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REPORT NO.: 214-MGA-99-06
SAFETY COMPLIANCE TESTING FOR FMVSS NO. 214
"SIDE IMPACT PROTECTION"

DaimlerChrysler
1999 Dodge Dakota Extended Cab
NHTSA NO: CX0304

MGA PROVING GROUNDS
5000 WARREN ROAD
BURLINGTON, WI 53105

Test Date: January 6, 1999

Report Date: January 22, 1999

FINAL REPORT

Prepared For:

U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
ENFORCEMENT
OFFICE OF VEHICLE SAFETY COMPLIANCE
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15. Supplementary Notes

16. Abstract

A 48/24 kph 90° Impact (Moving Deformable Barrier) Compliance Test was conducted on the subject 1999 Dodge Dakota Extended Cab in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP- 214D-04 for the determination of FMVSS No. 214 Side Impact Protection compliance. The test was conducted at MGA Research Corporation in Burlington, Wisconsin, on January 6, 1999.

The impact velocity of the Moving Deformable Barrier (MDB) was 52.7 kph, and the ambient temperature at the struck side of the target vehicle at the time of impact was 22.8°C. The target vehicle post test maximum crush was 385 mm at level 1. The test vehicle's performance follows:

	DRIVER.	LEFT REAR PASS.
Left Upper Rib (LUR) Accel., g	31	**
Left Lower Rib (LLR) Accel., g	35	**
Lower Spine (T_{12}) Accel., g	52	**
Thoracic Trauma Index (TTI)	44	**
Pelvis (PEV) Accel., g	61	**

** Left rear passenger dummy was run without legs.

The door on the struck side of the vehicle did not separate from the body at the hinges or latch and the opposite door did not open during the side impact event.

17. Key Words Compliance Testing Side Impact Protection FMVSS 214 Side Impact Dummy (SID)		18. Distribution Statement Copies of this report are available from: National Highway Traffic Safety Adm. Technical Ref. Division, Room 5108 (NAD-52) 400 Seventh Street, S.W. Washington, D.C. 20590 Telephone No. 202-366-4946	
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SECTION 1
PURPOSE AND TEST PROCEDURE

This side impact test is part of the FY 99 FMVSS 214 Side Impact Protection Compliance Test Program, sponsored by the National Highway Traffic Safety Administration (NHTSA), under Contract No. DTNH22-97-C-11033. The purpose of this test was to evaluate side impact protection of a 1999 Dodge Dakota Extended Cab.

This side impact test was conducted in accordance with the Vehicle Safety Compliance's FMVSS 214 test procedure (TP-214D-04, dated September 1, 1995).

MGA does not endorse or certify products. The manufacturer's name appears solely for identification purposes only.

SECTION 2
SUMMARY OF SIDE IMPACT TEST

A 1999 Dodge Dakota Extended Cab was impacted on the left side by a Moving Deformable Barrier (MDB) which was moving forward in a 27° crabbed position to the tow road guidance system at a velocity of 52.7 kph (32.77 mph). The target vehicle was stationary and was positioned at an angle of 63° to the line of forward motion. The side impact test was conducted by MGA Research Corporation in Burlington, Wisconsin, on January 6, 1999. Pre- and post-test photographs of the test vehicle, the MDB and the side impact dummies (SIDs) are included in Appendix A.

Two Side Impact Dummies (SIDs) were placed in the left front and left rear designated seating positions according to instructions specified in the OVSC Side Impact Laboratory Test Procedure which is dated September 1, 1995. The side impact event was documented by nine high speed cameras. Camera locations and other pertinent camera information can be found in this report.

The SIDs were instrumented with the following accelerometers.

1. Left Upper Rib (LUR) uniaxial accelerometer (Y-direction)
2. Left Lower Rib (LLR) uniaxial accelerometer (Y-direction)
3. Lower Thoracic Spine (T_{12}) uniaxial accelerometer (Y-direction)
4. Pelvic (PEV) section uniaxial accelerometer (Y-direction)

Appendix B contains the vehicle and dummy response data traces. A summary of the side impact dummy (SID) configuration and performance verification test data is shown in Appendix C. Dummy and vehicle calibration data can be found in Appendix D of this report.

The following table summarizes the results of the FMVSS 214 Left Side Impact test:

Injury Criteria	Front SID	Rear SID*
TTI (g)	43.5	*
Pelvis (g)	60.1	*

* Left rear passenger dummy was run without legs

TEST NOTES

1. The following accelerometers were not used for this test:

   Left Front Door on Centerline
   Midrear of Left Front Door
   Left Front Door Upper Centerline
   Midrear of Left Rear Door
   Left Rear Door Upper Centerline
   Left Rear Seat Track

2. Because of space limitations in the rear seat of the vehicle, the H-Point machine could not be installed to determine the dummy H-Point. The rear passenger's legs were removed from the mid femur down in order to install the dummy in the seat.

SECTION 3
SIDE IMPACT DUMMY (SID) AND
VEHICLE TEST DATA

DATA SHEET NO. 1

GENERAL VEHICLE TEST PARAMETER DATA

TEST VEHICLE INFORMATION:

Year/Make/Model/Body Style: 1999/Dodge/Dakota/Extended Cab

Vehicle NHTSA No.: CX0304 VIN: 1B7GL22X8XS147368

Vehicle Body Color: Red Build Date: 9-98

Engine Data: 6 Cylinders; __ CID; 3.9 Liter; ___cc

Placement X Longitudinal; ___ Lateral

Transmission: 5 speed; X Manual; __ Automatic; __ Overdrive

Final Drive: X Rear Wheel Drive; __ Frt. Wheel Drive; __ Four Wheel Drive

Odometer Reading 86 miles

Options: X A/C; X Pwr. Steering; X Pwr. Brakes; __ Pwr. Windows;

__Cruise Control; __Tilt Wheel; ___Power Door Locks;

DATA FROM TIRE PLACARD:

Tire Pressure (at capacity): 35 Psi FRONT

35 Psi REAR

Recommended Tire Size: P215/75R15

Tires on Test Vehicle: P215/75R15 Manufacturer: Goodyear

Vehicle Capacity Data:

Number of Occupants: 3 Front; 3 Rear; __ 3rd Seat 6 Total

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

Type of Front Seat Back: __ Fixed; X Adjustable with X Lever _Knob __Power

Vehicle Maximum Capacity Loading = 631.4 kg (A)

No. of Occupants x 68.04 kg. = 408.2 kg (B)

Cargo Capacity (A-B) = 223.2 kg

GENERAL VEHICLE TEST PARAMETER DATA (Cont'd)

WEIGHT OF TEST VEHICLE WITH MAXIMUM FLUIDS:

Right Front =	504.9 kg	Right Rear =	357.9 kg
Left Front =	517.1 kg	Left Rear =	356.5 kg
TOTAL FRONT =	1022.0 kg	TOTAL REAR =	714.4 kg
% of Total Weight =	58.9 %;	% of Total Weight =	41.1 %

TOTAL WEIGHT = 1736.4 kg

GENERAL VEHICLE TEST PARAMETER DATA (Cont'd)

Year/Make/Model/Body Style: 1999/Dodge/Dakota/Extended Cab

Vehicle NHTSA No.: CX0304 Test Date: January 6, 1999

CALCULATION OF VEHICLE'S TARGET TEST WEIGHT:

Total Test Vehicle Delivered Weight with Maximum Fluids	= 1736.4 kg
Cargo Carrying Capacity of Test Vehicle*	= 136.1 kg
Weight of 2 Side Impact Dummies (2 x 80.7 kg.)	= 161.4 kg
TEST VEHICLE TARGET WEIGHT	= 2033.9 kg

ACTUAL WEIGHT OF TEST VEHICLE WITH 2 DUMMIES AND CARGO: (FULLY LOADED)

Right Front	= 513.0 kg	Right Rear	= 456.8 kg
Left Front	= 587.9 kg	Left Rear	= 475.8 kg
TOTAL FRONT	= 1100.9 kg	TOTAL REAR	= 932.6 kg
% of Total Weight	= 54.1 %	% of Total Weight	= 45.9 %
TOTAL WEIGHT	= 2033.5 kg		

TEST VEHICLE ATTITUDE:

CURB WEIGHT ATTITUDE:

Right Front 811 mm Left Front 813 mm Right Rear 872 mm Left Rear 870 mm

FULLY LOADED WEIGHT ATTITUDE:

Right Front 806 mm Left Front 798 mm Right Rear 844 mm Left Rear 833 mm

TEST ATTITUDE:

Right Front 801 mm Left Front 802 mm Right Rear 843 mm Left Rear 838 mm

* light trucks and MPVs RCW is 136.1 kgs or manufacturer's value, whichever is less

GENERAL VEHICLE TEST PARAMETER DATA (Cont'd)

Test Vehicle Wheelbase: 3325 mm

C.G. As Tested = 1489 mm rearward of front wheel centerline

TOTAL VEHICLE LENGTH:

Right Side = 5272 mm

Centerline = 5415 mm

Left Side = 5272 mm

GENERAL VEHICLE TEST PARAMETER DATA (Cont'd)

Year/Make/Model/Body Style: 1999/Dodge/Dakota/Extended Cab

Vehicle NHTSA No.: CX0304 Test Date: January 6, 1999

FRONT SEAT CUSHION PLACEMENT:

Total Length of Adjustment Travel: 220 mm

Test Position: 12th position rearward out of 23 possible positions

FRONT SEAT BACK ADJUSTMENT POSITION:

Seat Back Angle = 14°

REAR POSITION SEAT:

Total Length of Fore/Aft Adjustment Travel: None

Seat Back Adjustment Position: Fixed

ADJUSTABLE STEERING COLUMN POSITION: Non adjustable column

WINDOW POSITIONS: Left Front closed Left Rear closed

Right Front open Right Rear removed

AMOUNT OF STODDARD SOLVENT IN FUEL TANK:

Fuel system usable capacity = 83.3 liters

Test Volume: 76.7 liters 92.1% of capacity

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

Wheelbase: = 3325 mm

Impact Point is 508 mm rearward of front axle centerline

DATA SHEET NO. 2

TEST VEHICLE SUMMARY OF RESULTS

Year/Make/Model/Body Style: 1999/Dodge/Dakota/Extended Cab

Vehicle NHTSA No.: CX0304 Test Date: January 6, 1999

Overall Length = 5415 mm; Overall Width = 1820 mm

TEST WEIGHT:

Right Front =	528.0 kg	Right Rear =	445.9 kg
Left Front =	590.1 kg	Left Rear =	461.3 kg
TOTAL FRONT =	1118.1 kg	TOTAL REAR =	907.2 kg
% of Total Weight =	55.2 %	% of Total Weight =	44.8 %

TOTAL VEHICLE WEIGHT = 2025.3 kg

Wheelbase = 3325 mm

Longitudinal C.G. from Center of Front Axle = 1489 mm

Impact Angle with Respect to Impactor = 90° degrees

MAXIMUM EXTERIOR STATIC CRUSH:

1. LEVEL 1 (370 mm above ground) = 385 mm
2. LEVEL 2 (725 mm above ground) = 359 mm
3. LEVEL 3 (751 mm above ground) = 358 mm
4. LEVEL 4 (1052 mm above ground) = 265 mm
5. LEVEL 5 (1525 mm above ground) = 195 mm

Maximum Post-Test Intrusion = 385 mm

OCCUPANTS:	Driver	Left Rear Passenger
Type of Dummy	SID	SID
Restraints Used	type II belt with frontal airbag	type II belt

TEST VEHICLE SUMMARY OF RESULTS (Cont'd)

INSTRUMENTATION:

Number of Vehicle Data Channels:		= 20
Number of Cameras:	Onboard Vehicle	= 3
	Offboard Vehicle	= 4
	Deformable Barrier	= 2
	TOTAL	= 9

DATA SHEET NO. 3

MOVING DEFORMABLE BARRIER (MDB) SUMMARY OF RESULTS

Year/Make/Model/Body Style: 1999/Dodge/Dakota/Extended Cab

Vehicle NHTSA No.: CX0304 Test Date: January 6, 1999

POSITION OF IMPACT (MDB) ON MONORAIL:

Crabbed 27° to left

MDB DETAILS:

Overall Width of Framework Carriage	= 1252 mm
Overall Length of MDB (incl. honeycomb impact face)	= 4115 mm
Wheelbase of Framework Carriage	= 2591 mm
Tread of Framework Carriage (Front & Rear)	= 1880 mm
C.G. Location Rearward of Front Axle	= 1098 mm
C.G. Location From Center Line	= -15 mm
C.G. Location Above Ground Level	= 485 mm

MDB WEIGHT:

Left Front = 457.7 kg	Left Rear = 235.1 kg
Right Front = 328.1 kg	Right Rear = 342.6 kg
TOTAL FRONT = 785.8 kg	TOTAL REAR = 577.7 kg

TOTAL MDB WEIGHT = 1363.5 kg

Impact Angle (MDB C/L to Target Vehicle C/L) = 90° degrees

Impact Speed = Primary:32.77 mph (52.7 kph) Secondary:32.88 mph (52.9 kph)

CRASH TEST SUMMARY FOR SIDE IMPACTOR (Cont'd)

MAXIMUM STATIC CRUSH OF HONEYCOMB IMPACT FACE:

1. Row A Top of Stack (813 mm) = 219 mm
2. Row B Mid Stack (686 mm) = 74 mm
3. Row C Top of Bumper (533 mm) = 84 mm
4. Row D Center of Bumper (432 mm) = 110 mm

INSTRUMENTATION:

Number of MDB Data Channels = 7

DATA SHEET NO. 4

POST-TEST OBSERVATIONS

Year/Make/Model/Body Style: 1999/Dodge/Dakota/Extended Cab

Vehicle NHTSA No.: CX0304 Test Date: January 6, 1999

VISIBLE DUMMY CONTACT POINTS:

	DRIVER	LEFT REAR SID
Head	note noted	to rear window & window header
Arm	to armrest & door panel	to side panel
Pelvis	to door panel	to side panel
Left Knee	to door panel	to side panel
Right Knee	to left knee	to left knee

DOOR OPENING:

	LEFT SIDE	RIGHT SIDE
Front	remained closed	remained closed
Rear	N/A	N/A

MDB DISTANCE FROM TARGET IMPACT POINT:

Horizontal: 3 mm rearward Vertical: 2 mm high

ARM REST LOCATIONS:

Front: 186 mm from bottom of window

Rear: No armrest

POST-TEST OBSERVATIONS (Cont'd)

SEAT CRUSH:

Front Seat Back: 53 mm Front Seat Cushion: 48 mm

Left Rear Seat Back: 19 mm Rear Seat Cushion: 0 mm

GLAZING DAMAGE:

Windshield cracked, left rear window broke

PILLAR PERFORMANCE:

No separation

SILL SEPARATION:

None

FRONTAL AIRBAGS:

Driver Deployed: Yes Passenger Deployed: Yes

OTHER NOTABLE IMPACT EFFECTS:

The left side of the vehicle came to rest on top of the moving barrier

SECTION 4
OCCUPANT AND VEHICLE INFORMATION

DATA SHEET NO. 5

SIDE IMPACT DUMMY (SID) INSTRUMENTATION DATA

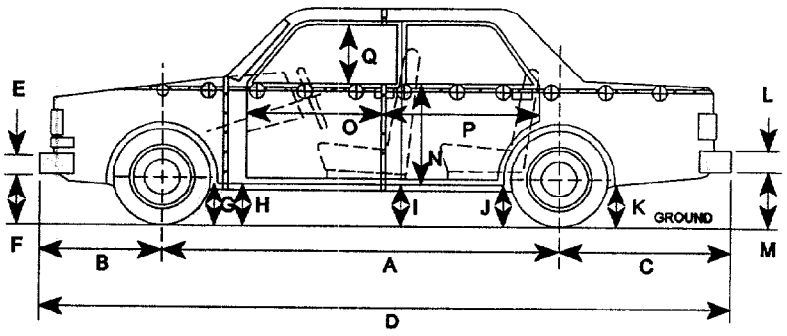
Year/Make/Model/Body Style: 1999/Dodge/Dakota/Extended Cab

Vehicle NHTSA No.: CX0304 Test Date: January 6, 1999

	Front SID ID #049				Rear SID ID #048			
	Pos. Direct.		Neg. Direct		Pos. Direct.		Neg. Direct	
	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)
RIB ACCELERATIONS								
Left Upper Rib (LUR) Y	30.9	42	-4.9	95	55.4	49	-5.7	94
Left Lower Rib (LLR) Y	34.6	44	-8.5	116	56.2	48	-9.6	94
SPINE ACCELERATIONS								
Lower Lateral Y	52.4	45	-10.1	113	61.9	52	-13.6	75
PELVIS ACCELERATIONS								
Lateral Y	60.1	42	-16.6	111	60.9	50	-10.5	91

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

DATA SHEET NO. 6
VEHICLE PRE AND POST-TEST MEASUREMENTS



LEFT SIDE VIEW

D = Length at Centerline
R = Right Side Length
S = Left Side Length
T = Width at B Post
J1 = To Pinch Weld
E & L = Bumper Thickness
J2 = To Sill

ALL MEASUREMENTS IN (mm)

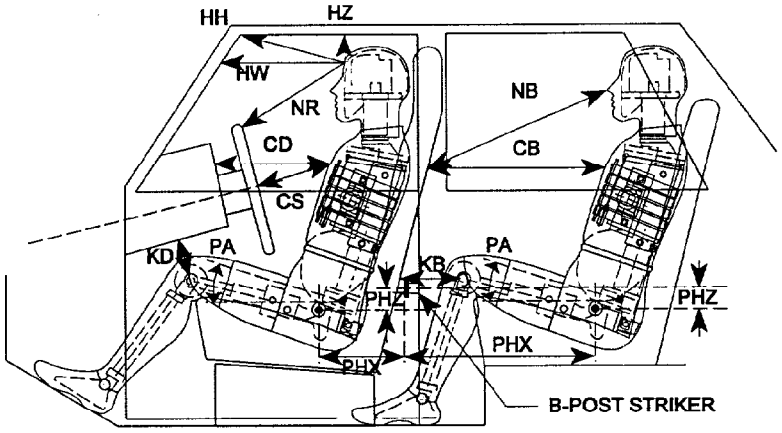
	PRE-TEST	POST-TEST	Δ CHANGE
A	3325	3282	43
B	860	880	-20
C	1230	1243	-13
D	5415	5405	10
E	95	95	0
F	485	507	-22
G	298	318	-20
H	297	316	-19
I	303	275	28
J1/J2	305/300	290/285	15/15
K	335	395	-60
L	35	35	0
M	380	416	-36
N	717	678	39
O	877	803	74
P	402	400	2
Q	453	440	13
R	5272	5279	-7
S	5272	5210	62
T	1820	1557	263

DATA SHEET NO. 7

SIDE IMPACT DUMMY (SID) LONGITUDINAL CLEARANCE DIMENSIONS

Year/Make/Model/Body Style: 1999/Dodge/Dakota/Extended Cab

NHTSA NO.: CX0304 Test Date: January 6, 1999



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

	DRIVER ID #049
HH	453
HW	633
HZ	192
NR	426
CD	517
CS	324
KDL (KDA°)	198 (0.0°)
KDR (KDA°)	200 (0.0°)
PA°	23.6°
PHX	283
PHZ	56

	REAR PASSENGER SID ID #048
HZ	204
NB	316
CB	258
KBL (KBA)	N/A*
KBR (KBA)	N/A*
PA°	15.5°*
PHX	425
PHZ	49

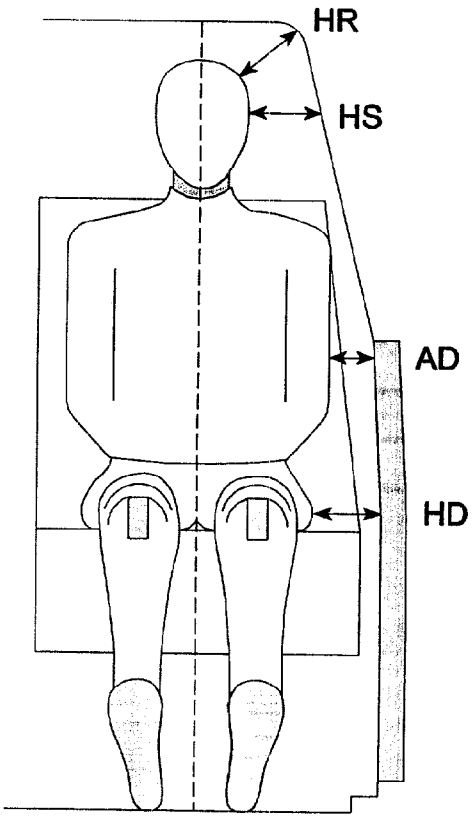
NOTE: 2-door vehicle shown. Rear dummy PHX & PHZ measurements for 4-door vehicle would use the C-post striker as reference point.

* Because of space limitations in the rear seat of the vehicle, the H-Point machine could not be installed to determine the dummy H-Point. The rear passenger legs were removed from the mid femur down in order to install the dummy in the seat.

DATA SHEET NO. 8
SIDE IMPACT DUMMY (SID) LATERAL CLEARANCE DIMENSIONS

Year/Make/Model/Body Style: 1999/Dodge/Dakota/Extended Cab

NHTSA NO.: CX0304 Test Date: January 6, 1999



NOTE: All dimensions are in mm

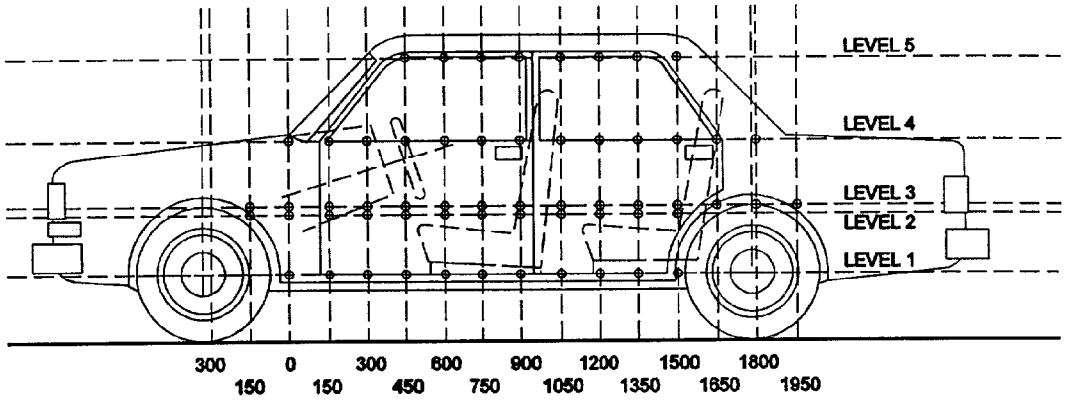
	DRIVER ID #049	REAR PASSENGER ID #048
HR	220	203
HS	318	334
AD	105	89
HD	172	145

DATA SHEET NO. 9

VEHICLE SIDE MEASUREMENTS

Year/Make/Model/Body Style: 1999/Dodge/Dakota/Extended Cab

NHTSA NO.: CX0304 Test Date: January 6, 1999



LEFT SIDE VIEW

NOTE: All measurements are in millimeters (mm)

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

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

MEASUREMENTS ALONG THE VERTICAL 750 mm. LINE SHOWN ABOVE

Level 1 @ Axle Centerline Height (or Sill Top Height)	= 370	mm
Level 2 @ Mid Door	= 751	mm
Level 3 @ Occupant H-Point	= 725	mm
Level 4 @ Window Sill	= 1052	mm
Level 5 @ Window Top	= 1525	mm

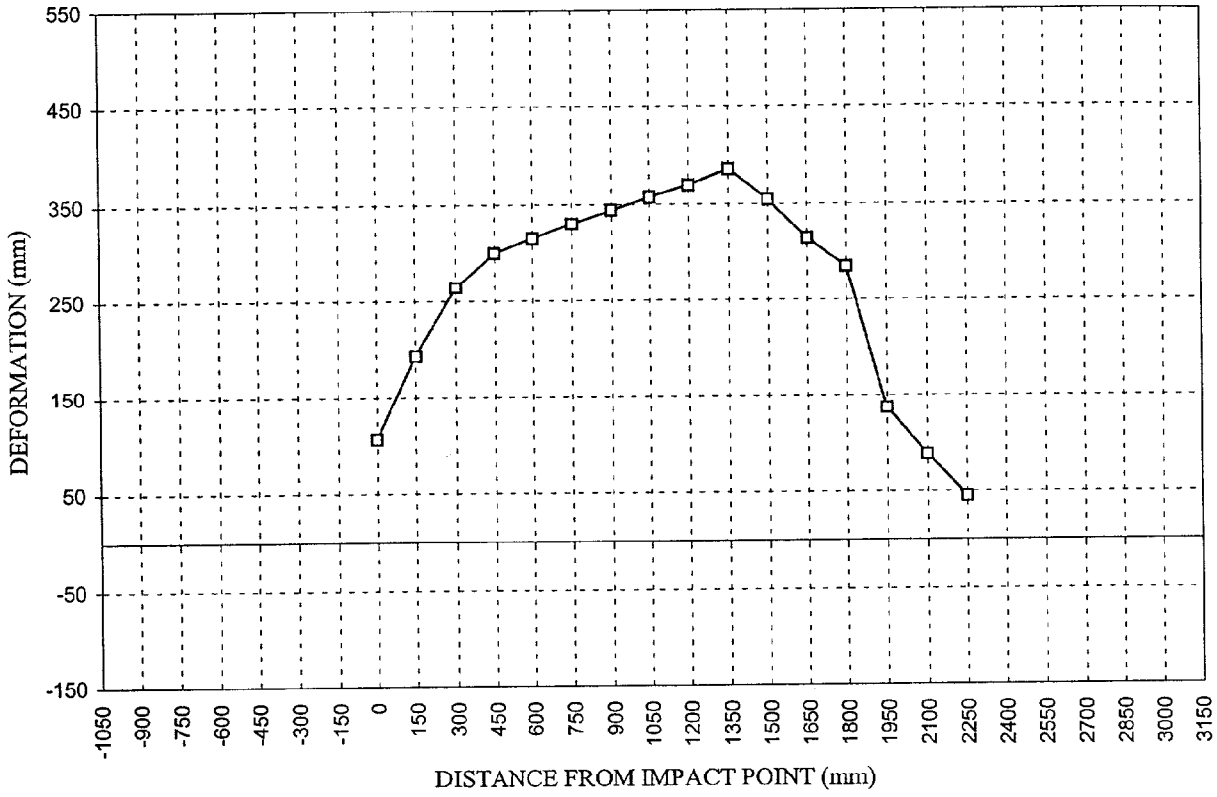
DATA SHEET NO. 10

VEHICLE EXTERIOR CRUSH PROFILES

	Level 1 - Axle Centerline		
Longitudinal Distance (mm)	Pre-Test (mm)	Post-Test (mm)	Static Crush (mm)
-1200			
-1050			
-900			
-750			
-600			
-450			
-300			
-150			
0 (impact point)	692	798	106
150	689	882	193
300	687	951	264
450	684	984	300
600	684	999	315
750	681	1011	330
900	679	1023	344
1050	677	1034	357
1200	677	1046	369
1350	676	1061	385
1500	676	1030	354
1650	675	989	314
1800	678	963	285
1950	674	811	137
2100	672	760	88
2250	672	717	45
2400			
2550			
2700			
2850			
3000			

Reference plane is parallel to test vehicle longitudinal centerline. Given dimensions = Reference plane to car body

VEHICLE EXTERIOR STATIC CRUSH (Cont'd)



LEVEL 1 - AXLE CENTERLINE

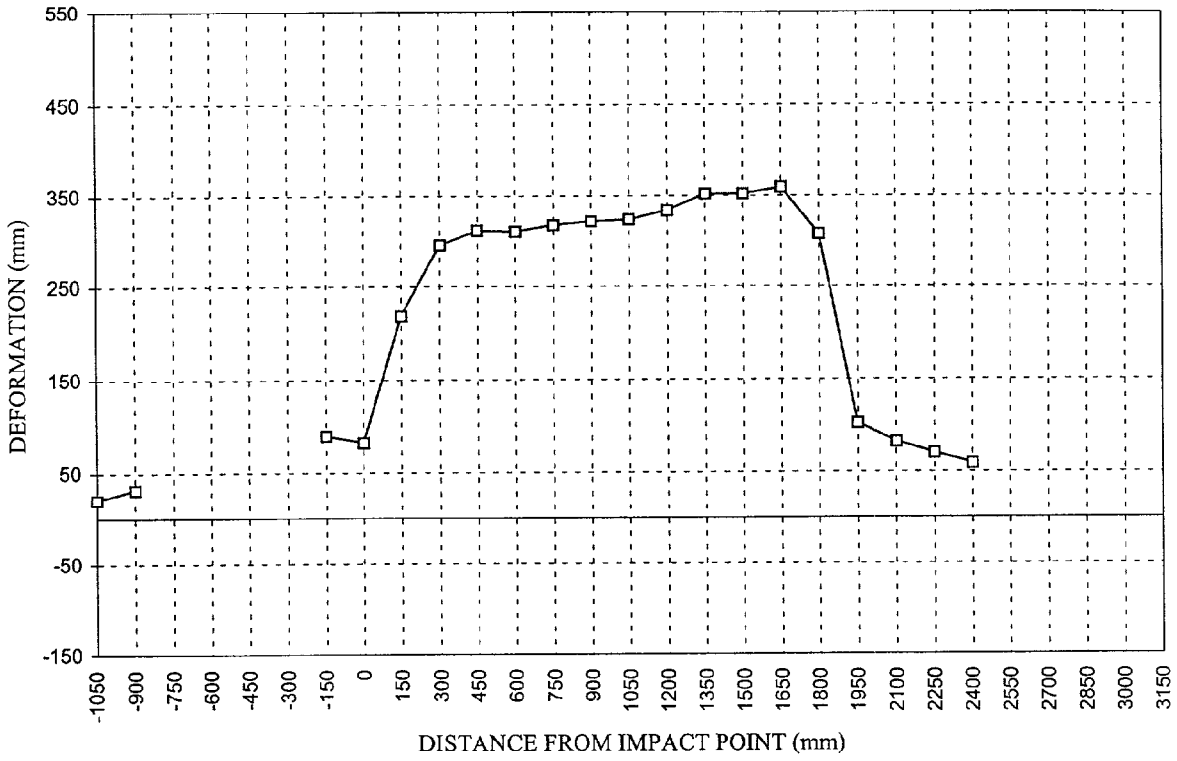
DATA SHEET NO. 10 (Cont'd)

VEHICLE EXTERIOR CRUSH PROFILES

	Level 2 - Mid Door		
Longitudinal Distance (mm)	Pre-Test (mm)	Post-Test (mm)	Static Crush (mm)
-1200			
-1050	681	702	21
-900	666	698	32
-750			
-600			
-450			
-300			
-150	647	736	89
0 (impact point)	642	724	82
150	642	860	218
300	642	938	296
450	646	958	312
600	651	962	311
750	656	974	318
900	662	984	322
1050	664	988	324
1200	664	998	334
1350	662	1014	352
1500	662	1014	352
1650	661	1020	359
1800	665	973	308
1950	660	762	102
2100	643	725	82
2250	634	704	70
2400	629	688	59
2550			
2700			
2850			
3000			

Reference plane is parallel to test vehicle longitudinal centerline. Given dimensions = Reference plane to car body

VEHICLE EXTERIOR STATIC CRUSH (Cont'd)



LEVEL 2 - MID DOOR

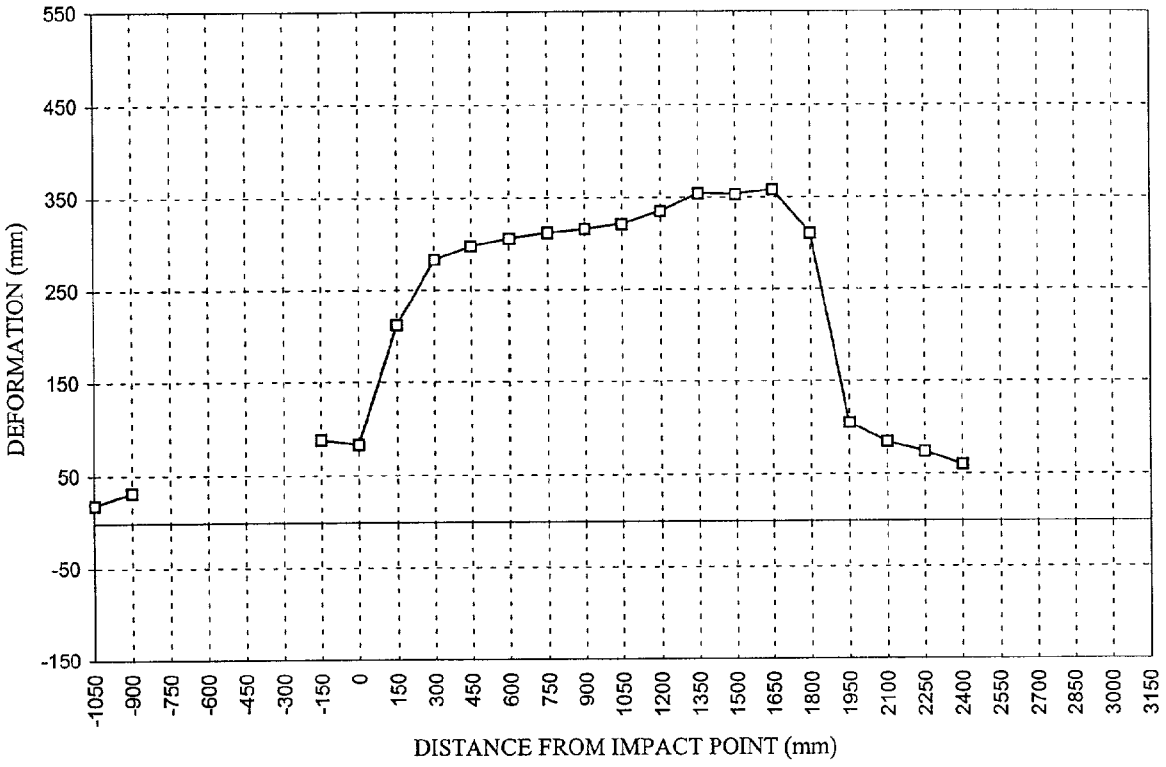
DATA SHEET NO. 10 (Cont'd)

VEHICLE EXTERIOR CRUSH PROFILES

	Level 3 - Occupant H-Point		
Longitudinal Distance (mm)	Pre-Test (mm)	Post-Test (mm)	Static Crush (mm)
-1200			
-1050	685	704	19
-900	667	699	32
-750			
-600			
-450			
-300			
-150	647	735	88
0 (impact point)	642	725	83
150	642	853	211
300	644	927	283
450	646	944	298
600	650	956	306
750	655	967	312
900	662	978	316
1050	664	985	321
1200	662	997	335
1350	662	1016	354
1500	662	1015	353
1650	662	1020	358
1800	662	973	311
1950	659	764	105
2100	644	728	84
2250	632	706	74
2400	629	689	60
2550			
2700			
2850			
3000			

Reference plane is parallel to test vehicle longitudinal centerline. Given dimensions = Reference plane to car body

VEHICLE EXTERIOR STATIC CRUSH (Cont'd)



LEVEL 3 - OCCUPANT H-POINT

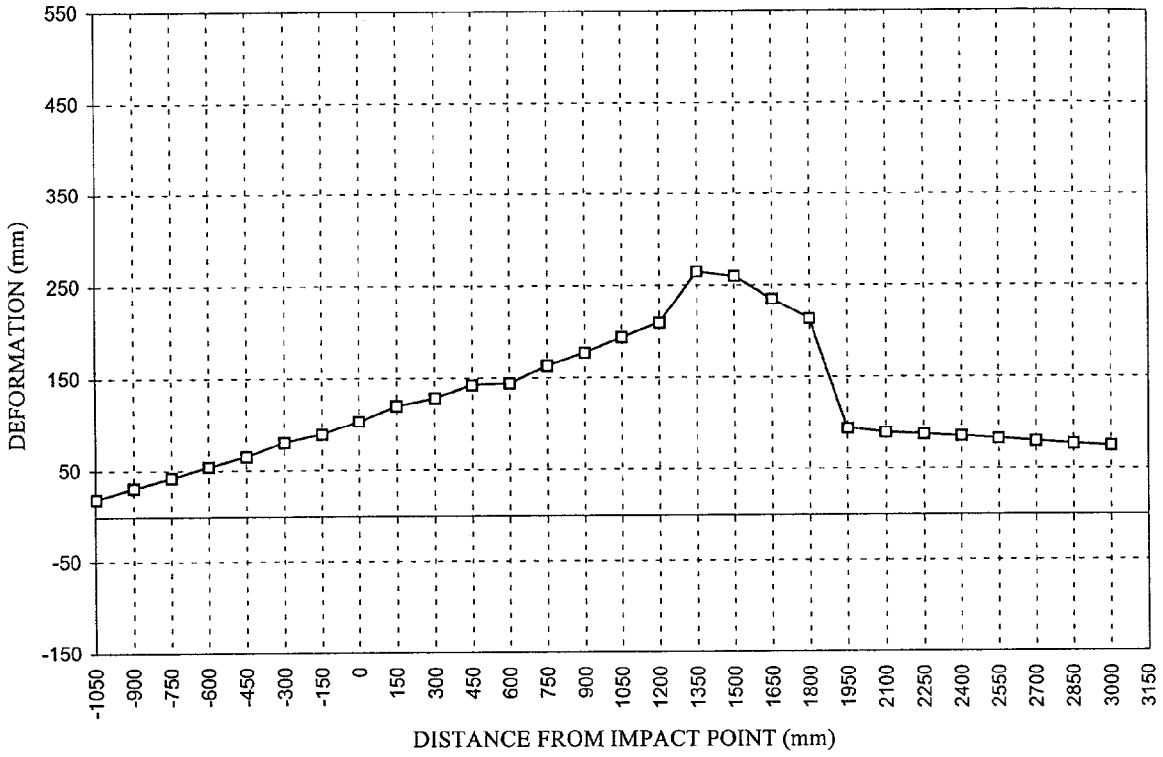
DATA SHEET NO. 10 (Cont'd)

VEHICLE EXTERIOR CRUSH PROFILES

	Level 4 - Window Sill		
Longitudinal Distance (mm)	Pre-Test (mm)	Post-Test (mm)	Static Crush (mm)
-1200	955	960	5
-1050	901	920	19
-900	859	890	31
-750	822	864	42
-600	792	846	54
-450	769	834	65
-300	746	826	80
-150	732	821	89
0 (impact point)	722	825	103
150	715	835	120
300	711	839	128
450	709	851	142
600	708	852	144
750	706	869	163
900	705	882	177
1050	703	896	193
1200	703	912	209
1350	702	967	265
1500	702	962	260
1650	703	938	235
1800	704	917	213
1950	704	798	94
2100	702	791	89
2250	702	789	87
2400	702	787	85
2550	703	785	82
2700	704	783	79
2850	705	781	76
3000	708	782	74

Reference plane is parallel to test vehicle longitudinal centerline. Given dimensions = Reference plane to car body

VEHICLE EXTERIOR STATIC CRUSH (Cont'd)



LEVEL 4 - WINDOW SILL

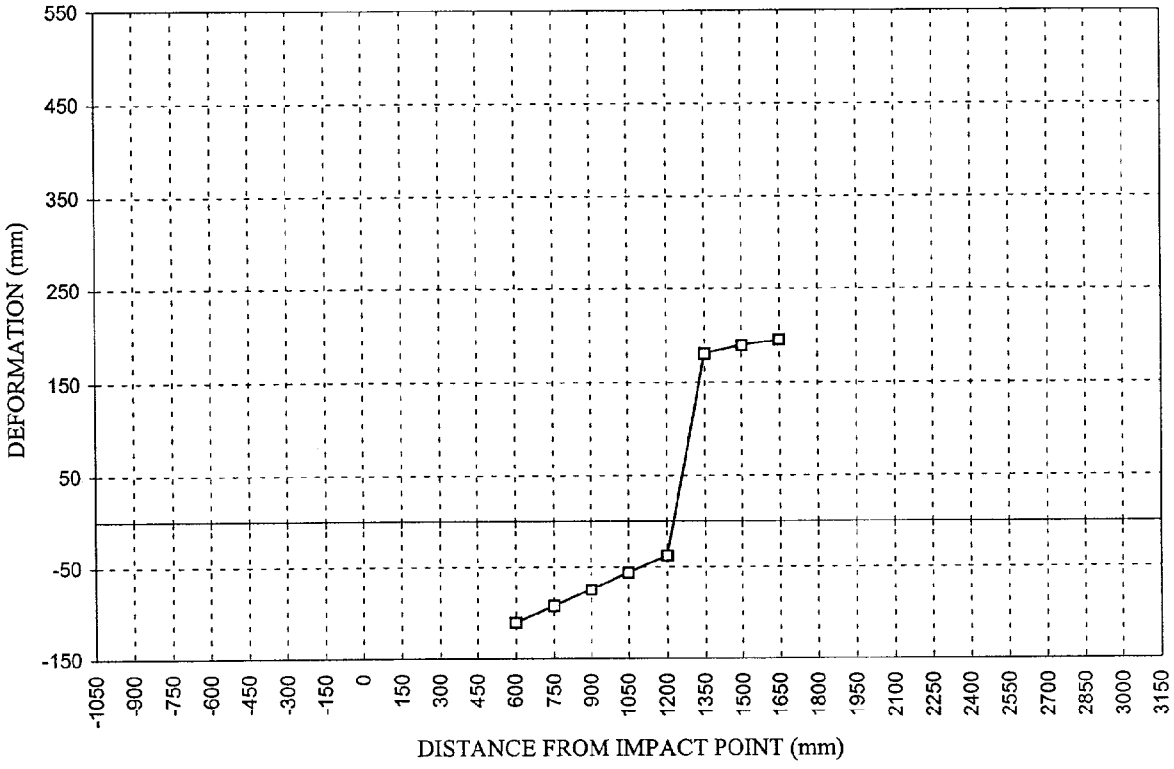
DATA SHEET NO. 10 (Cont'd)

VEHICLE EXTERIOR CRUSH PROFILES

	Level 5 - Window Top		
Longitudinal Distance (mm)	Pre-Test (mm)	Post-Test (mm)	Static Crush (mm)
-1200			
-1050			
-900			
-750			
-600			
-450			
-300			
-150			
0 (impact point)			
150			
300			
450			
600	908	797	-111
750	898	805	-93
900	895	820	-75
1050	896	840	-56
1200	895	857	-38
1350	895	1075	180
1500	896	1085	189
1650	898	1093	195
1800			
1950			
2100			
2250			
2400			
2550			
2700			
2850			
3000			

Reference plane is parallel to test vehicle longitudinal centerline. Given dimensions = Reference plane to car body

VEHICLE EXTERIOR STATIC CRUSH (Cont'd)



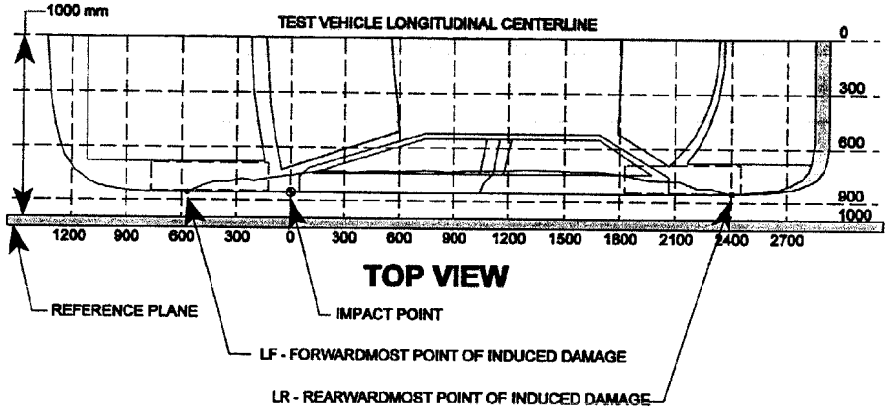
LEVEL 5 - WINDOW TOP

DATA SHEET NO. 11

VEHICLE DAMAGE PROFILE DISTANCES

Year/Make/Model/Body Style: 1999/Dodge/Dakota/Extended Cab

NHTSA NO.: CX0304 Test Date: January 6, 1999



MEASUREMENT CONVENTIONS:

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

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

DPD MEASUREMENTS	POST-TEST (mm)	PRE-TEST (mm)	STATIC CRUSH (mm)
1. (LF = -1050 mm)	920	920	0
2. -81 mm	824	724	100
3. 860 mm	1023	680	343
4. 1956 mm	764	658	106
5. 2940 mm	783	707	76
6. (LR = 3900 mm)	735	735	0

DATA SHEET NO. 12

EXTERIOR STATIC CRUSH FOR SIDE IMPACTOR

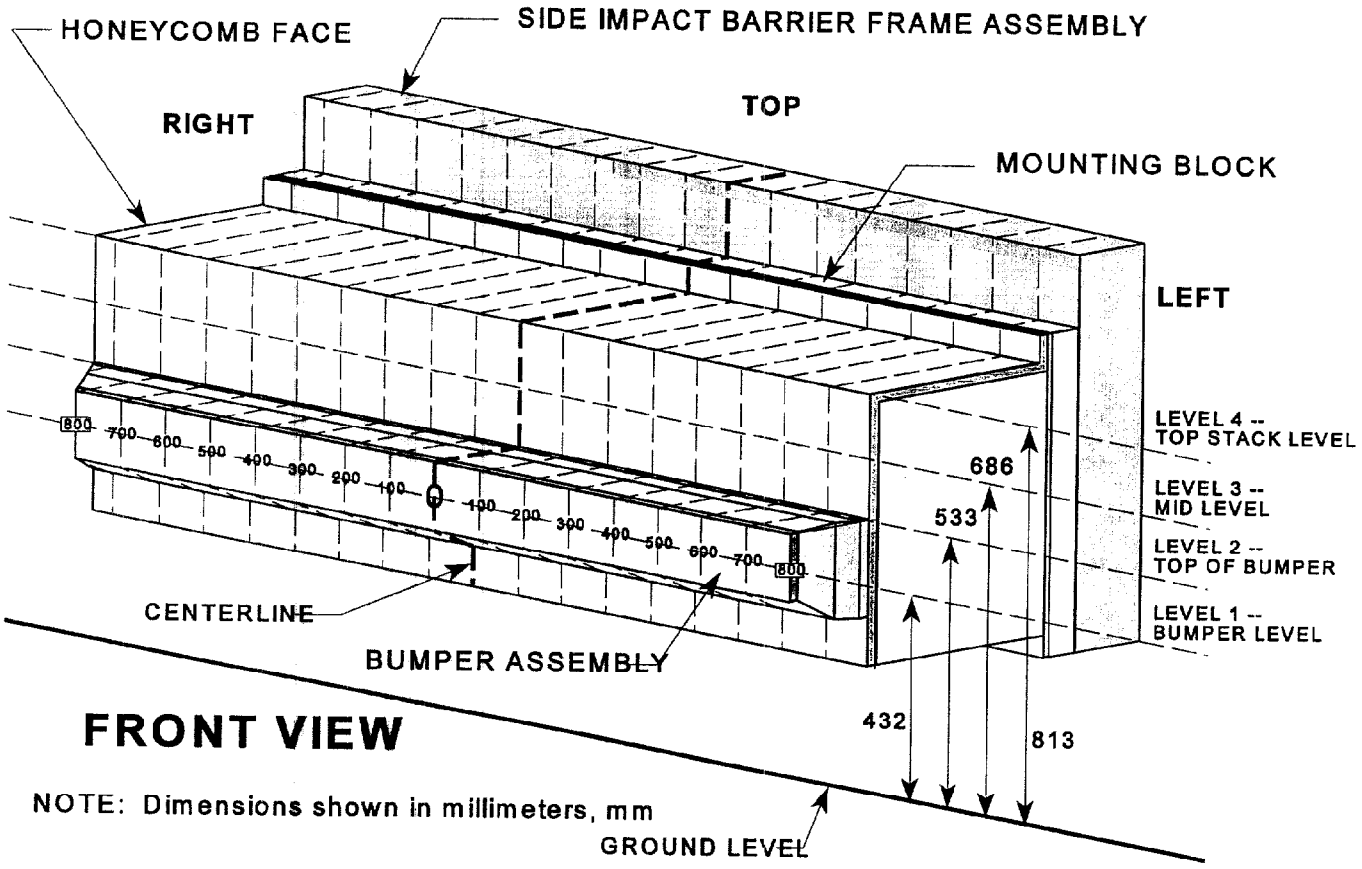
Year/Make/Model/Body Style: 1999/Dodge/Dakota/Extended Cab

Vehicle NHTSA No.: CX0304 Test Date: January 6, 1999

		Distance Right of Center (mm)									Distance Left of Center (mm)							
Location	Height at CL*	800	700	600	500	400	300	200	100	0	100	200	300	400	500	600	700	800
Top Stack Level 4	813 mm	152	219	50	8	-2	7	10	7	7	9	14	22	31	38	49	64	102
Mid Level Level 3	686 mm	74	16	1	-1	-1	0	0	1	0	0	0	1	1	2	4	17	49
Top Bumper Level 2	533 mm	84	64	28	10	4	4	4	5	6	8	10	12	13	17	17	46	63
Mid Bumper Level 1	432 mm	110	101	78	48	23	18	19	18	19	21	23	26	31	42	60	80	98

See next page for Barrier Face Graphic

DATA SHEET NO. 12 (Cont'd)



FRONT VIEW

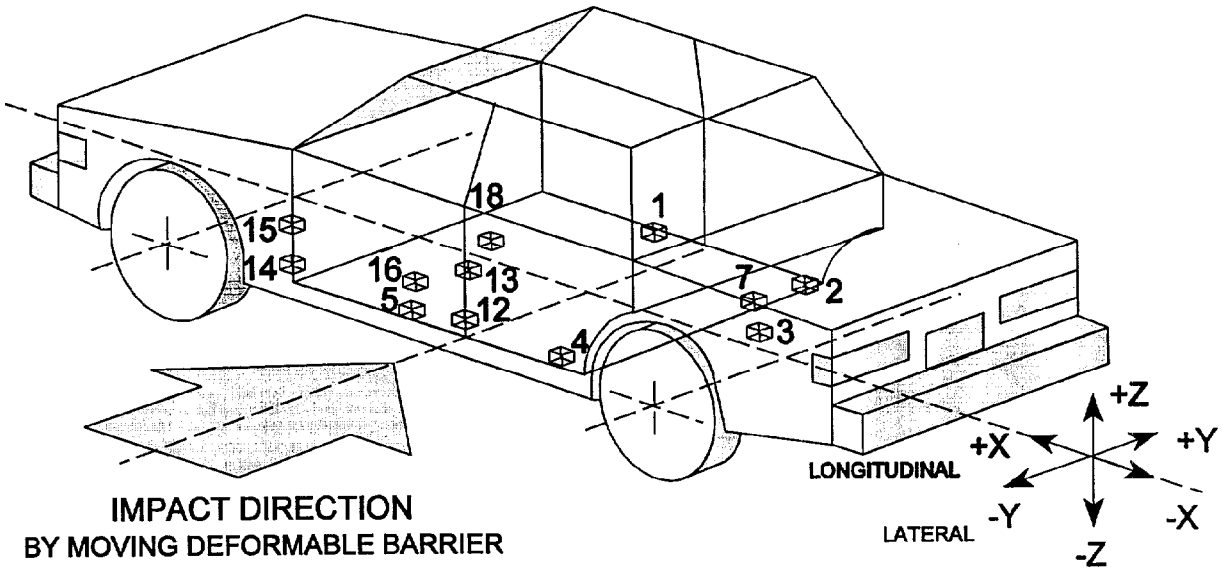
NOTE: Dimensions shown in millimeters, mm

DATA SHEET 13

TEST VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Year/Make/Model/Body Style: 1999/Dodge/Dakota/Extended Cab

Vehicle NHTSA No.: CX0304 Test Date: January 6, 1999



IMPACT DIRECTION
BY MOVING DEFORMABLE BARRIER

1 - Rt Side Sill @ Frt Seat
2 - Rt Side Sill @ Rr Seat
3 - Rr Floorpan Above Axle
4 - Left Side Sill @ Rr Seat
5 - Left Side Sill @ Frt Seat
7- Rt Rr Occ Compartment
12 - Left Lwer B-Post
13 - Left Middle B-Post
14 - Left Lwr A-Post
15 - Left Middle A-Post
16 - Frt Seat Track
18 - Vehicle C.G.

DATA SHEET NO. 13 (Cont'd)

TEST VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Year/Make/Model/Body Style: 1999/Dodge/Dakota/Extended Cab

Vehicle NHTSA No.: CX0304 Test Date: January 6, 1999

Accel. No.	Description	Coordinates (mm)*			Long. (X) Maximums (g's)		Lat. (Y) Maximums (g's)		Vert. (Z) Maximums (g's)		Resultant (g's)
		X	Y	Z	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	Max.
1	Right Side Sill @ Front Seat	3375	760	330	10.6	-7.3	34.7	-8.3	6.0	-8.5	36.3
2	Right Side Sill @ Rear Seat	2632	764	340	13.0	-7.9	47.7	-18.5	6.7	-8.2	49.8
3	Rear Floorpan Above Axle	1275	0	635	2.7	-5.9	13.4	-2.1	6.8	-9.6	14.1
4	Left Side Sill @ Rear Seat**	2625	-764	340	---	---	133.6	-57.9	---	---	---
5	Left Side Sill @ Front Seat	3358	-760	335	---	---	166.6	-76.0	---	---	---
7	Right Rear Occupant Compartment	2840	412	410	---	---	37.8	-14.1	---	---	---
12	Left Lower B-Post	2880	-760	580	---	---	165.8	-27.4	---	---	---
13	Left Mid B-Post	2820	-740	1040	---	---	67.6	-54.6	---	---	---
14	Left Lower A-Post	3900	-740	510	---	---	35.0	-20.5	---	---	---
15	Left Mid A-Post	3975	-750	1030	---	---	27.5	-6.2	---	---	---
16	Driver Seat Track	3040	-545	495	---	---	44.8	-15.5	---	---	---
18	Vehicle CG	3446	0	515	5.5	-6.5	31.6	-8.5	17.1	-27.5	38.2

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

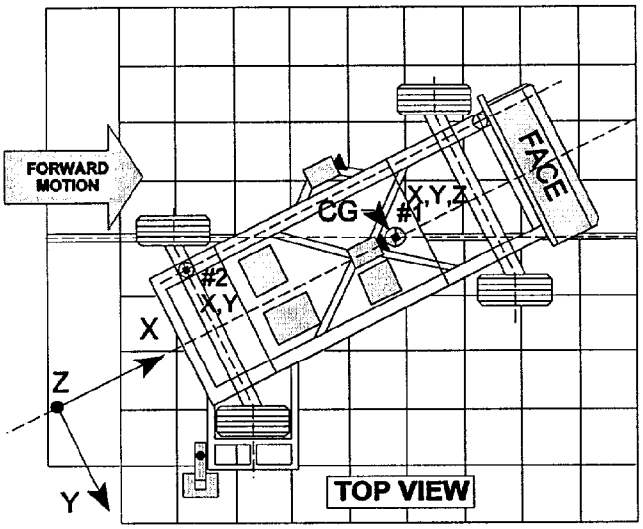
** Data not valid after approximately .15 msec.

DATA SHEET NO. 14

MOVING DEFORMABLE BARRIER (MDB) ACCELEROMETER LOCATIONS AND DATA SUMMARY

Year/Make/Model/Body Style: 1999/Dodge/Dakota/Extended Cab

Vehicle NHTSA No.: CX0304 Test Date: January 6, 1999



Accel. No.	Description	Coordinates (mm)*			(+) Positive		(-) Negative	
		X	Y	Z	Max. (g)	Time (msec)	Max. (g)	Time (msec)
1	MDB Center of Gravity	-1092	0	483				
	Longitudinal (X)	---	---	---	1.1	132	-14.5	42
	Lateral (Y)	---	---	---	.2	-20	-6.6	43
	Vertical (Z)	---	---	---	16.4	59	-9.4	64
	Resultant (R)	---	---	---	19.6	59	---	---
2	Rear Frame Member	-2591	-625	622				
	Longitudinal (X)	---	---	---	1.6	135	-18.3	43
	Lateral (Y)	---	---	---	4.8	51	-2.0	95

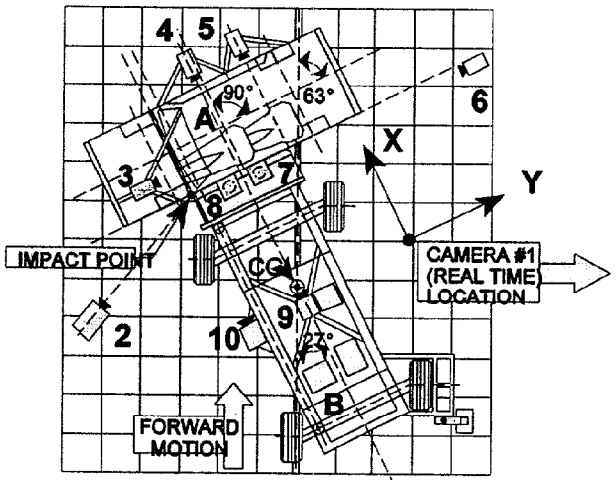
*Reference: X - Front Axle (+ Forward)
Y - Vehicle Centerline (+ To right)
Z - Ground Level (+ Up)

DATA SHEET NO. 15

HIGH SPEED CAMERA LOCATIONS AND DATA

Year/Make/Model/Body Style: 1999/Dodge/Dakota/Extended Cab

Vehicle NHTSA No.: CX0304 Test Date: January 6, 1999



Camera No.	View	Coordinates (mm)*			Lens (mm)	Film Speed (fps)
		X	Y	Z		
1	Real Time				10	24
2	Left Impact	-455	-2605	1690	13	1000
3	Onboard Hood				13	1000
4	Onboard Front Occupant				8	1111
5	Onboard Rear Occupant				8	922
6	Right Impact	-340	1074	1740	25	1010
7	Top Overall	-155	1260	5000	8	813
8	Top Impact	-150	50	5000	13	1000
9	Cart Overall				13	990
10	Cart Impact				35	1010

* Reference: (from impact point)
+X = Forward
+Y = To Right
+Z = Upward from floor level

DATA SHEET 16

FUEL SYSTEM INTEGRITY POST IMPACT TEST DATA

Vehicle Year/Make/Model/Body Style: 1999/Dodge/Dakota/Extended Cab

Vehicle NHTSA No.: CX0304 Test Date: January 6, 1999

TEST REQUIREMENTS:

Drain the test vehicle's fuel system and operate the engine until the fuel system is dry. Add Stoddard solvent, which has been dyed purple, until 92-94% of the stated usable capacity is reached. Operate the engine to assure the Stoddard solvent is present throughout the entire fuel system.

TEST VEHICLE IMPACT TYPE: X Left Side Impact MDB 32.77 mph (52.7 kph)

FUEL SPILLAGE MEASUREMENT:

POST IMPACT TEST	TEST RESULTS	MAXIMUM ALLOWABLE
1. From impact until vehicle motion ceases	0 oz	1 oz
2. For 5 minute period after vehicle motion ceases	0 oz	5 oz
3. For next 25 minutes	0 oz	1 oz./1 min

FUEL SPILLAGE LOCATION(S): None

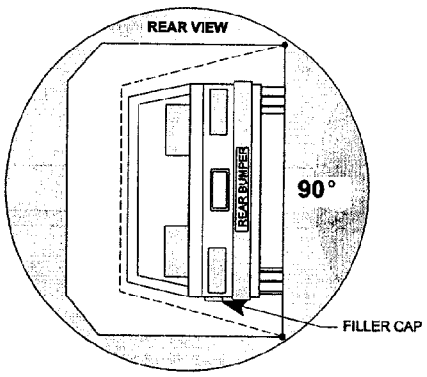
DATA SHEET 16

FMVSS 301 STATIC ROLLOVER TEST DATA

Vehicle Year/Make/Model/Body Style: 1999/Dodge/Dakota/Extended Cab

Vehicle NHTSA No.: CX0304 Test Date: January 6, 1999

TEST PHASE: 0° - 90°



DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time = 2 minutes 56 seconds

(Spec. Range = 1 to 3 minutes)

FMVSS 301 Position Hold Time = 5 minutes 0 seconds

TOTAL TIME = 7 minutes 56 seconds

Next Whole Minute Interval = 8 minutes

FUEL SPILLAGE MEASUREMENT:

0° TO 90° ROTATION (FILLER CAP DOWN)	TEST RESULTS	MAXIMUM ALLOWABLE
1. First 5 Minutes From Onset of Rotation	0 oz	5 oz
2. Sixth Minute From Onset of Rotation	0 oz	1 oz
3. Seventh Minute From Onset of Rotation	0 oz	1 oz
4. Eighth Minute if Required	0 oz	1 oz

FUEL SPILLAGE LOCATIONS(S): None

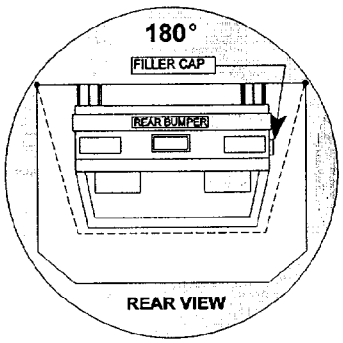
DATA SHEET 16

FMVSS 301 STATIC ROLLOVER TEST DATA (Cont'd)

Vehicle Year/Make/Model/Body Style: 1999/Dodge/Dakota/Extended Cab

Vehicle NHTSA No.: CX0304 Test Date: January 6, 1999

TEST PHASE: 90° - 180°



DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time = 2 minutes 30 seconds

(Spec. Range = 1 to 3 minutes)

FMVSS 301 Position Hold Time = 5 minutes 0 seconds

TOTAL TIME = 7 minutes 30 seconds

Next Whole Minute Interval = 8 minutes

FUEL SPILLAGE MEASUREMENT:

90° TO 180° ROTATION	TEST RESULTS	MAXIMUM ALLOWABLE
1. First 5 Minutes From Onset of Rotation	0 oz	5 oz
2. Sixth Minute From Onset of Rotation	0 oz	1 oz
3. Seventh Minute From Onset of Rotation	0 oz	1 oz
4. Eighth Minute if Required	0 oz	1 oz

FUEL SPILLAGE LOCATIONS(S): None

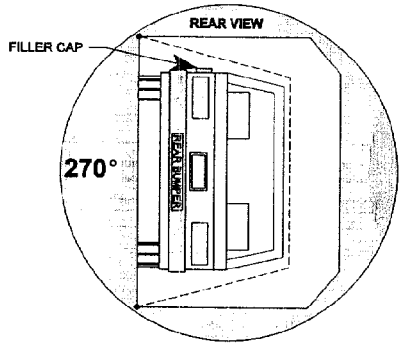
DATA SHEET 16

FMVSS 301 STATIC ROLLOVER TEST DATA (Cont'd)

Vehicle Year/Make/Model/Body Style: 1999/Dodge/Dakota/Extended Cab

Vehicle NHTSA No.: CX0304 Test Date: January 6, 1999

TEST PHASE: 180° - 270°



DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time = 2 minutes 06 seconds

(Spec. Range = 1 to 3 minutes)

FMVSS 301 Position Hold Time = 5 minutes 0 seconds

TOTAL TIME = 7 minutes 06 seconds

Next Whole Minute Interval = 8 minutes

FUEL SPILLAGE MEASUREMENT:

180° TO 270° ROTATION	TEST RESULTS	MAXIMUM ALLOWABLE
1. First 5 Minutes From Onset of Rotation	0 oz	5 oz
2. Sixth Minute From Onset of Rotation	0 oz	1 oz
3. Seventh Minute From Onset of Rotation	0 oz	1 oz
4. Eighth Minute if Required	0 oz	1 oz

FUEL SPILLAGE LOCATIONS(S): None

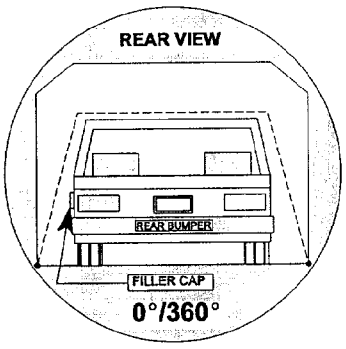
DATA SHEET 16

FMVSS 301 STATIC ROLLOVER TEST DATA

Vehicle Year/Make/Model/Body Style: 1999/Dodge/Dakota/Extended Cab

Vehicle NHTSA No.: CX0304 Test Date: January 6, 1999

TEST PHASE: 270° - 360°



DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time = 2 minutes 39 seconds

(Spec. Range = 1 to 3 minutes)

FMVSS 301 Position Hold Time = 5 minutes 0 seconds

TOTAL TIME = 7 minutes 39 seconds

Next Whole Minute Interval = 8 minutes

FUEL SPILLAGE MEASUREMENT:

270° TO 360° ROTATION	TEST RESULTS	MAXIMUM ALLOWABLE
1. First 5 Minutes From Onset of Rotation	0 oz	5 oz
2. Sixth Minute From Onset of Rotation	0 oz	1 oz
3. Seventh Minute From Onset of Rotation	0 oz	1 oz
4. Eighth Minute if Required	0 oz	1 oz

FUEL SPILLAGE LOCATIONS(S): None

APPENDIX A - PHOTOGRAPHS

TABLE OF PHOTOGRAPHS

TABLE OF PHOTOGRAPHS

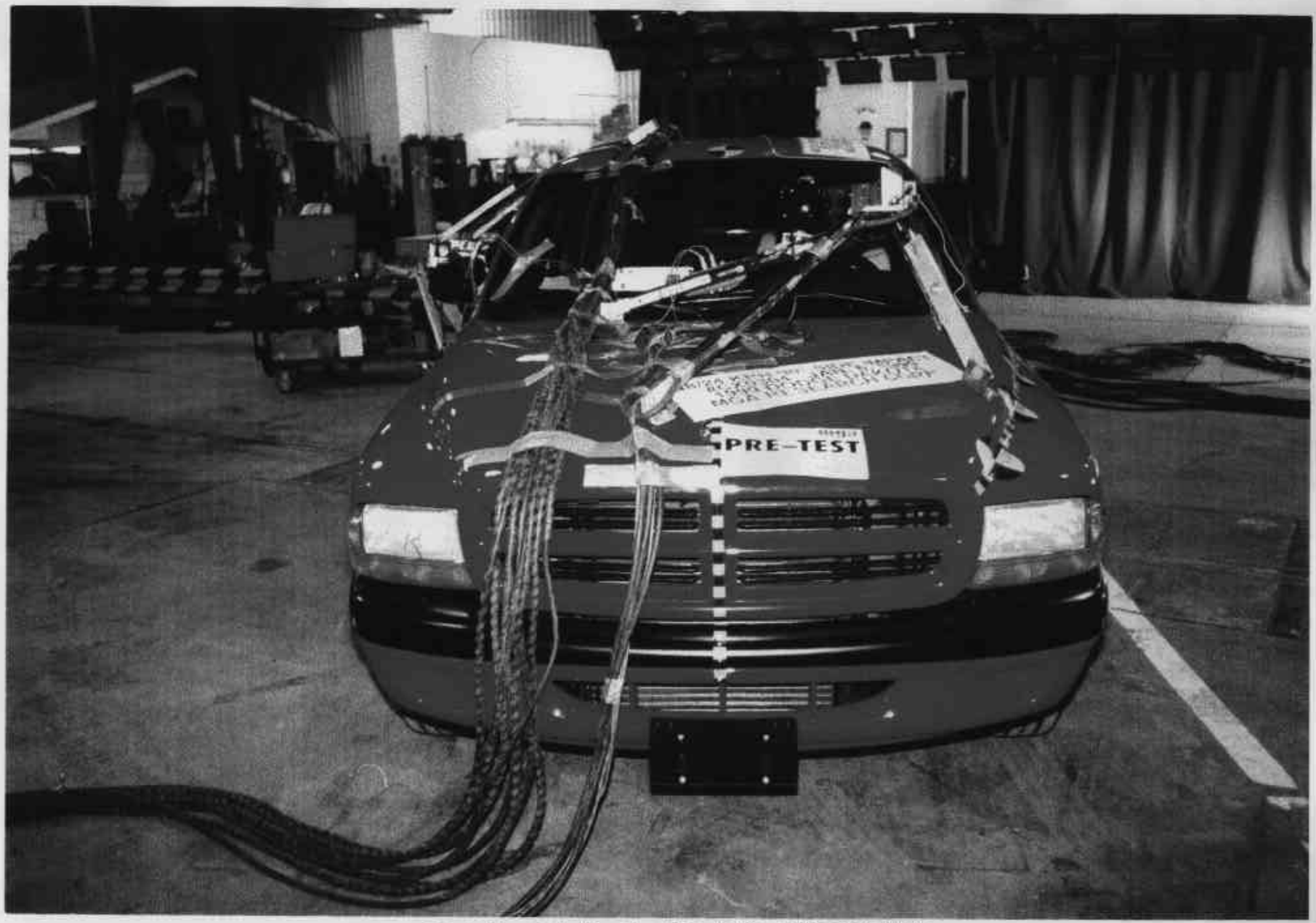


Photo No. A-1 - Pre-Test Front View of Test Vehicle

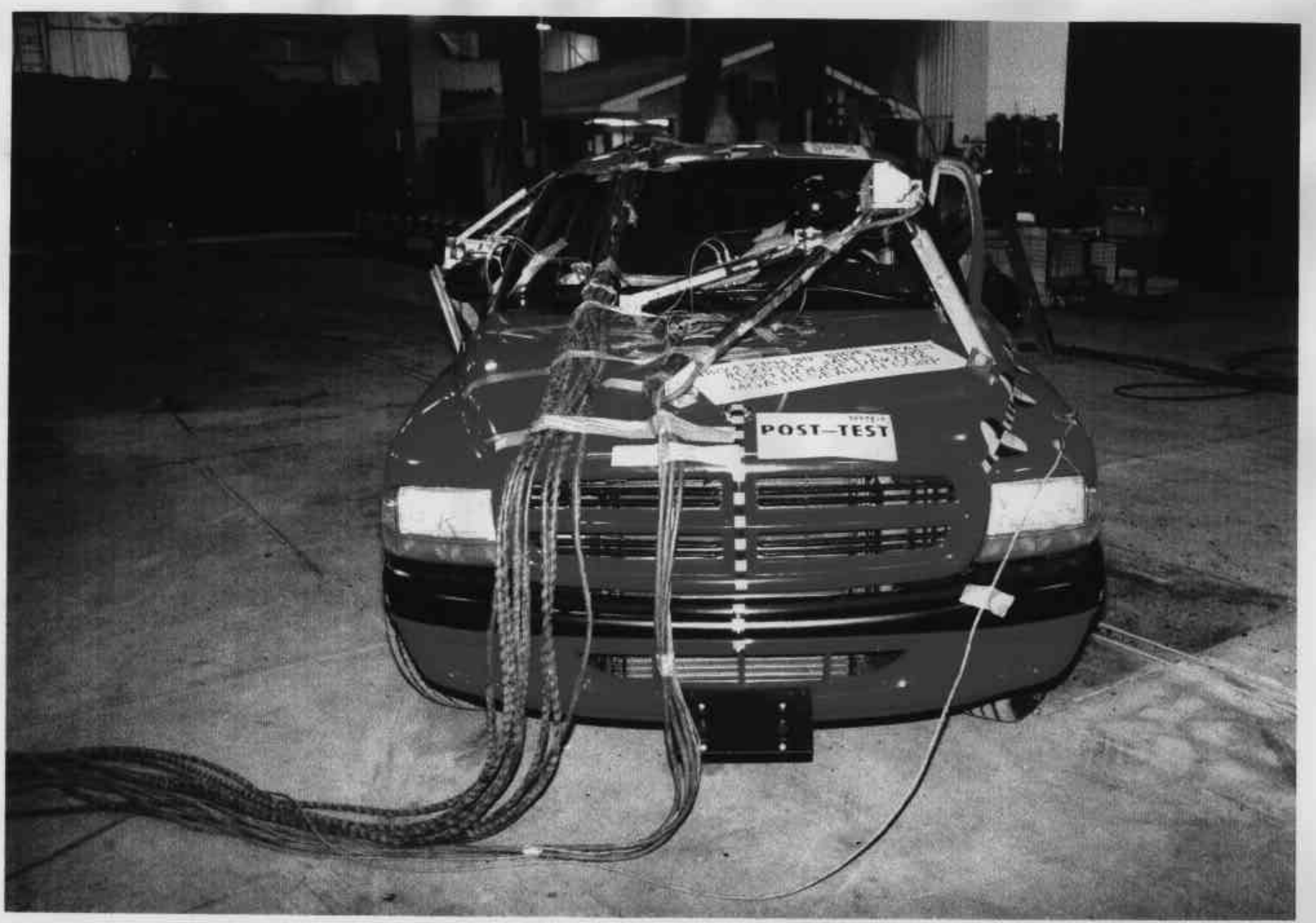


Photo No. A-2 - Post-Test Front View of Test Vehicle

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

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

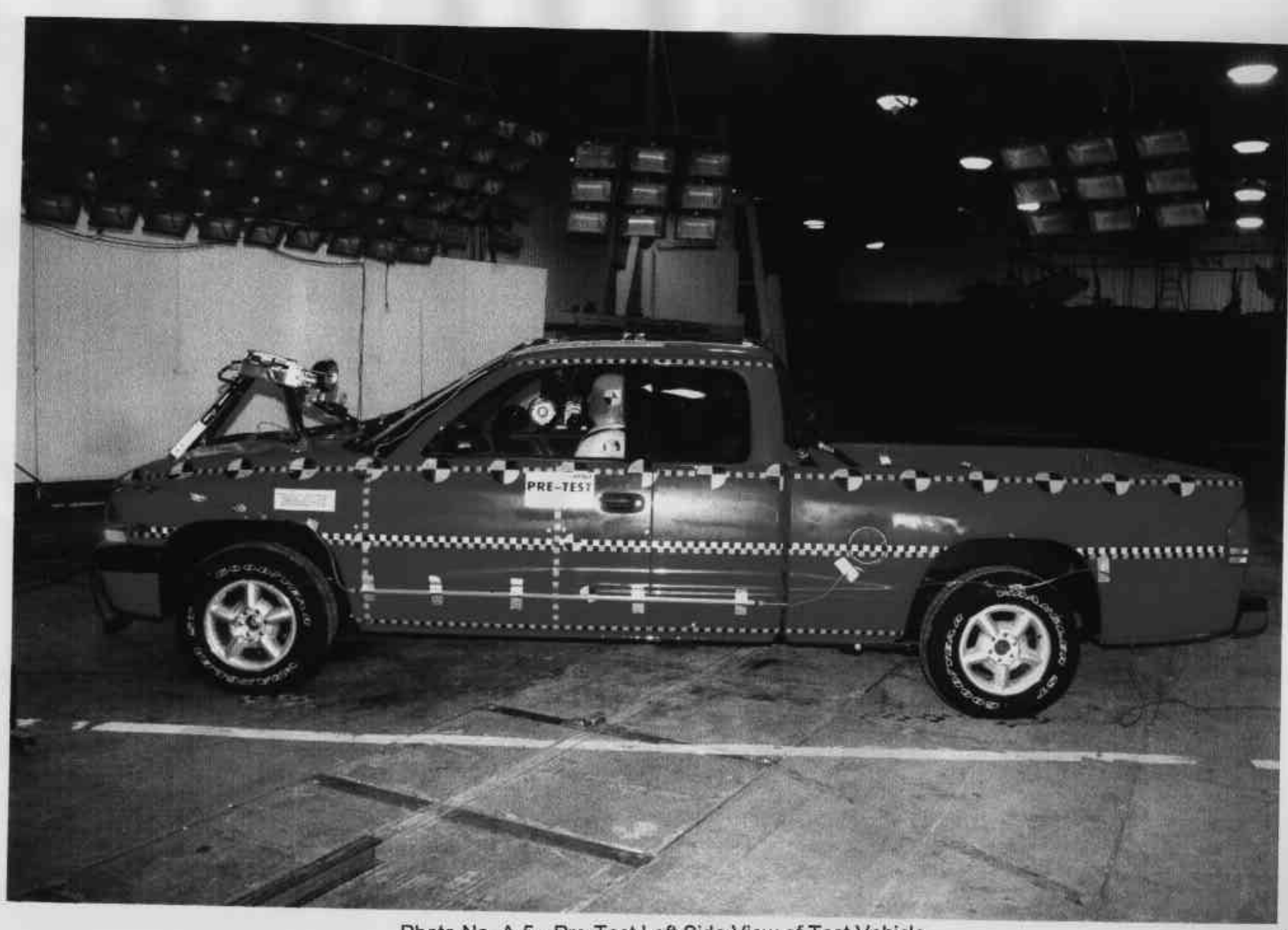


Photo No. A-5 - Pre-Test Left Side View of Test Vehicle

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

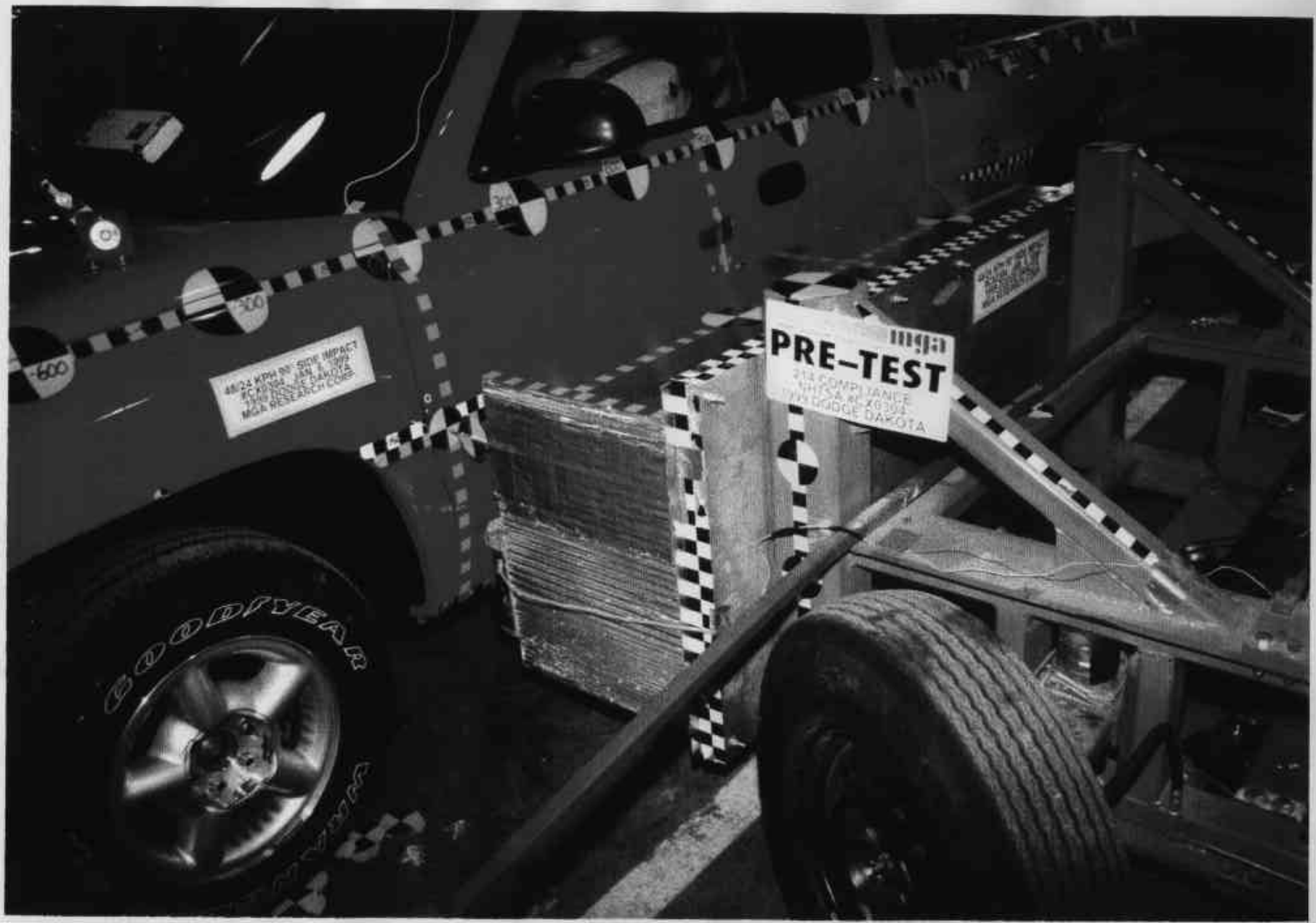


Photo No. A-7 - Pre-Test MDB Positioned Against Vehicle (left side)

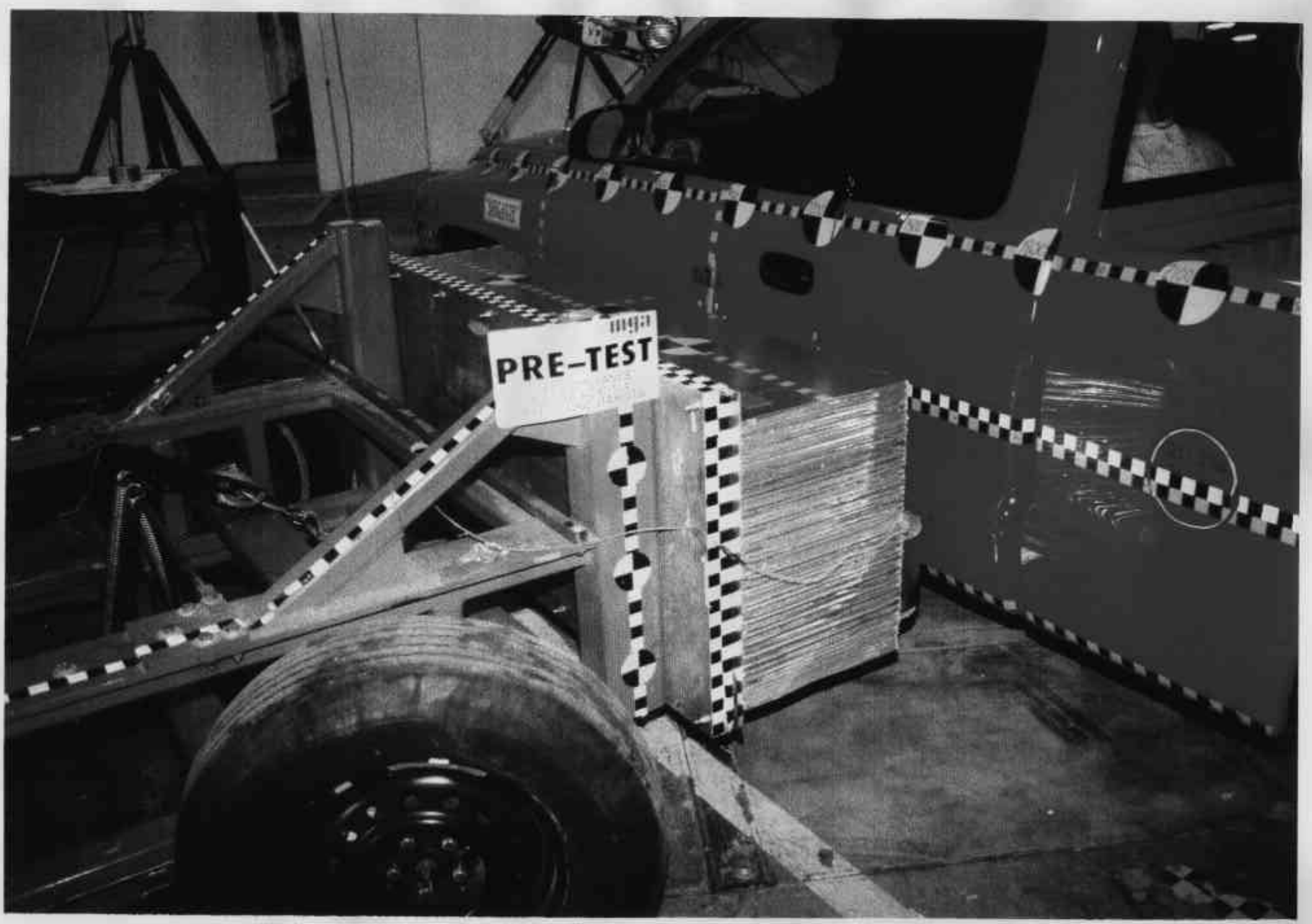


Photo No. A-8 - Pre-Test MDB Positioned Against Vehicle (right side)

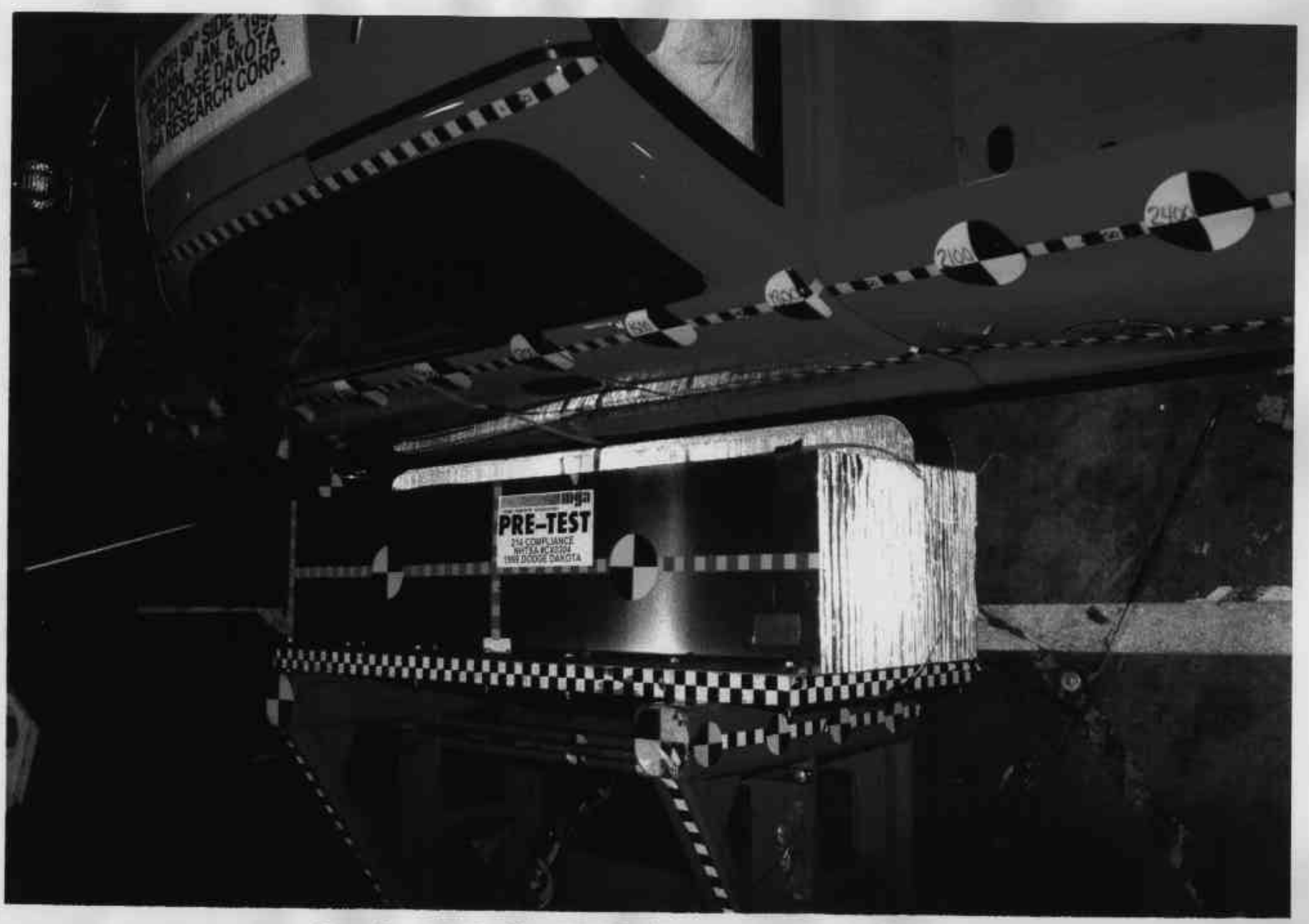


Photo No. A-9 - Pre-Test MDB Positioned Against Vehicle Overhead View

Photo No. A-10 - Post-Test Vehicle Resting Position (MDB left side)

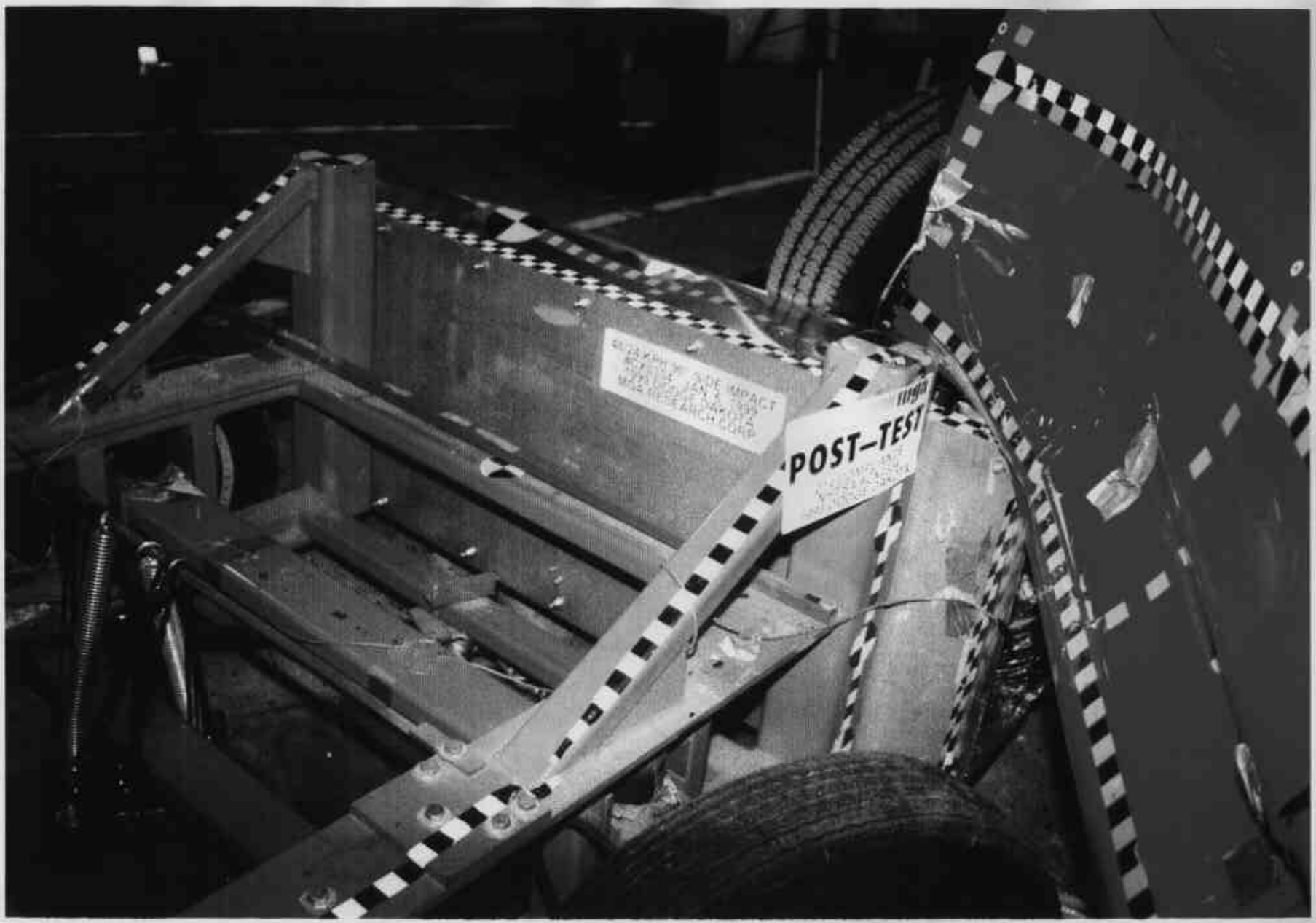


Photo No. A-11 - Post-Test Vehicle Resting Position (MDB right side)

Photo No. A-12 - Post-Test Vehicle Resting Position (MDB overhead view)

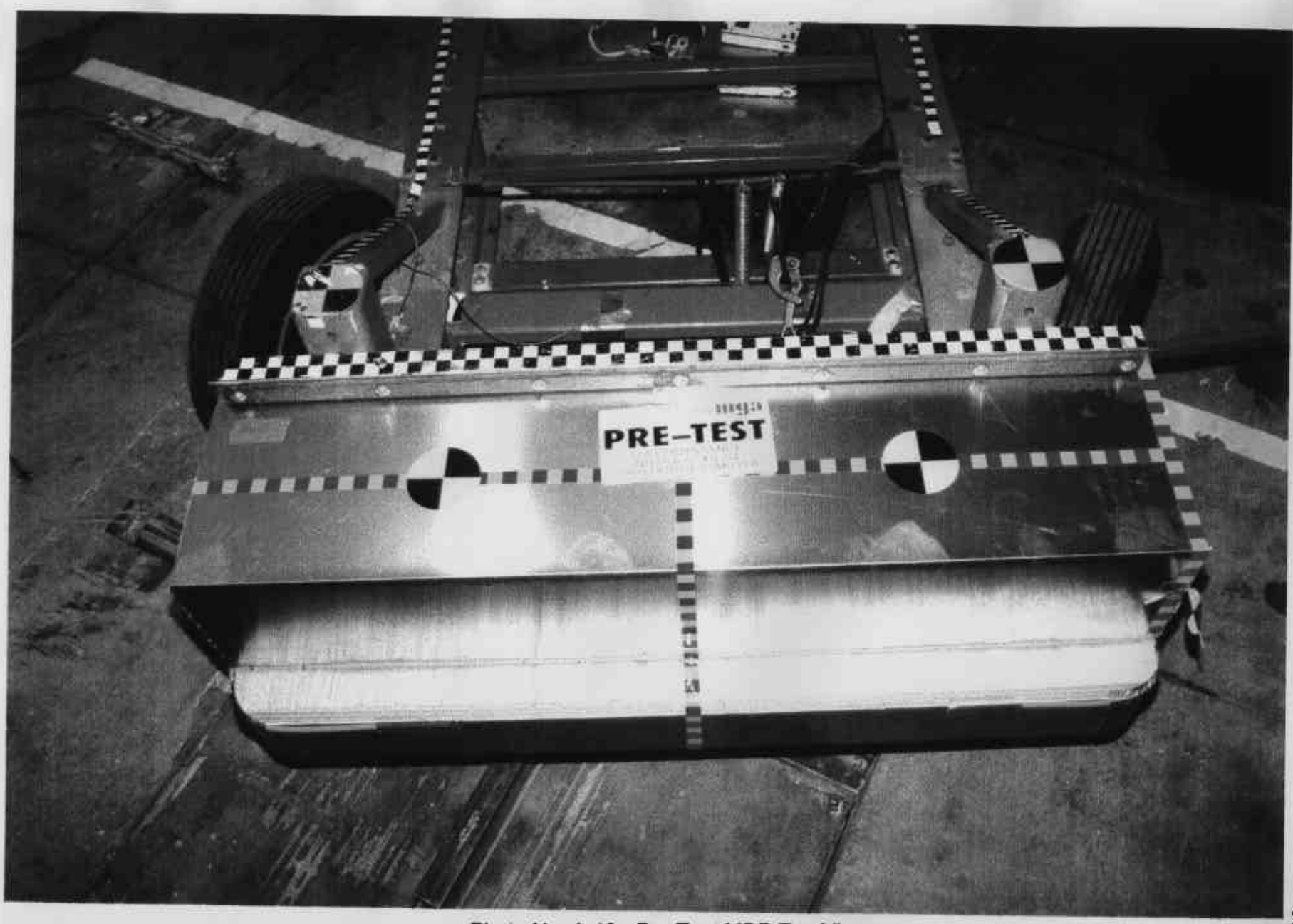


Photo No. A-13 - Pre-Test MDB Top View

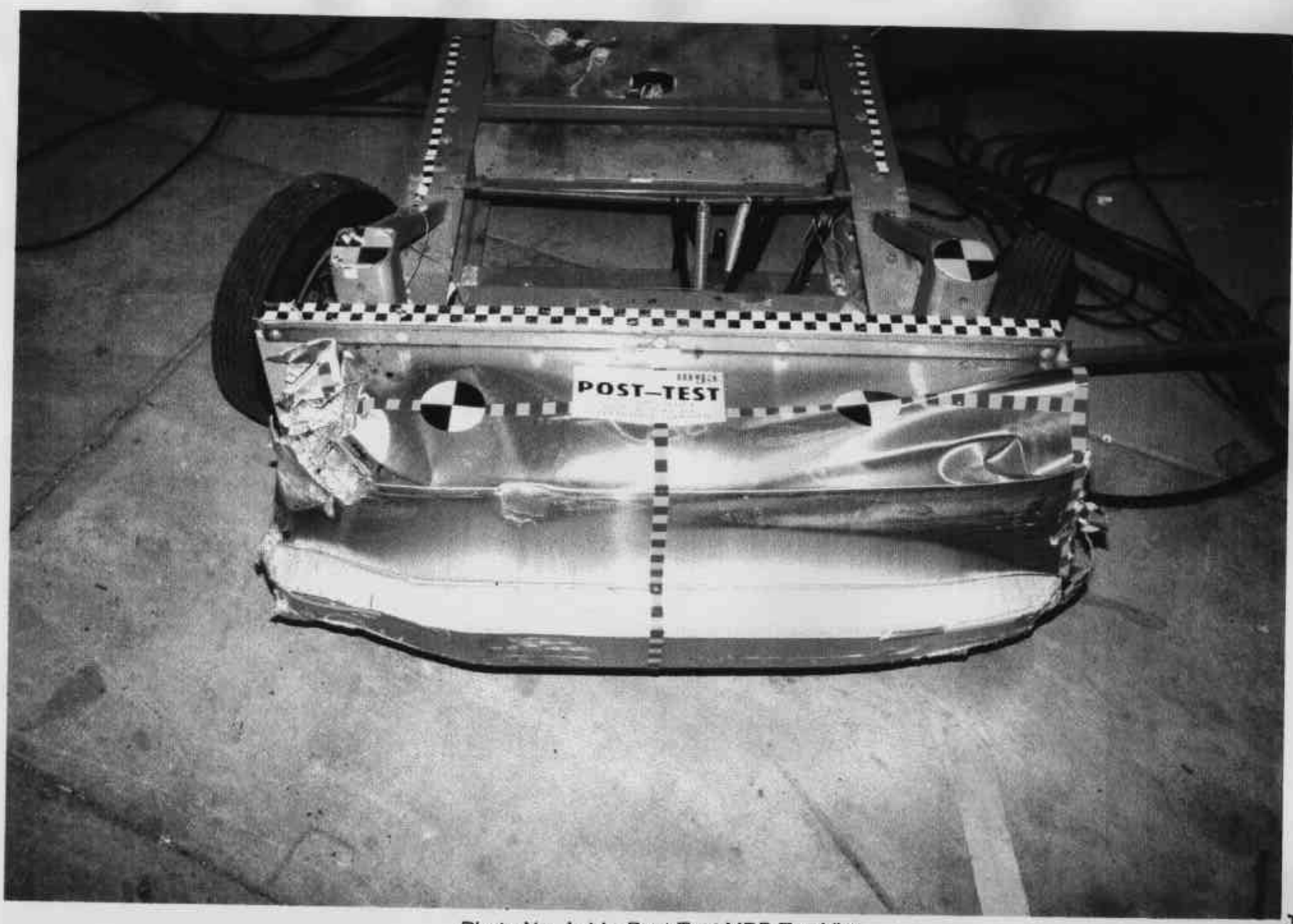


Photo No. A-14 - Post-Test MDB Top View

Photo No. A-15 - Pre-Test MDB Front View

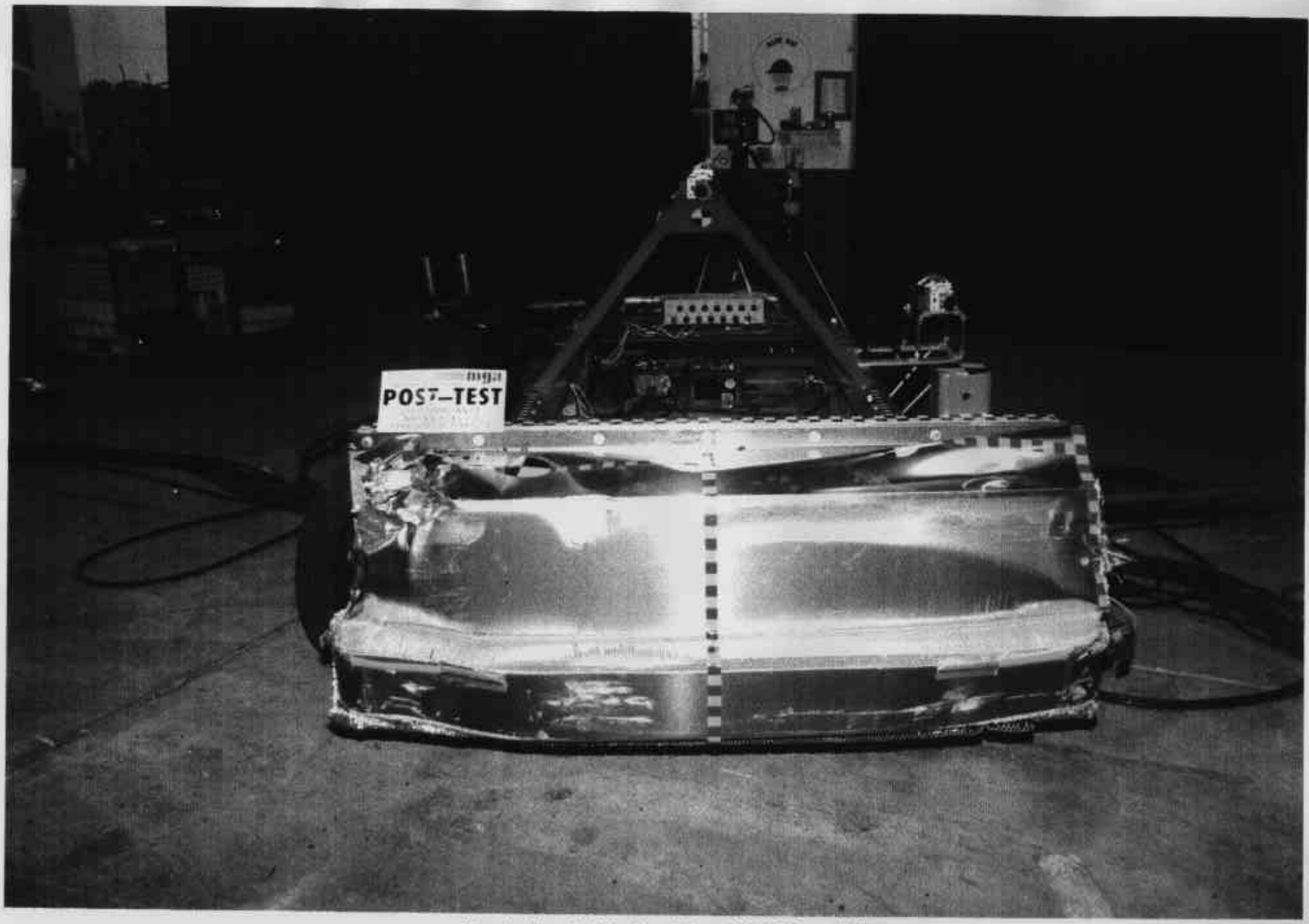


Photo No. A-16 - Post-Test MDB Front View

A-16

Photo No. A-17 - Pre-Test MDB Left Side View

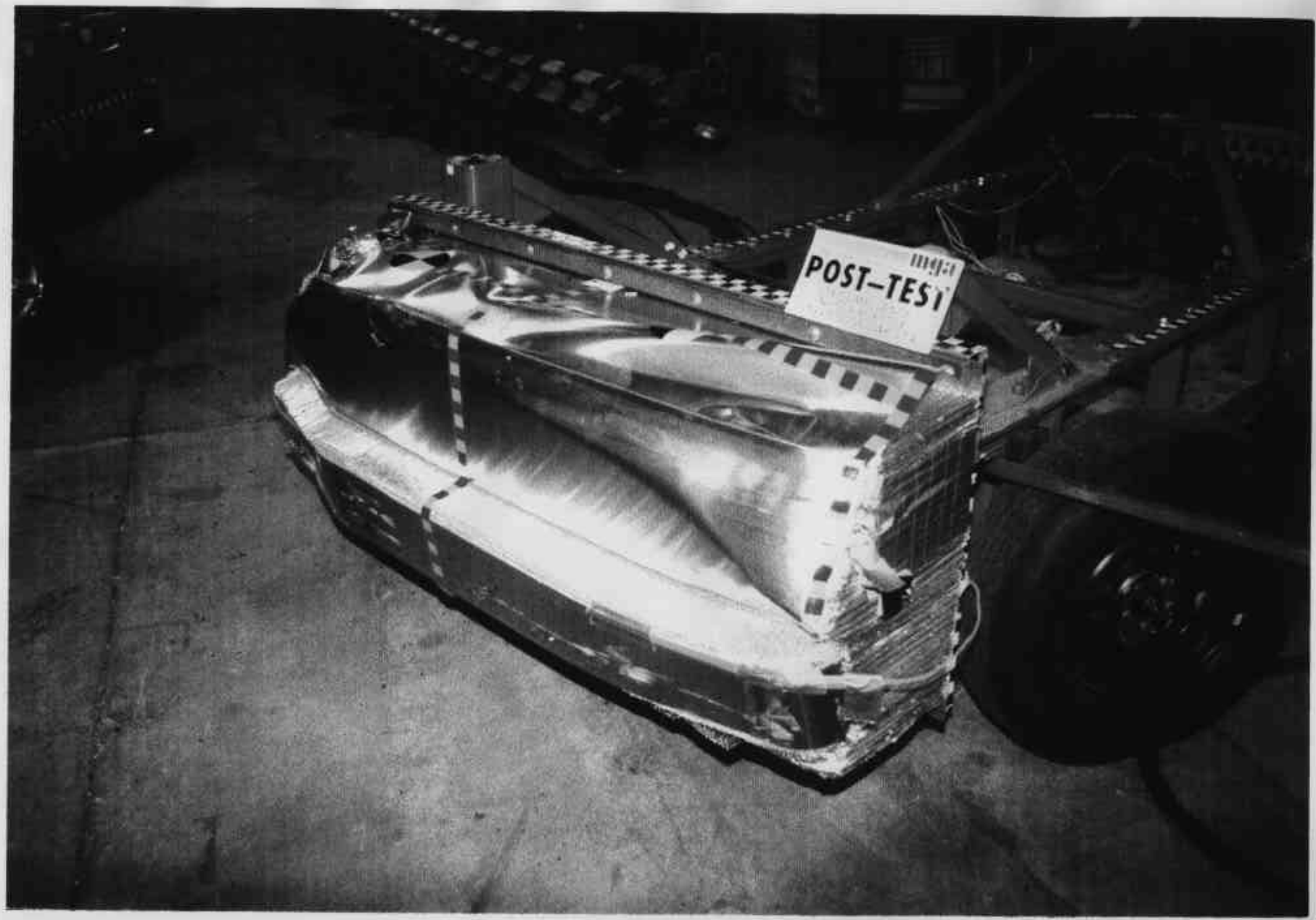


Photo No. A-18 - Post-Test MDB Left Side View

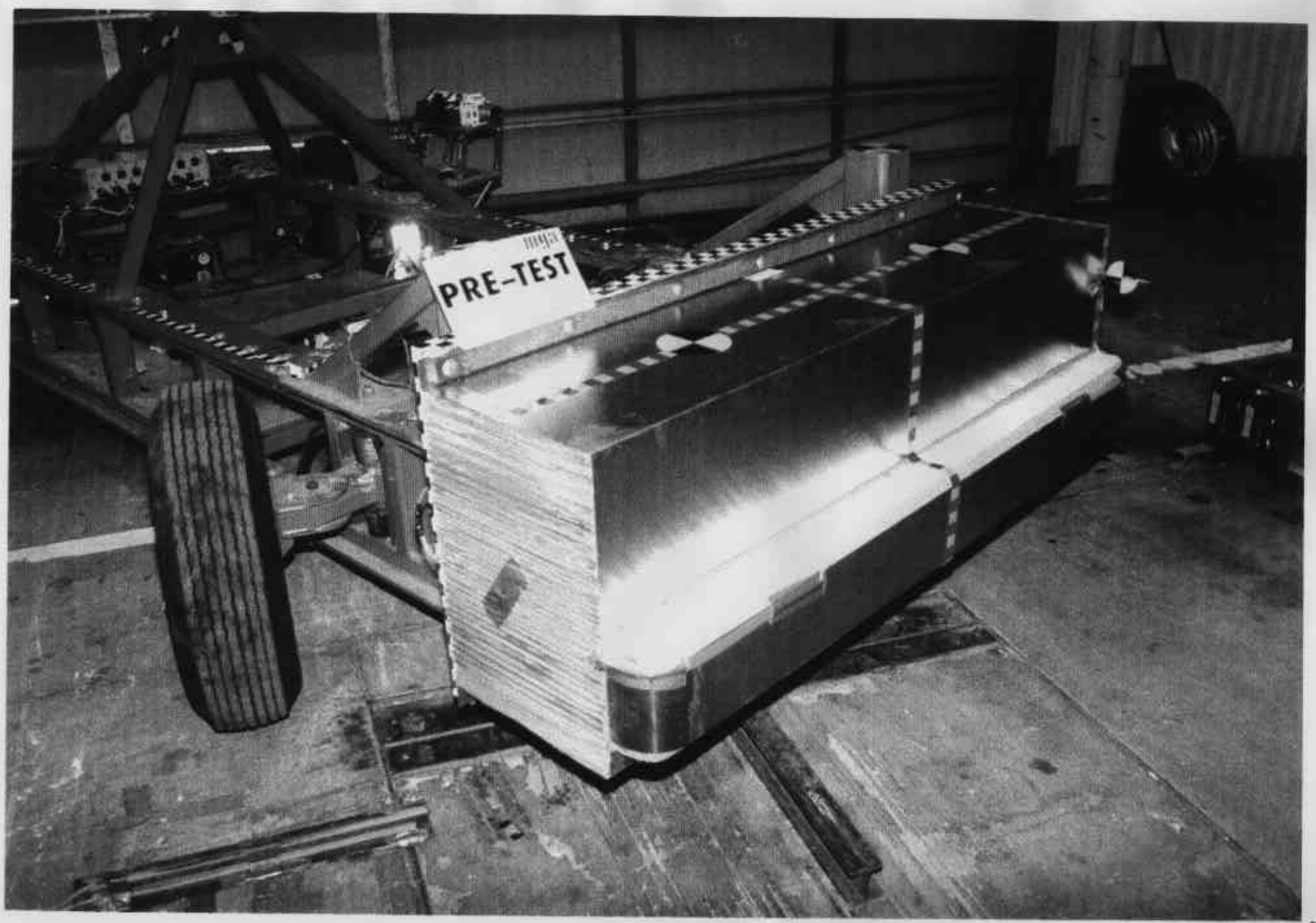


Photo No. A-19 - Pre-Test MDB Right Side View

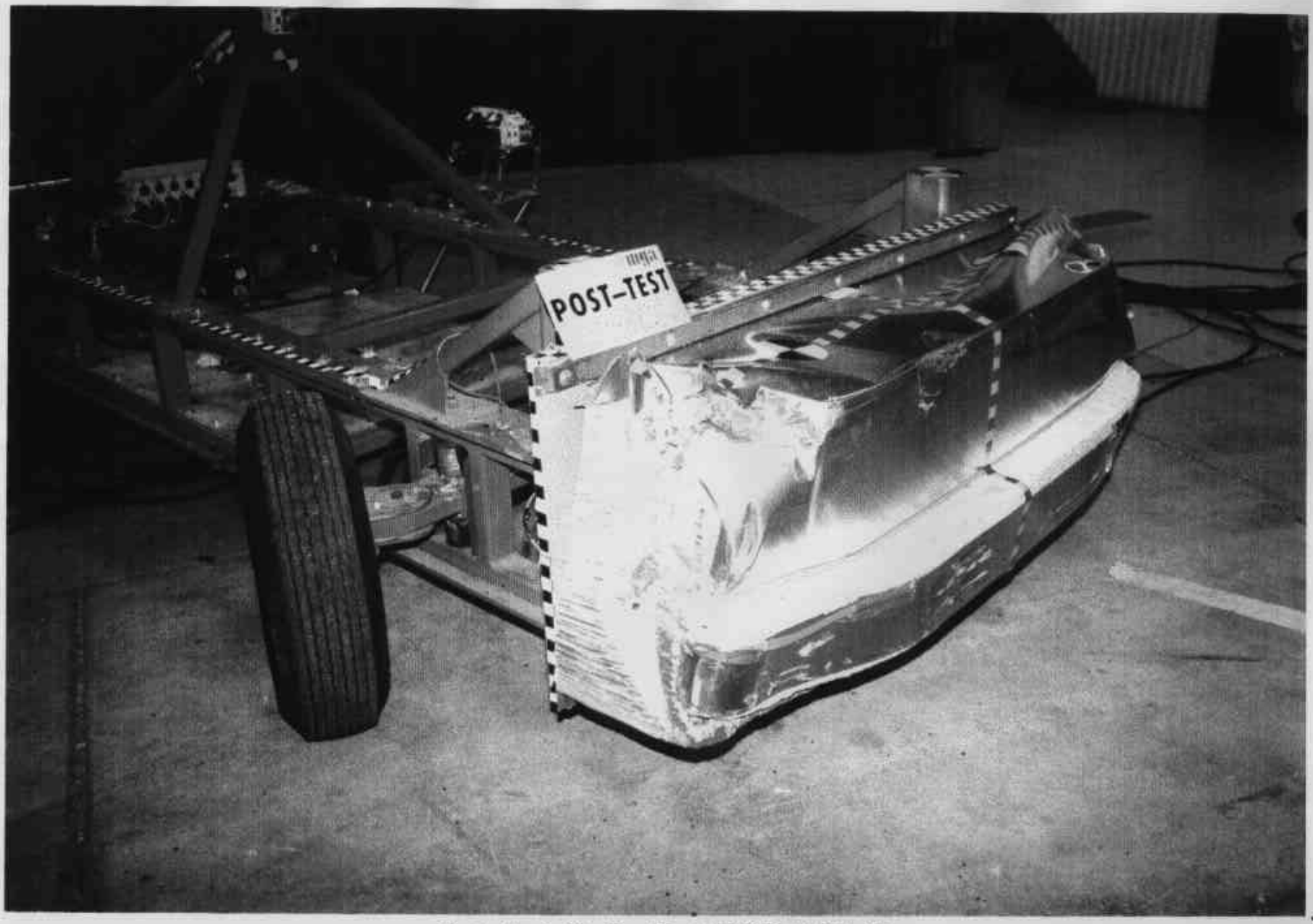


Photo No. A-20 - Post-Test MDB Right Side View

A-20

Photo No. A-21 - Pre-Test Driver Dummy Right Side View

A-21

Photo No. A-22 - Post-Test Driver Dummy Right Side View

A-22

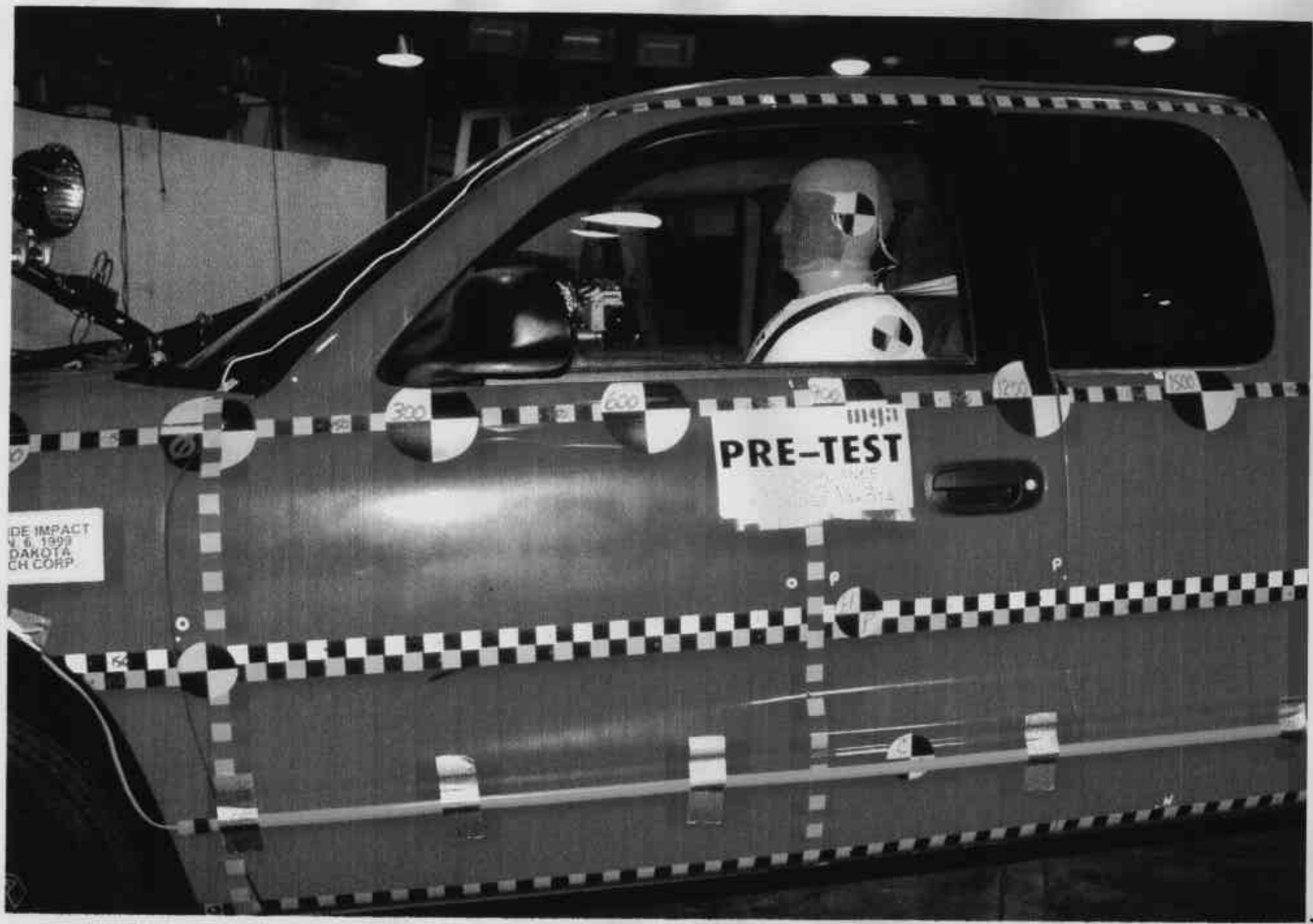


Photo No. A-23 - Pre-Test Driver Dummy Left Side View

Photo No. A-24 - Post-Test Driver Dummy Left Side View

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

Photo No. A-26 - Pre-Test Driver Shoulder and Door Top View

A-26

Photo No.-A-27 - Post-Test Driver Shoulder and Door Top View

A-27

Photo No. A-28 - Pre-Test Driver Door Interior View

A-28

Photo No. A-29 - Post-Test Driver Dummy Contact

A-29

Photo No. A-30 - Pre-Test Rear Passenger Dummy Right Side View

Photo No. A-31 - Pre-Test Rear Passenger Dummy Right Side View

Photo No. A-32 - Post-Test Rear Passenger Dummy Right Side View

Photo No. A-33 - Post-Test Rear Passenger Dummy Right Side View

Photo No. A-34 - Pre-Test Rear Passenger Dummy Left Side View

Photo No. A-35 - Post-Test Rear Passenger Dummy Left Side View

Photo No. A-36 - Pre-Test Rear Passenger Dummy Shoulder View

Photo No. A-37 - Post-Test Rear Passenger Dummy Shoulder View

Photo No. A-38 - Pre-Test Left Rear Interior Panel View

A-38

Photo No. A-39 - Post-Test Rear Passenger Dummy Contact

Photo No. A-40 - Pre-Test Right Front Impact Point on Vehicle

A-40

Photo No. A-41 - Post-Test Right Front Impact Point on Vehicle

Photo No. A-42 - Impact

A-42

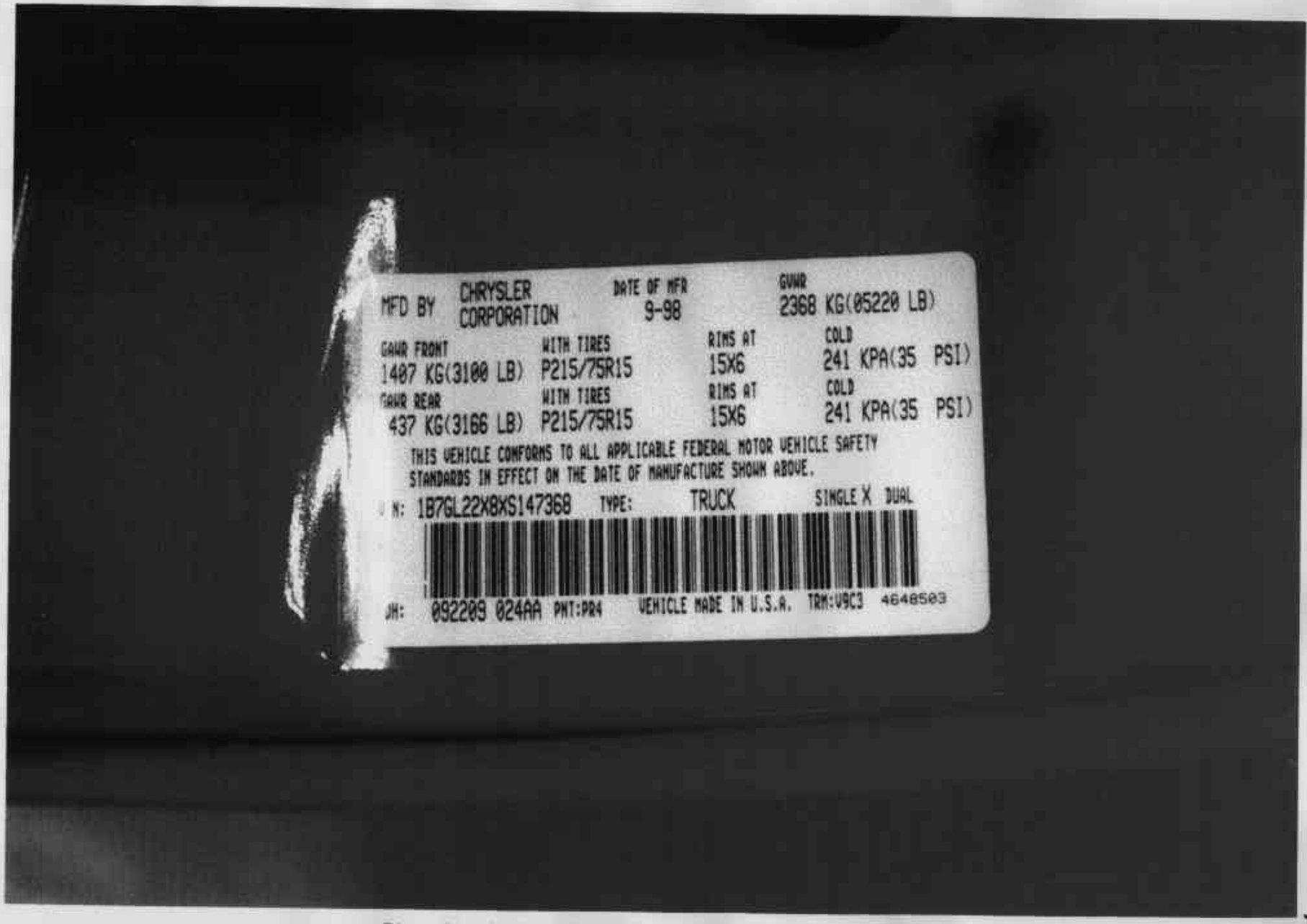


Photo No. A-43 - Vehicle Certification Label and Tire Placard

A-43

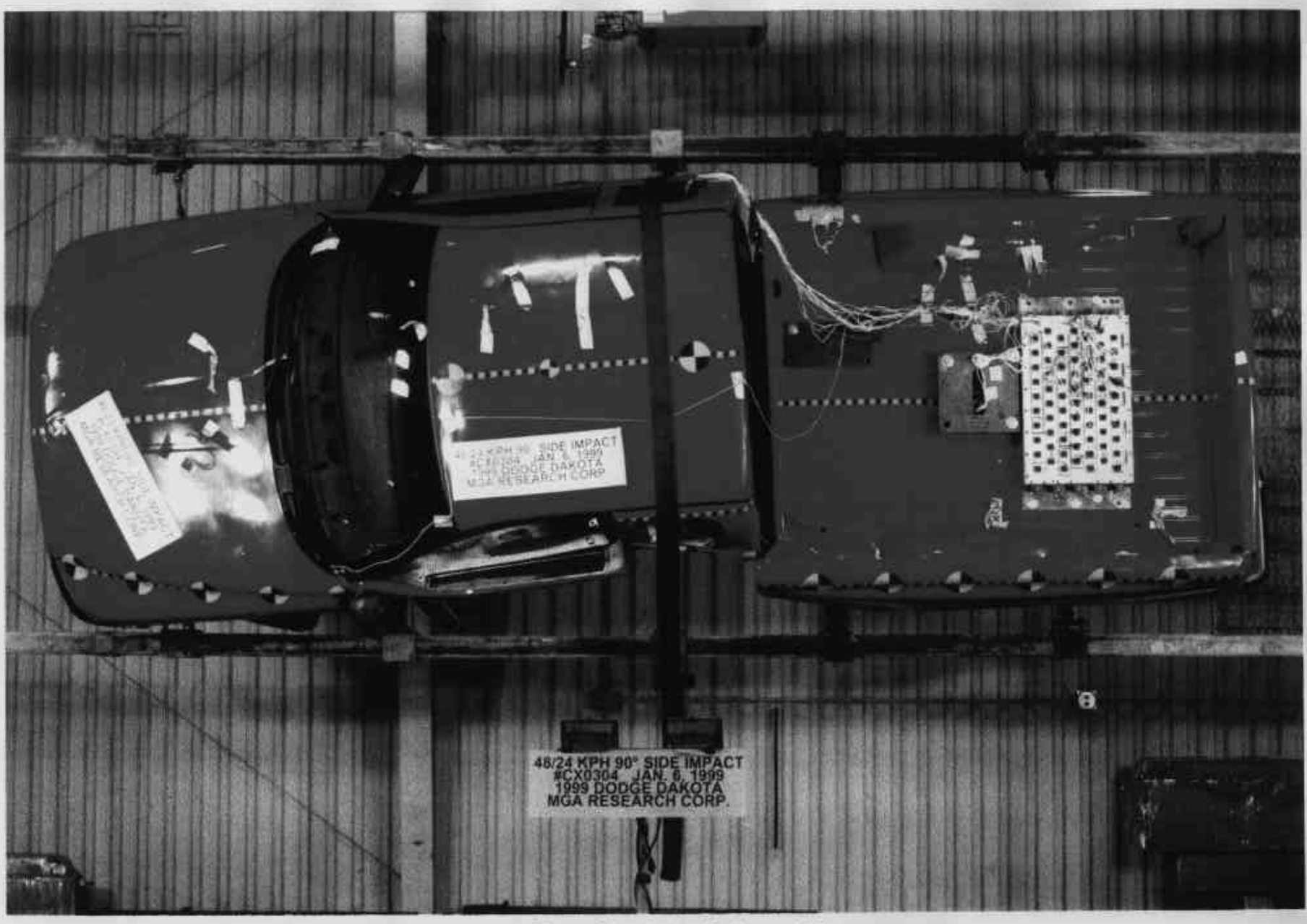


Photo No. A-44 - Rollover 90°

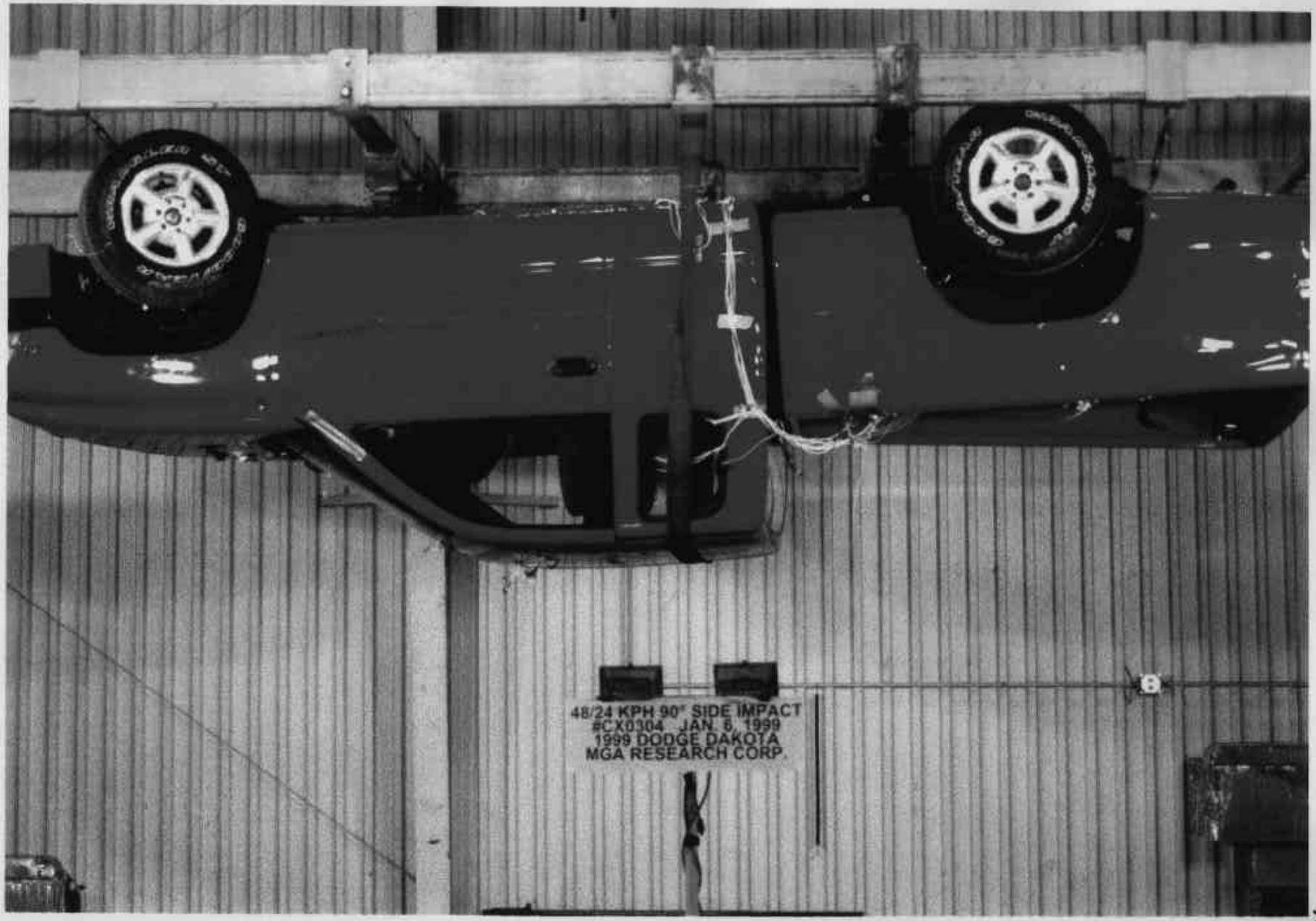


Photo No. A-45 - Rollover 180°

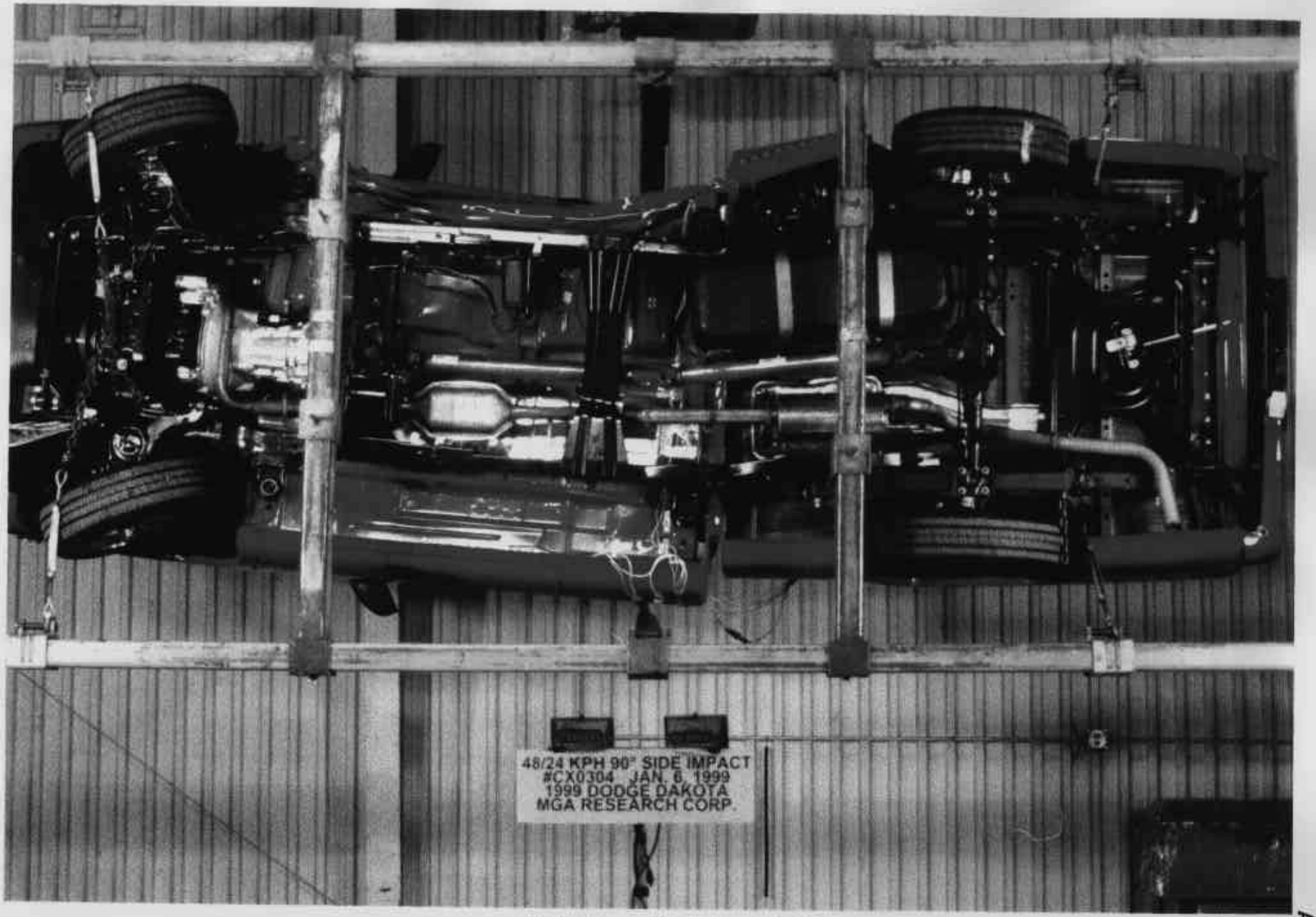


Photo No. A-46 - Rollover 270°

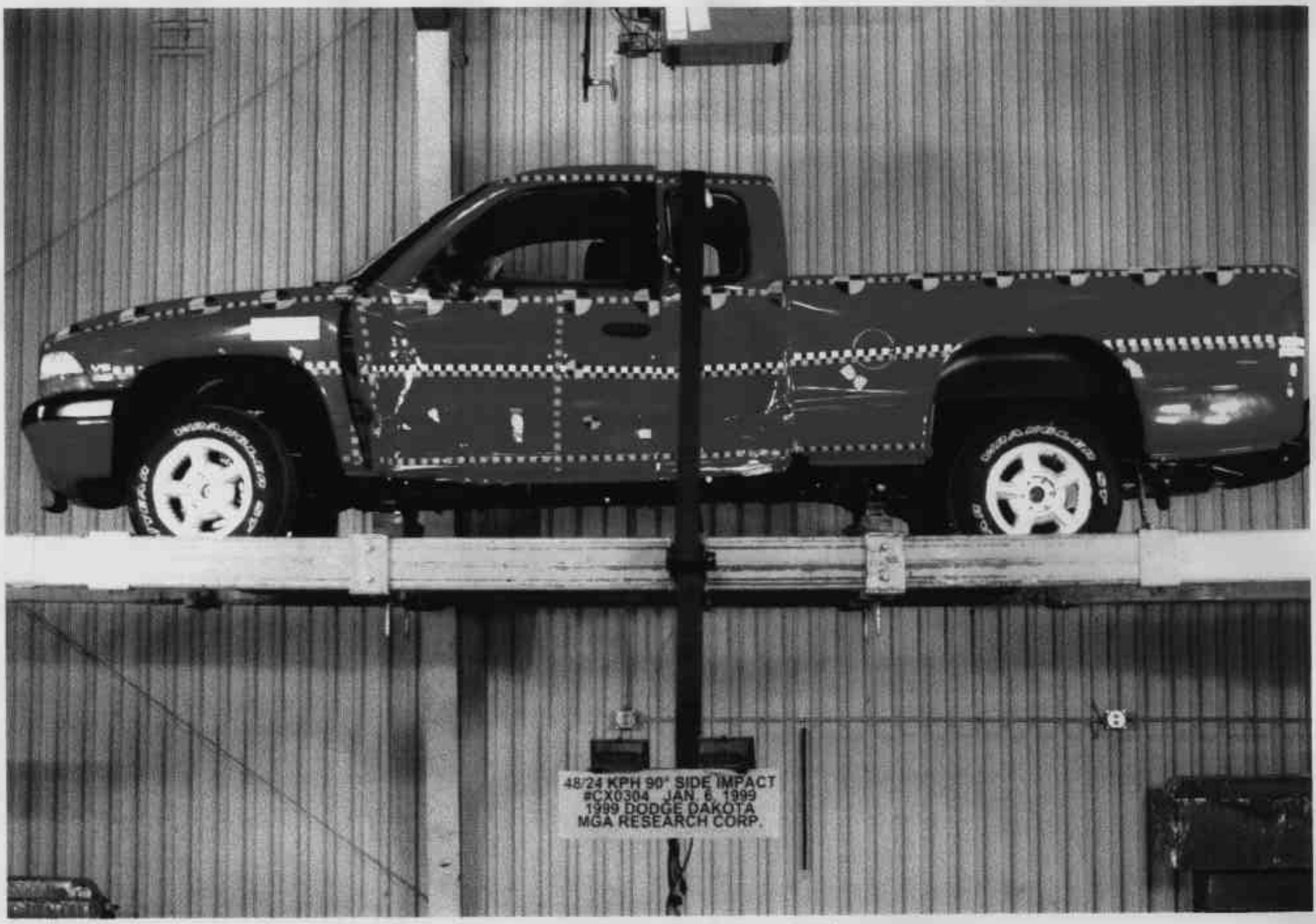


Photo No. A-47 - Rollover 360°

A-47

Photo No. A-48 - Left Front Attitude Point

A-48

Photo No. A-49 - Right Front Attitude Point

A-49

Photo No. A-50 - Left Rear Attitude Point

A-50

Photo No. A-51 - Right Rear Attitude Point

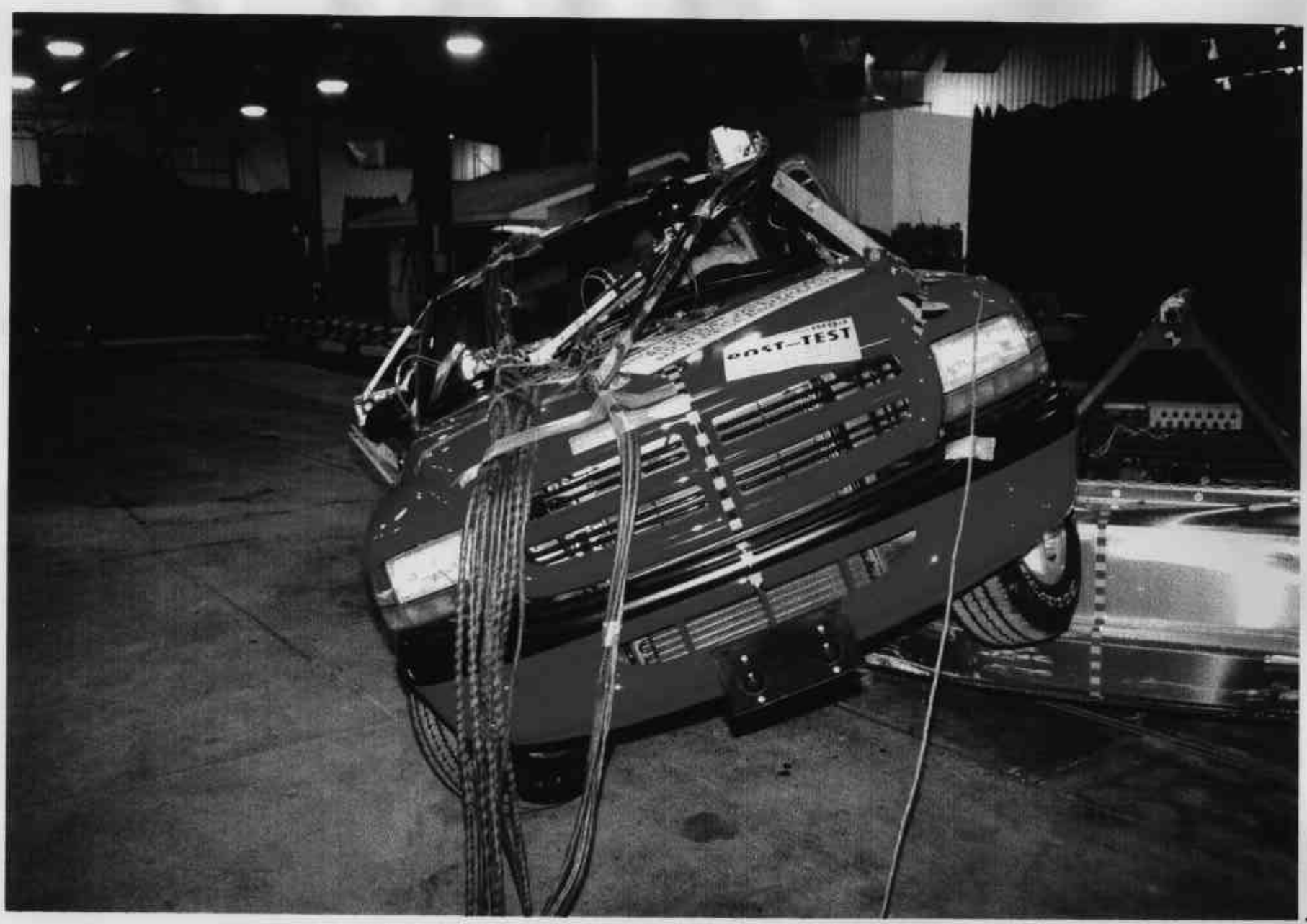


Photo No. A-52 - Post-Test Vehicle Resting Position Front View

A-52

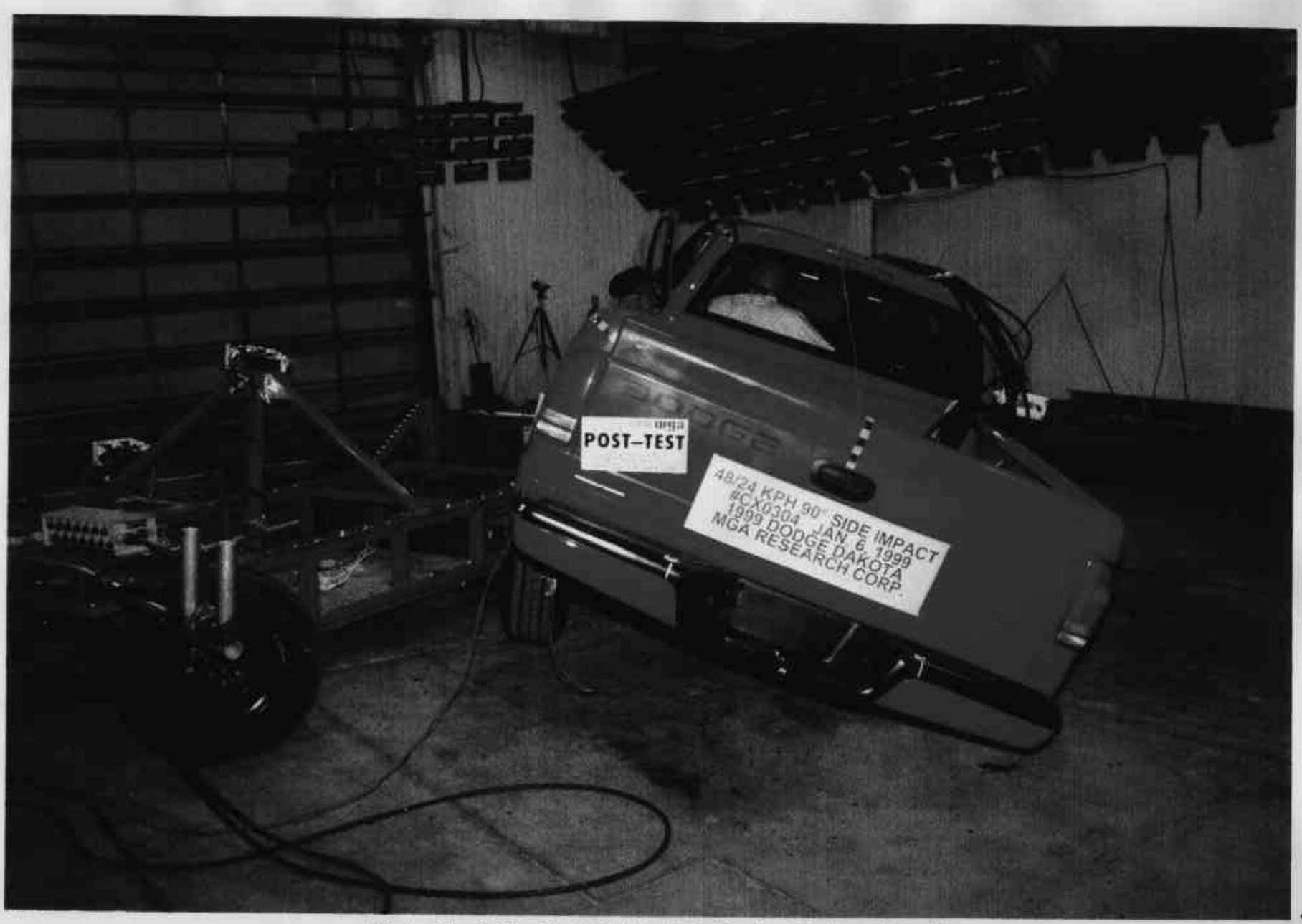


Photo No. A-53 - Post-Test Vehicle Resting Position Rear View

Photo No. A-54 - Post-Test Vehicle Resting Position Left Front 3/4 View

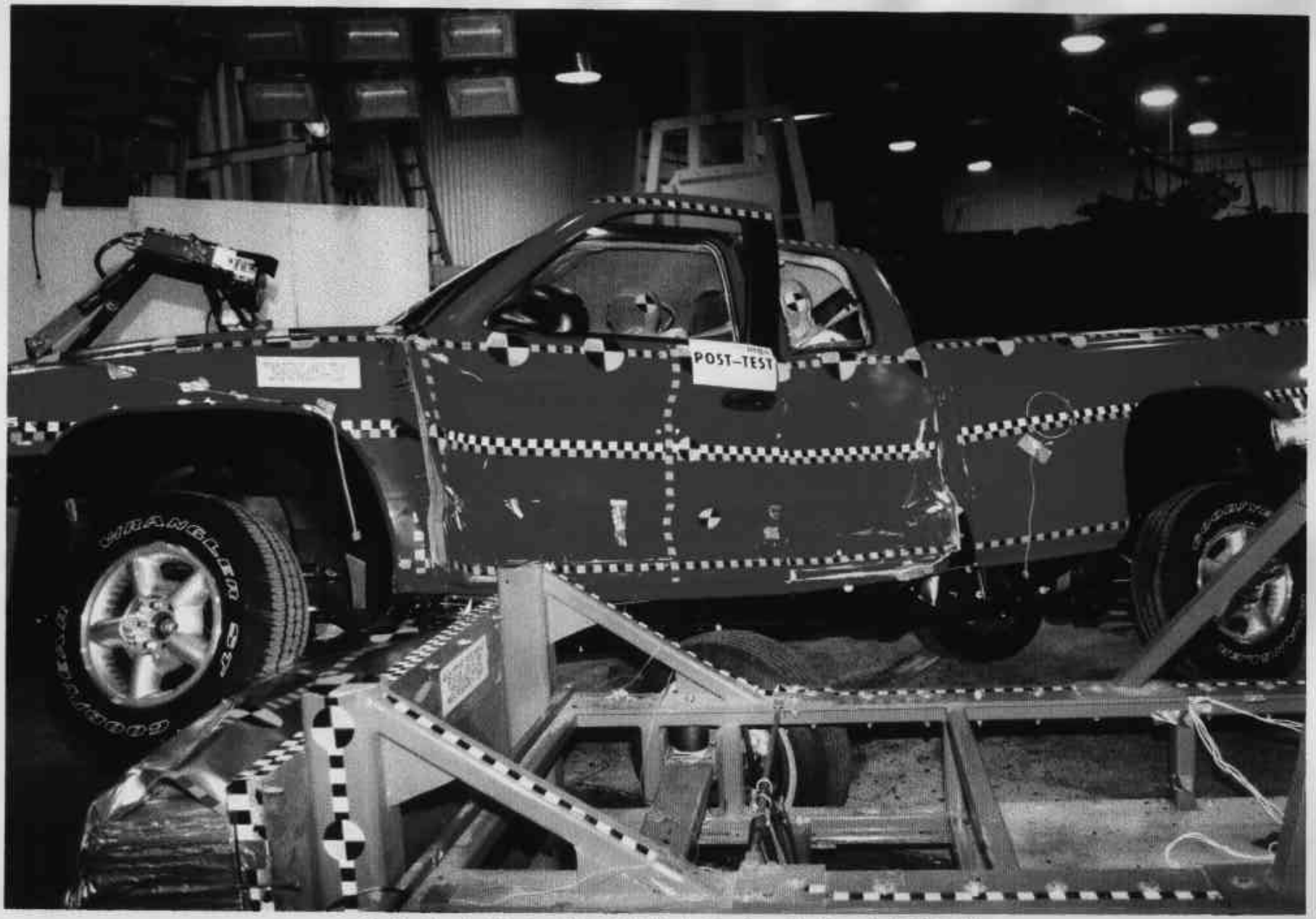


Photo No. A-55 - Post-Test Vehicle Resting Position Left Side View

APPENDIX B - VEHICLE AND SID RESPONSE DATA

Table of Data Plots

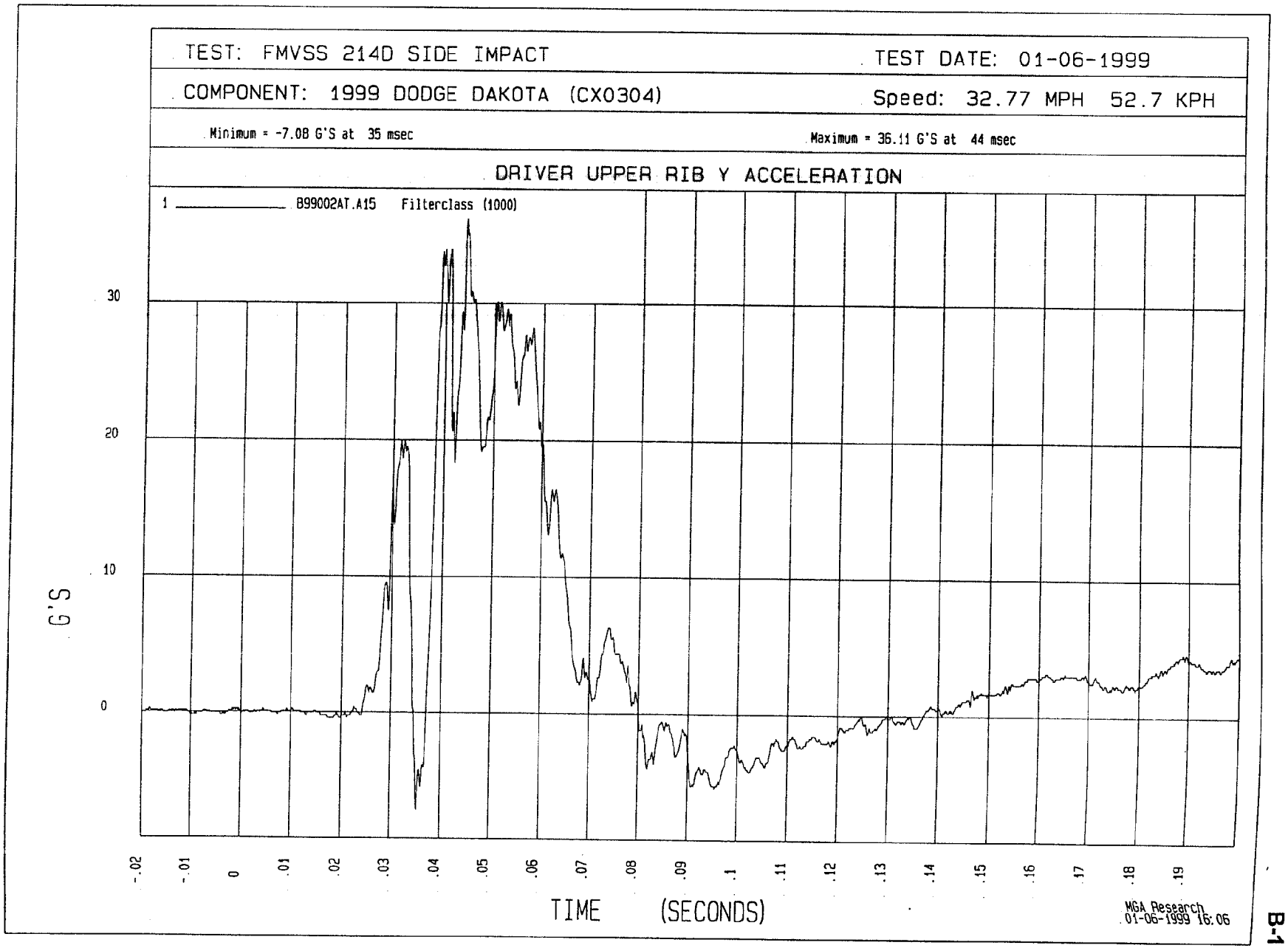
Table of Data Plots

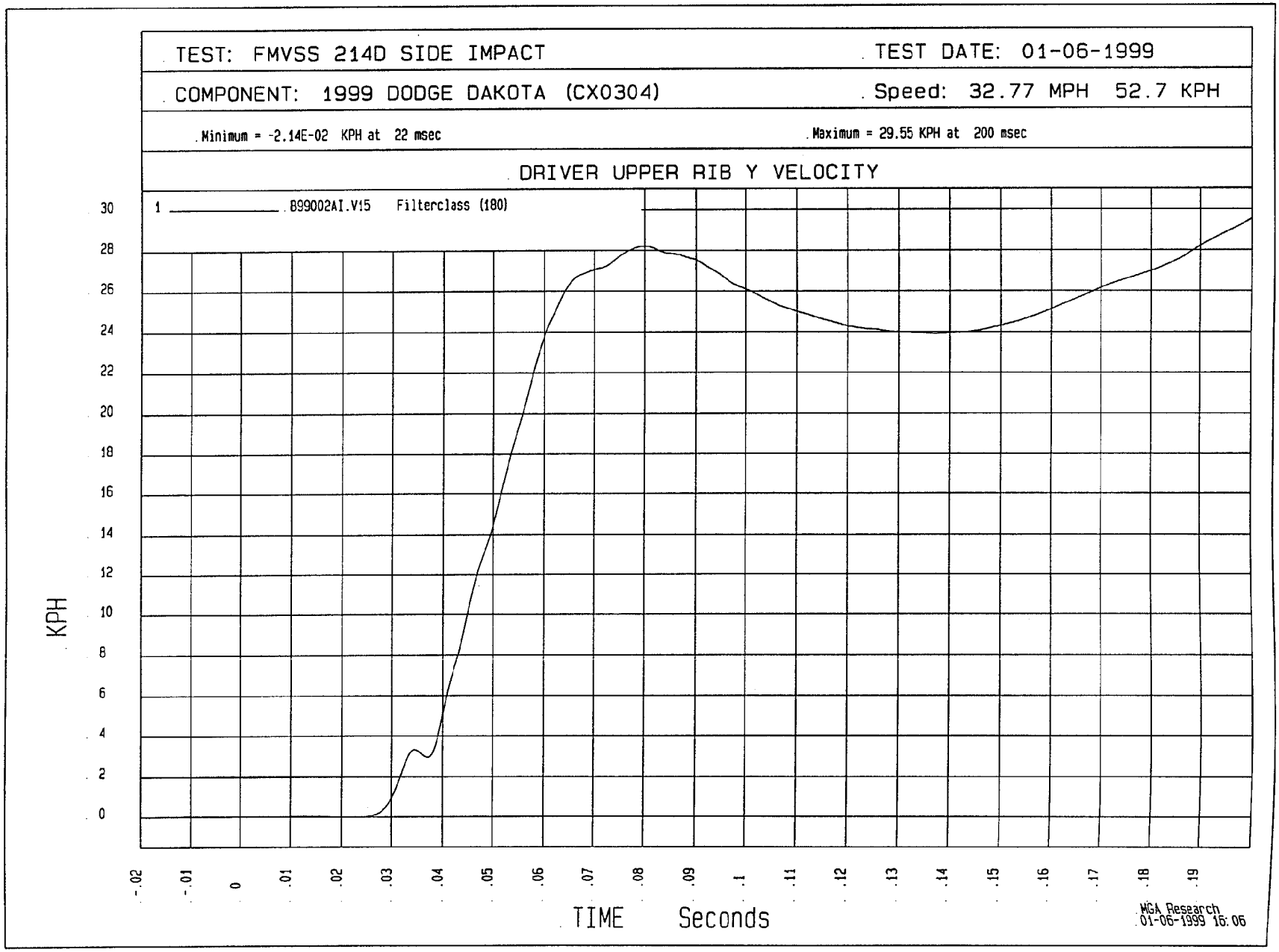
* Data not valid after approximately .15 sec.

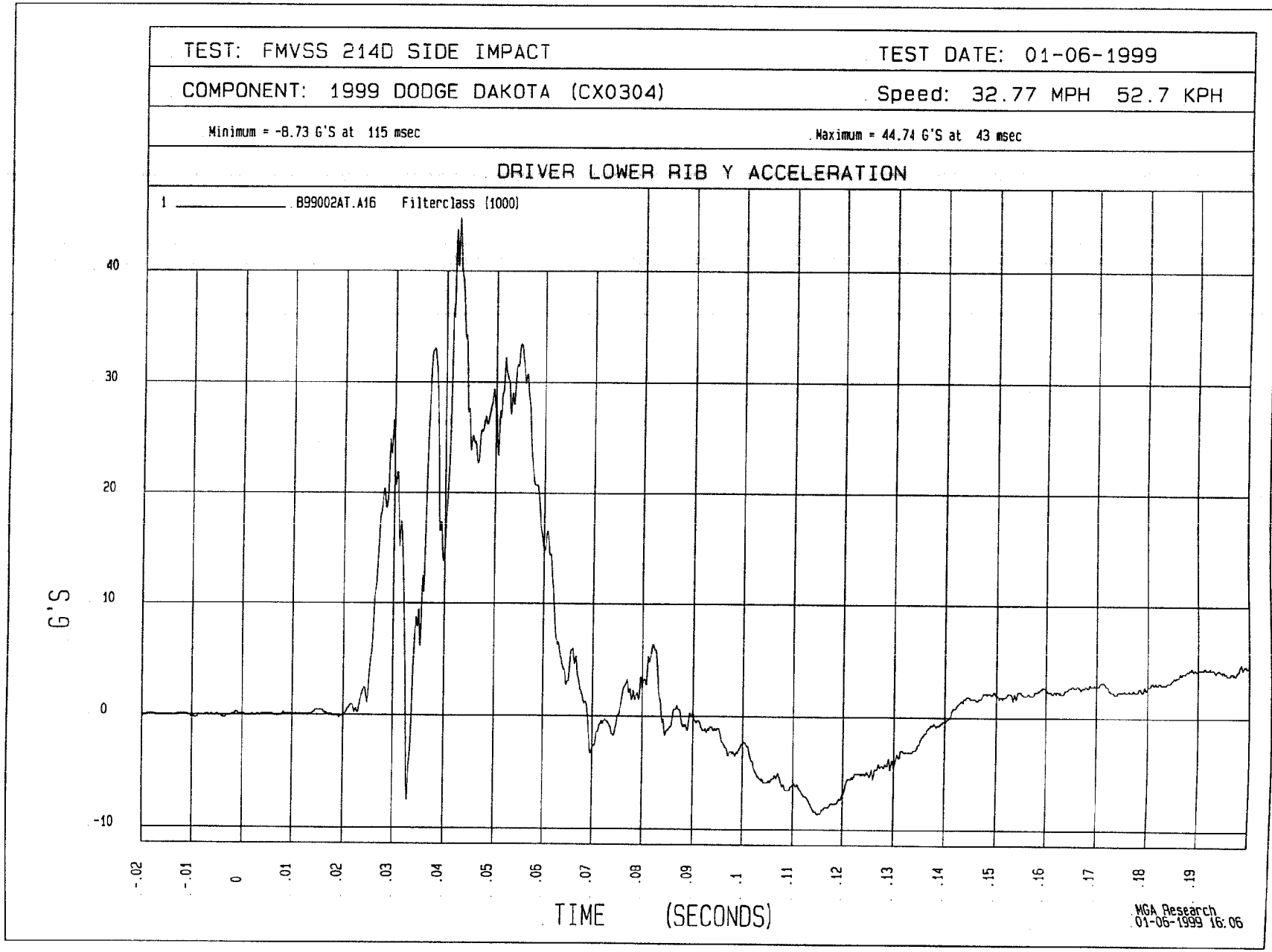
Table of Data Plots

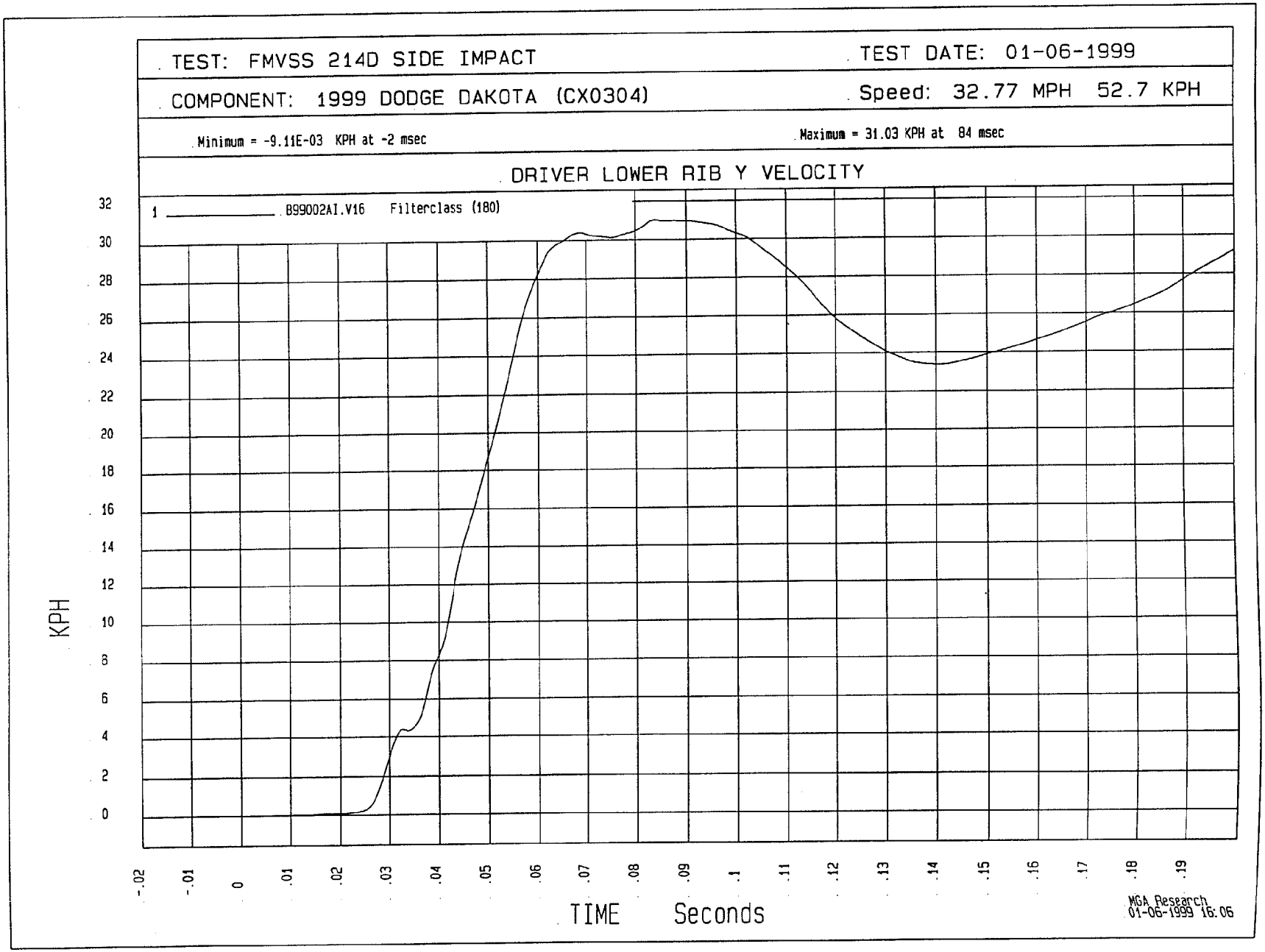
Table of Data Plots

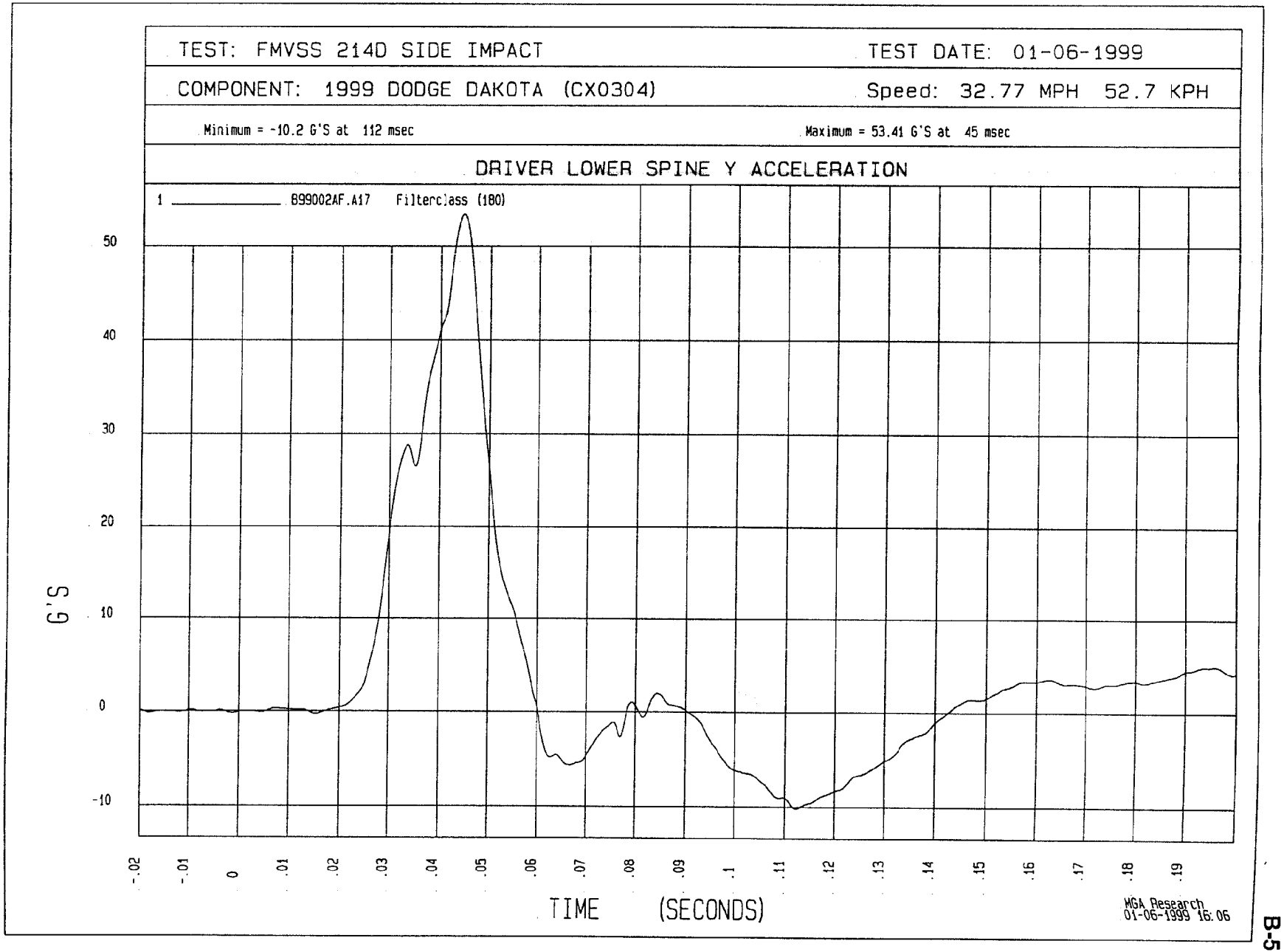
Table of Data Plots

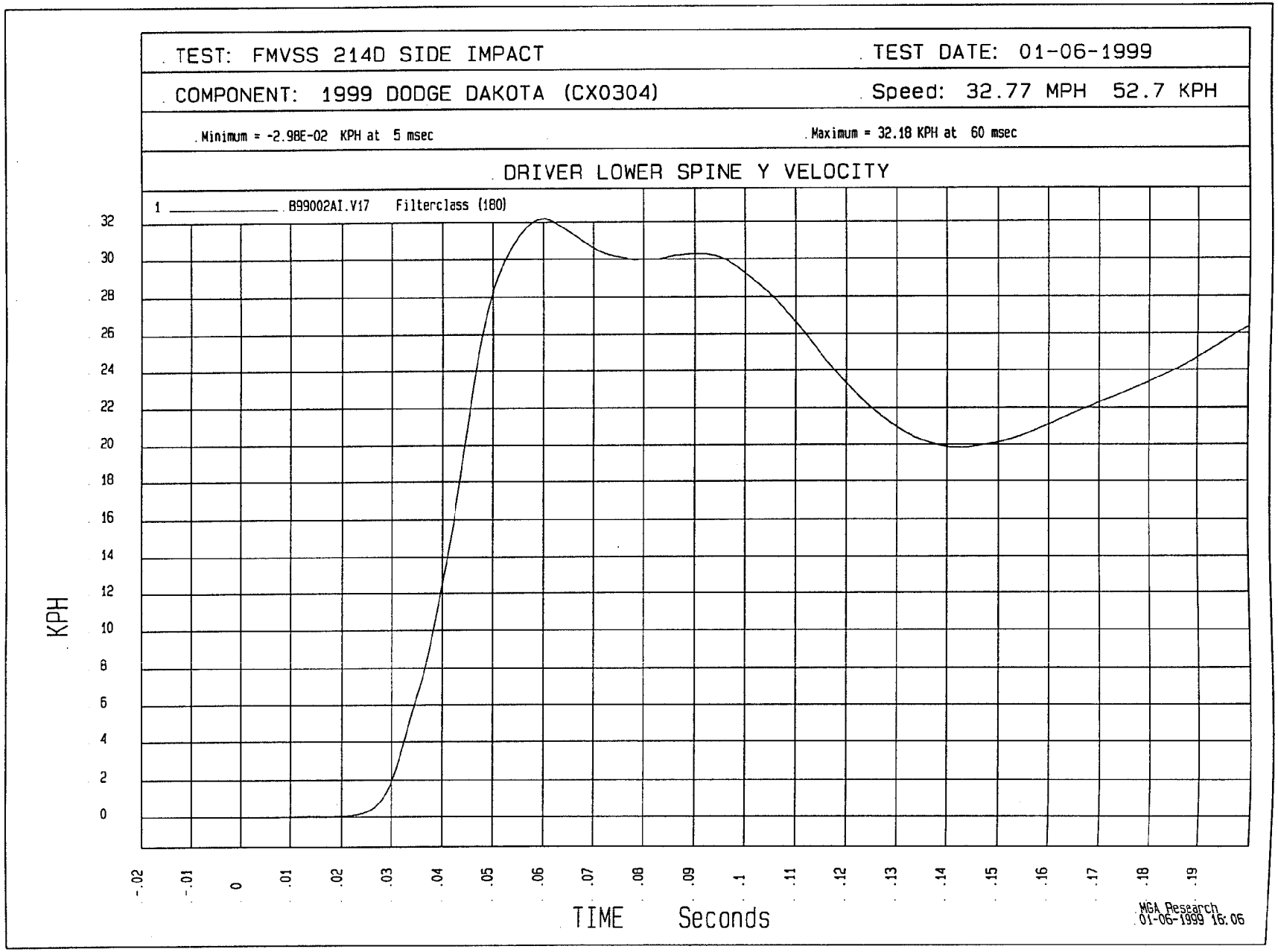

TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -7.08 G'S at 35 msec
Maximum = 36.11 G'S at 44 msec
DRIVER UPPER RIB Y ACCELERATION
1 B99002AT.A15 Filterclass (1000)
G'S
30
20
10
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
01-06-1999 16:06

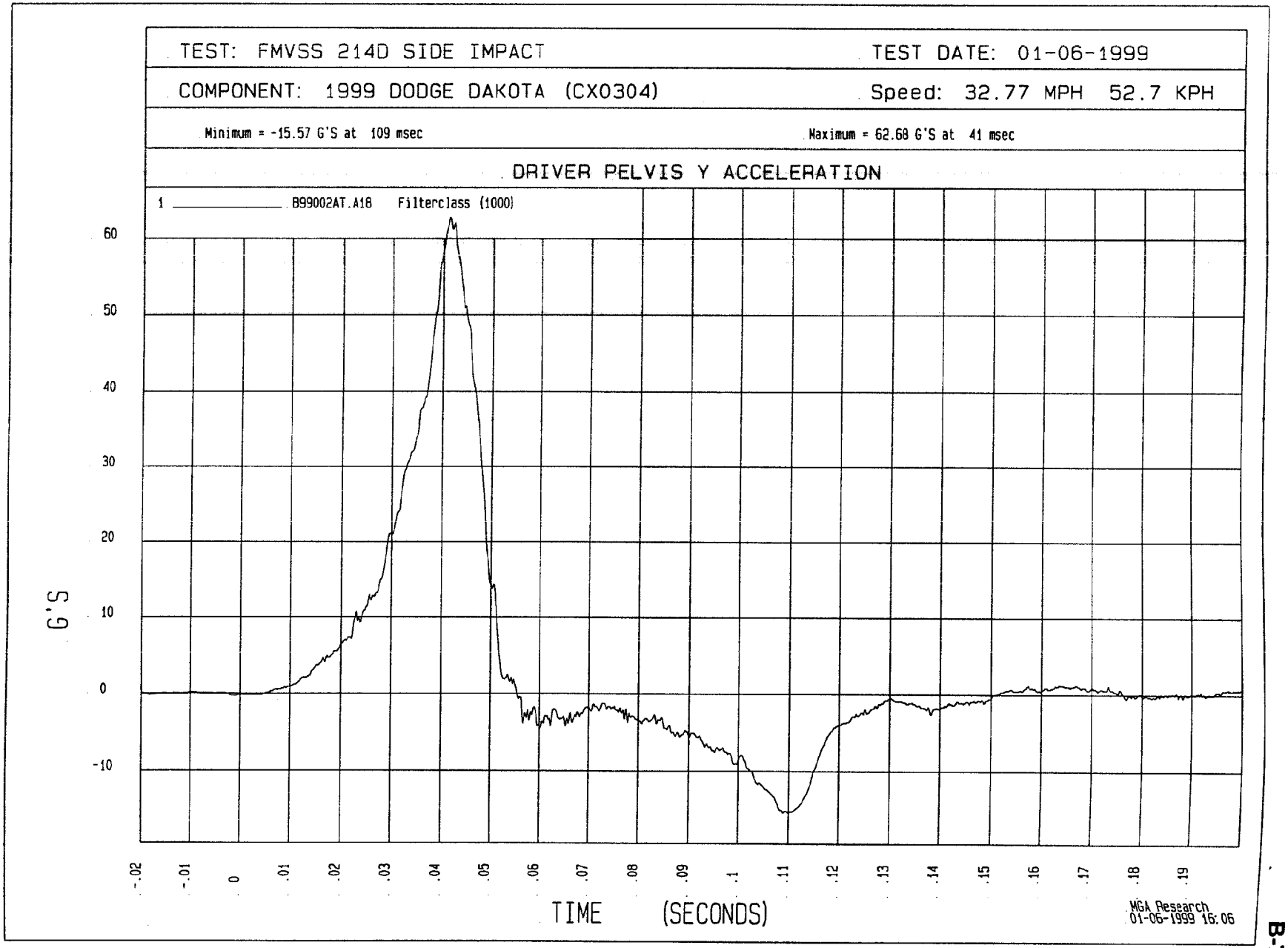

TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -2.14E-02 KPH at 22 msec
Maximum = 29.55 KPH at 200 msec
DRIVER UPPER RIB Y VELOCITY
1 B99002AI.V15 Filterclass (180)
KPH
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME Seconds
MGA Research
01-06-1999 16:06

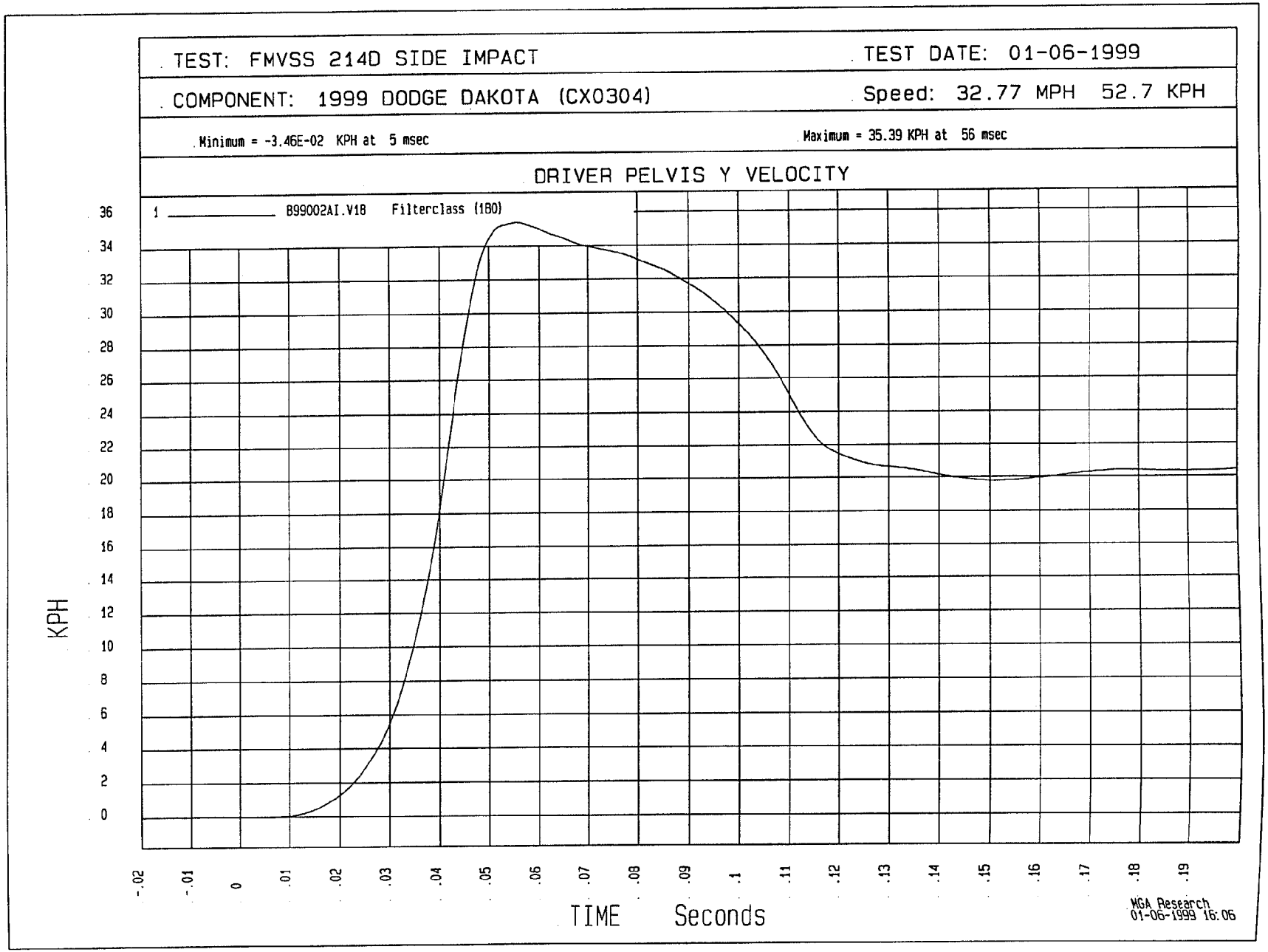

TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -8.73 G'S at 115 msec
Maximum = 44.74 G'S at 43 msec
DRIVER LOWER RIB Y ACCELERATION
1 B99002AT.A16 Filterclass (1000)
G'S
40
30
20
10
0
-10
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
01-06-1999 16:06

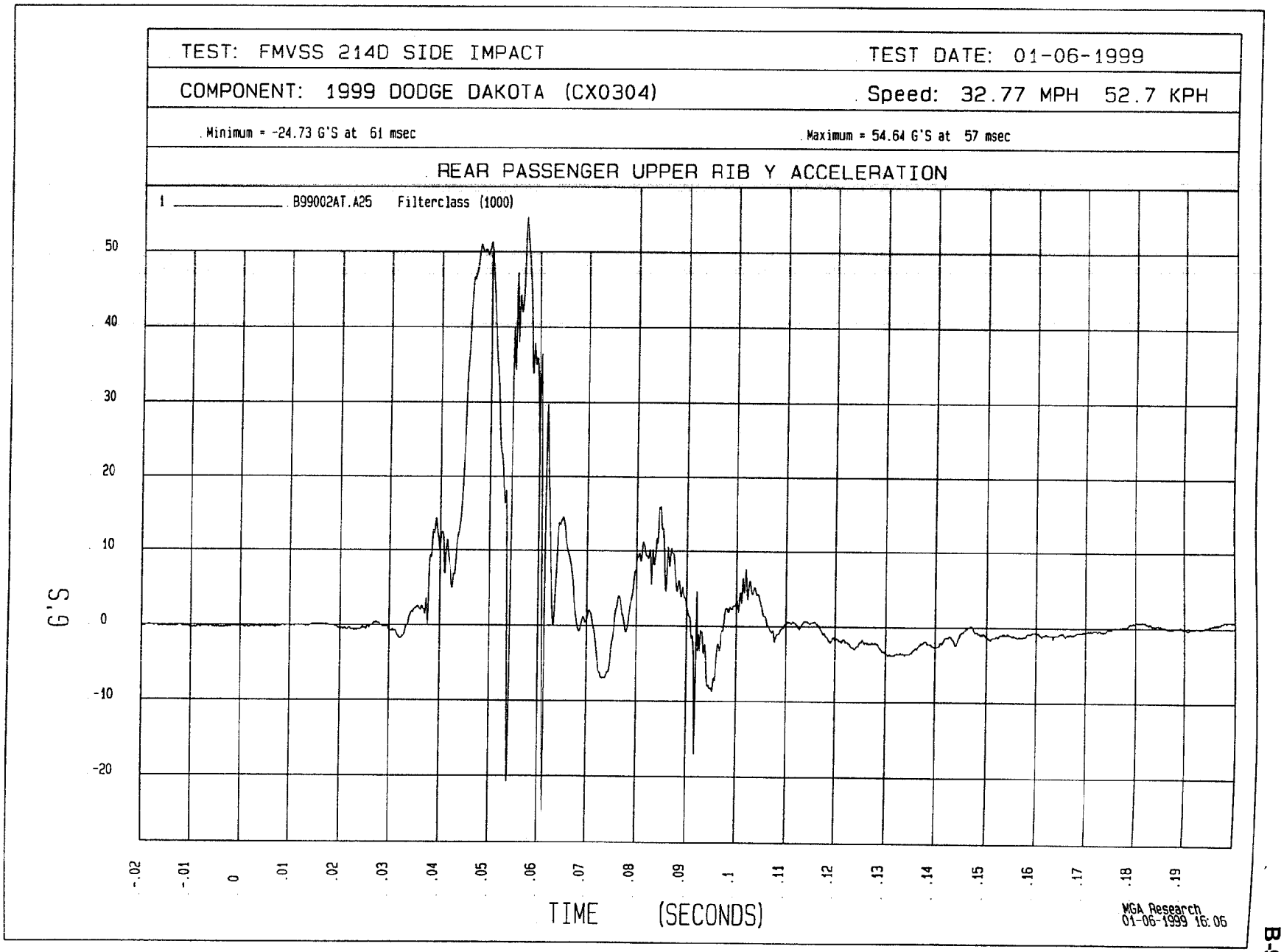

TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -9.11E-03 KPH at -2 msec
Maximum = 31.03 KPH at 84 msec
DRIVER LOWER RIB Y VELOCITY
1 B99002AI.V16 Filterclass (180)
KPH
32
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME Seconds
MGA Research
01-06-1999 16:06

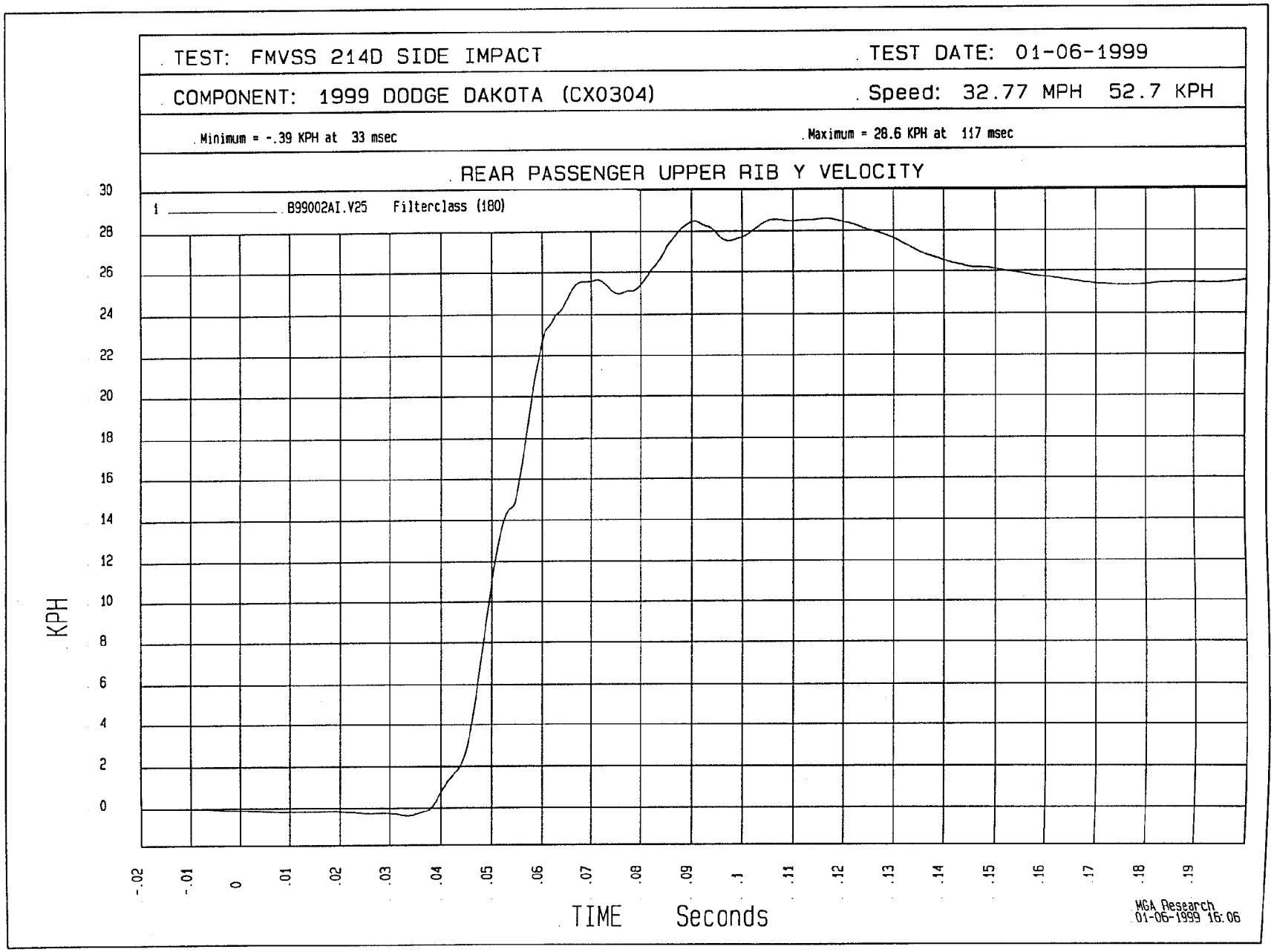

TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -10.2 G'S at 112 msec
Maximum = 53.41 G'S at 45 msec
DRIVER LOWER SPINE Y ACCELERATION
1 B99002AF.A17 Filterclass (180)
50
40
30
20
10
0
-10
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
01-06-1999 16:06

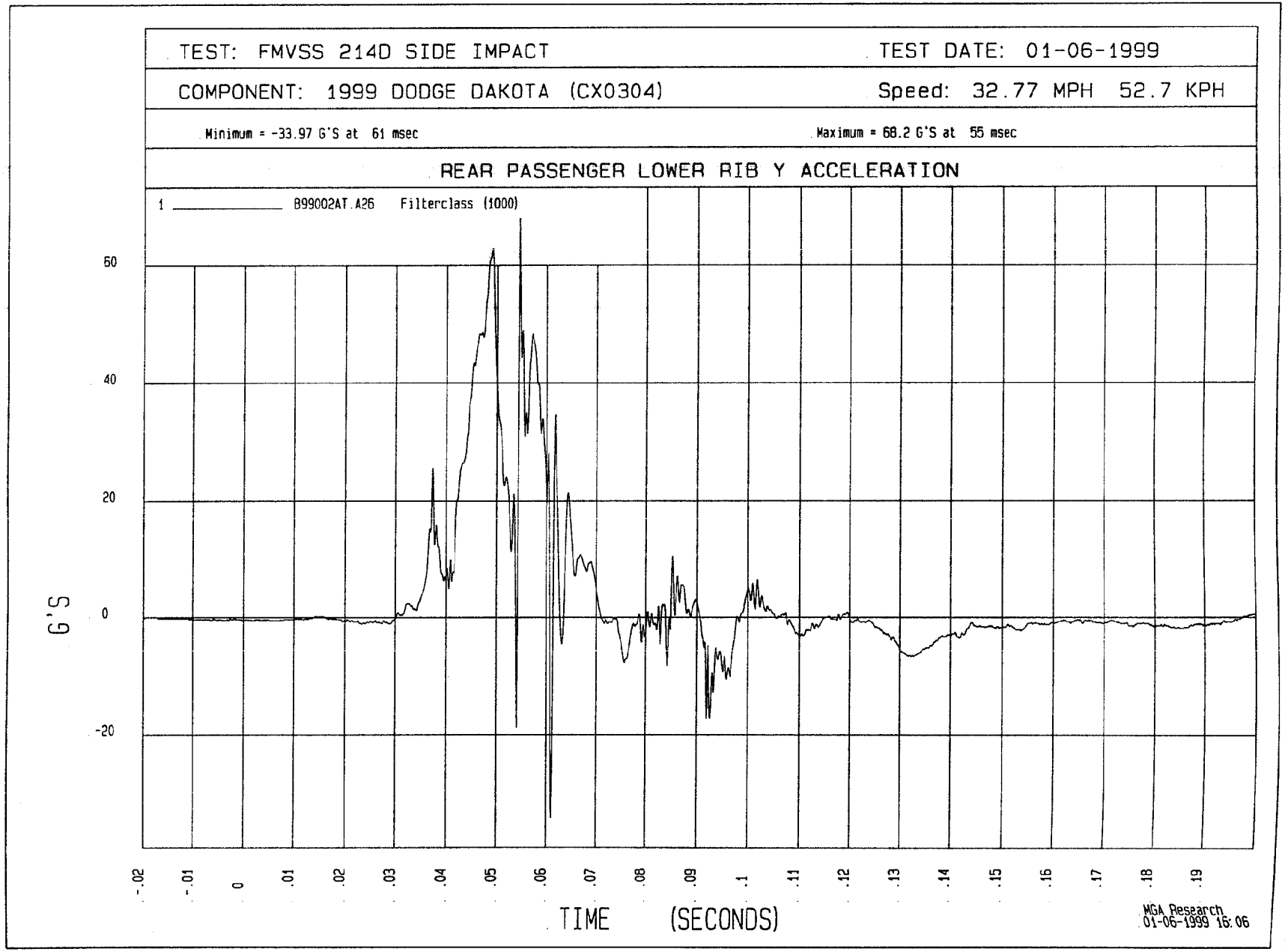

TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -2.98E-02 KPH at 5 msec
Maximum = 32.18 KPH at 60 msec
DRIVER LOWER SPINE Y VELOCITY
1 B99002AI.V17 Filterclass (180)
KPH
32
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME Seconds
MGA Research
01-06-1999 16:06

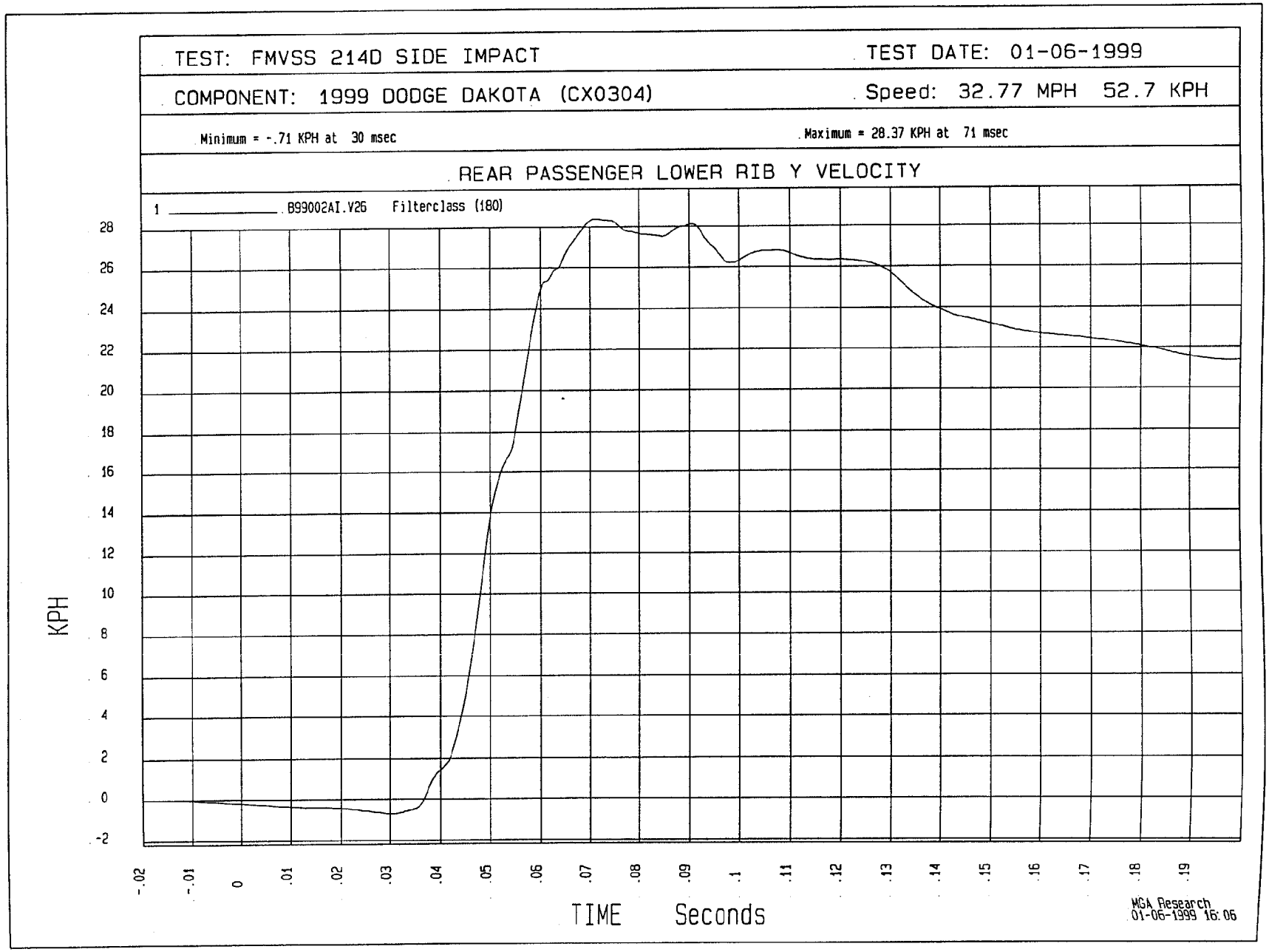

TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -15.57 G'S at 109 msec
Maximum = 62.68 G'S at 41 msec
DRIVER PELVIS Y ACCELERATION
1 B99002AT.A18 Filterclass (1000)
G'S
60
50
40
30
20
10
0
-10
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
01-06-1999 16:06

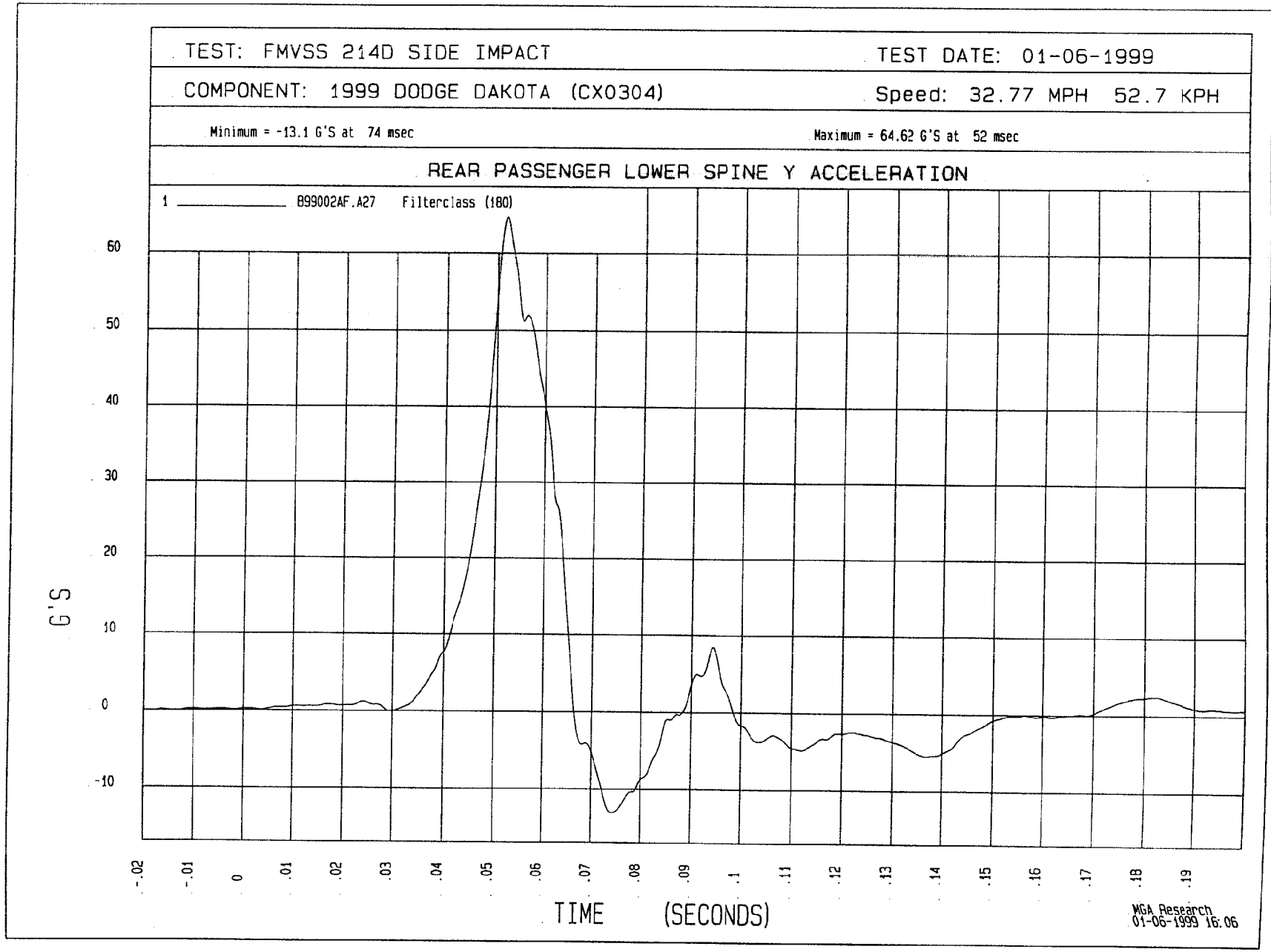

TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -3.46E-02 KPH at 5 msec
Maximum = 35.39 KPH at 56 msec
DRIVER PELVIS Y VELOCITY
1 B99002AI.V18 Filterclass (180)
KPH
36
34
32
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME Seconds
MGA Research
01-06-1999 16:06

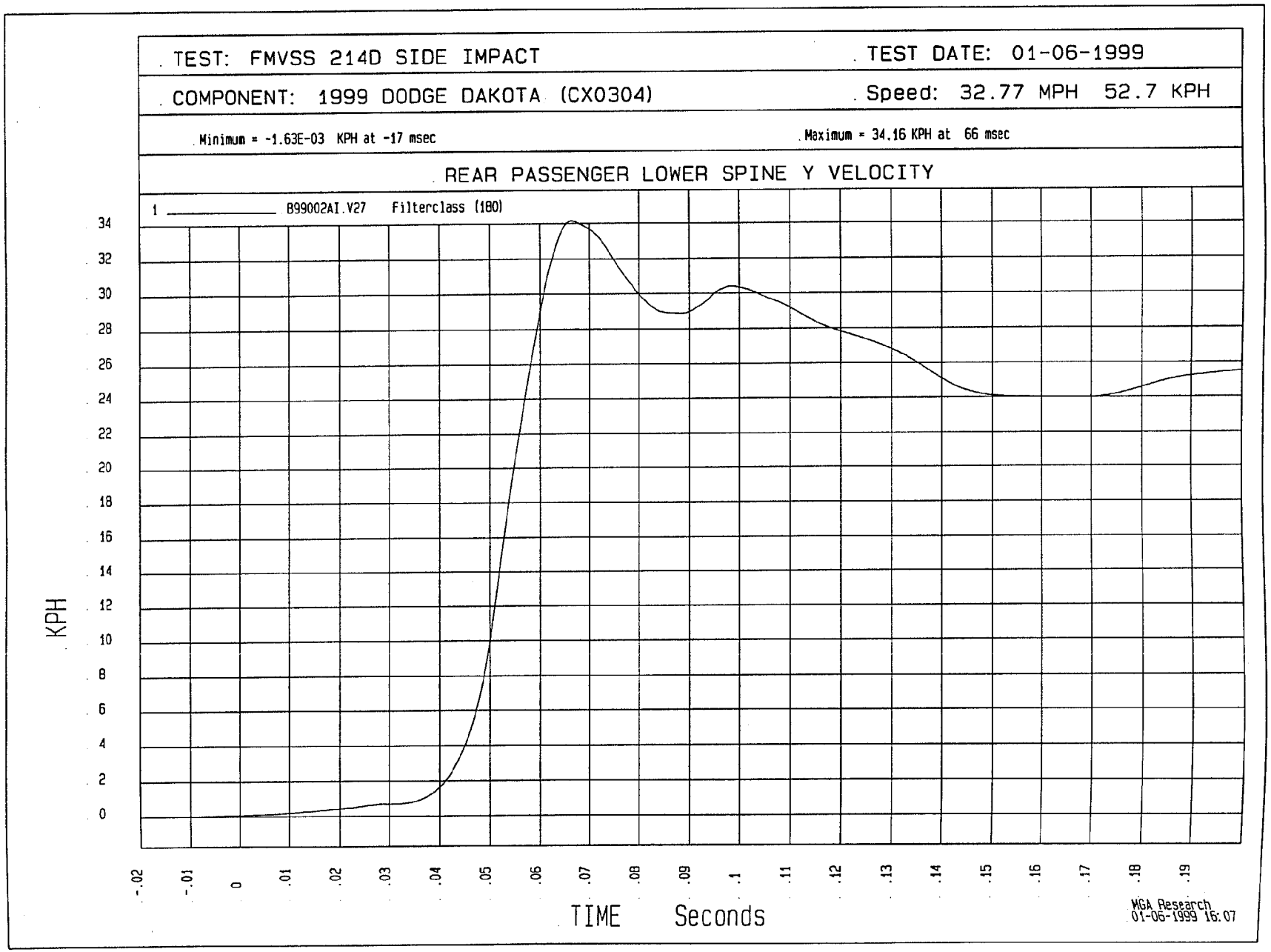

TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -24.73 G'S at 61 msec
Maximum = 54.64 G'S at 57 msec
REAR PASSENGER UPPER RIB Y ACCELERATION
1 B99002AT.A25 Filterclass (1000)
50
40
30
20
10
0
-10
-20
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
01-06-1999 16:06

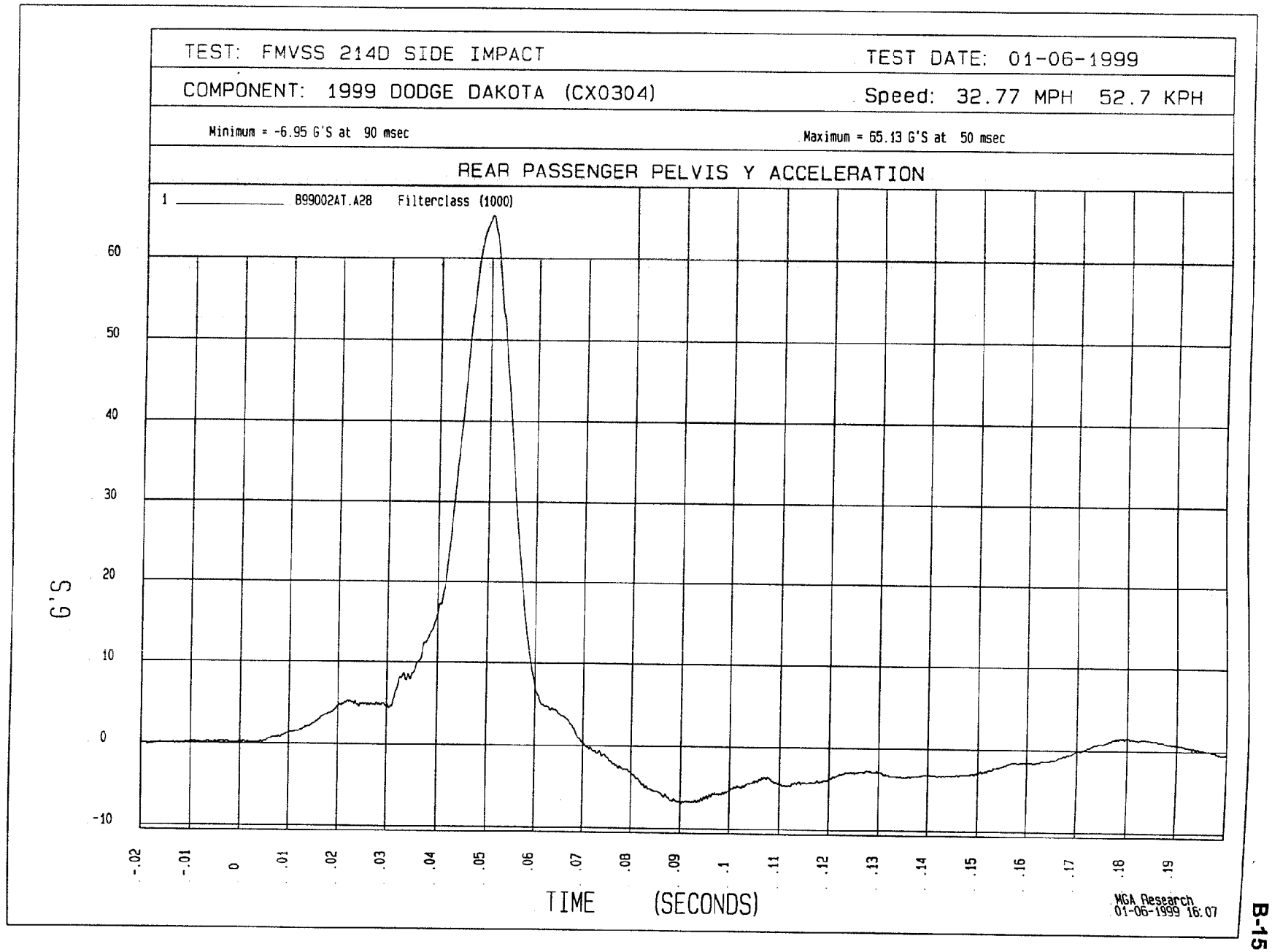

TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -.39 KPH at 33 msec
Maximum = 28.6 KPH at 117 msec
REAR PASSENGER UPPER RIB Y VELOCITY
1 B99002AI.V25 Filterclass (180)
KPH
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME Seconds
MGA Research
01-06-1999 16:06

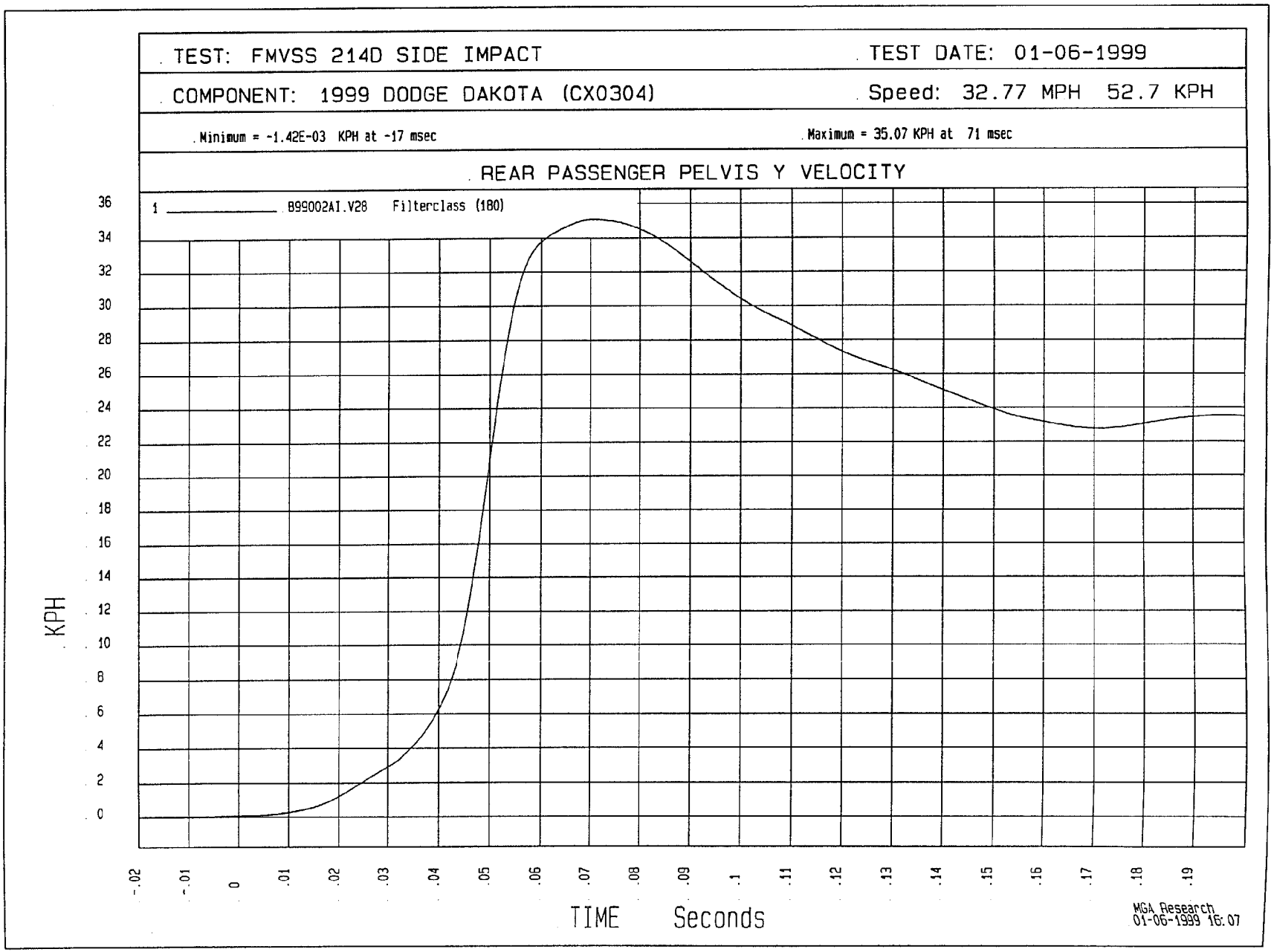

TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -33.97 G'S at 61 msec
Maximum = 68.2 G'S at 55 msec
REAR PASSENGER LOWER RIB Y ACCELERATION
1 B99002AT.A26 Filterclass (1000)
60
40
20
0
-20
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
01-06-1999 16:06

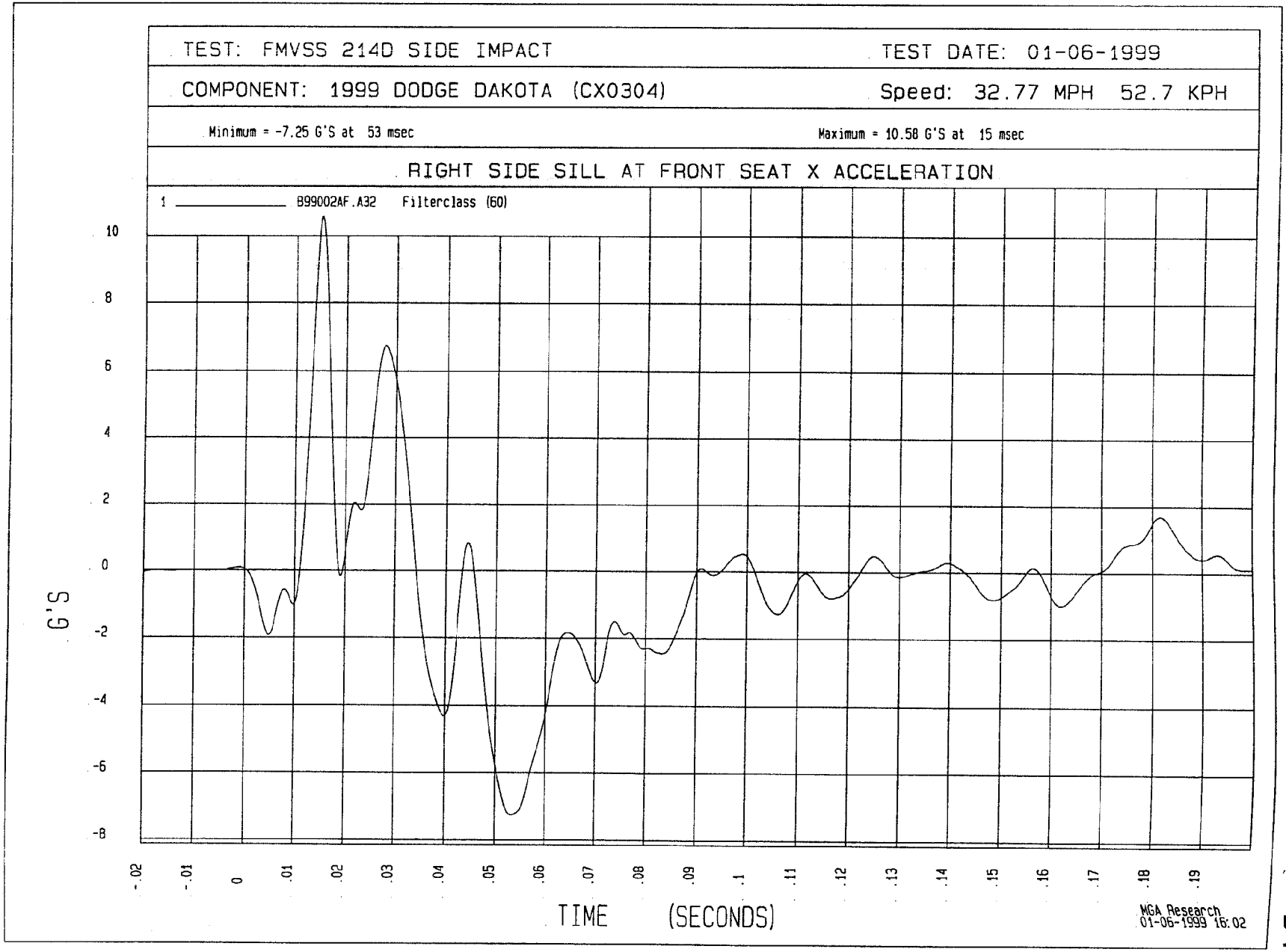

TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -.71 KPH at 30 msec
Maximum = 28.37 KPH at 71 msec
REAR PASSENGER LOWER RIB Y VELOCITY
1 B99002AI.Y26 Filterclass (180)
KPH
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
-2
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME Seconds
MGA Research
01-06-1999 16:06

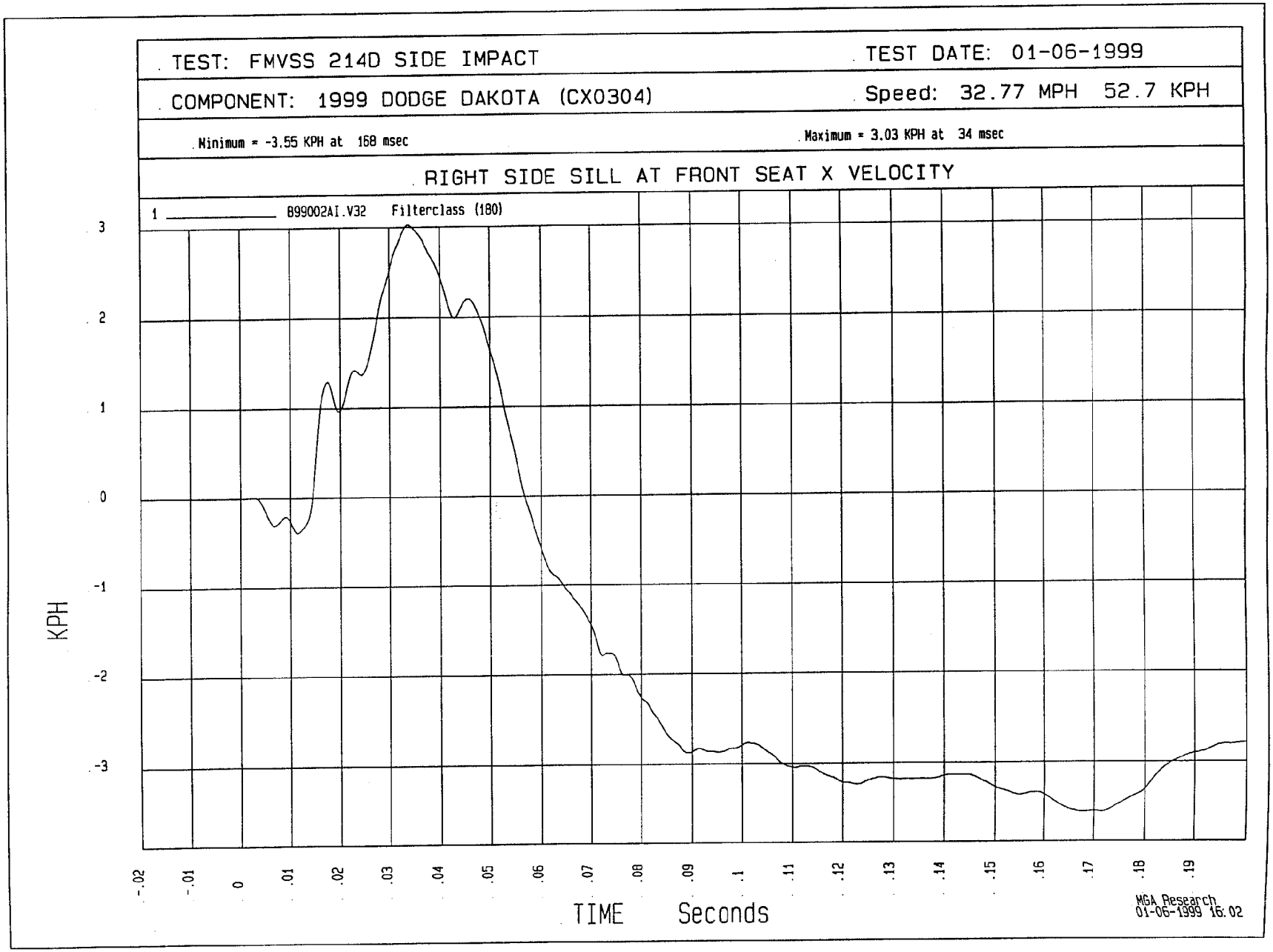

TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -13.1 G'S at 74 msec
Maximum = 64.62 G'S at 52 msec
REAR PASSENGER LOWER SPINE Y ACCELERATION
1 B99002AF.A27 Filterclass (180)
60
50
40
30
20
10
0
-10
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
01-06-1999 16:06

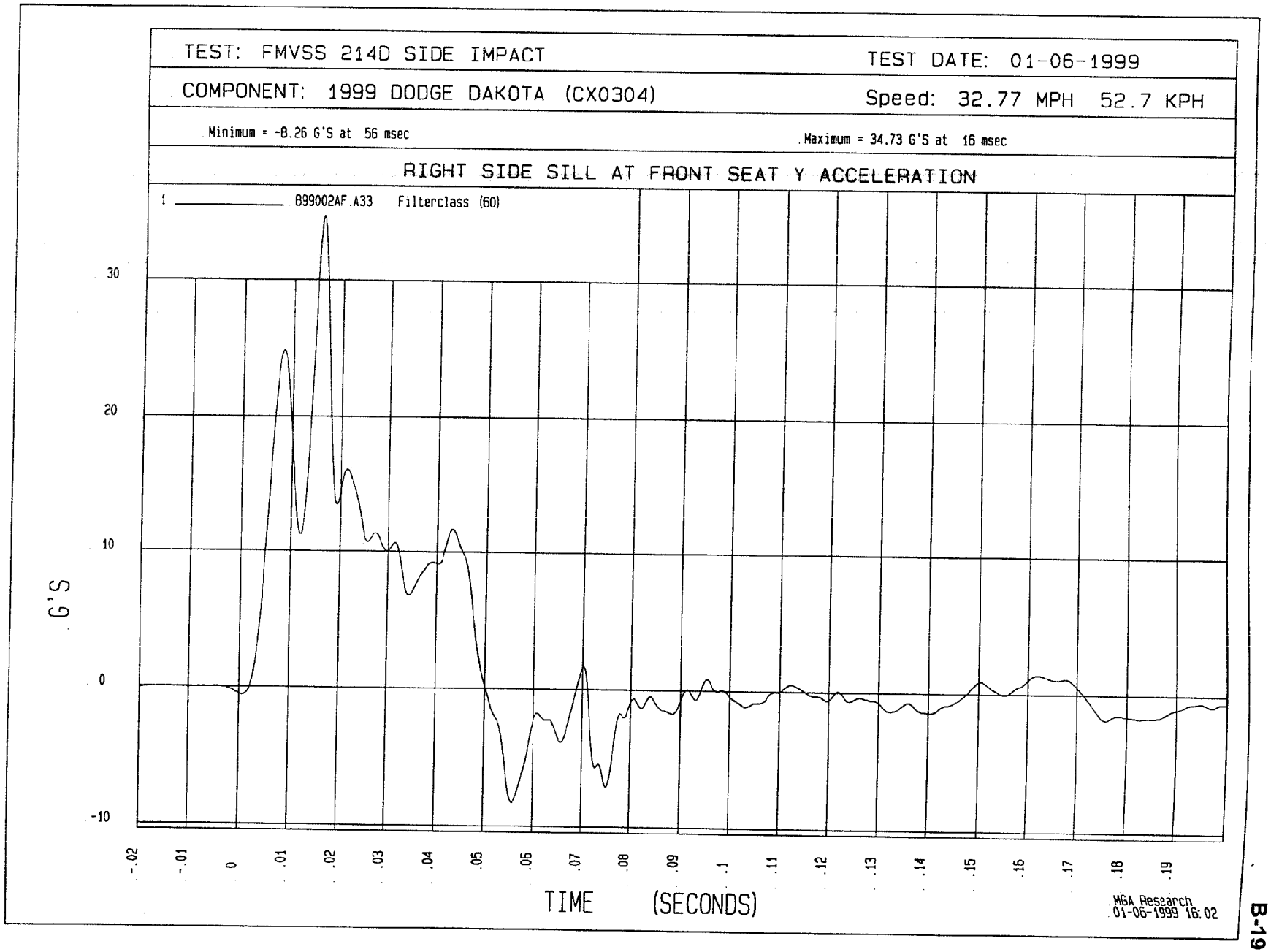

TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -1.63E-03 KPH at -17 msec
Maximum = 34.16 KPH at 66 msec
REAR PASSENGER LOWER SPINE Y VELOCITY
1 B99002AI.V27 Filterclass (180)
KPH
34
32
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME Seconds
MGA Research
01-06-1999 16:07


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -6.95 G'S at 90 msec
Maximum = 65.13 G'S at 50 msec
REAR PASSENGER PELVIS Y ACCELERATION
1 B99002AT.A28 Filterclass (1000)
G'S
60
50
40
30
20
10
0
-10
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
01-06-1999 16:07


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -1.42E-03 KPH at -17 msec
Maximum = 35.07 KPH at 71 msec
REAR PASSENGER PELVIS Y VELOCITY
1 B99002AI.V28 Filterclass (180)
KPH
36
34
32
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME Seconds
MGA Research
01-06-1999 16:07


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -7.25 G'S at 53 msec
Maximum = 10.58 G'S at 15 msec
RIGHT SIDE SILL AT FRONT SEAT X ACCELERATION
1 B99002AF.A32 Filterclass (60)
G'S
10
8
6
4
2
0
-2
-4
-6
-8
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
01-06-1999 16:02


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -3.55 KPH at 168 msec
Maximum = 3.03 KPH at 34 msec
RIGHT SIDE SILL AT FRONT SEAT X VELOCITY
1 B99002AI.V32 Filterclass (180)
KPH
3
2
1
0
-1
-2
-3
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME Seconds
MGA Research
01-06-1999 16:02


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -8.26 G'S at 56 msec
Maximum = 34.73 G'S at 16 msec
RIGHT SIDE SILL AT FRONT SEAT Y ACCELERATION
1 B99002AF.A33 Filterclass (60)
30
20
10
0
-10
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
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.15
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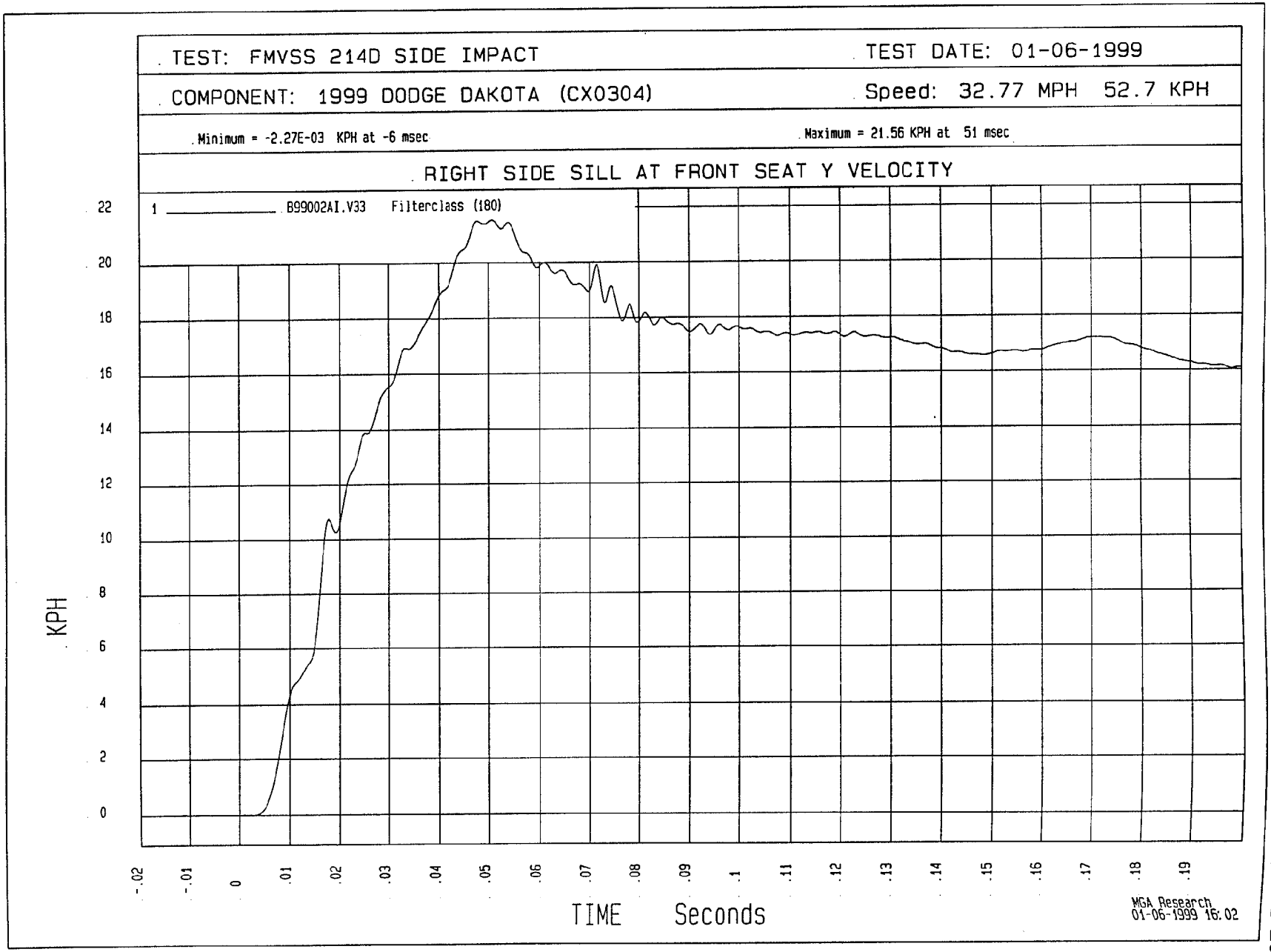
.18
.19
TIME (SECONDS)
MGA Research
01-06-1999 16:02


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -2.27E-03 KPH at -6 msec
Maximum = 21.56 KPH at 51 msec
RIGHT SIDE SILL AT FRONT SEAT Y VELOCITY
1 B99002AI.V33 Filterclass (180)
KPH
22
20
18
16
14
12
10
8
6
4
2
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
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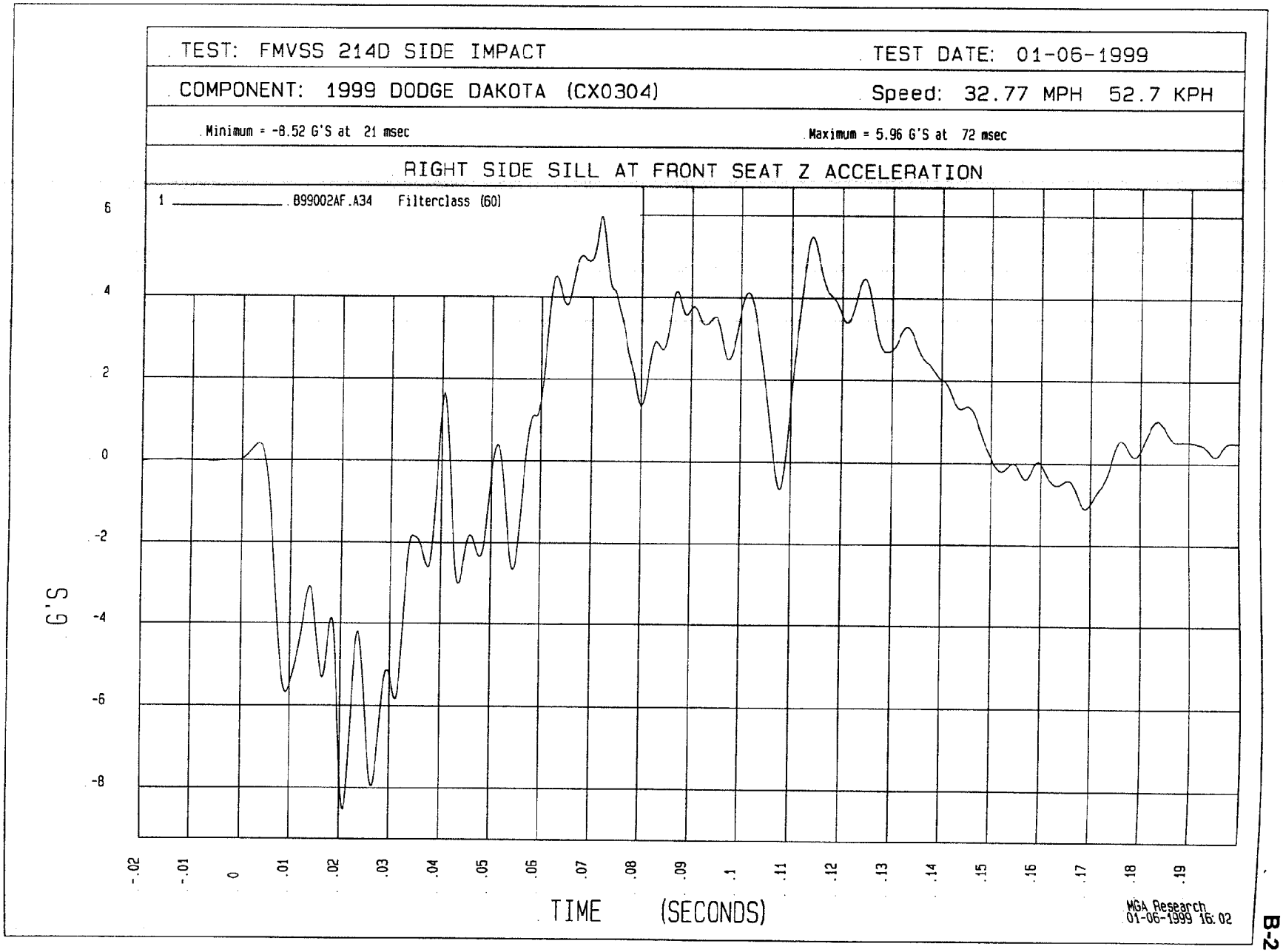
TIME Seconds
MGA Research
01-06-1999 16:02


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -8.52 G'S at 21 msec
Maximum = 5.96 G'S at 72 msec
RIGHT SIDE SILL AT FRONT SEAT Z ACCELERATION
1 B99002AF.A34 Filterclass (60)
6
4
2
0
-2
-4
-6
-8
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
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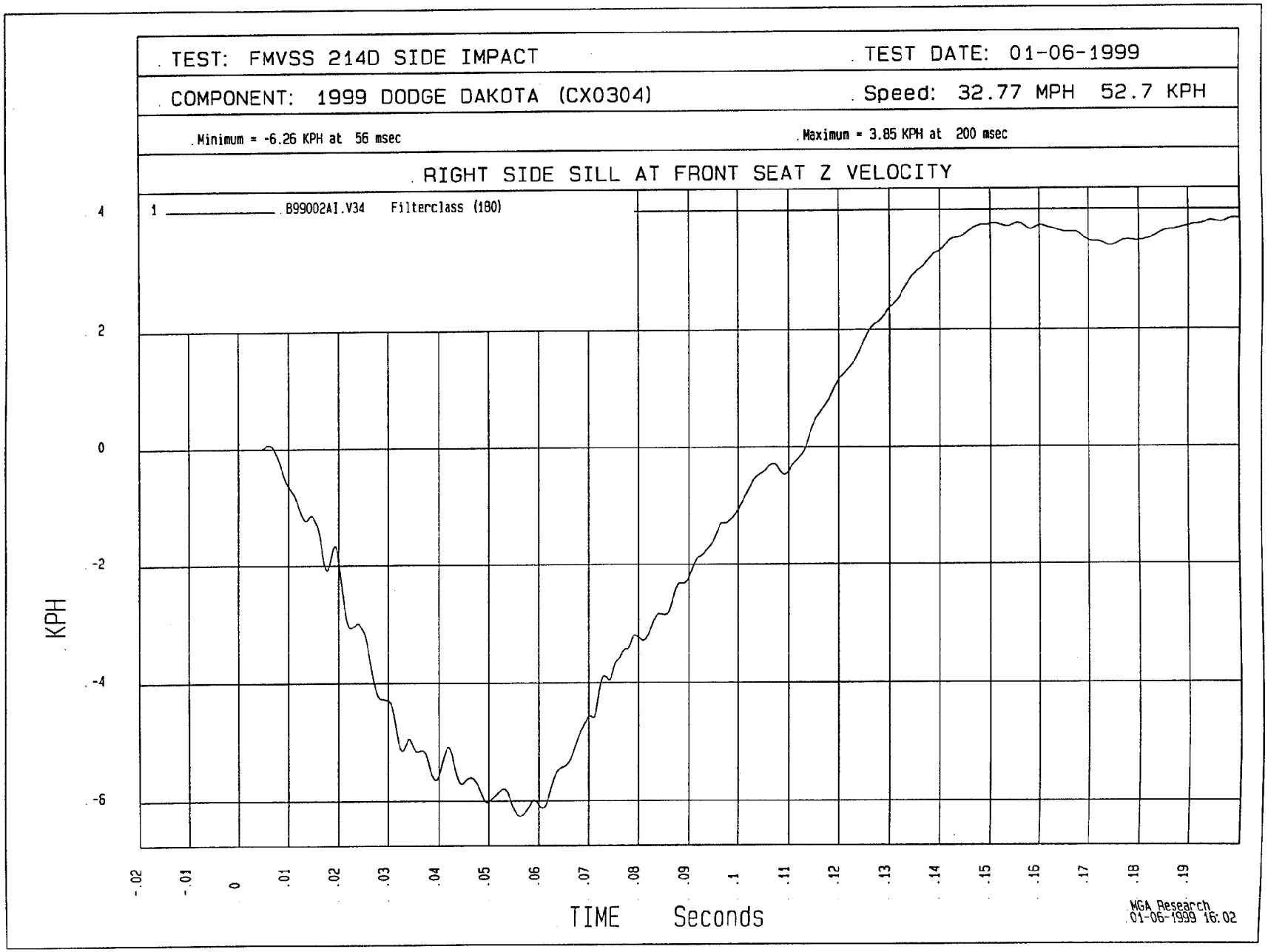
TIME (SECONDS)
MGA Research
01-06-1999 16:02


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -6.26 KPH at 56 msec
Maximum = 3.85 KPH at 200 msec
RIGHT SIDE SILL AT FRONT SEAT Z VELOCITY
1 B99002AI.V34 Filterclass (180)
KPH
4
2
0
-2
-4
-6
-.02
-.01
0
.01
.02
.03
.04
.05
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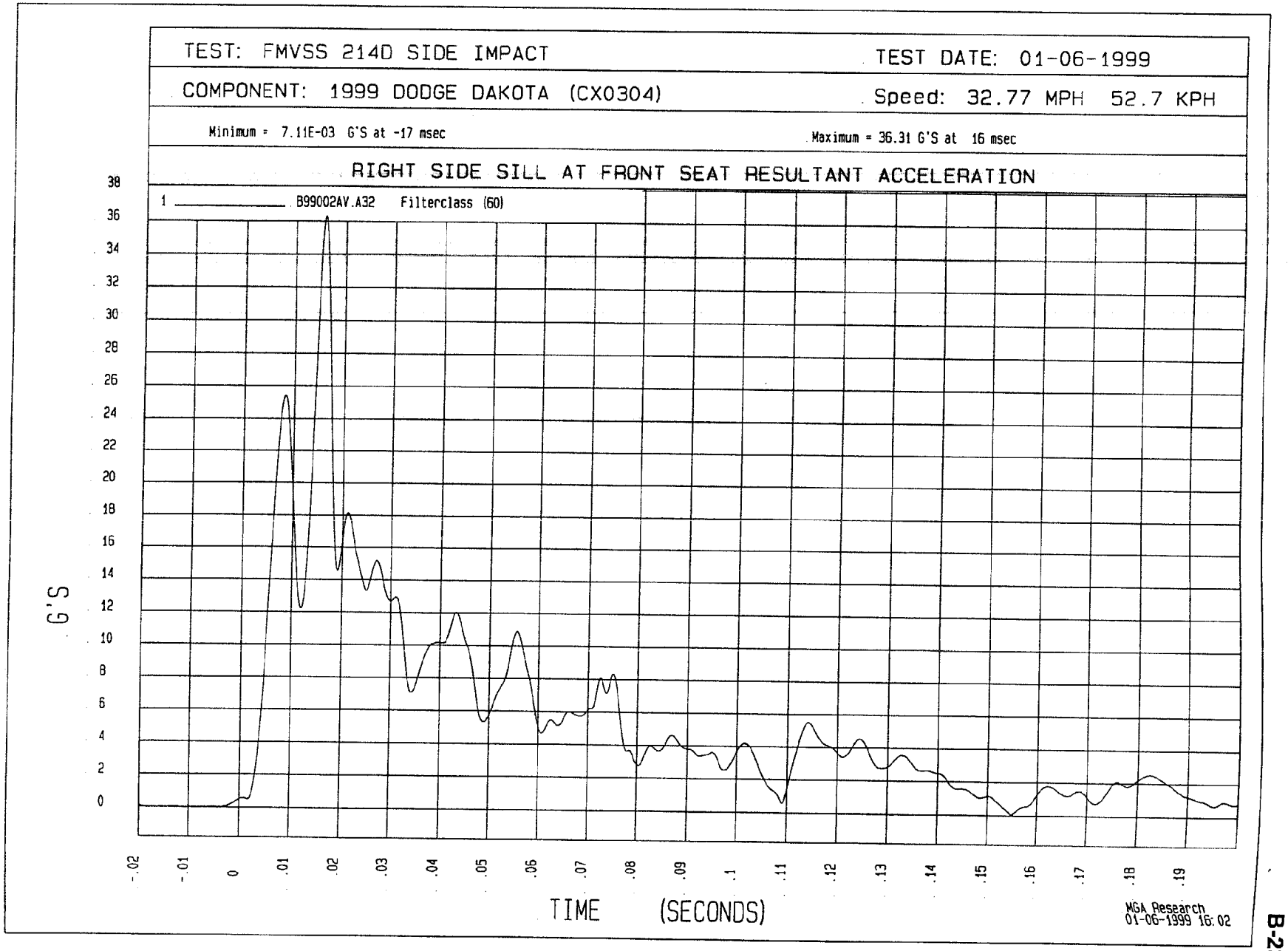
TIME Seconds
MGA Research
01-06-1999 16:02


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = 7.11E-03 G'S at -17 msec
Maximum = 36.31 G'S at 16 msec
RIGHT SIDE SILL AT FRONT SEAT RESULTANT ACCELERATION
1 B99002AV.A32 Filterclass (60)
G'S
38
36
34
32
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
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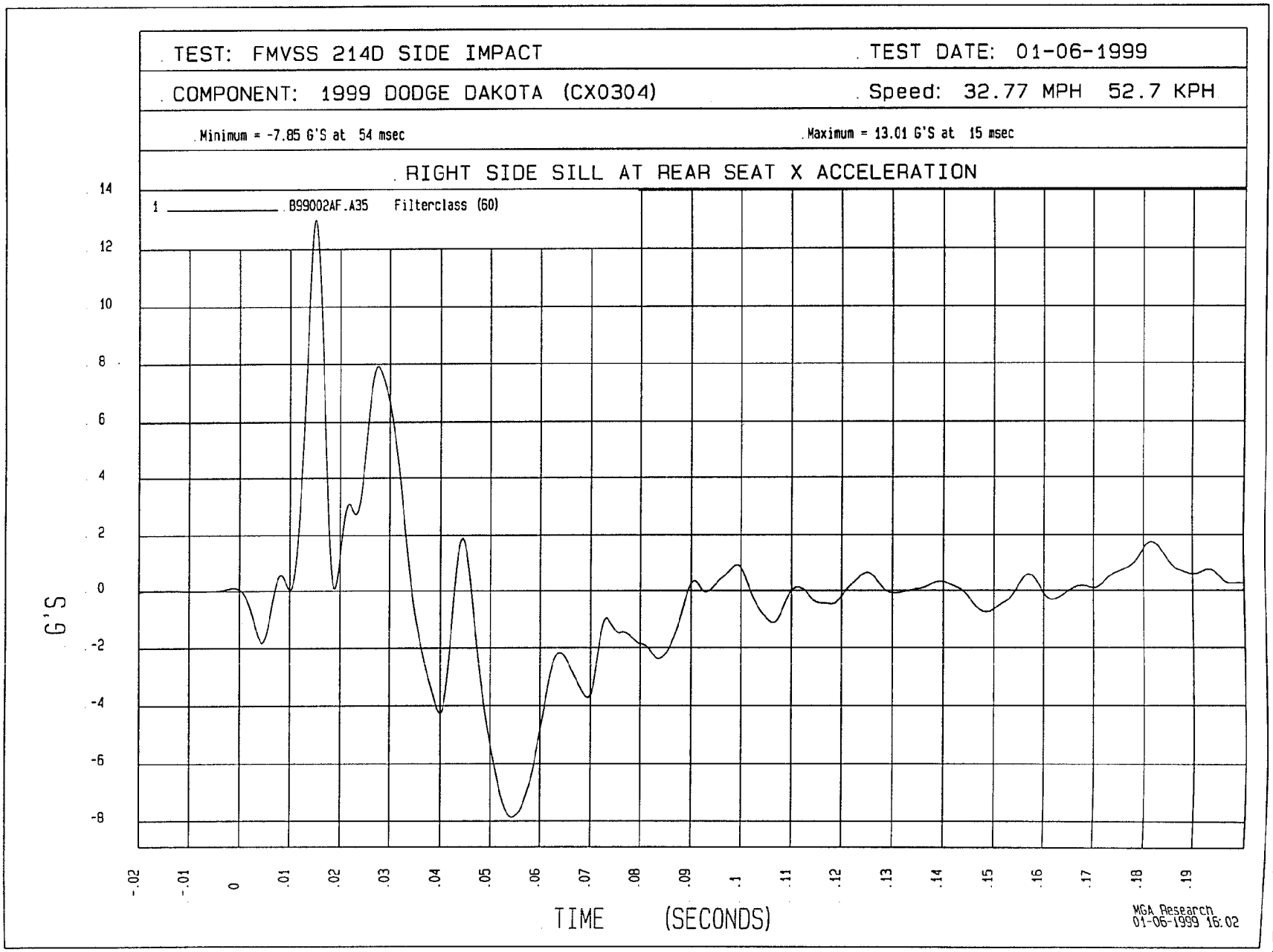
TIME (SECONDS)
MGA Research
01-06-1999 16:02


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -7.85 G'S at 54 msec
Maximum = 13.01 G'S at 15 msec
RIGHT SIDE SILL AT REAR SEAT X ACCELERATION
1 B99002AF.A35 Filterclass (60)
14
12
10
8
6
4
2
0
-2
-4
-6
-8
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
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.16
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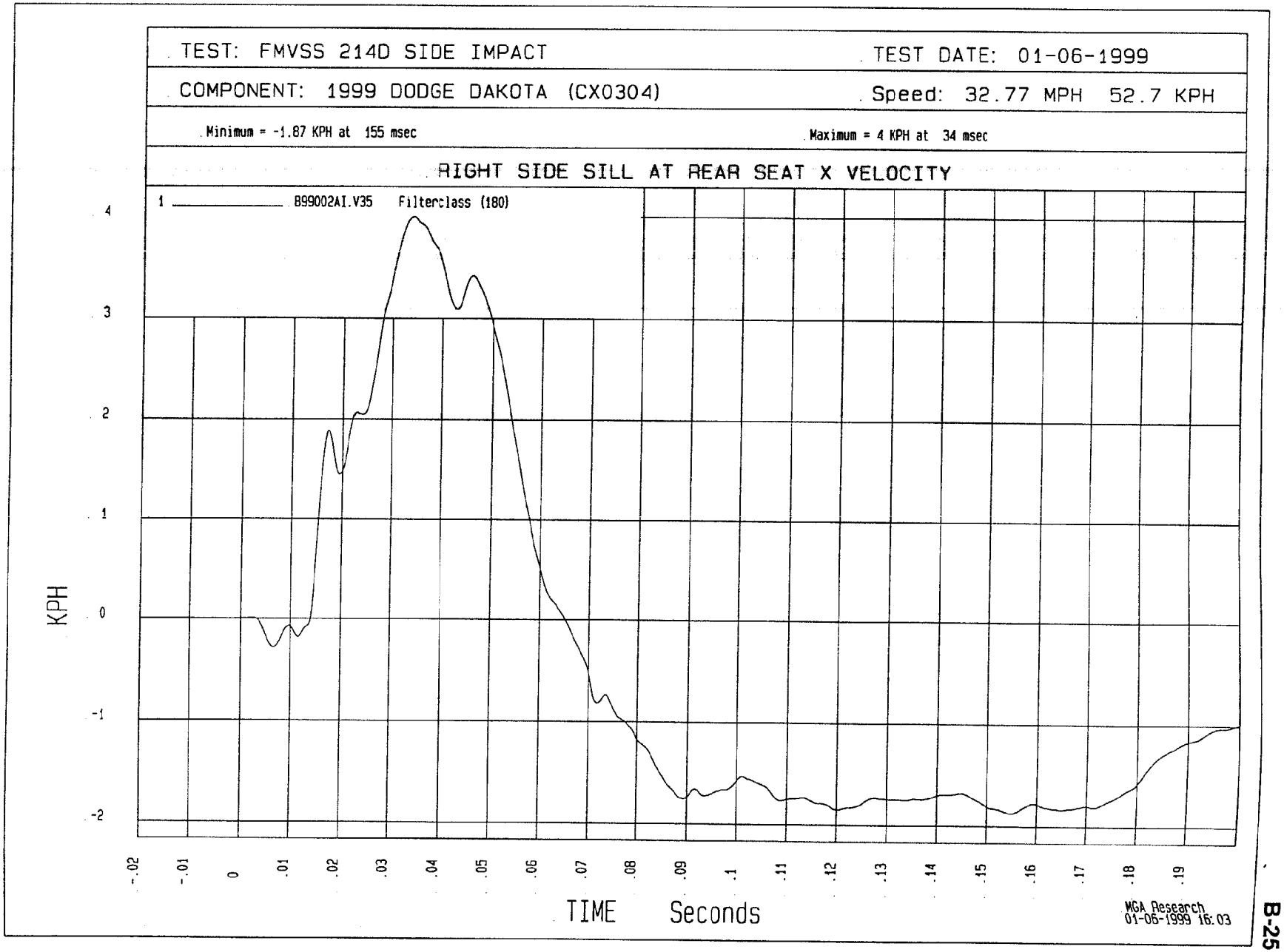
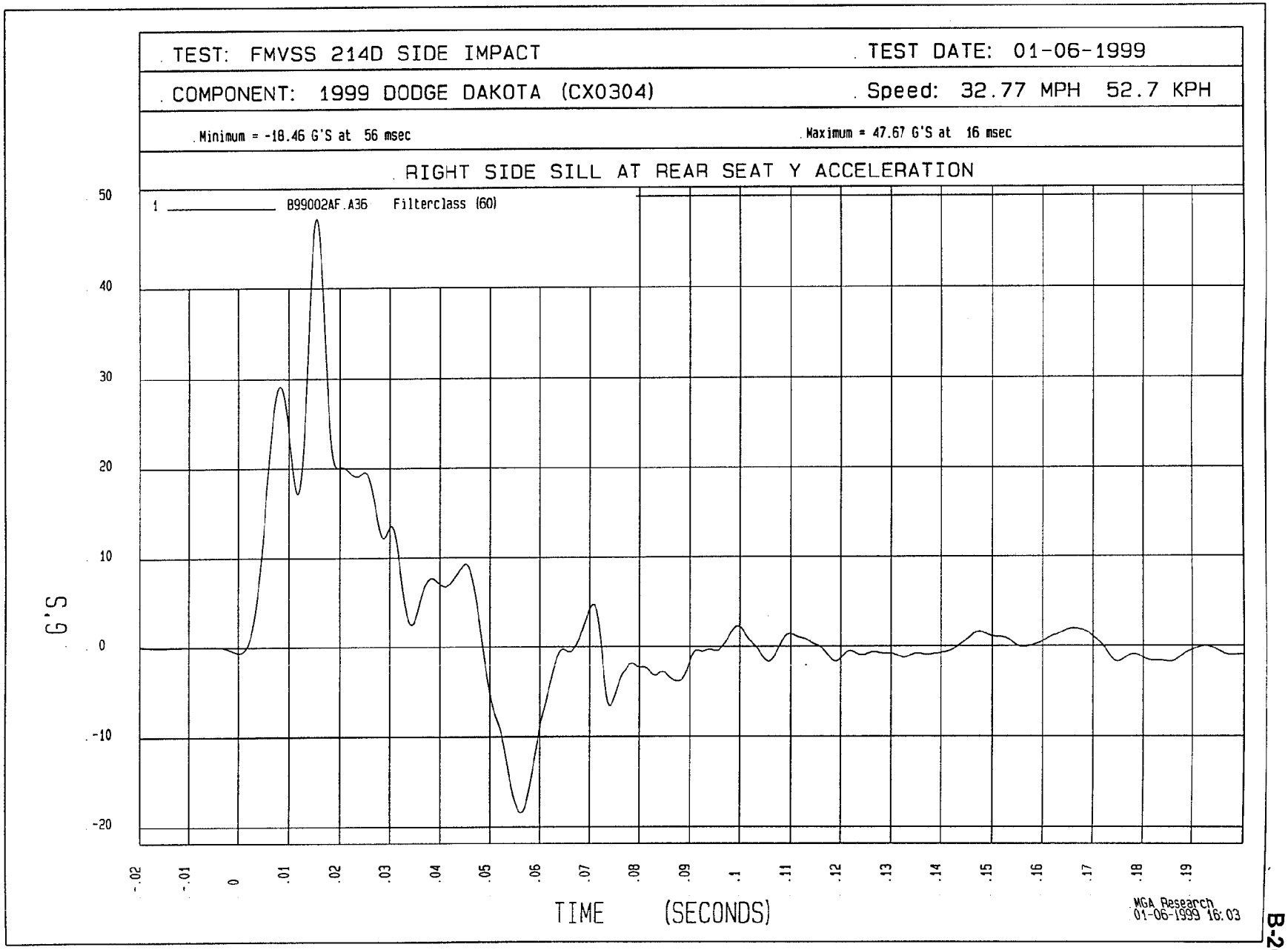
TIME (SECONDS)
MGA Research
01-06-1999 16:02


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -1.87 KPH at 155 msec
Maximum = 4 KPH at 34 msec
RIGHT SIDE SILL AT REAR SEAT X VELOCITY
1 B99002AI.V35 Filterclass (180)
KPH
4
3
2
1
0
-1
-2
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME Seconds
MGA Research
01-06-1999 16:03


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -18.46 G'S at 56 msec
Maximum = 47.67 G'S at 16 msec
RIGHT SIDE SILL AT REAR SEAT Y ACCELERATION
1 B99002AF.A36 Filterclass (60)
50
40
30
20
10
0
-10
-20
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
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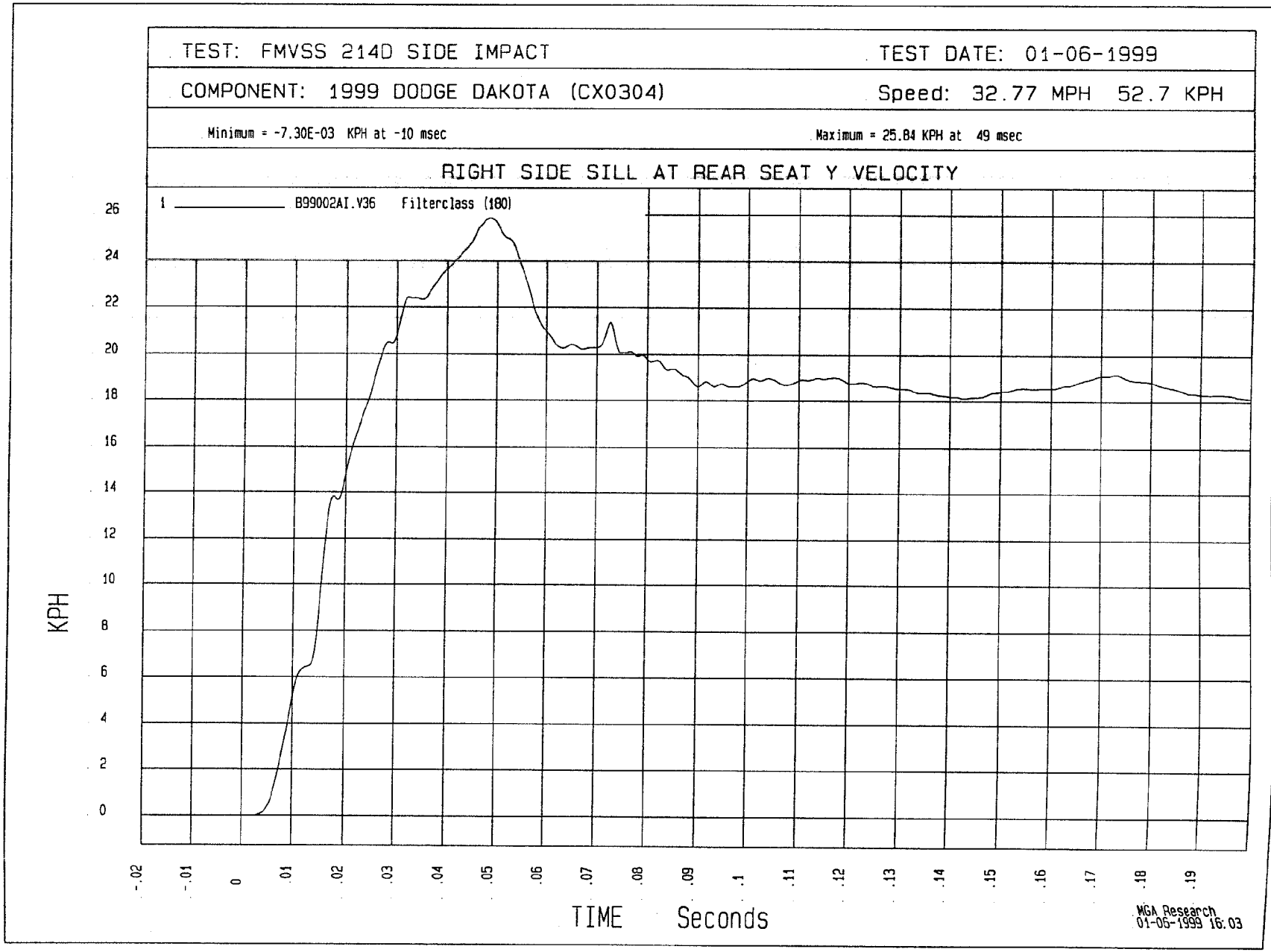
.18
.19
TIME (SECONDS)
MGA Research
01-06-1999 16:03


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -7.30E-03 KPH at -10 msec
Maximum = 25.84 KPH at 49 msec
RIGHT SIDE SILL AT REAR SEAT Y VELOCITY
1 B99002AI.V36 Filterclass (180)
KPH
26
24
22
20
18
16
14
12
10
8
6
4
2
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
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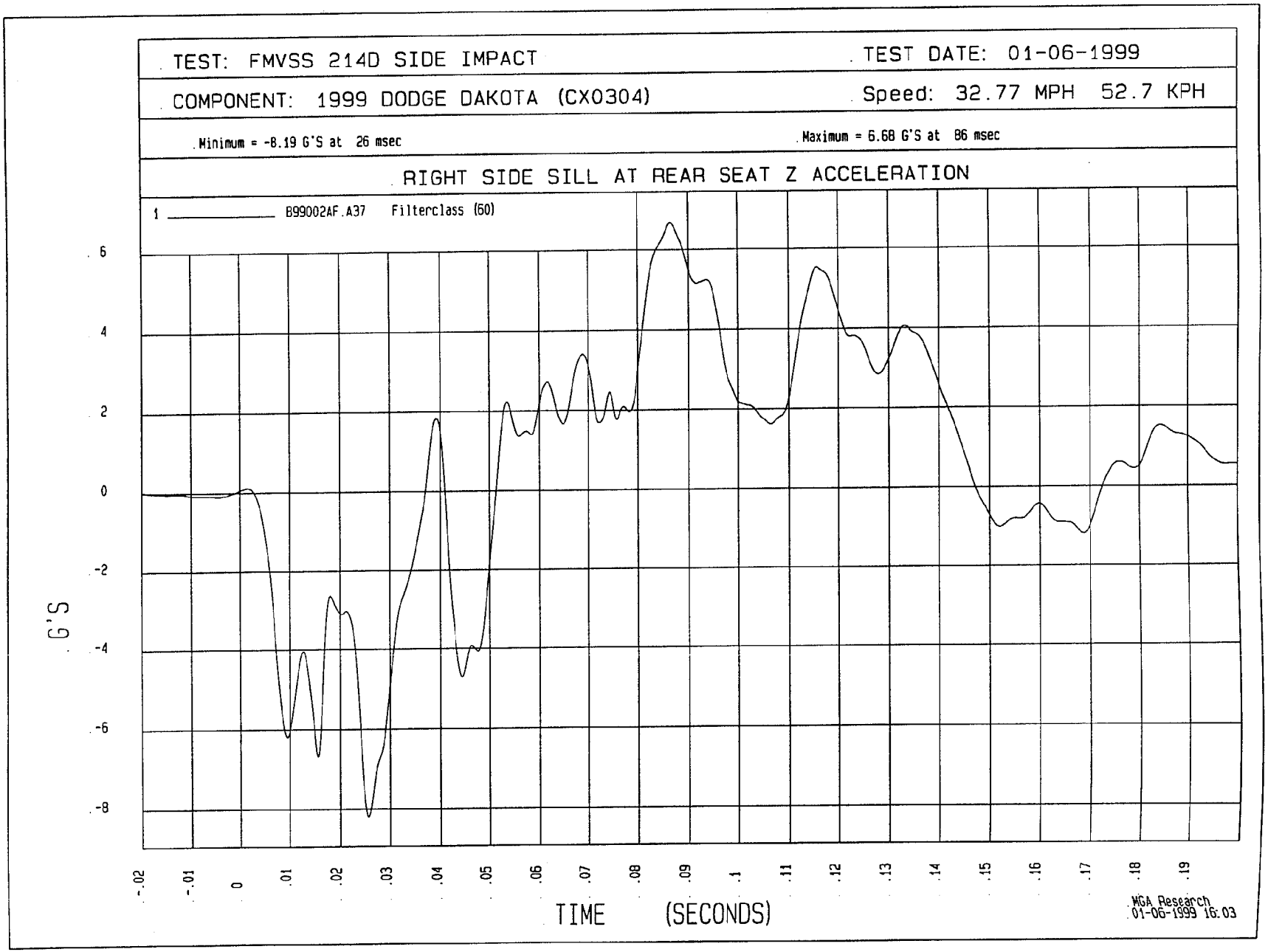
TIME Seconds
MGA Research
01-06-1999 16:03


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -8.19 G'S at 26 msec
Maximum = 6.68 G'S at 86 msec
RIGHT SIDE SILL AT REAR SEAT Z ACCELERATION
1 B990002AF.A37 Filterclass (60)
G'S
6
4
2
0
-2
-4
-6
-8
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
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.14
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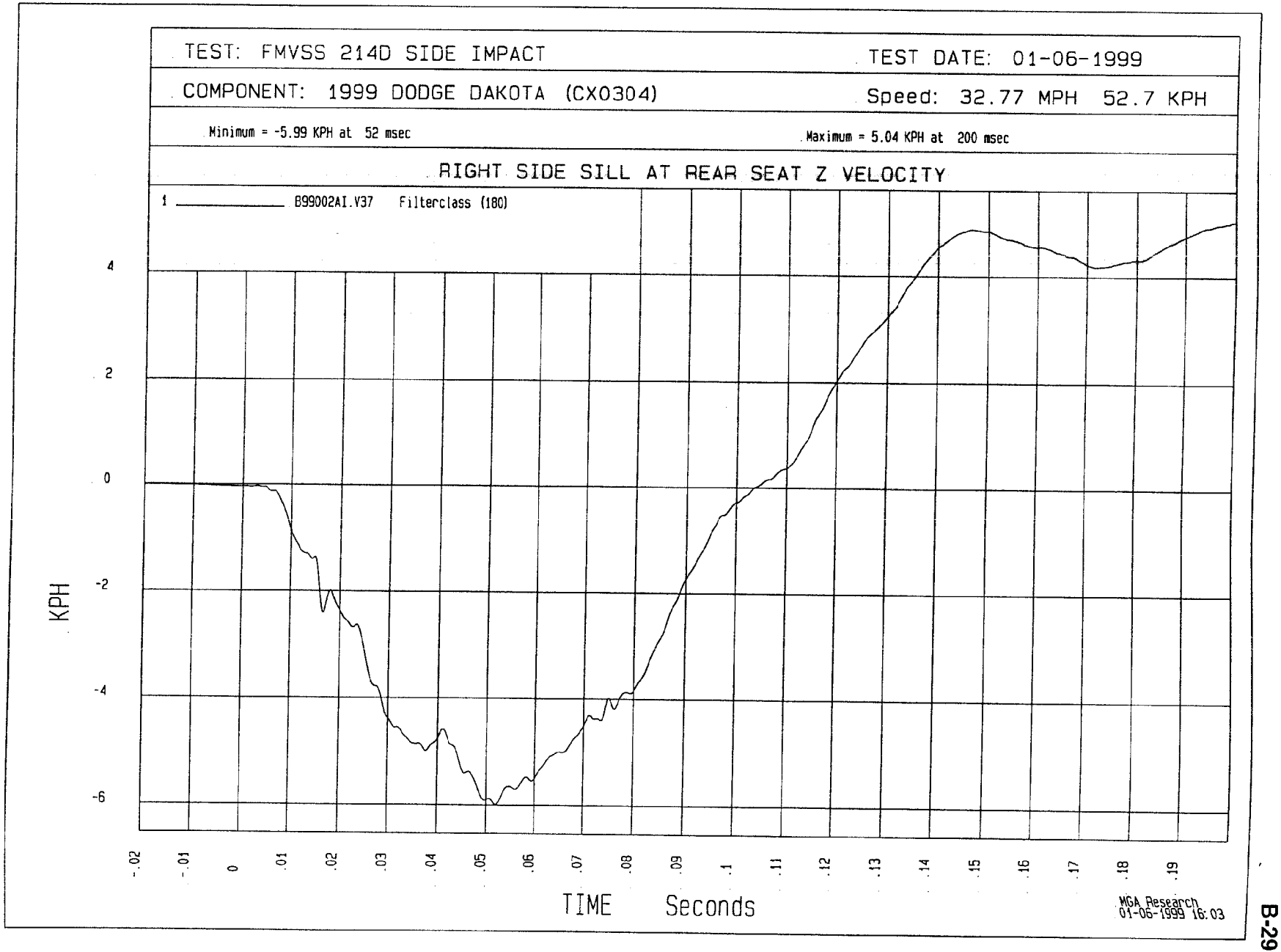
TIME (SECONDS)
MGA Research
01-06-1999 16:03


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -5.99 KPH at 52 msec
Maximum = 5.04 KPH at 200 msec
RIGHT SIDE SILL AT REAR SEAT Z VELOCITY
1 B99002AI.V37 Filterclass (180)
KPH
4
2
0
-2
-4
-6
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
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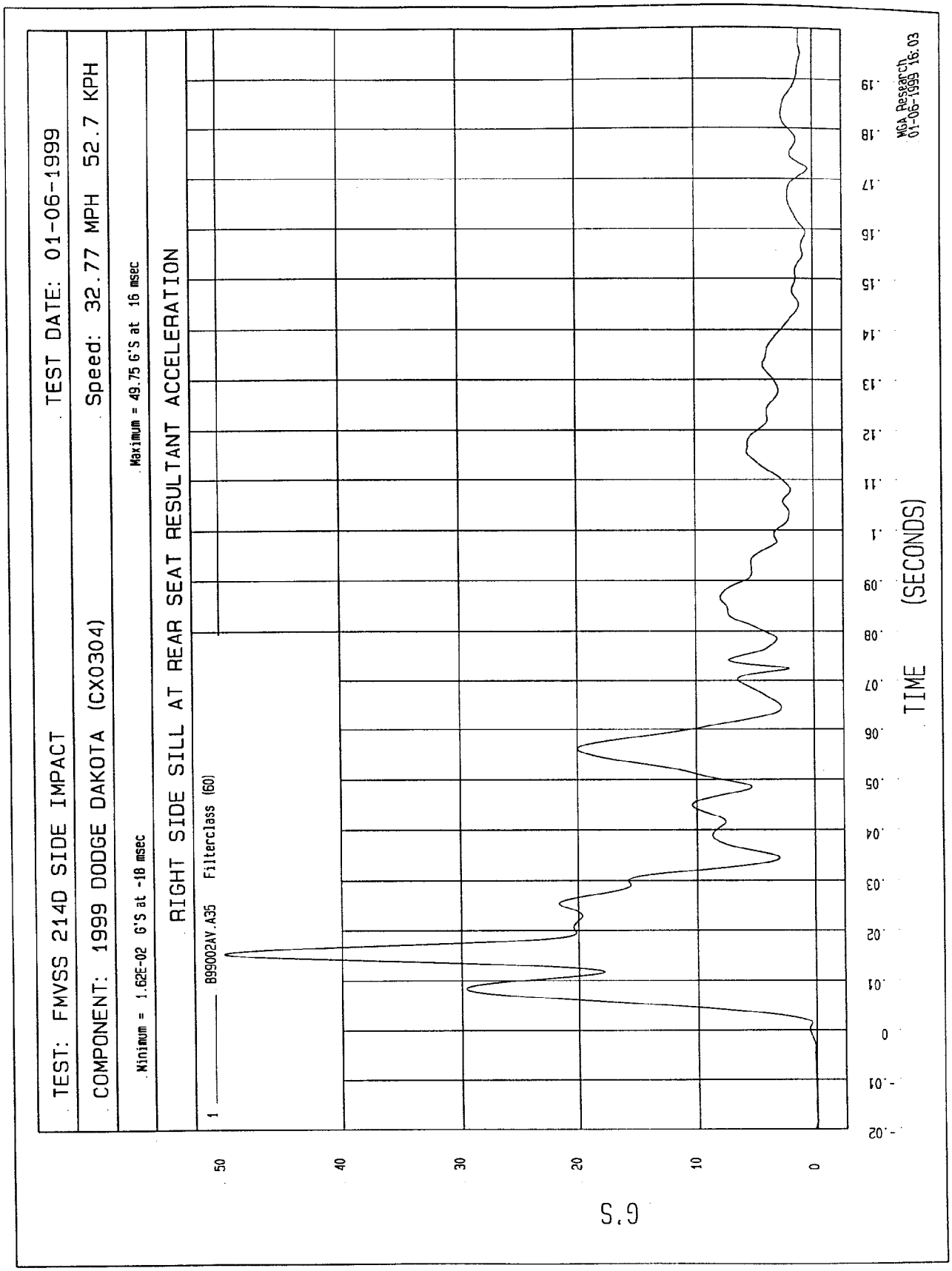
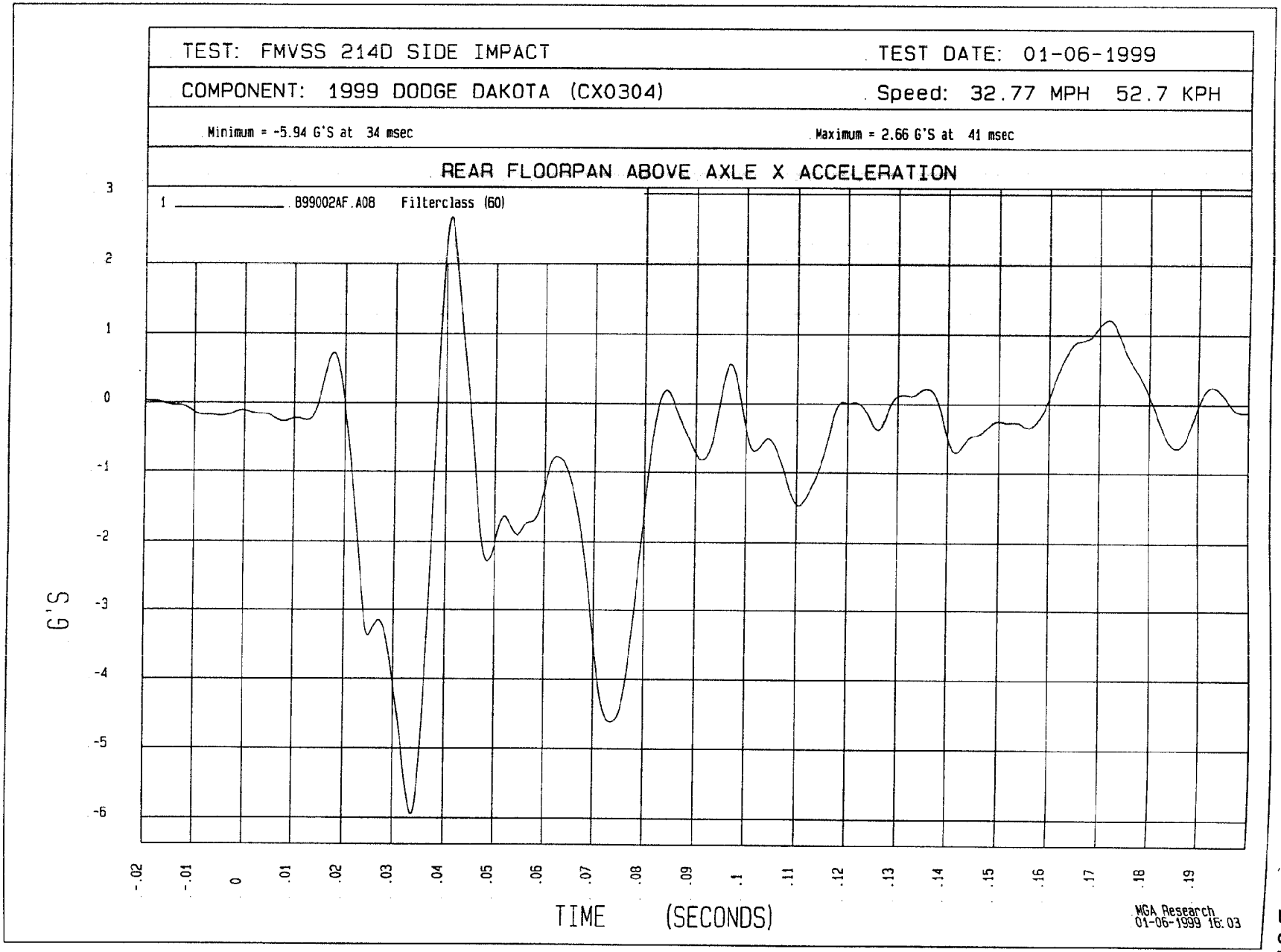
TIME Seconds
MGA Research
01-06-1999 16:03


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = 1.62E-02 G'S at -18 msec
Maximum = 49.75 G'S at 16 msec
RIGHT SIDE SILL AT REAR SEAT RESULTANT ACCELERATION
1 B99002AV.A35 Filterclass (60)
MGA Research
01-06-1999 16:03
G'S
TIME (SECONDS)


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -5.94 G'S at 34 msec
Maximum = 2.66 G'S at 41 msec
REAR FLOORPAN ABOVE AXLE X ACCELERATION
1 B99002AF.A08 Filterclass (60)
G'S
3
2
1
0
-1
-2
-3
-4
-5
-6
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
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.18
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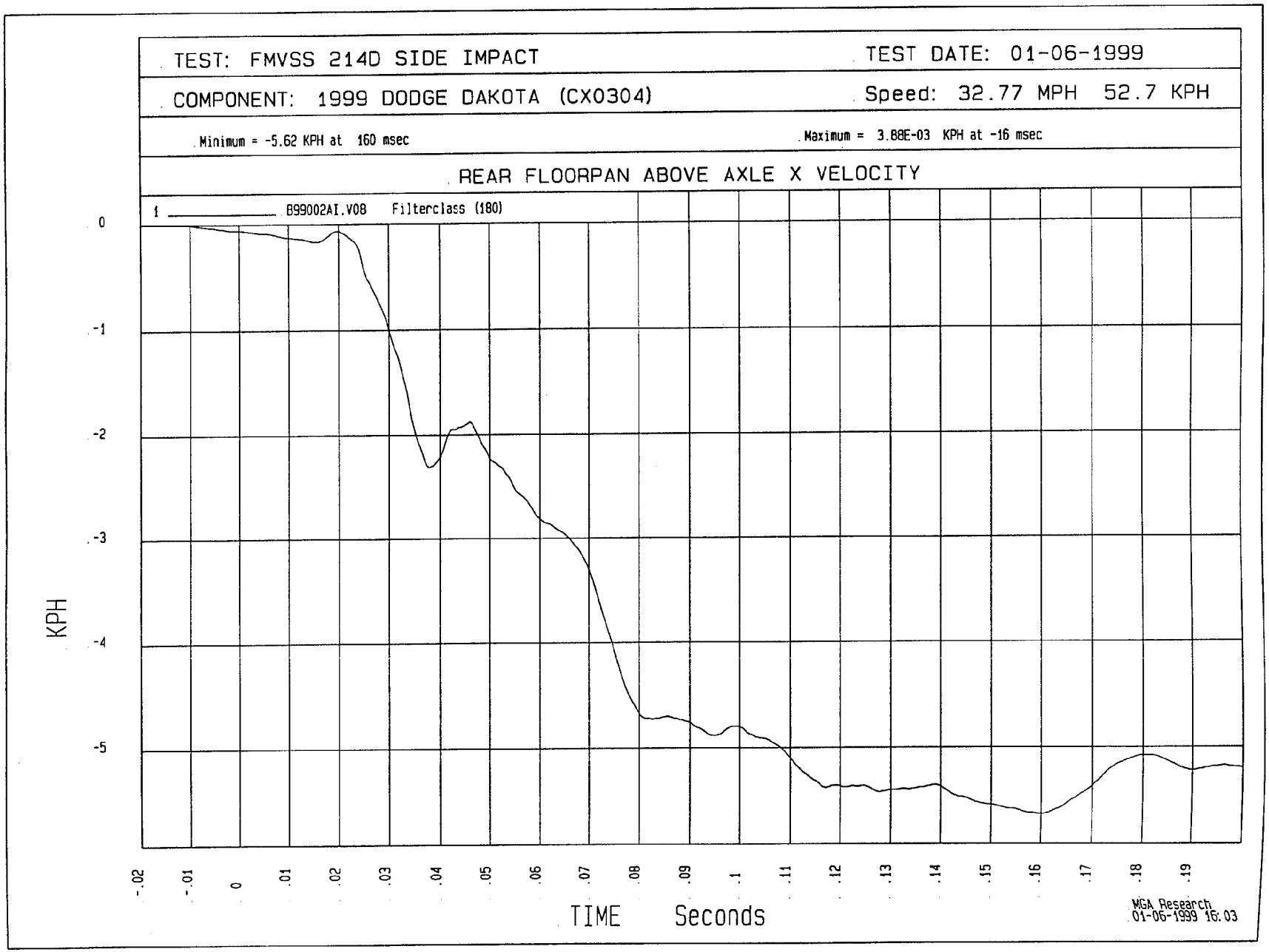
TIME (SECONDS)
MGA Research
01-06-1999 16:03


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -5.62 KPH at 160 msec
Maximum = 3.88E-03 KPH at -16 msec
REAR FLOORPAN ABOVE AXLE X VELOCITY
1 B99002AI.V08 Filterclass (180)
KPH
0
-1
-2
-3
-4
-5
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
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.14
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.17
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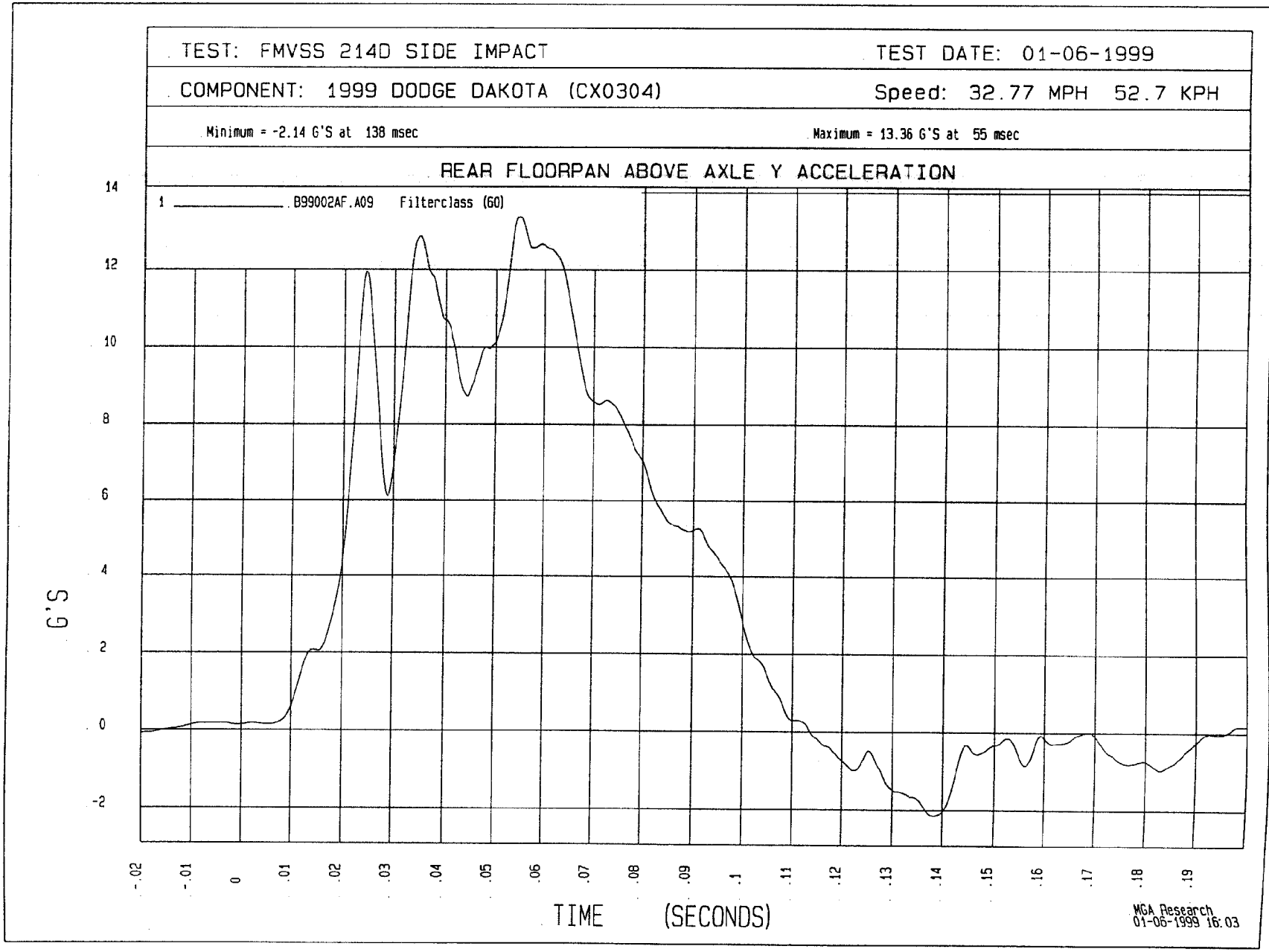
TIME Seconds
MGA Research
01-06-1999 16:03


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -2.14 G'S at 138 msec
Maximum = 13.36 G'S at 55 msec
REAR FLOORPAN ABOVE AXLE Y ACCELERATION
1 B99002AF.A09 Filterclass (60)
G'S
14
12
10
8
6
4
2
0
-2
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
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.14
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.18
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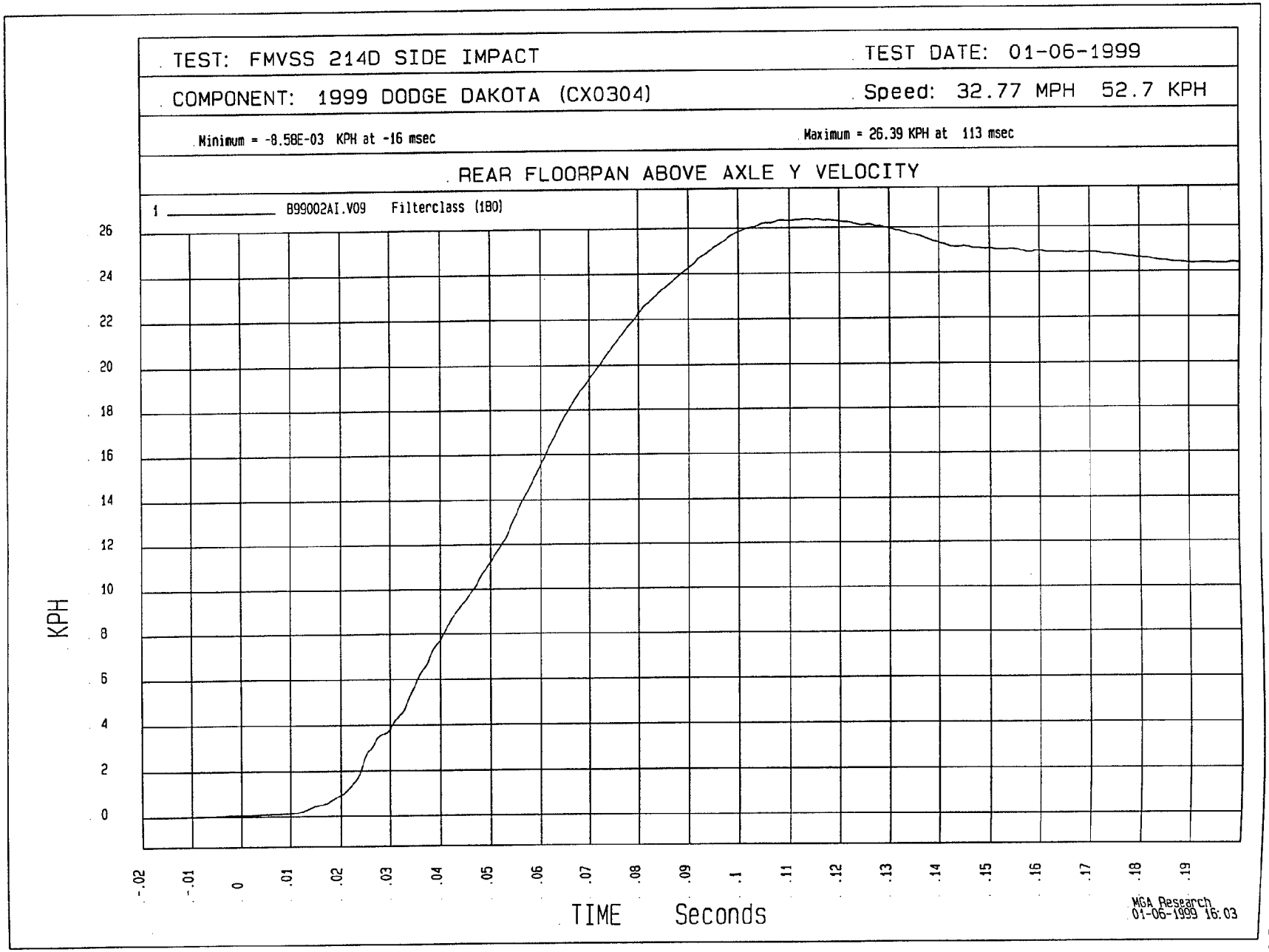
TIME (SECONDS)
MGA Research
01-06-1999 16:03


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -8.58E-03 KPH at -16 msec
Maximum = 26.39 KPH at 113 msec
REAR FLOORPAN ABOVE AXLE Y VELOCITY
1 B99002AI.V09 Filterclass (180)
KPH
26
24
22
20
18
16
14
12
10
8
6
4
2
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
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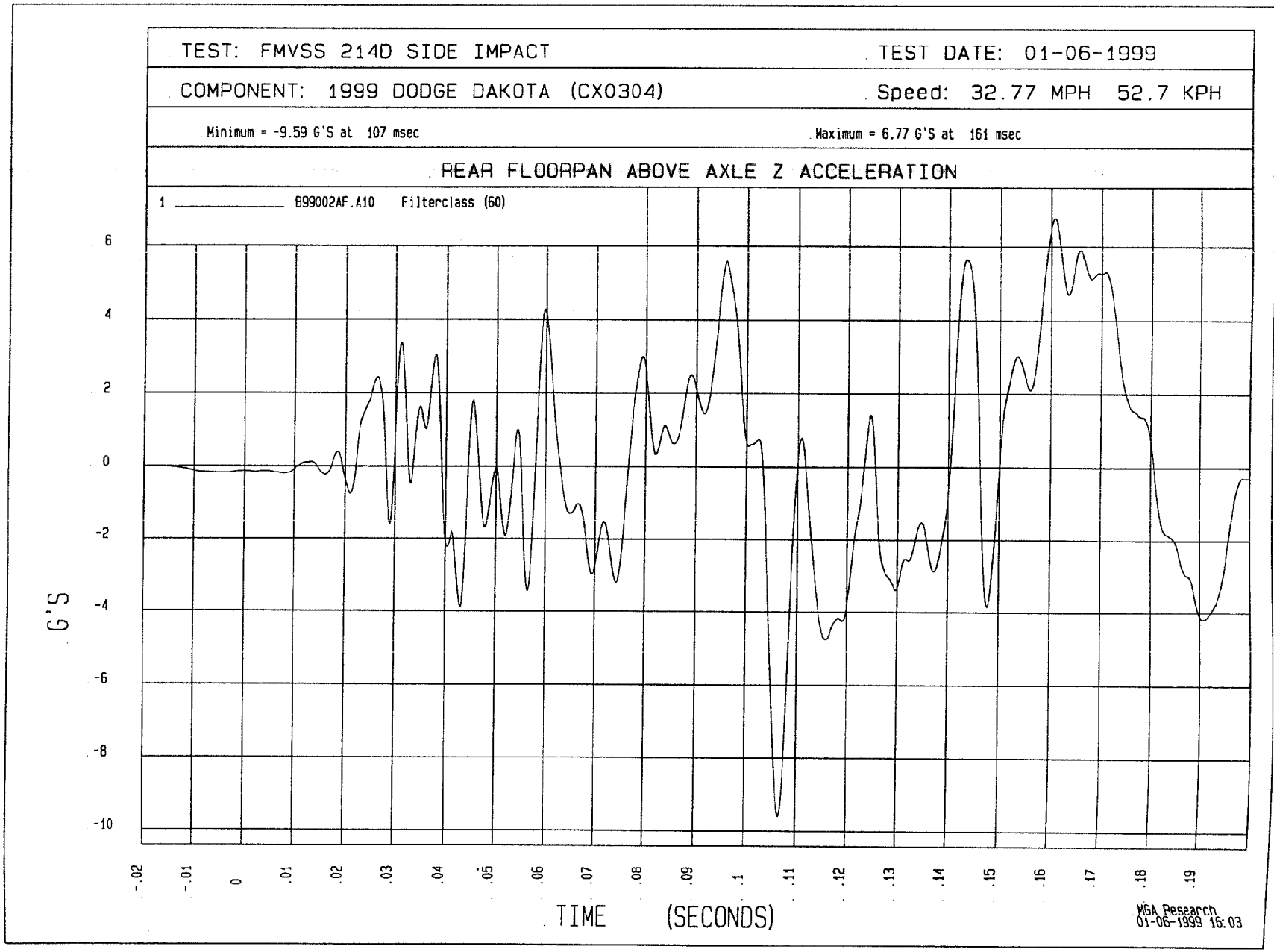
TIME Seconds
MGA Research
01-06-1999 16:03


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -9.59 G'S at 107 msec
Maximum = 6.77 G'S at 161 msec
REAR FLOORPAN ABOVE AXLE Z ACCELERATION
1 B99002AF.A10 Filterclass (60)
6
4
2
0
-2
-4
-6
-8
-10
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
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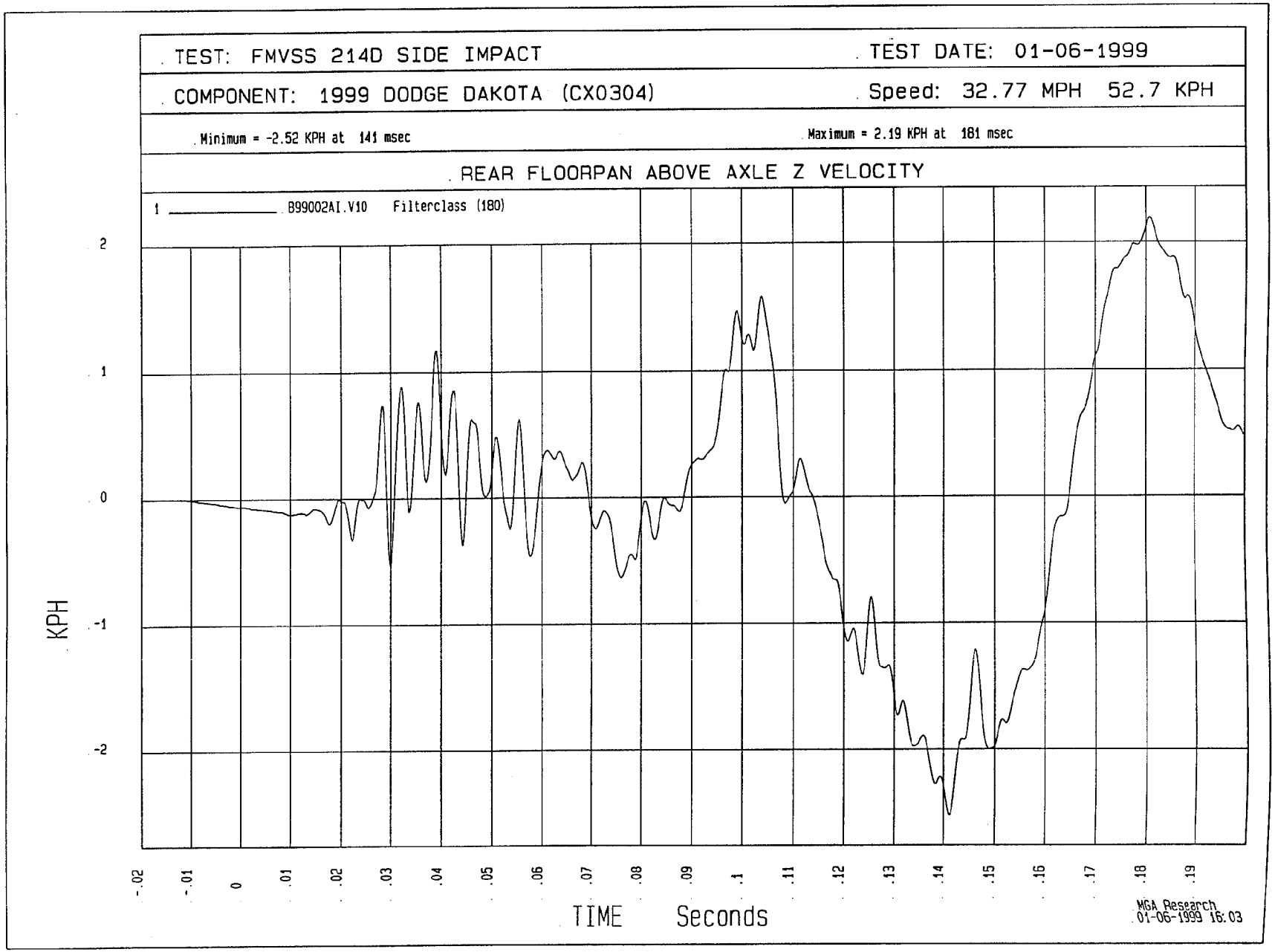
TIME (SECONDS)
MGA Research
01-06-1999 16:03


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -2.52 KPH at 141 msec
Maximum = 2.19 KPH at 181 msec
REAR FLOORPAN ABOVE AXLE Z VELOCITY
1 B99002AI.V10 Filterclass (180)
KPH
2
1
0
-1
-2
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
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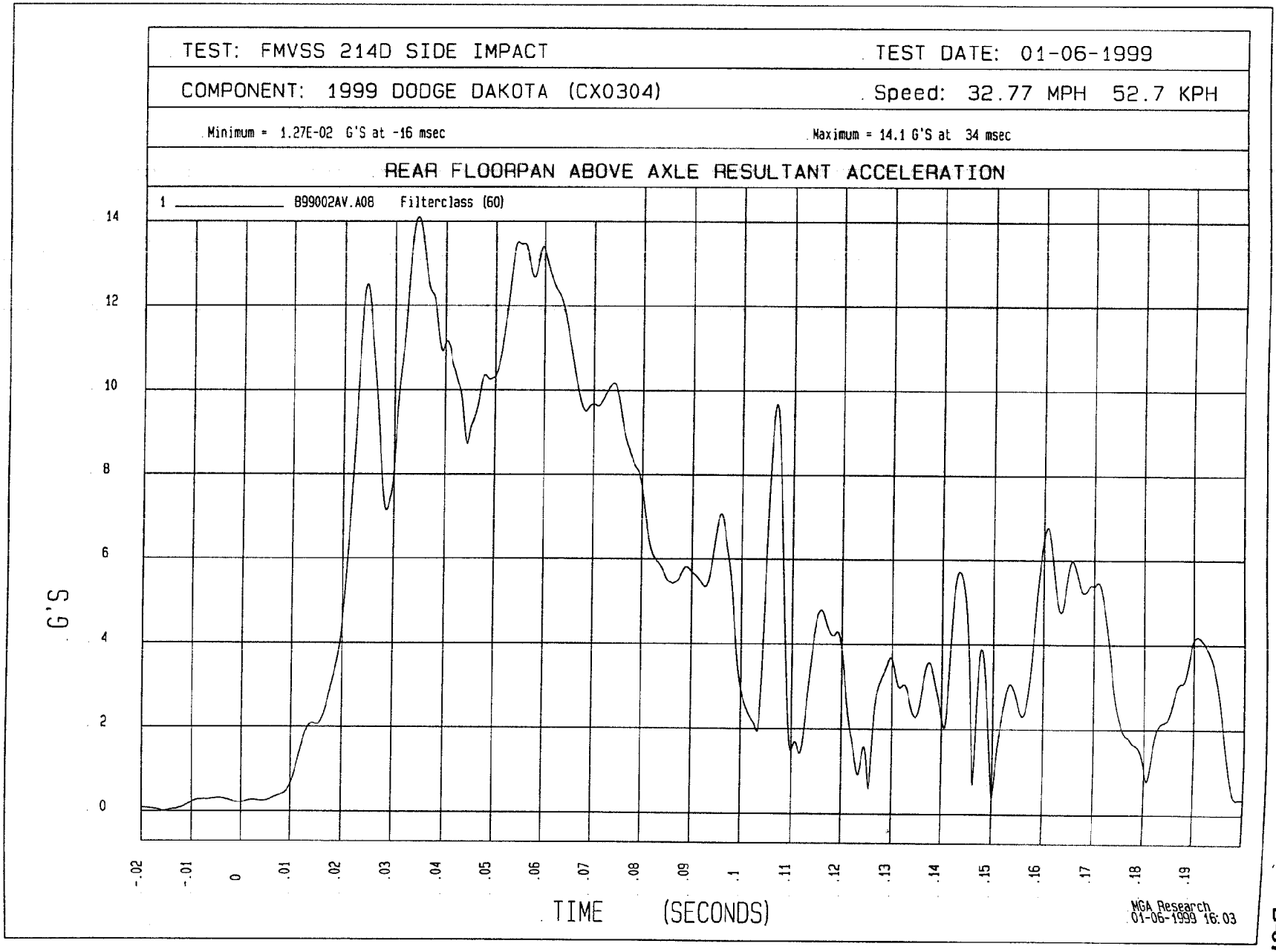
.19
TIME Seconds
MGA Research
01-06-1999 16:03


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = 1.27E-02 G'S at -16 msec
Maximum = 14.1 G'S at 34 msec
REAR FLOORPAN ABOVE AXLE RESULTANT ACCELERATION
1 B99002AV.A08 Filterclass (60)
G'S
14
12
10
8
6
4
2
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
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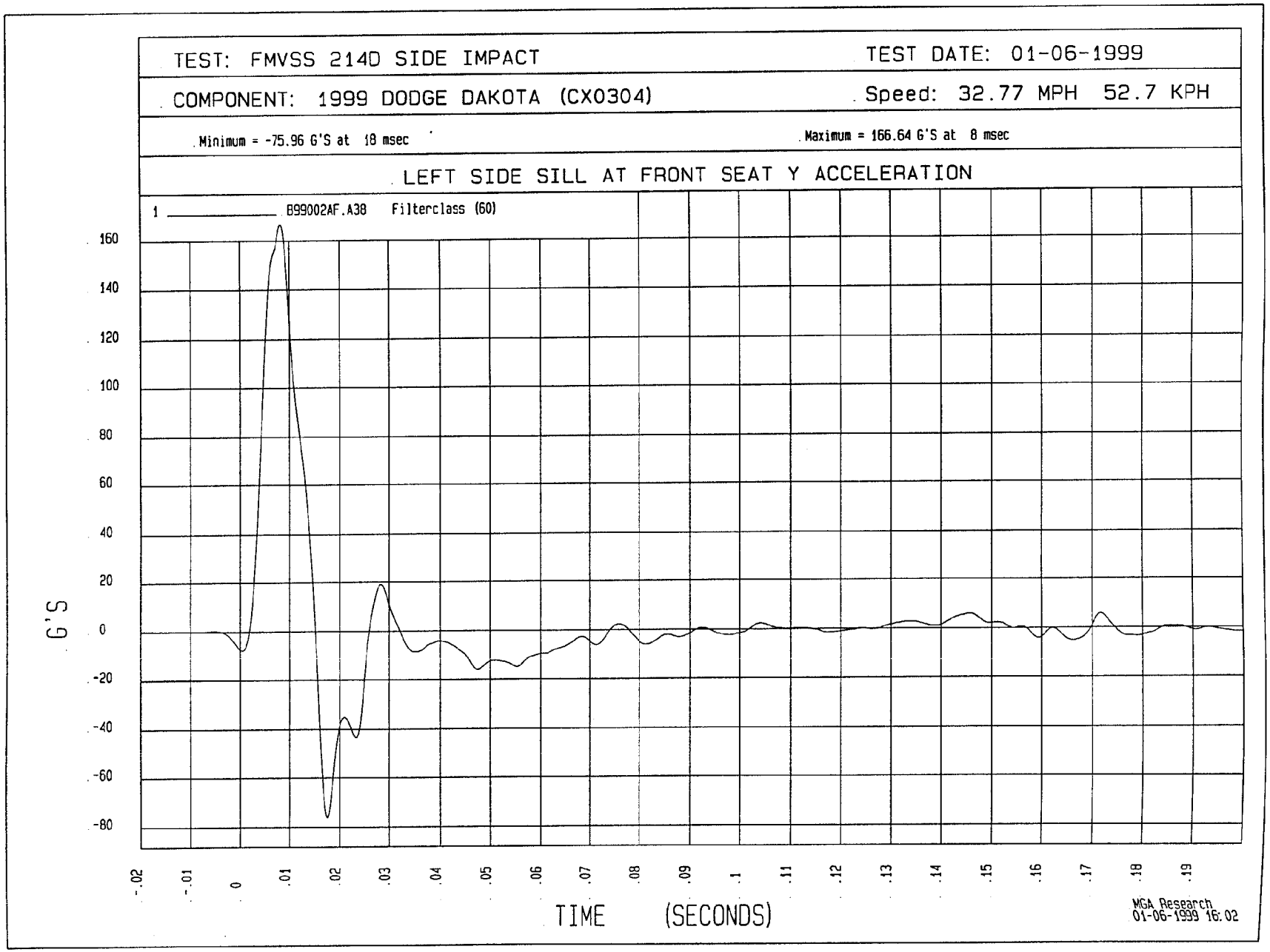
TIME (SECONDS)
MGA Research
01-06-1999 16:03


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -75.96 G'S at 18 msec
Maximum = 166.64 G'S at 8 msec
LEFT SIDE SILL AT FRONT SEAT Y ACCELERATION
1 B99002AF.A38 Filterclass (60)
160
140
120
100
80
60
40
20
0
-20
-40
-60
-80
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
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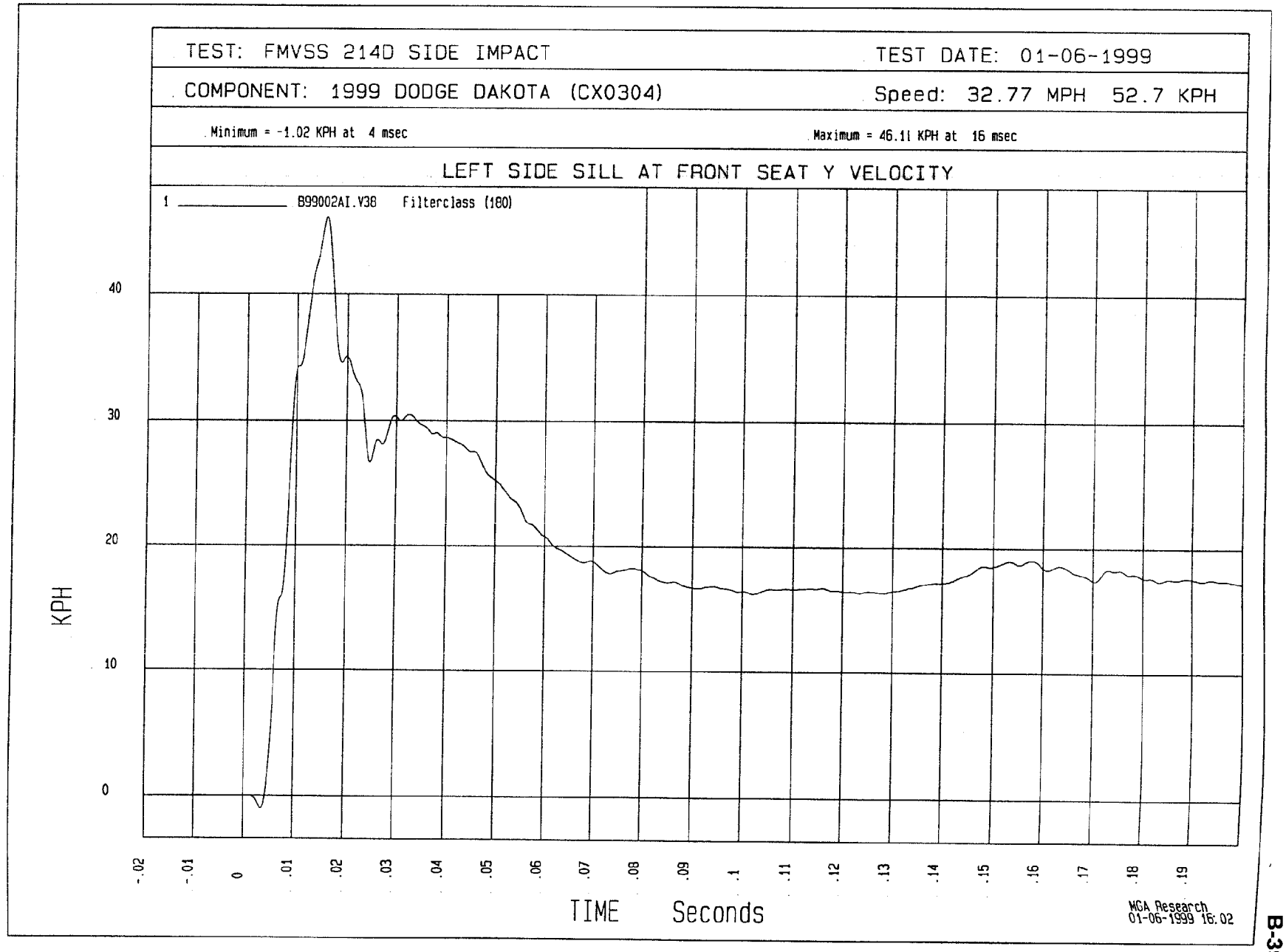
TIME (SECONDS)
MGA Research
01-06-1999 16:02


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -1.02 KPH at 4 msec
Maximum = 46.11 KPH at 16 msec
LEFT SIDE SILL AT FRONT SEAT Y VELOCITY
1 B99002AI.V38 Filterclass (180)
KPH
40
30
20
10
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
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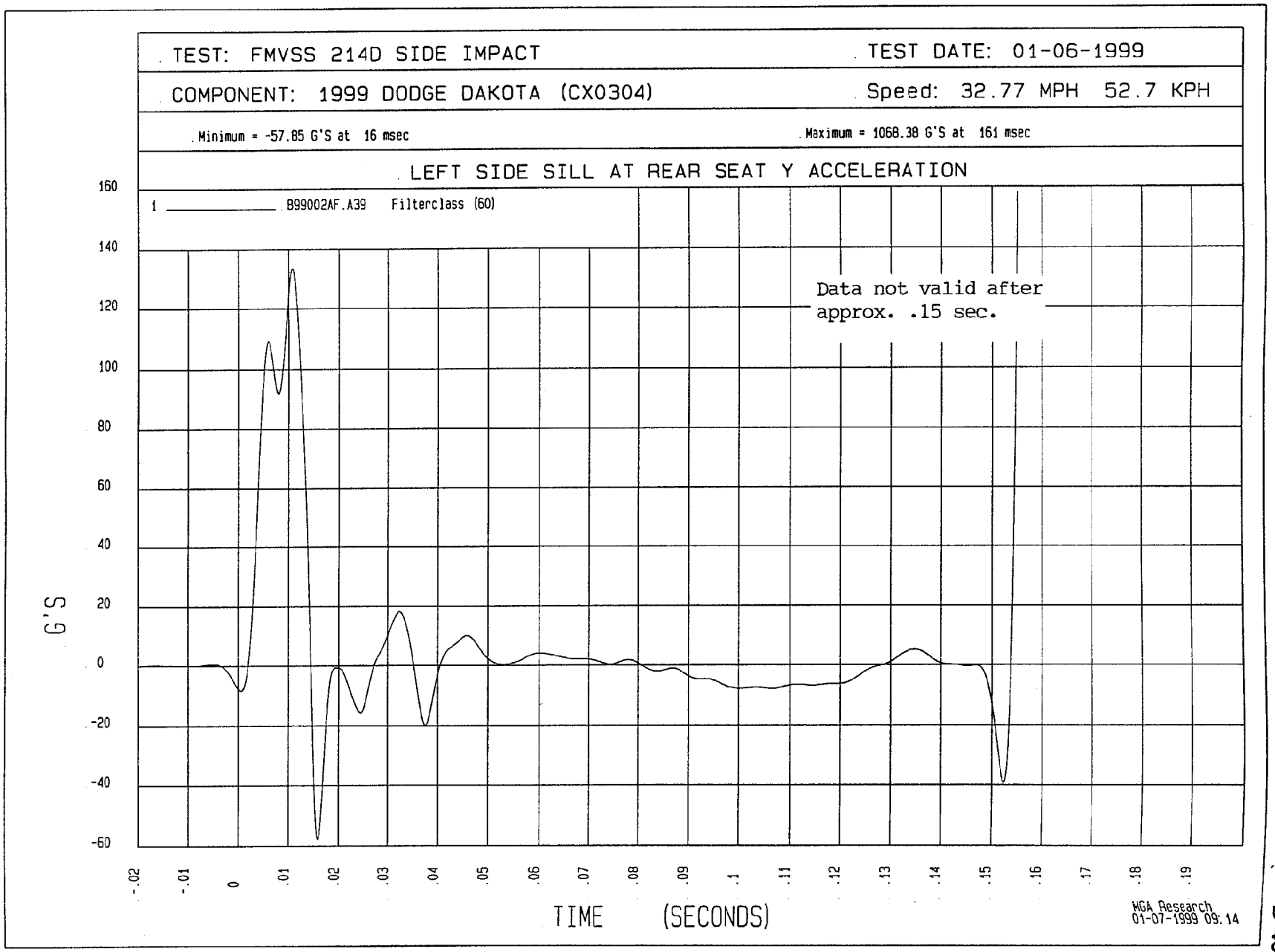
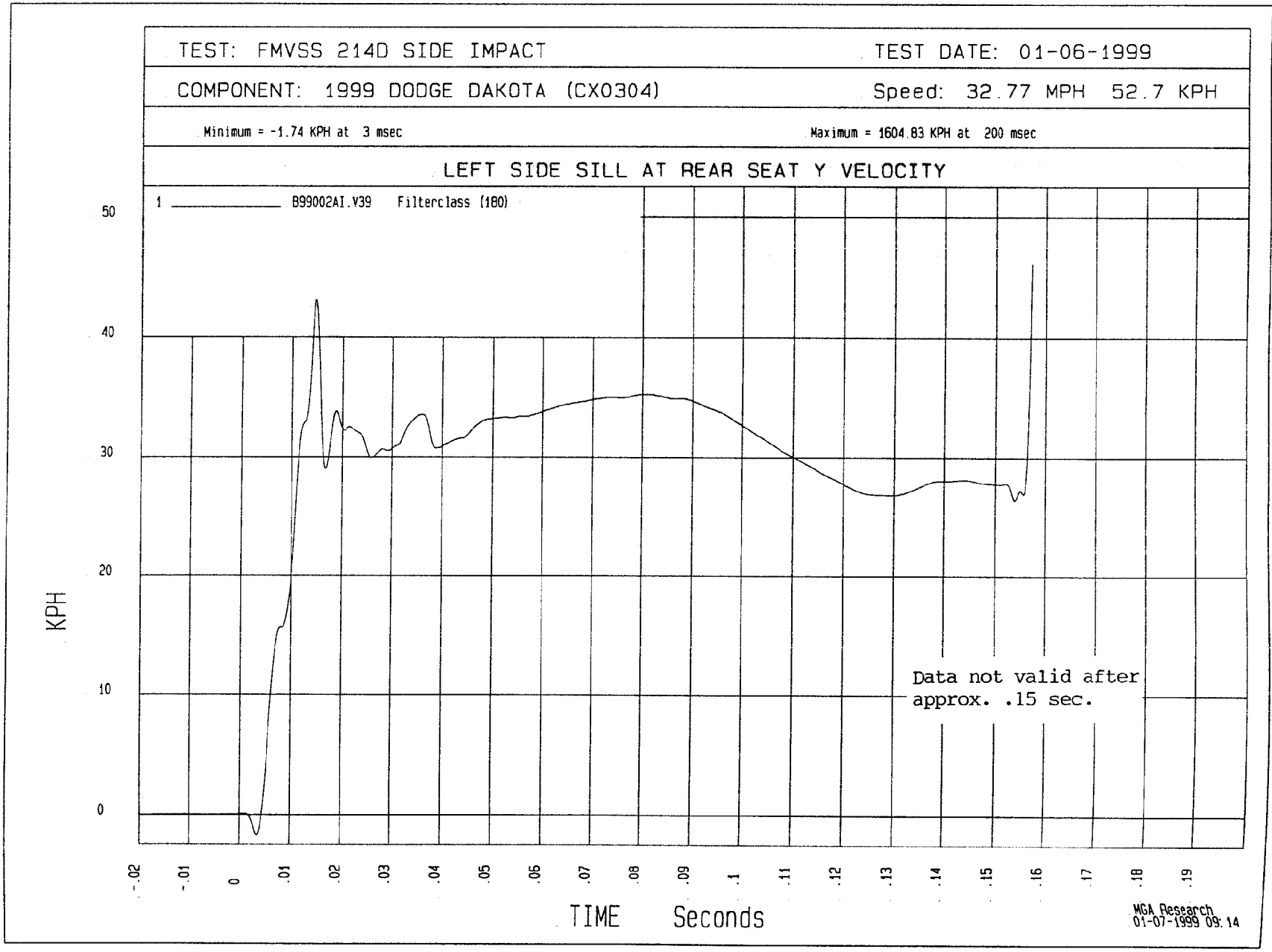
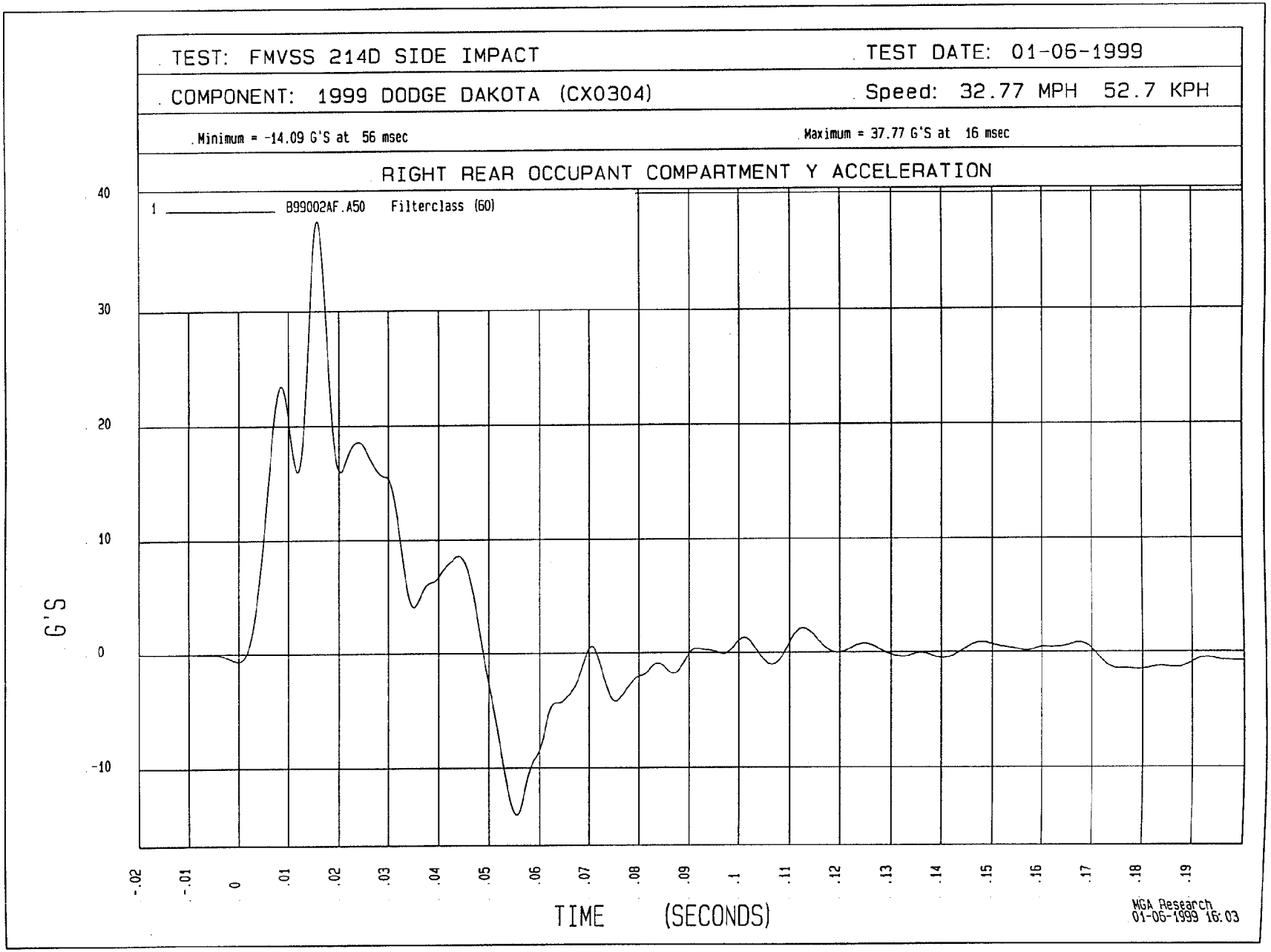
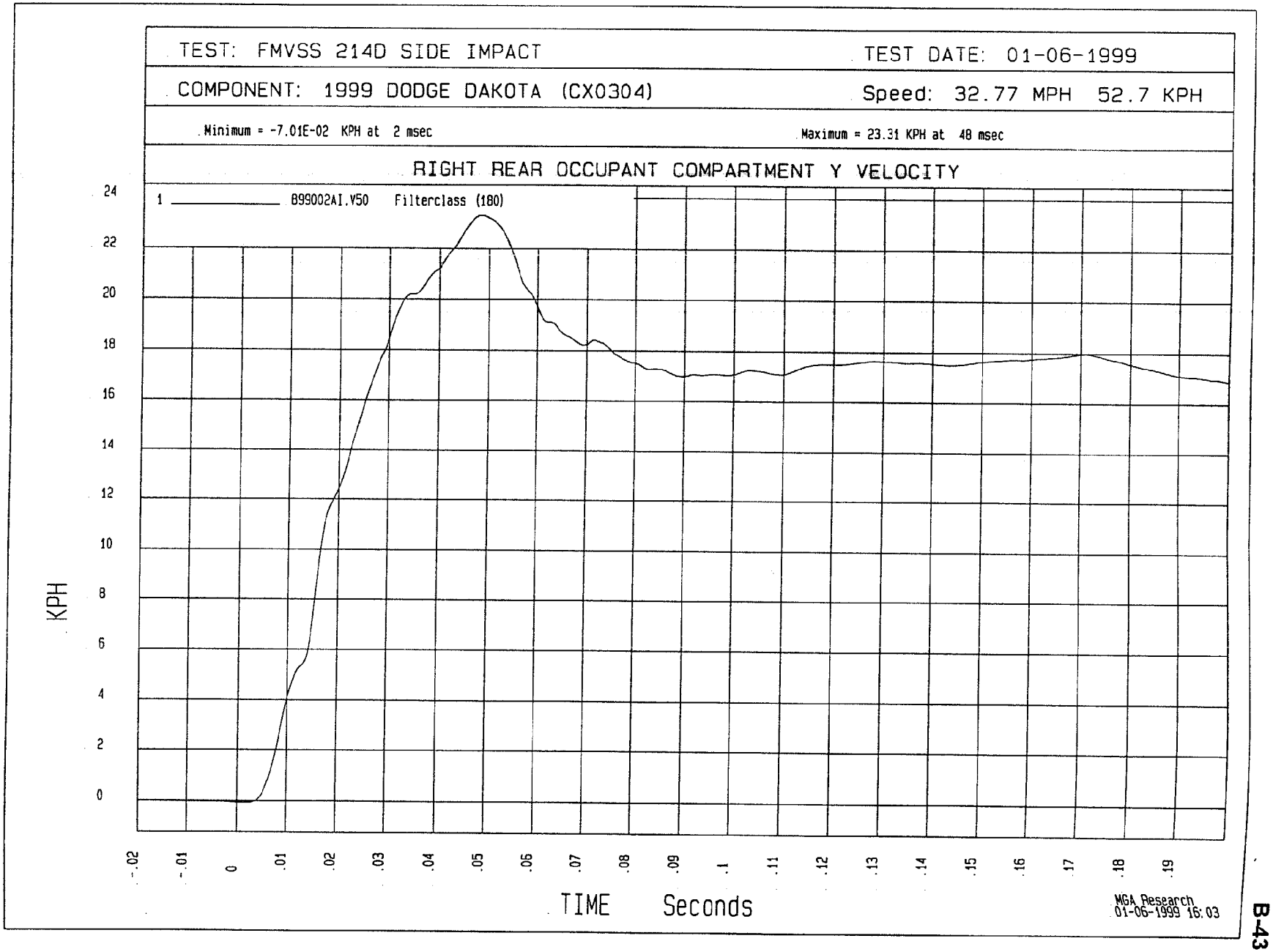
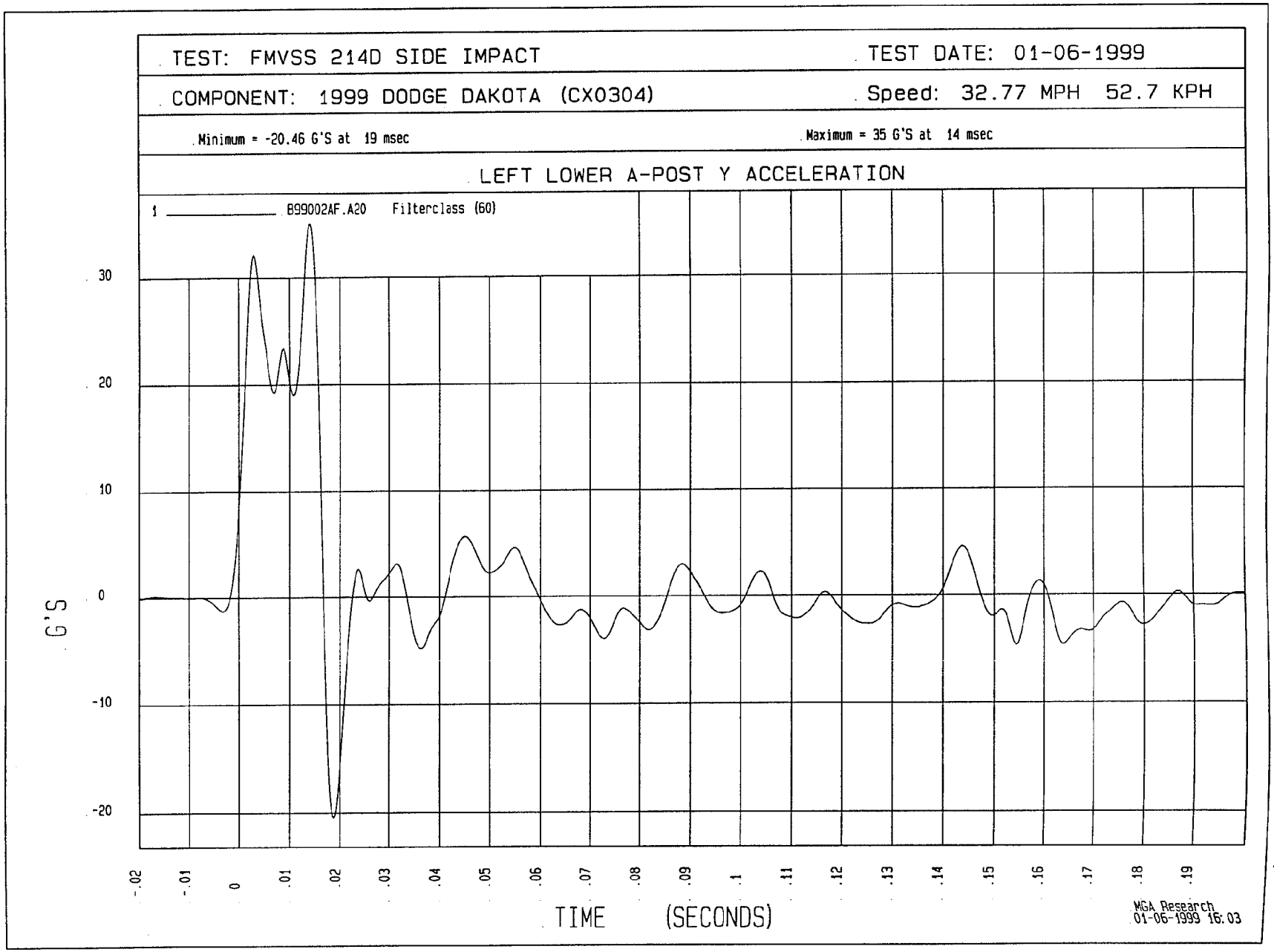
TIME Seconds
MGA Research
01-06-1999 16:02

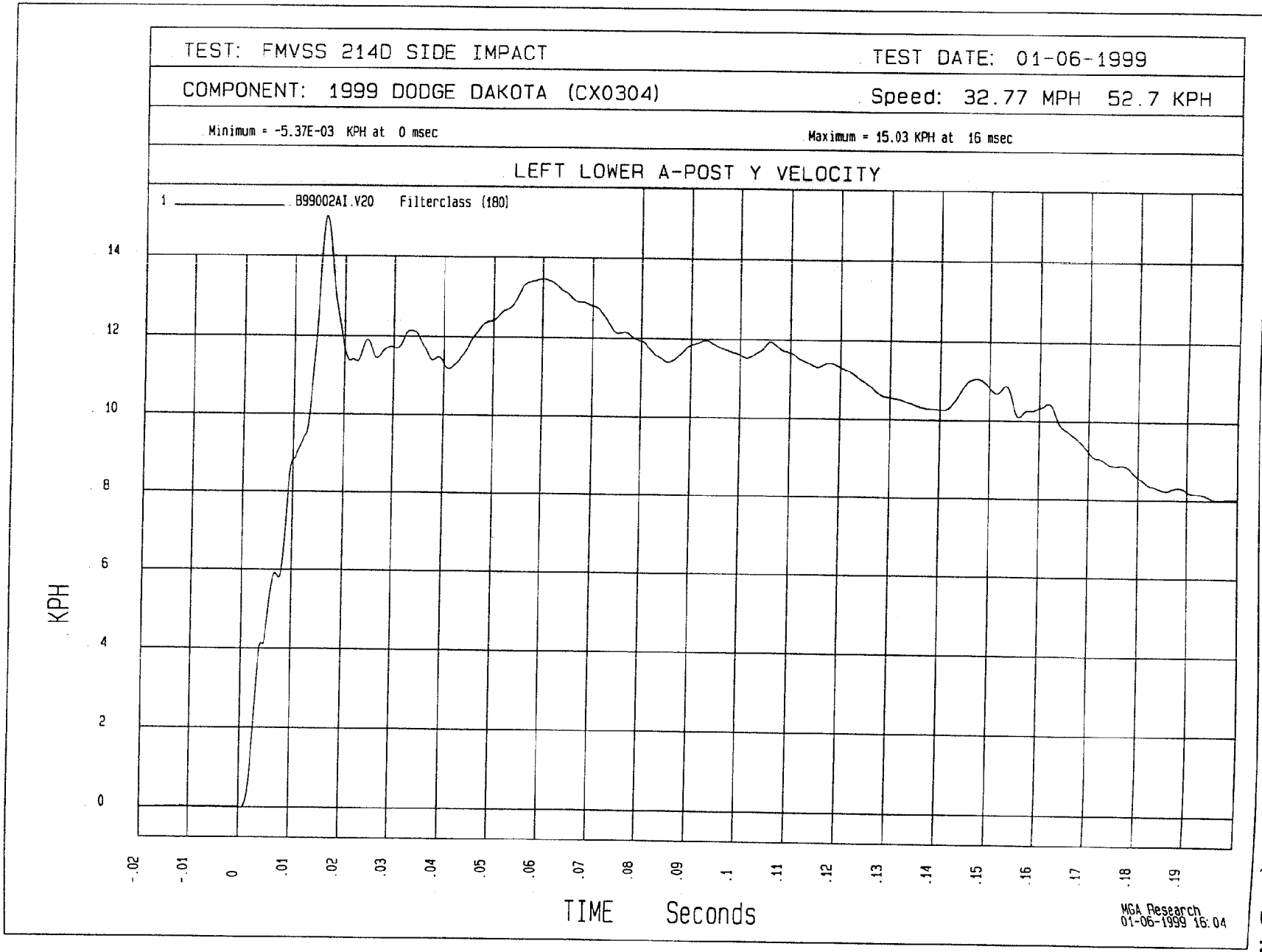

TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -57.85 G'S at 16 msec
Maximum = 1068.38 G'S at 161 msec
LEFT SIDE SILL AT REAR SEAT Y ACCELERATION
1 B99002AF.A39 Filterclass (60)
Data not valid after approx. .15 sec.
G'S
160
140
120
100
80
60
40
20
0
-20
-40
-60
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
WGA Research
01-07-1999 09:14

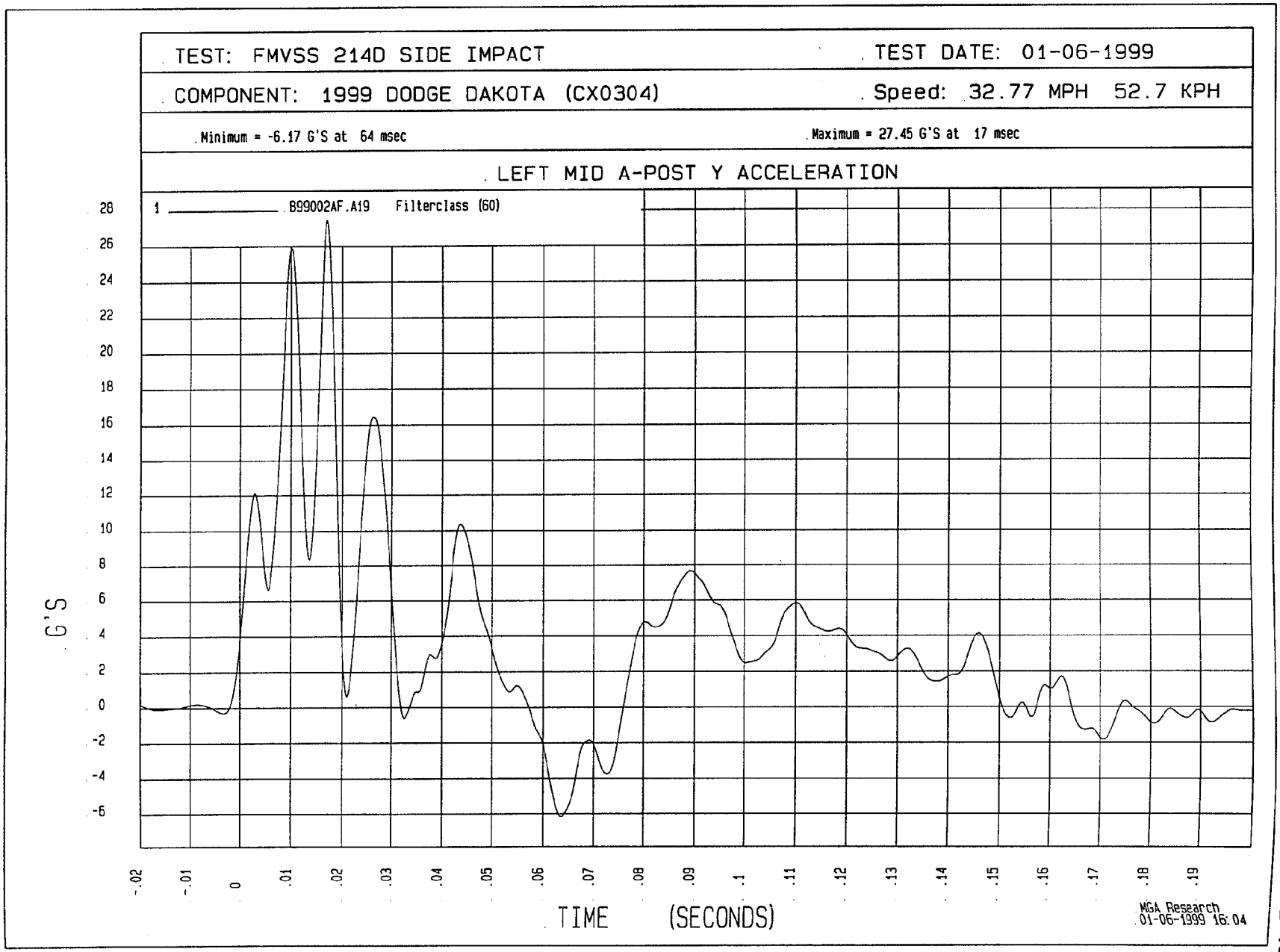

TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -1.74 KPH at 3 msec
Maximum = 1604.83 KPH at 200 msec
LEFT SIDE SILL AT REAR SEAT Y VELOCITY
1 B99002AI.V39 Filterclass (180)
KPH
50
40
30
20
10
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME Seconds
Data not valid after approx. .15 sec.
MGA Research 01-07-1999 09:14

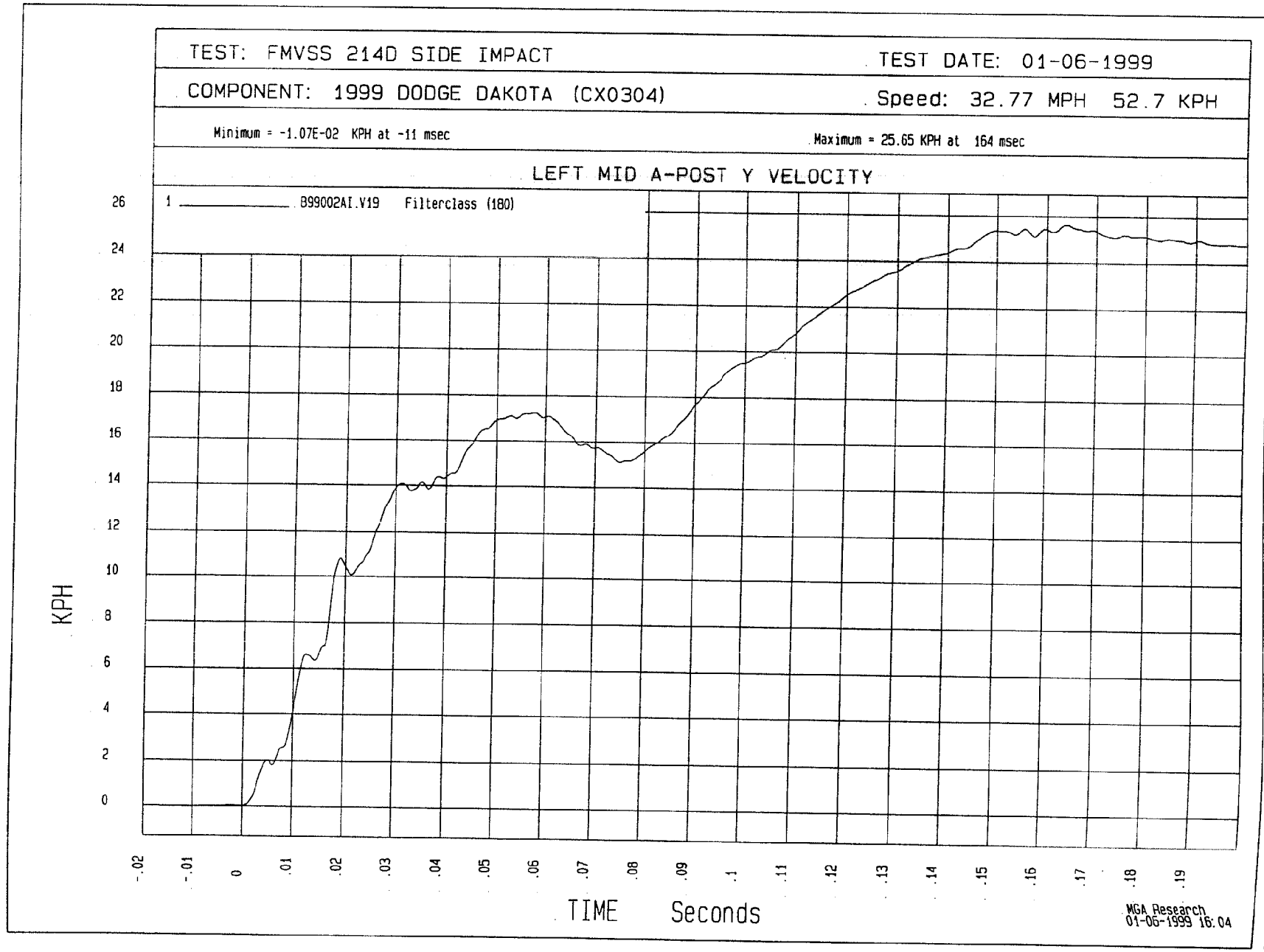

TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -14.09 G'S at 56 msec
Maximum = 37.77 G'S at 16 msec
RIGHT REAR OCCUPANT COMPARTMENT Y ACCELERATION
1 B99002AF.A50 Filterclass (60)
40
30
20
10
0
-10
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
01-06-1999 16:03

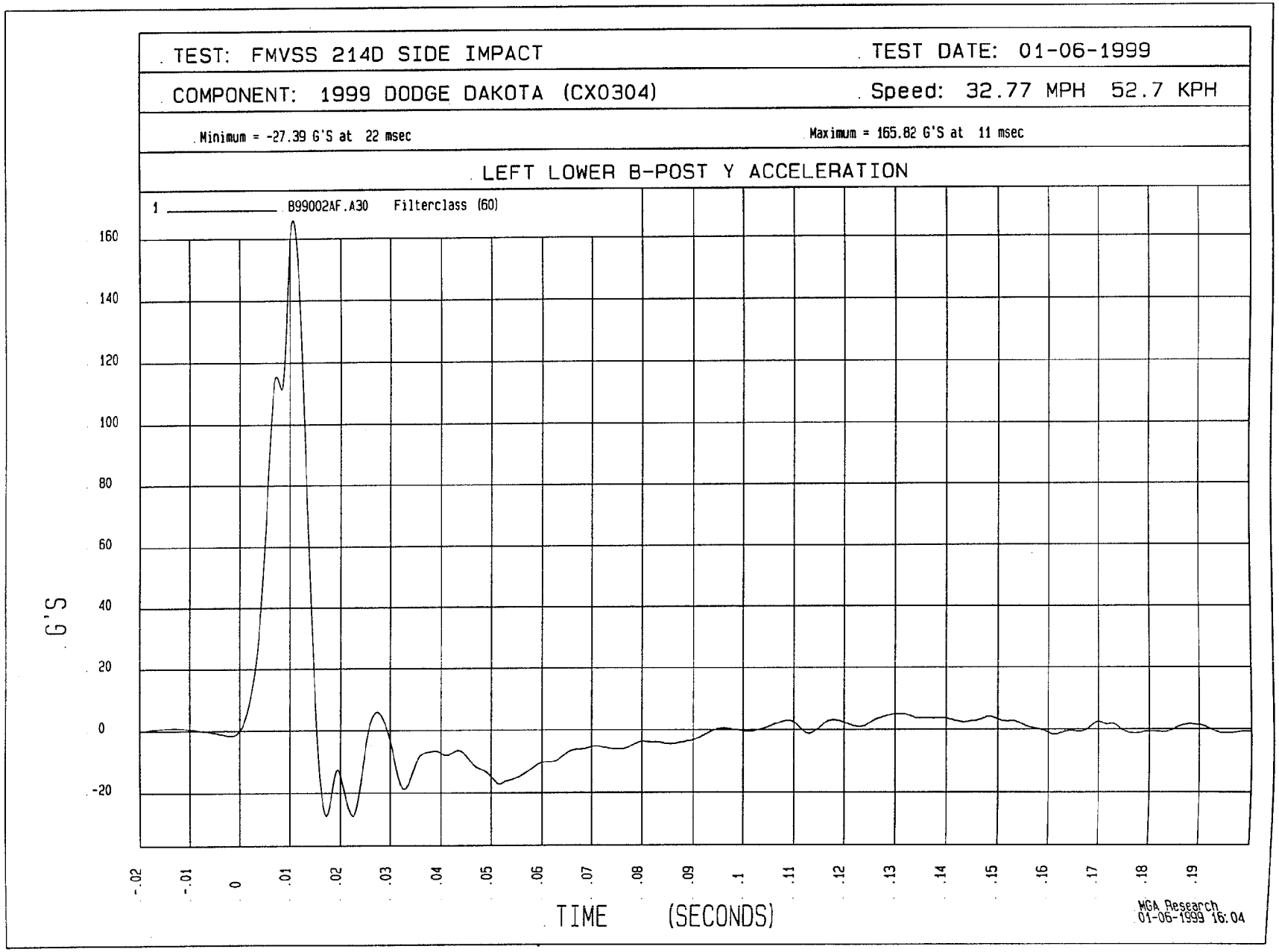

TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -7.01E-02 KPH at 2 msec
Maximum = 23.31 KPH at 48 msec
RIGHT REAR OCCUPANT COMPARTMENT Y VELOCITY
1 B99002AI.Y50 Filterclass (180)
KPH
24
22
20
18
16
14
12
10
8
6
4
2
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME Seconds
MGA Research
01-06-1999 16:03

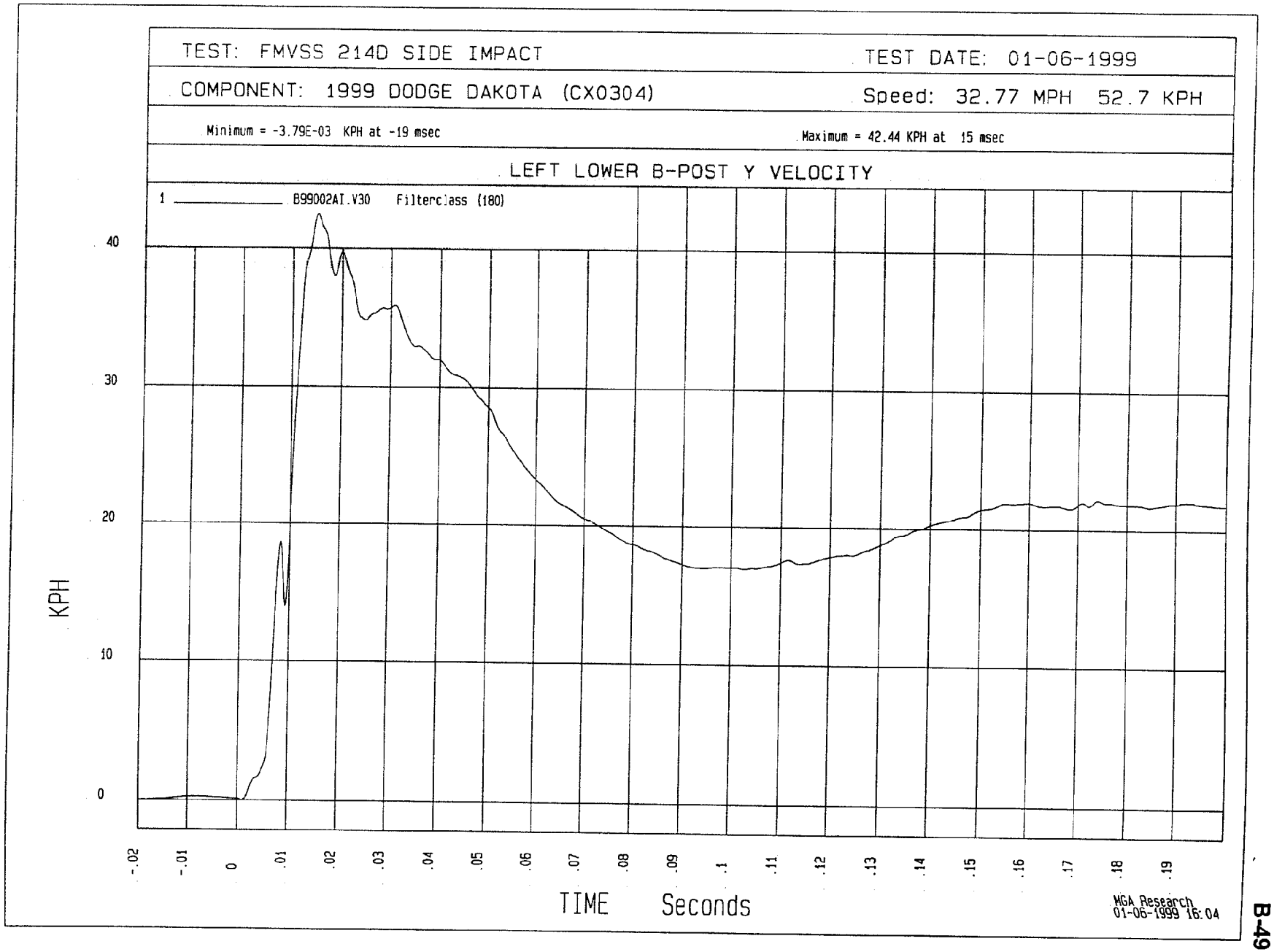

TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -20.46 G'S at 19 msec
Maximum = 35 G'S at 14 msec
LEFT LOWER A-POST Y ACCELERATION
1 B99002AF.A20 Filterclass (60)
30
20
10
0
-10
-20
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
01-06-1999 16:03

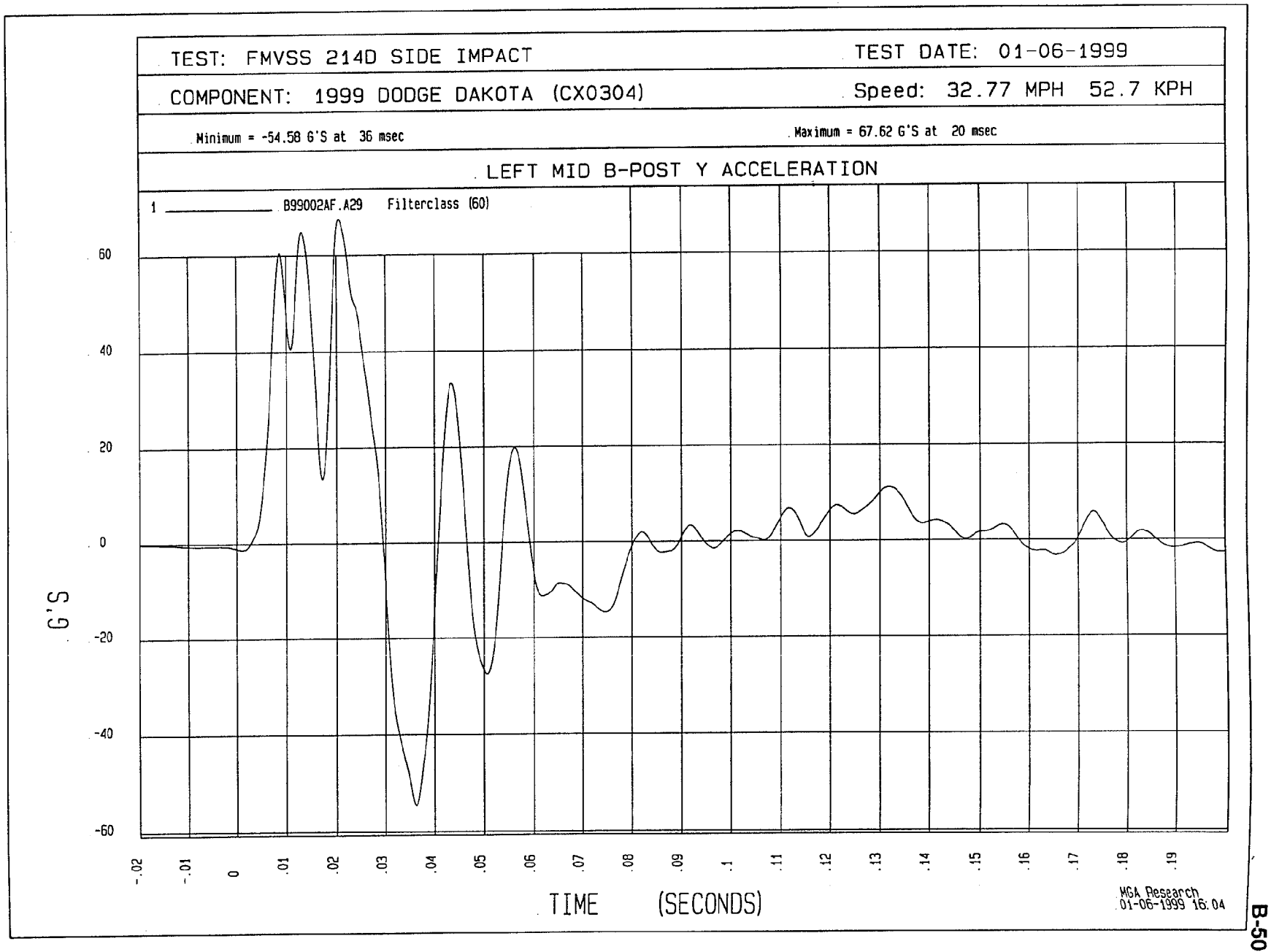

TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -5.37E-03 KPH at 0 msec
Maximum = 15.03 KPH at 16 msec
LEFT LOWER A-POST Y VELOCITY
1 B99002AI.V20 Filterclass (180)
KPH
14
12
10
8
6
4
2
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME Seconds
MGA Research
01-06-1999 16:04

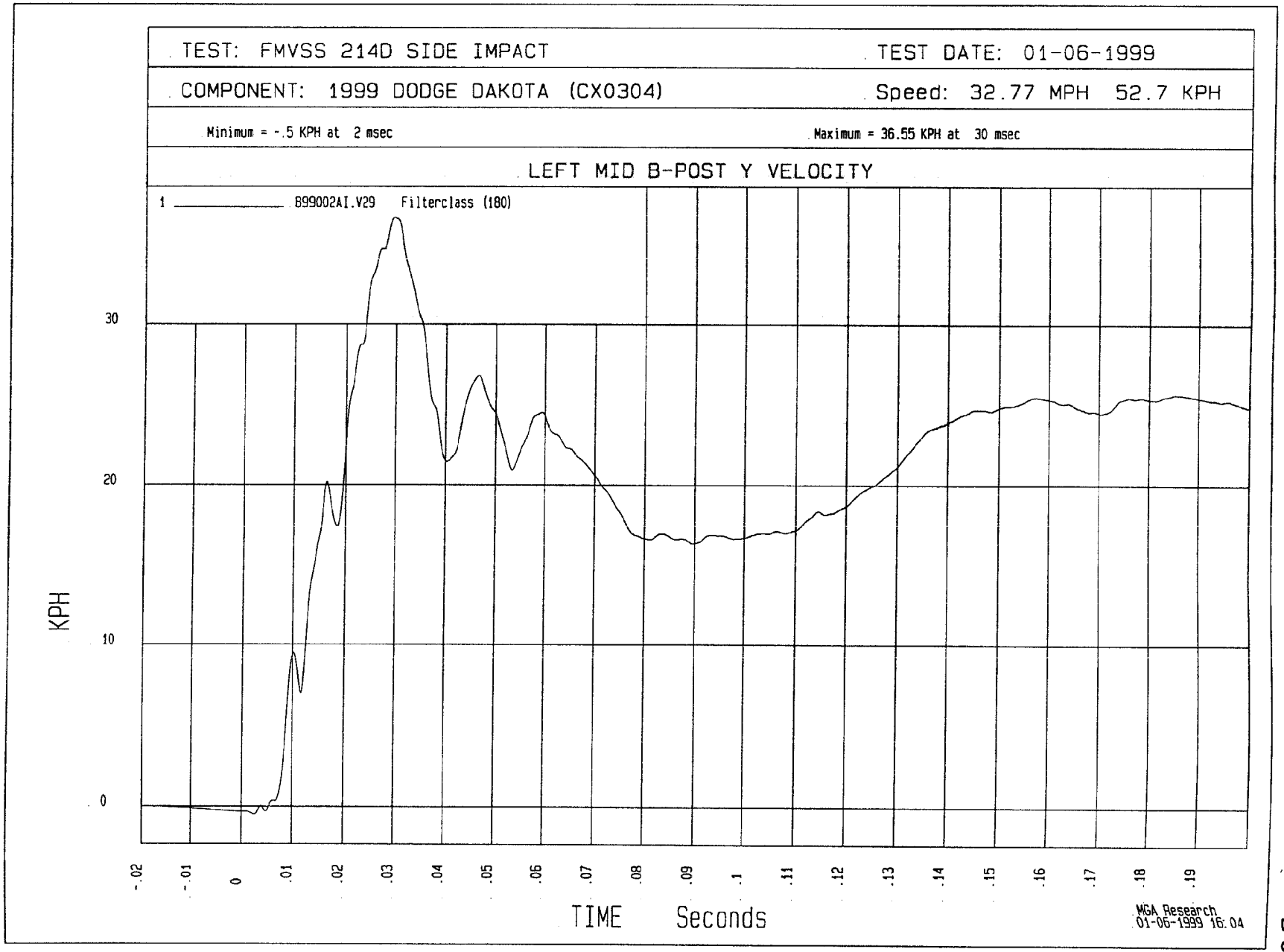

TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -6.17 G'S at 64 msec
Maximum = 27.45 G'S at 17 msec
LEFT MID A-POST Y ACCELERATION
1 B99002AF.A19 Filterclass (60)
G'S
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
-2
-4
-6
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
01-06-1999 16:04

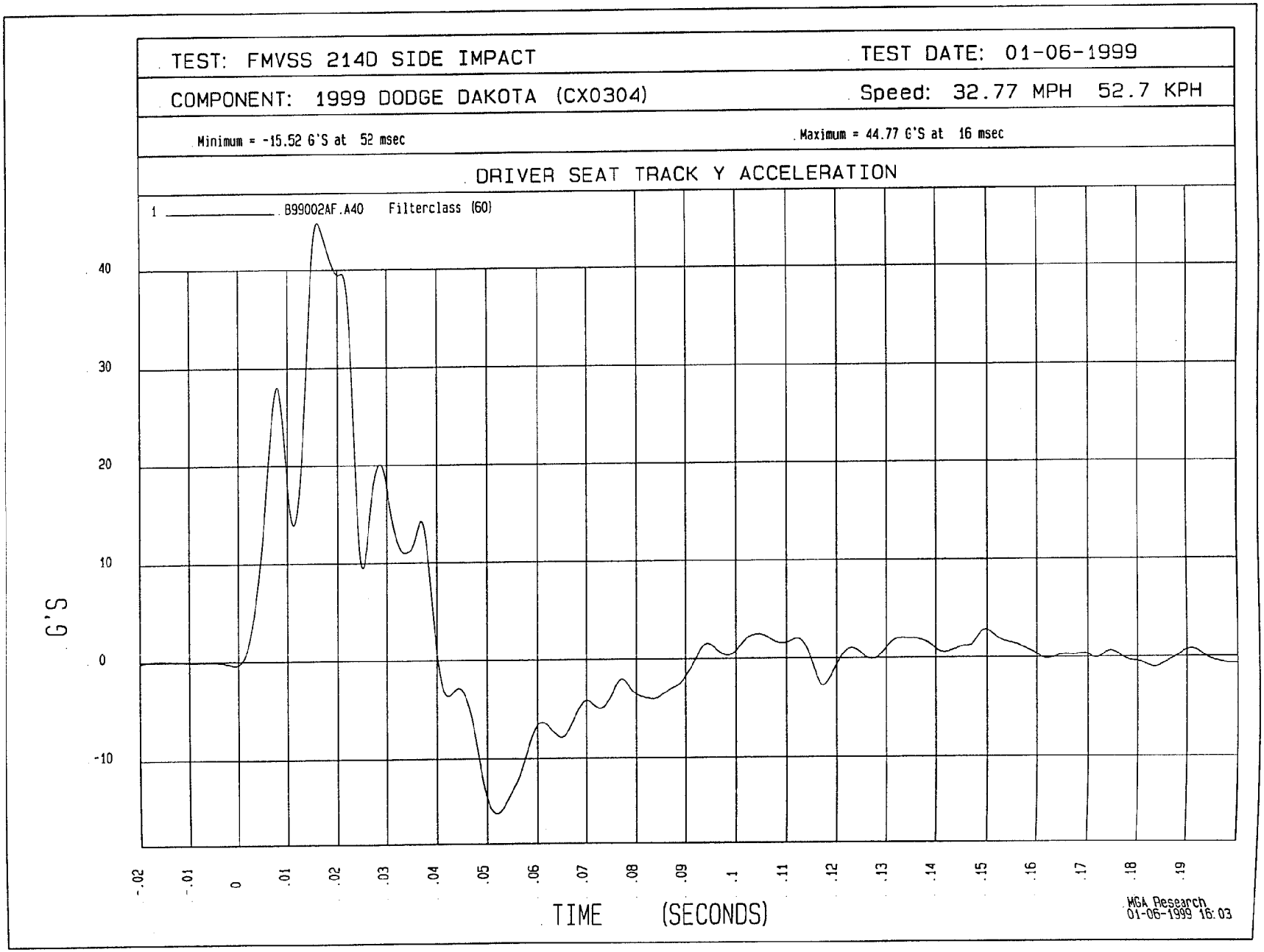

TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -1.07E-02 KPH at -11 msec
Maximum = 25.65 KPH at 164 msec
LEFT MID A-POST Y VELOCITY
1 B99002AI.V19 Filterclass (180)
KPH
26
24
22
20
18
16
14
12
10
8
6
4
2
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME Seconds
MGA Research
01-06-1999 16:04

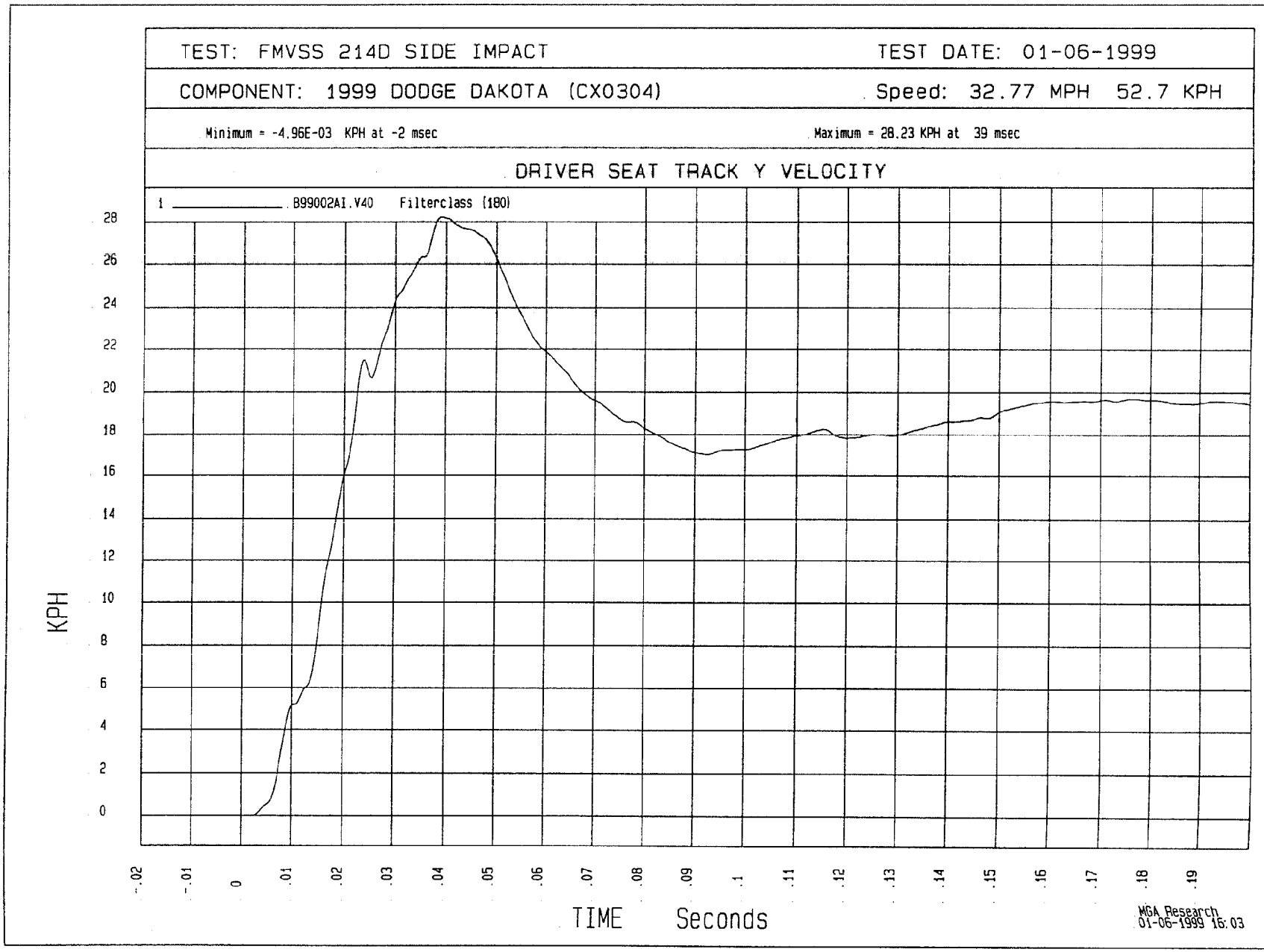

TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -27.39 G'S at 22 msec
Maximum = 165.82 G'S at 11 msec
LEFT LOWER B-POST Y ACCELERATION
1 B99002AF.A30 Filterclass (60)
G'S
160
140
120
100
80
60
40
20
0
-20
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
01-06-1999 16:04

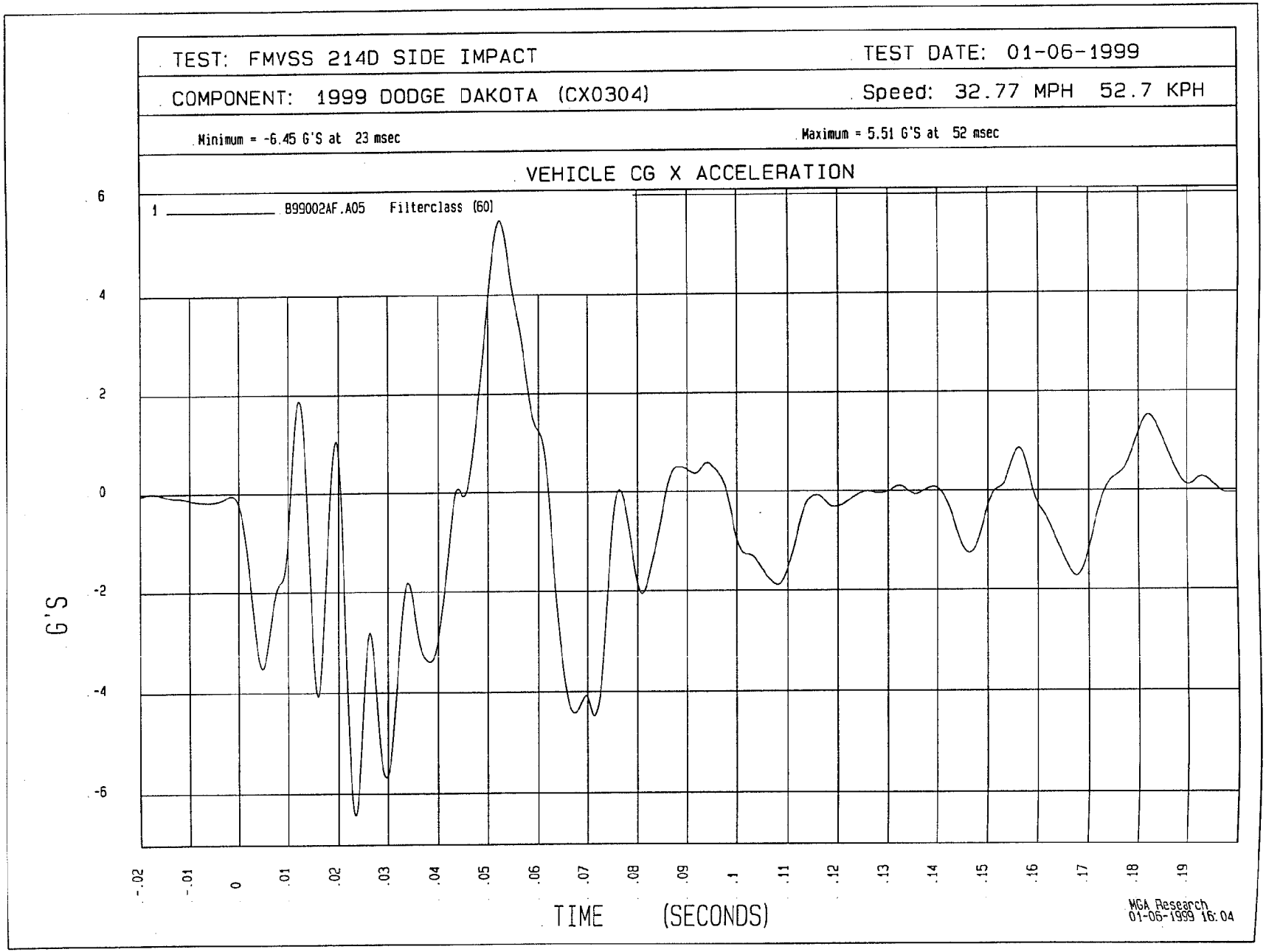

TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -3.79E-03 KPH at -19 msec
Maximum = 42.44 KPH at 15 msec
LEFT LOWER B-POST Y VELOCITY
1 B99002AI.V30 Filterclass (180)
KPH
40
30
20
10
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME Seconds
MGA Research
01-06-1999 16:04

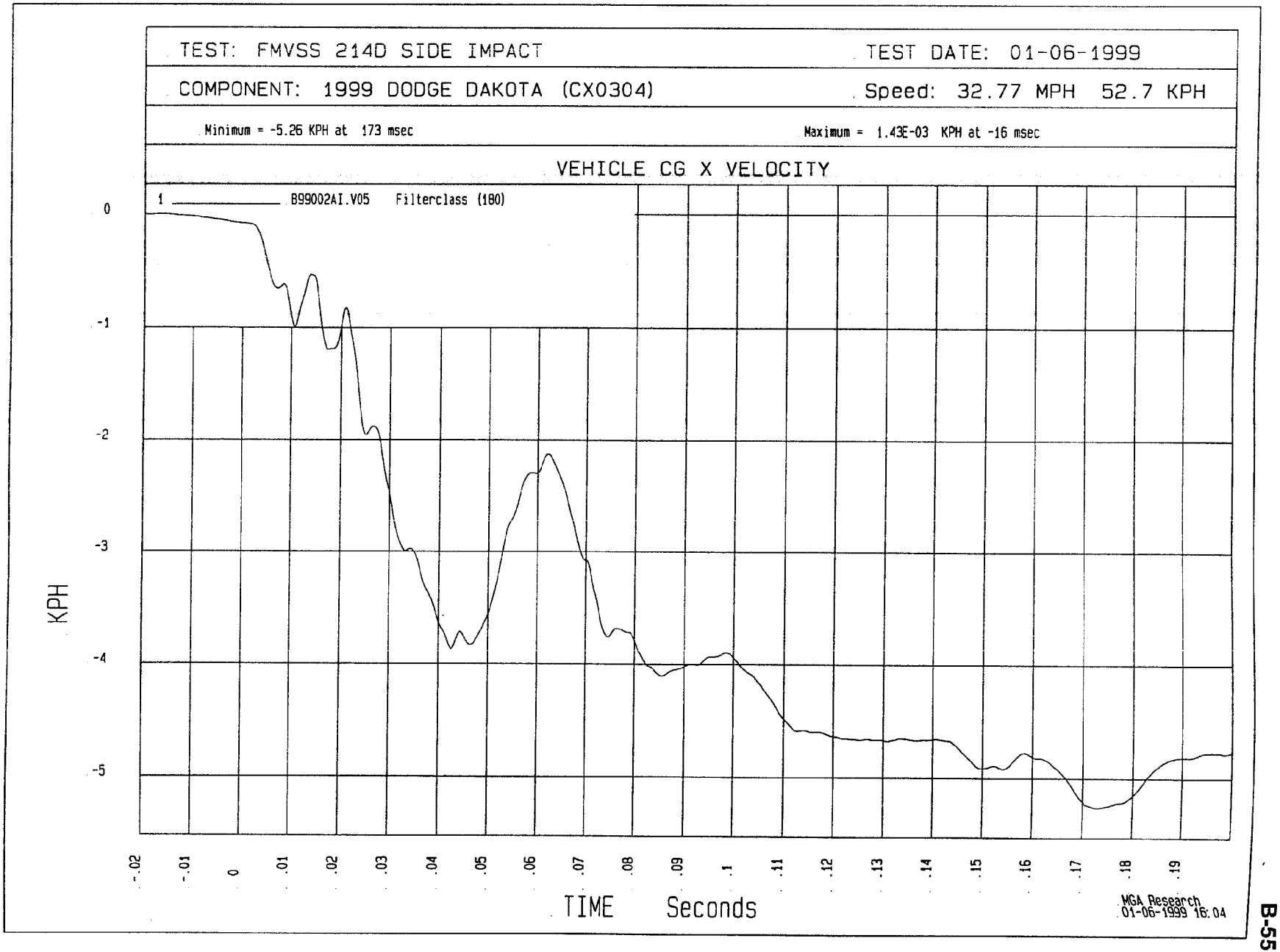

TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -54.58 G'S at 36 msec
Maximum = 67.62 G'S at 20 msec
LEFT MID B-POST Y ACCELERATION
1 B99002AF.A29 Filterclass (60)
60
40
20
0
-20
-40
-60
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
01-06-1999 16:04

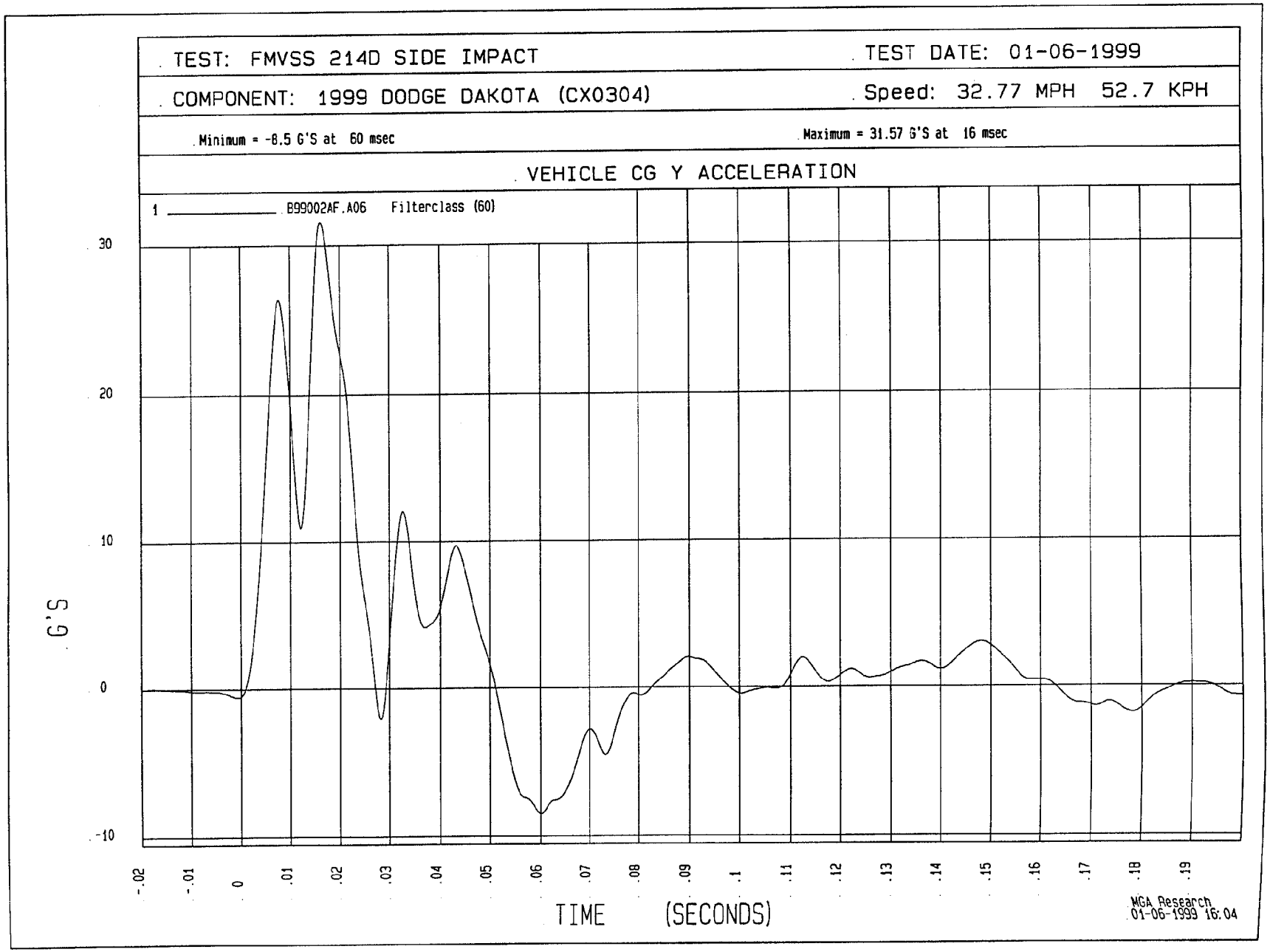

TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -.5 KPH at 2 msec
Maximum = 36.55 KPH at 30 msec
LEFT MID B-POST Y VELOCITY
1 B99002AI.V29 Filterclass (180)
KPH
30
20
10
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME Seconds
MGA Research
01-06-1999 16:04

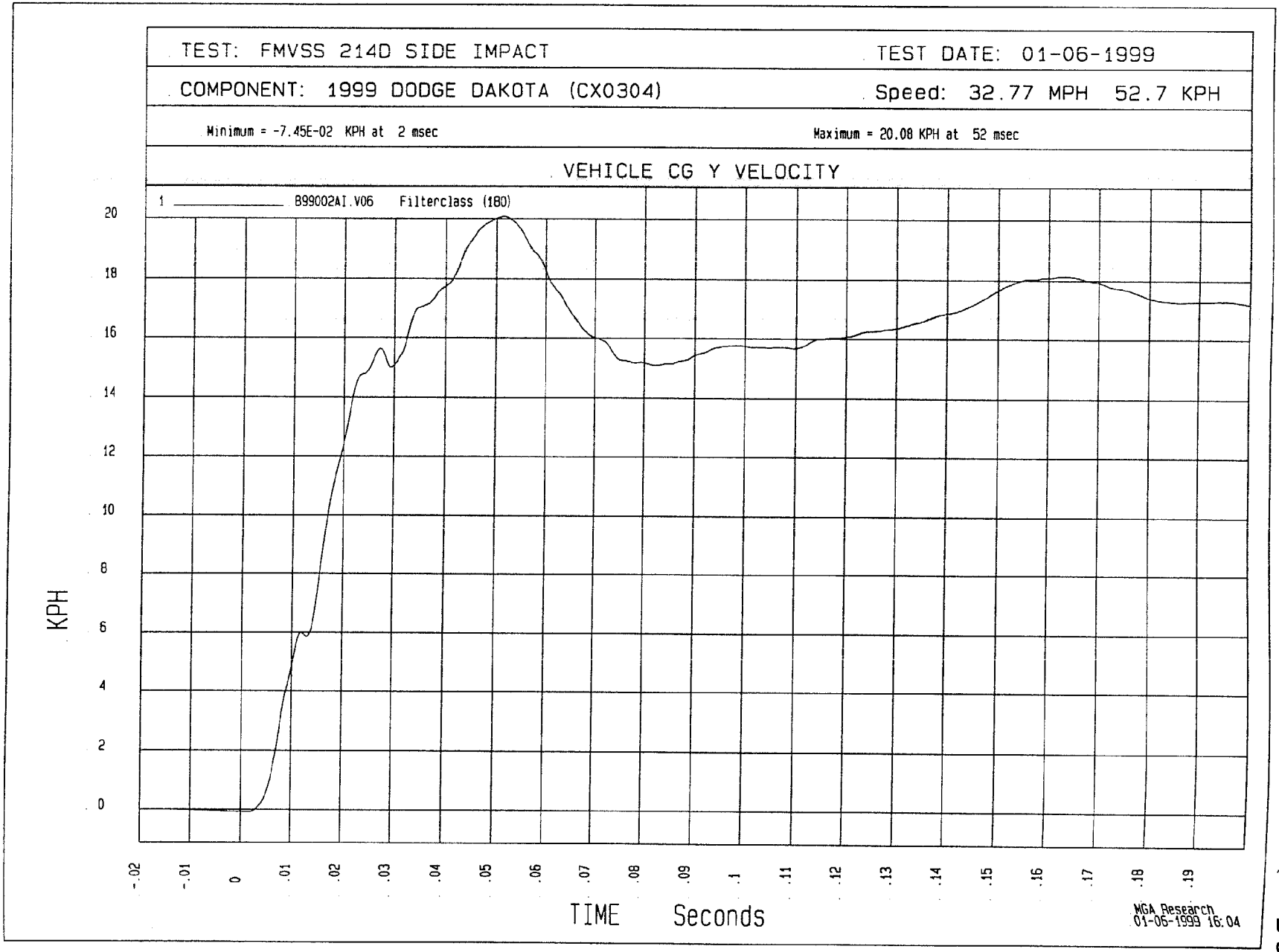

TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -15.52 G'S at 52 msec
Maximum = 44.77 G'S at 16 msec
DRIVER SEAT TRACK Y ACCELERATION
1 B99002AF.A40 Filterclass (60)
G'S
40
30
20
10
0
-10
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
01-06-1999 16:03

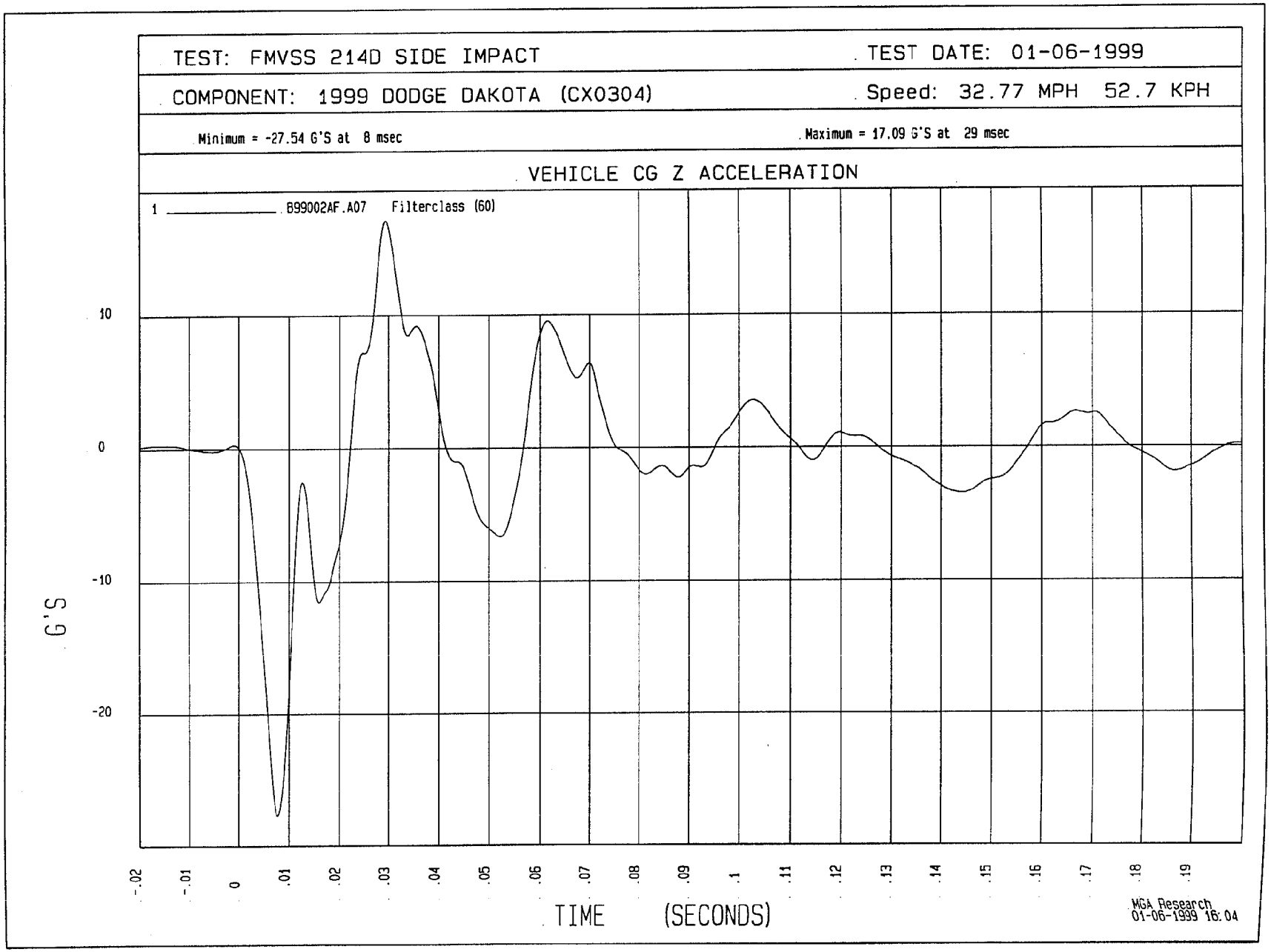

TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -4.96E-03 KPH at -2 msec
Maximum = 28.23 KPH at 39 msec
DRIVER SEAT TRACK Y VELOCITY
1 B99002AI.V40 Filterclass (180)
KPH
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME Seconds
MGA Research
01-06-1999 16:03

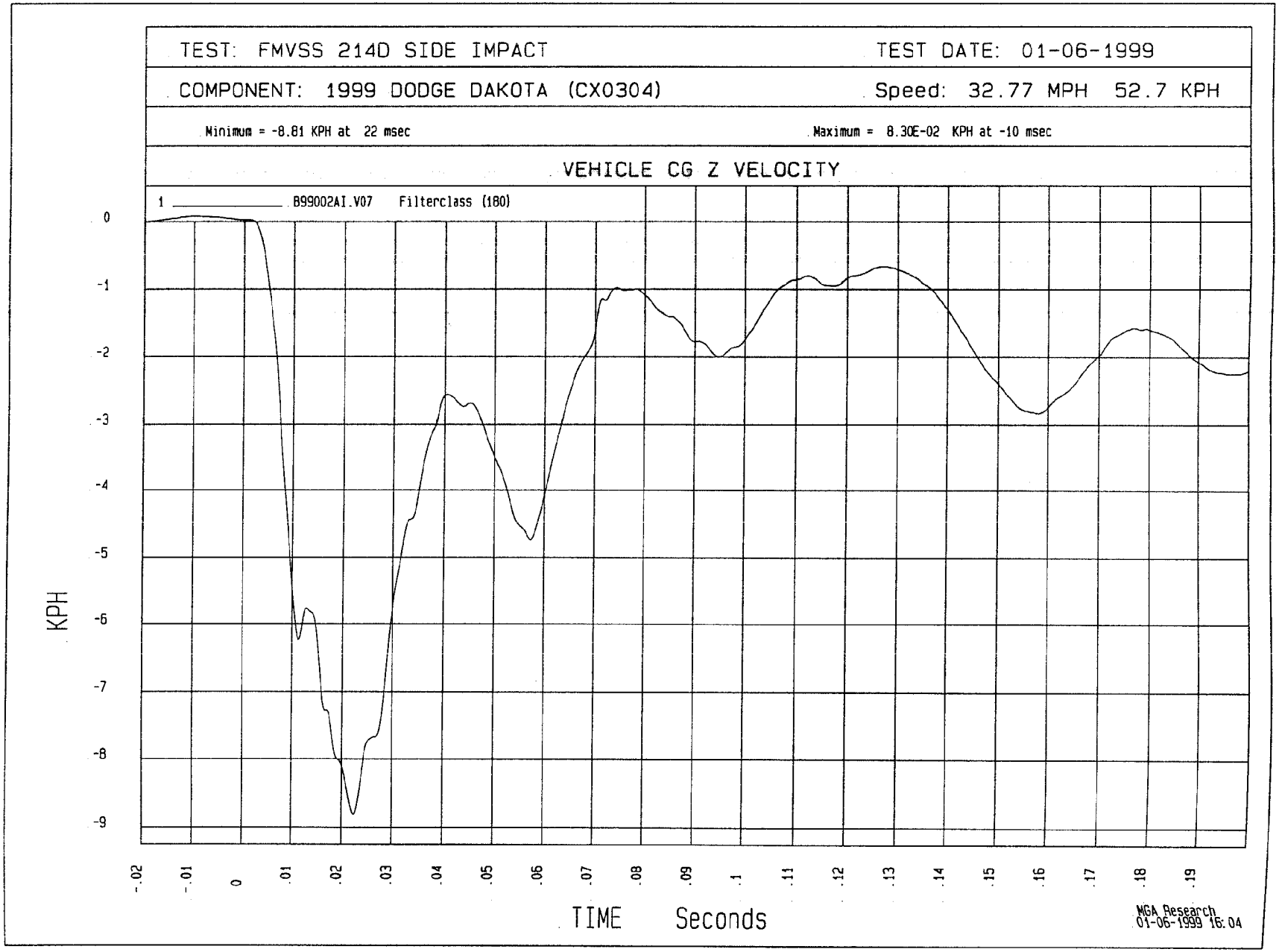

TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -6.45 G'S at 23 msec
Maximum = 5.51 G'S at 52 msec
VEHICLE CG X ACCELERATION
1 B99002AF.A05 Filterclass (60)
G'S
6
4
2
0
-2
-4
-6
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
01-06-1999 16:04

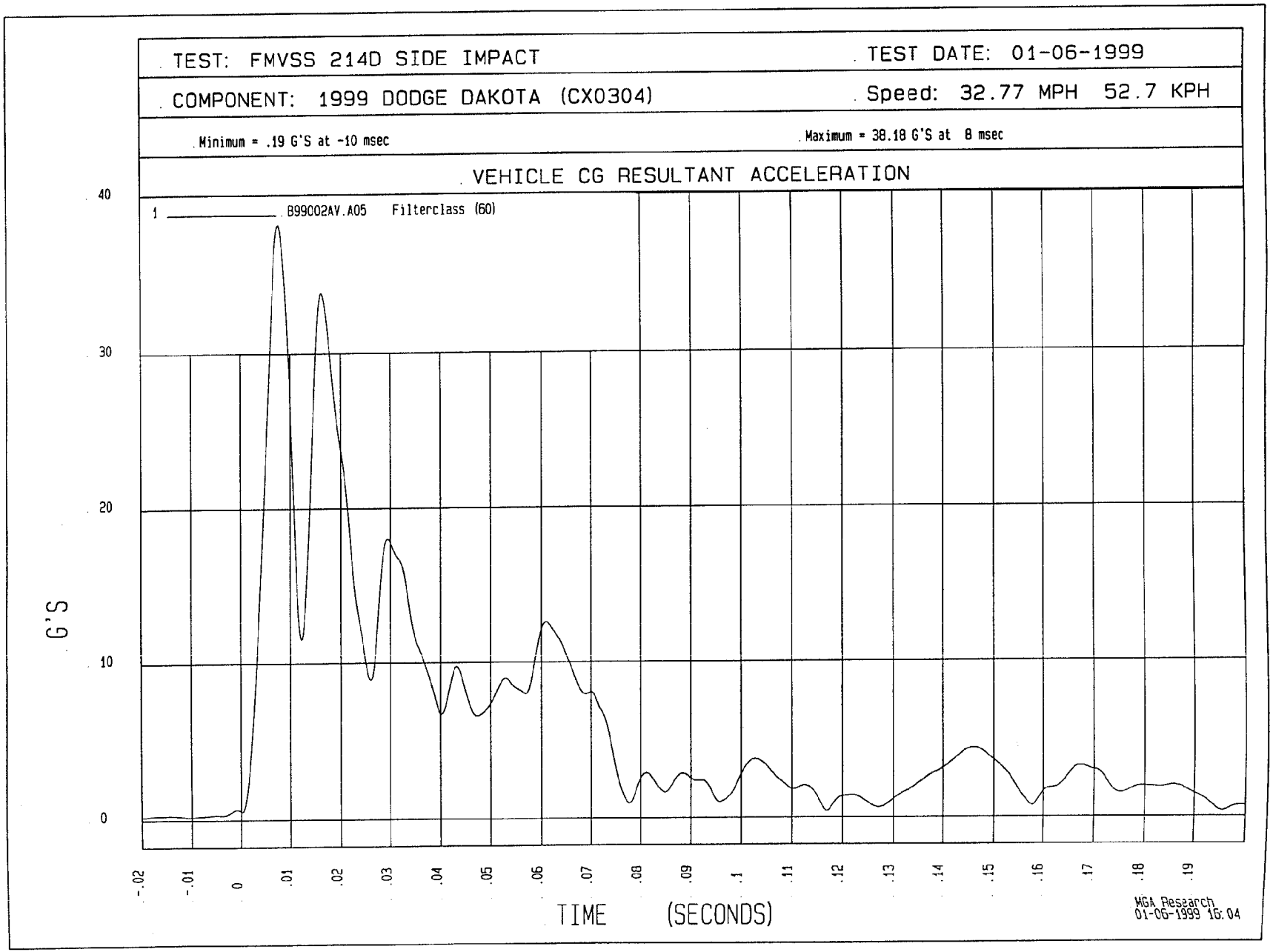

TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -5.26 KPH at 173 msec
Maximum = 1.43E-03 KPH at -16 msec
VEHICLE CG X VELOCITY
1 B99002AI.V05 Filterclass (180)
0
-1
-2
-3
-4
-5
KPH
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME Seconds
MGA Research
01-06-1999 16:04

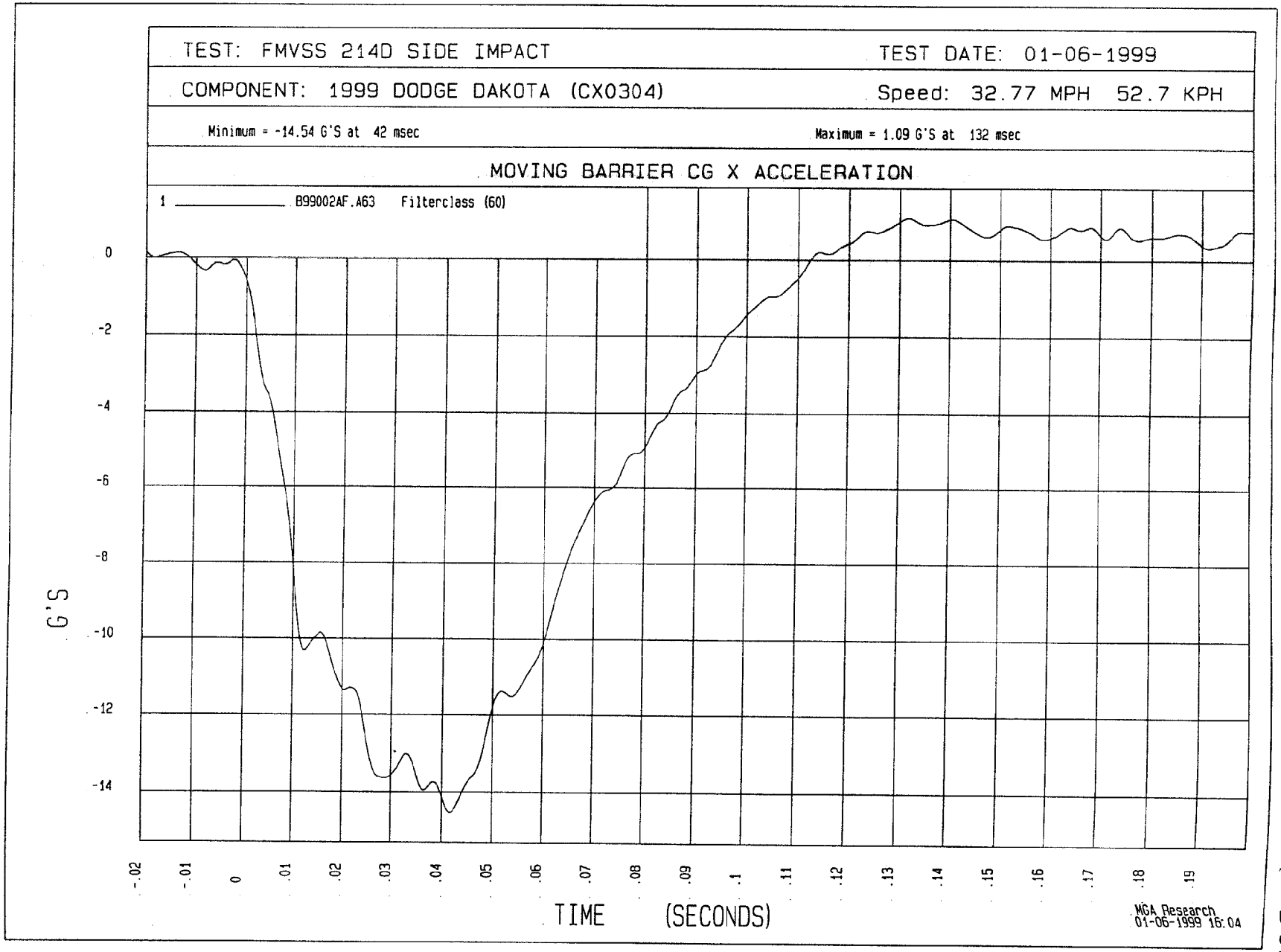

TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -8.5 G'S at 60 msec
Maximum = 31.57 G'S at 16 msec
VEHICLE CG Y ACCELERATION
1 B99002AF.A06 Filterclass (60)
30
20
10
0
-10
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
01-06-1999 16:04

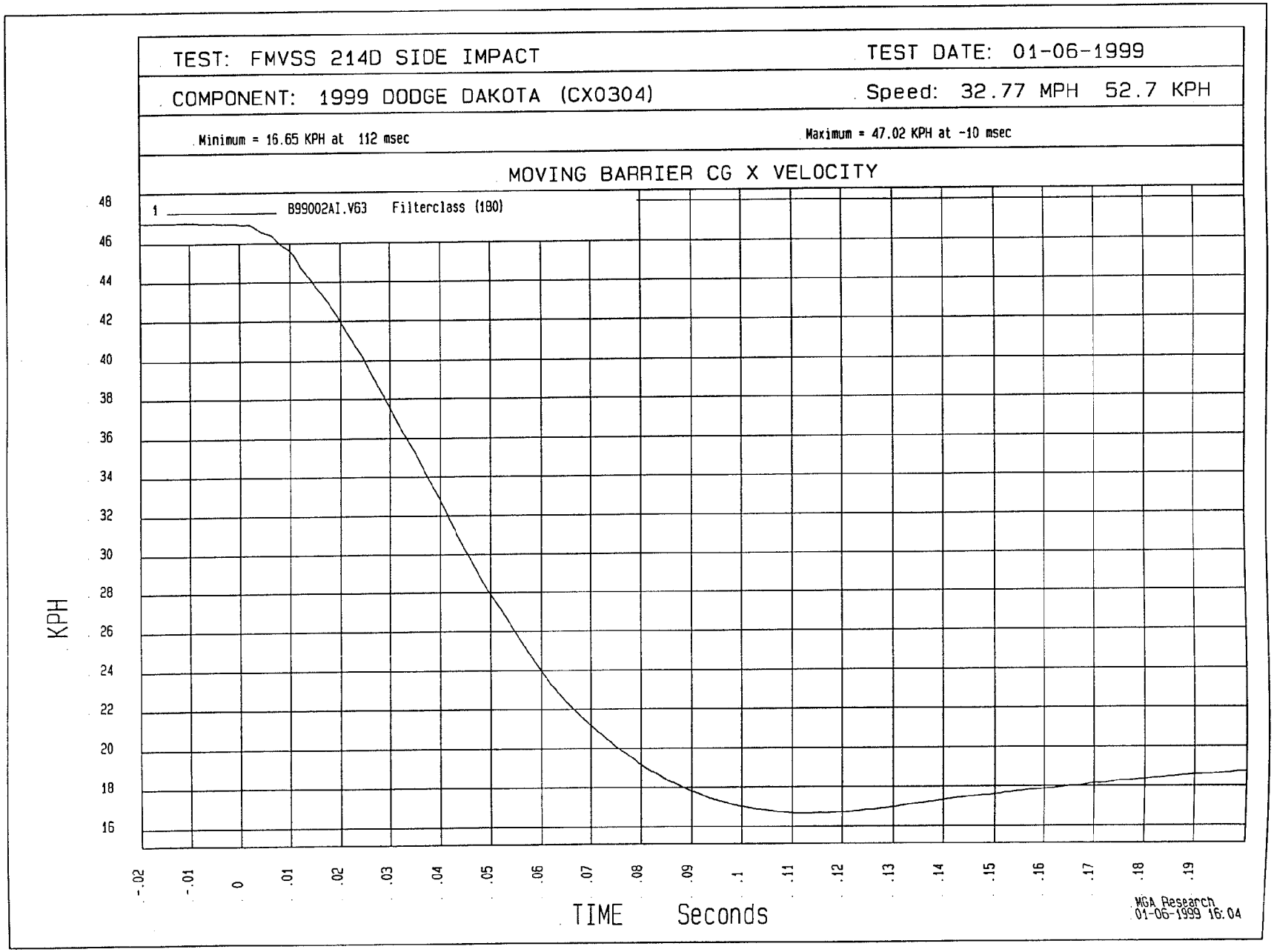

TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -7.45E-02 KPH at 2 msec
Maximum = 20.08 KPH at 52 msec
VEHICLE CG Y VELOCITY
1 B99002AI.V06 Filterclass (180)
KPH
20
18
16
14
12
10
8
6
4
2
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME Seconds
MGA Research
01-06-1999 16:04


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -27.54 G'S at 8 msec
Maximum = 17.09 G'S at 29 msec
VEHICLE CG Z ACCELERATION
1 B99002AF.A07 Filterclass (60)
10
0
-10
-20
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
01-06-1999 16:04


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -8.81 KPH at 22 msec
Maximum = 8.30E-02 KPH at -10 msec
VEHICLE CG Z VELOCITY
1 B99002AI.V07 Filterclass (180)
KPH
0
-1
-2
-3
-4
-5
-6
-7
-8
-9
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME Seconds
MGA Research
01-06-1999 16:04


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = .19 G'S at -10 msec
Maximum = 38.18 G'S at 8 msec
VEHICLE CG RESULTANT ACCELERATION
1 B99C02AV.A05 Filterclass (60)
G'S
40
30
20
10
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
01-06-1999 15:04


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -14.54 G'S at 42 msec
Maximum = 1.09 G'S at 132 msec
MOVING BARRIER CG X ACCELERATION
1 B99002AF.A63 Filterclass (60)
0
-2
-4
-6
-8
-10
-12
-14
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
01-06-1999 16:04


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = 16.65 KPH at 112 msec
Maximum = 47.02 KPH at -10 msec
MOVING BARRIER CG X VELOCITY
1 B99002AI.V63 Filterclass (180)
KPH
48
46
44
42
40
38
36
34
32
30
28
26
24
22
20
18
16
-.02
-.01
0
.01
.02
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.05
.06
.07
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.17
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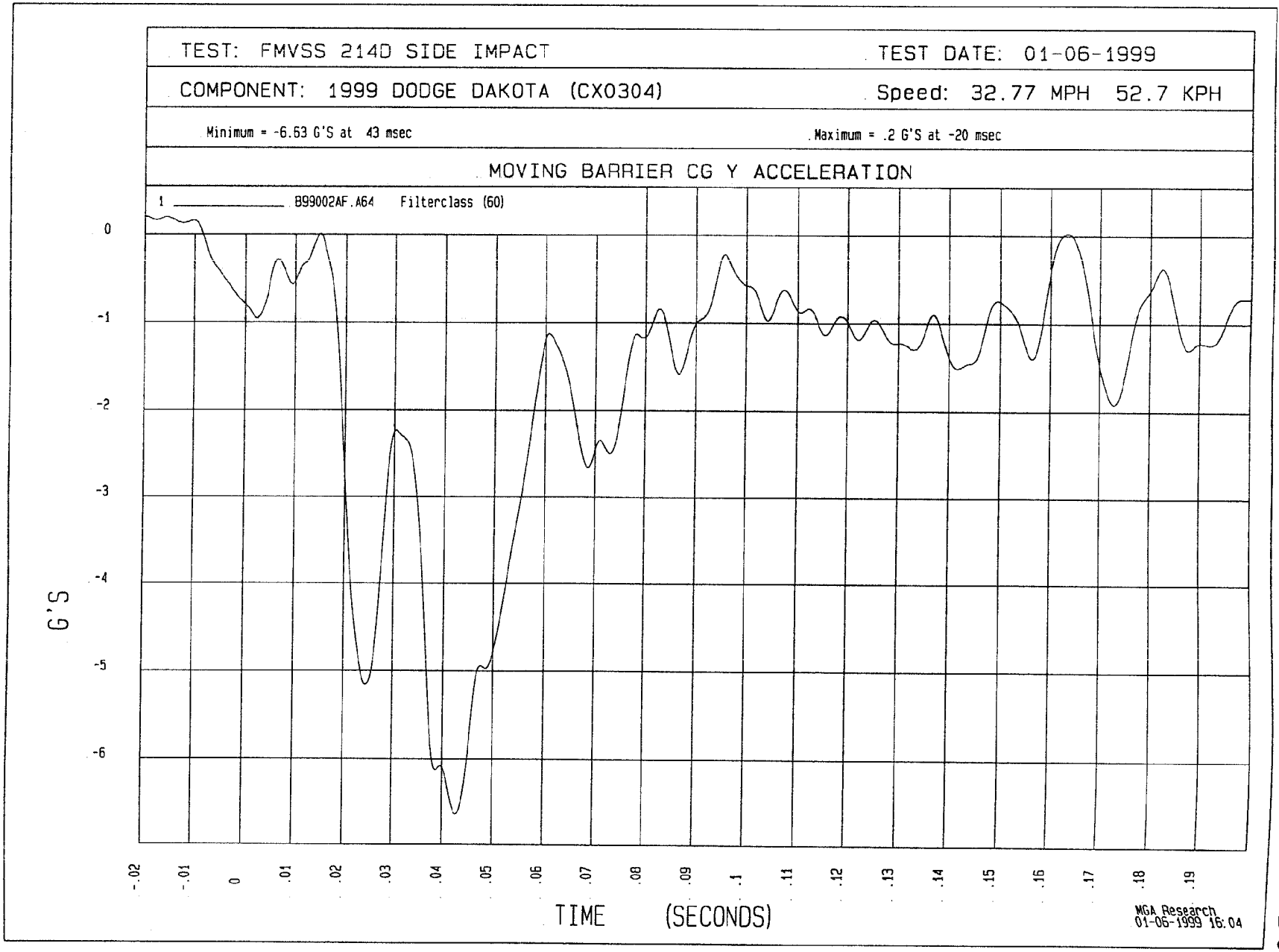
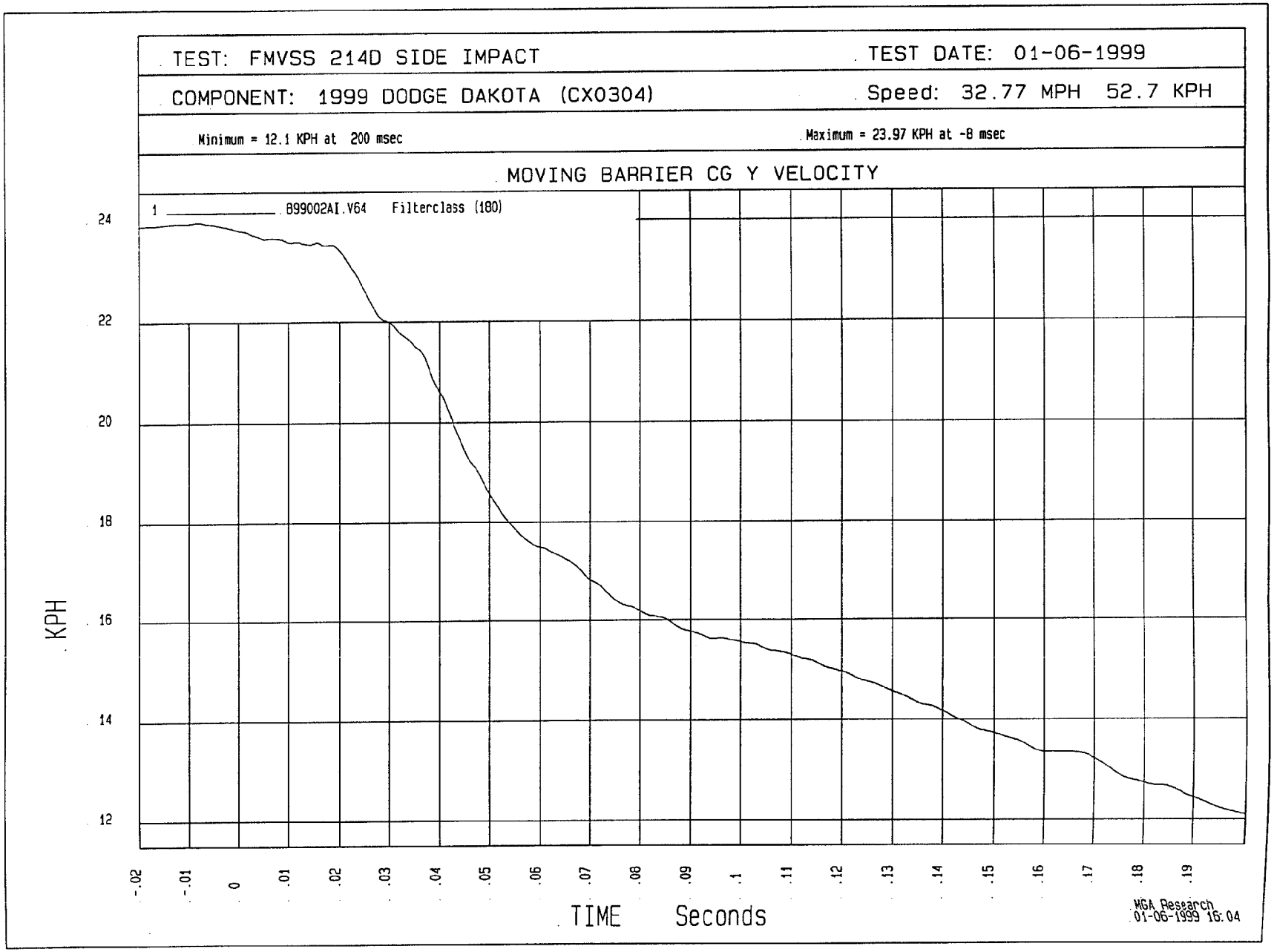
.19
TIME Seconds
MGA Research
01-06-1999 16:04


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -6.63 G'S at 43 msec
Maximum = .2 G'S at -20 msec
MOVING BARRIER CG Y ACCELERATION
1 B99002AF.A64 Filterclass (60)
0
-1
-2
-3
-4
-5
-6
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
01-06-1999 16:04


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = 12.1 KPH at 200 msec
Maximum = 23.97 KPH at -8 msec
MOVING BARRIER CG Y VELOCITY
1 B99002AI.V64 Filterclass (180)
KPH
24
22
20
18
16
14
12
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
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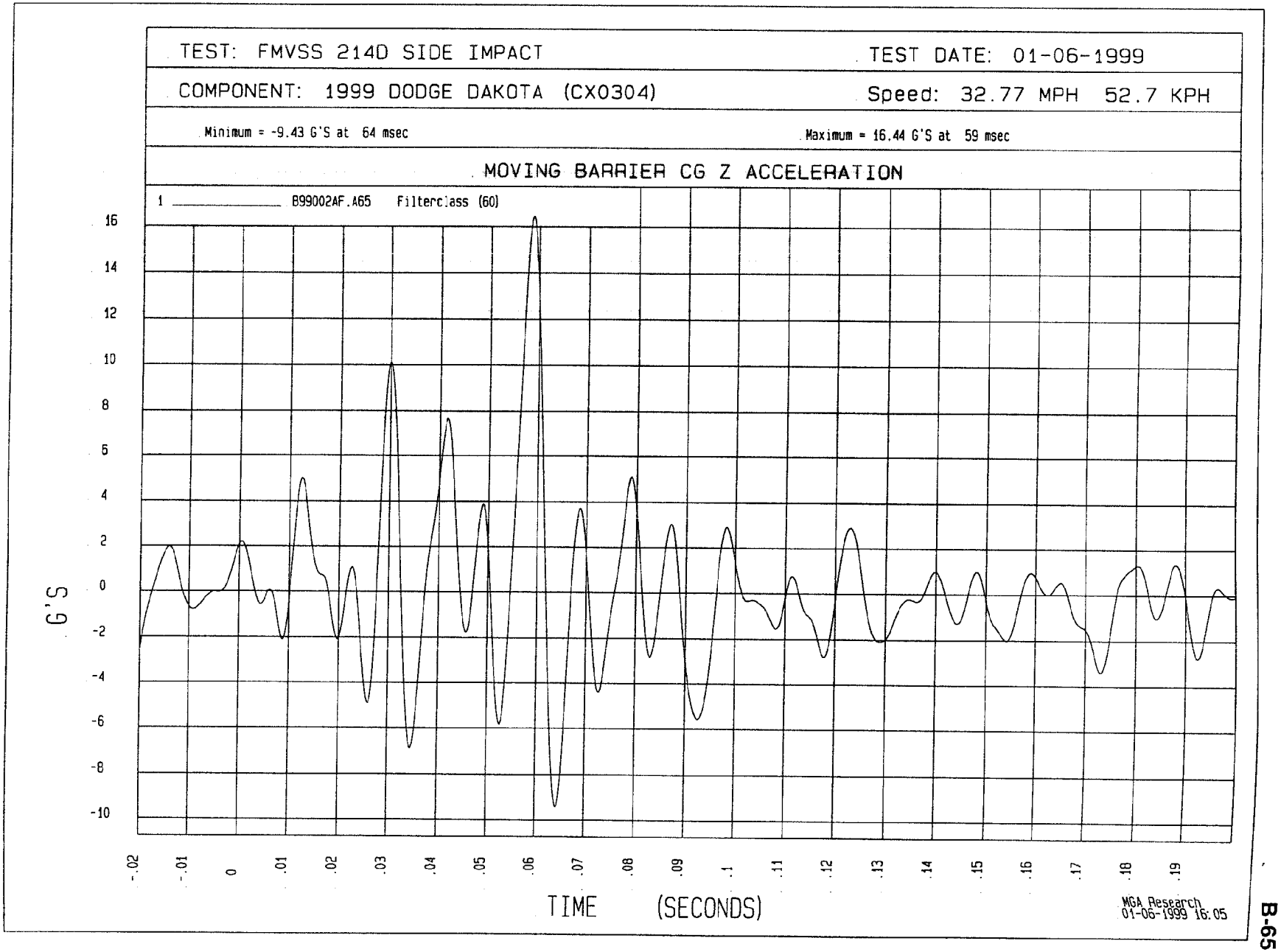
TIME Seconds
MGA Research
01-06-1999 16:04


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -9.43 G'S at 64 msec
Maximum = 16.44 G'S at 59 msec
MOVING BARRIER CG Z ACCELERATION
1 B99002AF.A65 Filterclass (60)
16
14
12
10
8
6
4
2
0
-2
-4
-6
-8
-10
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
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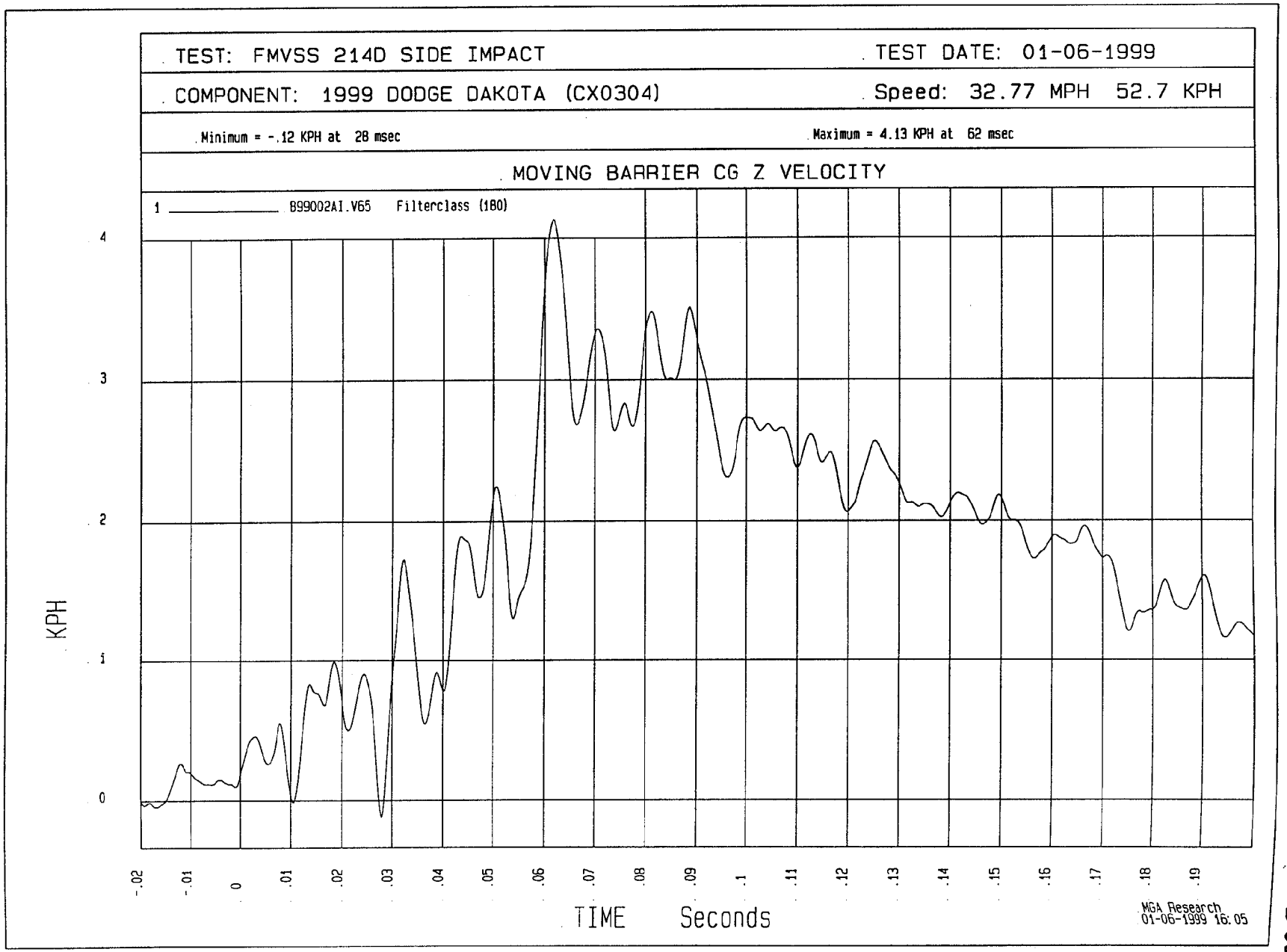
.18
.19
TIME (SECONDS)
MGA Research
01-06-1999 16:05


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -.12 KPH at 28 msec
Maximum = 4.13 KPH at 62 msec
MOVING BARRIER CG Z VELOCITY
1 B99002AI.V65 Filterclass (180)
KPH
4
3
2
1
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
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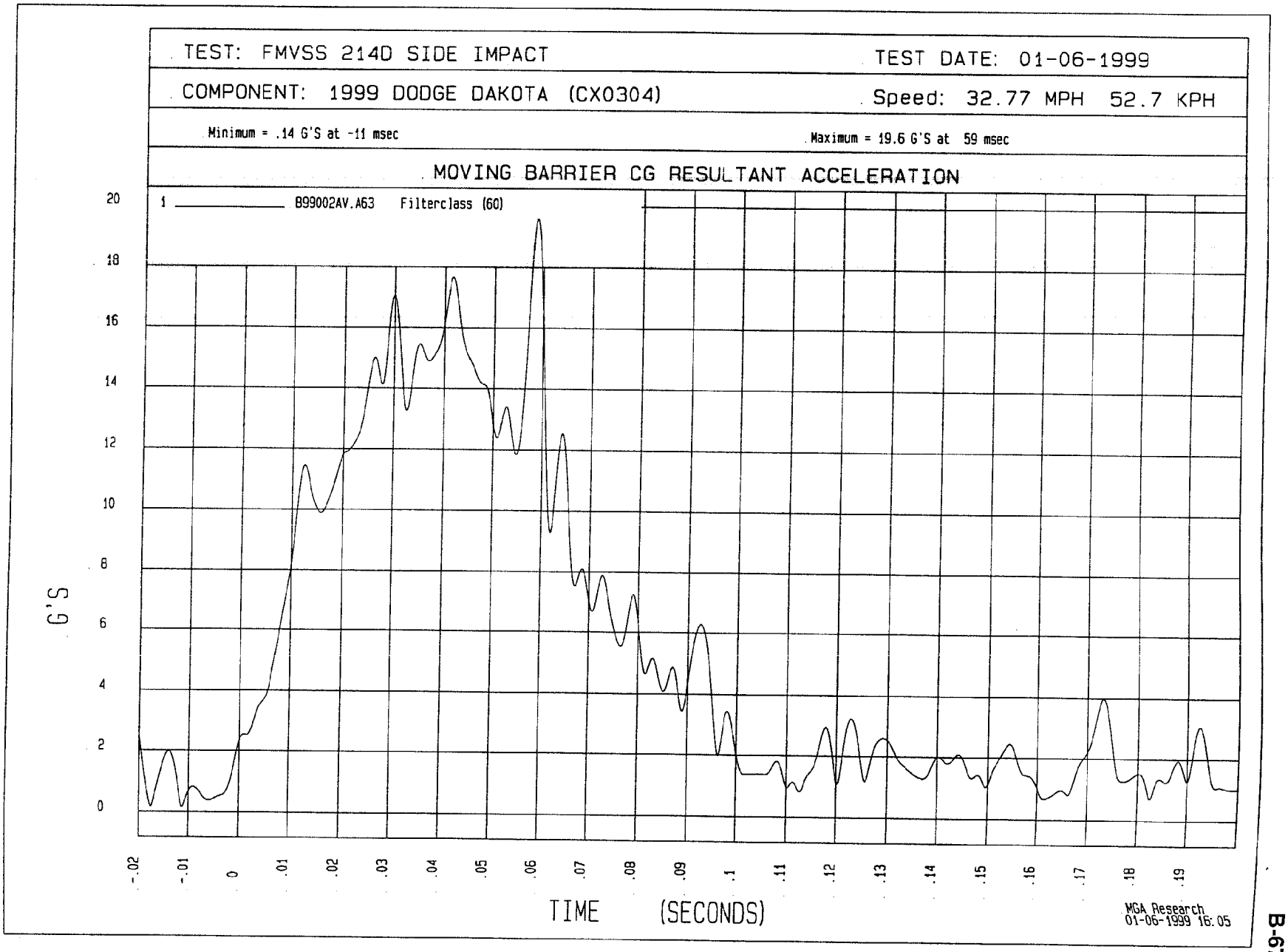
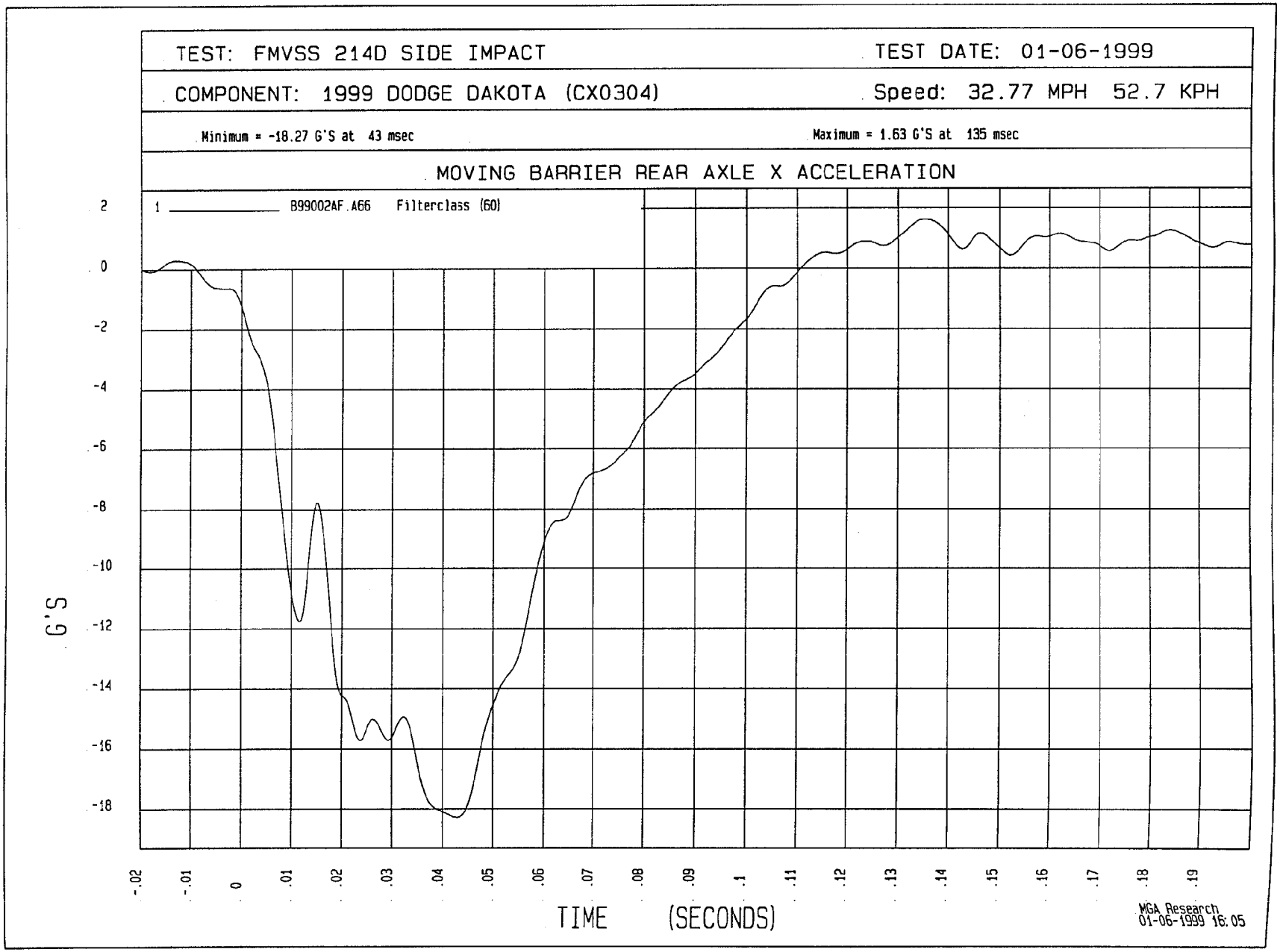
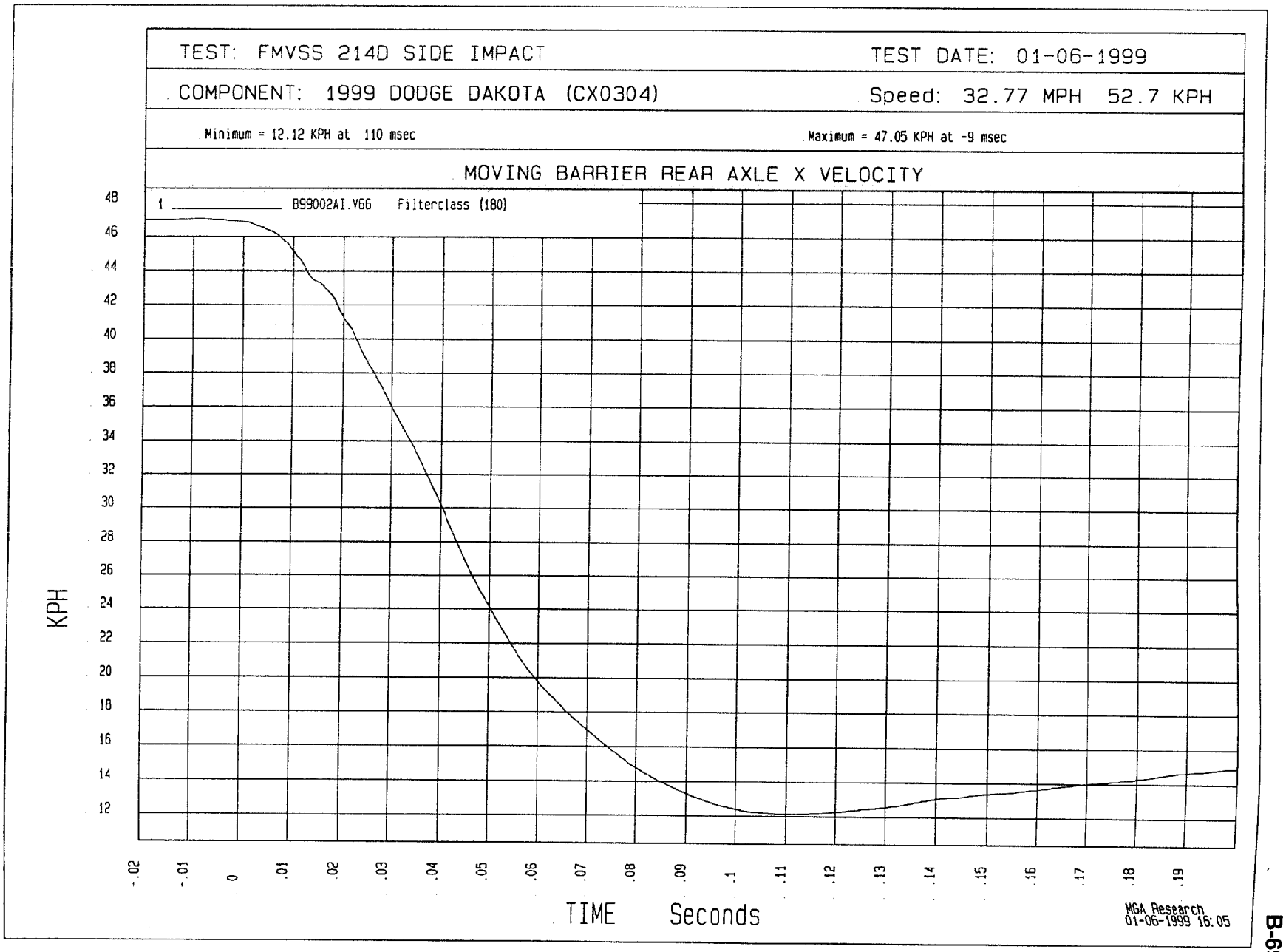
TIME Seconds
MGA Research
01-06-1999 16:05


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = .14 G'S at -11 msec
Maximum = 19.6 G'S at 59 msec
MOVING BARRIER CG RESULTANT ACCELERATION
1 B99002AV.A63 Filterclass (60)
G'S
20
18
16
14
12
10
8
6
4
2
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
01-06-1999 16:05


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -18.27 G'S at 43 msec
Maximum = 1.63 G'S at 135 msec
MOVING BARRIER REAR AXLE X ACCELERATION
1 B99002AF.A66 Filterclass (60)
2
0
-2
-4
-6
-8
-10
-12
-14
-16
-18
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
01-06-1999 16:05


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = 12.12 KPH at 110 msec
Maximum = 47.05 KPH at -9 msec
MOVING BARRIER REAR AXLE X VELOCITY
1 B99002AI.V66 Filterclass (180)
KPH
48
46
44
42
40
38
36
34
32
30
28
26
24
22
20
18
16
14
12
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
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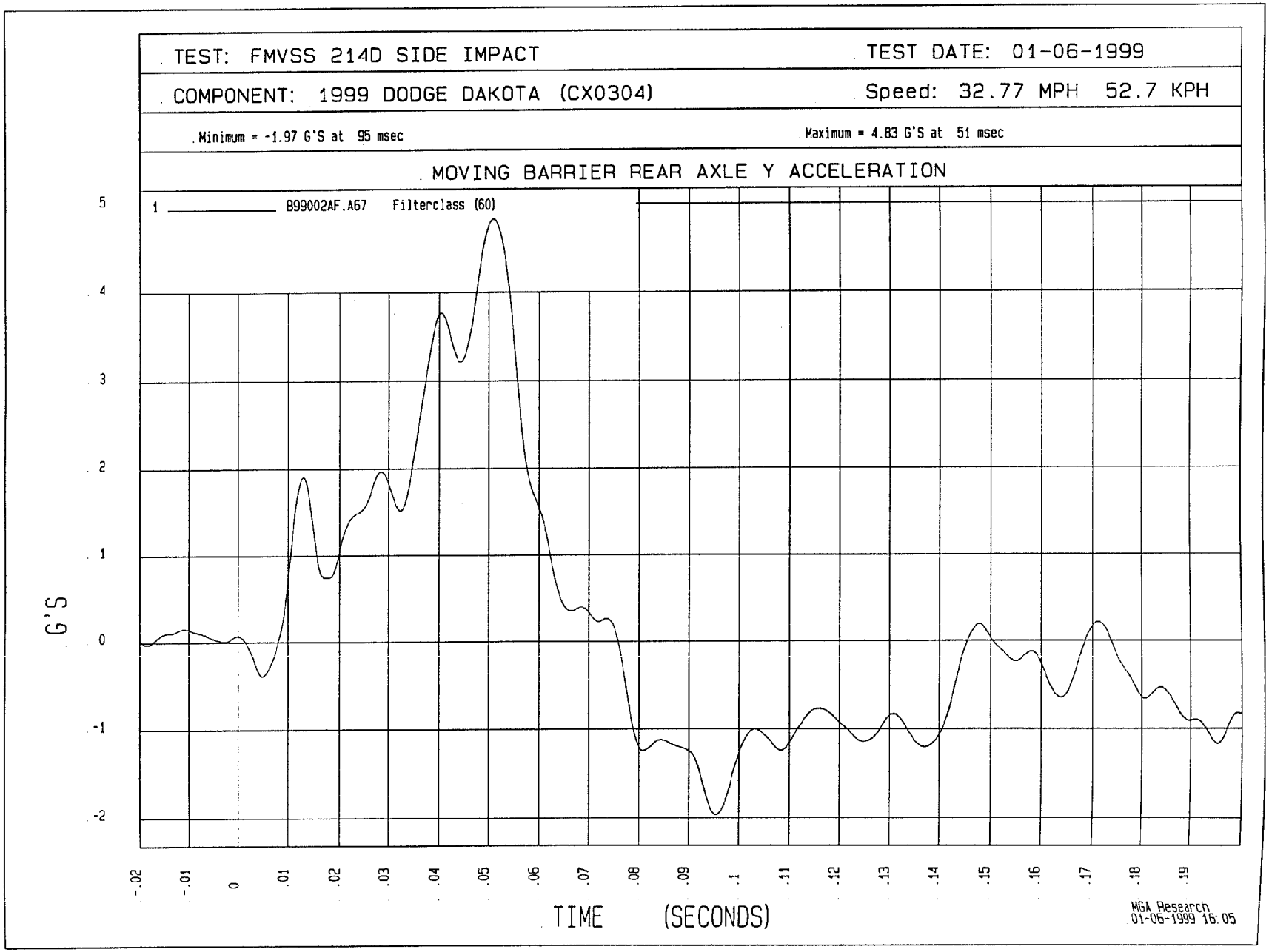
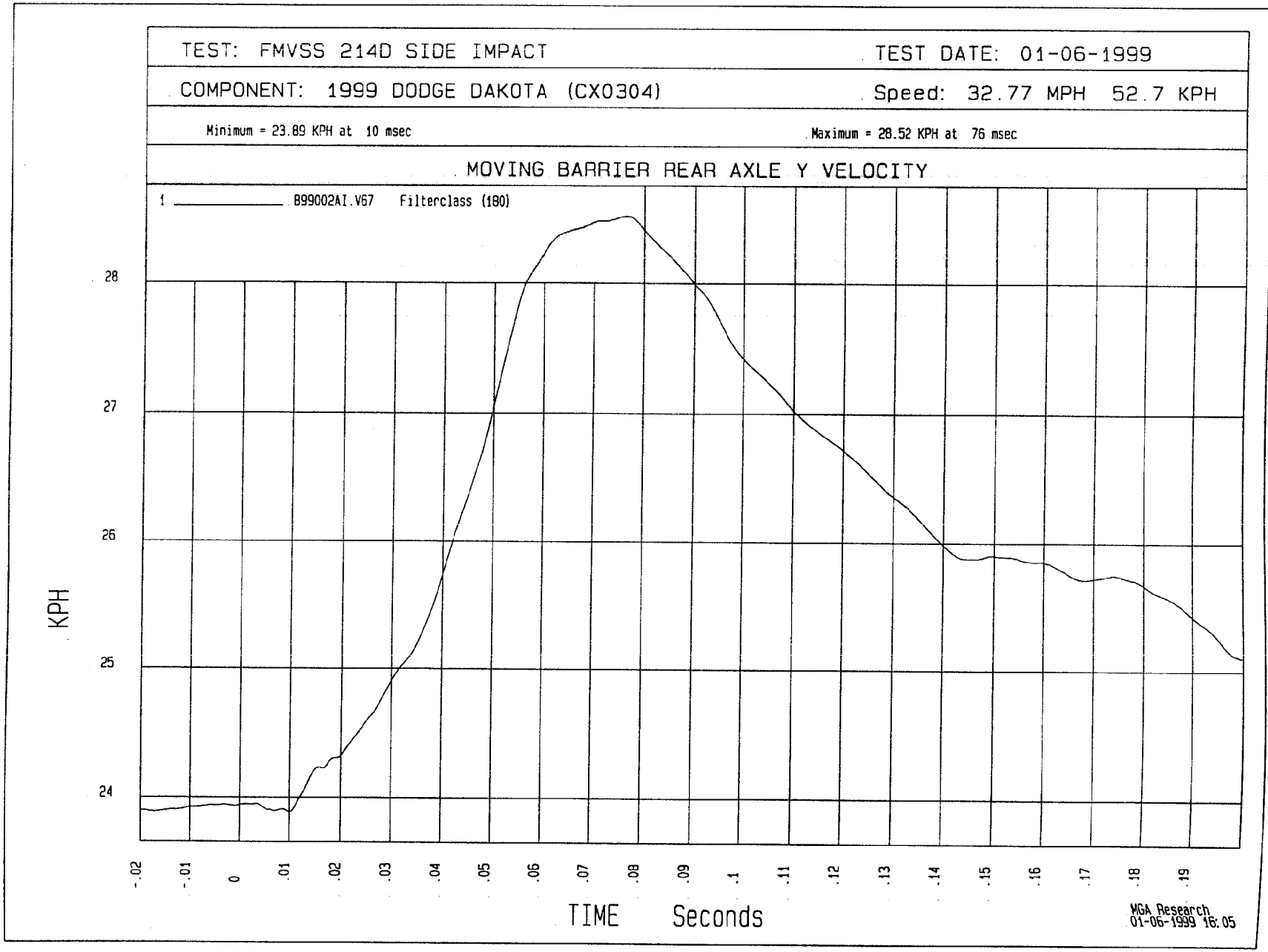
TIME Seconds
MGA Research
01-06-1999 16:05


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -1.97 G'S at 95 msec
Maximum = 4.83 G'S at 51 msec
MOVING BARRIER REAR AXLE Y ACCELERATION
1 B99002AF.A67 Filterclass (60)
G'S
5
4
3
2
1
0
-1
-2
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
01-06-1999 16:05


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = 23.89 KPH at 10 msec
Maximum = 28.52 KPH at 76 msec
MOVING BARRIER REAR AXLE Y VELOCITY
1 B99002AI.V67 Filterclass (180)
KPH
28
27
26
25
24
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
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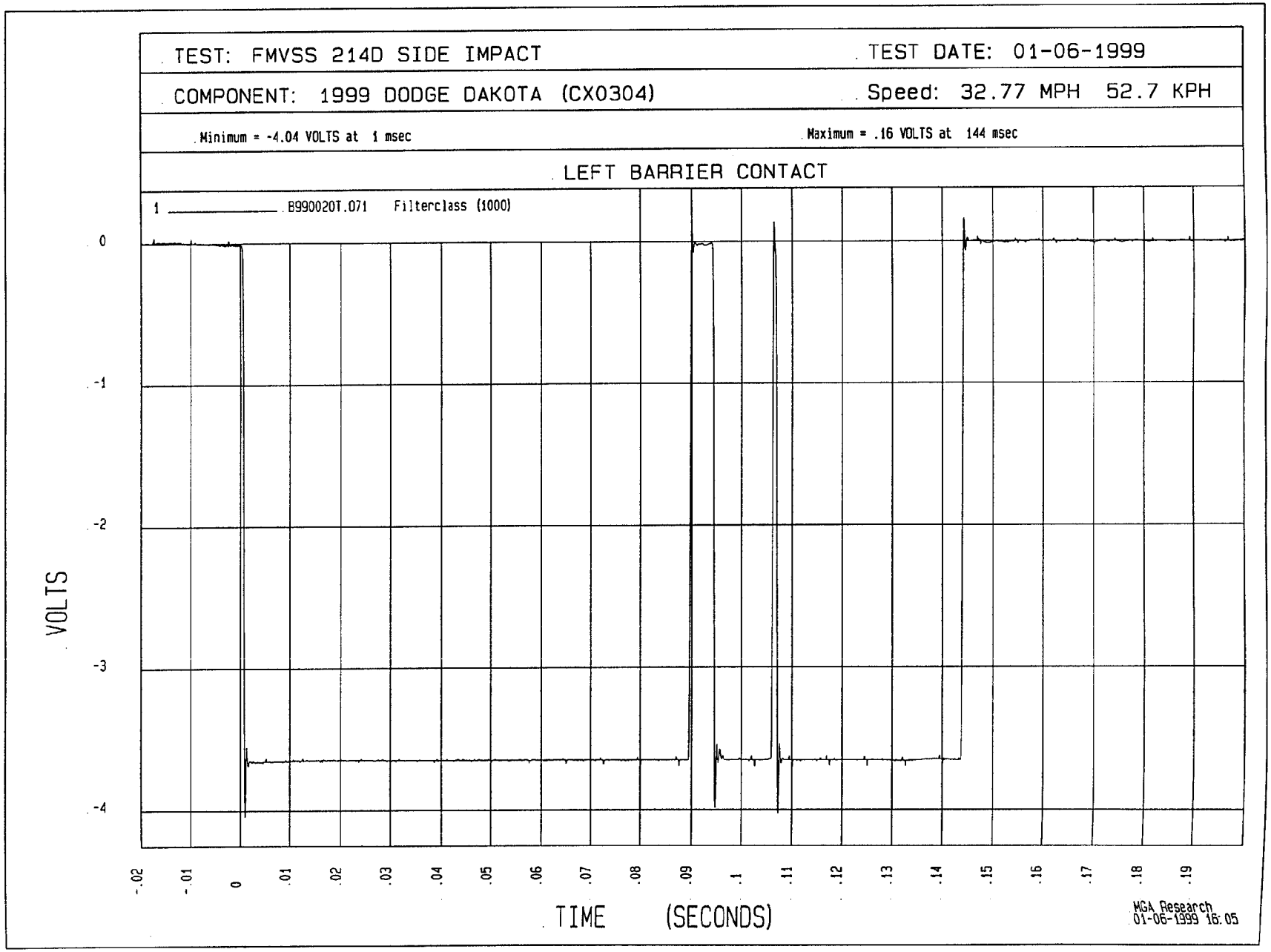
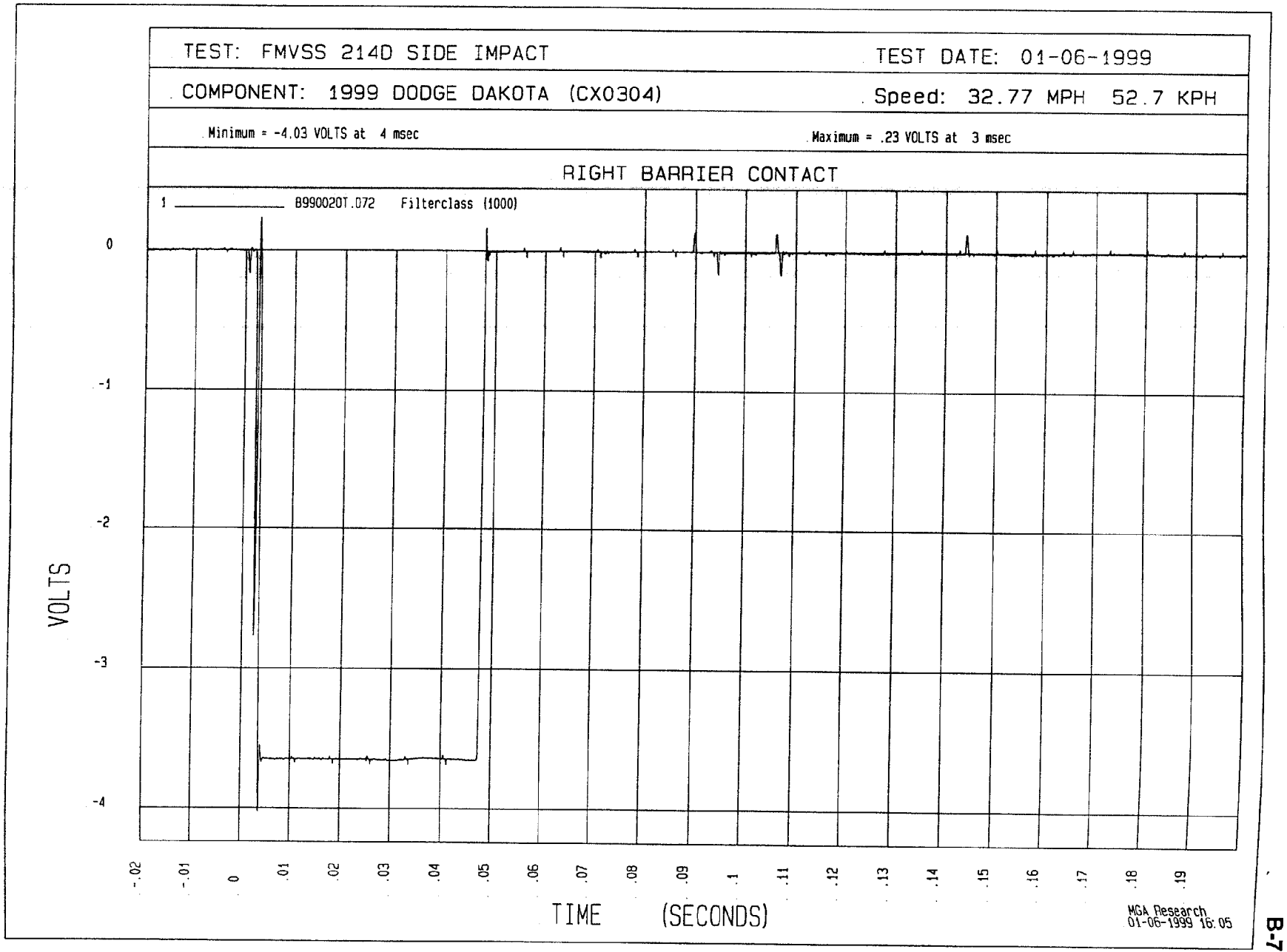
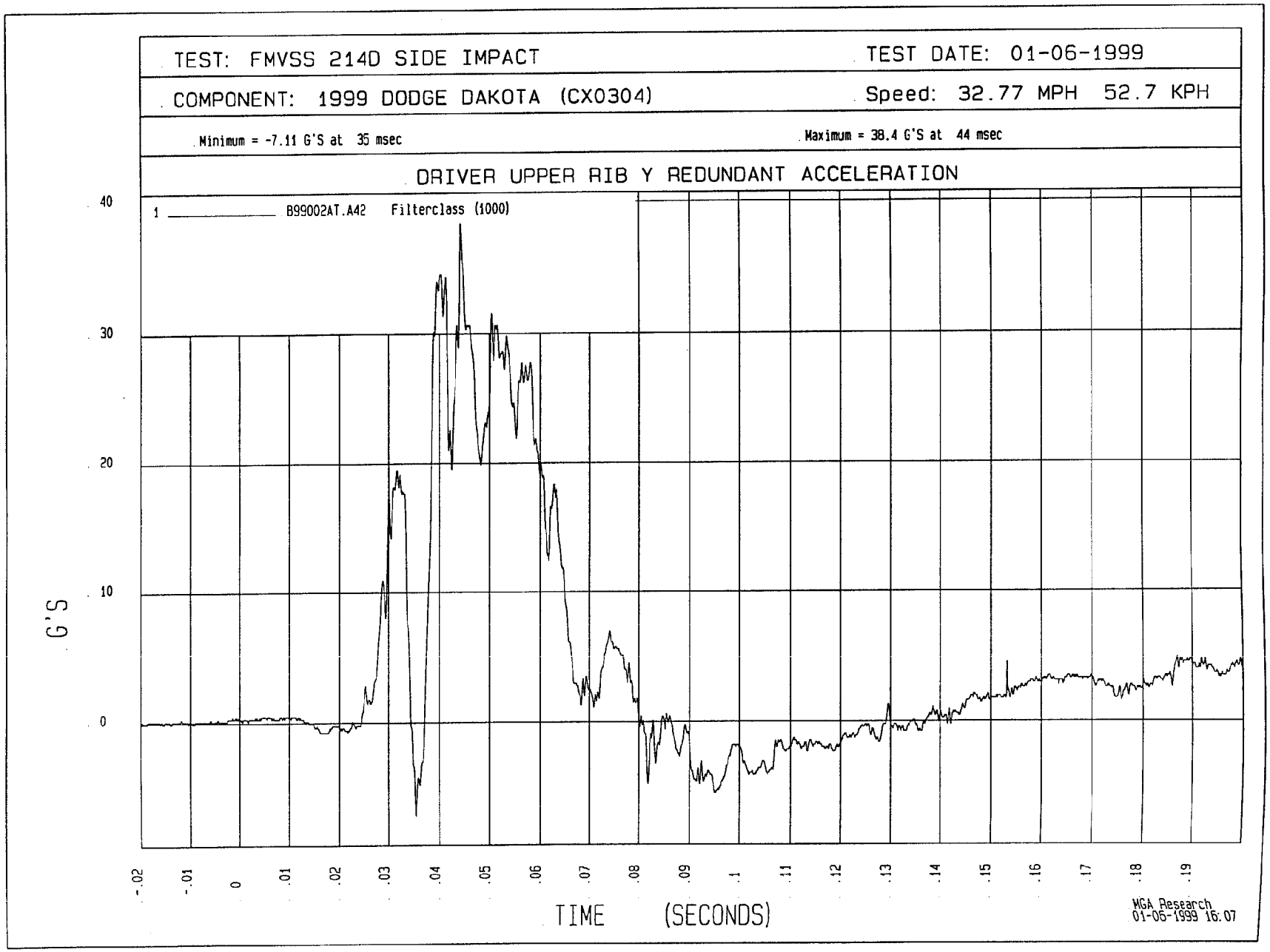
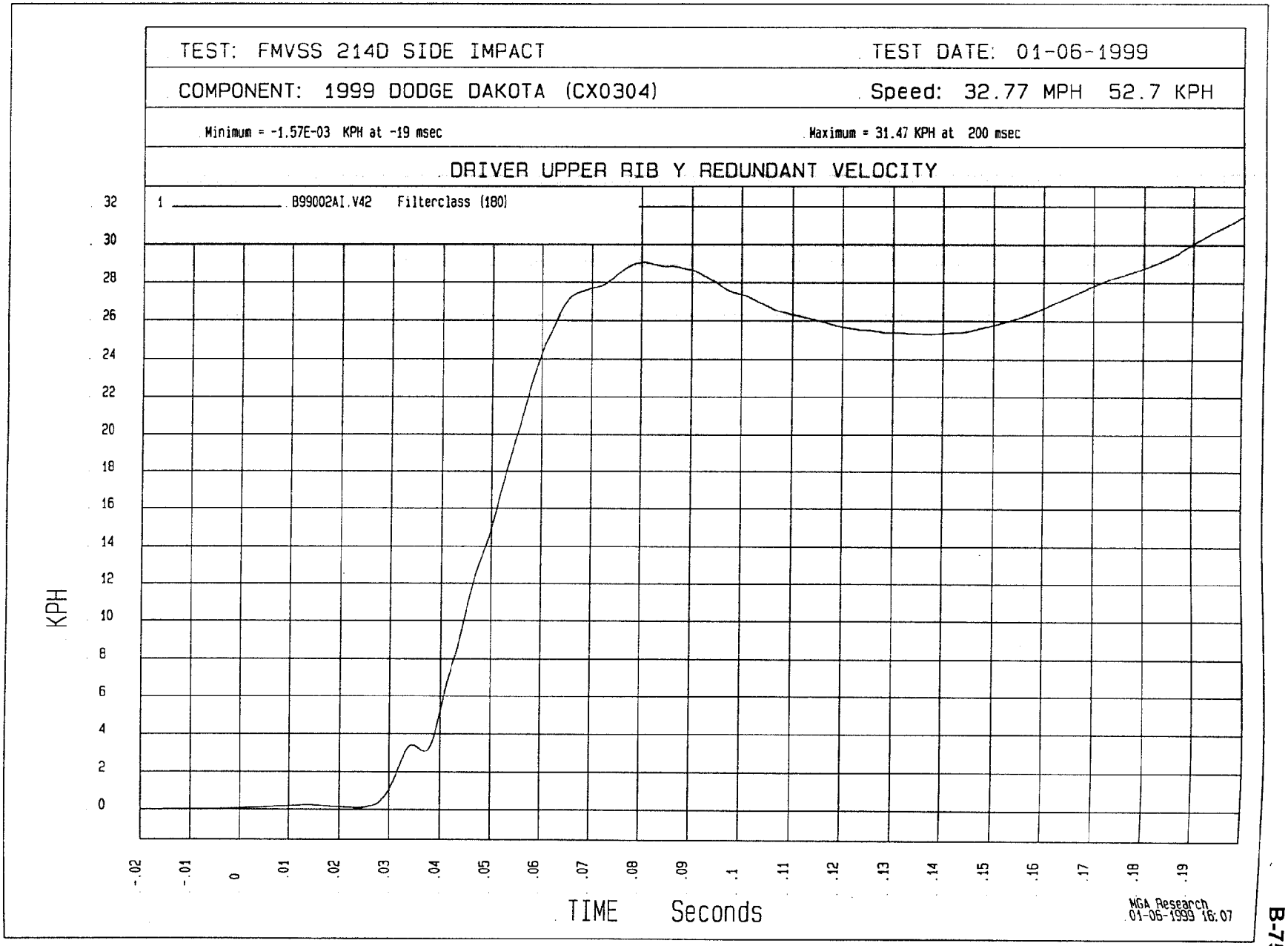
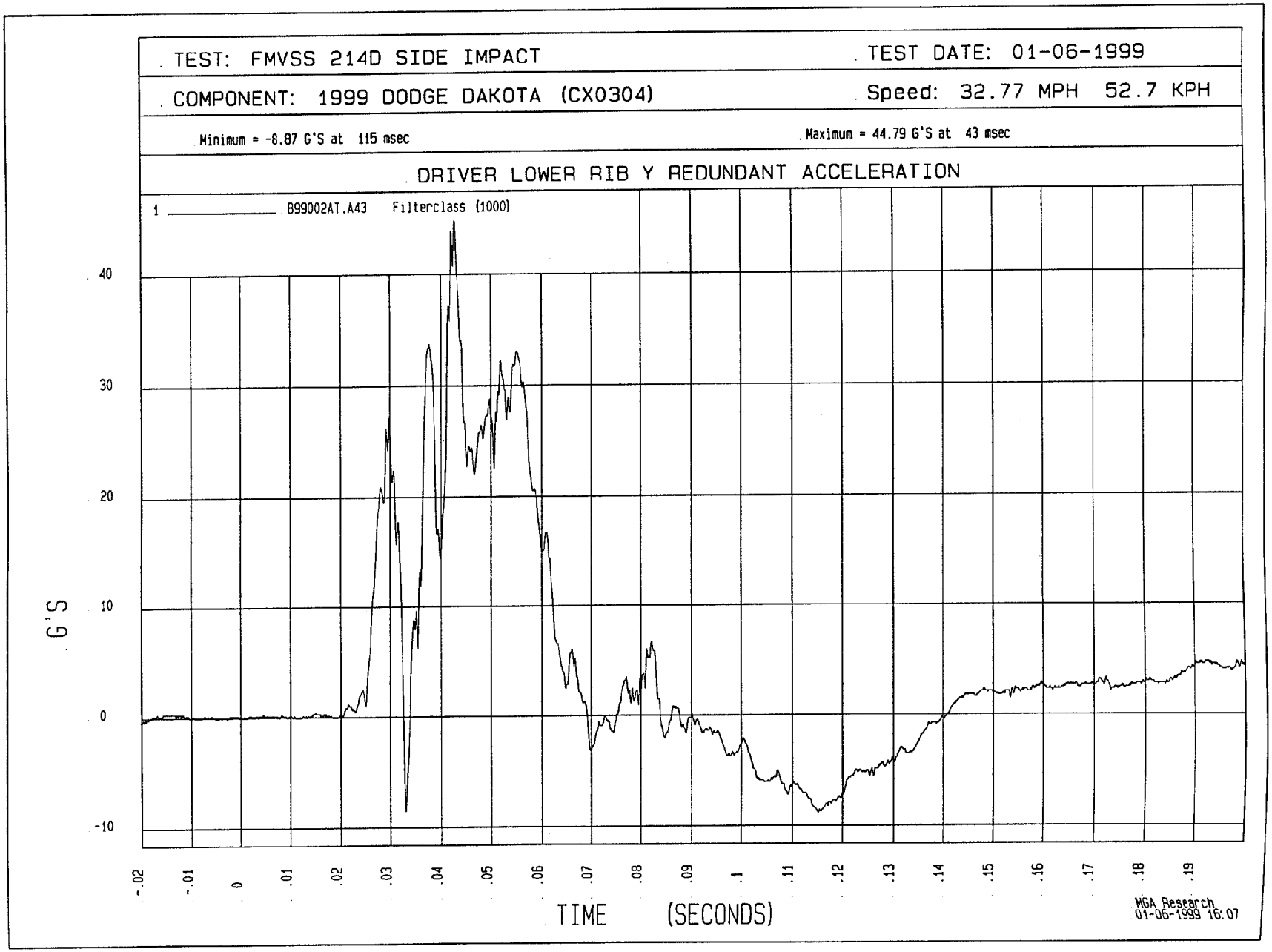
.16
.17
.18
.19
TIME Seconds
MGA Research
01-06-1999 16:05

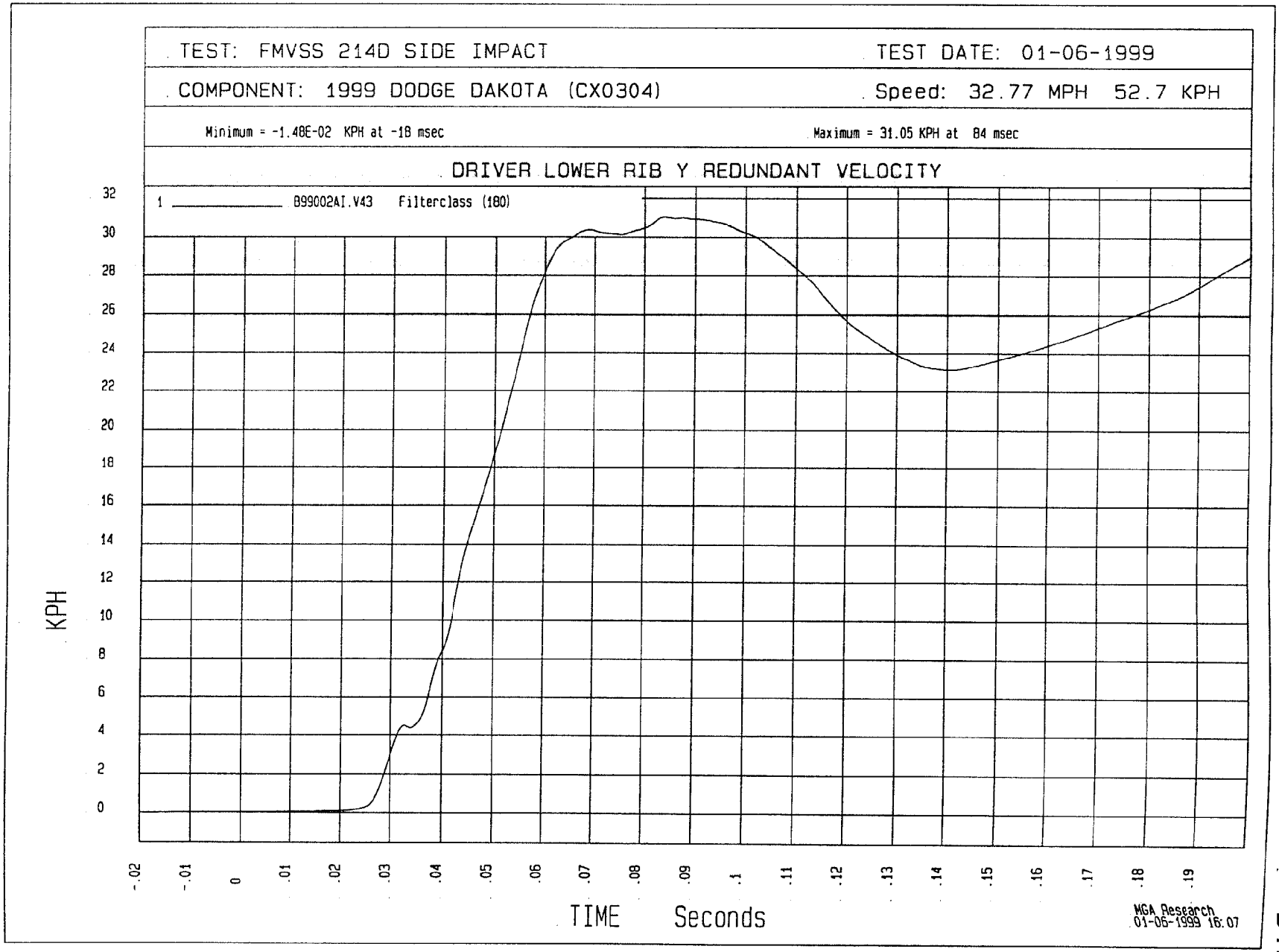

TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -4.04 VOLTS at 1 msec
Maximum = .16 VOLTS at 144 msec
LEFT BARRIER CONTACT
1 B990020T.071 Filterclass (1000)
VOLTS
0
-1
-2
-3
-4
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
01-06-1999 16:05

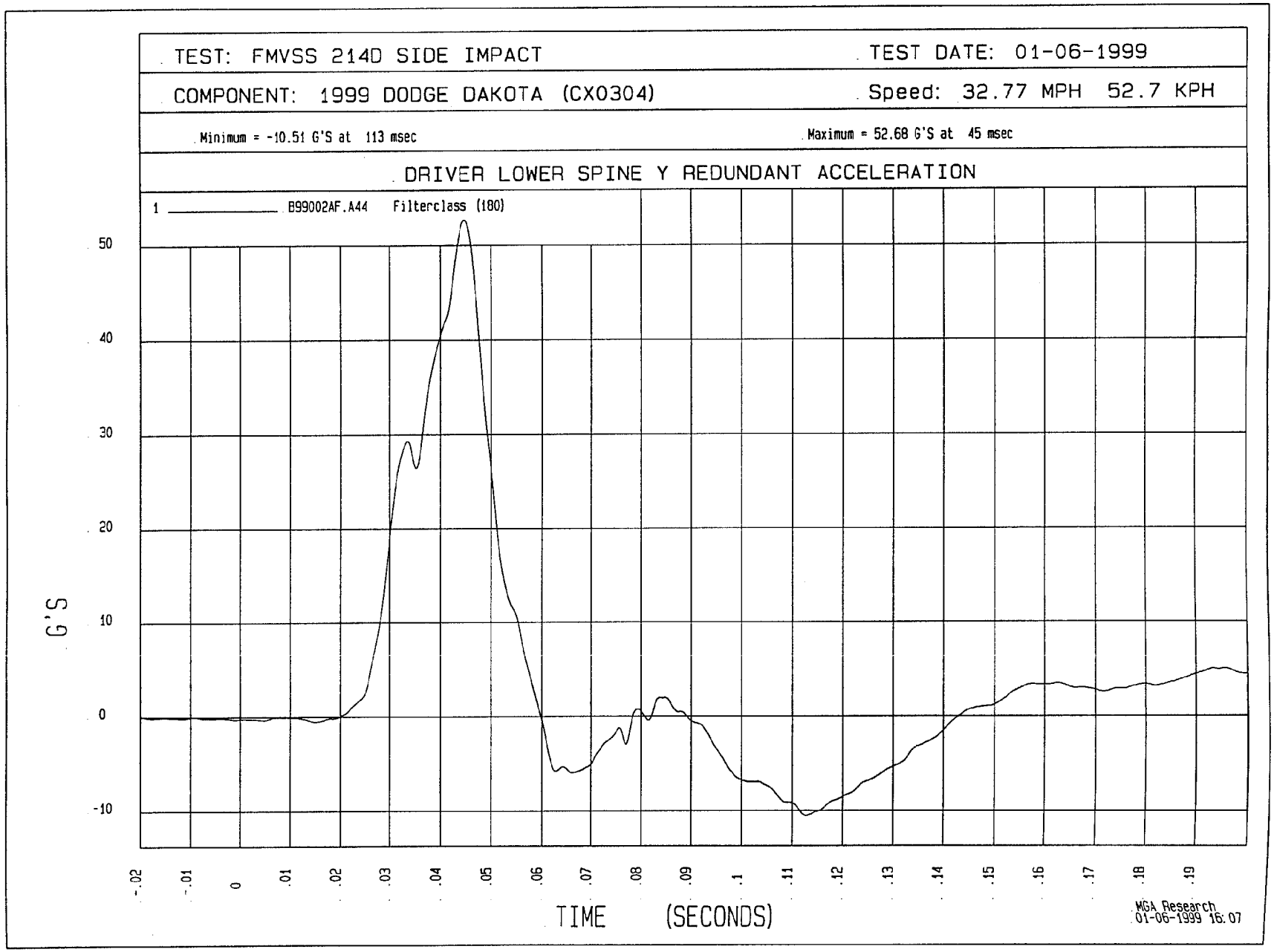

TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -4.03 VOLTS at 4 msec
Maximum = .23 VOLTS at 3 msec
RIGHT BARRIER CONTACT
1 B990020T.072 Filterclass (1000)
VOLTS
0
-1
-2
-3
-4
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
01-06-1999 16:05

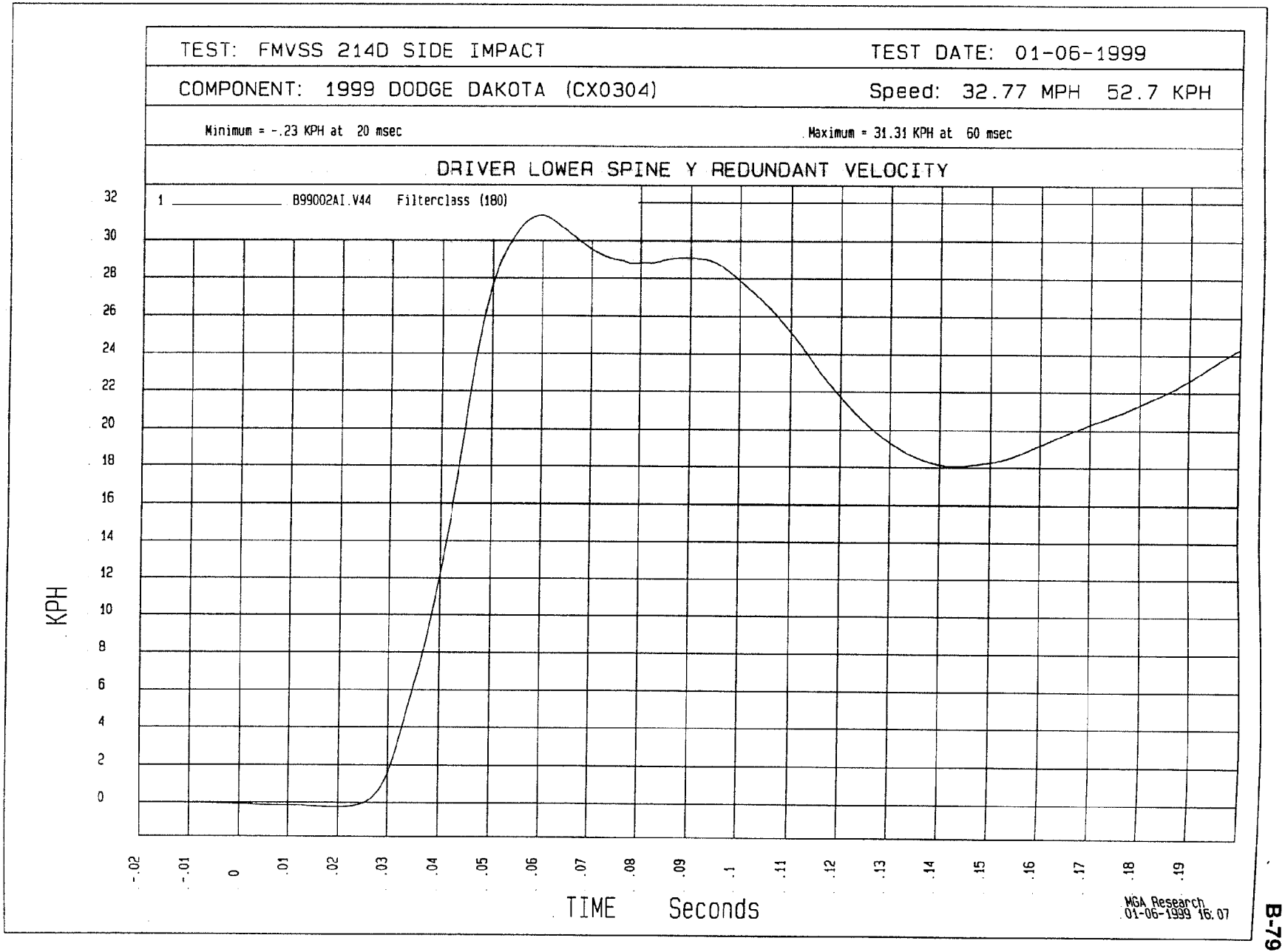

TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -7.11 G'S at 35 msec
Maximum = 38.4 G'S at 44 msec
DRIVER UPPER RIB Y REDUNDANT ACCELERATION
1 B99002AT.A42 Filterclass (1000)
G'S
40
30
20
10
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
01-06-1999 16:07


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -1.57E-03 KPH at -19 msec
Maximum = 31.47 KPH at 200 msec
DRIVER UPPER RIB Y REDUNDANT VELOCITY
1 B99002AI.V42 Filterclass (180)
KPH
32
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME Seconds
NGA Research
01-06-1999 16:07


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -8.87 G'S at 115 msec
Maximum = 44.79 G'S at 43 msec
DRIVER LOWER RIB Y REDUNDANT ACCELERATION
1 B99002AT.A43 Filterclass (1000)
G'S
40
30
20
10
0
-10
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
01-06-1999 16:07


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -1.48E-02 KPH at -18 msec
Maximum = 31.05 KPH at 84 msec
DRIVER LOWER RIB Y REDUNDANT VELOCITY
1 B99002AI.V43 Filterclass (180)
KPH
32
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME Seconds
MGA Research
01-06-1999 16:07


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -10.51 G'S at 113 msec
Maximum = 52.68 G'S at 45 msec
DRIVER LOWER SPINE Y REDUNDANT ACCELERATION
1 B99002AF.A44 Filterclass (180)
50
40
30
20
10
0
-10
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
01-06-1999 16:07


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -.23 KPH at 20 msec
Maximum = 31.31 KPH at 60 msec
DRIVER LOWER SPINE Y REDUNDANT VELOCITY
1 B99002AI.V44 Filterclass (180)
KPH
32
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
-.02
-.01
0
.01
.02
.03
.04
.05
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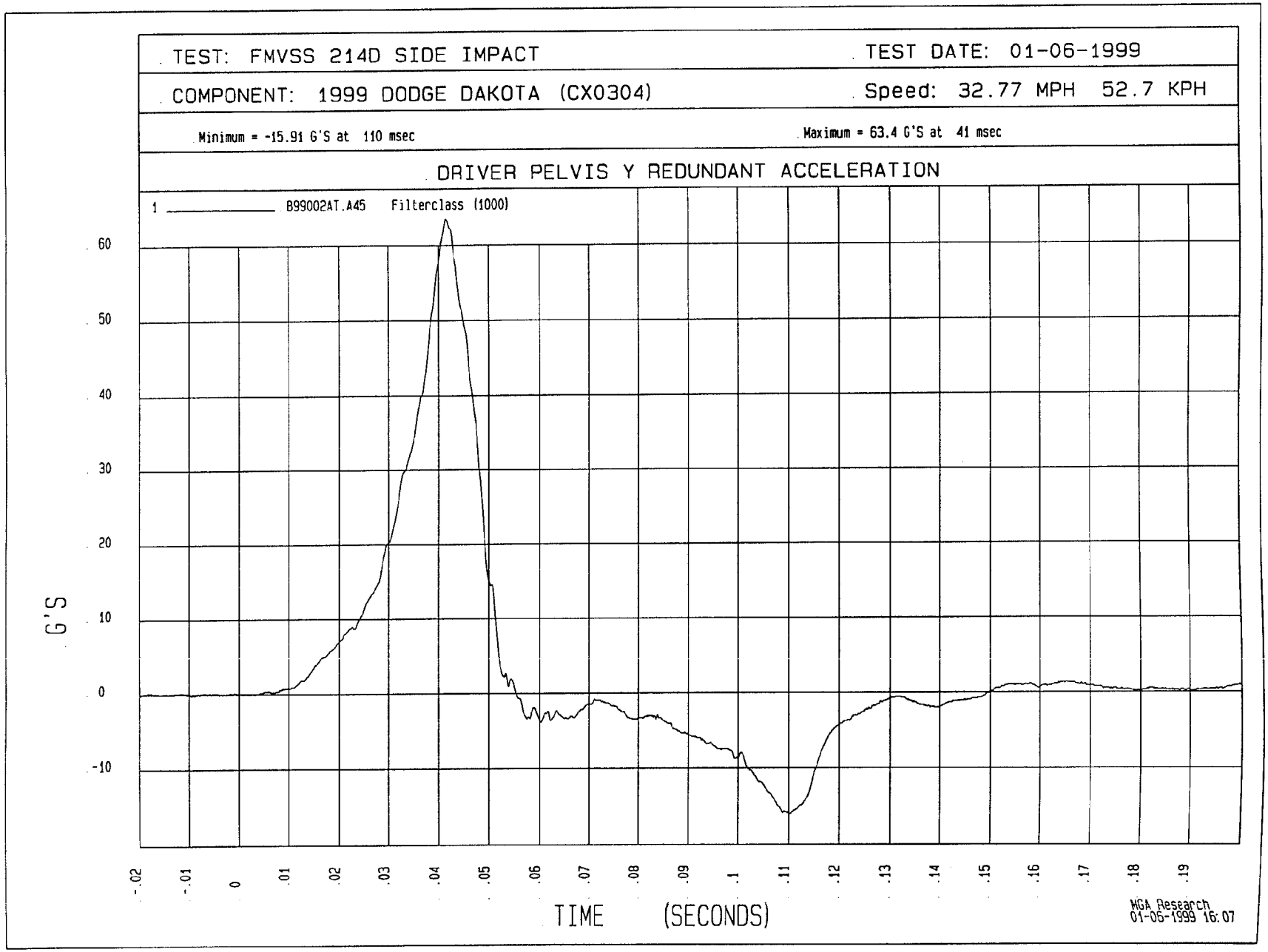
TIME Seconds
MGA Research
01-06-1999 16:07


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -15.91 G'S at 110 msec
Maximum = 63.4 G'S at 41 msec
DRIVER PELVIS Y REDUNDANT ACCELERATION
1 B990O2AT.A45 Filterclass (1000)
60
50
40
30
20
10
0
-10
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
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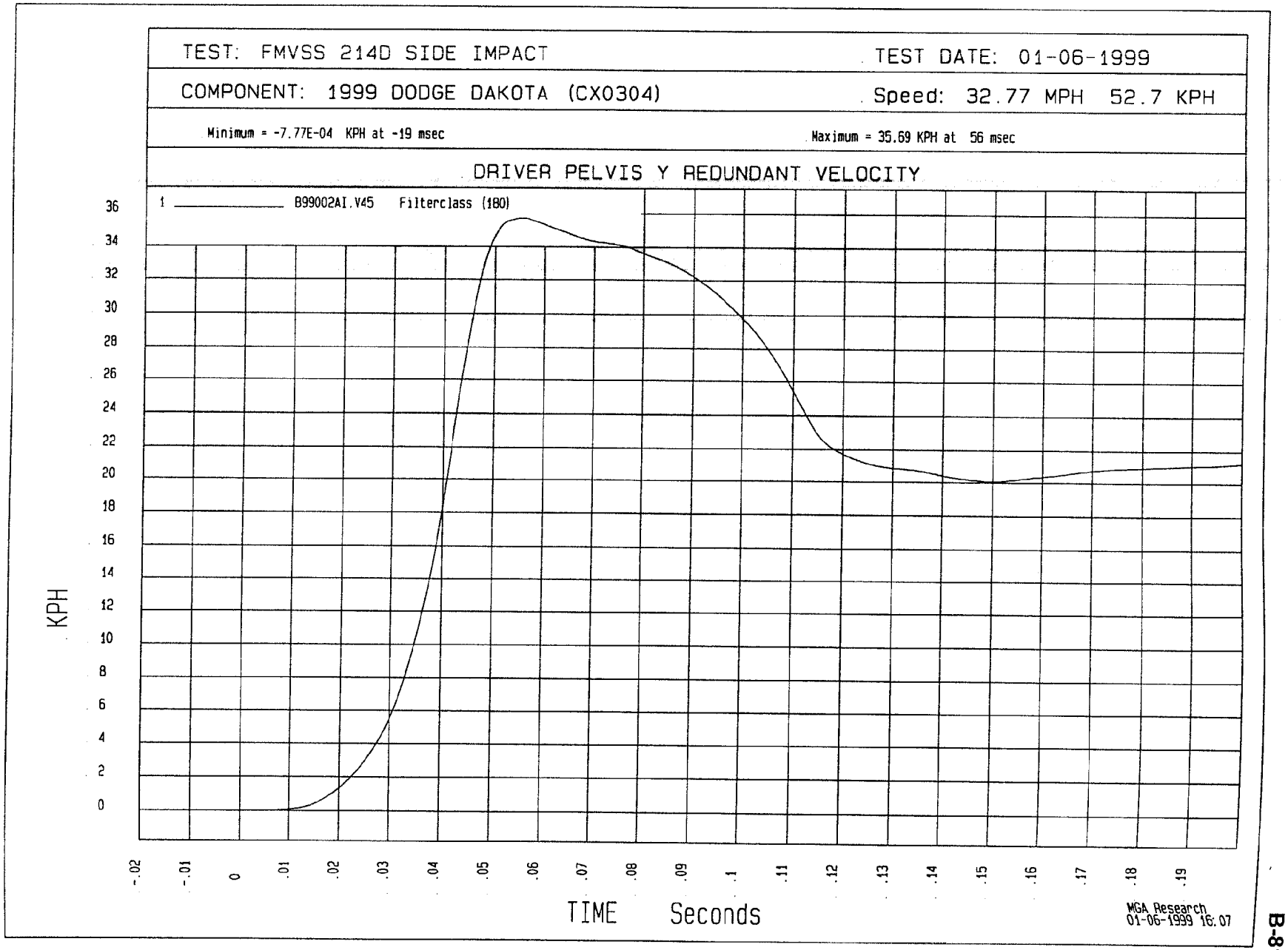
TIME (SECONDS)
MGA Research
01-06-1999 16:07


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -7.77E-04 KPH at -19 msec
Maximum = 35.69 KPH at 56 msec
DRIVER PELVIS Y REDUNDANT VELOCITY
1 B99002AI.V45 Filterclass (180)
KPH
36
34
32
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
-.02
-.01
0
.01
.02
.03
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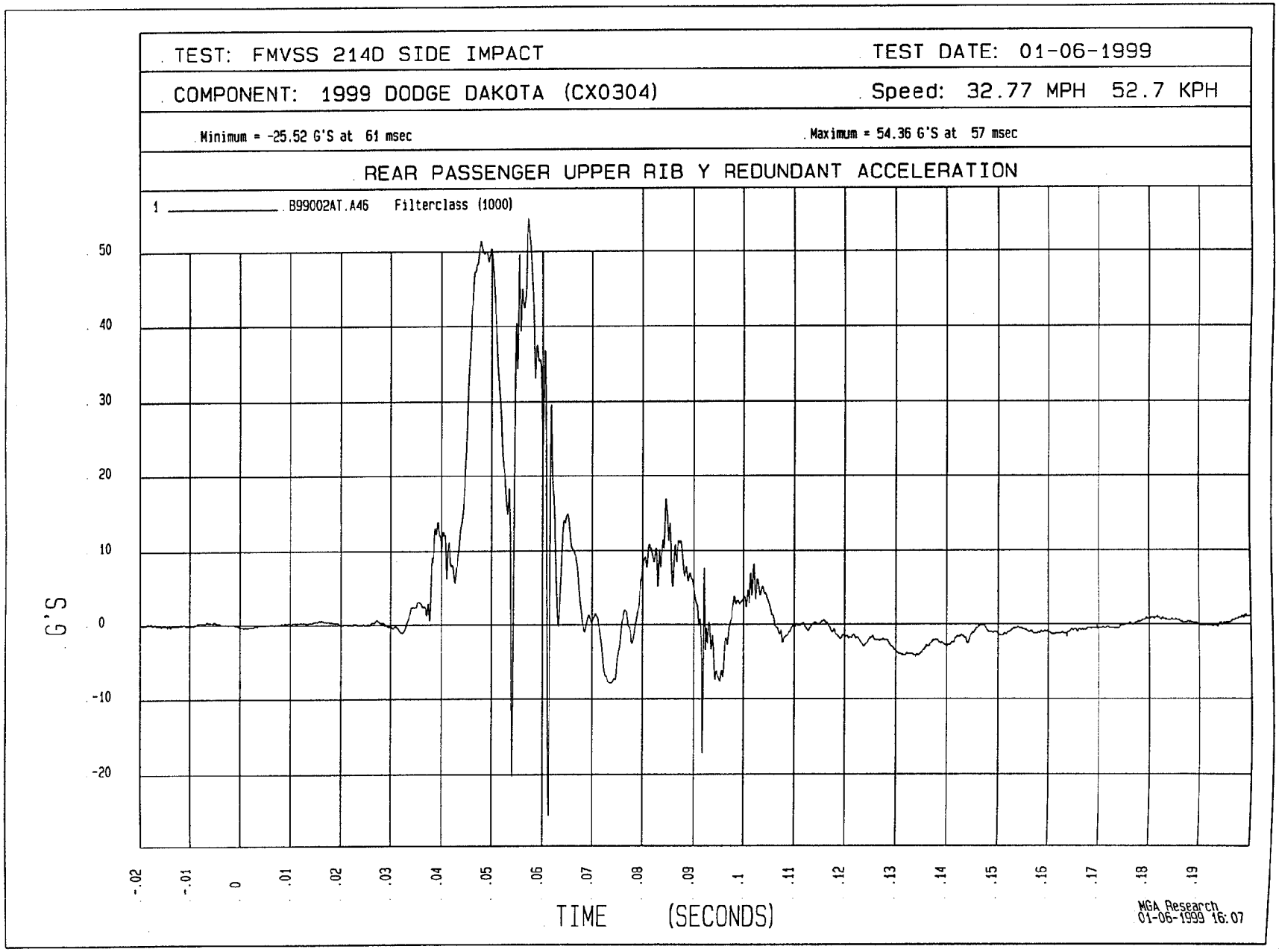
TIME Seconds
MGA Research
01-06-1999 16:07


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -25.52 G'S at 61 msec
Maximum = 54.36 G'S at 57 msec
REAR PASSENGER UPPER RIB Y REDUNDANT ACCELERATION
1 B99002AT.A46 Filterclass (1000)
G'S
50
40
30
20
10
0
-10
-20
-.02
-.01
0
.01
.02
.03
.04
.05
.06
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.11
.12
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.15
.16
.17
.18
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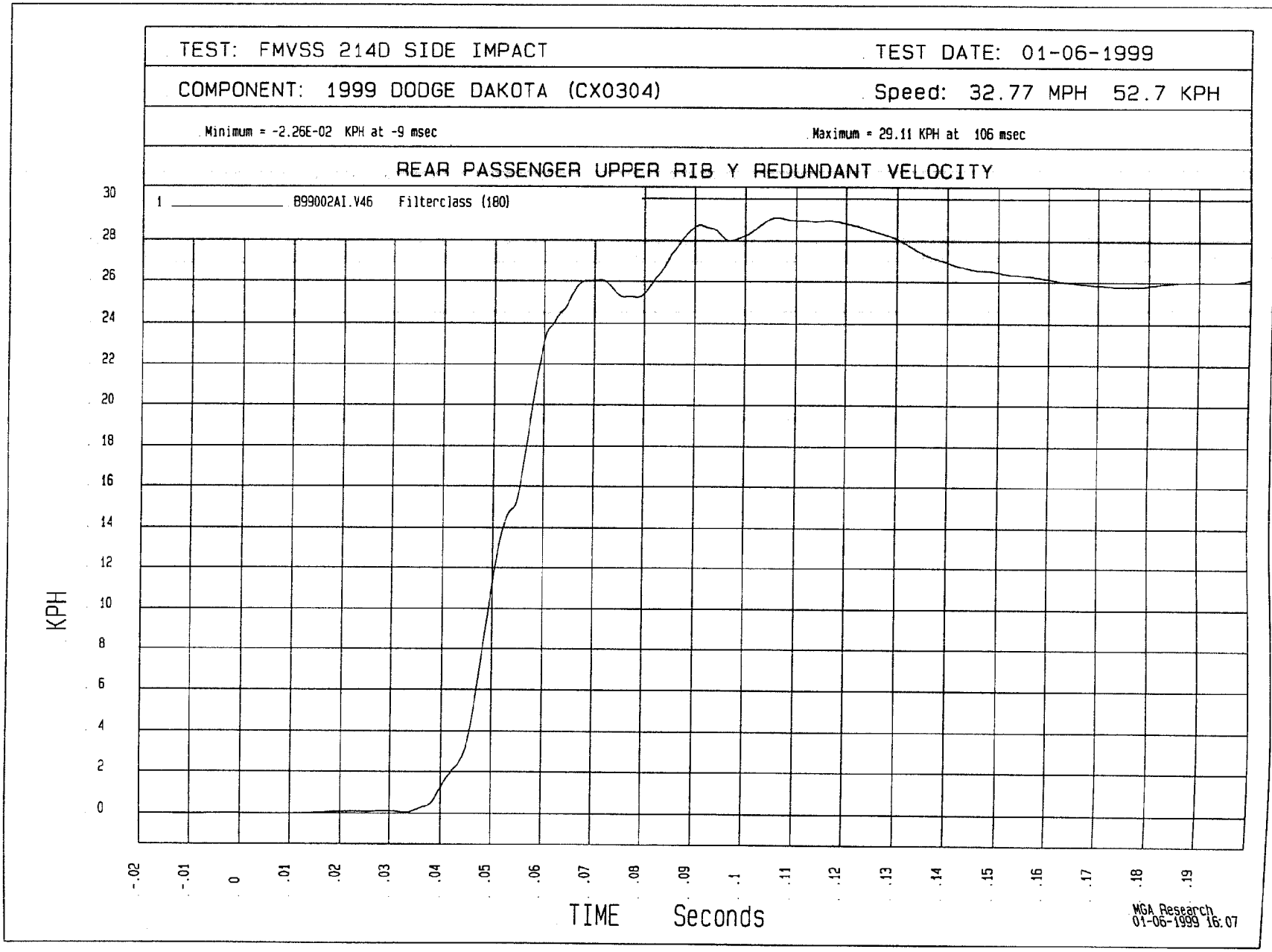
TIME (SECONDS)
MGA Research
01-06-1999 16:07


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -2.26E-02 KPH at -9 msec
Maximum = 29.11 KPH at 106 msec
REAR PASSENGER UPPER RIB Y REDUNDANT VELOCITY
1 B99002AI.V46 Filterclass (180)
KPH
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
-.02
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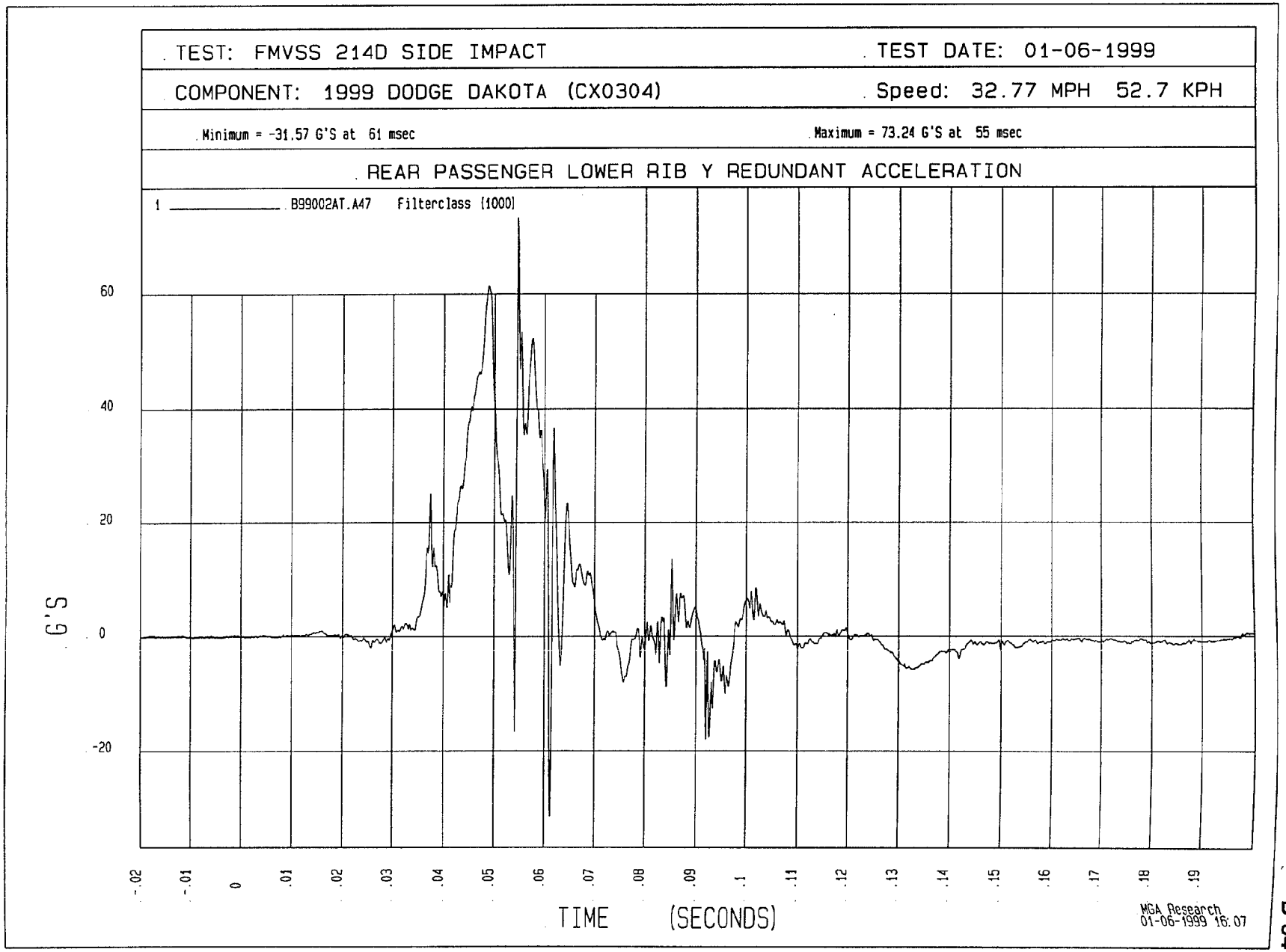
TIME Seconds
MGA Research
01-06-1999 16:07


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -31.57 G'S at 61 msec
Maximum = 73.24 G'S at 55 msec
REAR PASSENGER LOWER RIB Y REDUNDANT ACCELERATION
1 B99002AT.A47 Filterclass (1000)
60
40
20
0
-20
G'S
-.02
-.01
0
.01
.02
.03
.04
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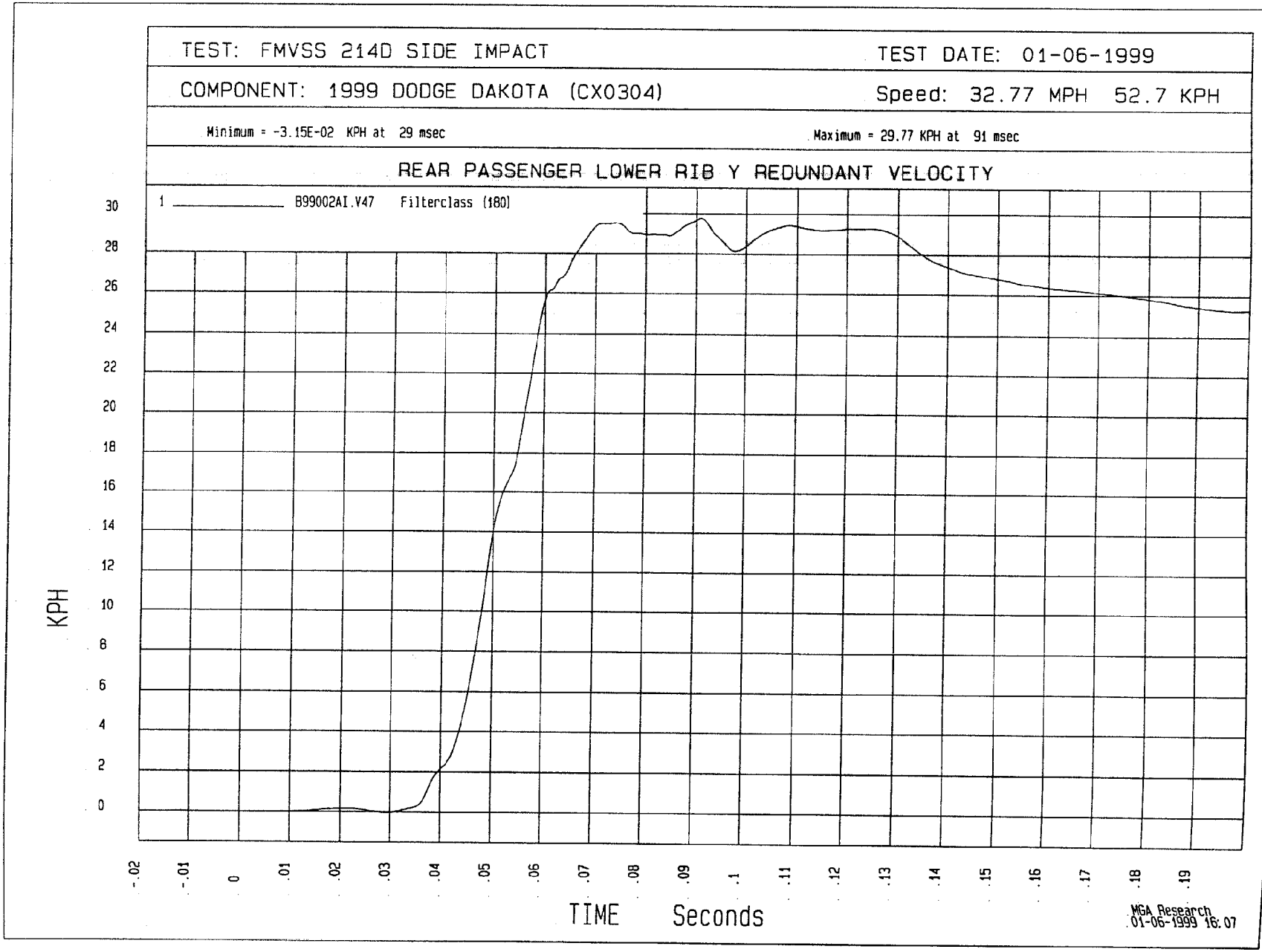
TIME (SECONDS)
MGA Research
01-06-1999 16:07


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -3.15E-02 KPH at 29 msec
Maximum = 29.77 KPH at 91 msec
REAR PASSENGER LOWER RIB Y REDUNDANT VELOCITY
1 B99002AI.V47 Filterclass (180)
KPH
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
-.02
-.01
0
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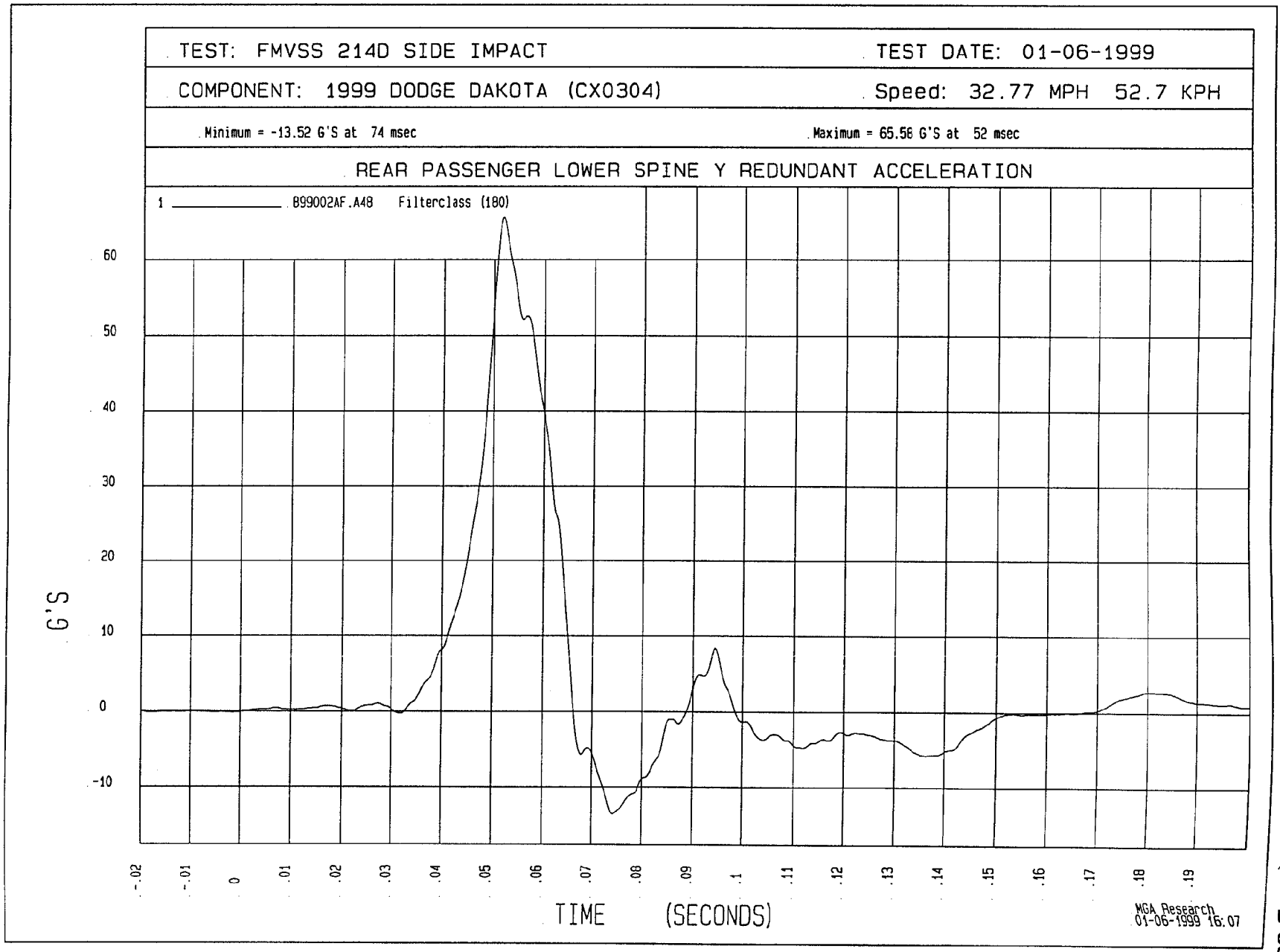
TIME Seconds
MGA Research
01-06-1999 16:07


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -13.52 G'S at 74 msec
Maximum = 65.56 G'S at 52 msec
REAR PASSENGER LOWER SPINE Y REDUNDANT ACCELERATION
1 B99002AF.A48 Filterclass (180)
G'S
60
50
40
30
20
10
0
-10
-.02
-.01
0
.01
.02
.03
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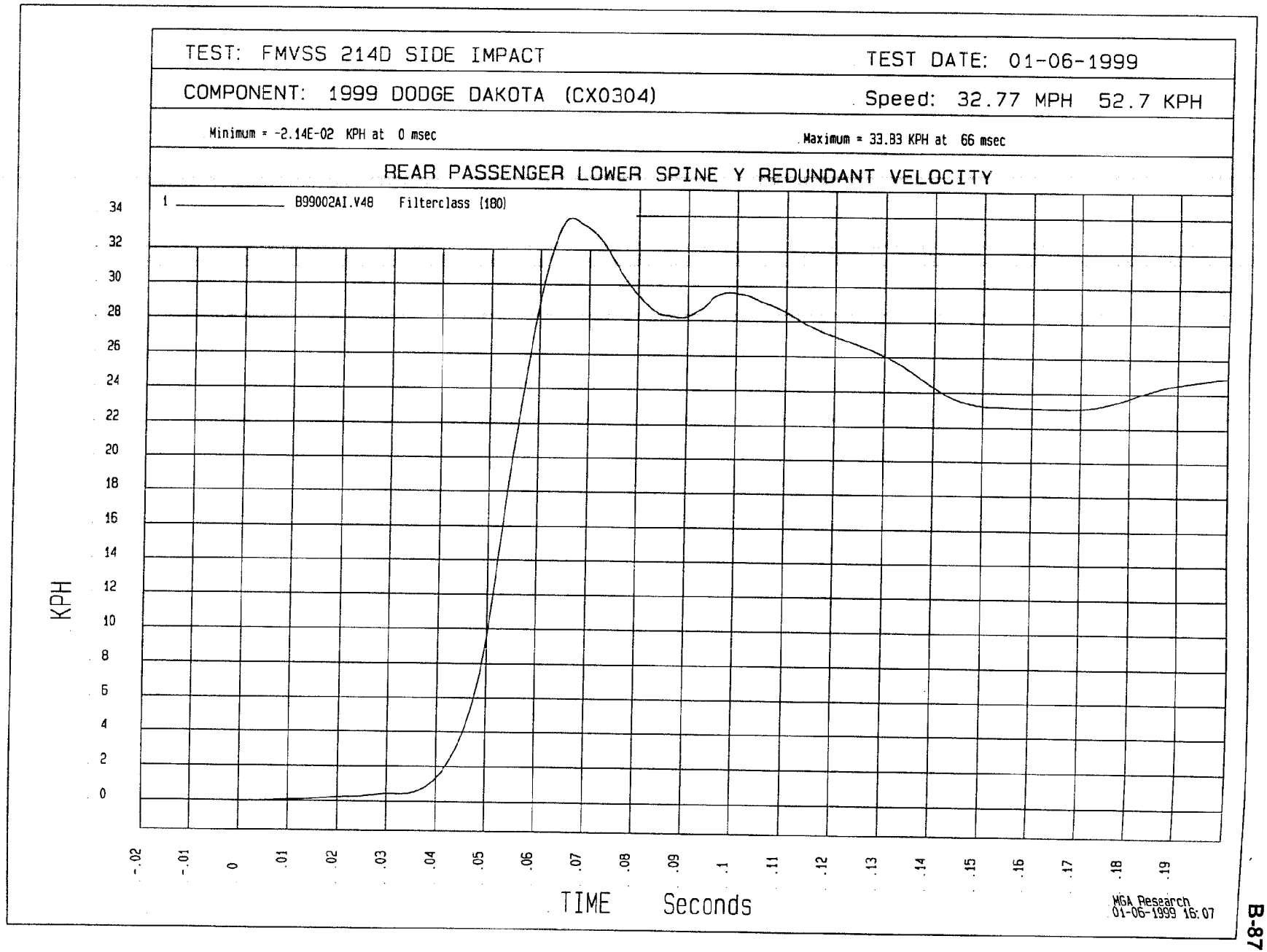
TIME (SECONDS)
MGA Research
01-06-1999 16:07


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -2.14E-02 KPH at 0 msec
Maximum = 33.83 KPH at 66 msec
REAR PASSENGER LOWER SPINE Y REDUNDANT VELOCITY
1 B99002AI.V48 Filterclass (180)
KPH
34
32
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
-.02
-.01
0
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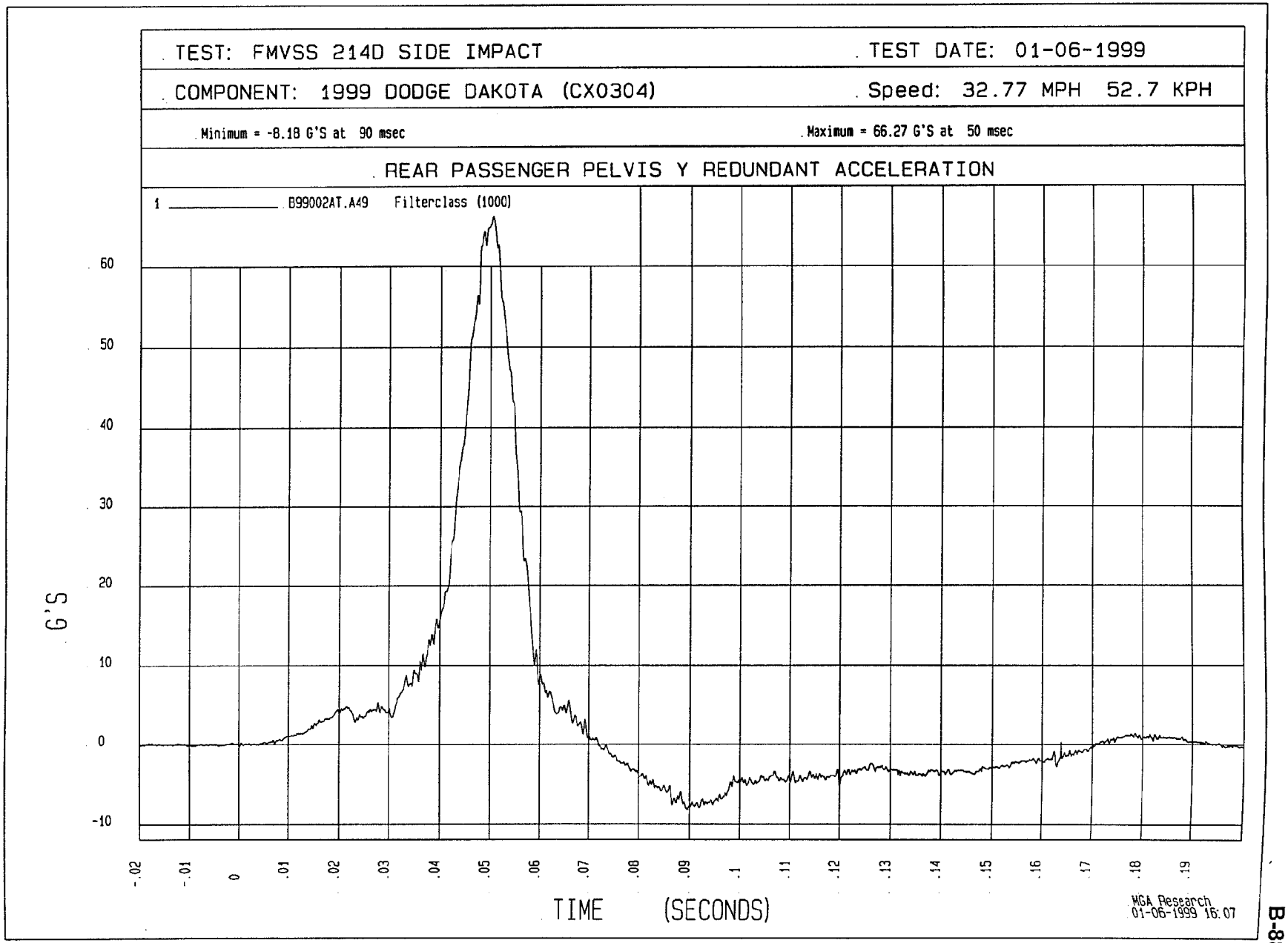
TIME Seconds
MGA Research
01-06-1999 16:07


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -8.18 G'S at 90 msec
Maximum = 66.27 G'S at 50 msec
REAR PASSENGER PELVIS Y REDUNDANT ACCELERATION
1 B99002AT.A49 Filterclass (1000)
G'S
60
50
40
30
20
10
0
-10
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-.01
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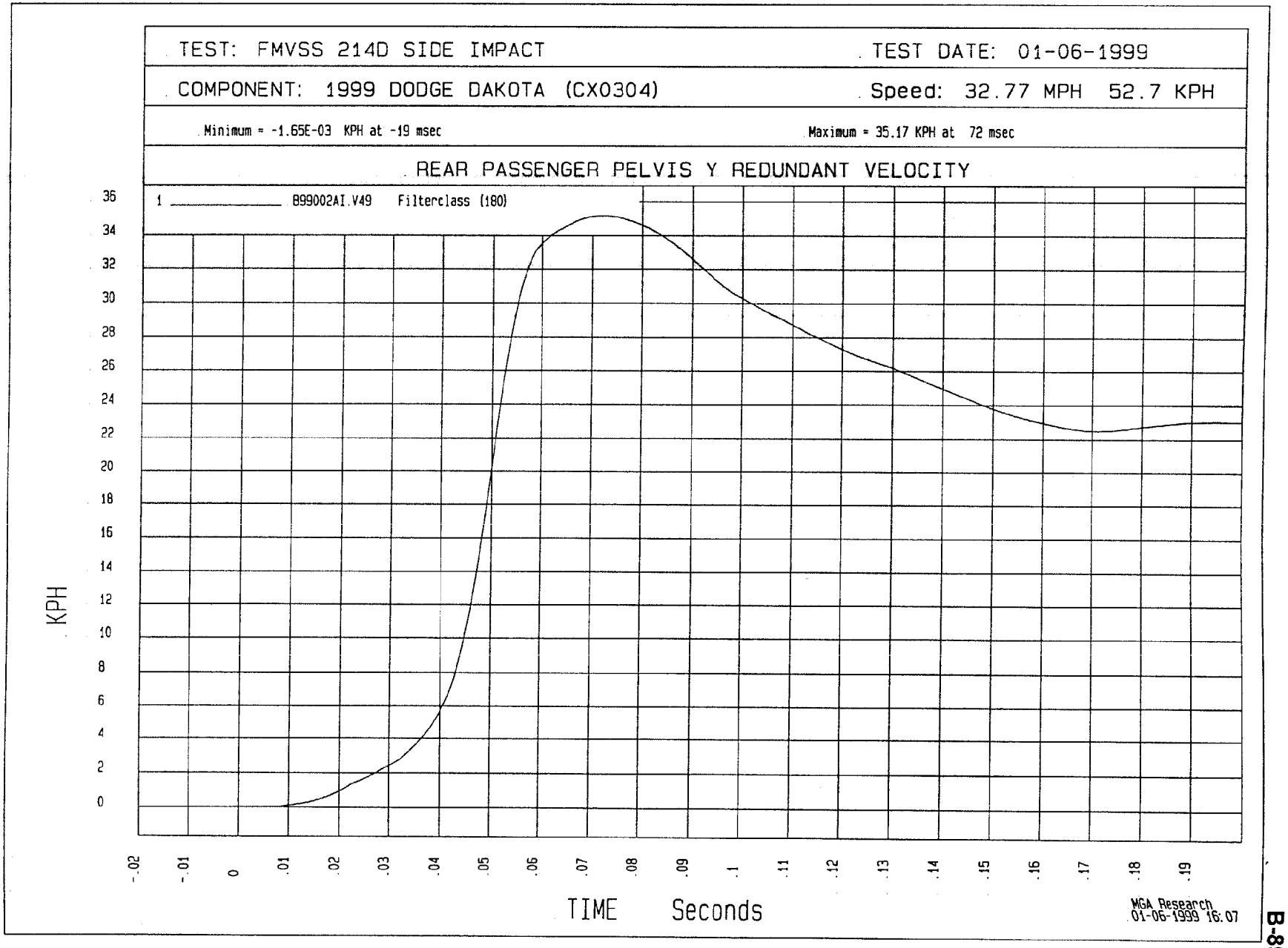
TIME (SECONDS)
MGA Research
01-06-1999 16:07


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -1.65E-03 KPH at -19 msec
Maximum = 35.17 KPH at 72 msec
REAR PASSENGER PELVIS Y REDUNDANT VELOCITY
1 B99002AI.V49 Filterclass (180)
KPH
35
34
32
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
-.02
-.01
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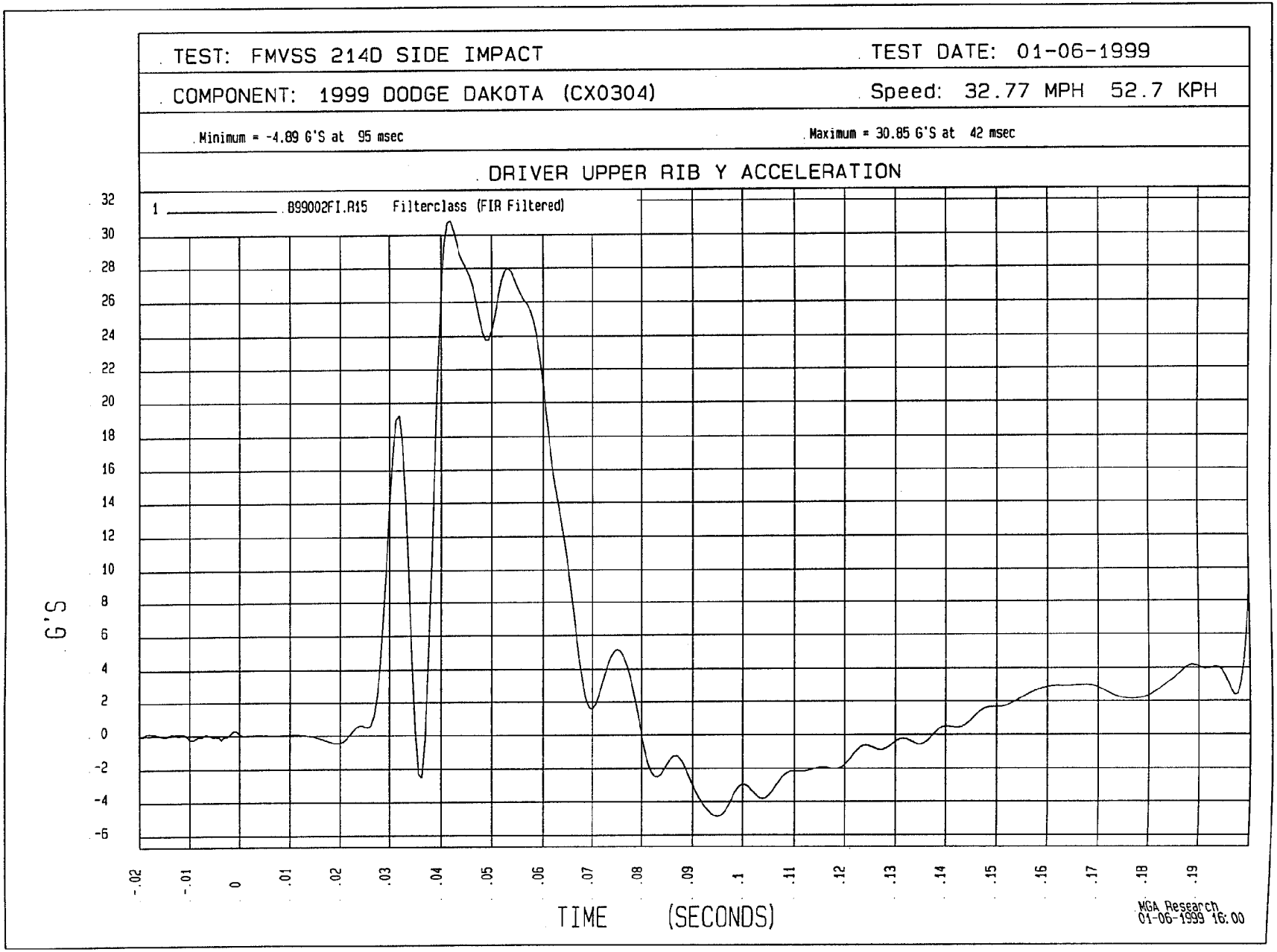
TIME Seconds
MGA Research
01-06-1999 16:07

FINITE IMPULSE RESPONSE (FIR) FILTERED DATA


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -4.89 G'S at 95 msec
Maximum = 30.85 G'S at 42 msec
DRIVER UPPER RIB Y ACCELERATION
1 B99002FI.R15 Filterclass (FIR Filtered)
G'S
32
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
-2
-4
-6
-.02
-.01
0
.01
.02
.03
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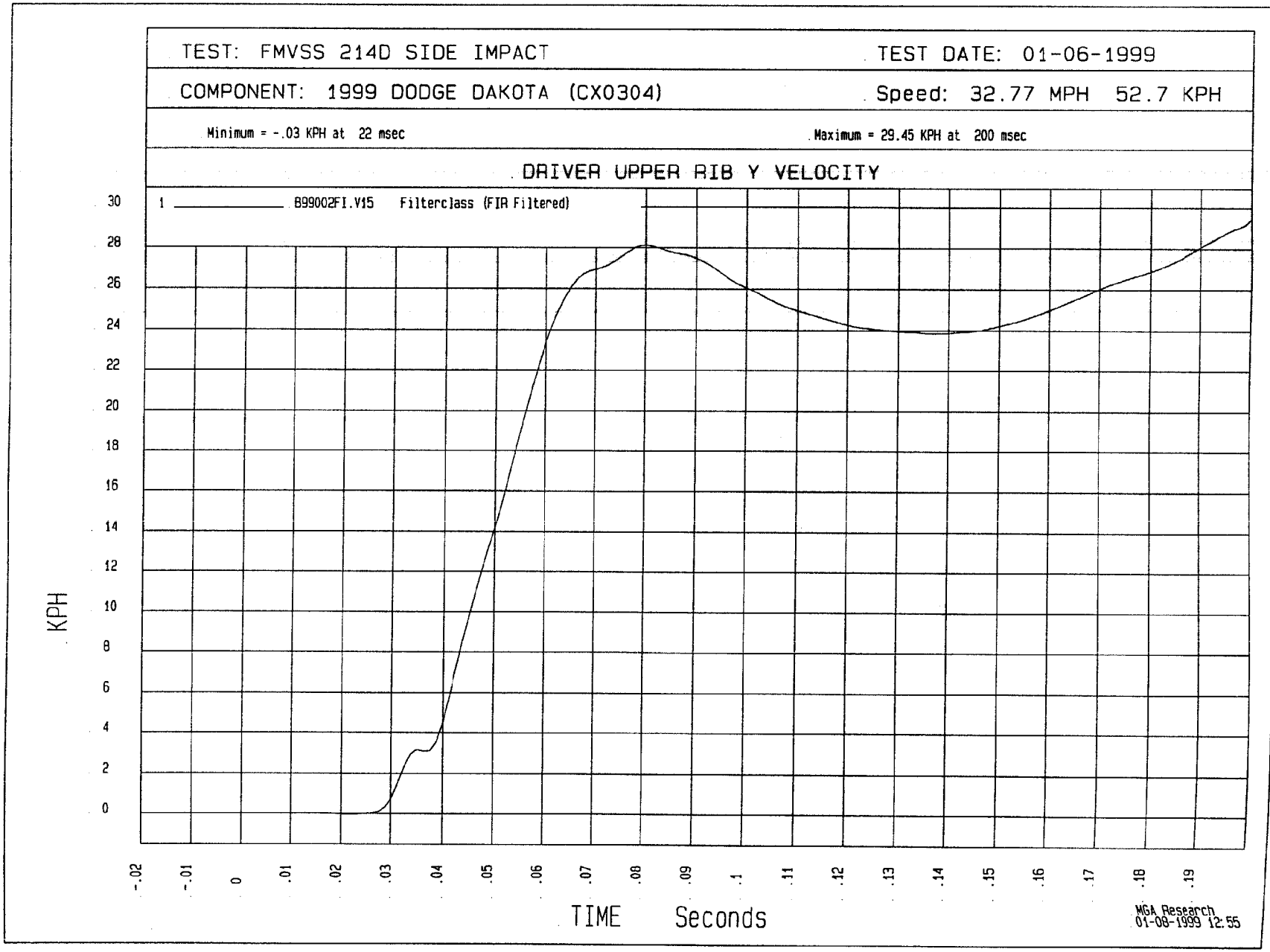
TIME (SECONDS)
MGA Research
01-06-1999 16:00


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -.03 KPH at 22 msec
Maximum = 29.45 KPH at 200 msec
DRIVER UPPER RIB Y VELOCITY
1 B99002FI.V15 Filterclass (FIR Filtered)
KPH
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
-.02
-.01
0
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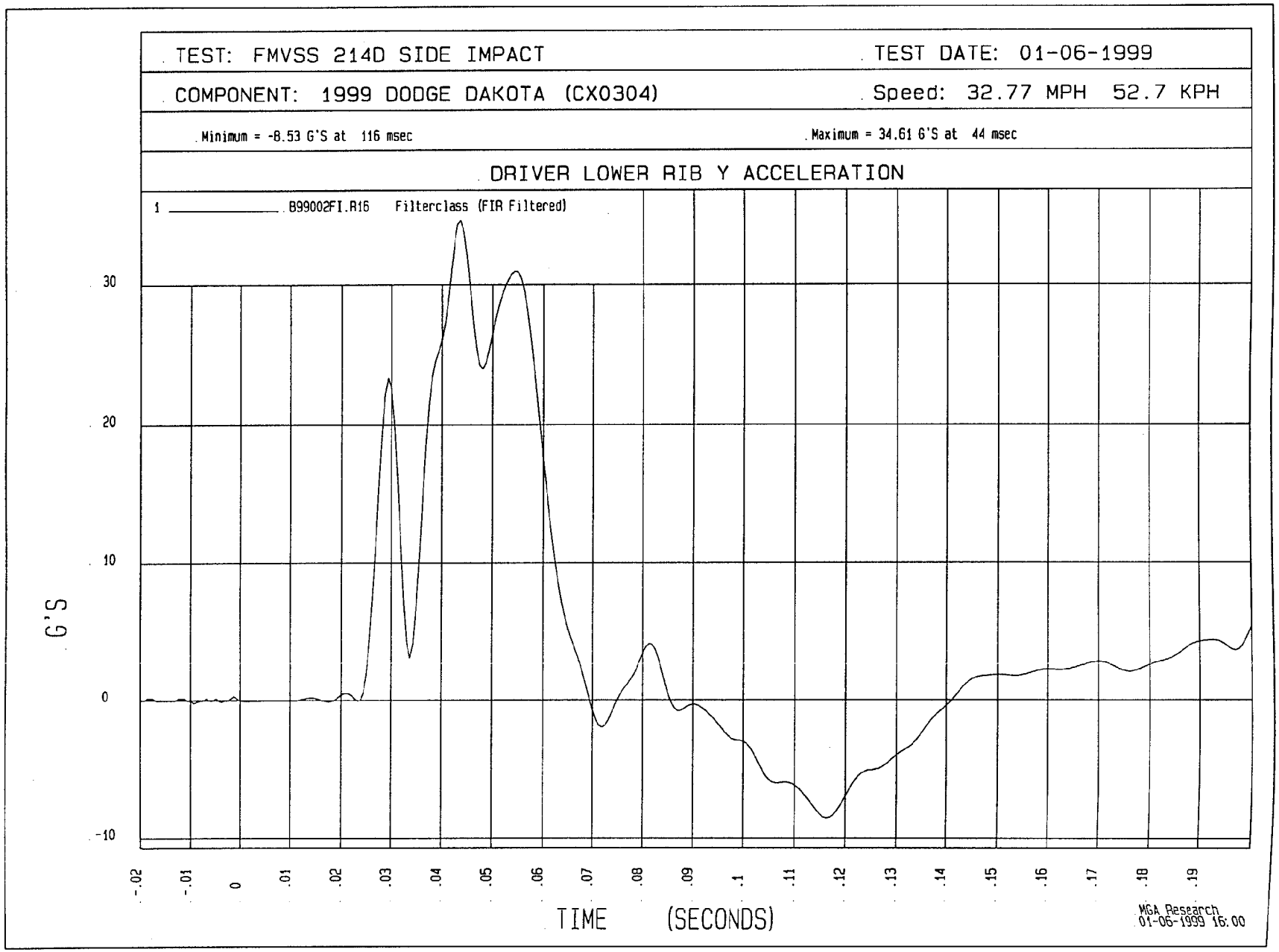
TIME Seconds
MGA Research
01-08-1999 12:55


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -8.53 G'S at 116 msec
Maximum = 34.61 G'S at 44 msec
DRIVER LOWER RIB Y ACCELERATION
1 B99002FI.R16 Filterclass (FIR Filtered)
30
20
10
0
-10
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
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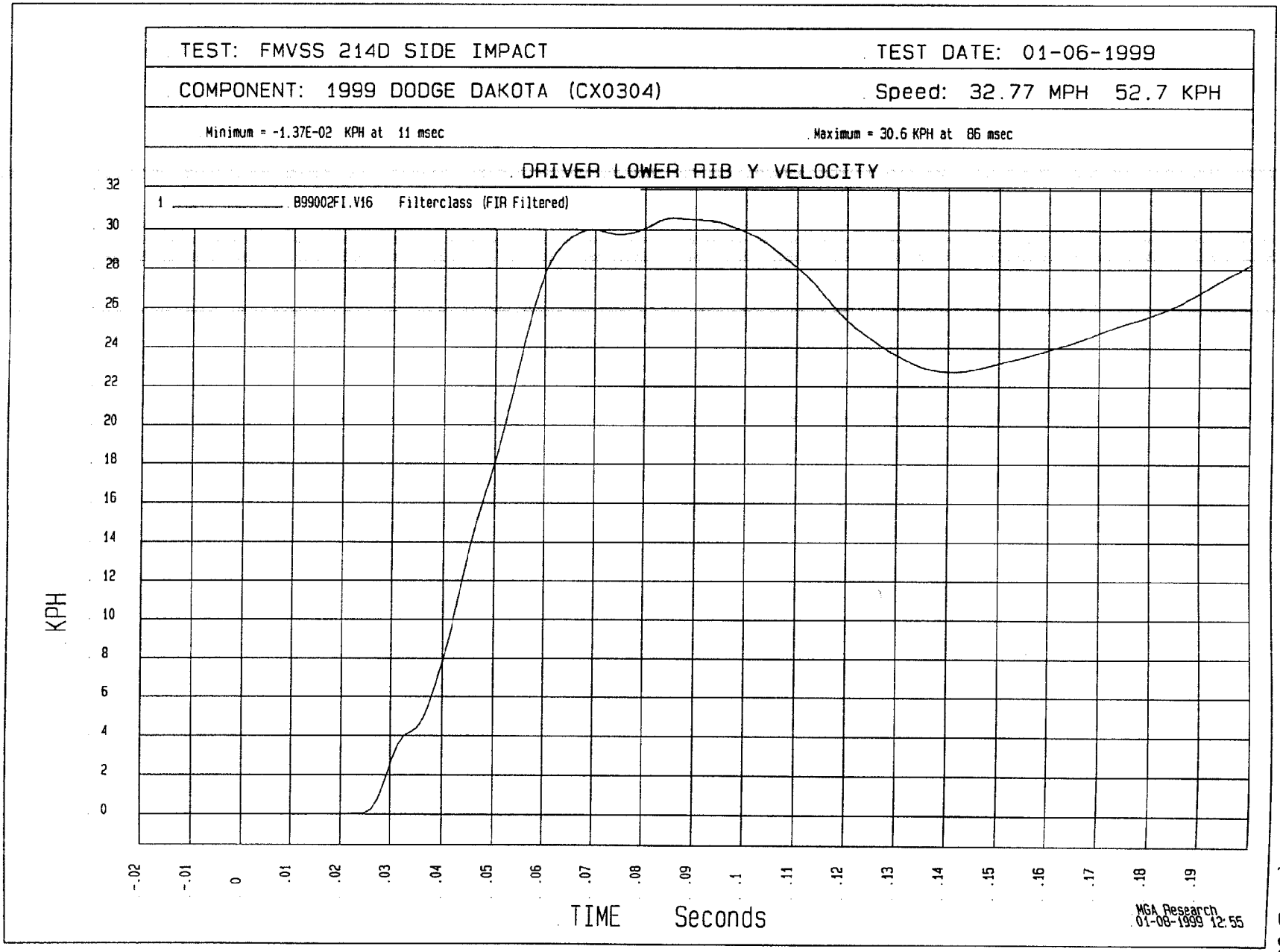
TIME (SECONDS)
MGA Research
01-06-1999 16:00


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -1.37E-02 KPH at 11 msec
Maximum = 30.6 KPH at 86 msec
DRIVER LOWER RIB Y VELOCITY
1 B99002FI.V16 Filterclass (FIR Filtered)
KPH
32
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
-.02
-.01
0
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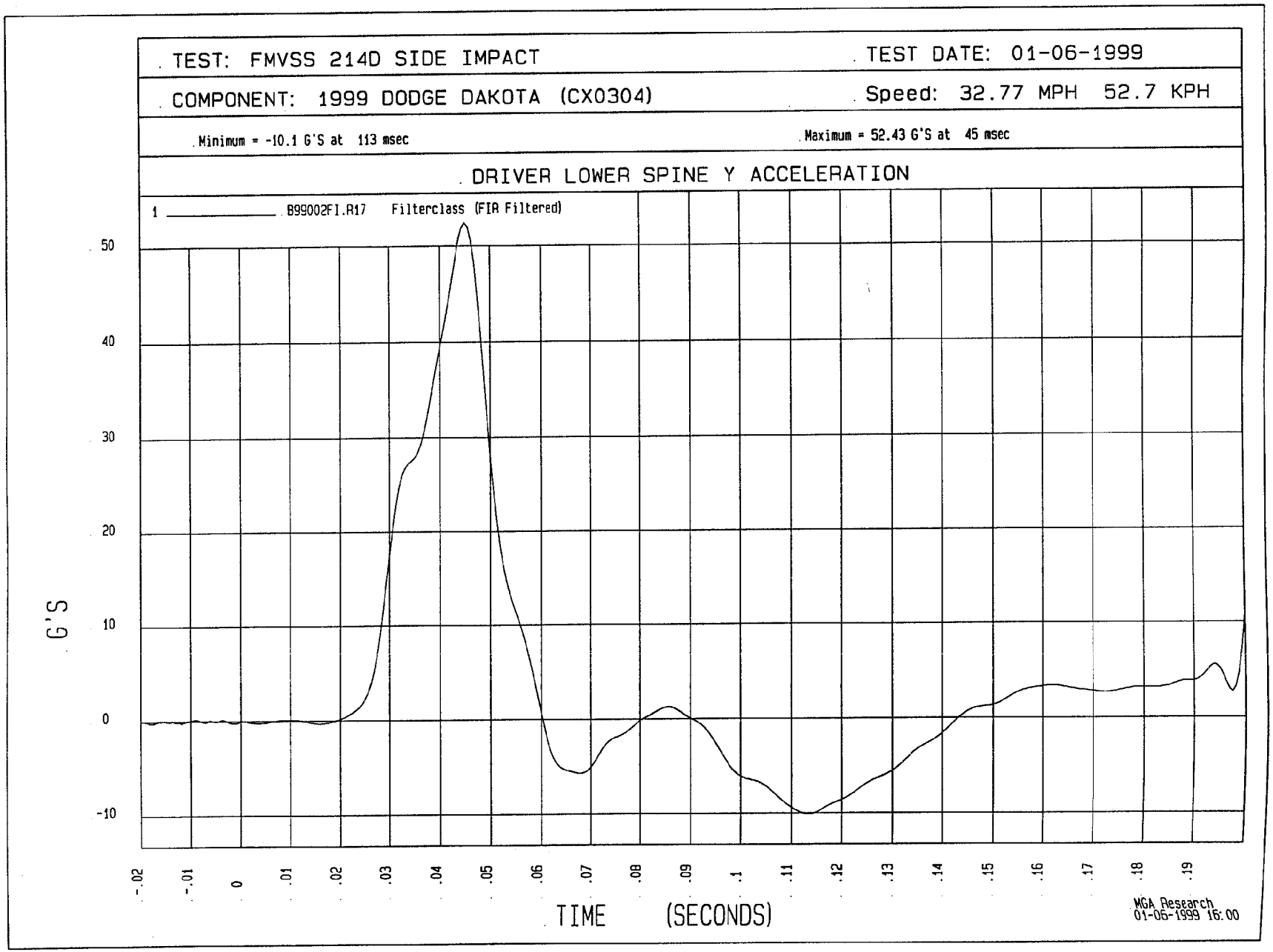
TIME Seconds
MGA Research
01-08-1999 12:55


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -10.1 G'S at 113 msec
Maximum = 52.43 G'S at 45 msec
DRIVER LOWER SPINE Y ACCELERATION
1 B99002FI.R17 Filterclass (FIR Filtered)
G'S
50
40
30
20
10
0
-10
-.02
-.01
0
.01
.02
.03
.04
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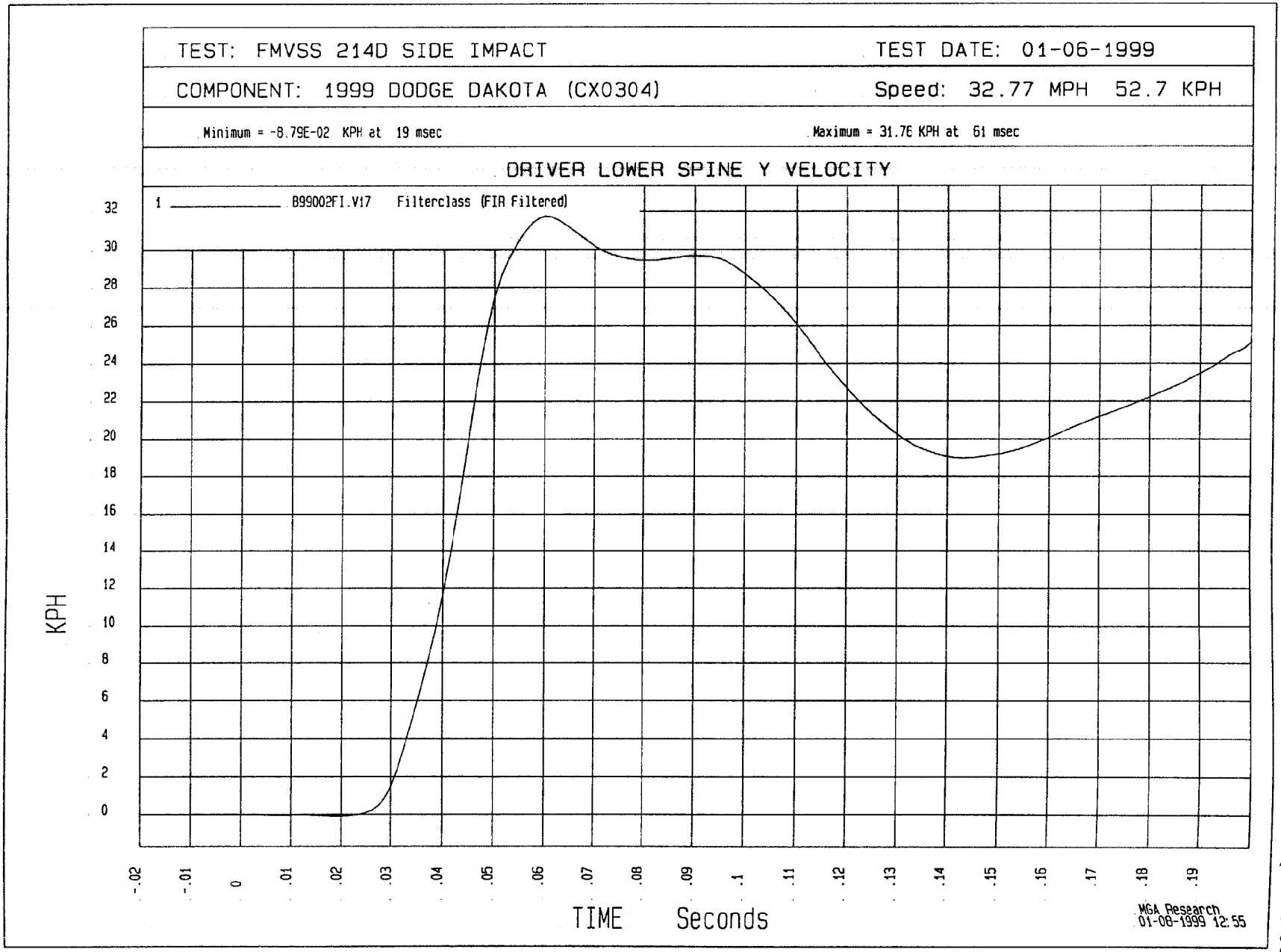
TIME (SECONDS)
MGA Research
01-06-1999 16:00


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -8.79E-02 KPH at 19 msec
Maximum = 31.76 KPH at 61 msec
DRIVER LOWER SPINE Y VELOCITY
1 B99002FI.V17 Filterclass (FIR Filtered)
KPH
32
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
-.02
-.01
0
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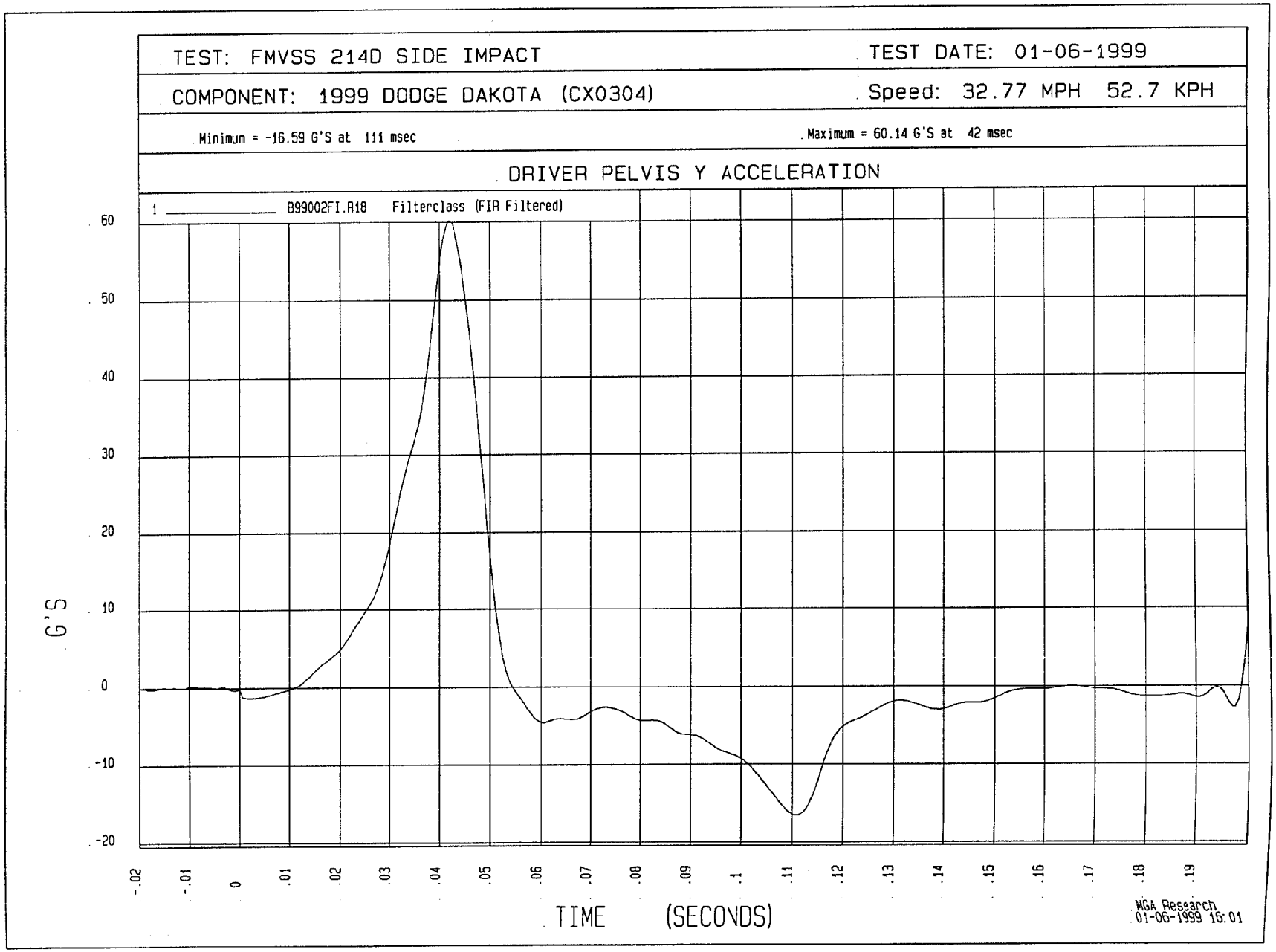
TIME Seconds
MGA Research
01-06-1999 12:55


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -16.59 G'S at 111 msec
Maximum = 60.14 G'S at 42 msec
DRIVER PELVIS Y ACCELERATION
1 B99002FI.A18 Filterclass (FIR Filtered)
60
50
40
30
20
10
0
-10
-20
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
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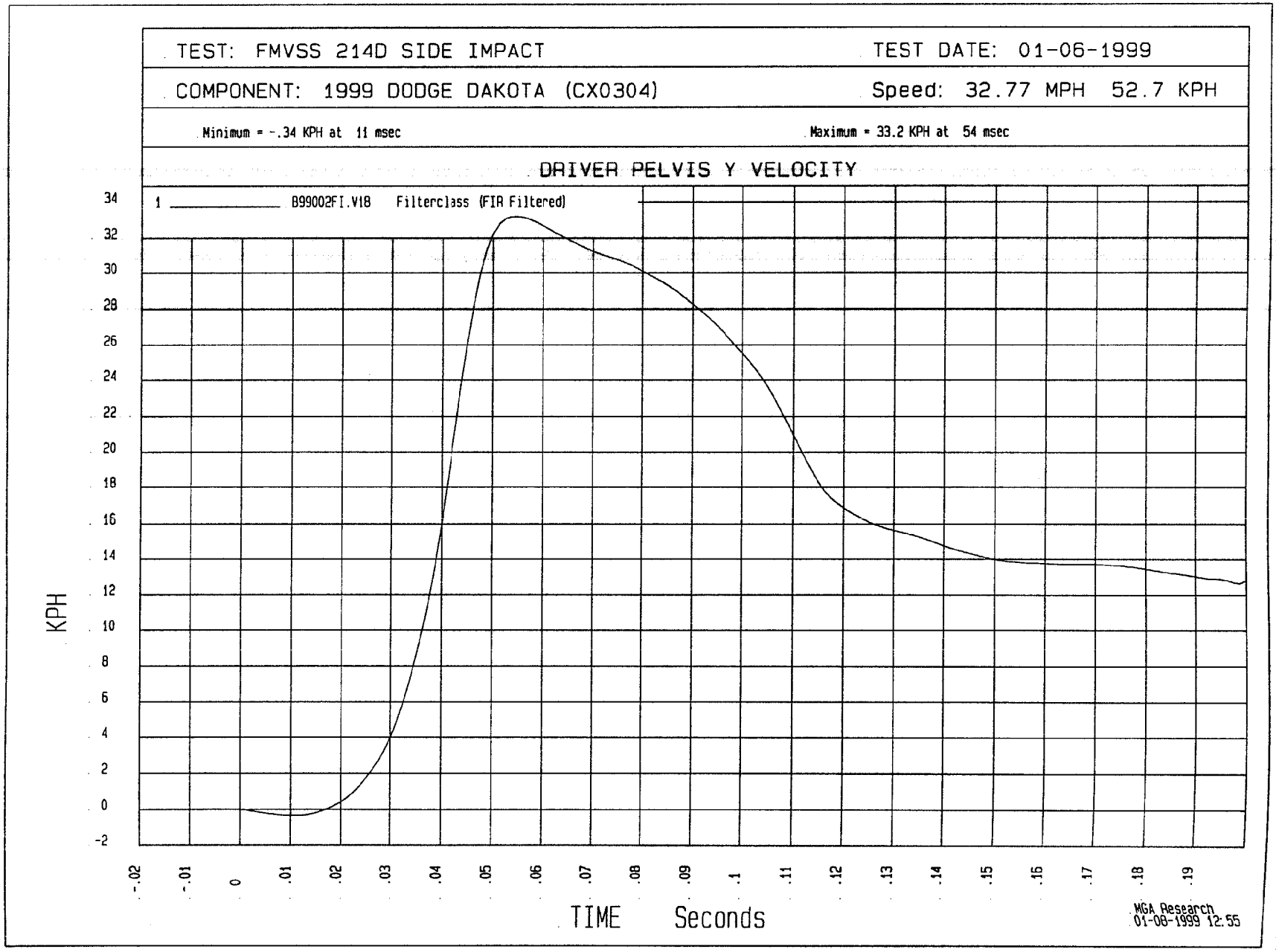
TIME (SECONDS)
MGA Research
01-06-1999 16:01


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -.34 KPH at 11 msec
Maximum = 33.2 KPH at 54 msec
DRIVER PELVIS Y VELOCITY
1 B99002FI.V18 Filterclass (FIR Filtered)
KPH
34
32
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
-2
-.02
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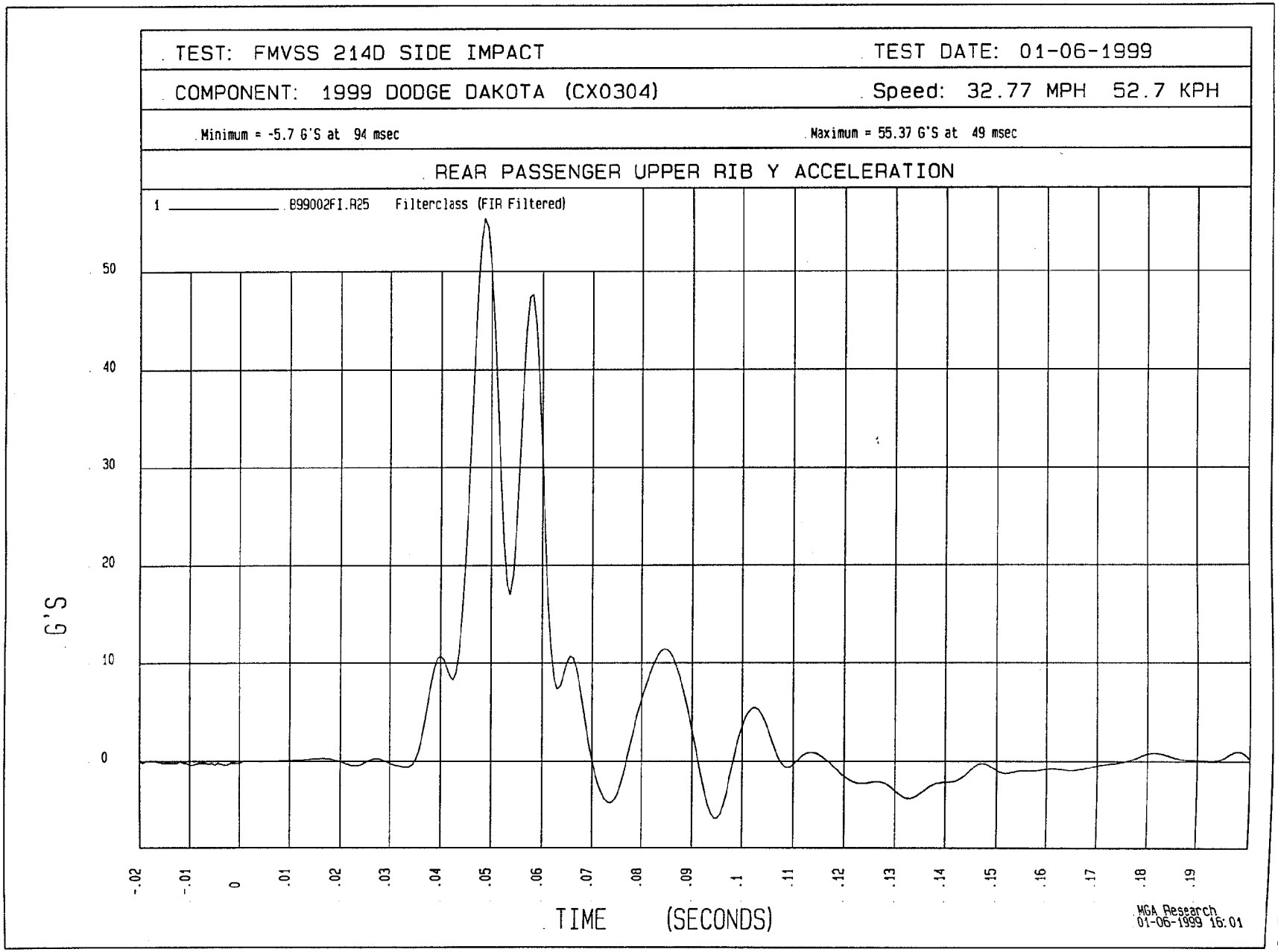
TIME Seconds
MGA Research
01-08-1999 12:55


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -5.7 G'S at 94 msec
Maximum = 55.37 G'S at 49 msec
REAR PASSENGER UPPER RIB Y ACCELERATION
1 B99002FI.R25 Filterclass (FIR Filtered)
G'S
50
40
30
20
10
0
-.02
-.01
0
.01
.02
.03
.04
.05
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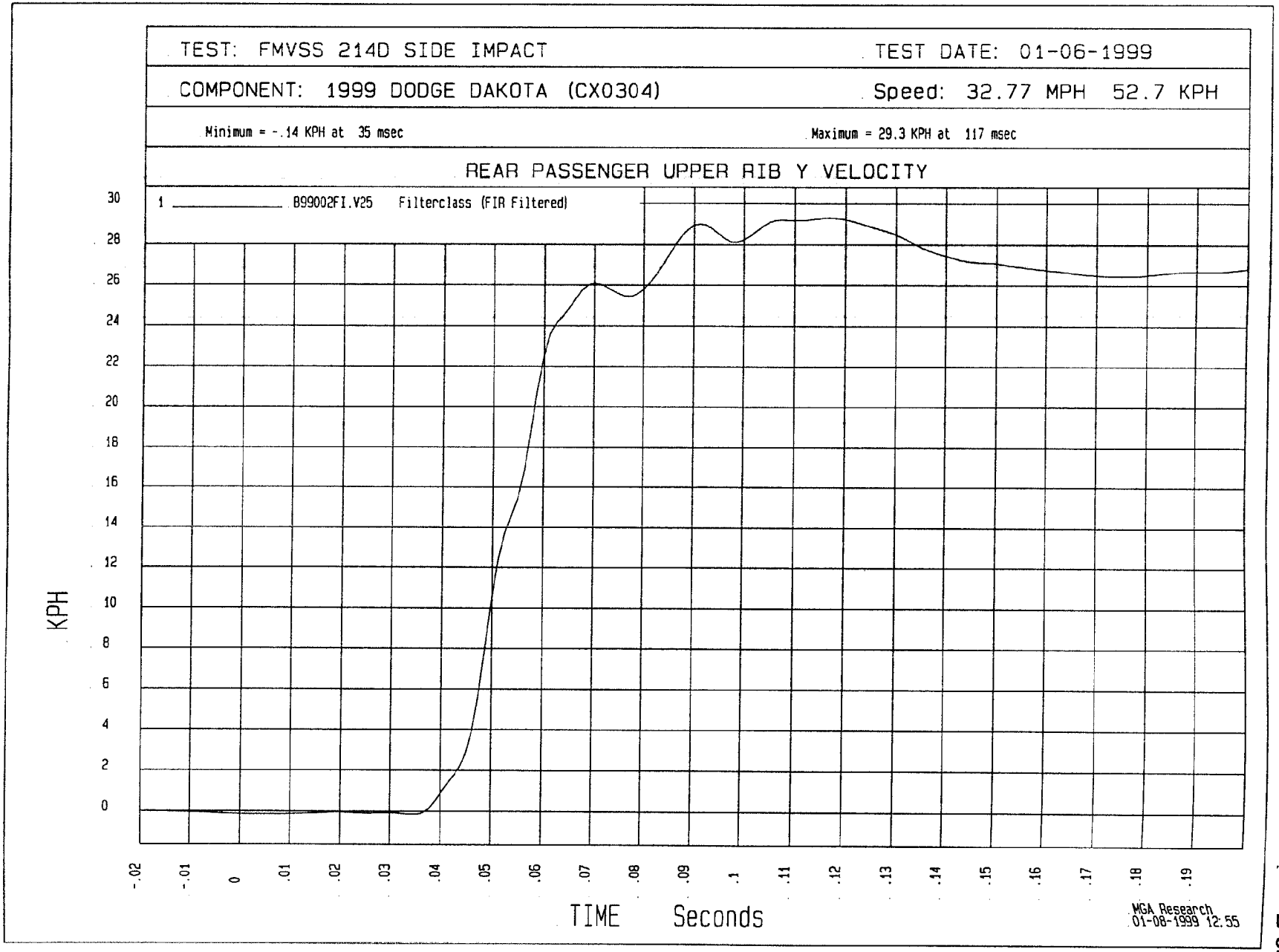
TIME (SECONDS)
MGA Research
01-06-1999 15:01


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -.14 KPH at 35 msec
Maximum = 29.3 KPH at 117 msec
REAR PASSENGER UPPER RIB Y VELOCITY
1 B99002FI.V25 Filterclass (FIR Filtered)
KPH
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
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-.02
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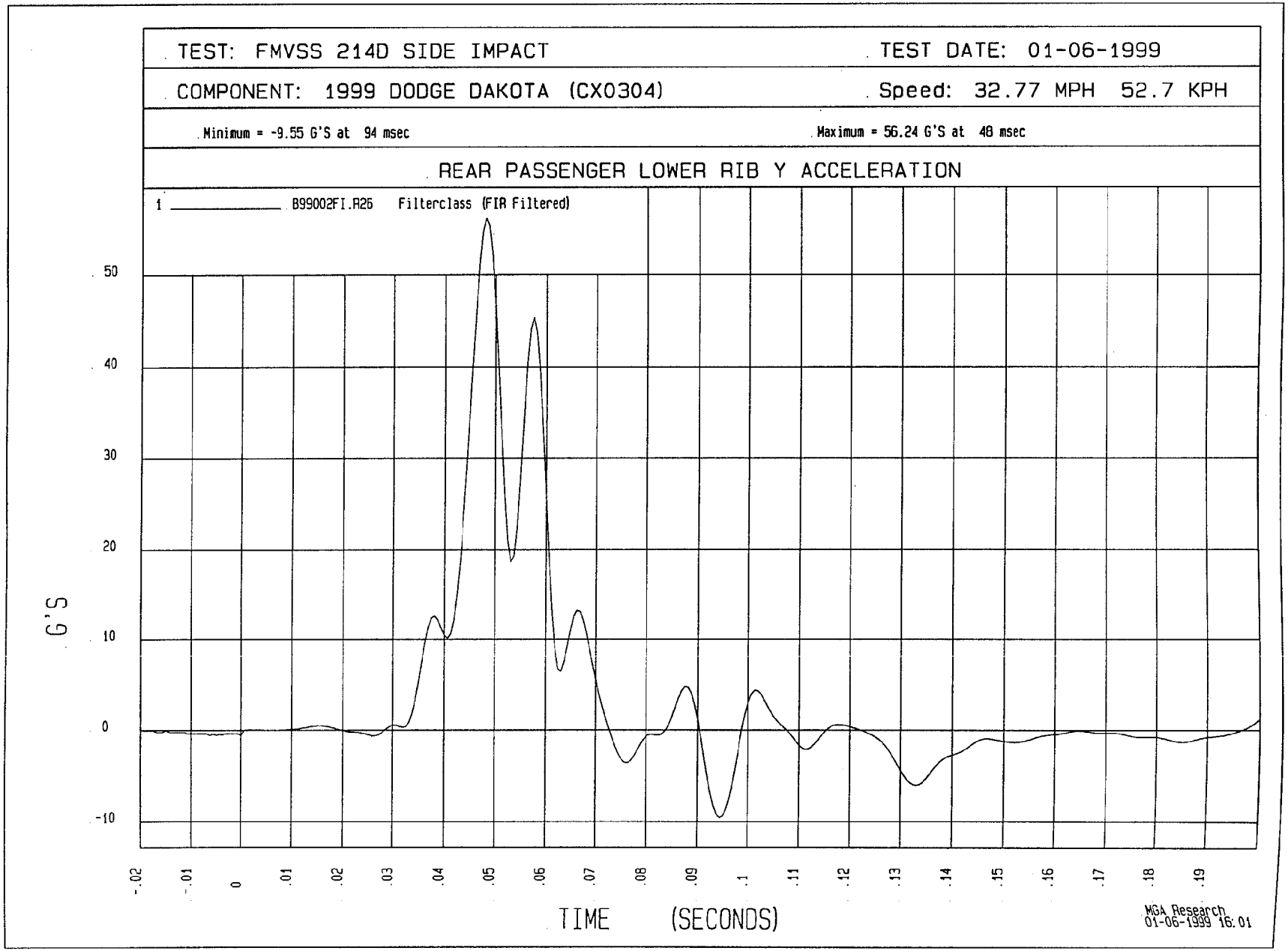
TIME Seconds
MGA Research
01-08-1999 12:55


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -9.55 G'S at 94 msec
Maximum = 56.24 G'S at 48 msec
REAR PASSENGER LOWER RIB Y ACCELERATION
1 B99002FI.R26 Filterclass (FIR Filtered)
G'S
50
40
30
20
10
0
-10
-.02
-.01
0
.01
.02
.03
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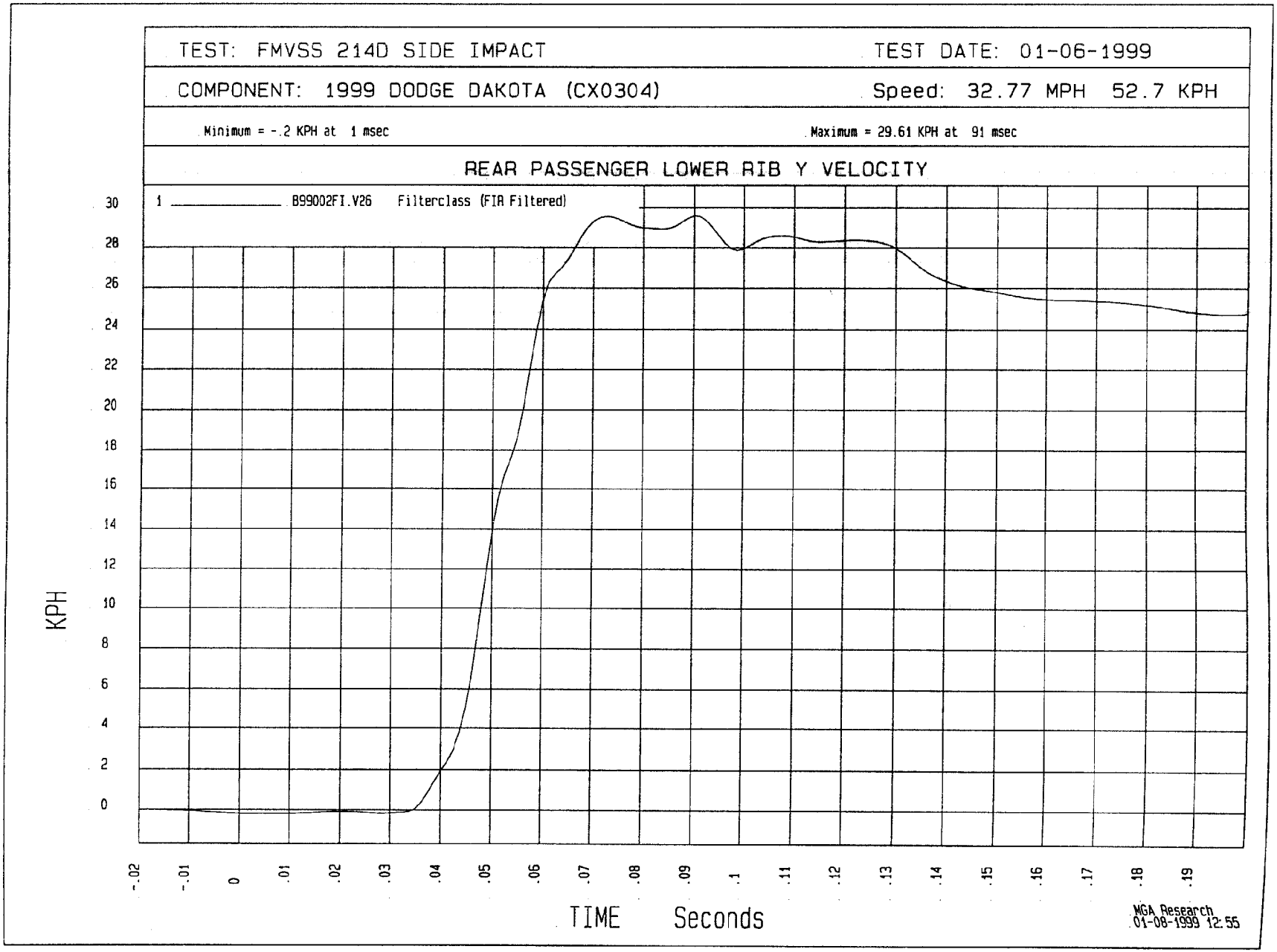
TIME (SECONDS)
MGA Research
01-06-1999 16:01


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -.2 KPH at 1 msec
Maximum = 29.61 KPH at 91 msec
REAR PASSENGER LOWER RIB Y VELOCITY
1 B99002FI.V26 Filterclass (FIA Filtered)
KPH
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
-.02
-.01
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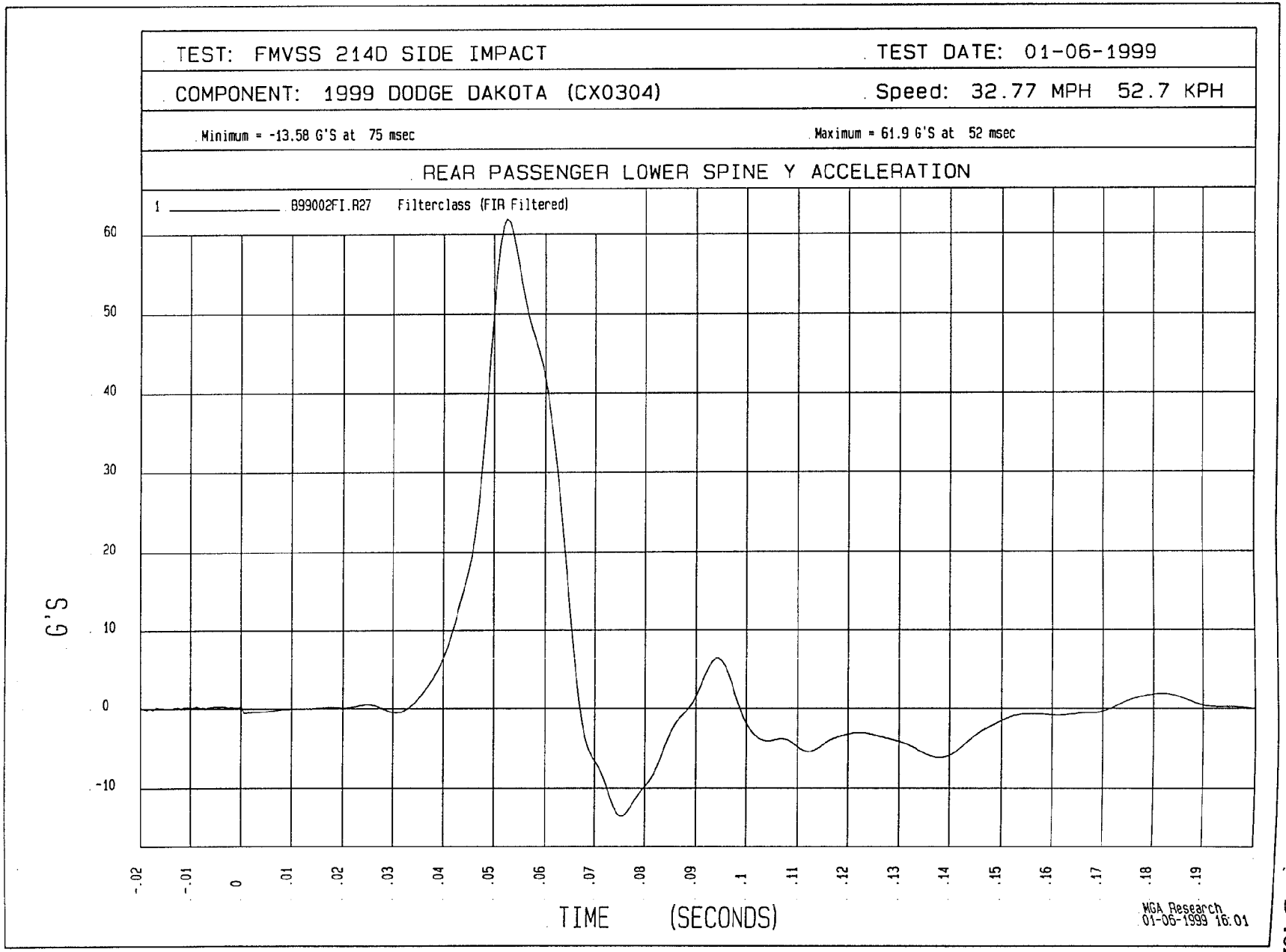
TIME Seconds
MGA Research
01-08-1999 12:55


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -13.58 G'S at 75 msec
Maximum = 61.9 G'S at 52 msec
REAR PASSENGER LOWER SPINE Y ACCELERATION
1 B99002FI.R27 Filterclass (FIR Filtered)
60
50
40
30
20
10
0
-10
G'S
-.02
-.01
0
.01
.02
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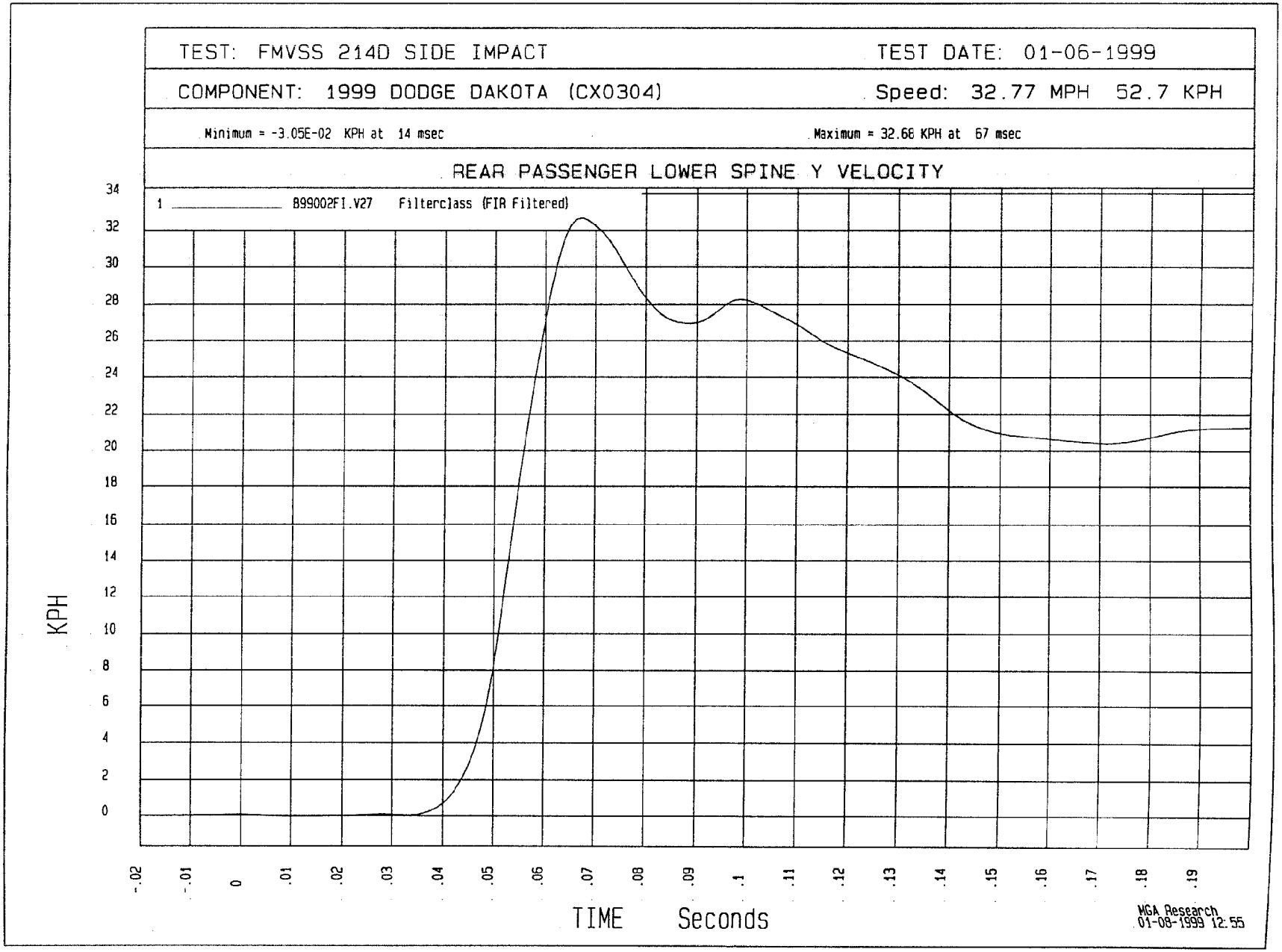
TIME (SECONDS)
MGA Research
01-06-1999 16:01


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -3.05E-02 KPH at 14 msec
Maximum = 32.68 KPH at 67 msec
REAR PASSENGER LOWER SPINE Y VELOCITY
1 899002FI.V27 Filterclass (FIR Filtered)
KPH
34
32
30
28
26
24
22
20
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16
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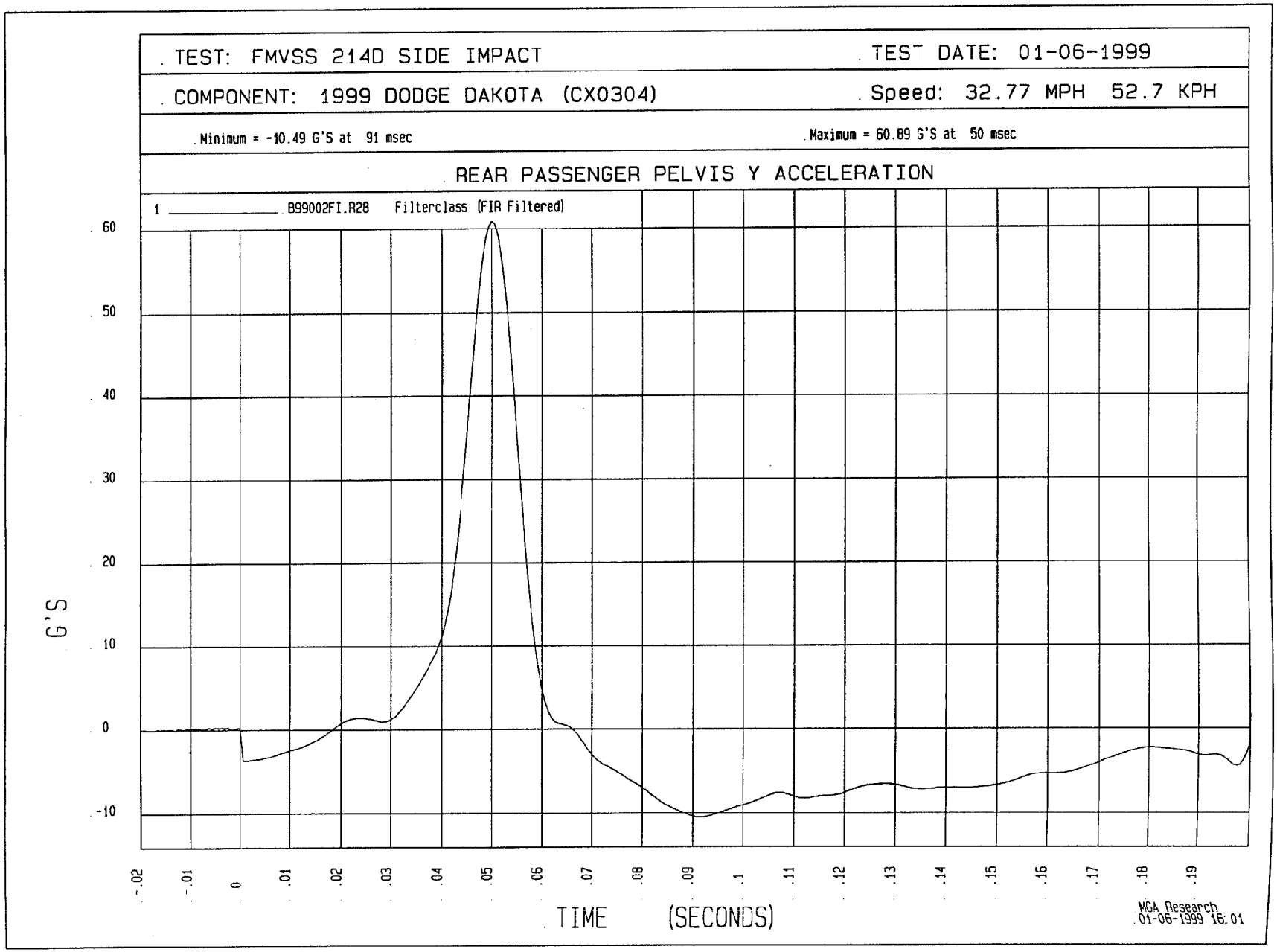
TIME Seconds
MGA Research
01-08-1999 12:55


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -10.49 G'S at 91 msec
Maximum = 60.89 G'S at 50 msec
REAR PASSENGER PELVIS Y ACCELERATION
1 B99002FI.R28 Filterclass (FIR Filtered)
G'S
60
50
40
30
20
10
0
-10
-.02
-.01
0
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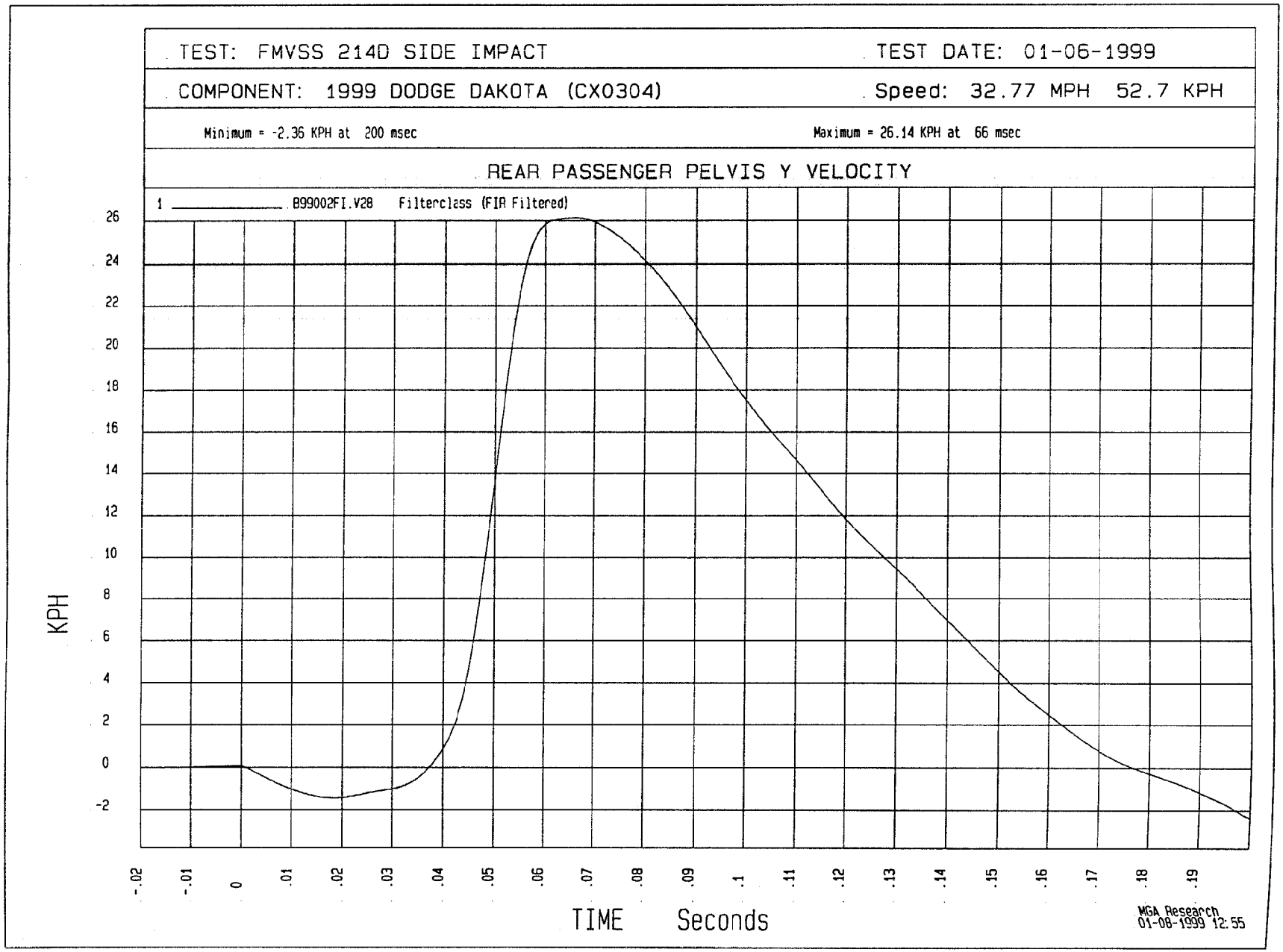
TIME (SECONDS)
MGA Research
01-06-1999 16:01


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -2.36 KPH at 200 msec
Maximum = 26.14 KPH at 66 msec
REAR PASSENGER PELVIS Y VELOCITY
1 B99002FI.V28 Filterclass (FIR Filtered)
KPH
26
24
22
20
18
16
14
12
10
8
6
4
2
0
-2
-.02
-.01
0
.01
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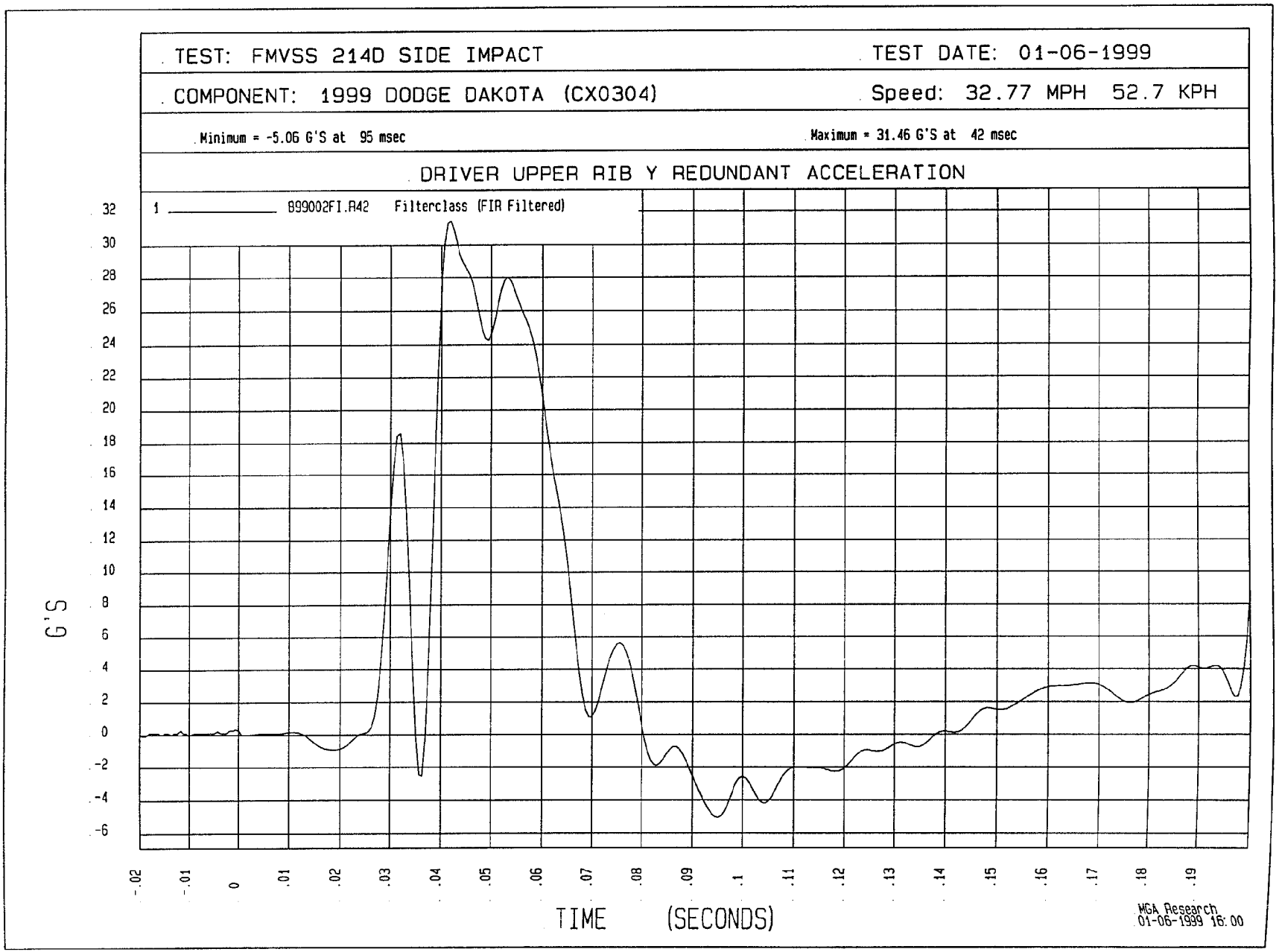
TIME Seconds
MGA Research
01-06-1999 12:55


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -5.06 G'S at 95 msec
Maximum = 31.46 G'S at 42 msec
DRIVER UPPER RIB Y REDUNDANT ACCELERATION
1 B99002FI.A42 Filterclass (FIR Filtered)
G'S
32
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
-2
-4
-6
-.02
-.01
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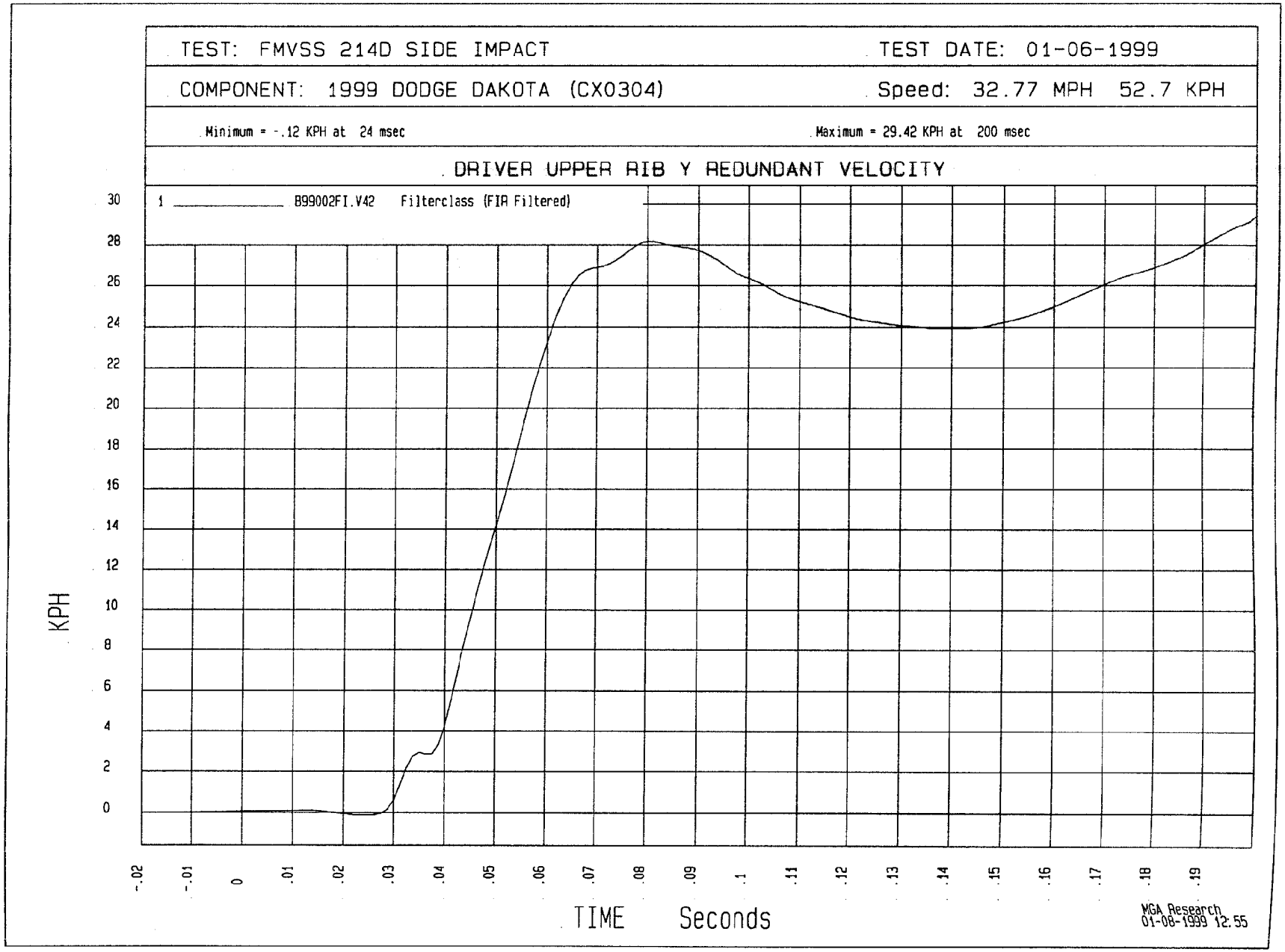
TIME (SECONDS)
MGA Research
01-06-1999 16:00


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -.12 KPH at 24 msec
Maximum = 29.42 KPH at 200 msec
DRIVER UPPER RIB Y REDUNDANT VELOCITY
1 B99002FI.V42 Filterclass (FIA Filtered)
KPH
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
-.02
-.01
0
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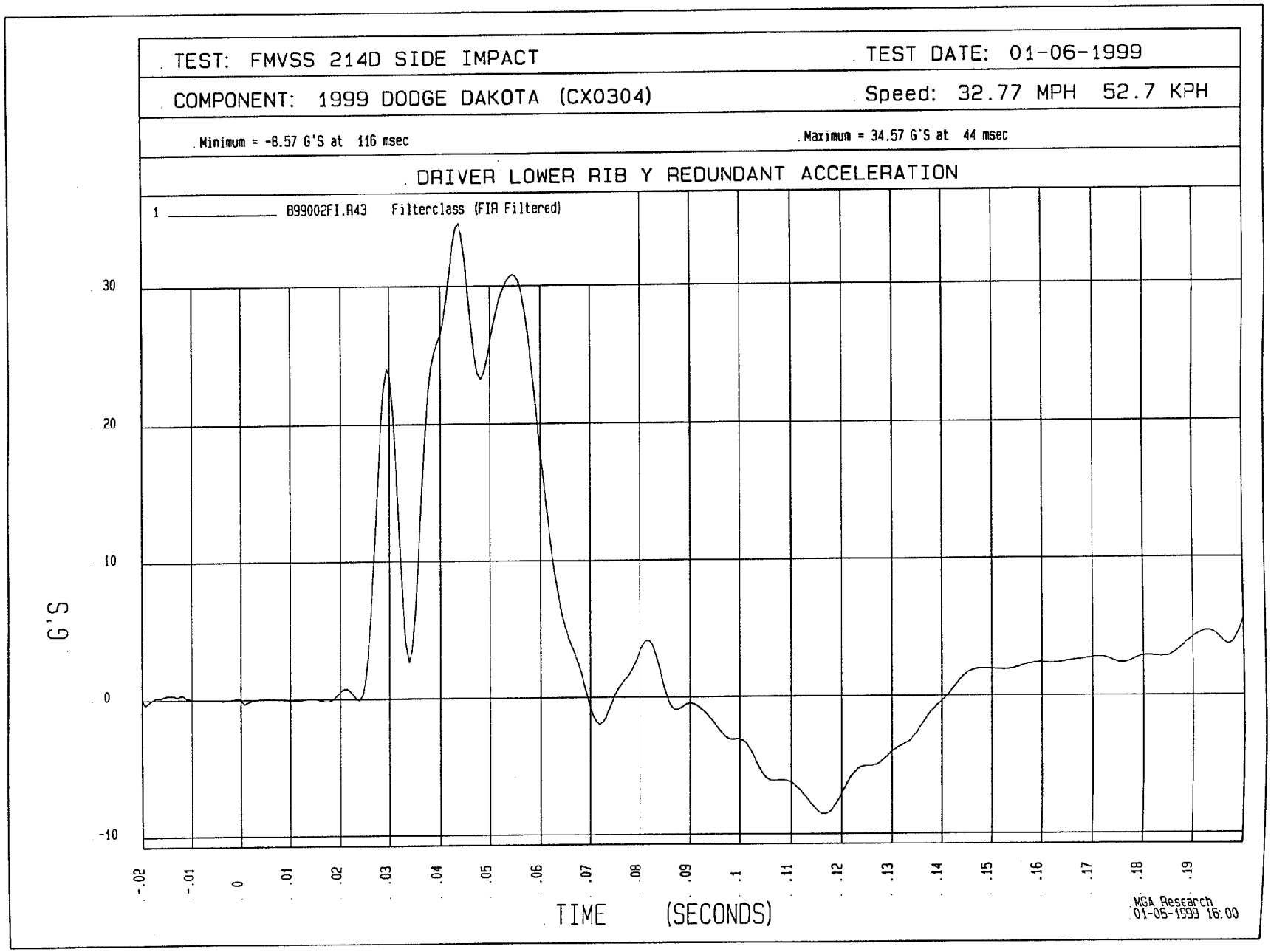
TIME Seconds
MGA Research
01-08-1999 12:55


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -8.57 G'S at 116 msec
Maximum = 34.57 G'S at 44 msec
DRIVER LOWER RIB Y REDUNDANT ACCELERATION
1 B99002FI.A43 Filterclass (FIA Filtered)
G'S
30
20
10
0
-10
-.02
-.01
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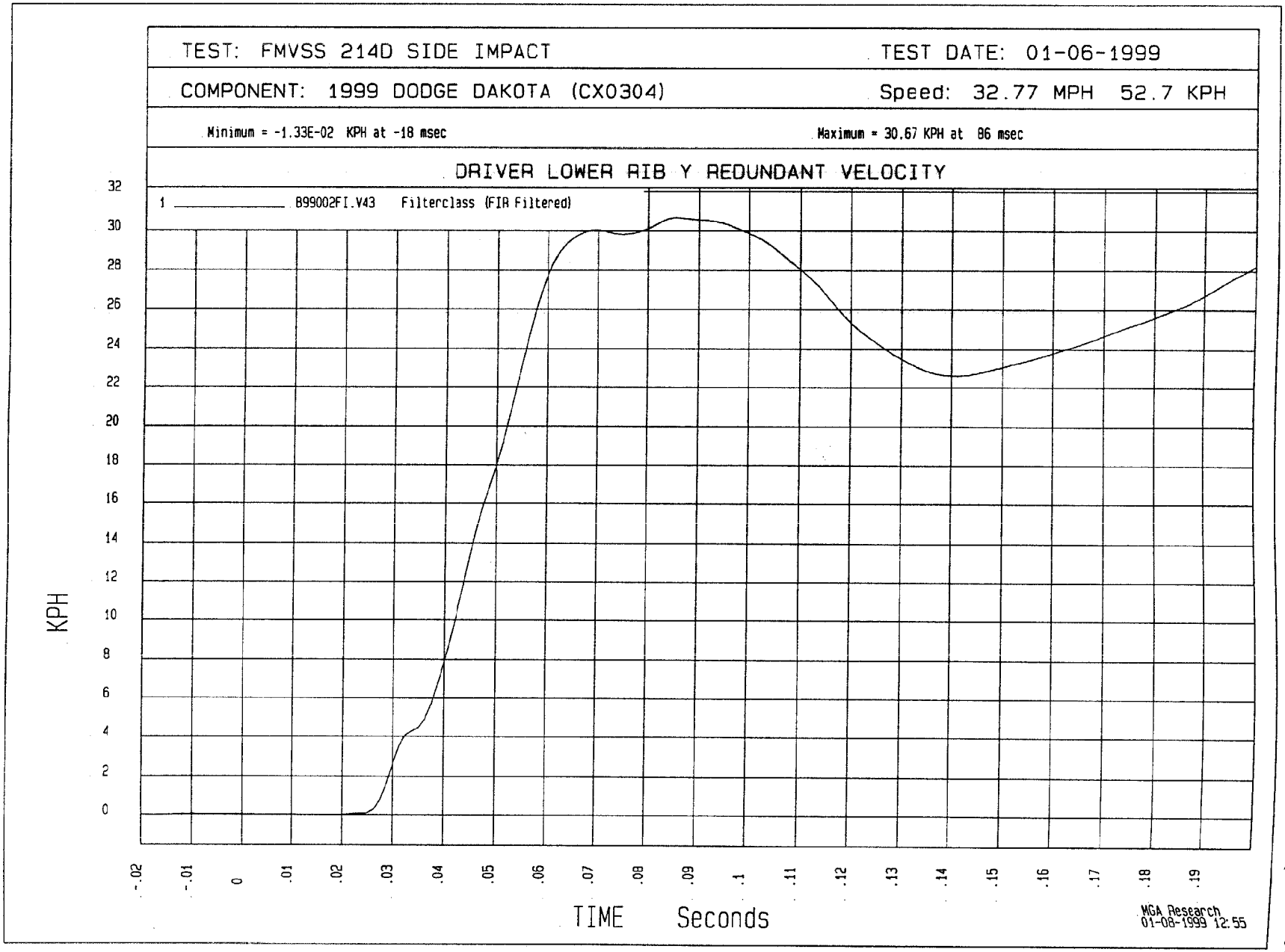
TIME (SECONDS)
MGA Research
01-06-1999 16:00


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -1.33E-02 KPH at -18 msec
Maximum = 30.67 KPH at 86 msec
DRIVER LOWER RIB Y REDUNDANT VELOCITY
1 B99002FI.V43 Filterclass (FIR Filtered)
KPH
32
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
-.02
-.01
0
.01
.02
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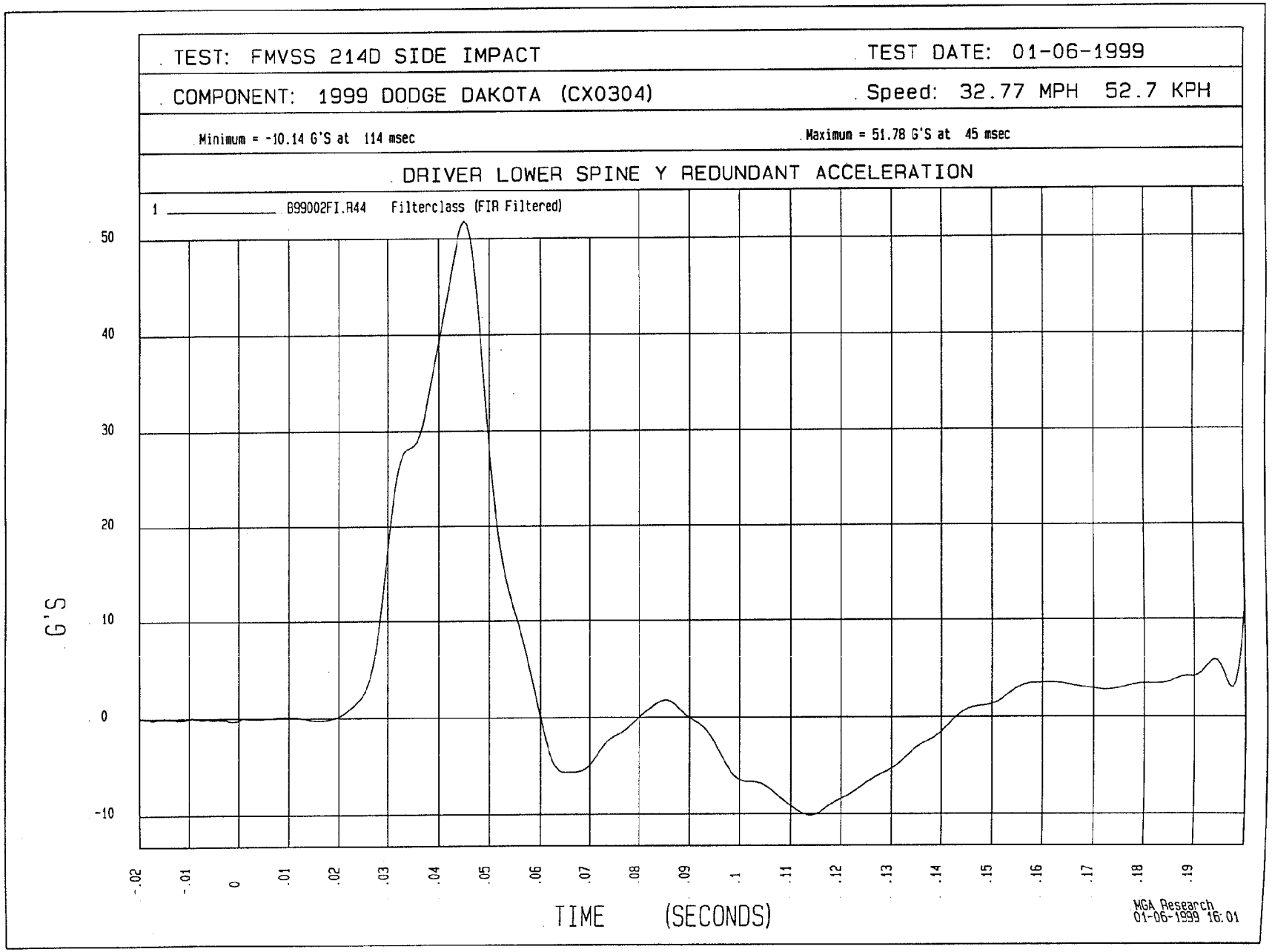
TIME Seconds
MGA Research
01-08-1999 12:55


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -10.14 G'S at 114 msec
Maximum = 51.78 G'S at 45 msec
DRIVER LOWER SPINE Y REDUNDANT ACCELERATION
1 B99002FI.R44 Filterclass (FIR Filtered)
G'S
50
40
30
20
10
0
-10
-.02
-.01
0
.01
.02
.03
.04
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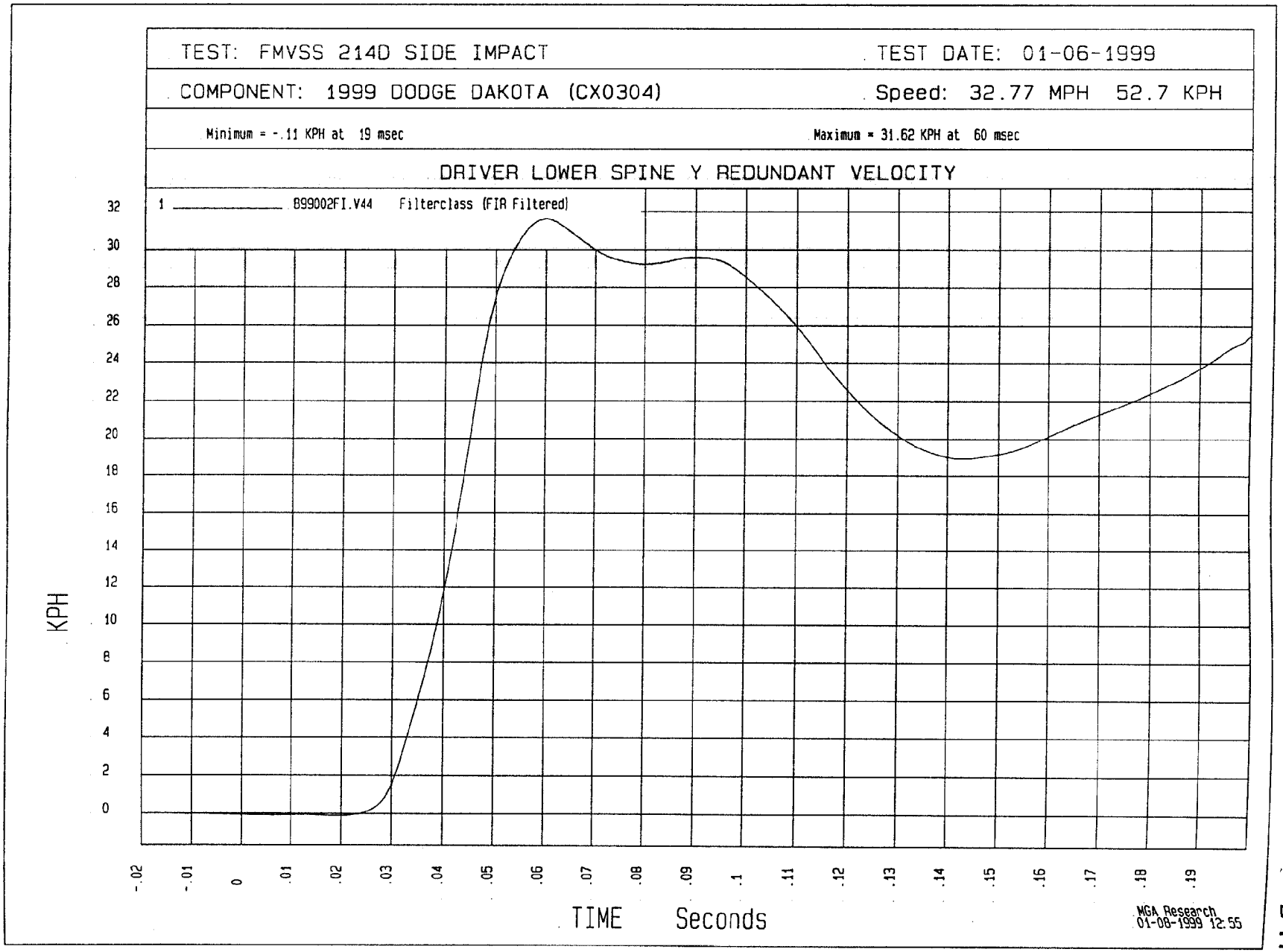
TIME (SECONDS)
MGA Research
01-06-1999 16:01


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -.11 KPH at 19 msec
Maximum = 31.62 KPH at 60 msec
DRIVER LOWER SPINE Y REDUNDANT VELOCITY
1 B99002FI.V44 Filterclass (FIR Filtered)
KPH
32
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
-.02
-.01
0
.01
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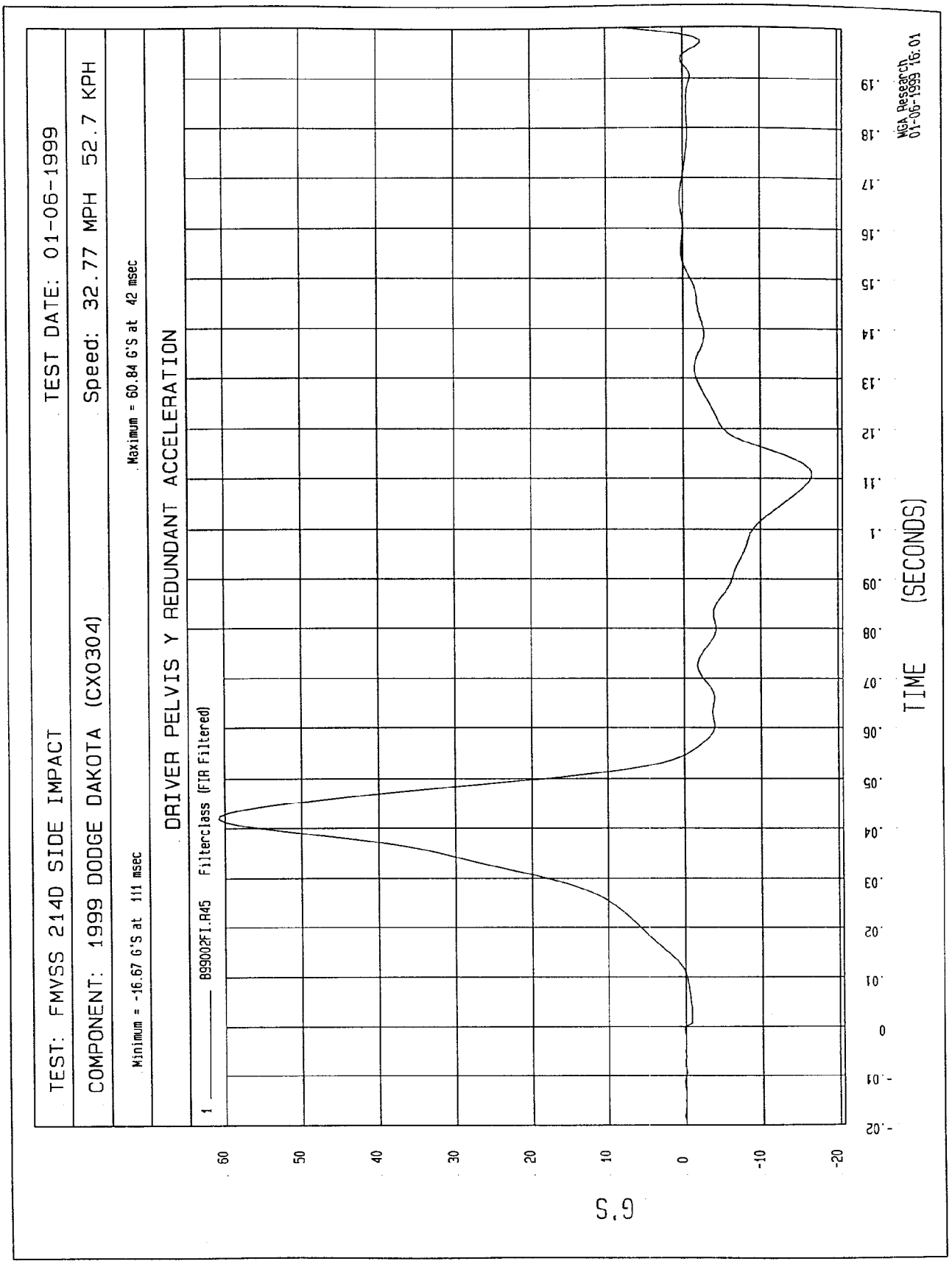
TIME Seconds
MGA Research
01-06-1999 12:55


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -16.67 G'S at 111 msec
Maximum = 60.84 G'S at 42 msec
DRIVER PELVIS Y REDUNDANT ACCELERATION
1 B99002FI.R45 Filterclass (FIR Filtered)
MGA Research
01-06-1999 16:01
60
50
40
30
20
10
0
-10
-20
G's
.19
.18
.17
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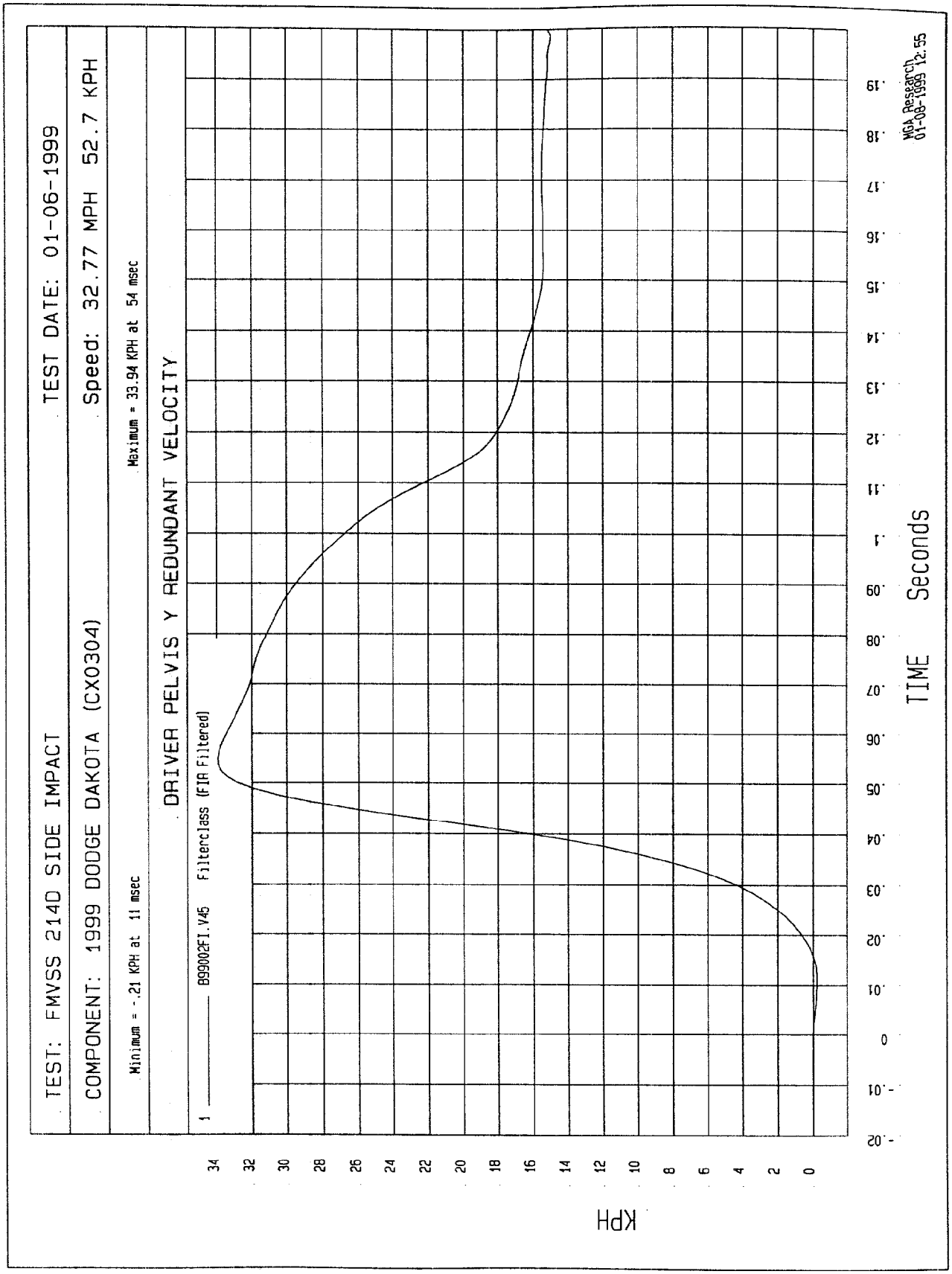
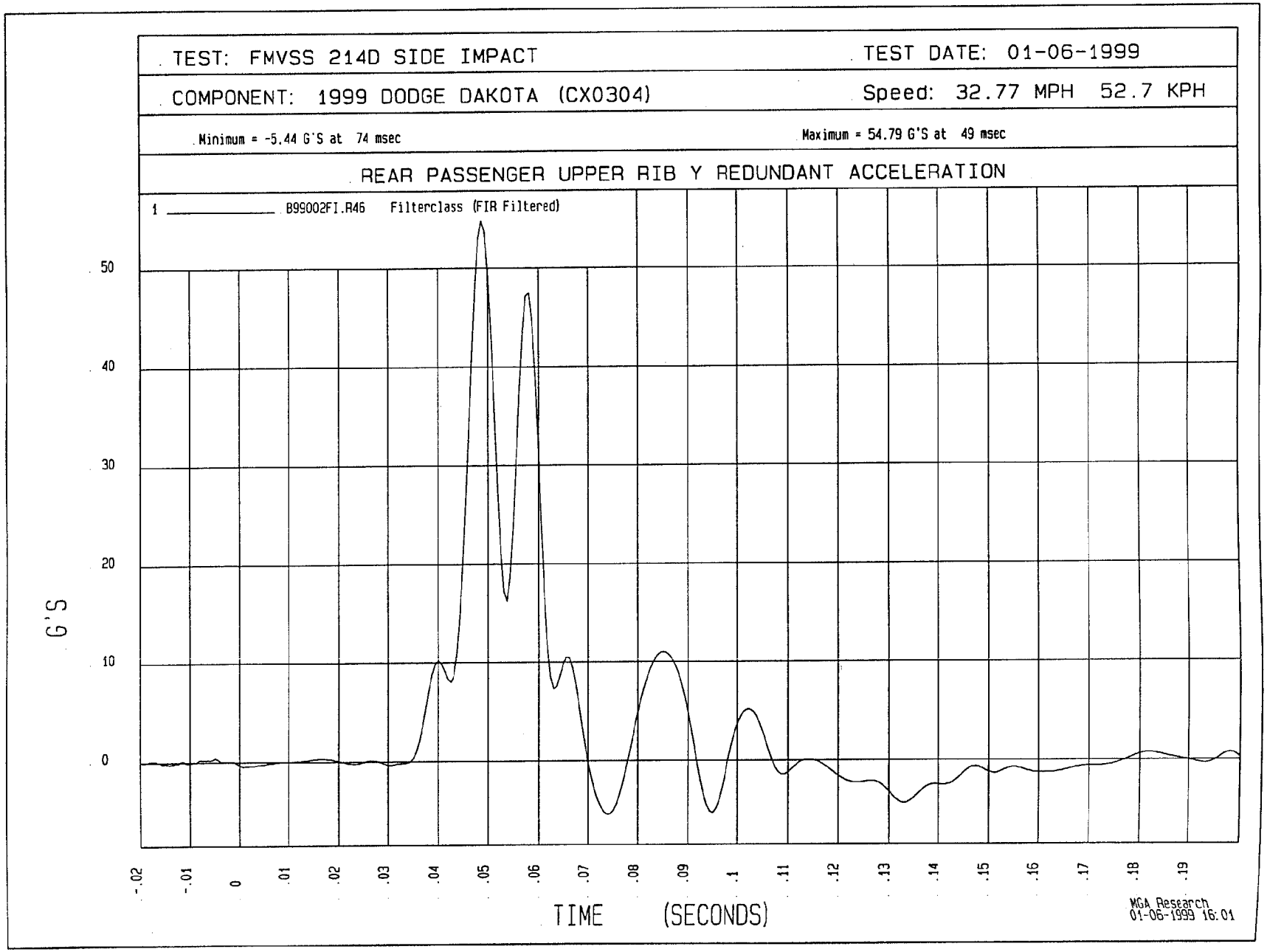
.02
.01
0
-.01
-.02
TIME (SECONDS)


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -.21 KPH at 11 msec
Maximum = 33.94 KPH at 54 msec
DRIVER PELVIS Y REDUNDANT VELOCITY
1 B99002F1.Y45 Filterclass (FIA Filtered)
KPH
TIME Seconds
MGA Research
01-08-1999 12:55


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -5.44 G'S at 74 msec
Maximum = 54.79 G'S at 49 msec
REAR PASSENGER UPPER RIB Y REDUNDANT ACCELERATION
1 B99002FI.R46 Filterclass (FIR Filtered)
G'S
50
40
30
20
10
0
-.02
-.01
0
.01
.02
.03
.04
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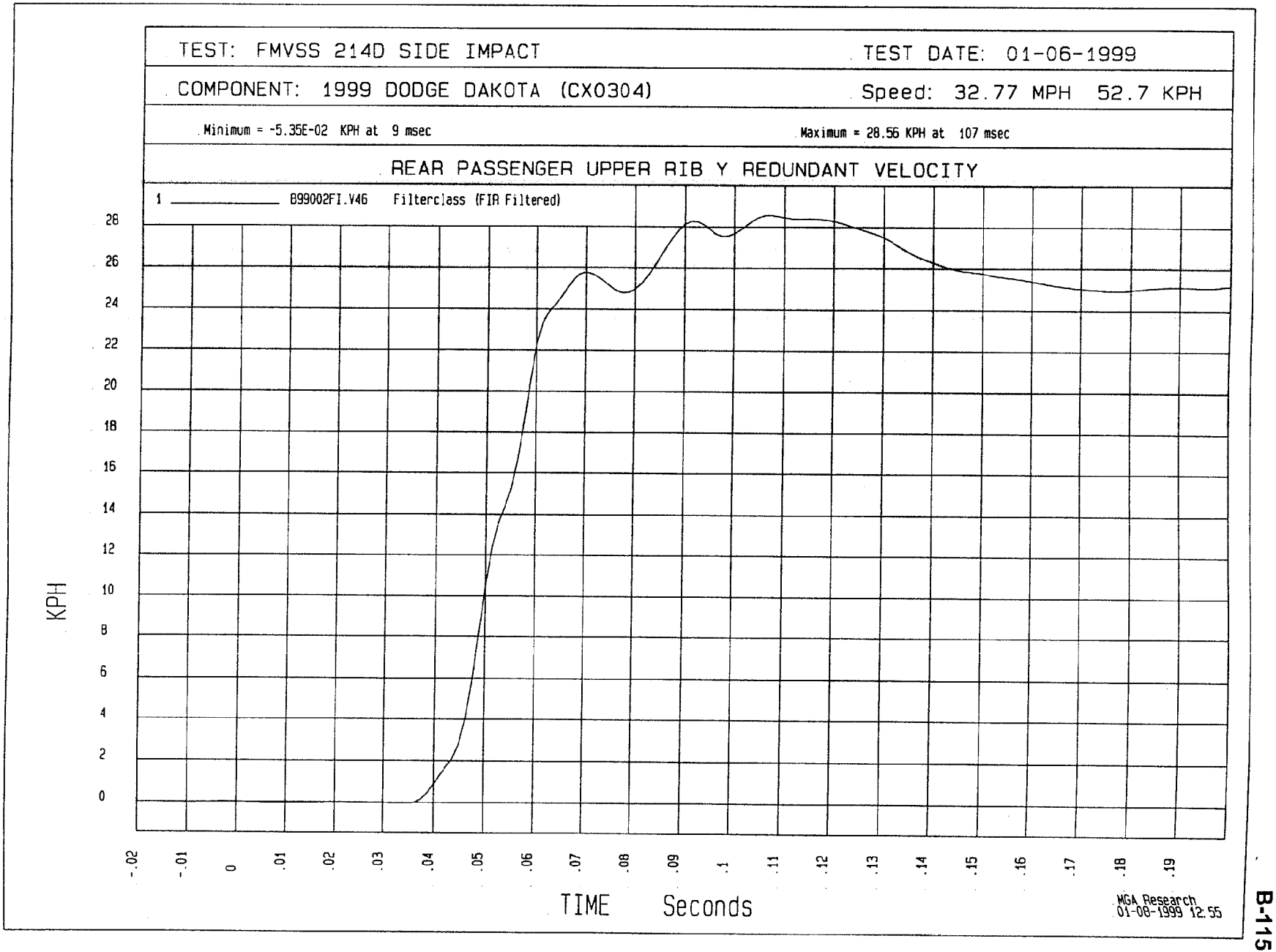
TIME (SECONDS)
MGA Research
01-06-1999 16:01


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -5.35E-02 KPH at 9 msec
Maximum = 28.56 KPH at 107 msec
REAR PASSENGER UPPER RIB Y REDUNDANT VELOCITY
1 B99002FI.V46 Filterclass (FIR Filtered)
KPH
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
-.02
-.01
0
.01
.02
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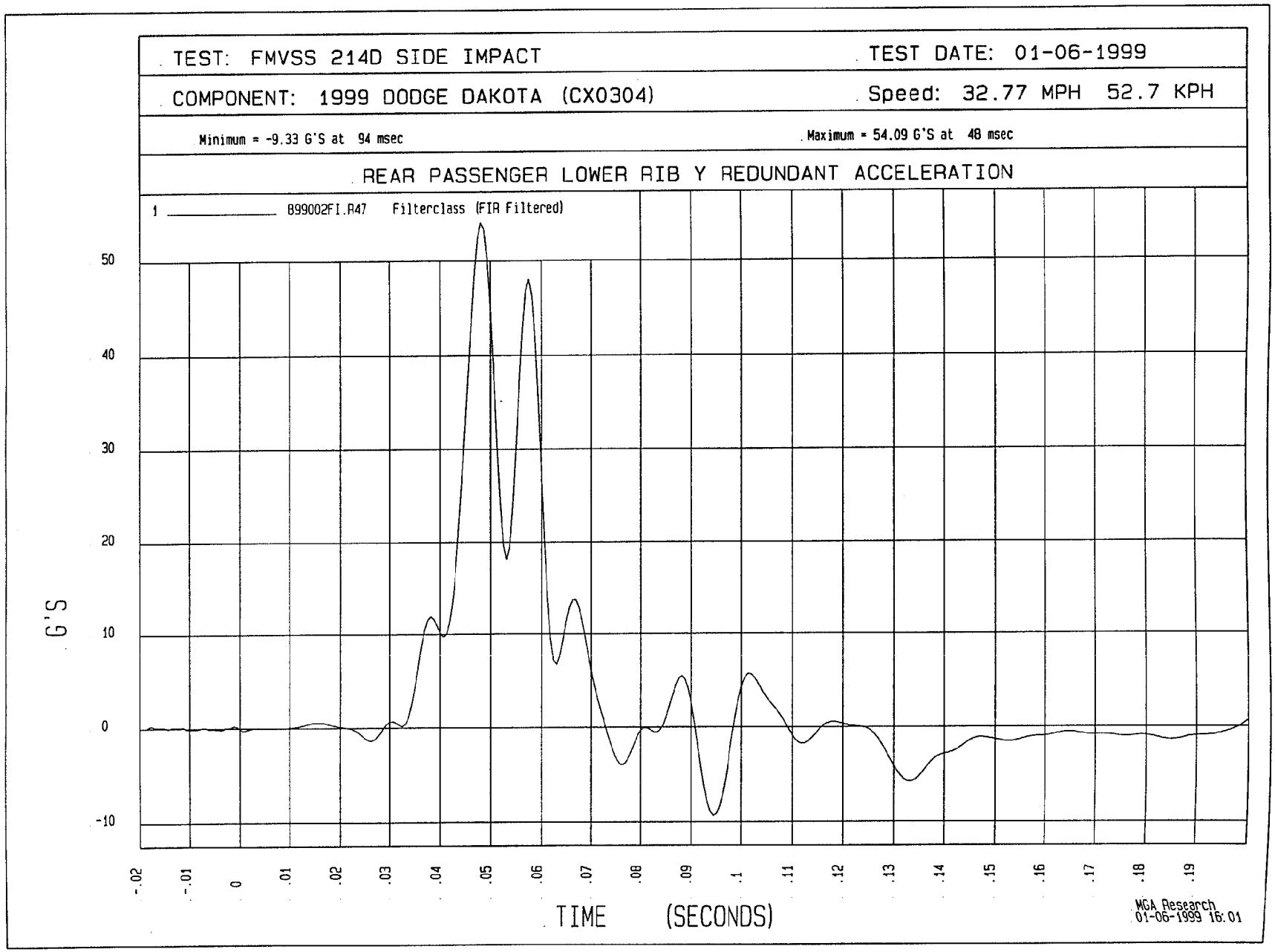
TIME Seconds
MGA Research
01-08-1999 12:55


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -9.33 G'S at 94 msec
Maximum = 54.09 G'S at 48 msec
REAR PASSENGER LOWER RIB Y REDUNDANT ACCELERATION
1 B99002FI.R47 Filterclass (FIR Filtered)
G'S
50
40
30
20
10
0
-10
-.02
-.01
0
.01
.02
.03
.04
.05
.06
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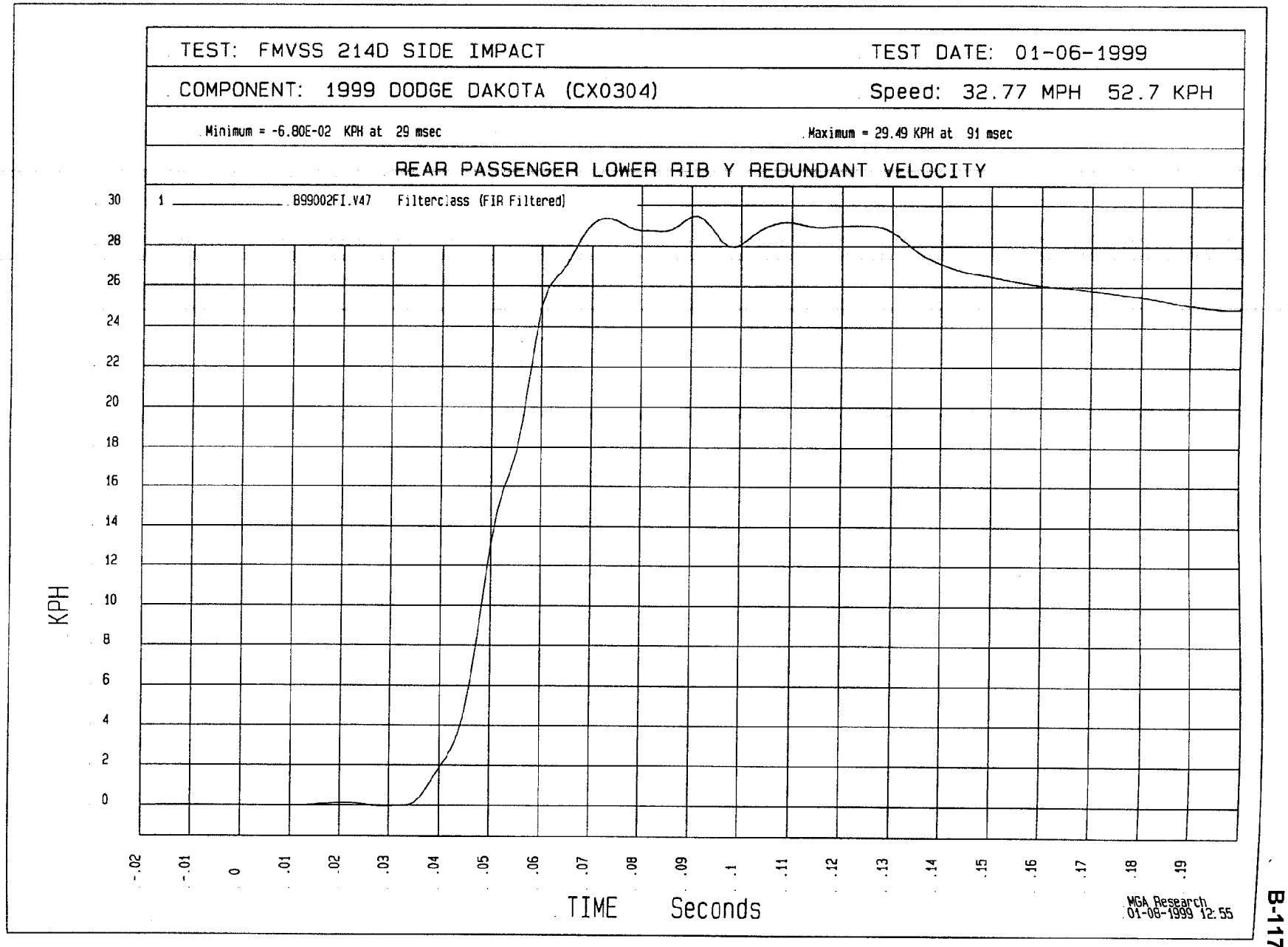
TIME (SECONDS)
MGA Research
01-06-1999 16:01


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -6.80E-02 KPH at 29 msec
Maximum = 29.49 KPH at 91 msec
REAR PASSENGER LOWER RIB Y REDUNDANT VELOCITY
1 B99002FI.V47 FilterClass (FIR Filtered)
KPH
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
-.02
-.01
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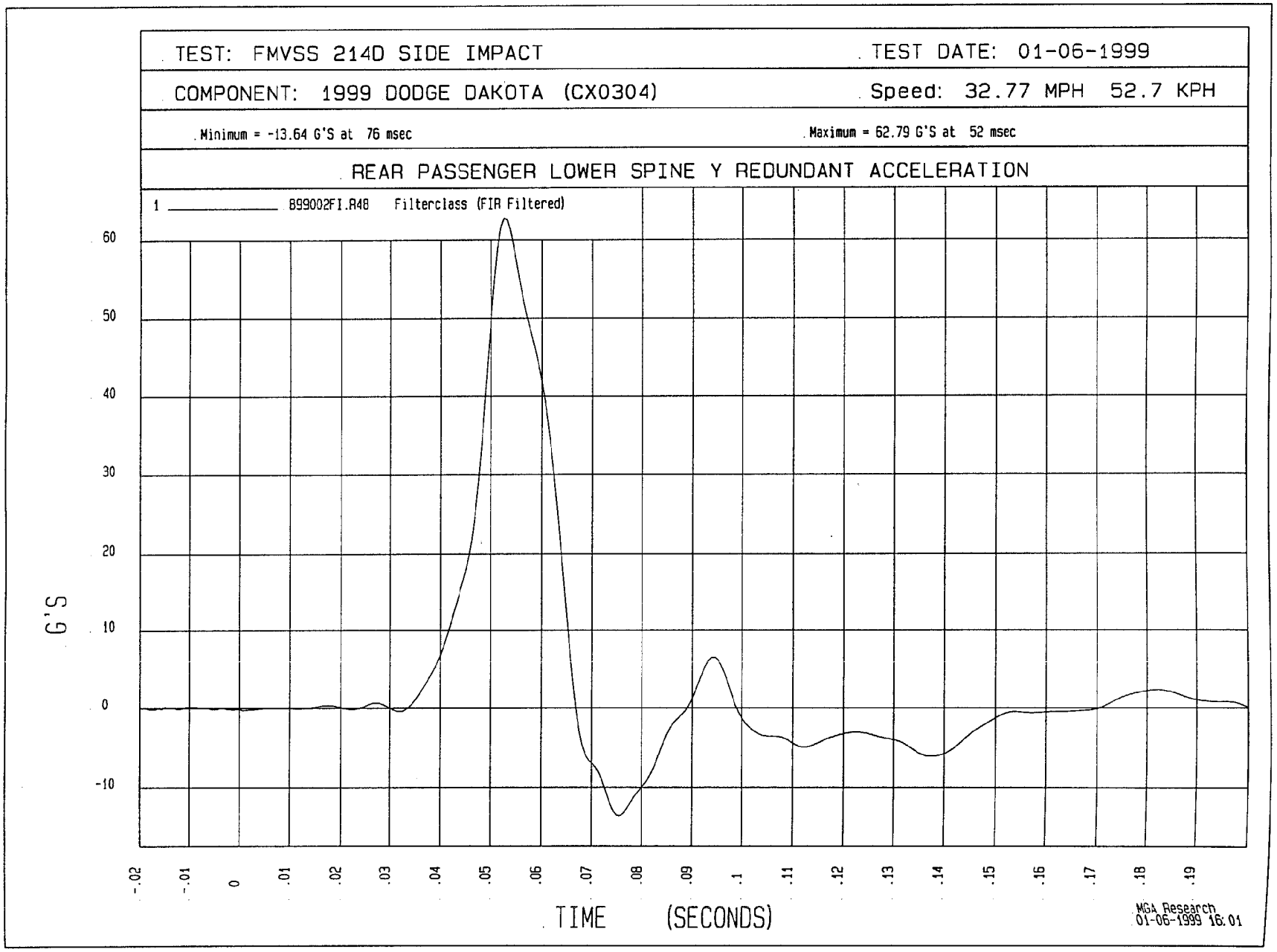
TIME Seconds
MGA Research
01-08-1999 12:55


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -13.64 G'S at 76 msec
Maximum = 62.79 G'S at 52 msec
REAR PASSENGER LOWER SPINE Y REDUNDANT ACCELERATION
1 B99002FI.R48 Filterclass (FIR Filtered)
G'S
60
50
40
30
20
10
0
-10
-.02
-.01
0
.01
.02
.03
.04
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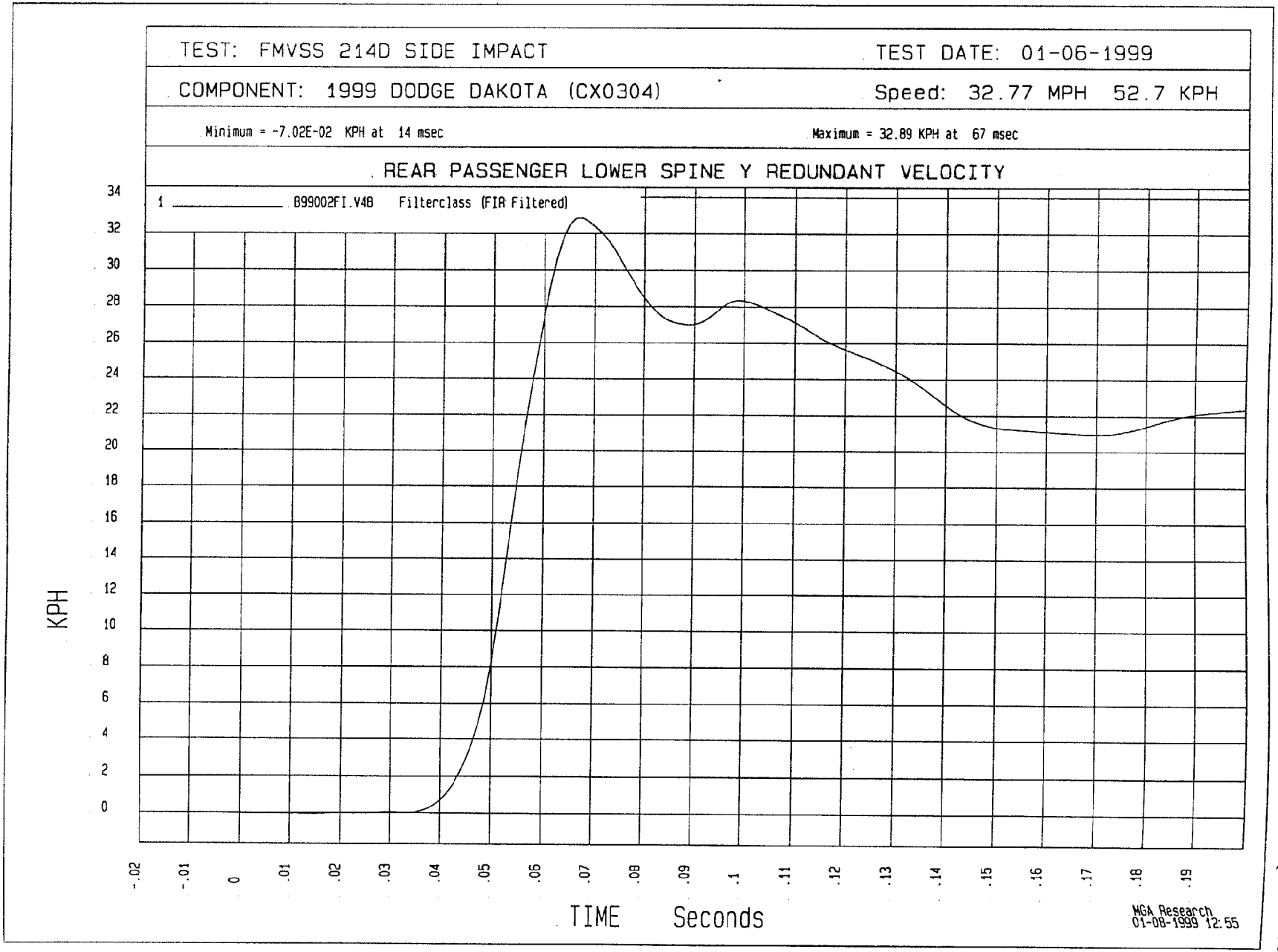
TIME (SECONDS)
MGA Research
01-06-1999 16:01


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -7.02E-02 KPH at 14 msec
Maximum = 32.89 KPH at 67 msec
REAR PASSENGER LOWER SPINE Y REDUNDANT VELOCITY
1 B99002FI.V4B Filterclass (FIR Filtered)
KPH
34
32
30
28
26
24
22
20
18
16
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8
6
4
2
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-.02
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TIME Seconds
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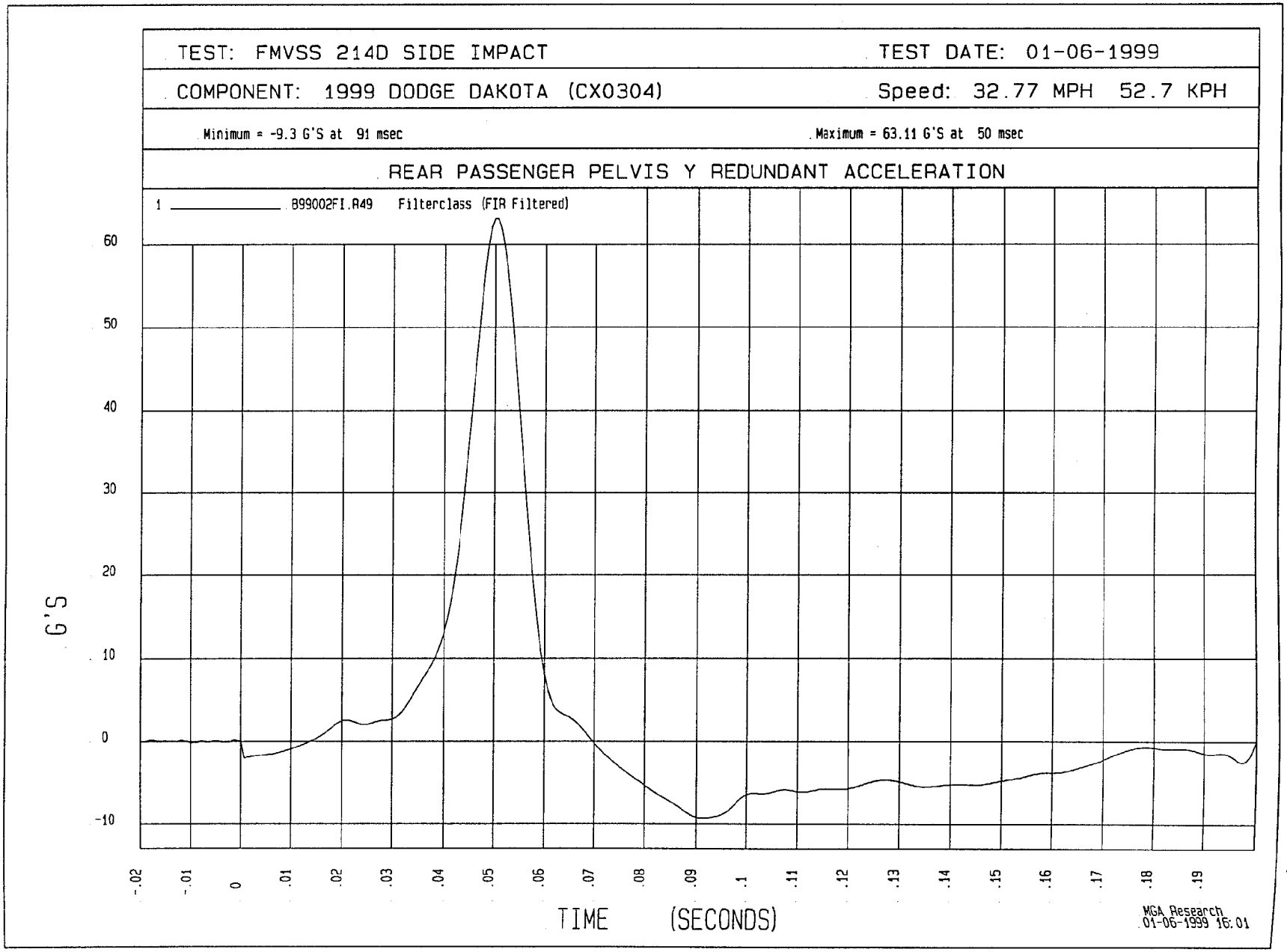
01-08-1999 12:55


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -9.3 G'S at 91 msec
Maximum = 63.11 G'S at 50 msec
REAR PASSENGER PELVIS Y REDUNDANT ACCELERATION
1 B99002FI.R49 Filterclass (FIR Filtered)
60
50
40
30
20
10
0
-10
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
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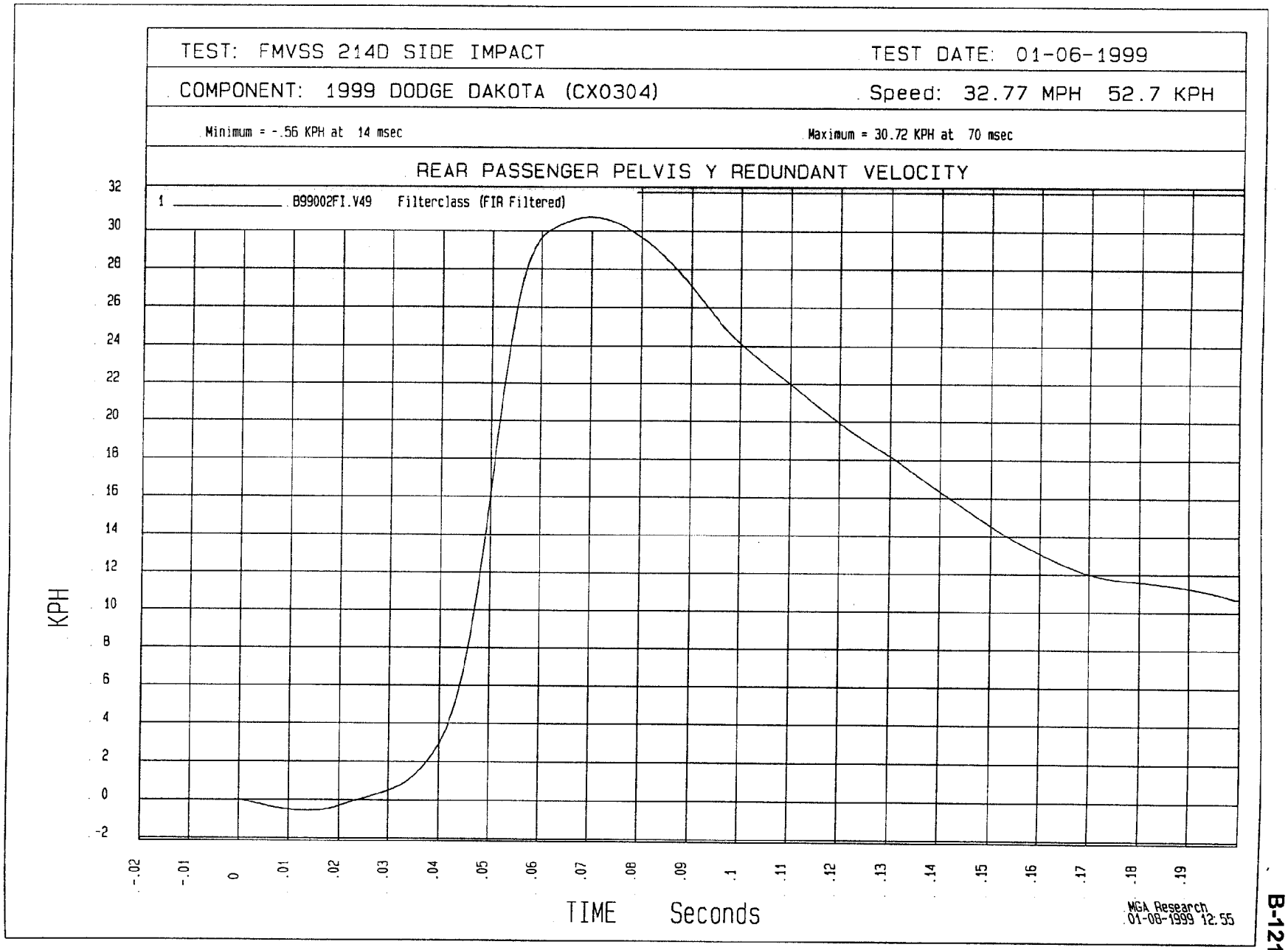
TIME (SECONDS)
MGA Research
01-06-1999 16:01


TEST: FMVSS 214D SIDE IMPACT
TEST DATE: 01-06-1999
COMPONENT: 1999 DODGE DAKOTA (CX0304)
Speed: 32.77 MPH 52.7 KPH
Minimum = -.56 KPH at 14 msec
Maximum = 30.72 KPH at 70 msec
REAR PASSENGER PELVIS Y REDUNDANT VELOCITY
1 B99002FI.V49 Filterclass (FIR Filtered)
KPH
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4
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-2
-.02
-.01
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TIME Seconds
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01-08-1999 12:55

APPENDIX C
SID CONFIGURATION AND PERFORMANCE VERIFICATION

SUMMARY

SIDE PRE & POST-TEST CALIBRATION

CONFIGURED TO LEFT SIDE IMPACT

Report Date: January 6, 1999 Technician: Tim Michnay

Test Date: January 22, 1999

Test Parameter	Specification	Dummy Serial No: 048		Dummy Serial No: 049	
		Pre-Test	Post-Test	Pre-Test	Post-Test
SH-Seated Height (mm)	889 - 909	904	904	904	904
RH-Rib Height (mm)	501 - 521	518	518	516	516
HP-Hip Pivot Height (mm)	99 ref.	99	99	99	99
RD-Rib from Back Line (mm)	229 - 241	231	231	233	233
KV-Knee Pivot from Back Line (mm)	511 - 526	524	524	524	524
SW-Knee Pivot to Floor (mm)	490 - 505	493	493	493	493
HW-Hip Width (mm)	356 - 391	373	373	371	371
Thorax Impacts					
Temperature (°C)	18.9 - 25.5	21.0	21.0	21.0	21.0
Relative Humidity (%)	10 - 70	22	26	20	26
Probe Speed (m/s)	4.27 - 4.33	4.29	4.29	4.28	4.29
Upper Rib (g's)	37 - 46	38	37	41	39
Lower Rib (g's)	37 - 46	41	39	39	39
Lower Spine (g's)	15 - 22	21	20	20	20
Pelvis Impact					
Temperature (°C)	18.9 - 25.5	21.0	21.0	21.0	21.0
Relative Humidity (%)	10 - 70	22	26	20	26
Probe Speed (m/s)	4.27 - 4.33	4.29	4.29	4.30	4.28
Pelvis ('gs)	40 - 60	48	49	49	49

REMARKS:

PRE-TEST CERTIFICATION DATA

Dummy Serial Number: 049

Calibration Test Results Summary

Dummy Serial Number: 049

Pre-Test Calibration

External Dimensions:	The dummy passed all external dimension requirements.
Thorax Impact Test:	The thorax passed all impact test requirements.
Pelvic Impact Test:	The pelvis passed all impact test requirements.
Abdominal Compression Test:	The abdomen passed all compression test requirements.
Lumbar Flexion Test:	The lumbar passed all flexion test requirements.

SIDE IMPACT DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA

DUMMY SERIAL NO.: 049 DATE OF VERIFICATION: December 15, 1998

DESCRIPTION	SPECIFICATION	TEST RESULTS
SH - Seated Height (mm)	889 - 909	904
RH - Rib Height (mm)	501 - 521	518
HP - Hip Pivot Height (mm)	99 ref.	99
RD - Rib From Back Line (mm)	229 - 241	231
KV - Knee Pivot From Back Line (mm)	511 - 526	524
SW - Knee Pivot to Floor (mm)	490 - 505	493
HW - Hip Width (mm)	356 - 391	373

MEASUREMENTS BY: _____

APPROVED BY: _____

MGA RESEARCH CORPORATION

THORAX IMPACT TEST

SIDE IMPACT DUMMY (SID)

DATE: December 15, 1998

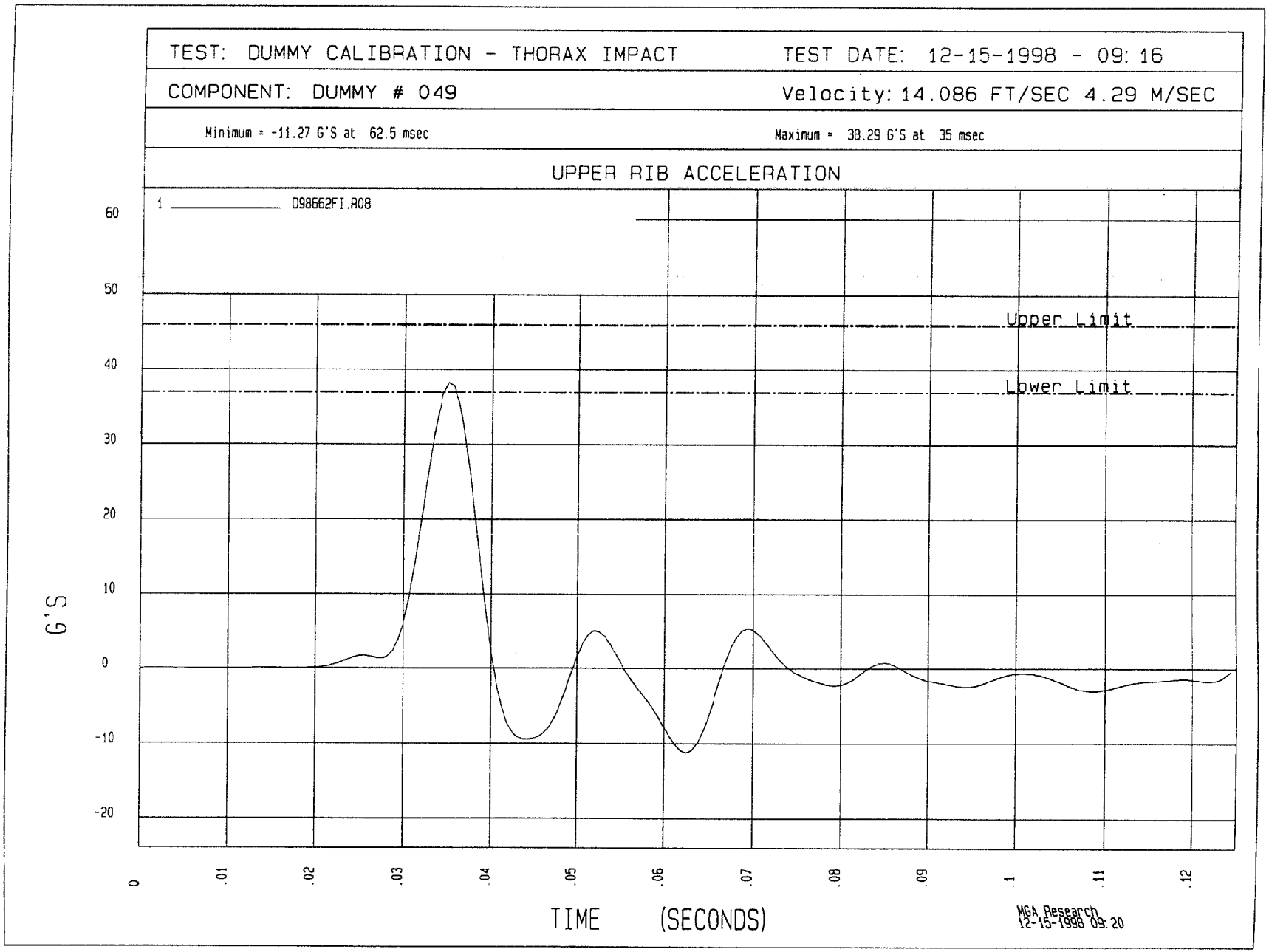
DUMMY SERIAL NUMBER: 049 TEST NUMBER: D981662

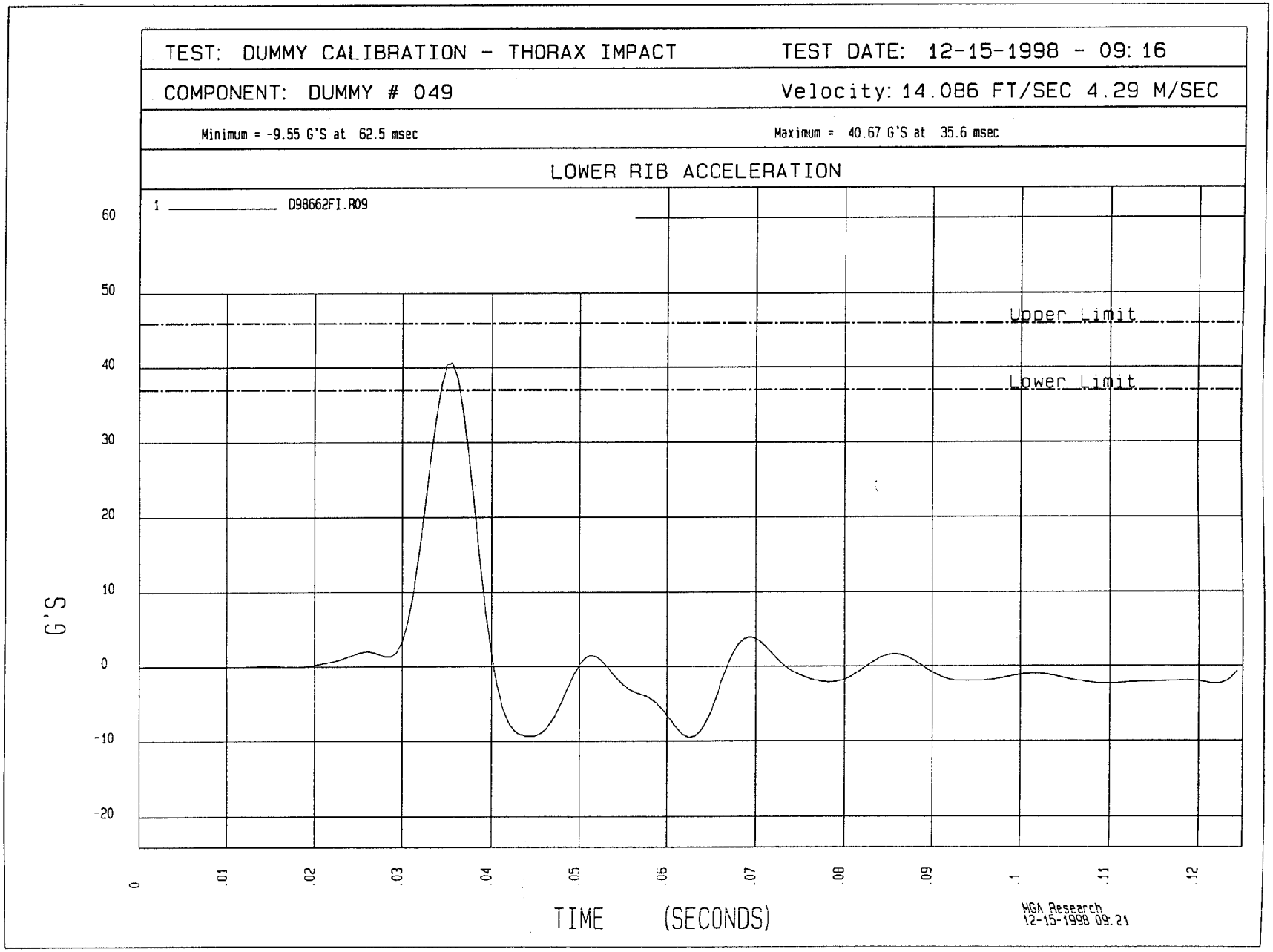
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.0
RELATIVE HUMIDITY (%)	10 - 70	22
PROBE SPEED (m/s)	4.27 - 4.33	4.29
UPPER RIB (g's)	37 - 46 g's	38
LOWER RIB (g's)	37 - 46 g's	41
LOWER SPINE (g's)	15 - 22 g's	21

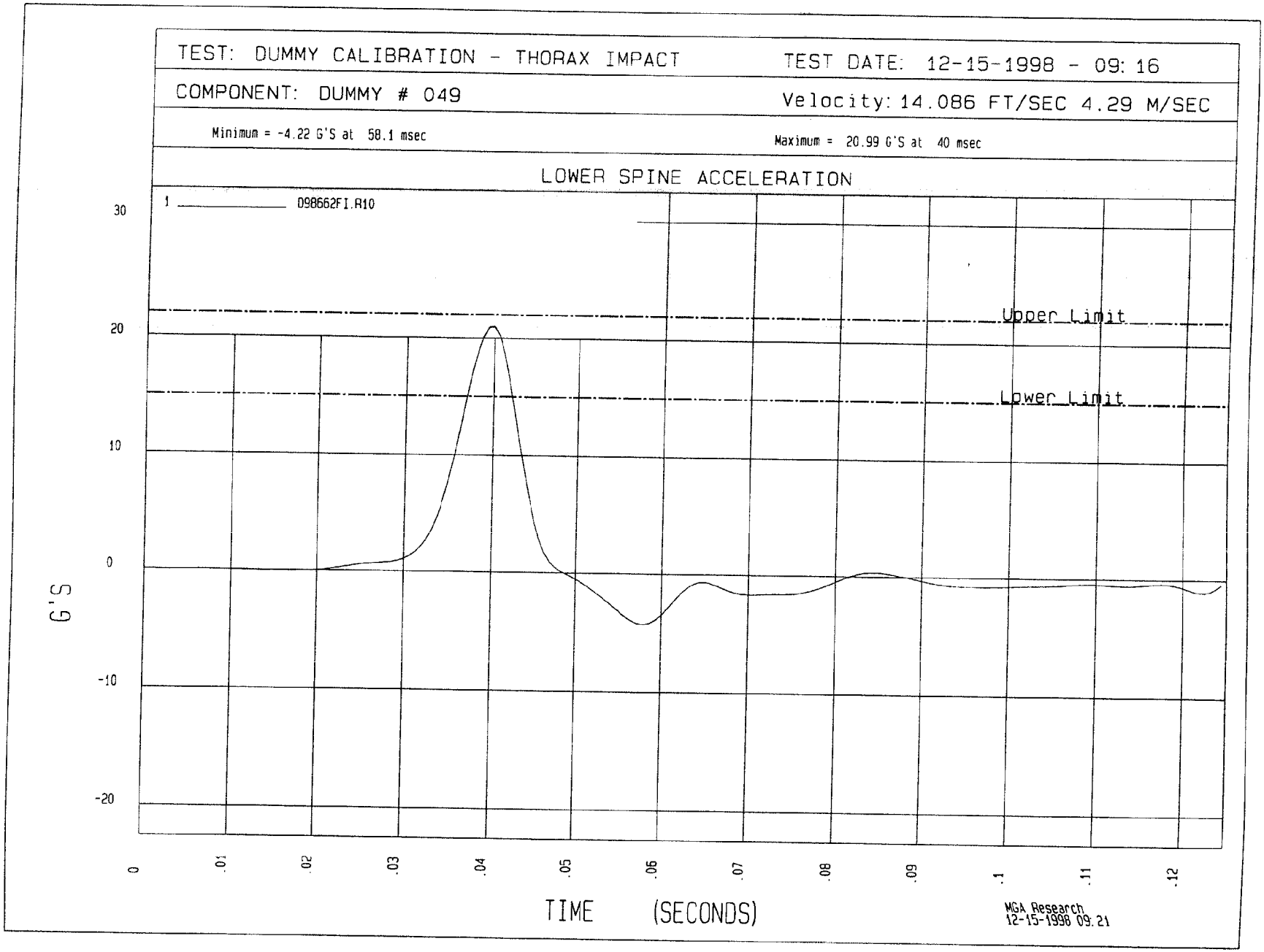
TEST MEETS SPECIFICATIONS

TECHNICIAN _____

APPROVED BY _____


TEST: DUMMY CALIBRATION - THORAX IMPACT
TEST DATE: 12-15-1998 - 09:16
COMPONENT: DUMMY # 049
Velocity: 14.086 FT/SEC 4.29 M/SEC
Minimum = -11.27 G'S at 62.5 msec
Maximum = 38.29 G'S at 35 msec
UPPER RIB ACCELERATION
1 D98662FI.A08
Upper Limit
Lower Limit
G'S
60
50
40
30
20
10
0
-10
-20
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
TIME (SECONDS)
MGA Research
12-15-1998 09:20


TEST: DUMMY CALIBRATION - THORAX IMPACT
TEST DATE: 12-15-1998 - 09:16
COMPONENT: DUMMY # 049
Velocity: 14.086 FT/SEC 4.29 M/SEC
Minimum = -9.55 G'S at 62.5 msec
Maximum = 40.67 G'S at 35.6 msec
LOWER RIB ACCELERATION
1 D98662FI.R09
Upper Limit
Lower Limit
G'S
60
50
40
30
20
10
0
-10
-20
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
TIME (SECONDS)
MGA Research
12-15-1998 09:21


TEST: DUMMY CALIBRATION - THORAX IMPACT
TEST DATE: 12-15-1998 - 09: 16
COMPONENT: DUMMY # 049
Velocity: 14.086 FT/SEC 4.29 M/SEC
Minimum = -4.22 G'S at 58.1 msec
Maximum = 20.99 G'S at 40 msec
LOWER SPINE ACCELERATION
1 D98662FI.R10
Upper Limit
Lower Limit
30
20
10
0
-10
-20
G'S
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
TIME (SECONDS)
MGA Research
12-15-1998 09:21

MGA RESEARCH CORPORATION

PELVIS IMPACT TEST

SIDE IMPACT DUMMY (SID)

DATE: December 15, 1998

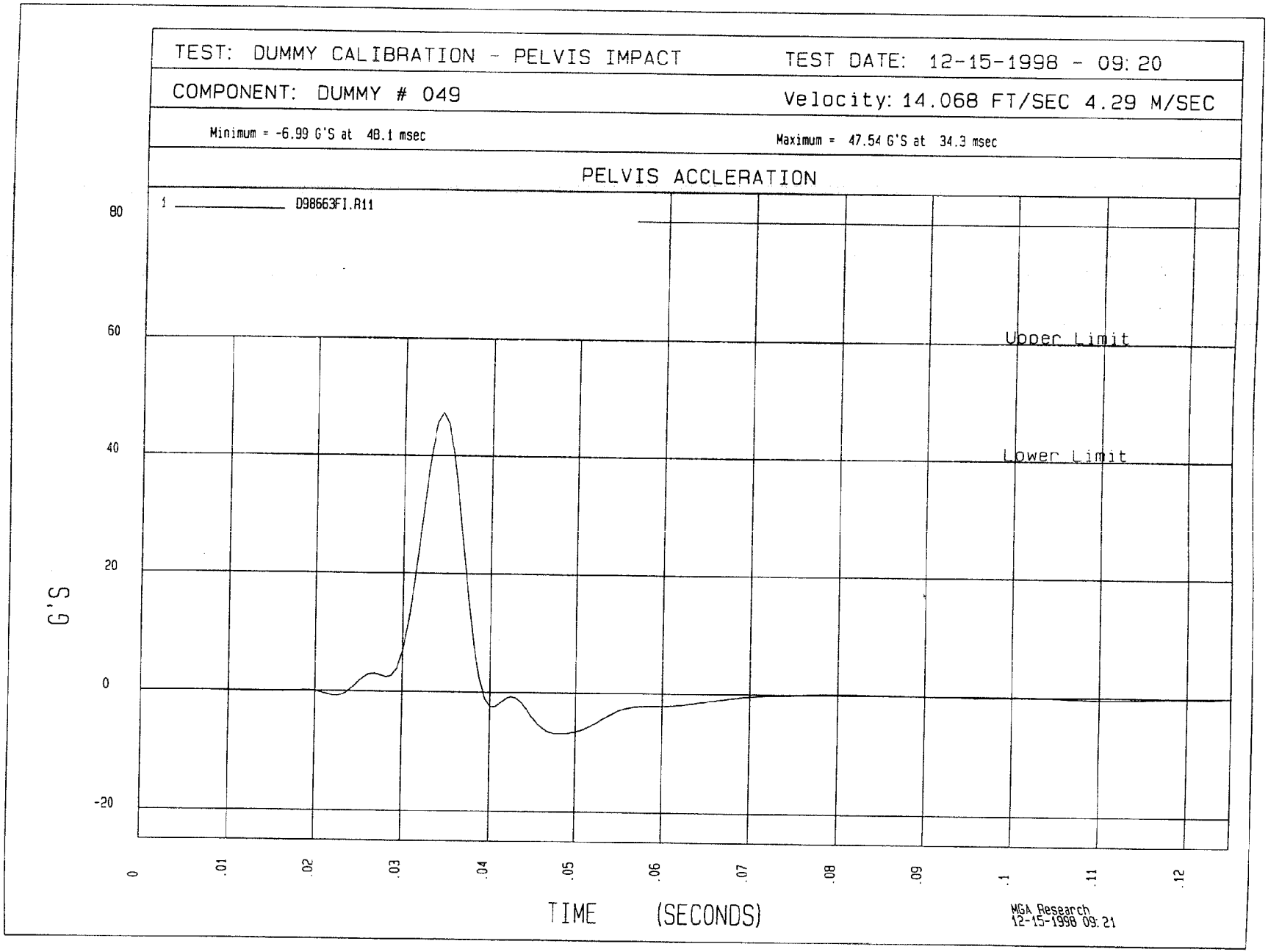
DUMMY SERIAL NUMBER: 049 TEST NUMBER: D981663

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.0
RELATIVE HUMIDITY (%)	10 - 70	22
PROBE SPEED (m/s)	4.27 - 4.33	4.29
PELVIS ACCELERATION (g's)	40 - 60	48

TEST MEETS SPECIFICATIONS

TECHNICIAN _____

APPROVED BY _____


TEST: DUMMY CALIBRATION - PELVIS IMPACT
TEST DATE: 12-15-1998 - 09:20
COMPONENT: DUMMY # 049
Velocity: 14.068 FT/SEC 4.29 M/SEC
Minimum = -6.99 G'S at 48.1 msec
Maximum = 47.54 G'S at 34.3 msec
PELVIS ACCLERATION
1 D98663F1.A11
Upper Limit
Lower Limit
G'S
80
60
40
20
0
-20
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
TIME (SECONDS)
MGA Research
12-15-1998 09:21

MGA RESEARCH CORPORATION

ABDOMINAL COMPRESSION TEST
(PRELOAD = 10 LBS)

SIDE IMPACT DUMMY (SID)

DATE: December 15, 1998

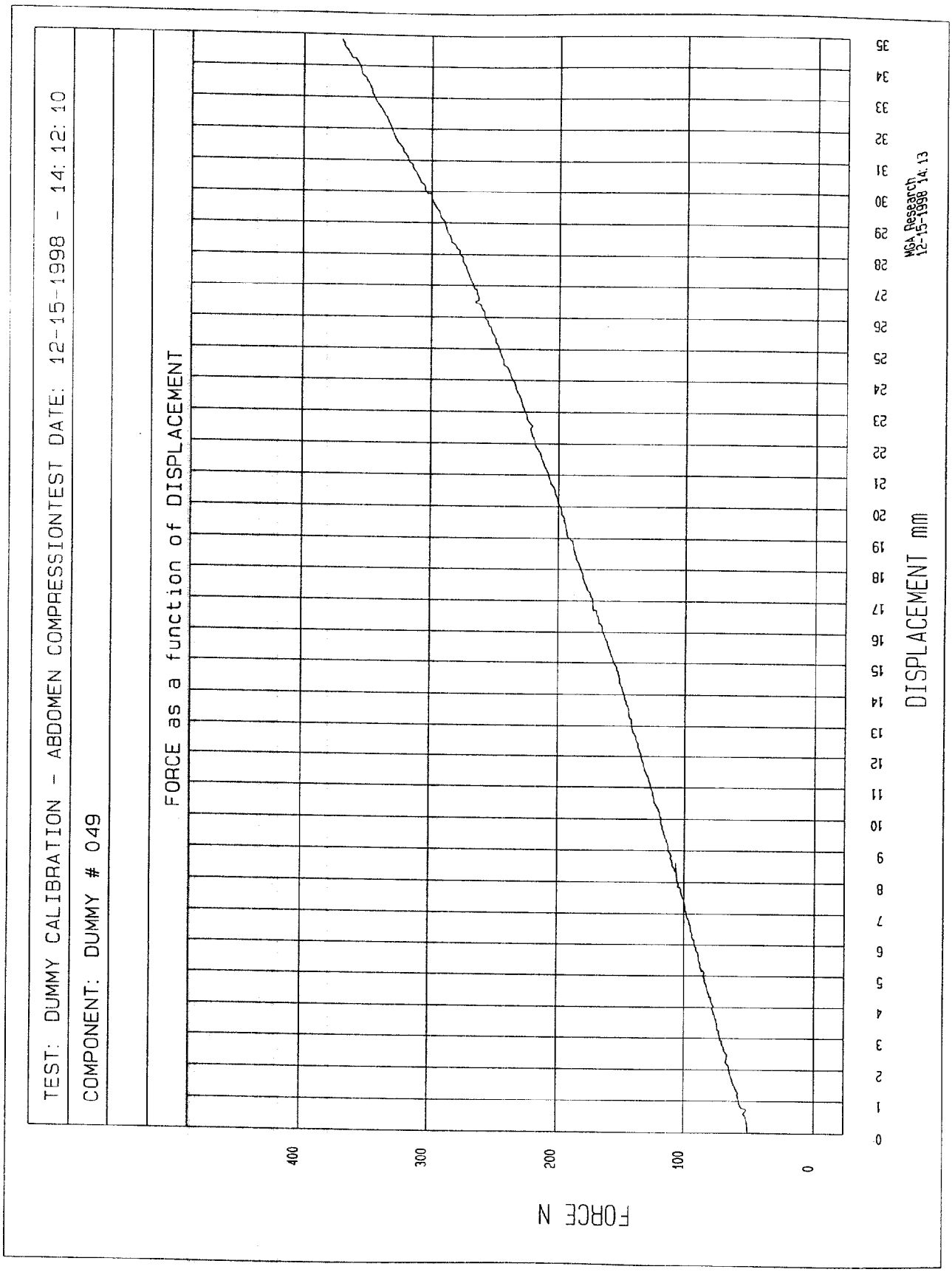
DUMMY SERIAL NUMBER: 049 TEST NUMBER: D981664

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.0
RELATIVE HUMIDITY (%)	10 - 70	22
FORCE @ 12.7 mm	104 - 162	140
FORCE @ 19.0 mm	163 - 222	193
FORCE @ 25.4 mm	222 - 280	251
FORCE @ 33 mm	325 - 391	347

TEST MEETS SPECIFICATIONS

TECHNICIAN _____

APPROVED BY _____


TEST: DUMMY CALIBRATION - ABDOMEN COMPRESSIONTEST DATE: 12-15-1998 - 14:12:10
COMPONENT: DUMMY # 049
FORCE as a function of DISPLACEMENT
FORCE N
400
300
200
100
0
DISPLACEMENT mm
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
MGA Research
12-15-1998 14:13

MGA RESEARCH CORPORATION

LUMBAR FLEXION TEST

SIDE IMPACT DUMMY (SID)

DATE: December 15, 1998

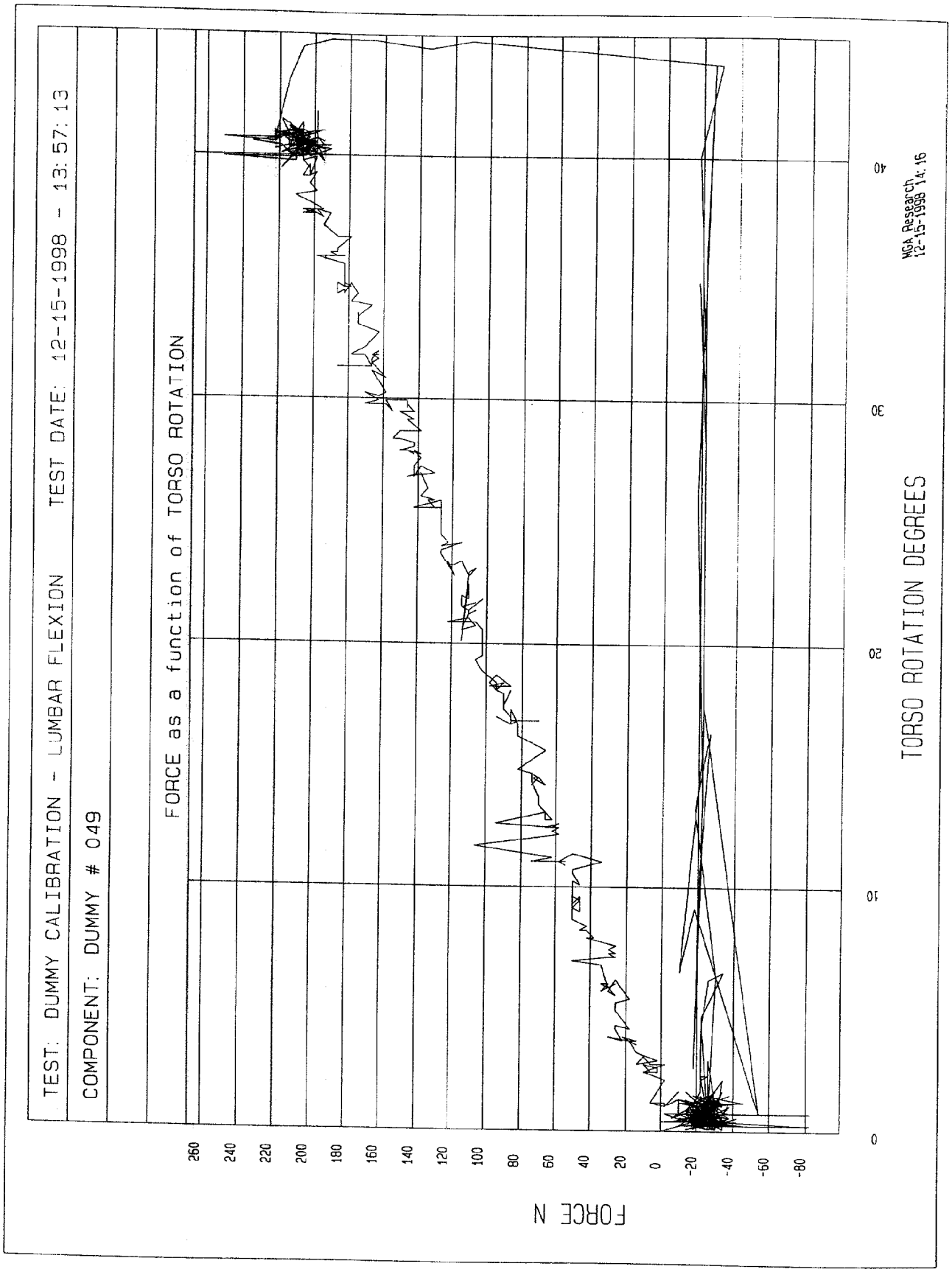
DUMMY SERIAL NUMBER: 049 TEST NUMBER: D981665

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.0
RELATIVE HUMIDITY (%)	10 - 70	22
FORCE @ 0°	0 - 26.7	0
FORCE @ 20°	97.9 - 151.2	102.3
FORCE @ 30°	151.2 - 204.6	170.6
FORCE @ 40°	204.6 - 258.0	210.7
RETURN ANGLE	12° maximum	1

TEST MEETS SPECIFICATIONS

TECHNICIAN _____

APPROVED BY _____


TEST: DUMMY CALIBRATION - LUMBAR FLEXION TEST DATE: 12-15-1998 - 13:57:13
COMPONENT: DUMMY # 049
FORCE as a function of TORSO ROTATION
FORCE N
260
240
220
200
180
160
140
120
100
80
60
40
20
0
-20
-40
-60
-80
0
10
20
30
40
TORSO ROTATION DEGREES
MGA Research
12-15-1998 14:16

PRE-TEST CERTIFICATION DATA

Dummy Serial Number: 048

Calibration Test Results Summary

Dummy Serial Number: 048

Pre-Test Calibration

External Dimensions:	The dummy passed all external dimension requirements.
Thorax Impact Test:	The thorax passed all impact test requirements.
Pelvic Impact Test:	The pelvis passed all impact test requirements.
Abdominal Compression Test:	The abdomen passed all compression test requirements.
Lumbar Flexion Test:	The lumbar passed all flexion test requirements.

SIDE IMPACT DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA

DUMMY SERIAL NO.: 048

DATE OF VERIFICATION: January 5, 1999

DESCRIPTION	SPECIFICATION	TEST RESULTS
SH - Seated Height (mm)	889 - 909	904
RH - Rib Height (mm)	501 - 521	516
HP - Hip Pivot Height (mm)	99 ref.	99
RD - Rib From Back Line (mm)	229 - 241	233
KV - Knee Pivot From Back Line (mm)	511 - 526	524
SW - Knee Pivot to Floor (mm)	490 - 505	493
HW - Hip Width (mm)	356 - 391	371

MEASUREMENTS BY: _____

APPROVED BY: _____

MGA RESEARCH CORPORATION

THORAX IMPACT TEST

SIDE IMPACT DUMMY (SID)

DATE: January 5, 1999

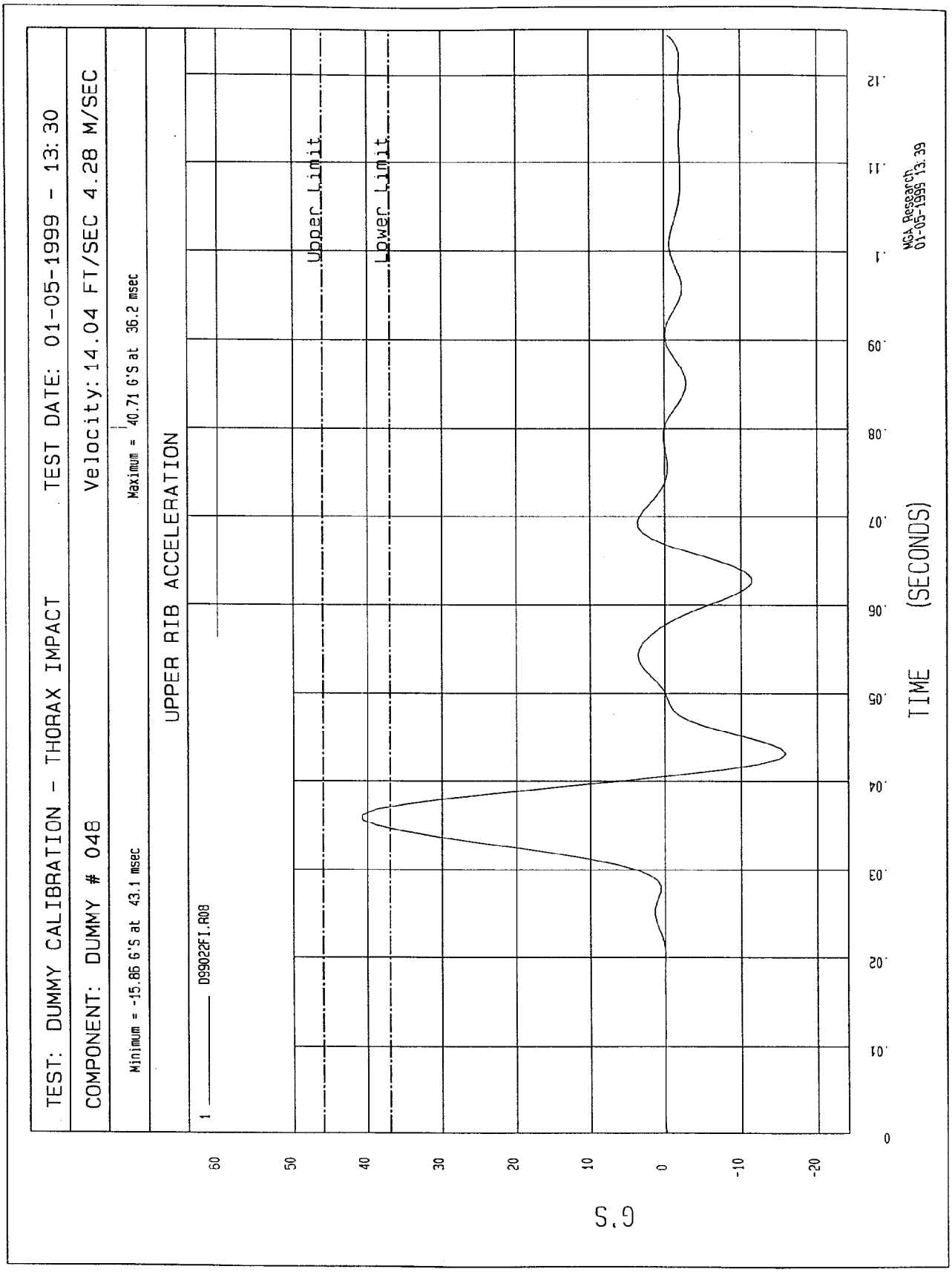
DUMMY SERIAL NUMBER: 048 TEST NUMBER: D99022

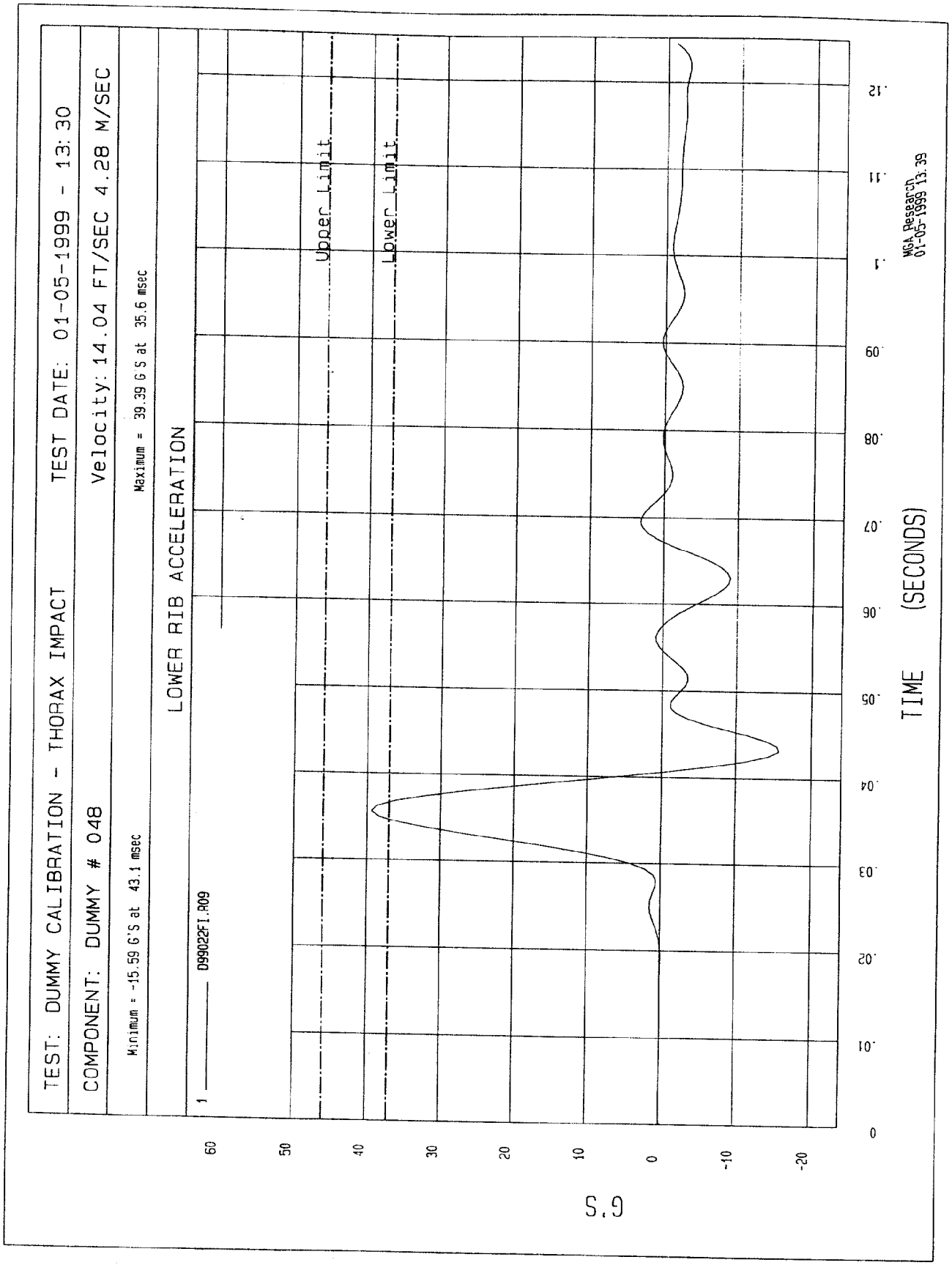
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.0
RELATIVE HUMIDITY (%)	10 - 70	20
PROBE SPEED (m/s)	4.27 - 4.33	4.28
UPPER RIB (g's)	37 - 46	41
LOWER RIB (g's)	37 - 46	39
LOWER SPINE (g's)	15 - 22	20

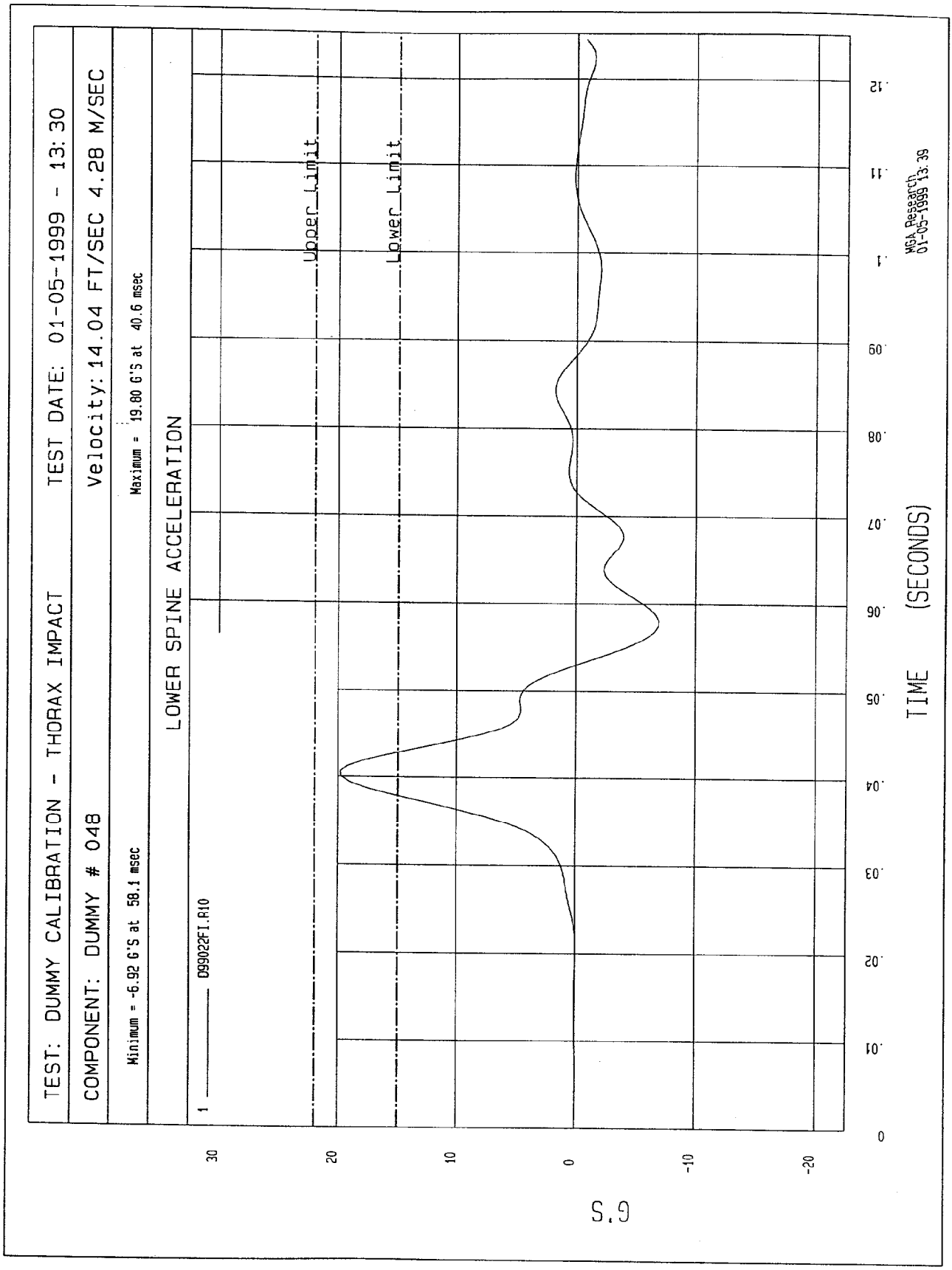
TEST MEETS SPECIFICATIONS

TECHNICIAN _____

APPROVED BY _____


TEST: DUMMY CALIBRATION - THORAX IMPACT
TEST DATE: 01-05-1999 - 13:30
COMPONENT: DUMMY # 048
Velocity: 14.04 FT/SEC 4.28 M/SEC
Minimum = -15.86 G'S at 43.1 msec
Maximum = 40.71 G'S at 36.2 msec
UPPER RIB ACCELERATION
1 D99022FI.R08
Upper Limit
Lower Limit
60
50
40
30
20
10
0
-10
-20
G'S
0
01
02
03
04
05
06
07
08
09
1
11
12
TIME (SECONDS)
MGA Research
01-05-1999 13:39


TEST: DUMMY CALIBRATION - THORAX IMPACT
TEST DATE: 01-05-1999 - 13:30
COMPONENT: DUMMY # 048
Velocity: 14.04 FT/SEC 4.28 M/SEC
Minimum = -15.59 G'S at 43.1 msec
Maximum = 39.39 G S at 35.6 msec
LOWER RIB ACCELERATION
1 D99022FI.R09
Upper Limit
Lower Limit
60
50
40
30
20
10
0
-10
-20
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
TIME (SECONDS)
MGA Research
01-05-1999 13:39
G's


TEST: DUMMY CALIBRATION - THORAX IMPACT
TEST DATE: 01-05-1999 - 13:30
COMPONENT: DUMMY # 048
Velocity: 14.04 FT/SEC 4.28 M/SEC
Minimum = -6.92 G'S at 58.1 msec
Maximum = 19.80 G'S at 40.6 msec
LOWER SPINE ACCELERATION
1 D99022FI.A10
Upper Limit
Lower Limit
30
20
10
0
-10
-20
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
TIME (SECONDS)
MGA Research
01-05-1999 13:39
G's

MGA RESEARCH CORPORATION

PELVIS IMPACT TEST

SIDE IMPACT DUMMY (SID)

DATE: January 5, 1999

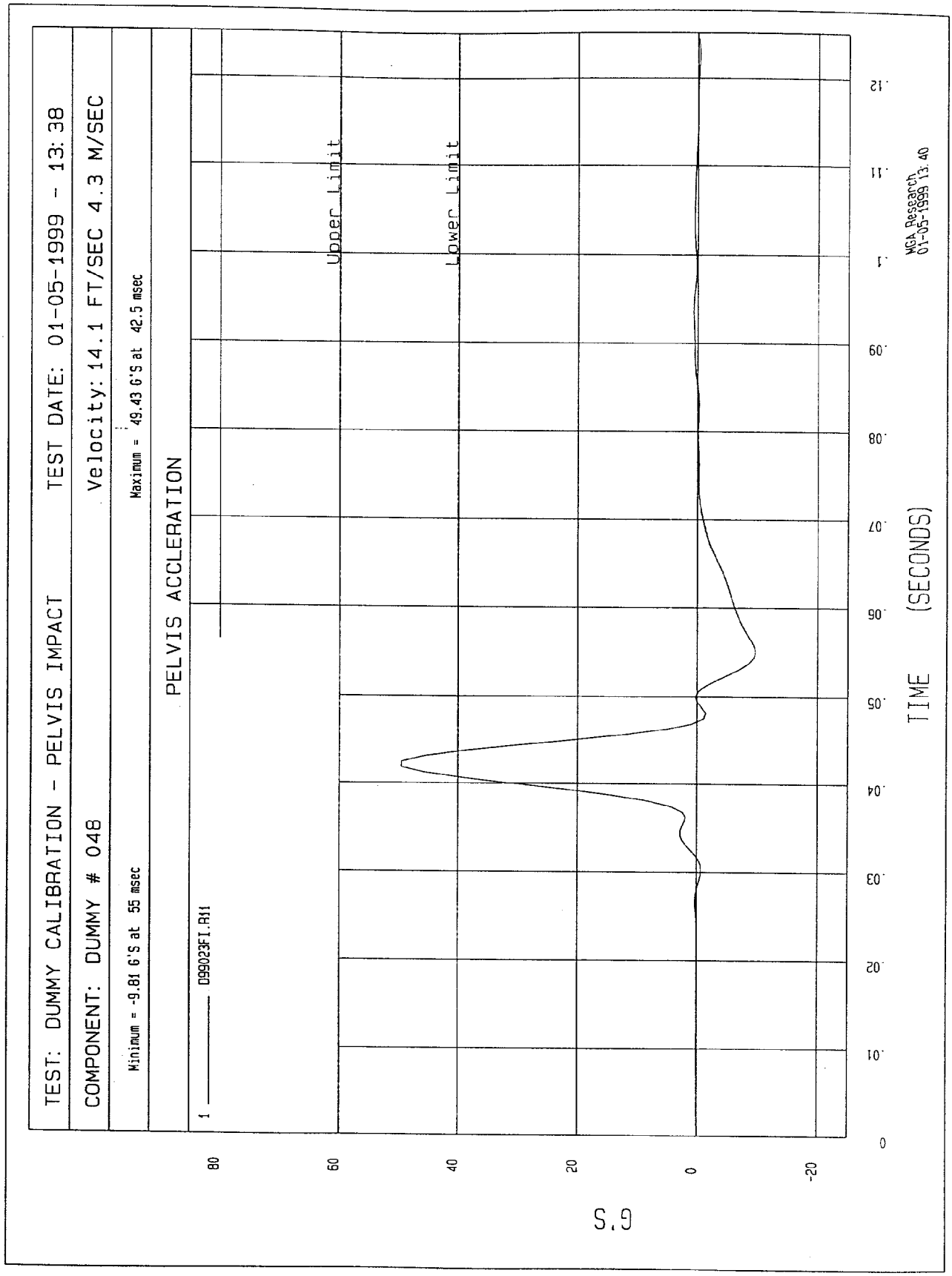
DUMMY SERIAL NUMBER: 048 TEST NUMBER: D99023

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.0
RELATIVE HUMIDITY (%)	10 - 70	20
PROBE SPEED (m/s)	4.27 - 4.33	4.30
PELVIS ACCELERATION (g's)	40 - 60	49

TEST MEETS SPECIFICATIONS

TECHNICIAN

APPROVED BY


TEST: DUMMY CALIBRATION - PELVIS IMPACT
TEST DATE: 01-05-1999 - 13:38
COMPONENT: DUMMY # 048
Velocity: 14.1 FT/SEC 4.3 M/SEC
Minimum = -9.81 G'S at 55 msec
Maximum = 49.43 G'S at 42.5 msec
PELVIS ACCLERATION
1 D99023FI.R11
Upper Limit
Lower Limit
80
60
40
20
0
-20
G'S
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
TIME (SECONDS)
MGA Research
01-05-1999 13:40

MGA RESEARCH CORPORATION

ABDOMINAL COMPRESSION TEST
(PRELOAD = 10 LBS)

SIDE IMPACT DUMMY (SID)

DATE: January 4, 1999

DUMMY SERIAL NUMBER: 048

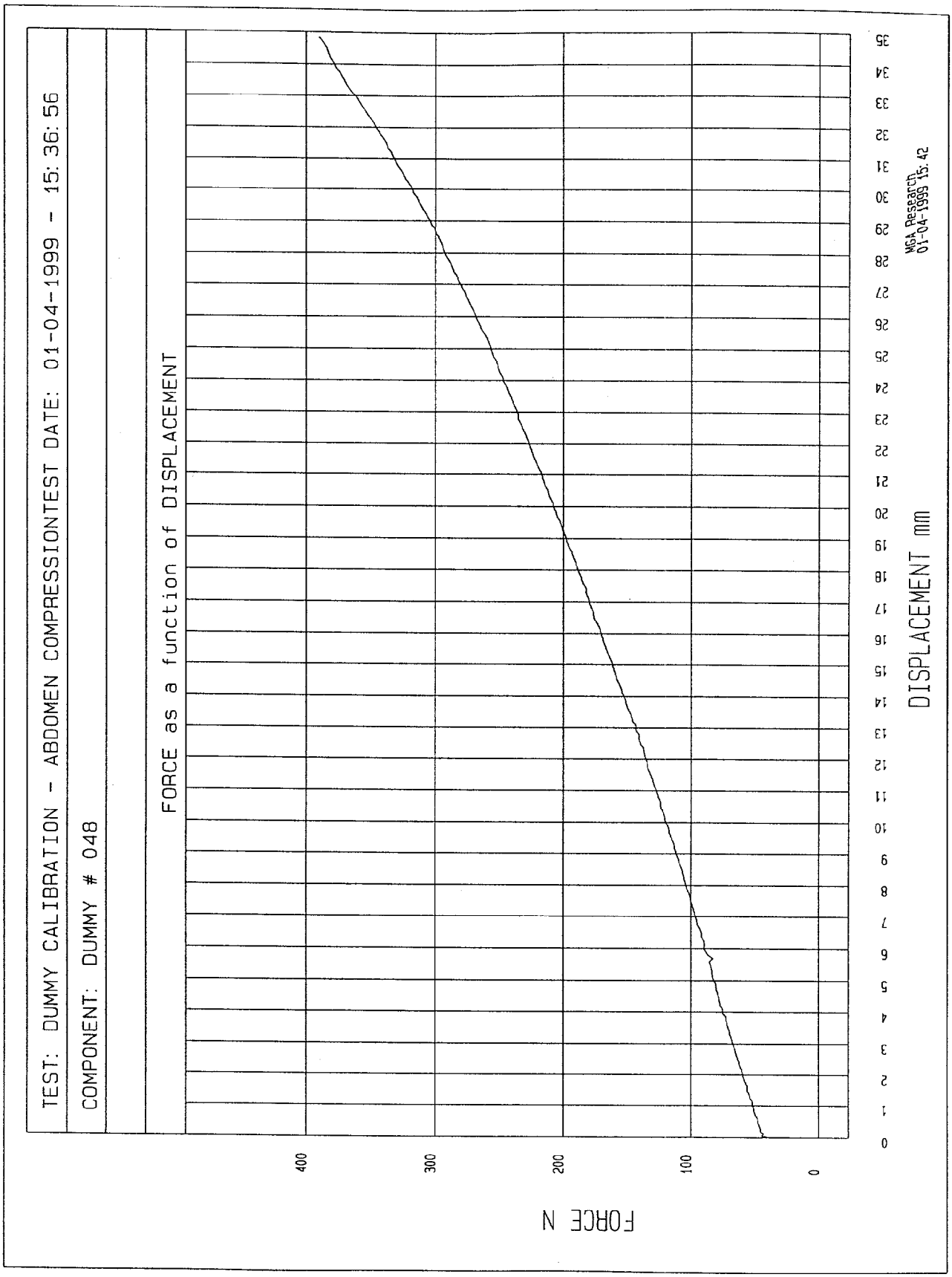
TEST NUMBER: D98024

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.0
RELATIVE HUMIDITY (%)	10 - 70	15
FORCE @ 12.7 mm	104 - 162	140
FORCE @ 19.0 mm	163 - 222	198
FORCE @ 25.4 mm	222 - 280	261
FORCE @ 33 mm	325 - 391	363

TEST MEETS SPECIFICATIONS

TECHNICIAN _____

APPROVED BY _____


TEST: DUMMY CALIBRATION - ABDOMEN COMPRESSIONTEST DATE: 01-04-1999 - 15:36:56
COMPONENT: DUMMY # 048
FORCE as a function of DISPLACEMENT
FORCE N
400
300
200
100
0
DISPLACEMENT mm
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
MGA Research
01-04-1999 15:42

MGA RESEARCH CORPORATION

LUMBAR FLEXION TEST

SIDE IMPACT DUMMY (SID)

DATE: January 5, 1999

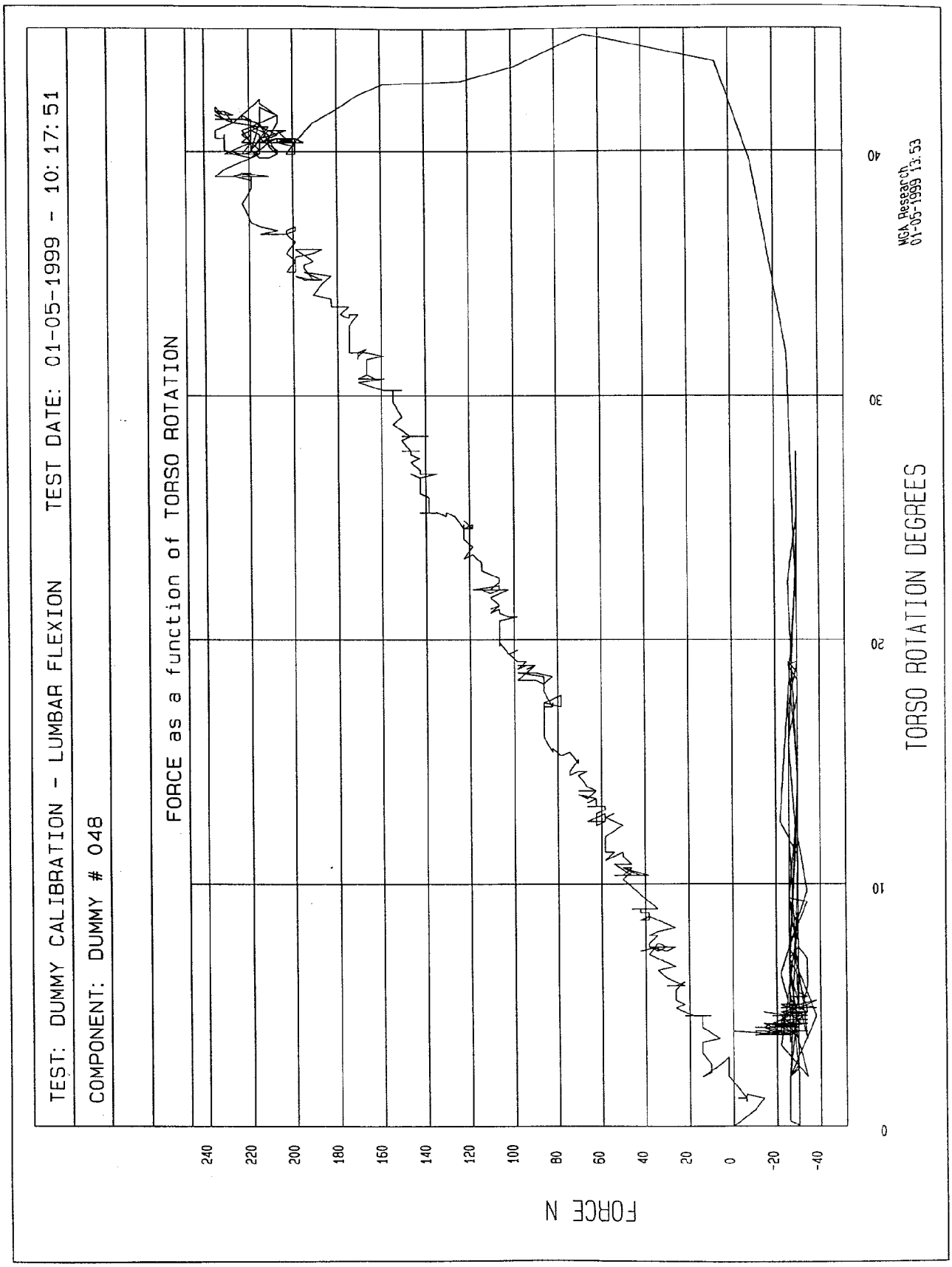
DUMMY SERIAL NUMBER: 048 TEST NUMBER: D99025

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.0
RELATIVE HUMIDITY (%)	10 - 70	15
FORCE @ 0°	0 - 26.7	0
FORCE @ 20°	97.9 - 151.2	106.6
FORCE @ 30°	151.2 - 204.6	154.7
FORCE @ 40°	204.6 - 258.0	231.0
RETURN ANGLE	12° maximum	4

TEST MEETS SPECIFICATIONS

TECHNICIAN _____

APPROVED BY _____


TEST: DUMMY CALIBRATION - LUMBAR FLEXION TEST DATE: 01-05-1999 - 10:17:51
COMPONENT: DUMMY # 048
FORCE as a function of TORSO ROTATION
FORCE N
240
220
200
180
160
140
120
100
80
60
40
20
0
-20
-40
0
10
20
30
40
TORSO ROTATION DEGREES
WGA Research
01-05-1999 13:53

POST-TEST CERTIFICATION DATA

Dummy Serial Number: 049

Calibration Test Results Summary

Dummy Serial Number: 049

Post-Test Calibration

External Dimensions:	The dummy passed all external dimension requirements.
Thorax Impact Test:	The thorax passed all impact test requirements.
Pelvic Impact Test:	The pelvis passed all impact test requirements.
Abdominal Compression Test:	The abdomen passed all compression test requirements.
Lumbar Flexion Test:	The lumbar passed all flexion test requirements.

SIDE IMPACT DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA

DUMMY SERIAL NO.: 049 DATE OF VERIFICATION: January 25, 1999

DESCRIPTION	SPECIFICATION	TEST RESULTS
SH - Seated Height (mm)	889 - 909	904
RH - Rib Height (mm)	501 - 521	518
HP - Hip Pivot Height (mm)	99 ref.	99
RD - Rib From Back Line (mm)	229 - 241	231
KV - Knee Pivot From Back Line (mm)	511 - 526	524
SW - Knee Pivot to Floor (mm)	490 - 505	493
HW - Hip Width (mm)	356 - 391	373

MEASUREMENTS BY: _____

APPROVED BY: _____

MGA RESEARCH CORPORATION

THORAX IMPACT TEST

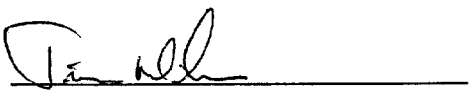
SIDE IMPACT DUMMY (SID)

DATE: January 25, 1999

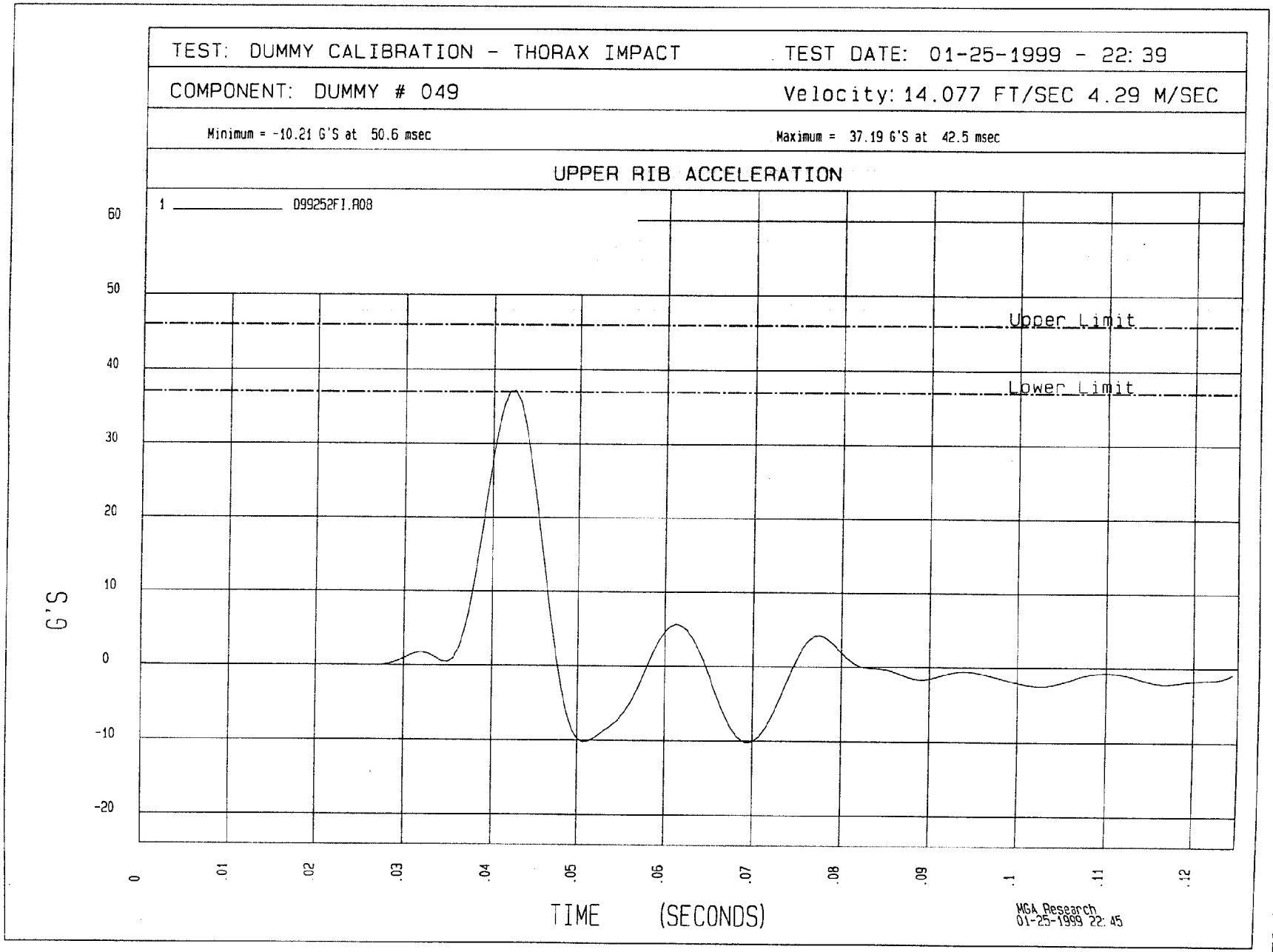
DUMMY SERIAL NUMBER: 049 TEST NUMBER: D99252

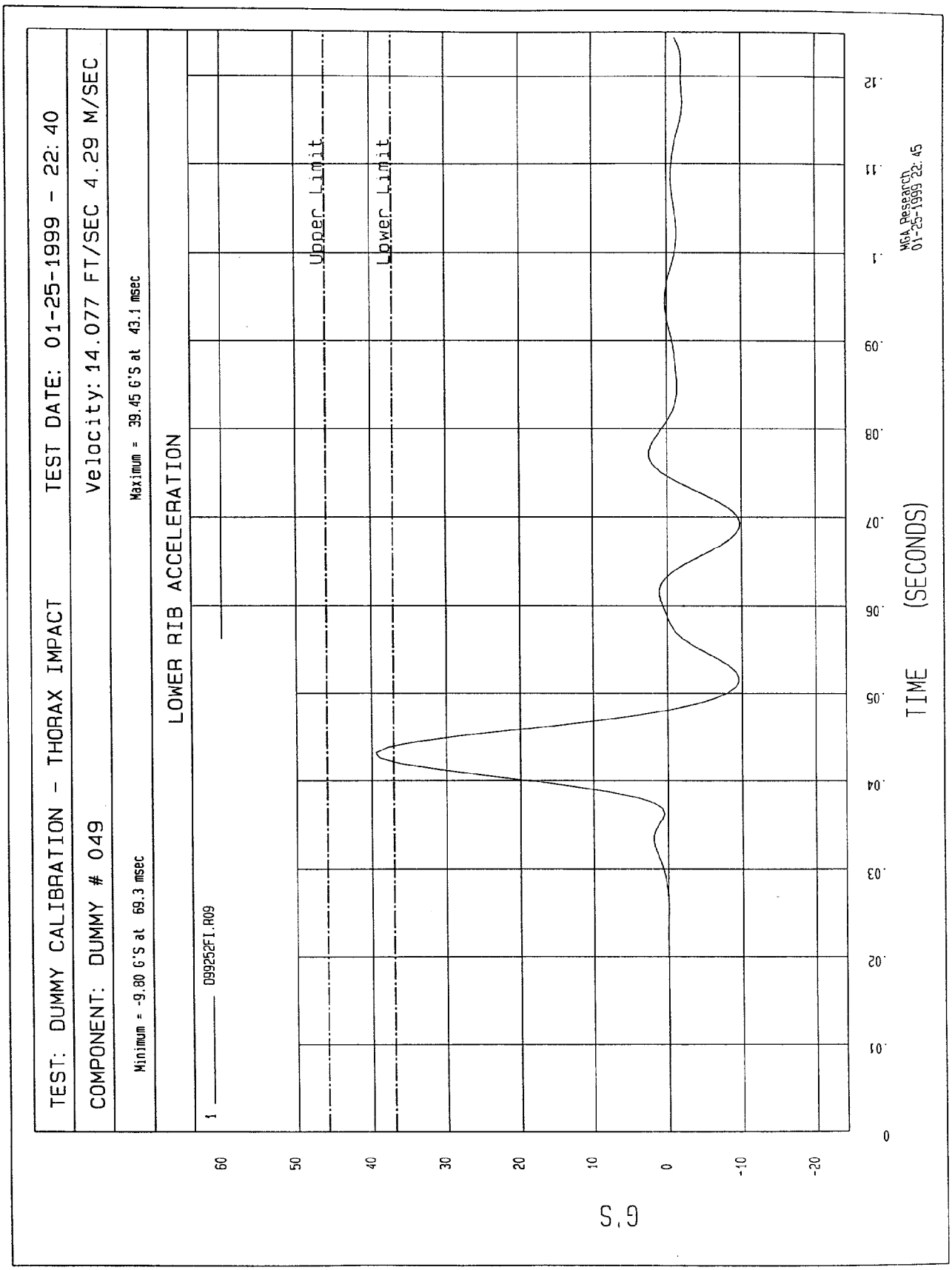
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.0
RELATIVE HUMIDITY (%)	10 - 70	26
PROBE SPEED (m/s)	4.27 - 4.33 fps	4.29
UPPER RIB (g's)	37 - 46 g's	37
LOWER RIB (g's)	37 - 46 g's	39
LOWER SPINE (g's)	15 - 22 g's	20

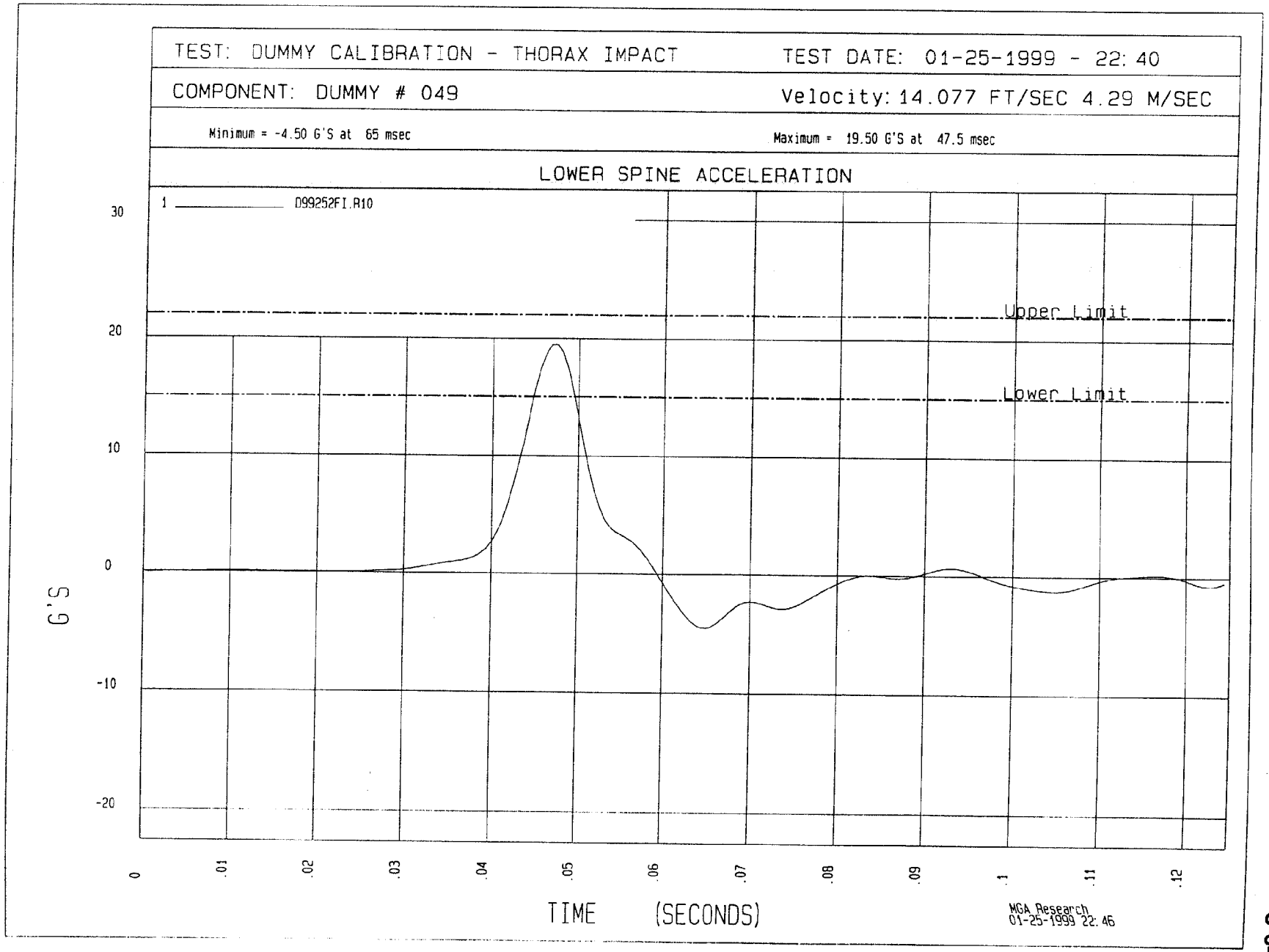
TEST MEETS SPECIFICATIONS

TECHNICIAN 

APPROVED BY 


TEST: DUMMY CALIBRATION - THORAX IMPACT
TEST DATE: 01-25-1999 - 22:39
COMPONENT: DUMMY # 049
Velocity: 14.077 FT/SEC 4.29 M/SEC
Minimum = -10.21 G'S at 50.6 msec
Maximum = 37.19 G'S at 42.5 msec
UPPER RIB ACCELERATION
1 D99252FI.A08
Upper Limit
Lower Limit
G'S
60
50
40
30
20
10
0
-10
-20
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
TIME (SECONDS)
MGA Research
01-25-1999 22:45


TEST: DUMMY CALIBRATION - THORAX IMPACT
TEST DATE: 01-25-1999 - 22:40
COMPONENT: DUMMY # 049
Velocity: 14.077 FT/SEC 4.29 M/SEC
Minimum = -9.80 G'S at 69.3 msec
Maximum = 39.45 G'S at 43.1 msec
LOWER RIB ACCELERATION
1 099252FI.R09
Upper Limit
Lower Limit
60
50
40
30
20
10
0
-10
-20
G'S
0
01
02
03
04
05
06
07
08
09
1
11
12
TIME (SECONDS)
MGA Research
01-25-1999 22:45


TEST: DUMMY CALIBRATION - THORAX IMPACT
TEST DATE: 01-25-1999 - 22:40
COMPONENT: DUMMY # 049
Velocity: 14.077 FT/SEC 4.29 M/SEC
Minimum = -4.50 G'S at 65 msec
Maximum = 19.50 G'S at 47.5 msec
LOWER SPINE ACCELERATION
1 D99252FI.R10
Upper Limit
Lower Limit
30
20
10
0
-10
-20
G'S
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
TIME (SECONDS)
MGA Research
01-25-1999 22:46

MGA RESEARCH CORPORATION

PELVIS IMPACT TEST

SIDE IMPACT DUMMY (SID)

DATE: January 25, 1999

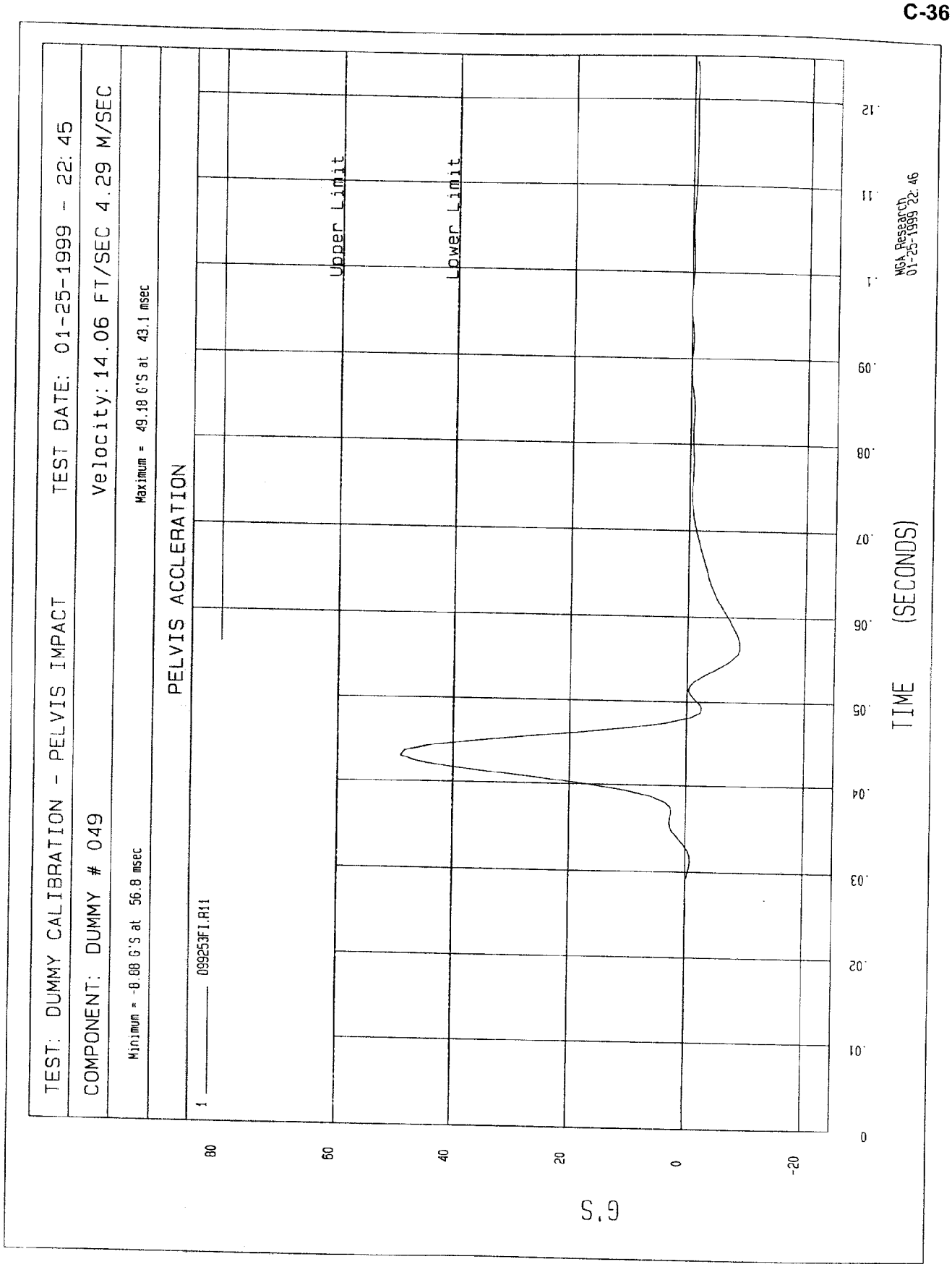
DUMMY SERIAL NUMBER: 049 TEST NUMBER: D99253

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5° F	21.0
RELATIVE HUMIDITY (%)	10 - 70%	26
PROBE SPEED (m/s)	4.27 - 4.33 f/s	4.29
PELVIS ACCELERATION (g's)	40 - 60 g's	49

TEST MEETS SPECIFICATIONS

TECHNICIAN

APPROVED BY


TEST: DUMMY CALIBRATION - PELVIS IMPACT
TEST DATE: 01-25-1999 - 22:45
COMPONENT: DUMMY # 049
Velocity: 14.06 FT/SEC 4.29 M/SEC
Minimum = -8.88 G'S at 56.8 msec
Maximum = 49.18 G'S at 43.1 msec
PELVIS ACCLERATION
1 099253FI.R11
Upper Limit
Lower Limit
80
60
40
20
0
-20
G'S
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
TIME (SECONDS)
MGA Research
01-25-1999 22:46

MGA RESEARCH CORPORATION

ABDOMINAL COMPRESSION TEST
(PRELOAD = 10 LBS)

SIDE IMPACT DUMMY (SID)

DATE: January 25, 1999

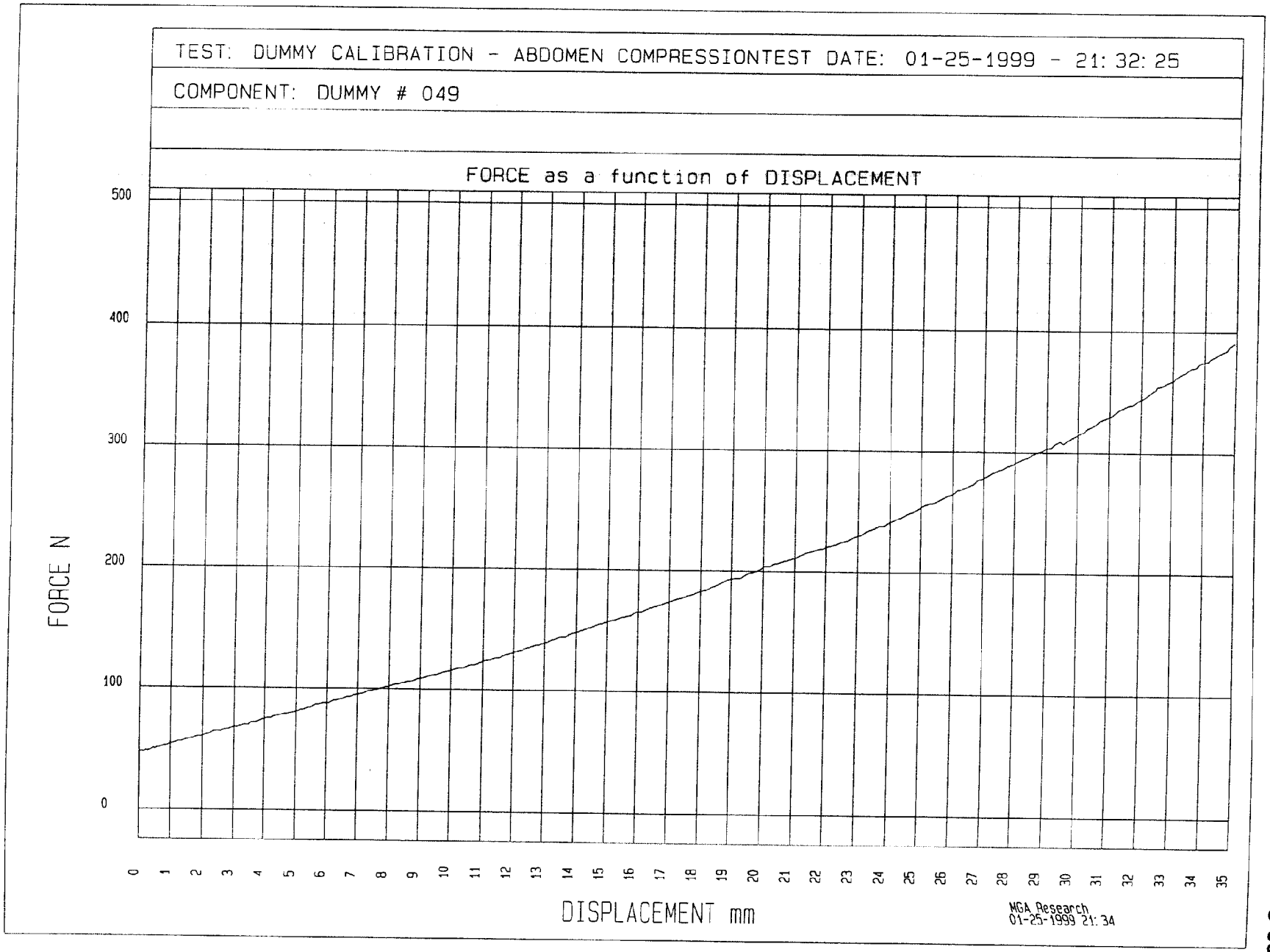
DUMMY SERIAL NUMBER: 049 TEST NUMBER: D99254

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.0
RELATIVE HUMIDITY (%)	10 - 70	26
FORCE @ 12.7 mm	104 - 162	138
FORCE @ 19.0 mm	163 - 222	194
FORCE @ 25.4 mm	222 - 280	258
FORCE @ 33 mm	325 - 391	362

TEST MEETS SPECIFICATIONS

TECHNICIAN

APPROVED BY


TEST: DUMMY CALIBRATION - ABDOMEN COMPRESSIONTEST DATE: 01-25-1999 - 21:32:25
COMPONENT: DUMMY # 049
FORCE as a function of DISPLACEMENT
FORCE N
500
400
300
200
100
0
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35
DISPLACEMENT mm
MGA Research
01-25-1999 21:34

MGA RESEARCH CORPORATION

LUMBAR FLEXION TEST

SIDE IMPACT DUMMY (SID)

DATE: January 25, 1999

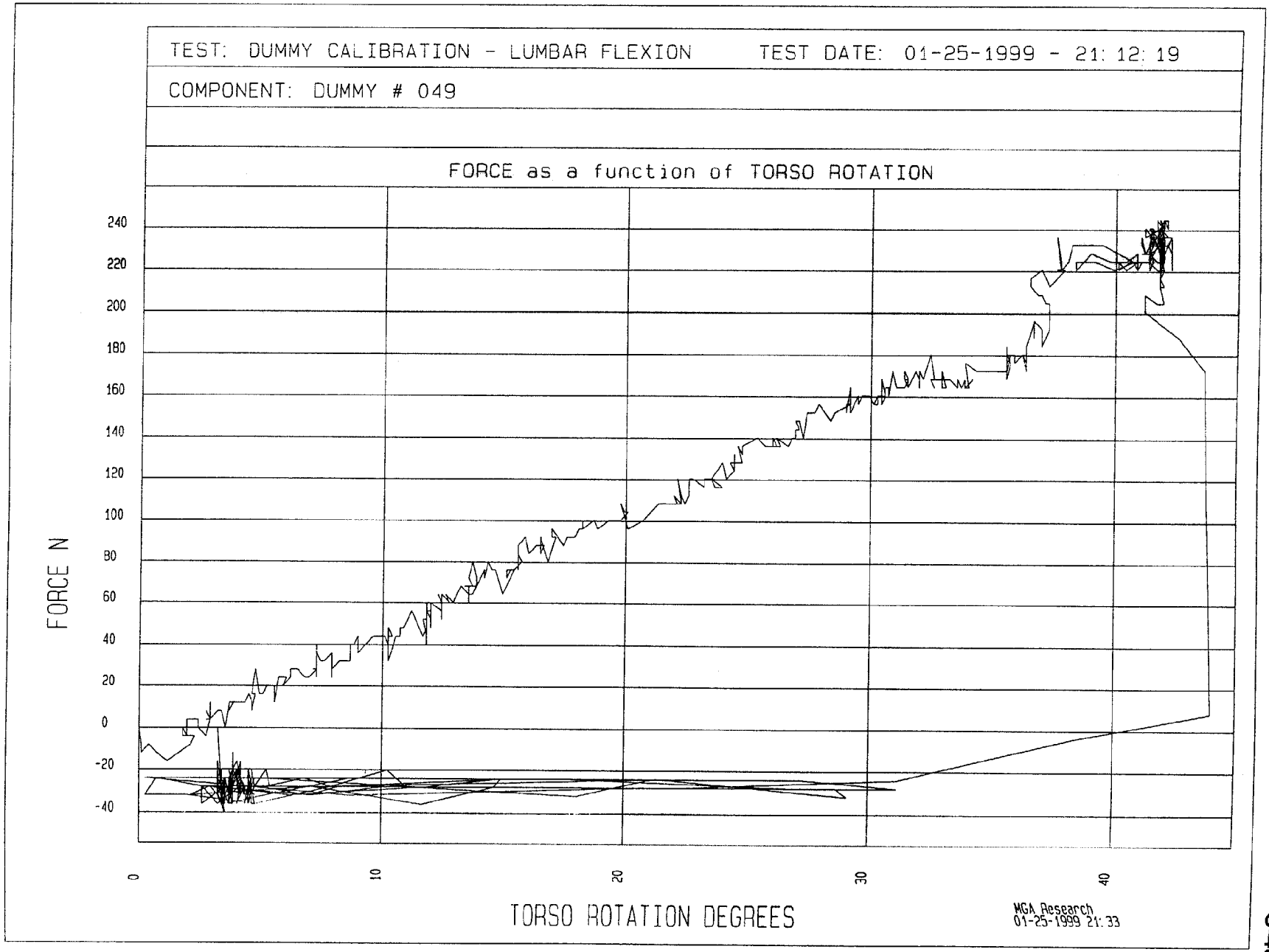
DUMMY SERIAL NUMBER: 049 TEST NUMBER: D99255

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.0
RELATIVE HUMIDITY (%)	10 - 70	26
FORCE @ 0°	0 - 26.7	0
FORCE @ 20°	97.9 - 151.2	104.4
FORCE @ 30°	151.2 - 204.6	156.5
FORCE @ 40°	204.6 - 258.0	224.8
RETURN ANGLE	12° maximum	4

TEST MEETS SPECIFICATIONS

TECHNICIAN _____

APPROVED BY _____


TEST: DUMMY CALIBRATION - LUMBAR FLEXION
TEST DATE: 01-25-1999 - 21: 12: 19
COMPONENT: DUMMY # 049
FORCE as a function of TORSO ROTATION
FORCE N
240
220
200
180
160
140
120
100
80
60
40
20
0
-20
-40
0
10
20
30
40
TORSO ROTATION DEGREES
MGA Research
01-25-1999 21: 33

POST-TEST CERTIFICATION DATA

Dummy Serial Number: 048

Calibration Test Results Summary

Dummy Serial Number: 048

Post-Test Calibration

External Dimensions:	The dummy passed all external dimension requirements.
Thorax Impact Test:	The thorax passed all impact test requirements.
Pelvic Impact Test:	The pelvis passed all impact test requirements.
Abdominal Compression Test:	The abdomen passed all compression test requirements.
Lumbar Flexion Test:	The lumbar passed all flexion test requirements.

SIDE IMPACT DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA

DUMMY SERIAL NO.: 048 DATE OF VERIFICATION: January 25, 1999

DESCRIPTION	SPECIFICATION	TEST RESULTS
SH - Seated Height (mm)	889 - 909	904
RH - Rib Height (mm)	501 - 521	516
HP - Hip Pivot Height (mm)	99 ref.	99
RD - Rib From Back Line (mm)	229 - 241	233
KV - Knee Pivot From Back Line (mm)	511 - 526	524
SW - Knee Pivot to Floor (mm)	490 - 505	493
HW - Hip Width (mm)	356 - 391	371

MEASUREMENTS BY: _____

APPROVED BY: _____

MGA RESEARCH CORPORATION

THORAX IMPACT TEST

SIDE IMPACT DUMMY (SID)

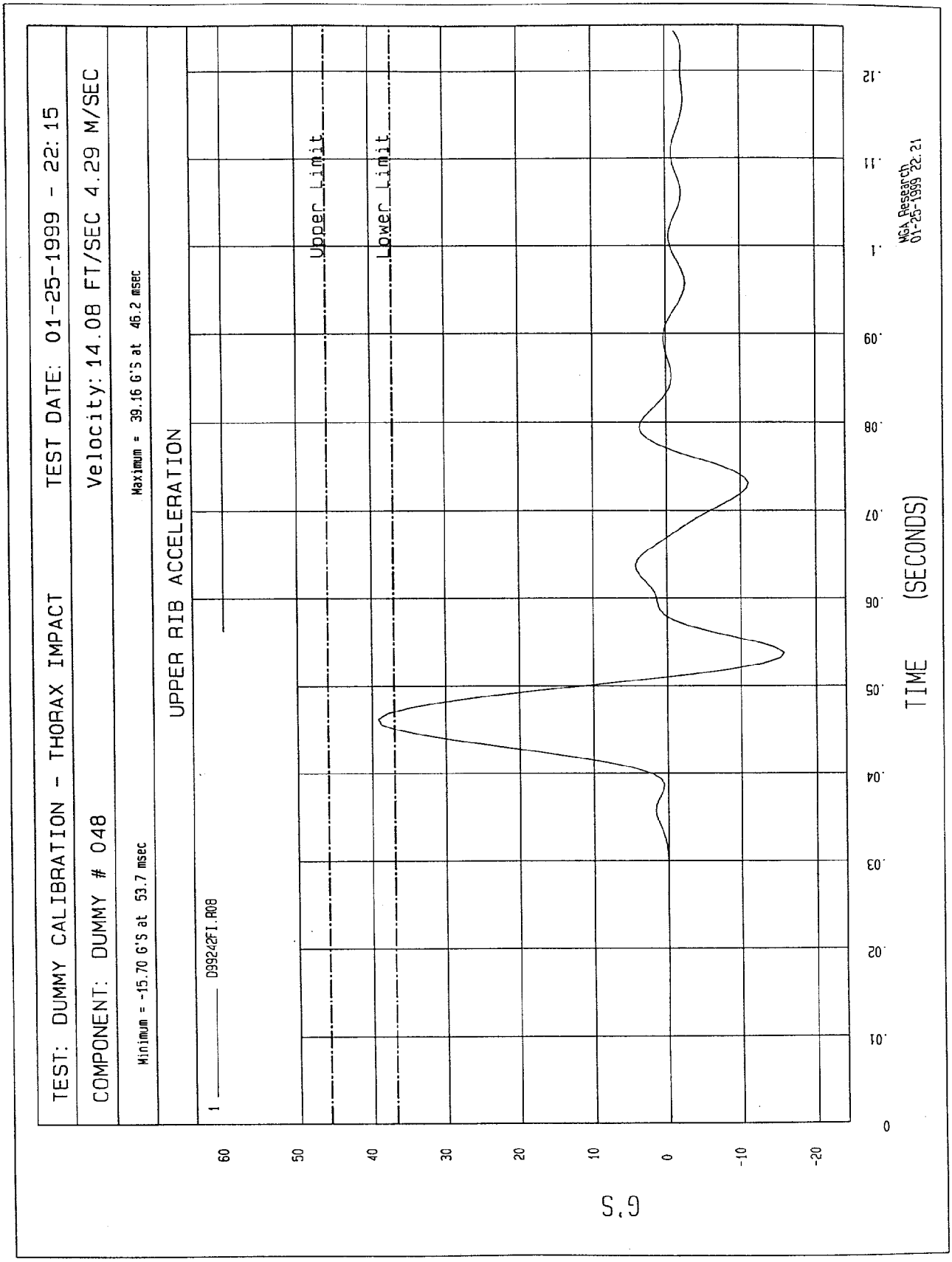
DATE: January 25, 1999

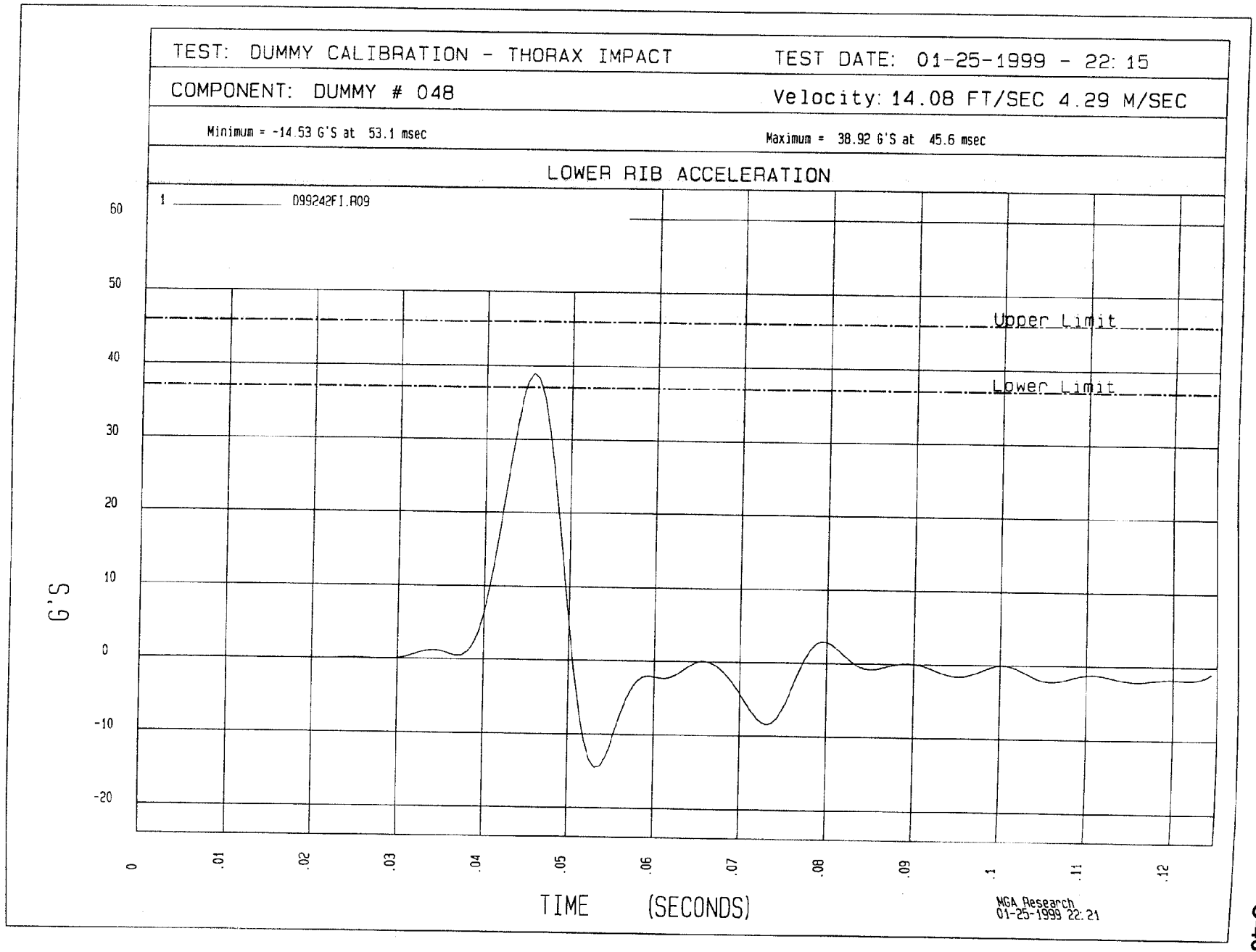
DUMMY SERIAL NUMBER: 048 TEST NUMBER: D99242

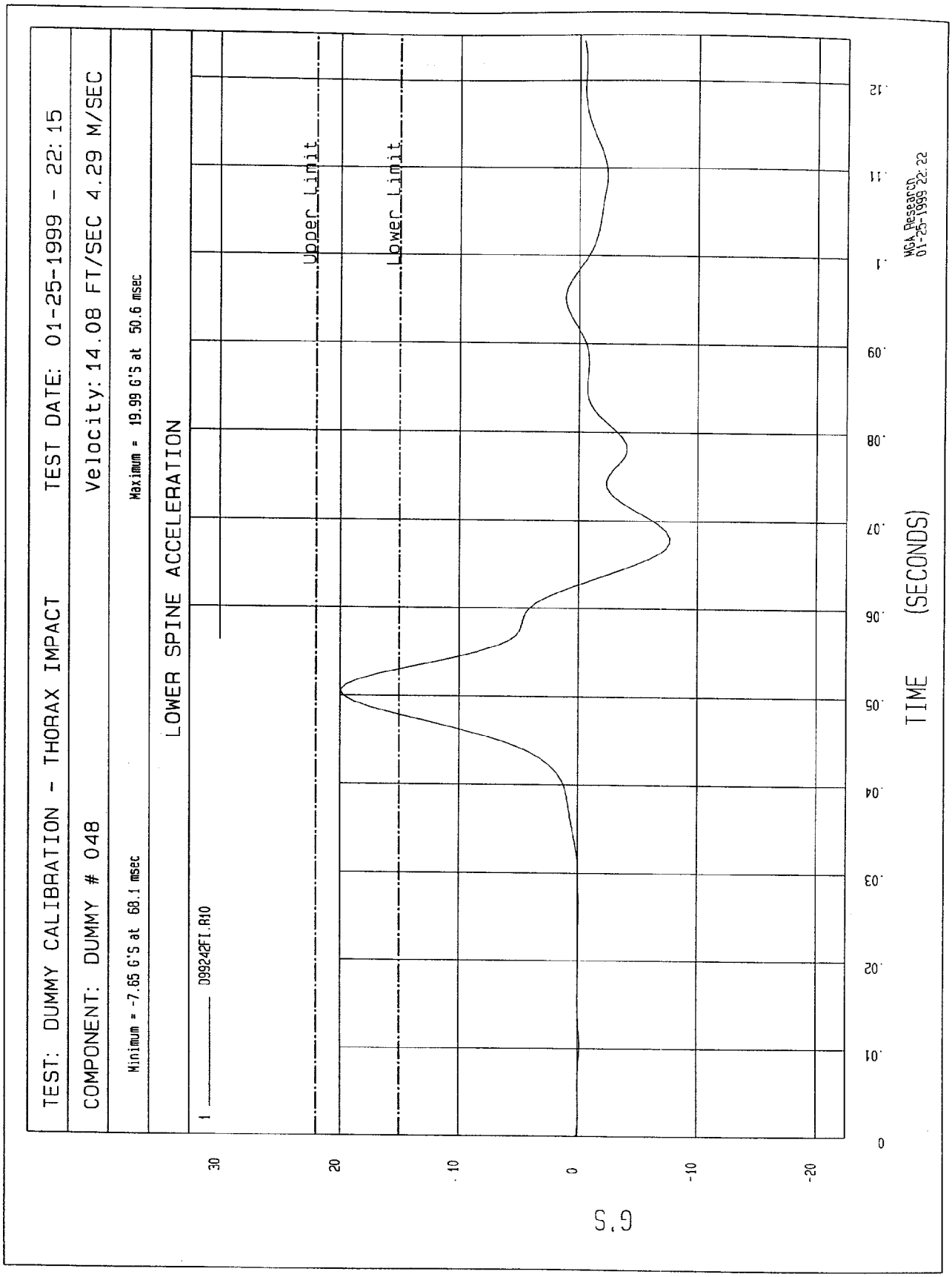
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.0
RELATIVE HUMIDITY (%)	10 - 70	26
PROBE SPEED (m/s)	4.27 - 4.33	4.29
UPPER RIB (g's)	37 - 46 g's	39
LOWER RIB (g's)	37 - 46 g's	39
LOWER SPINE (g's)	15 - 22 g's	20

TECHNICIAN _____

APPROVED BY _____


TEST: DUMMY CALIBRATION - THORAX IMPACT
TEST DATE: 01-25-1999 - 22:15
COMPONENT: DUMMY # 048
Velocity: 14.08 FT/SEC 4.29 M/SEC
Minimum = -15.70 G'S at 53.7 msec
Maximum = 39.16 G'S at 46.2 msec
UPPER RIB ACCELERATION
1 D9924FI.R08
Upper Limit
Lower Limit
G'S
60
50
40
30
20
10
0
-10
-20
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
TIME (SECONDS)
MGA Research
01-25-1999 22:21


TEST: DUMMY CALIBRATION - THORAX IMPACT
TEST DATE: 01-25-1999 - 22:15
COMPONENT: DUMMY # 048
Velocity: 14.08 FT/SEC 4.29 M/SEC
Minimum = -14.53 G'S at 53.1 msec
Maximum = 38.92 G'S at 45.6 msec
LOWER RIB ACCELERATION
1 099242FI.R09
Upper Limit
Lower Limit
60
50
40
30
20
10
0
-10
-20
G'S
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
TIME (SECONDS)
NGA Research
01-25-1999 22:21


TEST: DUMMY CALIBRATION - THORAX IMPACT
TEST DATE: 01-25-1999 - 22:15
COMPONENT: DUMMY # 048
Velocity: 14.08 FT/SEC 4.29 M/SEC
Minimum = -7.65 G'S at 68.1 msec
Maximum = 19.99 G'S at 50.6 msec
LOWER SPINE ACCELERATION
1 D99242FI.A10
Upper Limit
Lower Limit
30
20
10
0
-10
-20
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
TIME (SECONDS)
MGA Research
01-25-1999 22:22
6.5

MGA RESEARCH CORPORATION

PELVIS IMPACT TEST

SIDE IMPACT DUMMY (SID)

DATE: January 25, 1999

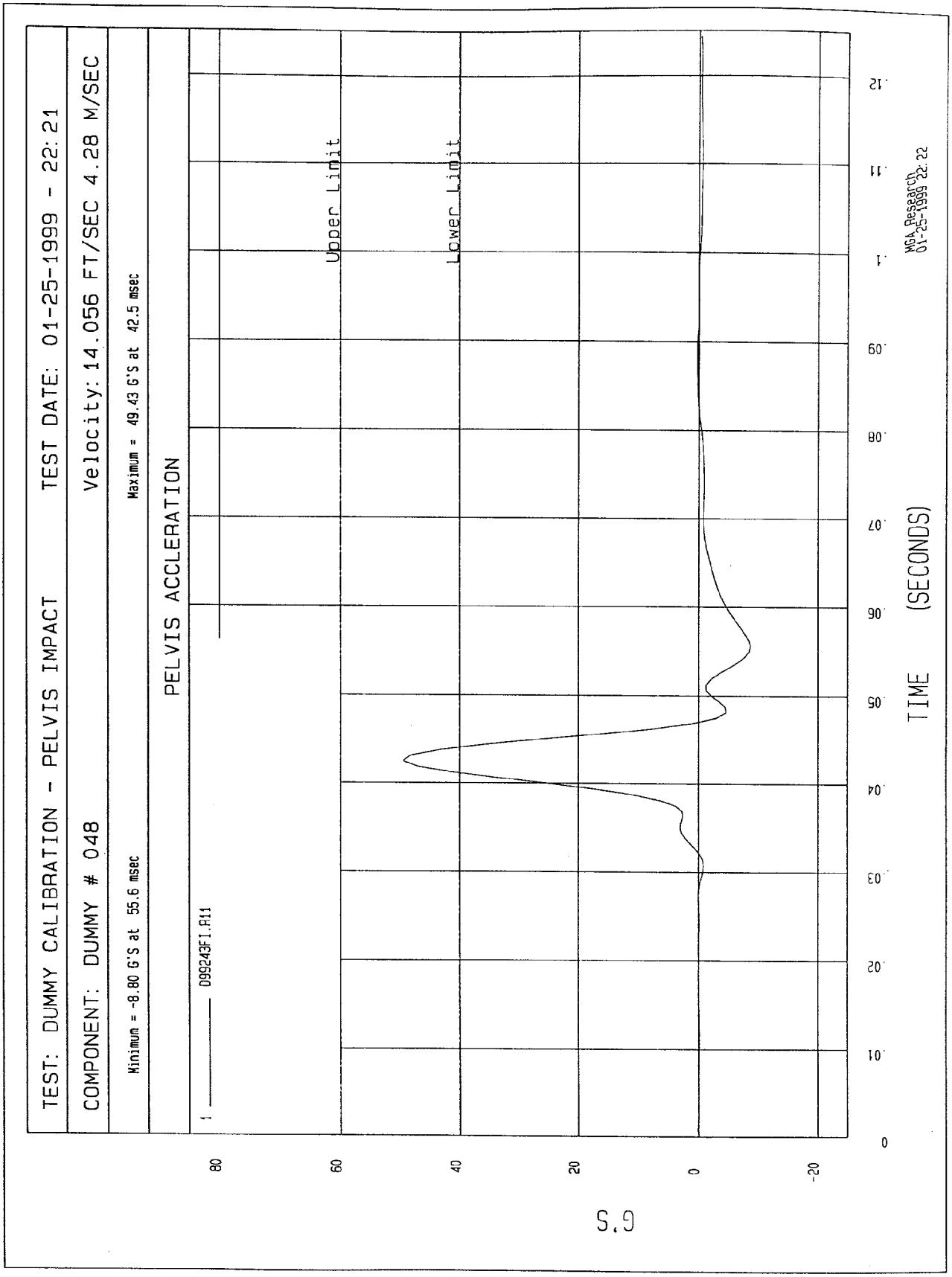
DUMMY SERIAL NUMBER: 048 TEST NUMBER: D99243

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.0
RELATIVE HUMIDITY (%)	10 - 70	26
PROBE SPEED (m/s)	4.27 - 4.33	4.28
PELVIS ACCELERATION (g's)	40 - 60	49

TEST MEETS SPECIFICATIONS

TECHNICIAN _____

APPROVED BY _____


TEST: DUMMY CALIBRATION - PELVIS IMPACT
TEST DATE: 01-25-1999 - 22:21
COMPONENT: DUMMY # 048
Velocity: 14.056 FT/SEC 4.28 M/SEC
Minimum = -8.80 G'S at 55.6 msec
Maximum = 49.43 G'S at 42.5 msec
PELVIS ACCLERATION
1 D99243FI.A11
Upper Limit
Lower Limit
80
60
40
20
0
-20
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
TIME (SECONDS)
MGA Research
01-25-1999 22:22
S.9

MGA RESEARCH CORPORATION

ABDOMINAL COMPRESSION TEST
(PRELOAD = 10 LBS)

SIDE IMPACT DUMMY (SID)

DATE: January 25, 1999

DUMMY SERIAL NUMBER: 048

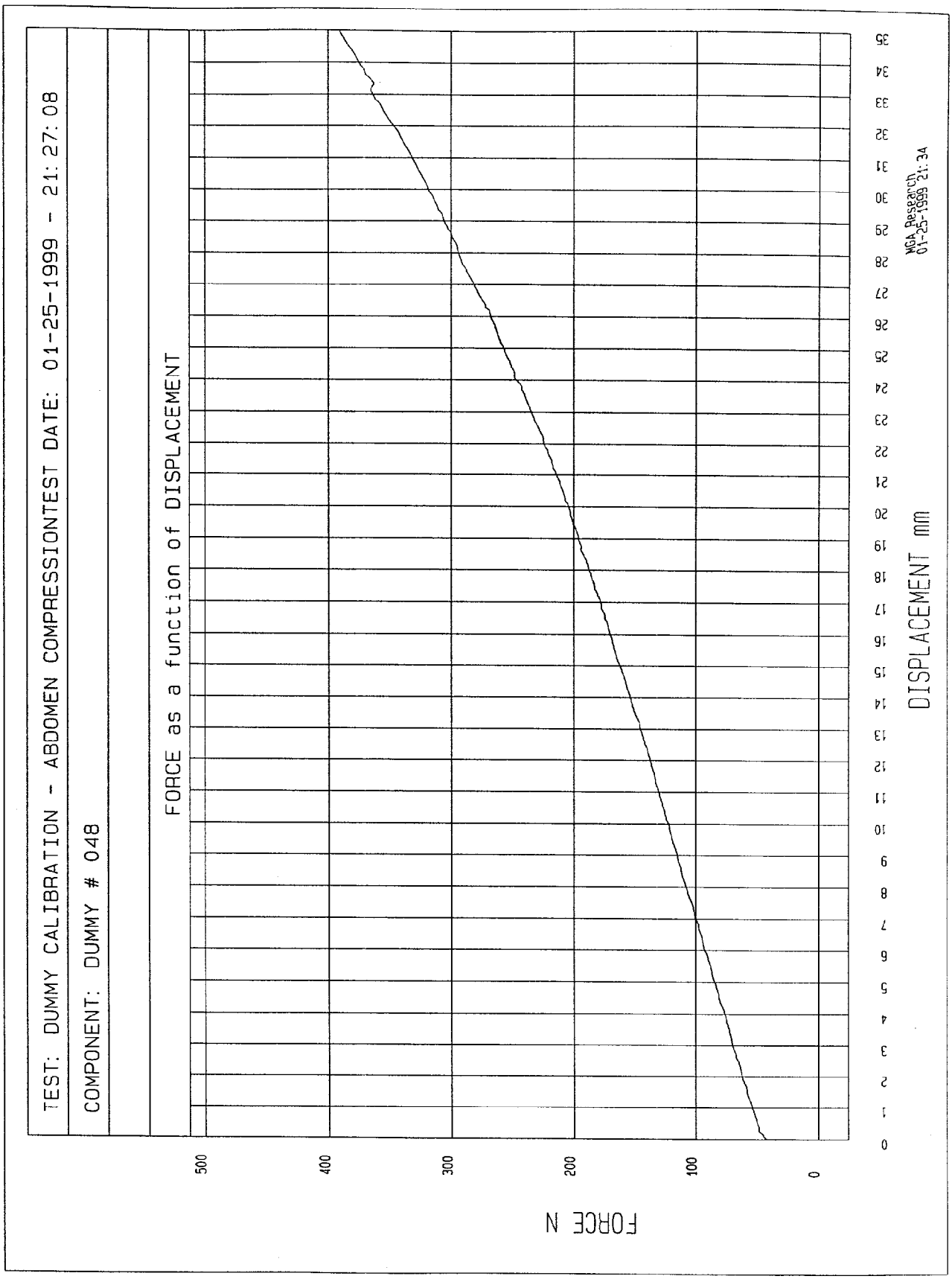
TEST NUMBER: D99244

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.0
RELATIVE HUMIDITY (%)	10 - 70	26
FORCE @ 12.7 mm	104 - 162	144
FORCE @ 19.0 mm	163 - 222	197
FORCE @ 25.4 mm	222 - 280	262
FORCE @ 33 mm	325 - 391	363

TEST MEETS SPECIFICATIONS

TECHNICIAN _____

APPROVED BY _____


TEST: DUMMY CALIBRATION - ABDOMEN COMPRESSIONTEST DATE: 01-25-1999 - 21:27:08
COMPONENT: DUMMY # 048
FORCE as a function of DISPLACEMENT
FORCE N
500
400
300
200
100
0
DISPLACEMENT mm
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
MGA Research
01-25-1999 21:34

MGA RESEARCH CORPORATION

LUMBAR FLEXION TEST

SIDE IMPACT DUMMY (SID)

DATE: January 25, 1999

DUMMY SERIAL NUMBER: 048 TEST NUMBER: D99245

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.0
RELATIVE HUMIDITY (%)	10 - 70	29
FORCE @ 0°	0 - 26.7	0
FORCE @ 20°	97.9 - 151.2	100.0
FORCE @ 30°	151.2 - 204.6	160.2
FORCE @ 40°	204.6 - 258.0	236.5
RETURN ANGLE	12° maximum	4

TEST MEETS SPECIFICATIONS

TECHNICIAN _____

APPROVED BY _____


TEST: DUMMY CALIBRATION - LUMBAR FLEXION TEST DATE: 01-25-1999 - 13:22:40
COMPONENT: DUMMY # 048
FORCE as a function of TORSO ROTATION
FORCE N
240
220
200
180
160
140
120
100
80
60
40
20
0
-20
-40
0
10
20
30
40
TORSO ROTATION DEGREES
MGA Research
01-25-1999 21:33

POST-TEST DRIVER DUMMY INSPECTION CHECKLIST

Type: Side Impact Dummy

Dummy Serial Number: 049

Inspected By: Tim Michnay

Date: January 25, 1999

Part	Items Checked	Comments
Skin	visual inspection	OK
Head	visual, ballast, accelerometer mount	OK
Neck	visual	OK
Spine box	visual, ballast, weldment, accelerometer mount	OK
Rib cage	visual, measure	OK
Sternum	visual	OK
Lumbar spine	visual	OK
Abdomen	visual	OK
Pelvis	visual, palpate, accelerometer mount	OK
Upper legs	visual	OK
Knees	visual	OK
Lower legs	visual, range of motion	OK
Ankles	visual, range of motion	OK
Feet	visual, range of motion	OK
Joints	1 to 2 g range	OK
Other		

NOTES: (include component/problem/action/reason):

POST-TEST PASSENGER DUMMY INSPECTION CHECKLIST

Type: Side Impact Dummy

Dummy Serial Number: 048

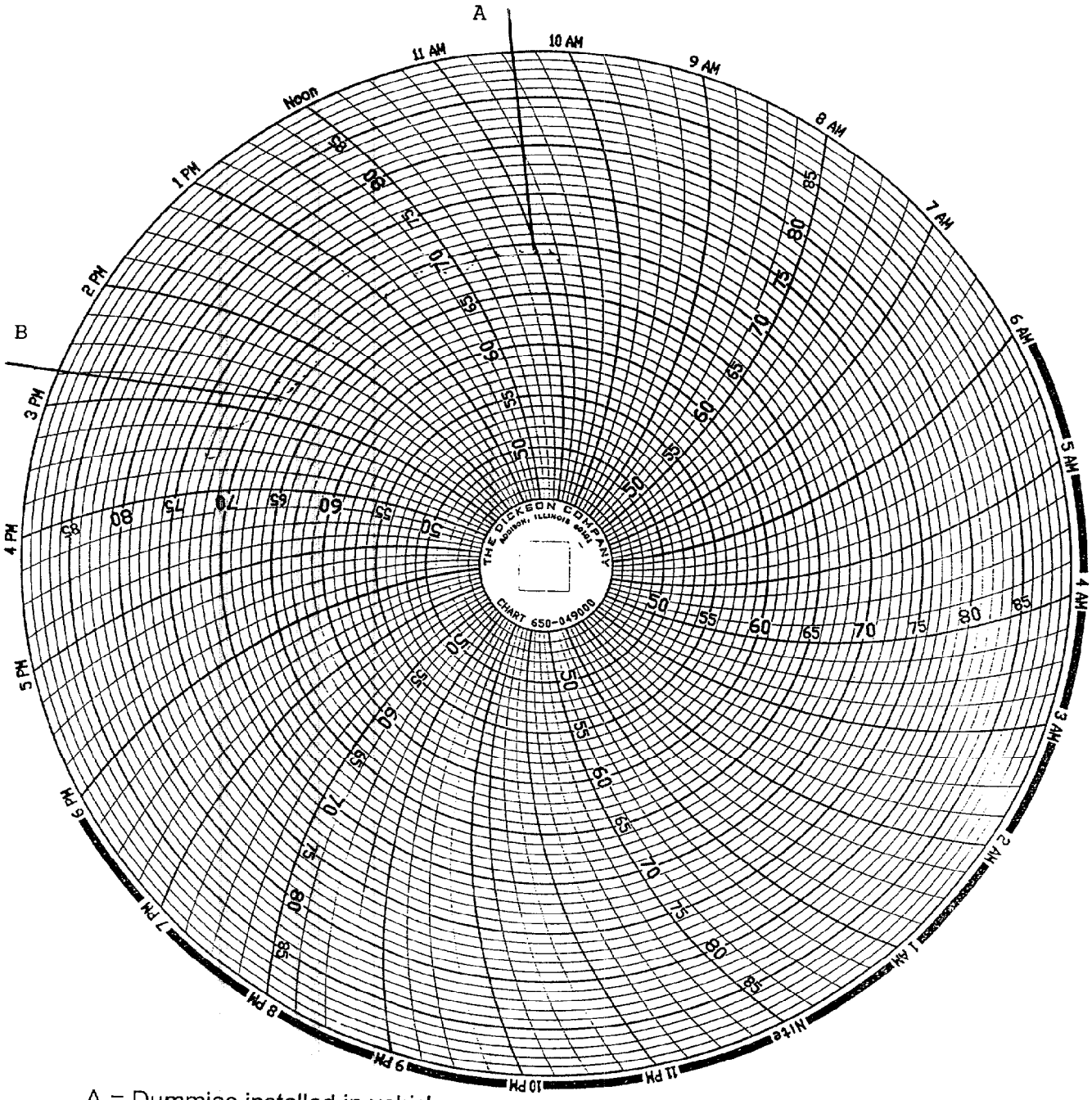
Inspected By: Tim Michnay

Date: January 25, 1999

Part	Items Checked	Comments
Skin	visual inspection	OK
Head	visual, ballast, accelerometer mount	OK
Neck	visual	OK
Spine box	visual, ballast, weldment, accelerometer mount	OK
Rib cage	visual, measure	OK
Sternum	visual	OK
Lumbar spine	visual	OK
Abdomen	visual	OK
Pelvis	visual, palpate, accelerometer mount	OK
Upper legs	visual	OK
Knees	visual	OK
Lower legs	visual, range of motion	OK
Ankles	visual, range of motion	OK
Feet	visual, range of motion	OK
Joints	1 to 2 g range	OK
Other		

NOTES: (include component/problem/action/reason):

VEHICLE AND DUMMY TEMPERATURE



A = Dummies installed in vehicle
B = Test conducted

APPENDIX D
TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

INSTRUMENTS FOR LEFT REAR PASSENGER DUMMY NO. 048

	LEFT REAR PASSENGER		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Upper Rib Y	AKAC4	Endevco	December 8, 1998
Lower Rib Y	J11630	Endevco	December 8, 1998
Lower Spine Y	J10431	Endevco	December 8, 1998
Pelvis Y	AJ9P7	Endevco	December 8, 1998
Upper Rib Redundant Y	J13642	Endevco	December 8, 1998
Lower Rib Redundant Y	J11166	Endevco	December 8, 1998
Lower Spine Redundant Y	AN9E3	Endevco	December 8, 1998
Pelvis Redundant Y	AJ462	Endevco	December 8, 1998

VEHICLE INSTRUMENT CALIBRATION

	VEHICLE AND MDB ACCELEROMETERS		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Moving Barrier CG X	K19-A11	Entran	August 27, 1998
Moving Barrier CG Y	K19-A15	Entran	August 27, 1998
Moving Barrier CG Z	K11-J17	Entran	August 28, 1998
Moving Barrier Rear Axle X	H02-J02	Entran	December 15, 1998
Moving Barrier Rear Axle Y	J04-F16	Entran	December 15, 1998
Left Mid A-Post Y	F18-G08	Entran	September 16, 1998
Left Lower A-Post Y	I26-D02	Entran	December 15, 1998
Left Mid B-Post Y	F20-G01	Entran	December 8, 1998
Left Lower B-Post Y	F20-G03	Entran	December 16, 1998
Rear Floorpan Above Axle X	K16-X10	Entran	August 27, 1998
Rear Floorpan Above Axle Y	F12-G09	Entran	December 21, 1998
Rear Floorpan Above Axle Z	F07-A16	Entran	December 16, 1998
Driver Seat Track Y	J04-F10	Entran	December 16, 1998
Right Side Sill at Front Seat X	F11-G08	Entran	December 21, 1998
Right Side Sill at Front Seat Y	E10-F03	Entran	December 21, 1998
Right Side Sill at Front Seat Z	I25-J05	Entran	September 24, 1998
Right Side Sill at Rear Seat X	E13-D18	Entran	December 21, 1998
Right Side Sill at Rear Seat Y	J06-D19	Entran	December 21, 1998
Right Side Sill at Rear Seat Z	J13-F18	Entran	December 21, 1998
Left Side Sill at Front Seat Y	C06-G08	Entran	August 8, 1998

VEHICLE INSTRUMENT CALIBRATION

	VEHICLE AND MDB ACCELEROMETERS		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Left Side Sill at Rear Seat Y	I26-D03	Entran	December 16, 1999
Rear Occupant Compartment Y	A09-G09	Entran	December 15, 1998
Vehicle CG X	G01-J10	Entran	December 15, 1998
Vehicle CG Y	I26-D09	Entran	December 15, 1998
Vehicle CG Z	F12-G05	Entran	December 15, 1998

Note: All Endevco accelerometers are Model No. 7264-2000. All Entran accelerometers are Model No. EGE-72