REPORT NO.: 214D-MGA-97-05

2480

NEW CAR ASSESSMENT PROGRAM
SIDE IMPACT TESTING
PASSENGER CARS

1997 FORD THUNDERBIRD
2 DOOR
NHTSA NO: MV0203

MGA PROVING GROUNDS
5000 WARREN ROAD
BURLINGTON, WI 53105

Test Date: December 4, 1996

Report Date: December 10, 1996

FINAL REPORT

Prepared For:

U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
SAFETY PERFORMANCE STANDARDS
OFFICE OF CRASHWORTHINESS STANDARDS
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7. Author(s) David Winkelbauer, Project Engineer	8. Performing Organization Report No. MGA-DOT-214D-05
9. Performing Organization Name and Address MGA Research Corporation 5000 Warren Road Burlington, WI 53105	10. Work Unit No. 11. Contract or Grant No. DTNH22-93-C-02047
12. Sponsoring Agency Name and Address U.S. Department of Transportation National Highway Traffic Safety Administration Office of Crashworthiness Standards 400 Seventh St., S.W., Washington, D.C. 20590	13. Type of Report and Period Covered Final Test Report December 4, 1996 to December 10, 1996 14. Sponsoring Agency Code NSA-30

15. Supplementary Notes

16. Abstract

A 90° Moving Deformable Barrier NCAP Side Impact was conducted on the subject 1997 Ford Thunderbird to obtain New Car Assessment and research data indicant of FMVSS No. 214D Performance. The test was conducted at MGA Research Corporation in Burlington, Wisconsin, on December 4, 1996.

The impact velocity of the Moving Deformable Barrier (MDB) was 61.4 kph, and the ambient temperature at the struck side (driver's) of the target vehicle at the time of impact was 22°C. The target vehicle post test maximum crush was 475 mm at level 3. The test vehicle's performance follows:

	DRIVER	PASS.
Left Upper Rib (LUR) Accel., g	71.5	94.8
Left Lower Rib (LLR) Accel., g	87.7	108.4
Lower Spine (T_{12}) Accel., g	93.4	100.3
Thoracic Trauma Index (TTI)	91	104
Pelvis (PEV) Accel., g	131.8	57.6

The door on the struck side of the vehicle did not separate from the body. The opposite doors did not open during the side impact event.

17. Key Words New Car Assessment Program (NCAP) FMVSS No. 214D Side Impact Dummy (SID) Occupant Side Impact Protection	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 Attn: Robert Hornickle

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Approved By: John Fleck
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Approval Date: 12-20-96

FINAL REPORT ACCEPTED BY (OCWS):

Accepted By:_____
Contract Technical Manager

Acceptance Date:_____

TABLE OF CONTENTS

SECTION 1

PURPOSE AND TEST PROCEDURE

This side impact test is part of the FY97 NCAP Side Impact Program, sponsored by the National Highway Traffic Safety Administration (NHTSA), under Contract No. DTNH22-93-C-02047. The purpose of this test was to evaluate side impact protection of a 1997 Ford Thunderbird.

This side impact test was conducted in accordance with the New Car Assessment Program Side Impact Testing Procedure dated October 1996.

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 1997 Ford Thunderbird 2 Door was impacted on the left or driver's side by a Moving Deformable Barrier (MDB) which was moving forward in a 27° crabbed position to the tow road guidance system at a velocity of 38.15 mph (61.4 kph). 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 December 4, 1996. 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 driver and left rear designated seating positions according to instructions specified in the New Car Assessment Program Side Impact Laboratory Test Procedure which is dated October 1996. 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 test:

Injury Criteria	Front SID	Rear SID
TTI (g)	91	104
Pelvis (g)	132	58

TEST NOTES

1. Because this was a 2 door vehicle, the rear door accelerometers were placed on the left rear quarter panel in the rear occupant compartment.

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: 1997/Ford/Thunderbird/2 Door

Vehicle NHTSA No.: MV0203 VIN: 1FALP6249VH104500

Vehicle Body Color: Green Build Date: 8/96

Engine Data: 6 Cylinders; __ CID; 3.8 Liter; ___cc

Placement X Longitudinal; ____ Lateral

Transmission: 3 Speed; __ Manual; X Automatic; X Overdrive

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

Odometer Reading 52 miles

Options: X A/C; X Pwr. Steering; X Pwr. Brakes; X Pwr. Windows;
X Cruise Control; X Tilt Wheel; X Power Door Locks;

DATA FROM TIRE PLACARD:

Tire Pressure (at capacity): 30 Psi FRONT
30 Psi REAR

Recommended Tire Size: P215/70R15

Tires on Test Vehicle: P215/70R15 Manufacturer: Firestone

Vehicle Capacity Data:

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

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

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

Vehicle Maximum Capacity Loading = 408.2 kg (A)

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

Cargo Capacity (A-B) = 68.0 kg

GENERAL VEHICLE TEST PARAMETER DATA (Cont'd)

WEIGHT OF TEST VEHICLE WITH MAXIMUM FLUIDS:

Right Front	= 455.0 kg	Right Rear	= 331.1 kg
Left Front	= 465.4 kg	Left Rear	= 342.0 kg
TOTAL FRONT =	920.4 kg	TOTAL REAR =	673.1 kg

% of Total Vehicle Weight = 57.8 %; % of Total Weight = 42.2 %

TOTAL WEIGHT = 1593.5 kg

GENERAL VEHICLE TEST PARAMETER DATA (Cont'd)

Year/Make/Model/Body Style: 1997/Ford/Thunderbird/2 Door

Vehicle NHTSA No.: MV0203 Test Date: December 4, 1996

CALCULATION OF VEHICLE'S TARGET TEST WEIGHT:

Total Test Vehicle Delivered Weight with Maximum Fluids	= 1593.5 kg
Cargo Carrying Capacity of Test Vehicle	= 68.0 kg
Weight of 2 Side Impact Dummies (2 x 80.7 kg.)	= 161.4 kg
TEST VEHICLE TARGET WEIGHT	= 1822.9 kg

ACTUAL WEIGHT OF TEST VEHICLE WITH 2 DUMMIES AND CARGO:

Right Front	= 480.8 kg	Right Rear	= 405.5 kg
Left Front	= 519.8 kg	Left Rear	= 408.2 kg
TOTAL FRONT	= 1000.6 kg	TOTAL REAR	= 813.7 kg
% of Total Weight	= 55.2 %	% of Total Weight	= 44.8 %

TOTAL TEST WEIGHT = 1814.3 kg

TEST VEHICLE ATTITUDE:

CURB WEIGHT ATTITUDE:

Right Front 736 mm Left Front 740 mm Right Rear 769 mm Left Rear 751 mm

FULLY LOADED WEIGHT ATTITUDE:

Right Front 723 mm Left Front 719 mm Right Rear 726 mm Left Rear 703 mm

TEST ATTITUDE:

Right Front 729 mm Left Front 729 mm Right Rear 731 mm Left Rear 713 mm

GENERAL VEHICLE TEST PARAMETER DATA (Cont'd)

Test Vehicle Wheelbase: 2864 mm

C.G. = 1284 mm rearward of front wheel centerline

TOTAL VEHICLE LENGTH:

Right Side = 4787 mm

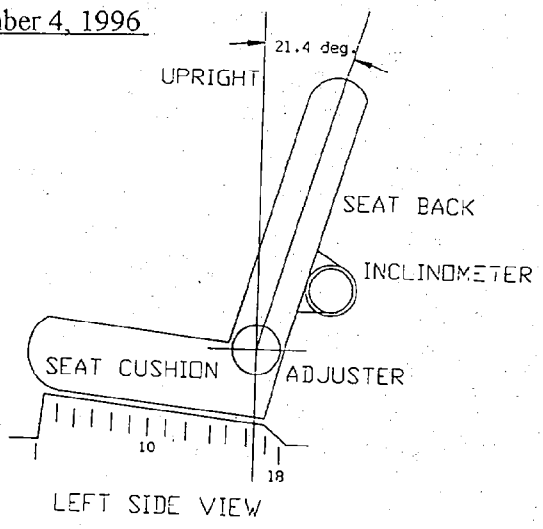
Centerline = 5042 mm

Left Side = 4787 mm

GENERAL VEHICLE TEST PARAMETER DATA (Cont'd)

Year/Make/Model/Body Style: 1997/Ford/Thunderbird/2 Door

Vehicle NHTSA No.: MV0203 Test Date: December 4, 1996



FRONT SEAT CUSHION PLACEMENT:

Total Length of Adjustment Travel: 220 mm

Test Position: 10th detent rearward of 18 total

FRONT SEAT BACK ADJUSTMENT POSITION:

Seat Back Angle = 21.4°

SECOND POSITION SEAT:

Total Length of Fore/Aft Adjustment Travel: Non-adjustable

Seat Back Adjustment Position: Non-adjustable

ADJUSTABLE STEERING COLUMN POSITION: Mid-Position

WINDOW POSITIONS: Left Front Closed Left Rear Closed

Right Front Open Right Rear Open

AMOUNT OF STODDARD SOLVENT IN FUEL TANK:

Fuel system usable capacity = 68.2 liters

Test Volume: 63.4 liters 93 % of capacity

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

Wheelbase: = 2864 mm

Impact Point is 492 mm rearward of front axle centerline

DATA SHEET NO. 2

TEST VEHICLE SUMMARY OF RESULTS

Year/Make/Model/Body Style: 1997/Ford/Thunderbird/2 Door

Vehicle NHTSA No.: MV0203 Test Date: December 4, 1996

Overall Length = 5042 mm; Overall Width = 1860 mm

TEST WEIGHT:

Right Front	= 480.8 kg	Right Rear	= 405.5 kg
Left Front	= 519.8 kg	Left Rear	= 408.2 kg
TOTAL FRONT	= 1000.6 kg	TOTAL REAR	= 813.7 kg
% of Total Weight	= 55.2 %	% of Total Weight	= 44.8 %

TOTAL VEHICLE WEIGHT = 1814.3 kg

Wheelbase = 2864 mm

Longitudinal C.G. from Center of Front Axle = 1284 mm

Impact Angle with Respect to Impactor = 90 ° degrees

MAXIMUM EXTERIOR STATIC CRUSH:

1. LEVEL 1 (238 mm above ground) = 159 mm
2. LEVEL 2 (471 mm above ground) = 432 mm
3. LEVEL 3 (576 mm above ground) = 475 mm
4. LEVEL 4 (835 mm above ground) = 361 mm
5. LEVEL 5 (1290 mm above ground) = -19 mm

Maximum Post-Test Intrusion = 475 mm

OCCUPANTS:	Left Front Passenger	Left Rear Passenger
Type of Dummy	SID	SID
Restraints Used	type II belt	type II belt

TEST VEHICLE SUMMARY OF RESULTS (Cont'd)

INSTRUMENTATION:

Number of Vehicle Data Channels:		= 7
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: 1997/Ford/Thunderbird/2 Door

Vehicle NHTSA No.: MV0203 Test Date: December 4, 1996

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	= 1102 mm
C.G. Location From Center Line	= -8 mm
C.G. Location Above Ground Level	= 488 mm

MDB WEIGHT:

Left Front	= 496.7 kg	Left Rear	= 187.3 kg
Right Front	= 283.0 kg	Right Rear	= 389.2 kg
TOTAL FRONT = 779.7 kg		TOTAL REAR = 576.5 kg	

TOTAL MDB WEIGHT = 1356.2 kg

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

Impact Speed = Primary: 38.15 mph (61.4 kph) Secondary: 38.22 mph (61.5 kph)

CRASH TEST SUMMARY FOR SIDE IMPACTOR (Cont'd)

MAXIMUM STATIC CRUSH OF HONEYCOMB IMPACT FACE:

1. Row A Top of Stack (813 mm) = 159 mm
2. Row B Mid Stack (686 mm) = 75 mm
3. Row C Top of Bumper (533 mm) = 108 mm
4. Row D Center of Bumper (432 mm) = 178 mm

INSTRUMENTATION:

Number of MDB Data Channels = 7

DATA SHEET NO. 4

POST-TEST OBSERVATIONS

Year/Make/Model/Body Style: 1997/Ford/Thunderbird/2 Door

Vehicle NHTSA No.: MV0203 Test Date: December 4, 1996

VISIBLE DUMMY CONTACT POINTS:

	LEFT FRONT SID	LEFT REAR SID
Head	to window sill, shoulder	to C-Post
Arm	to armrest	to trim panel
Pelvis	to armrest	to armrest
Left Knee	to door	to trim panel
Right Knee	to left knee	to left knee

DOOR OPENING:

	LEFT SIDE	RIGHT SIDE
Front	Did not separate from vehicle	Remained closed
Rear	N/A	N/A

MDB DISTANCE FROM TARGET IMPACT POINT:

Horizontal: 1 mm forward Vertical: 5 mm high

ARM REST LOCATIONS:

Front: 220 mm from bottom of window

Rear: 280 mm from bottom of window

POST-TEST OBSERVATIONS (Cont'd)

SEAT CRUSH:

Front Seat Back: 119 mm Front Seat Cushion: 150 mm

Left Rear Seat Back: 123 mm Rear Seat Cushion: 277 mm

GLAZING DAMAGE:

Left side windows broke, windshield cracked

PILLAR PERFORMANCE:

Striker ripped out of the B-Pillar

SILL SEPARATION:

Body panel separated from the sill from 1350 - 1800 mm after the impact point.

OTHER NOTABLE IMPACT EFFECTS:

None noted

SECTION 4

OCCUPANT AND VEHICLE INFORMATION

DATA SHEET NO. 5

SIDE IMPACT DUMMY (SID) INSTRUMENTATION DATA

Year/Make/Model/Body Style: 1997/Ford/Thunderbird/2 Door

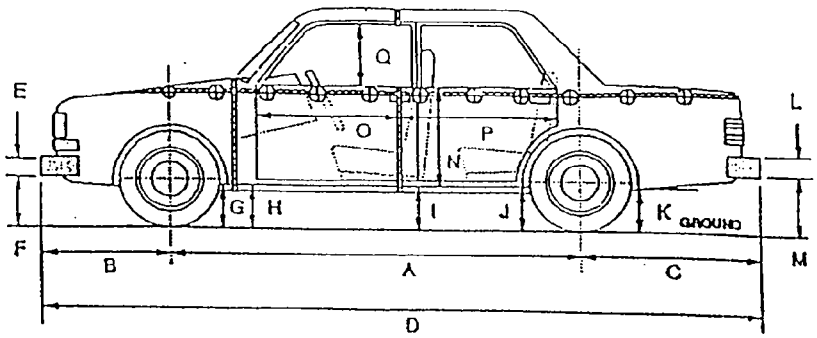
Vehicle NHTSA No.: MV0203 Test Date: December 4, 1996

	Front Dummy ID # 271				Rear Dummy ID # 272			
	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	71.5	30	29.3	70	94.8	50	14.7	75
Left Lower Rib (LLR) Y	87.7	30	25.8	69	108.4	38	26.4	86
SPINE ACCELERATIONS								
Lower Lateral Y	93.4	31	37.4	63	100.3	45	48.4	62
PELVIS ACCELERATIONS								
Lateral Y	131.8	26	43.4	50	57.6	42	31.7	73

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
E & L = Bumper Thickness

J1 = To Pinch Weld
J2 = To Sill

ALL MEASUREMENTS IN (mm)

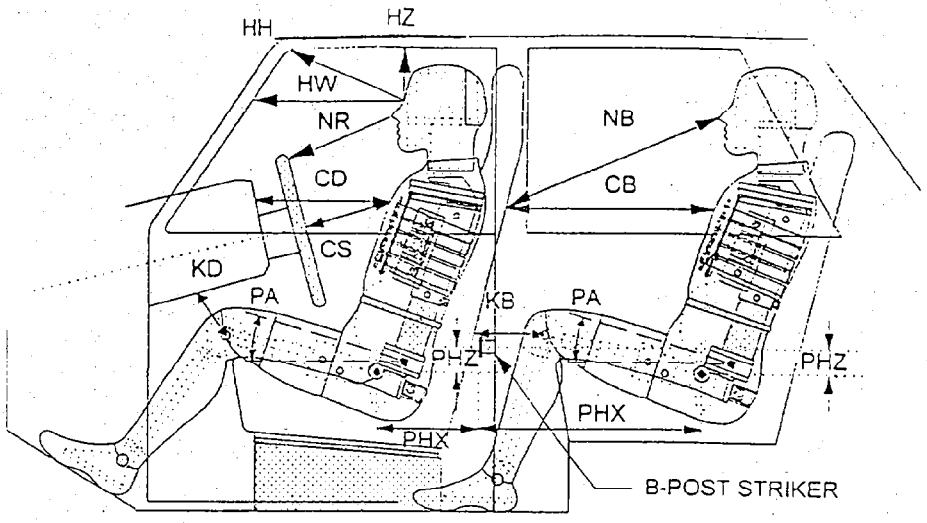
	PRE-TEST	POST-TEST	Δ CHANGE
A	2864	2863	1
B	1058	1074	-16
C	1120	1116	4
D	5042	5053	-11
E	152	152	0
F	372	402	30
G	221	221	0
H	160	150	10
I	173	123	50
J1/J2	175/175	152/136	23/39
K	242	239	3
L	310	310	0
M	280	300	20
N	684	575	109
O	804	758	46
P	656	650	6
Q	455	432	23
R	4787	4809	-22
S	4787	4774	13
T	1860	1655	205

DATA SHEET NO. 7

SIDE IMPACT DUMMY (SID) LONGITUDINAL CLEARANCE DIMENSIONS

Year/Make/Model/Body Style: 1997/Ford/Thunderbird/2 Door

NHTSA NO.: MV0203 Test Date: December 4, 1996



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

	DRIVER SID ID # 271
HH	330
HW	544
HZ	145
NR	410
CD	525
CS	320
KDL(KDA°)	185 (36.8°)
KDR(KDA°)	222 (0°)
PA°	23.6
PHX	520
PHZ	146

	LEFT REAR PASSENGER SID ID # 272
HZ	144
NB	613
CB	524
KBL (KBA)	186 (0.0)
KBR (KBA)	170 (0.0)
PA°	24.3
PHX	358
PHZ	164

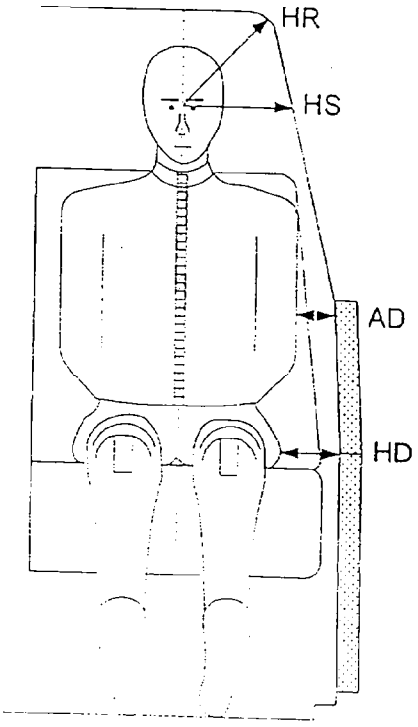
NOTE: 2-door vehicle shown. Rear dummy PHX & PHZ measurements for 4-door vehicle would use the C-post striker as reference point.

DATA SHEET NO. 8

SIDE IMPACT DUMMY (SID) LATERAL CLEARANCE DIMENSIONS

Year/Make/Model/Body Style: 1997/Ford/Thunderbird/2 Door

NHTSA NO.: MV0203 Test Date: December 4, 1996



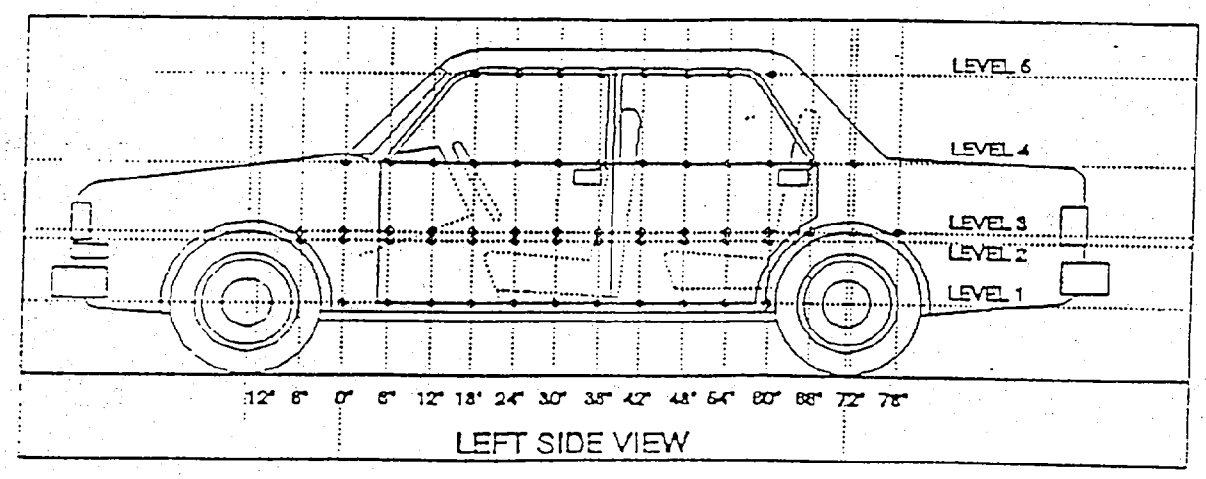
NOTE: All dimensions are in mm

	DRIVER SID ID # 271	LEFT REAR PASSENGER SID ID # 272
HR	195	178
HS	235	261
AD	134	132
HD	144	183

DATA SHEET NO. 9
VEHICLE SIDE MEASUREMENTS

Year/Make/Model/Body Style: 1997/Ford/Thunderbird/2 Door

NHTSA NO.: MV0203 Test Date: December 4, 1996



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

MEASUREMENTS ALONG THE VERTICAL 750 mm. LINE SHOWN ABOVE

Level 5 @ Window Top	= 1290 mm
Level 4 @ Window Sill	= 835 mm
Level 3 @ Mid Door	= 576 mm
Level 2 @ Occupant H-Point	= 471 mm
Level 1 @ Axle Centerline Height (or Sill Top Height)	= 238 mm

DATA SHEET NO. 10

VEHICLE EXTERIOR CRUSH PROFILES - ALL LEVELS

	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)	610	668	58
150	614	773	159
300	609	767	158
450	609	762	153
600	607	755	148
750	603	753	150
900	601	750	149
1050	602	748	146
1200	600	748	148
1350	597	747	150
1500	596	721	125
1650	598	700	102
1800	604	677	73
1950	609	657	48

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

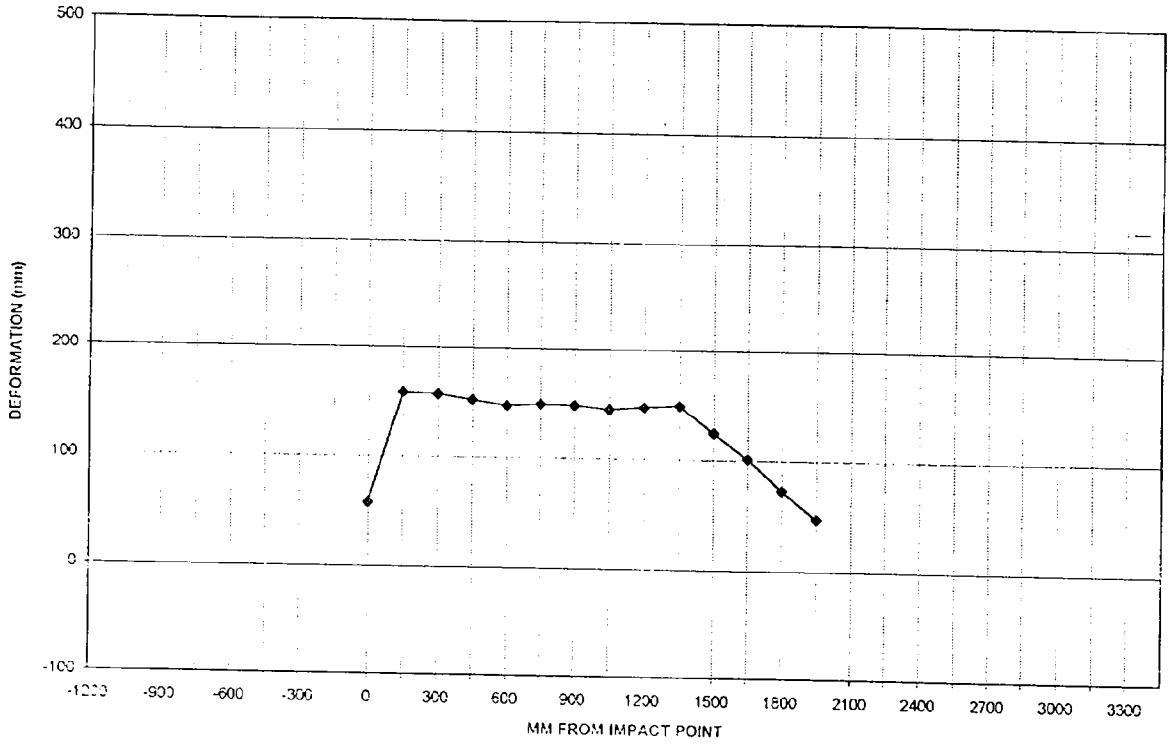
DATA SHEET NO. 10

VEHICLE EXTERIOR CRUSH PROFILES - ALL LEVELS

	Level 1 - Axle Centerline		
Longitudinal Distance (mm)	Pre-Test (mm)	Post-Test (mm)	Static Crush (mm)
2100			
2250			
2400			
2550			
2700			
2850			
3000			
3150			
3300			

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

VEHICLE EXTERIOR STATIC CRUSH



LEVEL 1 - AXLE CENTERLINE

DATA SHEET NO. 10

VEHICLE EXTERIOR CRUSH PROFILES - ALL LEVELS

	Level 2 - Occupant H Point		
Longitudinal Distance (mm)	Pre-Test (mm)	Post-Test (mm)	Static Crush (mm)
-1200	589	599	10
-1050	568	581	13
-900	550	562	12
-750			
-600			
-450			
-300			
-150			
0 (impact point)	514	619	105
150	514	784	270
300	505	837	332
450	501	861	360
600	498	869	371
750	497	873	376
900	496	879	383
1050	495	885	390
1200	496	889	393
1350	497	893	396
1500	517	949	432
1650	502	915	413
1800	507	834	327
1950	570	704	134

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

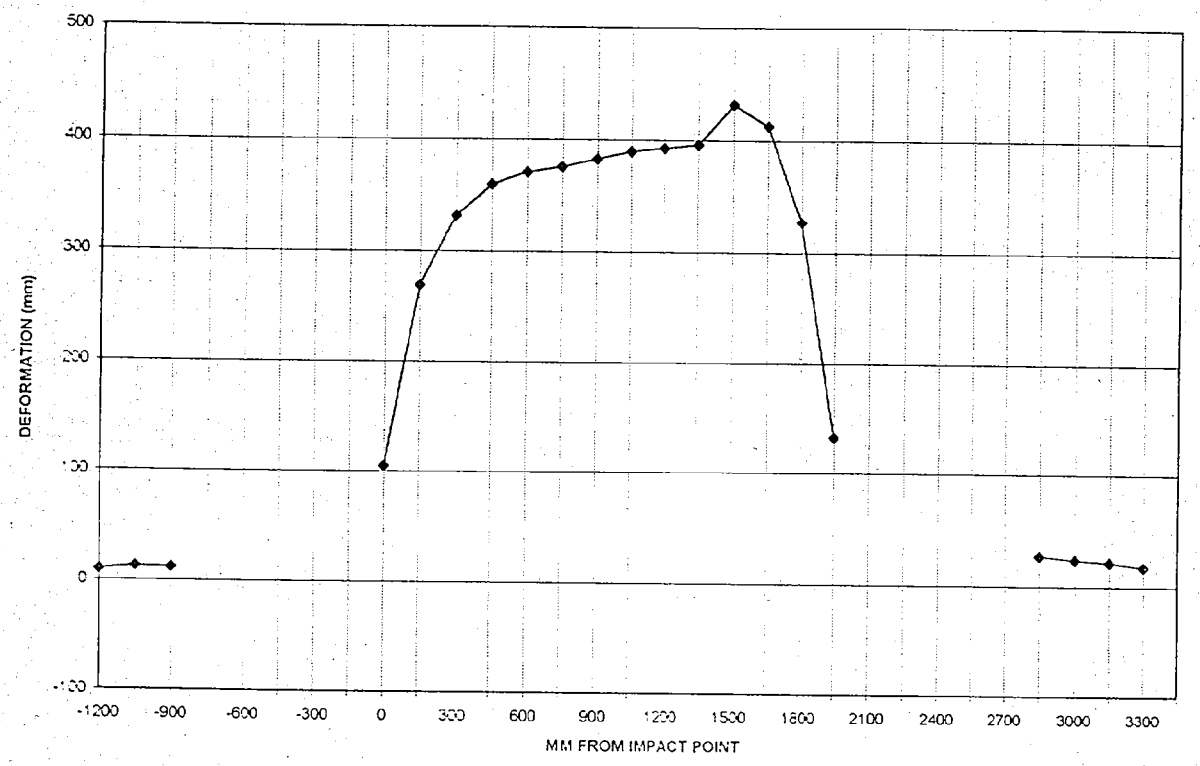
DATA SHEET NO. 10

VEHICLE EXTERIOR CRUSH PROFILES - ALL LEVELS

	Level 2 - Occupant H Point		
Longitudinal Distance (mm)	Pre-Test (mm)	Post-Test (mm)	Static Crush (mm)
2100			
2250			
2400			
2550			
2700			
2850	556	583	27
3000	572	596	24
3150	586	608	22
3300	604	622	18

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

VEHICLE EXTERIOR STATIC CRUSH



LEVEL 2 - OCCUPANT H-POINT

DATA SHEET NO. 10

VEHICLE EXTERIOR CRUSH PROFILES - ALL LEVELS

	Level 3 - Mid Door		
Longitudinal Distance (mm)	Pre-Test (mm)	Post-Test (mm)	Static Crush (mm)
-1200	578	591	13
-1050	563	574	11
-900			
-750			
-600			
-450			
-300			
-150	531	592	61
0 (impact point)	528	640	112
150	526	739	213
300	523	823	300
450	520	843	323
600	519	853	334
750	519	859	340
900	519	868	349
1050	519	871	352
1200	519	873	354
1350	520	866	346
1500	521	996	475
1650	521	957	436
1800	525	880	355
1950	529	745	216

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

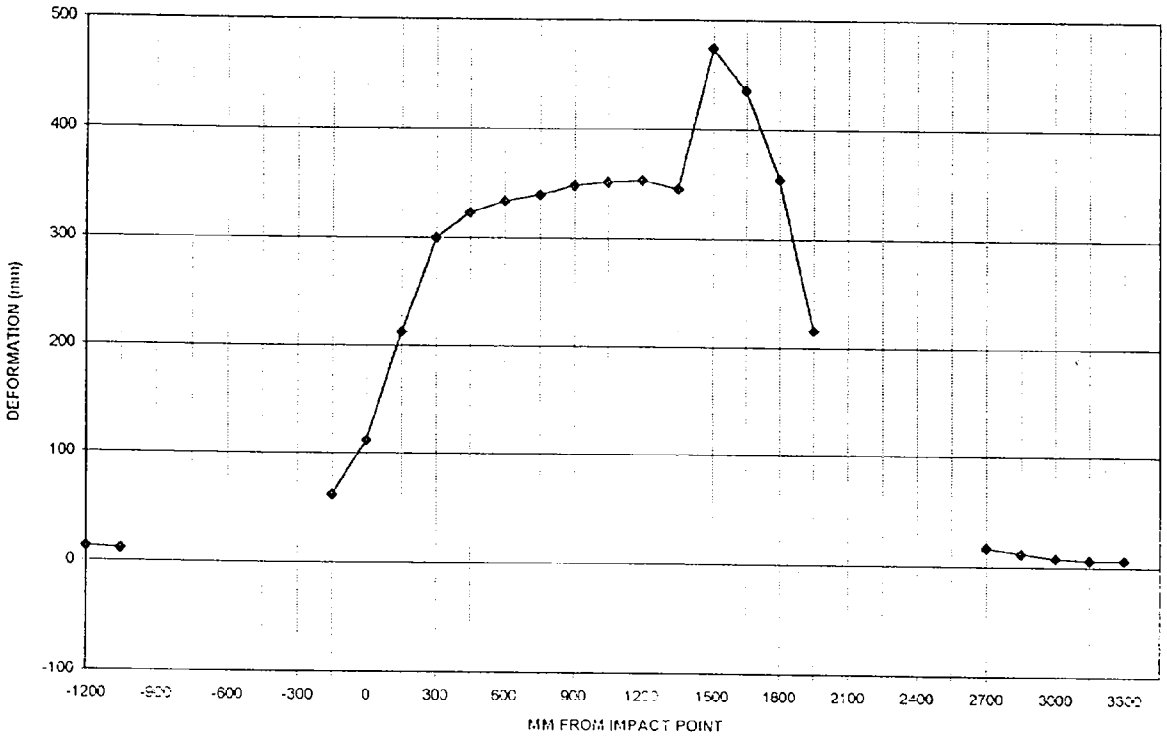
DATA SHEET NO. 10

VEHICLE EXTERIOR CRUSH PROFILES - ALL LEVELS

	Level 3 - Mid Door		
Longitudinal Distance (mm)	Pre-Test (mm)	Post-Test (mm)	Static Crush (mm)
2100			
2250			
2400			
2550			
2700	555	572	17
2850	566	578	12
3000	582	590	8
3150	599	605	6
3300	624	630	6

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

VEHICLE EXTERIOR STATIC CRUSH



LEVEL 3 - MID DOOR

DATA SHEET NO. 10

VEHICLE EXTERIOR CRUSH PROFILES - ALL LEVELS

	Level 4 - Window Sill		
Longitudinal Distance (mm)	Pre-Test (mm)	Post-Test (mm)	Static Crush (mm)
-1200	647	657	10
-1050	623	637	14
-900	603	630	27
-750	586	602	16
-600	575	595	20
-450	567	591	24
-300	562	593	31
-150	558	598	40
0 (impact point)	553	609	56
150	552	684	132
300	549	710	161
450	552	750	198
600	550	774	224
750	552	775	223
900	549	775	226
1050	549	782	233
1200	552	790	238
1350	553	797	244
1500	553	739	186
1650	555	916	361
1800	558	888	330
1950	562	778	216

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

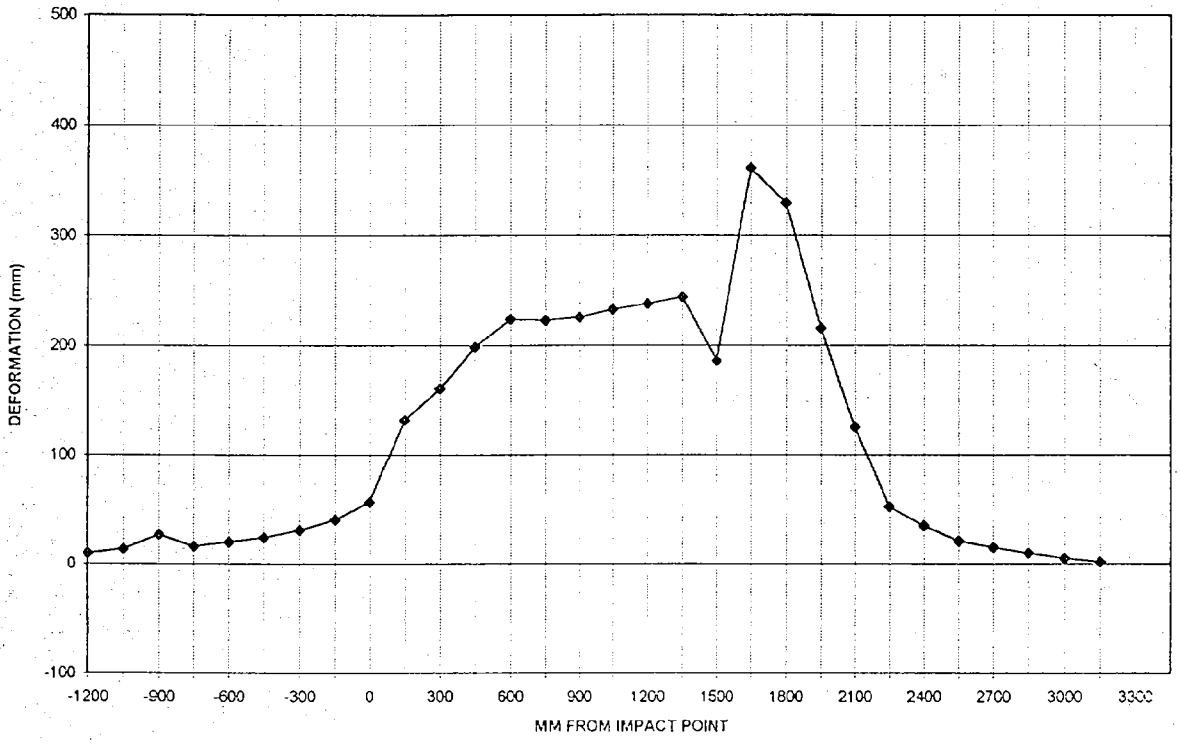
DATA SHEET NO. 10

VEHICLE EXTERIOR CRUSH PROFILES - ALL LEVELS

	Level 4 - Window Sill		
Longitudinal Distance (mm)	Pre-Test (mm)	Post-Test (mm)	Static Crush (mm)
2100	566	692	126
2250	572	624	52
2400	577	612	35
2550	586	607	21
2700	593	608	15
2850	602	612	10
3000	615	620	5
3150	632	634	2
3300			

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

VEHICLE EXTERIOR STATIC CRUSH



LEVEL 4 - WINDOW SILL

DATA SHEET NO. 10

VEHICLE EXTERIOR CRUSH PROFILES - ALL LEVELS

	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			
750			
900	801	715	-86
1050	802	712	-90
1200	802	712	-90
1350	802	711	-91
1500	802	864	-62
1650	802	846	-44
1800	802	832	-30
1950	805	824	-19

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

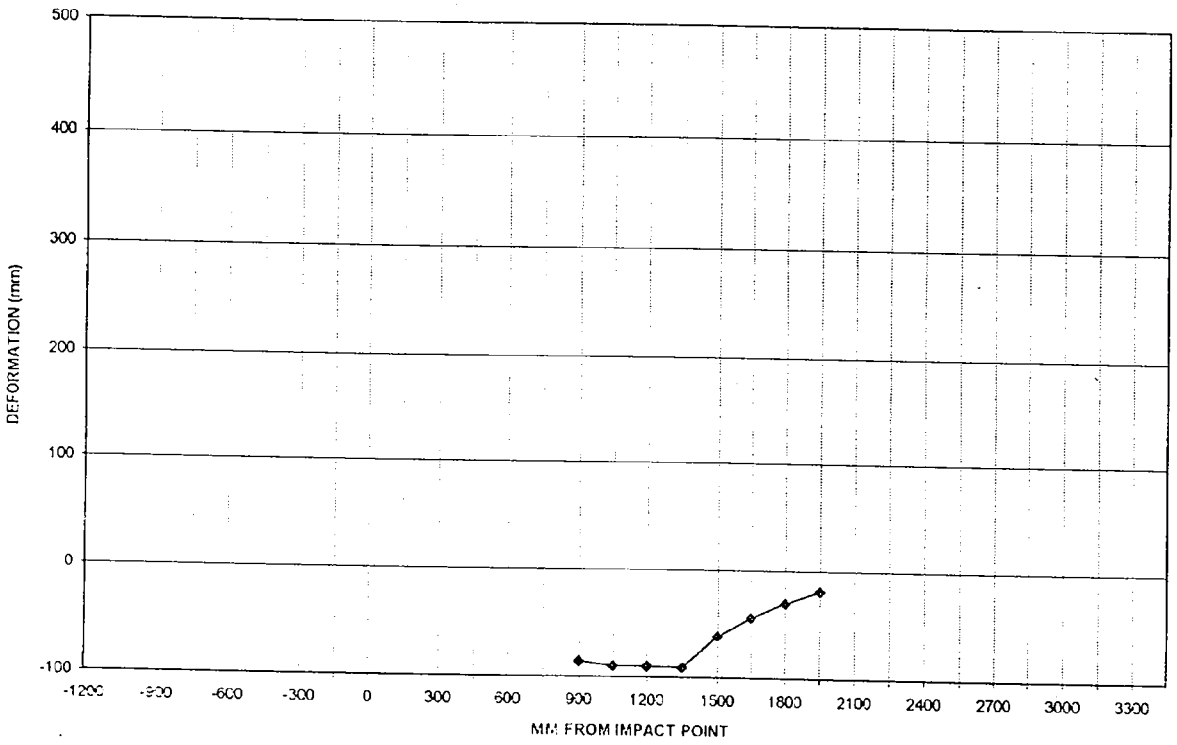
DATA SHEET NO. 10

VEHICLE EXTERIOR CRUSH PROFILES - ALL LEVELS

	Level 5 - Window Top		
Longitudinal Distance (mm)	Pre-Test (mm)	Post-Test (mm)	Static Crush (mm)
2100			
2250			
2400			
2550			
2700			
2850			
3000			
3150			
3300			

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

VEHICLE EXTERIOR STATIC CRUSH



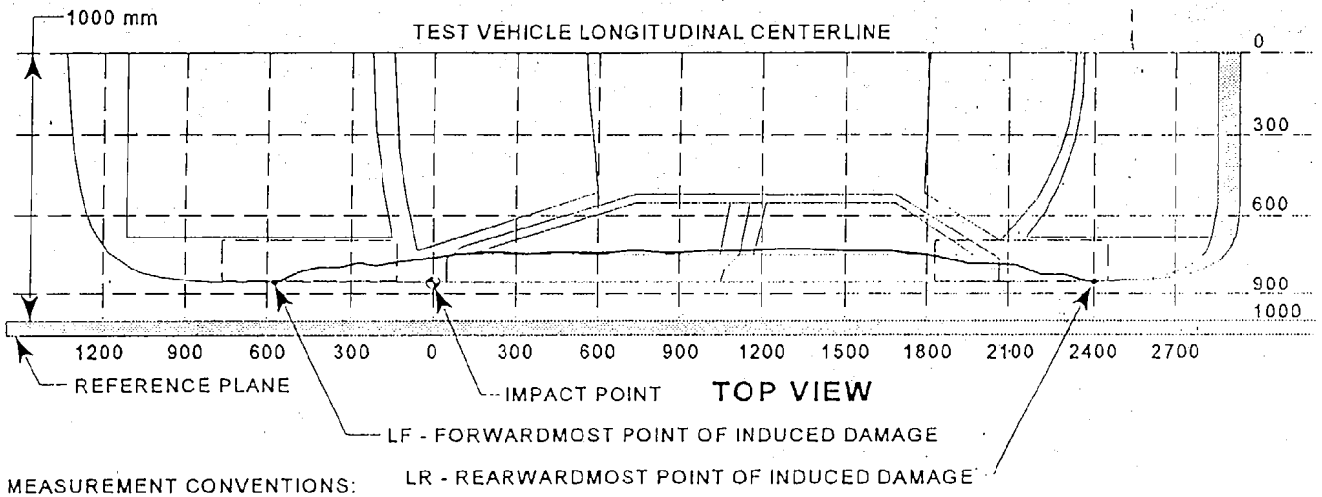
LEVEL 5 - WINDOW TOP

DATA SHEET NO. 11

VEHICLE DAMAGE PROFILE DISTANCES

Year/Make/Model/Body Style: 1997/Ford/Thunderbird/2 Door

NHTSA NO.: MV0203 Test Date: December 4, 1996



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)	578	578	0
2. -180 mm	592	531	61
3. 690 mm	859	519	340
4. 1560 mm	996	521	475
5. 2430 mm	572	555	17
6. (LR = 3300 mm)	630	630	0

DATA SHEET NO. 12

EXTERIOR STATIC CRUSH FOR SIDE IMPACTOR

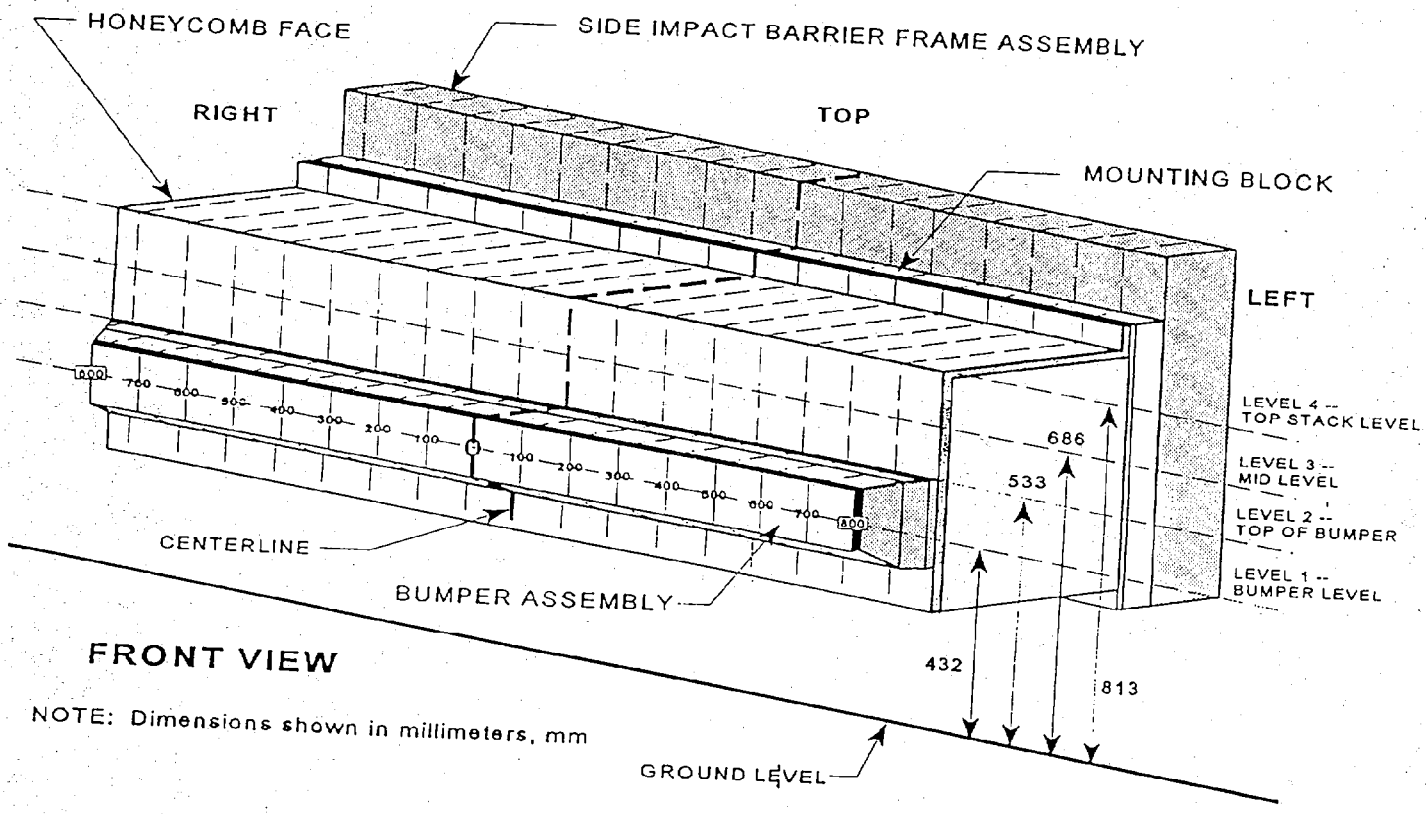
Year/Make/Model/Body Style: 1997/Ford/Thunderbird/2 Door

Vehicle NHTSA No.: MV0203 Test Date: December 4, 1996

		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	98	15	3	8	5	1	3	4	6	8	10	11	16	35	69	114	159
Mid Level Level 3	686 mm	59	21	9	9	9	8	3	4	4	5	5	5	9	1	11	28	75
Top Bumper Level 2	533 mm	108	68	36	22	18	14	15	15	18	23	25	26	30	34	42	52	62
Mid Bumper Level 1	432 mm	178	134	93	66	46	38	37	33	33	33	33	38	33	40	50	65	82

See next page for Barrier Face Graphic

DATA SHEET NO. 12 (Cont'd)

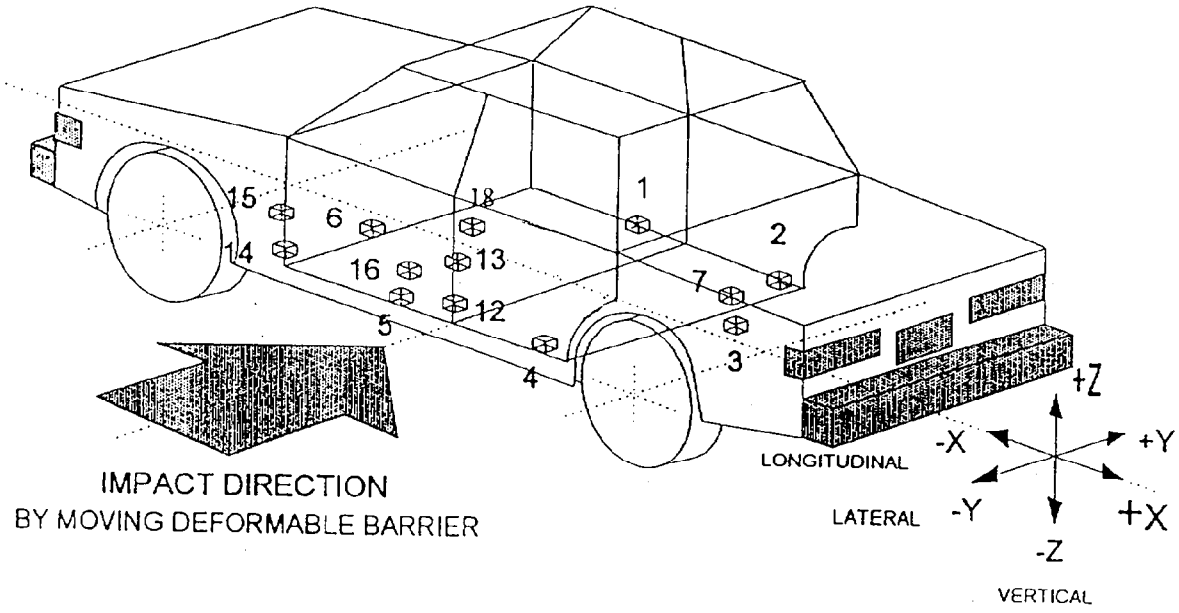


DATA SHEET 13

TEST VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Year/Make/Model/Body Style: 1997/Ford/Thunderbird/2-Door

Vehicle NHTSA No.: MV0203 Test Date: December 4, 1996



1 - Right Front Sill
2 - Right Rear Sill
3 - Rear Floorpan Above Axle
4 - Left Rear Sill
5 - Left Front Sill
6 - Left Mid Door
7 - Right Rear Occ. Compartment
12 - Left Lower B-Post
13 - Left Middle B-Post
14 - Left Lower A-Post
15 - Left Middle A-Post
16 - Front Seat Track
18 - Vehicle C.G.

DATA SHEET NO. 13

TEST VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Year/Make/Model/Body Style: 1997/Ford/Thunderbird/2 Door

Vehicle NHTSA No.: MV0203 Test Date: December 4, 1996

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	Rt. Side Sill @ Front Seat	2443	710	209	2.9	4.5	19.6	2.9	5.7	8.3	21.2
2	Rt. Side Sill @ Rear Seat	1825	710	213	3.2	4.1	17.6	3.1	4.6	5.3	17.9
3	Rr. Floorpan Above Axle	1029	0	604	4.4	7.9	18.1	2.6	12.9	16.2	24.6
4	Left Side Sill @ Rr. Seat	1836	-710	211	---	---	39.4	19.0	---	---	---
5	Left Side Sill @ Frt. Seat	2453	-710	205	---	---	55.9	38.5	---	---	---
6	Left Front Door on Centerline	2611	-768	583	---	---	343.5	111.9	---	---	---
7	Right Rear Occupant Compartment	2086	430	236	---	---	18.7	3.0	---	---	---
8	Mid Rear of Left Front Door *	2127	-780	608	---	---	202.5	---	---	---	---
9	Left Front Door Upper Centerline	2599	-790	855	---	---	186.1	79.5	---	---	---
10	Left Rear Door Mid Rear**	1806	-796	658	---	---	145.3	---	---	---	---
11	Left Rear Door Upper Centerline	1793	-812	862	---	---	105.0	-83.0	---	---	---
12	Left Lower B-Post	2027	-796	461	---	---	****	****	---	---	---
13	Left Mid B-Post	2027	-812	855	---	---	141.0	165.5	---	---	---
14	Left Lower A-Post***	3369	-724	427	---	---	131.6	45.2	---	---	---
15	Left Mid A-Post	3372	-792	732	---	---	47.8	19.3	---	---	---
16	Driver Left Seat Track	2421	-620	258	---	---	82.9	22.9	---	---	---
18	Vehicle CG	2676	0	515	43.0	33.0	98.9	41.5	66.2	41.1	106.6

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

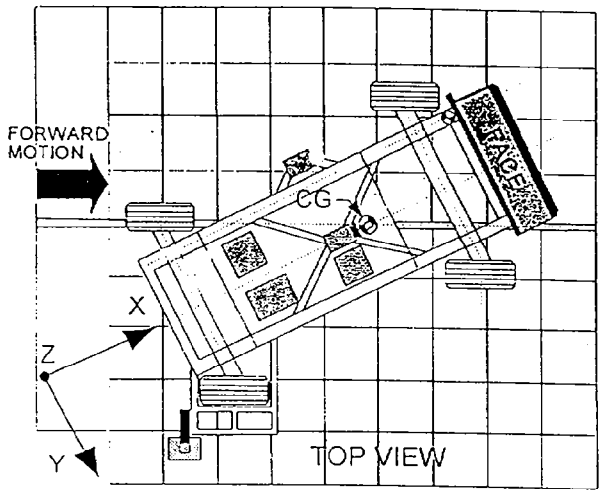
* No valid data after 16 msec.
** No valid data after 20 msec.
*** No valid data after 45 msec.
**** No valid data collected

DATA SHEET NO. 14

MOVING DEFORMABLE BARRIER (MDB) ACCELEROMETER LOCATIONS AND DATA SUMMARY

Year/Make/Model/Body Style: 1997/Ford/Thunderbird/2 Door

Vehicle NHTSA No.: MV0203 Test Date: December 4, 1996



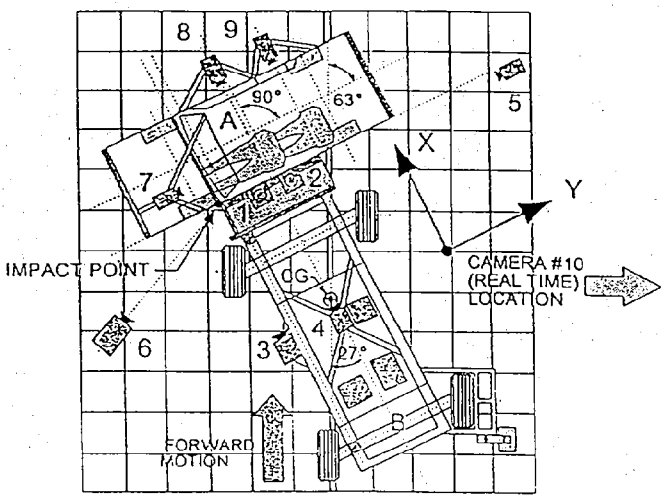
Accel. No.	Description	Coordinates (mm)*			(+) Positive		(-) Negative	
		X	Y	Z	Max. (g)	Time (msec)	Max. (g)	Time (msec)
1	MDB Center of Gravity	-1092	0	483				
	Longitudinal (X)	---	---	---	1.2	182	16.2	41
	Lateral (Y)	---	---	---	2.5	13	7.2	47
	Vertical (Z)	---	---	---	8.6	36	7.5	186
	Resultant (R)	---	---	---	18.8	36	---	---
2	Rear Frame Member	-2591	-625	622				
	Longitudinal (X)	---	---	---	2.3	183	21.2	31
	Lateral (Y)	---	---	---	3.7	34	-0.5	185

*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: 1997/Ford/Thunderbird/2 Door

Vehicle NHTSA No.: MV0203 Test Date: December 4, 1996



Camera No.	View	Coordinates (mm)*			Angle	Lens (mm)	Film Speed (fps)
		X	Y	Z			
	Real Time						
1	Left Impact	-990	-220	1640	90°	13	1010
2	Onboard Driver					8	877
3	Onboard Passenger					8	870
4	Onboard Hood					13	1000
5	Right Impact	-220	10500	1820	90°	25	943
6	Top Overall	-150	1140	5000	90°	8	1020
7	Top Impact	-120	50	5000	90°	13	917
8	Cart Overall					13	1026
9	Cart Pointer					35	976

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

DATA SHEET 16

FUEL SYSTEM INTEGRITY POST IMPACT TEST DATA

Vehicle Year/Make/Model/Body Style: 1997/Ford/Thunderbird/2 Door

Vehicle NHTSA No.: MV0203 Test Date: December 4, 1996

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 Side Impact MDB 38.15 mph (61.4 kph)

FUEL SPILLAGE MEASUREMENT:

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

FUEL SPILLAGE LOCATION(S): None

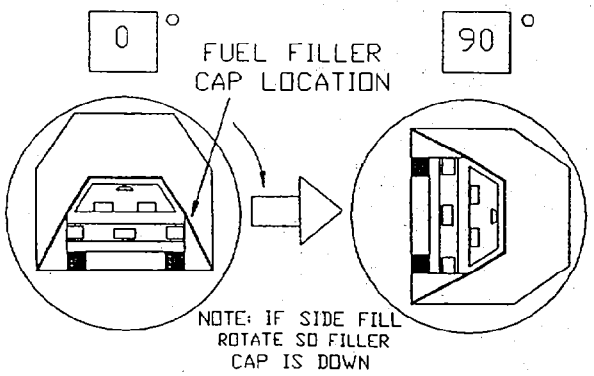
DATA SHEET 16

FMVSS 301 STATIC ROLLOVER TEST DATA

Vehicle Year/Make/Model/Body Style: 1997/Ford/Thunderbird/2 Door

Vehicle NHTSA No.: MV0203 Test Date: December 4, 1996

TEST PHASE: 0° - 90°



DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time = 2 minutes 45 seconds

(Spec. Range = 1 to 3 minutes)

FMVSS 301 Position Hold Time = 5 minutes 0 seconds

TOTAL TIME = 7 minutes 45 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

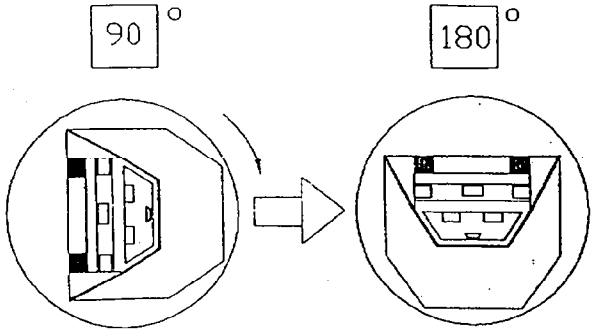
DATA SHEET 16

FMVSS 301 STATIC ROLLOVER TEST DATA (Cont'd)

Vehicle Year/Make/Model/Body Style: 1997/Ford/Thunderbird/2 Door

Vehicle NHTSA No.: MV0203 Test Date: December 4, 1996

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

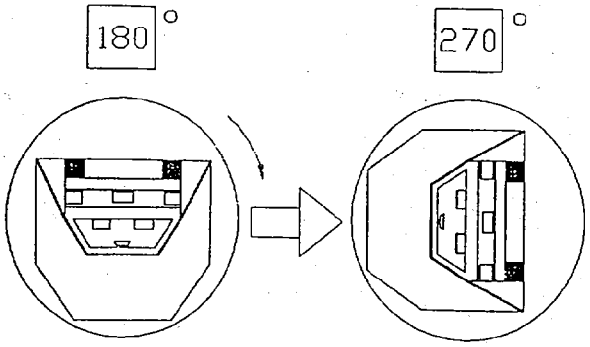
DATA SHEET 16

FMVSS 301 STATIC ROLLOVER TEST DATA (Cont'd)

Vehicle Year/Make/Model/Body Style: 1997/Ford/Thunderbird/2 Door

Vehicle NHTSA No.: MV0203 Test Date: December 4, 1996

TEST PHASE: 180° - 270°



DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time = 2 minutes 26 seconds

(Spec. Range = 1 to 3 minutes)

FMVSS 301 Position Hold Time = 5 minutes 0 seconds

TOTAL TIME = 7 minutes 26 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

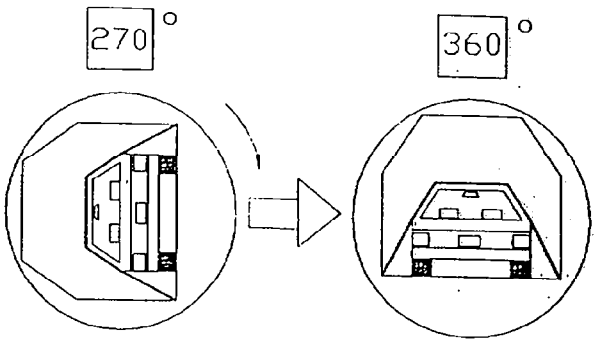
DATA SHEET 16

FMVSS 301 STATIC ROLLOVER TEST DATA

Vehicle Year/Make/Model/Body Style: 1997/Ford/Thunderbird/2 Door

Vehicle NHTSA No.: MV0203 Test Date: December 4, 1996

TEST PHASE: 270° - 360°



DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time = 2 minutes 44 seconds

(Spec. Range = 1 to 3 minutes)

FMVSS 301 Position Hold Time = 5 minutes 0 seconds

TOTAL TIME = 7 minutes 44 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

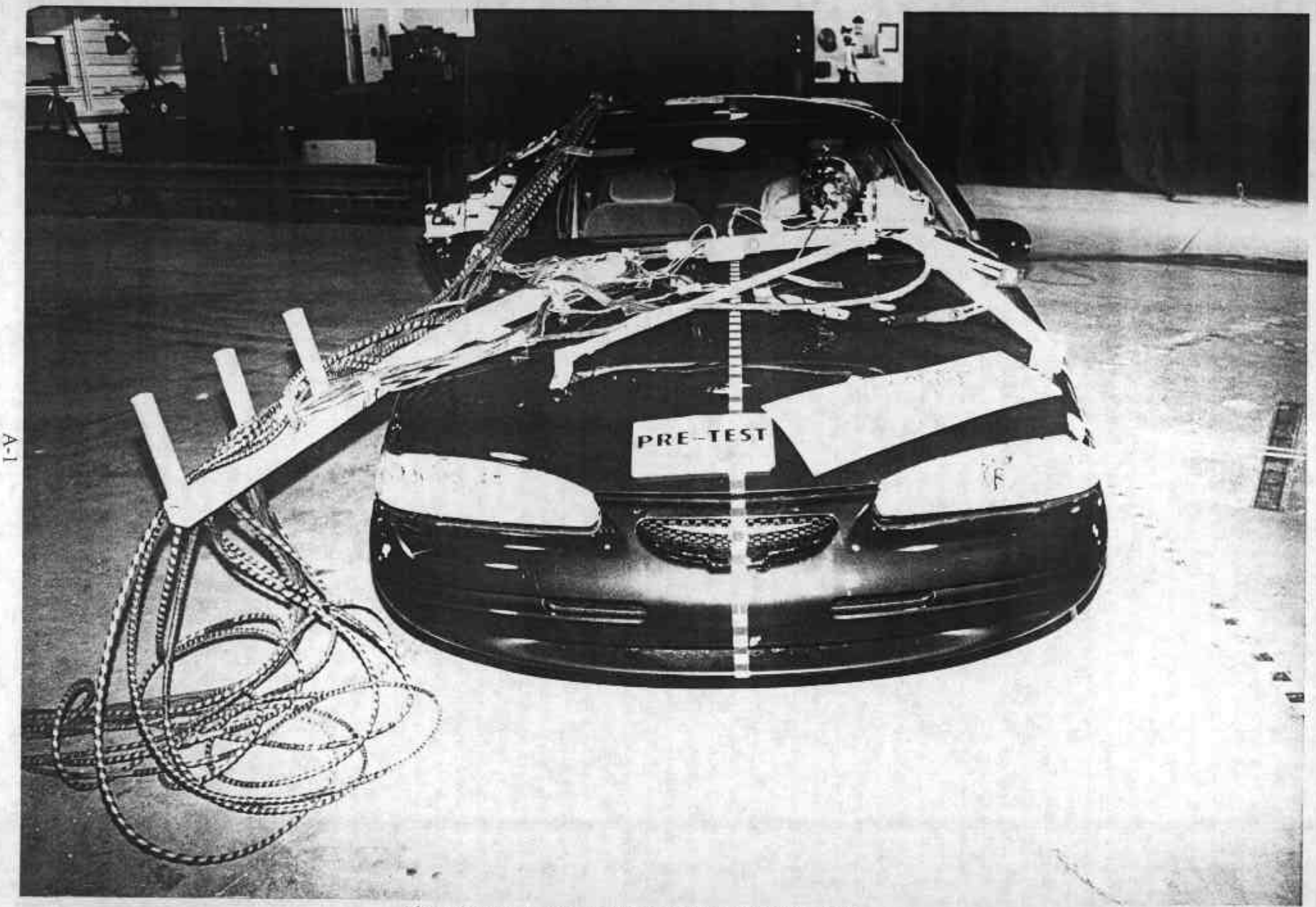


Photo No. A-1 - Pre-Test Front View of Test Vehicle

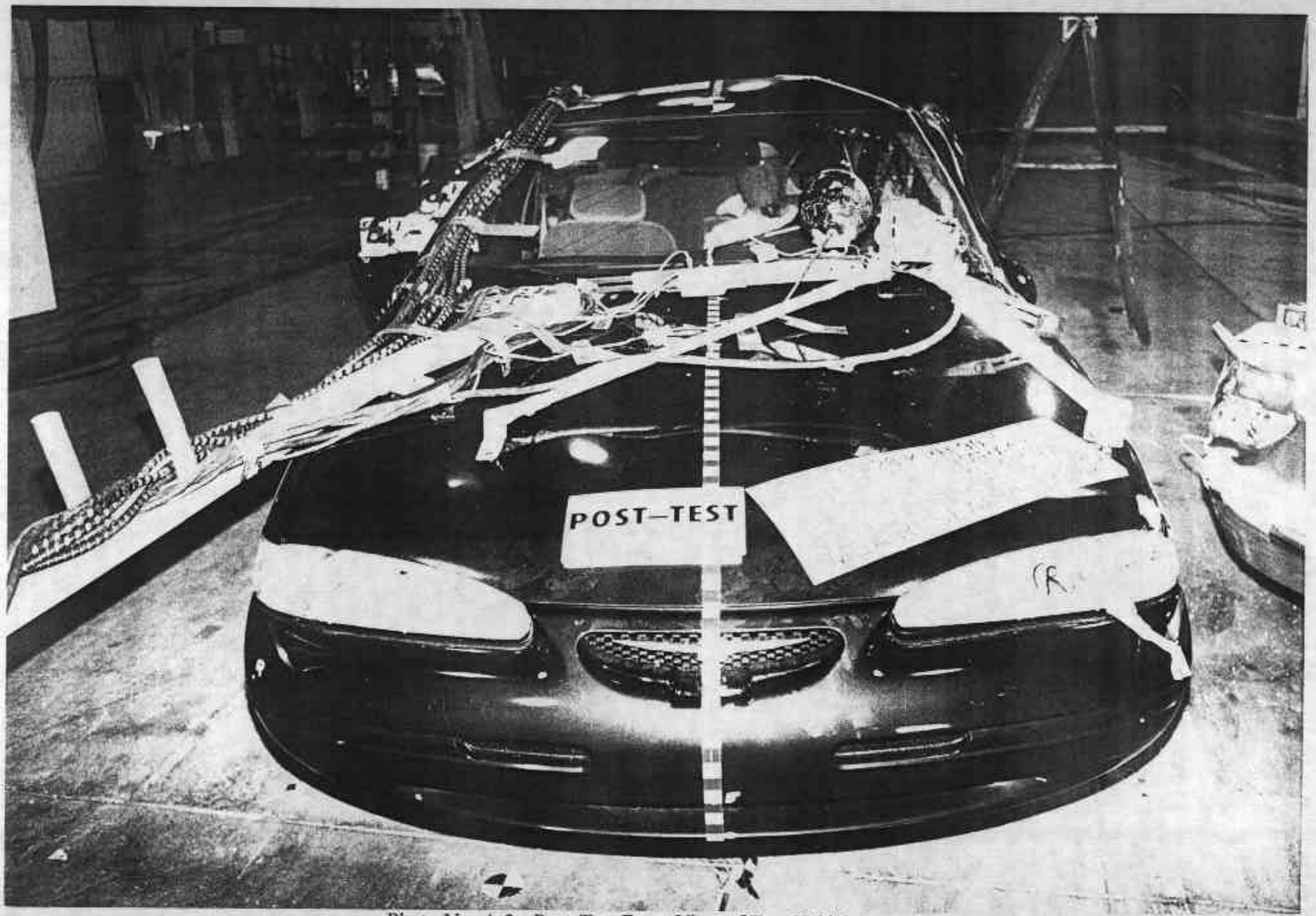


Photo No. A-2 - Post-Test Front View of Test Vehicle

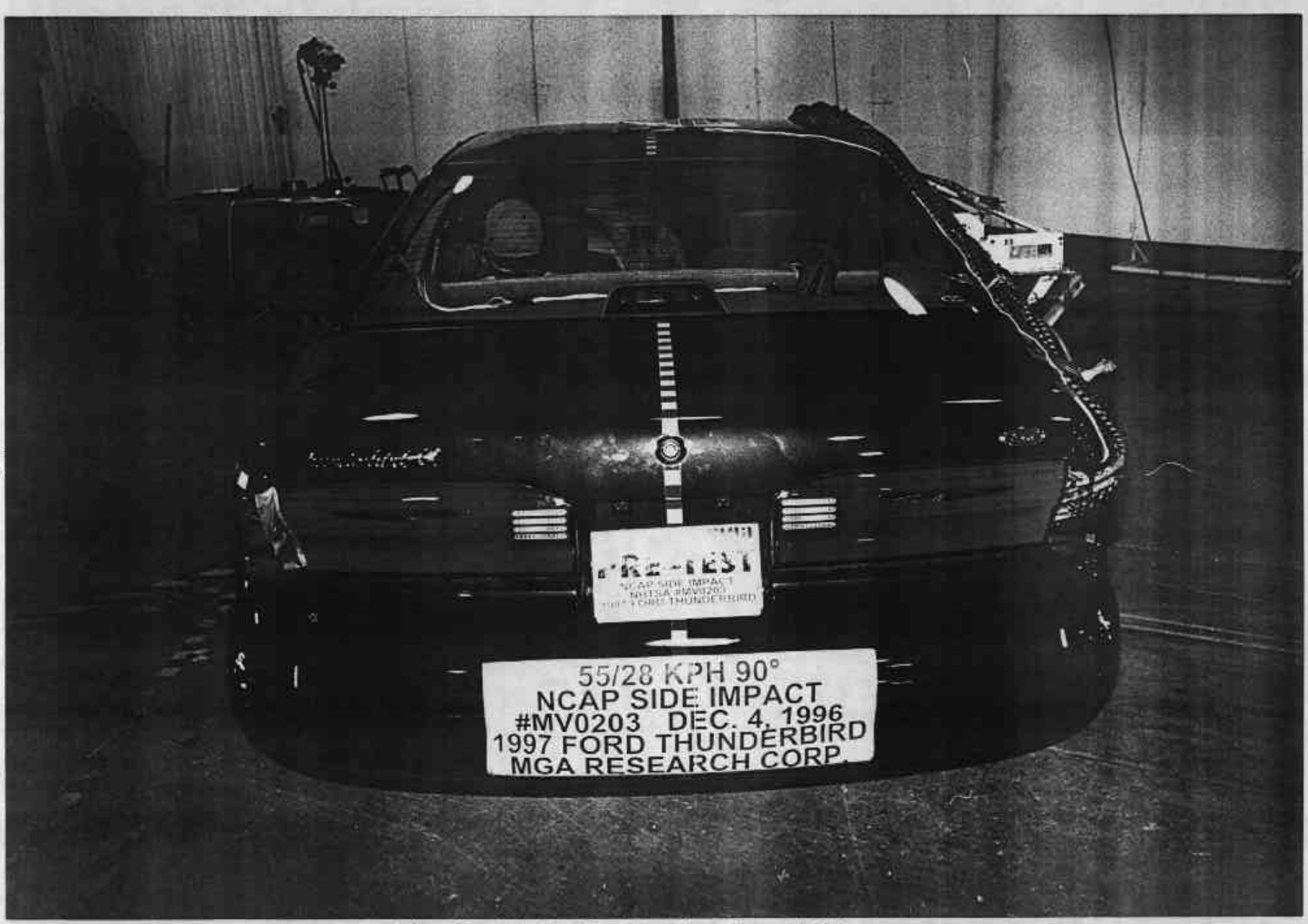


Photo No. A-3 - Pre-Test Rear View of Test Vehicle

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

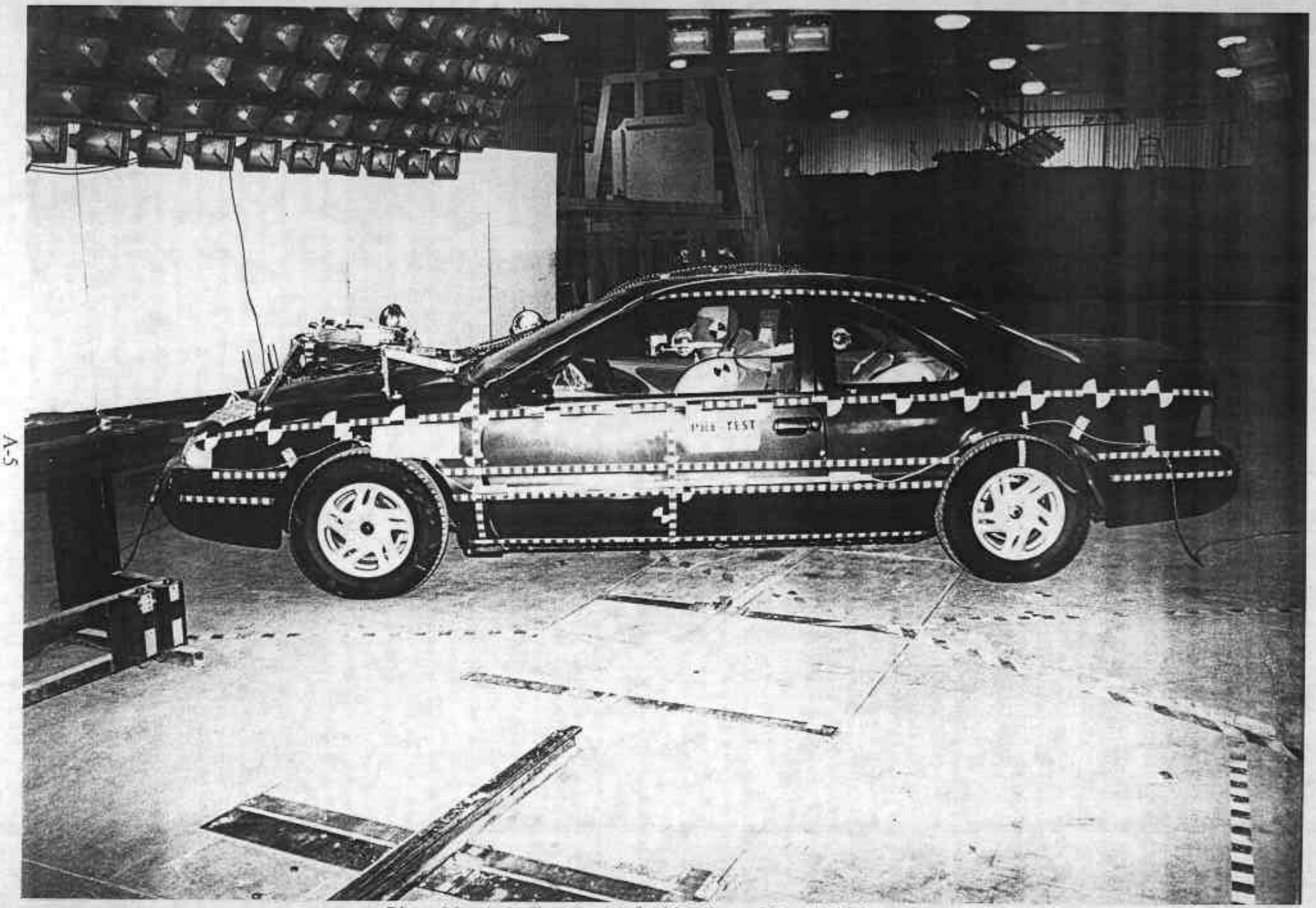


Photo No. A-5 - Pre-Test Left Side View of Test Vehicle

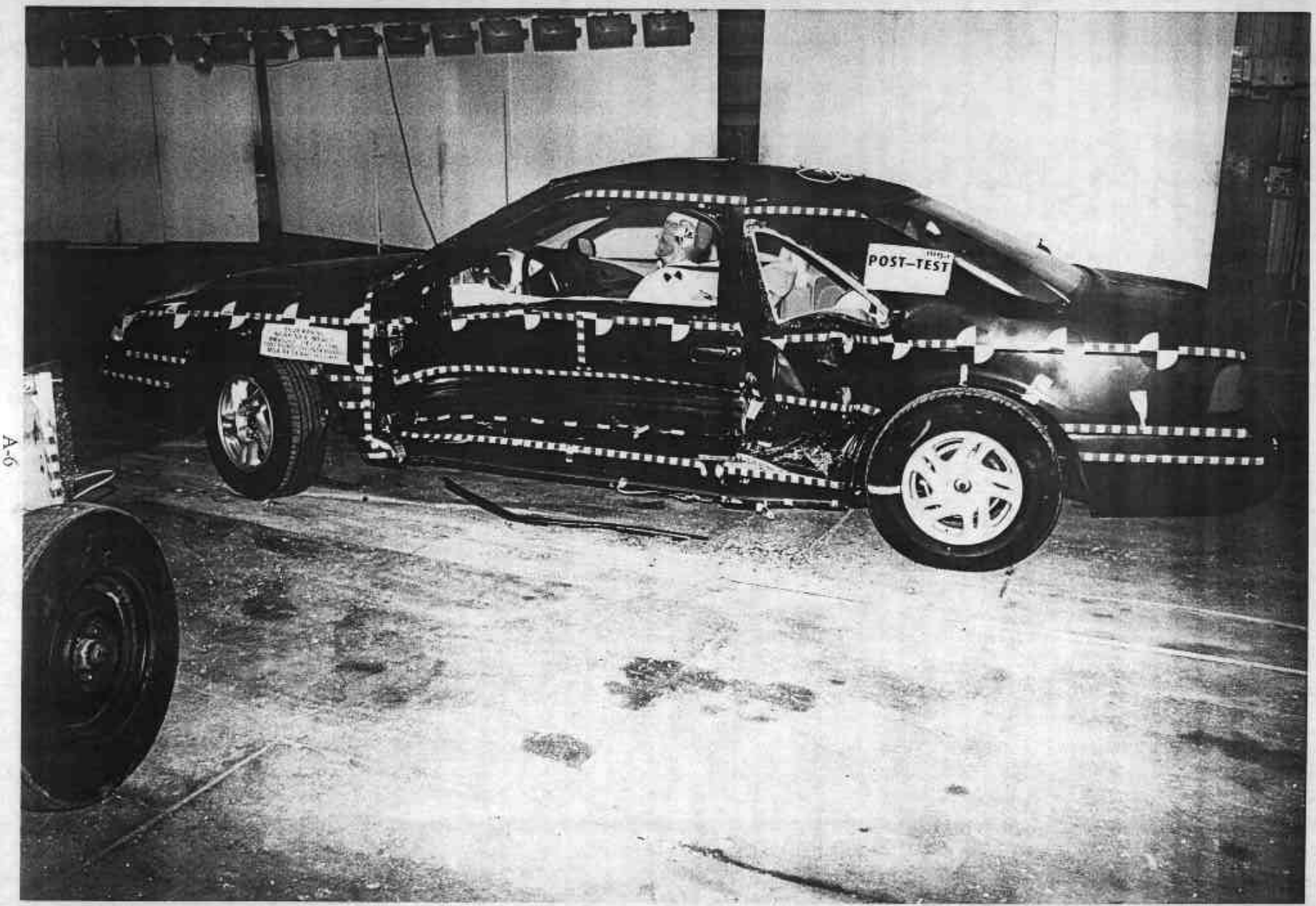


Photo No. A-6 - Post-Test Left Side View of Test Vehicle

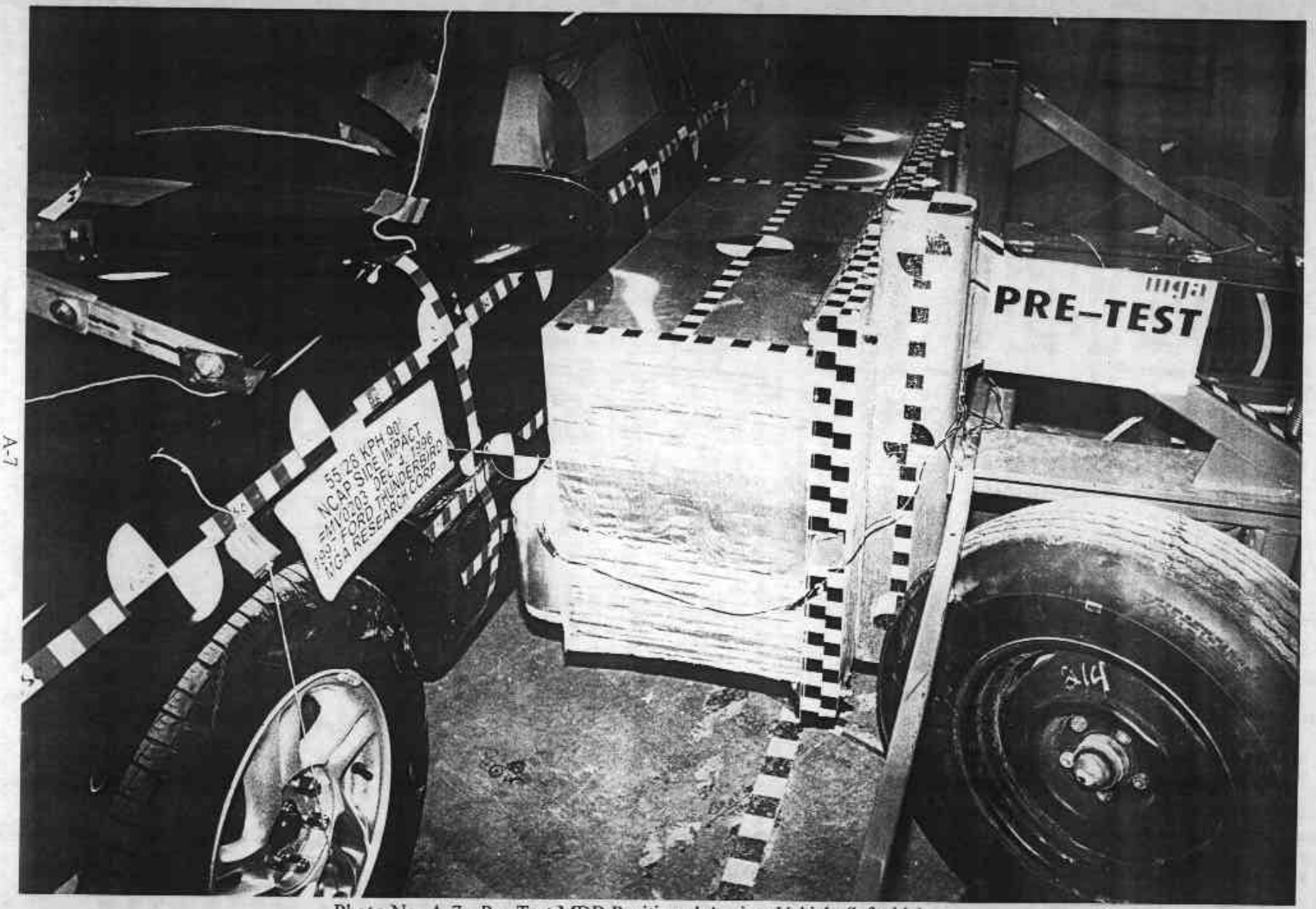


Photo No. A-7 - Pre-Test MDB Positioned Against Vehicle (left side)

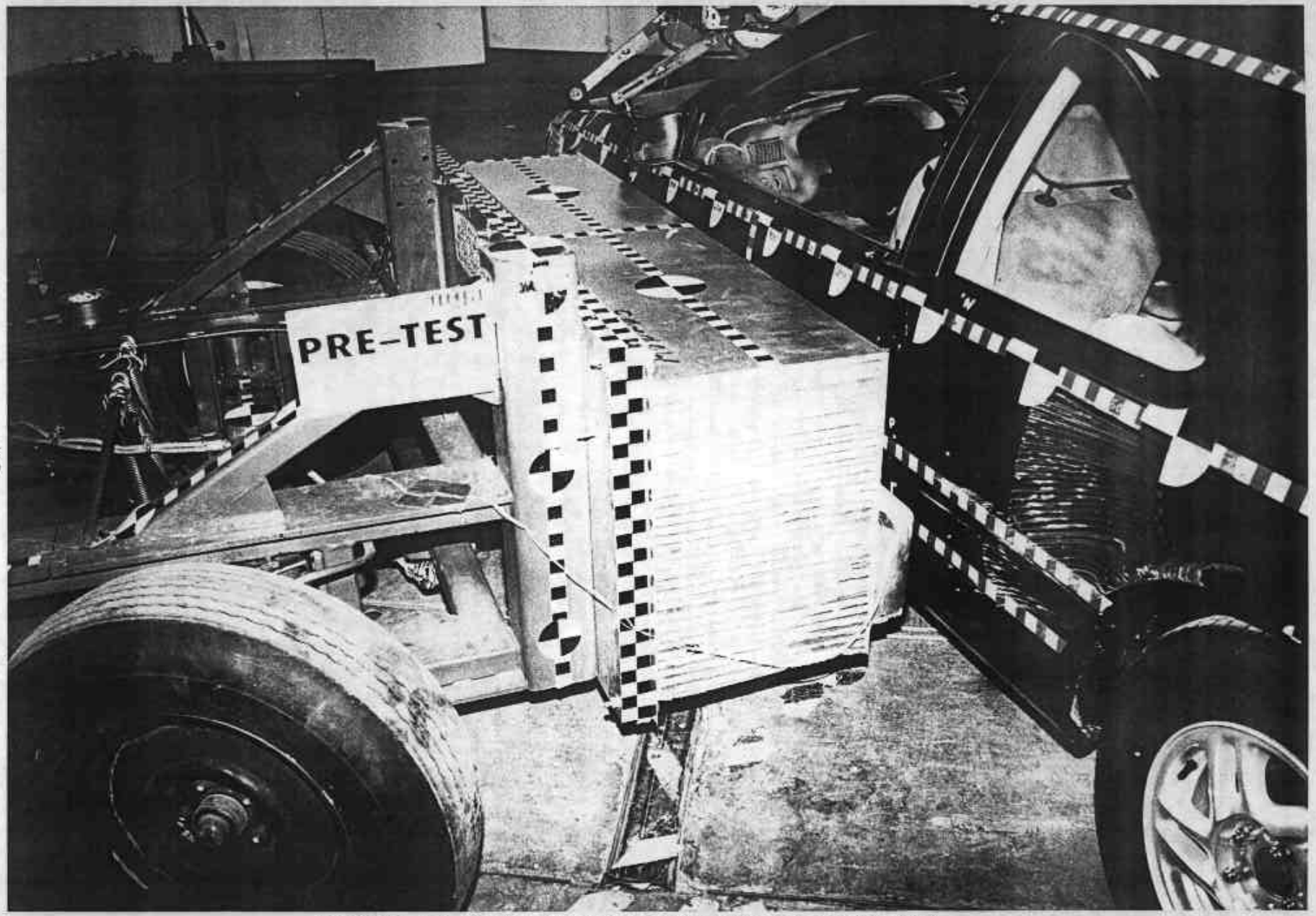


Photo No. A-8 - Pre-Test MDB Positioned Against Vehicle (right side)

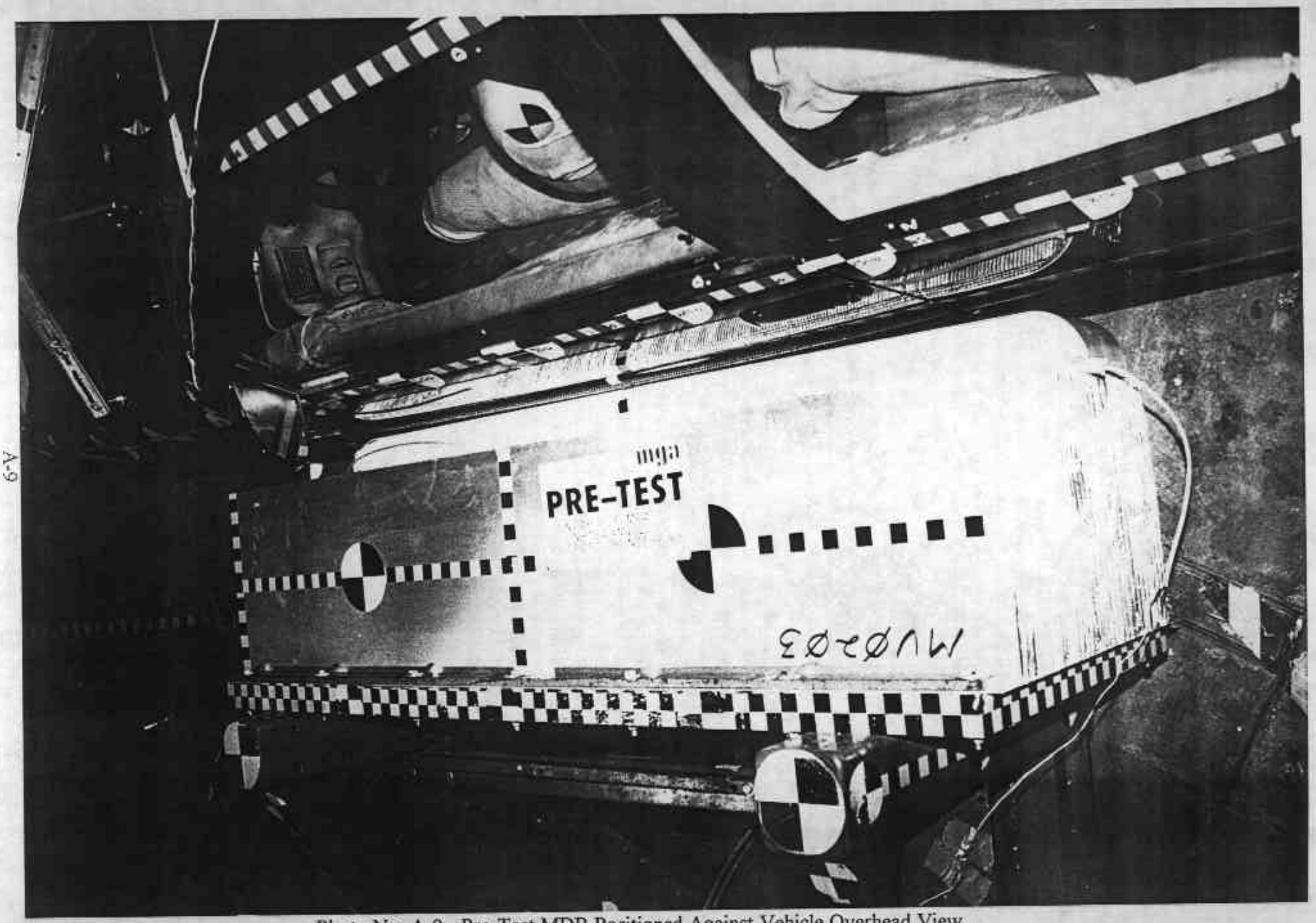


Photo No. A-9 - Pre-Test MDB Positioned Against Vehicle Overhead View

Photo No. A-10 - Post-Test MDB Positioned Against Vehicle (left side)

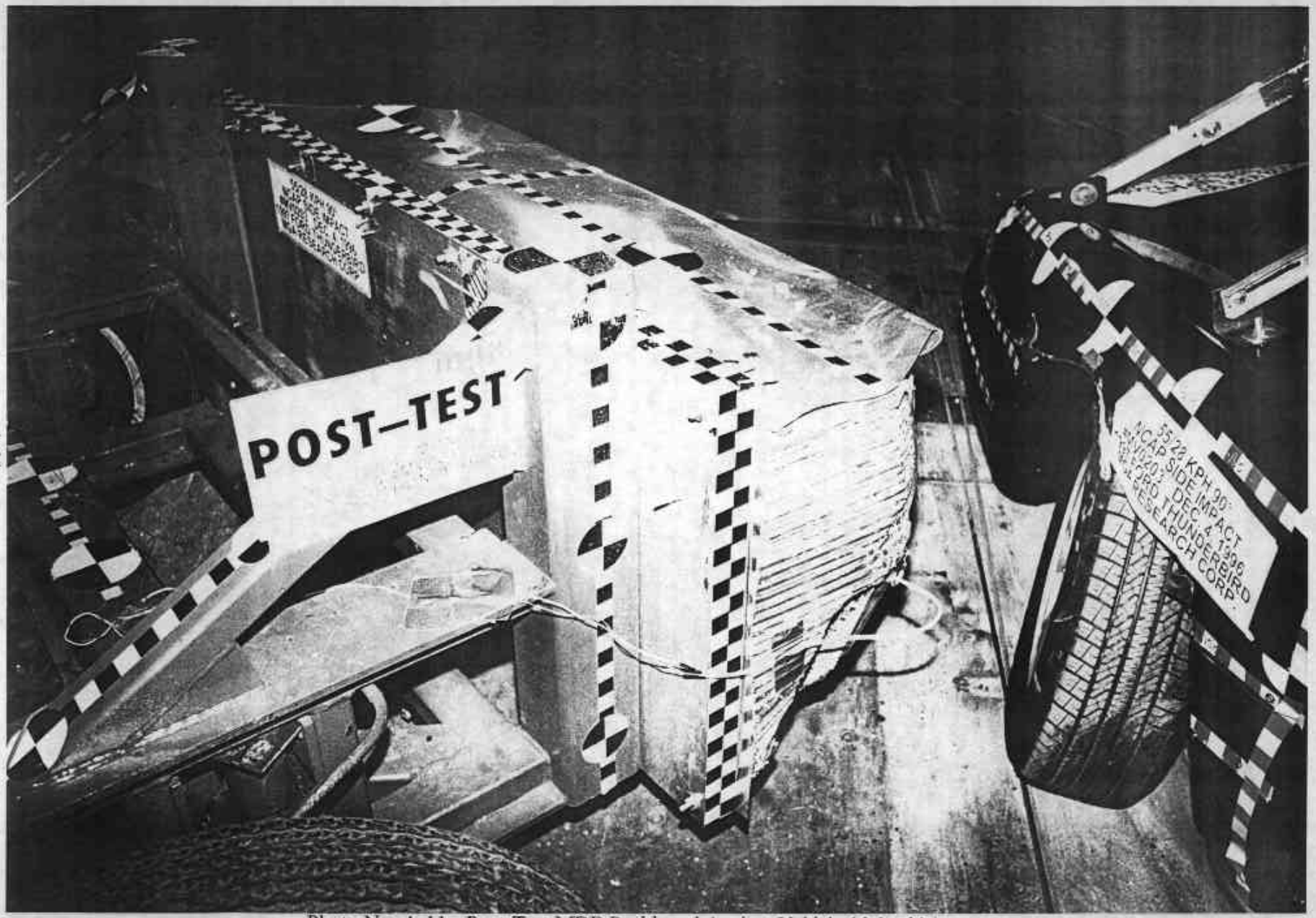


Photo No. A-11 - Post-Test MDB Positioned Against Vehicle (right side)

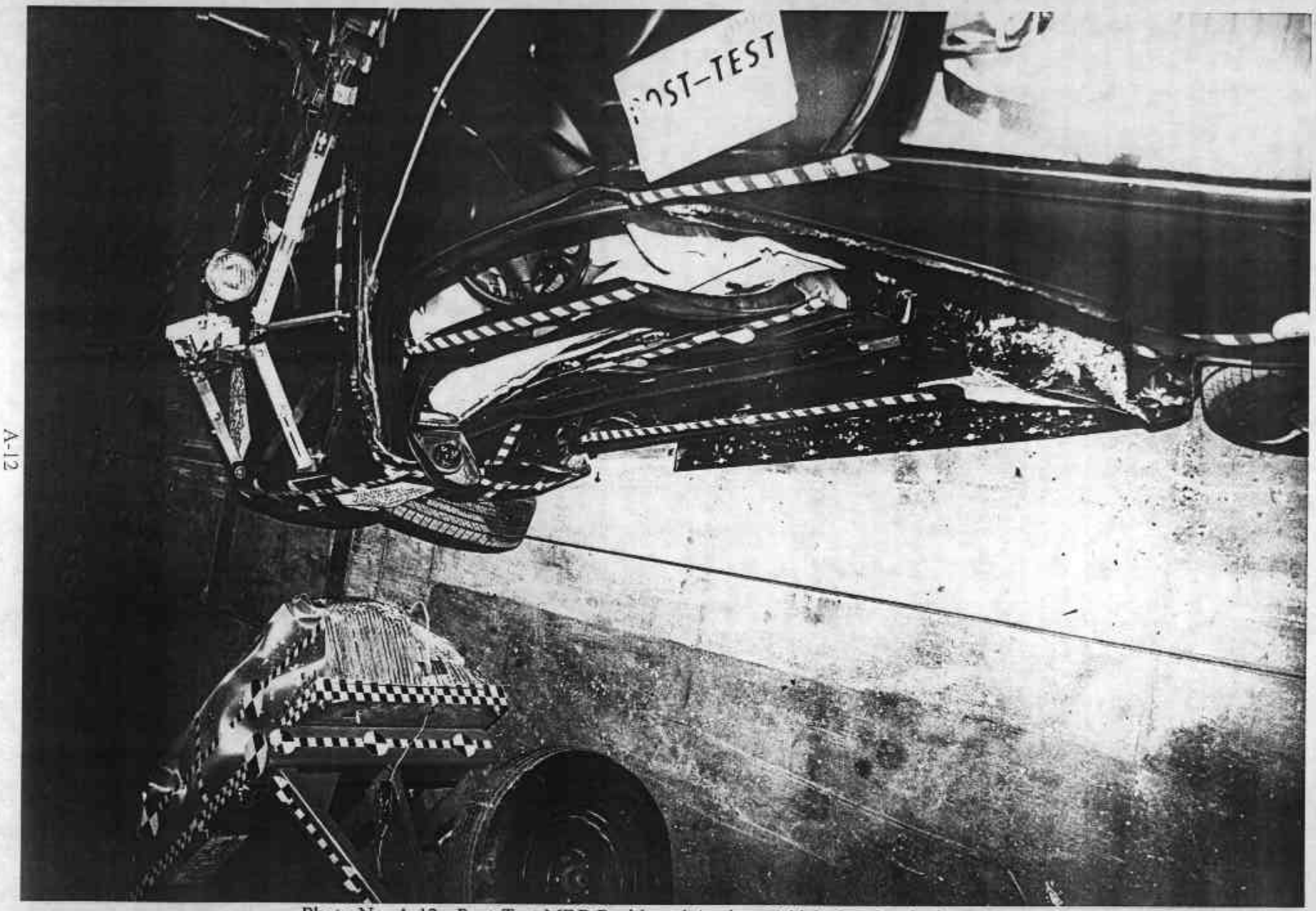


Photo No. A-12 - Post-Test MDB Positioned Against Vehicle Overhead View

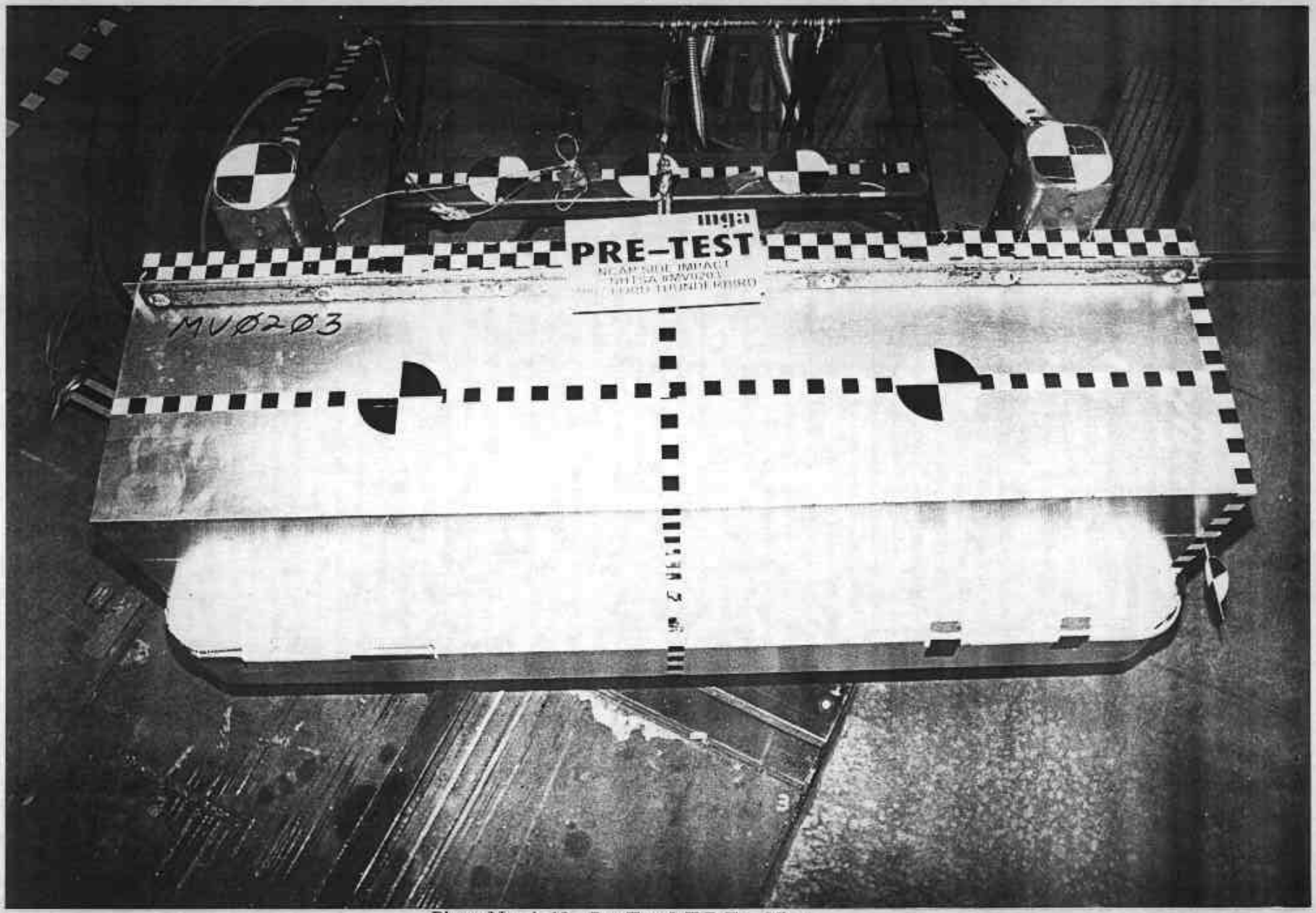


Photo No. A-13 - Pre-Test MDB Top View

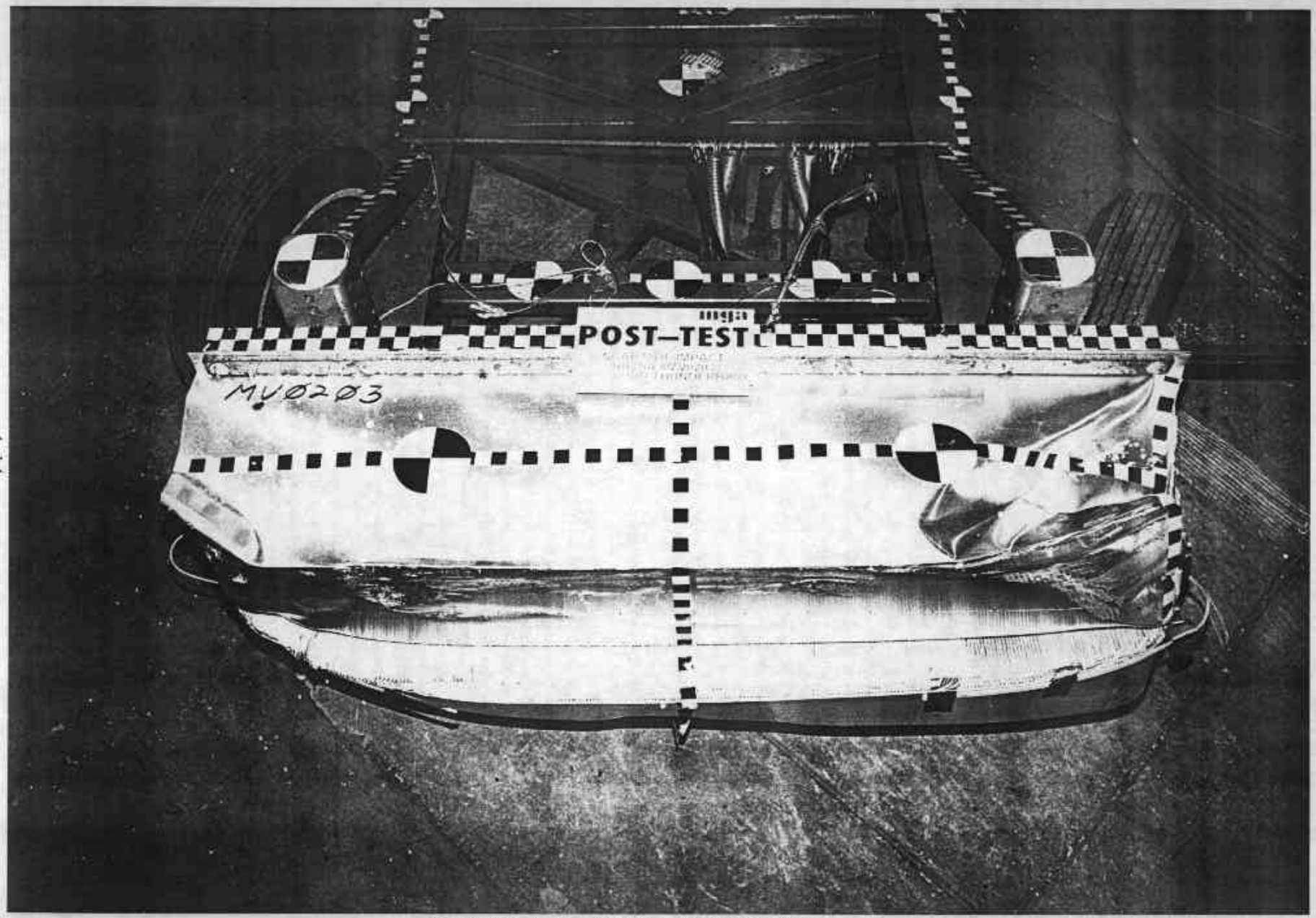


Photo No. A-14 - Post-Test MDB Top View

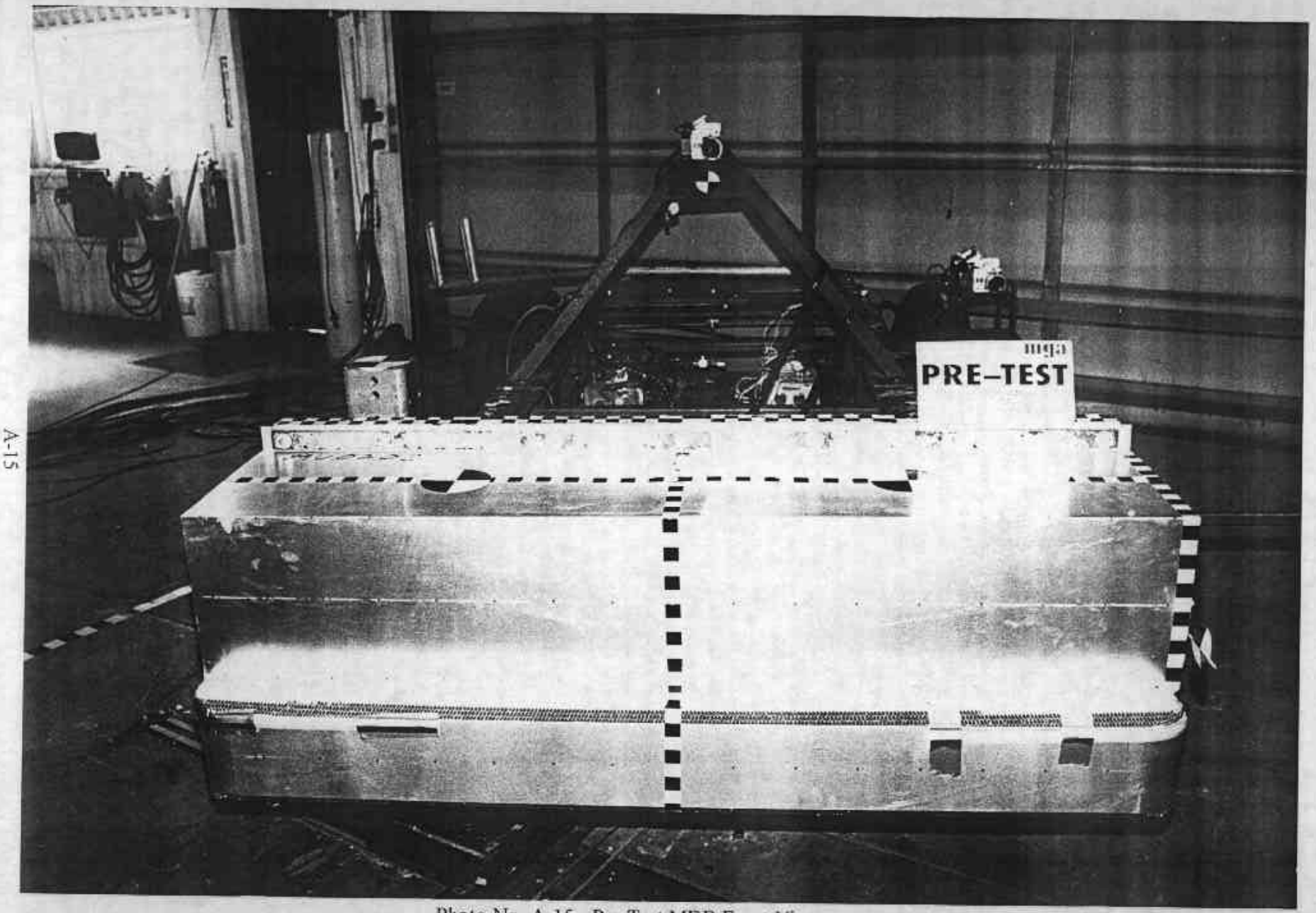


Photo No. A-15 - Pre-Test MDB Front View

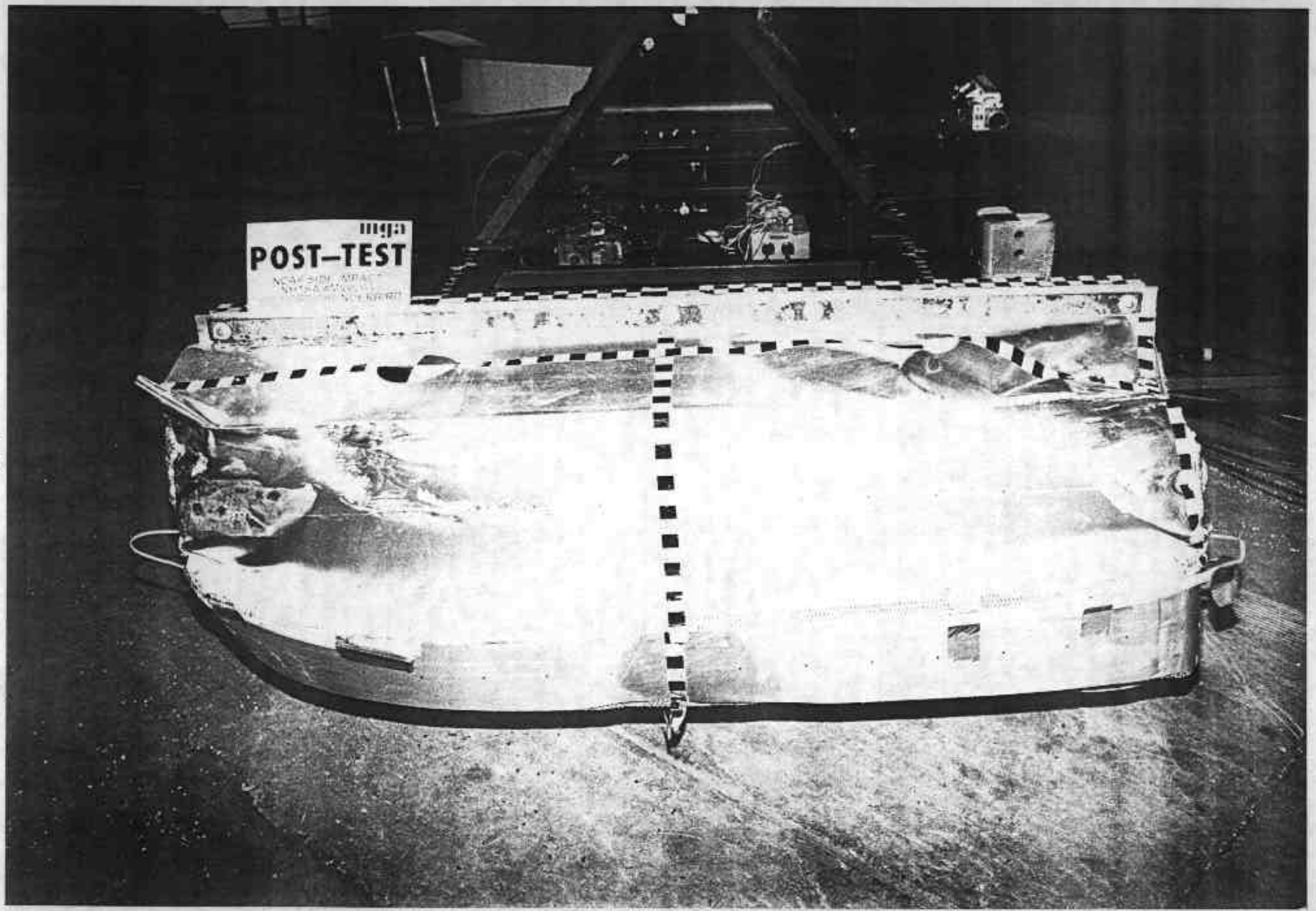


Photo No. A-16 - Post-Test MDB Front View

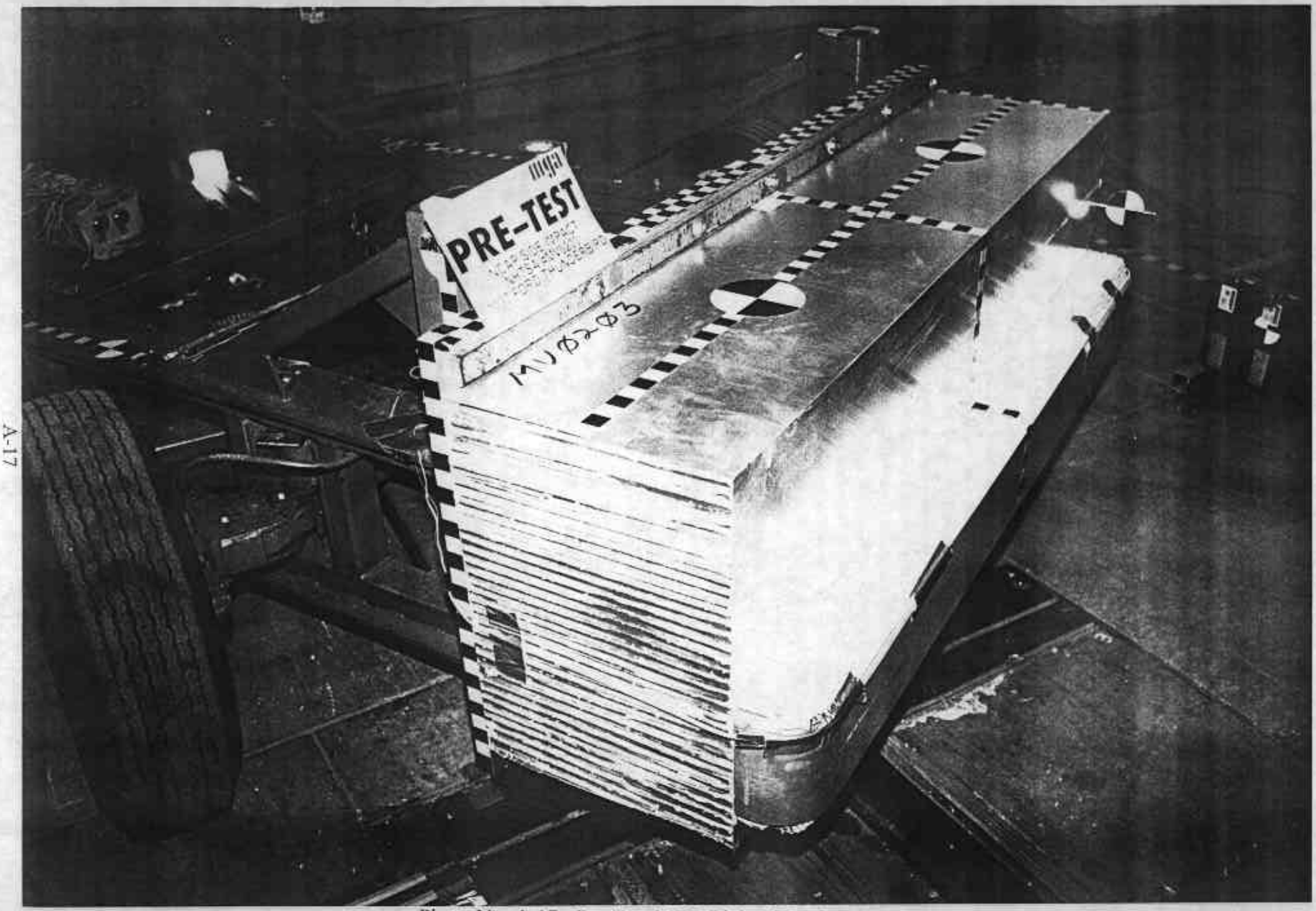


Photo No. A-17 - Pre-Test MDB Right Side View

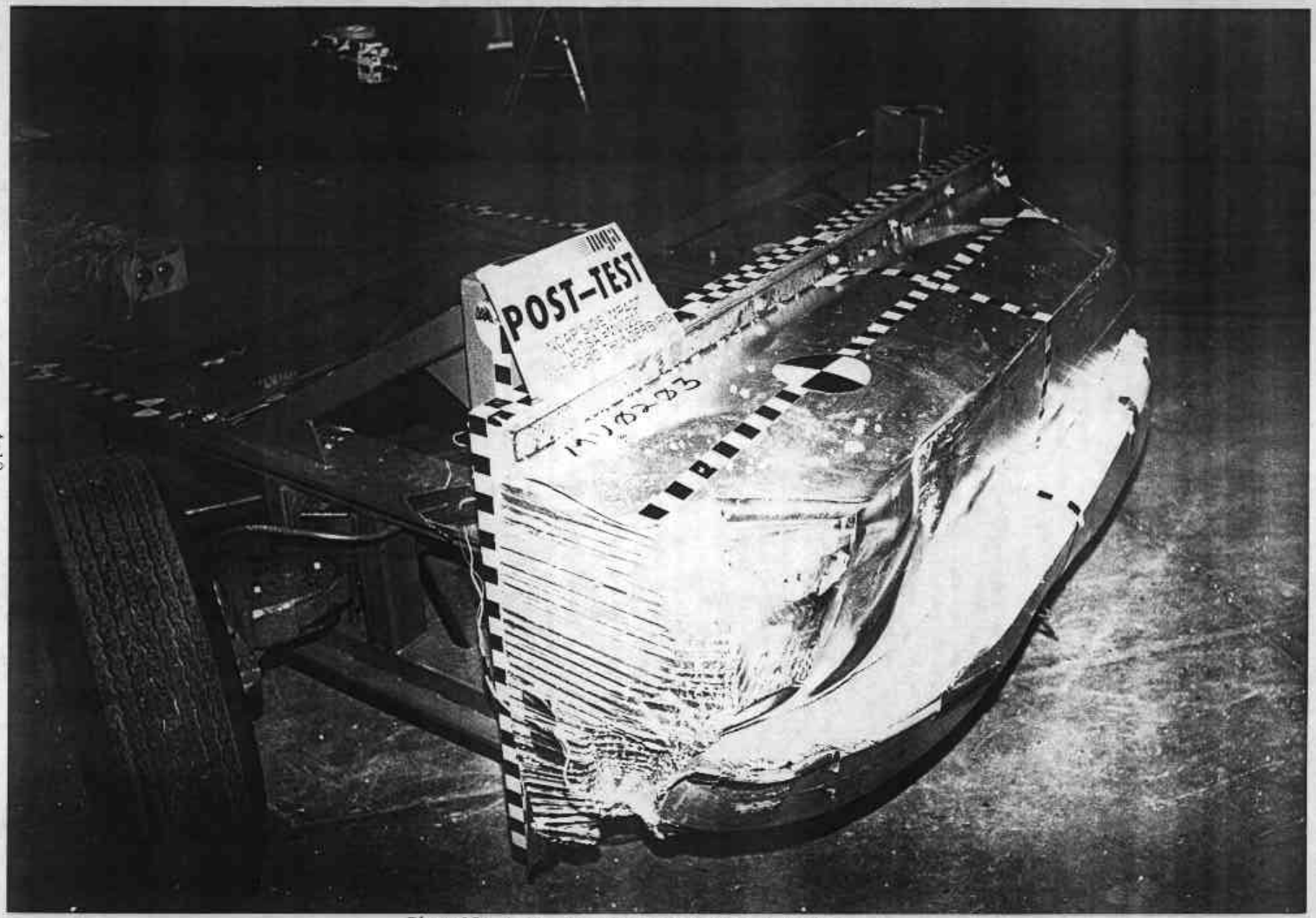


Photo No. A-18 - Post-Test MDB Right Side View

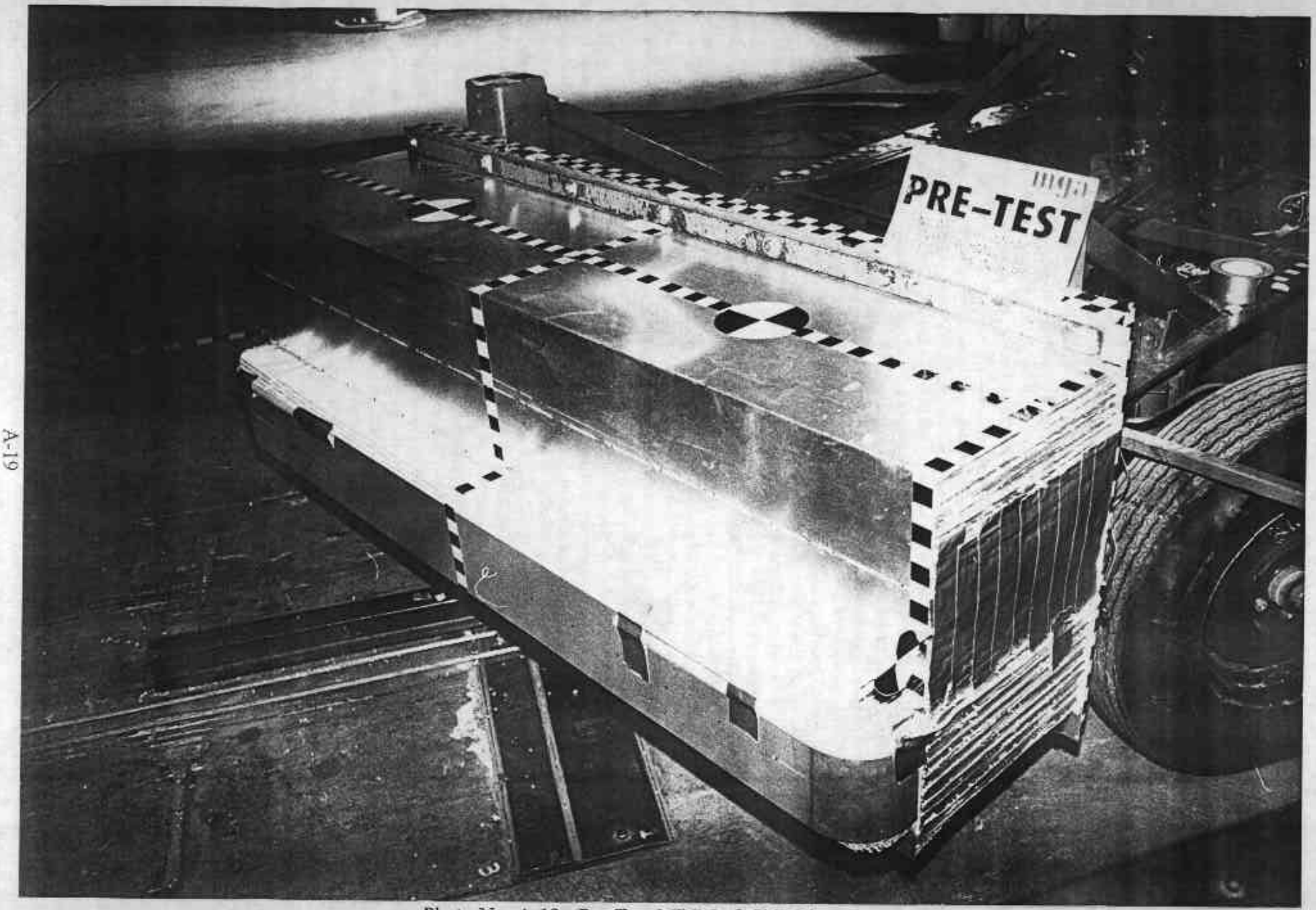


Photo No. A-19 - Pre-Test MDB Left Side View

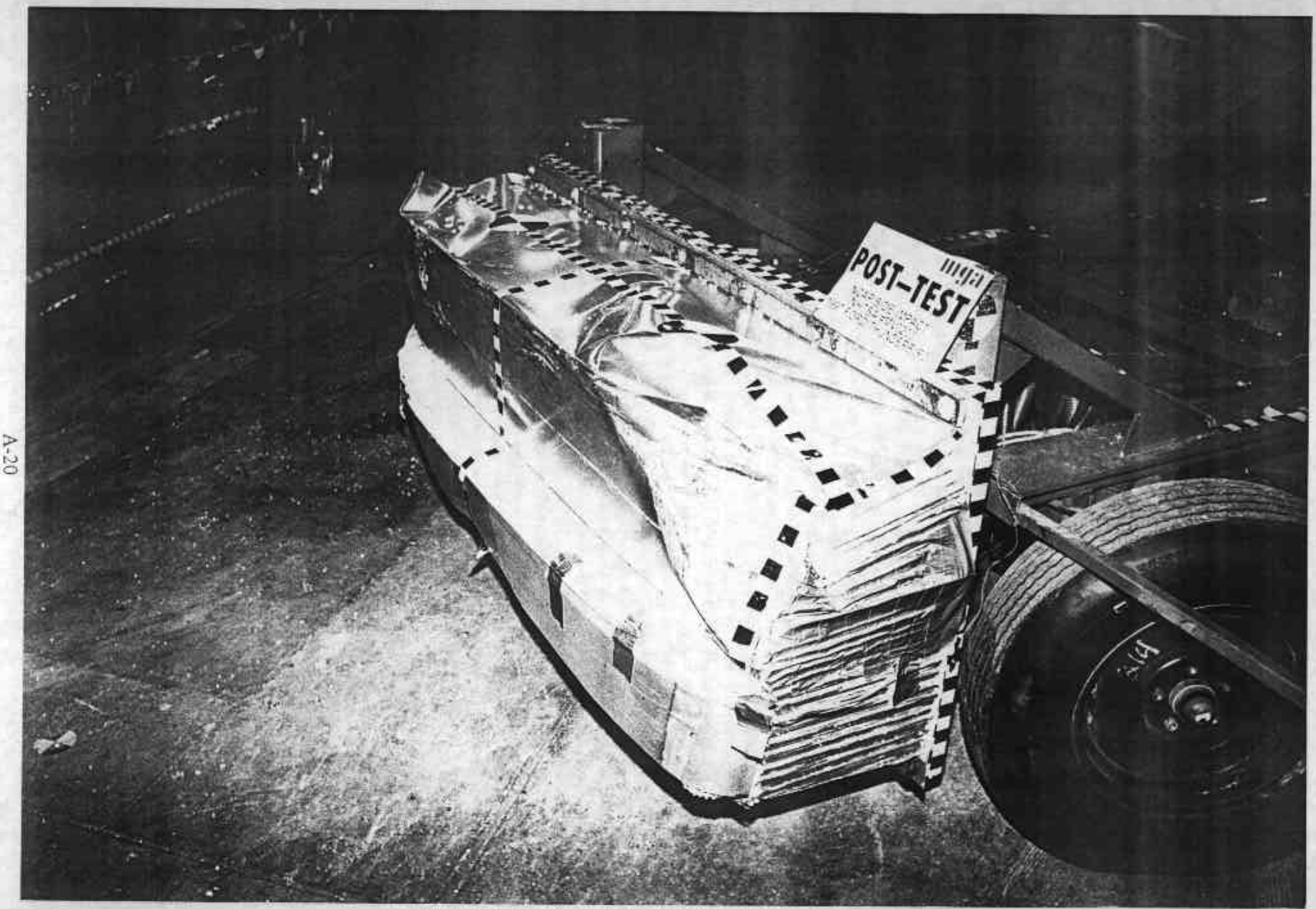
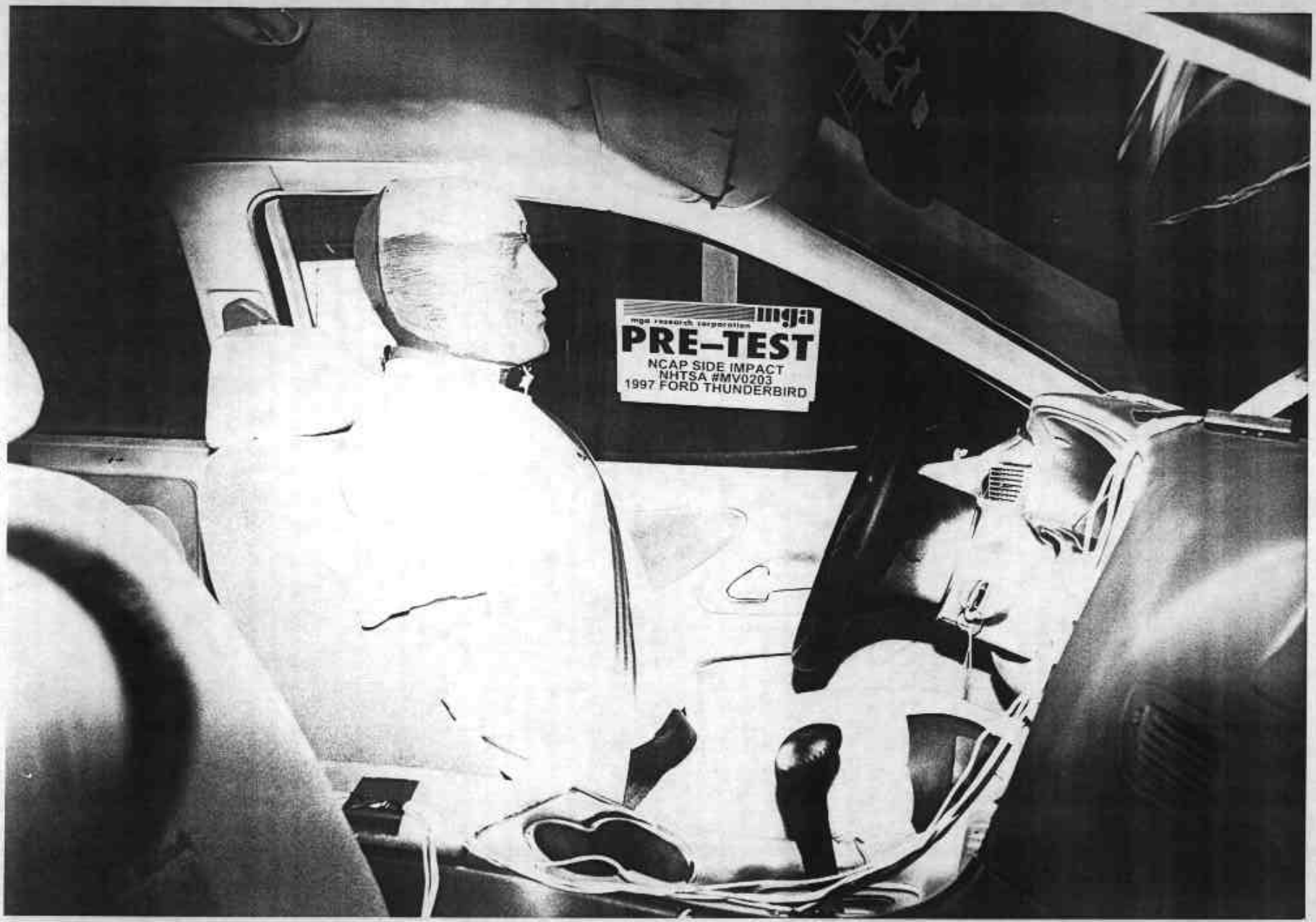


Photo No. A-20 - Post-Test MDB Left Side View



A-21

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

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

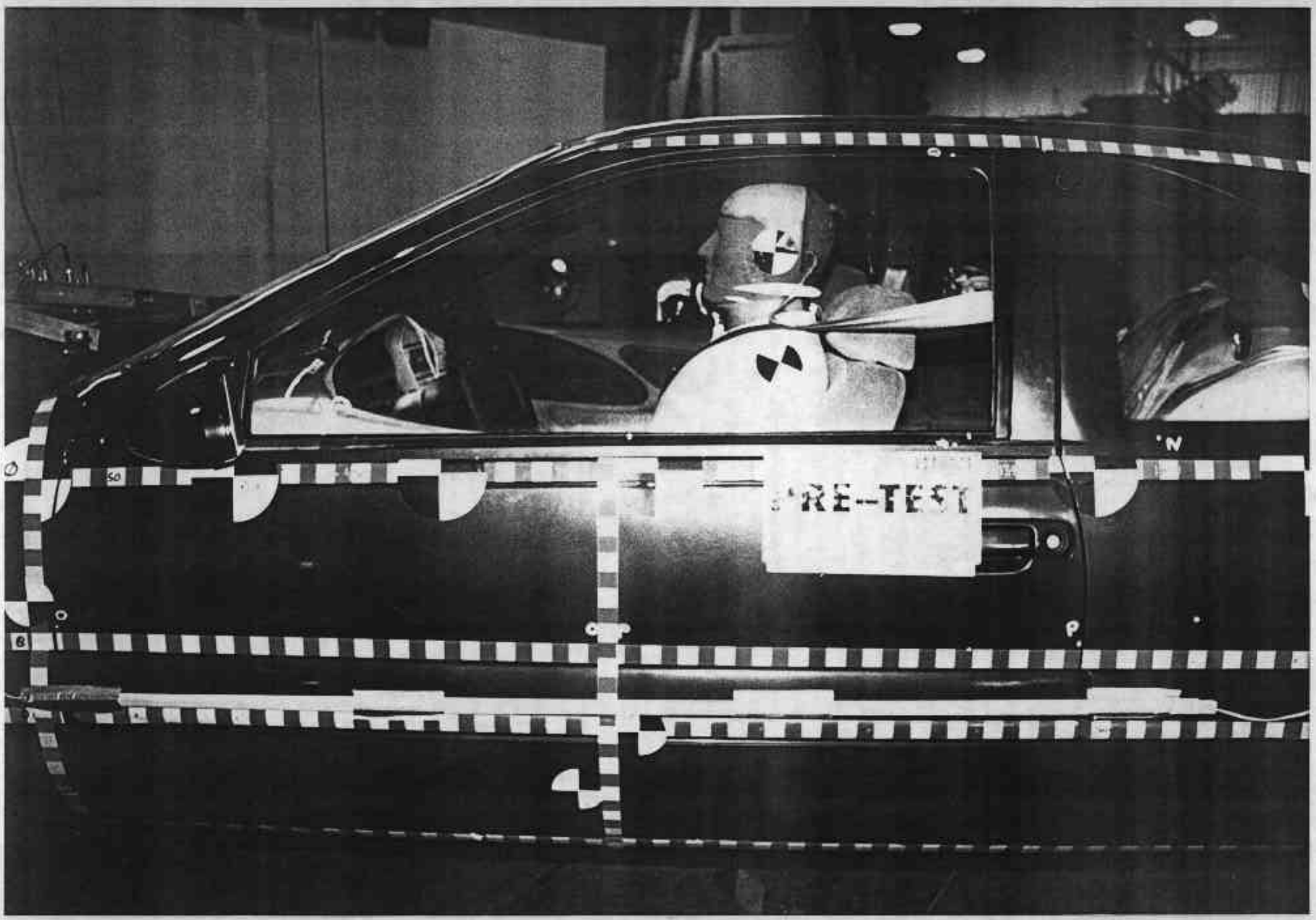


Photo No. A-23 - Pre-Test Driver Dummy Left Side View

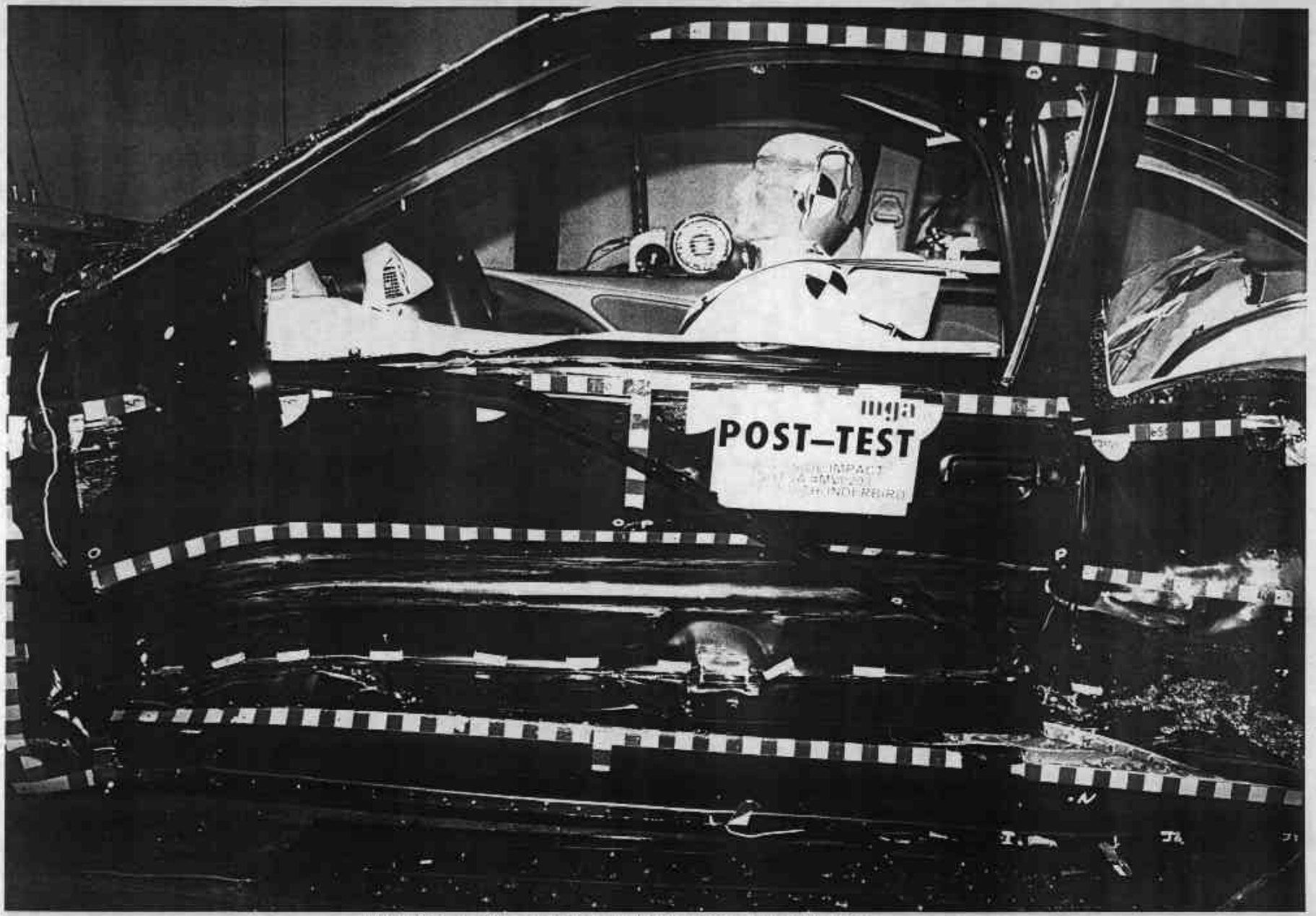
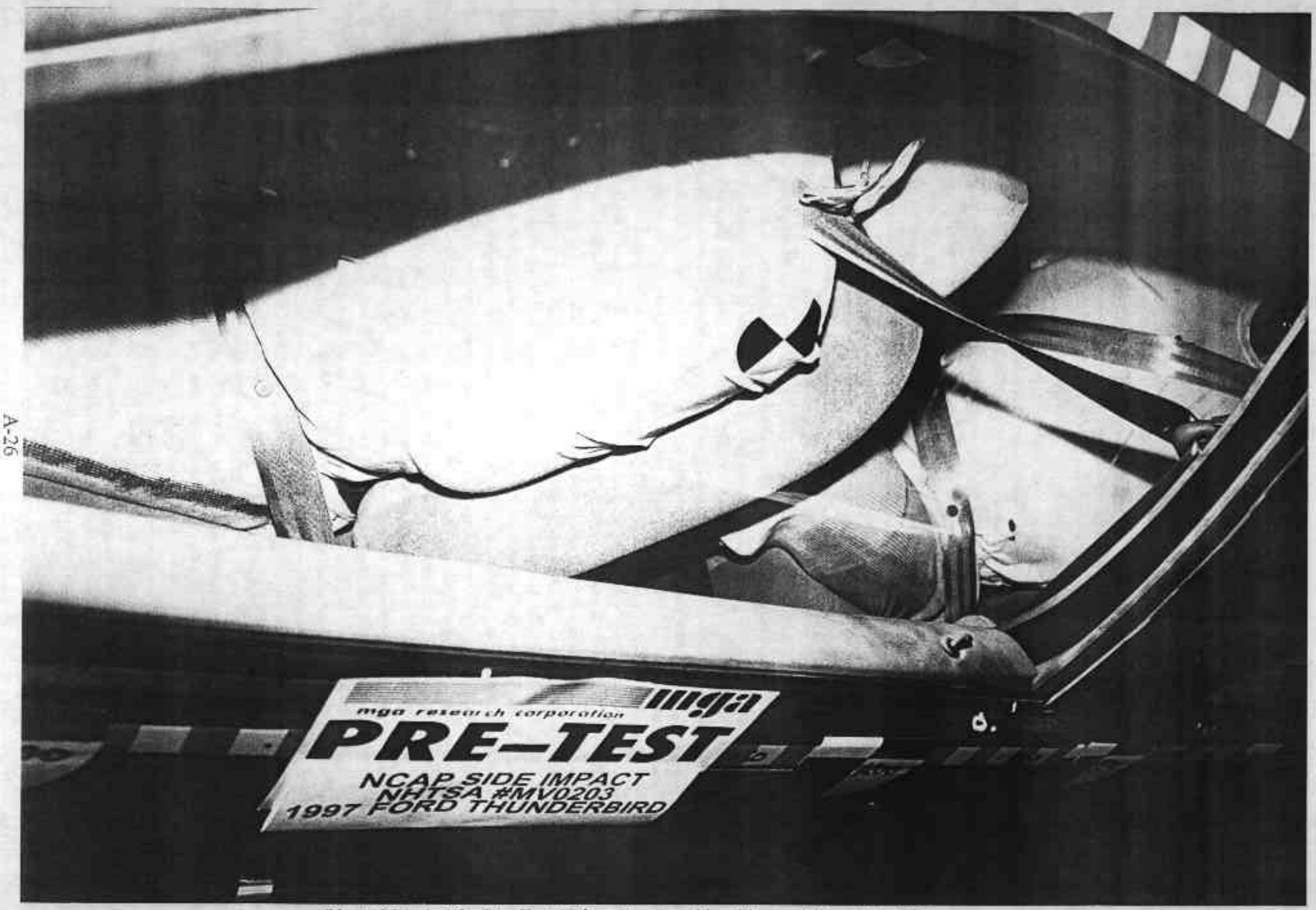


Photo No. A-24 - Post-Test Driver Dummy Left Side View

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



A-26

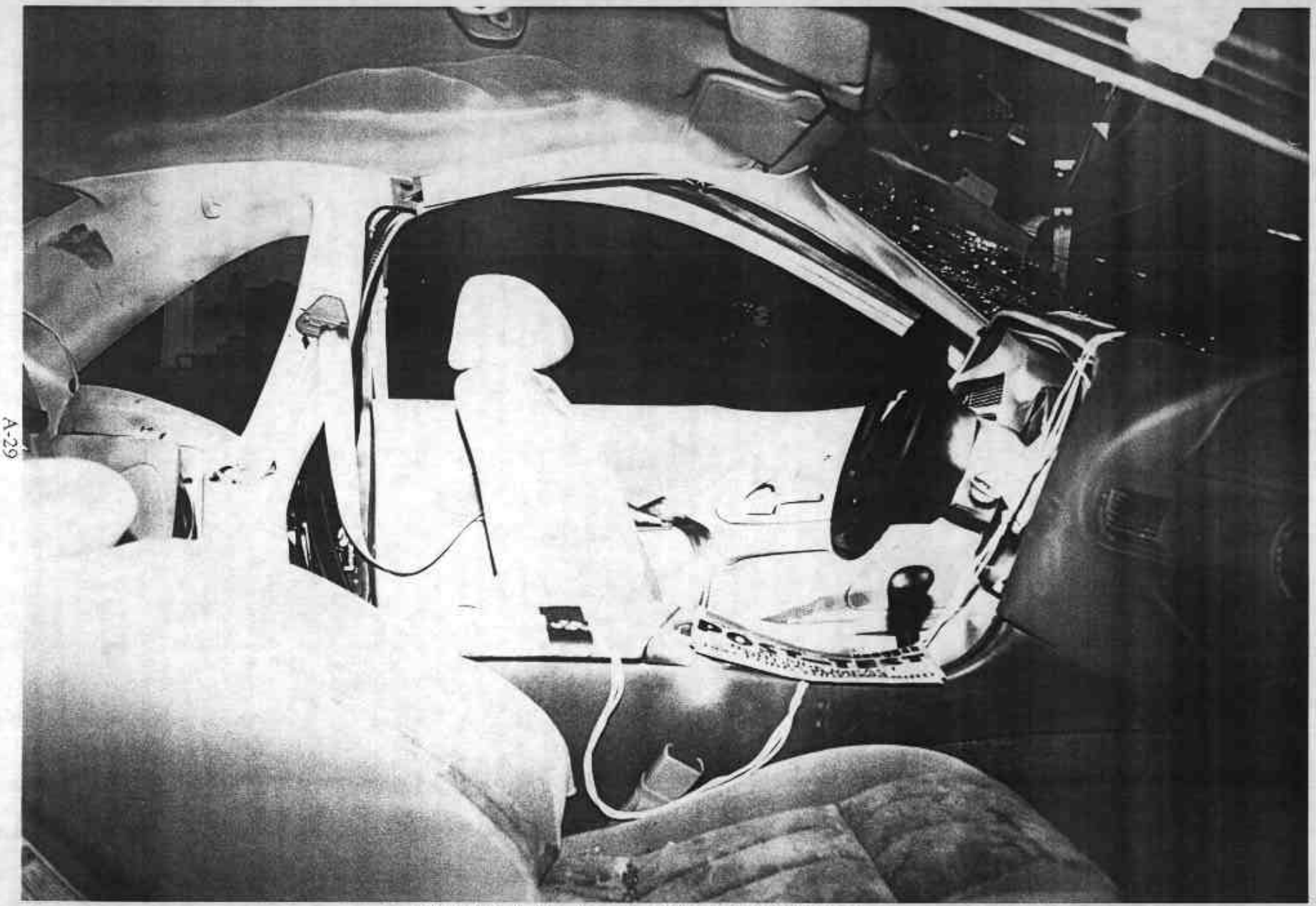
Photo No. A-26 - Pre-Test Driver Dummy Shoulder and Door Top View

A-27

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

A-28

Photo No. A-28 - Post-Test Driver Dummy Contact



A-29

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

A-30

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

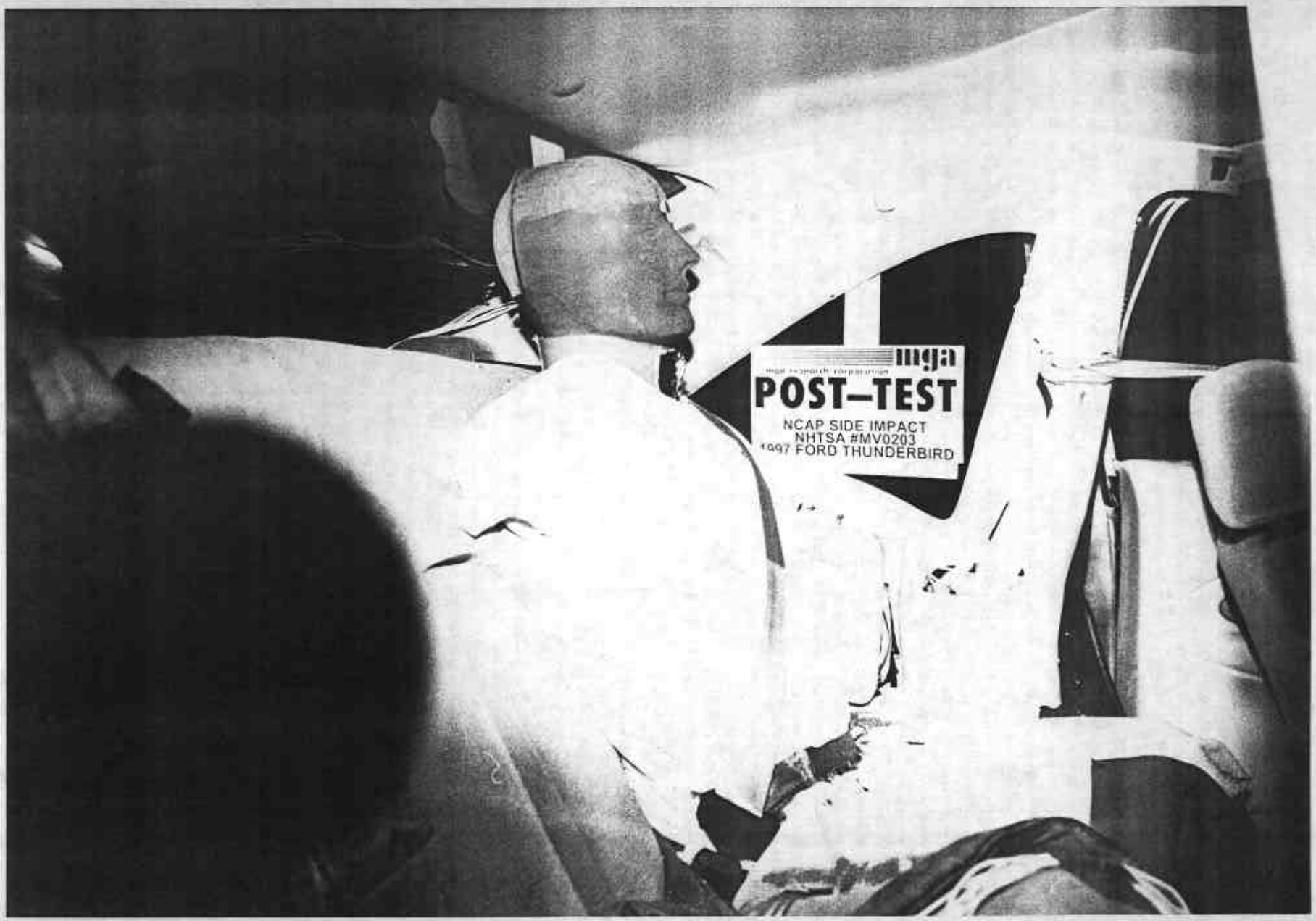
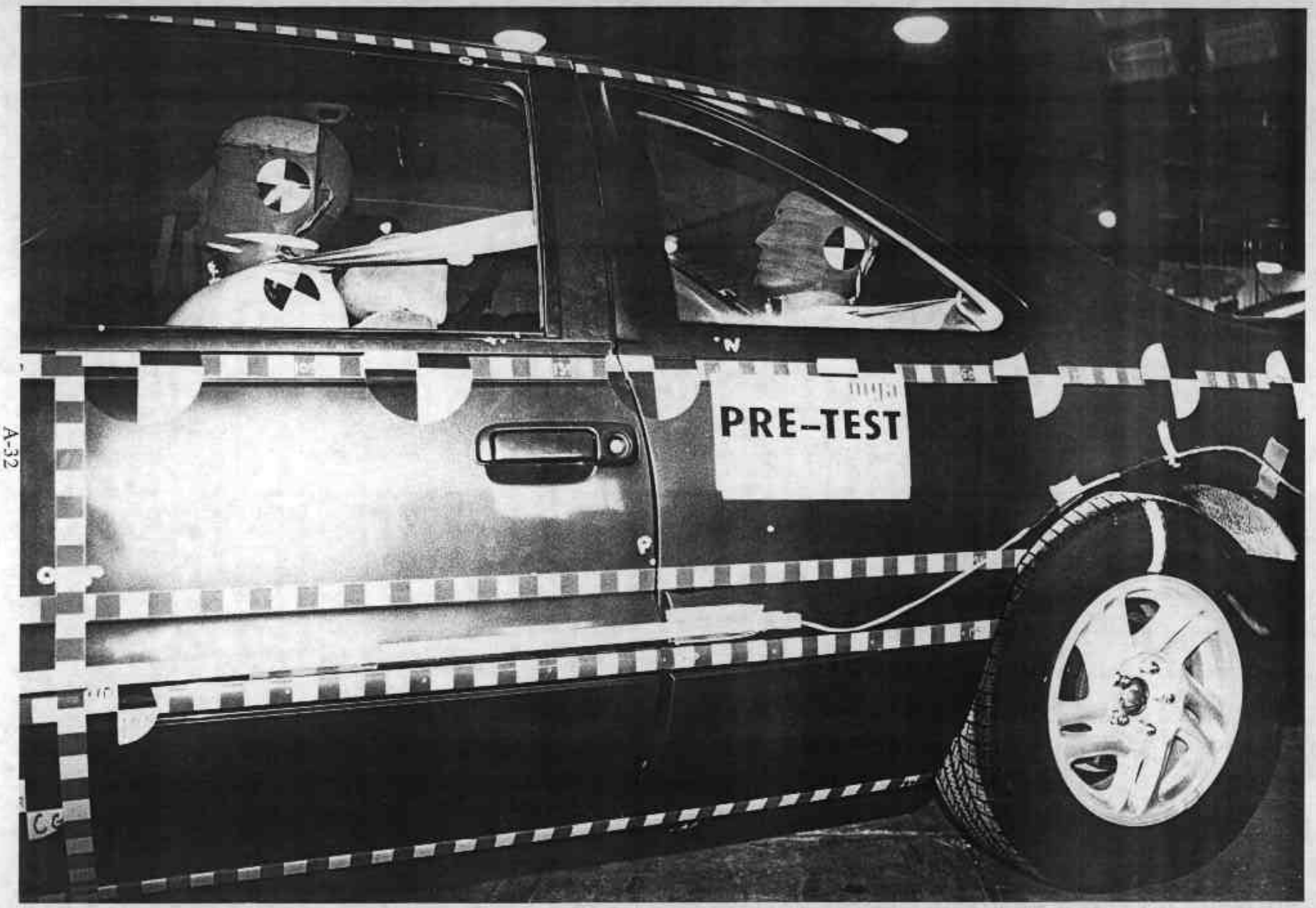
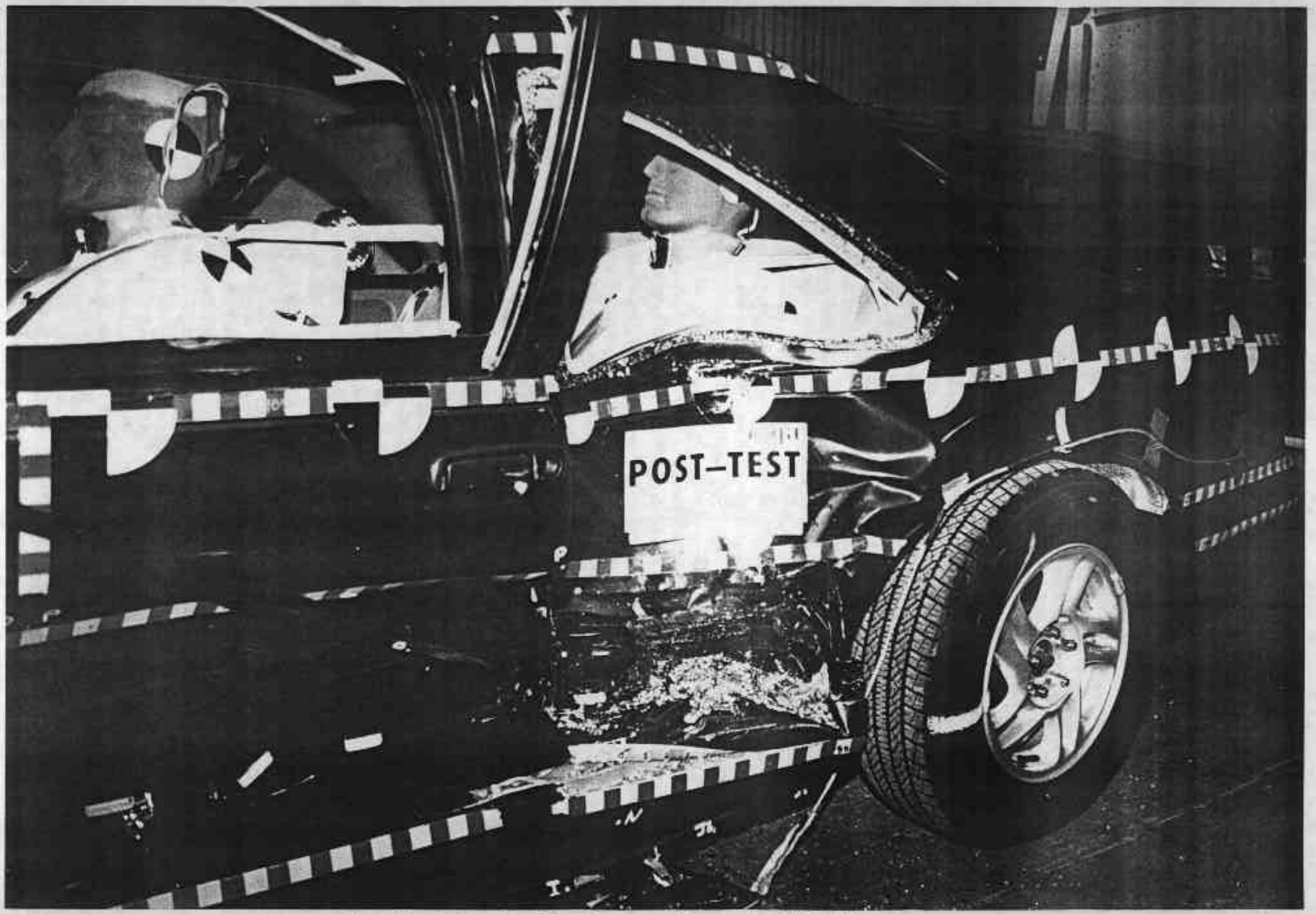


Photo No. A-31 - Post-Test Passenger Dummy Right Side View



A-32

Photo No. A-32 - Pre-Test Passenger Dummy Left Side View



A-33

Photo No A-33 - Post-Test Passenger Dummy Left Side View

Photo No. A-34 - Pre-Test Passenger Dummy Left Side View (Door Open)

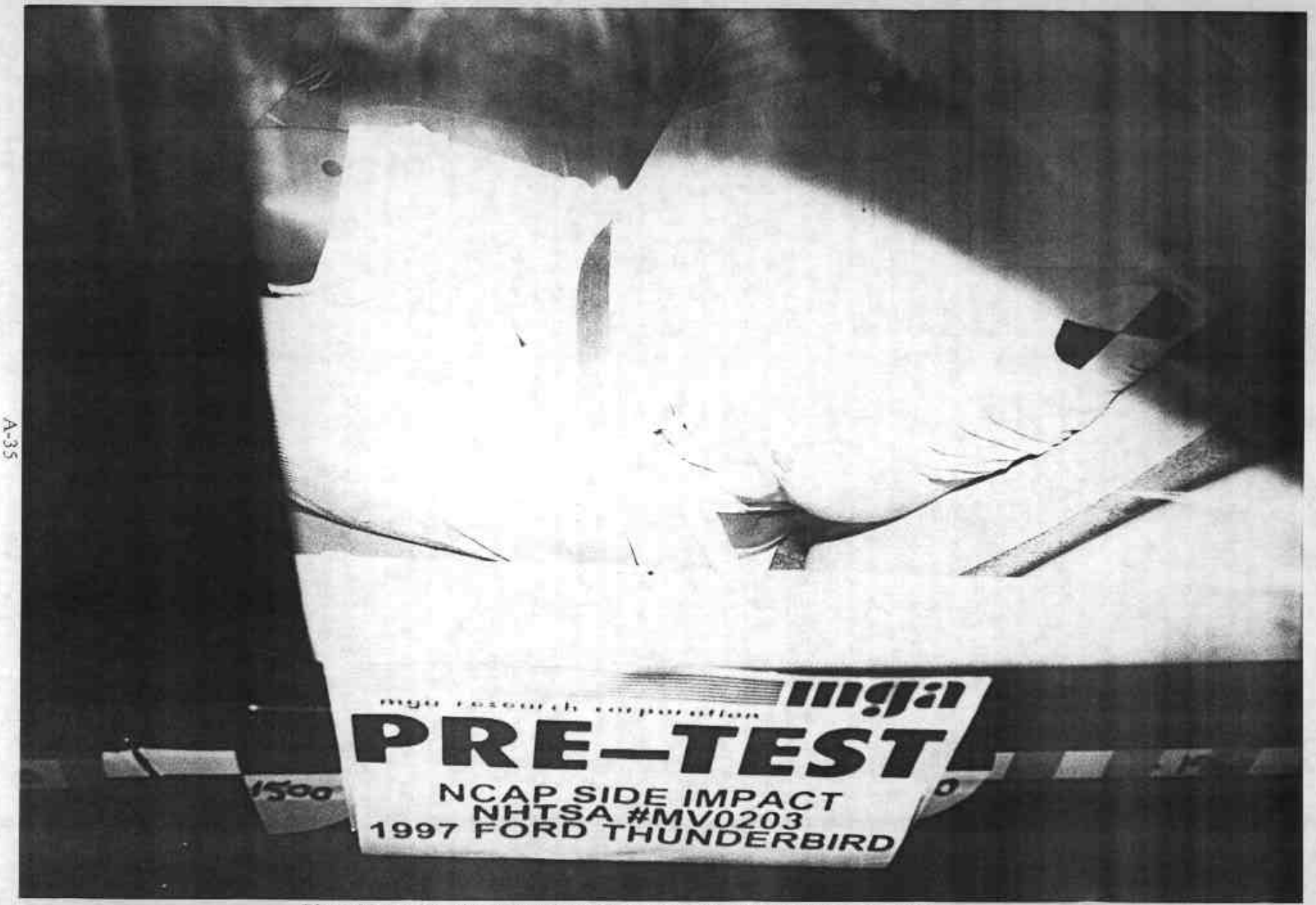
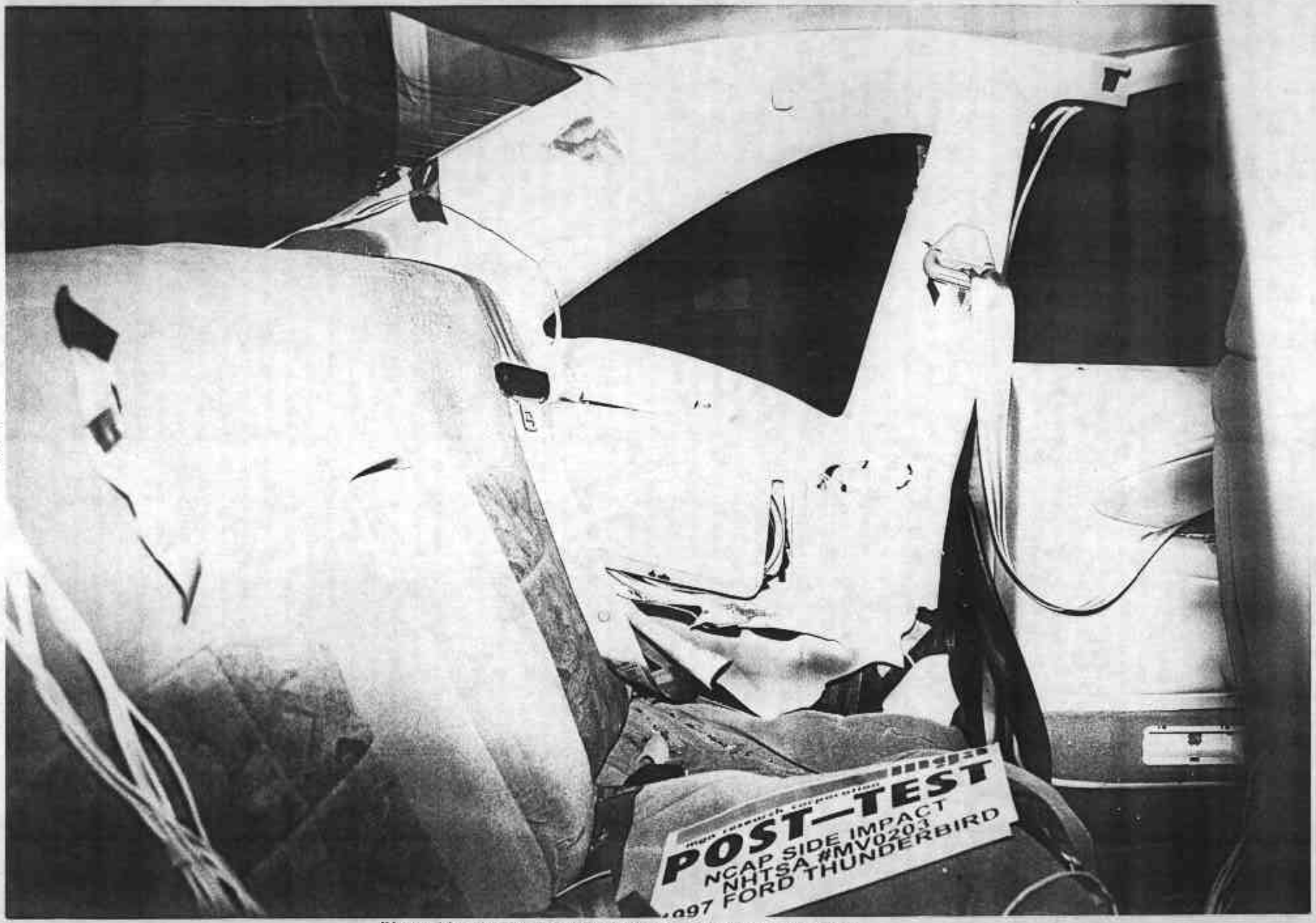


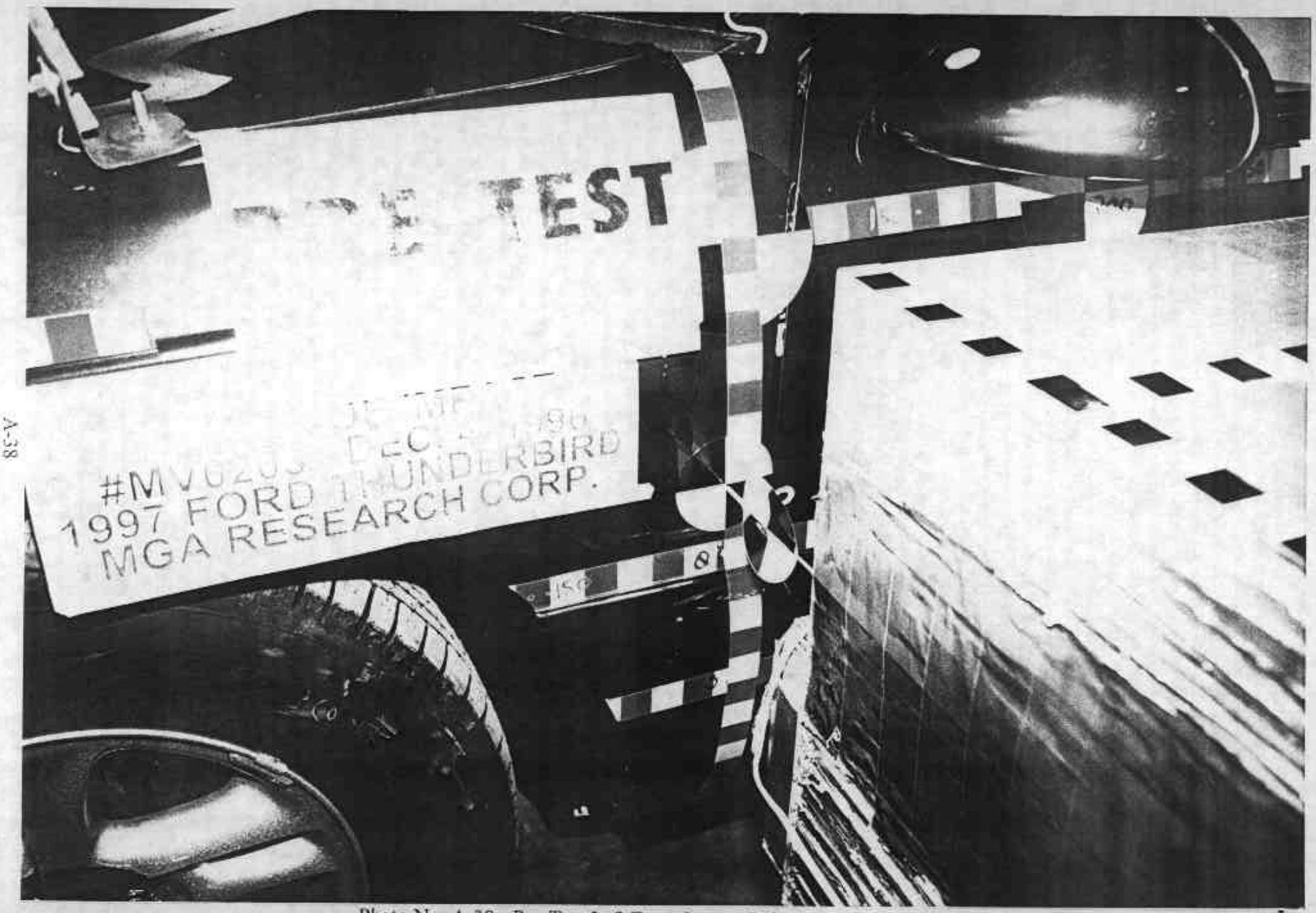
Photo No. A-35 - Pre-Test Passenger Dummy Shoulder and Door Top View

Photo No. A-36 - Post-Test Passenger Dummy Shoulder and Door Top View



A-37

Photo No. A-37 - Post-Test Passenger Dummy Contact

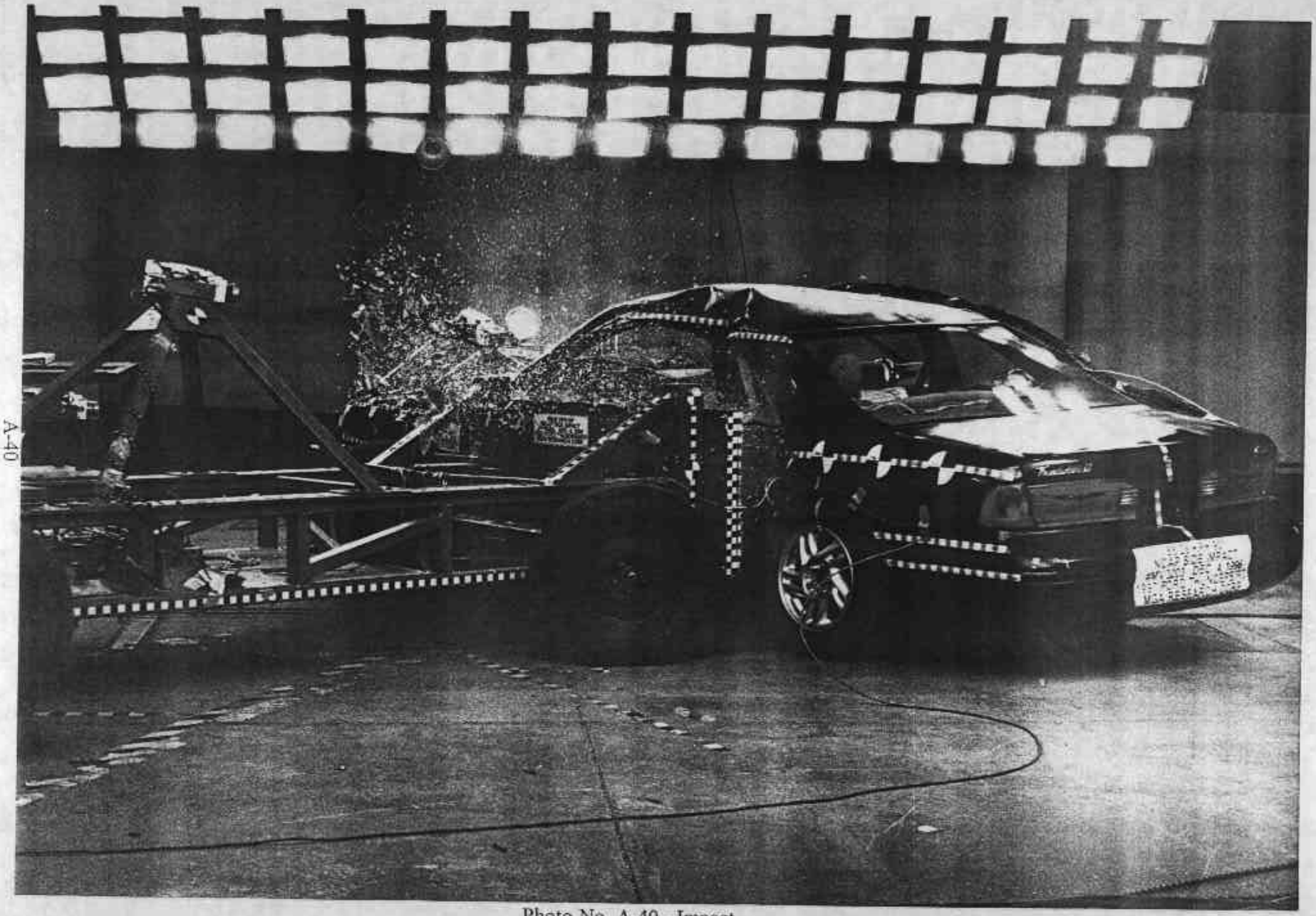


A-38

Photo No. A-38 - Pre-Test Left Front Impact Point on Vehicle

A-39

Photo No. A-39 - Post-Test Left Front Impact Point on Vehicle



A-40

Photo No. A-40 - Impact

Photo No. A-41- Vehicle Certification Label

A-42

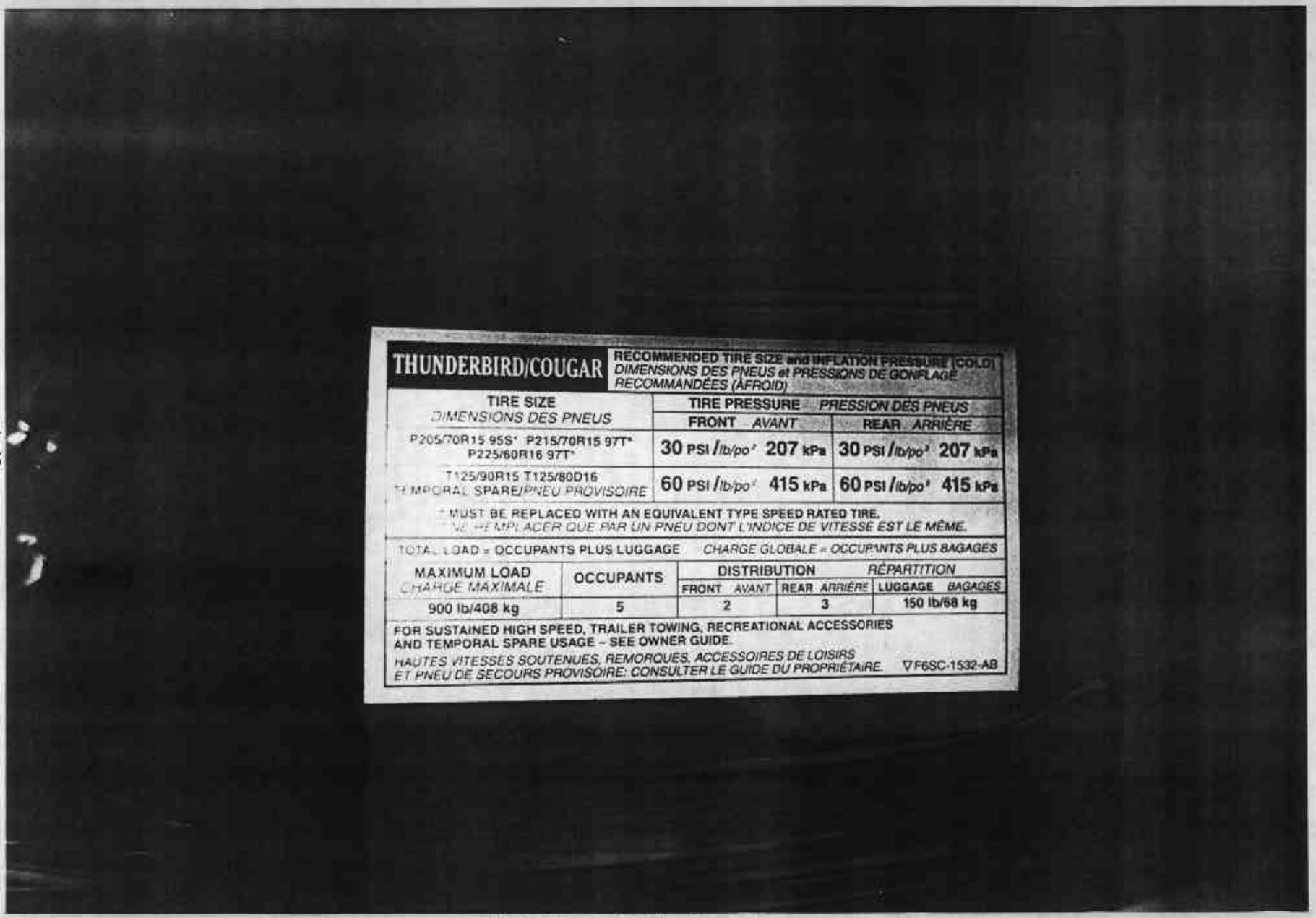
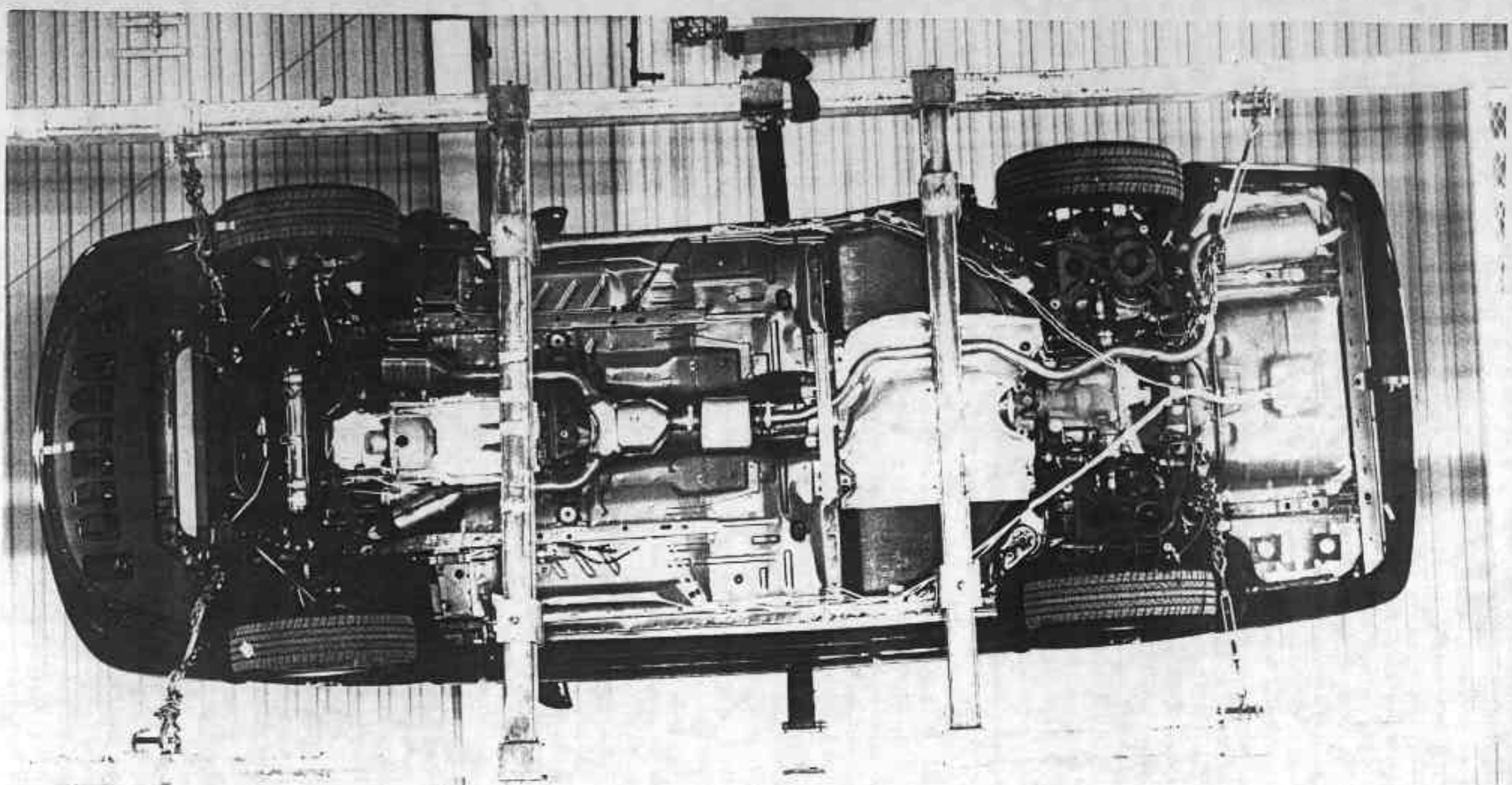


Photo No. A-42 - Tire Placard



A-43

Photo No. A-43 - Rollover 90°

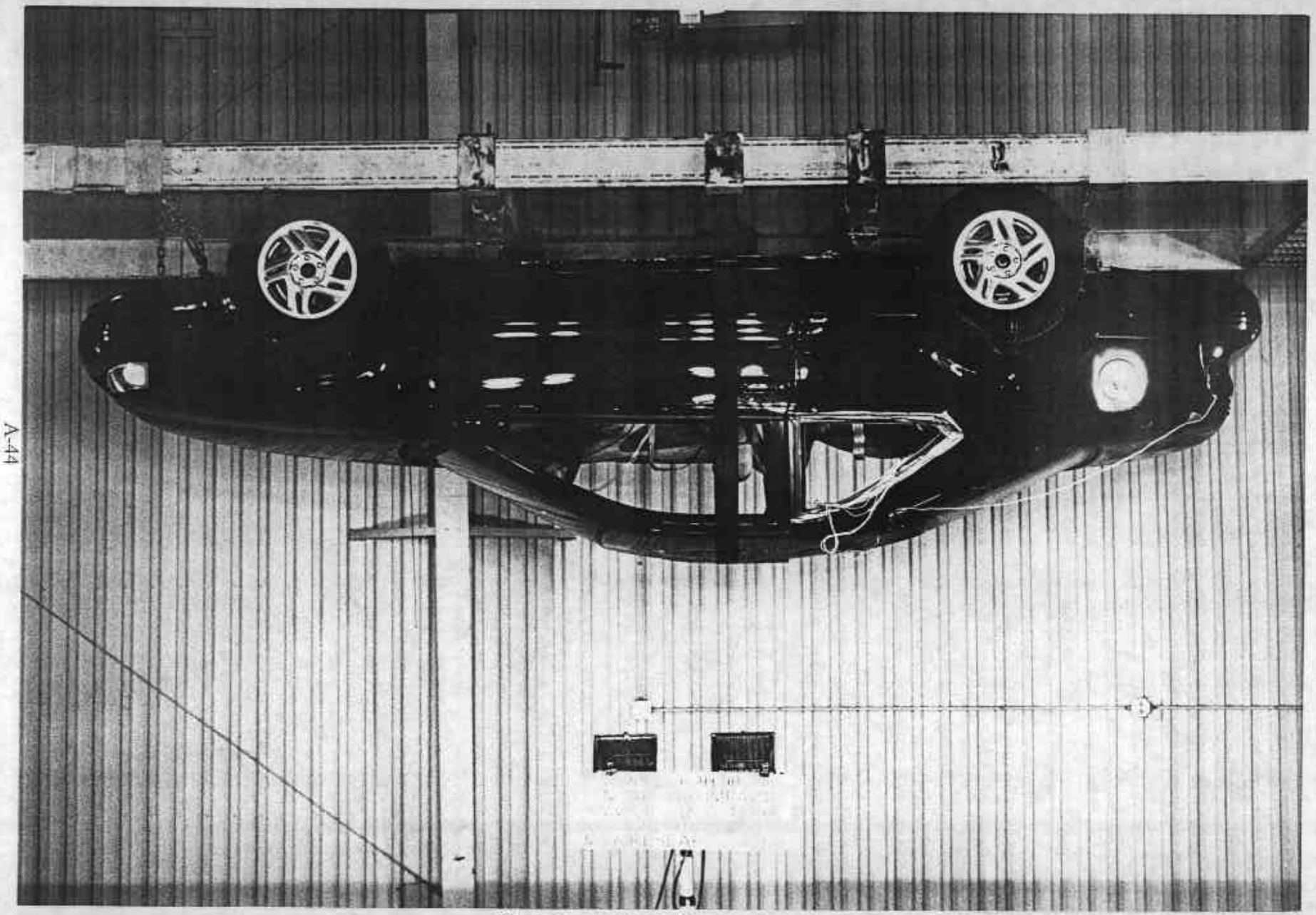


Photo No. A-44 - Rollover 180°

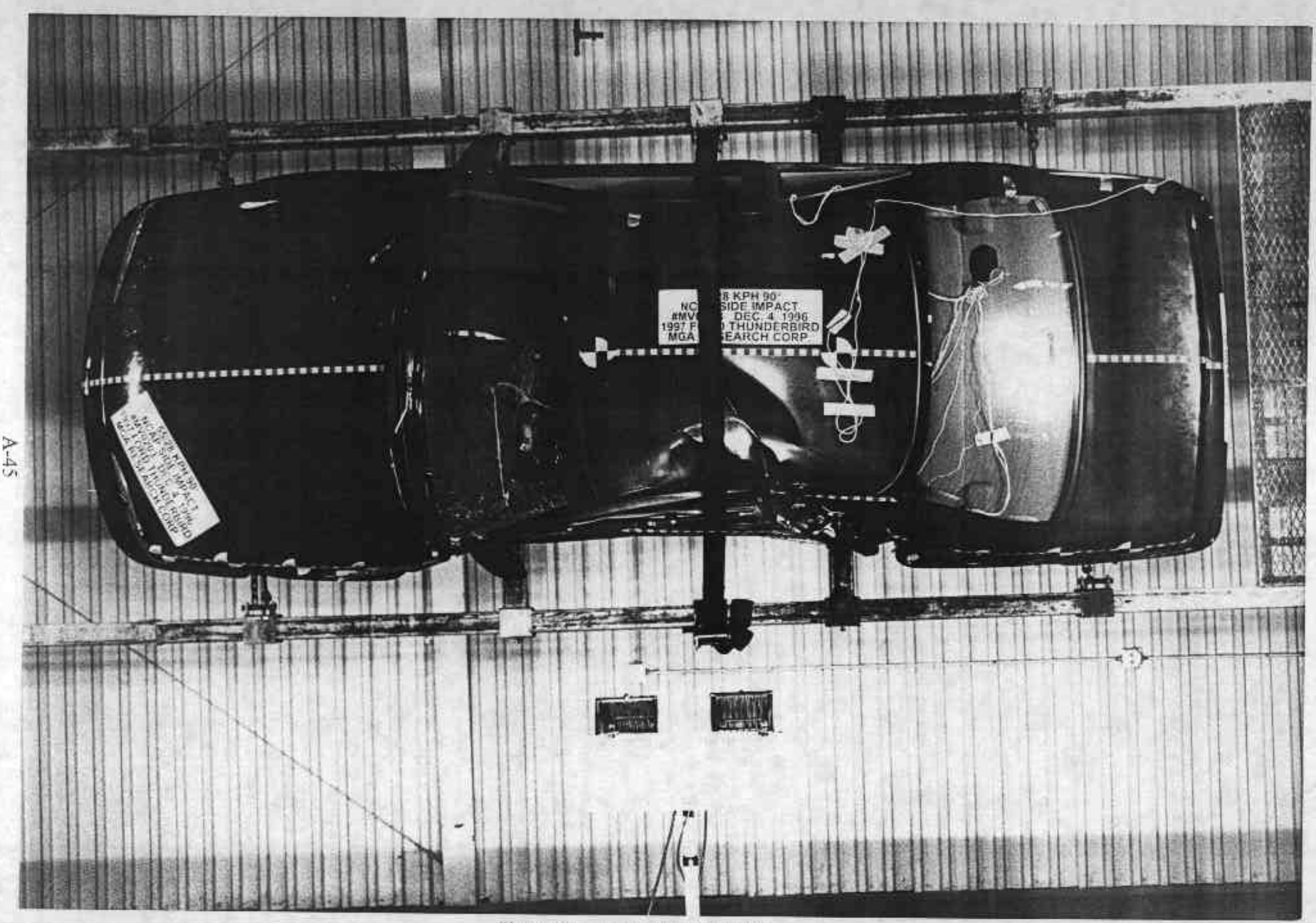
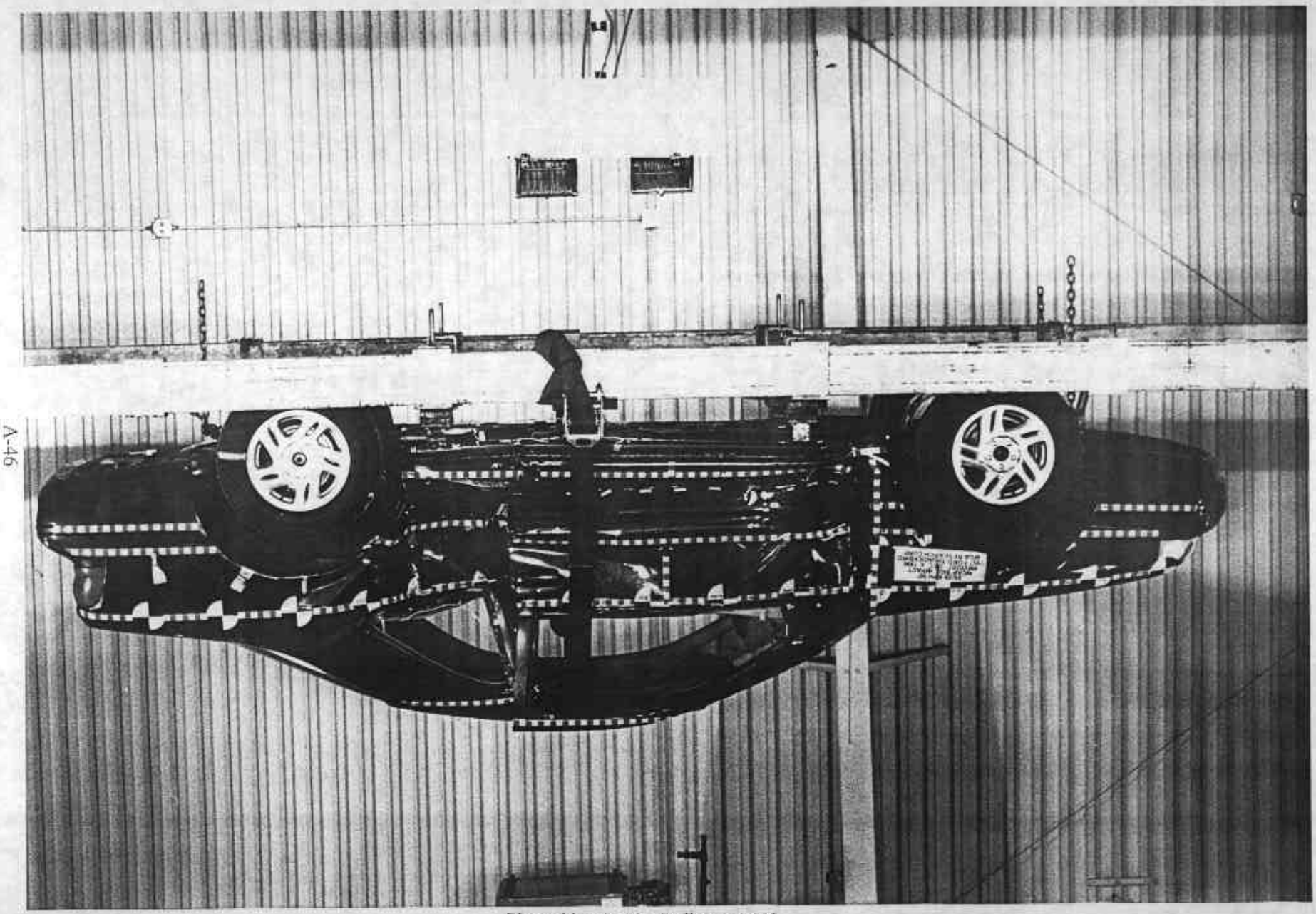


Photo No. A-45 - Rollover 270°

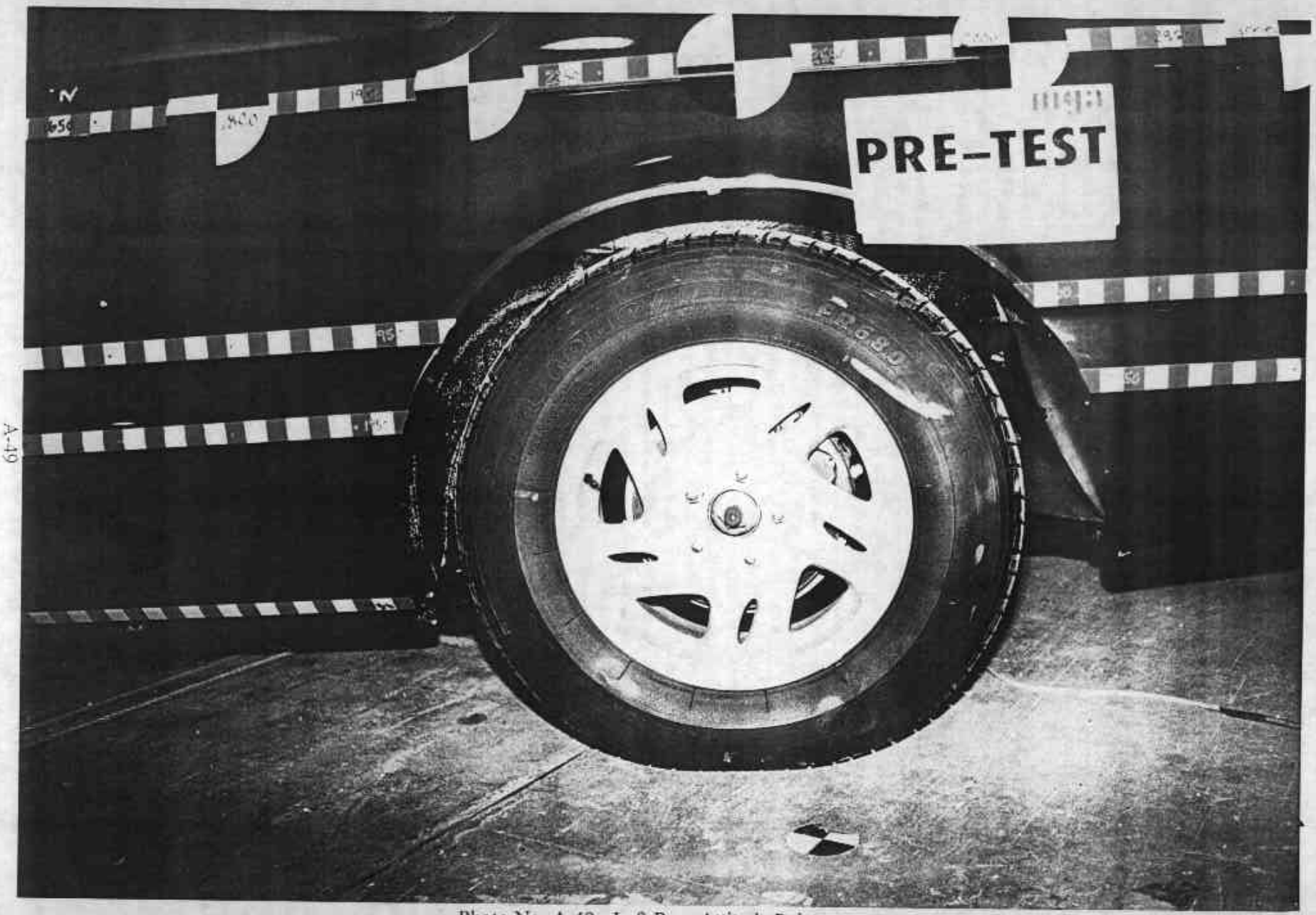


A-46

Photo No. A-46 - Rollover 360°

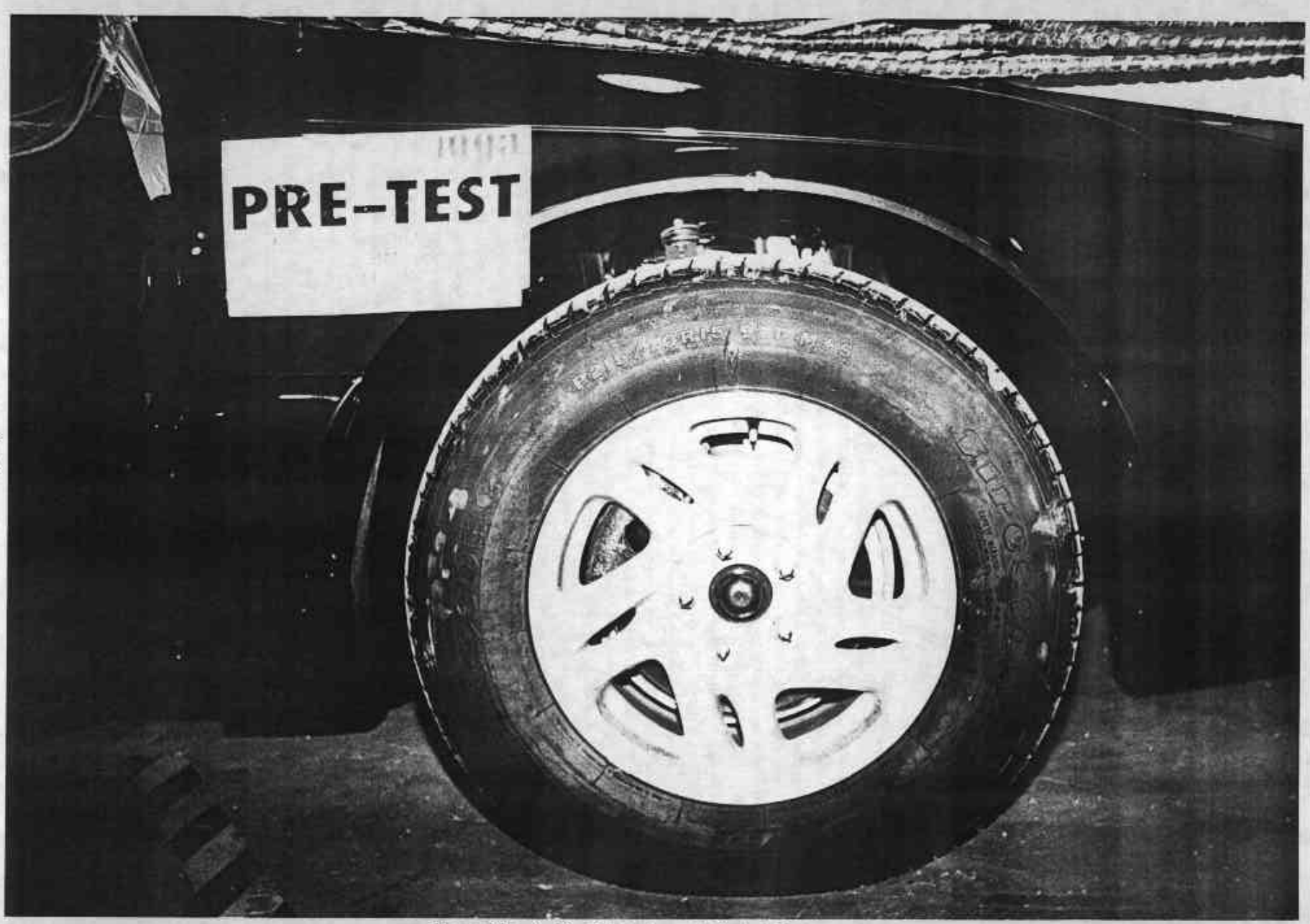
Photo No. A-47 - Left Front Attitude Point

Photo No. A-48 - Right Front Attitude Point



A-49

Photo No. A-49 - Left Rear Attitude Point



A-50

Photo No. A-50 - Right Rear Attitude Point

A-51

Photo No. A-51 - Post-Test Pillar Deformation

A-52

Photo No. A-52 - Post-Test Pillar Deformation

Photo No. A-53 - Post-Test Sill Separation

APPENDIX B - VEHICLE AND SID RESPONSE DATA

Table of Data Plots

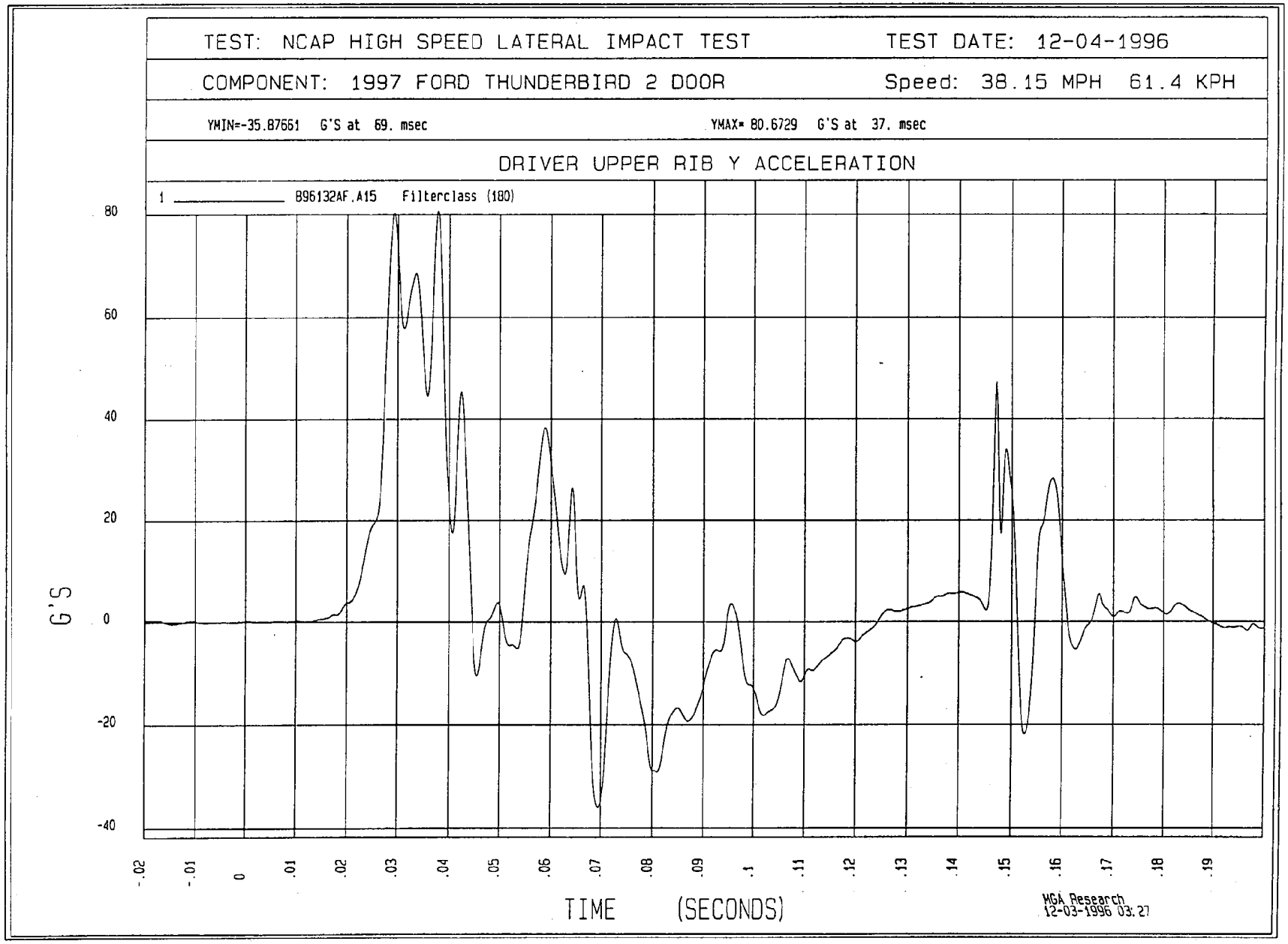
Table of Data Plots

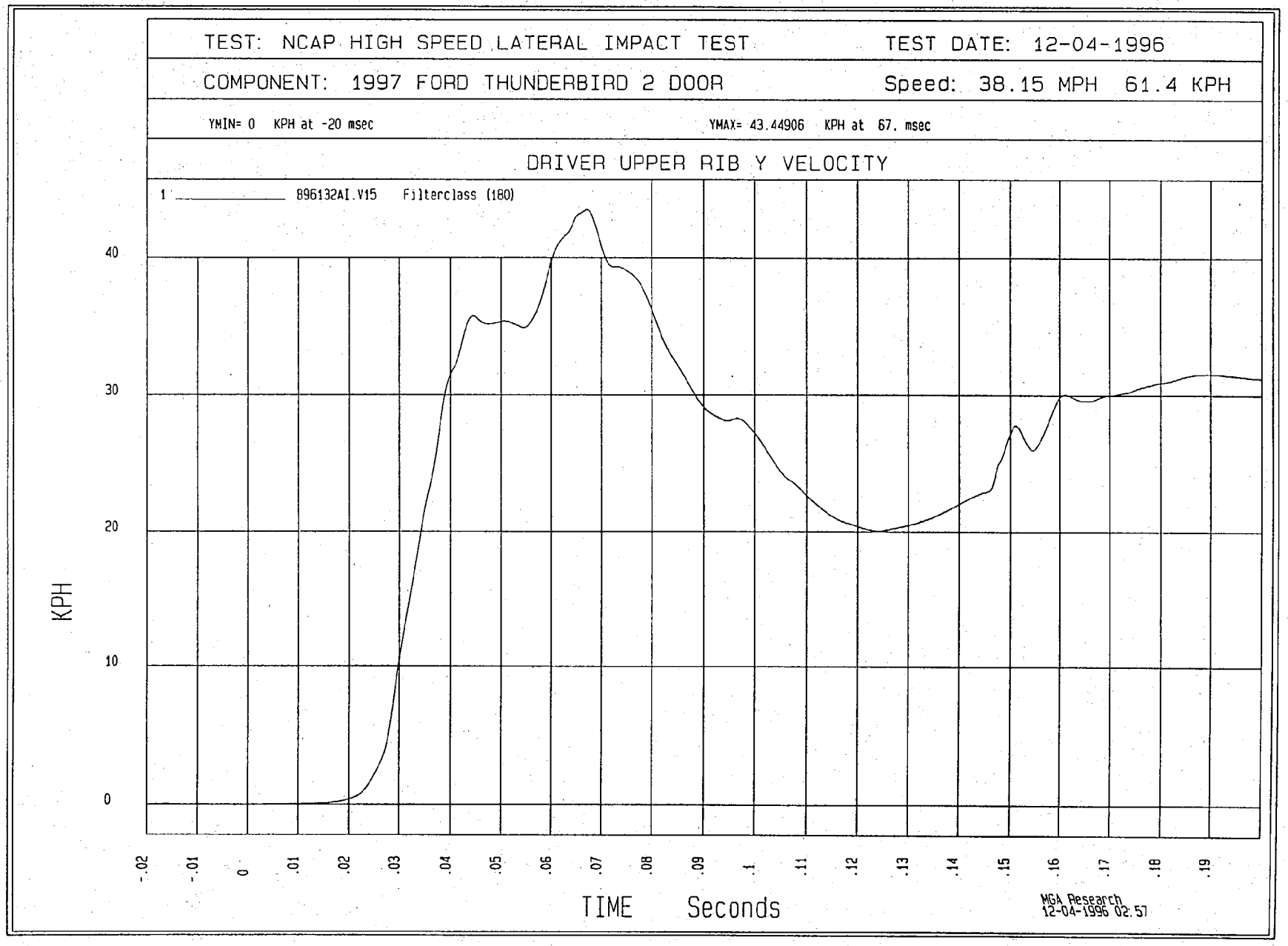
* No Valid Data Collected

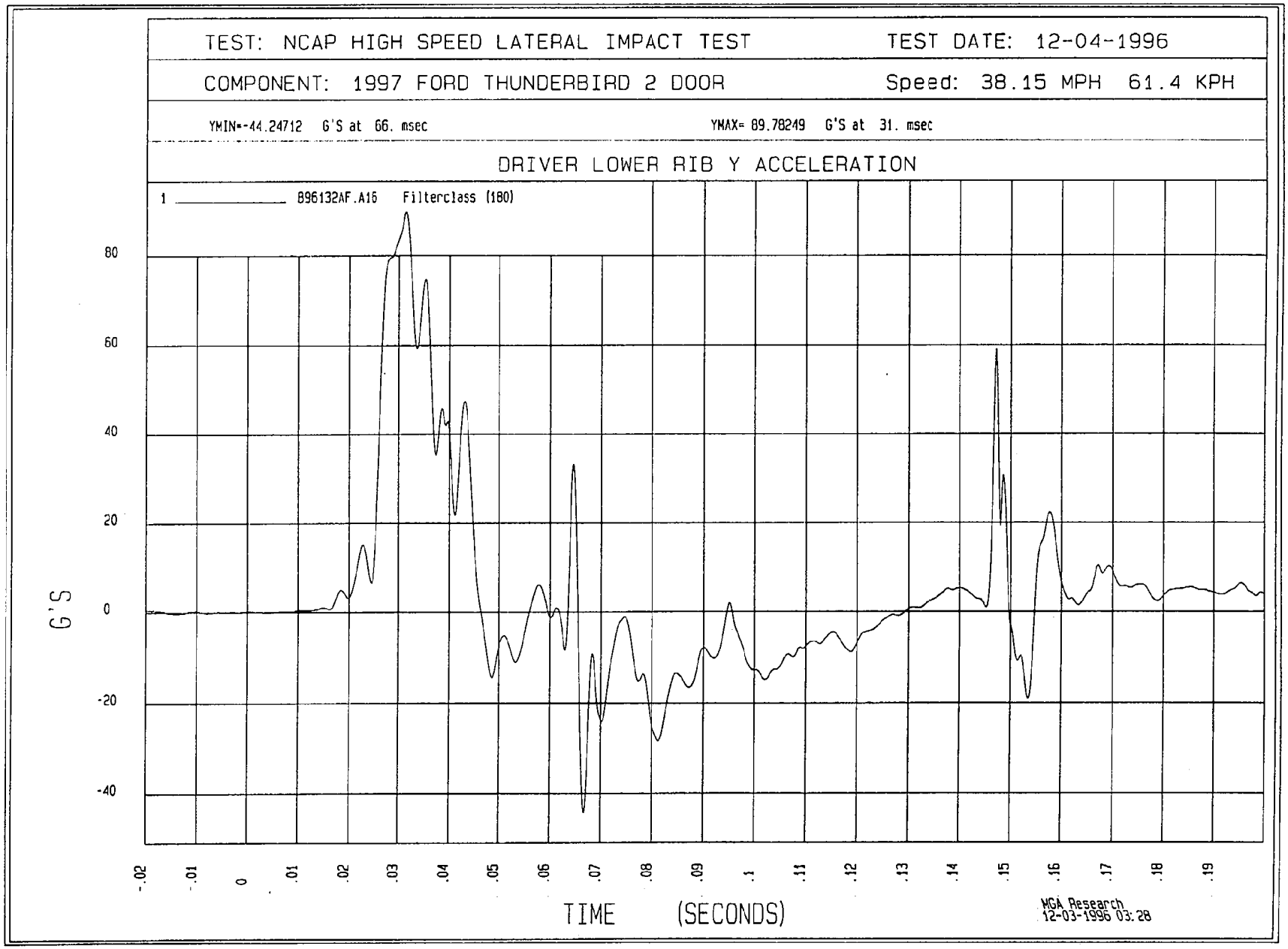
Table of Data Plots

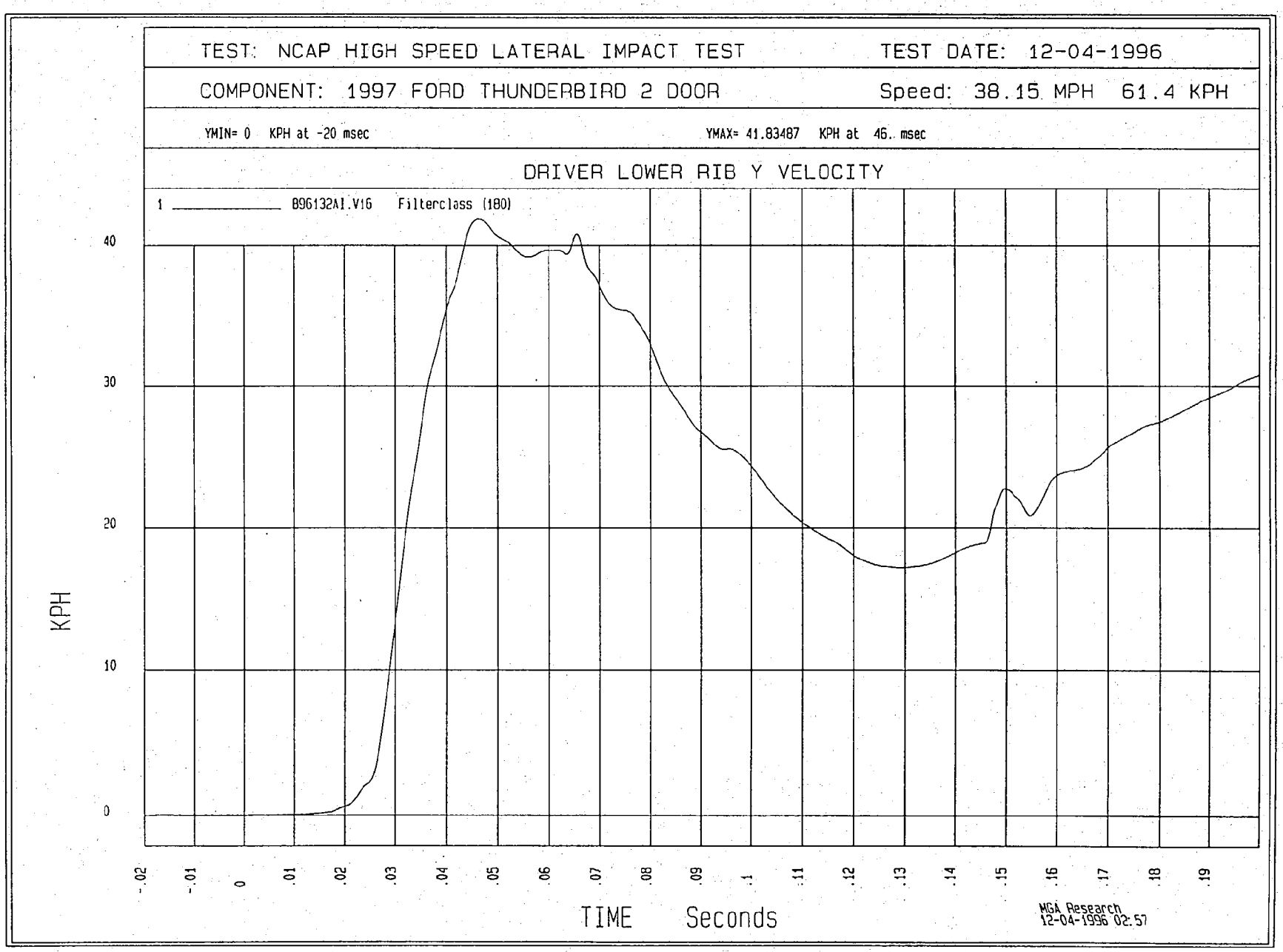
Table of Data Plots

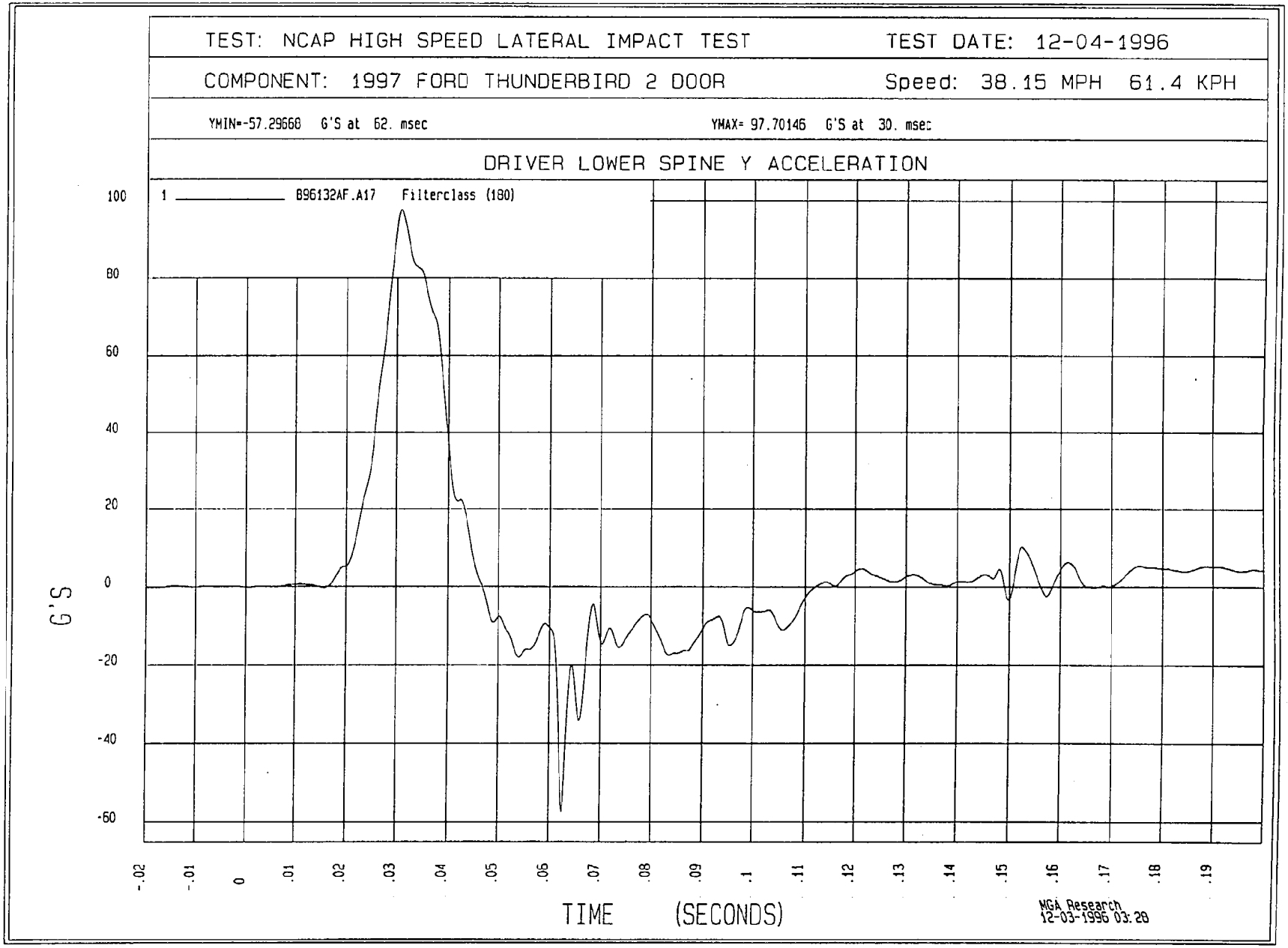
Table of Data Plots

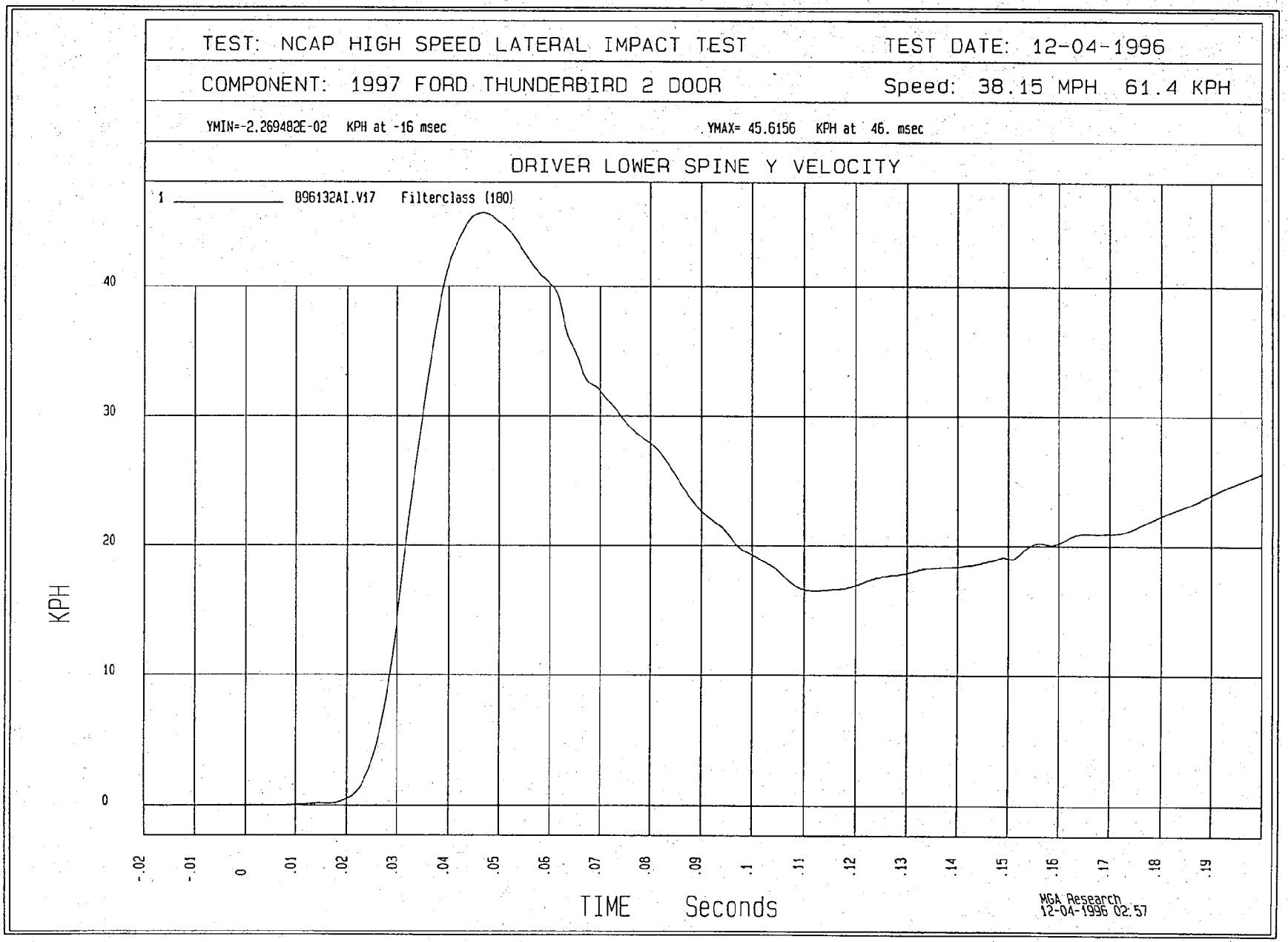

TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-35.87661 G'S at 69. msec
YMAX= 80.6729 G'S at 37. msec
DRIVER UPPER RIB Y ACCELERATION
1 B96132AF.A15 Filterclass (180)
80
60
40
20
0
-20
-40
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
12-03-1996 03:27

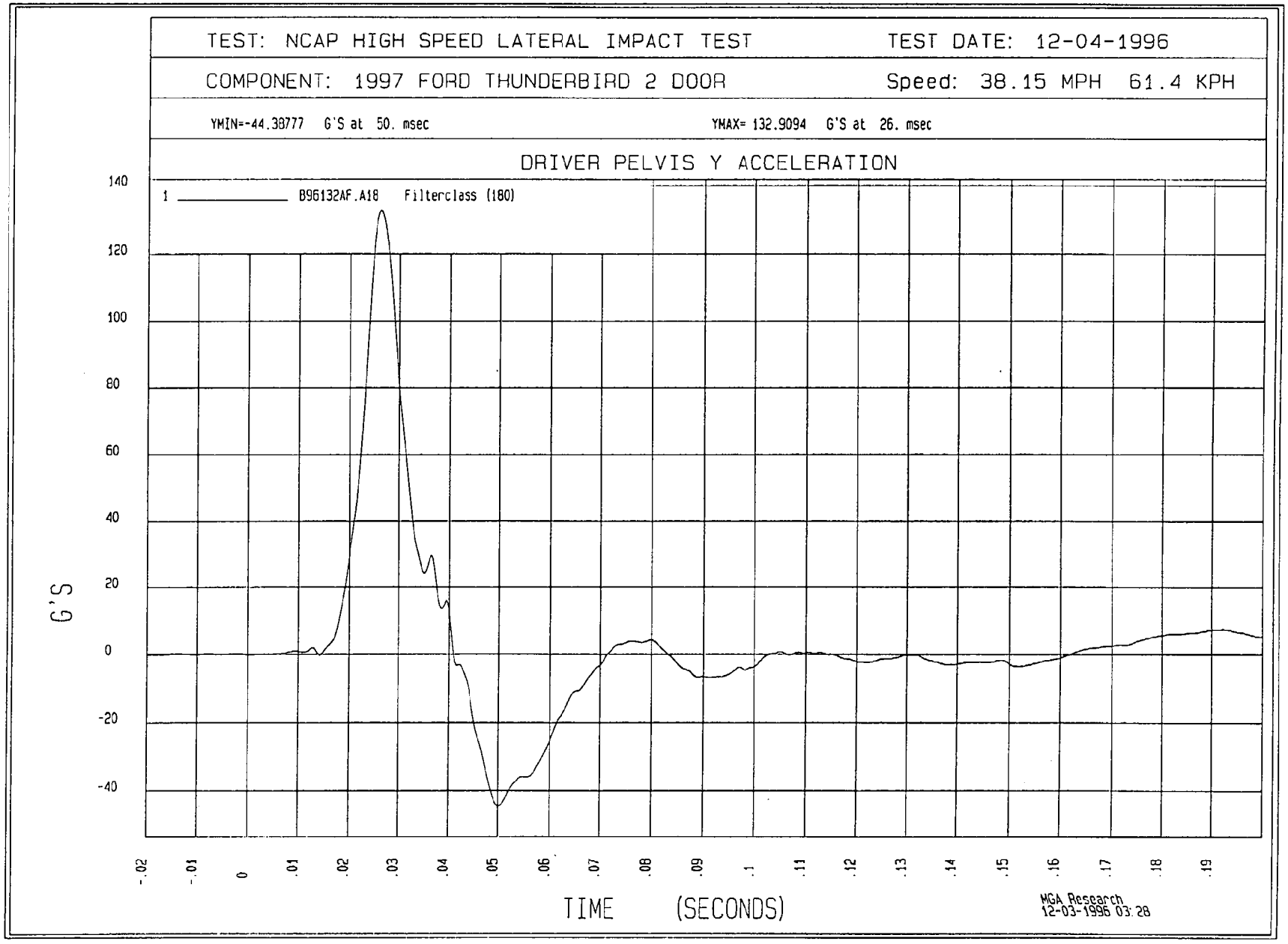

TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN= 0 KPH at -20 msec
YMAX= 43.44906 KPH at 67. msec
DRIVER UPPER RIB Y VELOCITY
1 896132AI.V15 Filterclass (180)
KPH
40
30
20
10
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME Seconds
MGA Research
12-04-1996 02:57


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-44.24712 G'S at 66. msec
YMAX= 89.78249 G'S at 31. msec
DRIVER LOWER RIB Y ACCELERATION
1 B96132AF.A16 Filterclass (180)
80
60
40
20
0
-20
-40
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
12-03-1996 03:28


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN= 0 KPH at -20 msec
YMAX= 41.83487 KPH at 46. msec
DRIVER LOWER RIB Y VELOCITY
1 B96132AI.V16 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
12-04-1996 02:57


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-57.29668 G'S at 62. msec
YMAX= 97.70146 G'S at 30. msec
DRIVER LOWER SPINE Y ACCELERATION
1 B96132AF.A17 Filterclass (180)
100
80
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
12-03-1996 03:28


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-2.269482E-02 KPH at -16 msec
YMAX= 45.6156 KPH at 46. msec
DRIVER LOWER SPINE Y VELOCITY
1 B96132AI.V17 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
12-04-1996 02:57


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-44.38777 G'S at 50. msec
YMAX= 132.9094 G'S at 26. msec
DRIVER PELVIS Y ACCELERATION
1 B96132AF.A18 Filterclass (180)
140
120
100
80
60
40
20
0
-20
-40
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
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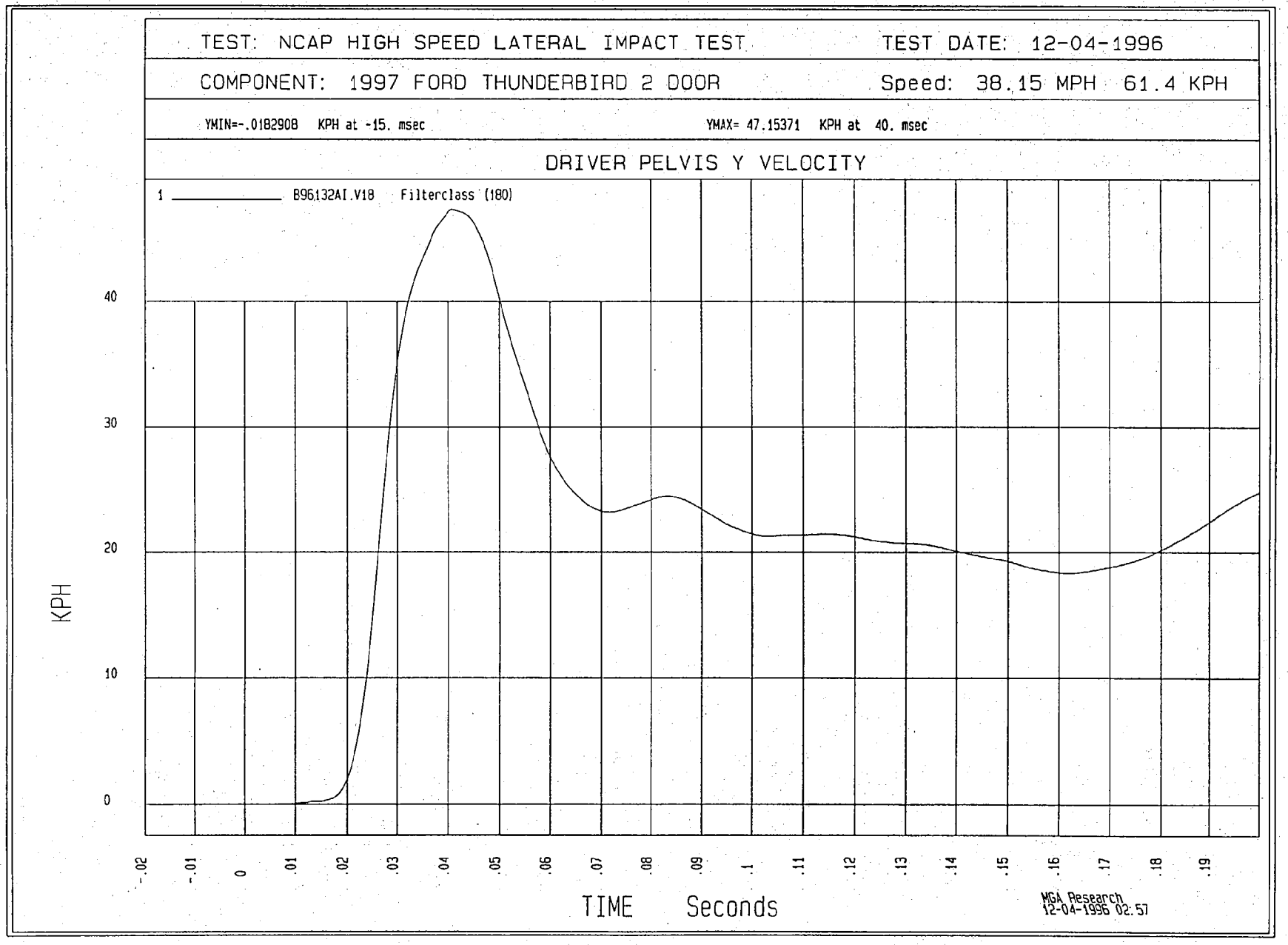
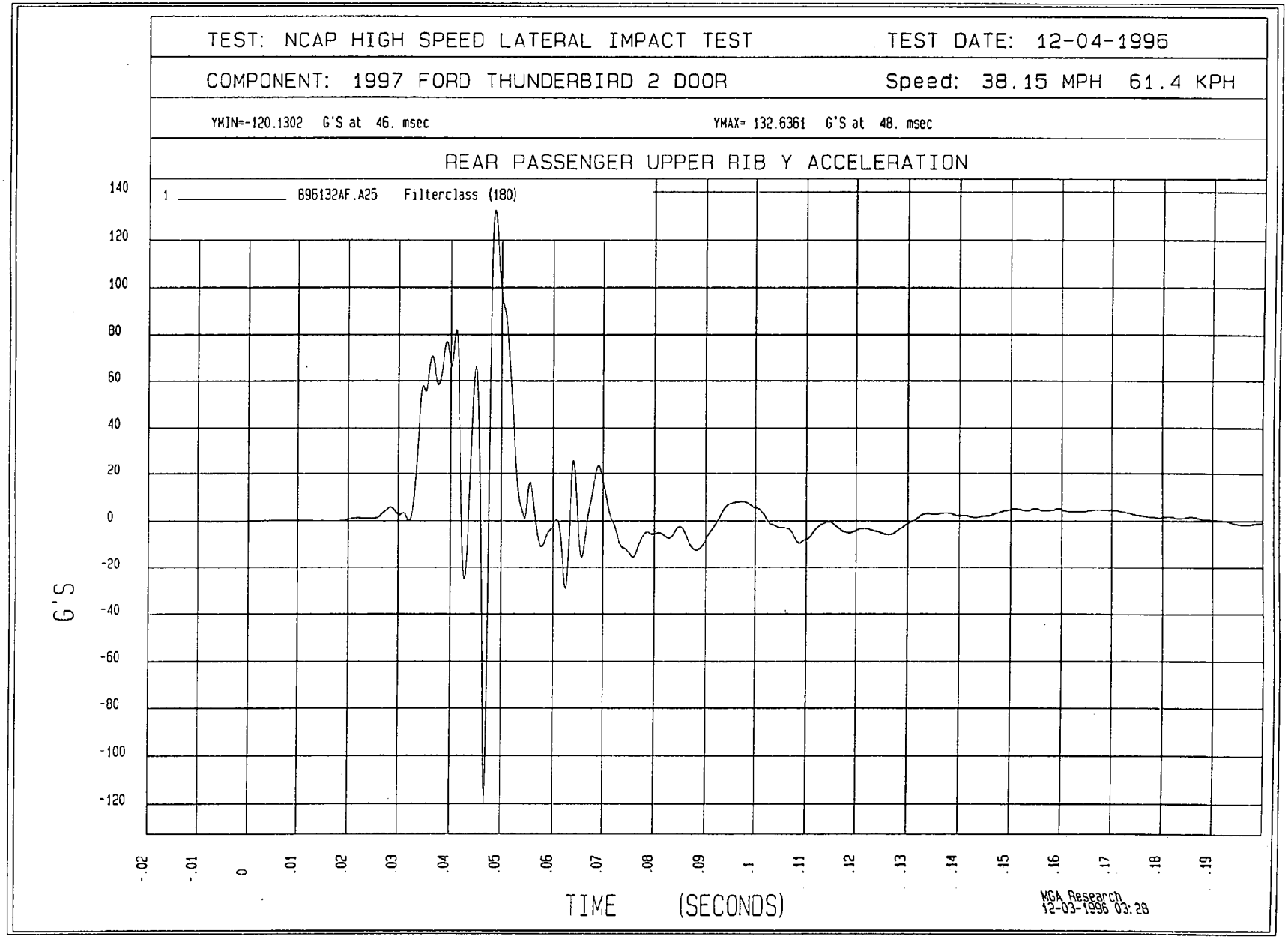
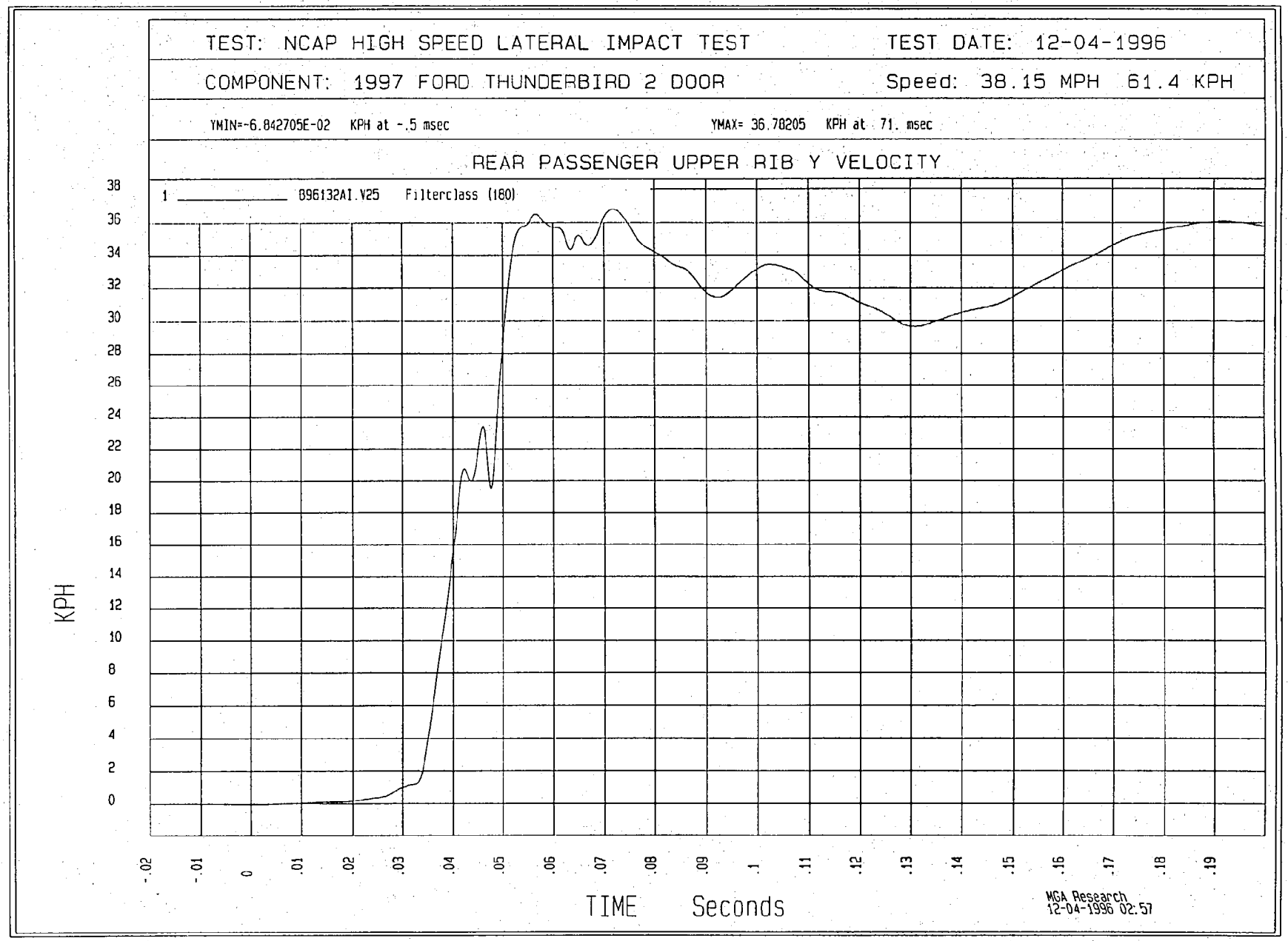
TIME (SECONDS)
MGA Research
12-03-1996 03:28


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-.0182908 KPH at -15. msec
YMAX= 47.15371 KPH at 40. msec
DRIVER PELVIS Y VELOCITY
1 B96132AI.V18 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
12-04-1996 02:57


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-120.1302 G'S at 46. msec
YMAX= 132.6361 G'S at 48. msec
REAR PASSENGER UPPER RIB Y ACCELERATION
1 B96132AF.A25 Filterclass (180)
140
120
100
80
60
40
20
0
-20
-40
-60
-80
-100
-120
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
12-03-1996 03:28


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-6.842705E-02 KPH at -.5 msec
YMAX= 36.78205 KPH at .71 msec
REAR PASSENGER UPPER RIB Y VELOCITY
1 B96132AI.V25 Filterclass (180)
KPH
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
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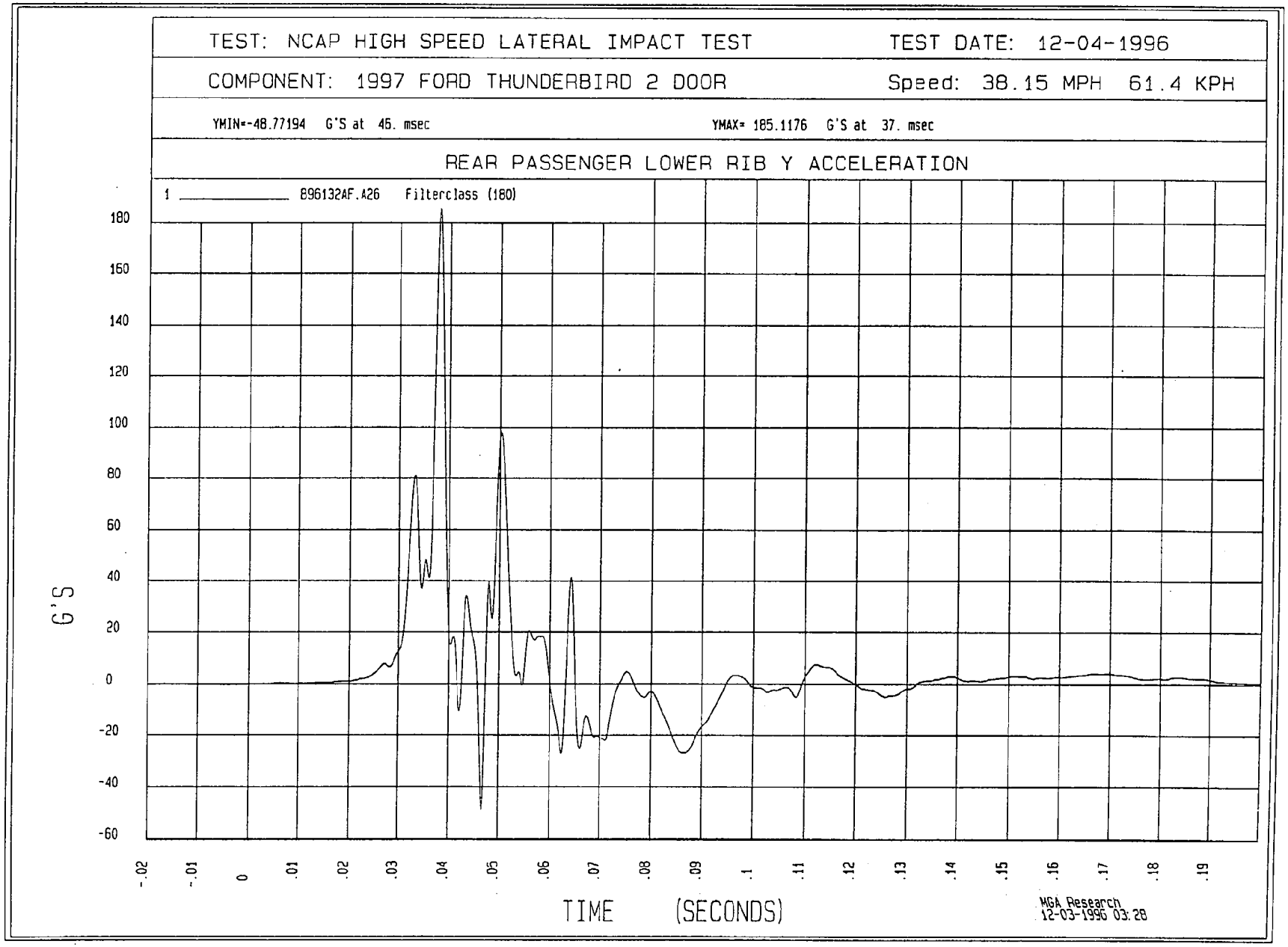
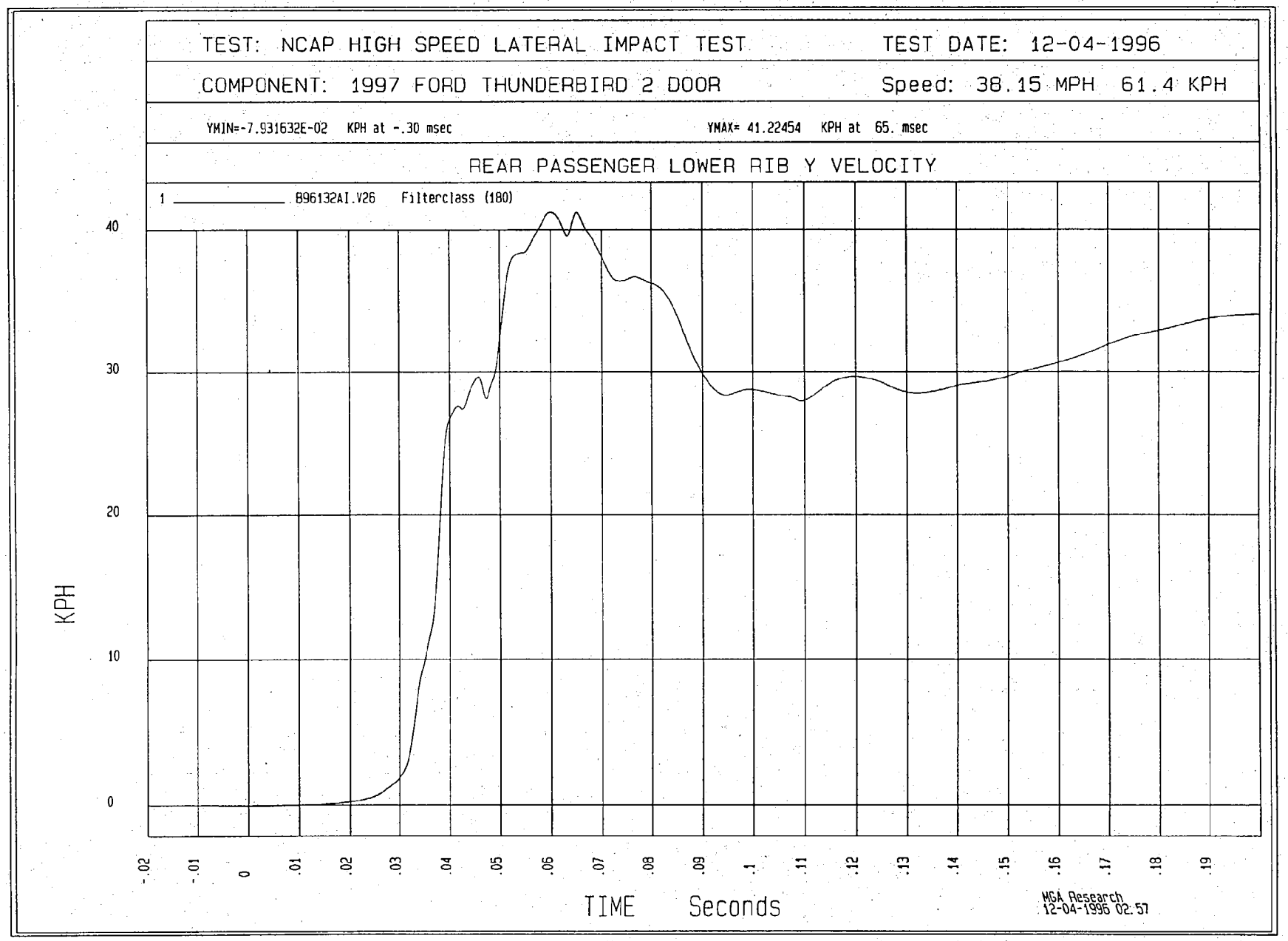
TIME Seconds
MGA Research
12-04-1996 02:57


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-48.77194 G'S at 45. msec
YMAX= 185.1176 G'S at 37. msec
REAR PASSENGER LOWER RIB Y ACCELERATION
1 896132AF.A26 Filterclass (180)
G'S
180
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)
MGA Research
12-03-1996 03:28


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-7.931632E-02 KPH at -.30 msec
YMAX= 41.22454 KPH at 65. msec
REAR PASSENGER LOWER RIB Y VELOCITY
1 B96132AI.V26 Filterclass (180)
KPH
40
30
20
10
0
-.02
-.01
0
.01
.02
.03
.04
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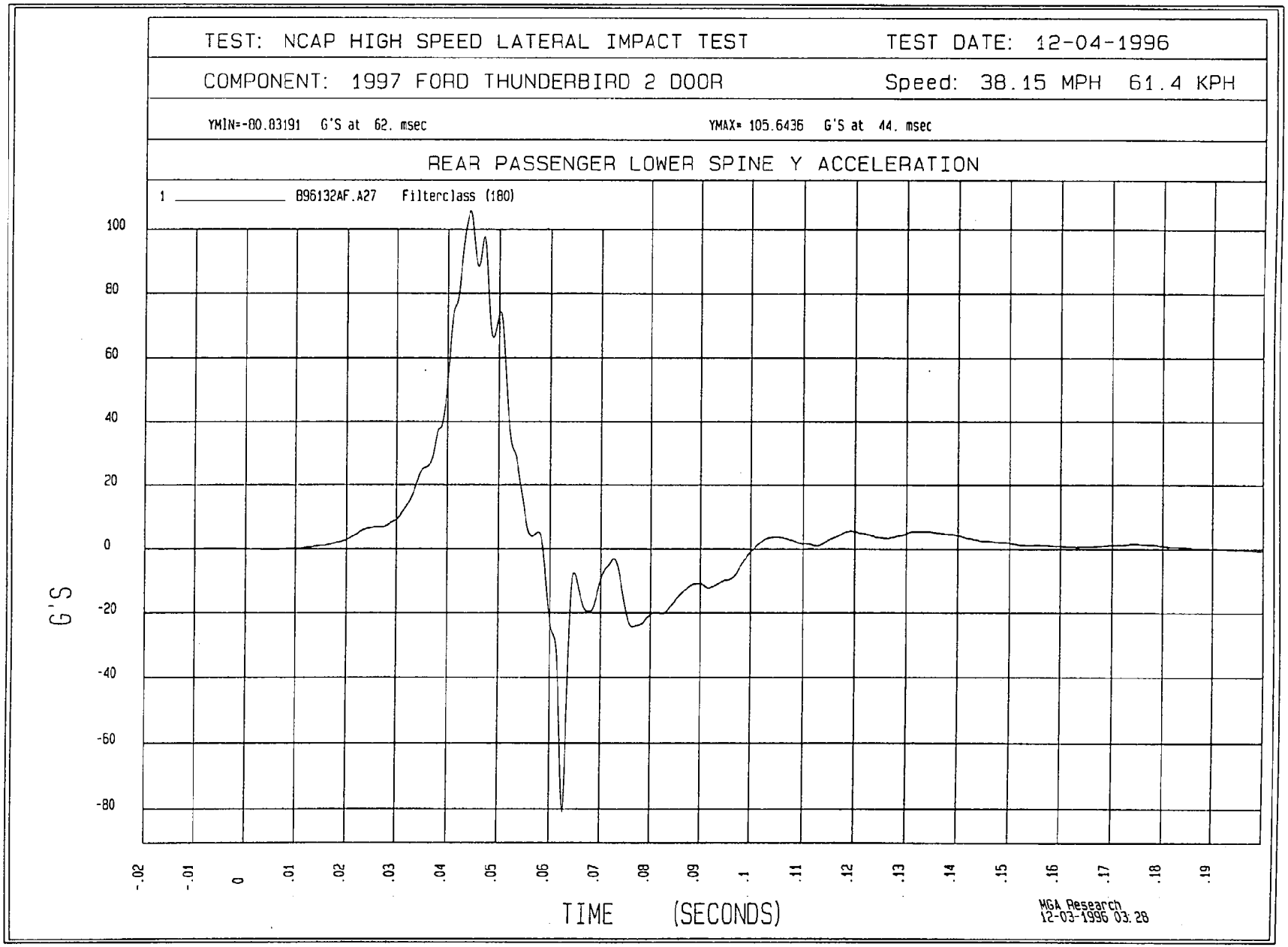
TIME Seconds
MGA Research
12-04-1996 02:57


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-80.83191 G'S at 62. msec
YMAX= 105.6436 G'S at 44. msec
REAR PASSENGER LOWER SPINE Y ACCELERATION
1 B96132AF.A27 Filterclass (180)
100
80
60
40
20
0
-20
-40
-60
-80
G'S
-.02
-.01
0
.01
.02
.03
.04
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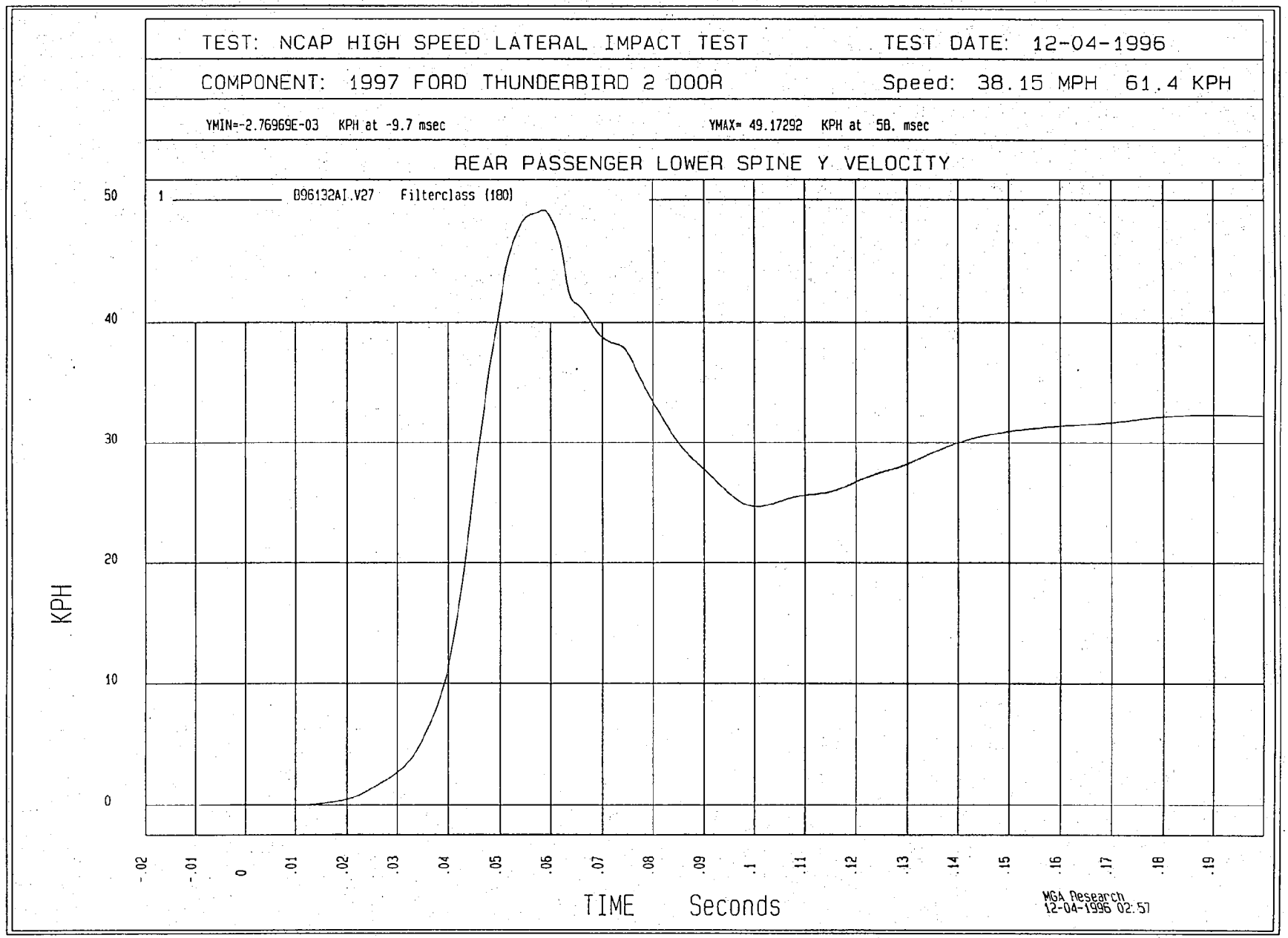
TIME (SECONDS)
MGA Research
12-03-1996 03:28


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-2.76969E-03 KPH at -9.7 msec
YMAX= 49.17292 KPH at 58. msec
REAR PASSENGER LOWER SPINE Y VELOCITY
1 096132AI.V27 Filterclass (180)
KPH
50
40
30
20
10
0
-.02
-.01
0
.01
.02
.03
.04
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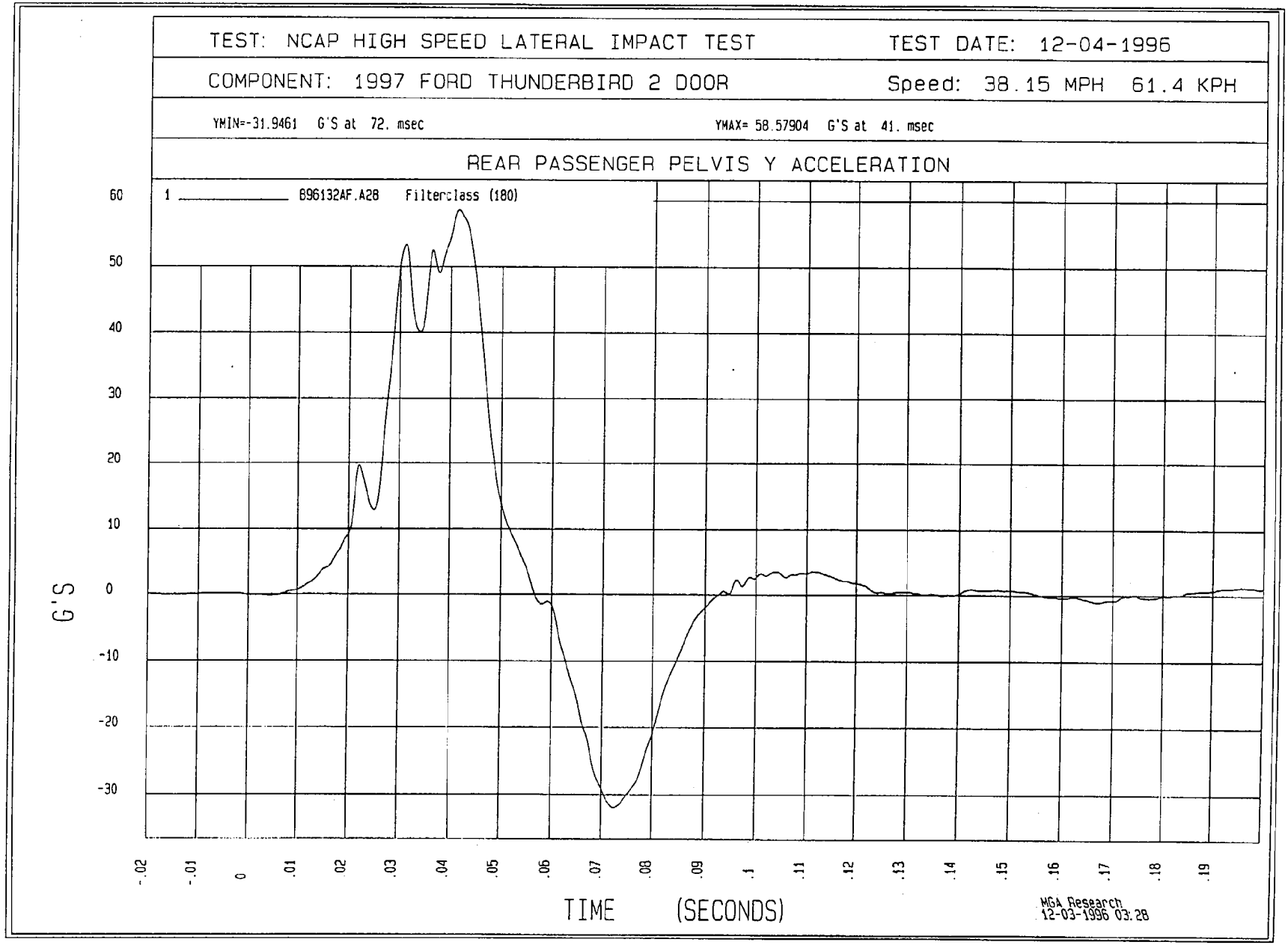
TIME Seconds
MGA Research
12-04-1996 02:57


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-31.9461 G'S at 72. msec
YMAX= 58.57904 G'S at 41. msec
REAR PASSENGER PELVIS Y ACCELERATION
1 B96132AF.A28 Filterclass (180)
60
50
40
30
20
10
0
-10
-20
-30
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
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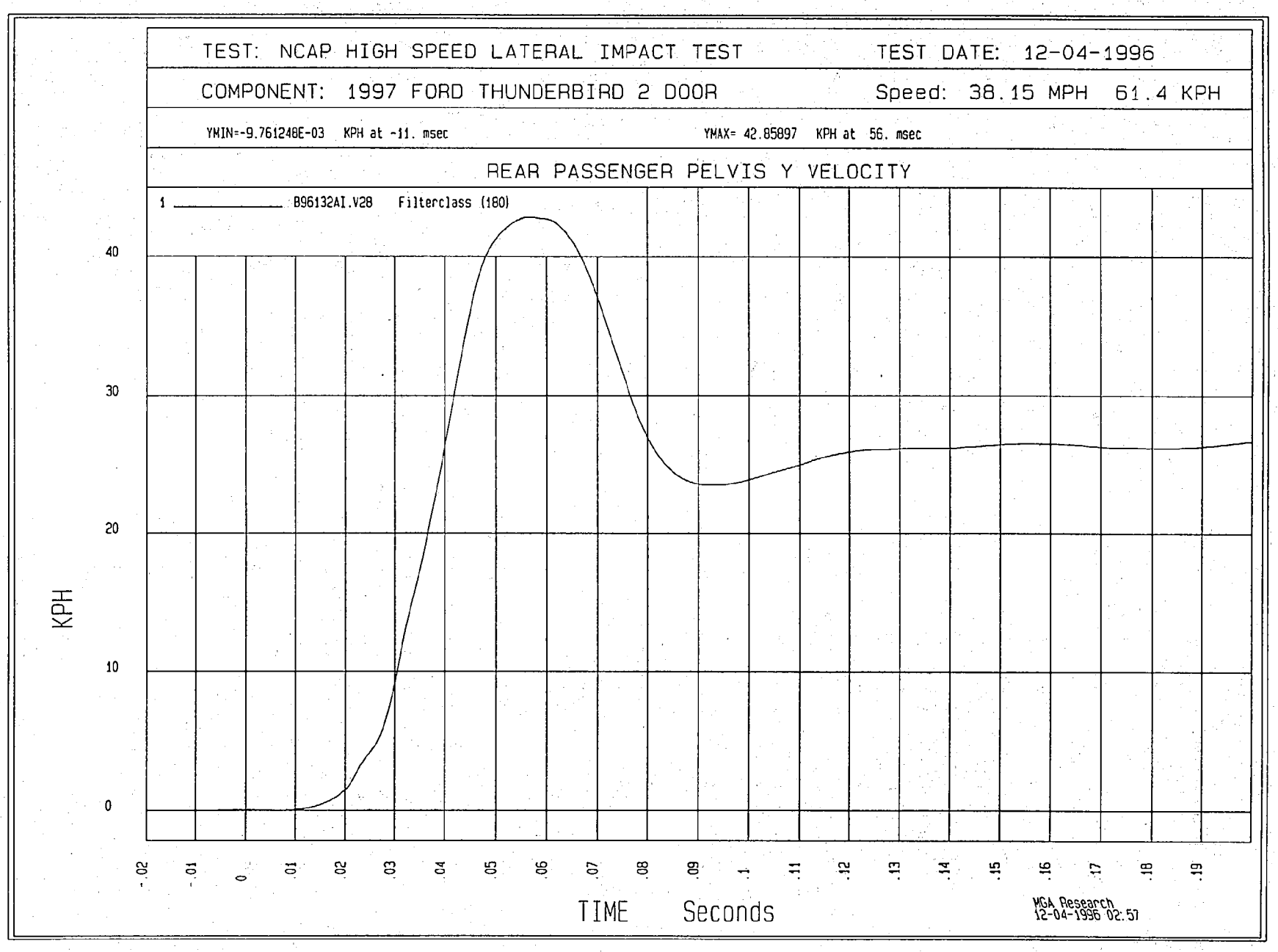
TIME (SECONDS)
MGA Research
12-03-1996 03:28


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-9.761248E-03 KPH at -11. msec
YMAX= 42.85897 KPH at 56. msec
REAR PASSENGER PELVIS Y VELOCITY
1 B96132AI.V28 Filterclass (180)
KPH
40
30
20
10
0
-.02
-.01
0
.01
.02
.03
.04
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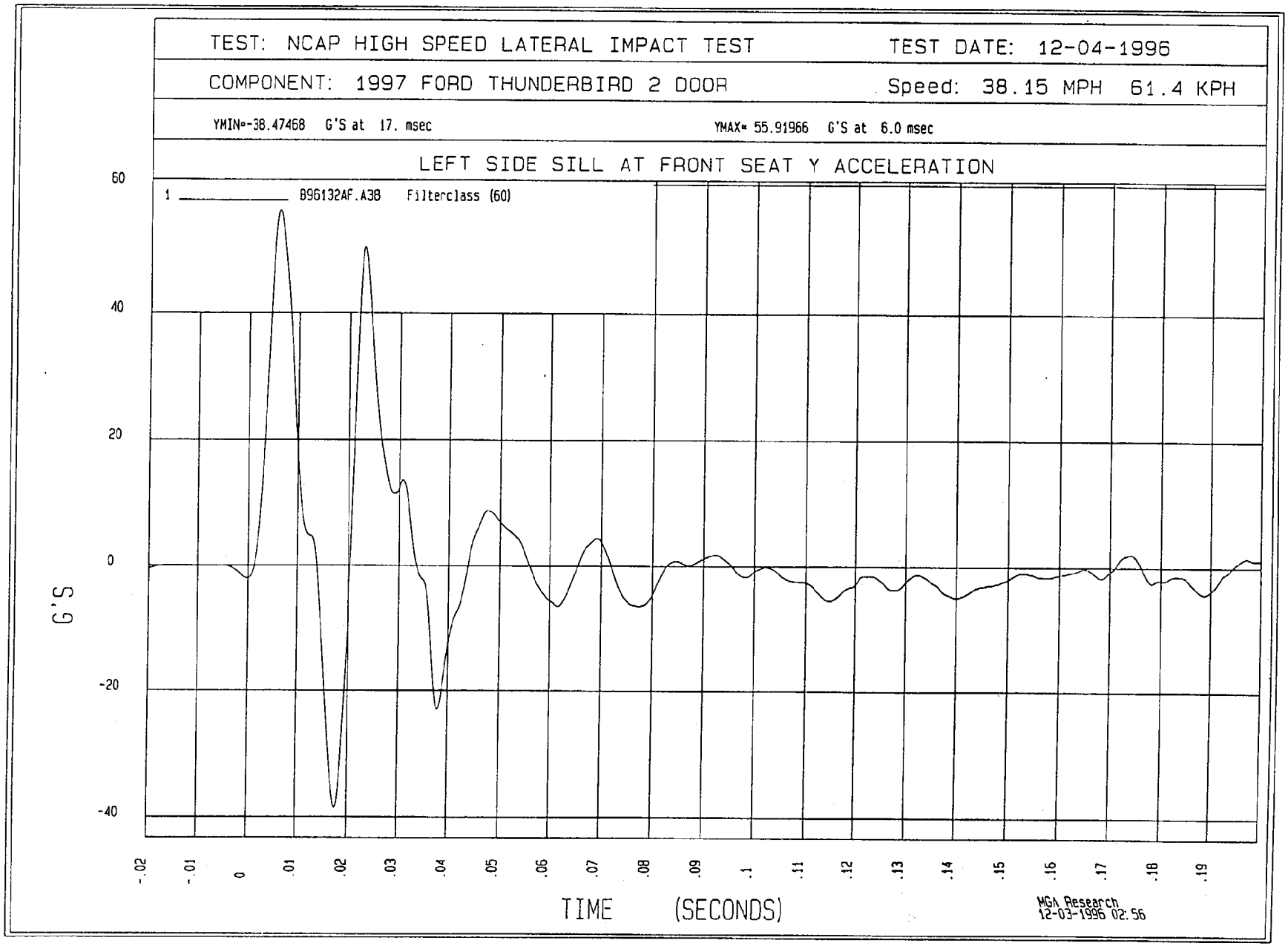
TIME Seconds
MGA Research
12-04-1996 02:57


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-38.47468 G'S at 17. msec
YMAX= 55.91966 G'S at 6.0 msec
LEFT SIDE SILL AT FRONT SEAT Y ACCELERATION
1 B96132AF.A38 Filterclass (60)
60
40
20
0
-20
-40
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
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.07
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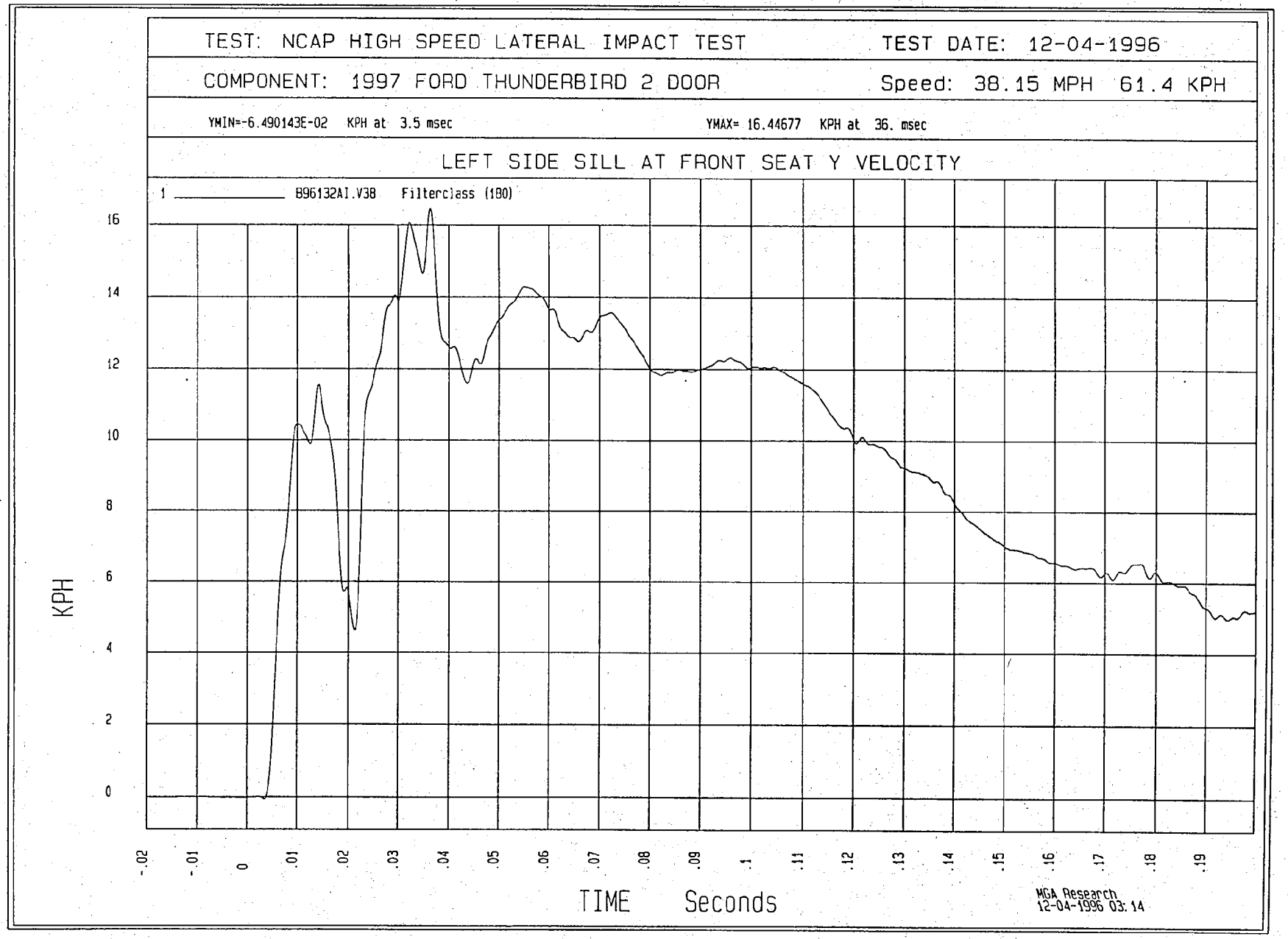
TIME (SECONDS)
MGA Research
12-03-1996 02:56


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-6.490143E-02 KPH at 3.5 msec
YMAX= 16.44677 KPH at 36. msec
LEFT SIDE SILL AT FRONT SEAT Y VELOCITY
1 B96132AI.V38 Filterclass (180)
KPH
16
14
12
10
8
6
4
2
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
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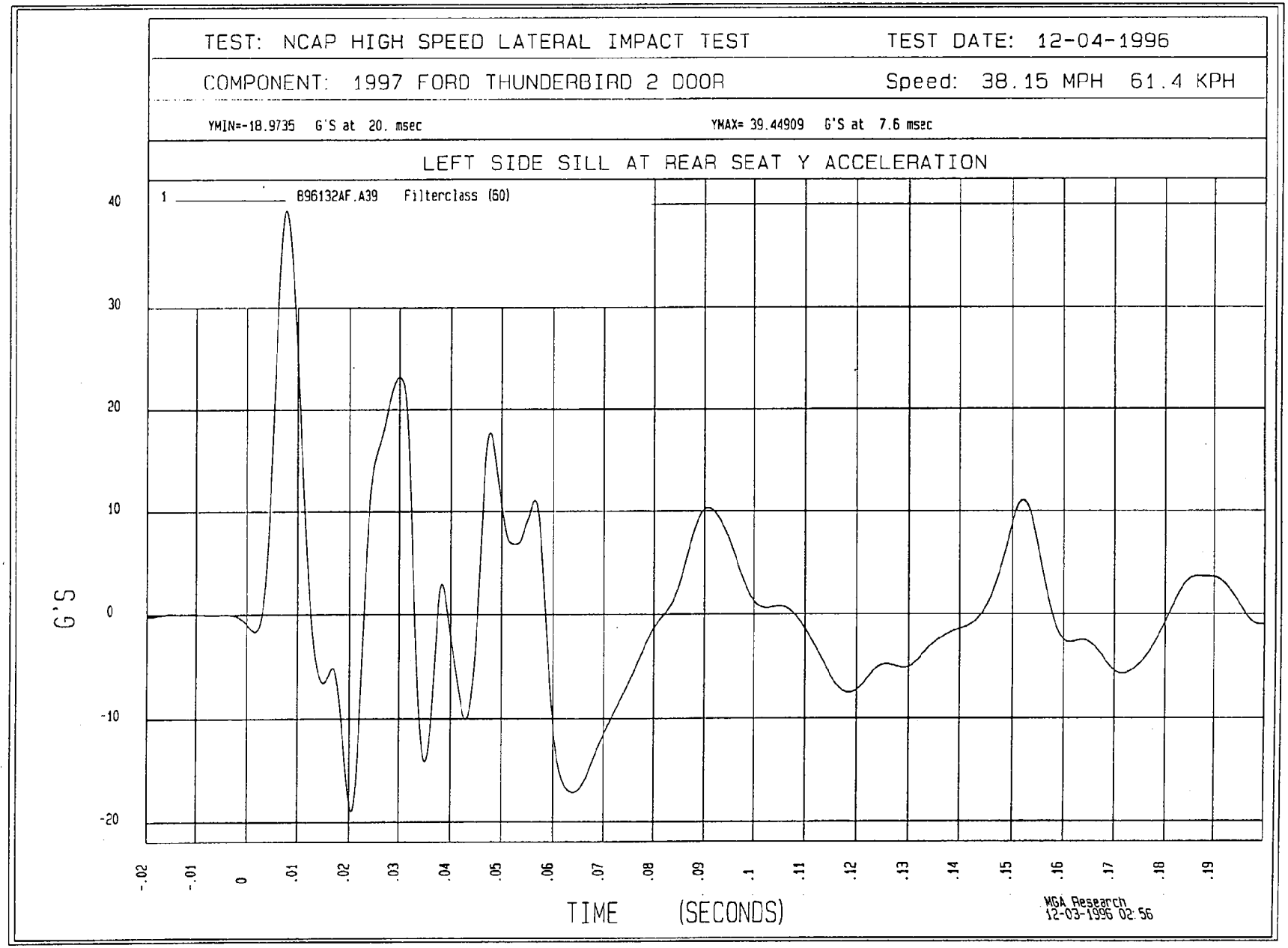
TIME Seconds
MGA Research
12-04-1996 03:14


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-18.9735 G'S at 20. msec
YMAX= 39.44909 G'S at 7.6 msec
LEFT SIDE SILL AT REAR SEAT Y ACCELERATION
1 B96132AF.A39 Filterclass (60)
G'S
40
30
20
10
0
-10
-20
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
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.14
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.18
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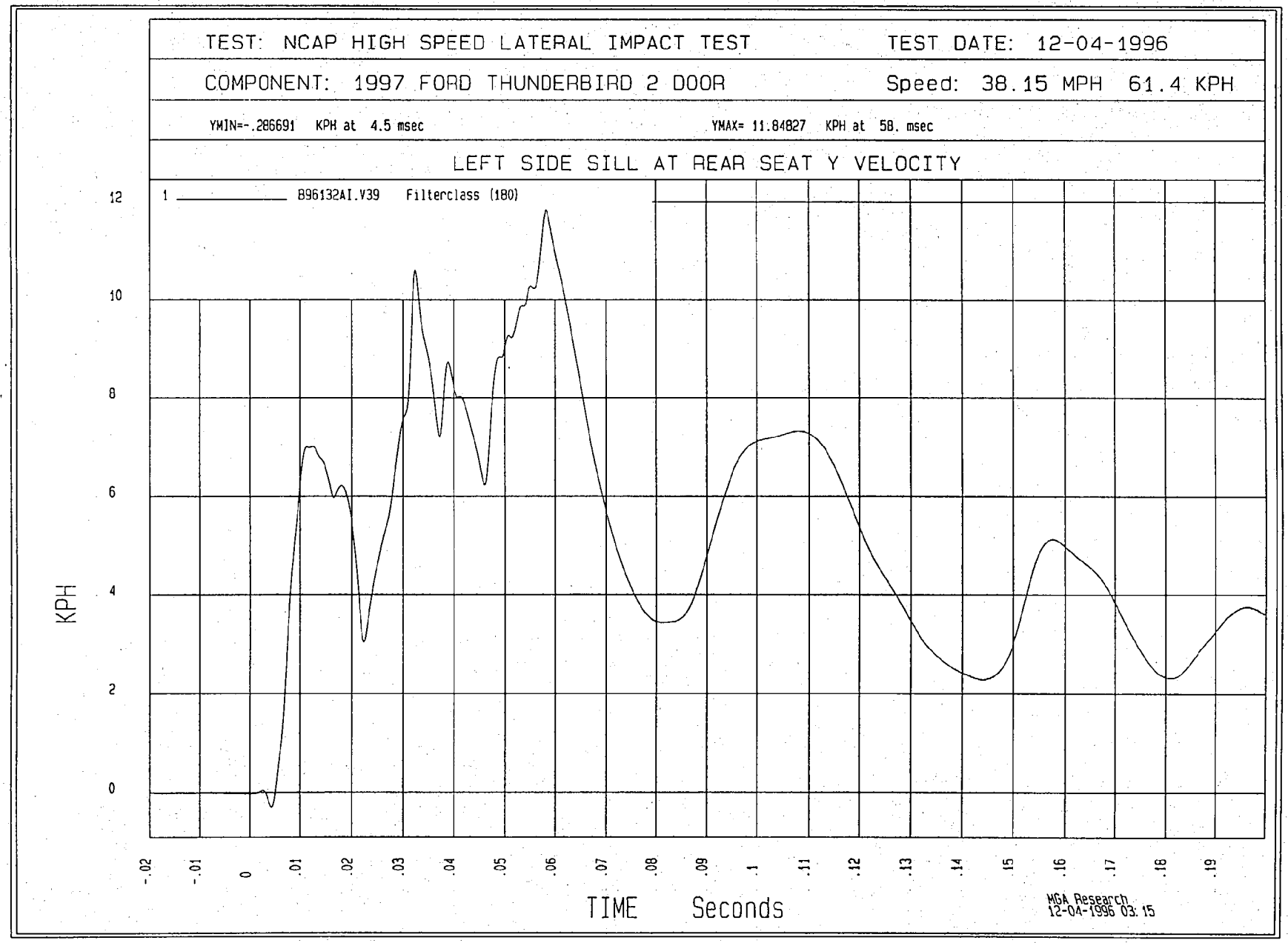
TIME (SECONDS)
WGA Research
12-03-1996 02:56


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-.286691 KPH at 4.5 msec
YMAX= 11.84827 KPH at 58. msec
LEFT SIDE SILL AT REAR SEAT Y VELOCITY
1 B96132AI.V39 Filterclass (180)
KPH
12
10
8
6
4
2
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
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.14
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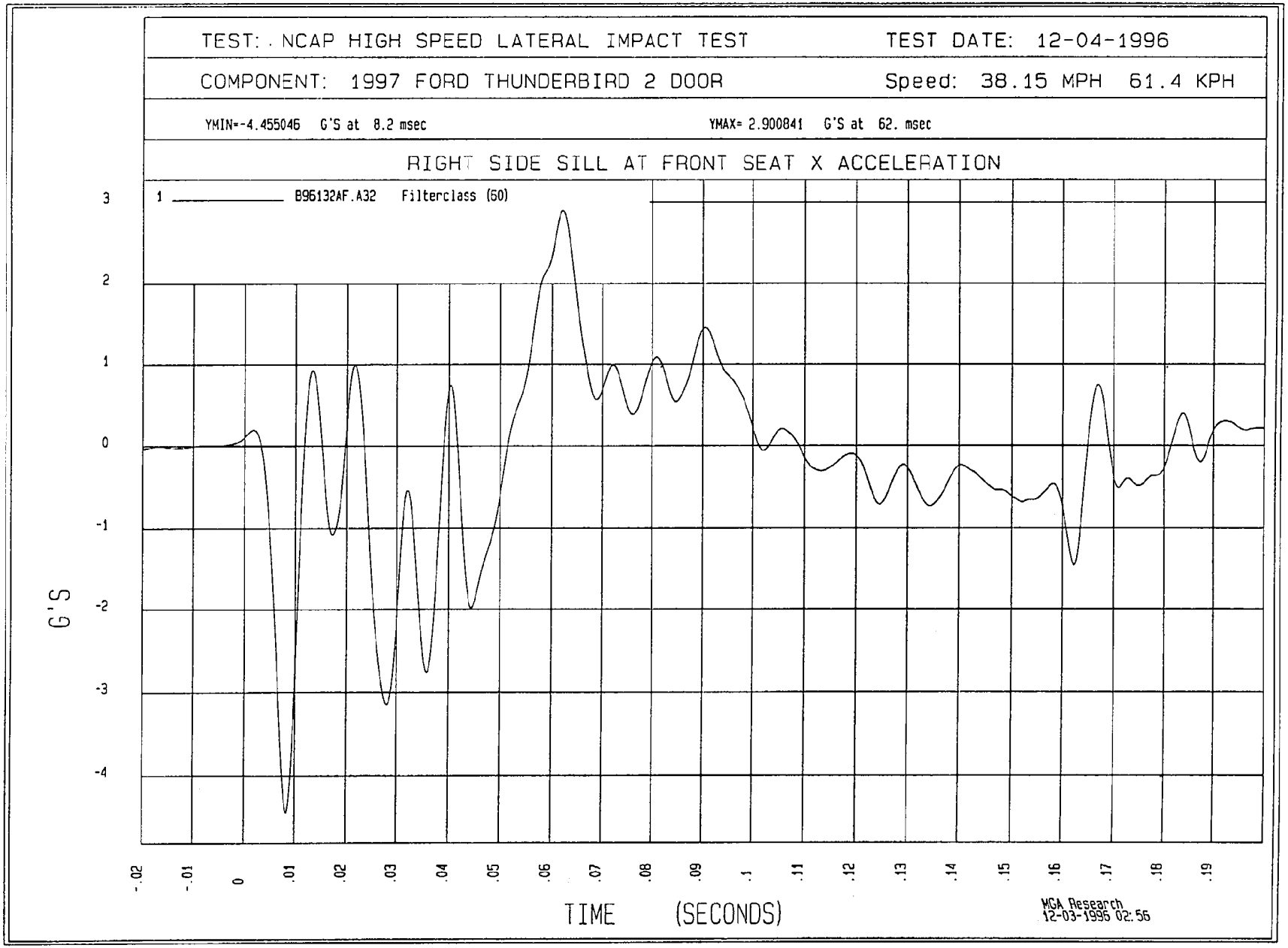
.19
TIME Seconds
MGA Research
12-04-1996 03:15


TEST: . NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-4.455046 G'S at 8.2 msec
YMAX= 2.900841 G'S at 62. msec
RIGHT SIDE SILL AT FRONT SEAT X ACCELERATION
1 B96132AF.A32 Filterclass (60)
3
2
1
0
-1
-2
-3
-4
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
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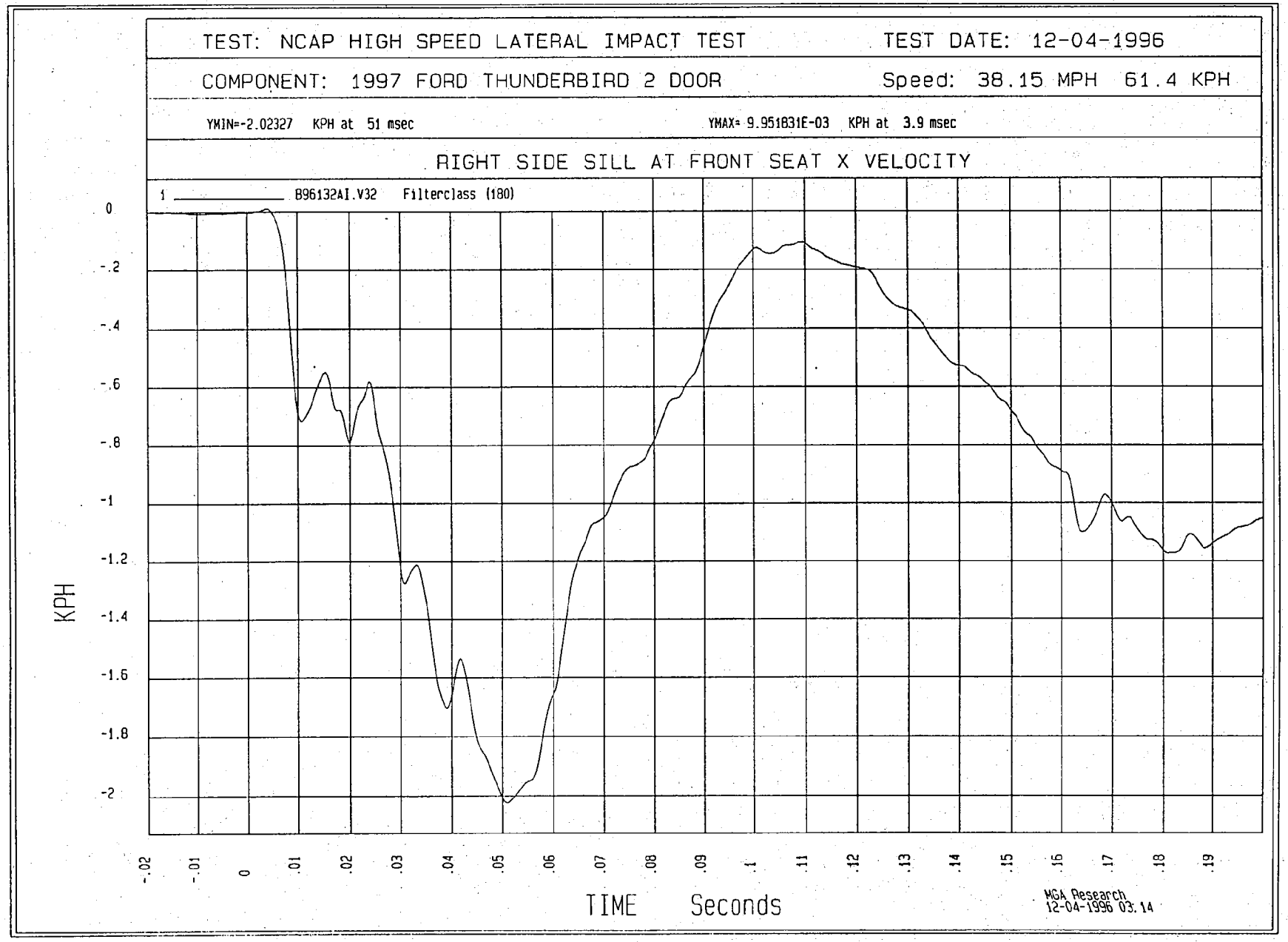
TIME (SECONDS)
MGA Research
12-03-1996 02:56


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-2.02327 KPH at 51 msec
YMAX= 9.951831E-03 KPH at 3.9 msec
RIGHT SIDE SILL AT FRONT SEAT X VELOCITY
1 B96132AI.V32 Filterclass (180)
KPH
0
-.2
-.4
-.6
-.8
-1
-1.2
-1.4
-1.6
-1.8
-2
-.02
-.01
0
.01
.02
.03
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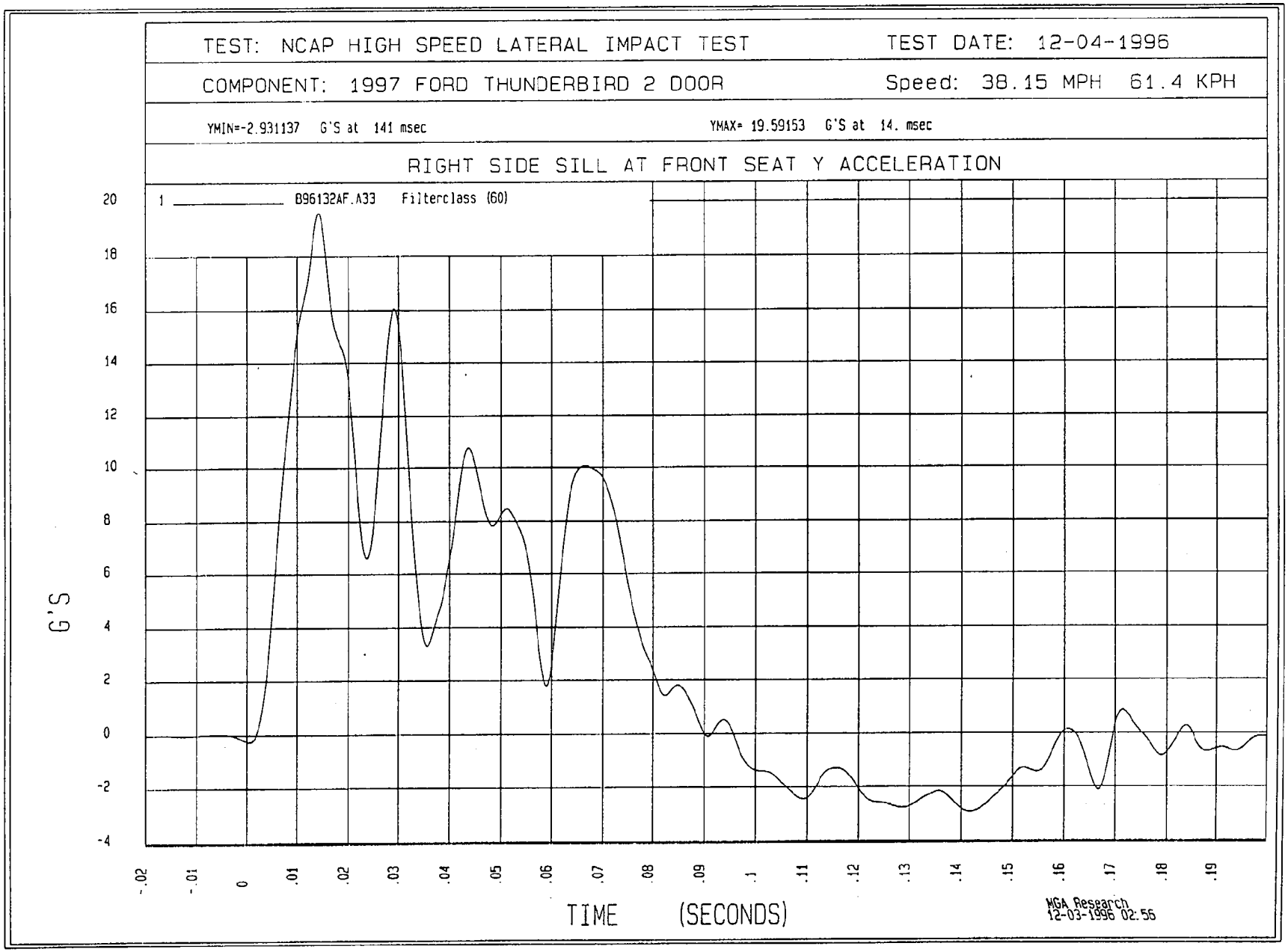
TIME Seconds
MGA Research
12-04-1996 03:14


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-2.931137 G'S at 141 msec
YMAX= 19.59153 G'S at 14. msec
RIGHT SIDE SILL AT FRONT SEAT Y ACCELERATION
1 B96132AF.A33 Filterclass (60)
20
18
16
14
12
10
8
6
4
2
0
-2
-4
G's
-.02
-.01
0
.01
.02
.03
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.1
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.12
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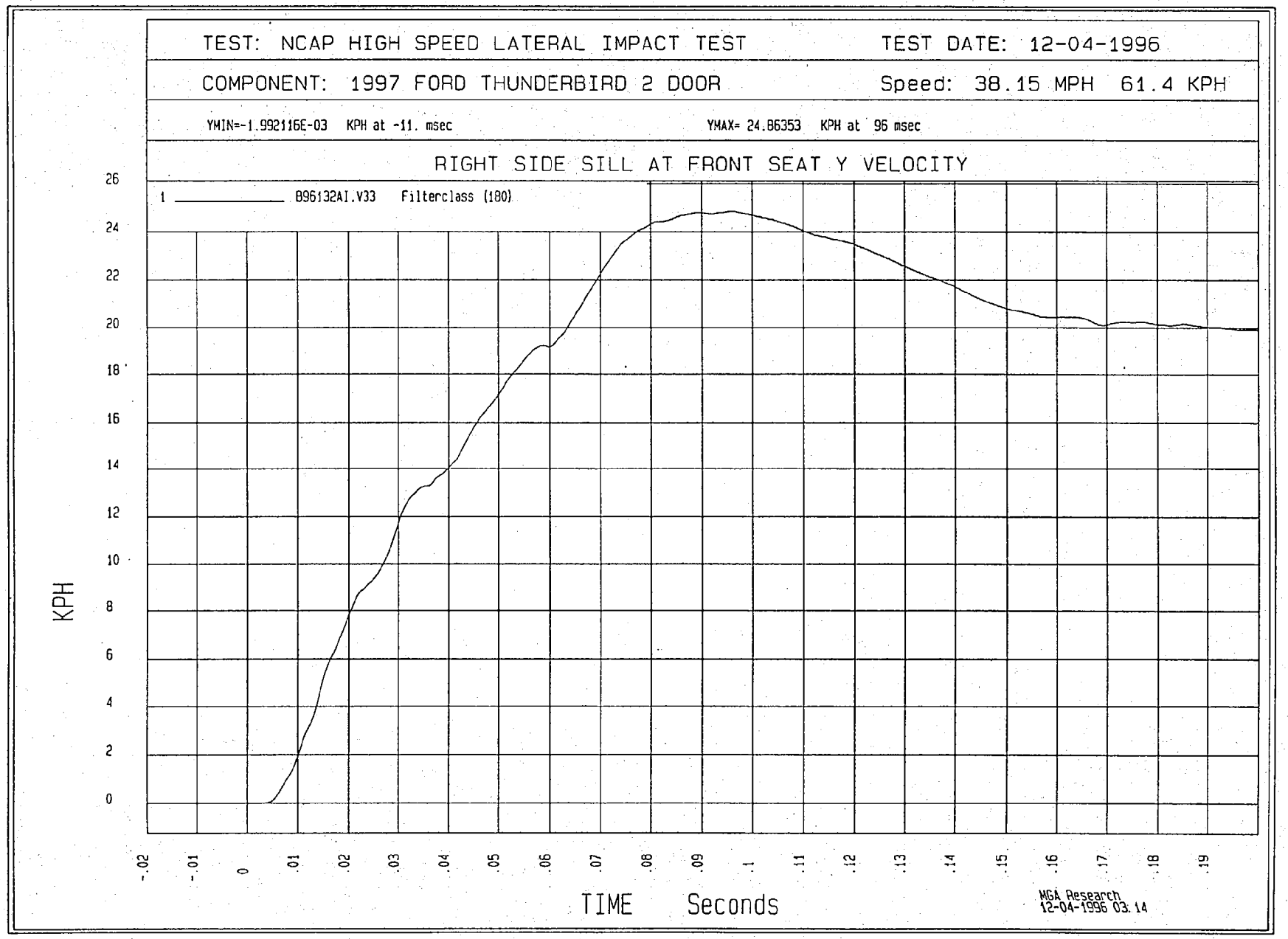
TIME (SECONDS)
MGA Research
12-03-1996 02:56


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-1.992116E-03 KPH at -11. msec
YMAX= 24.86353 KPH at 96 msec
RIGHT SIDE SILL AT FRONT SEAT Y VELOCITY
1 B96132AI.V33 Filterclass (180)
KPH
26
24
22
20
18
16
14
12
10
8
6
4
2
0
-.02
-.01
0
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.02
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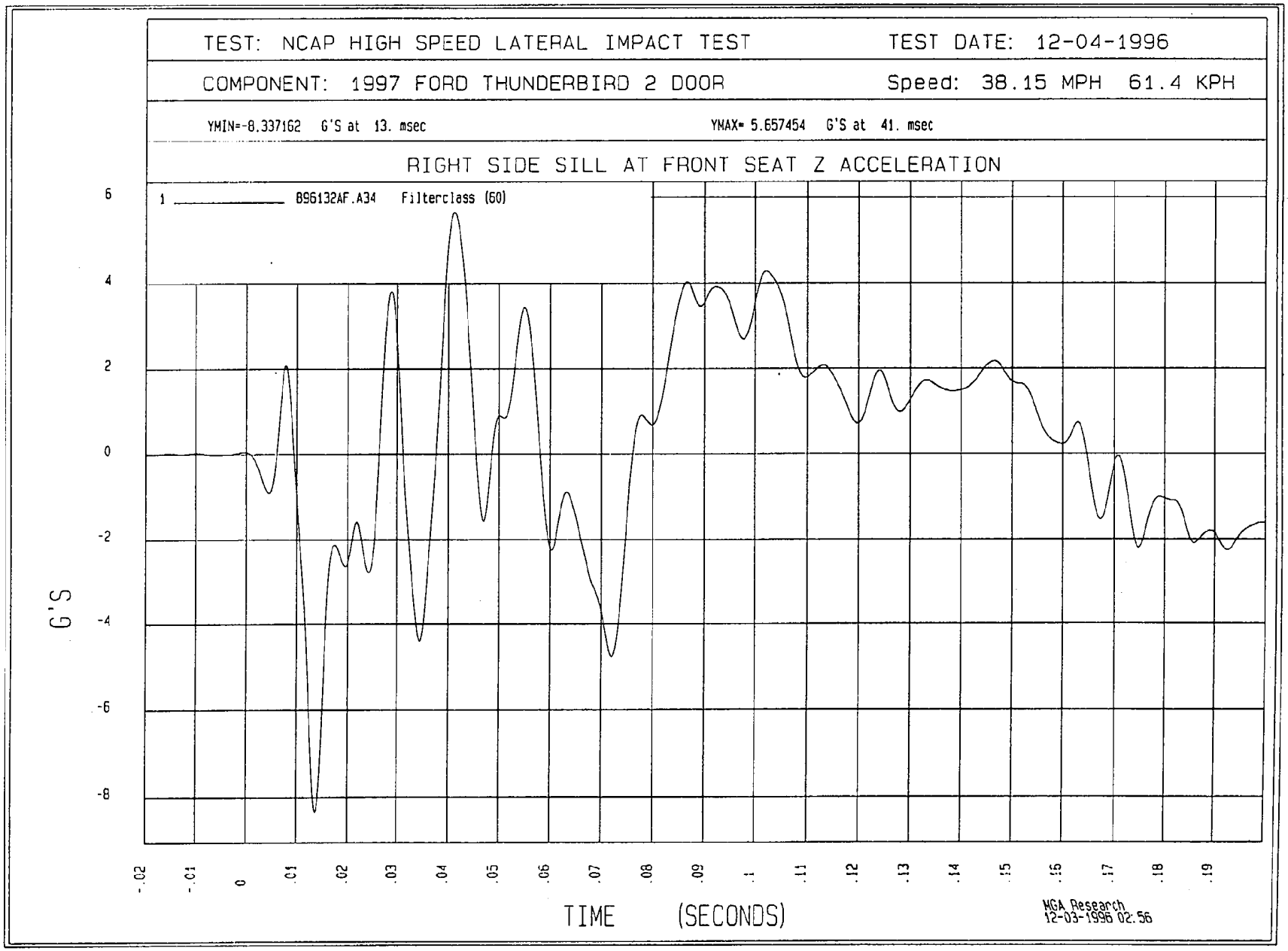
TIME Seconds
MGA Research
12-04-1996 03.14


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-8.337162 G'S at 13. msec
YMAX= 5.657454 G'S at 41. msec
RIGHT SIDE SILL AT FRONT SEAT Z ACCELERATION
1 B96132AF.A34 Filterclass (60)
6
4
2
0
-2
-4
-6
-8
G'S
-.02
-.01
0
.01
.02
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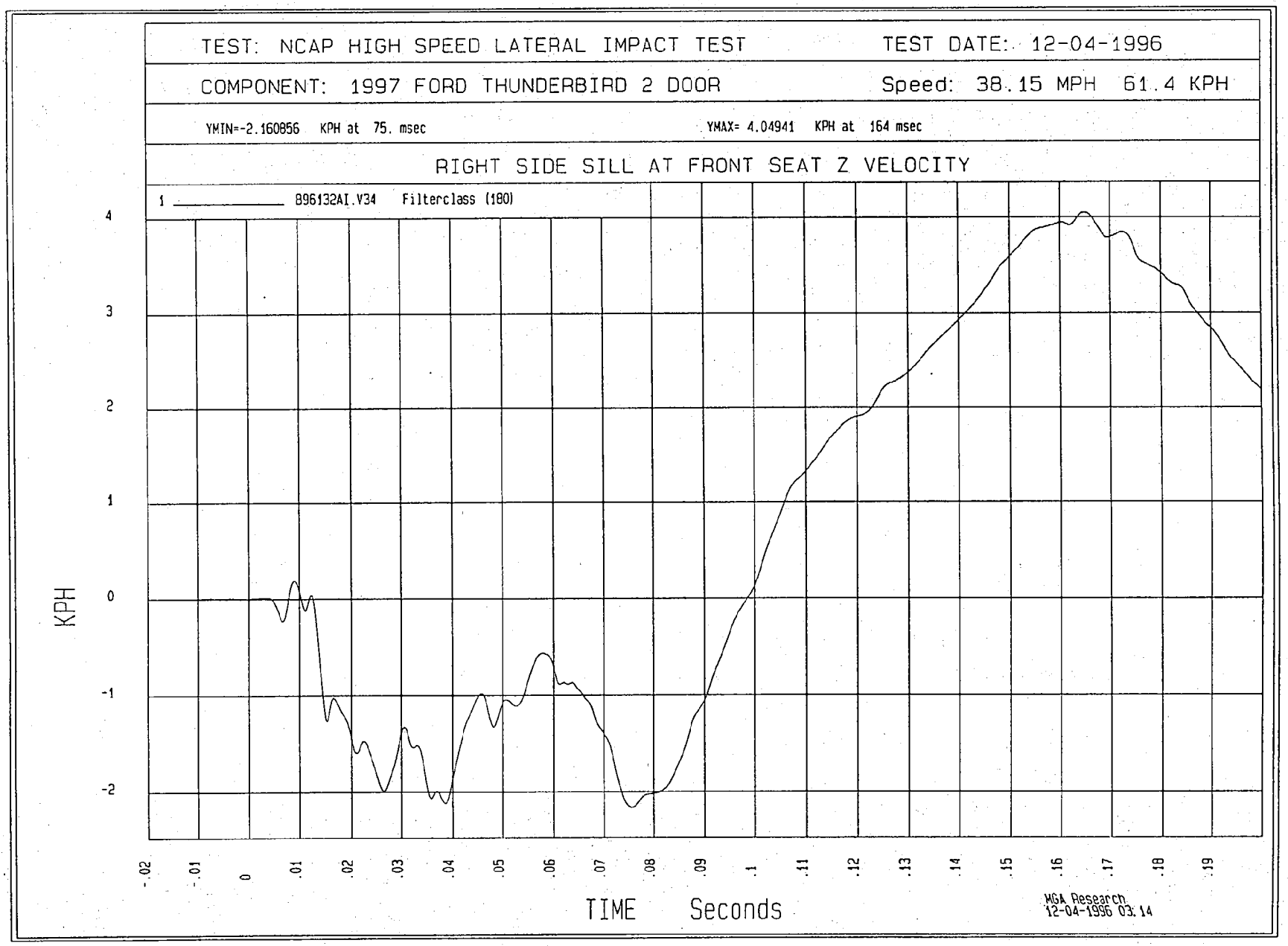
TIME (SECONDS)
MGA Research
12-03-1996 02:56


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-2.160856 KPH at 75. msec
YMAX= 4.04941 KPH at 164 msec
RIGHT SIDE SILL AT FRONT SEAT Z VELOCITY
1 896132AI.V34 Filterclass (180)
KPH
4
3
2
1
0
-1
-2
-.02
-.01
0
.01
.02
.03
.04
.05
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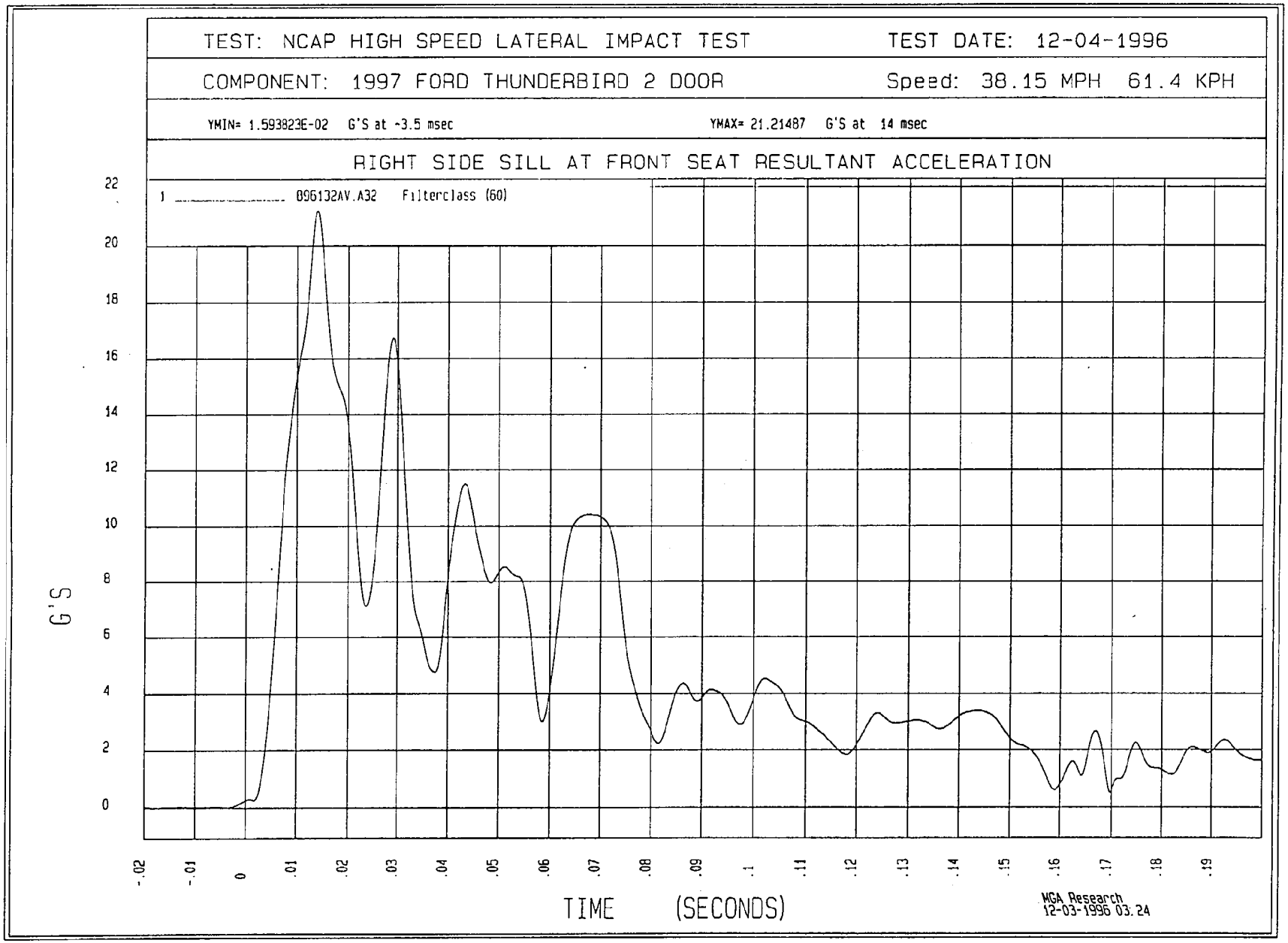
TIME Seconds
MGA Research
12-04-1996 03:14


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN= 1.593823E-02 G'S at -3.5 msec
YMAX= 21.21487 G'S at 14 msec
RIGHT SIDE SILL AT FRONT SEAT RESULTANT ACCELERATION
1 B96132AV.A32 Filterclass (60)
G'S
22
20
18
16
14
12
10
8
6
4
2
0
-.02
-.01
0
.01
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.03
.04
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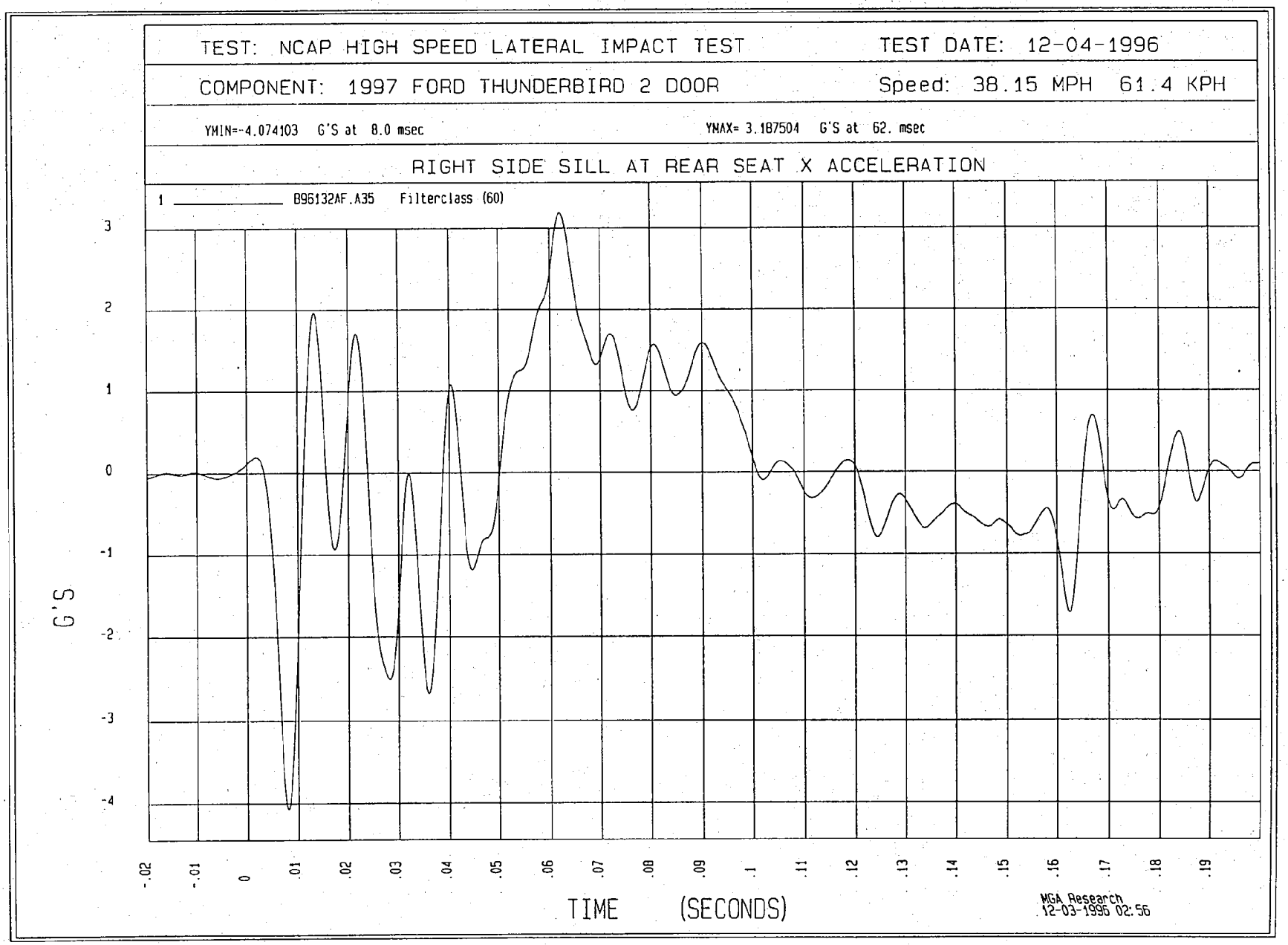
TIME (SECONDS)
MGA Research
12-03-1996 03.24


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-4.074103 G'S at 8.0 msec
YMAX= 3.187504 G'S at 62. msec
RIGHT SIDE SILL AT REAR SEAT X ACCELERATION
1 B96132AF.A35 Filterclass (60)
G'S
3
2
1
0
-1
-2
-3
-4
-.02
-.01
0
.01
.02
.03
.04
.05
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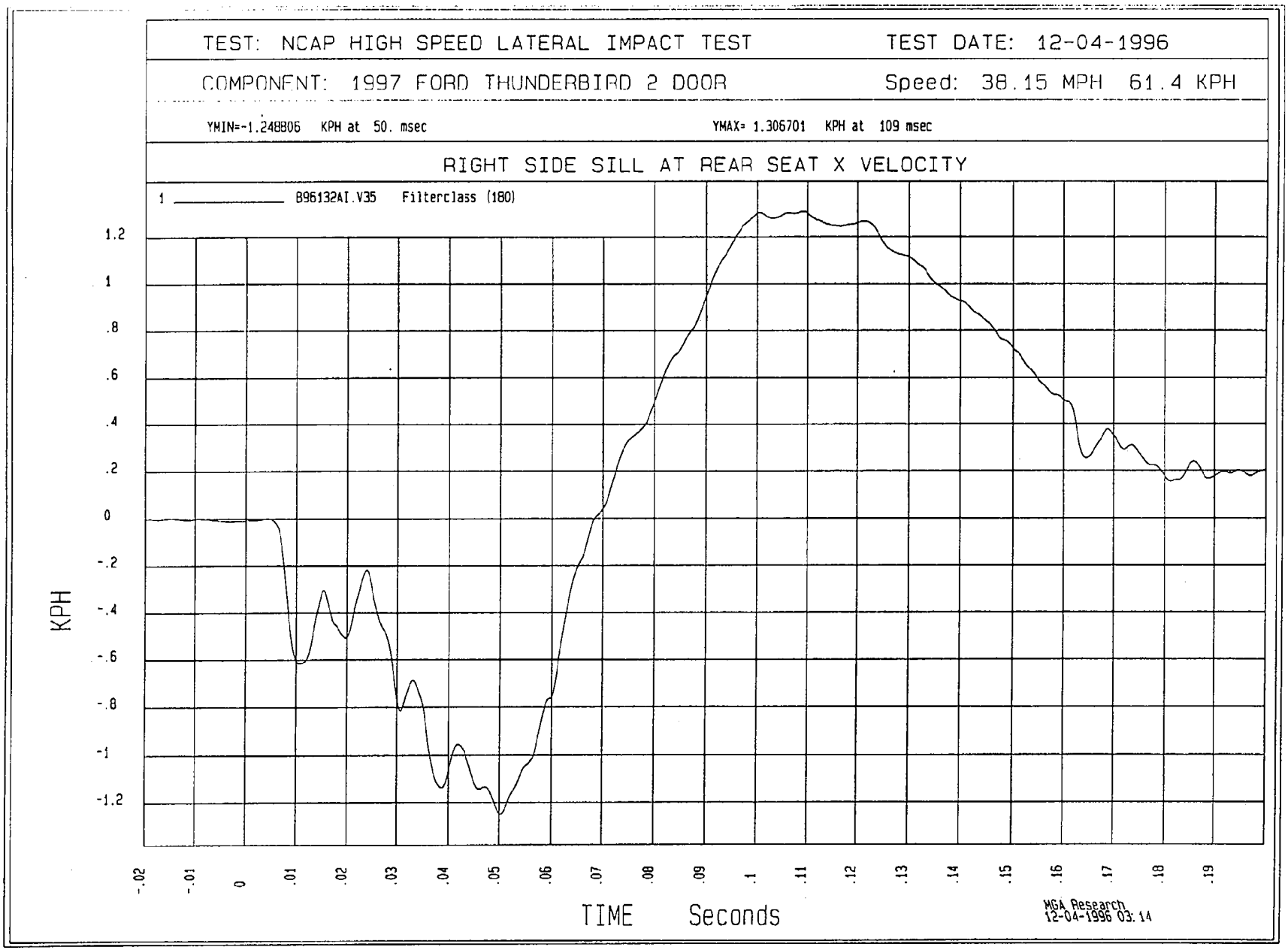
TIME (SECONDS)
MGA Research
12-03-1996 02:56


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-1.248806 KPH at 50. msec
YMAX= 1.306701 KPH at 109 msec
RIGHT SIDE SILL AT REAR SEAT X VELOCITY
1 896132AI.V35 Filterclass (180)
KPH
1.2
1
.8
.6
.4
.2
0
-.2
-.4
-.6
-.8
-1
-1.2
-.02
-.01
0
.01
.02
.03
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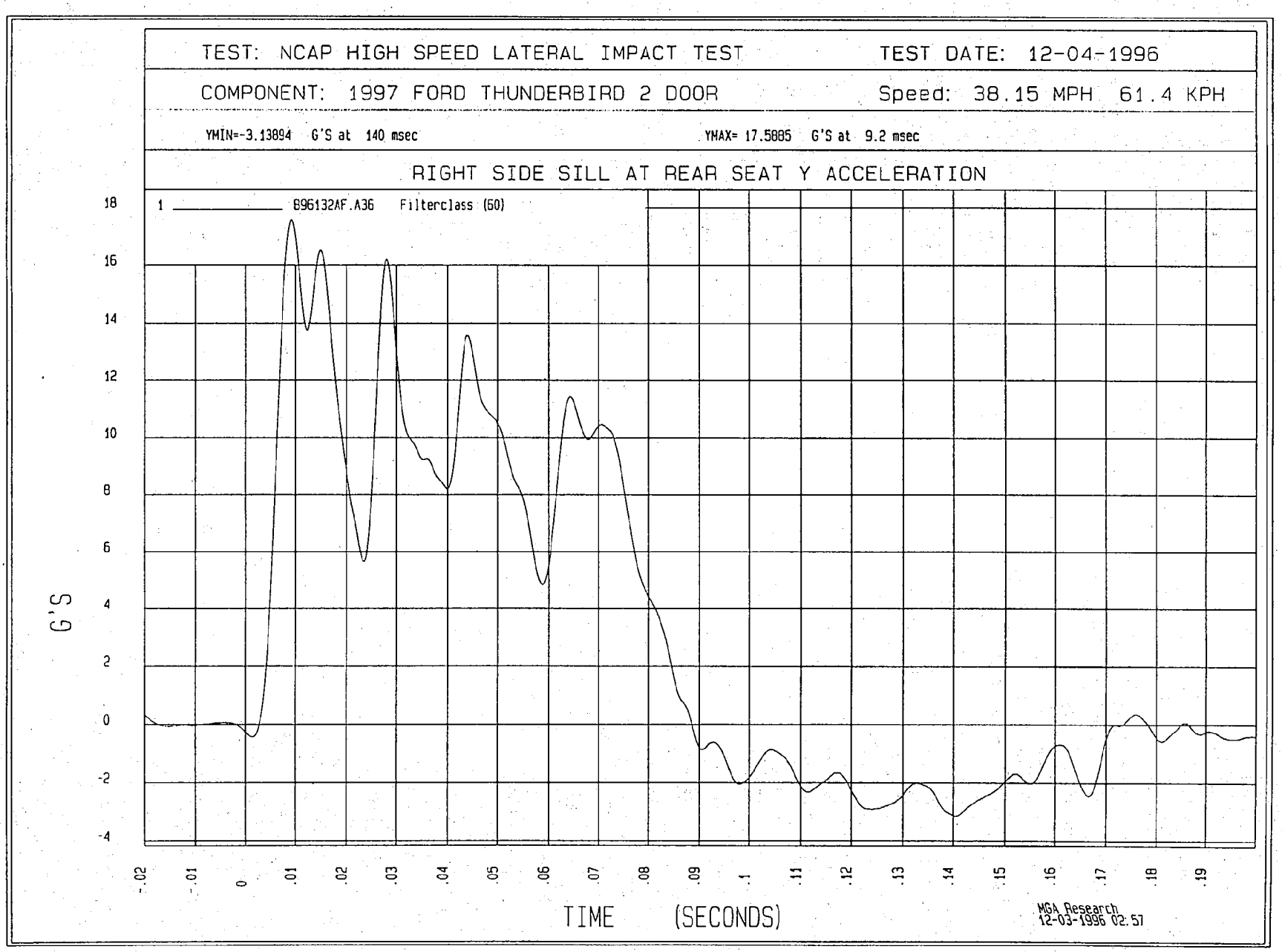
TIME Seconds
MGA Research
12-04-1996 03:14


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-3.13894 G'S at 140 msec
YMAX= 17.5885 G'S at 9.2 msec
RIGHT SIDE SILL AT REAR SEAT Y ACCELERATION
1 896132AF.A36 Filterclass (60)
G'S
18
16
14
12
10
8
6
4
2
0
-2
-4
-.02
-.01
0
.01
.02
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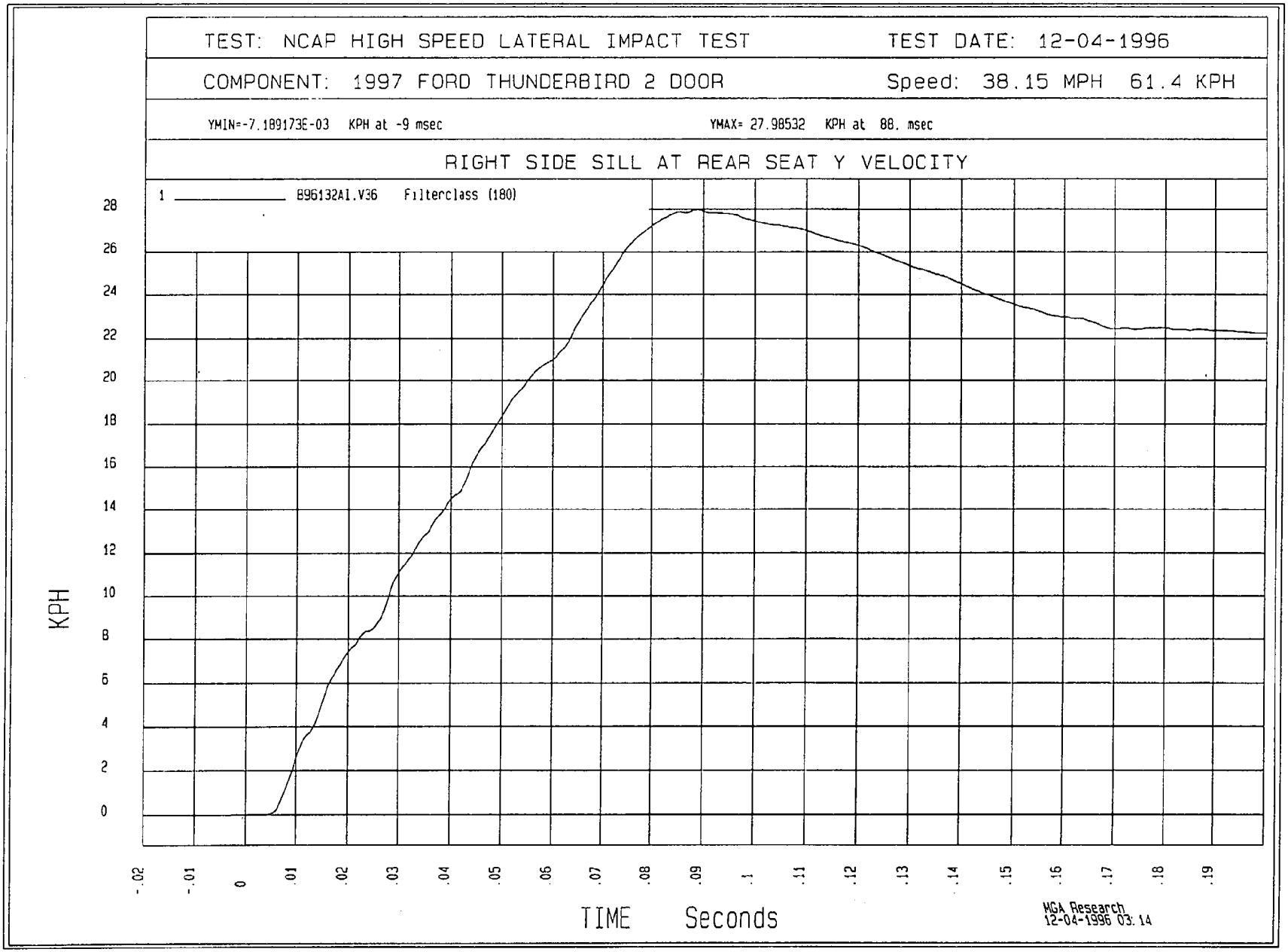
TIME (SECONDS)
MGA Research
12-03-1996 02:57


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-7.189173E-03 KPH at -9 msec
YMAX= 27.98532 KPH at 88. msec
RIGHT SIDE SILL AT REAR SEAT Y VELOCITY
1 B96132A1.V36 Filterclass (180)
KPH
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
-.02
-.01
0
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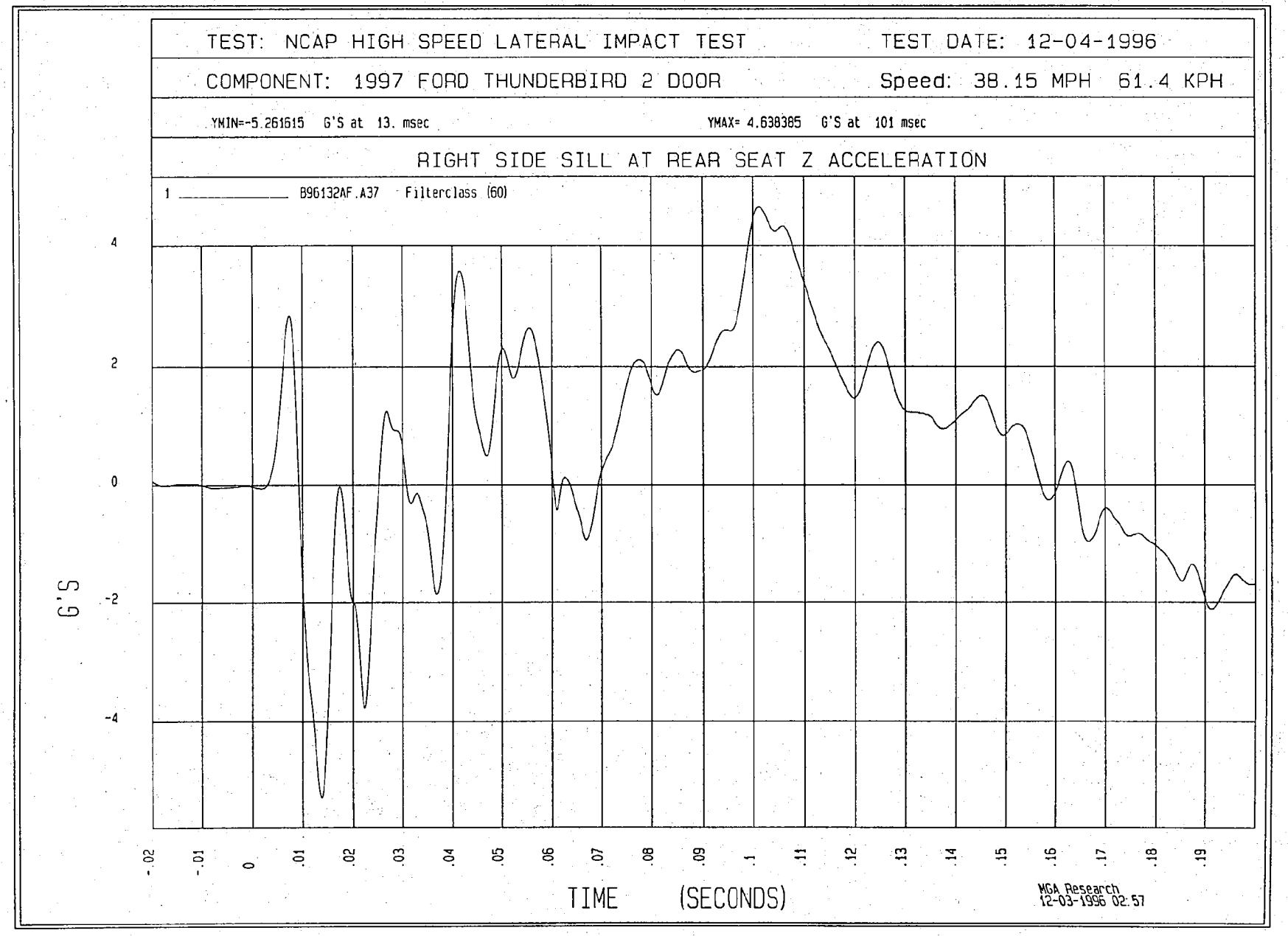
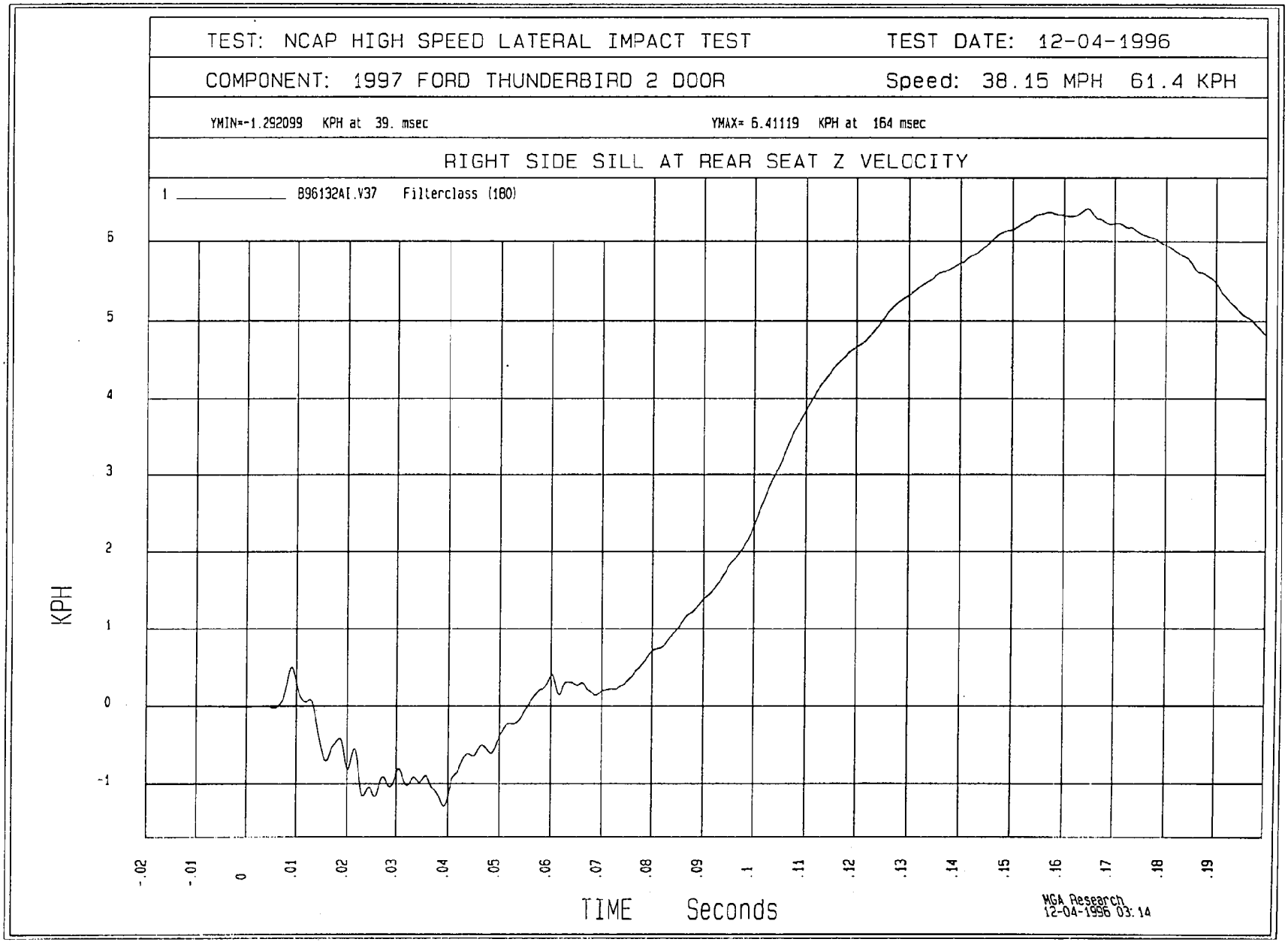
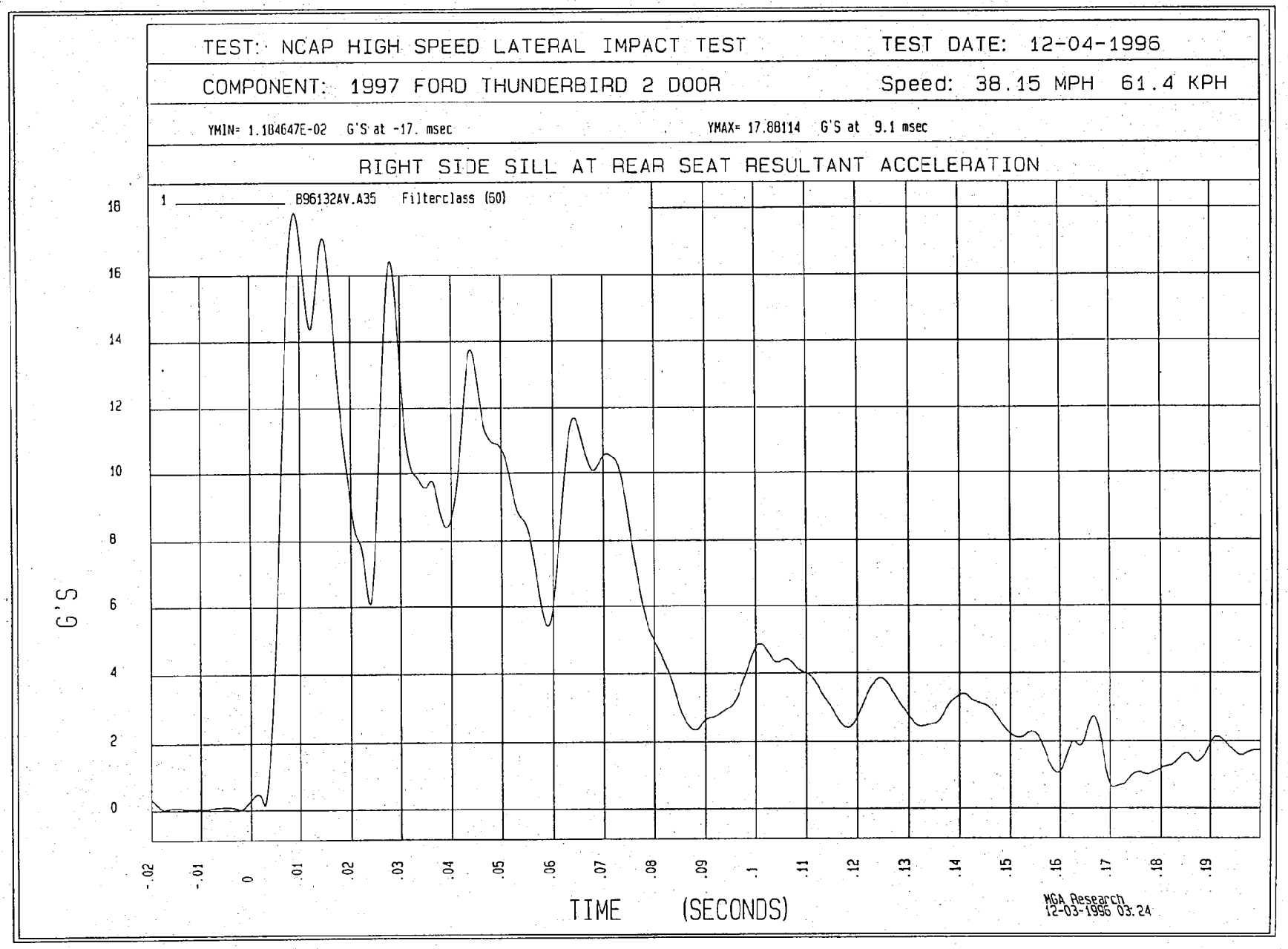
TIME Seconds
MGA Research
12-04-1996 03:14


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-5.261615 G'S at 13. msec
YMAX= 4.638385 G'S at 101 msec
RIGHT SIDE SILL AT REAR SEAT Z ACCELERATION
1 B96132AF.A37 Filterclass (60)
4
2
0
-2
-4
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
12-03-1996 02:57


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-1.292099 KPH at 39. msec
YMAX= 6.41119 KPH at 164 msec
RIGHT SIDE SILL AT REAR SEAT Z VELOCITY
1 B96132AI.V37 Filterclass (180)
KPH
6
5
4
3
2
1
0
-1
-.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
12-04-1996 03:14


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN= 1.184647E-02 G'S at -17. msec
YMAX= 17.88114 G'S at 9.1 msec
RIGHT SIDE SILL AT REAR SEAT RESULTANT ACCELERATION
1 B96132AV.A35 Filterclass (60)
G's
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
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.18
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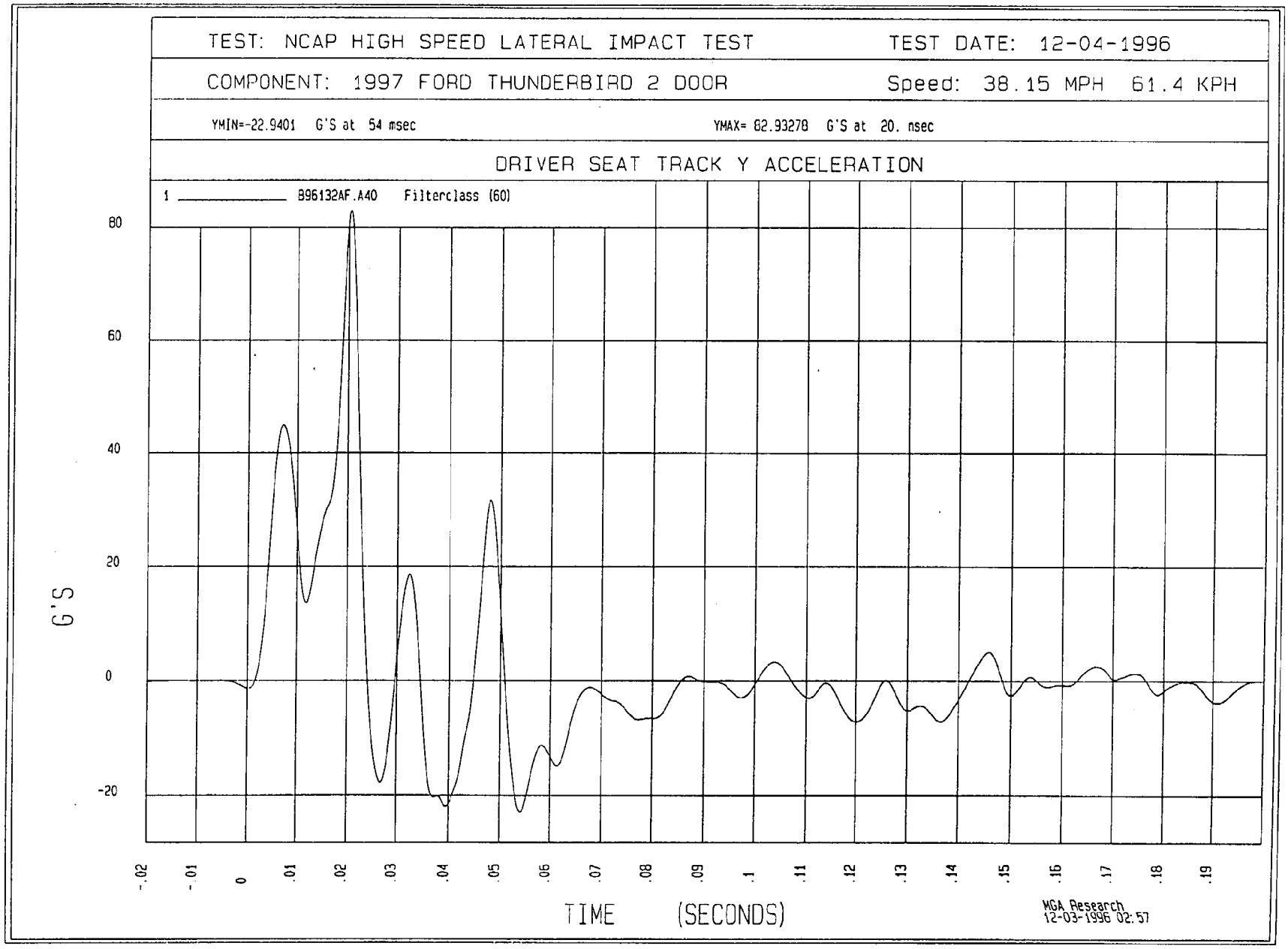
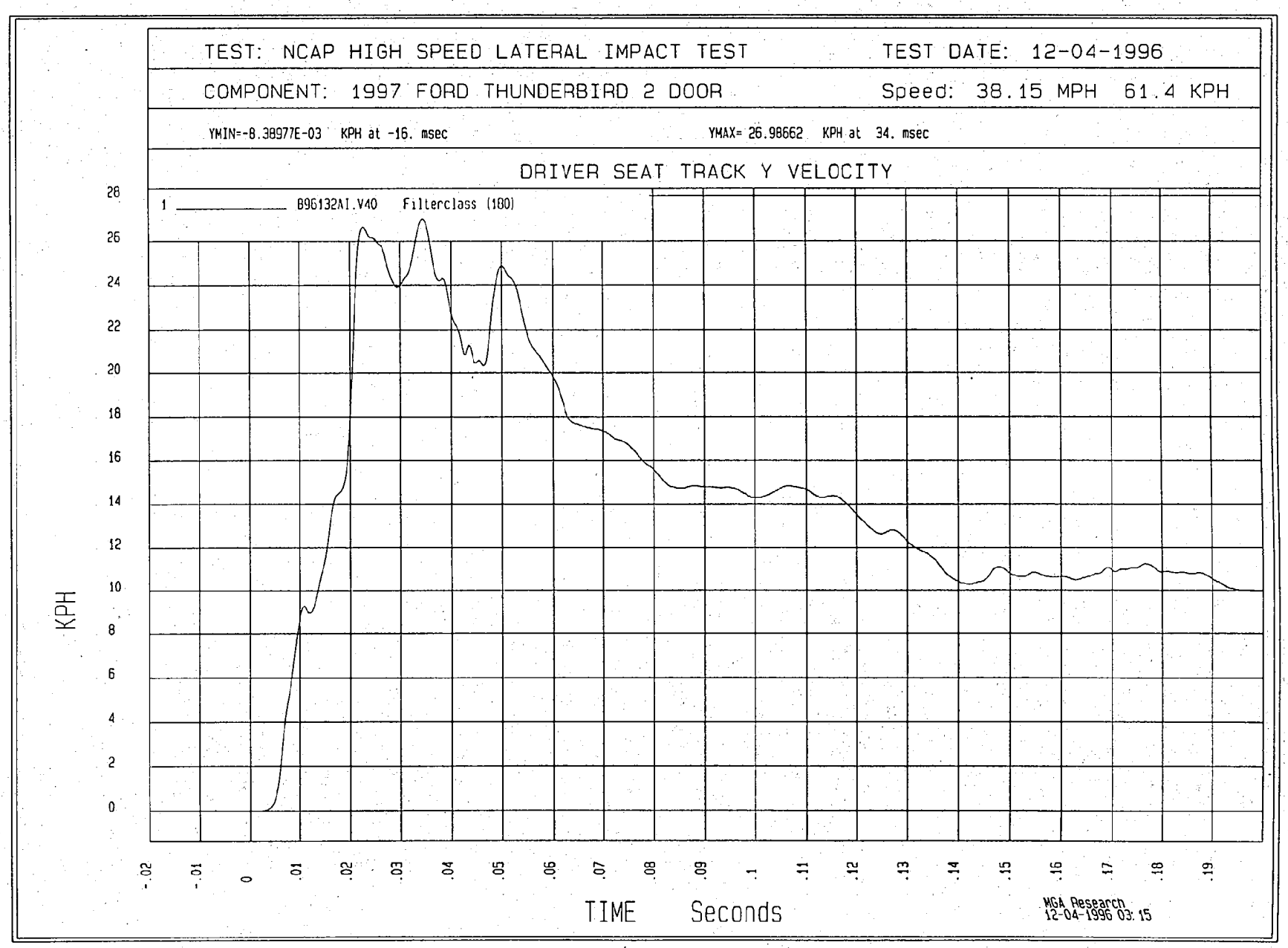
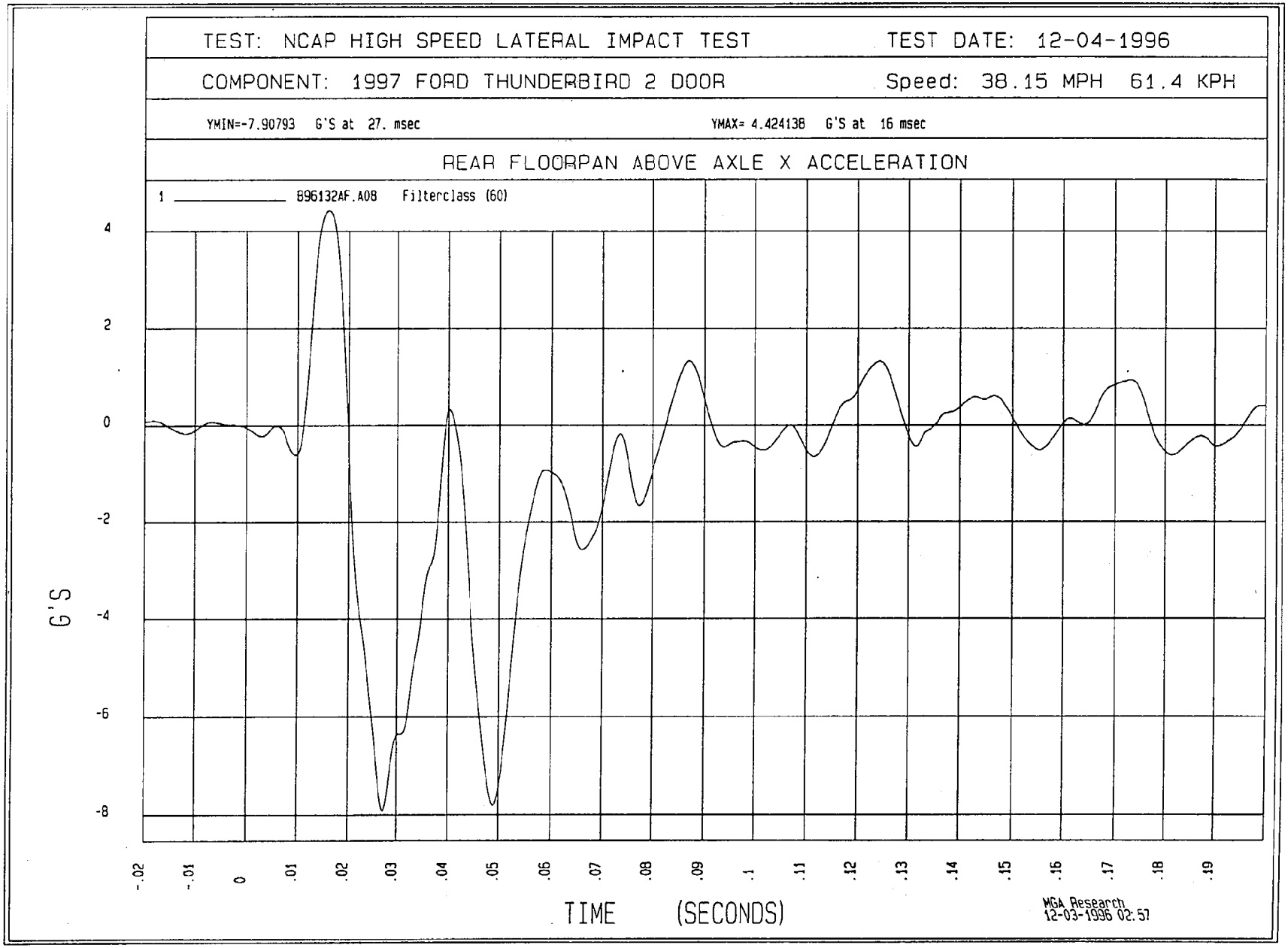
TIME (SECONDS)
MGA Research
12-03-1996 03:24


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-22.9401 G'S at 54 msec
YMAX= 62.93278 G'S at 20. msec
DRIVER SEAT TRACK Y ACCELERATION
1 B96132AF.A40 Filterclass (60)
80
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
12-03-1996 02:57


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-8.38977E-03 KPH at -16. msec
YMAX= 26.98662 KPH at 34. msec
DRIVER SEAT TRACK Y VELOCITY
1 B96132AI.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
12-04-1996 03:15


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-7.90793 G'S at 27. msec
YMAX= 4.424138 G'S at 16 msec
REAR FLOORPAN ABOVE AXLE X ACCELERATION
1 B96132AF.A08 Filterclass (60)
G'S
4
2
0
-2
-4
-6
-8
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
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.13
.14
.15
.16
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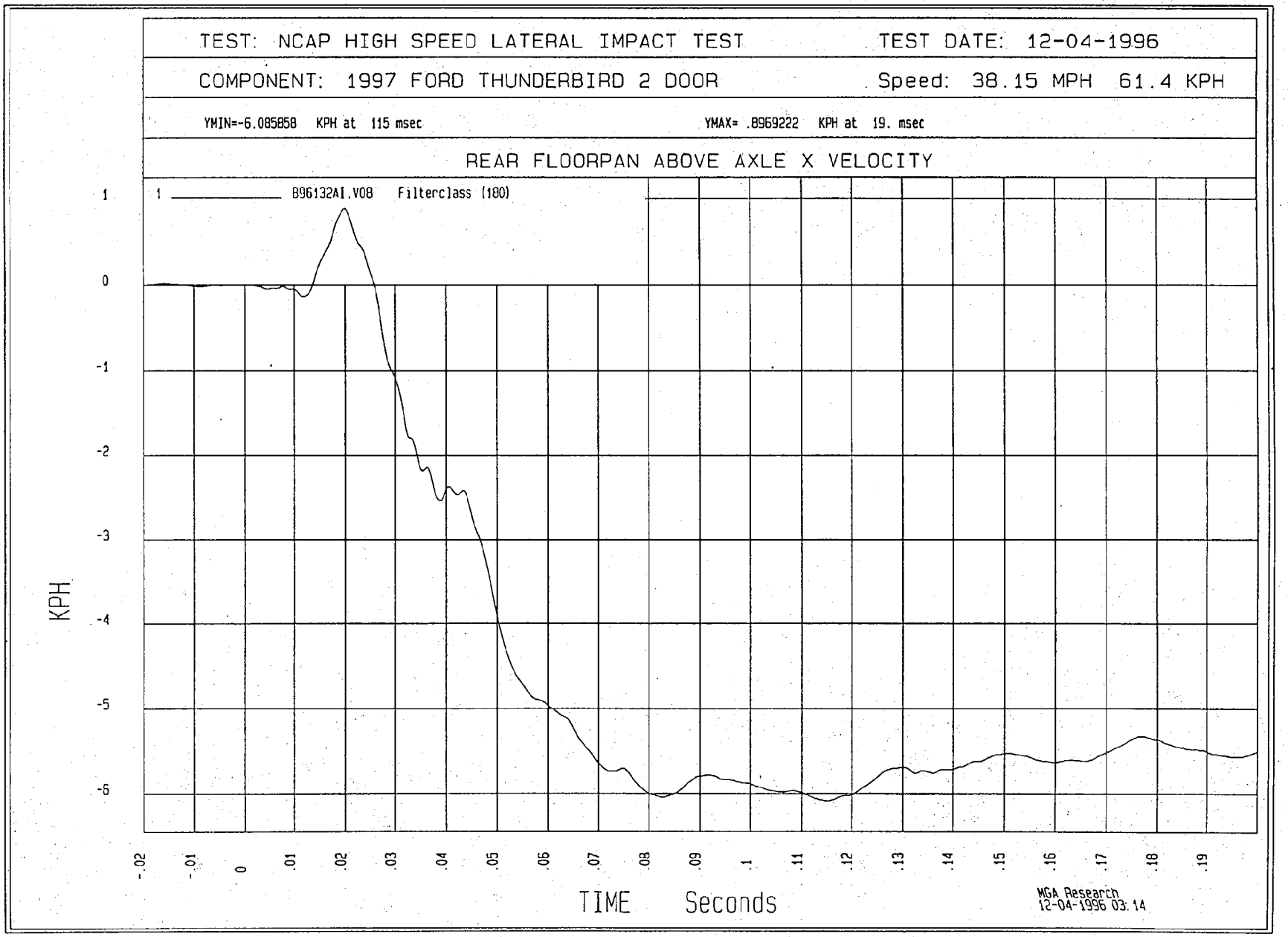
.18
.19
TIME (SECONDS)
MGA Research
12-03-1996 02:57


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-6.085858 KPH at 115 msec
YMAX= .8969222 KPH at 19. msec
REAR FLOORPAN ABOVE AXLE X VELOCITY
1 B96132AI.V08 Filterclass (180)
KPH
1
0
-1
-2
-3
-4
-5
-6
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
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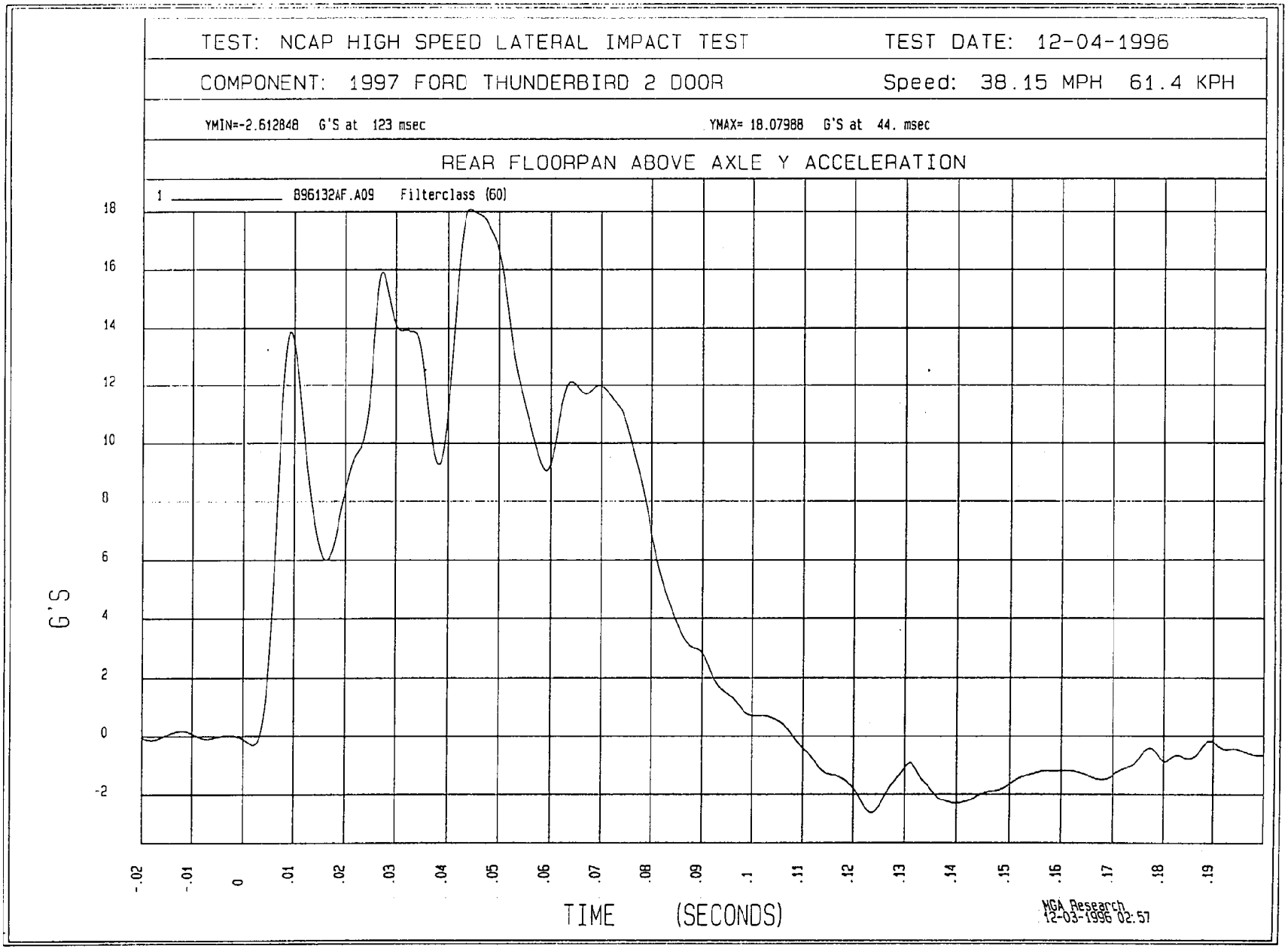
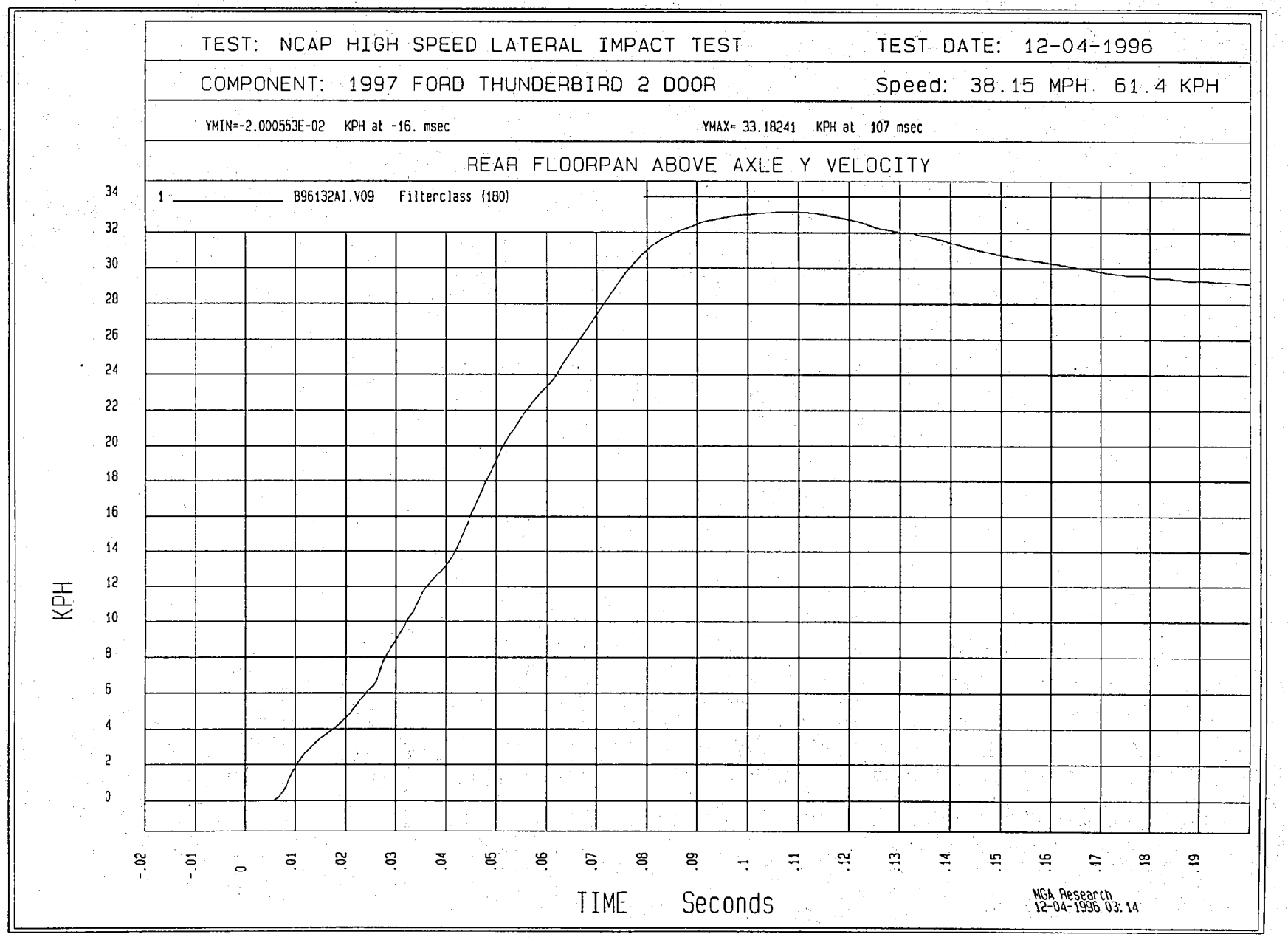
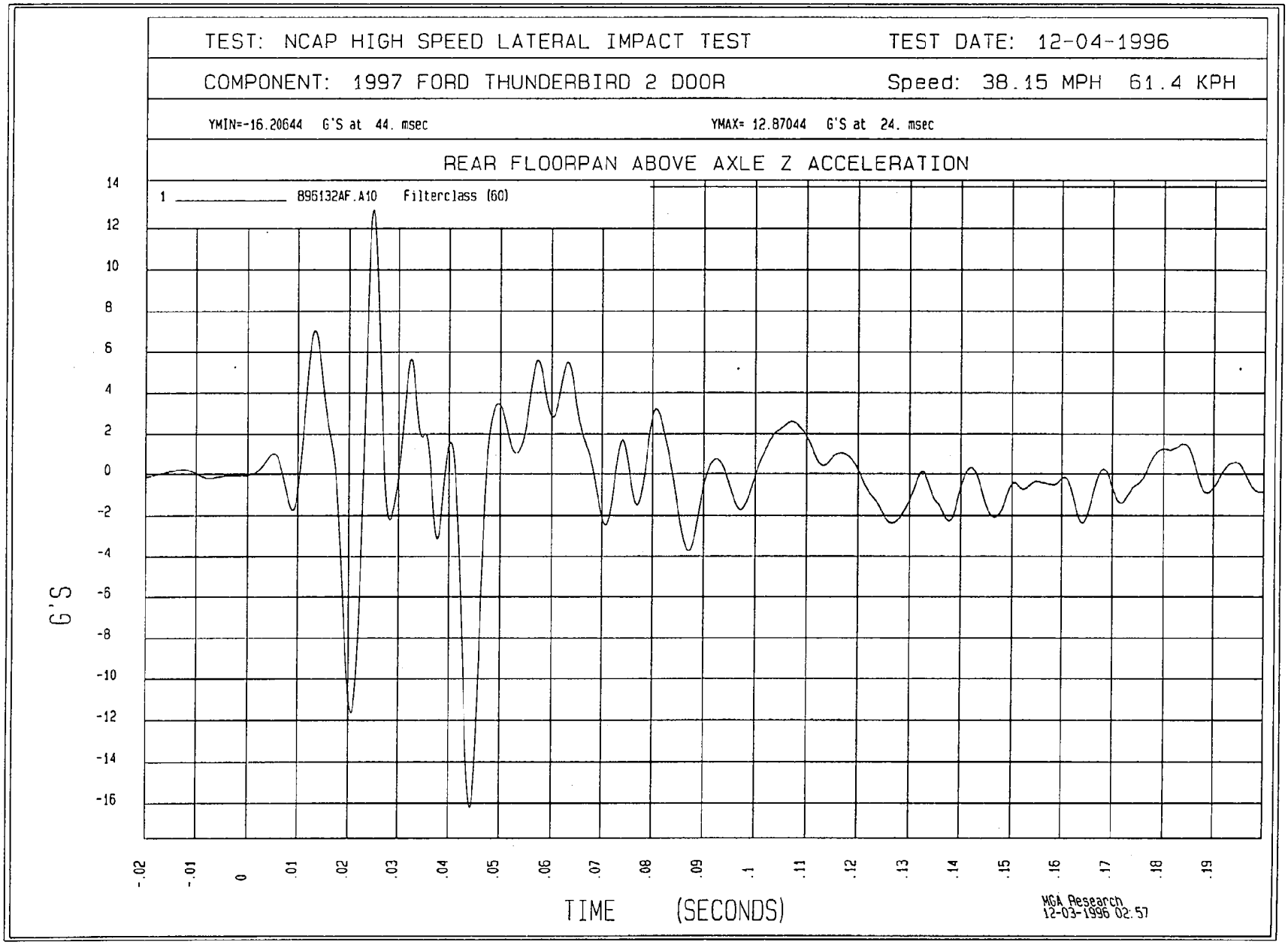
.19
TIME Seconds
MGA Research
12-04-1996 03:14


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-2.612848 G'S at 123 msec
YMAX= 18.07988 G'S at 44. msec
REAR FLOORPAN ABOVE AXLE Y ACCELERATION
1 B96132AF.A09 Filterclass (60)
G'S
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
12-03-1996 02:57


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-2.000553E-02 KPH at -16. msec
YMAX= 33.18241 KPH at 107 msec
REAR FLOORPAN ABOVE AXLE Y VELOCITY
1 B96132A1.V09 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
12-04-1996 03:14


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-16.20644 G'S at 44. msec
YMAX= 12.87044 G'S at 24. msec
REAR FLOORPAN ABOVE AXLE Z ACCELERATION
1 _____ B96132AF.A10 Filterclass (60)
G'S
14
12
10
8
6
4
2
0
-2
-4
-6
-8
-10
-12
-14
-16
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
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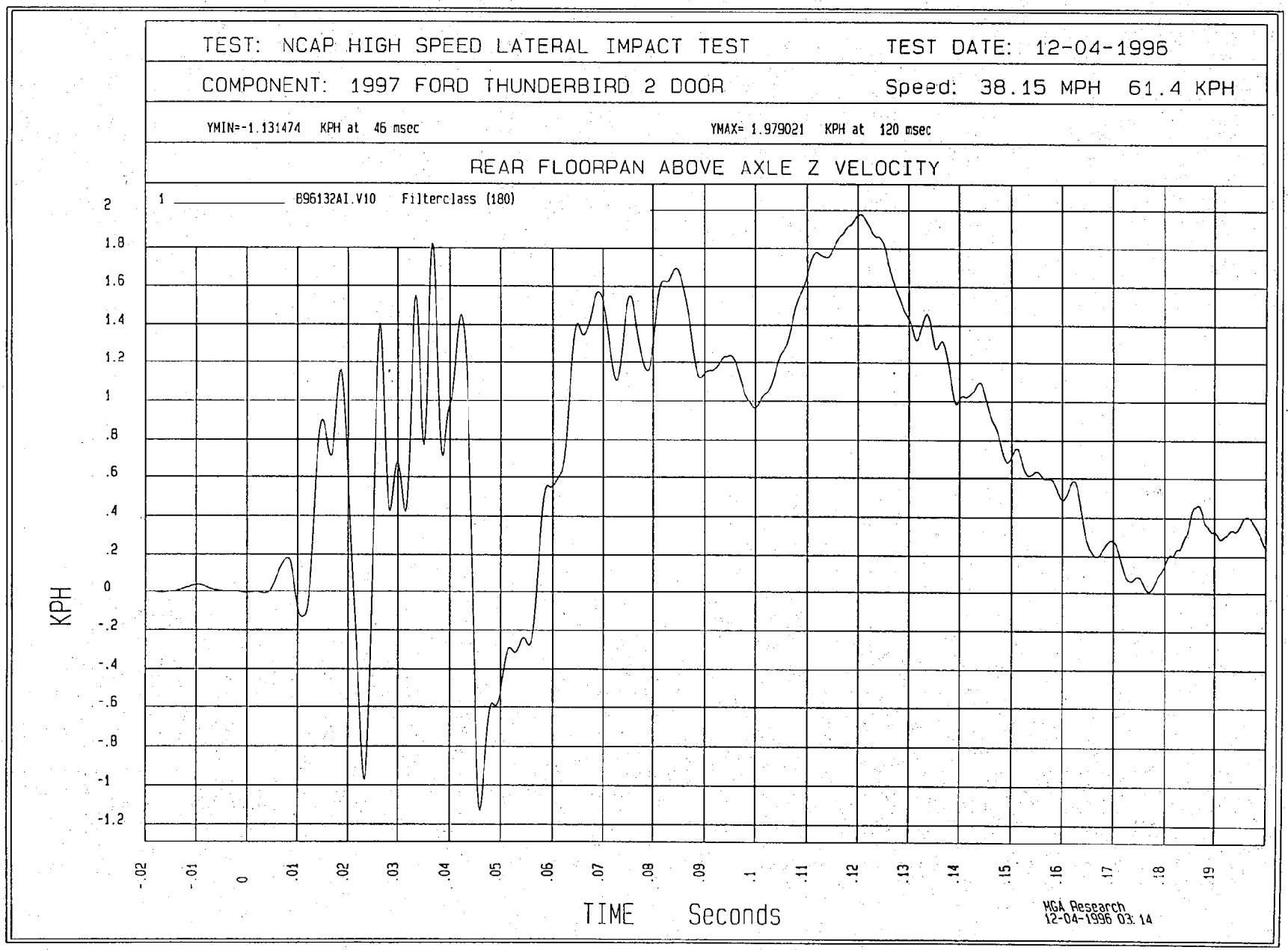
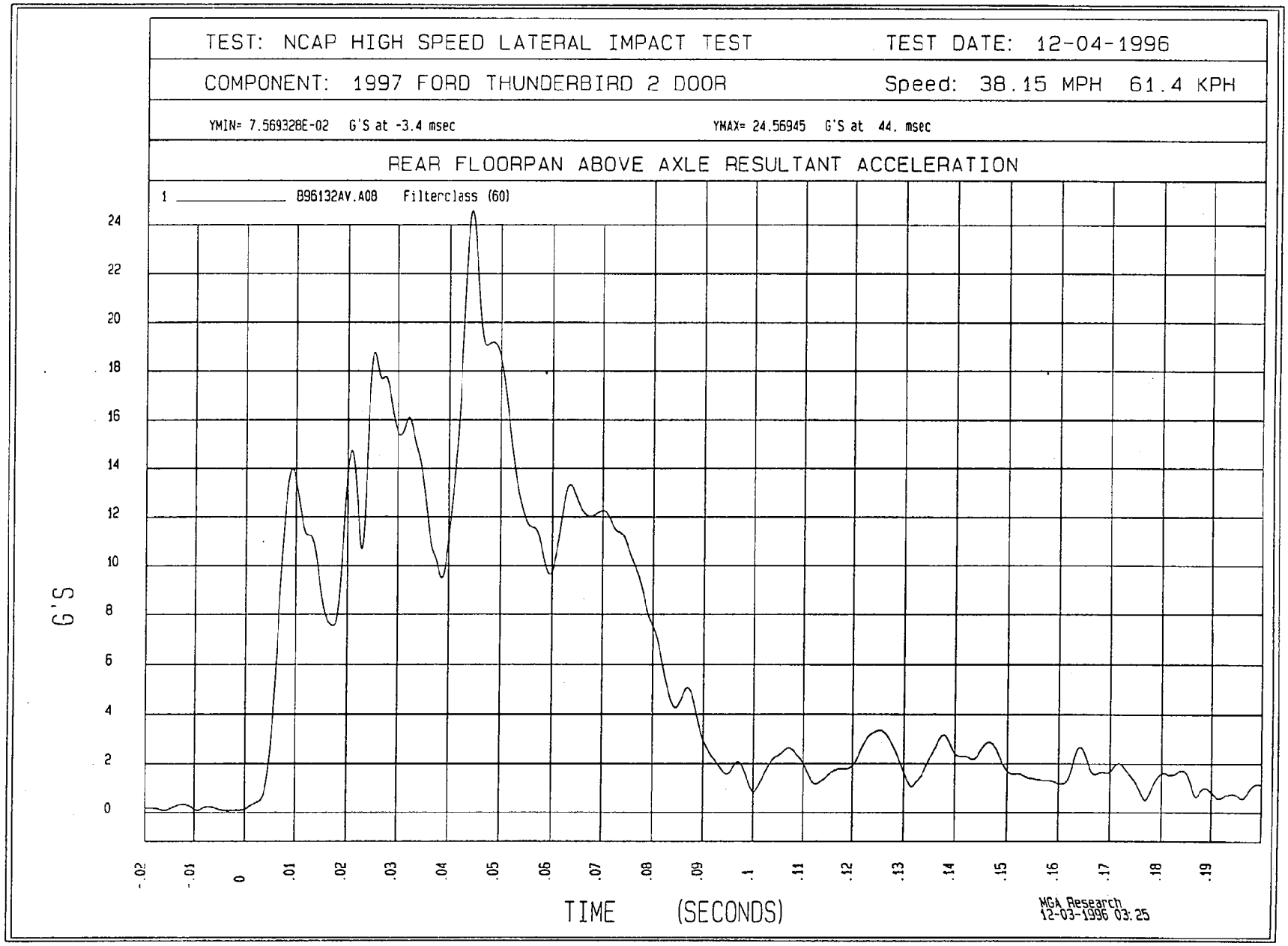
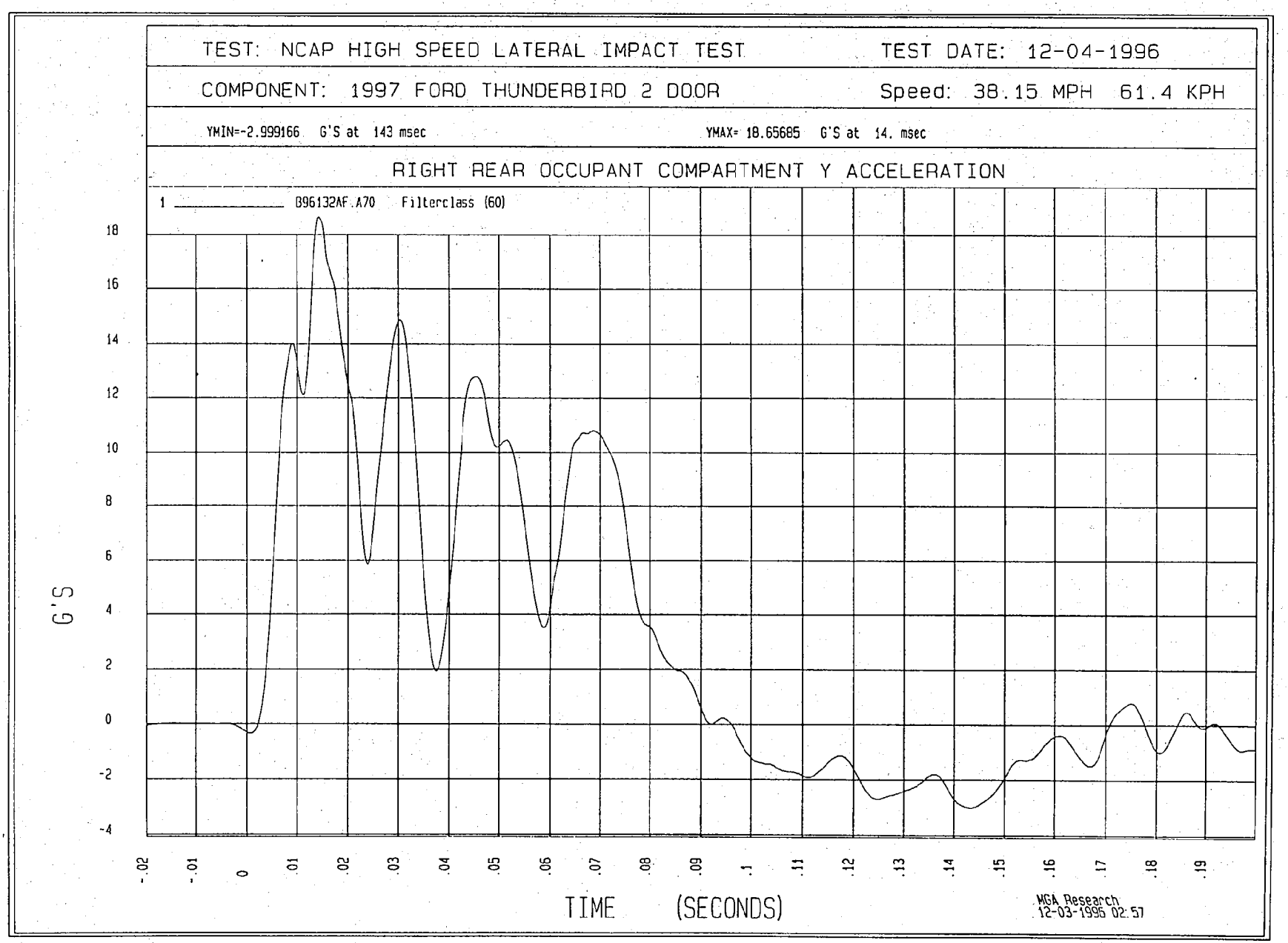
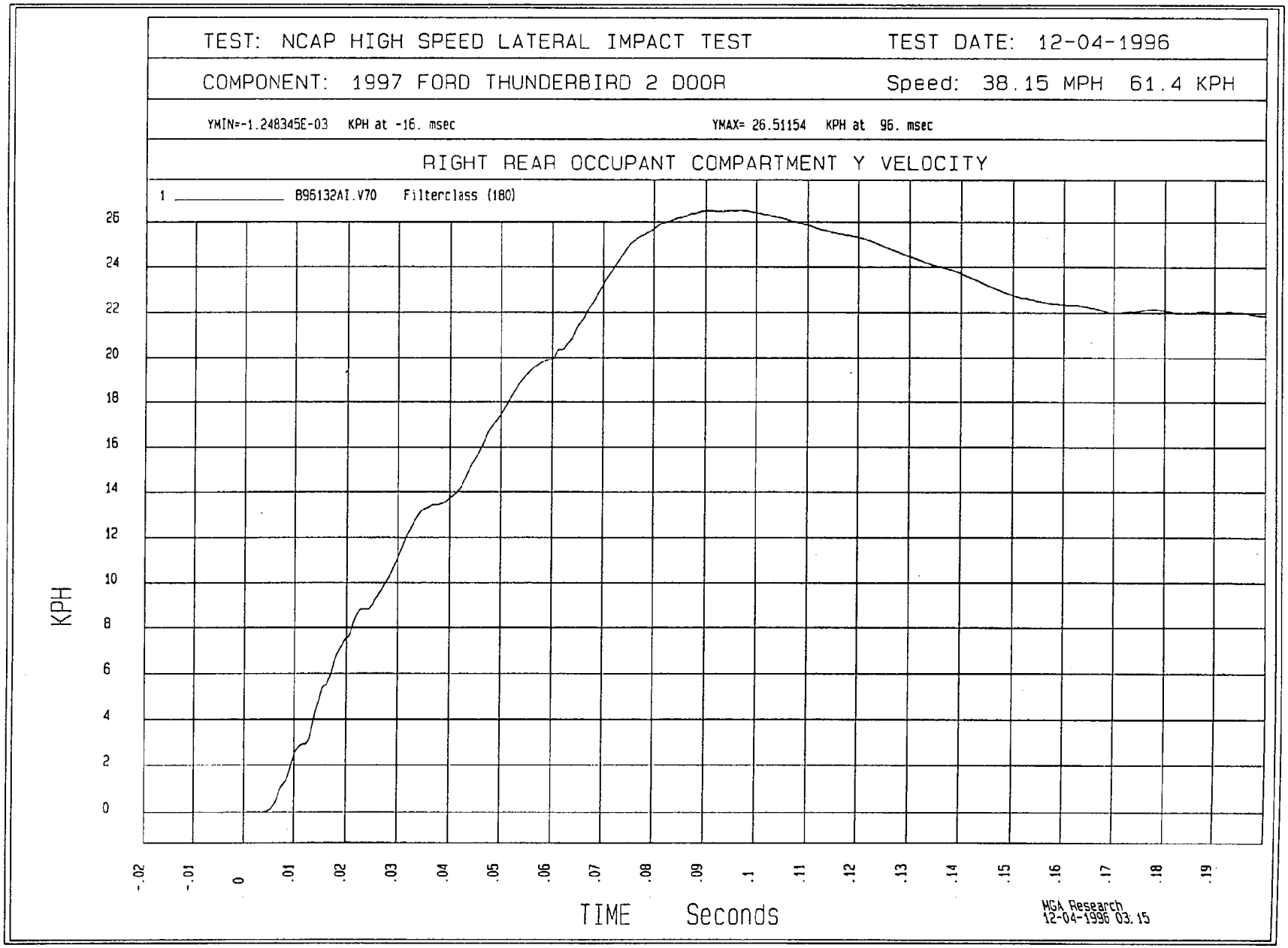
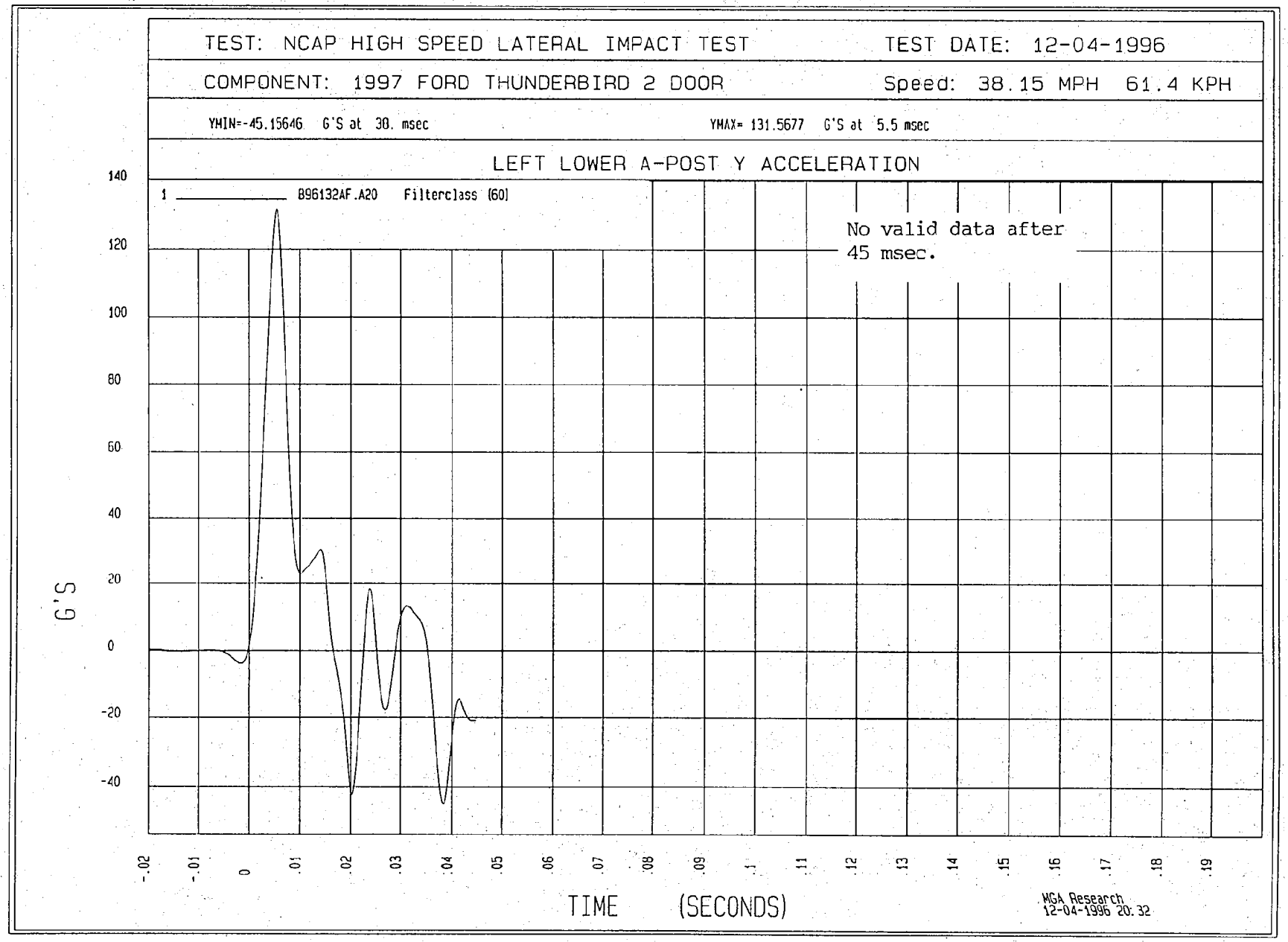
.18
.19
TIME (SECONDS)
MGA Research
12-03-1996 02:57

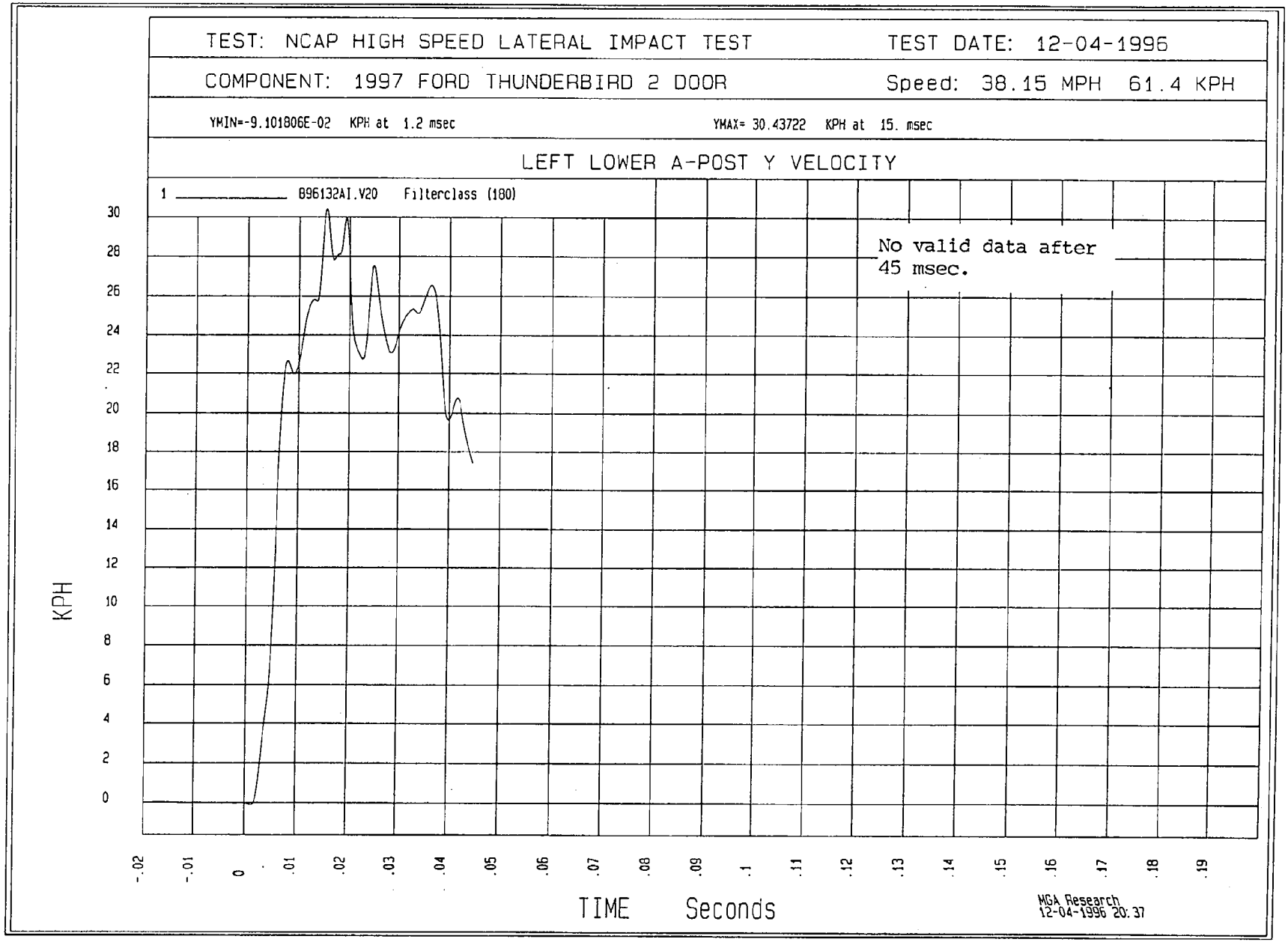

TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-1.131474 KPH at 46 msec
YMAX= 1.979021 KPH at 120 msec
REAR FLOORPAN ABOVE AXLE Z VELOCITY
1 B96132AI.V10 Filterclass (180)
KPH
2
1.8
1.6
1.4
1.2
1
.8
.6
.4
.2
0
-.2
-.4
-.6
-.8
-1
-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
12-04-1996 03:14

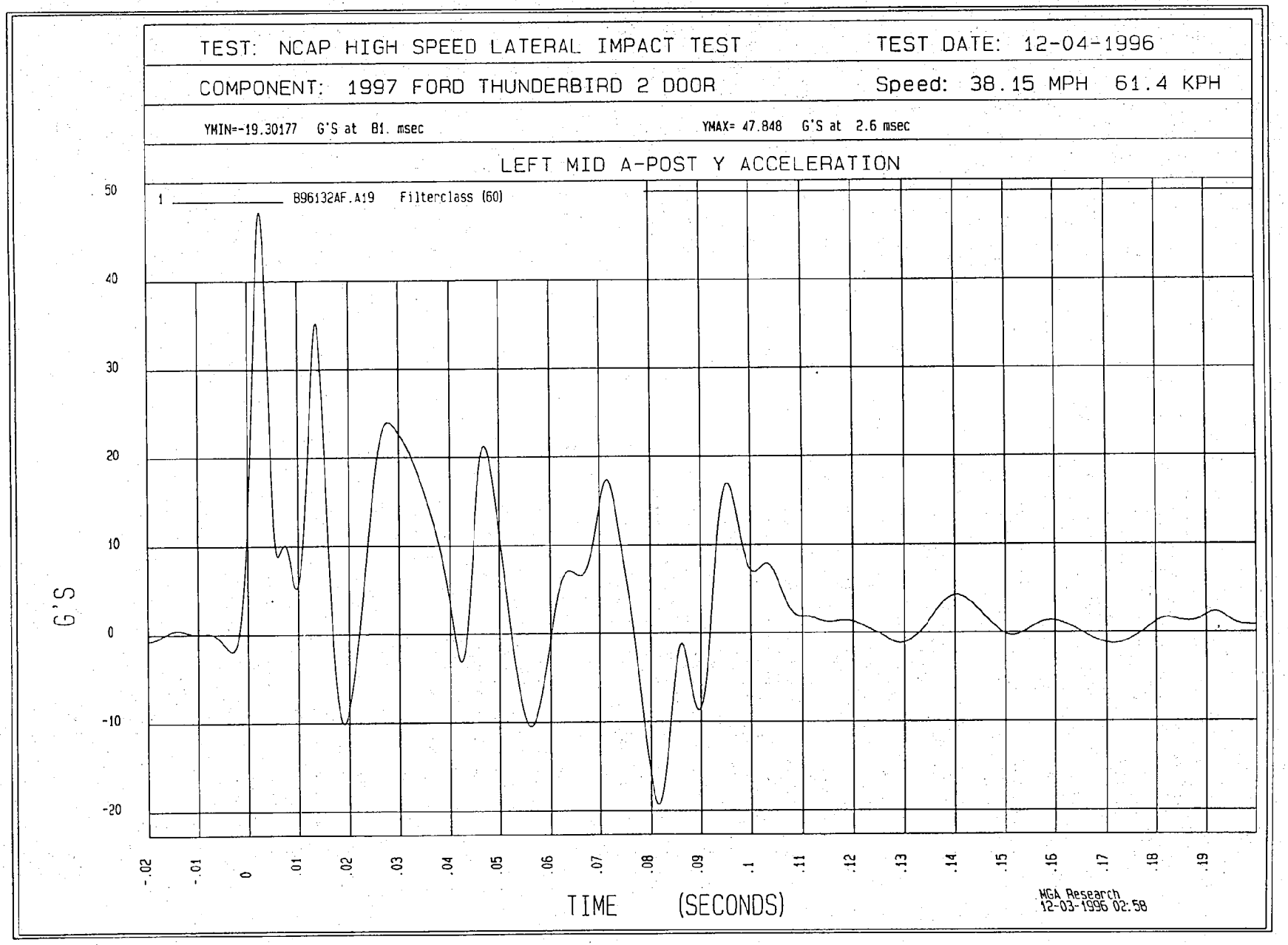

TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN= 7.56932BE-02 G'S at -3.4 msec
YMAX= 24.56945 G'S at 44. msec
REAR FLOORPAN ABOVE AXLE RESULTANT ACCELERATION
1 B96132AV.A08 Filterclass (60)
G'S
24
22
20
18
16
14
12
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
12-03-1996 03:25

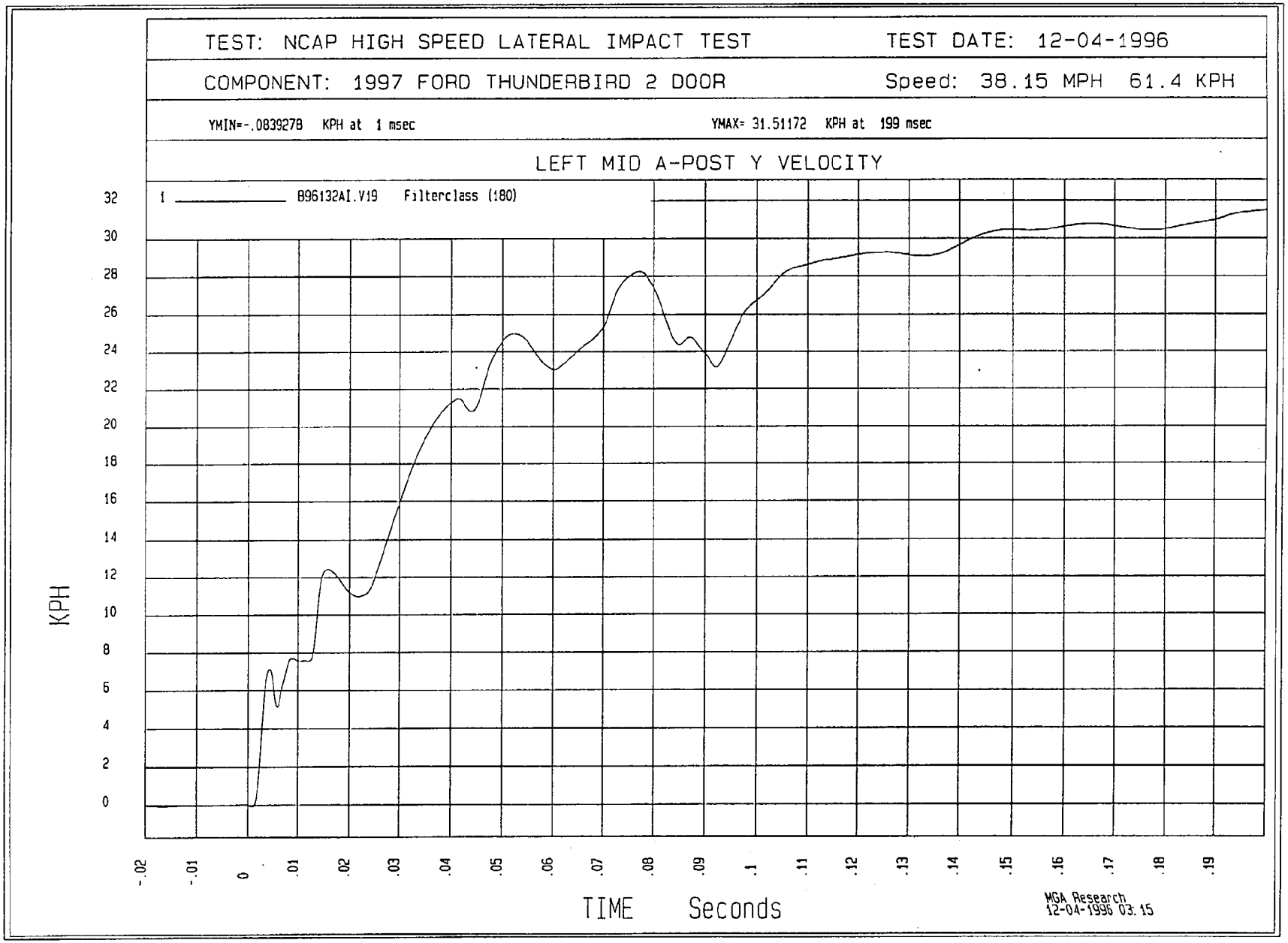

TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-2.999166 G'S at 143 msec
YMAX= 18.65685 G'S at 14. msec
RIGHT REAR OCCUPANT COMPARTMENT Y ACCELERATION
1 B96132AF.A70 Filterclass (60)
G'S
18
16
14
12
10
8
6
4
2
0
-2
-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
12-03-1996 02:57


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-1.248345E-03 KPH at -16. msec
YMAX= 26.51154 KPH at 96. msec
RIGHT REAR OCCUPANT COMPARTMENT Y VELOCITY
1 B96132AI.V70 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
12-04-1996 03.15


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-45.15646 G'S at 30. msec
YMAX= 131.5677 G'S at 5.5 msec
LEFT LOWER A-POST Y ACCELERATION
1 B96132AF.A20 Filterclass (60)
No valid data after
45 msec.
G'S
140
120
100
80
60
40
20
0
-20
-40
-.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
12-04-1996 20:32

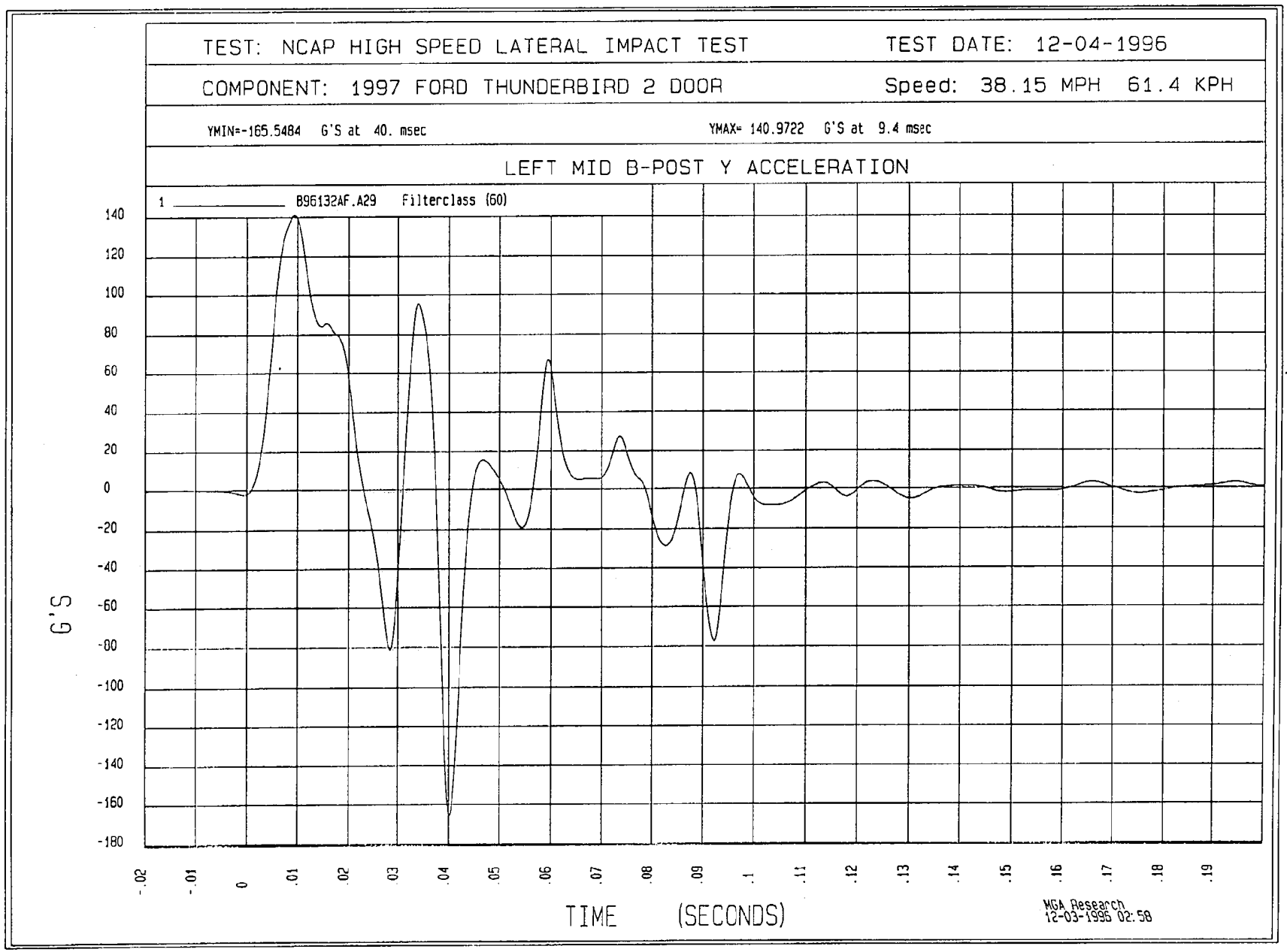

TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-9.101806E-02 KPH at 1.2 msec
YMAX= 30.43722 KPH at 15. msec
LEFT LOWER A-POST Y VELOCITY
1 B96132AI.V20 Filterclass (180)
No valid data after 45 msec.
KPH
30
28
26
24
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
12-04-1996 20:37

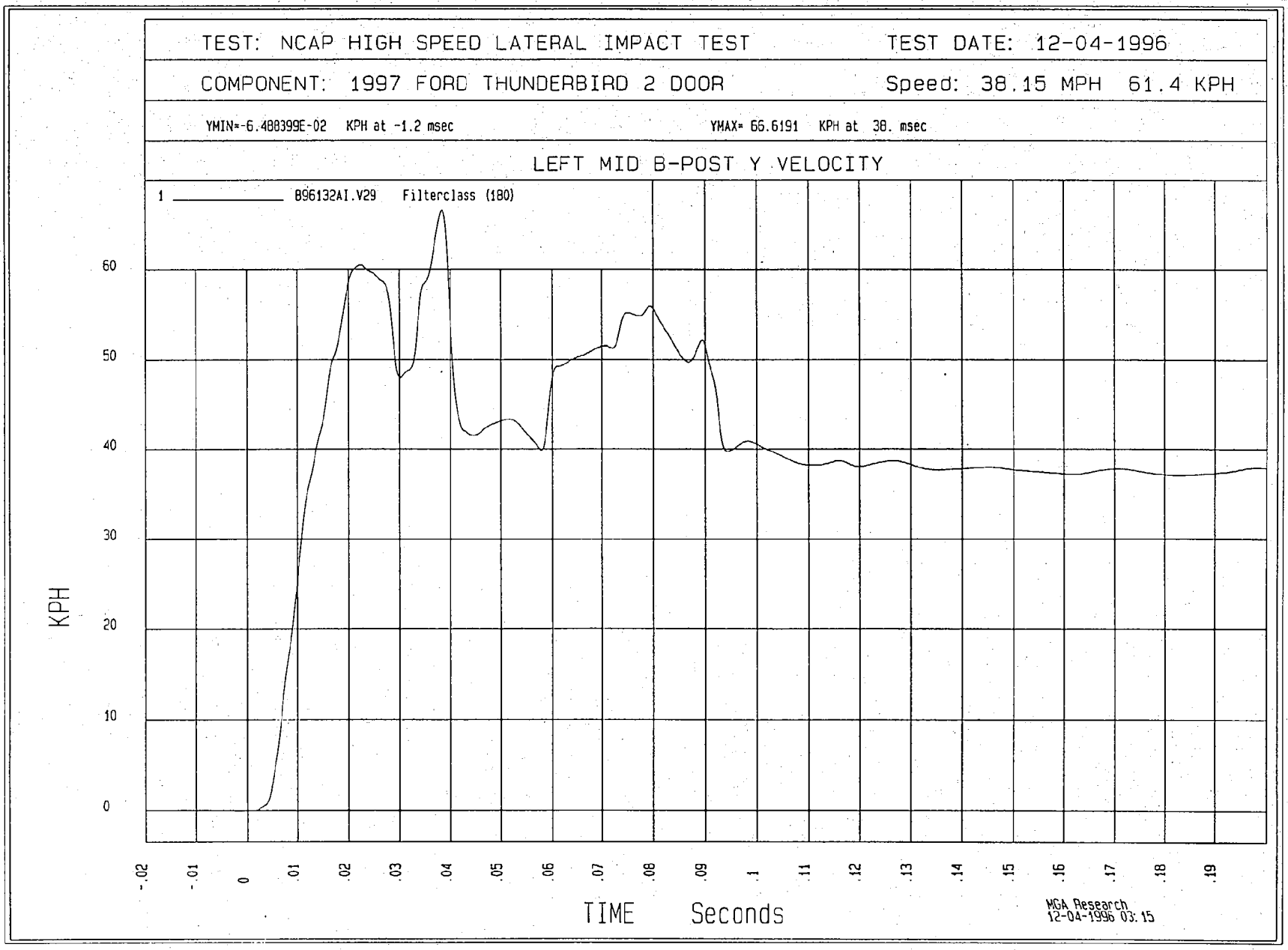

TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-19.30177 G'S at 81. msec
YMAX= 47.848 G'S at 2.6 msec
LEFT MID A-POST Y ACCELERATION
1 B96132AF.A19 Filterclass (60)
50
40
30
20
10
0
-10
-20
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
12-03-1996 02:58

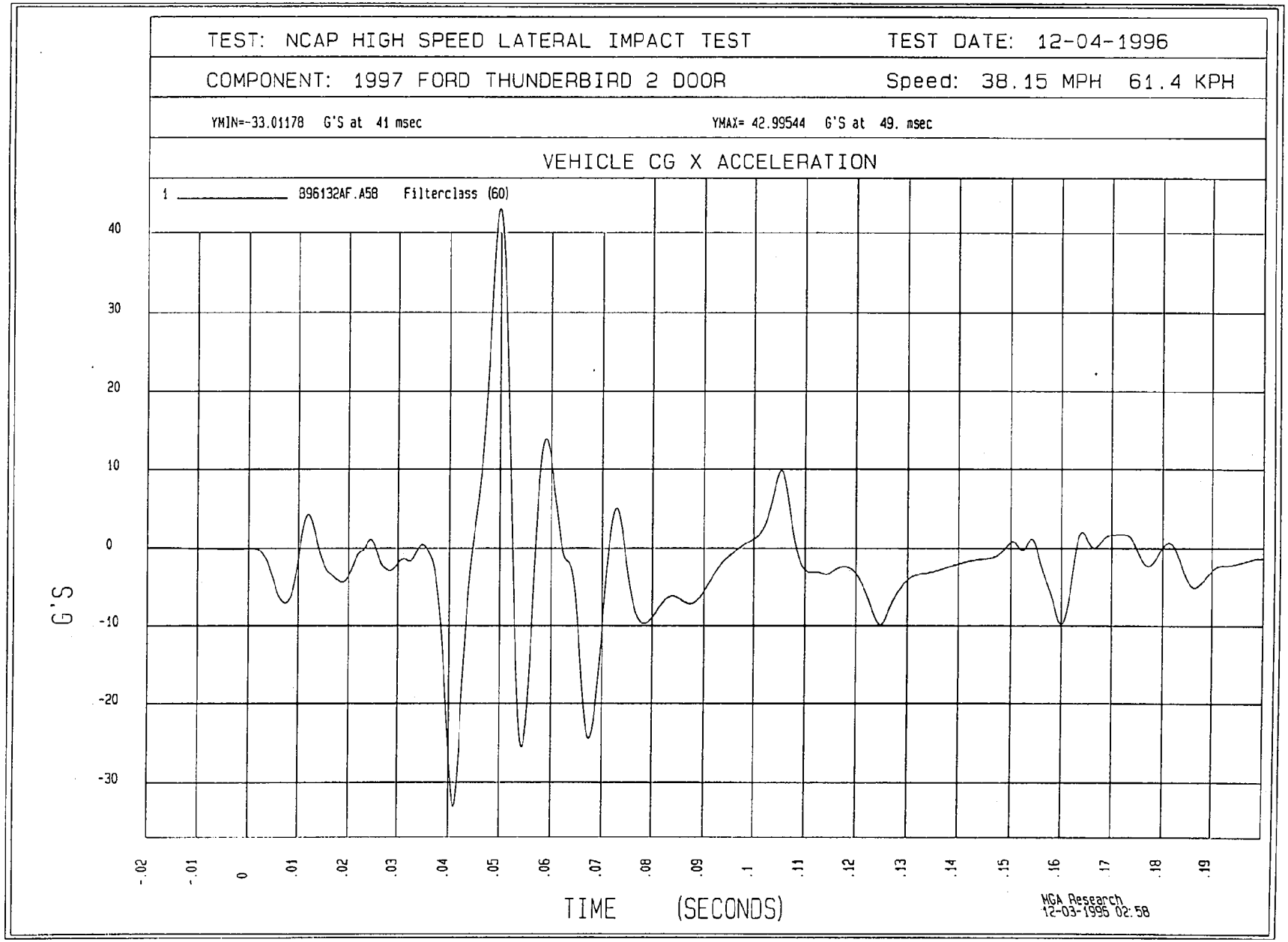

TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-.0839278 KPH at 1 msec
YMAX= 31.51172 KPH at 199 msec
LEFT MID A-POST Y VELOCITY
1 B96132AI.V19 Filterclass (180)
KPH
32
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
-.02
-.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
12-04-1996 03:15

LEFT LOWER B-POST Y ACCELERATION VS. TIME

NO VALID DATA COLLECTED


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-165.5484 G'S at 40. msec
YMAX= 140.9722 G'S at 9.4 msec
LEFT MID B-POST Y ACCELERATION
1 B96132AF.A29 Filterclass (60)
G'S
140
120
100
80
60
40
20
0
-20
-40
-60
-80
-100
-120
-140
-160
-180
-.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
12-03-1996 02:58


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-6.488399E-02 KPH at -1.2 msec
YMAX= 66.6191 KPH at 38. msec
LEFT MID B-POST Y VELOCITY
1 B96132AI.V29 Filterclass (180)
KPH
60
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
MGA Research
12-04-1996 03:15


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-33.01178 G'S at 41 msec
YMAX= 42.99544 G'S at 49. msec
VEHICLE CG X ACCELERATION
1 B96132AF.A58 Filterclass (60)
40
30
20
10
0
-10
-20
-30
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
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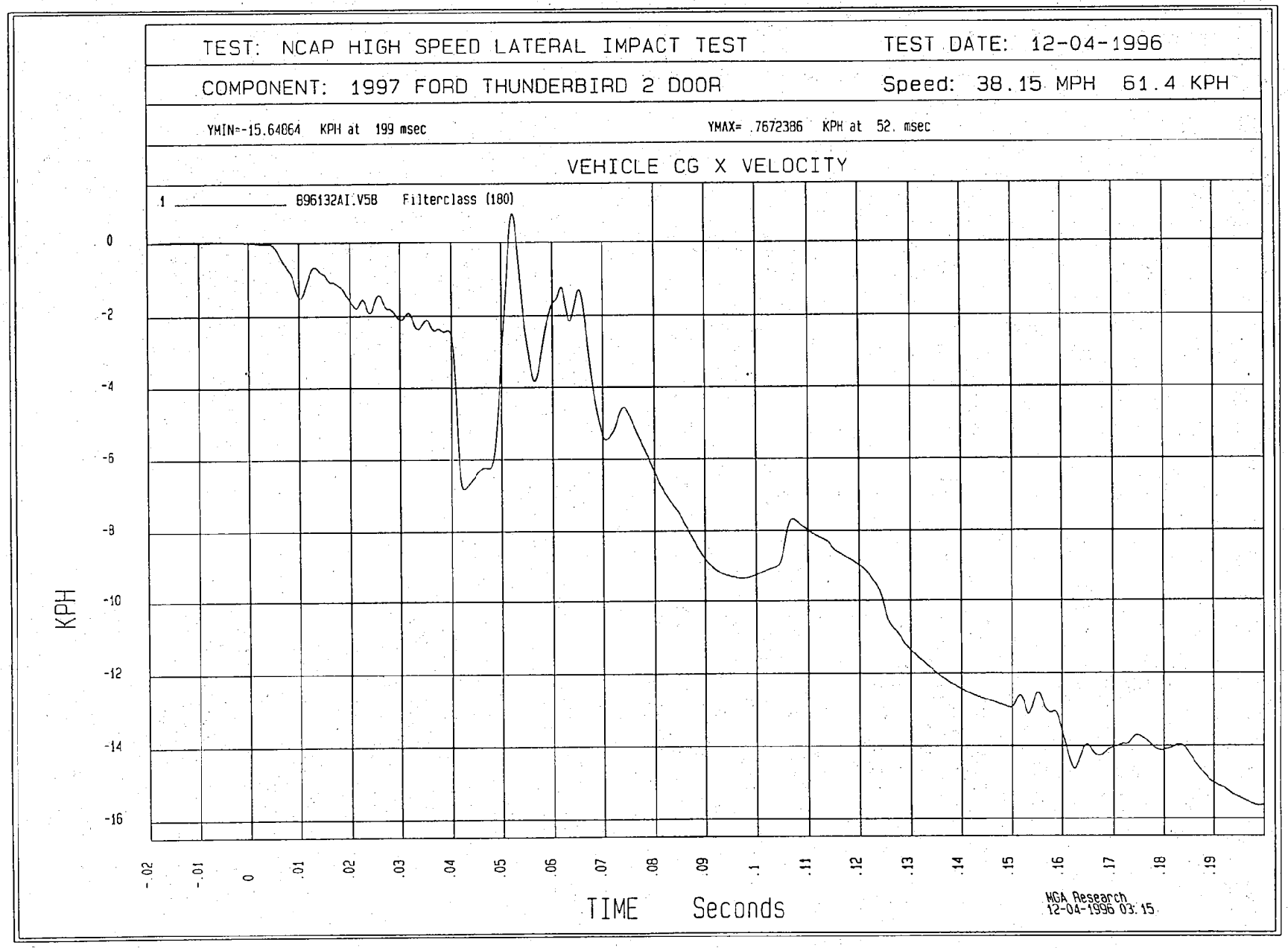
.19
TIME (SECONDS)
MGA Research
12-03-1996 02:58


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-15.64864 KPH at 199 msec
YMAX= .7672386 KPH at 52. msec
VEHICLE CG X VELOCITY
1 B96132AI.V58 Filterclass (180)
KPH
0
-2
-4
-6
-8
-10
-12
-14
-16
-.02
-.01
0
.01
.02
.03
.04
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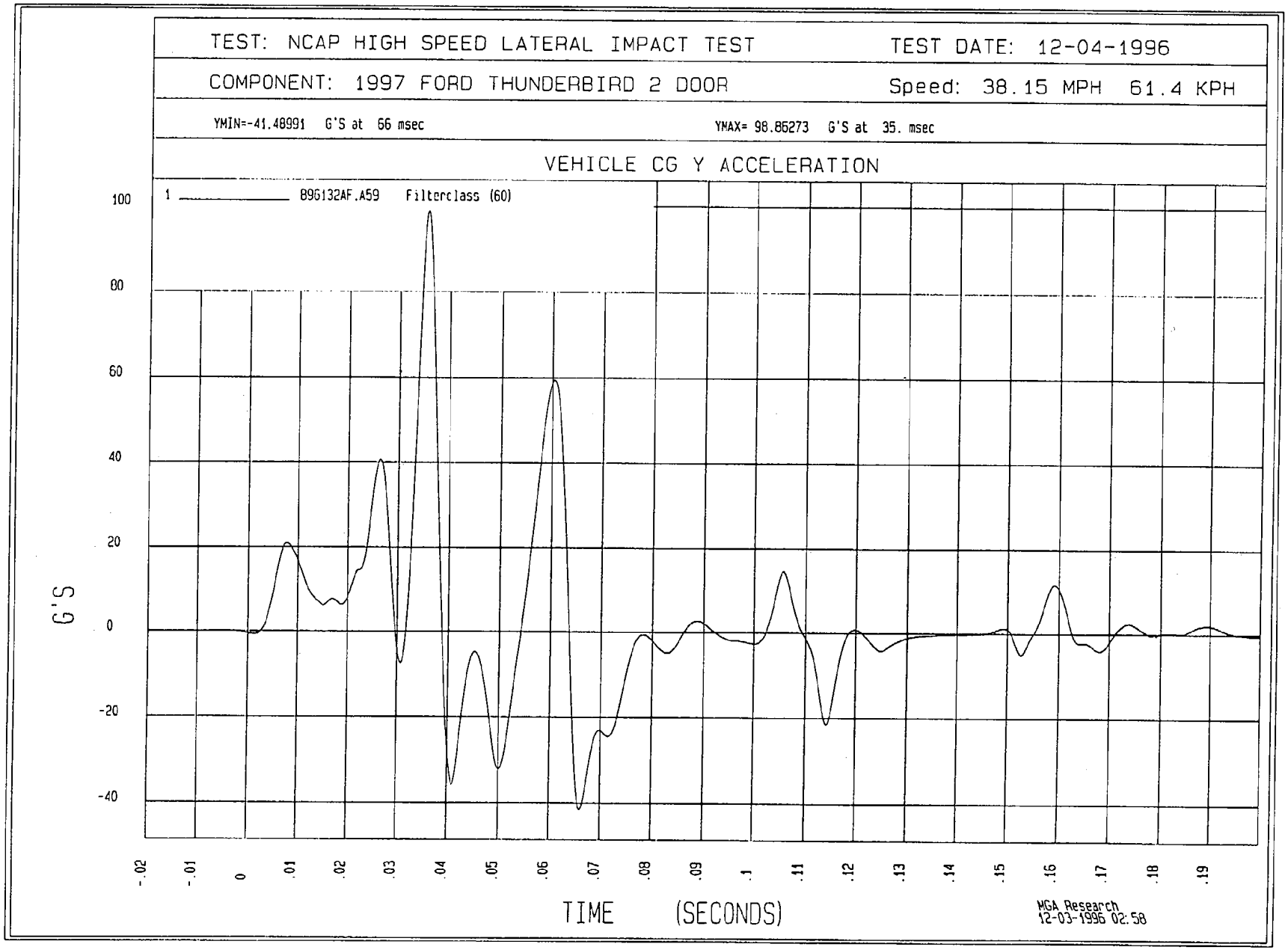
TIME Seconds
MGA Research
12-04-1996 03:15


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-41.48991 G'S at 66 msec
YMAX= 98.86273 G'S at 35. msec
VEHICLE CG Y ACCELERATION
1 896132AF.A59 Filterclass (60)
100
80
60
40
20
0
-20
-40
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
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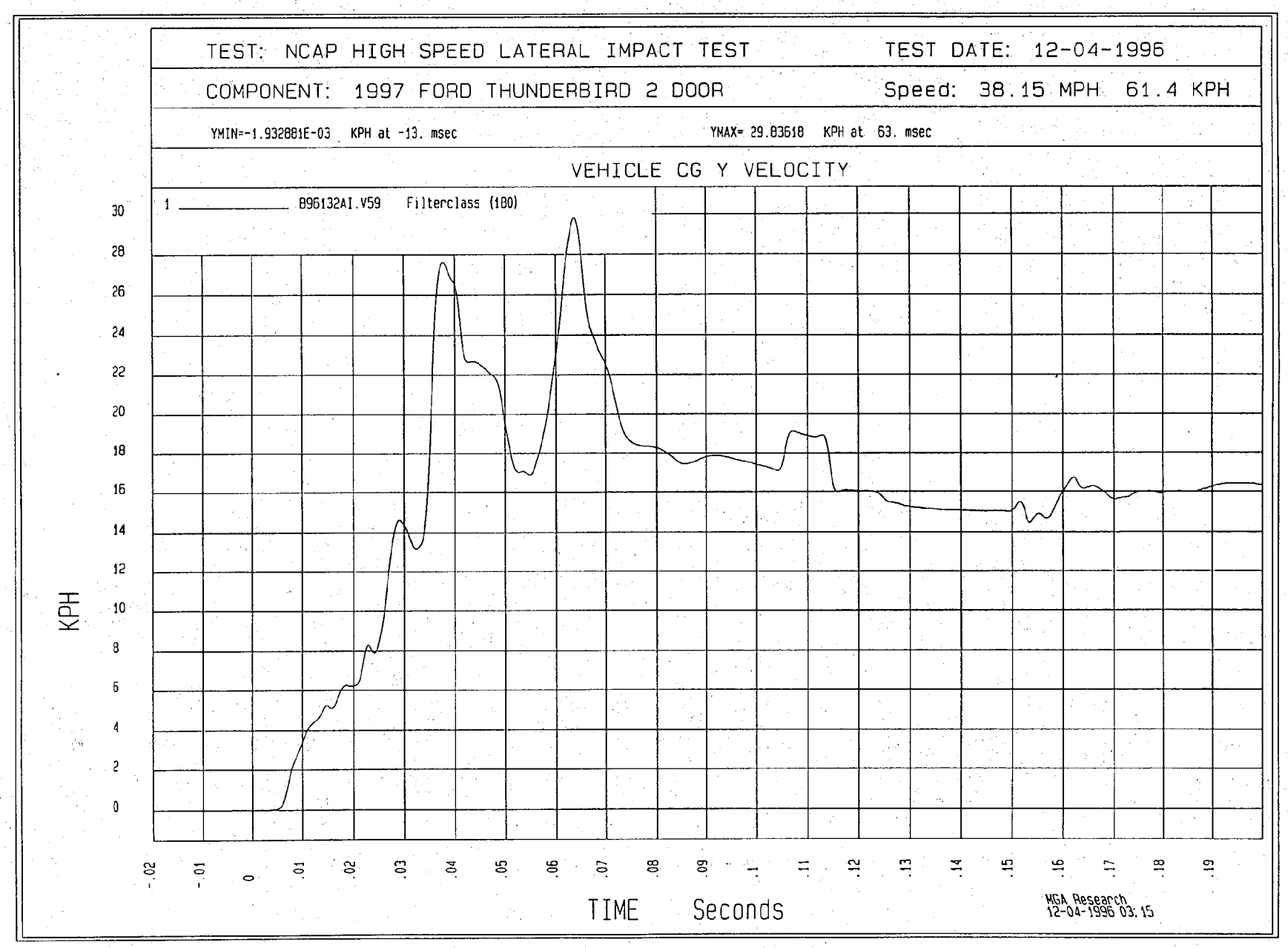
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
12-03-1996 02:58


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-1.932881E-03 KPH at -13. msec
YMAX= 29.83618 KPH at 63. msec
VEHICLE CG Y VELOCITY
1 B96132AI.V59 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
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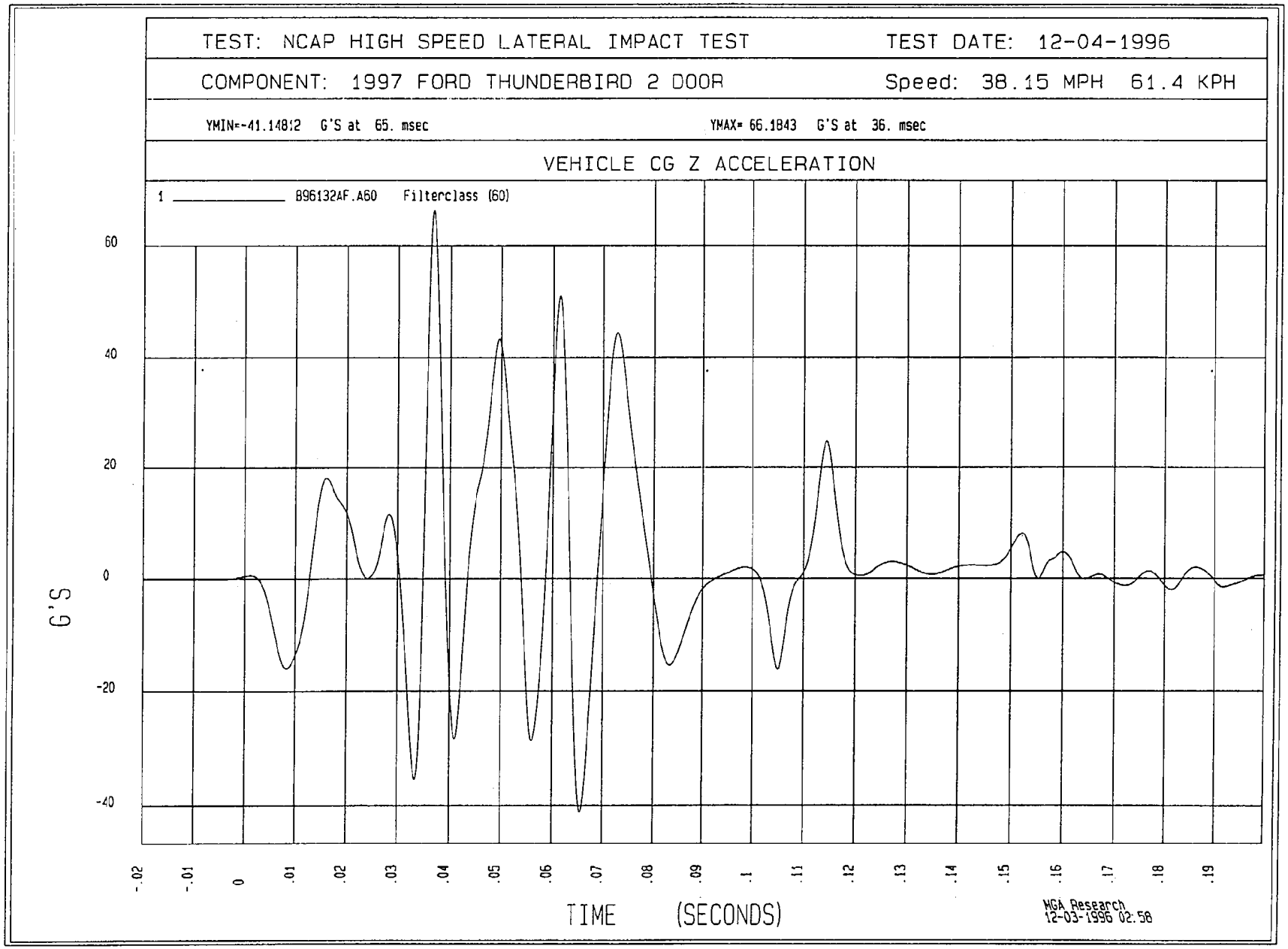
TIME Seconds
MGA Research
12-04-1996 03:15


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-41.1481 G'S at 65. msec
YMAX= 66.1843 G'S at 36. msec
VEHICLE CG Z ACCELERATION
1 B96132AF.A60 Filterclass (60)
60
40
20
0
-20
-40
G'S
-.02
-.01
0
.01
.02
.03
.04
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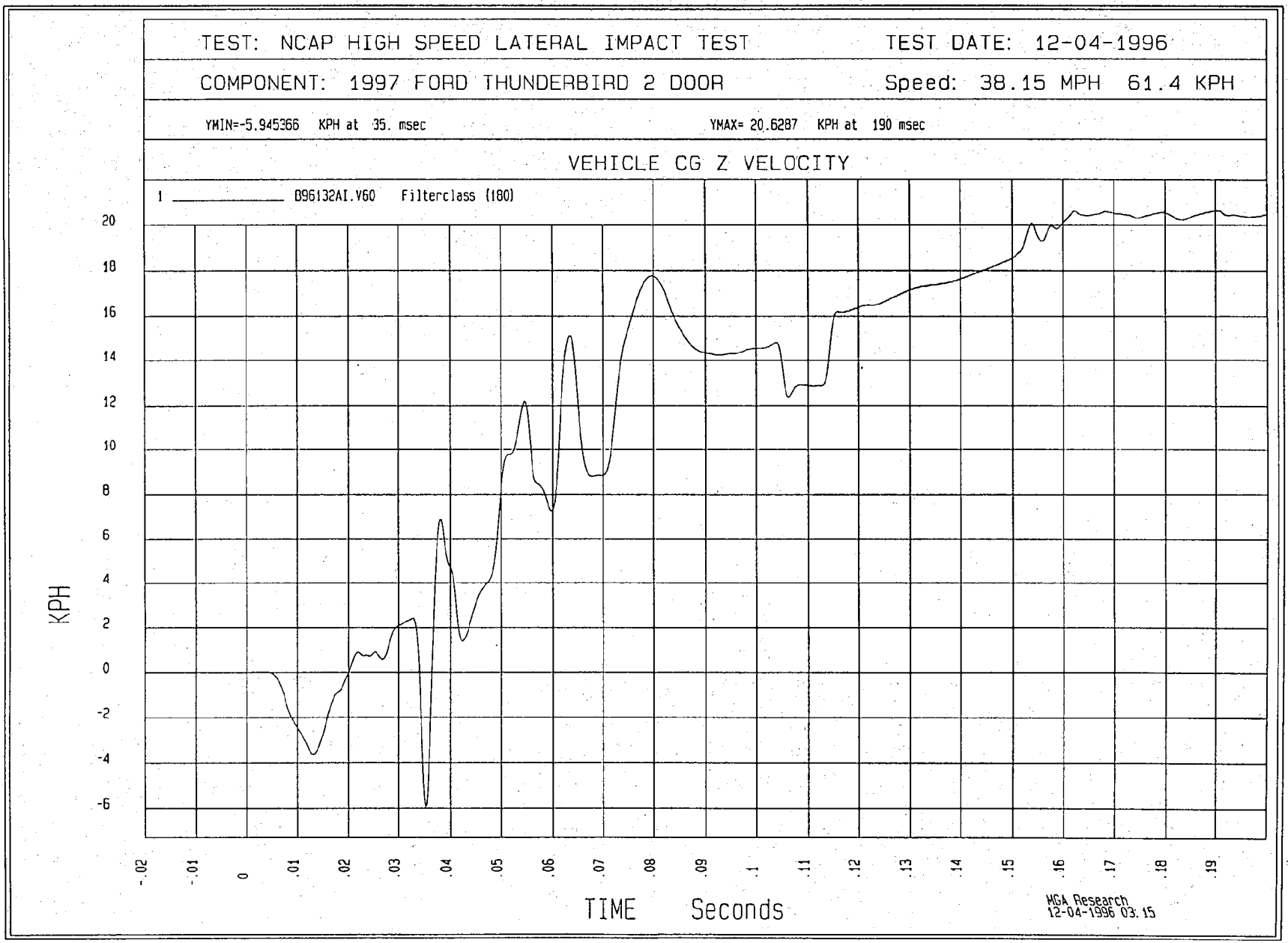
TIME (SECONDS)
MGA Research
12-03-1996 02:58


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-5.945366 KPH at 35. msec
YMAX= 20.6287 KPH at 190 msec
VEHICLE CG Z VELOCITY
1 B96132AI.V60 Filterclass (180)
KPH
20
18
16
14
12
10
8
6
4
2
0
-2
-4
-6
-.02
-.01
0
.01
.02
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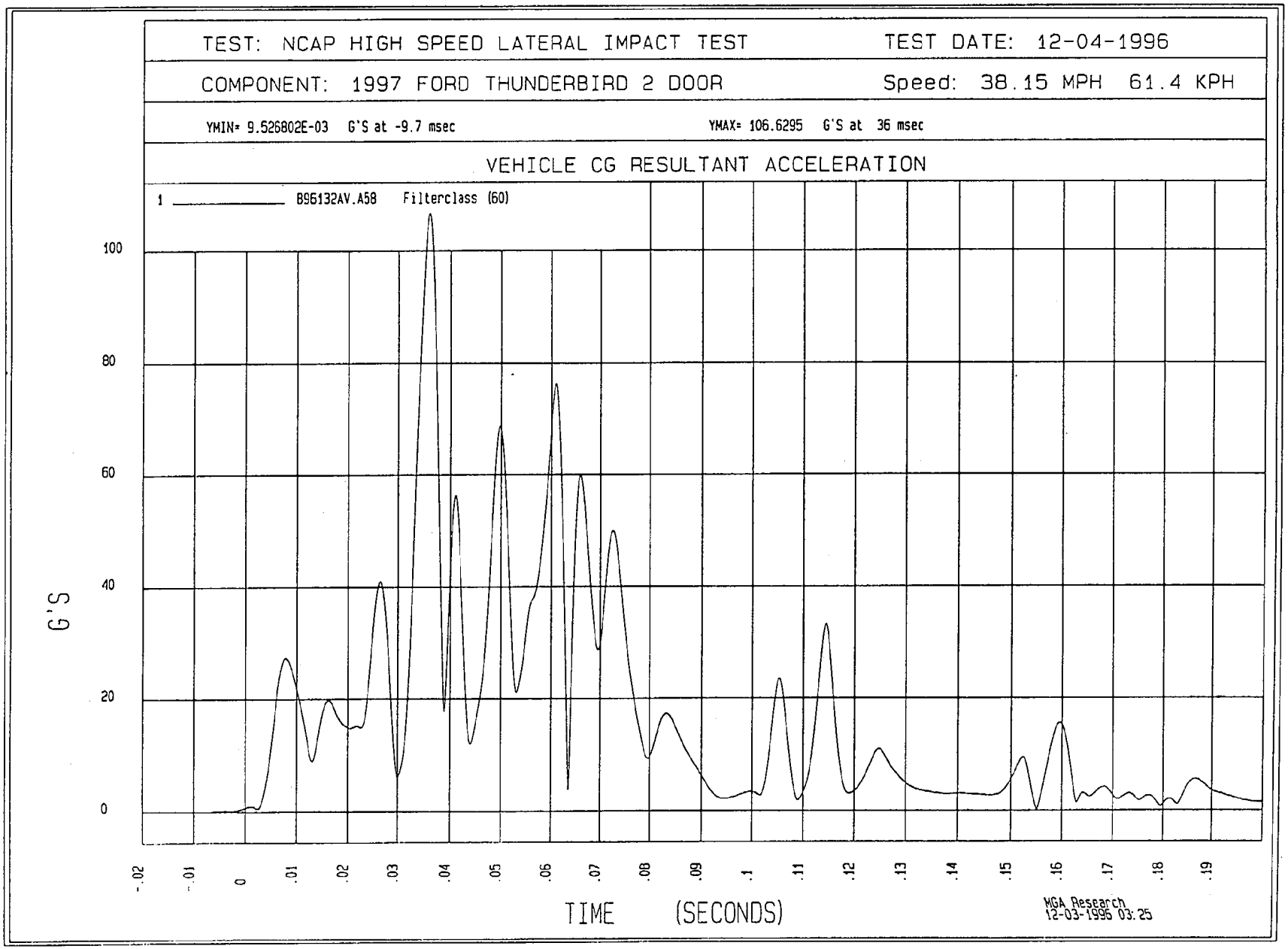
TIME Seconds
MGA Research
12-04-1996 03:15


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN= 9.526802E-03 G'S at -9.7 msec
YMAX= 106.6295 G'S at 36 msec
VEHICLE CG RESULTANT ACCELERATION
1 B96132AV.A58 Filterclass (60)
G'S
100
80
60
40
20
0
-.02
-.01
0
.01
.02
.03
.04
.05
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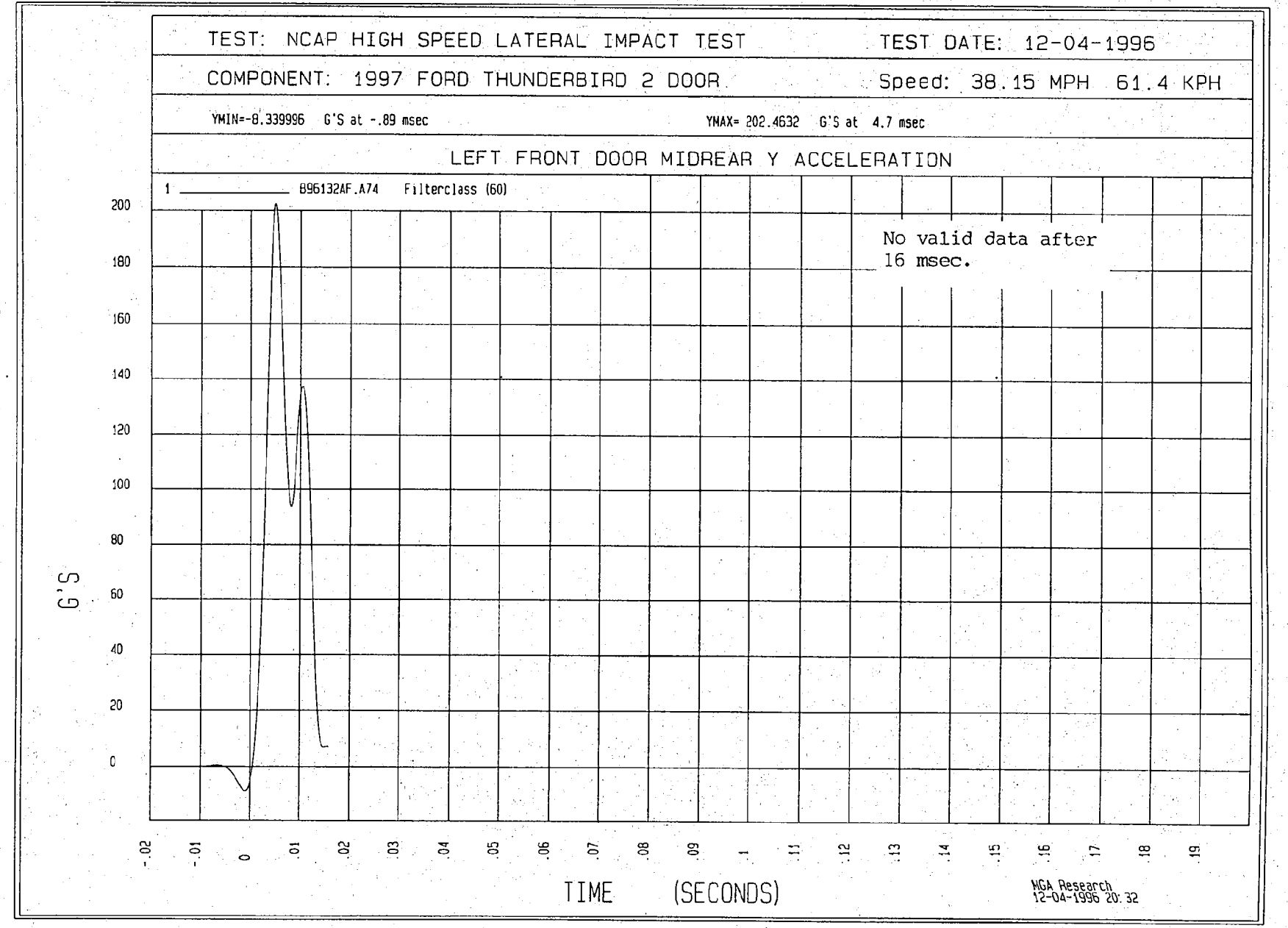
TIME (SECONDS)
MGA Research
12-03-1996 03:25


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-8.339996 G'S at -.89 msec
YMAX= 202.4632 G'S at 4.7 msec
LEFT FRONT DOOR MIDREAR Y ACCELERATION
1 B96132AF.A74 Filterclass (60)
No valid data after
16 msec.
G'S
200
180
160
140
120
100
80
60
40
20
0
-.02
-.01
0
.01
.02
.03
.04
.05
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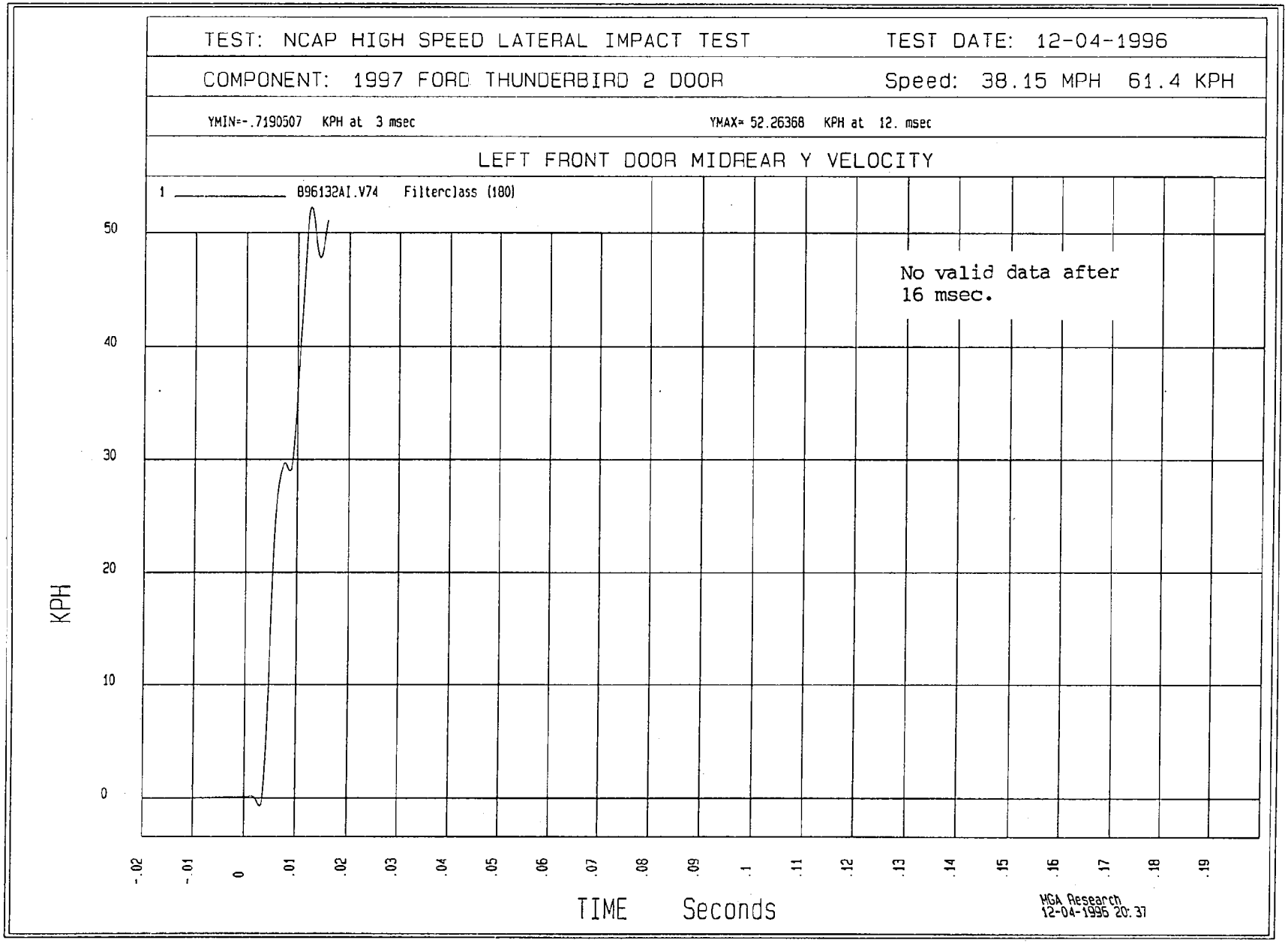
TIME (SECONDS)
MGA Research
12-04-1996 20:32


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-.7190507 KPH at 3 msec
YMAX= 52.26368 KPH at 12. msec
LEFT FRONT DOOR MIDREAR Y VELOCITY
1 B96132AI.V74 Filterclass (180)
No valid data after
16 msec.
KPH
50
40
30
20
10
0
-.02
-.01
0
.01
.02
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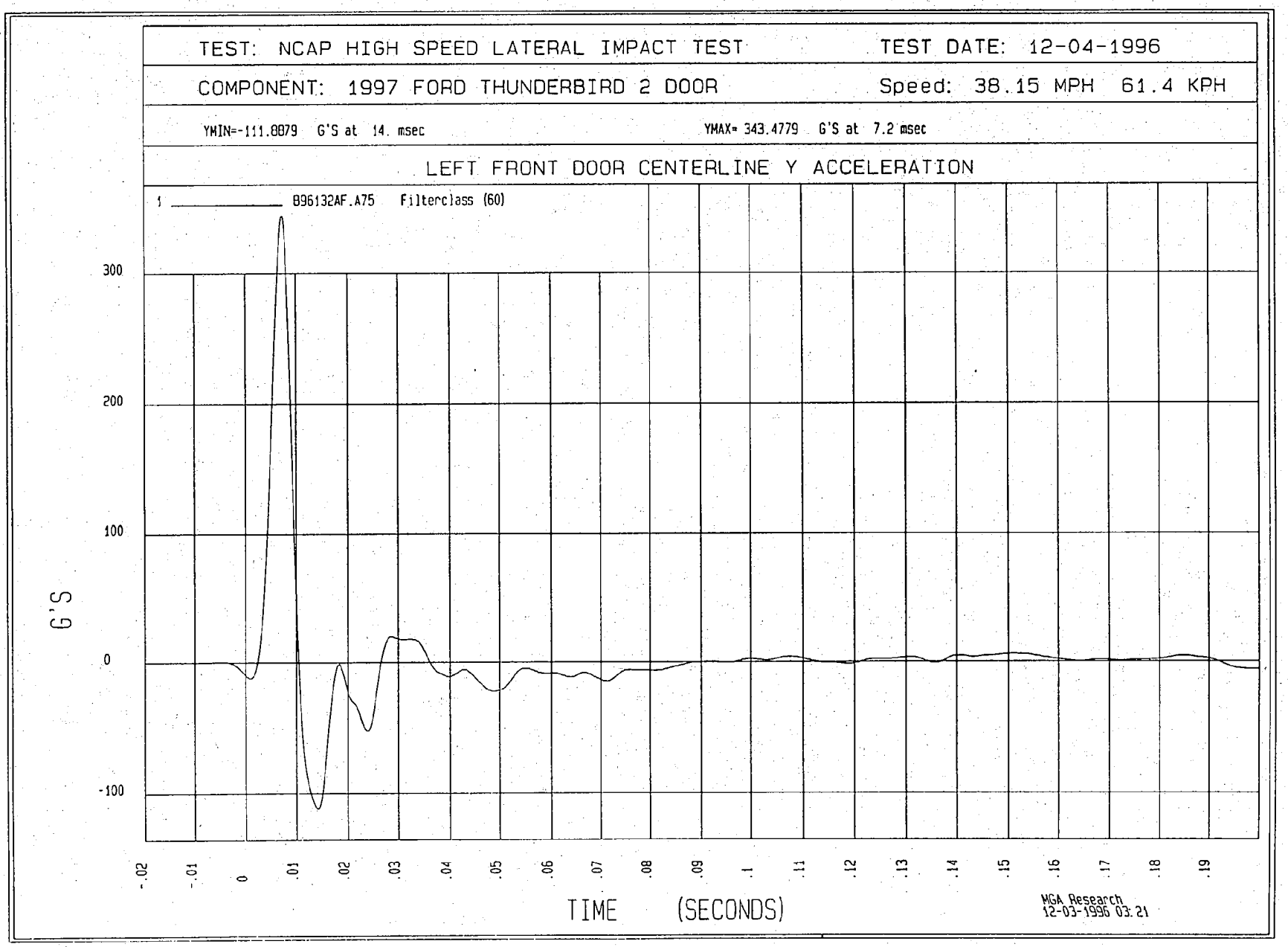
TIME Seconds
MGA Research
12-04-1996 20:37


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-111.8879 G'S at 14. msec
YMAX= 343.4779 G'S at 7.2 msec
LEFT FRONT DOOR CENTERLINE Y ACCELERATION
1 B96132AF.A75 Filterclass (60)
300
200
100
0
-100
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
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.14
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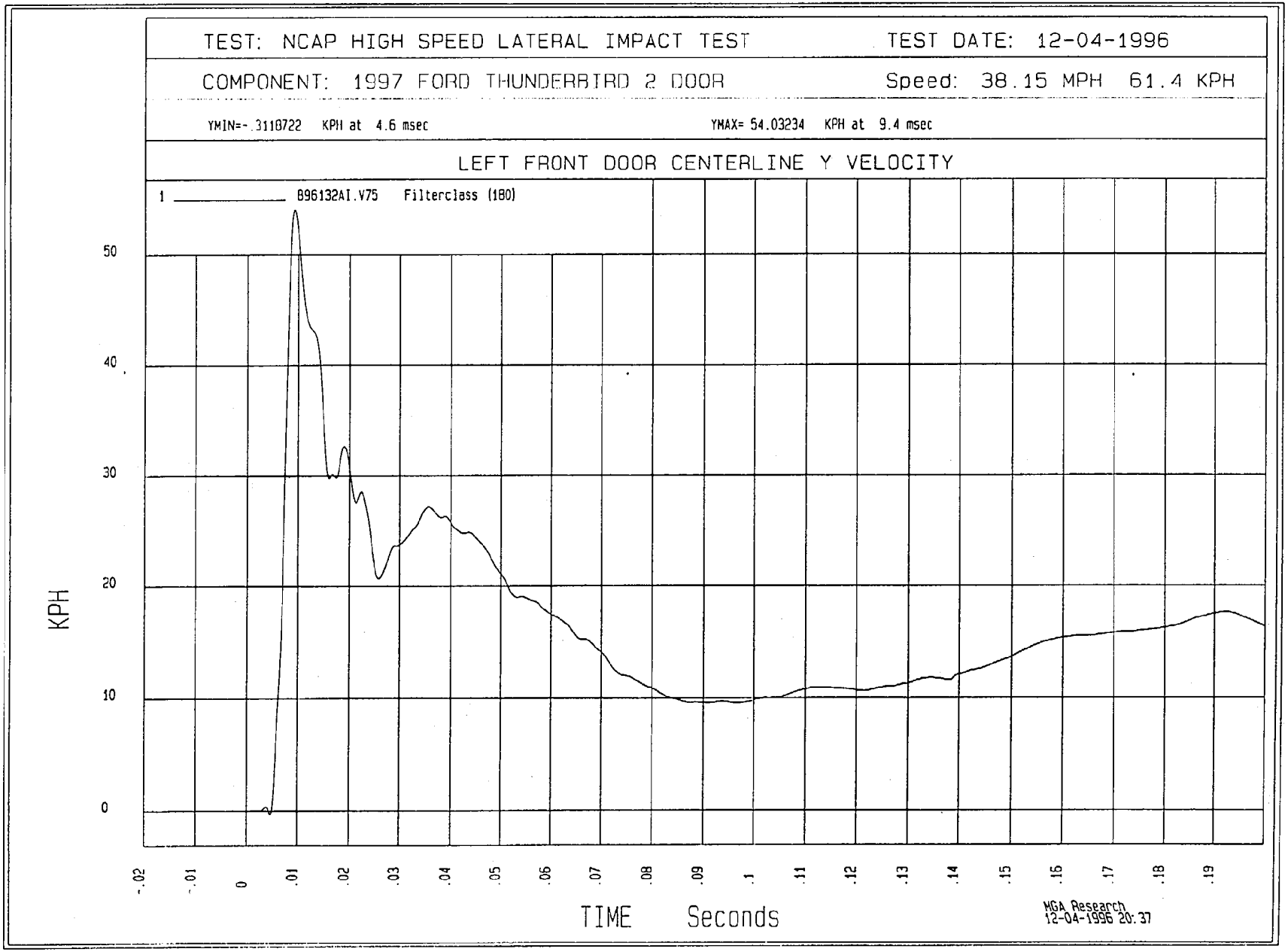
TIME (SECONDS)
MGA Research
12-03-1996 03:21


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-.3110722 KPH at 4.6 msec
YMAX= 54.03234 KPH at 9.4 msec
LEFT FRONT DOOR CENTERLINE Y VELOCITY
1 B96132AI.V75 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
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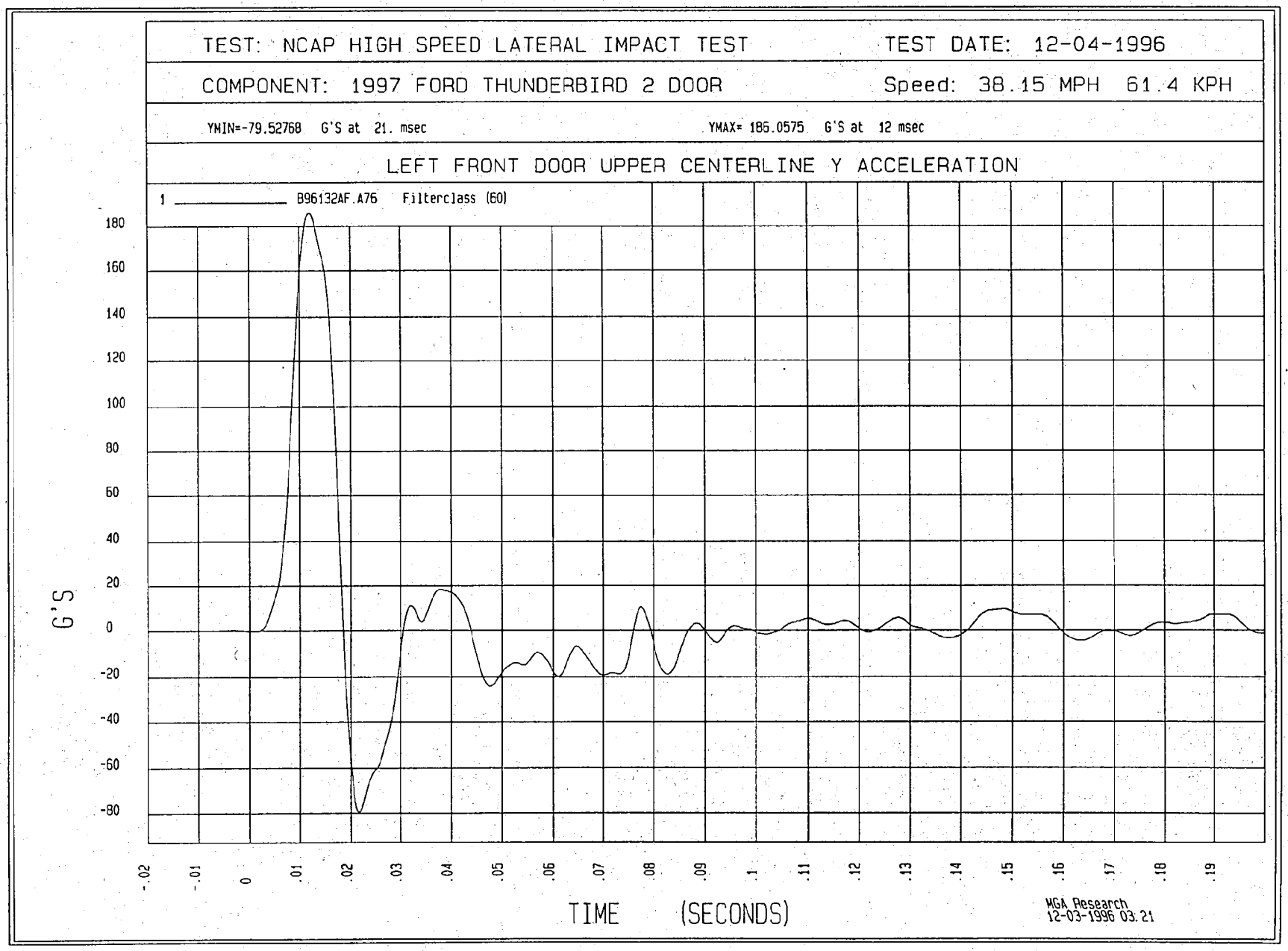
.19
TIME Seconds
MGA Research
12-04-1996 20:37


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-79.52768 G'S at 21. msec
YMAX= 185.0575 G'S at 12 msec
LEFT FRONT DOOR UPPER CENTERLINE Y ACCELERATION
1 B96132AF.A76 Filterclass (60)
180
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
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.14
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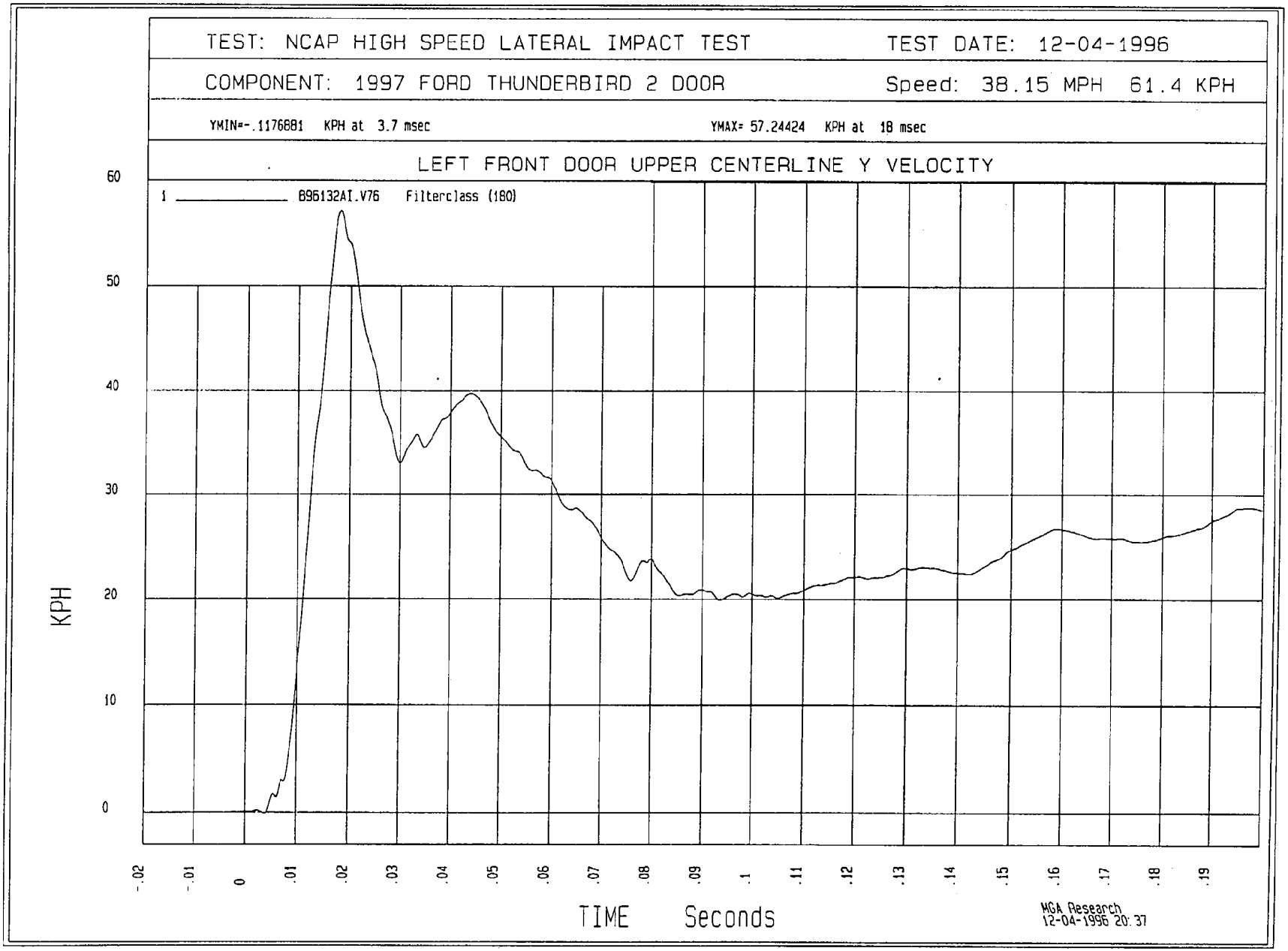
TIME (SECONDS)
WGA Research
12-03-1996 03:21


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-.1176881 KPH at 3.7 msec
YMAX= 57.24424 KPH at 18 msec
LEFT FRONT DOOR UPPER CENTERLINE Y VELOCITY
1 B96132AI.V76 Filterclass (180)
60
50
40
30
20
10
0
KPH
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
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.14
.15
.16
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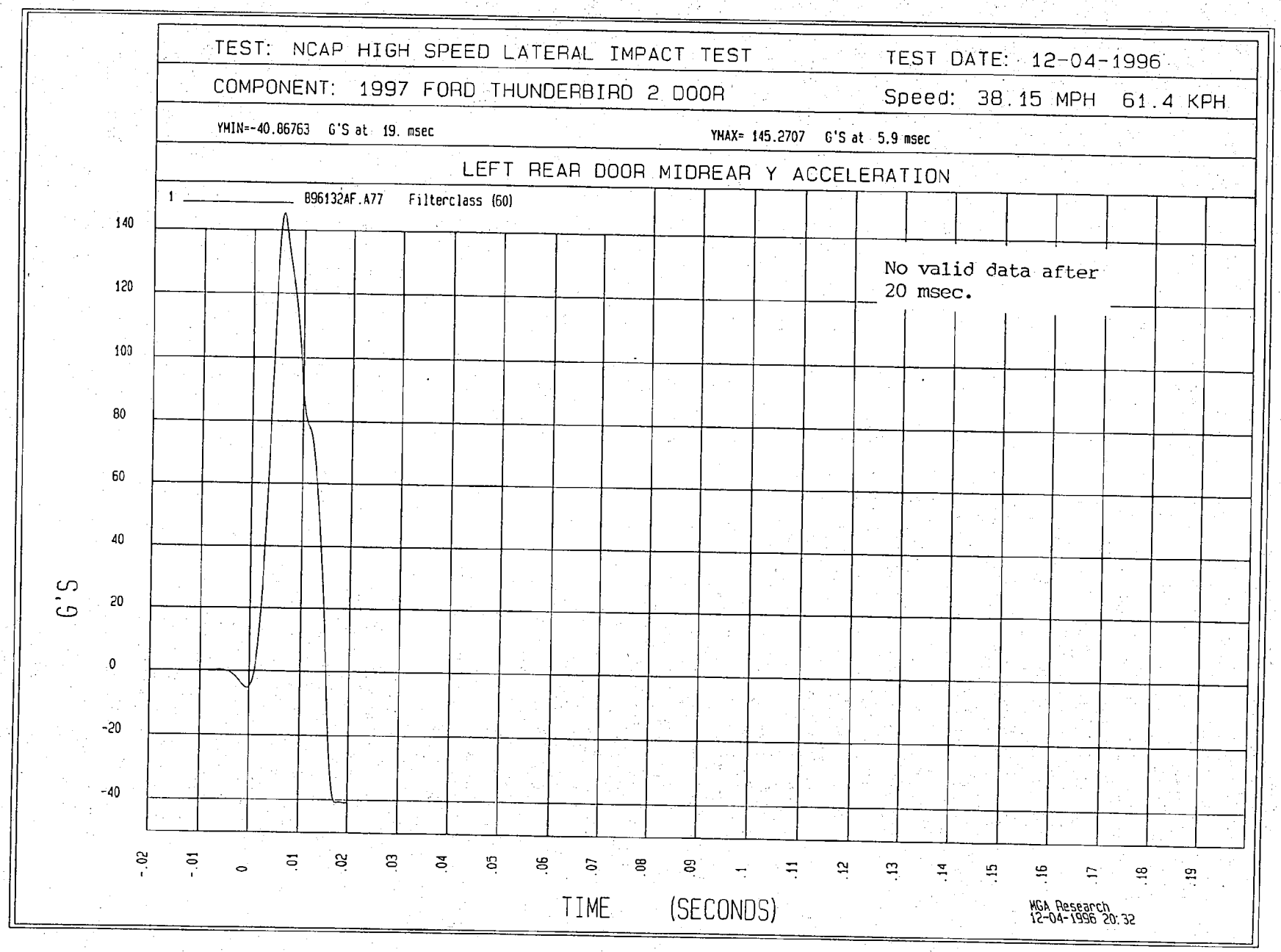
TIME Seconds
MGA Research
12-04-1996 20:37


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-40.86763 G'S at 19. msec
YMAX= 145.2707 G'S at 5.9 msec
LEFT REAR DOOR MIDREAR Y ACCELERATION
1 B96132AF.A77 Filterclass (60)
No valid data after
20 msec.
G'S
140
120
100
80
60
40
20
0
-20
-40
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
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.18
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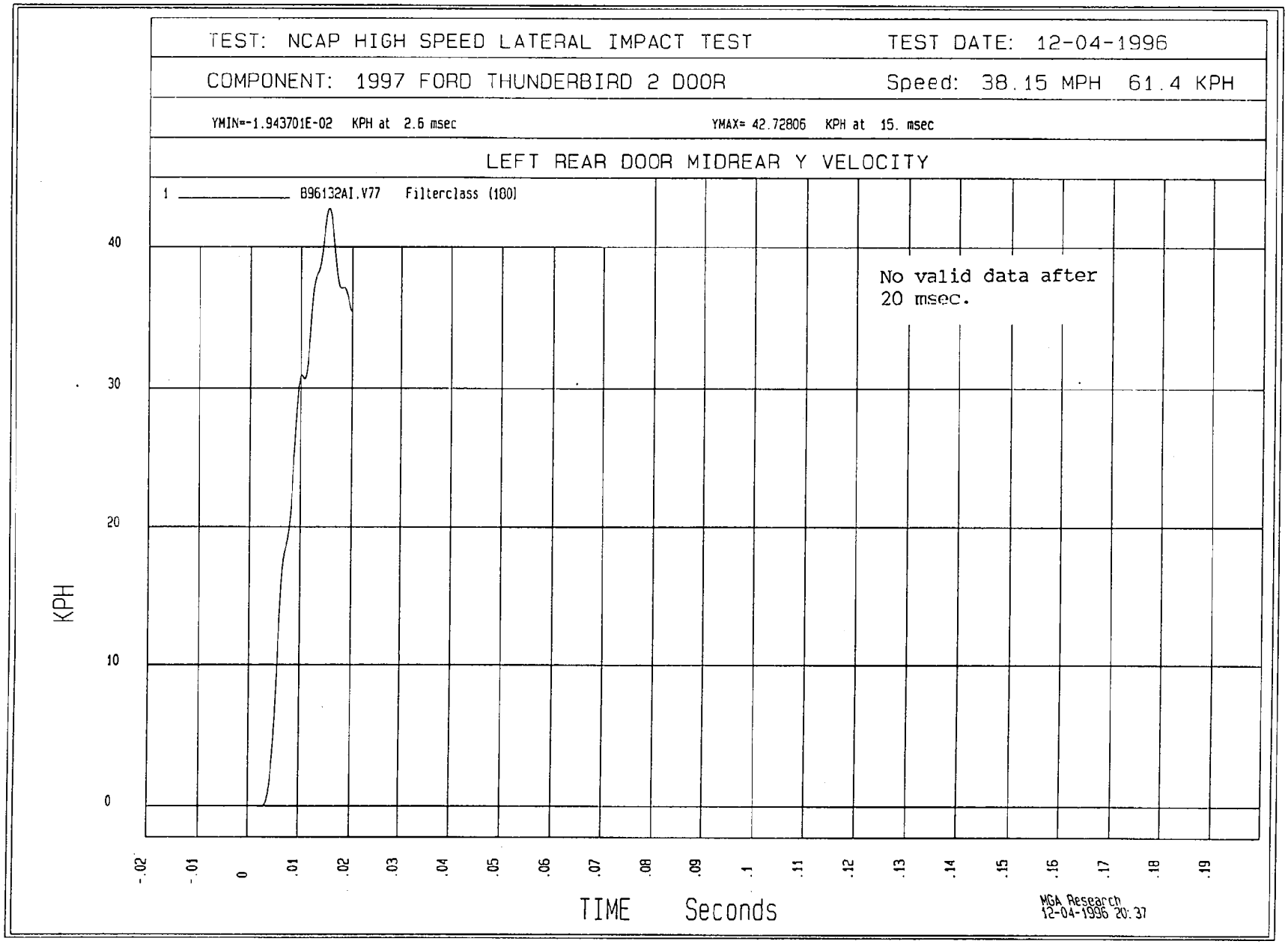
TIME (SECONDS)
MGA Research
12-04-1996 20:32


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-1.943701E-02 KPH at 2.6 msec
YMAX= 42.72806 KPH at 15. msec
LEFT REAR DOOR MIDREAR Y VELOCITY
1 B96132AI.V77 Filterclass (180)
No valid data after 20 msec.
KPH
40
30
20
10
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
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.16
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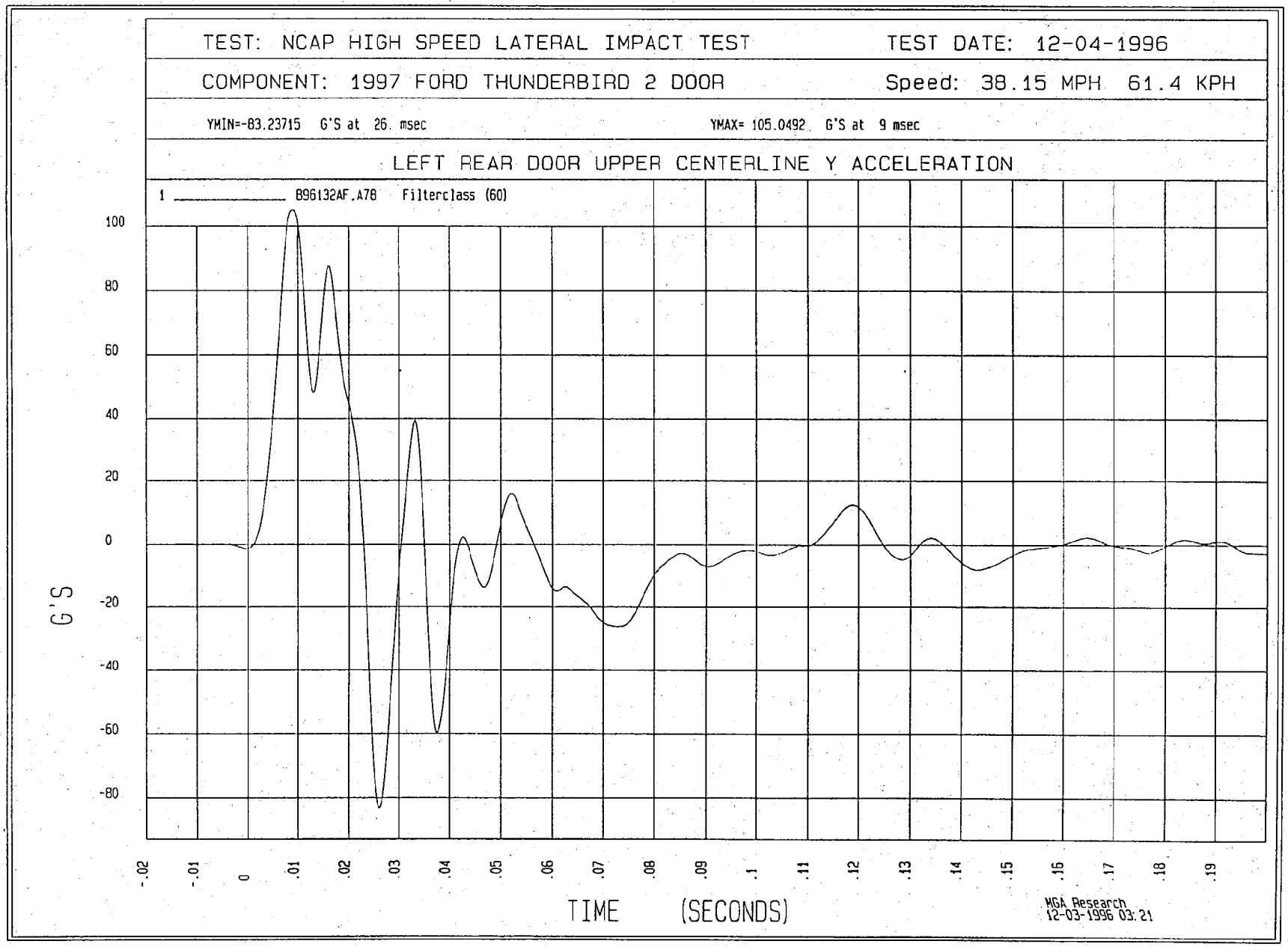
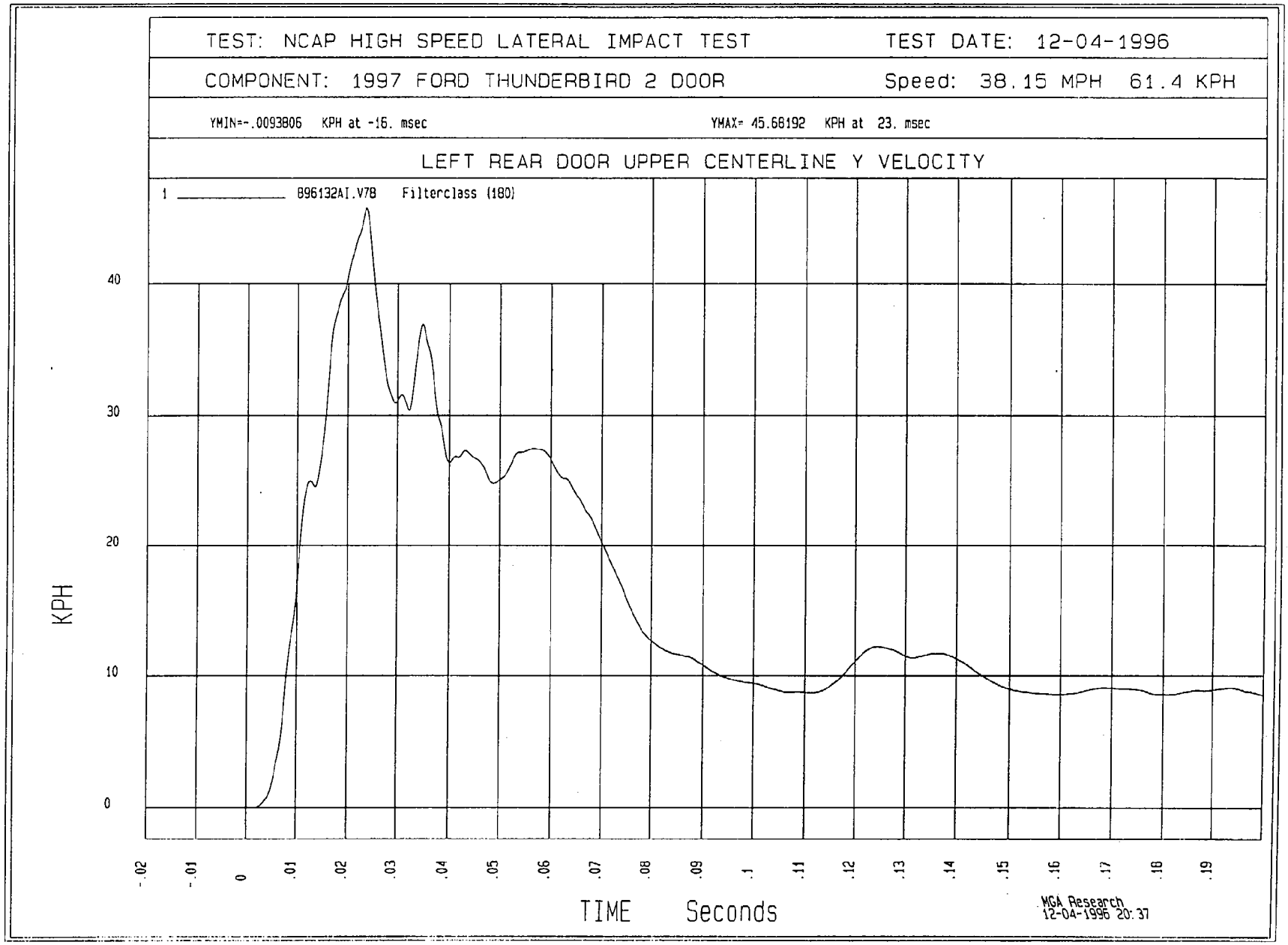
.19
TIME Seconds
MGA Research
12-04-1996 20:37


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-83.23715 G'S at 26. msec
YMAX= 105.0492 G'S at 9 msec
LEFT REAR DOOR UPPER CENTERLINE Y ACCELERATION
1 B96132AF.A78 Filterclass (60)
100
80
60
40
20
0
-20
-40
-60
-80
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
12-03-1996 03:21


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-.0093806 KPH at -16. msec
YMAX= 45.68192 KPH at 23. msec
LEFT REAR DOOR UPPER CENTERLINE Y VELOCITY
1 B96132AI.V78 Filterclass (180)
KPH
40
30
20
10
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
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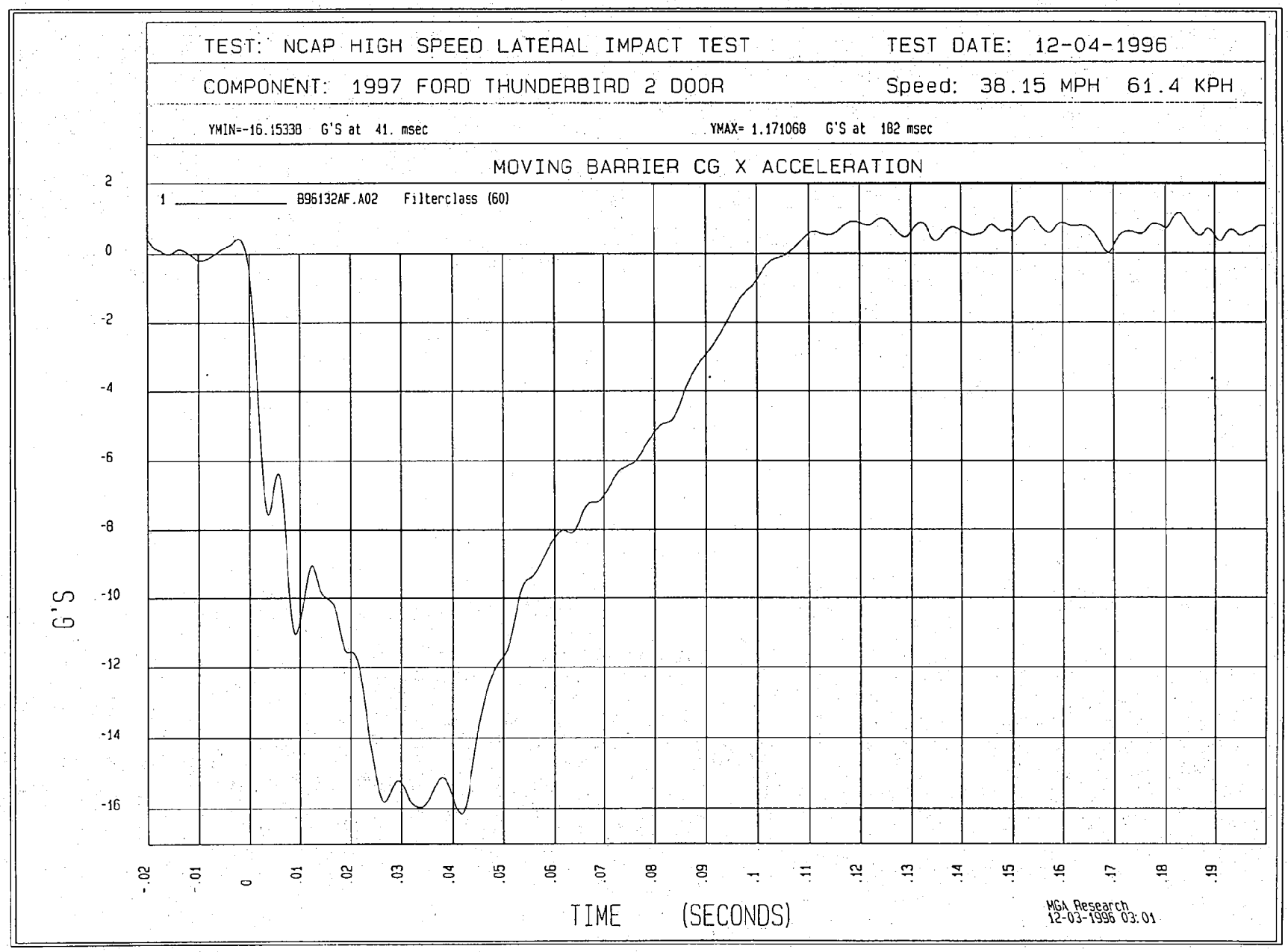
.19
TIME Seconds
MGA Research
12-04-1996 20:37


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-16.15338 G'S at 41. msec
YMAX= 1.171068 G'S at 182 msec
MOVING BARRIER CG X ACCELERATION
1 B96132AF.A02 Filterclass (60)
G'S
2
0
-2
-4
-6
-8
-10
-12
-14
-16
-.02
-.01
0
.01
.02
.03
.04
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.08
.09
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.18
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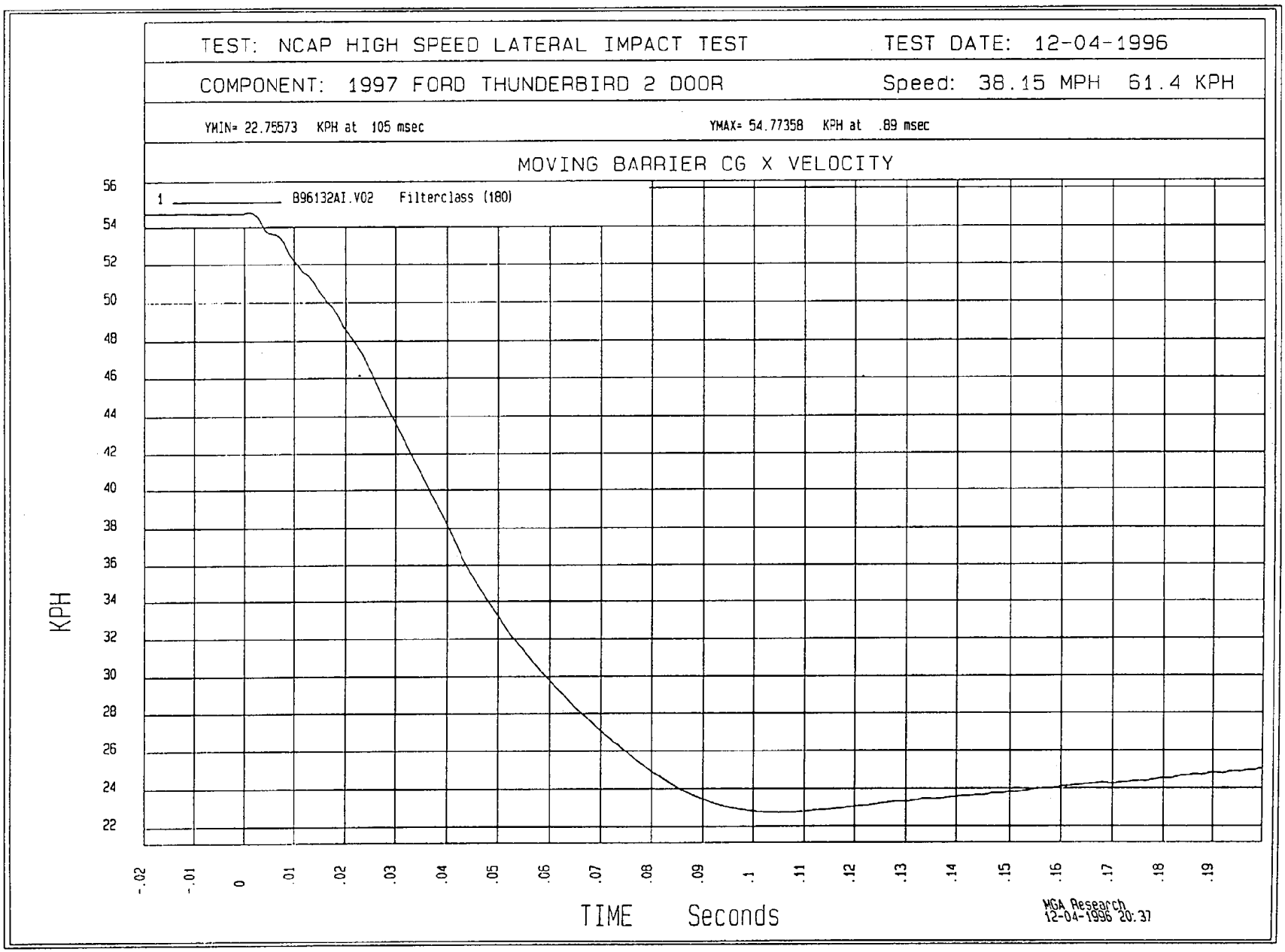
TIME (SECONDS)
MGA Research
12-03-1996 03:01


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN= 22.75573 KPH at 105 msec
YMAX= 54.77358 KPH at .89 msec
MOVING BARRIER CG X VELOCITY
1 B96132AI.V02 Filterclass (180)
KPH
56
54
52
50
48
46
44
42
40
38
36
34
32
30
28
26
24
22
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
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.11
.12
.13
.14
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.16
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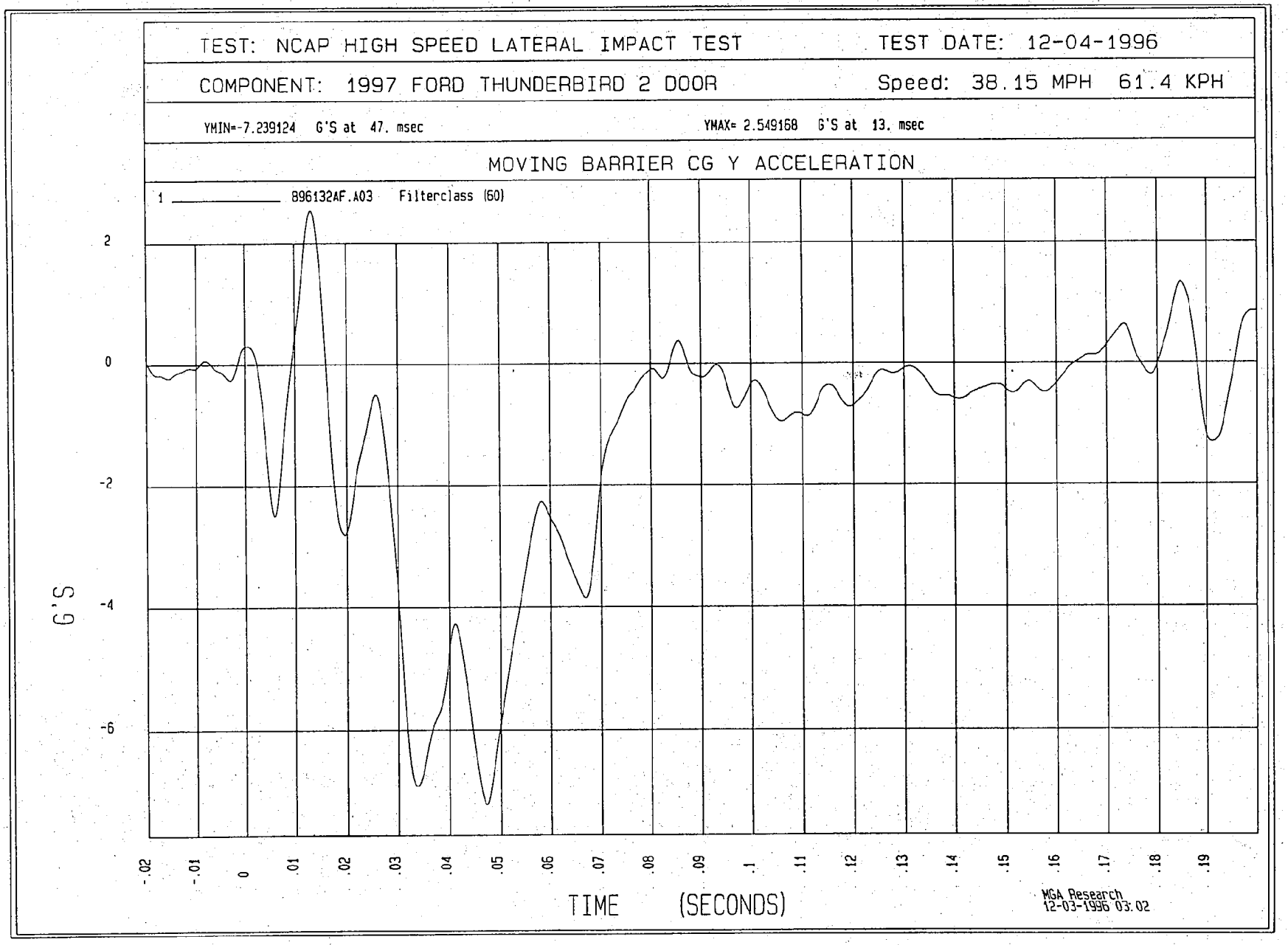
.19
TIME Seconds
MGA Research
12-04-1996 20:37


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-7.239124 G'S at 47. msec
YMAX= 2.549168 G'S at 13. msec
MOVING BARRIER CG Y ACCELERATION
1 896132AF.A03 Filterclass (60)
2
0
-2
-4
-6
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
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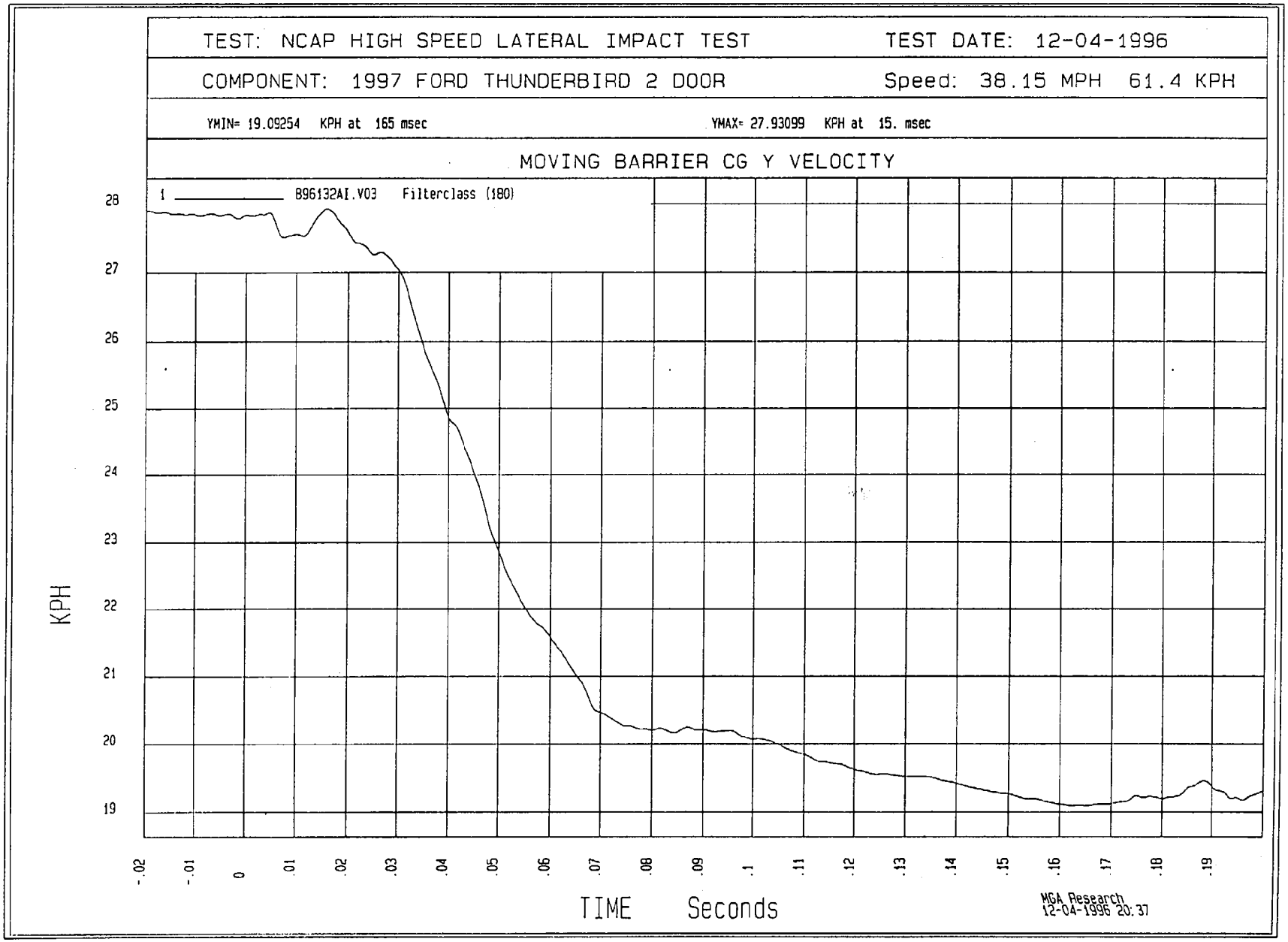
TIME (SECONDS)
MGA Research
12-03-1996 03:02


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN= 19.09254 KPH at 165 msec
YMAX= 27.93099 KPH at 15. msec
MOVING BARRIER CG Y VELOCITY
1 B96132AI.V03 Filterclass (180)
KPH
28
27
26
25
24
23
22
21
20
19
-.02
-.01
0
.01
.02
.03
.04
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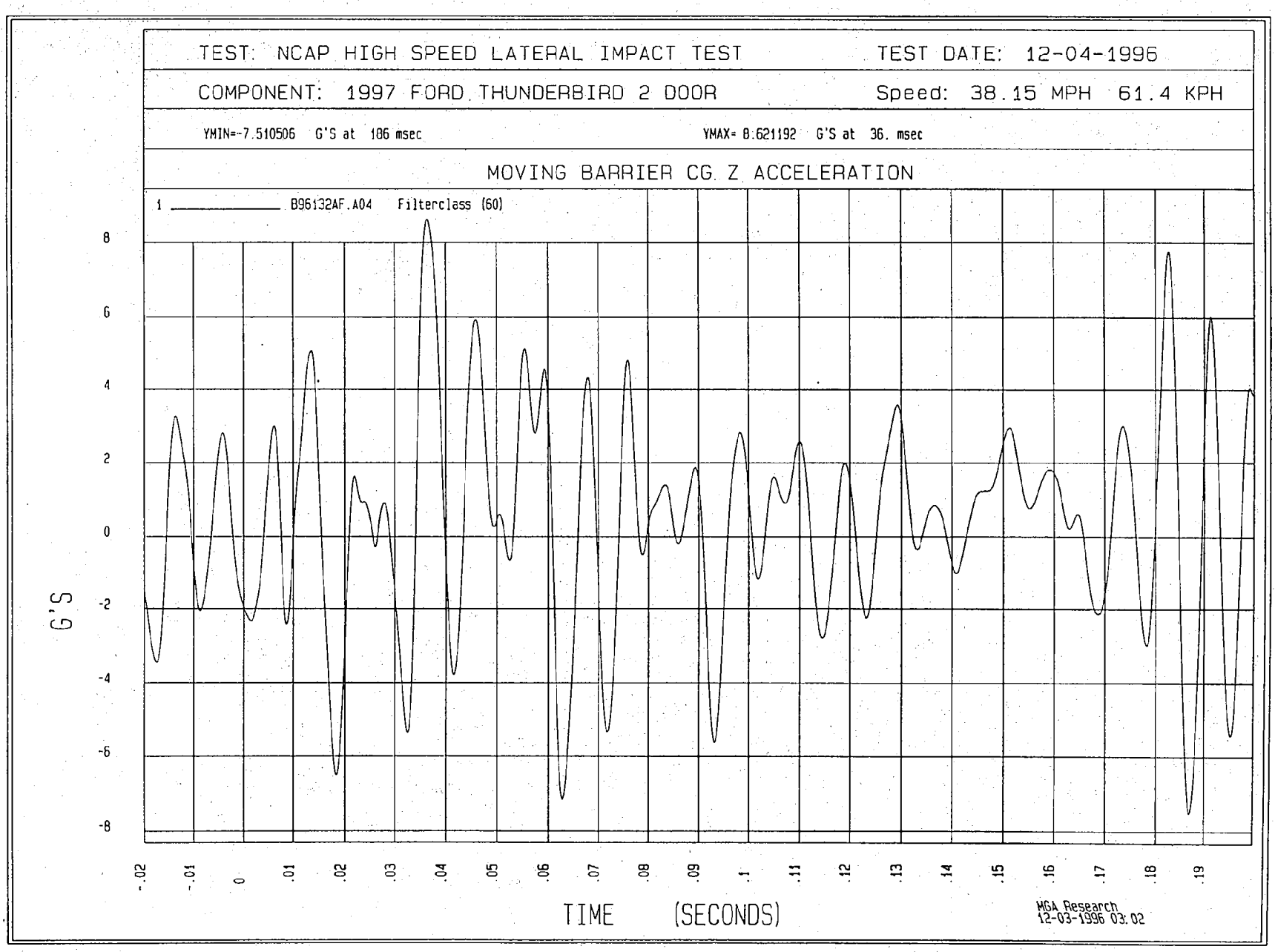
TIME Seconds
MGA Research
12-04-1996 20:37


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-7.510506 G'S at 186 msec
YMAX= 8.621192 G'S at 36. msec
MOVING BARRIER CG Z ACCELERATION
1 B96132AF.A04 Filterclass (60)
G'S
8
6
4
2
0
-2
-4
-6
-8
-.02
-.01
0
.01
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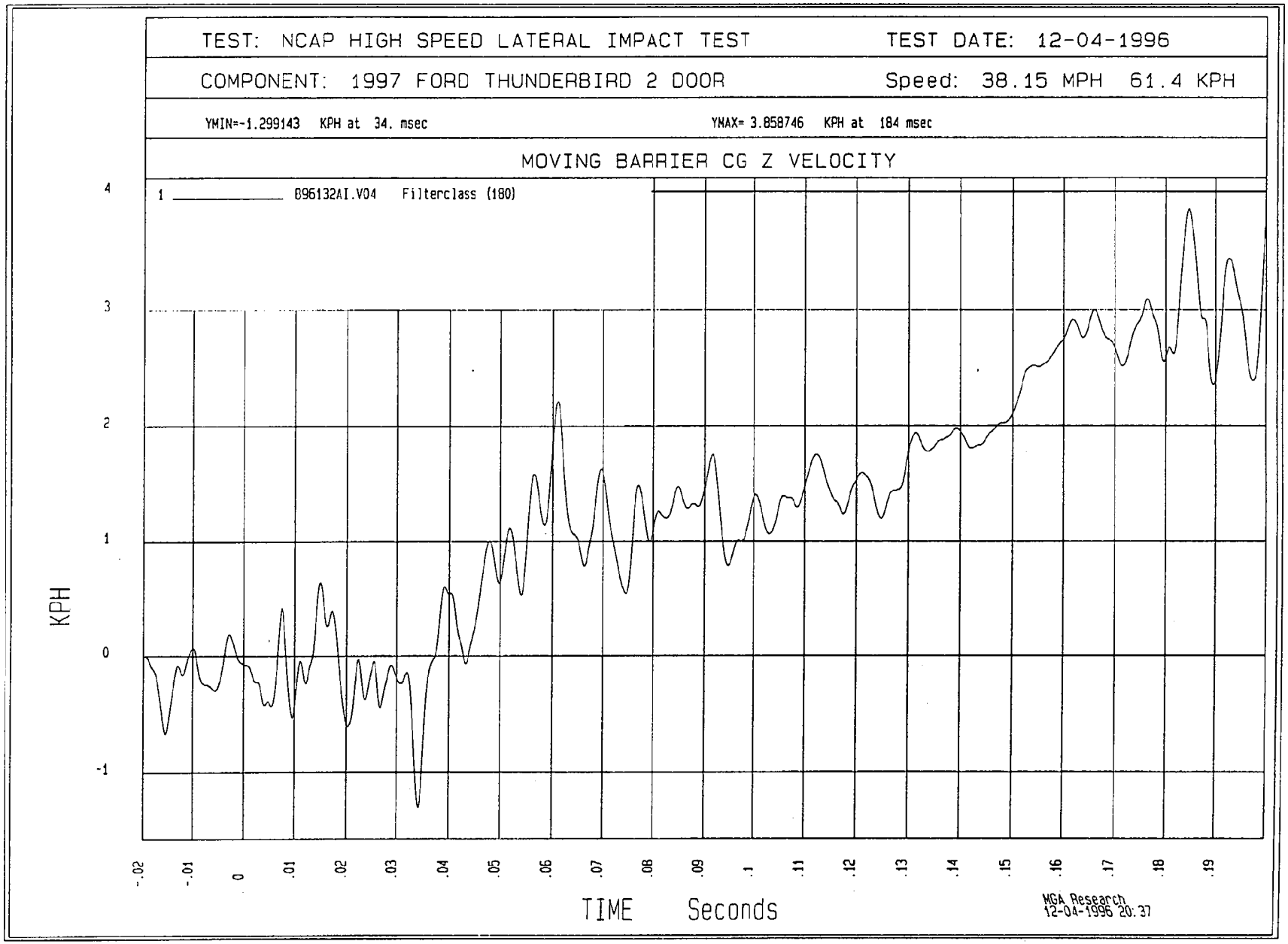
TIME (SECONDS)
MGA Research
12-03-1996 03:02


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-1.299143 KPH at 34. msec
YMAX= 3.858746 KPH at 184 msec
MOVING BARRIER CG Z VELOCITY
1 B96132AI.V04 Filterclass (180)
KPH
4
3
2
1
0
-1
-.02
-.01
0
.01
.02
.03
.04
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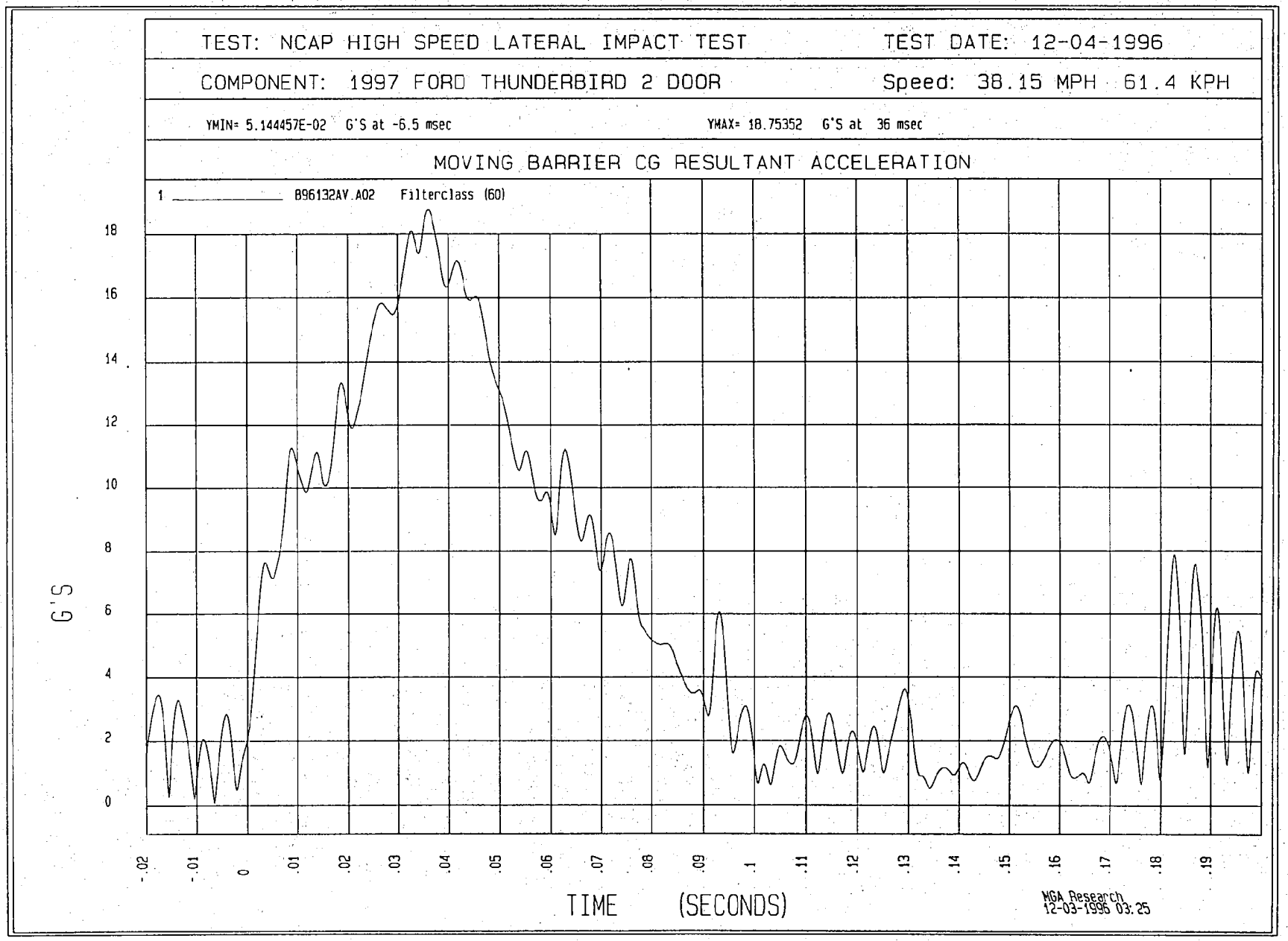
TIME Seconds
NGA Research
12-04-1996 20:37


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN= 5.144457E-02 G'S at -6.5 msec
YMAX= 18.75352 G'S at 36 msec
MOVING BARRIER CG RESULTANT ACCELERATION
1 B96132AV.A02 Filterclass (60)
G'S
18
16
14
12
10
8
6
4
2
0
-.02
-.01
0
.01
.02
.03
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TIME (SECONDS)
MGA Research
12-03-1996 03:25


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-21.24714 G'S at 31. msec
YMAX= 2.27894 G'S at 183 msec
MOVING BARRIER REAR AXLE X ACCELERATION
1 B96132AF.A05 Filterclass (60)
2
0
-2
-4
-6
-8
-10
-12
-14
-16
-18
-20
-22
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
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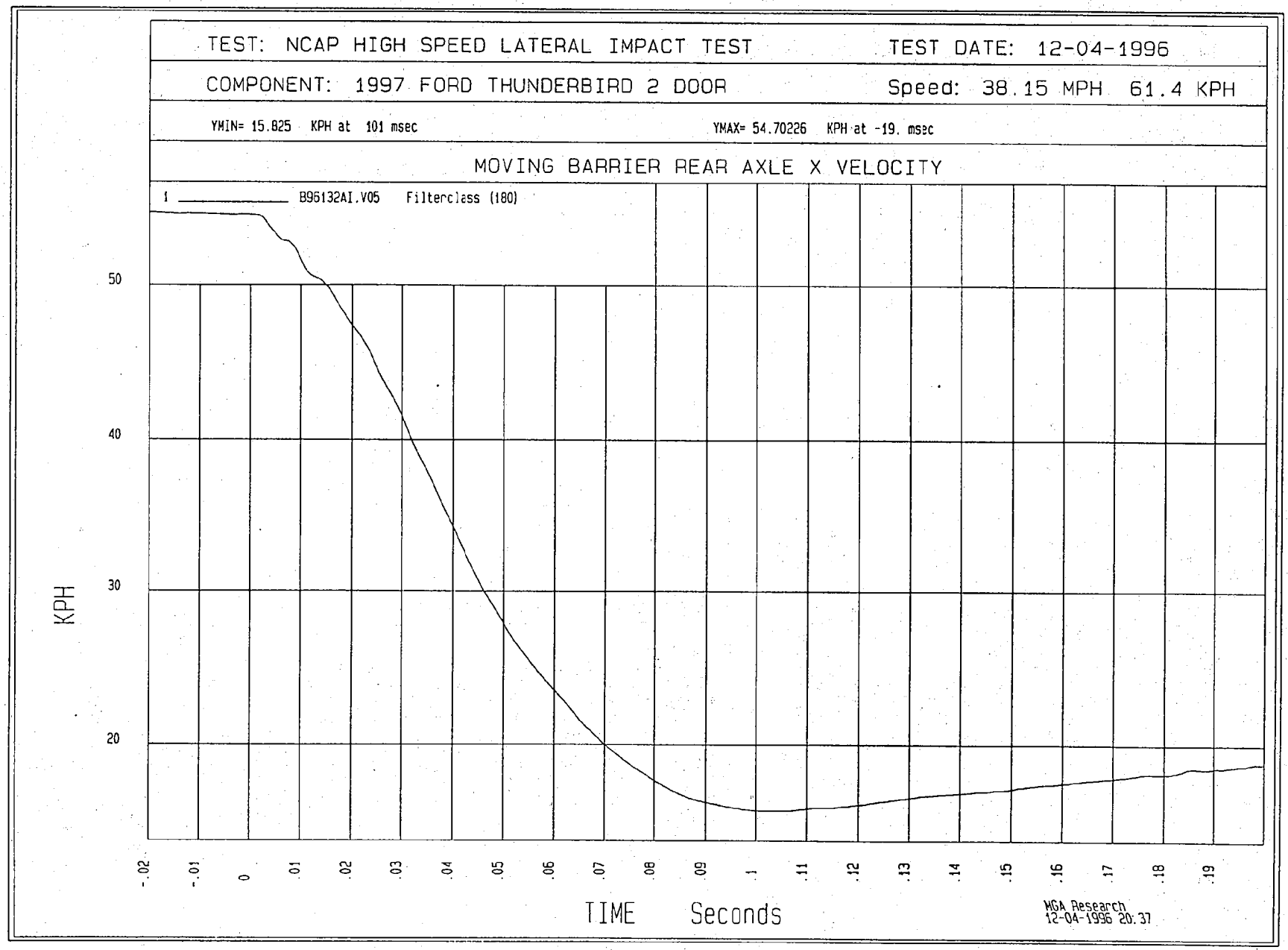
TIME (SECONDS)
MGA Research
12-03-1996 03:02


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN= 15.825 KPH at 101 msec
YMAX= 54.70226 KPH at -19. msec
MOVING BARRIER REAR AXLE X VELOCITY
1 B96132AI.V05 Filterclass (180)
KPH
50
40
30
20
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
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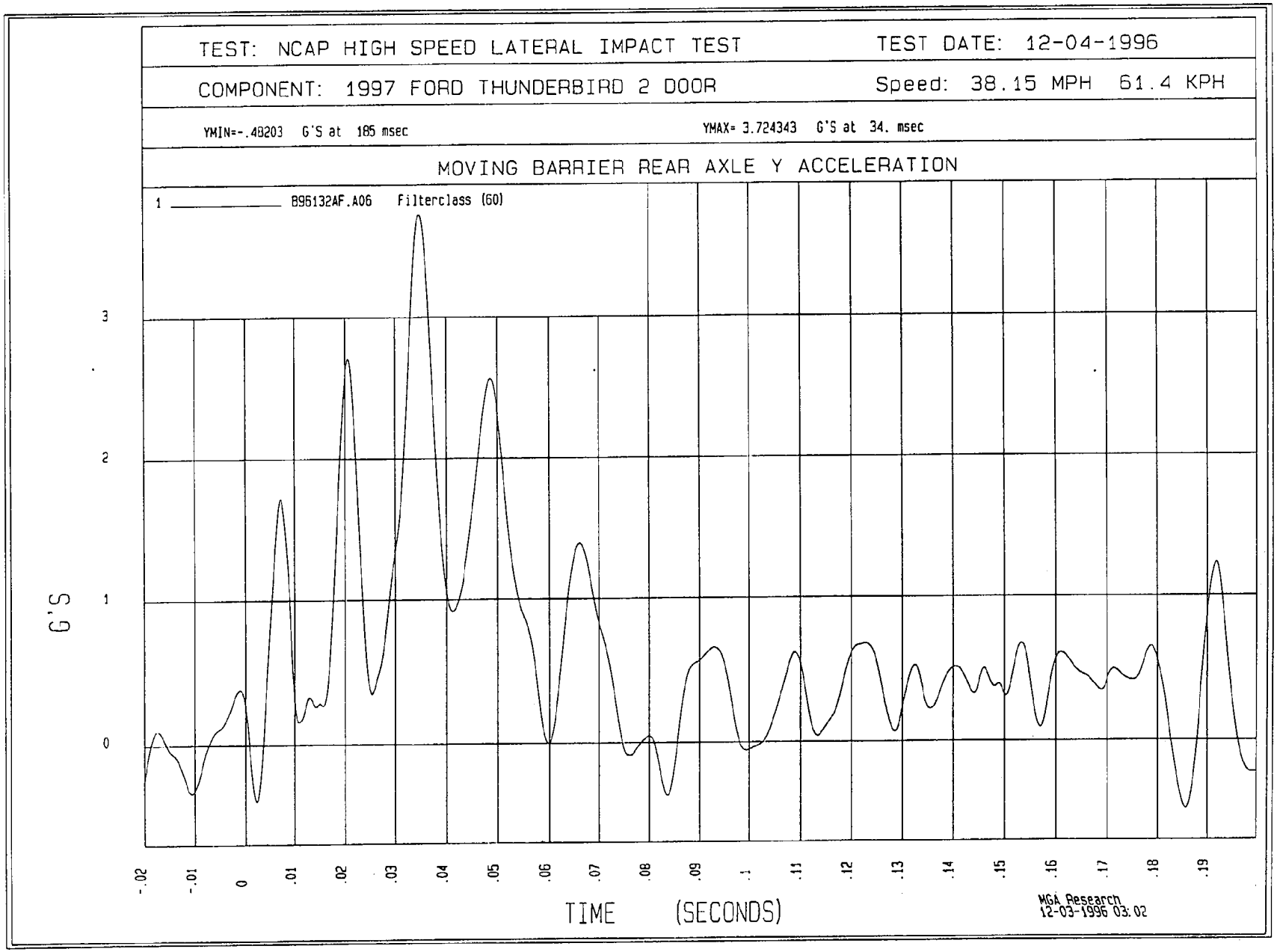
TIME Seconds
MGA Research
12-04-1996 20:37


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-.48203 G'S at 185 msec
YMAX= 3.724343 G'S at 34. msec
MOVING BARRIER REAR AXLE Y ACCELERATION
1 B96132AF.A06 Filterclass (60)
G'S
3
2
1
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
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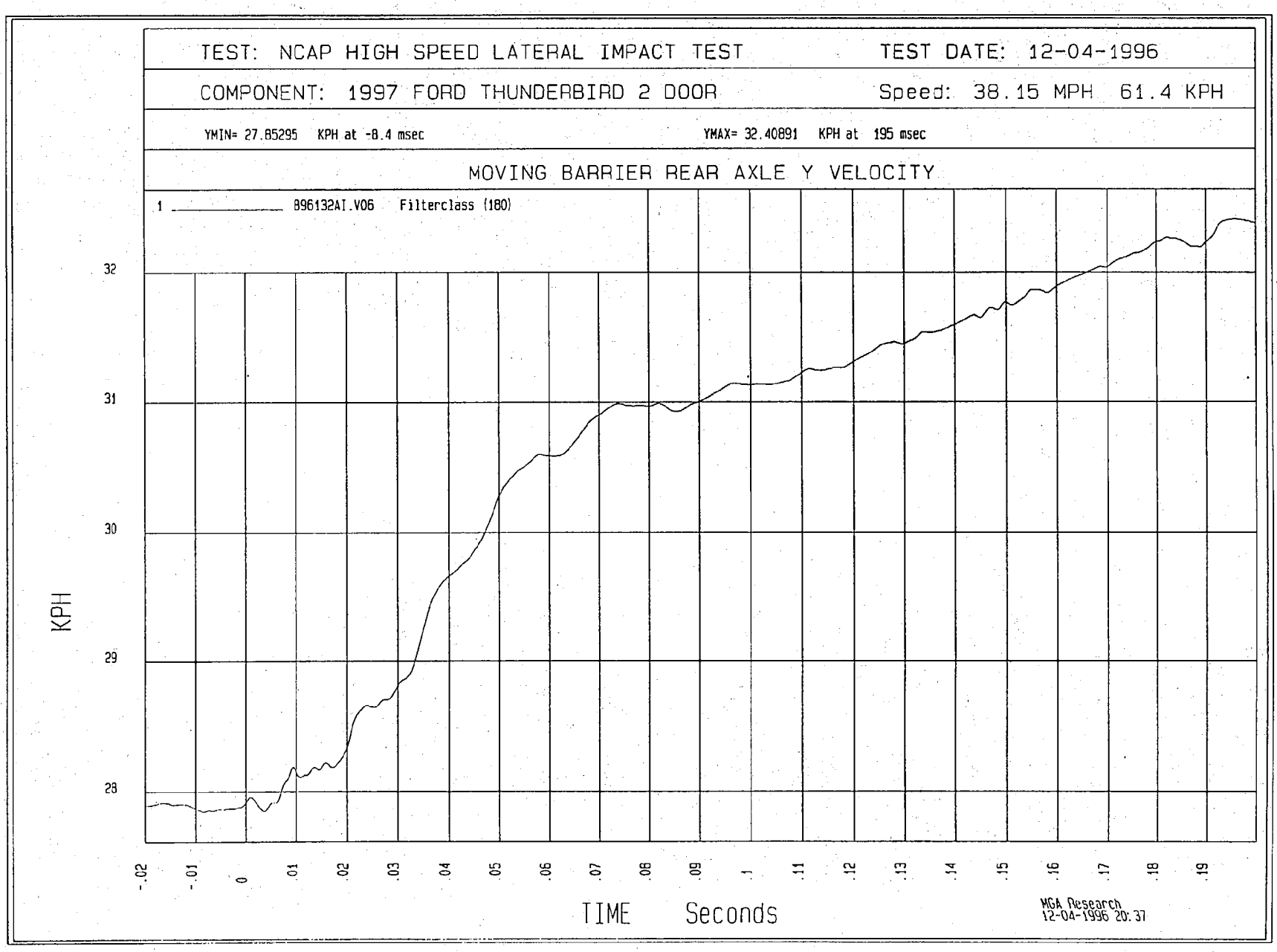
TIME (SECONDS)
MGA Research
12-03-1996 03:02


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN= 27.85295 KPH at -8.4 msec
YMAX= 32.40891 KPH at 195 msec
MOVING BARRIER REAR AXLE Y VELOCITY
1 896132AI.V06 Filterclass (180)
KPH
32
31
30
29
28
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
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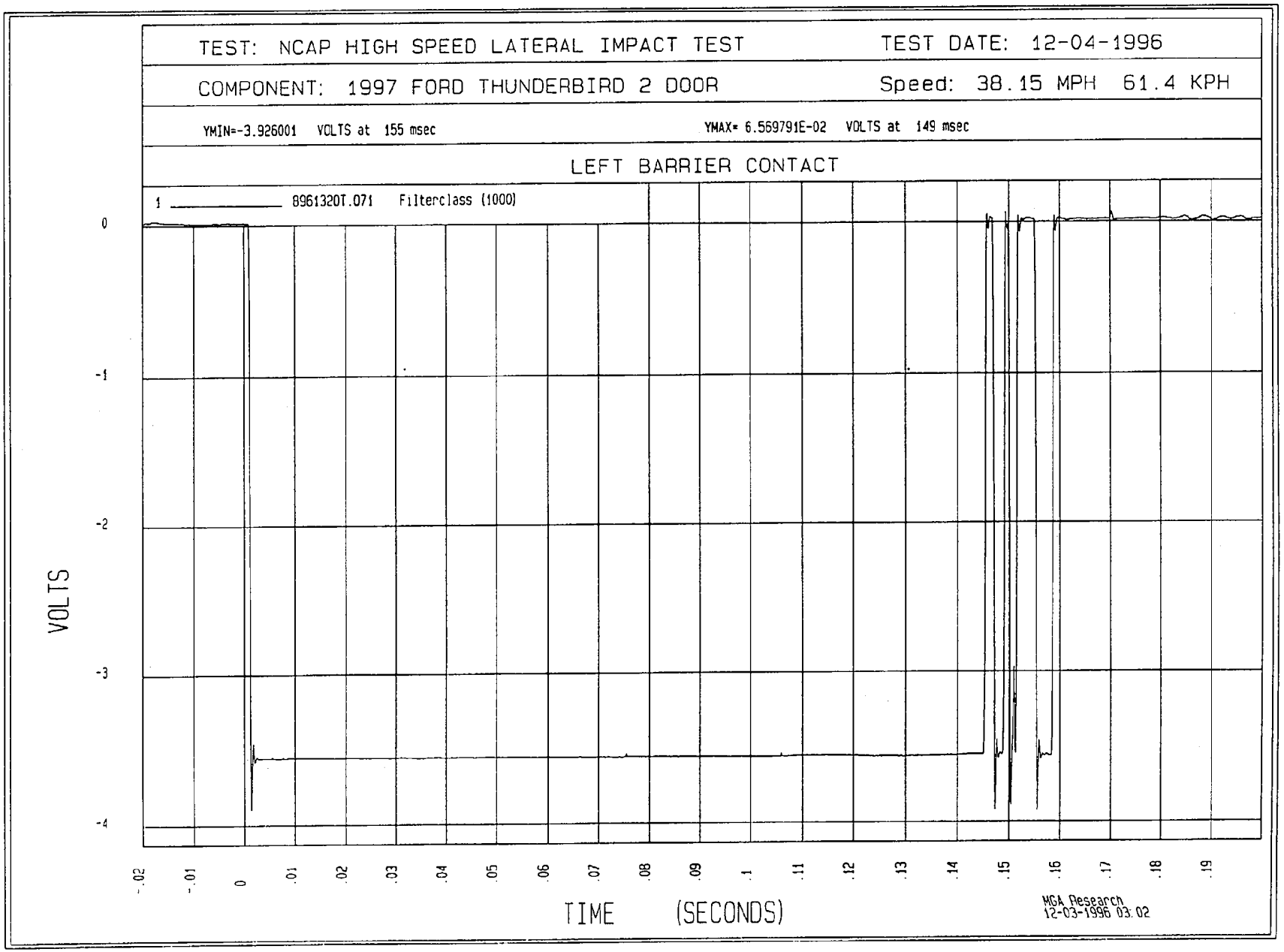
TIME Seconds
MGA Research
12-04-1996 20:37


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-3.926001 VOLTS at 155 msec
YMAX= 6.569791E-02 VOLTS at 149 msec
LEFT BARRIER CONTACT
1 8961320T.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
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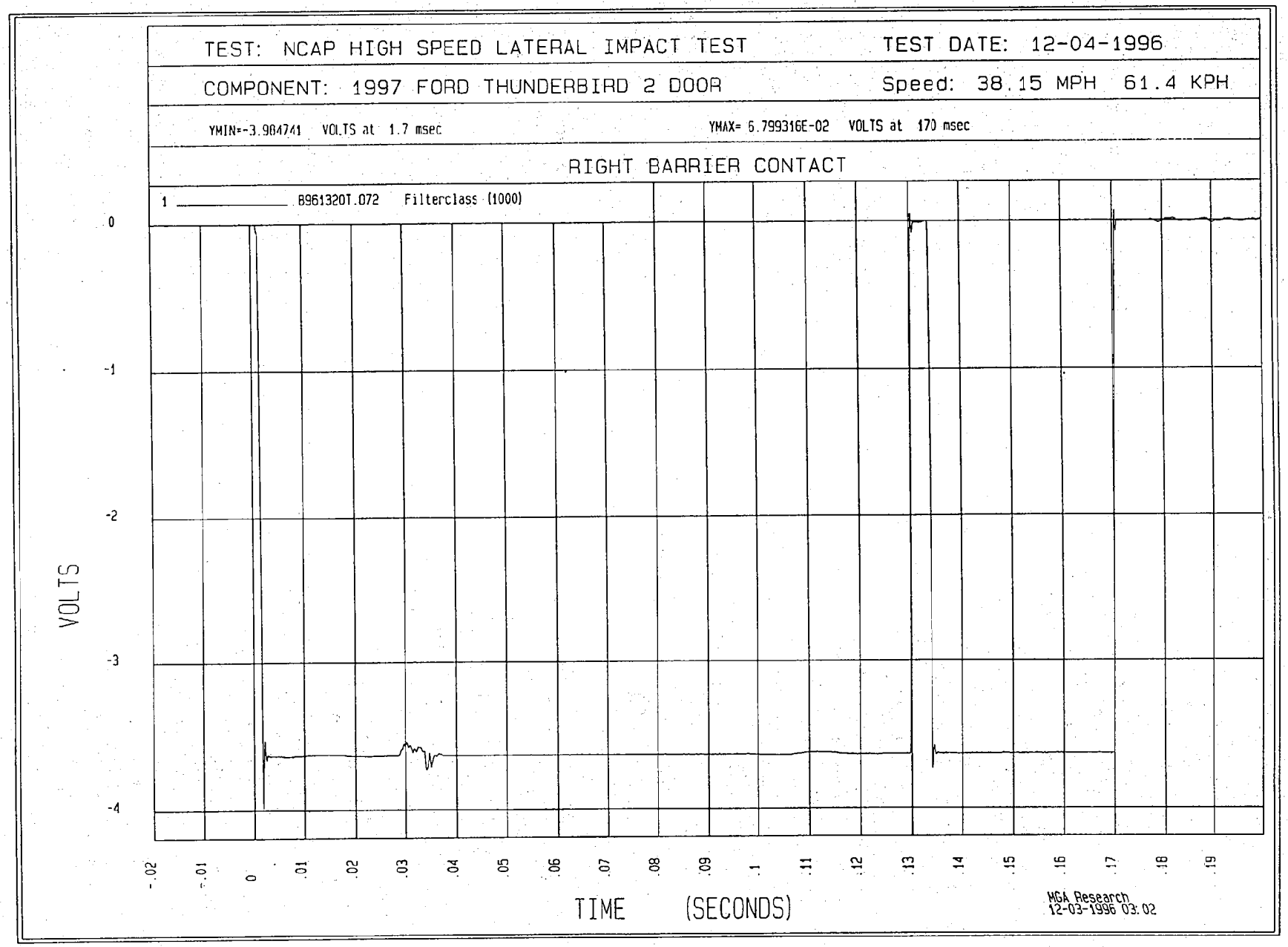
.17
.18
.19
TIME (SECONDS)
MGA Research
12-03-1996 03:02


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-3.984741 VOLTS at 1.7 msec
YMAX= 6.799316E-02 VOLTS at 170 msec
RIGHT BARRIER CONTACT
1 B961320T.072 Filterclass (1000)
VOLTS
0
-1
-2
-3
-4
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
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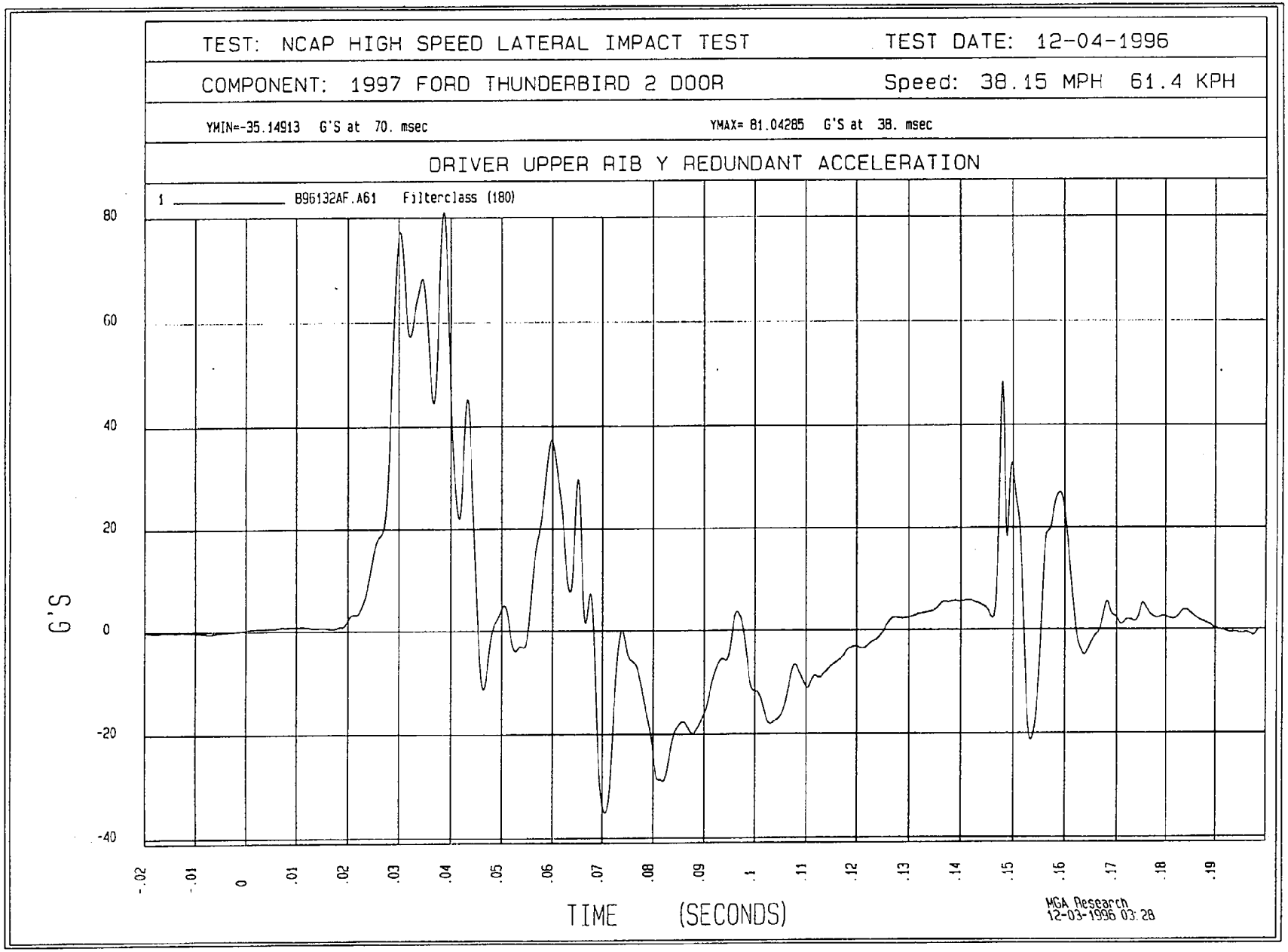
TIME (SECONDS)
MGA Research
12-03-1996 03:02


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-35.14913 G'S at 70. msec
YMAX= 81.04285 G'S at 38. msec
DRIVER UPPER RIB Y REDUNDANT ACCELERATION
1 B96132AF.A61 Filterclass (180)
80
60
40
20
0
-20
-40
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
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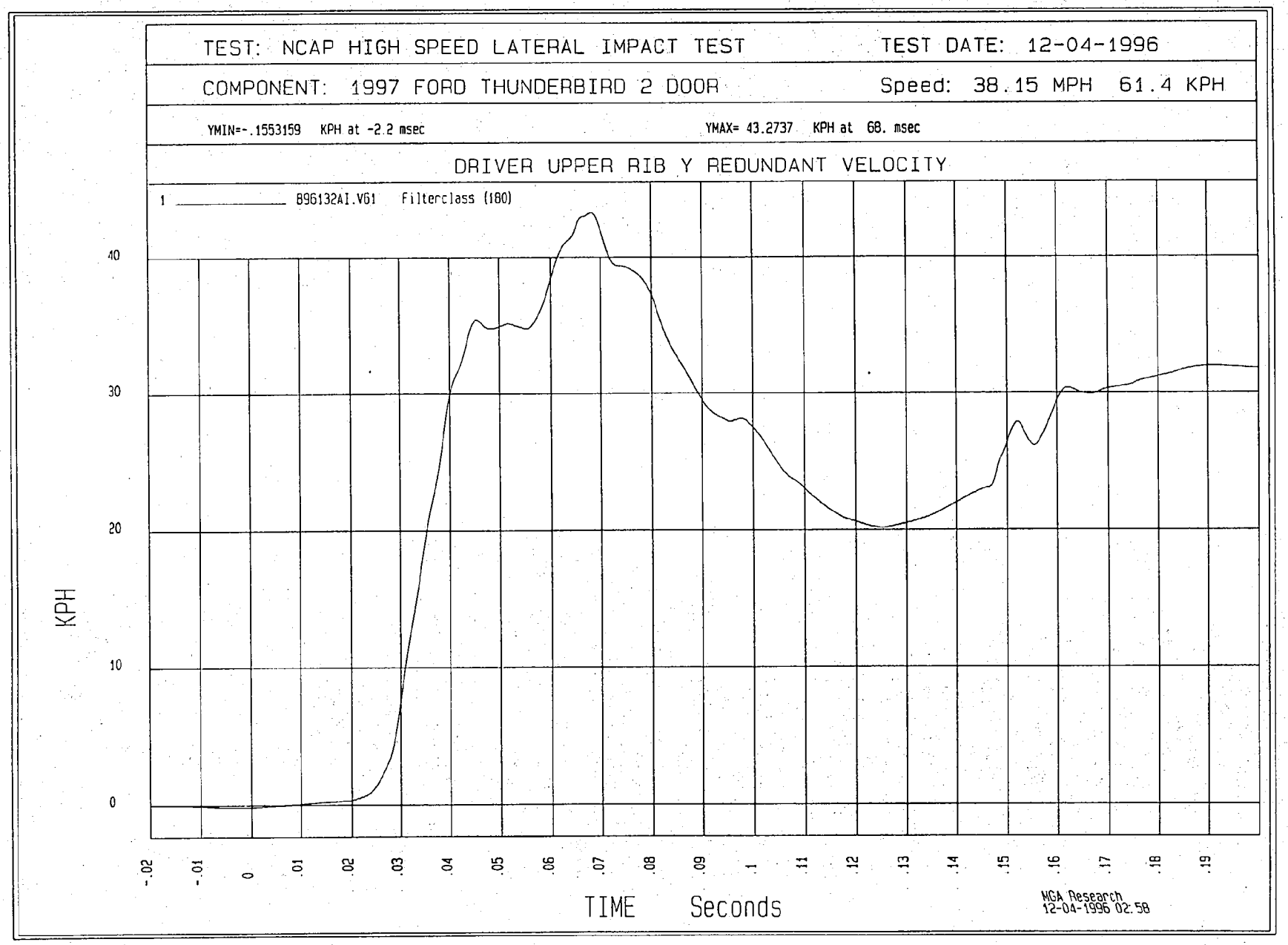
TIME (SECONDS)
MGA Research
12-03-1996 03:28


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-.1553159 KPH at -2.2 msec
YMAX= 43.2737 KPH at 68. msec
DRIVER UPPER RIB Y REDUNDANT VELOCITY
1 B96132A1.V61 Filterclass (180)
KPH
40
30
20
10
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
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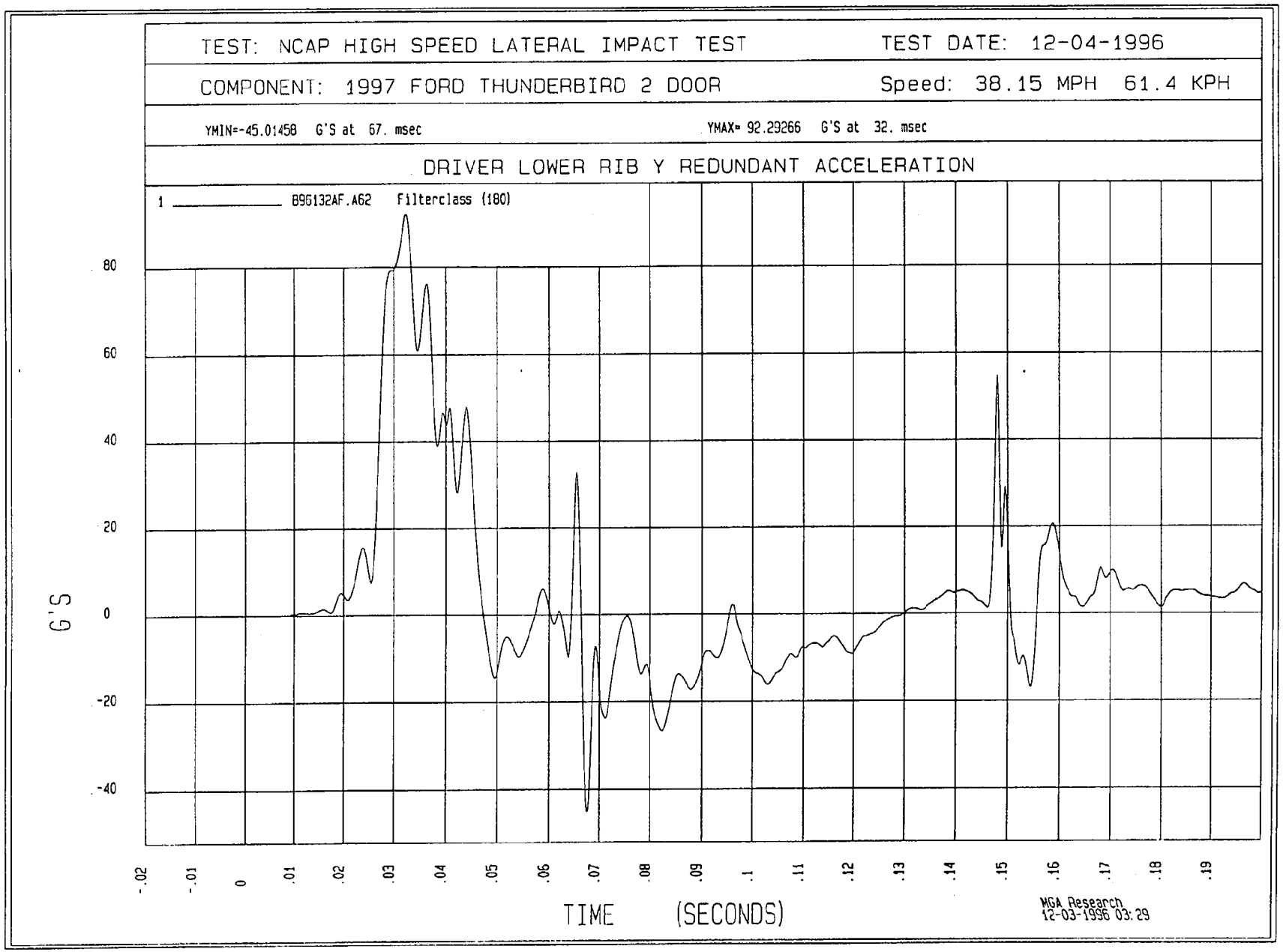
TIME Seconds
MGA Research
12-04-1996 02:58


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-45.01458 G'S at 67. msec
YMAX= 92.29266 G'S at 32. msec
DRIVER LOWER RIB Y REDUNDANT ACCELERATION
1 B96132AF.A62 Filterclass (180)
80
60
40
20
0
-20
-40
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
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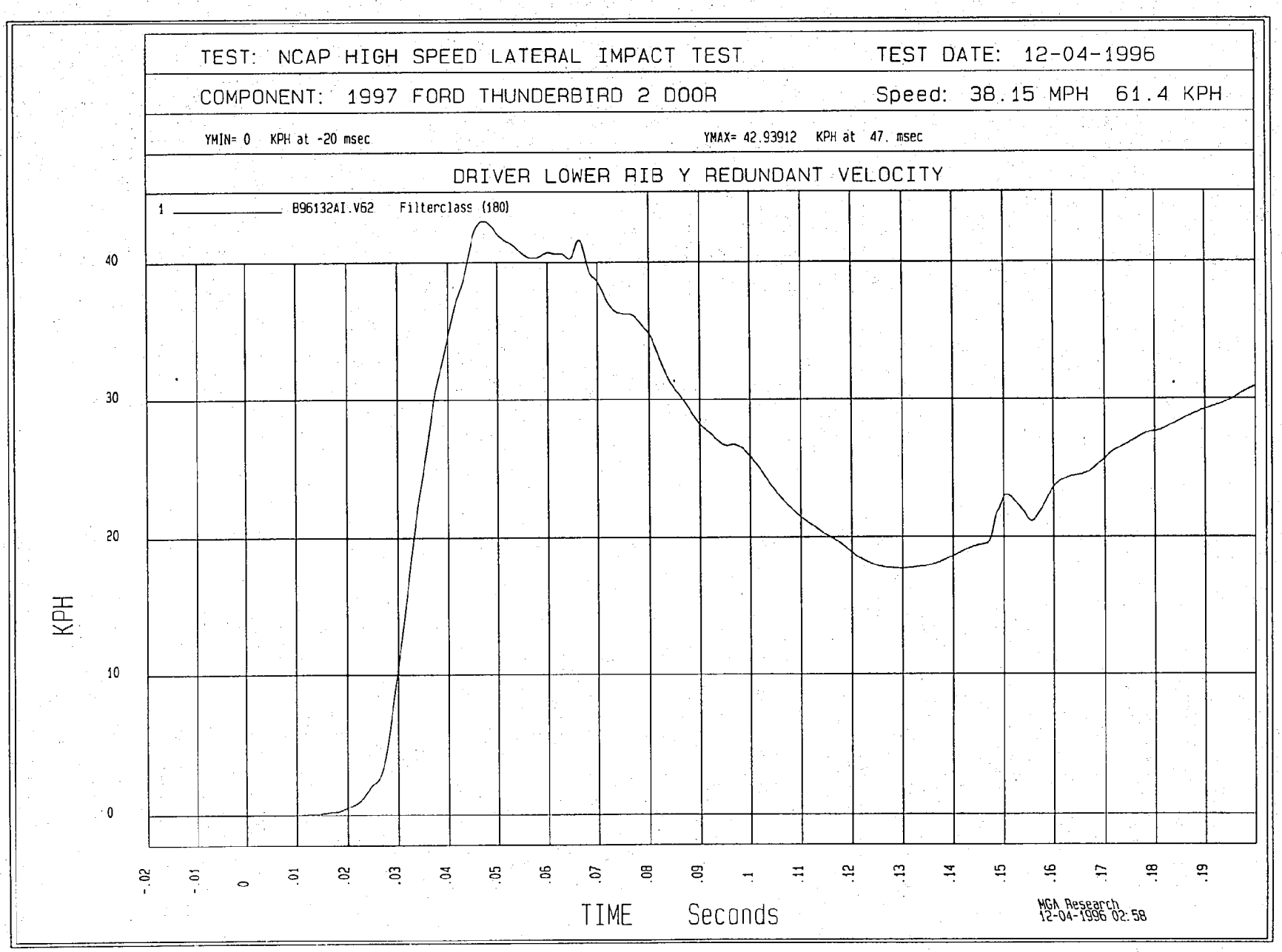
TIME (SECONDS)
MGA Research
12-03-1996 03:29


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN= 0 KPH at -20 msec
YMAX= 42.93912 KPH at 47. msec
DRIVER LOWER RIB Y REDUNDANT VELOCITY
1 B96132AI.V62 Filterclass (180)
KPH
40
30
20
10
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
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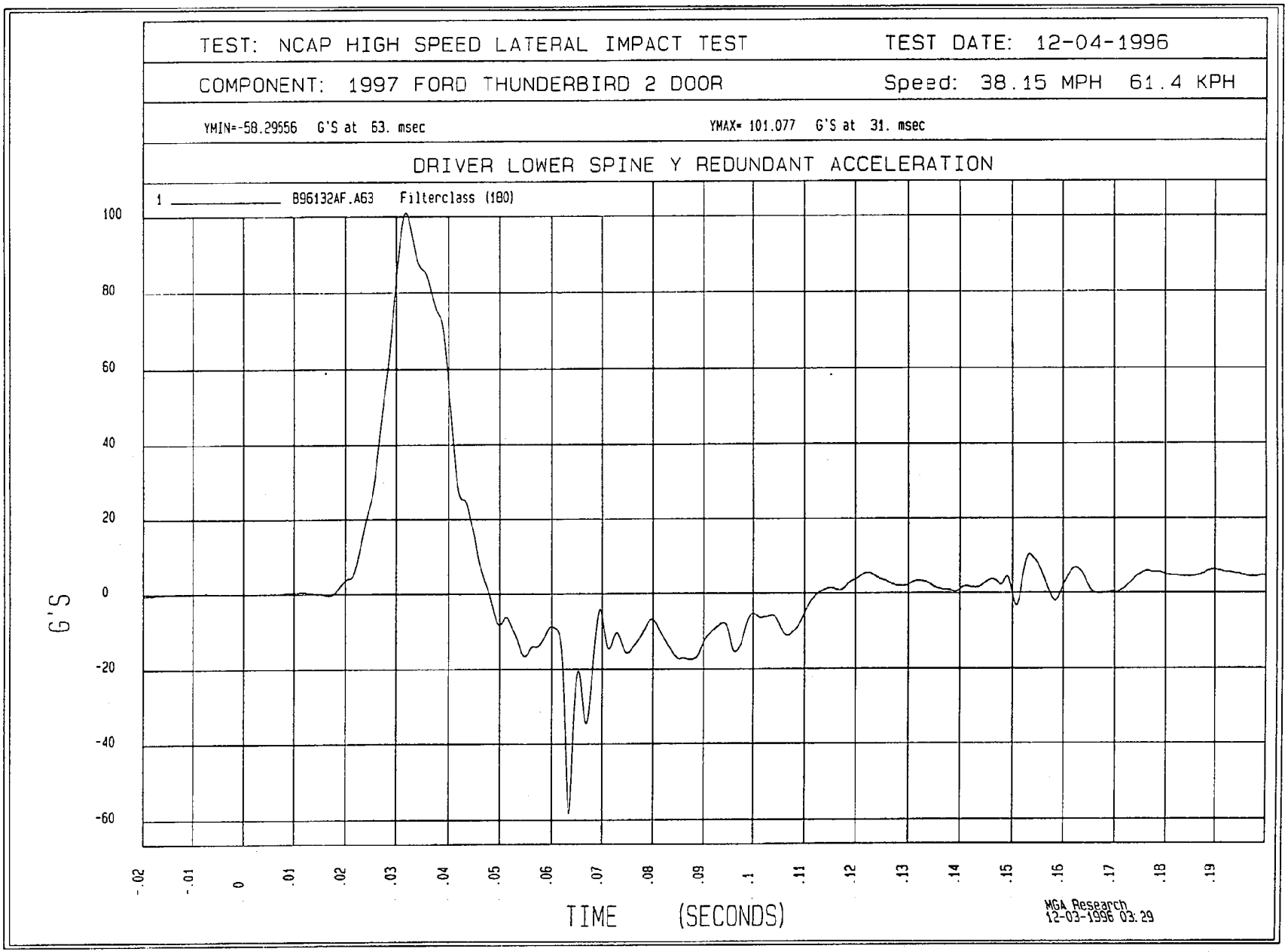
TIME Seconds
MGA Research
12-04-1996 02:58


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-58.29556 G'S at 53. msec
YMAX= 101.077 G'S at 31. msec
DRIVER LOWER SPINE Y REDUNDANT ACCELERATION
1 B96132AF.A63 Filterclass (180)
100
80
60
40
20
0
-20
-40
-60
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
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.1
.11
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.14
.15
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.18
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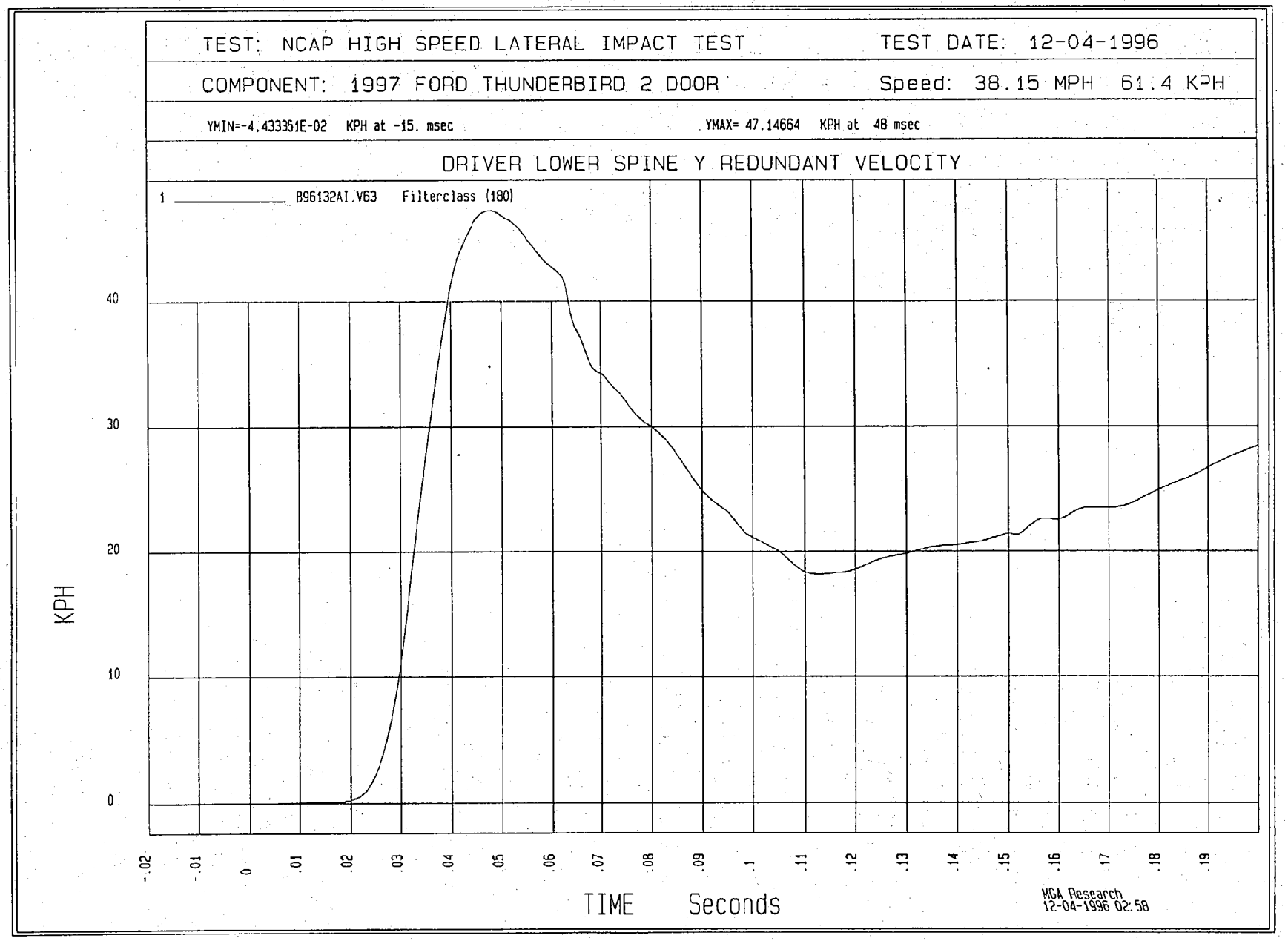
TIME (SECONDS)
MGA Research
12-03-1996 03:29


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-4.433351E-02 KPH at -15. msec
YMAX= 47.14664 KPH at 48 msec
DRIVER LOWER SPINE Y REDUNDANT VELOCITY
1 B96132AI.V63 Filterclass (180)
KPH
40
30
20
10
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
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.17
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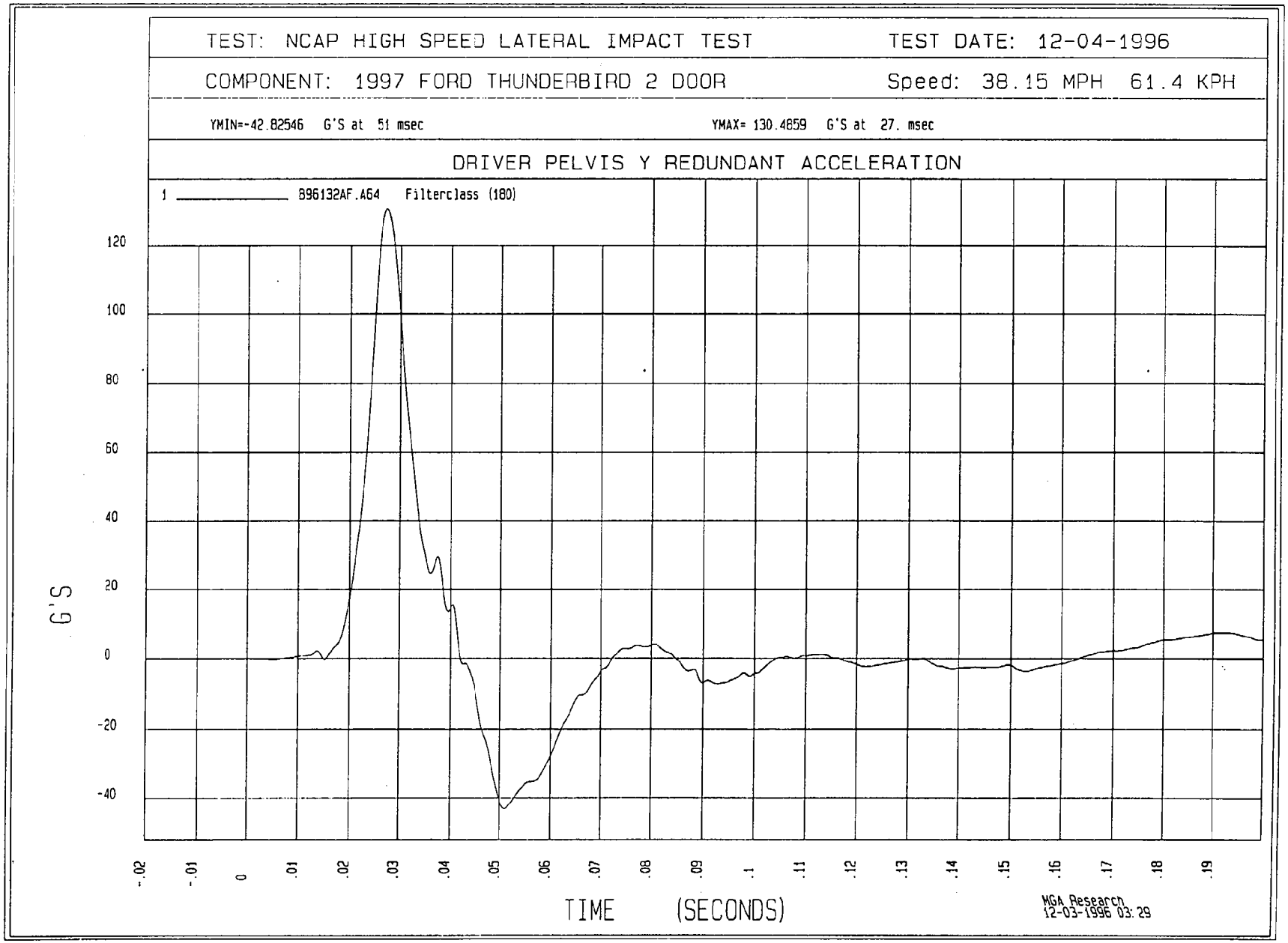
.19
TIME Seconds
MGA Research
12-04-1996 02:58


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-42.82546 G'S at 51 msec
YMAX= 130.4859 G'S at 27. msec
DRIVER PELVIS Y REDUNDANT ACCELERATION
1 B96132AF.A64 Filterclass (180)
120
100
80
60
40
20
0
-20
-40
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
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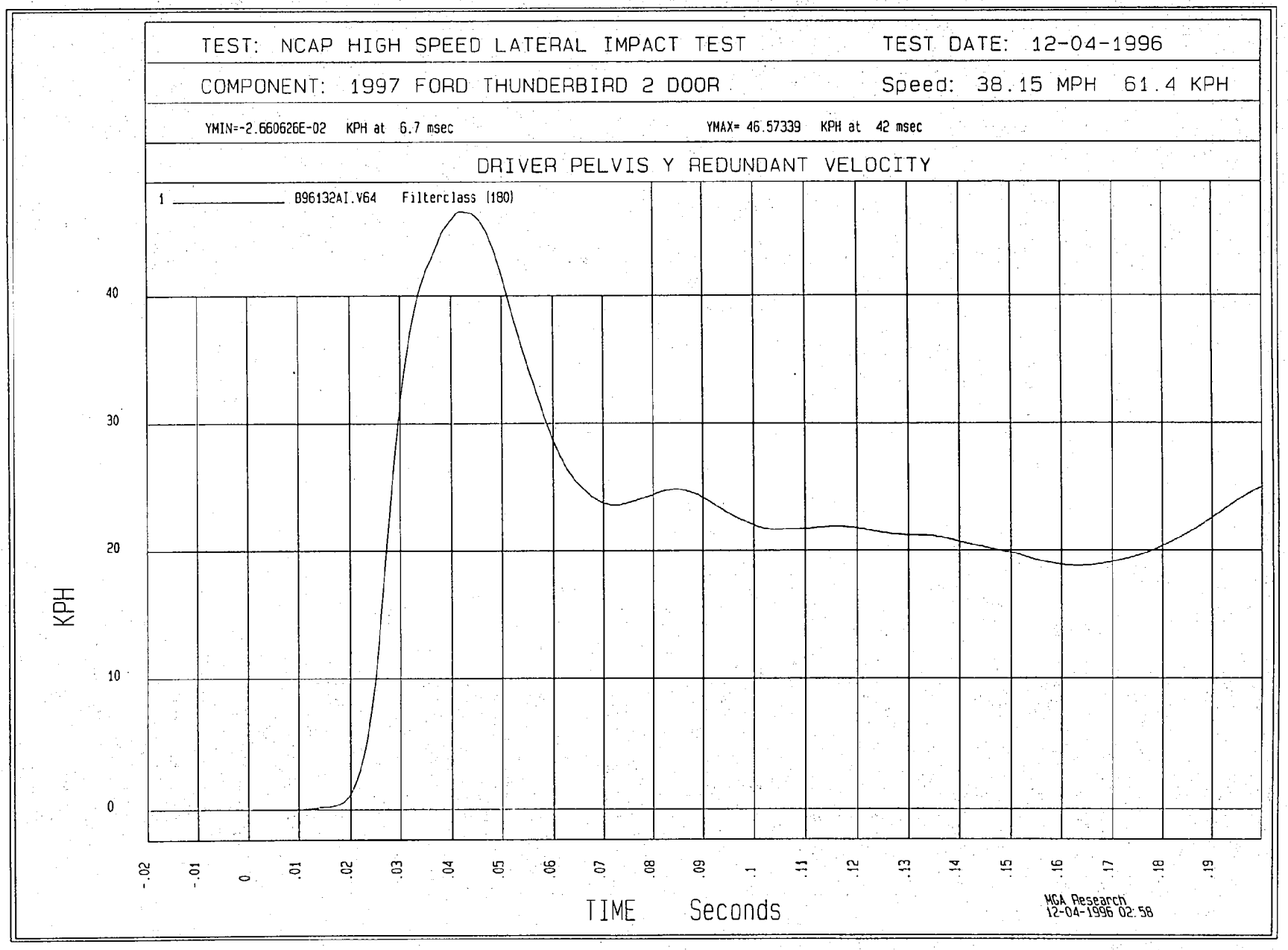
TIME (SECONDS)
MGA Research
12-03-1996 03:29


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-2.660626E-02 KPH at 6.7 msec
YMAX= 46.57339 KPH at 42 msec
DRIVER PELVIS Y REDUNDANT VELOCITY
1 B96132AI.V64 Filterclass (180)
KPH
40
30
20
10
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
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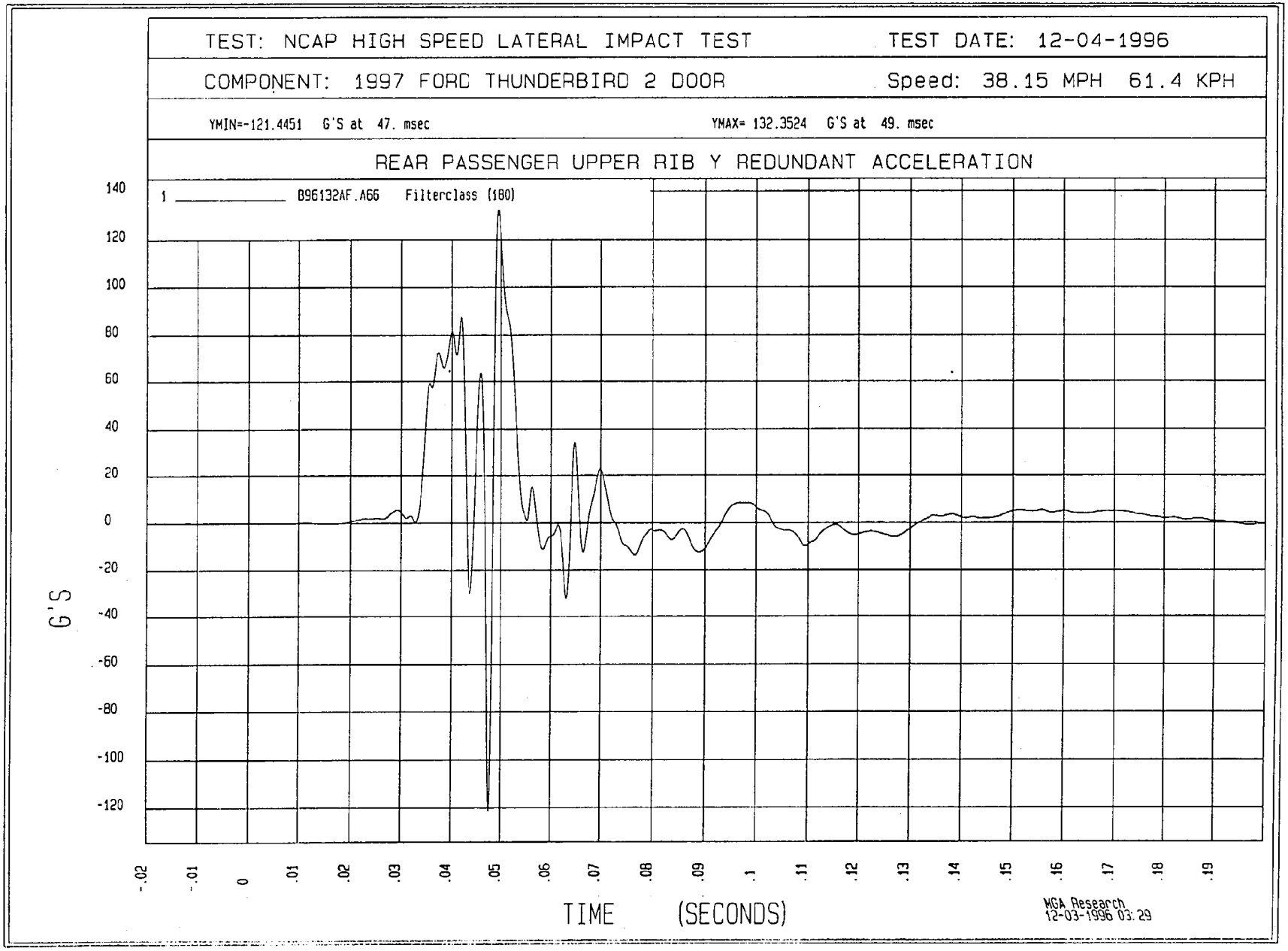
TIME Seconds
MGA Research
12-04-1996 02:58


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-121.4451 G'S at 47. msec
YMAX= 132.3524 G'S at 49. msec
REAR PASSENGER UPPER RIB Y REDUNDANT ACCELERATION
1 B96132AF.A66 Filterclass (180)
140
120
100
80
60
40
20
0
-20
-40
-60
-80
-100
-120
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
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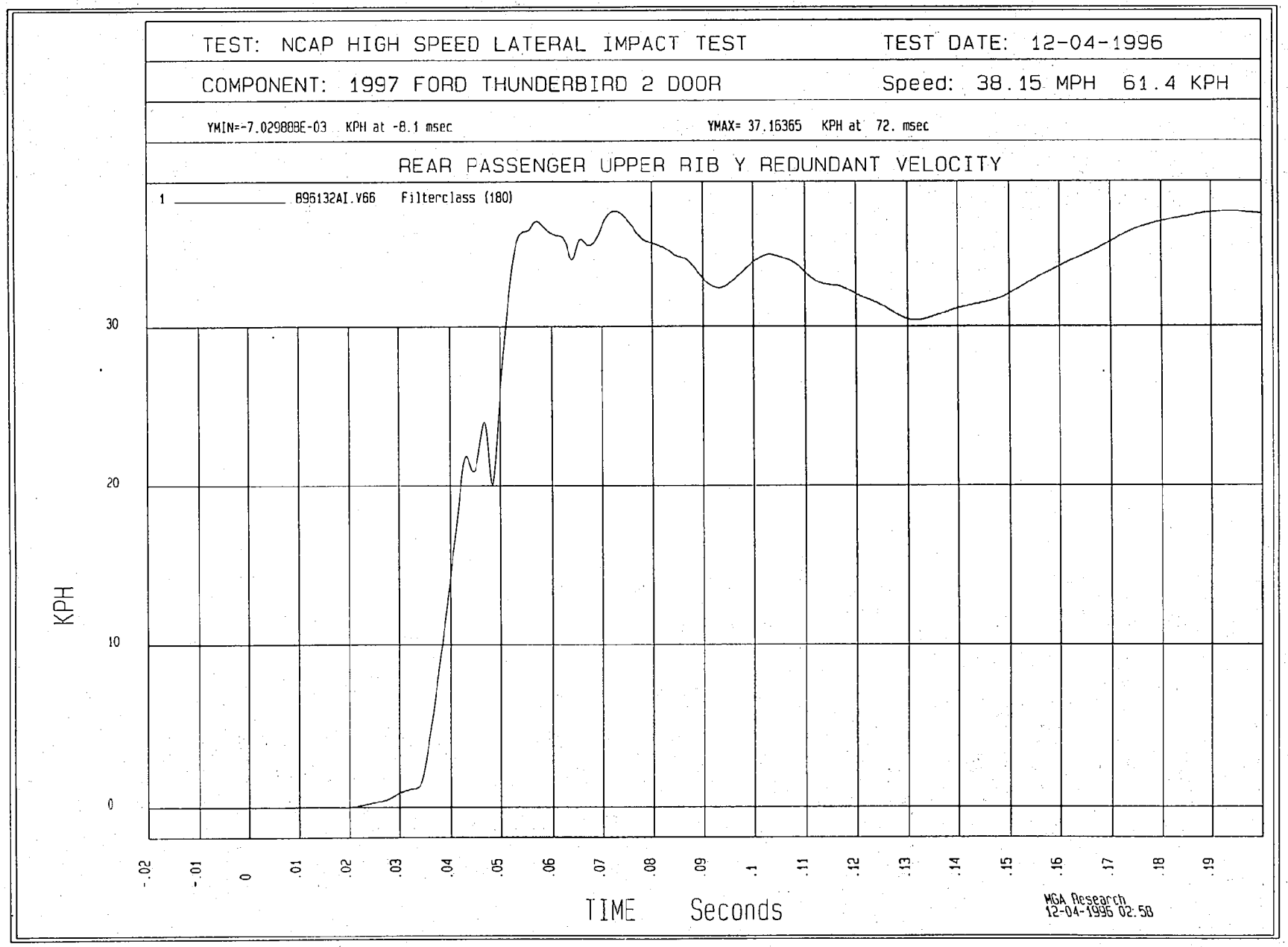
TIME (SECONDS)
MGA Research
12-03-1996 03:29


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-7.029888E-03 KPH at -8.1 msec
YMAX= 37.16365 KPH at 72. msec
REAR PASSENGER UPPER RIB Y REDUNDANT VELOCITY
1 _____ 896132AI.V66 Filterclass (180)
KPH
30
20
10
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
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.09
.1
.11
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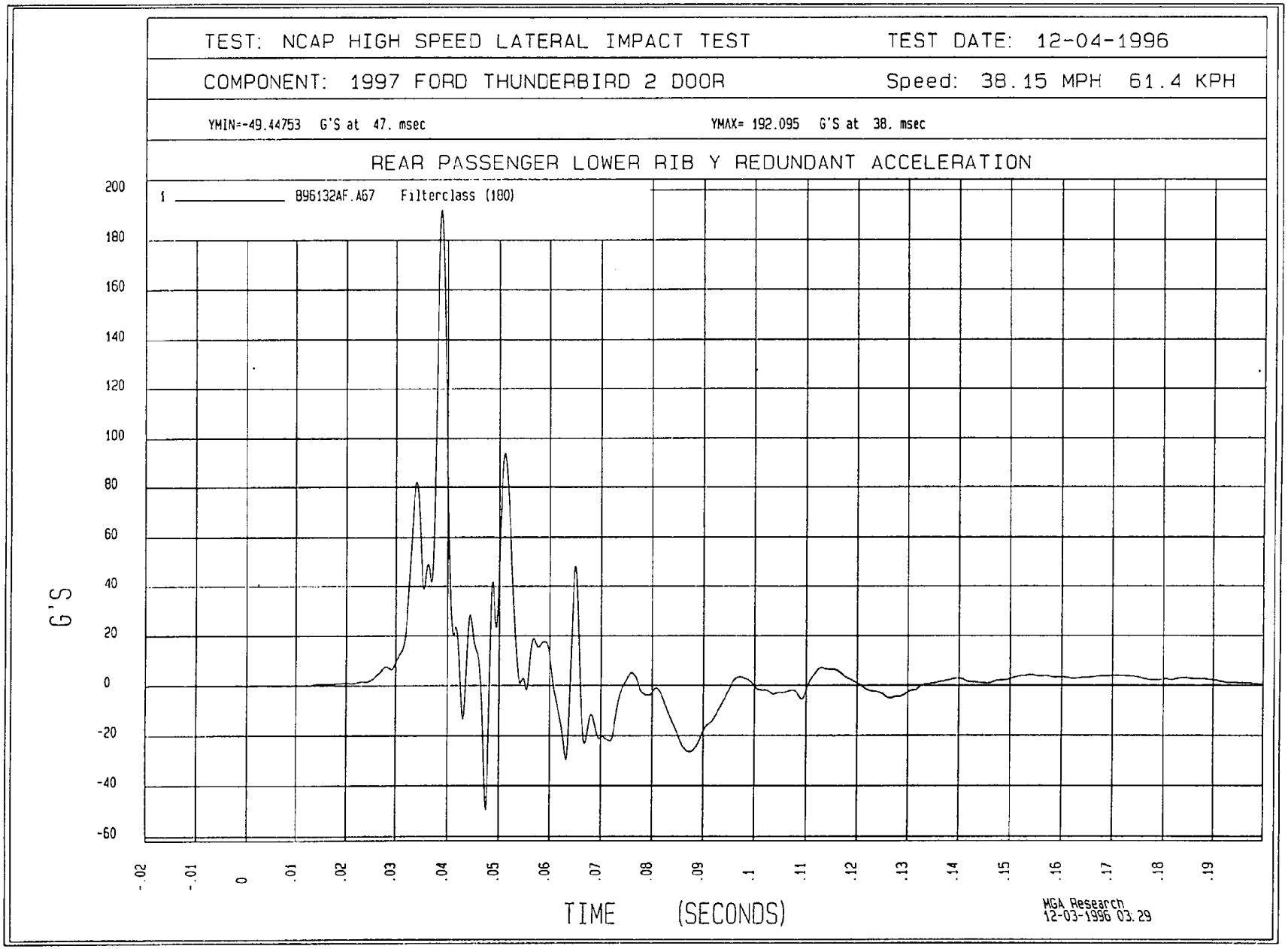
TIME Seconds
MGA Research
12-04-1996 02:58


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-49.44753 G'S at 47. msec
YMAX= 192.095 G'S at 38. msec
REAR PASSENGER LOWER RIB Y REDUNDANT ACCELERATION
1 B96132AF.A67 Filterclass (180)
200
180
160
140
120
100
80
60
40
20
0
-20
-40
-60
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
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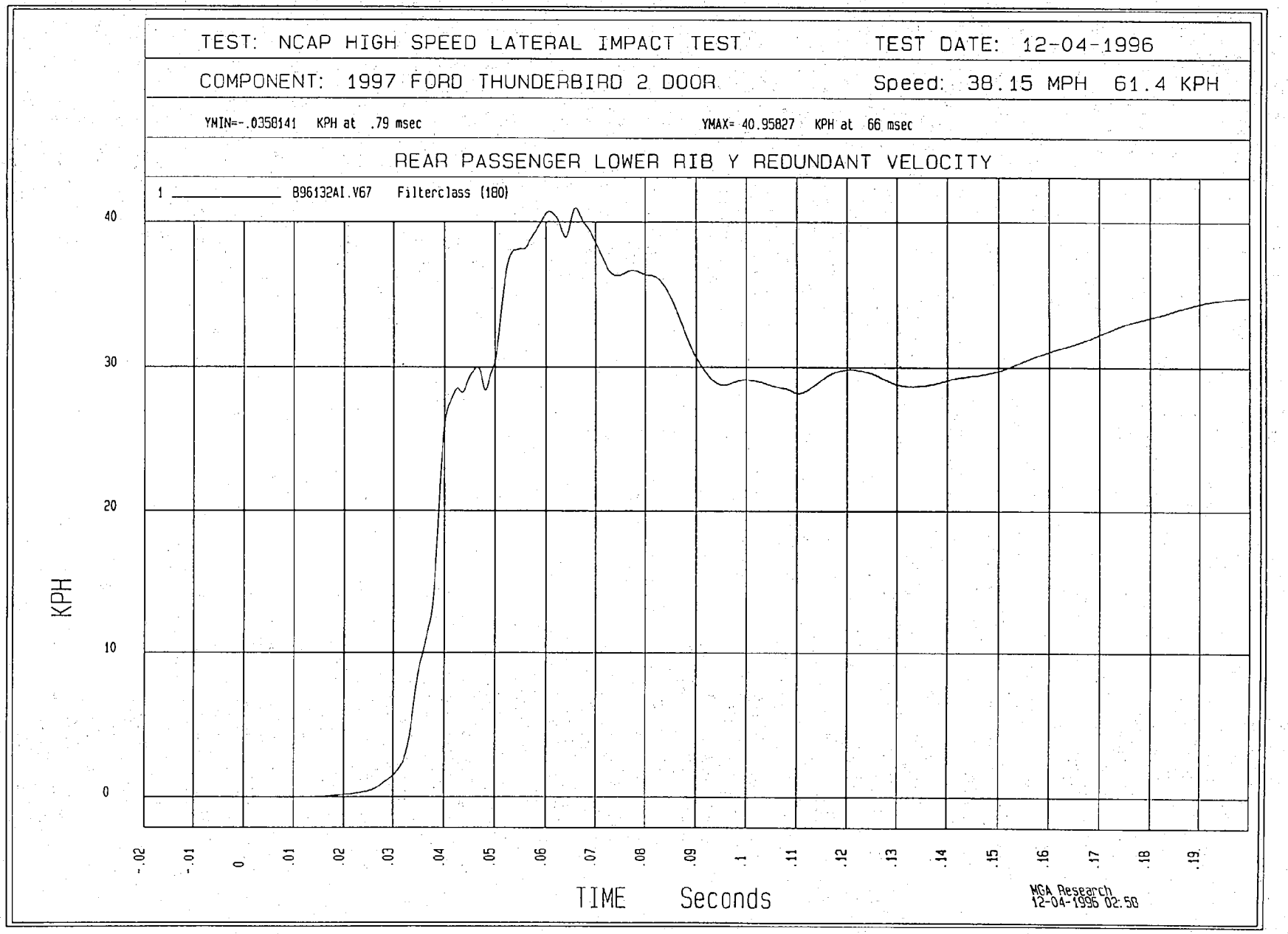
TIME (SECONDS)
MGA Research
12-03-1996 03:29


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-.0358141 KPH at .79 msec
YMAX= 40.95827 KPH at 66 msec
REAR PASSENGER LOWER RIB Y REDUNDANT VELOCITY
1 B96132AI.V67 Filterclass (180)
KPH
40
30
20
10
0
-.02
-.01
0
.01
.02
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.04
.05
.06
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.09
.1
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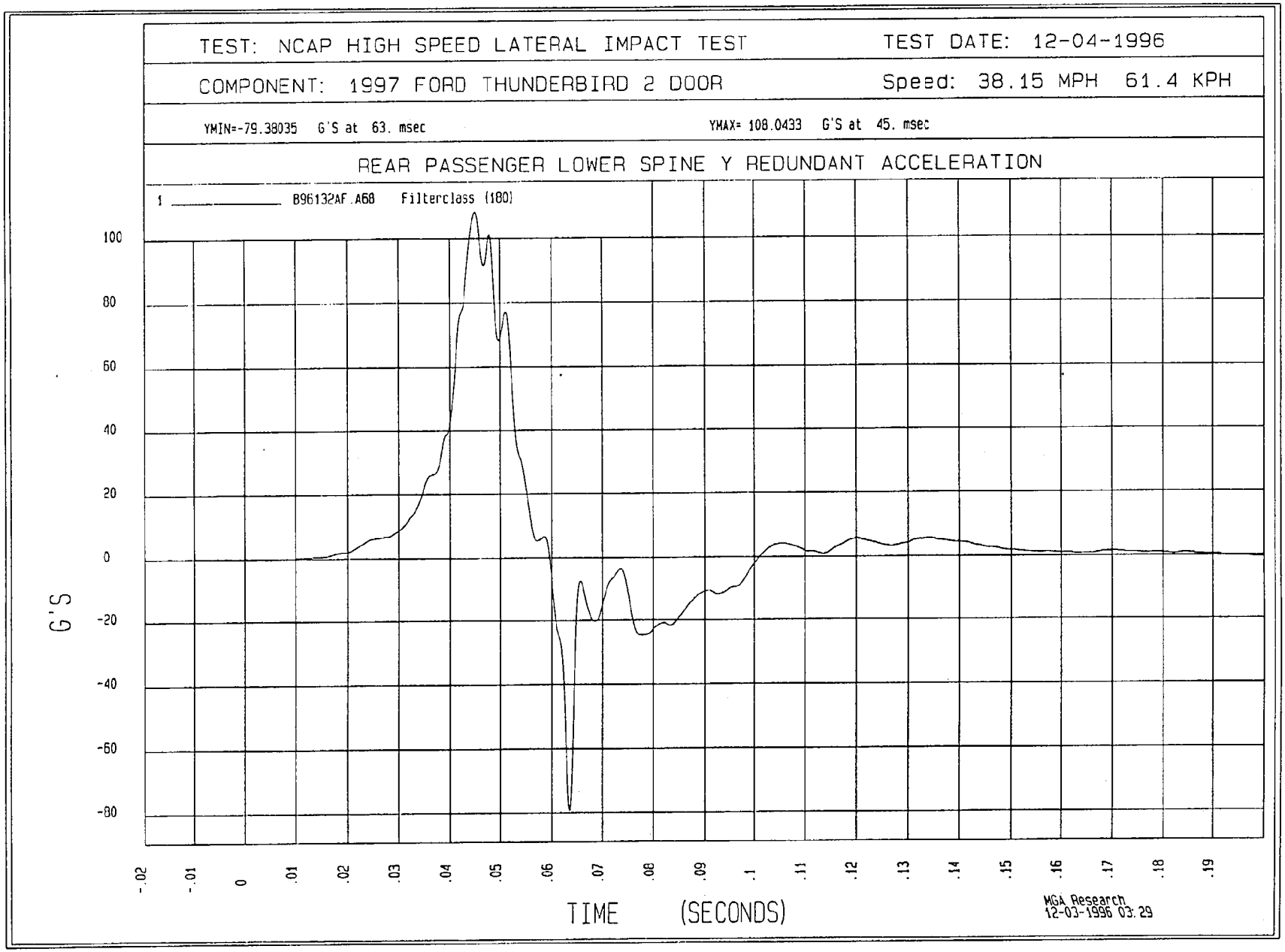
TIME Seconds
MGA Research
12-04-1996 02:58


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-79.38035 G'S at 63. msec
YMAX= 108.0433 G'S at 45. msec
REAR PASSENGER LOWER SPINE Y REDUNDANT ACCELERATION
1 B96132AF.A68 Filterclass (180)
100
80
60
40
20
0
-20
-40
-60
-80
G'S
-.02
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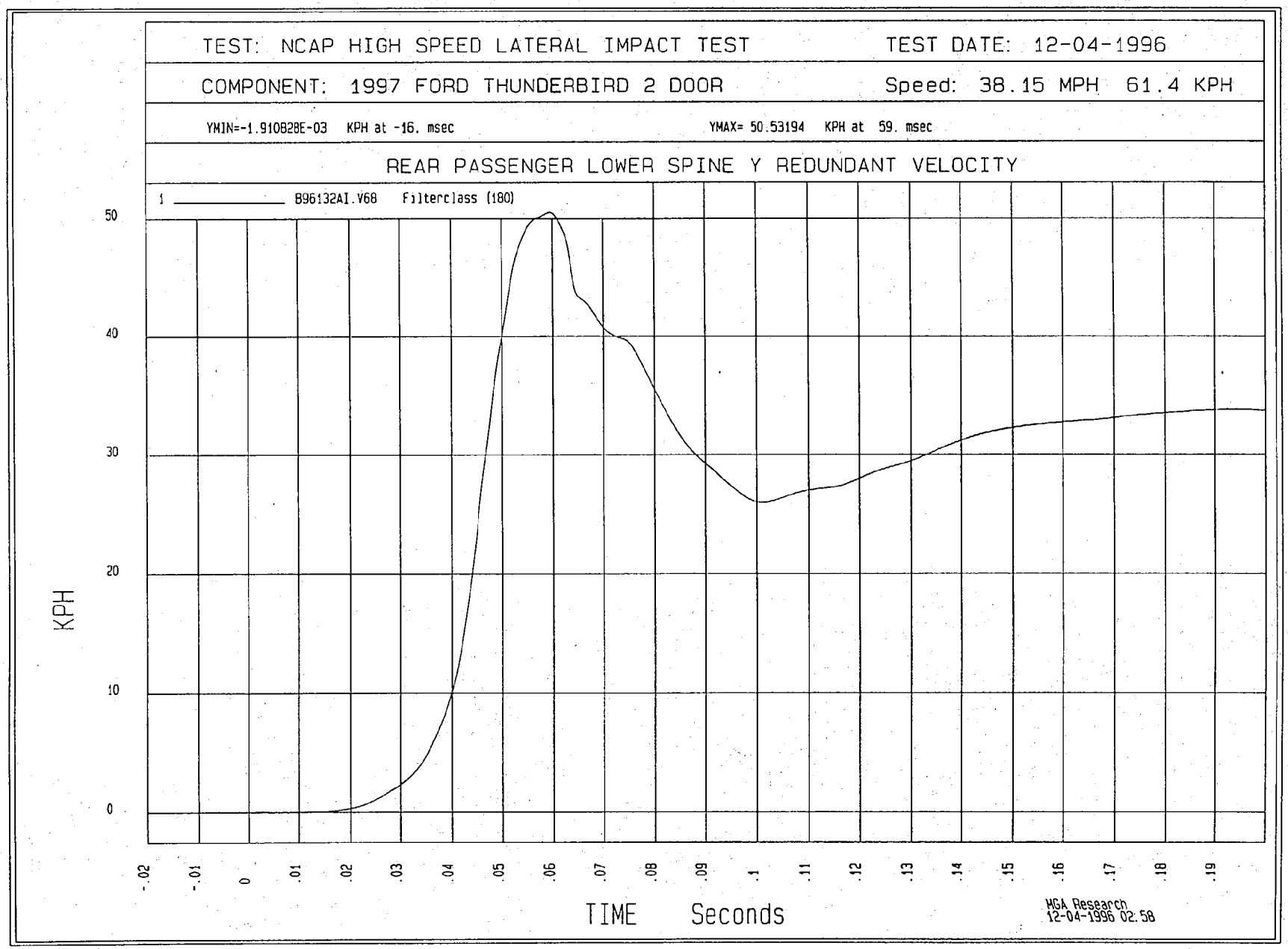
TIME (SECONDS)
MGA Research
12-03-1996 03:29


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-1.910828E-03 KPH at -16. msec
YMAX= 50.53194 KPH at 59. msec
REAR PASSENGER LOWER SPINE Y REDUNDANT VELOCITY
1 B96132AI.V68 Filterclass (180)
KPH
50
40
30
20
10
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-.02
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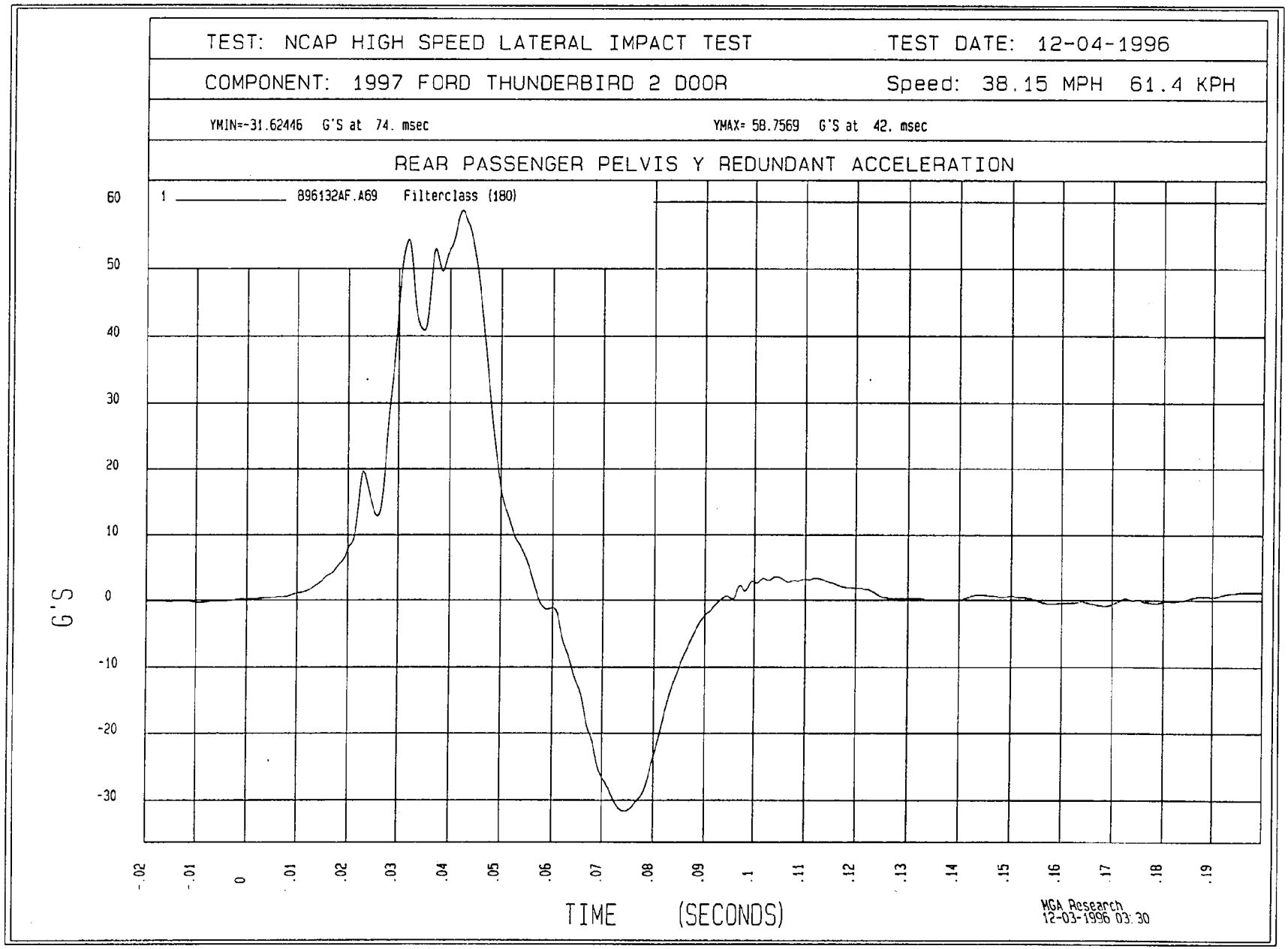
TIME Seconds
MGA Research
12-04-1996 02.58


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-31.62446 G'S at 74. msec
YMAX= 58.7569 G'S at 42. msec
REAR PASSENGER PELVIS Y REDUNDANT ACCELERATION
1 896132AF.A69 Filterclass (180)
60
50
40
30
20
10
0
-10
-20
-30
G'S
-.02
-.01
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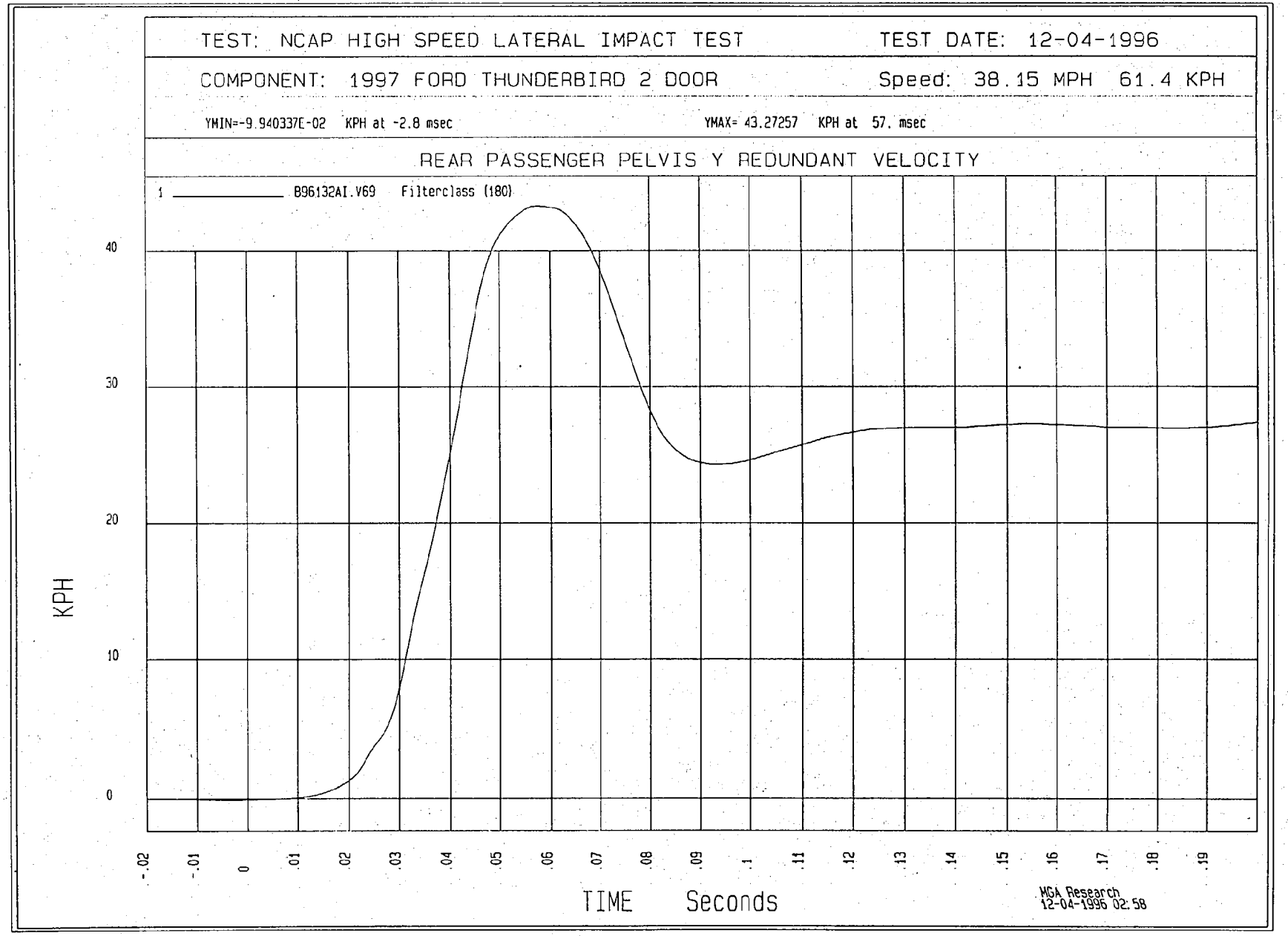
TIME (SECONDS)
MGA Research
12-03-1996 03:30


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-9.940337E-02 KPH at -2.8 msec
YMAX= 43.27257 KPH at 57. msec
REAR PASSENGER PELVIS Y REDUNDANT VELOCITY
1 B96132AI.V69 Filterclass (180)
KPH
40
30
20
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0
-.02
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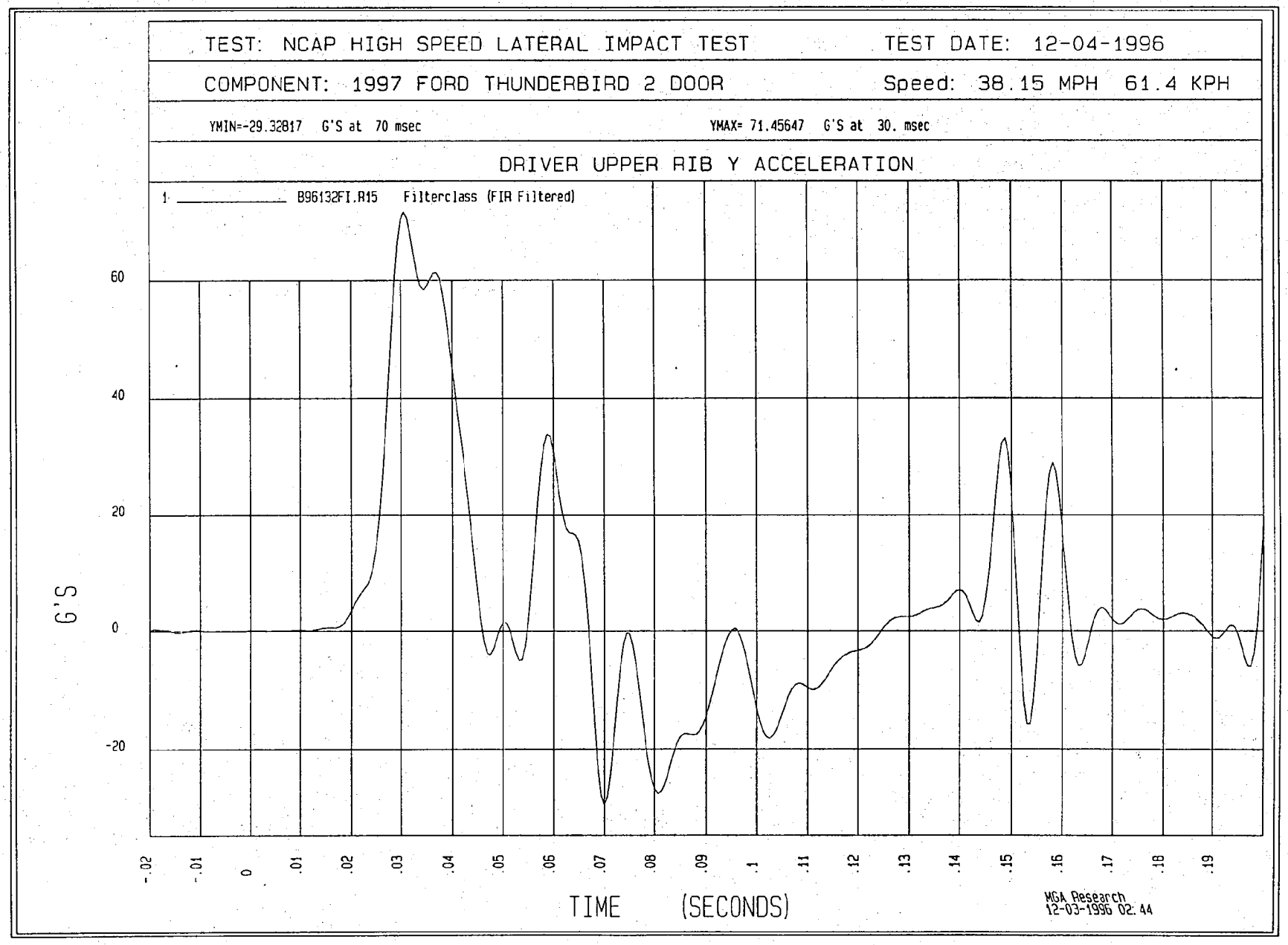
TIME Seconds
MGA Research
12-04-1996 02:58

FINITE IMPULSE RESPONSE (FIR) FILTERED DATA


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-29.32817 G'S at 70 msec
YMAX= 71.45647 G'S at 30. msec
DRIVER UPPER RIB Y ACCELERATION
1 B96132FI.R15 Filterclass (FIR Filtered)
60
40
20
0
-20
G'S
-.02
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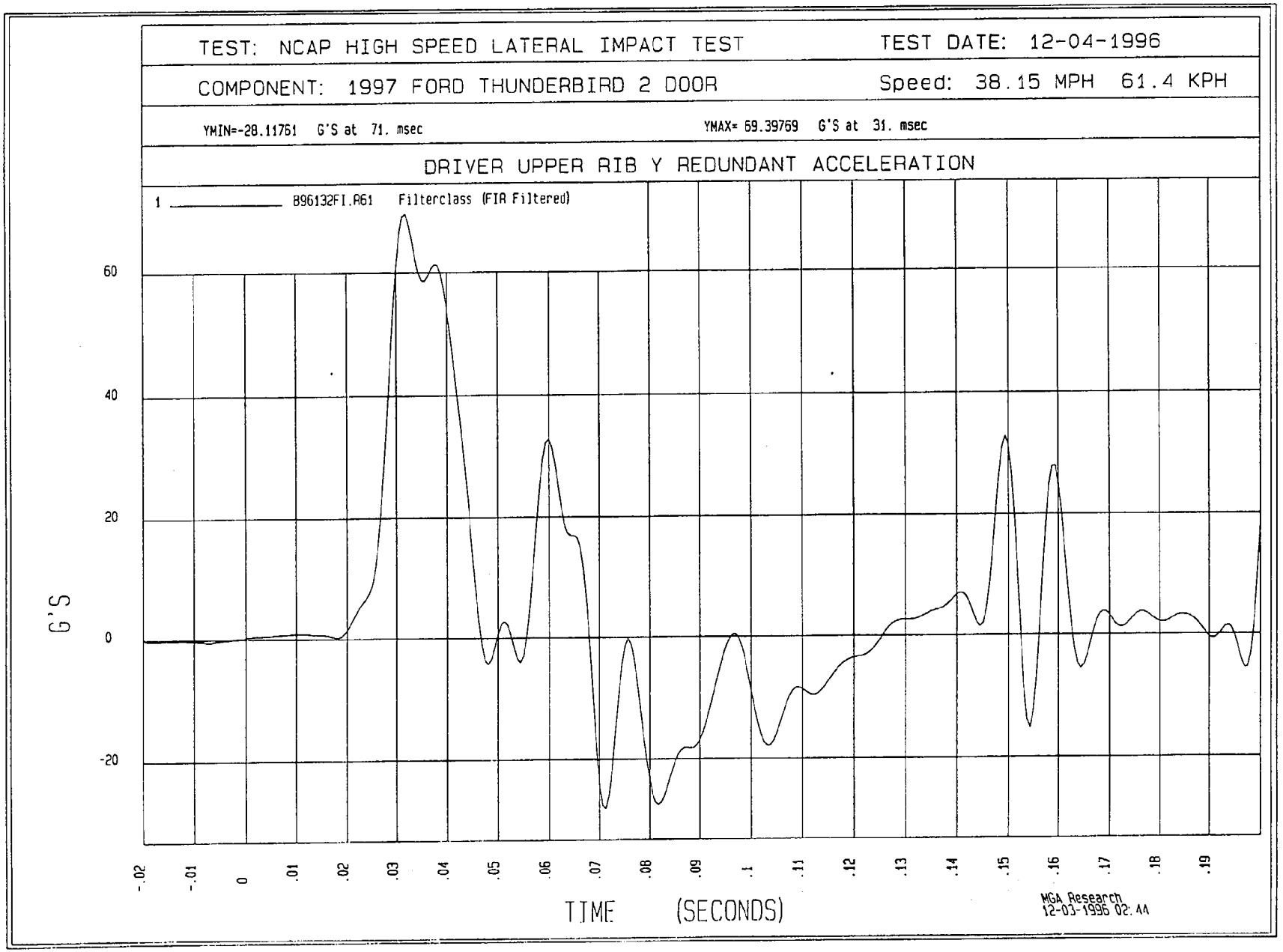
TIME (SECONDS)
MGA Research
12-03-1996 02:44


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-28.11761 G'S at 71. msec
YMAX= 69.39769 G'S at 31. msec
DRIVER UPPER RIB Y REDUNDANT ACCELERATION
1 896132FI.A61 Filterclass (FIA Filtered)
60
40
20
0
-20
G'S
-.02
-.01
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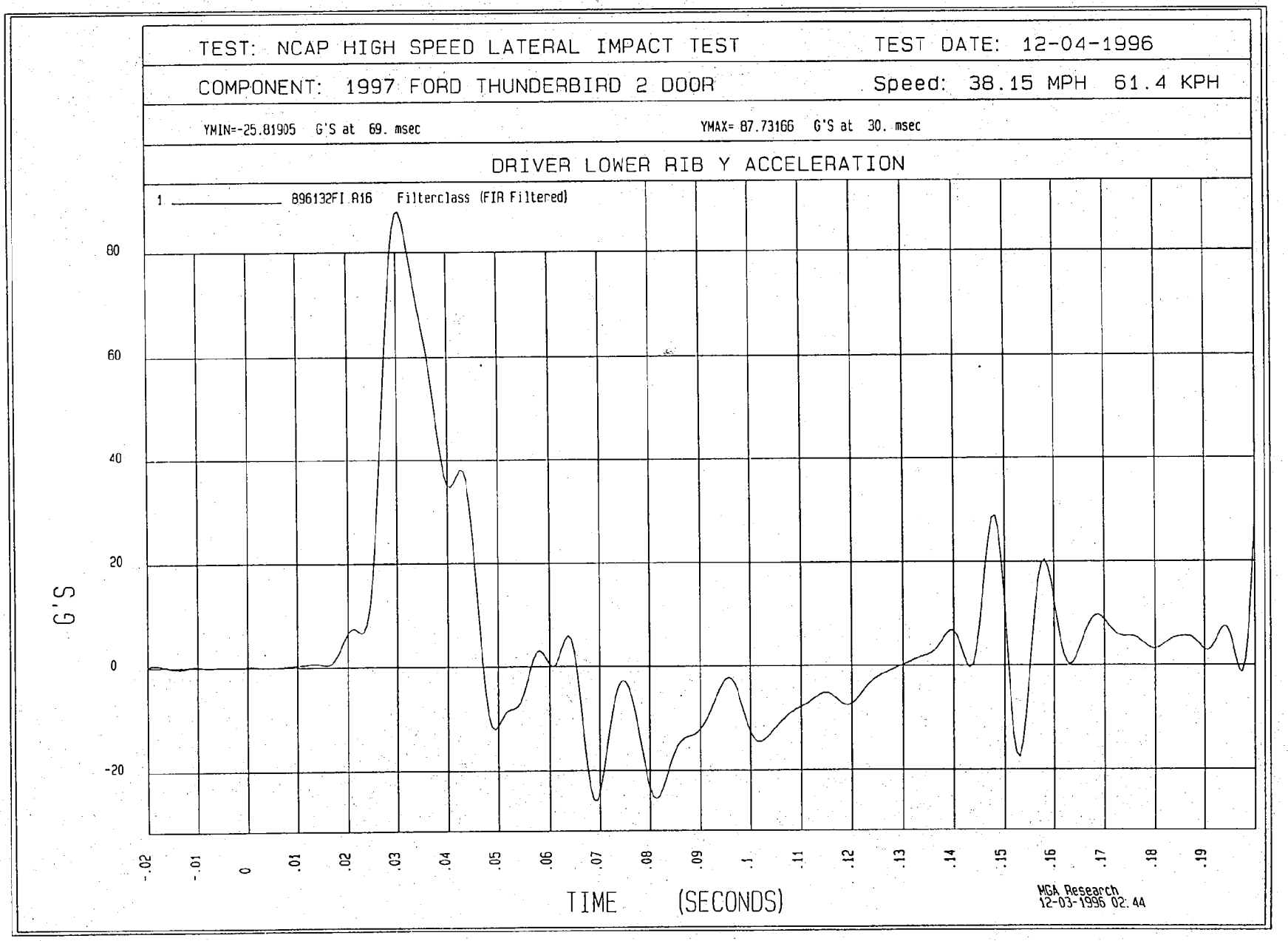
TIME (SECONDS)
MGA Research
12-03-1996 02:44


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-25.81905 G'S at 69. msec
YMAX= 87.73166 G'S at 30. msec
DRIVER LOWER RIB Y ACCELERATION
1 896132FI A16 Filterclass (FIR Filtered)
80
60
40
20
0
-20
G'S
-.02
-.01
0
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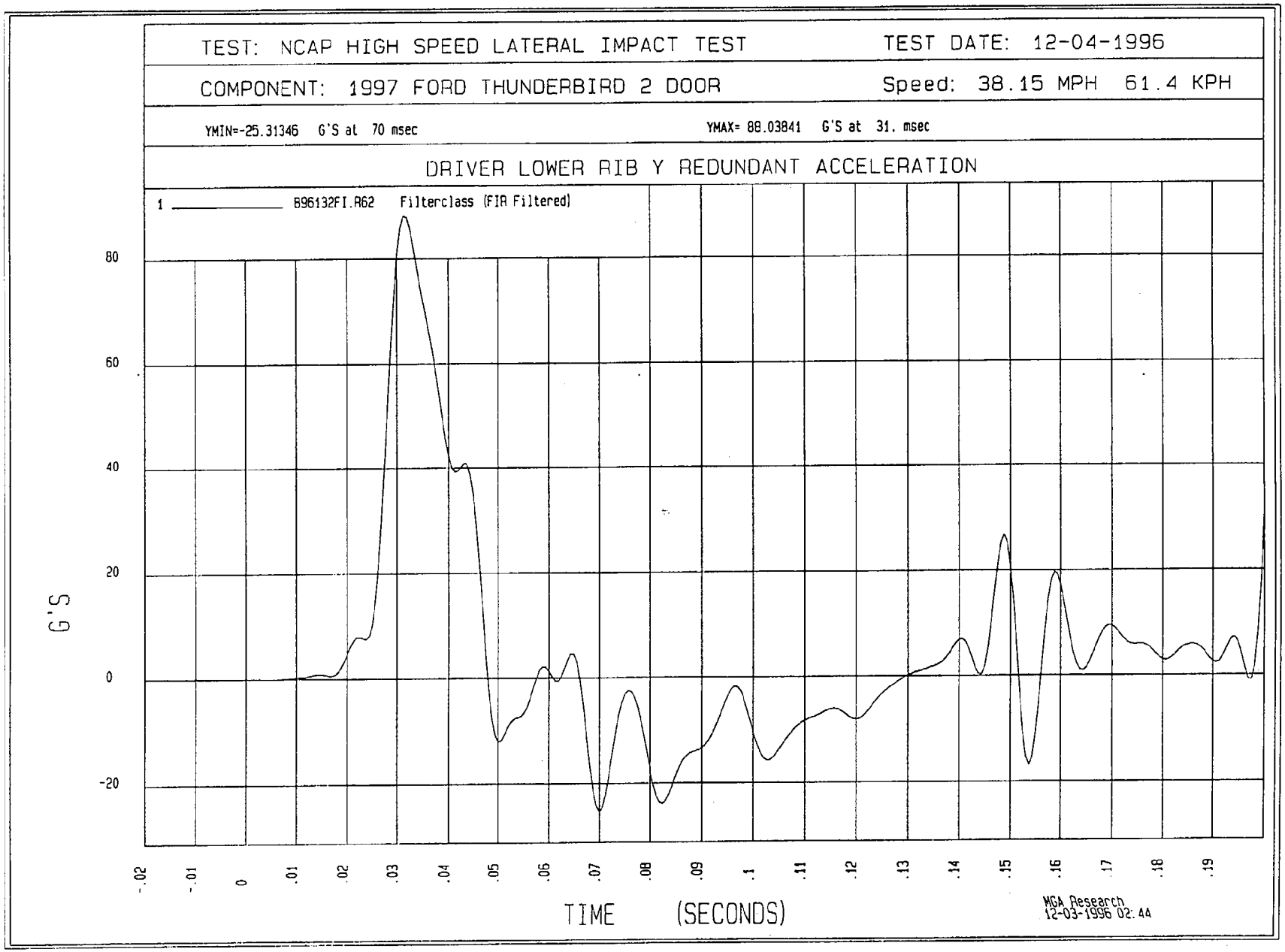
TIME (SECONDS)
MGA Research
12-03-1996 02:44


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-25.31346 G'S at 70 msec
YMAX= 88.03841 G'S at 31. msec
DRIVER LOWER RIB Y REDUNDANT ACCELERATION
1 B96132FI.A62 Filterclass (FIR Filtered)
80
60
40
20
0
-20
G'S
-.02
-.01
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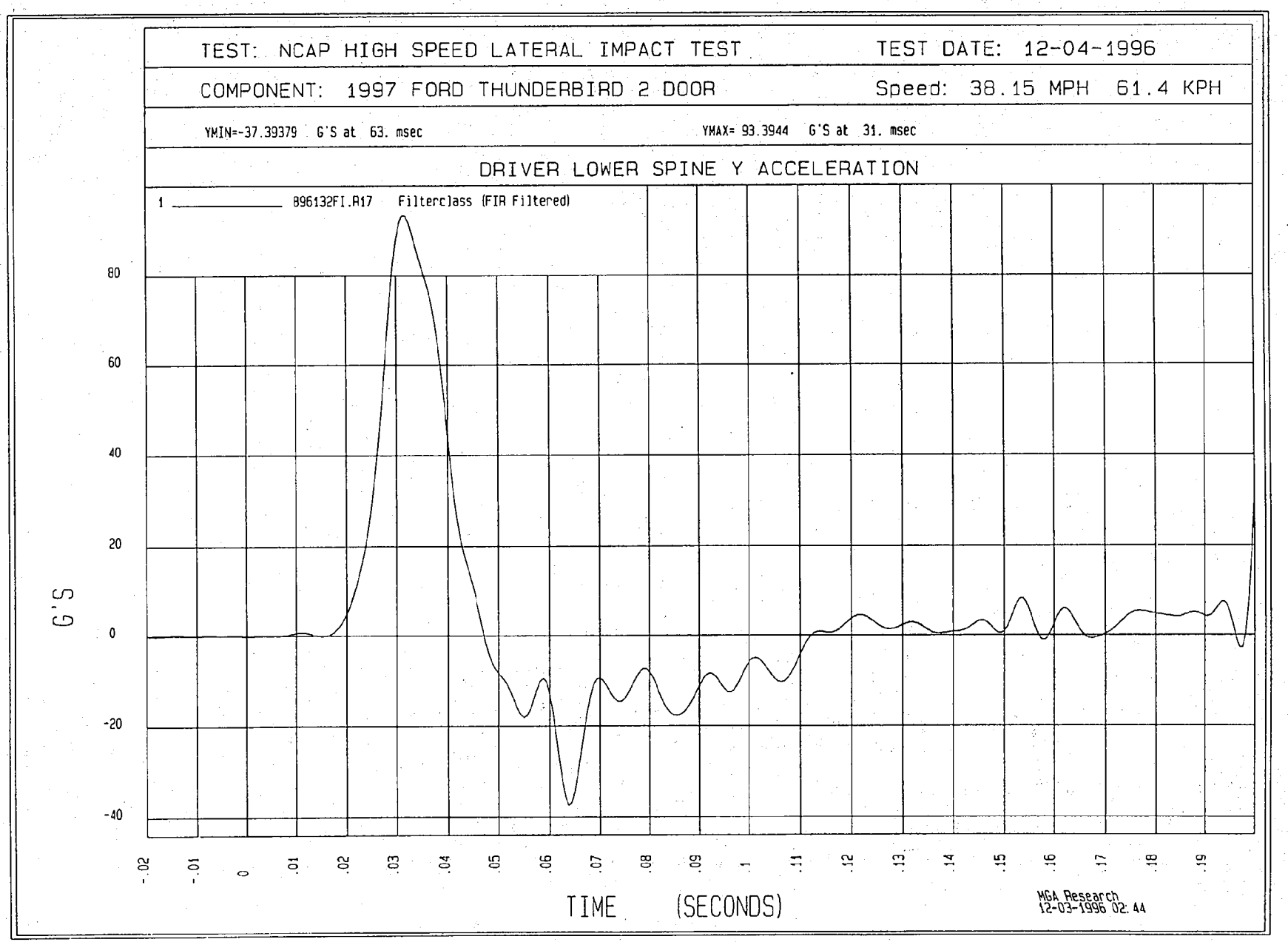
TIME (SECONDS)
MGA Research
12-03-1996 02:44


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-37.39379 G'S at 63. msec
YMAX= 93.3944 G'S at 31. msec
DRIVER LOWER SPINE Y ACCELERATION
1 896132FI.A17 Filterclass (FIR Filtered)
80
60
40
20
0
-20
-40
G'S
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-.01
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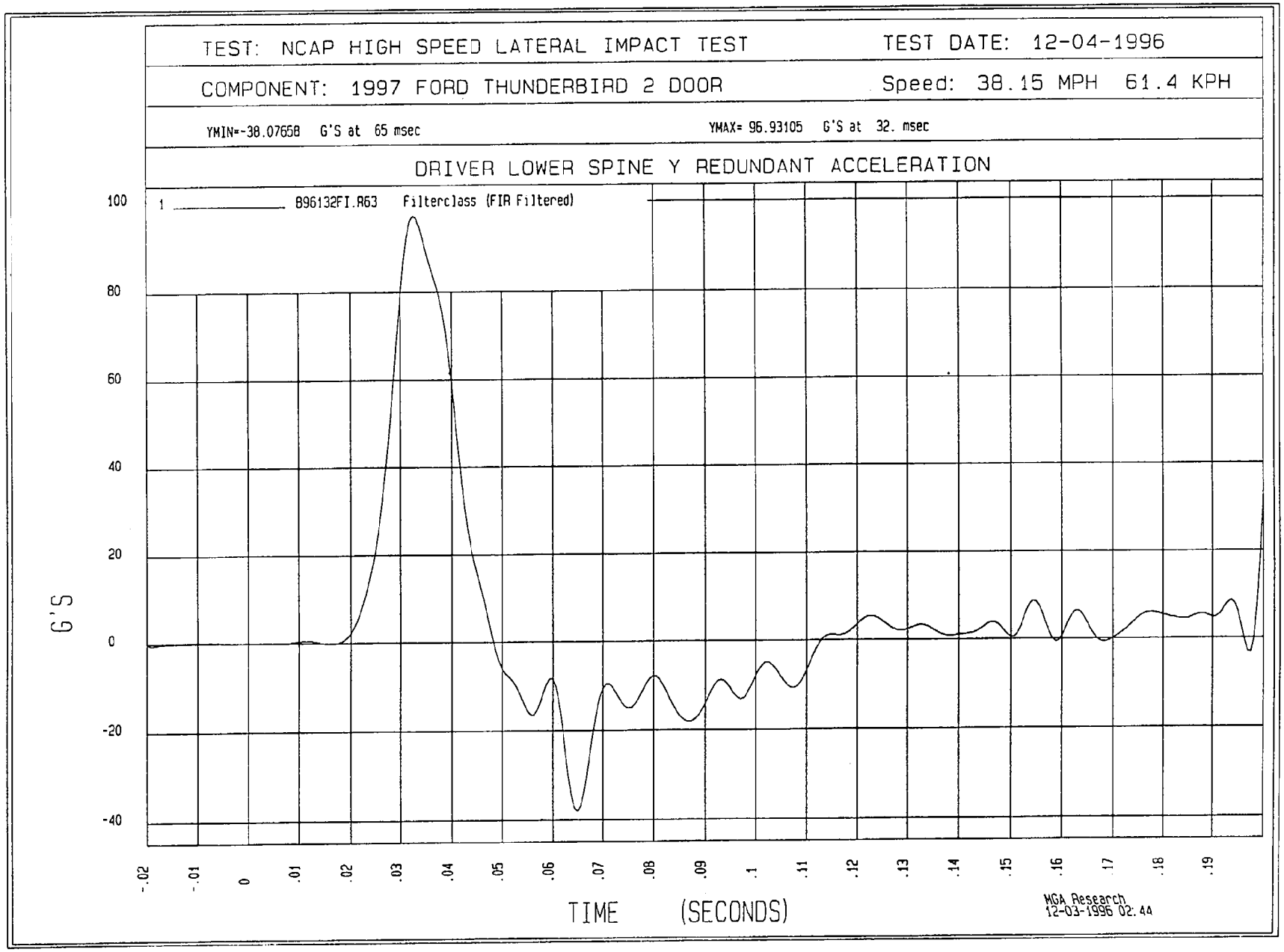
TIME (SECONDS)
MGA Research
12-03-1996 02:44


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-38.07658 G'S at 65 msec
YMAX= 96.93105 G'S at 32. msec
DRIVER LOWER SPINE Y REDUNDANT ACCELERATION
1 B96132FI.A63 Filterclass (FIR Filtered)
100
80
60
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0
-20
-40
G'S
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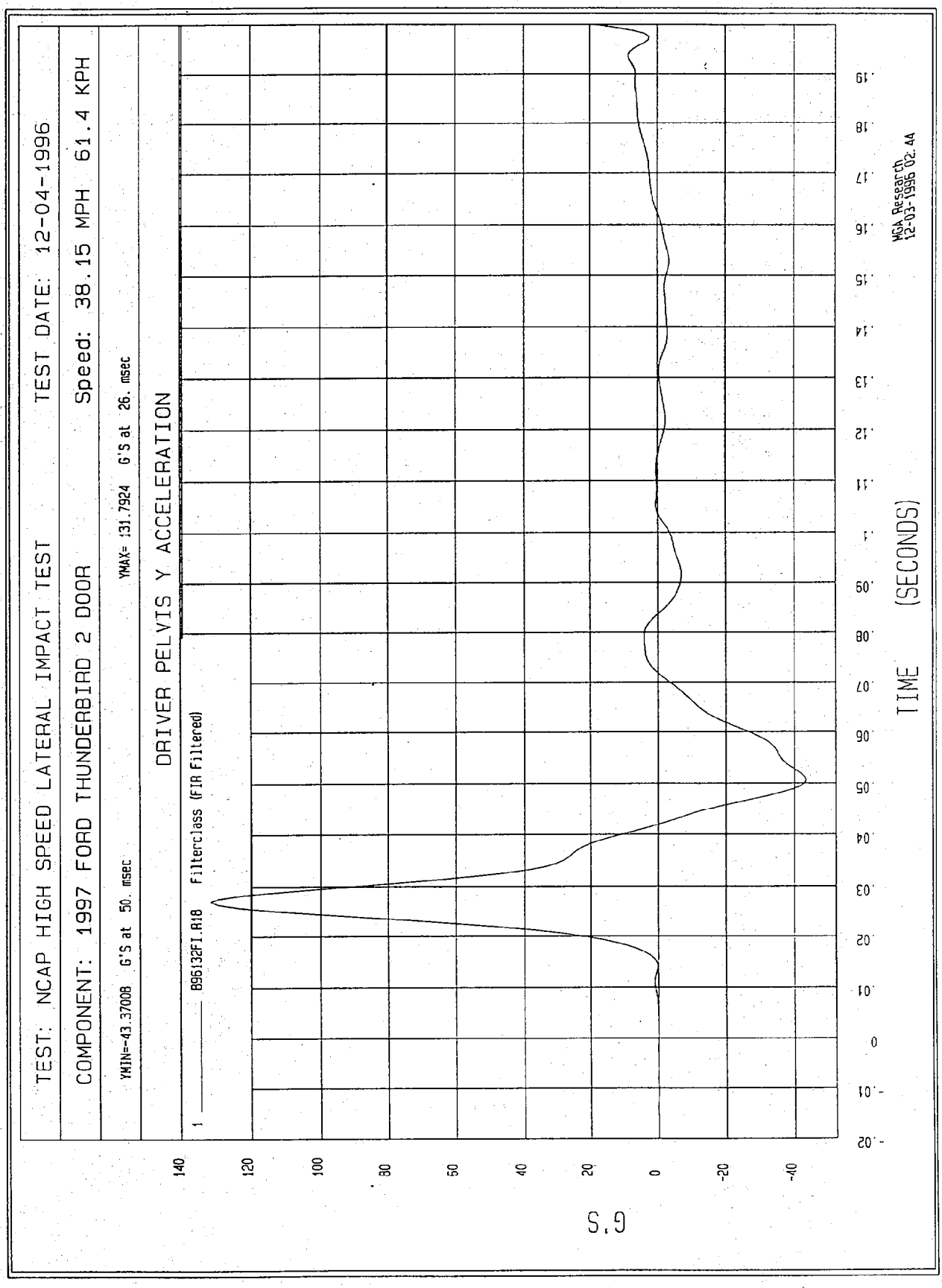
TIME (SECONDS)
MGA Research
12-03-1996 02:44


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-43.37008 G'S at 50. msec
YMAX= 131.7924 G'S at 26. msec
DRIVER PELVIS Y ACCELERATION
1 B96132FI.A18 Filterclass (FIR Filtered)
140
120
100
80
60
40
20
0
-20
-40
G'S
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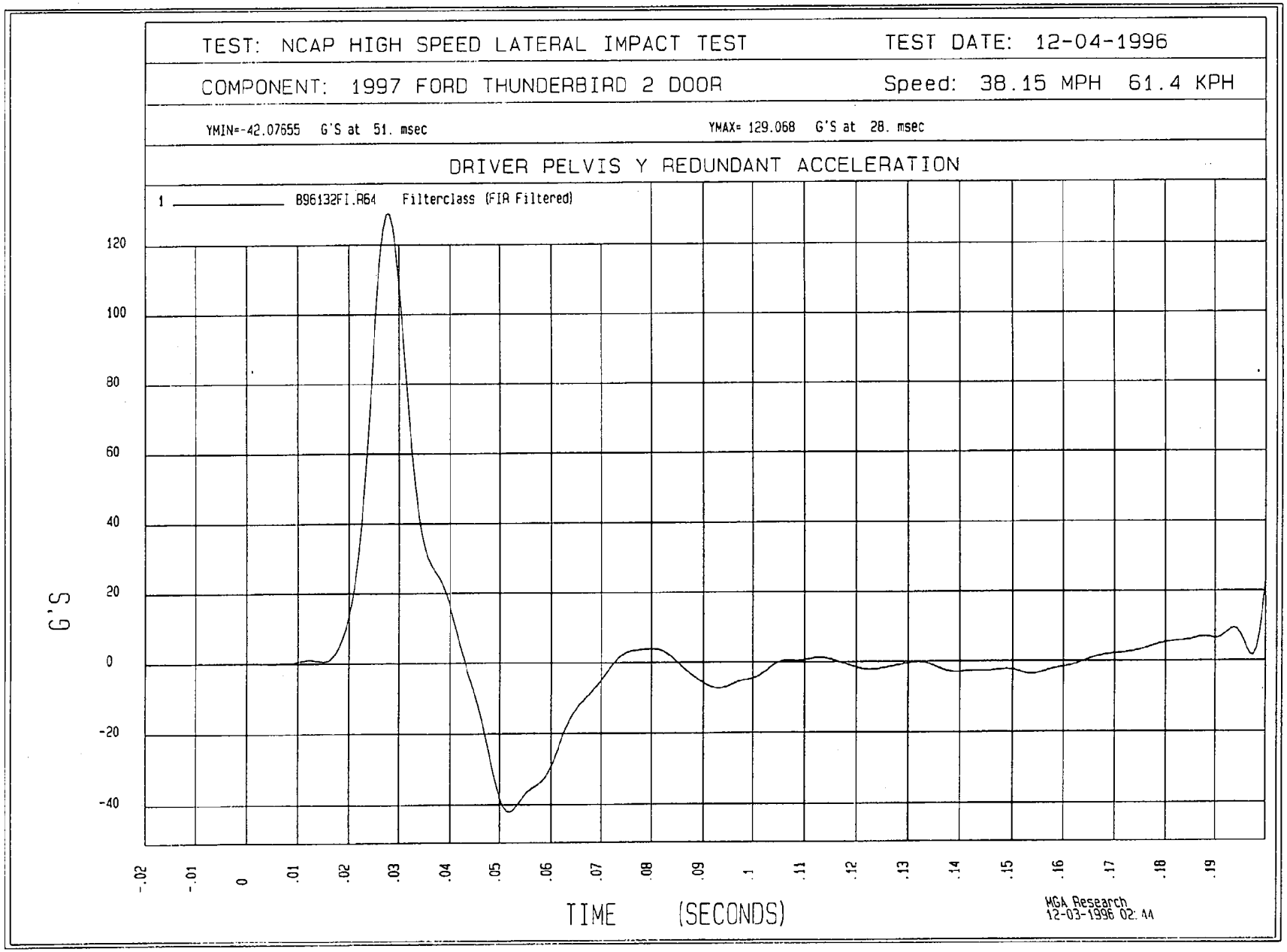
TIME (SECONDS)
MGA Research
12-03-1996 02:44


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-42.07655 G'S at 51. msec
YMAX= 129.068 G'S at 28. msec
DRIVER PELVIS Y REDUNDANT ACCELERATION
1 B96132FI.A64 Filterclass (FIA Filtered)
120
100
80
60
40
20
0
-20
-40
G'S
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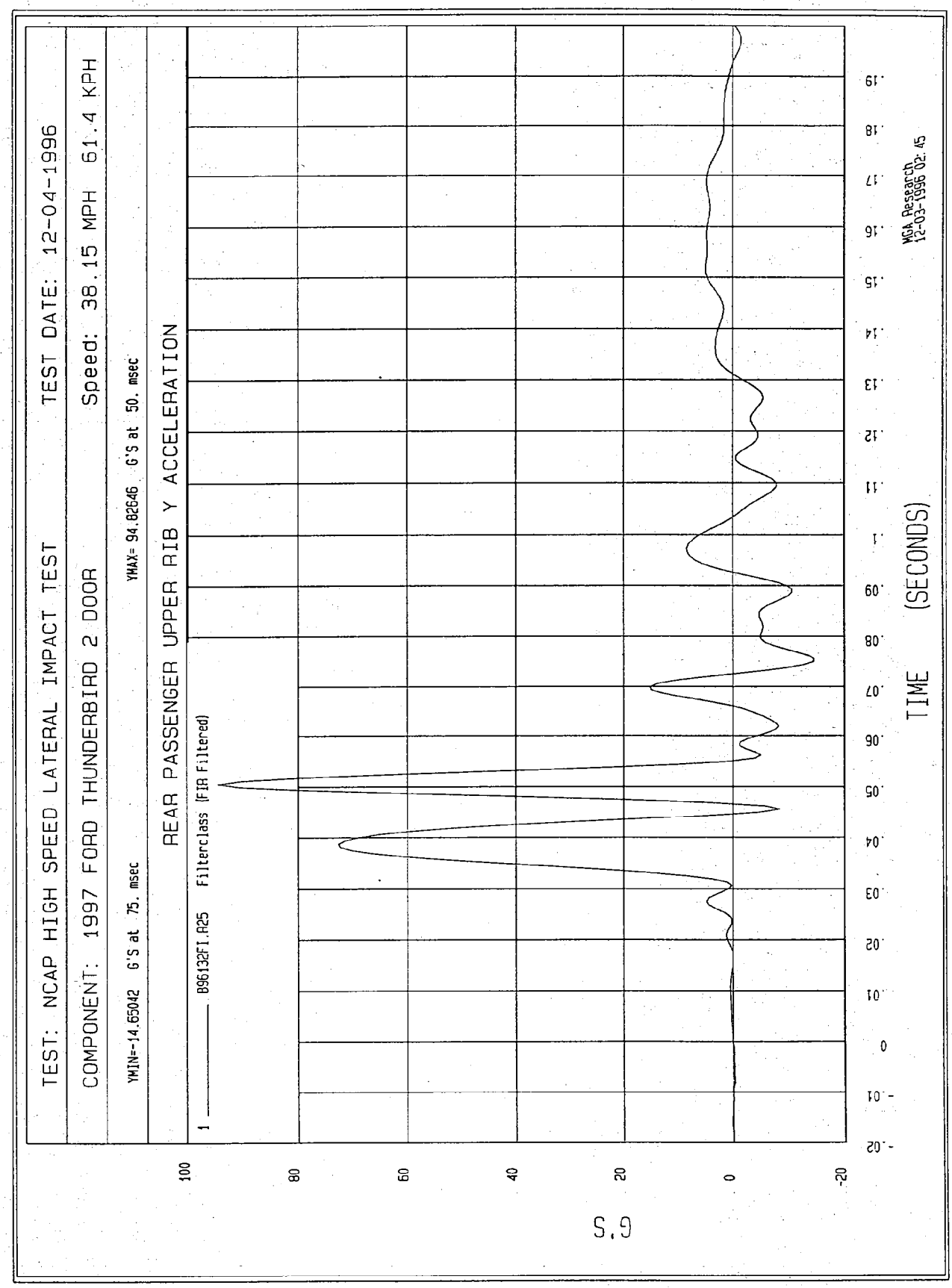
TIME (SECONDS)
MGA Research
12-03-1996 02:44


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-14.65042 G'S at 75. msec
YMAX= 94.82646 G'S at 50. msec
REAR PASSENGER UPPER RIB Y ACCELERATION
1 B96132F1.A25 Filterclass (FIR Filtered)
100
80
60
40
20
0
-20
G'S
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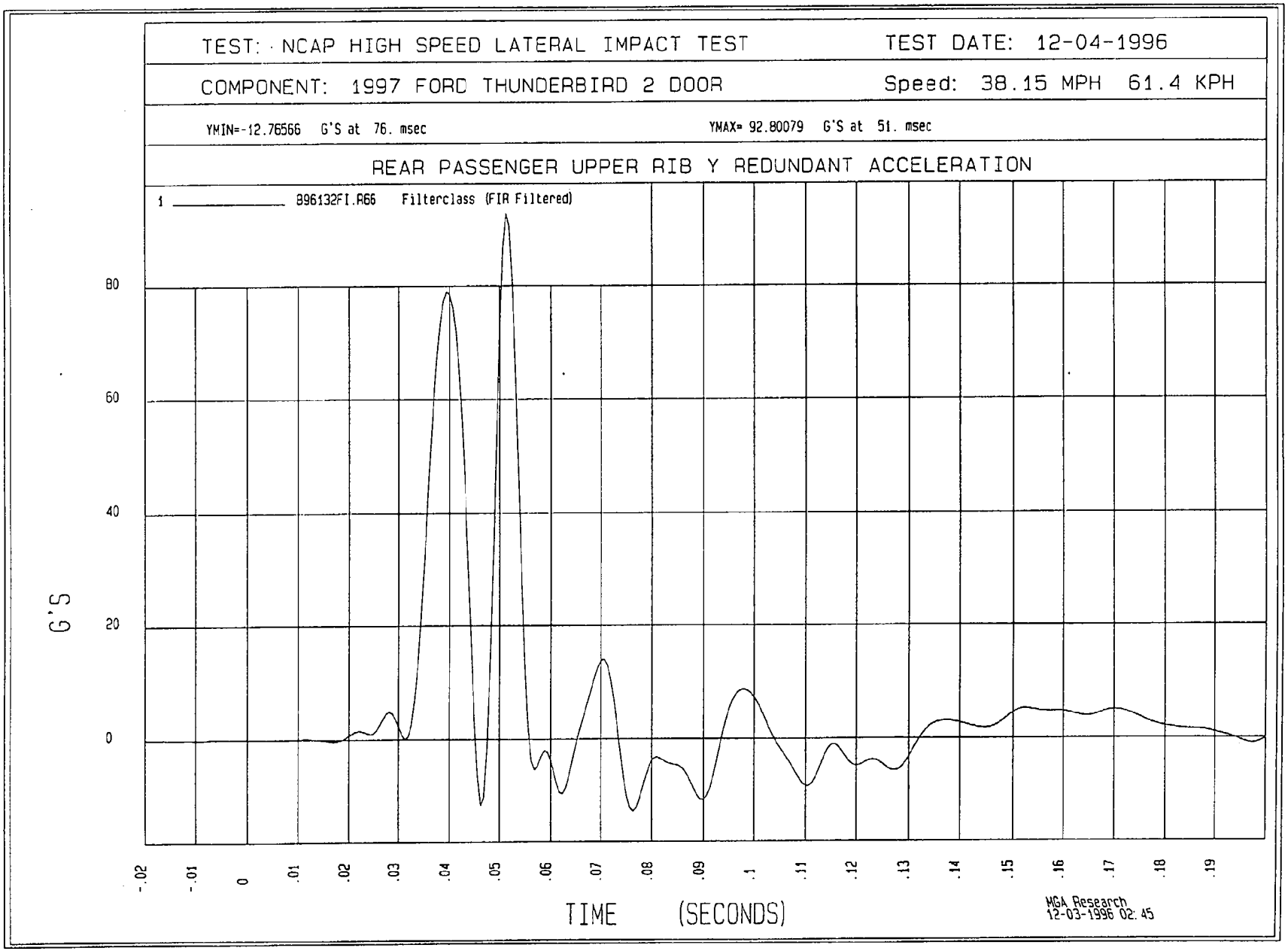
TIME (SECONDS)
MGA Research
12-03-1996 02:45


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-12.76566 G'S at 76. msec
YMAX= 92.80079 G'S at 51. msec
REAR PASSENGER UPPER RIB Y REDUNDANT ACCELERATION
1 896132FI.A66 Filterclass (FIR Filtered)
80
60
40
20
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G'S
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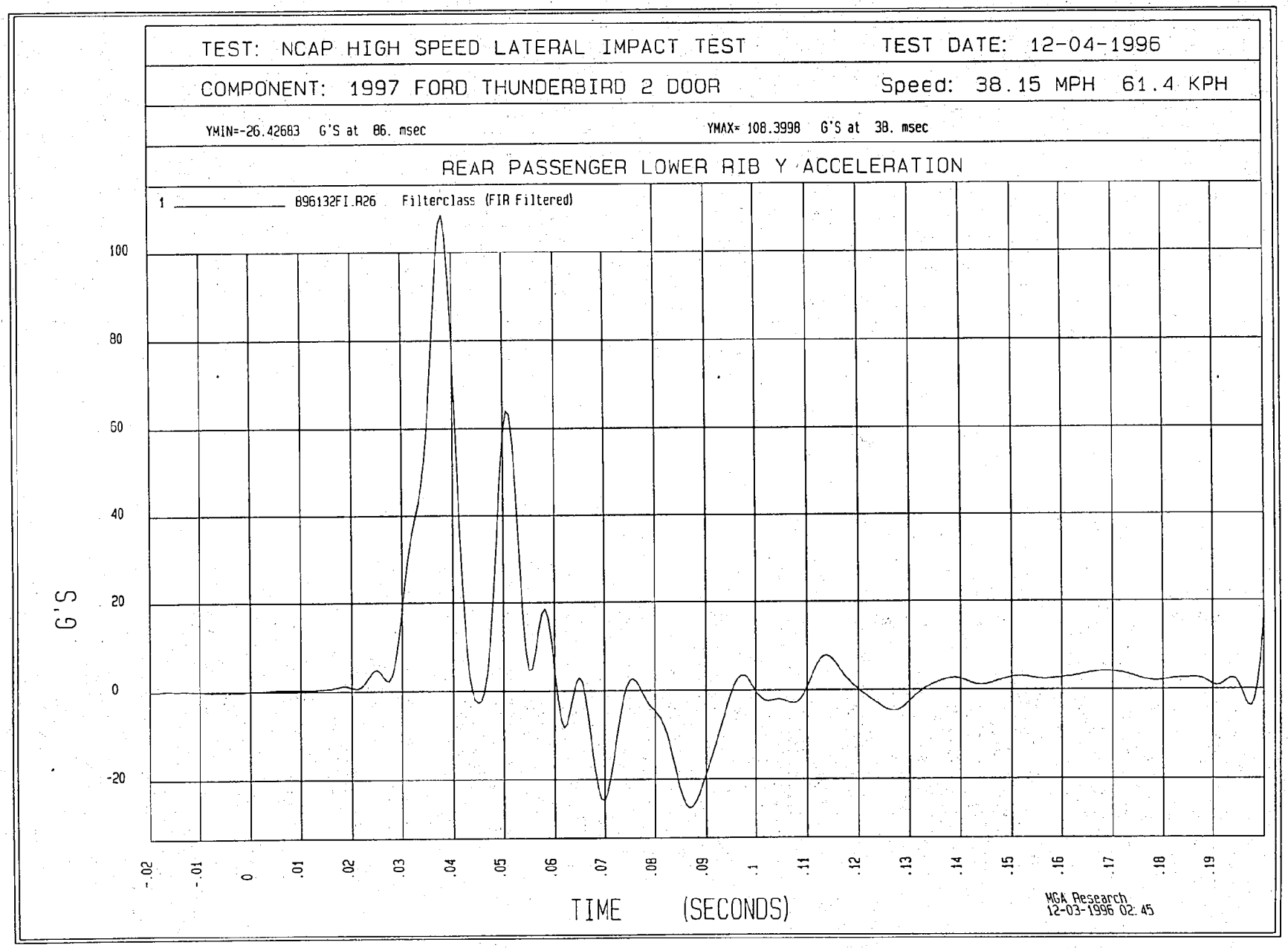
TIME (SECONDS)
MGA Research
12-03-1996 02:45


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-26.42683 G'S at 86. msec
YMAX= 108.3998 G'S at 38. msec
REAR PASSENGER LOWER RIB Y ACCELERATION
1 _____ 896132FI.R26 Filterclass (FIR Filtered)
100
80
60
40
20
0
-20
G'S
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-.01
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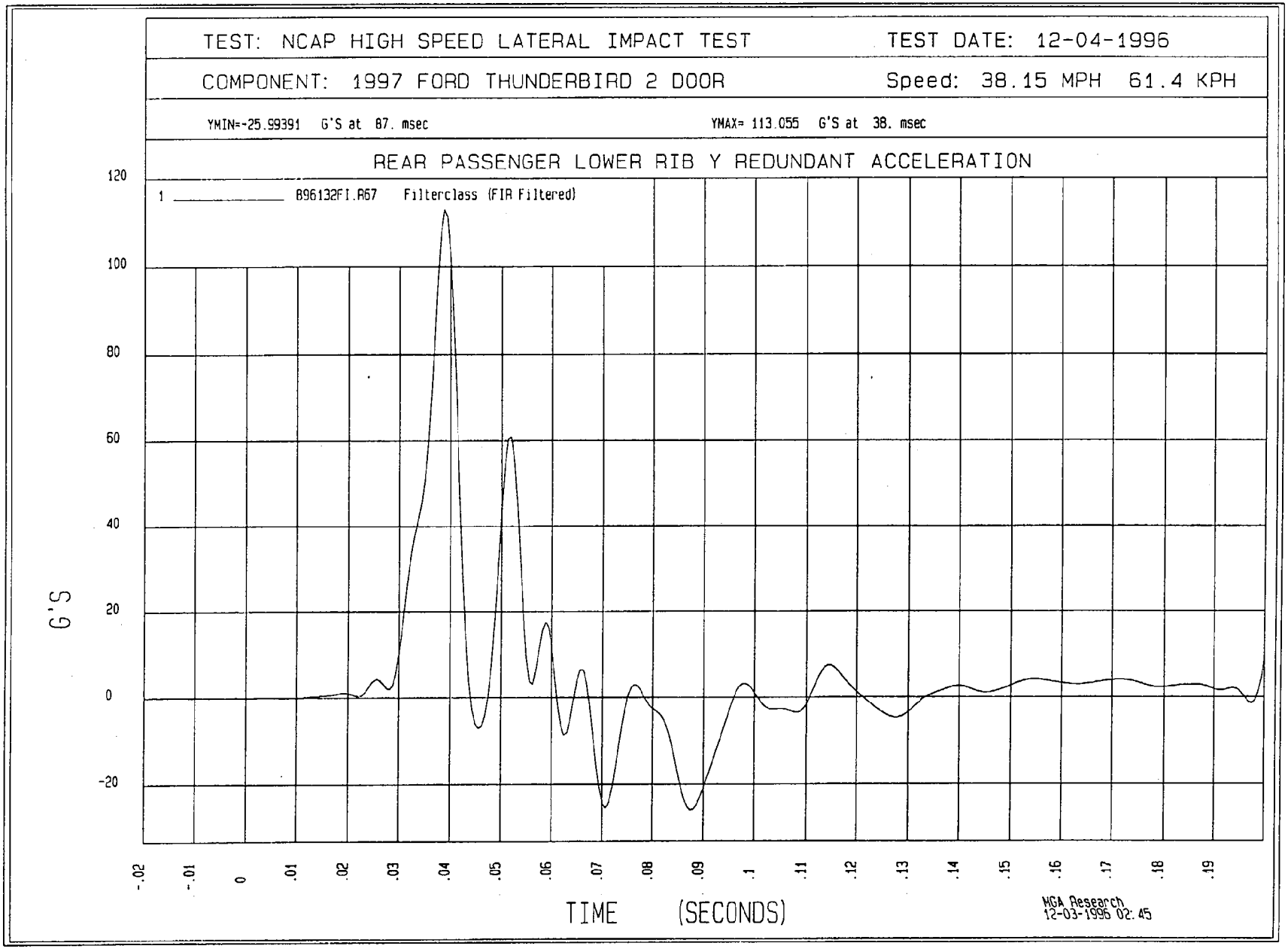
TIME (SECONDS)
MGA Research
12-03-1996 02:45


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-25.99391 G'S at 87. msec
YMAX= 113.055 G'S at 38. msec
REAR PASSENGER LOWER RIB Y REDUNDANT ACCELERATION
1 B96132FI.R67 Filterclass (FIR Filtered)
120
100
80
60
40
20
0
-20
G'S
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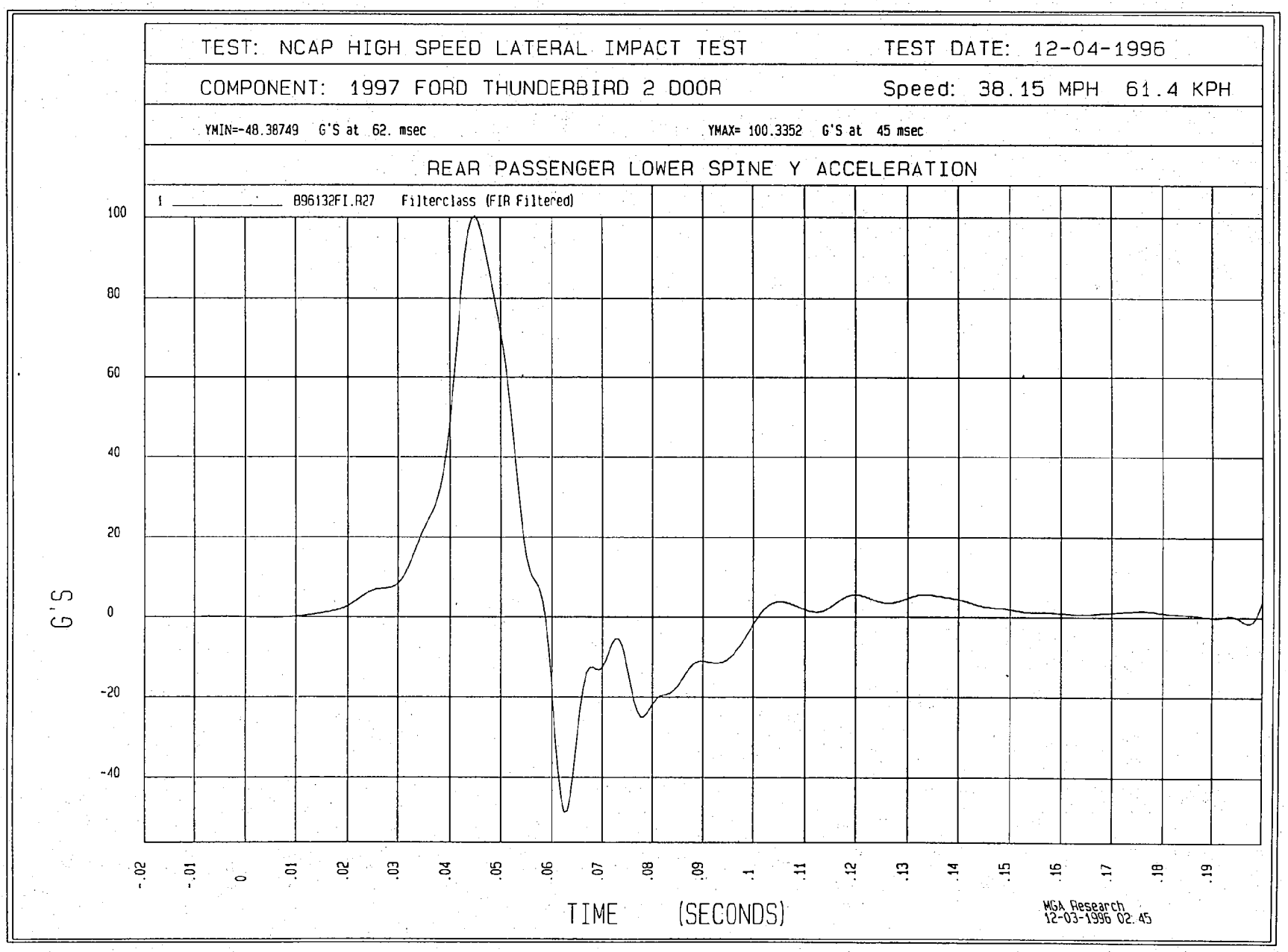
TIME (SECONDS)
MGA Research
12-03-1996 02:45


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-48.38749 G'S at 62. msec
YMAX= 100.3352 G'S at 45 msec
REAR PASSENGER LOWER SPINE Y ACCELERATION
1 B96132FI.R27 Filterclass (FIR Filtered)
100
80
60
40
20
0
-20
-40
G'S
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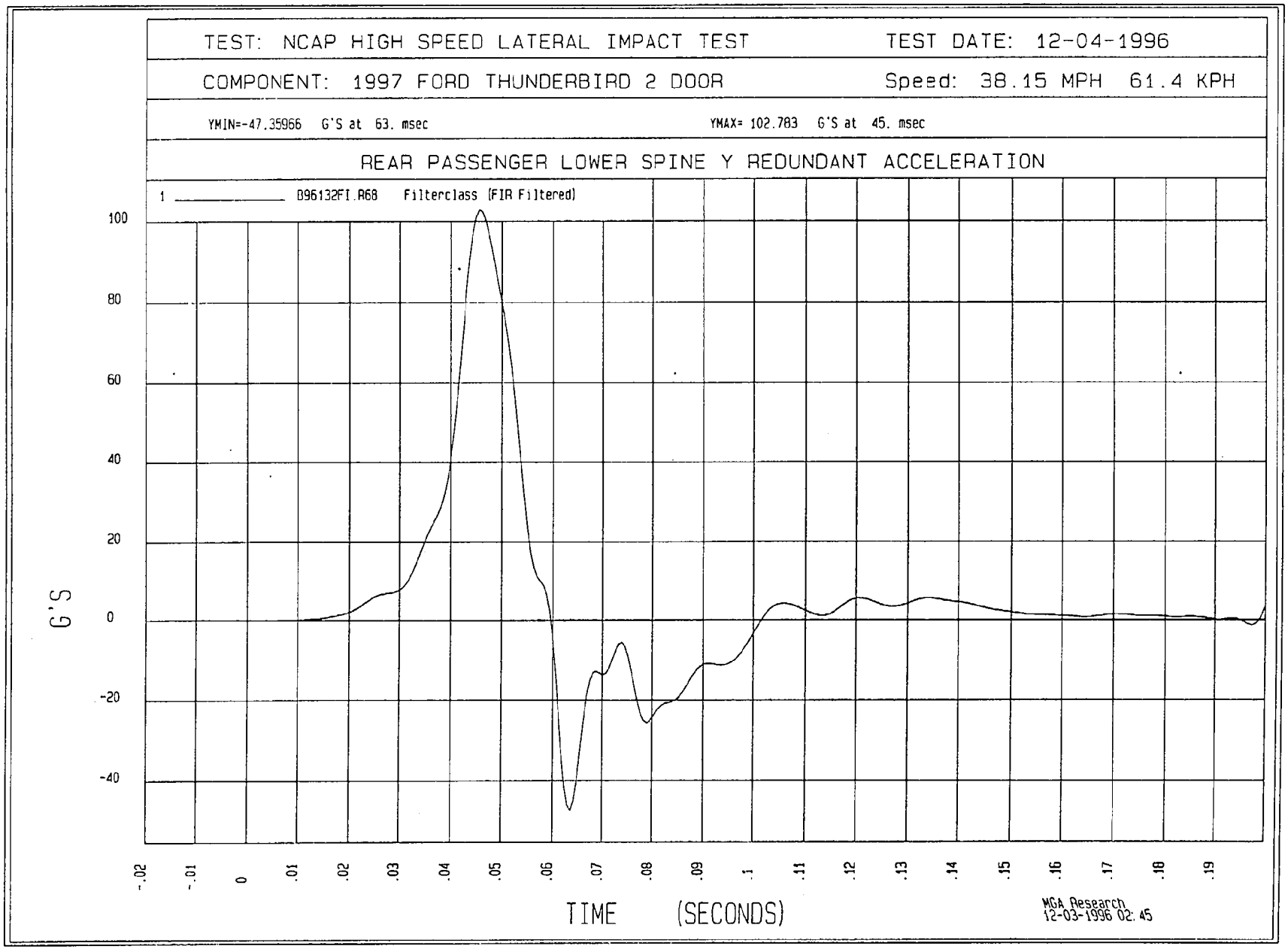
TIME (SECONDS)
MGA Research
12-03-1996 02.45


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-47.35966 G'S at 63. msec
YMAX= 102.783 G'S at 45. msec
REAR PASSENGER LOWER SPINE Y REDUNDANT ACCELERATION
1 B96132FI.A68 Filterclass (FIR Filtered)
100
80
60
40
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-20
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G'S
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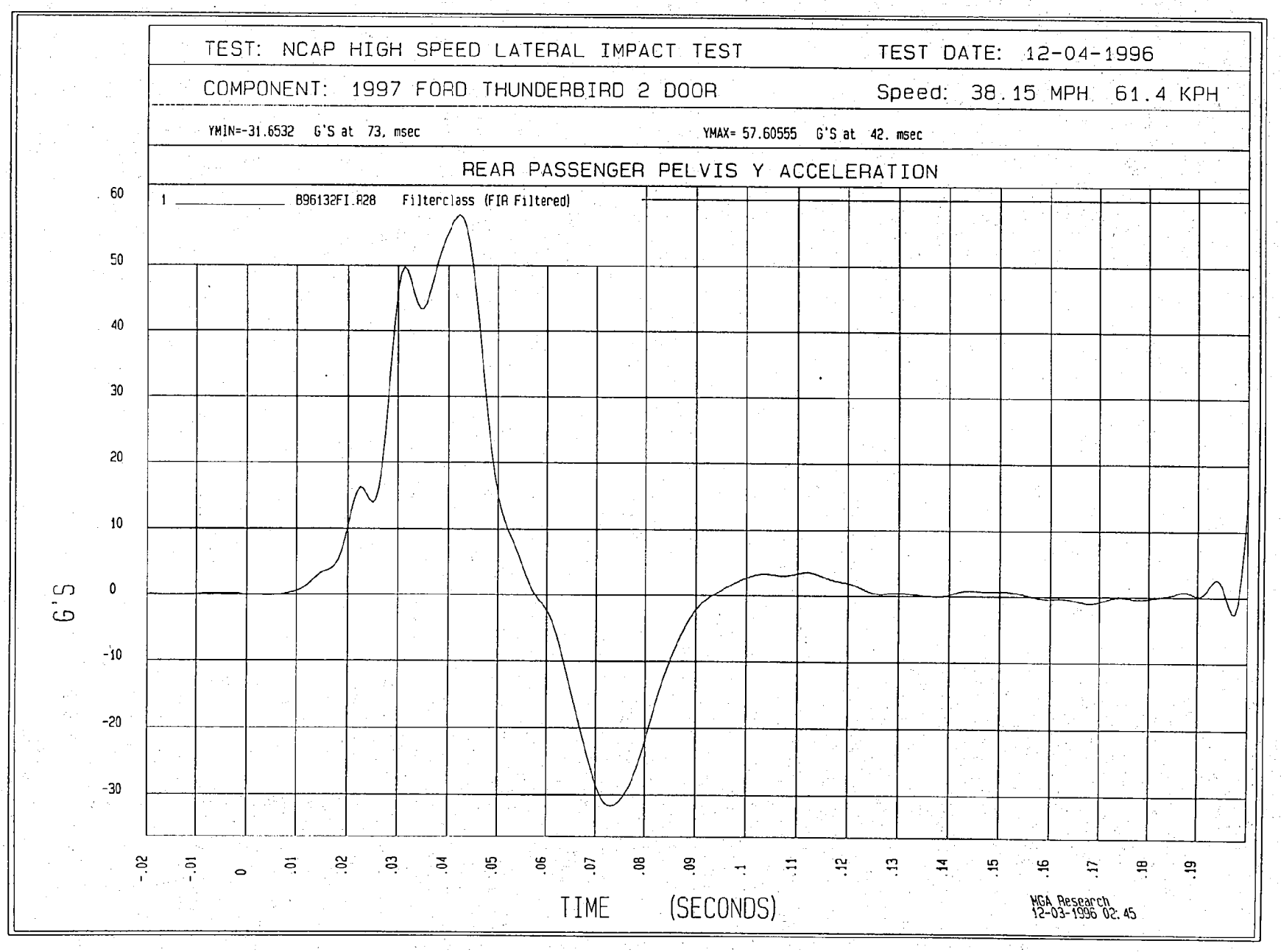
TIME (SECONDS)
MGA Research
12-03-1996 02:45


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-31.6532 G'S at 73. msec
YMAX= 57.60555 G'S at 42. msec
REAR PASSENGER PELVIS Y ACCELERATION
1 B96132FI.R28 Filterclass (FIR Filtered)
60
50
40
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G'S
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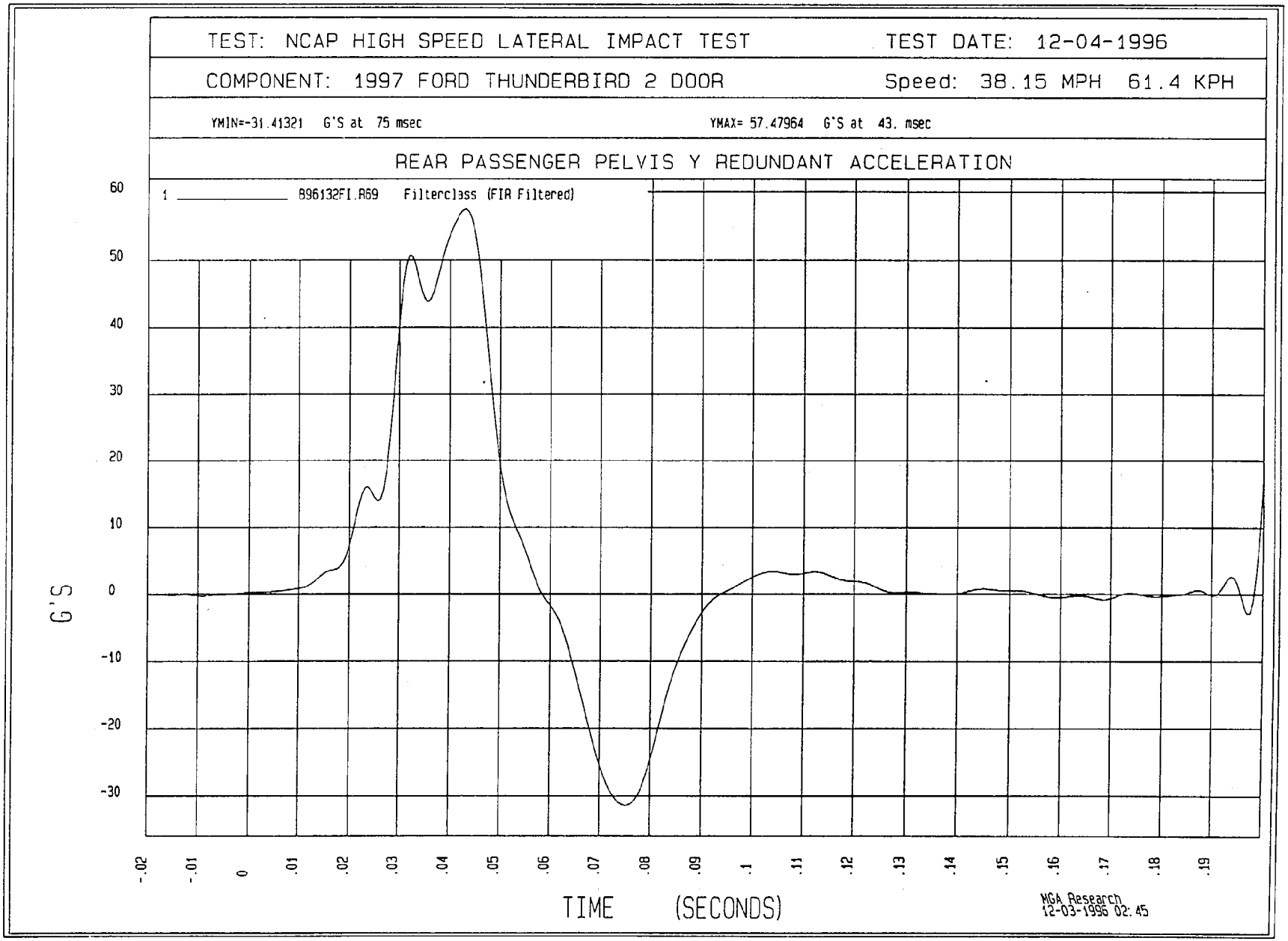
TIME (SECONDS)
MGA Research
12-03-1996 02:45


TEST: NCAP HIGH SPEED LATERAL IMPACT TEST
TEST DATE: 12-04-1996
COMPONENT: 1997 FORD THUNDERBIRD 2 DOOR
Speed: 38.15 MPH 61.4 KPH
YMIN=-31.41321 G'S at 75 msec
YMAX= 57.47964 G'S at 43. msec
REAR PASSENGER PELVIS Y REDUNDANT ACCELERATION
1 B96132FI.R69 Filterclass (FIR Filtered)
60
50
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G'S
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TIME (SECONDS)
MGA Research
12-03-1996 02:45

APPENDIX C

SID CONFIGURATION AND PERFORMANCE VERIFICATION

REPORT NO. MGA-97-DC05

DUMMY PERFORMANCE CALIBRATIONS

NEW CAR ASSESSMENT PROGRAM
SIDE IMPACT TEST

FORD MOTOR COMPANY
1997 FORD THUNDERBIRD 2 DOOR
NHTSA NO. MV0203

MGA PROVING GROUNDS
5000 WARREN ROAD
BURLINGTON, WI 53105

Test Date: December 4, 1996

Report Date: December 10, 1996

FINAL REPORT

Prepared For:

U. S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
OFFICE OF CRASHWORTHINESS STANDARDS
ROOM 5313, NPS-10
400 SEVENTH STREET, S.W.
Washington, D.C. 20590

TABLE OF CONTENTS

PRE-TEST CERTIFICATION DATA

Front Dummy Serial Number: 271

Calibration Test Results Summary

Dummy Serial Number: 271

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 NO.: 271

DATE OF VERIFICATION: December 3, 1996

DESCRIPTION	SPECIFICATION	TEST RESULTS
SH - Seated Height	35.0" - 35.8"	35.4
RH - Rib Height	19.75" - 20.50"	20.40
HP - Hip Pivot Height	3.9" ref.	3.9
RD - Rib From Back Line	9.0" to 9.5"	9.4
KV - Knee Pivot From Back Line	20.1" - 20.7"	20.4
SW - Knee Pivot to Floor	19.3" - 19.9"	19.5
HW - Hip Width	14.0" - 15.4"	15.0

MEASUREMENTS BY: _____

APPROVED BY: Dave Kobzke

MGA RESEARCH CORPORATION

THORAX IMPACT TEST

SIDE IMPACT DUMMY (SID)

DATE: December 3, 1996

DUMMY NUMBER: 271 TEST NUMBER: D961982

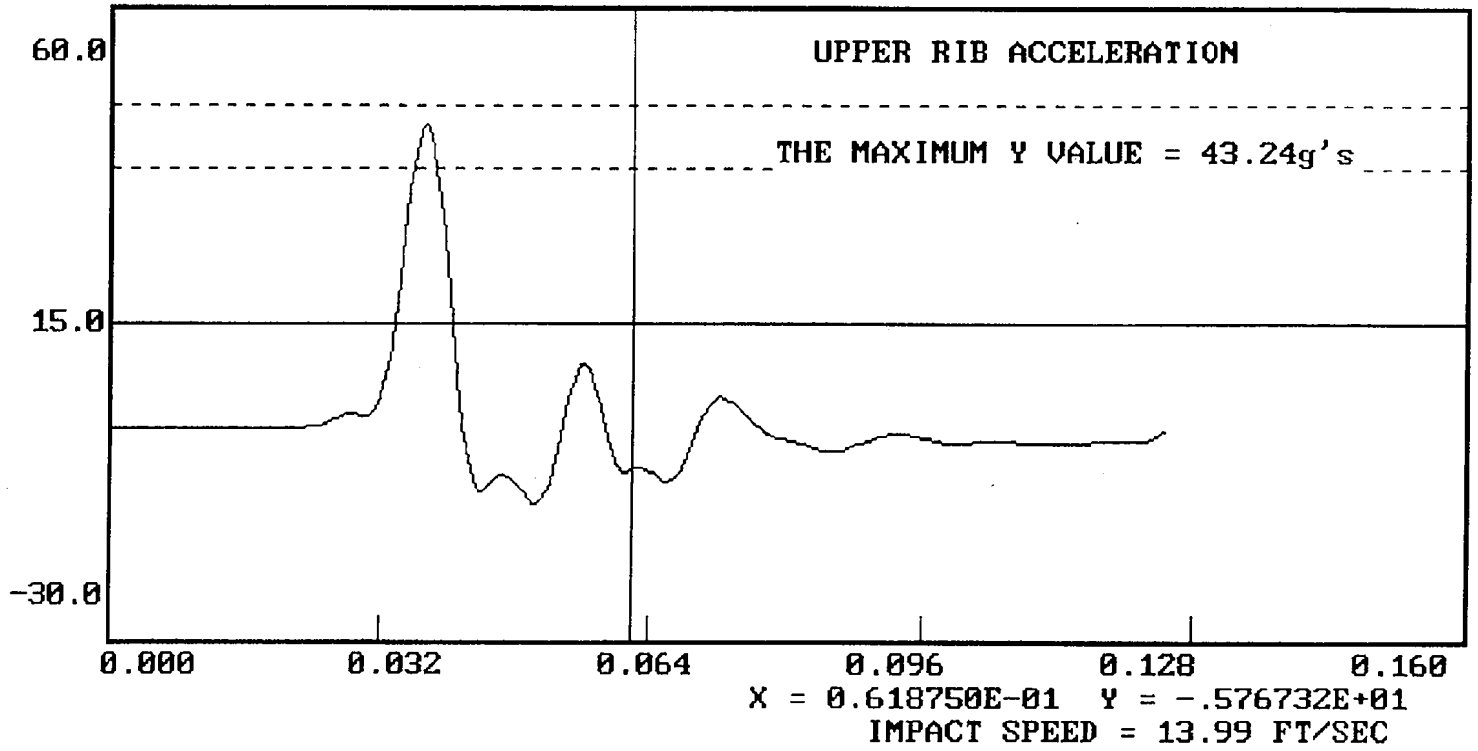
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	66 - 78° F	70°
RELATIVE HUMIDITY	10 - 70%	25%
PROBE SPEED	13.8 - 14.2 fps	14.0
UPPER RIB	37 - 46 g's	43
LOWER RIB	37 - 46 g's	44
LOWER SPINE	15 - 22 g's	21

TEST MEETS SPECIFICATIONS

TECHNICIAN _____

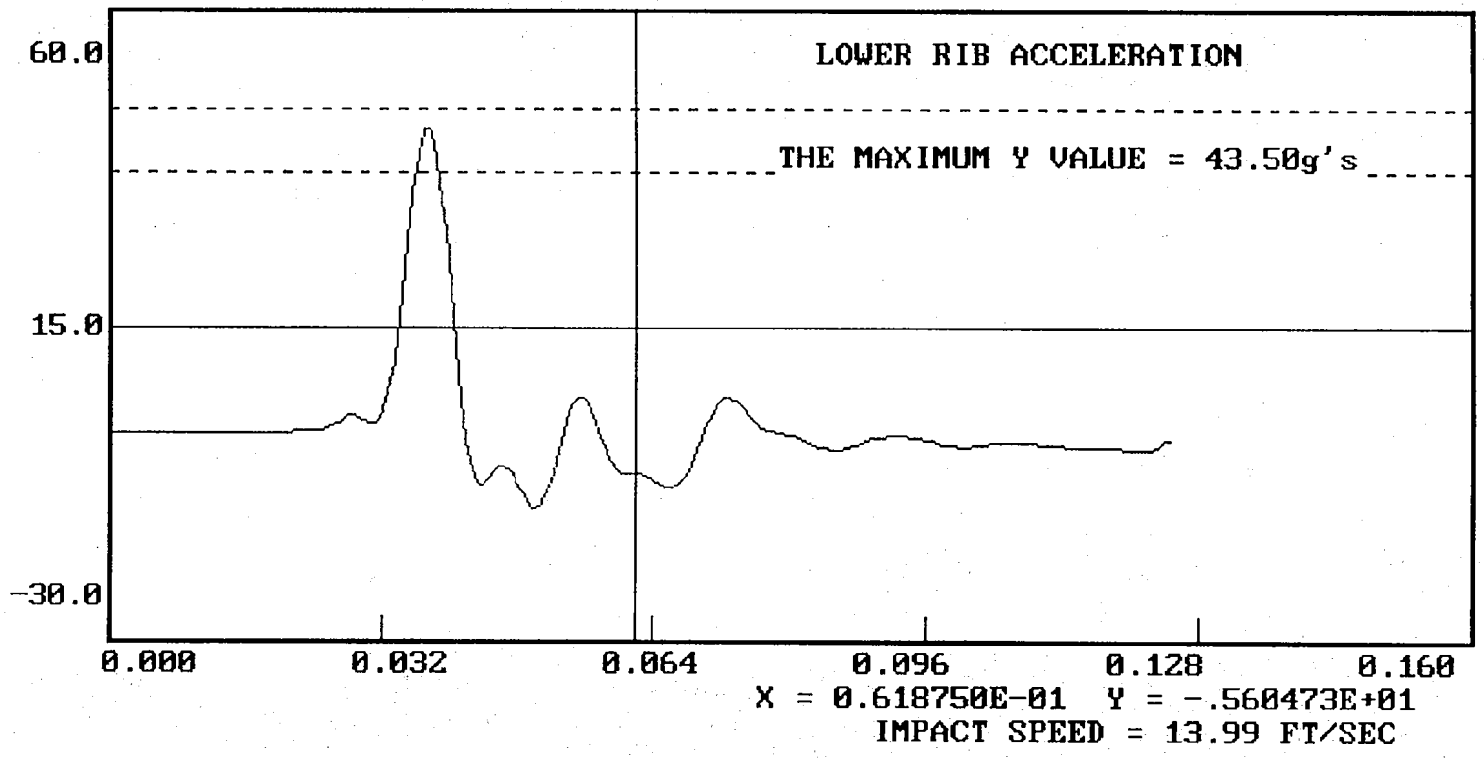
APPROVED BY _____

DUMMY CALIBRATION - THORAX IMPACT 12-03-1996 12:18
DUMMY # 271
ACCELERATION (G'S) VS. TIME ((SECONDS))



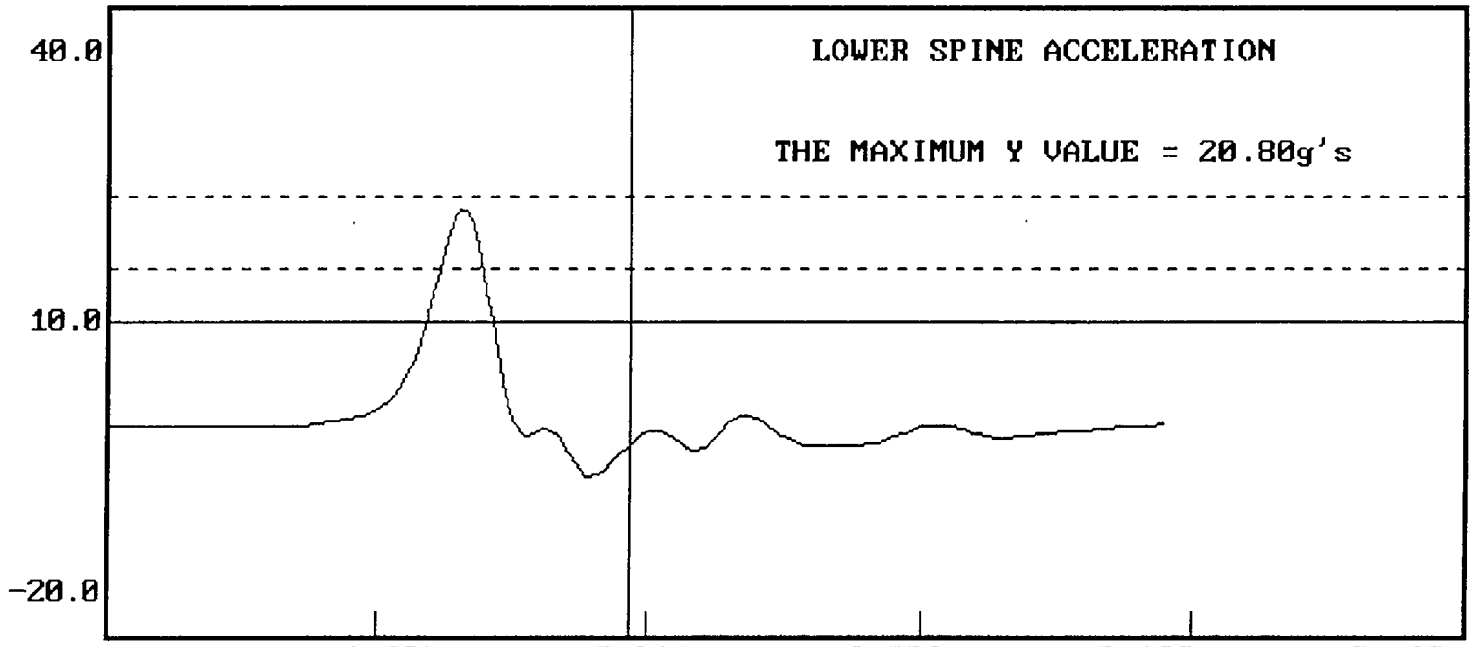
X = 0.618750E-01 Y = -.576732E+01
IMPACT SPEED = 13.99 FT/SEC

DUMMY CALIBRATION - THORAX IMPACT 12-03-1996 12:18
DUMMY # 271
ACCELERATION (G'S) VS. TIME ((SECONDS))



X = 0.618750E-01 Y = -.560473E+01
IMPACT SPEED = 13.99 FT/SEC

DUMMY CALIBRATION - THORAX IMPACT 12-03-1996 12:20
DUMMY # 271
ACCELERATION (G'S) VS. TIME ((SECONDS))



X = 0.618750E-01 Y = -.171791E+01
IMPACT SPEED = 13.99 FT/SEC

MGA RESEARCH CORPORATION

PELVIS IMPACT TEST

SIDE IMPACT DUMMY (SID)

DATE: December 3, 1996

DUMMY NUMBER: 271 TEST NUMBER: D961983

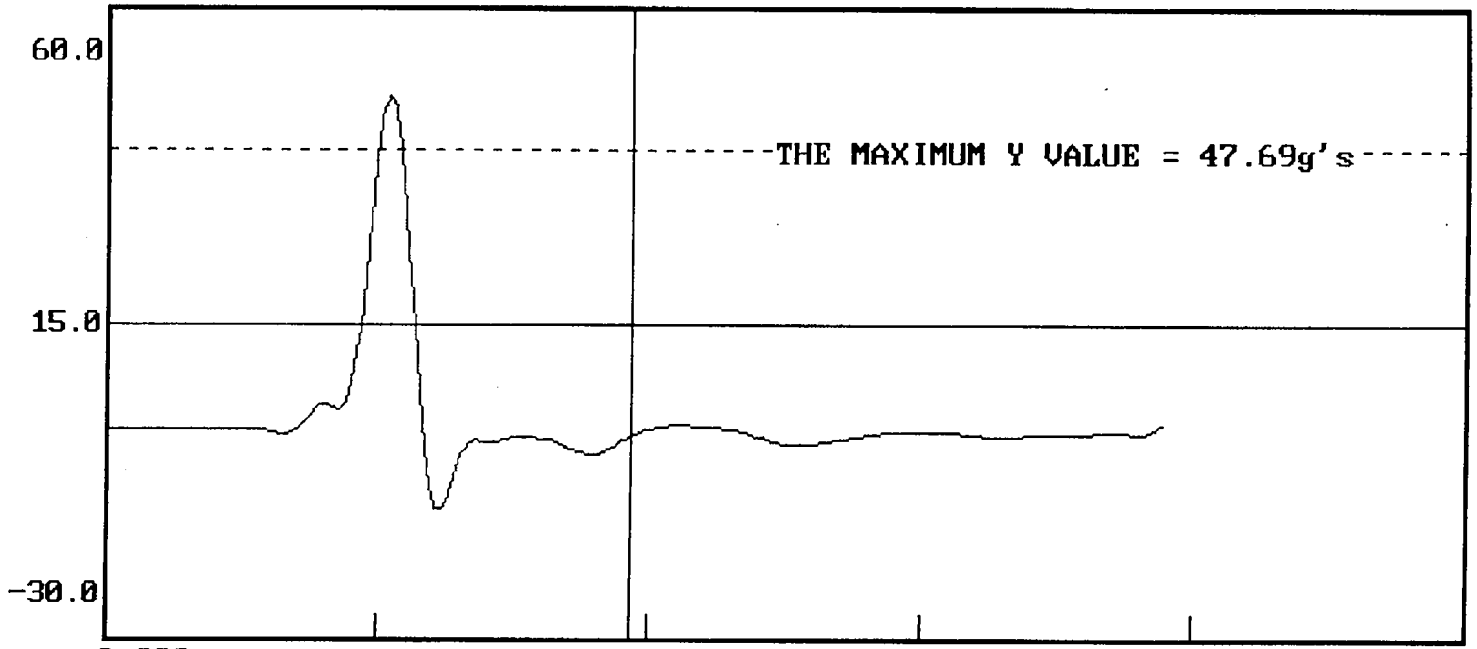
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	66 - 78° F	70°
RELATIVE HUMIDITY	10 - 70%	25%
PROBE SPEED	13.8 - 14.2 f/s	14.0
PELVIS ACCELERATION	40 - 60 g's	48

TEST MEETS SPECIFICATIONS

TECHNICIAN _____

APPROVED BY _____

DUMMY CALIBRATION - PELVIS IMPACT 12-03-1996 12:25
DUMMY # 271
ACCELERATION (G'S) VS. TIME ((SECONDS))



X = 0.618750E-01 Y = -.842946E+00
IMPACT SPEED = 14.03 FT/SEC

MGA RESEARCH CORPORATION

ABDOMINAL COMPRESSION TEST
(PRELOAD = 10 LBS)

SIDE IMPACT DUMMY (SID)

DATE: December 3, 1996

DUMMY NUMBER: 271 TEST NUMBER: D961984

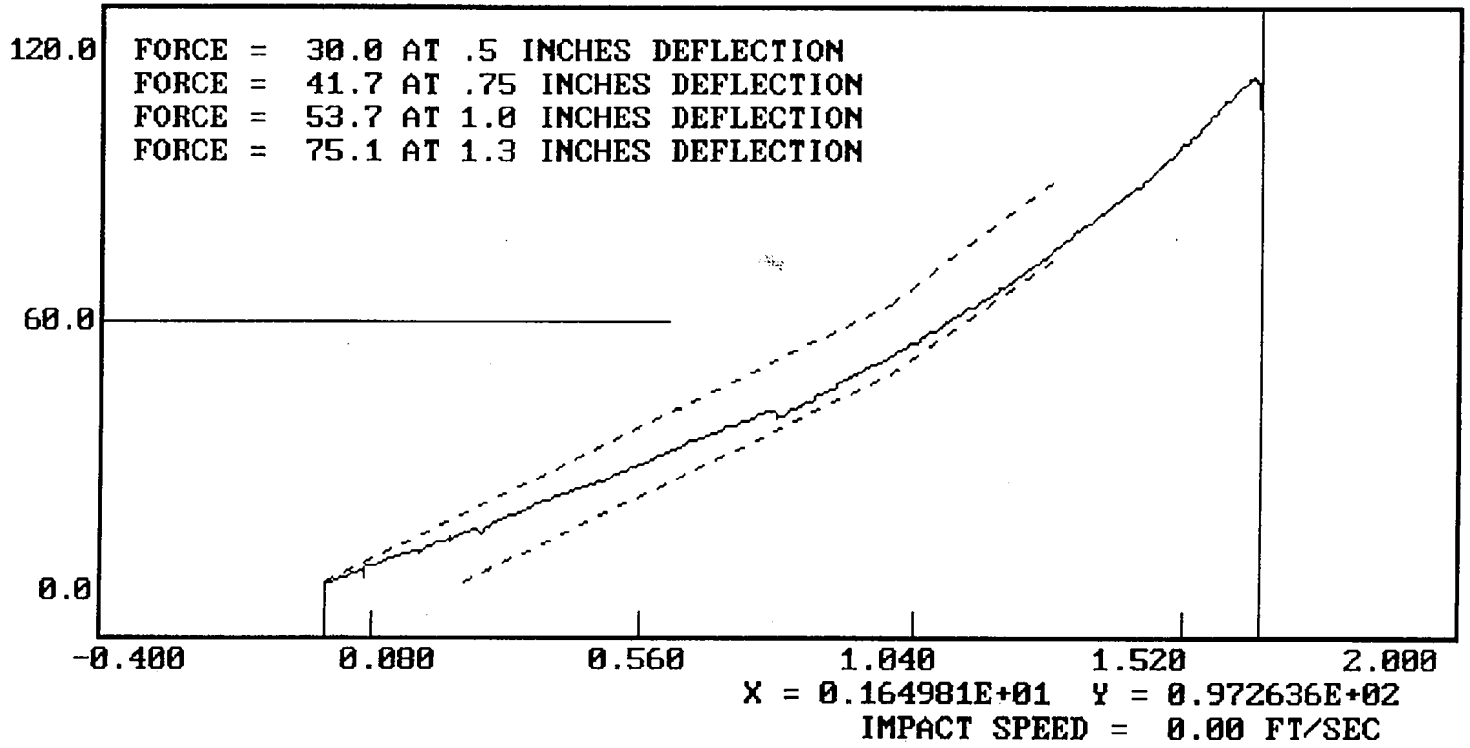
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	66 - 78° F	70°
RELATIVE HUMIDITY	10 - 70%	20%
FORCE @ 0.5 in	23.3 - 36.5 lbs	30.0
FORCE @ 0.75 in	36.7 - 49.8 lbs	41.7
FORCE @ 1.0 in	50 - 63 lbs	54
FORCE @ 1.3 in	73 - 88 lbs	75

TEST MEETS SPECIFICATIONS

TECHNICIAN _____

APPROVED BY _____

DUMMY CALIBRATION - ABDOMEN COMPRESSION 12-03-1996 10:48
DUMMY # 271
ABDOMEN FORCE (LBS) VS. ABDOMEN DISPLACEMENT (INCHES)



MGA RESEARCH CORPORATION

LUMBAR FLEXION TEST

SIDE IMPACT DUMMY (SID)

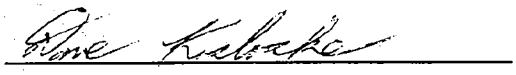
DATE: December 3, 1996

DUMMY NUMBER: 271 TEST NUMBER: D961985

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	66 - 78° F	70°
RELATIVE HUMIDITY	10 - 70%	20%
FORCE @ 0°	0 - 6 lbs	0
FORCE @ 20°	22 - 34 lbs	28
FORCE @ 30°	34 - 46 lbs	40
FORCE @ 40°	46 - 58 lbs	51
RETURN ANGLE	12° maximum	1°

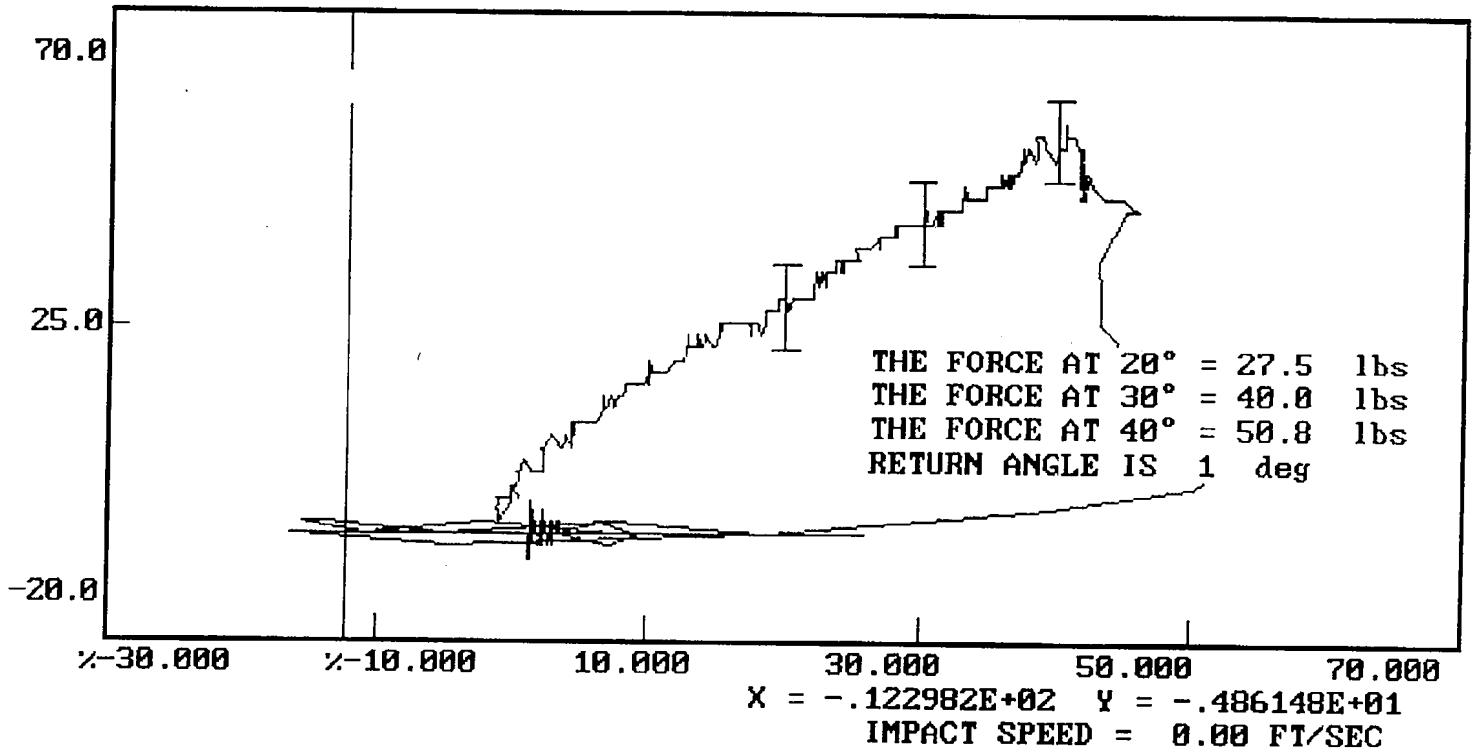
TEST MEETS SPECIFICATIONS

TECHNICIAN 

APPROVED BY 

DUMMY CALIBRATION - LUMBAR FLEXION
DUMMY # 271
FORCE (LBS) VS. TORSO ROTATION (DEGREES)

12-03-1996 10:07



PRE-TEST CERTIFICATION DATA

Rear Dummy Serial Number: 272

Calibration Test Results Summary

Passenger Serial Number: 272

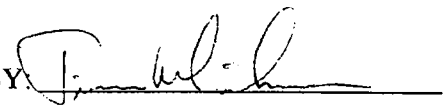
Pre-Test Calibration

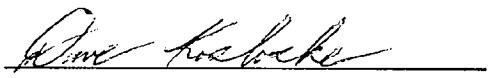
External Dimensions:	The dummy passed all external dimension requirements.
Thorax Impact Test:	The thorax passed all impact test requirements.
Pelvic Impact Test:	The pelvis passed all impact test requirements.
Abdominal Compression Test:	The abdomen passed all compression test requirements.
Lumbar Flexion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

SIDE IMPACT DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA

DUMMY NO.: 272 DATE OF VERIFICATION: December 3, 1996

DESCRIPTION	SPECIFICATION	TEST RESULTS
SH - Seated Height	35.0" - 35.8"	35.2
RH - Rib Height	19.75" - 20.50"	20.20
HP - Hip Pivot Height	3.9" ref.	3.9
RD - Rib From Back Line	9.0" to 9.5"	9.4
KV - Knee Pivot From Back Line	20.1" - 20.7"	20.7
SW - Knee Pivot to Floor	19.3" - 19.9"	19.6
HW - Hip Width	14.0" - 15.4"	15.0

MEASUREMENTS BY: 

APPROVED BY: 

MGA RESEARCH CORPORATION

THORAX IMPACT TEST

SIDE IMPACT DUMMY (SID)

DATE: December 3, 1996

DUMMY NUMBER: 272 TEST NUMBER: D961992

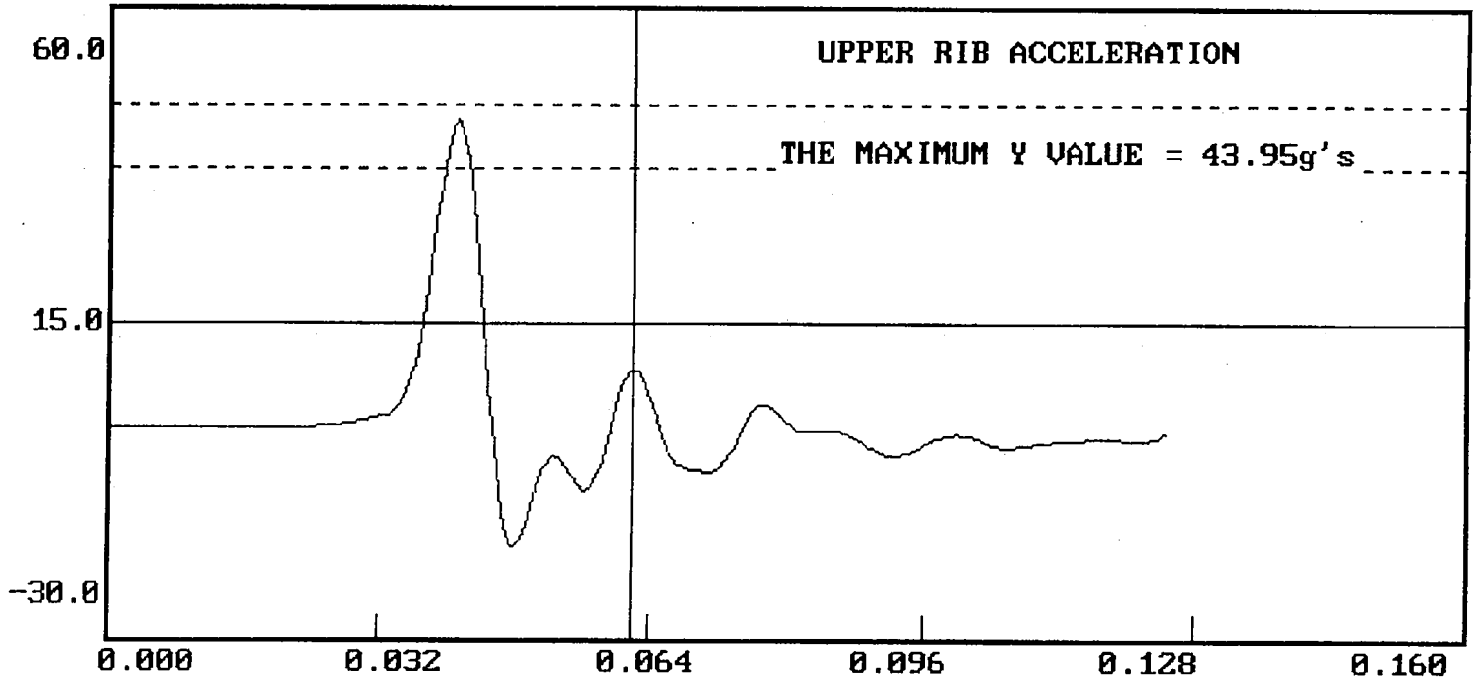
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	66 - 78° F	70°
RELATIVE HUMIDITY	10 - 70%	20%
PROBE SPEED	13.8 - 14.2 fps	14.0
UPPER RIB	37 - 46 g's	44
LOWER RIB	37 - 46 g's	44
LOWER SPINE	15 - 22 g's	21

TEST MEETS SPECIFICATIONS

TECHNICIAN

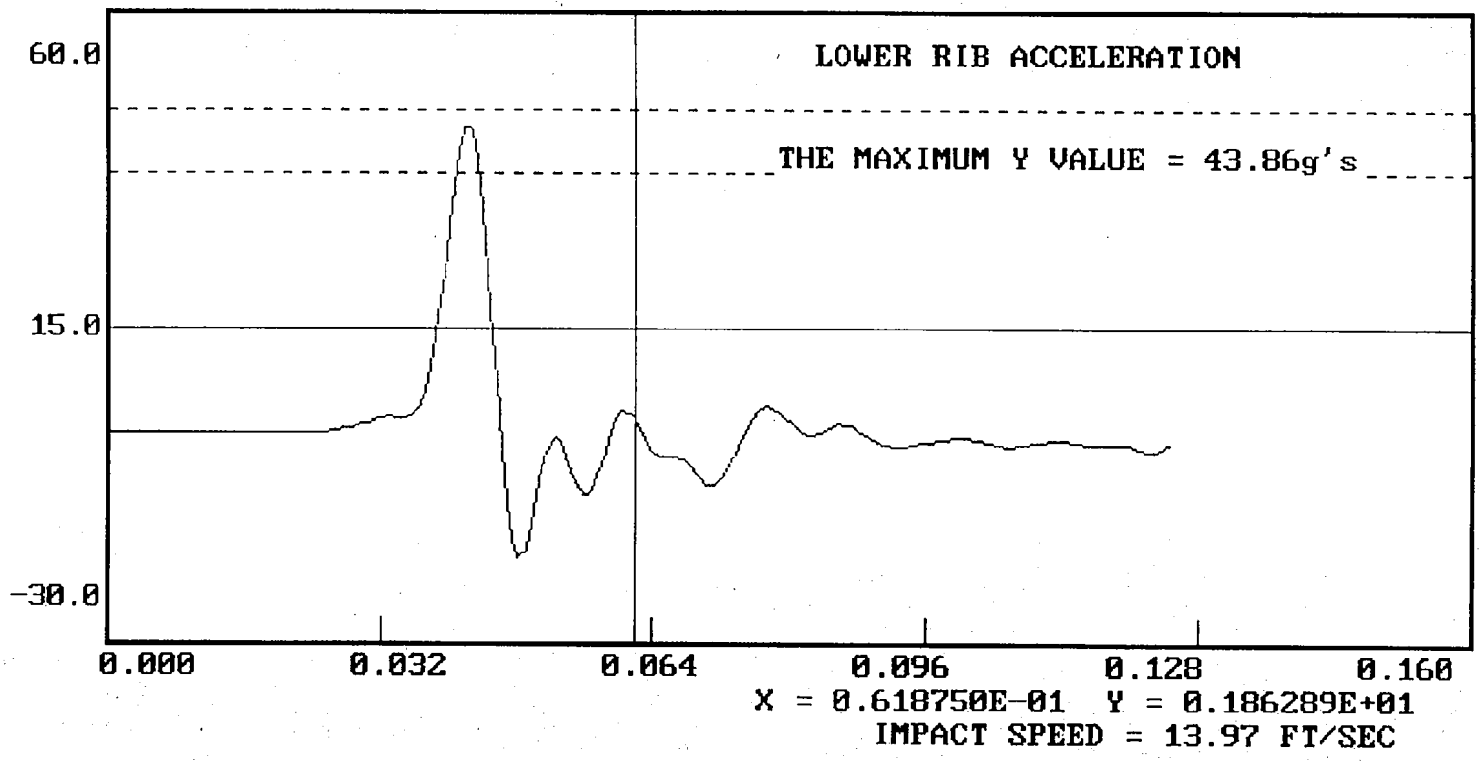
APPROVED BY

DUMMY CALIBRATION - THORAX IMPACT 12-03-1996 11:41
DUMMY # 272
ACCELERATION (G'S) VS. TIME ((SECONDS))



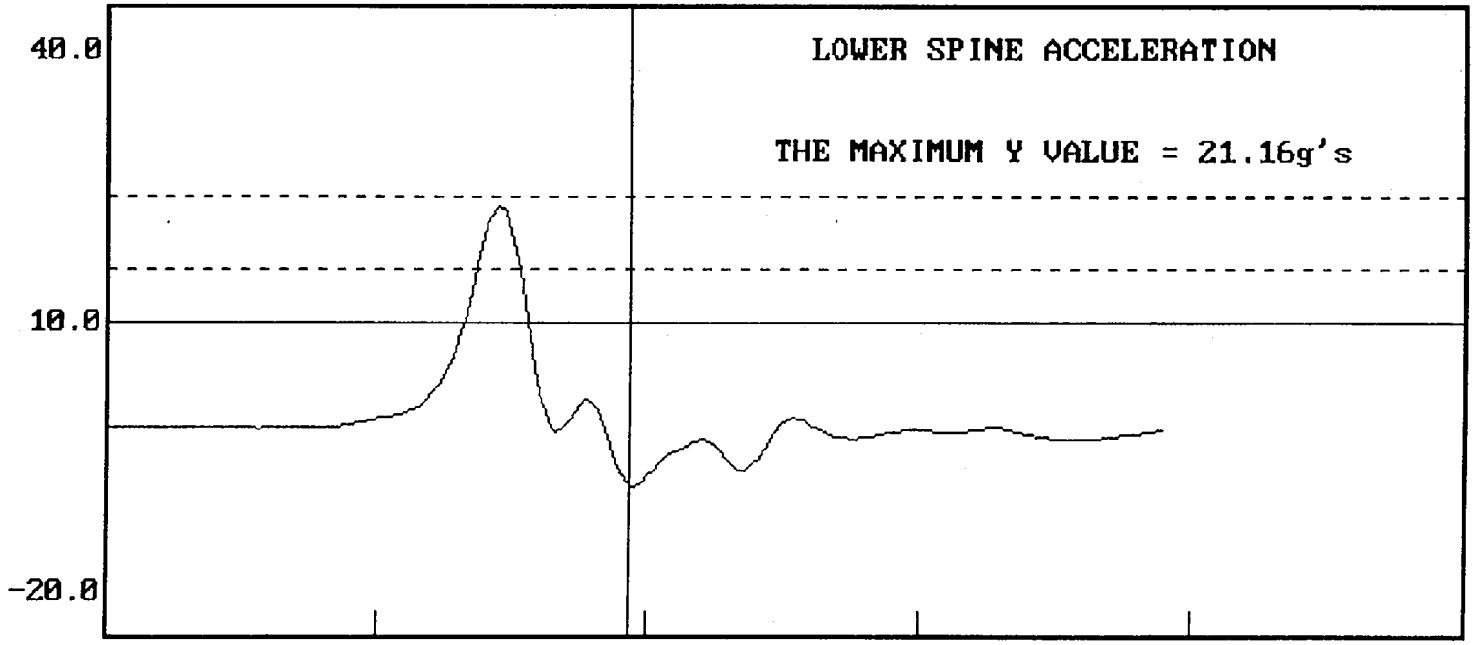
X = 0.618750E-01 Y = 0.836861E+01
IMPACT SPEED = 13.97 FT/SEC

DUMMY CALIBRATION - THORAX IMPACT 12-03-1996 11:41
DUMMY # 272
ACCELERATION (G'S) VS. TIME ((SECONDS))



X = 0.618750E-01 Y = 0.186289E+01
IMPACT SPEED = 13.97 FT/SEC

DUMMY CALIBRATION - THORAX IMPACT 12-03-1996 11:49
DUMMY # 272
ACCELERATION (G'S) VS. TIME ((SECONDS))



X = 0.618750E-01 Y = -.546911E+01
IMPACT SPEED = 13.97 FT/SEC

MGA RESEARCH CORPORATION

PELVIS IMPACT TEST

SIDE IMPACT DUMMY (SID)

DATE: December 3, 1996

DUMMY NUMBER: 272 TEST NUMBER: D961993

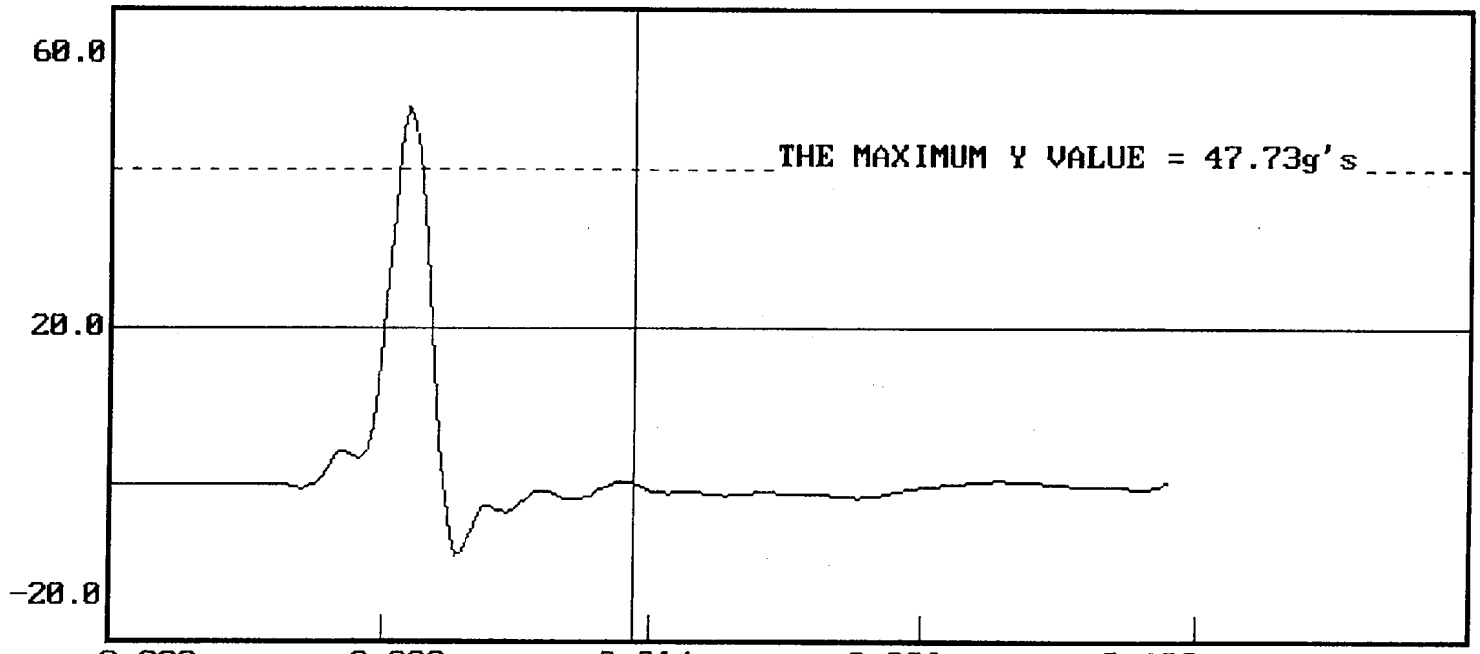
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	66 - 78° F	70°
RELATIVE HUMIDITY	10 - 70%	25%
PROBE SPEED	13.8 - 14.2 f/s	14.0
PELVIS ACCELERATION	40 - 60 g's	48

TEST MEETS SPECIFICATIONS

TECHNICIAN _____

APPROVED BY _____

DUMMY CALIBRATION - PELVIS IMPACT 12-03-1996 11:57
DUMMY # 272
ACCELERATION (G'S) VS. TIME ((SECONDS))



X = 0.618750E-01 Y = 0.292051E+00
IMPACT SPEED = 14.02 FT/SEC

MGA RESEARCH CORPORATION

ABDOMINAL COMPRESSION TEST
(PRELOAD = 10 LBS)

SIDE IMPACT DUMMY (SID)

DATE: December 3, 1996

DUMMY NUMBER: 272 TEST NUMBER: D961994

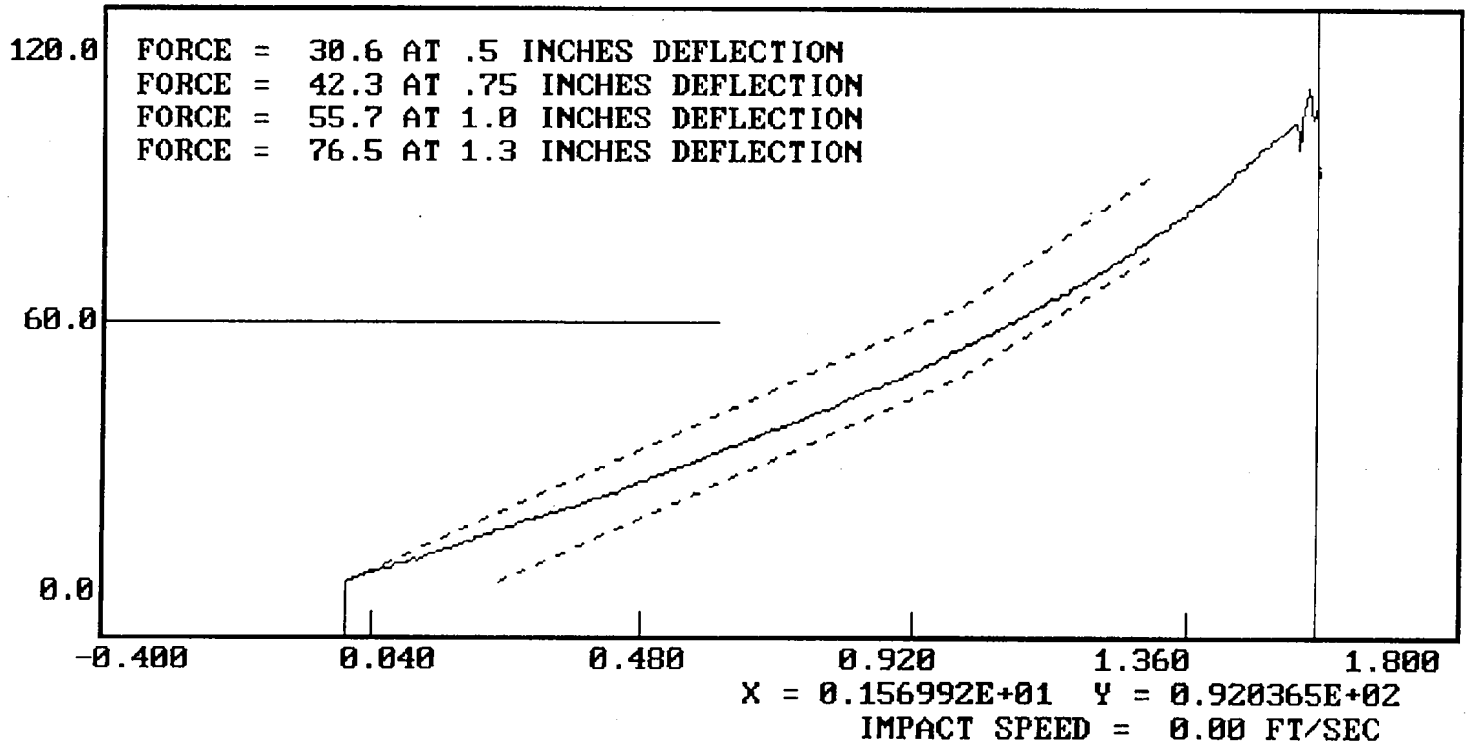
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	66 - 78° F	70°
RELATIVE HUMIDITY	10 - 70%	20%
FORCE @ 0.5 in	23.3 - 36.5 lbs	30.6
FORCE @ 0.75 in	36.7 - 49.8 lbs	42.3
FORCE @ 1.0 in	50 - 63 lbs	56
FORCE @ 1.3 in	73 - 88 lbs	77

TEST MEETS SPECIFICATIONS

TECHNICIAN _____

APPROVED BY _____

DUMMY CALIBRATION - ABDOMEN COMPRESSION 12-03-1996 10:44
DUMMY # 272
ABDOMEN FORCE (LBS) VS. ABDOMEN DISPLACEMENT (INCHES)



MGA RESEARCH CORPORATION

LUMBAR FLEXION TEST

SIDE IMPACT DUMMY (SID)

DATE: December 3, 1996

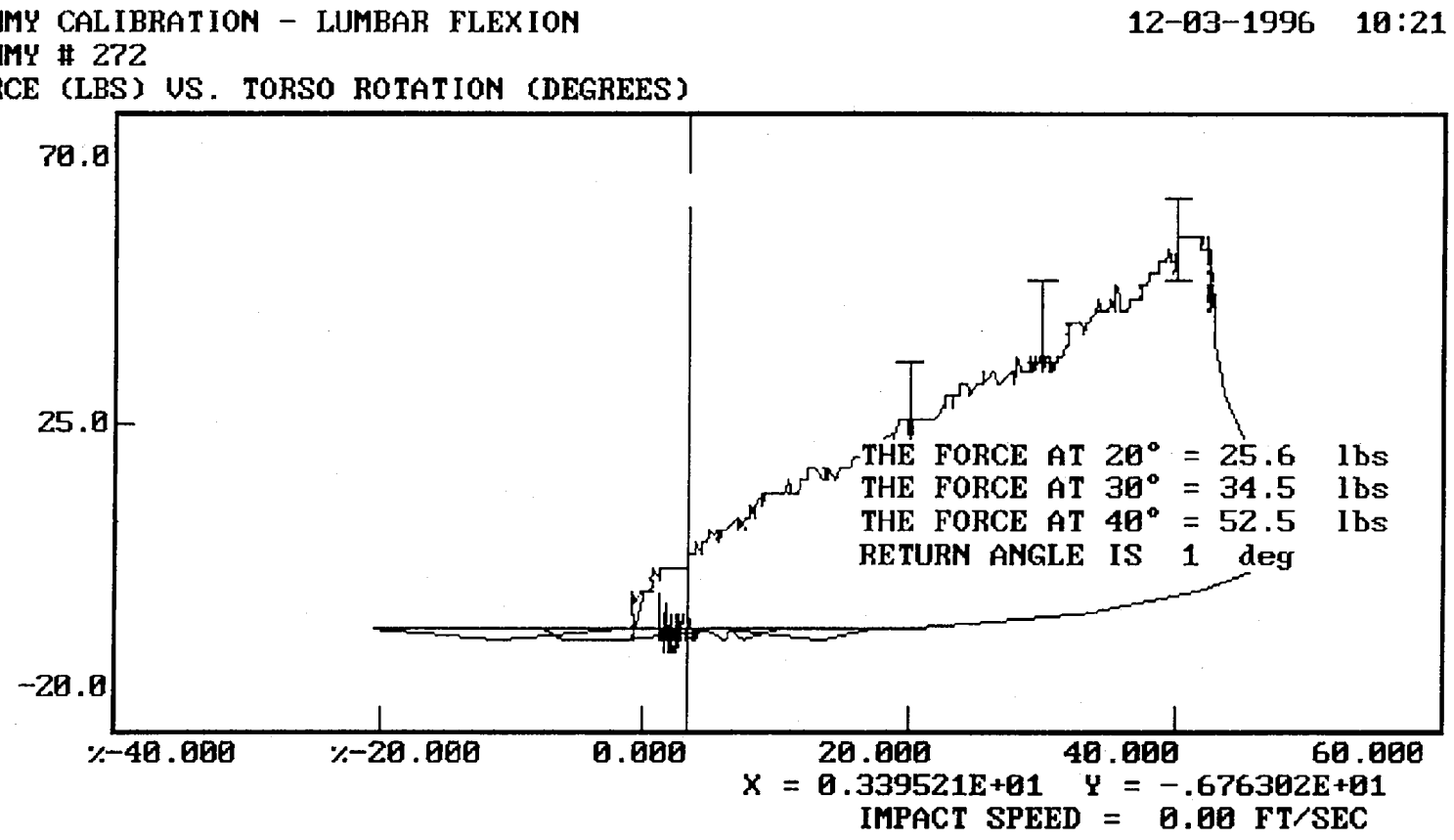
DUMMY NUMBER: 272 TEST NUMBER: D961995

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	66 - 78° F	70°
RELATIVE HUMIDITY	10 - 70%	20%
FORCE @ 0°	0 - 6 lbs	0
FORCE @ 20°	22 - 34 lbs	26
FORCE @ 30°	34 - 46 lbs	35
FORCE @ 40°	46 - 58 lbs	53
RETURN ANGLE	12° maximum	1°

TEST MEETS SPECIFICATIONS

TECHNICIAN _____

APPROVED BY _____


DUMMY CALIBRATION - LUMBAR FLEXION
12-03-1996 10:21
DUMMY # 272
FORCE (LBS) VS. TORSO ROTATION (DEGREES)
70.0
25.0
-20.0
%-40.000
%-20.000
0.000
20.000
40.000
60.000
THE FORCE AT 20° = 25.6 lbs
THE FORCE AT 30° = 34.5 lbs
THE FORCE AT 40° = 52.5 lbs
RETURN ANGLE IS 1 deg
X = 0.339521E+01 Y = -.676302E+01
IMPACT SPEED = 0.00 FT/SEC

POST-TEST CERTIFICATION DATA

Front Dummy Serial Number: 271

Calibration Test Results Summary

Dummy Serial Number: 271

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 NO.: 271 DATE OF VERIFICATION: December 9, 1996

DESCRIPTION	SPECIFICATION	TEST RESULTS
SH - Seated Height	35.0" - 35.8"	35.6
RH - Rib Height	19.75" - 20.50"	20.40
HP - Hip Pivot Height	3.9" ref.	3.9
RD - Rib From Back Line	9.0" to 9.5"	9.4
KV - Knee Pivot From Back Line	20.1" - 20.7"	20.4
SW - Knee Pivot to Floor	19.3" - 19.9"	19.5
HW - Hip Width	14.0" - 15.4"	15.1

MEASUREMENTS BY:

APPROVED BY:

MGA RESEARCH CORPORATION

THORAX IMPACT TEST

SIDE IMPACT DUMMY (SID)

DATE: December 9, 1996

DUMMY NUMBER: 271 TEST NUMBER: D962062

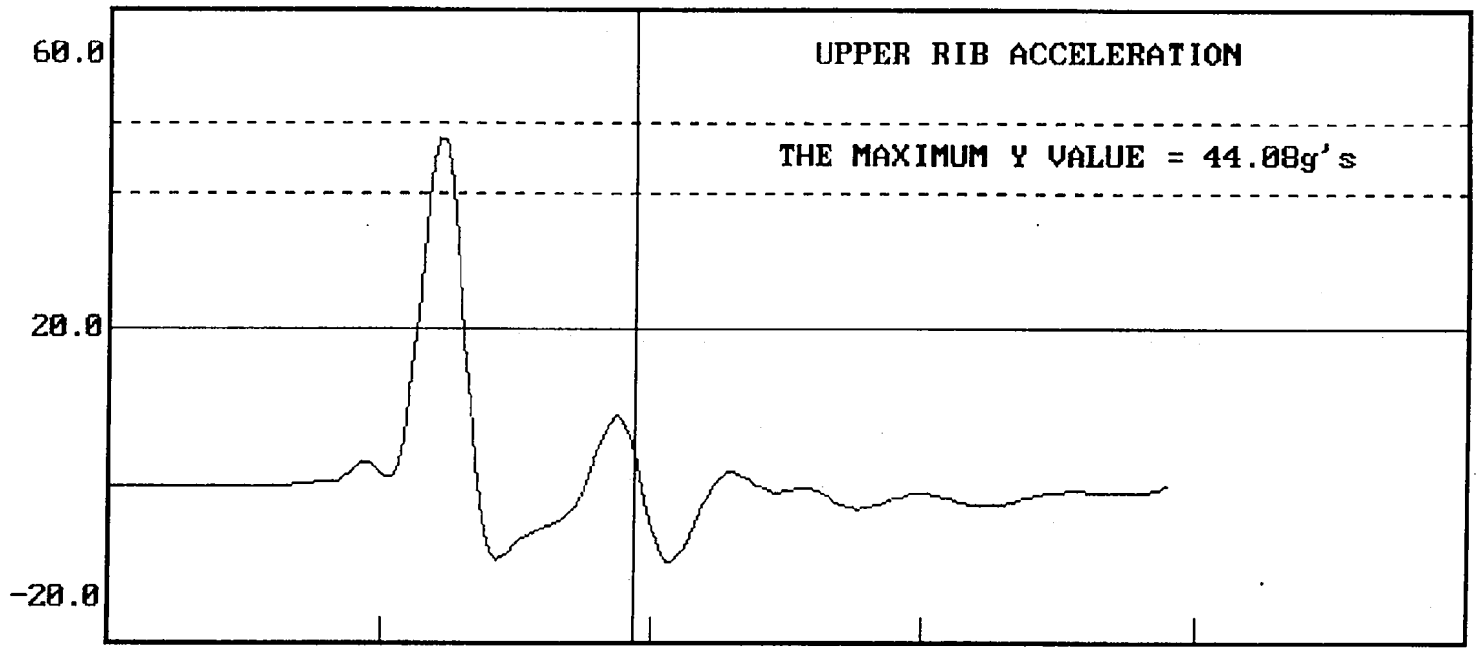
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	66 - 78° F	70°
RELATIVE HUMIDITY	10 - 70%	20%
PROBE SPEED	13.8 - 14.2 fps	14.0
UPPER RIB	37 - 46 g's	44
LOWER RIB	37 - 46 g's	38
LOWER SPINE	15 - 22 g's	21

TEST MEETS SPECIFICATIONS

TECHNICIAN

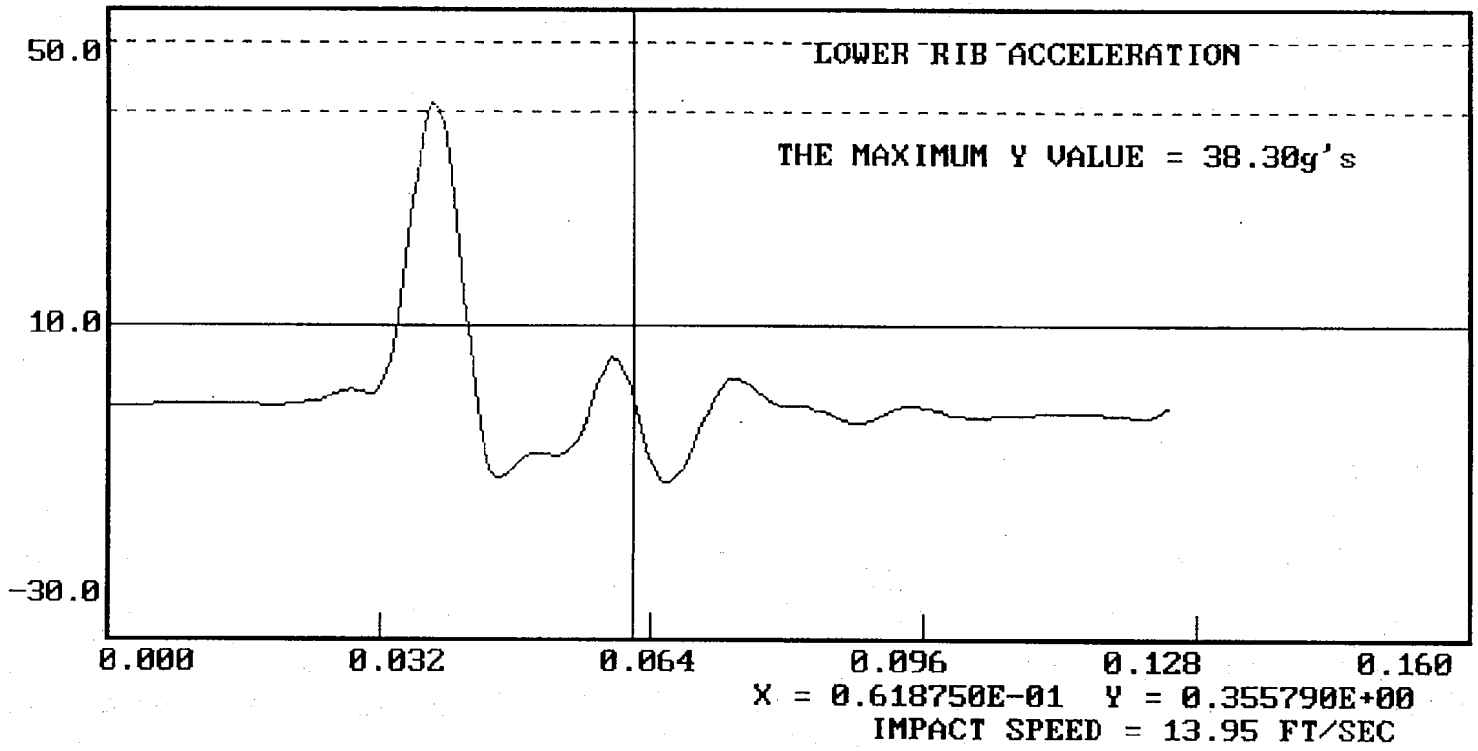
APPROVED BY

DUMMY CALIBRATION - THORAX IMPACT 12-09-1996 14:24
DUMMY # 271
ACCELERATION (G'S) VS. TIME ((SECONDS))

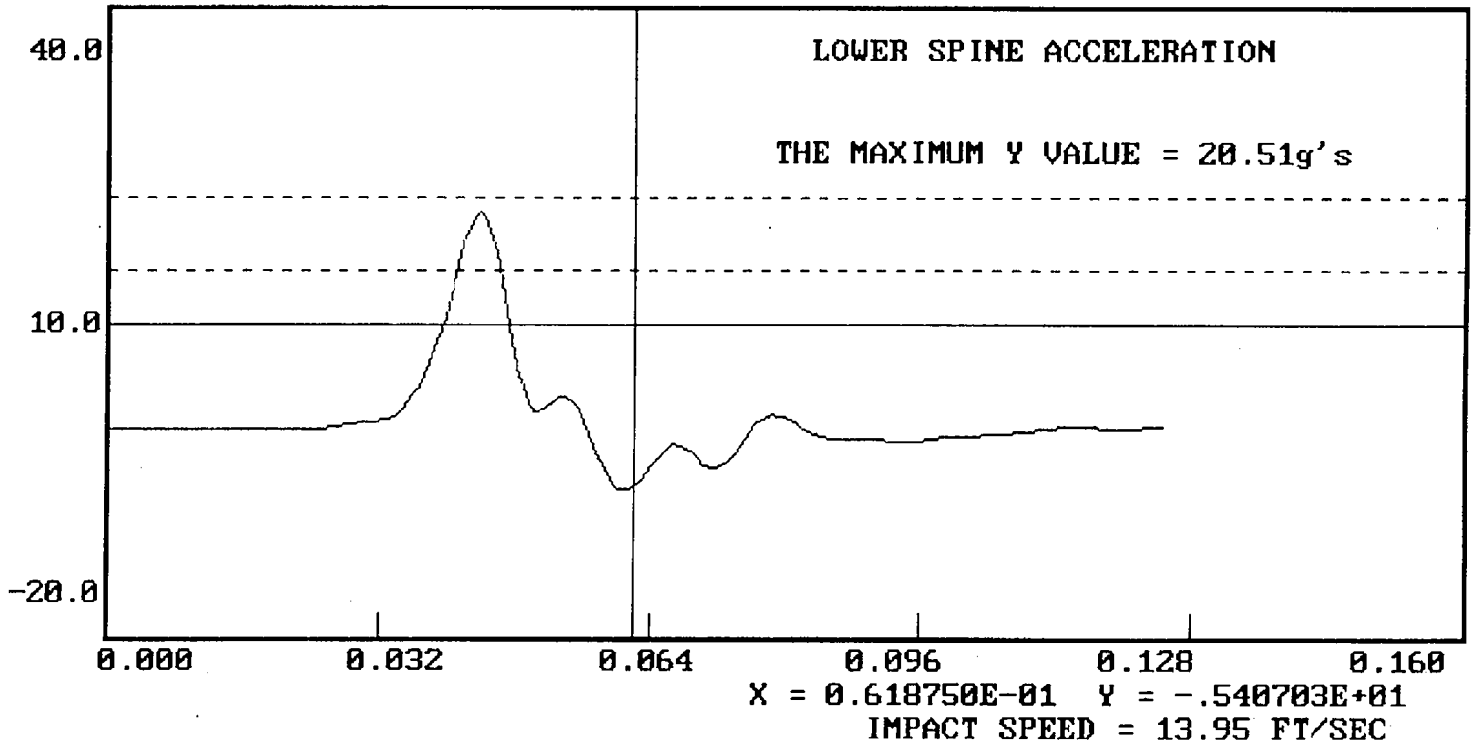


X = 0.618750E-01 Y = 0.386620E+01
IMPACT SPEED = 13.95 FT/SEC

DUMMY CALIBRATION - THORAX IMPACT 12-09-1996 14:24
DUMMY # 271
ACCELERATION (G'S) VS. TIME ((SECONDS))



DUMMY CALIBRATION - THORAX IMPACT 12-09-1996 14:35
DUMMY # 271
ACCELERATION (G'S) VS. TIME ((SECONDS))



X = 0.618750E-01 Y = -.540703E+01
IMPACT SPEED = 13.95 FT/SEC

MGA RESEARCH CORPORATION

PELVIS IMPACT TEST

SIDE IMPACT DUMMY (SID)

DATE: December 9, 1996

DUMMY NUMBER: 271 TEST NUMBER: D962063

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	66 - 78° F	70°
RELATIVE HUMIDITY	10 - 70%	20%
PROBE SPEED	13.8 - 14.2 f/s	13.9
PELVIS ACCELERATION	40 - 60 g's	45

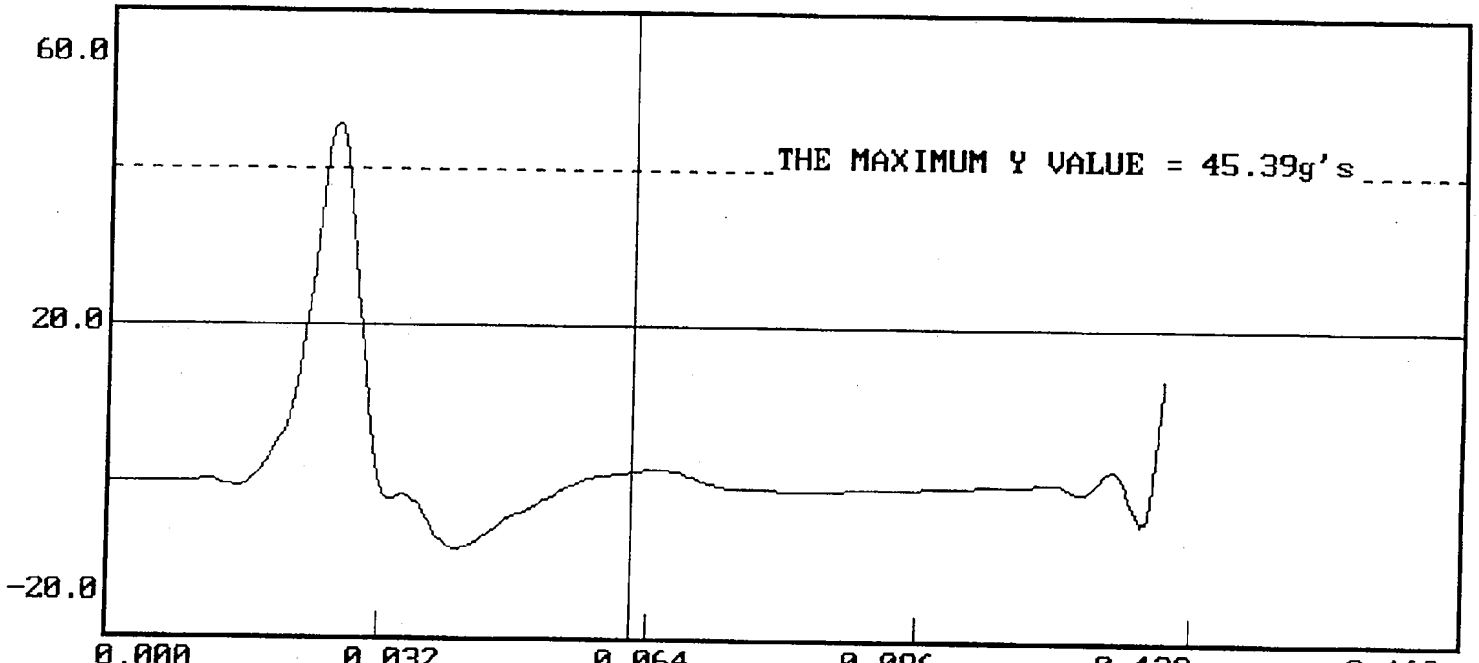
TEST MEETS SPECIFICATIONS

TECHNICIAN

APPROVED BY

DUMMY CALIBRATION - PELVIS IMPACT
DUMMY # 271
ACCELERATION (G'S) VS. TIME ((SECONDS))

12-09-1996 15:15



X = 0.618750E-01 Y = 0.147269E+01
IMPACT SPEED = 13.94 FT/SEC

MGA RESEARCH CORPORATION

ABDOMINAL COMPRESSION TEST
(PRELOAD = 10 LBS)

SIDE IMPACT DUMMY (SID)

DATE: December 9, 1996

DUMMY NUMBER: 271 TEST NUMBER: D962064

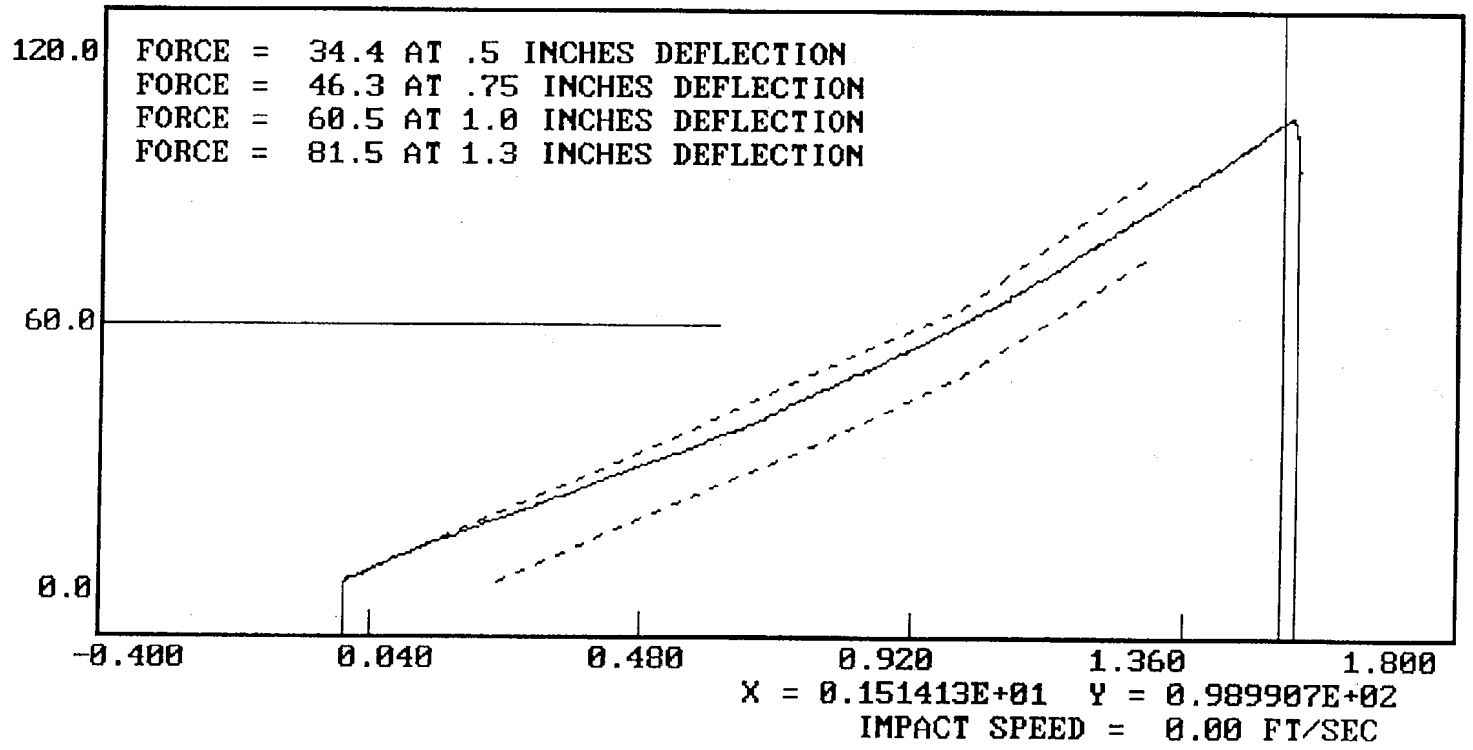
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	66 - 78° F	70°
RELATIVE HUMIDITY	10 - 70%	22%
FORCE @ 0.5 in	23.3 - 36.5 lbs	34.4
FORCE @ 0.75 in	36.7 - 49.8 lbs	46.3
FORCE @ 1.0 in	50 - 63 lbs	61
FORCE @ 1.3 in	73 - 88 lbs	82

TEST MEETS SPECIFICATIONS

TECHNICIAN _____

APPROVED BY _____

DUMMY CALIBRATION - ABDOMEN COMPRESSION 12-09-1996 20:03
DUMMY # 271
ABDOMEN FORCE (LBS) VS. ABDOMEN DISPLACEMENT (INCHES)



MGA RESEARCH CORPORATION

LUMBAR FLEXION TEST

SIDE IMPACT DUMMY (SID)

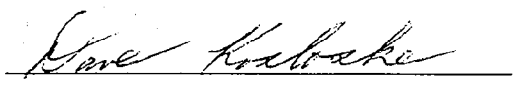
DATE: December 9, 1996

DUMMY NUMBER: 271 TEST NUMBER: D962065

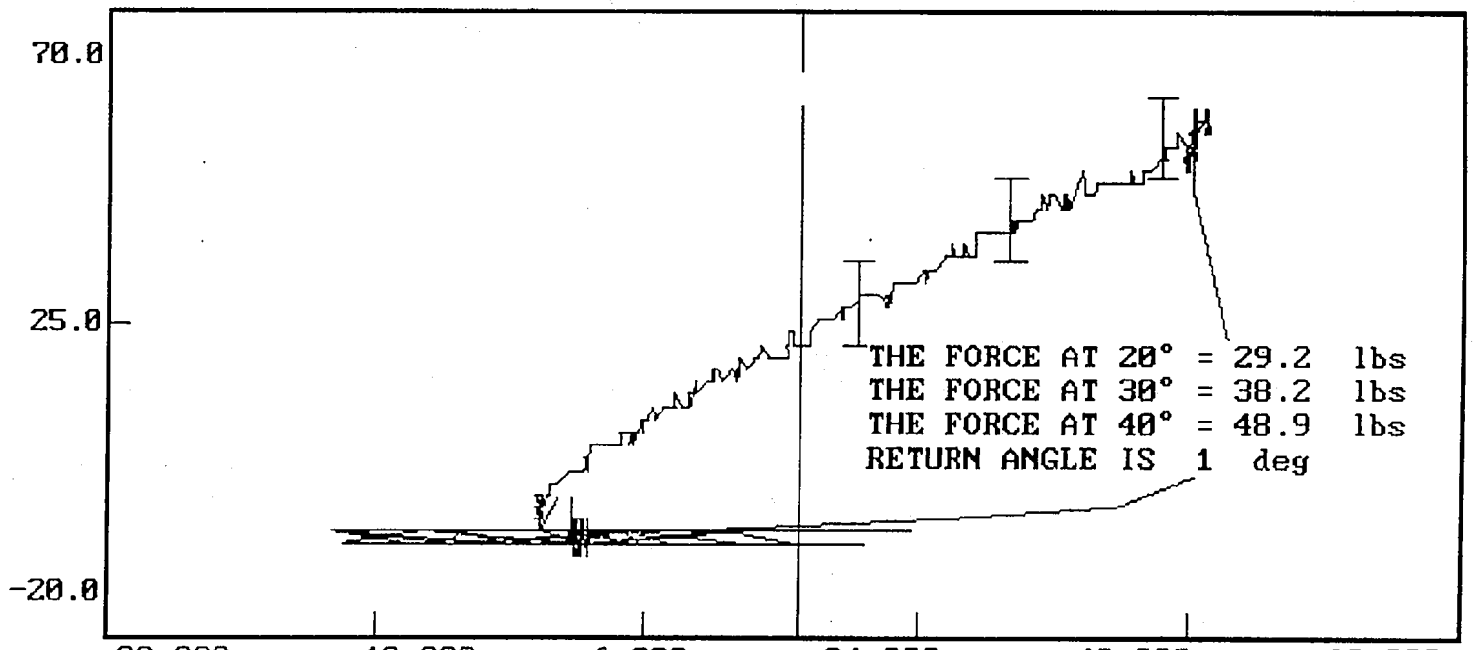
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	66 - 78° F	70°
RELATIVE HUMIDITY	10 - 70%	20%
FORCE @ 0°	0 - 6 lbs	0
FORCE @ 20°	22 - 34 lbs	29
FORCE @ 30°	34 - 46 lbs	38
FORCE @ 40°	46 - 58 lbs	49
RETURN ANGLE	12° maximum	1°

TEST MEETS SPECIFICATIONS

TECHNICIAN 

APPROVED BY 

DUMMY CALIBRATION - LUMBAR FLEXION 12-09-1996 20:30
DUMMY # 271
FORCE (LBS) VS. TORSO ROTATION (DEGREES)



X = 0.161542E+02 Y = -.672294E+01
IMPACT SPEED = 0.00 FT/SEC

POST-TEST CERTIFICATION DATA

Rear Dummy Serial Number: 272

Calibration Test Results Summary

Dummy Serial Number: 272

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 NO.: 272 DATE OF VERIFICATION: December 9, 1996

DESCRIPTION	SPECIFICATION	TEST RESULTS
SH - Seated Height	35.0" - 35.8"	35.2
RH - Rib Height	19.75" - 20.50"	20.20
HP - Hip Pivot Height	3.9" ref.	3.9
RD - Rib From Back Line	9.0" to 9.5"	9.4
KV - Knee Pivot From Back Line	20.1" - 20.7"	20.7
SW - Knee Pivot to Floor	19.3" - 19.9"	19.6
HW - Hip Width	14.0" - 15.4"	15.0

MEASUREMENTS BY: _____

APPROVED BY: _____

MGA RESEARCH CORPORATION

THORAX IMPACT TEST

SIDE IMPACT DUMMY (SID)

DATE: December 9, 1996

DUMMY NUMBER: 272 TEST NUMBER: D962072

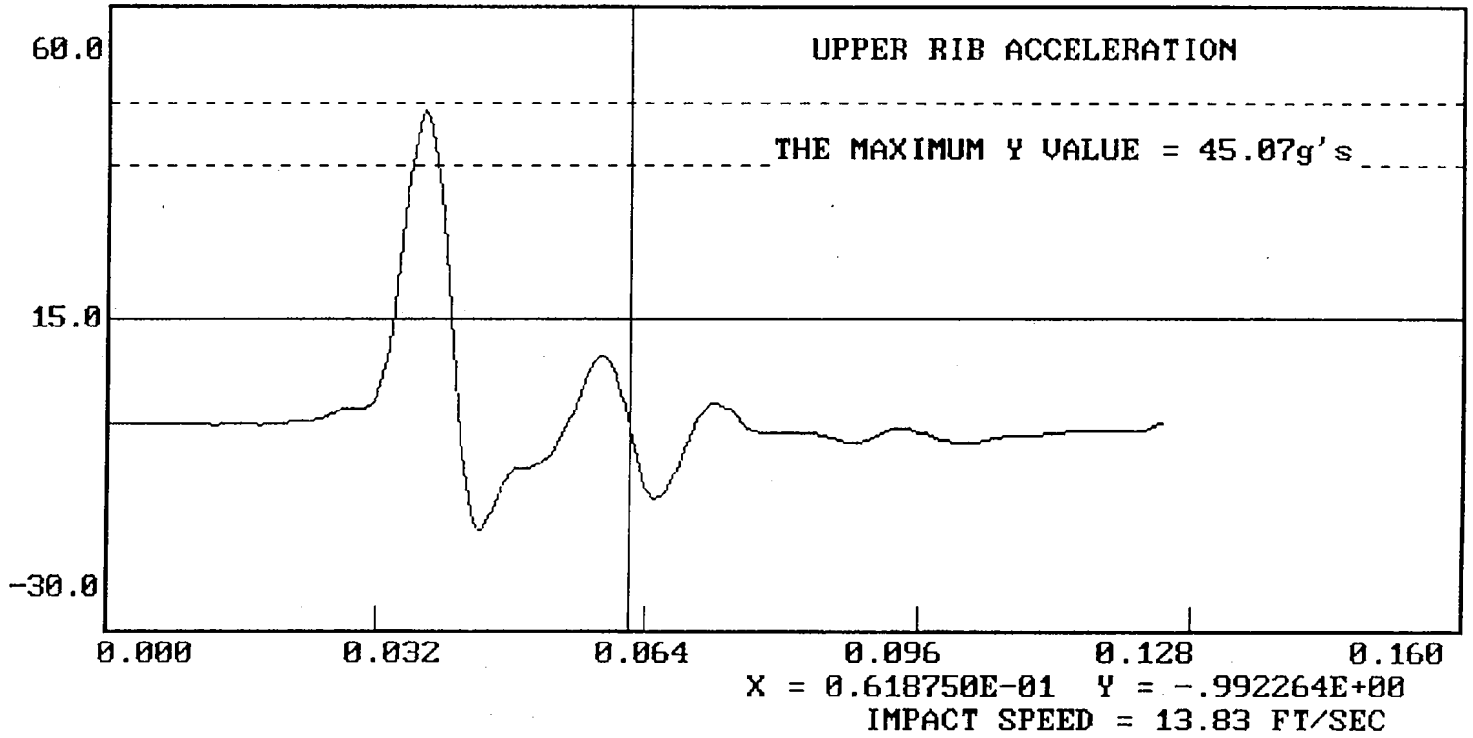
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	66 - 78° F	70°
RELATIVE HUMIDITY	10 - 70%	20%
PROBE SPEED	13.8 - 14.2 fps	13.8
UPPER RIB	37 - 46 g's	45
LOWER RIB	37 - 46 g's	44
LOWER SPINE	15 - 22 g's	21

TEST MEETS SPECIFICATIONS

TECHNICIAN _____

APPROVED BY _____

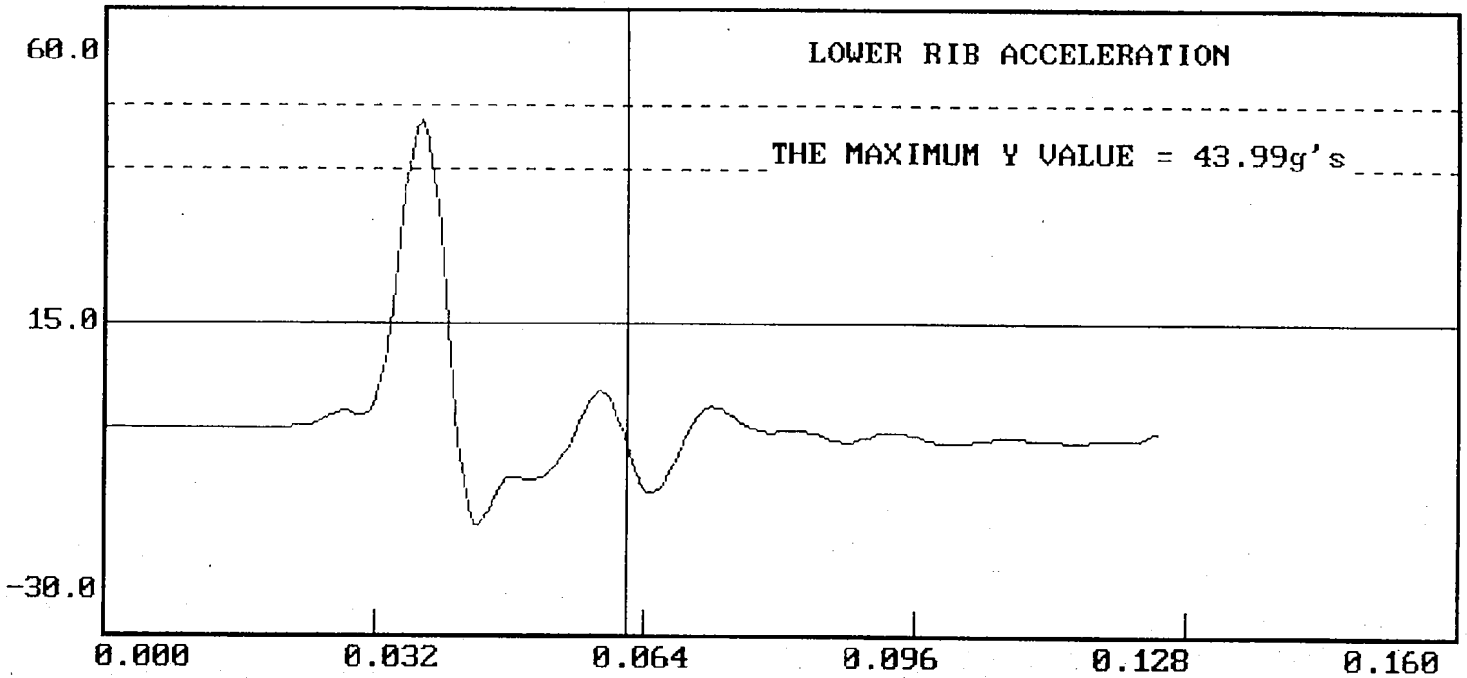
DUMMY CALIBRATION - THORAX IMPACT 12-09-1996 11:26
DUMMY # 272
ACCELERATION (G'S) VS. TIME ((SECONDS))



X = 0.618750E-01 Y = -.992264E+00
IMPACT SPEED = 13.83 FT/SEC

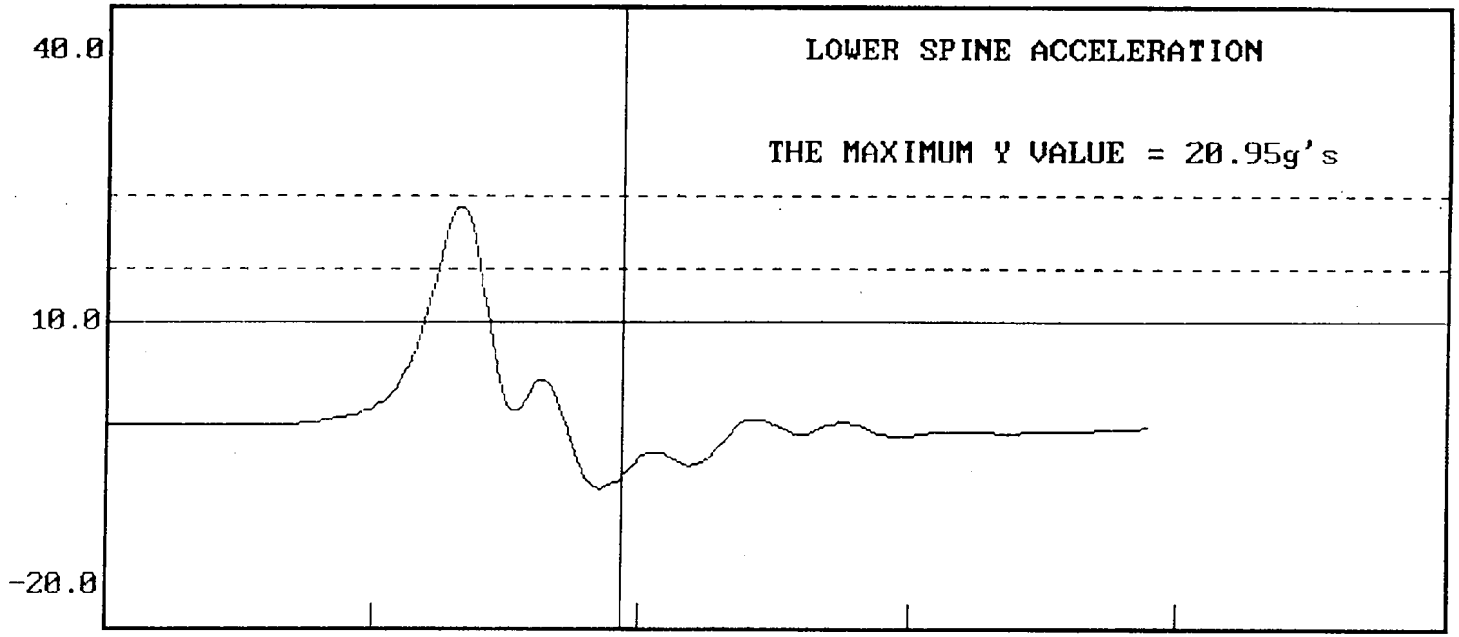
DUMMY CALIBRATION - THORAX IMPACT
DUMMY # 272
ACCELERATION (G'S) VS. TIME ((SECONDS))

12-09-1996 11:26



X = 0.618750E-01 Y = -.257570E+01
IMPACT SPEED = 13.83 FT/SEC

DUMMY CALIBRATION - THORAX IMPACT 12-09-1996 11:31
DUMMY # 272
ACCELERATION (G'S) VS. TIME ((SECONDS))



X = 0.618750E-01 Y = -.509234E+01
IMPACT SPEED = 13.83 FT/SEC

MGA RESEARCH CORPORATION

PELVIS IMPACT TEST

SIDE IMPACT DUMMY (SID)

DATE: December 9, 1996

DUMMY NUMBER: 272 TEST NUMBER: D962073

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	66 - 78° F	70°
RELATIVE HUMIDITY	10 - 70%	20%
PROBE SPEED	13.8 - 14.2 f/s	14.0
PELVIS ACCELERATION	40 - 60 g's	60

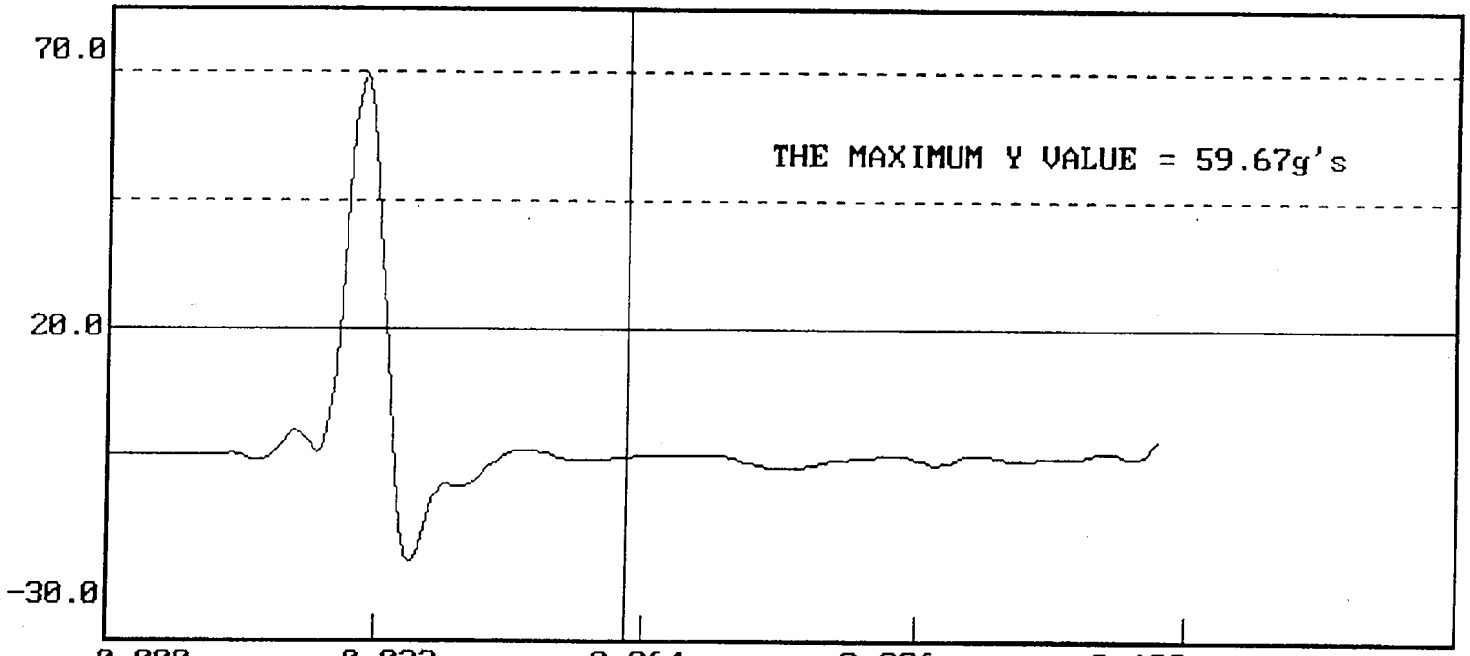
TEST MEETS SPECIFICATIONS

TECHNICIAN

APPROVED BY

DUMMY CALIBRATION - PELVIS IMPACT
DUMMY # 272
ACCELERATION (G'S) VS. TIME ((SECONDS))

12-09-1996 12:12



X = 0.618750E-01 Y = -.360763E+00
IMPACT SPEED = 13.99 FT/SEC

MGA RESEARCH CORPORATION

ABDOMINAL COMPRESSION TEST
(PRELOAD = 10 LBS)

SIDE IMPACT DUMMY (SID)

DATE: December 9. 1996

DUMMY NUMBER: 272 TEST NUMBER: D962074

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	66 - 78° F	70°
RELATIVE HUMIDITY	10 - 70%	20%
FORCE @ 0.5 in	23.3 - 36.5 lbs	30.5
FORCE @ 0.75 in	36.7 - 49.8 lbs	42.2
FORCE @ 1.0 in	50 - 63 lbs	56
FORCE @ 1.3 in	73 - 88 lbs	76

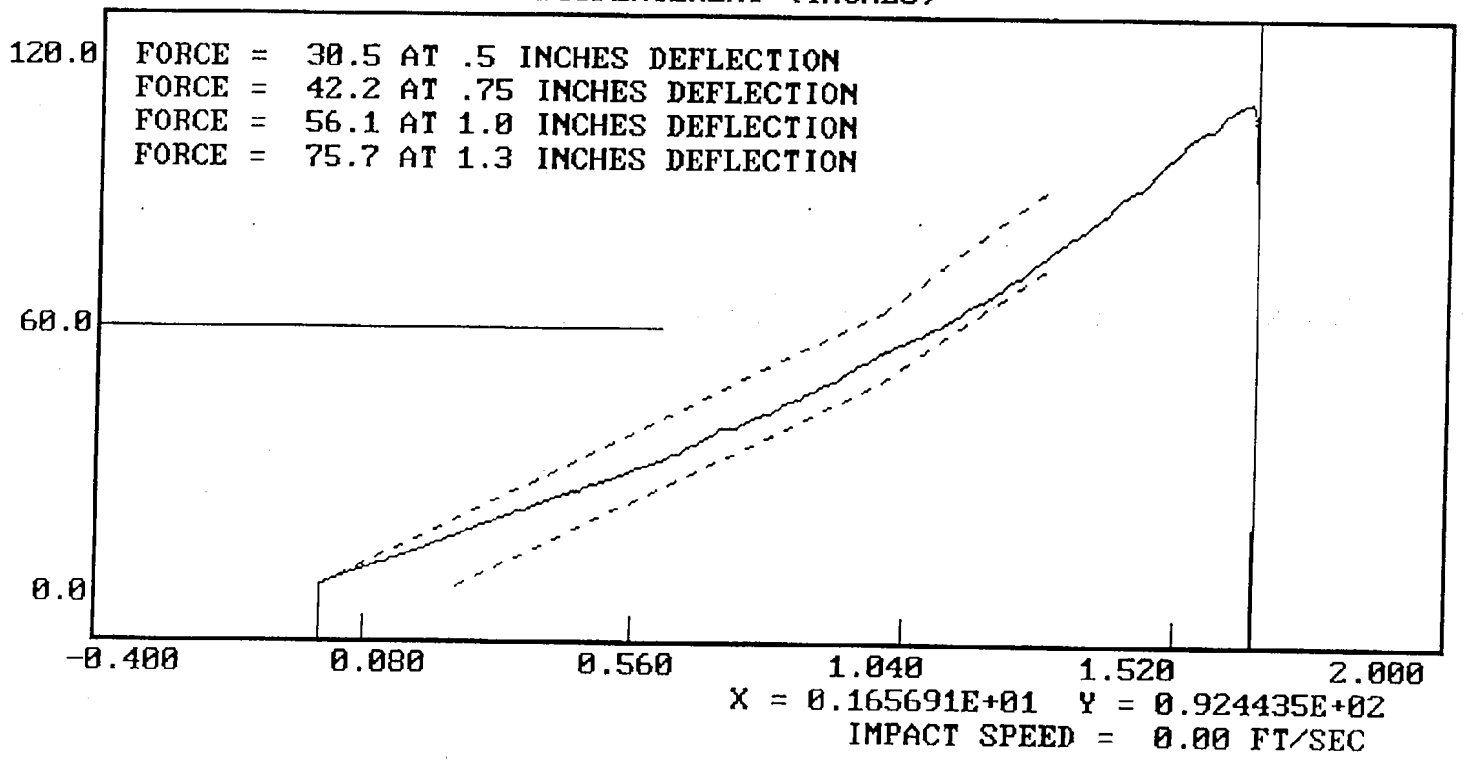
TEST MEETS SPECIFICATIONS

TECHNICIAN _____

APPROVED BY _____

DUMMY CALIBRATION - ABDOMEN COMPRESSION
DUMMY # 272
ABDOMEN FORCE (LBS) VS. ABDOMEN DISPLACEMENT (INCHES)

12-09-1996 20:12



X = 0.165691E+01 Y = 0.924435E+02
IMPACT SPEED = 0.00 FT/SEC

MGA RESEARCH CORPORATION

LUMBAR FLEXION TEST

SIDE IMPACT DUMMY (SID)

DATE: December 9, 1996

DUMMY NUMBER: 272 TEST NUMBER: D962075

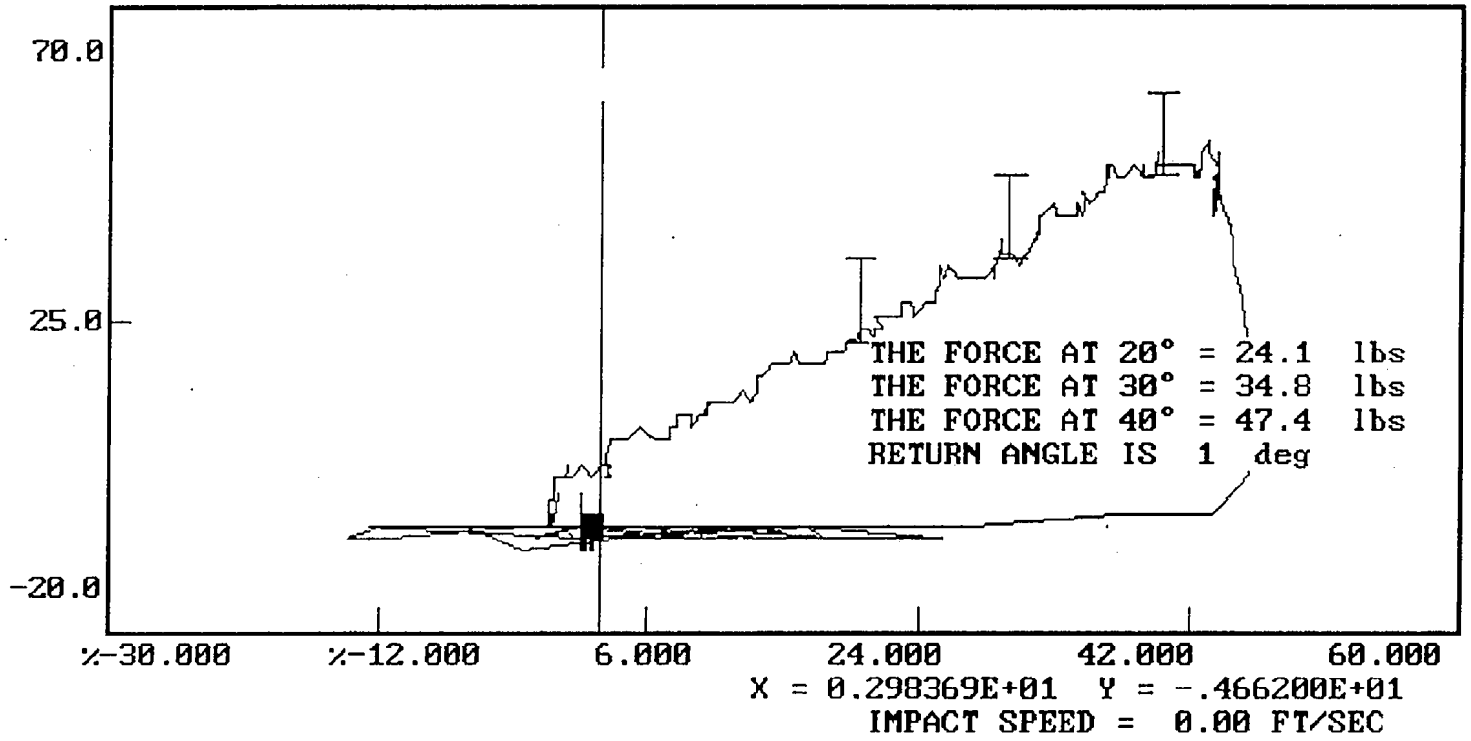
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	66 - 78° F	70°
RELATIVE HUMIDITY	10 - 70%	22%
FORCE @ 0°	0 - 6 lbs	0
FORCE @ 20°	22 - 34 lbs	24
FORCE @ 30°	34 - 46 lbs	35
FORCE @ 40°	46 - 58 lbs	47
RETURN ANGLE	12° maximum	1°

TEST MEETS SPECIFICATIONS

TECHNICIAN _____

APPROVED BY _____

DUMMY CALIBRATION - LUMBAR FLEXION 12-09-1996 20:40
DUMMY # 272
FORCE (LBS) VS. TORSO ROTATION (DEGREES)



X = 0.298369E+01 Y = -.466200E+01
IMPACT SPEED = 0.00 FT/SEC

POST-TEST DRIVER DUMMY INSPECTION CHECKLIST

Type: Side Impact Dummy

Serial Number: 271

Inspected By: Tim Michnay

Date: December 9, 1996

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	Poor
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):

Pelvic skin debonded-pelvis replaced.

POST-TEST PASSENGER DUMMY INSPECTION CHECKLIST

Type: Side Impact Dummy

Serial Number: 272

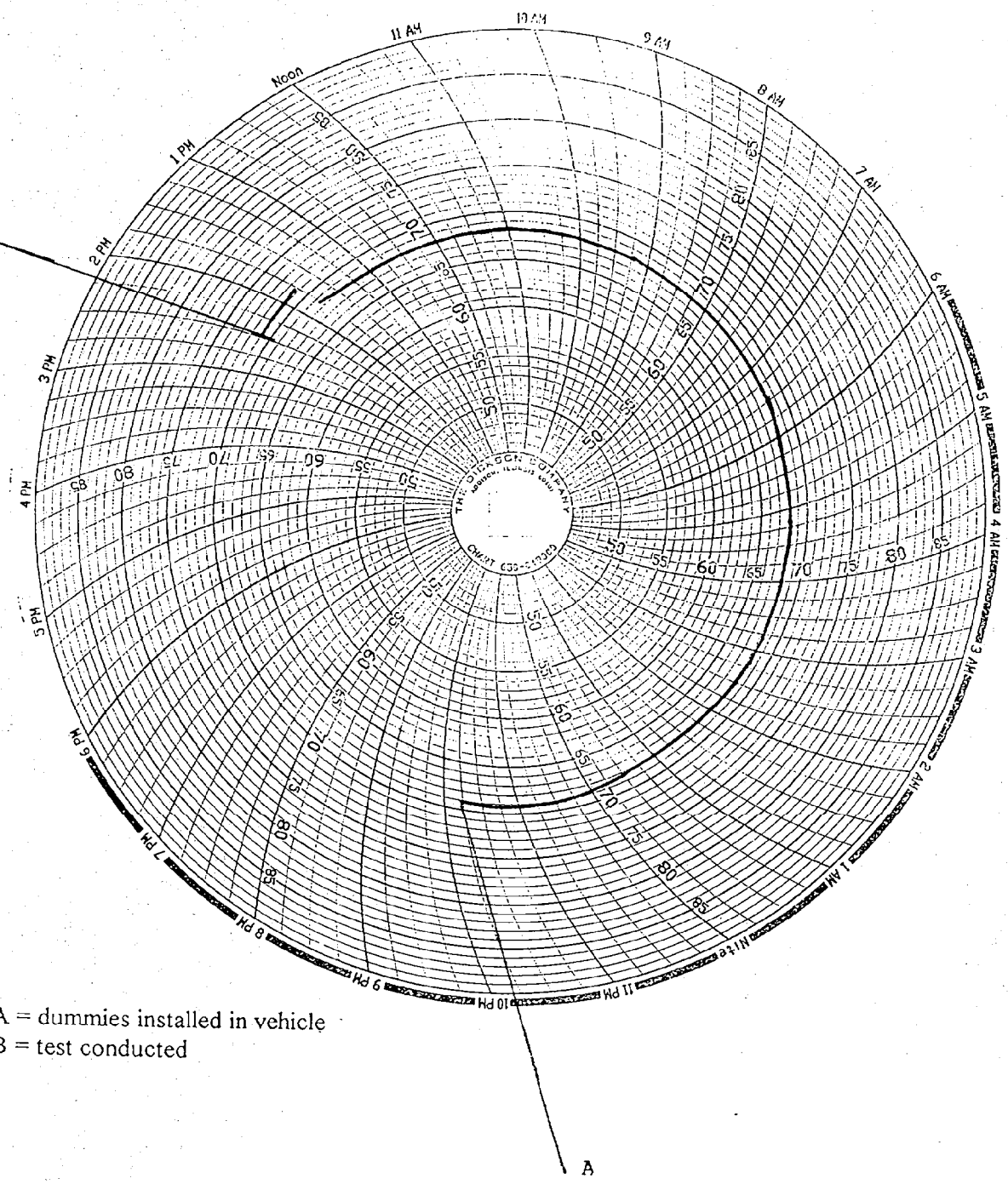
Inspected By: Tim Michnay

Date: December 9, 1996

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

DUMMY AND VEHICLE CALIBRATION DATA

INSTRUMENTS FOR DRIVER DUMMY NO. 271

	DRIVER		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Upper Rib Y	AP2A4	Endevco	9/16/96
Lower Rib Y	AP1B3	Endevco	9/16/96
Lower Spine Y	ANAP1	Endevco	9/16/96
Pelvis Y	AHTC3	Endevco	9/16/96
Upper Rib Redundant Y	AP2D8	Endevco	9/16/96
Lower Rib Redundant Y	AP1C6	Endevco	9/16/96
Lower Spine Redundant Y	ANAT6	Endevco	9/16/96
Pelvis Redundant Y	AGP53	Endevco	9/16/96

INSTRUMENTS FOR PASSENGER DUMMY NO. 272

	LEFT REAR PASSENGER		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Upper Rib Y	ALFJ7	Endevco	7/12/96
Lower Rib Y	APYN0	Endevco	6/07/96
Lower Spine Y	AP0G2	Endevco	7/12/96
Pelvis Y	APY15	Endevco	9/16/96
Upper Rib Redundant Y	ALDD6	Endevco	7/12/96
Lower Rib Redundant Y	APYN3	Endevco	6/07/96
Lower Spine Redundant Y	AP138	Endevco	7/12/96
Pelvis Redundant Y	APY16	Endevco	9/16/96

VEHICLE INSTRUMENT CALIBRATION

	VEHICLE ACCELEROMETERS		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Moving Barrier CG X	C14-Z10	Entran	7/12/96
Moving Barrier CG Y	B14-R01	Entran	7/15/96
Moving Barrier CG Z	B14-R16	Entran	7/11/96
Moving Barrier Rear Axle X	B14-R03	Entran	7/11/96
Moving Barrier Rear Axle Y	A10-G01	Entran	6/04/96
Left Mid A-Post Y	C14-Z07	Entran	7/11/96
Left Lower A-Post Y	MGA095	Entran	7/11/96
Left Mid B-Post Y	C14-Z01	Entran	7/11/96
Left Lower B-Post Y	J23-E04	Entran	7/11/96
Rear Floorpan Above Axle X	A10-G03	Entran	7/12/96
Rear Floorpan Above Axle Y	D05-R19	Entran	6/04/96
Rear Floorpan Above Axle Z	D05-R20	Entran	6/04/96
Driver Seat Track Y	D05-R01	Entran	7/03/96
Right Side Sill at Front Seat X	A01-G08	Entran	7/12/96
Right Side Sill at Front Seat Y	A09-G04	Entran	7/03/96
Right Side Sill at Front Seat Z	B14-R14	Entran	7/11/96
Right Side Sill at Rear Seat X	J06-D17	Entran	7/10/96
Right Side Sill at Rear Seat Y	J10-E14	Entran	7/10/96
Right Side Sill at Rear Seat Z	D05-R12	Entran	7/12/96
Left Side Sill at Front Seat Y	L15-G03	Entran	10/02/96

VEHICLE INSTRUMENT CALIBRATION

	VEHICLE ACCELEROMETERS		
	SERIAL NO	MANUFACTURER	CALIBRATION DATE
Left Side Sill at Rear Seat Y	B14-R12	Entran	7/15/96
Right Rear Occupant Compartment Y	D06-A09	Entran	7/03/96
Vehicle CG X	C14-Z08	Entran	7/11/96
Vehicle CG Y	B14-R09	Entran	7/15/96
Vehicle CG Z	E25-G11	Entran	10/01/96
Left Front Door Mid Rear Y	F12-X10	Entran	10/02/96
Left Front Door Centerline Y	C20-J10	Entran	7/11/96
Left Front Door Upper Centerline Y	A09-G10	Entran	7/12/96
Left Rear Door Mid Rear Y	B13-Z03	Entran	7/15/96
Left Rear Door Upper Centerline Y	C05-Z10	Entran	7/11/96

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