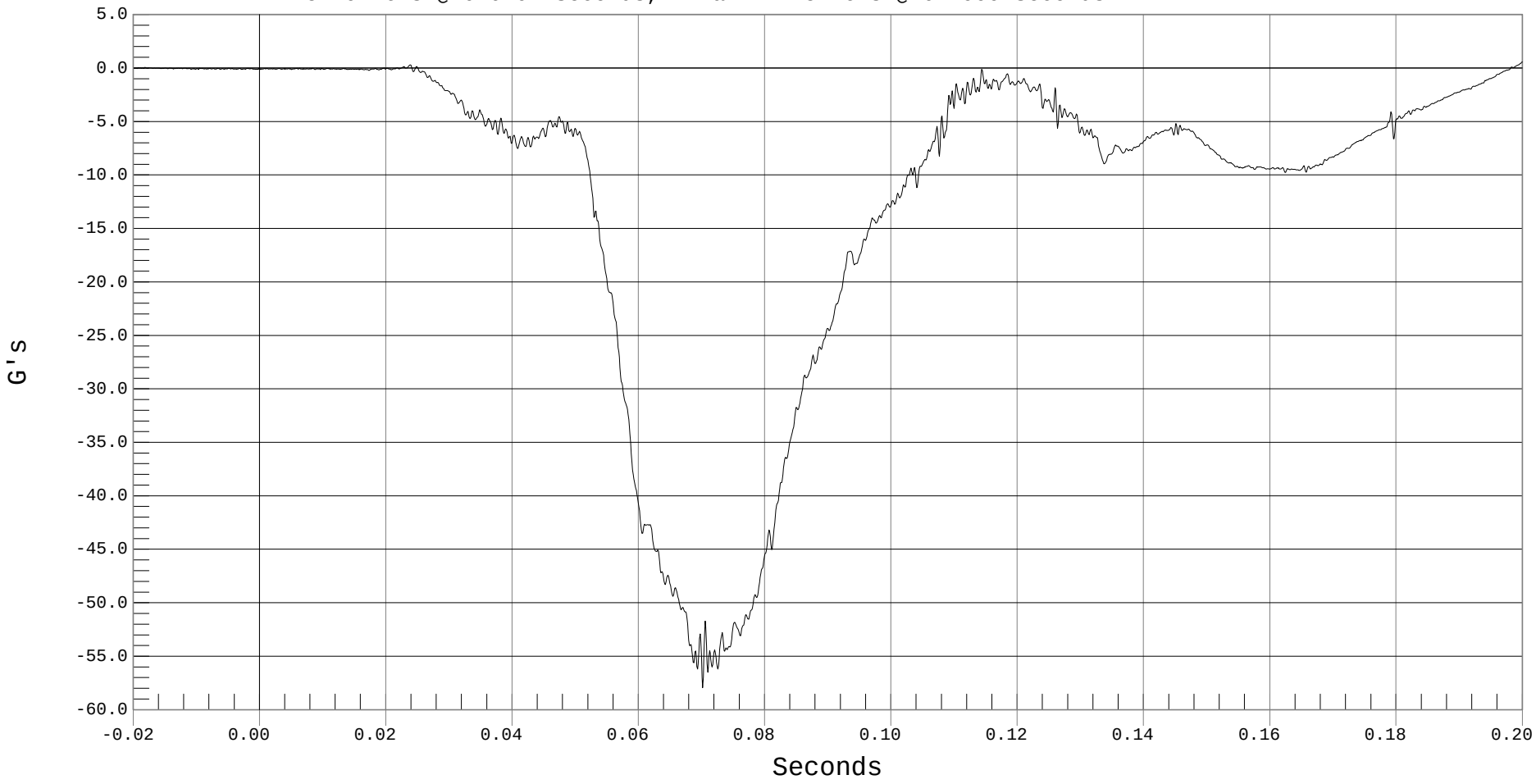
PASSENGER HEAD REDUNDANT X ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 PASSENGER HEAD Xr, b01036AT.A41

Ymin = -57.94 G's @ 0.0701 Seconds, Ymax = .57 G's @ 0.1999 Seconds



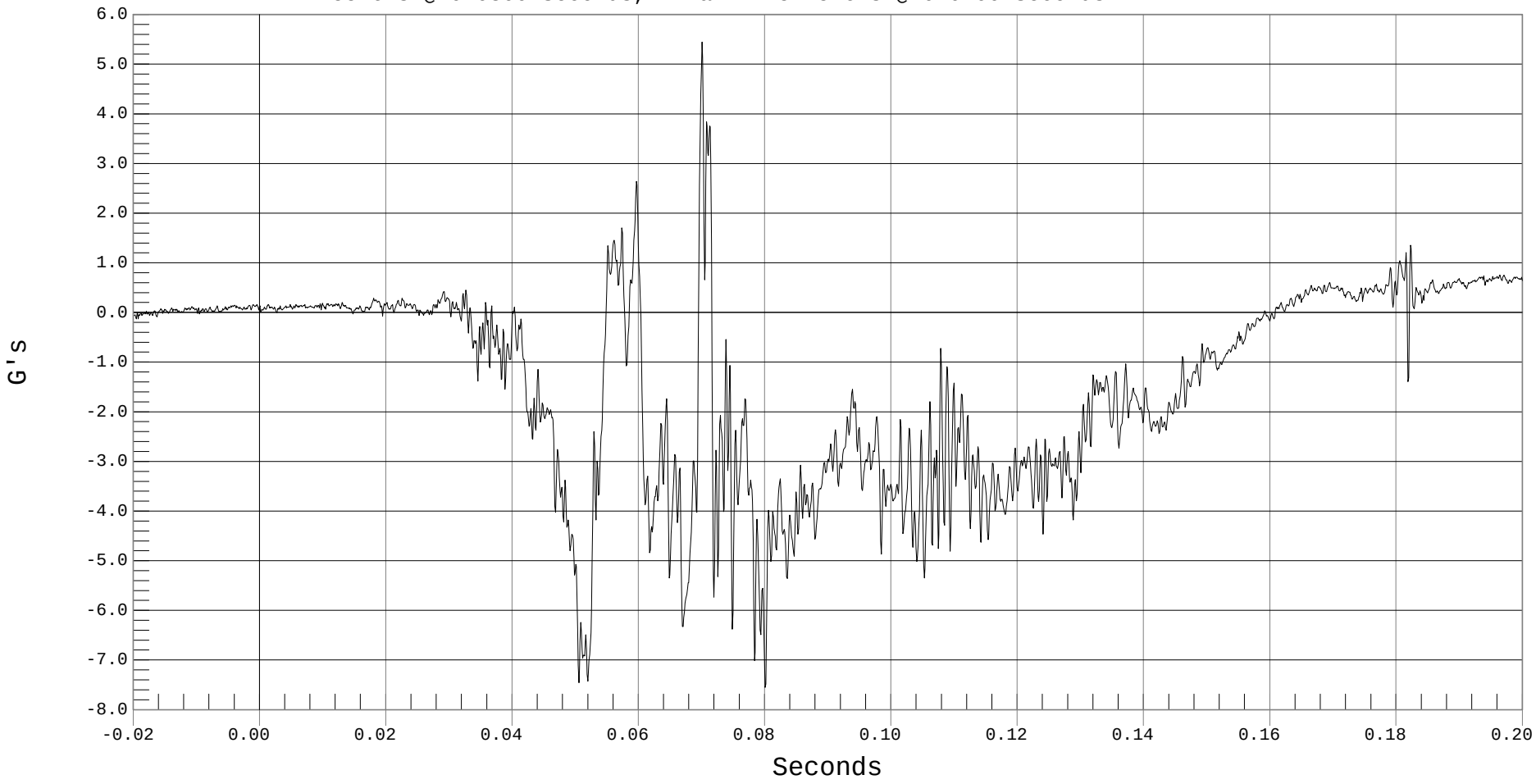
PASSENGER HEAD REDUNDANT Y ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 PASSENGER HEAD Yr, b01036AT.A42

Ymin = -7.55 G's @ 0.0800 Seconds, Ymax = 5.45 G's @ 0.0700 Seconds



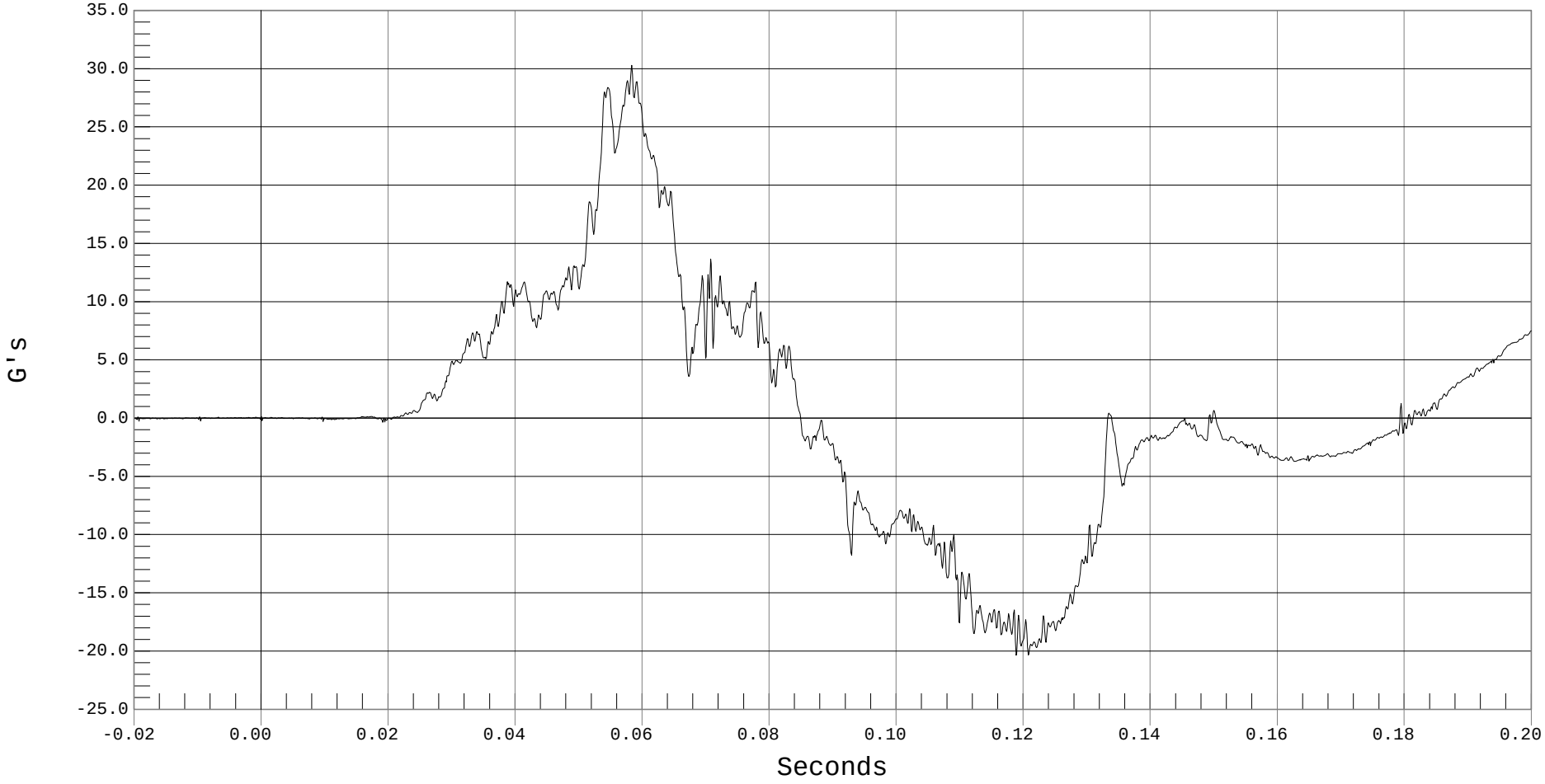
PASSENGER HEAD REDUNDANT Z ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 PASSENGER HEAD Zr, b01036AT.A43

Ymin = -20.37 G's @ 0.1188 Seconds, Ymax = 30.29 G's @ 0.0583 Seconds



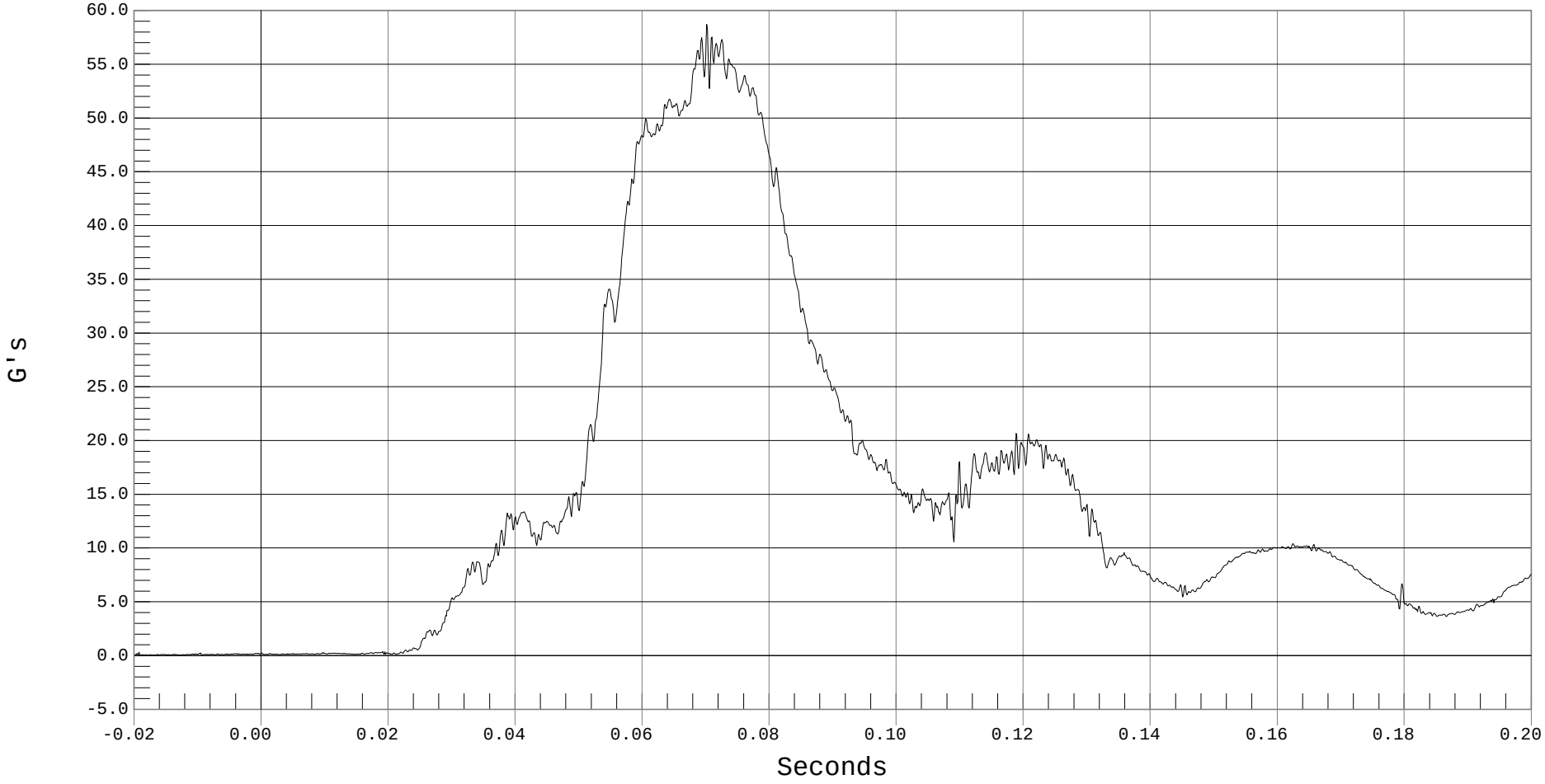
PASSENGER HEAD REDUNDANT RESULTANT ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 PASSENGER HEAD REDUNDANT RESULTANT ACCELERATION, b01036AV.A41

Ymin = .01 G's @ -0.0172 Seconds, Ymax = 58.72 G's @ 0.0701 Seconds



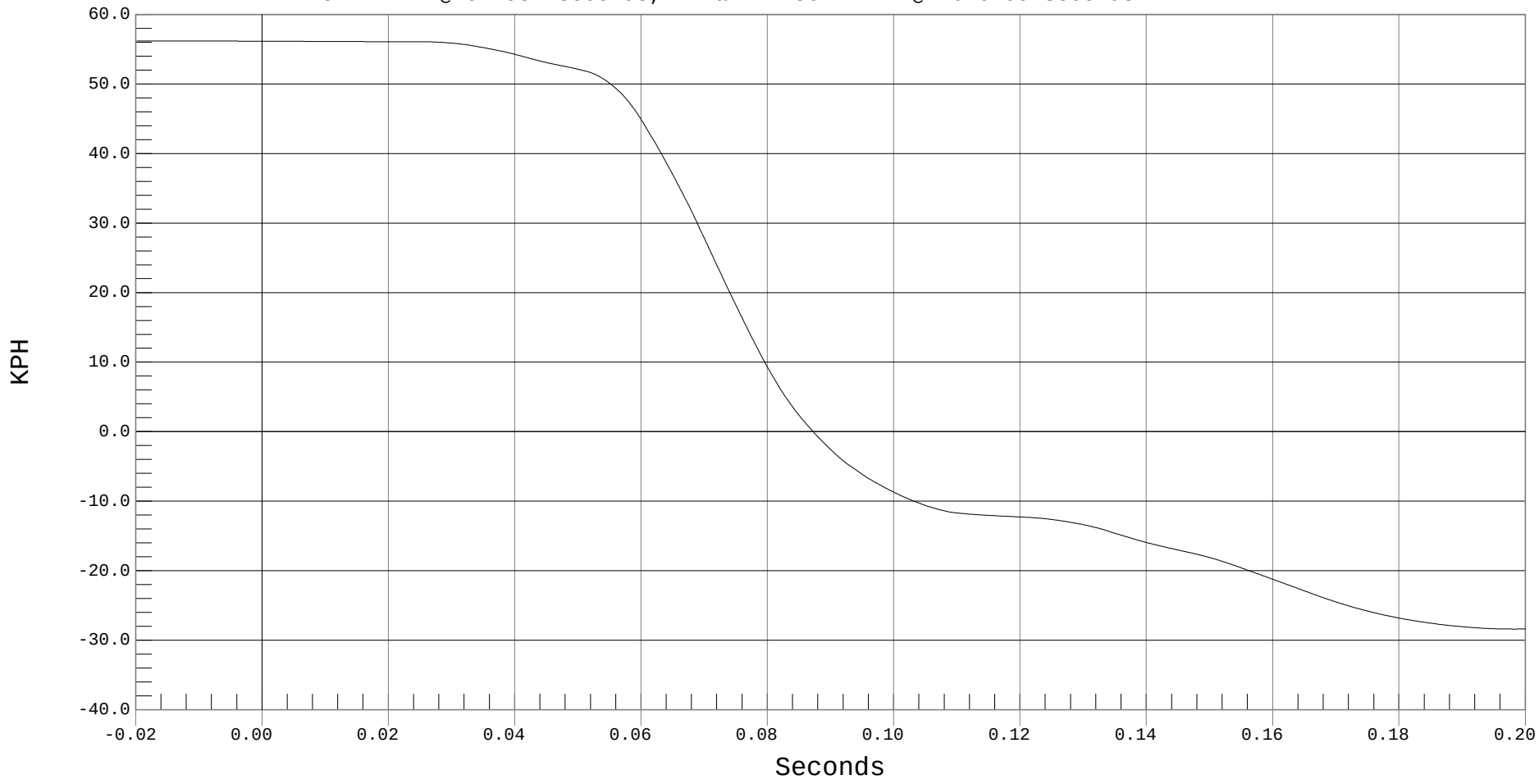
PASSENGER HEAD REDUNDANT X VELOCITY

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 PASSENGER HEAD REDUNDANT X VELOCITY, b01036AI.V41

Ymin = -28.41 KPH @ 0.1981 Seconds, Ymax = 56.2 KPH @ -0.0199 Seconds



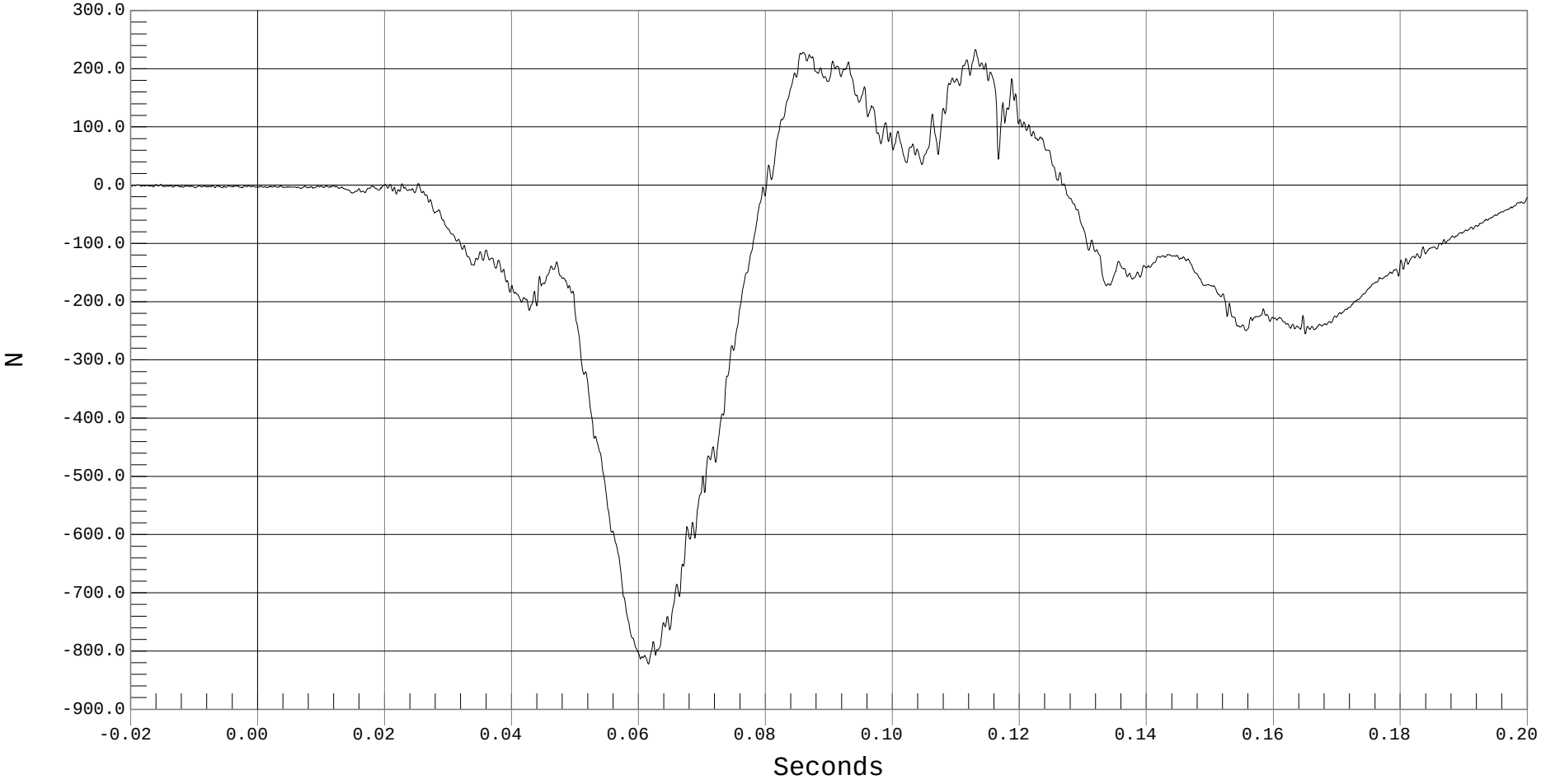
PASSENGER NECK FORCE X

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 PASSENGER NECK FX, b01036FT.F44

Ymin = -822.55 N @ 0.0615 Seconds, Ymax = 233.26 N @ 0.1130 Seconds



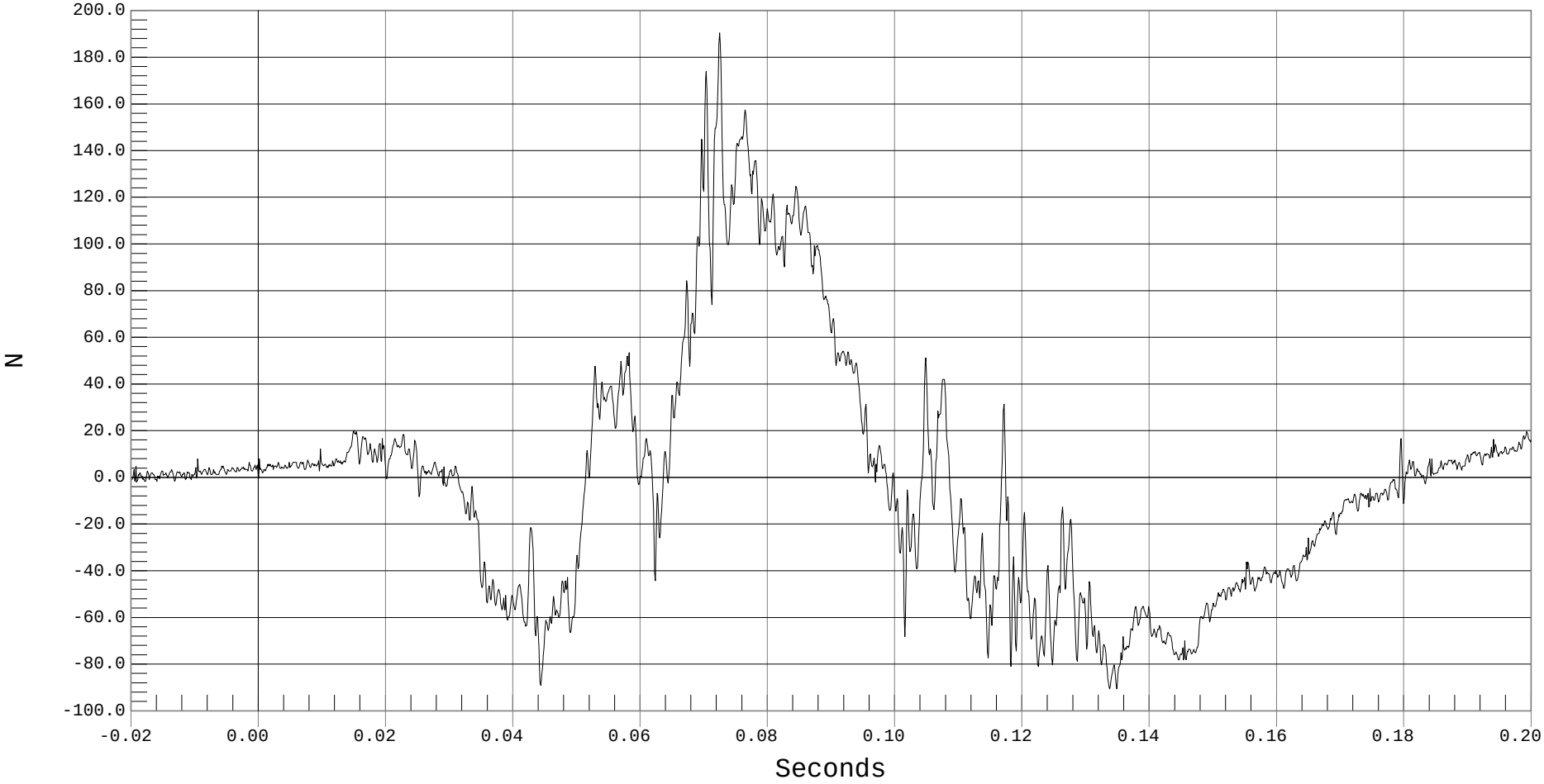
PASSENGER NECK FORCE Y

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 PASSENGER NECK FY, b01036FT.F45

Ymin = -90.61 N @ 0.1337 Seconds, Ymax = 190.42 N @ 0.0724 Seconds



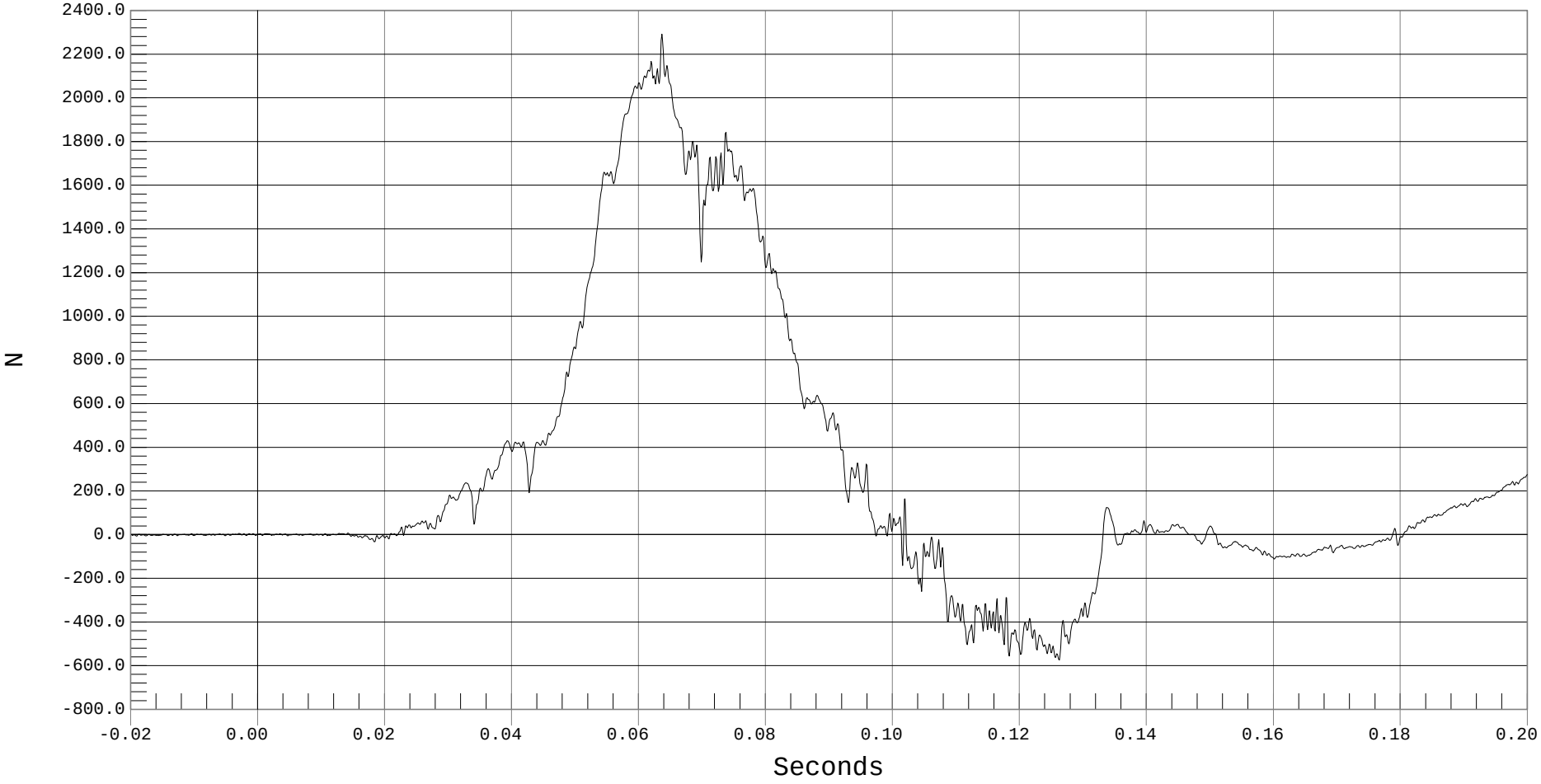
PASSENGER NECK FORCE Z

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 PASSENGER NECK FZ, b01036FT.F46

Ymin = -574.19 N @ 0.1262 Seconds, Ymax = 2291.54 N @ 0.0636 Seconds



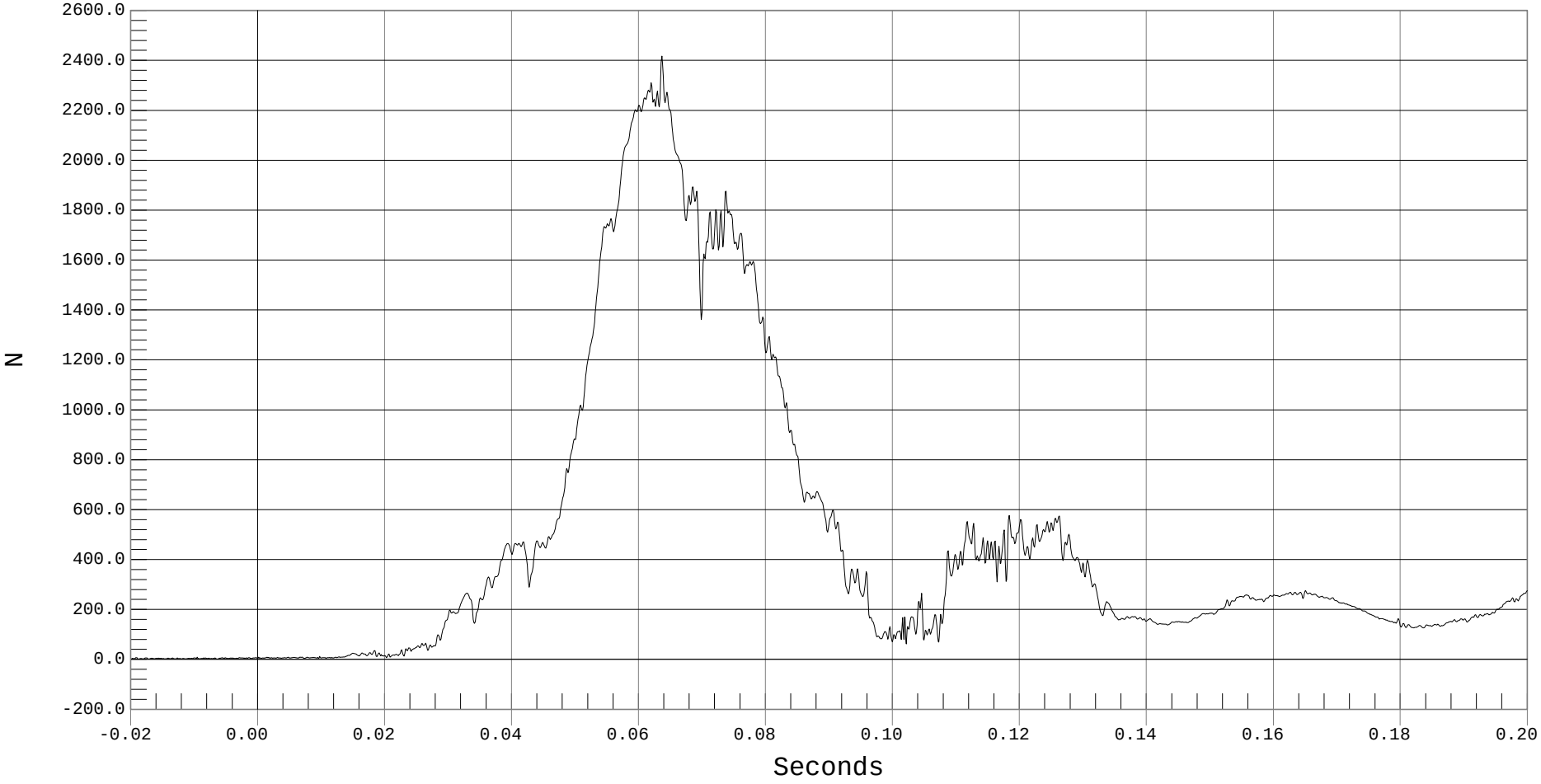
PASSENGER NECK FORCE RESULTANT

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 PASSENGER NECK FORCE RESULTANT, b01036FV.F44

Ymin = 1.21 N @ -0.0181 Seconds, Ymax = 2417.11 N @ 0.0636 Seconds



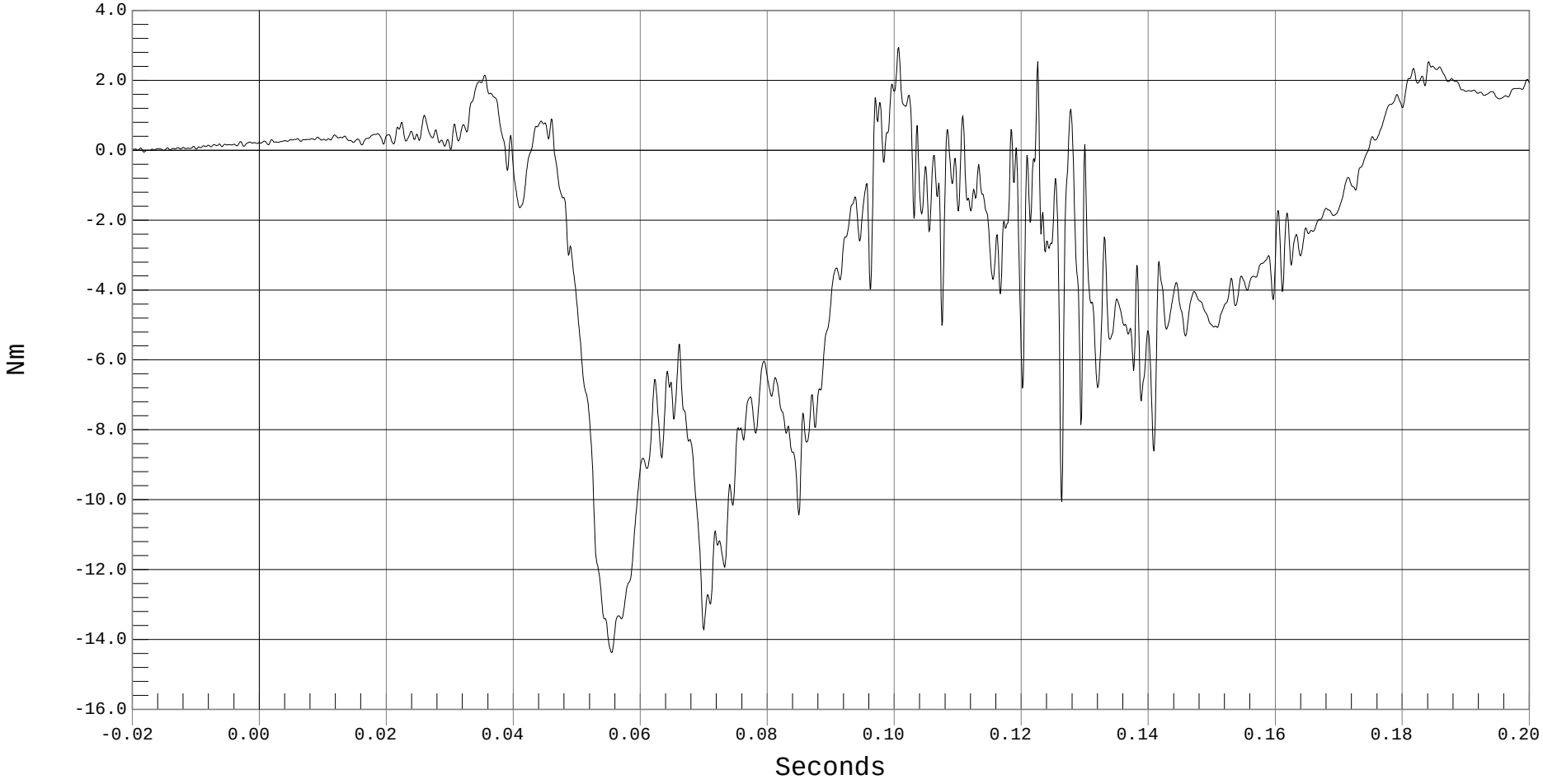
PASSENGER NECK MOMENT X

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 PASSENGER NECK MX, b01036MF.M47

Ymin = -14.38 Nm @ 0.0554 Seconds, Ymax = 2.94 Nm @ 0.1006 Seconds



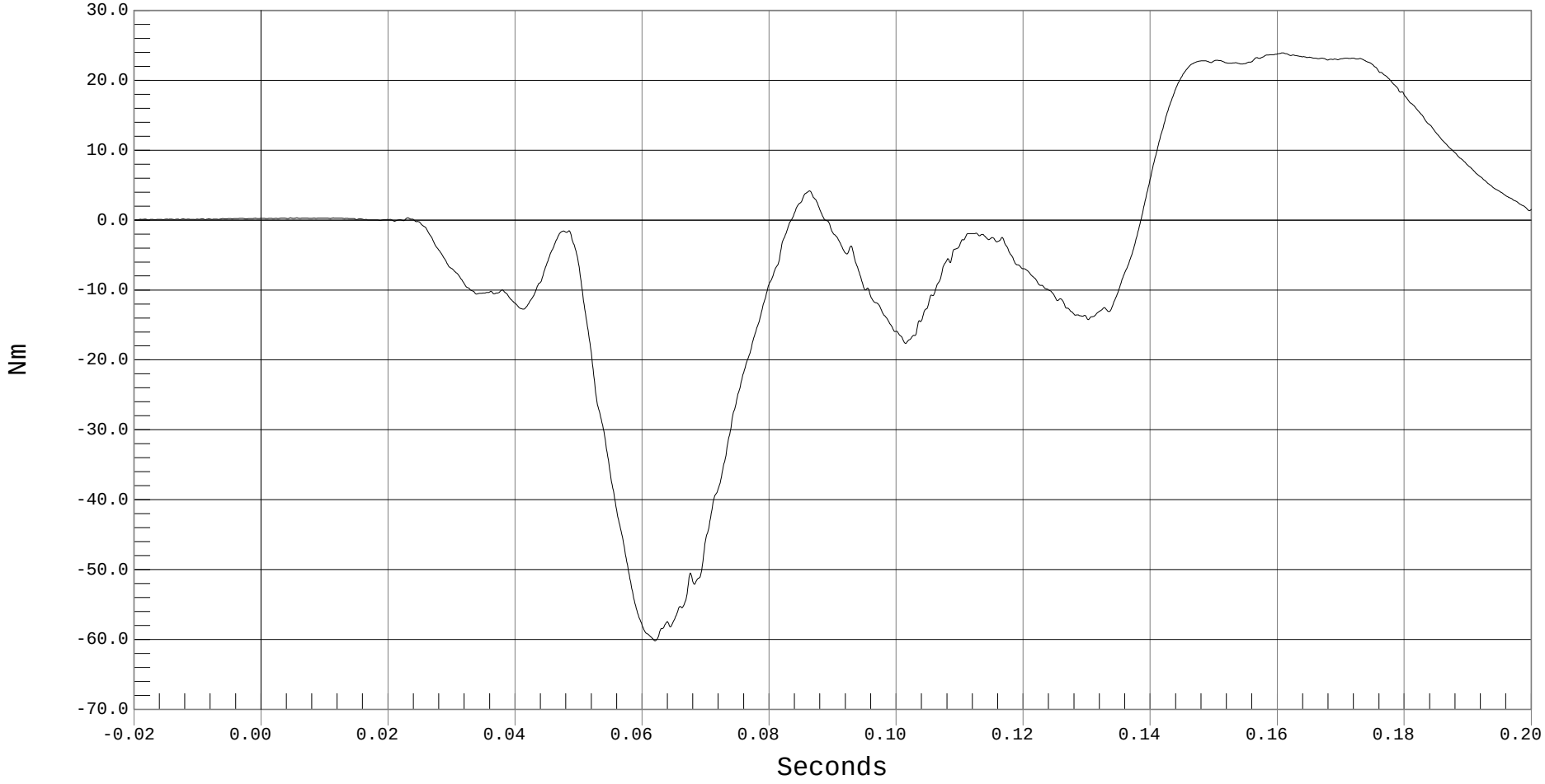
PASSENGER NECK MOMENT Y

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 PASSENGER NECK MY, b01036MF.M48

Ymin = -60.18 Nm @ 0.0619 Seconds, Ymax = 23.93 Nm @ 0.1608 Seconds



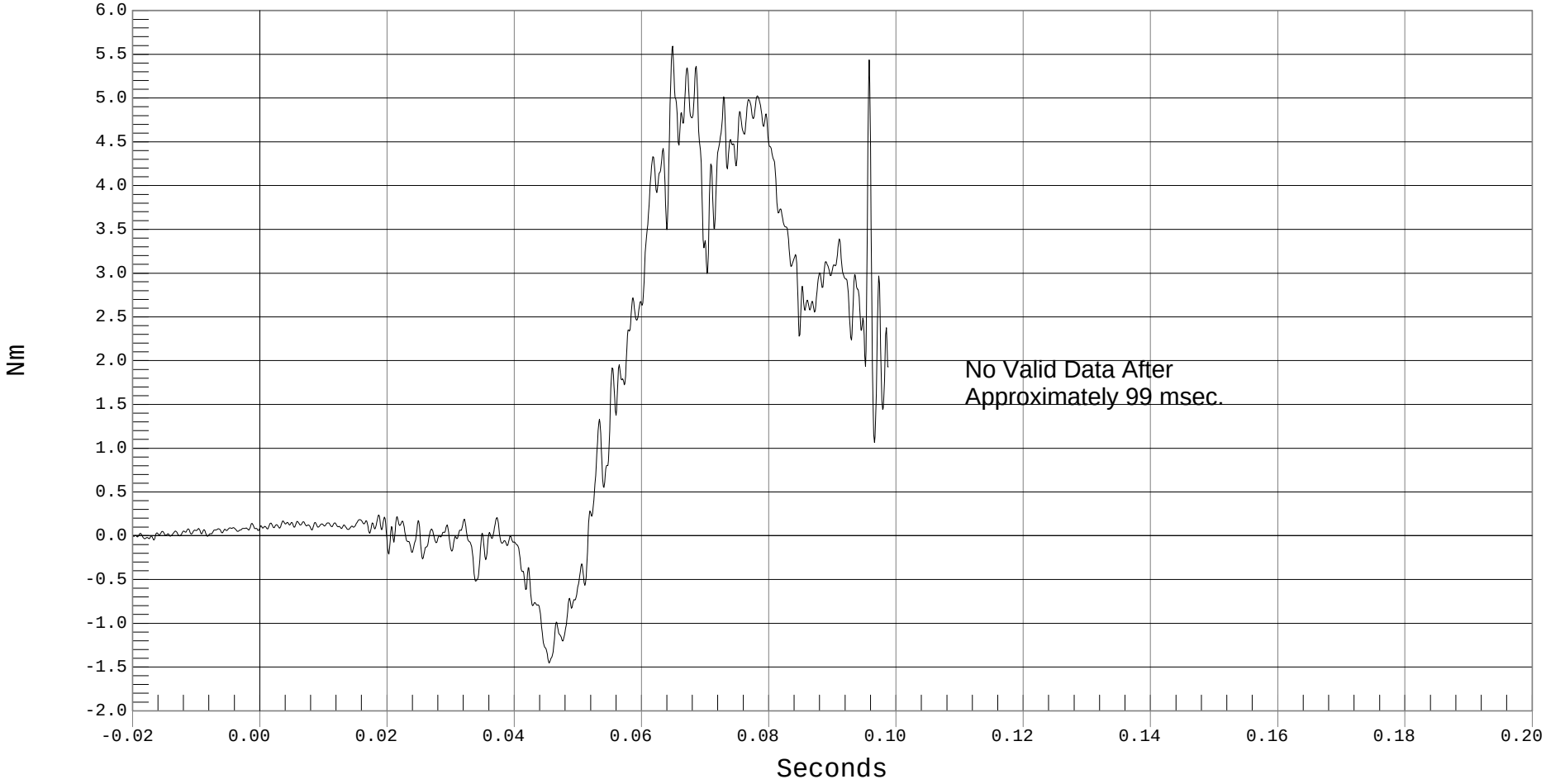
PASSENGER NECK MOMENT Z

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 PASSENGER NECK MZ, b01036MF.M49

Ymin = -1.45 Nm @ 0.0454 Seconds, Ymax = 5.59 Nm @ 0.0648 Seconds



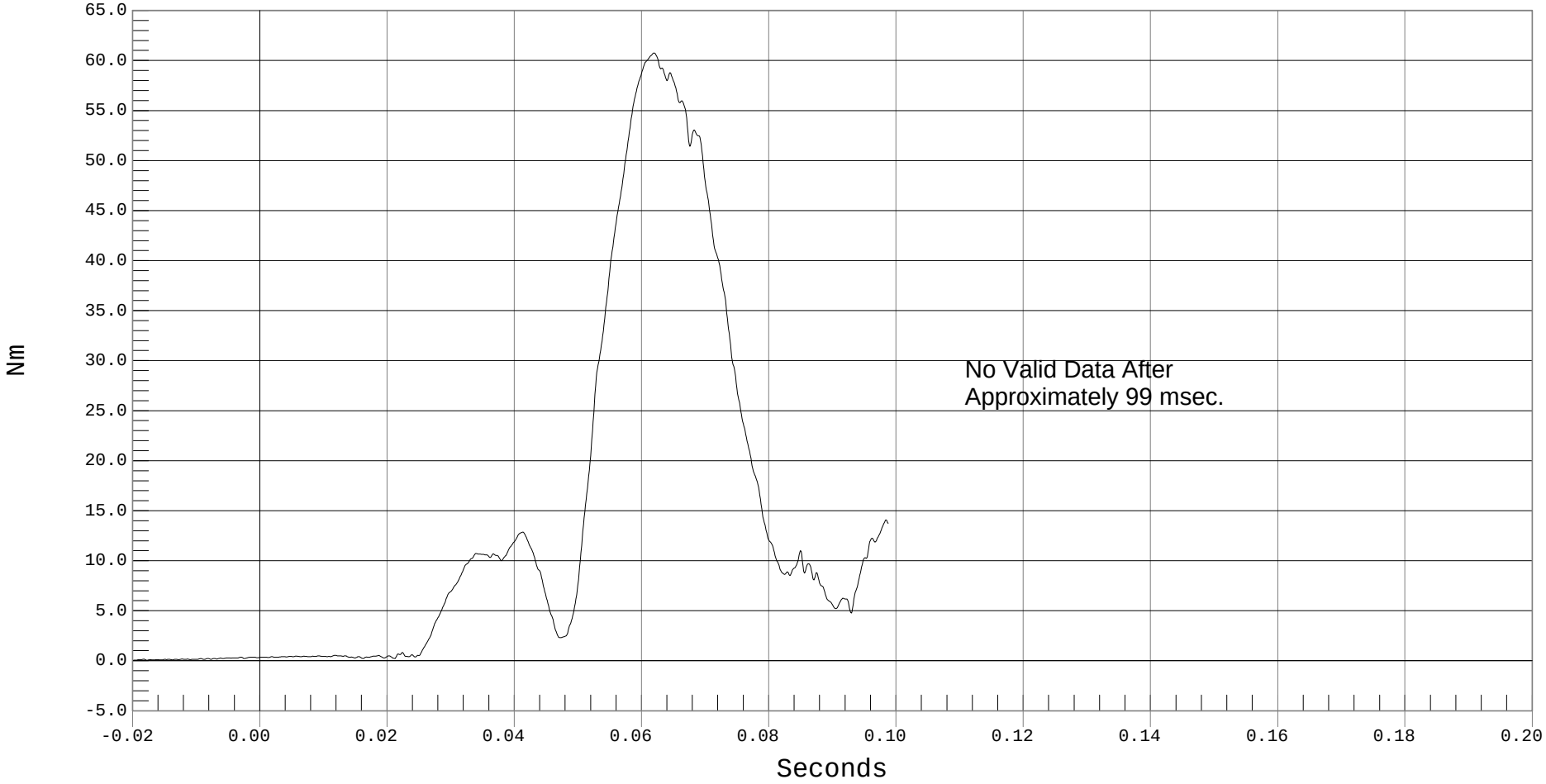
PASSENGER NECK MOMENT RESULTANT

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 PASSENGER NECK MOMENT RESULTANT, b01036MV.M47

Ymin = .05 Nm @ -0.0178 Seconds, Ymax = 60.76 Nm @ 0.0619 Seconds



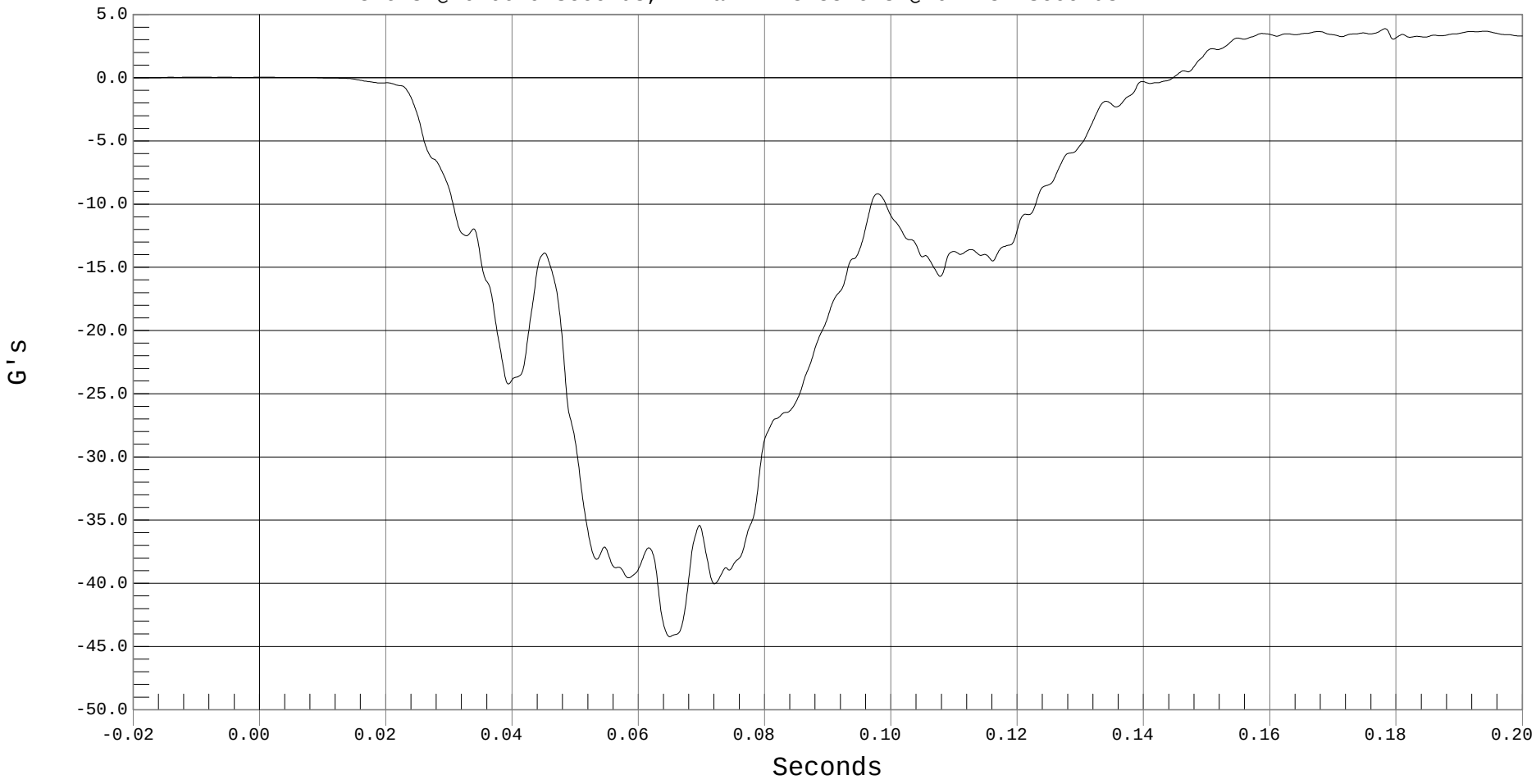
PASSENGER CHEST X ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 PASSENGER CHEST X, b01036AF.A22

Ymin = -44.23 G's @ 0.0649 Seconds, Ymax = 3.88 G's @ 0.1782 Seconds



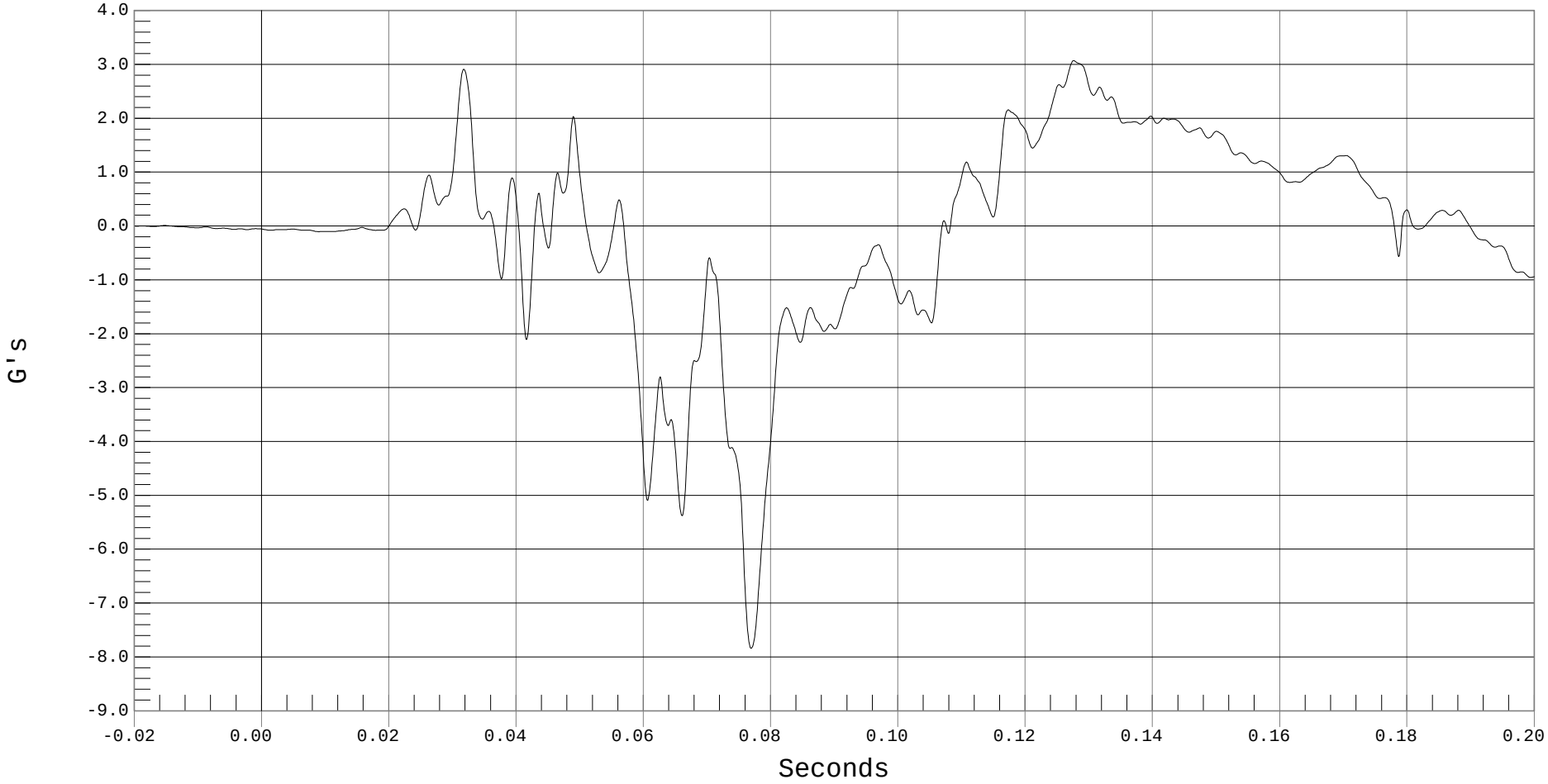
PASSENGER CHEST Y ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 PASSENGER CHEST Y, b01036AF.A23

Ymin = -7.84 G's @ 0.0768 Seconds, Ymax = 3.07 G's @ 0.1275 Seconds



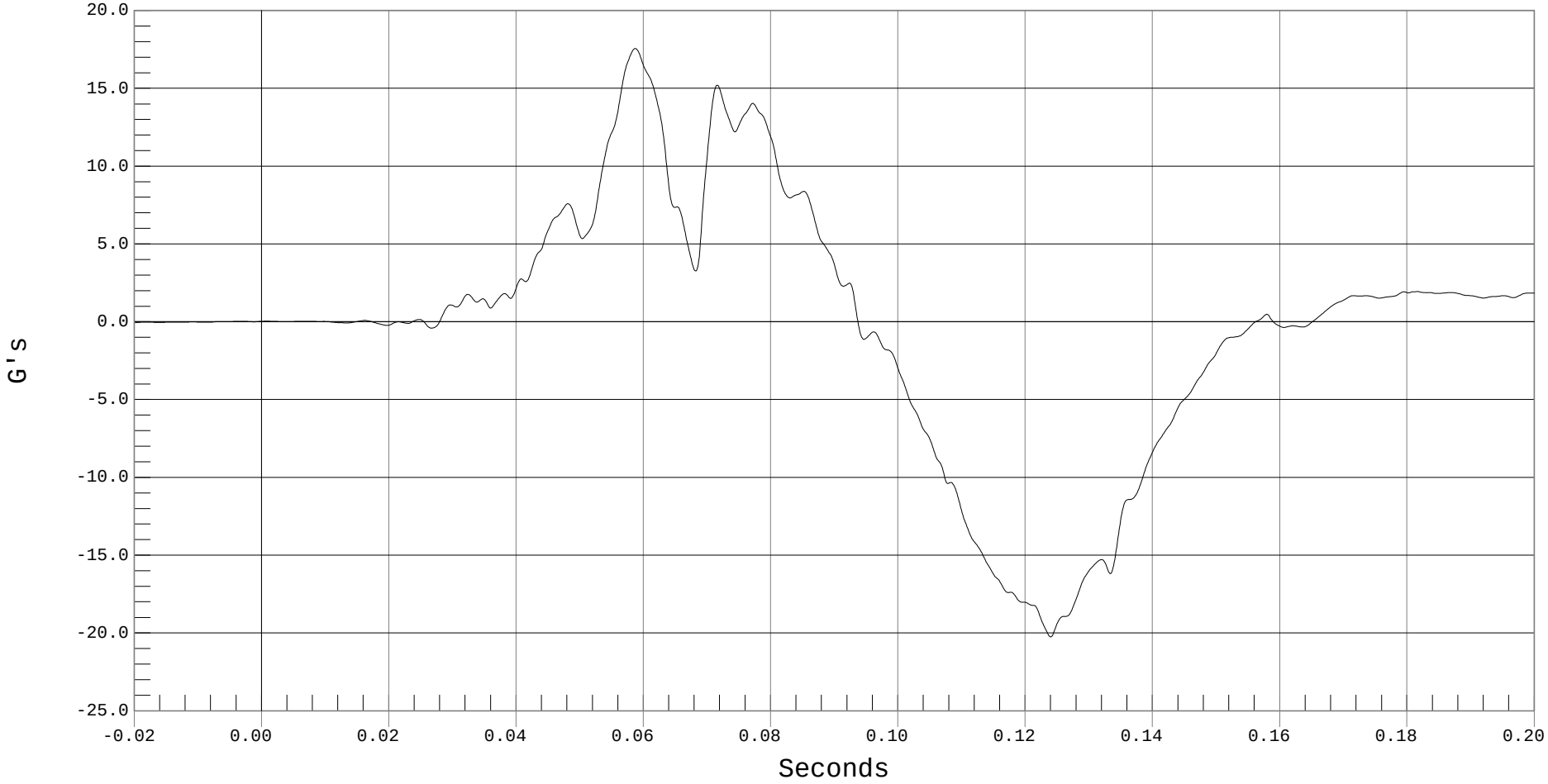
PASSENGER CHEST Z ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 PASSENGER CHEST Z, b01036AF.A24

Ymin = -20.26 G's @ 0.1239 Seconds, Ymax = 17.56 G's @ 0.0586 Seconds



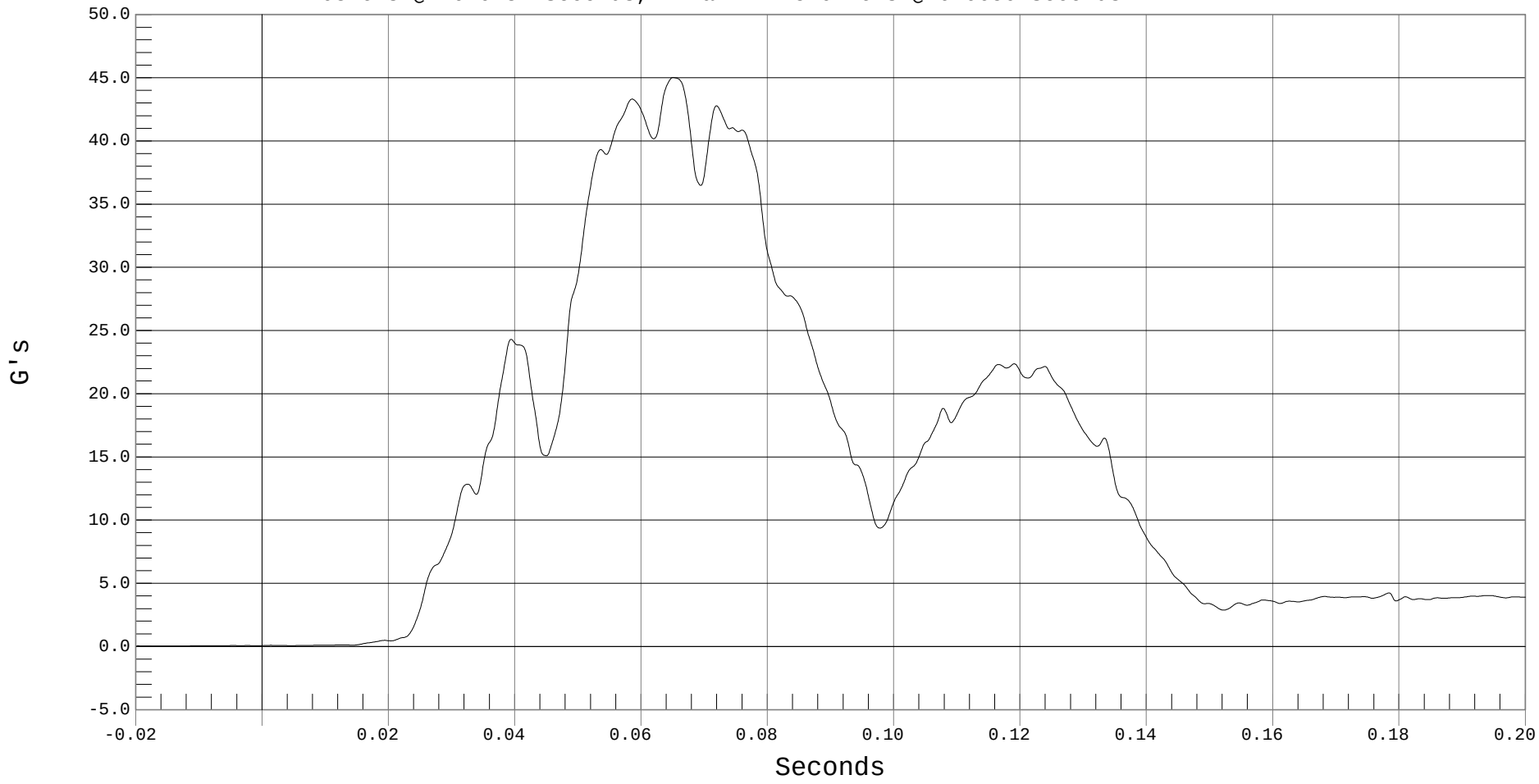
PASSENGER CHEST RESULTANT ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 PASSENGER CHEST RESULTANT ACCELERATION, b01036AV.A22

Ymin = .03 G's @ -0.0184 Seconds, Ymax = 45.02 G's @ 0.0650 Seconds



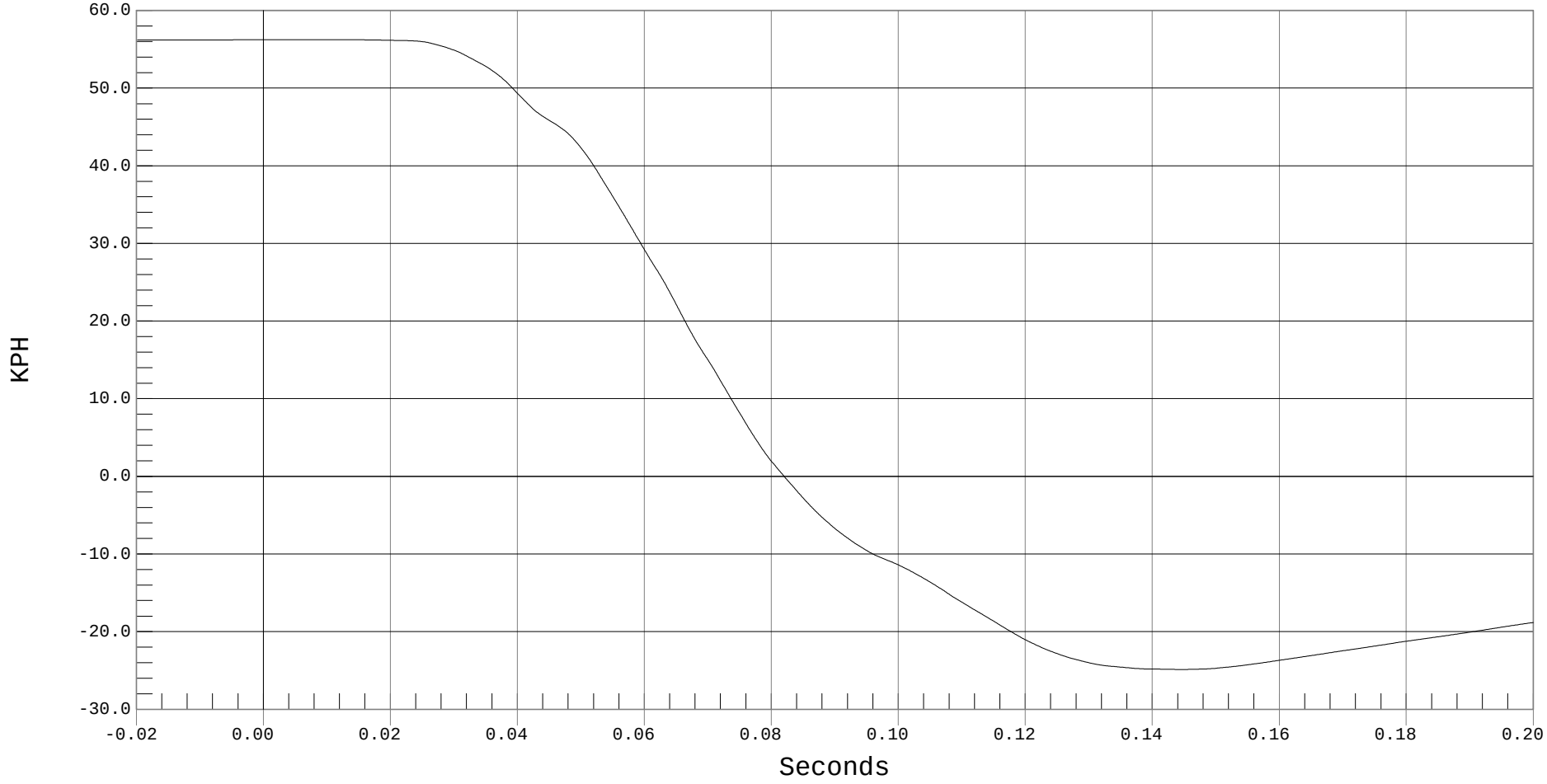
PASSENGER CHEST X VELOCITY

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 PASSENGER CHEST X VELOCITY, b01036AI.V22

Ymin = -24.87 KPH @ 0.1446 Seconds, Ymax = 56.23 KPH @ 0.0094 Seconds



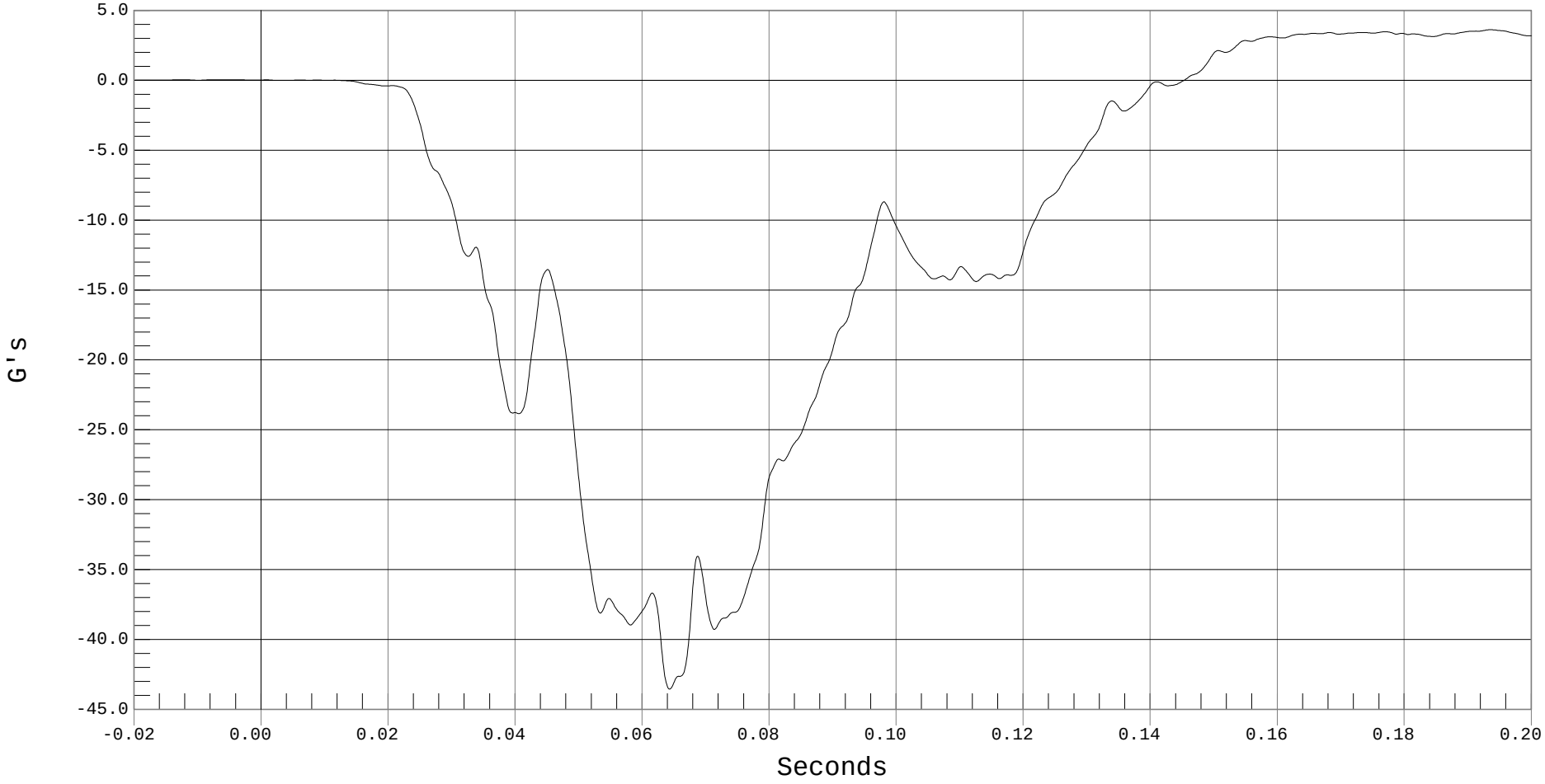
PASSENGER CHEST REDUNDANT X ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 PASSENGER CHEST Xr, b01036AF.A50

Ymin = -43.55 G's @ 0.0642 Seconds, Ymax = 3.63 G's @ 0.1935 Seconds



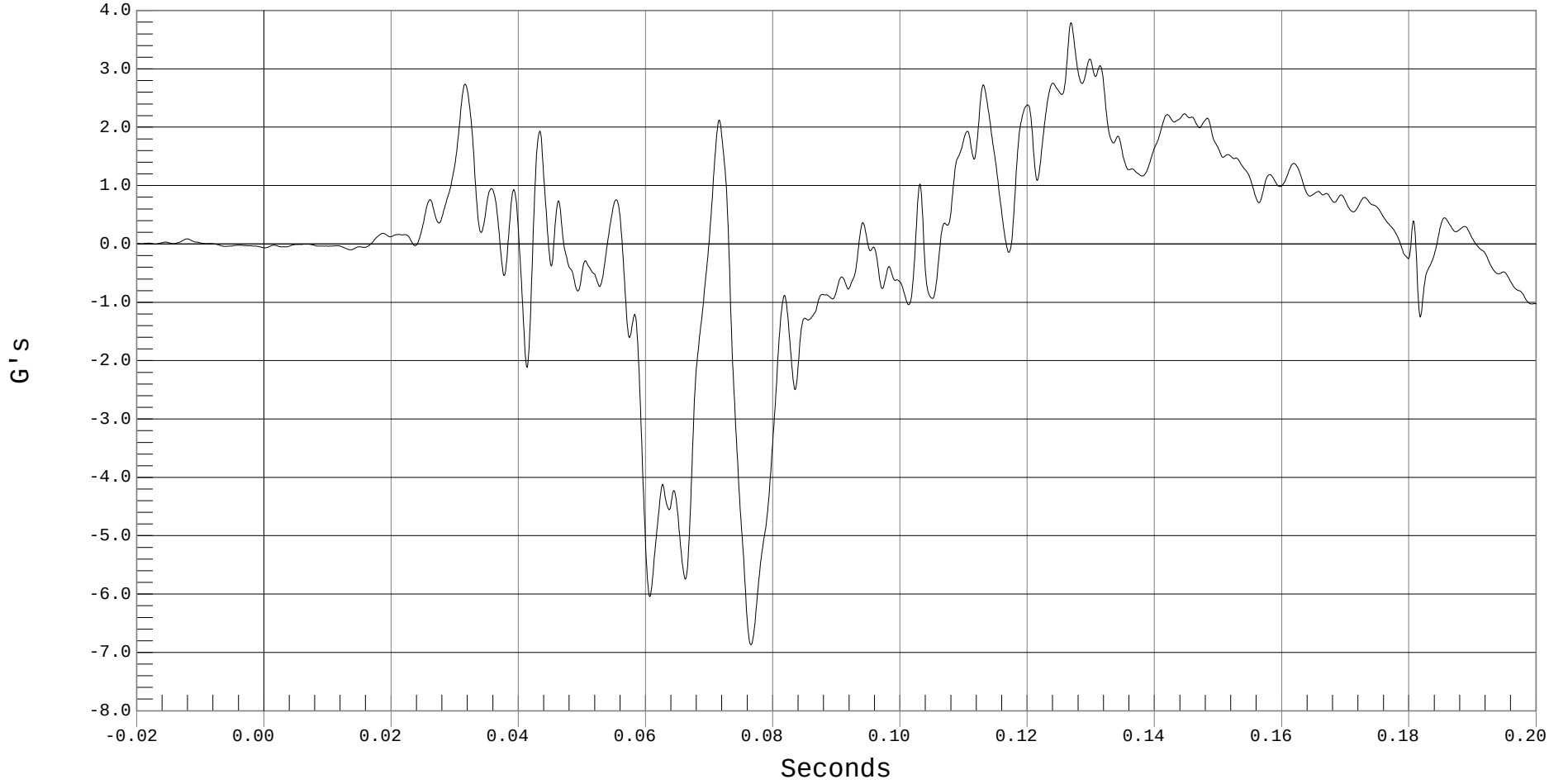
PASSENGER CHEST REDUNDANT Y ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 PASSENGER CHEST Yr, b01036AF.A51

Ymin = -6.87 G's @ 0.0765 Seconds, Ymax = 3.79 G's @ 0.1268 Seconds



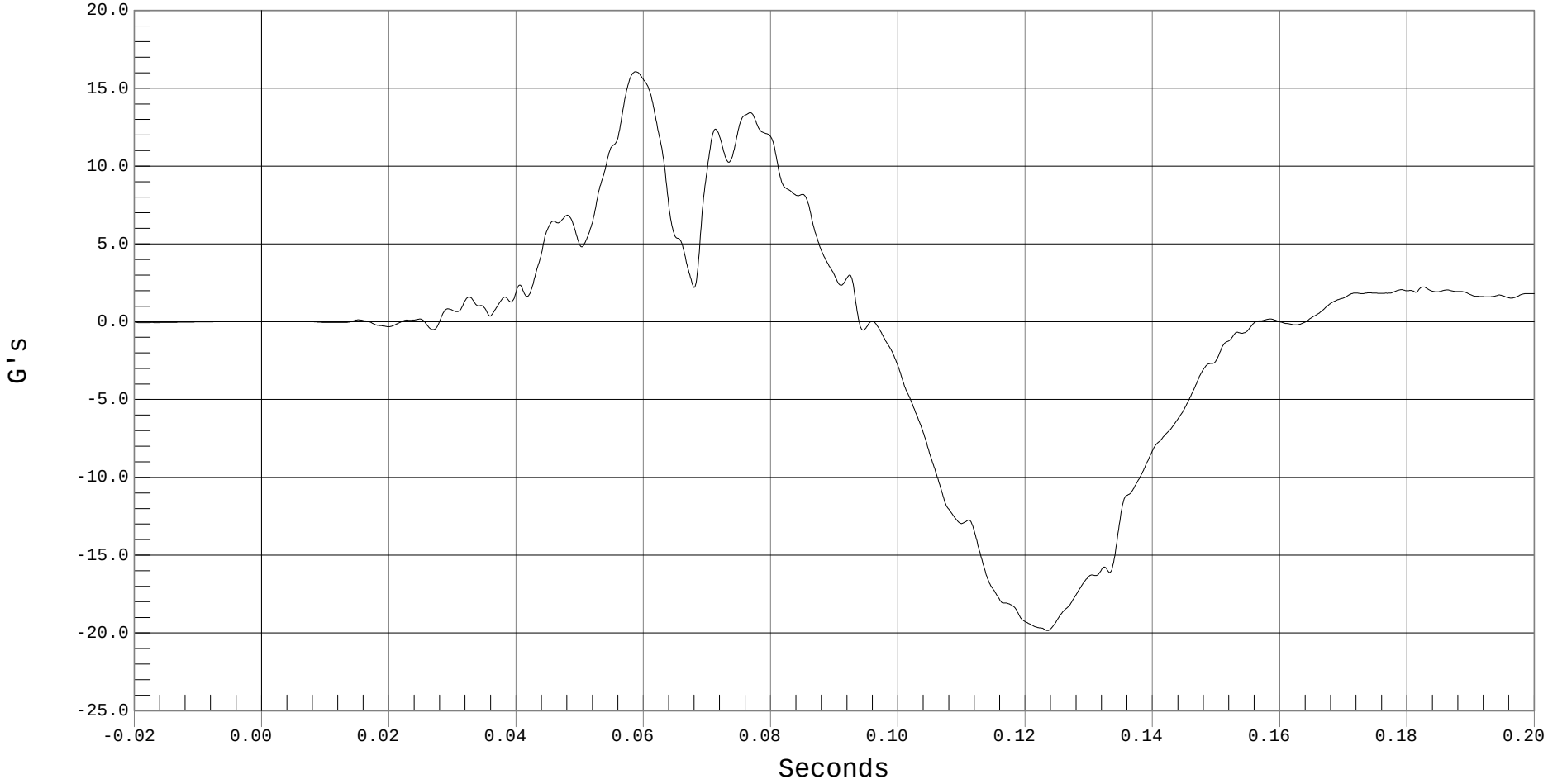
PASSENGER CHEST REDUNDANT Z ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 PASSENGER CHEST Zr, b01036AF.A52

Ymin = -19.85 G's @ 0.1234 Seconds, Ymax = 16.06 G's @ 0.0587 Seconds



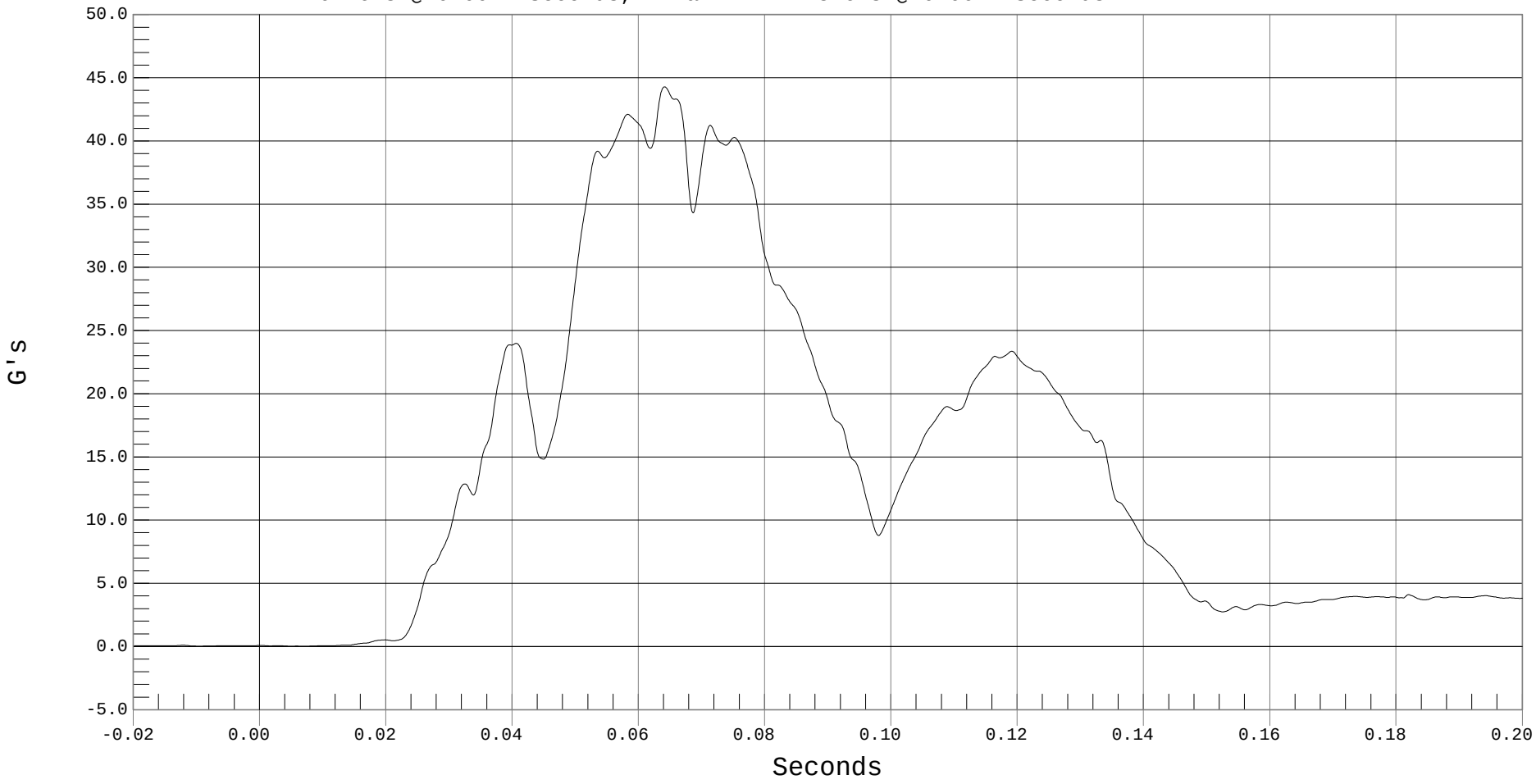
PASSENGER CHEST REDUNDANT RESULTANT ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 PASSENGER CHEST REDUNDANT RESULTANT ACCELERATION, b01036AV.A50

Ymin = .01 G's @ 0.0072 Seconds, Ymax = 44.28 G's @ 0.0641 Seconds



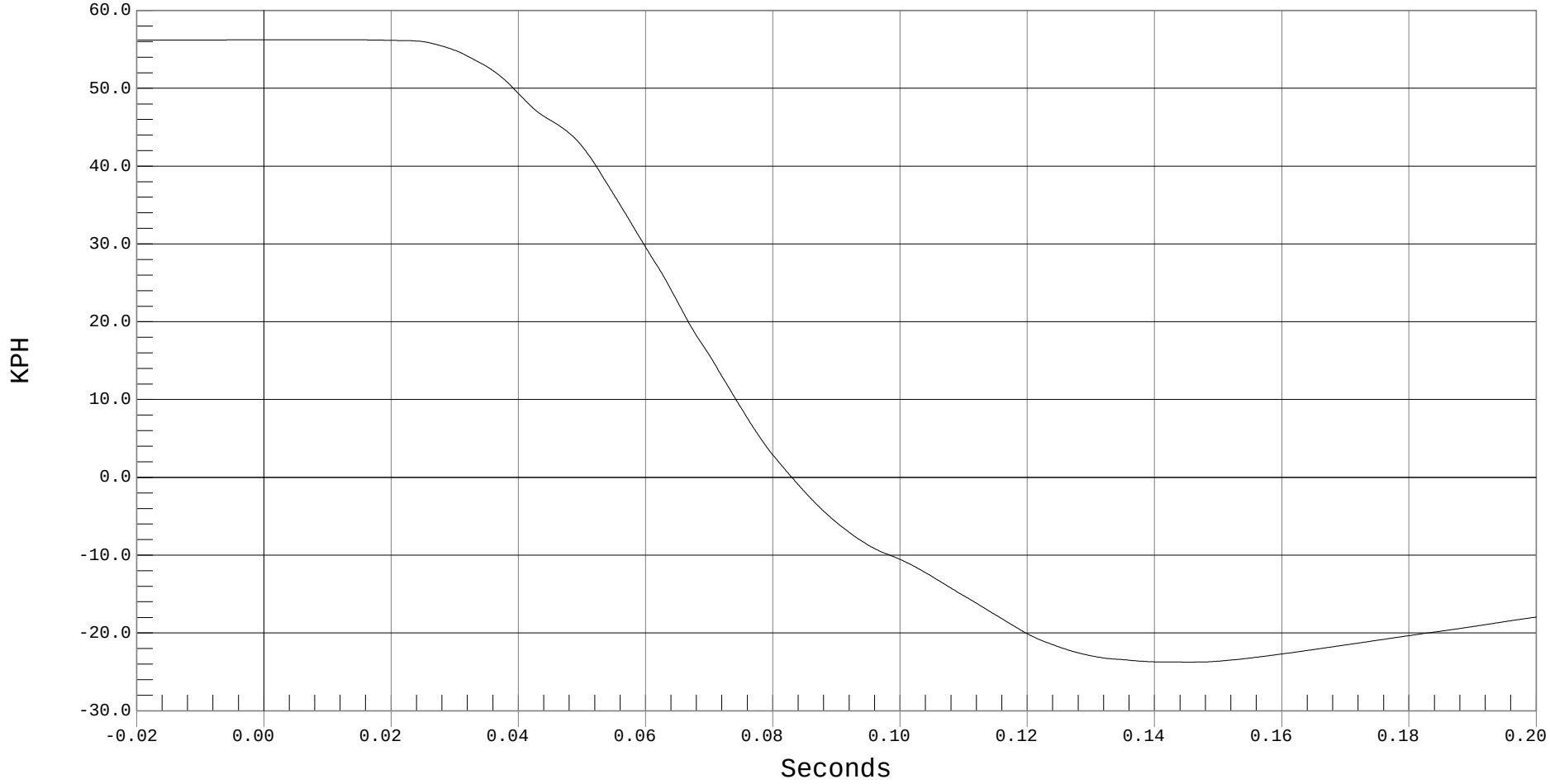
PASSENGER CHEST REDUNDANT X VELOCITY

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 PASSENGER CHEST REDUNDANT X VELOCITY, b01036AI.V50

Ymin = -23.75 KPH @ 0.1452 Seconds, Ymax = 56.22 KPH @ 0.0122 Seconds



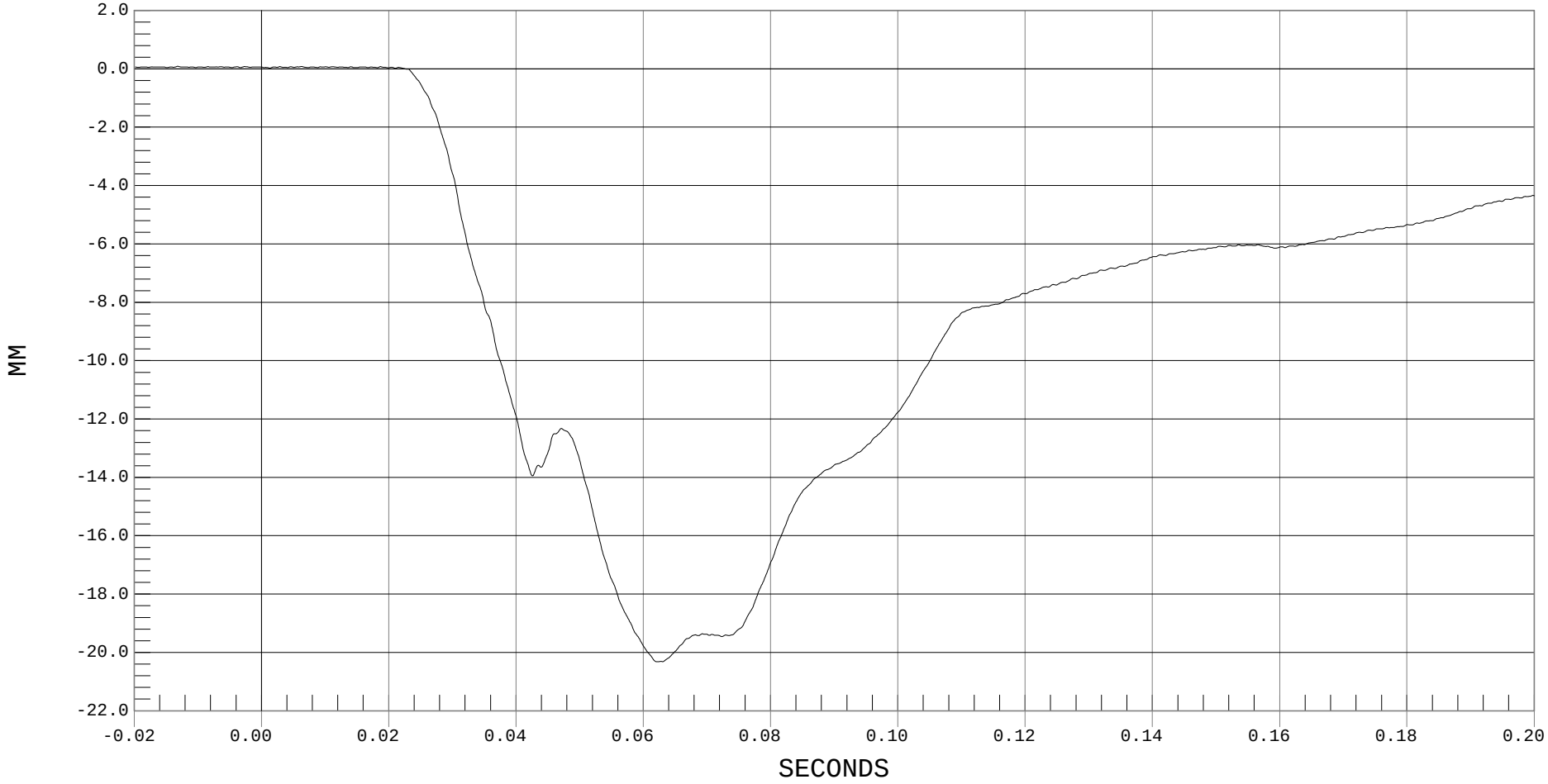
PASSENGER CHEST COMPRESSION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 DISPLACEMENT, b01036DF.D25

Ymin = -20.32 MM @ 0.0622 SECONDS, Ymax = .08 MM @ -0.0133 SECONDS



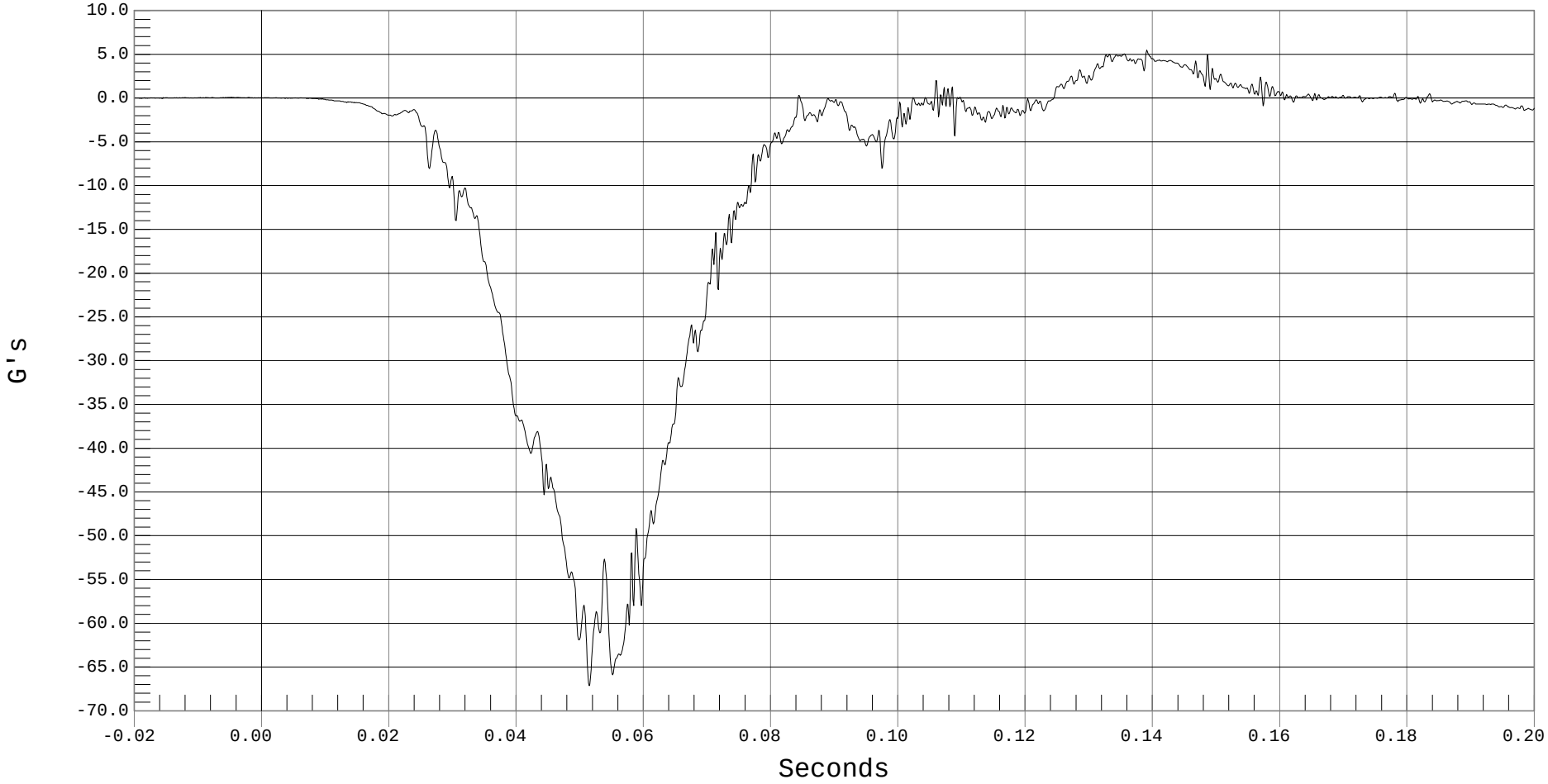
PASSENGER PELVIS X ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 PASSENGER PELVIS X, b01036AT.A26

Ymin = -67.14 G's @ 0.0514 Seconds, Ymax = 5.47 G's @ 0.1390 Seconds



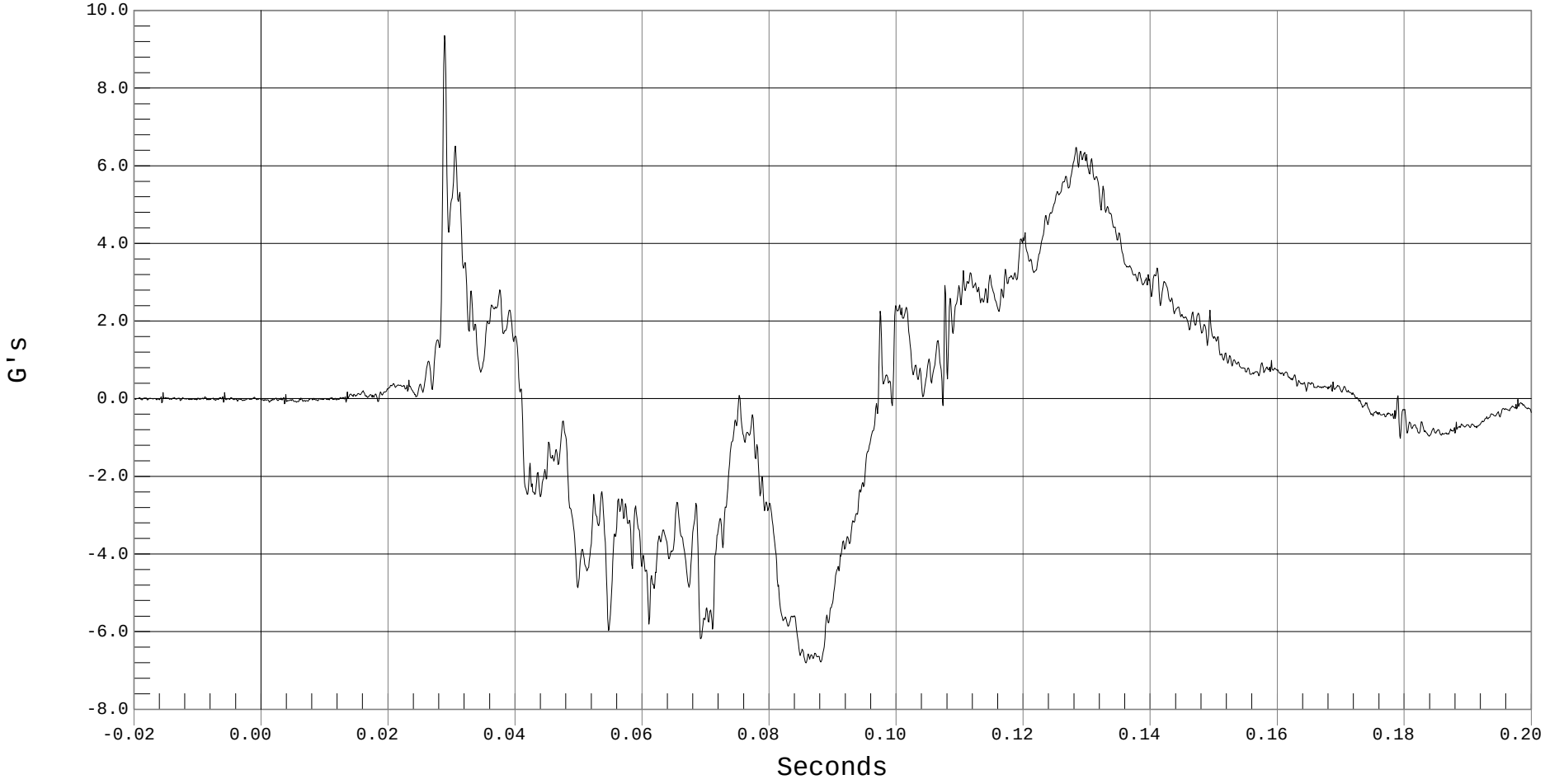
PASSENGER PELVIS Y ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 PASSENGER PELVIS Y, b01036AT.A27

Ymin = -6.81 G's @ 0.0857 Seconds, Ymax = 9.36 G's @ 0.0288 Seconds



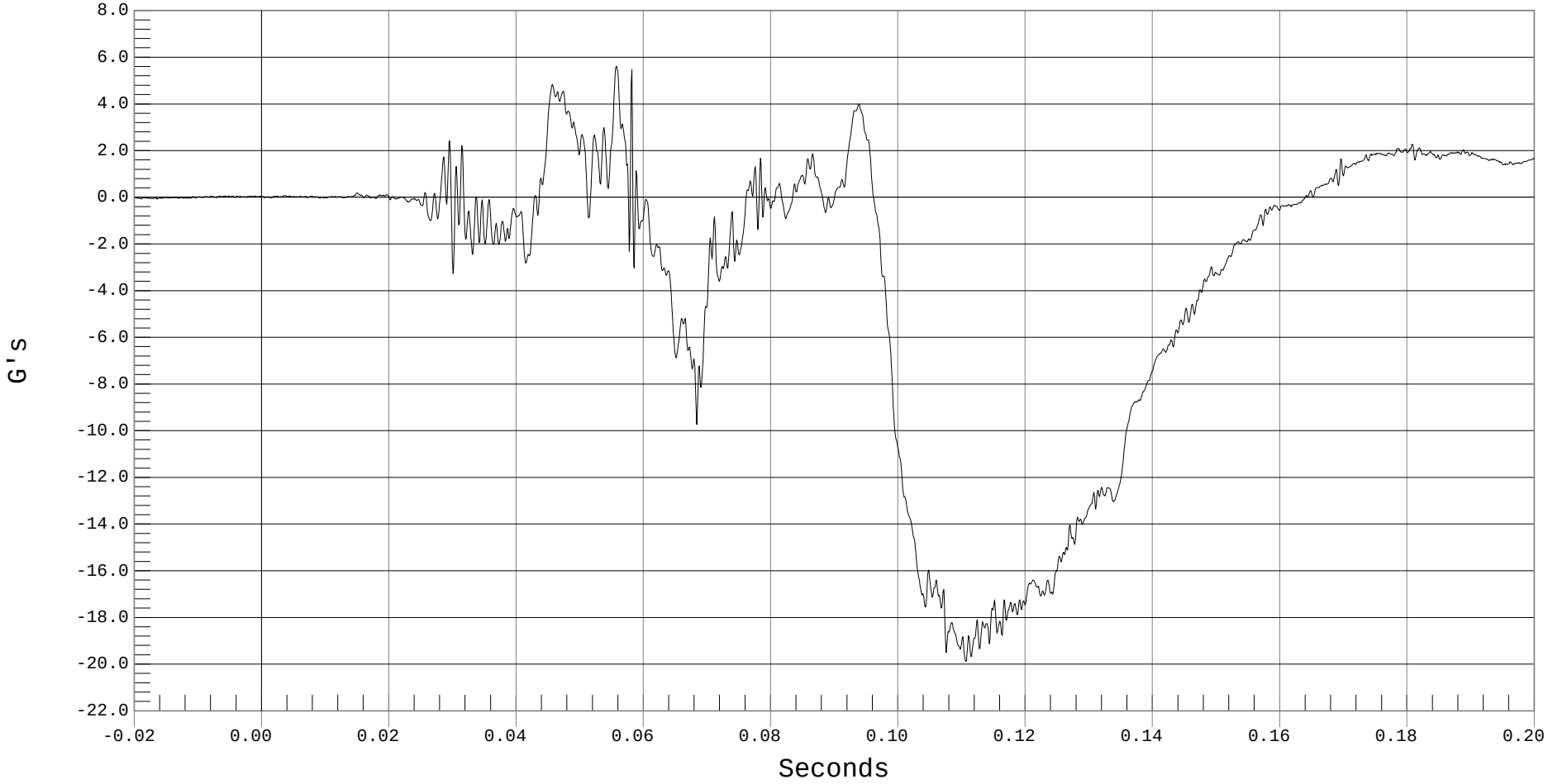
PASSENGER PELVIS Z ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 PASSENGER PELVIS Z, b01036AT.A28

Ymin = -19.88 G's @ 0.1106 Seconds, Ymax = 5.61 G's @ 0.0557 Seconds



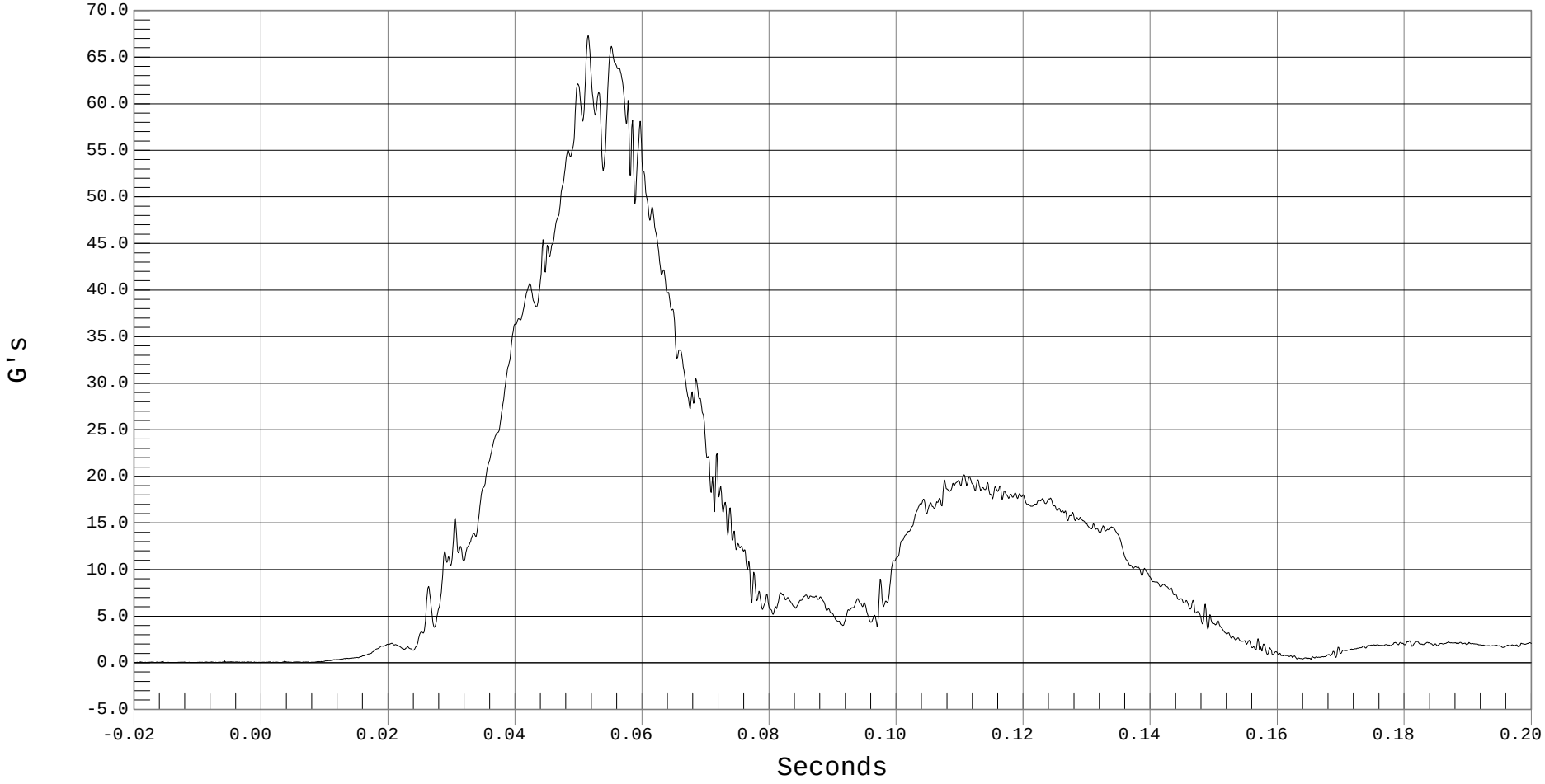
PASSENGER PELVIS RESULTANT ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 PASSENGER PELVIS RESULTANT ACCELERATION, b01036AV.A26

Ymin = .02 G's @ -0.0141 Seconds, Ymax = 67.28 G's @ 0.0514 Seconds



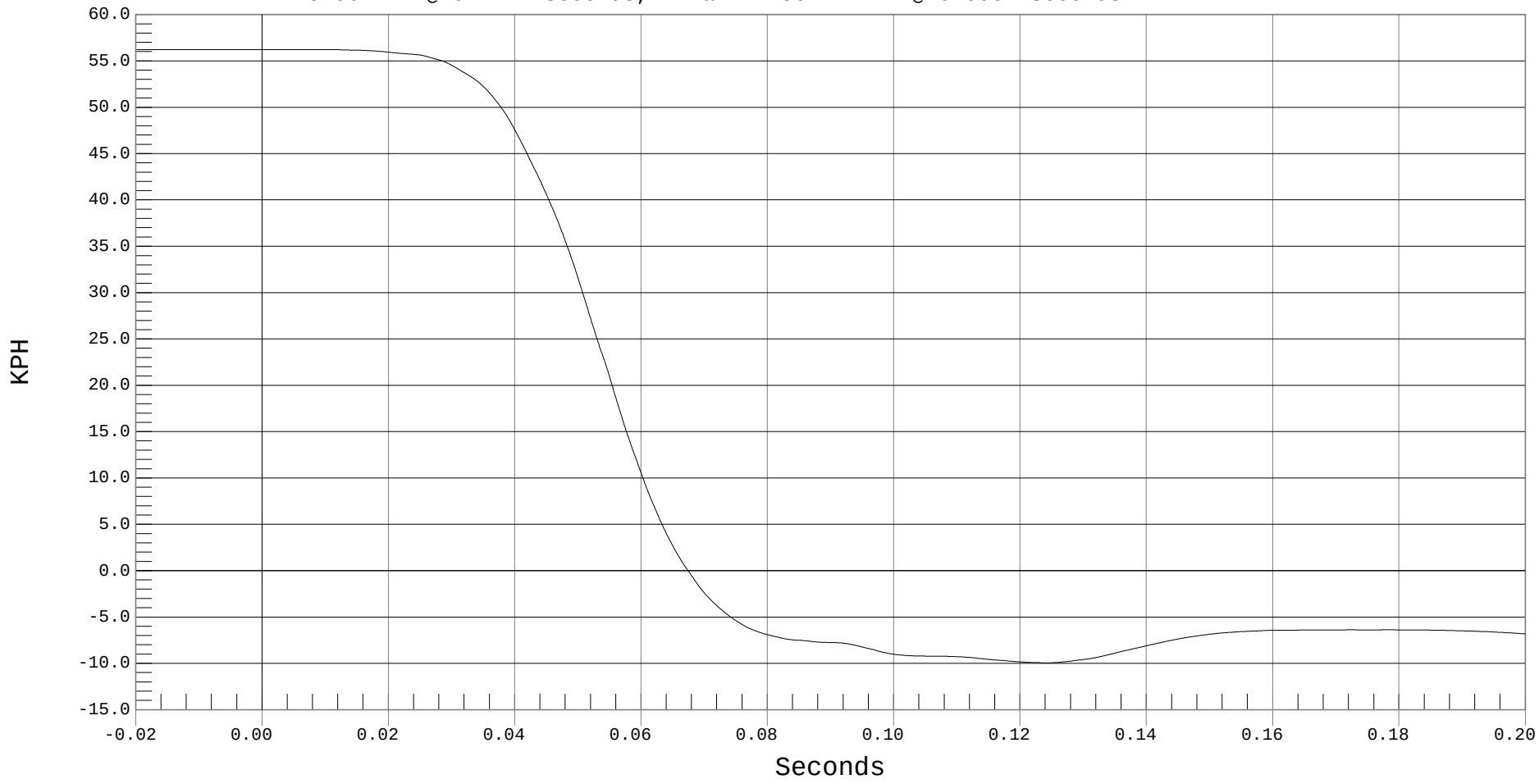
PASSENGER PELVIS X VELOCITY

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 PASSENGER PELVIS X VELOCITY, b01036AI.V26

Ymin = -9.96 KPH @ 0.1242 Seconds, Ymax = 56.22 KPH @ 0.0067 Seconds



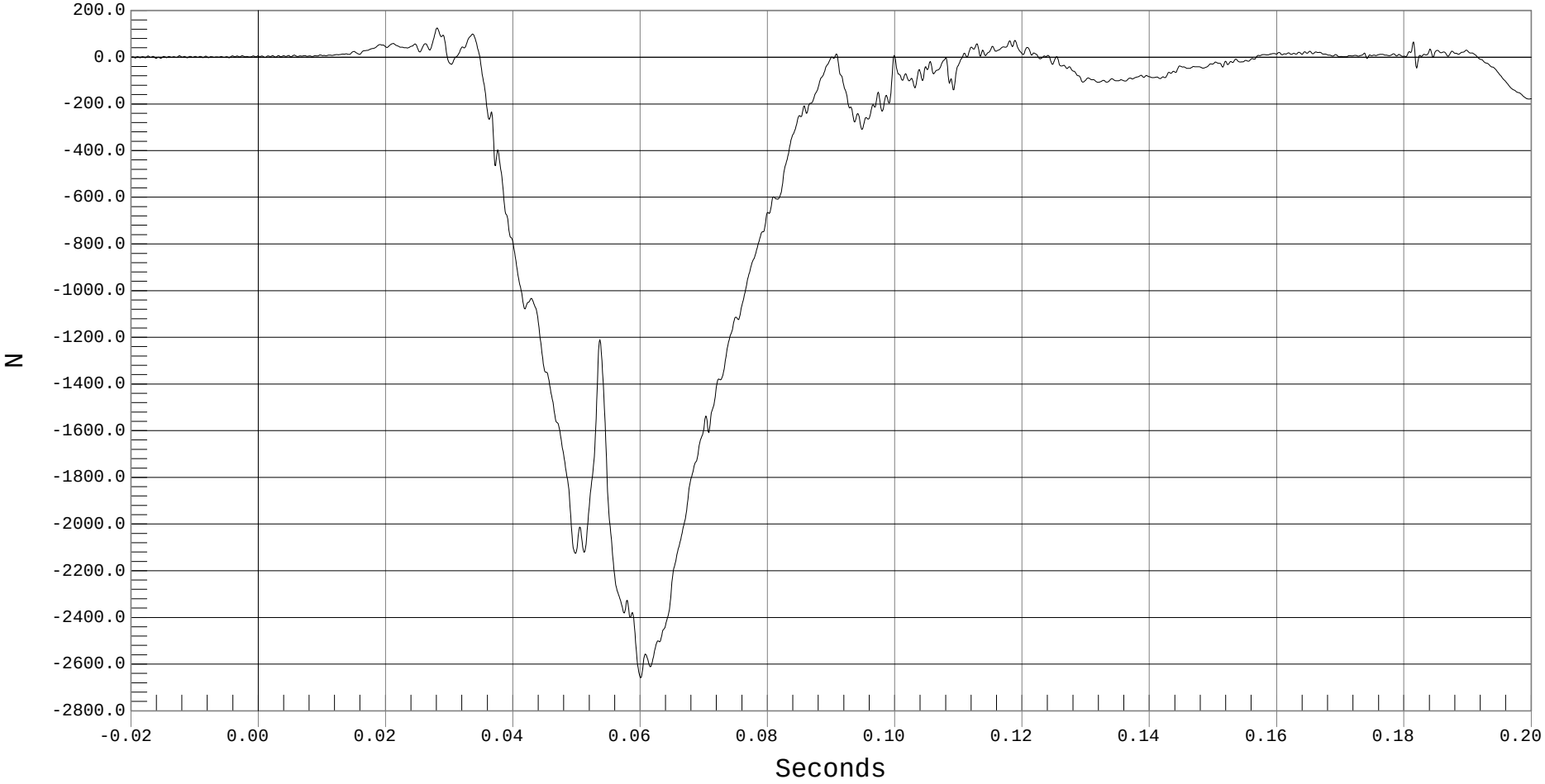
PASSENGER LEFT FEMUR FORCE

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 PASSENGER LEFT FEMUR, b01036FF.F30

Ymin = -2659.35 N @ 0.0600 Seconds, Ymax = 124.98 N @ 0.0280 Seconds



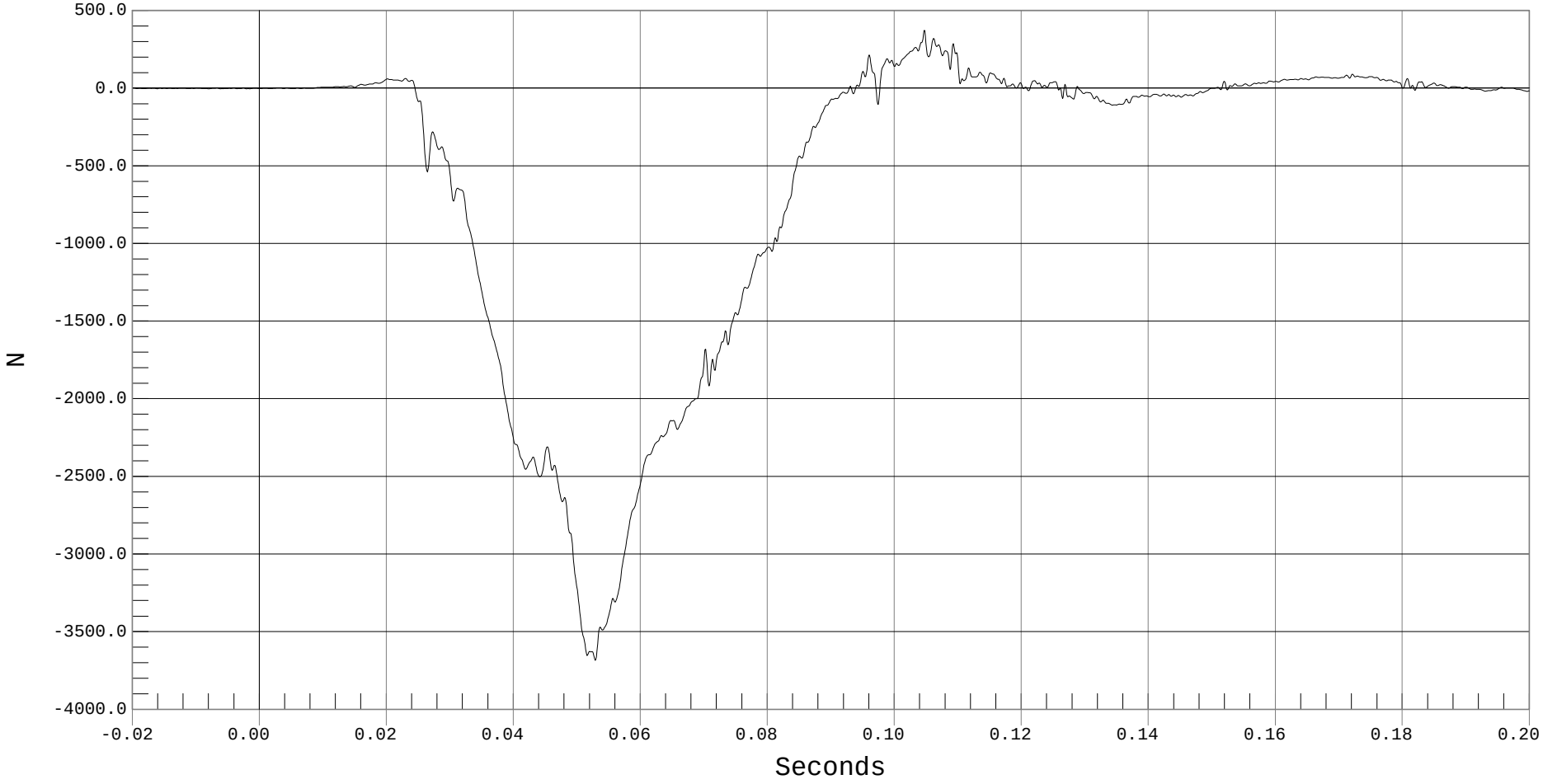
PASSENGER RIGHT FEMUR FORCE

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 PASSENGER RIGHT FEMUR, b01036FF.F29

Ymin = -3684.95 N @ 0.0528 Seconds, Ymax = 371.74 N @ 0.1046 Seconds



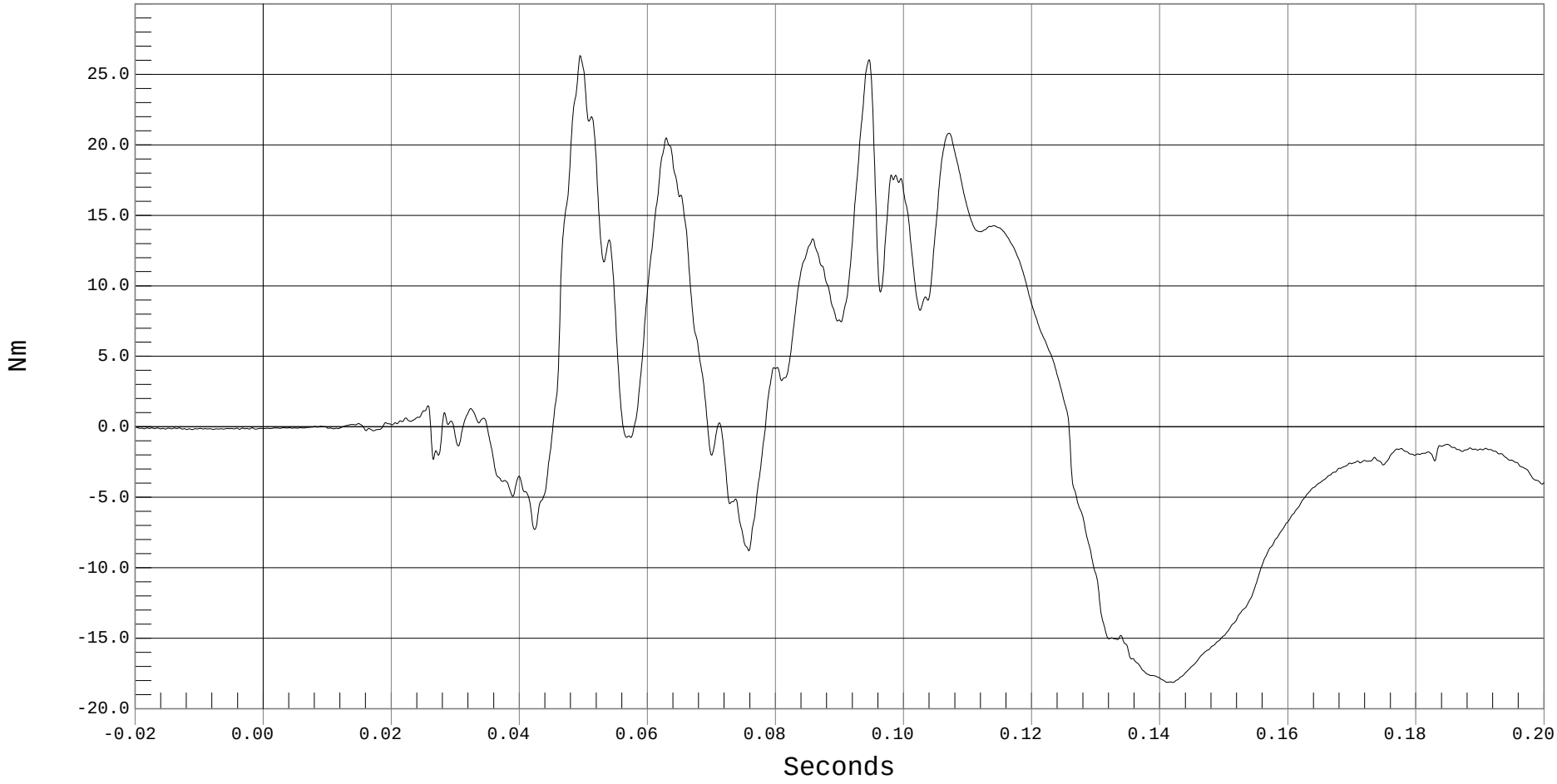
PASSENGER LEFT UPPER TIBIA MOMENT X

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 PASSENGER LEFT UPPER TIBIA MX, b01036MF.M87

Ymin = -18.14 Nm @ 0.1419 Seconds, Ymax = 26.34 Nm @ 0.0494 Seconds



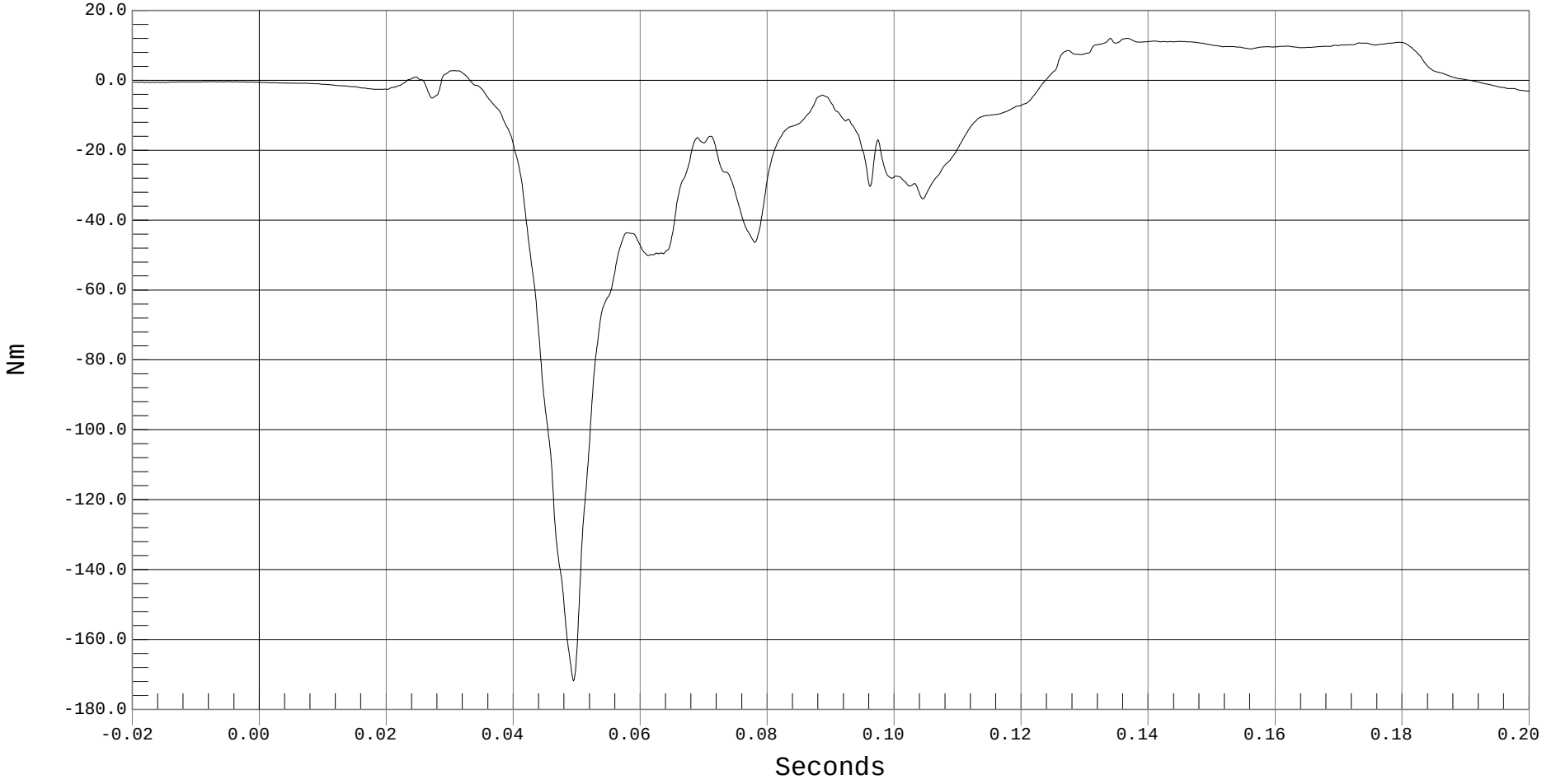
PASSENGER LEFT UPPER TIBIA MOMENT Y

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 PASSENGER LEFT UPPER TIBIA MY, b01036MF.M88

Ymin = -171.86 Nm @ 0.0494 Seconds, Ymax = 12 Nm @ 0.1366 Seconds



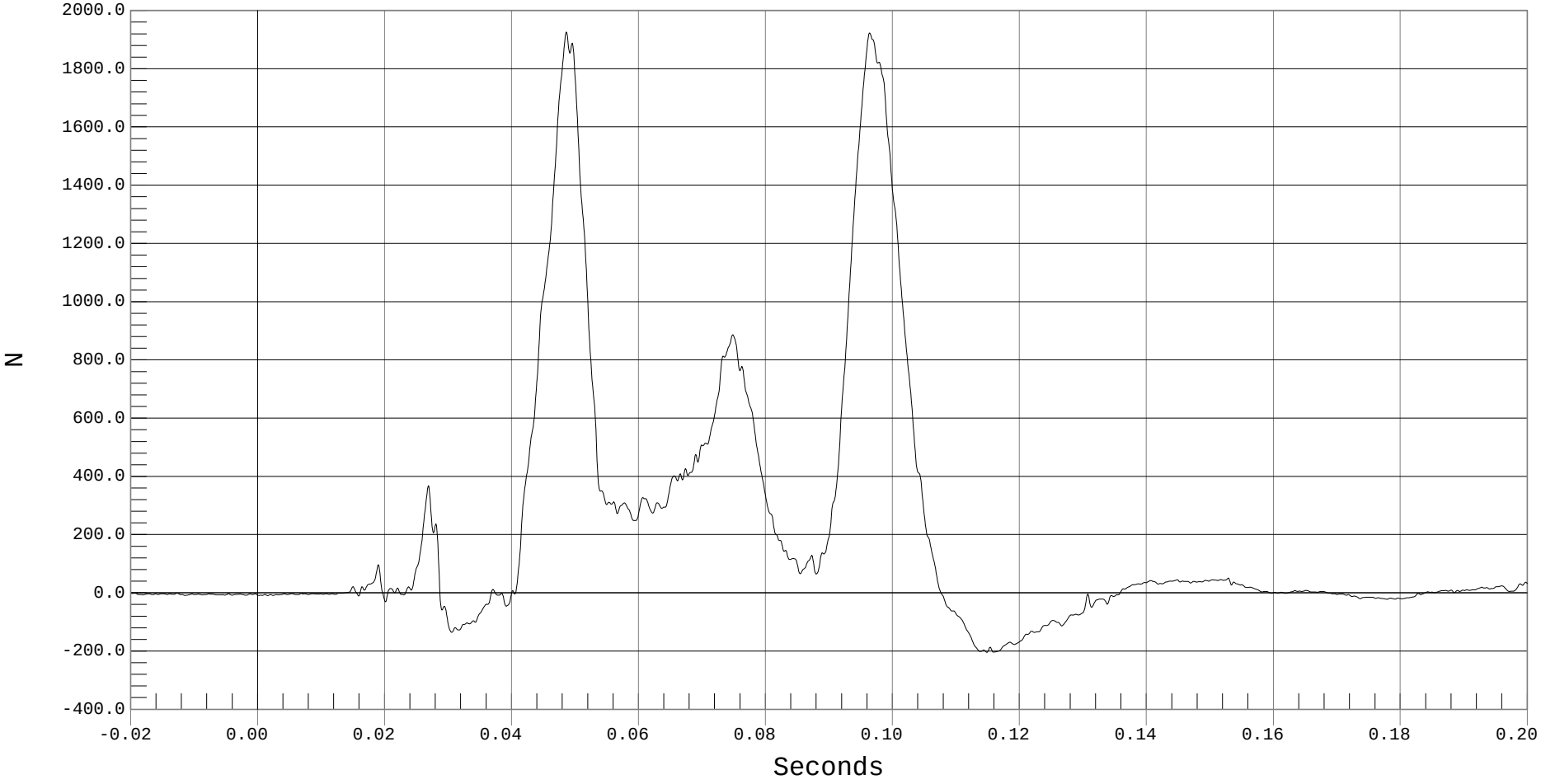
PASSENGER LEFT UPPER TIBIA FORCE Z

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 PASSENGER LEFT UPPER TIBIA FZ, b01036FF.F89

Ymin = -204.6 N @ 0.1148 Seconds, Ymax = 1925.79 N @ 0.0485 Seconds



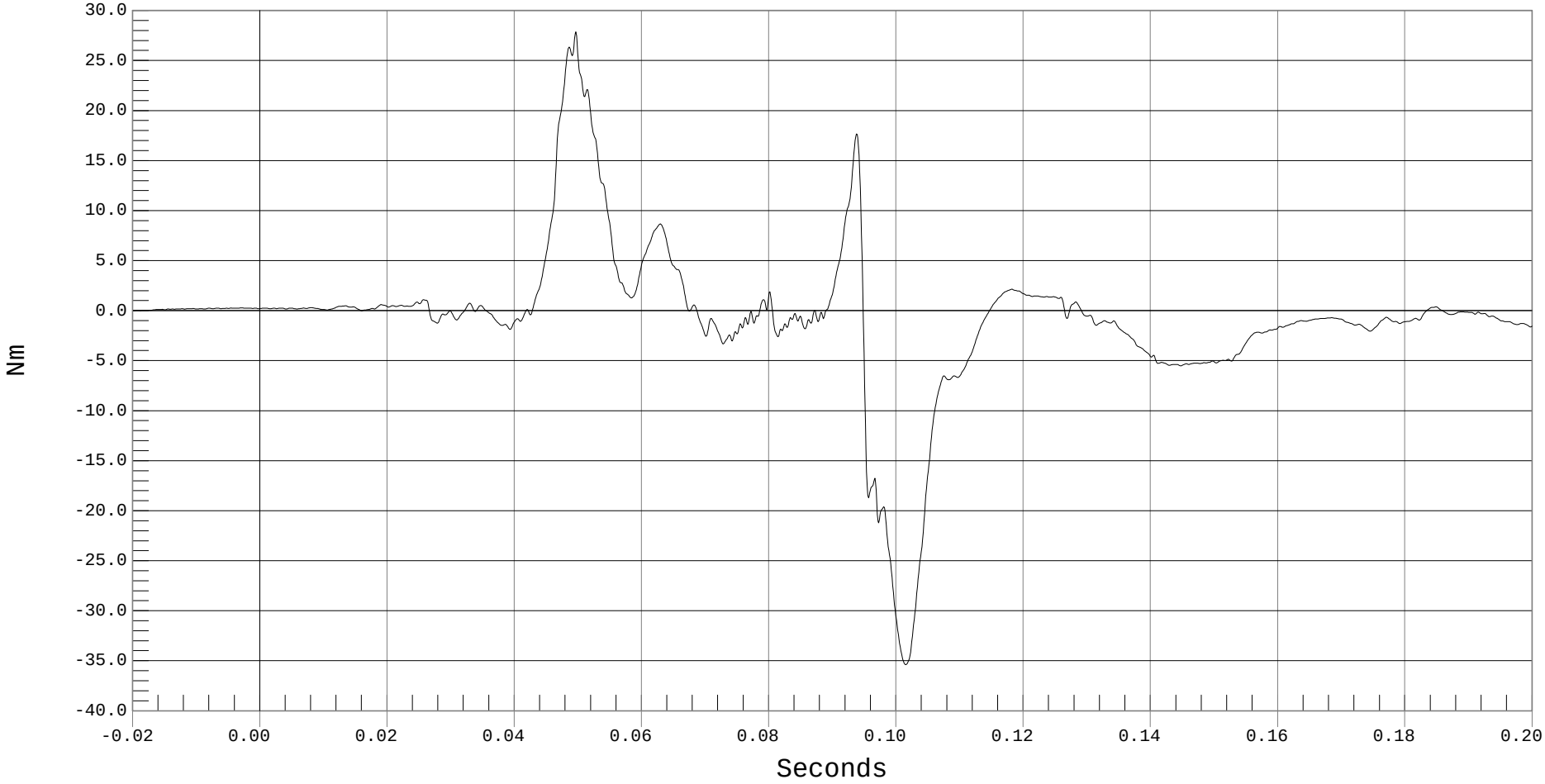
PASSENGER LEFT LOWER TIBIA MOMENT X

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 PASSENGER LEFT LOWER TIBIA MX, b01036MF.M90

Ymin = -35.4 Nm @ 0.1014 Seconds, Ymax = 27.86 Nm @ 0.0496 Seconds



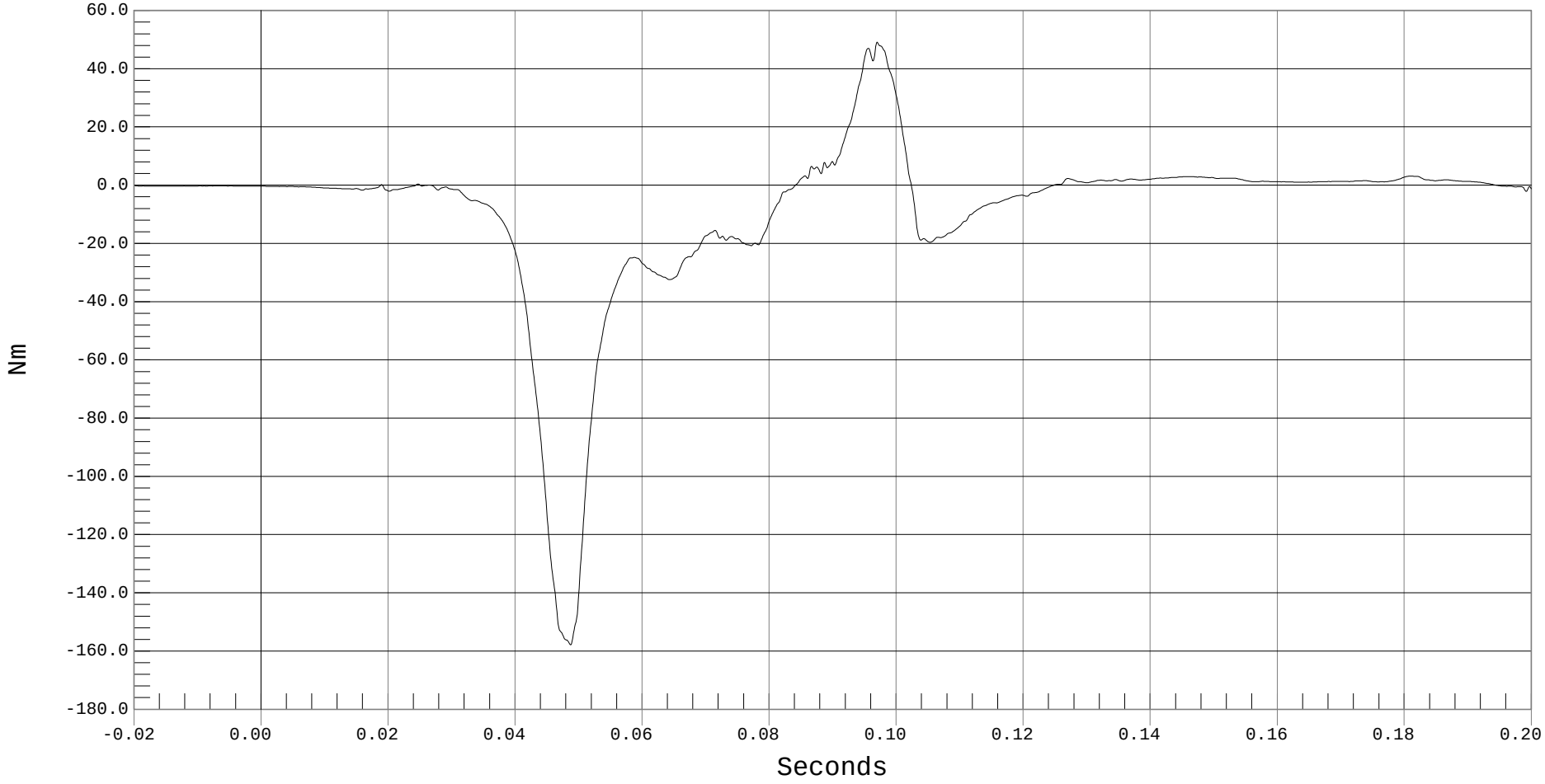
PASSENGER LEFT LOWER TIBIA MOMENT Y

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 PASSENGER LEFT LOWER TIBIA MY, b01036MF.M91

Ymin = -157.85 Nm @ 0.0487 Seconds, Ymax = 49.17 Nm @ 0.0969 Seconds



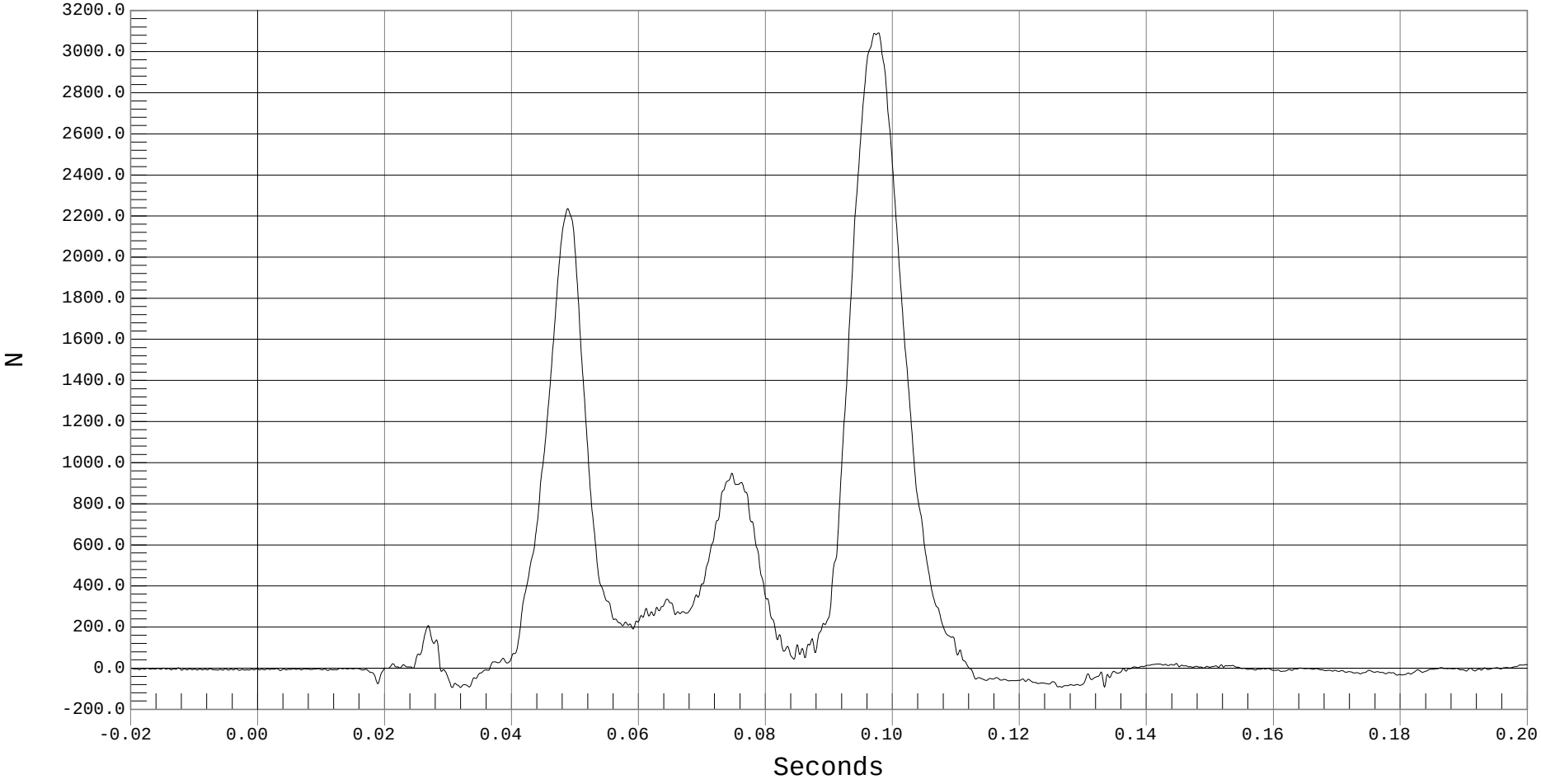
PASSENGER LEFT LOWER TIBIA FORCE Z

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 PASSENGER LEFT LOWER TIBIA FZ, b01036FF.F92

Ymin = -94.76 N @ 0.0306 Seconds, Ymax = 3091.57 N @ 0.0977 Seconds



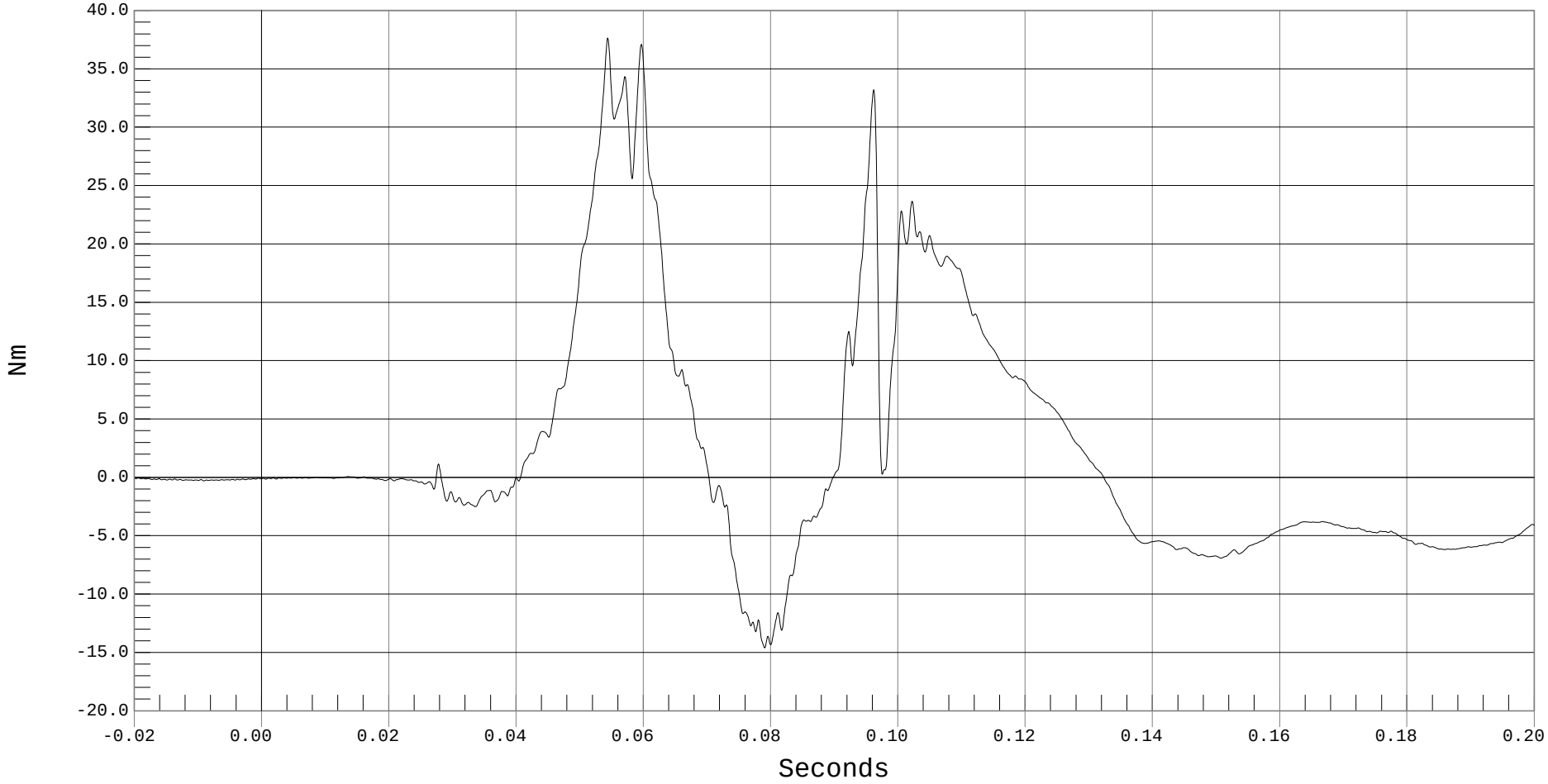
PASSENGER RIGHT UPPER TIBIA MOMENT X

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 PASSENGER RIGHT UPPER TIBIA MX, b01036MF.M81

Ymin = -14.63 Nm @ 0.0790 Seconds, Ymax = 37.64 Nm @ 0.0543 Seconds



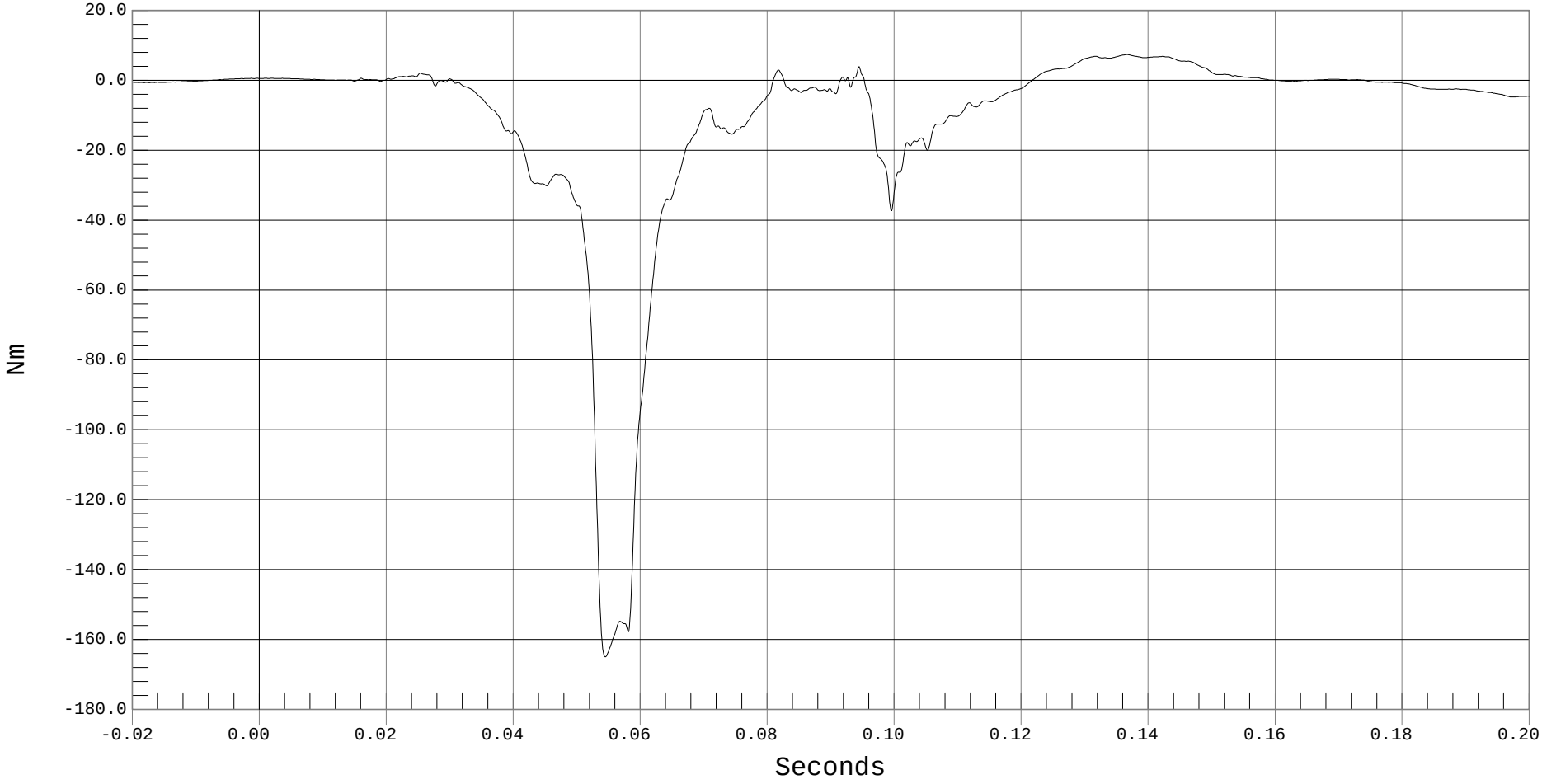
PASSENGER RIGHT UPPER TIBIA MOMENT Y

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 PASSENGER RIGHT UPPER TIBIA MY, b01036MF.M82

Ymin = -164.99 Nm @ 0.0544 Seconds, Ymax = 7.39 Nm @ 0.1366 Seconds



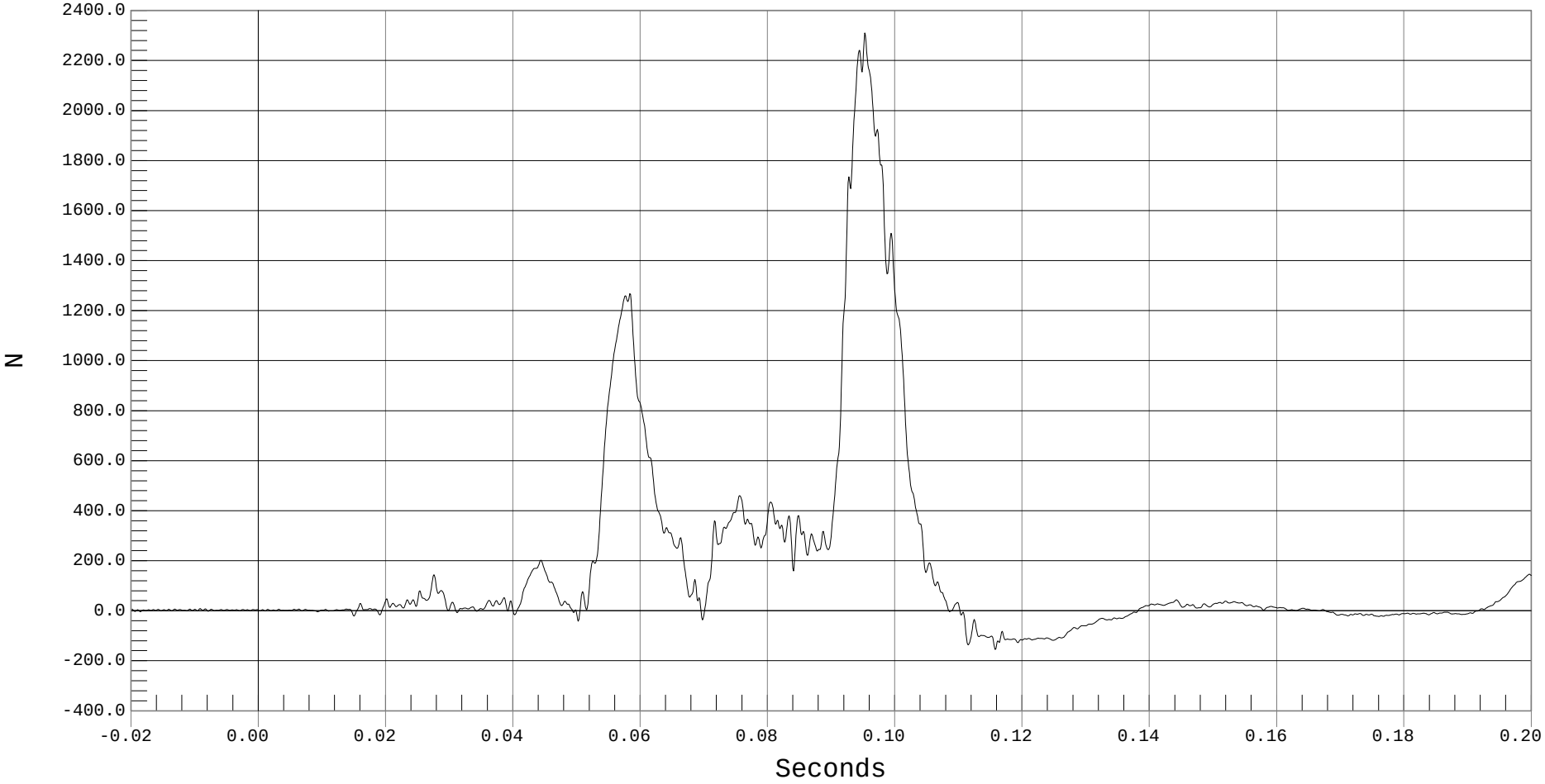
PASSENGER RIGHT UPPER TIBIA FORCE Z

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 PASSENGER RIGHT UPPER TIBIA FZ, b01036FF.F83

Ymin = -154.95 N @ 0.1157 Seconds, Ymax = 2310.56 N @ 0.0952 Seconds



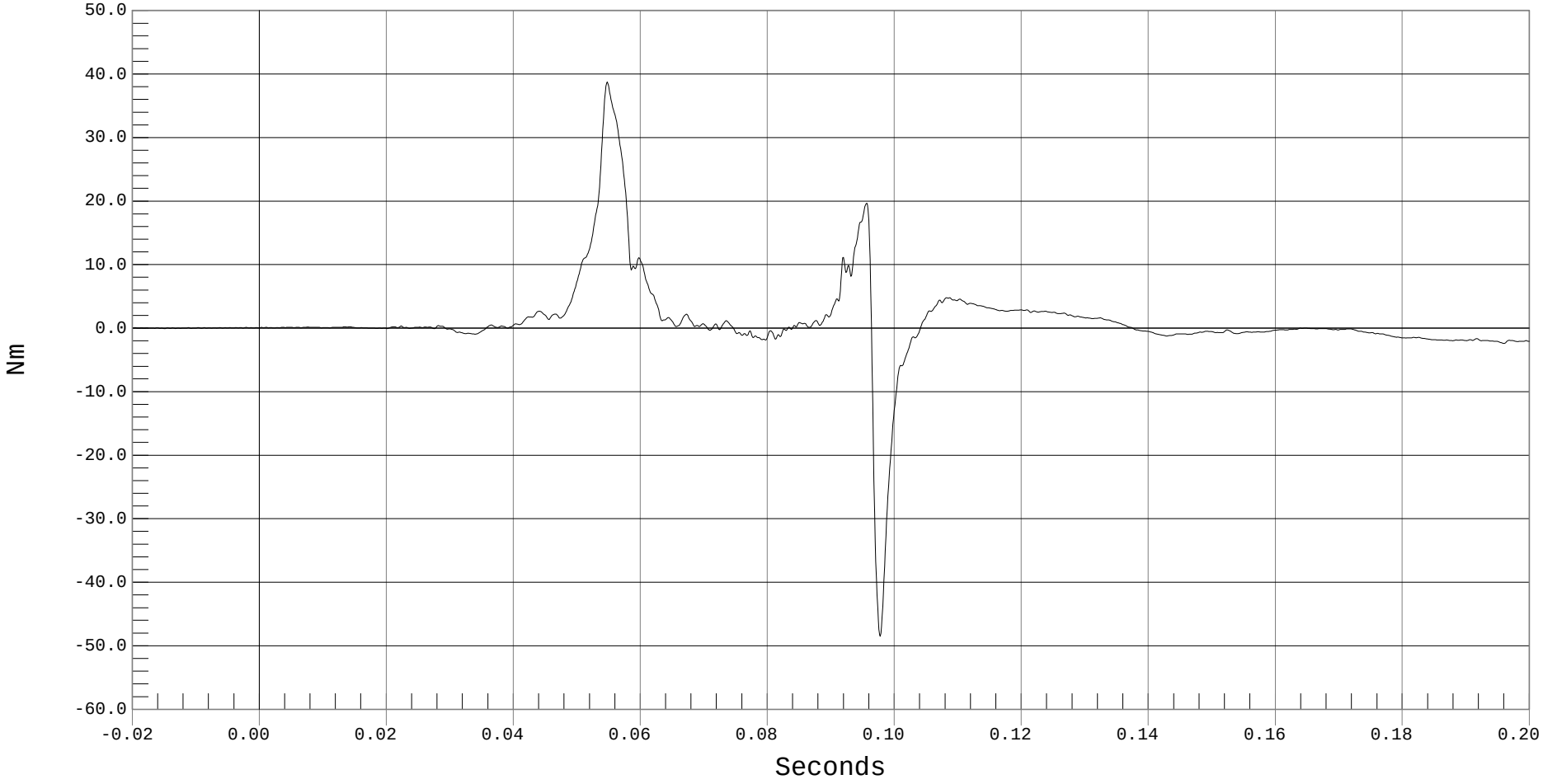
PASSENGER RIGHT LOWER TIBIA MOMENT X

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 PASSENGER RIGHT LOWER TIBIA MX, b01036MF.M84

Ymin = -48.51 Nm @ 0.0977 Seconds, Ymax = 38.74 Nm @ 0.0547 Seconds



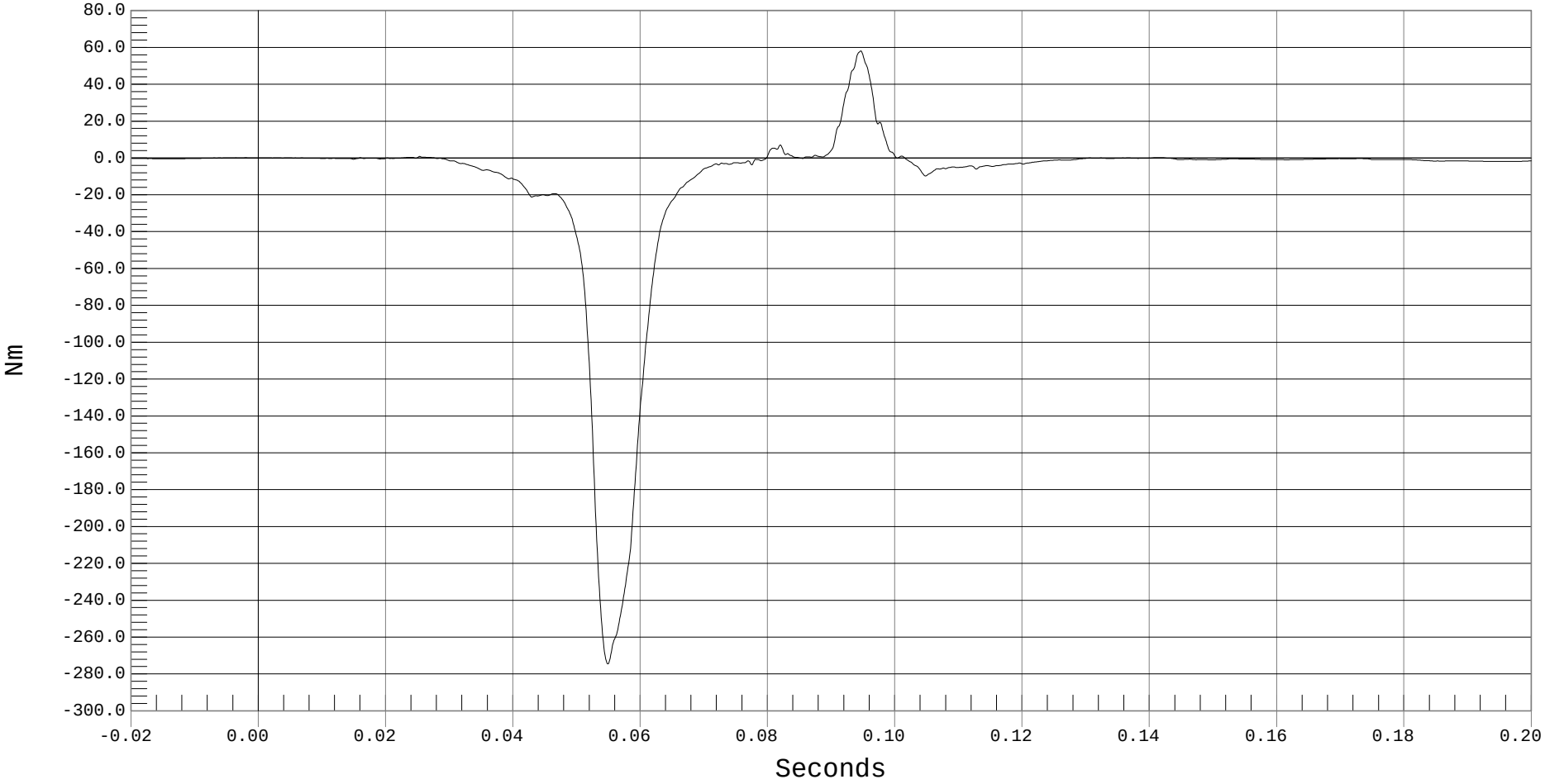
PASSENGER RIGHT LOWER TIBIA MOMENT Y

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 PASSENGER RIGHT LOWER TIBIA MY, b01036MF.M85

Ymin = -274.57 Nm @ 0.0548 Seconds, Ymax = 58.08 Nm @ 0.0946 Seconds



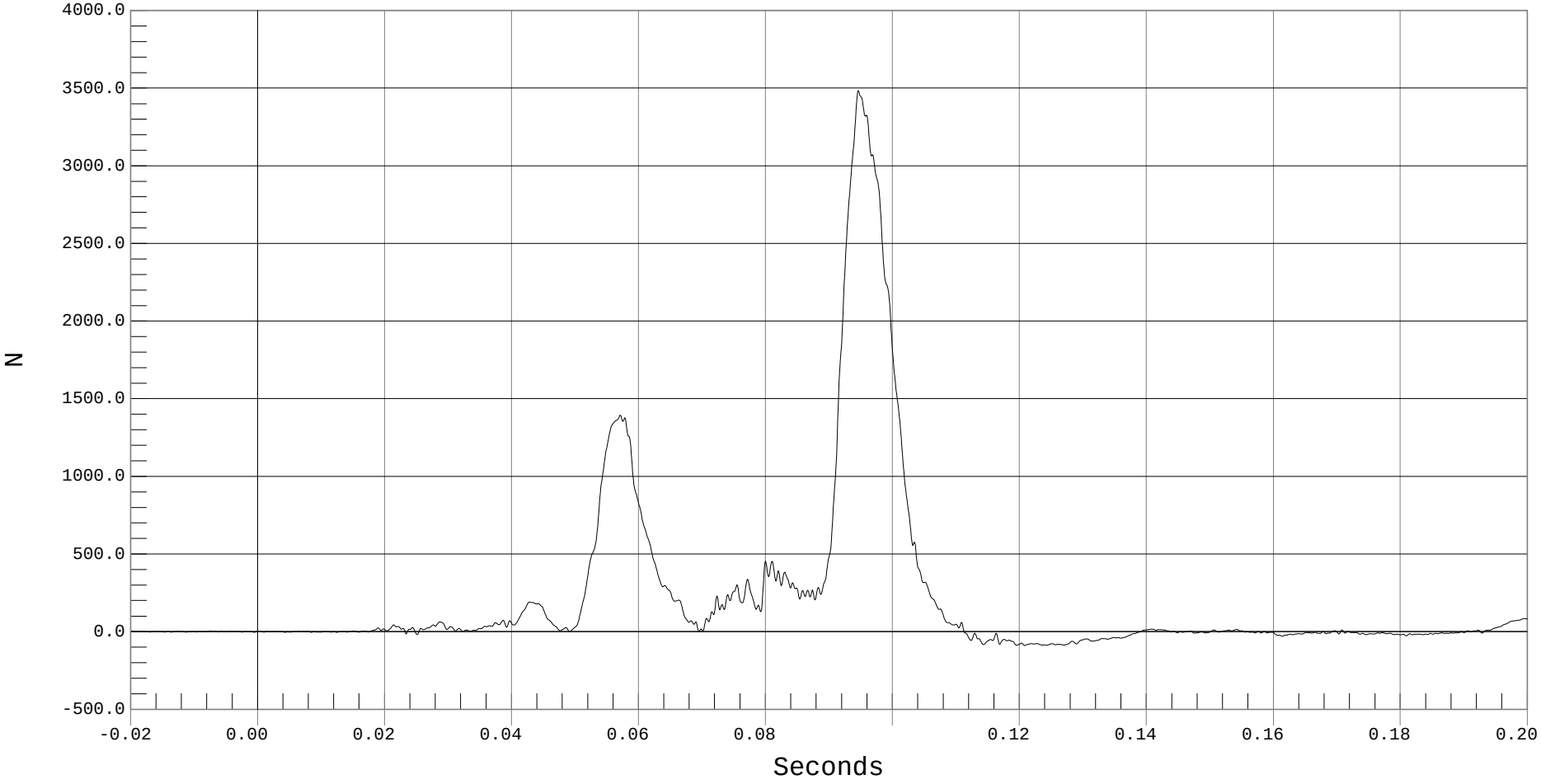
PASSENGER RIGHT LOWER TIBIA FORCE Z

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 PASSENGER RIGHT LOWER TIBIA FZ, b01036FF.F86

Ymin = -89.8 N @ 0.1207 Seconds, Ymax = 3484.96 N @ 0.0945 Seconds



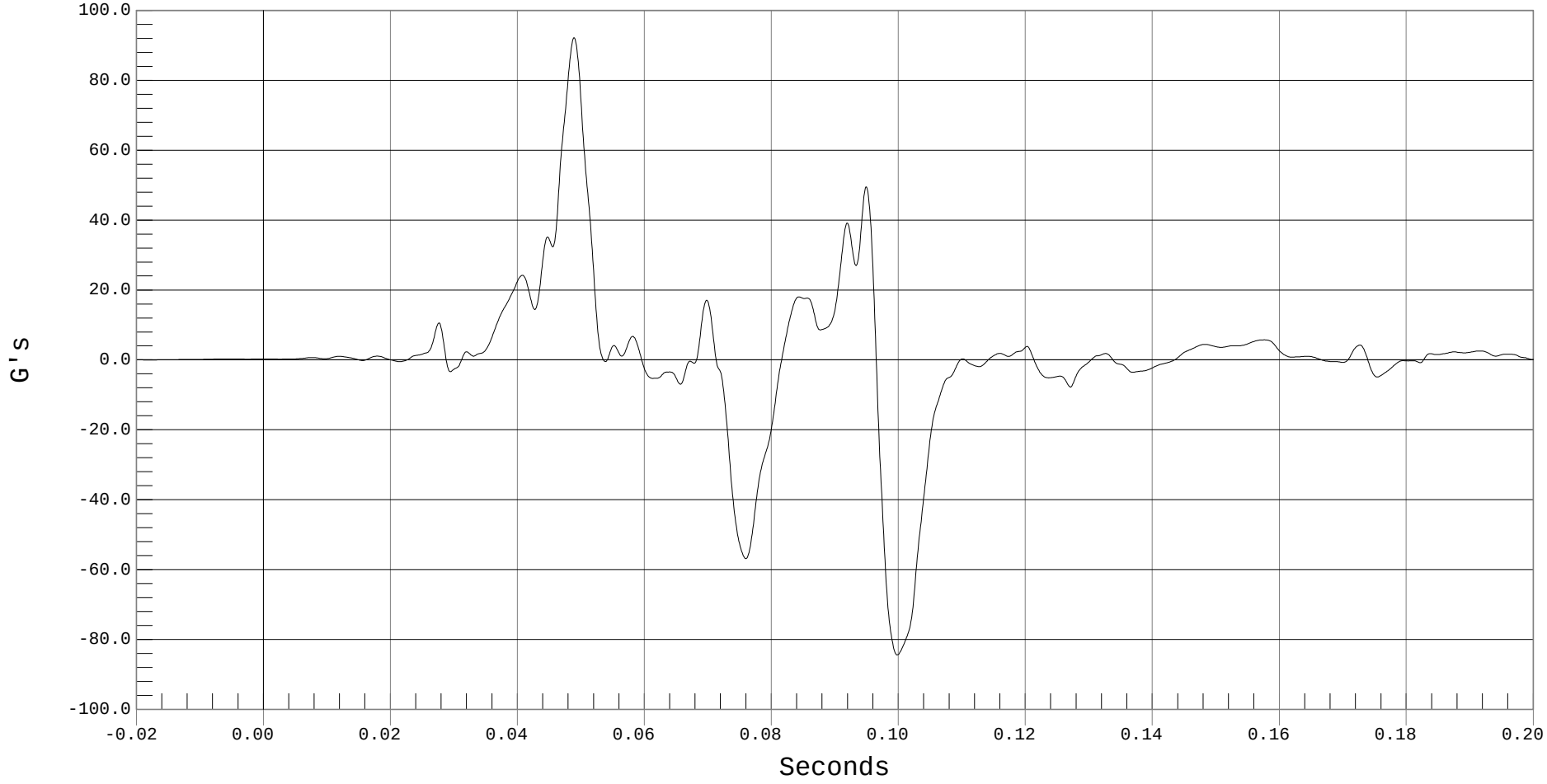
PASSENGER LEFT FOOT @ BALL Z ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 PASSENGER LEFT FOOT @ BALL Z, b01036AF.A09

Ymin = -84.45 G's @ 0.0997 Seconds, Ymax = 92.27 G's @ 0.0488 Seconds



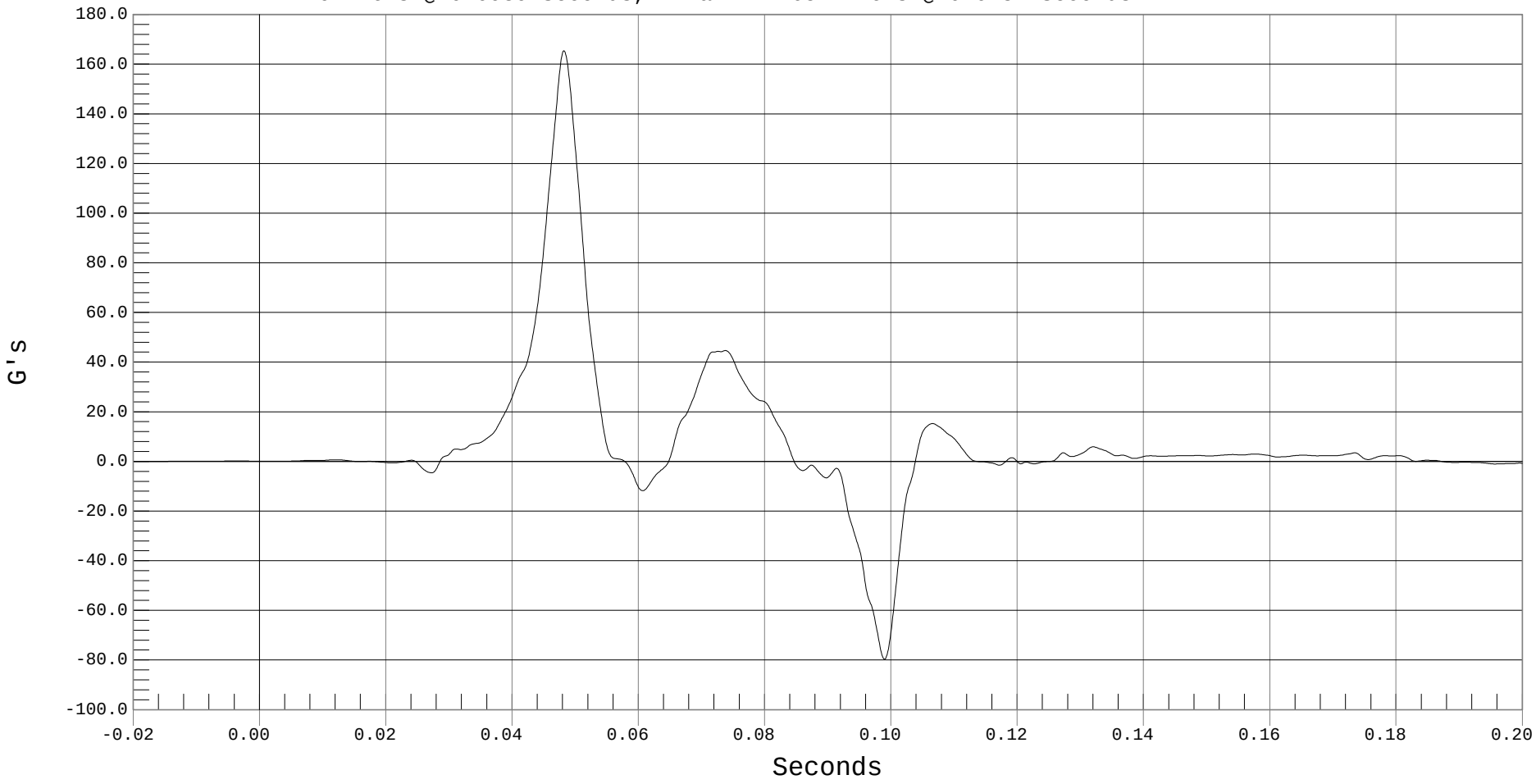
PASSENGER LEFT FOOT @ HEEL X ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 PASSENGER LEFT FOOT @ HEEL X, b01036AF.A07

Ymin = -79.7 G's @ 0.0989 Seconds, Ymax = 165.42 G's @ 0.0481 Seconds



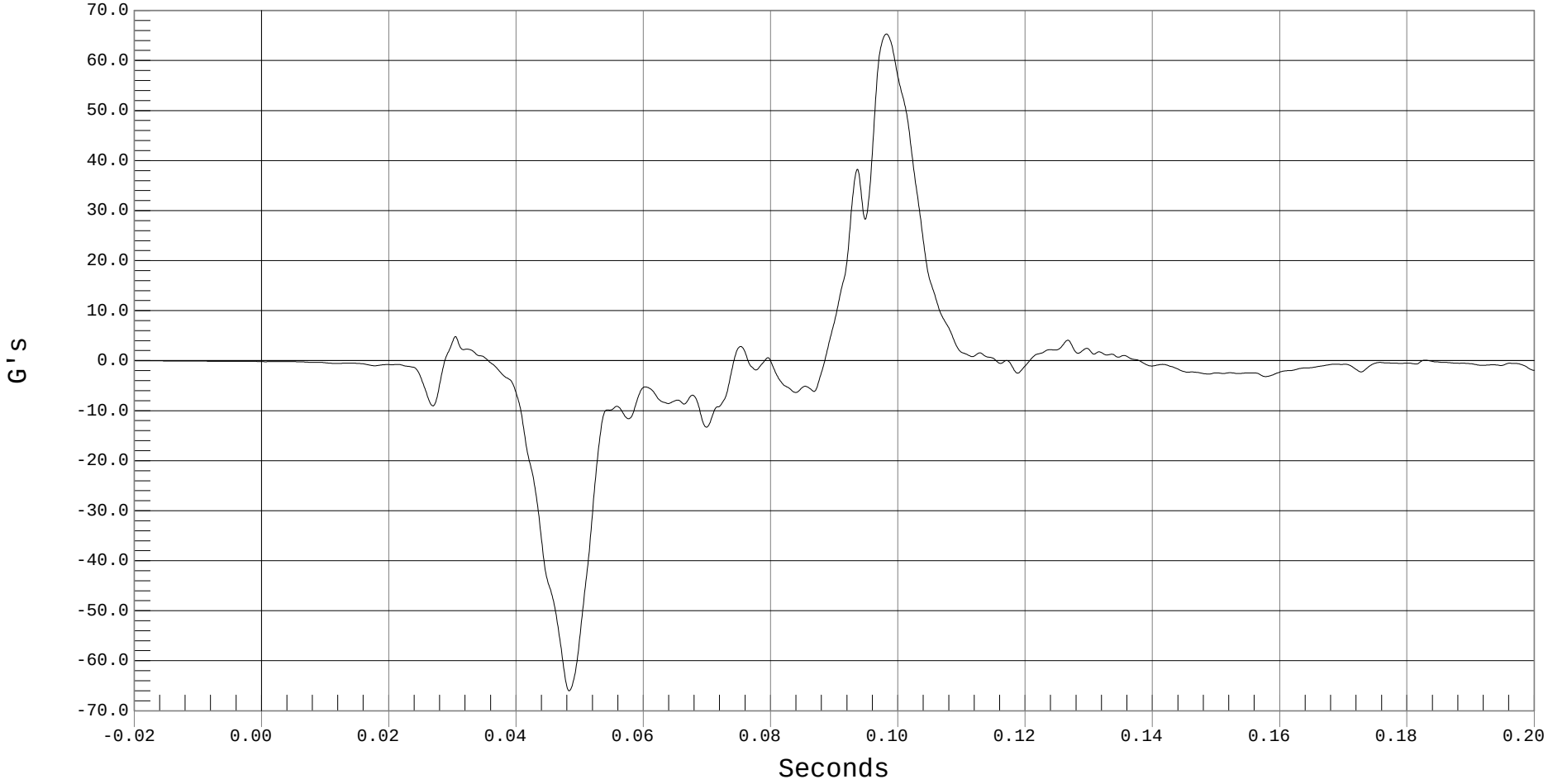
PASSENGER LEFT FOOT @ HEEL Z ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 PASSENGER LEFT FOOT @ HEEL Z, b01036AF.A08

Ymin = -66.01 G's @ 0.0483 Seconds, Ymax = 65.31 G's @ 0.0981 Seconds



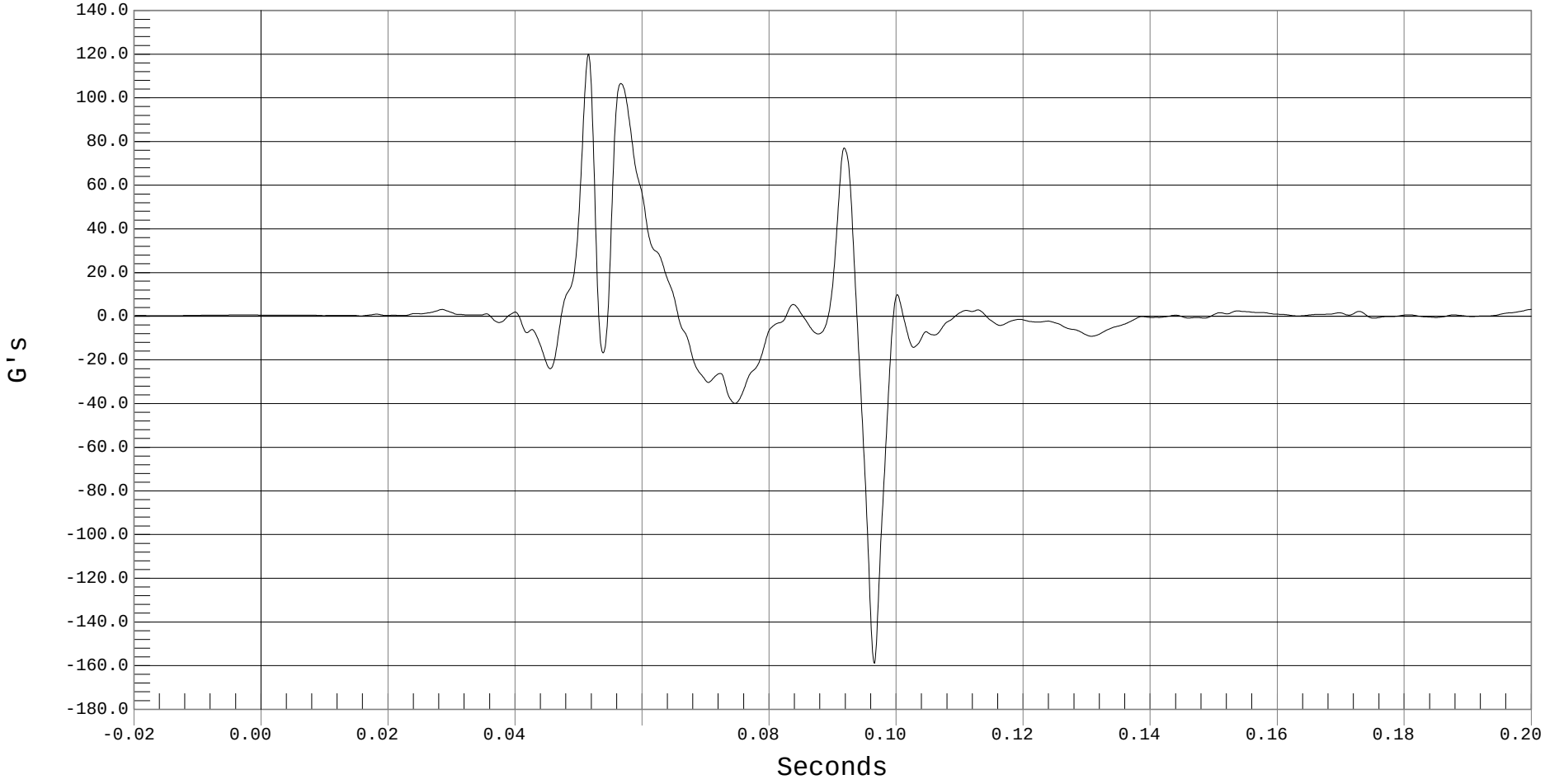
PASSENGER RIGHT FOOT @ BALL Z ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 PASSENGER RIGHT FOOT @ BALL Z, b01036AF.A06

Ymin = -158.84 G's @ 0.0965 Seconds, Ymax = 120.08 G's @ 0.0515 Seconds



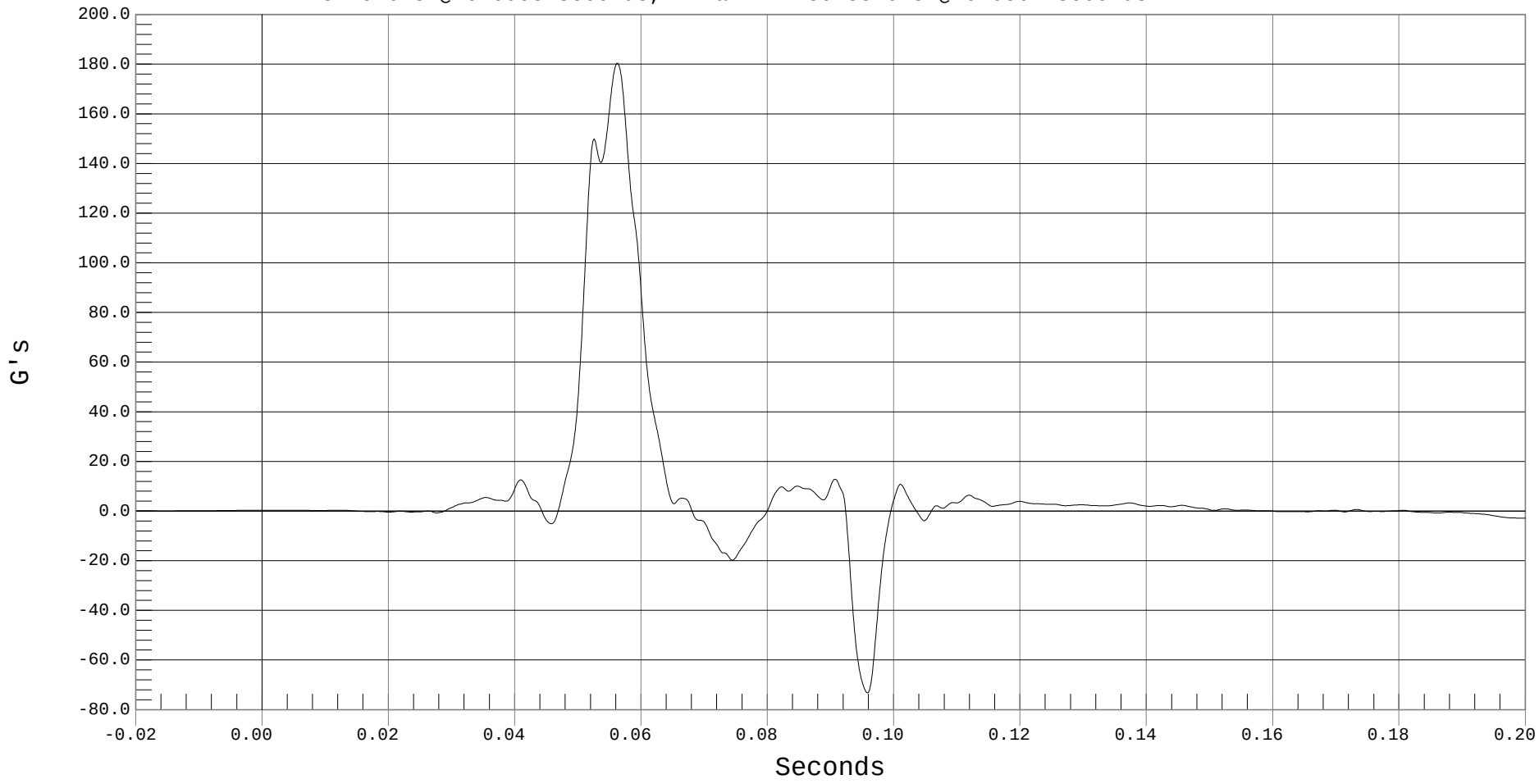
PASSENGER RIGHT FOOT @ HEEL X ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 PASSENGER RIGHT FOOT @ HEEL X, b01036AF.A04

Ymin = -73.25 G's @ 0.0958 Seconds, Ymax = 180.38 G's @ 0.0562 Seconds



PASSENGER RIGHT FOOT @ HEEL Z ACCELERATION VS. TIME
NO VALID DATA COLLECTED

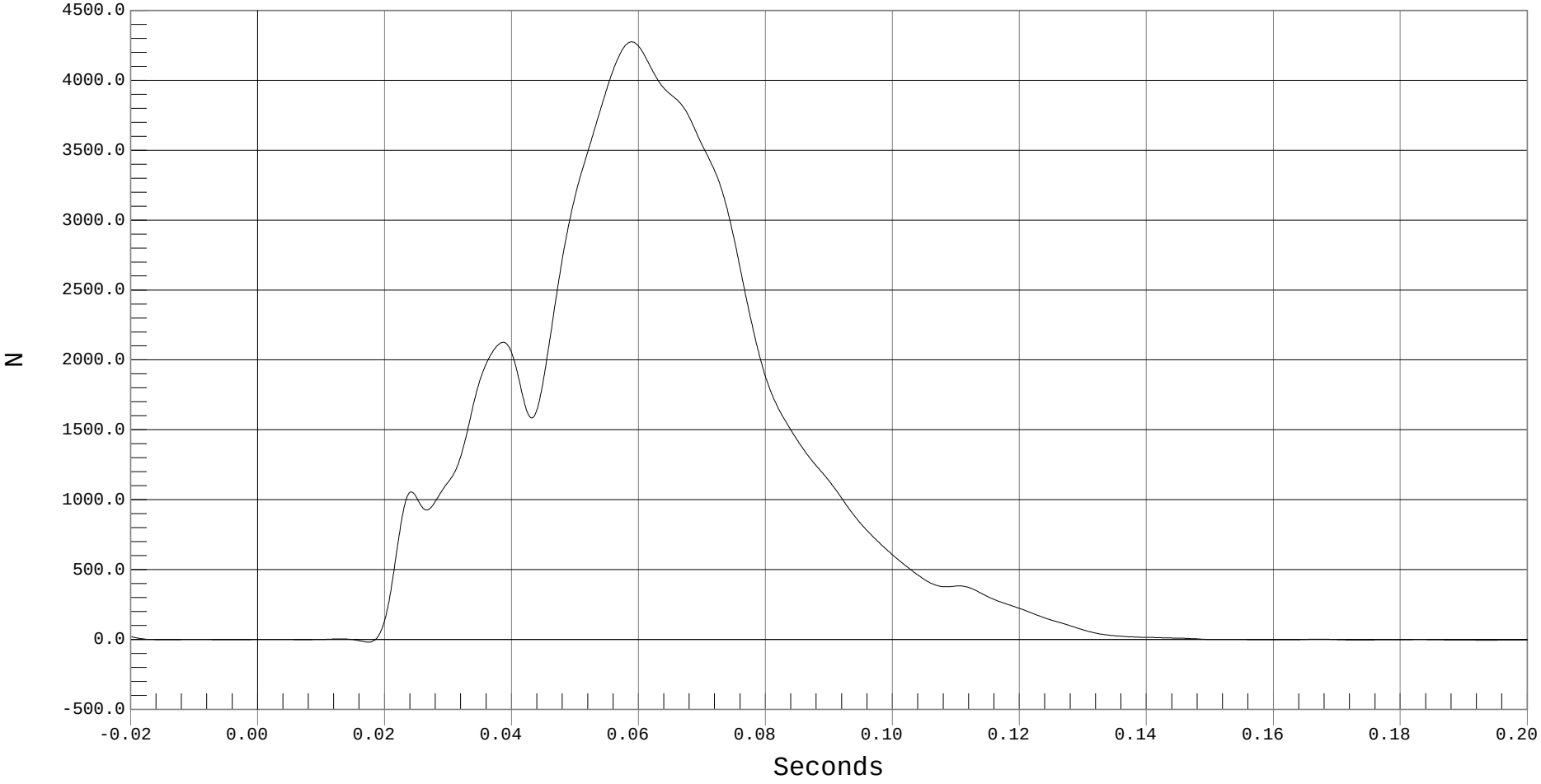
PASSENGER SHOULDER BELT FORCE

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 60

1 PASSENGER SHOULDER BELT, b01036FF.F67

Ymin = -19.47 N @ 0.0174 Seconds, Ymax = 4275.48 N @ 0.0588 Seconds



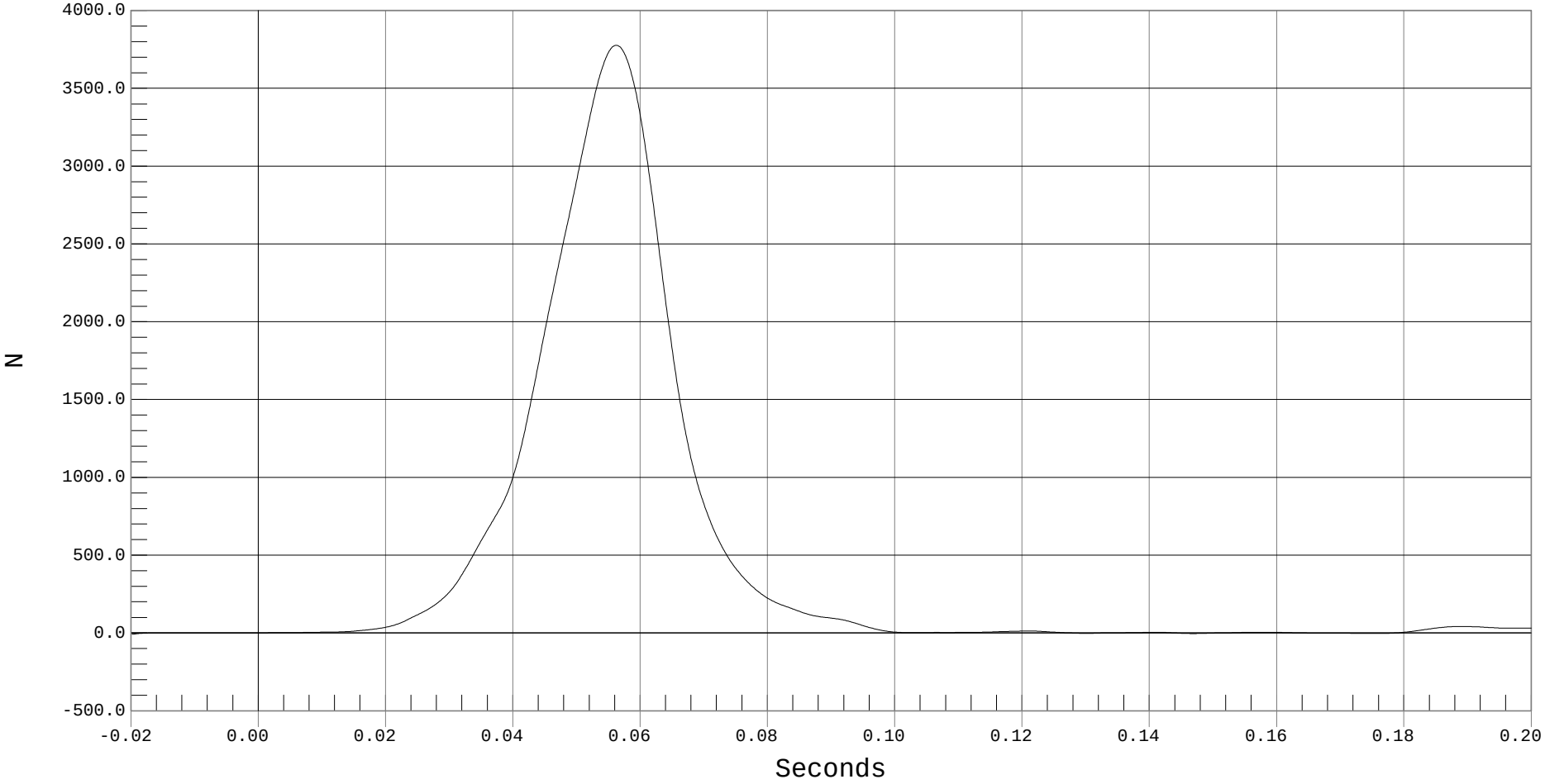
PASSENGER LAP BELT FORCE

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 60

1 PASSENGER LAP BELT, b01036FF.F68

Ymin = -8.44 N @ -0.0199 Seconds, Ymax = 3776.68 N @ 0.0562 Seconds



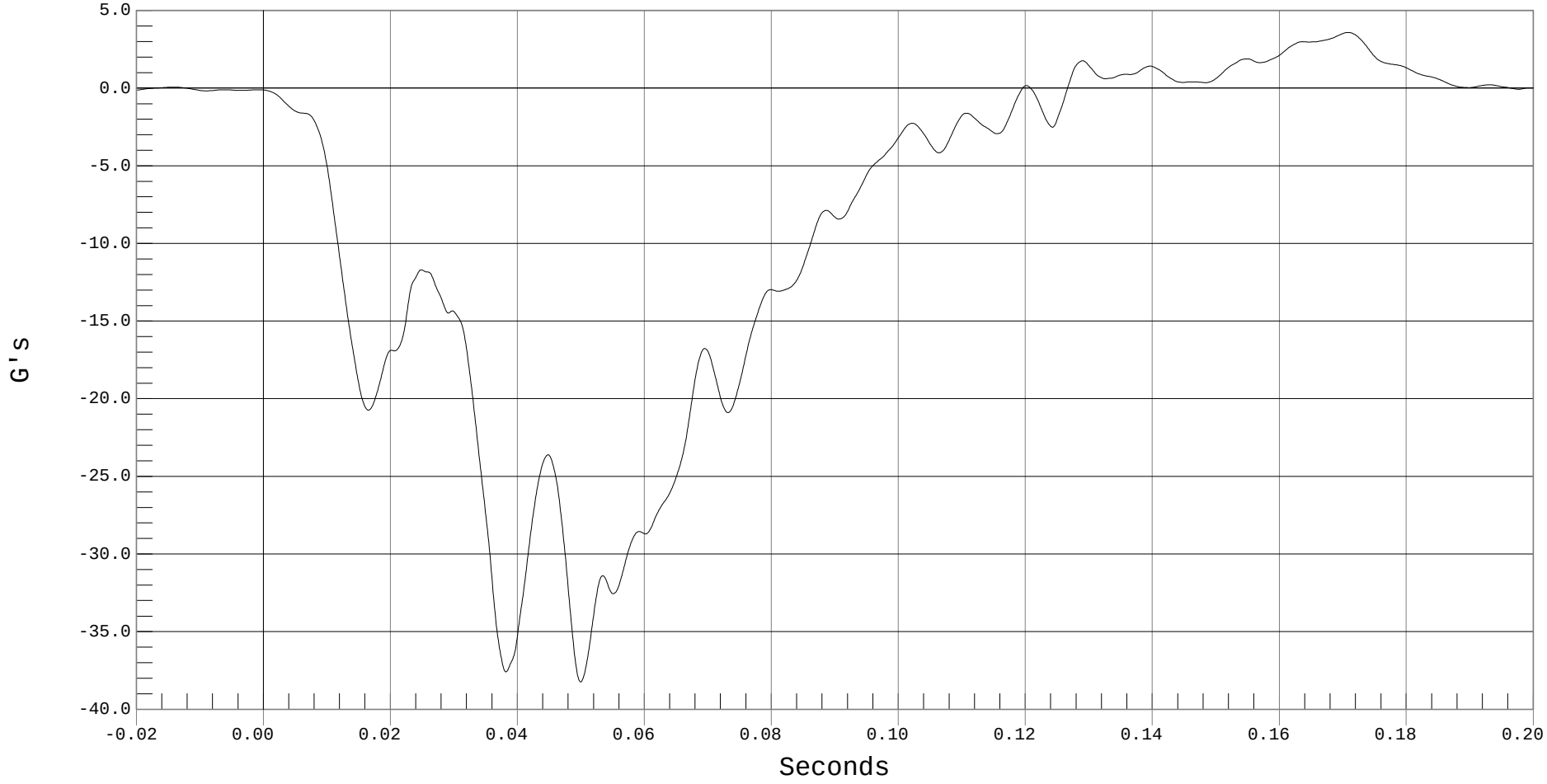
LEFT REAR SEAT CROSSMEMBER X ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 60

1 LEFT REAR SEAT CROSSMEMBER X, b01036AF.A59

Ymin = -38.24 G's @ 0.0499 Seconds, Ymax = 3.58 G's @ 0.1707 Seconds



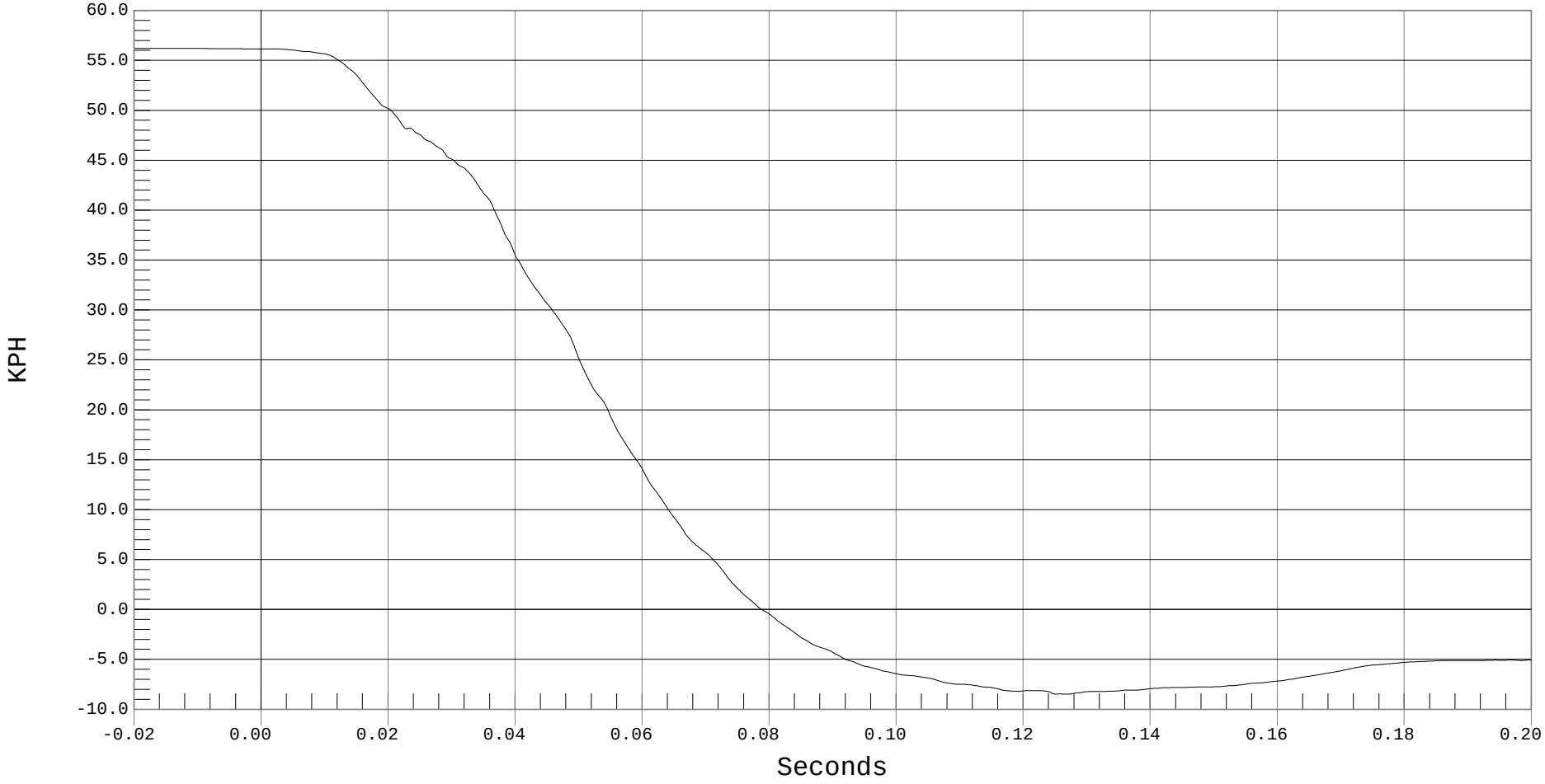
LEFT REAR SEAT CROSSMEMBER X VELOCITY

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 LEFT REAR SEAT CROSSMEMBER X VELOCITY, b01036AI.V59

Ymin = -8.49 KPH @ 0.1250 Seconds, Ymax = 56.21 KPH @ -0.0114 Seconds



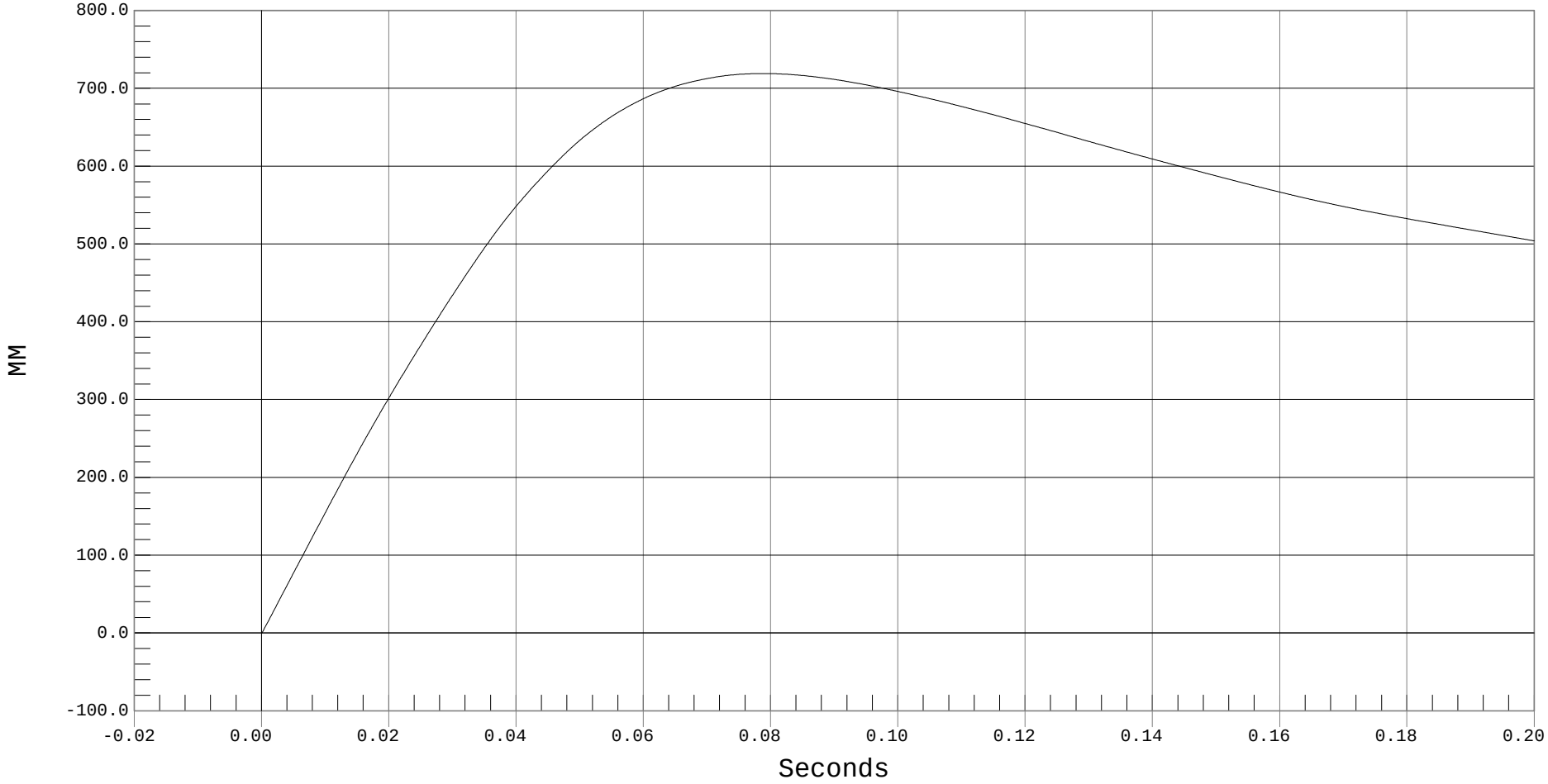
LEFT REAR SEAT CROSSMEMBER X DISPLACEMENT

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 LEFT REAR SEAT CROSSMEMBER X DISPLACEMENT, b01036AI.D59

Ymin = 0 MM @ 0.0000 Seconds, Ymax = 718.94 MM @ 0.0786 Seconds



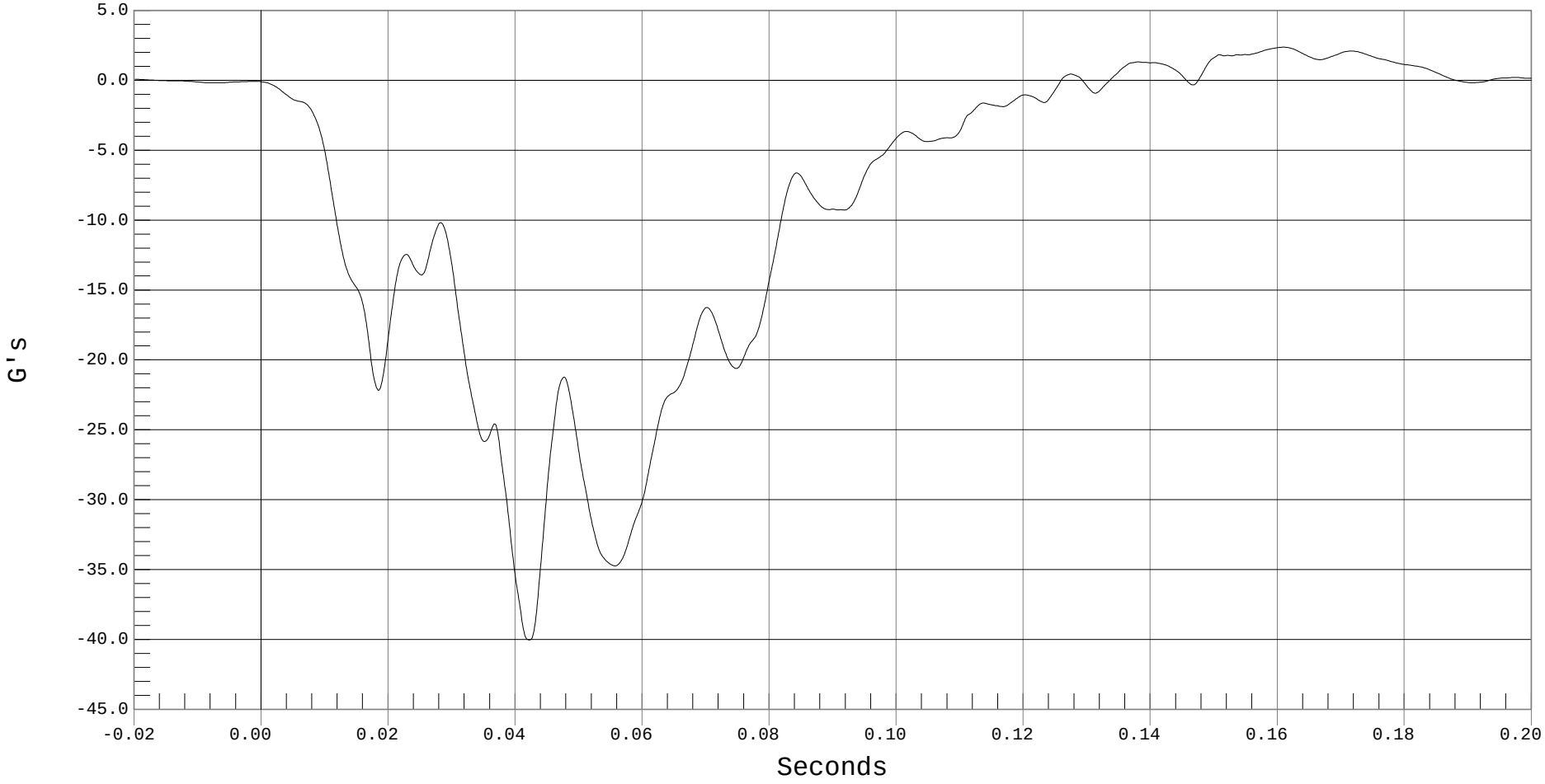
RIGHT REAR SEAT CROSSMEMBER X ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 60

1 RIGHT REAR SEAT CROSSMEMBER X, b01036AF.A58

Ymin = -40.04 G's @ 0.0422 Seconds, Ymax = 2.37 G's @ 0.1610 Seconds



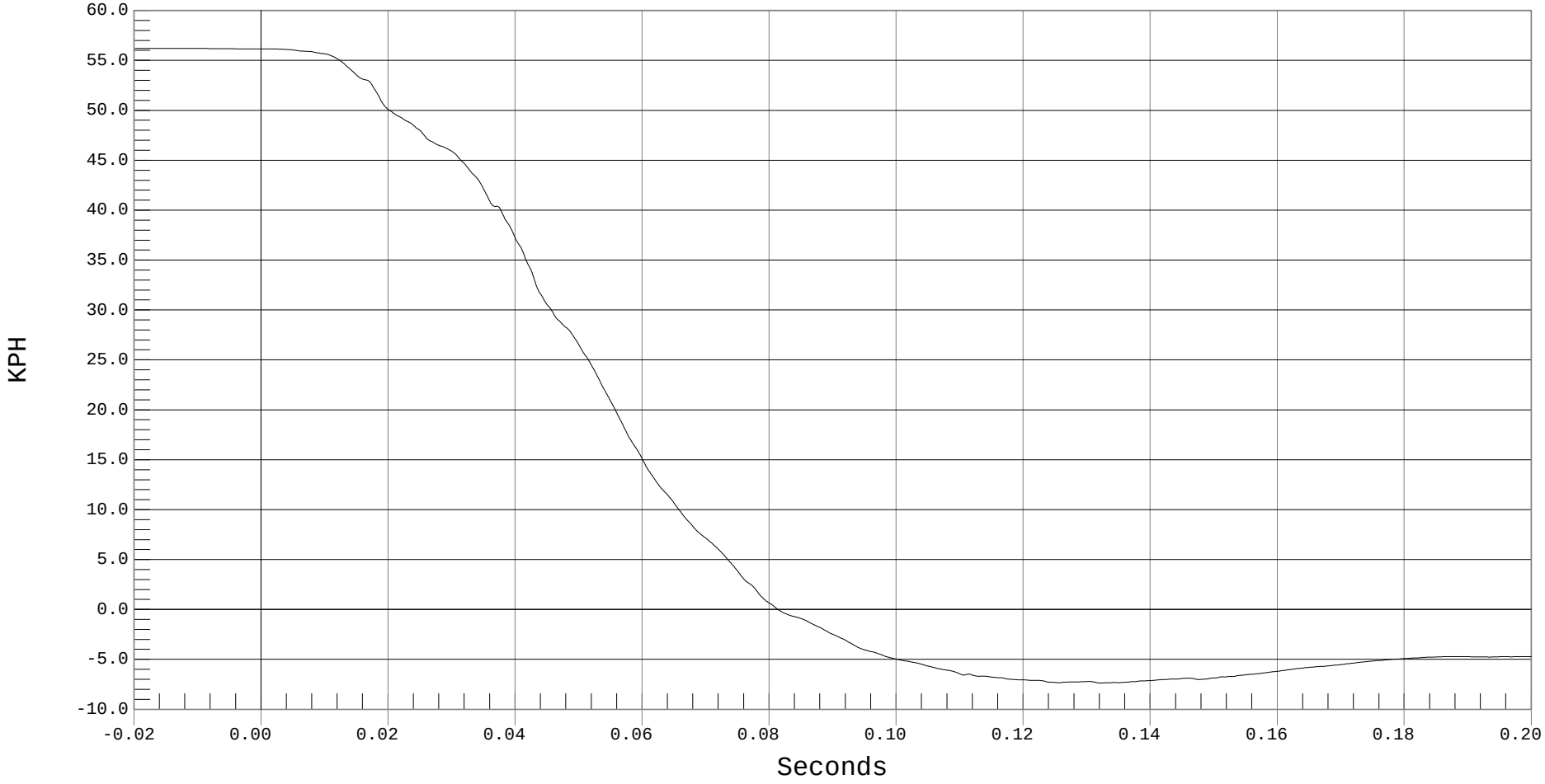
RIGHT REAR SEAT CROSSMEMBER X VELOCITY

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 RIGHT REAR SEAT CROSSMEMBER X VELOCITY, b01036AI.V58

Ymin = -7.37 KPH @ 0.1321 Seconds, Ymax = 56.21 KPH @ -0.0157 Seconds



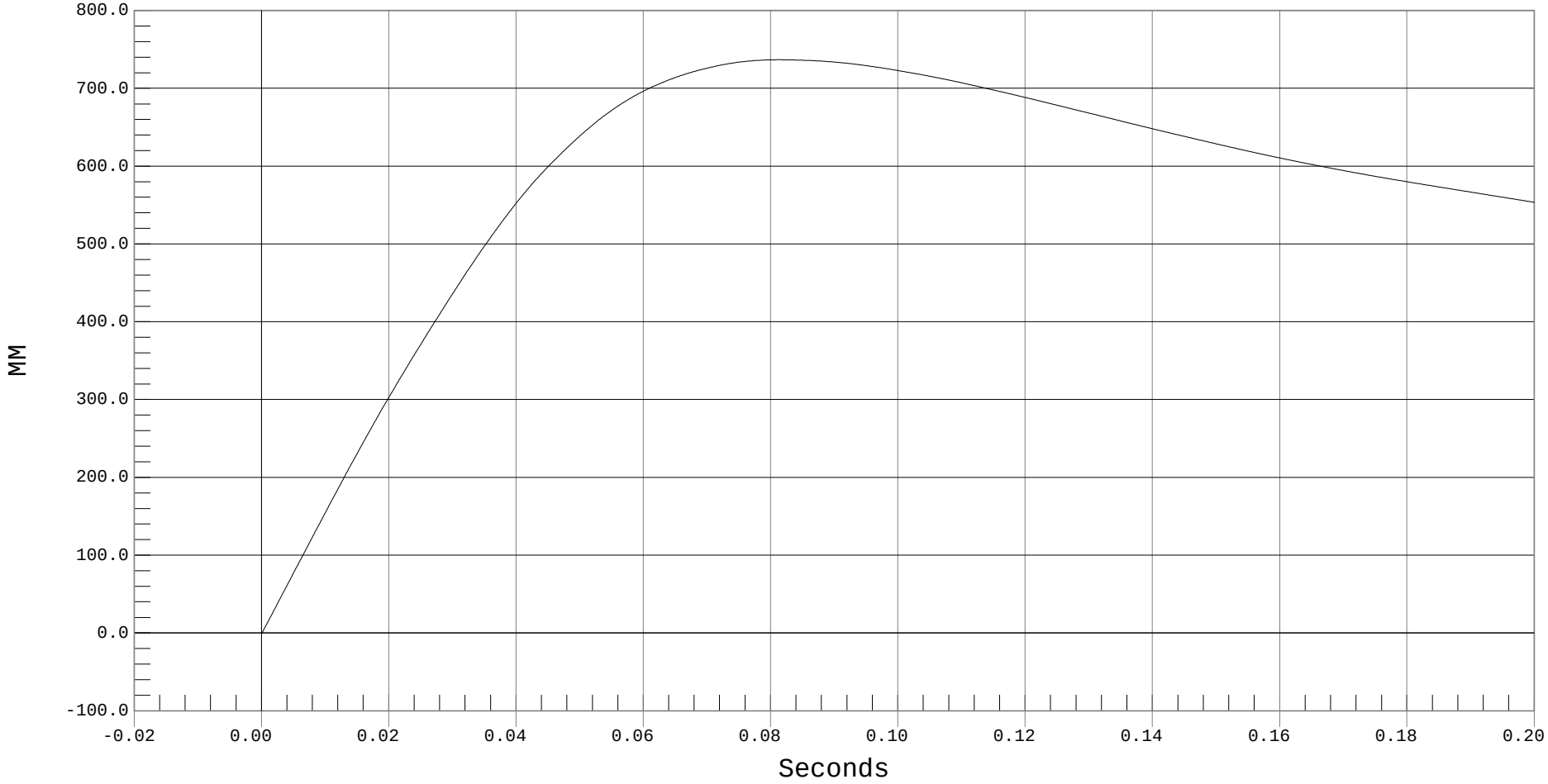
RIGHT REAR SEAT CROSSMEMBER X DISPLACEMENT

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 RIGHT REAR SEAT CROSSMEMBER X DISPLACEMENT, b01036AI.D58

Ymin = 0 MM @ 0.0000 Seconds, Ymax = 736.66 MM @ 0.0812 Seconds



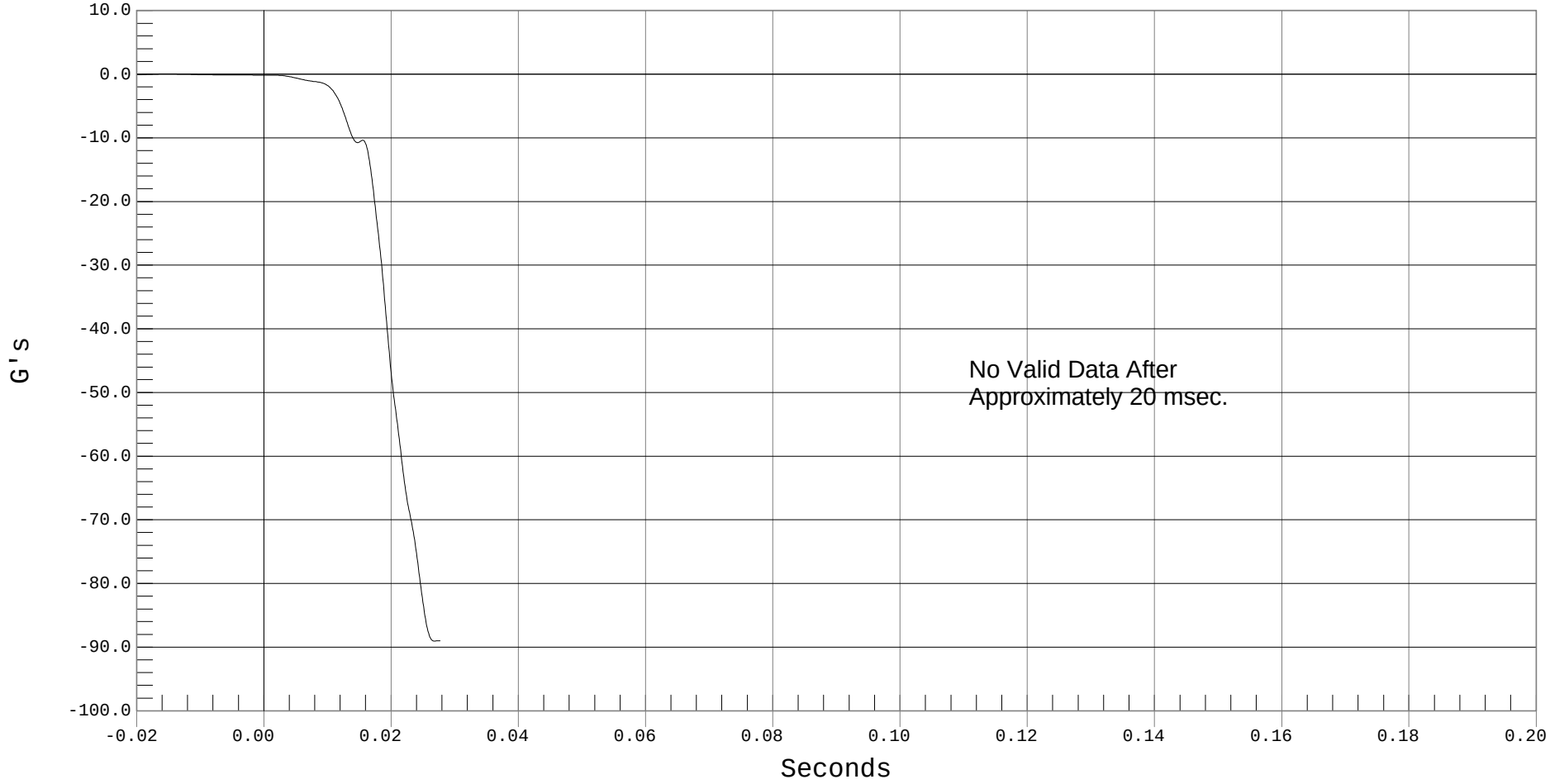
UPPER ENGINE X ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 60

1 ENGINE UPPER X, b01036AF.A55

Ymin = -89.06 G's @ 0.0267 Seconds, Ymax = .04 G's @ -0.0154 Seconds



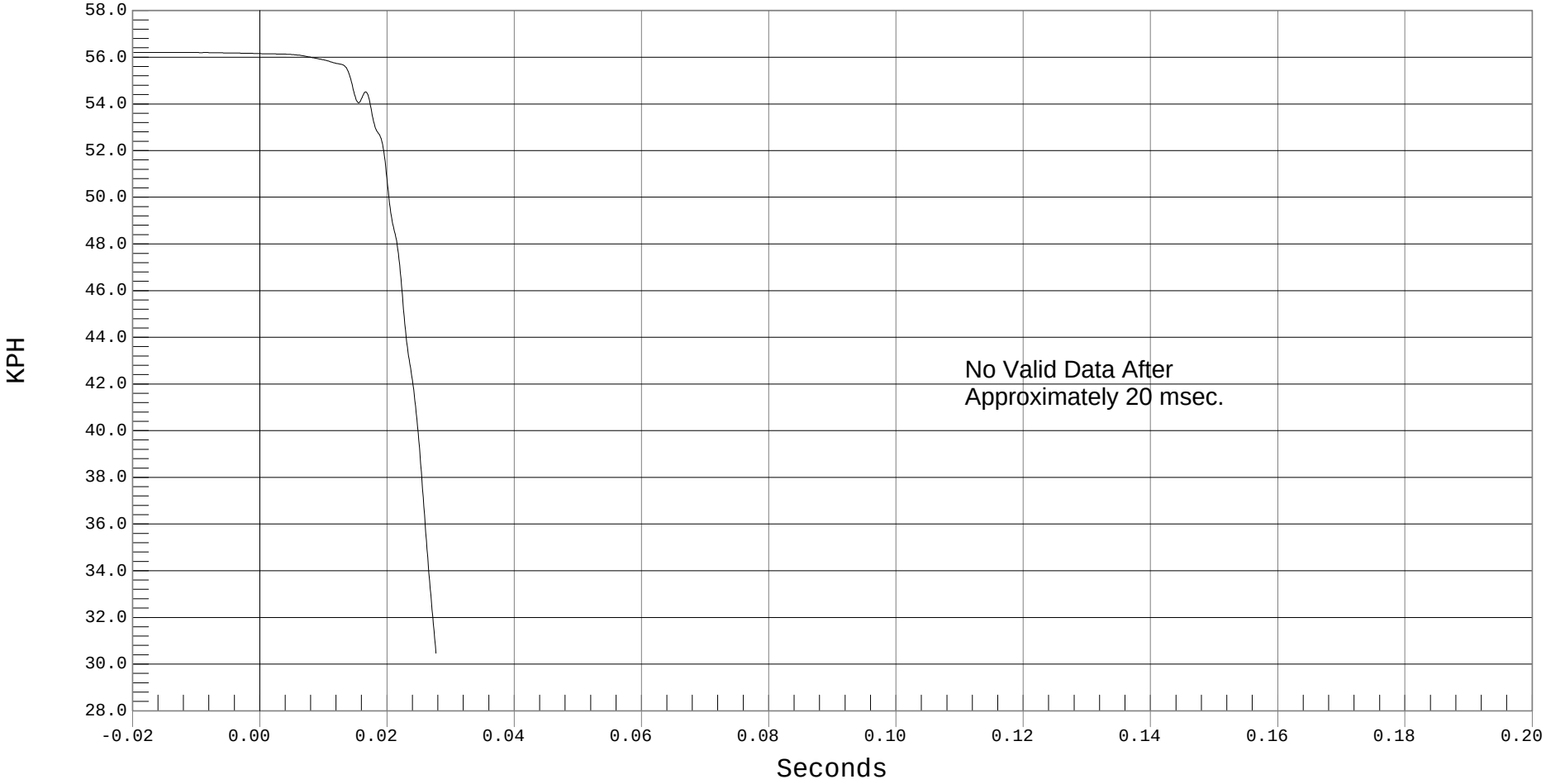
UPPER ENGINE X VELOCITY

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 TOP OF ENGINE BLOCK X VELOCITY, b01036AI.V55

Ymin = 30.47 KPH @ 0.0276 Seconds, Ymax = 56.2 KPH @ -0.0110 Seconds



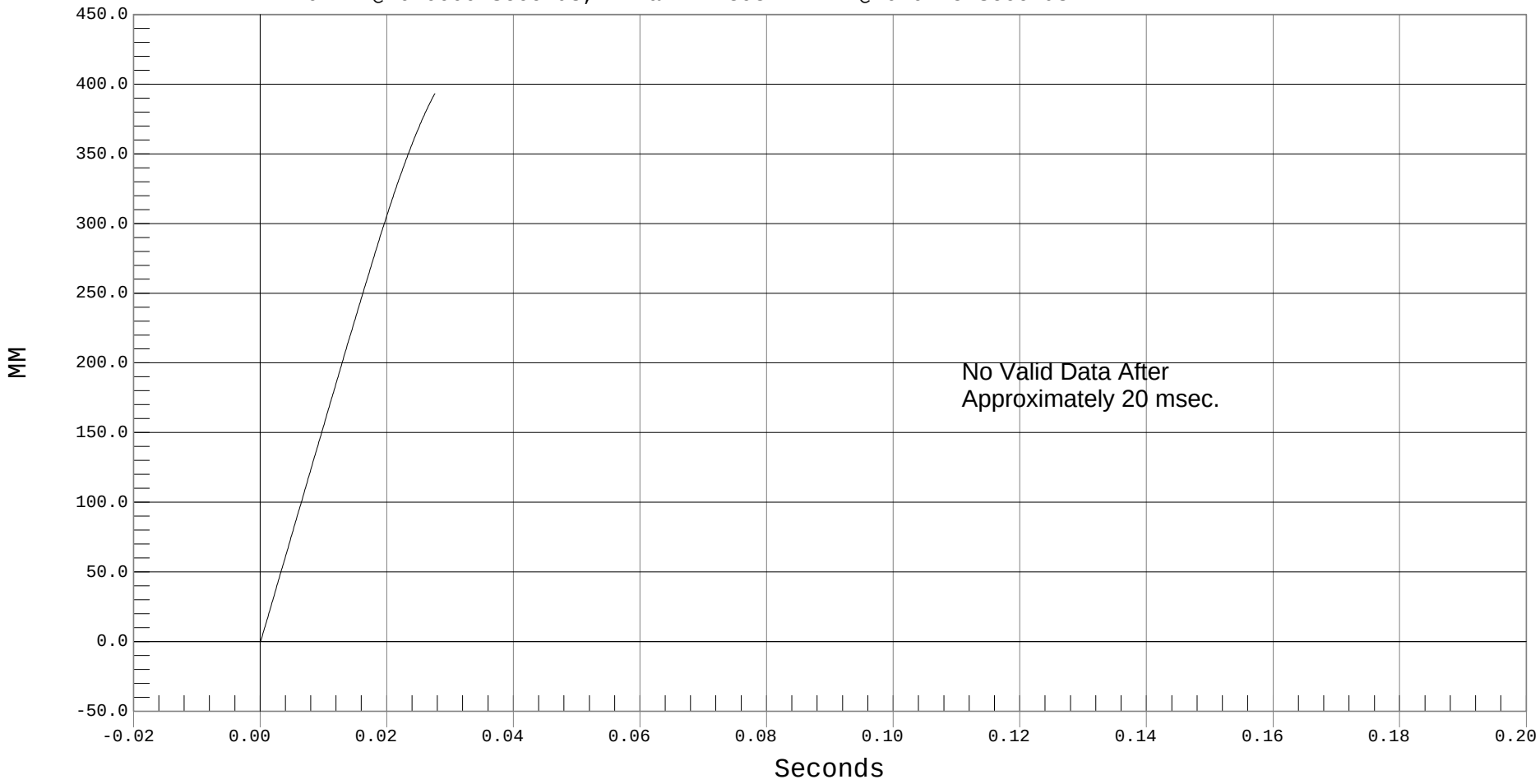
UPPER ENGINE X DISPLACEMENT

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 TOP OF ENGINE BLOCK X DISPLACEMENT, b01036AI.D55

Ymin = 0 MM @ 0.0000 Seconds, Ymax = 393.27 MM @ 0.0275 Seconds



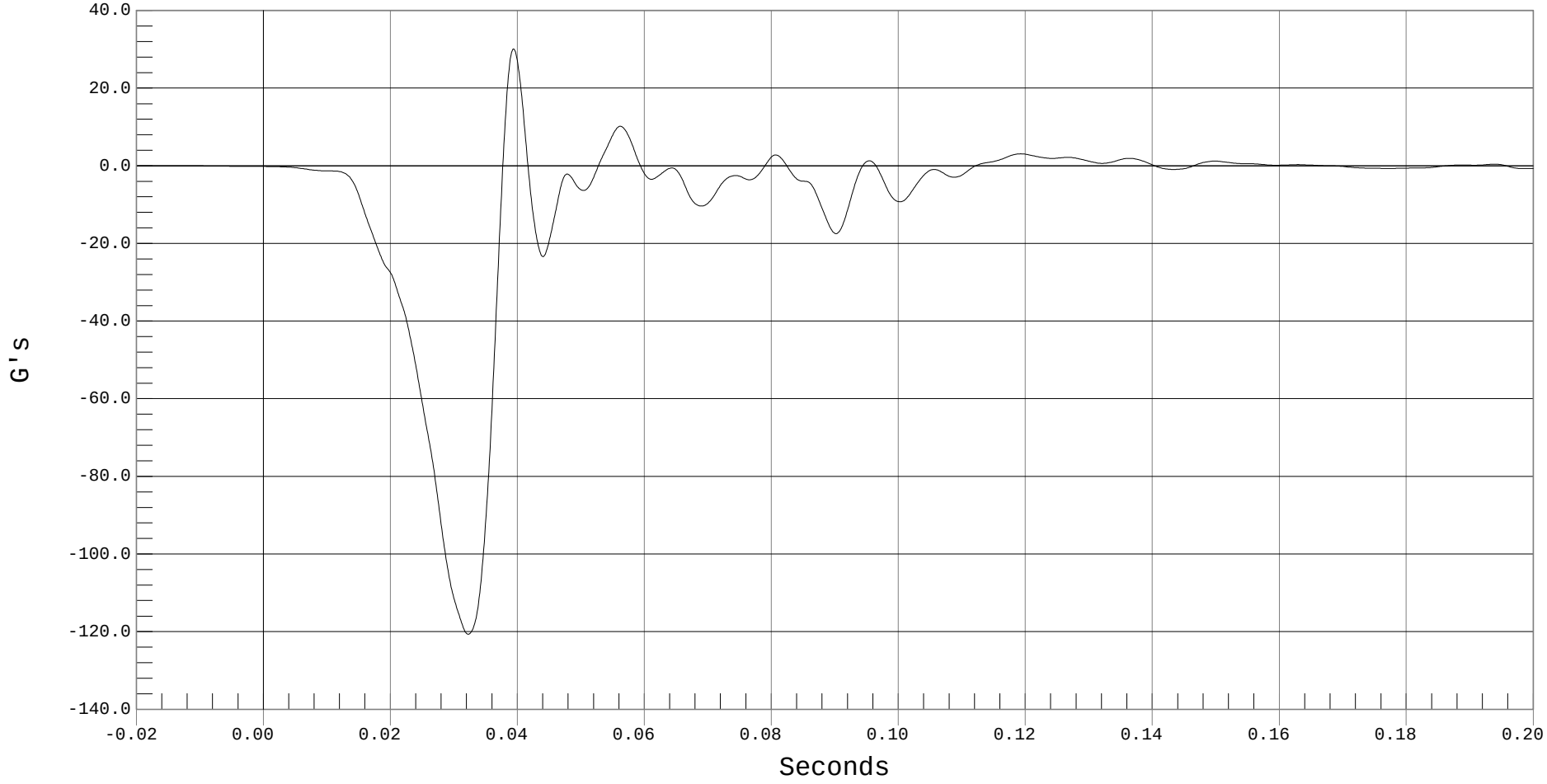
LOWER ENGINE X ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 60

1 ENGINE LOWER X, b01036AF.A56

Ymin = -120.67 G's @ 0.0322 Seconds, Ymax = 30.11 G's @ 0.0393 Seconds



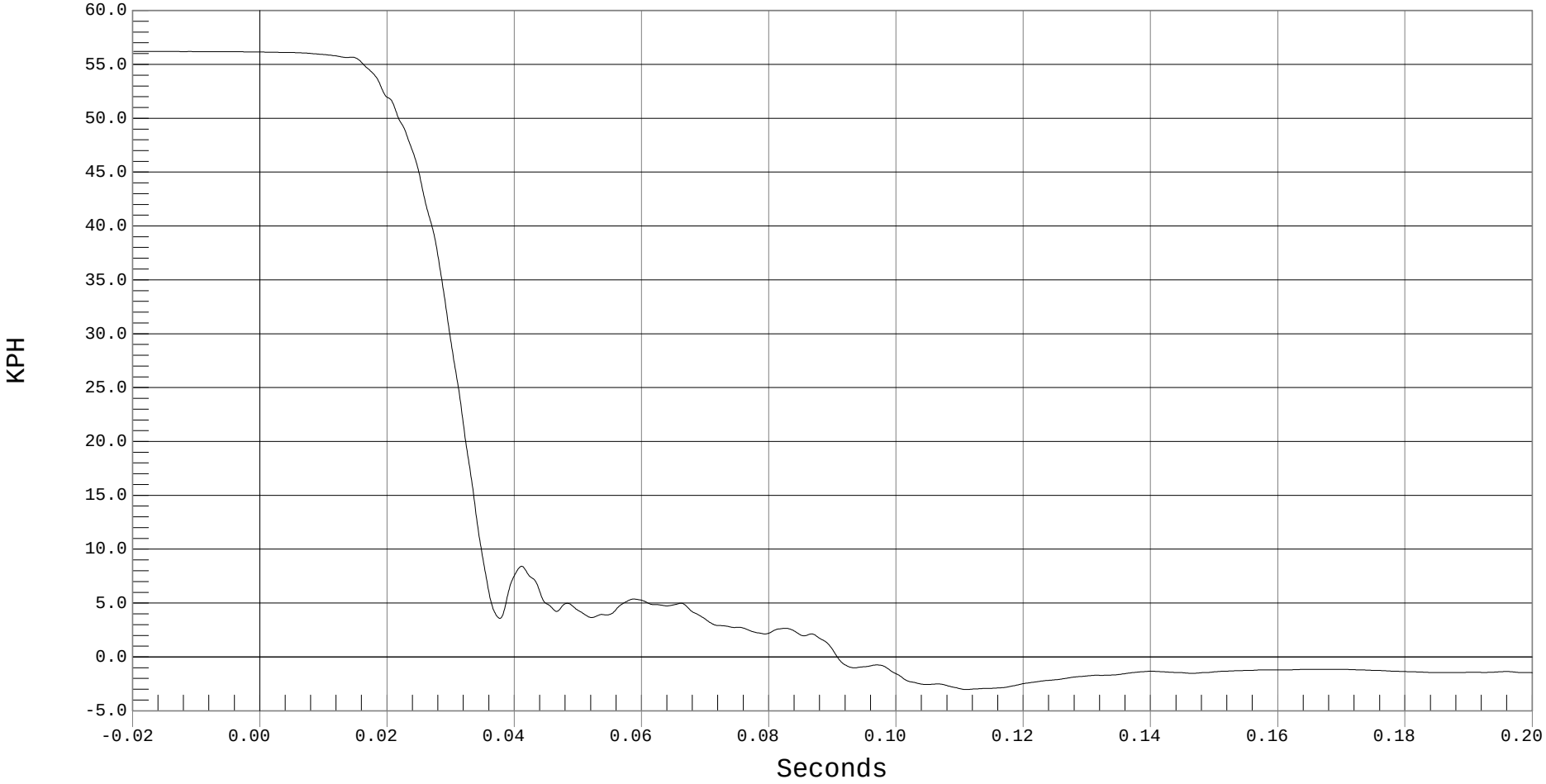
LOWER ENGINE X VELOCITY

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 BOTTOM OF ENGINE X VELOCITY, b01036AI.V56

Ymin = -3.03 KPH @ 0.1109 Seconds, Ymax = 56.2 KPH @ -0.0199 Seconds



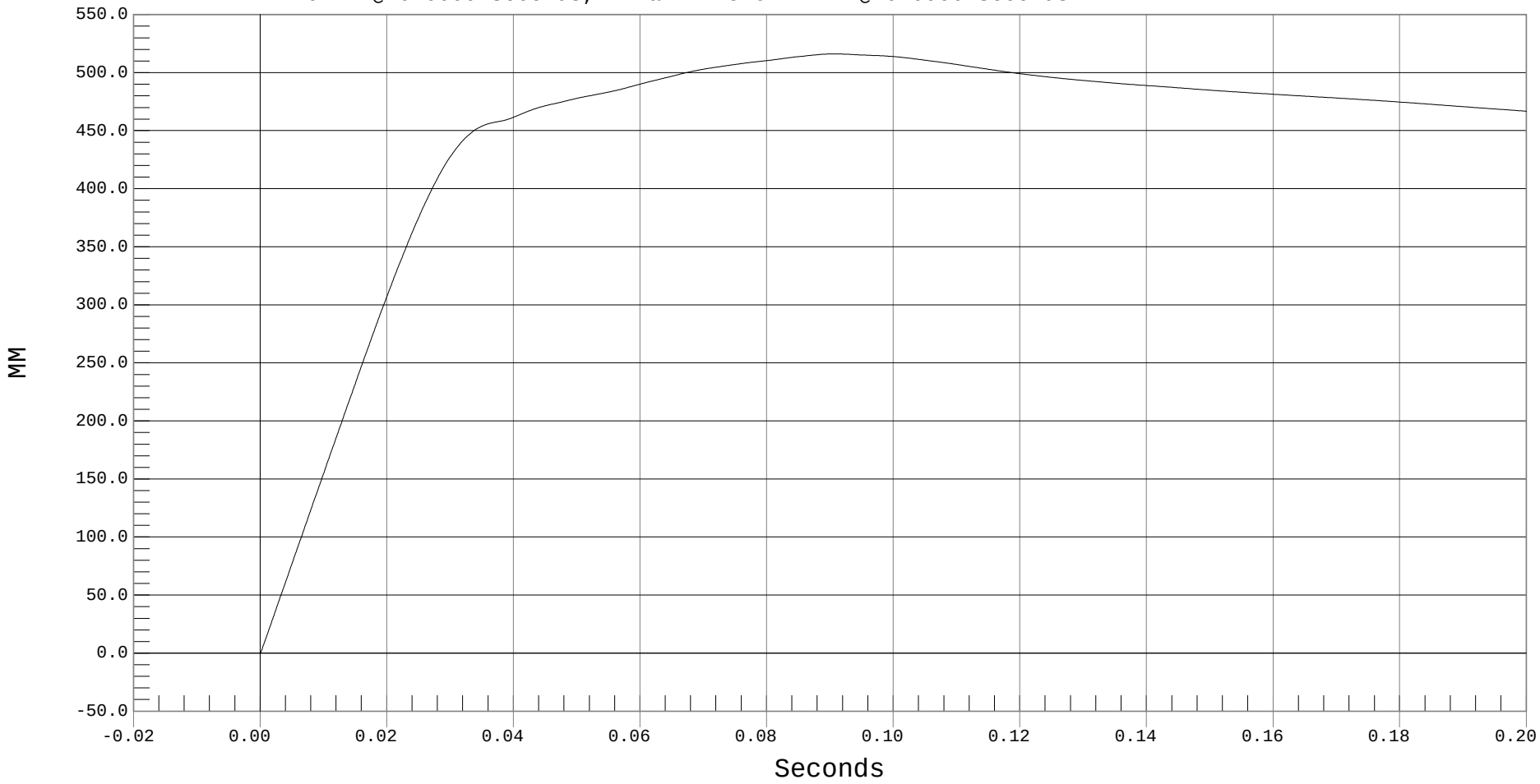
LOWER ENGINE X DISPLACEMENT

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 BOTTOM OF ENGINE X DISPLACEMENT, b01036AI.D56

Ymin = 0 MM @ 0.0000 Seconds, Ymax = 516.17 MM @ 0.0906 Seconds



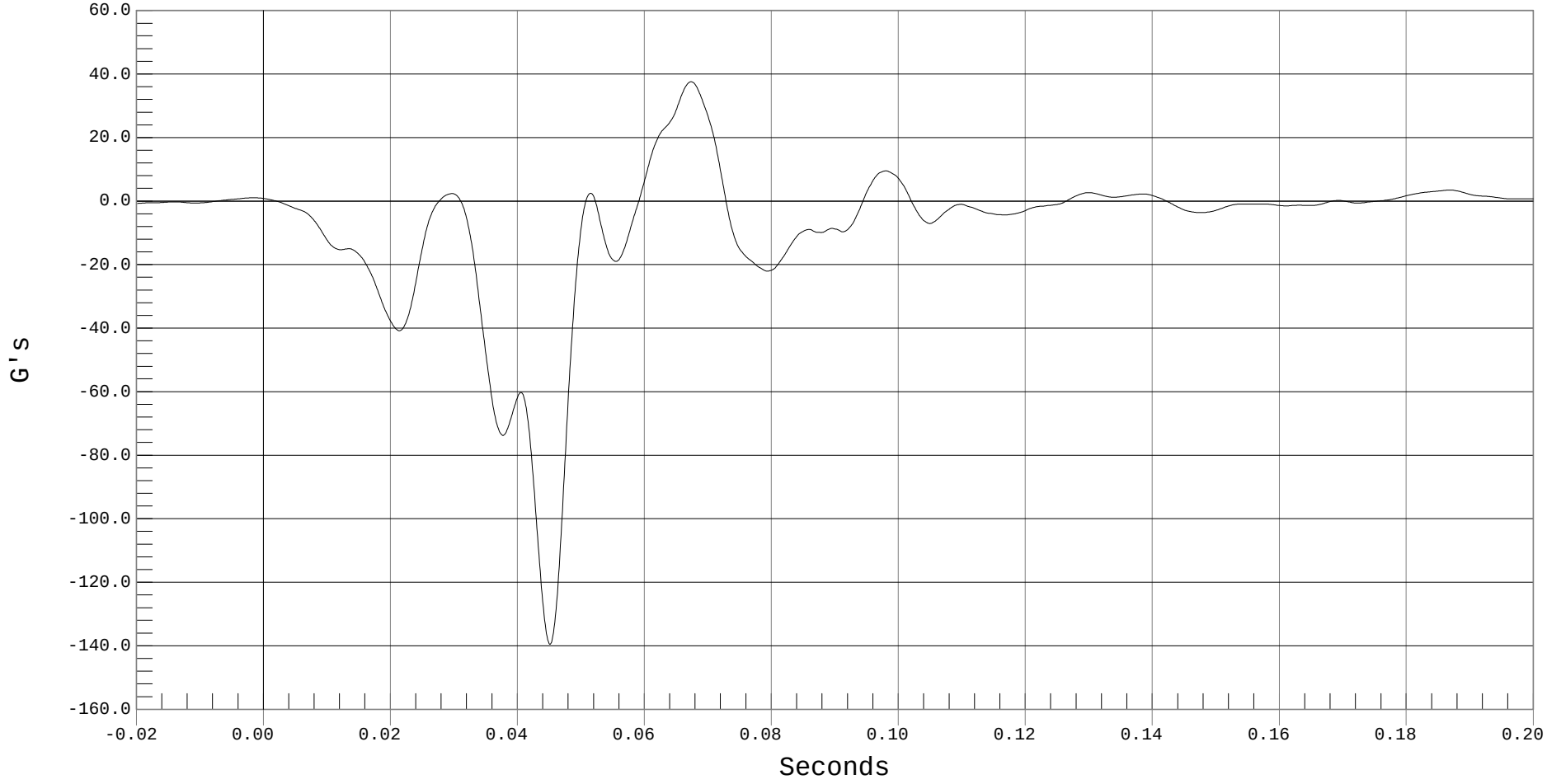
LEFT BRAKE CALIPER X ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 60

1 LEFT BRAKE CALIPER X, b01036AF.A61

Ymin = -139.52 G's @ 0.0451 Seconds, Ymax = 37.57 G's @ 0.0673 Seconds



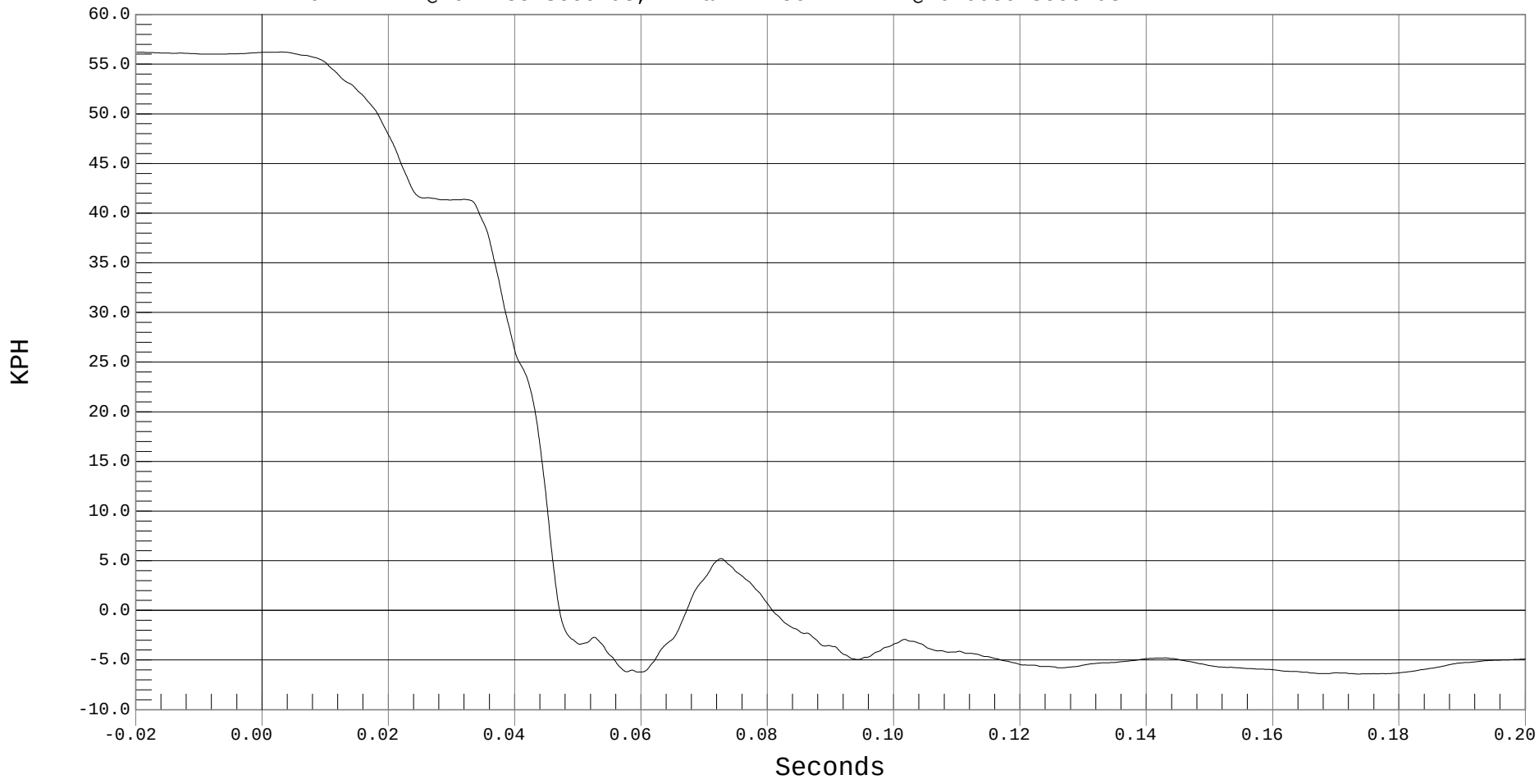
LEFT BRAKE CALIPER X VELOCITY

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 LEFT BRAKE CALIPER X VELOCITY, b01036AI.V61

Ymin = -6.41 KPH @ 0.1735 Seconds, Ymax = 56.22 KPH @ 0.0030 Seconds



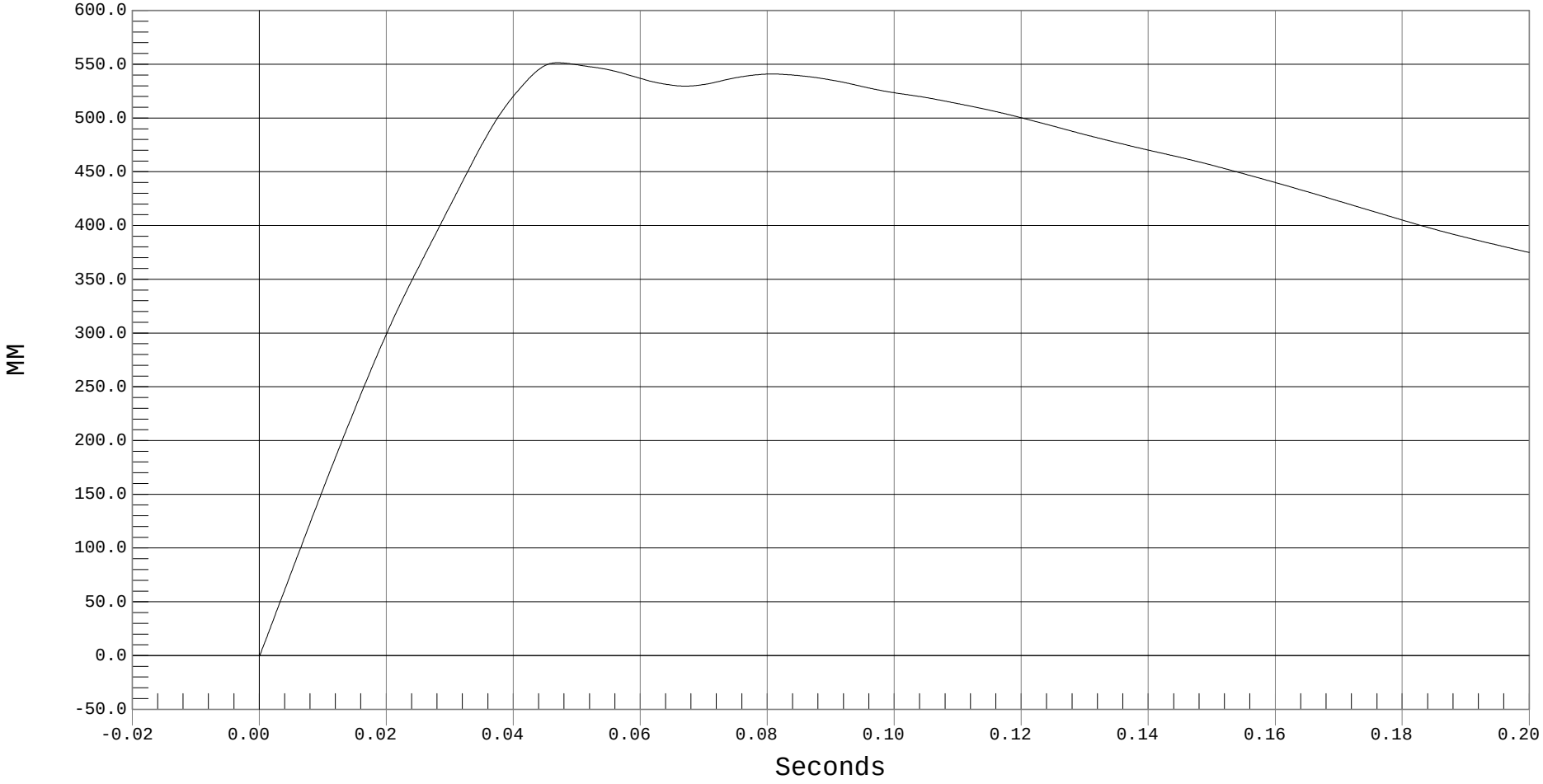
LEFT BRAKE CALIPER X DISPLACEMENT

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 LEFT BRAKE CALIPER X DISPLACEMENT, b01036AI.D61

Ymin = 0 MM @ 0.0000 Seconds, Ymax = 551.48 MM @ 0.0469 Seconds



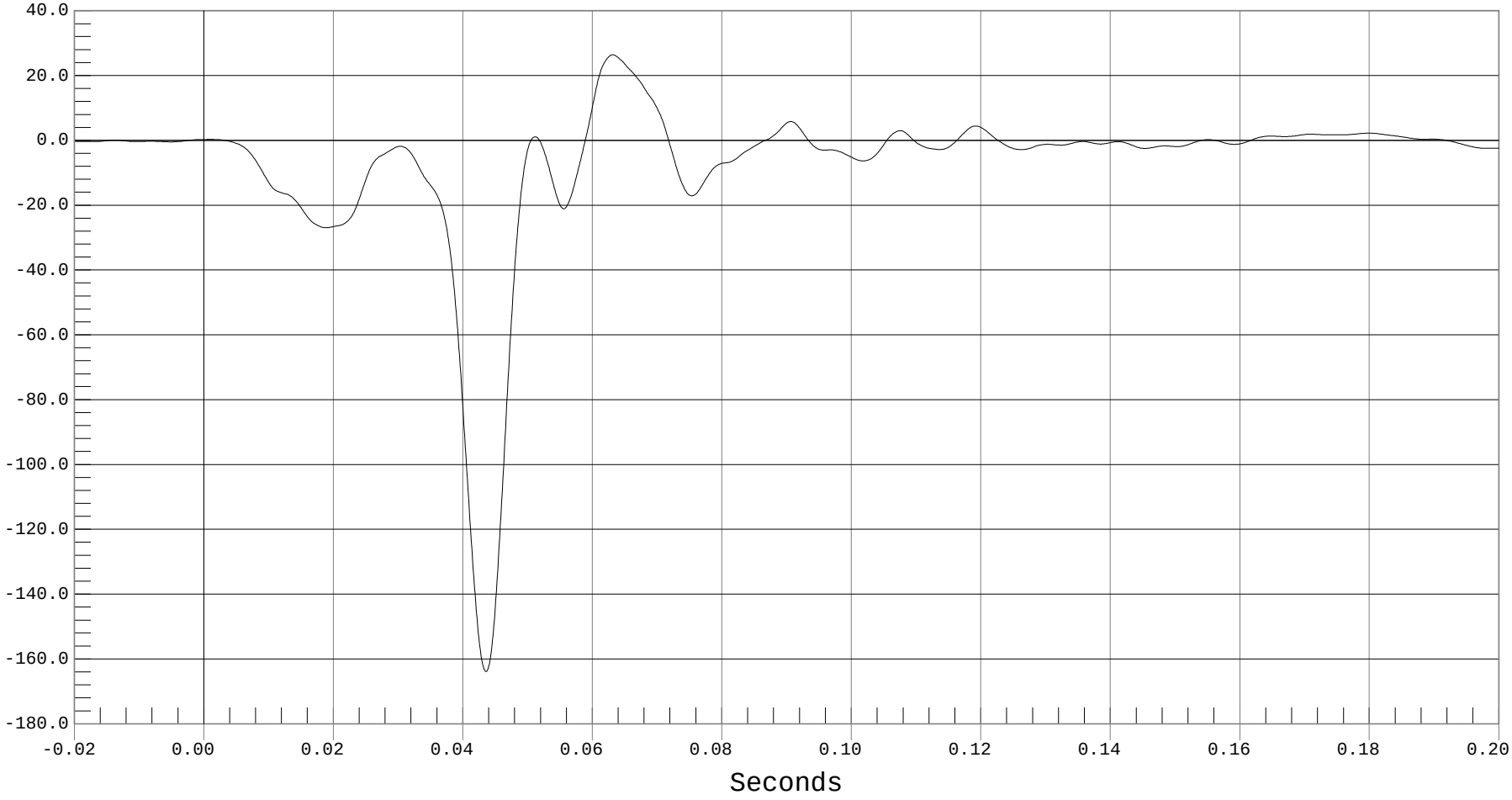
RIGHT BRAKE CALIPER X ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 60

1 RIGHT BRAKE CALIPER X, b01036AF.A60

Ymin = -163.89 @ 0.0435 Seconds, Ymax = 26.42 @ 0.0630 Seconds



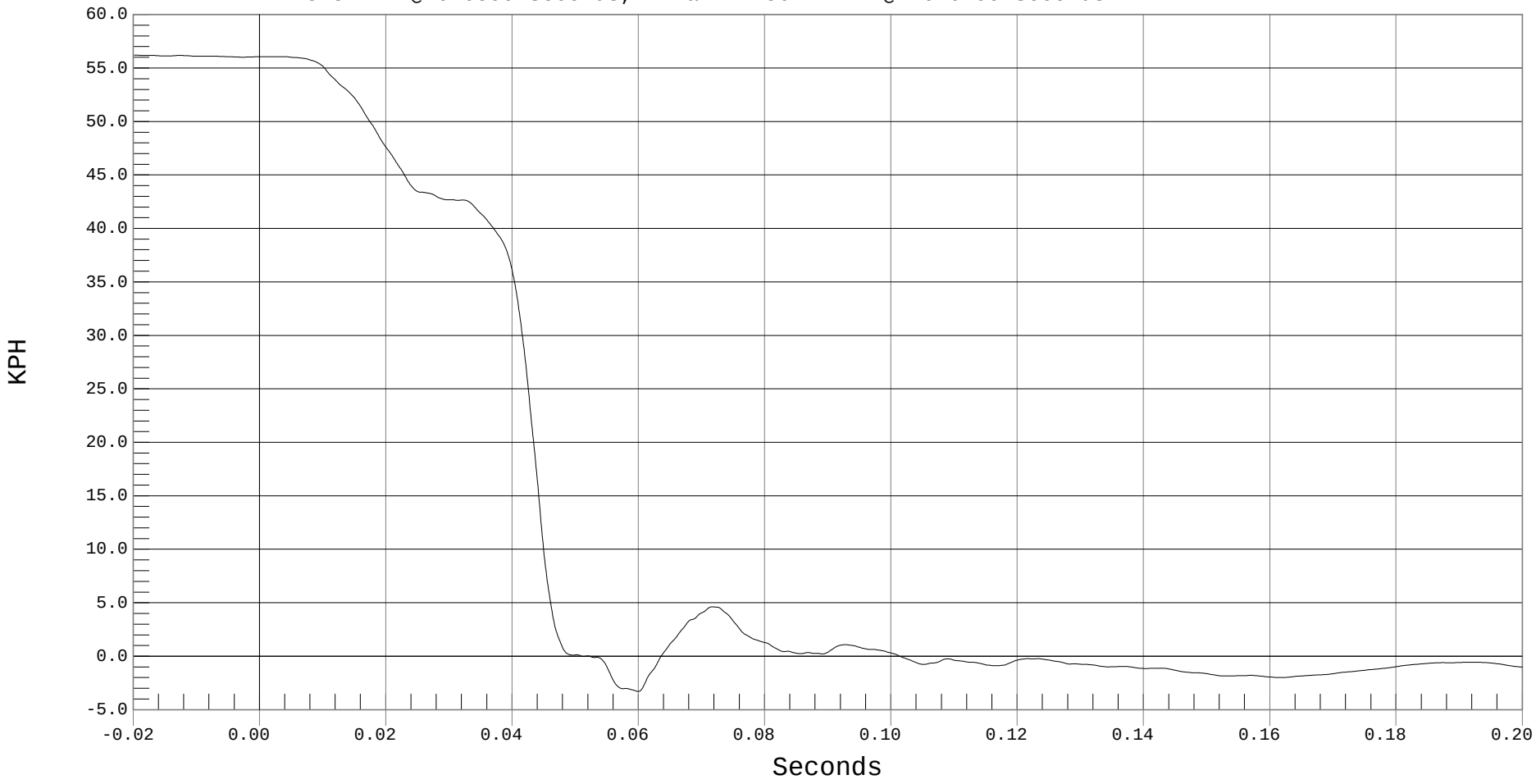
RIGHT BRAKE CALIPER X VELOCITY

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 RIGHT BRAKE CALIPER X VELOCITY, b01036AI.V60

Ymin = -3.3 KPH @ 0.0599 Seconds, Ymax = 56.2 KPH @ -0.0199 Seconds



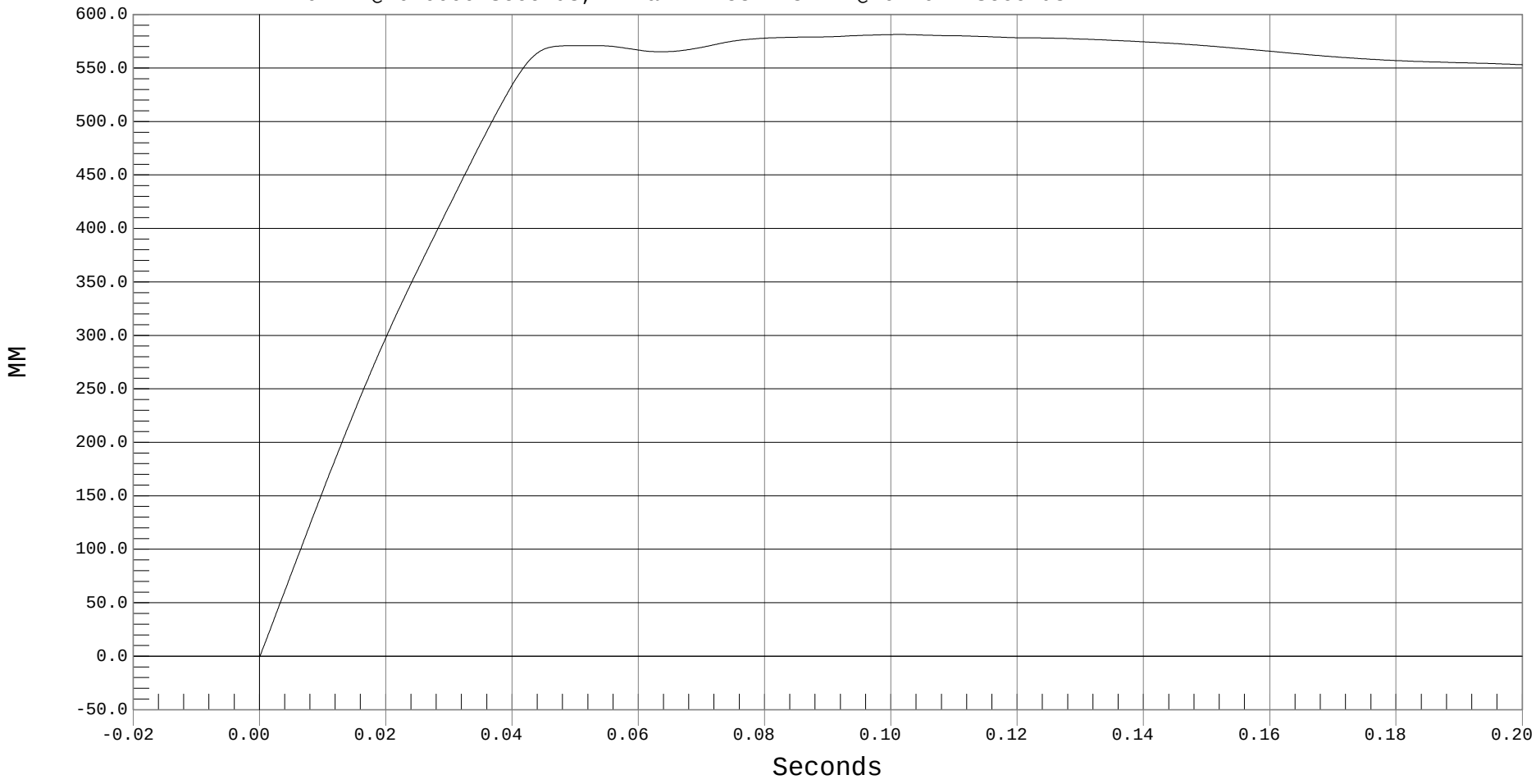
RIGHT BRAKE CALIPER X DISPLACEMENT

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 RIGHT BRAKE CALIPER X DISPLACEMENT, b01036AI.D60

Ymin = 0 MM @ 0.0000 Seconds, Ymax = 581.28 MM @ 0.1012 Seconds



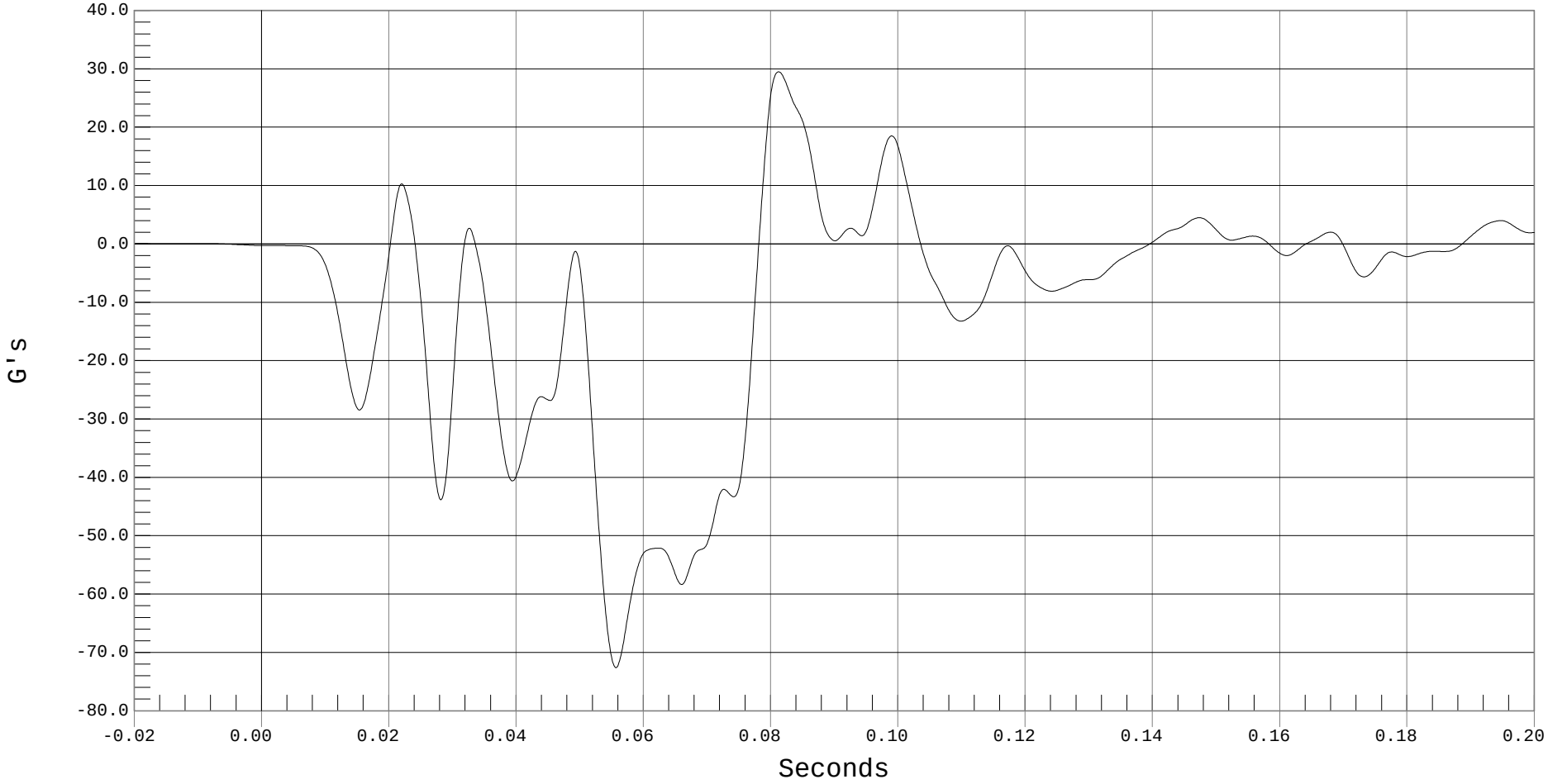
INSTRUMENT PANEL X ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 60

1 INSTRUMENT PANEL X, b01036AF.A57

Ymin = -72.61 G's @ 0.0556 Seconds, Ymax = 29.5 G's @ 0.0812 Seconds



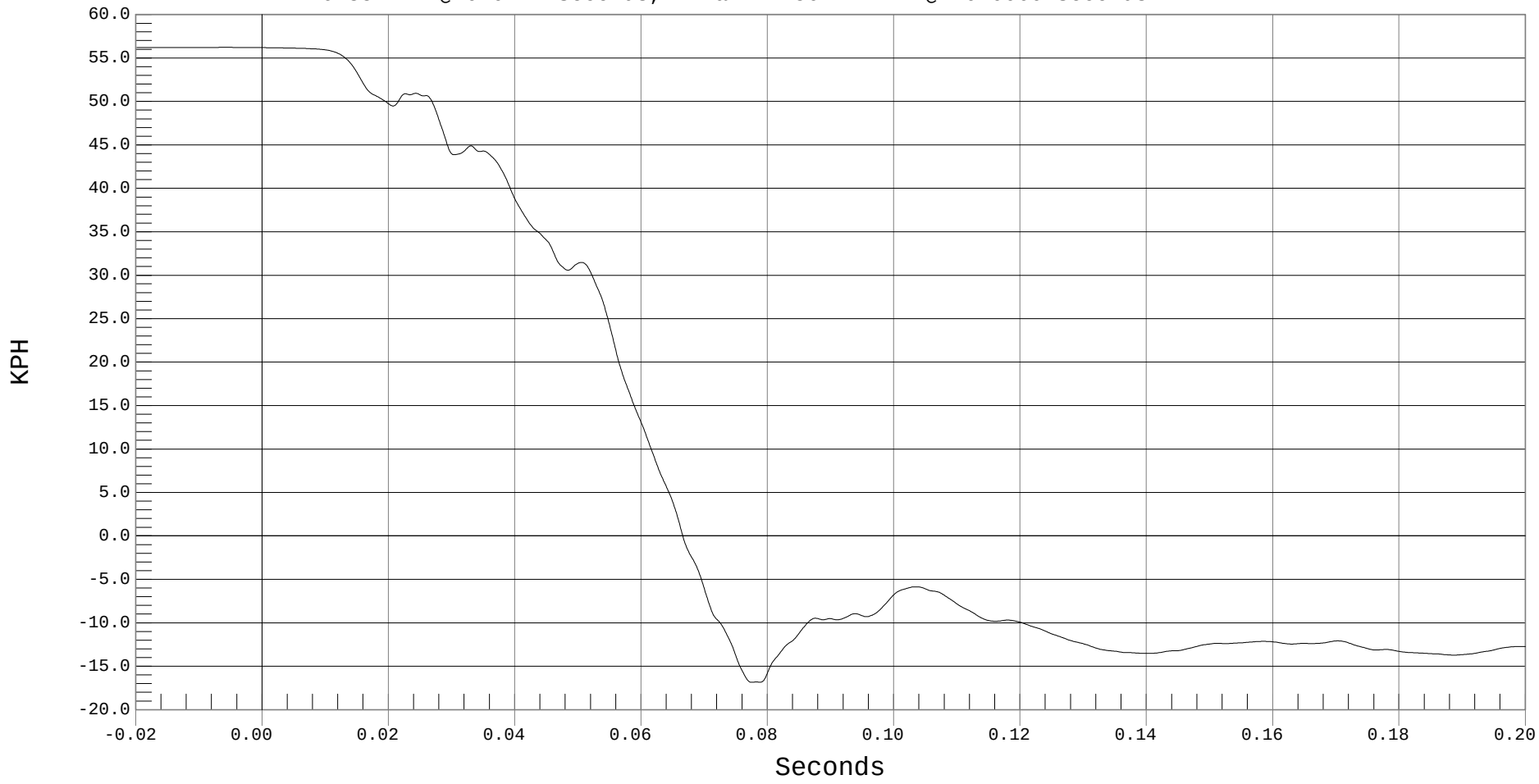
INSTRUMENT PANEL X VELOCITY

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 INSTRUMENT PANEL X VELOCITY, b01036AI.V57

Ymin = -16.85 KPH @ 0.0774 Seconds, Ymax = 56.22 KPH @ -0.0060 Seconds



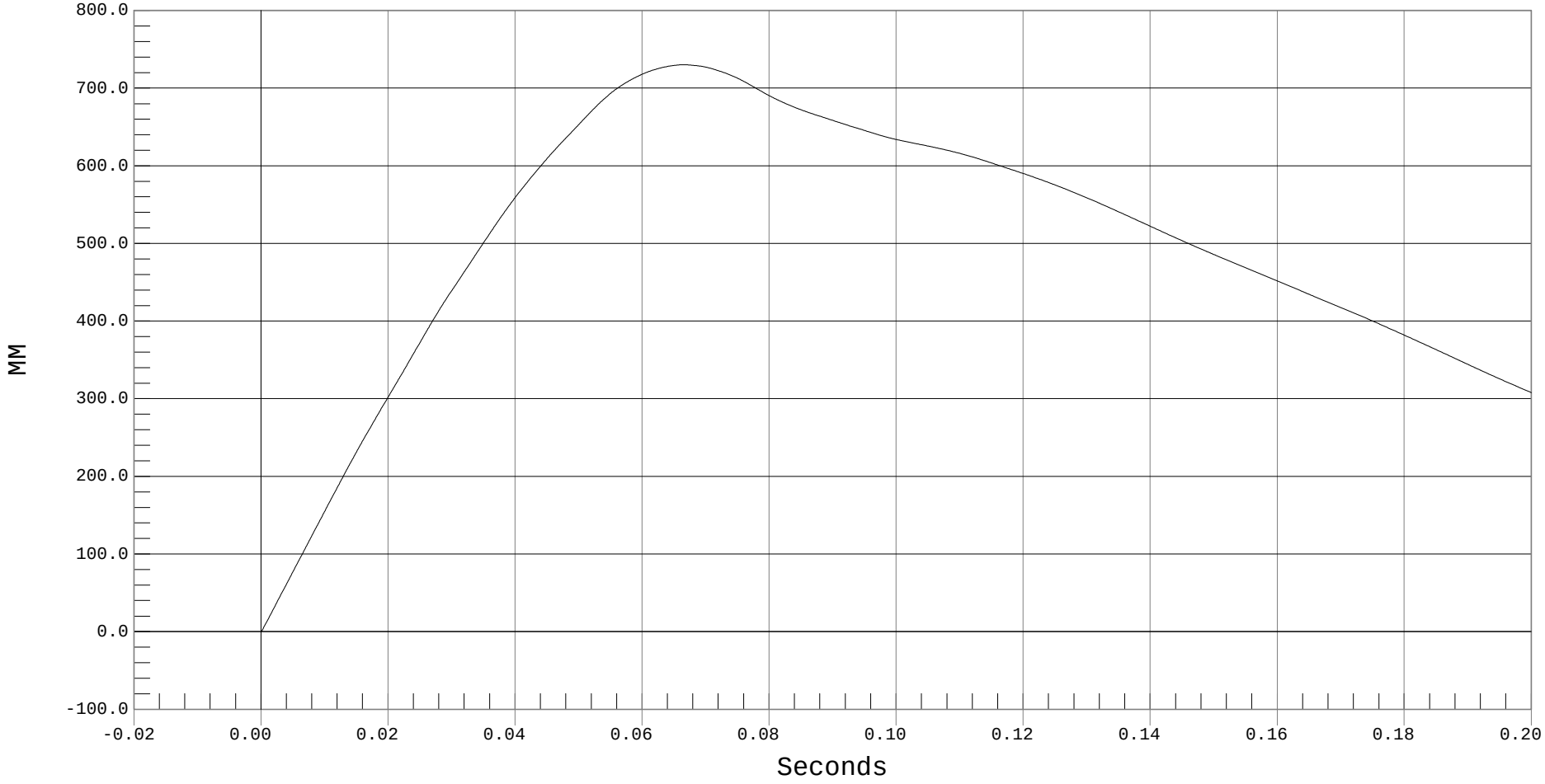
INSTRUMENT PANEL X DISPLACEMENT

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 INSTRUMENT PANEL X DISPLACEMENT, b01036AI.D57

Ymin = 0 MM @ 0.0000 Seconds, Ymax = 730.02 MM @ 0.0664 Seconds



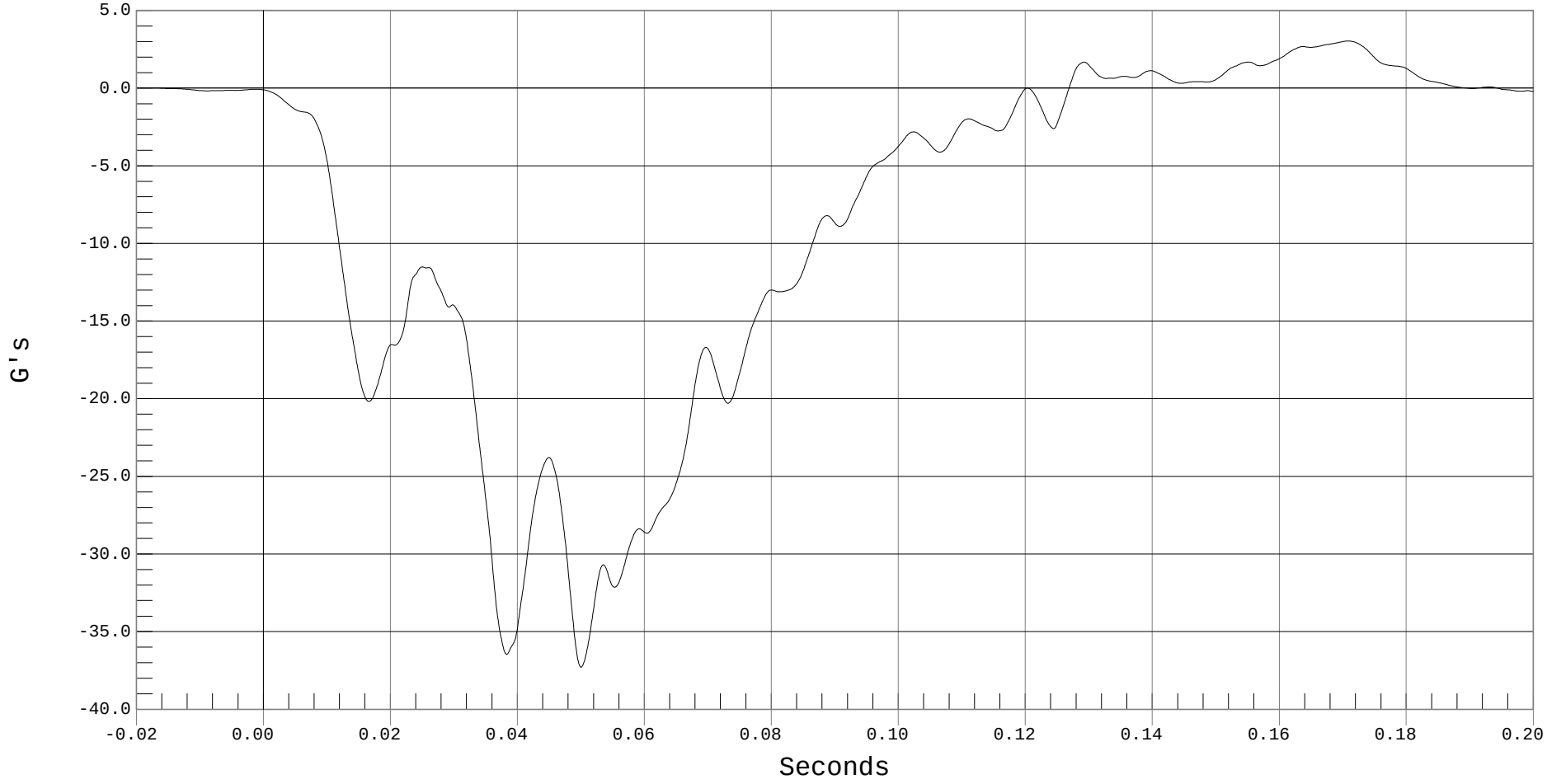
LEFT REAR SEAT CROSSMEMBER REDUNDANT X ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 60

1 LEFT REAR SEAT X-MEMBER Xr, b01036AF.A03

Ymin = -37.28 G's @ 0.0499 Seconds, Ymax = 3.03 G's @ 0.1707 Seconds



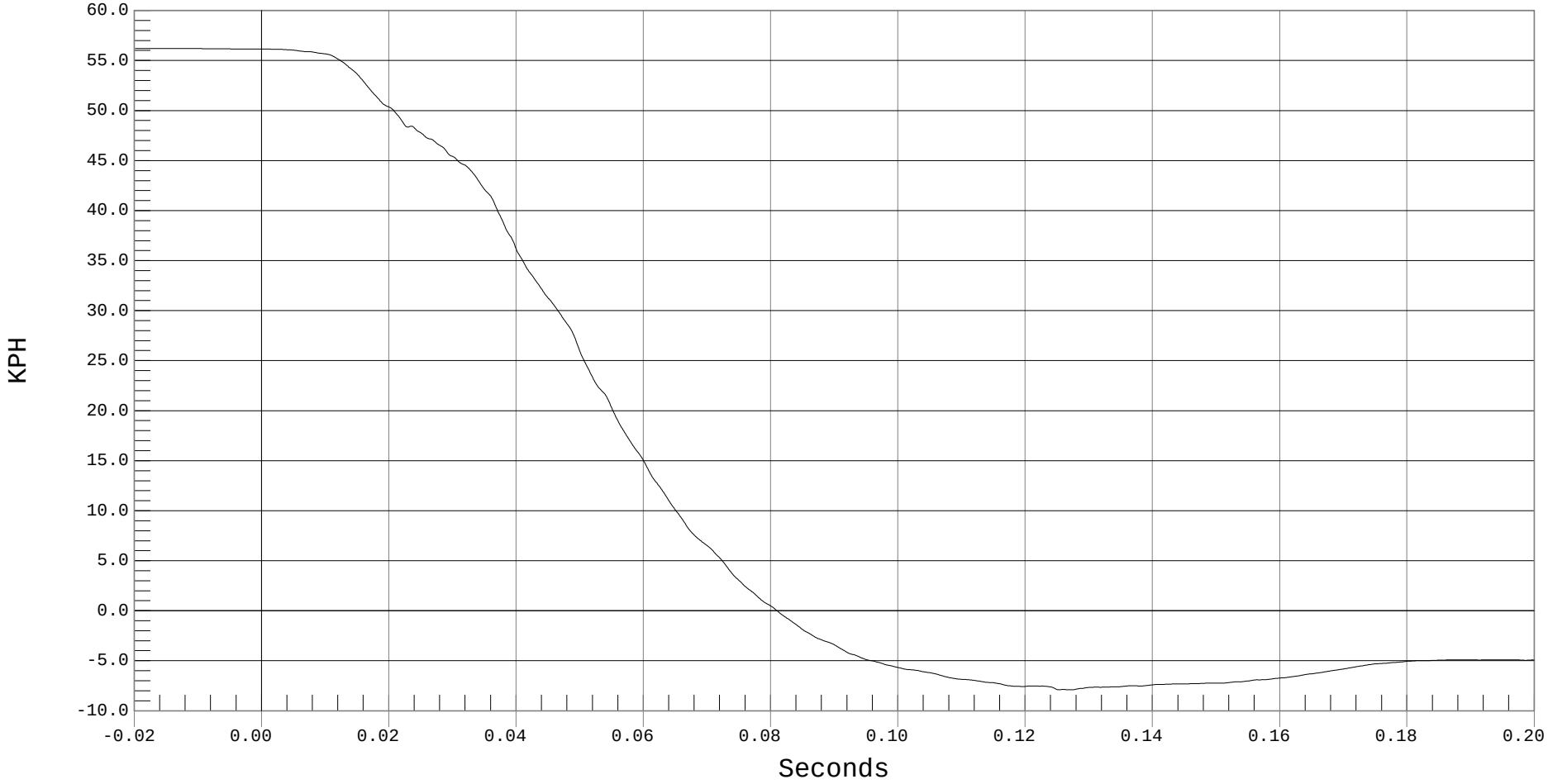
LEFT REAR SEAT CROSSMEMBER REDUNDANT X VELOCITY

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 LEFT REAR SEAT CROSSMEMBER REDUNDANT X VELOCITY, b01036AI.V03

Ymin = -7.9 KPH @ 0.1252 Seconds, Ymax = 56.2 KPH @ -0.0165 Seconds



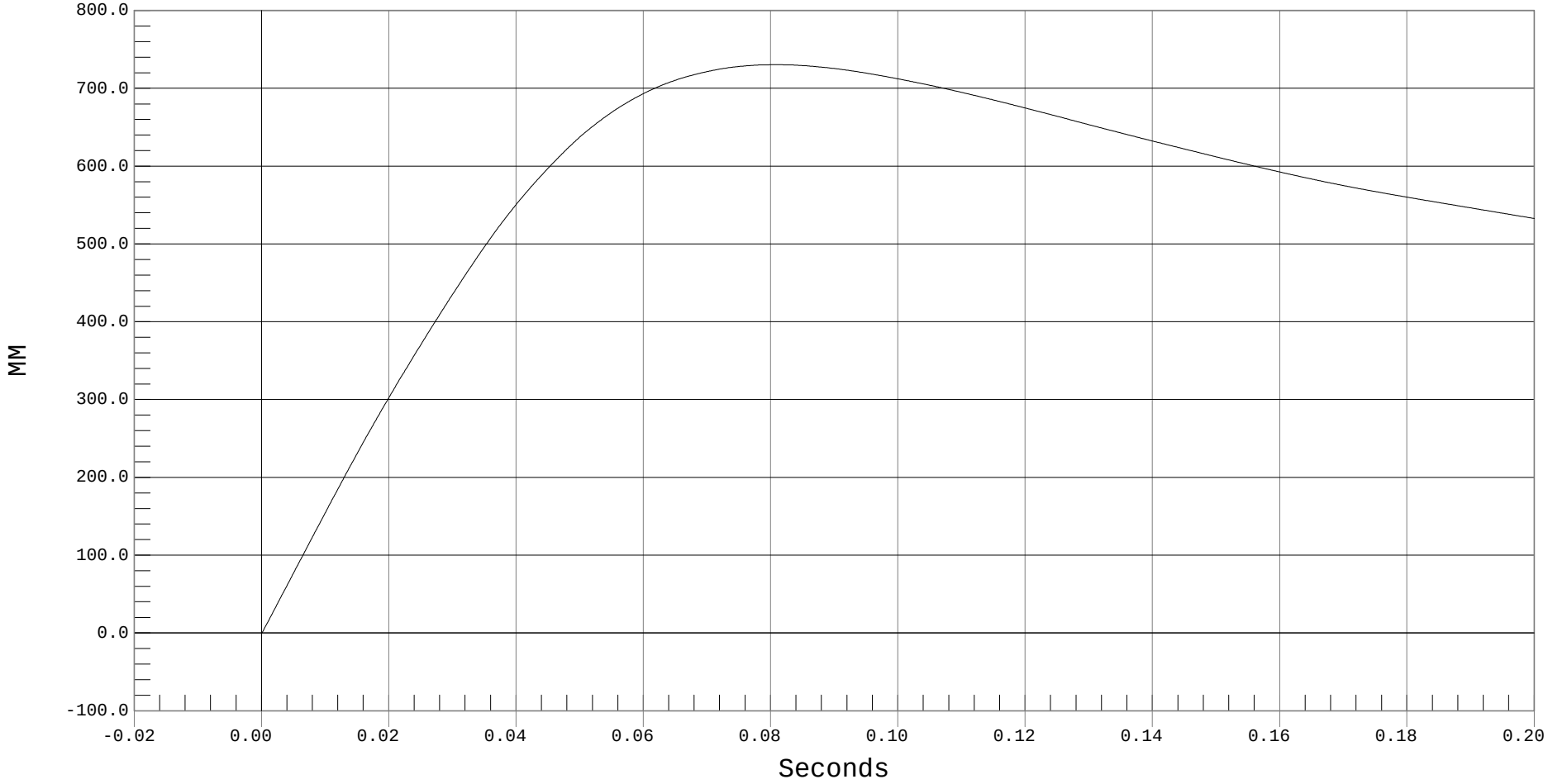
LEFT REAR SEAT CROSSMEMBER REDUNDANT X DISPLACEMENT

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 LEFT REAR SEAT CROSSMEMBER REDUNDANT X DISPLACEMENT, b01036AI.D03

Ymin = 0 MM @ 0.0000 Seconds, Ymax = 730.36 MM @ 0.0808 Seconds



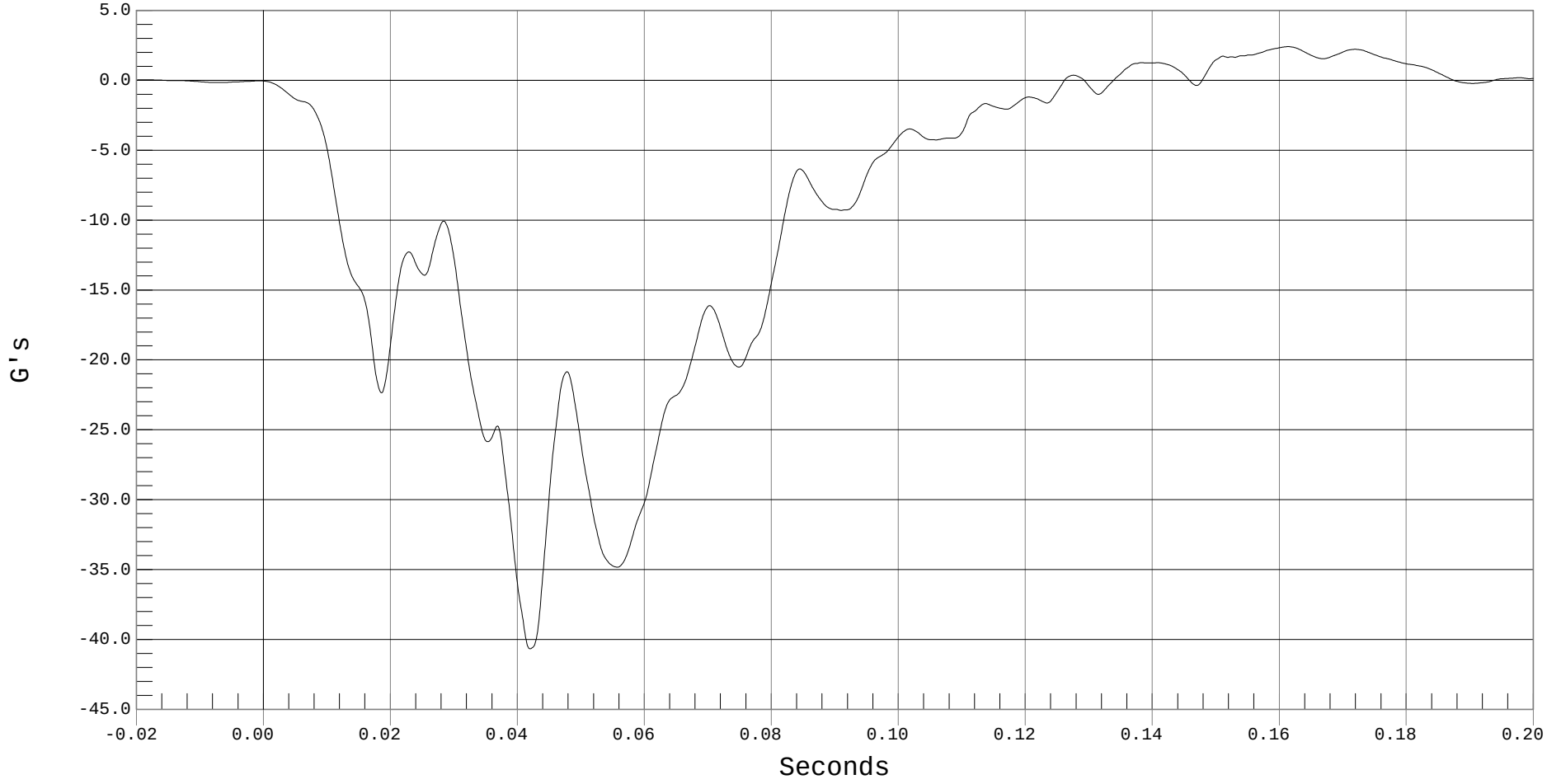
RIGHT REAR SEAT CROSSMEMBER REDUNDANT X ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH

1 RIGHT REAR SEAT X-MEMBER Xr, b01036AF.A02

Ymin = -40.67 G's @ 0.0419 Seconds, Ymax = 2.41 G's @ 0.1613 Seconds



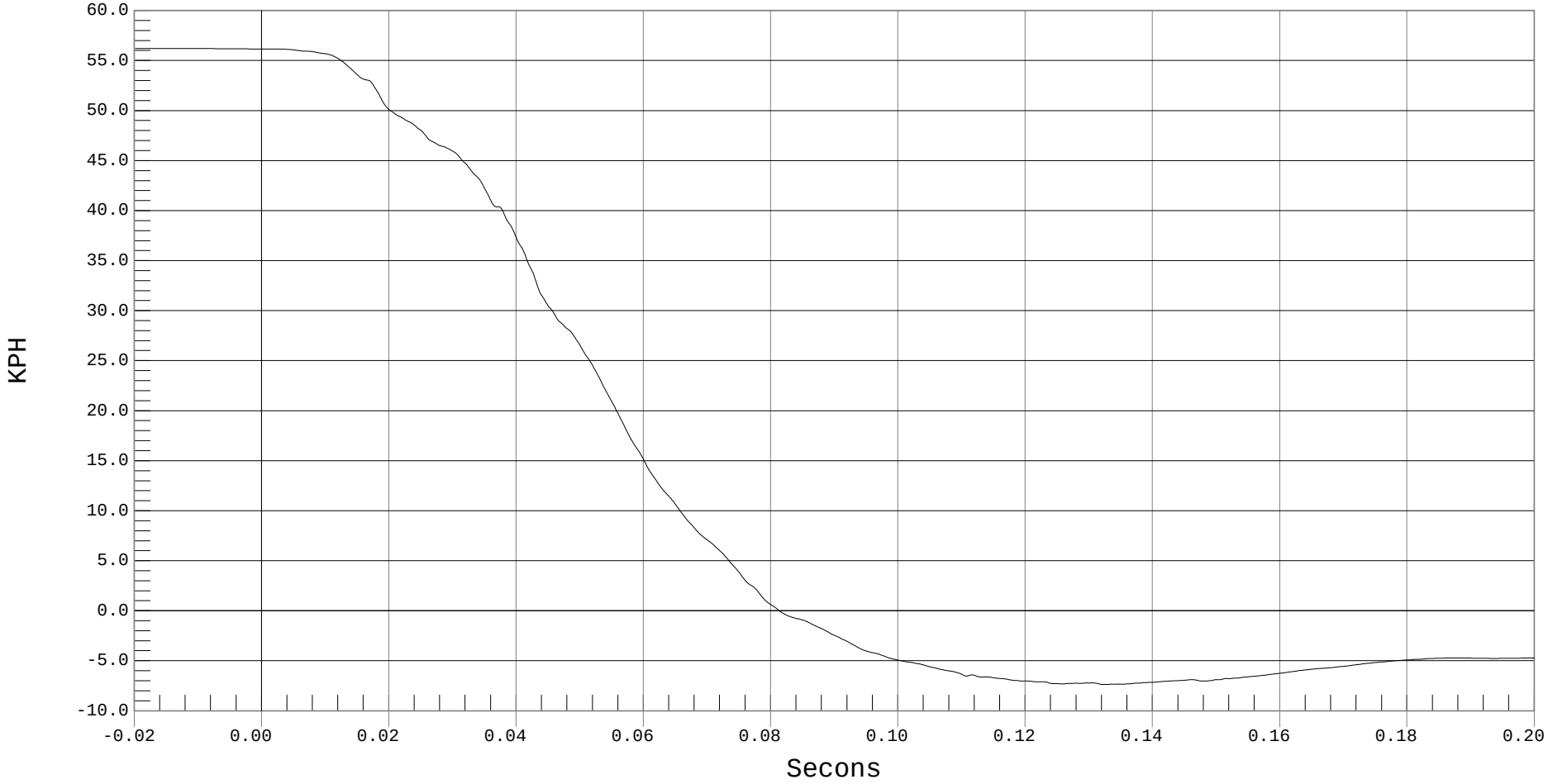
RIGHT REAR SEAT CROSSMEMBER REDUNDANT X VELOCITY

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 RIGHT REAR SEAT CROSSMEMBER REDUNDANT X VELOCITY, b01036AI.V02

Ymin = -7.38 KPH @ 0.1323 Secons, Ymax = 56.21 KPH @ -0.0156 Secons



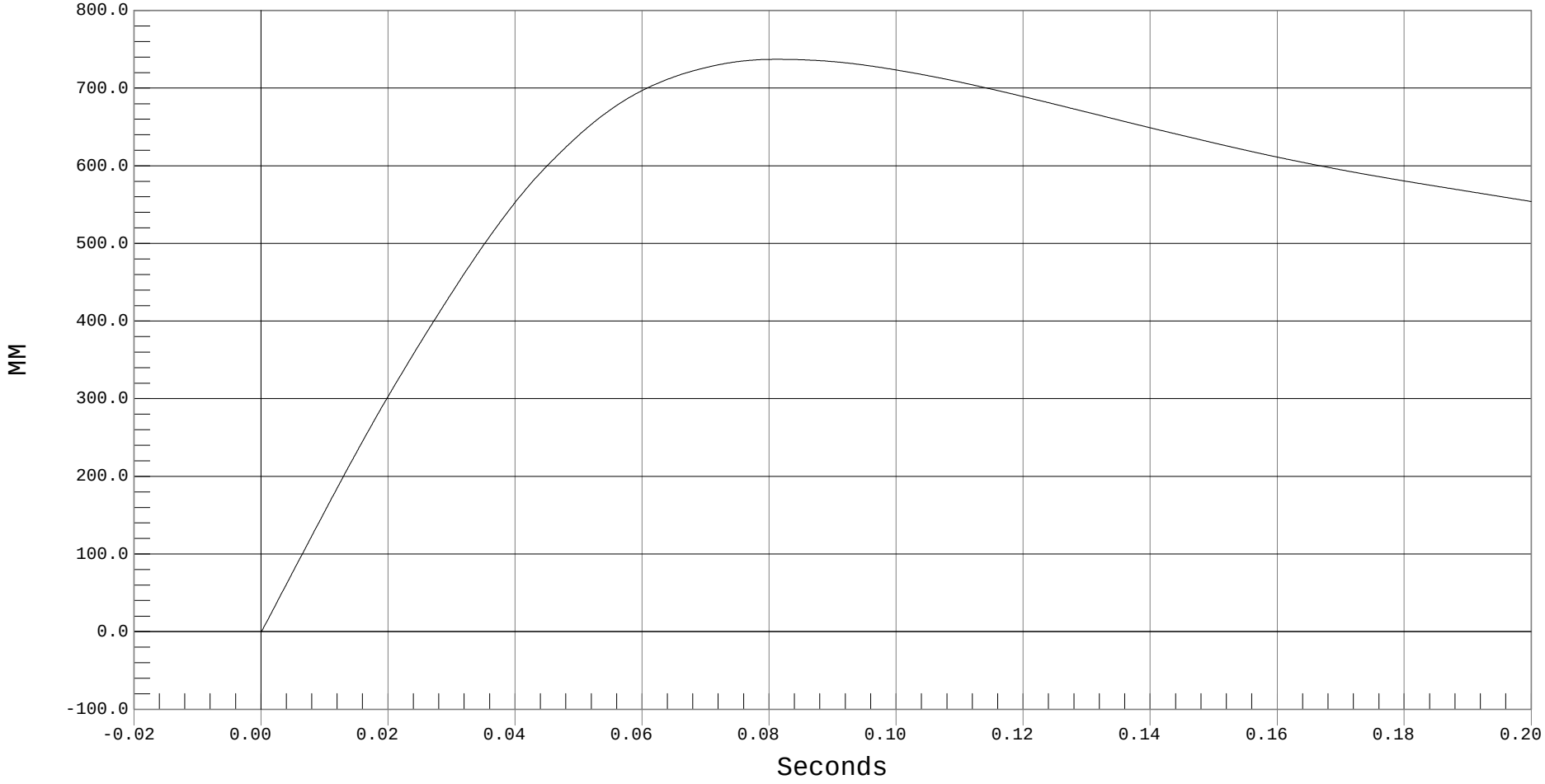
RIGHT REAR SEAT CROSSMEMBER REDUNDANT X DISPLACEMENT

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 RIGHT REAR SEAT CROSSMEMBER REDUNDANT X DISPLACEMENT, b01036AI.D02

Ymin = 0 MM @ 0.0000 Seconds, Ymax = 737.12 MM @ 0.0812 Seconds



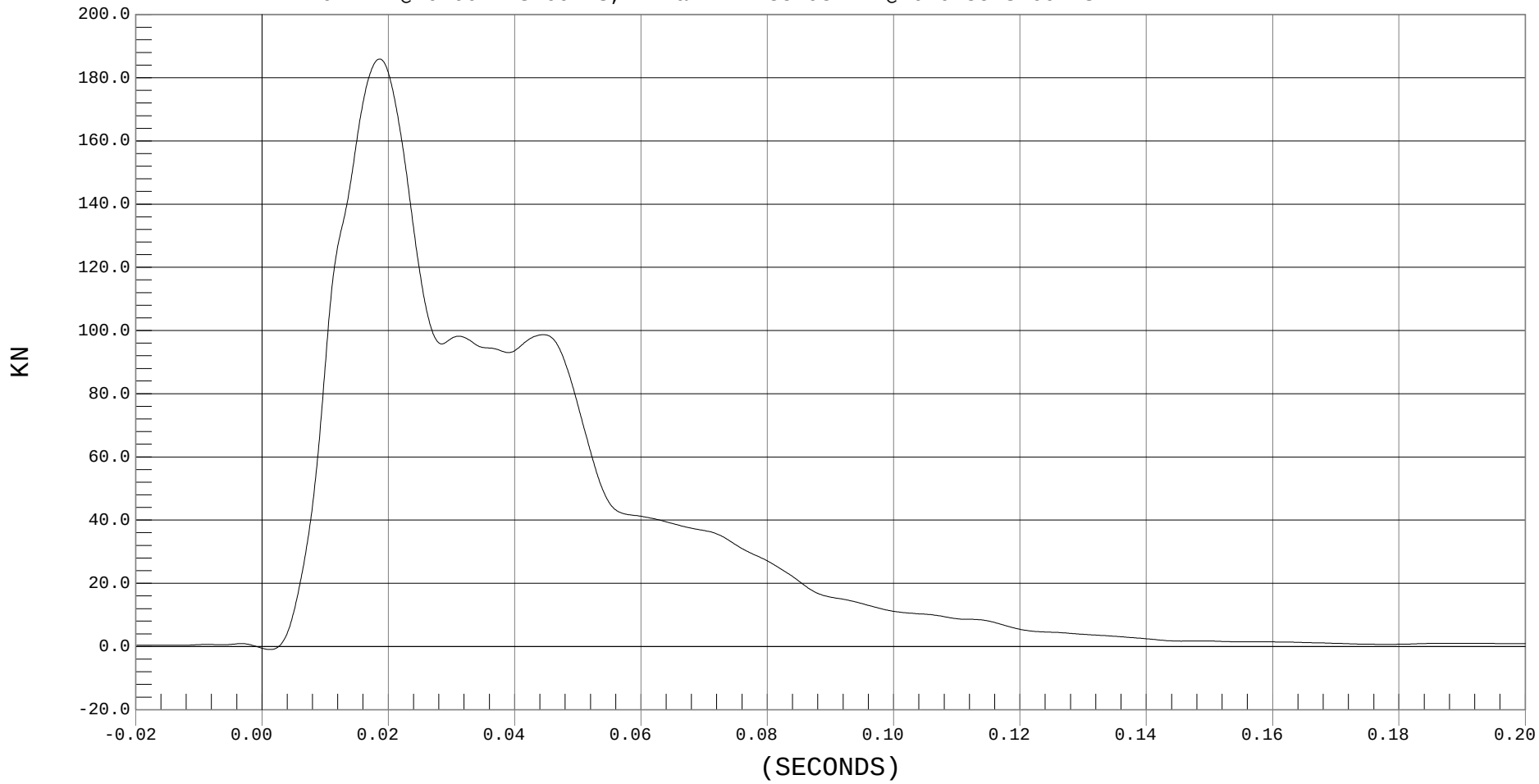
UPPER LEFT BARRIER FORCE

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 60

1 BARRIER UPPER LEFT, b01036FF.F02

Ymin = -.97 KN @ 0.0012 SECONDS, Ymax = 185.93 KN @ 0.0185 SECONDS



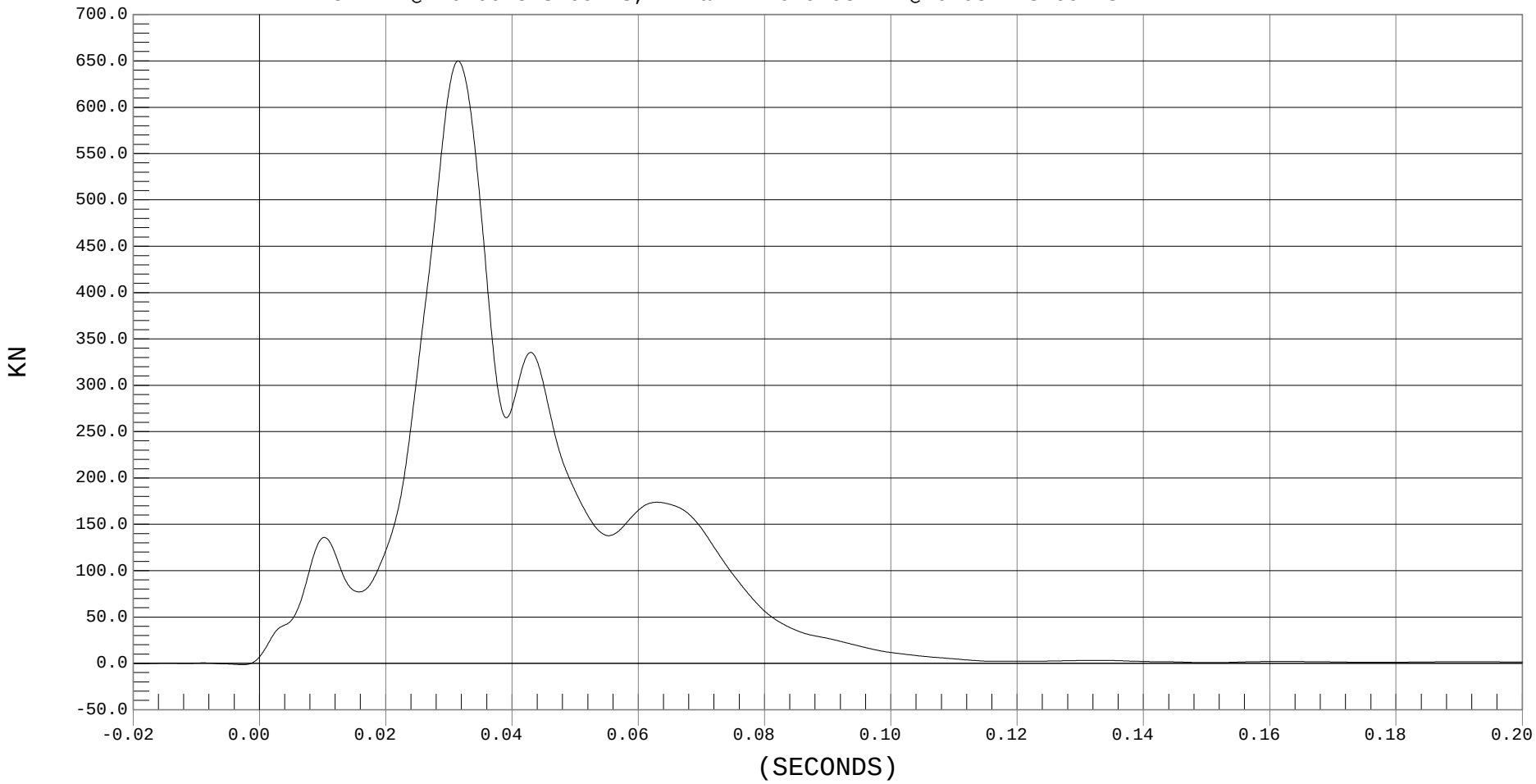
UPPER CENTER BARRIER FORCE

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 60

1 BARRIER UPPER CENTER, b01036FF.F03

Ymin = -1.52 KN @ -0.0028 SECONDS, Ymax = 649.93 KN @ 0.0314 SECONDS



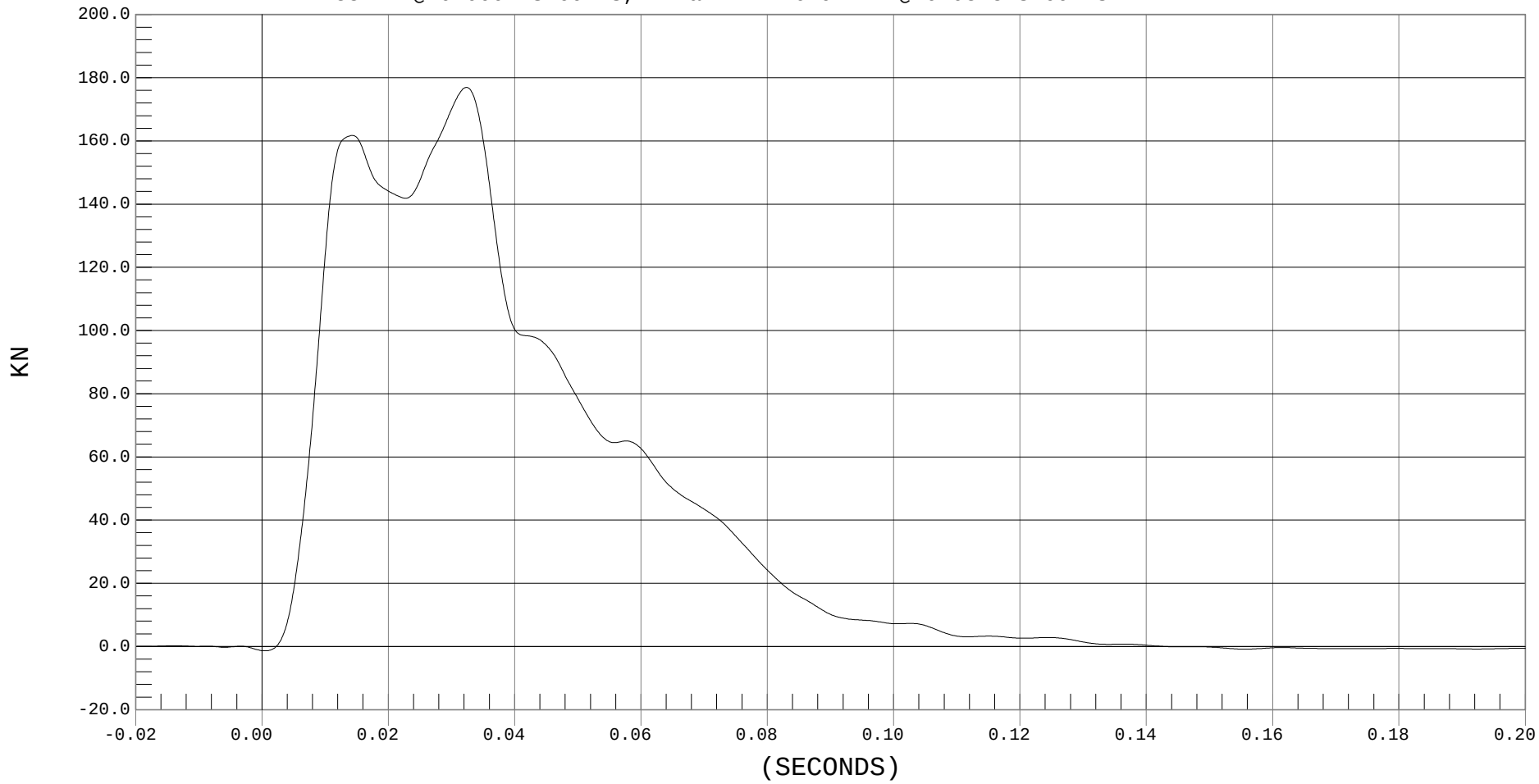
UPPER RIGHT BARRIER FORCE

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 60

1 BARRIER UPPER RIGHT, b01036FF.F04

Ymin = -1.38 KN @ 0.0004 SECONDS, Ymax = 176.94 KN @ 0.0323 SECONDS



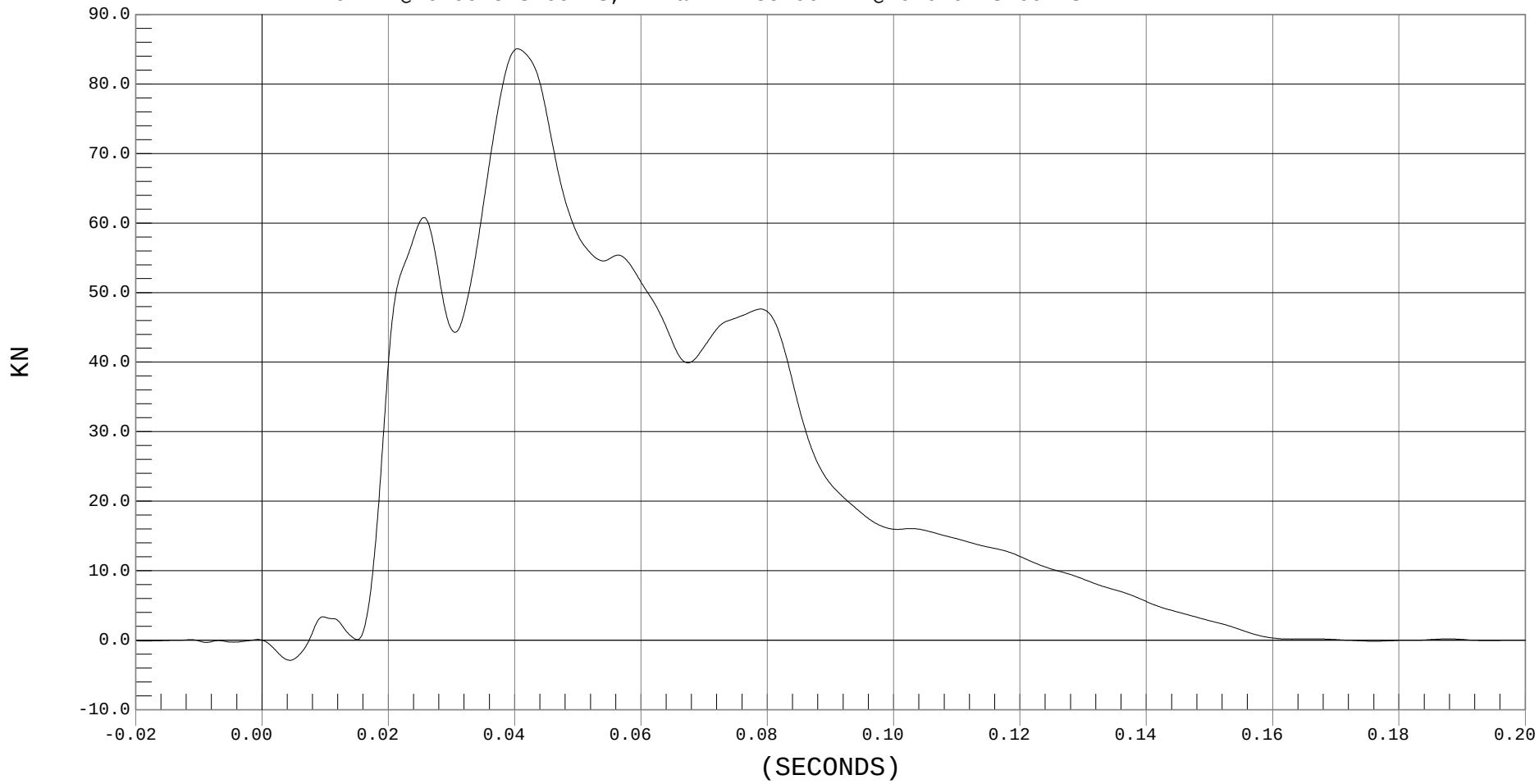
LOWER LEFT BARRIER FORCE

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 60

1 BARRIER LOWER LEFT, b01036FF.F05

Ymin = -2.9 KN @ 0.0043 SECONDS, Ymax = 85.06 KN @ 0.0404 SECONDS



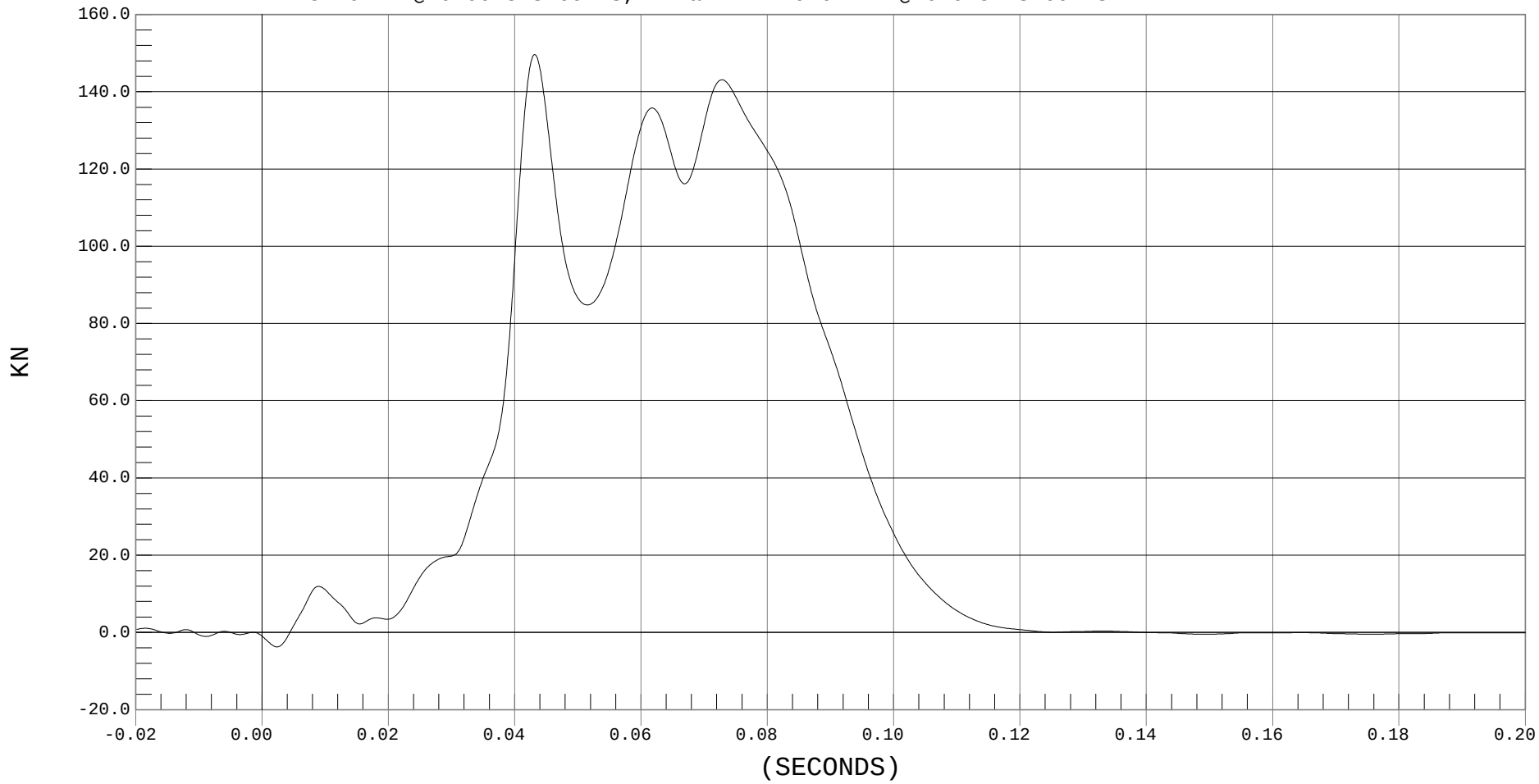
LOWER CENTER BARRIER FORCE

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 60

1 BARRIER LOWER CENTER, b01036FF.F06

Ymin = -3.76 KN @ 0.0023 SECONDS, Ymax = 149.64 KN @ 0.0431 SECONDS



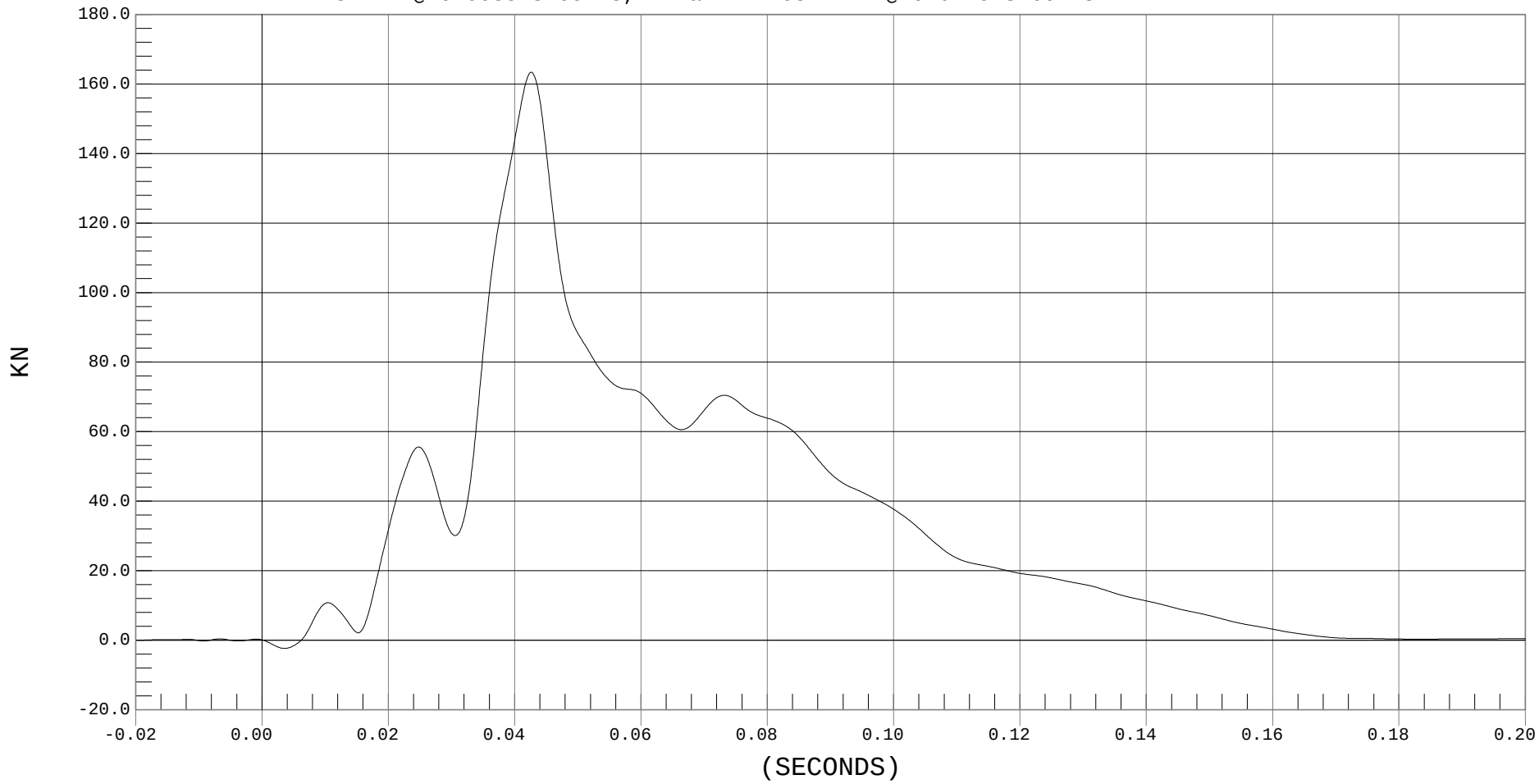
LOWER RIGHT BARRIER FORCE

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 60

1 BARRIER LOWER RIGHT, b01036FF.F07

Ymin = -2.37 KN @ 0.0035 SECONDS, Ymax = 163.4 KN @ 0.0425 SECONDS



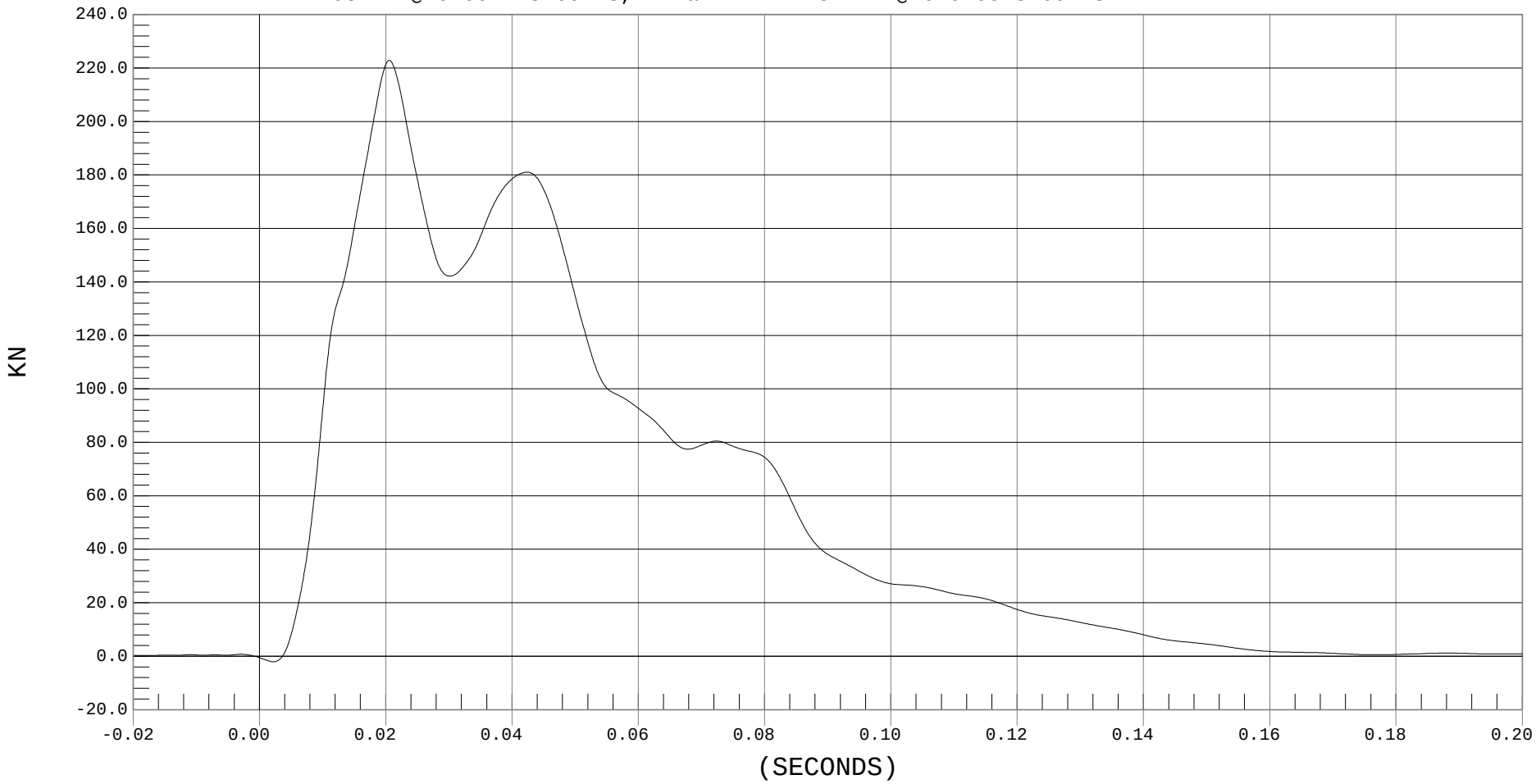
SUM OF LEFT BARRIER FORCES

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 60

1 SUM OF LEFT BARRIER FORCES, b01036FU.F02

Ymin = -2.08 KN @ 0.0021 SECONDS, Ymax = 222.87 KN @ 0.0205 SECONDS



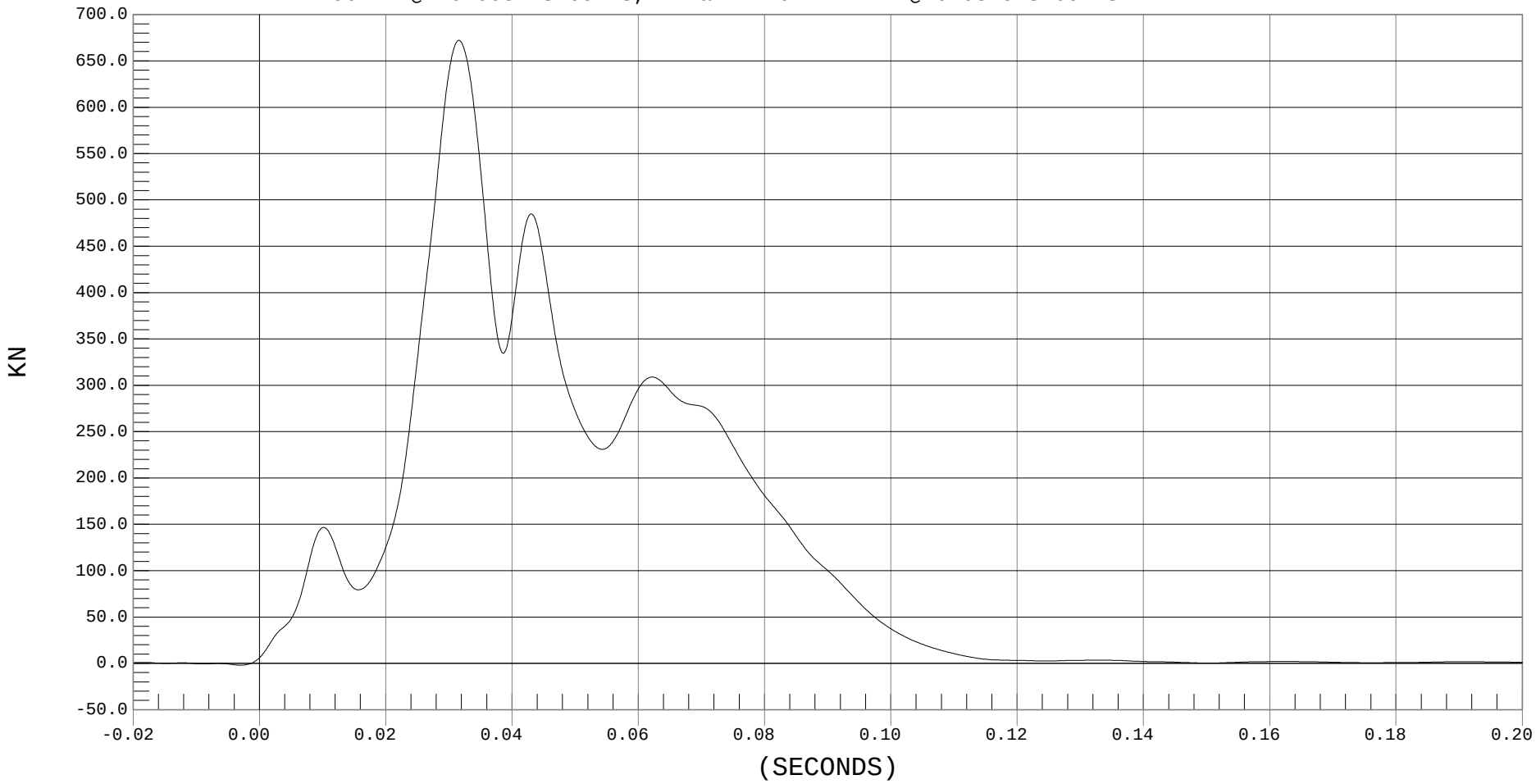
SUM OF CENTER BARRIER FORCES

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 60

1 SUM OF CENTER BARRIER FORCES, b01036FU.F03

Ymin = -1.96 KN @ -0.0031 SECONDS, Ymax = 672.24 KN @ 0.0315 SECONDS



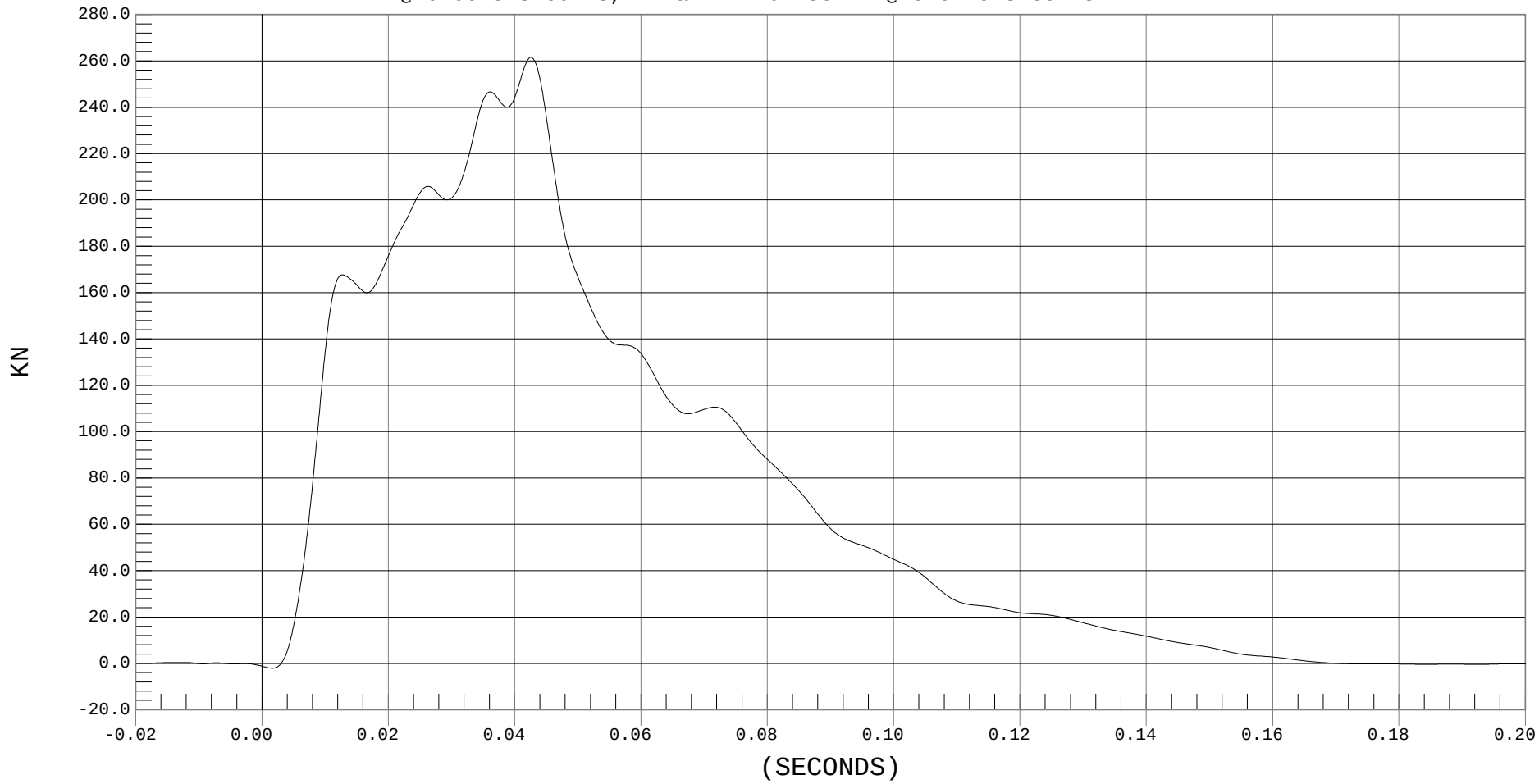
SUM OF RIGHT BARRIER FORCES

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 60

1 SUM OF RIGHT BARRIER FORCES, b01036FU.F04

Ymin = -2.1 KN @ 0.0015 SECONDS, Ymax = 261.56 KN @ 0.0425 SECONDS



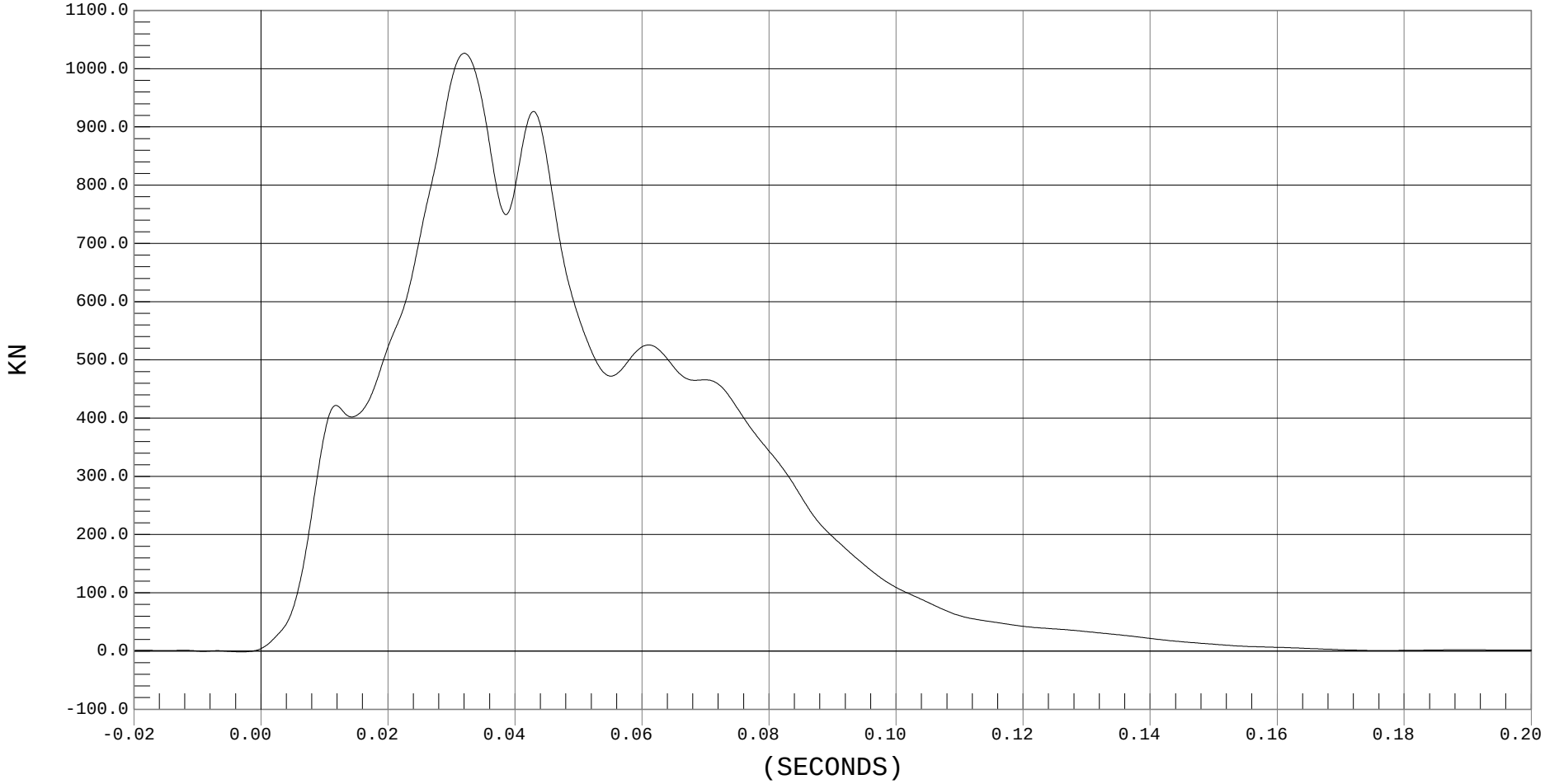
SUM OF BARRIER FORCES

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 60

1 SUM OF BARRIER FORCES, b01036FU.F05

Ymin = -1.32 KN @ -0.0032 SECONDS, Ymax = 1026.58 KN @ 0.0319 SECONDS



APPENDIX C

DUMMY CALIBRATION DATA TRACES AND TABLES

Hybrid III Calibration Data Sheet

5th Percentile Female

Left Knee Impact Test

ATD Serial No.: 288 Test I.D.: D01416

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.8	Pass
Laboratory Relative Humidity	%	10 to 70	26	Pass
Probe Velocity	m/s	2.07 to 2.13	2.11	Pass
Peak Probe Force	kN	3.45 – 4.06	3.65	Pass
		Overall Test Results		Pass

Laboratory Technician

3/30/01
Test Date

Approved By

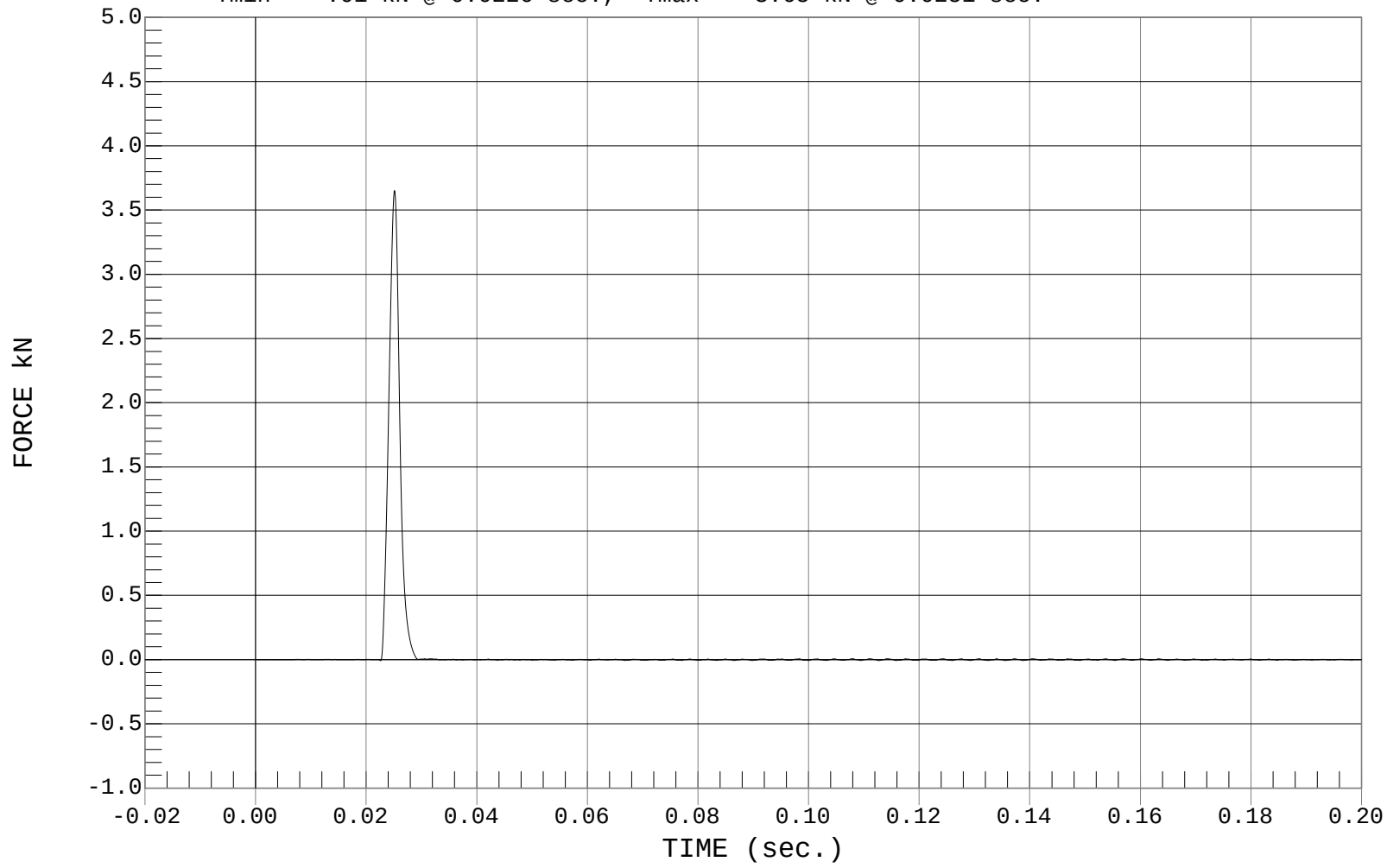
LEFT KNEE IMPACT

Test Desc.: Dummy Calibration - Left Knee Impact
Component: Dummy #288

Test Date: 03-30-01
Speed: 6.91 FT/SEC, 2.11 M/SEC

1 FORCE, D01416FF.F09

Ymin = -.01 kN @ 0.0226 sec., Ymax = 3.65 kN @ 0.0251 sec.



Hybrid III Calibration Data Sheet

5th Percentile Female

Right Knee Impact Test

ATD Serial No.: 288 Test I.D.: D01415

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.8	Pass
Laboratory Relative Humidity	%	10 to 70	26	Pass
Probe Velocity	M/s	2.07 to 2.13	2.11	Pass
Peak Probe Force	kN	3.45 – 4.06	3.71	Pass
		Overall Test Results		Pass

Laboratory Technician

3/30/01
Test Date

Approved By

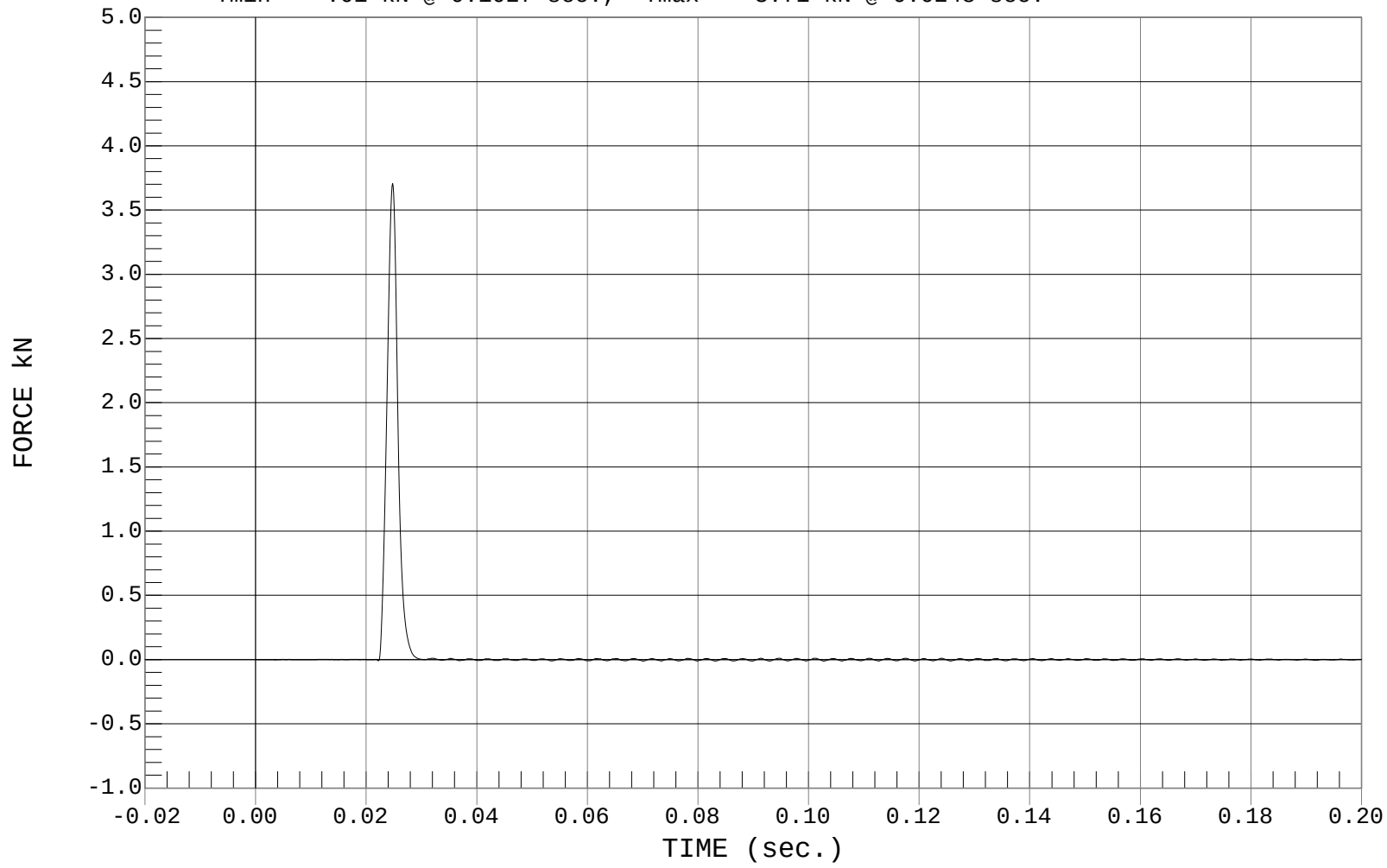
RIGHT KNEE IMPACT

Test Desc.: Dummy Calibration - Right Knee Impact
Component: Dummy #288

Test Date: 03-30-01
Speed: 6.93 FT/SEC, 2.11 M/SEC

1 FORCE, D01415FF.F09

Ymin = -.01 kN @ 0.1027 sec., Ymax = 3.71 kN @ 0.0248 sec.



Hybrid III Calibration Data Sheet

5th Percentile Female

Head Drop Calibration

ATD Serial No.: 288 Test I.D.: D01411

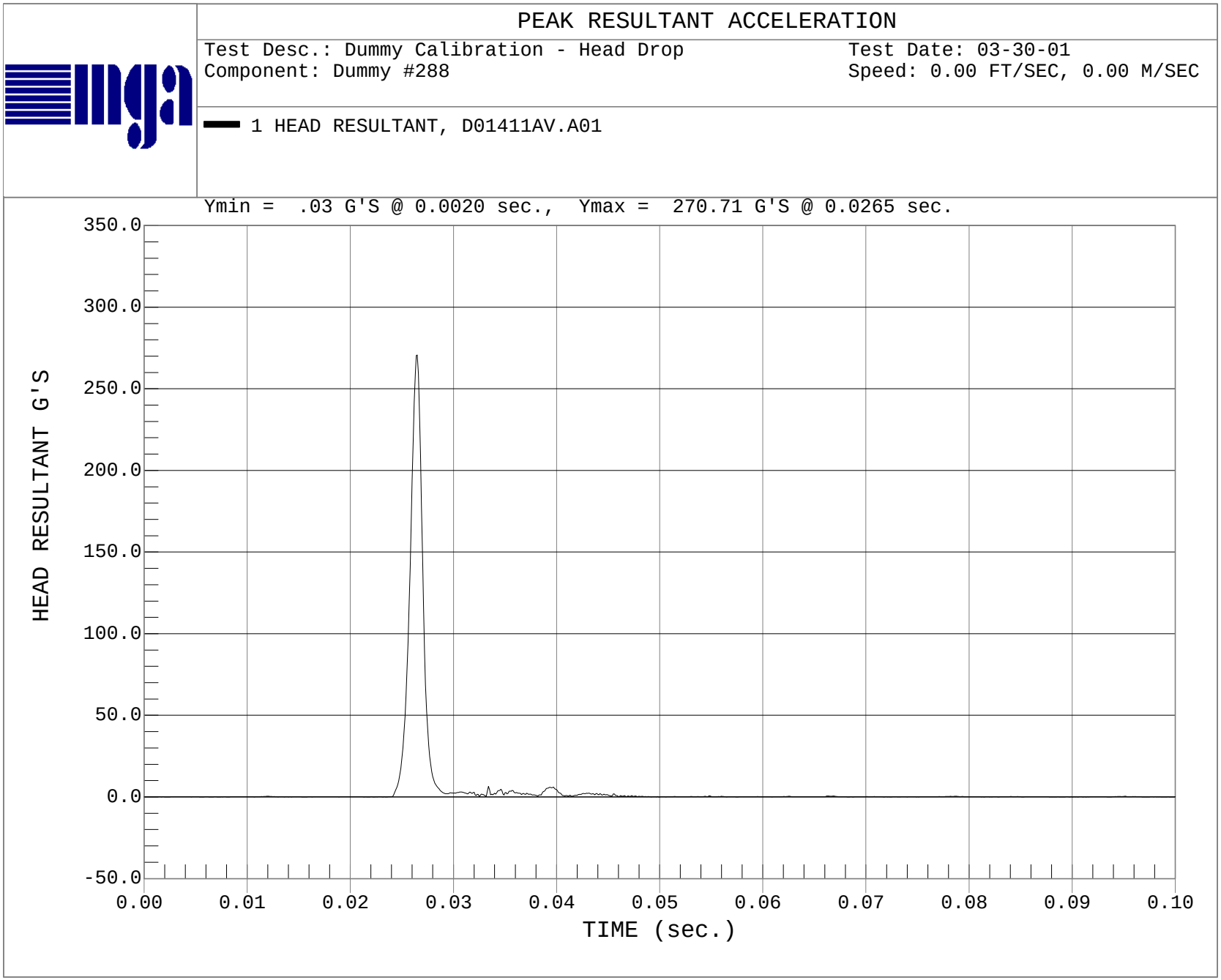
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	22.1	Pass
Laboratory Relative Humidity	%	10 to 70	25	Pass
Peak Resultant Acceleration	G's	250 to 300	271	Pass
Peak Lateral Acceleration	G's	≤ ± 15.0	7	Pass
Is Acceleration Unimodal?	Yes/No	< 10% Peak	Yes	Pass
		Overall Test Results		Pass

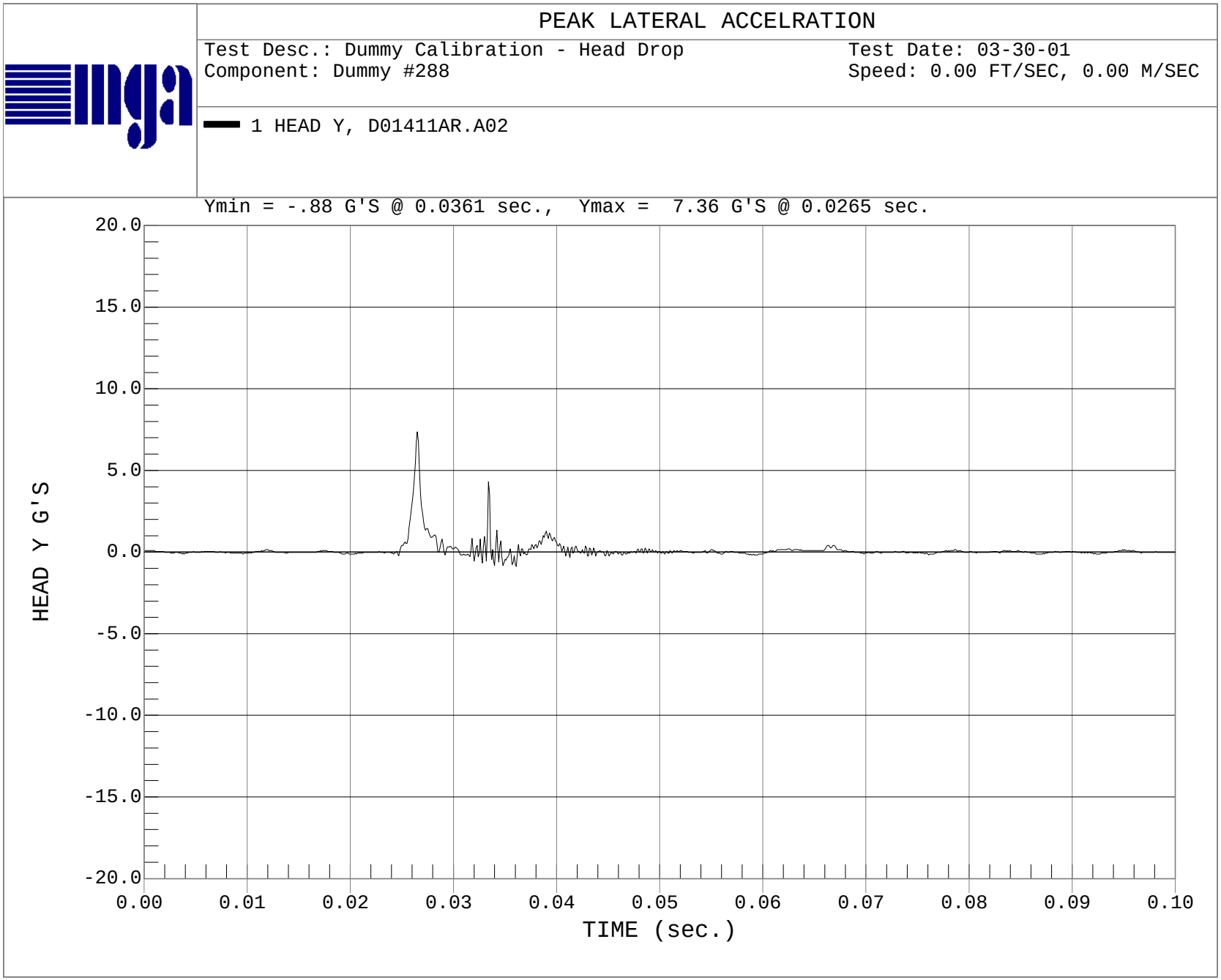
3/30/01

Laboratory Technician

Test Date

Approved By


PEAK RESULTANT ACCELERATION
Test Desc.: Dummy Calibration - Head Drop
Test Date: 03-30-01
Component: Dummy #288
Speed: 0.00 FT/SEC, 0.00 M/SEC
1 HEAD RESULTANT, D01411AV.A01
Ymin = .03 G'S @ 0.0020 sec., Ymax = 270.71 G'S @ 0.0265 sec.
HEAD RESULTANT G'S
350.0
300.0
250.0
200.0
150.0
100.0
50.0
0.0
-50.0
0.00
0.01
0.02
0.03
0.04
0.05
0.06
0.07
0.08
0.09
0.10
TIME (sec.)


PEAK LATERAL ACCELRATION
Test Desc.: Dummy Calibration - Head Drop
Test Date: 03-30-01
Component: Dummy #288
Speed: 0.00 FT/SEC, 0.00 M/SEC
1 HEAD Y, D01411AR.A02
Ymin = -.88 G'S @ 0.0361 sec., Ymax = 7.36 G'S @ 0.0265 sec.
HEAD Y G'S
20.0
15.0
10.0
5.0
0.0
-5.0
-10.0
-15.0
-20.0
0.00
0.01
0.02
0.03
0.04
0.05
0.06
0.07
0.08
0.09
0.10
TIME (sec.)

Hybrid III Calibration Data Sheet

5th Percentile Female

Thorax Impact Test

ATD Serial No.: 288 Test I.D.: D01414

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	22.1	Pass
Laboratory Relative Humidity	%	10 to 70	25	Pass
Probe Velocity	m/s	6.59 to 6.83	6.69	Pass
Peak Deflection	mm	50 – 58	52	Pass
Peak Resistive Force within Deflection Corridor	kN	3.9 – 4.4	4.2	Pass
Peak Force 18mm – 50mm		<105% of Peak Force in Deflection Corridor	100%	Pass
Internal Hysteresis	%	69 to 85	73	Pass
		Overall Test Results		Pass

3/30/01

Laboratory Technician

Test Date

Approved By


THORAX IMPACT
Test Desc.: Dummy Calibration - Chest Impact
Test Date: 03-30-01
Component: Dummy #288
Speed: 21.96 FT/SEC, 6.69 M/SEC
1 FORCE, D01414CH.FVD
Ymin = 0 kN @ 5.5201 mm, Ymax = 4.24 kN @ 49.4785 mm
FORCE kN
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-10
0
10
20
30
40
50
60
DISPLACEMENT mm

Hybrid III Calibration Data Sheet

5th Percentile Female

Neck Flexion Test

ATD Serial No.: 288 Test I.D.: D01412

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.9	Pass
Laboratory Relative Humidity		%	10 to 70	26	Pass
Pendulum Velocity		m/s	6.89 to 7.13	7.08	Pass
Pendulum Deceleration	10 msec	m/s	2.1 to 2.5	2.3	Pass
	20 msec	m/s	4.0 to 5.0	4.6	Pass
	30 msec	m/s	5.8 to 7.0	6.6	Pass
Maximum "D" Plane Rotation	Maximum	Degrees	77 – 91	91	Pass
Moment About Occipital Condyle within Deflection Corridor	Maximum	Nm	69 – 83	70	Pass
Positive Moment Time Curve Decay to 10 Nm		ms	80 – 100	89	Pass
			Overall Test Results		Pass

Laboratory Technician

3/30/01
Test Date

Approved By

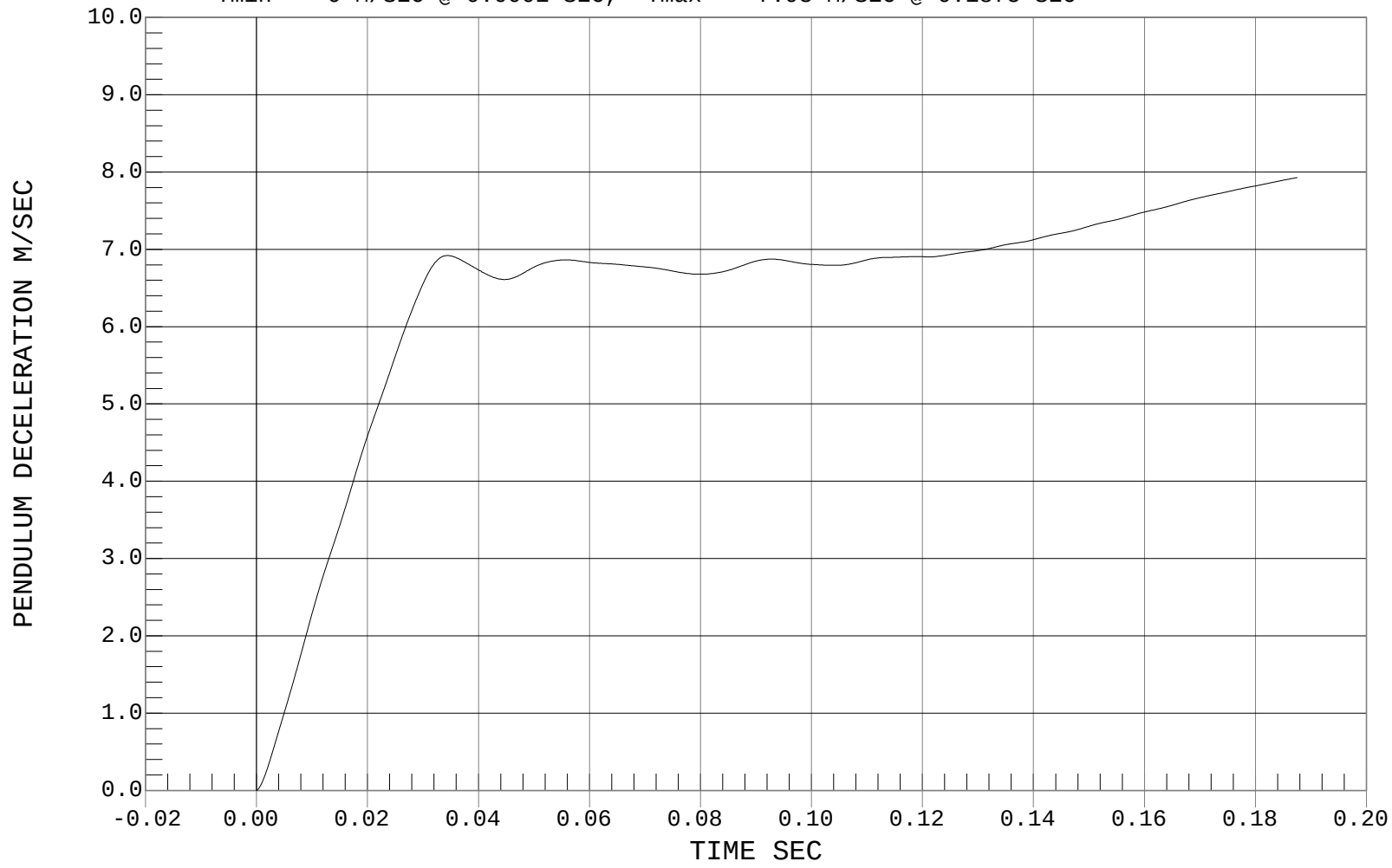
PENDULUM DECELERATION

Test Desc.: Dummy Calibration - Neck Flexion
Component: Dummy #288

Test Date: 03-30-01
Speed: 23.24 FT/SEC, 7.08 M/SEC

1 PENDULUM DECELERATION, D01412AI.V04

Ymin = 0 M/SEC @ 0.0001 SEC, Ymax = 7.93 M/SEC @ 0.1875 SEC



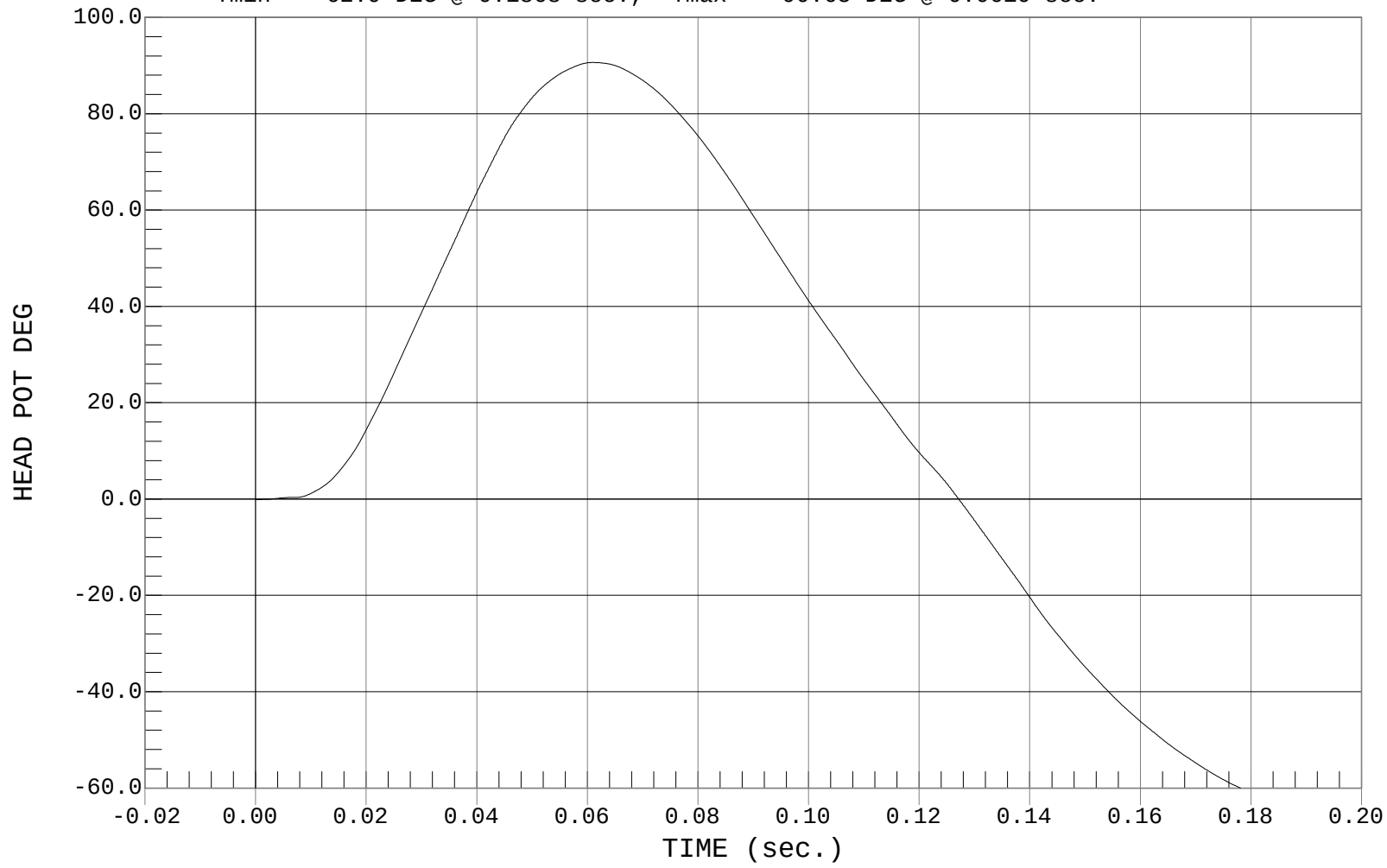
NECK ROTATION

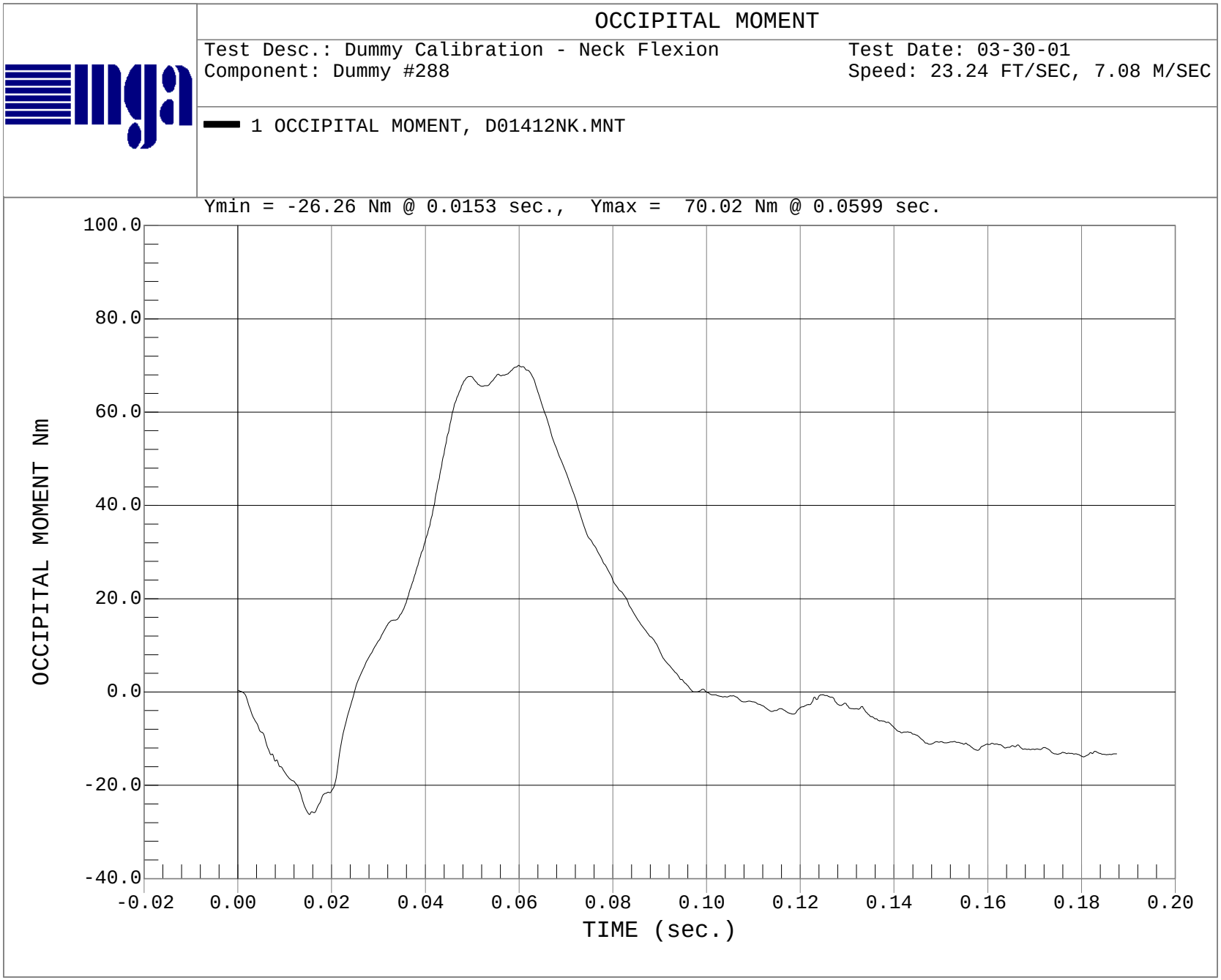
Test Desc.: Dummy Calibration - Neck Flexion
Component: Dummy #288

Test Date: 03-30-01
Speed: 23.24 FT/SEC, 7.08 M/SEC

1 HEAD POT, D01412DU.D05

Ymin = -62.9 DEG @ 0.1868 sec., Ymax = 90.65 DEG @ 0.0610 sec.




OCCIPITAL MOMENT
Test Desc.: Dummy Calibration - Neck Flexion
Test Date: 03-30-01
Component: Dummy #288
Speed: 23.24 FT/SEC, 7.08 M/SEC
1 OCCIPITAL MOMENT, D01412NK.MNT
Ymin = -26.26 Nm @ 0.0153 sec., Ymax = 70.02 Nm @ 0.0599 sec.
OCCIPITAL MOMENT Nm
100.0
80.0
60.0
40.0
20.0
0.0
-20.0
-40.0
-0.02
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.18
0.20
TIME (sec.)

Hybrid III Calibration Data Sheet

5th Percentile Female

Neck Extension Test

ATD Serial No.: 288 Test I.D.: D01413

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.9	Pass
Laboratory Relative Humidity		%	10 to 70	26	Pass
Pendulum Velocity		m/s	5.95 to 6.19	6.09	Pass
Pendulum Deceleration	10 msec	m/sec	1.5 – 1.9	1.9	Pass
	20 msec	m/sec	3.1 – 3.9	3.8	Pass
	30 msec	m/sec	4.6 – 5.6	5.4	Pass
Maximum "D" Plane Rotation	Maximum	Degrees	99 – 114	111	Pass
Moment About Occipital Condyle in Deflection Corridor	Minimum	Nm	-65 - -53	-53	Pass
Negative Moment Time Curve Decay to –10 Nm		msec	94 – 114	98	Pass
			Overall Test Results		Pass

3/30/01

Laboratory Technician

Test Date

Approved By

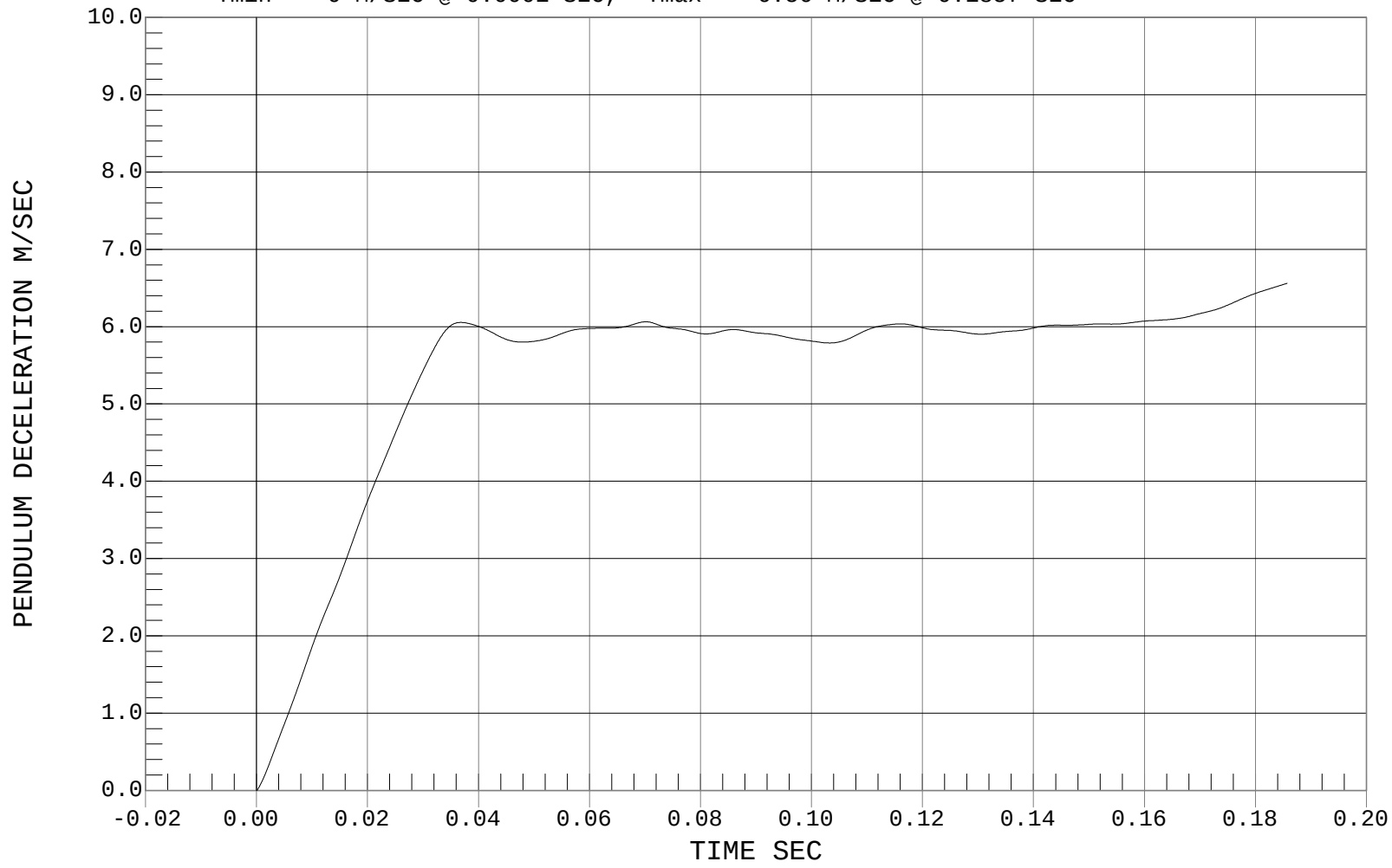
PENDULUM DECELERATION

Test Desc.: Dummy Calibration - Neck Extension
Component: Dummy #288

Test Date: 03-30-01
Speed: 19.98 FT/SEC, 6.09 M/SEC

1 PENDULUM DECELERATION, D01413AI.V04

Ymin = 0 M/SEC @ 0.0001 SEC, Ymax = 6.56 M/SEC @ 0.1857 SEC



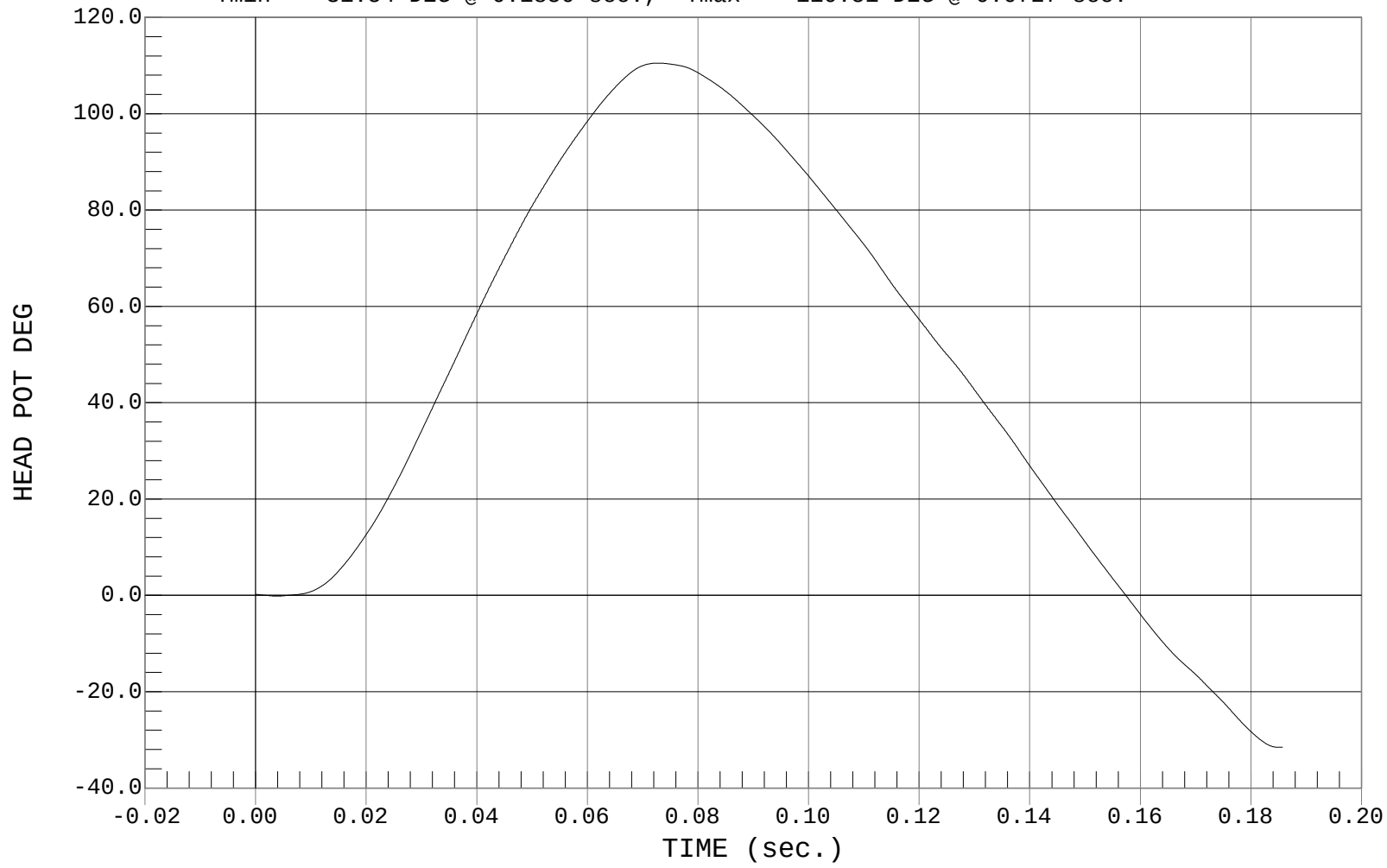
NECK ROTATION

Test Desc.: Dummy Calibration - Neck Extension
Component: Dummy #288

Test Date: 03-30-01
Speed: 19.98 FT/SEC, 6.09 M/SEC

1 HEAD POT, D01413DU.D05

Ymin = -31.54 DEG @ 0.1850 sec., Ymax = 110.51 DEG @ 0.0727 sec.



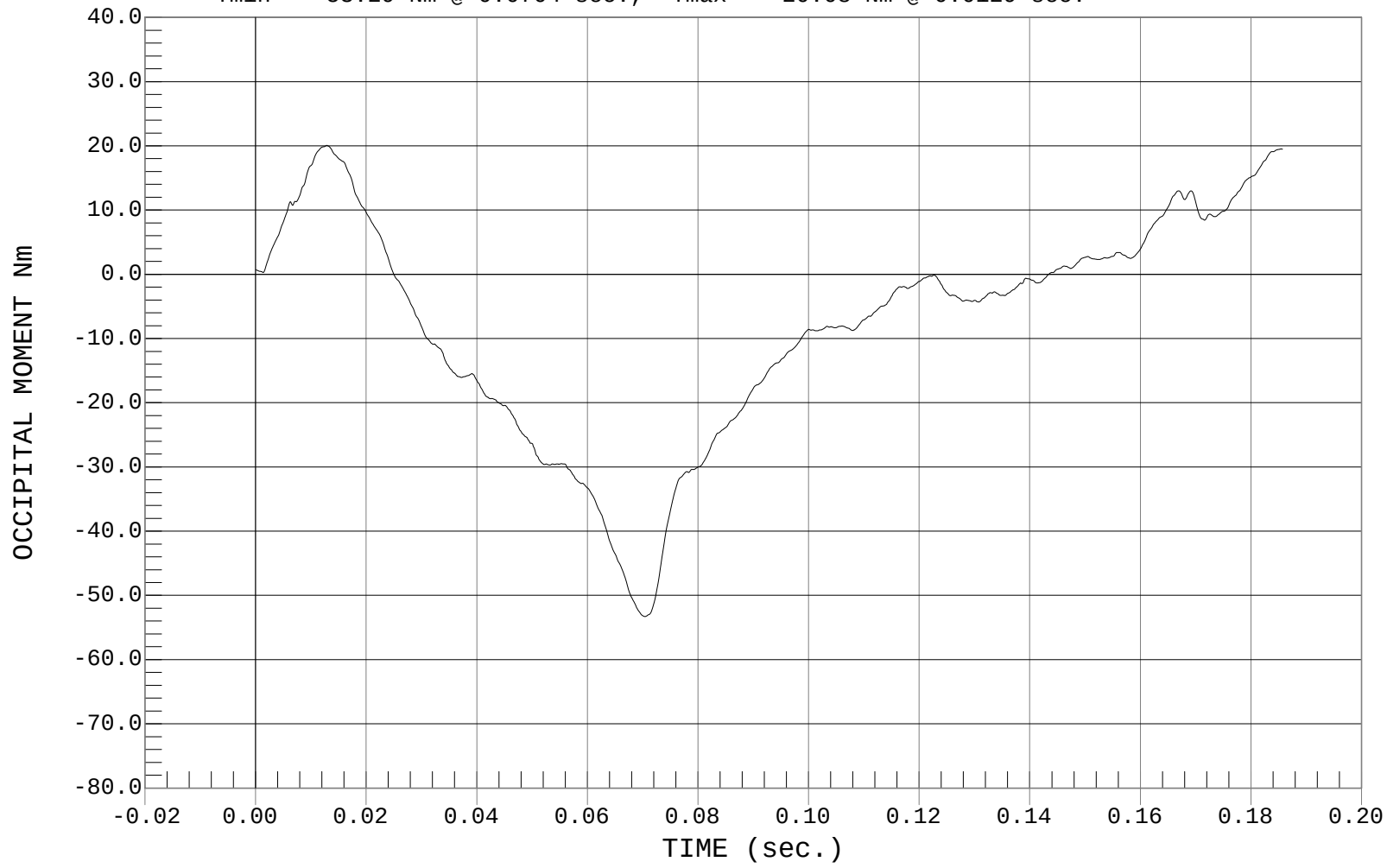
OCCIPITAL MOMENT

Test Desc.: Dummy Calibration - Neck Extension
Component: Dummy #288

Test Date: 03-30-01
Speed: 19.98 FT/SEC, 6.09 M/SEC

1 OCCIPITAL MOMENT, D01413NK.MNT

Ymin = -53.29 Nm @ 0.0704 sec., Ymax = 20.08 Nm @ 0.0129 sec.



Hybrid III Calibration Data Sheet

5th Percentile Female

Torso Flexion Test

ATD Serial No.: 288 Test I.D.: D0141A

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	°C	18.9 to 25.6	22.1	Pass
Relative Humidity	%	10 to 70	25	Pass
Initial Angle	Deg	0 – 20	11	Pass
Return Angle	Deg	0 – 8	7	Pass
Force @ 45°	N	320 – 390	329	Pass
		Overall Test Results		Pass

3/30/01

Laboratory Technician

Test Date

Approved By

Hybrid III Calibration Data Sheet

5th Percentile Female

External Measurements

ATD Serial No.: 288 Test I.D.: D0141

External Measurement Data				
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6-22.2	21.8	Pass
Laboratory Relative Humidity	%	10-70	26	Pass
A – Total sitting height	mm	775 – 800	787	Pass
B – Shoulder pivot height	mm	432 – 457	446	Pass
C – "H" point height	mm	81 – 86	84	Pass
D – "H" point from back line	mm	145 – 150	147	Pass
E – Shoulder pivot from back line	mm	69 – 84	75	Pass
F – Thigh clearance	mm	119 – 135	128	Pass
G – Back of elbow to wrist pivot	mm	244 – 259	252	Pass
H – Head back from back line	mm	43 – 48	46	Pass
I – Shoulder to elbow length	mm	277 – 297	292	Pass
J – Elbow rest height	mm	183 – 203	191	Pass
K – Buttock to knee length	mm	521 – 546	537	Pass
L – Popliteal length	mm	356 – 376	362	Pass
M – Knee pivot height	mm	394 – 419	405	Pass
N – Buttock popliteal length	mm	414 – 439	422	Pass
O – Chest depth without jacket	mm	175 – 191	186	Pass
P – Foot length	mm	218 – 234	226	Pass
R – Buttock to knee pivot length	mm	457 – 483	471	Pass
S – Head breadth	mm	137 – 147	144	Pass
T – Head depth	mm	178 – 188	181	Pass
U – Hip breadth	mm	300 – 315	307	Pass
V – Shoulder breadth	mm	351 – 366	359	Pass
W – Foot breadth	mm	79 – 94	86	Pass
X – Head circumference	mm	528 – 549	535	Pass
Y – Chest circumference with jacket	mm	851 – 881	862	Pass
Z – Waist circumference	mm	759 – 790	772	Pass
AA – Location for chest circumference	mm	300 – 310	305	Pass
BB – Location for waist circumference	mm	160 – 170	165	Pass
		Overall Test Results		Pass

3/30/01

Laboratory Technician

Test Date

Approved By

Hybrid III Calibration Data Sheet

5th Percentile Female

Left Knee Impact Test

ATD Serial No.: 273 Test I.D.: D01406

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.8	Pass
Laboratory Relative Humidity	%	10 to 70	26	Pass
Probe Velocity	m/s	2.07 to 2.13	2.12	Pass
Peak Probe Force	kN	3.45 – 4.06	3.51	Pass
		Overall Test Results		Pass

Laboratory Technician

3/30/01
Test Date

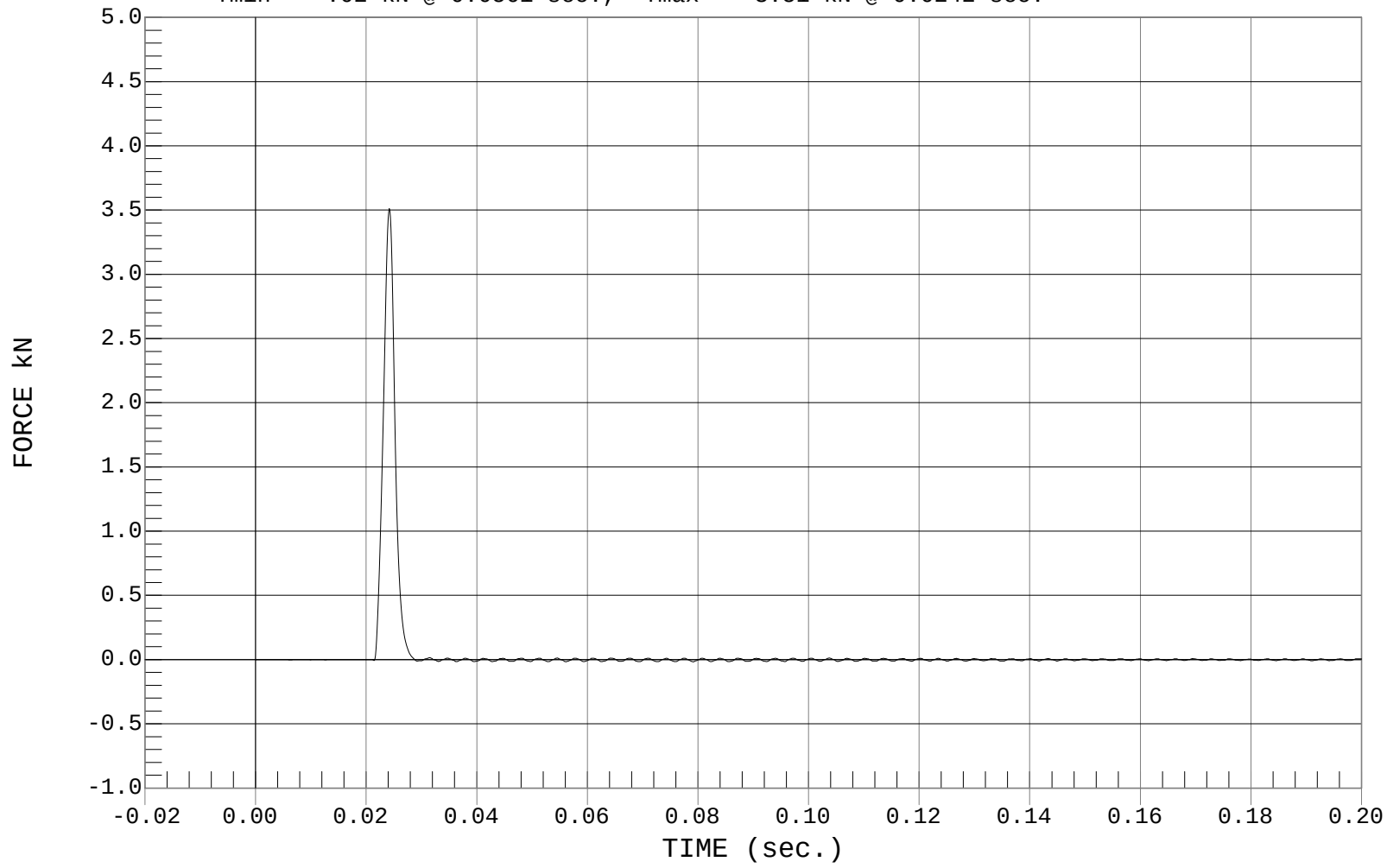
Approved By

LEFT KNEE IMPACT

Test Desc.: Dummy Calibration - Left Knee Impact Test Date: 03-30-01
Component: Dummy #273 Speed: 6.95 FT/SEC, 2.12 M/SEC

1 FORCE, D01406FF.F09

Ymin = -.02 kN @ 0.0561 sec., Ymax = 3.51 kN @ 0.0242 sec.



Hybrid III Calibration Data Sheet

5th Percentile Female

Right Knee Impact Test

ATD Serial No.: 273 Test I.D.: D01405

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.8	Pass
Laboratory Relative Humidity	%	10 to 70	26	Pass
Probe Velocity	M/s	2.07 to 2.13	2.12	Pass
Peak Probe Force	kN	3.45 – 4.06	3.53	Pass
		Overall Test Results		Pass

Laboratory Technician

3/30/01
Test Date

Approved By

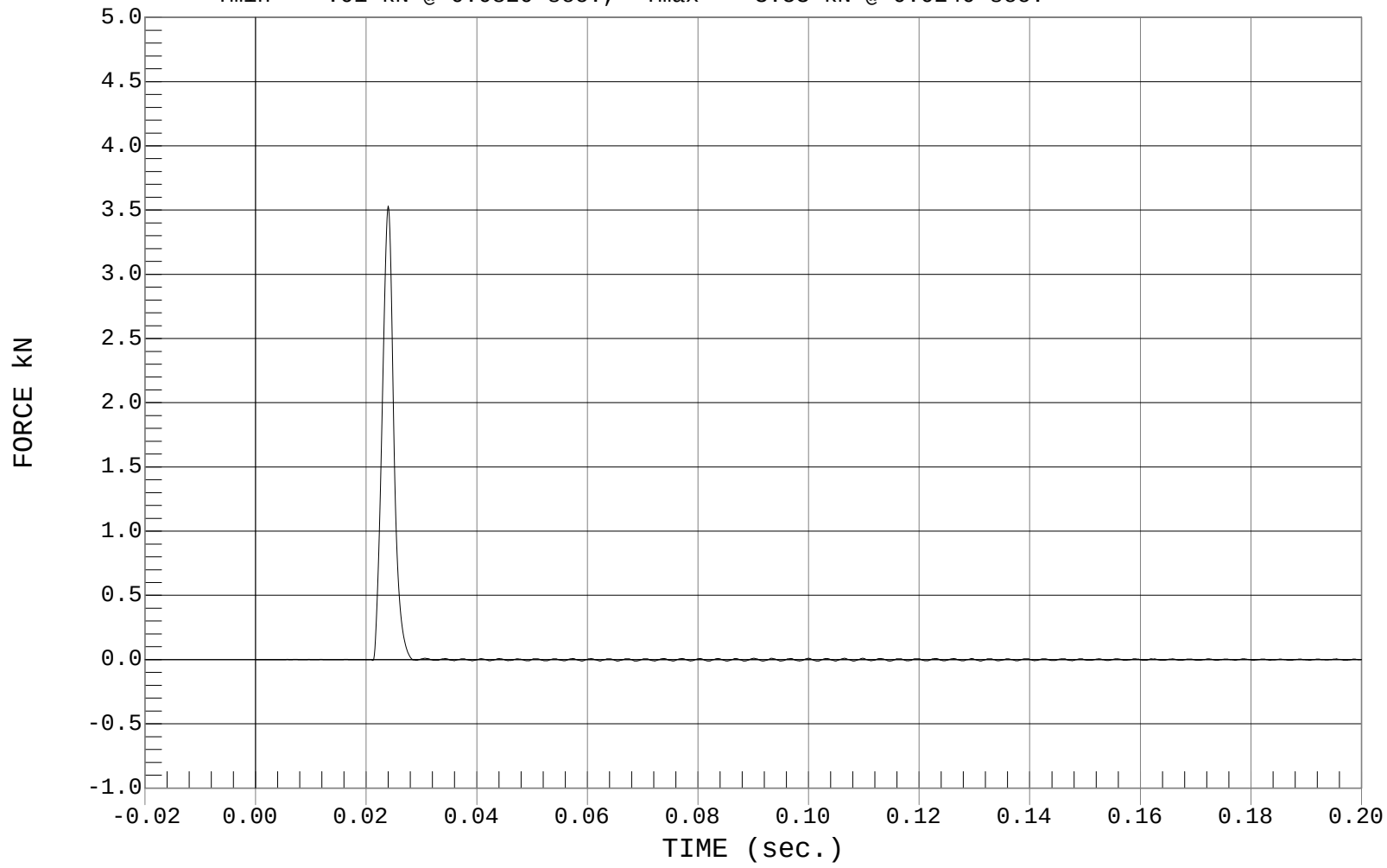
RIGHT KNEE IMPACT

Test Desc.: Dummy Calibration - Right Knee Impact
Component: Dummy #2783

Test Date: 03-30-01
Speed: 6.97 FT/SEC, 2.12 M/SEC

1 FORCE, D01405FF.F09

Ymin = -.01 kN @ 0.0820 sec., Ymax = 3.53 kN @ 0.0240 sec.



Hybrid III Calibration Data Sheet

5th Percentile Female

Head Drop Calibration

ATD Serial No.: 273 Test I.D.: D01401

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.6	Pass
Laboratory Relative Humidity	%	10 to 70	25	Pass
Peak Resultant Acceleration	G's	250 to 300	279	Pass
Peak Lateral Acceleration	G's	≤‡15.0	3	Pass
Is Acceleration Unimodal?	Yes/No	< 10% Peak	Yes	Pass
		Overall Test Results		Pass

3/30/01

Laboratory Technician

Test Date

Approved By

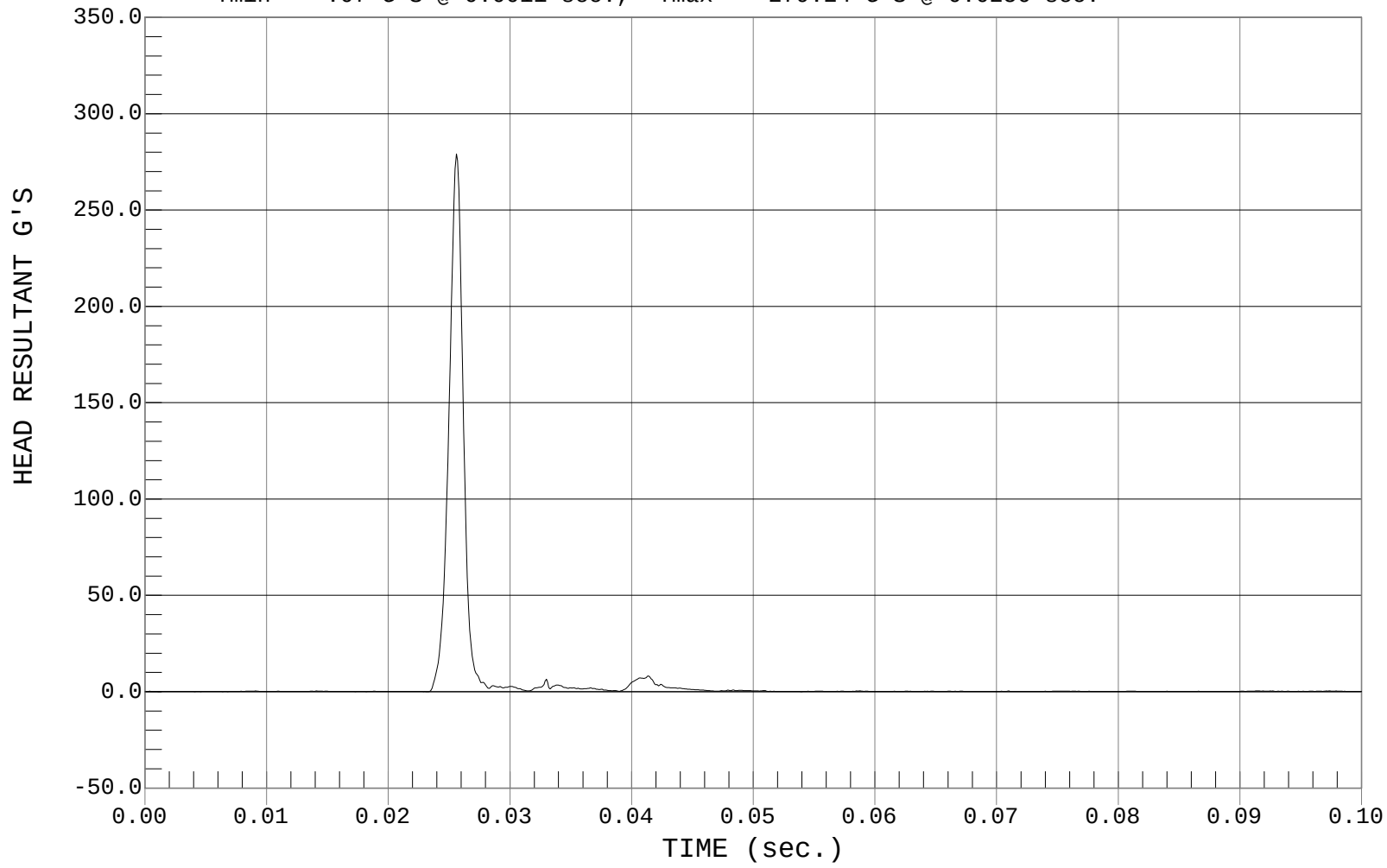
PEAK RESULTANT ACCELERATION

Test Desc.: Dummy Calibration - Head Drop
Component: Dummy #273

Test Date: 03-30-01
Speed: 0.00 FT/SEC, 0.00 M/SEC

1 HEAD RESULTANT, D01401AV.A01

Ymin = .07 G'S @ 0.0011 sec., Ymax = 279.24 G'S @ 0.0256 sec.



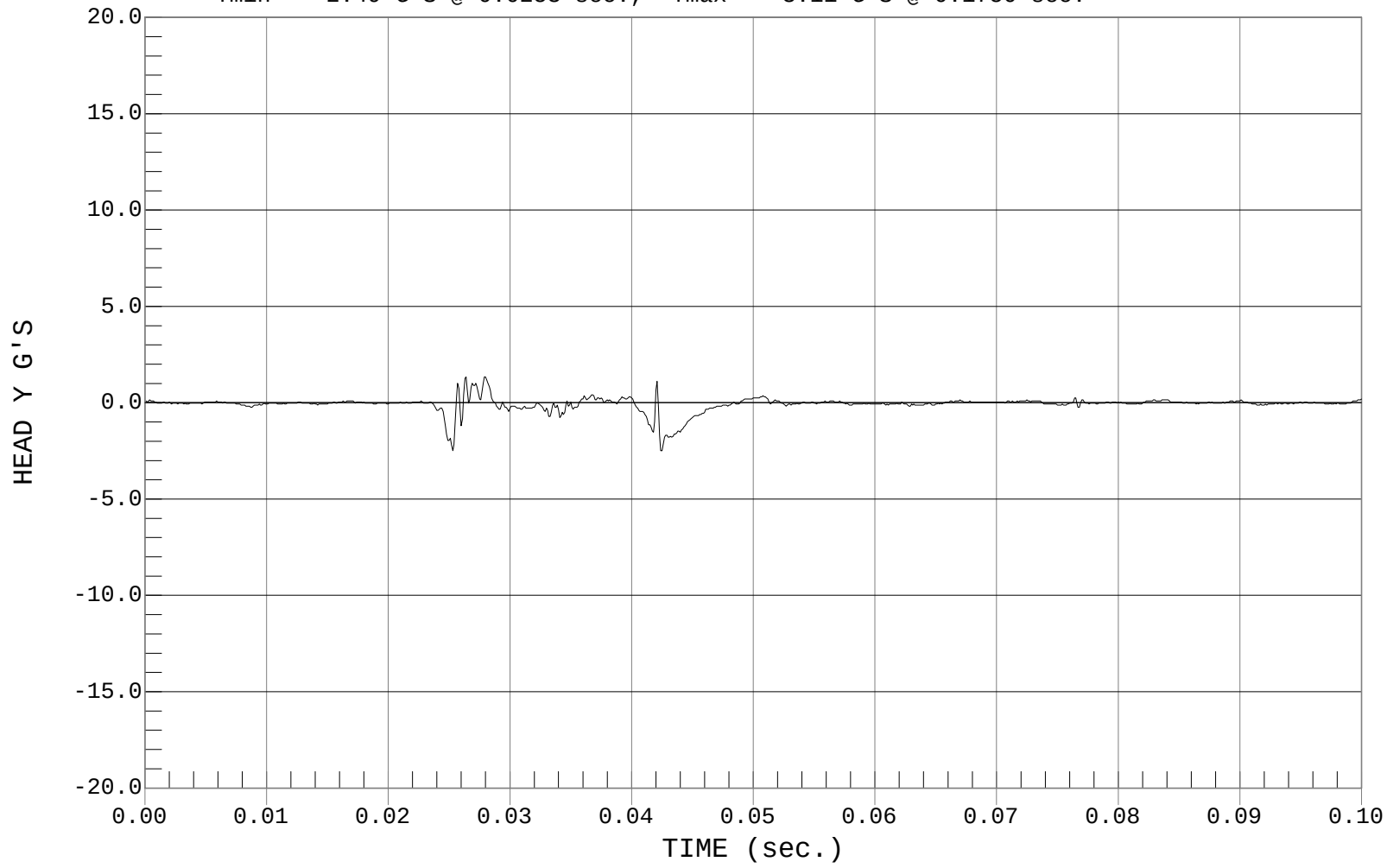
PEAK LATERAL ACCELRATION

Test Desc.: Dummy Calibration - Head Drop
Component: Dummy #273

Test Date: 03-30-01
Speed: 0.00 FT/SEC, 0.00 M/SEC

1 HEAD Y, D01401AR.A02

Ymin = -2.49 G'S @ 0.0253 sec., Ymax = 3.11 G'S @ 0.1750 sec.



Hybrid III Calibration Data Sheet

5th Percentile Female

Thorax Impact Test

ATD Serial No.: 273 Test I.D.: D01404

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	22.1	Pass
Laboratory Relative Humidity	%	10 to 70	25	Pass
Probe Velocity	m/s	6.59 to 6.83	6.73	Pass
Peak Deflection	mm	50 – 58	51	Pass
Peak Resistive Force within Deflection Corridor	kN	3.9 – 4.4	4.3	Pass
Peak Force 18mm – 50mm		<105% of Peak Force in Deflection Corridor	100%	Pass
Internal Hysteresis	%	69 to 85	73	Pass
		Overall Test Results		Pass

3/30/01

Laboratory Technician

Test Date

Approved By

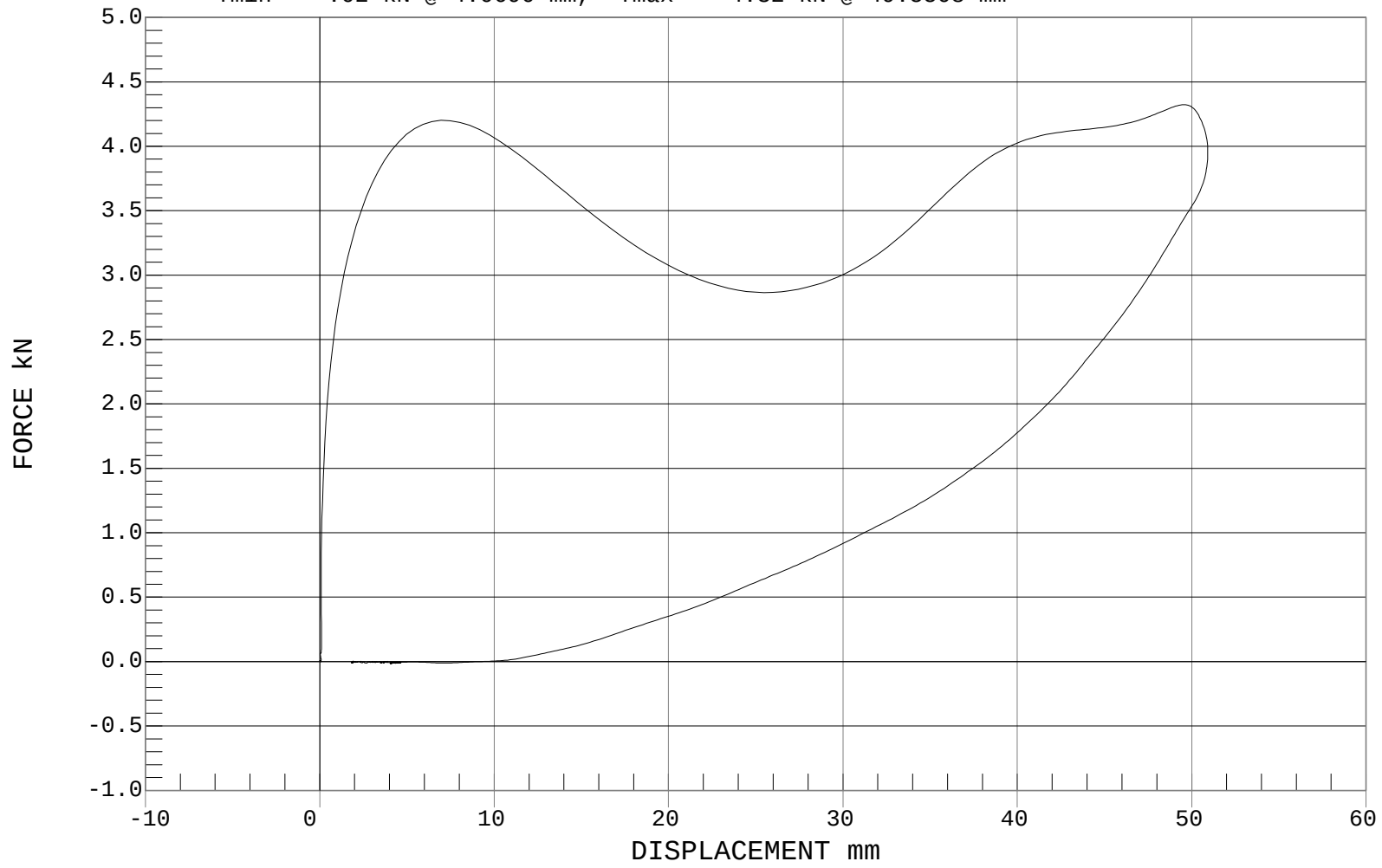
THORAX IMPACT

Test Desc.: Dummy Calibration - Chest Impact
Component: Dummy #273

Test Date: 03-30-01
Speed: 22.07 FT/SEC, 6.73 M/SEC

1 FORCE, D01404CH.FVD

Ymin = -.02 kN @ 4.0690 mm, Ymax = 4.32 kN @ 49.5508 mm



Hybrid III Calibration Data Sheet

5th Percentile Female

Neck Flexion Test

ATD Serial No.: 273 Test I.D.: D01402

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.9	Pass
Laboratory Relative Humidity		%	10 to 70	26	Pass
Pendulum Velocity		m/s	6.89 to 7.13	7.08	Pass
Pendulum Deceleration	10 msec	m/s	2.1 to 2.5	2.2	Pass
	20 msec	m/s	4.0 to 5.0	4.4	Pass
	30 msec	m/s	5.8 to 7.0	6.4	Pass
Maximum "D" Plane Rotation	Maximum	Degrees	77 – 91	85	Pass
Moment About Occipital Condyle within Deflection Corridor	Maximum	Nm	69 – 83	70	Pass
Positive Moment Time Curve Decay to 10 Nm		ms	80 – 100	88	Pass
			Overall Test Results		Pass

3/30/01

Laboratory Technician

Test Date

Approved By

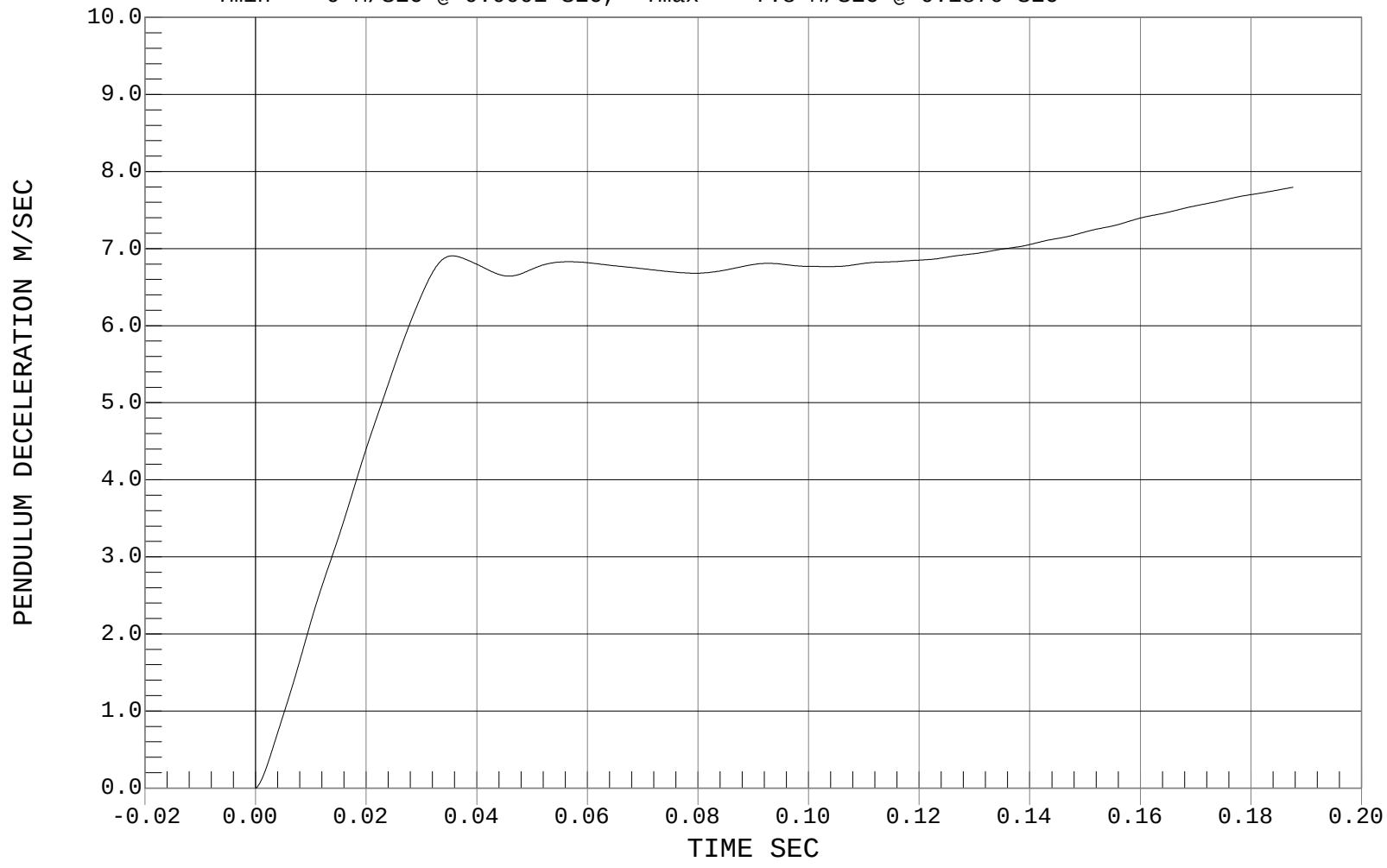
PENDULUM DECELERATION

Test Desc.: Dummy Calibration - Neck Flexion
Component: Dummy #273

Test Date: 03-30-01
Speed: 23.21 FT/SEC, 7.08 M/SEC

1 PENDULUM DECELERATION, D01402AI.V04

Ymin = 0 M/SEC @ 0.0001 SEC, Ymax = 7.8 M/SEC @ 0.1876 SEC



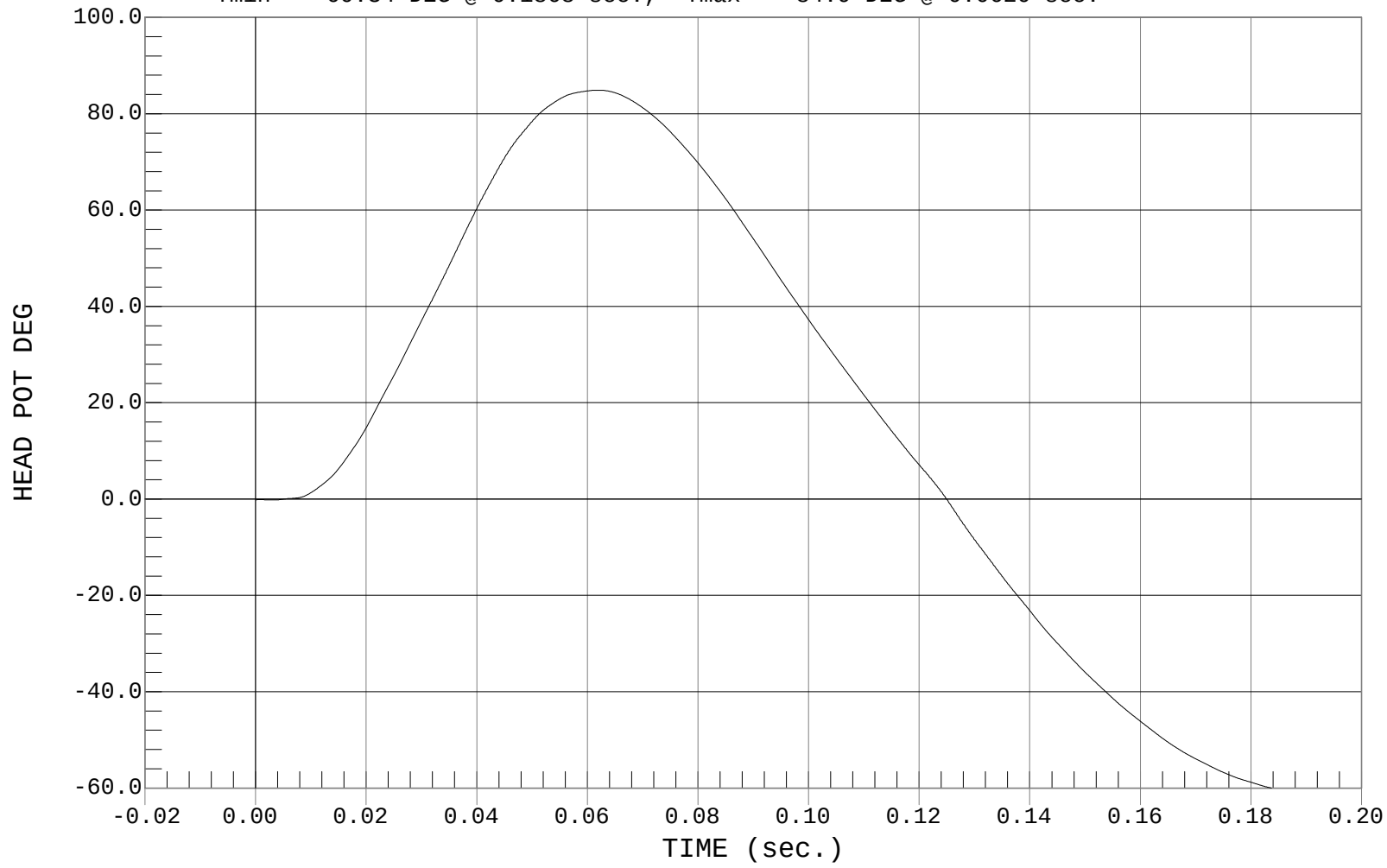
NECK ROTATION

Test Desc.: Dummy Calibration - Neck Flexion
Component: Dummy #273

Test Date: 03-30-01
Speed: 23.21 FT/SEC, 7.08 M/SEC

1 HEAD POT, D01402DU.D05

Ymin = -60.34 DEG @ 0.1868 sec., Ymax = 84.9 DEG @ 0.0620 sec.



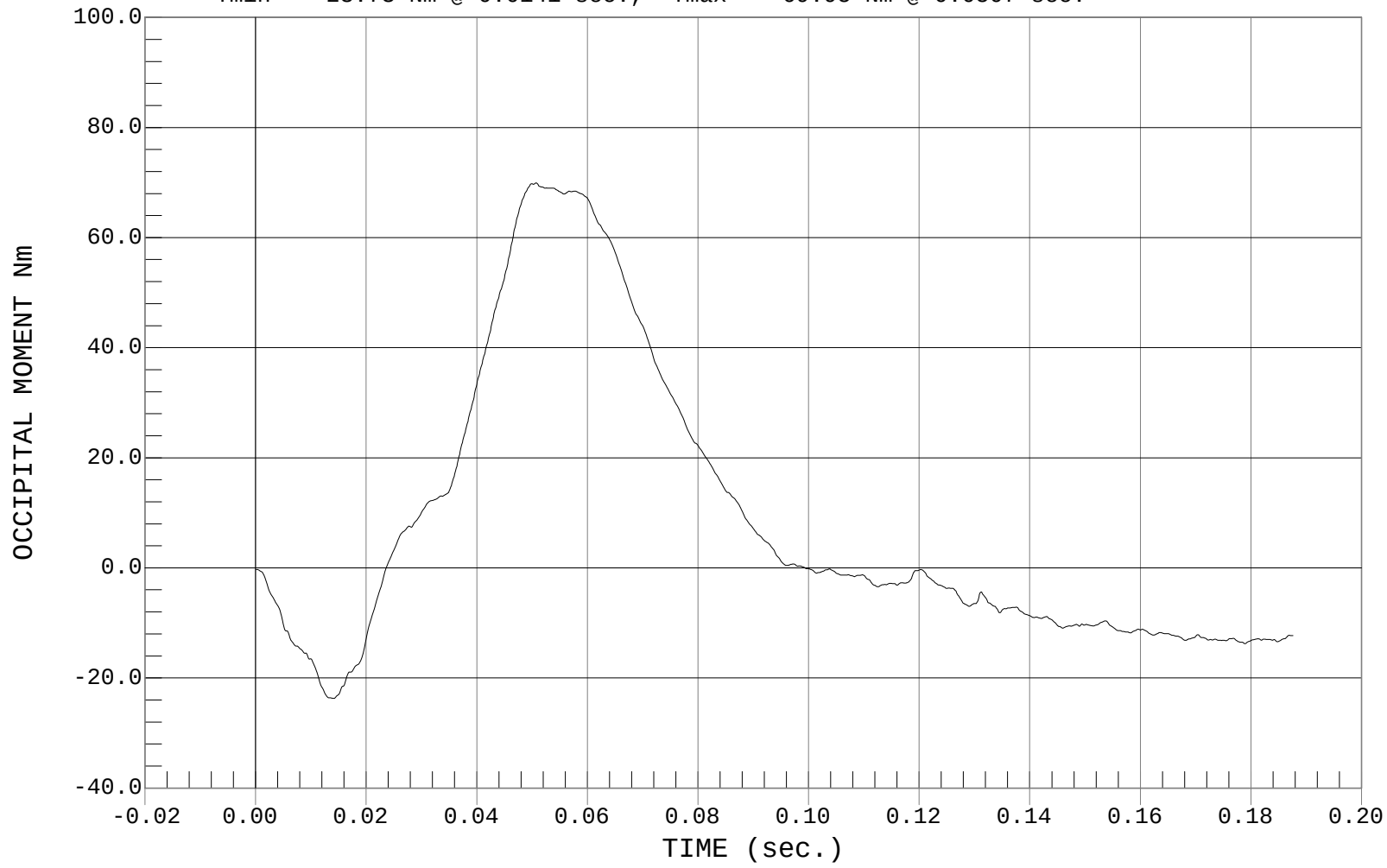
OCCIPITAL MOMENT

Test Desc.: Dummy Calibration - Neck Flexion
Component: Dummy #273

Test Date: 03-30-01
Speed: 23.21 FT/SEC, 7.08 M/SEC

1 OCCIPITAL MOMENT, D01402NK.MNT

Ymin = -23.73 Nm @ 0.0141 sec., Ymax = 69.95 Nm @ 0.0507 sec.



Hybrid III Calibration Data Sheet

5th Percentile Female

Neck Extension Test

ATD Serial No.: 273 Test I.D.: D01403

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.9	Pass
Laboratory Relative Humidity		%	10 to 70	26	Pass
Pendulum Velocity		m/s	5.95 to 6.19	6.13	Pass
Pendulum Deceleration	10 msec	m/sec	1.5 – 1.9	1.7	Pass
	20 msec	m/sec	3.1 – 3.9	3.6	Pass
	30 msec	m/sec	4.6 – 5.6	5.2	Pass
Maximum "D" Plane Rotation	Maximum	Degrees	99 – 114	110	Pass
Moment About Occipital Condyle in Deflection Corridor	Minimum	Nm	-65 - -53	-53	Pass
Negative Moment Time Curve Decay to –10 Nm		msec	94 – 114	101	Pass
			Overall Test Results		Pass

3/30/01

Laboratory Technician

Test Date

Approved By

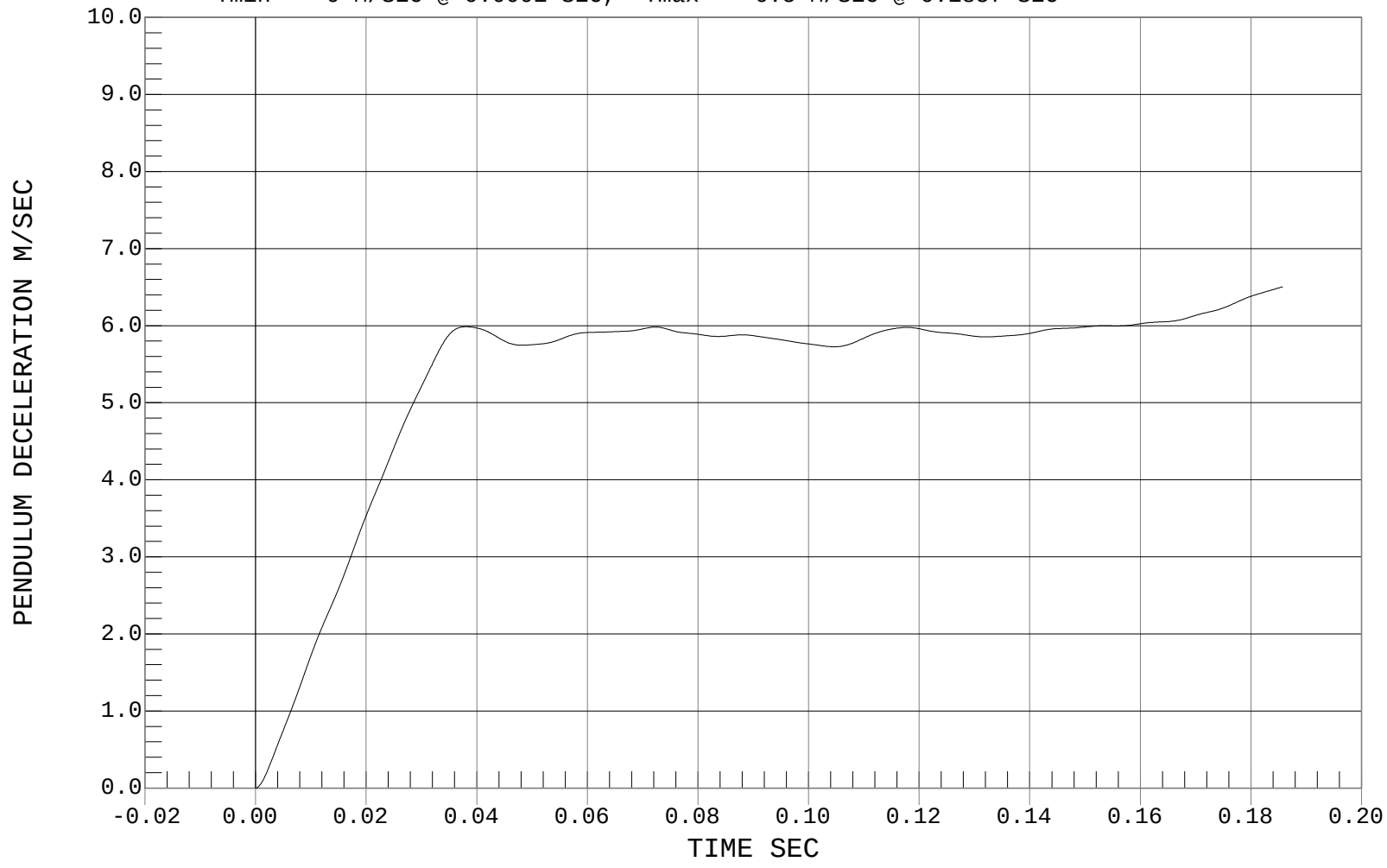
PENDULUM DECELERATION

Test Desc.: Dummy Calibration - Neck Extension
Component: Dummy #273

Test Date: 03-30-01
Speed: 20.10 FT/SEC, 6.13 M/SEC

1 PENDULUM DECELERATION, D01403AI.V04

Ymin = 0 M/SEC @ 0.0001 SEC, Ymax = 6.5 M/SEC @ 0.1857 SEC



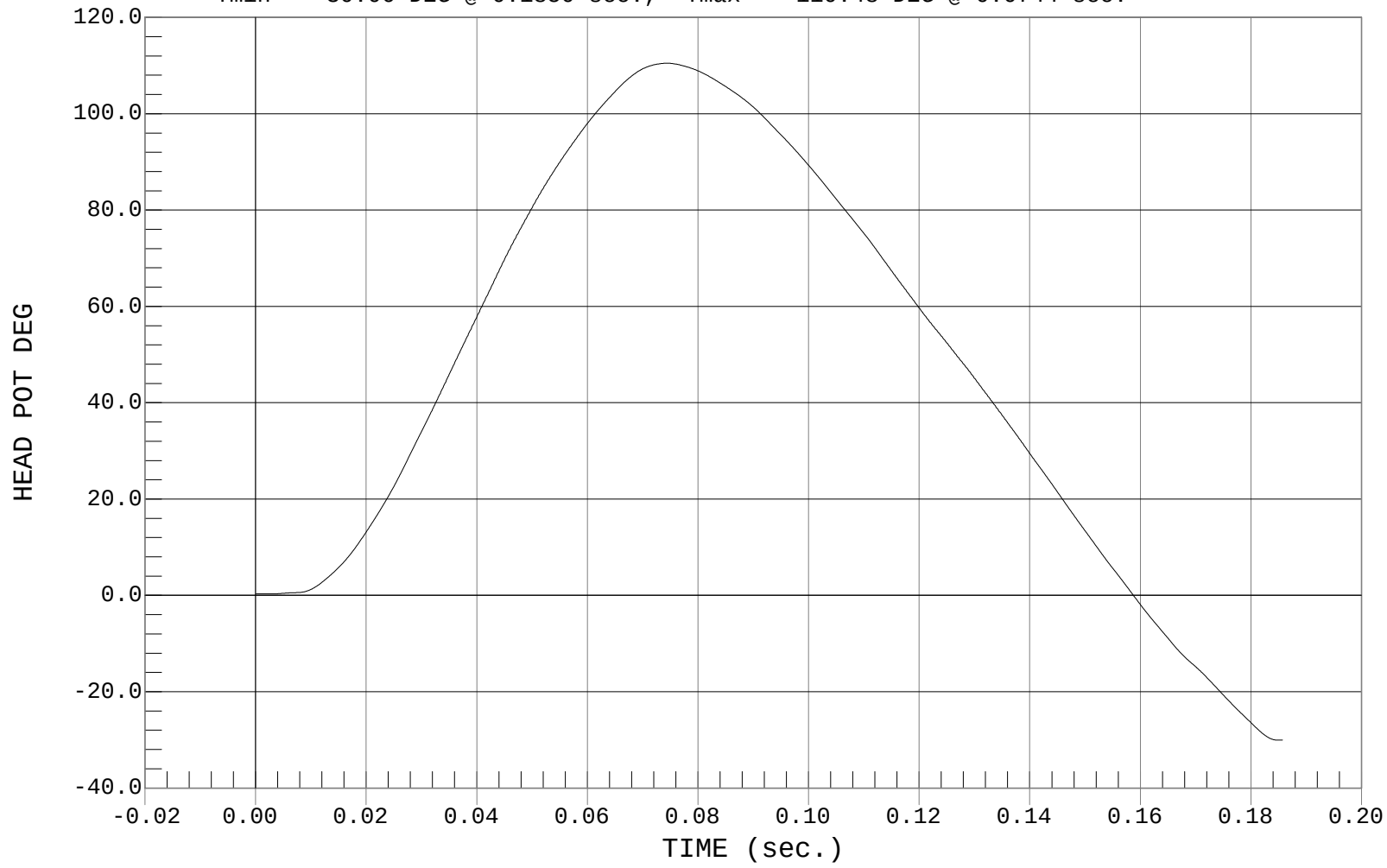
NECK ROTATION

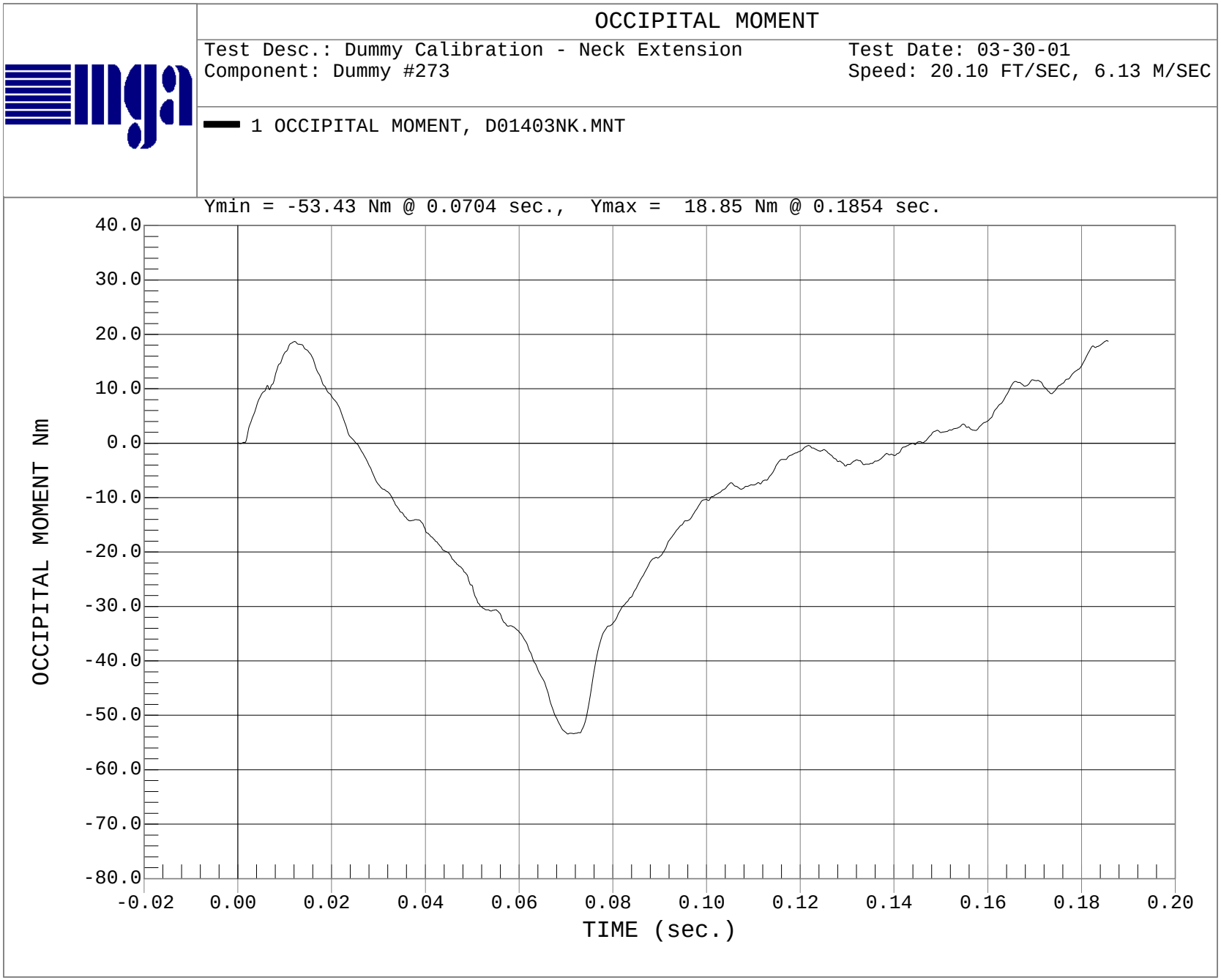
Test Desc.: Dummy Calibration - Neck Extension
Component: Dummy #273

Test Date: 03-30-01
Speed: 20.10 FT/SEC, 6.13 M/SEC

1 HEAD POT, D01403DU.D05

Ymin = -30.06 DEG @ 0.1850 sec., Ymax = 110.48 DEG @ 0.0744 sec.




OCCIPITAL MOMENT
Test Desc.: Dummy Calibration - Neck Extension
Test Date: 03-30-01
Component: Dummy #273
Speed: 20.10 FT/SEC, 6.13 M/SEC
1 OCCIPITAL MOMENT, D01403NK.MNT
Ymin = -53.43 Nm @ 0.0704 sec., Ymax = 18.85 Nm @ 0.1854 sec.
OCCIPITAL MOMENT Nm
40.0
30.0
20.0
10.0
0.0
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-80.0
-0.02
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.18
0.20
TIME (sec.)

Hybrid III Calibration Data Sheet

5th Percentile Female

Torso Flexion Test

ATD Serial No.: 273 Test I.D.: D0140A

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	°C	18.9 to 25.6	22.1	Pass
Relative Humidity	%	10 to 70	25	Pass
Initial Angle	Deg	0 – 20	10	Pass
Return Angle	Deg	0 – 8	5	Pass
Force @ 45°	N	320 – 390	358	Pass
		Overall Test Results		Pass

3/30/01

Laboratory Technician

Test Date

Approved By

Hybrid III Calibration Data Sheet

5th Percentile Female

External Measurements

ATD Serial No.: 273 Test I.D.: D0140

External Measurement Data				
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6-22.2	21.8	Pass
Laboratory Relative Humidity	%	10-70	26	Pass
A – Total sitting height	mm	775 – 800	785	Pass
B – Shoulder pivot height	mm	432 – 457	442	Pass
C – "H" point height	mm	81 – 86	84	Pass
D – "H" point from back line	mm	145 – 150	147	Pass
E – Shoulder pivot from back line	mm	69 – 84	74	Pass
F – Thigh clearance	mm	119 – 135	125	Pass
G – Back of elbow to wrist pivot	mm	244 – 259	254	Pass
H – Head back from back line	mm	43 – 48	46	Pass
I – Shoulder to elbow length	mm	277 – 297	290	Pass
J – Elbow rest height	mm	183 – 203	196	Pass
K – Buttock to knee length	mm	521 – 546	536	Pass
L – Popliteal length	mm	356 – 376	366	Pass
M – Knee pivot height	mm	394 – 419	406	Pass
N – Buttock popliteal length	mm	414 – 439	432	Pass
O – Chest depth without jacket	mm	175 – 191	183	Pass
P – Foot length	mm	218 – 234	226	Pass
R – Buttock to knee pivot length	mm	457 – 483	470	Pass
S – Head breadth	mm	137 – 147	145	Pass
T – Head depth	mm	178 – 188	183	Pass
U – Hip breadth	mm	300 – 315	310	Pass
V – Shoulder breadth	mm	351 – 366	358	Pass
W – Foot breadth	mm	79 – 94	87	Pass
X – Head circumference	mm	528 – 549	536	Pass
Y – Chest circumference with jacket	mm	851 – 881	866	Pass
Z – Waist circumference	mm	759 – 790	775	Pass
AA – Location for chest circumference	mm	300 – 310	305	Pass
BB – Location for waist circumference	mm	160 – 170	165	Pass
		Overall Test Results		Pass

_____ 3/30/01

Laboratory Technician Test Date

_____

Approved By

APPENDIX D

TEST EQUIPMENT AND INSTRUMENTATION CALIBRATION

DUMMY, VEHICLE, AND LABORATORY INSTRUMENT CALIBRATION

INSTRUMENTS FOR DUMMY NO. 288

	INSTRUMENTS FOR DRIVER DUMMY NO. 288		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Head X	AJ9H0	Endevco	1/5/01
Head Y	ANAN3	Endevco	1/5/01
Head Z	ANAN6	Endevco	1/5/01
Head X Redundant	AP120	Endevco	1/5/01
Head Y Redundant	ALEK9	Endevco	1/5/01
Head Z Redundant	AP042	Endevco	1/5/01
Chest X	AMRR4	Endevco	1/8/01
Chest Y	ALCR0	Endevco	1/8/01
Chest Z	AMP44	Endevco	1/8/01
Chest X Redundant	AC9B7	Endevco	1/8/01
Chest Y Redundant	AMR94	Endevco	1/8/01
Chest Z Redundant	AMTB1	Endevco	1/8/01
Right Femur Load Cell	261	Denton	10/13/00
Left Femur Load Cell	262	Denton	10/13/00
Pelvis X	AHY98	Endevco	1/8/01
Pelvis Y	AHTW6	Endevco	1/8/01
Pelvis Z	AHWP2	Endevco	1/8/01
Neck Force X	443	Denton	11/11/00
Neck Force Y	443	Denton	11/11/00
Neck Force Z	443	Denton	11/11/00
Neck Moment X	443	Denton	11/11/00
Neck Moment Y	443	Denton	11/11/00
Neck Moment Z	443	Denton	11/11/00
Chest Deflection Gauge	288	Servo	3/9/01
Lap Belt Load Cell	191	Denton	10/6/00
Shoulder Belt Load Cell	192	Denton	10/6/00

DUMMY, VEHICLE, AND LABORATORY INSTRUMENT CALIBRATION

INSTRUMENTS FOR DUMMY NO. 288

	INSTRUMENTS FOR DRIVER DUMMY NO. 288		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Upper Right Tibia Moment X	696	Denton	12/8/00
Upper Right Tibia Moment Y	696	Denton	12/8/00
Upper Right Tibia Force Z	696	Denton	12/8/00
Lower Right Tibia Moment X	556	Denton	12/14/00
Lower Right Tibia Moment Y	556	Denton	12/14/00
Lower Right Tibia Force Z	556	Denton	12/14/00
Upper Left Tibia Moment X	705	Denton	1/10/01
Upper Left Tibia Moment Y	705	Denton	1/10/01
Upper Left Tibia Force Z	705	Denton	1/10/01
Lower Left Tibia Moment X	557	Denton	12/14/00
Lower Left Tibia Moment Y	557	Denton	12/14/00
Lower Left Tibia Force Z	557	Denton	12/14/00
Left Foot Ball Z Acceleration	AH0A5	Endevco	11/16/00
Left Heel X Acceleration	AJ9C4	Endevco	11/16/00
Left Heel Z Acceleration	AN8A4	Endevco	11/16/00
Right Foot Ball Z Acceleration	ALDD6	Endevco	11/16/00
Right Heel X Acceleration	J20392	Endevco	11/16/00
Right Heel Z Acceleration	AGT18	Endevco	11/16/00

DUMMY, VEHICLE, AND LABORATORY INSTRUMENT CALIBRATION

INSTRUMENTS FOR DUMMY NO. 273

	INSTRUMENTS FOR PASSENGER DUMMY NO. 273		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Head X	ACCY6	Endevco	10/3/00
Head Y	ACCH1	Endevco	10/3/00
Head Z	AAMW5	Endevco	10/3/00
Head X Redundant	AJ9D2	Endevco	10/3/00
Head Y Redundant	AH1E2	Endevco	10/3/00
Head Z Redundant	AJ7K3	Endevco	10/3/00
Chest X	ACC78	Endevco	10/3/00
Chest Y	ACCE6	Endevco	10/3/00
Chest Z	ACCY3	Endevco	10/3/00
Chest X Redundant	AJ9J7	Endevco	10/3/00
Chest Y Redundant	AJ7A2	Endevco	10/3/00
Chest Z Redundant	AJ819	Endevco	10/3/00
Right Femur Load Cell	259	Denton	10/13/00
Left Femur Load Cell	260	Denton	10/13/00
Pelvis X	AM748	Endevco	9/19/00
Pelvis Y	ALCH7	Endevco	9/19/00
Pelvis Z	AALH1	Endevco	9/19/00
Neck Force X	442	Denton	1/3/01
Neck Force Y	442	Denton	1/3/01
Neck Force Z	442	Denton	1/3/01
Neck Moment X	442	Denton	1/3/01
Neck Moment Y	442	Denton	1/3/01
Neck Moment Z	442	Denton	1/3/01
Chest Deflection Gauge	273	Servo	2/22/01
Lap Belt Load Cell	196	Denton	10/6/00
Shoulder Belt Load Cell	193	Denton	10/6/00

DUMMY, VEHICLE, AND LABORATORY INSTRUMENT CALIBRATION

INSTRUMENTS FOR DUMMY NO. 273

	INSTRUMENTS FOR PASSENGER DUMMY NO. 273		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Upper Right Tibia Moment X	694	Denton	12/8/00
Upper Right Tibia Moment Y	694	Denton	12/8/00
Upper Right Tibia Force Z	694	Denton	12/8/00
Lower Right Tibia Moment X	554	Denton	12/14/00
Lower Right Tibia Moment Y	554	Denton	12/14/00
Lower Right Tibia Force Z	554	Denton	12/14/00
Upper Left Tibia Moment X	695	Denton	12/8/00
Upper Left Tibia Moment Y	695	Denton	12/8/00
Upper Left Tibia Force Z	695	Denton	12/8/00
Lower Left Tibia Moment X	555	Denton	12/14/00
Lower Left Tibia Moment Y	555	Denton	12/14/00
Lower Left Tibia Force Z	555	Denton	12/14/00
Left Foot Ball Z Acceleration	AGMT2	Endevco	11/16/00
Left Heel X Acceleration	AH0A2	Endevco	11/16/00
Left Heel Z Acceleration	AJ837	Endevco	11/16/00
Right Foot Ball Z Acceleration	AP2D6	Endevco	11/16/00
Right Heel X Acceleration	J11548	Endevco	11/16/00
Right Heel Z Acceleration	J10866	Endevco	11/16/00

VEHICLE INSTRUMENT CALIBRATION

	VEHICLE ACCELEROMETERS		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Left Rear Seat Crossmember X	I25-J18	Entran	2/7/01
Right Rear Seat Crossmember X	A08-A02	Entran	2/8/01
Top of Engine Block X	I18-E05	Entran	12/13/00
Bottom of Engine X	I26-D11	Entran	2/7/01
Left Brake Caliper X	I18-E18	Entran	2/13/01
Right Brake Caliper X	K19-A15	Entran	1/11/01
Instrument Panel X	E13-D06	Entran	2/15/01
Redundant Left Rear Seat Crossmember X	I18-G02	Entran	2/15/01
Redundant Right Rear Seat Crossmember X	A08-A08	Entran	2/8/01

	LABORATORY INSTRUMENTS		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Neck Bending Pendulum Accelerometer	C12885	Endevco	1/17/01
Neck Bending Head Rotary Potentiometer	018	Spectrol	10/2/00
Neck Bending Pendulum Rotary Potentiometer	019	Spectrol	10/2/00
Chest Probe Accelerometer	J14396	Endevco	1/11/01
Knee Impact Accelerometer	J14398	Endevco	1/11/01

APPENDIX E

VEHICLE OWNER'S MANUAL OCCUPANT RESTRAINT INSTRUCTIONS

ILLUMINATED ENTRY

Power Door Locks

All interior lights will illuminate in the vehicle when the doors are unlocked using the Keyless Entry transmitter or when a door is opened. These lights will stay on for about 30 seconds, after the last door is closed, or until the ignition is turned to the ON position.

There is also a battery saver feature that will turn the interior lights off after 15 minutes if any of the following occur:

- a door or the liftgate is open
- dimmer control is in the interior lights on position

OCCUPANT RESTRAINTS

Some of the most important safety features in your vehicle are the restraint systems. These include the front and rear seat belts for the driver and all passengers, and front airbags for both the driver and front passenger. If you will be carrying children too small for adult-size belts, your seat belts also can be used to hold infant and child restraint systems.

Please pay close attention to the information in this section. It tells you how to use your restraint system properly to keep you and your passengers as safe as possible.

2

WARNING!

In a collision, you and your passengers can suffer much greater injuries if you are not properly buckled up. You can strike the interior of your vehicle or other passengers, or you can be thrown out of the vehicle. Always be sure you and others in your vehicle are buckled up properly.

Buckle up even though you are an excellent driver, even on short trips. Someone on the road may be a poor driver and cause a collision that includes you. This can happen far away from home or on your own street.

Research has shown that seat belts save lives, and that they can reduce the seriousness of injuries in a collision. Some of the worst injuries happen when people are thrown from the vehicle. Seat belts reduce the possibility

of ejection and the risk of injury caused by striking the inside of the vehicle. **Everyone** in a motor vehicle should be belted at all times.

Lap/Shoulder Belts

The outboard front and rear seats of your vehicle have combination lap/shoulder belts. The belt webbing retractor is designed to lock during very sudden stops or collisions. This feature allows the shoulder part of the belt to move freely with you under normal conditions. But in a collision, the belt will lock and reduce the risk of your striking the inside of the vehicle or being thrown out.

WARNING!

It is extremely dangerous to ride in a cargo area, inside or outside of a vehicle. In a collision, people riding in these areas are more likely to be seriously injured or killed.

Do not allow people to ride in any area of your vehicle that is not equipped with seats and seat belts.

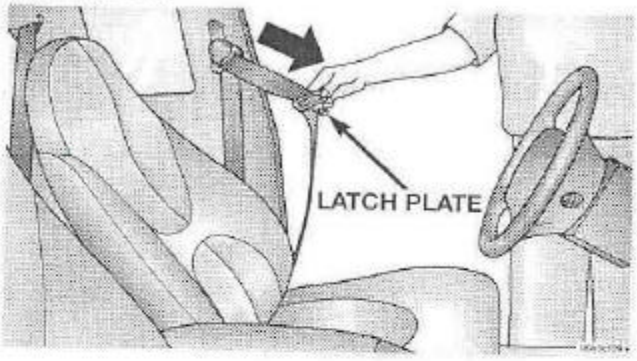
Be sure everyone in your vehicle is in a seat and using a seat belt properly.

WARNING!

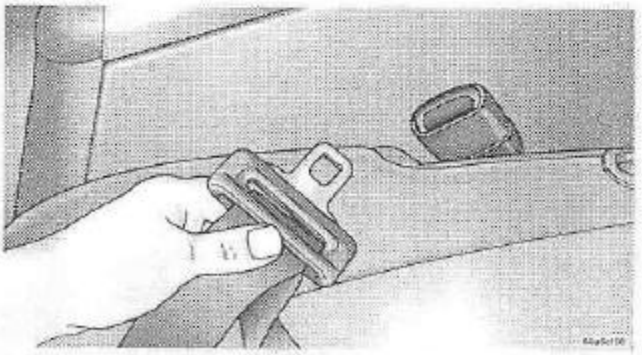
- Wearing a seat belt incorrectly is dangerous. Seat belts are designed to go around the large bones of your body. These are the strongest parts of your body and can take the forces of a collision the best. Wearing your belt in the wrong place could make your injuries in a collision much worse. You might suffer internal injuries, or you could even slide out of part of the belt. Follow these instructions to wear your seat belt safely and to keep your passengers safe, too.
- Two people should never be belted into a single seat belt. People belted together can crash into one another in an accident, hurting one another badly. Never use a lap/shoulder belt or a lap belt for more than one person, no matter what their size.

Lap/Shoulder Belt Operating Instructions

1. Enter the vehicle and close the door. Sit back and adjust the seat.



2. The seat belt latch plate is above the back of the front seat, next to your arm in the rear seat. Grasp the latch plate and pull out the belt. Slide the latch plate up the webbing as far as necessary to allow the belt to go around your lap.

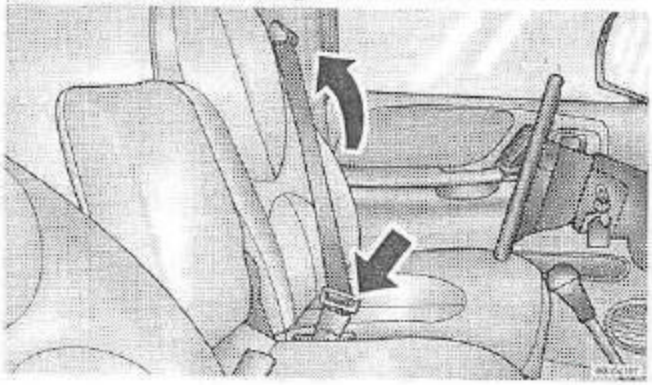


3. When the belt is long enough to fit, insert the latch plate into the buckle until you hear a "click."

WARNING!

- A belt buckled into the wrong buckle will not protect you properly. The lap portion could ride too high on your body, possibly causing internal injuries. Always buckle your belt into the buckle nearest you.
- A belt that is too loose will not protect you as well. In a sudden stop you could move too far forward, increasing the possibility of injury. Wear your seat belt snugly.
- A belt that is worn under your arm is very dangerous. Your body could strike the inside surfaces of the vehicle in a collision, increasing head and neck injury. And a belt worn under the arm can cause internal injuries. Ribs aren't as strong as shoulder bones. Wear the belt over your shoulder so that your strongest bones will take the force in a collision.
- A shoulder belt placed behind will not protect you from injury during a collision. You are more likely to hit your head in a collision if you do not wear your shoulder belt. The lap and shoulder belt are meant to be used together.

4. Position the lap belt across your thighs, below your abdomen. To remove slack in the lap belt portion, pull up on the shoulder belt. To loosen the lap belt if it is too tight, tilt the latch plate and pull on the lap belt. A snug belt reduces the risk of sliding under the belt in a collision.



WARNING!

- **A lap belt worn too high can increase the risk of internal injury in a collision. The belt forces won't be at the strong hip and pelvic bones, but across your abdomen. Always wear the lap belt as low as possible and keep it snug.**
- **A twisted belt can't do its job as well. In a collision it could even cut into you. Be sure the belt is straight. If you can't straighten a belt in your vehicle, take it to your dealer and have it fixed.**

5. Position the shoulder belt on your chest so that it is comfortable and not resting on your neck. The retractor will withdraw any slack in the belt.

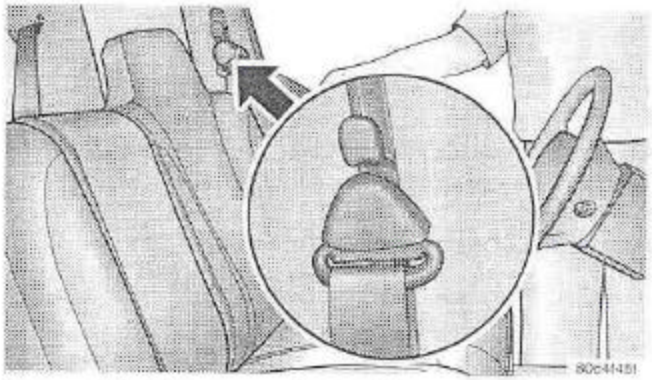
6. To release the belt, push the red button on the buckle. The belt will automatically retract to its stowed position. If necessary, slide the latch plate down the webbing to allow the belt to retract fully.

WARNING!

A frayed or torn belt could rip apart in a collision and leave you with no protection. Inspect the belt system periodically, checking for cuts, frays, or loose parts. Damaged parts must be replaced immediately. Do not disassemble or modify the system. Seat belt assemblies must be replaced after a collision if they have been damaged (bent retractor, torn webbing, etc.).

Adjustable Upper Shoulder Belt Anchorage

In the front and second row outboard seats, the shoulder belt can be adjusted upward or downward to help position the belt away from your neck. Toggle the button up or down located above the upper belt guide to release the anchorage, and then move it up or down to the position that serves you best.



As a guide, if you are shorter than average, you will prefer a lower position, and if you are taller than average, you'll prefer a higher position. When you release the anchorage, try to move it up or down to make sure that it is locked in position.

Seat Belt Pretensioners

The seat belts for both front seating positions are equipped with pretensioning devices that are designed to remove any slack from the seat belt system in the event of a collision. These devices improve the performance of the seat belt by assuring that the belt is tight about the occupant early in a collision. Pretensioners work for all size occupants, including those in child restraints.

NOTE: These devices are not a substitute for proper seat belt placement by the occupant. The seat belt still must be worn snugly and positioned properly.

The pretensioners are triggered by the airbag control module. like the airbags, the pretensioners are single use items. After a collision that is severe enough to deploy the airbags and pretensioners, both must be replaced.

Center Lap Belts

The center seating positions have a lap belt only. To fasten the lap belt, slide the latch plate into the buckle until you hear a "click." To lengthen the lap belt, tilt the latch plate and pull. To remove slack, pull the loose end of the webbing. Wear the lap belt snug against the hips. Sit back and erect in the seat, then adjust the belt as tightly as is comfortable.

2

WARNING!

- **A lap belt worn too loose or too high is dangerous.**
- **A belt worn too loose can allow you to slip down and under the belt in a collision.**
- **A belt that is too loose or too high will apply crash forces to the abdomen, not to the stronger hip bones. In either case, the risk of internal injuries is greater. Wear a lap belt low and snug.**

Seat Belts and Pregnant Women

We recommend that pregnant women use seat belts throughout their pregnancies. Keeping the mother safe is the best way to keep the baby safe.

Pregnant women should wear the lap part of the belt across the thighs and as snug against the hips as possible. Keep the belt low so that it does not come across the abdomen. That way the strong bones of the hips will take the force if there is a collision.

Seat Belt Extender

If a seat belt is too short, even when fully extended, your dealer can provide you with a seat belt extender. This extender should be used only if the existing belt is not long enough. When it is not required, remove the extender and store it.

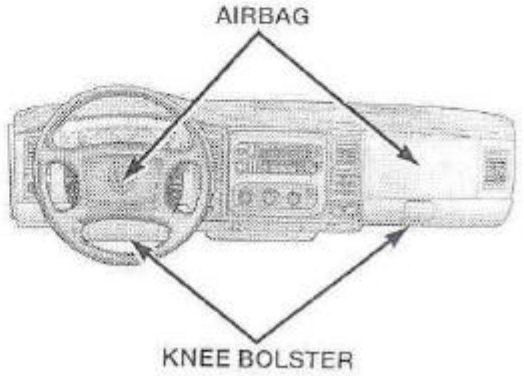
WARNING!

Using a seat belt extender when not needed can increase the risk of injury in a collision. Only use the seat belt extender when the lap belt is not long enough when it is worn low and snug, and in the recommended seating positions. Remove and store the extender when not needed.

Driver And Right Front Passenger Supplemental Restraint System (SRS)—Airbag

This vehicle has front airbags for both the driver and front passenger as a supplement to the seat belt restraint systems. The driver's front airbag is mounted in the center of the steering wheel. The passenger's front airbag is mounted in the instrument panel, above the glove compartment. The words SRS AIRBAG are embossed on the airbag covers.

These airbags is certified to the new Federal regulations that allow less forceful deployments.



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WARNING!

Do not put anything on or around the front airbag covers or attempt to manually open them. You may damage the airbags and you could be injured because the airbags are not there to protect you. These protective covers for the airbag cushions are designed to open only when the airbags are inflating.

Airbags inflate in moderate to high speed impacts. Along with the seatbelts, front airbags work with the instrument panel knee bolsters to provide improved protection for the driver and front passenger.

The seat belts are designed to protect you in many types of collisions. The front airbags deploy in moderate to severe frontal collisions. But even in collisions where the airbags work, you need the seat belts to keep you in the right position for the airbags to protect you properly.

Here are some simple steps you can follow to minimize the risk of harm from a deploying airbag.

- Children 12 years and under should ride buckled up in a rear seat, if available.
- Infants in rear facing child restraints (designed for children 9 kg (20 lbs.) and less than one year old must NEVER ride in the front seat of a vehicle with a passenger front airbag unless the airbag is turned off. An airbag deployment could cause severe injury or death to infants in that position. See the passenger airbag on/off switch section.
- If your vehicle does not have a rear seat, see the Passenger Airbag On/Off Switch section.
- Children more than 18 kg (40 lbs) should be secured in the rear seat in child restraints or belt-positioning booster seats. Older children who do not use child restraints or belt-positioning booster seats should ride properly buckled up in the rear seat, and in the outboard seat if possible. Never allow children to slide the shoulder belt behind them or under their arm.
- All occupants should use their seat belts properly.

- The driver and front passenger seats should be moved back as far as practical to allow the airbag room to inflate.

WARNING!

- **Relying on the airbags alone could lead to more severe injuries in a collision. The airbags work with your seat belt to restrain you properly. In some collisions the airbags won't deploy at all. Always wear your seat belts even though you have airbags.**
- **Being too close to the steering wheel or instrument panel during airbag deployment could cause serious injury. Airbags need room to inflate. Sit back, comfortably extending your arms to reach the steering wheel or instrument panel.**

Airbag System Components

The airbag system consists of the following:

- Airbag Control Module
- AIRBAG Readiness Light
- Driver Airbag
- Passenger Airbag
- Steering Wheel and Column
- Instrument Panel
- Crash Sensor
- Interconnecting Wiring
- Knee Impact Bolsters

How The Airbag System Works

- The airbag control module determines if a frontal collision is severe enough to require the airbags to inflate.
- The airbag control module will not detect side, roll over, or rear collisions.

- The airbag control module also monitors the readiness of the electronic parts of the system whenever the ignition switch is in the START or RUN positions. These include all of the items listed above except the knee bolsters, the instrument panel, and the steering wheel and column If the key is in the "off" position, in the ACC position, or not in the ignition, the airbags are not on and will not inflate
- The airbag control module also turns on the AIRBAG light in the instrument panel for 6 to 8 seconds when the ignition is first turned on, then turns the light off. If it detects a malfunction in any part of the system, it turns on the light either momentarily or continuously.

WARNING!

Ignoring the AIRBAG light in your instrument panel could mean you won't have the airbags to protect you in a collision. If the light does not come on, stays on after you start the vehicle, or if it comes on as you drive, have the airbag system checked right away.

- When the airbag control module detects a collision requiring the airbags, it signals the inflator units. A large quantity of nontoxic gas is generated to inflate the airbags. The airbag covers separate and fold out of the way as the airbags inflate to their full size. The airbags fully inflate in milliseconds. This is only about half of the time it takes you to blink your eyes. The airbags then quickly deflate while helping to restrain the driver and front passenger. The driver's front airbag gas is vented through the airbag material towards the instrument panel. The passenger's front airbag gas is vented through vent holes in the sides of the airbag. In this way the airbags do not interfere with your control of the vehicle.
- The knee impact bolsters help protect the knees and position you for the best interaction with the front airbag.

If A Deployment Occurs

The airbag system is designed to deploy when the air bag control module detects a moderate-to-severe frontal collision, and then immediately to deflate.

NOTE: A frontal collision that is not severe enough to need airbag protection will not activate the system. This does not mean something is wrong with the airbag system.

If you do have a collision which deploys the airbags, any or all of the following may occur:

- The nylon airbag material may sometimes cause abrasions and/or skin reddening to the driver and front passenger as the airbags deploy and unfold. The abrasions are similar to friction rope burns or those you might get sliding along a carpet or gymnasium floor. They are not caused by contact with chemicals. They are not permanent and normally heal quickly. However, if you haven't healed significantly within a few days, or if you have any blistering, see your doctor immediately.
- As the airbags deflate you may see some smoke-like particles. The particles are a normal by-product of the process that generates the nontoxic gas used for airbag inflation. These airborne particles may irritate the skin, eyes, nose, or throat. If you have skin or eye irritation, rinse the area with cool water. For nose or throat irritation, move to fresh air. If the irritation continues, see your doctor. If these particles settle on your clothing, follow the garment manufacturer's instructions for cleaning.
- It is not advisable to drive your vehicle after the airbags have deployed. If you are involved in another collision, the airbags will not be in place to protect you.

WARNING!

Deployed airbags can't protect you in another collision. Have the airbags replaced by an authorized dealer as soon as possible.

Enhanced Accident Response System

If the airbags deploy after an impact and the electrical system remains functional, vehicles equipped with power door locks will unlock automatically. In addition, approximately 10 seconds after the vehicle has stopped moving, the interior lights will light until the ignition switch is turned off.

Maintaining Your Airbag Systems

WARNING!

- Modifications to any part of the airbag system could cause it to fail when you need it. You could be injured because the airbags are not there to protect you. Do not modify the components or wiring, including adding any kind of badges or stickers to the steering wheel hub trim cover or the upper right side of the instrument panel. Do not modify the front bumper, vehicle body structure, or frame.
- You need proper knee impact protection in a collision. Do not mount or locate any aftermarket equipment on or behind the knee bolster.
- It is dangerous to try to repair any part of the airbag system yourself. Be sure to tell anyone who works on your vehicle that it has airbags.

Airbag Light

You will want to have the airbags ready to inflate for your protection in an impact. While the airbag system is designed to be maintenance free, if any of the following occurs, have an authorized dealer service the system promptly:

- The airbag light does not come on or flickers during the 6 to 8 seconds when the ignition switch is first turned on.
- The light remains on or flickers after the 6 to 8 second interval.
- The light flickers or comes on and remains on while driving.

NOTE: If the speedometer, tachometer or any engine related gauges are not working, the airbag control module may also be disabled. The airbags may not be ready to inflate for your protection. Promptly check fuse numbers 18 and 19 in the fuse block. See your dealer if the fuse is good.

Child Restraint

Everyone in your vehicle needs to be buckled up all the time — babies and children, too. Every state in the United States and all Canadian provinces require that small children ride in proper restraint systems. This is the law, and you can be prosecuted for ignoring it.

Children 12 years and under should ride properly buckled up in a rear seat, if available. According to crash statistics, children are safer when properly restrained in the rear seats rather than in the front.

WARNING!

In a collision, an unrestrained child, even a tiny baby, can become a missile inside the vehicle. The force required to hold even an infant on your lap can become so great that you could not hold the child, no matter how strong you are. The child and others could be badly injured. Any child riding in your vehicle should be in a proper restraint for the child's size.

Infants and Small Children

There are different sizes and types of restraints for children from newborn size to the child almost large enough for the adult seat belt. Use the restraint that is correct for your child:

- The rearward-facing infant carrier is for babies weighing up to about 20 lbs. (9 kg), and less than one year old. The infant carrier must NEVER be used in the front seat of a vehicle with a front passenger airbag. An airbag deployment could cause severe injury or death to infants in this position. The infant carrier is held in the vehicle by the lap/shoulder belt.
- Children under one year of age should continue to ride in a rear-facing infant seat, even if they weigh more than 20 lbs. (9 kg). A "convertible" child seat, one that is designed to be used either rearward-facing or forward-facing, should be used for children who are too heavy for the infant carrier, but who are too young to face forward in the vehicle.

- The forward-facing child seat is for children from about 20 lbs. to 40 lbs. (9 to 18 kg.), and more than one year old. The child seat is held in the vehicle by the lap/shoulder belt.
- The belt-positioning booster seat is for children weighing more than 40 lbs. (18 kg). The child and booster seat are held in the vehicle by the lap/shoulder belt. (Some booster seats are equipped with a front shield and are held in the vehicle by the lap portion or lap belt.)

WARNING!

- **Improper installation can lead to failure of an infant or child restraint. It could come loose in a collision. The child could be badly injured or killed. Follow the manufacturer's directions exactly when installing an infant or child restraint.**
- **A rearward facing infant restraint should only be used in a rear seat. A rearward facing infant restraint in the front seat may be struck by a deploying passenger airbag which may cause severe or fatal injury to the infant.**

Here are some tips for getting the most out of your child restraint:

- Before buying any restraint system, make sure that it has a label certifying that it meets all applicable Safety Standards. We also recommend that you make sure that you can install the child restraint in the vehicle where you will use it before you buy it.

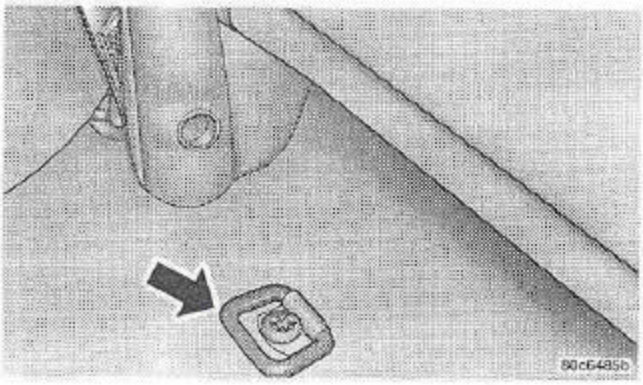
- The restraint must be appropriate for your child's weight and height. Check the label on the restraint for weight and height limits.
- Carefully follow the instructions that come with the restraint. If you install the restraint improperly, it may not work when you need it.
- The passenger seat belts are equipped with cinching latch plates, which are designed to keep the lap portion tight around the child restraint so that it is not necessary to use a locking clip. Pulling up on the shoulder portion of the lap/shoulder belt will tighten the belt. The cinching latch plate will keep the belt tight, however, any seat belt system will loosen with time, so check the belt occasionally and pull it tight if necessary.
- In the rear seat, you may have trouble tightening the lap/shoulder belt on the child restraint because the buckle or latch plate is too close to the belt path opening on the restraint. Disconnect the latch plate from the buckle and twist the short buckle-end belt several times to shorten it. Insert the latch plate into the buckle with the release button facing out.
- If the belt still can't be tightened, or if pulling and pushing on the restraint loosens the belt, disconnect the latch plate from the buckle, turn the buckle around, and insert the latch plate into the buckle again. If you still can't make the child restraint secure, try a different seating position.
- Buckle the child into the seat according to the child restraint manufacturer's directions.
- When your child restraint is not in use, secure it in the vehicle with the seat belt or remove it from the vehicle. Do not leave it loose in the vehicle. In a sudden stop or collision, it could strike the occupants or seat backs and cause serious personal injury.

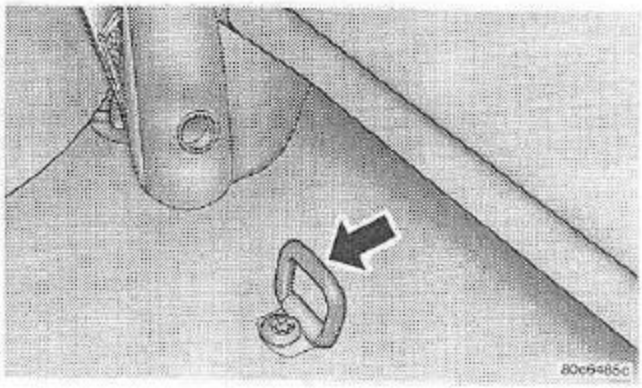
WARNING!

Improper installation can lead to failure of an infant or child restraint. It could come loose in a collision. The child could be badly injured or killed. Follow the manufacturer's directions exactly when installing an infant or child restraint.

Child Restraint Tether Anchor

There are tether strap anchorages behind most rear seating positions. A 5/6 passenger vehicle gets 3 Child Tether Anchorage positions, all in the 2nd row. A 7/8 passenger vehicle gets 4 Child Tether Anchorage positions, 2 each in the 2nd and 3rd rows. There is no Child Tether Anchorage provided for the center seating position of 40/20/40 2nd row seat. Attach the child seat tether to the anchorage loop and remove the slack from the tether strap according to the child seat manufacturers instructions.





WARNING!

An incorrectly anchored tether strap could lead to seat failure and injury to the child. In a collision, the seat could come loose and allow the child to crash into the inside of the vehicle or other passengers, or even be thrown from the vehicle. Use only the anchor positions directly behind the child seat to secure a child restraint top tether strap. Follow the instructions below. See your dealer for help if necessary.

Children Too Large for Booster Seats

Children who are large enough to wear the shoulder belt comfortably, and whose legs are long enough to bend over the front of the seat when their back is against the seat back should use the lap/shoulder belt in a rear seat.

- Make sure that the child is upright in the seat.
- The lap portion should be low on the hips and as snug as possible.
- Check belt fit periodically. A child's squirming or slouching can move the belt out of position.

If the shoulder belt contacts the face or neck, move the child closer to the center of the vehicle. If this doesn't help, move the child to the center rear seating position and use the lap belt. Never allow a child to put the shoulder belt under an arm or behind their back.

ENGINE BREAK-IN RECOMMENDATIONS

A long break-in period is not required for the engine in your new vehicle. Drive moderately during the first 300 miles (500 km). After the initial 60 miles (100 km), speeds up to 50 or 55 mph (80 or 90 km/h) are desirable. While cruising, brief full-throttle acceleration, within the limits of local traffic laws, contributes to a good break-in.

Avoid wide open throttle acceleration in low gear.

The engine oil installed in the engine at the factory is a high-quality, energy-conserving type lubricant. Oil changes should be consistent with anticipated climate conditions under which vehicle operations will occur. The recommended viscosity and quality grades are shown in Section 7.

APPENDIX F

CHILD SEAT

POST-TEST OBSERVATIONS

Test Vehicle: 2001/Dodge/Durango/MPV NHTSA No.: M10316

Test Program: 35 mph Frontal Barrier Impact Test Date: April 2, 2001

	Left Rear Passenger	Right Rear Passenger
Child Seat	Century STE Belted	Evenflo Horizon V Belted
Child Seat Mass (kg)	4.5	4.5
Belt Fraying	no	no
Stress Marks	no	no
Cracks	no	no
Buckle Stress	no	no
Latch Hooks	N/A	N/A
Contact	feet to seatback	feet to seatback

HYBRID III 3 YEAR OLD ATD INJURY CRITERIA AND SENSOR DATA

Test Vehicle: 2001/Dodge/Durango/MPV NHTSA No.: M10316

Test Program: 35 mph Frontal Barrier Impact Test Date: April 2, 2001

HEAD PRIMARY PEAK ACCELERATIONS

Location	Axis	Units	Left Rear Passenger				Right Rear Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Head CG	X	G's	1.8	34	123.3	120	21.8	240	63.7	103
Head CG	Y	G's	29.6	143	61.1	102	75.6	103	3.9	71
Head CG	Z	G's	76.4	120	1.4	33	62.9	103	0.7	23
Head CG Resultant	N/A	G's	150.4	120			117.0	103		

CHEST PRIMARY PEAK ACCELERATIONS

Location	Axis	Units	Left Rear Passenger				Right Rear Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	G's	3.7	177	47.1	68	2.2	239	45.4	71
Chest CG	Y	G's	13.6	73	12.4	121	18.4	114	6.4	192
Chest CG	Z	G's	6.2	235	16.4	110	9.5	239	26.6	111
Chest CG Resultant	N/A	G's	49.8	68			48.0	71		

SEAT BELT SENSOR PEAK VALUES

Location	Axis	Units	Left Rear Passenger				Right Rear Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Tether	N/A	Newtons	1386	95			1549	101		

HEAD INJURY CRITERIA (HIC)

Location	Left Rear Passenger				Right Rear Passenger			
	HIC	Avg G's	T^1	T^2	HIC	Avg G's	T^1	T^2
Head CG Primary (36 msec)	1289	66.3	86.6	122.6	1072	61.6	92.4	128.4
Head CG Primary (15 msec)	638	71.1	110.2	125.2	534	66.1	112.3	127.3

CHEST CLIP (3 MSEC)

Location	Left Rear Passenger			Right Rear Passenger		
	Clip	T^1	T^2	Clip	T^1	T^2
Chest CG Primary	48.2	66.9	70.0	46.9	68.9	72.0

HYBRID III 3 YEAR OLD ATD INJURY CRITERIA AND SENSOR DATA...(continued)

Test Vehicle: 2001/Dodge/Durango/MPV NHTSA No.: M10316

Test Program: 35 mph Frontal Barrier Impact Test Date: April 2, 2001

PELVIC PEAK ACCELERATIONS

Location	Axis	Units	Left Rear Passenger				Right Rear Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Pelvis	X	G's	16.9	131	61.4	47	25.2	108	67.5	71
Pelvis	Y	G's	12.3	132	17.1	95	17.3	81	17.5	135
Pelvis	Z	G's	6.3	152	30.7	97	8.1	240	33.0	85

UPPER NECK PEAK FORCES AND MOMENTS

Location	Axis	Units	Left Rear Passenger				Right Rear Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Neck Force	X	Newtons	45	182	870	125	8	24	1385	125
Neck Force	Y	Newtons	265	77	243	137	209	109	78	220
Neck Force	Z	Newtons	1714	118	75	18	2139	124	87	240
Neck Moment	X	N"m	14.2	92	9.9	117	15.4	114	6.0	208
Neck Moment	Y	N"m	19.8	121	16.1	75	7.9	121	17.5	73
Neck Moment	Z	N"m	7.5	142	9.3	108	6.2	120	3.4	157

LOWER NECK PEAK FORCES AND MOMENTS

Location	Axis	Units	Left Rear Passenger				Right Rear Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Neck Force	X	Newtons	112	222	1658	119	153	197	2077	125
Neck Force	Y	Newtons	88	70	609	123	486	123	93	218
Neck Force	Z	Newtons	1290	91	76	126	970	92	478	129
Neck Moment	X	N"m	38.9	87	40.6	119	48.0	123	12.3	219
Neck Moment	Y	N"m	147.9	119	12.1	223	13.4	220	207.5	124
Neck Moment	Z	N"m	11.5	90	18.4	116	23.4	121	2.4	61

CHEST PEAK DISPLACEMENTS

Location	Axis	Units	Left Rear Passenger				Right Rear Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	mm			16	122			21	129

DUMMY DIMENSIONS

Test Vehicle: 2001/Dodge/Durango/MPV NHTSA No.: M10316

Test Program: 35 mph Frontal Barrier Impact Test Date: April 2, 2001

Measurement Description	Left Rear Passenger	Right Rear Passenger
	Length (mm)	Length (mm)
Head to Roof (Z)	452	424
Head to Seatback (X)	728	755
Chest to Door (Y)	435	398
Left Foot to Seatback	171	195
Right Foot to Seatback	169	195

CHILD SEAT PHOTOGRAPHS

TABLE OF PHOTOGRAPHS

Photo 1 - Pre-Test LRS 3 Year Old Left Side View

Photo 2 - Post-Test LRS 3 Year Old Left Side View

Photo 3 - Pre-Test LRS 3 Year Old Left Side View (Door Open)

Photo 4 - Post-Test LRS 3 Year Old Left Side View (Door Open)

Photo 5 - Pre-Test RRS 3 Year Old Right Side View

Photo 6 - Post-Test RRS 3 Year Old Right Side View

Photo 7 - Pre-Test RRS 3 Year Old Right Side View (Door Open)

Photo 8 - Post-Test RRS 3 Year Old Right Side View (Door Open)

Photo 9 - Pre-Test LRS Tether View

Photo 10 - Post-Test LRS Tether View

Photo 11 - Pre-Test RRS Tether View

Photo 12 - Post-Test RRS Tether View

Photo 13 - Post-Test LRS Feet Contact View

Photo 14 - Post-Test RRS Feet Contact View

CHILD DATA PLOTS

TABLE OF DATA PLOTS

TABLE OF DATA PLOTS

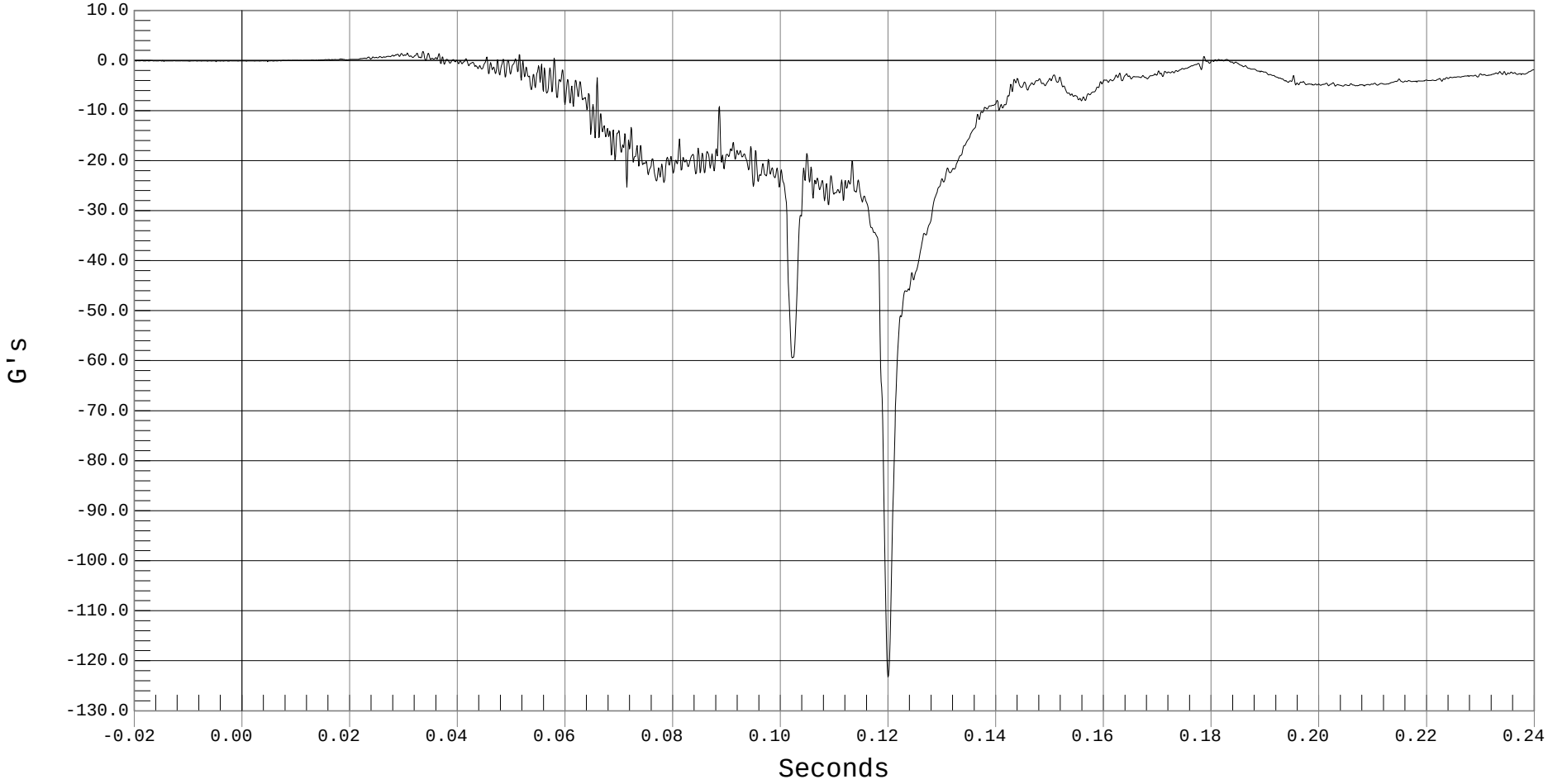
LRS 3 YR OLD HEAD X ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 LRS CHILD HEAD X, B01036AT.A13

Ymin = -123.25 G's @ 0.1199 Seconds, Ymax = 1.84 G's @ 0.0336 Seconds



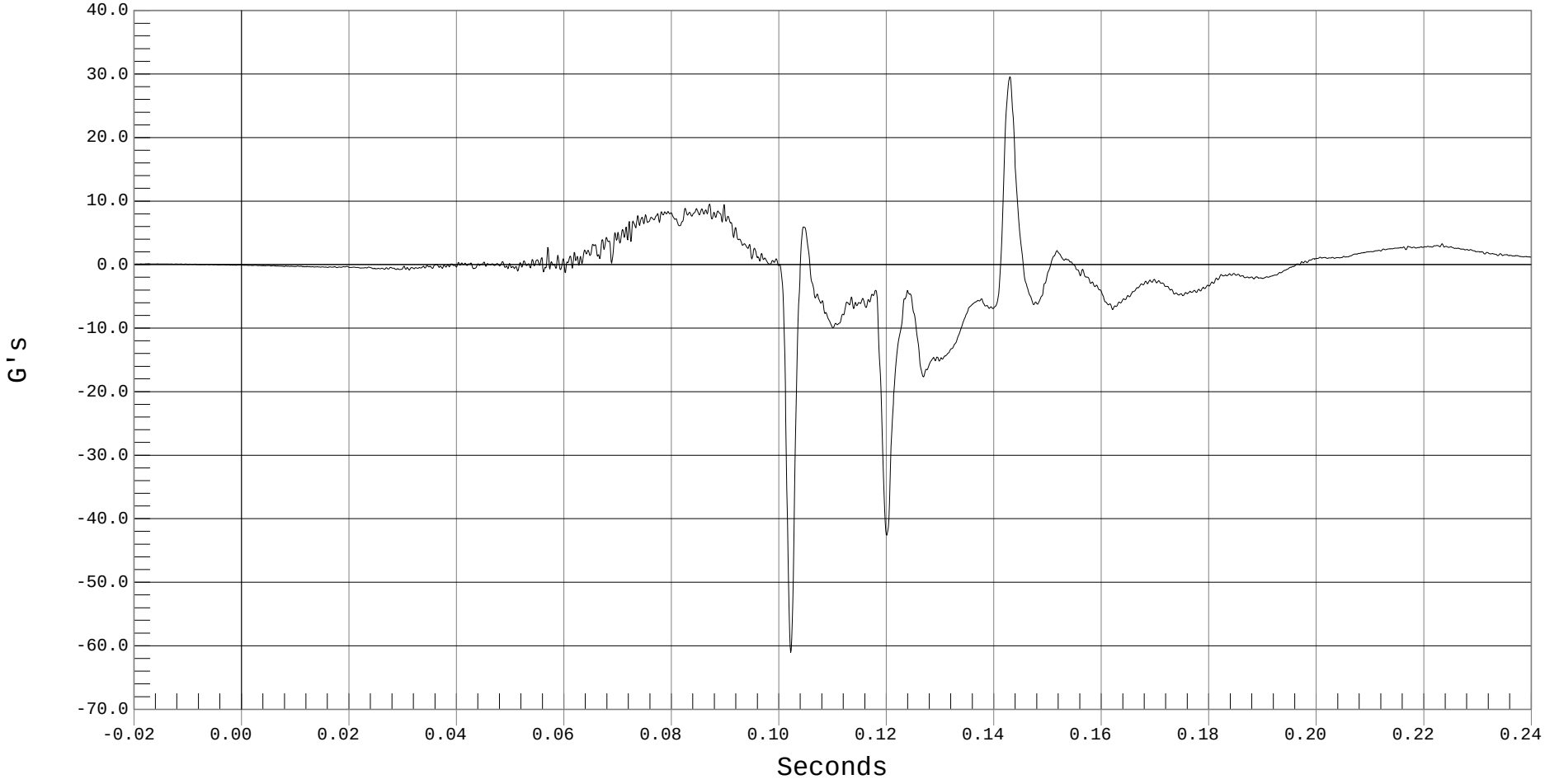
LRS 3 YR OLD HEAD Y ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 LRS CHILD HEAD Y, B01036AT.A14

Ymin = -61.07 G's @ 0.1021 Seconds, Ymax = 29.6 G's @ 0.1429 Seconds



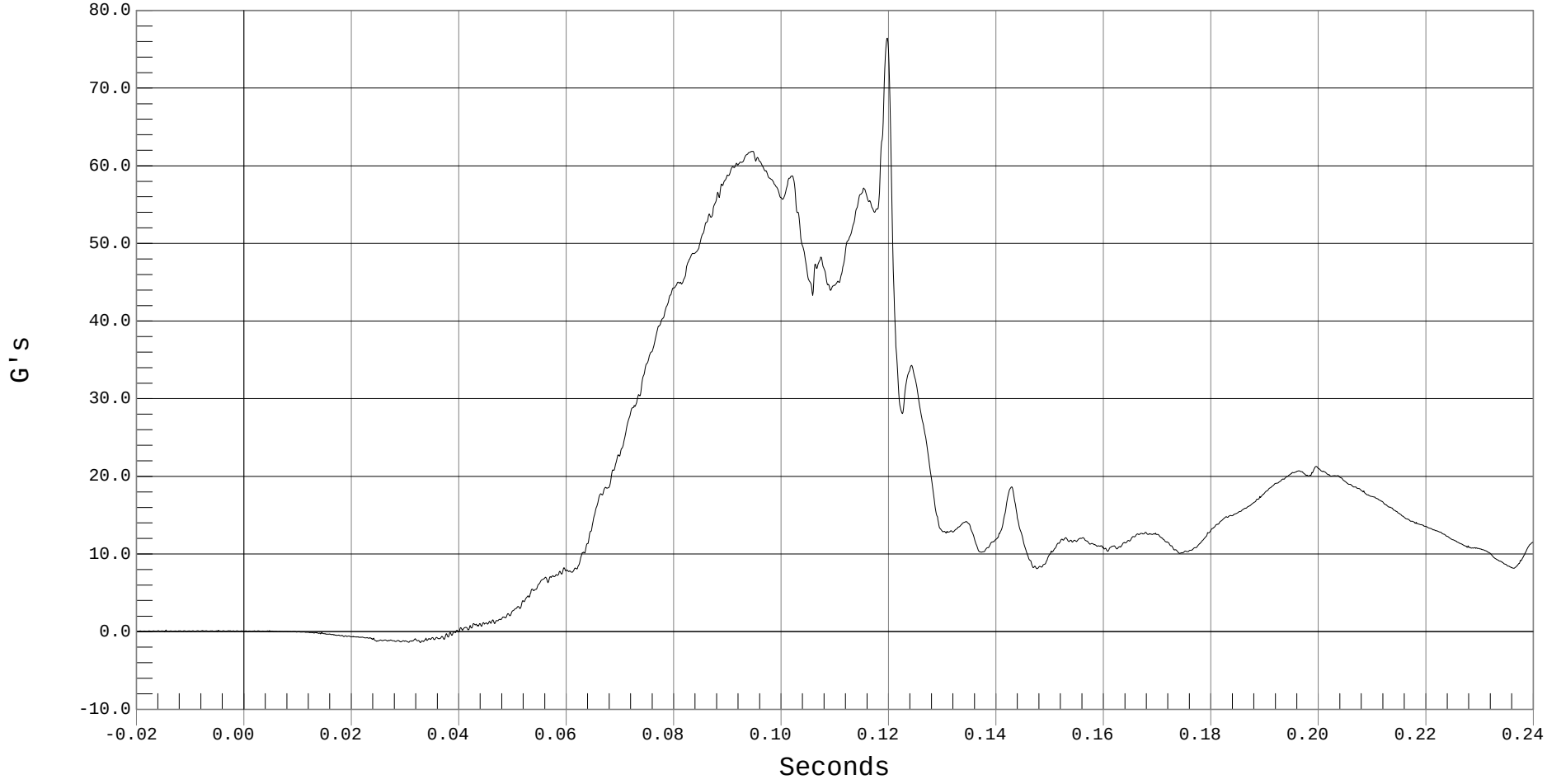
LRS 3 YR OLD HEAD Z ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 LRS CHILD HEAD Z, B01036AT.A15

Ymin = -1.4 G's @ 0.0328 Seconds, Ymax = 76.44 G's @ 0.1197 Seconds



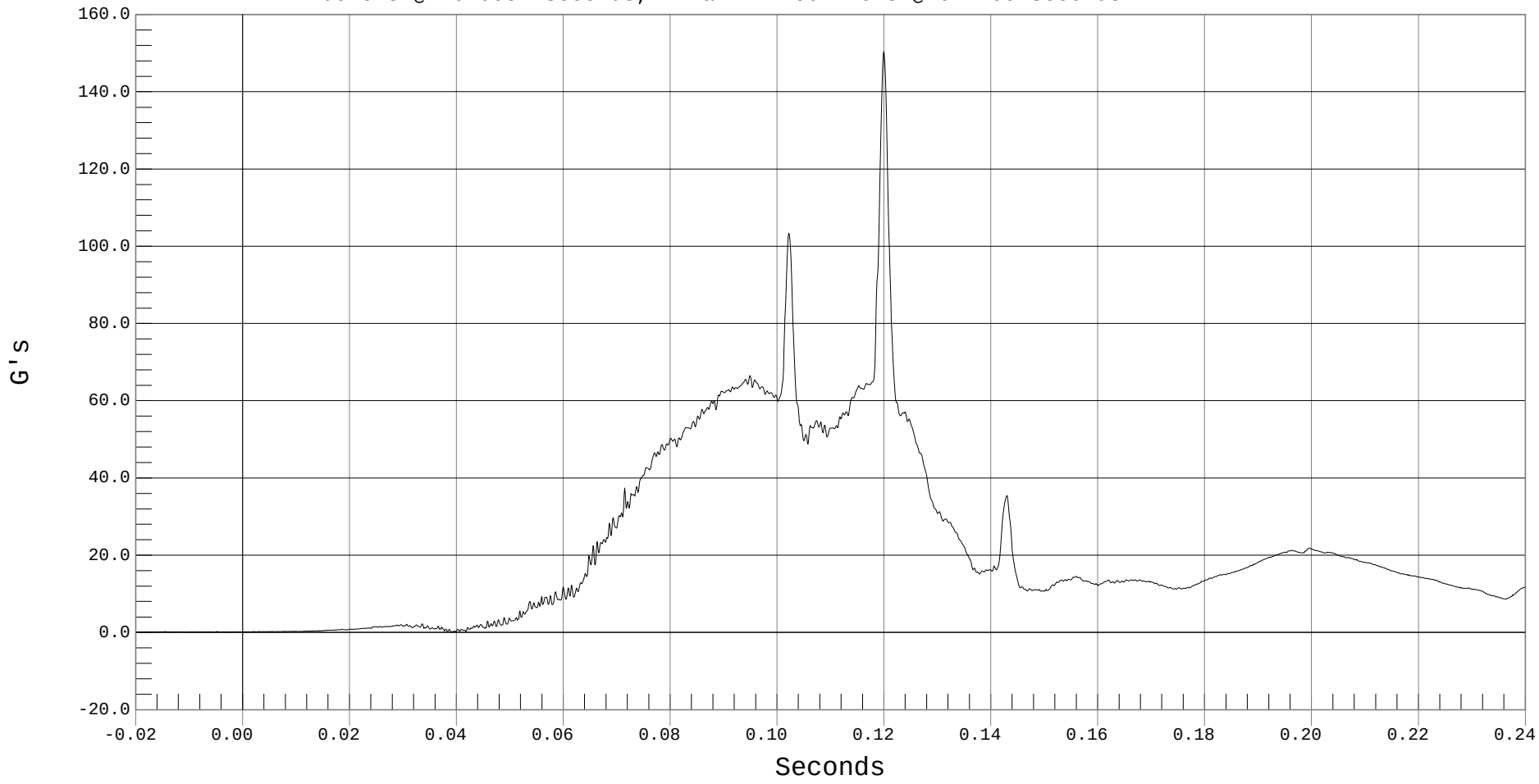
LRS 3 YR OLD HEAD RESULTANT ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 LRS 3 YR OLD HEAD RESULTANT ACCELERATION, B01036AV.A13

Ymin = .06 G's @ -0.0051 Seconds, Ymax = 150.4 G's @ 0.1199 Seconds



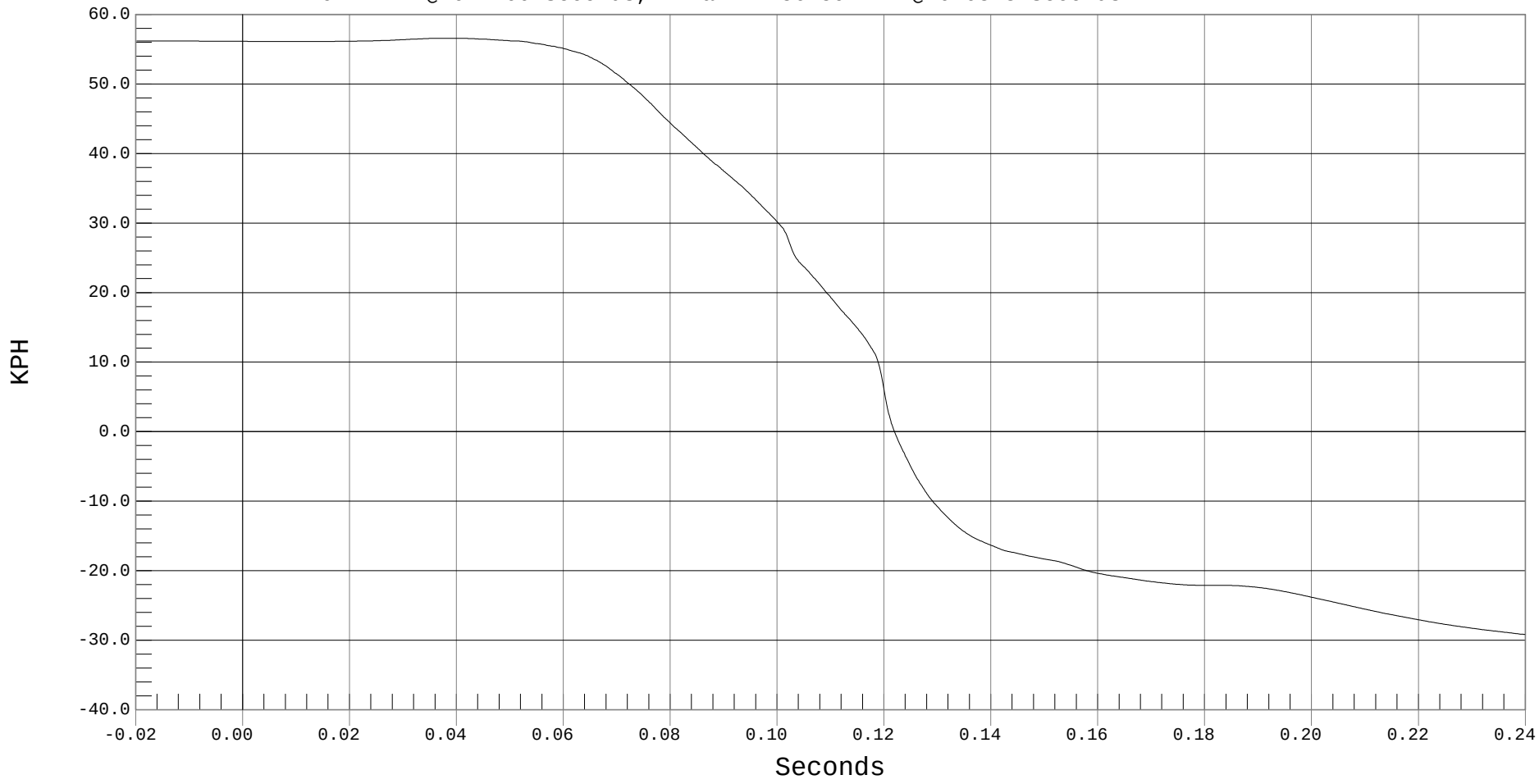
LRS 3 YR OLD HEAD X VELOCITY

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 LRS 3 YR OLD HEAD X VELOCITY, B01036AI.V13

Ymin = -29.2 KPH @ 0.2400 Seconds, Ymax = 56.59 KPH @ 0.0373 Seconds



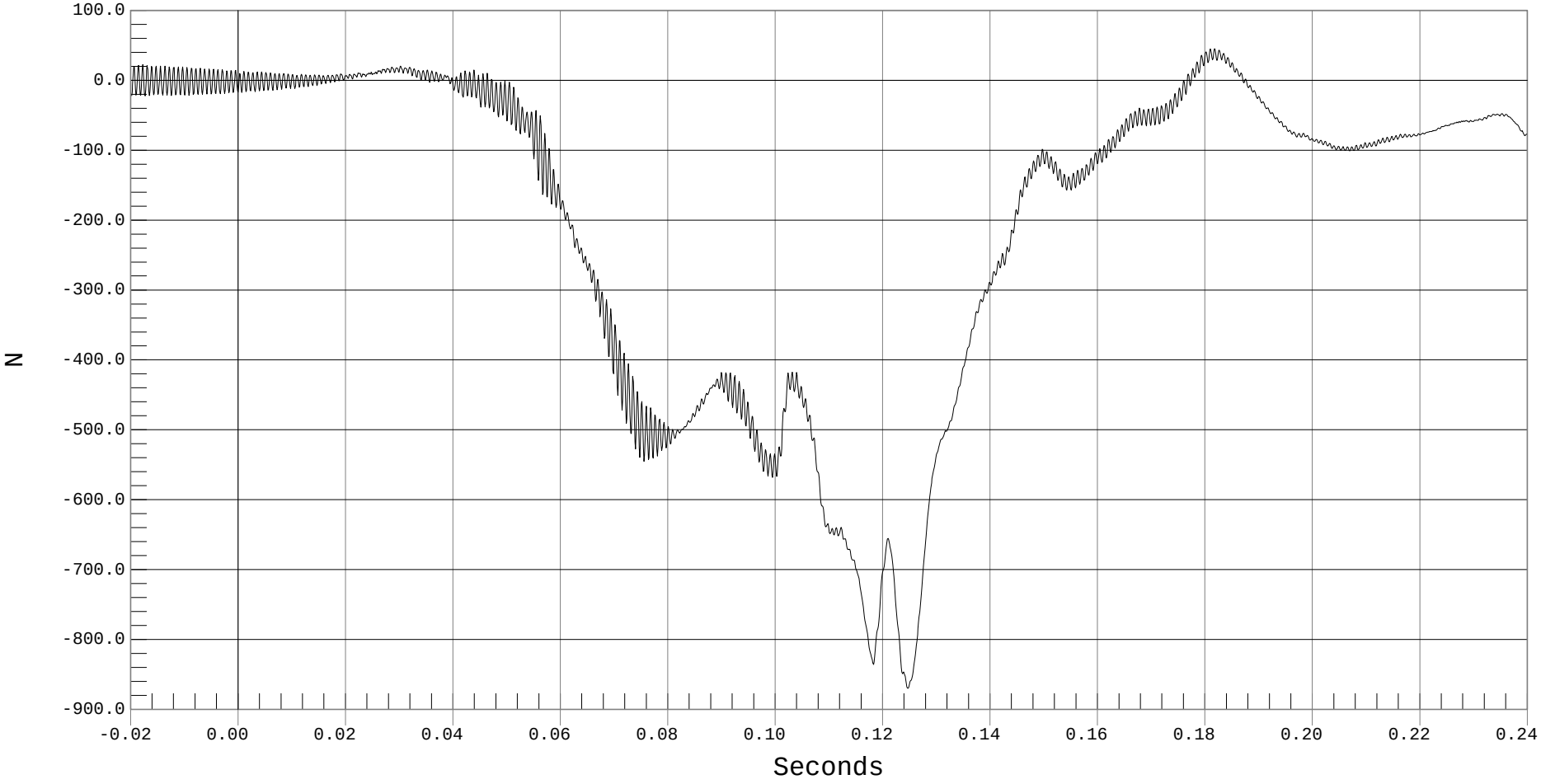
LRS 3 YR OLD UPPER NECK FORCE X

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 LRS CHILD UPPER NECK FORCE X, B01036FT.F16

Ymin = -870.01 N @ 0.1246 Seconds, Ymax = 45.33 N @ 0.1817 Seconds



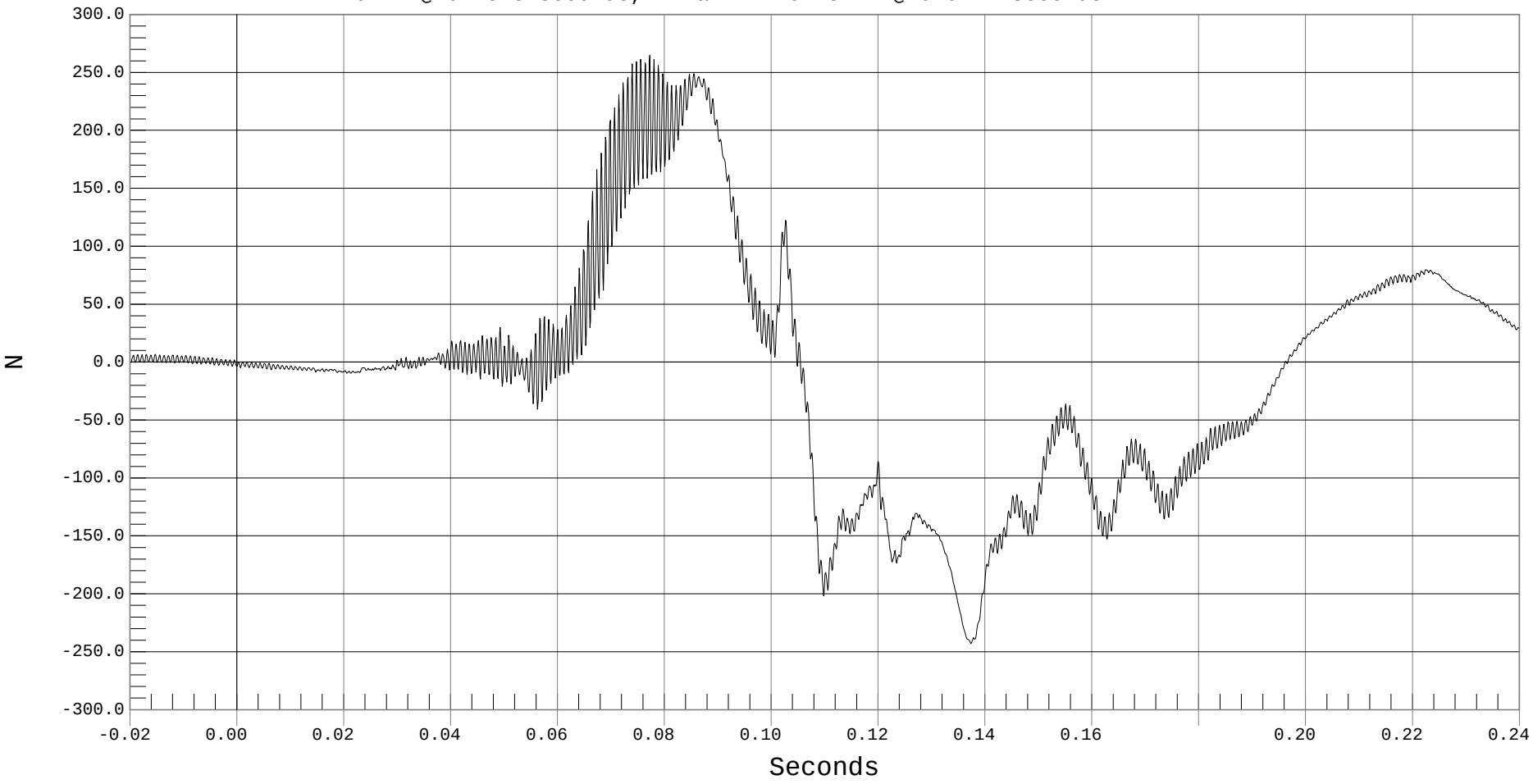
LRS 3 YR OLD UPPER NECK FORCE Y

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 LRS CHILD UPPER NECK FORCE Y, B01036FT.F17

Ymin = -242.92 N @ 0.1373 Seconds, Ymax = 264.87 N @ 0.0772 Seconds



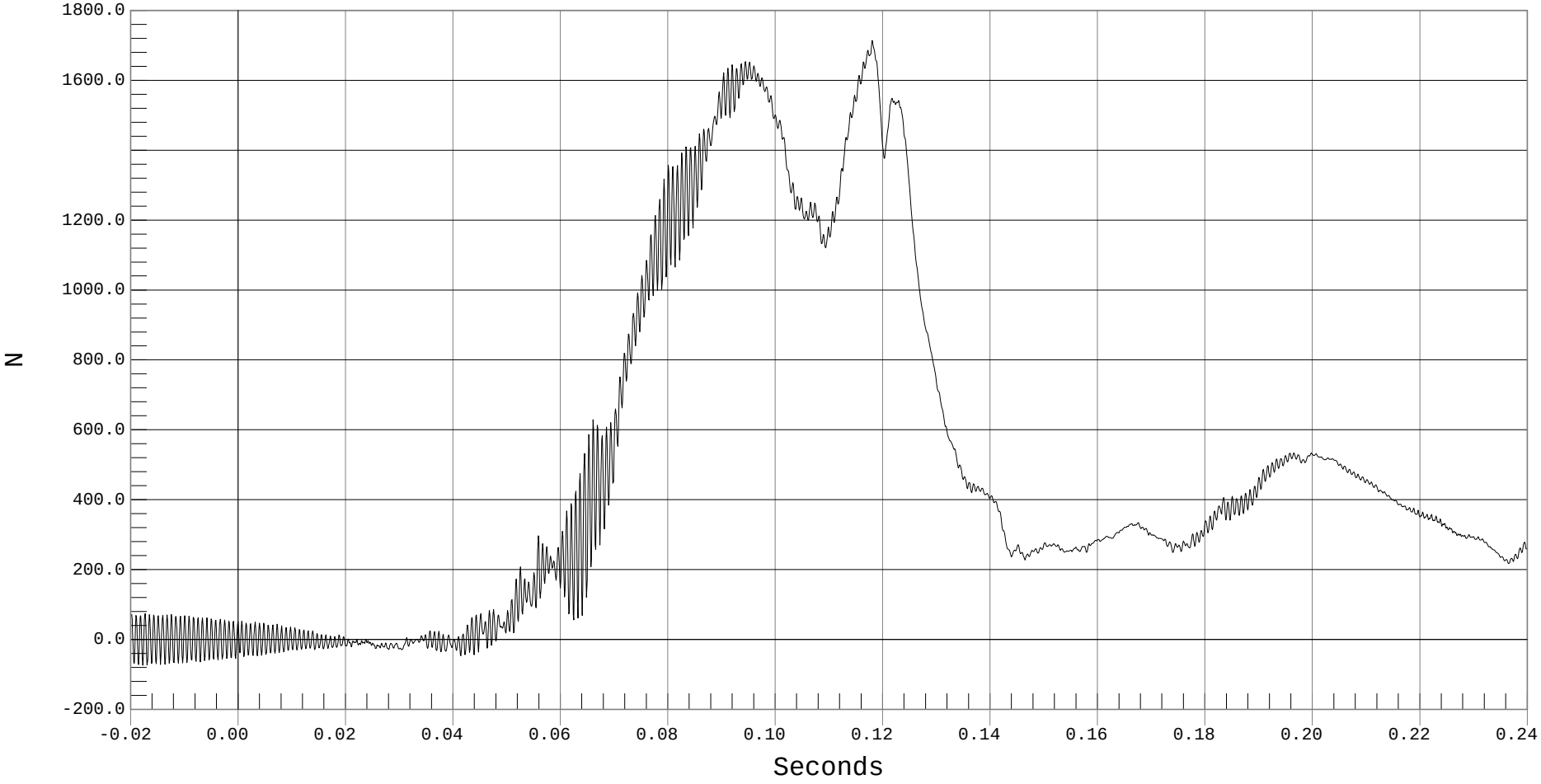
LRS 3 YR OLD UPPER NECK FORCE Z

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 LRS CHILD UPPER NECK FORCE Z, B01036FT.F18

Ymin = -74.54 N @ -0.0178 Seconds, Ymax = 1713.85 N @ 0.1180 Seconds



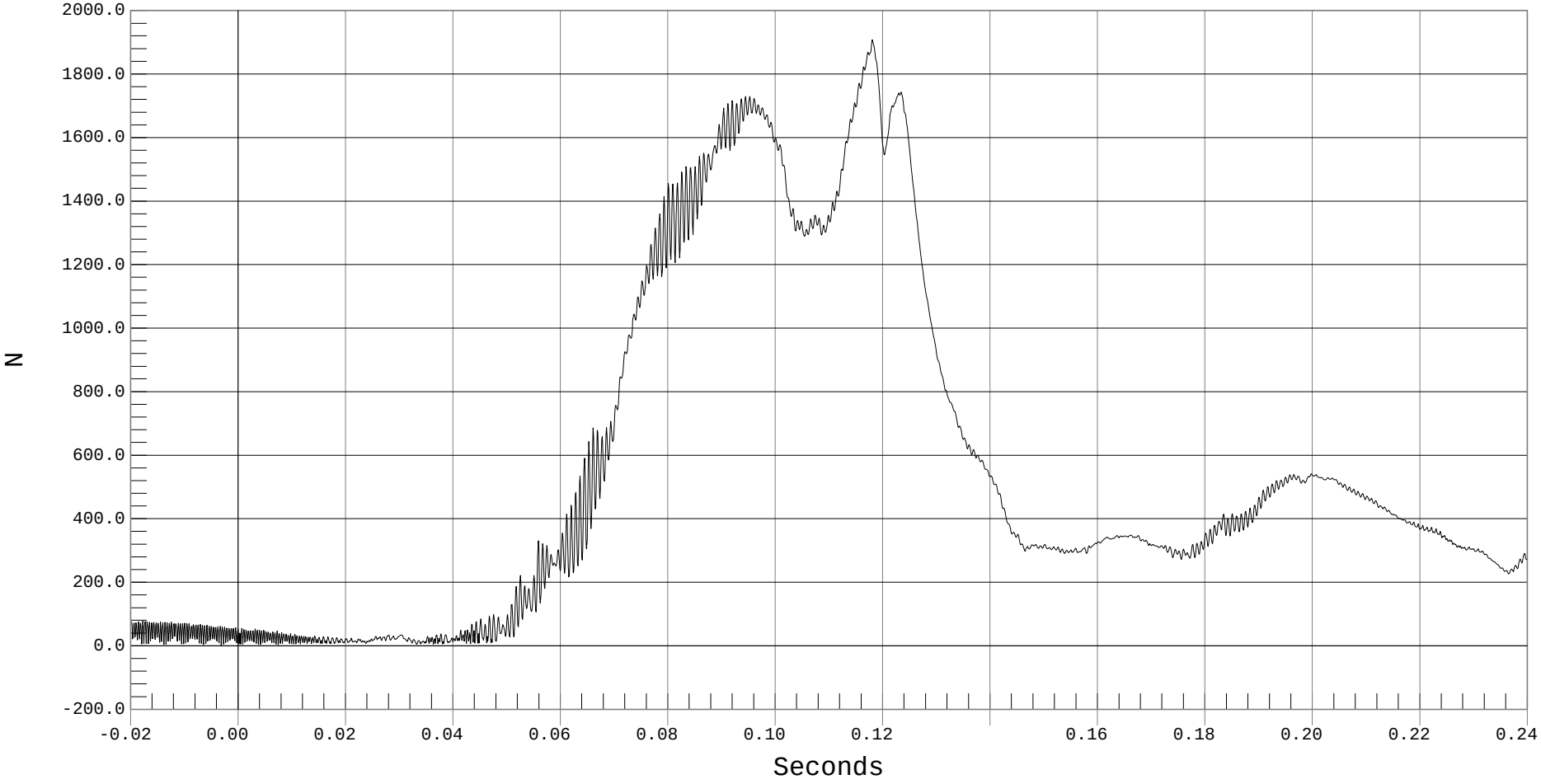
LRS 3 YR OLD UPPER NECK FORCE RESULTANT

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 LRS 3 YR OLD UPPER NECK FORCE RESULTANT, B01036FV.F16

Ymin = .88 N @ -0.0032 Seconds, Ymax = 1907.57 N @ 0.1180 Seconds



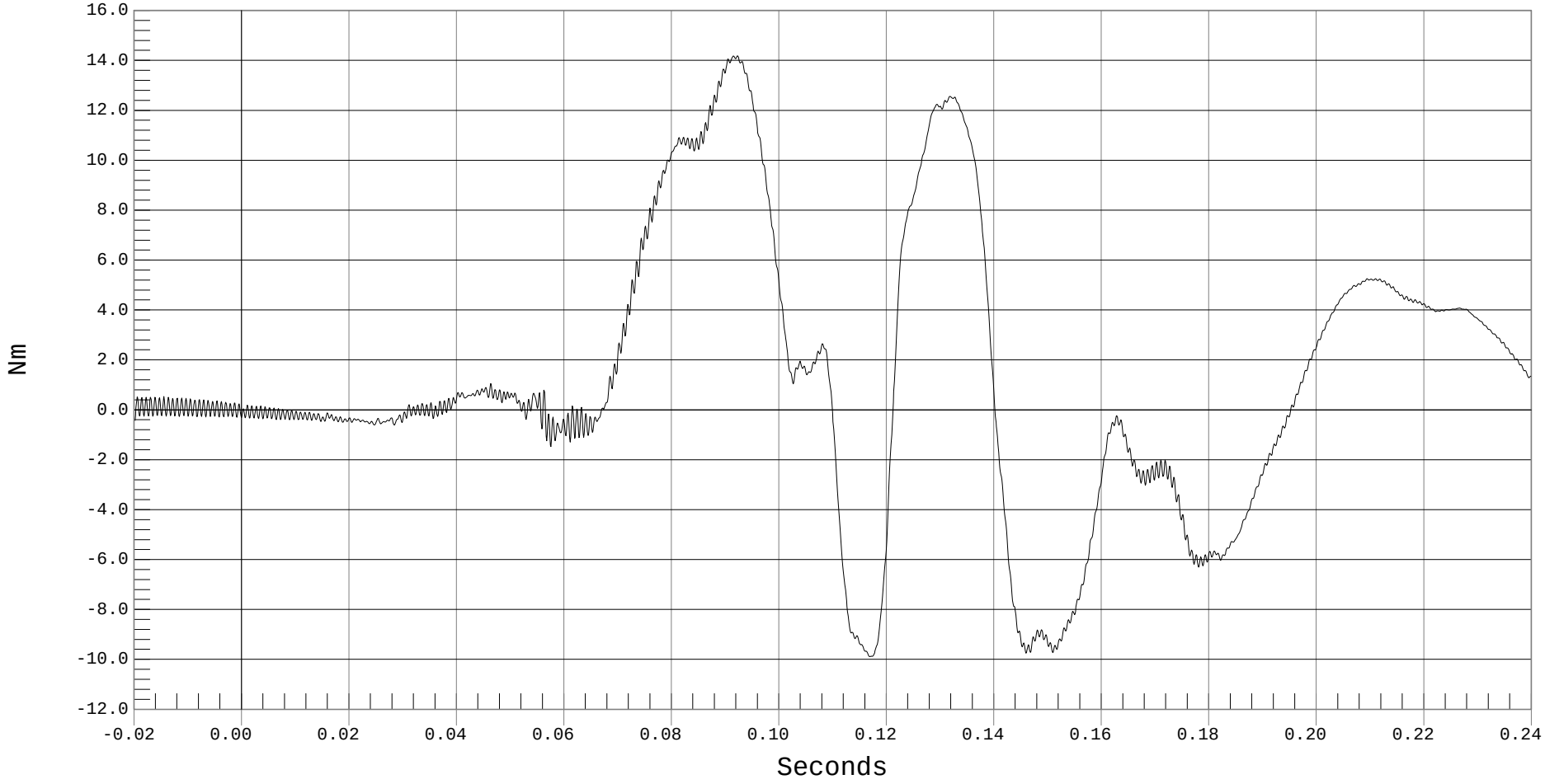
LRS 3 YR OLD UPPER NECK MOMENT X

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 LRS CHILD UPPER NECK MOMENT X, B01036MF.M19

Ymin = -9.89 Nm @ 0.1168 Seconds, Ymax = 14.18 Nm @ 0.0922 Seconds



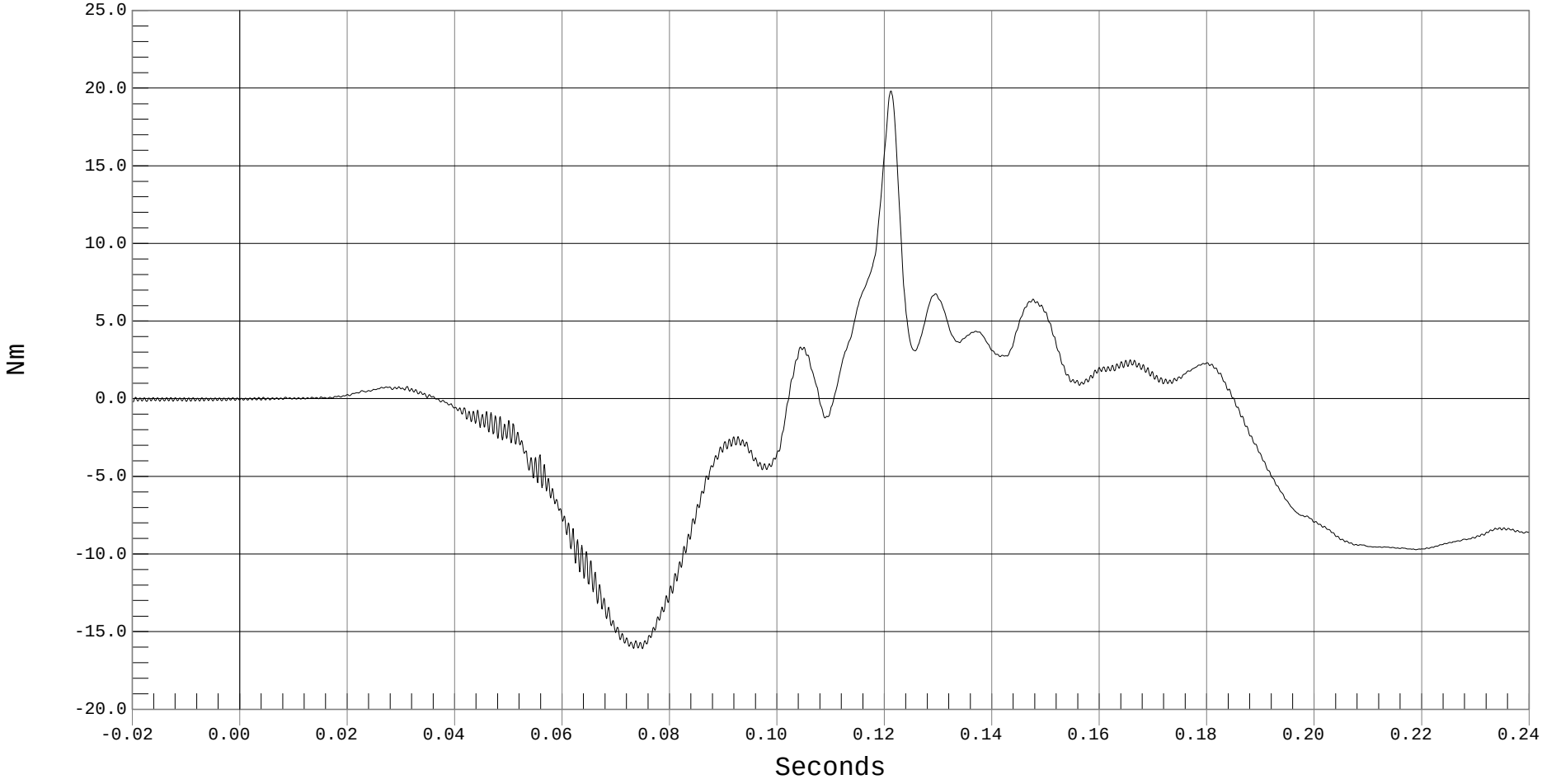
LRS 3 YR OLD UPPER NECK MOMENT Y

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 LRS CHILD UPPER NECK MOMENT Y, B01036MF.M20

Ymin = -16.09 Nm @ 0.0749 Seconds, Ymax = 19.82 Nm @ 0.1211 Seconds



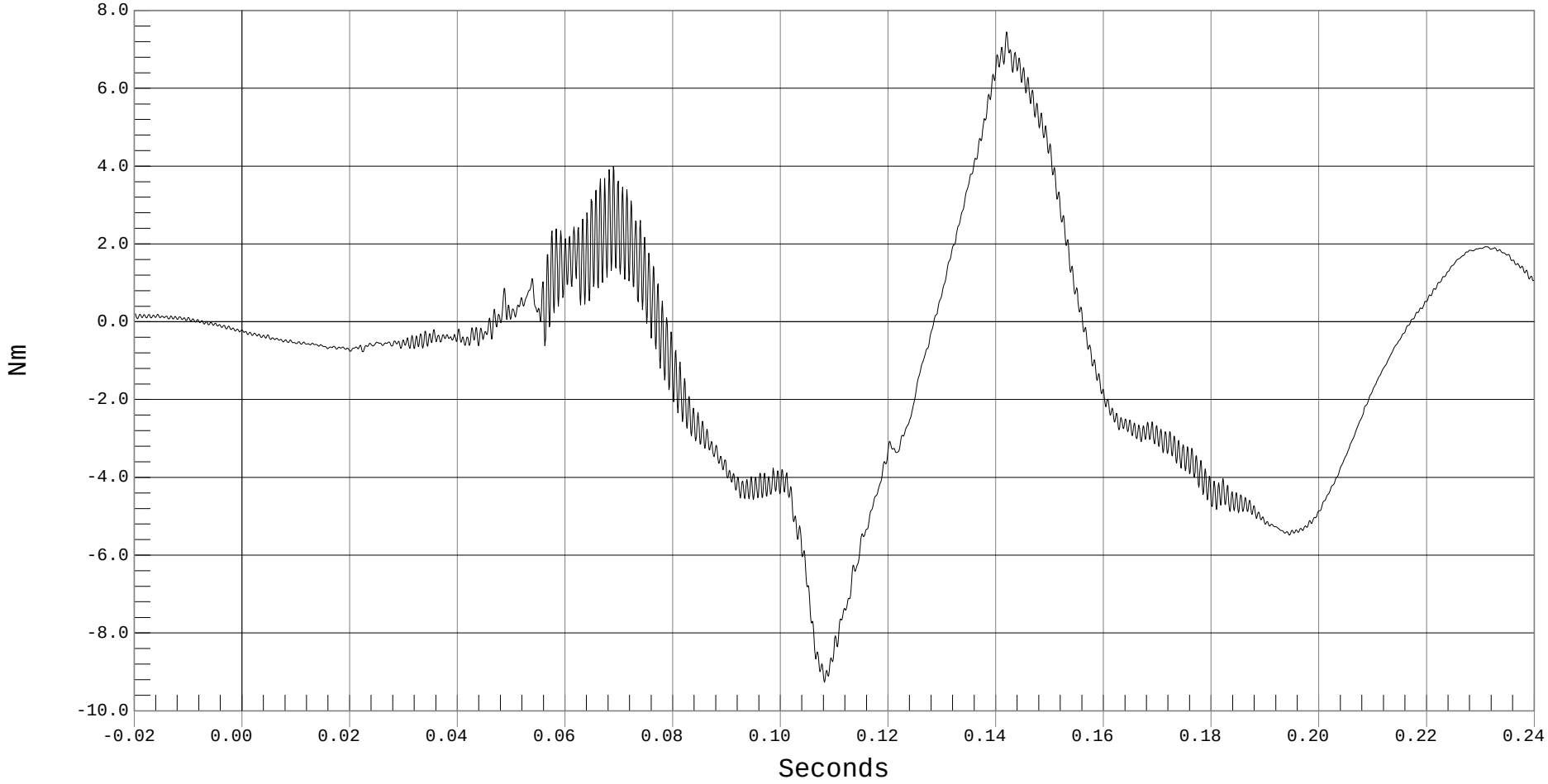
LRS 3 YR OLD UPPER NECK MOMENT Z

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 LRS CHILD UPPER NECK MOMENT Z, B01036MF.M21

Ymin = -9.27 Nm @ 0.1081 Seconds, Ymax = 7.45 Nm @ 0.1419 Seconds



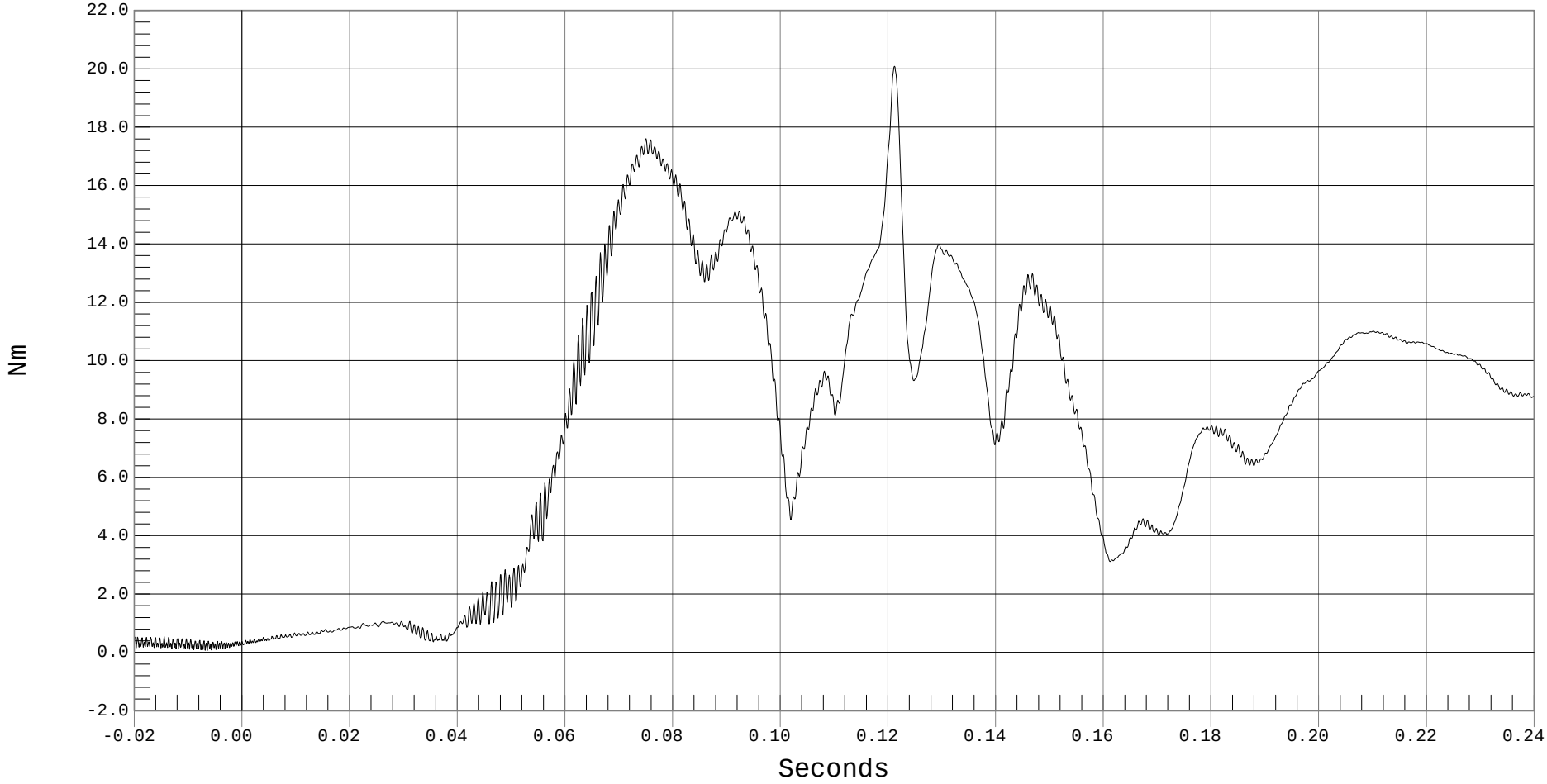
LRS 3 YR OLD UPPER NECK MOMENT RESULTANT

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 LRS 3 YR OLD UPPER NECK MOMENT RESULTANT, B01036MV.M19

Ymin = .06 Nm @ -0.0065 Seconds, Ymax = 20.09 Nm @ 0.1211 Seconds



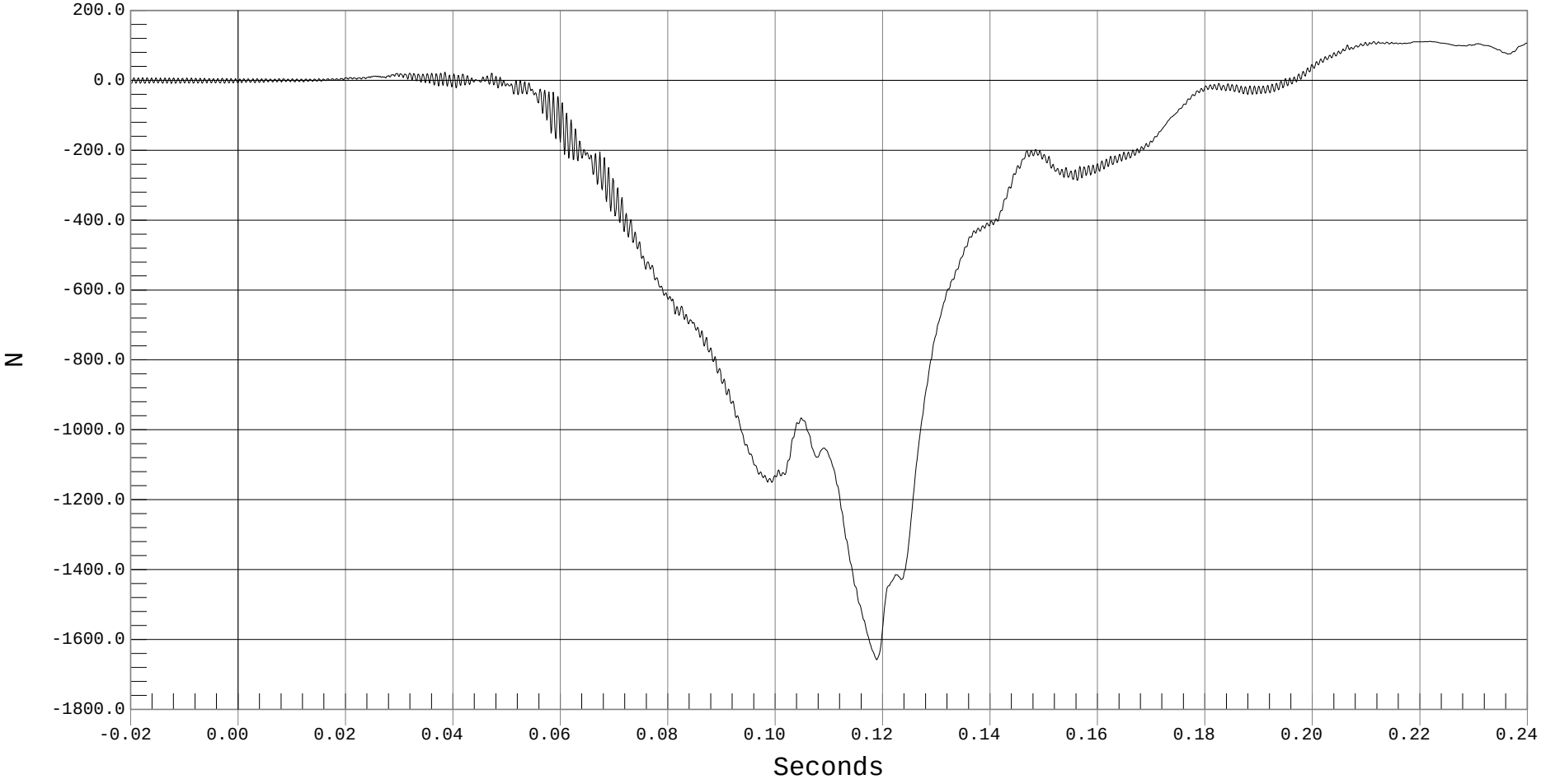
LRS 3 YR OLD LOWER NECK FORCE X

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 LRS CHILD LOWER NECK FORCE X, B01036FT.F22

Ymin = -1657.98 N @ 0.1188 Seconds, Ymax = 111.6 N @ 0.2218 Seconds



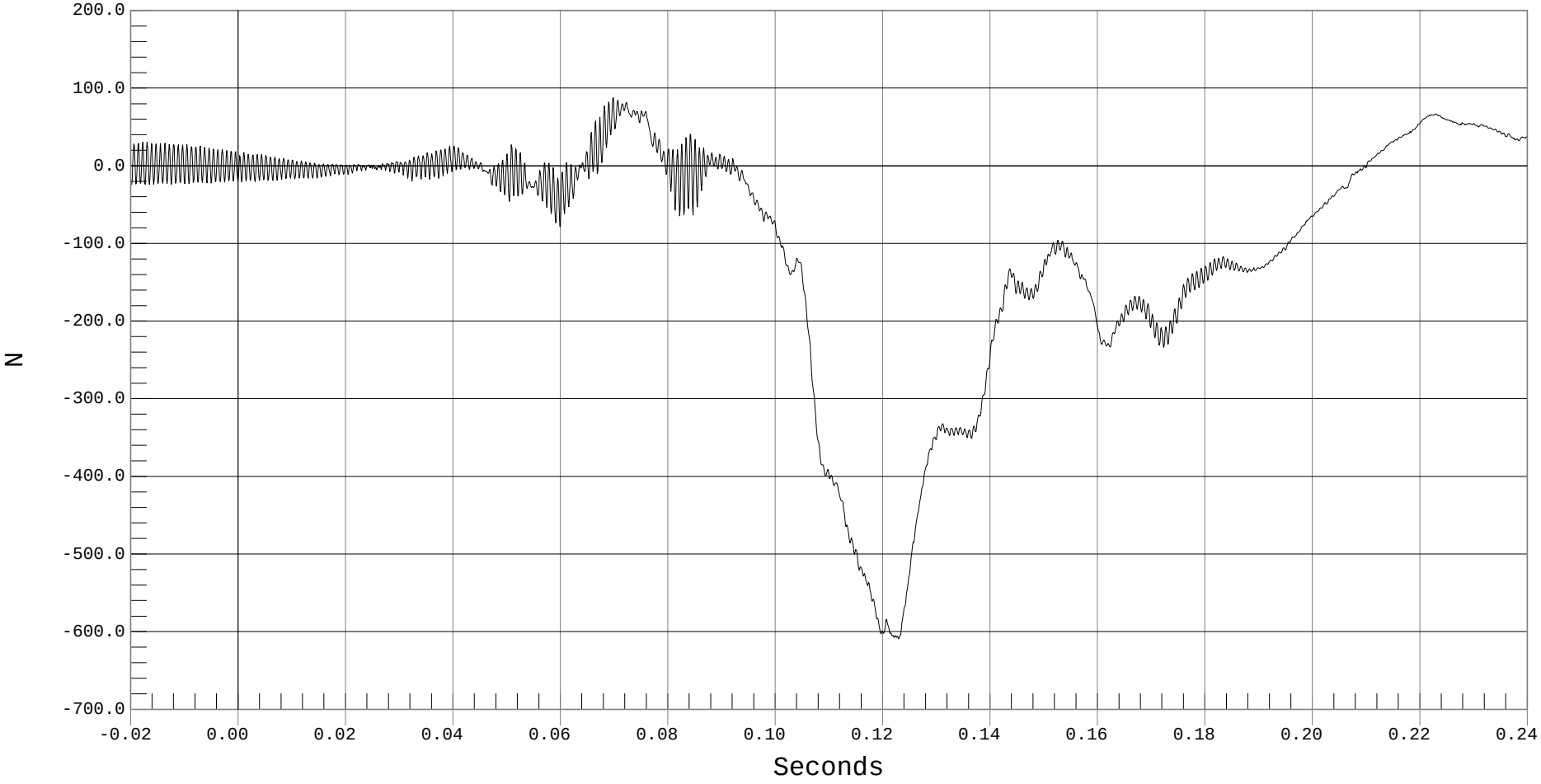
LRS 3 YR OLD LOWER NECK FORCE Y

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 LRS CHILD LOWER NECK FORCE Y, B01036FT.F23

Ymin = -609.43 N @ 0.1229 Seconds, Ymax = 87.79 N @ 0.0697 Seconds



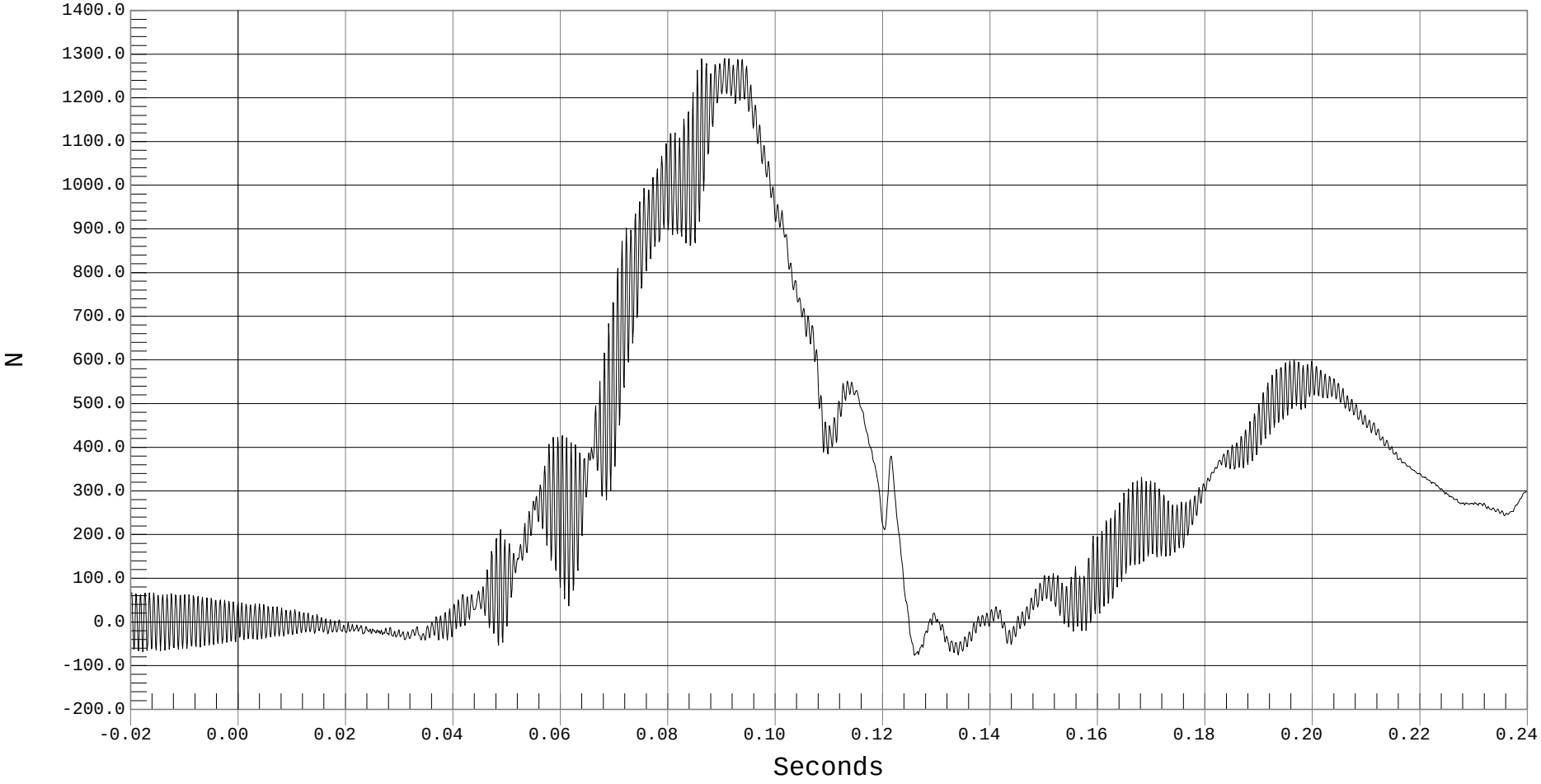
LRS 3 YR OLD LOWER NECK FORCE Z

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 LRS CHILD LOWER NECK FORCE Z, B01036FT.F24

Ymin = -76.43 N @ 0.1258 Seconds, Ymax = 1289.95 N @ 0.0905 Seconds



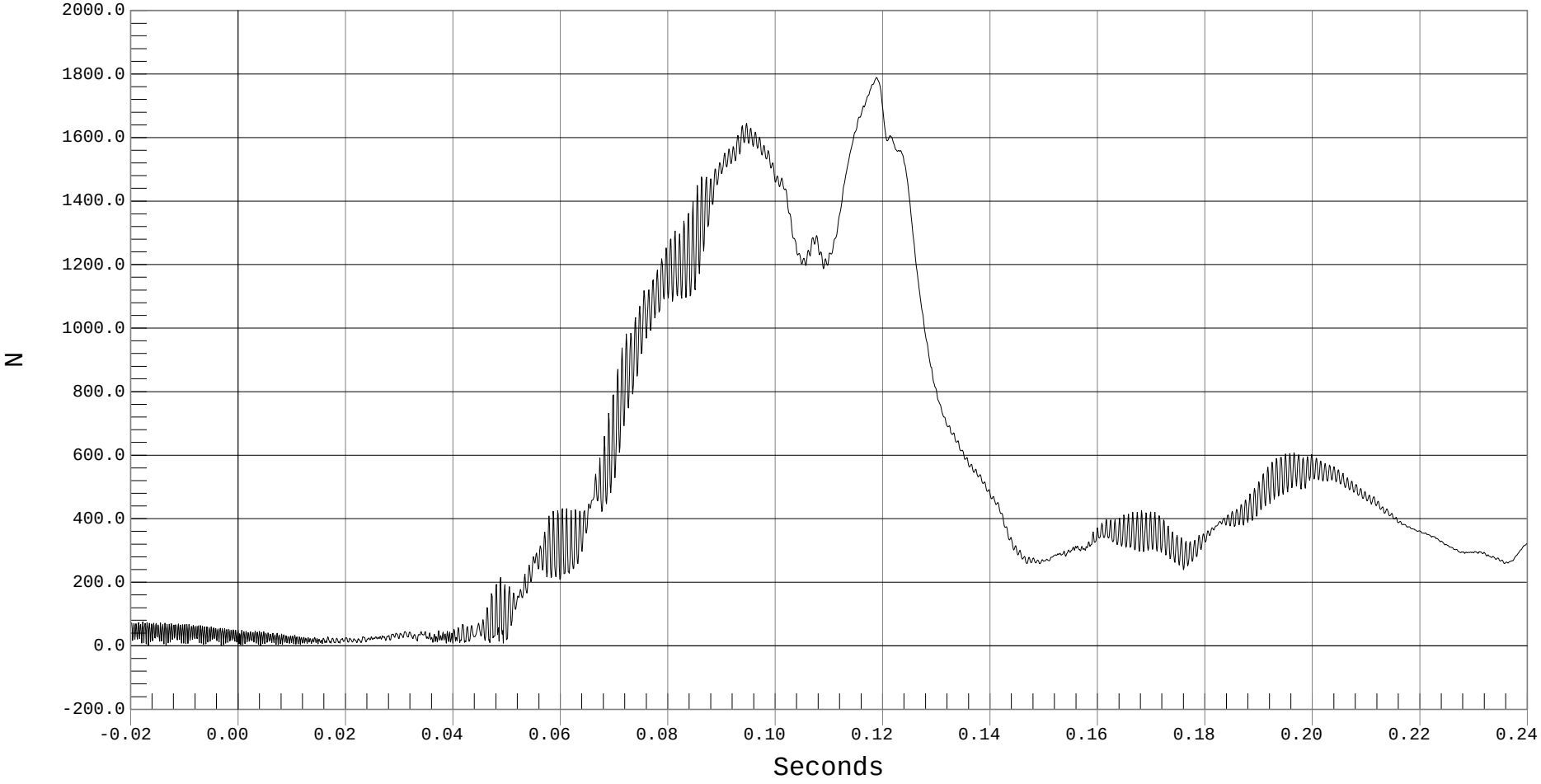
LRS 3 YR OLD LOWER NECK FORCE RESULTANT

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 LRS 3 YR OLD LOWER NECK FORCE RESULTANT, B01036FV.F22

Ymin = 1.22 N @ 0.0041 Seconds, Ymax = 1789.71 N @ 0.1188 Seconds



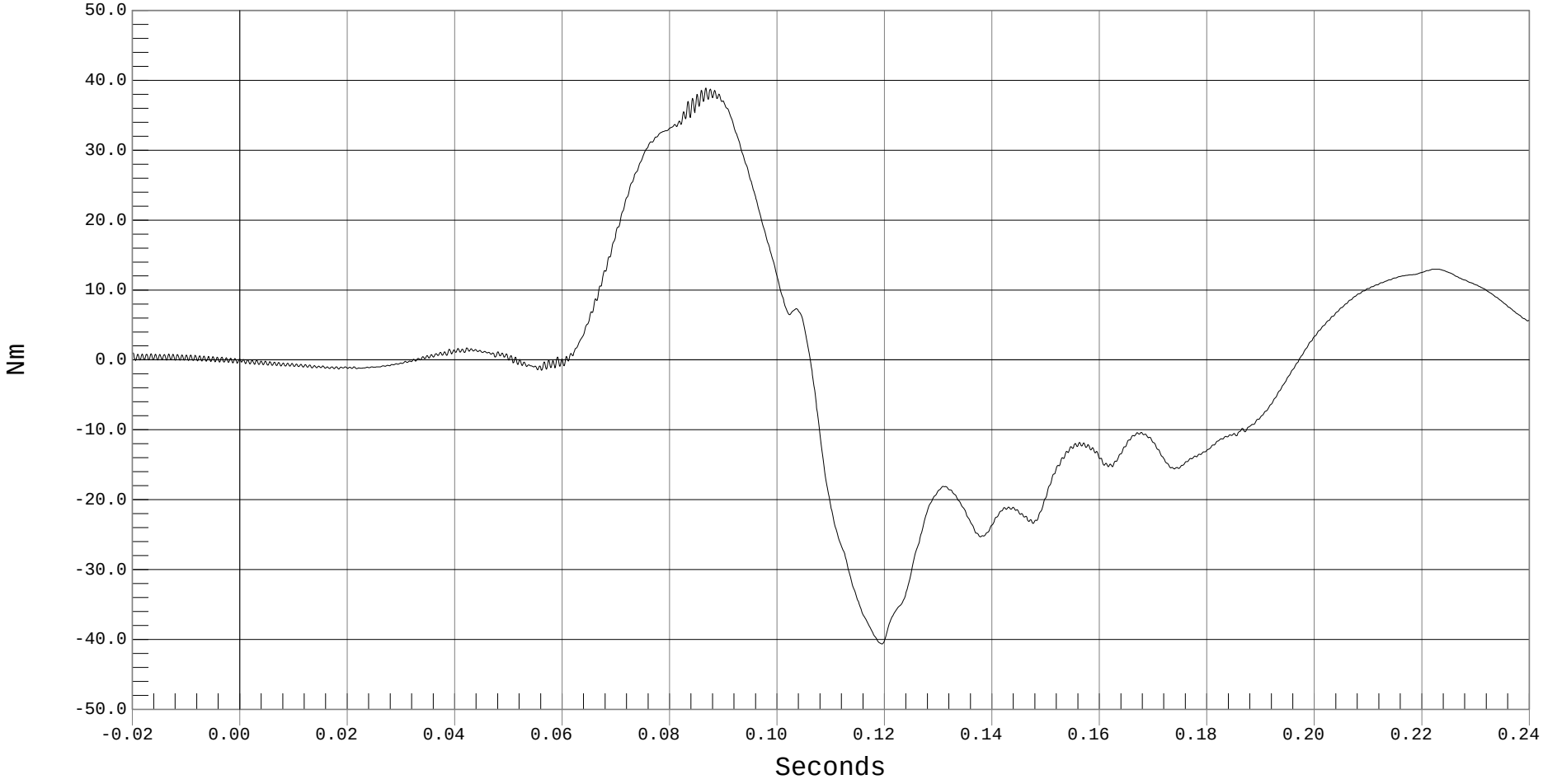
LRS 3 YR OLD LOWER NECK MOMENT X

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 LRS CHILD LOWER NECK MOMENT X, B01036MF.M25

Ymin = -40.64 Nm @ 0.1194 Seconds, Ymax = 38.9 Nm @ 0.0867 Seconds



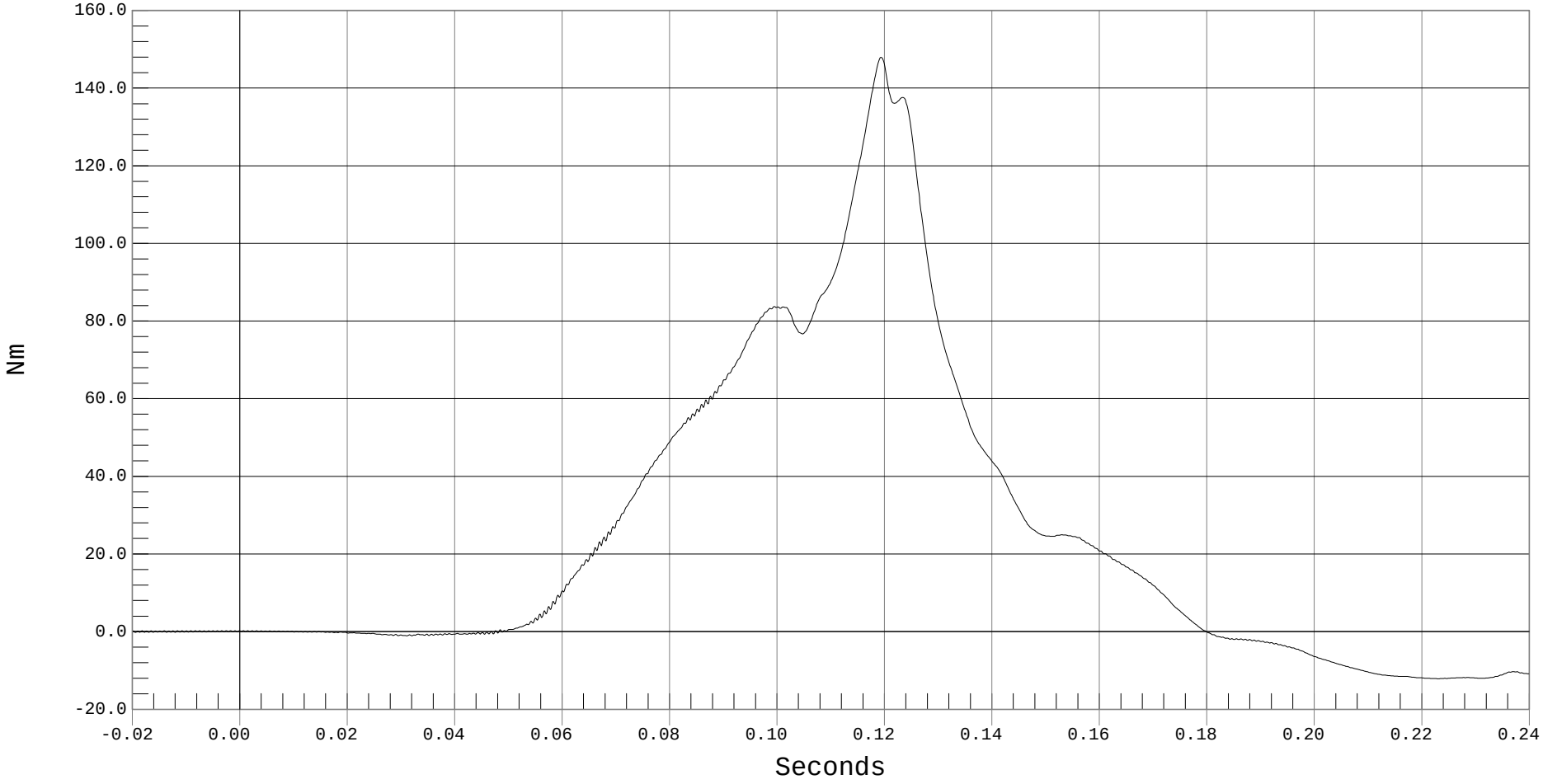
LRS 3 YR OLD LOWER NECK MOMENT Y

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 LRS CHILD LOWER NECK MOMENT Y, B01036MF.M26

Ymin = -12.14 Nm @ 0.2229 Seconds, Ymax = 147.94 Nm @ 0.1193 Seconds



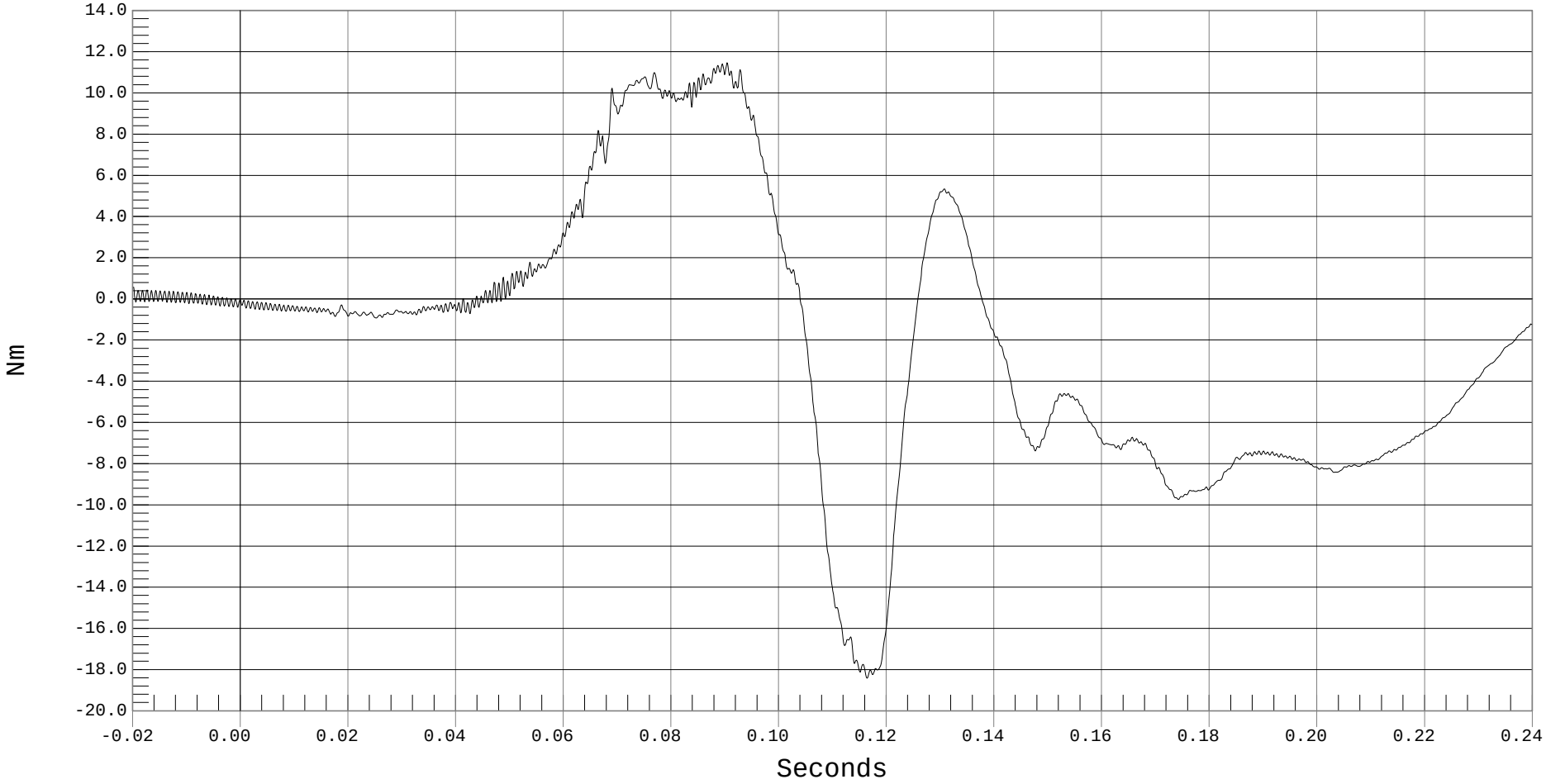
LRS 3 YR OLD LOWER NECK MOMENT Z

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 LRS CHILD LOWER NECK MOMENT Z, B01036MF.M27

Ymin = -18.41 Nm @ 0.1164 Seconds, Ymax = 11.46 Nm @ 0.0903 Seconds



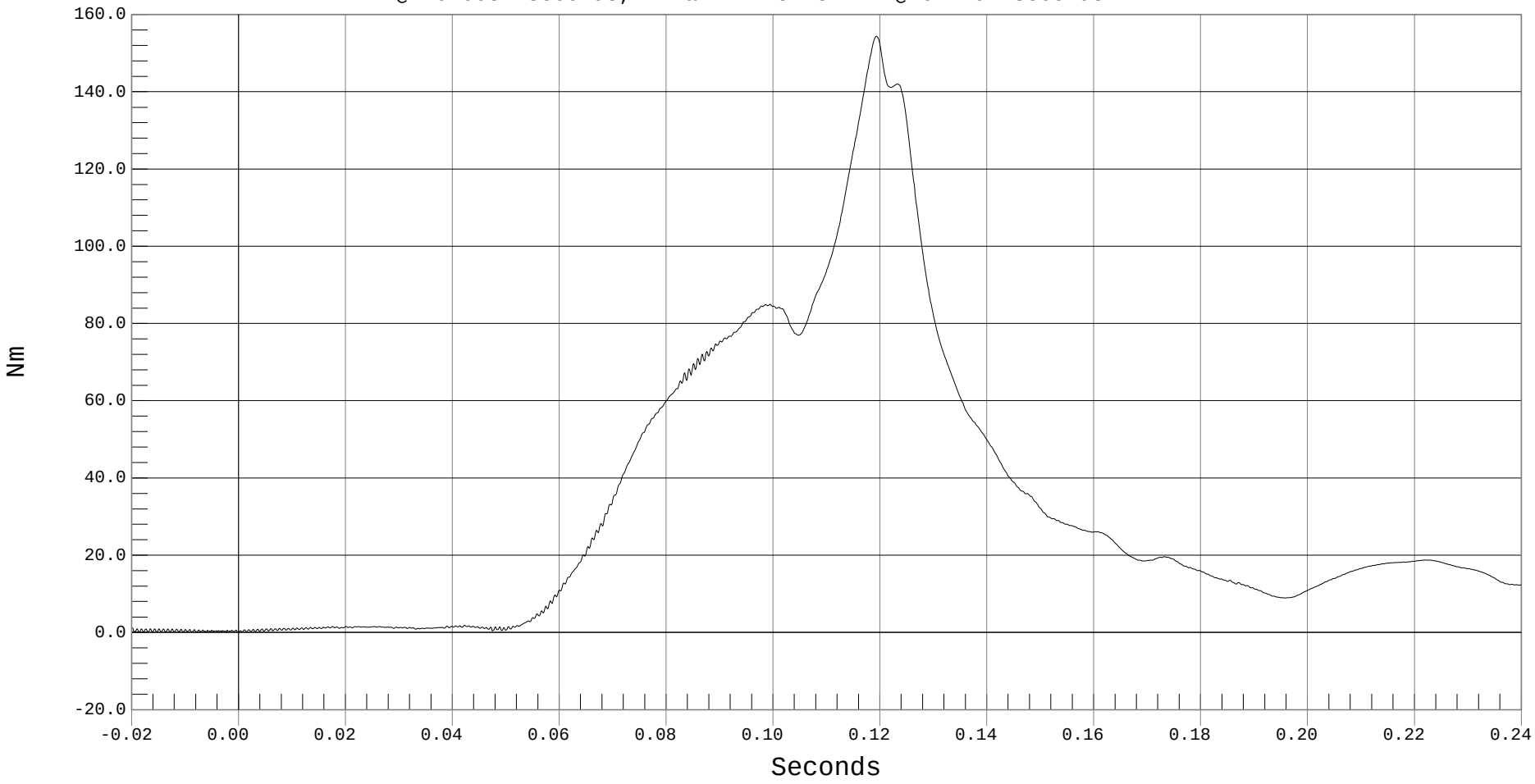
LRS 3 YR OLD LOWER NECK MOMENT RESULTANT

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 LRS 3 YR OLD LOWER NECK MOMENT RESULTANT, B01036MV.M25

Ymin = .11 Nm @ -0.0081 Seconds, Ymax = 154.37 Nm @ 0.1192 Seconds



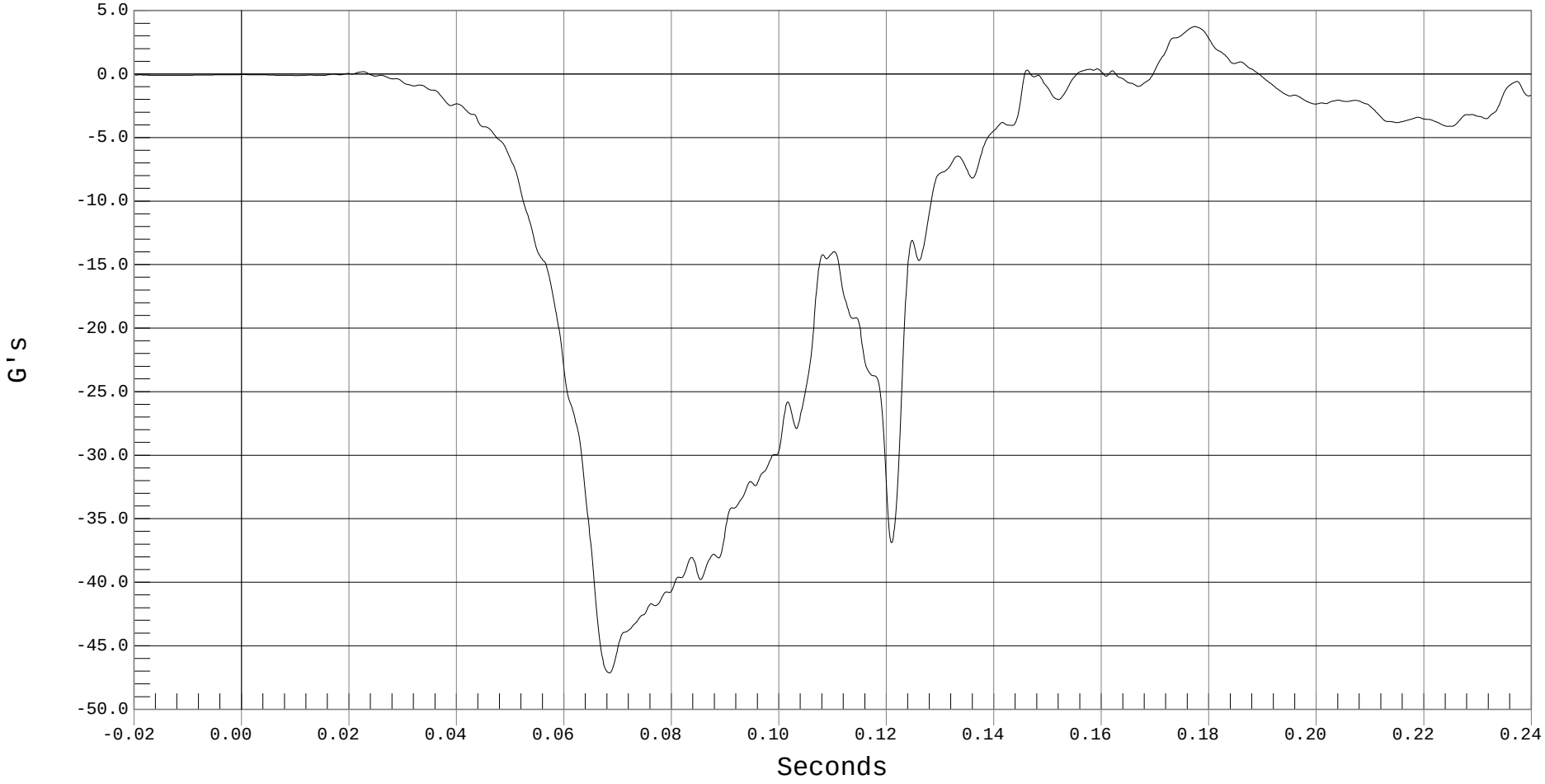
LRS 3 YR OLD CHEST X ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 LRS CHILD CHEST X, B01036AF.A28

Ymin = -47.14 G's @ 0.0684 Seconds, Ymax = 3.73 G's @ 0.1773 Seconds



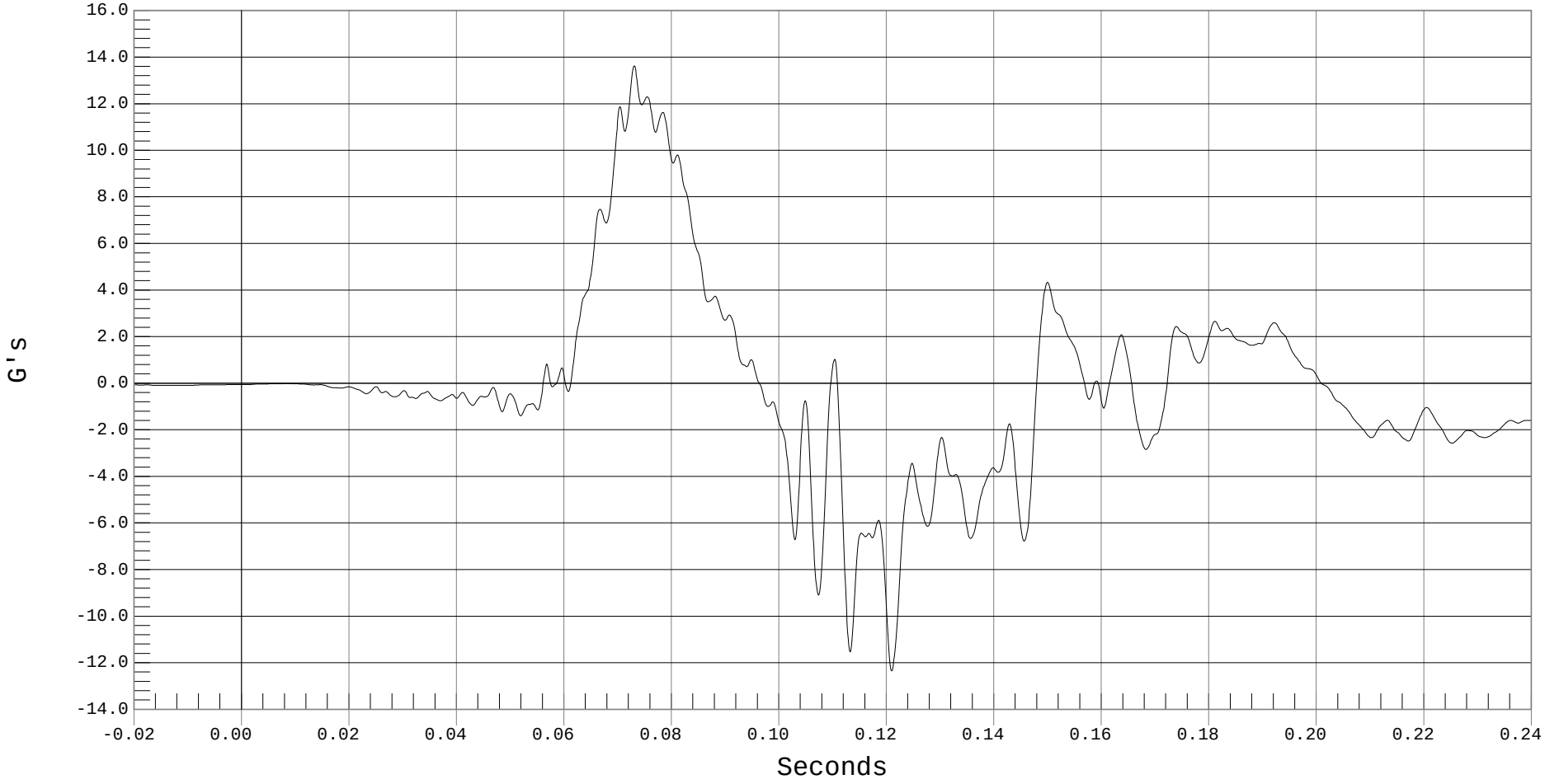
LRS 3 YR OLD CHEST Y ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 LRS CHILD CHEST Y, B01036AF.A29

Ymin = -12.35 G's @ 0.1209 Seconds, Ymax = 13.62 G's @ 0.0730 Seconds



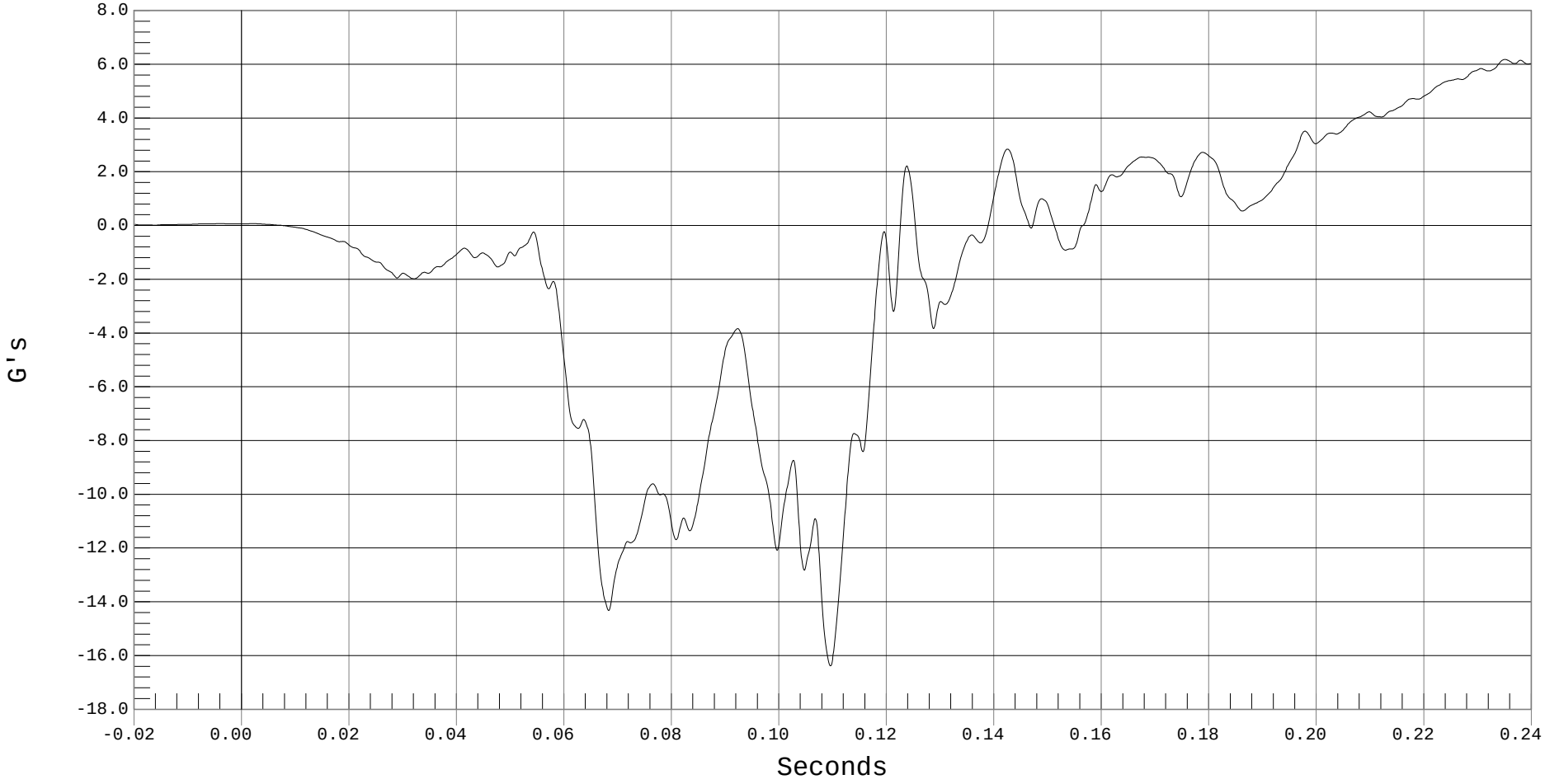
LRS 3 YR OLD CHEST Z ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 LRS CHILD CHEST Z, B01036AF.A30

Ymin = -16.39 G's @ 0.1095 Seconds, Ymax = 6.18 G's @ 0.2350 Seconds



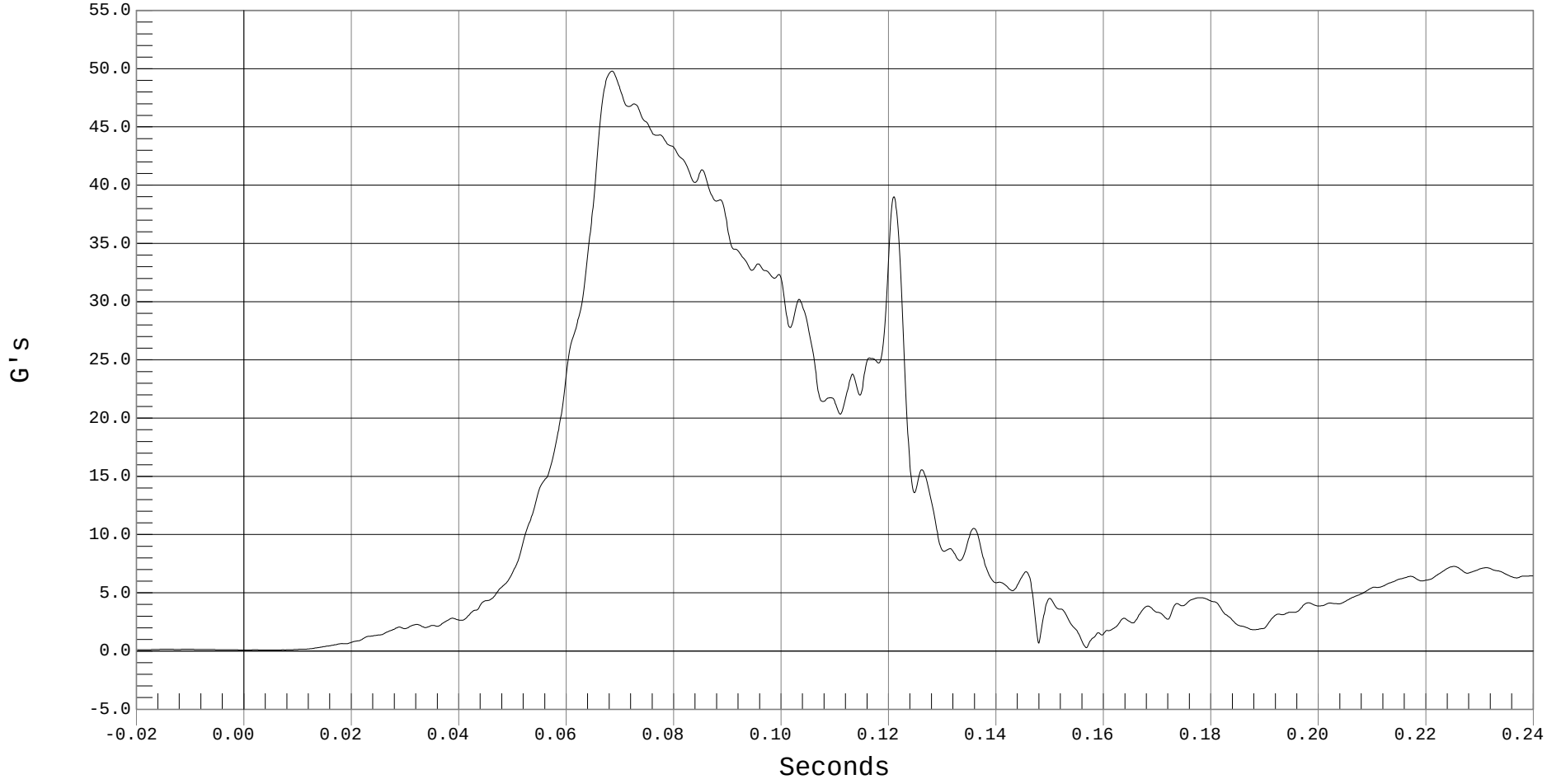
LRS 3 YR OLD CHEST RESULTANT ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 LRS 3 YR OLD CHEST RESULTANT ACCELERATION, B01036AV.A28

Ymin = .09 G's @ 0.0053 Seconds, Ymax = 49.8 G's @ 0.0684 Seconds



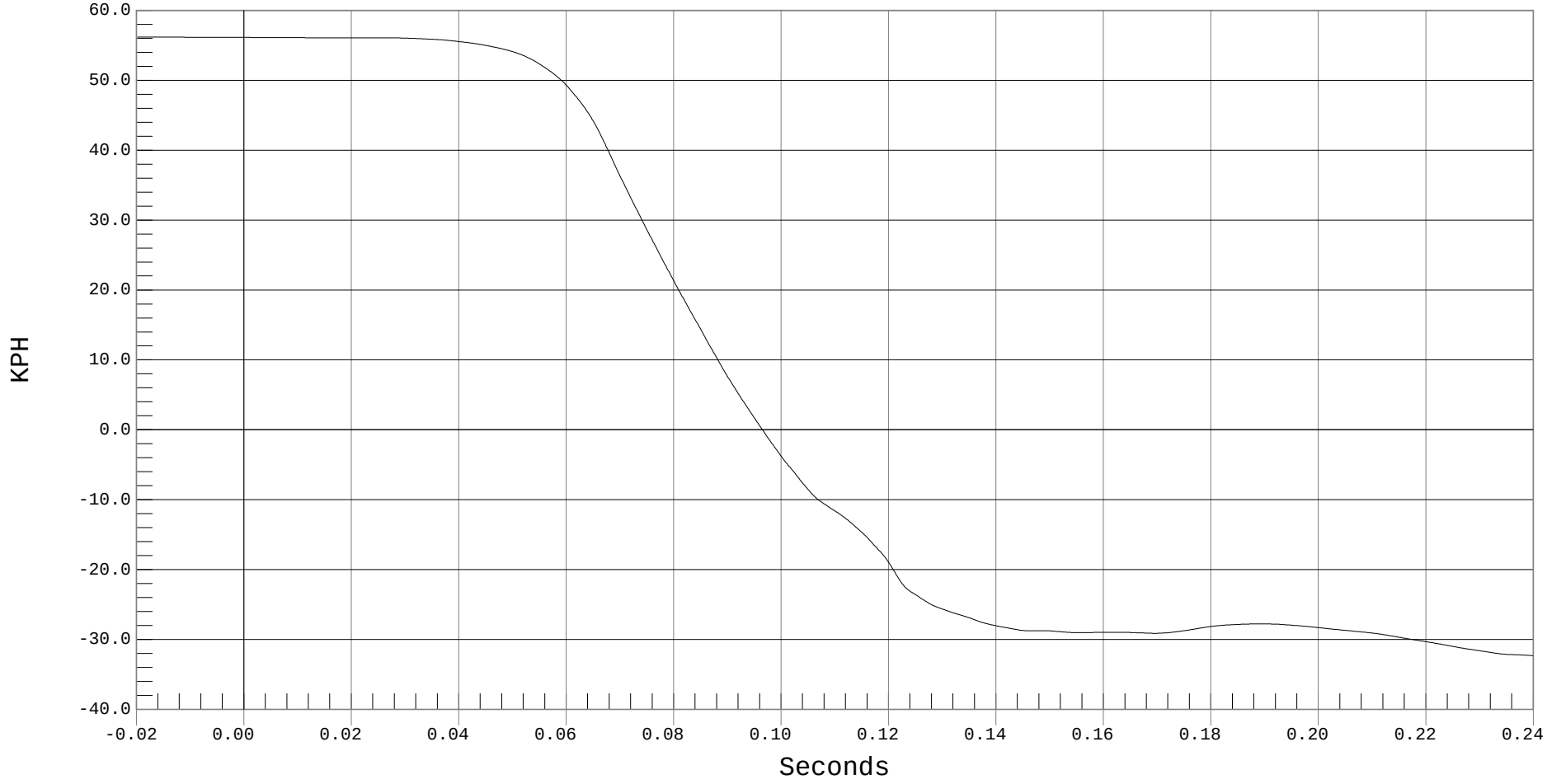
LRS 3 YR OLD CHEST X VELOCITY

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 LRS 3 YR OLD CHEST X VELOCITY, B01036AI.V28

Ymin = -32.34 KPH @ 0.2400 Seconds, Ymax = 56.2 KPH @ -0.0199 Seconds



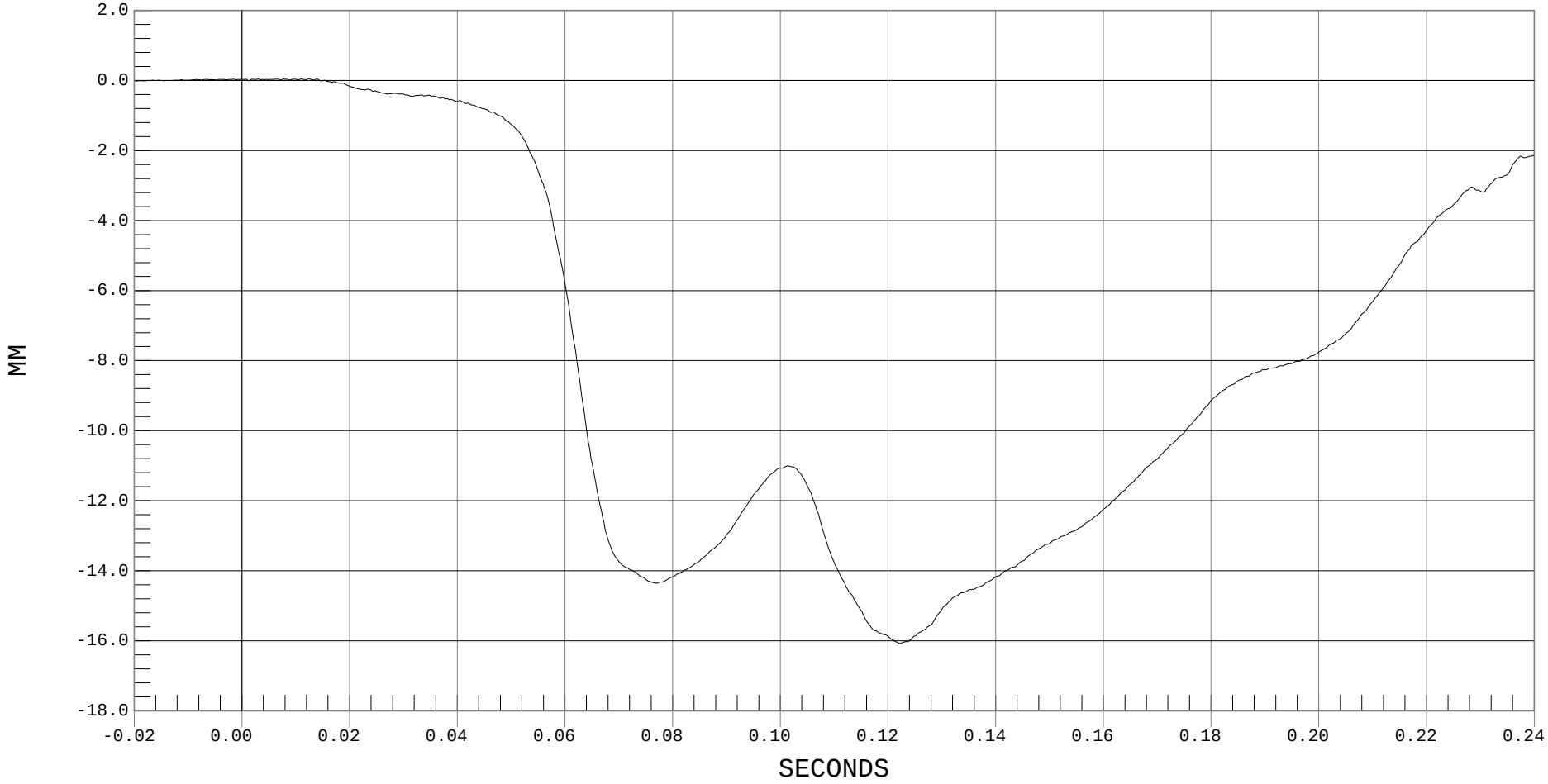
LRS 3 YR OLD CHEST COMPRESSION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 DISPLACEMENT, B01036DF.D31

Ymin = -16.07 MM @ 0.1221 SECONDS, Ymax = .05 MM @ 0.0123 SECONDS



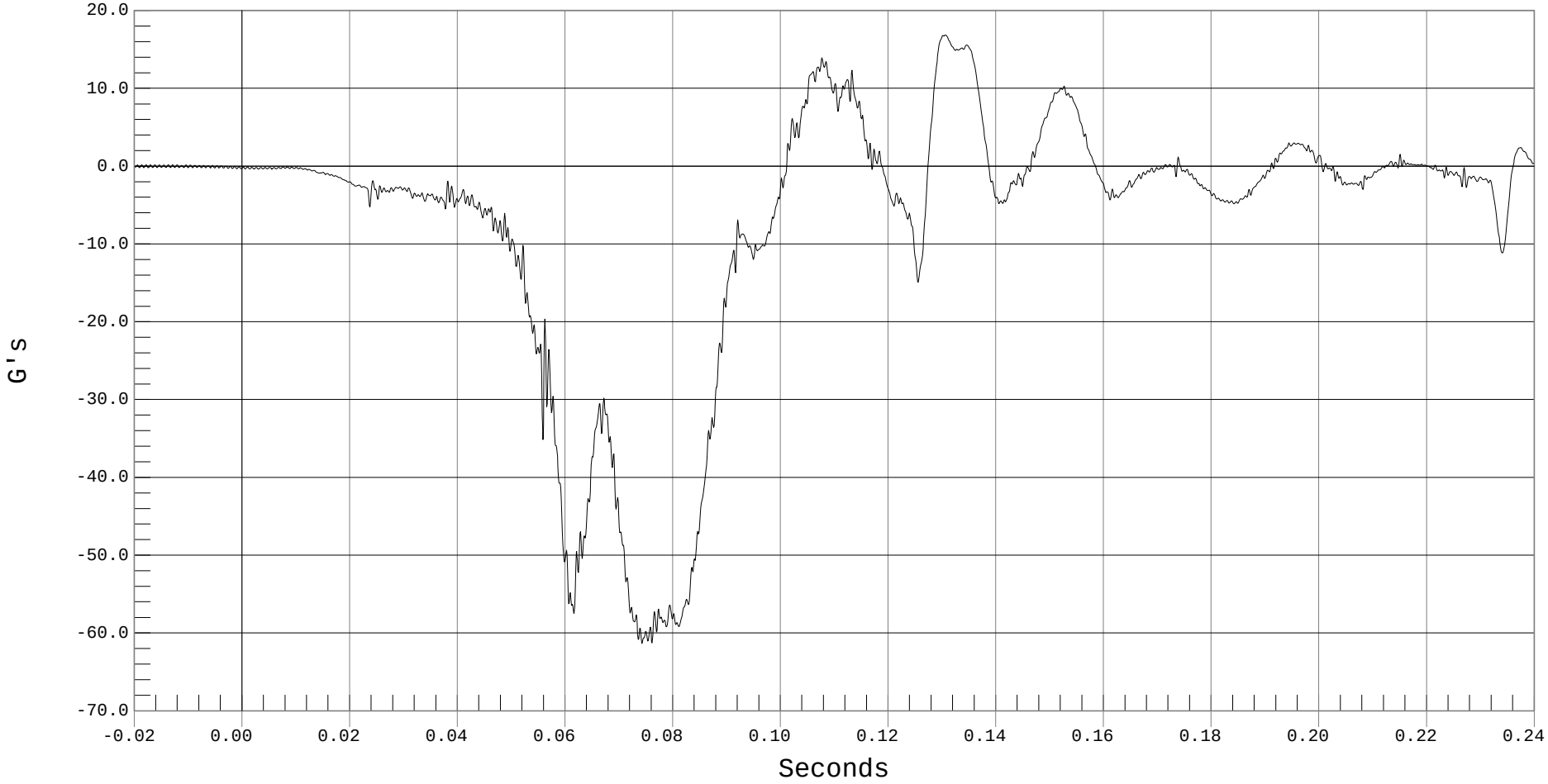
LRS 3 YR OLD PELVIS X ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 LRS CHILD PELVIS X, B01036AT.A34

Ymin = -61.35 G's @ 0.0742 Seconds, Ymax = 16.86 G's @ 0.1305 Seconds



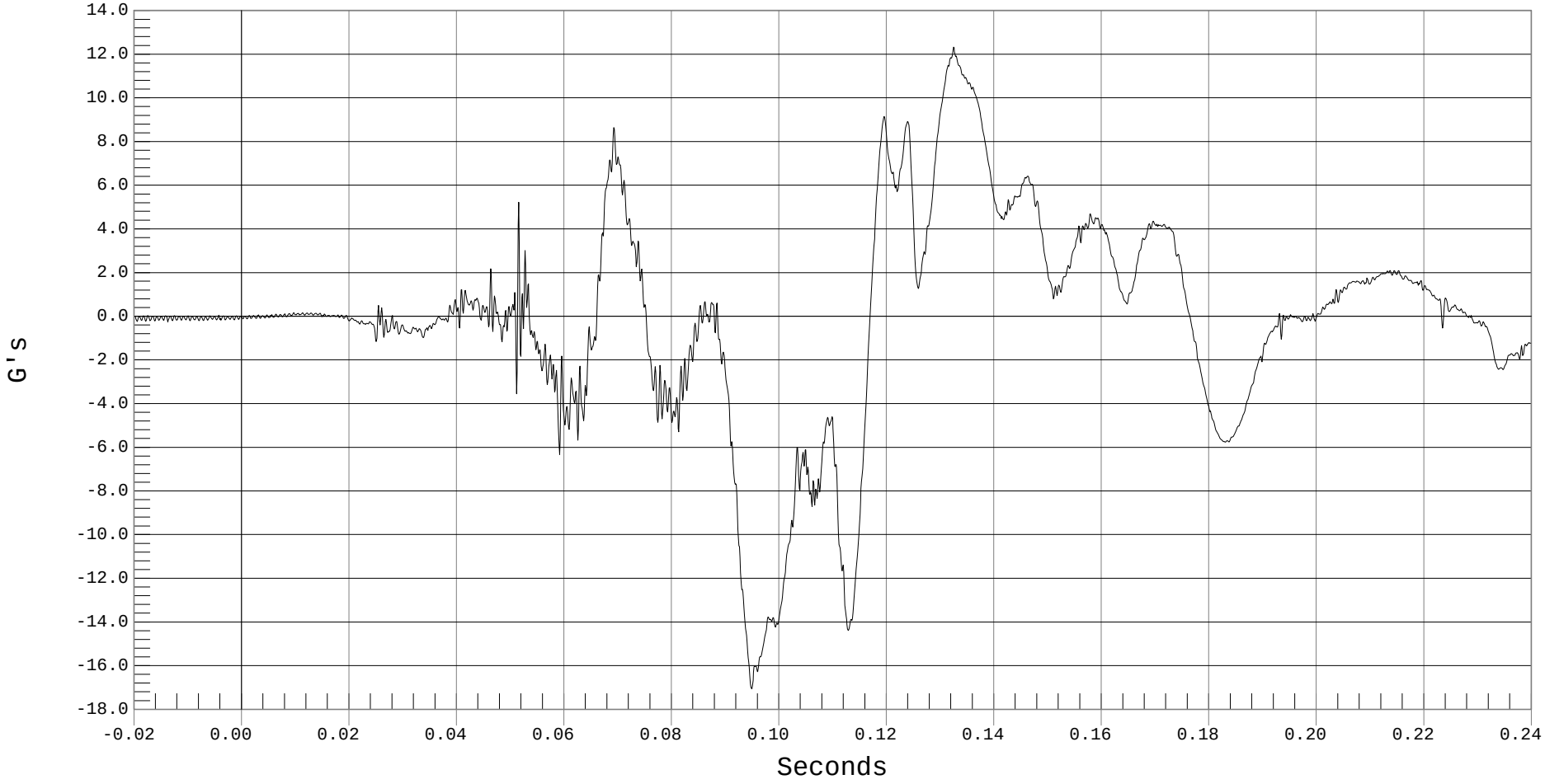
LRS 3 YR OLD PELVIS Y ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 LRS CHILD PELVIS Y, B01036AT.A35

Ymin = -17.06 G's @ 0.0949 Seconds, Ymax = 12.33 G's @ 0.1324 Seconds



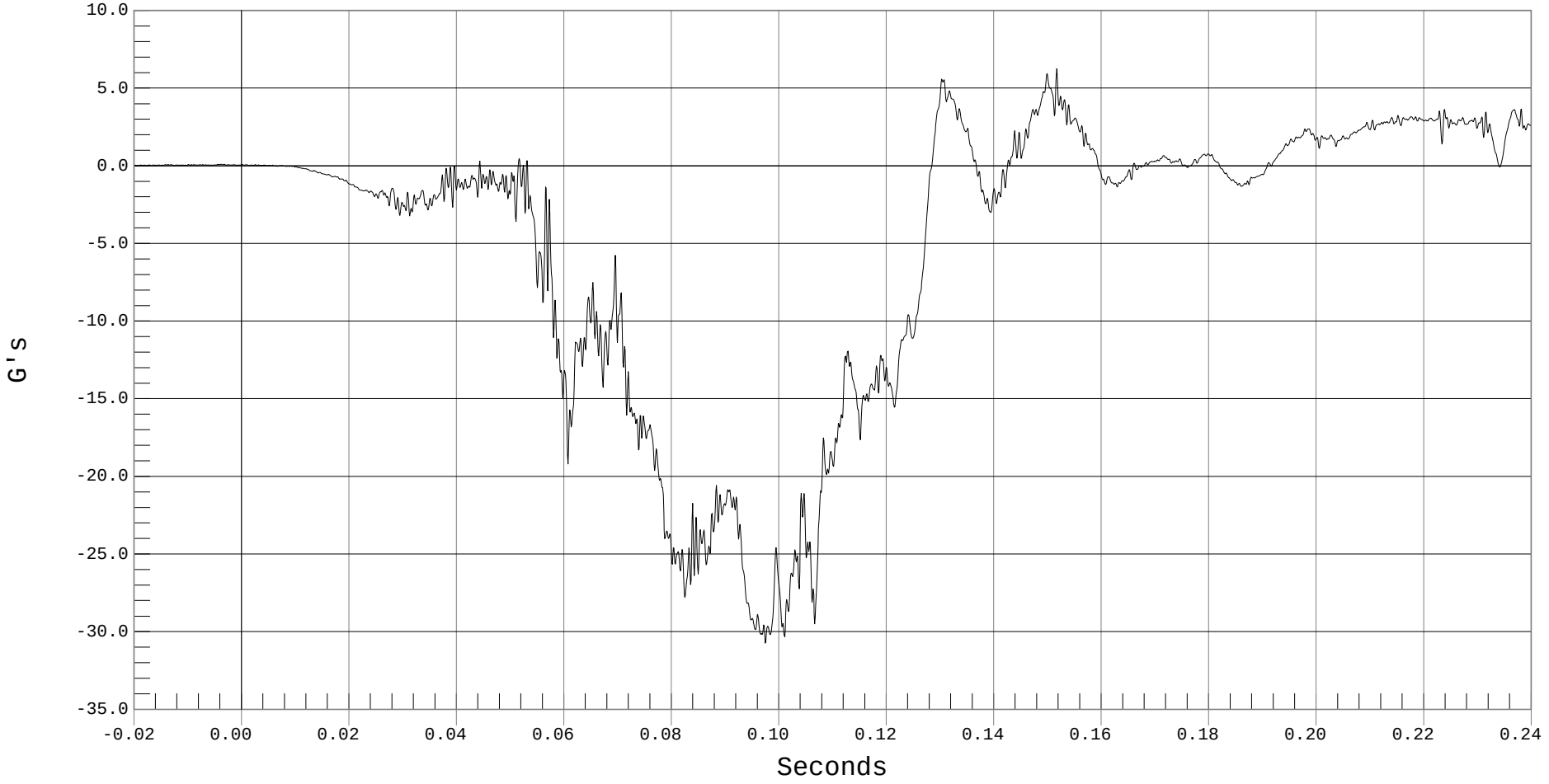
LRS 3 YR OLD PELVIS Z ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 LRS CHILD PELVIS Z, B01036AT.A36

Ymin = -30.74 G's @ 0.0974 Seconds, Ymax = 6.25 G's @ 0.1516 Seconds



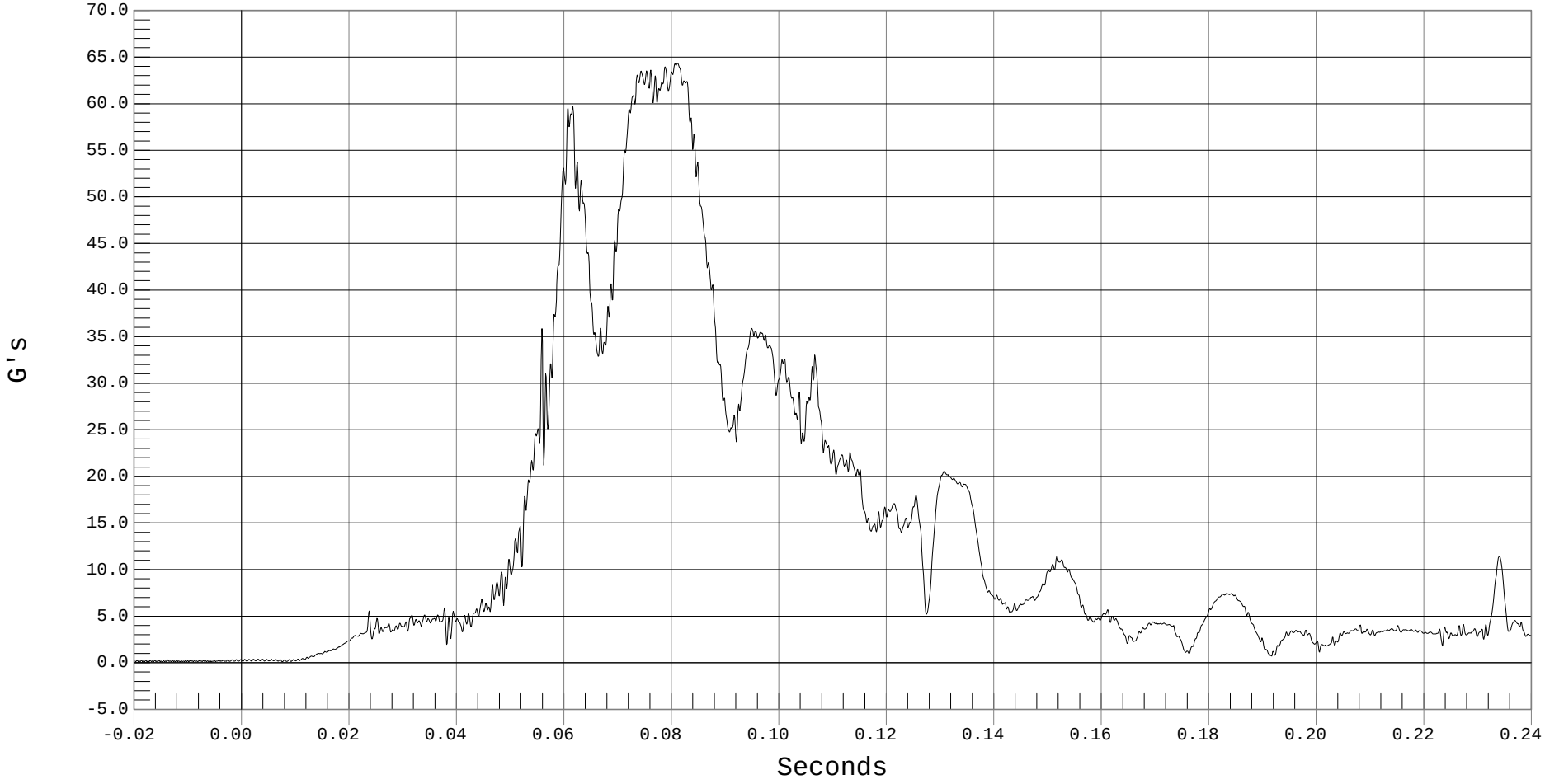
LRS 3 YR OLD PELVIS RESULTANT ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 LRS 3 YR OLD PELVIS RESULTANT ACCELERATION, B01036AV.A34

Ymin = .06 G's @ -0.0140 Seconds, Ymax = 64.35 G's @ 0.0811 Seconds



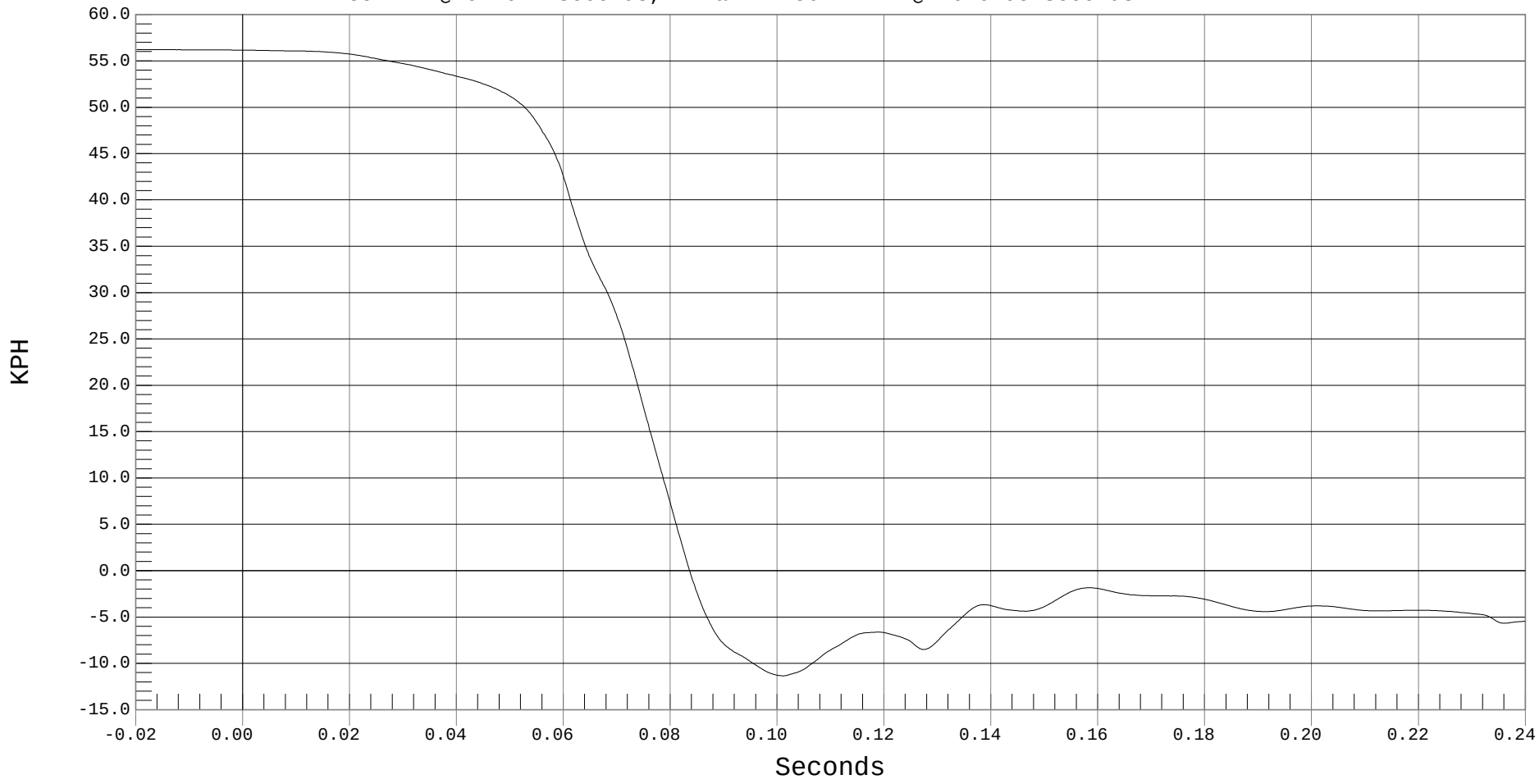
LRS 3 YR OLD PELVIS X VELOCITY

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 LRS 3 YR OLD PELVIS X VELOCITY, B01036AI.V34

Ymin = -11.35 KPH @ 0.1011 Seconds, Ymax = 56.2 KPH @ -0.0193 Seconds



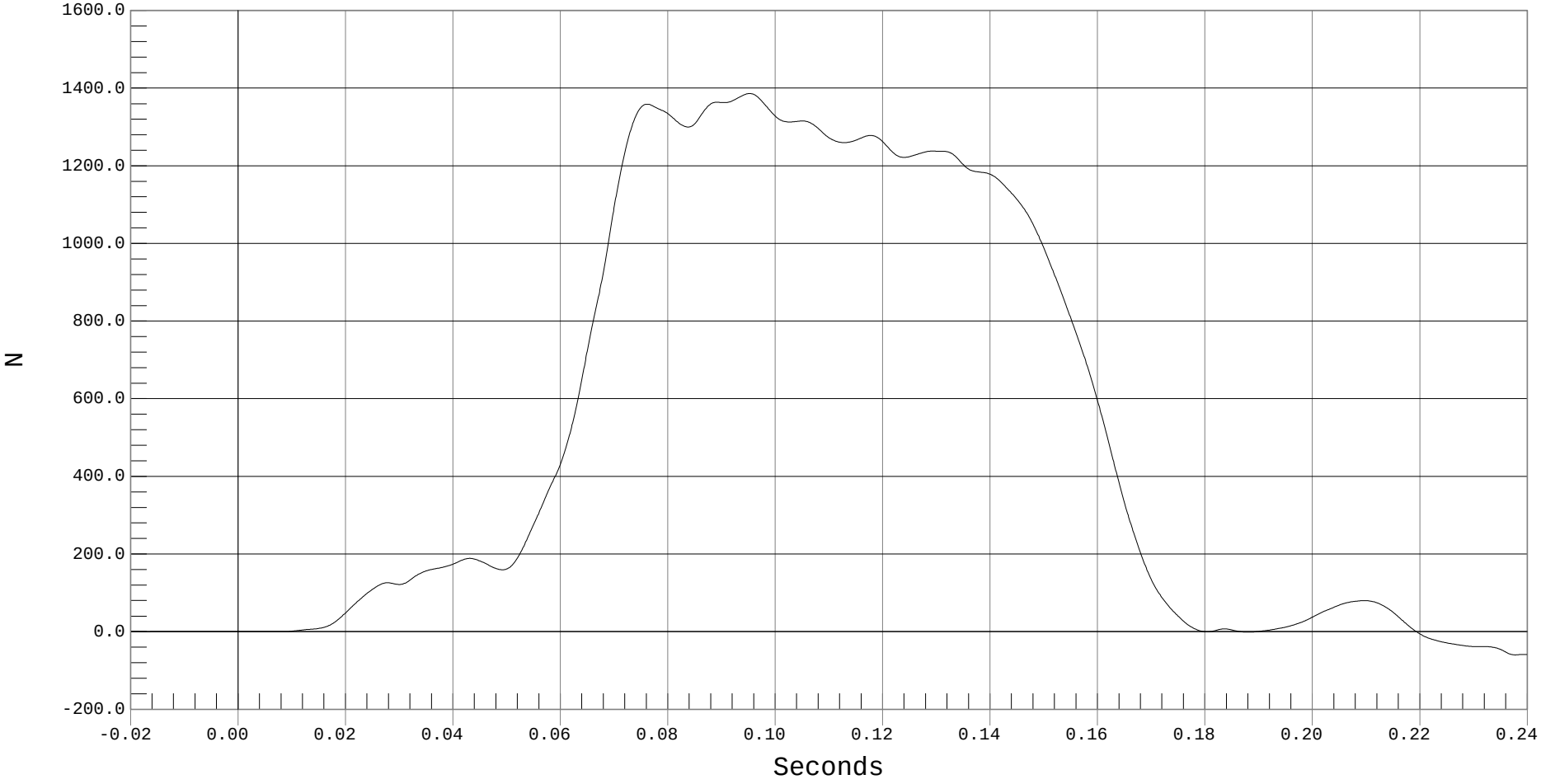
LRS TETHER FORCE

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 60

1 LRS TETHER FORCE, B01036FF.F62

Ymin = -59.94 N @ 0.2377 Seconds, Ymax = 1386.16 N @ 0.0951 Seconds



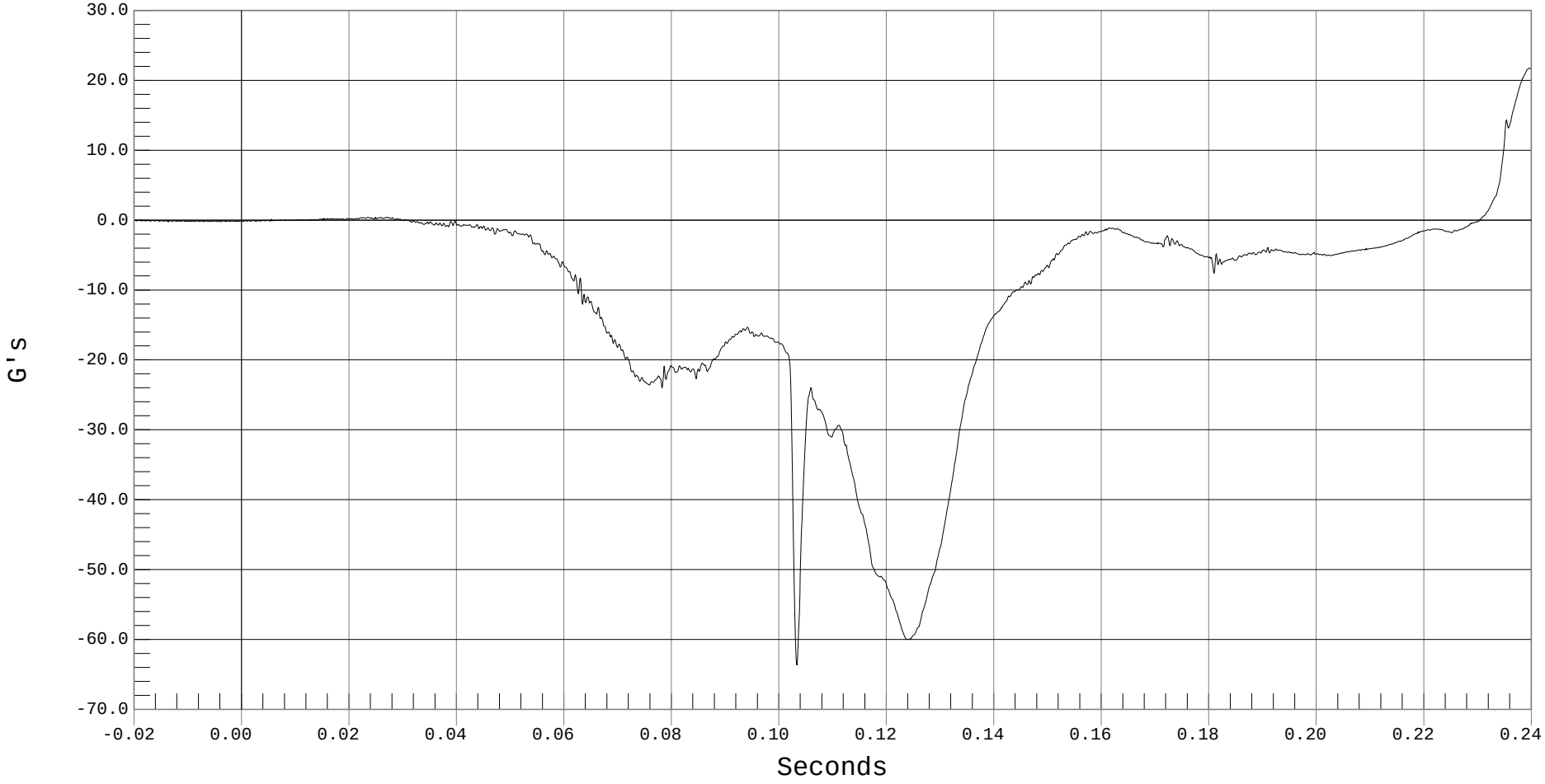
RRS 3 YR OLD HEAD X ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 RRS CHILD HEAD X, B01036AT.A37

Ymin = -63.67 G's @ 0.1033 Seconds, Ymax = 21.76 G's @ 0.2396 Seconds



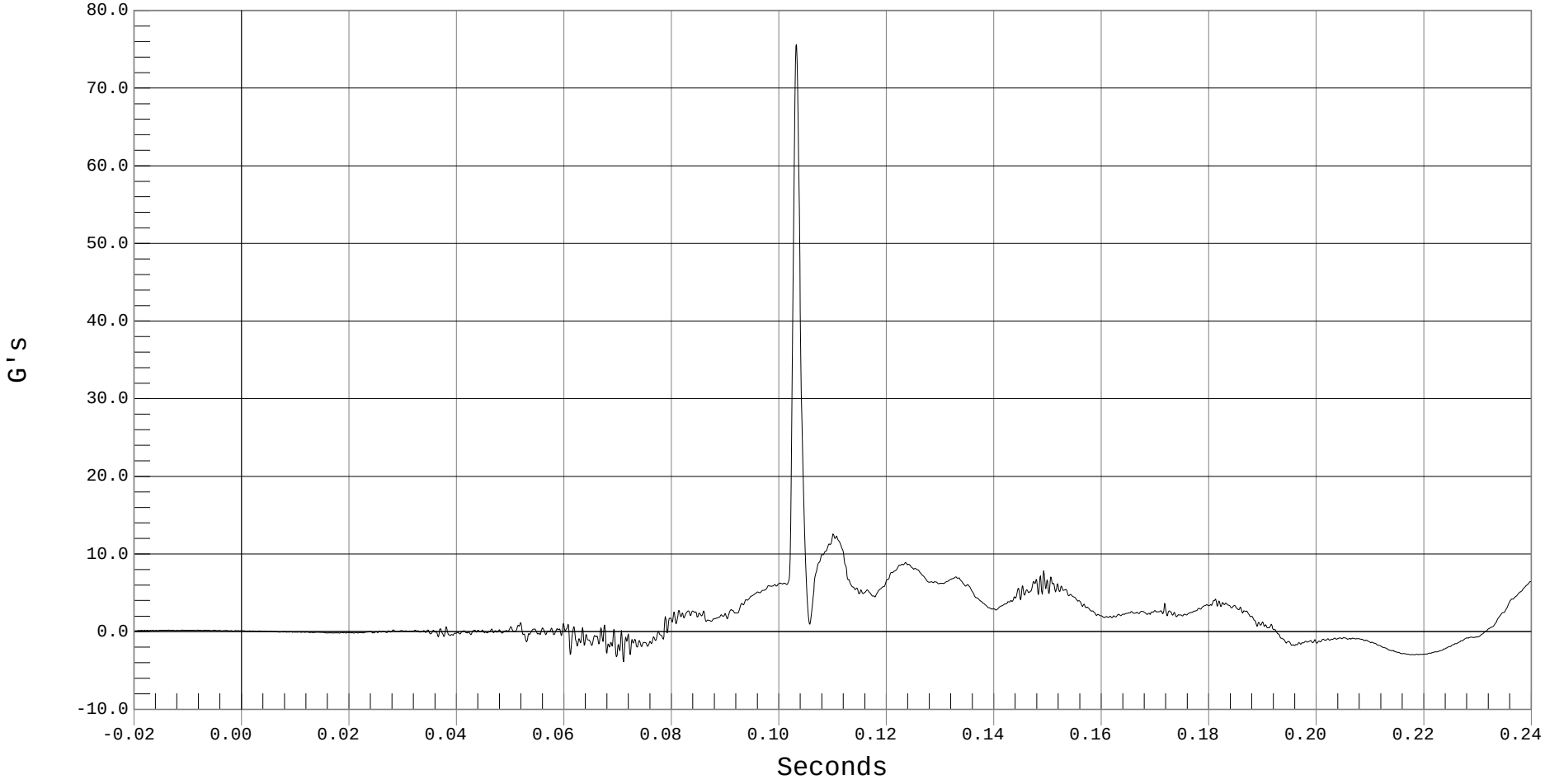
RRS 3 YR OLD HEAD Y ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 RRS CHILD HEAD Y, B01036AT.A38

Ymin = -3.89 G's @ 0.0710 Seconds, Ymax = 75.63 G's @ 0.1032 Seconds



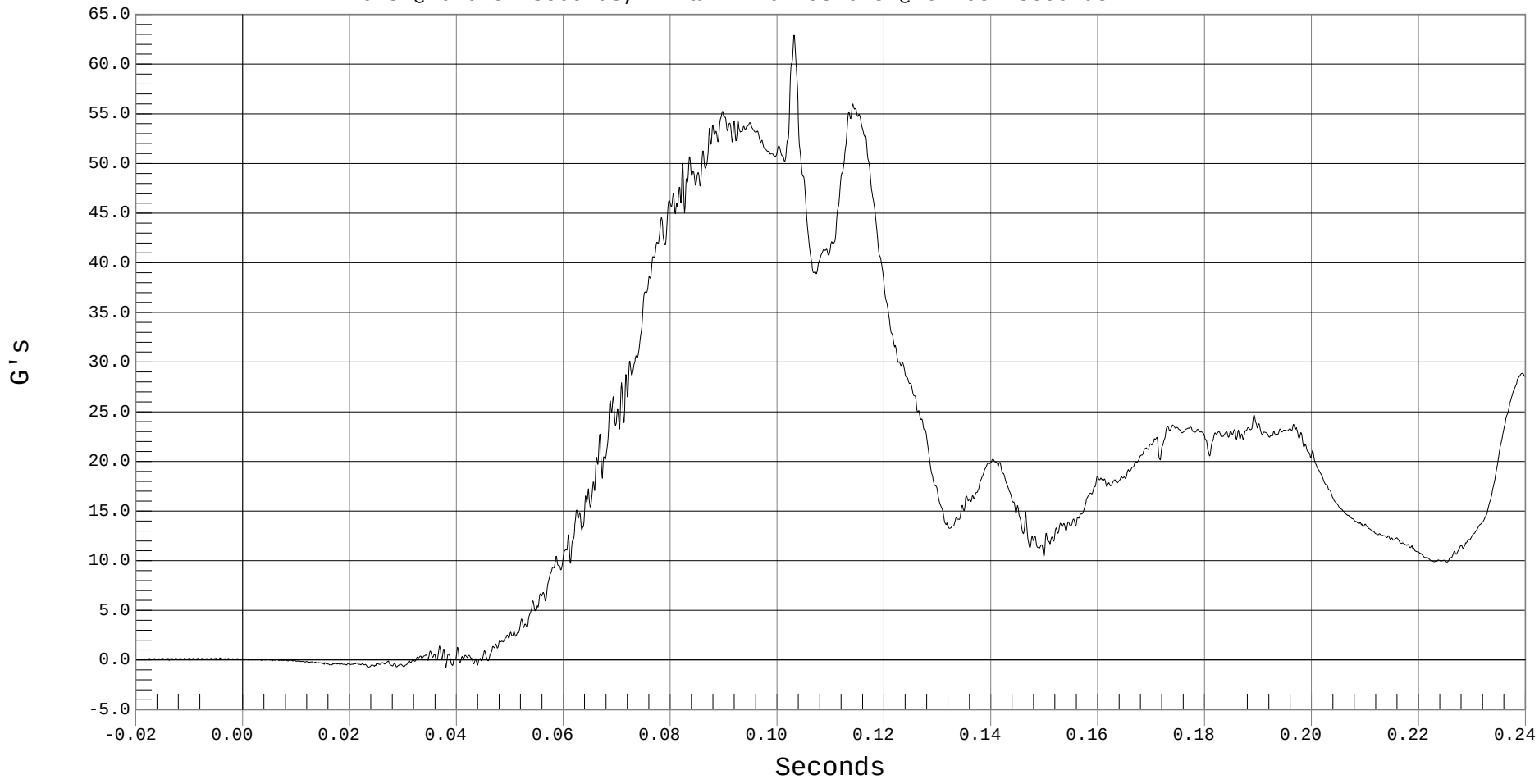
RRS 3 YR OLD HEAD Z ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 RRS CHILD HEAD Z, B01036AT.A39

Ymin = -.74 G's @ 0.0234 Seconds, Ymax = 62.93 G's @ 0.1031 Seconds



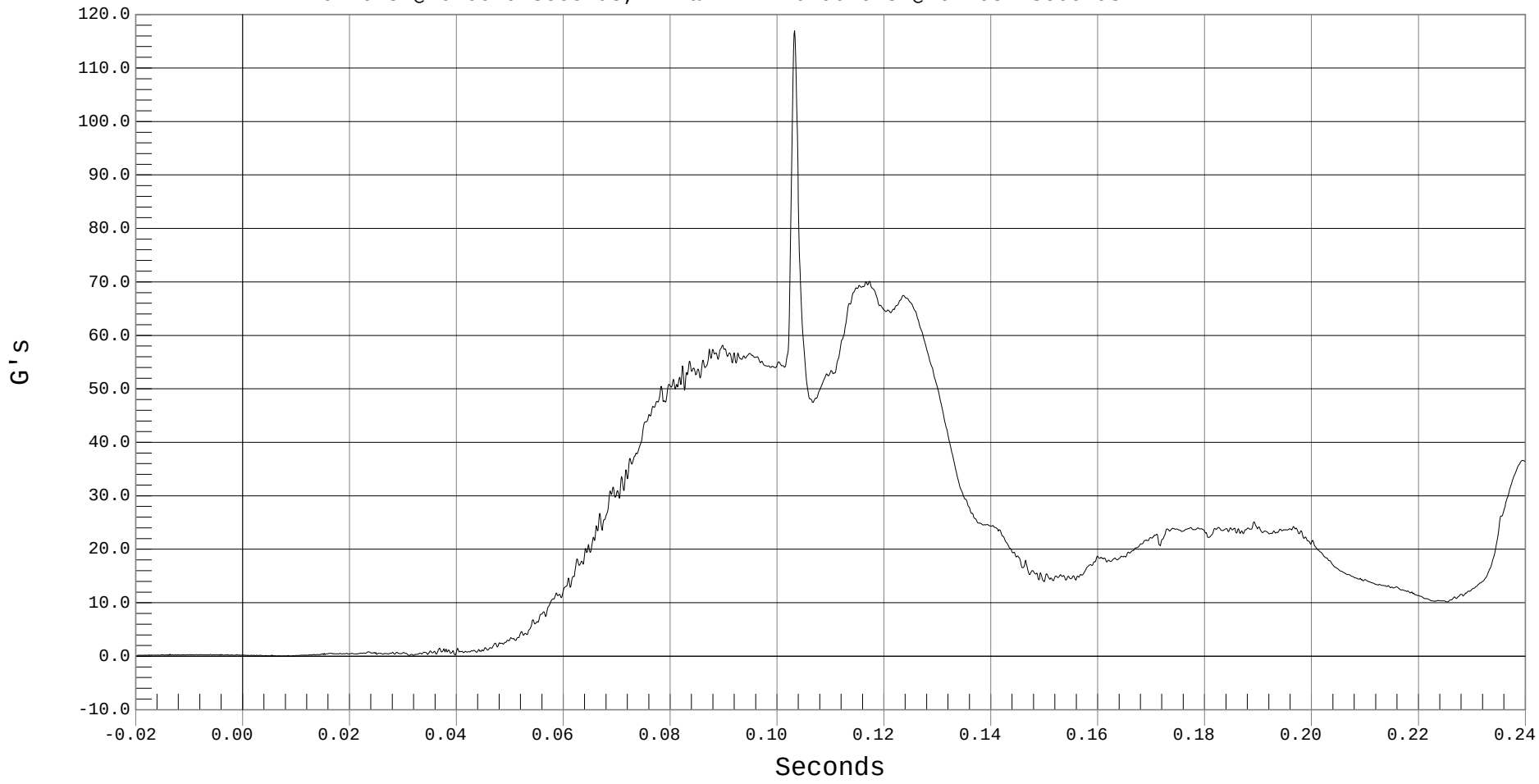
RRS 3 YR OLD HEAD RESULTANT ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 RRS 3 YR OLD HEAD RESULTANT ACCELERATION, B01036AV.A37

Ymin = .02 G's @ 0.0079 Seconds, Ymax = 116.96 G's @ 0.1032 Seconds



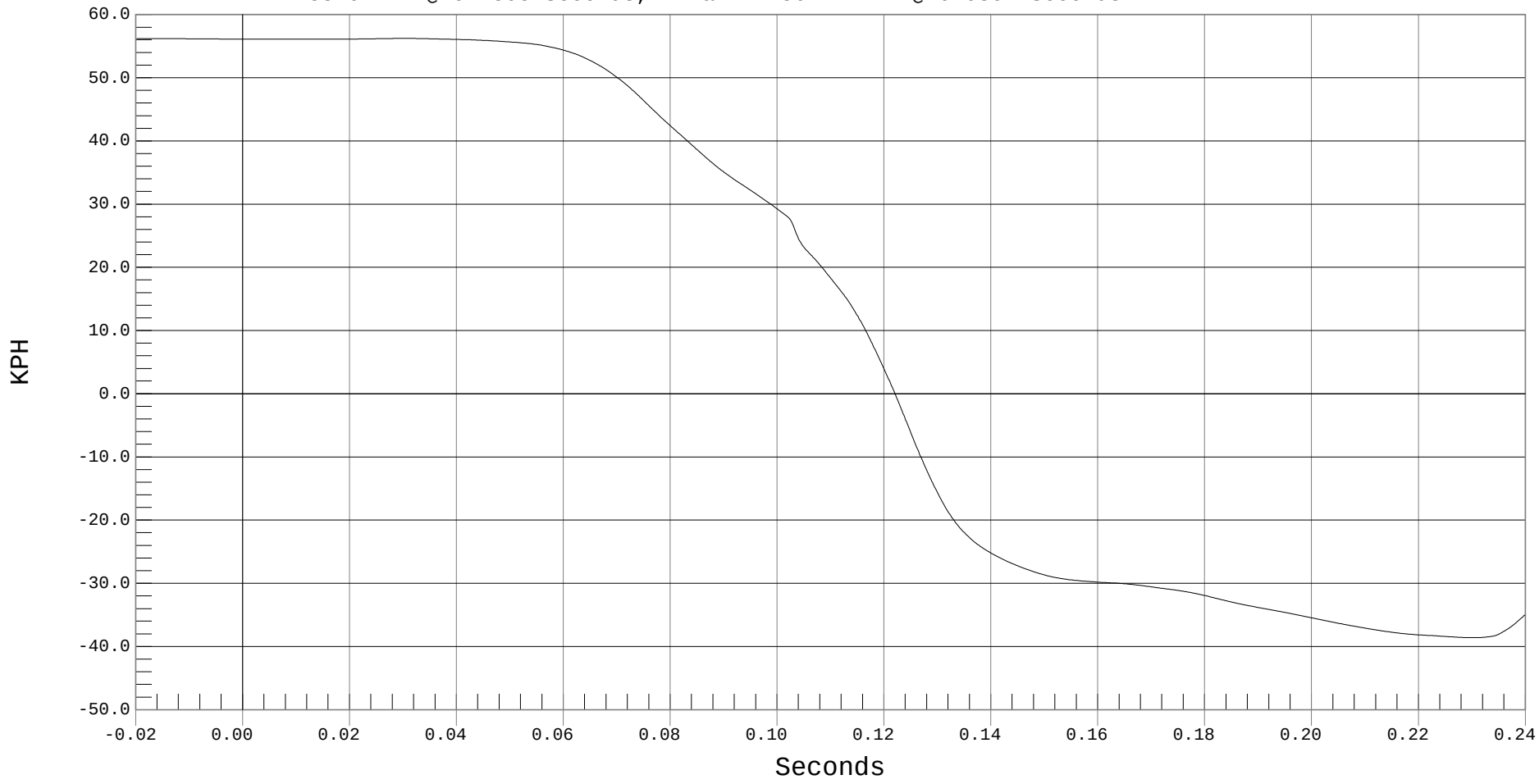
RRS 3 YR OLD HEAD X VELOCITY

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 RRS 3 YR OLD HEAD X VELOCITY, B01036AI.V37

Ymin = -38.6 KPH @ 0.2303 Seconds, Ymax = 56.21 KPH @ 0.0307 Seconds



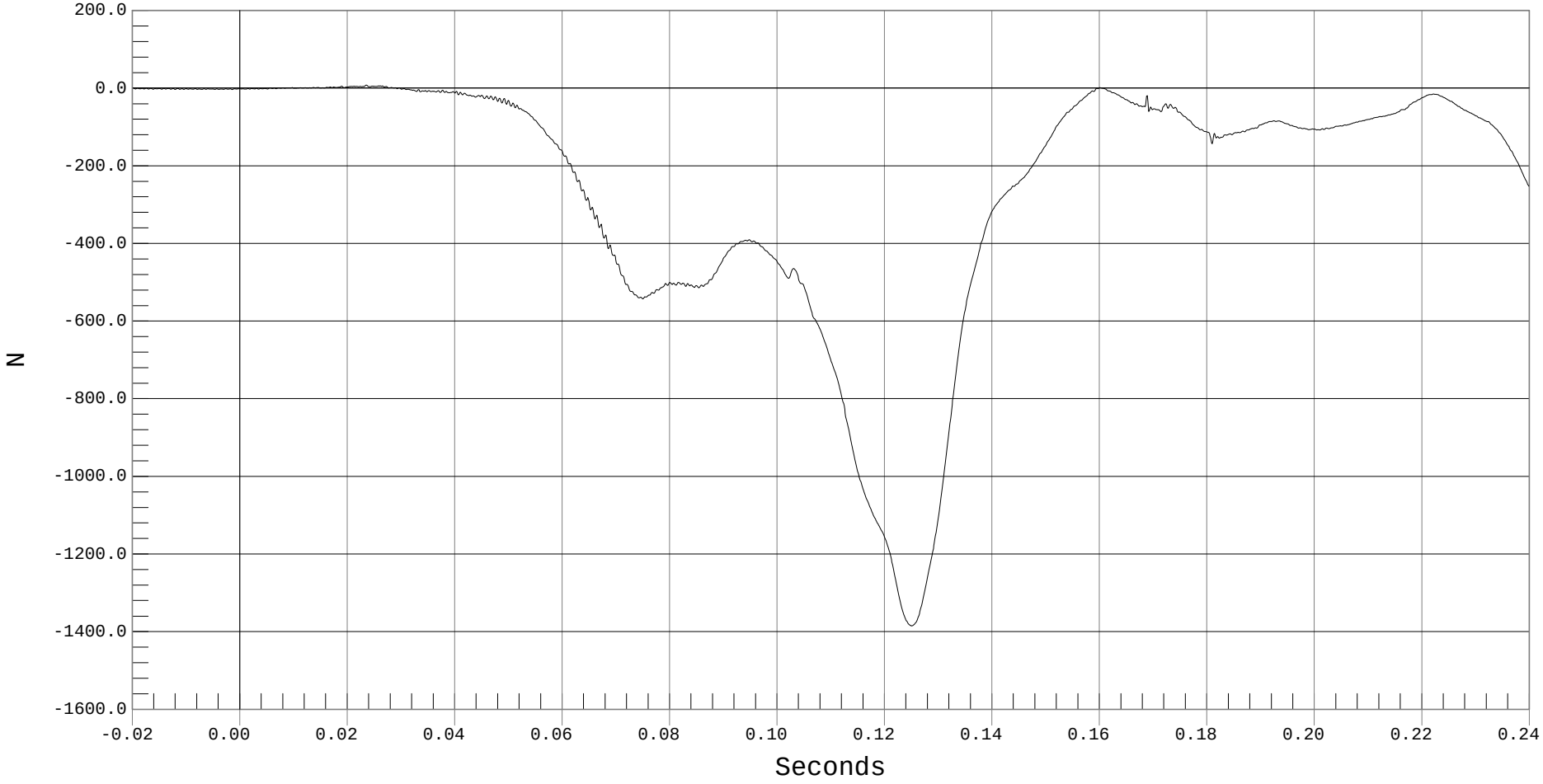
RRS 3 YR OLD UPPER NECK FORCE X

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 RRS CHILD UPPER NECK FORCE X, B01036FT.F40

Ymin = -1385.26 N @ 0.1249 Seconds, Ymax = 8.16 N @ 0.0235 Seconds



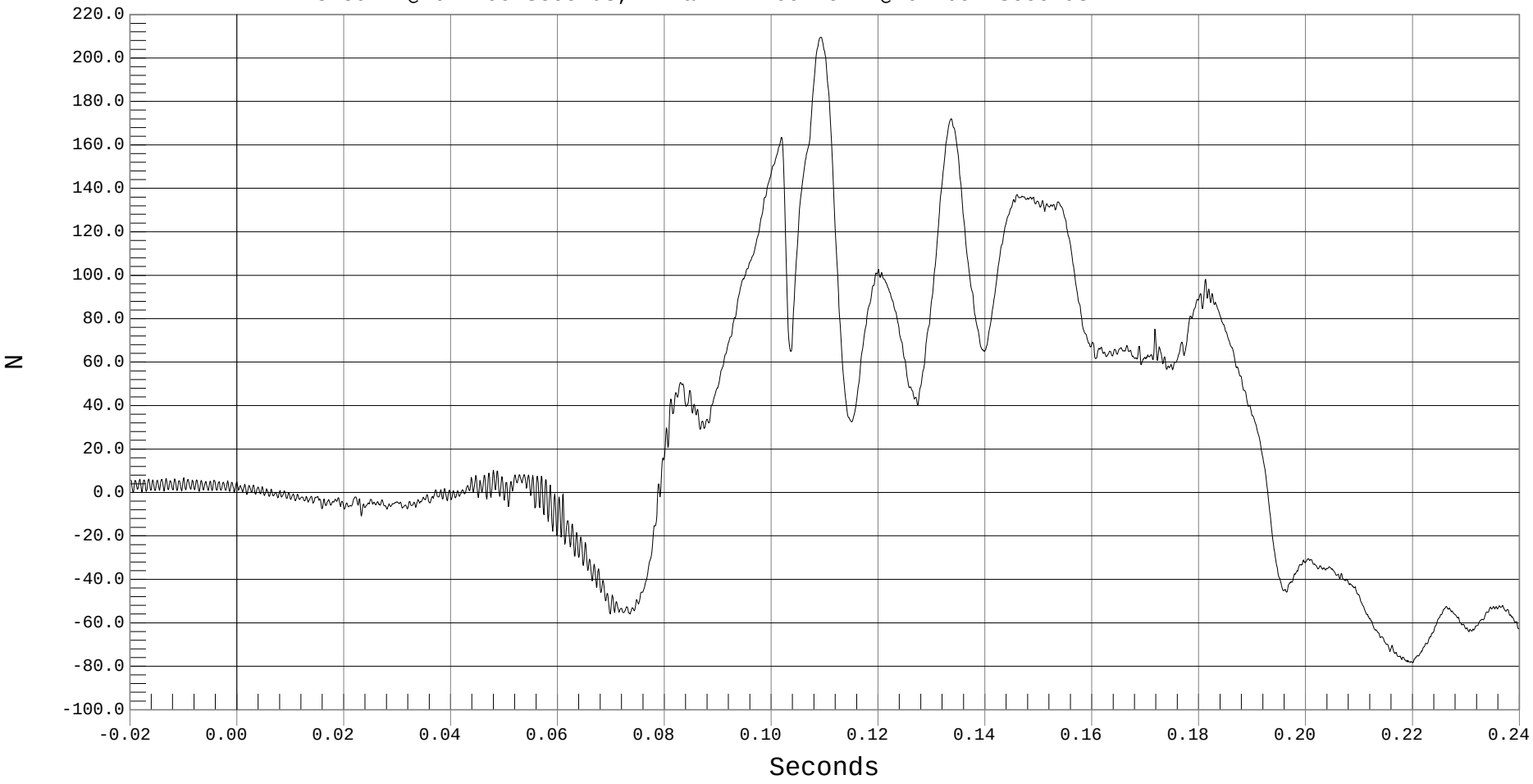
RRS 3 YR OLD UPPER NECK FORCE Y

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 RRS CHILD UPPER NECK FORCE Y, B01036FT.F41

Ymin = -78.39 N @ 0.2199 Seconds, Ymax = 209.49 N @ 0.1092 Seconds



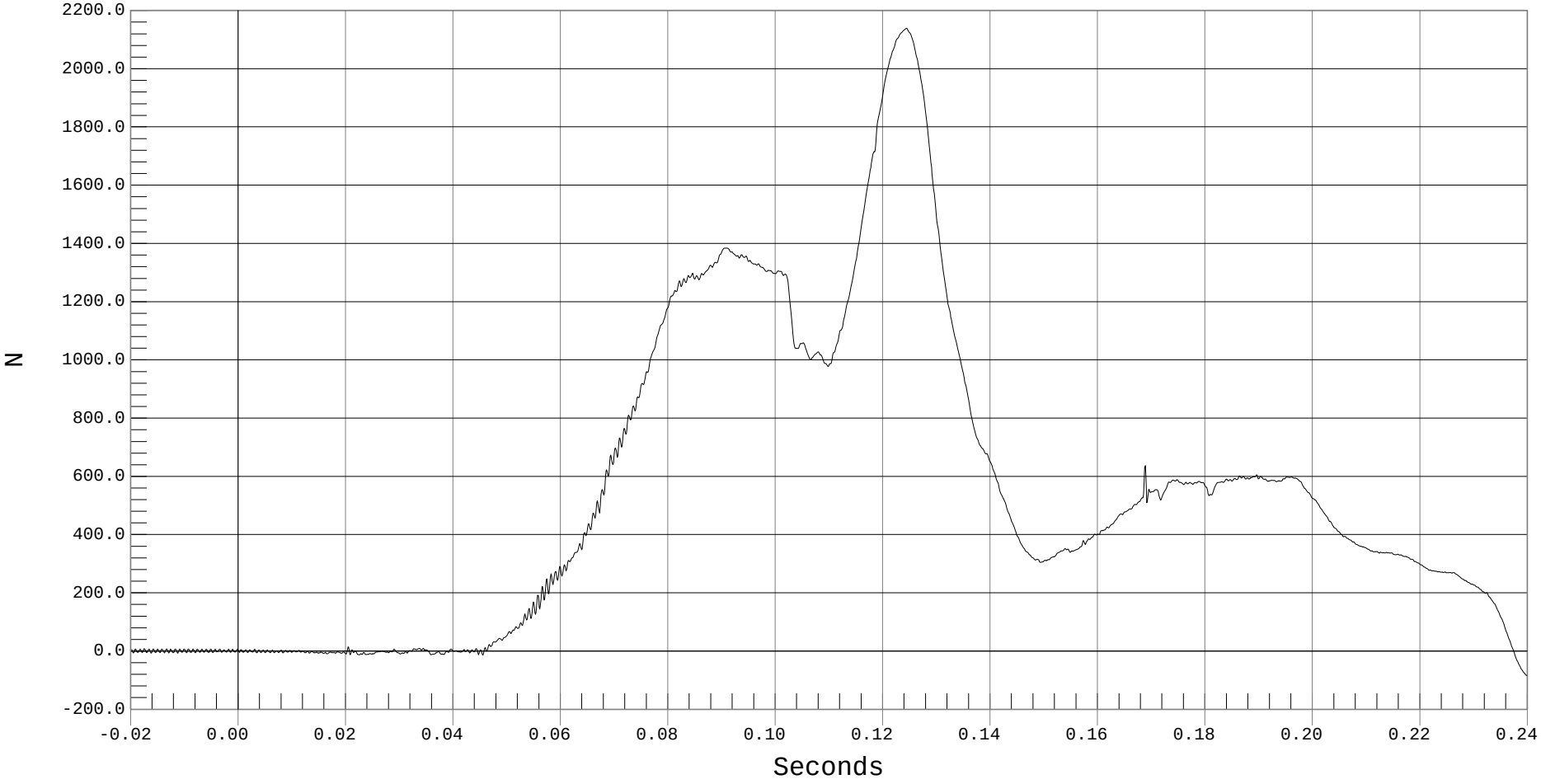
RRS 3 YR OLD UPPER NECK FORCE Z

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 RRS CHILD UPPER NECK FORCE Z, B01036FT.F42

Ymin = -86.85 N @ 0.2400 Seconds, Ymax = 2139.13 N @ 0.1244 Seconds



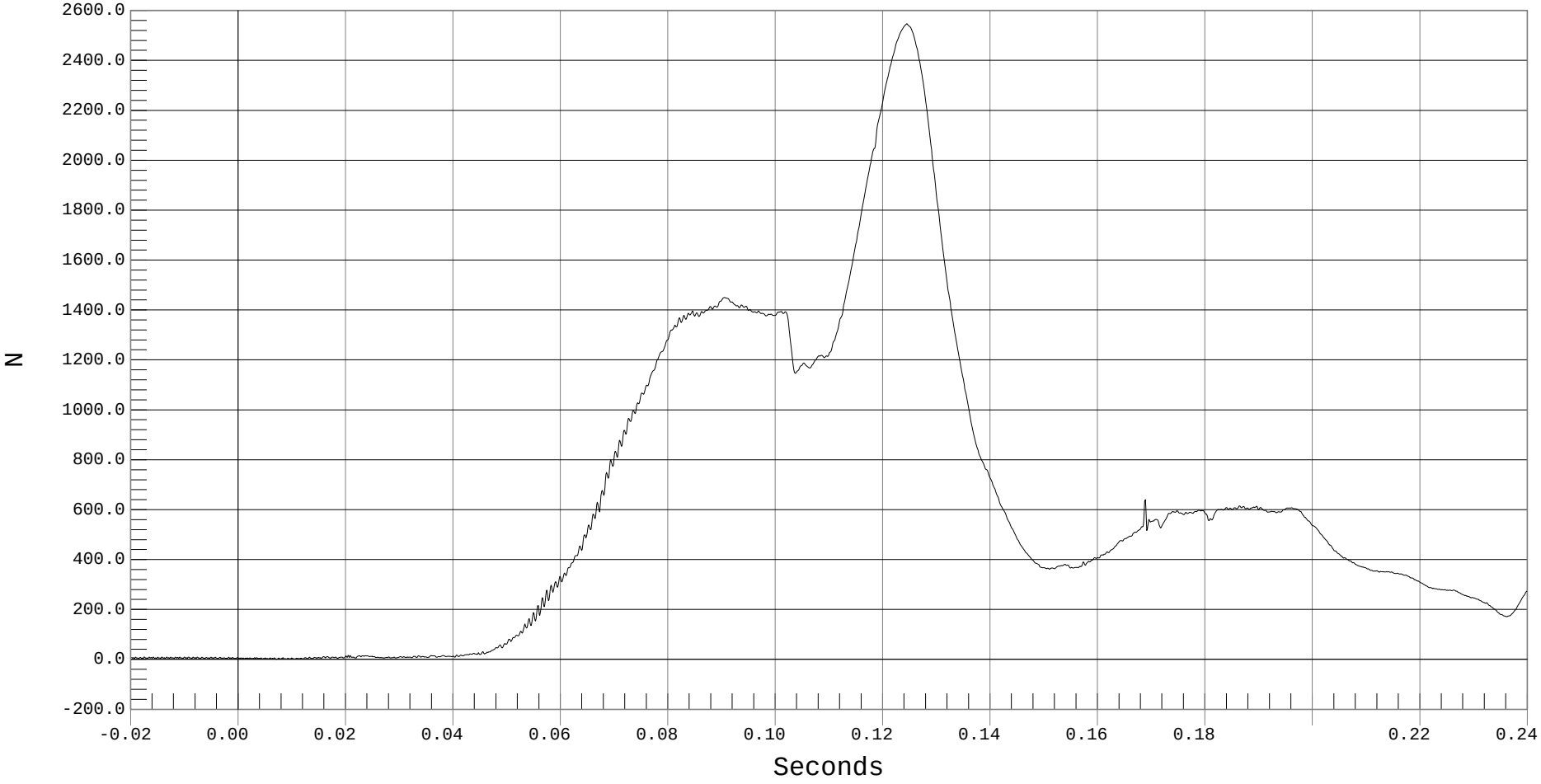
RRS 3 YR OLD UPPER NECK FORCE RESULTANT

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 RRS 3 YR OLD UPPER NECK FORCE RESULTANT, B01036FV.F40

Ymin = .15 N @ 0.0072 Seconds, Ymax = 2547.04 N @ 0.1244 Seconds



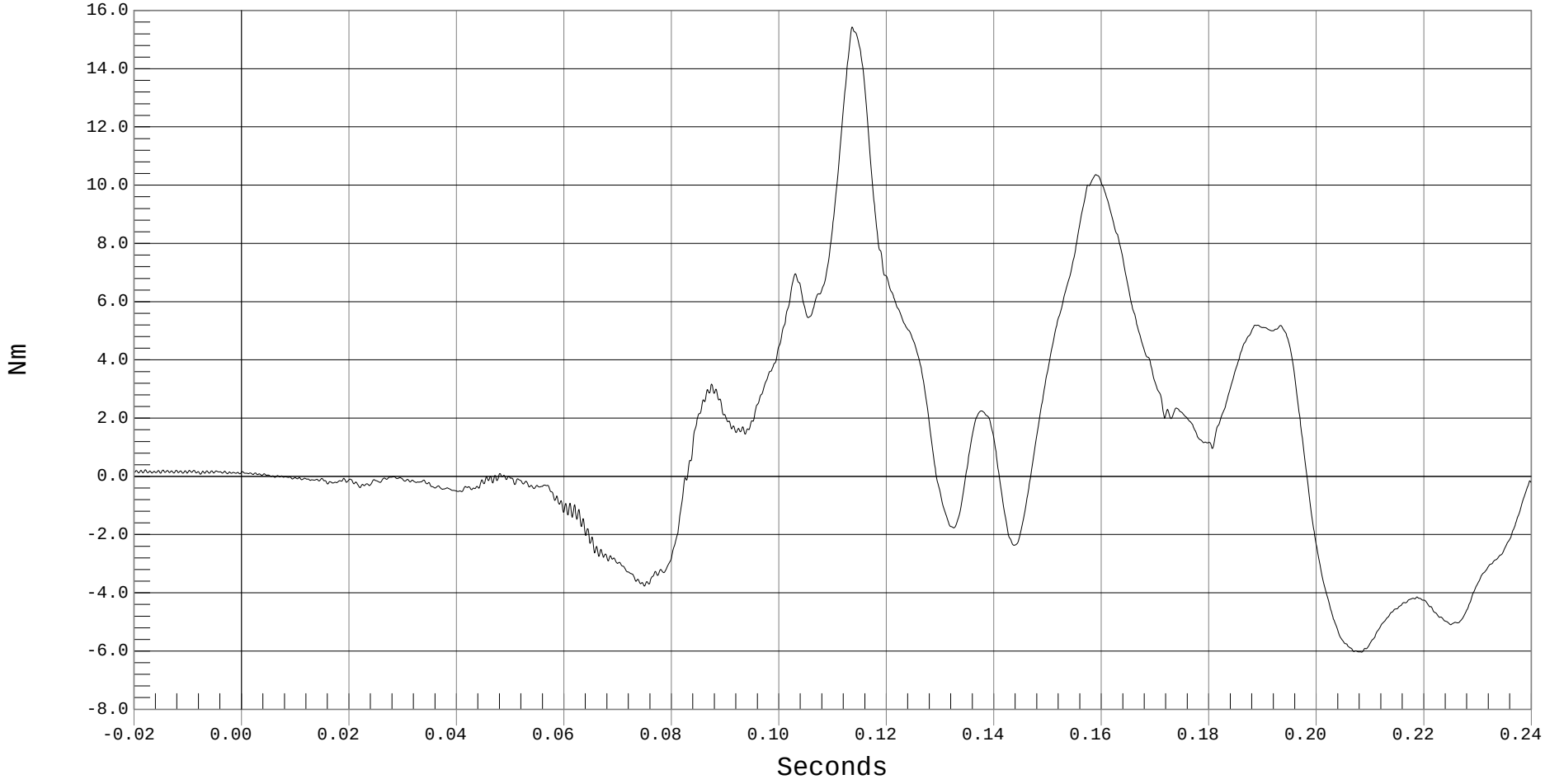
RRS 3 YR OLD UPPER NECK MOMENT X

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 RRS CHILD UPPER NECK MOMENT X, B01036MF.M43

Ymin = -6.04 Nm @ 0.2083 Seconds, Ymax = 15.43 Nm @ 0.1135 Seconds



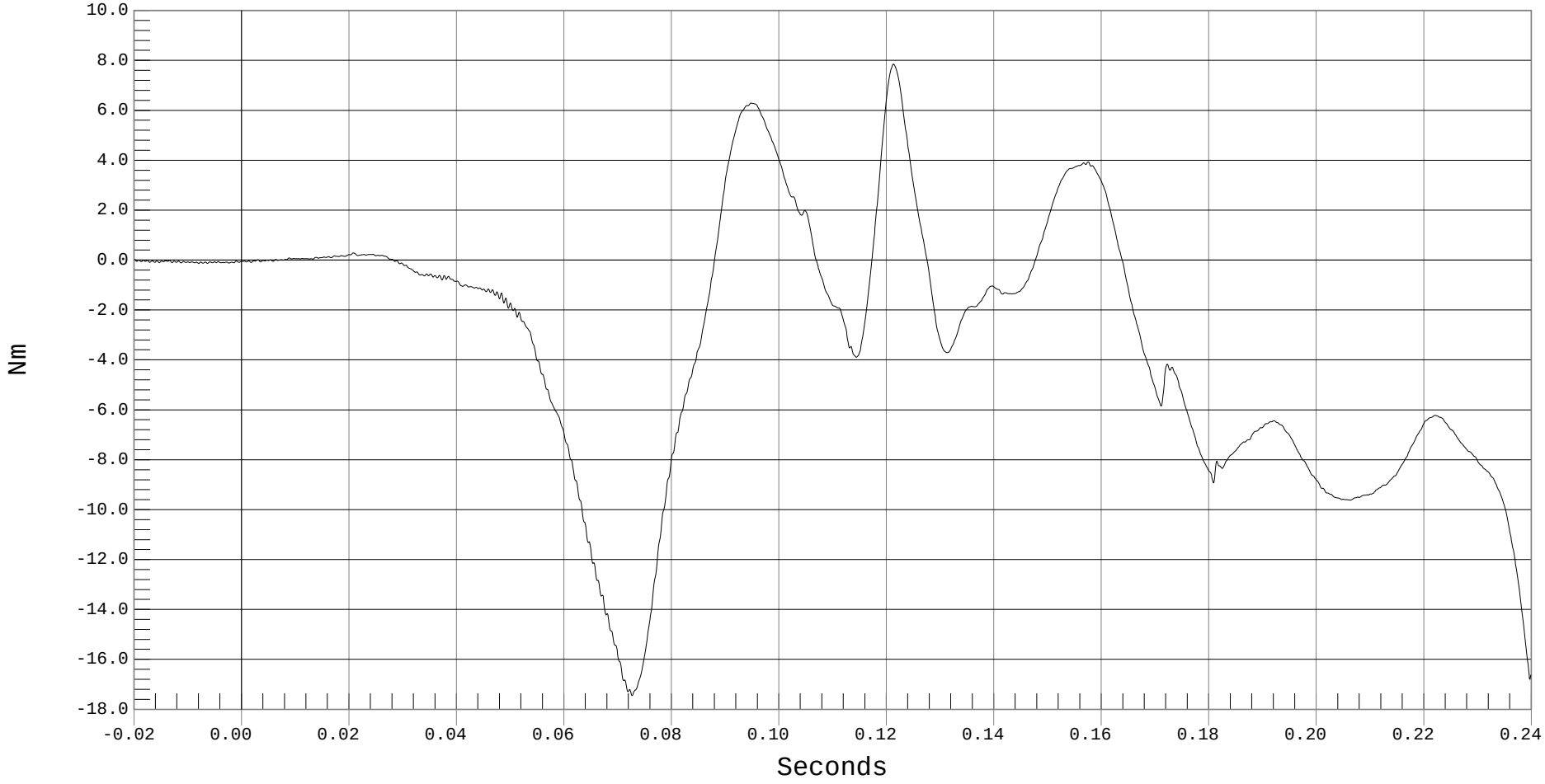
RRS 3 YR OLD UPPER NECK MOMENT Y

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 RRS CHILD UPPER NECK MOMENT Y, B01036MF.M44

Ymin = -17.46 Nm @ 0.0726 Seconds, Ymax = 7.85 Nm @ 0.1212 Seconds



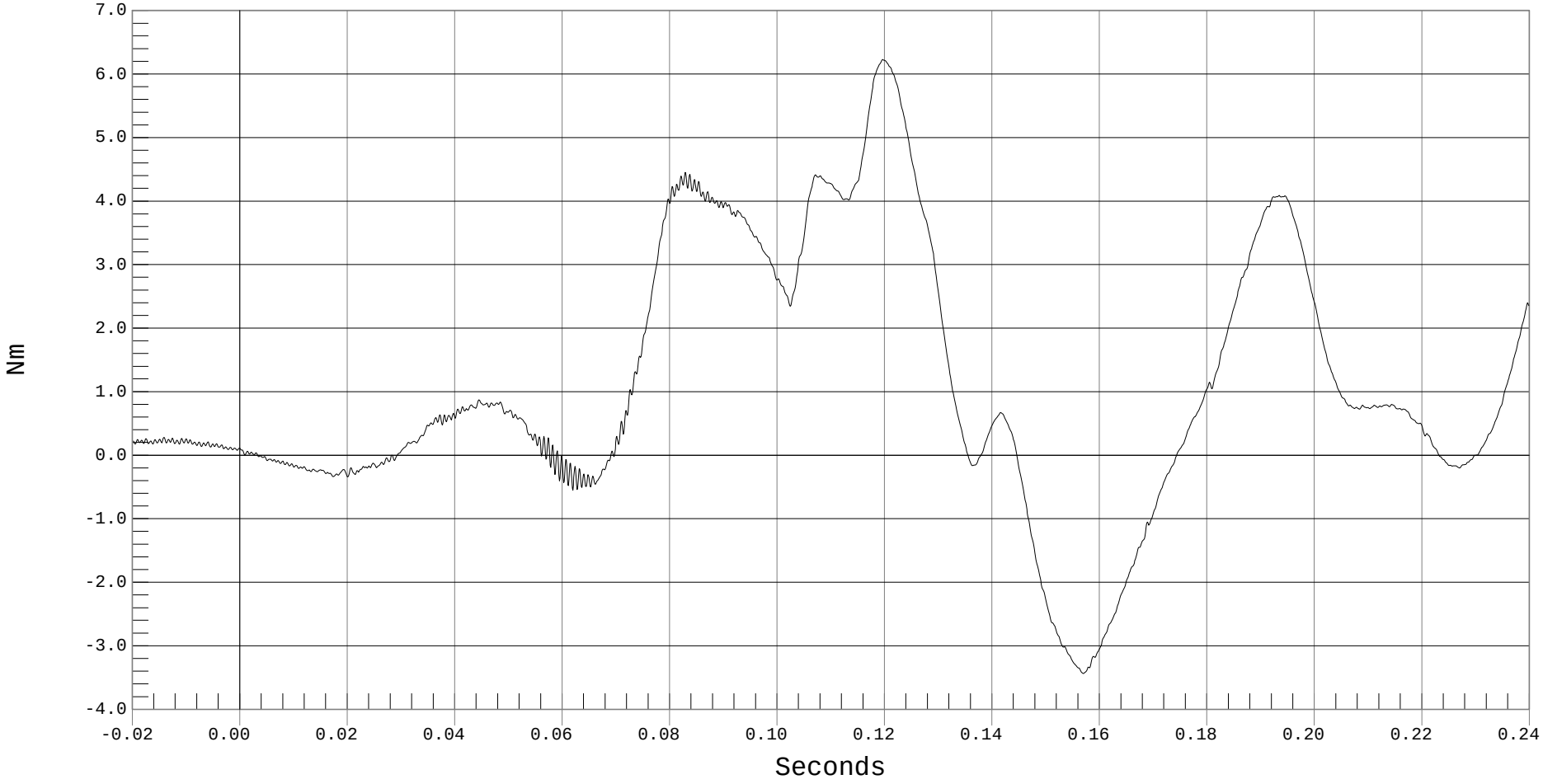
RRS 3 YR OLD UPPER NECK MOMENT Z

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 RRS CHILD UPPER NECK MOMENT Z, B01036MF.M45

Ymin = -3.44 Nm @ 0.1569 Seconds, Ymax = 6.23 Nm @ 0.1196 Seconds



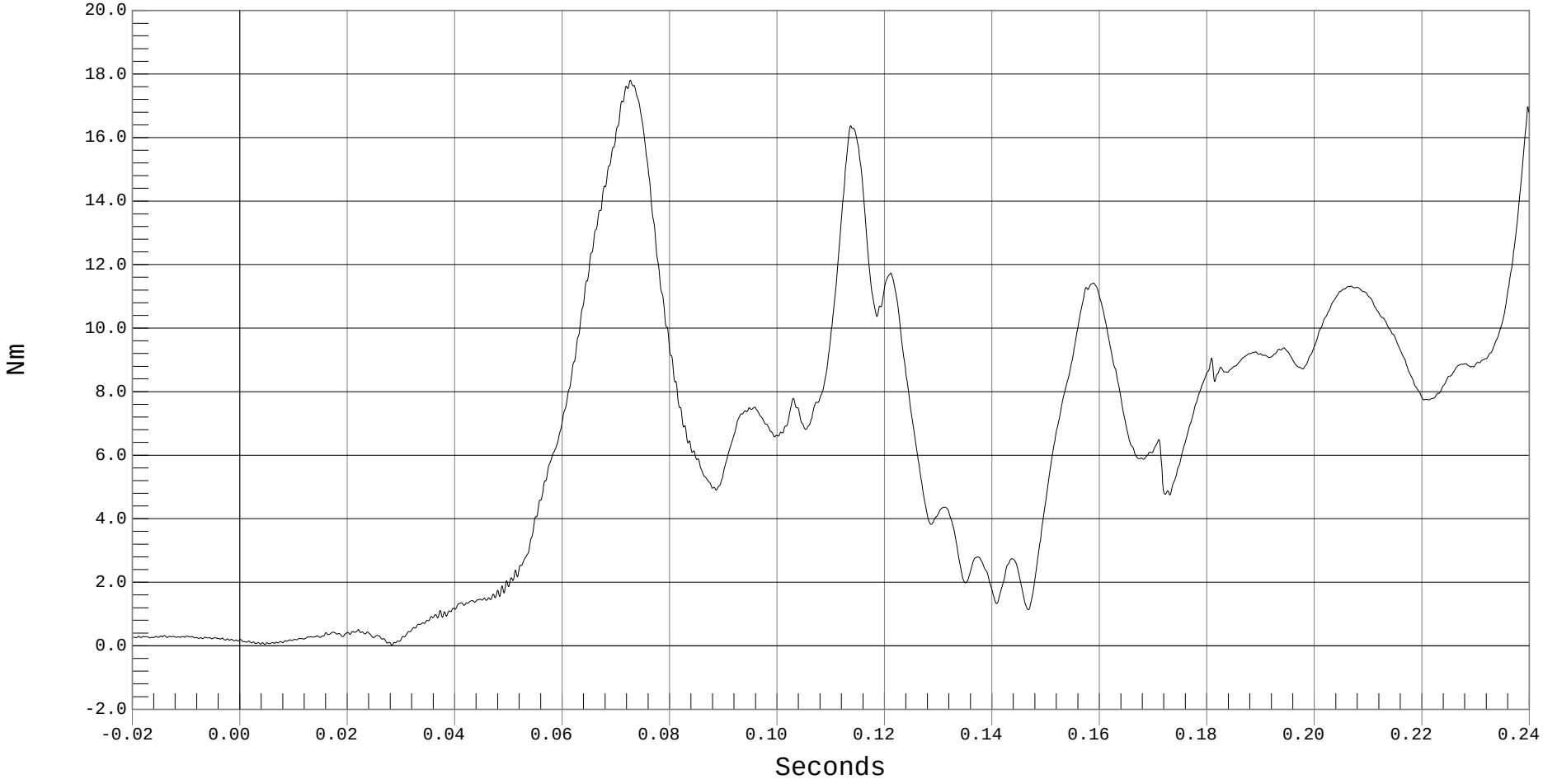
RRS 3 YR OLD UPPER NECK MOMENT RESULTANT

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 RRS 3 YR OLD UPPER NECK MOMENT RESULTANT, B01036MV.M43

Ymin = .01 Nm @ 0.0282 Seconds, Ymax = 17.81 Nm @ 0.0726 Seconds



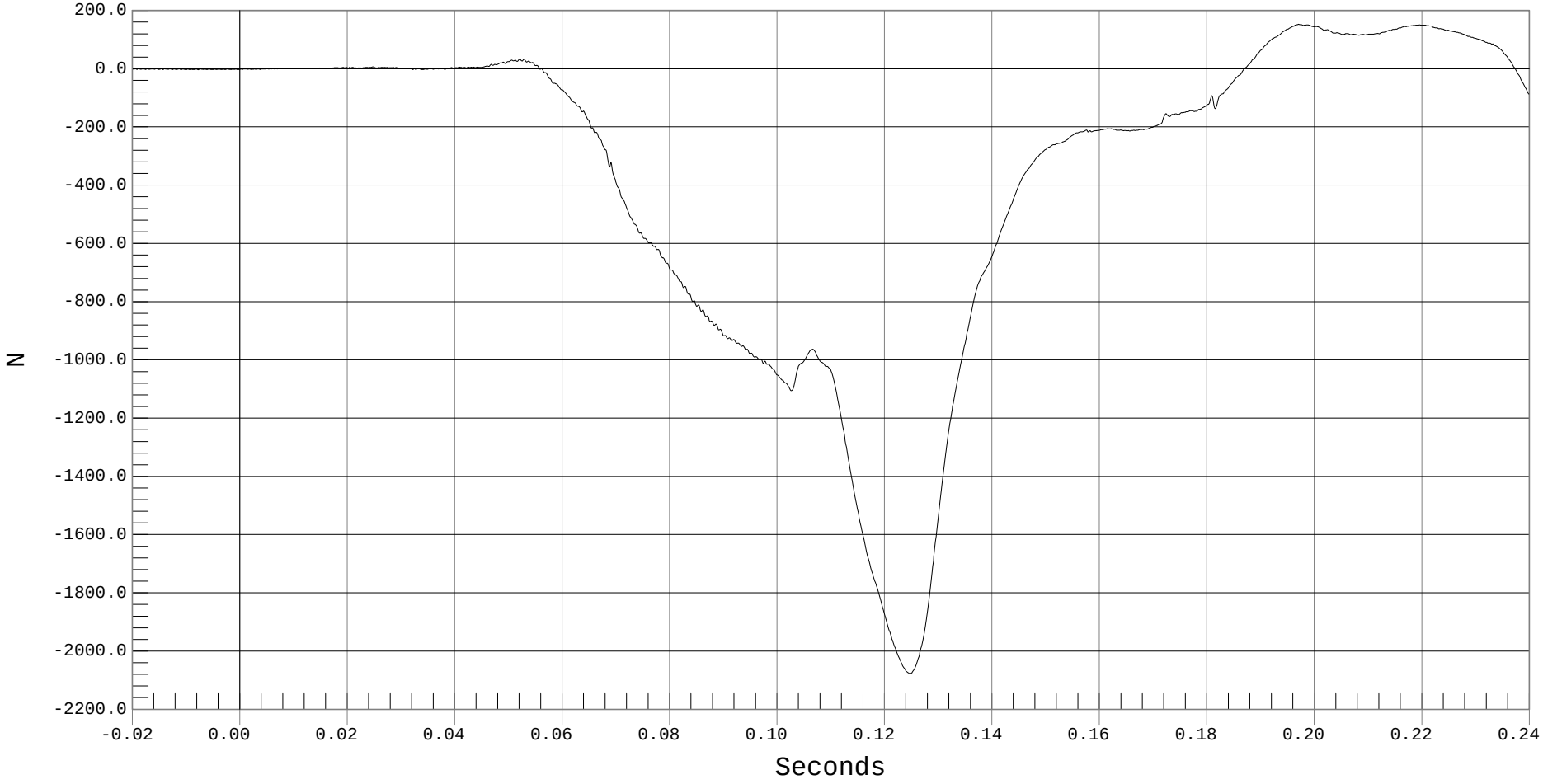
RRS 3 YR OLD LOWER NECK FORCE X

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 RRS CHILD LOWER NECK FORCE X, B01036FT.F46

Ymin = -2077.47 N @ 0.1247 Seconds, Ymax = 152.89 N @ 0.1969 Seconds



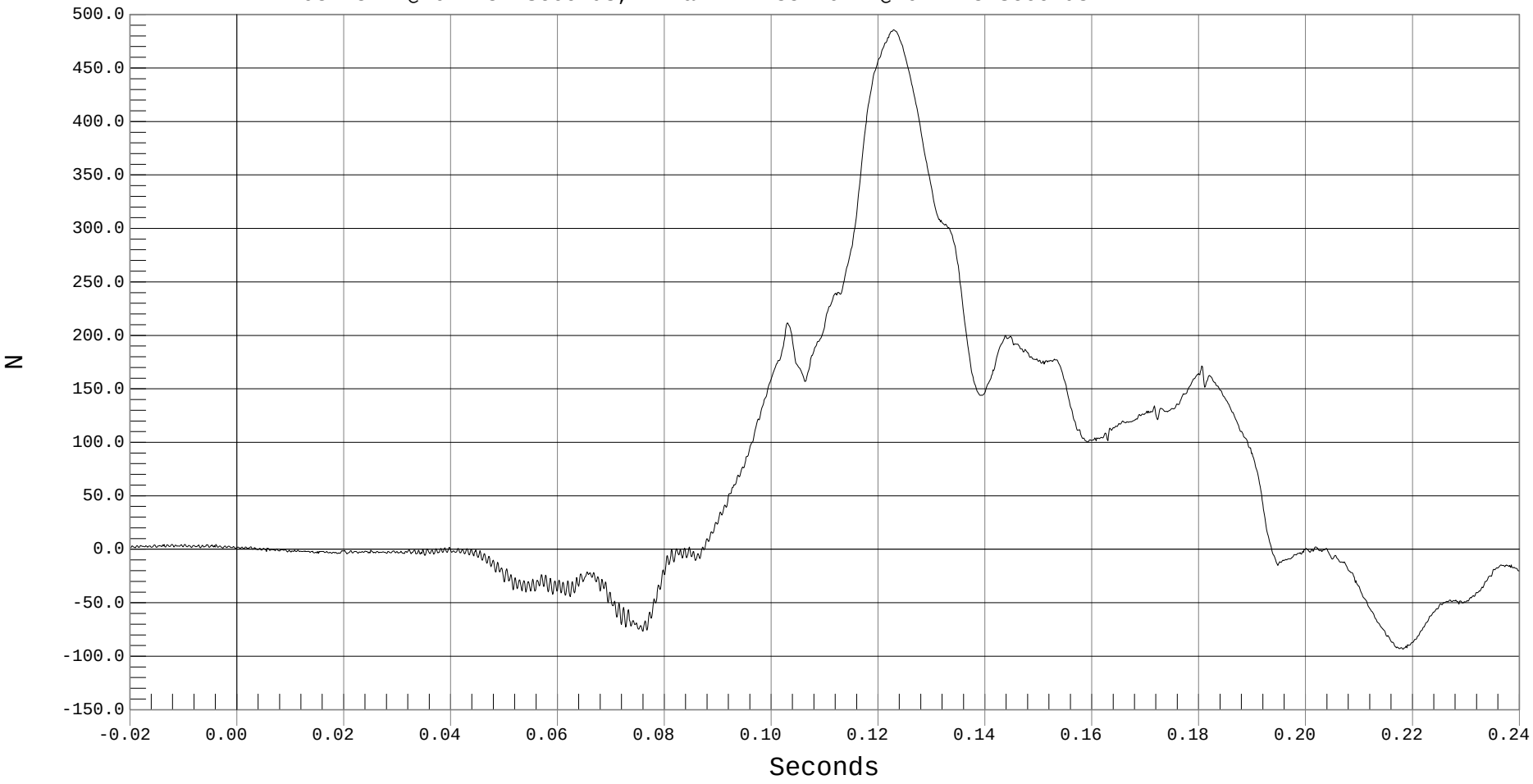
RRS 3 YR OLD LOWER NECK FORCE Y

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 RRS CHILD LOWER NECK FORCE Y, B01036FT.F47

Ymin = -93.43 N @ 0.2181 Seconds, Ymax = 485.76 N @ 0.1228 Seconds



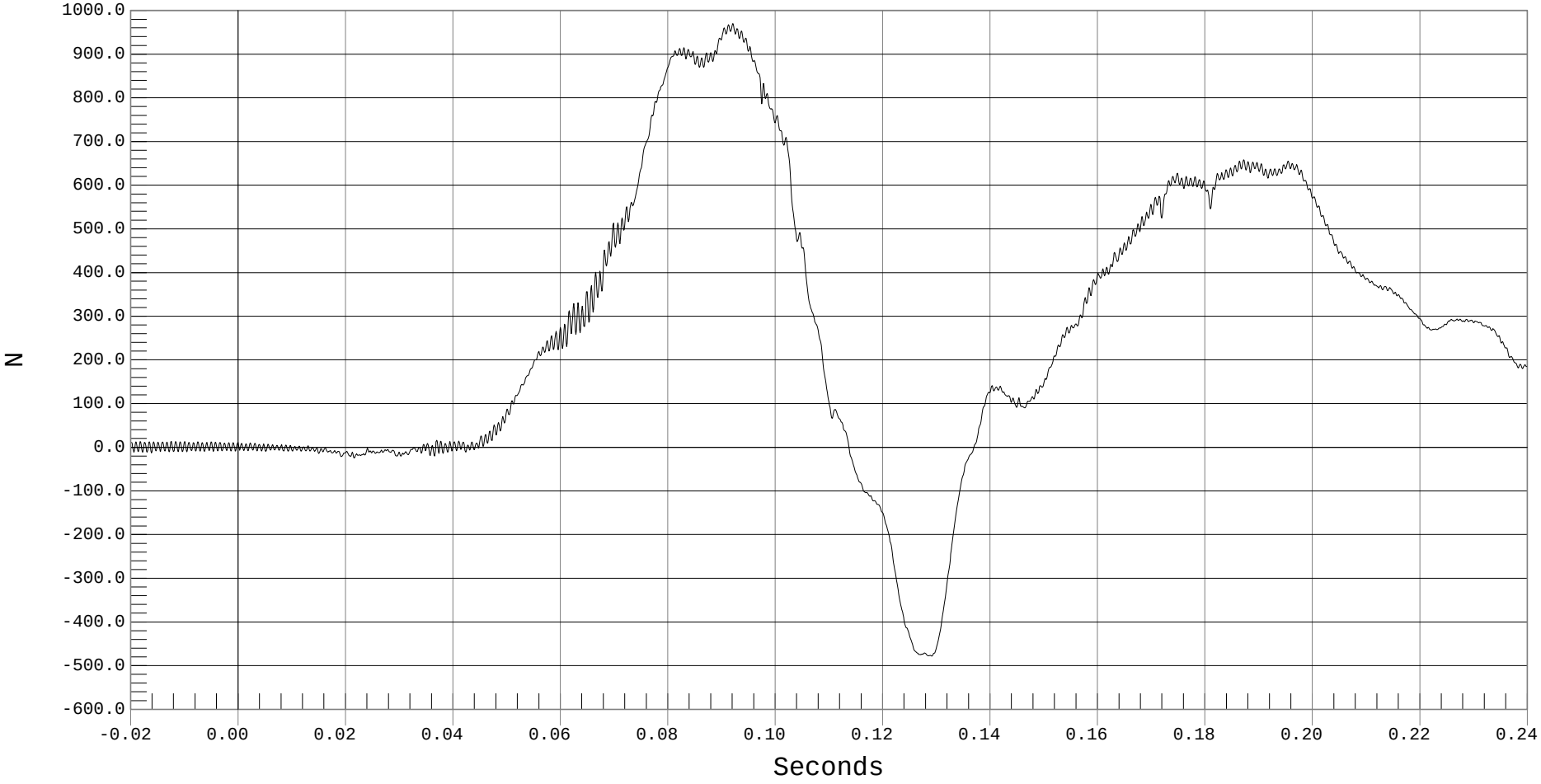
RRS 3 YR OLD LOWER NECK FORCE Z

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 RRS CHILD LOWER NECK FORCE Z, B01036FT.F48

Ymin = -478.31 N @ 0.1290 Seconds, Ymax = 970.07 N @ 0.0920 Seconds



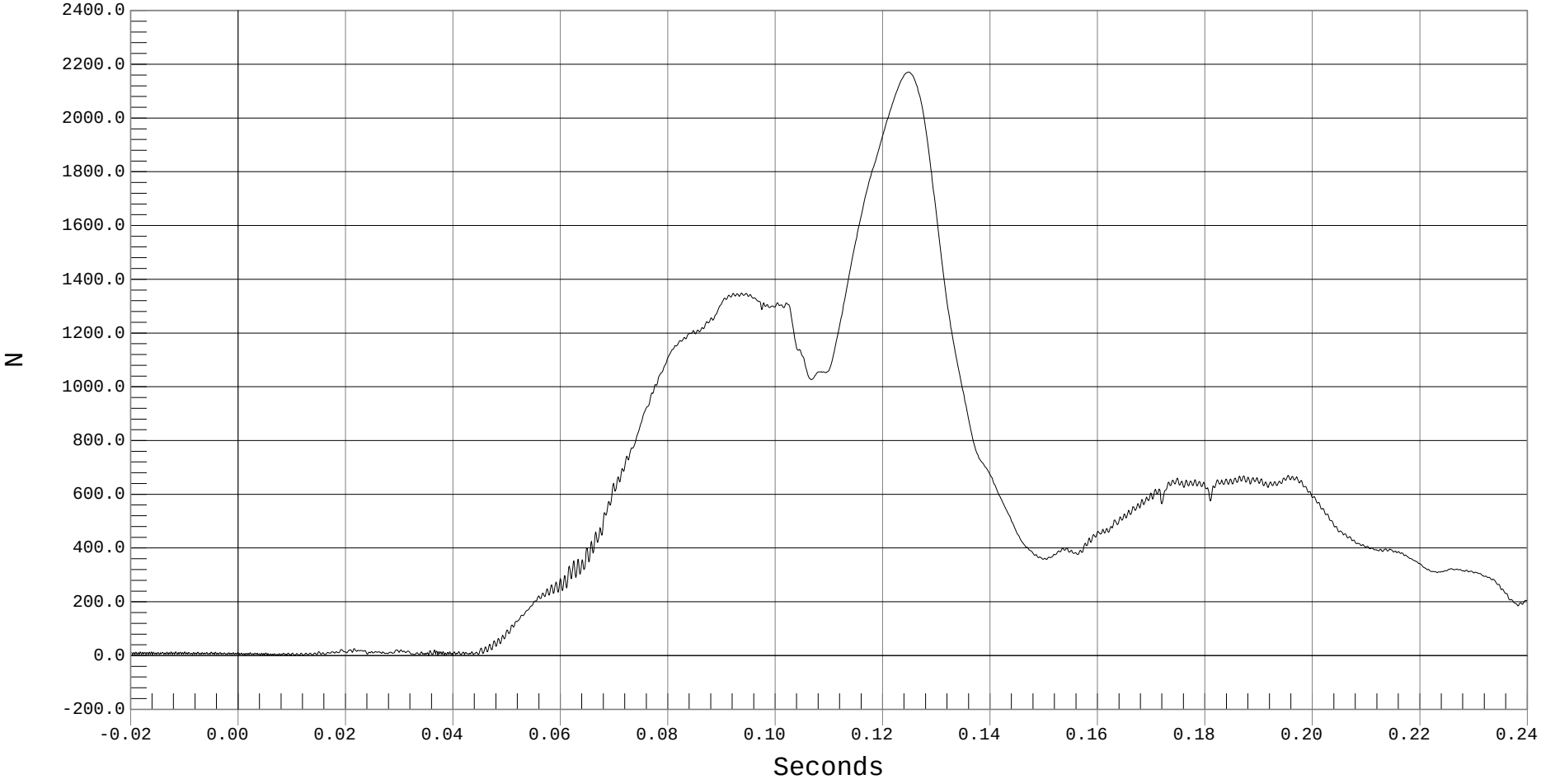
RRS 3 YR OLD LOWER NECK FORCE RESULTANT

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 RRS 3 YR OLD LOWER NECK FORCE RESULTANT, B01036FV.F46

Ymin = .94 N @ 0.0057 Seconds, Ymax = 2170.59 N @ 0.1248 Seconds



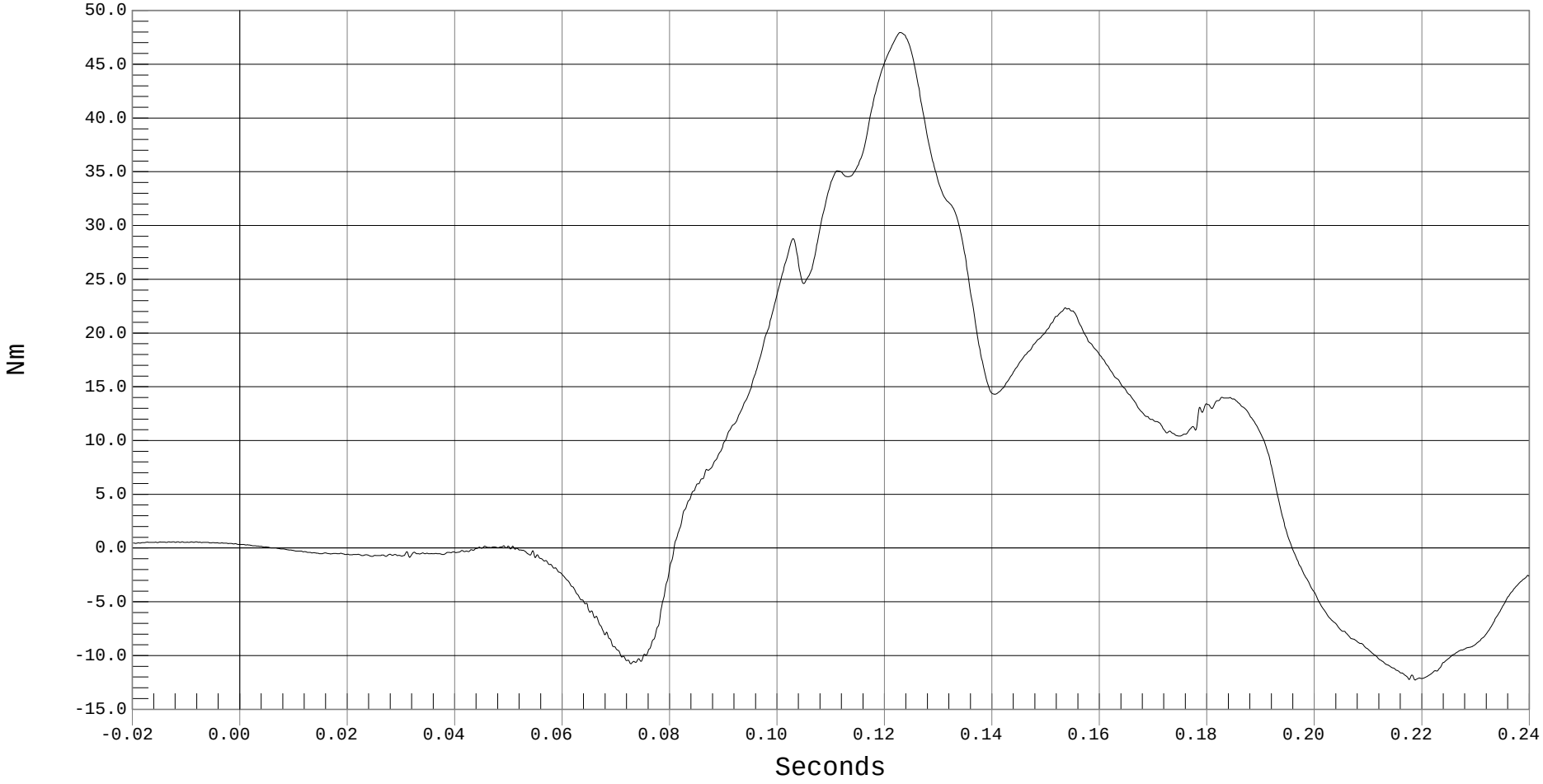
RRS 3 YR OLD LOWER NECK MOMENT X

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 RRS CHILD LOWER NECK MOMENT X, B01036MF.M49

Ymin = -12.28 Nm @ 0.2187 Seconds, Ymax = 47.96 Nm @ 0.1229 Seconds



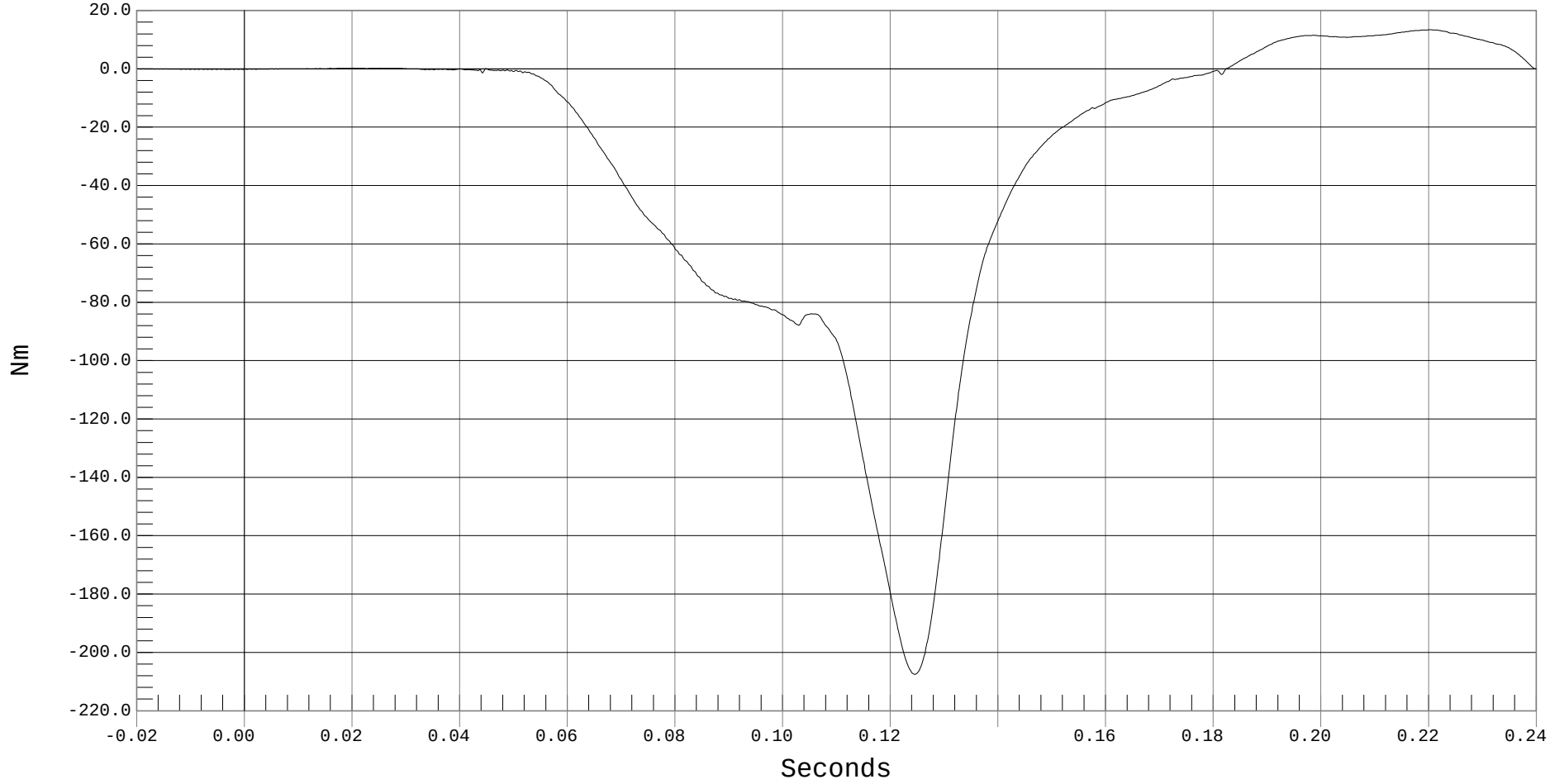
RRS 3 YR OLD LOWER NECK MOMENT Y

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 RRS CHILD LOWER NECK MOMENT Y, B01036MF.M50

Ymin = -207.48 Nm @ 0.1244 Seconds, Ymax = 13.43 Nm @ 0.2203 Seconds



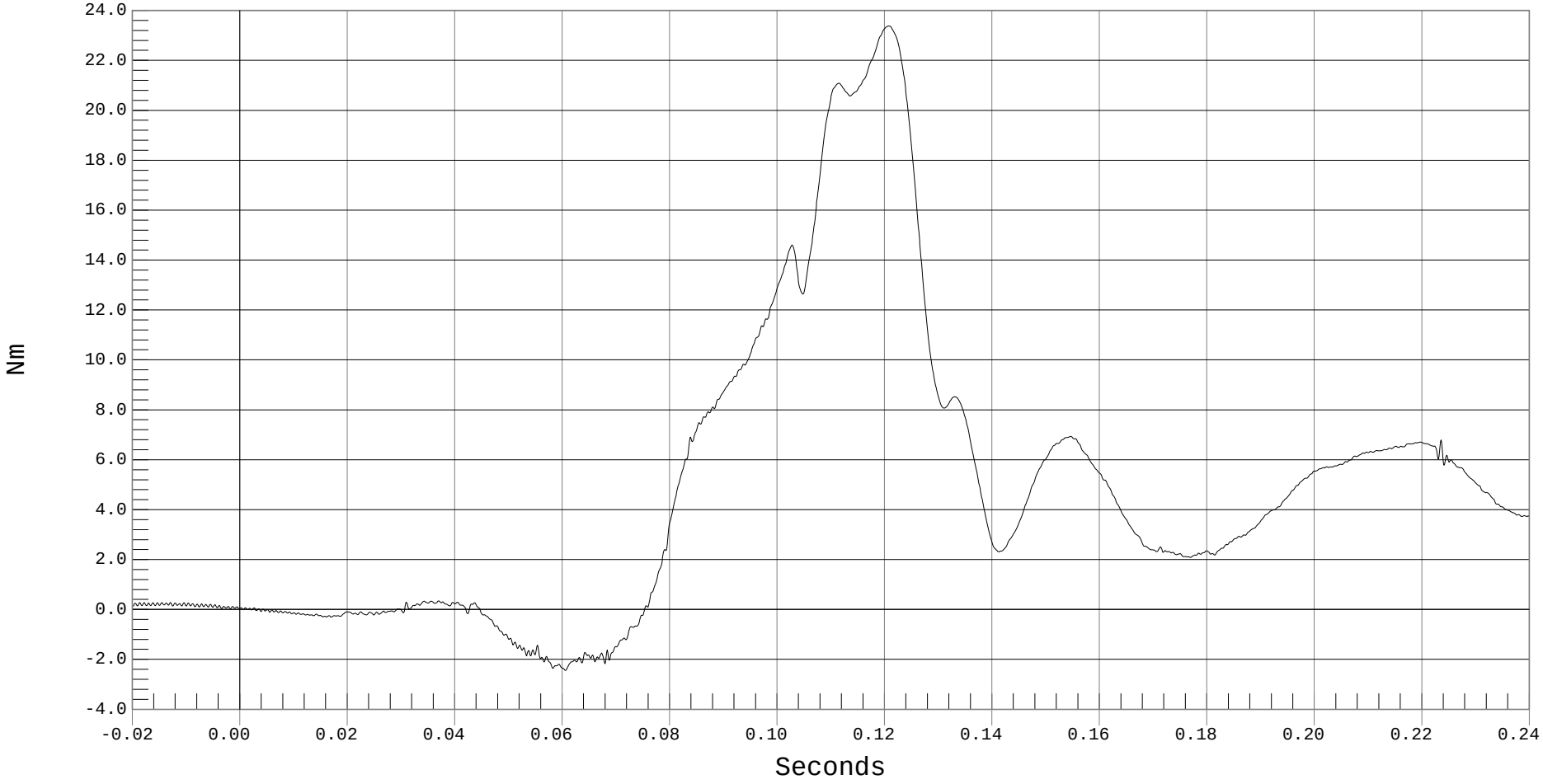
RRS 3 YR OLD LOWER NECK MOMENT Z

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 RRS CHILD LOWER NECK MOMENT Z, B01036MF.M51

Ymin = -2.44 Nm @ 0.0605 Seconds, Ymax = 23.38 Nm @ 0.1207 Seconds



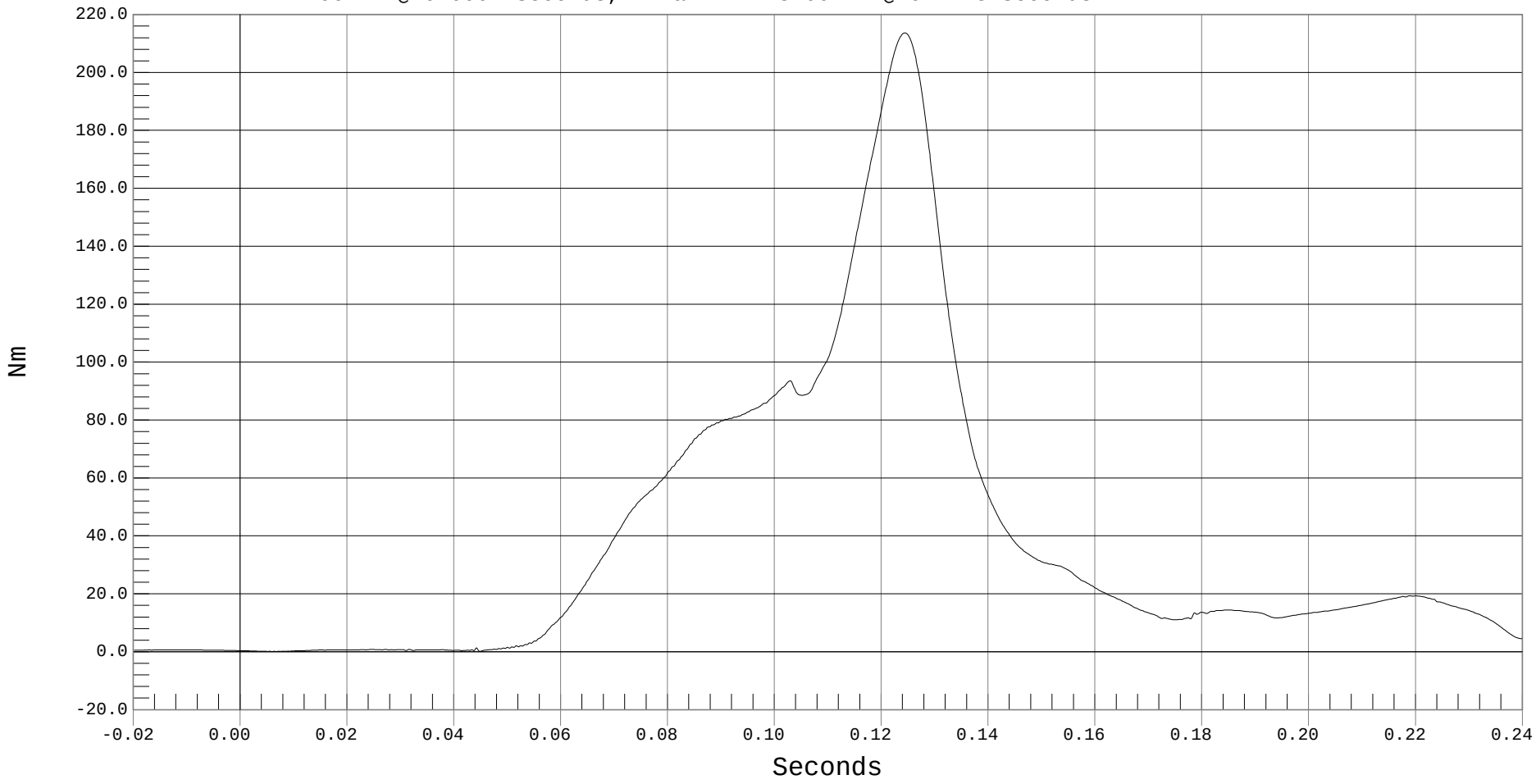
RRS 3 YR OLD LOWER NECK MOMENT RESULTANT

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 RRS 3 YR OLD LOWER NECK MOMENT RESULTANT, B01036MV.M49

Ymin = .06 Nm @ 0.0067 Seconds, Ymax = 213.66 Nm @ 0.1243 Seconds



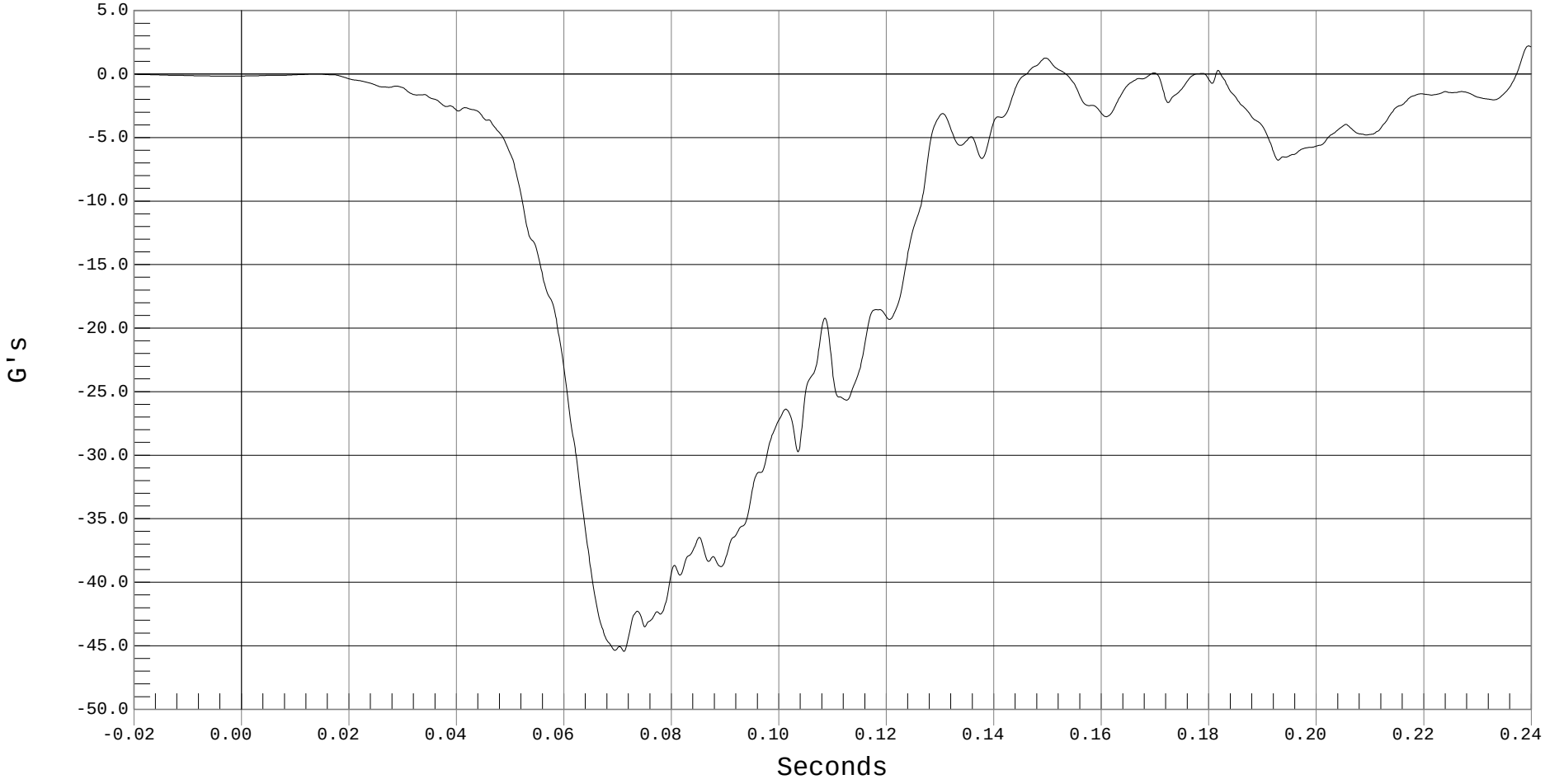
RRS 3 YR OLD CHEST X ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 RRS CHILD CHEST X, B01036AF.A52

Ymin = -45.44 G's @ 0.0711 Seconds, Ymax = 2.22 G's @ 0.2394 Seconds



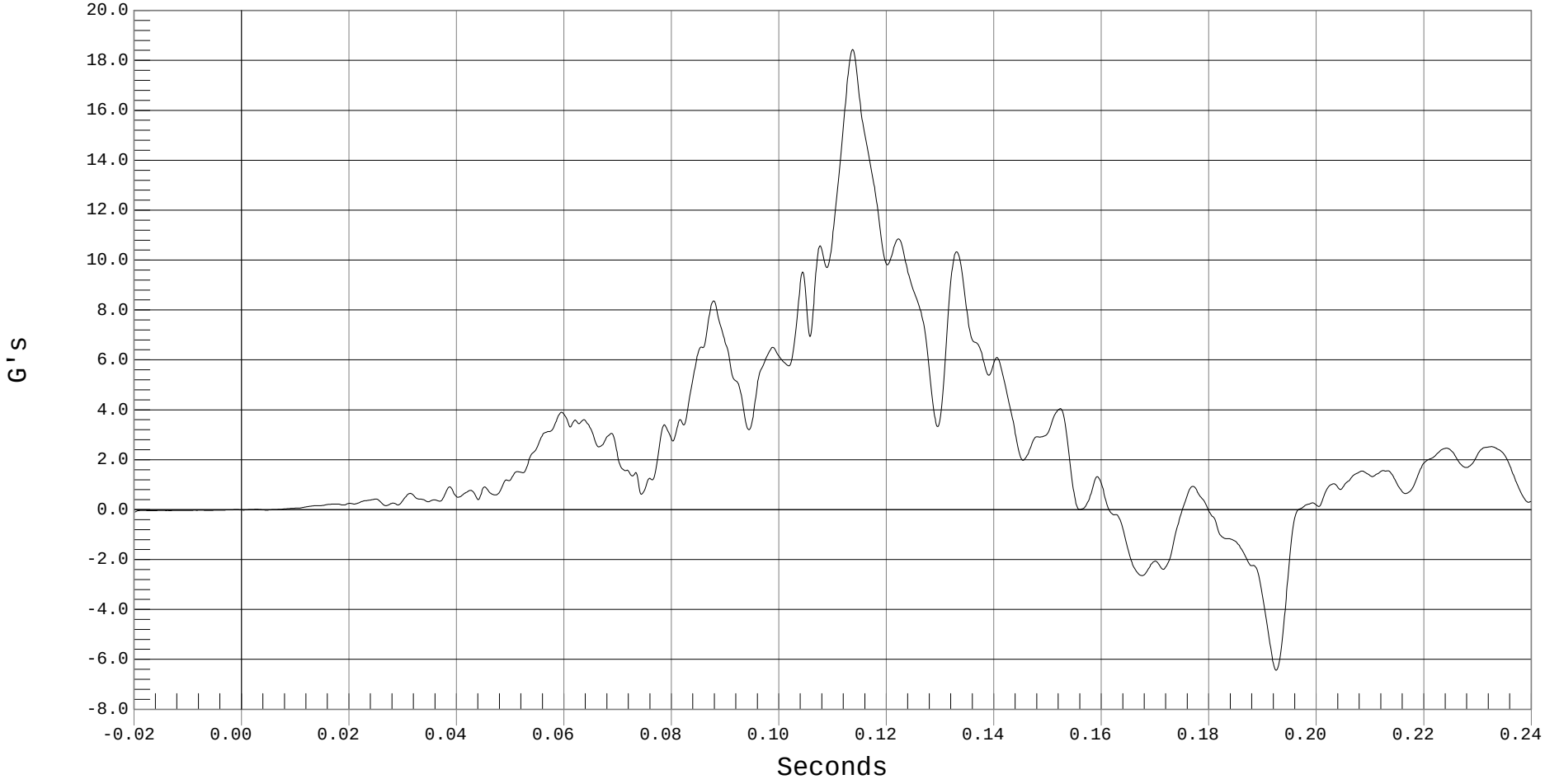
RRS 3 YR OLD CHEST Y ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 RRS CHILD CHEST Y, B01036AF.A53

Ymin = -6.43 G's @ 0.1924 Seconds, Ymax = 18.44 G's @ 0.1136 Seconds



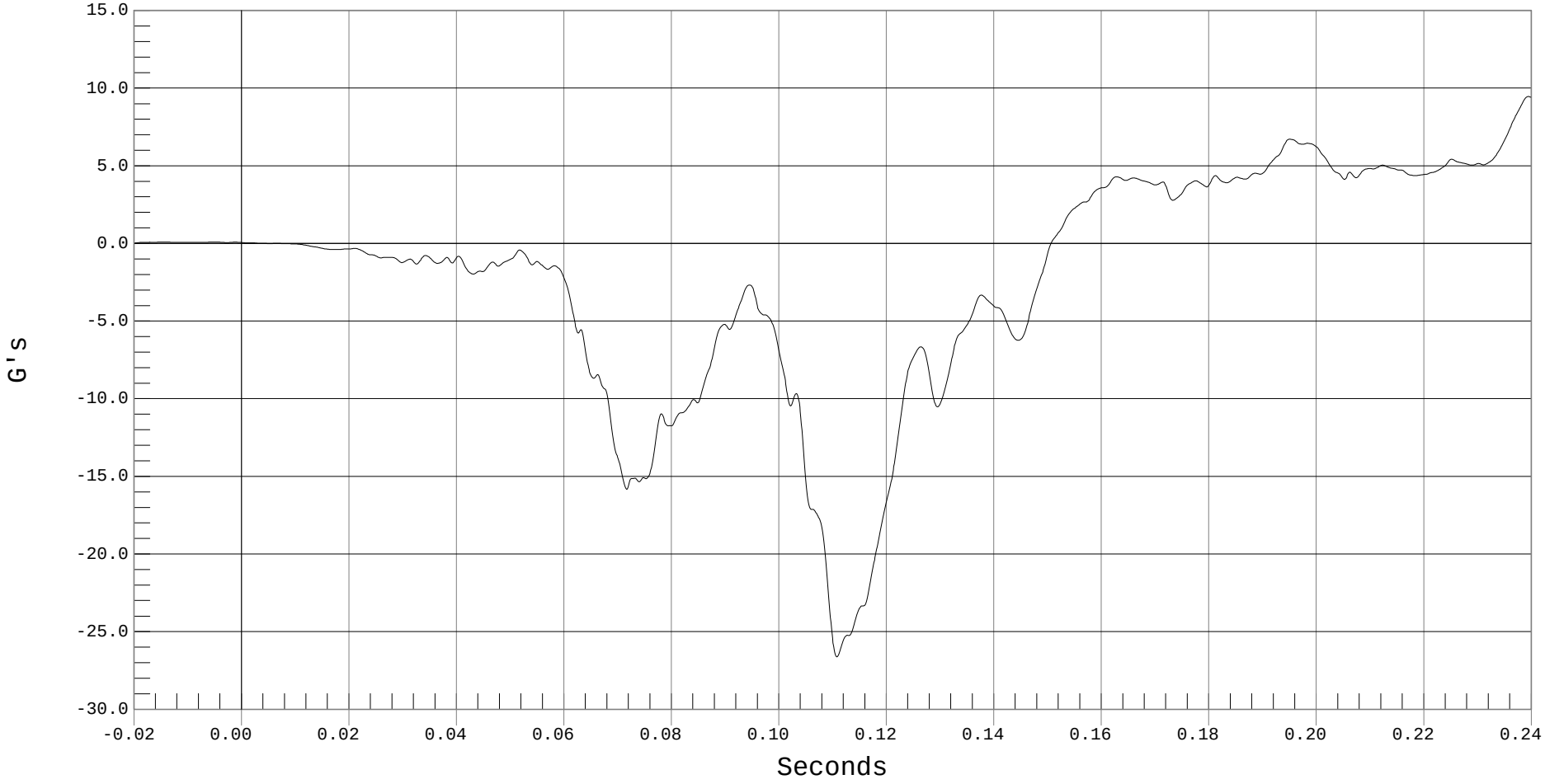
RRS 3 YR OLD CHEST Z ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 RRS CHILD CHEST Z, B01036AF.A54

Ymin = -26.63 G's @ 0.1107 Seconds, Ymax = 9.46 G's @ 0.2394 Seconds



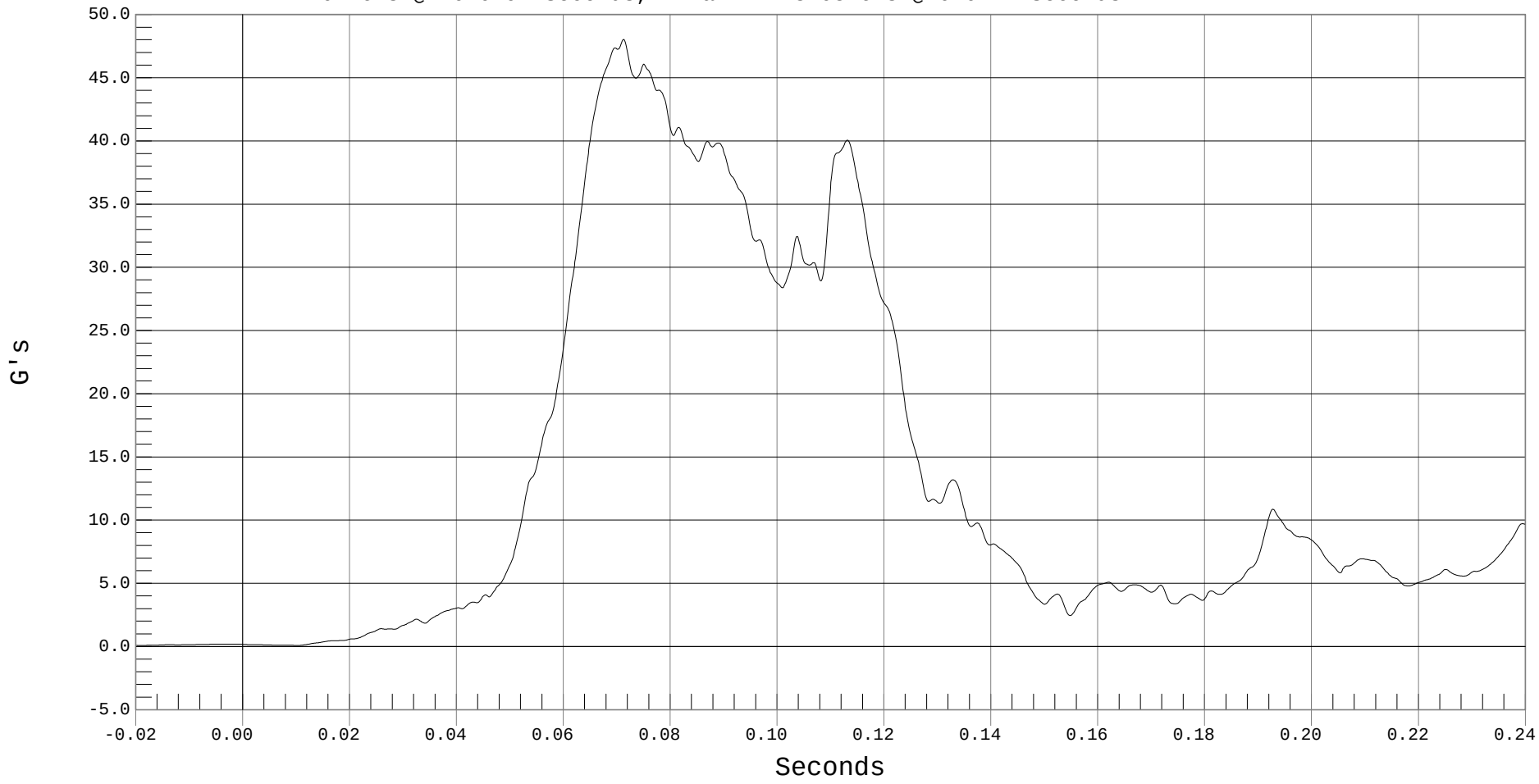
RRS 3 YR OLD CHEST RESULTANT ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 RRS 3 YR OLD CHEST RESULTANT ACCELERATION, B01036AV.A52

Ymin = .07 G's @ -0.0194 Seconds, Ymax = 48.03 G's @ 0.0712 Seconds



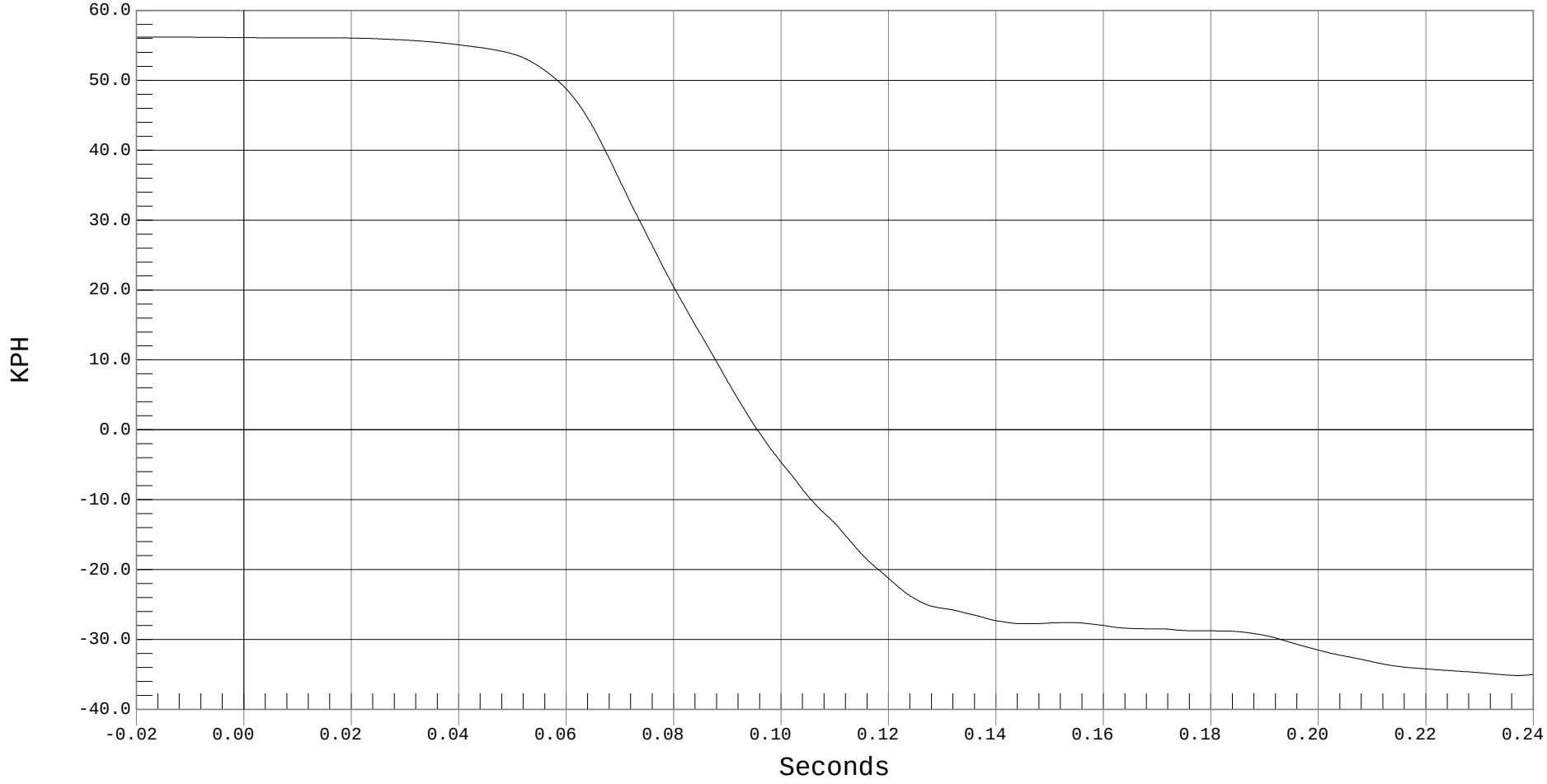
RRS 3 YR OLD CHEST X VELOCITY

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 180

1 RRS 3 YR OLD CHEST X VELOCITY, B01036AI.V52

Ymin = -35.17 KPH @ 0.2372 Seconds, Ymax = 56.2 KPH @ -0.0199 Seconds



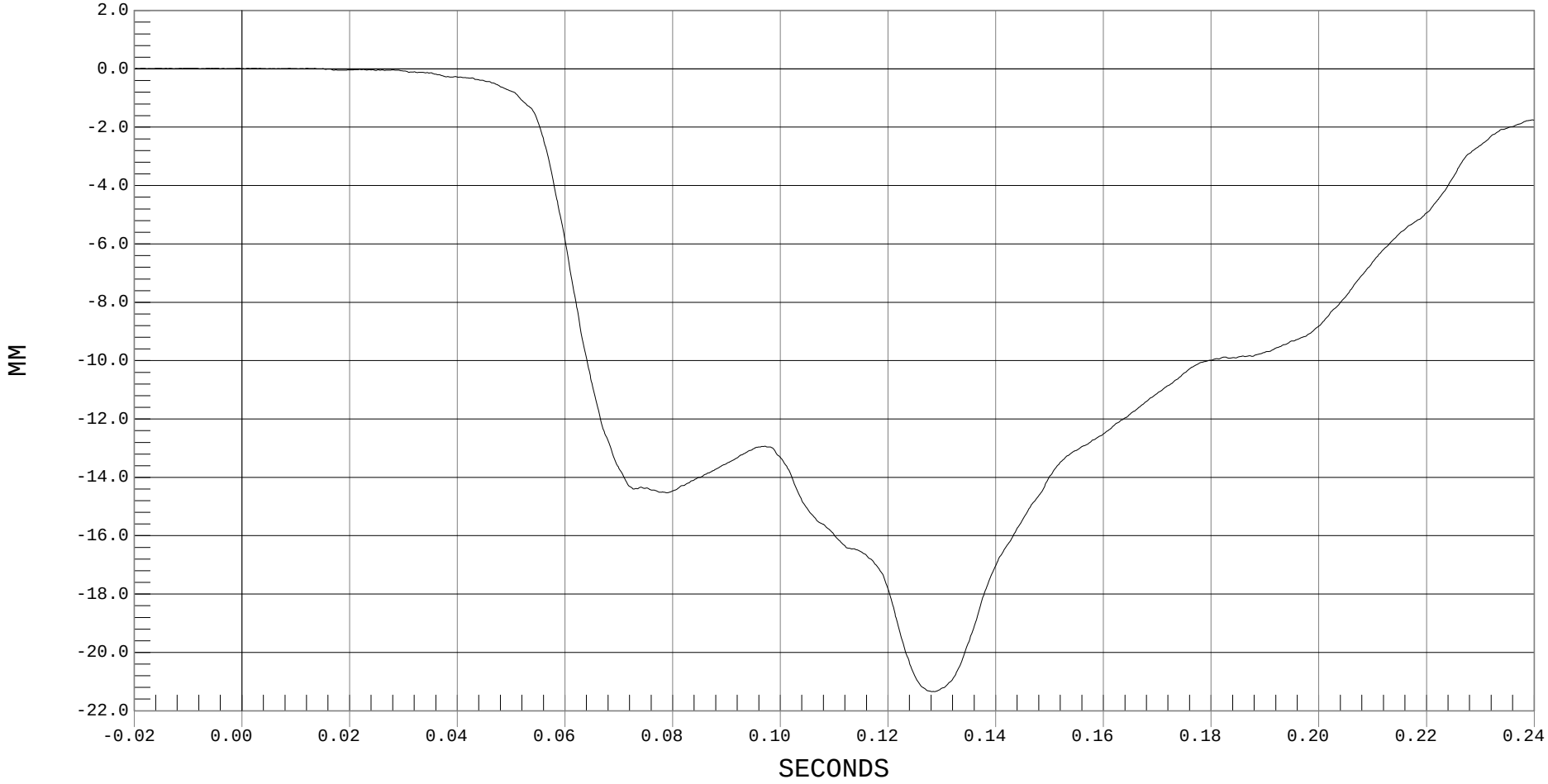
RRS 3 YR OLD CHEST COMPRESSION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 600

1 DISPLACEMENT, B01036DF.D55

Ymin = -21.34 MM @ 0.1286 SECONDS, Ymax = .02 MM @ -0.0094 SECONDS



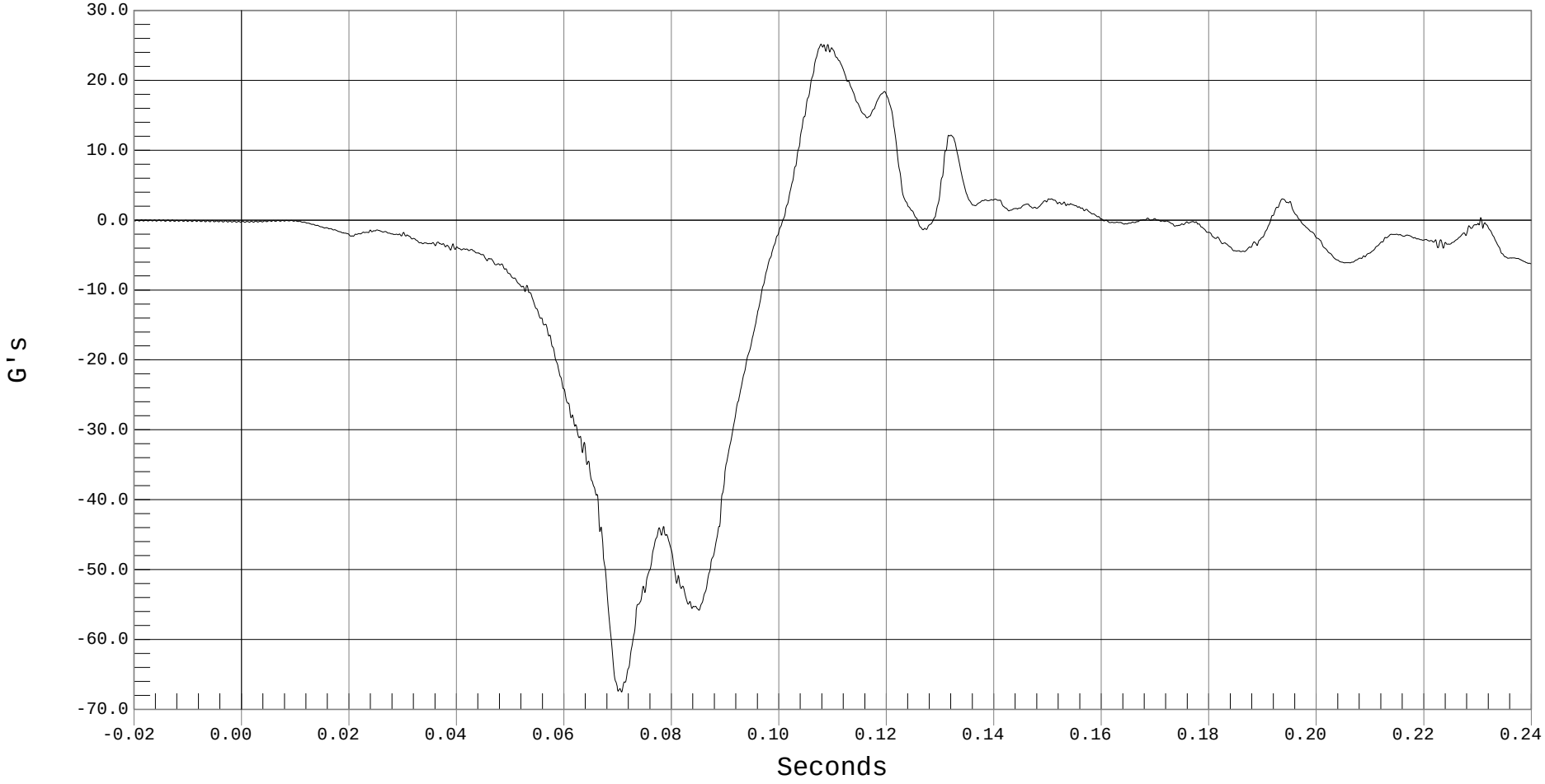
RRS 3 YR OLD PELVIS X ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 RRS CHILD PELVIS X, B01036AT.A56

Ymin = -67.52 G's @ 0.0706 Seconds, Ymax = 25.18 G's @ 0.1077 Seconds



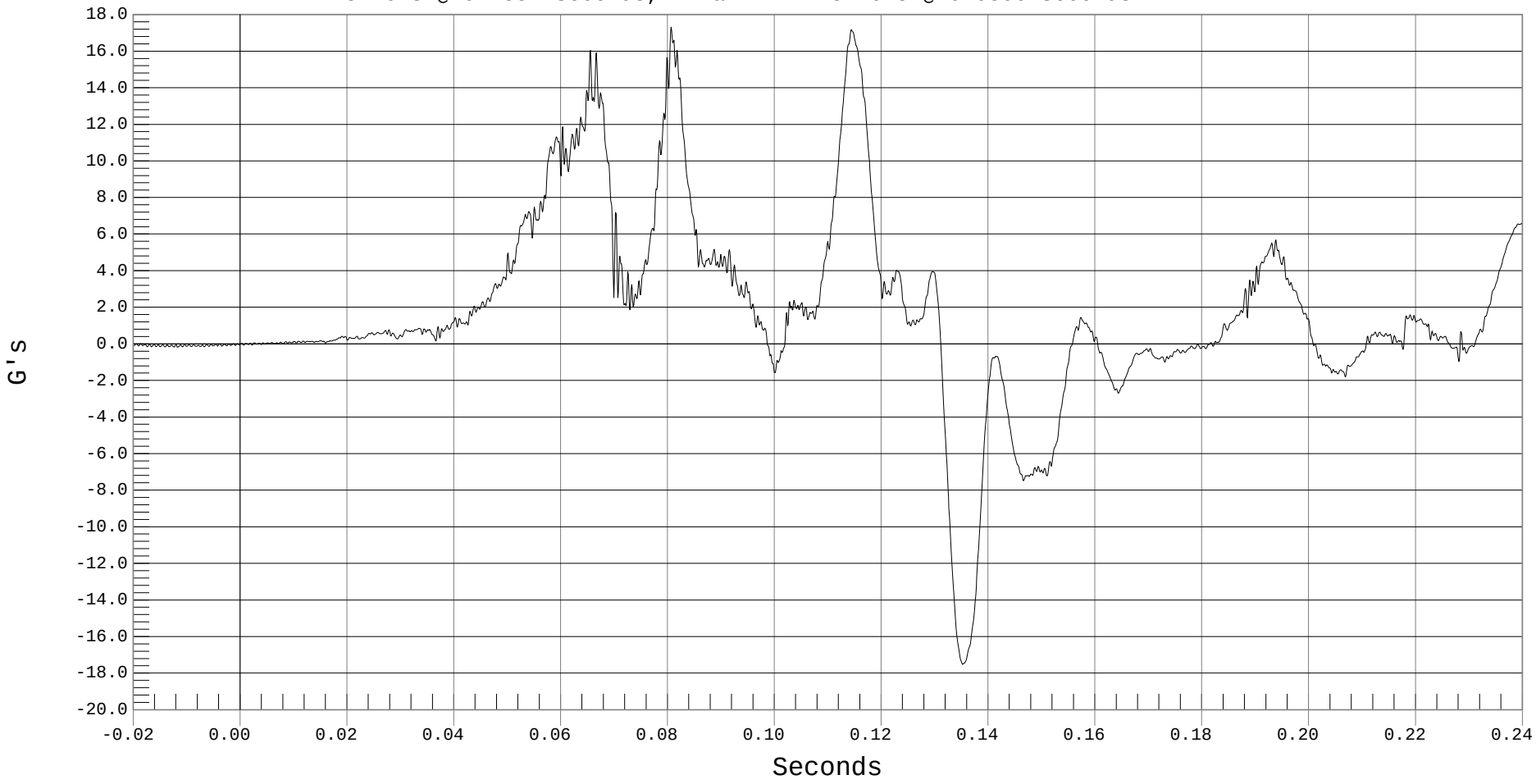
RRS 3 YR OLD PELVIS Y ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 RRS CHILD PELVIS Y, B01036AT.A57

Ymin = -17.52 G's @ 0.1351 Seconds, Ymax = 17.32 G's @ 0.0806 Seconds



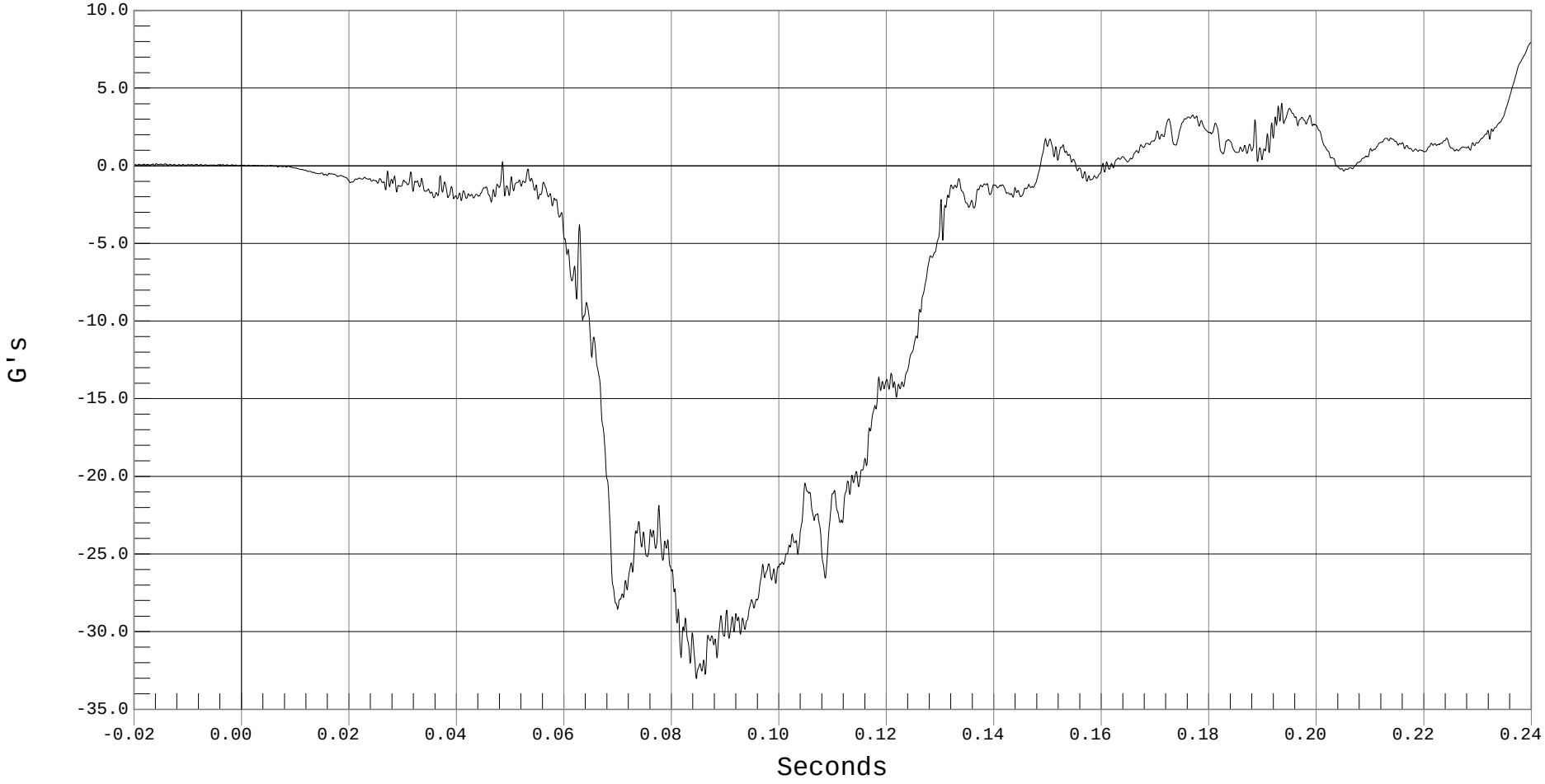
RRS 3 YR OLD PELVIS Z ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 RRS CHILD PELVIS Z, B01036AT.A58

Ymin = -33.02 G's @ 0.0845 Seconds, Ymax = 8.06 G's @ 0.2400 Seconds



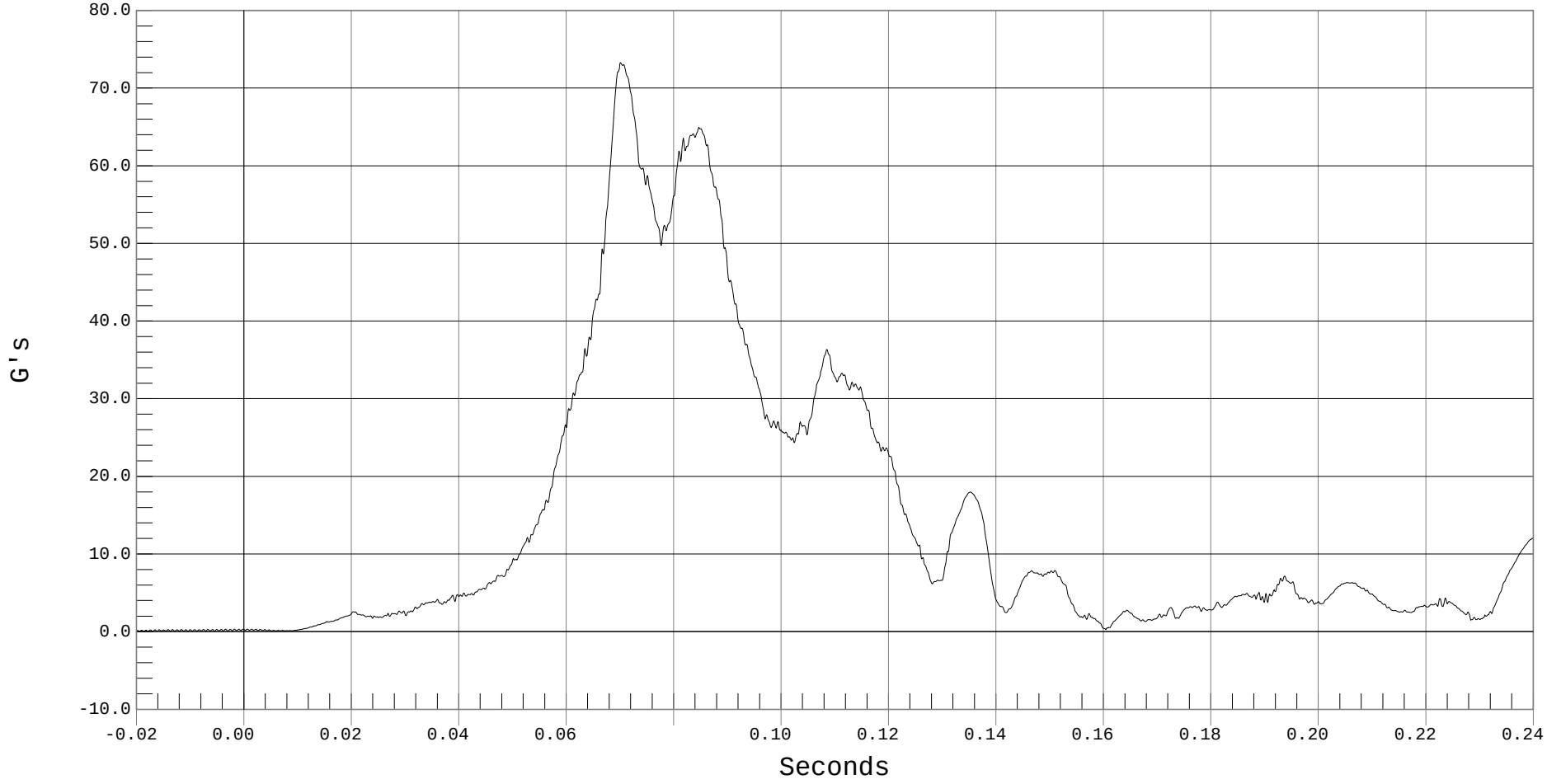
RRS 3 YR OLD PELVIS RESULTANT ACCELERATION

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 RRS 3 YR OLD PELVIS RESULTANT ACCELERATION, B01036AV.A56

Ymin = .04 G's @ -0.0170 Seconds, Ymax = 73.29 G's @ 0.0700 Seconds



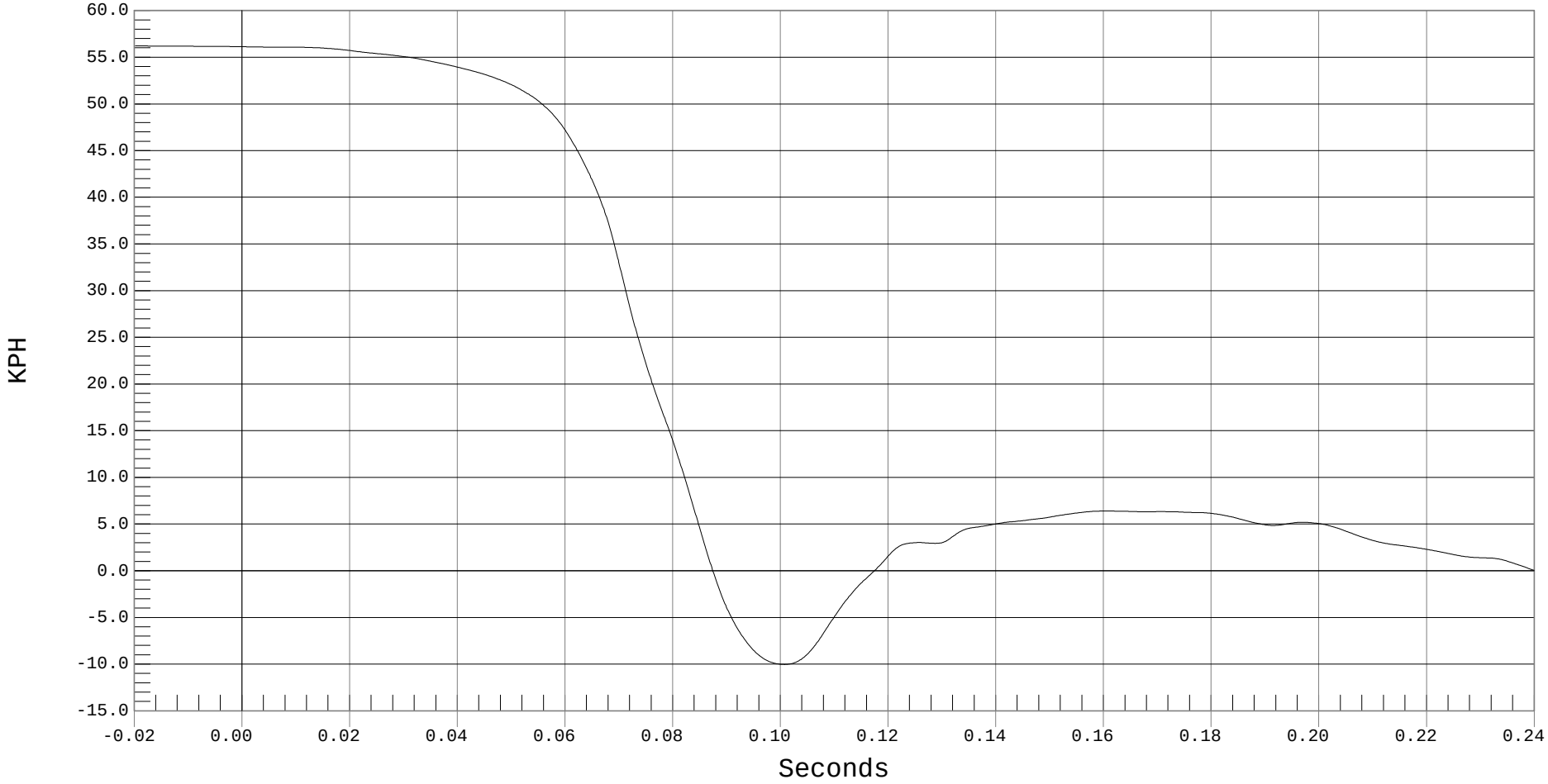
RRS 3 YR OLD PELVIS X VELOCITY

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 1000

1 RRS 3 YR OLD PELVIS X VELOCITY, B01036AI.V56

Ymin = -10.04 KPH @ 0.1007 Seconds, Ymax = 56.2 KPH @ -0.0199 Seconds



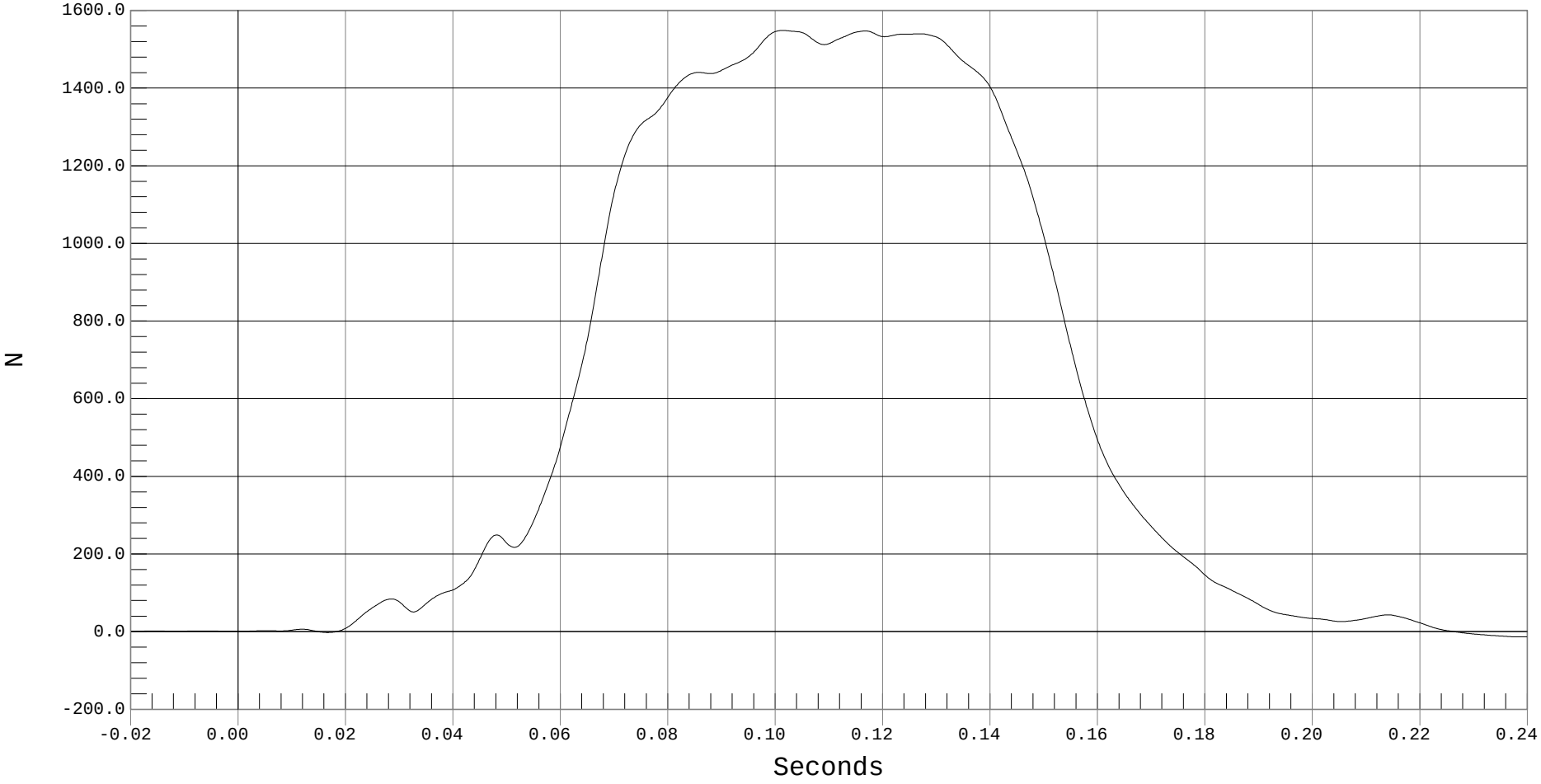
RRS TETHER FORCE

Test Desc.: 35 MPH FRONTAL IMPACT
Component: 2001 DODGE DURANGO (M10316)
Other Info:

Test Date: 04-02-01
Speed: 34.9 MPH, 56.2 KPH
Filter Class: 60

1 RRS TETHER FORCE, B01036FF.F63

Ymin = -13.66 N @ 0.2393 Seconds, Ymax = 1548.5 N @ 0.1013 Seconds



CHILD DUMMY CALIBRATION DATA TRACES AND TABLES

Hybrid III Calibration Data Sheet

3 Year Old

Head Drop Calibration

ATD Serial No.: 139 Test I.D.: D01061

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.5	21.7	PASS
Laboratory Relative Humidity	%	10 to 70	23	PASS
Peak Resultant Acceleration	G's	250.0 to 280.0	261.7	PASS
Peak Lateral Acceleration	G's	≤ ±15.0	1.7	PASS
Is Acceleration Unimodal?	Yes/No	< 10% Peak	Yes	PASS
		Overall Test Results		PASS

1/11/01

Laboratory Technician

Test Date

Approved By

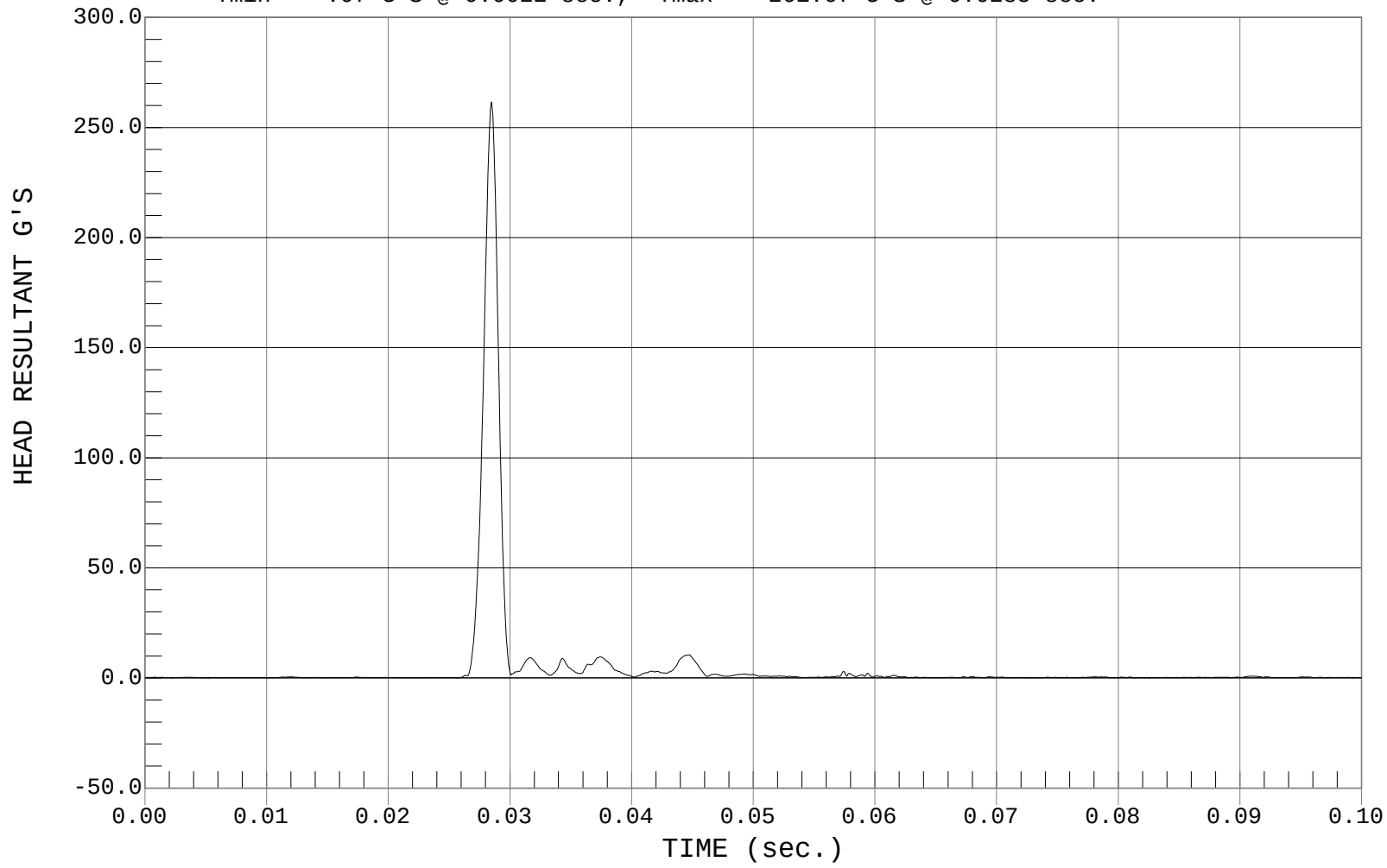
PEAK RESULTANT ACCELERATION

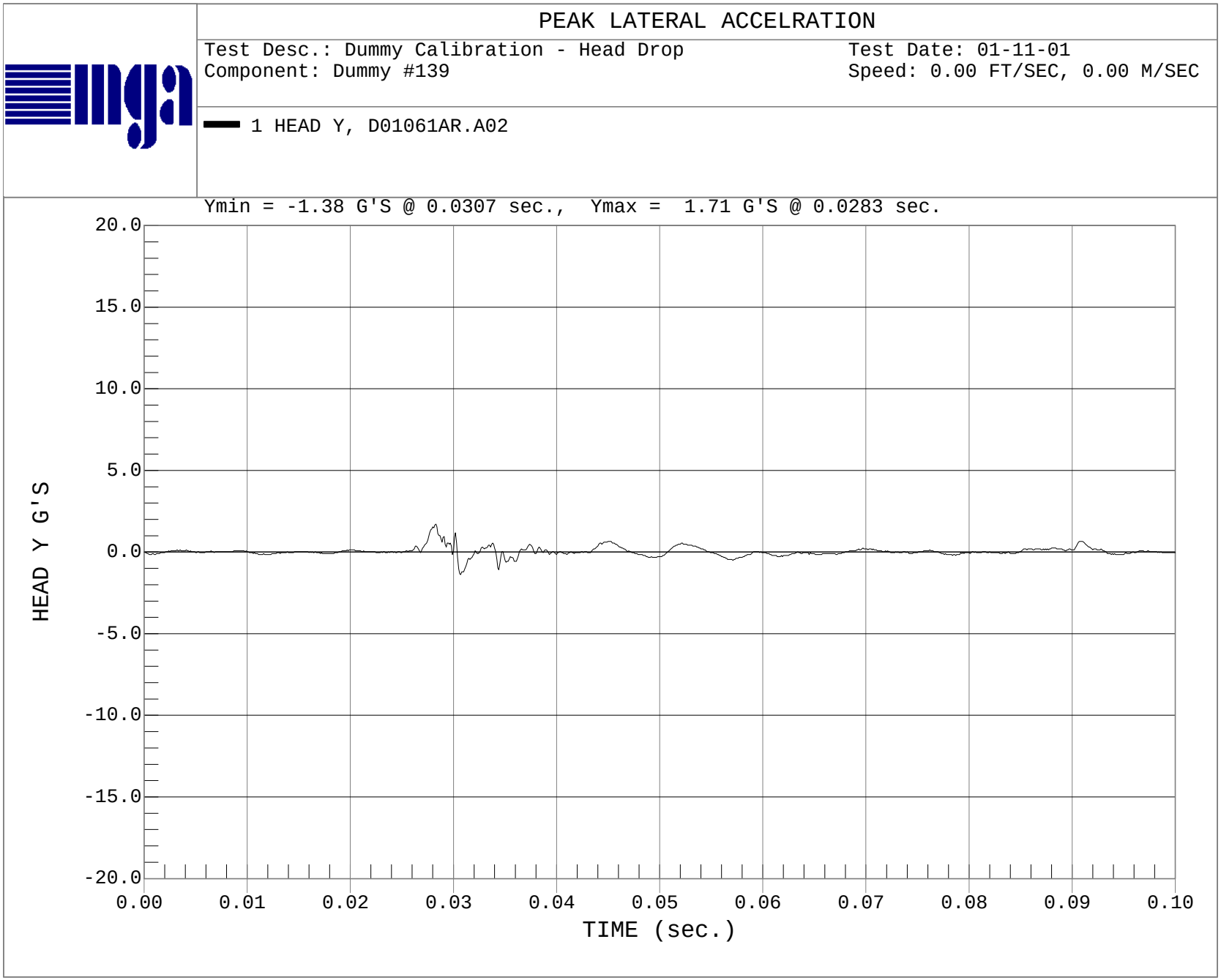
Test Desc.: Dummy Calibration - Head Drop
Component: Dummy #139

Test Date: 01-11-01
Speed: 0.00 FT/SEC, 0.00 M/SEC

1 HEAD RESULTANT, D01061AV.A01

Ymin = .07 G'S @ 0.0022 sec., Ymax = 261.67 G'S @ 0.0285 sec.




PEAK LATERAL ACCELRATION
Test Desc.: Dummy Calibration - Head Drop
Test Date: 01-11-01
Component: Dummy #139
Speed: 0.00 FT/SEC, 0.00 M/SEC
1 HEAD Y, D01061AR.A02
Ymin = -1.38 G'S @ 0.0307 sec., Ymax = 1.71 G'S @ 0.0283 sec.
HEAD Y G'S
20.0
15.0
10.0
5.0
0.0
-5.0
-10.0
-15.0
-20.0
0.00
0.01
0.02
0.03
0.04
0.05
0.06
0.07
0.08
0.09
0.10
TIME (sec.)

Hybrid III Calibration Data Sheet

3 Year Old

Thorax Impact Test

ATD Serial No.: 139 Test I.D.: D01064

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.7	PASS
Laboratory Relative Humidity	%	10 to 70	29	PASS
Probe Velocity	m/s	5.9 to 6.1	6.0	PASS
Peak Deflection	mm	32 to 38	33	PASS
Peak Resistive Force Within Deflection Corridor	kN	.68 to .81	.78	PASS
Internal Hysteresis	%	65 to 85	71	PASS
Max Force 12.5 mm – 32 mm Deflection	kN	Max .86	.83	PASS
		Overall Test Results		PASS

Laboratory Technician

1/14/01
Test Date

Approved By

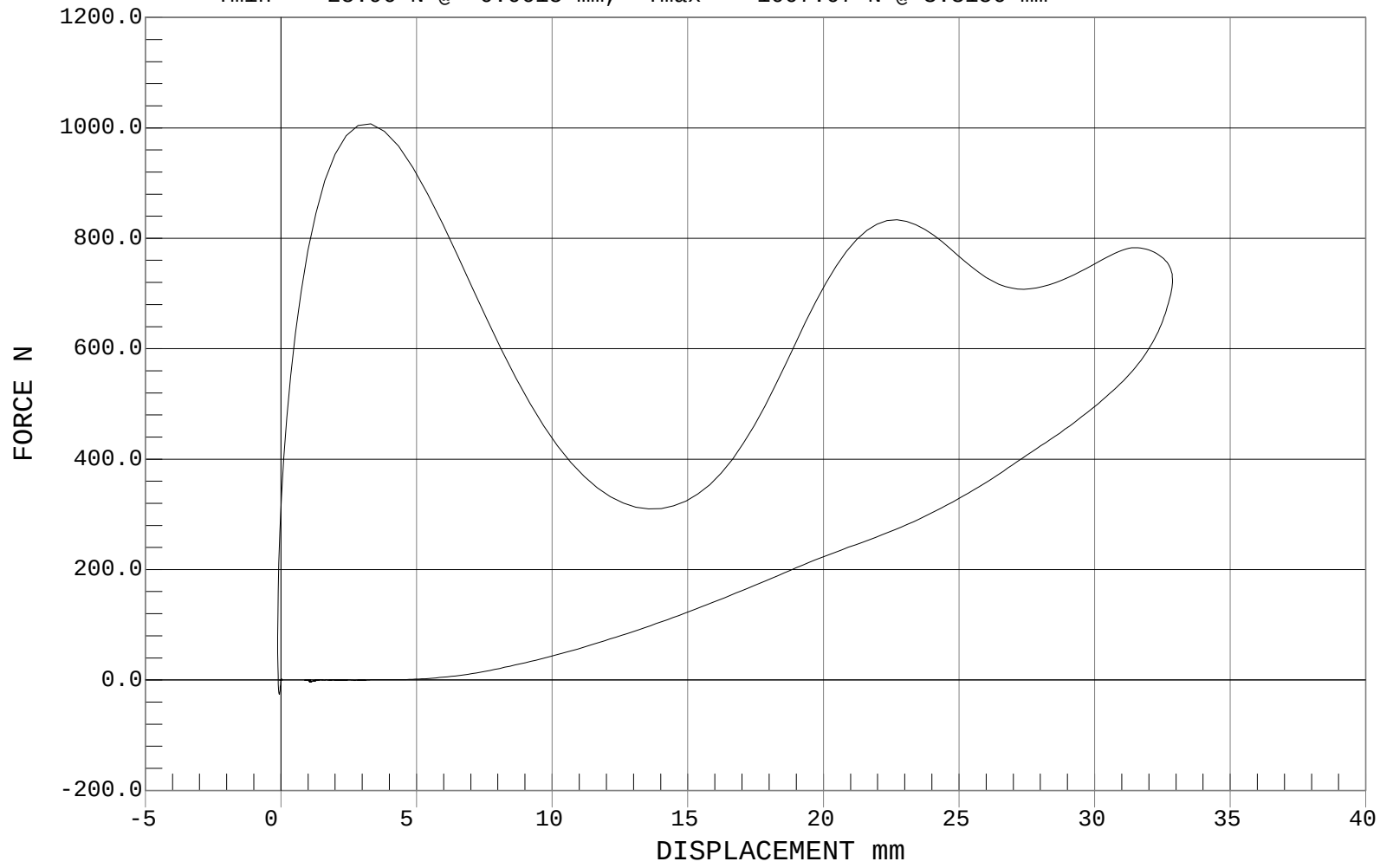
THORAX IMPACT

Test Desc.: Dummy Calibration - Chest Impact
Component: Dummy #139

Test Date: 01-14-01
Speed: 19.62 FT/SEC, 5.98 M/SEC

1 FORCE, D01064CH.FVD

Ymin = -25.96 N @ -0.0615 mm, Ymax = 1007.07 N @ 3.3156 mm



Hybrid III Calibration Data Sheet

3 Year Old

Neck Flexion Test

ATD Serial No.: 139 Test I.D.: D01062

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.7	PASS
Laboratory Relative Humidity		%	10 to 70	23	PASS
Pendulum Velocity		m/s	5.4 to 5.6	5.5	PASS
Pendulum Deceleration	10 Msec.	m/s	2.0 to 2.7	2.4	PASS
	15 Msec.	m/s	3.0 to 4.0	3.5	PASS
	20 Msec.	m/s	4.0 to 5.1	4.7	PASS
"D" Plane Rotation	Maximum	Deg.	70.0 to 82.0	73.1	PASS
Moment About Occipital Condyle	Maximum	Nm	42.0 to 53.0	43.4	PASS
Positive Moment Decay Time To 10 Nm		Msec.	60.0 to 80.0	71.3	PASS
			Overall Test Results		PASS

1/11/01

Laboratory Technician

Test Date

Approved By

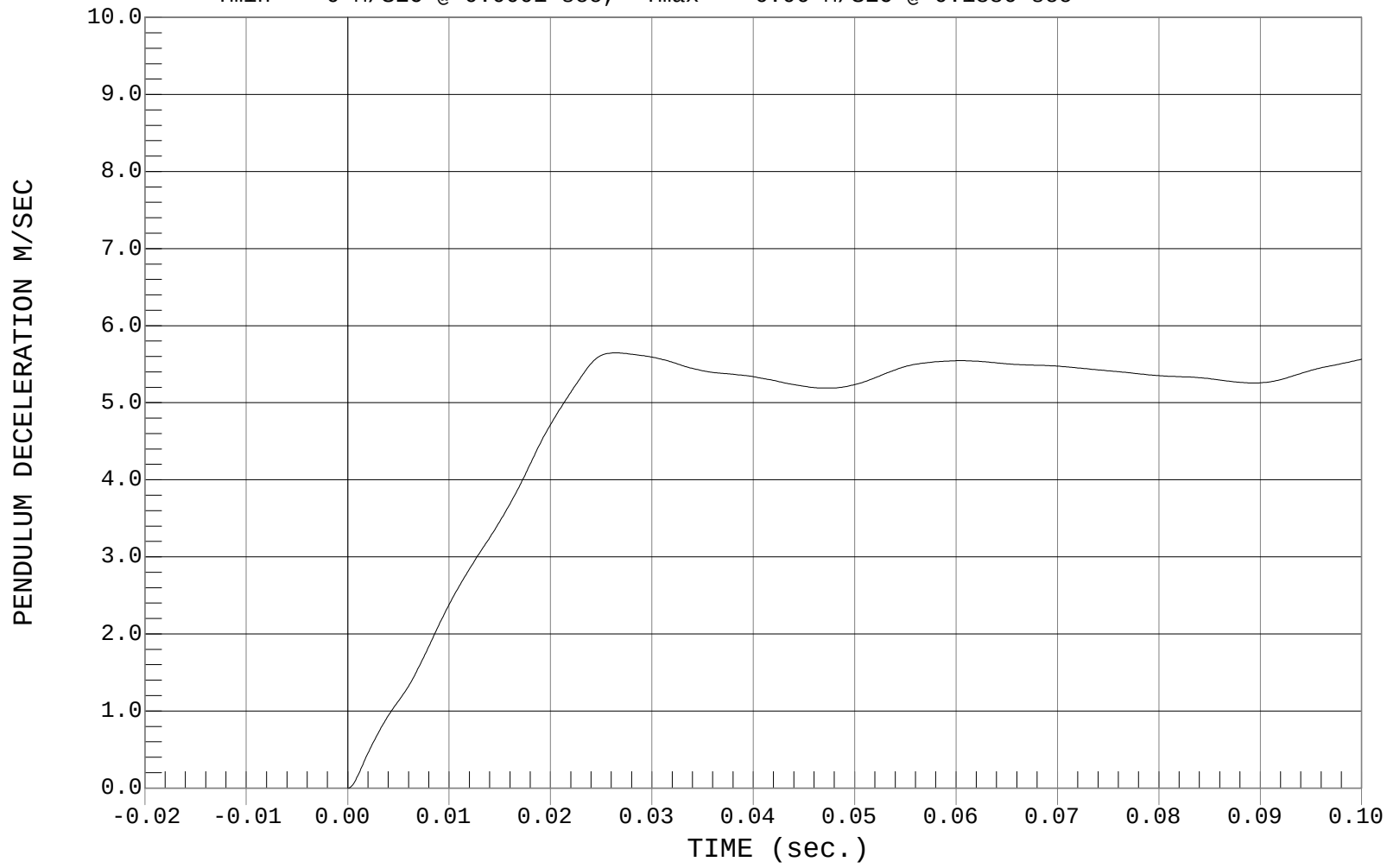
PENDULUM DECELERATION

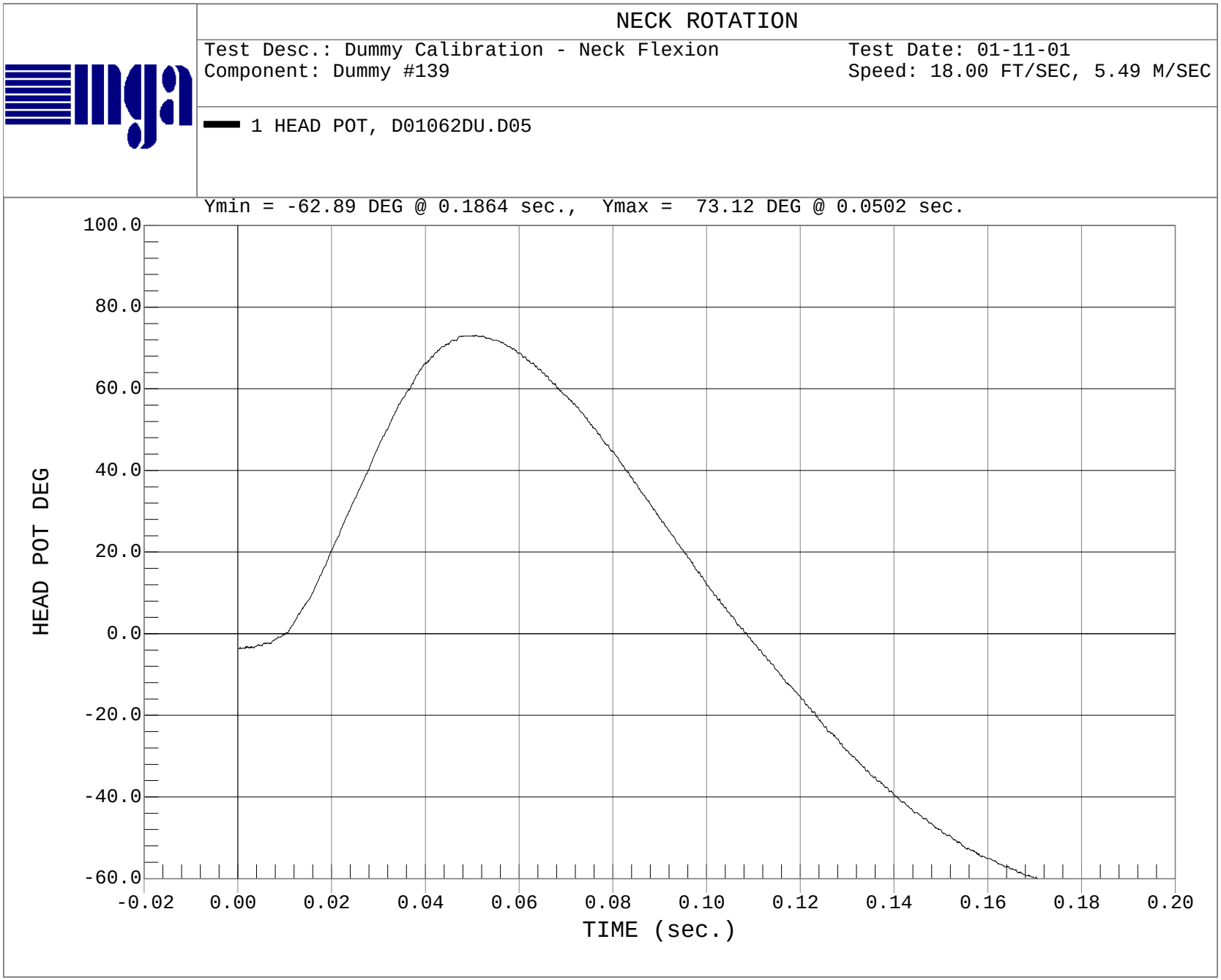
Test Desc.: Dummy Calibration - Neck Flexion
Component: Dummy #139

Test Date: 01-11-01
Speed: 18.00 FT/SEC, 5.49 M/SEC

1 PENDULUM DECELERATION, D01062AI.A04

Ymin = 0 M/SEC @ 0.0001 sec, Ymax = 6.06 M/SEC @ 0.1886 sec




NECK ROTATION
Test Desc.: Dummy Calibration - Neck Flexion
Test Date: 01-11-01
Component: Dummy #139
Speed: 18.00 FT/SEC, 5.49 M/SEC
1 HEAD POT, D01062DU.D05
Ymin = -62.89 DEG @ 0.1864 sec., Ymax = 73.12 DEG @ 0.0502 sec.
HEAD POT DEG
100.0
80.0
60.0
40.0
20.0
0.0
-20.0
-40.0
-60.0
-0.02
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
0.18
0.20
TIME (sec.)

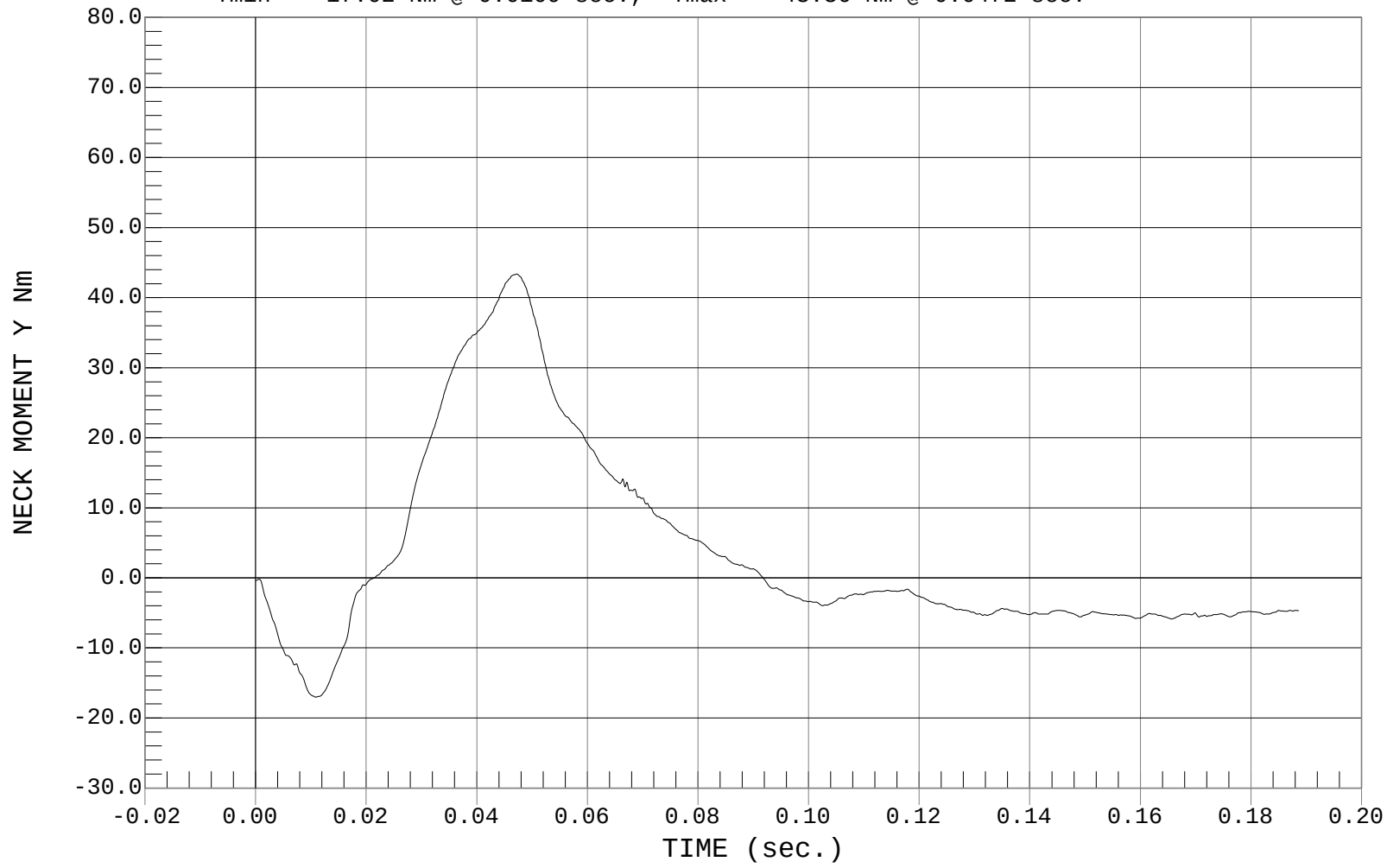
OCCIPITAL MOMENT

Test Desc.: Dummy Calibration - Neck Flexion
Component: Dummy #139

Test Date: 01-11-01
Speed: 18.00 FT/SEC, 5.49 M/SEC

1 NECK MOMENT Y, D01062MF.M01

Ymin = -17.02 Nm @ 0.0109 sec., Ymax = 43.36 Nm @ 0.0472 sec.



Hybrid III Calibration Data Sheet

3 Year Old

Neck Extension Test

ATD Serial No.: 139 Test I.D.: D01063

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.5	PASS
Laboratory Relative Humidity		%	10 to 70	24	PASS
Pendulum Velocity		m/s	3.55 to 3.75	3.66	PASS
Pendulum Deceleration	6 Msec.	m/s	1.0 to 1.4	1.2	PASS
	10 Msec.	m/s	1.9 to 2.5	2.1	PASS
	14 Msec.	m/s	2.8 to 3.5	2.9	PASS
"D" Plane Rotation	Maximum	Deg.	83.0 to 93.0	88.5	PASS
Moment About Occipital Condyle	Minimum	Nm	-53.3 to -43.7	-46.4	PASS
Negative Moment Decay Time To -10Nm		Msec.	60.0 to 80.0	68.9	PASS
			Overall Test Results		PASS

Laboratory Technician

1/11/01
Test Date

Approved By

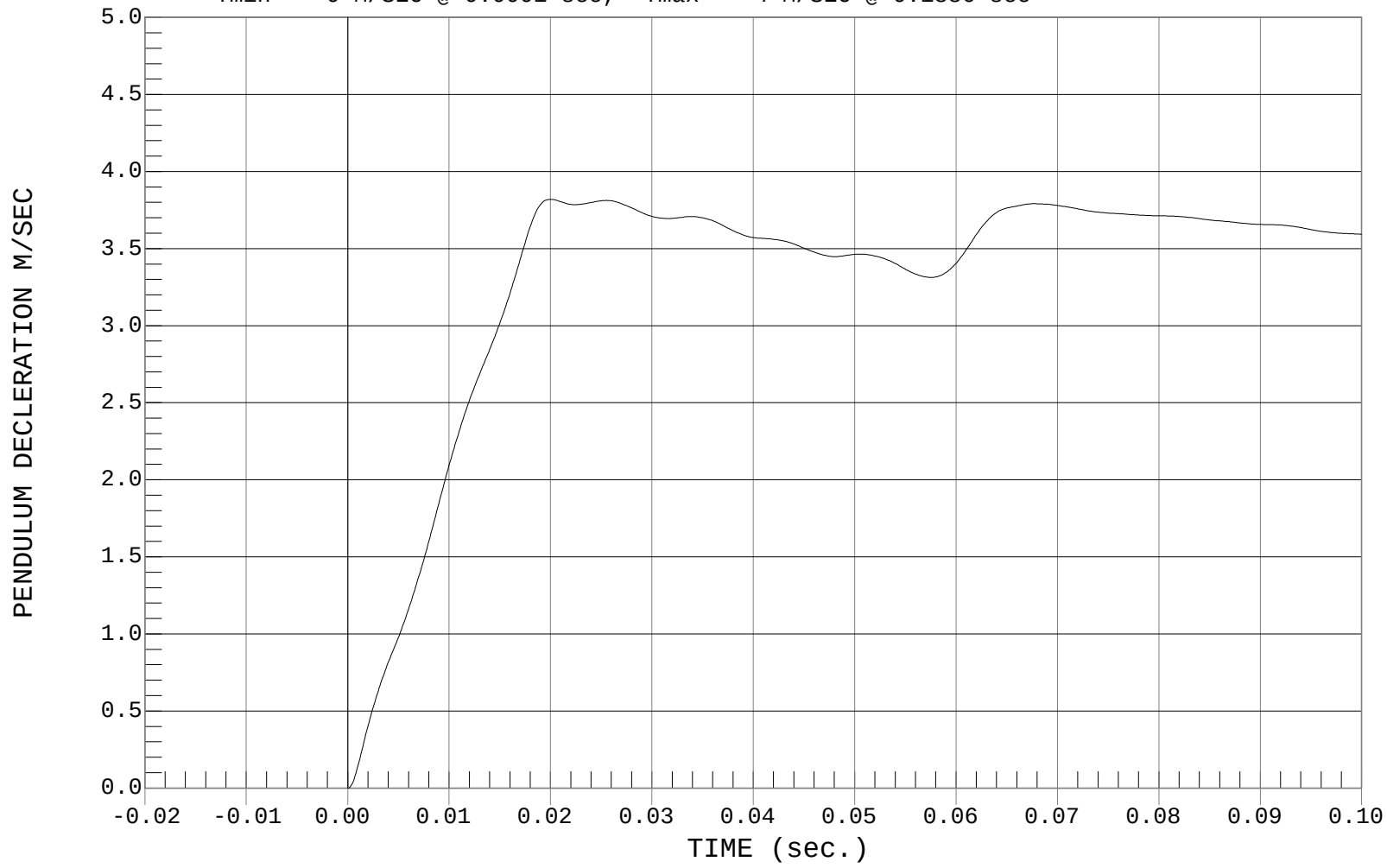
PENDULUM DECELERATION

Test Desc.: Dummy Calibration - Neck Extension
Component: Dummy #139

Test Date: 01-11-01
Speed: 12.00 FT/SEC, 3.66 M/SEC

1 PENDULUM DECLERATION, D01063AI.A04

Ymin = 0 M/SEC @ 0.0001 sec, Ymax = 4 M/SEC @ 0.1886 sec



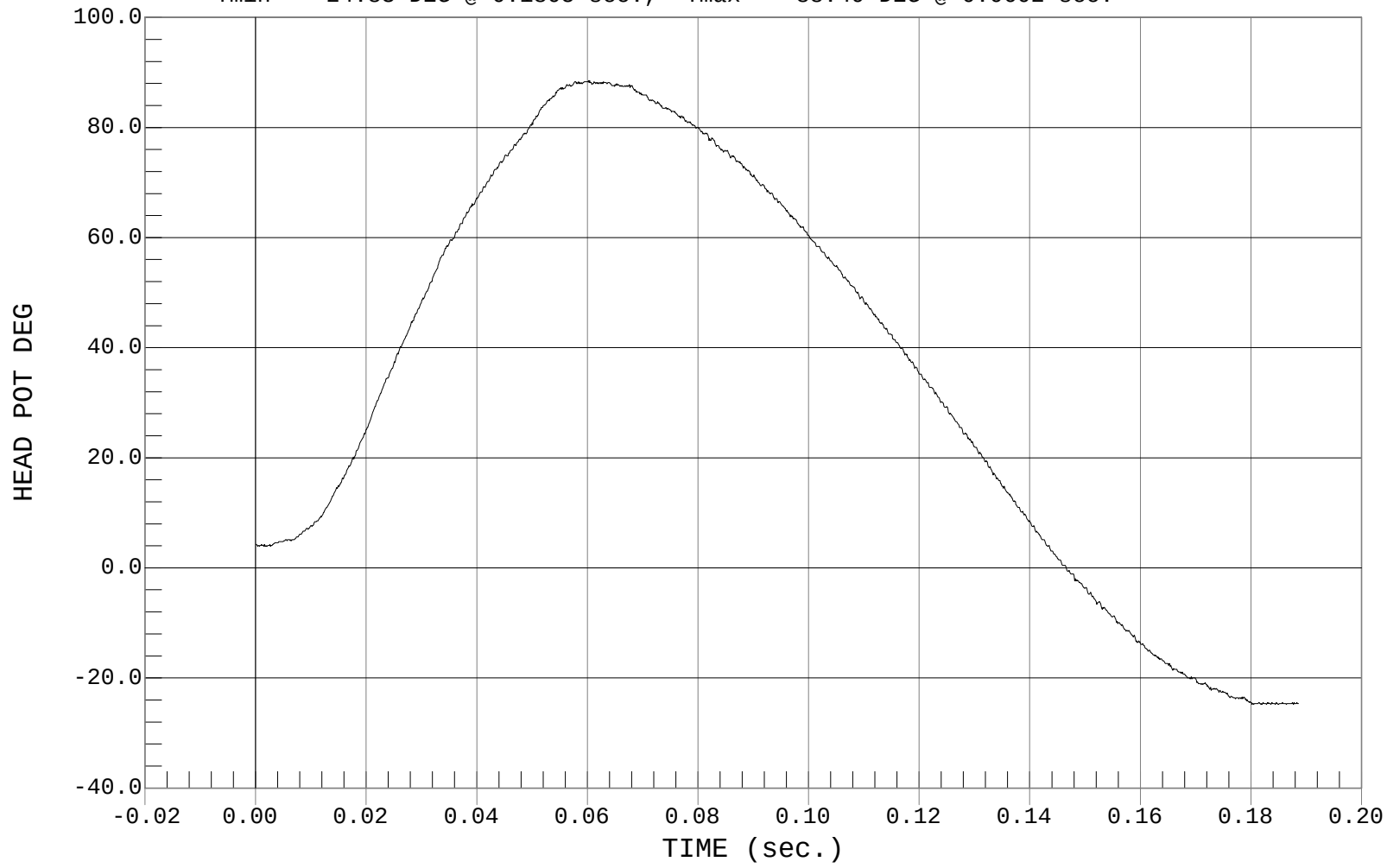
NECK ROTATION

Test Desc.: Dummy Calibration - Neck Extension
Component: Dummy #139

Test Date: 01-11-01
Speed: 12.00 FT/SEC, 3.66 M/SEC

1 HEAD POT, D01063DU.D05

Ymin = -24.83 DEG @ 0.1805 sec., Ymax = 88.49 DEG @ 0.0602 sec.



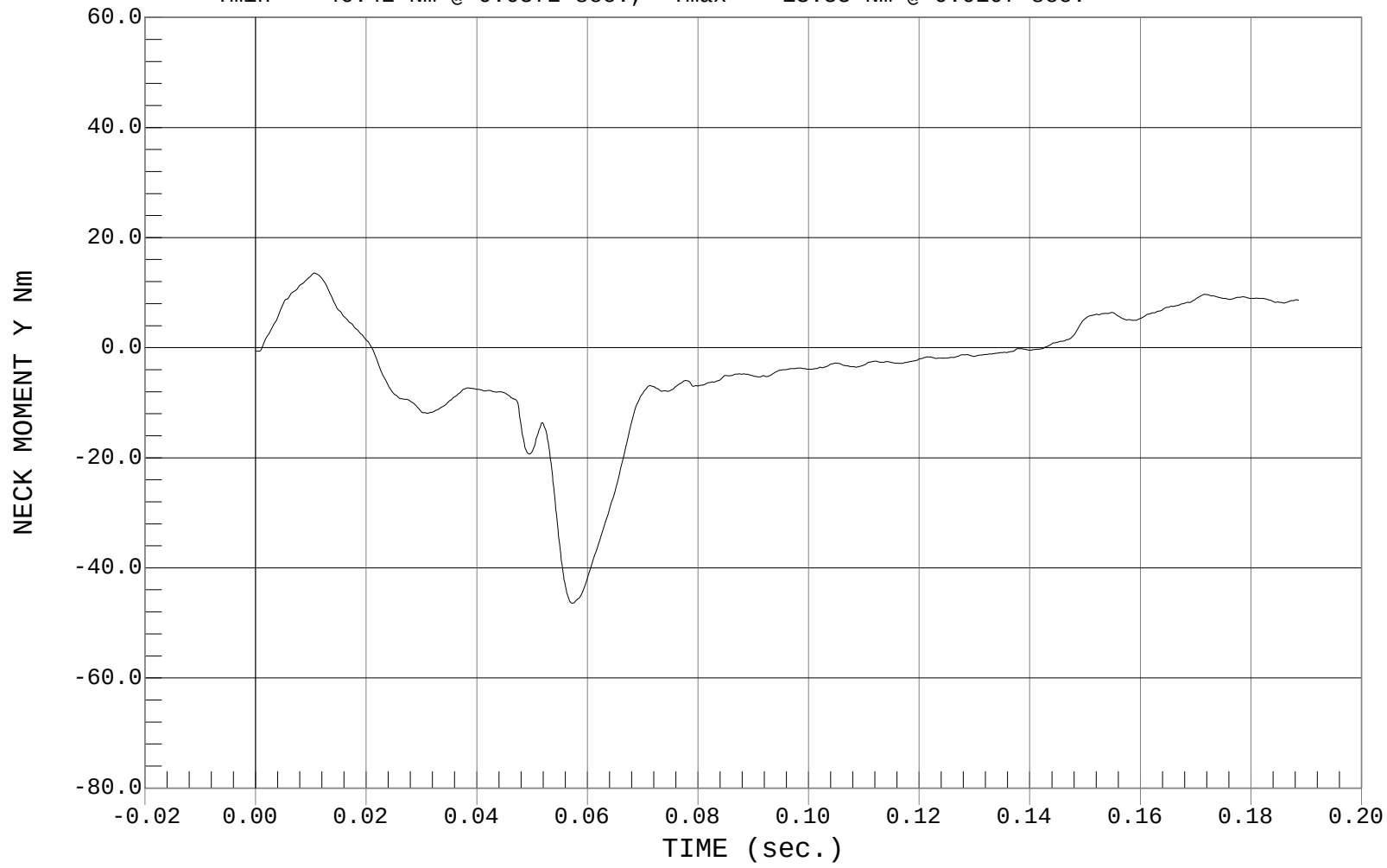
OCCIPITAL MOMENT

Test Desc.: Dummy Calibration - Neck Extension
Component: Dummy #139

Test Date: 01-11-01
Speed: 12.00 FT/SEC, 3.66 M/SEC

1 NECK MOMENT Y, D01063MF.M01

Ymin = -46.42 Nm @ 0.0572 sec., Ymax = 13.55 Nm @ 0.0107 sec.



Hybrid III Calibration Data Sheet

3 Year Old

Torso Flexion Test

ATD Serial No.: 139 Test I.D.: D01065

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	°C	18.9 to 25.6	21.4	PASS
Relative Humidity	%	10 to 70	24	PASS
Force @ 45°	N	130 to 180	161	PASS
Initial Angle	Deg	0-15	10	PASS
Return Angle	Deg	0-10	2	PASS
		Overall Test Results		PASS

1/12/01

Laboratory Technician

Test Date

Approved By

Hybrid III Calibration Data Sheet

3 Year Old

Head Drop Calibration

ATD Serial No.: 142C Test I.D.: D01071

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.5	22.1	PASS
Laboratory Relative Humidity	%	10 to 70	23	PASS
Peak Resultant Acceleration	G's	250.0 to 280.0	267.9	PASS
Peak Lateral Acceleration	G's	≤±15.0	-4.0	PASS
Is Acceleration Unimodal?	Yes/No	<10% Peak	Yes	PASS
		Overall Test Results		PASS

1/11/01

Laboratory Technician Test Date

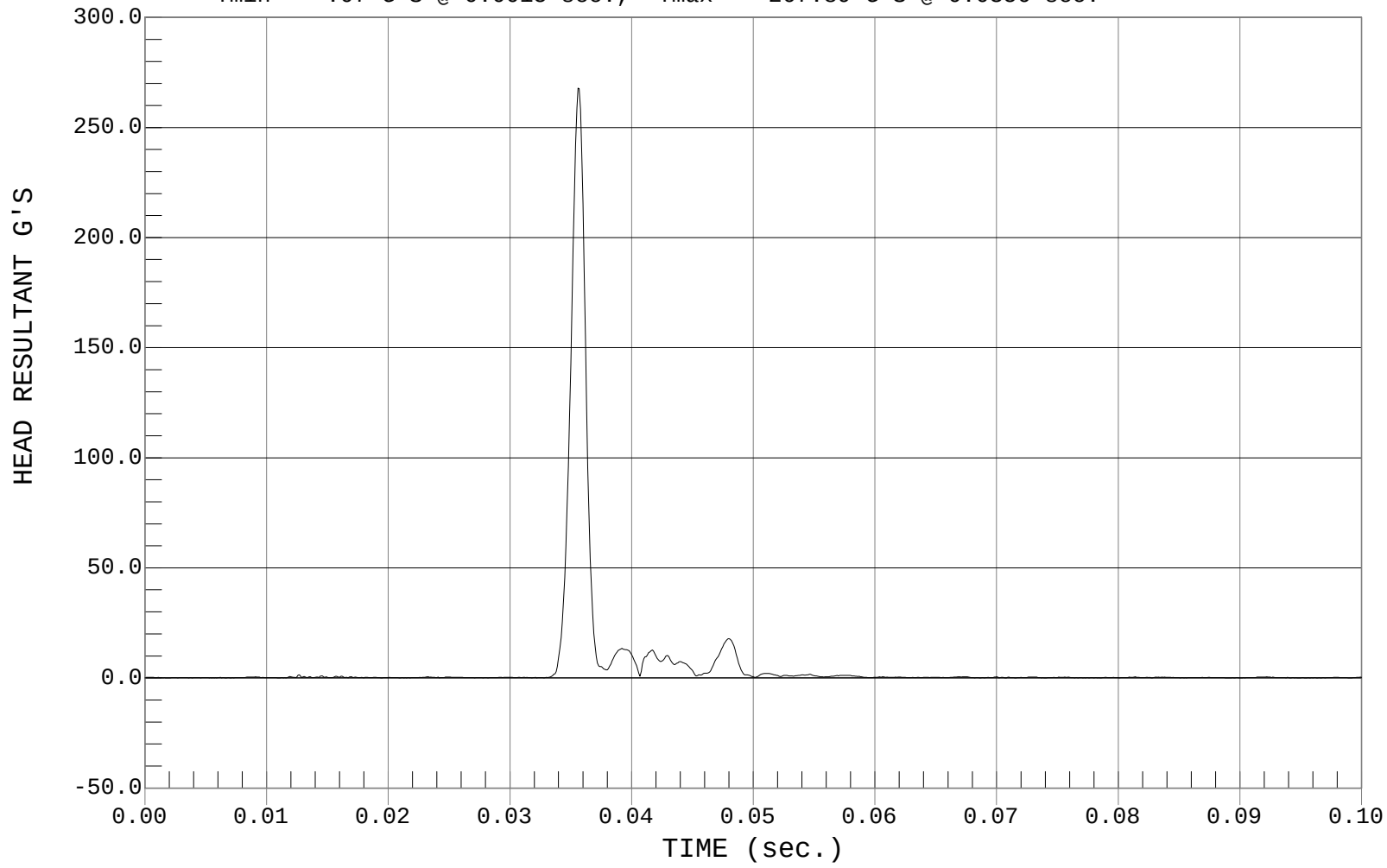
Approved By

PEAK RESULTANT ACCELERATION

Test Desc.: Dummy Calibration - Head Drop
Test Date: 01-11-01
Component: Dummy #142C
Speed: 0.00 FT/SEC, 0.00 M/SEC

1 HEAD RESULTANT, D01071AV.A01

Ymin = .07 G'S @ 0.0015 sec., Ymax = 267.89 G'S @ 0.0356 sec.

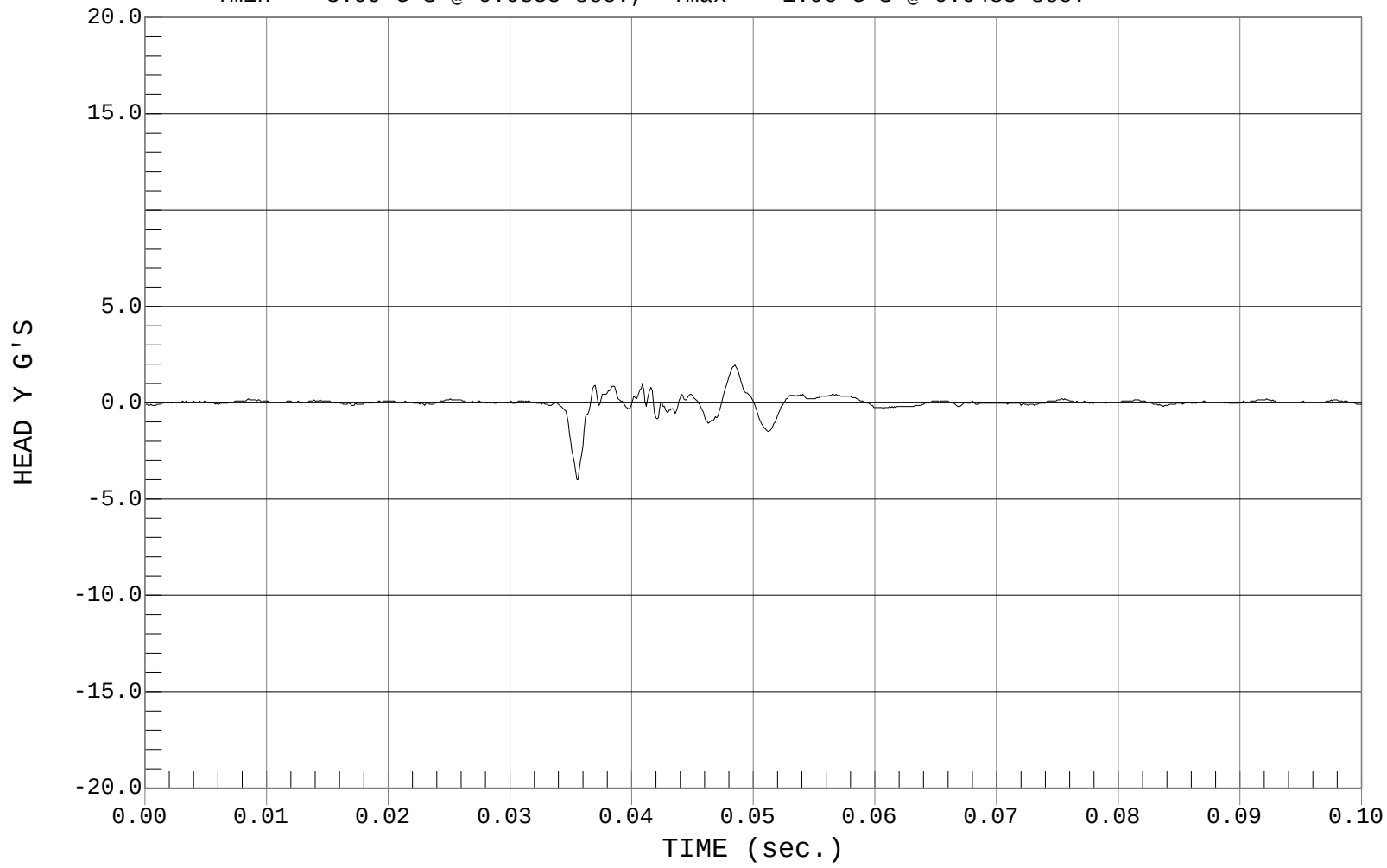


PEAK LATERAL ACCELRATION

Test Desc.: Dummy Calibration - Head Drop
Test Date: 01-11-01
Component: Dummy #142C
Speed: 0.00 FT/SEC, 0.00 M/SEC

1 HEAD Y, D01071AR.A02

Ymin = -3.99 G'S @ 0.0355 sec., Ymax = 1.96 G'S @ 0.0485 sec.



Hybrid III Calibration Data Sheet

3 Year Old

Thorax Impact Test

ATD Serial No.: 142C Test I.D.: D01074

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.7	PASS
Laboratory Relative Humidity	%	10 to 70	29	PASS
Probe Velocity	m/s	5.9 to 6.1	6.01	PASS
Peak Resistive Force Within Deflection Corridor	kN	.68 to .81	.80	PASS
Internal Hysteresis	%	65 to 85%	73	PASS
Max Force 12.5 mm to 32 mm Deflection	kN	Max .86	.88*	FAIL
		Overall Test Results		FAIL

* TEST DOES NOT MEET SPECIFICATION

Laboratory Technician

1/14/01
Test Date

Approved By

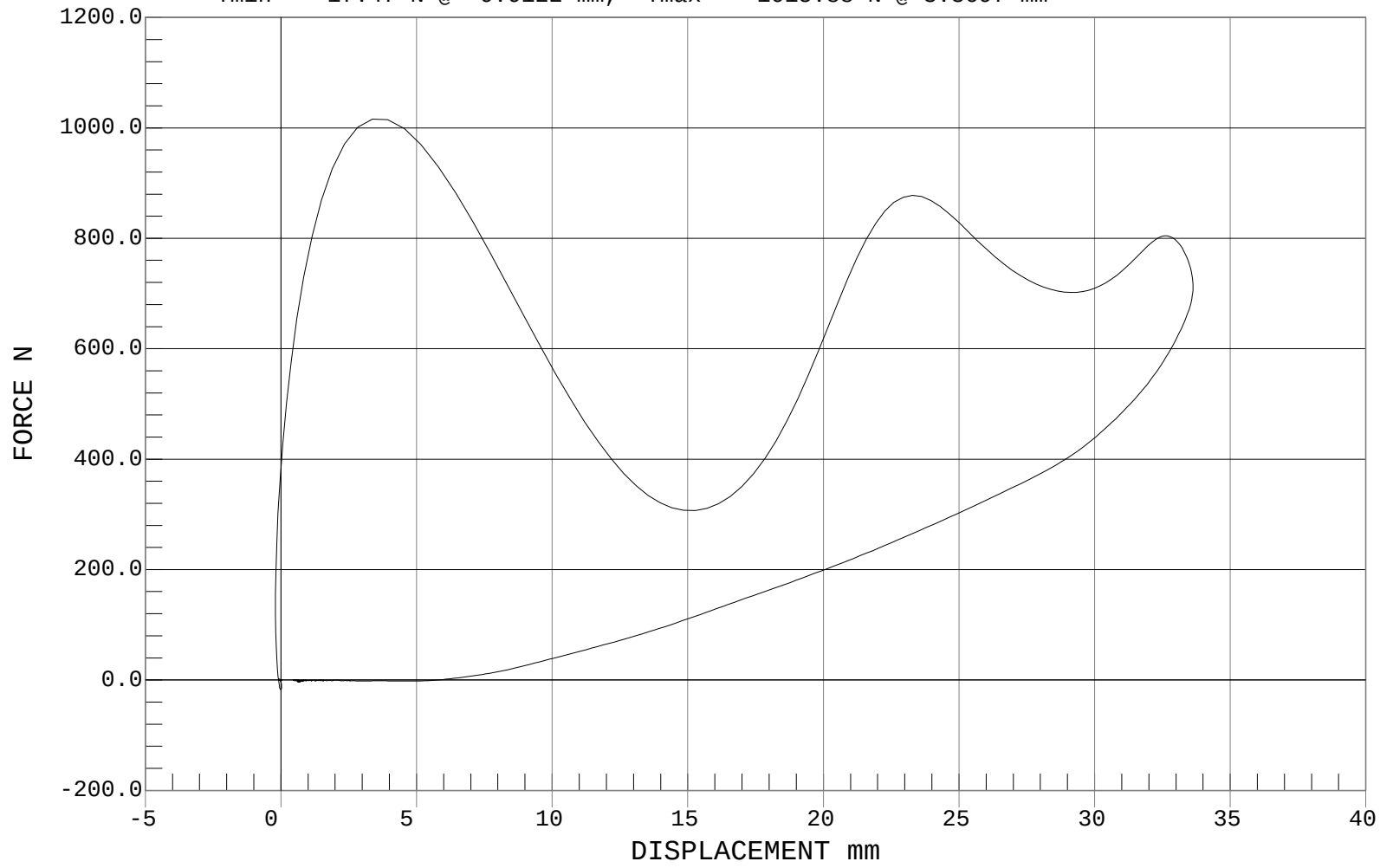
THORAX IMPACT

Test Desc.: Dummy Calibration - Chest Impact
Component: Dummy #142C

Test Date: 01-14-01
Speed: 19.72 FT/SEC, 6.01 M/SEC

1 FORCE, D01074CH.FVD

Ymin = -17.47 N @ -0.0122 mm, Ymax = 1015.88 N @ 3.3697 mm



Hybrid III Calibration Data Sheet

3 Year Old

Neck Flexion Test

ATD Serial No.: 142C Test I.D.: D01072

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.3	PASS
Laboratory Relative Humidity		%	10 to 70	22	PASS
Pendulum Velocity		m/s	5.4 to 5.6	5.5	PASS
Pendulum Deceleration	10 Msec.	m/s	2.0 to 2.7	2.4	PASS
	15 Msec.	m/s	3.0 to 4.0	3.4	PASS
	20 Msec.	m/s	4.0 to 5.1	4.6	PASS
"D" Plane Rotation	Maximum	Deg.	70.0 to 82.0	73.8	PASS
Moment About Occipital Condyle	Maximum	Nm	42.0 to 53.0	44.4	PASS
Positive Moment Decay Time to 10Nm		Msec.	60.0 to 80.0	73.4	PASS
			Overall Test Results		PASS

Laboratory Technician

1/12/01
Test Date

Approved By

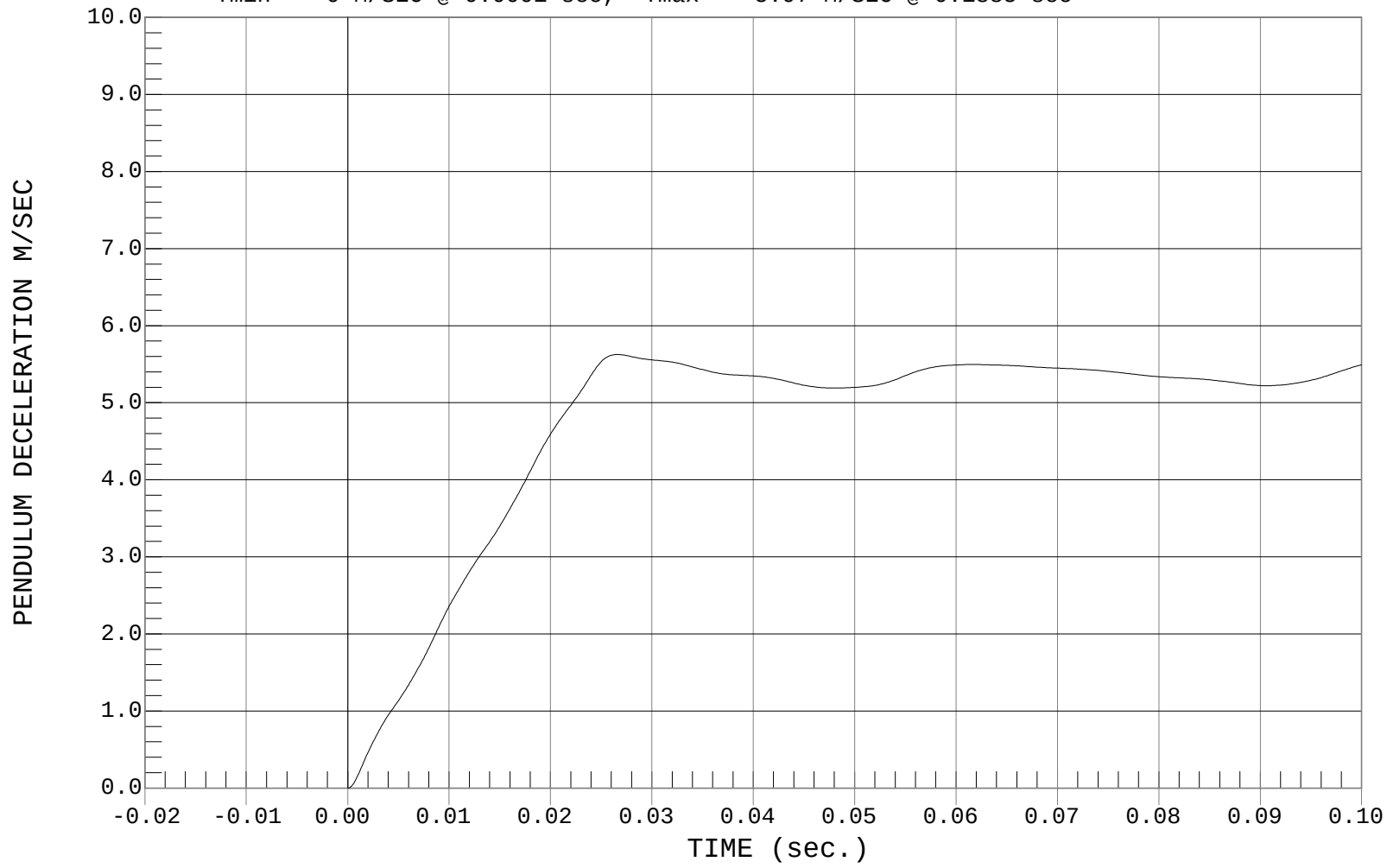
PENDULUM DECELERATION

Test Desc.: Dummy Calibration - Neck Flexion
Component: Dummy #142C

Test Date: 01-12-01
Speed: 18.00 FT/SEC, 5.49 M/SEC

1 PENDULUM DECELERATION, D01072AI.A04

Ymin = 0 M/SEC @ 0.0001 sec, Ymax = 5.97 M/SEC @ 0.1885 sec



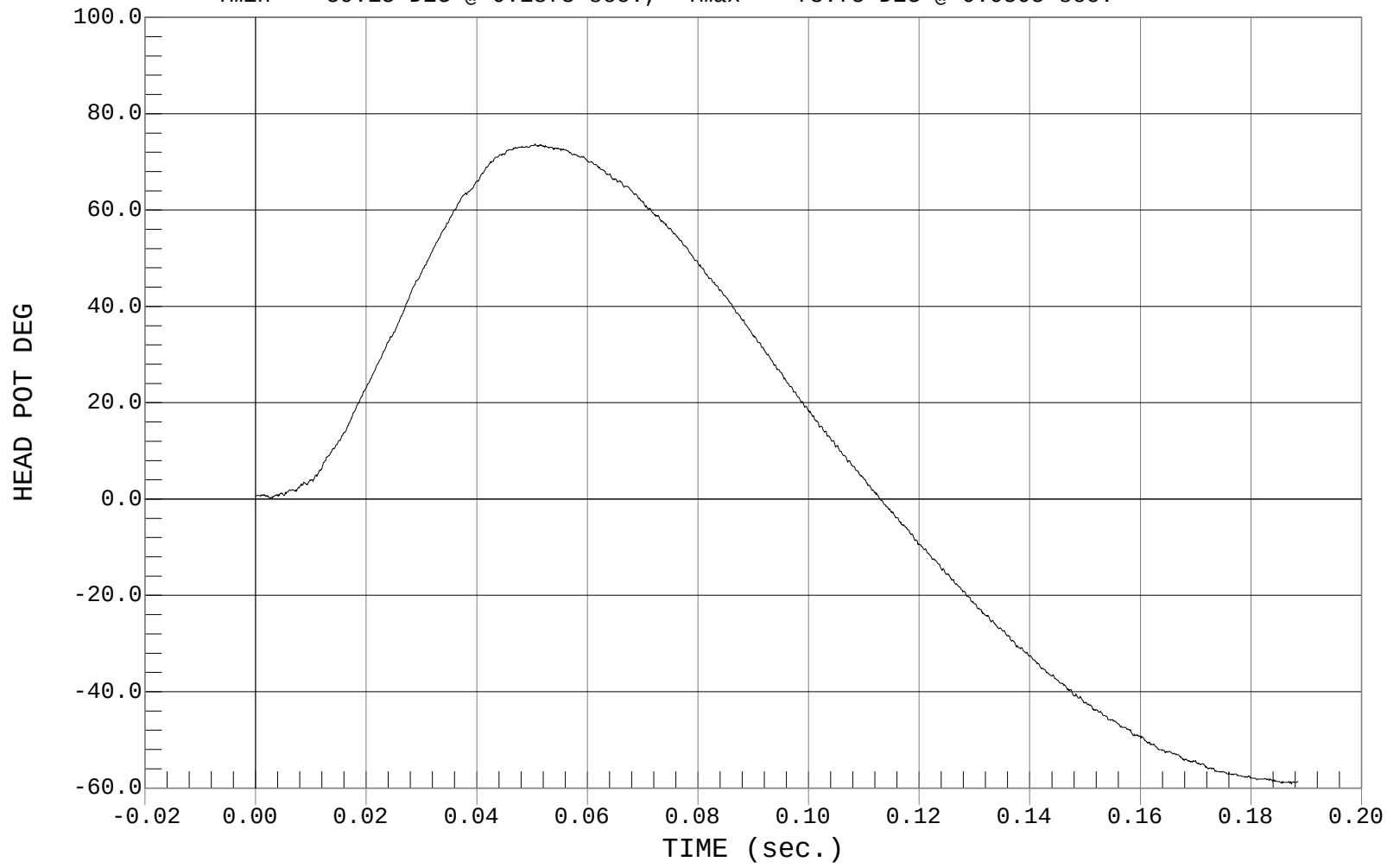
NECK ROTATION

Test Desc.: Dummy Calibration - Neck Flexion
Component: Dummy #142C

Test Date: 01-12-01
Speed: 18.00 FT/SEC, 5.49 M/SEC

1 HEAD POT, D01072DU.D05

Ymin = -59.15 DEG @ 0.1873 sec., Ymax = 73.75 DEG @ 0.0505 sec.



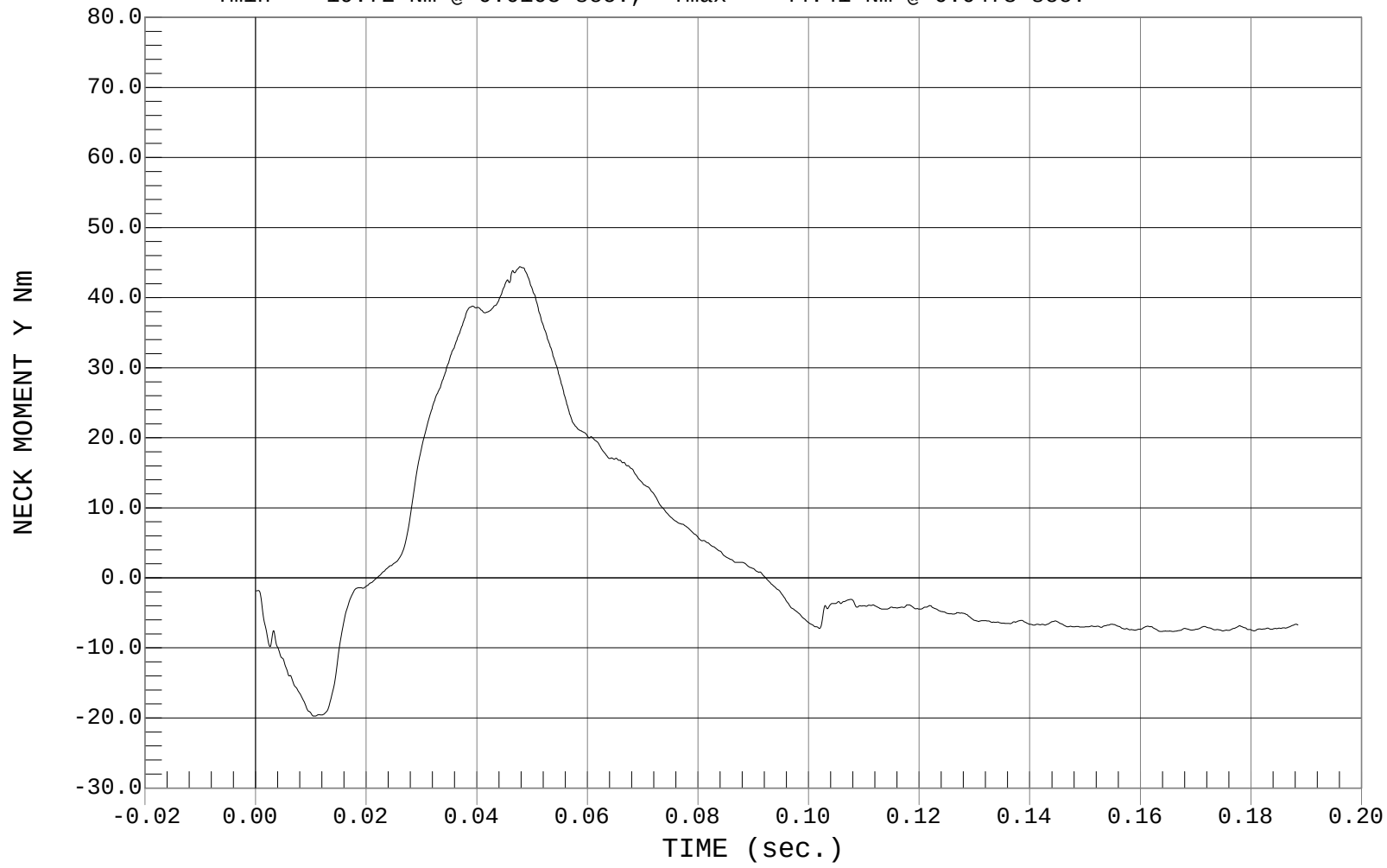
OCCIPITAL MOMENT

Test Desc.: Dummy Calibration - Neck Flexion
Component: Dummy #142C

Test Date: 01-12-01
Speed: 18.00 FT/SEC, 5.49 M/SEC

1 NECK MOMENT Y, D01072MF.M01

Ymin = -19.72 Nm @ 0.0105 sec., Ymax = 44.41 Nm @ 0.0478 sec.



Hybrid III Calibration Data Sheet

3 Year Old

Neck Extension Test

ATD Serial No.: 142C Test I.D.: D01073

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.3	PASS
Laboratory Relative Humidity		%	10 to 70	22	PASS
Pendulum Velocity		m/s	3.55 to 3.75	3.66	PASS
Pendulum Deceleration	6 Msec.	m/s	1.0 to 1.4	1.2	PASS
	10 Msec.	m/s	1.9 to 2.5	2.1	PASS
	14 Msec.	m/s	2.8 to 3.5	2.9	PASS
"D" Plane Rotation	Maximum	Deg.	83.0 to 93.0	88.8	PASS
Moment About Occipital Condyle	Minimum	Nm	-53.3 to –43.7	-46.3	PASS
Negative Moment Decay Time to -10 Nm		Msec.	60.0 to 80.0	68.8	PASS
			Overall Test Results		PASS

1/12/01

Laboratory Technician Test Date

Approved By

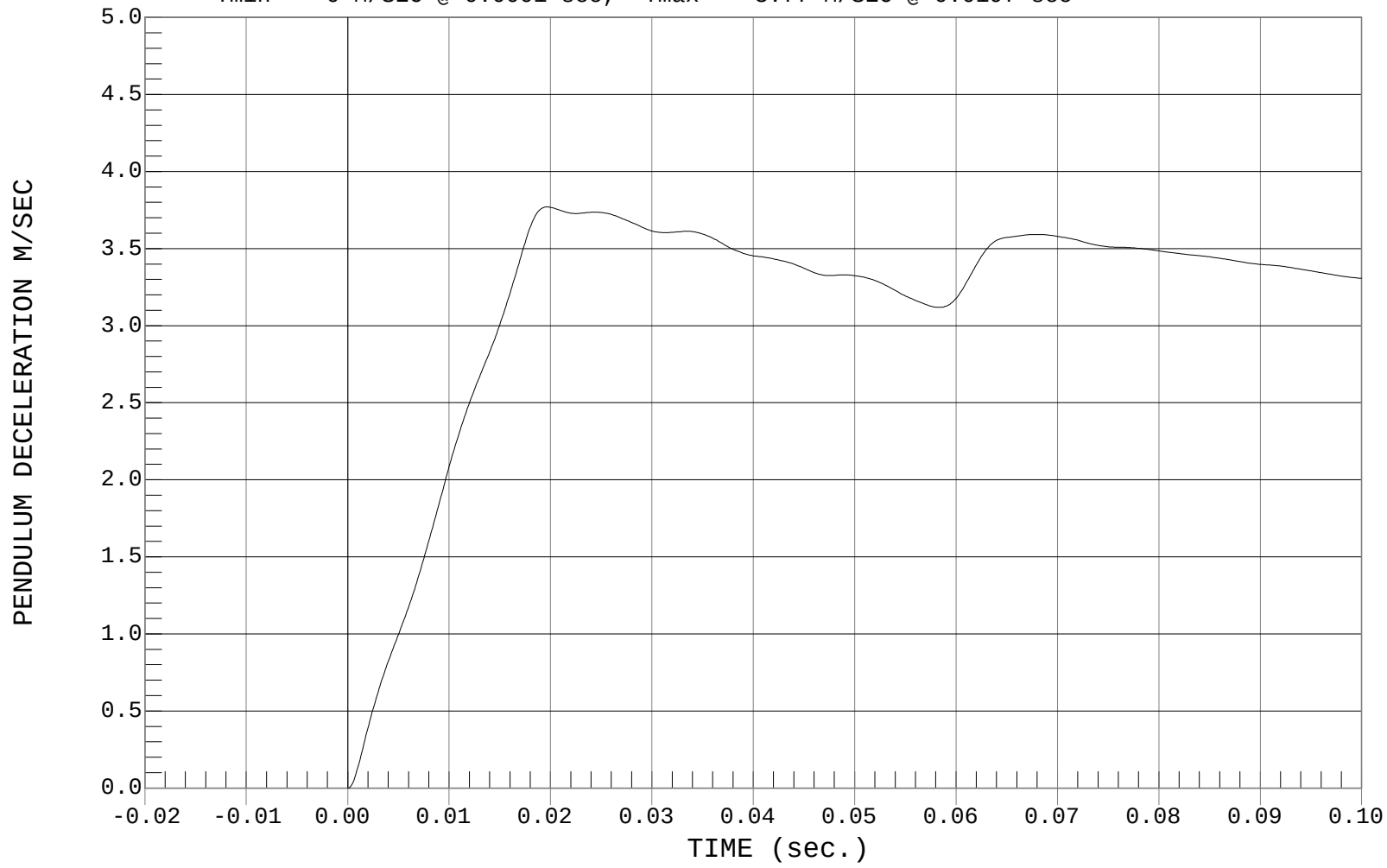
PENDULUM DECELERATION

Test Desc.: Dummy Calibration - Neck Extension
Component: Dummy #142C

Test Date: 01-12-01
Speed: 12.00 FT/SEC, 3.66 M/SEC

1 PENDULUM DECELERATION, D01073AI.A04

Ymin = 0 M/SEC @ 0.0001 sec, Ymax = 3.77 M/SEC @ 0.0197 sec



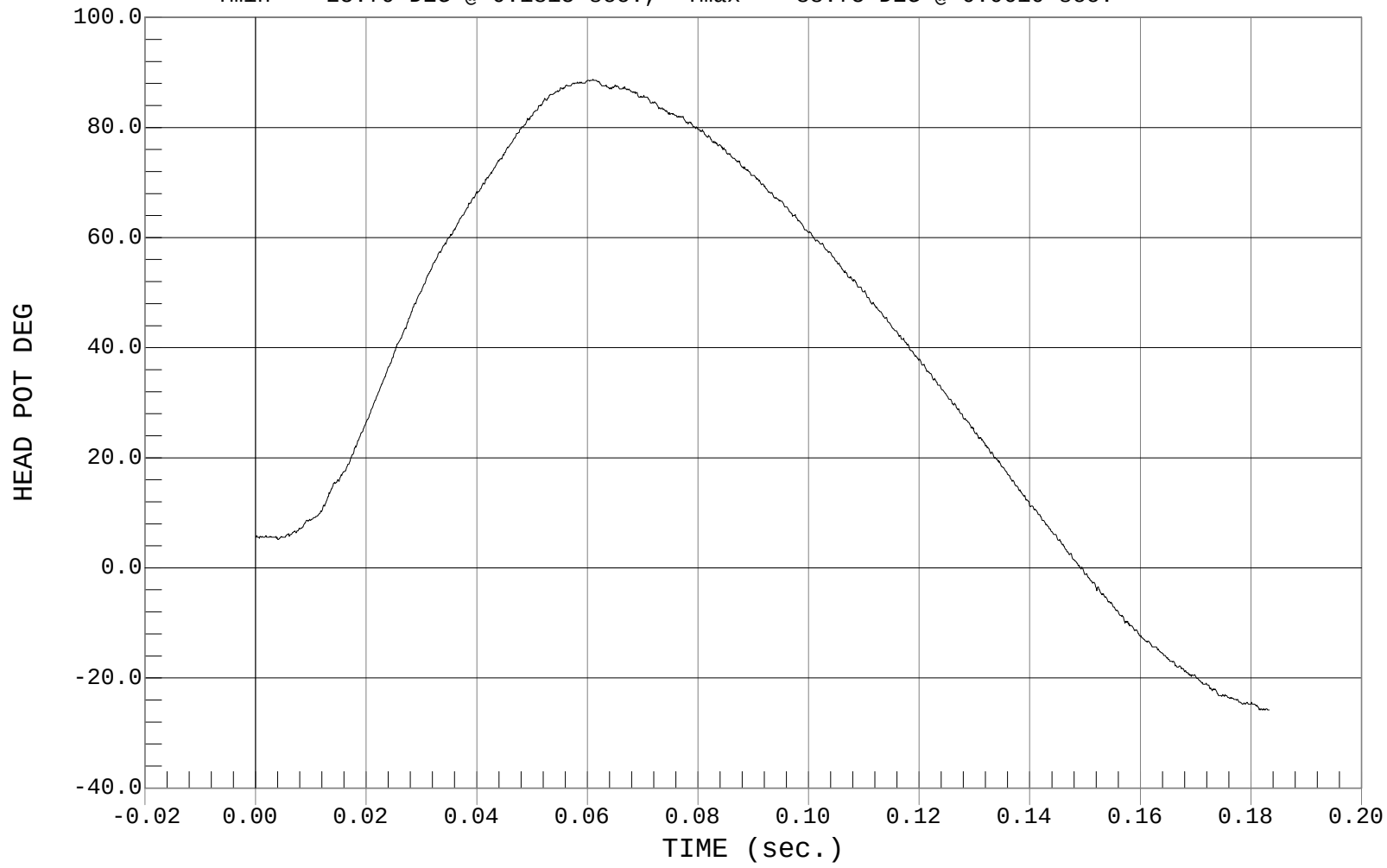
NECK ROTATION

Test Desc.: Dummy Calibration - Neck Extension
Component: Dummy #142C

Test Date: 01-12-01
Speed: 12.00 FT/SEC, 3.66 M/SEC

1 HEAD POT, D01073DU.D05

Ymin = -25.79 DEG @ 0.1815 sec., Ymax = 88.75 DEG @ 0.0610 sec.



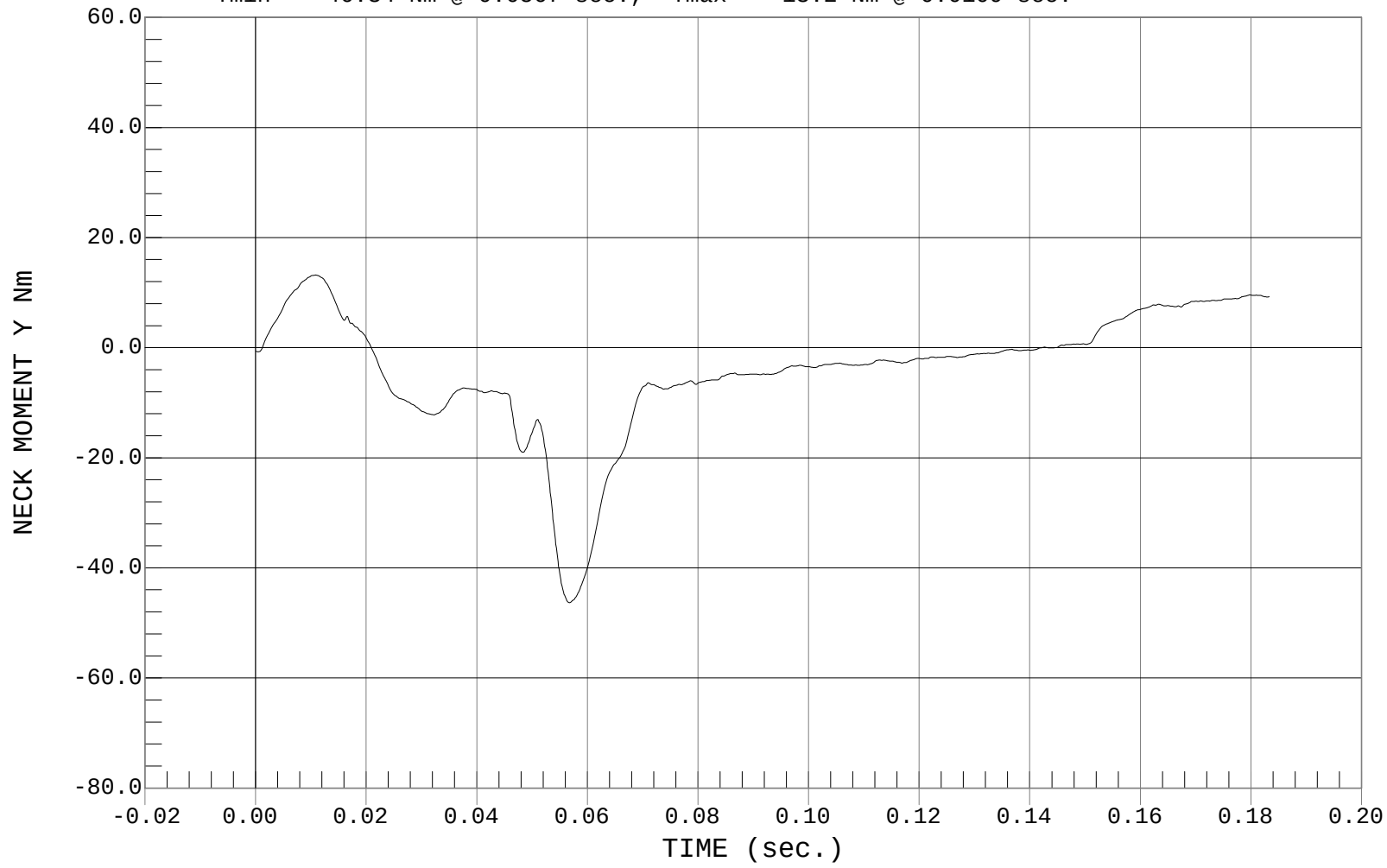
OCCIPITAL MOMENT

Test Desc.: Dummy Calibration - Neck Extension
Component: Dummy #142C

Test Date: 01-12-01
Speed: 12.00 FT/SEC, 3.66 M/SEC

1 NECK MOMENT Y, D01073MF.M01

Ymin = -46.34 Nm @ 0.0567 sec., Ymax = 13.2 Nm @ 0.0109 sec.



Hybrid III Calibration Data Sheet

3 Year Old

Torso Flexion Test

ATD Serial No.: 142C Test I.D.: D01075

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	°C	18.9 to 25.6	21.4	PASS
Relative Humidity	%	10 to 70	25	PASS
Force @ 45°	N	130 to 180	158	PASS
Initial Angle	Deg	0 to 15	6	PASS
Return Angle	Deg	0 to 10	2	PASS
		Overall Test Results		PASS

Laboratory Technician

1/12/01
Test Date

Approved By

TEST EQUIPMENT AND INSTRUMENTATION CALIBRATION

DUMMY AND LABORATORY INSTRUMENT CALIBRATION

INSTRUMENTS FOR CHILD DUMMY NO. 139

	INSTRUMENTS FOR DUMMY NO. 139		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Head X	AJ7F6	Endevco	1/4/01
Head Y	J19843	Endevco	1/4/01
Head Z	J19244	Endevco	1/4/01
Chest X	AJ7F7	Endevco	1/4/01
Chest Y	AJ454	Endevco	1/4/01
Chest Z	J23757	Endevco	1/4/01
Pelvis X	AJ8C0	Endevco	1/4/01
Pelvis Y	J14189	Endevco	1/4/01
Pelvis Z	J23943	Endevco	1/4/01
Upper Neck Force X	114	FTSS	11/7/00
Upper Neck Force Y	114	FTSS	11/7/00
Upper Neck Force Z	114	FTSS	11/7/00
Upper Neck Moment X	114	FTSS	11/7/00
Upper Neck Moment Y	114	FTSS	11/7/00
Upper Neck Moment Z	114	FTSS	11/7/00
Lower Neck Force X	119	FTSS	11/8/00
Lower Neck Force Y	119	FTSS	11/8/00
Lower Neck Force Z	119	FTSS	11/8/00
Lower Neck Moment X	119	FTSS	11/8/00
Lower Neck Moment Y	119	FTSS	11/8/00
Lower Neck Moment Z	119	FTSS	11/8/00
Chest Deflection Gauge	139	Servo	1/8/01

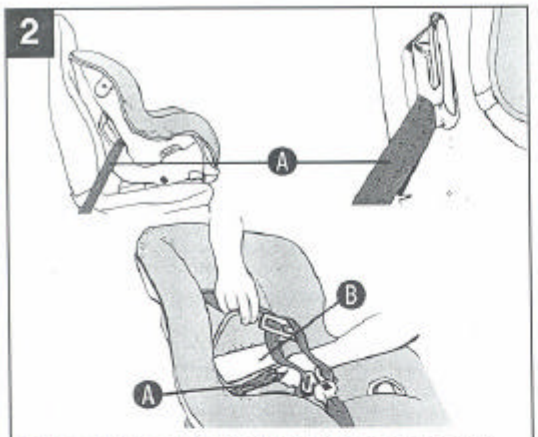
DUMMY AND LABORATORY INSTRUMENT CALIBRATION

INSTRUMENTS FOR CHILD DUMMY NO. 142C

	INSTRUMENTS FOR DUMMY NO. 142C		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Head X	J19927	Endevco	1/4/01
Head Y	J18736	Endevco	1/4/01
Head Z	J14674	Endevco	1/4/01
Chest X	J14235	Endevco	1/4/01
Chest Y	J18724	Endevco	1/4/01
Chest Z	AJ5R0	Endevco	1/4/01
Pelvis X	J19440	Endevco	1/4/01
Pelvis Y	AJ4W2	Endevco	1/4/01
Pelvis Z	J20093	Endevco	1/4/01
Upper Neck Force X	120	FTSS	11/6/00
Upper Neck Force Y	120	FTSS	11/6/00
Upper Neck Force Z	120	FTSS	11/6/00
Upper Neck Moment X	120	FTSS	11/6/00
Upper Neck Moment Y	120	FTSS	11/6/00
Upper Neck Moment Z	120	FTSS	11/6/00
Lower Neck Force X	121	FTSS	11/8/00
Lower Neck Force Y	121	FTSS	11/8/00
Lower Neck Force Z	121	FTSS	11/8/00
Lower Neck Moment X	121	FTSS	11/8/00
Lower Neck Moment Y	121	FTSS	11/8/00
Lower Neck Moment Z	121	FTSS	11/8/00
Chest Deflection Gauge	68.514	Servo	1/12/01

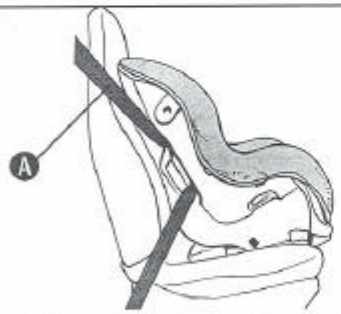
CHILD SEAT OWNER'S MANUAL RESTRAINT INSTRUCTIONS

2



Put the child restraint in your vehicle forward facing and buckle the vehicle seat belt Ⓐ as shown.
Use the "Belt Trac™" Ⓑ for easy access and seat belt routing.

3



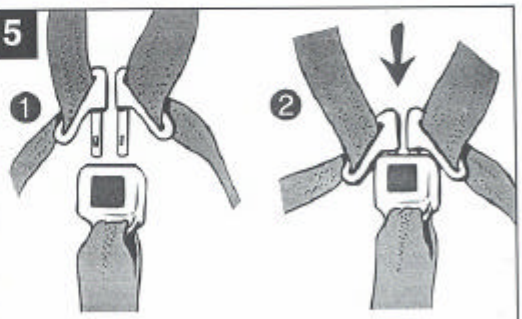
If your vehicle seat belt has a shoulder belt Ⓐ it must be located as shown.
Note: See instructions under "Using a Metal Locking Clip", when using a lap/shoulder belt Ⓐ combination.

4

It is very important to put the vehicle seat belt in the right place. If the belt is put anywhere else, the child restraint will not protect your child in a crash. The seat belt must be as tight as possible. Using your knee, put your full weight on the seat as you tighten the belt.

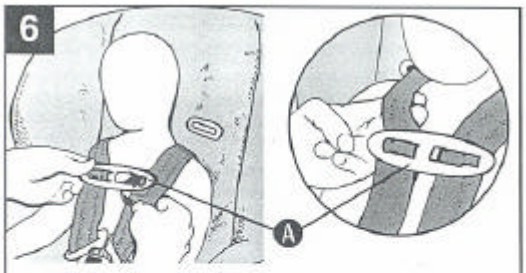
If you can pull the top of the child restraint more than one inch (25 mm) forward or 1 to 2 inches (25 mm - 50 mm) to the side, the belt is not tight enough. Tighten again, try a different seating position or see section titled "Tether Strap".

5



Place child in seat, place straps over shoulders and snap each of two tongues into crotch strap buckle as shown.
Check that the buckle has engaged by pulling up on the harness straps. Tighten the harness by pulling the strap at the front of the seat.

6



Position the harness tie on baby's chest at armpit level. The vehicle seat belt must be tight and the child restraint must be firmly secured to the vehicle seat. The child restraint harness must be fastened and tight with no more than two fingers-width of slack between the strap and child. The harness tie Ⓐ must be on and properly positioned at armpit level.

TETHER STRAP (Factory installed)

IMPORTANT INFORMATION ABOUT TETHER STRAP. PLEASE READ CAREFULLY.

Failure to properly follow these instructions could result in serious injury to your child or to other occupants in the vehicle.

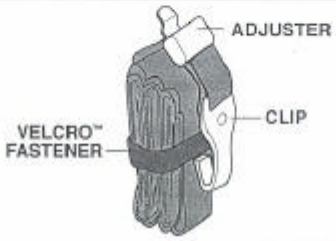
- Your child restraint has been manufactured with a top tether strap to comply with new Federal regulations.

1

Use the tether strap only when using the child restraint in the forward-facing position.
A properly used top tether strap may help limit movement of the child's head in a crash, thereby reducing the risk of injury. A top tether strap must always be used with a vehicle whose lap belts only lock during a sudden stop or crash or seat belts with buckles located forward of the seat bight Ⓐ.

- The tether strap is to be used in addition to the vehicle seat belt system.
- The length of the tether strap has been developed using federal regulations. As a result, depending on your model of the vehicle, you may experience several inches or more of excess strap after connecting the tether strap to the anchor. Because you may wish to install the child restraint in more than one particular model of vehicle, DO NOT CUT off the excess length from the tether strap. If you do, you may not have enough length to attach the tether strap in a different model vehicle.

1



Excess tether strap can be a hazard to the child or others if not properly stored. Tightly fold or roll the excess tether strap and secure with Velcro™ fastener. When the tether strap is not in use, keep strap tightly rolled or folded with Velcro™ fastener. Keep tether clip and strap as close to the tether attachment point as possible.

- Strap should be wound as tight as possible to limit its size and limit its ability to swing around the child restraint in the event of a crash.
This will help prevent the clip from becoming a projectile in the event of a crash or becoming a strangulation hazard.

Failure to properly store an unused tether could result in serious injury to the child or other occupants in the vehicle.

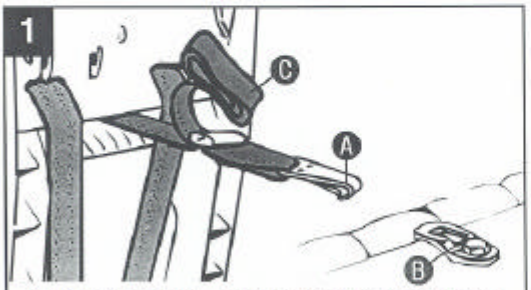
Please check the vehicle owner's manual to determine if an attachment point for a top tether has already been installed by the vehicle manufacturer. If your vehicle does not have an anchor bracket for attachment of the top tether strap to the vehicle, you must contact an authorized dealer of the vehicle manufacturer.

TOP TETHER STRAP INSTALLATION

- Install the child restraint per the instructions **FORWARD-FACING USE** in this booklet.
- See your vehicle owner's manual for location of the anchor bracket for attachment of the top tether strap to the vehicle. If there is no anchor bracket, please contact an authorized dealer of the vehicle manufacturer to have an anchor bracket installed.

WARNING: An improperly installed anchor can cause serious injury.

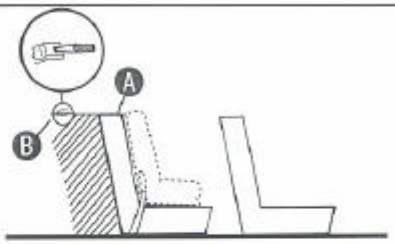
1



Attach tether clip Ⓐ to anchor bracket Ⓑ and tighten tether strap securely. Pull loose end of strap to tighten. Remove slack Ⓒ so that the tether strap does not move more than 1 inch (25 mm) forward or 1 to 2 inches (25 mm to 50 mm) to the side.

IMPORTANT: Fold into small loops or tightly roll the excess tether strap and secure it with attached Velcro™ fasteners. Then tuck the rolled excess strap between the child restraint and the vehicle seat to prevent access by the child or other vehicle occupants.

2

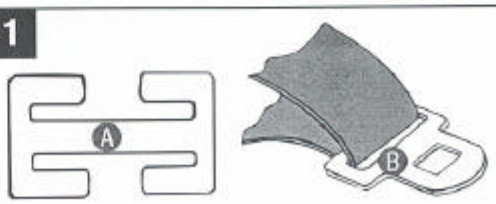


For typical installation of tether Ⓐ and anchor bracket Ⓑ system.

If there are any questions regarding the location of the anchor brackets which are not answered by the vehicle owner's manual, please contact an authorized dealer of vehicle manufacturer. If you still have questions, please call evenflo® at 1-800-233-5921.

USING A METAL LOCKING CLIP

1



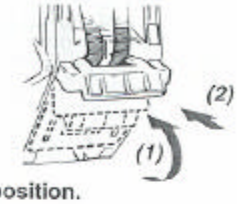
You must use a metal locking clip Ⓐ with seat belt whose buckle tongue Ⓑ slides freely along the belt.

A metal locking clip Ⓐ is attached to the back of the child restraint.

FORWARD-FACING TODDLER - MORE THAN 20 LBS. (9 KG)

* Car Seat MUST Be In Upright Position

- Rotate recline stand to upright position *(1)*.
- Push recline stand in *(2)*.



Be sure stand locks into position.

⚠ WARNING

When locking recline stand into upright position, make certain straps do not get pinched between recline stand and bottom of car seat, as this will prevent adjustment of harness system.

* Car Seat Installation

Never put car seat in a front vehicle seat unless recommended in vehicle owner's manual.

1 Place car seat forward-facing on vehicle seat firmly against vehicle seat back.

2 Thread vehicle seat belt through openings and behind harness straps as shown; then buckle vehicle seat belt.

3 Press down firmly in center of car seat to compress vehicle's cushion as you tighten vehicle lap belt.

HINT: Use your knee to press down in center of car seat.

FORWARD-FACING TODDLER - MORE THAN 20 LBS. (9 KG) continued

4 Test for secure installation:

- Pull front to back.
- Pull left to right.

If vehicle seat belt does not hold car seat securely, see "Vehicle Seat Belts" section or move car seat to another seating location and repeat steps 1 through 4.

* Placing Child In Car Seat

⚠ WARNING

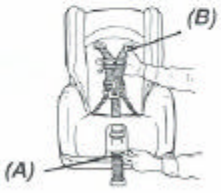
Harness straps MUST be in the top slots for forward-facing use to prevent serious injury or death.

Do not use strap covers (shown), blankets, thick cushions, or padding under harness straps or child. They interfere with proper fit of harness straps and child could be ejected on impact.

1 Harness straps must be in the top slots. If straps must be moved, see "Changing Harness Strap Slots" section.

2 Loosen harness straps:

- Lift adjuster lever *(A)* to release harness straps.
- Pull harness straps *(B)*.



3 Unhook harness tie from harness strap on child's left.

FORWARD-FACING TODDLER - MORE THAN 20 LBS. (9 KG) continued

4 Press red button *(C)* and remove harness tongues.

5 Place child in car seat. Child's bottom and back must be firmly against the car seat.

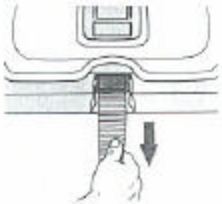
6 Place child's arms through harness srtaps and insert both tongues into buckle.

Make sure harness straps are not twisted.

7 Pull up on tongues to be sure buckle is locked.

8 From back of harness tie, slide harness strap over harness tie tab.

9 Pull lower belt in front of car seat to tighten harness straps.



FORWARD-FACING TODDLER - MORE THAN 20 LBS. (9 KG) continued

⚠ WARNING

Do not use harness straps that are loose or unbuckled. Harness straps must be snug and positioned over shoulders or child could be seriously injured.

10 Position harness tie at mid chest or 3 inches (8 cm) below child's chin.

IMPORTANT: The harness tie keeps the harness straps close and snug on child's shoulders to help prevent ejection.

11 Harness straps must be snug against child with just enough room for you to insert one finger between each harness strap and child's chest.

NOTE: Forward-facing - **Must** use top slots only.

12 Be sure crotch strap is in the opening ***closest*** to but not under child. For children over 30 lbs. (13.6 kg) move the crotch strap to the forward opening. This will give a larger child more room and comfort. See "Changing Crotch Strap Slots" section.

VEHICLE SEAT BELTS

Identify your vehicle seat belt. Car seat must be used with a vehicle seat belt that will stay tight while driving. If vehicle does not have a lap belt that will stay tight, see dealer.

NOTE: #1 The locking latch plate on some seat belts may slip and loosen after being buckled through car seat. If this happens, flip latch plate over as shown and re-buckle. Test installation again to see if vehicle belt stays tight. If not, move car seat to another seating position.

* Combination Lap/Shoulder Belt with Locking Latch Plate

- Install car seat per instructions. See **NOTE #1** above.

* Lap-Only Belts

- Manually Adjustable Lap-Only Belts. See **NOTE #1** above.
- Retractor Lap-Only Belts.

To determine if a lap-only belt can be used, follow the steps below:

1) Pull on both halves of vehicle seat belts.
   - If one belt gets longer, see step 2.
   - If neither belt gets longer, install car seat according to instructions.
2) Pull end that gets longer all the way out, allow belt to retract 4 - 6 inches (10 - 15 cm) and pull again.
   - If belt gets longer, do not install car seat. Check vehicle owner's manual or contact auto dealer for options.
   - If belt does not get longer, install car seat per instructions on page 9 or page 13 substituting the instruction below for those in steps 3.
     - Pull lap belt that moves all the way out and thread through belt slots. Buckle lap belt. Release lap belt and remove slack in lap belt by pushing lap belt that moves into the retractor while pushing down on car seat to compress vehicle cushion.

VEHICLE SEAT BELTS continued

* Continuous Loop Combination Lap/Shoulder Belt with Sliding Latch Plate

Pull on latch plate. If belt slides freely through latch plate, a locking clip ***must*** be used (stored on top back of car seat).

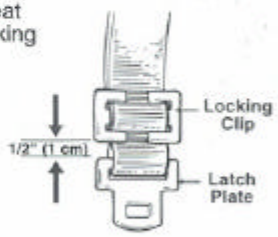
⚠WARNING
Failure to use locking clip where required will result in car seat not being securely held in place and child being seriously injured or killed in a sudden stop or accident.

1 Place car seat in seating position to be used.

2 Thread vehicle seat belt through openings in car seat and tighten lap belt.

3 With vehicle lap belt properly tightened, hold the combination lap/shoulder belts together just behind the sliding latch plate, and unbuckle belt.

4 Continue holding vehicle seat belts together and slide locking clip on vehicle seat belt approximately 1/2 inch (1 cm) away from latch plate.



5 Rebuckle vehicle seat belt. **HINT:** It may be necessary to press car seat into vehicle cushion in order to rebuckle.

Test installation again to see if car seat is secure. If it is not, remove locking clip, adjust vehicle seat belt and re-attach locking clip.

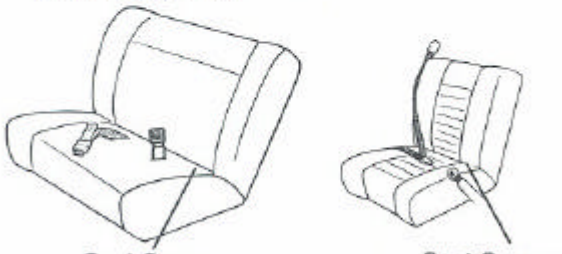
⚠ WARNING
Remove locking clip from vehicle seat belt when not being used with a car seat. The vehicle seat belt will not properly restrain an adult or child and serious injury could occur. Do not use locking clip as a vehicle seat belt shortener.

VEHICLE SEAT BELTS continued

✻ Belts Anchored Forward of Seat Crease

Belts anchored forward of seat crease (as shown below) may not securely hold car seat. Check vehicle owner's manual or auto dealer.

- **Do not use unless approved by vehicle manufacturer.**
- **After installation, check that car seat stays securely fastened.**



Seat Crease

Seat Crease

✻ Do Not Use These Vehicle Seat Belts

The following vehicle seat belts ***MUST NOT*** be used. They will not restrain a car seat and child will be seriously injured or killed.

Lap/Shoulder Belt with Sewn Latch Plate

Do not use. This type of vehicle seat belt stays loose while driving. In a sudden stop or accident it will lock, but car seat may move forward and cause serious injury. See your vehicle dealer for options.

Automatic (Passive) Seat Belts

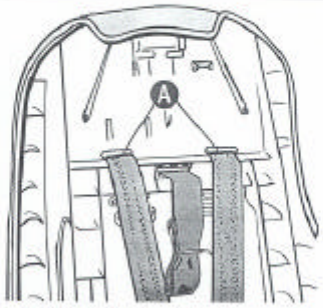
Do not use this type of vehicle seat belt to anchor your car seat.

21

FORWARD FACING TODDLER USE

Weight: 20 to 40 pounds. (9 to 18 kg)
Maximum Height: 40 inches (101 cm) or if child's ears are at top of seat back.

1



Adjust the child restraint to either the upright or recline position and **place the harness straps through the upper slots.**