V2368

REPORT NO. MGA-96-N010

NEW CAR ASSESSMENT PROGRAM (NCAP)

FRONTAL BARRIER IMPACT TEST

FORD MOTOR COMPANY
1996 FORD CROWN VICTORIA
NHTSA NO. MT0203

MGA PROVING GROUNDS
5000 WARREN ROAD
BURLINGTON, WI 53105

Test Date: December 4, 1995

Report Date: January 8, 1996

FINAL REPORT

Prepared For:

U. S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
OFFICE OF MARKET INCENTIVES
400 SEVENTH STREET, S.W.
Room No. 5313 (NRM-22)
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15. Supplementary Notes

16. Abstract

A 56 kph (35 mph) frontal barrier impact using a 30 load cell barrier was conducted on a 1996 Ford Crown Victoria at the MGA Proving Grounds and Crash Test Center in Burlington, WI. on December 4, 1995.

The barrier impact velocity was 56.3 kph (35.0 mph), and the ambient temperature at the time of impact was 21°C. The post-test maximum static crush was 408 mm.

The test vehicle appeared to comply with the requirements of the following Federal Motor Vehicle Safety Standards:

1. FMVSS 212, "Windshield Mounting"
2. FMVSS 219 (partial), "Windshield Zone Intrusion"
3. FMVSS 301, "Fuel System Integrity"

With regard to FMVSS 208, "Occupant Crash Protection" injury criteria, the driver's HIC was 499 and the 3 msec. Clip (Chest g's) was 37 g's. The left and right femur loads for the driver were 4562 and 2857 Newtons, respectively. The passenger's HIC was 218 and the 3 msec Clip was 41 g's. The left and right femur maximum loads were 3518 and 3197 Newtons respectively.

17. Key Words	18. Distribution Statement
35 mph Frontal Barrier Impact Test New Car Assessment Program (NCAP) FMVSS 212 Indicant Testing FMVSS 219 (partial) Indicant Testing FMVSS 301 Indicant Testing	Copies of this report are available from: Technical Ref. Division, NHTSA, NASSIF Building, Room 5108 400 Seventh Street, S.W. Washington, D.C. 20590

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APPROVED BY: _____
Michael Janoviez
MGA Research Corporation

FINAL REPORT ACCEPTED BY:

_____
Manager, New Car Assess. Program (NCAP)

_____
Date of Report Acceptance

_____
Contracting Officer's Tech. Rep. (COTR)

_____
Date of Report Acceptance

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SECTION 1

PURPOSE AND TEST PROCEDURE

This 35 mph frontal barrier impact test is part of the Composite FY'96 Vehicle Barrier Impact Testing Program sponsored by the National Highway Traffic Safety Administration (NHTSA) under Contract No. DTNH22-90-D-12121. The purpose of this test was to obtain vehicle crashworthiness and occupant restraint system performance data for an impact speed in excess of the current 48 kph (30 mph) FMVSS 208/212/219/301-75 requirements.

The 56 kph (35 mph) frontal barrier impact test was conducted in accordance with the National Highway Traffic Safety Administration (NHTSA) Indicant Test Procedure for New Car Assessment Program (NCAP) dated January 1, 1990. Data for FMVSS No. 212, "Windshield Mounting", FMVSS No. 219 (Partial), "Windshield Zone Intrusion", FMVSS No. 301-75, "Fuel System Integrity," as well as occupant performance data are provided herein.

SECTION 2

SUMMARY OF FRONTAL BARRIER IMPACT TEST

A load cell barrier consisting of 30 load cells was impacted by a 1996 Ford Crown Victoria at a velocity of 56.3 kph (35.0 mph). The test was performed at the MGA Proving Grounds and Crash Test Center on December 4, 1995. Pre- and post-test photographs of the vehicle and dummies can be found in Appendix A.

The frontal barrier impact event was documented by one real-time camera and 16 high speed cameras. Camera locations and other pertinent camera information can be found in this report.

Two Part 572E, 50th percentile male anthropomorphic test devices (ATDs) were placed in the driver and right-front passenger seating positions according to dummy placement instructions specified in the Laboratory Indicant Test Procedure.

Both ATDs were fully instrumented with head and chest primary and redundant triaxial accelerometers, pelvis triaxial accelerometers, chest displacement transducer, neck load cell, right/left femur load cells, and right/left lower leg sensors. Seat belt load cells were also on the driver and passenger shoulder and lap belts to measure dummy torso and pelvic section loading. Calibrated ATDs, driver (serial No. 066), and the right front passenger (Serial No. 065), were used for this test. Certification details, along with instrumentation calibration data, are found in Appendix C and D.

The 89 channels of data were recorded on 9 computers. Appendix B contains the vehicle, load cell barrier and dummy response data traces.

The driver's head struck the inflated airbag. The driver HIC was 499 and the maximum chest (CLIP) deceleration over 3 milliseconds was 37 g's. The maximum chest displacement was 30 mm. The left and right femur loads were 4562 and 2857 Newtons respectively.

The right front passenger's head struck the inflated airbag. The passenger HIC was 218 and maximum chest (CLIP) deceleration over 3 milliseconds was 41 g's. The maximum chest displacement was 25 mm. The left and right femur loads were 3518 and 3197 Newtons respectively.

GENERAL TEST AND VEHICLE PARAMETER DATA

Vehicle Yr/Make/Model/Body Style: 1996/Ford/Crown Victoria/4 Door

NHTSA No.: MT0203 VIN.: 2FALP73W7TX131178

Body color: Brown Date of Manufacture: 11/95

Engine: 8 Cylinders; __C.I.D.; 4.6 Liters;

X Gas; __Diesel; __Turbocharged

X Longitudinal; __Transverse

Transmission: 4 Speed; __Manual; X Automatic; X Overdrive

Final Drive: __Front Wheel; X Rear Wheel; __Four Wheel

Odometer Reading: 47 miles

X A/C; X P/S; X P/B; X P/wdo;

__P/seats; X Tilt Wheel; X Cruise Control;

Type of Occupant Restraint: Type II belts in front outboard seating positions with driver and passenger airbags

DATA RECORDED FROM VEHICLE'S TIRE PLACARD:

Tire Pressure (at capacity): Front 221 kPa (32 Psi) Rear 241 kPa (35 Psi)

Recommended Tire Size: P215/75R15

Recommended Cold Tire Pressure: Front 221 kPa (32 Psi) Rear 241 kPa (35 Psi)

Tires on Vehicle: P215/70R15 ; Manufacturer: Michelin

Number of Occupants: 3 Front; 3 Rear; N/A 3rd Seat; 6 TOTAL

Type of Front Seats: __Bucket; __Bench; X Split Bench

Type of Front Seat Back: __Fixed; X Adj. With; __Power; X Lever

Vehicle Capacity Weight (VCW) = 499.0 kg. (A)

No. of Occupants x 68.0 kg. = 408.0 kg. (B)

Rated Cargo Weight (RCW) A-B = 91.0 kg.

GVWR 2462 kg. GAWR: Front 1215 kg.; Rear 1258 kg.

GENERAL TEST AND VEHICLE PARAMETER DATA (Cont'd)

WEIGHT OF TEST VEHICLE AS RECEIVED FROM DEALER (WITH MAXIMUM FLUIDS) = UDW:

Right Front = 486 kg Right Rear = 391 kg

Left Front = 498 kg Left Rear = 371 kg

TOTAL FRONT WEIGHT = 994 kg (56.4% of Total Vehicle Weight)

TOTAL REAR WEIGHT = 762 kg (43.6% of Total Vehicle Weight)

TOTAL UNLOADED DELIVERED WEIGHT (UDW) = 1746 kg

CALCULATION FOR TARGET TEST WEIGHT:

UDW = Unloaded Delivered Weight 1746 kg

VCW = Vehicle Capacity Weight 454 kg

DSC = Designated Seating Capacity 6 RCW = VCW - 68 (DSC) = 91 kg

Target Test Weight = UDW + RCW + (2 dummies x 75.8 kg/dummy)

Target Test Weight = 1989 kg

WEIGHT OF TEST VEHICLE WITH REQUIRED DUMMIES AND CARGO:

Right Front = 510 kg Right Rear = 480 kg

Left Front = 522 kg Left Rear = 473 kg

TOTAL FRONT WEIGHT = 1032 kg (52.0% of Total Vehicle Weight)

TOTAL REAR WEIGHT = 953 kg (48.0% of Total Vehicle Weight)

TOTAL TEST WEIGHT = 1985 kg

Weight of ballast secured in vehicle trunk area = 0 kg

Vehicle components removed to meet target weight: Rear seat, carpeting, spare tire and jack assembly, driver mirror, left and right rear tail lights.

VEHICLE ATTITUDE (all dimensions in mm):

Delivered Attitude: RF 727 LF 723 RR 740 LR 742

Test Attitude: RF 723 LF 715 RR 706 LR 700

Wheel Base: 2914 mm; C.G. = 1399 mm rearward of front wheel C/L

Remarks: None Noted

* light trucks and MPVs RCW is 136 kgs or manufacturer's value, whichever is less

GENERAL TEST AND VEHICLE PARAMETER DATA (Cont'd)

POST-IMPACT DATA:

Type of Test: 35 mph Frontal Impact Impact Angle: 90°

Date of Test: December 4, 1995 Time of Test: 1:58 p.m.

Ambient Temperature: 21 °C (Spec. Range = 18.8 to 25.6°C)

Temperature in Occupant Compartment: 21.1° C

Windshield Molding Temperature: 21.1° C

Required Impact Velocity Range: 55.5 to 57.1 kph

Impact Velocity: primary = 56.3 kph; secondary = 56.2 kph

Distance From Front Bumper to Barrier Face When

Entering Speed Trap: 1305 mm

Exiting Speed Trap: 305 mm

VEHICLE REBOUND AND CRUSH (mm):

Vehicle Length:	Pre-test	= R 5275 C_L 5365 L 5286
	Post-test	= R 4943 C_L 4957 L 4754
	Crush	= R 332 C_L 408 L 532

Distance from front of test vehicle to point of impact (rebound):

R 395 mm C_L 376 mm L 509 mm

VISIBLE DUMMY CONTACT POINTS:

	Driver	Passenger
Head	Airbag	Airbag
Chest	Airbag	Airbag
Abdomen	No contact	No contact
Left Knee	Dash	Dash
Right Knee	Dash & steering column	Dash and steering column

GENERAL TEST AND VEHICLE PARAMETER DATA (Cont'd)

	Front		Rear	
Post-Test Door Opening	Left	Right	Left	Right
(without use of tools)	opened	opened	opened	opened

	Front		Rear	
Seat Movement	Left	Right	Left	Right
Seat Back Movement	0	0	N/A	N/A
Seat Shift (mm)	40 forward	6 forward	N/A	N/A

Glazing Damage

Backlight/Windshield Windshield cracked

Other Notable Impact Effects: Rear view mirror broken off and laying on driver seat

SECTION 3

SUMMARY OF RESULTS FOR-------

FMVSS 212, "Windshield Mounting"

FMVSS 219 (Partial), "Windshield Zone Intrusion"

FMVSS 301-75, "Fuel System Integrity"

FMVSS NO. 212, "WINDSHIELD MOUNTING", DATA SHEET

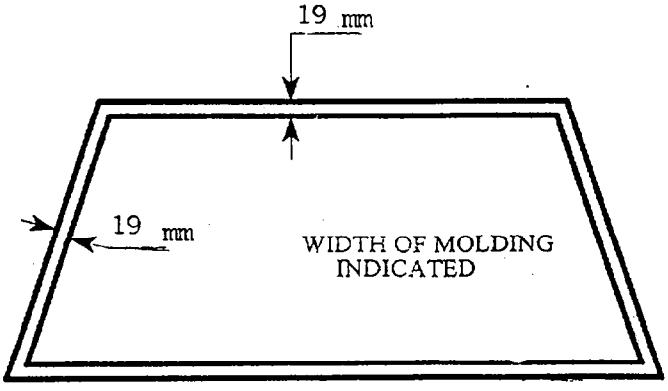
Details of windshield mounting such as retention method, trim type, etc.:
Windshield set in rubber molding with glue

FMVSS 212 Requirements: The Post-Test periphery retention amount must be at least 75% of the Pre-Test periphery measurement for vehicles NOT equipped with automatic restraints, and 50% for each side of windshield for vehicles equipped with automatic restraint systems for front occupants.

FMVSS 212 TEST DATA:

	WINDSHIELD PERIPHERY		
	PRE-TEST (mm)	POST-TEST (mm)	PERCENT RETENTION
RIGHT SIDE	2165	2165	100%
LEFT SIDE	2165	2143	99.0%
TOTAL	4330	4308	99.5%

AREA OF RETENTION FAILURE: None



FRONT VIEW

FAILURE DETAILS: None

FMVSS NO. 219, "WINDSHIELD ZONE INTRUSION", DATA SHEET

PROTECTED ZONE LOWER EDGE REQUIREMENT:

The lower edge of the protected zone is determined by placing a 6.5" dia. rigid sphere weighing 15 pounds in a position such that it simultaneously contacts the inner surface of the windshield and the surface of the instrument panel, including padding, and drawing the locus of points on the inner surface of the windshield contactable by the sphere across the width of the instrument panel. From the outermost contact points, extend the locus line horizontally to the edges of the windshield, and then draw a line on the inner surface of the windshield below and ½" distant from the locus line. The LOWER EDGE OF THE PROTECTED ZONE is the longitudinal projection onto the outer surface of the windshield of this line.

FMVSS 219 TEST DATA:

A= 1240 mm

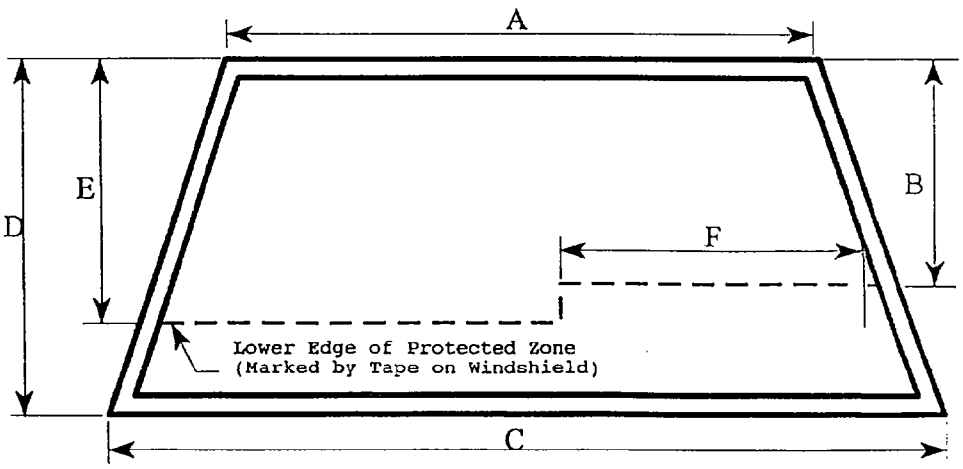
B= 413 mm

C= 1630 mm

D= 730 mm

E= 450 mm

F= 1086 mm



FRONT VIEW

DETAILS OF WINDSHIELD GLASS PENETRATION GREATER THAN 1/4":
(Show location of penetration)

NONE

FMVSS NO. 301-75, FUEL SYSTEM INTEGRITY POST IMPACT TEST DATA

FMVSS NO. 301

TEST VEHICLE NHTSA NO.: MT0203 Test Date: December 4, 1995

Vehicle Mfgr./Make/Model: Ford/Crown Victoria/4 Door

Usable Capacity of Vehicle's Fuel Tank: 75.7 Liters
(figure furnished by vehicle manufacturer)

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.

AMOUNT OF STODDARD SOLVENT ADDED TO VEHICLE'S FUEL TANK:

70.0 Liters which is 93 % of the stated USABLE CAPACITY.

TEST VEHICLE IMPACT TYPE: _X_ Frontal (35 mph)

___ Oblique (30 mph) with __° barrier face first contacting (driver/passenger) side

___ Rear Moving Barrier (30 mph)

___ Side Impact MDB (33.2 mph)

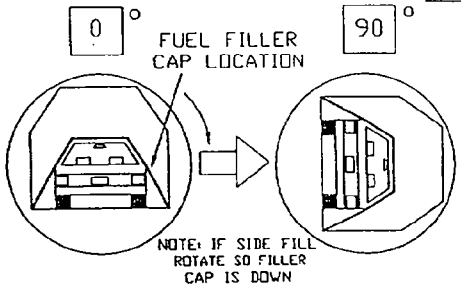
FUEL SPILLAGE MEASUREMENT:

	ACTUAL	MAX ALLOWED
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

SOLVENT SPILLAGE DETAILS: None

FMVSS NO. 301 STATIC ROLLOVER DATA SHEET

TEST PHASE: 0° - 90° Vehicle NHTSA ID No.: MT0203



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time 2 minutes 42 seconds

(Spec. Range = 1 to 3 minutes)

FMVSS 301 Position Hold Time + 5 minutes 0 seconds

TOTAL 7 minutes 42 seconds

Next whole minute interval 8 minutes

II. FMVSS 301 REQUIREMENTS:

(1) Time Period

First 5 min FROM onset of rotation	6th min.	7th min.	8th min. if reqd.

(2) Maximum Allowable Solvent Spillage

5 ounces	1 ounce	1 ounce	1 ounce

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

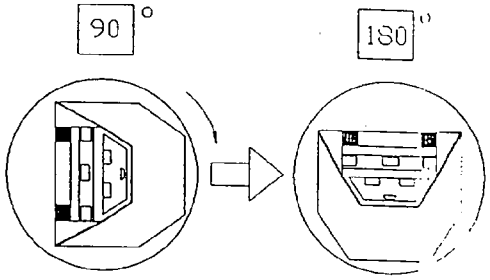
0	0	0	0

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

IV. SOLVENT SPILLAGE LOCATIONS(S): None

FMVSS NO. 301 STATIC ROLLOVER DATA SHEET

TEST PHASE: 90° - 180° Vehicle NHTSA ID No.: MT0203



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time 2 minutes 31 seconds

(Spec. Range = 1 to 3 minutes)

FMVSS 301 Position Hold Time + 5 minutes 0 seconds

TOTAL 7 minutes 31 seconds

Next whole minute interval 8 minutes

II. FMVSS 301 REQUIREMENTS:

(1) Time Period

First 5 min FROM onset of rotation	6th min.	7th min.	8th min. if reqd.

(2) Maximum Allowable Solvent Spillage

5 ounces	1 ounce	1 ounce	1 ounce

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

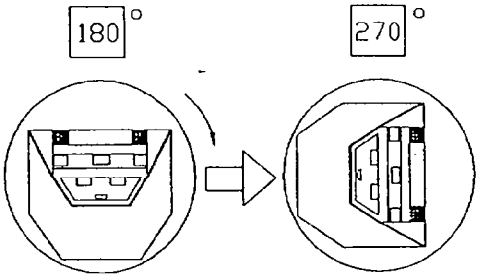
0	0	0	0

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

IV. SOLVENT SPILLAGE LOCATIONS(S): None

FMVSS NO. 301 STATIC ROLLOVER DATA SHEET

TEST PHASE: 180° - 270° Vehicle NHTSA ID No.: MT0203



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time 2 minutes 25 seconds

(Spec. Range = 1 to 3 minutes)

FMVSS 301 Position Hold Time + 5 minutes 0 seconds

TOTAL 7 minutes 25 seconds

Next whole minute interval 8 minutes

II. FMVSS 301 REQUIREMENTS:

(1) Time Period

First 5 min FROM onset of rotation	6th min.	7th min.	8th min. if reqd.

(2) Maximum Allowable Solvent Spillage

5 ounces	1 ounce	1 ounce	1 ounce

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

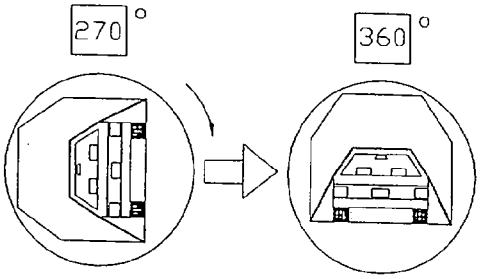
0	0	0	0

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

IV. SOLVENT SPILLAGE LOCATIONS(S): None

FMVSS NO. 301 STATIC ROLLOVER DATA SHEET

TEST PHASE: 270° - 360° Vehicle NHTSA ID No.: MT0203



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time 2 minutes 50 seconds

(Spec. Range = 1 to 3 minutes)

FMVSS 301 Position Hold Time + 5 minutes 0 seconds

TOTAL 7 minutes 50 seconds

Next whole minute interval 8 minutes

II. FMVSS 301 REQUIREMENTS:

(1) Time Period

First 5 min FROM onset of rotation	6th min.	7th min.	8th min. if reqd.

(2) Maximum Allowable Solvent Spillage

5 ounces	1 ounce	1 ounce	1 ounce

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

0	0	0	0

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

IV. SOLVENT SPILLAGE LOCATIONS(S): None

SECTION 4

OMI FINAL DATA

Occupant and Vehicle Information

I. OMI DATA

1. Dummy Injury Criteria Data Summary
2. Dummy Positioning Data
3. Seat Belt Positioning Data
4. Seat Belt Performance Assessment Data
5. Camera Locations
6. Vehicle Target Locations

II. OVR DATA

1. Load Cell Barrier Data
2. Vehicle Accelerometer Data
3. Test Vehicle Measurements

III. AID DATA

1. Accident Investigation Damage Data Summary

FMVSS NO. 208, "OCCUPANT CRASH PROTECTION", DATA SHEET

VEH. YR./MAKE/MODEL/BODY STYLE: 1996/Ford/Crown Victoria/4 Door
VEH. NHTSA NO.: MT0203 TEST DATE: December 4, 1995

MAX. ACCELERATION VALUES: (g's)	DRIVER #066	PASSENGER #065
Head Channel X	-52.7 @ 100 msec.	-24.0 @ 96 msec.*
Head Channel Y	-8.8 @ 109 msec.	-25.2 @ 117 msec.*
Head Channel Z	22.4 @ 85 msec.	26.9 @ 91 msec.*
HEAD RESULTANT	53.3 @ 100 msec.	39.0 @ 100 msec.*
Chest Channel X	-34.7 @ 83 msec.	-42.2 @ 86 msec.
Chest Channel Y	-5.1 @ 78 msec.	7.7 @ 91 msec.
Chest Channel Z	-20.9 @ 124 msec.	-18.5 @ 125 msec.
CLIP	37.22	41.48
TIME INTERVAL (msec) [0.003 seconds minimum]	t_1 = 82.8 t_2 = 85.9	t_1 = 87.8 t_2 = 90.9

HEAD INJURY CRITERIA (HIC) VALUES:

HIC	499.17	218.22
t_1 = (msec)	78.4	88.9
t_2 = (msec)	114.4	124.9
Avg. Accel. t_1 to t_2 (g's)	45.4	35.6

[The maximum time interval from t_1 to t_2 is 36 milliseconds.]

MAX. COMPRESSIVE FEMUR FORCES:

Left Side (N)	-4562 @ 80 msec.	-3518 @ 65 msec.
Right Side (N)	-2857 @ 73 msec.	-3197 @ 64 msec.

MAXIMUM SEAT BELT FORCES:

Lap Belt (N)	2885 @ 72 msec.	5728 @ 75 msec.
Shoulder Belt (N)	6304 @ 89 msec.	5616 @ 89 msec.

* See data plot

HYBRID III NECK, CHEST AND PELVIS DATA SHEET

VEHICLE YR./MAKE/MODEL/BODY STYLE: 1996/Ford/Crown Victoria/4 Door

VEHICLE NHTSA NO.: MT0203 TEST DATE: December 4, 1995

MAXIMUM VALUES	DRIVER DUMMY #066	PASSENGER DUMMY #065
Neck Load X (N)	-388.4 @ 109 msec.	645.5 @ 162 msec.
Neck Load Y (N)	-328.3 @ 191 msec.	364.5 @ 140 msec.
Neck Load Z (N)	-1909 @ 86 msec.	No Valid Data Collected
Neck Moment X (NM)	27.3 @ 102 msec.	29.4 @ 60 msec.
Neck Moment Y (NM)	19.5 @ 141 msec.	-49.9 @ 160 msec.
Neck Moment Z (NM)	12.2 @ 60 msec.	-34.0 @ 91 msec.
Chest Deflection X (mm)	-30.7	-25.0
Time of Max. Occurrence	96 msec.	94 msec.
Pelvis X Acceleration (g's)	-45.8 @ 70 msec.	-47.6 @ 74 msec.
Pelvis Y Acceleration (g's)	-8.9 @ 74 msec.	-9.3 @ 123 msec.
Pelvis Z Acceleration (g's)	-26.8 @ 120 msec.	-19.4 @ 109 msec.
Pelvis Resultant (g's)	46.6 @ 70 msec.	48.7 @ 74 msec.

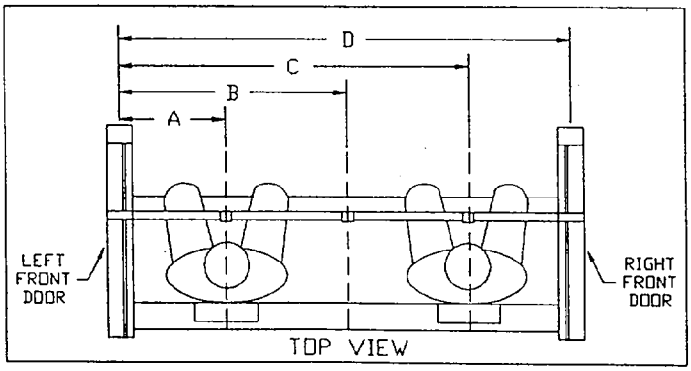
PART 572 DUMMY IN-VEHICLE POSITION

Vehicle NHTSA No.: MT0203 Vehicle: 1996 Ford Crown Victoria 4 Door

SEAT TYPE:	ADJUSTER TYPE:	BUCKET SEAT BACK TYPE:
____Bench	Driver: _X_Manual	____Fixed
____Bucket	____Power	_X_Adjustable Reclining
_X_Split Bench		
	Passenger: _X_Manual	
	____Power	

DRIVER SEAT POSITION
11th detent of 21 detents

PASSENGER SEAT POSITION
11th detent of 21 detents



066 DUMMY ID 065

A = Left Door to Driver Centerline	467 mm
B = Left Door to Center Passenger Centerline	855 mm
C = Left Door to Right Passenger Centerline	1250 mm
D = Left Door to Right Door	1710 mm

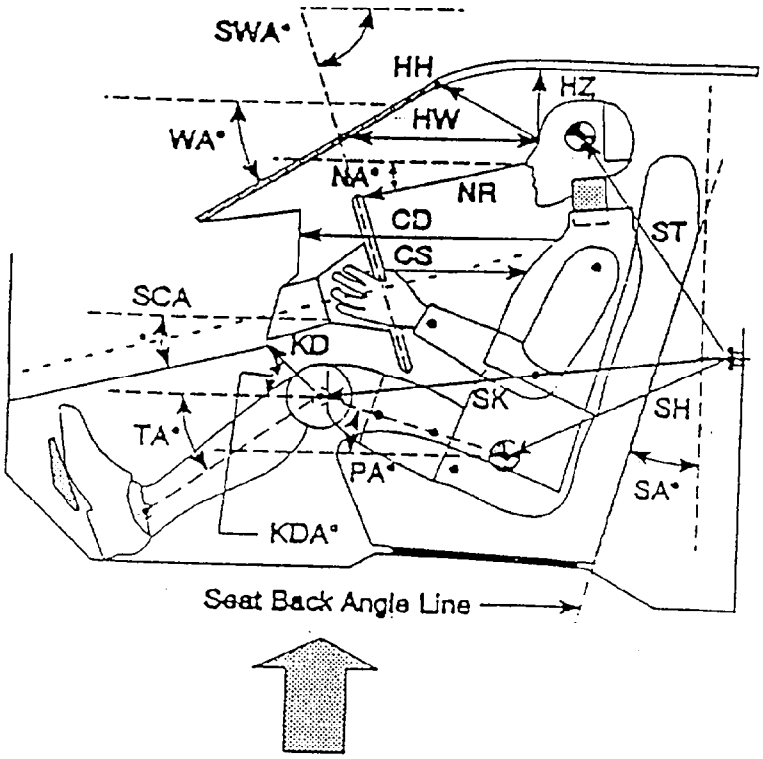
FRONT SEAT MEASUREMENT TABLE

Units (mm)

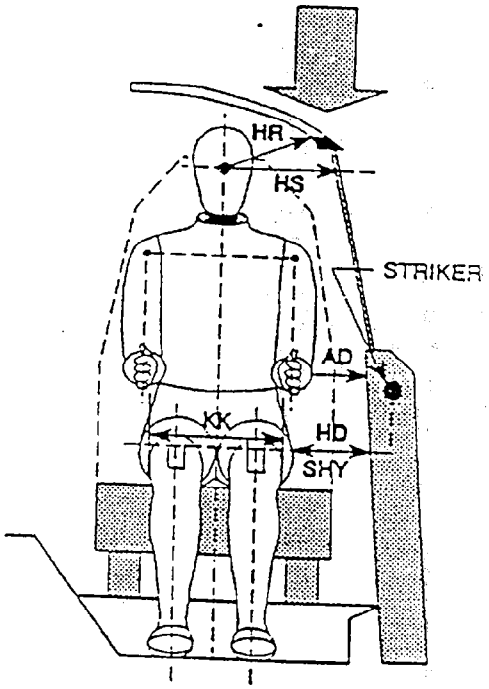
	DRIVER (Serial #066)	PASSENGER (Serial #065)
WA°	32.8°	
SWA°	23.5°	N/A
SCA°	22.0°	N/A
SA°	21.0°	21.0°
HZ	198	191
HH	342	322
HW	554	533
HR	242	243
NR	358 Angle (NA) 7.7°	N/A
CD	528	482
CS	294	N/A
RA	158	N/A
KDL	142 Angle (KDA) 25.0°	143
KDR	131	145 Angle 41.6°
PA°	24.6°	21.7°
TA°	37.0°	38.1°
KK	315	275
ST*	555 Angle 6.1°	555 Angle 8.6°
SK*	579 Angle 89.0°	589 Angle 90.1°
SH*	207 Angle 118.7°	231 Angle 118.5°
SHY	271	281
HS	360	337
HD	177	186
AD	142	133

N/A = Not Applicable
* Angles measured from vertical

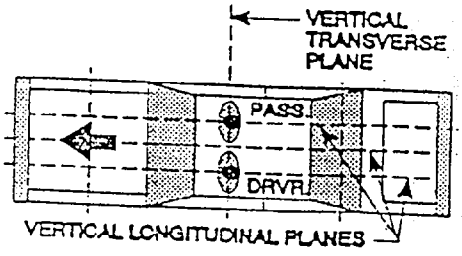
FRONT SEAT MEASUREMENTS



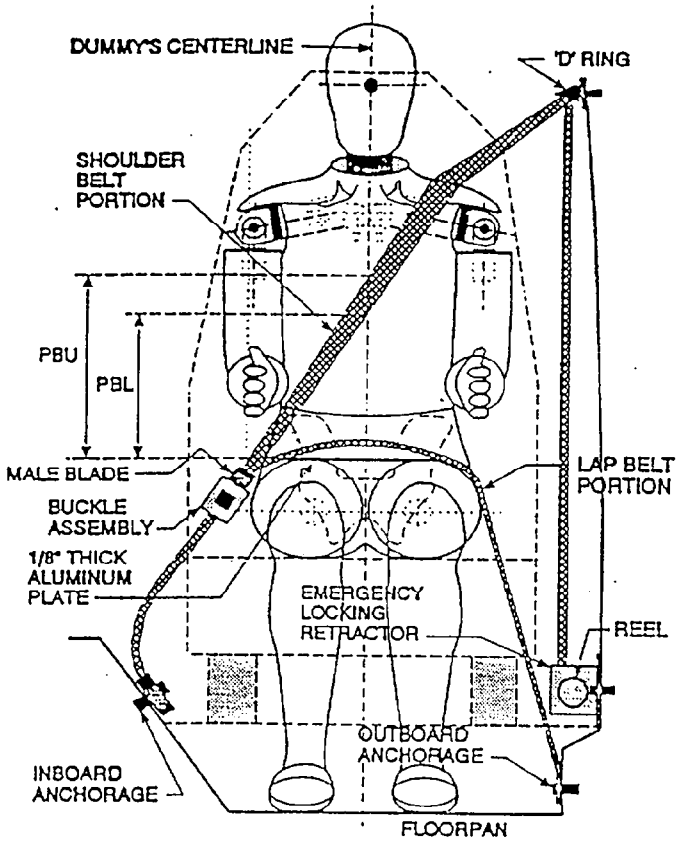
AD	-	Arm to Door
HD	-	H-Point to Door
HR	-	Head to Side Header
HS	-	Head to Side Window
KK	-	Knee to Knee
SHY	-	Striker to H-Point (Y-Direction)



CD	-	Chest to Dash
CS	-	Steering Wheel to Chest
HH	-	Head to Header
HW	-	Head to Windshield
HZ	-	Head to Roof
KDA	-	Knee to Dash Angle
KDL	-	Left Knee to Dash
KDR	-	Right Knee to Dash
NA	-	Nose to Rim Angle
NR	-	Nose to Rim
PA	-	Pelvic Angle
RA	-	Rim to Abdomen
SA	-	Seat Back Angle
SCA	-	Steering Column Angle
SH	-	Striker to H-Point
SK	-	Striker to Knee
ST	-	Striker to Head
SWA	-	Steering Wheel Angle
TA	-	Tibial Angle
WA	-	Windshield Angle



SEAT BELT POSITIONING DATA



FRONT VIEW OF DUMMY

(illustration)

Dimension = mm

		DRIVER DUMMY	PASSENGER DUMMY
PBU --	Top surface of alum. plate to upper edge	330	349
PBL --	Top surface of alum. plate to belt lower edge	245	262

SEAT BELT PERFORMANCE ASSESSMENT TEST DATA

BELT LENGTH DATA:	Driver	Passenger
Length from trim above retractor reel to "D" ring as measured on dummy.	620 mm	620 mm
Shoulder belt length as measured on Part 572 Dummy.	830 mm	844 mm
Lap belt length as measured on Part 572 Dummy.	888 mm	896 mm

SHOULDER BELT SPOOL-OFF DATA:		
As determined by film analysis	38 mm	51 mm
As determined mechanically	36 mm	46 mm at retractor
	55 mm	51 mm at D-ring
As determined electronically	42 mm	59 mm

BELT STRETCH DATA:		
Measured electronically between shoulder belt load cell and the "D" ring.	NR	NR
Measured mechanically	NR	NR

RETRACTOR LOCK-UP TIME:		
As determined by shoulder belt spool-off observed in on-board cameras	111 msec	105 msec

NR Not Recorded

CAMERA LOCATIONS

VEH. NHTSA NO.: MT0203 ; TEST DATE: December 4, 1995 ; TIME: 1:58 p.m.

VEH. YEAR/MAKE/MODEL/BODY STYLE: 1996/Ford/Crown Victoria/4 Door

CAMERA POSITION NO.	VIEW	CAMERA POSITIONS (mm.)*			ANGLE (deg)	FILM PLANE TO HEAD TARGET (mm)	LENS (mm)	SPEED (fps)
		X	Y	Z				
1	Real-Time Left Side View	-	-	-	-	-		
2	Left Front View	110	9020	1490	90°	8575	25	1190
3	Steering Column Top	2240	8270	1560	90°	7825	25	1015
4	Steering Column Bottom	2240	8270	1030	90°	7825	25	1020
5	Left Driver Close-up	1650	8270	1390	90°	7825	50	1111
6	Left Angle	5330	6050	2060			50	1026
7	Driver Onboard						25	253
8	Passenger Onboard						25	333
9	Right Overall	3470	9250	1250	90°	8805	13	1053
10	Right Front	1220	8680	1330	90°	8235	25	1099
11	Right Passenger Close-up	1620	8190	1230	90°	7745	50	1031
12	Right Angle	5340	5710	2090			50	1136
13	Top View Wide	1850	0	5250			8	1000
14	Top Driver	-350	325	2550			13	935
15	Top Passenger	-340	-380	2550			13	1015
16	Pit Engine	940	0	3649			13	926
17	Fuel Tank	2740	0	3649			13	1136

* COORDINATES:

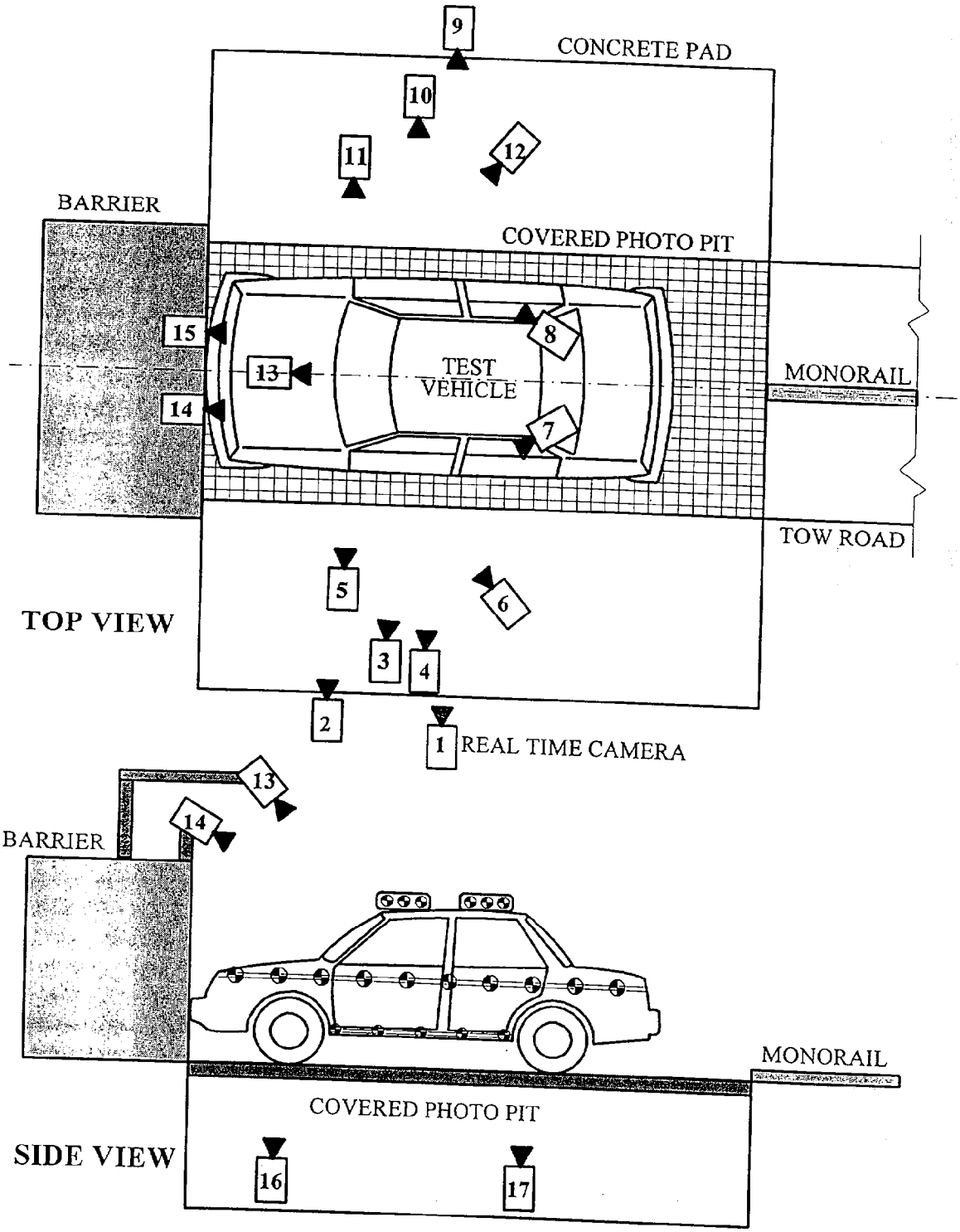
+X = film plane rearward of barrier

+Y = film plane to left of monorail centerline

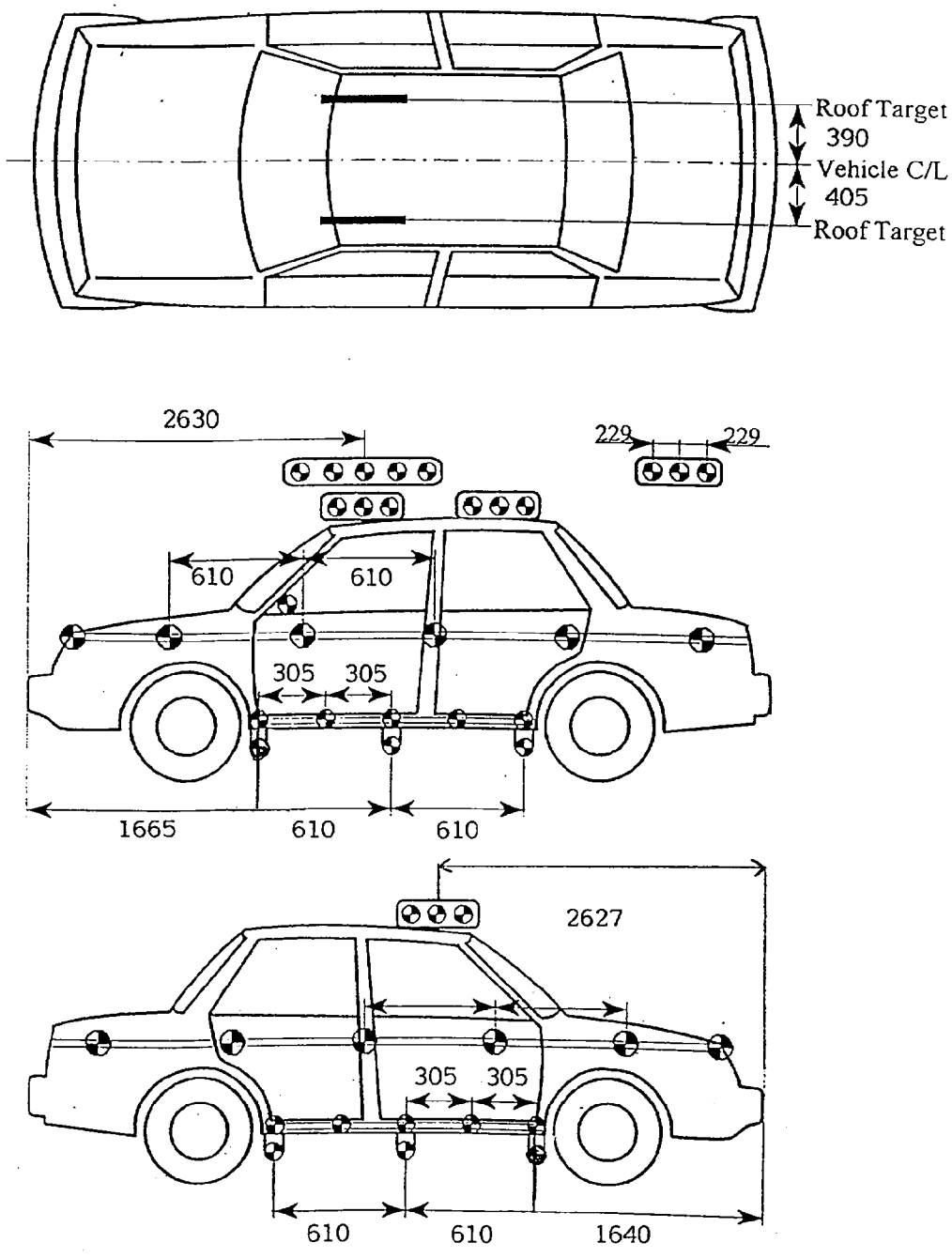
+Z = film plane to above ground level

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

CAMERA LOCATIONS (Cont'd)



VEHICLE TARGET LOCATIONS



(DIMENSIONS IN MM)

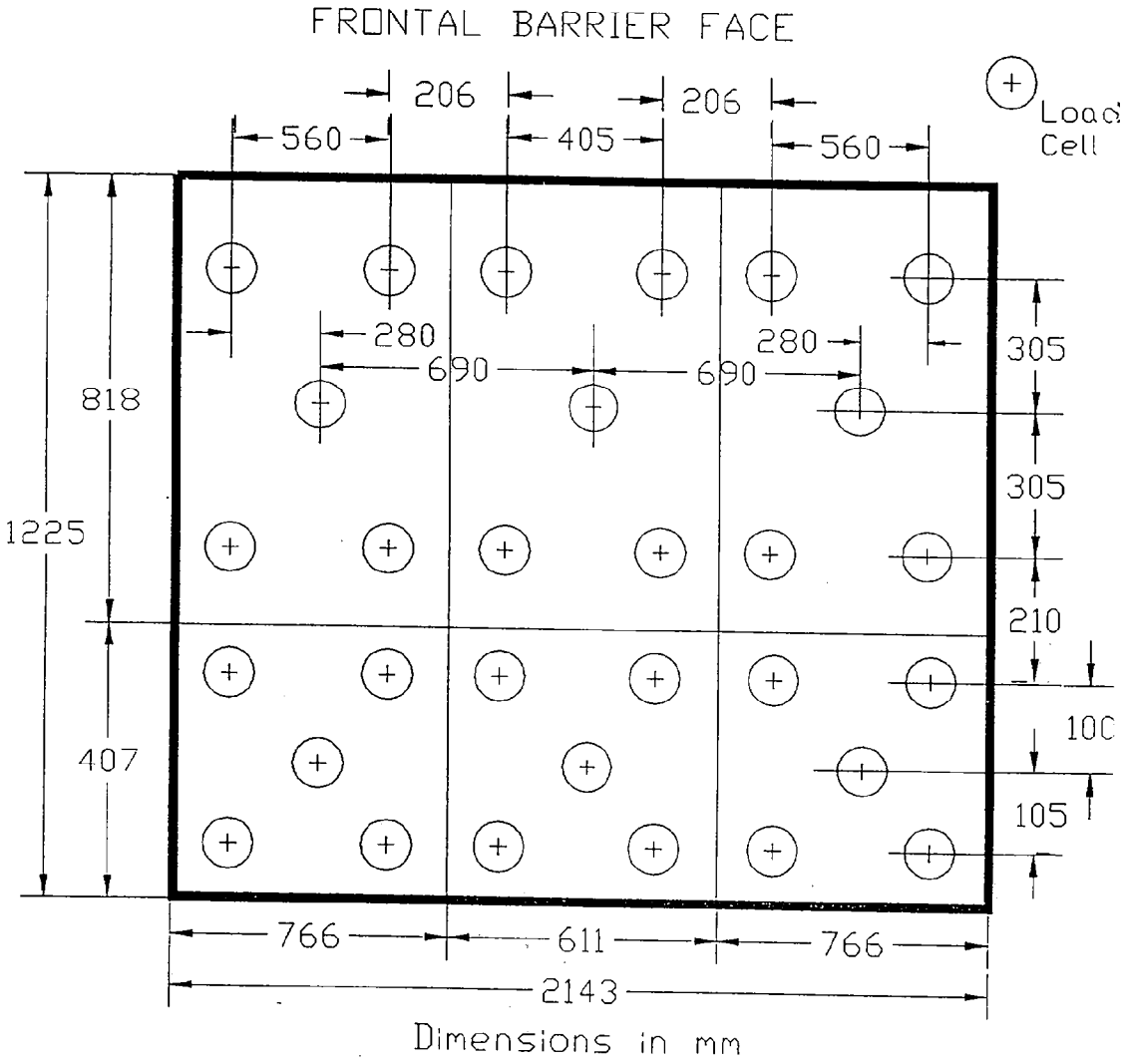
LOAD CELL LOCATIONS ON FIXED BARRIER

30 Load Cells

6 Rows

9 Columns

6 Groupings (5 cells/group)

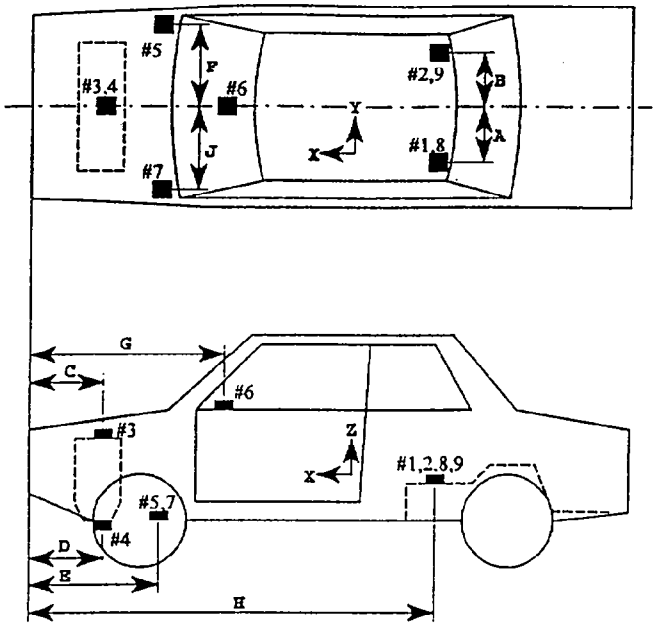


The following data is presented in Appendix B:

(1) Total or Sum of 30 individual load cells

(2) Data from 6 Groupings shown above (5 cells/group)

VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY



Units: (mm)

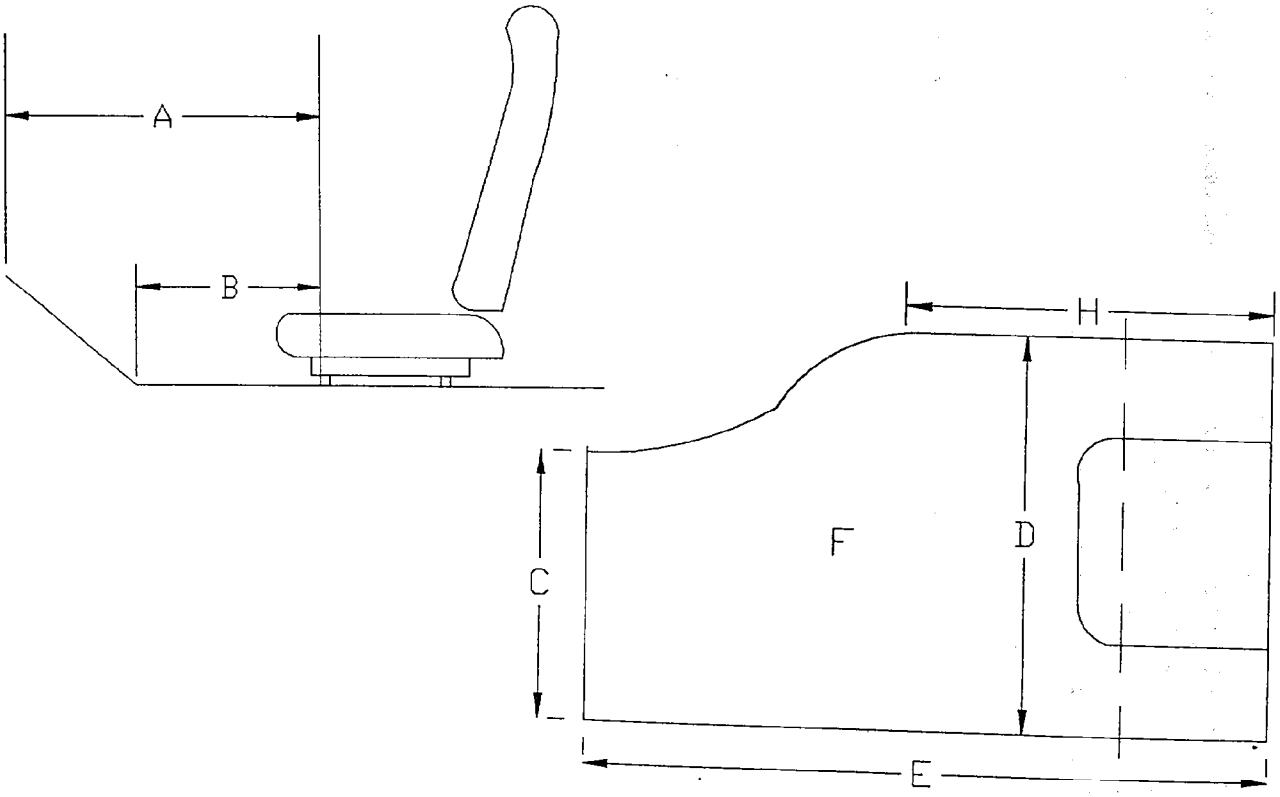
Dimension	Length
A	700
B	700
C	4371
D	4082
E	4081
F	650
G	3336
H	2264
J	650

ACCEL. NO.	ACCELEROMETER	DIRECTION
1 and 8	Left Rear Seat Crossmember	X
2 and 9	Right Rear Seat Crossmember	X
3	Top of Engine	X
4	Bottom of Engine	X
5	Right Side Brake Caliper	X
6	Instrument Panel	X
7	Left Disc Brake Caliper	X

TEST VEHICLE MEASUREMENTS

STATIC FOOTWELL DEFORMATION

Driver's Side



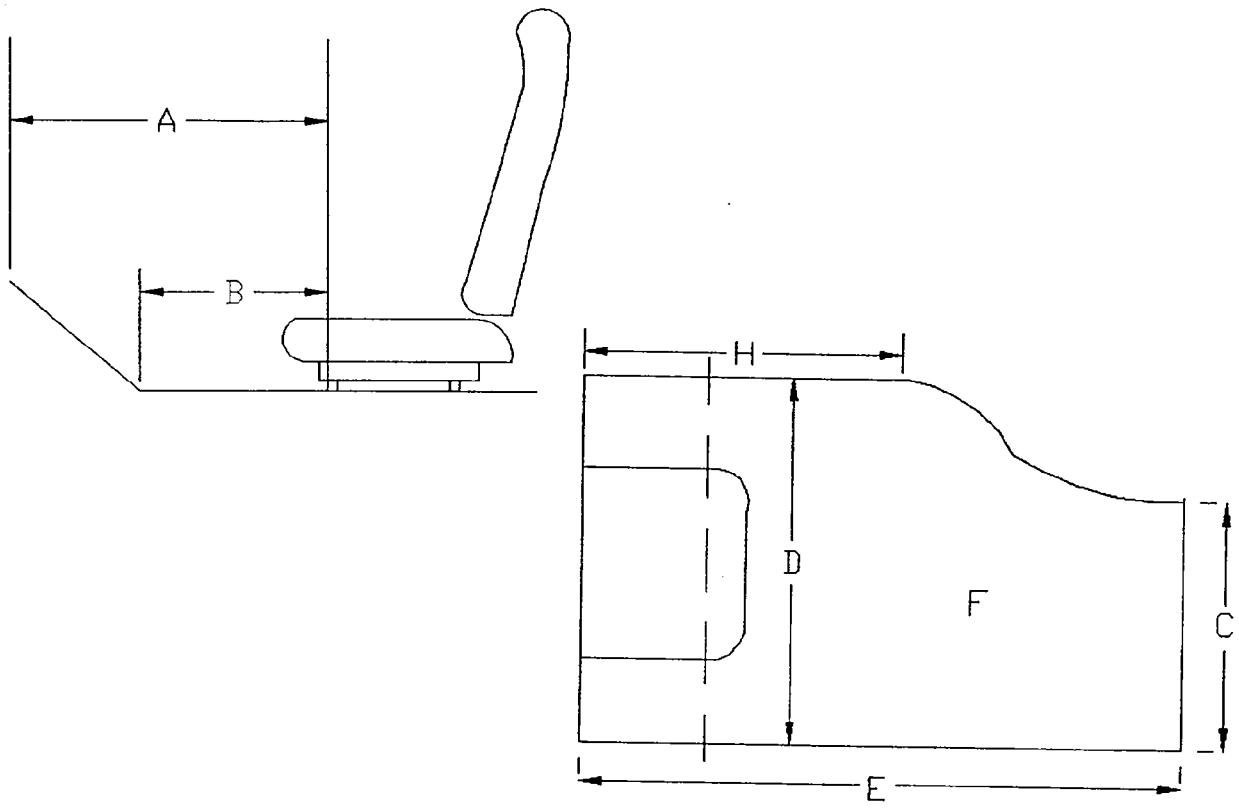
Units = mm

MEASUREMENT	PRE TEST	POST TEST	DIFFERENCE
A	747	697	50
B	548	447	101
C	465	437	28
D	538	508	30
E	2048	2041	7
H	1639	1563	76
F (cm^2)	10720	10029	169

TEST VEHICLE MEASUREMENTS (Cont'd)

STATIC FOOTWELL DEFORMATION

Passenger's Side

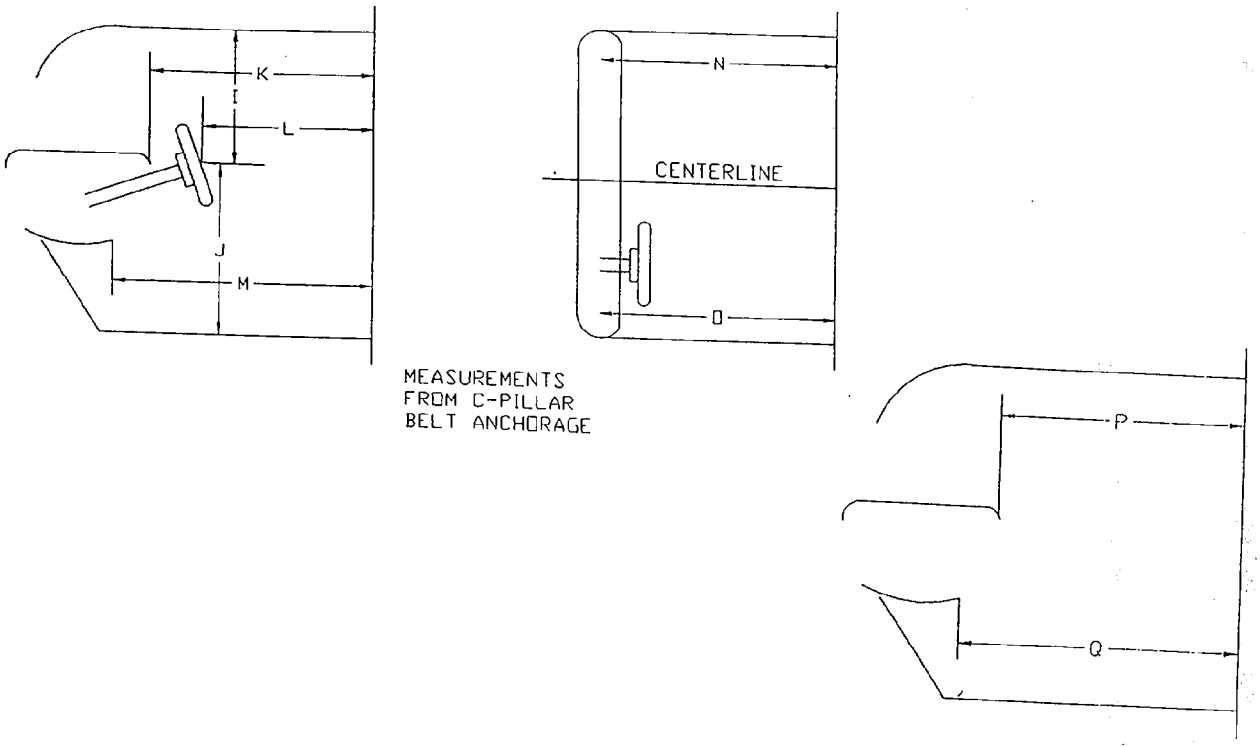


Units = mm

MEASUREMENT	PRE TEST	POST TEST	DIFFERENCE
A	675	531	144
B	540	507	33
C	449	442	7
D	490	487	3
E	2037	1754	283
H	1688	1546	142
F (cm^2)	9838	8448	1390

TEST VEHICLE MEASUREMENTS (Cont'd)

STATIC PASSENGER COMPARTMENT INTRUSION



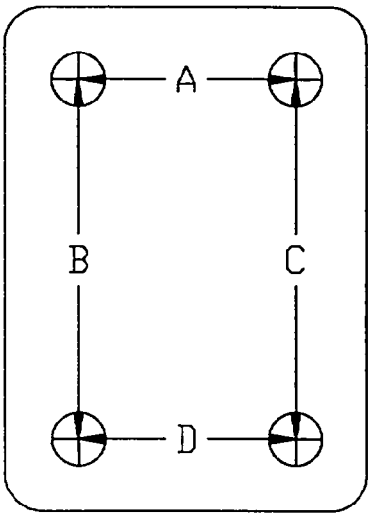
Units = mm

MEASUREMENT	PRE TEST	POST TEST	DIFFERENCE
I	462	412	50
J	611	812	-201
K	1603	1608	-5
L	1367	1318	49
M	1725	1752	-27
N	1775	1794	-19
O	1780	1767	13
P	1735	1783	-48
Q	1733	1728	5

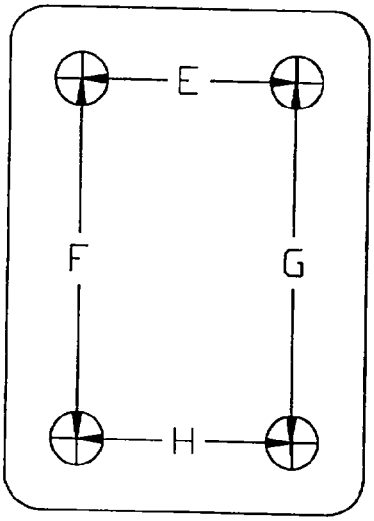
TEST VEHICLE MEASUREMENTS (Cont'd)

UNDERBODY FLOORBOARD DEFORMATION

DRIVER'S SIDE



PASSENGER'S SIDE



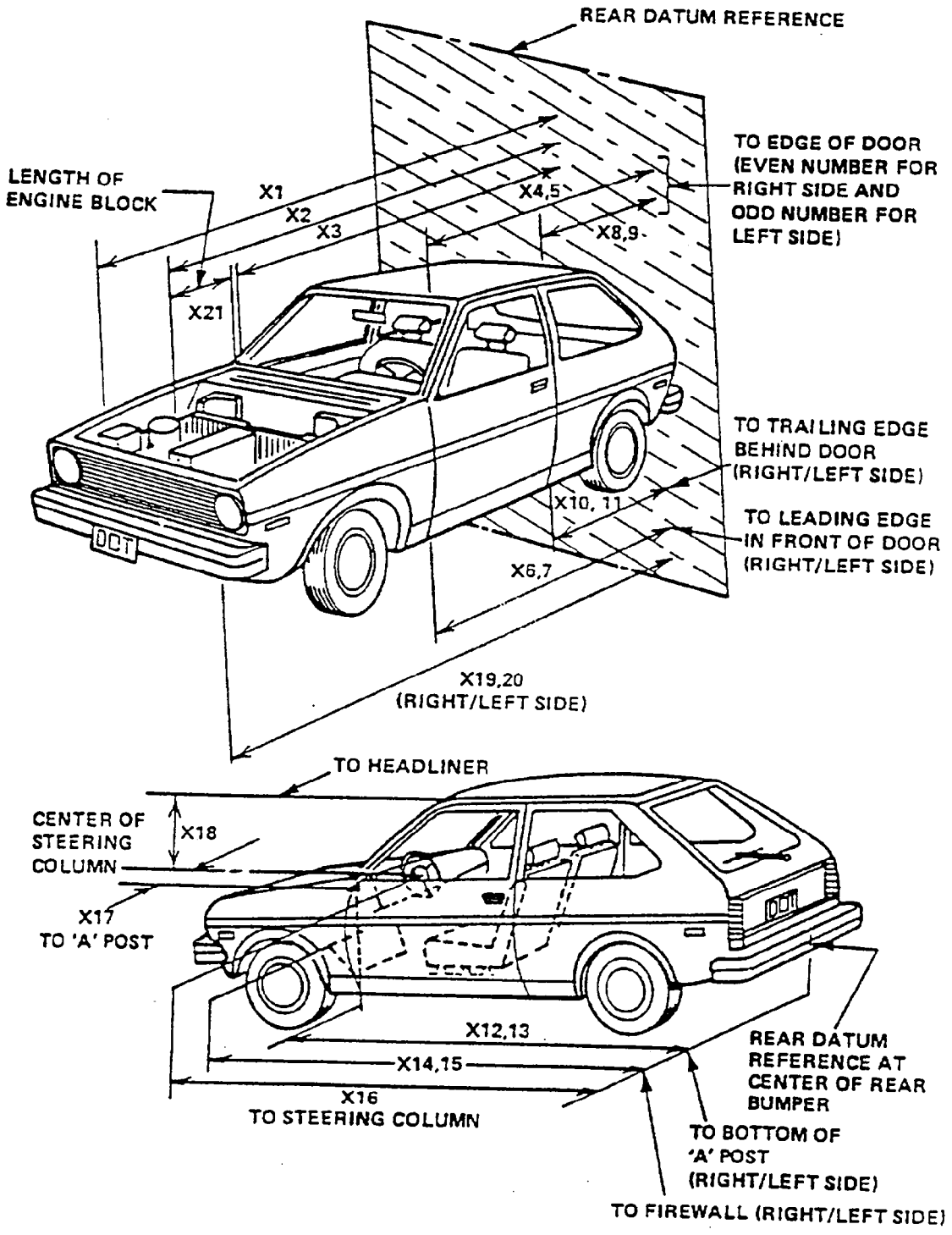
MEASUREMENT	PRE TEST	POST TEST	DIFFERENCE
A	325	NR	N/A
B	374	378	-4
C	430	NR	N/A
D	453	436	17
E	355	349	6
F	418	427	-9
G	370	352	18
H	428	430	-2

NR = Not Recordable
N/A = Not Applicable

TEST VEHICLE MEASUREMENTS (Cont'd)

No.	MEASUREMENT DESCRIPTION:	Pre-Test (mm)	Post-Test (mm)	Diff. (mm)
X1	Total Length of Test Vehicle at Centerline	5365	4957	408
X2	Rear Surface of Vehicle to Front of Engine	4485	4214	271
X3	Rear Surface of Vehicle to Firewall	3885	3727	158
X4	Rear Surface to Upr. Leading Edge of Rt. Door	3641	3637	4
X5	Rear Surface to Upr. Leading Edge of Left Door	3632	3644	-12
X6	Rear Surface to Lwr. Leading Edge of Rt. Door	3628	3613	15
X7	Rear Surface to Lwr. Leading Edge of Left Door	3624	3607	17
X8	Rear Surface to Upr. Trailing Edge of Rt. Door	2522	2517	5
X9	Rear Surface to Upr. Trailing Edge of Left Door	2516	2523	-7
X10	Rear Surface to Lwr. Trailing Edge of Rt. Door	2520	2504	16
X11	Rear Surface to Lwr. Trailing Edge of Left Door	2518	2507	11
X12	Rear Surface to Bottom of `A' Post on Rt. Side	3610	3607	3
X13	Rear Surface to Bottom of `A' Post on Left Side	3628	3609	19
X14	Rear Surface to Firewall on Right Side	3869	3818	51
X15	Rear Surface to Firewall on Left Side	3852	3823	29
X16	Rear Surface to Steering Column	3072	3109	-37
X17	Center of Steering Column to A Post	375	345	30
X18	Center of Steering Column to Headlining	425	385	40
X19	Rear Surface to Right Side of Front Bumper	5275	4943	332
X20	Rear Surface to Left Side of Front Bumper	5286	4754	532
X21	Length of Engine Block	565	565	0

TEST VEHICLE MEASUREMENTS (Cont'd)



ACCIDENT INVESTIGATION DIVISION DATA

FOR 35 MPH FRONTAL BARRIER IMPACT

VEHICLE MAKE/MODEL/BODY STYLE: 1996/Ford/Crown Victoria/4 Door

VEH. NHTSA NO.: MT0203 ; VIN: 2FALP73W7TX131178

MODEL YEAR: 1996 ; BUILD DATE: 11/95 ; TEST DATE: December 4, 1995

VEH. SIZE CATEGORY: 4 Door Sedan ; TEST WEIGHT: 1985 kg

VEH. WHEELBASE: 2914 mm ; FRONT OVERHANG: 1100 mm ; OVERALL WIDTH: 2013 mm

ACCELEROMETER DATA:

LOCATION: As per measurements on pages 4-13

CALIBRATION PROCEDURE: As per MGA Calibration Procedure

LINEARITY: >99.9% ; INTEGRATION ALGORITHM: Trapezoidal

VEH: IMPACT SPEED: 56.3 kph ; TIME OF SEPARATION: 158 msec

VELOCITY CHANGE: 66 kph

COLLISION DEFORMATION CLASSIFICATION (CDC) CODE: F (Frontal)

CRUSH DEPTH DIMENSIONS:

C1 = 532 mm

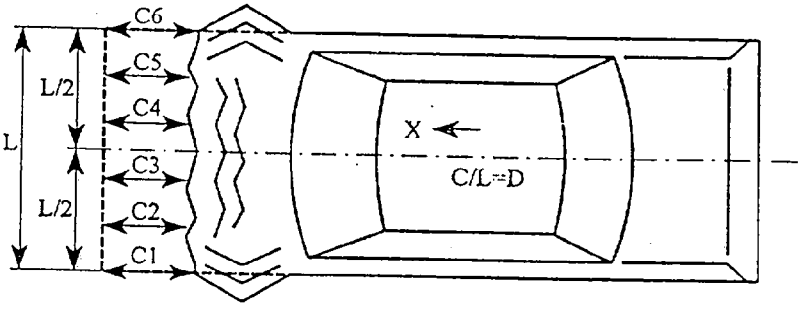
C2 = 441 mm

C3 = 432 mm

C4 = 395 mm

C5 = 365 mm

C6 = 332 mm



MIDPOINT OF DAMAGE: D = Vehicle Centerline (Longitude)

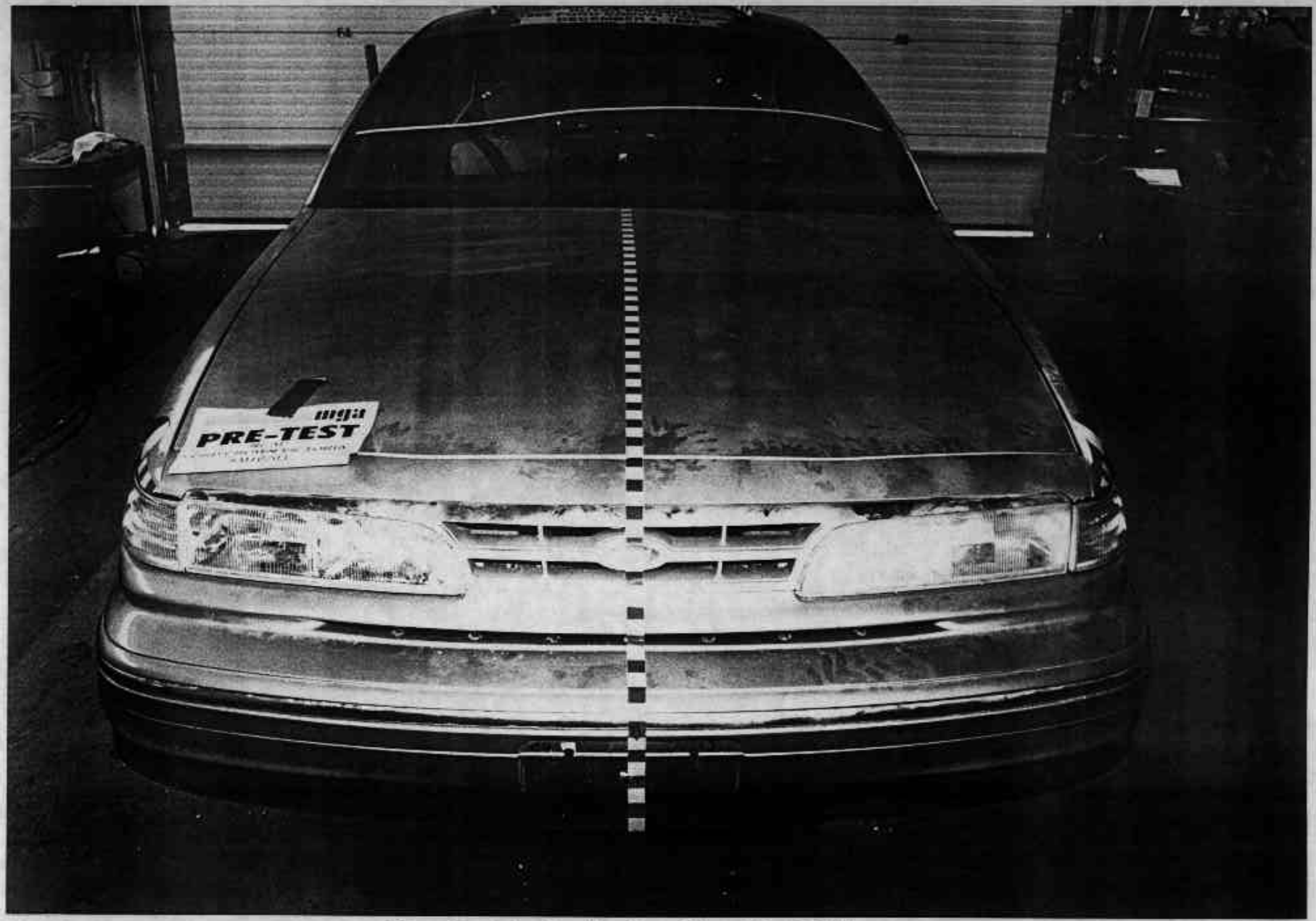
LENGTH OF DAMAGED REGION: L = 1423 mm

APPENDIX A

PHOTOGRAPHS

TABLE OF PHOTOGRAPHS

TABLE OF PHOTOGRAPHS (Cont'd)



A-1

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

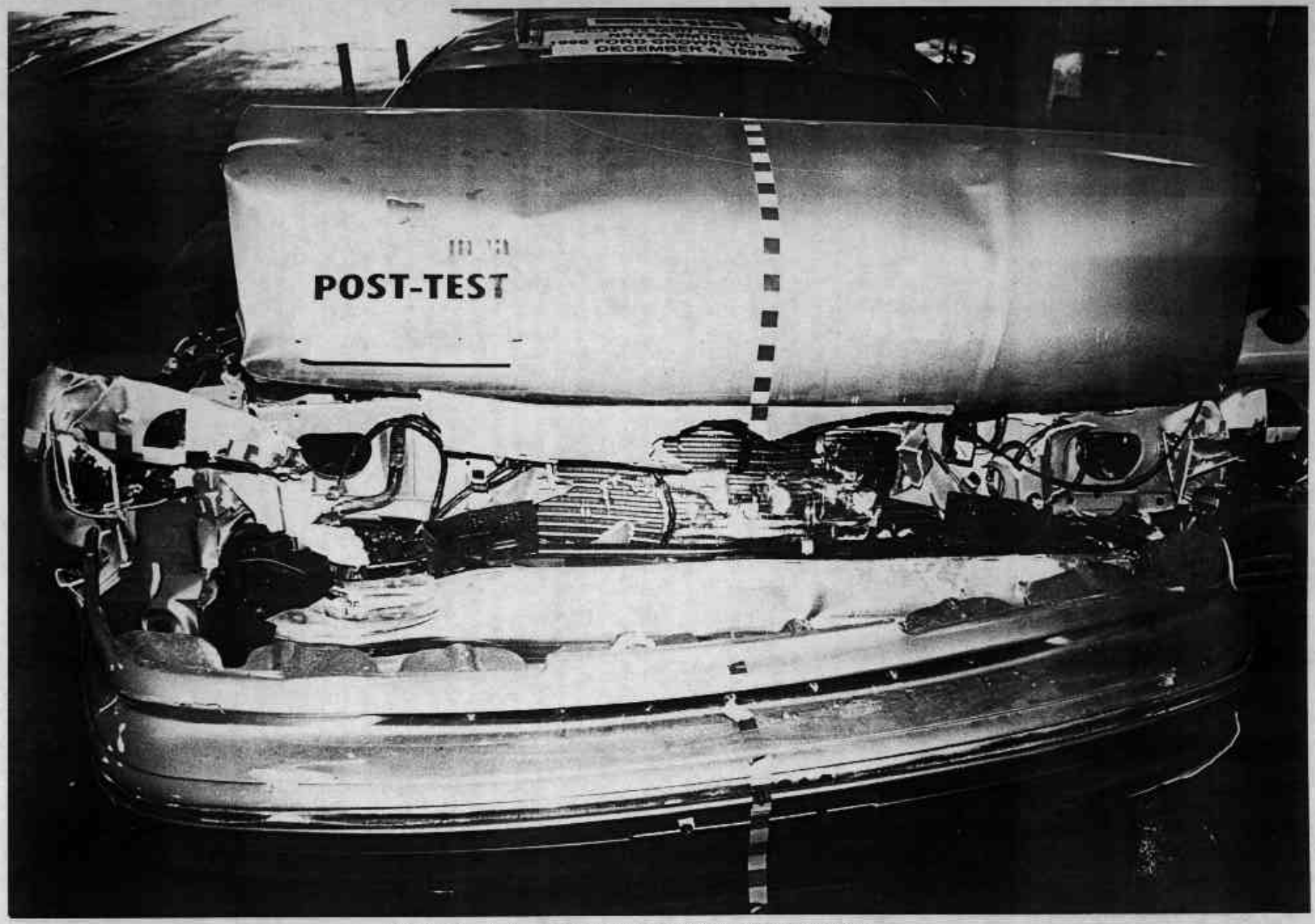


Photo No. A-2 - Post-Test Front View of Test Vehicle

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

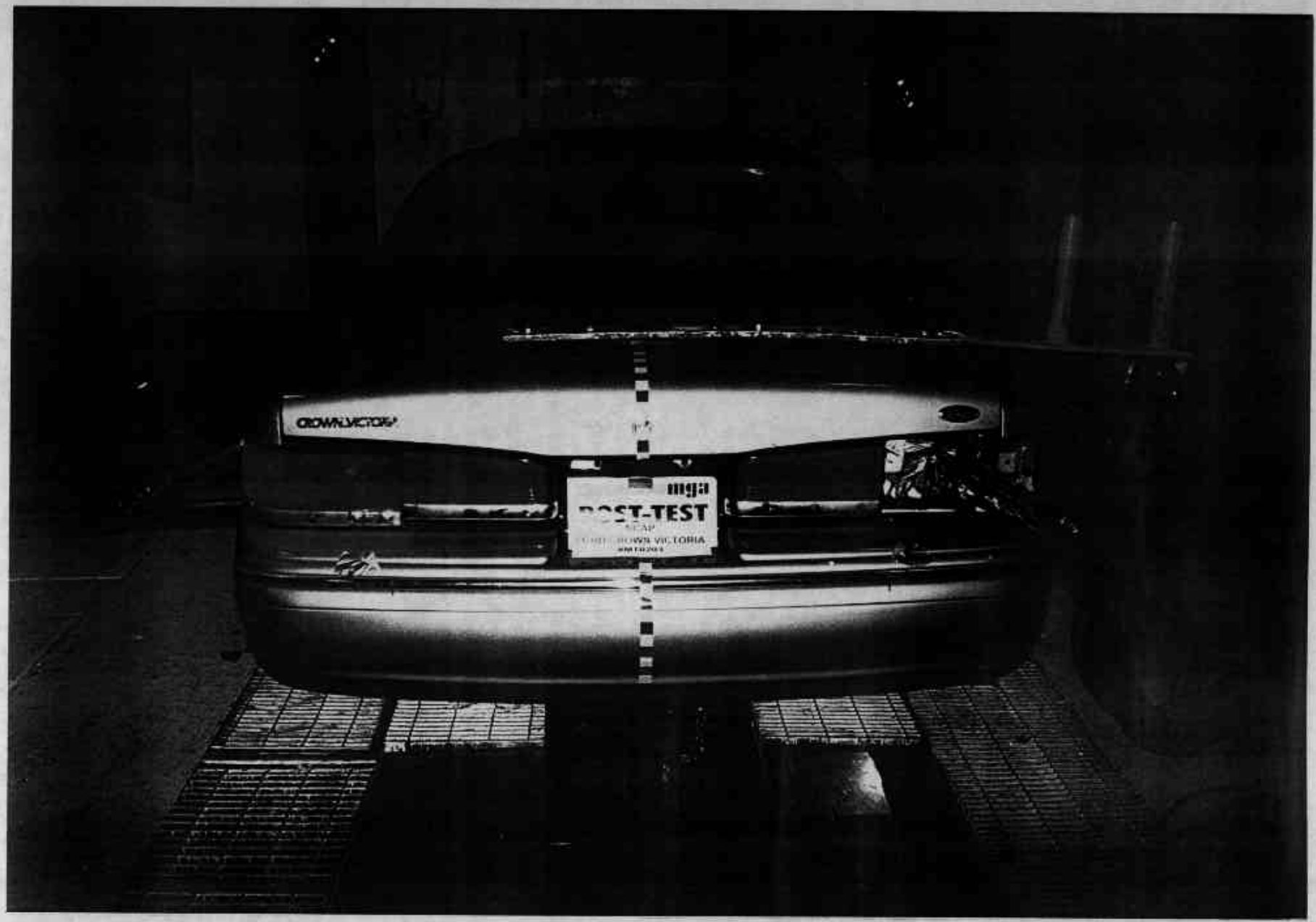


Photo No. A-4 - Post-Test Rear View of Test Vehicle

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

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

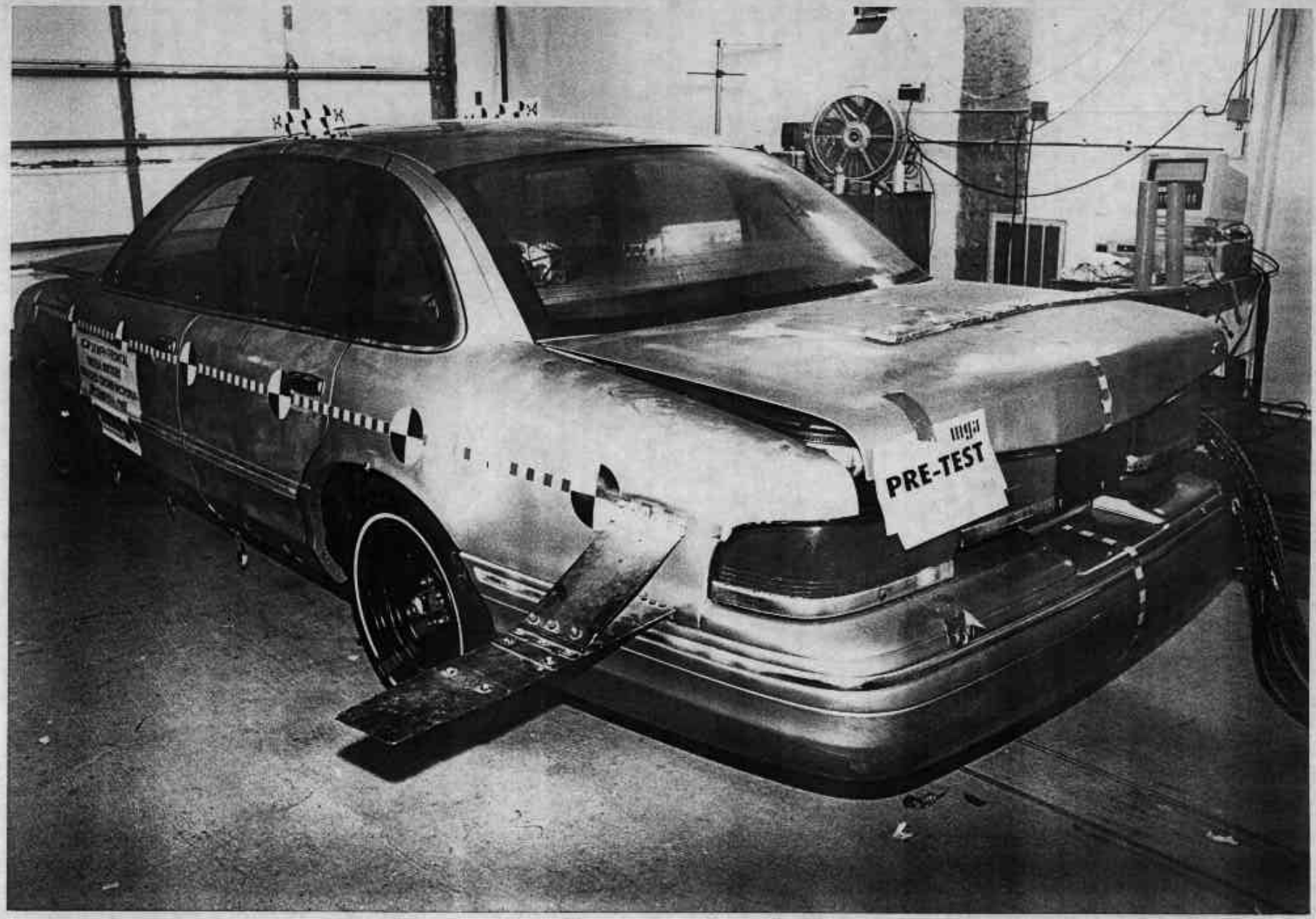


Photo No. A-7 - Pre-Test Left Rear Three-Quarter View of Test Vehicle

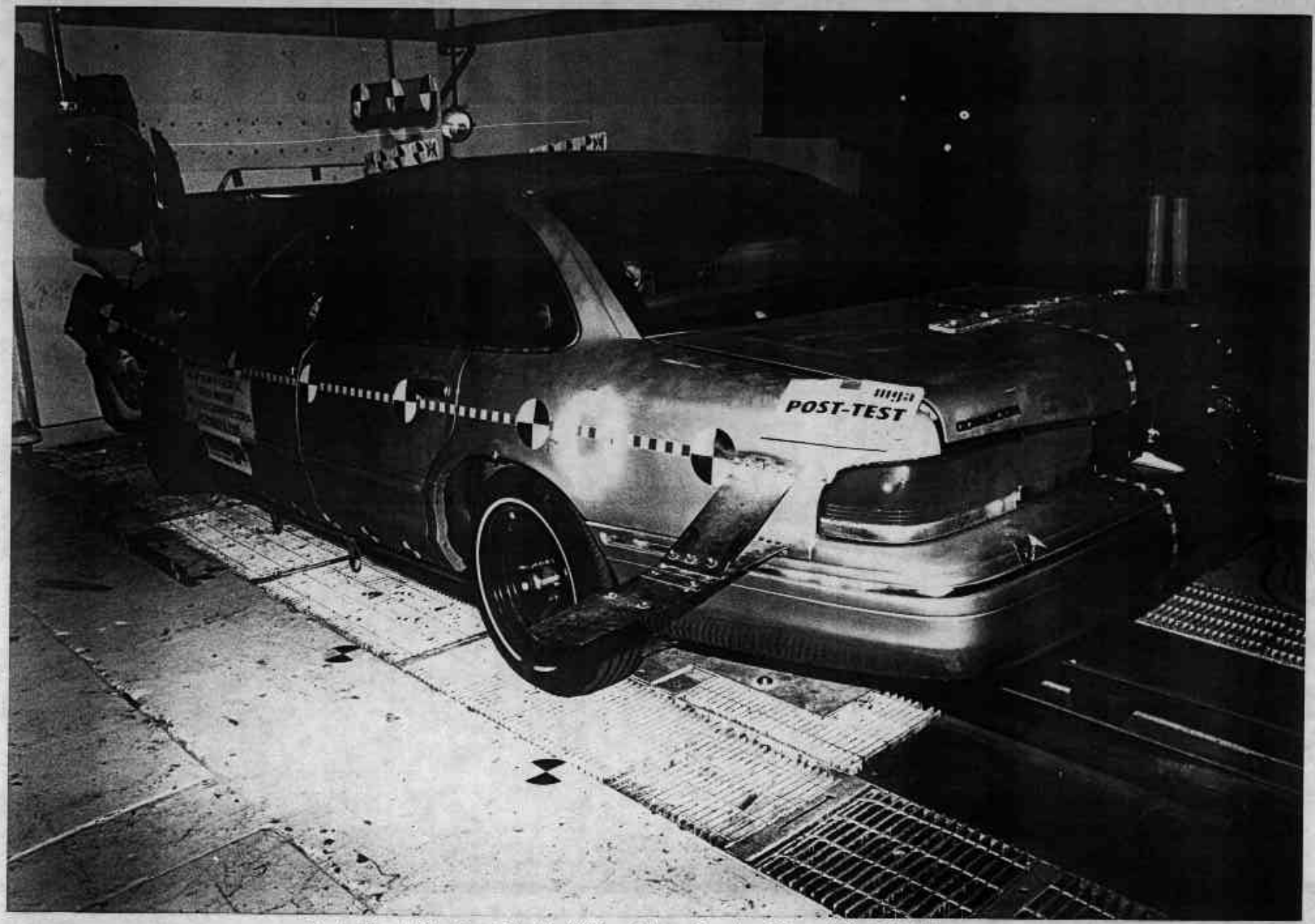


Photo No. A-8 - Post-Test Left Rear Three-Quarter View of Test Vehicle

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

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

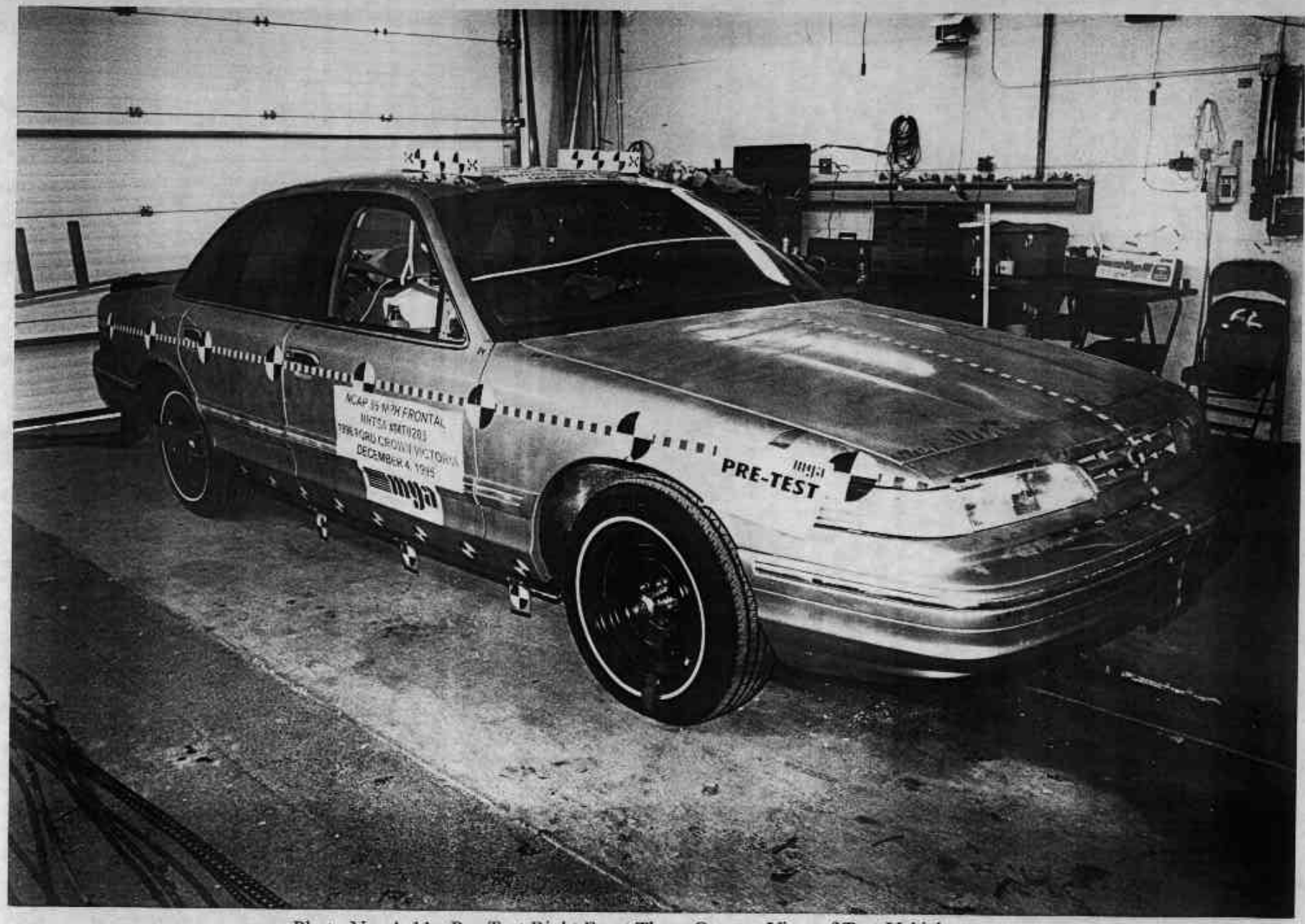


Photo No. A-11 - Pre-Test Right Front Three-Quarter View of Test Vehicle

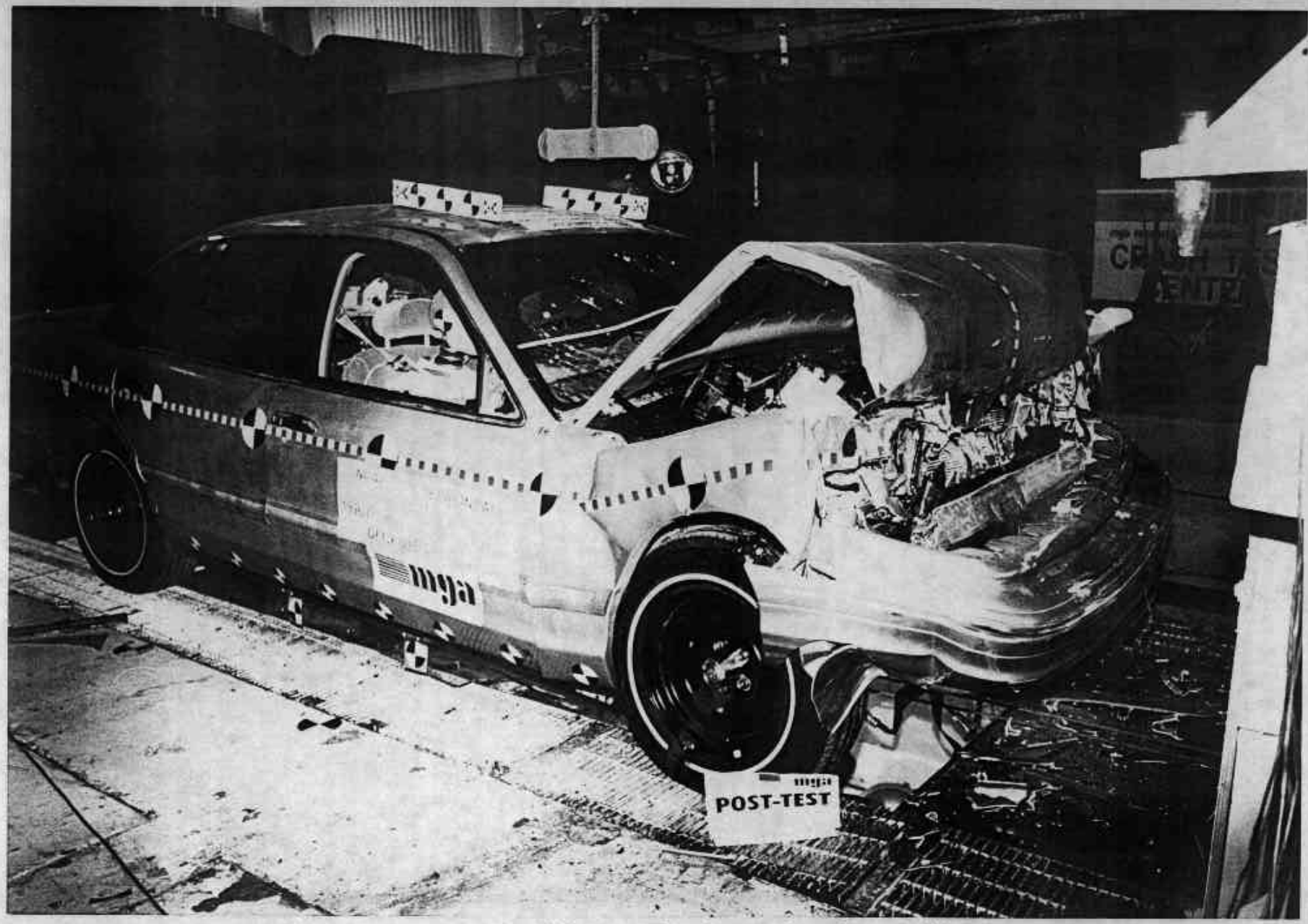


Photo No. A-12 - Post-Test Right Front Three-Quarter View of Test Vehicle

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

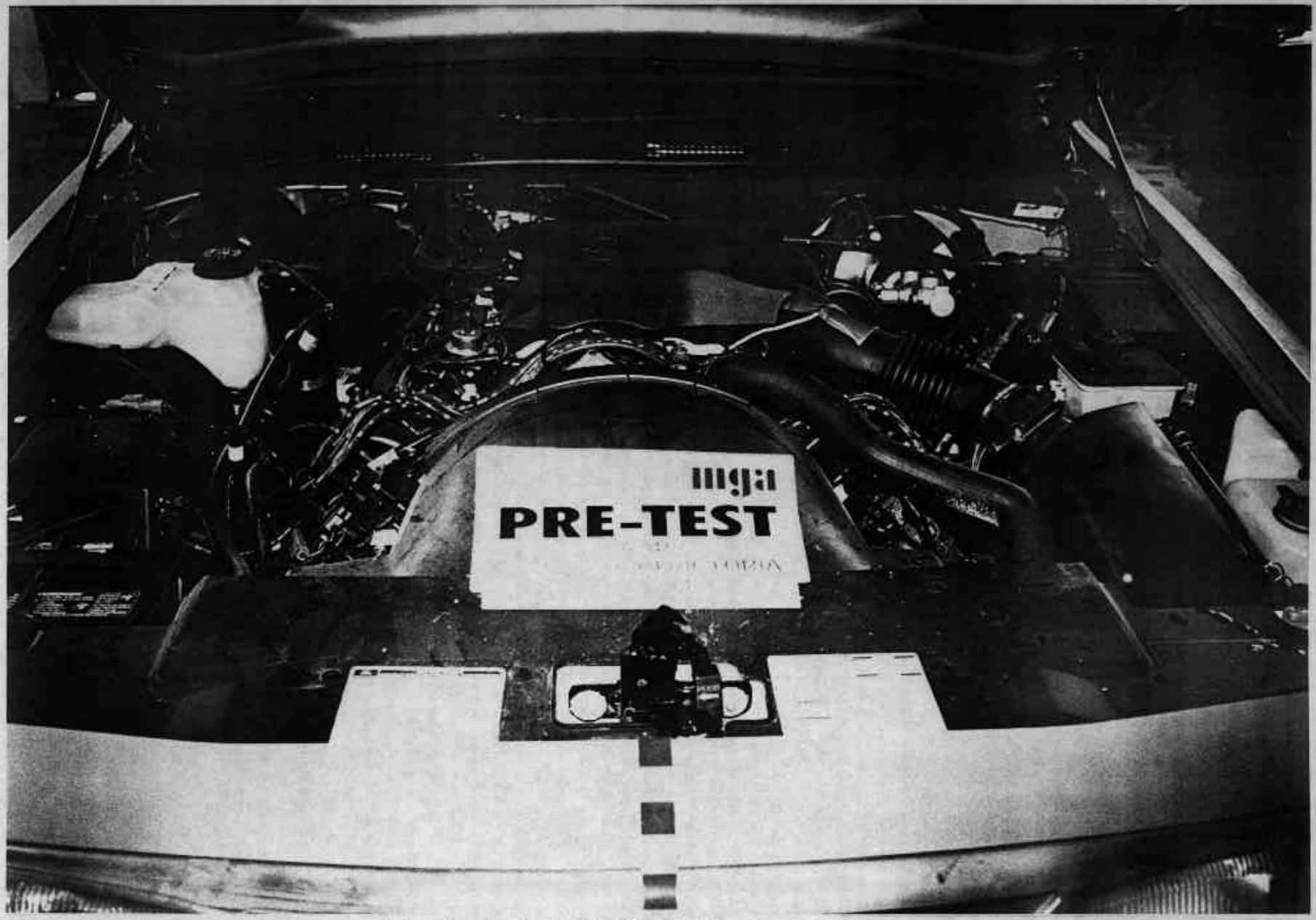


Photo No. A-14 - Pre-Test Engine Compartment View

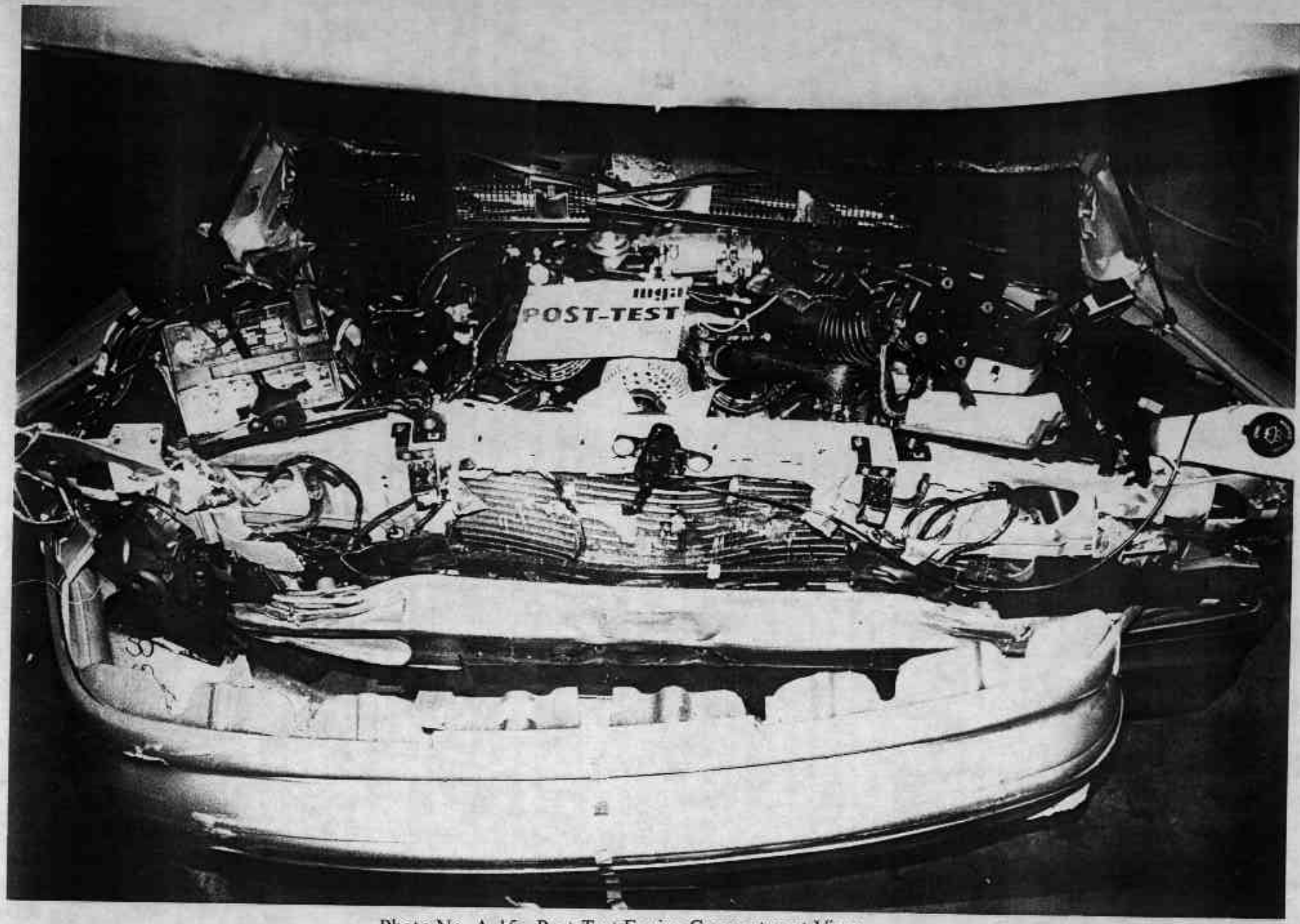


Photo No. A-15 - Post-Test Engine Compartment View

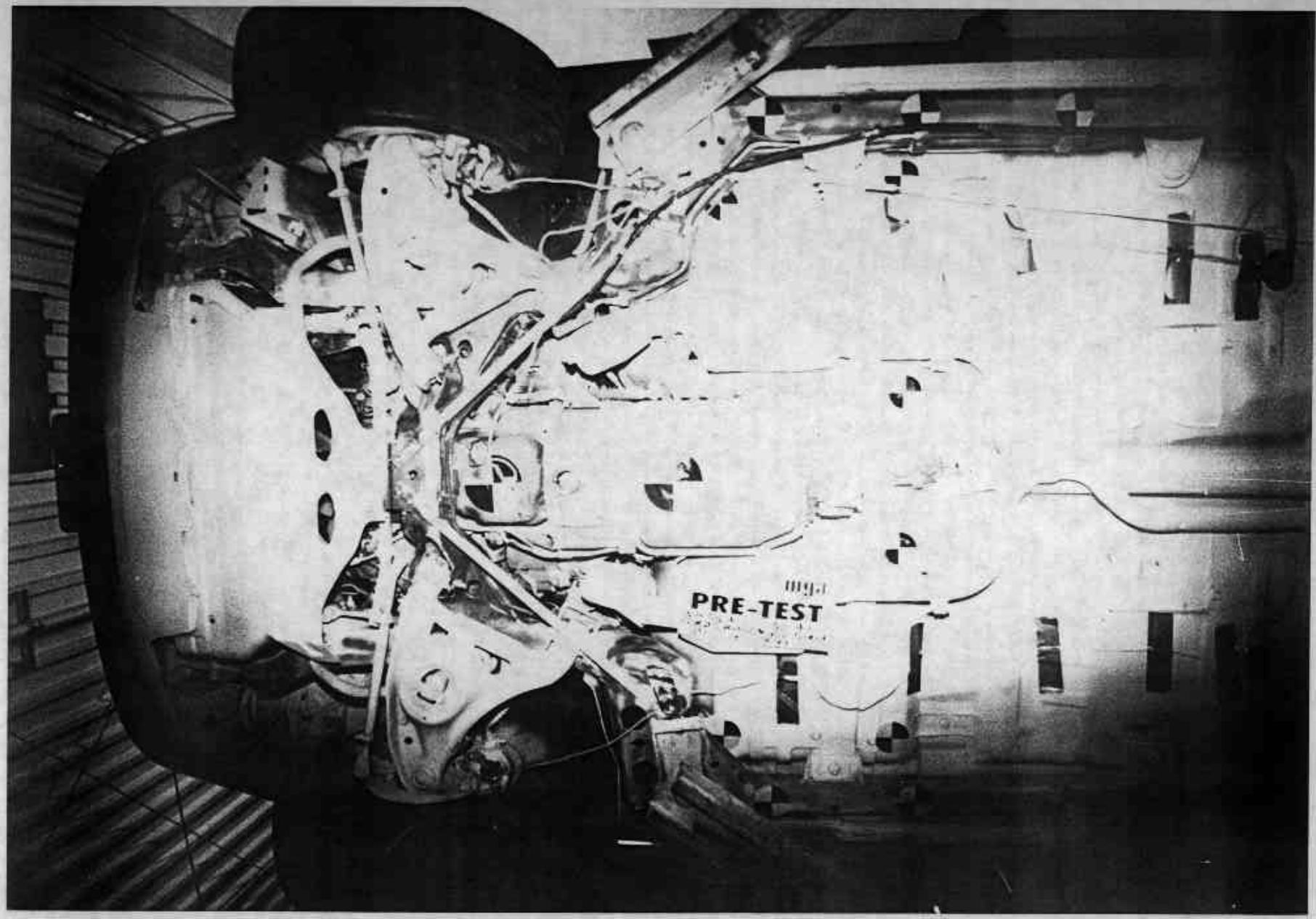


Photo No. A-16 - Pre-Test Front Underbody View

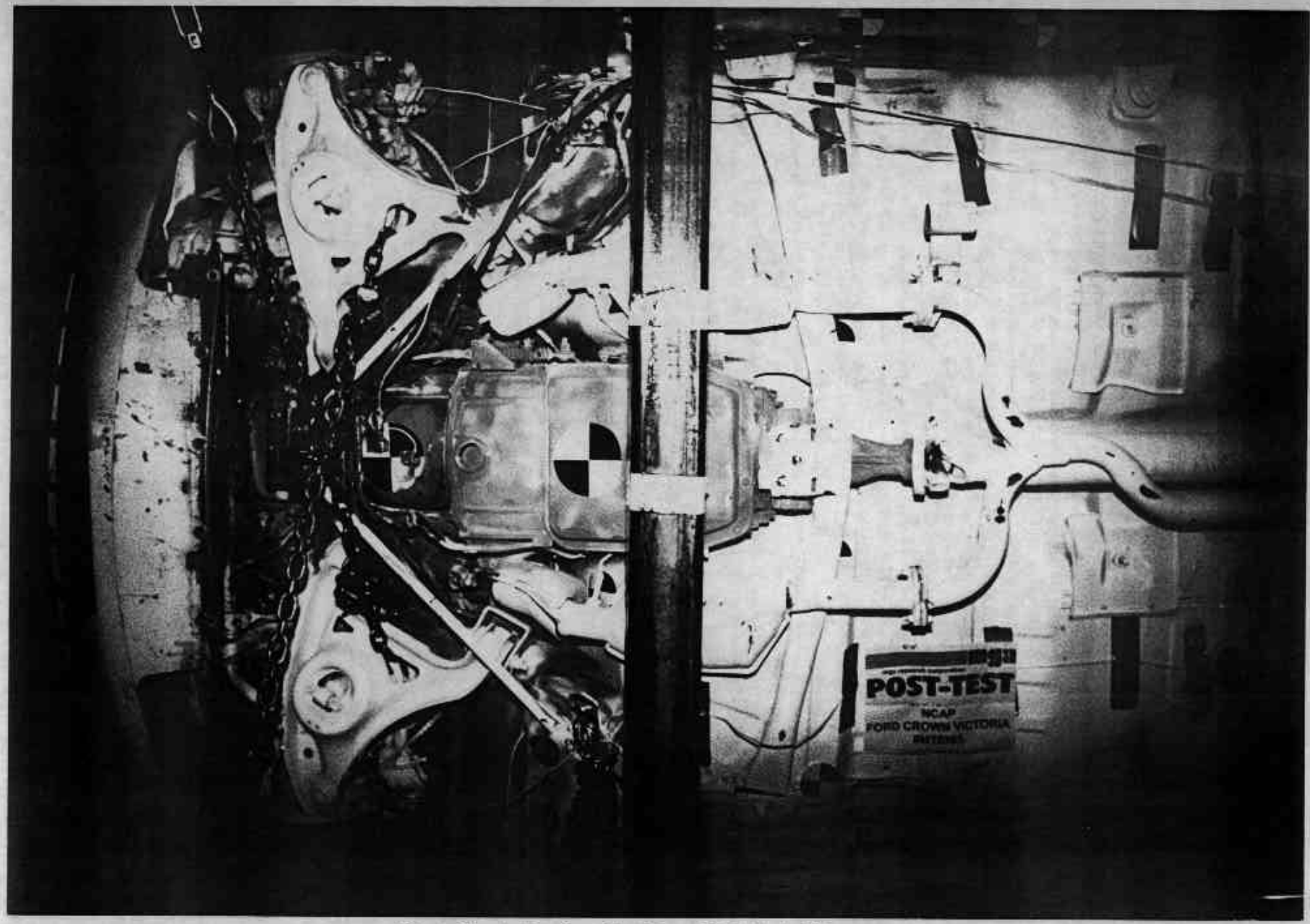


Photo No. A-17 - Post-Test Front Underbody View

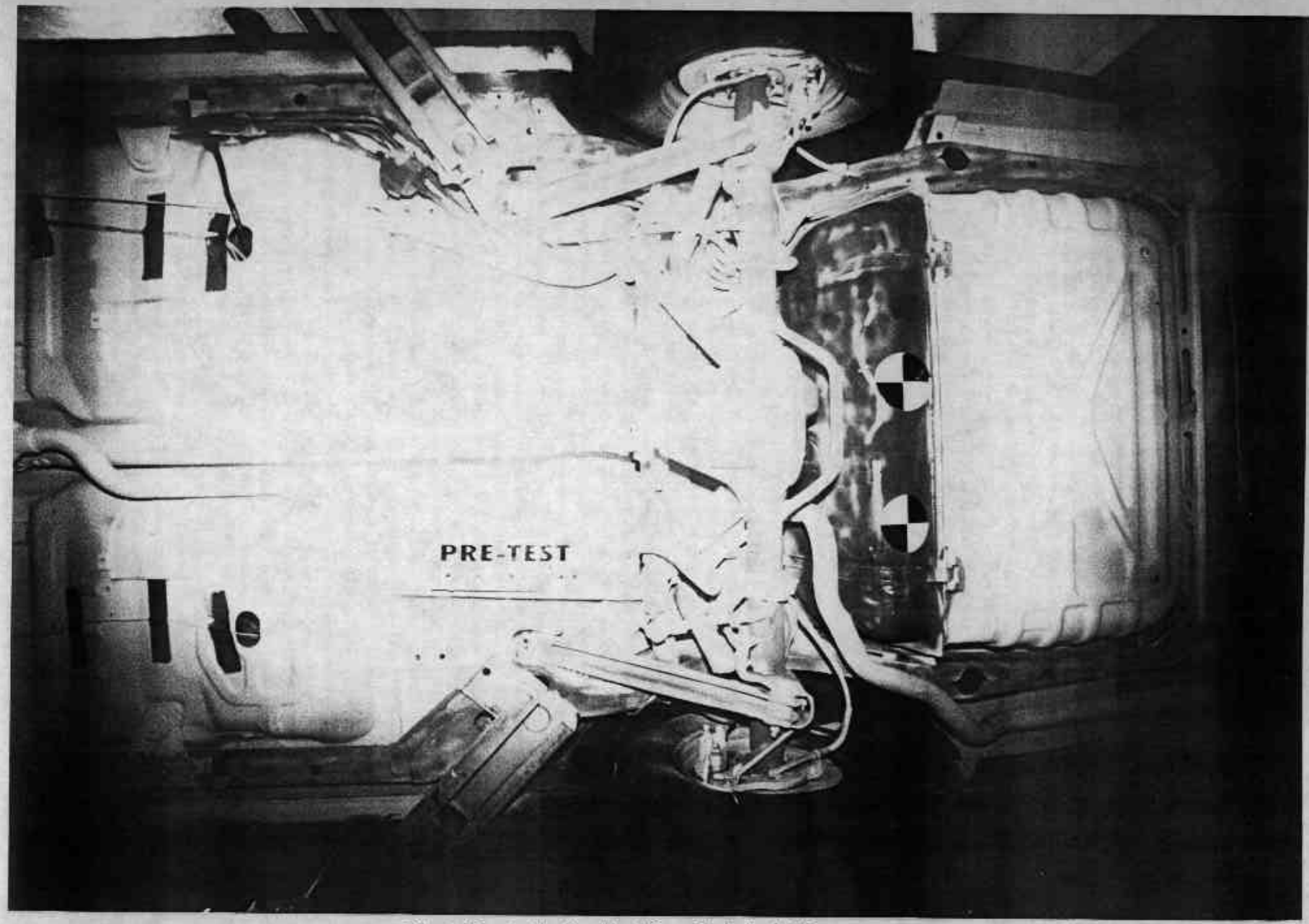


Photo No. A-18 - Pre-Test Rear Underbody View

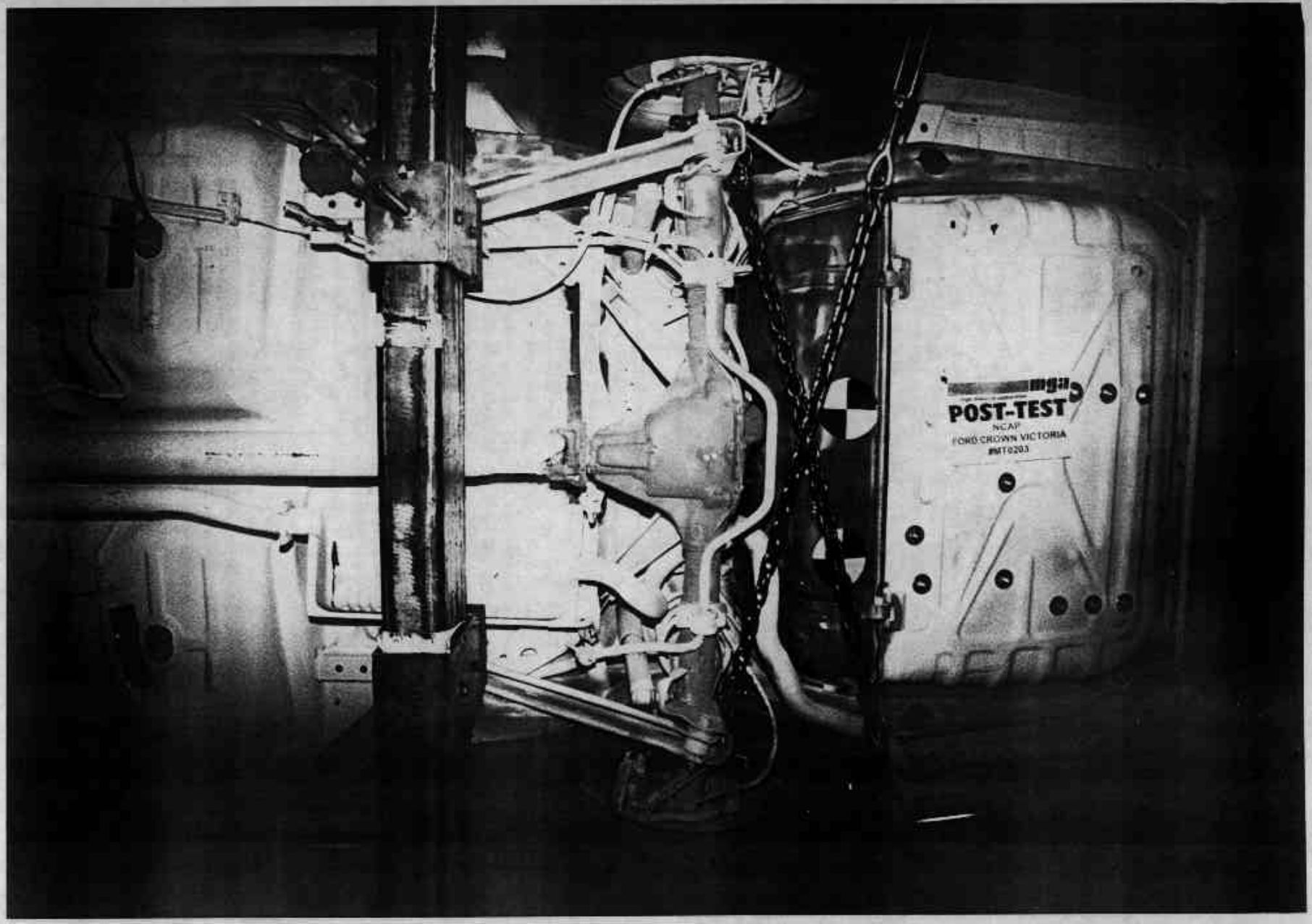


Photo No. A-19 - Post-Test Rear Underbody View

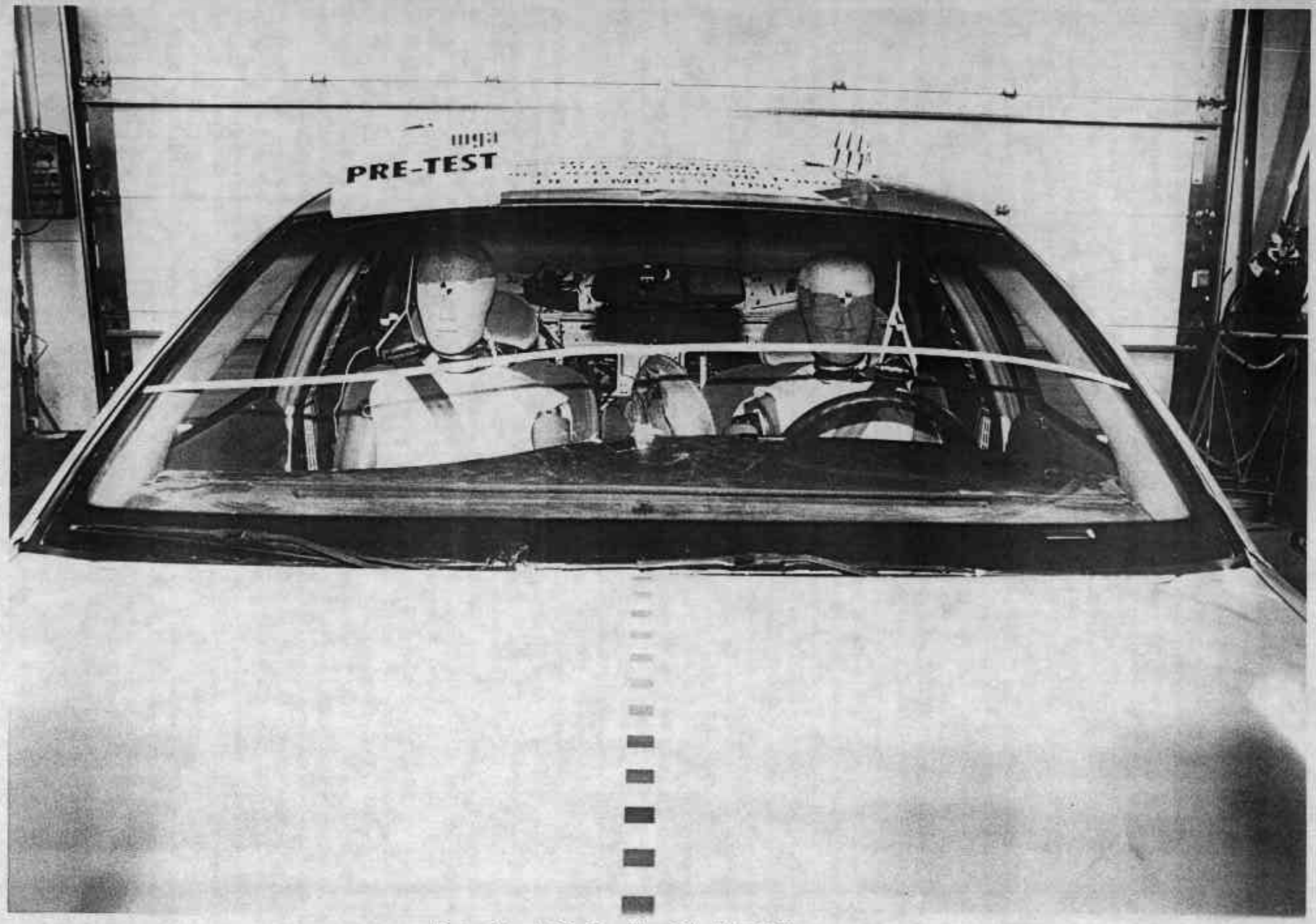


Photo No. A-20 - Pre-Test Windshield View

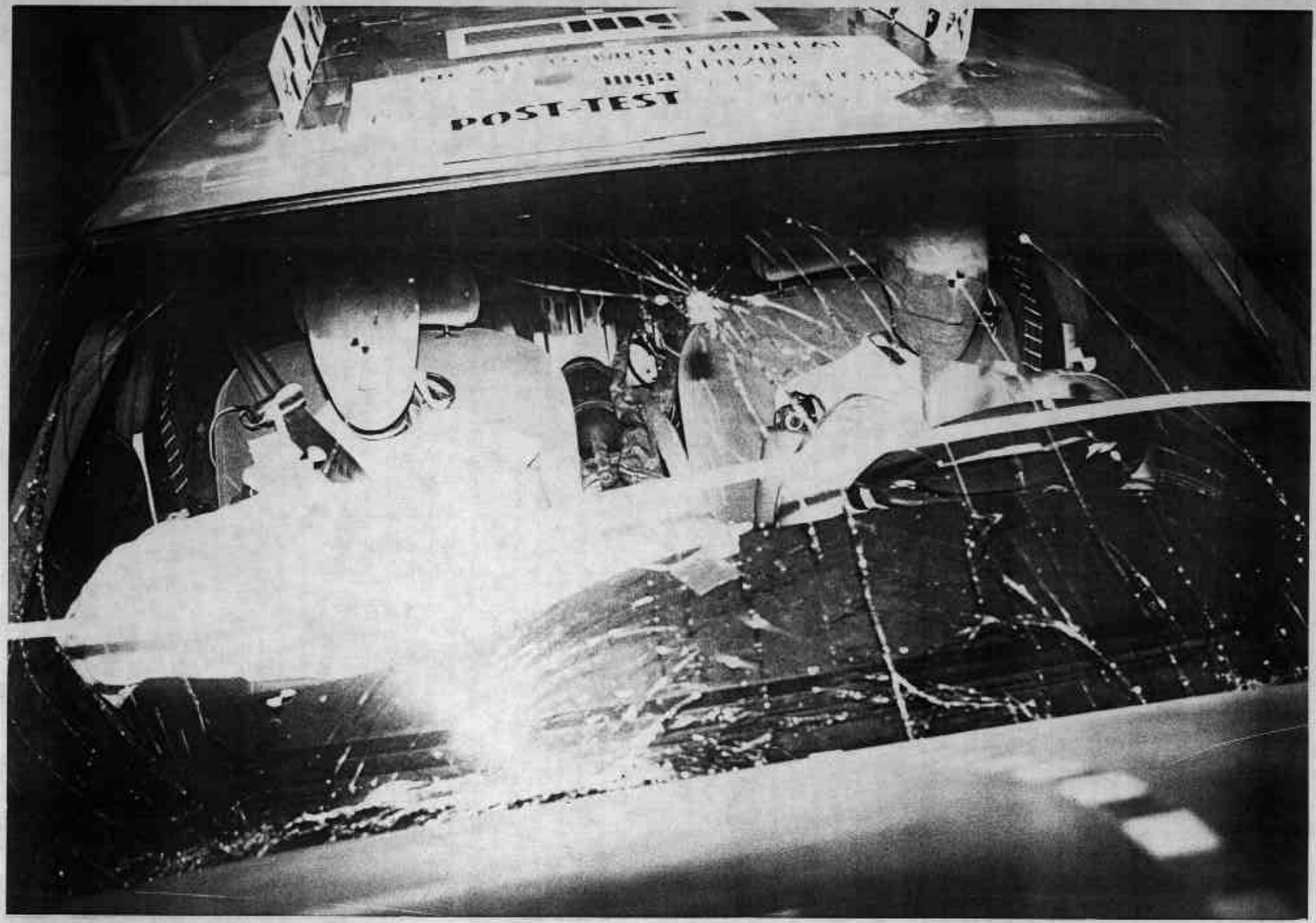
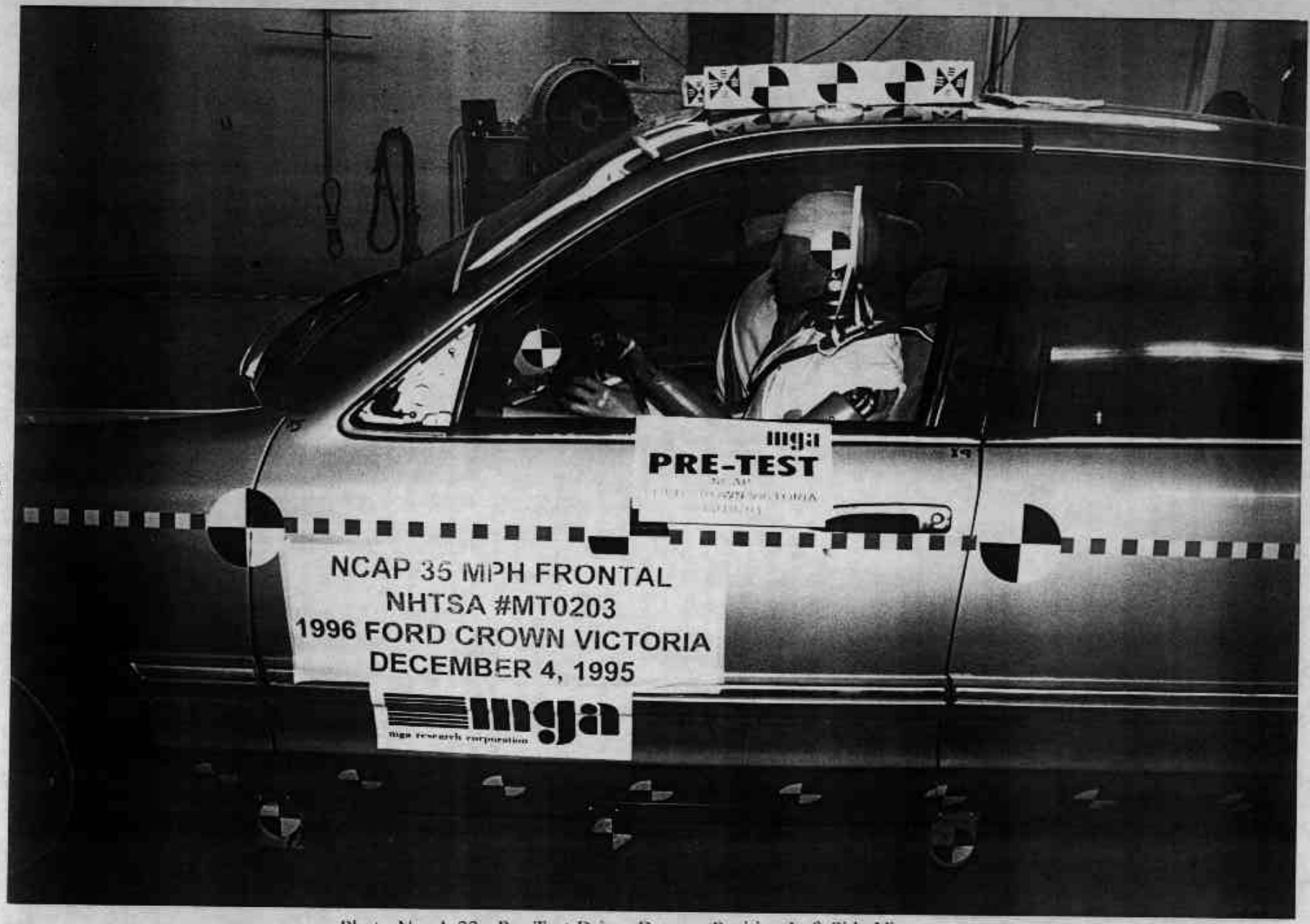


Photo No. A-21 - Post-Test Windshield View



A-22

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

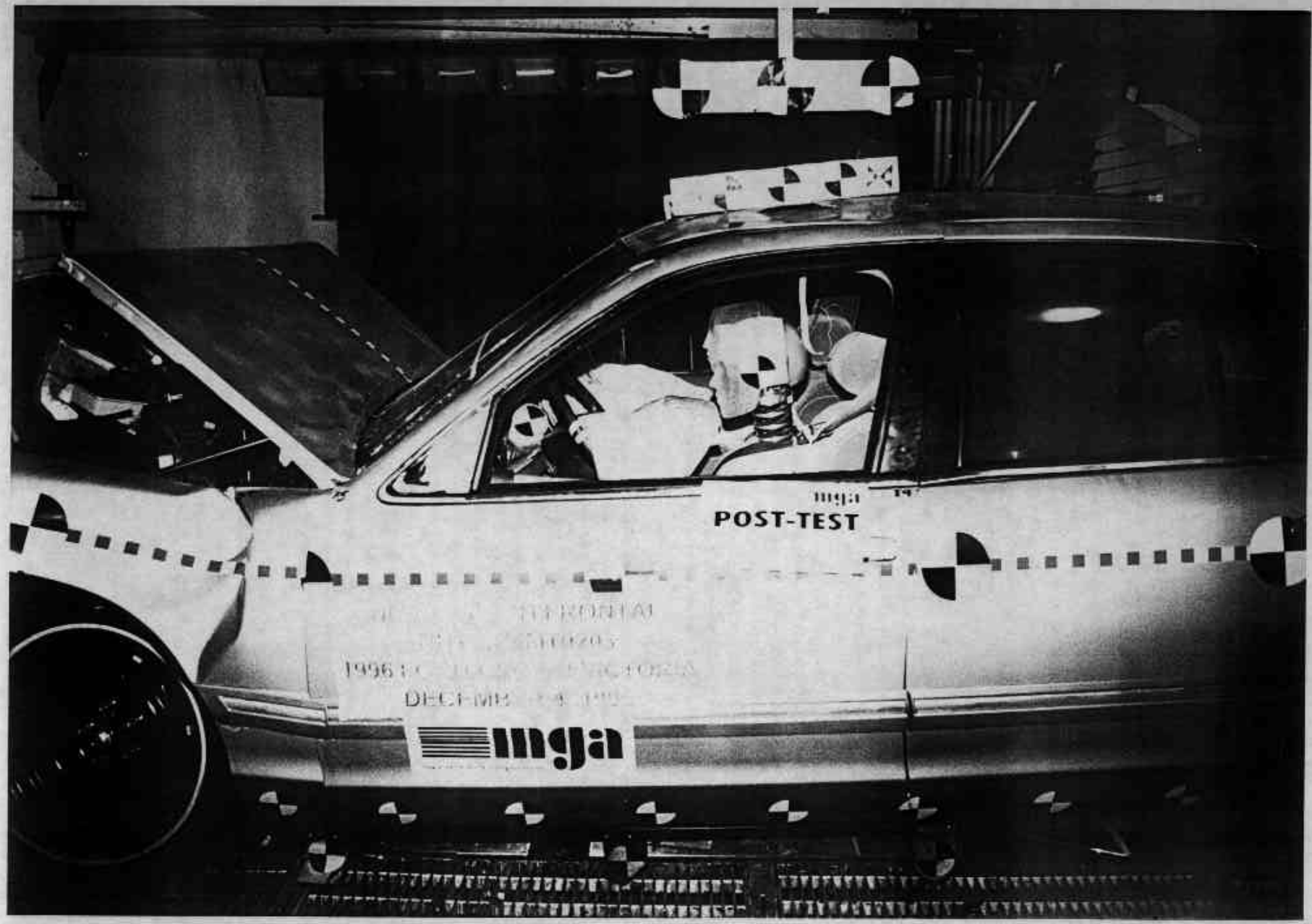


Photo No. A-23 - Post-Test Driver Dummy Position Left Side View

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

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

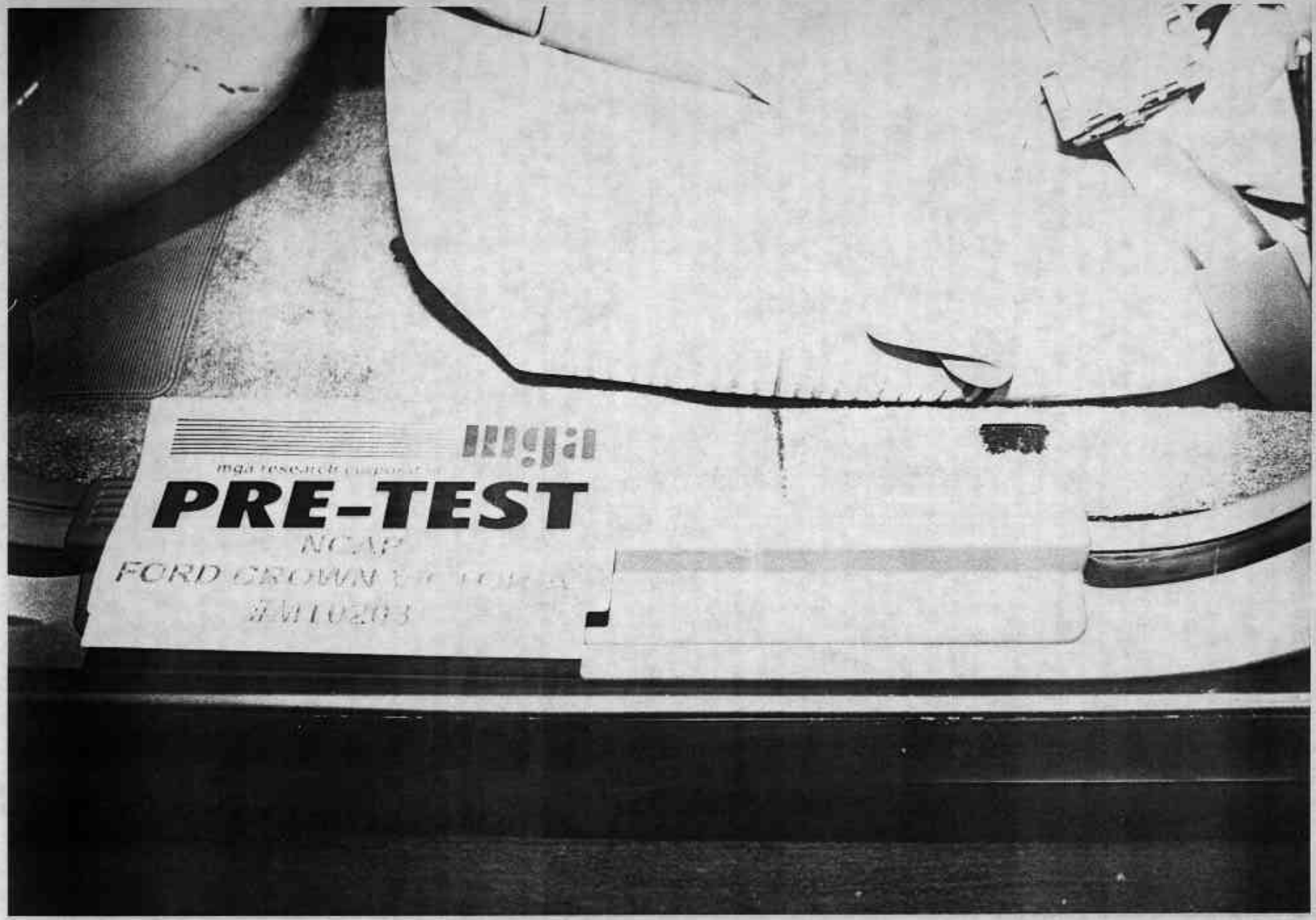


Photo No. A-26 - Pre-Test Driver Seat Position View

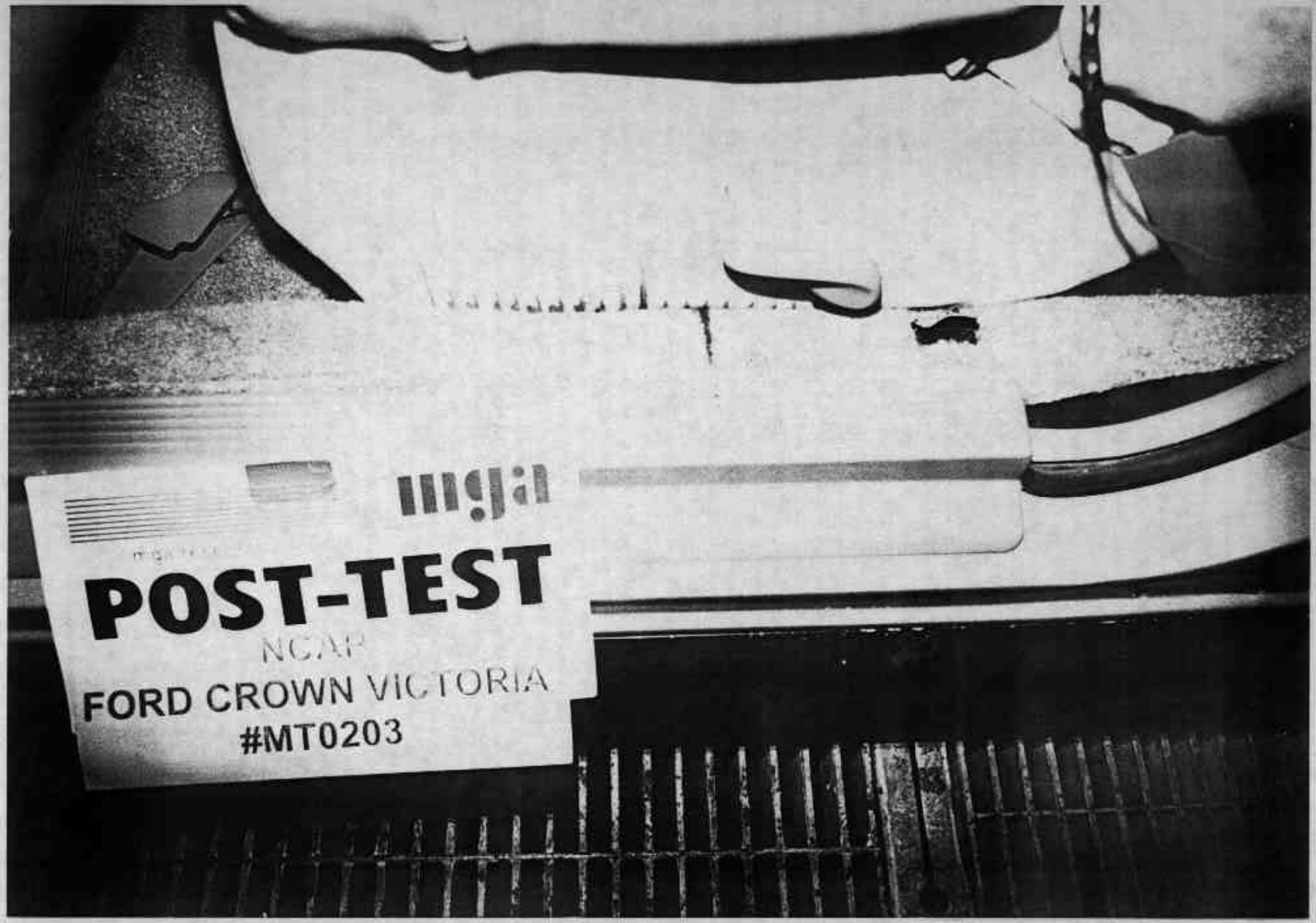


Photo No. A-27 - Post-Test Driver Seat Position View

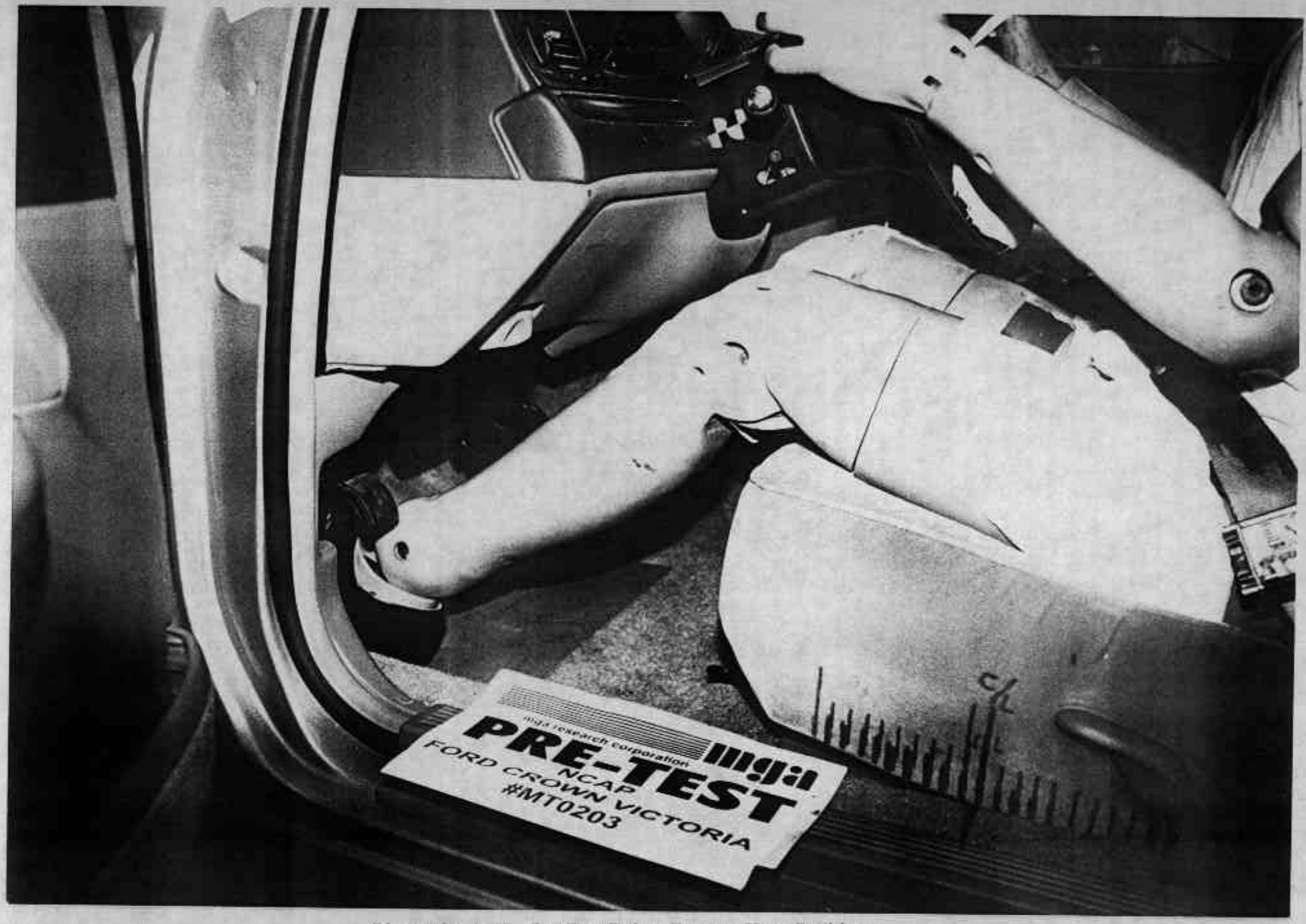
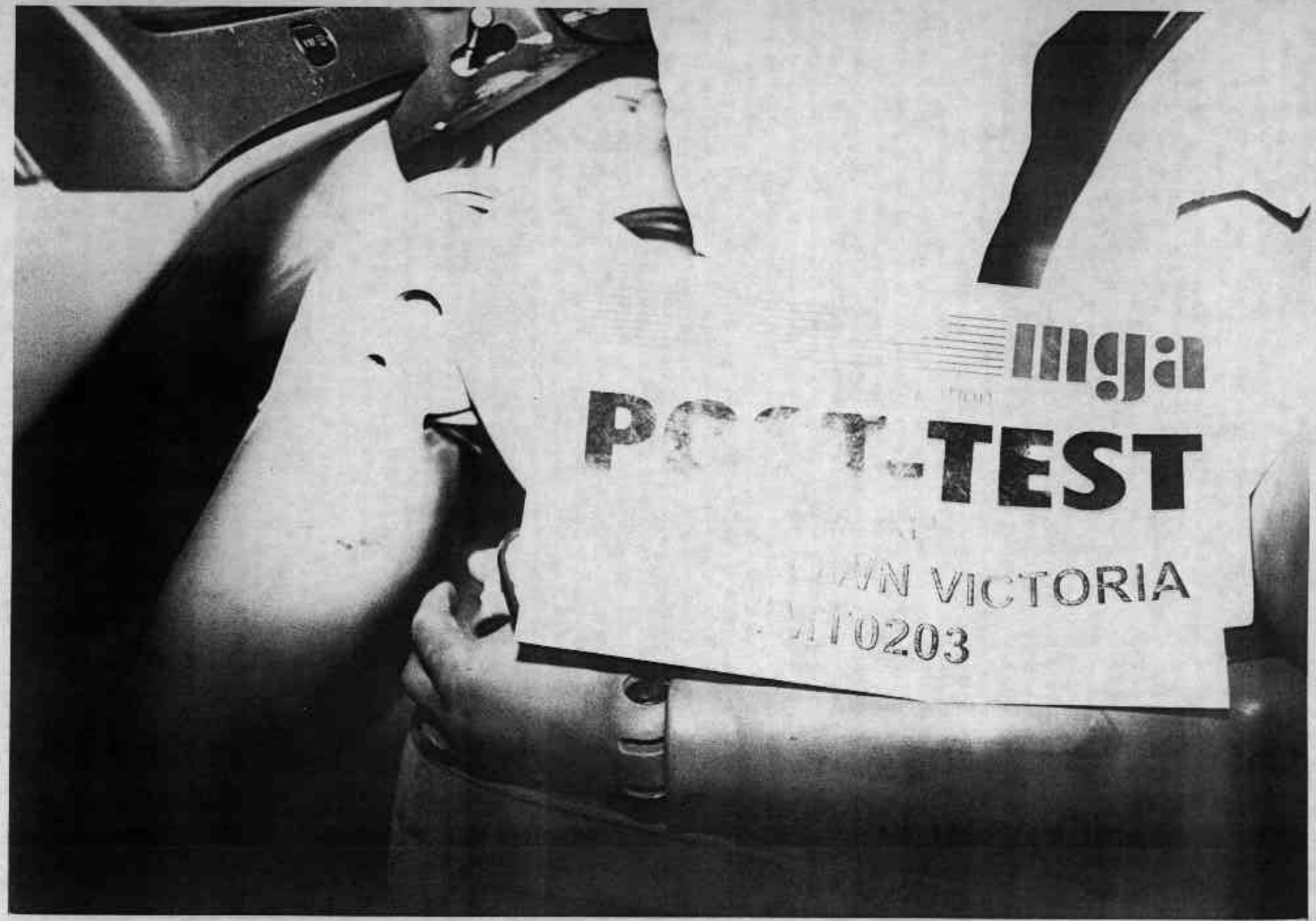


Photo No. A-28 - Pre-Test Driver Dummy Knee Position



A-29

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

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

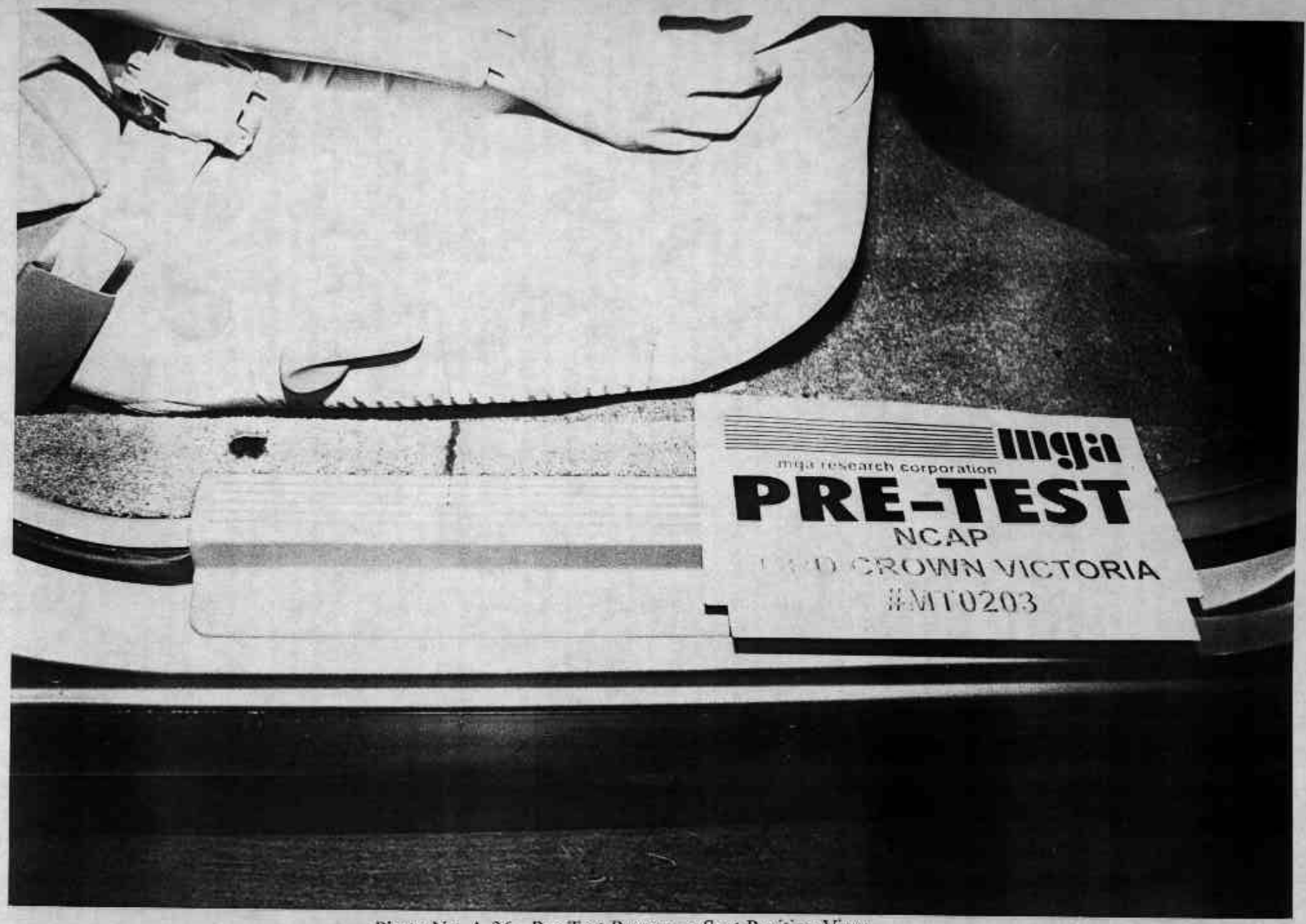
Photo No. A-31 - Post-Test Driver Knee Contact View

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

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

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

Photo No. A-35 - Post-Test Passenger Dummy Position Right Side View (Door Open)



A-36

Photo No. A-36 - Pre-Test Passenger Seat Position View

A-37

Photo No. A-37 - Post-Test Passenger Seat Position View

Photo No. A-38 - Pre-Test Passenger Dummy Knee Position

A-39

Photo No. A-39 - Post-Test Passenger Dummy Knee Position

Photo No. A-40 - Post-Test Passenger Airbag Contact

Photo No. A-41 - Post-Test Passenger Knee Contact View

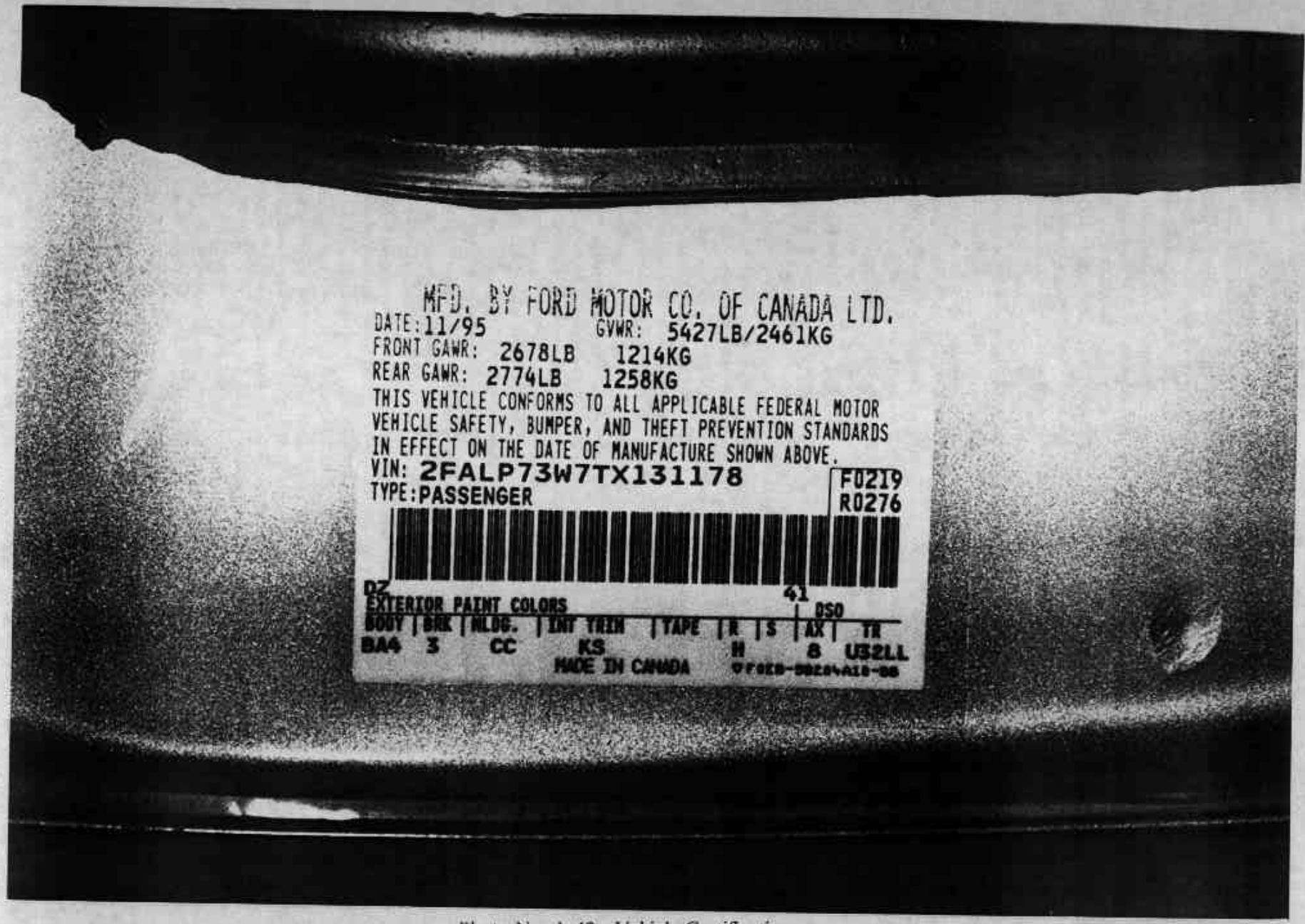
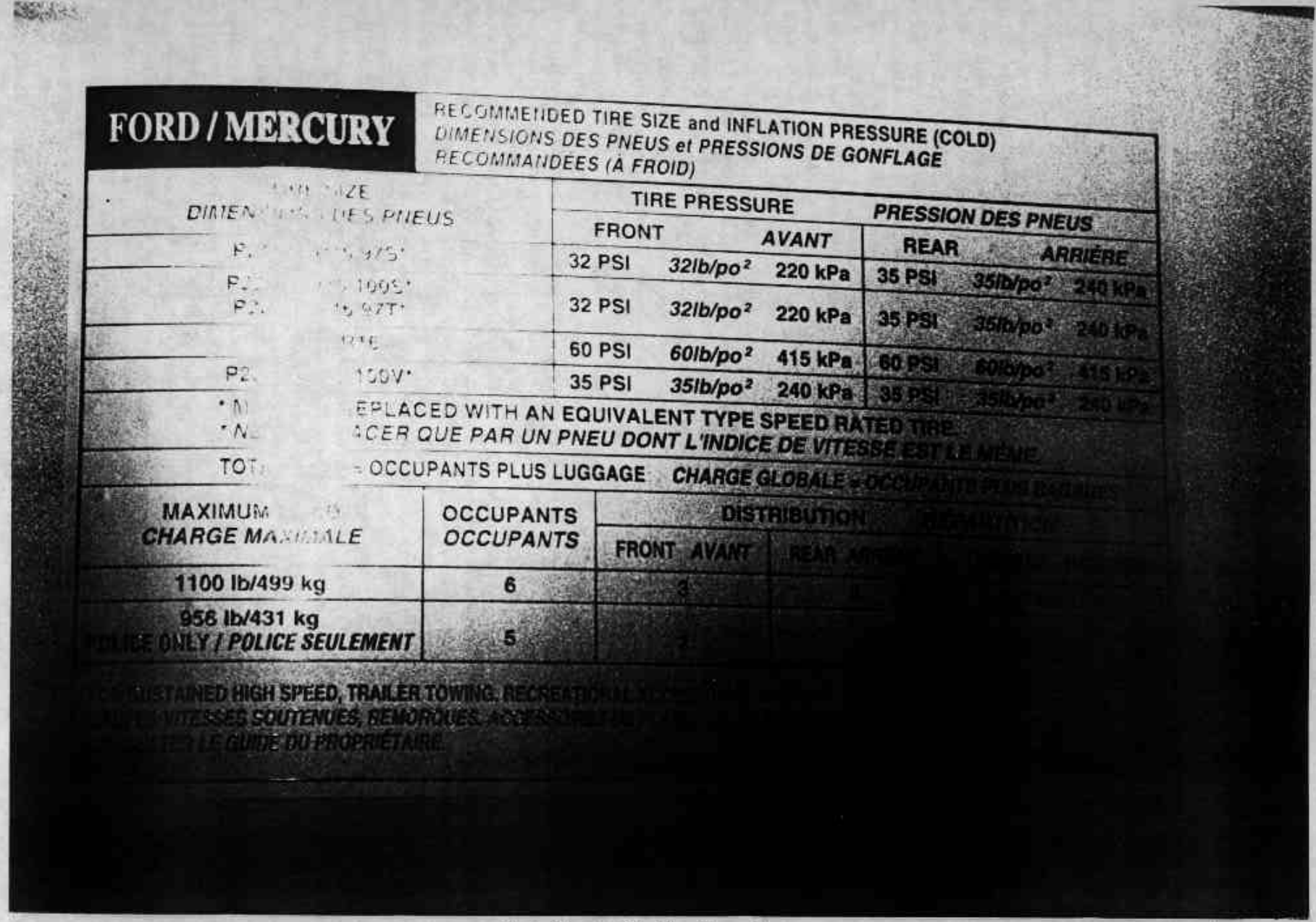


Photo No. A-42 - Vehicle Certification



FORD / MERCURY

RECOMMENDED TIRE SIZE and INFLATION PRESSURE (COLD)
DIMENSIONS DES PNEUS et PRESSIONS DE GONFLAGE RECOMMANDEES (À FROID)

TIRE SIZE / DIMENSIONS DES PNEUS	TIRE PRESSURE / PRESSION DES PNEUS					
	FRONT	AVANT		REAR	ARRIÈRE	
P[illegible]	32 PSI	32lb/po²	220 kPa	35 PSI	35lb/po²	240 kPa
P[illegible]	32 PSI	32lb/po²	220 kPa	35 PSI	35lb/po²	240 kPa
[illegible]	60 PSI	60lb/po²	415 kPa	60 PSI	60lb/po²	415 kPa
P2[illegible]	35 PSI	35lb/po²	240 kPa	35 PSI	35lb/po²	240 kPa

*N[illegible] REPLACED WITH AN EQUIVALENT TYPE SPEED RATED TIRE.
*N[illegible] *CER QUE PAR UN PNEU DONT L'INDICE DE VITESSE EST LE MÊME.*

TOT[illegible] = OCCUPANTS PLUS LUGGAGE *CHARGE GLOBALE = OCCUPANTS PLUS BAGAGES*

MAXIMUM *CHARGE MAXIMALE*	OCCUPANTS *OCCUPANTS*	DISTRIBUTION FRONT *AVANT*	REAR *ARRIÈRE*
1100 lb/499 kg	6	3	
958 lb/431 kg POLICE ONLY / *POLICE SEULEMENT*	5	2	

[illegible] SUSTAINED HIGH SPEED, TRAILER TOWING, RECREATIONAL [illegible]
[illegible] VITESSES SOUTENUES, REMORQUES, ACCESSOIRES [illegible]
[illegible] *LE GUIDE DU PROPRIÉTAIRE.*

Photo No. A-43 - Tire Placard

Photo No. A-44 - Vehicle Impact

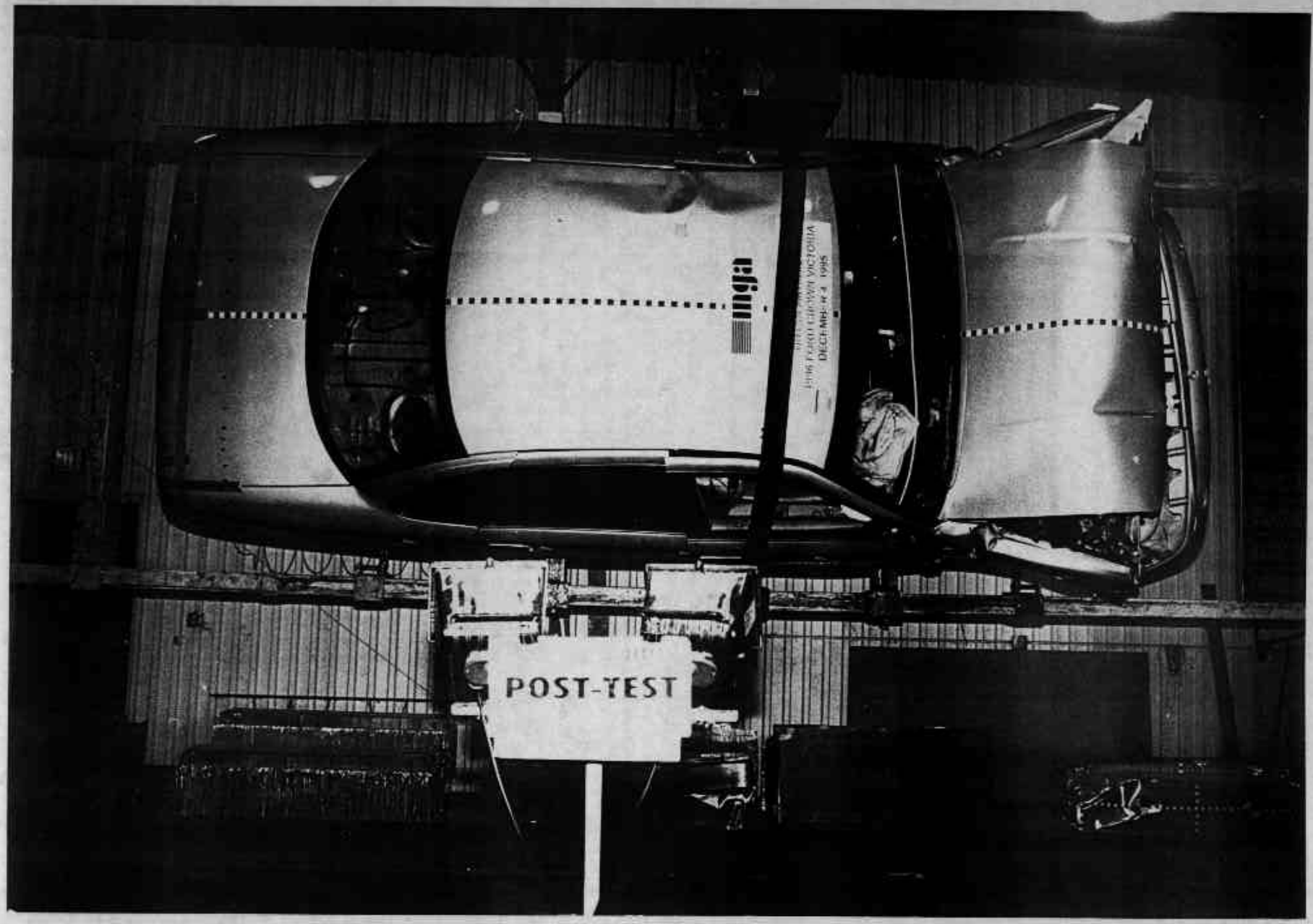


Photo No. A-45 - Rollover 90°

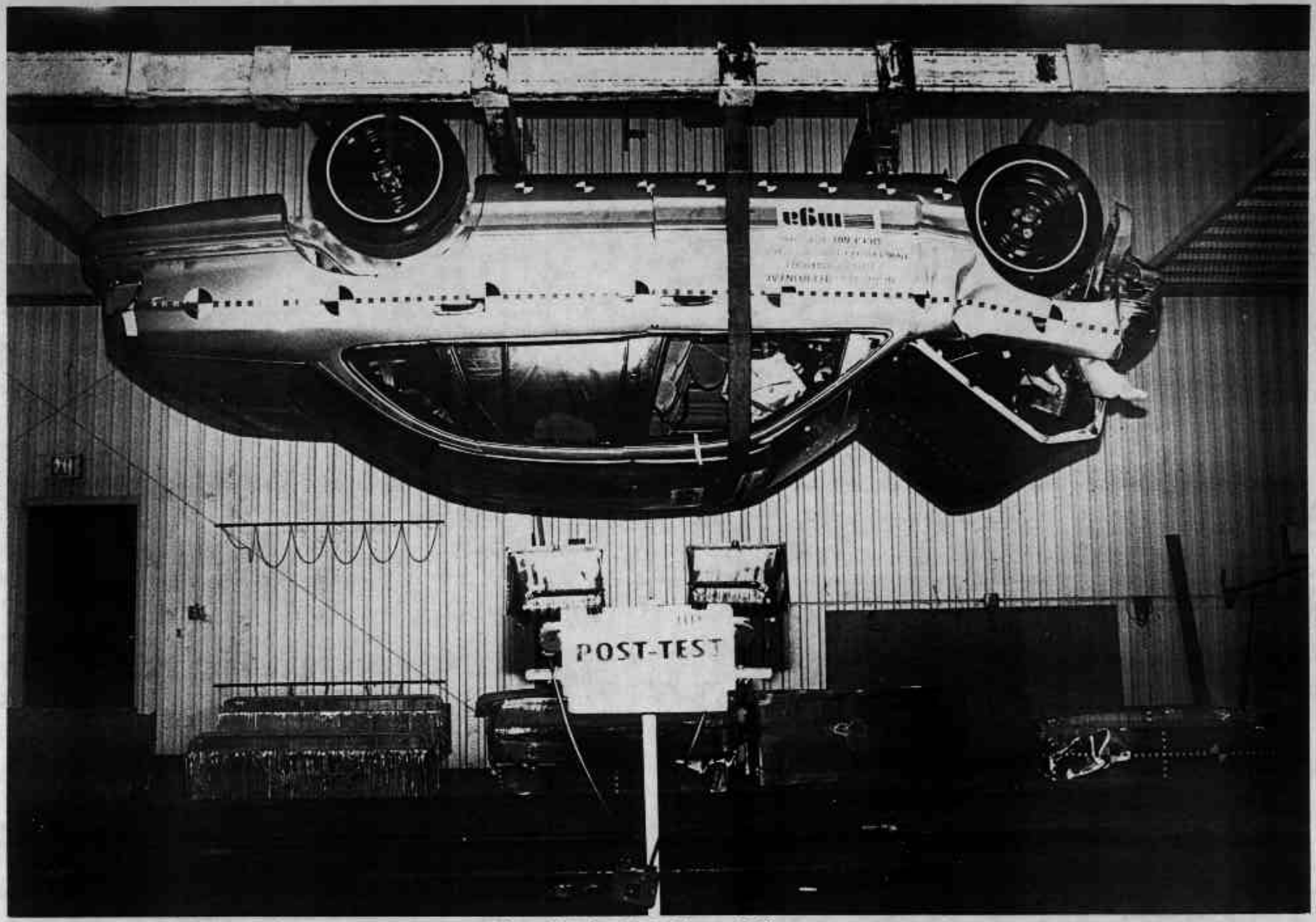


Photo No. A-46 - Rollover 180°

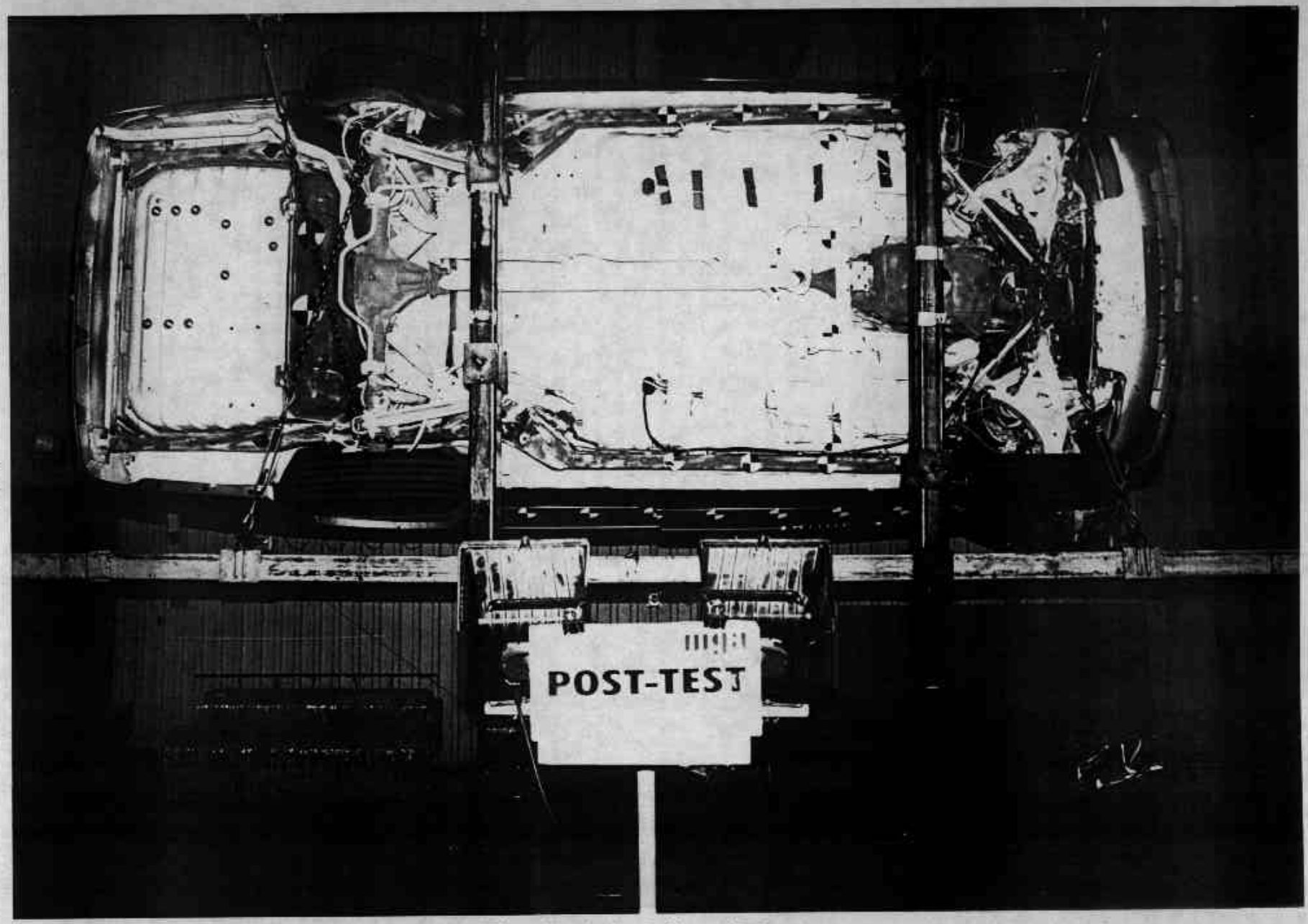


Photo No. A-47 - Rollover 270°

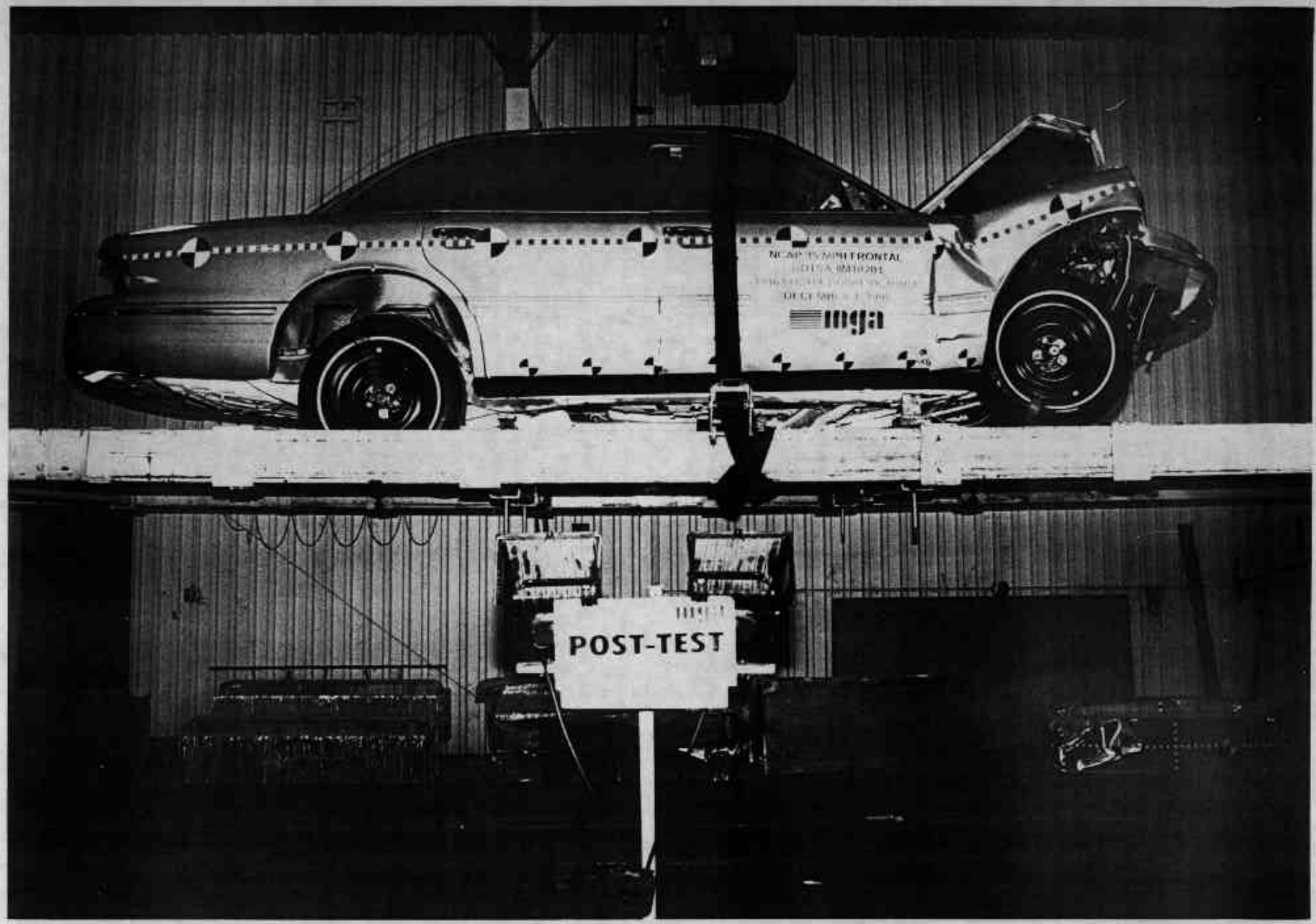


Photo No. A-48 - Rollover 360°

1996 Crown Victoria

NHTSA NO.: MT0203

VEHICLE DATA FILTER CHANNEL CLASS

Head Accelerations 1000 (1650 Hz)

Chest Accelerations 180 (300 Hz)

Vehicle Accelerations 60 (100 Hz)

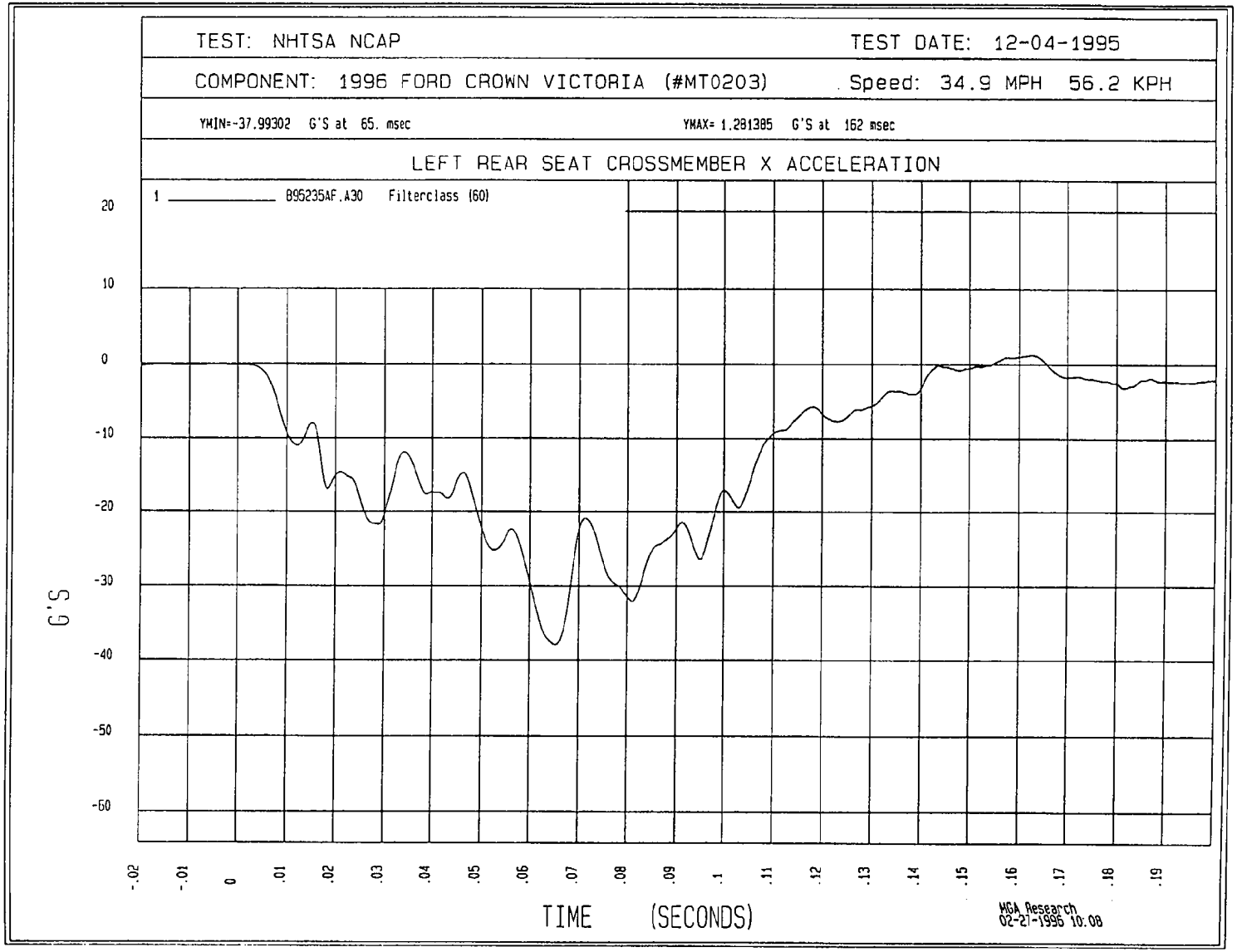
Barrier Load Cells 60 (100 Hz)

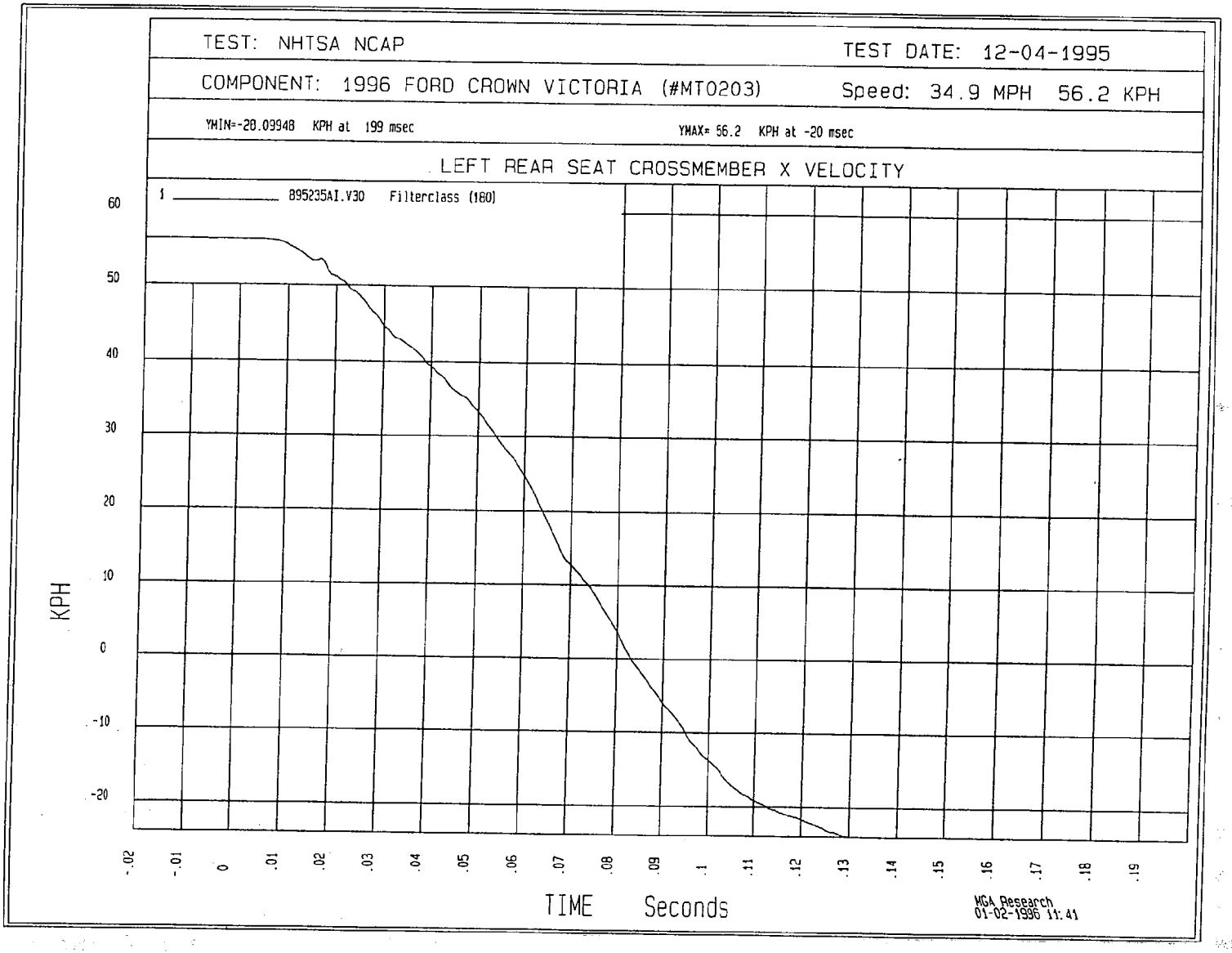
Femur Load Cells 600 (1000 Hz)

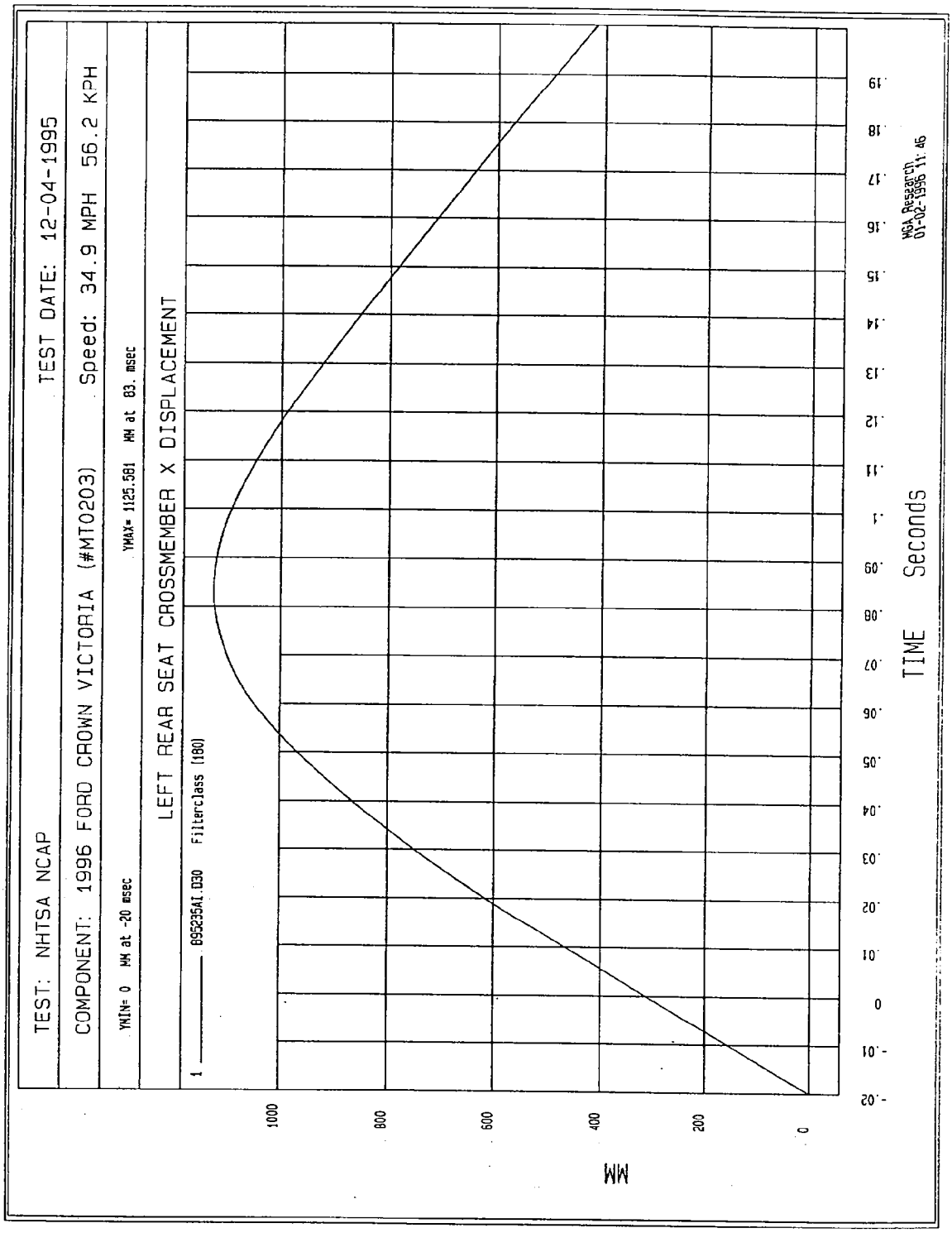
Lap and Torso Belts 60 (100 Hz)

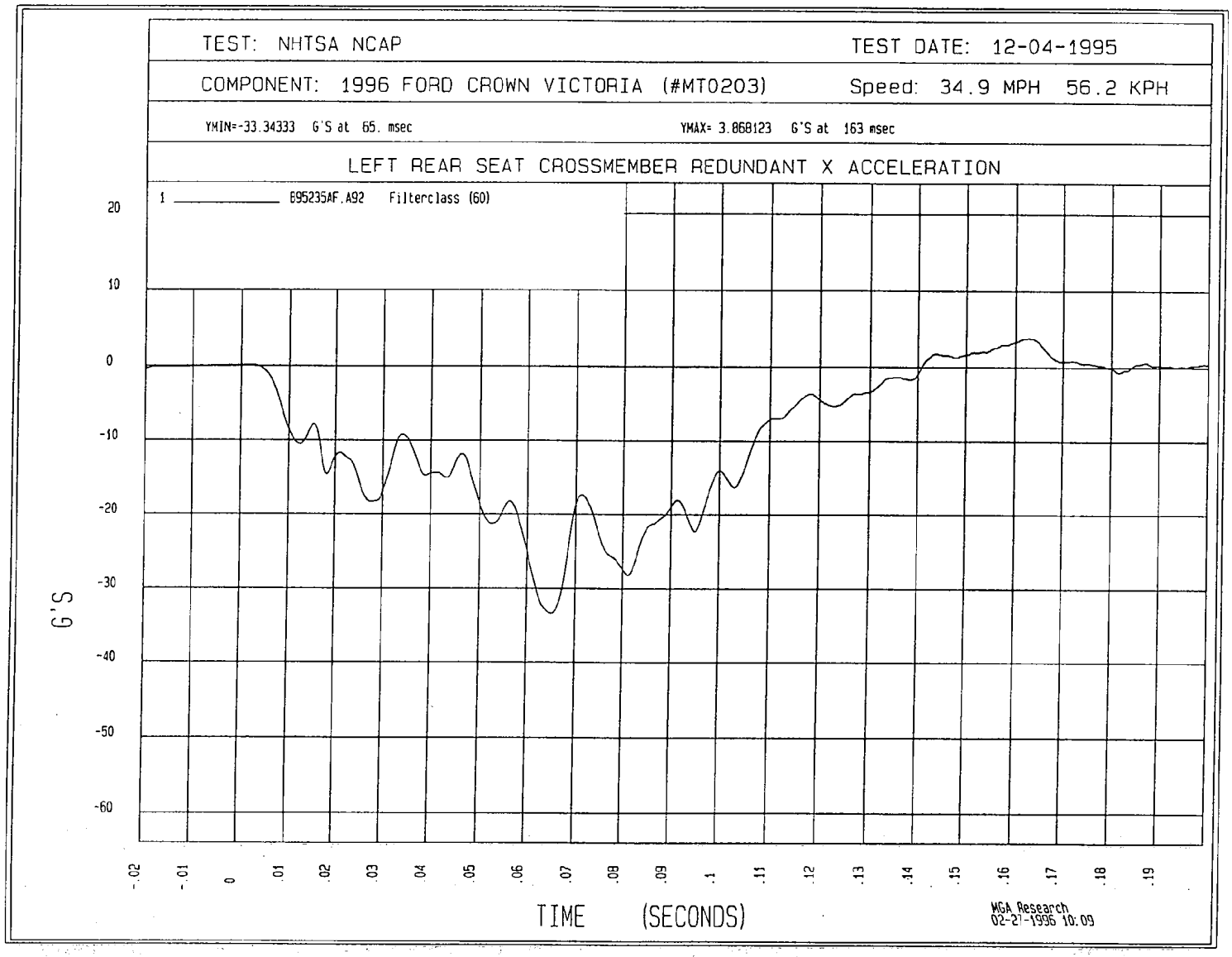
* No Valid Data Collected

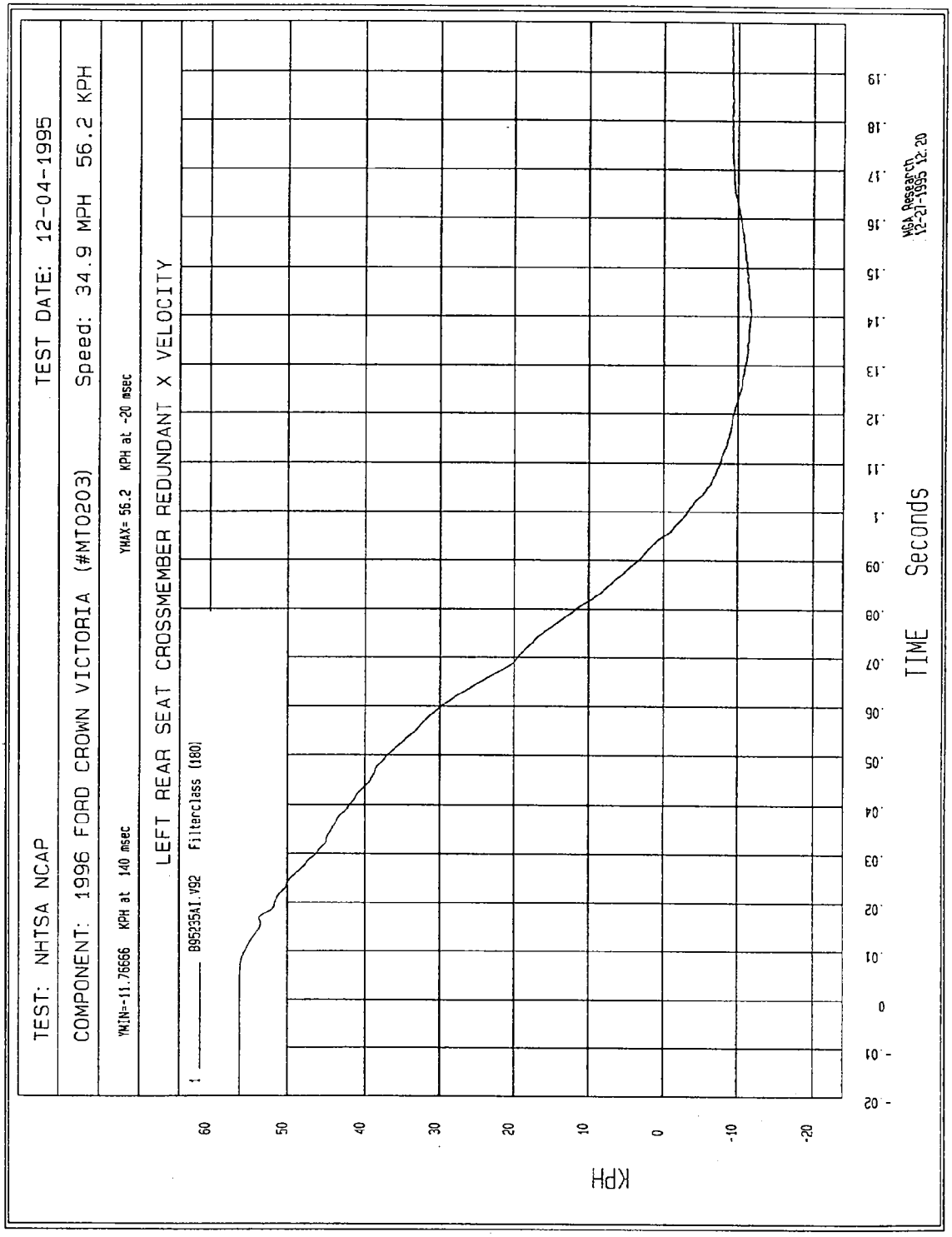
[redacted]

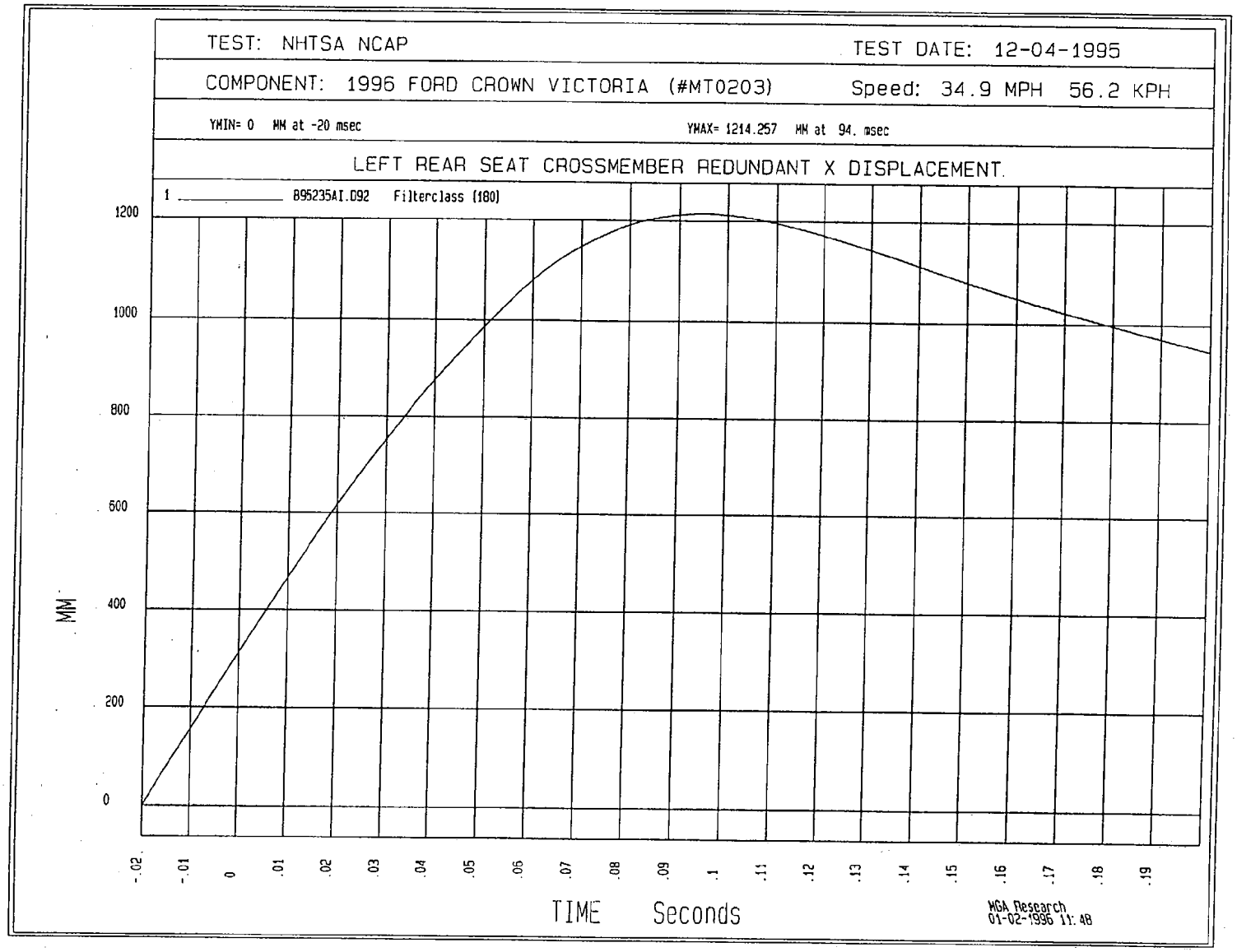

TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-37.99302 G'S at 65. msec
YMAX= 1.281385 G'S at 162 msec
LEFT REAR SEAT CROSSMEMBER X ACCELERATION
1 B95235AF.A30 Filterclass (60)
20
10
0
-10
-20
-30
-40
-50
-60
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
02-27-1996 10:08

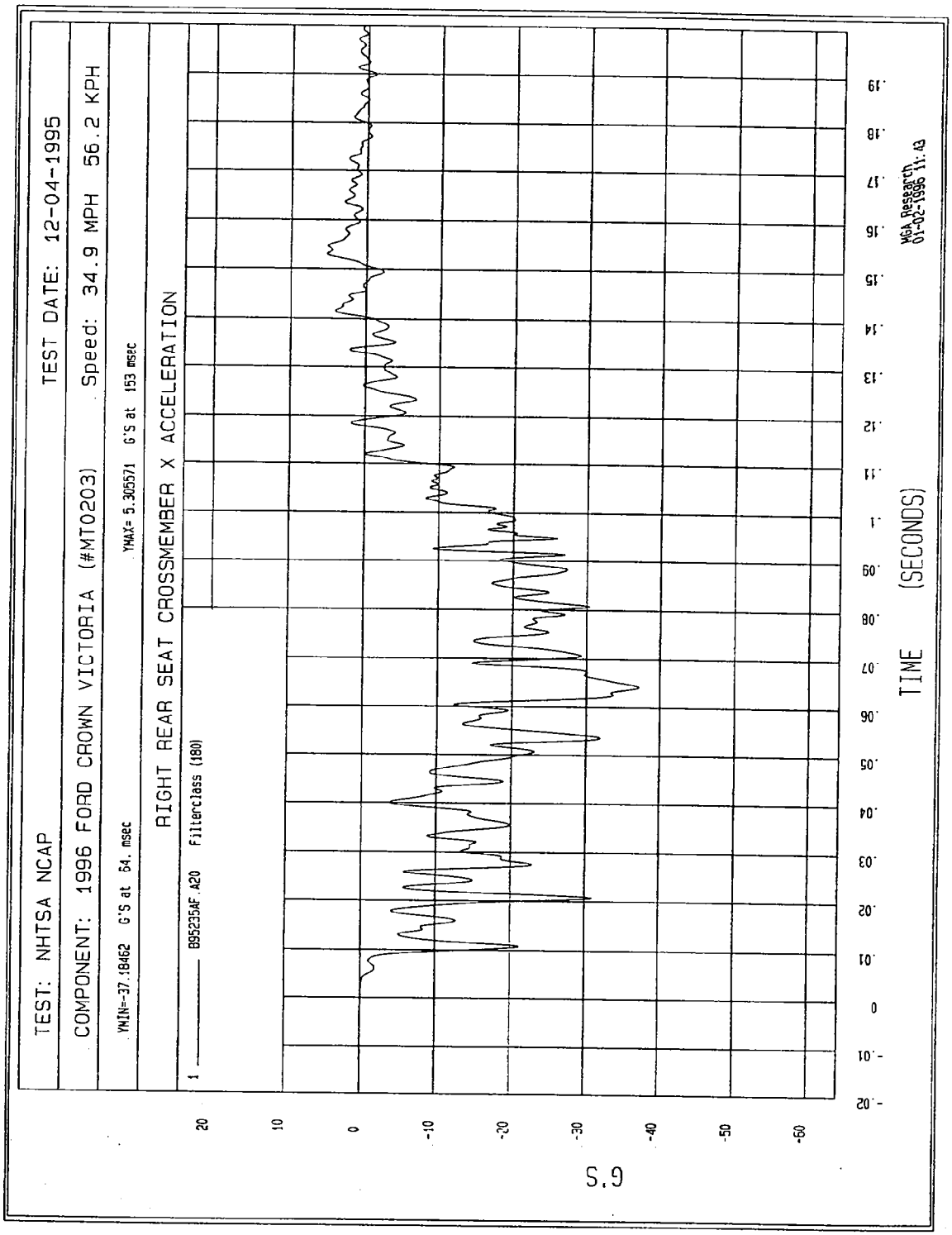

TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-20.09948 KPH at 199 msec
YMAX= 56.2 KPH at -20 msec
LEFT REAR SEAT CROSSMEMBER X VELOCITY
1 895235AI.V30 Filterclass (180)
60
50
40
30
20
10
0
-10
-20
KPH
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME Seconds
MGA Research
01-02-1996 11:41

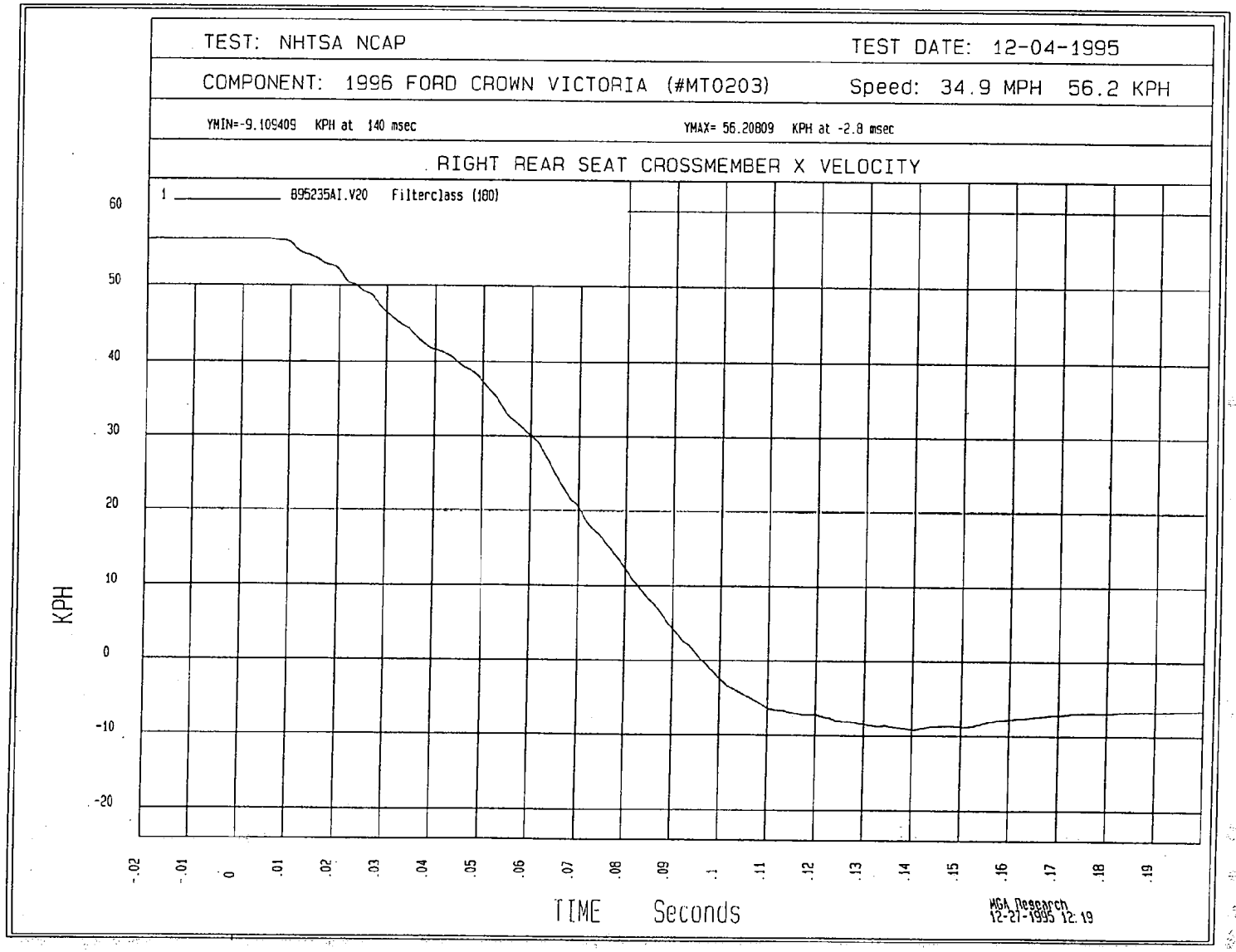

TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN= 0 MM at -20 msec
YMAX= 1125.581 MM at 83. msec
LEFT REAR SEAT CROSSMEMBER X DISPLACEMENT
1 _____ 895235AI.D30 Filterclass (180)
MM
1000
800
600
400
200
0
TIME Seconds
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
MGA Research
01-02-1996 11:46

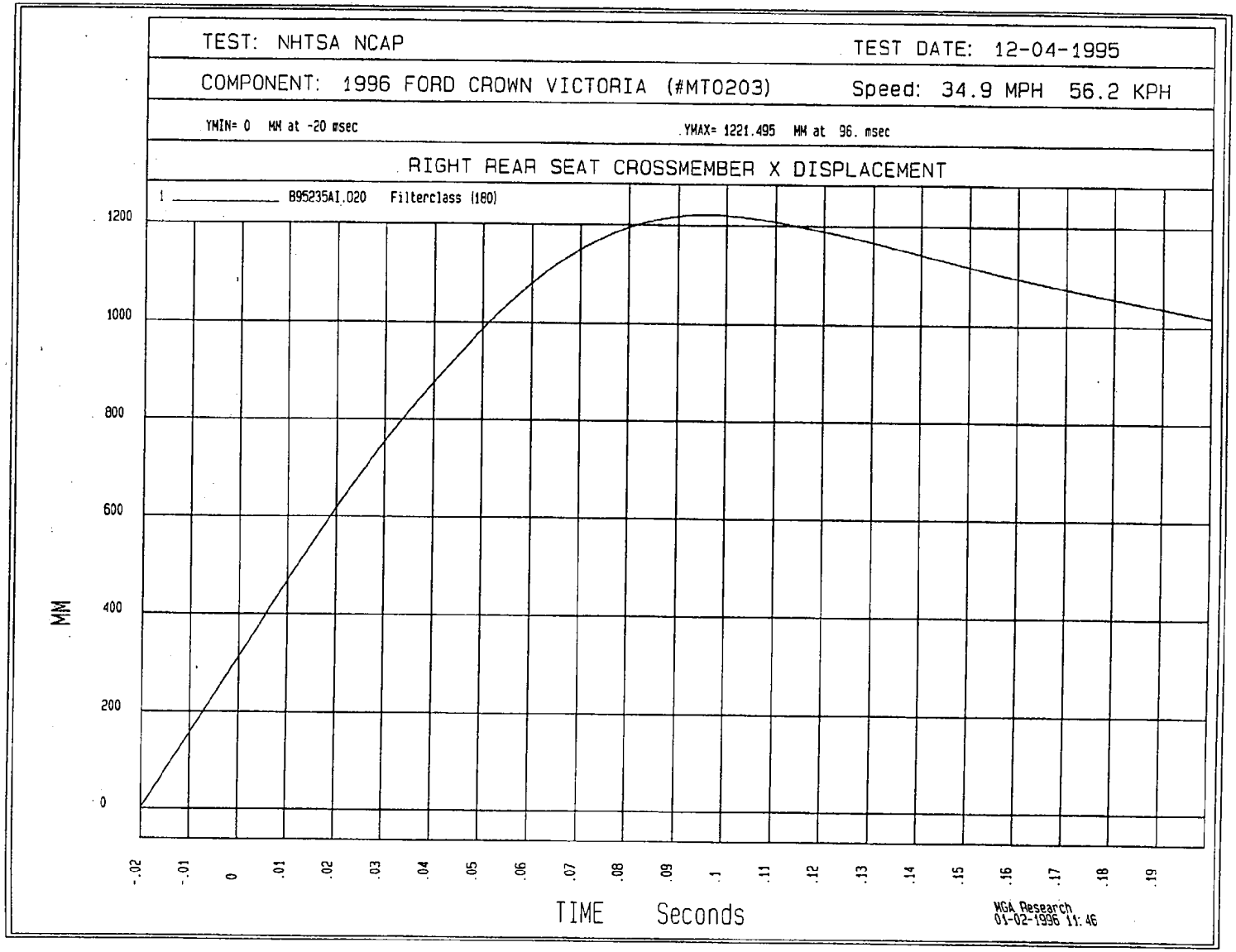

TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-33.34333 G'S at 65. msec
YMAX= 3.868123 G'S at 163 msec
LEFT REAR SEAT CROSSMEMBER REDUNDANT X ACCELERATION
1 B95235AF.A92 Filterclass (60)
20
10
0
-10
-20
-30
-40
-50
-60
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
02-27-1996 10:09


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-11.76666 KPH at 140 msec
YMAX= 56.2 KPH at -20 msec
LEFT REAR SEAT CROSSMEMBER REDUNDANT X VELOCITY
1 ——— B95235A1.V92 Filterclass (180)
KPH
TIME Seconds
MGA Research
12-21-1995 12:20


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN= 0 MM at -20 msec
YMAX= 1214.257 MM at 94. msec
LEFT REAR SEAT CROSSMEMBER REDUNDANT X DISPLACEMENT.
1 B95235AI.D92 Filterclass (180)
MM
1200
1000
800
600
400
200
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME Seconds
MGA Research
01-02-1996 11:48


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-37.18462 G'S at 54. msec
YMAX= 5.305571 G'S at 153 msec
RIGHT REAR SEAT CROSSMEMBER X ACCELERATION
1 B95235AF.A20 Filterclass (180)
20
10
0
-10
-20
-30
-40
-50
-60
G's
.19
.18
.17
.16
.15
.14
.13
.12
.11
.1
.09
.08
.07
.06
.05
.04
.03
.02
.01
0
-.01
-.02
TIME (SECONDS)
MGA Research
01-02-1996 11:43


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-9.109409 KPH at 140 msec
YMAX= 56.20809 KPH at -2.8 msec
RIGHT REAR SEAT CROSSMEMBER X VELOCITY
1 ——— 895235AI.V20 Filterclass (180)
KPH
60
50
40
30
20
10
0
-10
-20
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME Seconds
MGA Research
12-27-1995 12:19


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN= 0 MM at -20 msec
YMAX= 1221.495 MM at 96. msec
RIGHT REAR SEAT CROSSMEMBER X DISPLACEMENT
1 B95235AI.D20 Filterclass (180)
MM
1200
1000
800
600
400
200
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
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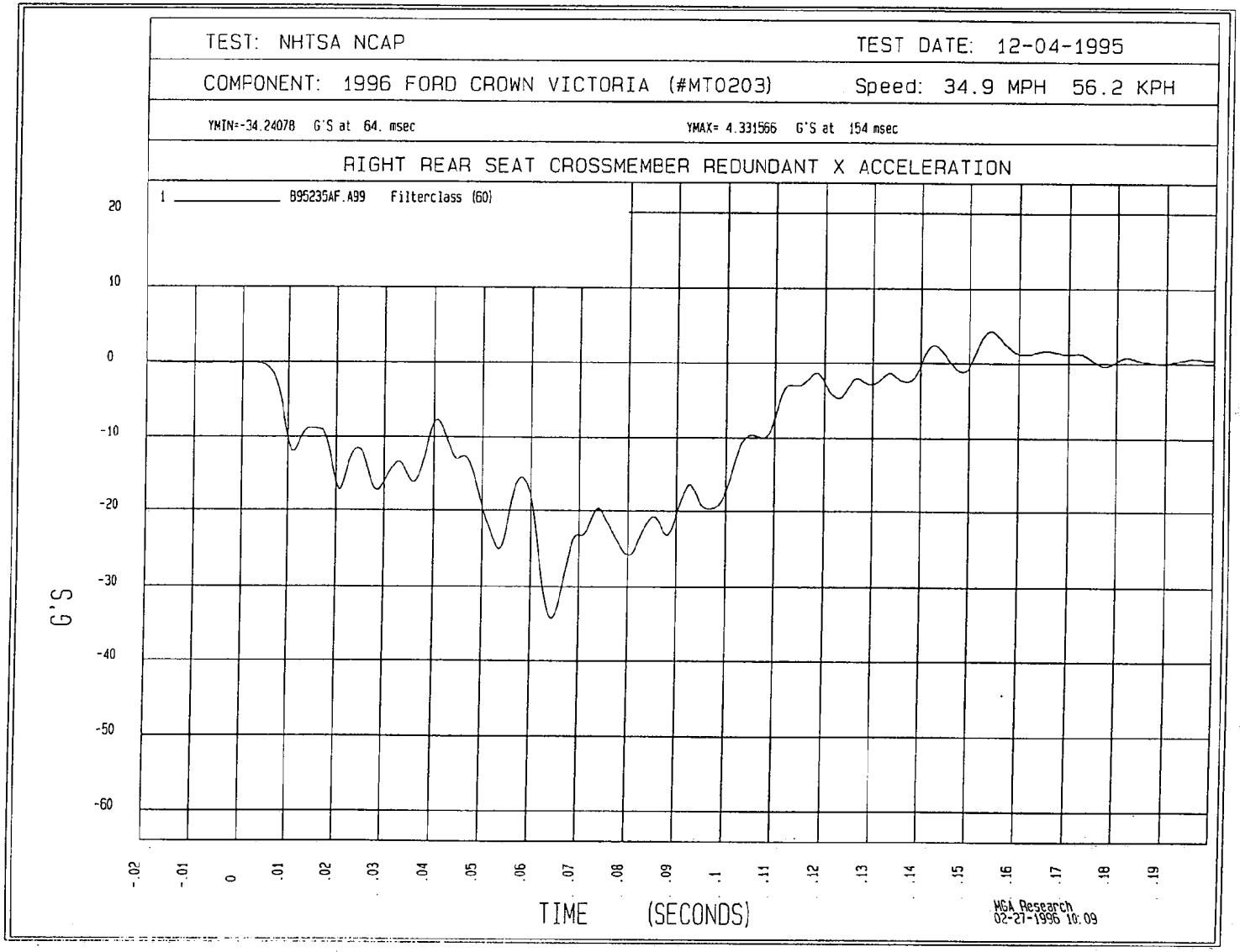
TIME Seconds
MGA Research
01-02-1996 11:46


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-34.24078 G'S at 64. msec
YMAX= 4.331566 G'S at 154 msec
RIGHT REAR SEAT CROSSMEMBER REDUNDANT X ACCELERATION
1 B95235AF.A99 Filterclass (60)
20
10
0
-10
-20
-30
-40
-50
-60
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
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.13
.14
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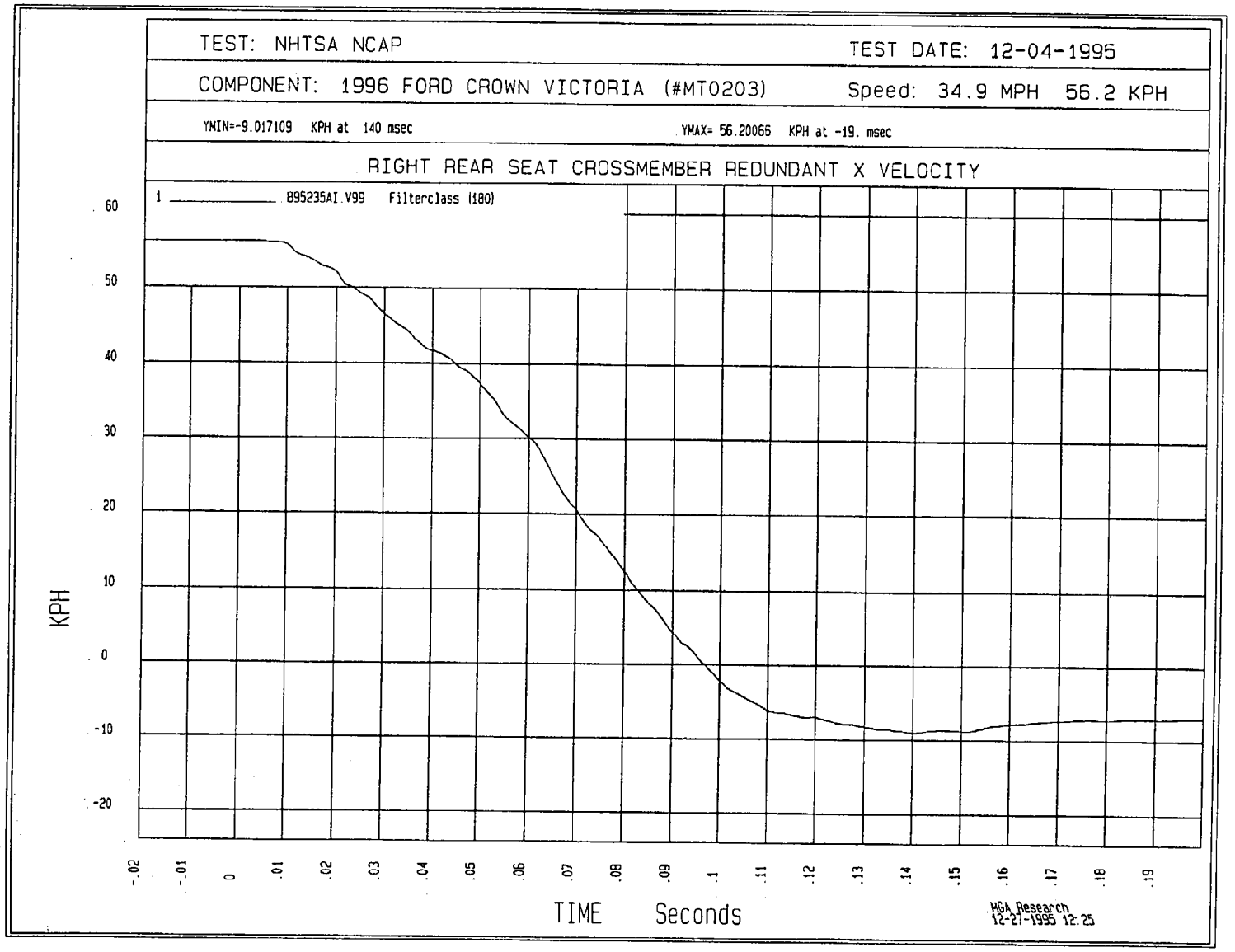
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
02-27-1996 10:09


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-9.017109 KPH at 140 msec
YMAX= 56.20066 KPH at -19. msec
RIGHT REAR SEAT CROSSMEMBER REDUNDANT X VELOCITY
1 895235AI.V99 Filterclass (180)
KPH
60
50
40
30
20
10
0
-10
-20
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
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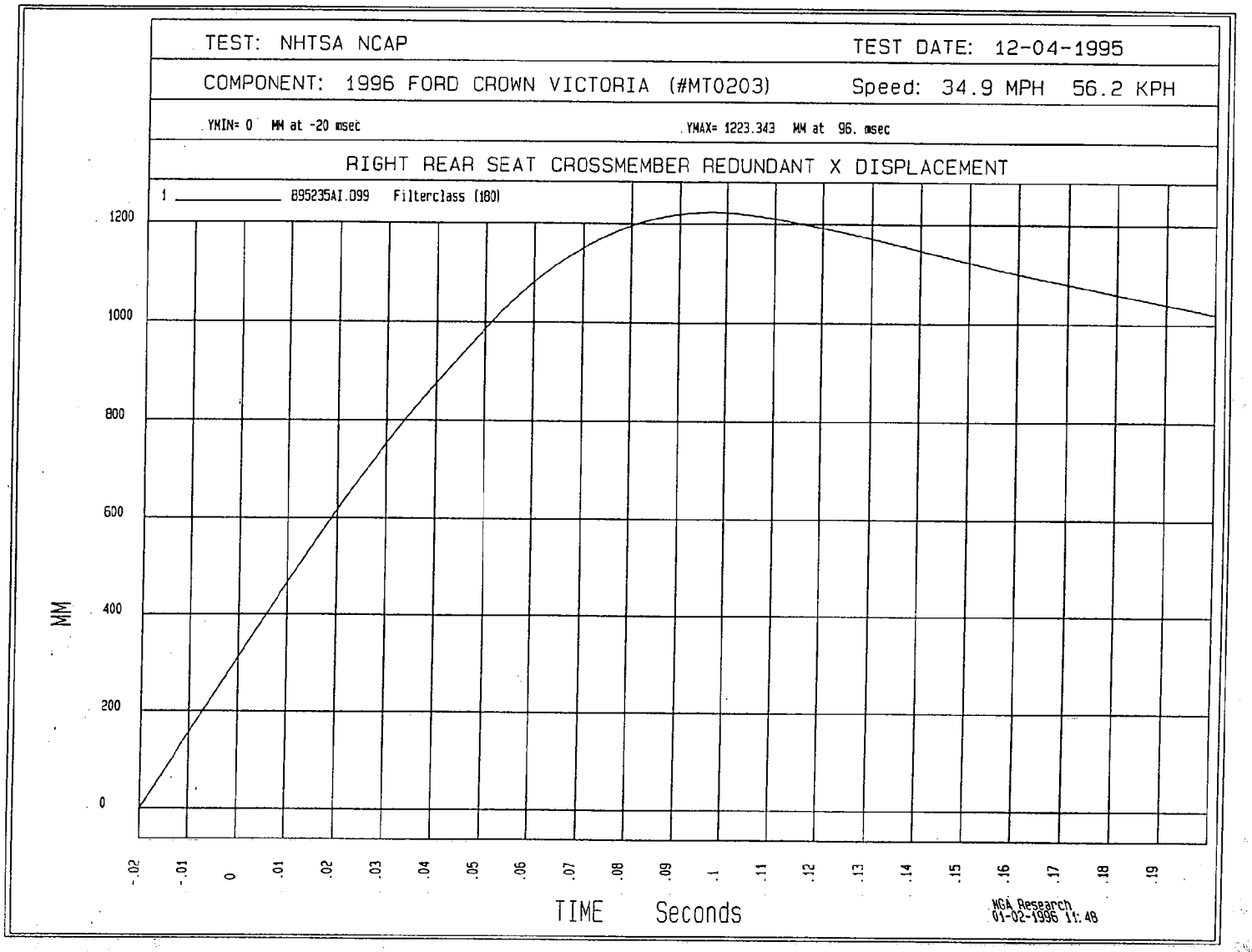
TIME Seconds
MGA Research
12-27-1995 12:25


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN= 0 MM at -20 msec
YMAX= 1223.343 MM at 96. msec
RIGHT REAR SEAT CROSSMEMBER REDUNDANT X DISPLACEMENT
1 B95235AI.099 Filterclass (180)
MM
1200
1000
800
600
400
200
0
-.02
-.01
0
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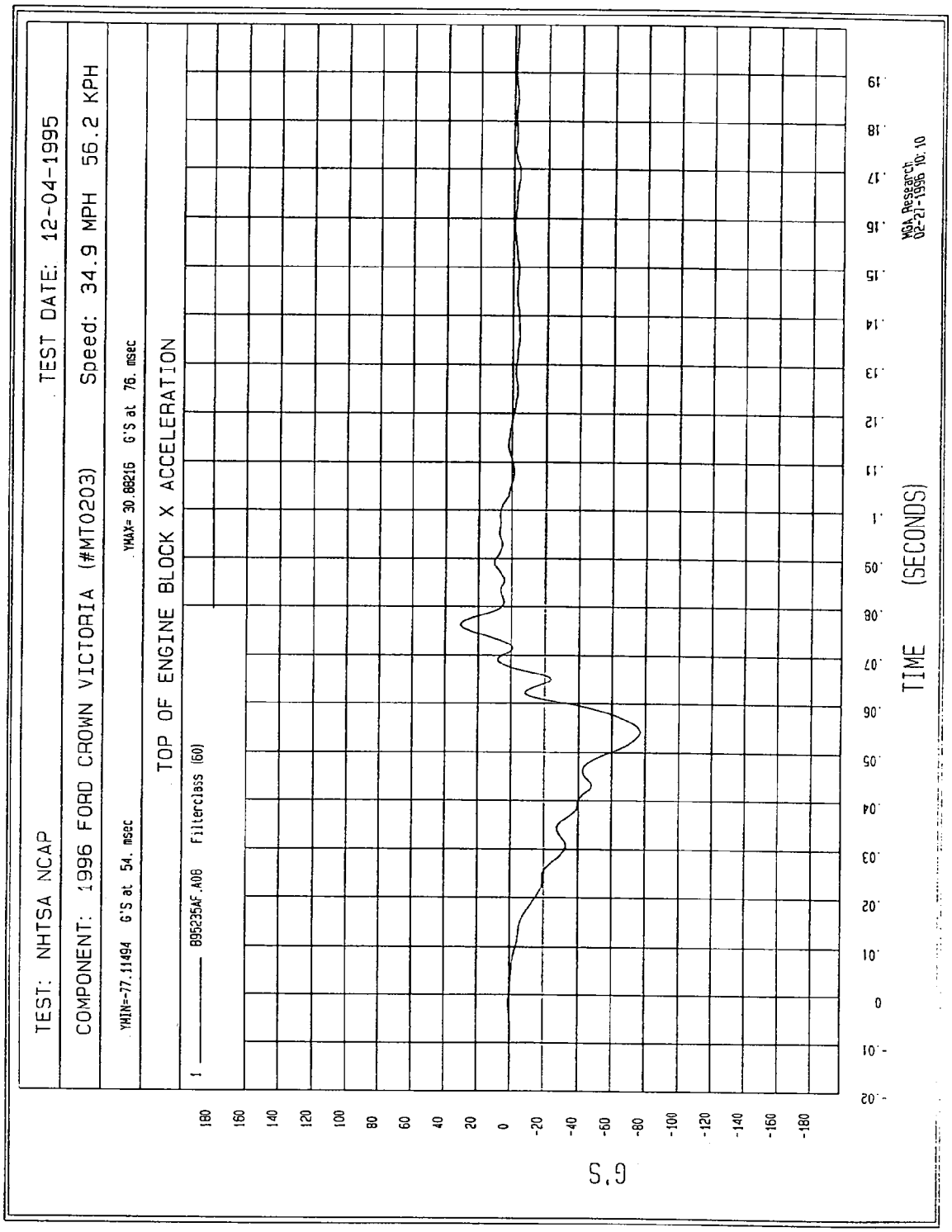
TIME Seconds
MGA Research
01-02-1996 11:48


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-77.11494 G'S at 54. msec
YMAX= 30.88216 G'S at 76. msec
TOP OF ENGINE BLOCK X ACCELERATION
1 B95235AF.A06 Filterclass (60)
180
160
140
120
100
80
60
40
20
0
-20
-40
-60
-80
-100
-120
-140
-160
-180
G'S
TIME (SECONDS)
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
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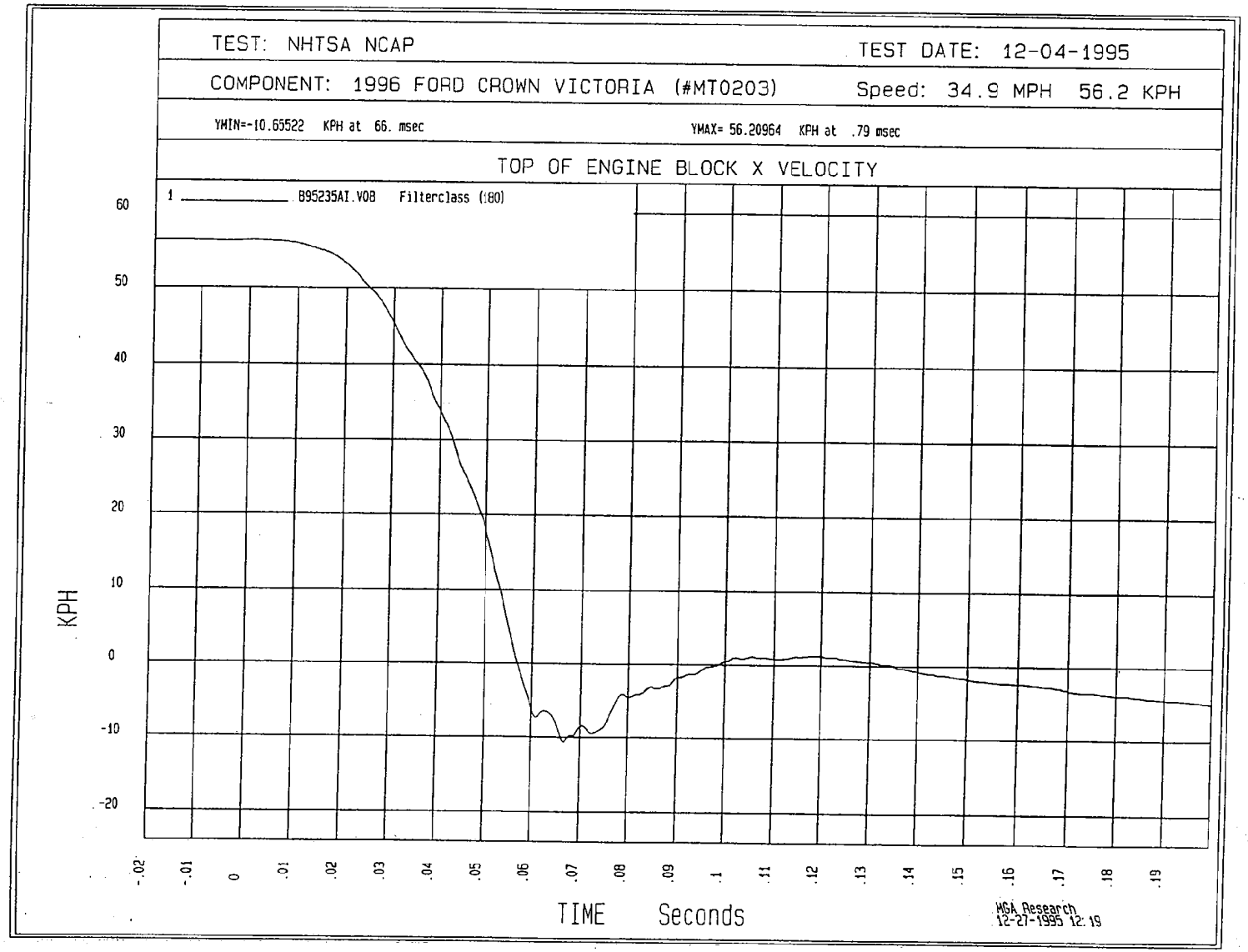
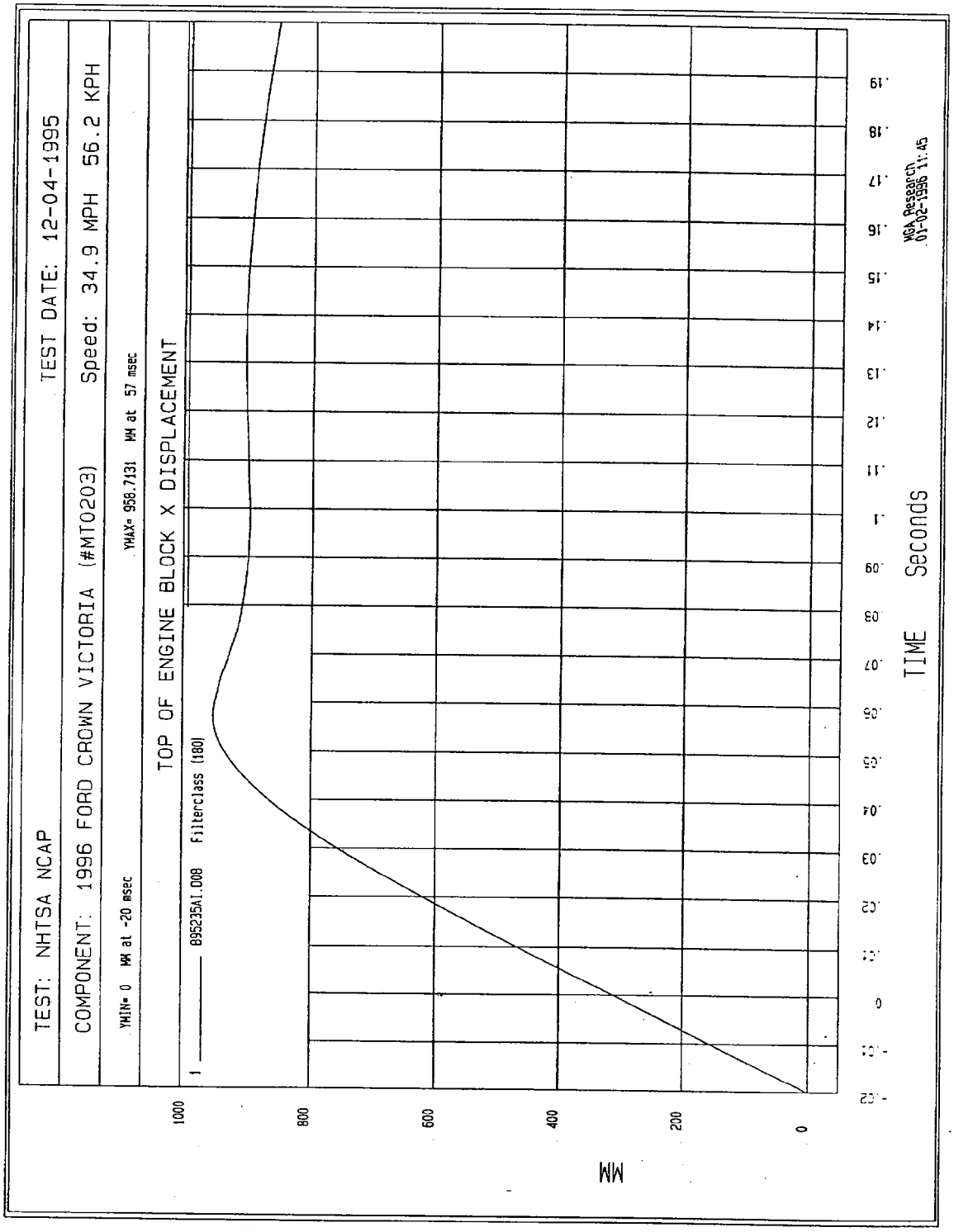
MGA Research
02-21-1996 10:10


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-10.65522 KPH at 66. msec
YMAX= 56.20964 KPH at .79 msec
TOP OF ENGINE BLOCK X VELOCITY
1 B95235AI.V08 Filterclass (180)
KPH
60
50
40
30
20
10
0
-10
-20
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME Seconds
MGA Research
12-27-1995 12:19


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN= 0 MM at -20 msec
YMAX= 958.7131 MM at 57 msec
TOP OF ENGINE BLOCK X DISPLACEMENT
1 ——— 095235A1.008 Filterclass (180)
MM
1000
800
600
400
200
0
TIME Seconds
-.02
0
.01
.02
.03
.04
.05
.06
.07
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.12
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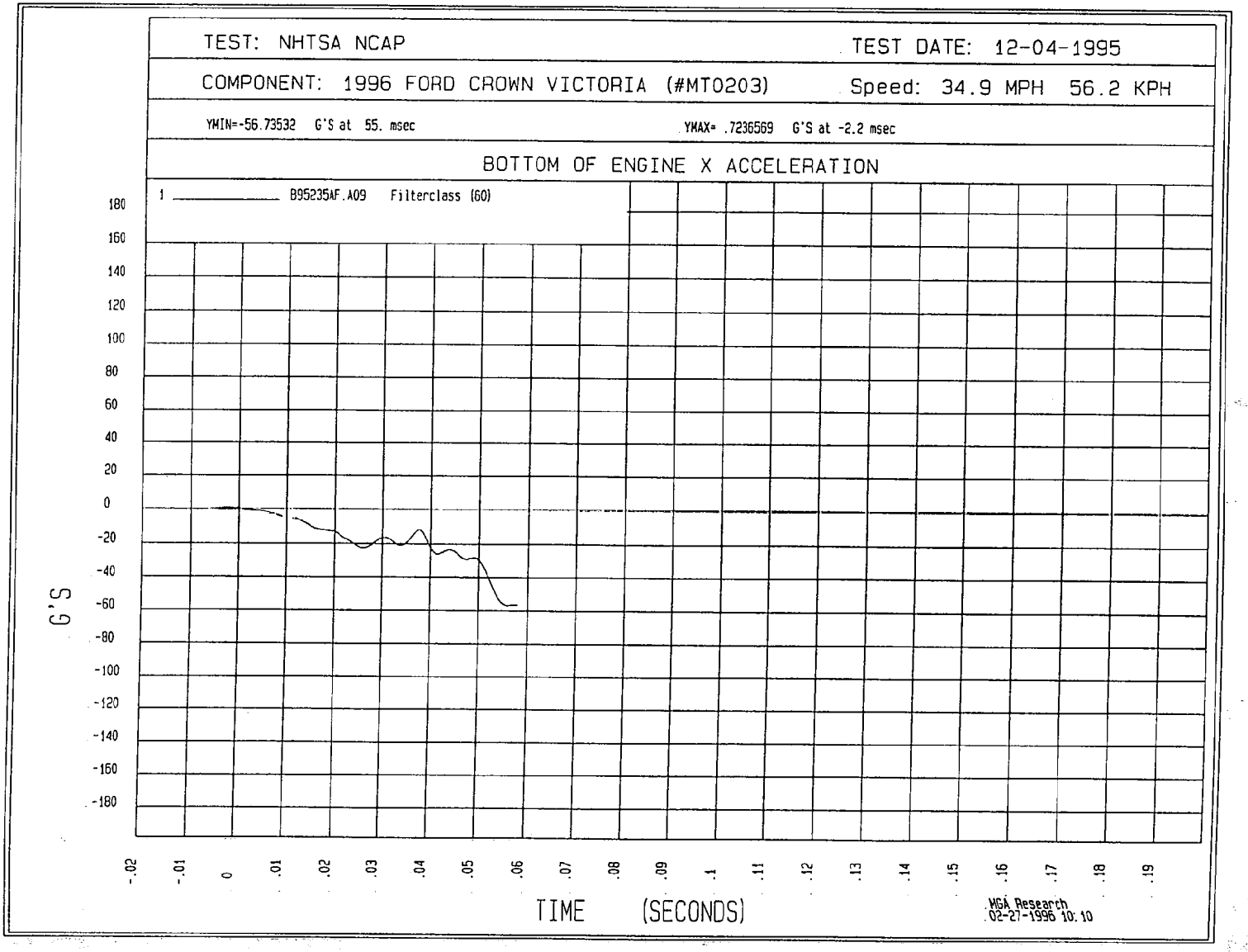
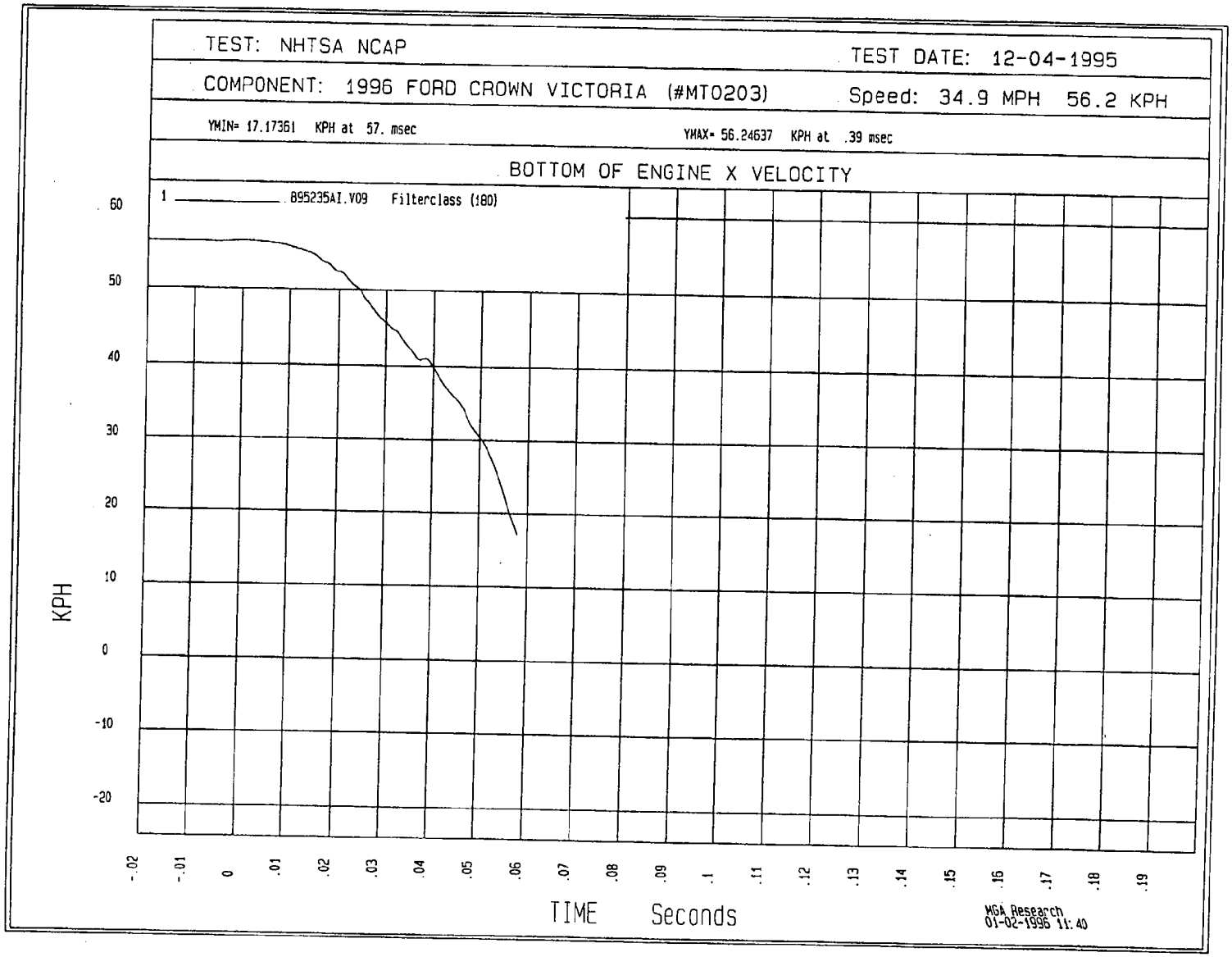
MGA Research
01-02-1996 11:45


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-56.73532 G'S at 55. msec
YMAX= .7236569 G'S at -2.2 msec
BOTTOM OF ENGINE X ACCELERATION
1 B95235AF.A09 Filterclass (60)
180
160
140
120
100
80
60
40
20
0
-20
-40
-60
-80
-100
-120
-140
-160
-180
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
02-27-1996 10:10


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN= 17.17361 KPH at 57. msec
YMAX= 56.24637 KPH at .39 msec
BOTTOM OF ENGINE X VELOCITY
1 B95235AI.V09 Filterclass (180)
60
50
40
30
20
10
0
-10
-20
KPH
-.02
-.01
0
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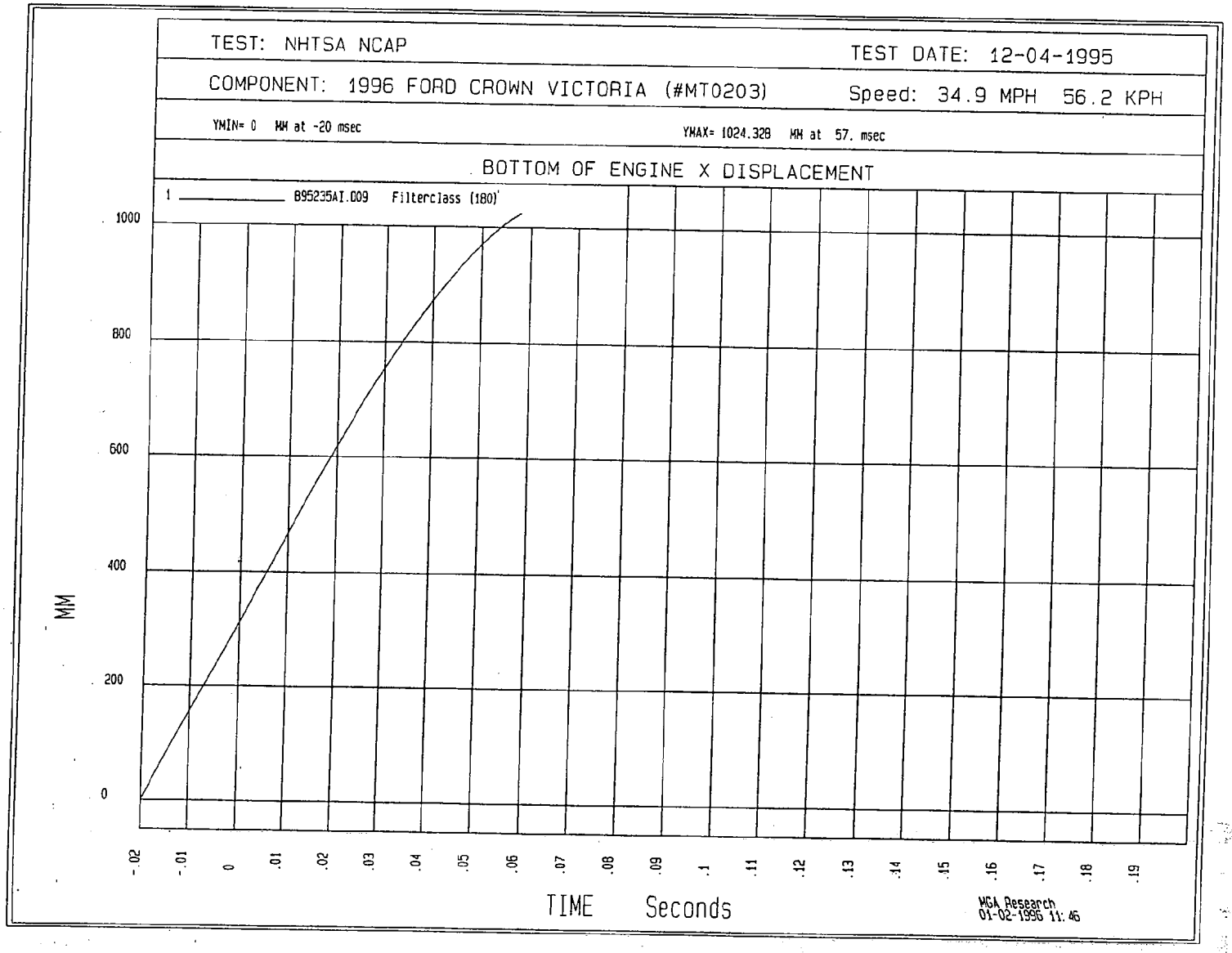
TIME Seconds
MGA Research
01-02-1996 11:40


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN= 0 MM at -20 msec
YMAX= 1024.328 MM at 57. msec
BOTTOM OF ENGINE X DISPLACEMENT
1 B95235AI.009 Filterclass (180)
1000
800
600
400
200
0
MM
-.02
-.01
0
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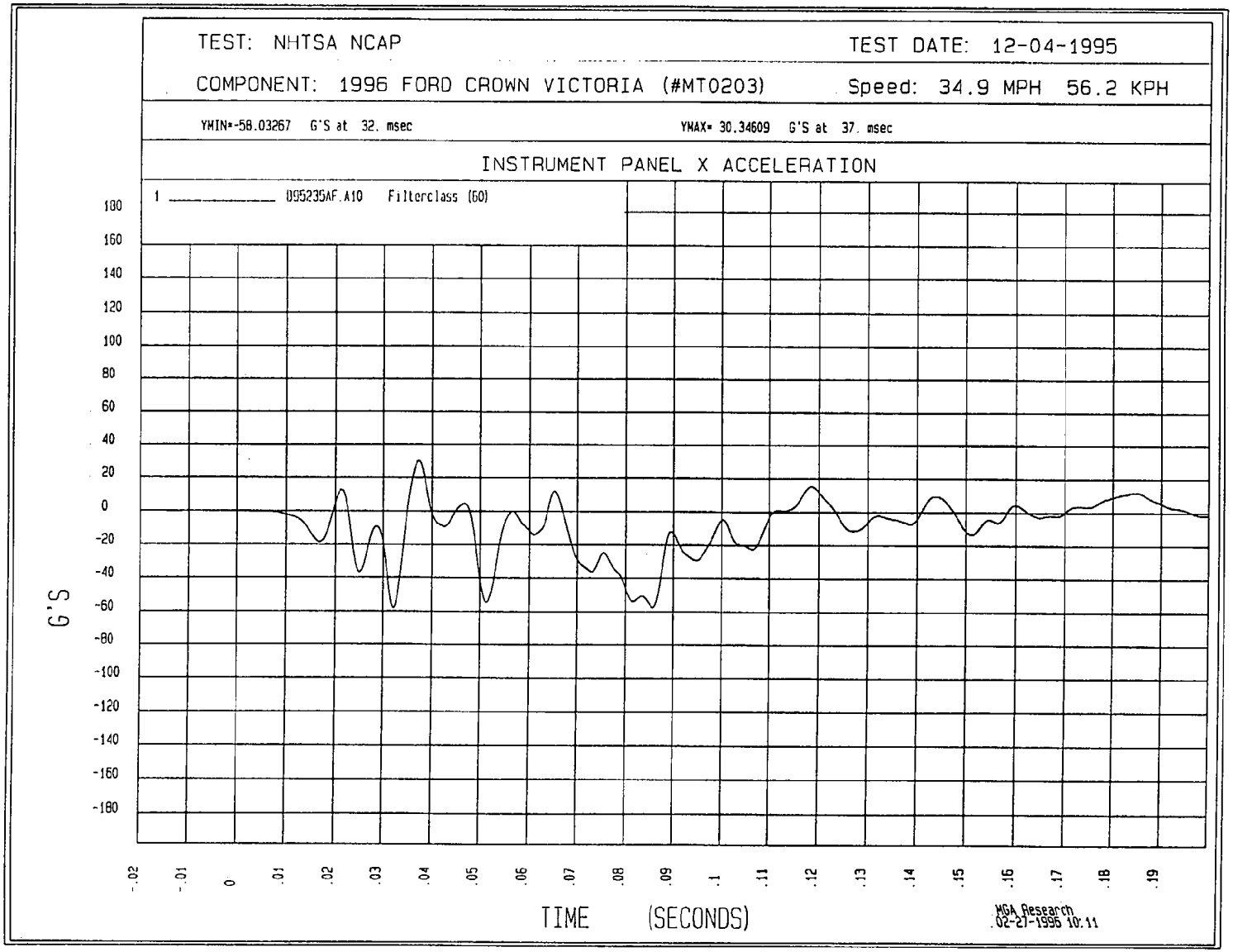
TIME Seconds
MGA Research
01-02-1996 11:46


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-58.03267 G'S at 32. msec
YMAX= 30.34609 G'S at 37. msec
INSTRUMENT PANEL X ACCELERATION
1 D95235AF.A10 Filterclass (60)
180
160
140
120
100
80
60
40
20
0
-20
-40
-60
-80
-100
-120
-140
-160
-180
G'S
-.02
-.01
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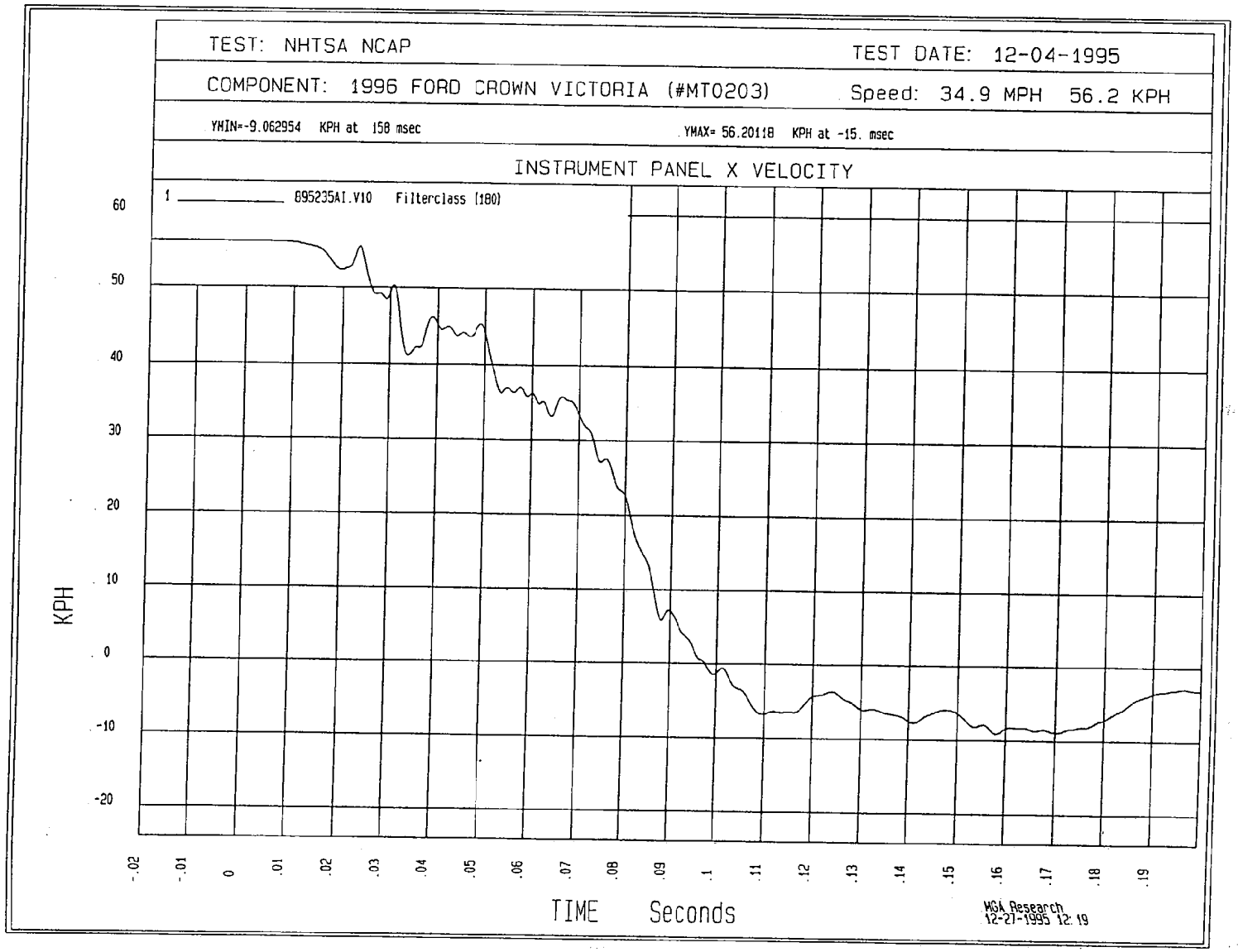
TIME (SECONDS)
MGA Research
02-27-1995 10:11


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-9.062954 KPH at 158 msec
YMAX= 56.20118 KPH at -15. msec
INSTRUMENT PANEL X VELOCITY
1 895235AI.V10 Filterclass (180)
60
50
40
30
20
10
0
-10
-20
KPH
-.02
-.01
0
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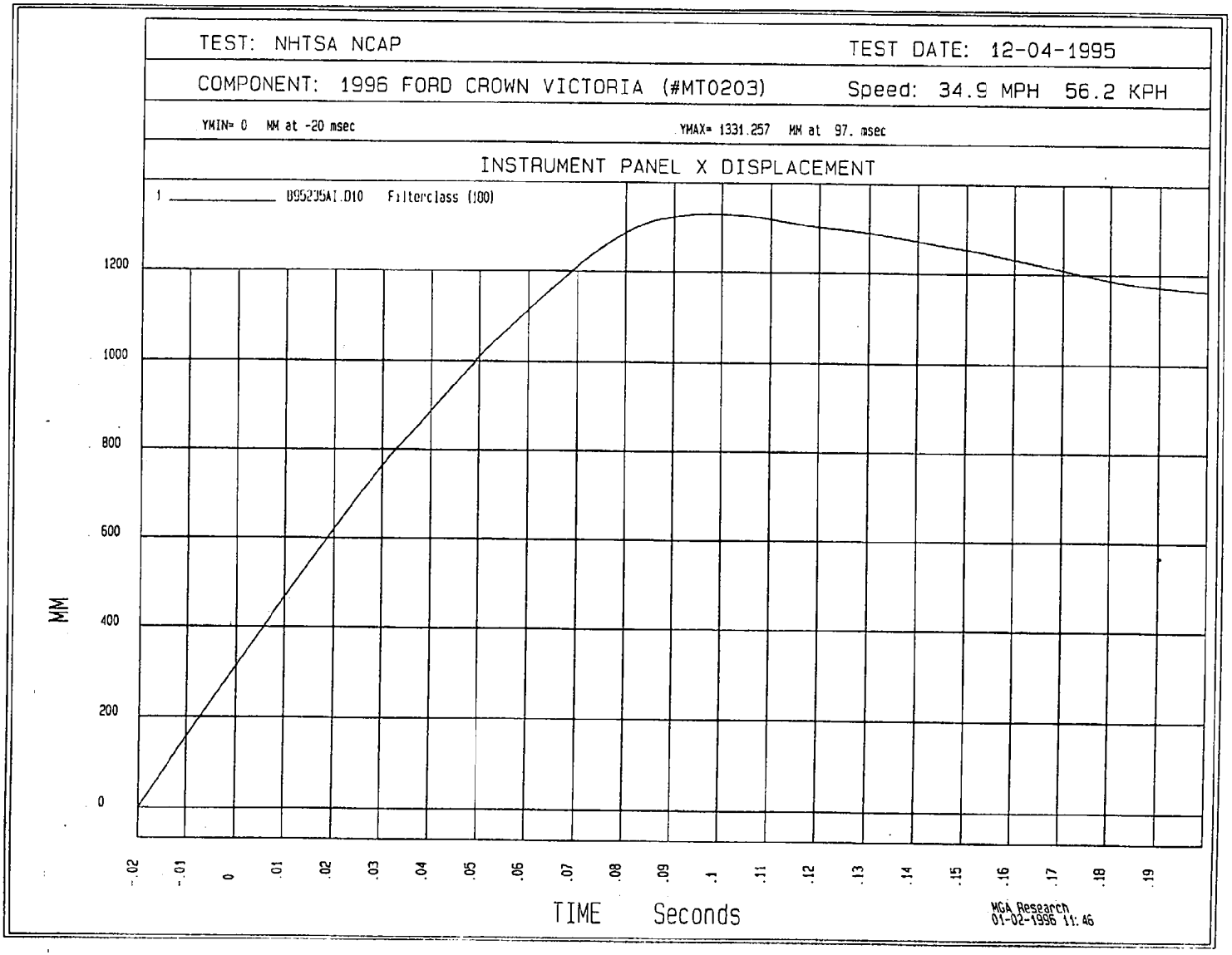
TIME Seconds
MGA Research
12-27-1995 12:19


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN= 0 MM at -20 msec
YMAX= 1331.257 MM at 97. msec
INSTRUMENT PANEL X DISPLACEMENT
1 B95235AI.D10 Filterclass (100)
MM
1200
1000
800
600
400
200
0
-.02
-.01
0
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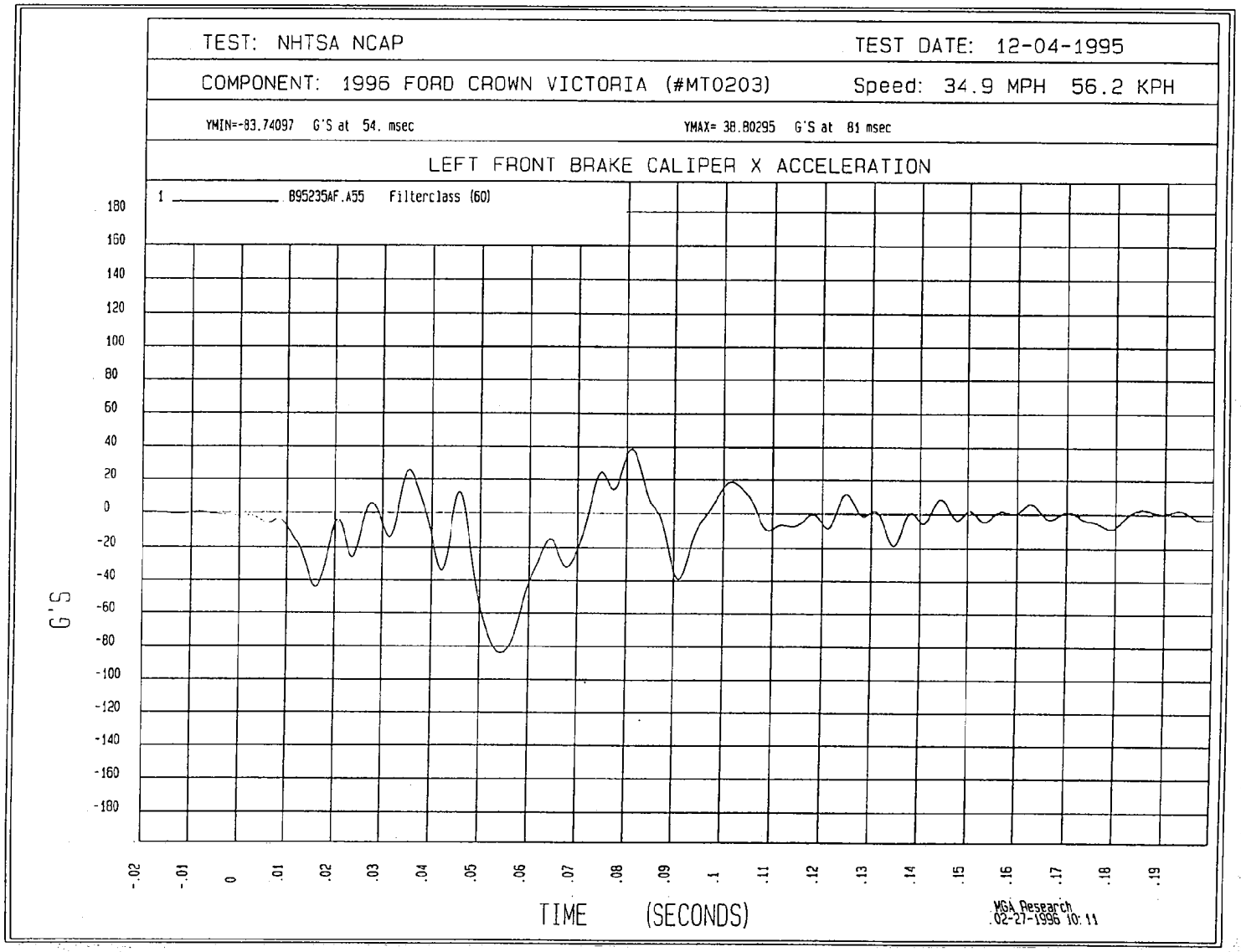
TIME Seconds
MGA Research
01-02-1996 11:46


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-83.74097 G'S at 54. msec
YMAX= 38.80295 G'S at 81 msec
LEFT FRONT BRAKE CALIPER X ACCELERATION
1 B95235AF.A55 Filterclass (60)
180
160
140
120
100
80
60
40
20
0
-20
-40
-60
-80
-100
-120
-140
-160
-180
G'S
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-.01
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.01
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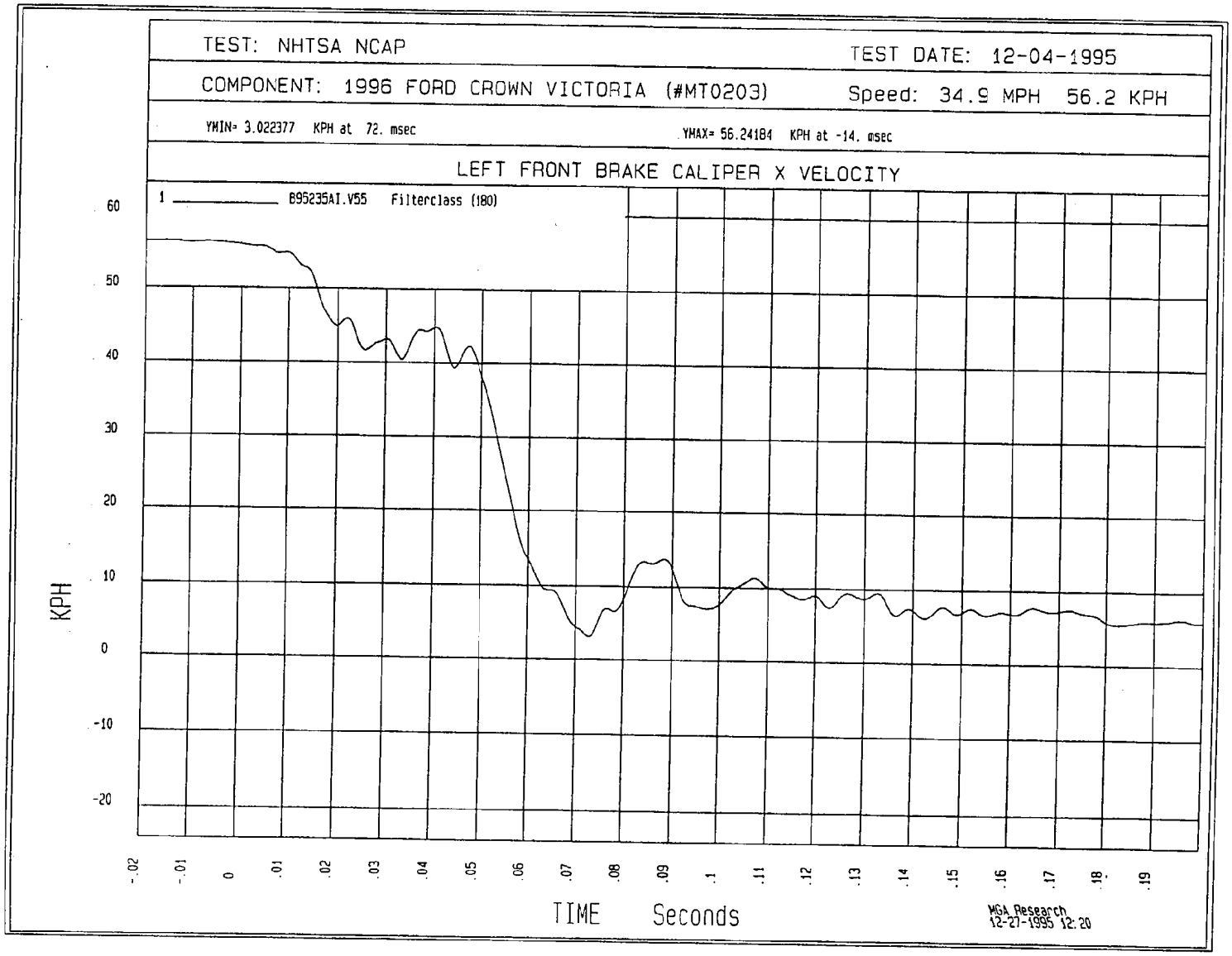
TIME (SECONDS)
MGA Research
02-27-1996 10:11


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN= 3.022377 KPH at 72. msec
YMAX= 56.24184 KPH at -14. msec
LEFT FRONT BRAKE CALIPER X VELOCITY
1 B95235AI.V55 Filterclass (180)
KPH
60
50
40
30
20
10
0
-10
-20
-.02
-.01
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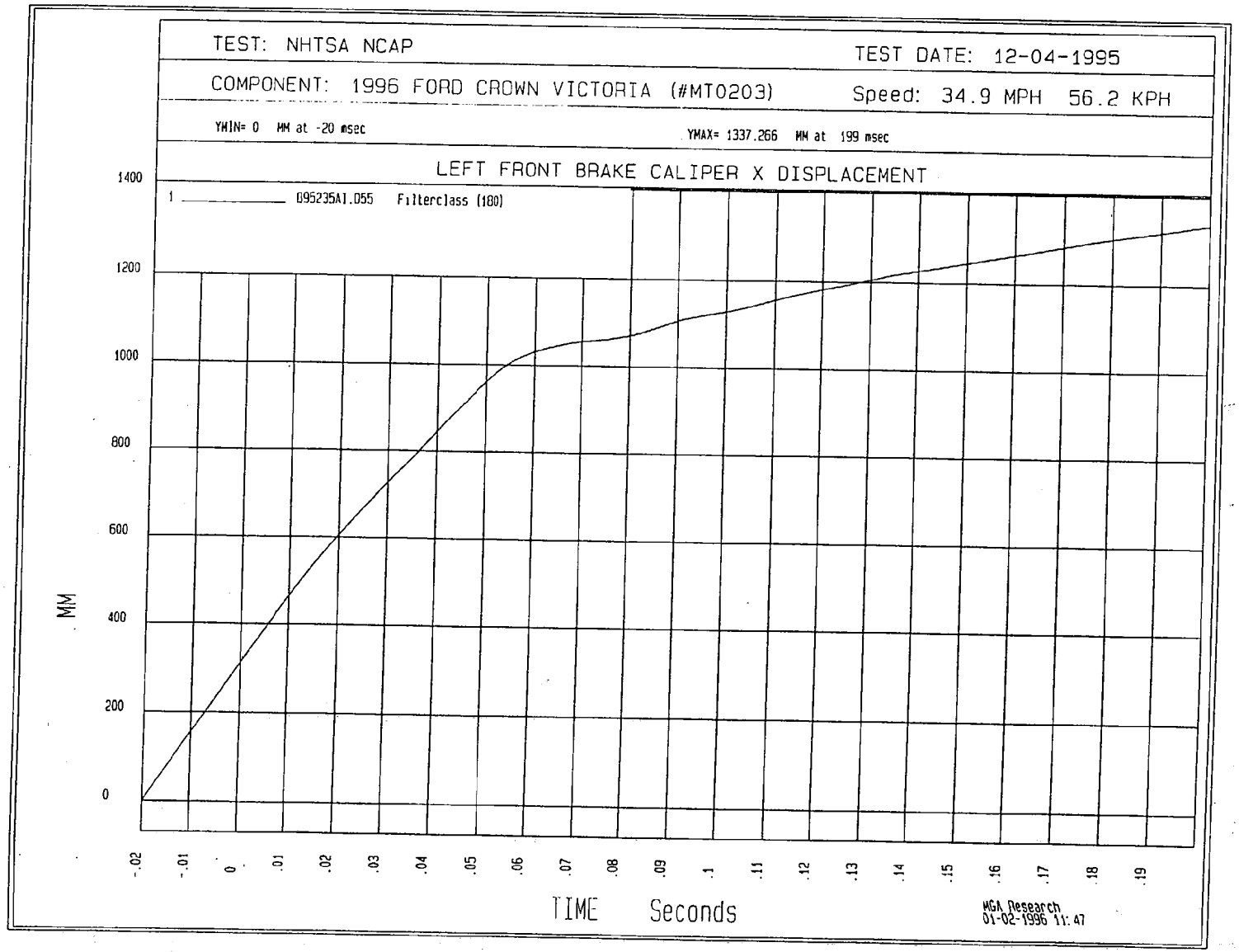
TIME Seconds
MGA Research
12-27-1995 12:20


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN= 0 MM at -20 msec
YMAX= 1337.266 MM at 199 msec
LEFT FRONT BRAKE CALIPER X DISPLACEMENT
1 095235A1.055 Filterclass (180)
1400
1200
1000
800
600
400
200
0
MM
-.02
-.01
0
.01
.02
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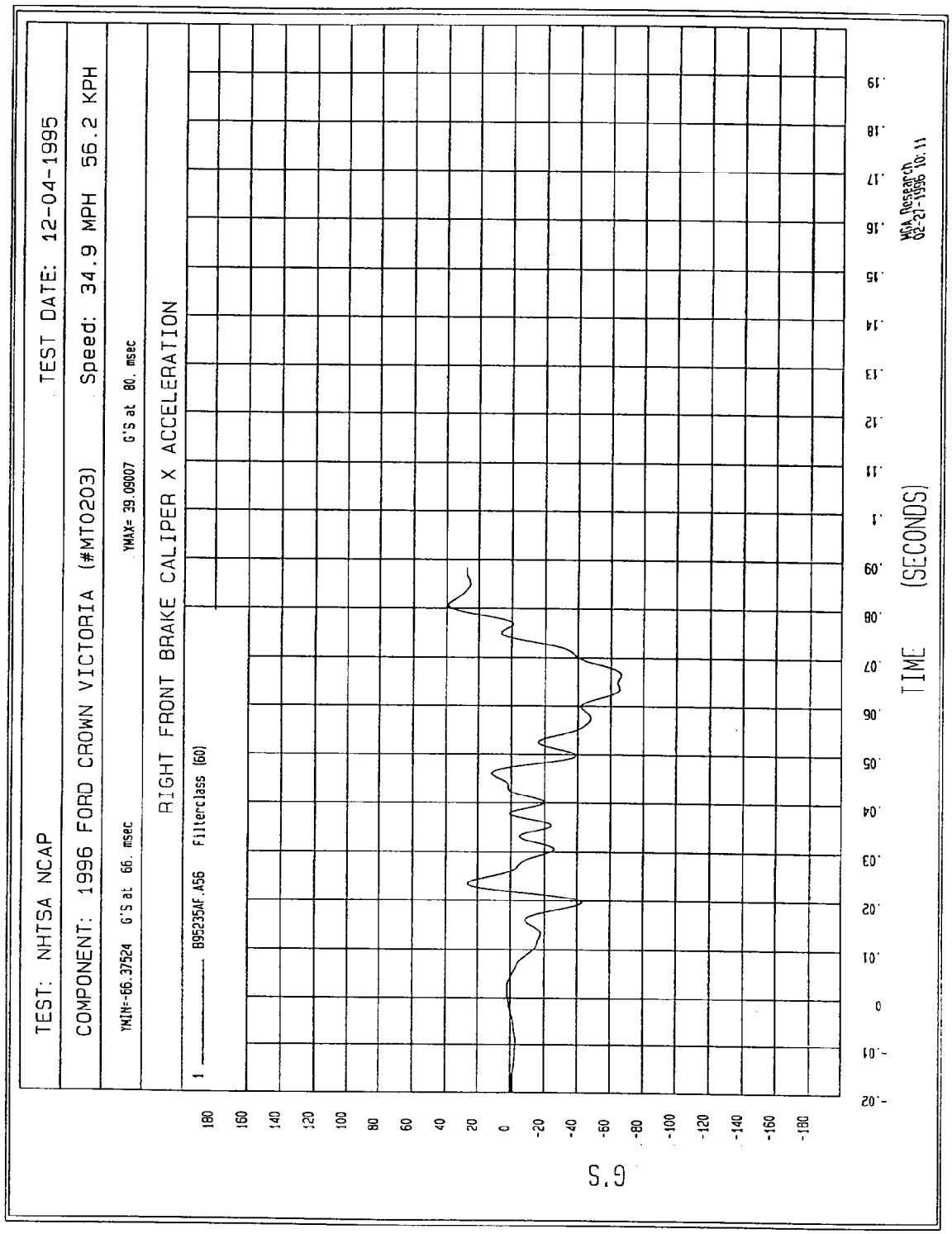
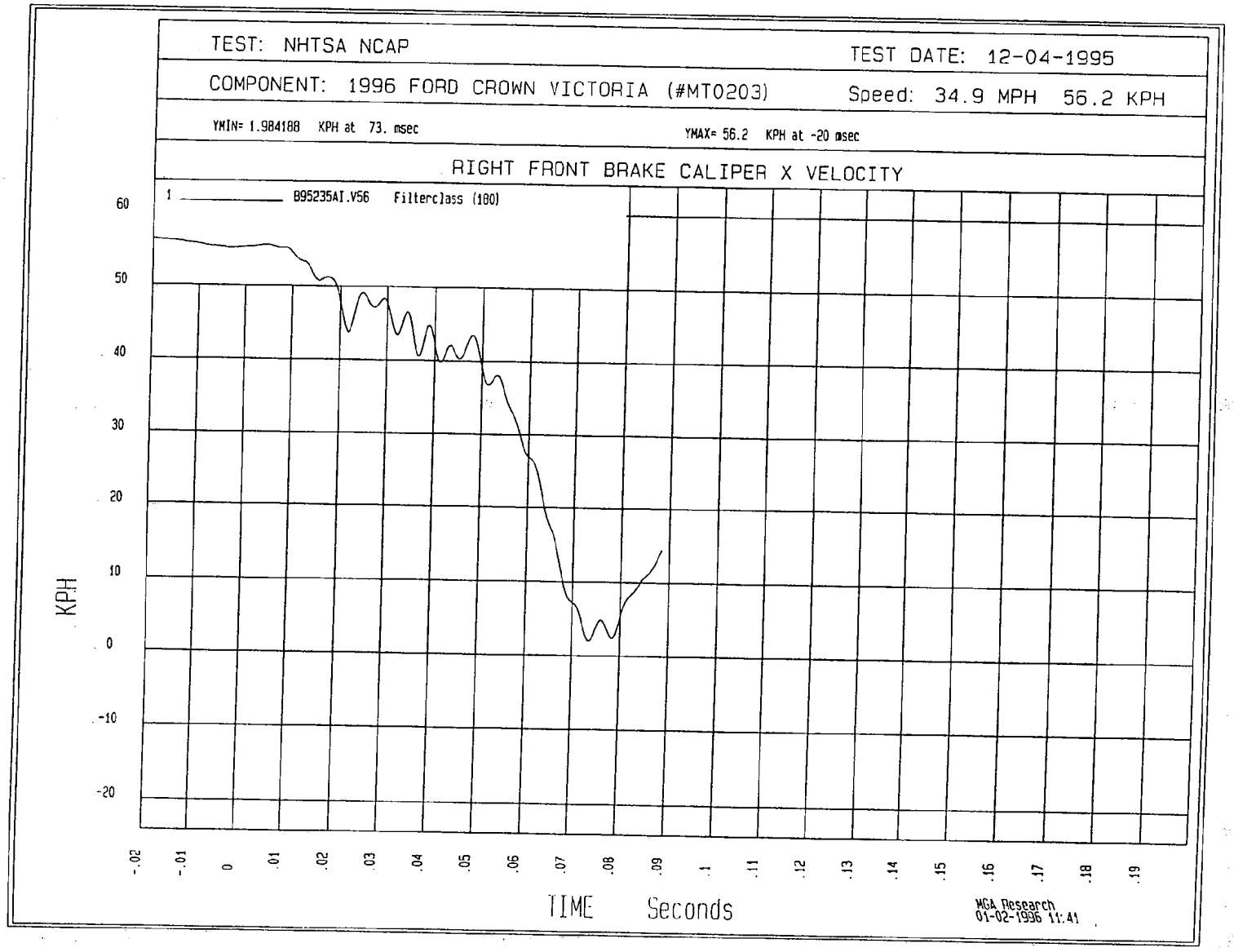
TIME Seconds
MGA Research
01-02-1996 11:47


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-66.37524 G'S at 66. msec
YMAX= 39.09007 G'S at 80. msec
RIGHT FRONT BRAKE CALIPER X ACCELERATION
1 B95235AF.A56 Filterclass (60)
180 160 140 120 100 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
02-27-1996 10:11
6.5


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN= 1.984188 KPH at 73. msec
YMAX= 56.2 KPH at -20 msec
RIGHT FRONT BRAKE CALIPER X VELOCITY
1 B95235AI.V56 Filterclass (180)
KPH
60
50
40
30
20
10
0
-10
-20
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-.01
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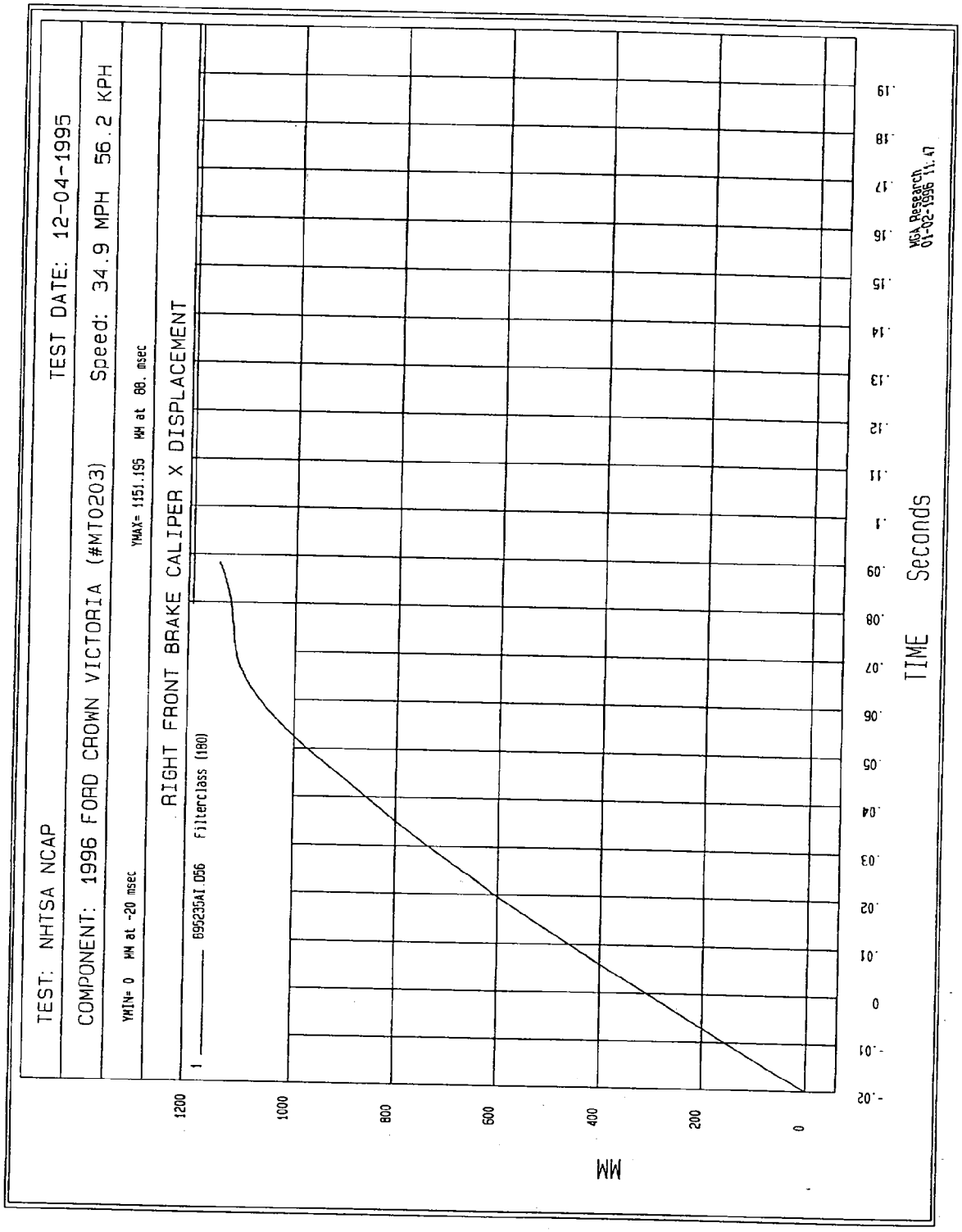
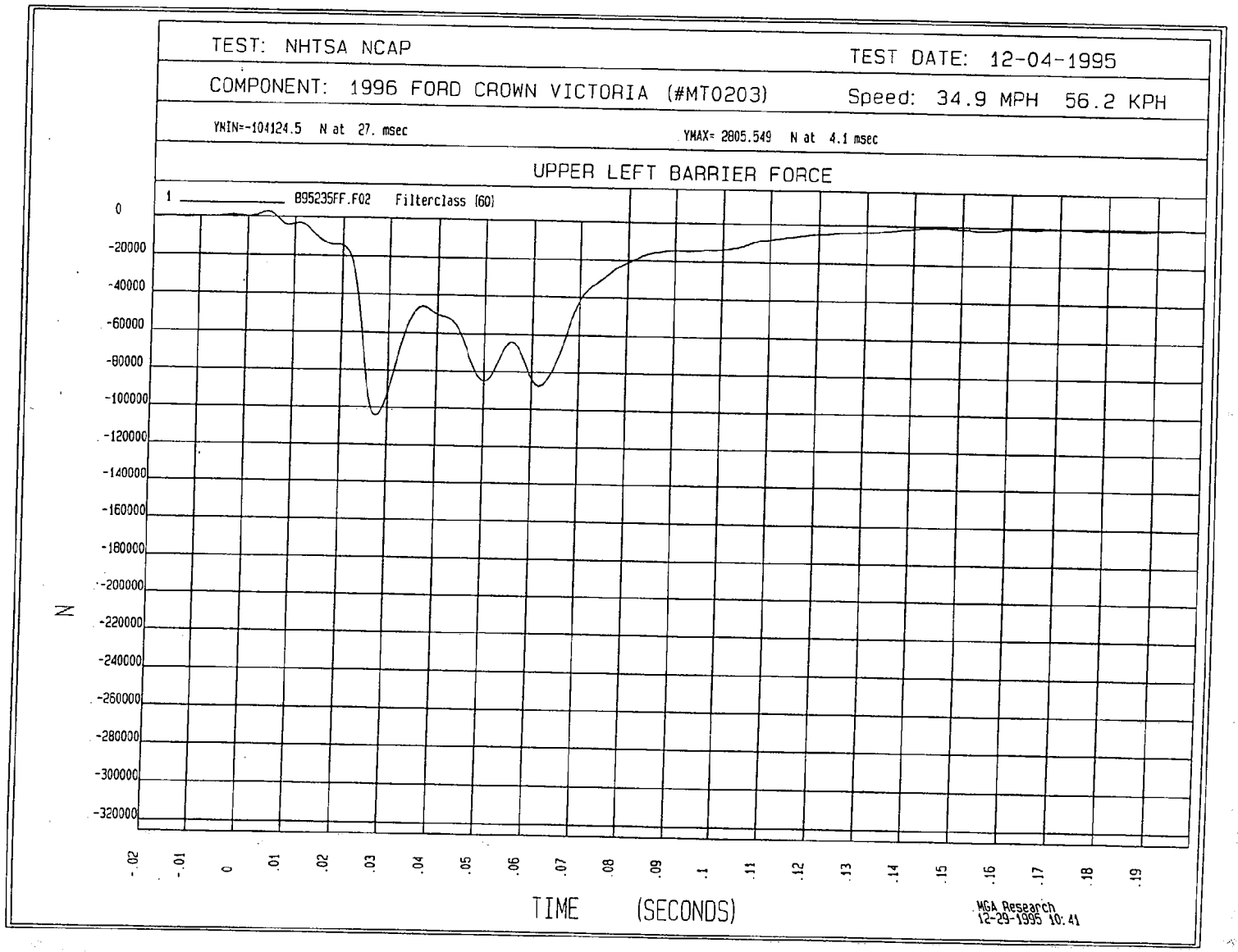
TIME Seconds
MGA Research
01-02-1996 11:41


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN= 0 MM at -20 msec
YMAX= 1151.195 MM at 88. msec
RIGHT FRONT BRAKE CALIPER X DISPLACEMENT
1 B9523JAI D56 Filterclass (180)
MM
TIME Seconds
MGA Research
01-02-1996 11.47


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-104124.5 N at 27. msec
YMAX= 2805.549 N at 4.1 msec
UPPER LEFT BARRIER FORCE
1 B95235FF.F02 Filterclass (60)
0
-20000
-40000
-60000
-80000
-100000
-120000
-140000
-160000
-180000
-200000
-220000
-240000
-260000
-280000
-300000
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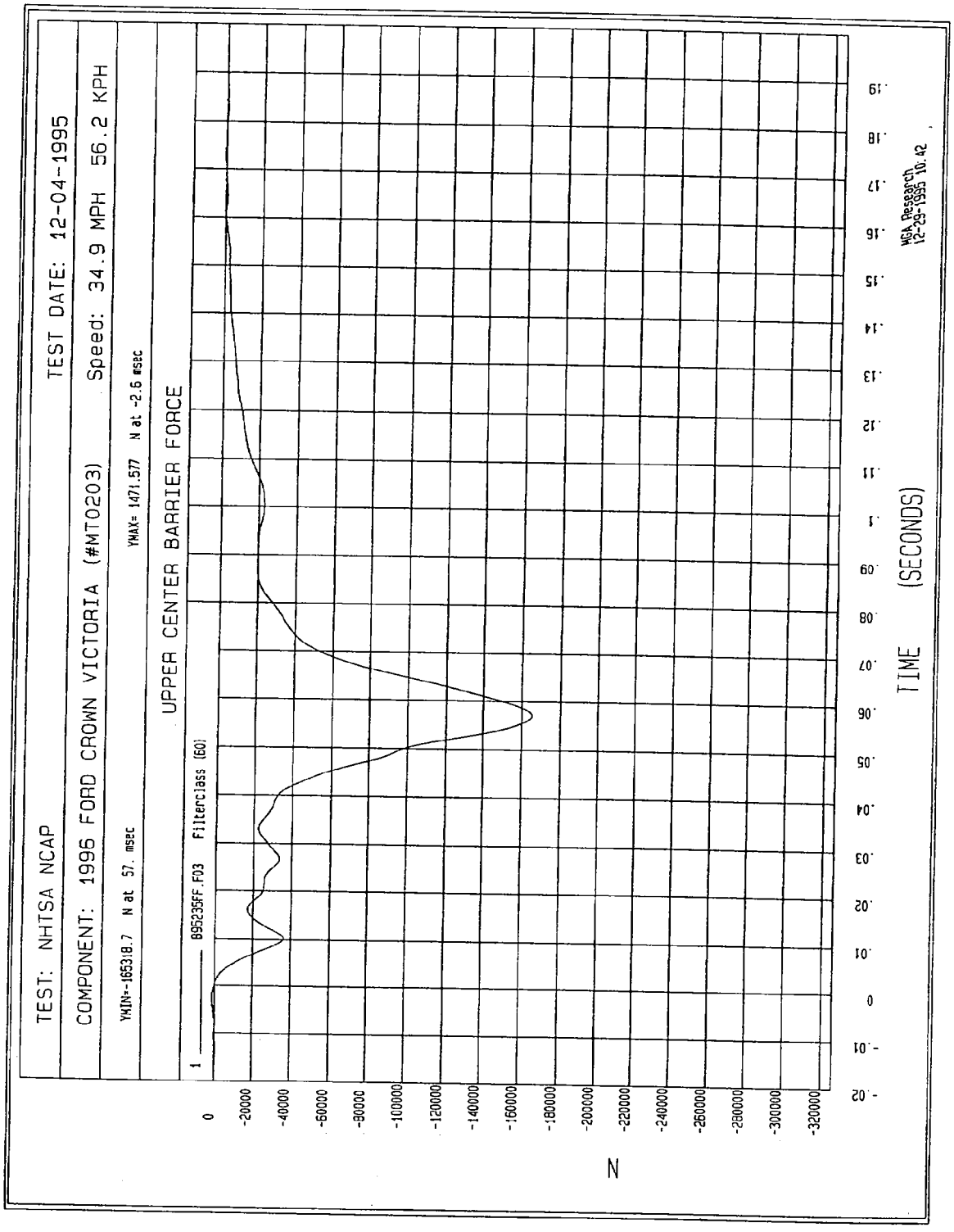
TIME (SECONDS)
MGA Research
12-29-1995 10:41


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-16531B.7 N at 57. msec
YMAX= 1471.577 N at -2.6 msec
UPPER CENTER BARRIER FORCE
1 B95235FF.F03 Filterclass (60)
0
-20000
-40000
-60000
-80000
-100000
-120000
-140000
-160000
-180000
-200000
-220000
-240000
-260000
-280000
-300000
-320000
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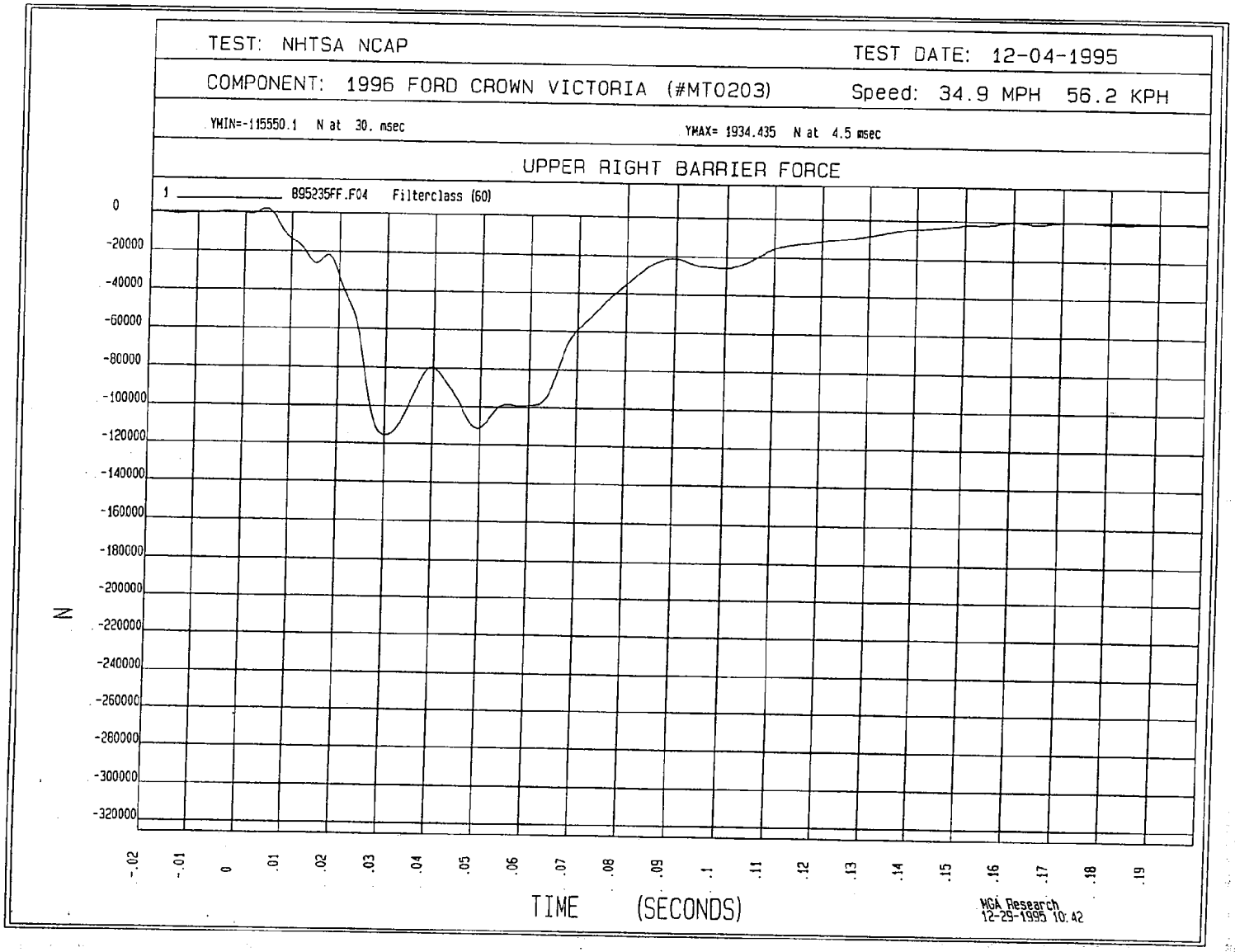
TIME (SECONDS)
MGA Research
12-29-1995 10:42


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-115550.1 N at 30. msec
YMAX= 1934.435 N at 4.5 msec
UPPER RIGHT BARRIER FORCE
1 B95235FF.F04 Filterclass (60)
0
-20000
-40000
-60000
-80000
-100000
-120000
-140000
-160000
-180000
-200000
-220000
-240000
-260000
-280000
-300000
-320000
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-.01
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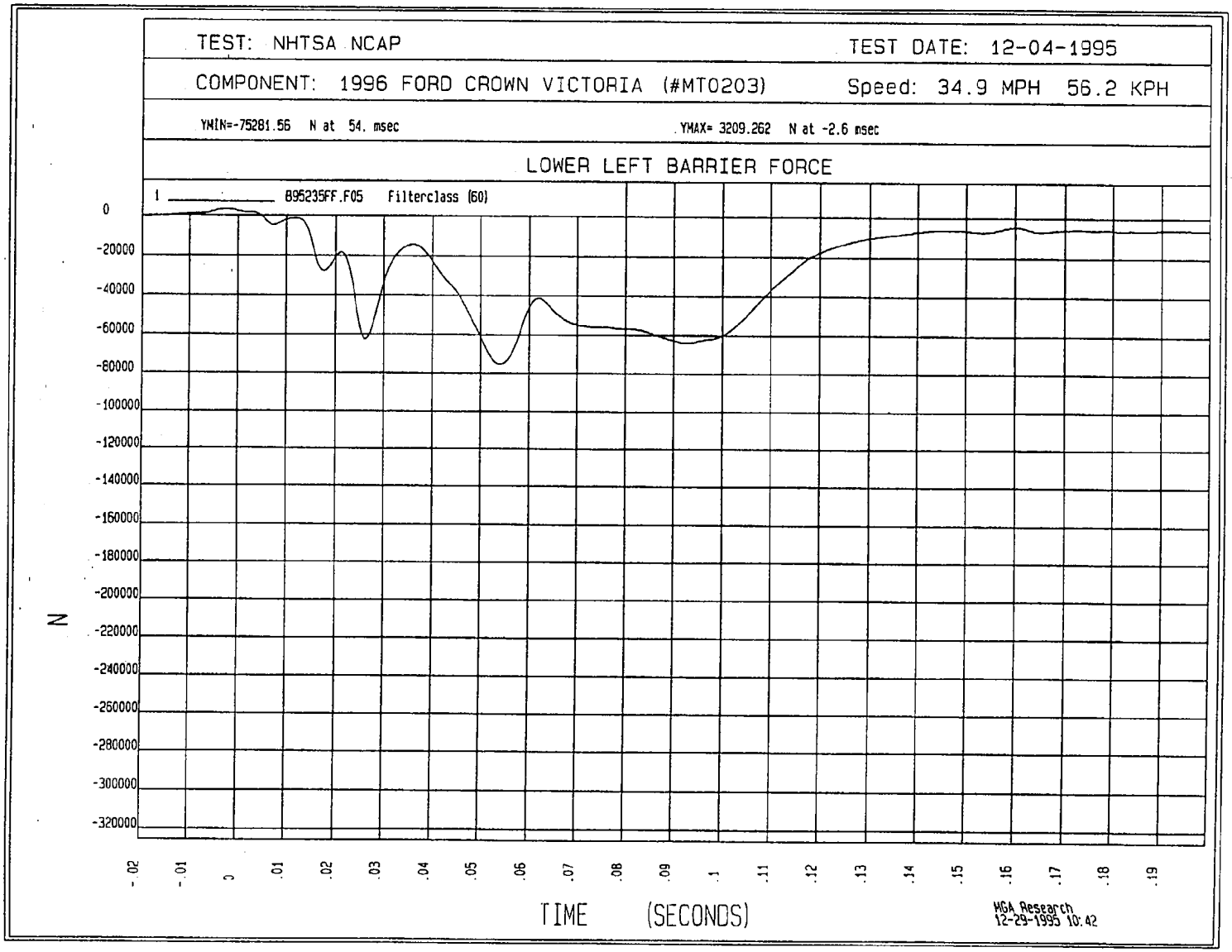
TIME (SECONDS)
NGA Research
12-29-1995 10:42


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-75281.56 N at 54. msec
YMAX= 3209.262 N at -2.6 msec
LOWER LEFT BARRIER FORCE
1 895235FF.F05 Filterclass (60)
0
-20000
-40000
-60000
-80000
-100000
-120000
-140000
-160000
-180000
-200000
-220000
-240000
-250000
-280000
-300000
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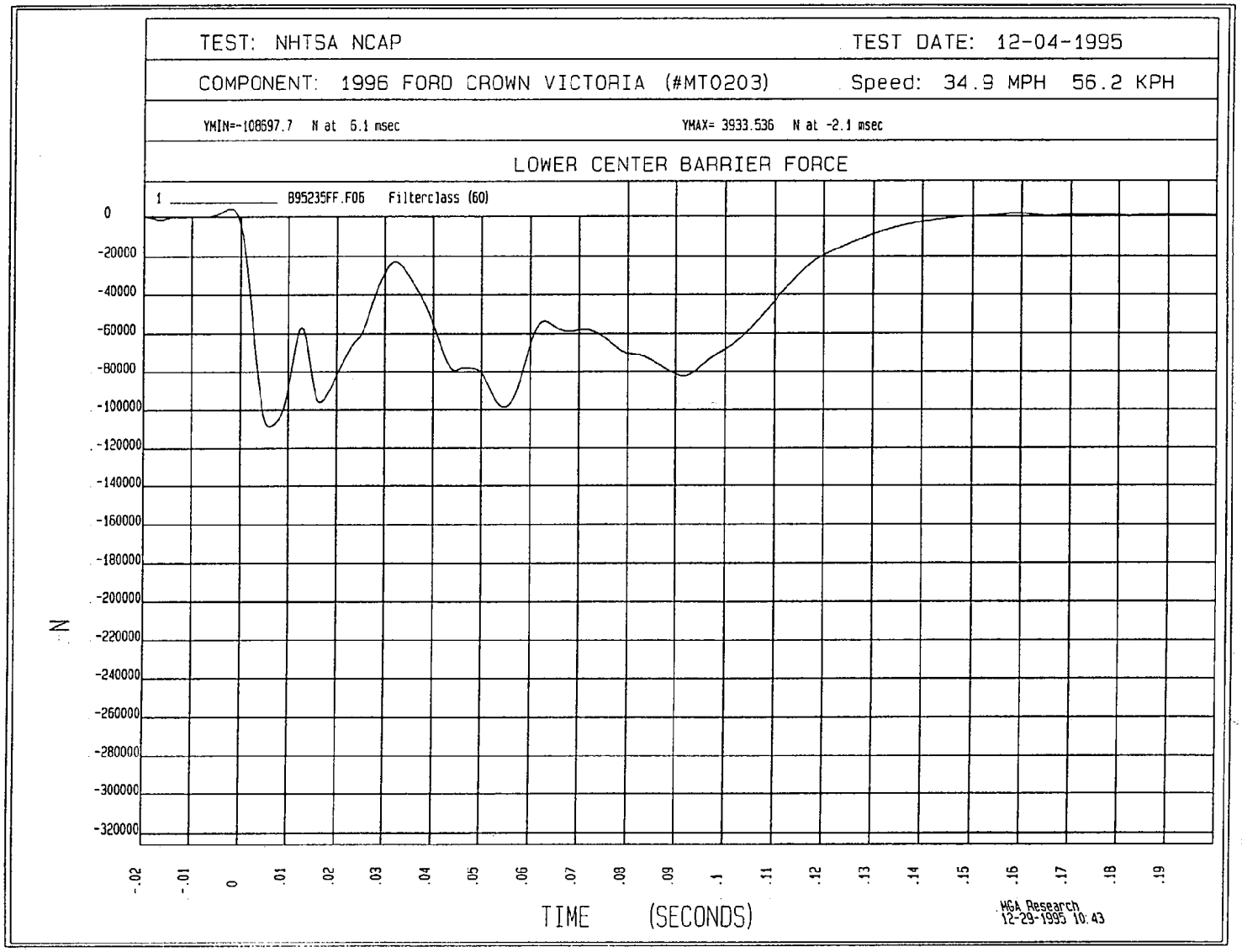
TIME (SECONDS)
MGA Research
12-29-1995 10:42


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-108697.7 N at 6.1 msec
YMAX= 3933.536 N at -2.1 msec
LOWER CENTER BARRIER FORCE
1 B95235FF.F06 Filterclass (60)
0
-20000
-40000
-60000
-80000
-100000
-120000
-140000
-160000
-180000
-200000
-220000
-240000
-260000
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-300000
-320000
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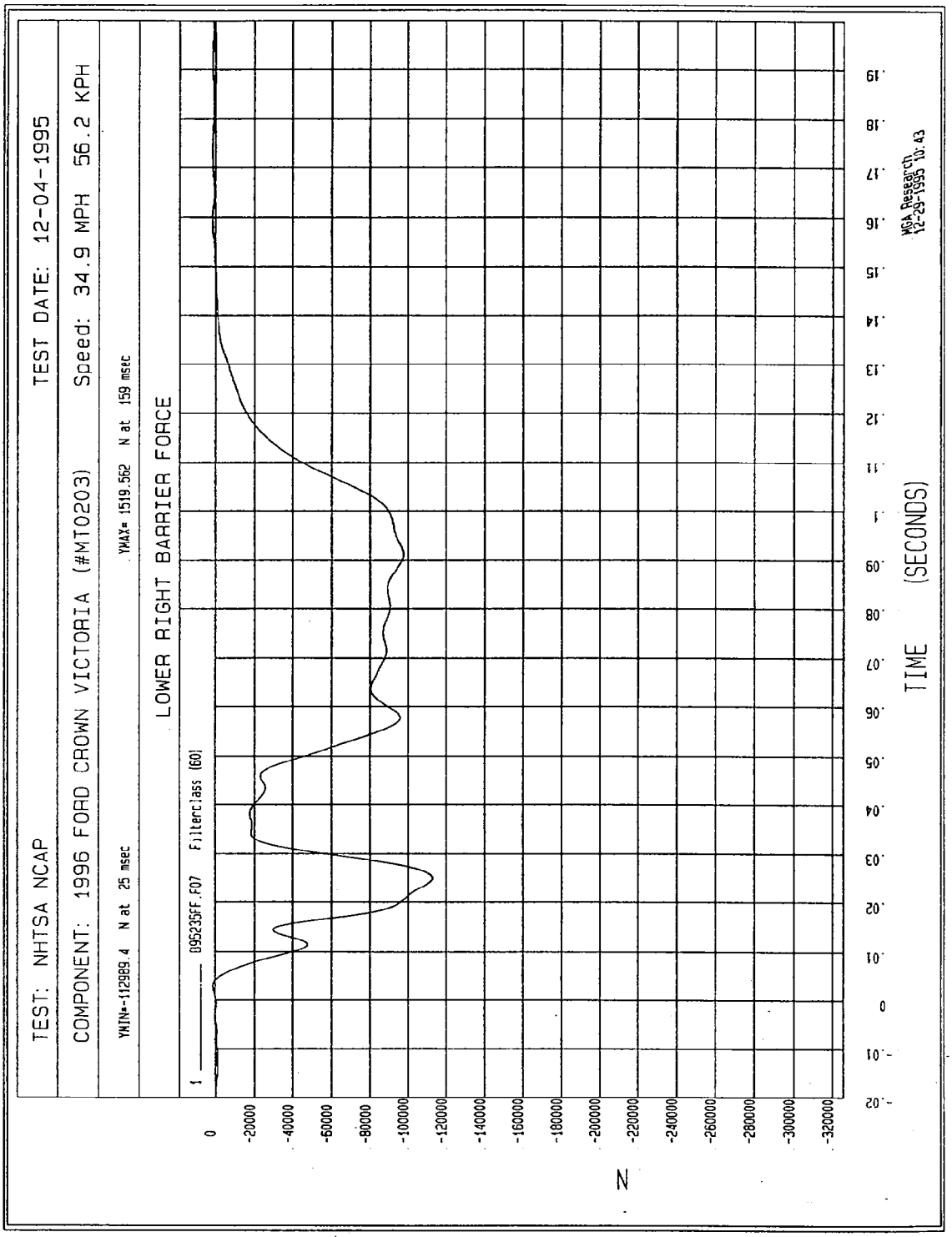
TIME (SECONDS)
MGA Research
12-29-1995 10:43


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-1129989.4 N at 25 msec
YMAX= 1519.562 N at 159 msec
LOWER RIGHT BARRIER FORCE
1 095235FF.F07 Filterclass (60)
0
-20000
-40000
-60000
-80000
-100000
-120000
-140000
-160000
-180000
-200000
-220000
-240000
-260000
-280000
-300000
-320000
N
-.02
-.01
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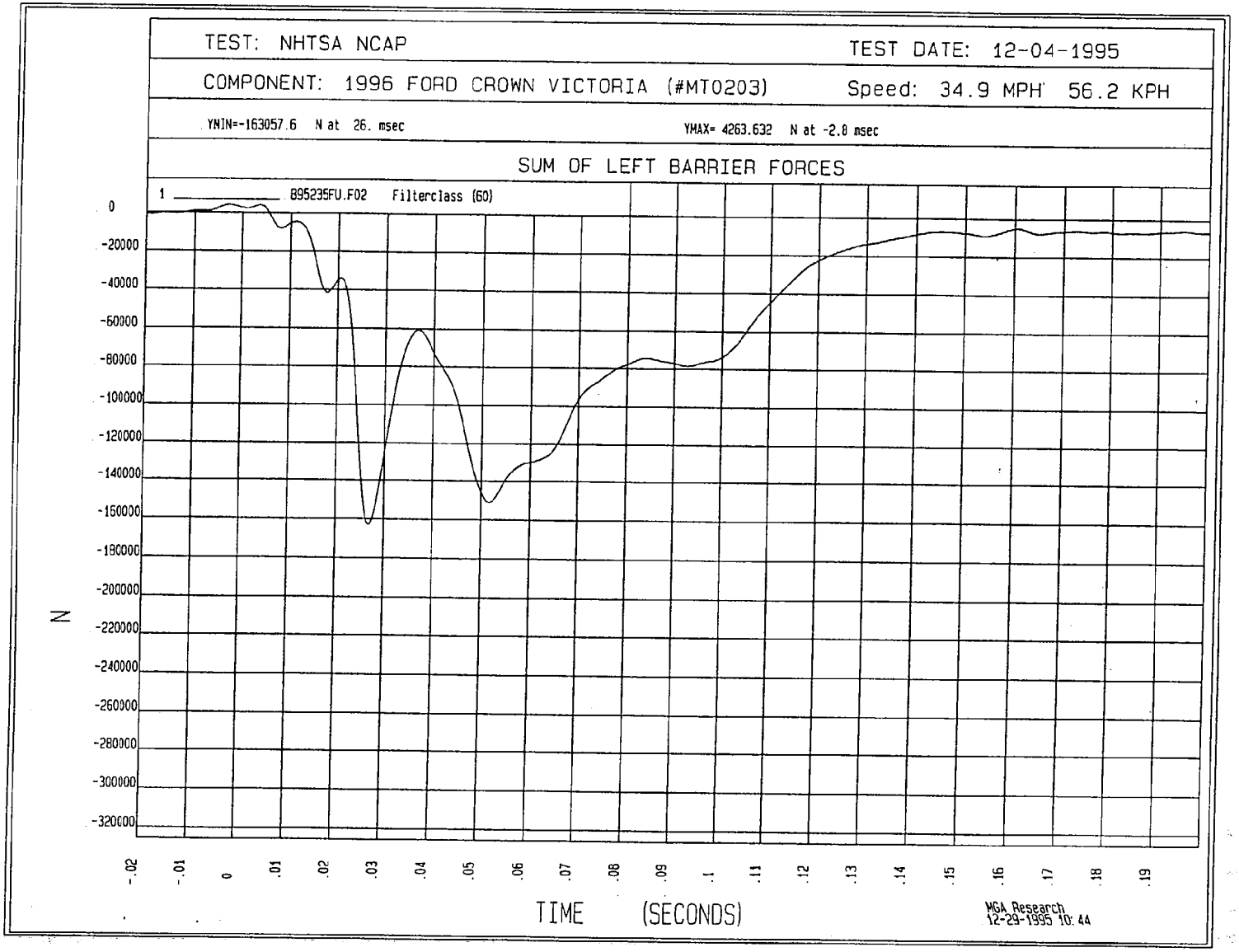
TIME (SECONDS)
MGA Research
12-29-1995 10:43


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-163057.6 N at 26. msec
YMAX= 4263.632 N at -2.8 msec
SUM OF LEFT BARRIER FORCES
1 B95235FU.F02 Filterclass (60)
0
-20000
-40000
-60000
-80000
-100000
-120000
-140000
-160000
-180000
-200000
-220000
-240000
-260000
-280000
-300000
-320000
N
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-.01
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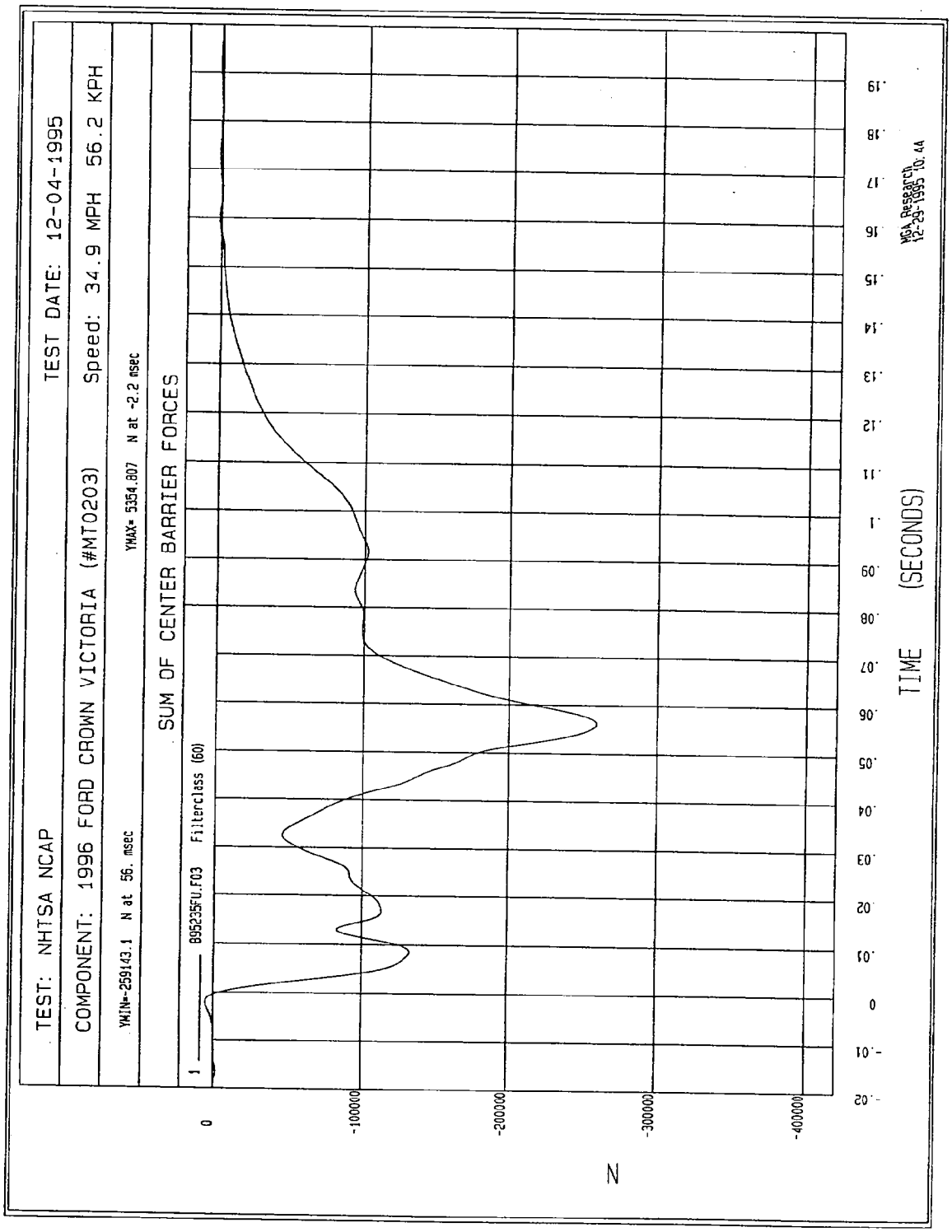
TIME (SECONDS)
MGA Research
12-29-1995 10:44


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-259143.1 N at 56. msec
YMAX= 5354.807 N at -2.2 msec
SUM OF CENTER BARRIER FORCES
1 B95235FU.F03 Filterclass (60)
0
-100000
-200000
-300000
-400000
N
-.02
-.01
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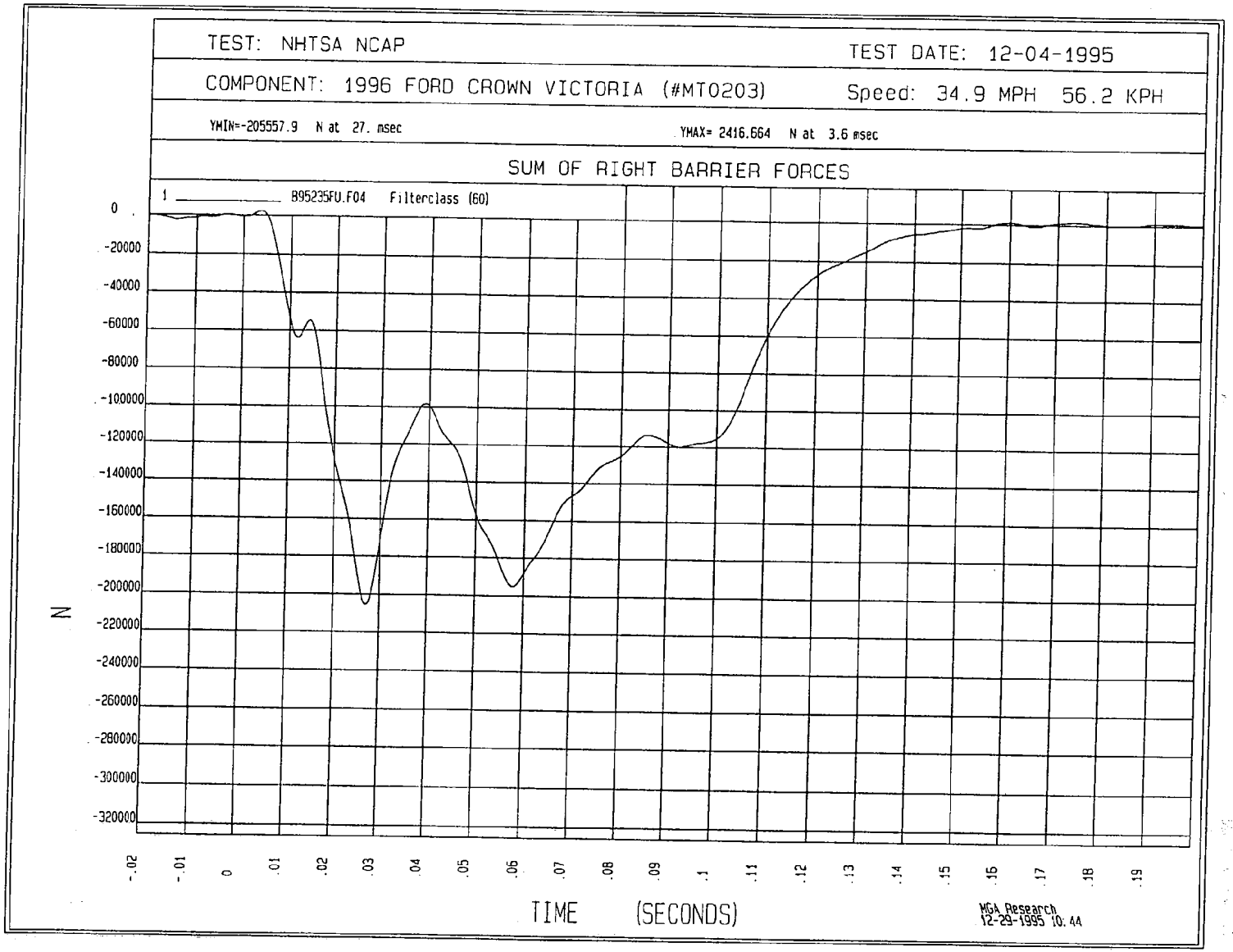
TIME (SECONDS)
MGA Research
12-29-1995 10:44


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-205557.9 N at 27. msec
YMAX= 2416.664 N at 3.6 msec
SUM OF RIGHT BARRIER FORCES
1 B95235FU.F04 Filterclass (60)
0
-20000
-40000
-60000
-80000
-100000
-120000
-140000
-160000
-180000
-200000
-220000
-240000
-260000
-280000
-300000
-320000
N
-.02
-.01
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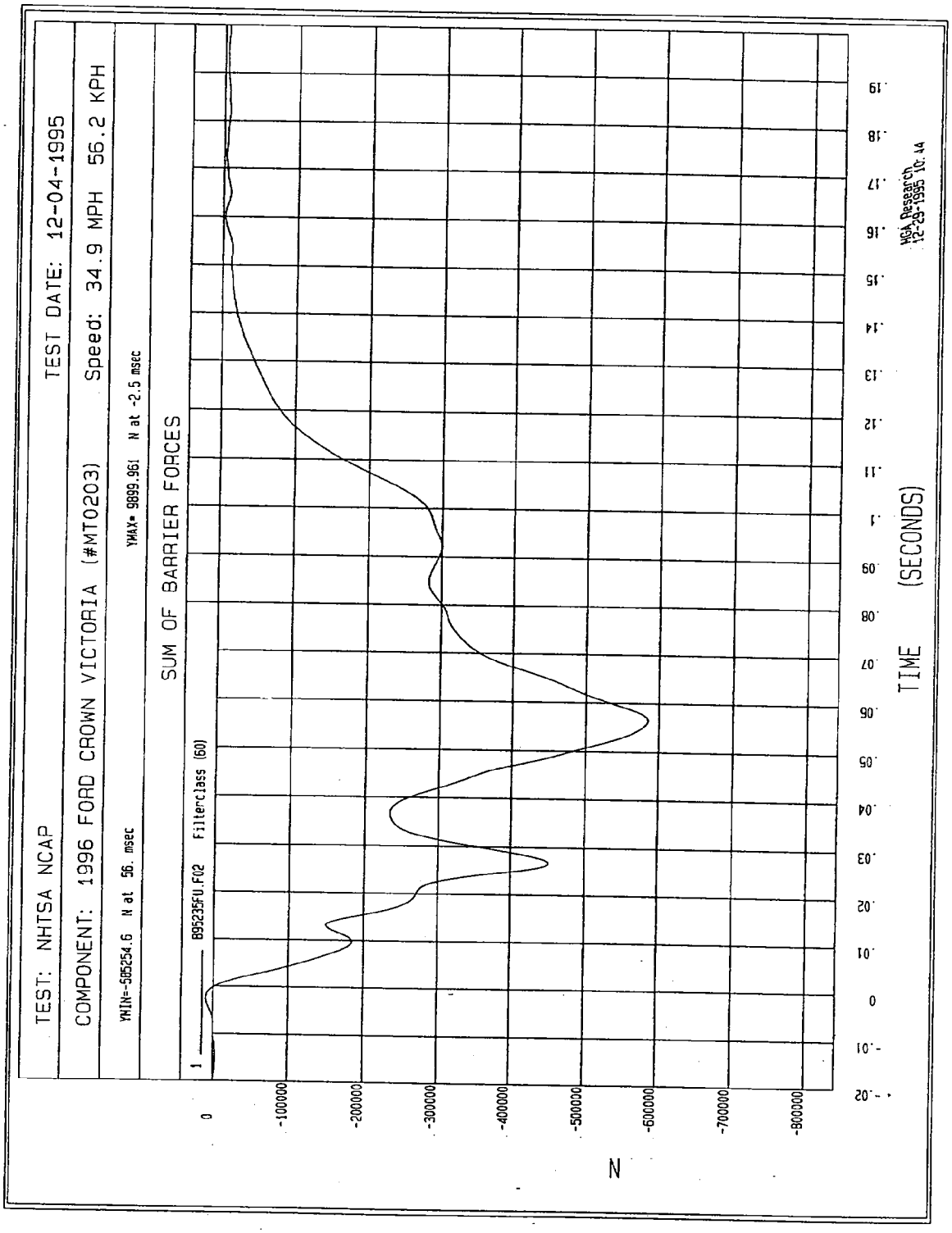
TIME (SECONDS)
MGA Research
12-29-1995 10:44


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-585254.6 N at 56. msec
YMAX= 9899.961 N at -2.5 msec
SUM OF BARRIER FORCES
1 B95235FU.F02 Filterclass (60)
0
-100000
-200000
-300000
-400000
-500000
-600000
-700000
-800000
N
-.02
-.01
0
.01
.02
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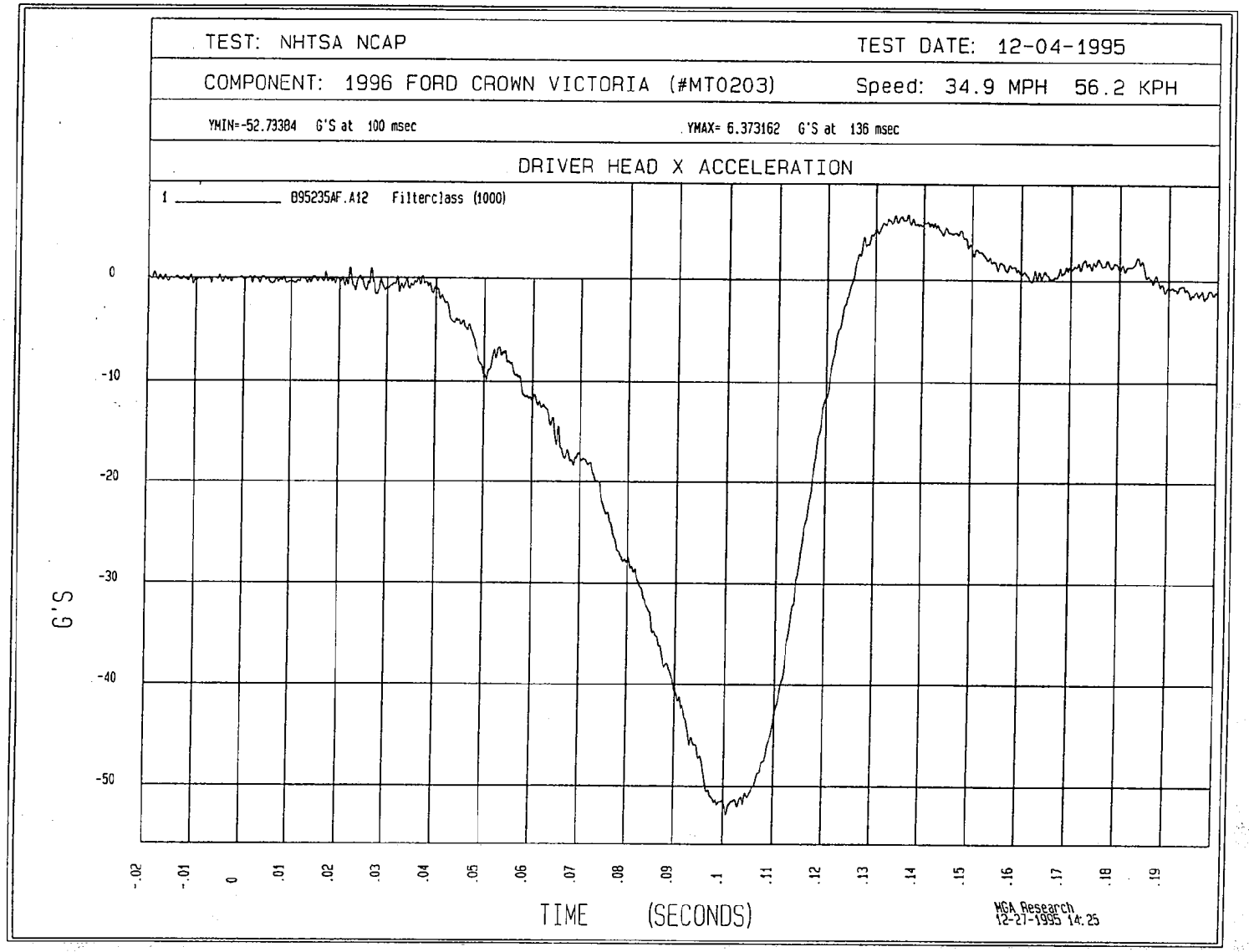
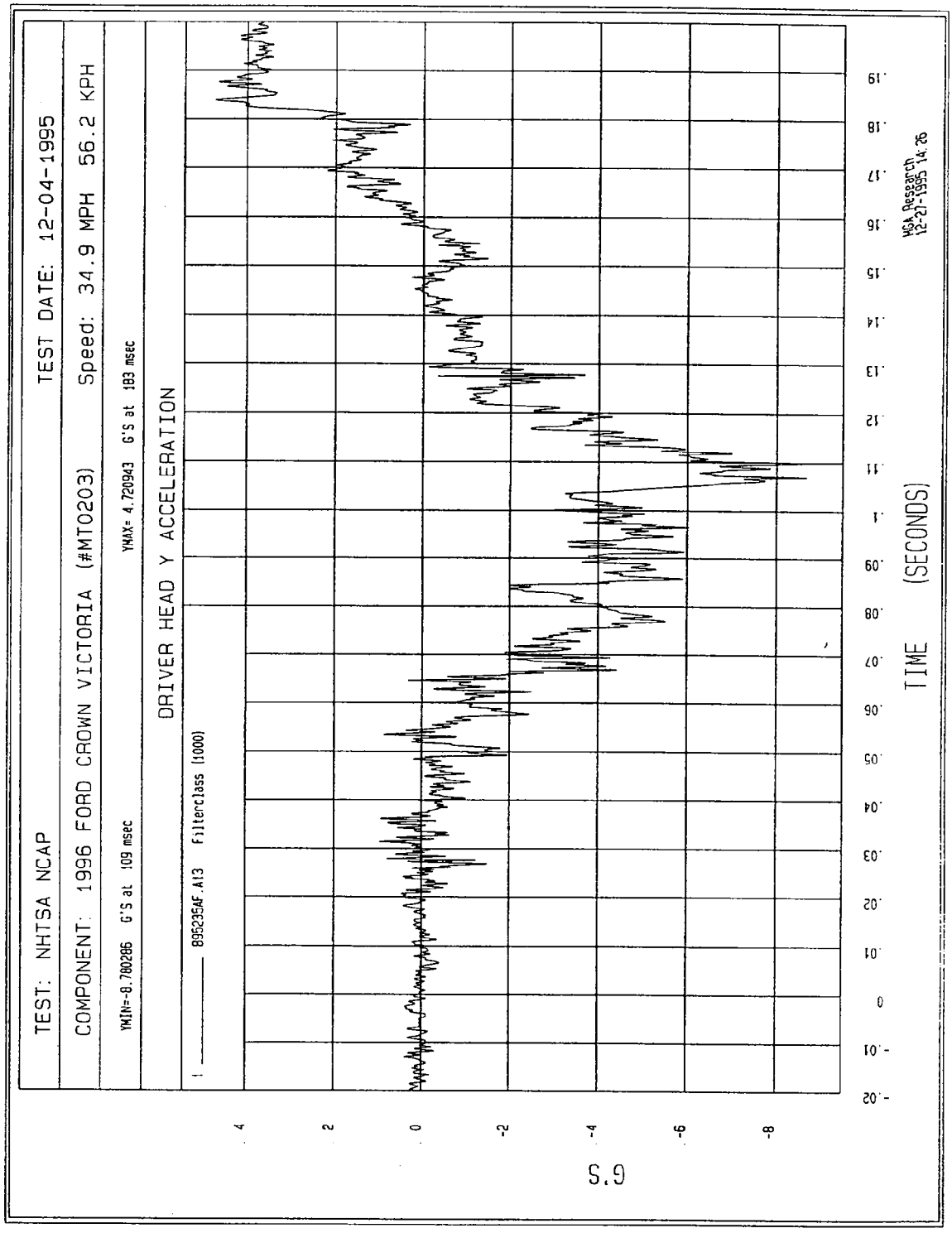
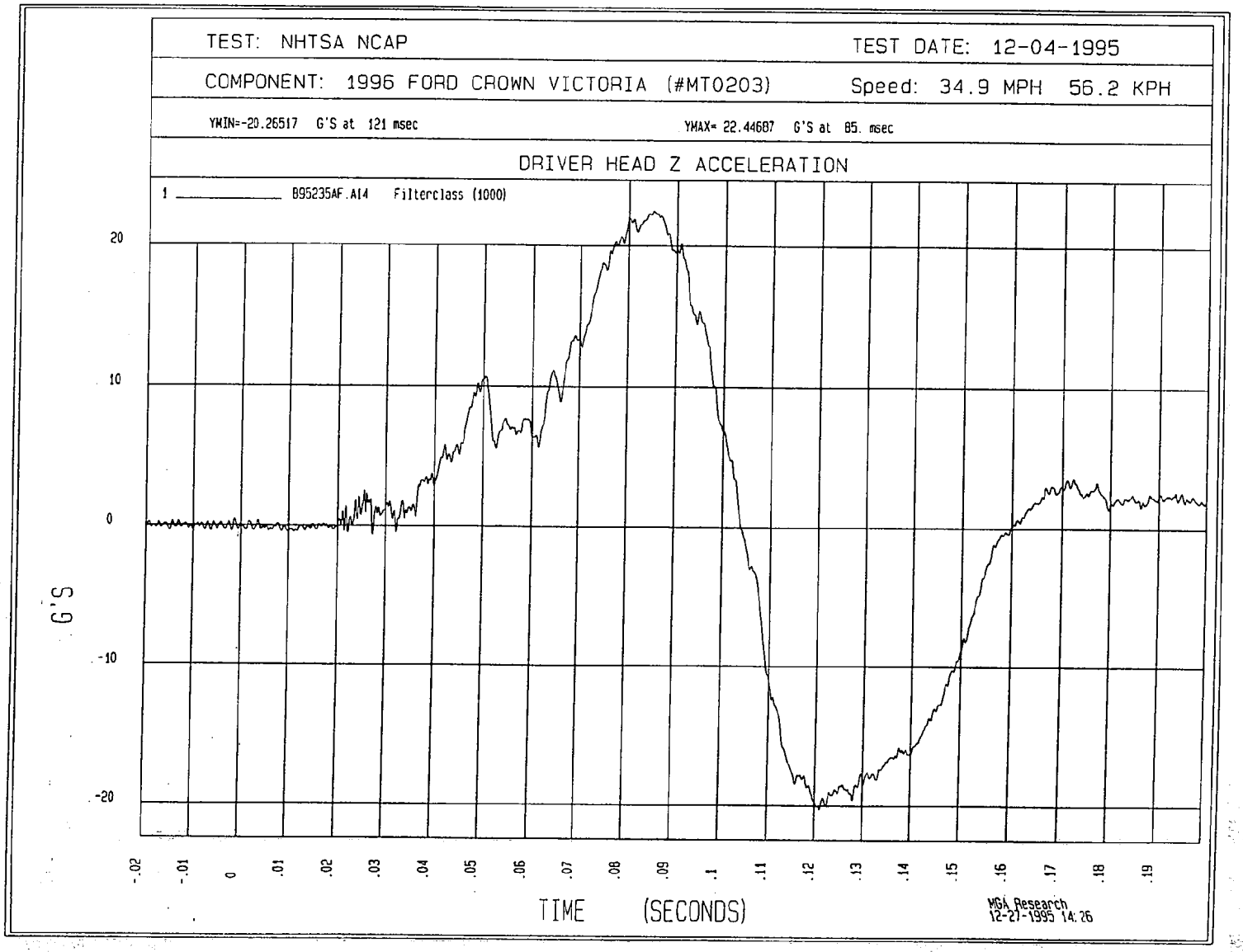
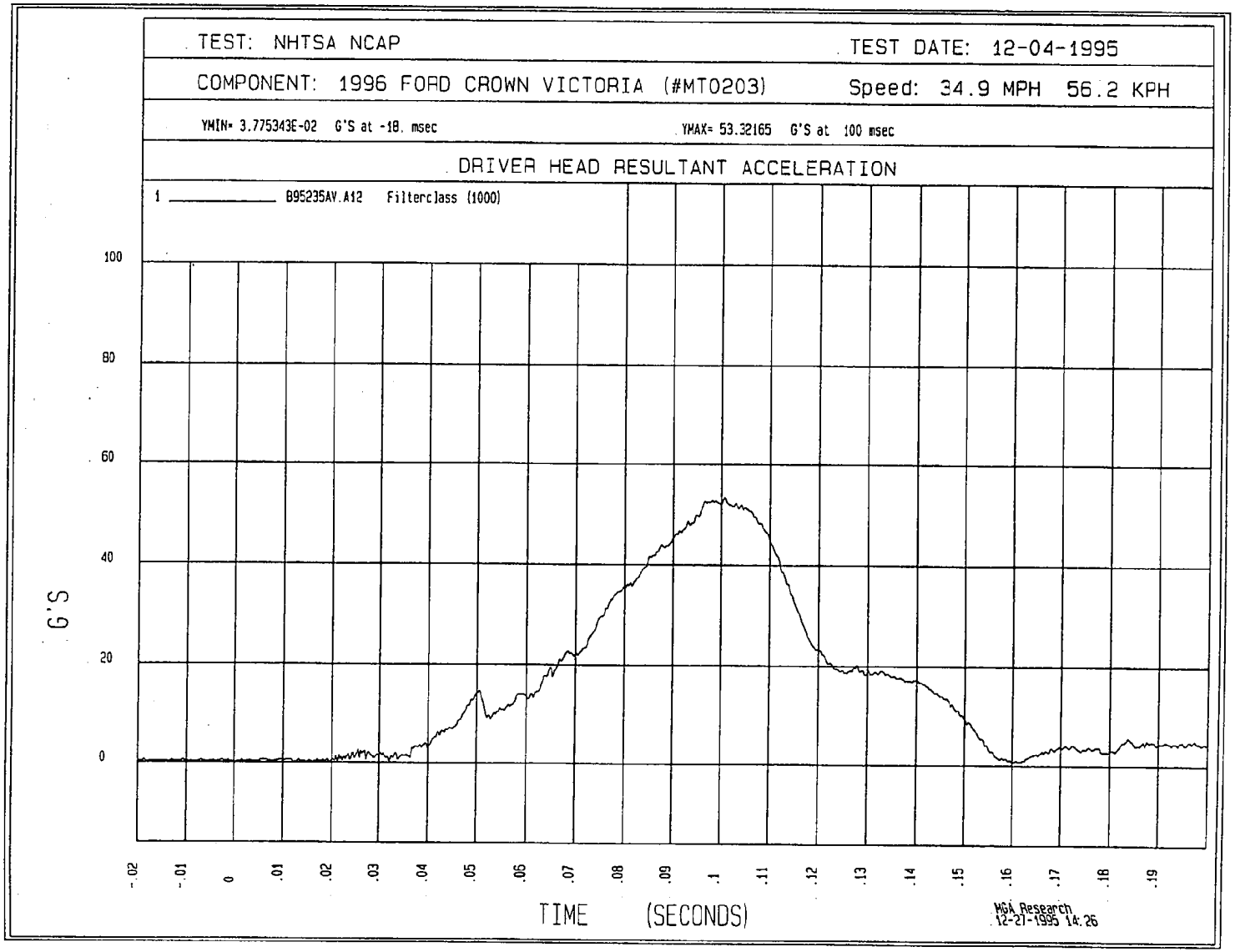
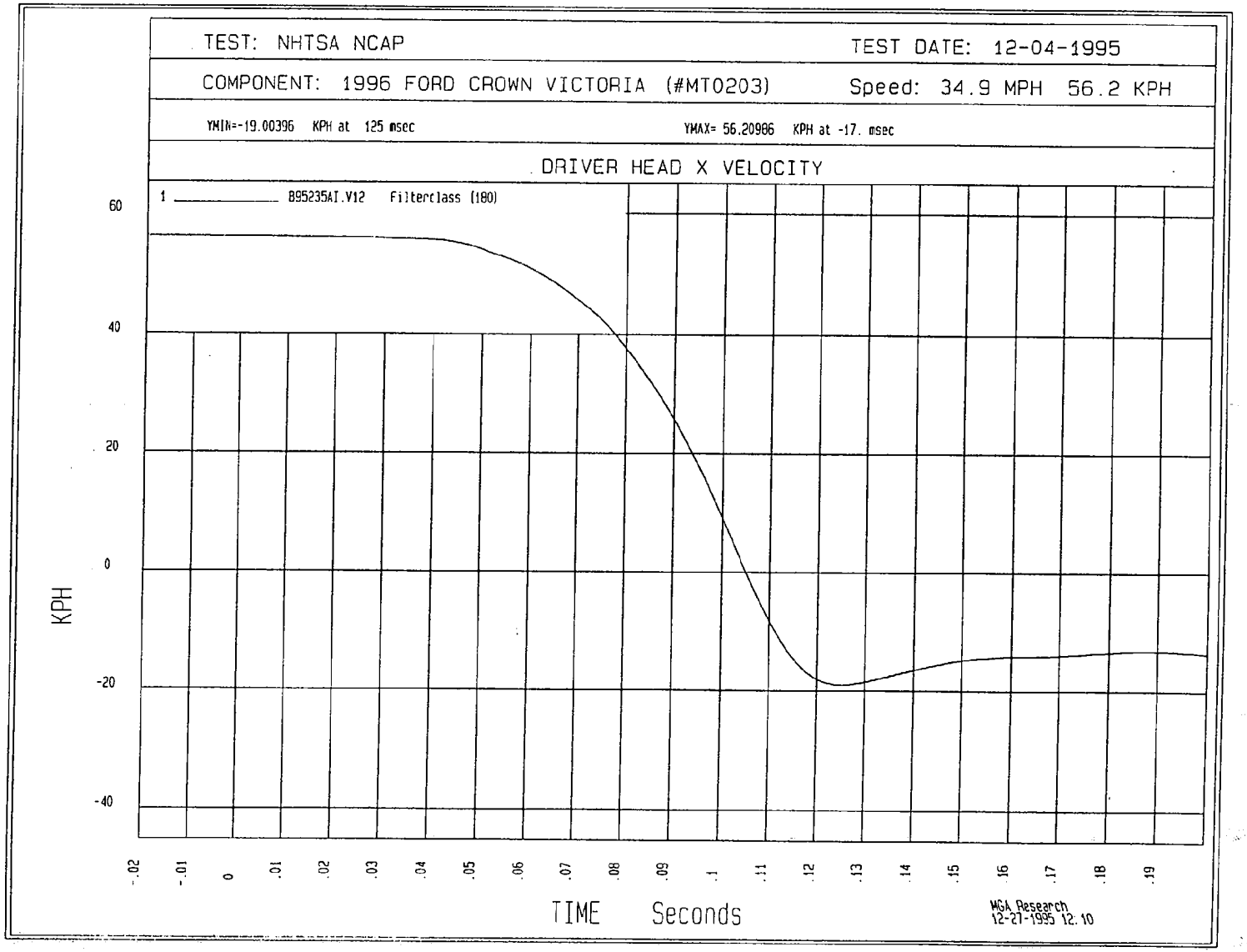
TIME (SECONDS)
MGA Research
12-29-1995 10: 44

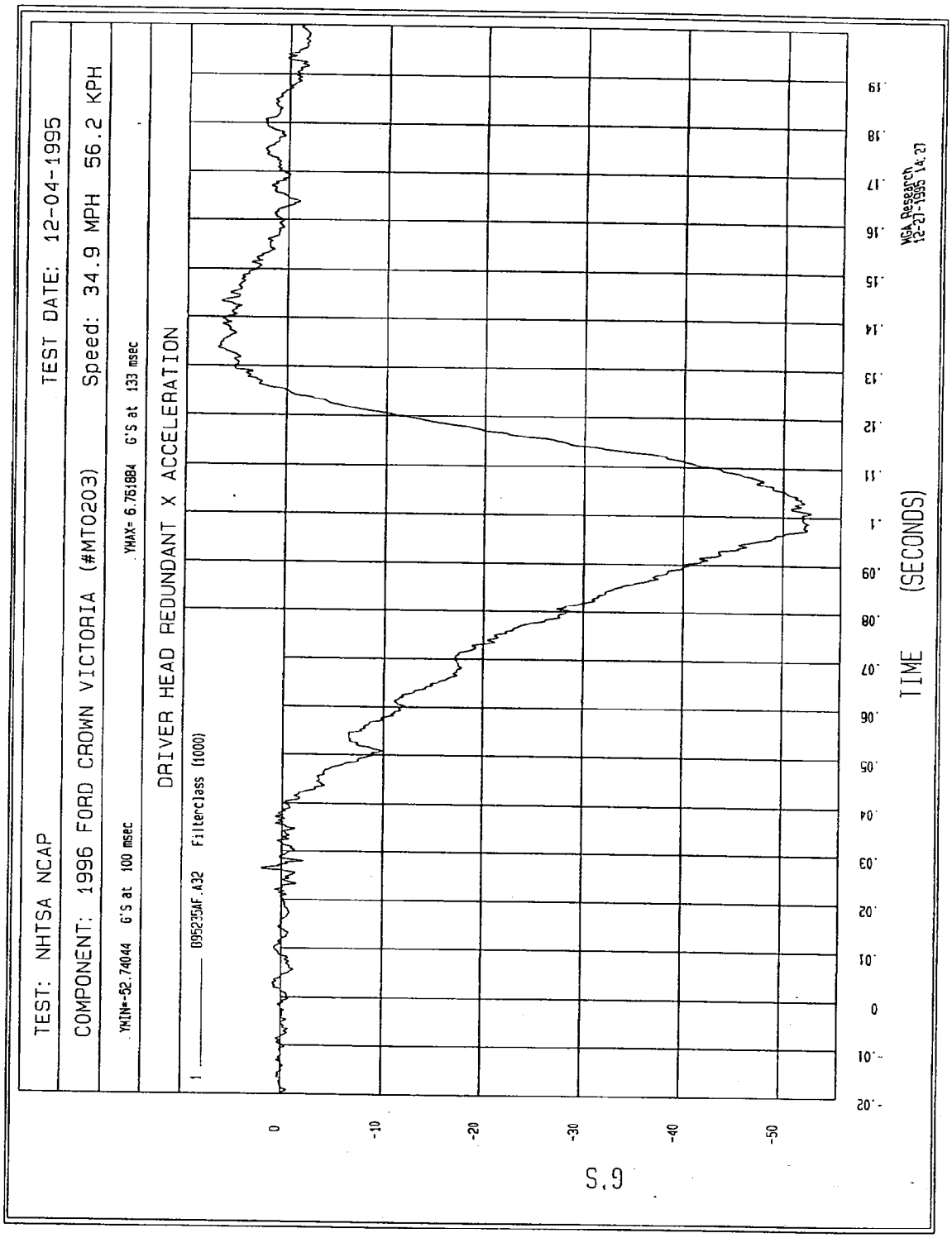

TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-52.73384 G'S at 100 msec
YMAX= 6.373162 G'S at 136 msec
DRIVER HEAD X ACCELERATION
1 B95235AF.A12 Filterclass (1000)
0
-10
-20
-30
-40
-50
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
12-27-1995 14:25

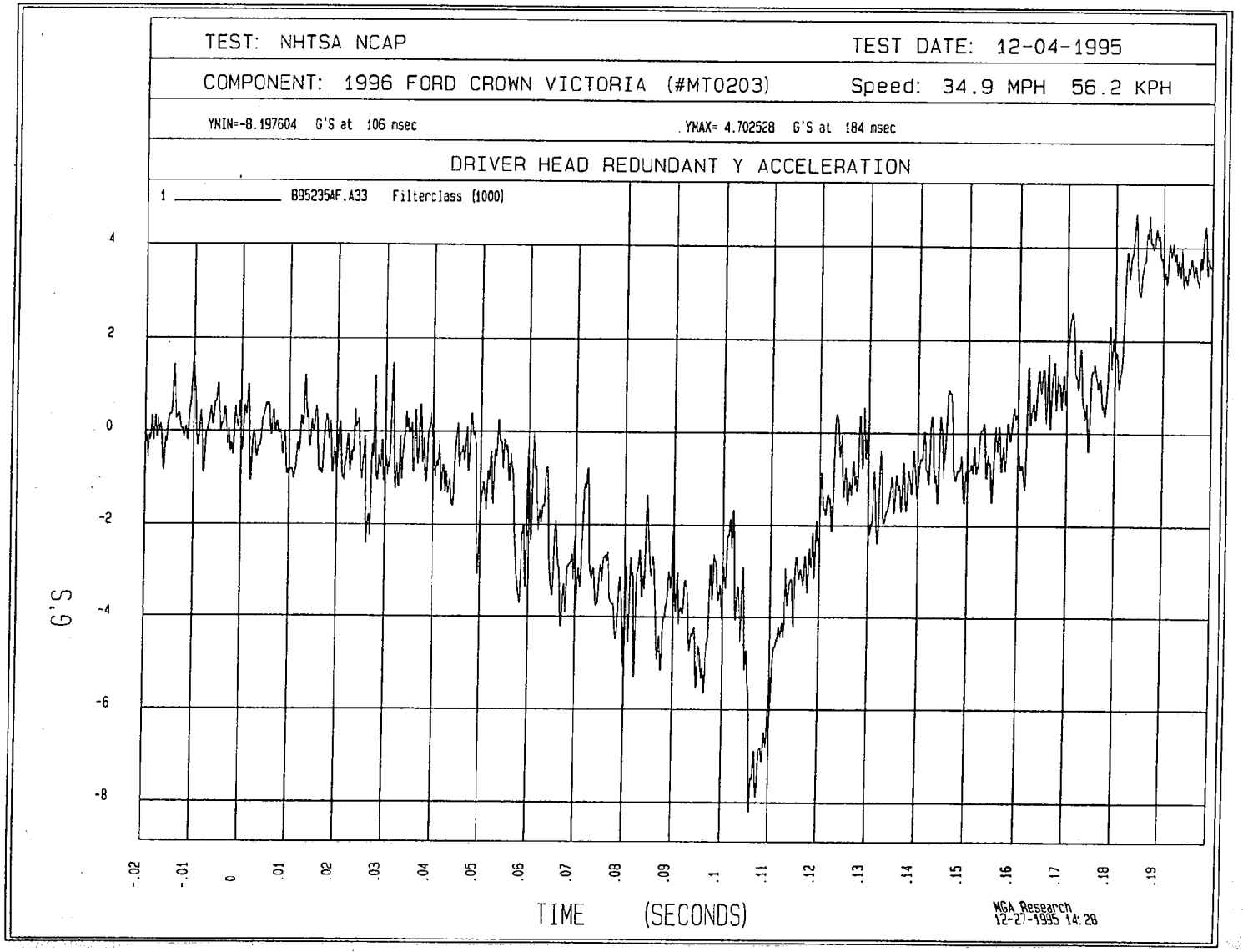

TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-8.780286 G'S at 109 msec
YMAX= 4.720943 G'S at 183 msec
DRIVER HEAD Y ACCELERATION
1 ——— 895235AF.A13 Filterclass (1000)
4
2
0
-2
-4
-6
-8
G'S
TIME (SECONDS)
MGA Research
12-21-1995 14:26

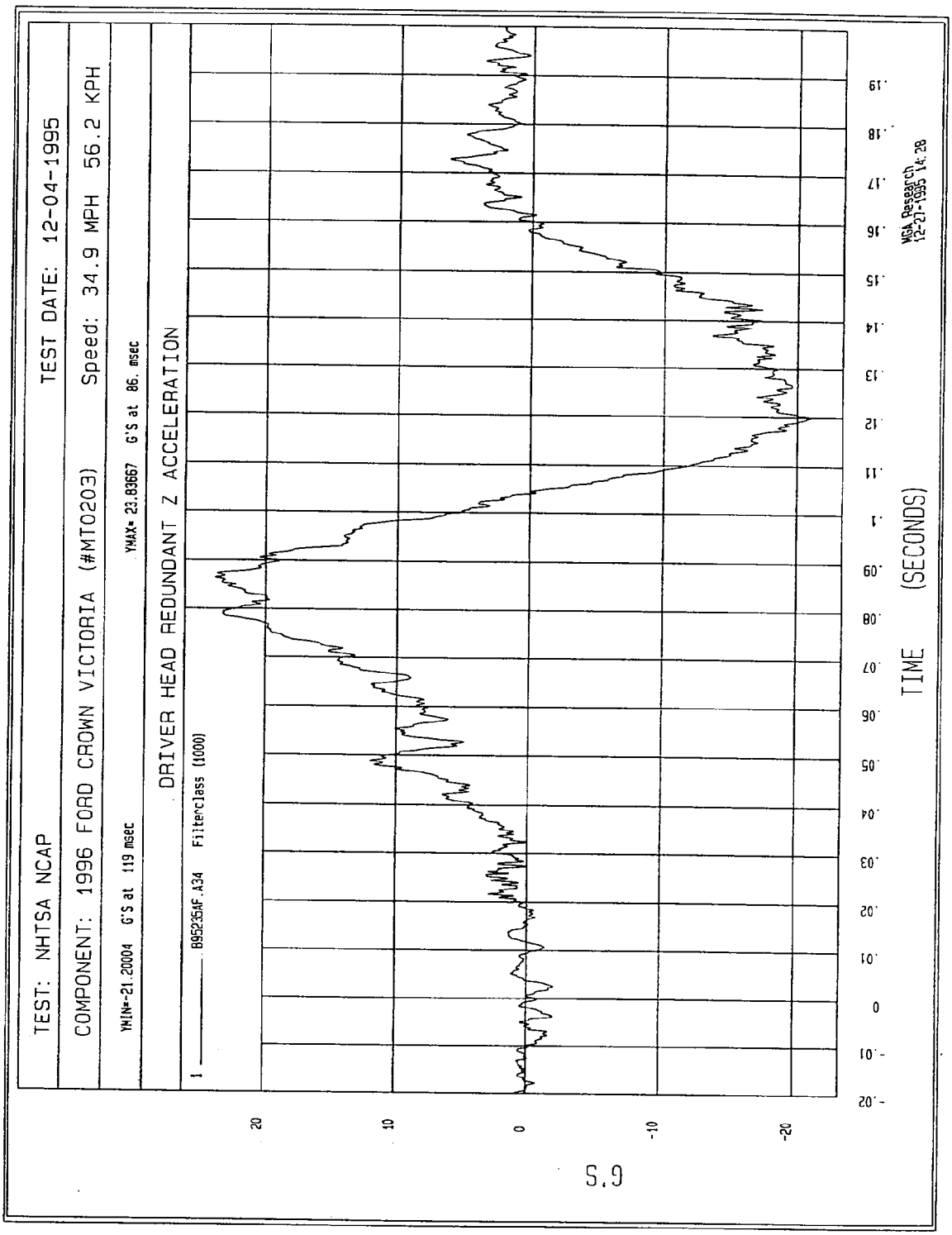

TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-20.26517 G'S at 121 msec
YMAX= 22.44687 G'S at 85. msec
DRIVER HEAD Z ACCELERATION
1 B95235AF.A14 Filterclass (1000)
20
10
0
-10
-20
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
12-27-1995 14:26

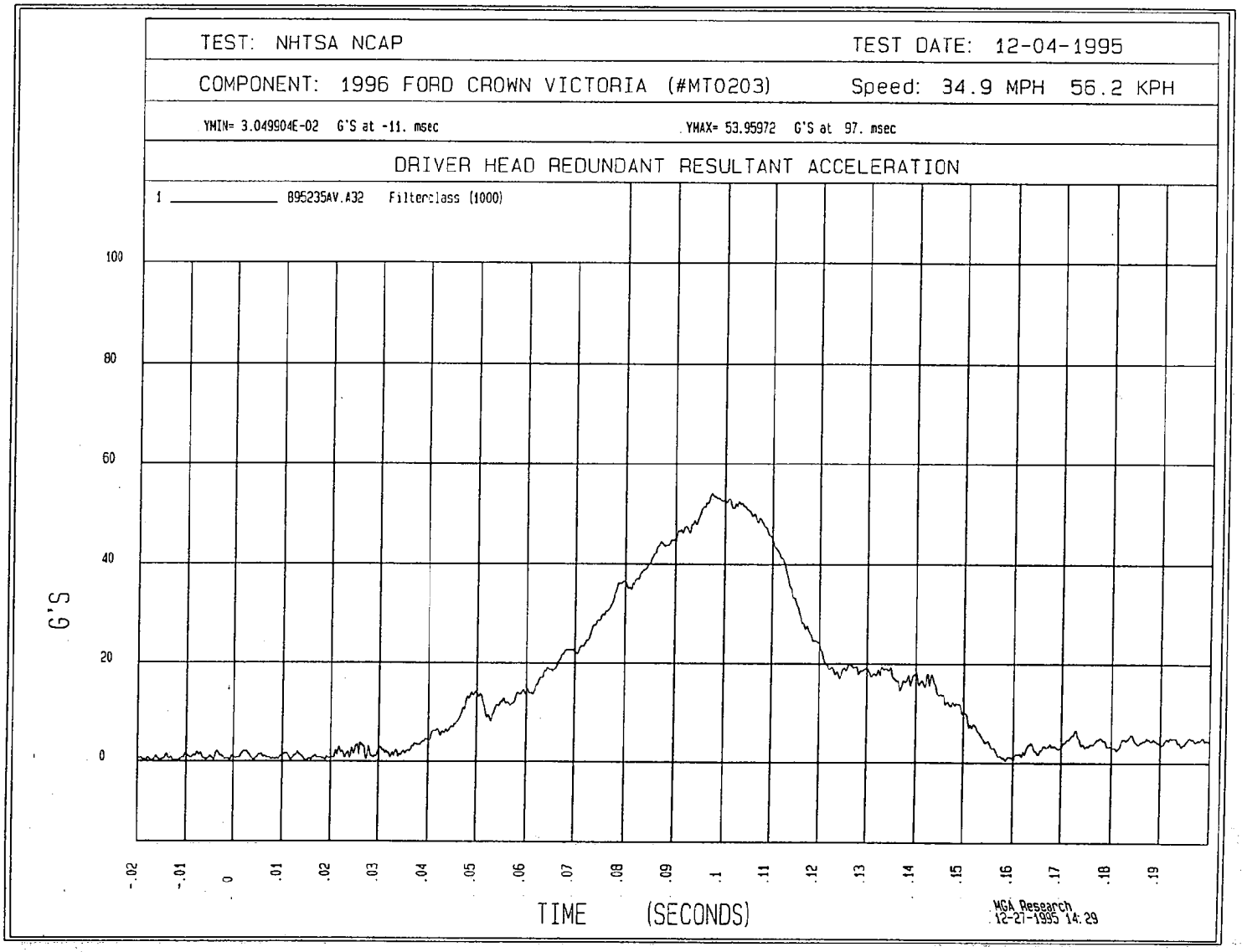

TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN= 3.775343E-02 G'S at -18. msec
YMAX= 53.32165 G'S at 100 msec
DRIVER HEAD RESULTANT ACCELERATION
1 B95235AV.A12 Filterclass (1000)
G'S
100
80
60
40
20
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
12-27-1995 14:26

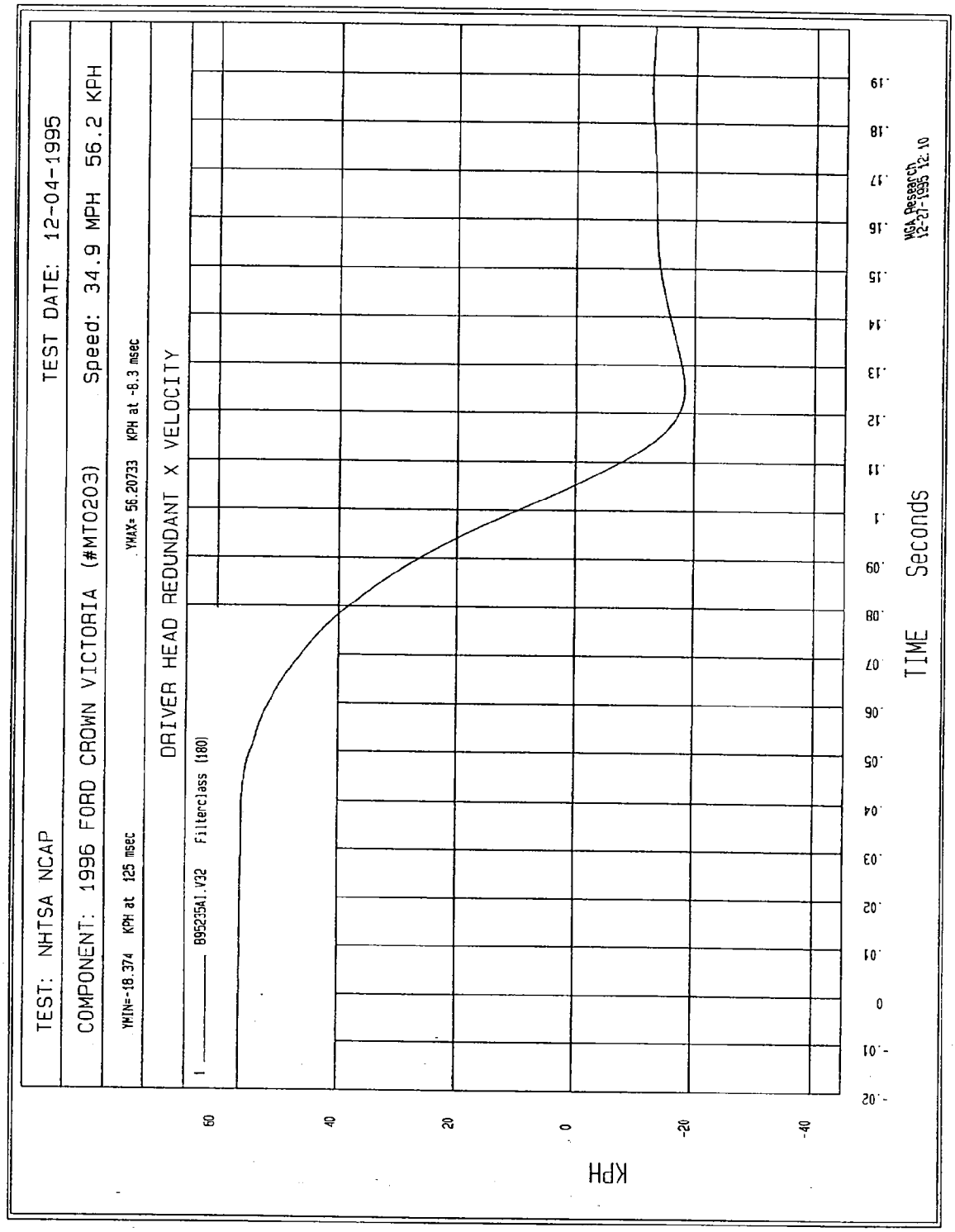

TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-19.00396 KPH at 125 msec
YMAX= 56.20986 KPH at -17. msec
DRIVER HEAD X VELOCITY
1 B95235AI.V12 Filterclass (180)
60
40
20
0
-20
-40
KPH
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME Seconds
WGA Research
12-27-1995 12.10

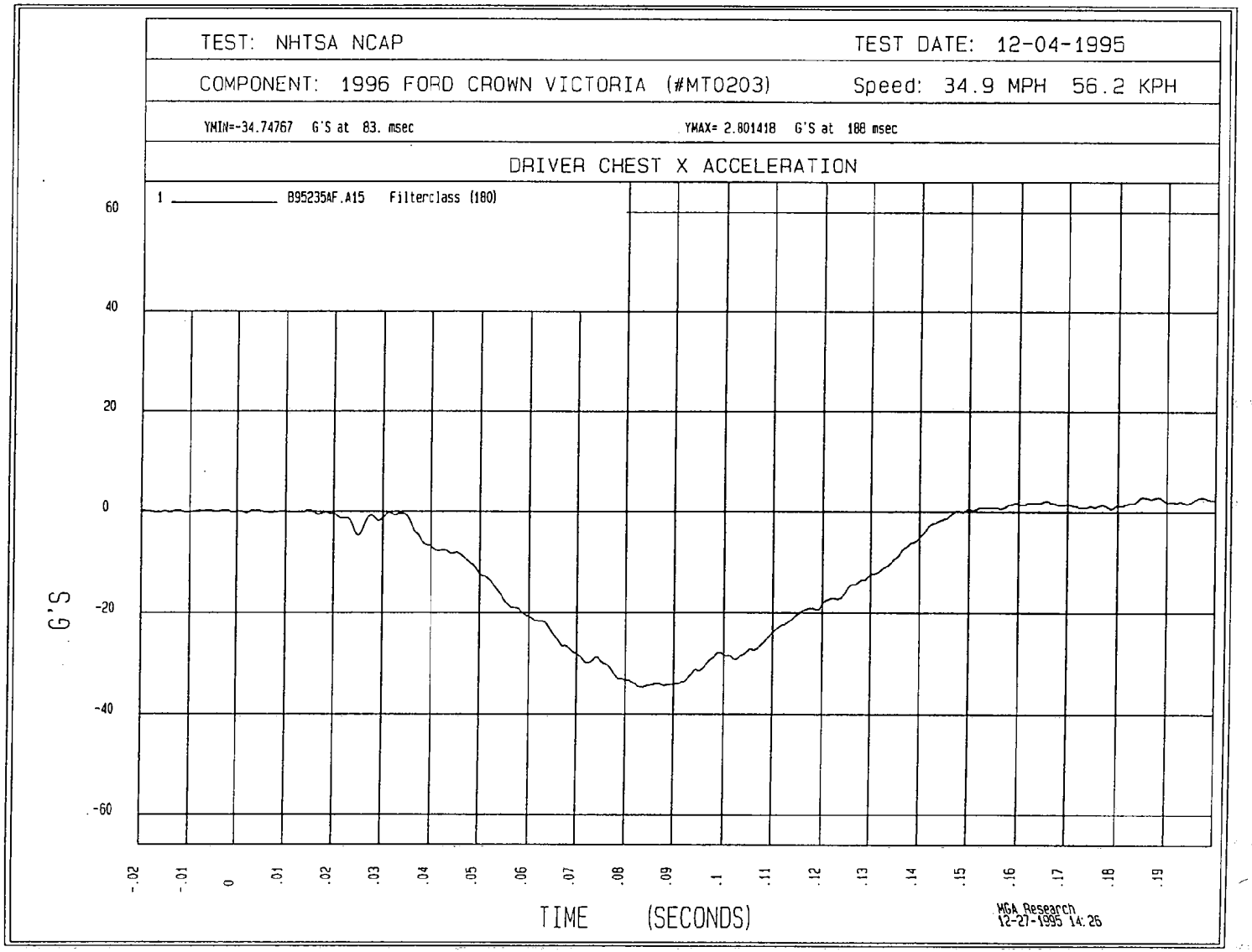

TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-52.74044 G'S at 100 msec
YMAX= 6.761884 G'S at 133 msec
DRIVER HEAD REDUNDANT X ACCELERATION
1 D0523SAF.A32 FilterClass (1000)
0
-10
-20
-30
-40
-50
6'S
5.9
TIME (SECONDS)
MGA Research
12-21-1995 14:27

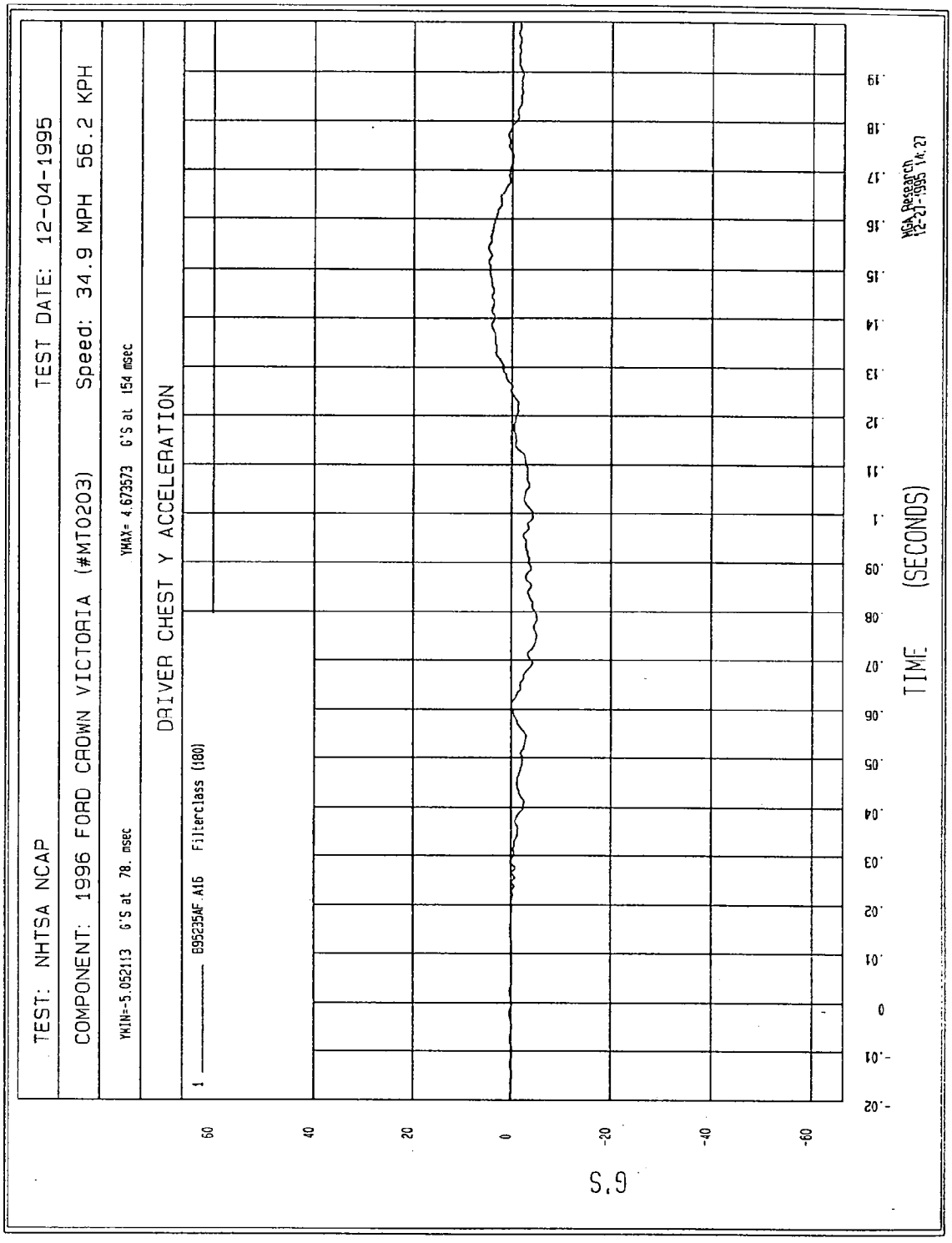

TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-8.197604 G'S at 106 msec
YMAX= 4.702528 G'S at 184 msec
DRIVER HEAD REDUNDANT Y ACCELERATION
1 B95235AF.A33 Filterclass (1000)
G'S
4
2
0
-2
-4
-6
-8
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
12-27-1995 14:28

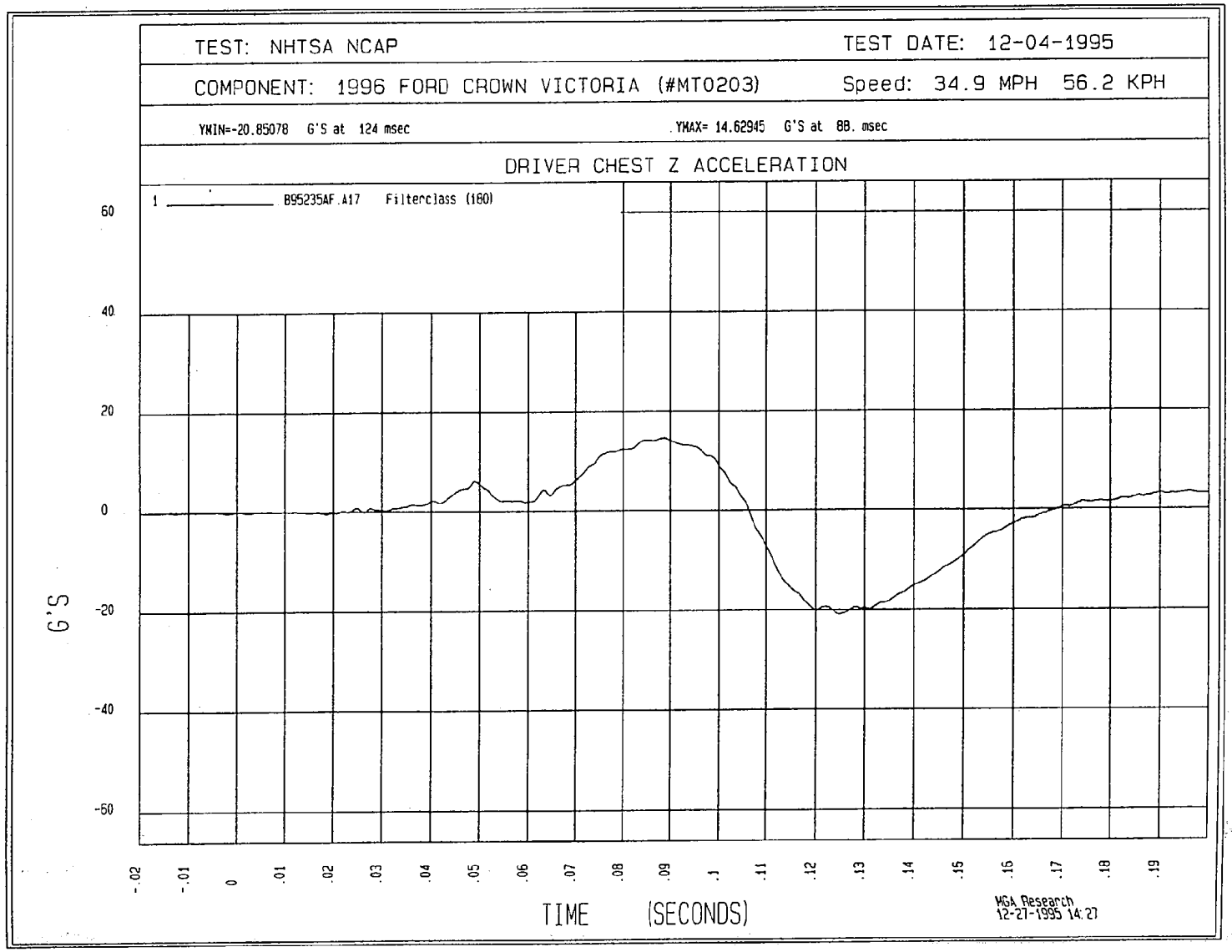

TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-21.20004 G'S at 119 msec
YMAX= 23.83667 G'S at 86. msec
DRIVER HEAD REDUNDANT Z ACCELERATION
1 B95235AF.A34 Filter-class (1000)
20
10
0
-10
-20
TIME (SECONDS)
NGA Research
12-21-1995 14:28
S.9


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN= 3.049904E-02 G'S at -11. msec
YMAX= 53.95972 G'S at 97. msec
DRIVER HEAD REDUNDANT RESULTANT ACCELERATION
1 B95235AV.A32 Filterclass (1000)
G'S
100
80
60
40
20
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
12-27-1995 14:29


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-18.374 KPH at 125 msec
YMAX= 56.20733 KPH at -8.3 msec
DRIVER HEAD REDUNDANT X VELOCITY
1 B95235A1.V32 Filterclass (180)
KPH
60
40
20
0
-20
-40
TIME Seconds
.19
.18
.17
.16
.15
.14
.13
.12
.11
1
.09
.08
.07
.06
.05
.04
.03
.02
.01
0
-.01
-.02
NGA Research
12-27-1995 12:10

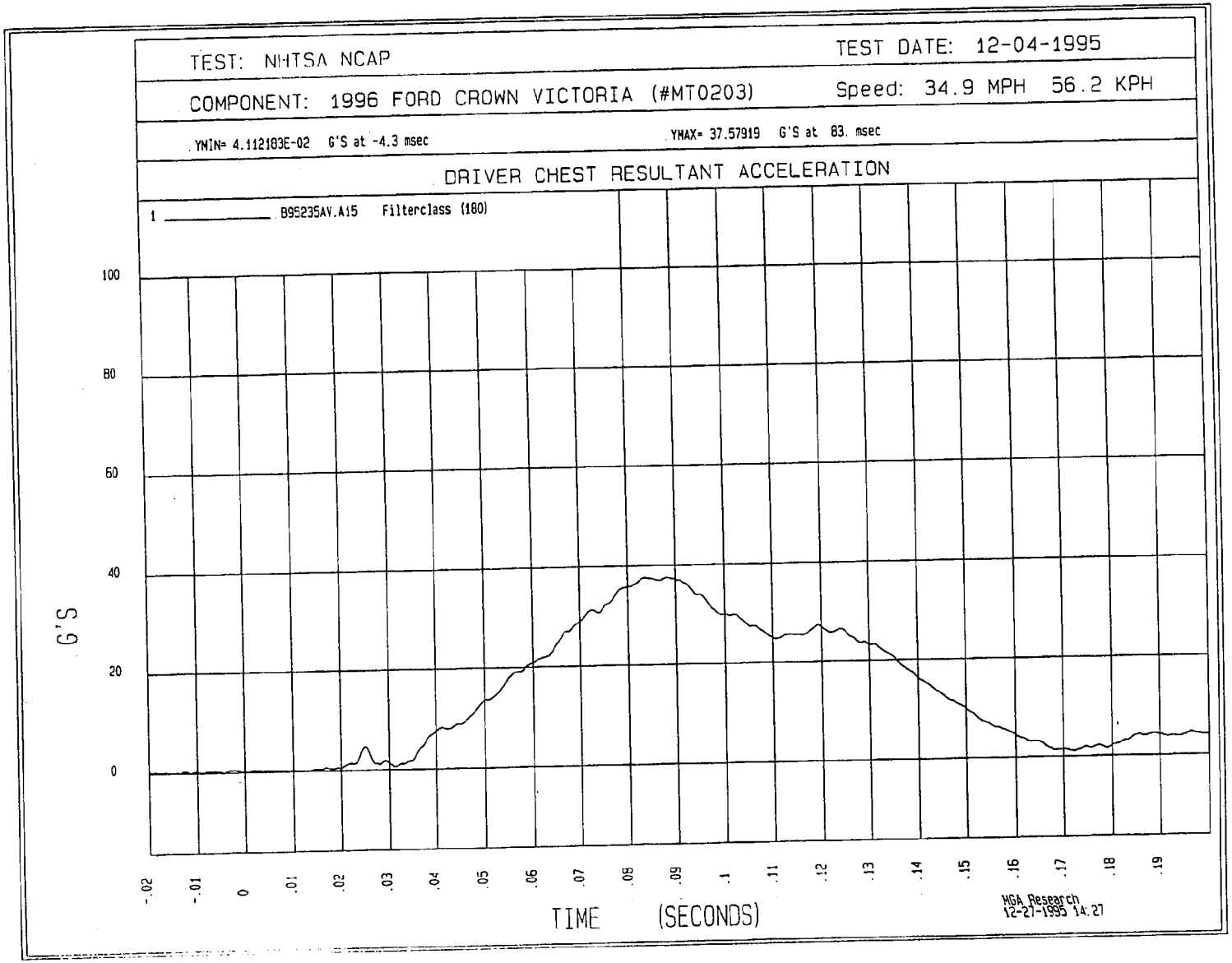

TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-34.74767 G'S at 83. msec
YMAX= 2.801418 G'S at 188 msec
DRIVER CHEST X ACCELERATION
1 B95235AF.A15 Filterclass (180)
60
40
20
0
-20
-40
-60
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
12-27-1995 14:26

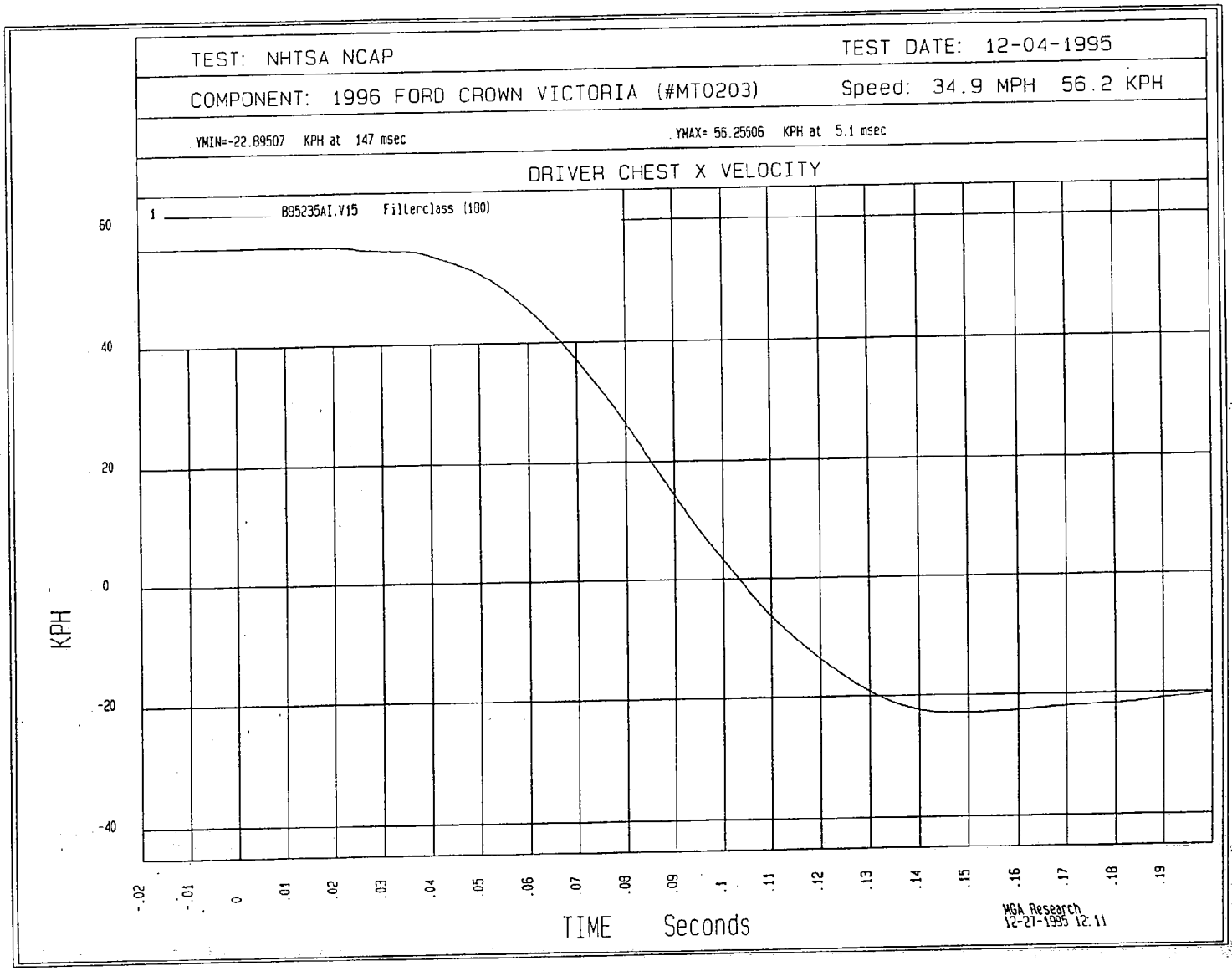

TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-5.052113 G'S at 78. msec
YMAX= 4.673573 G'S at 154 msec
DRIVER CHEST Y ACCELERATION
1 B95235AF.A16 Filterclass (180)
60
40
20
0
-20
-40
-60
G'S
.19
.18
.17
.16
.15
.14
.13
.12
.11
.1
.09
.08
.07
.06
.05
.04
.03
.02
.01
0
-.01
-.02
TIME (SECONDS)
MGA Research
12-21-1995 14:27

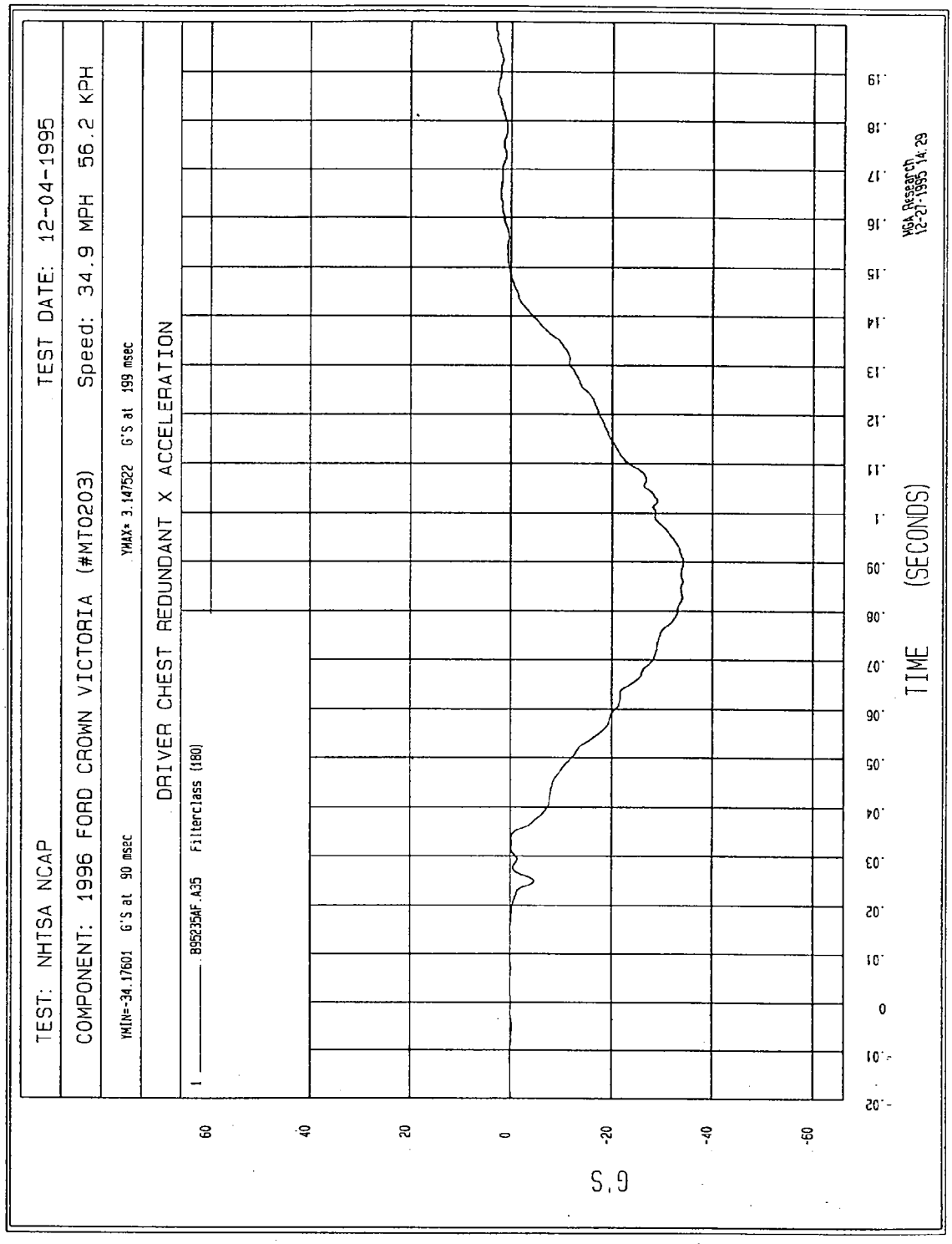

TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-20.85078 G'S at 124 msec
YMAX= 14.62945 G'S at 88. msec
DRIVER CHEST Z ACCELERATION
1 B95235AF.A17 Filterclass (180)
60
40
20
0
-20
-40
-60
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
12-27-1995 14:27

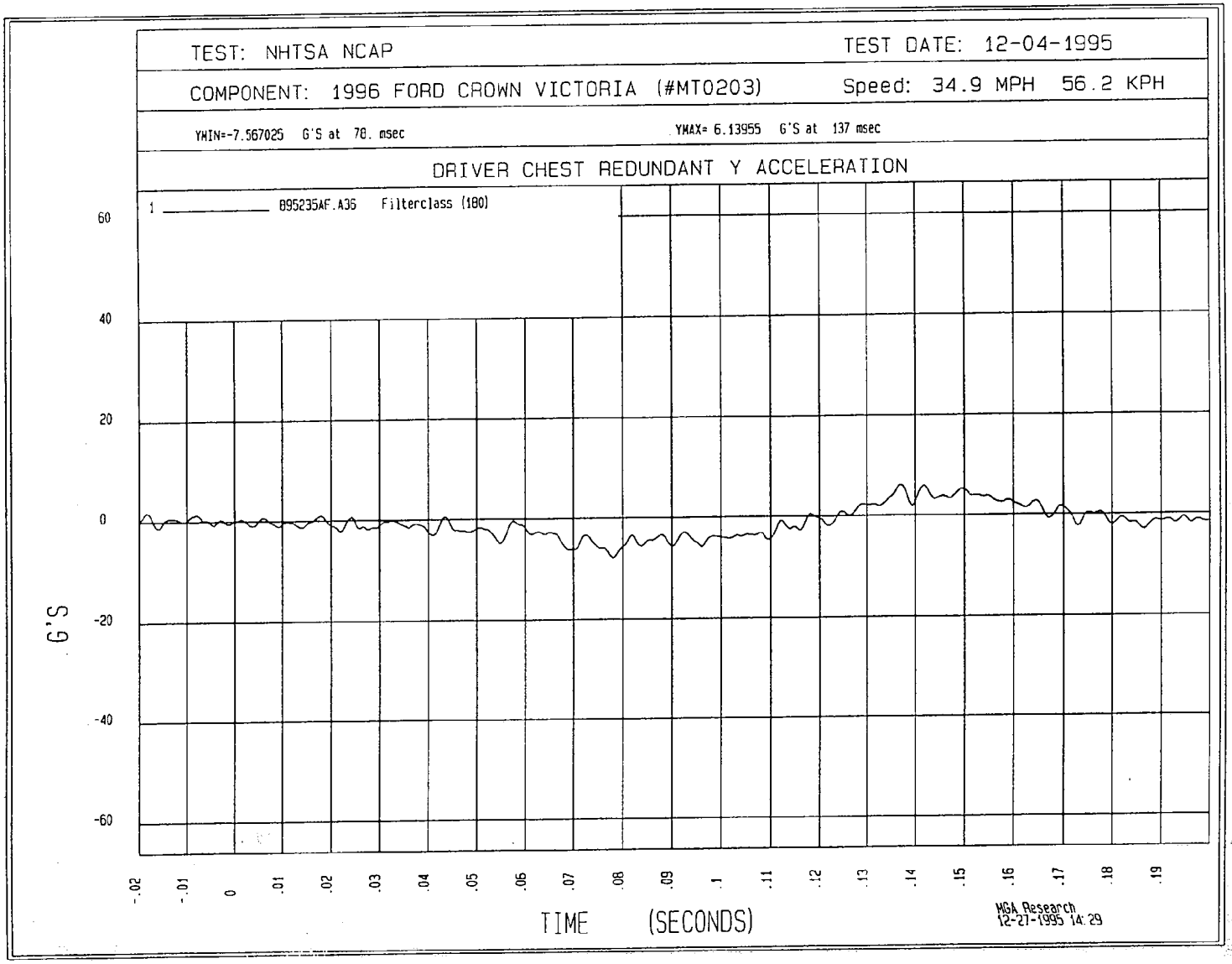
APPENDIX C

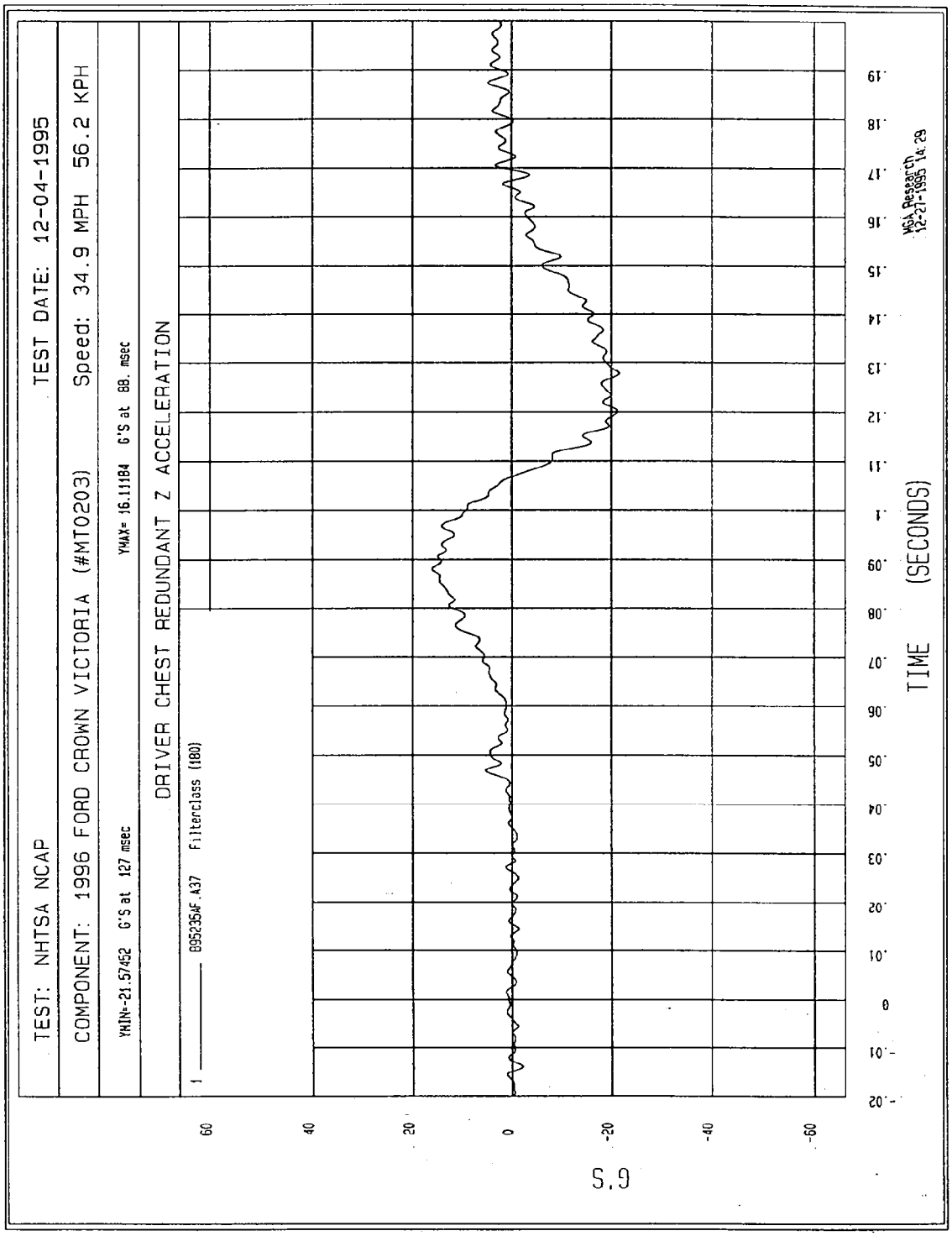
Dummy Configuration & Performance Verification Data

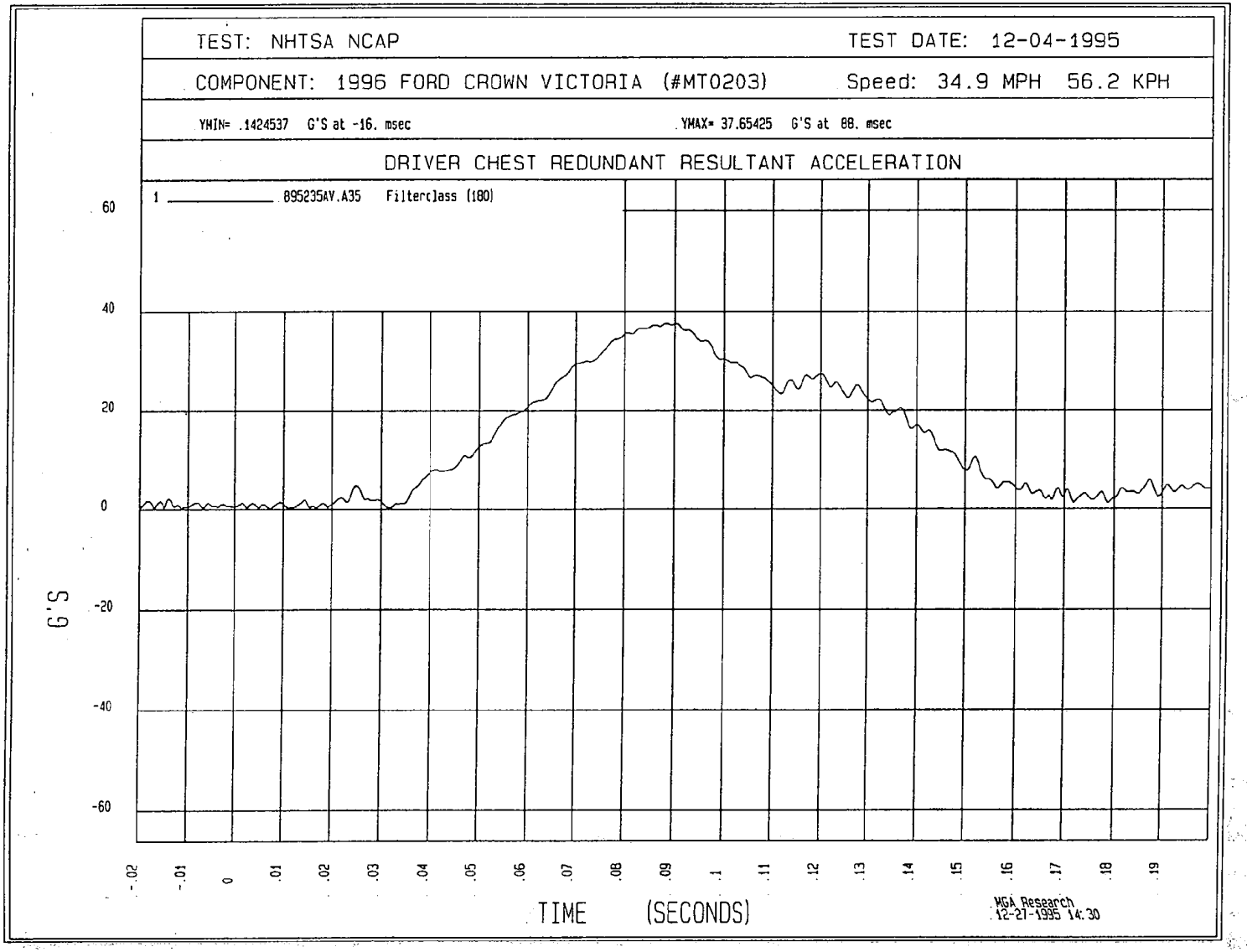

TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN= 4.112183E-02 G'S at -4.3 msec
YMAX= 37.57919 G'S at 83. msec
DRIVER CHEST RESULTANT ACCELERATION
1 B95235AV.A15 Filterclass (180)
100
80
60
40
20
0
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
12-27-1995 14:27

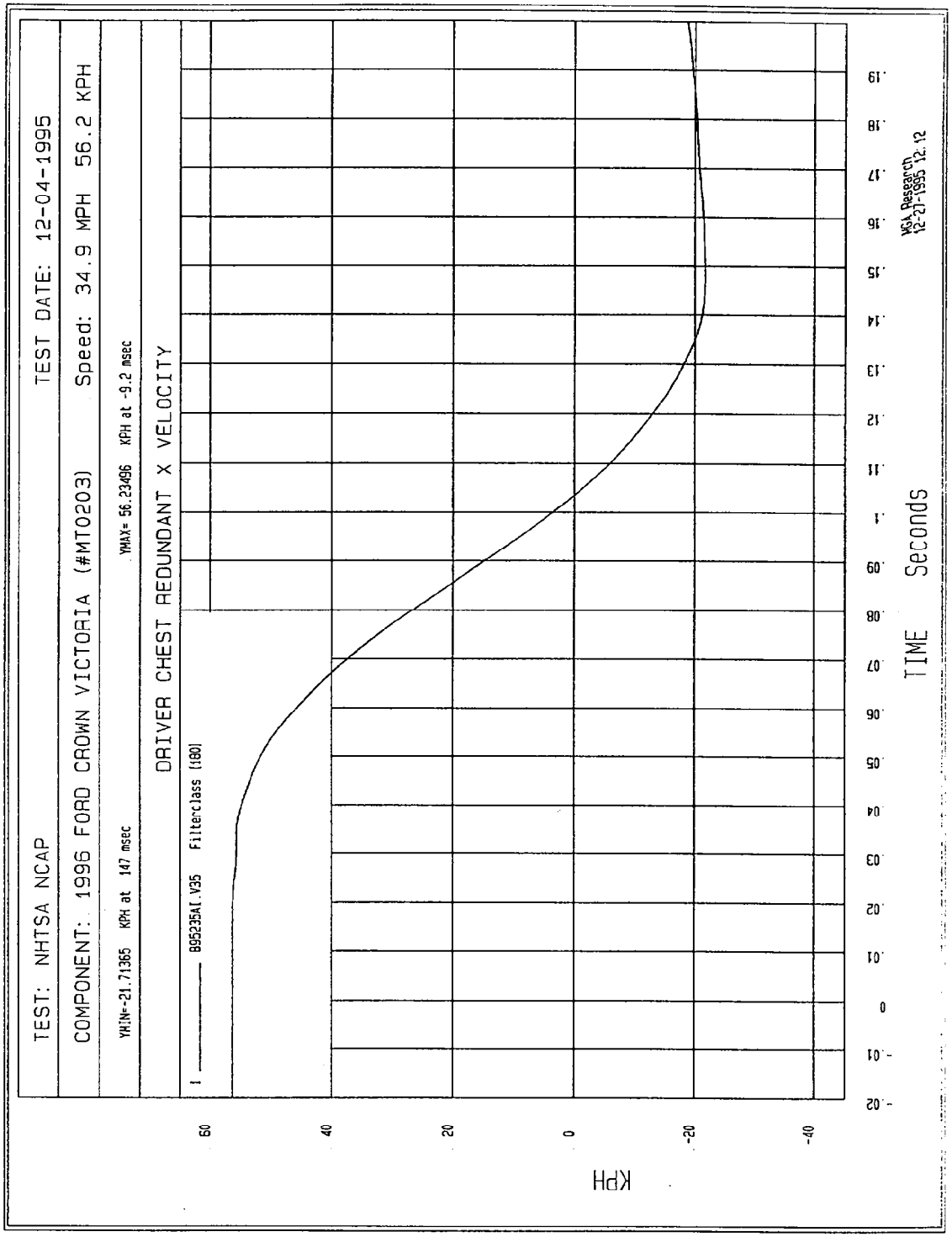

TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-22.89507 KPH at 147 msec
YMAX= 55.25506 KPH at 5.1 msec
DRIVER CHEST X VELOCITY
1 B95235AI.V15 Filterclass (180)
60
40
20
0
-20
-40
KPH
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME Seconds
MGA Research
12-27-1995 12:11

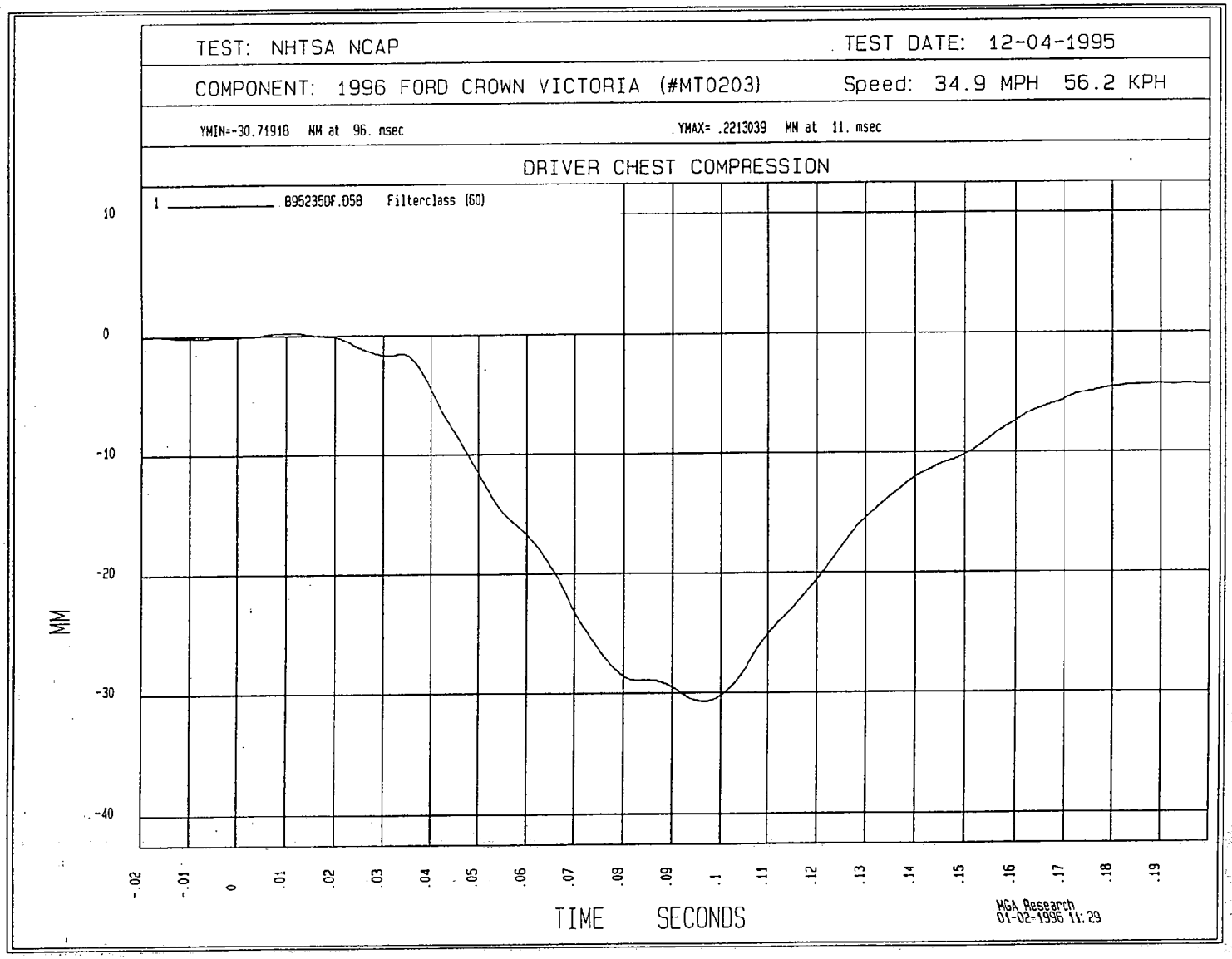

TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-34.17601 G'S at 90 msec
YMAX= 3.147522 G'S at 199 msec
DRIVER CHEST REDUNDANT X ACCELERATION
1 B95235AF.A35 Filterclass (180)
60
40
20
0
-20
-40
-60
G'S
.19
.18
.17
.16
.15
.14
.13
.12
.11
.1
.09
.08
.07
.06
.05
.04
.03
.02
.01
0
-.01
-.02
TIME (SECONDS)
MGA Research
12-27-1995 14:29

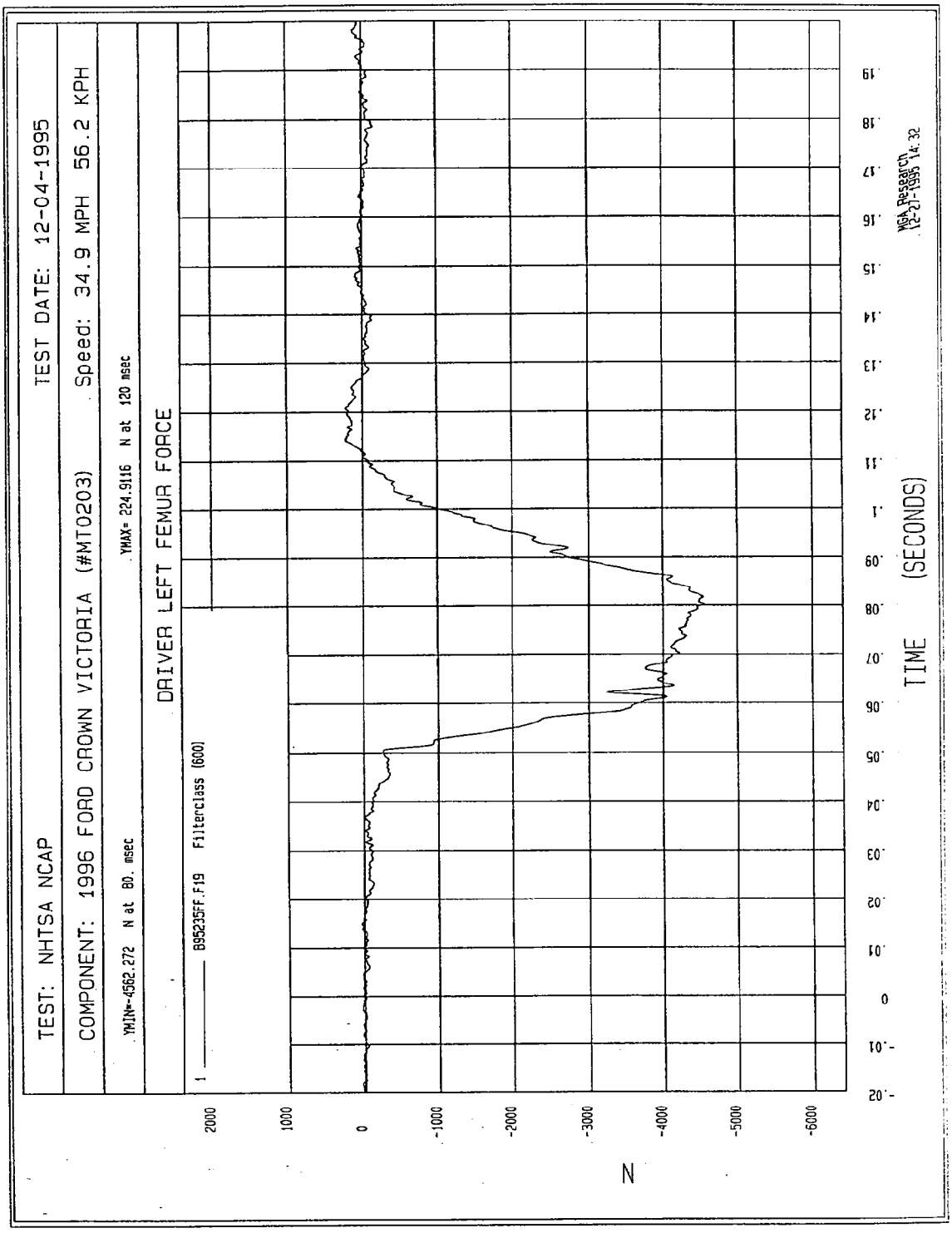

TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-7.567025 G'S at 78. msec
YMAX= 6.13955 G'S at 137 msec
DRIVER CHEST REDUNDANT Y ACCELERATION
1 B95235AF.A36 Filterclass (180)
60
40
20
0
-20
-40
-60
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
12-27-1995 14:29

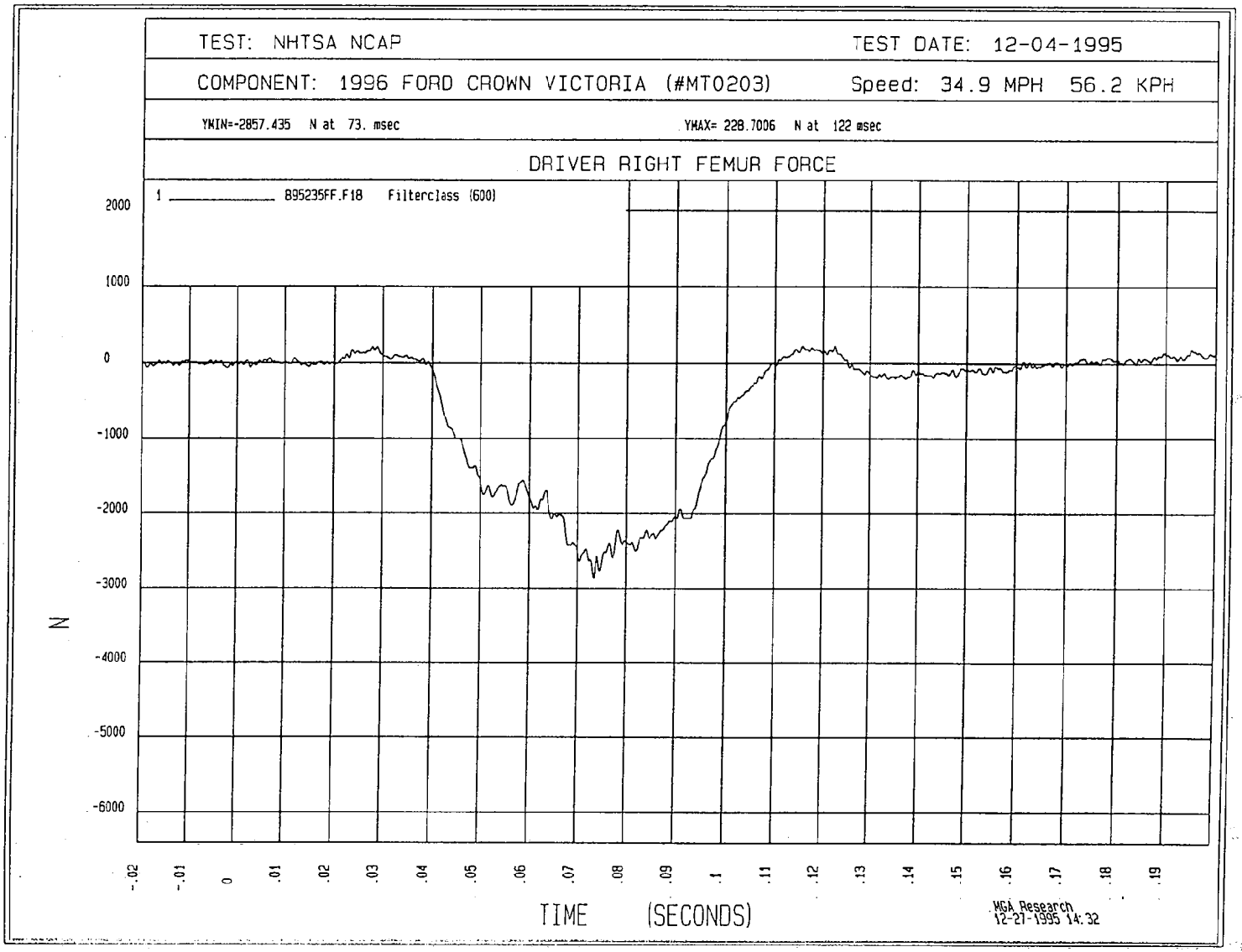

TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-21.57452 G'S at 127 msec
YMAX= 16.11184 G'S at 88. msec
DRIVER CHEST REDUNDANT Z ACCELERATION
1 B95235AF.A37 Filterclass (180)
60
40
20
0
-20
-40
-60
TIME (SECONDS)
MGA Research
12-21-1995 14:29
6.9


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN= .1424537 G'S at -16. msec
YMAX= 37.65425 G'S at 88. msec
DRIVER CHEST REDUNDANT RESULTANT ACCELERATION
1 895235AV.A35 Filterclass (180)
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
12-27-1995 14:30


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-21.71365 KPH at 147 msec
YMAX= 56.23496 KPH at -9.2 msec
DRIVER CHEST REDUNDANT X VELOCITY
1 ——— B95235AI.V35 Filterclass (180)
KPH
60
40
20
0
-20
-40
TIME Seconds
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
NSA Research
12-21-1995 12:12


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-30.71918 MM at 96. msec
YMAX= .2213039 MM at 11. msec
DRIVER CHEST COMPRESSION
1 B952350F.058 Filterclass (60)
10
0
-10
-20
-30
-40
MM
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME SECONDS
MGA Research
01-02-1996 11:29


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-4562.272 N at 80. msec
YMAX= 224.9116 N at 120 msec
DRIVER LEFT FEMUR FORCE
1 B95235FF.F19 Filterclass (600)
2000
1000
0
-1000
-2000
-3000
-4000
-5000
-6000
N
.19
.18
.17
.16
.15
.14
.13
.12
.11
.1
.09
.08
.07
.06
.05
.04
.03
.02
.01
0
-.01
-.02
TIME (SECONDS)
MGA Research
12-27-1995 14:32


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-2857.435 N at 73. msec
YMAX= 228.7006 N at 122 msec
DRIVER RIGHT FEMUR FORCE
1 895235FF.F18 Filterclass (600)
2000
1000
0
-1000
-2000
-3000
-4000
-5000
-6000
N
-.02
-.01
0
.01
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.1
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.15
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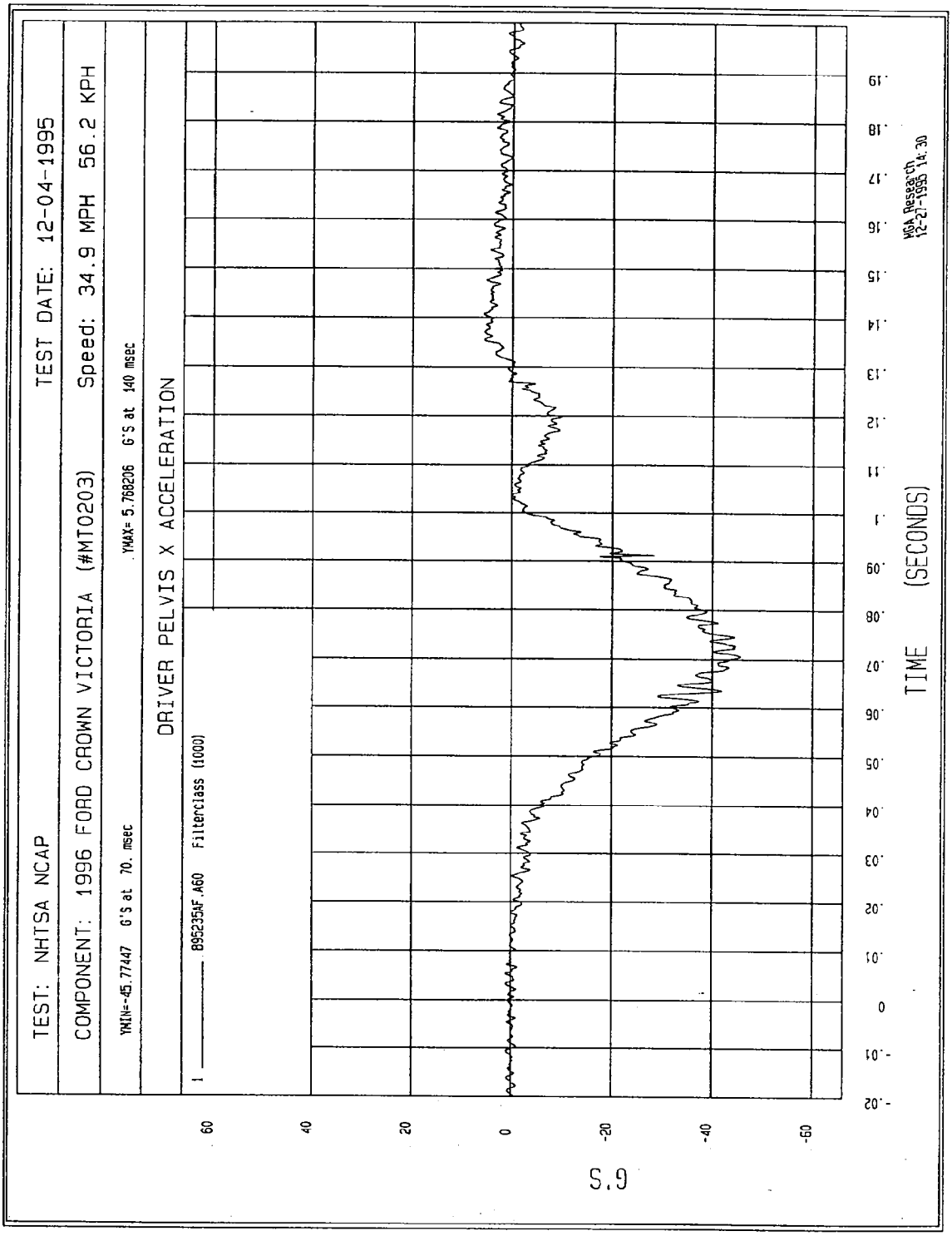
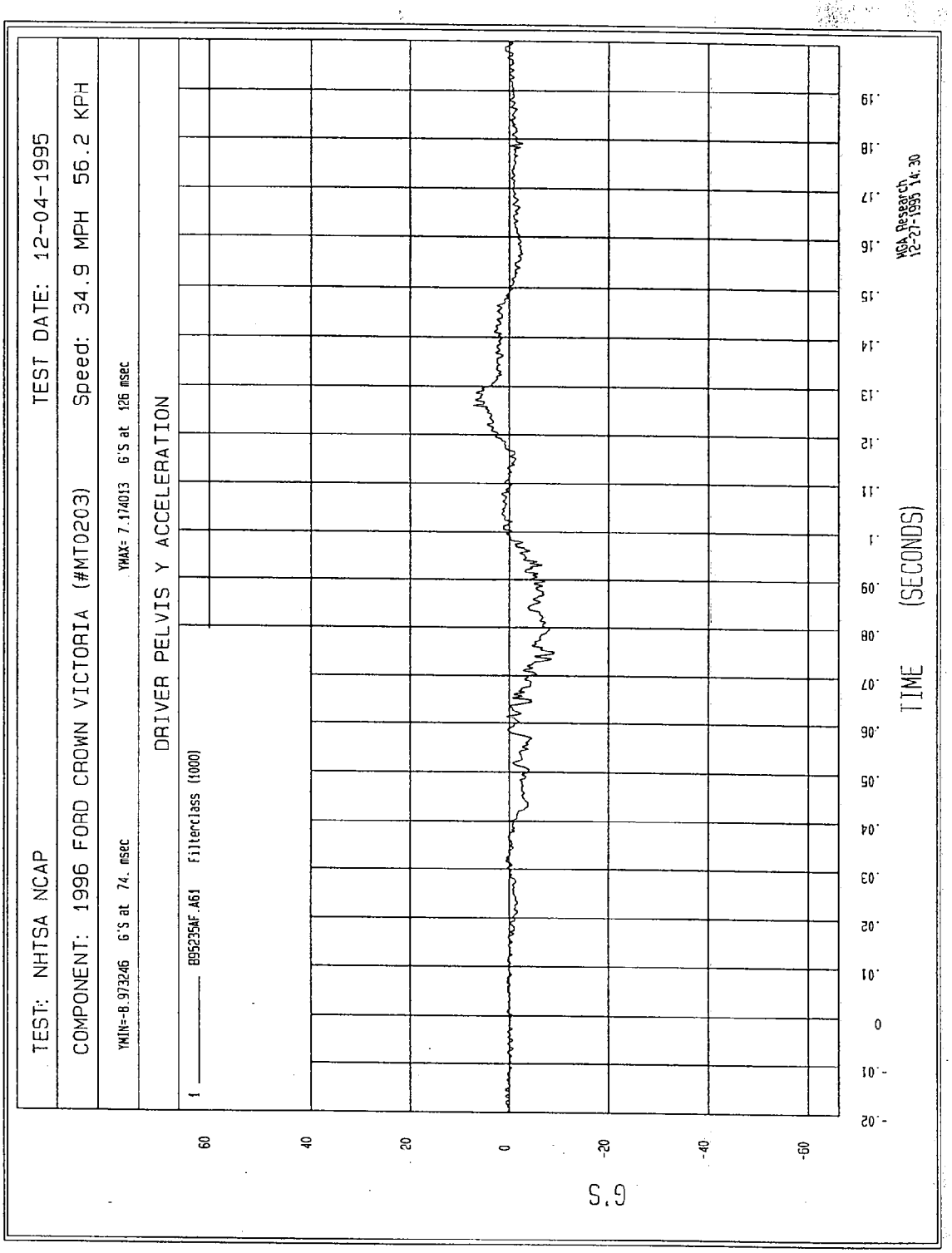
.17
.18
.19
TIME (SECONDS)
MGA Research
12-27-1995 14:32


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-45.77447 G'S at 70. msec
YMAX= 5.768206 G'S at 140 msec
DRIVER PELVIS X ACCELERATION
1 B95235AF.A60 Filterclass (1000)
60
40
20
0
-20
-40
-60
S.9
TIME (SECONDS)
MGA Research
12-21-1995 14:30


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-8.973246 G'S at 74. msec
YMAX= 7.174013 G'S at 126 msec
DRIVER PELVIS Y ACCELERATION
1 B95235AF.A61 Filterclass (1000)
60
40
20
0
-20
-40
-60
G'S
.19
.18
.17
.16
.15
.14
.13
.12
.11
.1
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.08
.07
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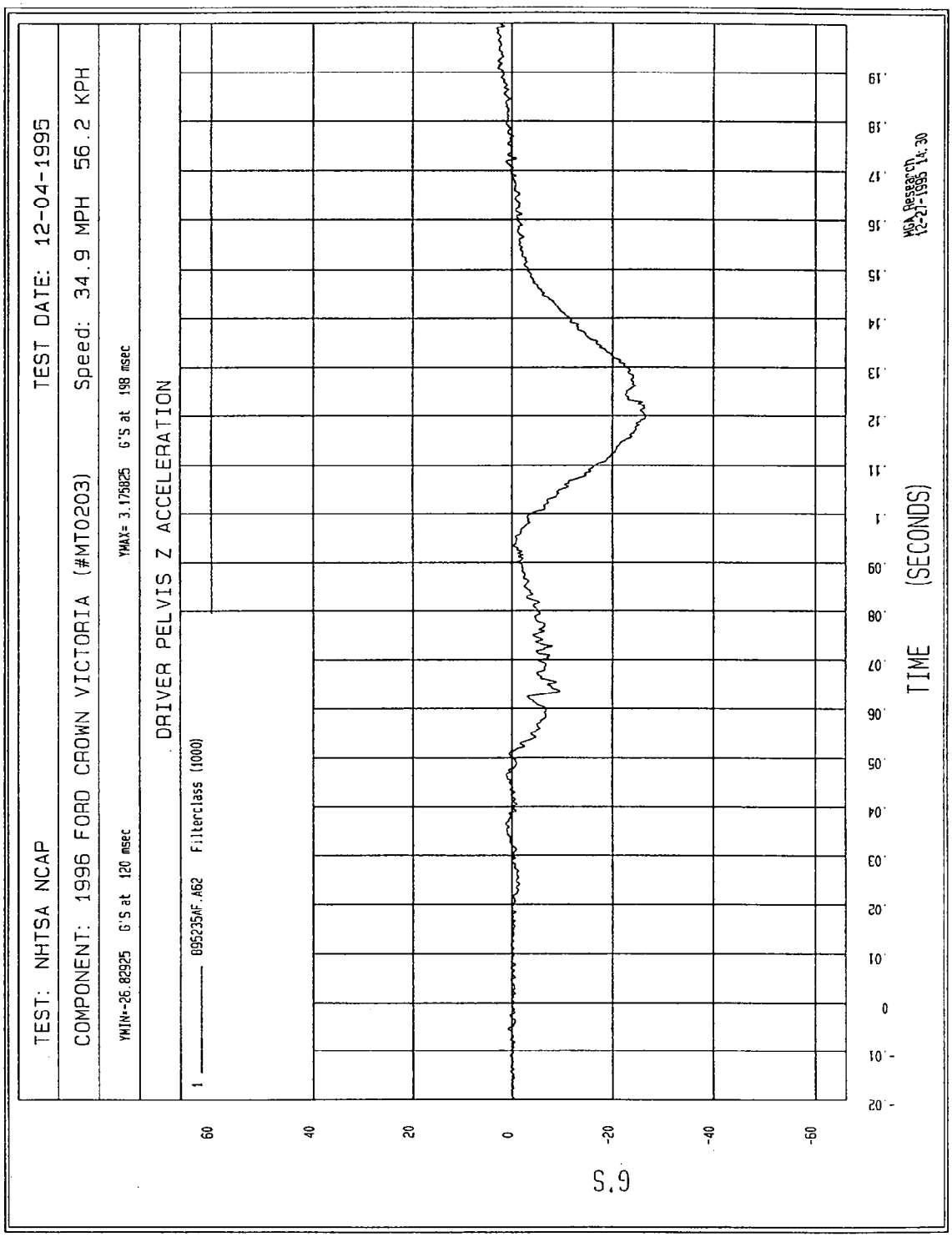
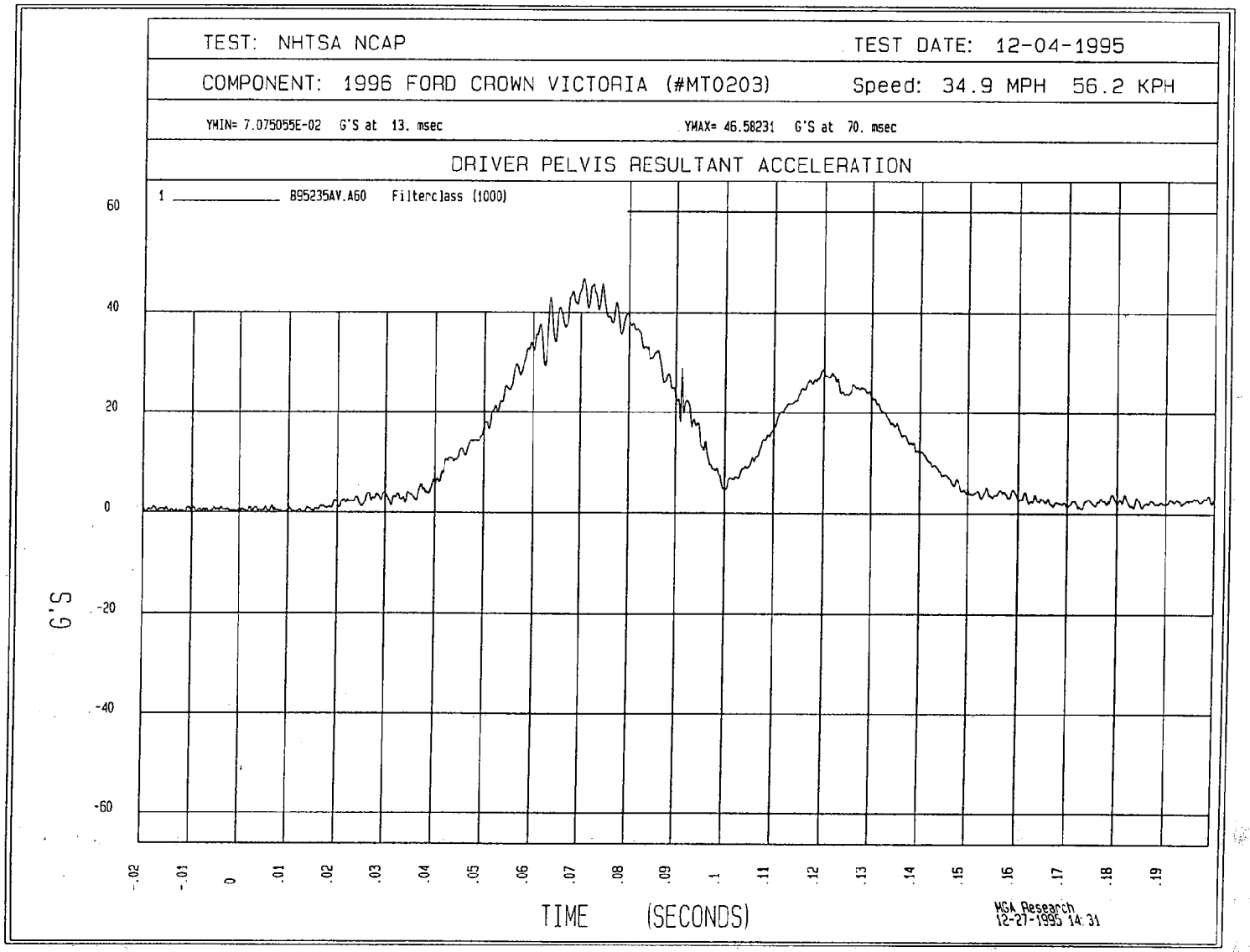
.05
.04
.03
.02
.01
0
-.01
-.02
TIME (SECONDS)
MGA Research
12-21-1995 14:30


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-26.82925 G'S at 120 msec
YMAX= 3.175825 G'S at 198 msec
DRIVER PELVIS Z ACCELERATION
1 095235AF.A62 Filterclass (1000)
60
40
20
0
-20
-40
-60
TIME (SECONDS)
MGA Research
12-21-1995 14:30
S.9


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN= 7.075055E-02 G'S at 13. msec
YMAX= 46.58231 G'S at 70. msec
DRIVER PELVIS RESULTANT ACCELERATION
1 B95235AV.A60 Filterclass (1000)
60
40
20
0
-20
-40
-60
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
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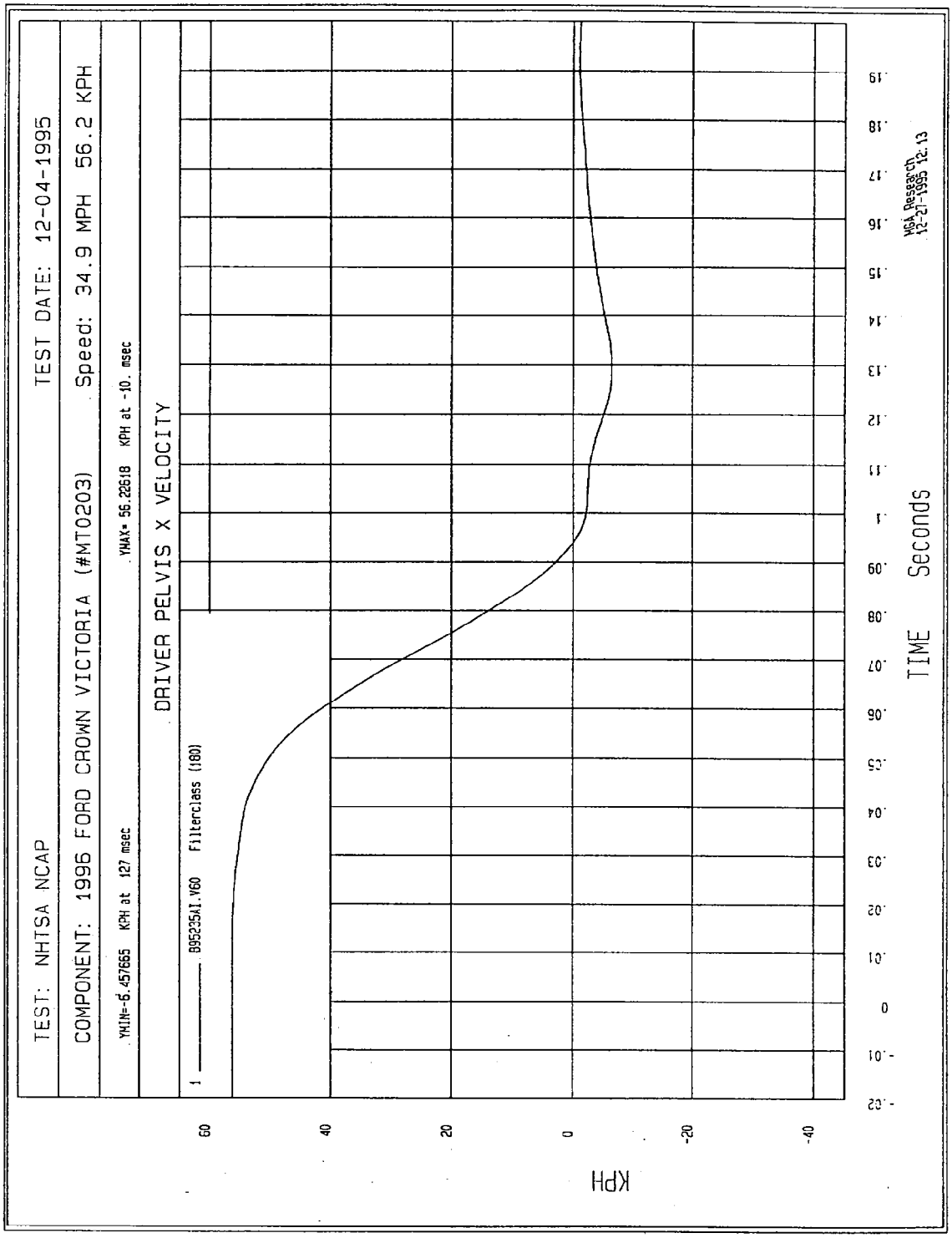
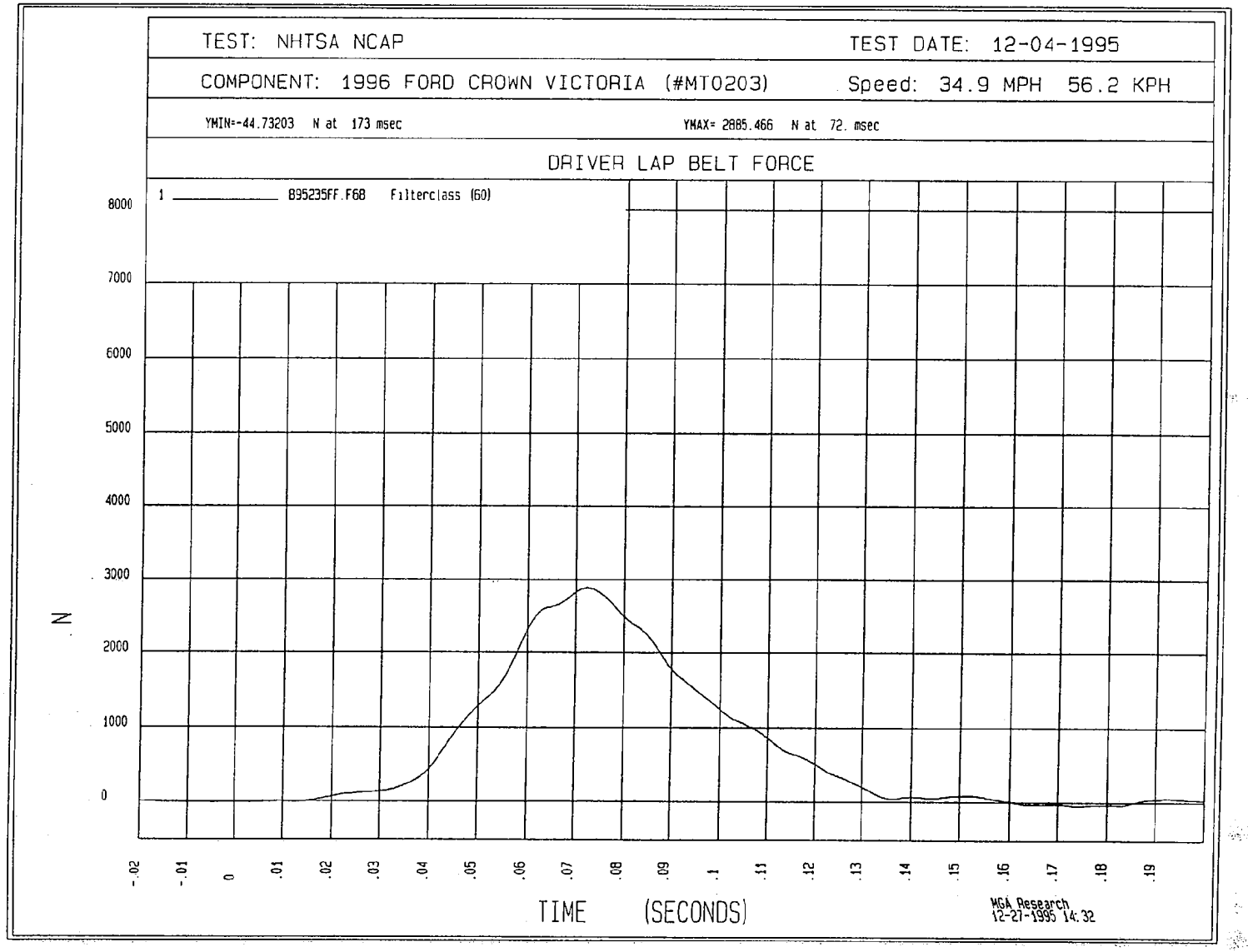
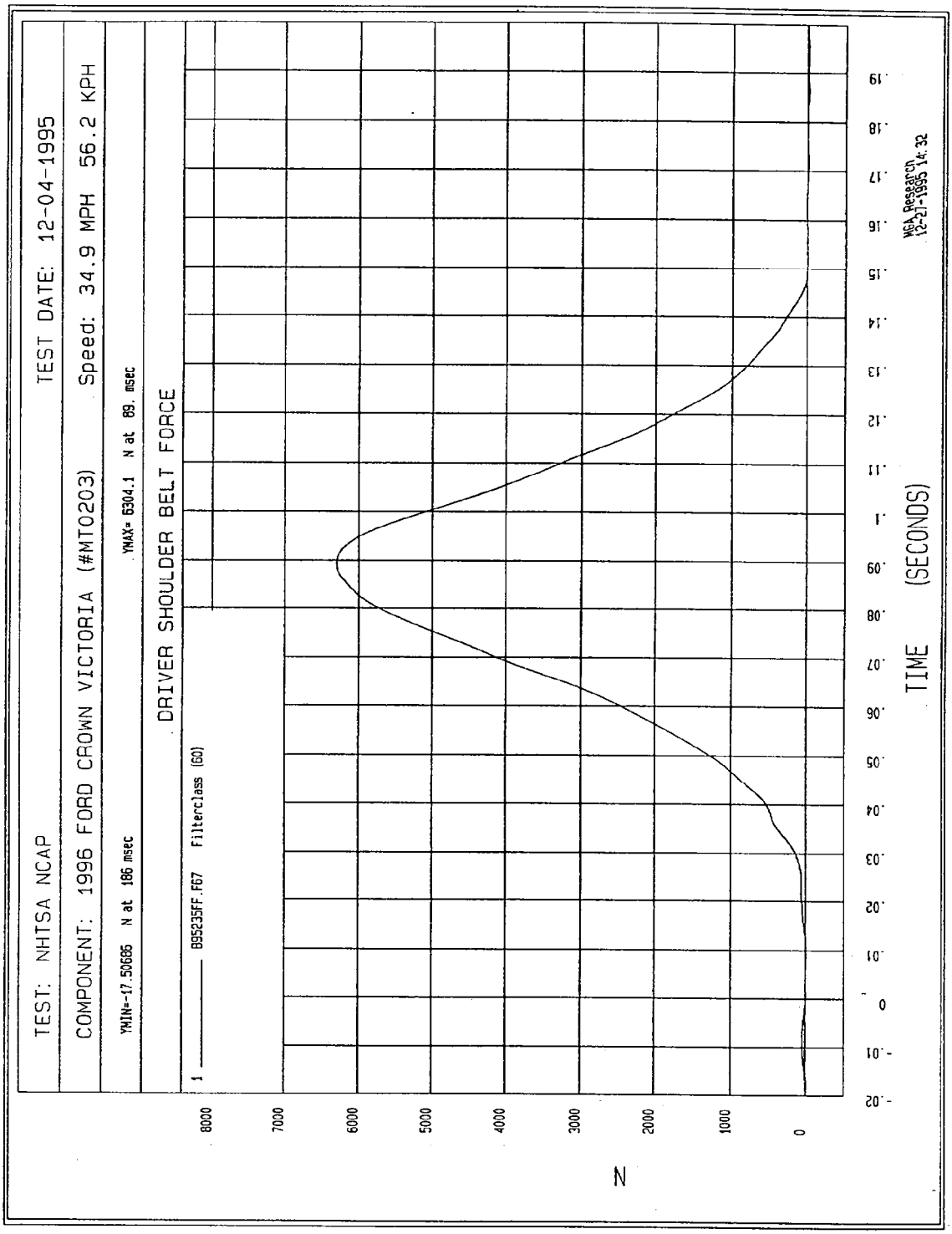
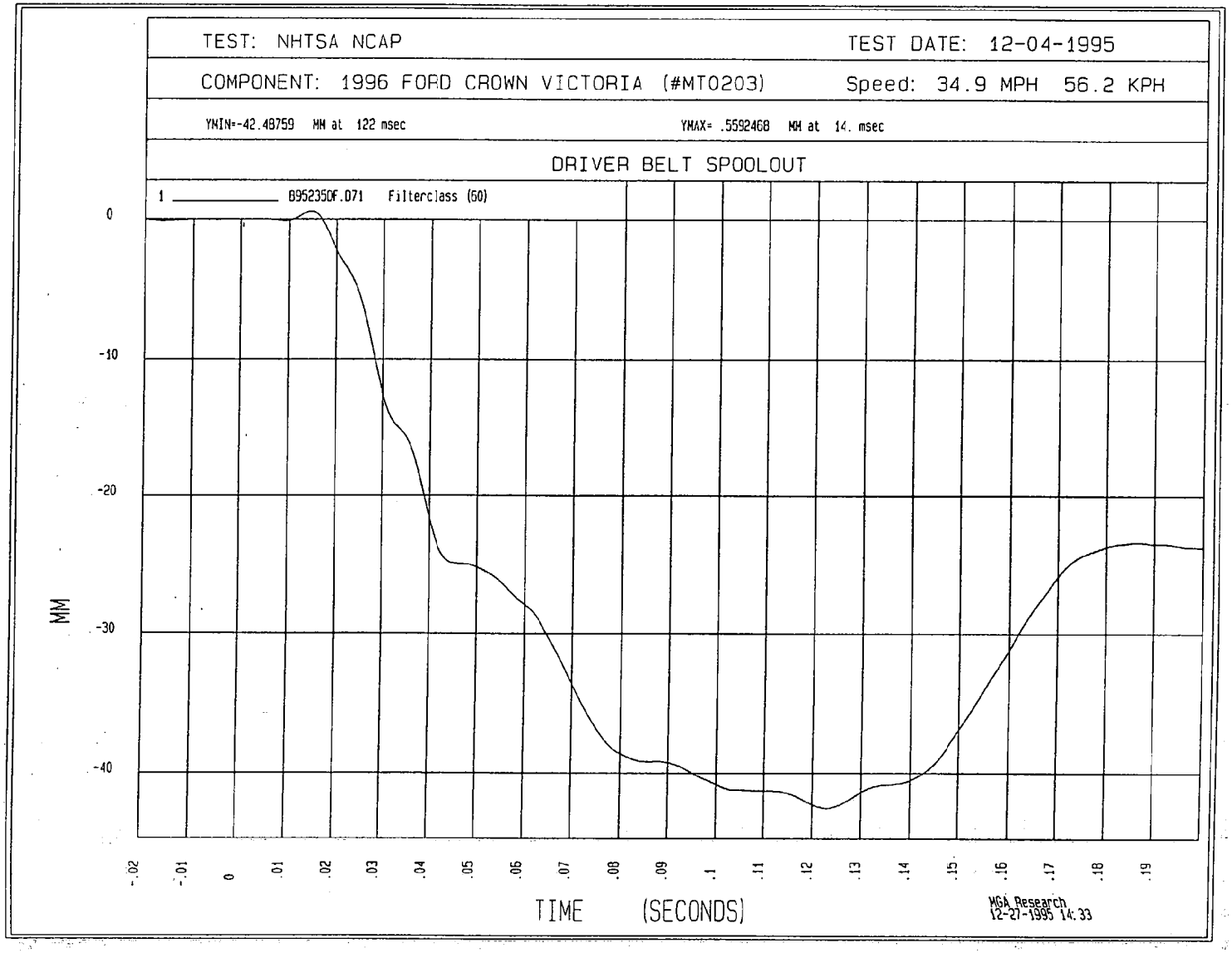
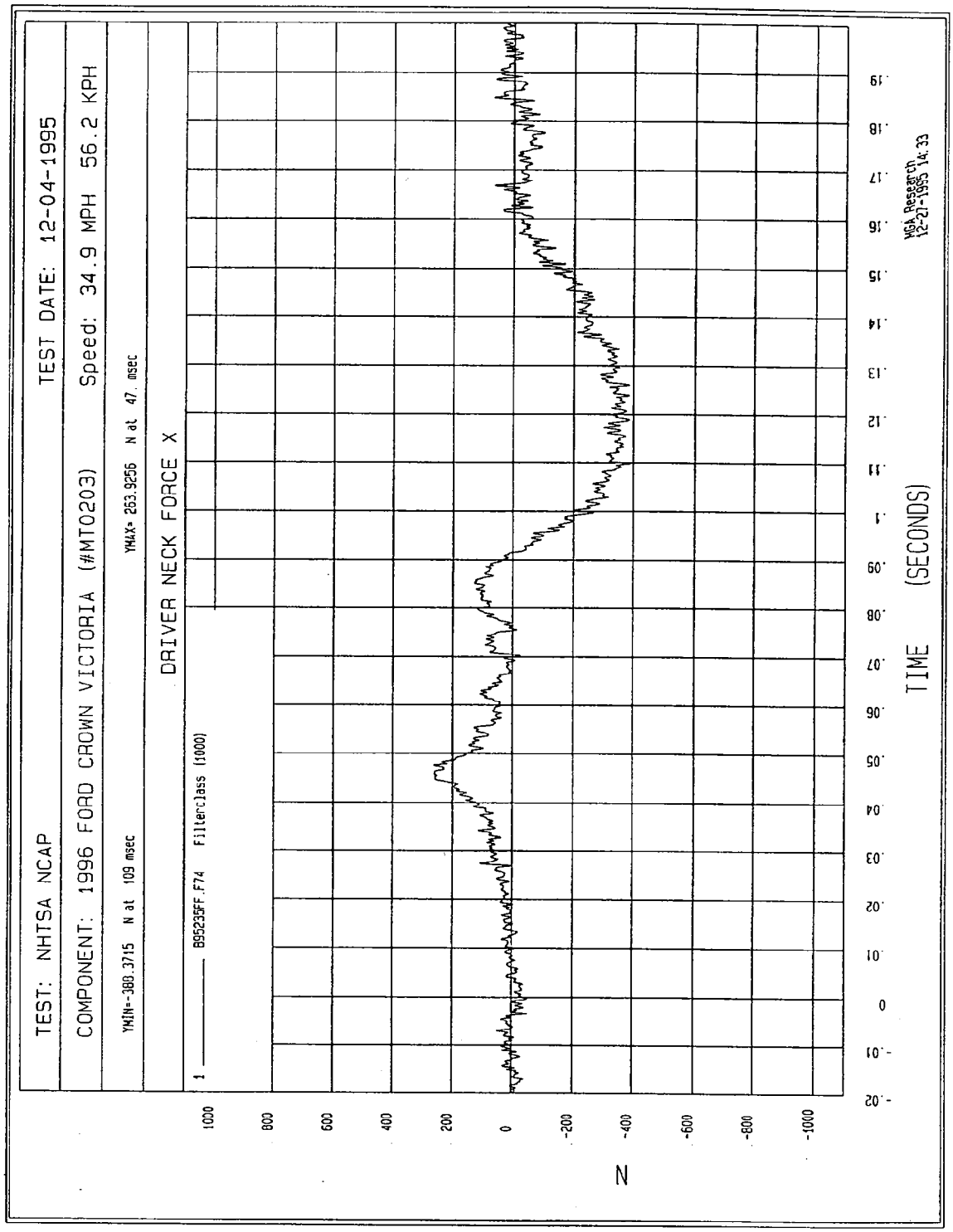
TIME (SECONDS)
MGA Research
12-27-1995 14:31

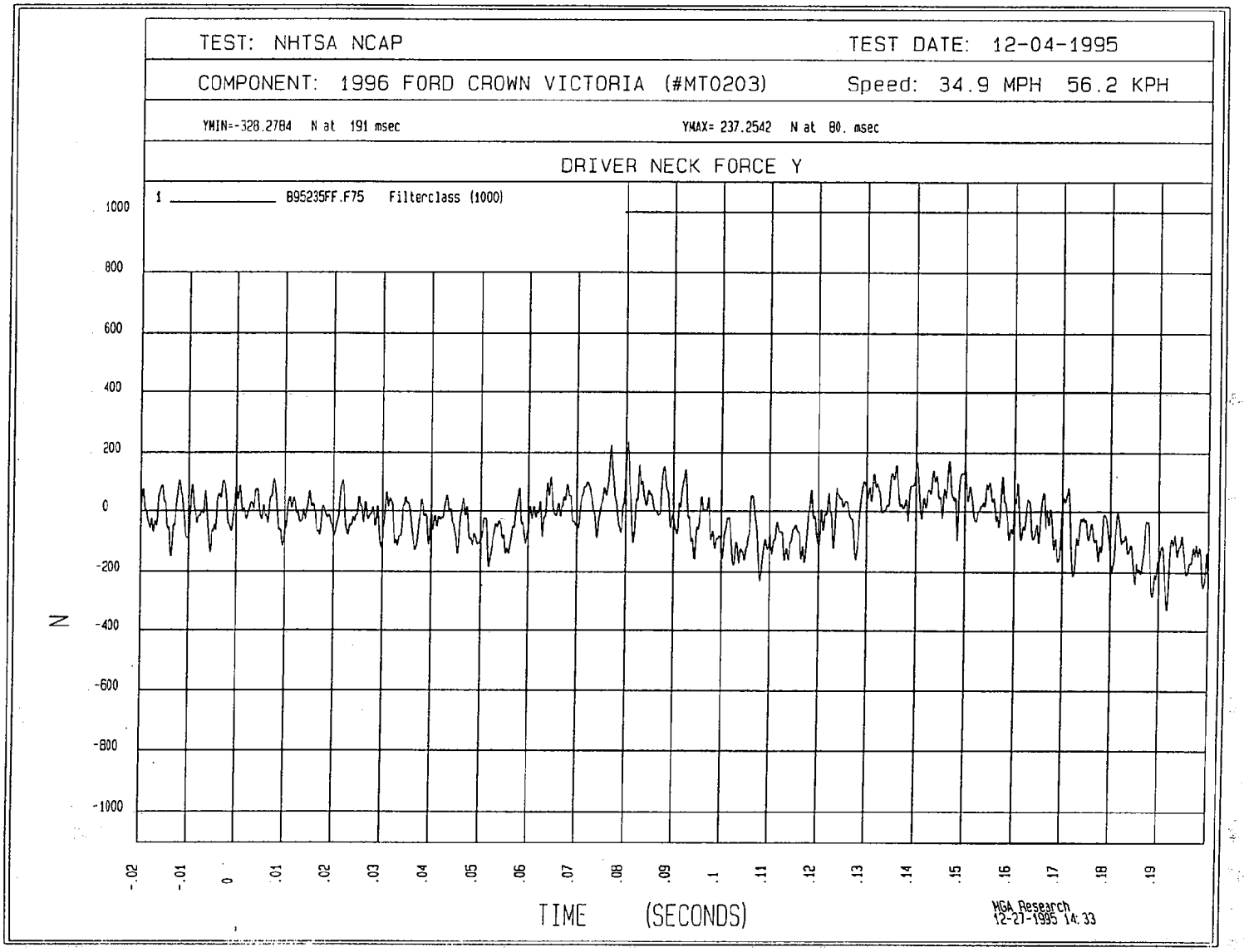

TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-6.457665 KPH at 127 msec
YMAX= 56.22618 KPH at -10. msec
DRIVER PELVIS X VELOCITY
1 B95235AI.V60 Filterclass (180)
KPH
TIME Seconds
MGA Research
12-21-1995 12:13


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-44.73203 N at 173 msec
YMAX= 2885.466 N at 72. msec
DRIVER LAP BELT FORCE
1 B95235FF.F68 Filterclass (60)
8000
7000
6000
5000
4000
3000
2000
1000
0
N
-.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
12-27-1995 14:32


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-17.50686 N at 186 msec
YMAX= 6304.1 N at 89. msec
DRIVER SHOULDER BELT FORCE
1 B95235FF.F67 Filterclass (60)
8000
7000
6000
5000
4000
3000
2000
1000
0
N
.19
.18
.17
.16
.15
.14
.13
.12
.11
1.
.09
.08
.07
.06
.05
.04
.03
.02
.01
0
-.01
-.02
TIME (SECONDS)
MGA Research
12-21-1995 14:32


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-42.48759 MM at 122 msec
YMAX= .5592468 MM at 14. msec
DRIVER BELT SPOOLOUT
1 B952350F.071 Filterclass (60)
0
-10
-20
-30
-40
MM
-.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
12-27-1995 14:33


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-388.3715 N at 109 msec
YMAX= 253.9256 N at 47. msec
DRIVER NECK FORCE X
1 B95235FF.F74 Filterclass (1000)
1000
800
600
400
200
0
-200
-400
-600
-800
-1000
N
.19
.18
.17
.16
.15
.14
.13
.12
.11
.1
.09
.08
.07
.06
.05
.04
.03
.02
.01
0
-.01
-.02
TIME (SECONDS)
MGA Research
12-27-1995 14:33


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-328.2784 N at 191 msec
YMAX= 237.2542 N at 80. msec
DRIVER NECK FORCE Y
1 B95235FF.F75 Filterclass (1000)
1000
800
600
400
200
0
-200
-400
-600
-800
-1000
N
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
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.13
.14
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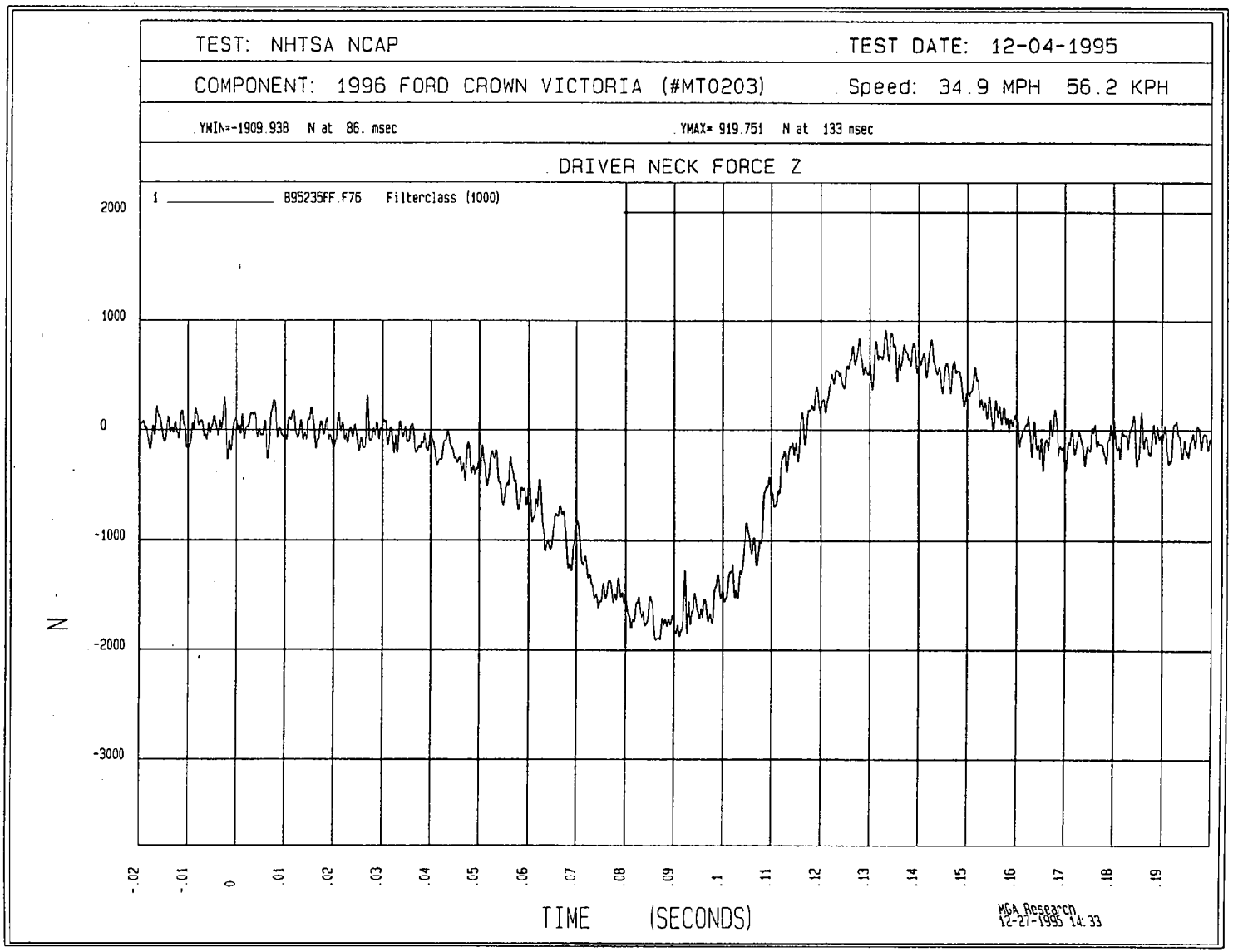
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
12-27-1995 14:33


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-1909.938 N at 86. msec
YMAX= 919.751 N at 133 msec
DRIVER NECK FORCE Z
1 B95235FF.F76 Filterclass (1000)
2000
1000
0
-1000
-2000
-3000
N
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
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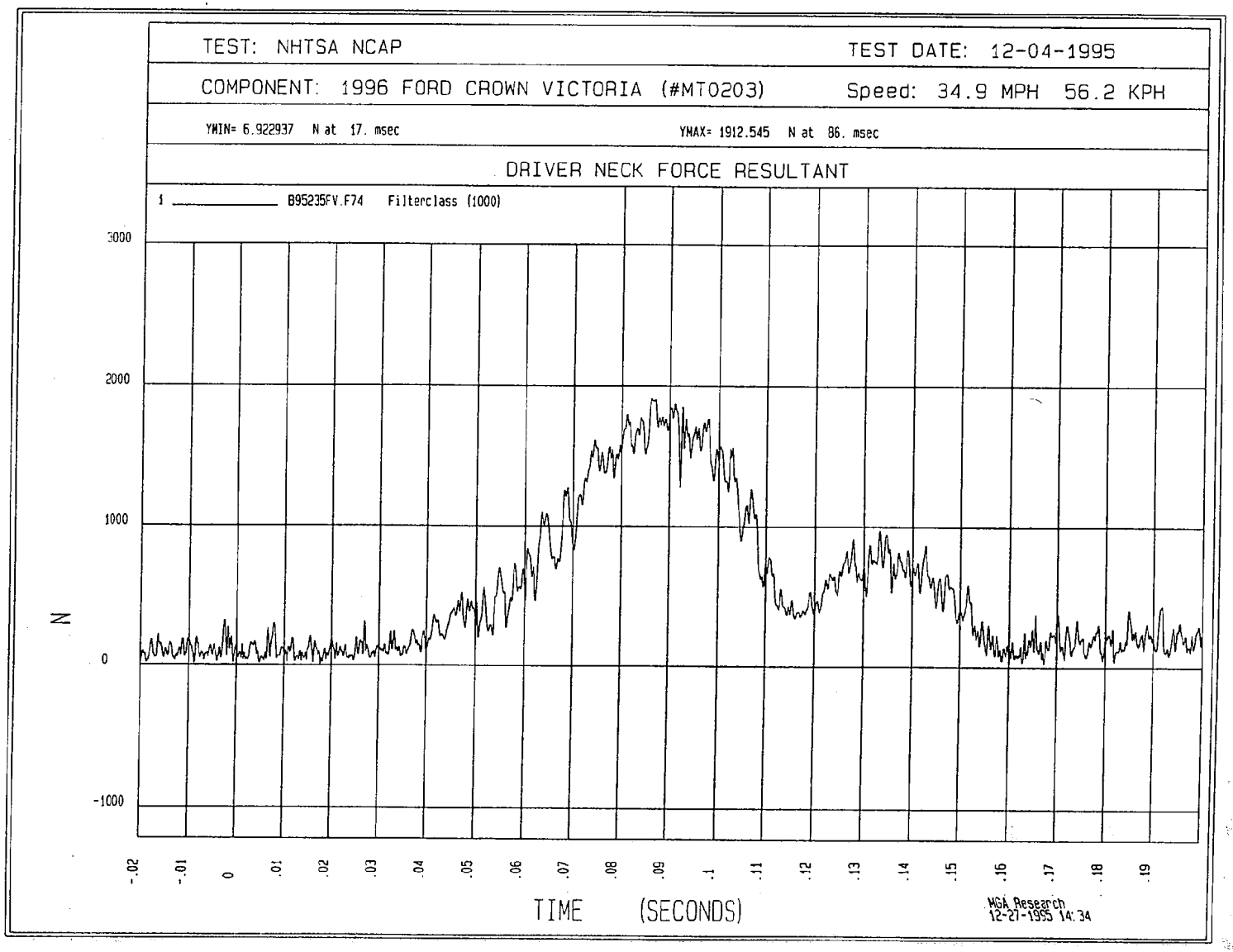
.17
.18
.19
TIME (SECONDS)
MGA Research
12-27-1995 14:33


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN= 6.922937 N at 17. msec
YMAX= 1912.545 N at 86. msec
DRIVER NECK FORCE RESULTANT
1 B95235FV.F74 Filterclass (1000)
3000
2000
1000
0
-1000
N
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
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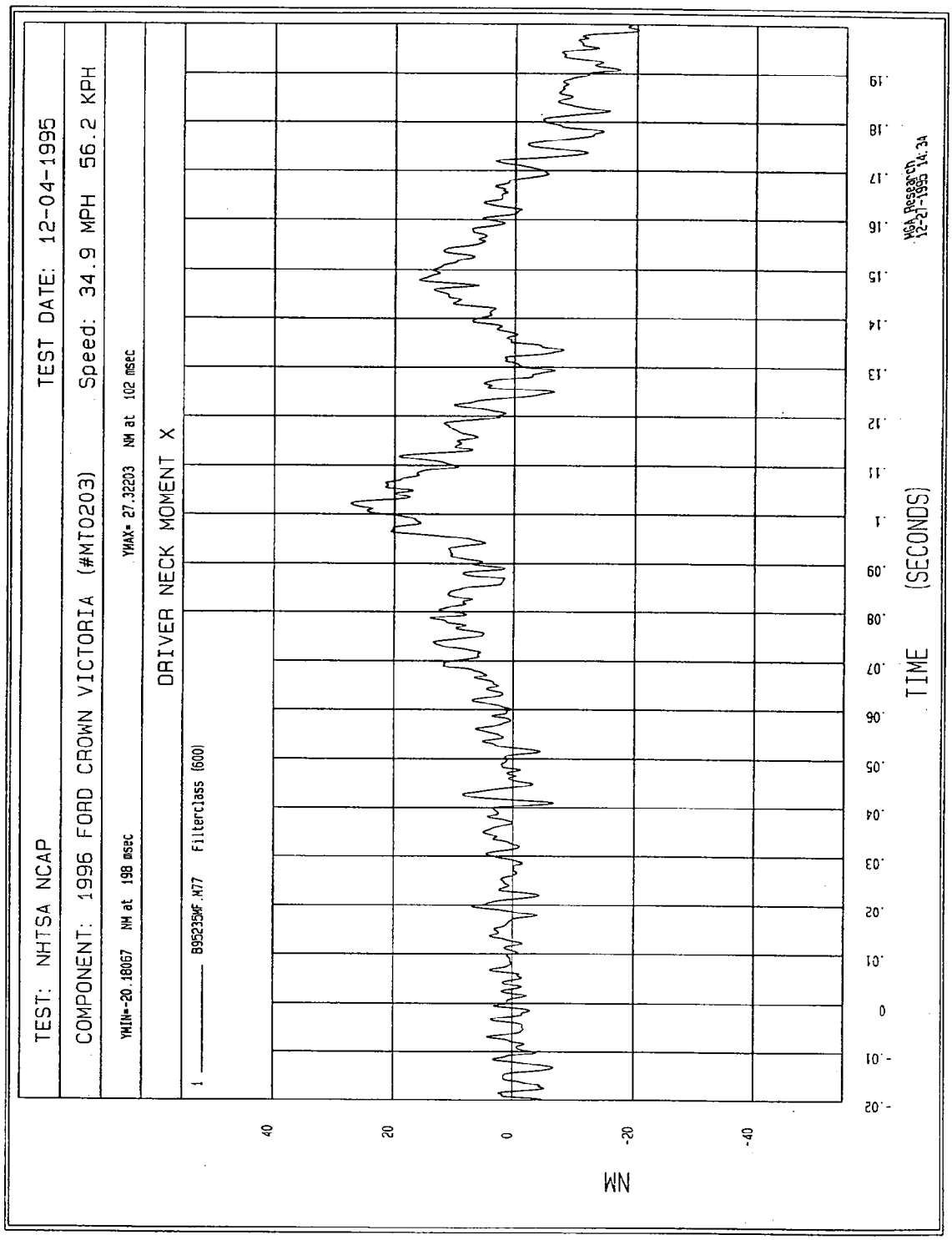
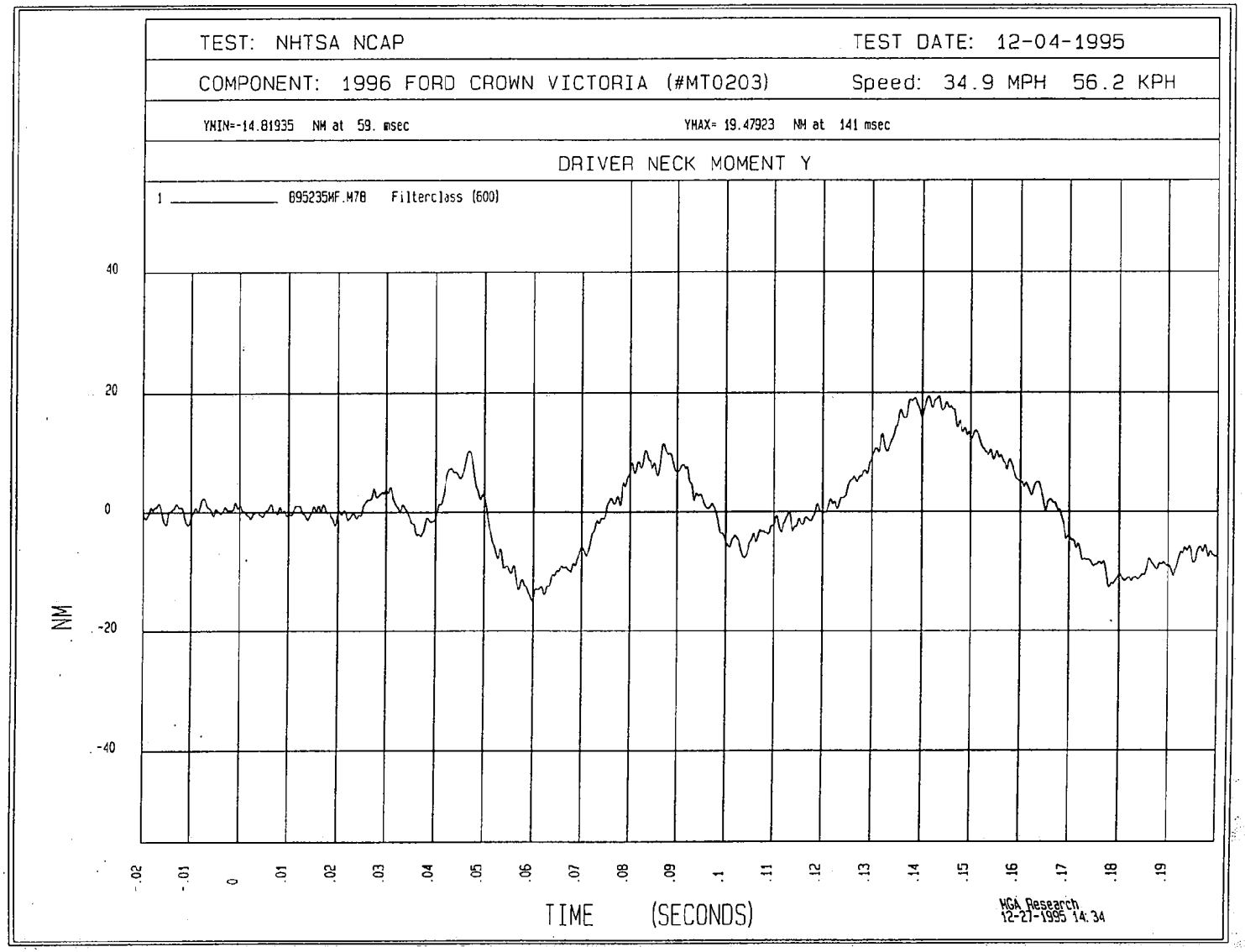
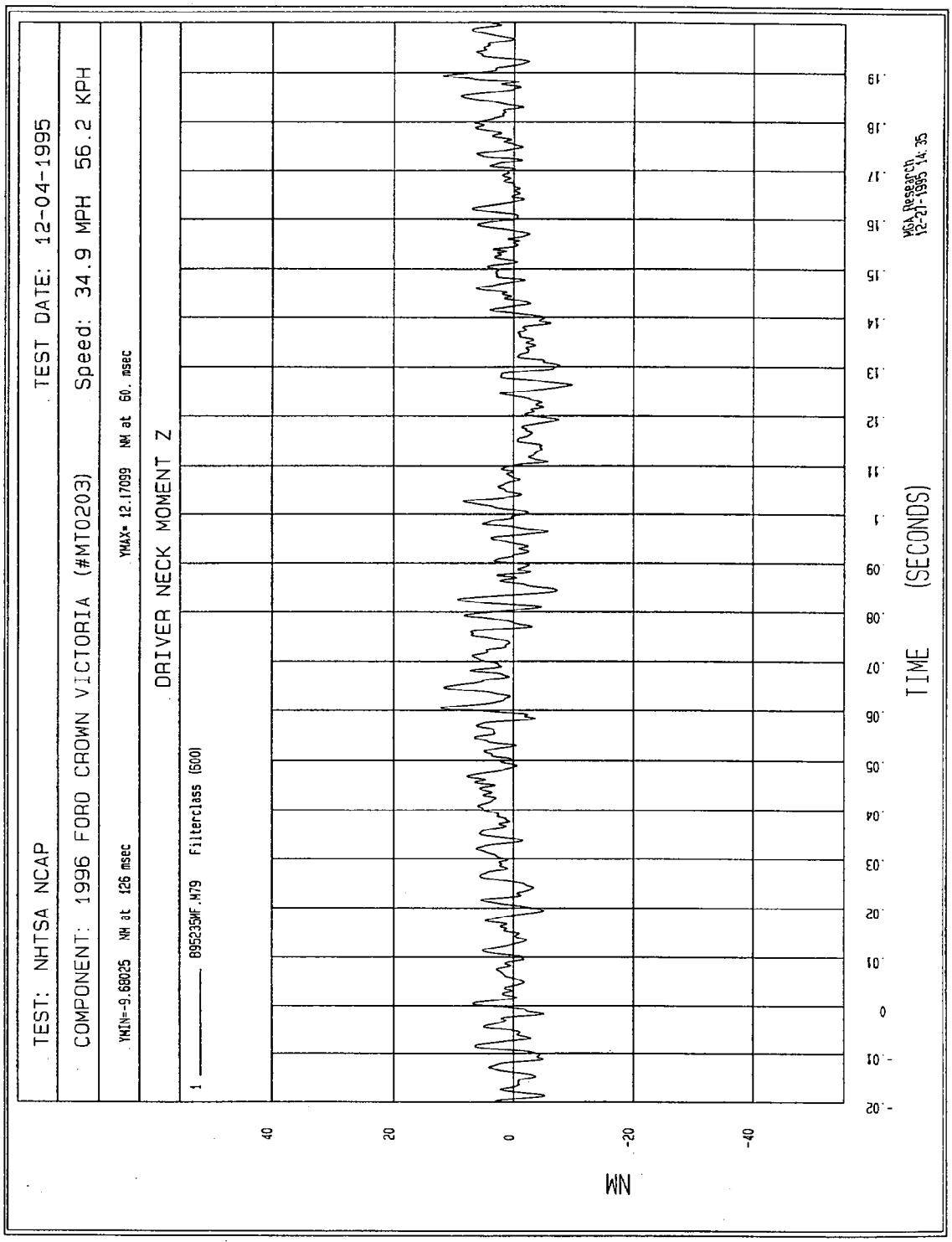
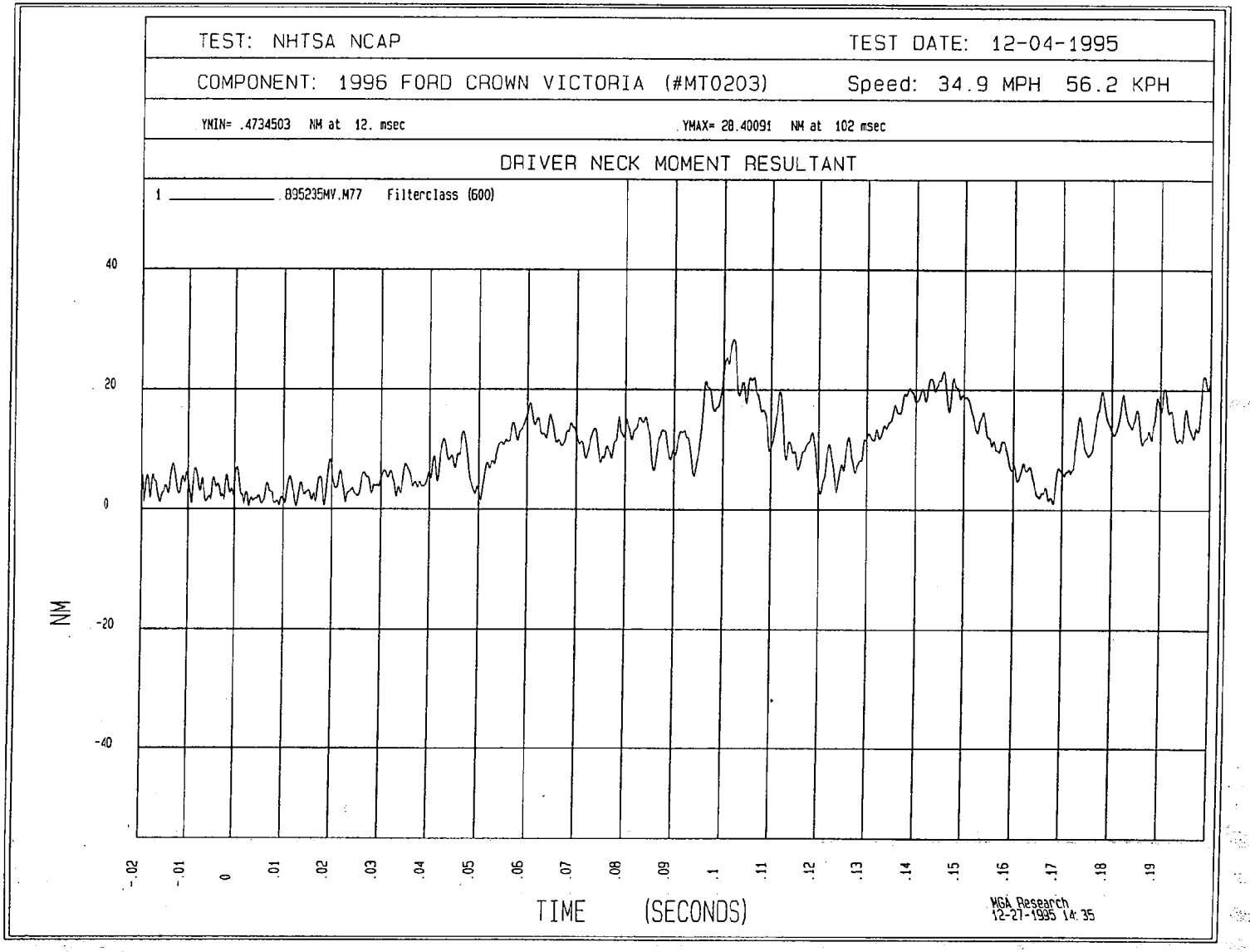
.17
.18
.19
TIME (SECONDS)
MGA Research
12-27-1995 14:34


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-20.18067 NM at 198 msec
YMAX= 27.32203 NM at 102 msec
DRIVER NECK MOMENT X
1 B95235MF.M77 Filterclass (600)
NM
TIME (SECONDS)
MGA Research
12-21-1995 14:34


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-14.81935 NM at 59. msec
YMAX= 19.47923 NM at 141 msec
DRIVER NECK MOMENT Y
1 _____ 695235MF.M7B Filterclass (600)
40
20
0
-20
-40
NM
-.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
12-27-1995 14:34


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-9.68025 NM at 126 msec
YMAX= 12.17099 NM at 60. msec
DRIVER NECK MOMENT Z
1 _____ 895235MF.M79 Filterclass (600)
NM
TIME (SECONDS)
MGA Research
12-21-1995 14:35


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN= .4734503 NM at 12. msec
YMAX= 28.40091 NM at 102 msec
DRIVER NECK MOMENT RESULTANT
1 B95235MV.M77 Filterclass (600)
40
20
0
-20
-40
NM
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
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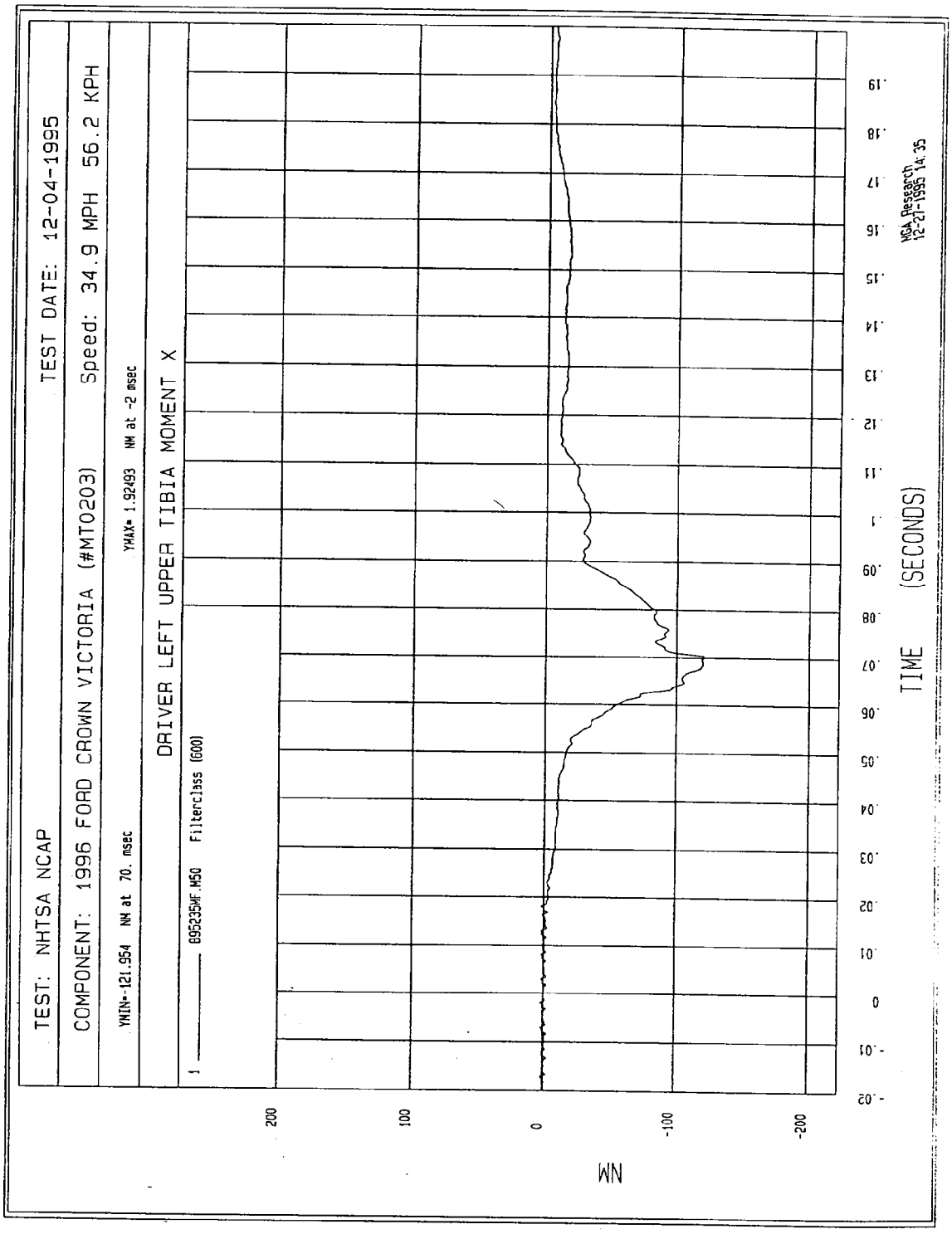
TIME (SECONDS)
MGA Research
12-27-1995 14:35


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-121.954 NM at 70. msec
YMAX= 1.92493 NM at -2 msec
DRIVER LEFT UPPER TIBIA MOMENT X
1 _____ 895235MF.M50 Filterclass (600)
NM
200
100
0
-100
-200
TIME (SECONDS)
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
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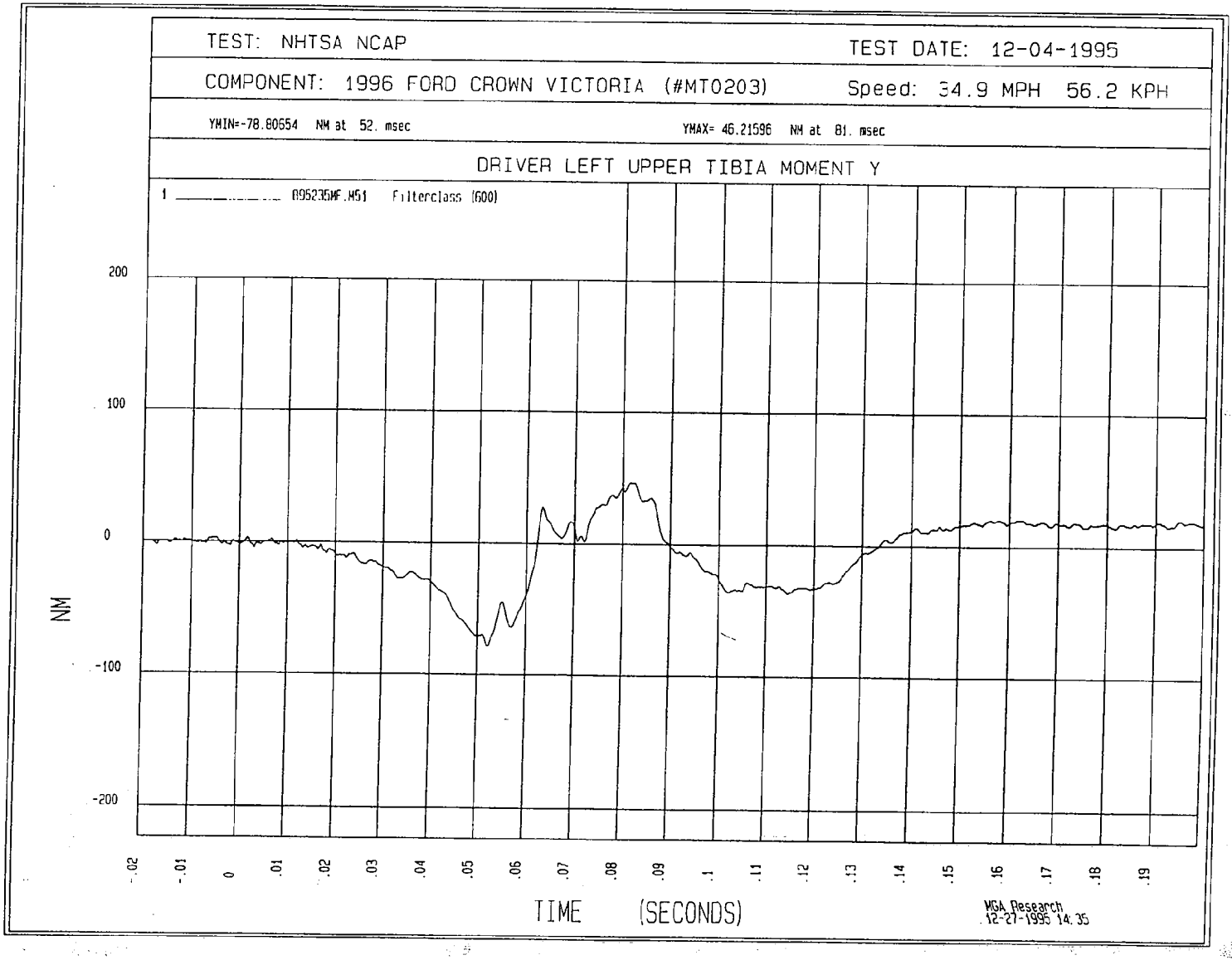
NGA Research
12-21-1995 14:35


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-78.80554 NM at 52. msec
YMAX= 46.21596 NM at 81. msec
DRIVER LEFT UPPER TIBIA MOMENT Y
1 095235MF.M51 Filterclass (600)
200
100
0
-100
-200
NM
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
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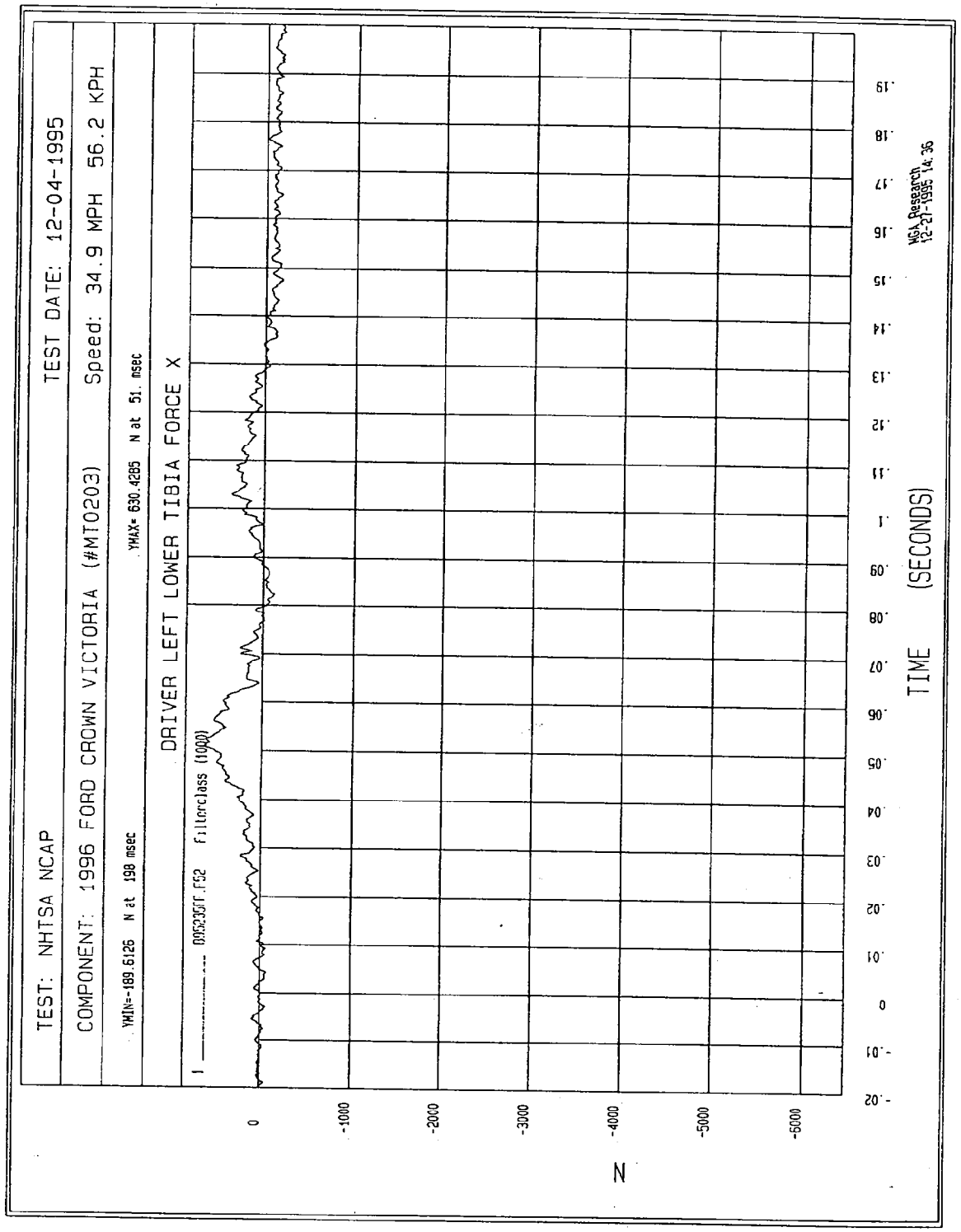
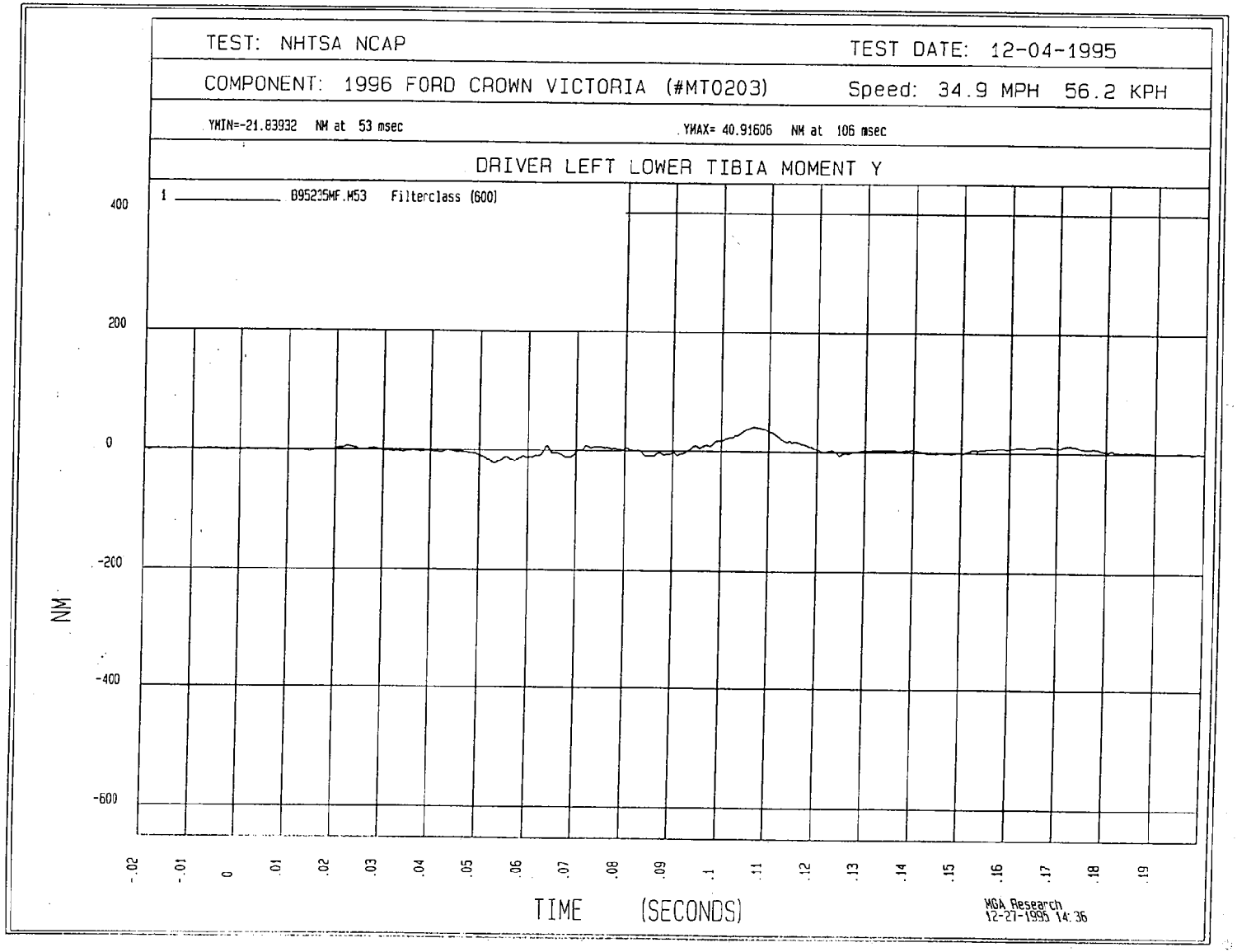
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
12-27-1995 14:35


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-189.6125 N at 198 msec
YMAX= 630.4285 N at 51. msec
DRIVER LEFT LOWER TIBIA FORCE X
1 ——— 0902350r.f52 Filterclass (1000)
0
-1000
-2000
-3000
-4000
-5000
-6000
N
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
NGA Research
12-27-1995 14:36


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-21.83932 NM at 53 msec
YMAX= 40.91606 NM at 106 msec
DRIVER LEFT LOWER TIBIA MOMENT Y
1 B95235MF.M53 Filterclass (600)
400
200
0
-200
-400
-600
NM
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
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.1
.11
.12
.13
.14
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.17
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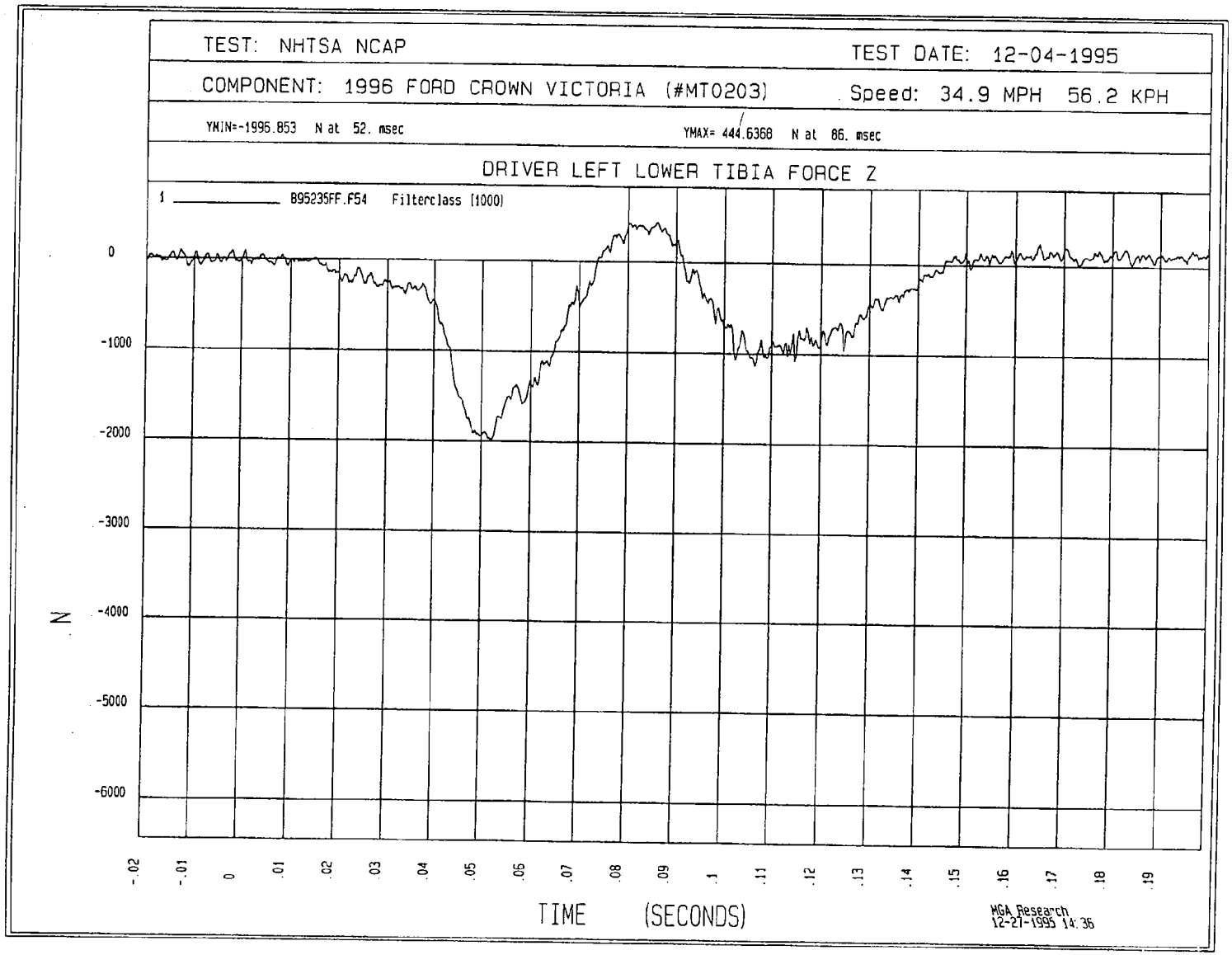
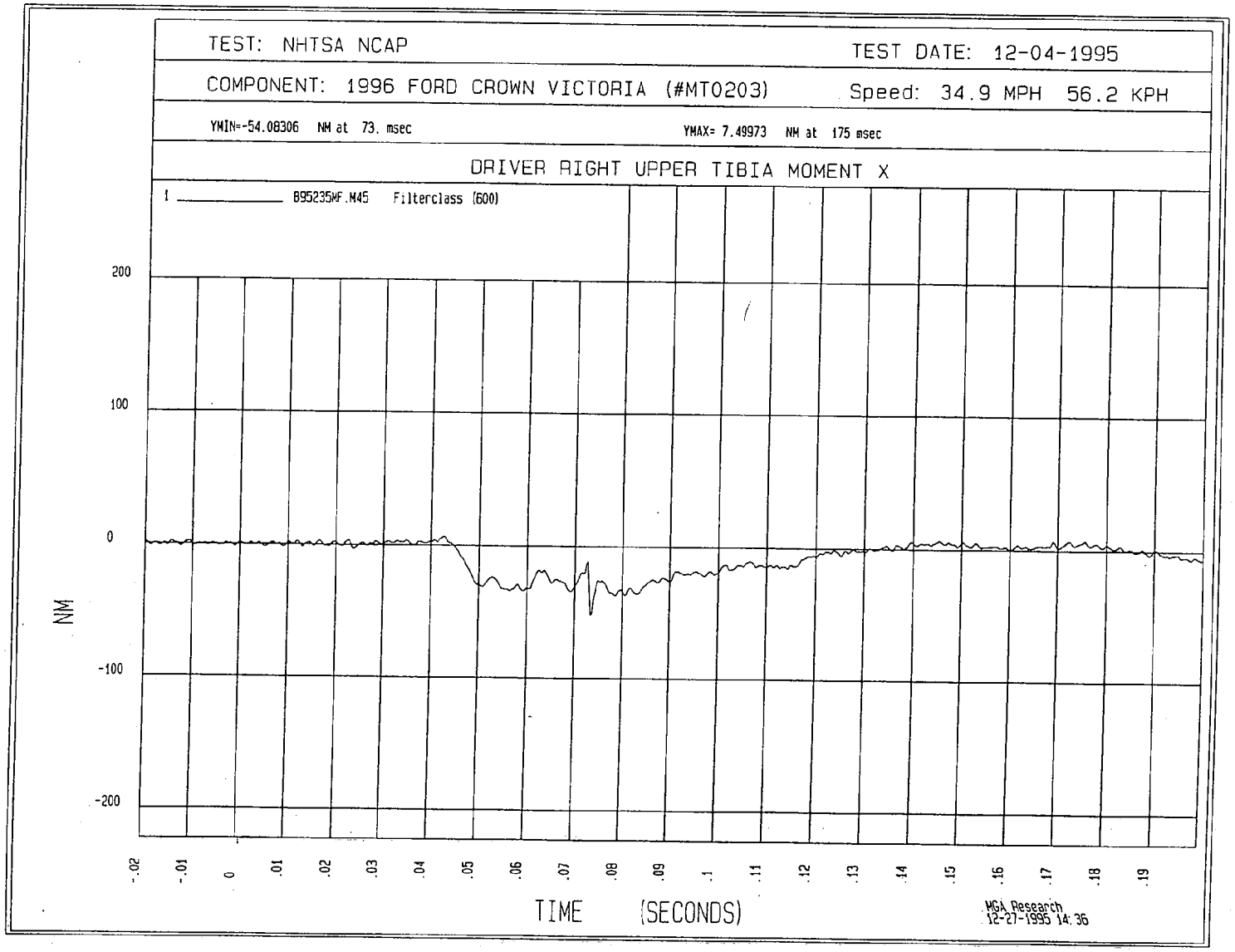
TIME (SECONDS)
MGA Research
12-27-1995 14:36


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-1996.853 N at 52. msec
YMAX= 444.6368 N at 86. msec
DRIVER LEFT LOWER TIBIA FORCE Z
1 B95235FF.F54 Filterclass [1000]
0
-1000
-2000
-3000
-4000
-5000
-6000
N
-.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
12-27-1995 14:36


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-54.08306 NM at 73. msec
YMAX= 7.49973 NM at 175 msec
DRIVER RIGHT UPPER TIBIA MOMENT X
1 B95235MF.M45 Filterclass (600)
200
100
0
-100
-200
NM
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
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.09
.1
.11
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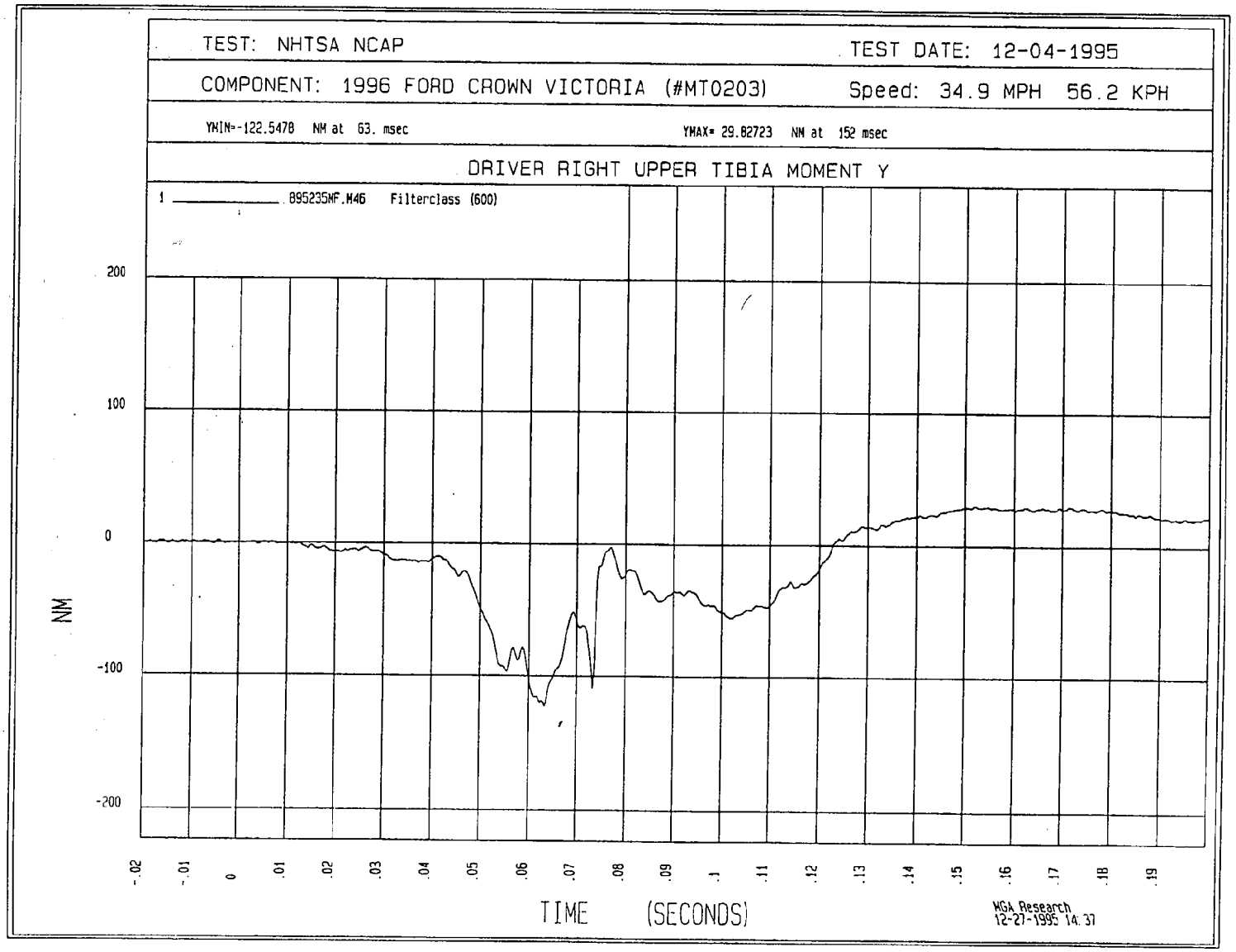
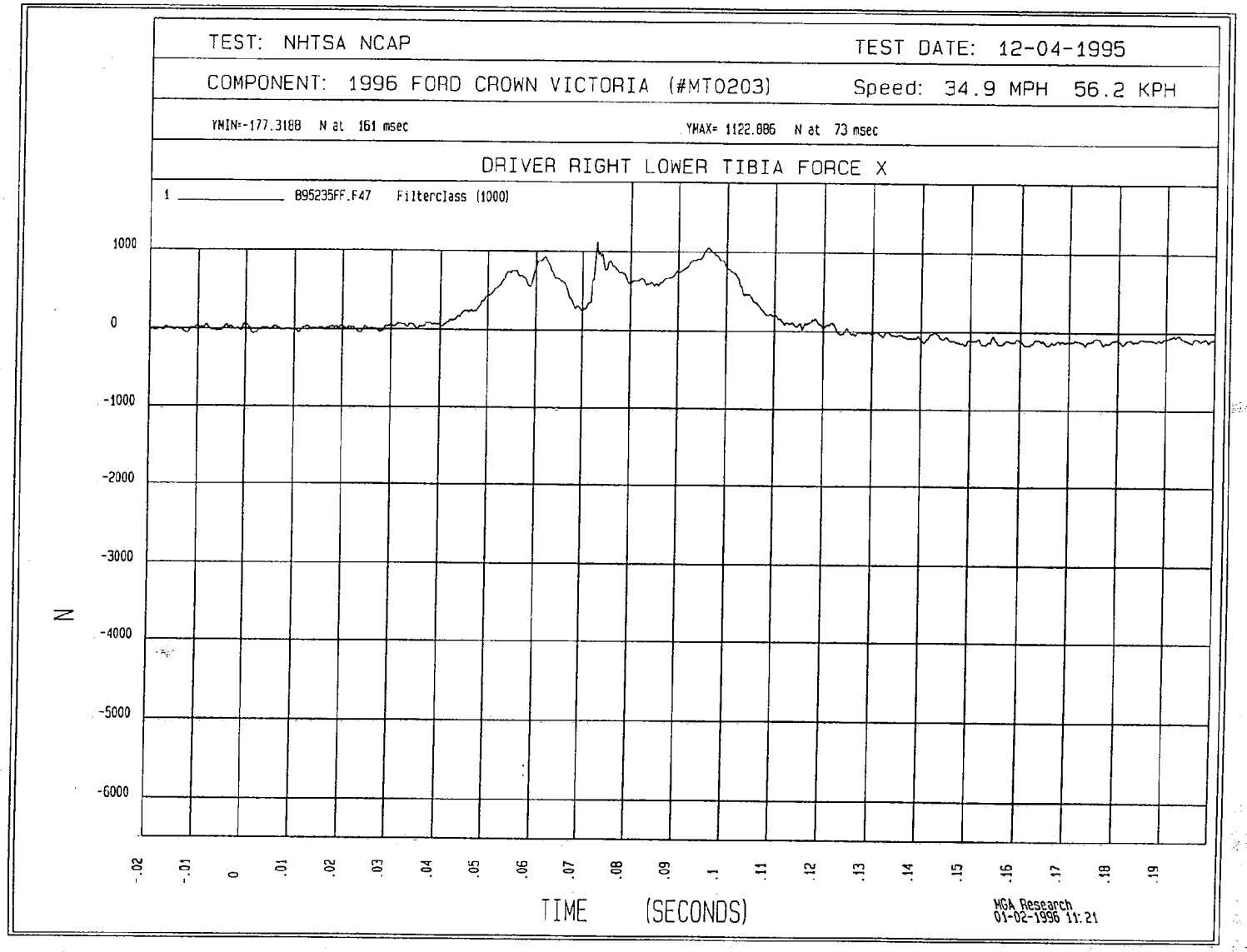
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
12-27-1995 14:36


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-122.5478 NM at 63. msec
YMAX= 29.82723 NM at 152 msec
DRIVER RIGHT UPPER TIBIA MOMENT Y
1 895235MF.M46 Filterclass (600)
200
100
0
-100
-200
NM
-.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
12-27-1995 14:37


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-177.3188 N at 161 msec
YMAX= 1122.886 N at 73 msec
DRIVER RIGHT LOWER TIBIA FORCE X
1 B95235FF.F47 Filterclass (1000)
1000
0
-1000
-2000
-3000
-4000
-5000
-6000
N
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
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.14
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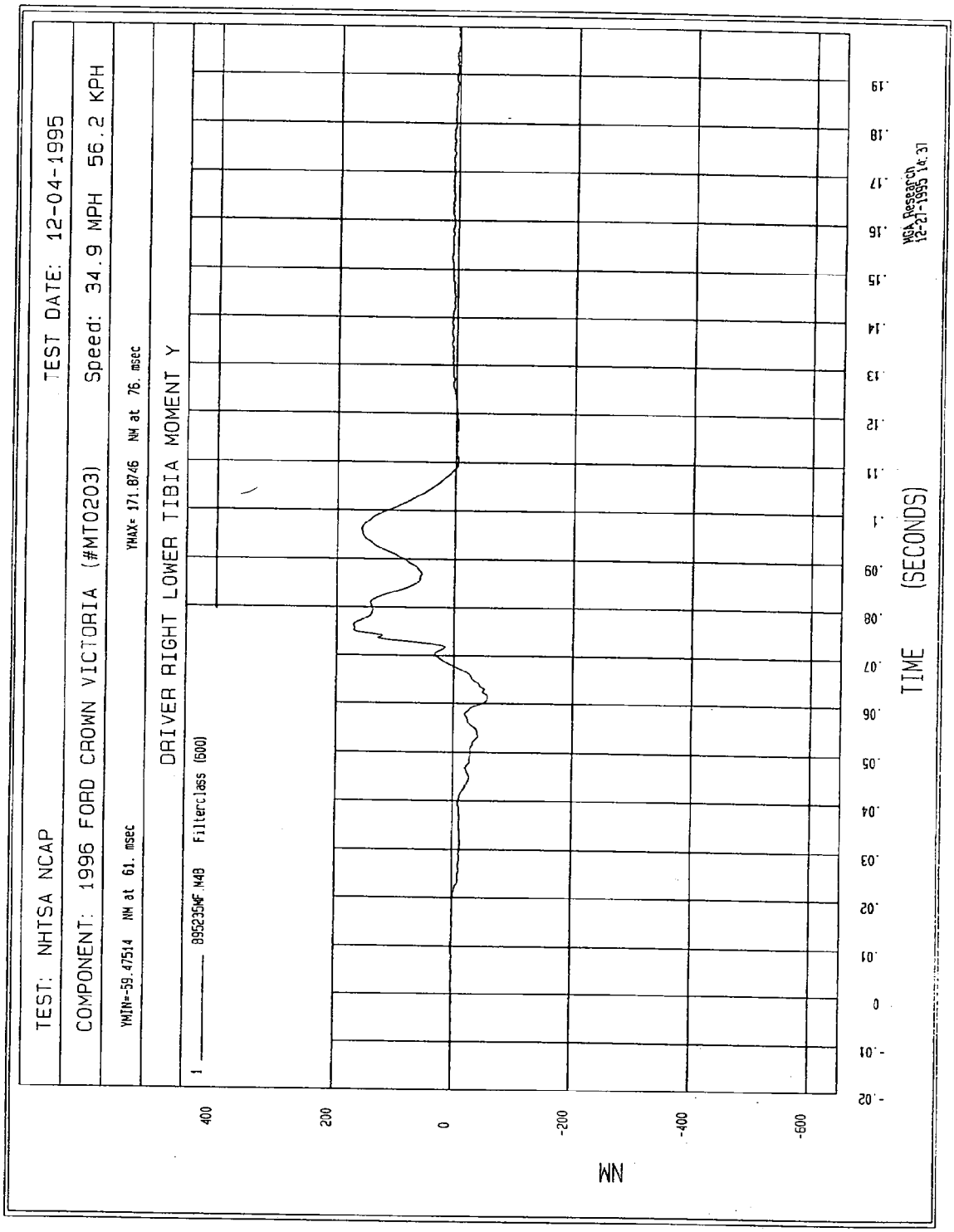
TIME (SECONDS)
MGA Research
01-02-1996 11:21


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-59.47514 NM at 61. msec
YMAX= 171.8746 NM at 76. msec
DRIVER RIGHT LOWER TIBIA MOMENT Y
1 895235MF.N4B Filterclass (600)
400
200
0
-200
-400
-600
NM
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
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.11
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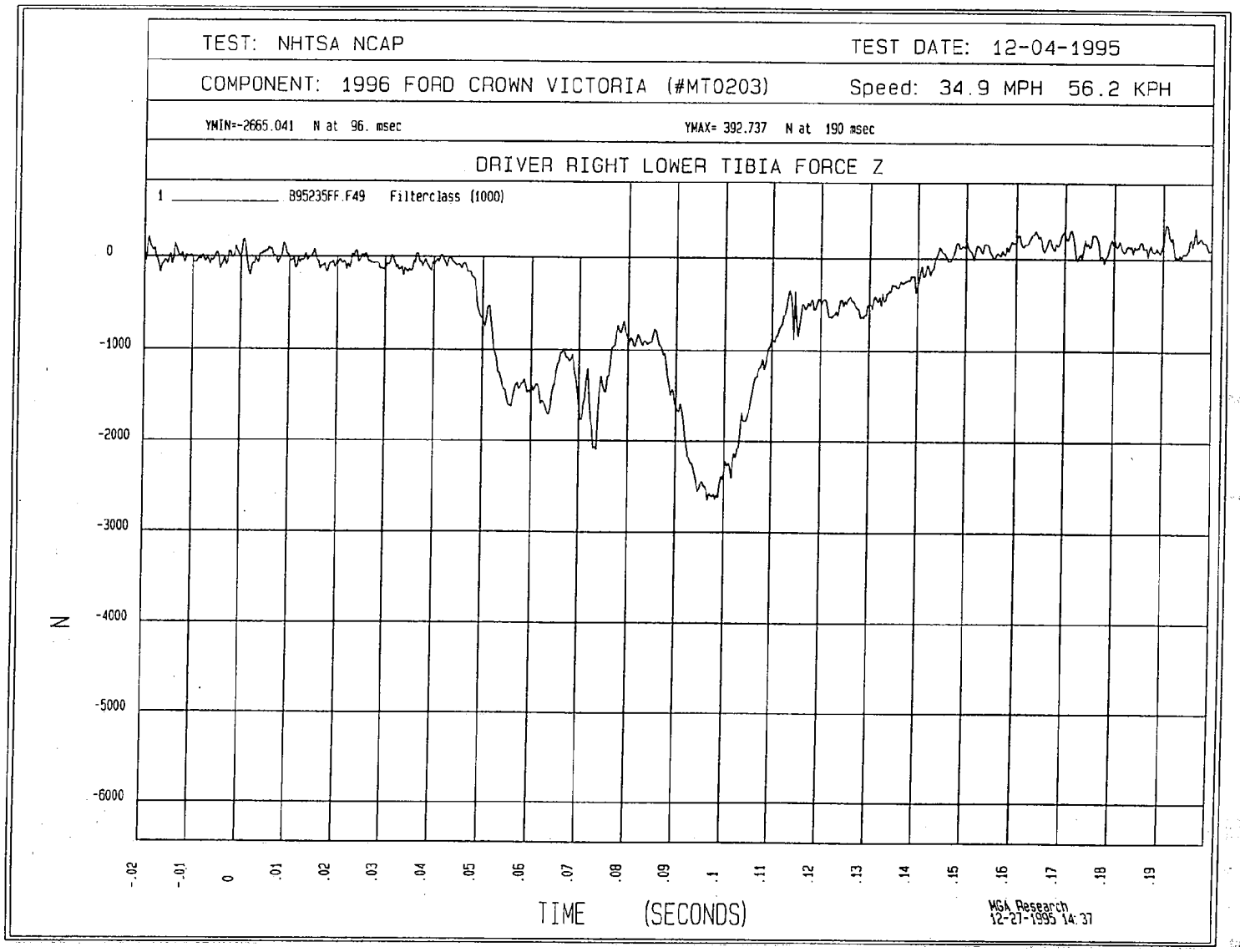
TIME (SECONDS)
MGA Research
12-27-1995 14:31


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-2665.041 N at 96. msec
YMAX= 392.737 N at 190 msec
DRIVER RIGHT LOWER TIBIA FORCE Z
1 895235FF.F49 Filterclass (1000)
0
-1000
-2000
-3000
-4000
-5000
-6000
N
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
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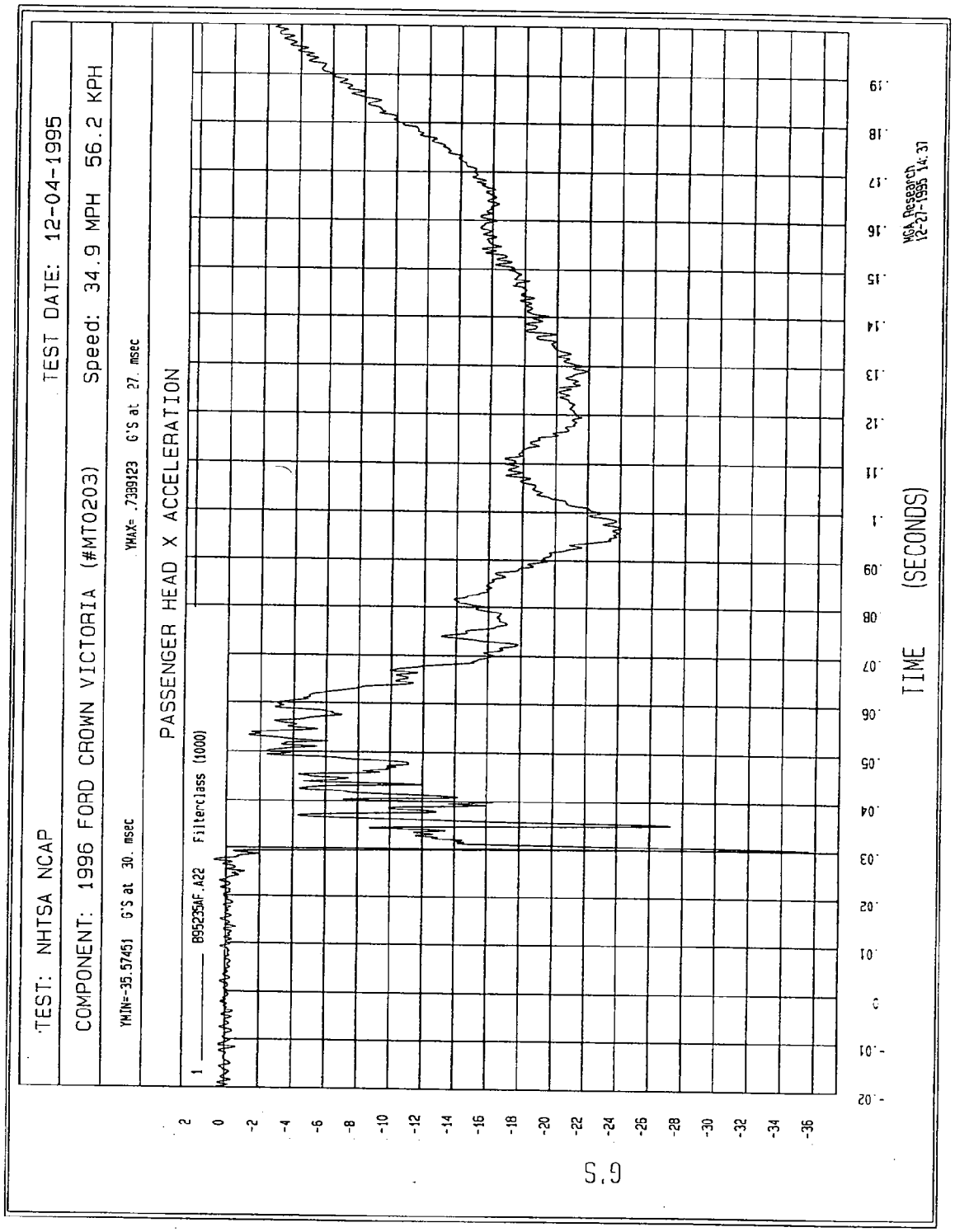
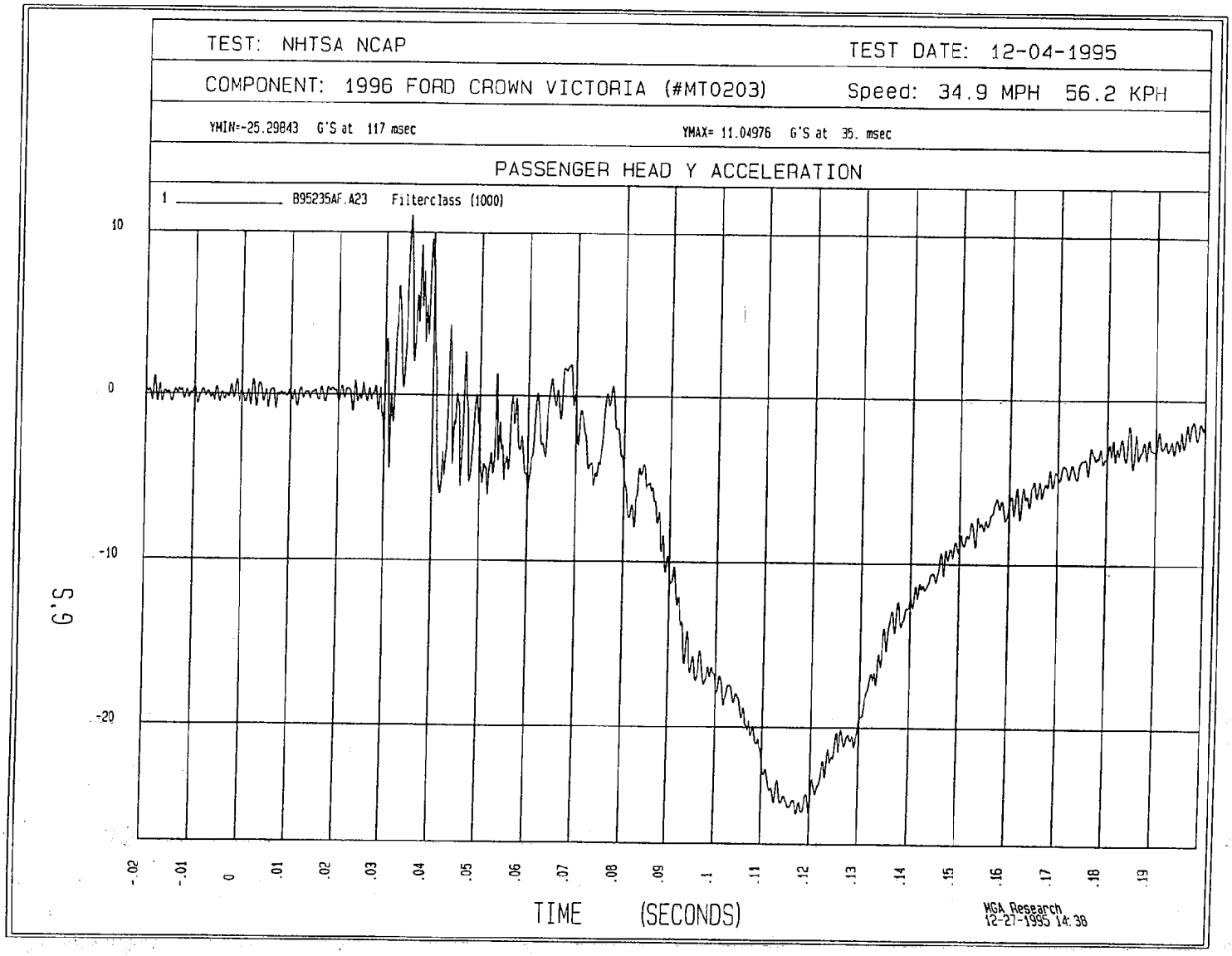
TIME (SECONDS)
MGA Research
12-27-1995 14:37


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-35.57451 G'S at 30. msec
YMAX=.7389123 G'S at 27. msec
PASSENGER HEAD X ACCELERATION
1 _____ B95235AF.A22 Filterclass (1000)
2 0 -2 -4 -6 -8 -10 -12 -14 -16 -18 -20 -22 -24 -26 -28 -30 -32 -34 -36
-.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
12-21-1995 14:37
G's


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-25.29843 G'S at 117 msec
YMAX= 11.04976 G'S at 35. msec
PASSENGER HEAD Y ACCELERATION
1 B95235AF.A23 Filterclass (1000)
10
0
-10
-20
G's
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
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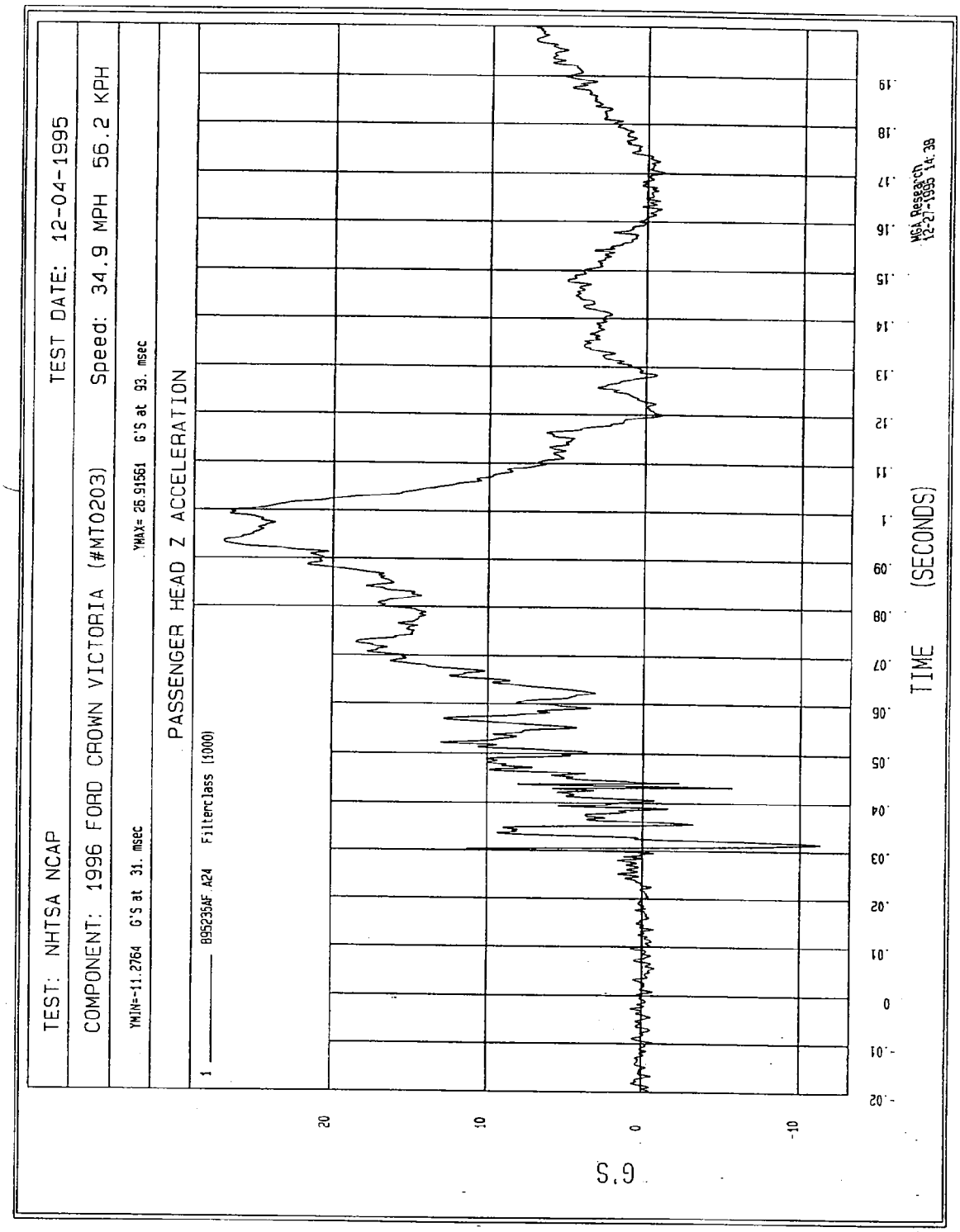
.18
.19
TIME (SECONDS)
NGA Research
12-27-1995 14:38


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-11.2764 G'S at 31. msec
YMAX= 26.91561 G'S at 93. msec
PASSENGER HEAD Z ACCELERATION
1 _____ B95235AF.A24 Filterclass (1000)
20
10
0
-10
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
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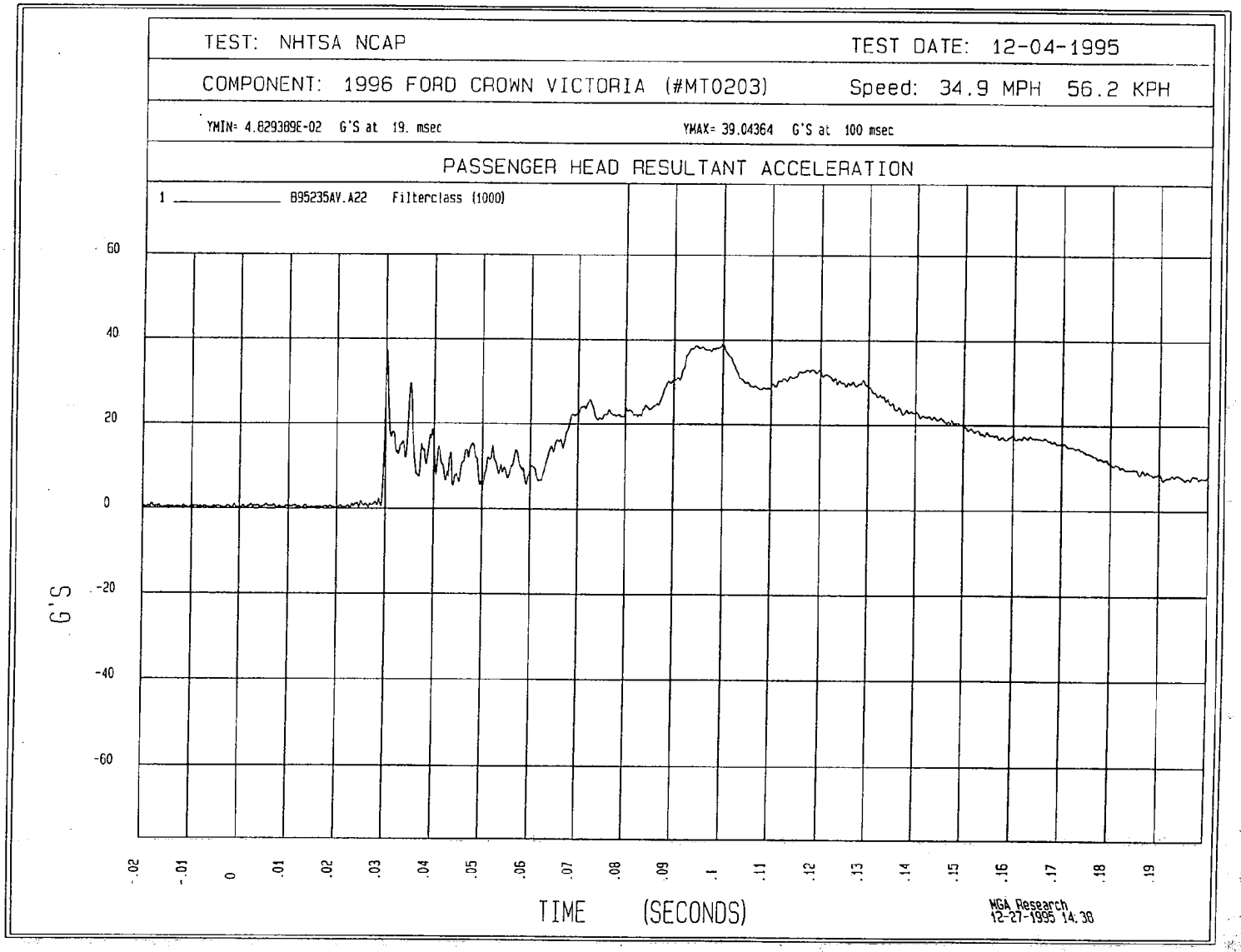
.18
.19
TIME (SECONDS)
MGA Research
12-27-1995 14:38
G's


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN= 4.829389E-02 G'S at 19. msec
YMAX= 39.04364 G'S at 100 msec
PASSENGER HEAD RESULTANT ACCELERATION
1 B95235AV.A22 Filterclass (1000)
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
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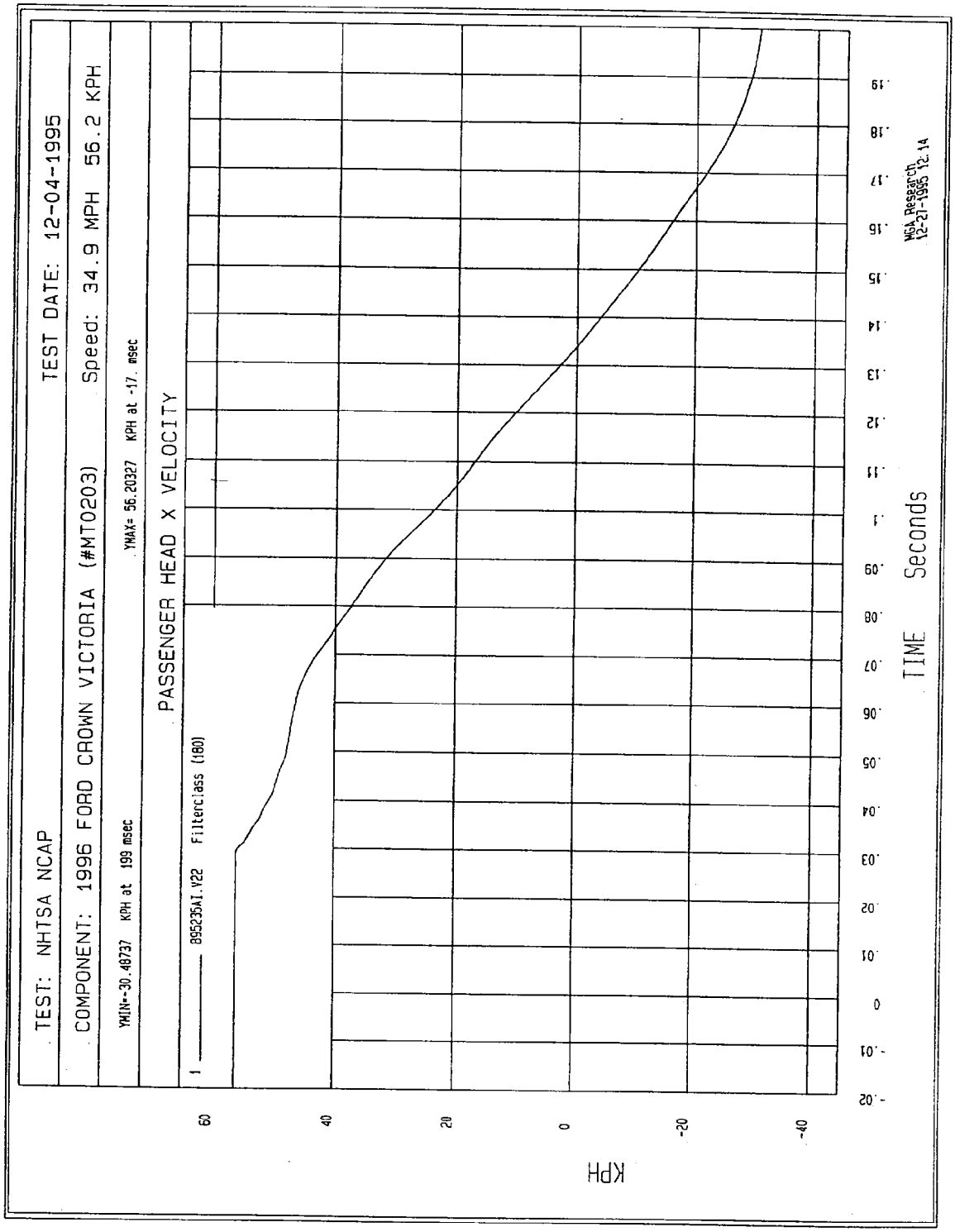
TIME (SECONDS)
MGA Research
12-27-1995 14:38


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-30.48737 KPH at 199 msec
YMAX= 56.20327 KPH at -17. msec
PASSENGER HEAD X VELOCITY
1 ——— 895235AI.Y22 Filterclass (180)
60
40
20
0
-20
-40
KPH
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
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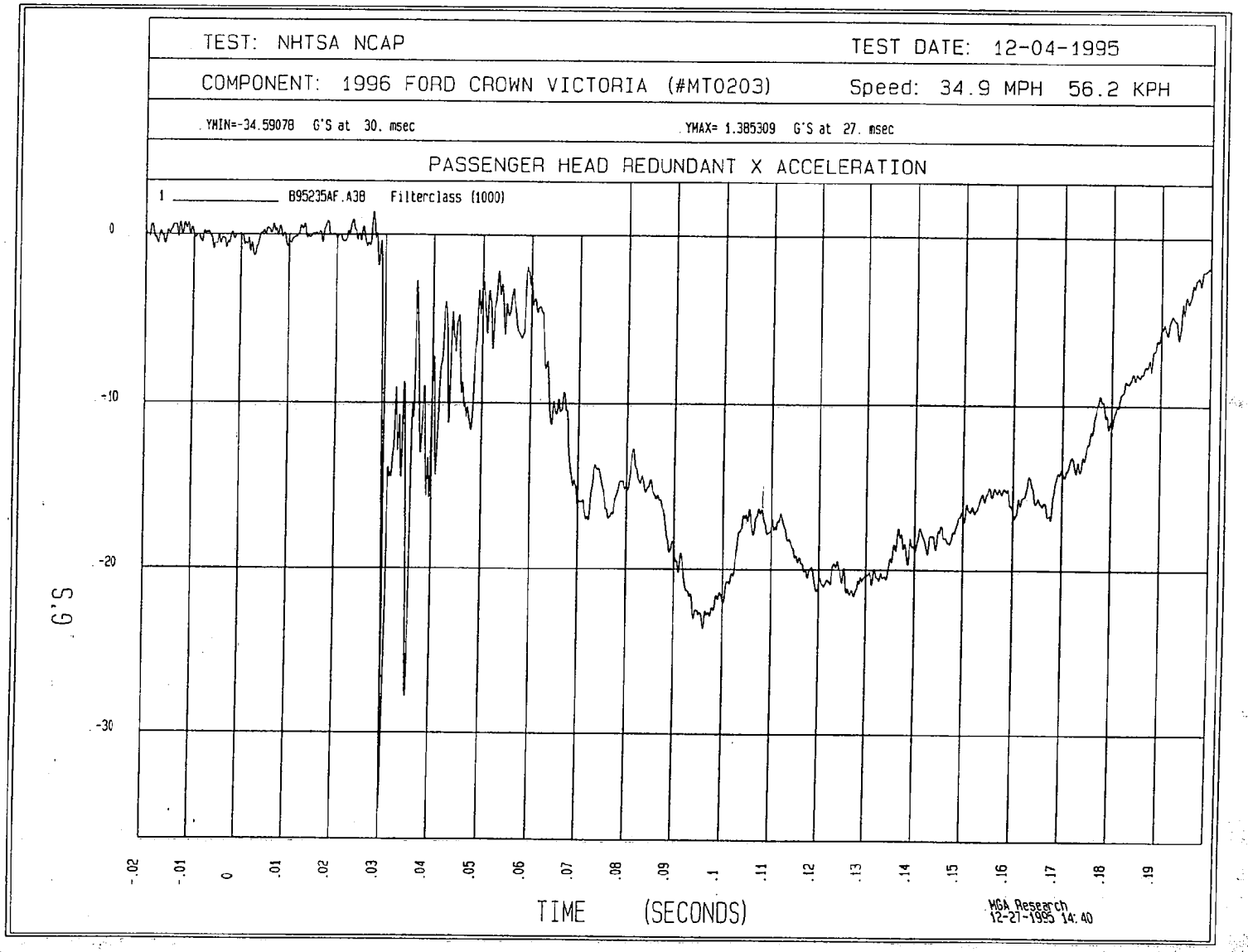
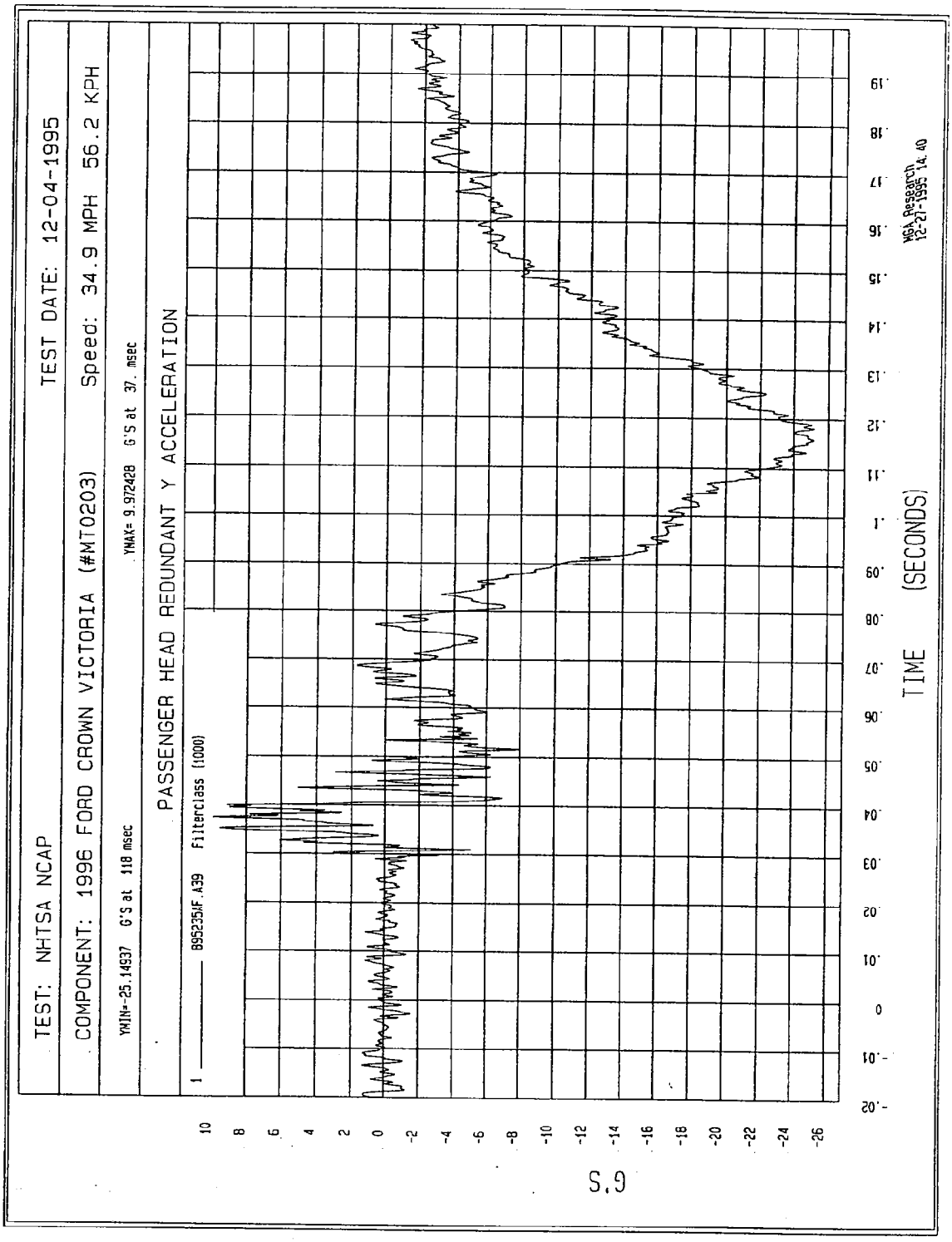
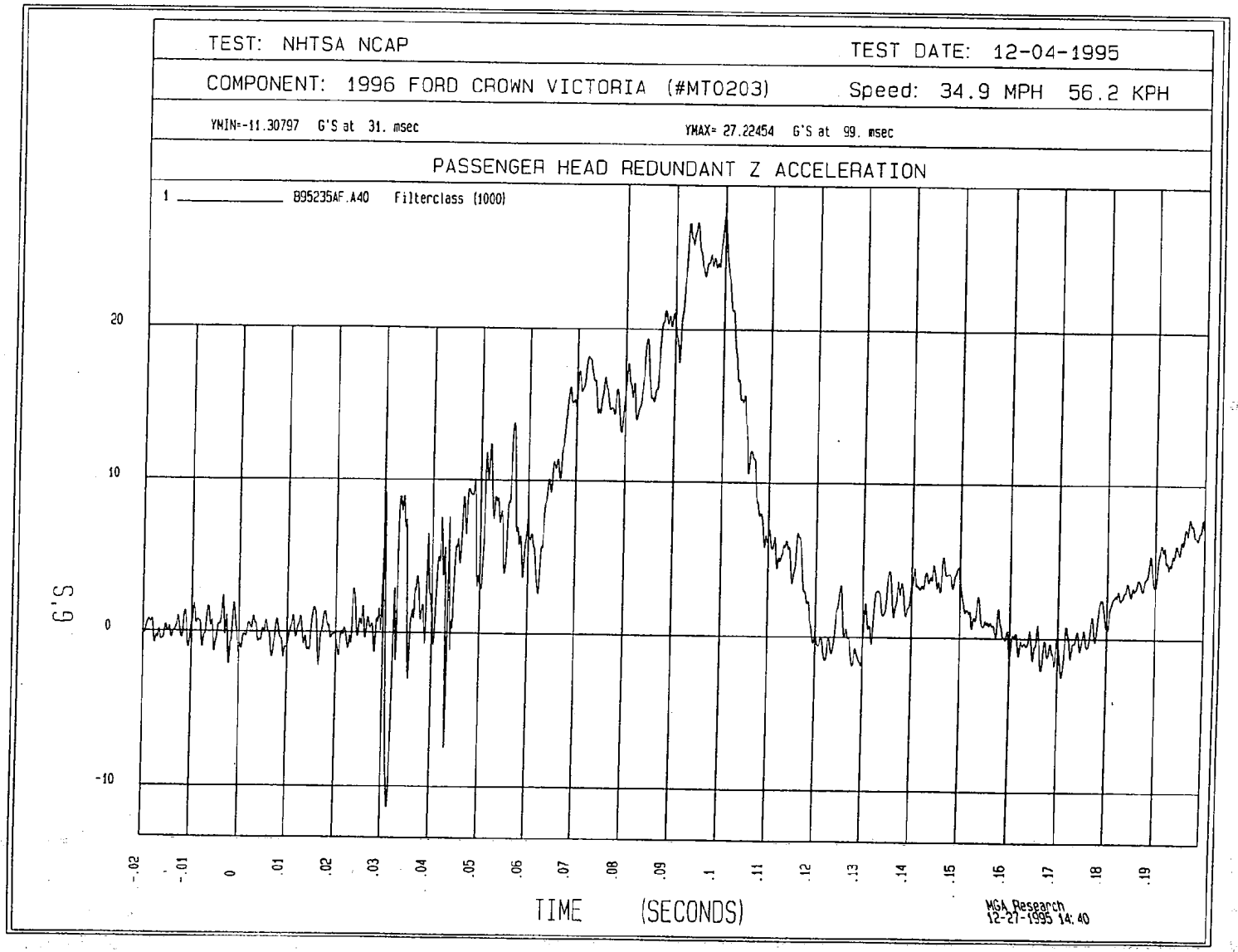
.13
.14
.15
.16
.17
.18
.19
TIME Seconds
MGA Research
12-21-1995 12:14


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-34.59078 G'S at 30. msec
YMAX= 1.385309 G'S at 27. msec
PASSENGER HEAD REDUNDANT X ACCELERATION
1 B95235AF.A38 Filterclass (1000)
0
-10
-20
-30
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)
HGA Research
12-27-1995 14:40


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-25.14937 G'S at 118 msec
YMAX= 9.972428 G'S at 37. msec
PASSENGER HEAD REDUNDANT Y ACCELERATION
1 B95235AF.A39 Filterclass (1000)
10 8 6 4 2 0 -2 -4 -6 -8 -10 -12 -14 -16 -18 -20 -22 -24 -26
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)
NHTA Research
12-21-1995 14.40


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-11.30797 G'S at 31. msec
YMAX= 27.22454 G'S at 99. msec
PASSENGER HEAD REDUNDANT Z ACCELERATION
1 B95235AF.A40 Filterclass (1000)
20
10
0
-10
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
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.09
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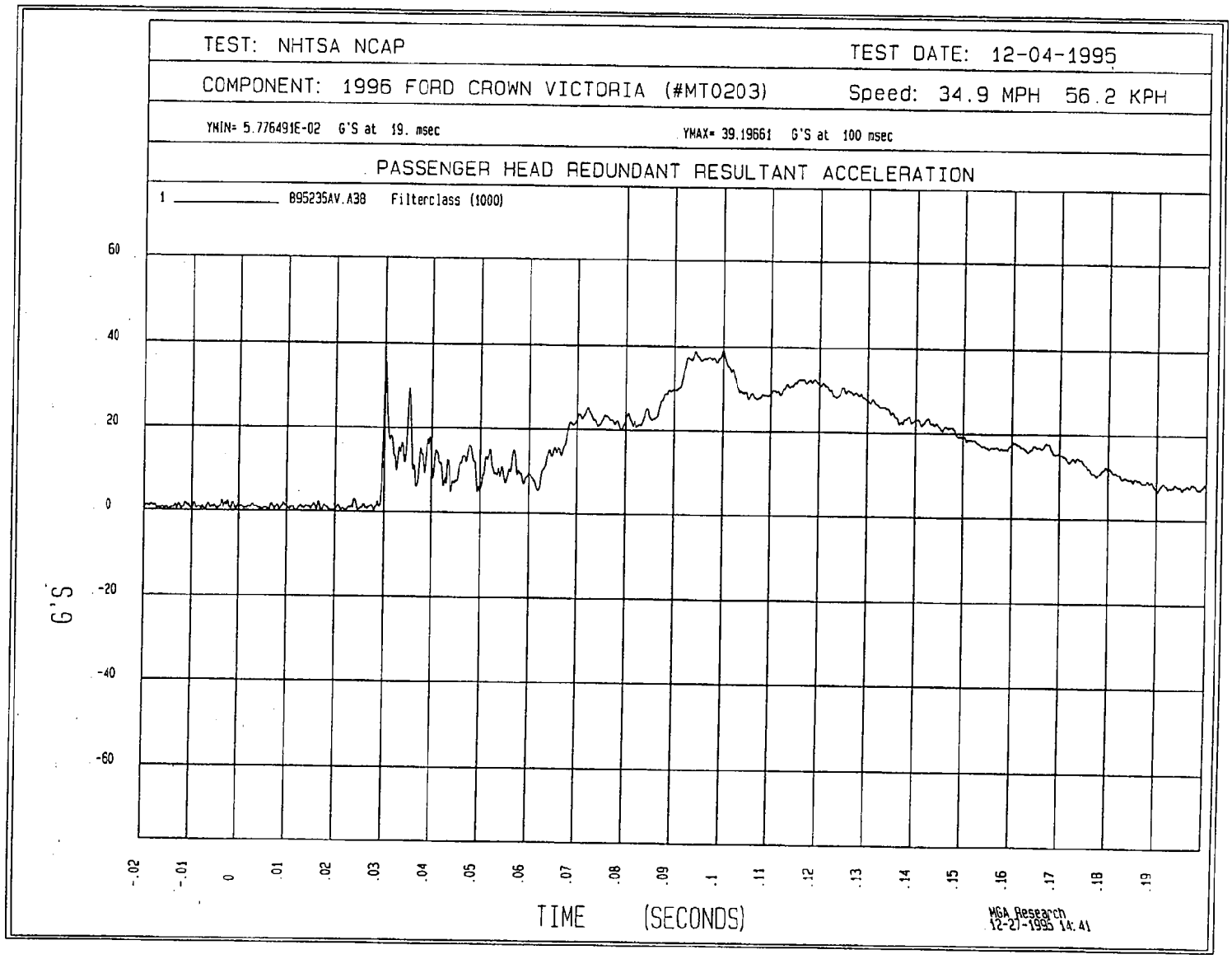
TIME (SECONDS)
MGA Research
12-27-1995 14:40


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN= 5.776491E-02 G'S at 19. msec
YMAX= 39.19661 G'S at 100 msec
PASSENGER HEAD REDUNDANT RESULTANT ACCELERATION
1 B95235AV.A38 Filterclass (1000)
60
40
20
0
-20
-40
-60
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
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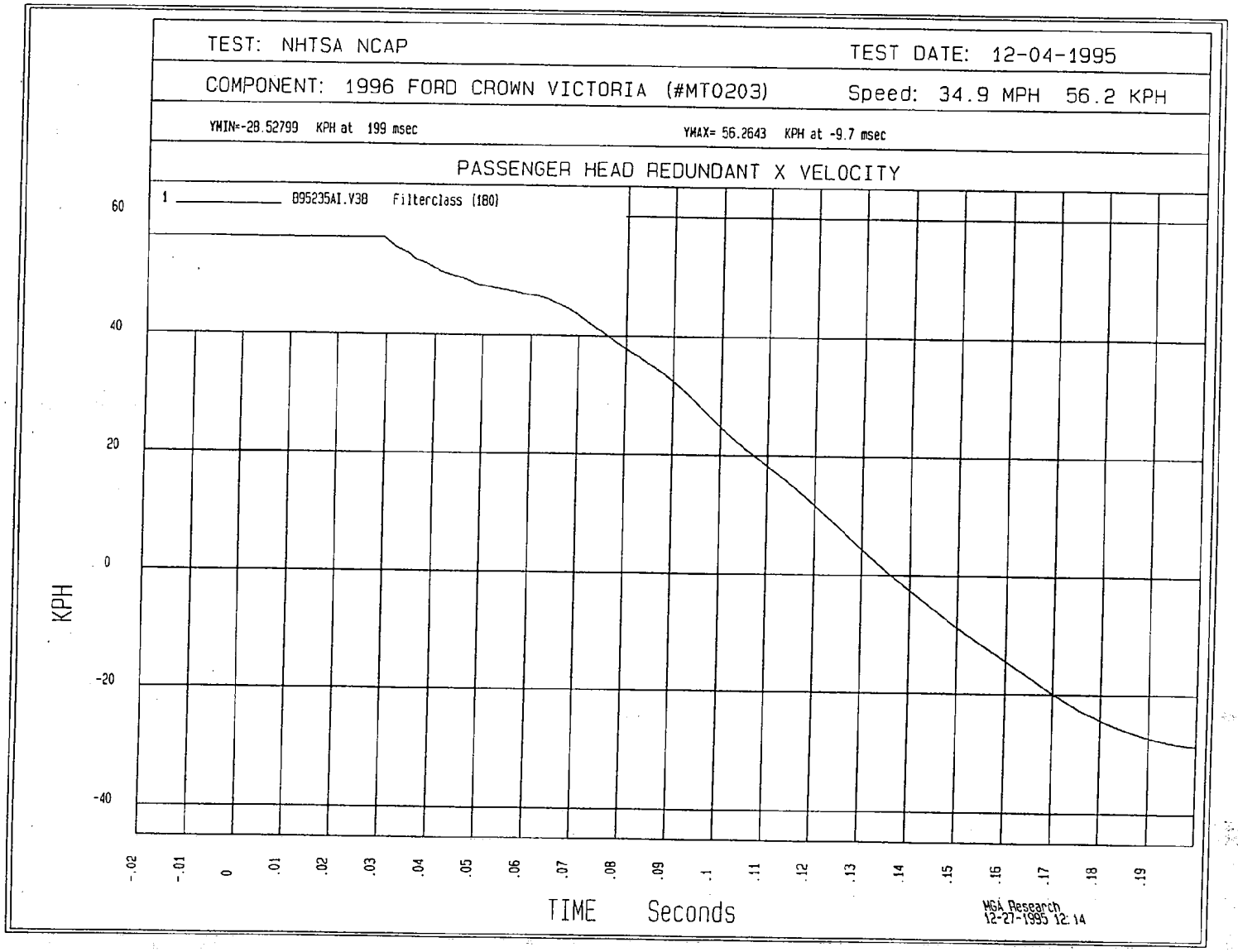
.18
.19
TIME (SECONDS)
MGA Research
12-27-1995 14:41


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-28.52799 KPH at 199 msec
YMAX= 56.2643 KPH at -9.7 msec
PASSENGER HEAD REDUNDANT X VELOCITY
1 B95235AI.V3B Filterclass (180)
60
40
20
0
-20
-40
KPH
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
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.12
.13
.14
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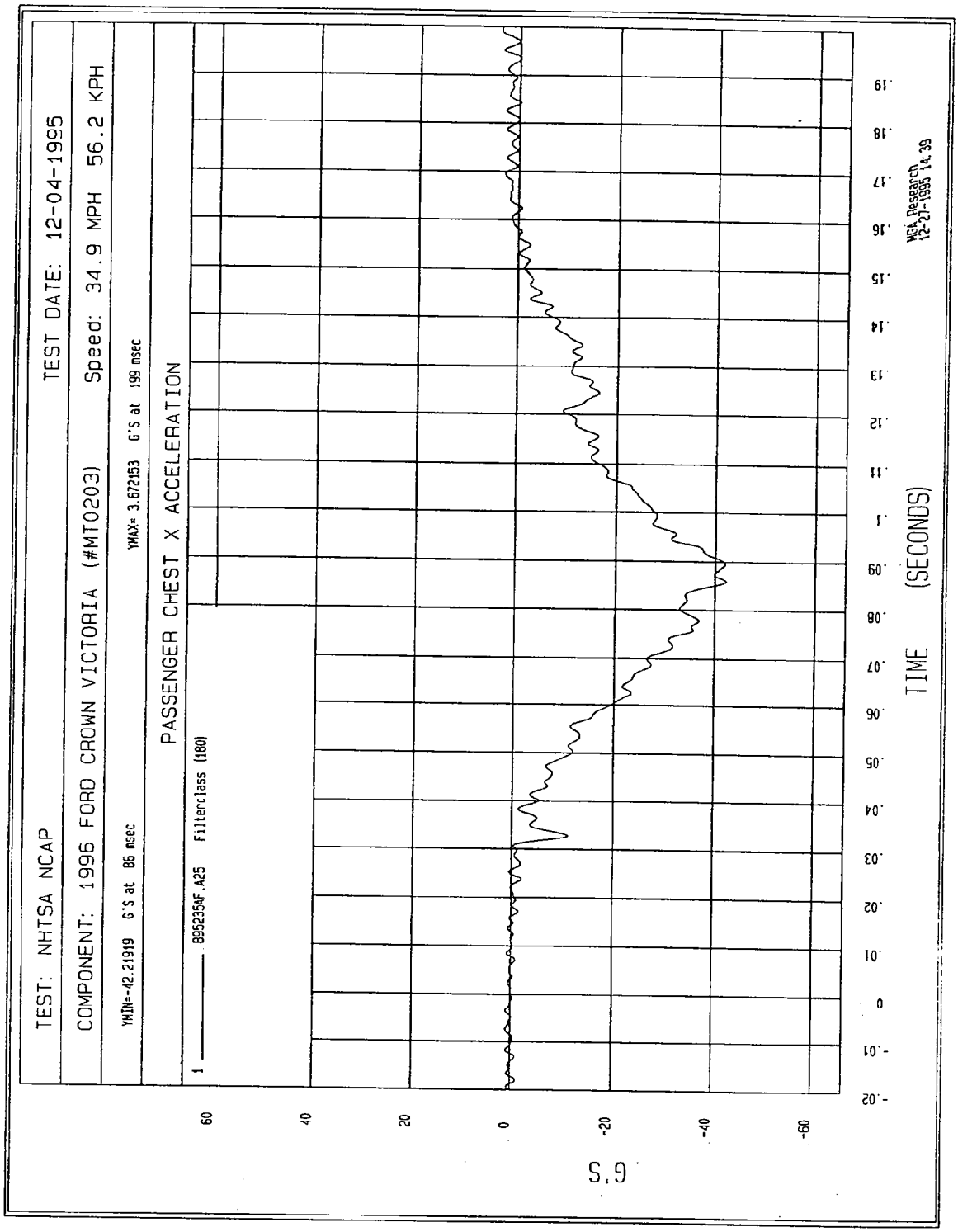
.16
.17
.18
.19
TIME Seconds
MGA Research
12-27-1995 12:14


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-42.21919 G'S at 86 msec
YMAX= 3.672153 G'S at 199 msec
PASSENGER CHEST X ACCELERATION
1 B952354F.A25 Filterclass (180)
60
40
20
0
-20
-40
-60
G'S
TIME (SECONDS)
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
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.16
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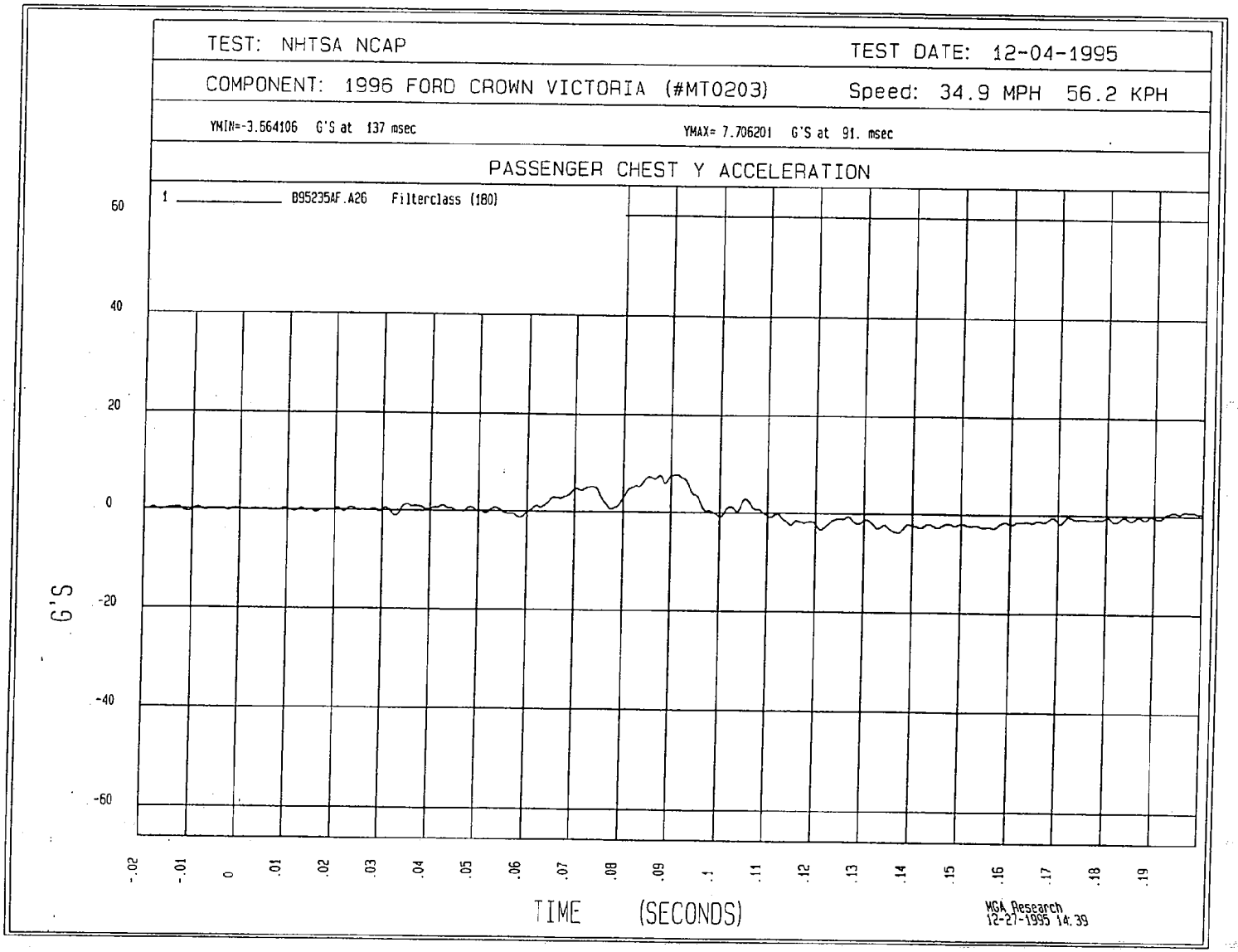
.18
.19
MGA Research
12-27-1995 14:39


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-3.564106 G'S at 137 msec
YMAX= 7.706201 G'S at 91. msec
PASSENGER CHEST Y ACCELERATION
1 B95235AF.A26 Filterclass (180)
60
40
20
0
-20
-40
-60
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
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.14
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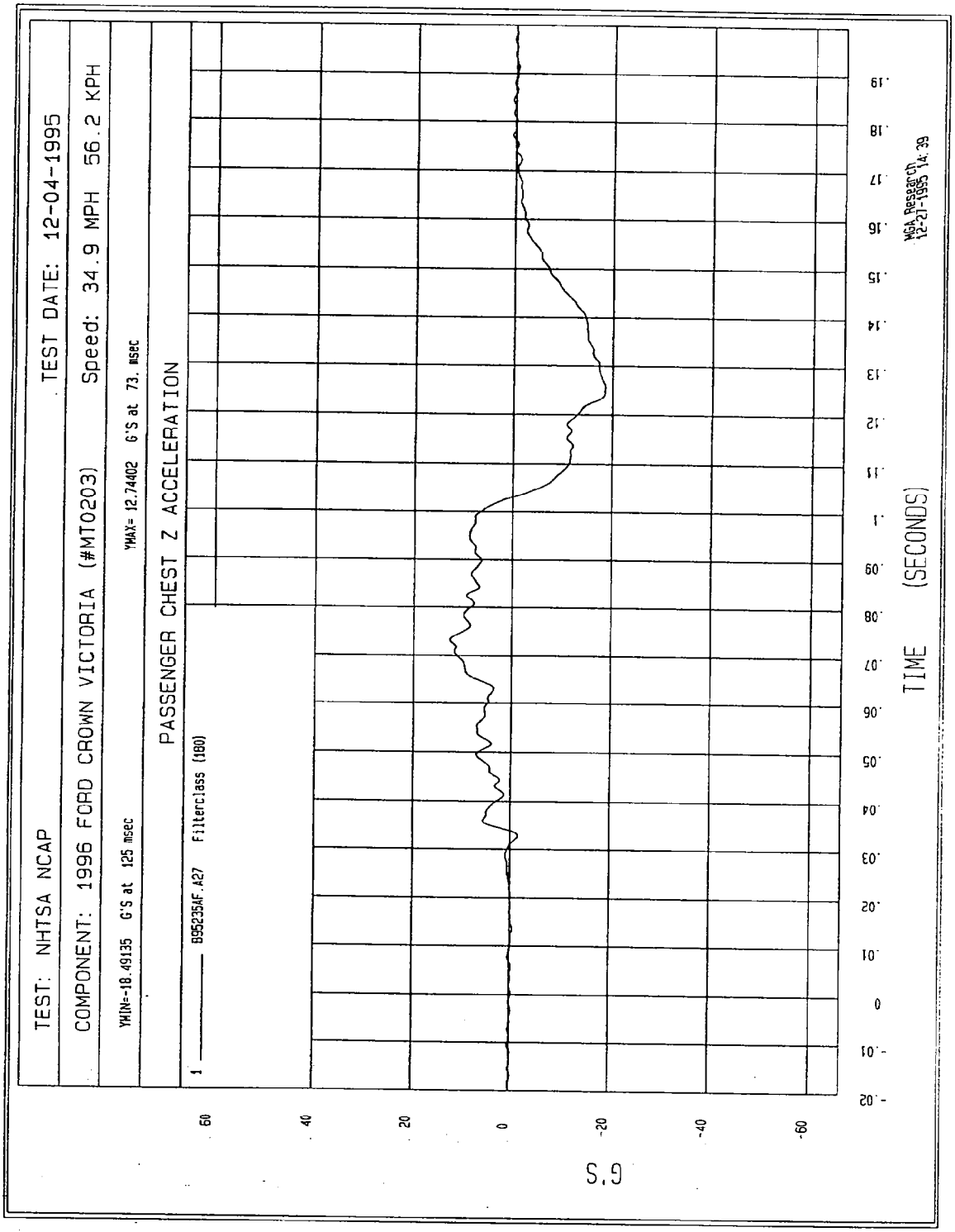
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
12-27-1995 14:39


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-18.49135 G'S at 125 msec
YMAX= 12.74402 G'S at 73. msec
PASSENGER CHEST Z ACCELERATION
1 B95235AF.A27 Filterclass (180)
60
40
20
0
-20
-40
-60
G'S
.19
.18
.17
.16
.15
.14
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.12
.11
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.09
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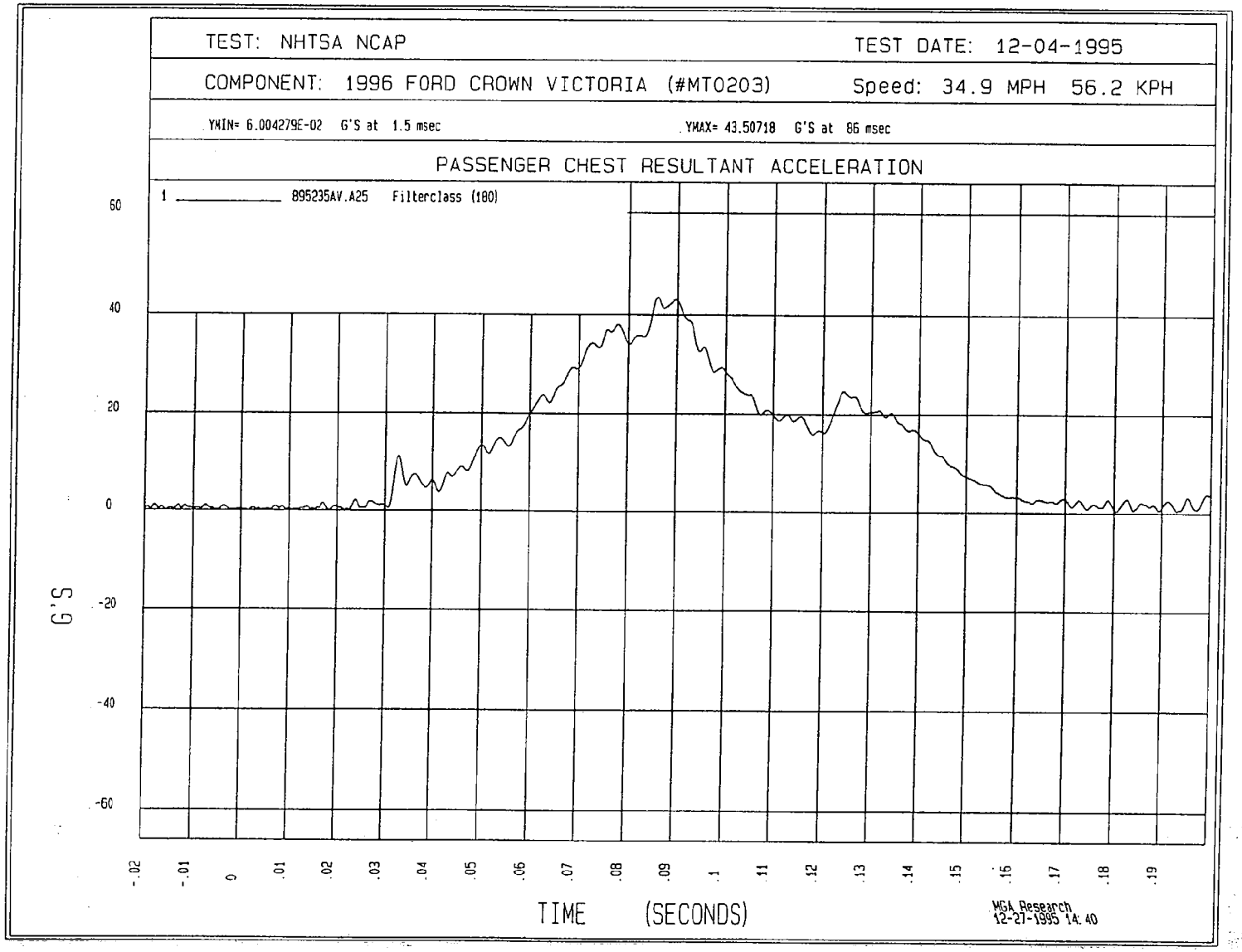
.02
.01
0
-.01
-.02
TIME (SECONDS)
MGA Research
12-21-1995 14:39


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN= 6.004279E-02 G'S at 1.5 msec
YMAX= 43.50718 G'S at 86 msec
PASSENGER CHEST RESULTANT ACCELERATION
1 895235AV.A25 Filterclass (180)
60
40
20
0
-20
-40
-60
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
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.17
.18
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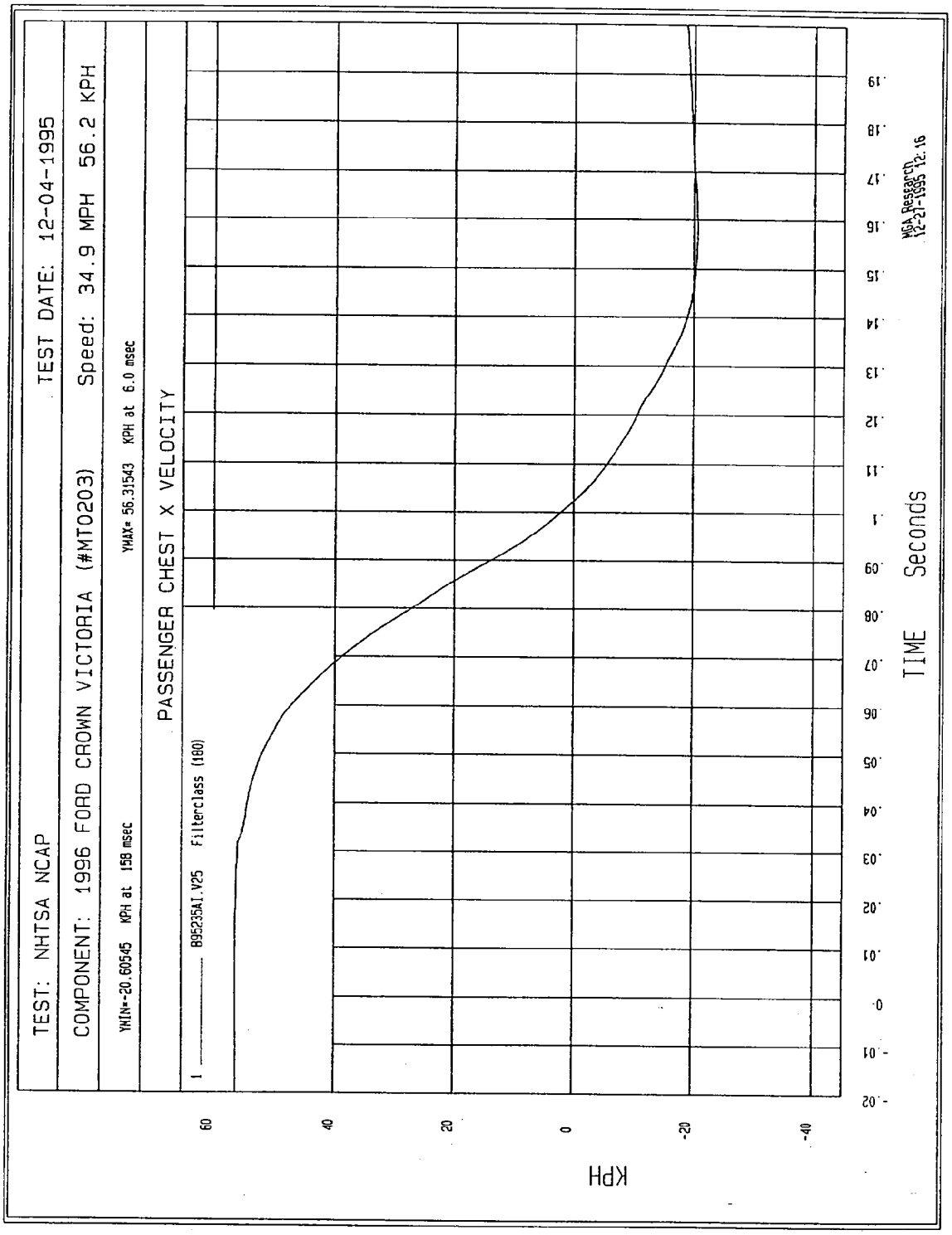
TIME (SECONDS)
MGA Research
12-27-1995 14:40


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-20.60545 KPH at 158 msec
YMAX= 56.31543 KPH at 6.0 msec
PASSENGER CHEST X VELOCITY
1 B95235A1.V25 Filterclass (180)
KPH
60
40
20
0
-20
-40
TIME Seconds
-.02
-.01
0
.01
.02
.03
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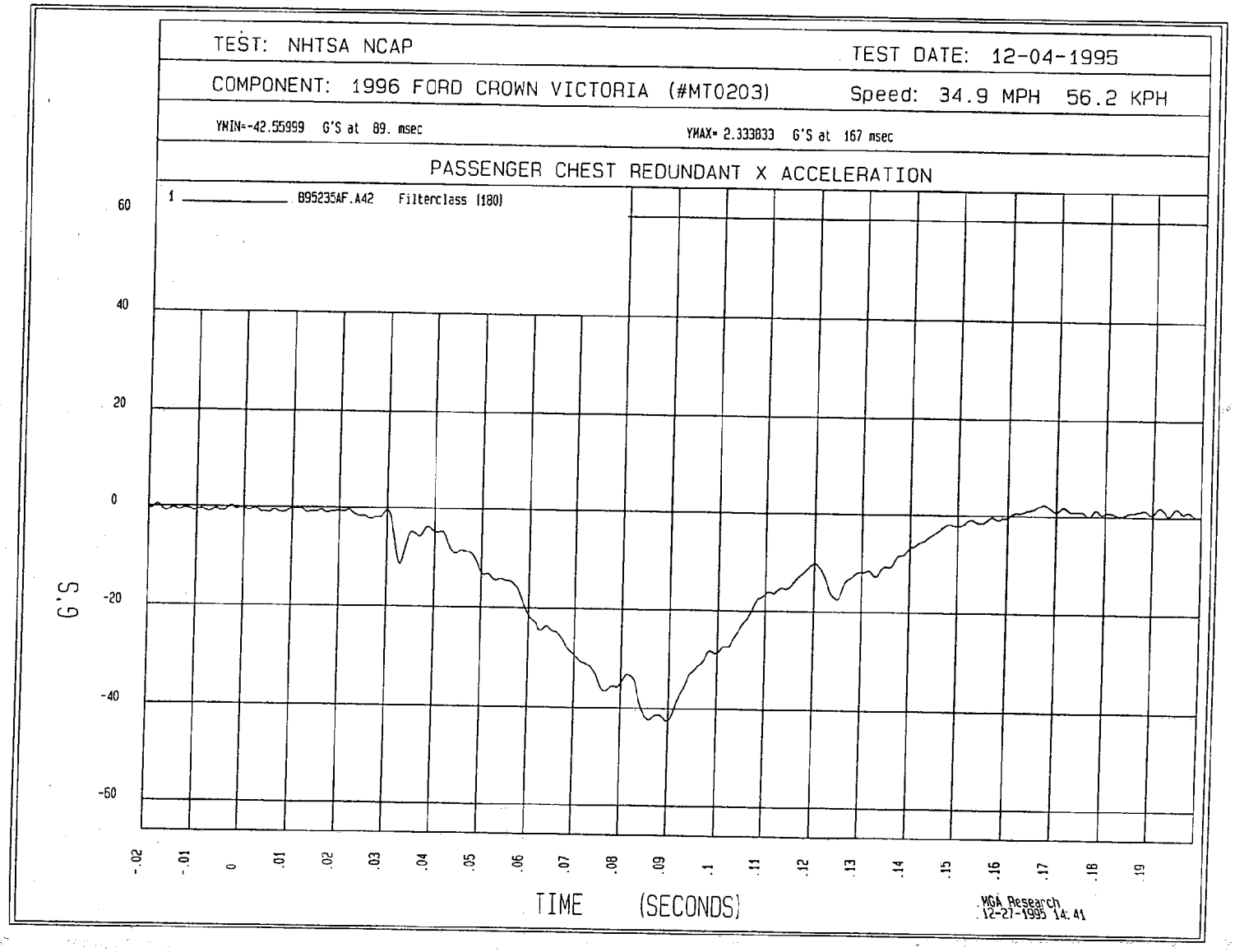
.18
.19
MGA Research
12-21-1995 12:16


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-42.55999 G'S at 89. msec
YMAX= 2.333833 G'S at 167 msec
PASSENGER CHEST REDUNDANT X ACCELERATION
1 B95235AF.A42 Filterclass (180)
60
40
20
0
-20
-40
-60
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
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.09
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.14
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.16
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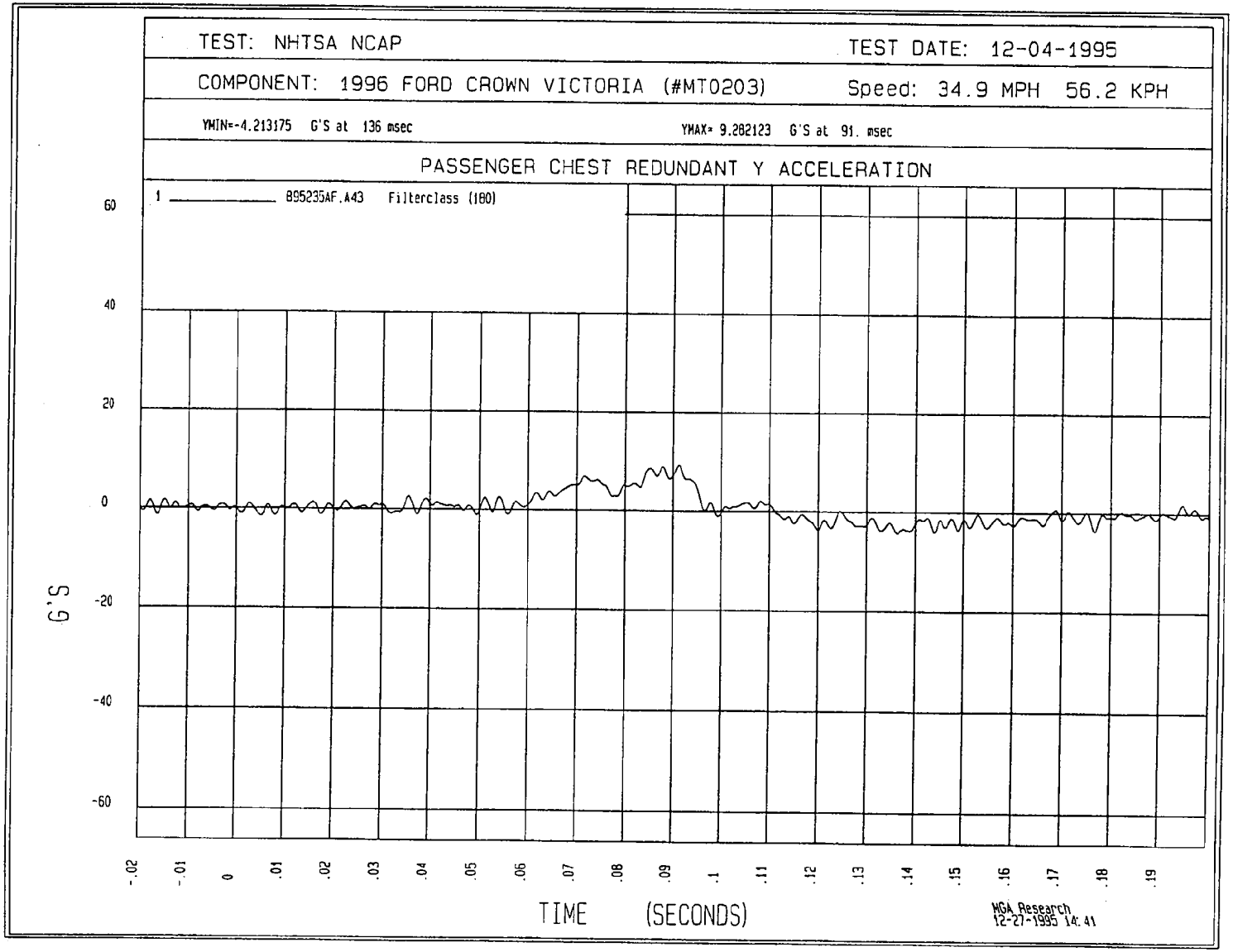
.19
TIME (SECONDS)
MGA Research
12-27-1995 14:41


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-4.213175 G'S at 136 msec
YMAX= 9.282123 G'S at 91. msec
PASSENGER CHEST REDUNDANT Y ACCELERATION
1 B95235AF.A43 Filterclass (180)
60
40
20
0
-20
-40
-60
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
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.13
.14
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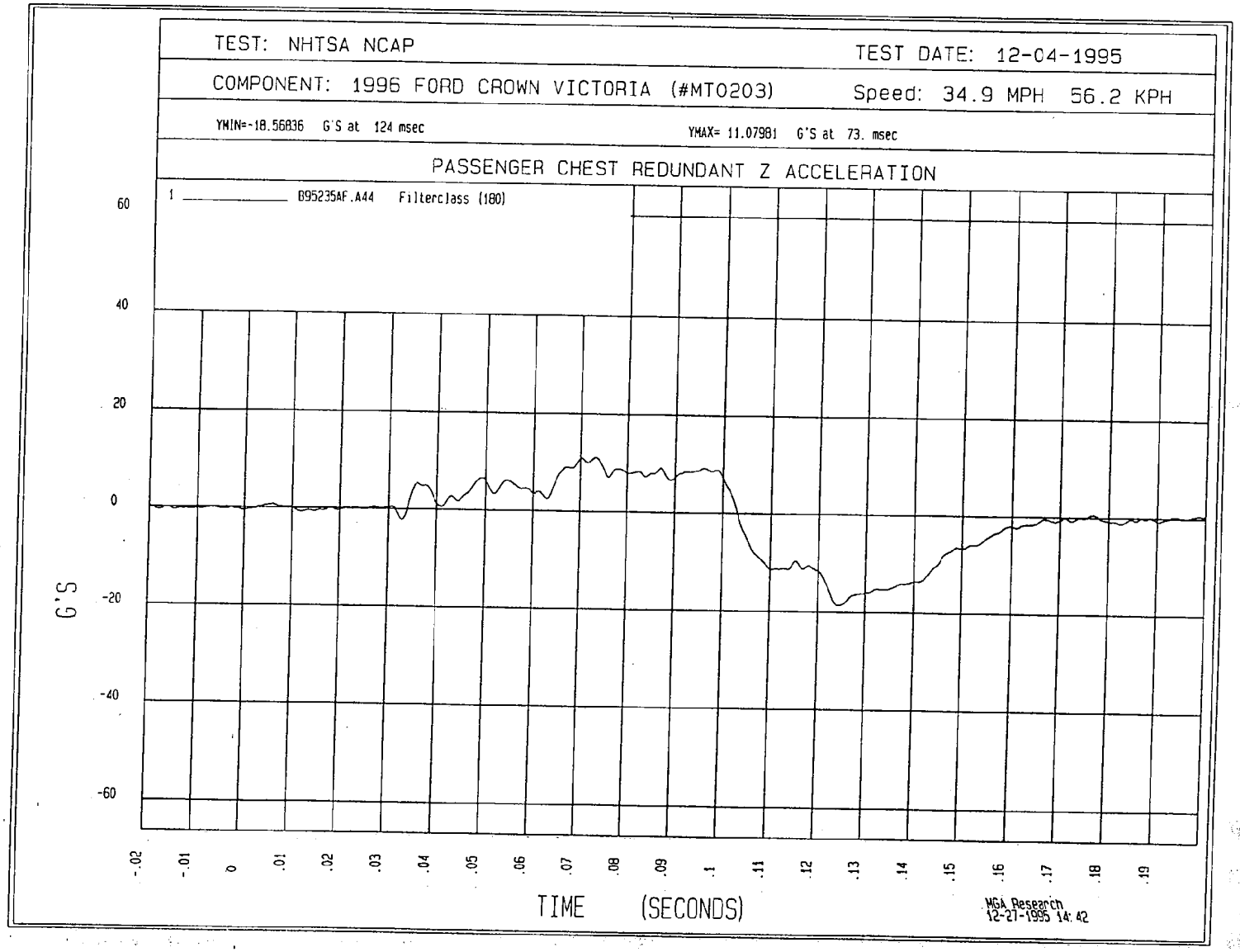
TIME (SECONDS)
MGA Research
12-27-1995 14:41


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-18.56836 G'S at 124 msec
YMAX= 11.07981 G'S at 73. msec
PASSENGER CHEST REDUNDANT Z ACCELERATION
1 B95235AF.A44 Filterclass (180)
60
40
20
0
-20
-40
-60
G'S
-.02
-.01
0
.01
.02
.03
.04
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.06
.07
.08
.09
.1
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.12
.13
.14
.15
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.17
.18
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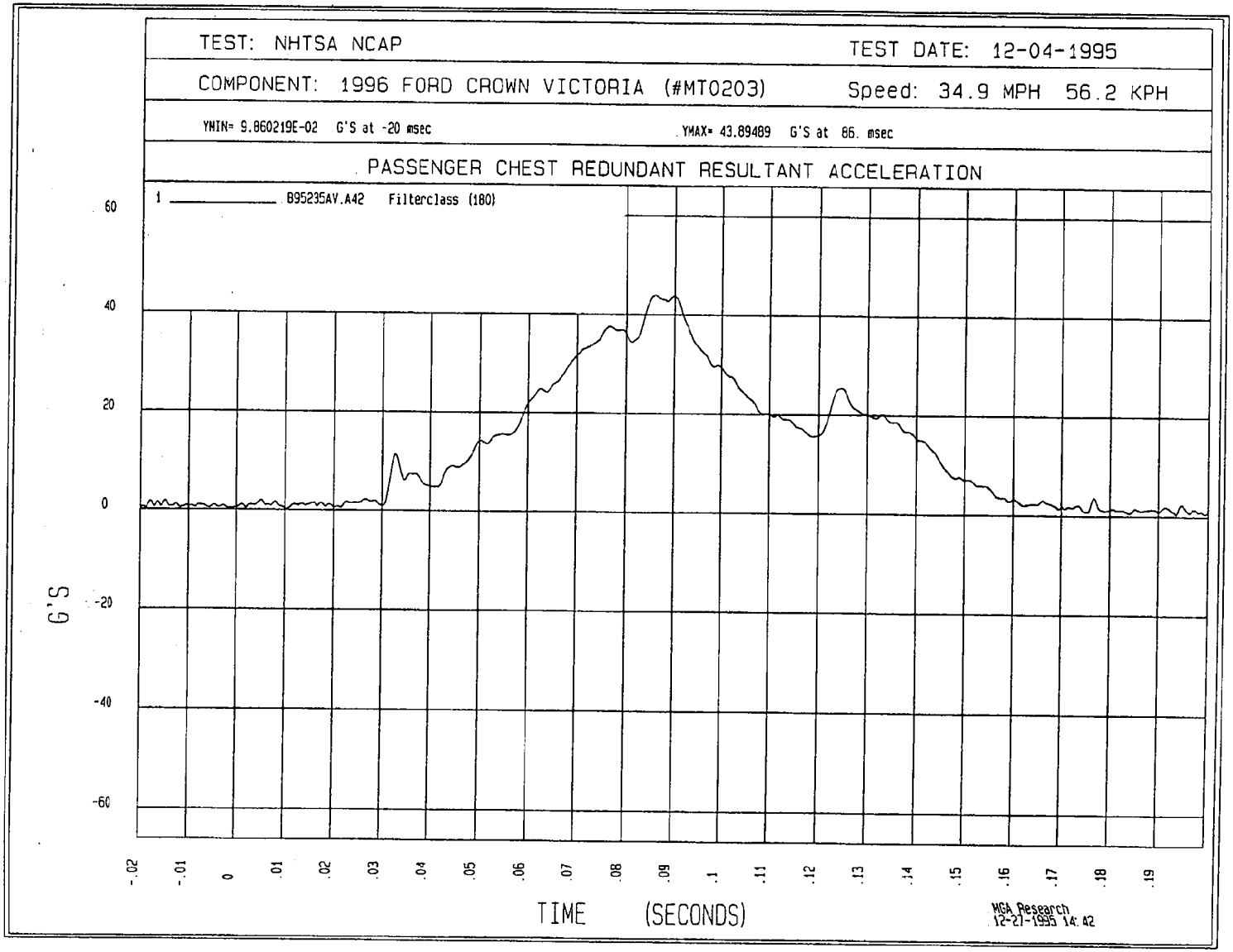
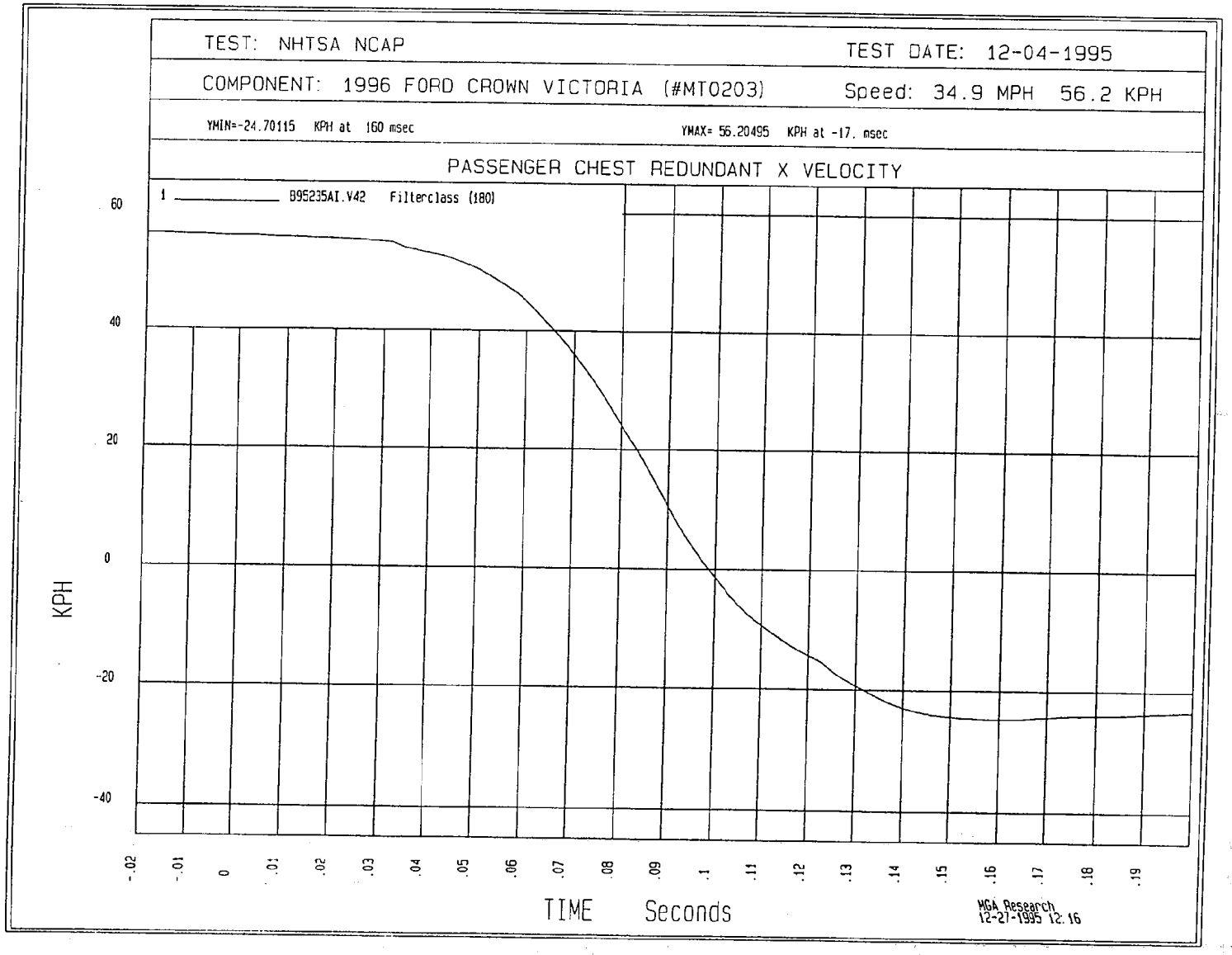
TIME (SECONDS)
MGA Research
12-27-1995 14:42


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN= 9.860219E-02 G'S at -20 msec
YMAX= 43.89489 G'S at 86. msec
PASSENGER CHEST REDUNDANT RESULTANT ACCELERATION
1 B95235AV.A42 Filterclass (180)
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
12-27-1995 14:42


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-24.70115 KPH at 160 msec
YMAX= 56.20495 KPH at -17. msec
PASSENGER CHEST REDUNDANT X VELOCITY
1 B95235AI.V42 Filterclass (180)
60
40
20
0
-20
-40
KPH
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
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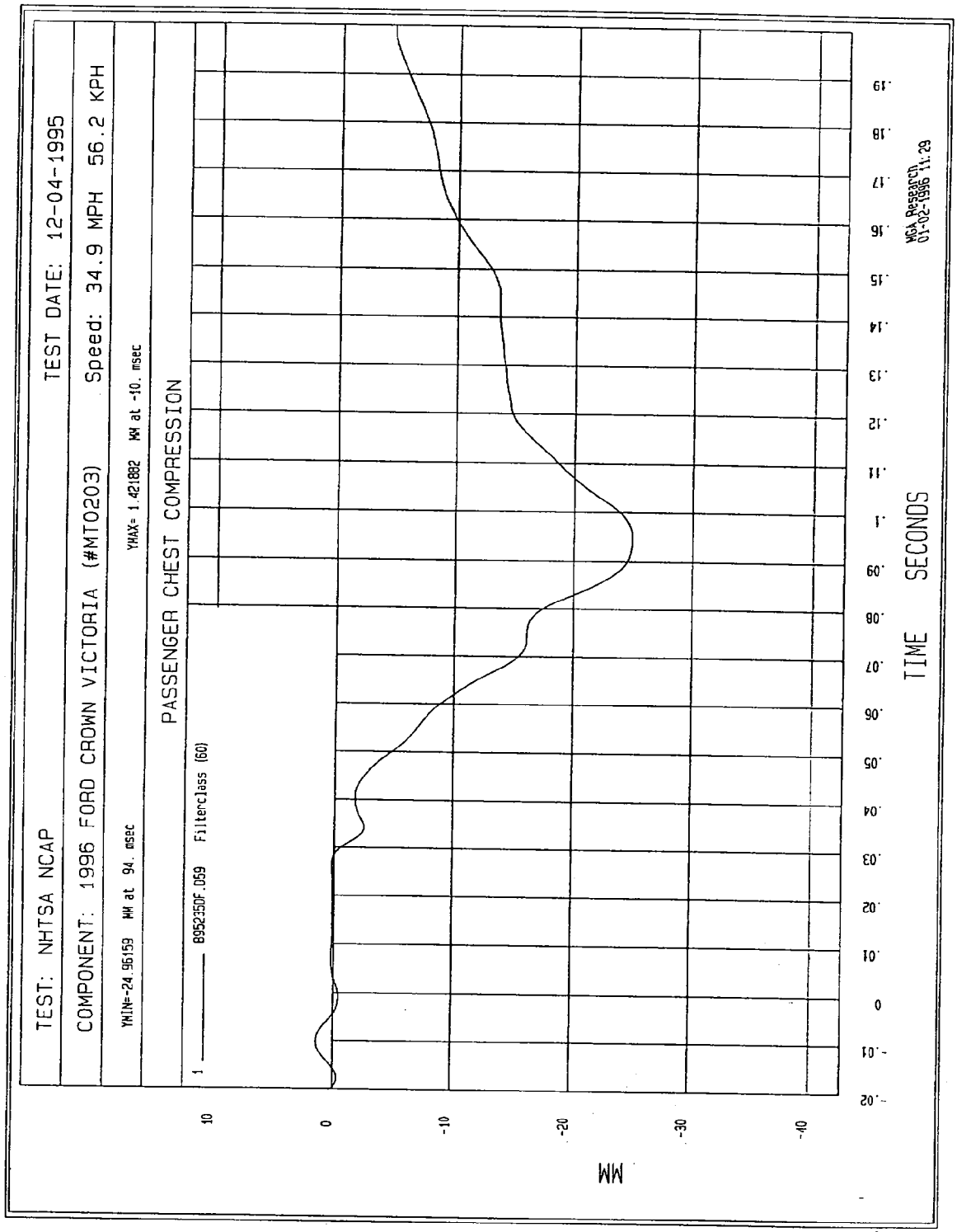
.19
TIME Seconds
MGA Research
12-27-1995 12:16


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-24.96159 MM at 94. msec
YMAX= 1.421882 MM at -10. msec
PASSENGER CHEST COMPRESSION
1 B952350F.D59 Filterclass (60)
MM
10
0
-10
-20
-30
-40
TIME SECONDS
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
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.09
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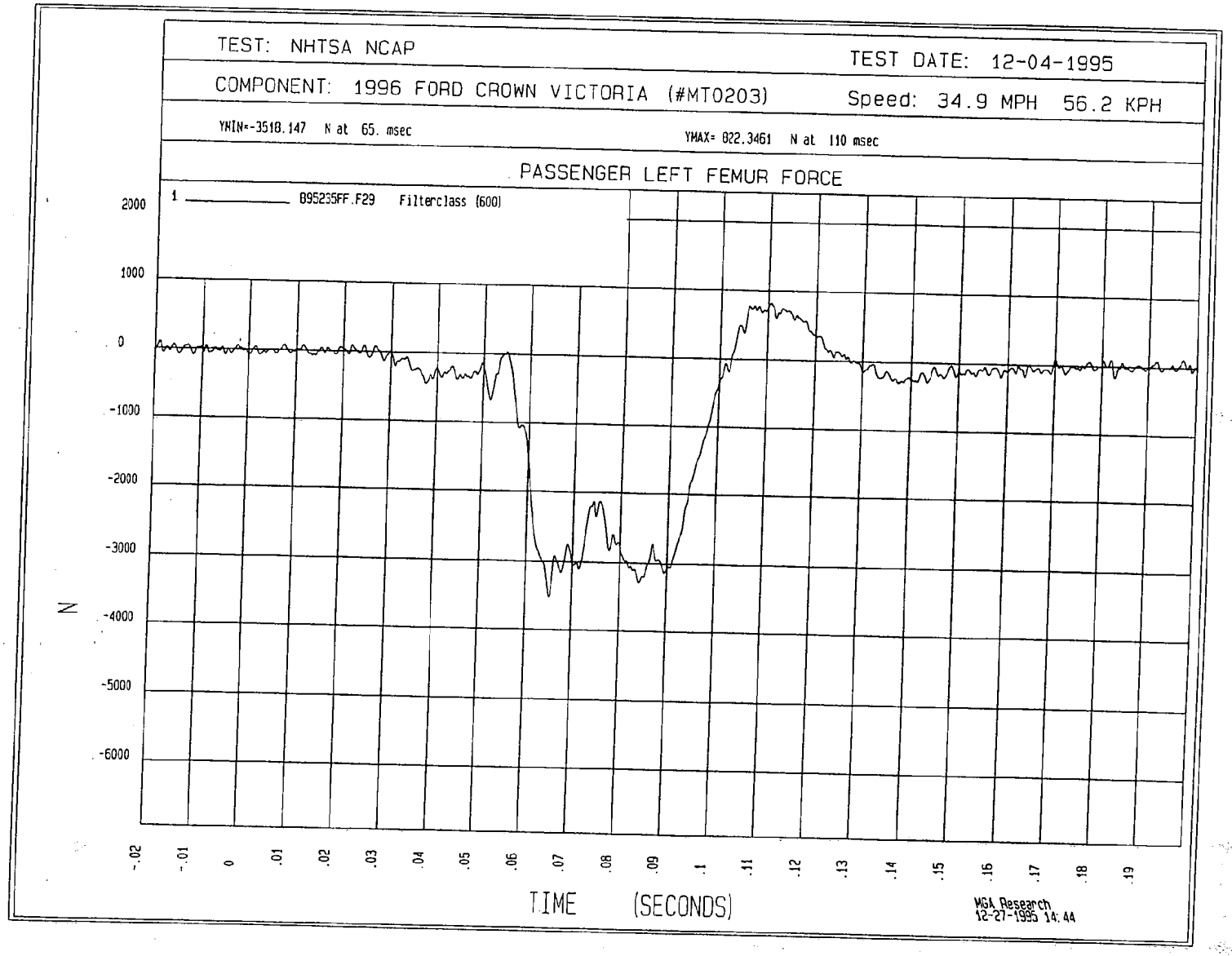
MGA Research
01-02-1996 11:28


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-3518.147 N at 65. msec
YMAX= 822.3461 N at 110 msec
PASSENGER LEFT FEMUR FORCE
1 B95235FF.F29 Filterclass (600)
2000
1000
0
-1000
-2000
-3000
-4000
-5000
-6000
N
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
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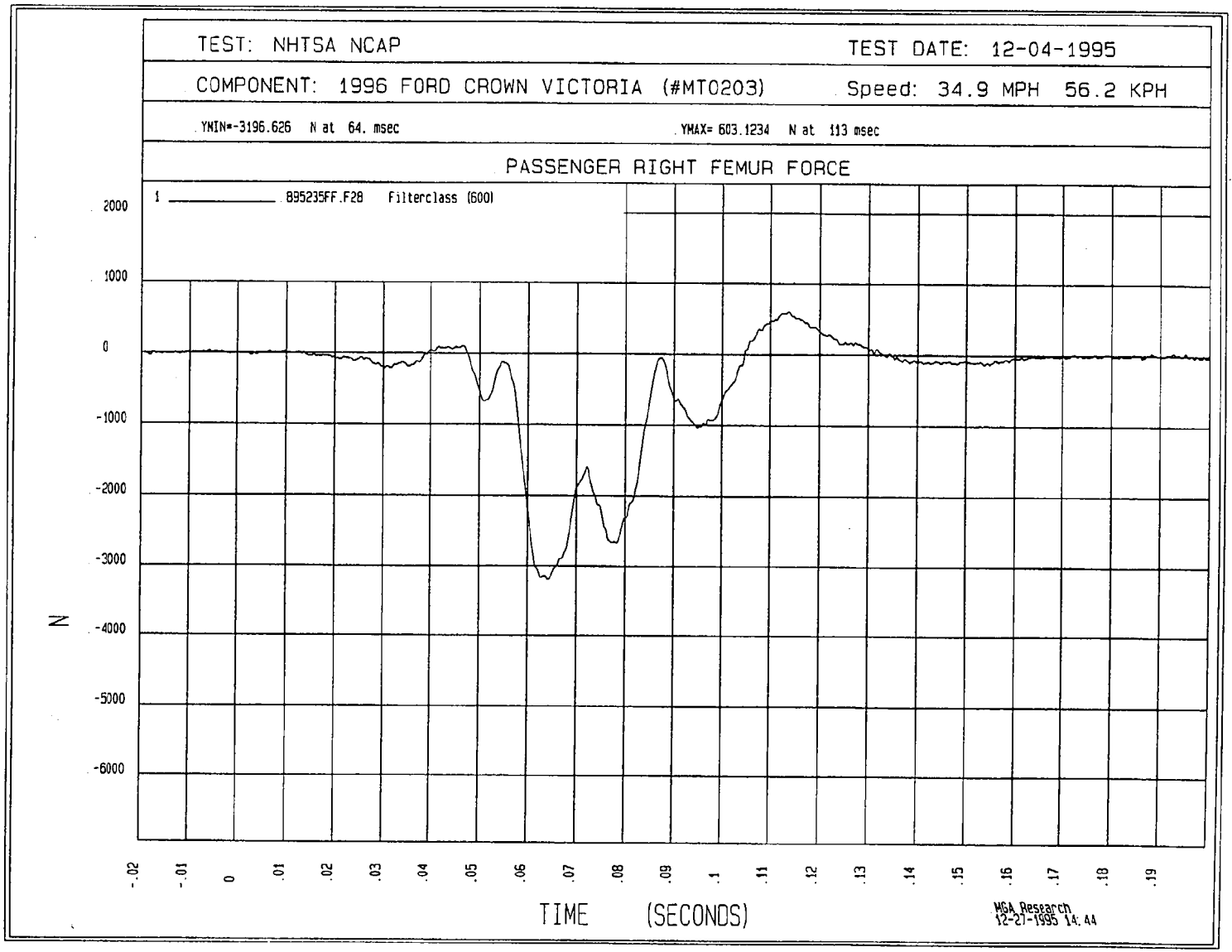
TIME (SECONDS)
MGA Research
12-27-1995 14:44


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-3196.626 N at 64. msec
YMAX= 603.1234 N at 113 msec
PASSENGER RIGHT FEMUR FORCE
1 895235FF.F28 Filterclass (600)
2000
1000
0
-1000
-2000
-3000
-4000
-5000
-6000
N
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
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.11
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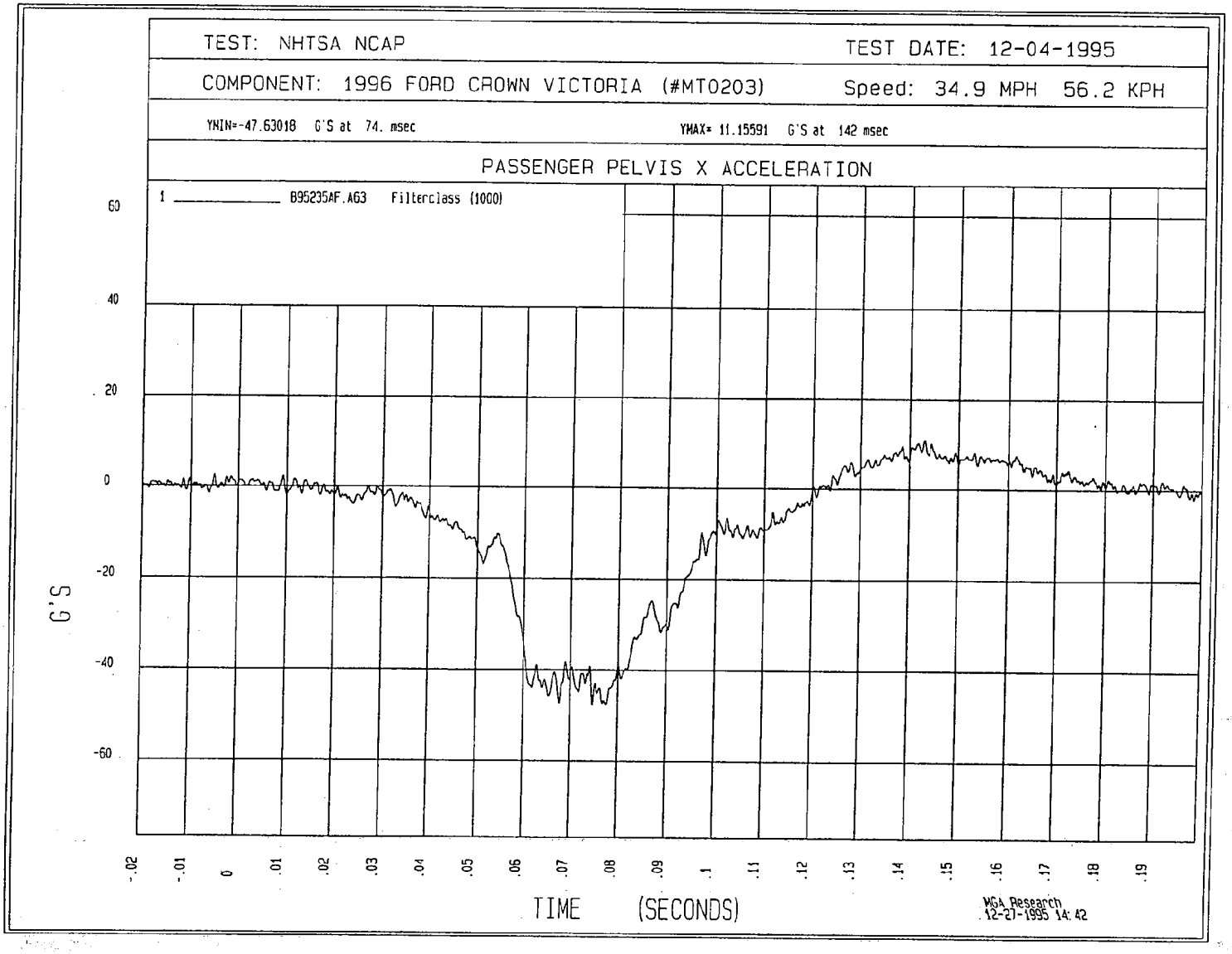
TIME (SECONDS)
MGA Research
12-27-1995 14:44


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-47.63018 G'S at 74. msec
YMAX= 11.15591 G'S at 142 msec
PASSENGER PELVIS X ACCELERATION
1 B95235AF.A63 Filterclass (1000)
60
40
20
0
-20
-40
-60
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
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.12
.13
.14
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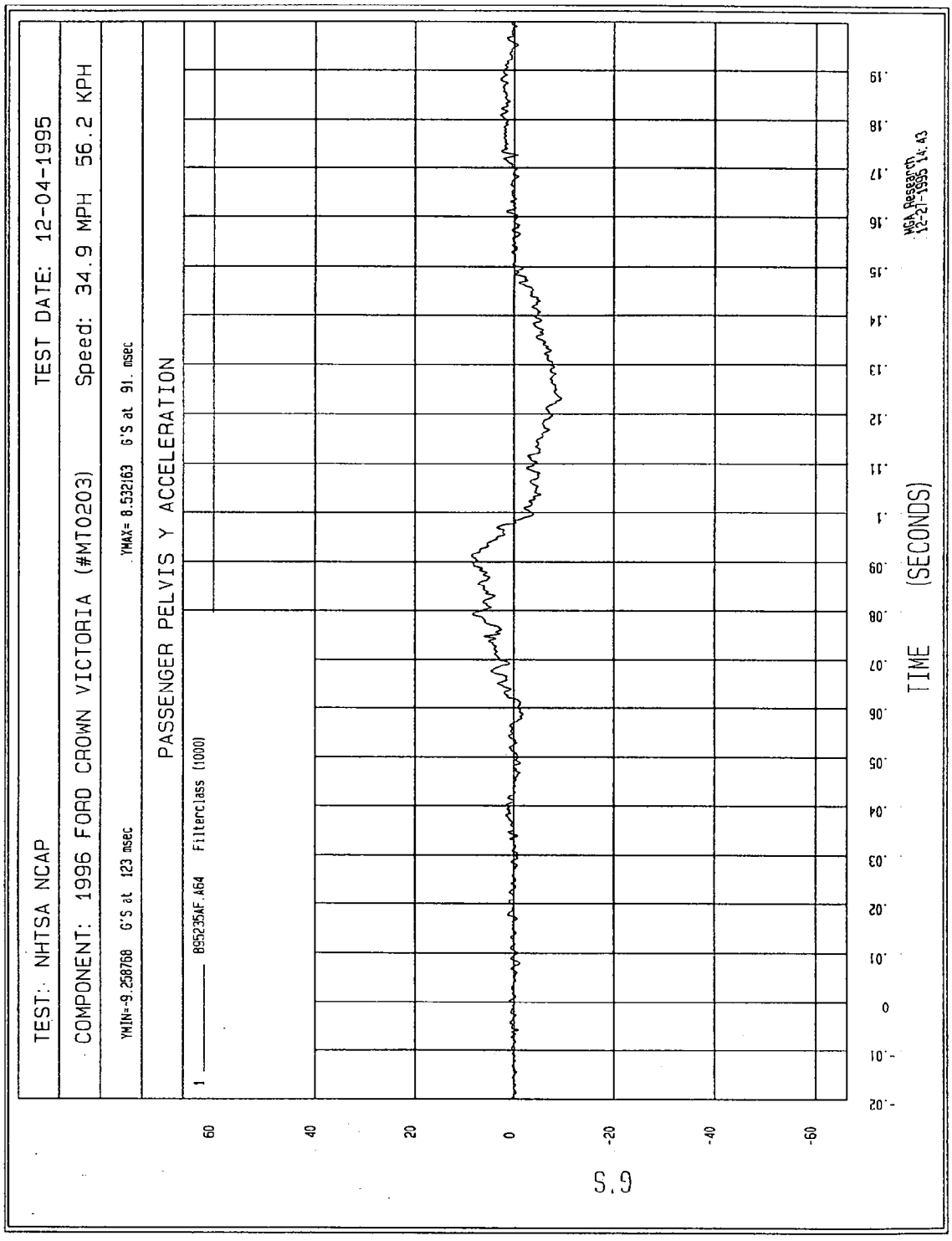
TIME (SECONDS)
MGA Research
12-27-1995 14:42


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-9.258768 G'S at 123 msec
YMAX= 8.532163 G'S at 91. msec
PASSENGER PELVIS Y ACCELERATION
1 _____ B95235AF.A64 Filterclass (1000)
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
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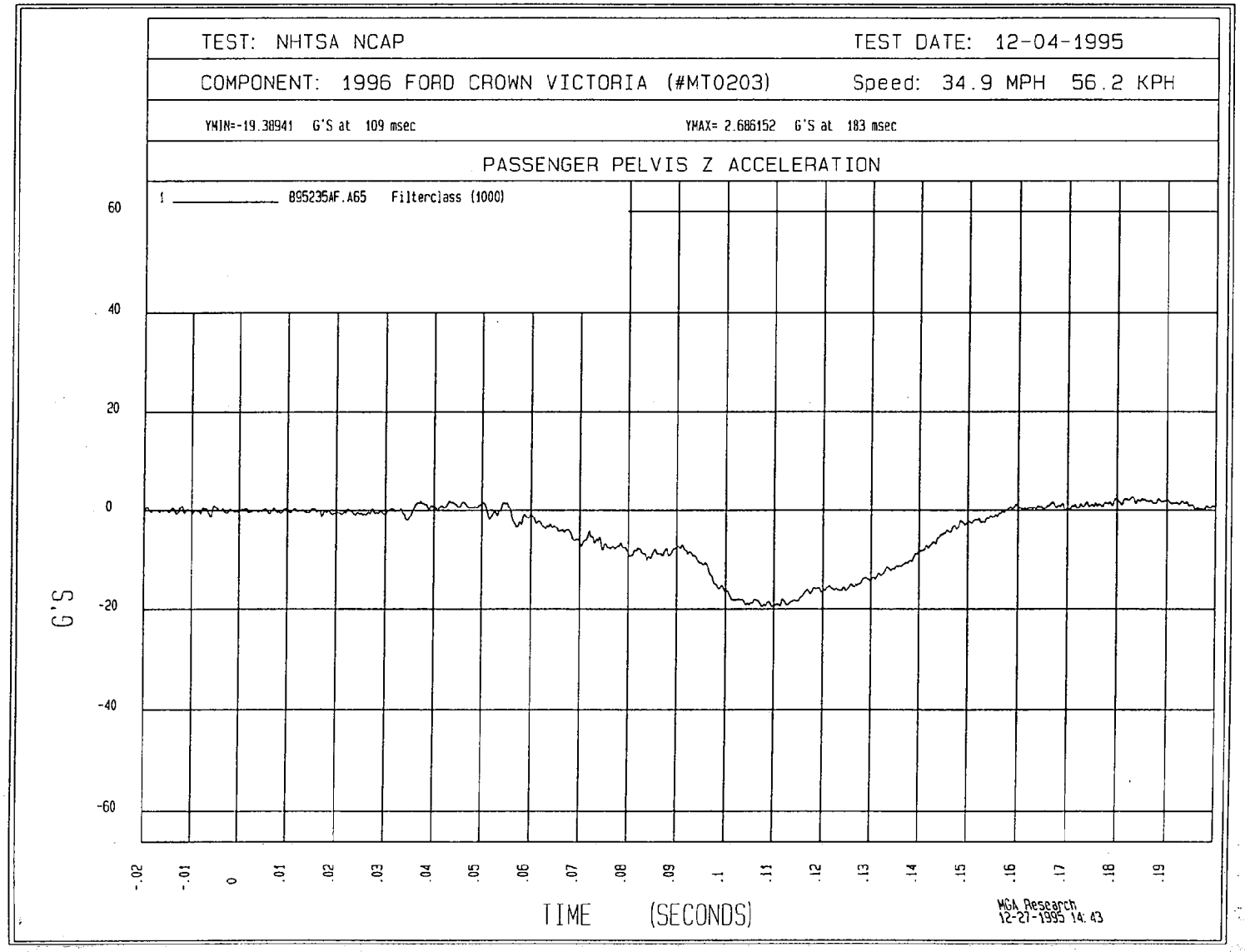
.19
TIME (SECONDS)
MGA Research
12-21-1995 14:43

S.9


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-19.38941 G'S at 109 msec
YMAX= 2.686152 G'S at 183 msec
PASSENGER PELVIS Z ACCELERATION
1 895235AF.A65 Filterclass (1000)
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
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.18
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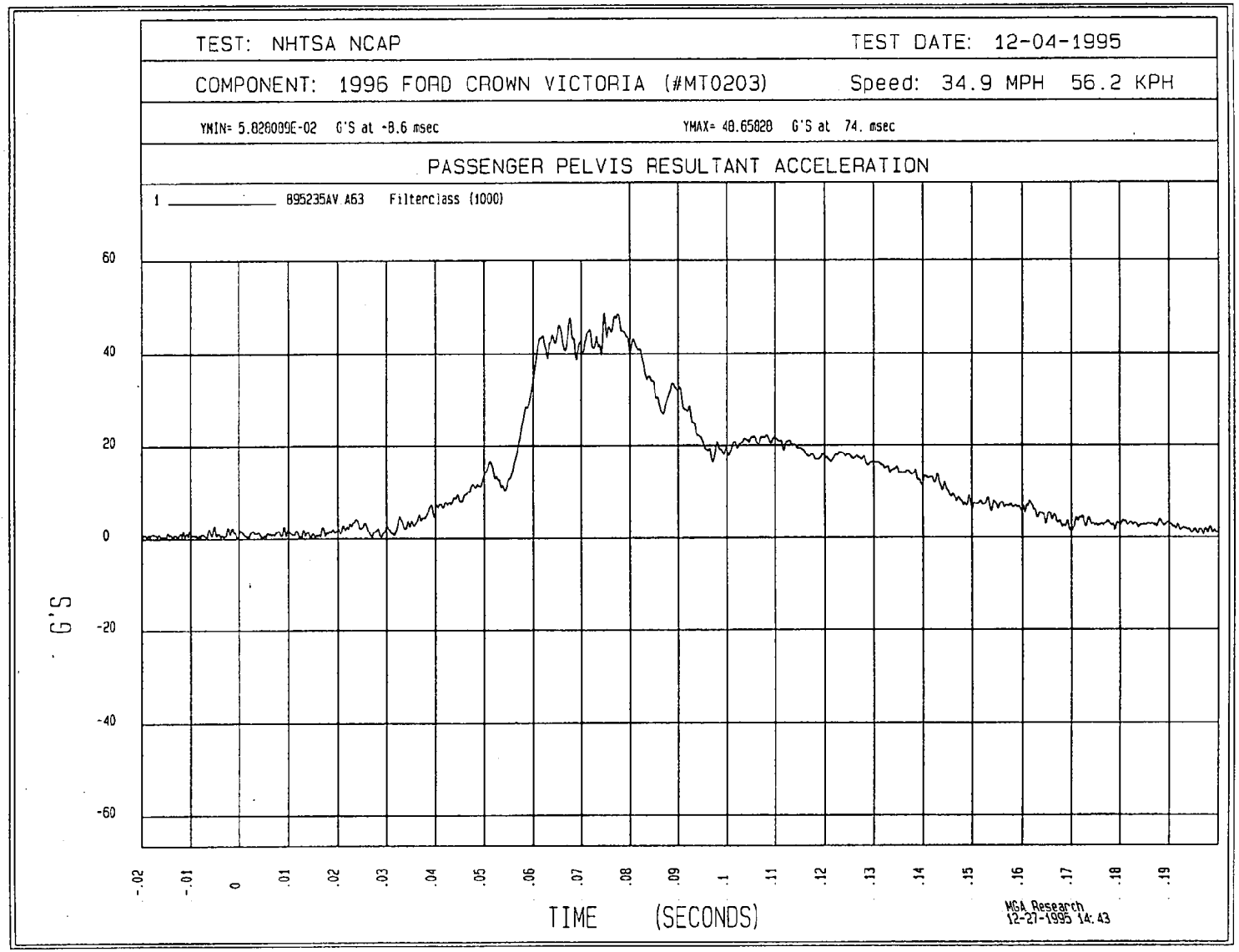
TIME (SECONDS)
MGA Research
12-27-1995 14:43


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN= 5.826089E-02 G'S at -8.6 msec
YMAX= 48.65828 G'S at 74. msec
PASSENGER PELVIS RESULTANT ACCELERATION
1 _____ 895235AV A63 Filterclass (1000)
60
40
20
0
-20
-40
-60
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
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.14
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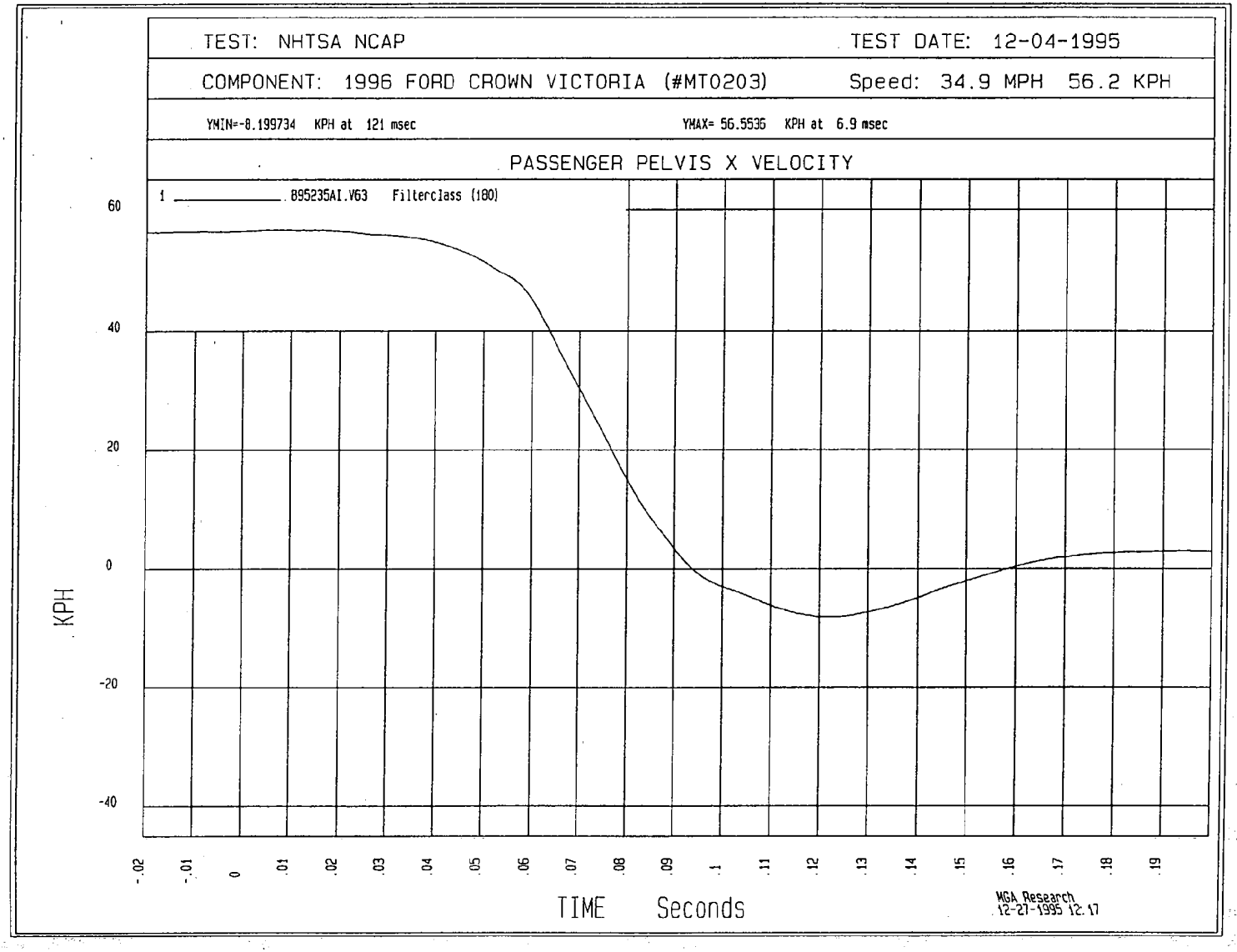
TIME (SECONDS)
MGA Research
12-27-1995 14:43


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-8.199734 KPH at 121 msec
YMAX= 56.5535 KPH at 6.9 msec
PASSENGER PELVIS X VELOCITY
1 895235AI.V63 Filterclass (180)
60
40
20
0
-20
-40
KPH
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
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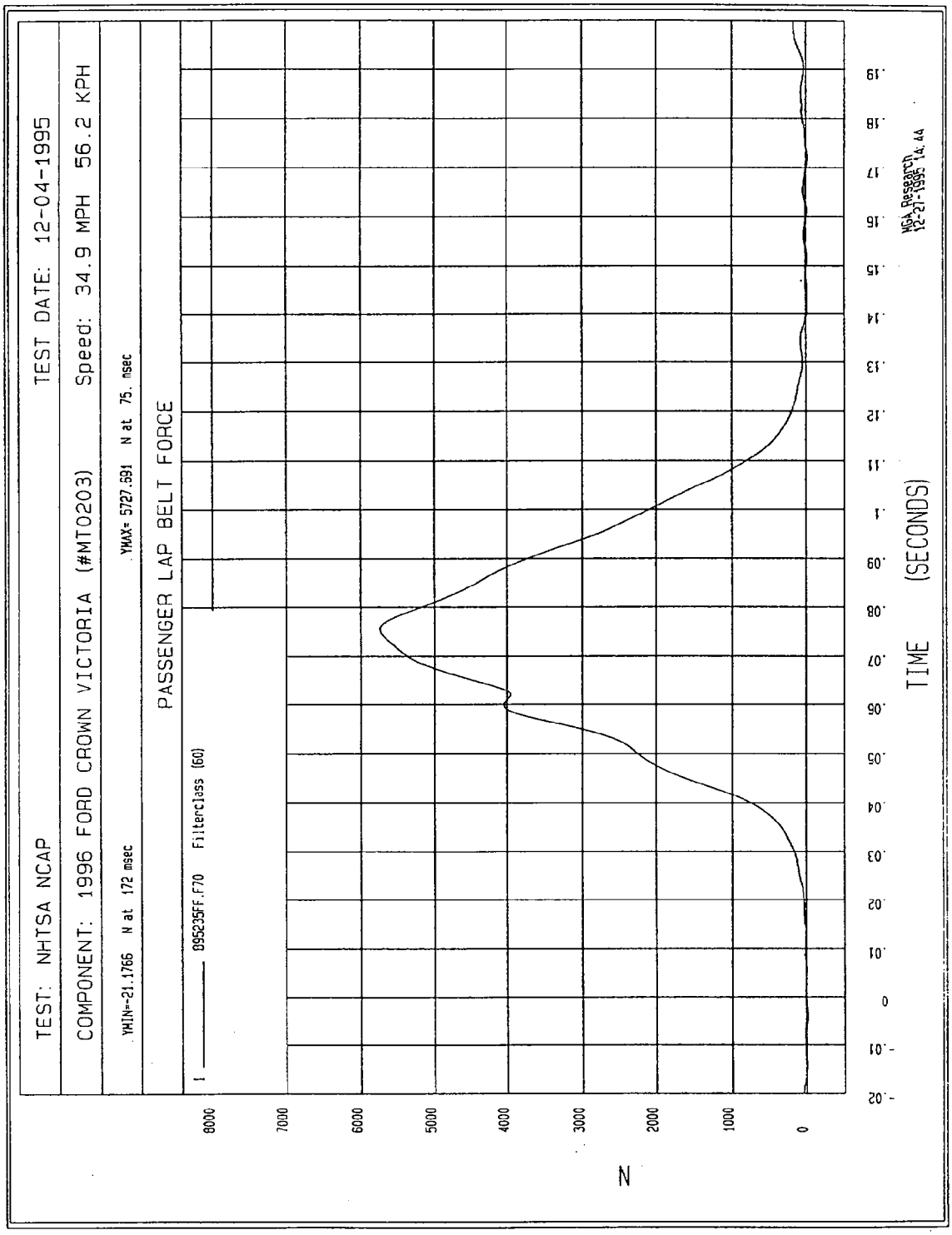
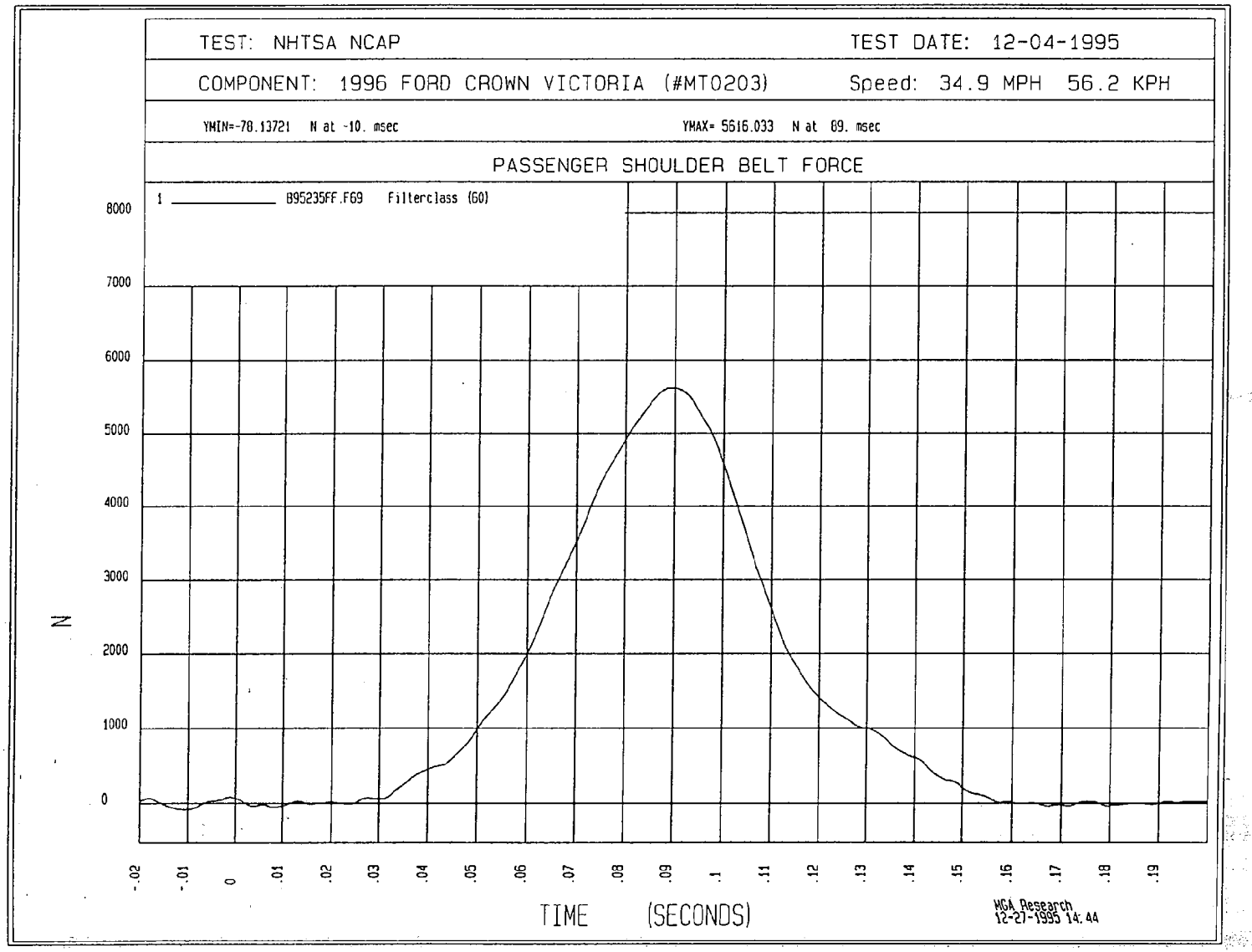
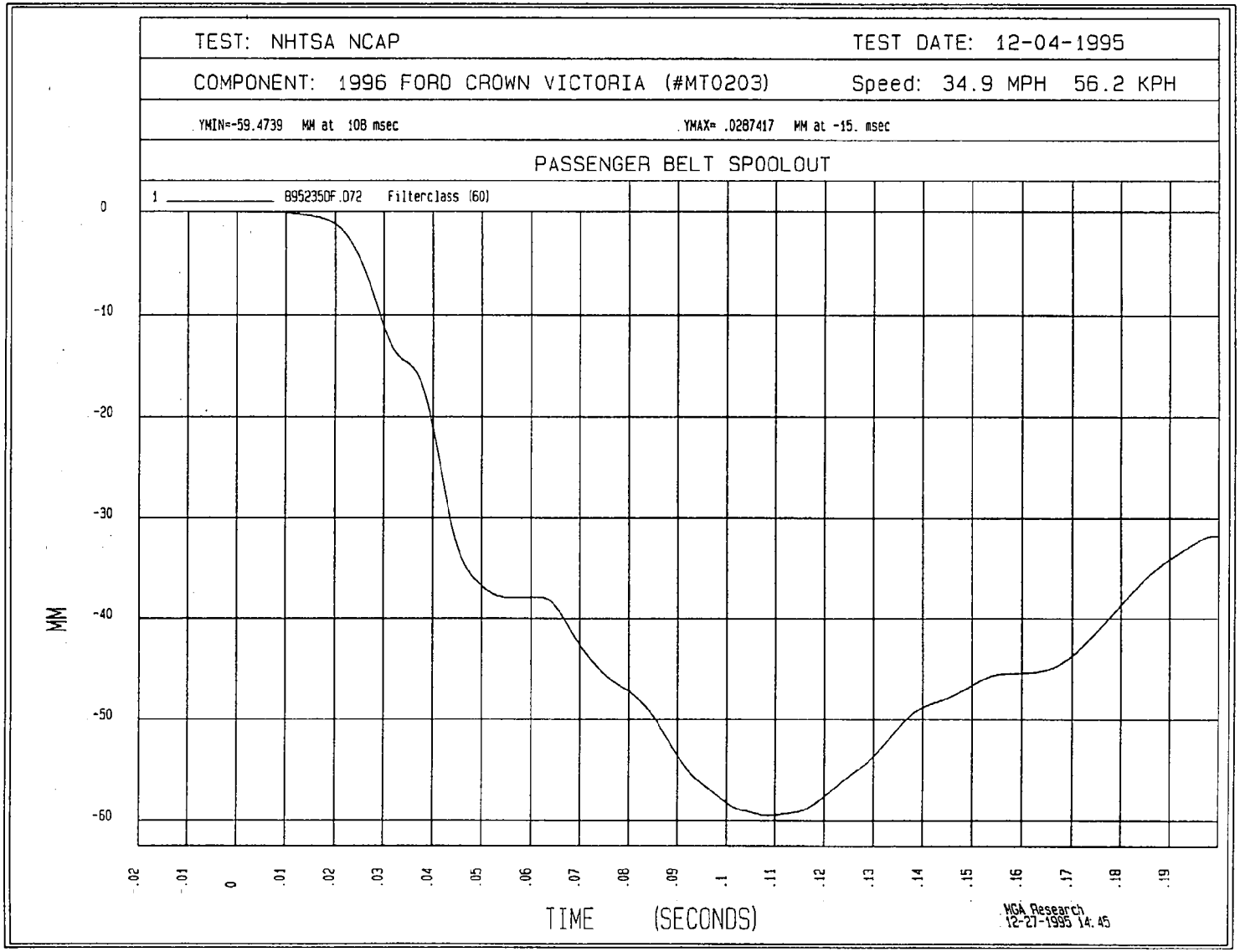
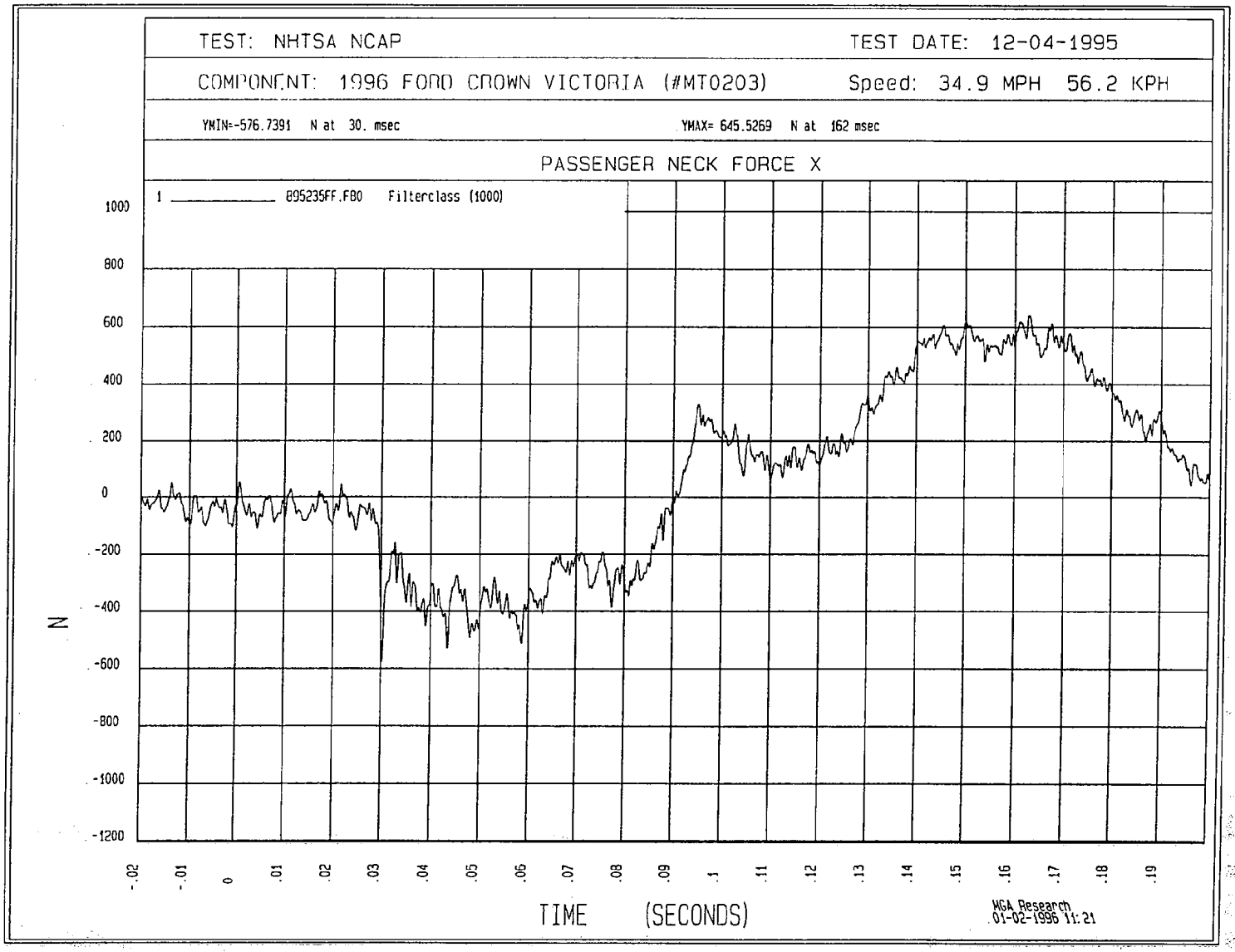
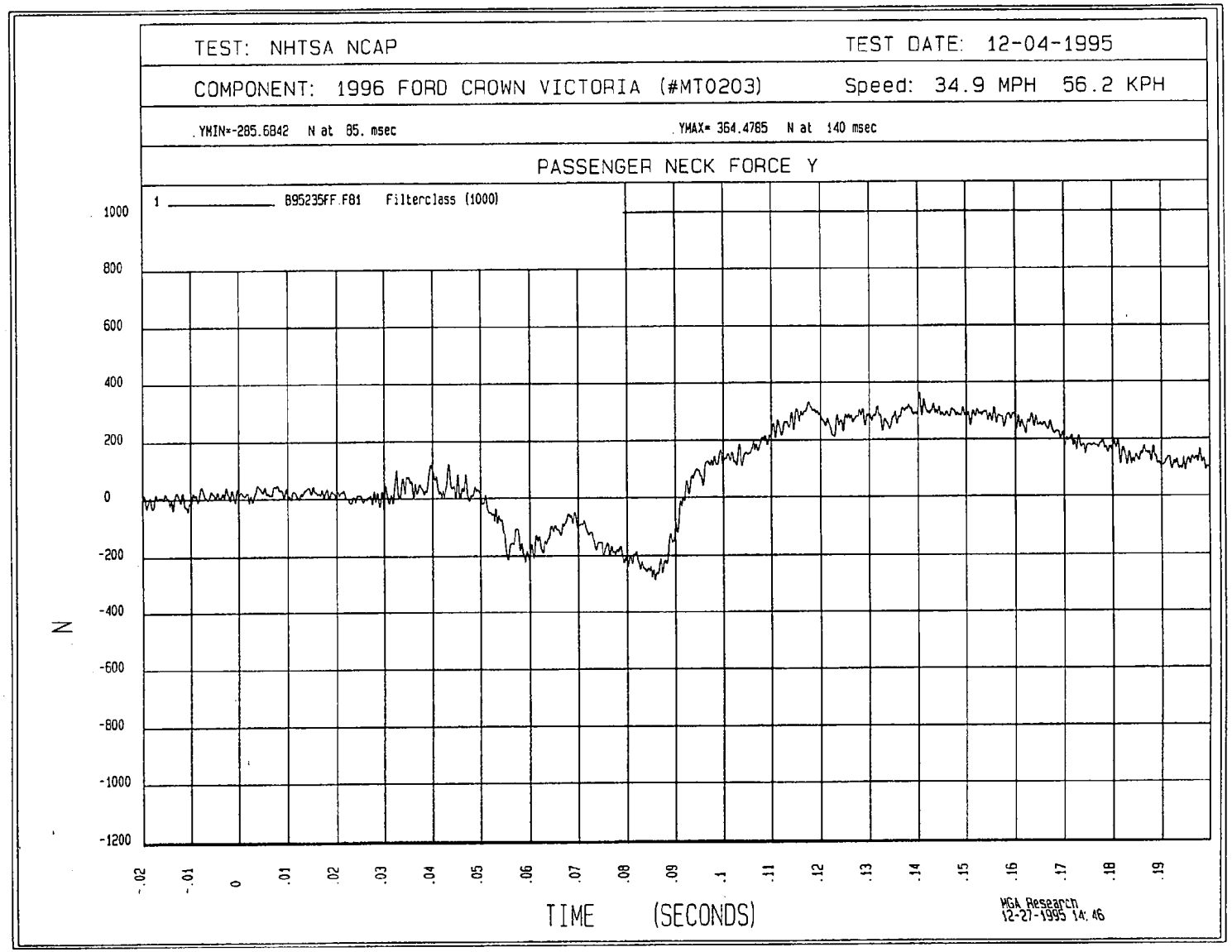
.19
TIME Seconds
MGA Research
12-27-1995 12:17


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-21.1766 N at 172 msec
YMAX= 5727.691 N at 75. msec
PASSENGER LAP BELT FORCE
1 ——— 095235FF.F70 Filterclass (60)
8000
7000
6000
5000
4000
3000
2000
1000
0
N
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
NSA Research
12-21-1995 14.44


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-78.13721 N at -10. msec
YMAX= 5616.033 N at 69. msec
PASSENGER SHOULDER BELT FORCE
1 B95235FF.FG9 Filterclass (60)
8000
7000
6000
5000
4000
3000
2000
1000
0
N
-.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
12-27-1995 14:44

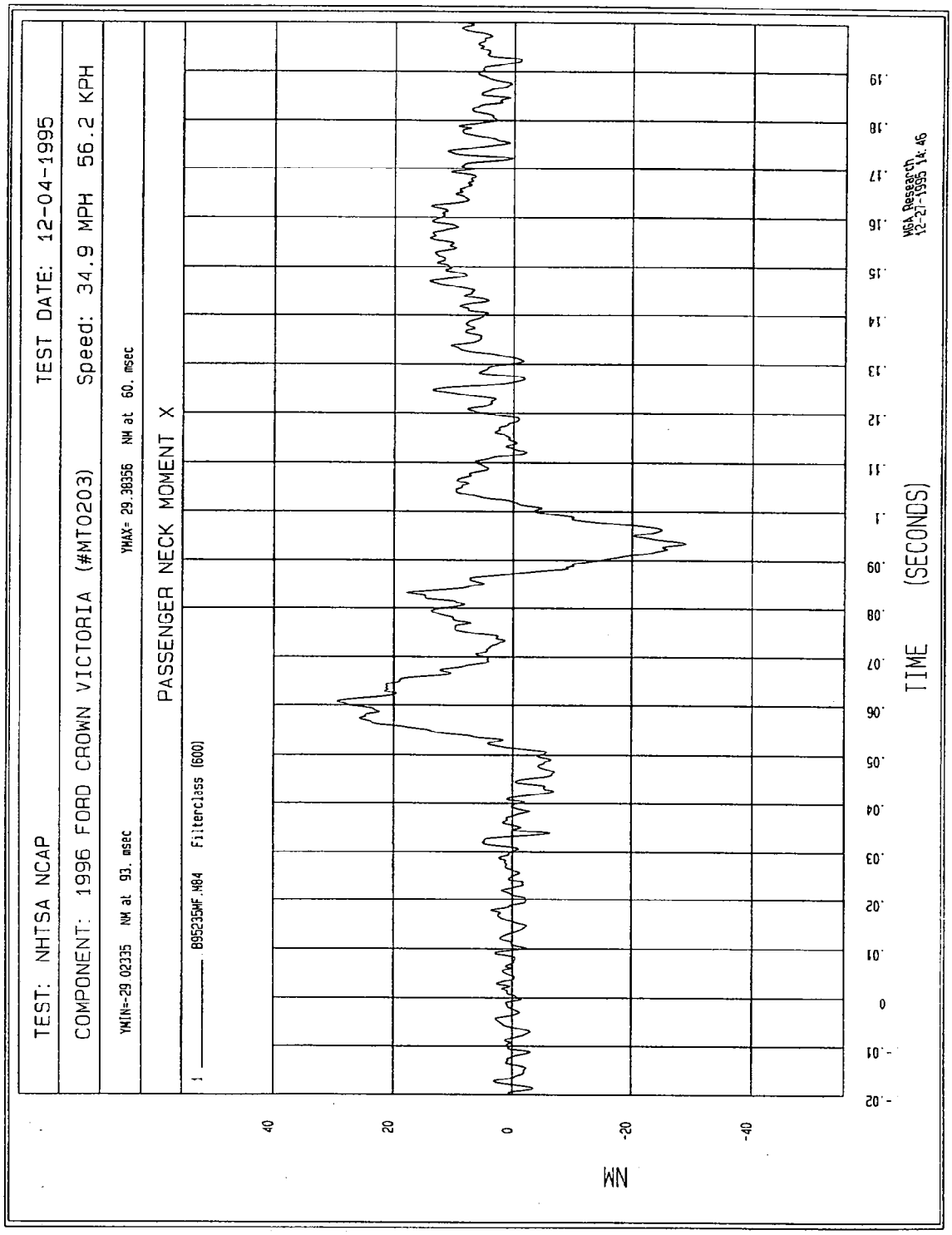

TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-59.4739 MM at 108 msec
YMAX= .0287417 MM at -15. msec
PASSENGER BELT SPOOLOUT
1 B952350F.D72 Filterclass (60)
0
-10
-20
-30
-40
-50
-60
MM
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
NGA Research
12-27-1995 14:45

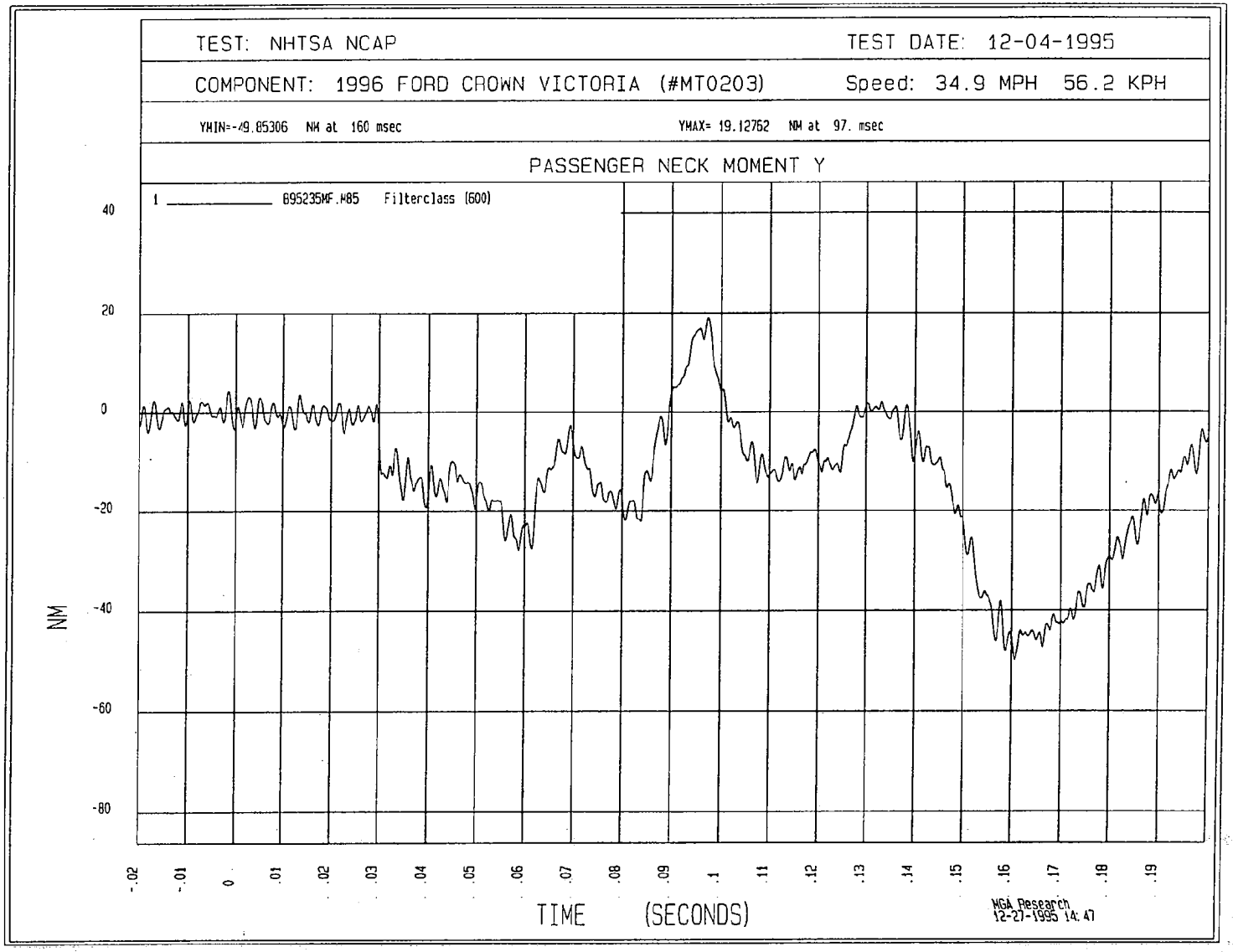

TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-576.7391 N at 30. msec
YMAX= 645.5269 N at 162 msec
PASSENGER NECK FORCE X
1 B95235FF.FB0 Filterclass (1000)
1000
800
600
400
200
0
-200
-400
-600
-800
-1000
-1200
N
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
01-02-1996 11:21

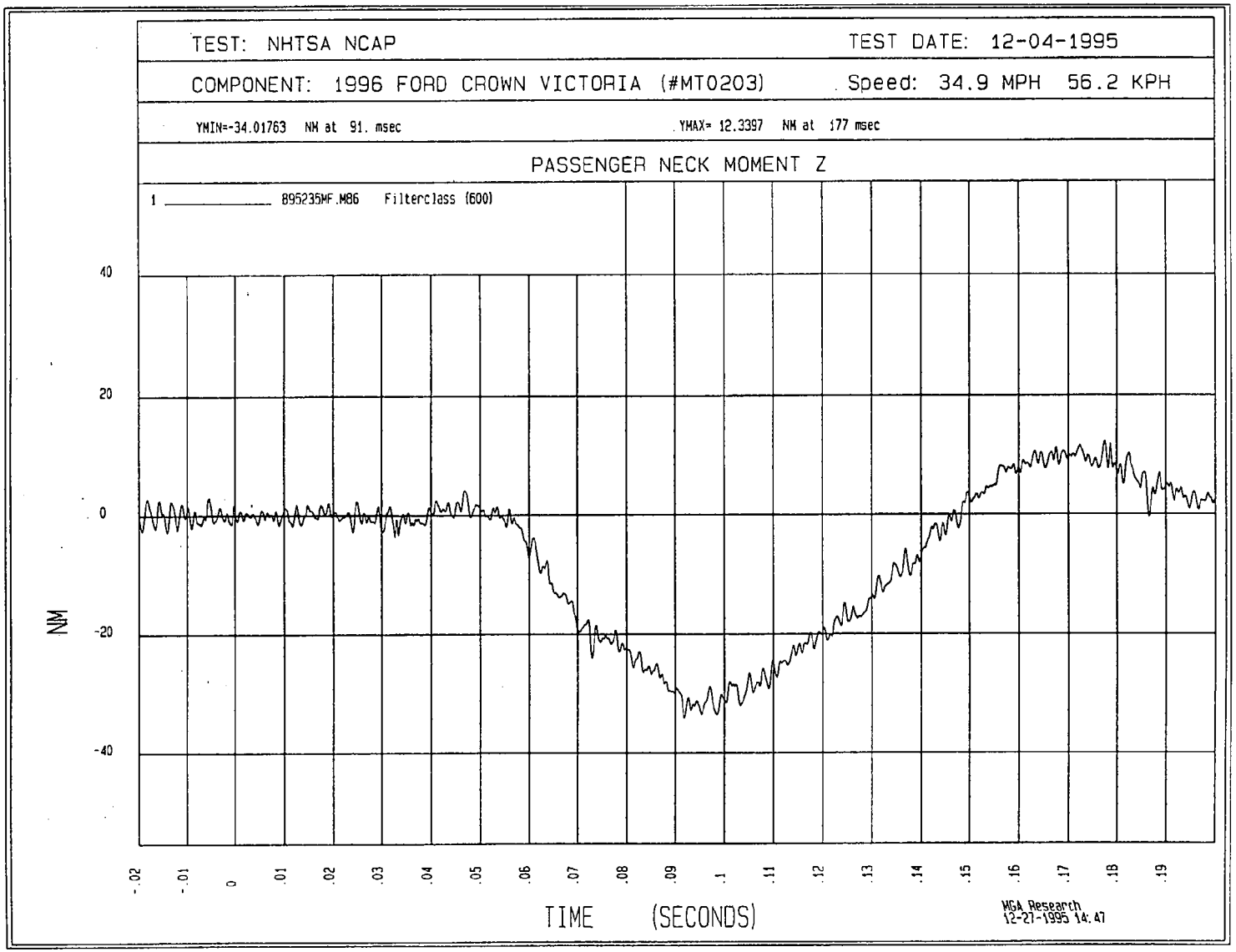

TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-285.6842 N at 85. msec
YMAX= 364.4765 N at 140 msec
PASSENGER NECK FORCE Y
1 B95235FF.F81 Filterclass (1000)
1000
800
600
400
200
0
-200
-400
-600
-800
-1000
-1200
N
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
12-27-1995 14:46

PASSENGER NECK FORCE Z ACCELERATION VS. TIME

NO VALID DATA COLLECTED


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-29.02335 NM at 93. msec
YMAX= 29.38356 NM at 60. msec
PASSENGER NECK MOMENT X
1 ——— B95235NF.M04 Filterclass (600)
NM
TIME (SECONDS)
MGA Research
12-21-1995 14:46


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-49.85306 NM at 160 msec
YMAX= 19.12762 NM at 97. msec
PASSENGER NECK MOMENT Y
1 B95235MF.M85 Filterclass (600)
NM
40
20
0
-20
-40
-60
-80
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
NGA Research
12-27-1995 14:47


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-34.01763 NM at 91. msec
YMAX= 12.3397 NM at 177 msec
PASSENGER NECK MOMENT Z
1 _____ 895235MF.M86 Filterclass (600)
40
20
0
-20
-40
NM
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
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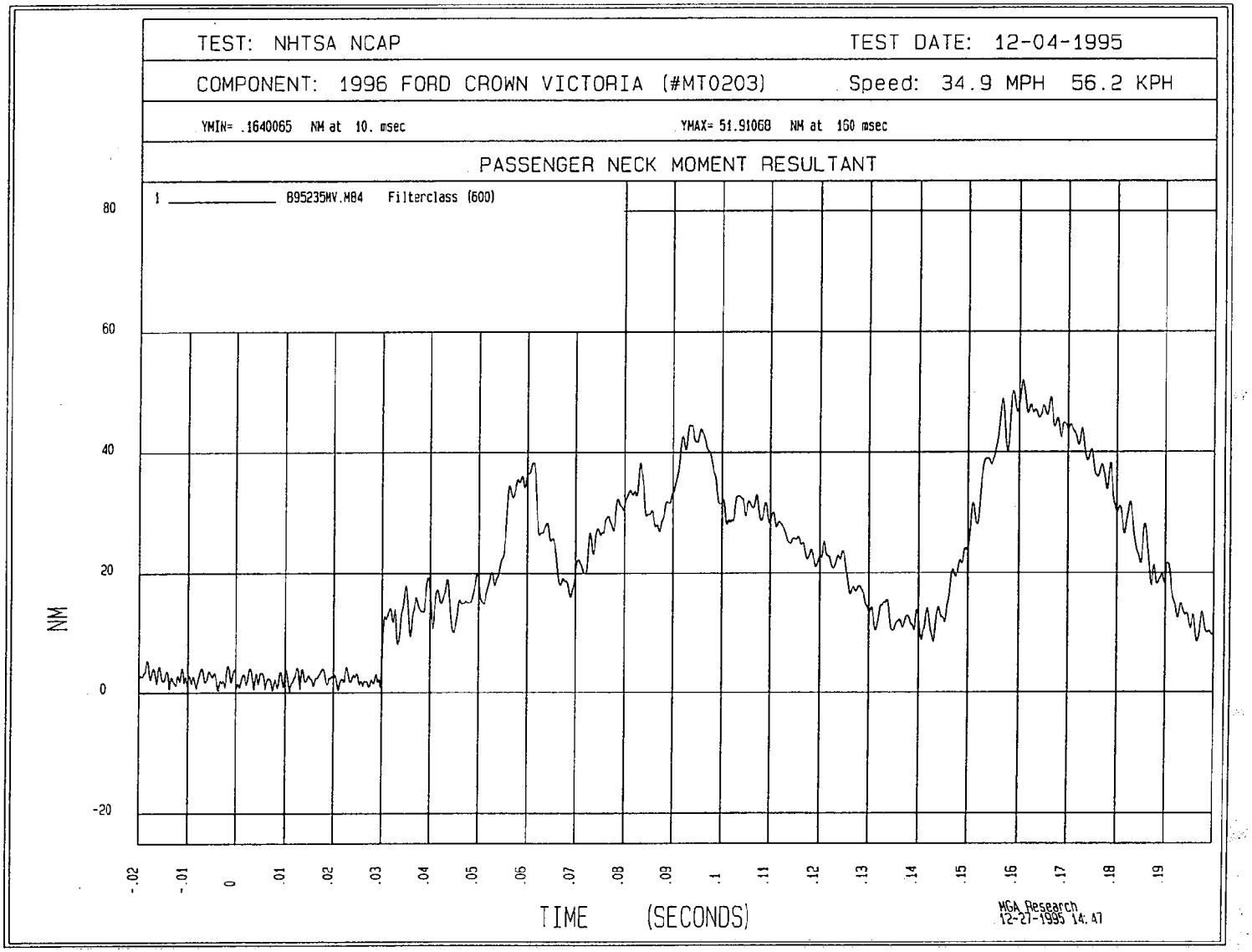
.18
.19
TIME (SECONDS)
MGA Research
12-27-1995 14:47


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN= .1640065 NM at 10. msec
YMAX= 51.91068 NM at 150 msec
PASSENGER NECK MOMENT RESULTANT
1 B95235MV.M84 Filterclass (600)
NM
80
60
40
20
0
-20
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
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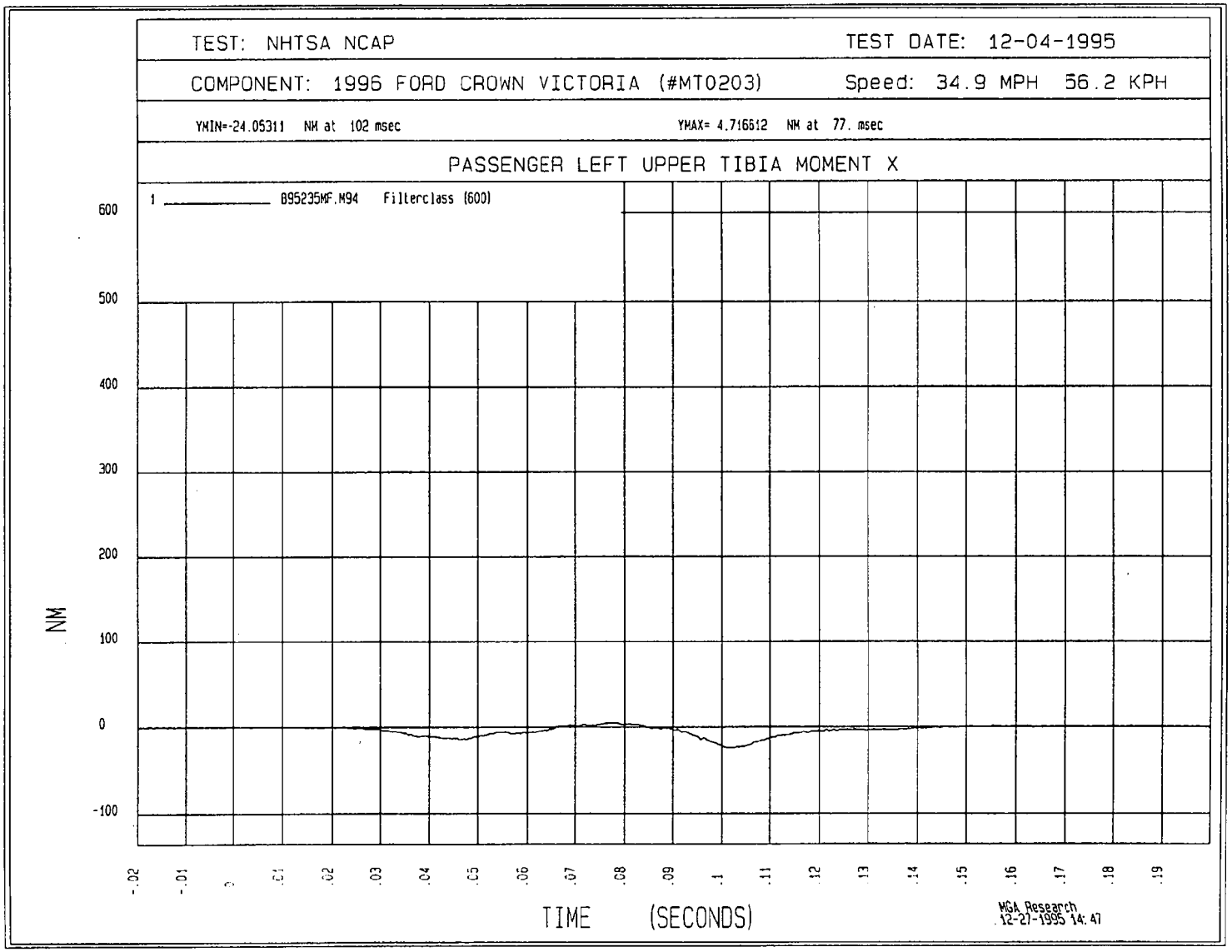
TIME (SECONDS)
MGA Research
12-27-1995 14:47


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-24.05311 NM at 102 msec
YMAX= 4.716612 NM at 77. msec
PASSENGER LEFT UPPER TIBIA MOMENT X
1 B95235MF.M94 Filterclass (600)
600
500
400
300
200
100
0
-100
NM
-.02
-.01
.01
.02
.03
.04
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.07
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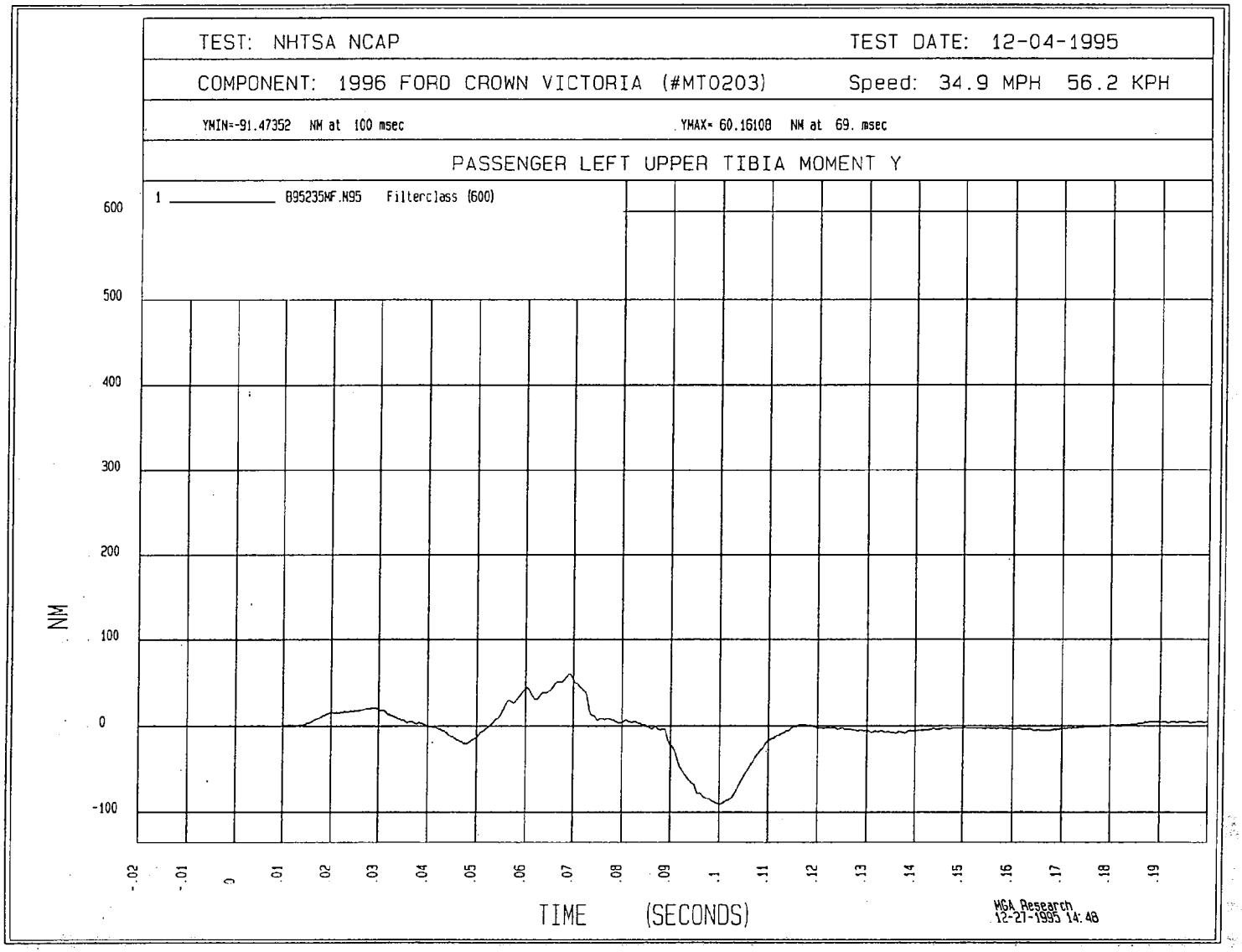
TIME (SECONDS)
MGA Research
12-27-1995 14:47


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-91.47352 NM at 100 msec
YMAX= 60.16108 NM at 69. msec
PASSENGER LEFT UPPER TIBIA MOMENT Y
1 B95235MF.M95 Filterclass (600)
NM
600
500
400
300
200
100
0
-100
-.02
-.01
0
.01
.02
.03
.04
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.06
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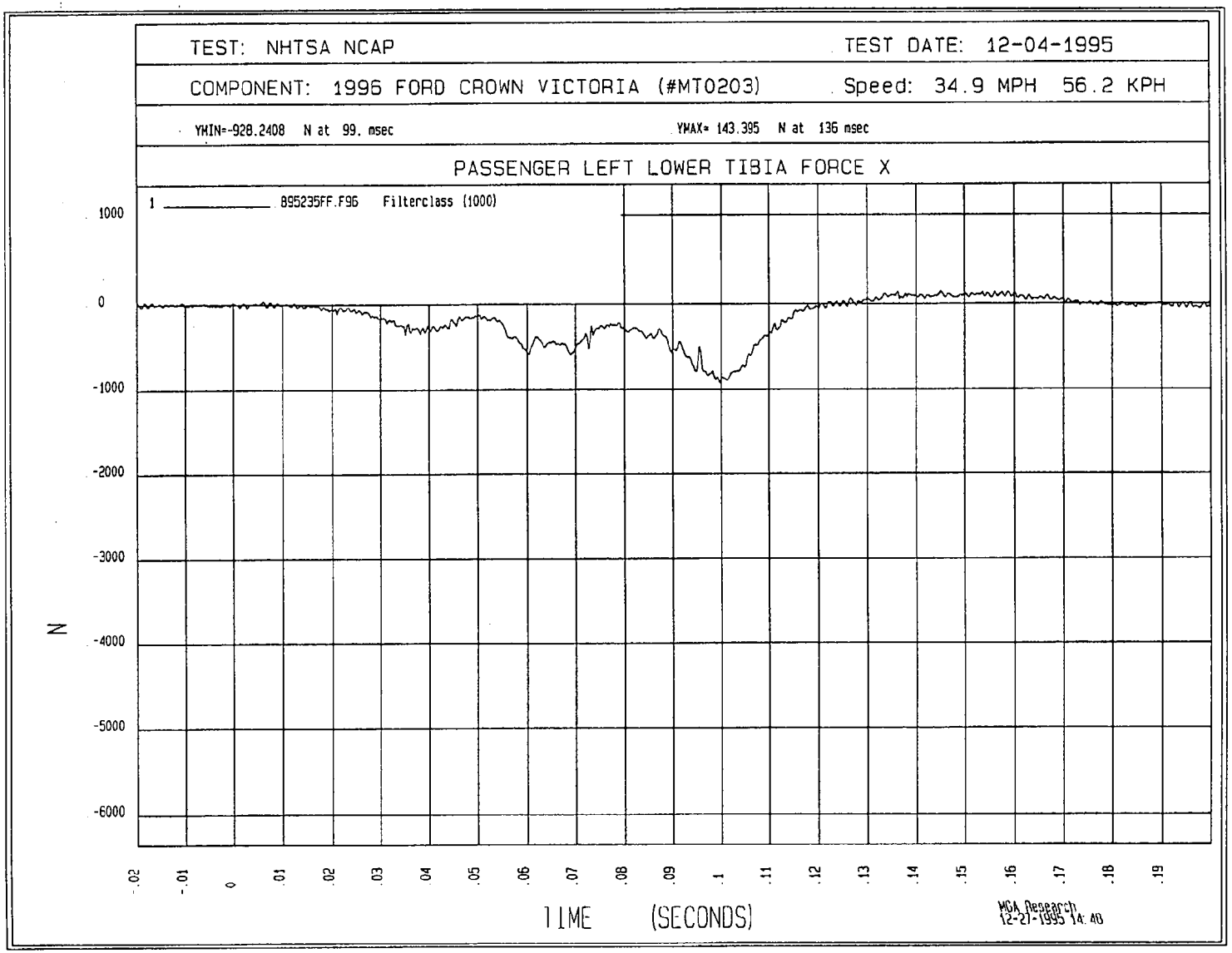
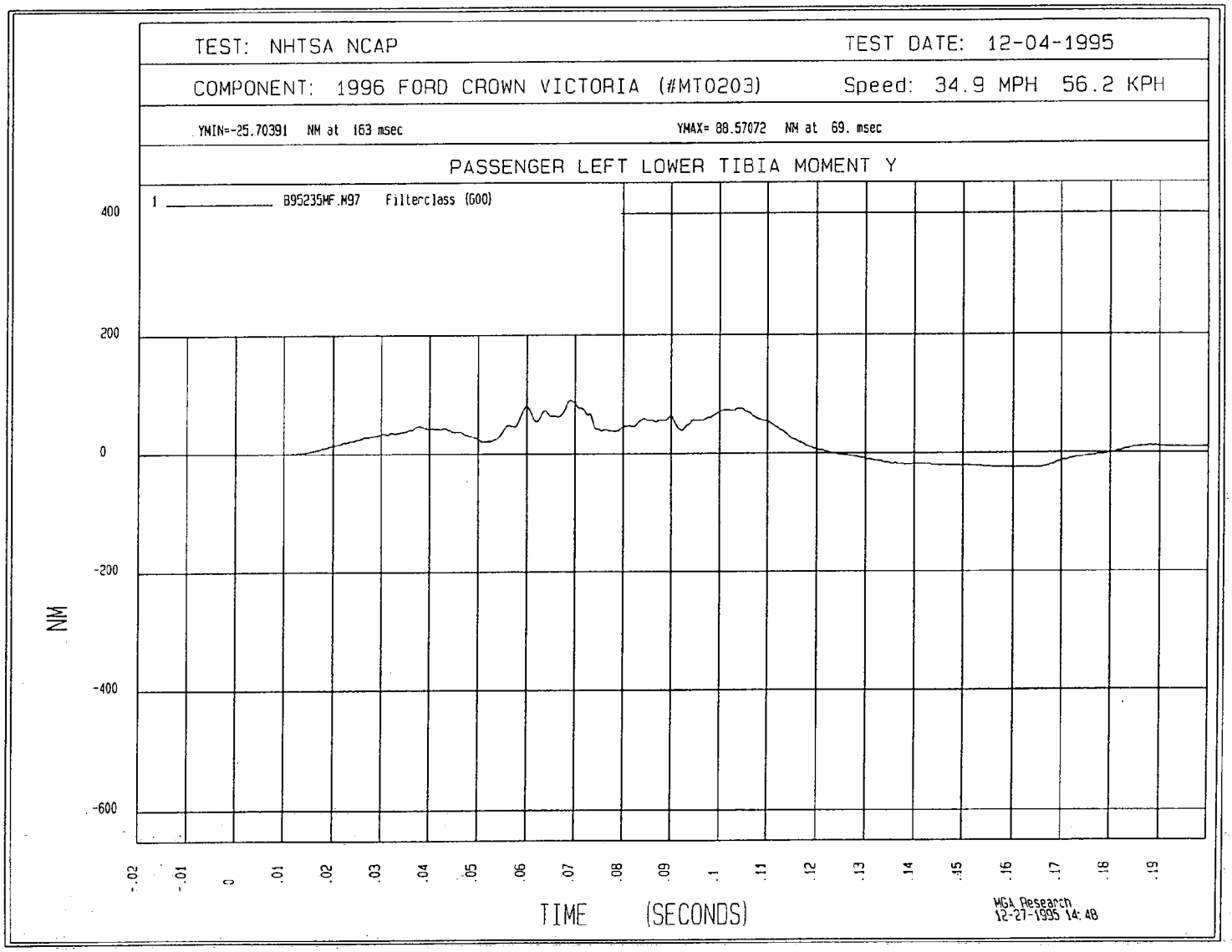
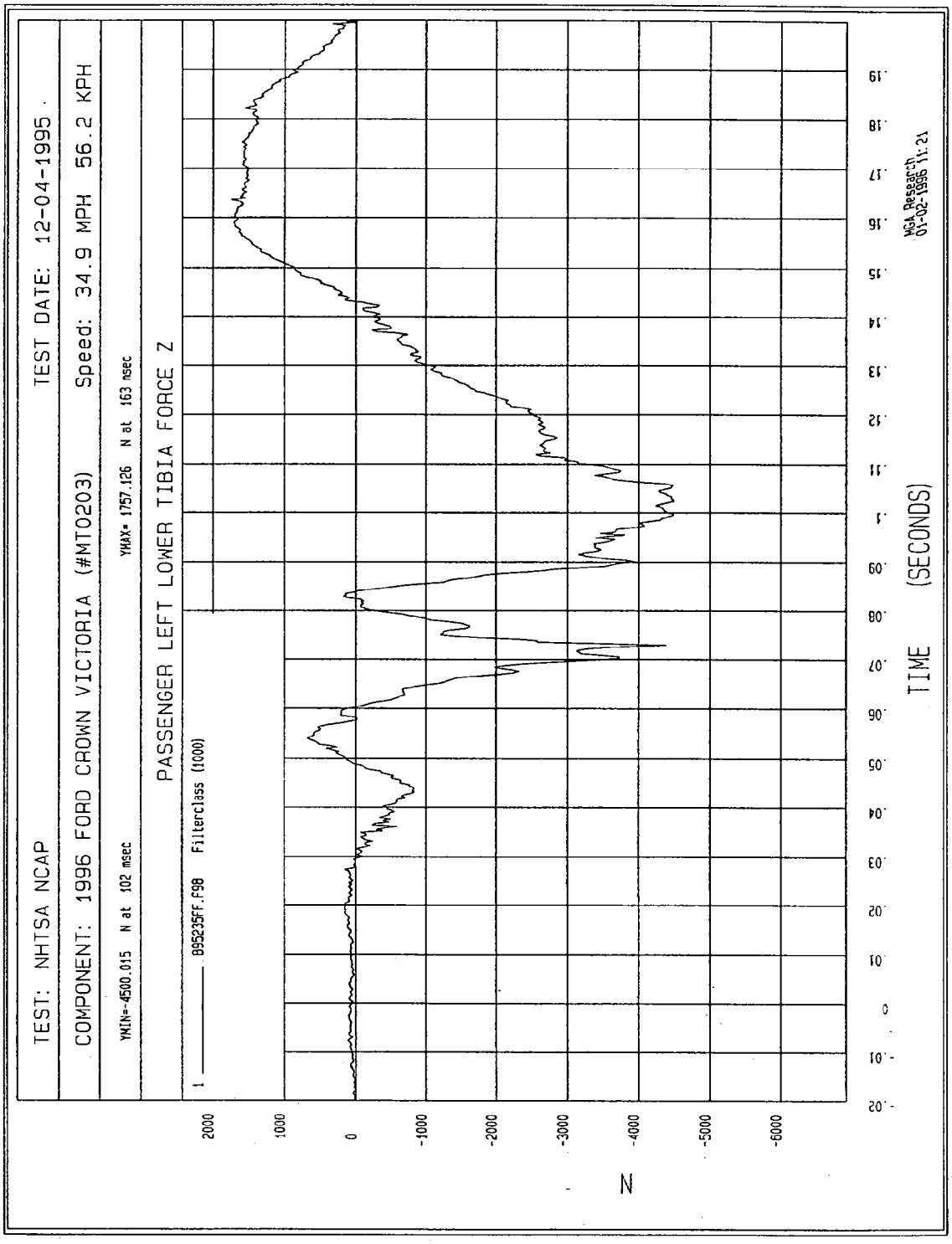
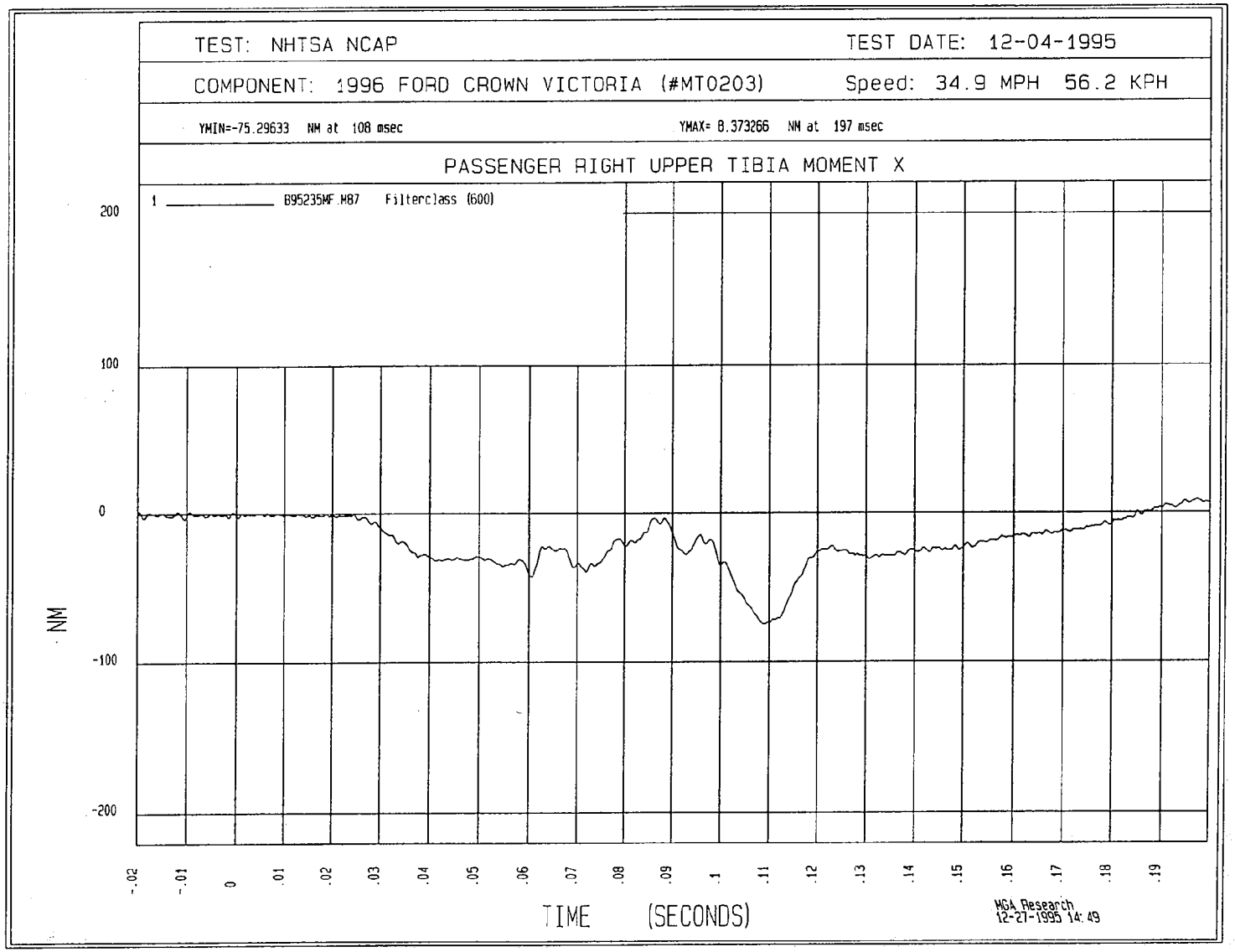
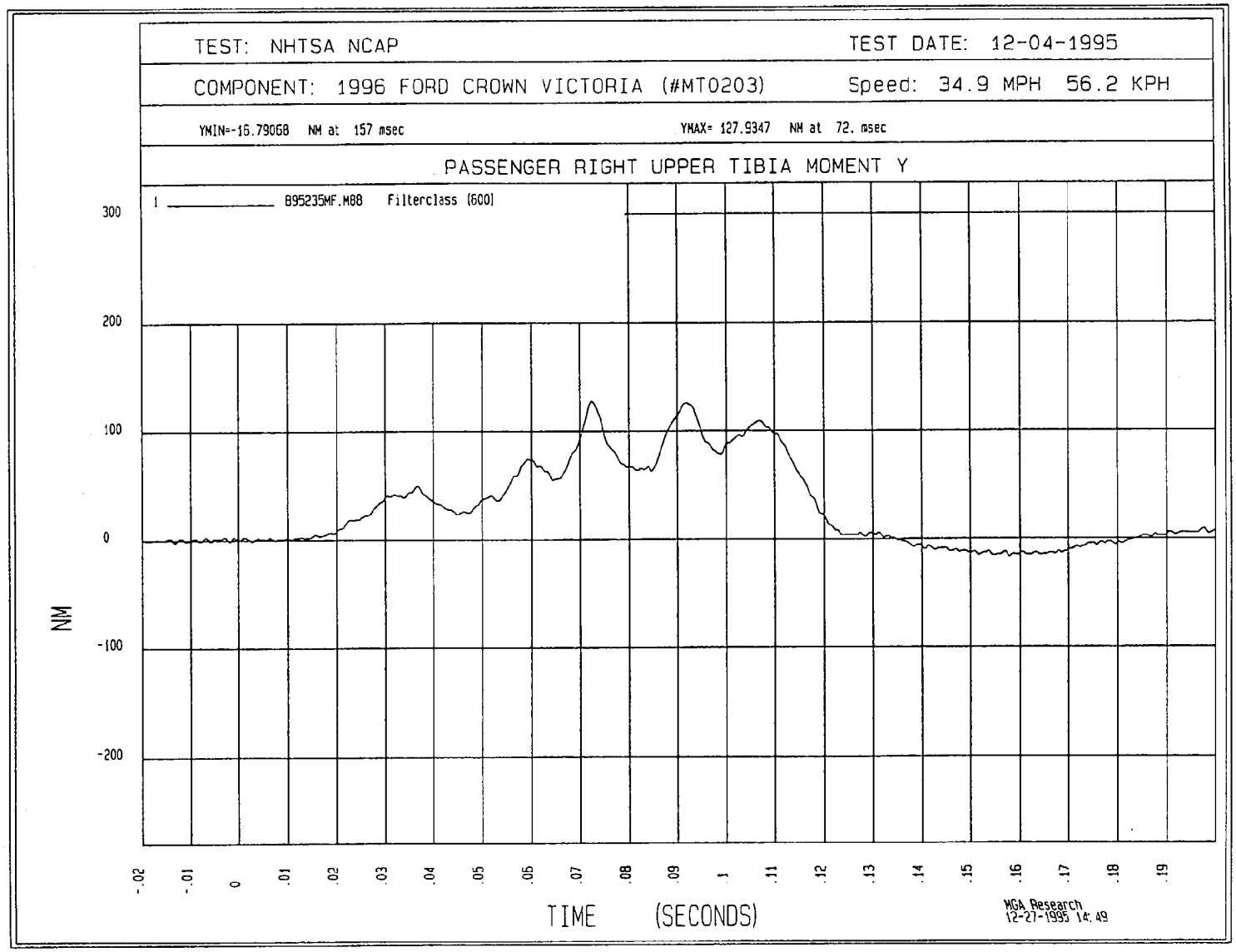
TIME (SECONDS)
MGA Research
12-27-1995 14:48

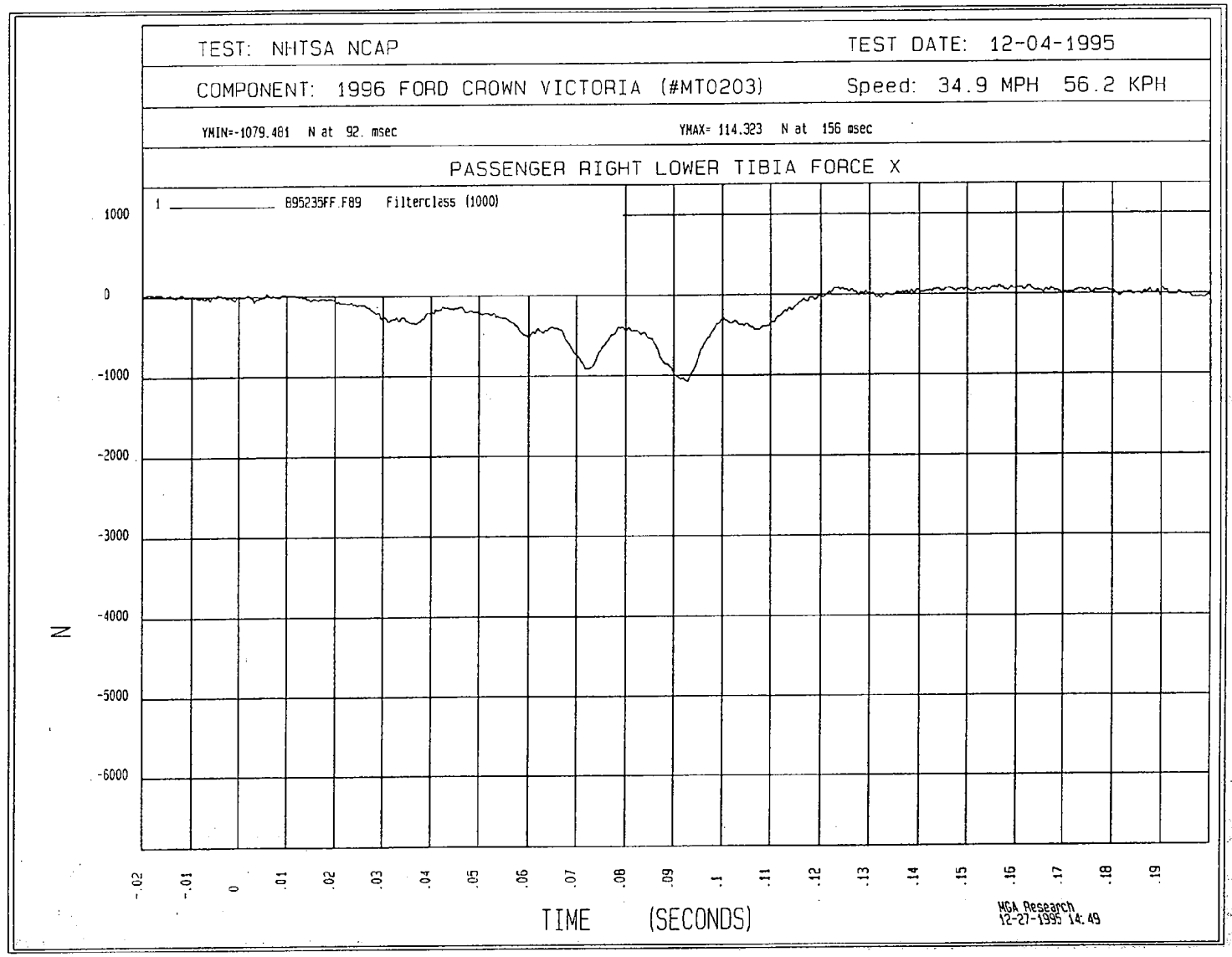

TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-928.2408 N at 99. msec
YMAX= 143.395 N at 136 msec
PASSENGER LEFT LOWER TIBIA FORCE X
1 895235FF.F96 Filterclass (1000)
1000
0
-1000
-2000
-3000
-4000
-5000
-6000
N
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
12-27-1995 14:40

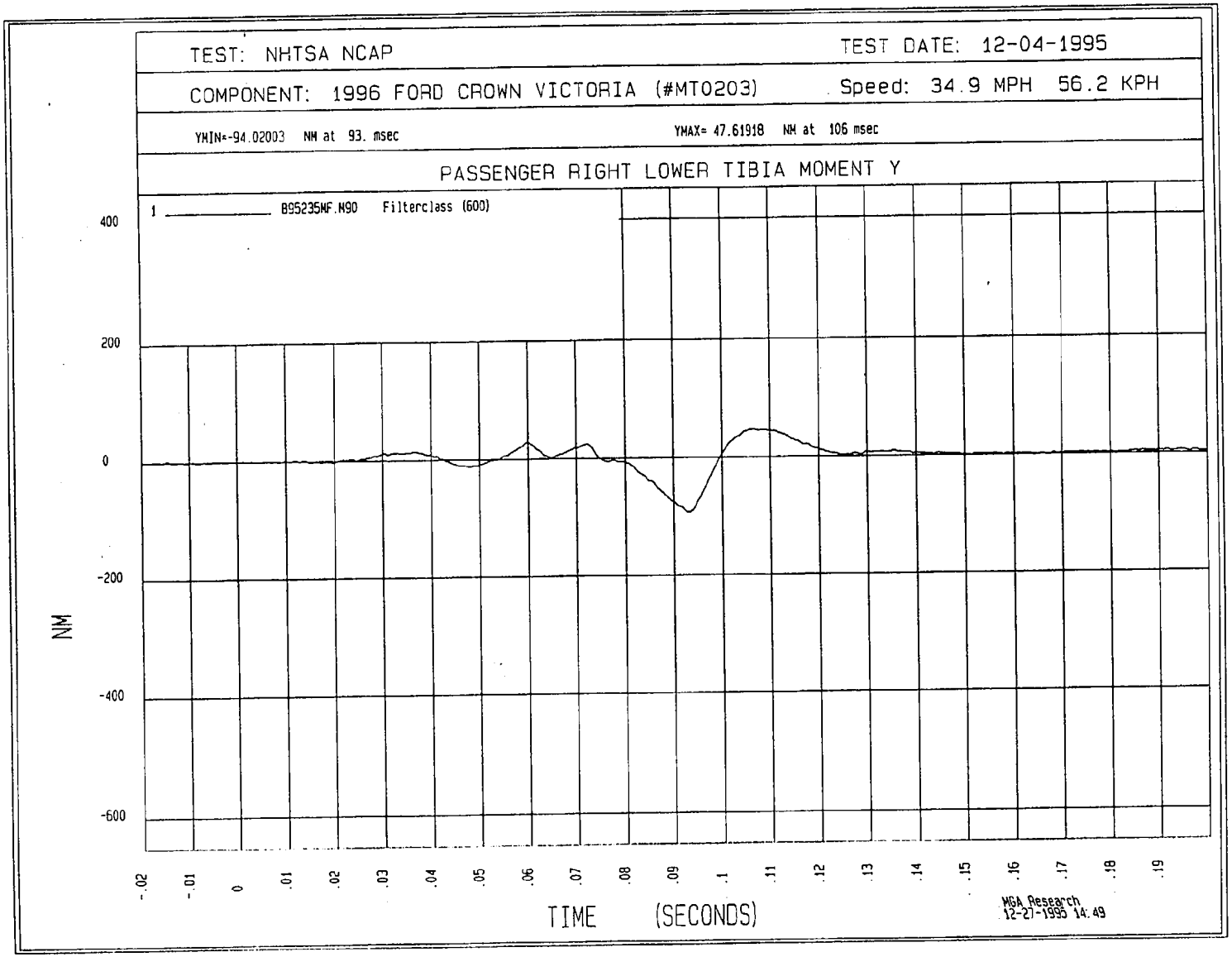

TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-25.70391 NM at 163 msec
YMAX= 88.57072 NM at 69. msec
PASSENGER LEFT LOWER TIBIA MOMENT Y
1 B95235MF.M97 Filterclass (600)
400
200
0
-200
-400
-600
NM
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
12-27-1995 14:48

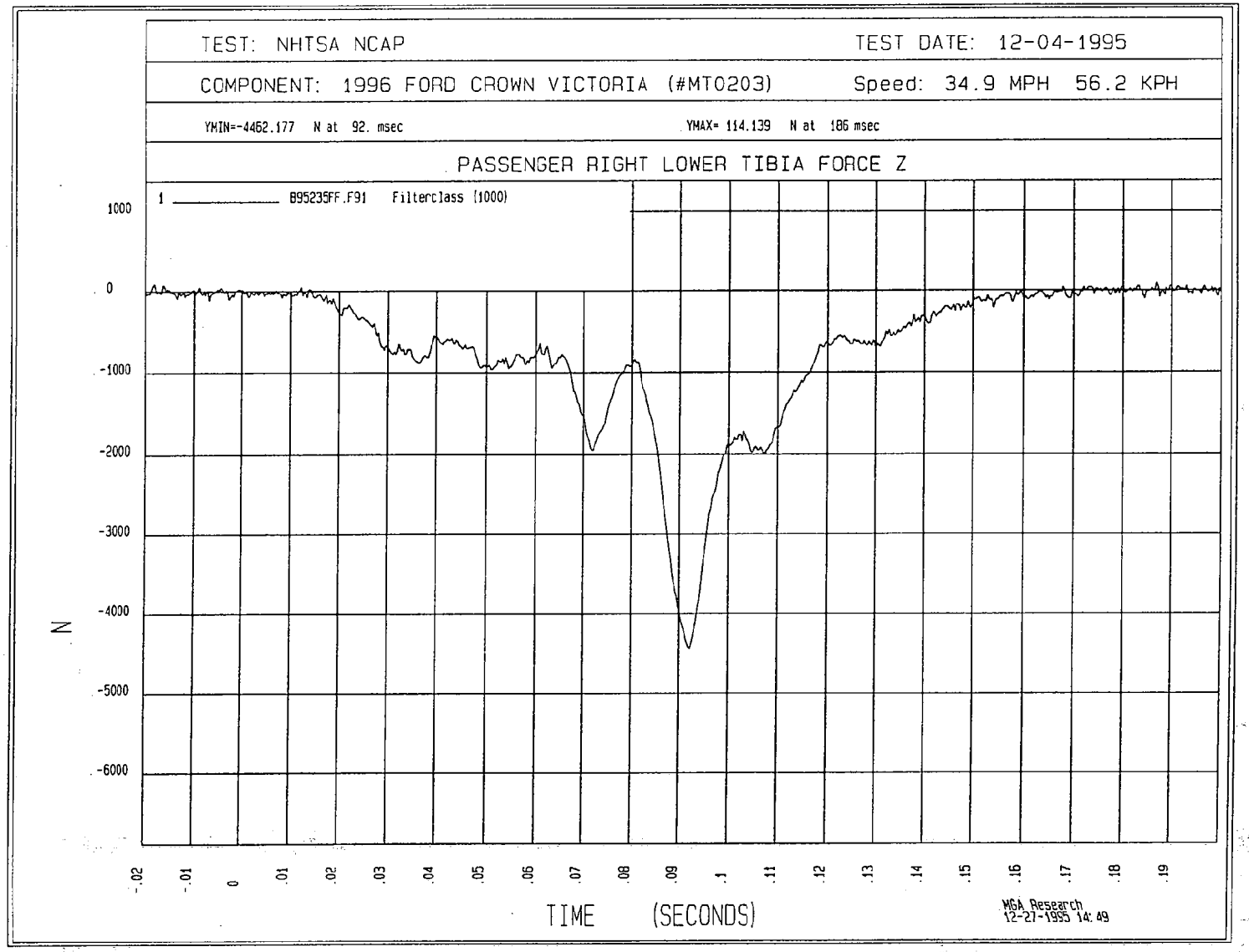

TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-4500.015 N at 102 msec
YMAX= 1757.126 N at 163 msec
PASSENGER LEFT LOWER TIBIA FORCE Z
1 B95235FF.F98 Filterclass (1000)
2000
1000
0
-1000
-2000
-3000
-4000
-5000
-6000
N
.19
.18
.17
.16
.15
.14
.13
.12
.11
.1
.09
.08
.07
.06
.05
.04
.03
.02
.01
0
-.01
-.02
TIME (SECONDS)
NGA Research
01-02-1996 11:21


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-75.29633 NM at 108 msec
YMAX= 8.373266 NM at 197 msec
PASSENGER RIGHT UPPER TIBIA MOMENT X
1 B95235MF.M87 Filterclass (600)
200
100
0
-100
-200
NM
-.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
12-27-1995 14:49


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-16.79068 NM at 157 msec
YMAX= 127.9347 NM at 72. msec
PASSENGER RIGHT UPPER TIBIA MOMENT Y
1 B95235MF.M88 Filterclass (600)
300
200
100
0
-100
-200
NM
-.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
12-27-1995 14:49


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-1079.481 N at 92. msec
YMAX= 114.323 N at 156 msec
PASSENGER RIGHT LOWER TIBIA FORCE X
1 B95235FF.F89 Filterclass (1000)
1000
0
-1000
-2000
-3000
-4000
-5000
-6000
N
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
NGA Research
12-27-1995 14:49


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-94.02003 NM at 93. msec
YMAX= 47.61918 NM at 106 msec
PASSENGER RIGHT LOWER TIBIA MOMENT Y
1 B95235MF.M90 Filterclass (600)
400
200
0
-200
-400
-600
NM
-.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
12-27-1995 14:49


TEST: NHTSA NCAP
TEST DATE: 12-04-1995
COMPONENT: 1996 FORD CROWN VICTORIA (#MT0203)
Speed: 34.9 MPH 56.2 KPH
YMIN=-4462.177 N at 92. msec
YMAX= 114.139 N at 186 msec
PASSENGER RIGHT LOWER TIBIA FORCE Z
1 B95235FF.F91 Filterclass (1000)
1000
0
-1000
-2000
-3000
-4000
-5000
-6000
N
-.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
12-27-1995 14:49

HYBRID III DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA

DUMMY NO.: 066 DUMMY CALIBRATION BY: Al Chalmers

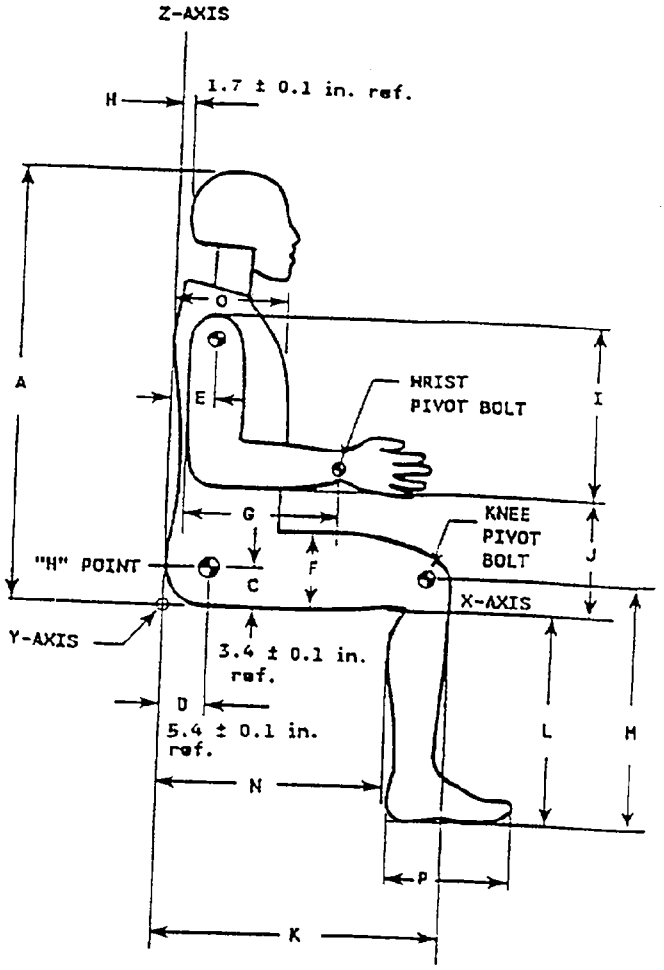
I. CONFIGURATION VERIFICATION DATA

DATE OF VERIFICATION: 07-13-95

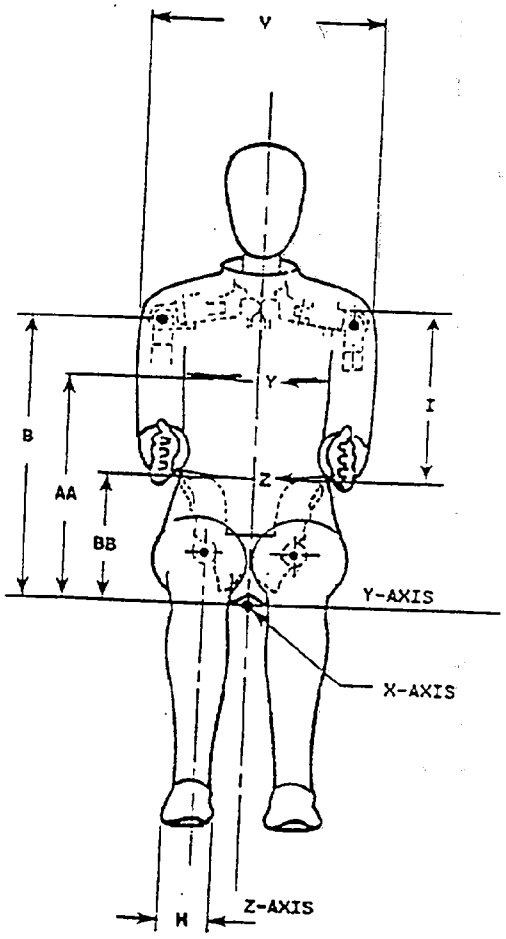
DESCRIPTION	SPECIFICATION (inches)	ACTUAL MEASUREMENT (inches)
A - Total Sitting Height	34.6 - 35.0	34.9
B - Shoulder Pivot Height	19.9 - 20.5	20.5
C - "H" Point Height	3.3 - 3.5	3.5
D - "H" Point from Seat Back	5.3 - 5.5	5.5
E - Shoulder Pivot From Backline	3.3 - 3.7	3.5
F - Thigh Clearance	5.5 - 6.1	6.1
G - Back of Elbow to Wrist Pivot	11.4 - 12.0	11.5
H - Skull Cap Skin to Backline	1.6 - 1.8	1.7
I - Shoulder - Elbow Length	13.0 - 13.6	13.0
J - Elbow Rest Height	7.5 - 8.3	8.0
K - Buttock to Knee Length	22.8 - 23.8	23.5
L - Popliteal Height	16.9 - 17.9	17.0
M - Knee Pivot Height	19.1 - 19.9	19.5
N - Buttock Popliteal Length	17.8 - 18.8	18.5
O - Chest Depth at 3rd Rib	8.4 - 9.0	8.8
P - Foot Length	9.9 - 10.5	10.3
V - Shoulder Breadth	16.6 - 17.2	16.8
W - Foot Breadth	3.6 - 4.2	4.0
Y - Chest Circumference	38.2 - 39.4	39.0
Z - Waist Circumference	32.9 - 34.1	33.5

Note: (See next page for external dimensions)

HYBRID III EXTERNAL DIMENSIONS



SIDE VIEW



FRONT VIEW

Note: Figure is referenced to the erect seated position. The curved lumbar does not allow the hybrid III to be positioned in a perfect erect attitude.

HYBRID III DUMMY CALIBRATION DATA SUMMARY SHEET

DUMMY NO.: 066 DUMMY CALIBRATION BY: Al Chalmers

VERIFICATION DATE: 07-13-95

VERIFICATION LABORATORY TEMPERATURE (66° - 78°): 70°

1.0 HEAD DROP TEST

	SPECIFICATION	MEASUREMENT
Peak Resultant Acceleration	225 - 275 G	233
Peak Lateral Acceleration	15 G. MAX	6
Is Acceleration Curve Unimodel	within 10% of peak	Yes

2.0 NECK FLEXION TEST

		SPECIFICATION	MEASUREMENT
Pendulum Speed		22.6 - 23.4 FT/SEC	23.0
Pendulum Deceleration	10 MS	22.50 - 27.50 G	23.50
	20 MS	17.60 - 22.60 G	20.60
	30 MS	12.50 - 18.50 G	15.30
Max. Pendulum G Above 30 MS		29.0 G MAX	15.3
Deceleration - Time Curve Decay Time to 5 G		34 - 42 MS	39
D Plane Rotation	MAX	64 - 78 DEG.	75
	TIME	57 - 64 MS	59
Rotation Angle - Time Curve Decay Time to Zero		113 - 128 MS	115
Moment About Occipital Condyle	MIN.	65 - 80 FT.LBS	71
	TIME	47 - 58 MS	52
Positive Moment - Time Curve Decay Time to Zero		97 - 107 MS	105

3.0 NECK EXTENSION TEST

		SPECIFICATION	MEASUREMENT
Pendulum Speed		19.50 - 20.30 F/S	12.00
Pendulum Deceleration	10 MS	17.20 - 21.20 G	18.50
	20 MS	14.00 - 19.00 G	17.20
	30 MS	11.00 - 16.00 G	13.10
Max. Pendulum G Above 30 MS		22 G Max	13
Deceleration - Time Curve Decay Time to 5 G		38 - 46 MS	44
D Plane Rotation	MAX	81 - 106 DEG.	102
	TIME	72 - 82 MS	77
Rotation Angle - Time Curve Decay Time to Zero		147 - 174 MS	157
Moment About Occipital Condyle	MIN.	-59.0/-39.0 FT LBS	-49.6
	TIME	65 - 79 MS	72
Positive Moment - Time Curve Decay Time to Zero		120 - 148 MS	145

4.0 CHEST IMPACT TESTS

	SPECIFICATION	MEASUREMENT
Probe Speed	21.6 to 22.4 F/S	22.0
Peak Deflection	2.50 to 2.86 IN.	2.60
Peak Resistive Force	1160 to 1325 LBS.	1254
Internal Hysteresis	69 to 85%	73

5.0 KNEE IMPACT TESTS

LEFT KNEE	SPECIFICATION	MEASUREMENT
Probe Speed	6.8 to 7.0 F/S	6.9
Maximum Force	1060 - 1300 LBS.	1127

RIGHT KNEE	SPECIFICATION	MEASUREMENT
Probe Speed	6.8 to 7.0 F/S	7.0
Maximum Force	1060 - 1300 LBS.	1078

HYBRID III DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA

DUMMY NO.: 065 DUMMY CALIBRATION BY: Al Chalmers

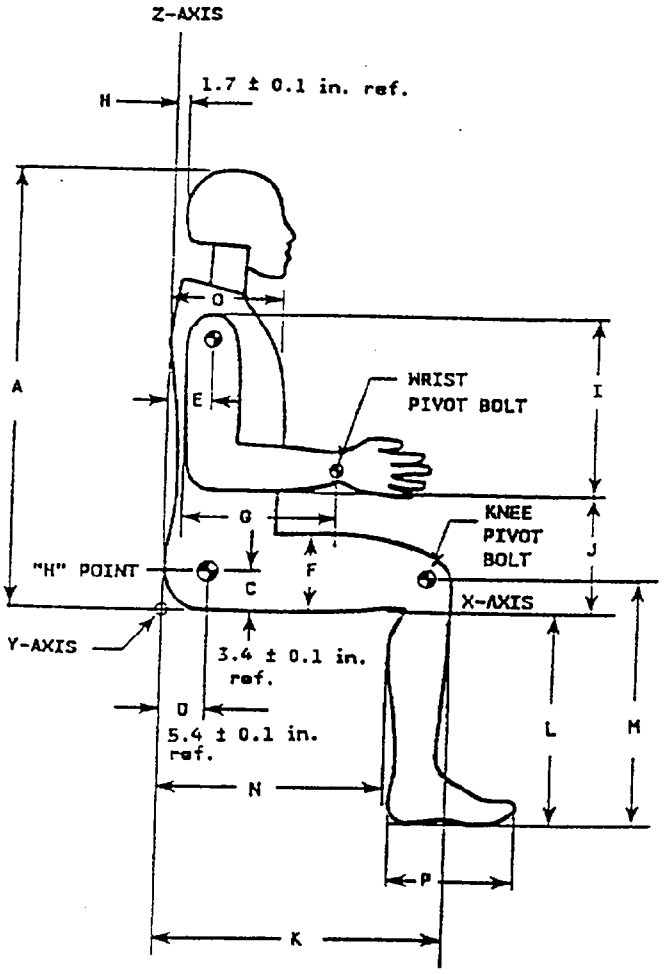
I. CONFIGURATION VERIFICATION DATA

DATE OF VERIFICATION: 07-13-95

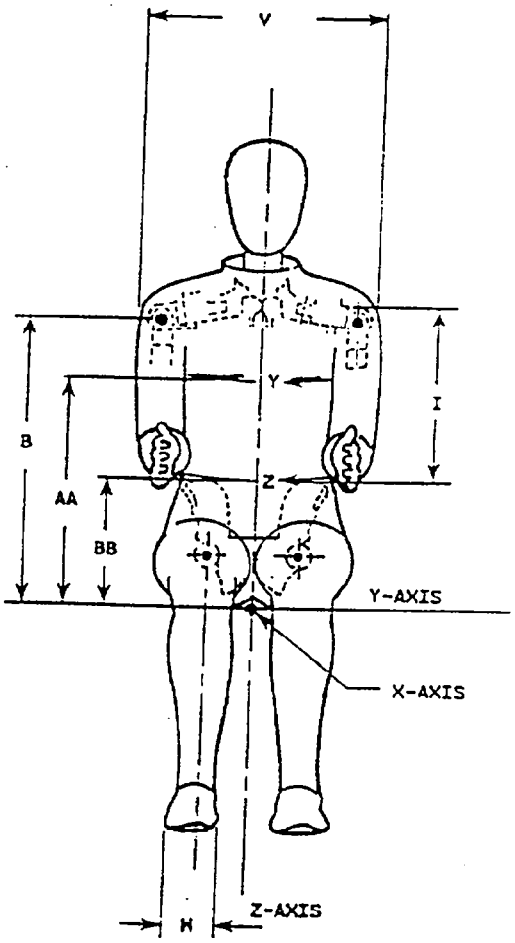
DESCRIPTION	SPECIFICATION (Inches)	ACTUAL MEASUREMENT (inches)
A - Total Sitting Height	34.6 - 35.0	34.8
B - Shoulder Pivot Height	19.9 - 20.5	20.5
C - "H" Point Height	3.3 - 3.5	3.5
D - "H" Point from Seat Back	5.3 - 5.5	5.5
E - Shoulder Pivot From Backline	3.3 - 3.7	3.5
F - Thigh Clearance	5.5 - 6.1	6.1
G - Back of Elbow to Wrist Pivot	11.4 - 12.0	11.5
H - Skull Cap Skin to Backline	1.6 - 1.8	1.7
I - Shoulder Elbow Length	13.0 - 13.6	13.0
J - Elbow Rest Height	7.5 - 8.3	8.0
K - Buttock Knee Length	22.8 - 23.8	23.5
L - Popliteal Height	16.9 - 17.9	17.0
M - Knee Pivot Height	19.1 - 19.9	19.5
N - Buttock Popliteal Length	17.8 - 18.8	18.5
O - Chest Depth at 3rd Rib	8.4 - 9.0	8.8
P - Foot Length	9.9 - 10.5	10.3
V - Shoulder Breadth	16.6 - 17.2	16.8
W - Foot Breadth	3.5 - 4.2	4.0
Y - Chest Circumference	38.2 - 39.4	39.0
Z - Waist Circumference	32.9 - 34.1	33.5

Note: (See next page for external dimensions)

HYBRID III EXTERNAL DIMENSIONS



SIDE VIEW



FRONT VIEW

Note: Figure is referenced to the erect seated position. The curved lumbar does not allow the hybrid III to be positioned in a perfect erect attitude.

HYBRID III DUMMY CALIBRATION DATA SUMMARY SHEET (CONT.)

DUMMY NO.: 065 DUMMY CALIBRATION BY: Al Chalmers

VERIFICATION DATE: 07-13-95

VERIFICATION LABORATORY TEMPERATURE (66° - 78°): 70°

1.0 HEAD DROP TEST

	SPECIFICATION	MEASUREMENT
Peak Resultant Acceleration	225 - 275 G	234
Peak Lateral Acceleration	15 G. MAX	5
Is Acceleration Curve Unimodal	within 10% of peak	Yes

2.0 NECK FLEXION TEST

		SPECIFICATION	MEASUREMENT
Pendulum Speed		22.6 - 23.4 FT/SEC	22.9
Pendulum Deceleration	10 MS	22.50 - 27.50 G	23.50
	20 MS	17.60 - 22.60 G	22.50
	30 MS	12.50 - 18.50 G	14.40
Max. Pendulum G Above 30 MS		29.0 G MAX	14.3
Deceleration - Time Curve Decay Time to 5 G		34 - 42 MS	39
D Plane Rotation	MAX	64 - 78 DEG.	75
	TIME	57 - 64 MS	58
Rotation Angle - Time Curve Decay Time to Zero		113 - 128 MS	114
Moment About Occipital Condyle	MIN.	65 - 80 FT.LBS	73
	TIME	47 - 58 MS	51
Positive Moment - Time Curve Decay Time to Zero		97 - 107 MS	103

HYBRID III DUMMY CALIBRATION DATA SUMMARY SHEET (CONT.)

3.0 NECK EXTENSION TEST

		SPECIFICATION	MEASUREMENT
Pendulum Speed		19.50 - 20.30 F/S	20.10
Pendulum Deceleration	10 MS	17.20 - 21.20 G	19.00
	20 MS	14.00 - 19.00 G	17.20
	30 MS	11.00 - 16.00 G	12.90
Max. Pendulum G Above 30 MS		22 G Max	13
Deceleration - Time Curve Decay Time to 5 G		38 - 46 MS	44
D Plane Rotation	MAX	81 - 106 DEG.	103
	TIME	72 - 82 MS	76
Rotation Angle - Time Curve Decay Time to Zero		147 - 174 MS	157
Moment About Occipital Condyle	MIN.	-59.0/-39.0 FT LBS	-49.8
	TIME	65 - 79 MS	72
Positive Moment - Time Curve Decay Time to Zero		120 - 148 MS	144

4.0 CHEST IMPACT TESTS

	SPECIFICATION	MEASUREMENT
Probe Speed	21.6 to 22.4 F/S	21.9
Peak Deflection	2.50 to 2.86 IN.	2.52
Peak Resistive Force	1160 to 1325 LBS.	1321
Internal Hysteresis	69 to 85%	70

HYBRID III DUMMY CALIBRATION DATA SUMMARY SHEET (CONT.)

5.0 KNEE IMPACT TESTS

LEFT KNEE	SPECIFICATION	MEASUREMENT
Probe Speed	6.8 to 7.0 F/S	7.0
Maximum Force	1060 - 1300 LBS.	1104

RIGHT KNEE	SPECIFICATION	MEASUREMENT
Probe Speed	6.8 to 7.0 F/S	6.8
Maximum Force	1060 - 1300 LBS.	1063

APPENDIX D

Dummy, Vehicle and Laboratory Calibration Data

DUMMY, VEHICLE AND LABORATORY INSTRUMENT CALIBRATION

INSTRUMENTS FOR DUMMY NO. 066

	DRIVER		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Head X	ACCY6	Endevco	7/13/95
Head Y	ACCH1	Endevco	7/13/95
Head Z	AAMW5	Endevco	7/13/95
Head X Redundant	AJ9D2	Endevco	7/13/95
Head Y Redundant	AH1E2	Endevco	7/13/95
Head Z Redundant	AJ7K3	Endevco	7/13/95
Chest X	ACCY1	Endevco	7/12/95
Chest Y	ACCC8	Endevco	7/12/95
Chest Z	ACCT7	Endevco	7/12/95
Chest X Redundant	AJ9D4	Endevco	7/12/95
Chest Y Redundant	AJ9F3	Endevco	7/12/95
Chest Z Redundant	AJ9D9	Endevco	7/12/95
Right Femur Load Cell	261	Denton	7/14/95
Left Femur Load Cell	262	Denton	7/14/95
Pelvis X	ALDY8	Endevco	7/12/95
Pelvis Y	ALRK9	Endevco	7/12/95
Pelvis Z	ALR80	Endevco	7/12/95

DUMMY, VEHICLE AND LABORATORY INSTRUMENT CALIBRATION

INSTRUMENTS FOR DUMMY NO. 066

	DRIVER		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Neck Load Cell X	443	Denton	7/13/95
Neck Load Cell Y	443	Denton	7/13/95
Neck Load Cell Z	443	Denton	7/13/95
Neck Moment X	443	Denton	7/13/95
Neck Moment Y	443	Denton	7/13/95
Neck Moment Z	443	Denton	7/13/95
Chest Deflection Gauge	066	Servo	7/21/95
Lap Belt Load Cell	624	Lebow	10/17/95
Torso Belt Load Cell	313	Lebow	10/17/95

DUMMY, VEHICLE AND LABORATORY INSTRUMENT CALIBRATION

INSTRUMENTS FOR DUMMY NO. 066

	DRIVER		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Upper Right Tibia Moment X	036	Denton	6/05/95
Upper Right Tibia Moment Y	036	Denton	6/05/95
Lower Right Tibia Moment Y	040	Denton	6/05/95
Lower Right Tibia Force X	040	Denton	6/05/95
Lower Right Tibia Force Z	040	Denton	6/05/95
Upper Left Tibia Moment X	036	Denton	6/05/95
Upper Left Tibia Moment Y	036	Denton	6/05/95
Lower Left Tibia Moment Y	033	Denton	6/05/95
Lower Left Tibia Force X	033	Denton	6/05/95
Lower Left Tibia Force Z	033	Denton	6/05/95

DUMMY, VEHICLE AND LABORATORY INSTRUMENT CALIBRATION

INSTRUMENTS FOR DUMMY NO. 065

	PASSENGER		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Head X	AAMN8	Endevco	7/12/95
Head Y	ACC61	Endevco	7/12/95
Head Z	ACCW9	Endevco	7/12/95
Head X Redundant	AJ621	Endevco	7/12/95
Head Y Redundant	AJ619	Endevco	7/12/95
Head Z Redundant	AHY54	Endevco	7/12/95
Chest X	ACC78	Endevco	7/12/95
Chest Y	ACCE6	Endevco	7/12/95
Chest Z	ACCY3	Endevco	7/12/95
Chest X Redundant	AJ9J7	Endevco	7/12/95
Chest Y Redundant	AJ7A2	Endevco	7/12/95
Chest Z Redundant	AJ819	Endevco	7/12/95
Right Femur Load Cell	259	Denton	7/14/95
Left Femur Load Cell	260	Denton	7/14/95
Pelvis X	ALB87	Endevco	7/12/95
Pelvis Y	AGNB3	Endevco	7/12/95
Pelvis Z	AJ834	Endevco	7/12/95

DUMMY, VEHICLE AND LABORATORY INSTRUMENT CALIBRATION

INSTRUMENTS FOR DUMMY NO. 065

	PASSENGER		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Neck Load Cell X	442	Denton	7/13/95
Neck Load Cell Y	442	Denton	7/13/95
Neck Load Cell Z	442	Denton	7/13/95
Neck Moment X	442	Denton	7/13/95
Neck Moment Y	442	Denton	7/13/95
Neck Momemt Z	442	Denton	7/13/95
Chest Deflection Gauge	065	Servo	7/21/95
Lap Belt Load Cell	657	Lebow	10/17/95
Torso Belt Load Cell	312	Lebow	10/17/95

DUMMY, VEHICLE AND LABORATORY INSTRUMENT CALIBRATION

INSTRUMENTS FOR DUMMY NO. 065

	PASSENGER		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Upper Right Tibia Moment X	040	Denton	9/26/95
Upper Right Tibia Moment Y	040	Denton	9/26/95
Lower Right Tibia Moment Y	034	Denton	9/26/95
Lower Right Tibia Force X	034	Denton	9/26/95
Lower Right Tibia Force Z	034	Denton	9/26/95
Upper Left Tibia Moment X	040	Denton	9/26/95
Upper Left Tibia Moment Y	040	Denton	9/26/95
Lower Left Tibia Moment Y	019	Denton	9/26/95
Lower Left Tibia Force X	019	Denton	9/26/95
Lower Left Tibia Force Z	019	Denton	9/26/95

DUMMY, VEHICLE AND LABORATORY INSTRUMENT CALIBRATION

	VEHICLE ACCELEROMETERS		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Left Rear Seat Crossmember X	D06-A19	Entran	6/09/95
Right Rear Seat Crossmember X	H07-A24	Entran	9/15/95
Top of Engine Block X	C27-B02	Entran	9/28/95
Bottom of Engine X	C14-D15	Entran	10/23/95
Left Brake Caliper X	B12-G14	Entran	10/24/95
Right Brake Caliper X	H07-A10	Entran	9/05/95
Instrument Panel X	H24-G06	Entran	9/29/95
Redundant Left Rear Seat Crossmember X	E13-D18	Entran	10/23/95
Redundant Right Rear Seat Crossmember X	C06-G19	Entran	9/05/95

	LABORATORY INSTRUMENTS		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Neck Bending Pendulum Accelerometer	AH5N9	Endevco	5/08/95
Neck Bending Head Rotary Potentiometer	018	Spectrol	3/13/95
Neck Bending Pendulum Rotary Potentiometer	019	Spectrol	3/13/95
Chest Probe Accelerometer	AN8A4	Endevco	6/12/95
Knee Impact Accelerometer	MGA001	Entran	4/21/95

APPENDIX E

Vehicle Owner's Occupant Restraint System Instructions

Safety Restraints

Important Safety Belt Information

The use of safety belts helps to restrain you and your passengers in case of a collision. In most states and in Canada the law requires their use.

Safety belts provide best restraint when:

- ❑ the seatback is upright
- ❑ the occupant is sitting upright (not slouched)
- ❑ the lap belt is snug and low on the hips
- ❑ the shoulder belt is snug against the chest
- ❑ the knees are straight forward

To help you remember to fasten your safety belt, a warning light may come on and a chime may sound. See *Safety Belt Warning Light and Chime* in the *Warning Lights and Gauges* chapter.

See the following sections in this chapter for directions on how to properly use these safety belts. Also see *Safety Restraints for Children* in this chapter for special instructions about using safety belts for children.

⚠WARNING

Make sure that you and your passengers wear safety belts. Always drive and ride with your seatback upright and the lap belt snug and low across the hips.

⚠WARNING

Never wear the shoulder belt under the arm. Never swing it around the neck over the inside shoulder. Never use a single belt for more than one person or across more than one seating position. Each seating position in your vehicle has a specific safety belt assembly which is made up of one buckle and one tongue that are designed to be used as a pair. Failure to follow these precautions could increase the risk and/or severity of injury in a collision.

⚠WARNING

Never drive or ride with a twisted or jammed safety belt. If you cannot untwist or unjam the safety belt, see the nearest qualified technician immediately.

⚠WARNING

To reduce the risk of serious injury in a collision, children should always ride with the seatback upright.

⚠WARNING

Never let a passenger hold a child on his or her lap while the vehicle is moving. The passenger cannot protect the child from injury in a collision.

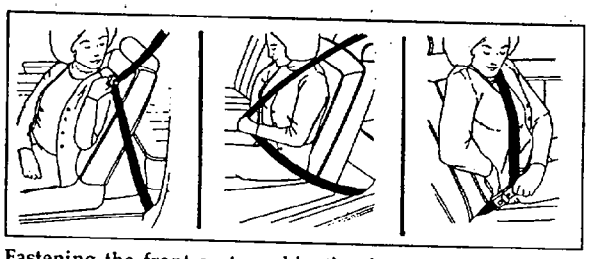
Lock the doors of your vehicle before driving to lessen the risk of the door coming open in a collision.

Combination Lap and Shoulder Belts

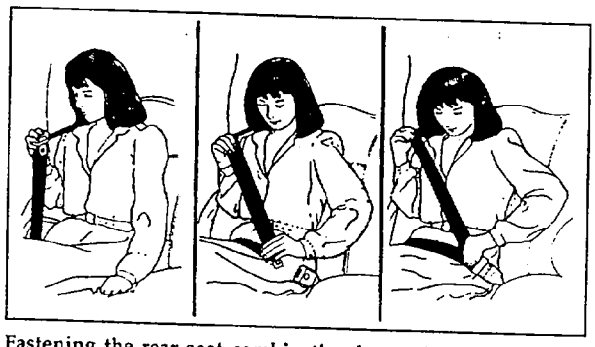
While your vehicle is in motion, the combination lap and shoulder belt adjusts to your movement. However, if you brake hard, corner hard or if your vehicle receives an impact of 5 mph (8 km/h) or more, the lap and shoulder belt locks and helps reduce your forward movement.

After you get into your vehicle, close the door and lock it. Then adjust the seat to the position that suits you best.

To fasten the belt, pull the lap/shoulder belt from the retractor so that the shoulder portion of the belt crosses your shoulder and chest. Be sure the belt is not twisted. If it is, remove the twist. Insert the belt tongue into the proper buckle until you hear a snap and feel it latch. Make sure the tongue is securely fastened in the buckle.



Fastening the front seat combination lap and shoulder belt



Fastening the rear seat combination lap and shoulder belt

NOTE: **Be sure to read and understand *Important Safety Belt Information* at the beginning of this chapter.**

Safety Belts for All Passenger Outboard Seating Positions

Your vehicle is equipped with a dual locking mode retractor on the shoulder belt portion of the combination lap/shoulder safety belt for the front and rear outboard passenger seats.

Dual locking mode retractors operate in two ways:

Vehicle sensitive (emergency) locking mode

In this operating mode, the shoulder belt retractor will allow the occupant freedom of movement, locking tight only on hard braking, hard cornering or impacts of approximately 5 mph (8 km/h) or more. The retractor can also be made to lock by pulling/jerking on the belt.

Automatic locking mode

In this operating mode, the shoulder belt retractor will be automatically locked and remain locked when the combination lap/shoulder safety belt is buckled, and does not allow the occupant freedom of movement. This mode provides the following:

- ❑ A tight lap/shoulder belt fit on the occupant.
- ❑ Child seat or infant carrier installation restraint.

⚠WARNING
Never install a rear-facing child seat or infant carrier in the right front passenger seat.

This mode **must be used** when installing a child safety seat on the front passenger seat and rear outboard seats where dual locking retractors are provided.

To switch the retractor from the emergency locking mode to the automatic locking mode, perform the following steps:

1. Buckle the lap/shoulder combination belt.
2. Grasp the shoulder portion of the belt and pull downward until all of the belt is extracted, and when allowed to retract, a clicking sound will be heard. At this time, the belt retractor is in the automatic locking mode (child restraint mode).
3. A clicking sound will continue to be heard as the belt is allowed to retract.

NOTE: **When the combination lap/shoulder belt is unbuckled and allowed to retract completely, the retractor will switch back to the vehicle sensitive (emergency) locking mode. See the detailed instructions under *Safety Seats for Children* in this chapter.**

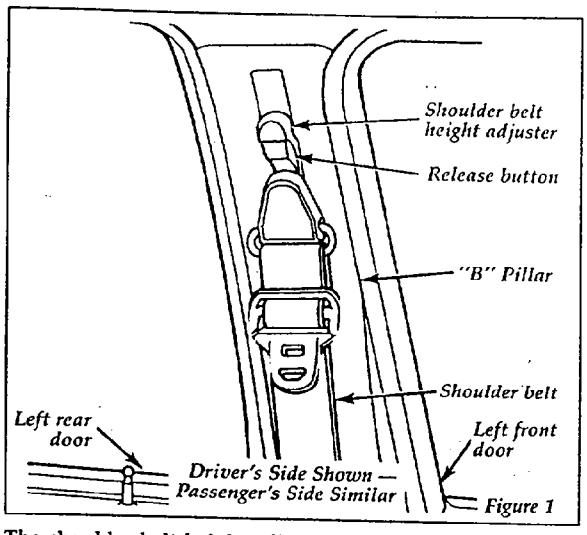
Shoulder Belt Height Adjustment

Driver and right front passenger

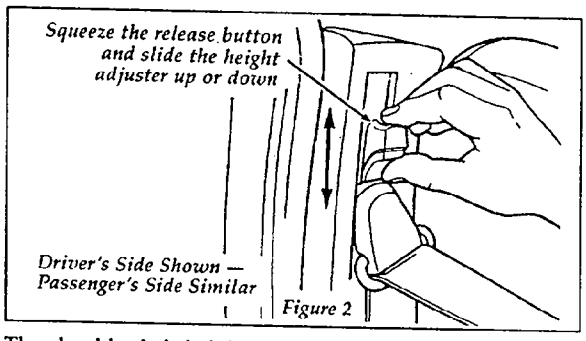
You can adjust the shoulder belt height to one of five (5) positions. To adjust, pinch the release button (see Figures 1 and 2) and slide it up or down until the belt rests across the middle of your shoulder. Release the button and make sure the adjuster is firmly in one of the five (5) positions.

⚠WARNING
If the shoulder belt is off your shoulder or on your upper arm, there is a greater risk of severe injury in a collision.

BE SURE THE BELT IS PROPERLY POSITIONED ON YOUR SHOULDER EACH TIME YOU USE THE BELT.



The shoulder belt height adjuster



The shoulder belt height adjuster

⚠WARNING

The lap belts should fit snugly and as low as possible around the hips, not around the waist.

⚠WARNING

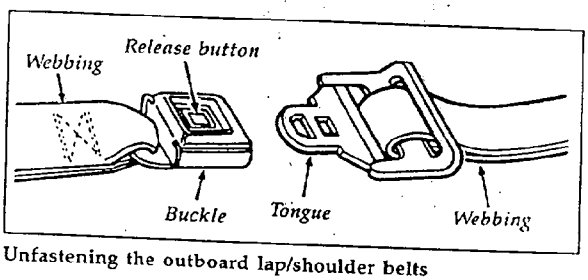
All front and rear seat outboard occupants (including pregnant women) should wear lap and shoulder belts, for optimum protection in a collision.

⚠WARNING

Failure to follow these precautions could increase the risk and/or severity of injury in a collision. 1) Use the shoulder belt on the outside shoulder only. Never wear the shoulder belt under the arm. 2) Never swing it around your neck over the inside shoulder. 3) Never use a single belt for more than one person.

To unfasten all the belts:

1. Push the release button in the center of the buckle. This allows the tongue to unlatch from the buckle.



Unfastening the outboard lap/shoulder belts

2. While the belt retracts, guide the tongue to its stowed position. If you do not guide the tongue, it may strike you or part of the vehicle.

Lap Belts — Center Seating Position

The lap belts in the center of the front and rear seats do not adjust automatically. You must adjust them to fit snugly and as low as possible around your hips. Do not wear them around your waist.

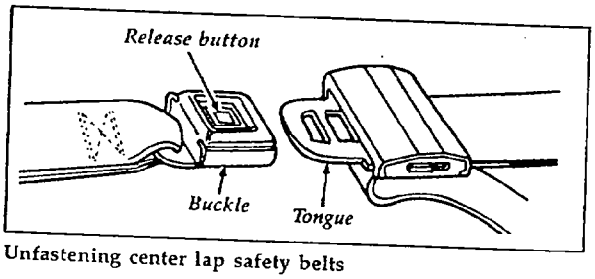
Pull the belt across your hips and **insert the tongue into the correct buckle** on your seat until you hear a snap and feel it lock. Make sure the buckle is securely fastened.

If you need to lengthen the belt, unfasten it and tip the belt tongue at a right angle to the belt. Pull the belt tongue over your lap until it reaches the buckle.

If you need to shorten the belt, pull on the loose end of the webbing until the belt fits snugly.

To unfasten the belt, push the release button on the buckle. This allows the tongue to unlatch from the buckle.

Because the center lap belts do not have retractors, they should be shortened and fastened when not in use.



Unfastening center lap safety belts

Safety Belt Extension Assembly

For some people, the safety belt may be too short even when it is fully extended. You can add about eight inches (20 cm) to the belt length with a safety belt extension assembly (part number 611C22). Safety belt extensions are available at no cost from your dealer.

⚠WARNING

Failure to follow these instructions will affect the performance of the safety belts and increase the risk of personal injury.

Use only extensions manufactured by the same supplier as the safety belt. Manufacturer identification is located at the end of the webbing on the label. Also, use the safety belt extension only if the safety belt is too short for you when fully extended. Do not use extension to change the fit of the shoulder belt across the torso.

Safety Belt Maintenance

Check the safety belt systems periodically to make sure that they work properly and are not damaged.

All safety belt assemblies, including retractors, buckles, front seat belt buckle support assemblies (slide bar) (if equipped), child safety seat tether bracket assemblies (if equipped), and attaching hardware, should be inspected after any collision. Ford recommends that all safety belt assemblies used in vehicles involved in a collision be replaced. However, if the collision was minor and a qualified technician finds that the belts do not show damage and continue to operate properly, they do not need to be replaced. Safety belt assemblies not in use

during a collision should also be inspected and replaced if either damage or improper operation is noted.

Cleaning the Safety Belts

Clean the safety belts with any mild soap solution that is recommended for cleaning upholstery or carpets. Do not bleach or dye the belt webbing because this may weaken it.

Air Bag Supplemental Restraint System (SRS)

The driver and right front passenger air bags are Supplemental Restraint Systems (SRS), provided at these seating positions in addition to the lap/shoulder belt, and are designed to supplement the protection provided to properly belted occupants in moderate to severe frontal collisions. The supplemental air bag system does not provide restraint to the lower body.

The Importance of Wearing Safety Belts

⚠WARNING

Safety belts must be worn by all vehicle occupants to be properly restrained and help reduce the risk of injury in a collision.

⚠WARNING

All occupants of the vehicle, including the driver, should always wear their safety belts, even when an air bag Supplemental Restraint System is provided.

There are four very important reasons to use safety belts even with an air bag system. Use your safety belts to:

- ❑ help keep you in the proper position (away from the air bag) when it inflates
- ❑ reduce the risk of harm in rollover, side or rear impact collisions, because an air bag is not designed to inflate in such situations
- ❑ reduce the risk of harm in frontal collisions that are not severe enough to activate the supplemental air bag
- ❑ reduce the risk of being thrown from your vehicle

The Importance of Being Properly Seated

In a collision, the air bag must inflate extremely fast to help provide additional protection for you. In order to do this, the air bag must inflate with considerable force. If you are not seated in a normal riding position with your back against the seatback, the air bag may not protect you properly and could possibly hurt you as it inflates.

⚠WARNING

If a passenger is not properly seated and restrained, an inflating air bag could cause serious injury.

⚠WARNING

Rear-facing infant seats should never be placed in the front seat.

In rear-facing infant seats, the infant's head is closer to the air bag. The force of the rapidly inflating air bag could push the top of the rear-facing seat against the vehicle seatback, center console (if so equipped), or center armrests (if so equipped). REAR-FACING INFANT SEATS MUST ALWAYS BE SECURED IN THE REAR SEAT, and other child safety seats and infant seats should be secured in the rear seat whenever possible.

Your vehicle is equipped with a right front passenger air bag. Air bags deploy with great force, faster than the blink of an eye. Front passengers, especially children and small adults, must never sit on the front edge of the seat, stand near the glove compartment of the instrument panel, or lean over near the air bag cover when the vehicle is moving. All occupants should sit with their backs against the seatback, move the seat to the most rearward position if possible and use the safety belts. Children weighing less than 40 lbs. (18 kg) always should use child or infant seats.

⚠WARNING

When using forward-facing child seats move the passenger seat as far back from the instrument panel as possible. NEVER SECURE REAR-FACING INFANT SEATS IN THE FRONT SEAT.

THE FORCE OF THE RAPIDLY INFLATING PASSENGER AIR BAG COULD PUSH THE TOP OF THE REAR-FACING SEAT AGAINST THE VEHICLE SEATBACK, ARMRESTS OR CONSOLE. REAR-FACING INFANT SEATS MUST ALWAYS BE SECURED IN THE REAR SEAT.

⚠WARNING

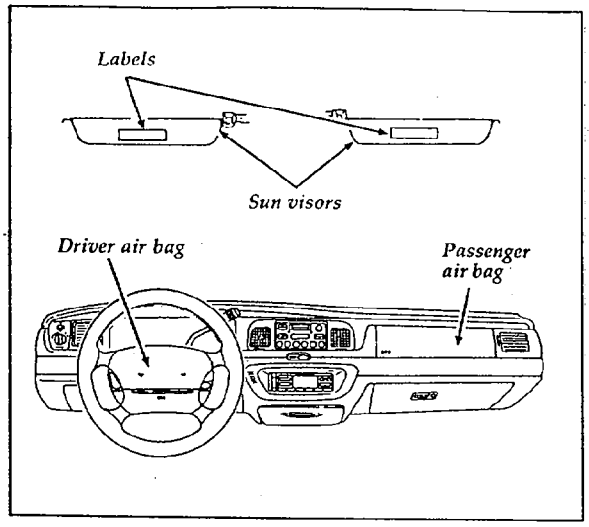
Do not place objects or mount equipment on or near the air bag cover on the steering wheel or in front seat areas that may come in contact with a deploying air bag. Failure to follow this instruction may increase the risk of personal injury in the event of a collision.

For additional important safety information on the proper use of seat belts, child seats, and infant seats, please read the other sections of this part of the Owner Guide, especially sections entitled *Safety Belts for Children* and *Safety Seats for Children.*

For further information about the proper mounting of equipment in the front seat of this vehicle, please refer to Ford's brochure entitled *Some Important Information About Air Bag Supplemental Restraint System* which can be obtained by calling Helm Inc. at 1-800-782-4356. Ask for brochure FPS-8602.

How the Air Bag Supplemental Restraint System Operates

The driver air bag is in the center of the steering wheel. The right front passenger seat air bag is in the upper right hand section of the instrument panel ledge above the glove compartment. Both air bags are designed to stay out of sight until they are activated.



The location of the air bag and warning labels

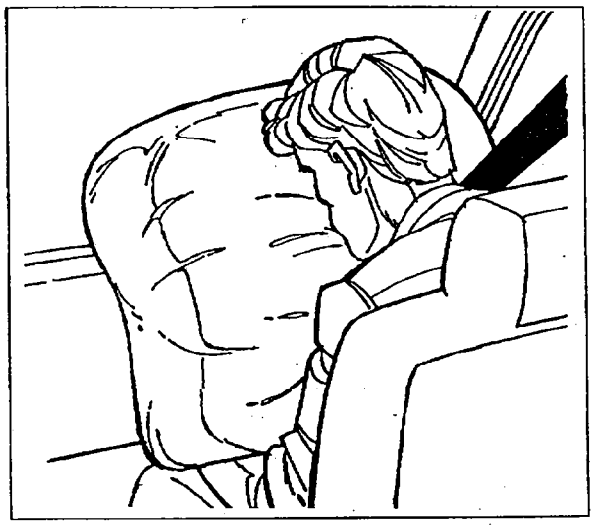
If a collision occurs, the sensors sense the severity of the impact and activates the air bags if necessary. The air bag system is designed to deploy in frontal and front-angled collisions more severe than hitting a parked vehicle (of similar size and weight) head-on at about 28 mph (45 km/h). Because the system senses the crash severity rather than vehicle speed, some frontal collisions at speeds above 28 mph (45 km/h) will not inflate the air bag.

The whole inflation and deflation process takes place in a matter of seconds.

⚠WARNING

Air bag system components get hot after inflation. Do not touch them after inflation.

Inflated driver side air bag



Inflated right front passenger side air bag

⚠WARNING

If the air bag is inflated, THE AIR BAG WILL NOT FUNCTION AGAIN AND MUST BE REPLACED IMMEDIATELY. If the air bag is not replaced, the unrepaired area will increase the risk of injury in a collision.

The air bag system uses a readiness light and a tone to indicate the condition of the system. The readiness light is in the instrument cluster. When you turn the ignition to the ON position, this light will illuminate for approximately six (6) seconds and then turn off. This indicates that the system is operating normally. NOTE: Maintenance of the air bag system is not required.

A problem with the system is indicated by one or more of the following:

- ❑ the readiness light will either flash or stay lit, or
- ❑ it will not light immediately after the ignition is turned on, or
- ❑ a group of five beeps will be heard.

If any of these things happen, have the air bag system serviced at your Ford or Lincoln-Mercury dealer immediately. Unless serviced, the air bag supplemental restraint system may not function properly in the event of a collision.

⚠WARNING

Do not attempt to service, repair, or modify the Air Bag Supplemental Restraint System or its fuses. See your Ford or Lincoln-Mercury dealer.

Disposal of air bags or air bag equipped vehicles

For disposal of air bags or air bag equipped vehicles, see your local Ford or Lincoln-Mercury dealer. Air bags **MUST** be disposed of by qualified personnel.