V2464

REPORT NO. MGA-96-N018

NEW CAR ASSESSMENT PROGRAM (NCAP)

FRONTAL BARRIER IMPACT TEST

FORD MOTOR COMPANY
1997 FORD ESCORT
NHTSA NO. MV0201

MGA PROVING GROUNDS
5000 WARREN ROAD
BURLINGTON, WI 53105

Test Date: September 04, 1996

Report Date: September 23, 1996

FINAL REPORT

Prepared For:

U. S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
OFFICE OF MARKET INCENTIVES
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16. Abstract

A 56 kph (35 mph) frontal barrier impact using a 30 load cell barrier was conducted on a 1997 Ford Escort at the MGA Proving Grounds and Crash Test Center in Burlington, WI. on September 04, 1996.

The barrier impact velocity was 56.5 kph (35.1 mph), and the ambient temperature at the time of impact was 21°C. The post-test maximum static crush was 502 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 959 and the 3 msec. Clip (Chest g's) was 58 g's. The left and right femur loads for the driver were 2333 and 6986 Newtons, respectively. The passenger's HIC was 436 and the 3 msec Clip was 56 g's. The left and right femur maximum loads were 5117 and 4405 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 

Dave Kosloske
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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 1997 Ford Escort at a velocity of 56.5 kph (35.1 mph). The test was performed at the MGA Proving Grounds and Crash Test Center on September 04, 1996. 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, a chest displacement transducer, an upper neck load cell, right/left femur load cells, right/left lower leg sensors, and right/left foot accelerometers. Seat belt load cells were used on the driver and passenger shoulder and lap belts to measure dummy torso and pelvic section loading. Calibrated ATDs, driver (serial No. 037), and right front passenger (Serial No. 036), were used for this test. Certification details, along with instrumentation calibration data, are found in Appendix C and D.

The 109 channels of data were recorded on 10 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 958.8 and the maximum chest (CLIP) deceleration over 3 milliseconds was 57.9 g's. The maximum chest displacement was 42 mm. The left and right femur loads were 2333 and 6986 Newtons respectively.

The right front passenger's head struck the inflated airbag. The passenger HIC was 436.2 and maximum chest (CLIP) deceleration over 3 milliseconds was 55.9 g's. The maximum chest displacement was 38 mm. The left and right femur loads were 5117 and 4405 Newtons respectively.

GENERAL TEST AND VEHICLE PARAMETER DATA

Vehicle Yr/Make/Model/Body Style: 1997/Ford/Escort/4-Door

NHTSA No.: MV0201 VIN.: 1FALP13P4VN137038

Body color: Red Date of Manufacture: 5/96

Engine: 4 Cylinders; __C.I.D.; 2.0 Liters;

X Gas; __Diesel; __Turbocharged

__Longitudinal; X Transverse

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

Final Drive: X Front Wheel; __Rear Wheel; __Four Wheel

Odometer Reading: 55 miles

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

__P/seats; __Tilt Wheel; __Cruise Control;

Type of Occupant Restraint: Type II belt system with driver and passenger airbags

DATA RECORDED FROM VEHICLE'S TIRE PLACARD:

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

Recommended Tire Size: P185/65R14

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

Tires on Vehicle: P185/65R14 ; Manufacturer: Uniroyal

Number of Occupants: 2 Front; 3 Rear; _ 3rd Seat; 5 TOTAL

Type of Front Seats: X Bucket; __Bench; __Split Bench

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

Vehicle Capacity Weight (VCW) = 376.5 kg. (A)

No. of Occupants x 68.0 kg. = 340.0 kg. (B)

Rated Cargo Weight (RCW) A-B = 36.5 kg.

GVWR 1580.8 kg. GAWR: Front 866.8 kg.; Rear 714.0 kg.

GENERAL TEST AND VEHICLE PARAMETER DATA (Cont'd)

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

Right Front = 372.4 kg Right Rear = 202.3 kg

Left Front = 364.7 kg Left Rear = 215.9 kg

TOTAL FRONT WEIGHT = 737.1 kg (63.8% of Total Vehicle Weight)

TOTAL REAR WEIGHT = 418.2 kg (36.2% of Total Vehicle Weight)

TOTAL UNLOADED DELIVERED WEIGHT (UDW) = 1155.3 kg

CALCULATION FOR TARGET TEST WEIGHT:

UDW = Unloaded Delivered Weight 1155.3 kg

VCW = Vehicle Capacity Weight 376.5 kg

DSC = Designated Seating Capacity 5

RCW* = Rated Cargo Weight = VCW - 68 (DSC) = 36.5 kg

Target Test Weight = UDW + RCW + (2 dummies x 78.0 kg/dummy)

Target Test Weight = 1347.8 kg

WEIGHT OF TEST VEHICLE WITH REQUIRED DUMMIES AND CARGO:

Right Front = 413.2 kg Right Rear = 254.9 kg

Left Front = 411.5 kg Left Rear = 267.6 kg

TOTAL FRONT WEIGHT = 824.7 kg (61.2% of Total Vehicle Weight)

TOTAL REAR WEIGHT = 522.5 kg (38.8% of Total Vehicle Weight)

TOTAL TEST WEIGHT = 1347.2 kg

Weight of ballast secured in vehicle trunk area = 0 kg

Vehicle components removed to meet target weight: Trunk lid, rear bumper, rear door glass and interior panels, rear seat and seat belts, rear carpeting, tail lights

VEHICLE ATTITUDE (all dimensions in mm):

Delivered Attitude: RF 676 LF 671 RR 636 LR 632

Test Attitude: RF 660 LF 653 RR 610 LR 605

Wheel Base: 2502 mm; C.G. = 976 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: September 04, 1996 Time of Test: 2:58 p.m.

Ambient Temperature: 21.1 °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 = 56.5 kph; secondary = 56.4 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	4230	C_L	4365	L 4220
	Post-test	= R	3877	C_L	3908	L 3754
	Crush	= R	353	C_L	457	L 466

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

R 490 mm C_L 480 mm L 580 mm

VISIBLE DUMMY CONTACT POINTS:

	Driver	Passenger
Head	Airbag	Airbag
Chest	Airbag and lower steering wheel	Airbag
Abdomen	None	Airbag
Left Knee	Dash and steering column	Lower airbag and dash
Right Knee	Dash and steering column	Lower airbag and dash

GENERAL TEST AND VEHICLE PARAMETER DATA (Cont'd)

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

	Front	
Seat Movement	Left	Right
Seat Back Movement	0	0
Seat Shift (mm)	0 mm	0 mm

Glazing Damage

Backlight/Windshield Windshield cracked

Other Notable Impact Effects: Airbags deployed

GENERAL TEST AND VEHICLE PARAMETER DATA (Cont'd)

POST TEST AIRBAG DATA

Vehicle Yr/Make/Model/Body Style: 1997/Ford/Escort/4 Door

NHTSA No.: MV0201 VIN.: 1FALP13P4VN137038

A. Number of Vent Holes: Driver 2 ; Passenger 2

B. Size of Vent Holes: Driver 28 mm dia ; Passenger 40 mm dia.

C. Total Vent Area; Driver 12.3 cm^2 ; Passenger 25.1 cm^2

D. Deflated Airbag Length and Width Dimensions or, if Round, Diameter

Driver; Length____, Width____, Diameter 660 mm

Passenger; Length 850 mm, Width 433 mm, Diameter____

E. Is the Airbag Tethered?

Driver; X Yes; _ No; If yes, record length of tether 340 mm

Passenger; _ Yes; X No, If yes, record length of tether ____ mm

F. Airbag Serial Number: Driver 021633R Passenger 2002632D

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.:

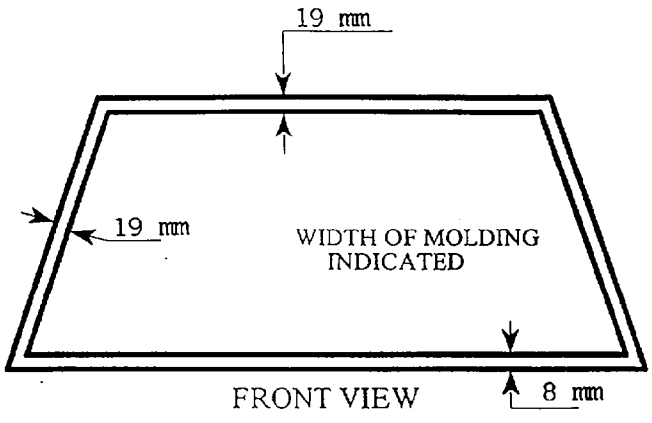
Windshield set in rubber molding with glue

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	1921	1921	100%
LEFT SIDE	1921	1921	100%
TOTAL	3842	3842	100%

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= 1065 mm

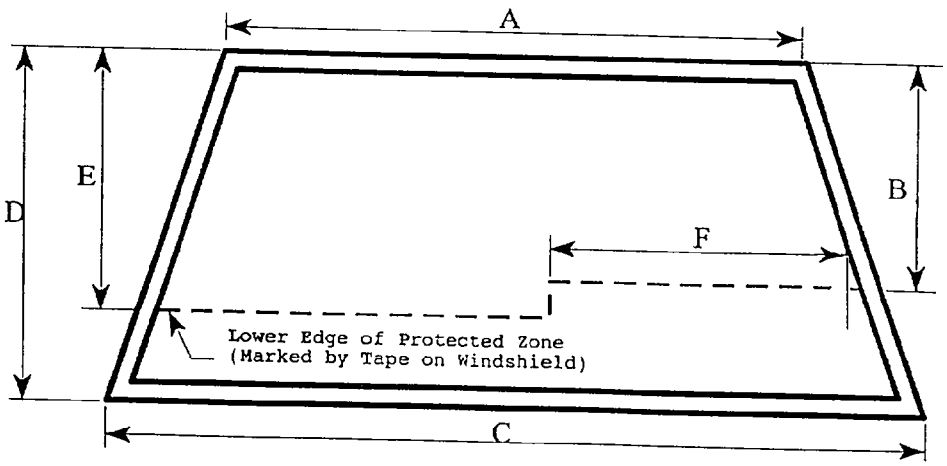
B= 373 mm

C= 1456 mm

D= 660 mm

E= 425 mm

F= 463 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.: MV0201 Test Date: September 4, 1996

Vehicle Yr./Make/Model: 1997/Ford/Escort

Usable Capacity of Vehicle's Fuel Tank: 48.0 Liters
(figure furnished by NHTSA COTR)

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:

44.6 Liters which is 93.0 % 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:

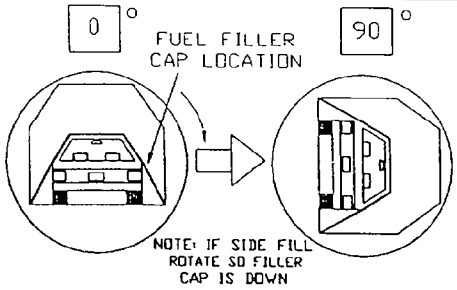
	ACTUAL	MAX ALLOWED
1. From impact until vehicle motion ceases	0	1 OZ
2. For 5 minute period after vehicle motion ceases	0	5 OZ
3. For next 25 minutes	0	1 oz./1 MIN

SOLVENT SPILLAGE DETAILS: None

FMVSS NO. 301 STATIC ROLLOVER DATA SHEET

TEST PHASE: 0° - 90°

Vehicle NHTSA No.: MV0201



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time 2 minutes 38 seconds

(Spec. Range = 1 to 3 minutes)

FMVSS 301 Position Hold Time + 5 minutes 0 seconds

TOTAL 7 minutes 38 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:

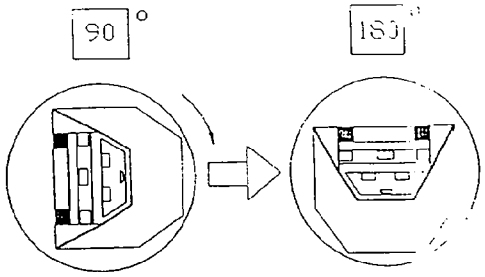
0	0	0	0

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 No.: MV0201



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time 2 minutes 17 seconds

(Spec. Range = 1 to 3 minutes)

FMVSS 301 Position Hold Time + 5 minutes 0 seconds

TOTAL 7 minutes 17 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:

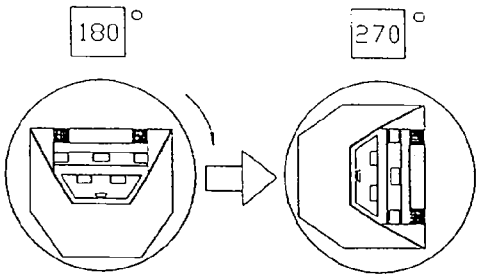
0	0	0	0

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 No.: MV0201



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time 2 minutes 26 seconds

(Spec. Range = 1 to 3 minutes)

FMVSS 301 Position Hold Time + 5 minutes 0 seconds

TOTAL 7 minutes 26 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:

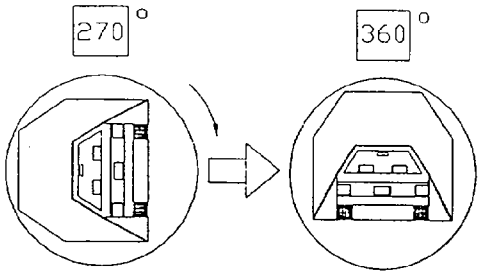
0	0	0	0

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 No.: MV0201



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time 2 minutes 47 seconds

(Spec. Range = 1 to 3 minutes)

FMVSS 301 Position Hold Time + 5 minutes 0 seconds

TOTAL 7 minutes 47 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: 1997/Ford/Escort/4 Door
VEH. NHTSA NO.: MV0201 TEST DATE: September 04, 1996

MAX. ACCELERATION VALUES: (g's)	DRIVER #037	PASSENGER #036
Head Channel X	-75.6 @ 76 msec.	-52.1 @ 75 msec.
Head Channel Y	-6.0 @ 199 msec.	21.0 @ 83 msec.
Head Channel Z	-24.2 @ 55 msec.	-25.8 @ 87 msec.
HEAD RESULTANT	75.7 @ 76 msec.	55.0 @ 79 msec.
Chest Channel X	-60.0 @ 59 msec.	-58.7 @ 75 msec.
Chest Channel Y	11.4 @ 59 msec.	-10.2 @ 82 msec.
Chest Channel Z	-12.1 @ 49 msec.	-14.1 @ 64 msec.
CLIP	57.9	55.9
TIME INTERVAL (msec) [0.003 seconds minimum]	t_1 = 58.3 t_2 = 61.4	t_1 = 73.2 t_2 = 76.3

HEAD INJURY CRITERIA (HIC) VALUES:

HIC	958.8	436.2
t_1 = (msec)	54.2	57.0
t_2 = (msec)	87.5	93.0
Avg. Accel. t_1 to t_2 (g's)	60.8	43.0

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

MAX. COMPRESSIVE FEMUR FORCES:

Left Side (N)	2333	5117
Right Side (N)	6986	4405

MAXIMUM SEAT BELT FORCES:

Lap Belt (N)	8187	4358
Shoulder Belt (N)	6717	5666

HYBRID III NECK, CHEST AND PELVIS DATA SHEET

VEHICLE YR./MAKE/MODEL/BODY STYLE: 1997/Ford/Escort/4 Door

VEHICLE NHTSA NO.: MV0201 TEST DATE: September 04, 1996

MAXIMUM VALUES	DRIVER DUMMY #037	PASSENGER DUMMY #036
Neck Load X (N)	*	-928.6 @ 59 msec.
Neck Load Y (N)	272.4 @ 198 msec.	-452.9 @ 113 msec.
Neck Load Z (N)	-2090.8 @ 47 msec.	-2319.4 @ 66 msec.
Neck Moment X (NM)	-12.4 @ 121 msec.	-32.0 @ 116 msec.
Neck Moment Y (NM)	-25.3 @ 69 msec.	76.0 @ 59 msec.
Neck Moment Z (NM)	-18.6 @ 184 msec.	31.6 @ 82 msec.
Chest Deflection X (mm)	41.9	38.2
Time of Max. Occurrence	78 msec.	83 msec.
Pelvis X Acceleration (g's)	-76.3 @ 51 msec.	-74.0 @ 47 msec.
Pelvis Y Acceleration (g's)	32.5 @ 50 msec.	-11.8 @ 46 msec.
Pelvis Z Acceleration (g's)	64.0 @ 88 msec.	25.2 @ 72 msec.
Pelvis Resultant (g's)	82.3 @ 51 msec.	75.0 @ 47 msec.

* No valid data collected

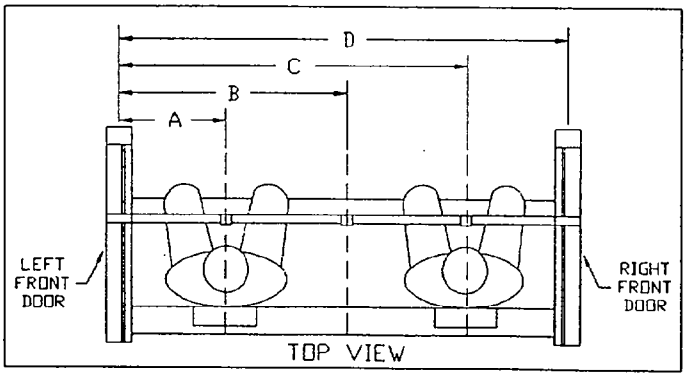
PART 572 DUMMY IN-VEHICLE POSITION

Vehicle NHTSA No.: MV0201 Vehicle: 1997 Ford Escort 4-Door

SEAT TYPE:	ADJUSTER TYPE:	BUCKET SEAT BACK TYPE:
____Bench	Driver: _X_Manual	____Fixed
_X_Bucket	_____Power	_X_Adjustable Reclining
_____Split Bench		
	Passenger: _X_Manual	
	_____Power	

DRIVER SEAT POSITION
12th detent of 23 detents

PASSENGER SEAT POSITION
12th detent of 23 detents



037 DUMMY ID 036

A = Left Door to Driver Centerline	381 mm
B = Left Door to Center Passenger Centerline	727 mm
C = Left Door to Right Passenger Centerline	1050 mm
D = Left Door to Right Door	1454 mm

FRONT SEAT MEASUREMENT TABLE

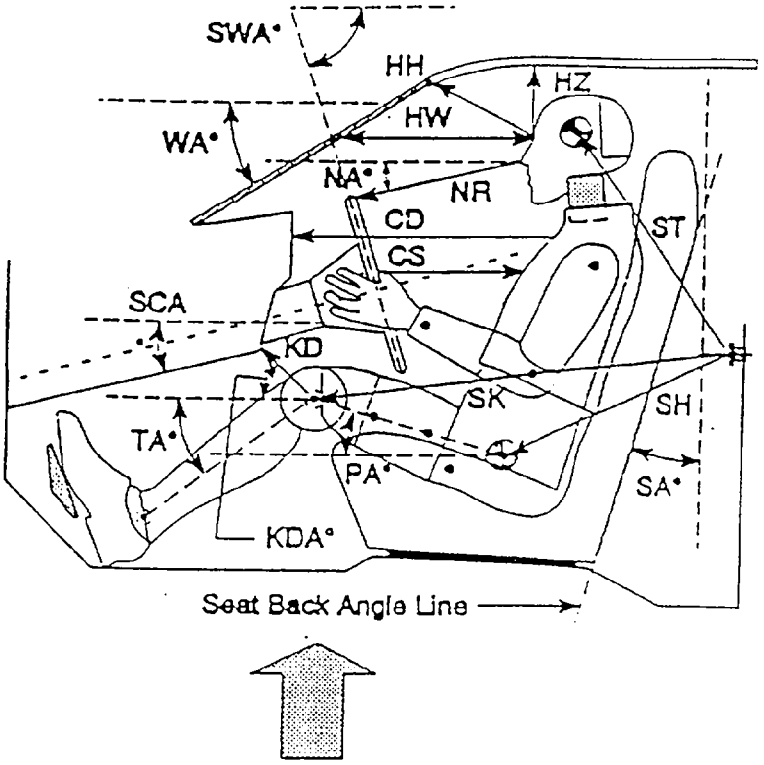
Units (mm)

	DRIVER (Serial #037)	PASSENGER (Serial #036)
WA°	30.7°	
SWA°	65.9°	N/A
SCA°	24.5°	N/A
SA°	19.3°	19.8°
HZ	162	155
HH	304	302
HW	486	496
HR	235	223
NR	394 Angle (NA) 12.3°	N/A
CD	528	629
CS	322	N/A
RA	184	N/A
KDL	161 Angle (KDA) 19°	155
KDR	178	150 Angle 28°
PA°	23.5°	22.2°
TA°	40.3°	34.5°
KK	343	264
ST*	570 Angle 5.5°	570 Angle 12.2°
SK*	580 Angle 86.2°	587 Angle 87.6°
SH*	209 Angle 57.5°	215 Angle 56.6°
SHY	250	258
HS	286	300
HD	138	158
AD	74	85

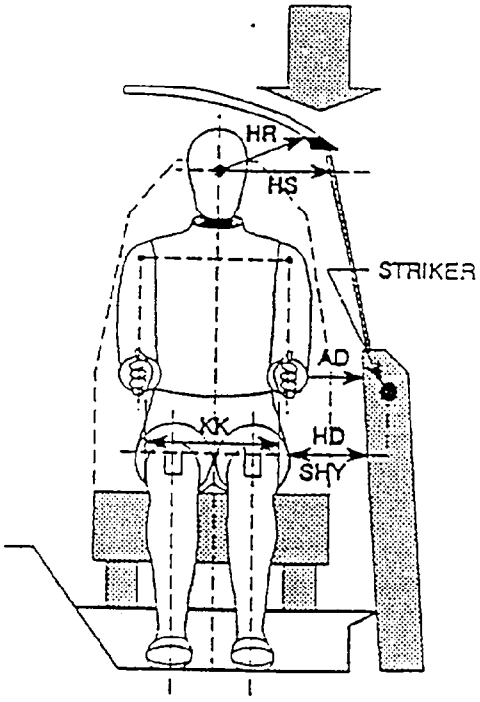
N/A = Not Applicable

* Angles measured from vertical

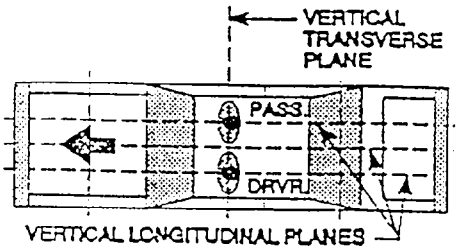
FRONT SEAT MEASUREMENTS



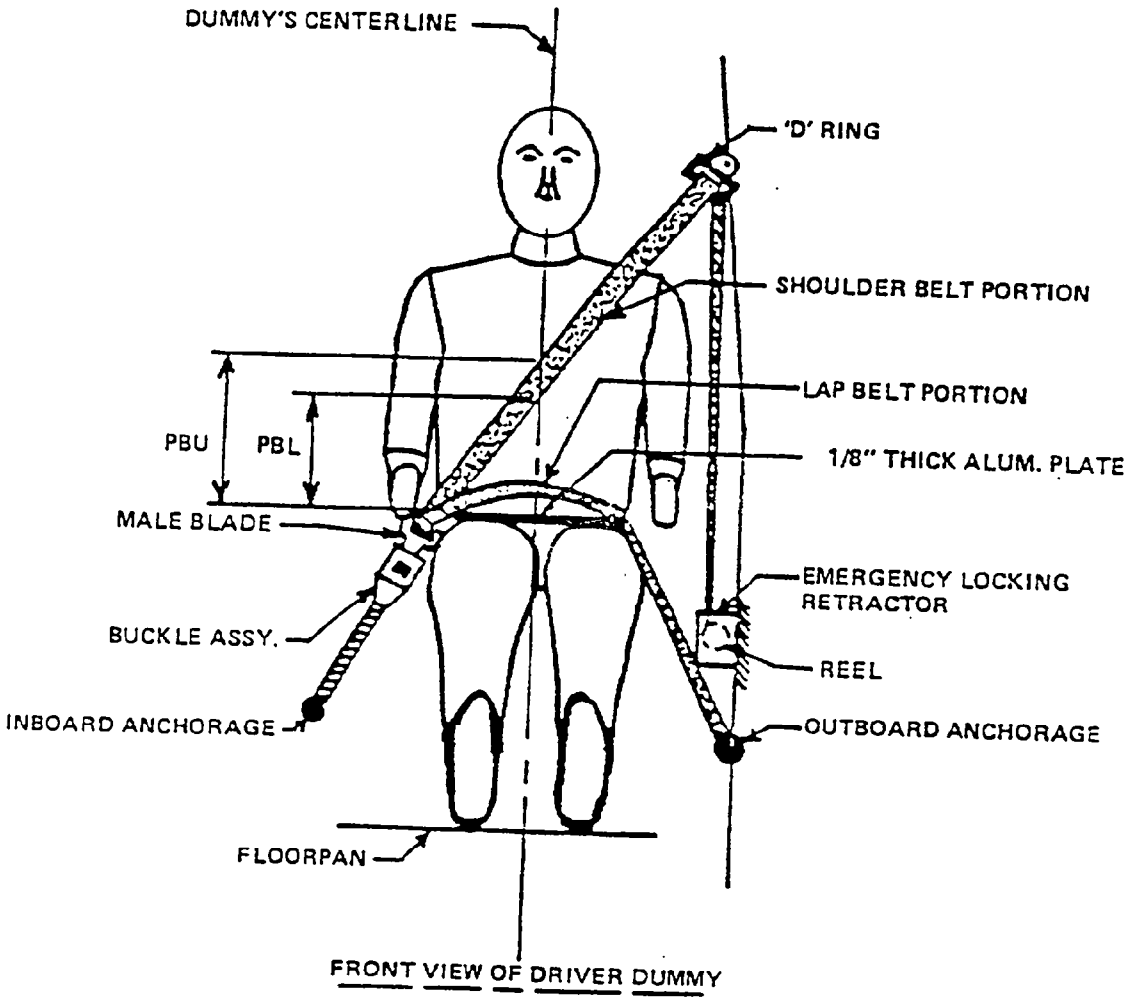
AD - Arm to Door
HD - H-Point to Door
HR - Head to Side Header
HS - Head to Side Window
KK - Knee to Knee
SHY - Striker to H-Point (Y-Direction)



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



(illustration)

Dimension = mm

	DRIVER DUMMY	PASSENGER DUMMY
PBU -- Top surface of alum. plate to upper edge	330	333
PBL -- Top surface of alum. plate to belt lower edge	257	257

SEAT BELT PERFORMANCE ASSESSMENT TEST DATA

BELT LENGTH DATA:	Driver	Passenger
Length from trim above retractor reel to "D" ring as measured on dummy.	580 mm	593 mm
Shoulder belt length as measured on Part 572 Dummy.	810 mm	790 mm
Lap belt length as measured on Part 572 Dummy.	825 mm	780 mm

SHOULDER BELT SPOOL-OFF DATA:		
As determined by film analysis	40 mm	29 mm at shoulder
As determined electronically	26 mm	24 mm at shoulder
As determined mechanically	74 mm	60 mm at retractor

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	62 msec.	54 msec.

NR Not Recorded

CAMERA LOCATIONS

VEH. NHTSA NO.: MV0201 ; TEST DATE: September 4, 1996 ; TIME: 2:58 p.m.

VEH. YEAR/MAKE/MODEL/BODY STYLE: 1997/Ford/Escort/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	-	-	-	-	-	10	24
2	Left Front	890	7680	1460	90°	-8095	25	980
3	Steering Column Top	1970	7950	1560	90°	-8365	25	651
4	Steering Column Bottom	1960	7950	1035	90°	-8365	25	1000
5	Left Driver Close-up	1170	9360	1475	90°	-9775	75	1070
6	Left Angle	5170	5800	1980			50	930
7	Onboard Driver						35	1015
8	Onboard Passenger						35	1015
9	Right Overall	2110	-7470	1120	90°	7055	13	NR
10	Right Front	1040	-7680	1245	90°	7265	25	1053
11	Right Passenger Close-up	1480	-7250	1300	90°	6835	50	952
12	Right Angle	6000	-5900	1930			50	1124
13	Top View Wide	345	0	2700			13	NT
14	Top Driver	-100	450	1575			13	909
15	Top Passenger	-100	-470	1565			13	971
16	Pit Engine	1120	0	-3155			13	1026
17	Fuel Tank	2770	0	-3125			13	1010

* COORDINATES:

+X = film plane rearward of barrier

+Y = film plane to left of monorail centerline

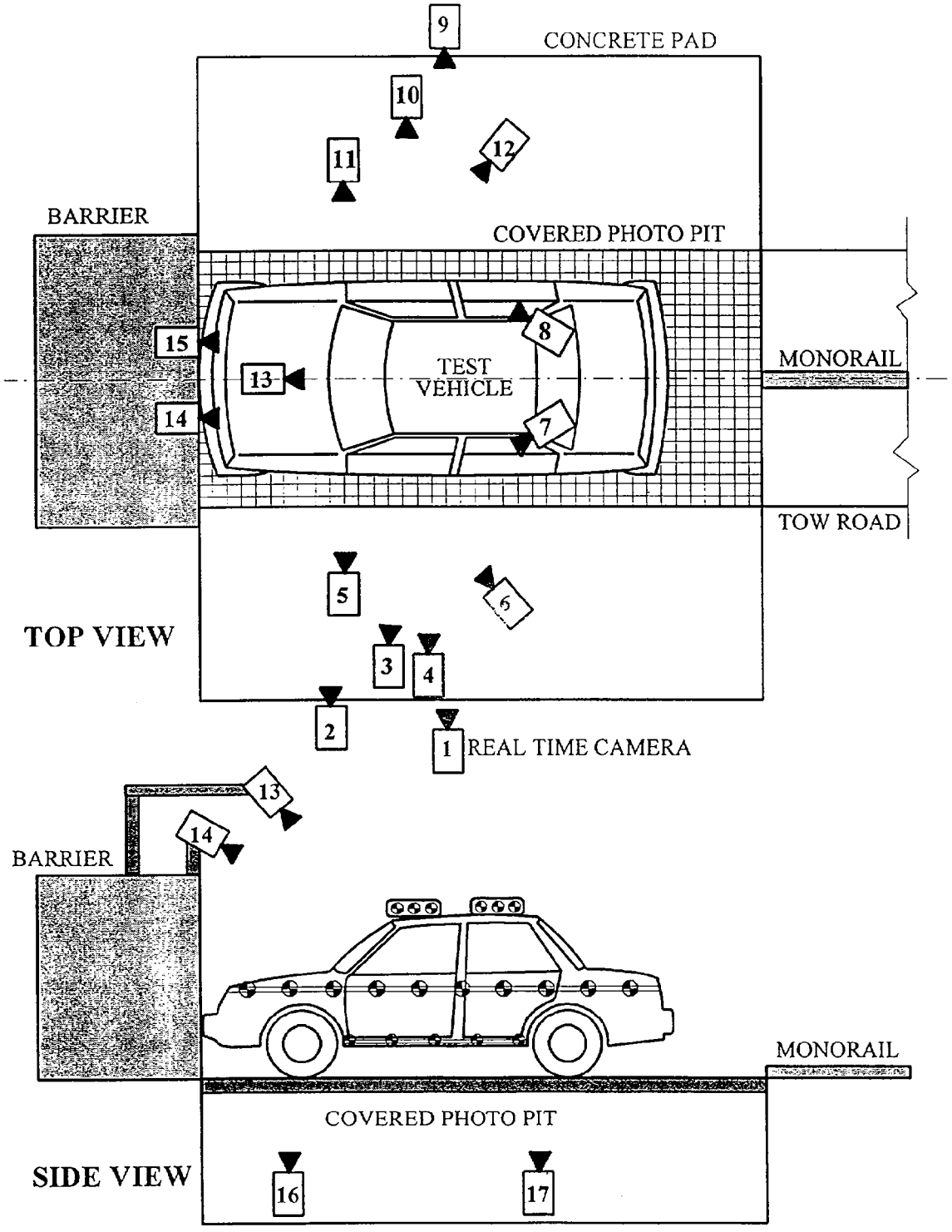
+Z = film plane to above ground level

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

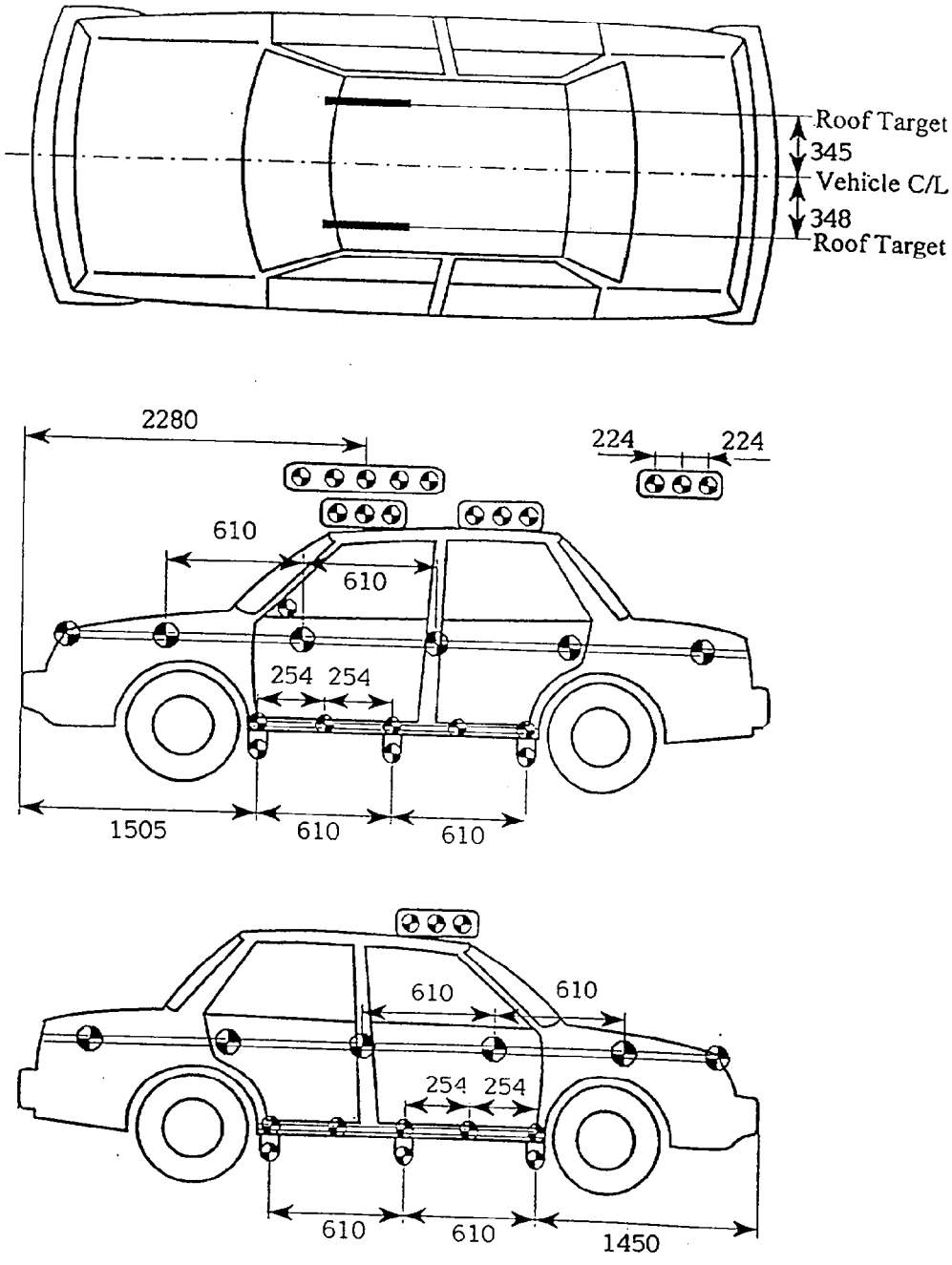
NR = Not Run

NT = No Timing

CAMERA LOCATIONS (Cont'd)



VEHICLE TARGET LOCATIONS



(DIMENSIONS IN MM)

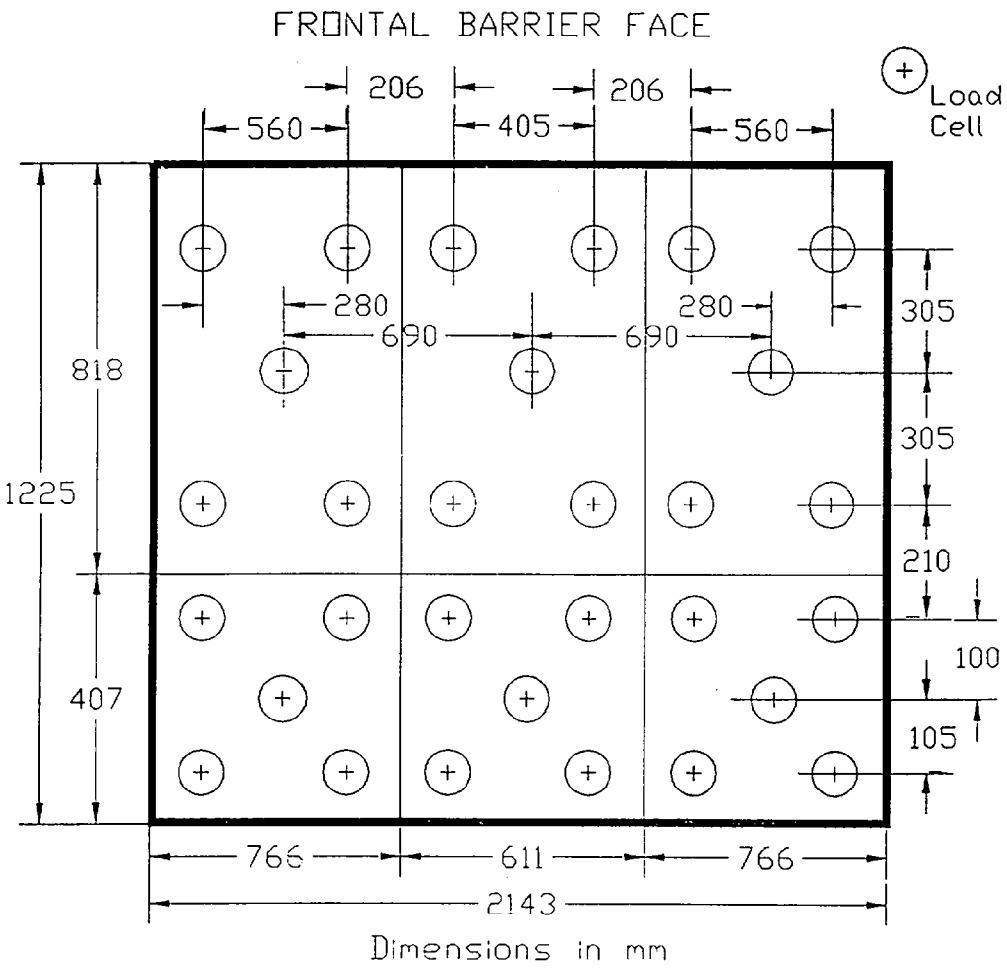
LOAD CELL LOCATIONS ON FIXED BARRIER

30 Load Cells

6 Rows

9 Columns

6 Groupings (5 cells/group)

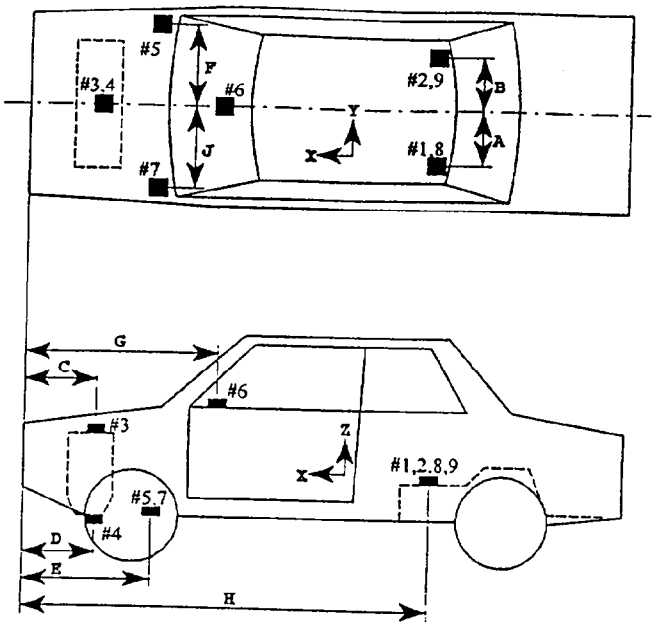


The following data is presented in Appendix B:

(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)

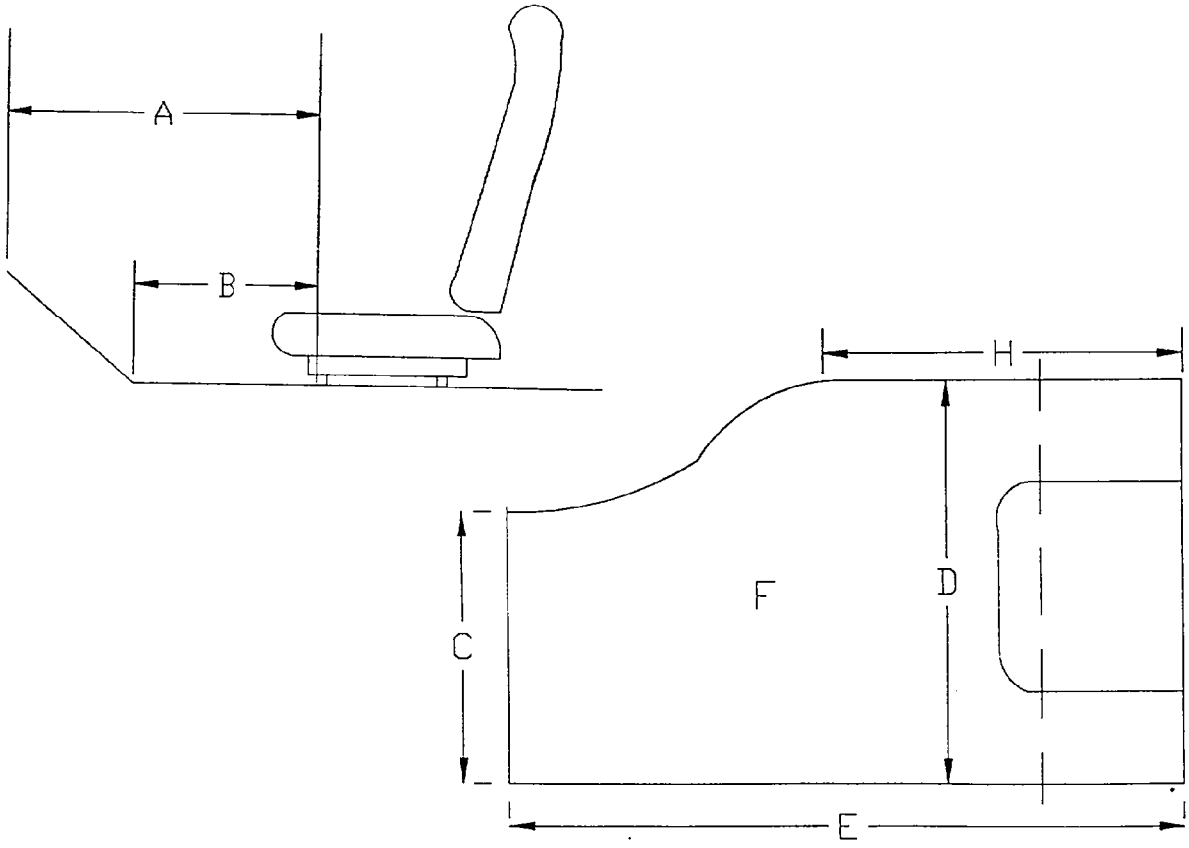
Dimension	Length
A	580
B	580
C	621
D	733
E	785
F	610
G	1415
H	2695
J	610

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



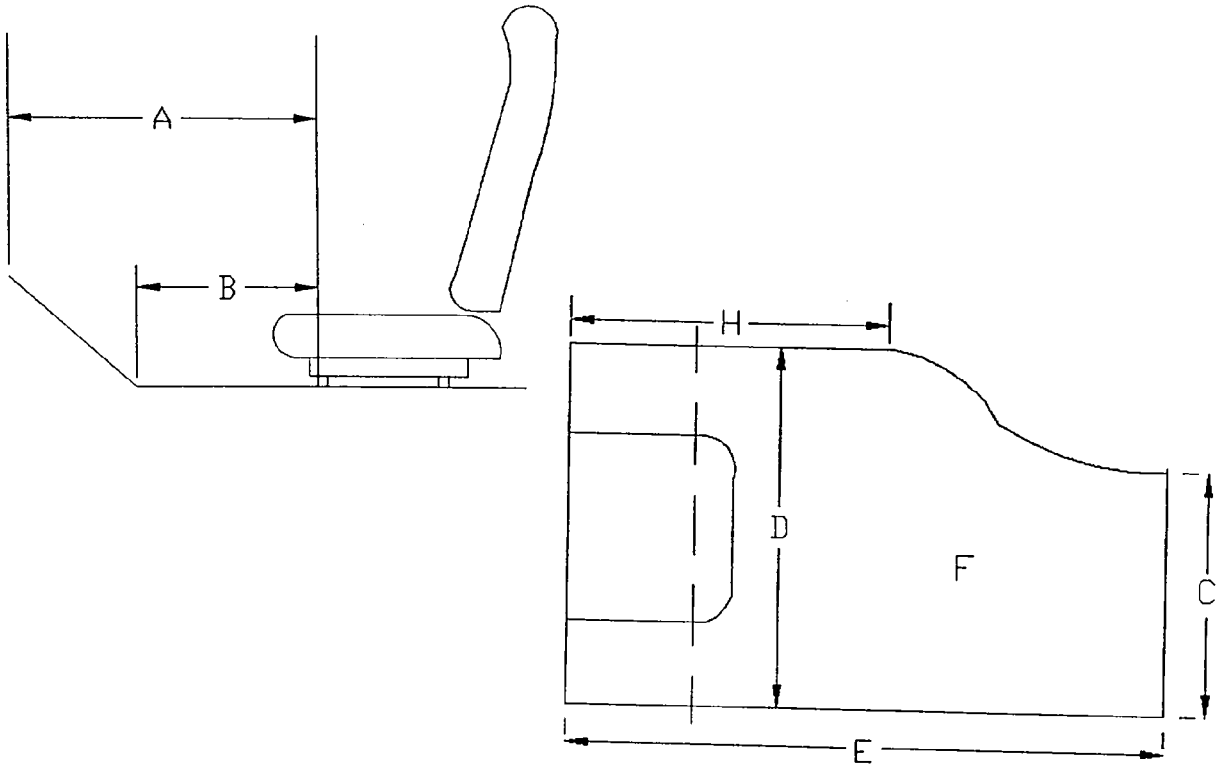
Units = mm

MEASUREMENT	PRE TEST	POST TEST	DIFFERENCE
A	846	657	189
B	593	459	134
C	400	419	19
D	455	445	10
E	2063	1932	131
H	1758	1548	210
F (cm^2)	9302.8	8547.5	755.3

TEST VEHICLE MEASUREMENTS (Cont'd)

STATIC FOOTWELL DEFORMATION

Passenger's Side

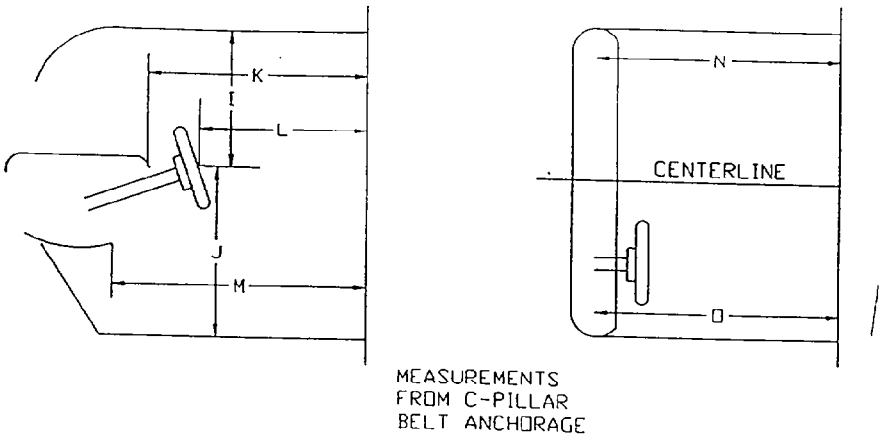


Units = mm

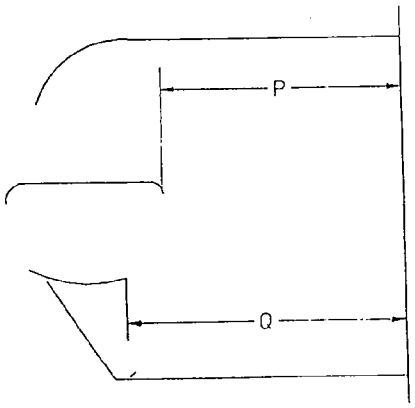
MEASUREMENT	PRE TEST	POST TEST	DIFFERENCE
A	780	631	149
B	545	483	62
C	325	332	7
D	454	458	4
E	2065	1937	128
H	1700	1649	51
F (cm^2)	9139.7	8690.0	449.7

TEST VEHICLE MEASUREMENTS (Cont'd)

STATIC PASSENGER COMPARTMENT INTRUSION



MEASUREMENTS
FROM C-PILLAR
BELT ANCHORAGE



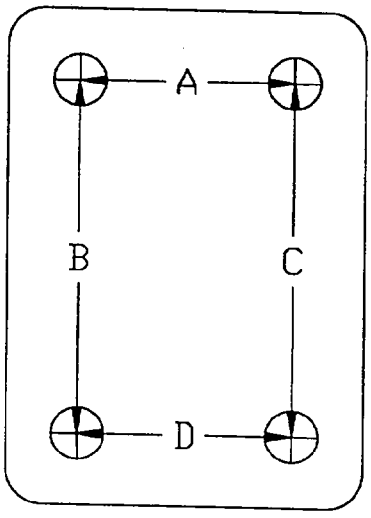
Units = mm

MEASUREMENT	PRE TEST	POST TEST	DIFFERENCE
I	515	486	29
J	530	669	139
K	1645	1617	28
L	1404	1369	35
M	1728	1677	51
N	1840	1841	1
O	1890	1816	74
P	1720	1754	34
Q	1770	N/A	N/A

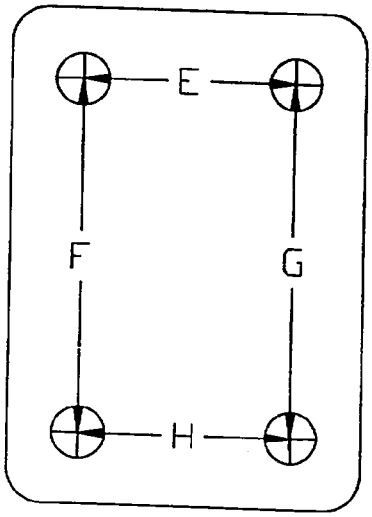
TEST VEHICLE MEASUREMENTS (Cont'd)

UNDERBODY FLOORBOARD DEFORMATION

DRIVER'S SIDE



PASSENGER'S SIDE

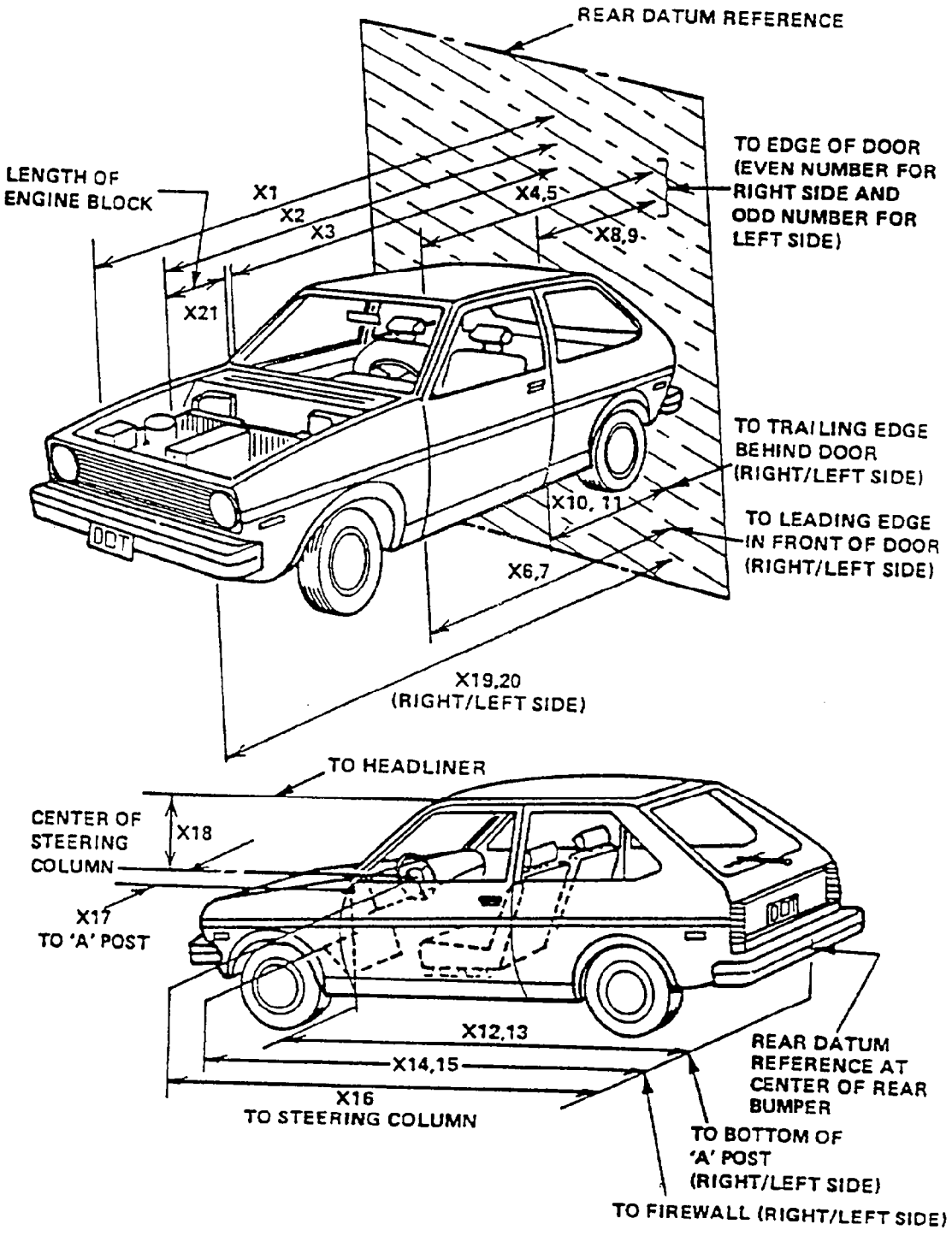


MEASUREMENT	PRE TEST	POST TEST	DIFFERENCE
A	379	382	3
B	555	467	88
C	551	484	67
D	358	359	1
E	370	370	0
F	590	503	87
G	553	517	36
H	370	366	4

TEST VEHICLE MEASUREMENTS (Cont'd)

No.	MEASUREMENT DESCRIPTION:	Pre-Test (mm)	Post-Test (mm)	Diff. (mm)
X1	Total Length of Test Vehicle at Centerline	4365	3908	457
X2	Rear Surface of Vehicle to Front of Engine	3830	3607	223
X3	Rear Surface of Vehicle to Firewall	3304	3024	280
X4	Rear Surface to Upr. Leading Edge of Rt. Door	2975	2980	-5
X5	Rear Surface to Upr. Leading Edge of Left Door	2969	2979	-10
X6	Rear Surface to Lwr. Leading Edge of Rt. Door	2986	2977	9
X7	Rear Surface to Lwr. Leading Edge of Left Door	2974	2976	-2
X8	Rear Surface to Upr. Trailing Edge of Rt. Door	1990	1983	7
X9	Rear Surface to Upr. Trailing Edge of Left Door	1977	1988	-11
X10	Rear Surface to Lwr. Trailing Edge of Rt. Door	1994	1984	10
X11	Rear Surface to Lwr. Trailing Edge of Left Door	1980	1981	-1
X12	Rear Surface to Bottom of A-Post on Rt. Side	2984	2976	8
X13	Rear Surface to Bottom of A-Post on Left Side	2975	2977	-2
X14	Rear Surface to Firewall on Right Side	3277	3193	84
X15	Rear Surface to Firewall on Left Side	3264	3231	33
X16	Rear Surface to Steering Column	2538	2539	-1
X17	Center of Steering Column to A-Post	400	361	39
X18	Center of Steering Column to Headlining	480	456	24
X19	Rear Surface to Right Side of Front Bumper	4230	3877	353
X20	Rear Surface to Left Side of Front Bumper	4220	3754	466
X21	Length of Engine Block	425	425	0

TEST VEHICLE MEASUREMENTS (Cont'd)



ACCIDENT INVESTIGATION DIVISION DATA

FOR 35 MPH FRONTAL BARRIER IMPACT

VEHICLE MAKE/MODEL/BODY STYLE: 1997/Ford/Escort/4 Door

VEH. NHTSA NO.: MV0201 ; VIN: 1FALP13P4VN137038

MODEL YEAR: 1997 ; BUILD DATE: 5/96 ; TEST DATE: September 4, 1996

VEH. SIZE CATEGORY: Compact ; TEST WEIGHT: 1347.2 kg

VEH. WHEELBASE: 2502 mm; FRONT OVERHANG: 825 mm; OVERALL WIDTH: 1726 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: 56.5 kph ; TIME OF SEPARATION: 115 msec

VELOCITY CHANGE: 64.5 kph

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

CRUSH DEPTH C1 = 466 mm

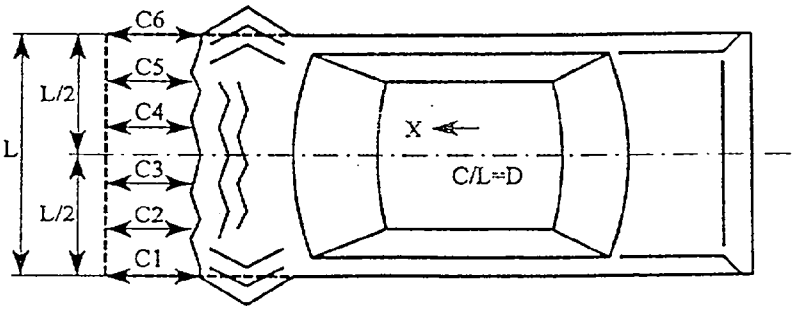
DIMENSIONS: C2 = 502 mm

C3 = 492 mm

C4 = 443 mm

C5 = 423 mm

C6 = 353 mm



MIDPOINT OF DAMAGE: D = Vehicle Centerline (Longitude)

LENGTH OF DAMAGED REGION: L = 1350 mm

APPENDIX A

PHOTOGRAPHS

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

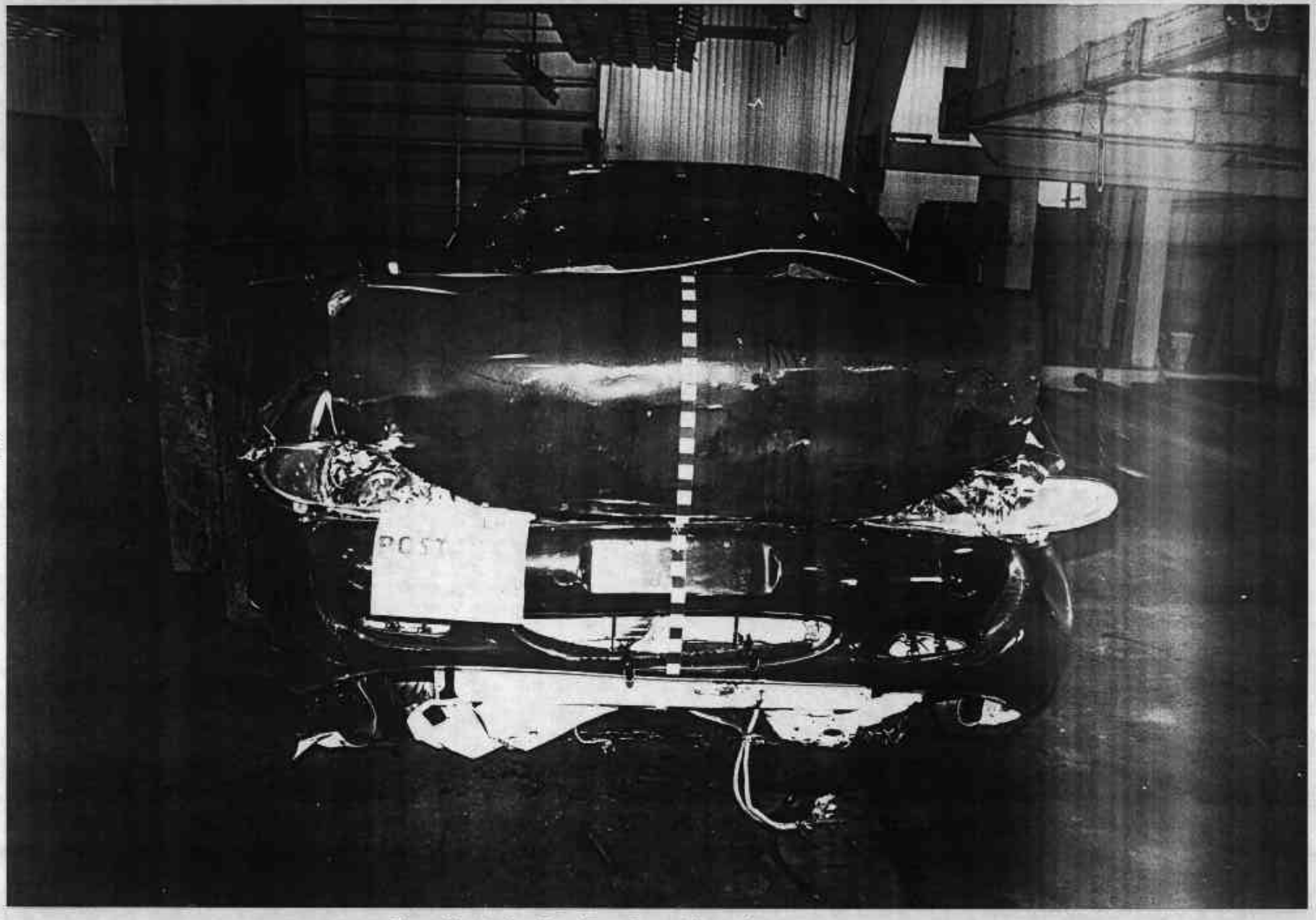


Photo No. A-2 - Post-Test Front View of Test Vehicle

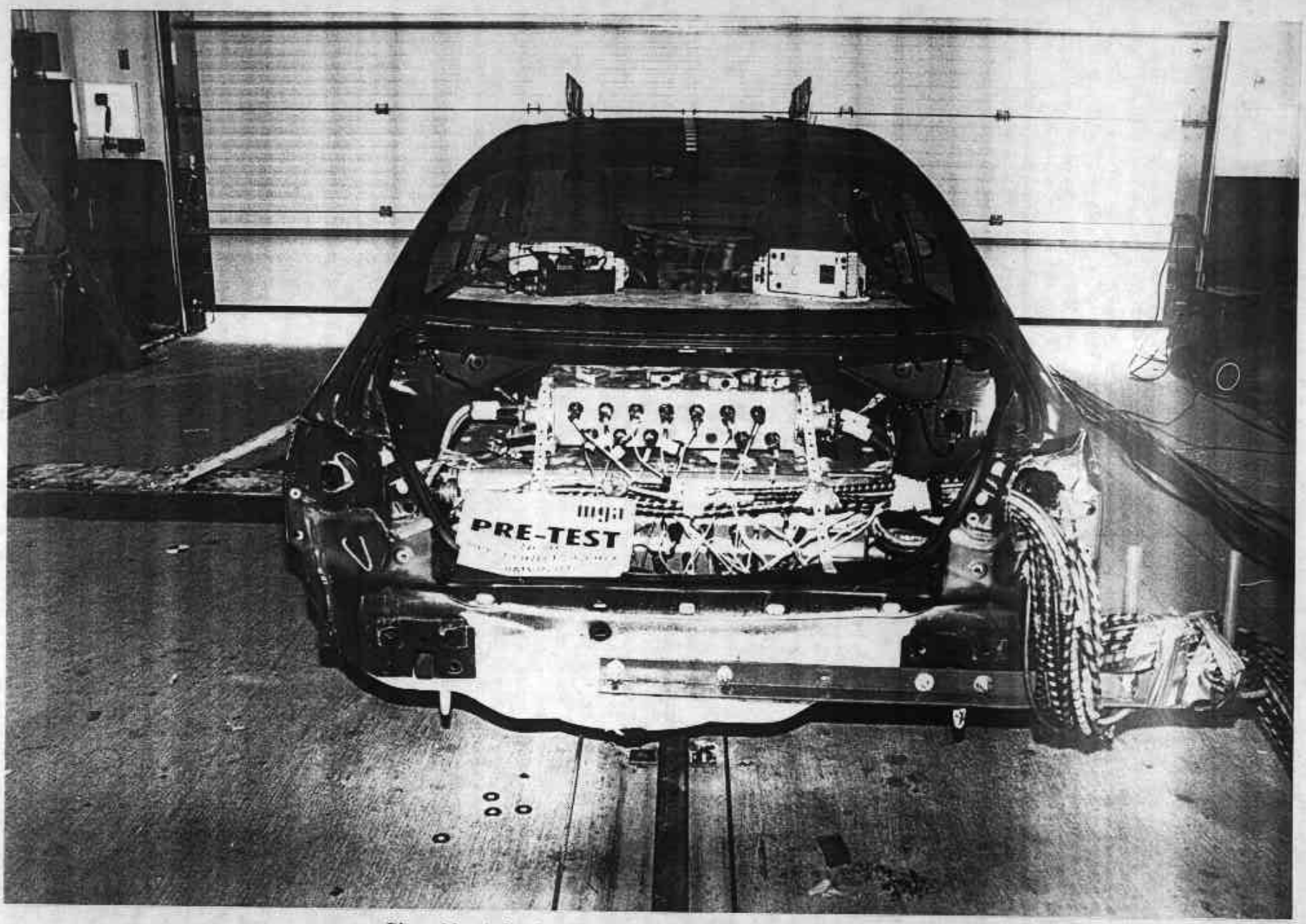
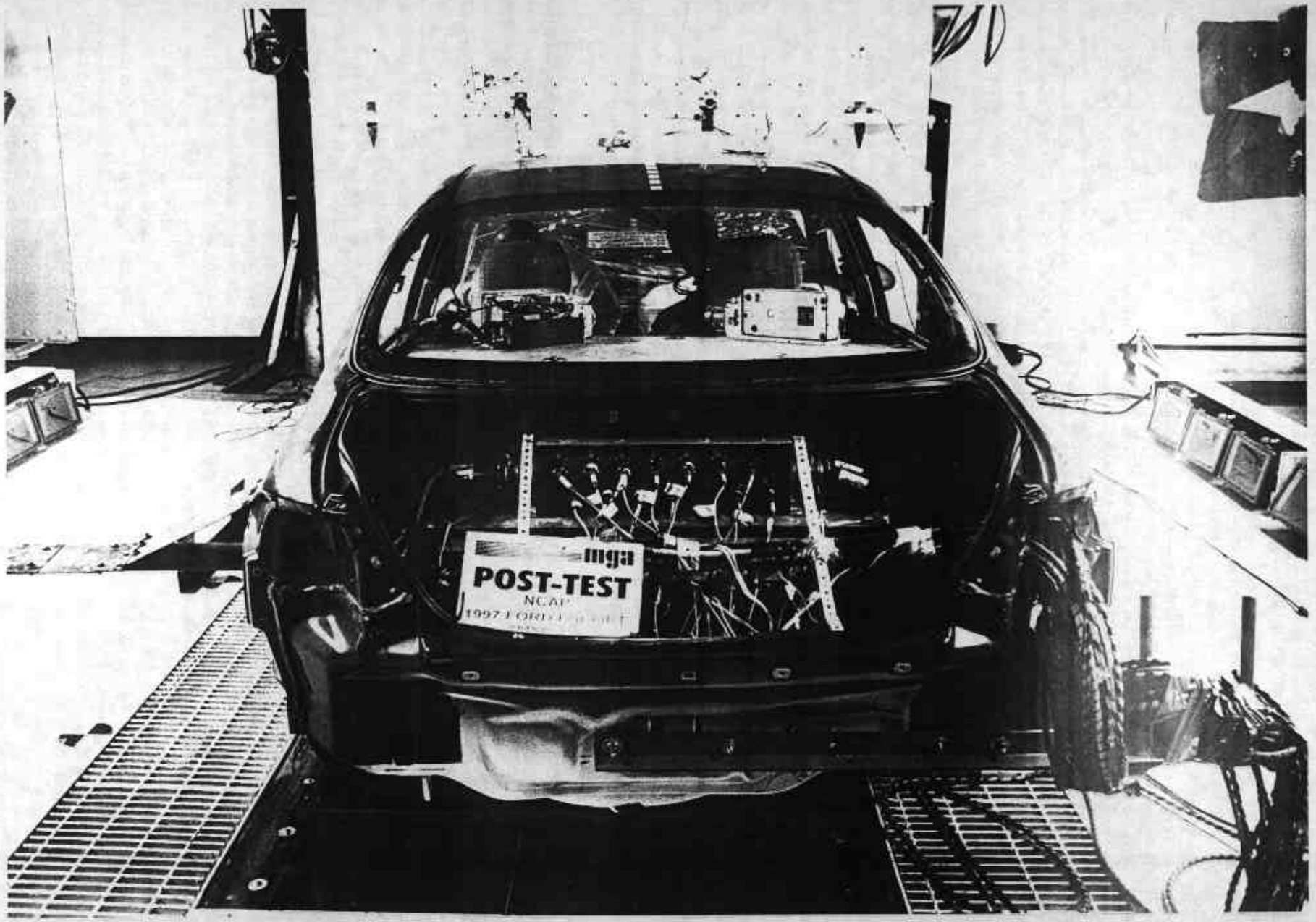


Photo No. A-3 - Pre-Test Rear View of Test Vehicle



A-4

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

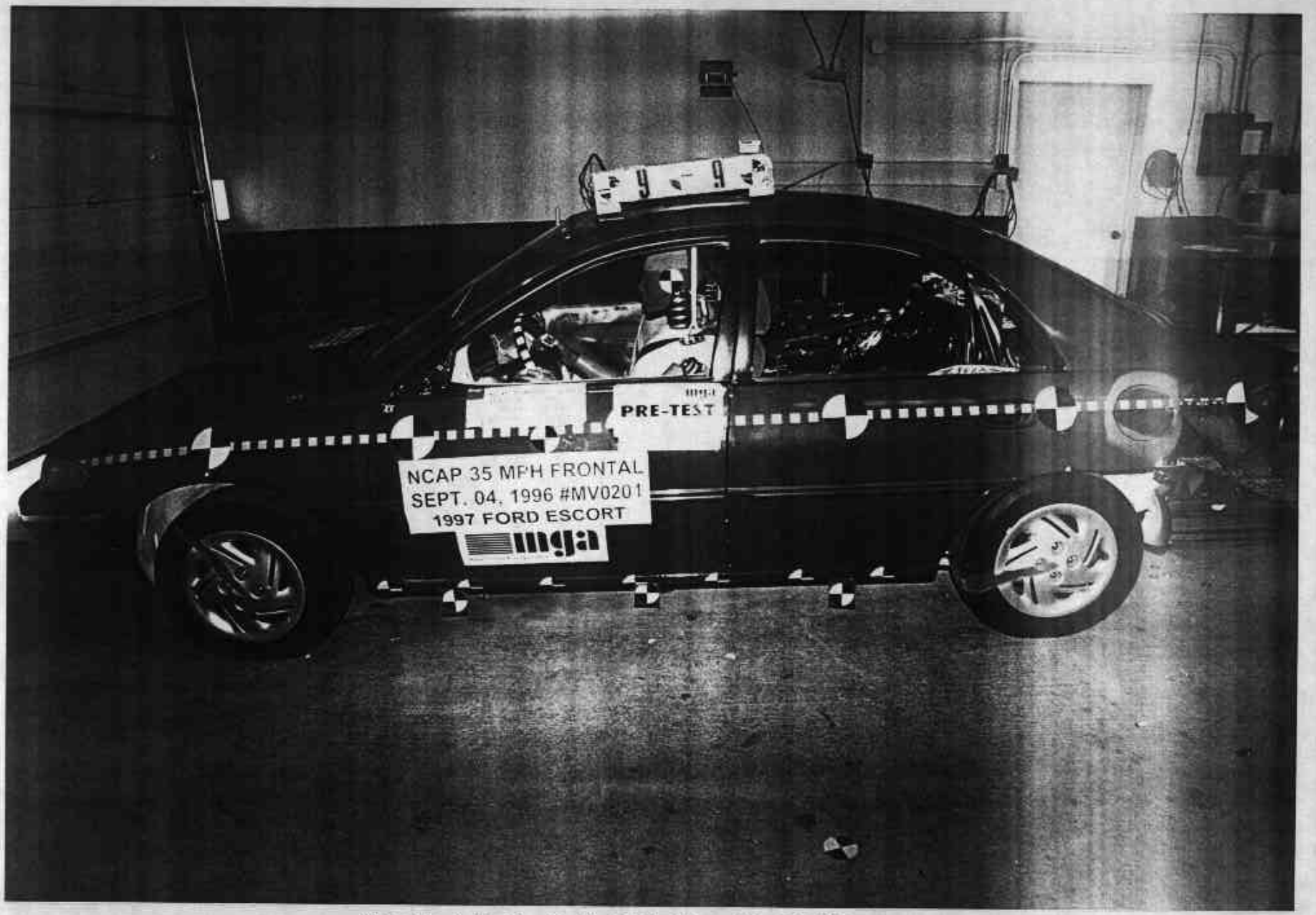


Photo No. A-5 - Pre-Test Left Side View of Test Vehicle

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

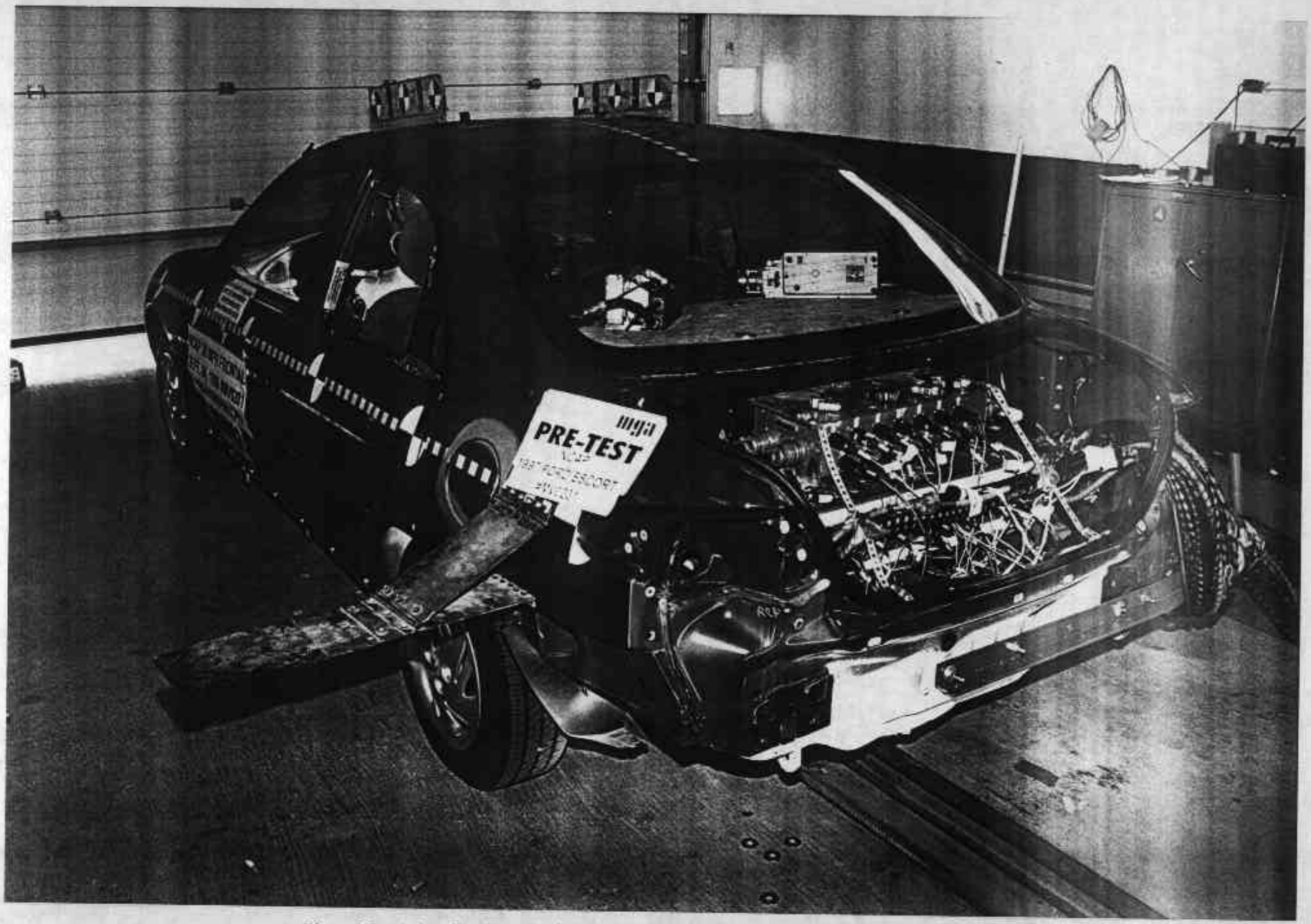


Photo No. A-7 - Pre-Test Left Rear Three-Quarter View of Test Vehicle

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

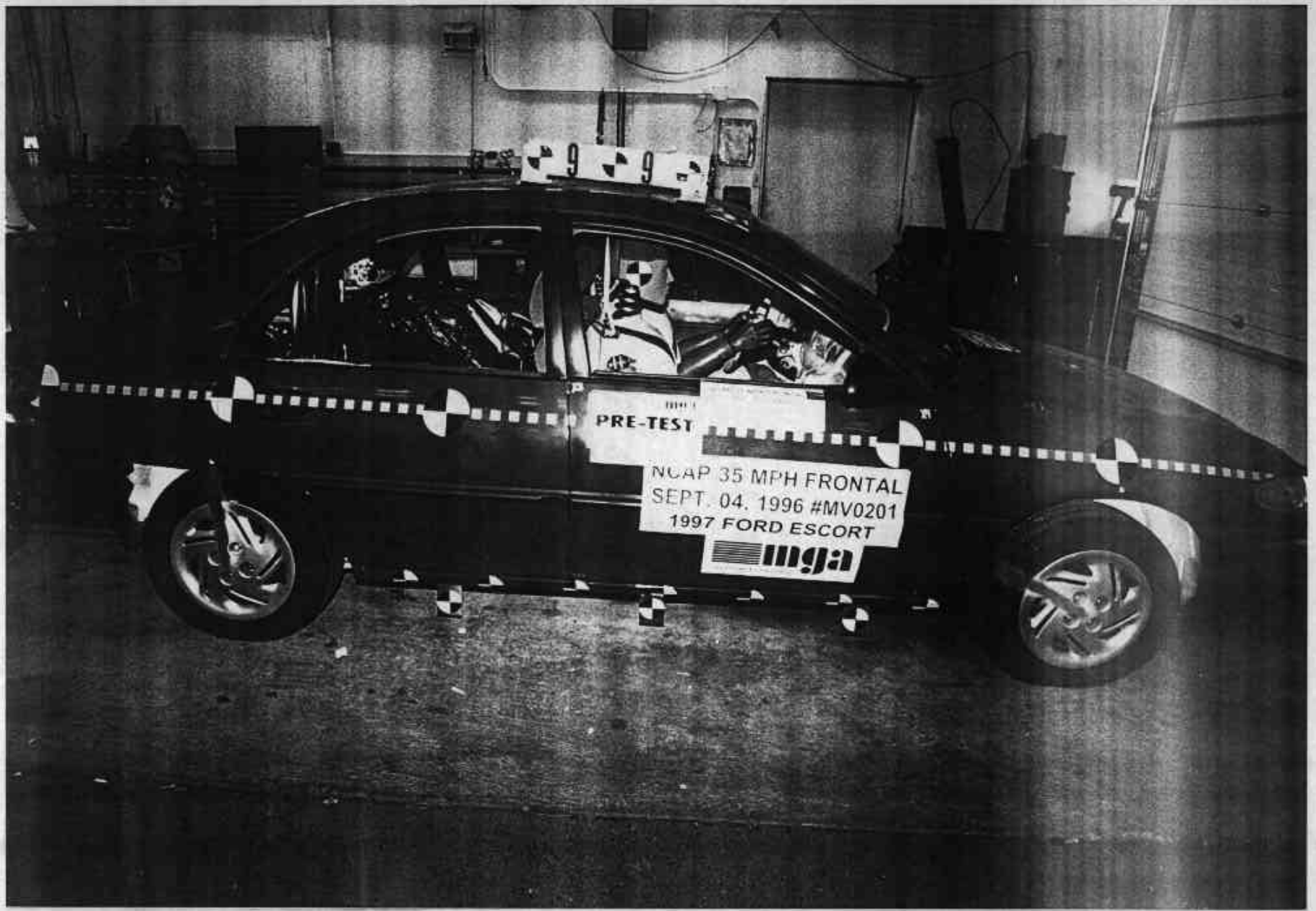


Photo No. A-9 - Pre-Test Right Side View of Test Vehicle

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

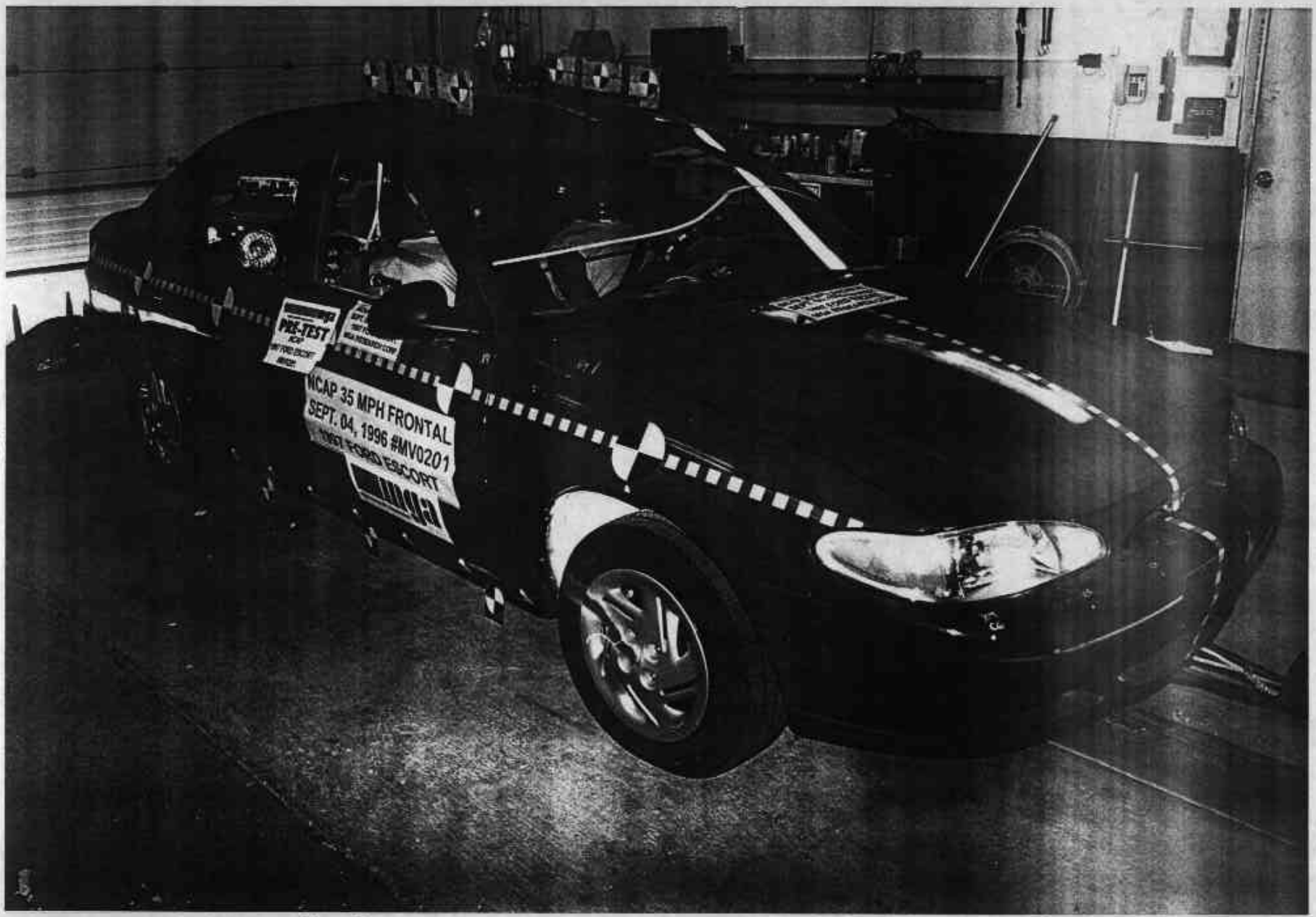


Photo No. A-11 - Pre-Test Right Front Three-Quarter View of Test Vehicle

A-12

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

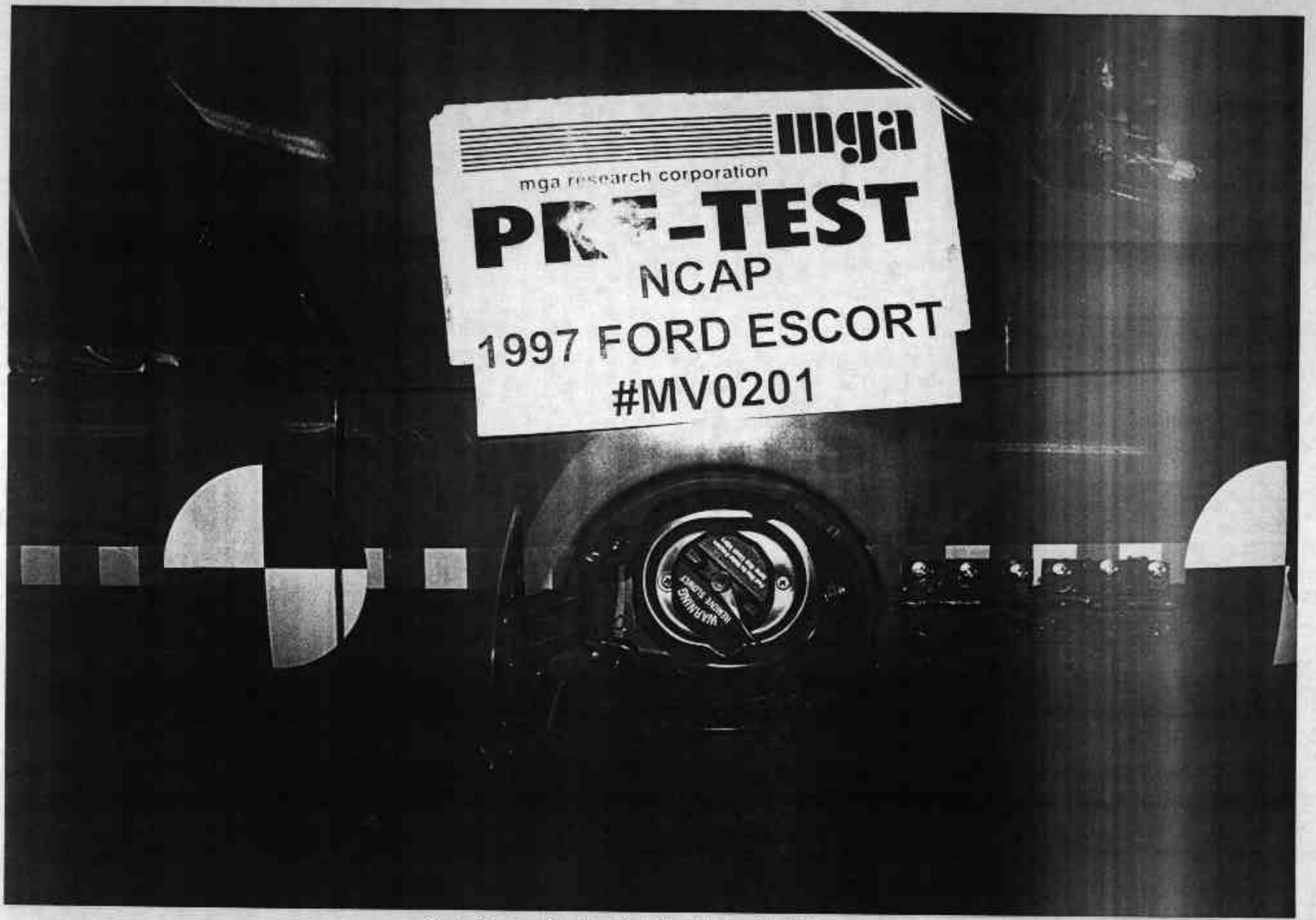


Photo No. A-13 - Pre-Test Fuel Filler Cap View

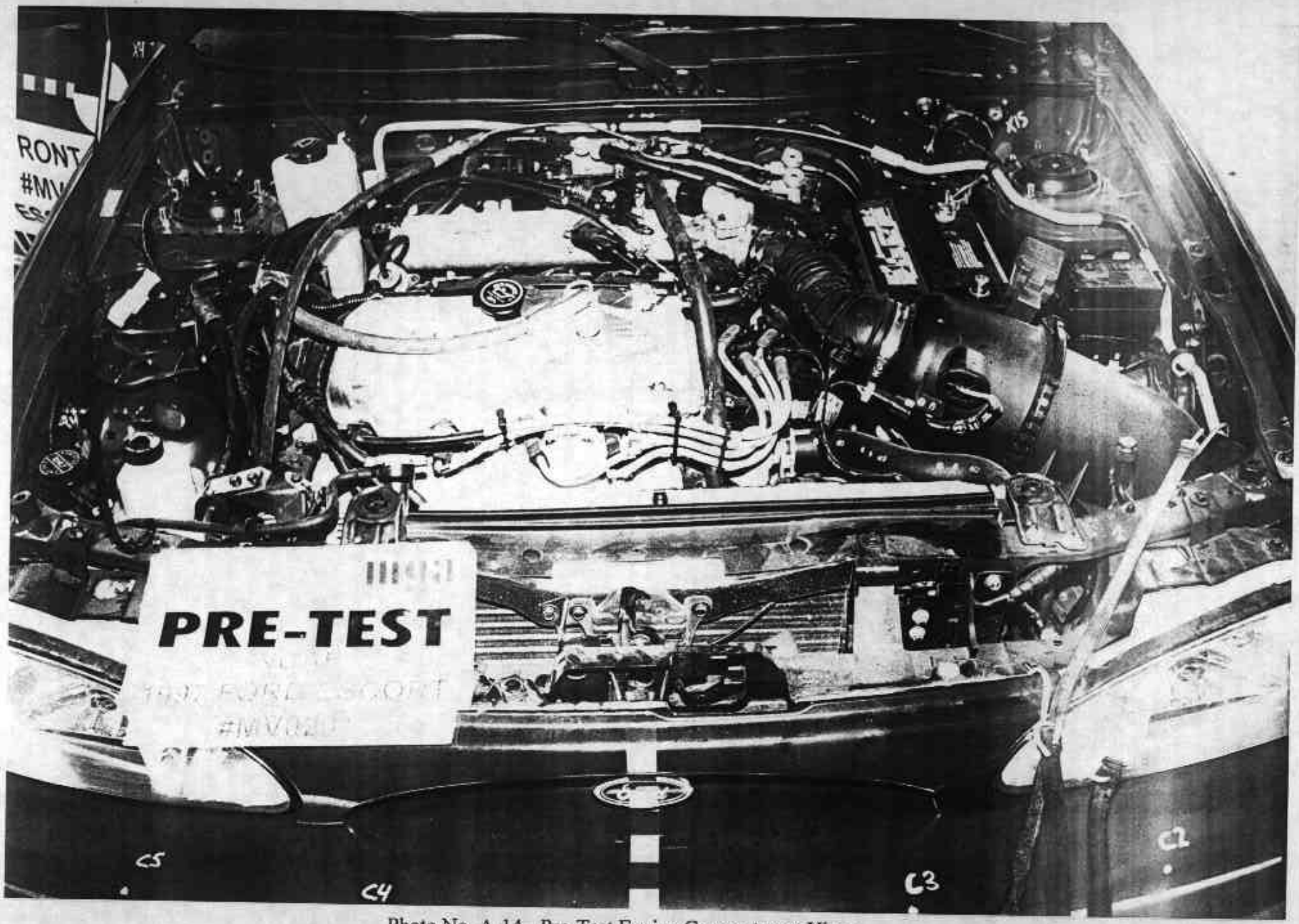
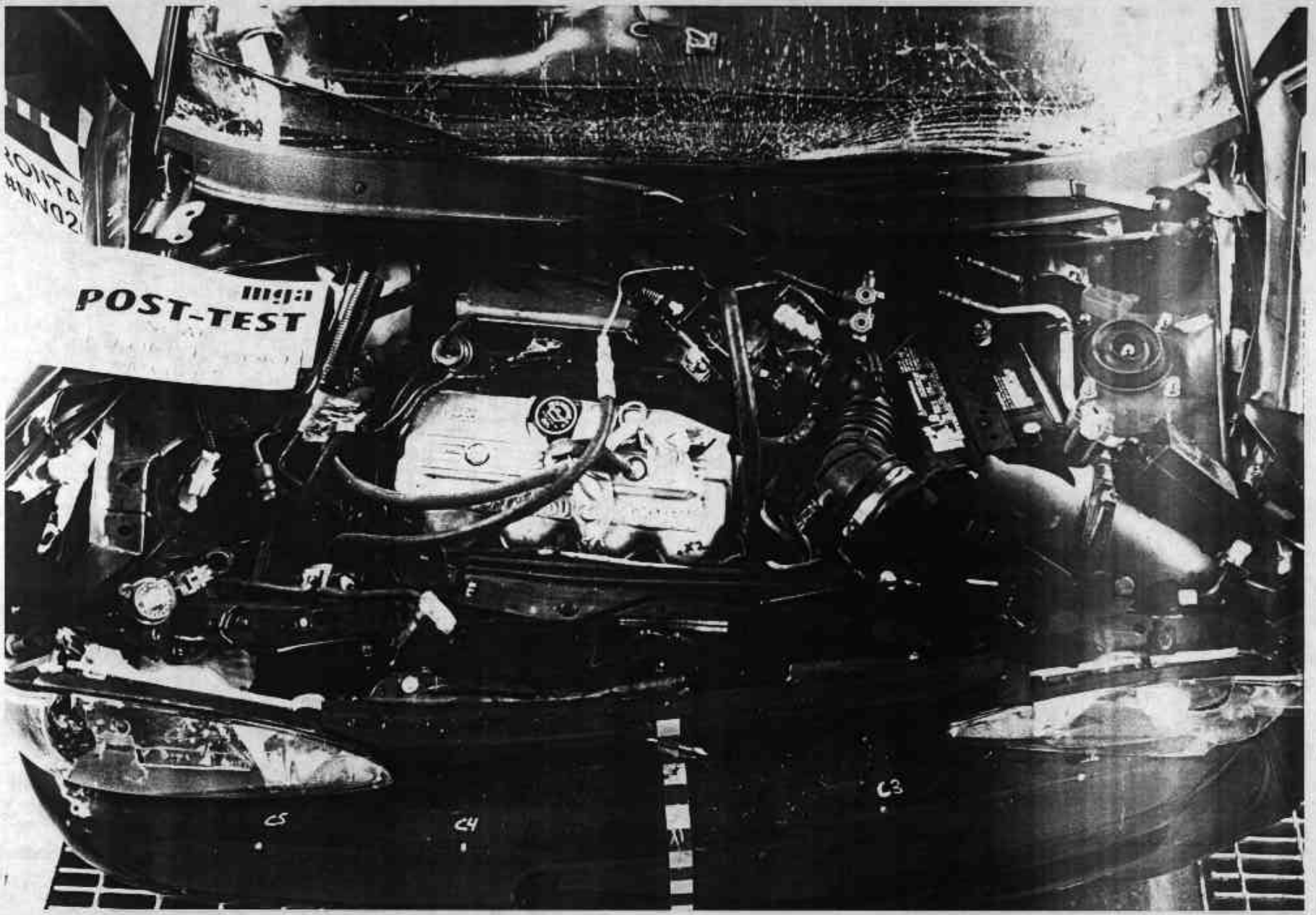


Photo No. A-14 - Pre-Test Engine Compartment View



A-15

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

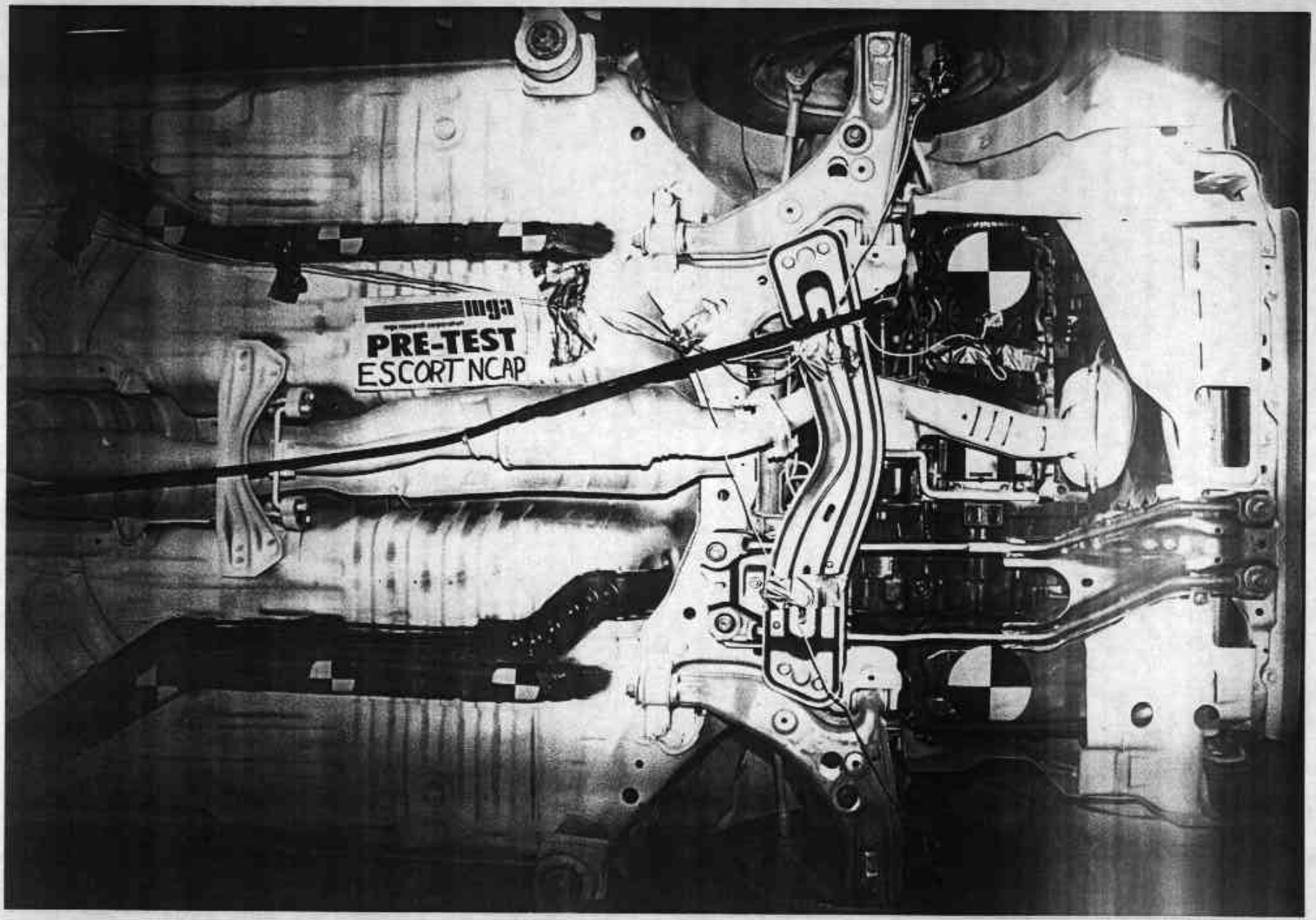


Photo No. A-16 - Pre-Test Front Underbody View

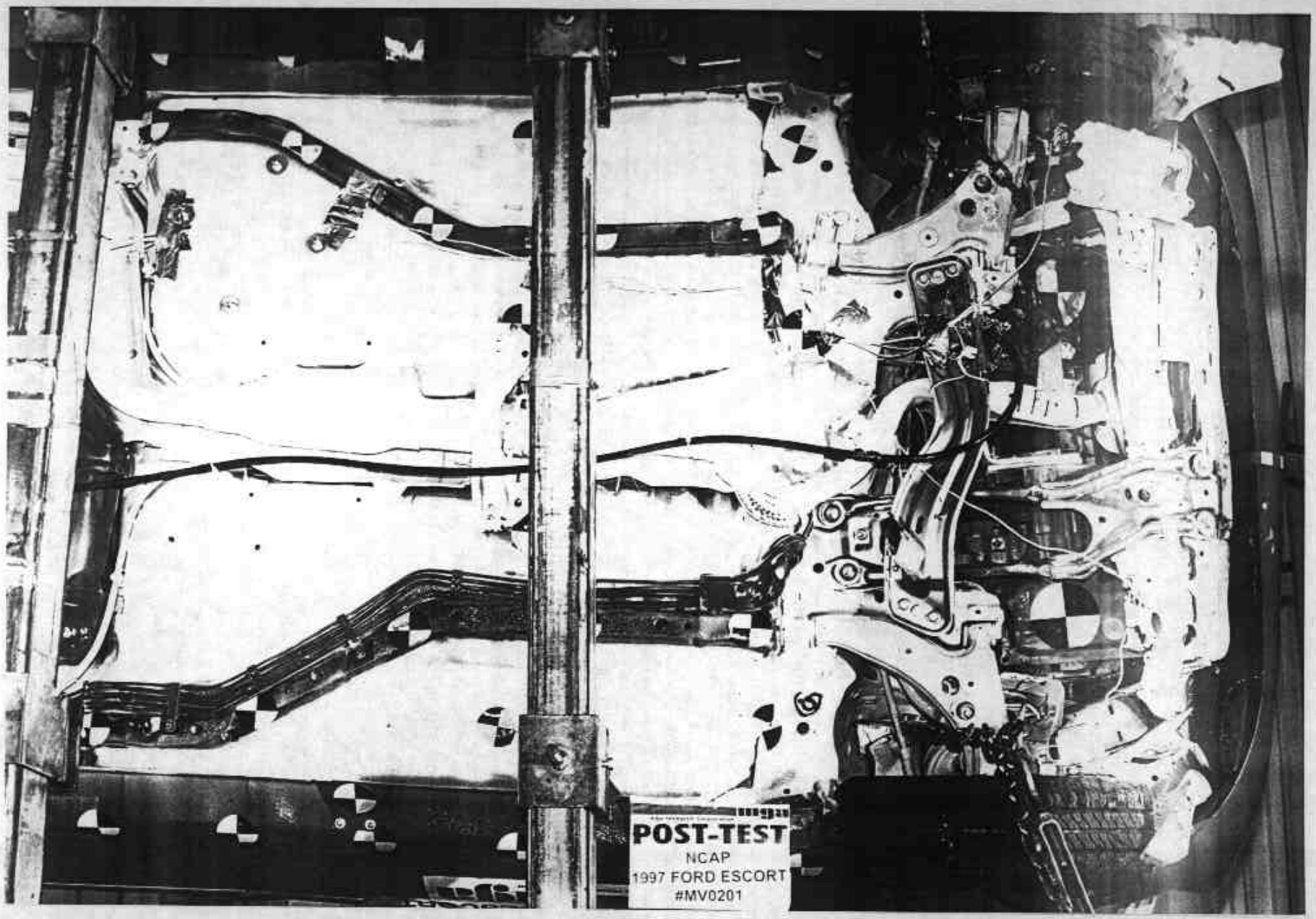


Photo No. A-17 - Post-Test Front Underbody View

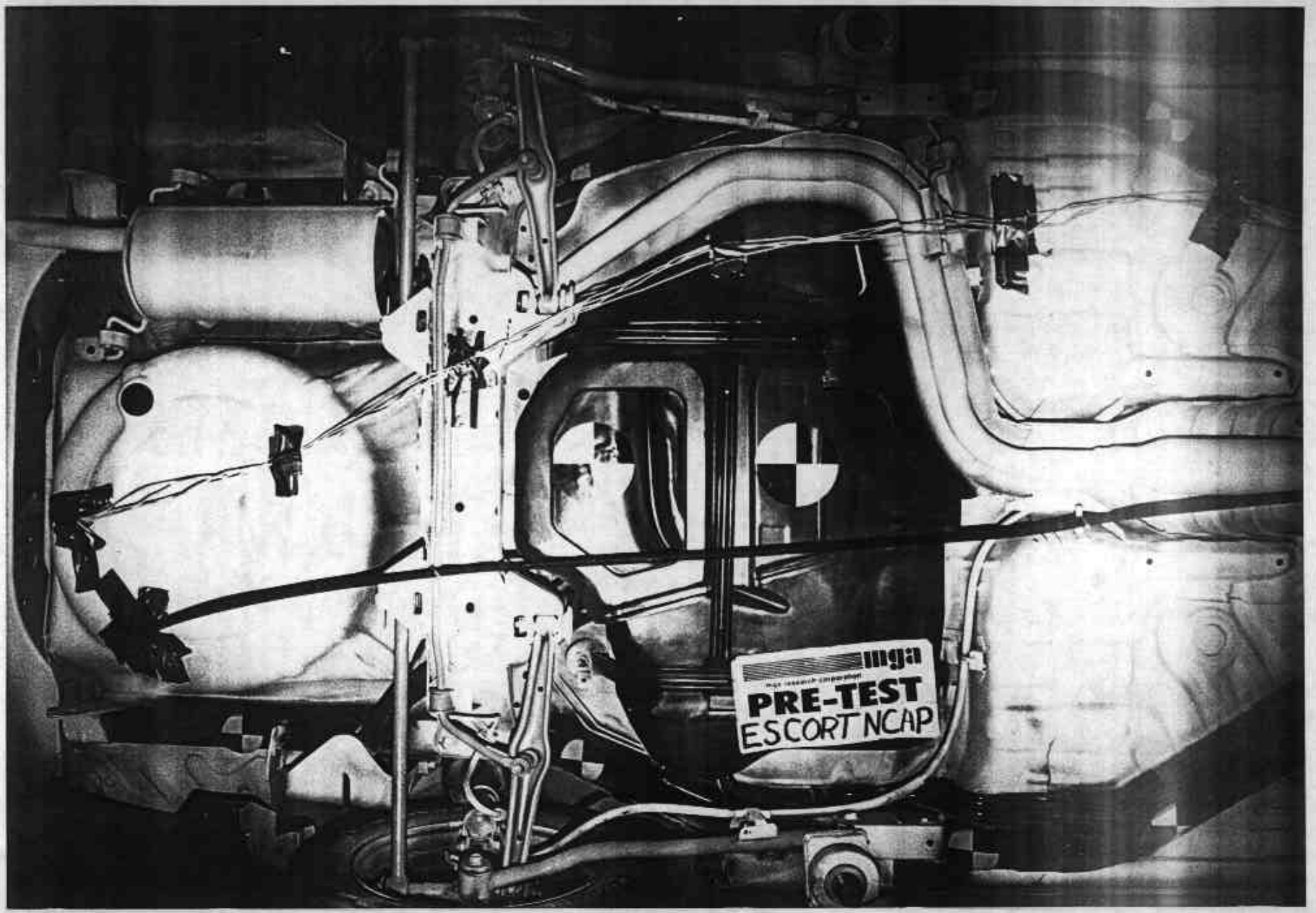


Photo No. A-18 - Pre-Test Rear Underbody View

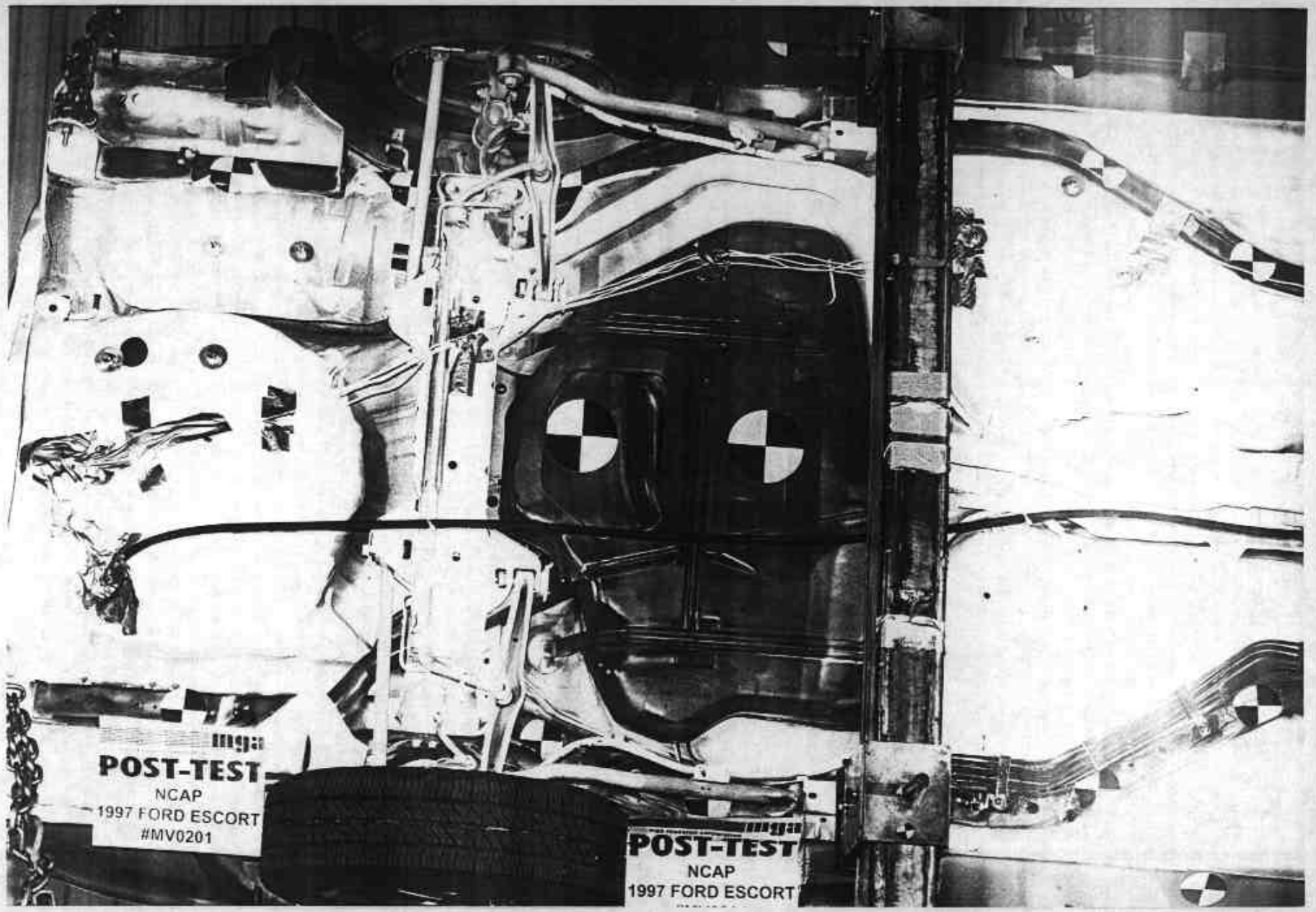
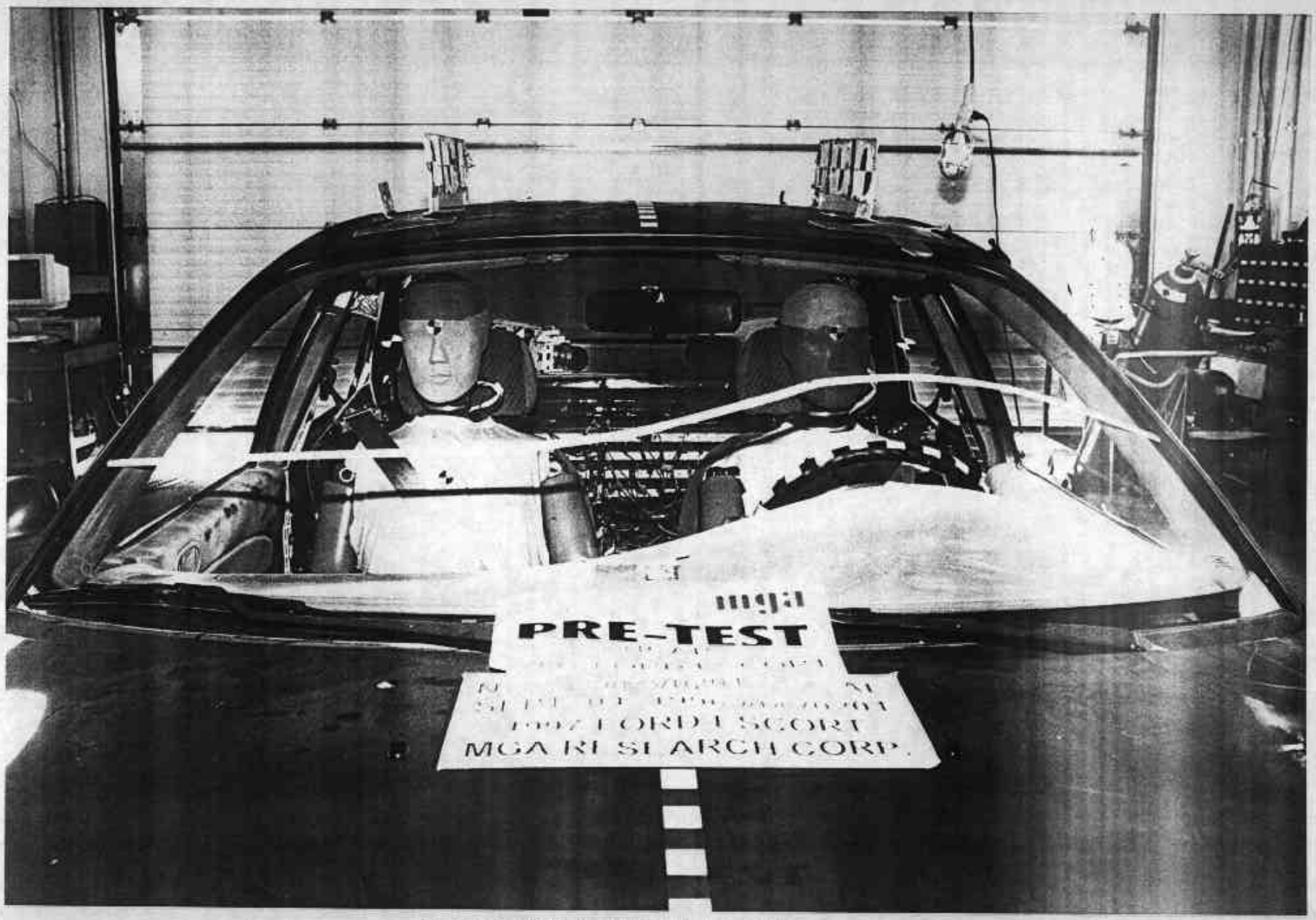


Photo No. A-19 - Post-Test Rear Underbody View



A-20

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

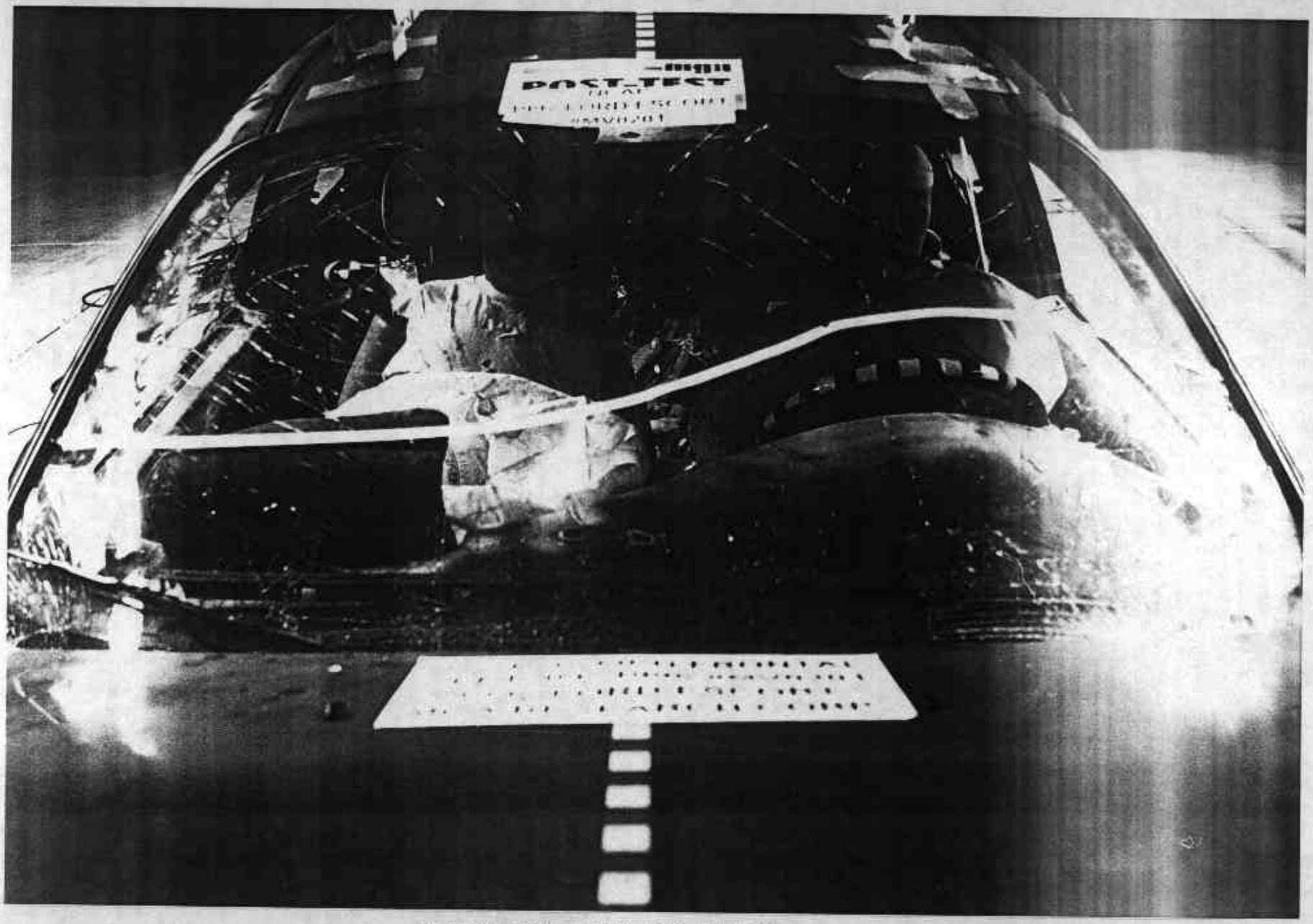
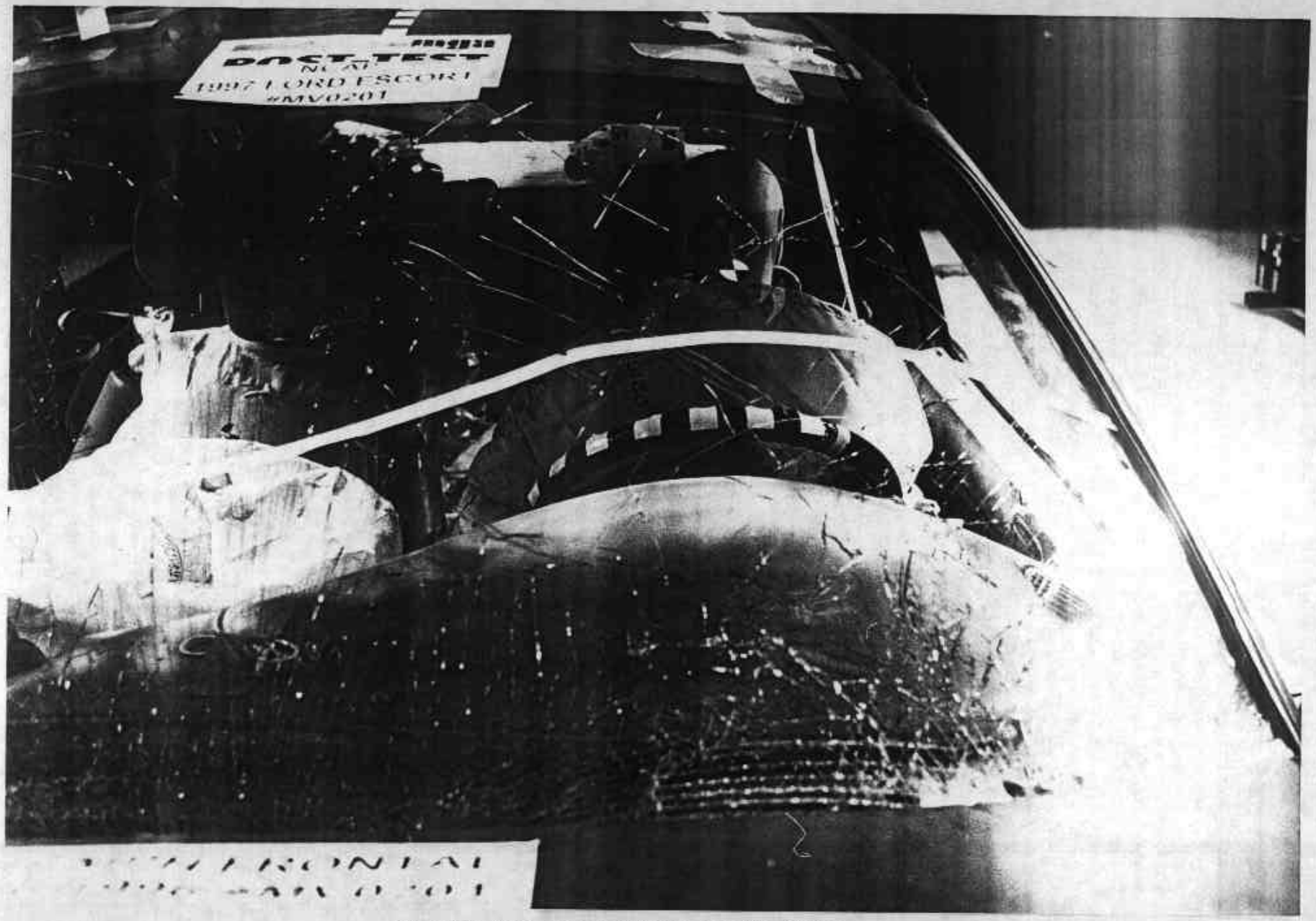


Photo No. A-21 - Post-Test Windshield View

Photo No. A-22 - Pre-Test Driver Windshield View



A-23

Photo No. A-23 - Post-Test Driver Windshield View

Photo No. A-24 - Pre-Test Passenger Windshield View

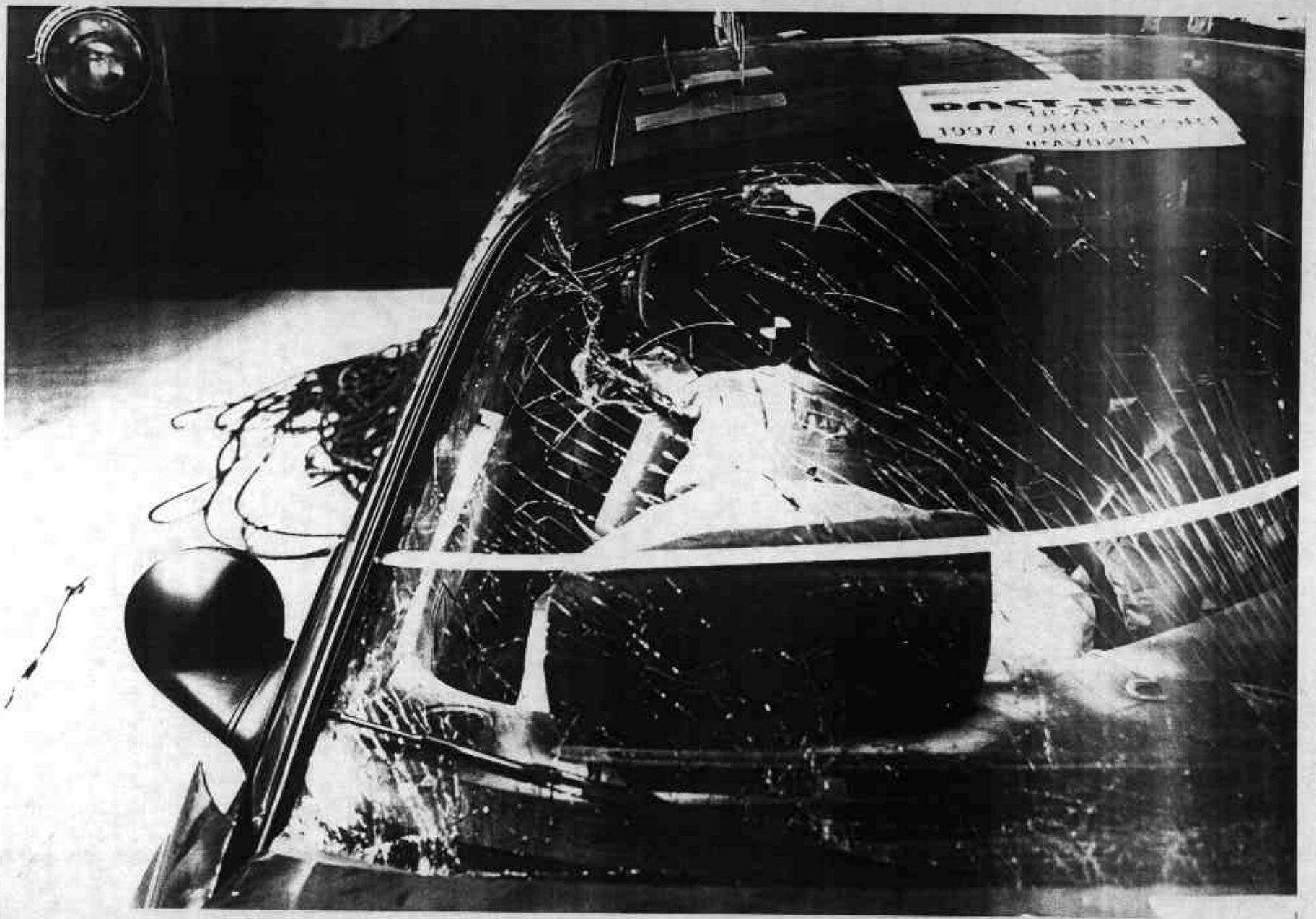
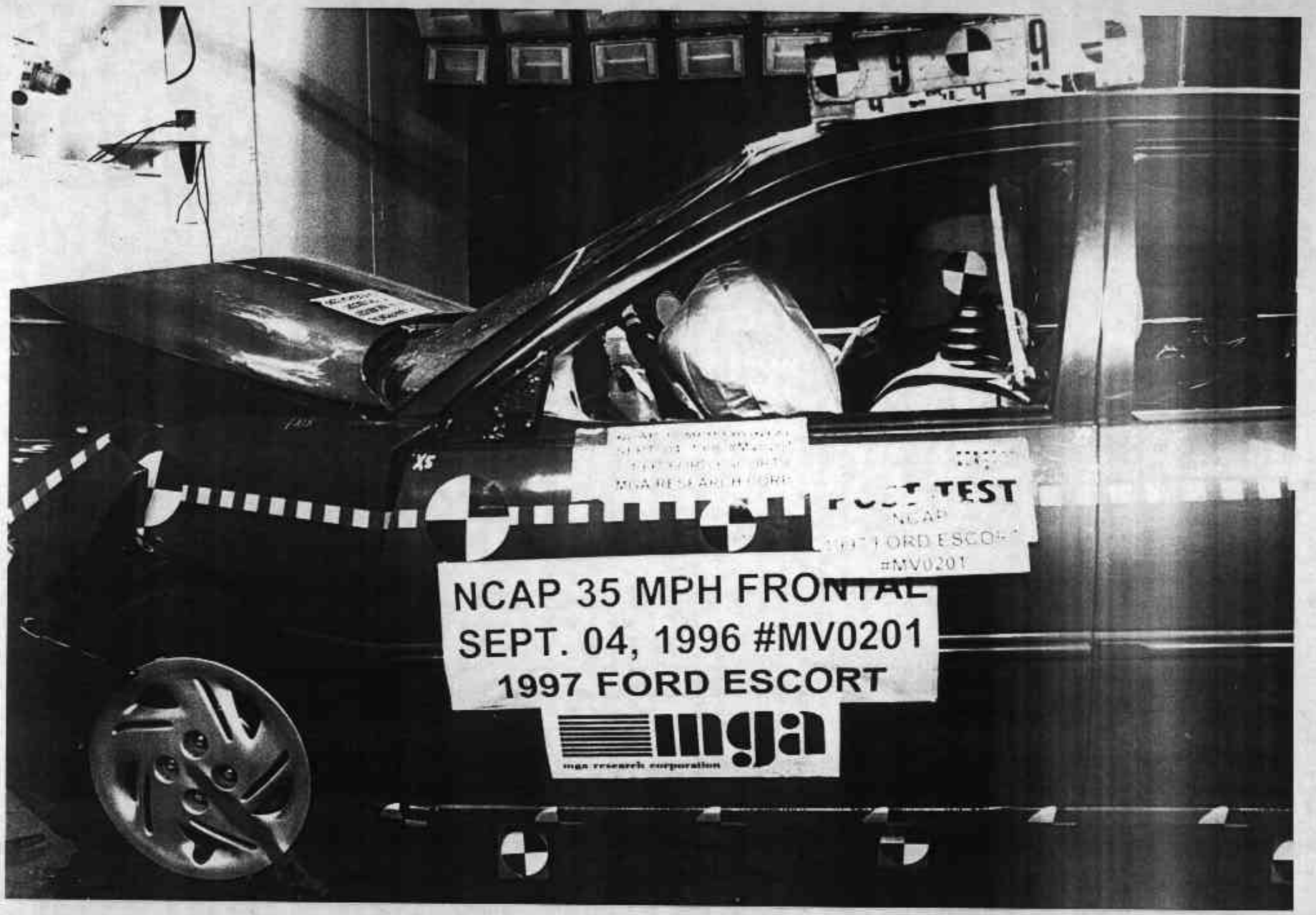


Photo No. A-25 - Post-Test Passenger Windshield View

Photo No. A-26 - Pre-Test Driver Dummy Position Left Side View



A-27

Photo No. A-27 - Post-Test Driver Dummy Position Left Side View

Photo No. A-28 - Pre-Test Driver Dummy Position Left Side View (Door Open)

Photo No. A-29 - Post-Test Driver Dummy Position Left Side View (Door Open)

Photo No. A-30 - Pre-Test Driver Seat Position View

Photo No. A-31 - Post-Test Driver Seat Position View

A-32

Photo No. A-32 - Pre-Test Driver Dummy Knee Position

Photo No. A-33 - Post-Test Driver Dummy Knee Position

Photo No. A-34 - Post-Test Driver Airbag Contact

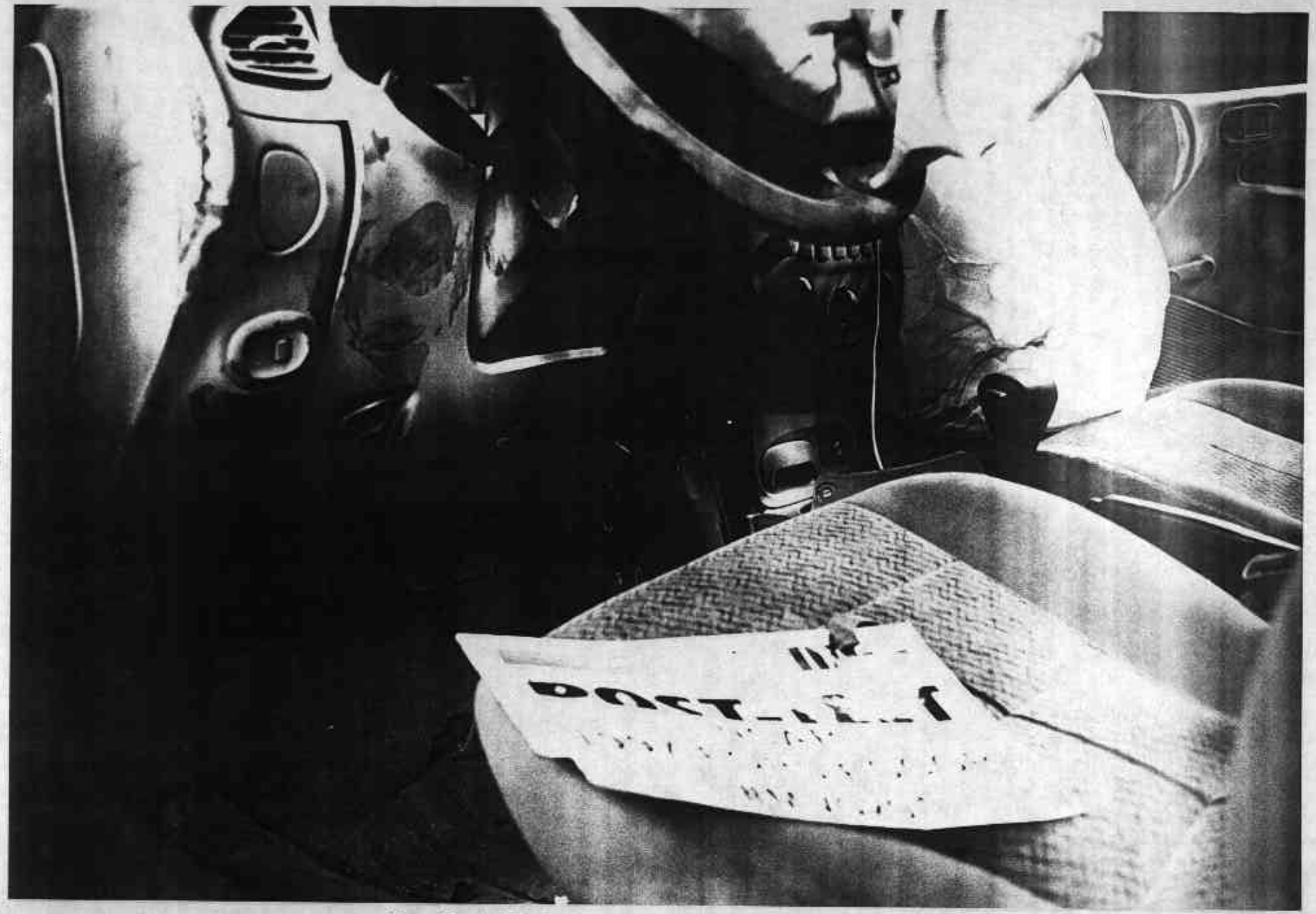


Photo No. A-35 - Post-Test Driver Knee Contact View

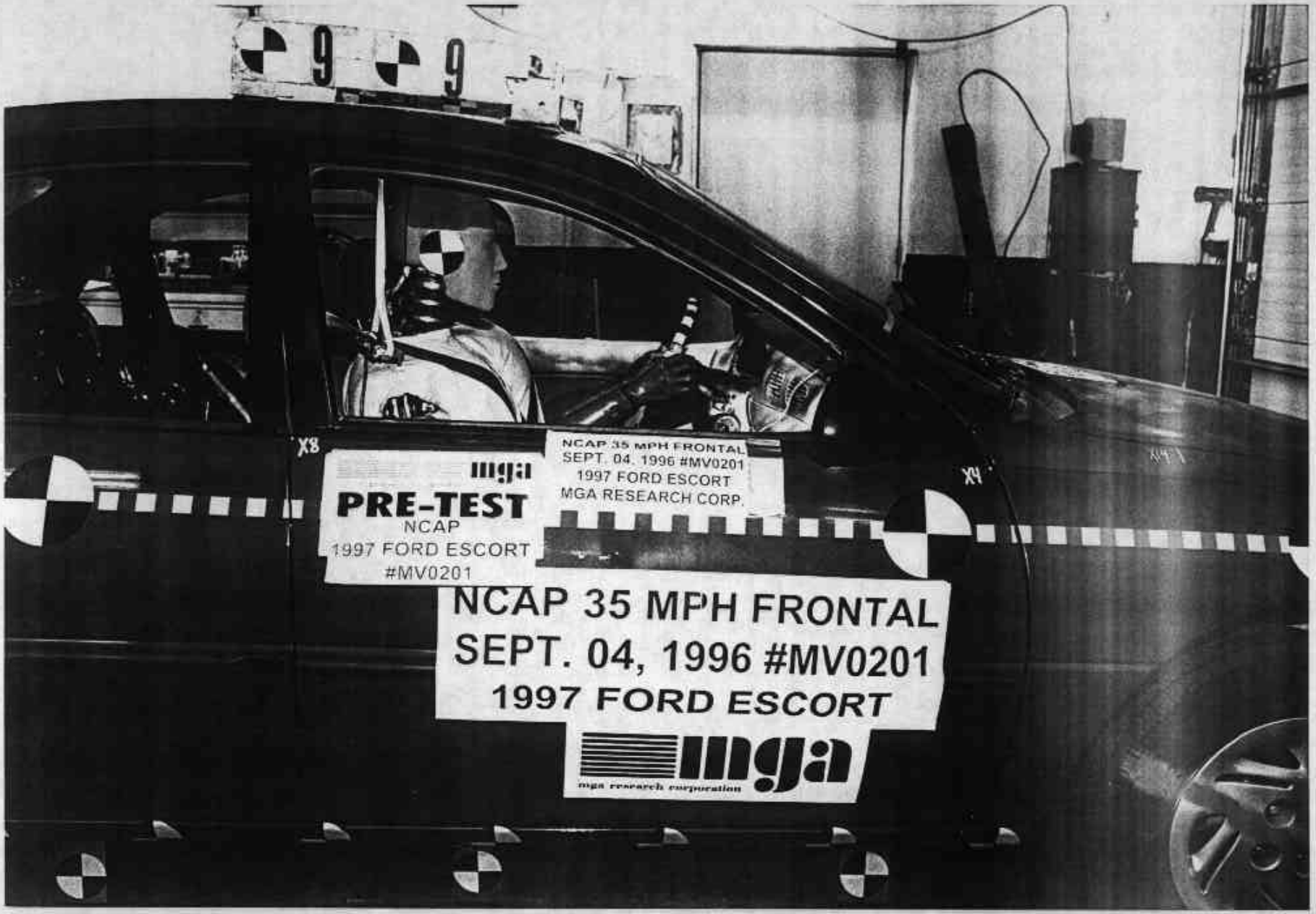


Photo No. A-36 - Pre-Test Passenger Dummy Position Right Side View

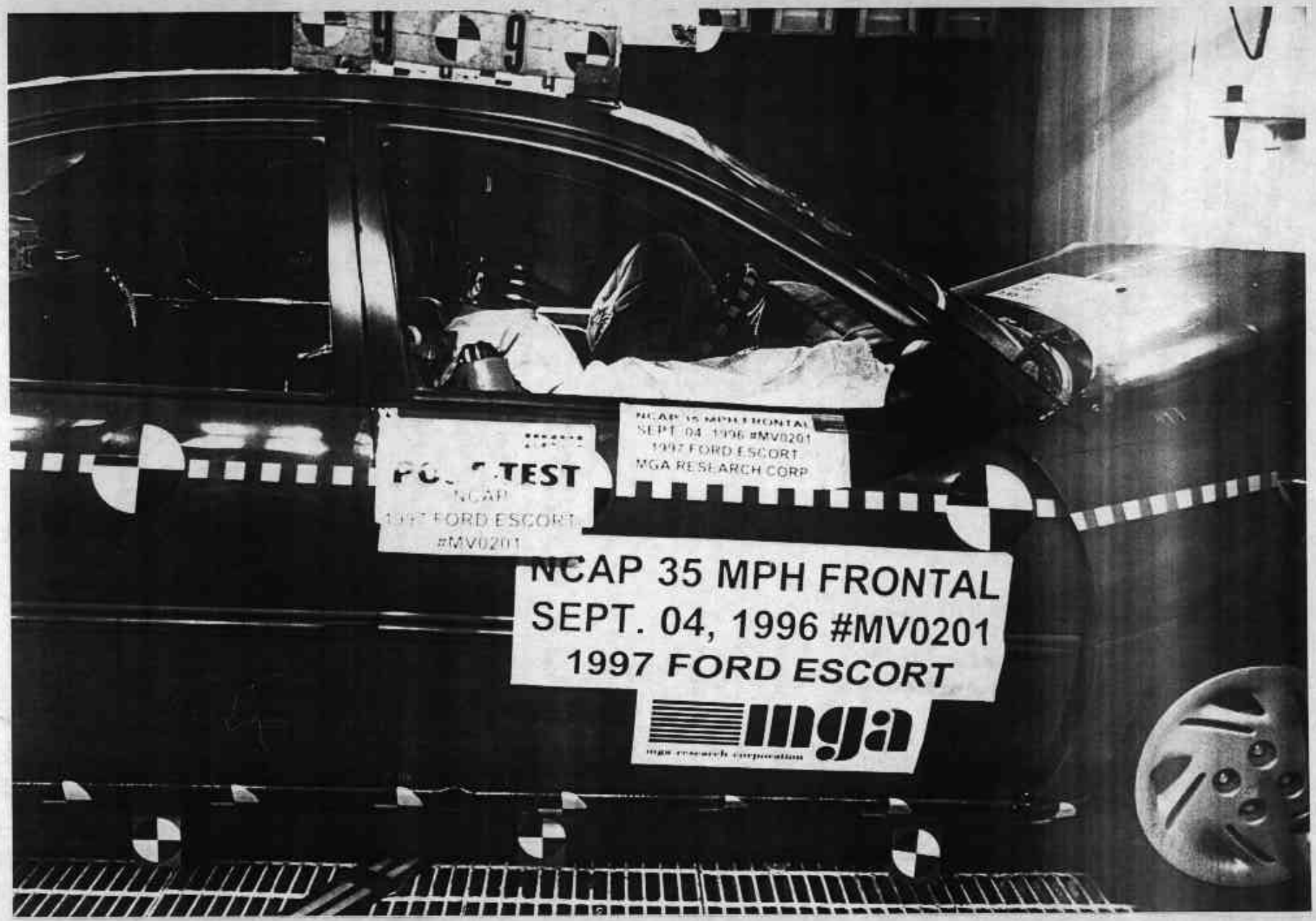


Photo No. A-37 - Post-Test Passenger Dummy Position Right Side View

Photo No. A-38 - Pre-Test Passenger Dummy Position Right Side View (Door Open)

Photo No. A-39 - Post-Test Passenger Dummy Position Right Side View (Door Open)

Photo No. A-40 - Pre-Test Passenger Seat Position View

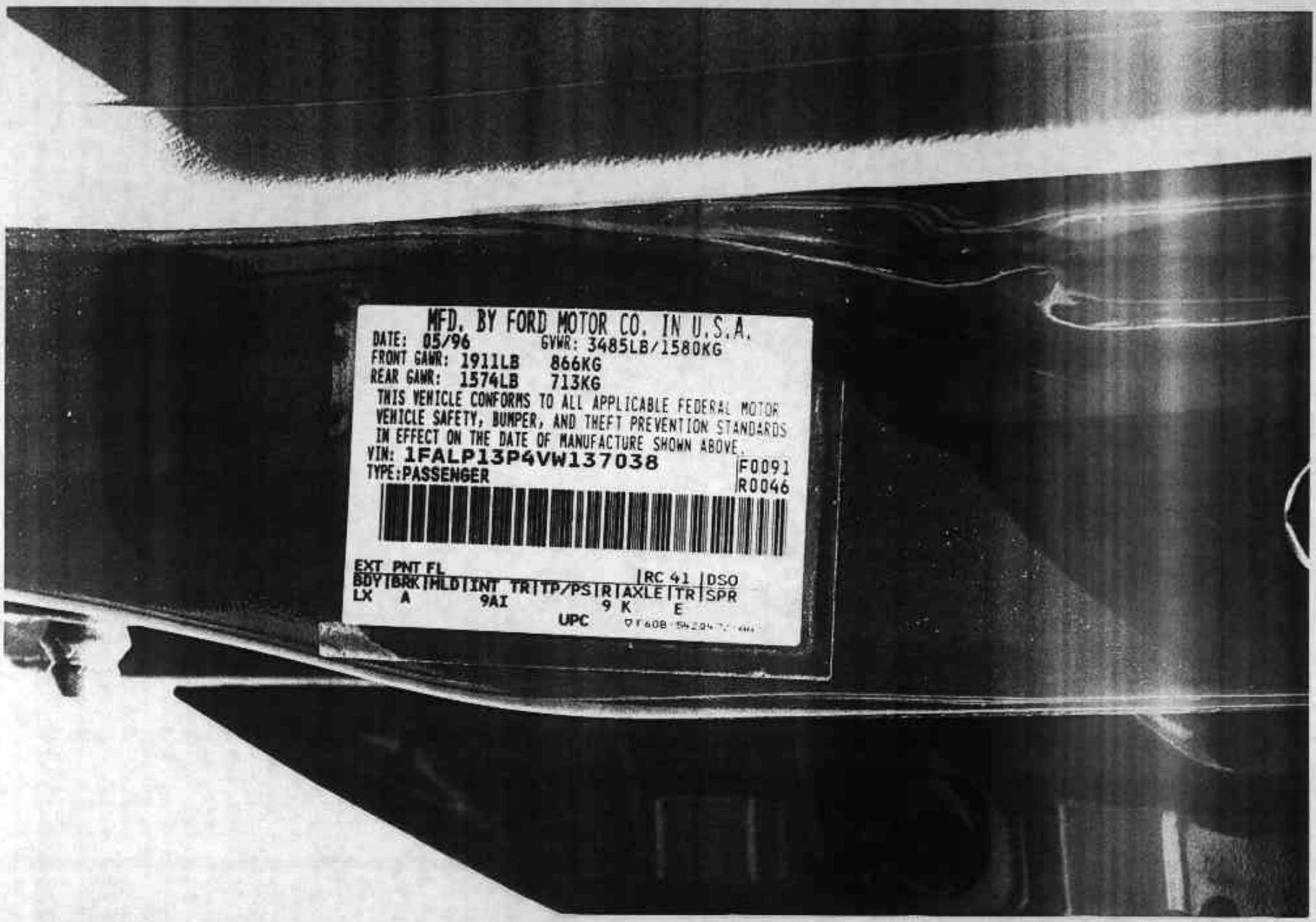
Photo No. A-41 - Post-Test Passenger Seat Position View

Photo No. A-42 - Pre-Test Passenger Dummy Knee Position

Photo No. A-43 - Post-Test Passenger Dummy Knee Position

Photo No. A-44 - Post-Test Passenger Airbag Contact

Photo No. A-45 - Post-Test Passenger Knee Contact View



A-46

Photo No. A-46 - Vehicle Certification Label

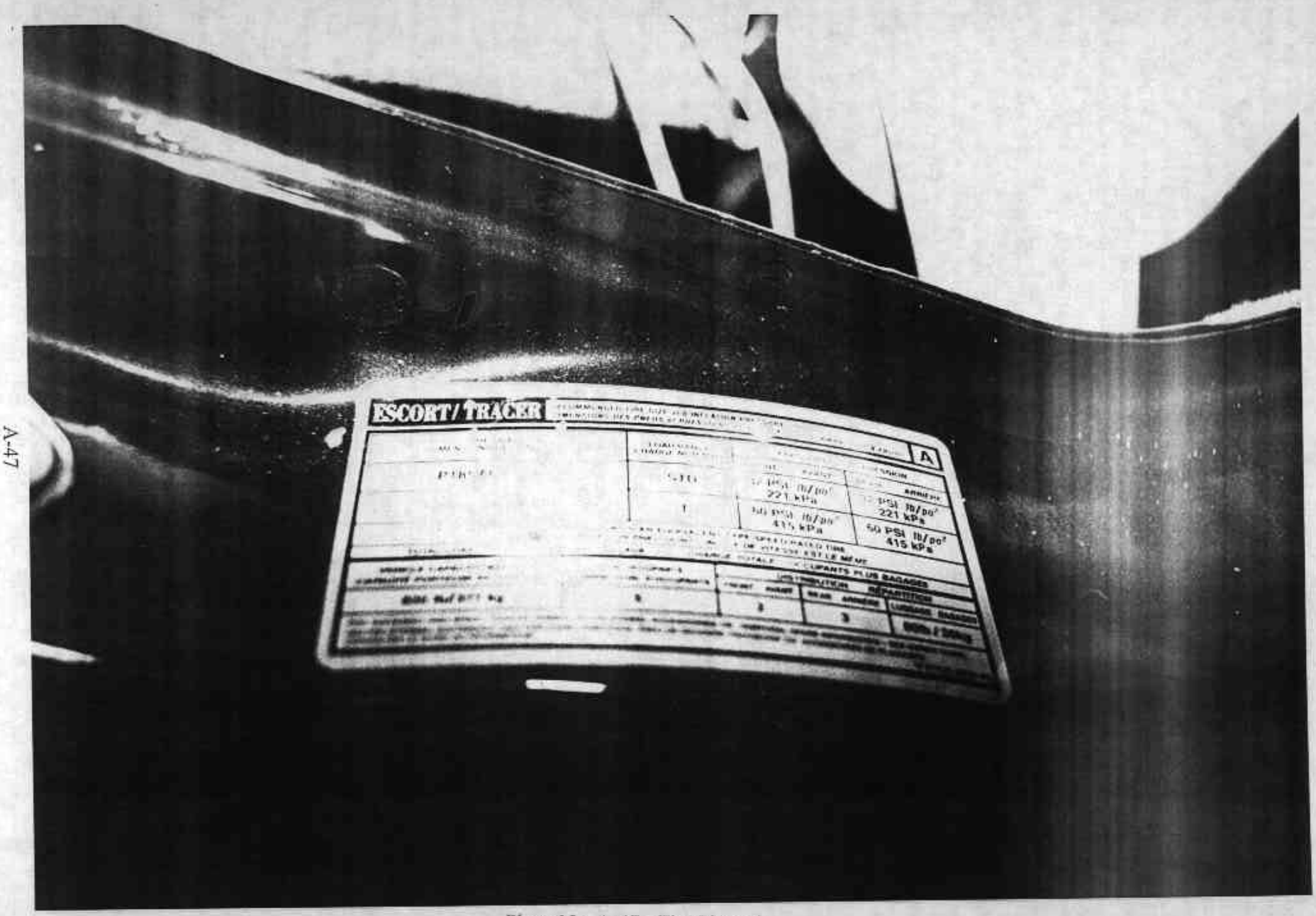


Photo No. A-47 - Tire Placard

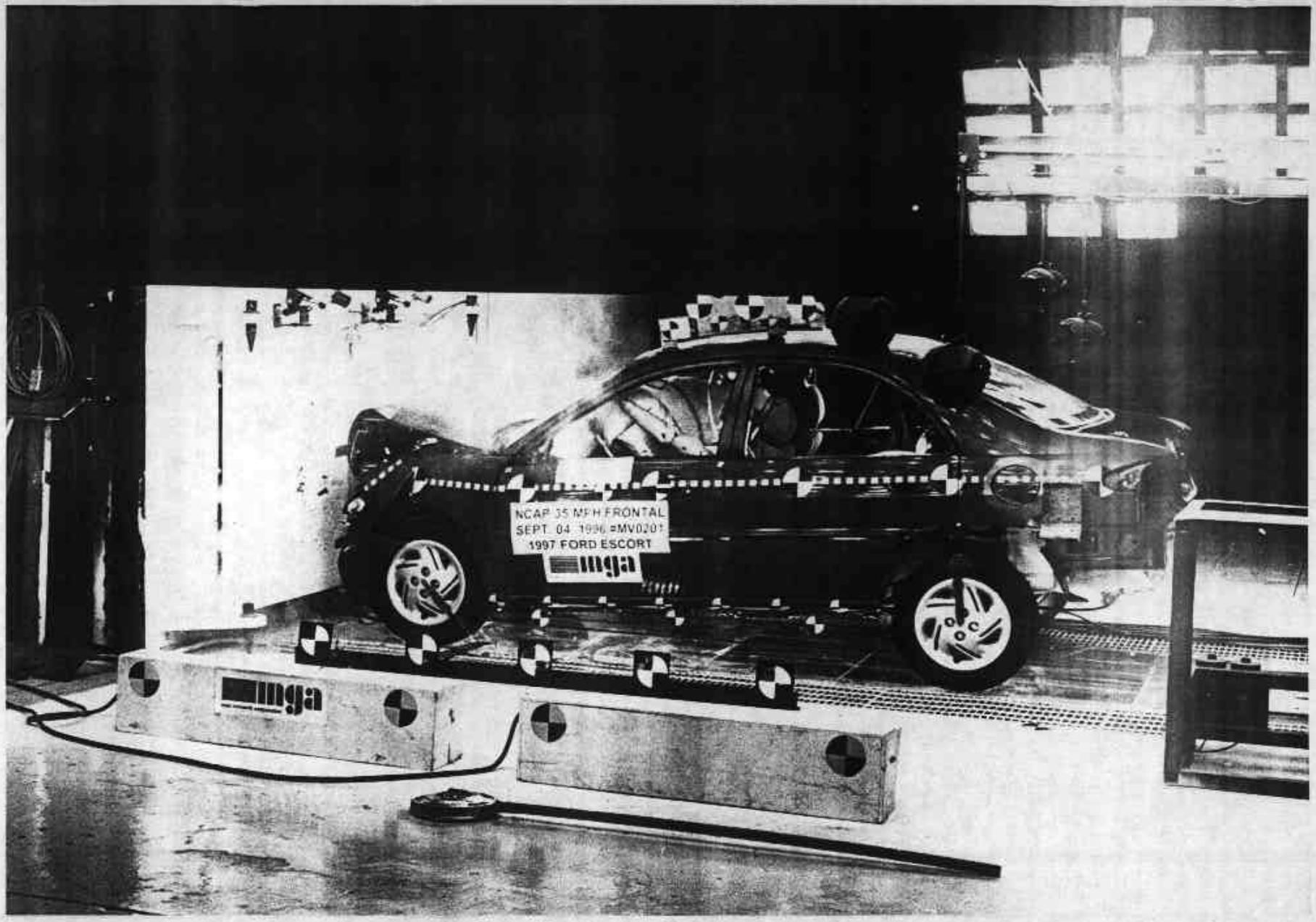


Photo No. A-48 - Vehicle Impact

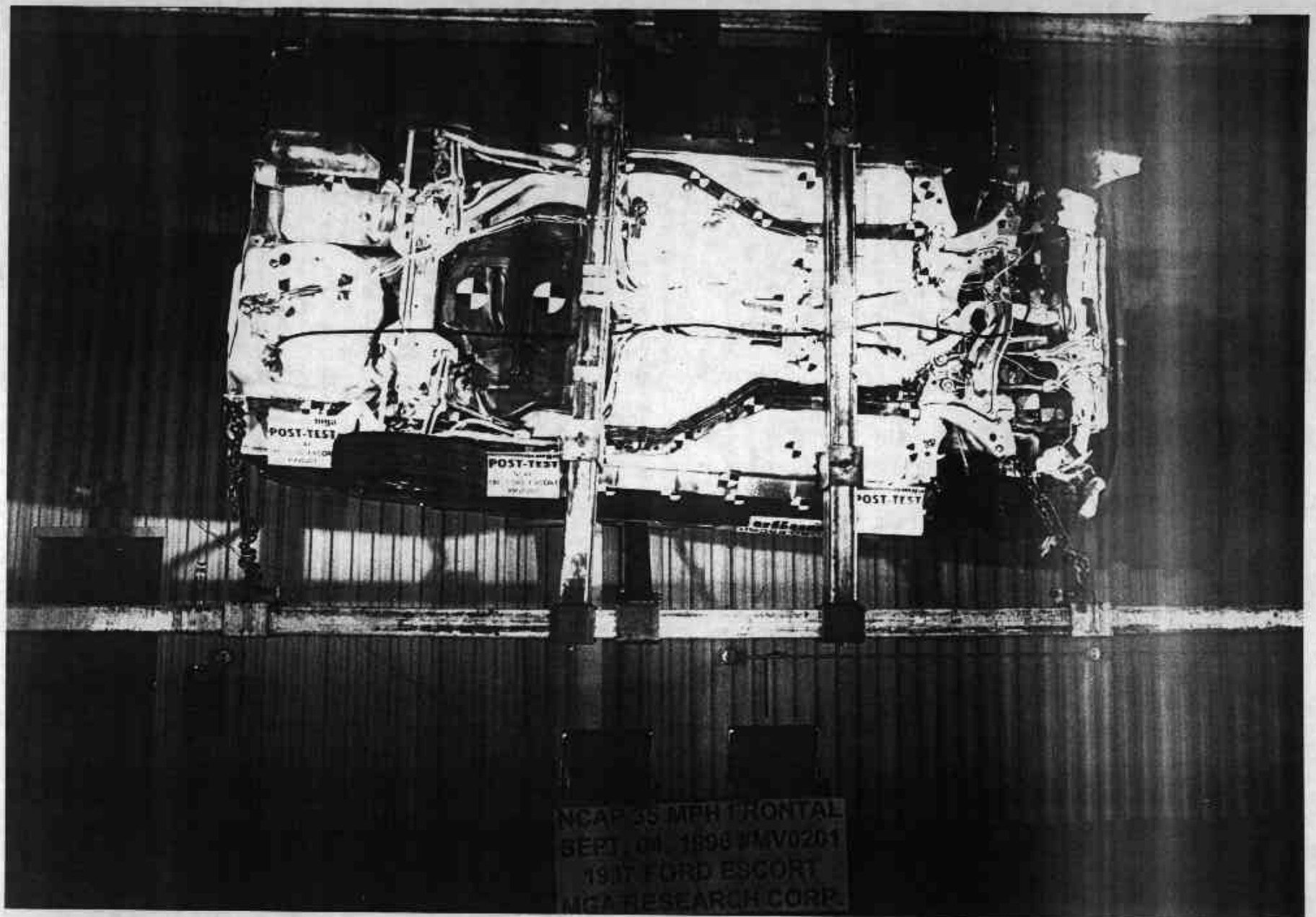
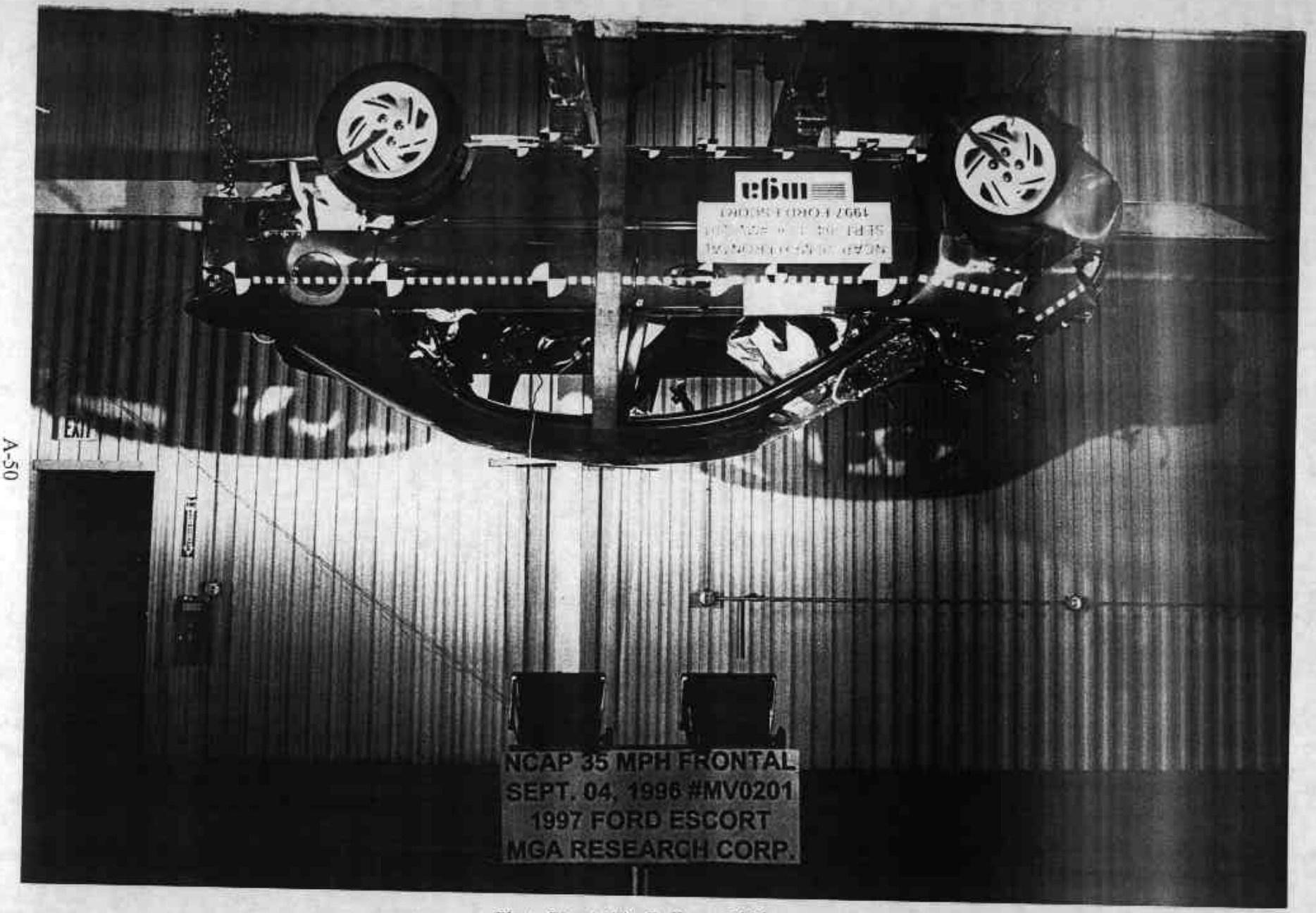


Photo No. A-49 - Rollover 90°



A-50

Photo No. A-50 - Rollover 180°

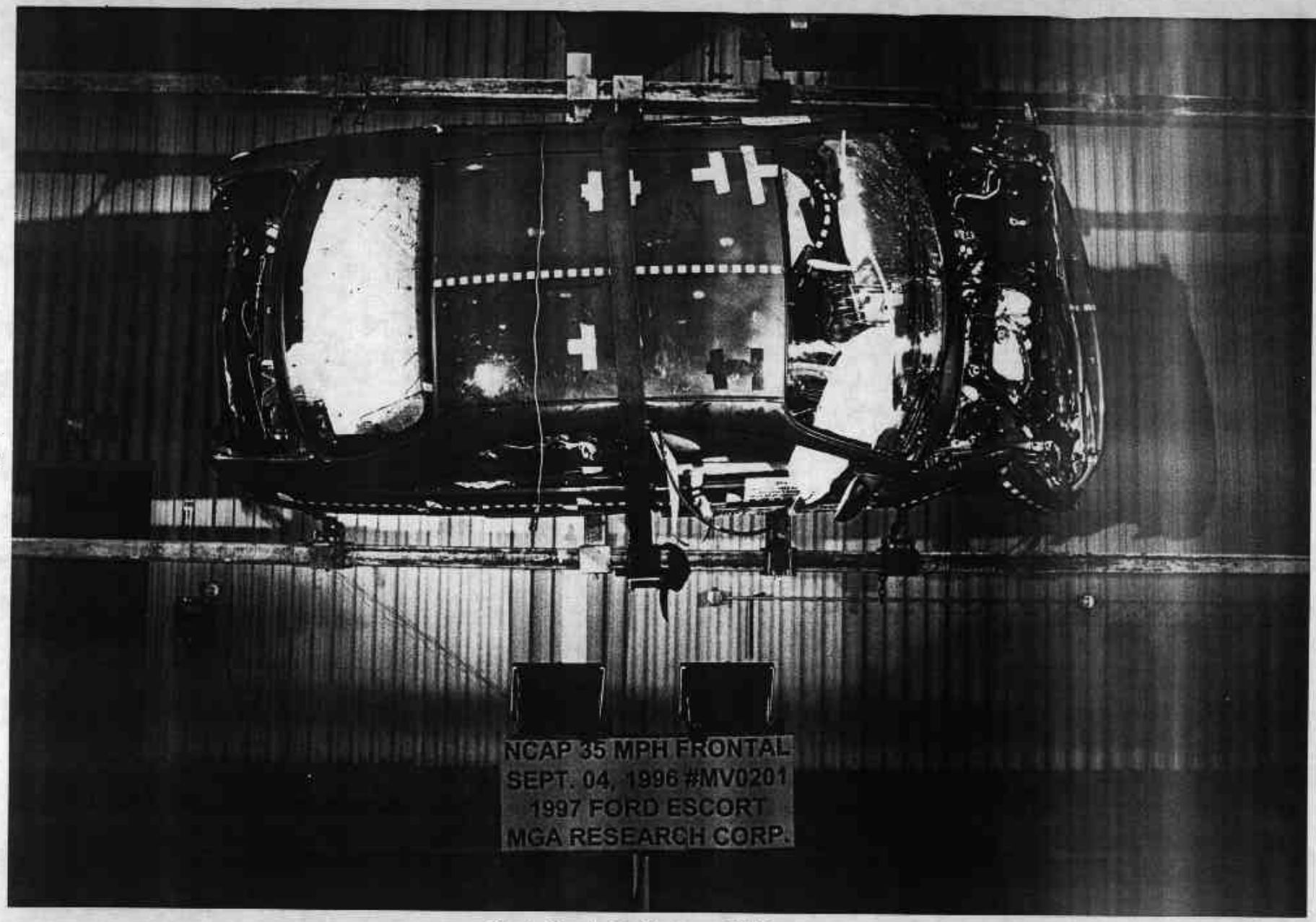


Photo No. A-51 - Rollover 270°

Photo No. A-52 - Rollover 360°

APPENDIX B

Vehicle, Load Cell Barrier and Dummy Response Data

1997 Ford Escort 2 Door

NHTSA NO.: MV0201

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)

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* No valid data collected

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* No valid data collected

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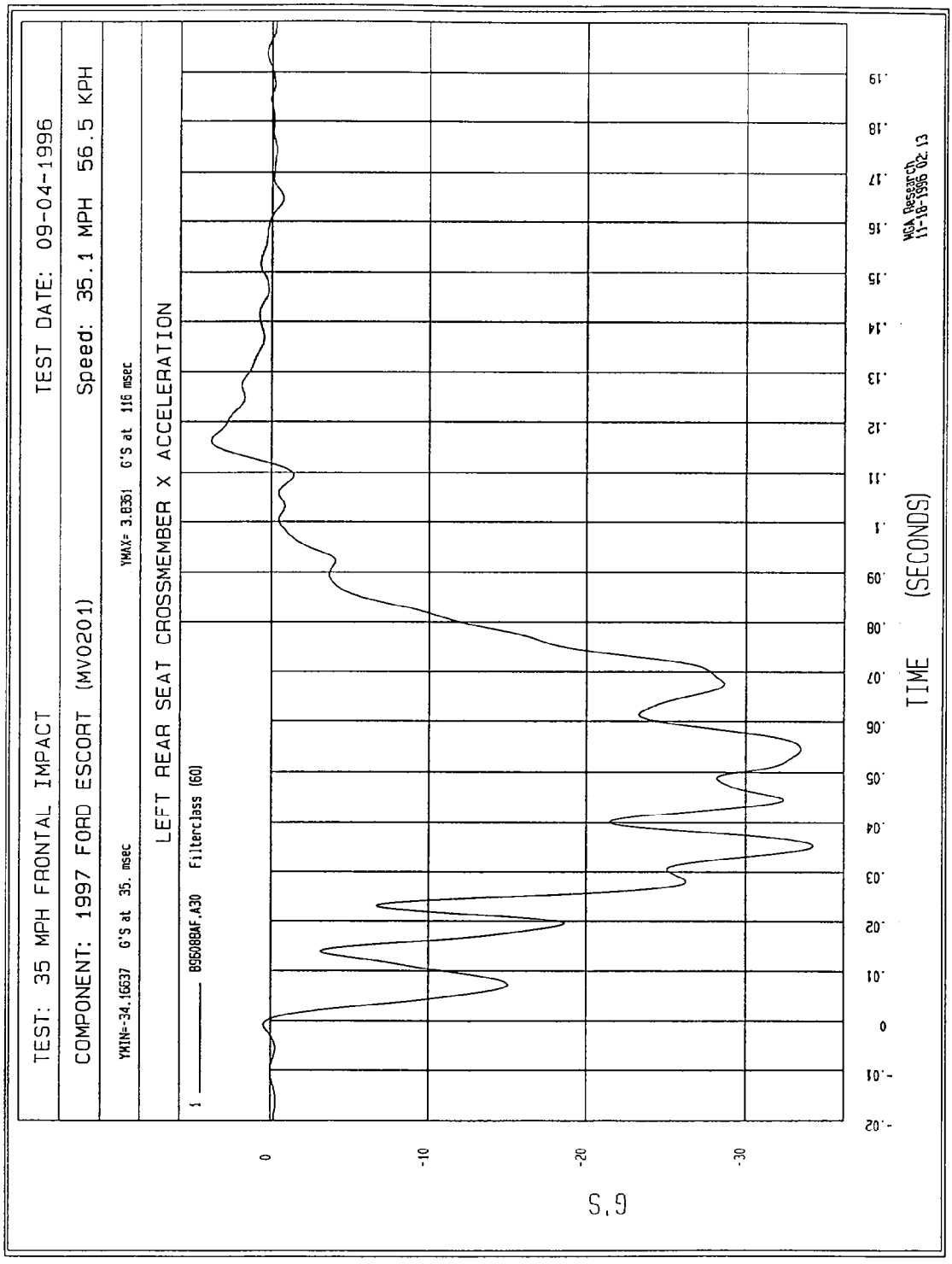
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COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-34.16637 G'S at 35. msec
YMAX= 3.8351 G'S at 116 msec
LEFT REAR SEAT CROSSMEMBER X ACCELERATION
1 B95088AF.A30 Filterclass (60)
0
-10
-20
-30
TIME (SECONDS)
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
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11-18-1996 02:13
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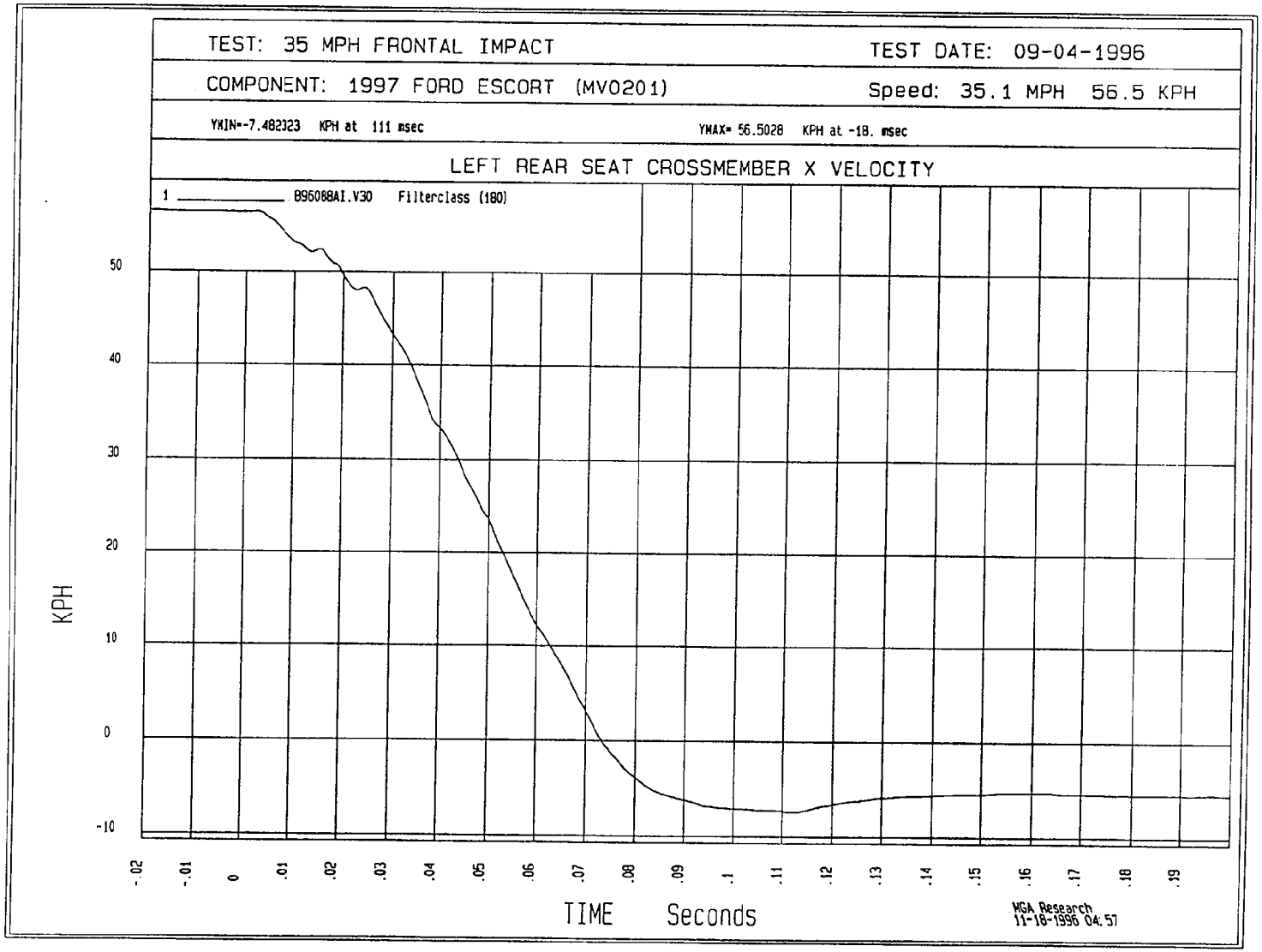
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YMAX= 56.5028 KPH at -18. msec
LEFT REAR SEAT CROSSMEMBER X VELOCITY
1 B96088AI.V30 Filterclass (180)
KPH
50
40
30
20
10
0
-10
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
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TIME Seconds
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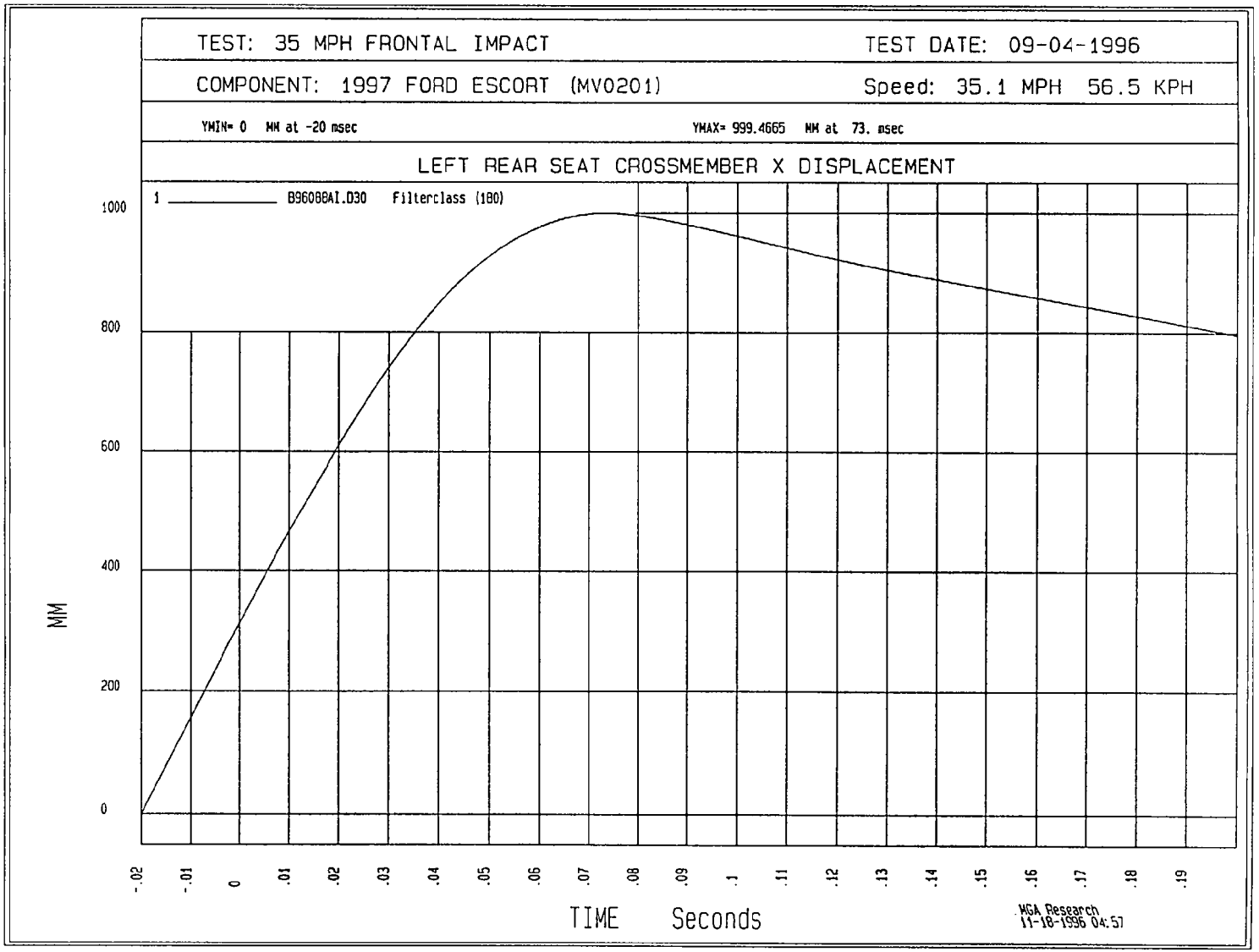
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TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN= 0 MM at -20 msec
YMAX= 999.4665 MM at 73. msec
LEFT REAR SEAT CROSSMEMBER X DISPLACEMENT
1 B9608BAI.D30 Filterclass (180)
1000
800
600
400
200
0
MM
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
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.19
TIME Seconds
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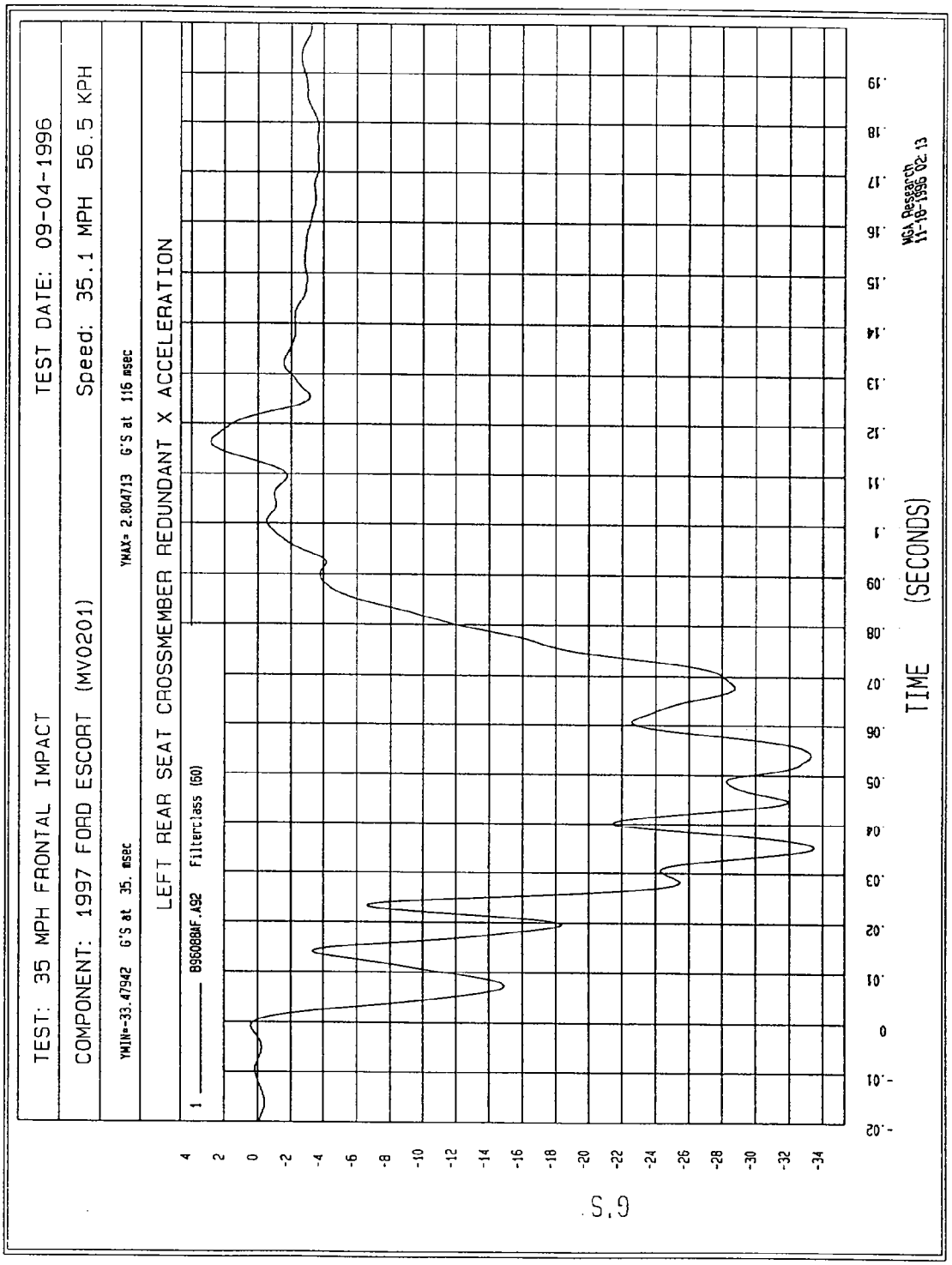
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TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-33.47942 G'S at 35. msec
YMAX= 2.804713 G'S at 116 msec
LEFT REAR SEAT CROSSMEMBER REDUNDANT X ACCELERATION
1 B950808F.A92 Filterclass (60)
4 2 0 -2 -4 -6 -8 -10 -12 -14 -16 -18 -20 -22 -24 -26 -28 -30 -32 -34
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)
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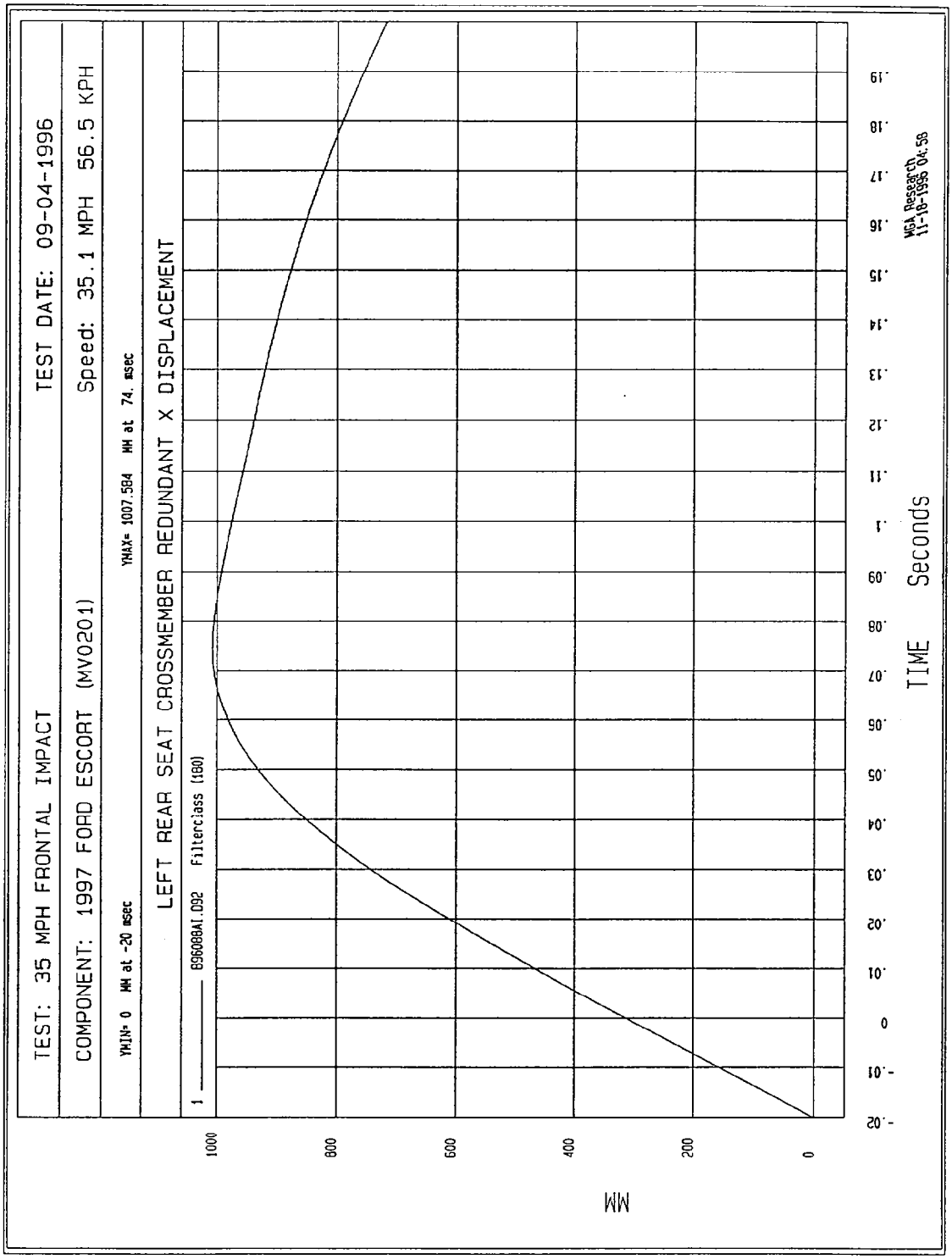
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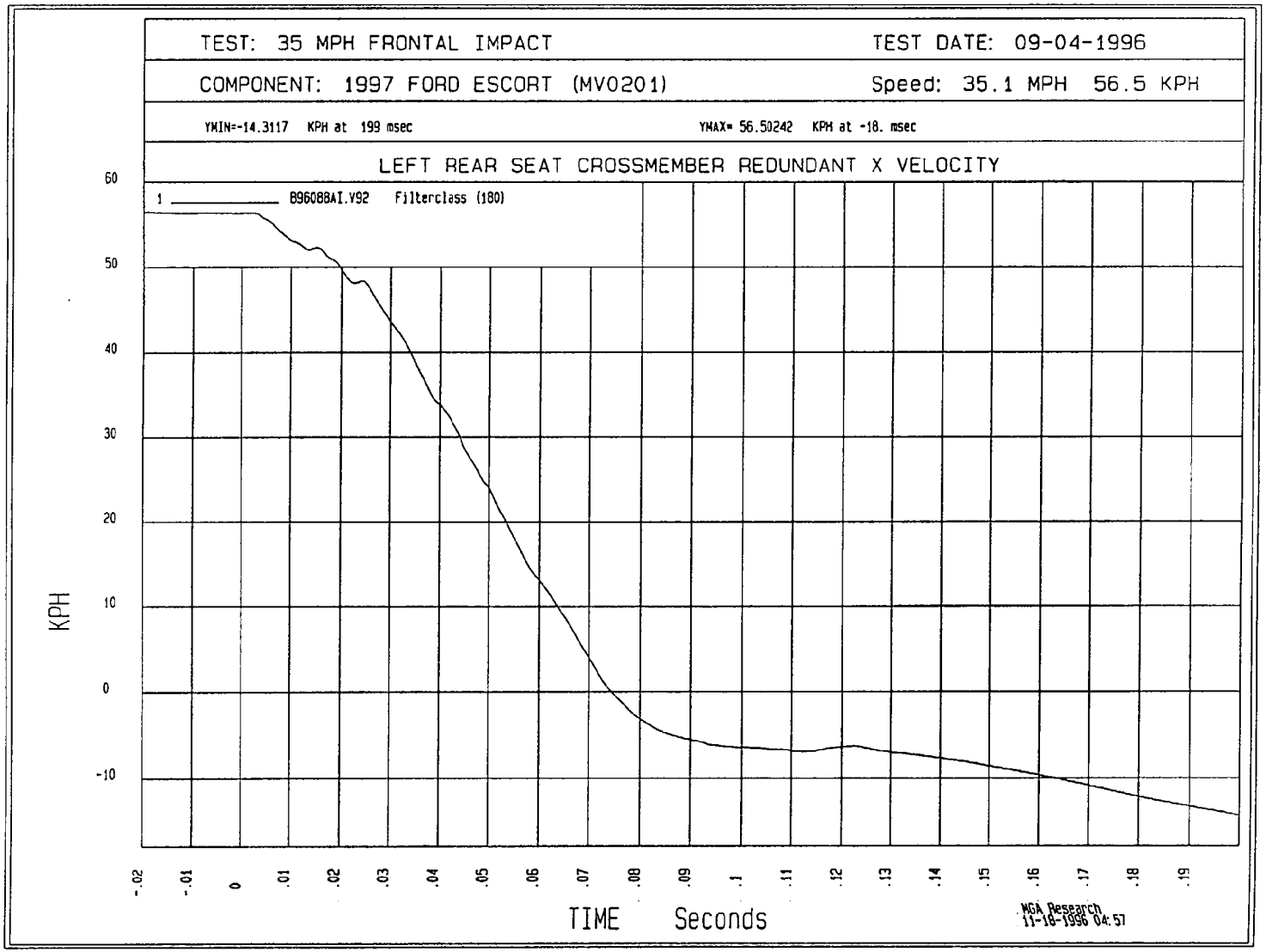
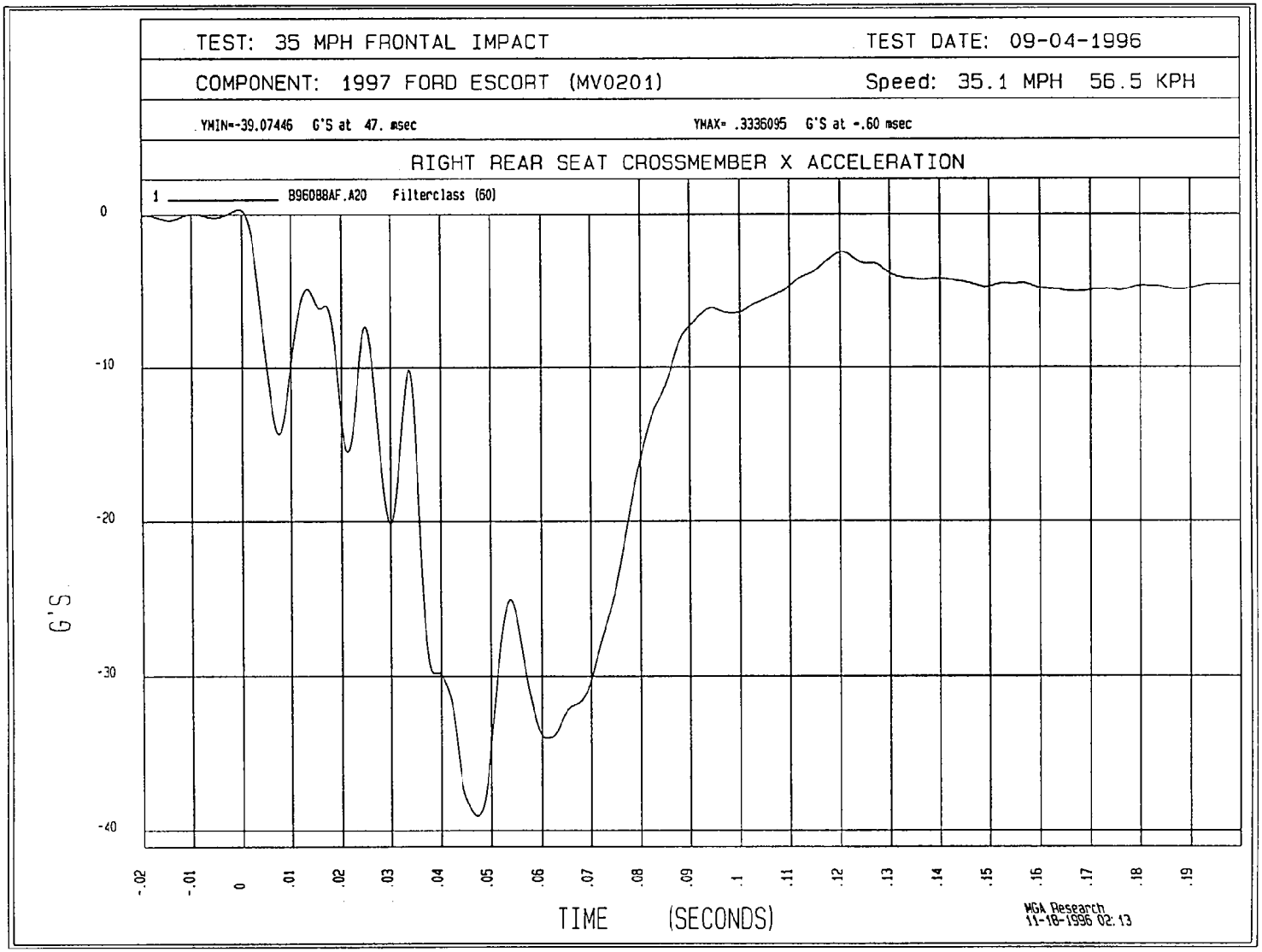
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN= 0 MM at -20 msec
YMAX= 1007.584 MM at 74. msec
LEFT REAR SEAT CROSSMEMBER REDUNDANT X DISPLACEMENT
1 ——— 896008AI.092 Filterclass (180)
MM
TIME Seconds
MGA Research
11-18-1996 04:58


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-14.3117 KPH at 199 msec
YMAX= 56.50242 KPH at -18. msec
LEFT REAR SEAT CROSSMEMBER REDUNDANT X VELOCITY
1 B96088AI.V92 Filterclass (180)
KPH
60
50
40
30
20
10
0
-10
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME Seconds
MGA Research
11-18-1996 04:57


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-39.07446 G'S at 47. msec
YMAX= .3336095 G'S at -.60 msec
RIGHT REAR SEAT CROSSMEMBER X ACCELERATION
1 B960B8AF.A20 Filterclass (60)
0
-10
-20
-30
-40
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
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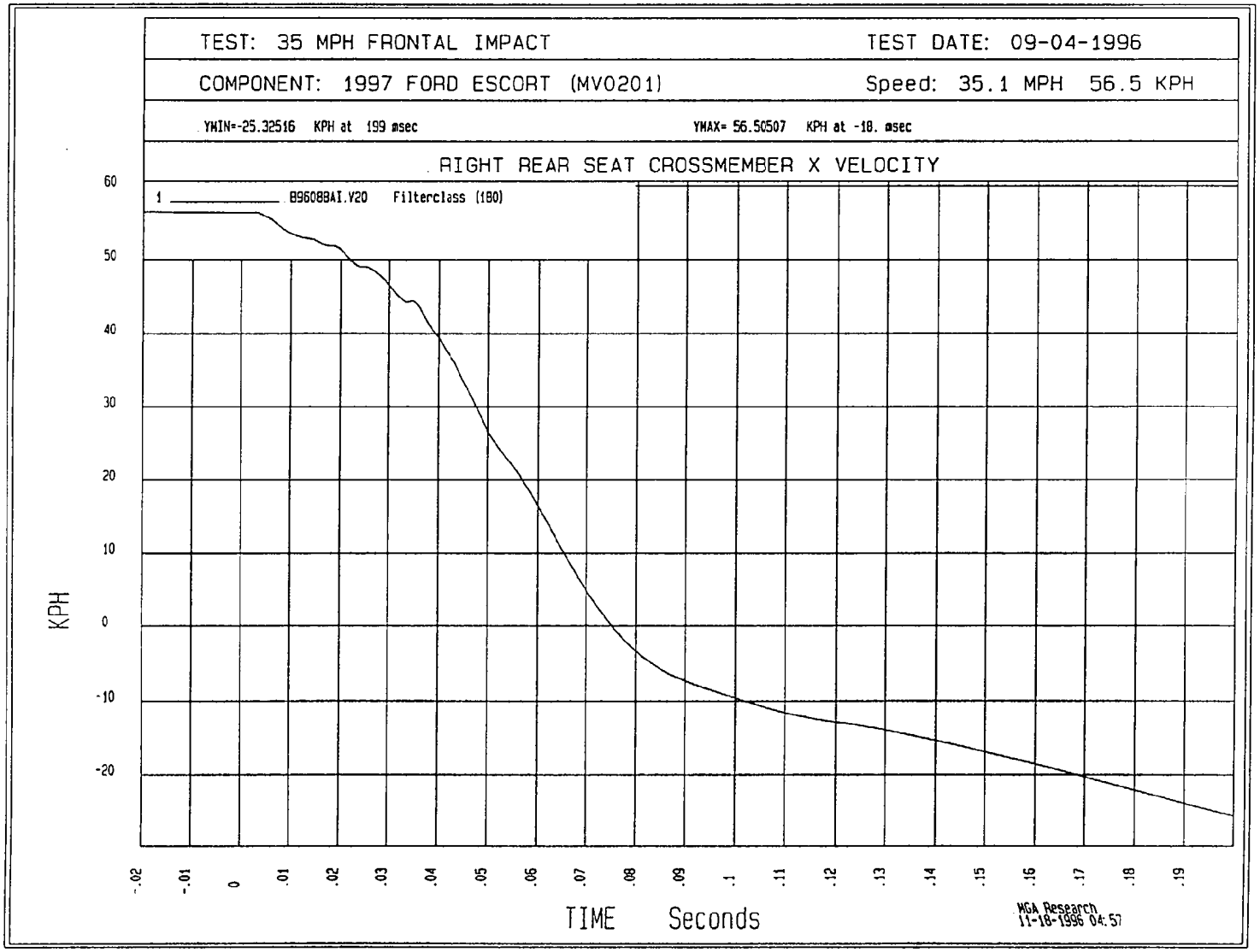
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
11-18-1996 02:13


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-25.32516 KPH at 199 msec
YMAX= 56.50507 KPH at -18. msec
RIGHT REAR SEAT CROSSMEMBER X VELOCITY
1 B9608BAI.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
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.14
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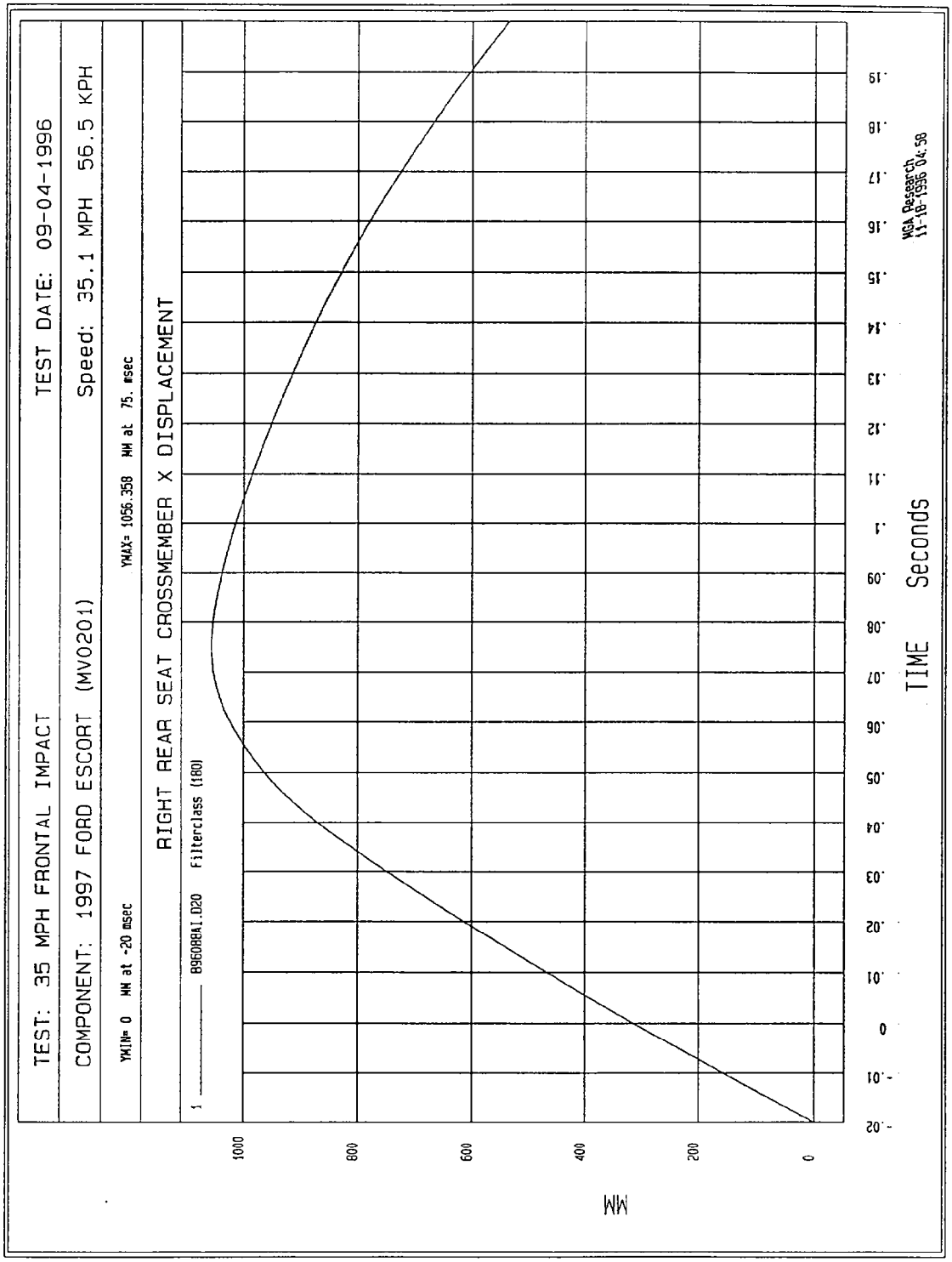
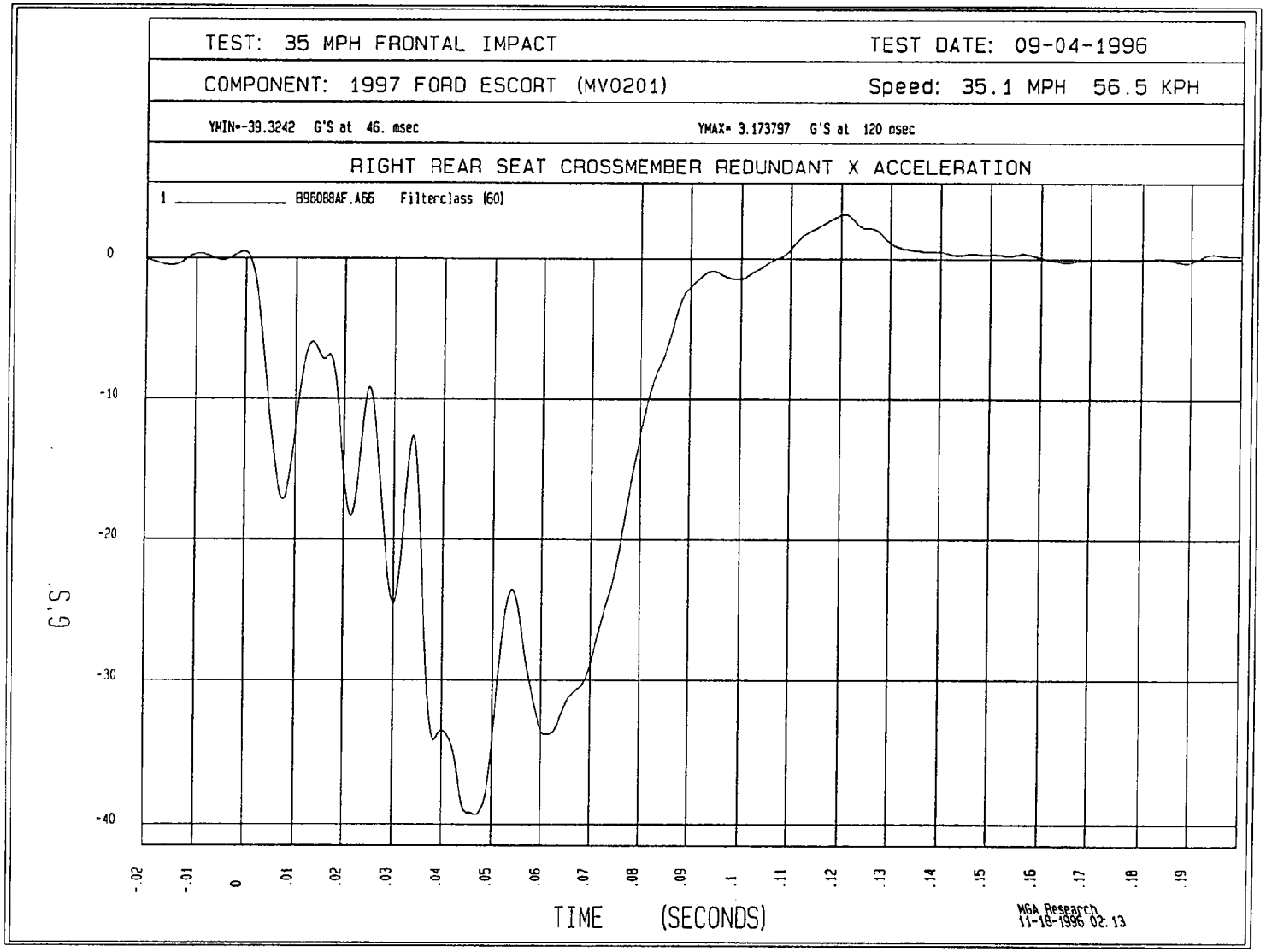
.16
.17
.18
.19
TIME Seconds
MGA Research
11-18-1996 04:57


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN= 0 MM at -20 msec
YMAX= 1056.358 MM at 75. msec
RIGHT REAR SEAT CROSSMEMBER X DISPLACEMENT
1 B96008A1.D20 Filterclass (180)
MM
TIME Seconds
NGA Research
11-18-1996 04:58


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-39.3242 G'S at 46. msec
YMAX= 3.173797 G'S at 120 msec
RIGHT REAR SEAT CROSSMEMBER REDUNDANT X ACCELERATION
1 B96088AF.A66 Filterclass (60)
0
-10
-20
-30
-40
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
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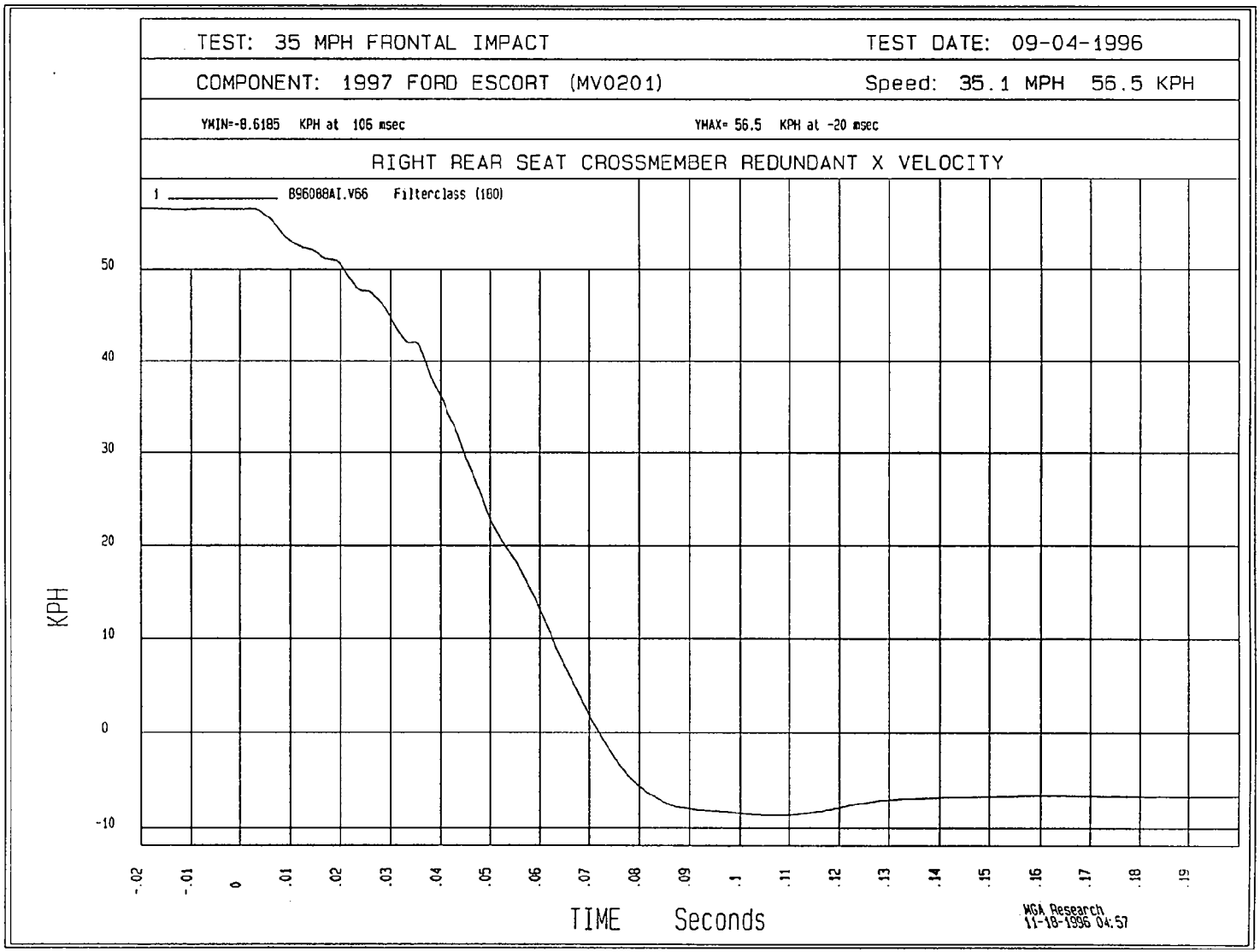
.18
.19
TIME (SECONDS)
MGA Research
11-18-1996 02:13


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-8.6185 KPH at 105 msec
YMAX= 56.5 KPH at -20 msec
RIGHT REAR SEAT CROSSMEMBER REDUNDANT X VELOCITY
1 B96088AI.V66 Filterclass (160)
KPH
50
40
30
20
10
0
-10
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
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.16
.17
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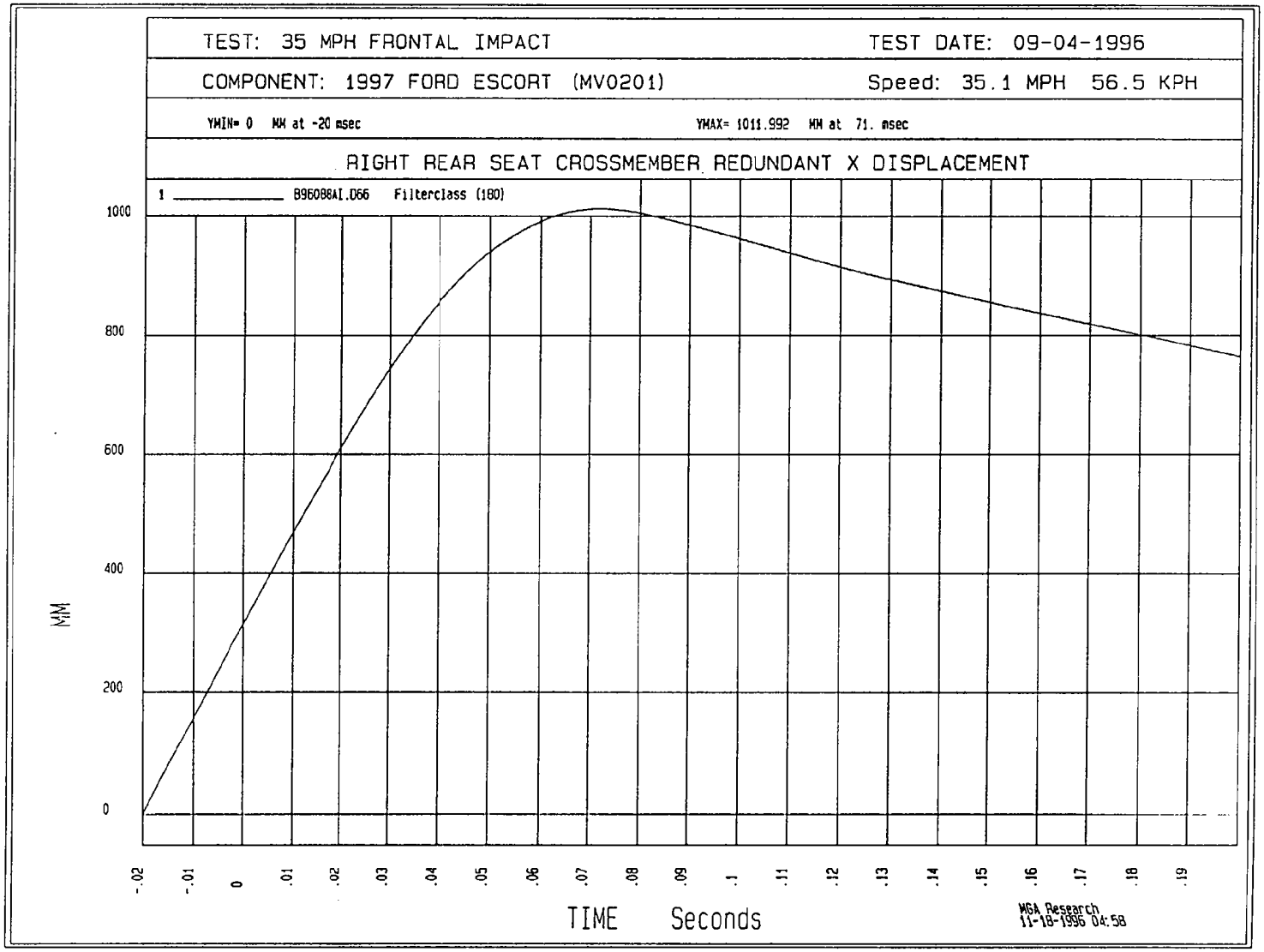
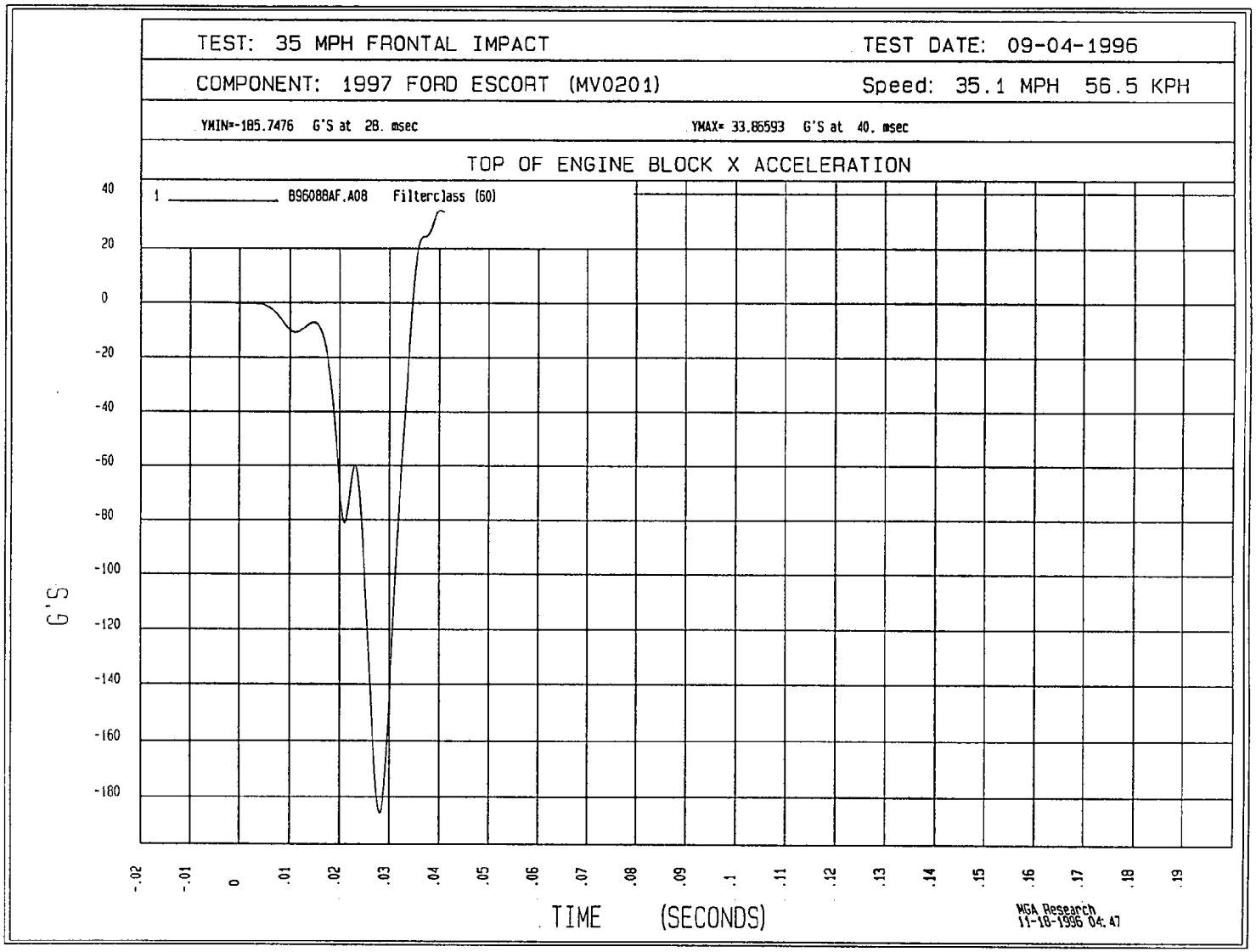
.19
TIME Seconds
MGA Research
11-18-1996 04:57


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN= 0 MM at -20 msec
YMAX= 1011.992 MM at 71. msec
RIGHT REAR SEAT CROSSMEMBER REDUNDANT X DISPLACEMENT
1 B96008AI.D66 Filterclass (180)
1000
800
600
400
200
0
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
11-18-1996 04:58


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-185.7476 G'S at 28. msec
YMAX= 33.86593 G'S at 40. msec
TOP OF ENGINE BLOCK X ACCELERATION
1 B96088AF.A08 Filterclass (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
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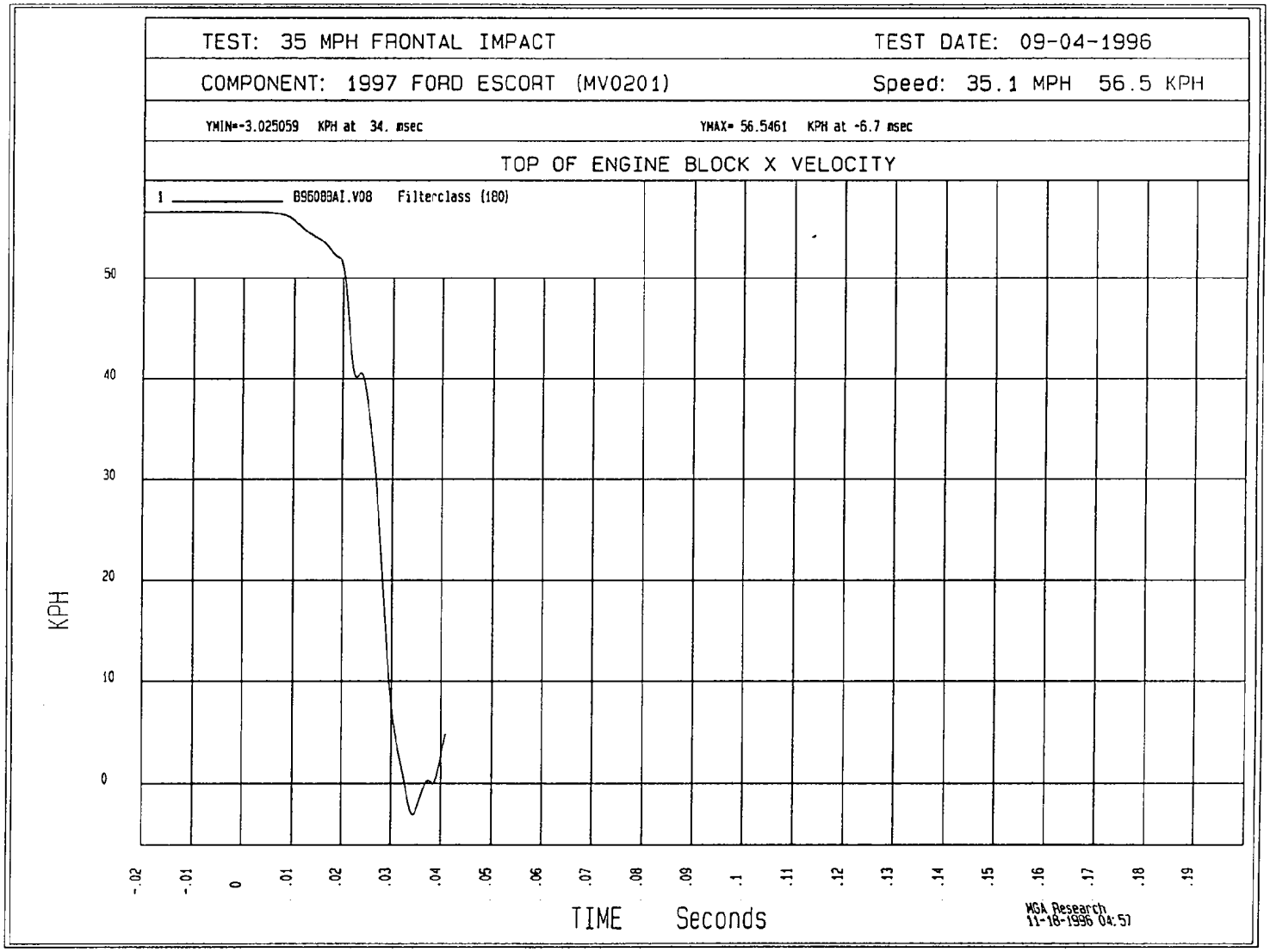
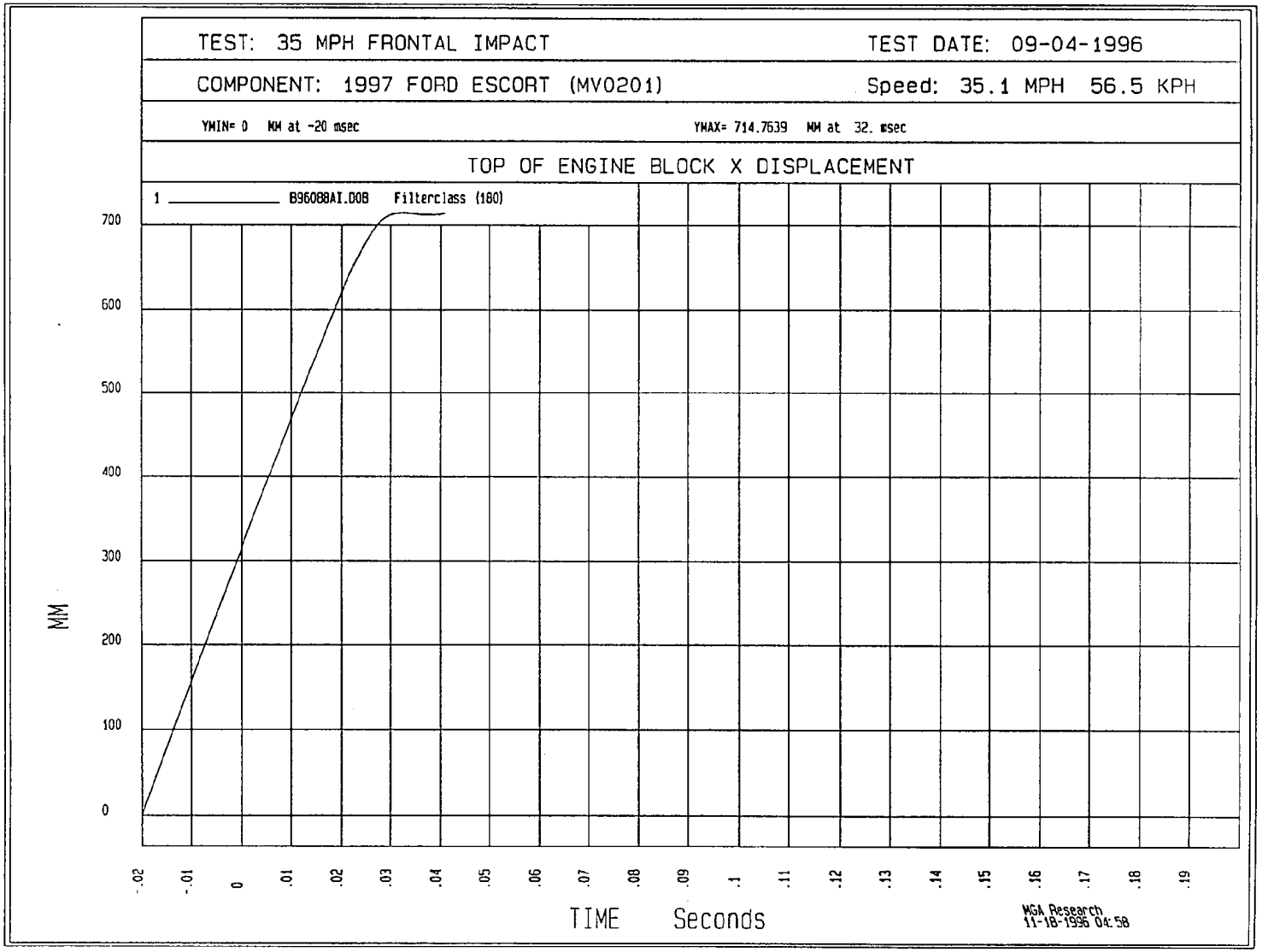
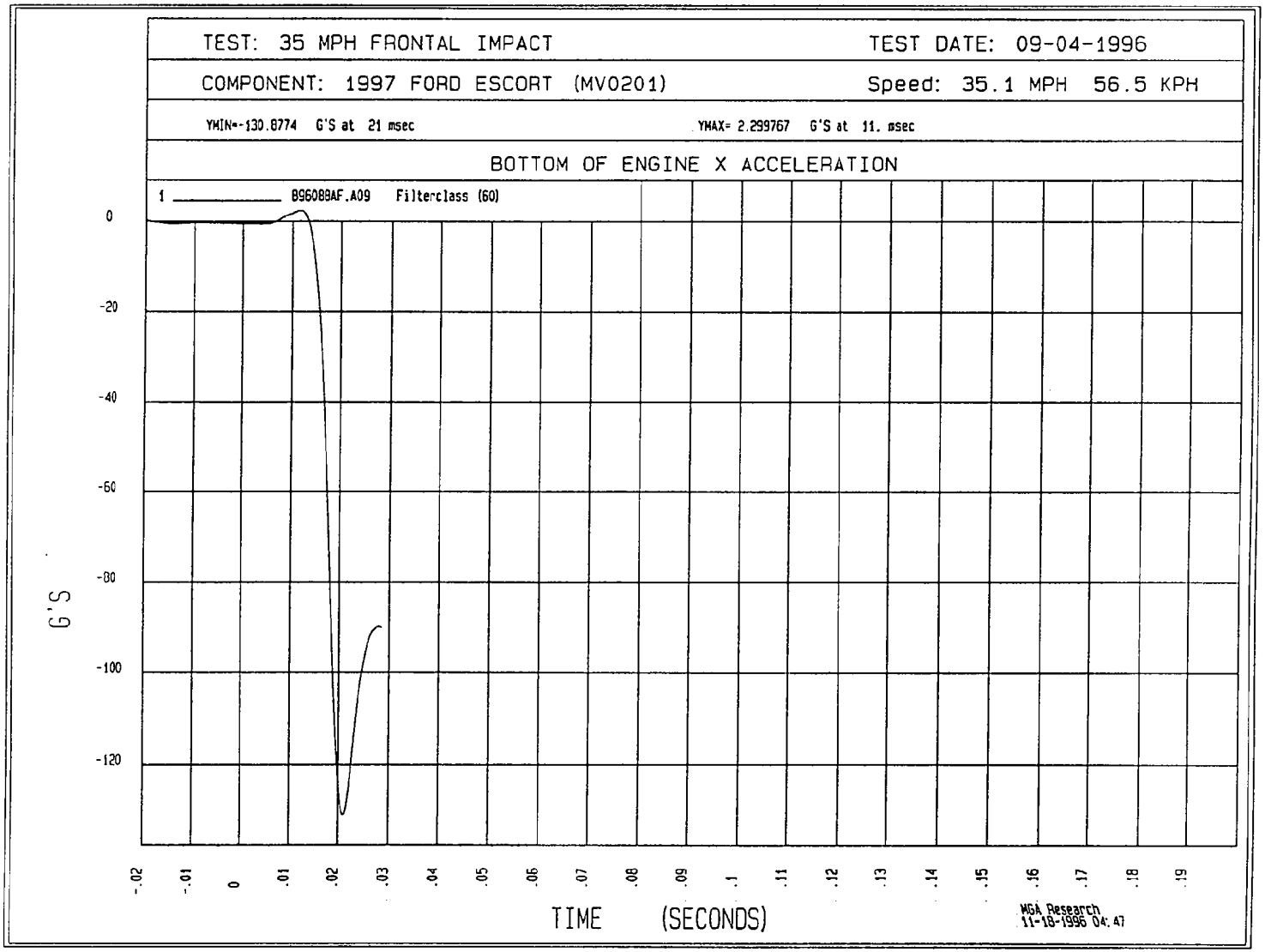
TIME (SECONDS)
MGA Research
11-18-1996 04:47


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-3.025059 KPH at 34. msec
YMAX= 56.5461 KPH at -6.7 msec
TOP OF ENGINE BLOCK X VELOCITY
1 B96089AI.V08 Filterclass (180)
KPH
50
40
30
20
10
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME Seconds
MGA Research
11-18-1996 04:57


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN= 0 MM at -20 msec
YMAX= 714.7639 MM at 32. msec
TOP OF ENGINE BLOCK X DISPLACEMENT
1 B96088AI.D0B Filterclass (180)
MM
700
600
500
400
300
200
100
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
11-18-1996 04:58


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-130.8774 G'S at 21 msec
YMAX= 2.299767 G'S at 11. msec
BOTTOM OF ENGINE X ACCELERATION
1 B96088AF.A09 Filterclass (60)
0
-20
-40
-60
-80
-100
-120
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
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.14
.15
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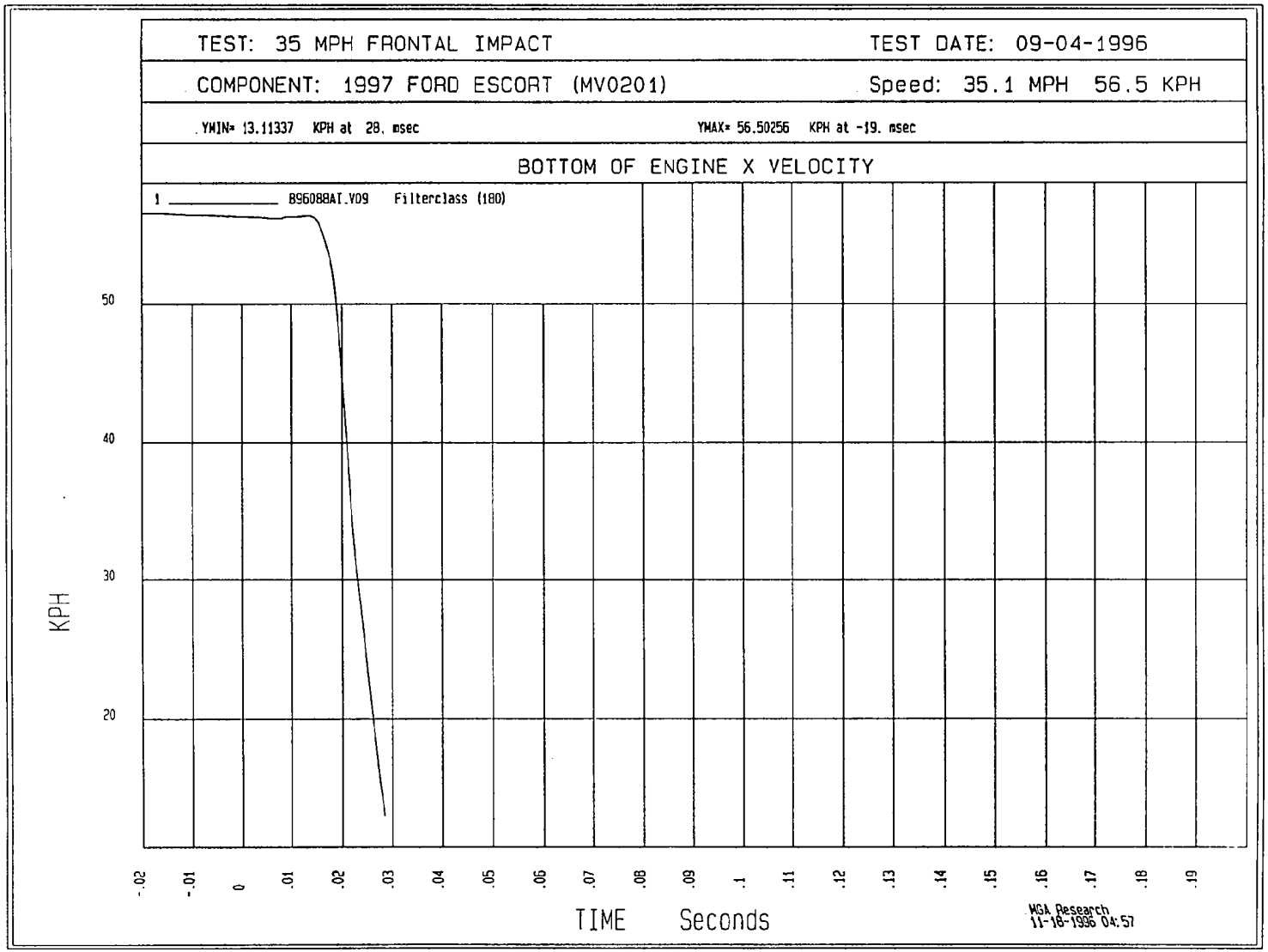
.18
.19
TIME (SECONDS)
MGA Research
11-18-1996 04:47


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN= 13.11337 KPH at 28. msec
YMAX= 56.50256 KPH at -19. msec
BOTTOM OF ENGINE X VELOCITY
1 896088AI.V09 Filterclass (180)
KPH
50
40
30
20
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
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.13
.14
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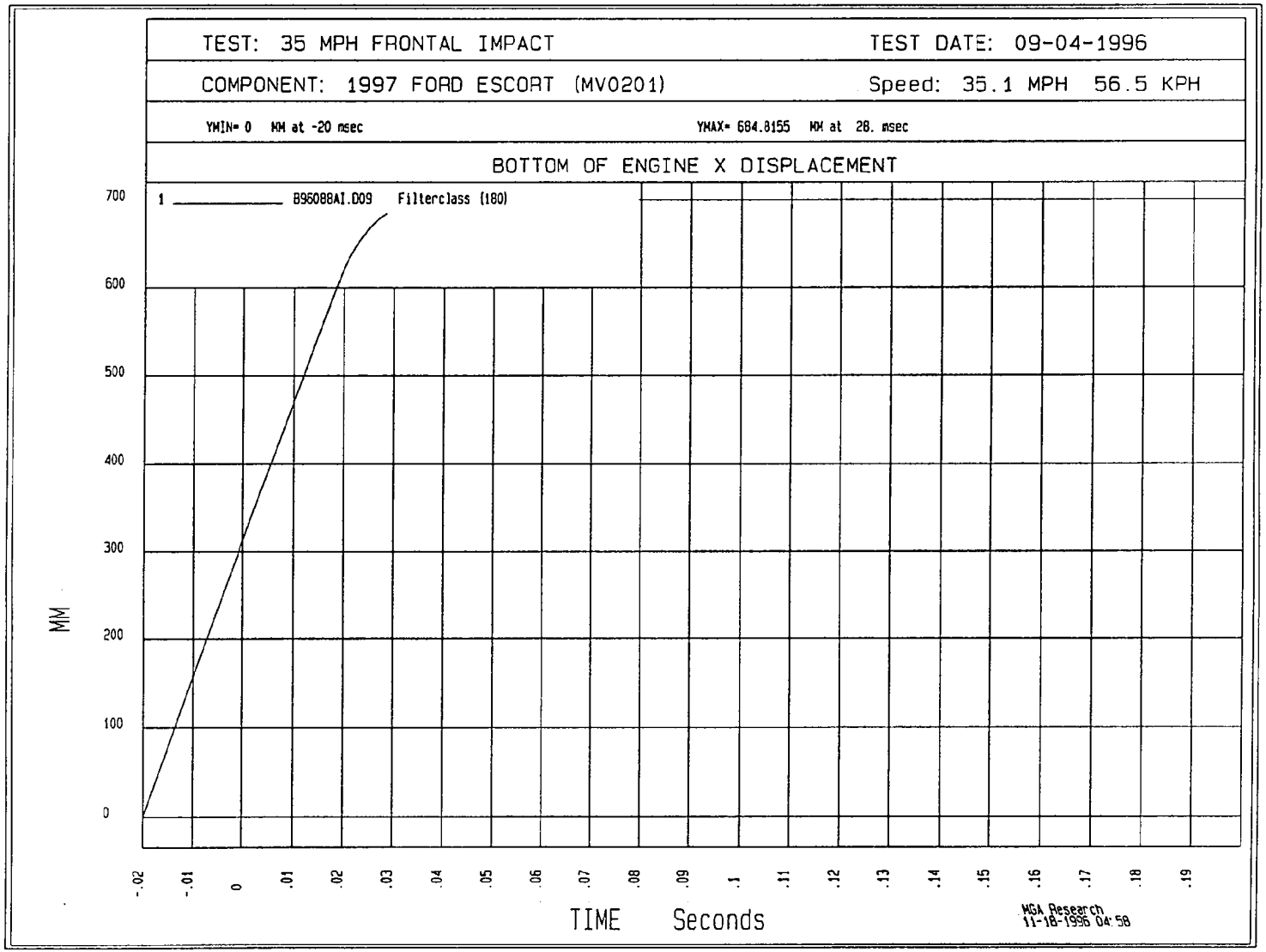
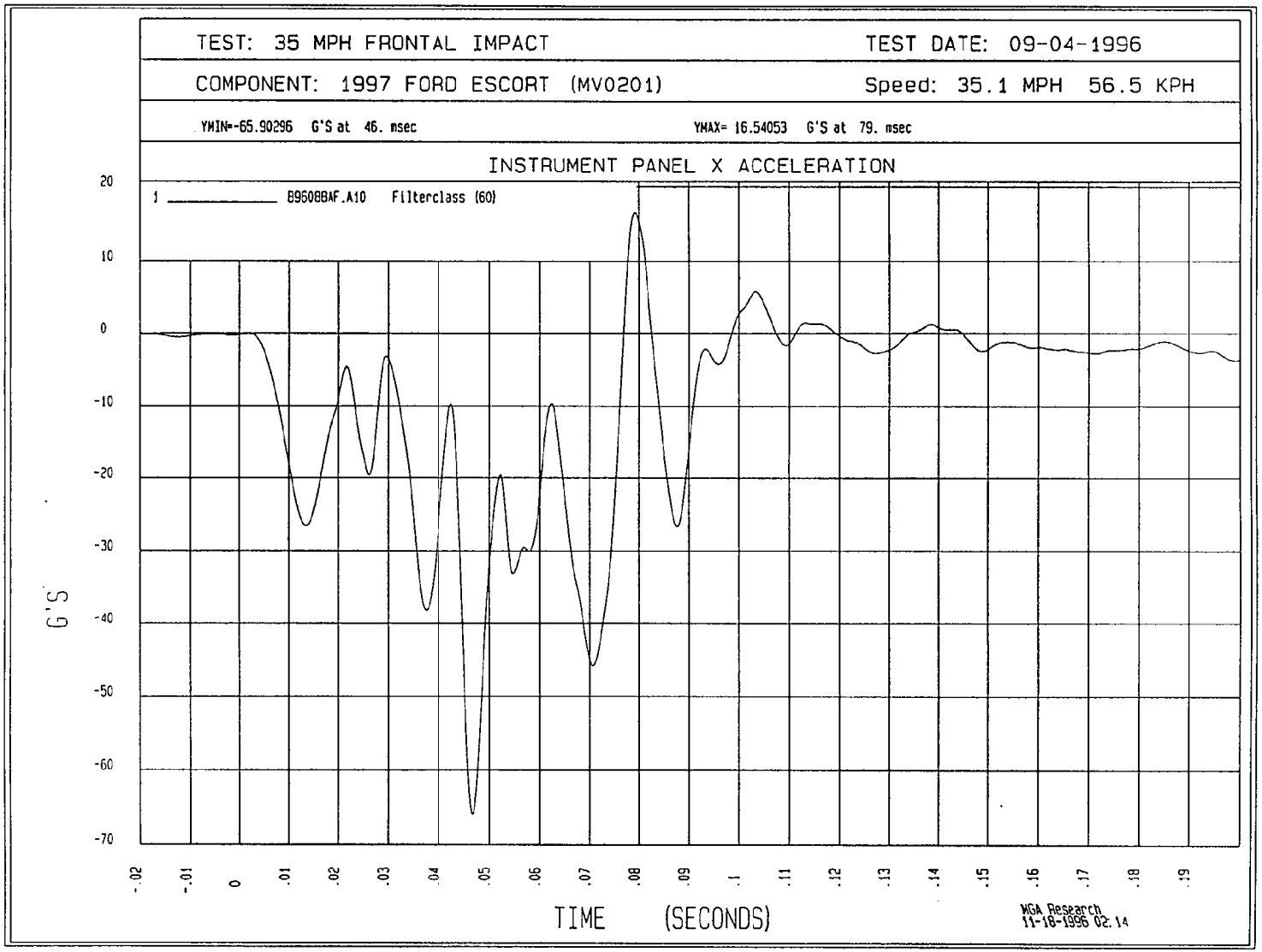
.19
TIME Seconds
NGA Research
11-18-1996 04:57


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN= 0 MM at -20 msec
YMAX= 684.8155 MM at 28. msec
BOTTOM OF ENGINE X DISPLACEMENT
1 B96088AI.DO9 Filterclass (180)
MM
700
600
500
400
300
200
100
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
11-18-1996 04:58


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-65.90296 G'S at 46. msec
YMAX= 16.54053 G'S at 79. msec
INSTRUMENT PANEL X ACCELERATION
1 B9608BAF.A10 Filterclass (60)
20
10
0
-10
-20
-30
-40
-50
-60
-70
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
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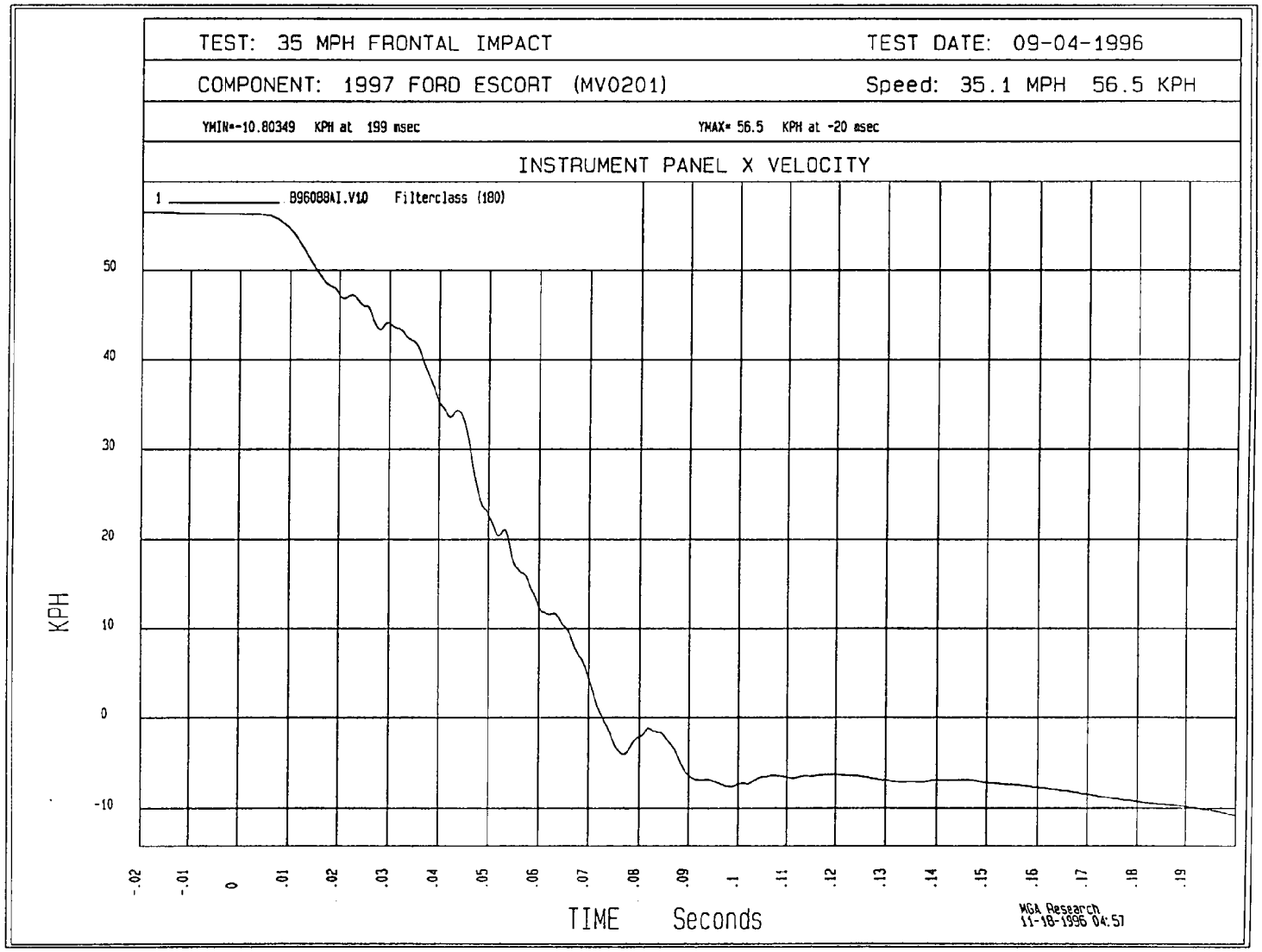
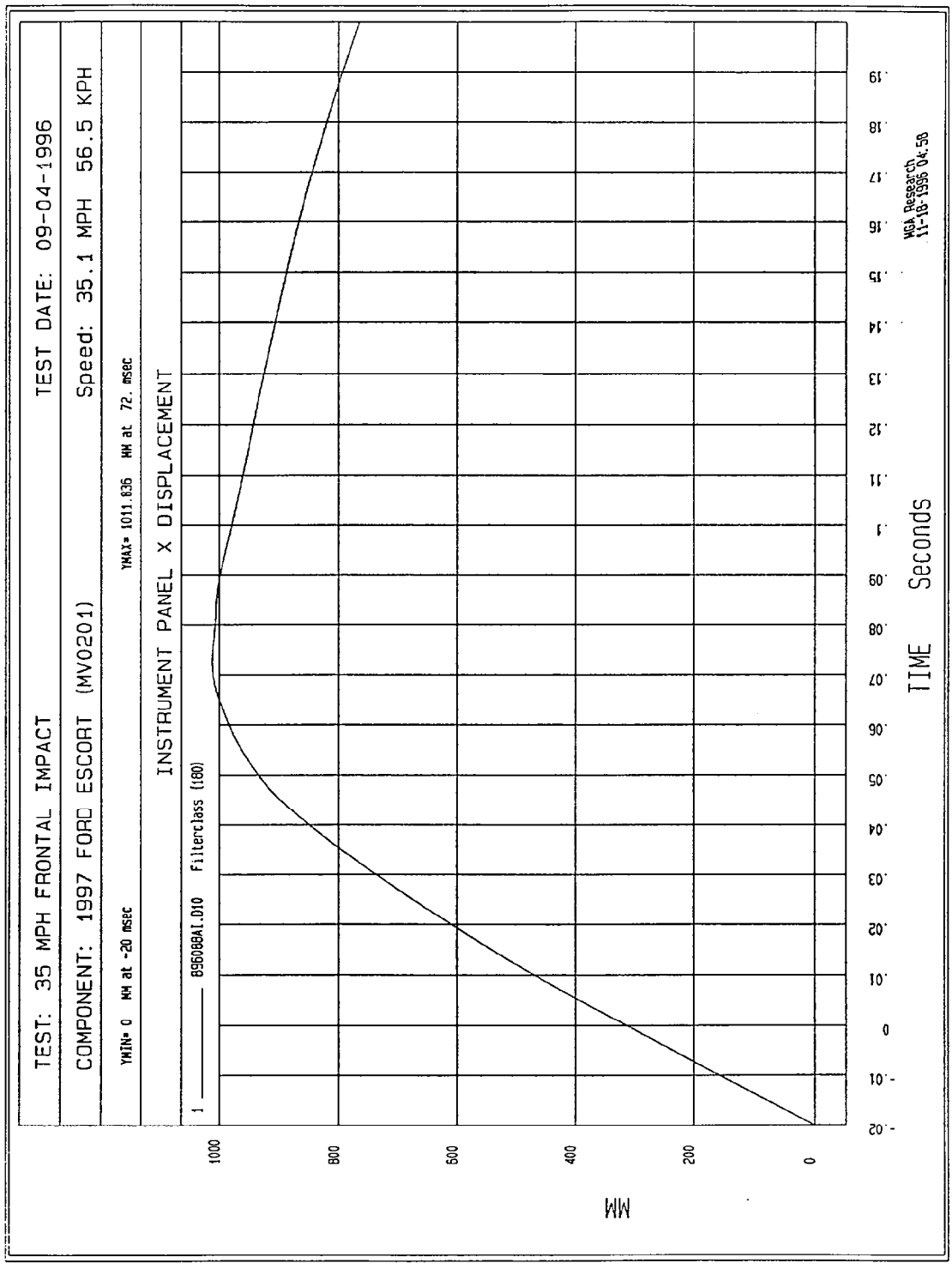
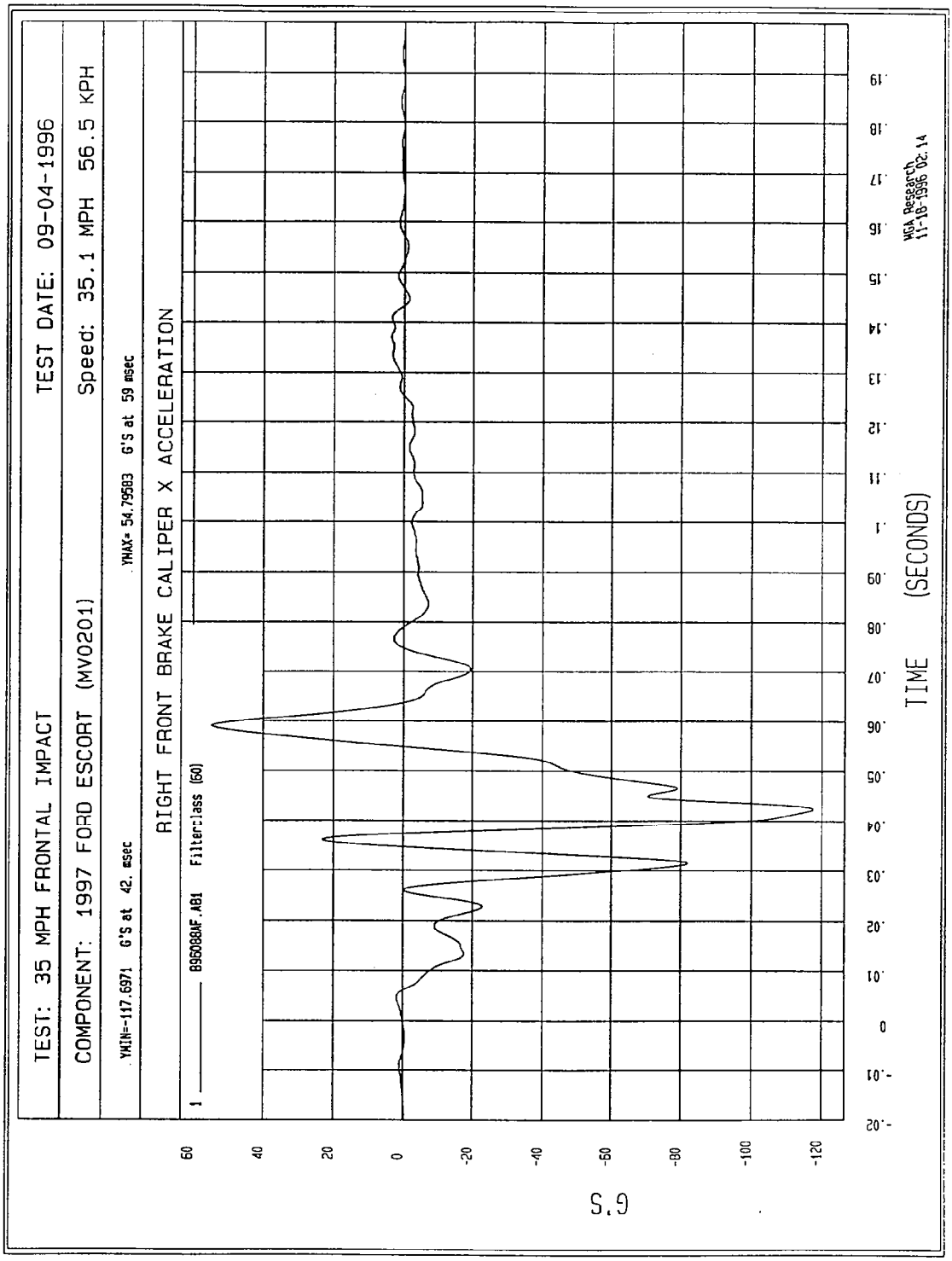
TIME (SECONDS)
WGA Research
11-18-1996 02:14

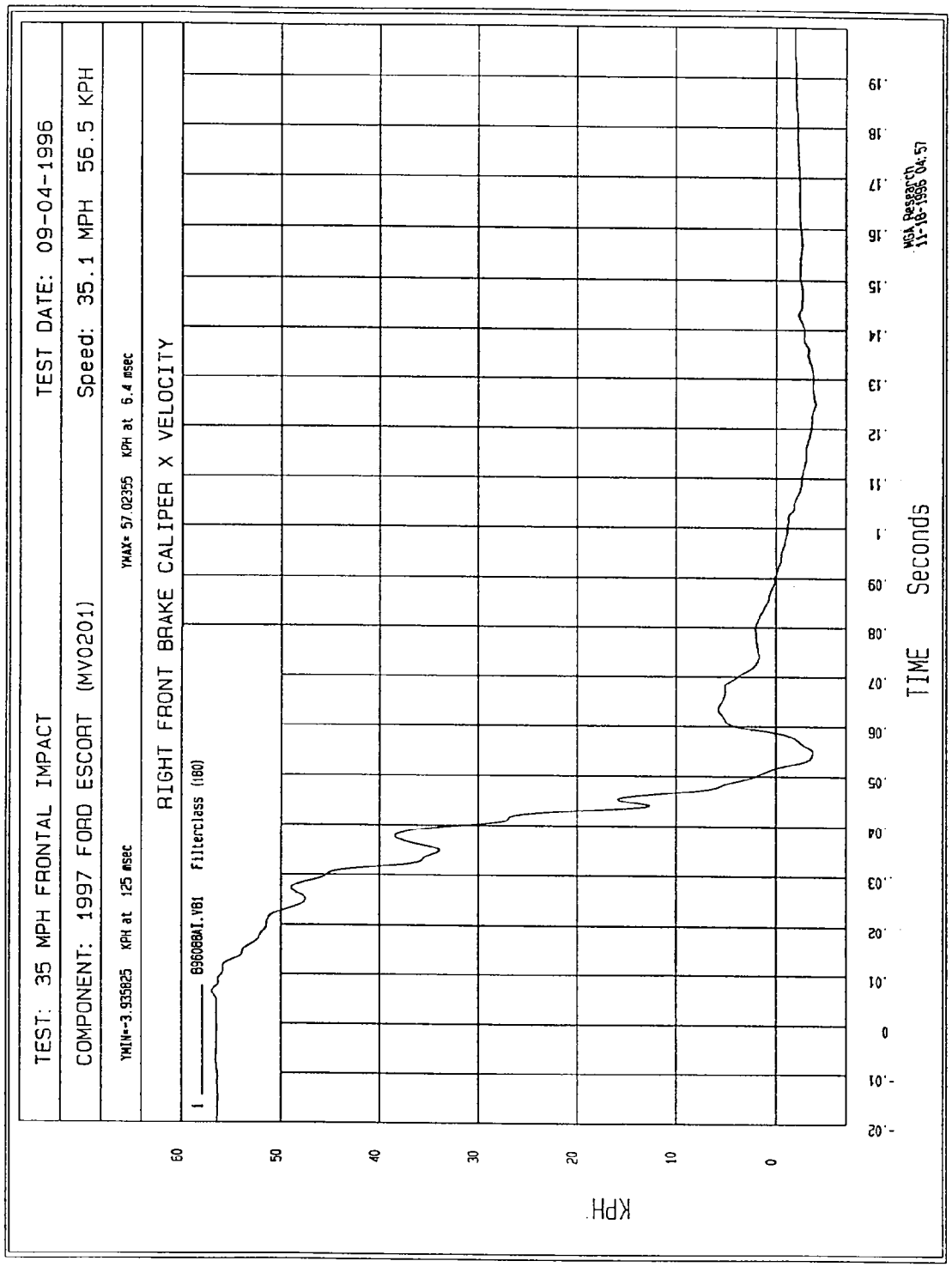

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-10.80349 KPH at 199 msec
YMAX= 56.5 KPH at -20 msec
INSTRUMENT PANEL X VELOCITY
1 B96088AI.V1D Filterclass (180)
KPH
50
40
30
20
10
0
-10
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME Seconds
MGA Research
11-18-1996 04:57

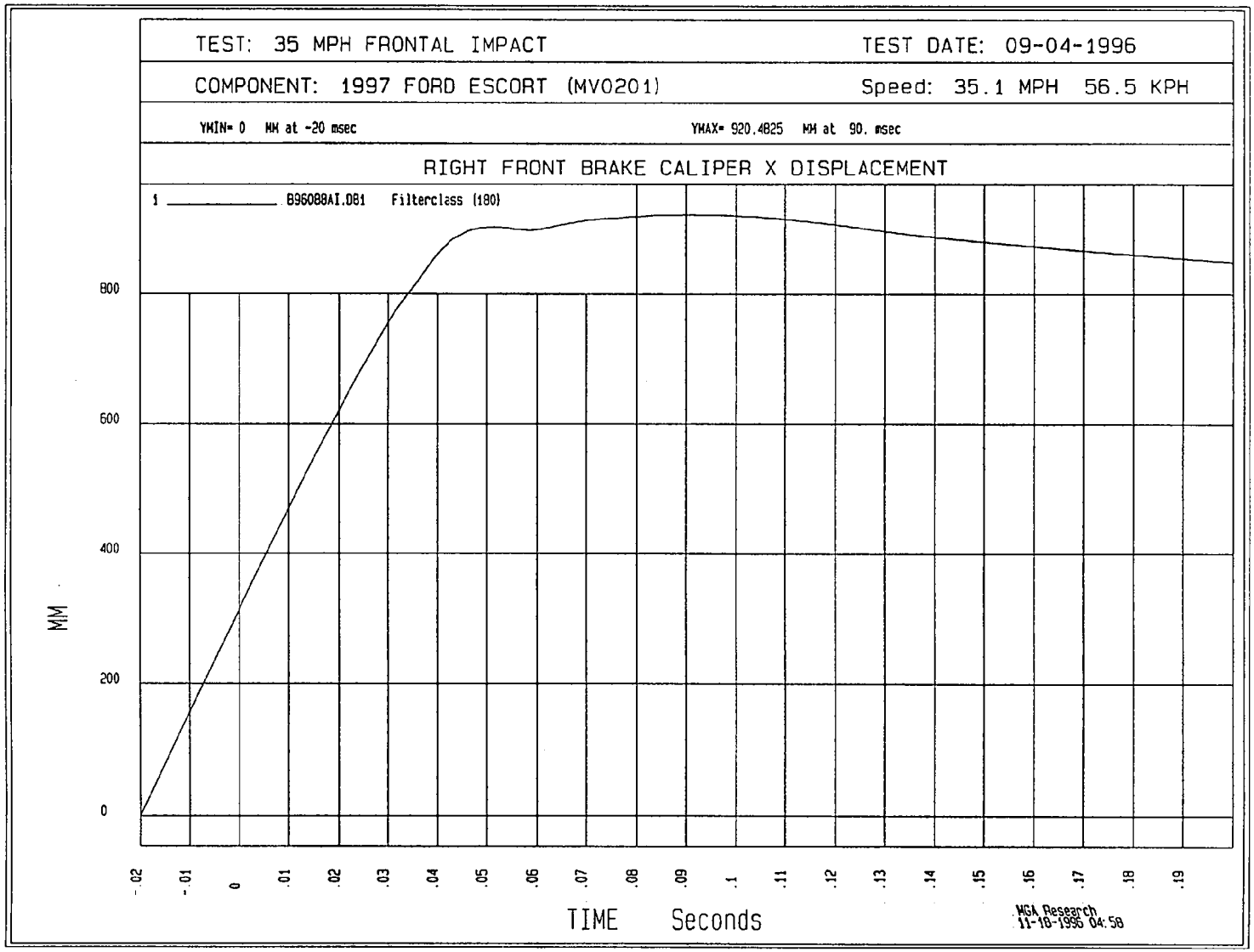

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN= 0 MM at -20 msec
YMAX= 1011.836 MM at 72. msec
INSTRUMENT PANEL X DISPLACEMENT
1 _____ 896008AI.010 Filterclass (180)
MM
1000
800
600
400
200
0
TIME Seconds
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
MGA Research
11-18-1996 04:58

LEFT BRAKE CALIPER X ACCELERATION VS. TIME

NO VALID DATA COLLECTED


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-117.6971 G'S at 42. msec
YMAX= 54.79583 G'S at 59 msec
RIGHT FRONT BRAKE CALIPER X ACCELERATION
1 B96088AF.A81 Filter:Class (60)
60
40
20
0
-20
-40
-60
-80
-100
-120
.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
11-18-1996 02:14
G's


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-3.935625 KPH at 125 msec
YMAX= 57.02355 KPH at 6.4 msec
RIGHT FRONT BRAKE CALIPER X VELOCITY
1 ——— 8960808AT.V81 Filterclass (180)
KPH
TIME Seconds
NGA Research
11-18-1996 04:57


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN= 0 MM at -20 msec
YMAX= 920.4825 MM at 90. msec
RIGHT FRONT BRAKE CALIPER X DISPLACEMENT
1 B96088AI.D81 Filterclass (180)
800
600
400
200
0
MM
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
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.14
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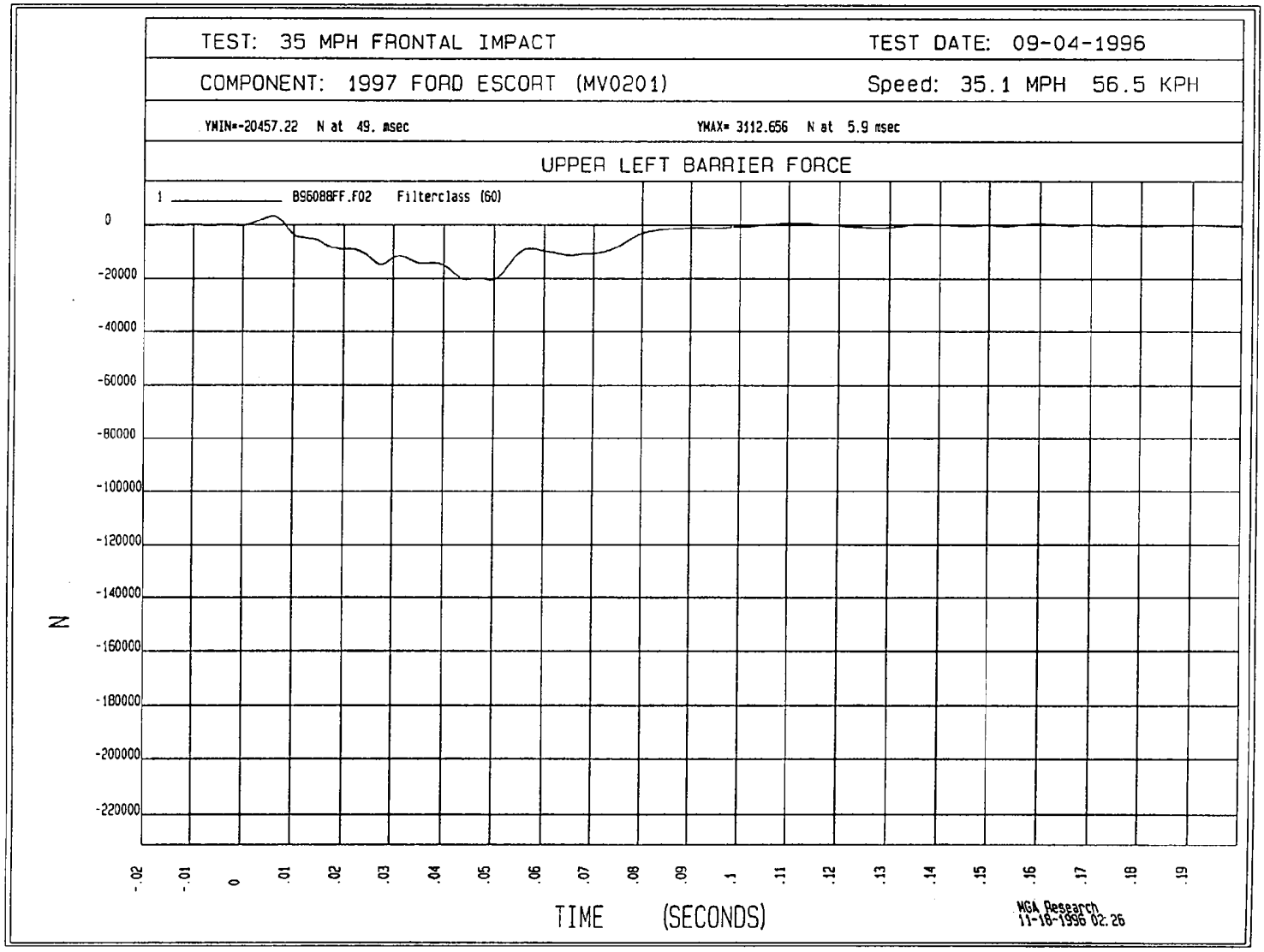
.16
.17
.18
.19
TIME Seconds
MGA Research
11-18-1996 04:58


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-20457.22 N at 49. msec
YMAX= 3112.656 N at 5.9 msec
UPPER LEFT BARRIER FORCE
1 B96088FF.F02 Filterclass (60)
0
-20000
-40000
-60000
-80000
-100000
-120000
-140000
-160000
-180000
-200000
-220000
N
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
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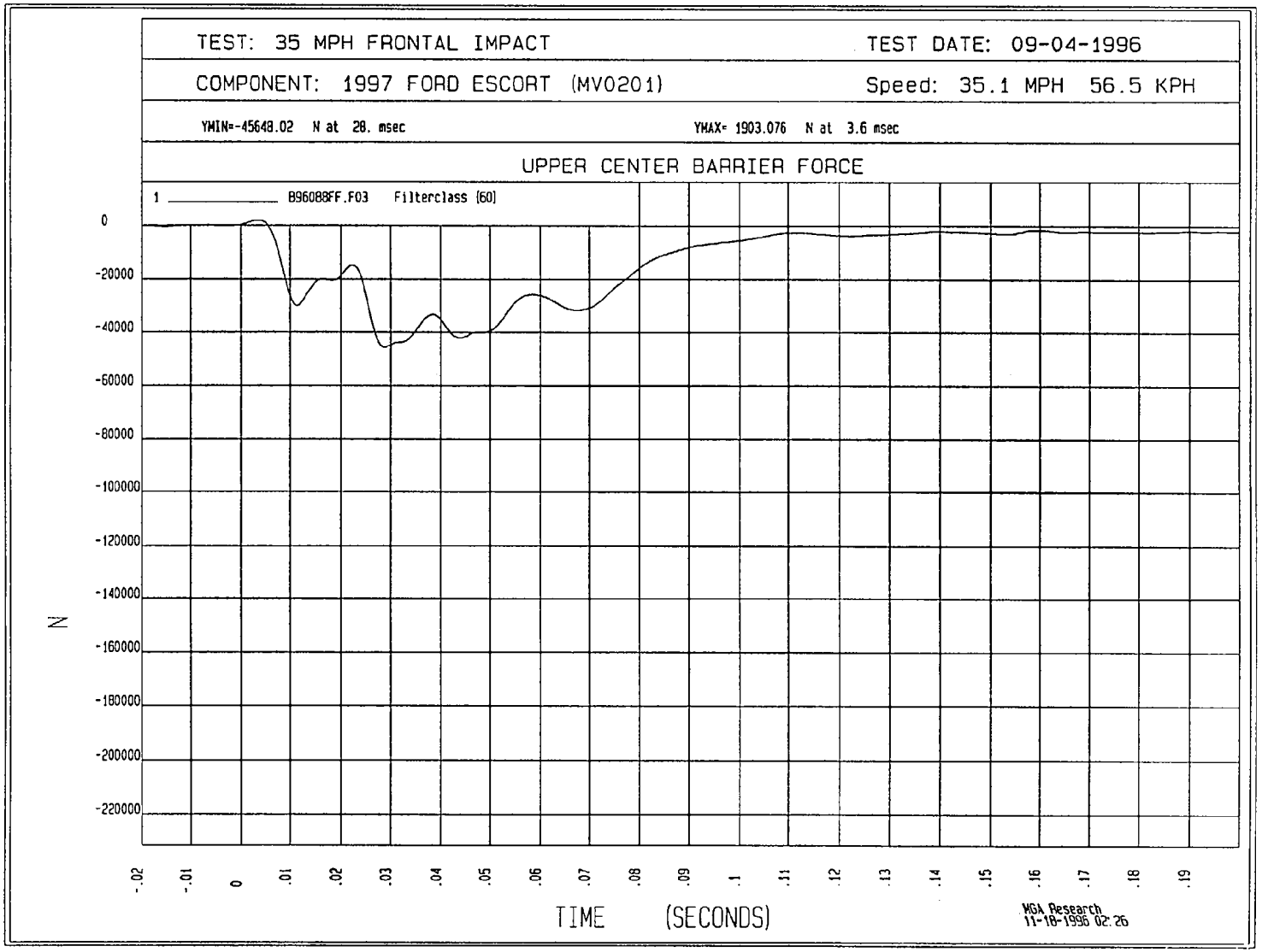
TIME (SECONDS)
MGA Research
11-18-1996 02.26


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-45648.02 N at 28. msec
YMAX= 1903.076 N at 3.6 msec
UPPER CENTER BARRIER FORCE
1 B96088FF.F03 Filterclass (60)
0
-20000
-40000
-60000
-80000
-100000
-120000
-140000
-160000
-180000
-200000
-220000
N
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
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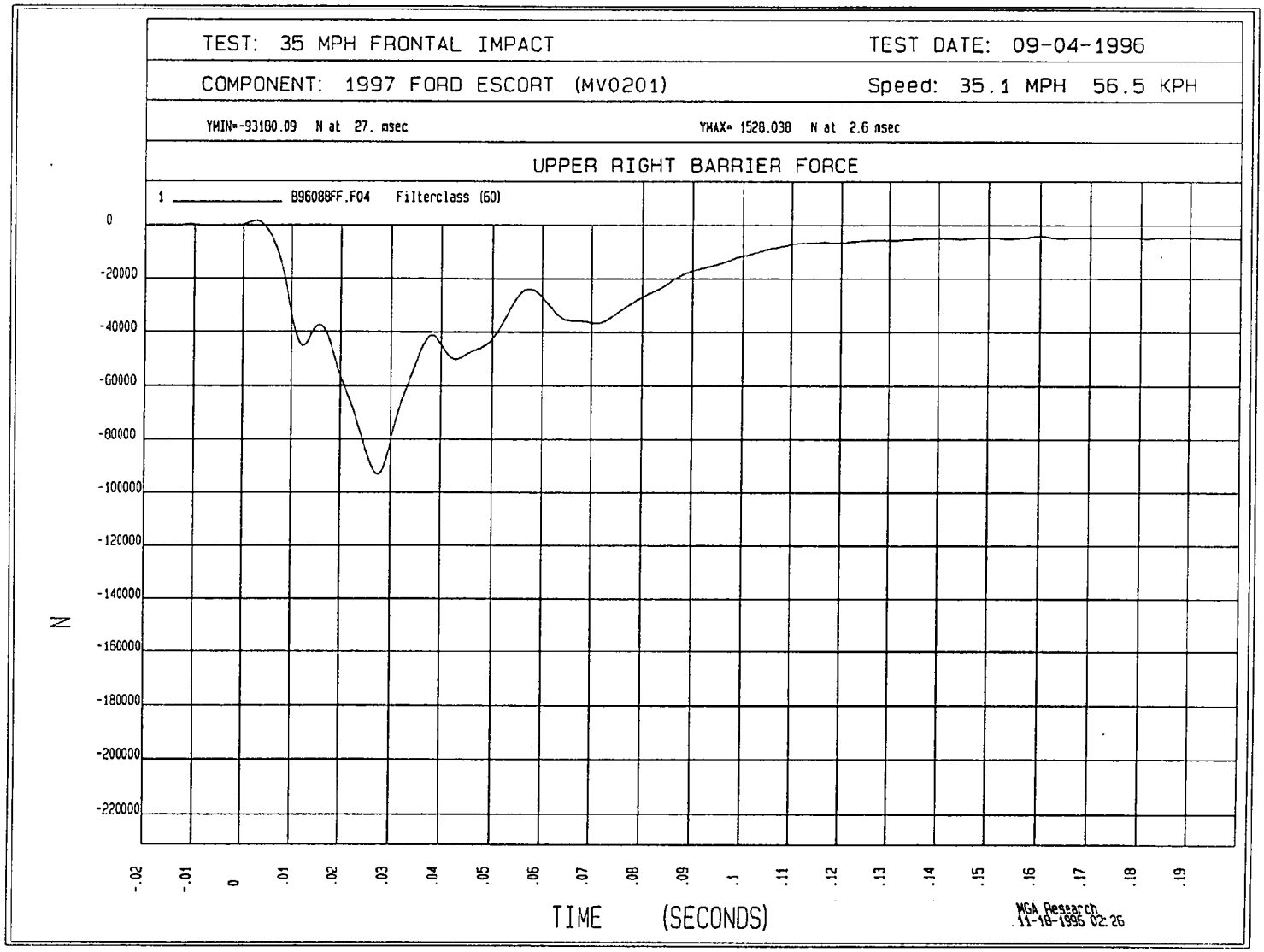
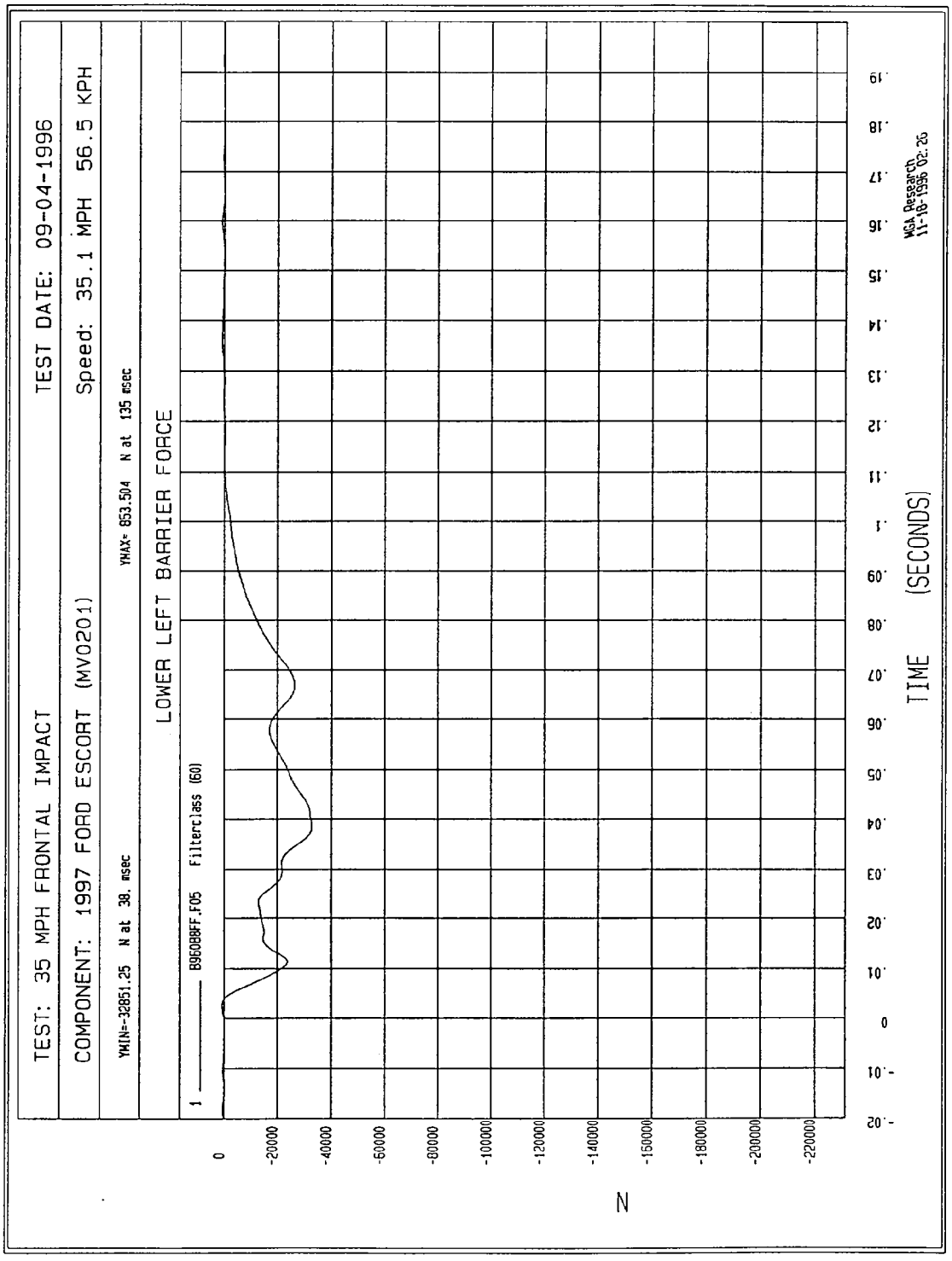
.19
TIME (SECONDS)
MGA Research
11-18-1996 02:26


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-93180.09 N at 27. msec
YMAX= 1528.038 N at 2.6 msec
UPPER RIGHT BARRIER FORCE
1 B96088FF.F04 Filterclass (60)
0
-20000
-40000
-60000
-80000
-100000
-120000
-140000
-160000
-180000
-200000
-220000
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
11-18-1996 02:26


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-32851.25 N at 38. msec
YMAX= 853.504 N at 135 msec
LOWER LEFT BARRIER FORCE
1 B96088FF.F05 Filterclass (60)
0
-20000
-40000
-60000
-80000
-100000
-120000
-140000
-150000
-180000
-200000
-220000
N
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
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.16
.17
.18
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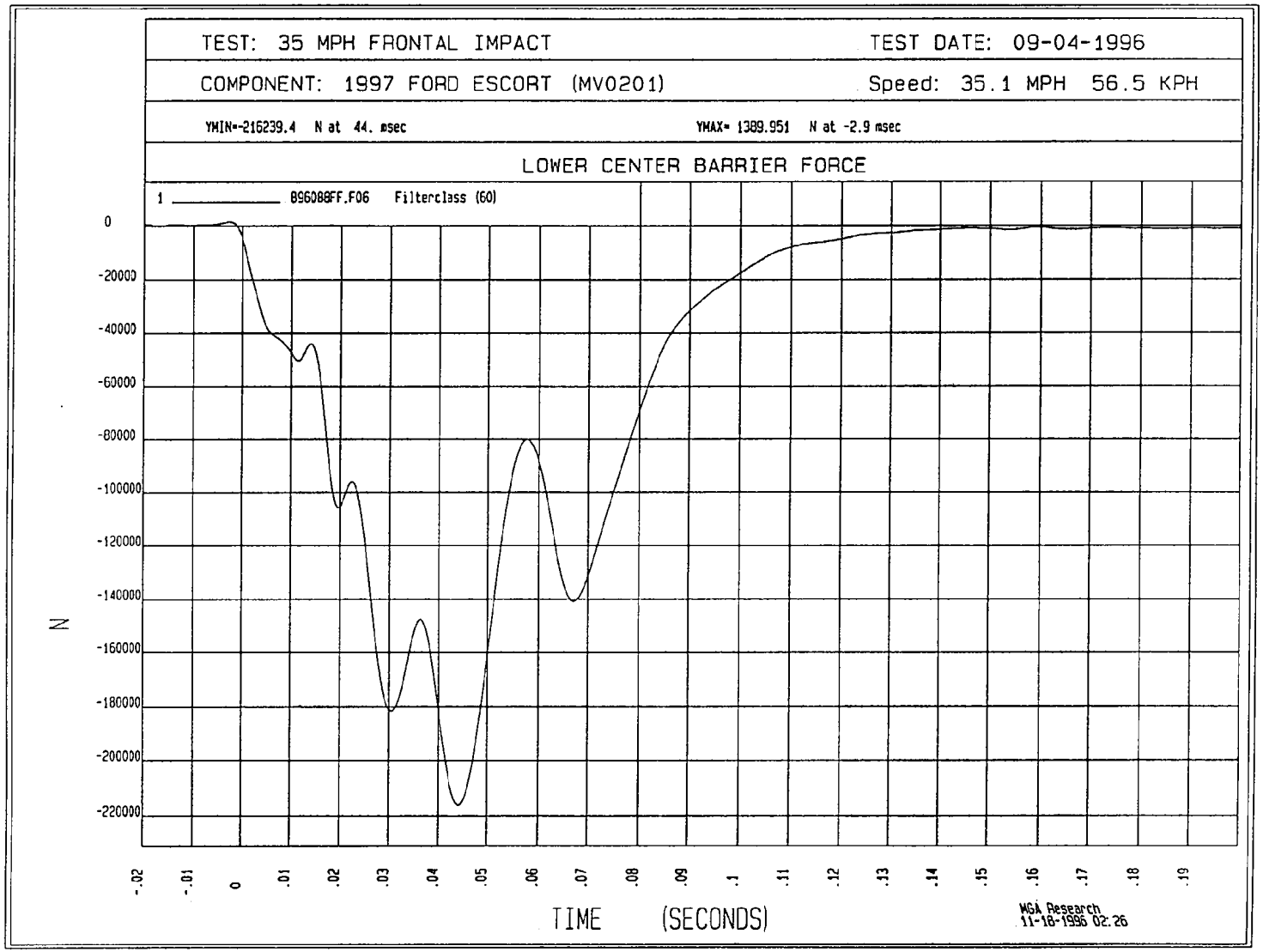
TIME (SECONDS)
WSA Research
11-18-1996 02:26


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-216239.4 N at 44. msec
YMAX= 1389.951 N at -2.9 msec
LOWER CENTER BARRIER FORCE
1 B96088FF.F06 Filterclass (60)
0
-20000
-40000
-60000
-80000
-100000
-120000
-140000
-160000
-180000
-200000
-220000
N
-.02
-.01
0
.01
.02
.03
.04
.05
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.11
.12
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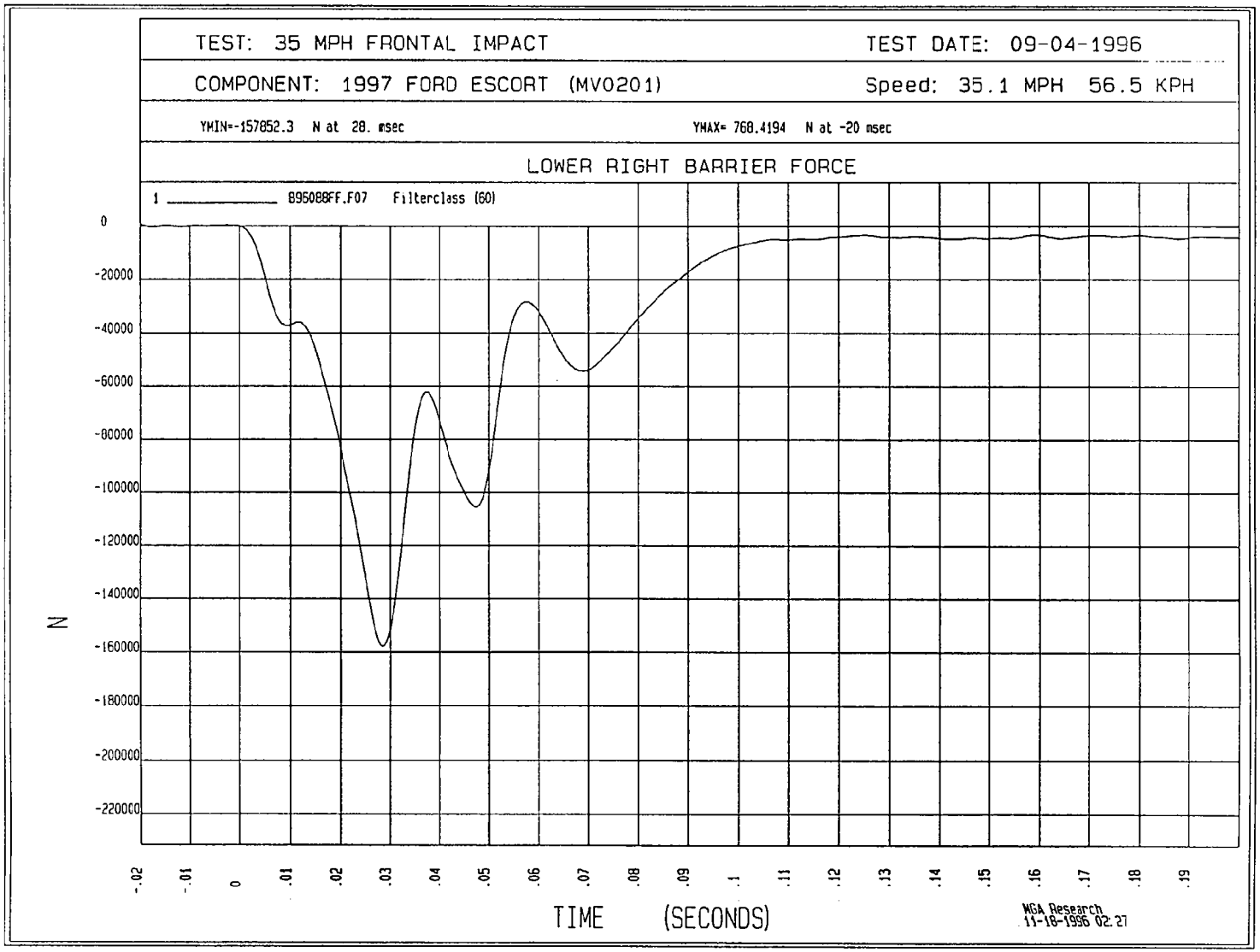
.19
TIME (SECONDS)
MGA Research
11-18-1996 02:26


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-157852.3 N at 28. msec
YMAX= 768.4194 N at -20 msec
LOWER RIGHT BARRIER FORCE
1 895088FF.F07 Filterclass (60)
0
-20000
-40000
-60000
-80000
-100000
-120000
-140000
-160000
-180000
-200000
-220000
N
-.02
-.01
0
.01
.02
.03
.04
.05
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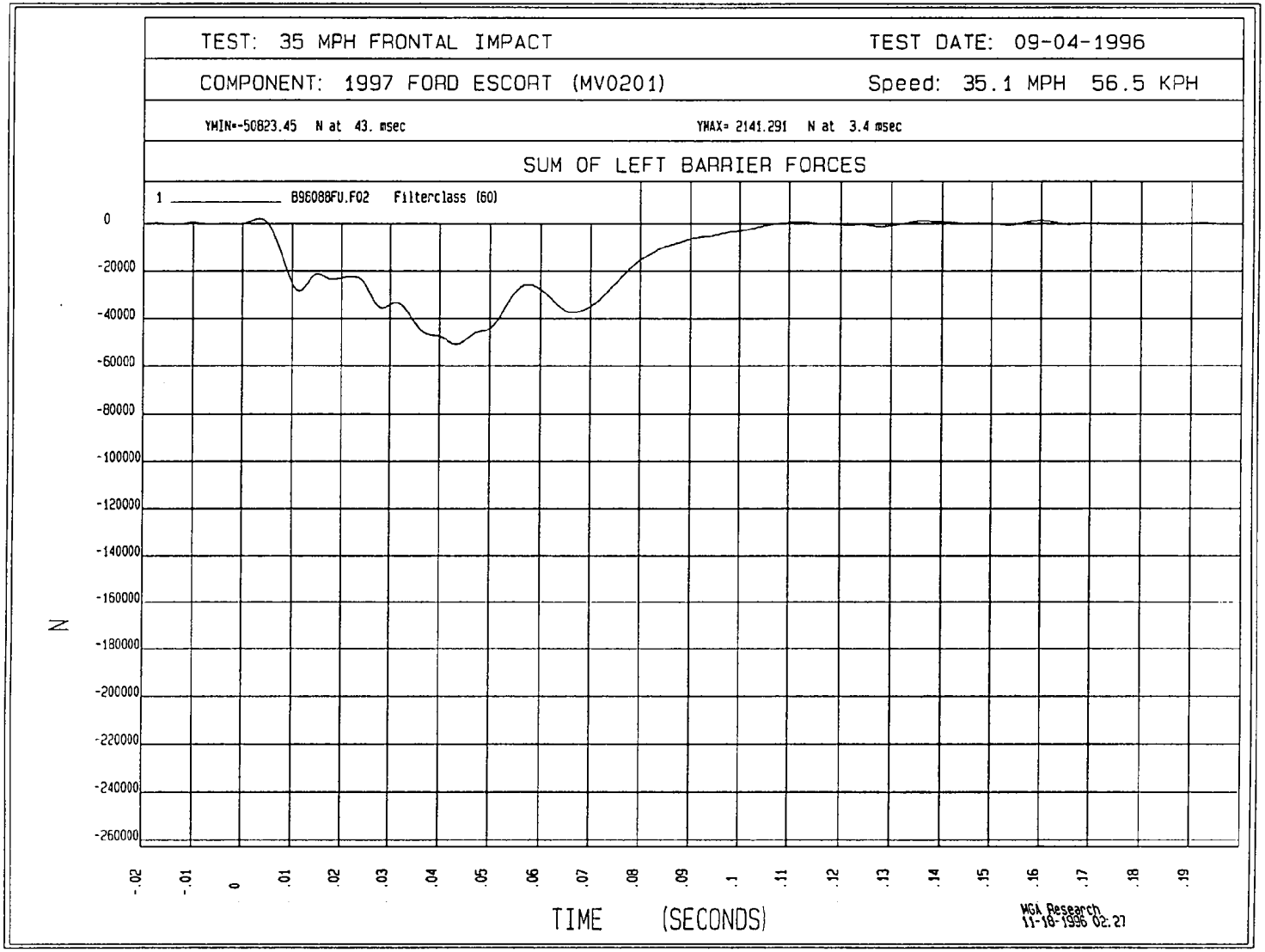
TIME (SECONDS)
MGA Research
11-18-1996 02:27


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-50823.45 N at 43. msec
YMAX= 2141.291 N at 3.4 msec
SUM OF LEFT BARRIER FORCES
1 B96088FU.F02 Filterclass (60)
0
-20000
-40000
-60000
-80000
-100000
-120000
-140000
-160000
-180000
-200000
-220000
-240000
-260000
N
-.02
-.01
0
.01
.02
.03
.04
.05
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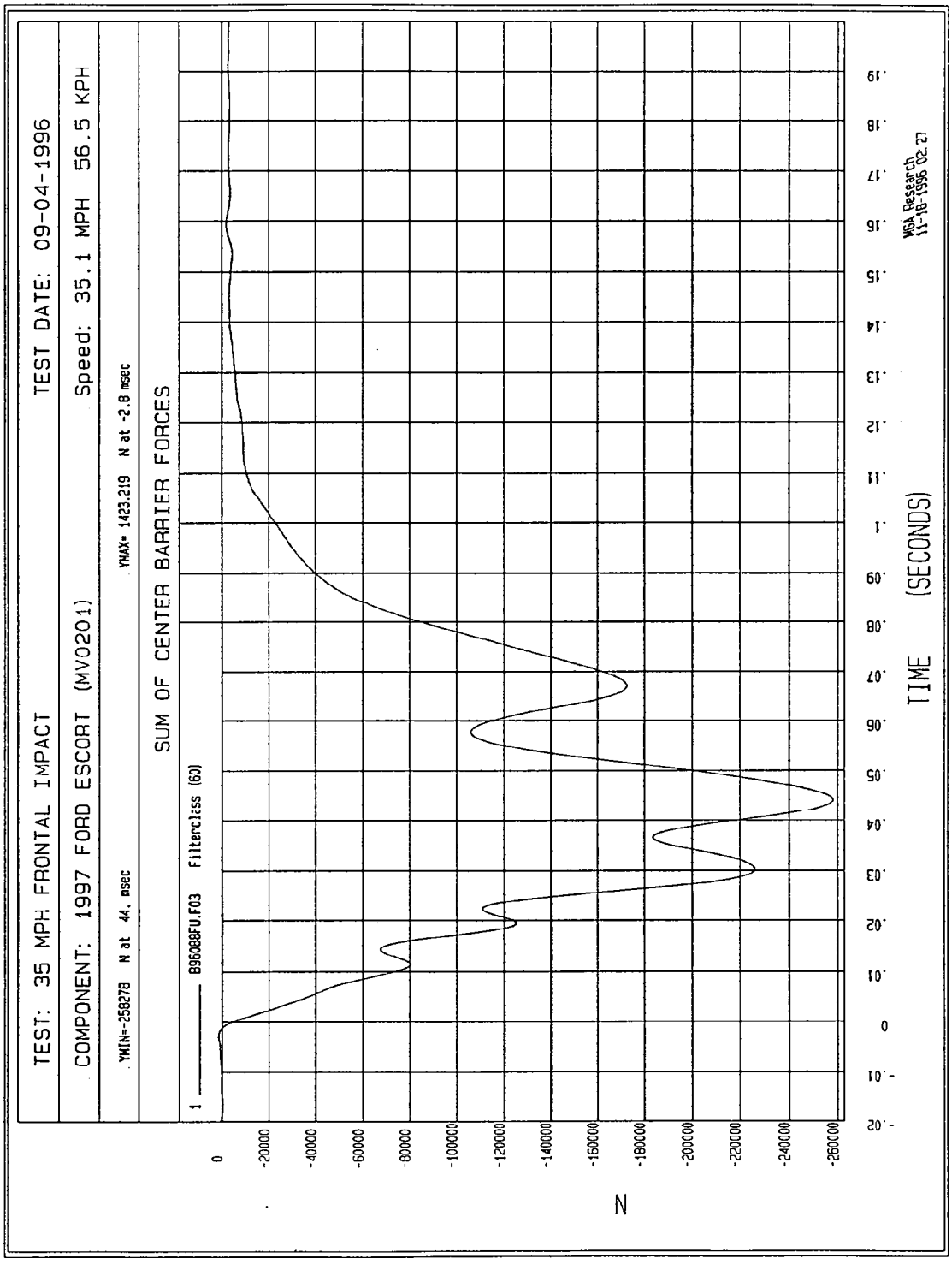
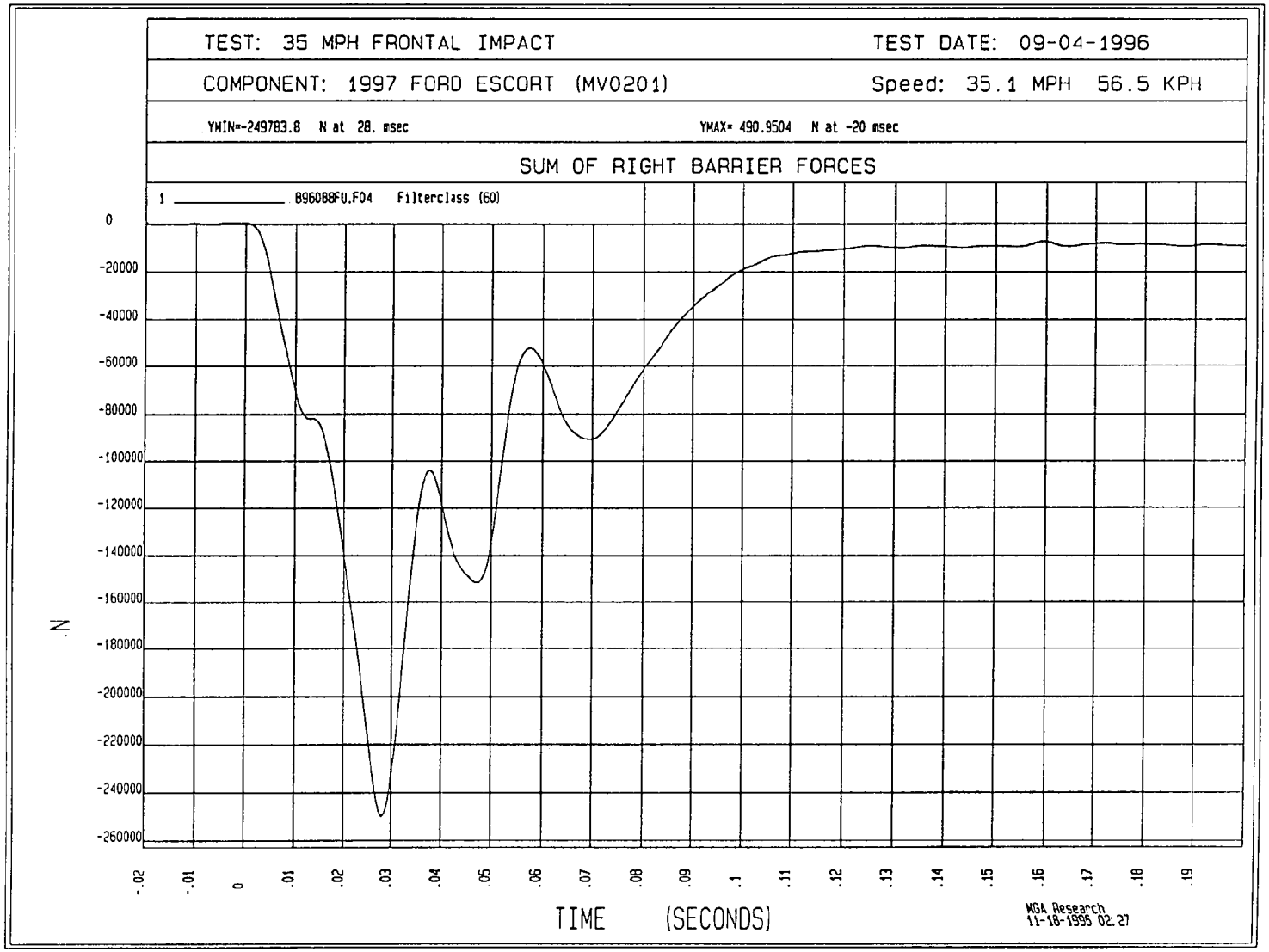
TIME (SECONDS)
MGA Research
11-18-1996 02:27


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-258278 N at 44. msec
YMAX= 1423.219 N at -2.8 msec
SUM OF CENTER BARRIER FORCES
1 ——— 896088FU.F03 Filterclass (60)
N
TIME (SECONDS)
MGA Research
11-16-1996 02:27


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-249783.8 N at 28. msec
YMAX= 490.9504 N at -20 msec
SUM OF RIGHT BARRIER FORCES
1 896088FU.F04 Filterclass (60)
0
-20000
-40000
-60000
-80000
-100000
-120000
-140000
-160000
-180000
-200000
-220000
-240000
-260000
N
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
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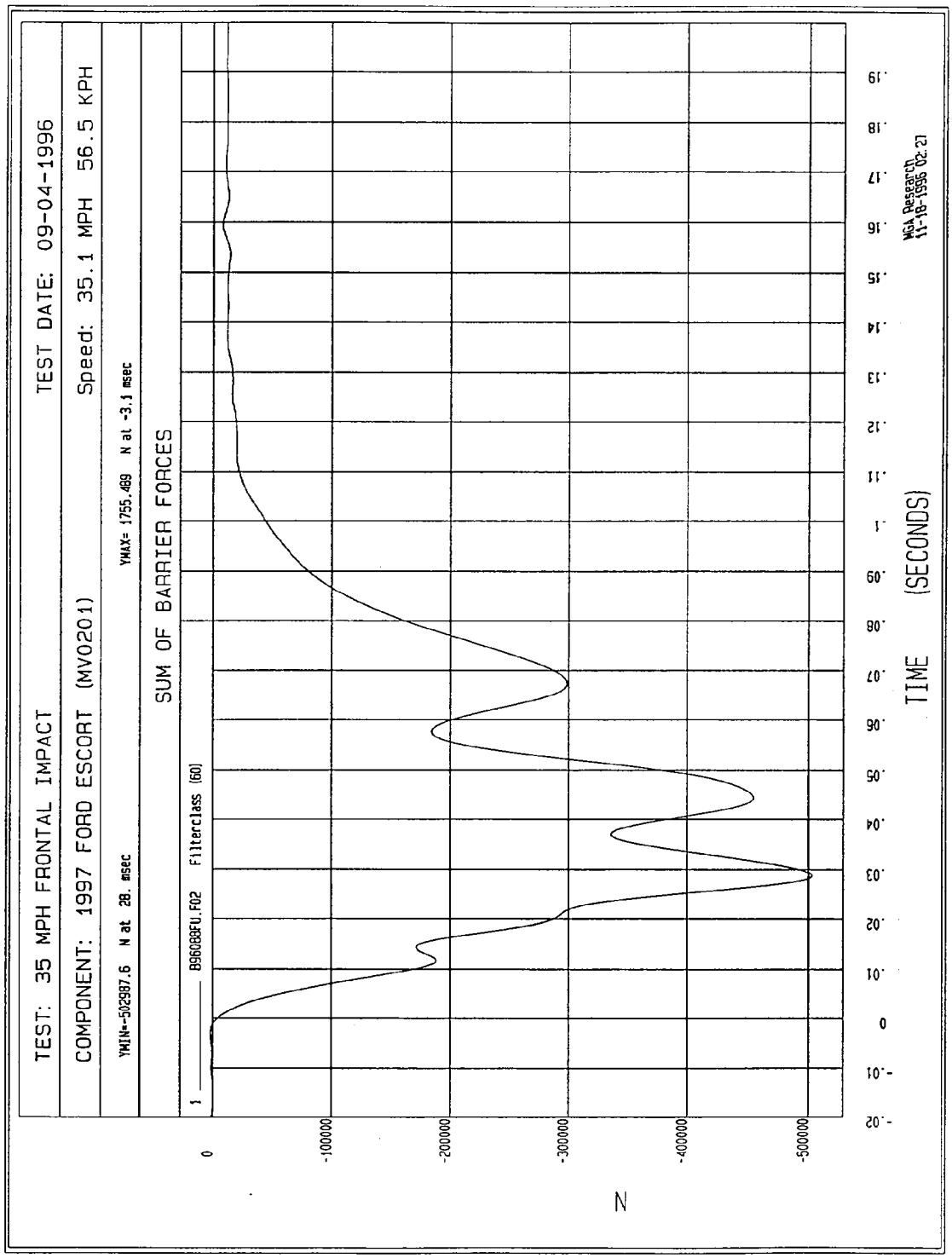
TIME (SECONDS)
WGA Research
11-18-1996 02:27


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-502987.6 N at 28. msec
YMAX= 1755.489 N at -3.1 msec
SUM OF BARRIER FORCES
1 B960888FU.F02 Filterclass (60)
0
-100000
-200000
-300000
-400000
-500000
N
-.02
-.01
0
.01
.02
.03
.04
.05
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.08
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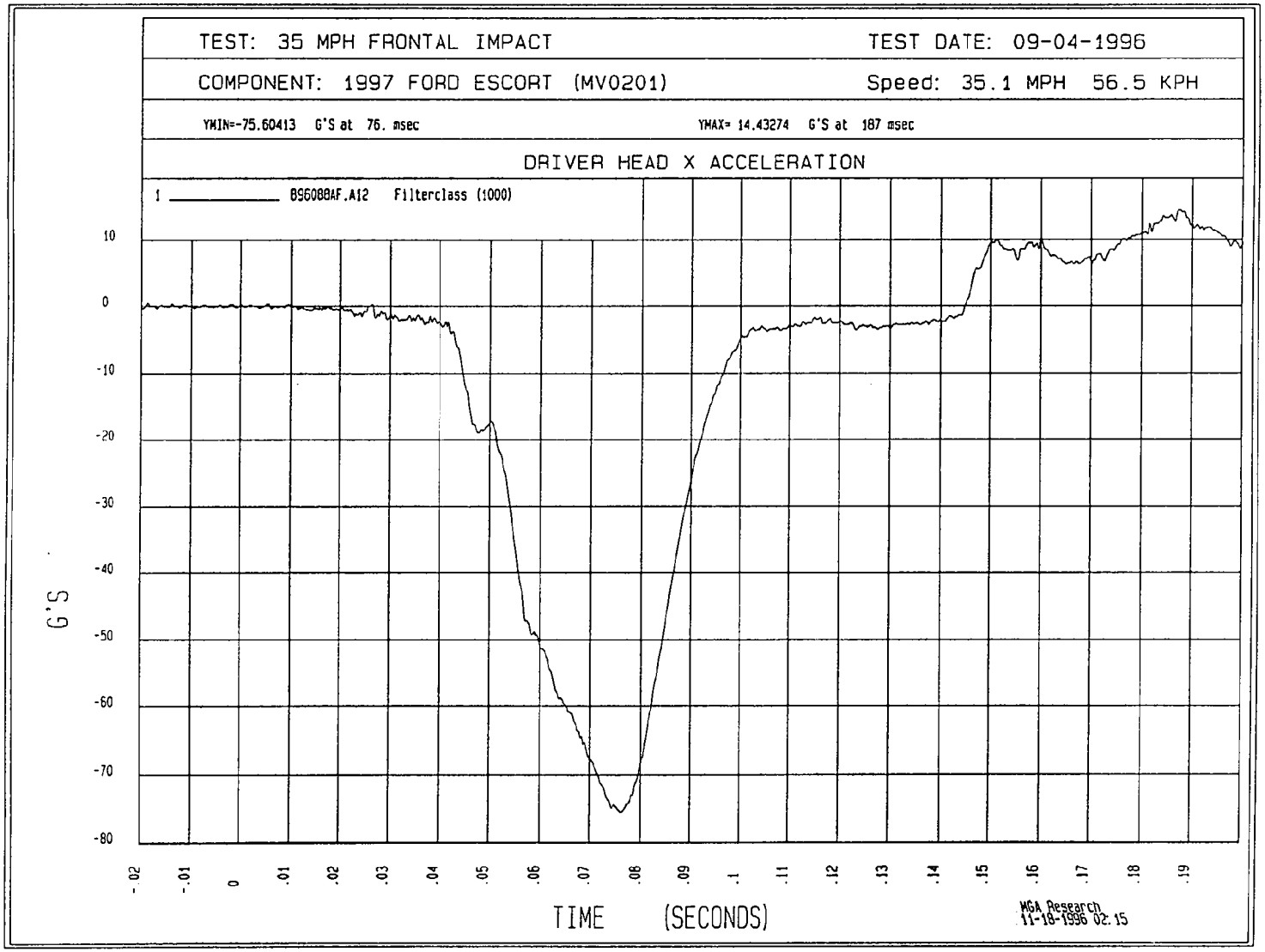
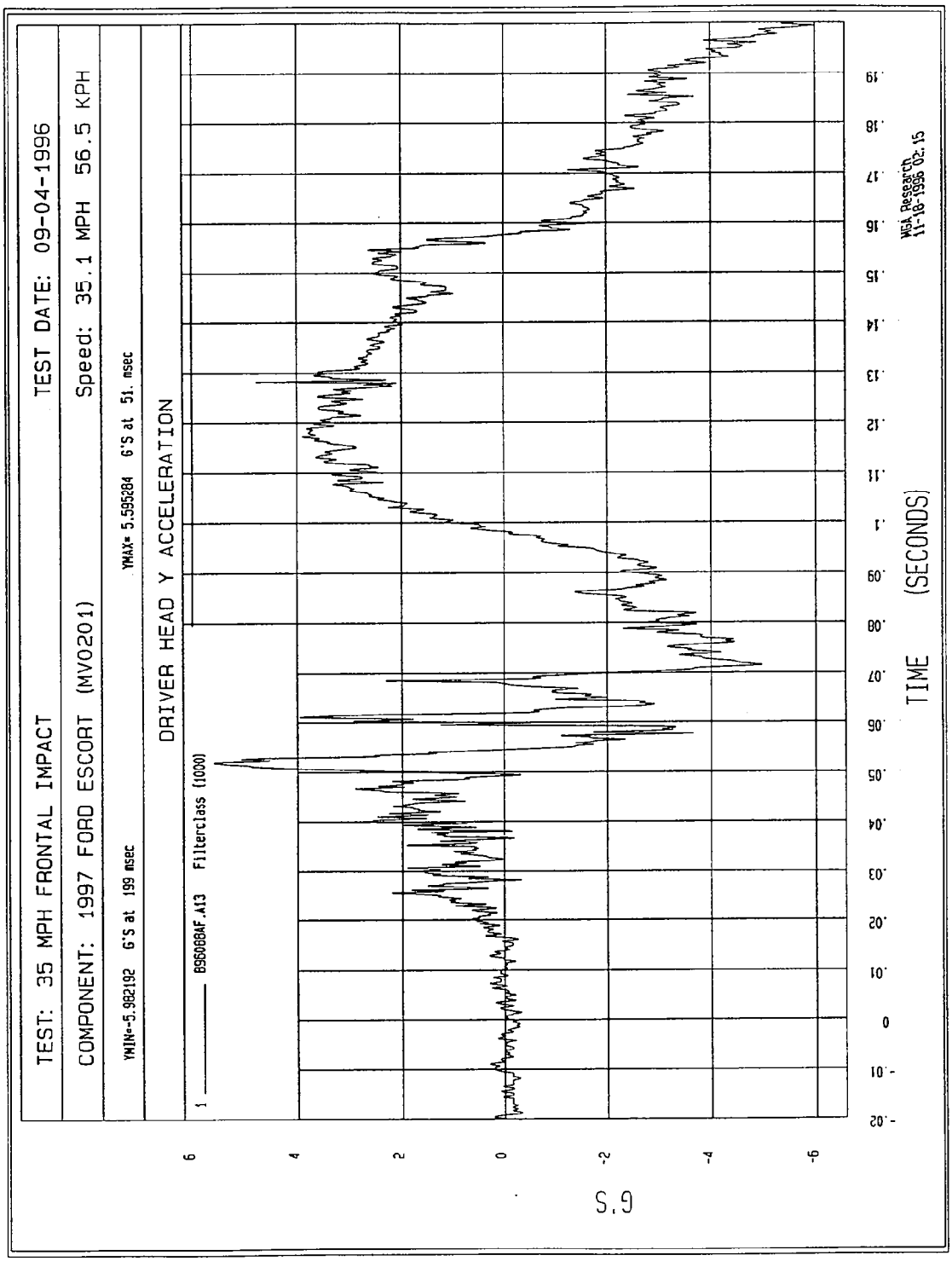
TIME (SECONDS)
MGA Research
11-18-1996 02:27


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-75.60413 G'S at 76. msec
YMAX= 14.43274 G'S at 187 msec
DRIVER HEAD X ACCELERATION
1 B96088AF.A12 Filterclass (1000)
10
0
-10
-20
-30
-40
-50
-60
-70
-80
G's
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
11-18-1996 02:15


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-5.982192 G'S at 199 msec
YMAX= 5.595284 G'S at 51. msec
DRIVER HEAD Y ACCELERATION
1 B960684F.A13 Filterclass (1000)
6
4
2
0
-2
-4
-6
G'S
TIME (SECONDS)
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
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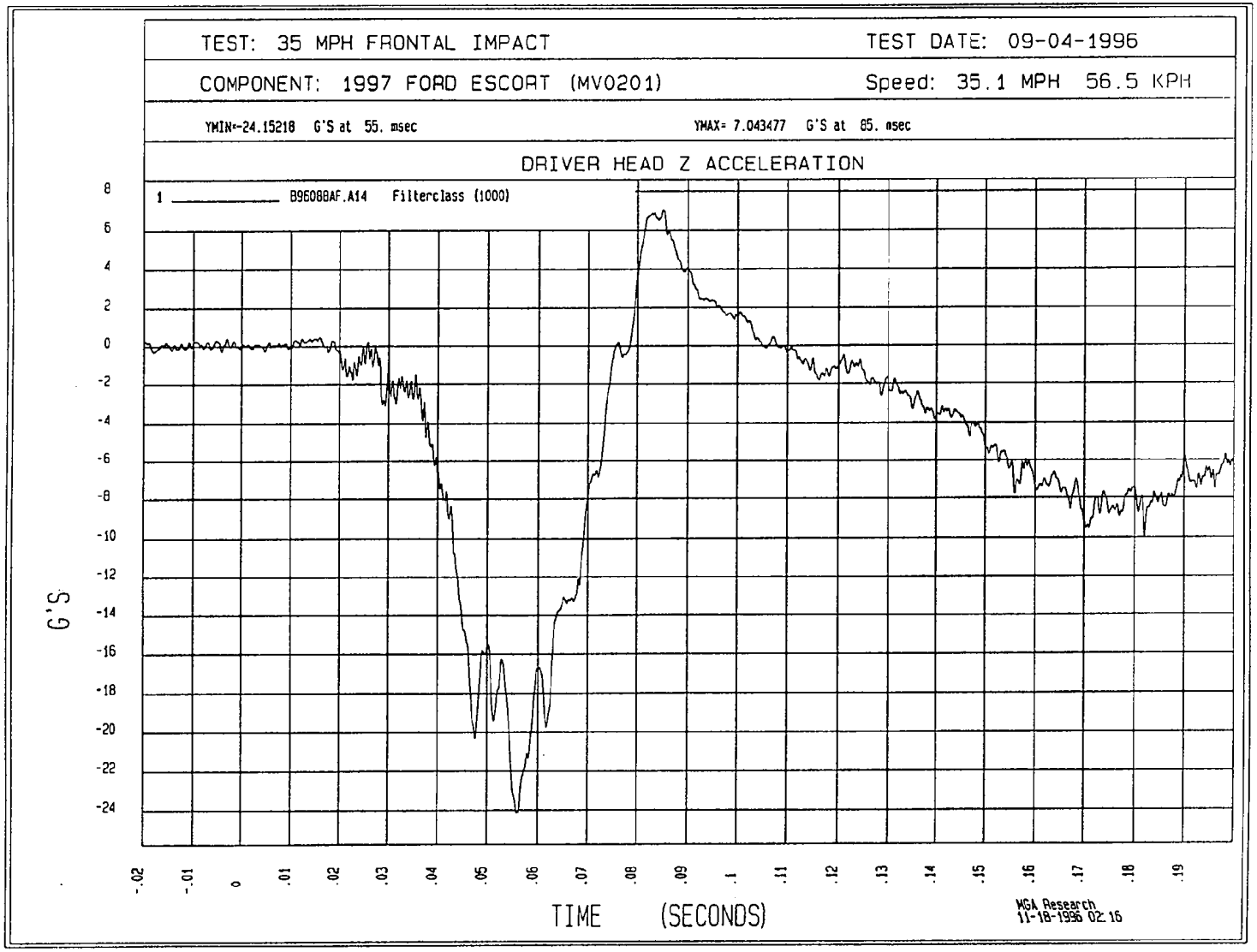
.18
.19
MGA Research
11-18-1996 02:15


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-24.15218 G'S at 55. msec
YMAX= 7.043477 G'S at 85. msec
DRIVER HEAD Z ACCELERATION
1 B96088AF.A14 Filterclass (1000)
G'S
8
6
4
2
0
-2
-4
-6
-8
-10
-12
-14
-16
-18
-20
-22
-24
-.02
-.01
0
.01
.02
.03
.04
.05
.06
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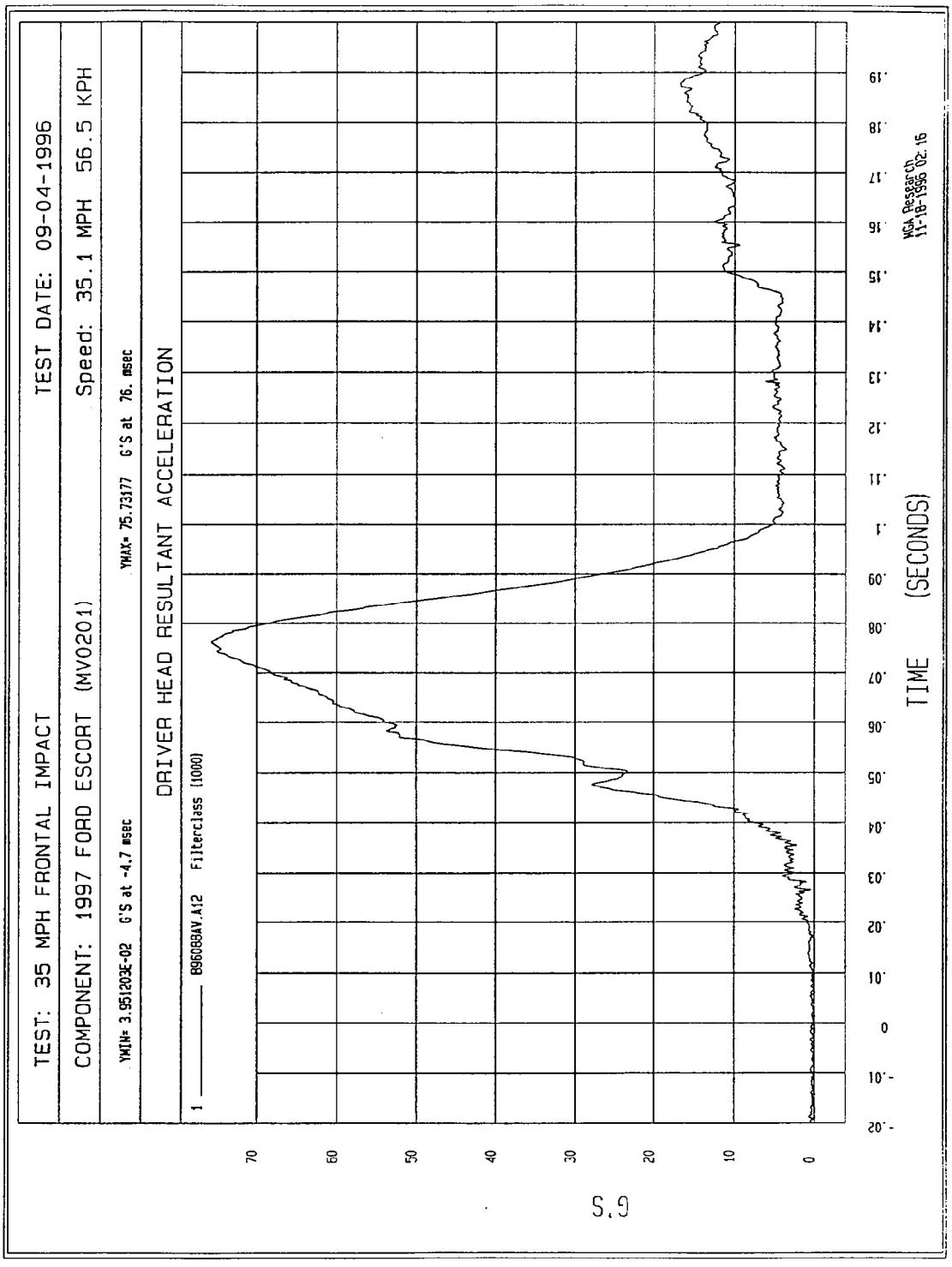
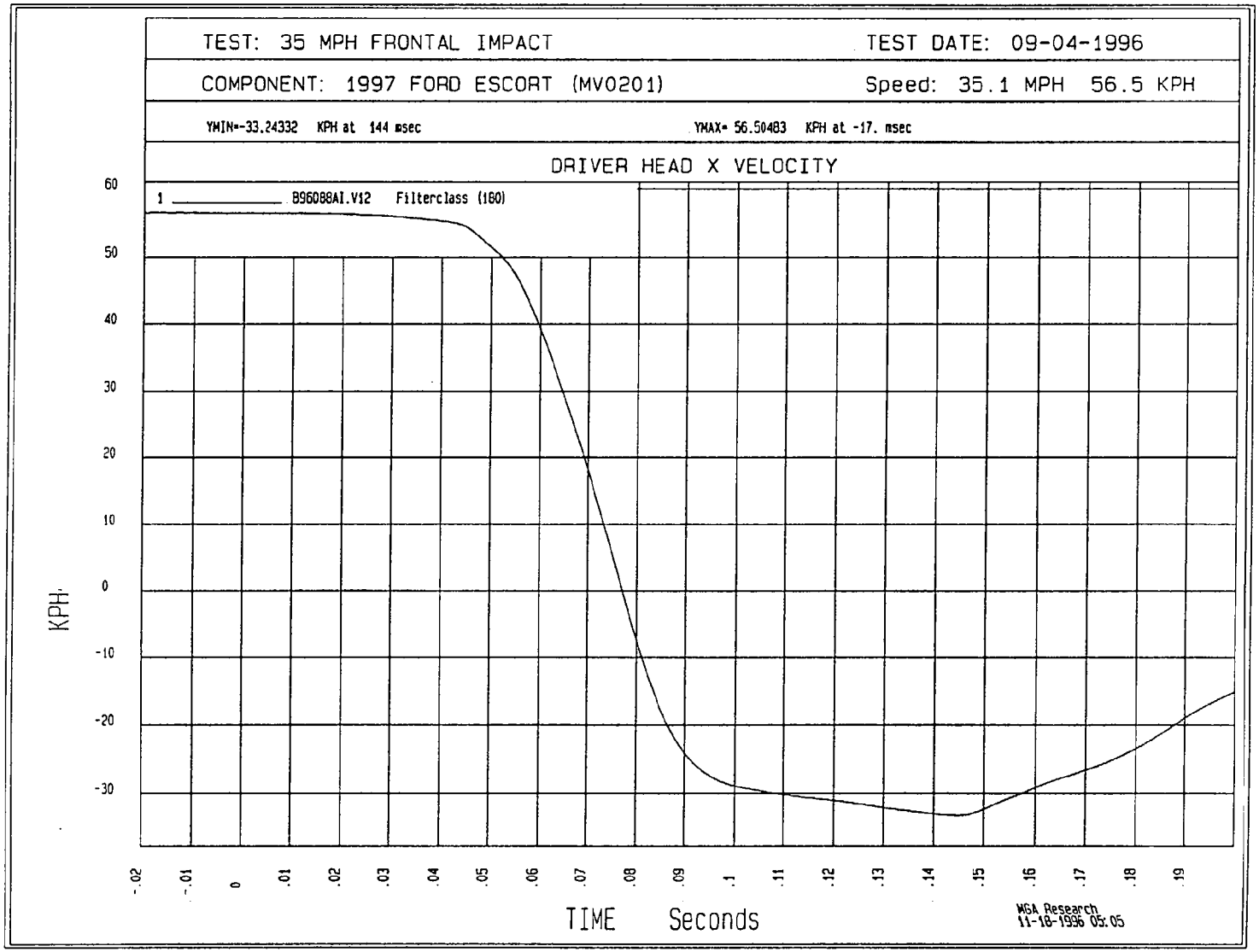
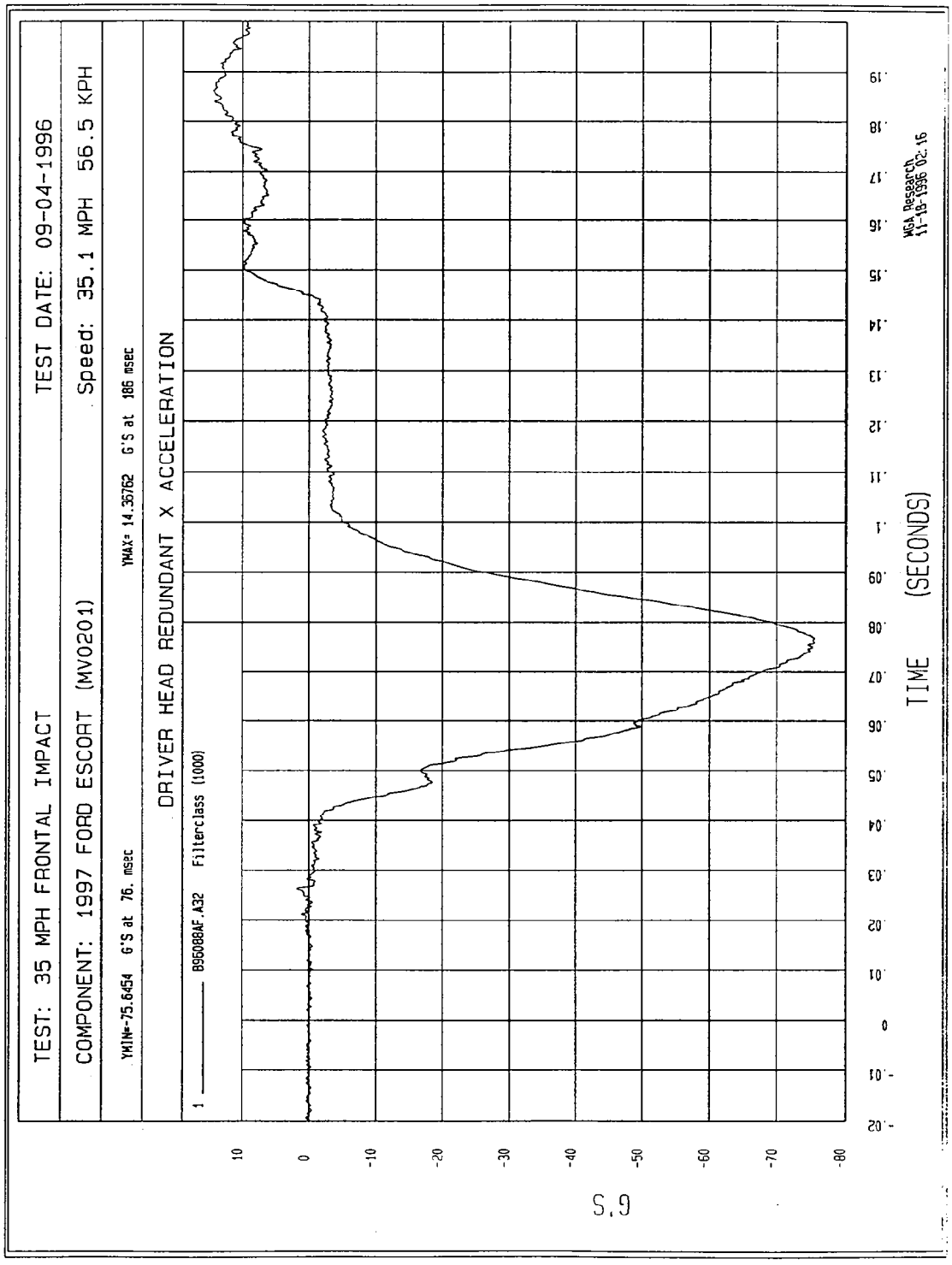
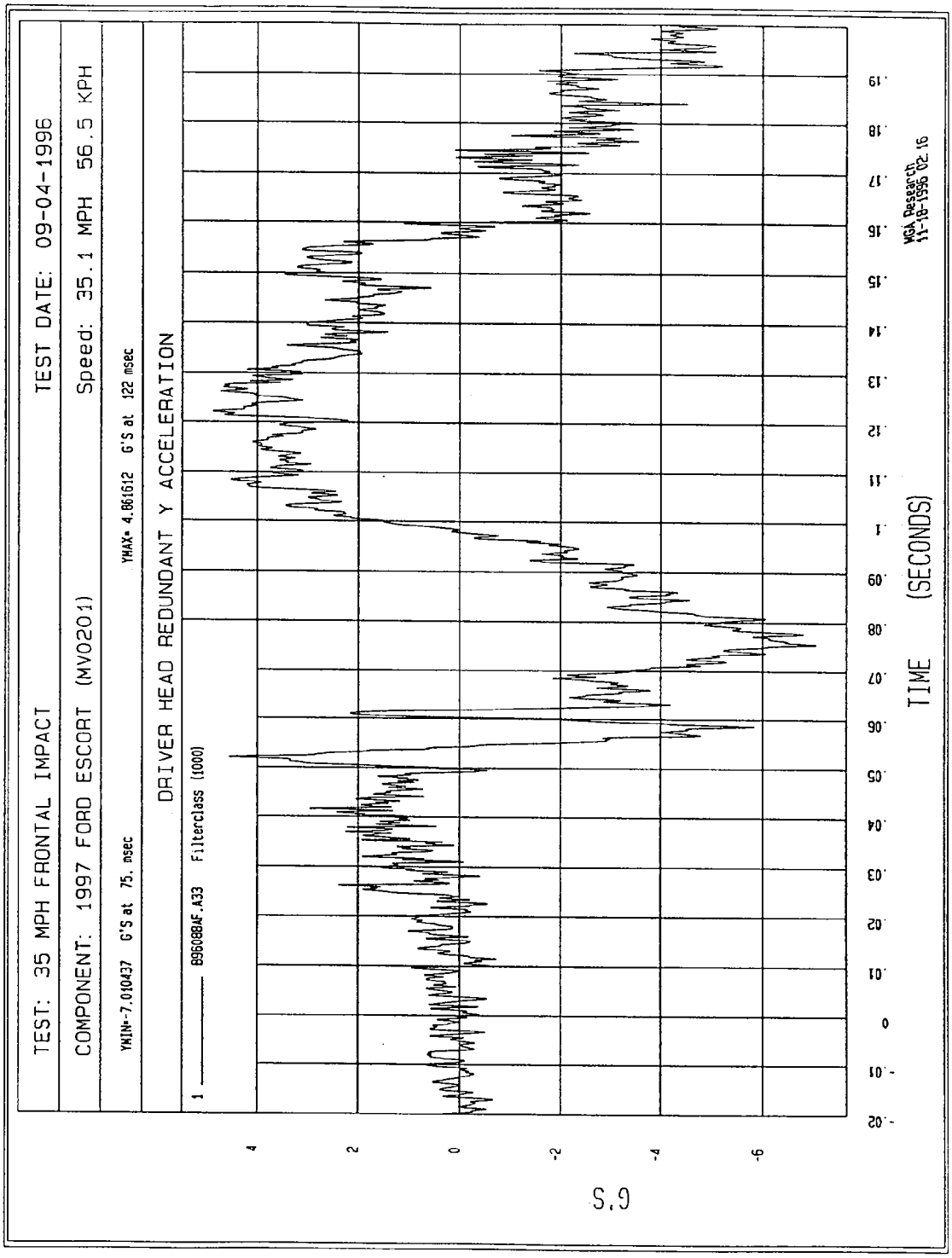
TIME (SECONDS)
WGA Research
11-18-1996 02:16

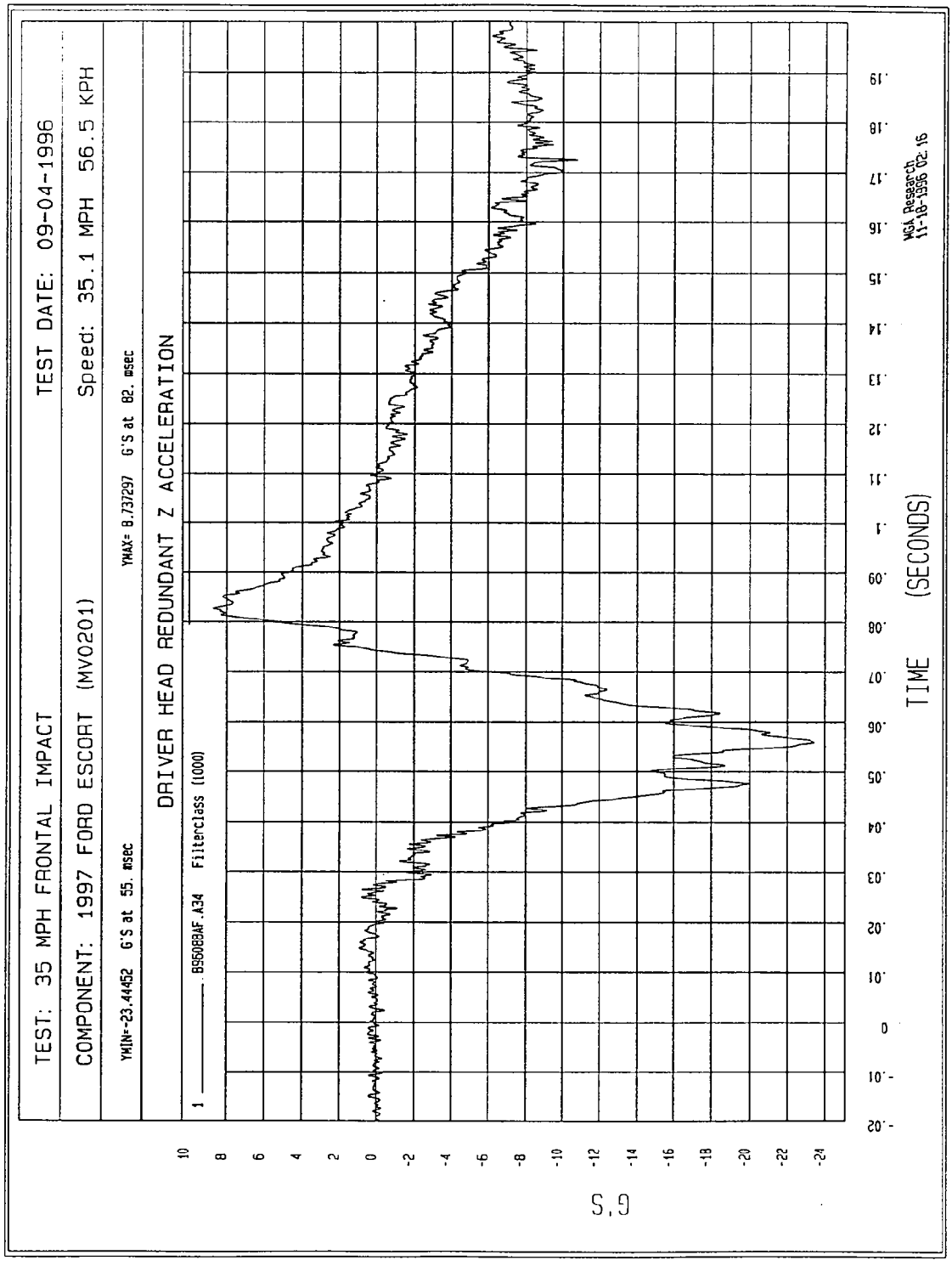

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN= 3.951203E-02 G'S at -4.7 msec
YMAX= 75.73177 G'S at 76. msec
DRIVER HEAD RESULTANT ACCELERATION
1 B96008AV.A12 Filterclass (1000)
70
60
50
40
30
20
10
0
-10
-20
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
190
TIME (SECONDS)
MGA Research
11-18-1996 02:16

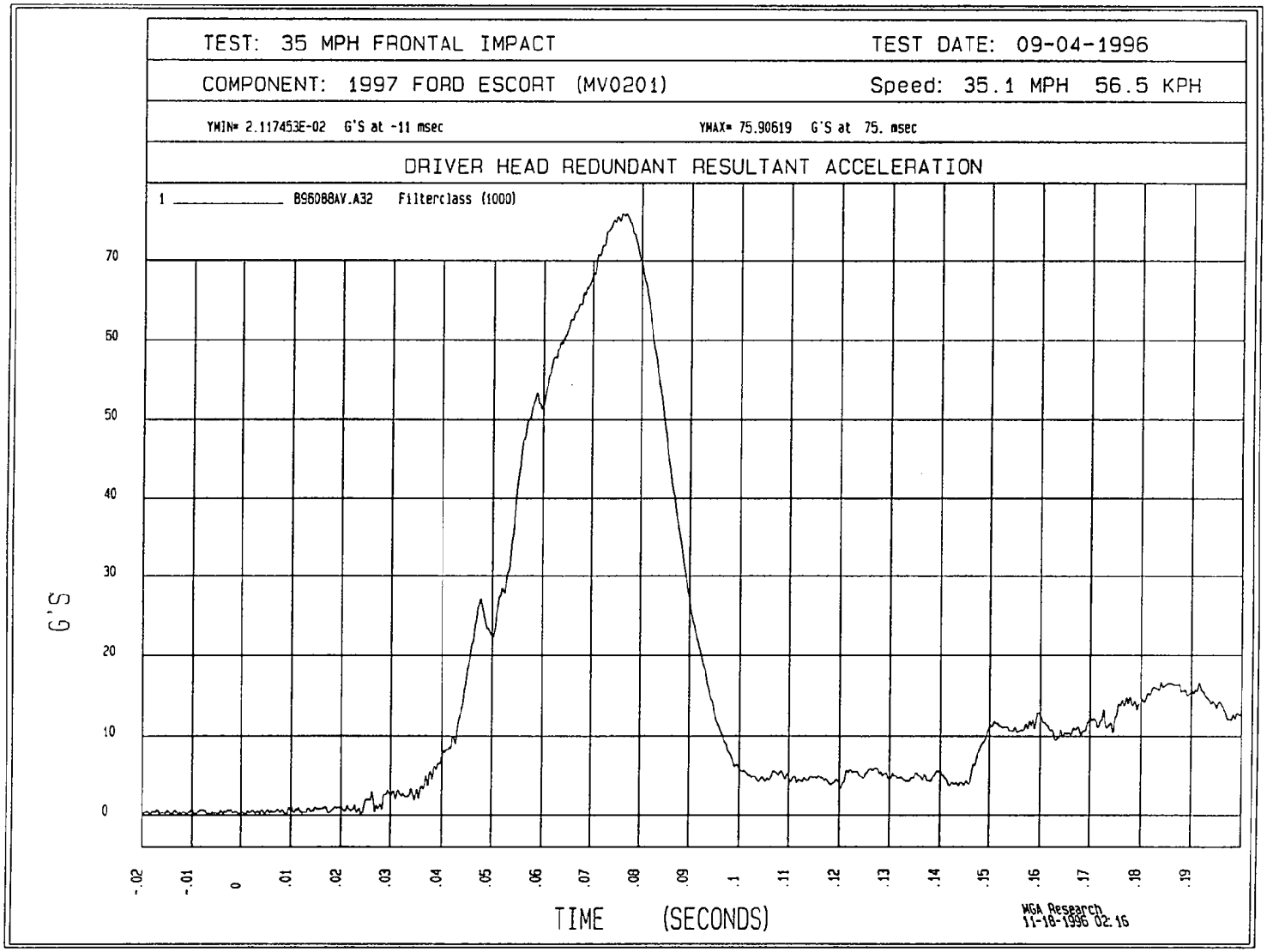

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-33.24332 KPH at 144 msec
YMAX= 56.50483 KPH at -17. msec
DRIVER HEAD X VELOCITY
1 B96088AI.V12 Filterclass (180)
60
50
40
30
20
10
0
-10
-20
-30
KPH
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME Seconds
MGA Research
11-18-1996 05:05

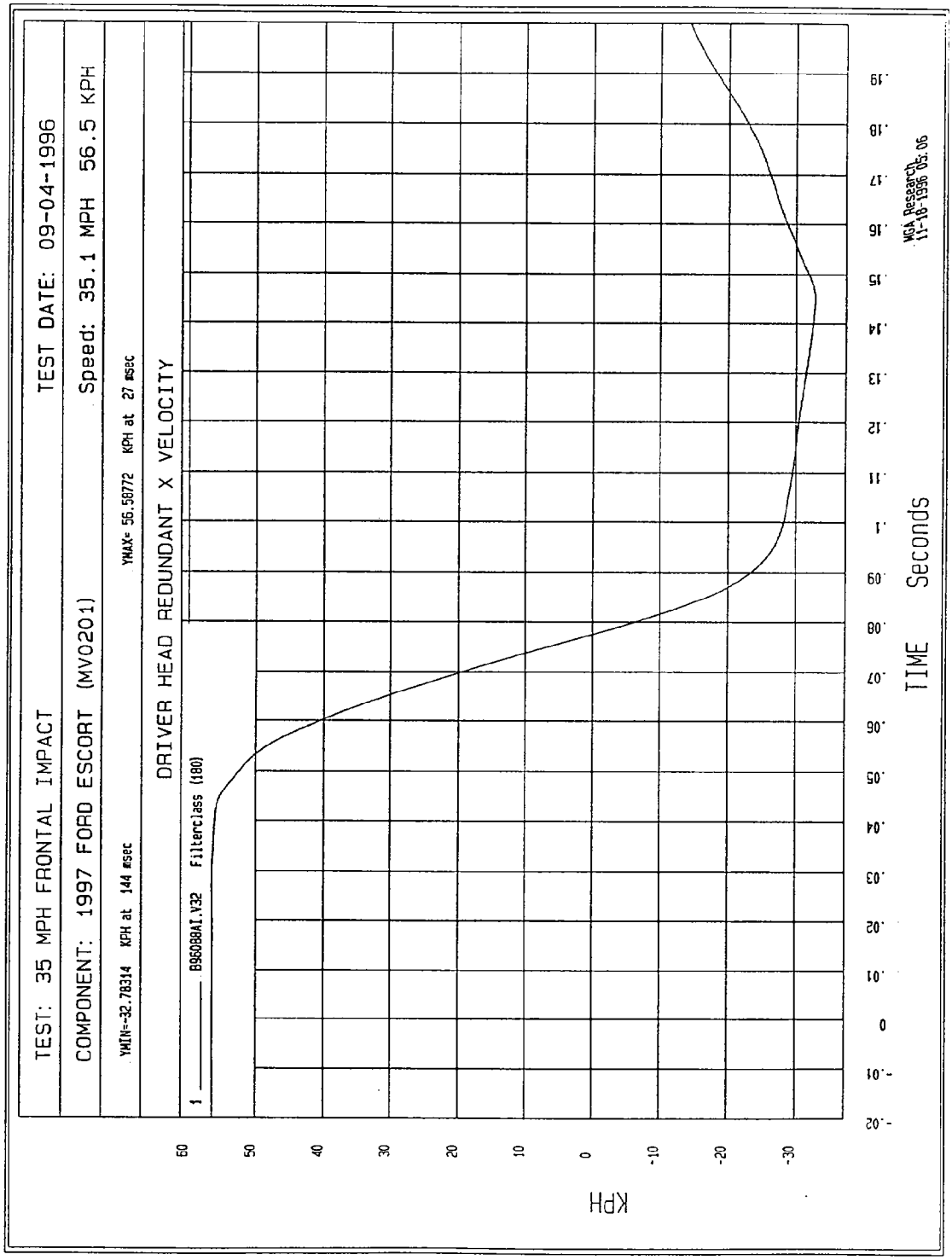

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-75.6454 G'S at 76. msec
YMAX= 14.36762 G'S at 186 msec
DRIVER HEAD REDUNDANT X ACCELERATION
1 B95008AF.A32 Filterclass (1000)
10
0
-10
-20
-30
-40
-50
-60
-70
-80
.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
NGA Research
11-19-1996 02:16

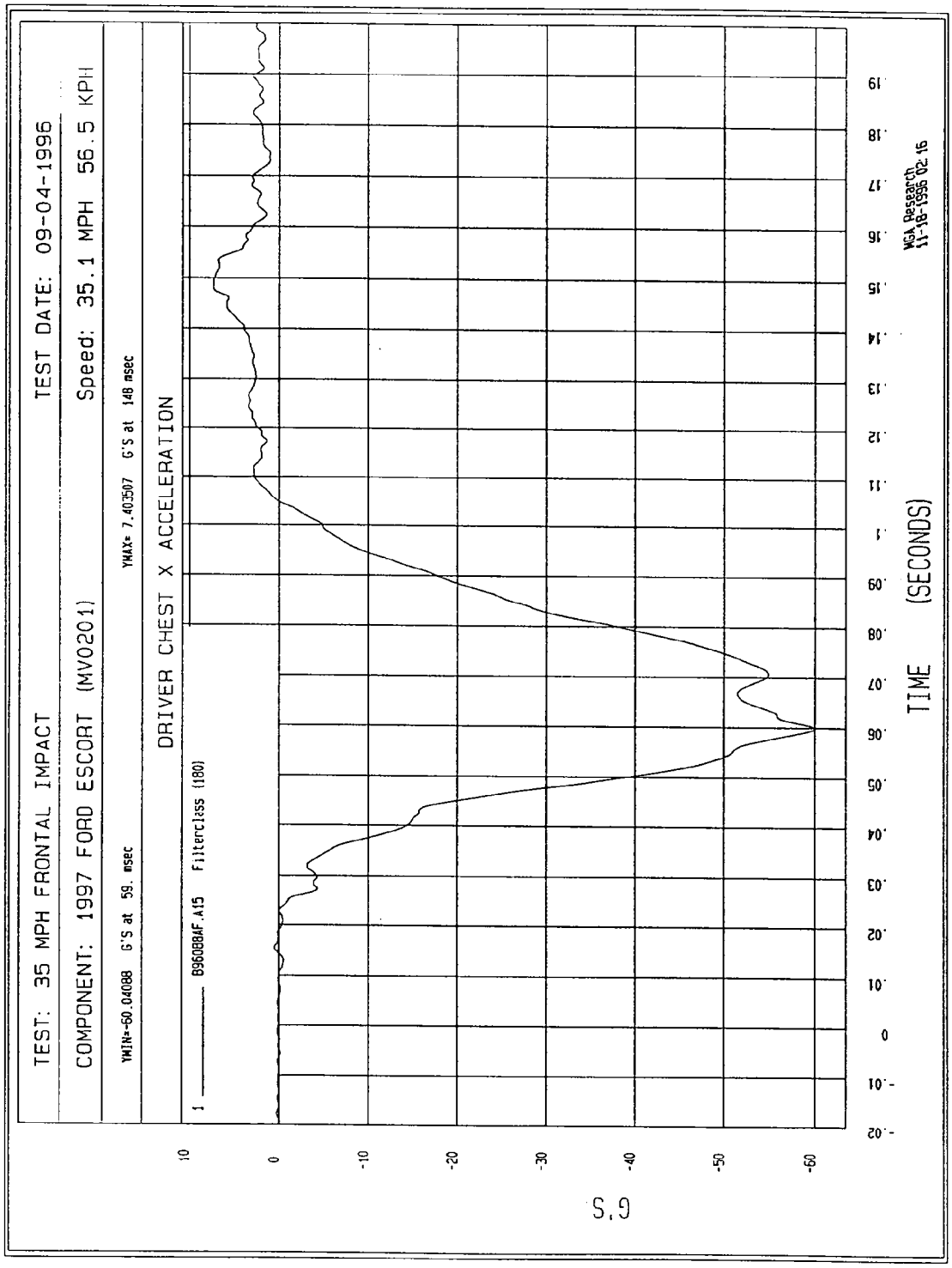
S.9

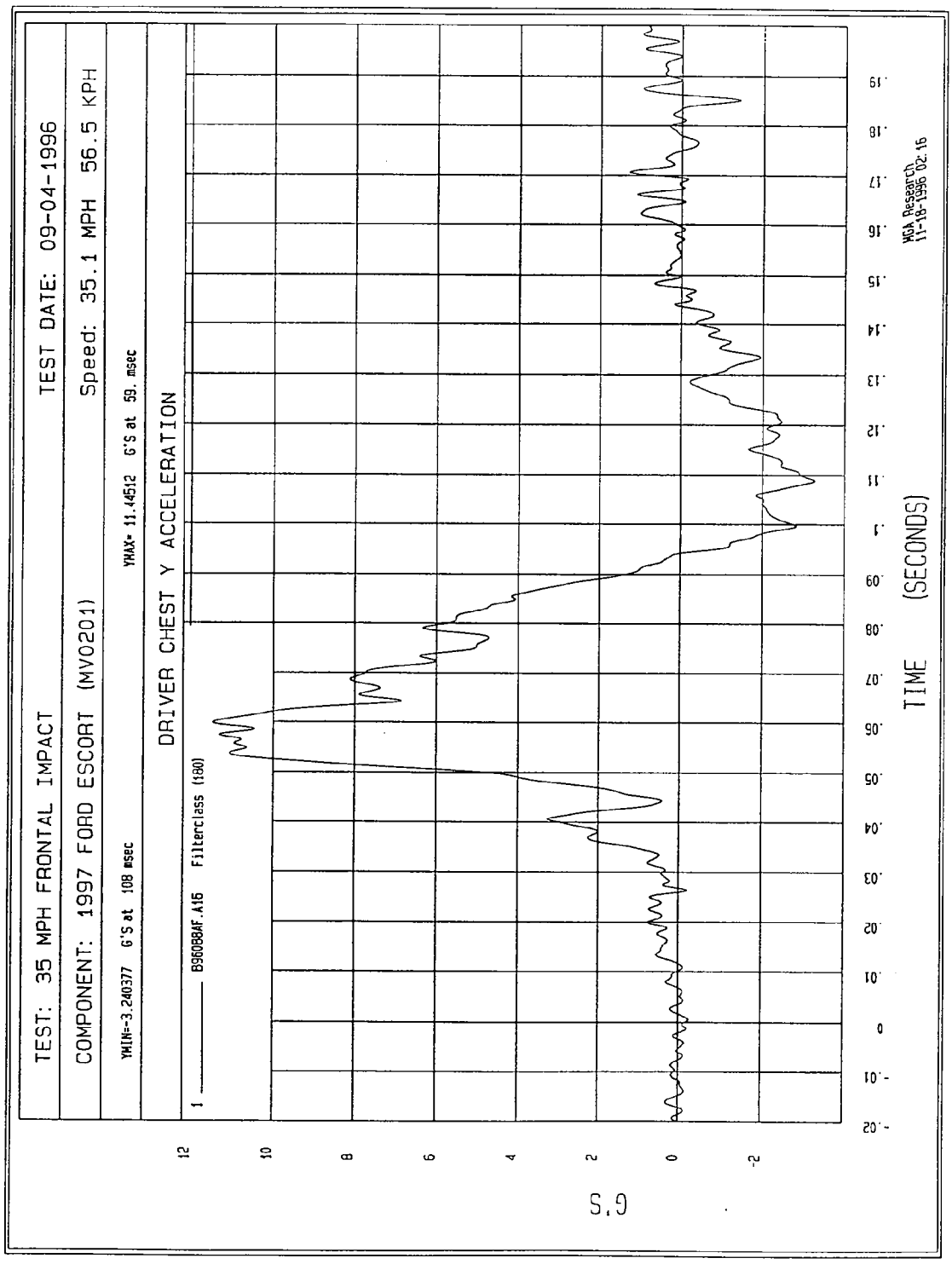

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-7.010437 G'S at 75. msec
YMAX= 4.861612 G'S at 122 msec
DRIVER HEAD REDUNDANT Y ACCELERATION
1 B9608BAF.A33 Filterclass (1000)
4
2
0
-2
-4
-6
G'S
TIME (SECONDS)
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
MGA Research
11-18-1996 02:16

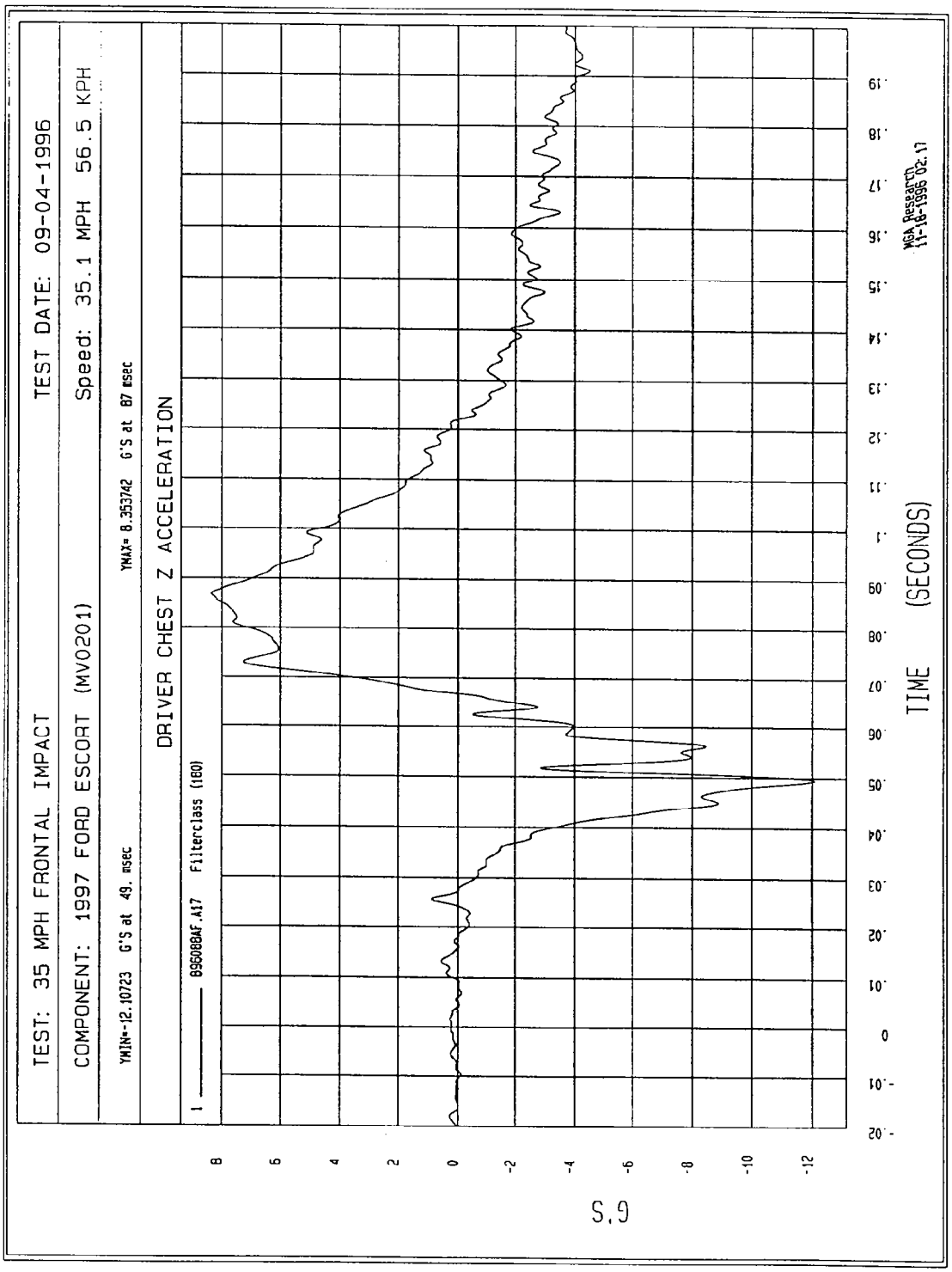

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-23.44452 G'S at 55. msec
YMAX= 8.737297 G'S at 82. msec
DRIVER HEAD REDUNDANT Z ACCELERATION
1 B9508BAF.A34 Filterclass (1000)
10
8
6
4
2
0
-2
-4
-6
-8
-10
-12
-14
-16
-18
-20
-22
-24
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
11-18-1995 02:16

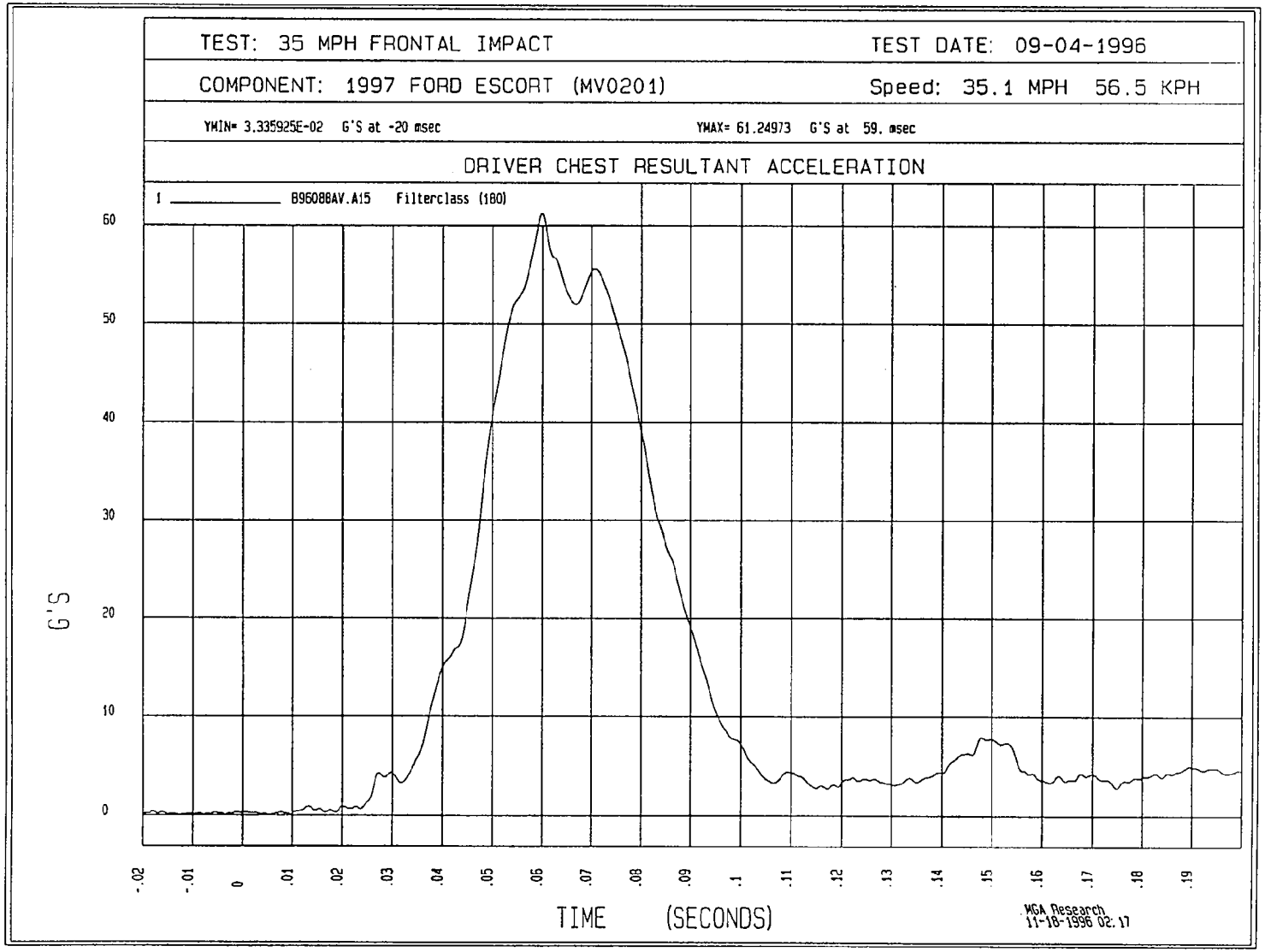

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN= 2.117453E-02 G'S at -11 msec
YMAX= 75.90619 G'S at 75. msec
DRIVER HEAD REDUNDANT RESULTANT ACCELERATION
1 B96088AV.A32 Filterclass (1000)
G'S
70
60
50
40
30
20
10
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
11-18-1996 02:16


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-32.78314 KPH at 144 msec
YMAX= 56.56772 KPH at 27 msec
DRIVER HEAD REDUNDANT X VELOCITY
1 B96008AI.V32 Filterclass (180)
KPH
TIME Seconds
MGA Research
11-18-1996 05:06


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-60.04088 G'S at 59. msec
YMAX= 7.403507 G'S at 148 msec
DRIVER CHEST X ACCELERATION
1 B9608BAF.A15 Filterclass (180)
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
11-18-1996 02:16


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-3.240377 G'S at 108 msec
YMAX= 11.44512 G'S at 59. msec
DRIVER CHEST Y ACCELERATION
1 B960B8AF.A16 Filterclass (180)
G'S
TIME (SECONDS)
MGA Research
11-18-1996 02:16


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-12.10723 G'S at 49. msec
YMAX= 8.353742 G'S at 87 msec
DRIVER CHEST Z ACCELERATION
1 B9608BAF.A17 Filterclass (180)
MGA Research
11-18-1996 02:17
G'S
TIME (SECONDS)


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN= 3.335925E-02 G'S at -20 msec
YMAX= 61.24973 G'S at 59. msec
DRIVER CHEST RESULTANT ACCELERATION
1 B96088AV.A15 Filterclass (180)
G'S
60
50
40
30
20
10
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
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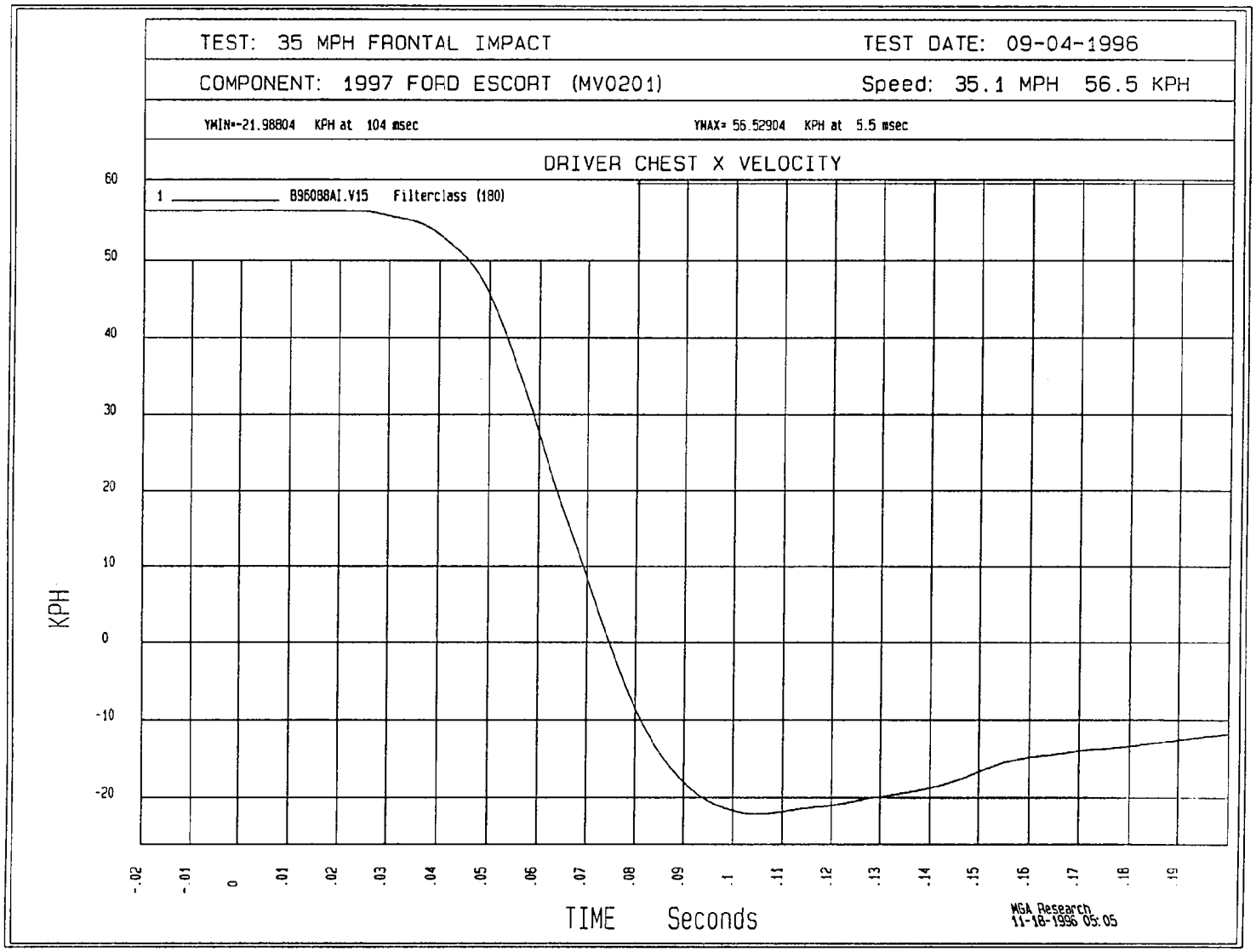
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
11-18-1996 02:17


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-21.98804 KPH at 104 msec
YMAX= 56.52904 KPH at 5.5 msec
DRIVER CHEST X VELOCITY
1 B96088AI.V15 Filterclass (180)
KPH
60
50
40
30
20
10
0
-10
-20
-.02
-.01
0
.01
.02
.03
.04
.05
.06
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.13
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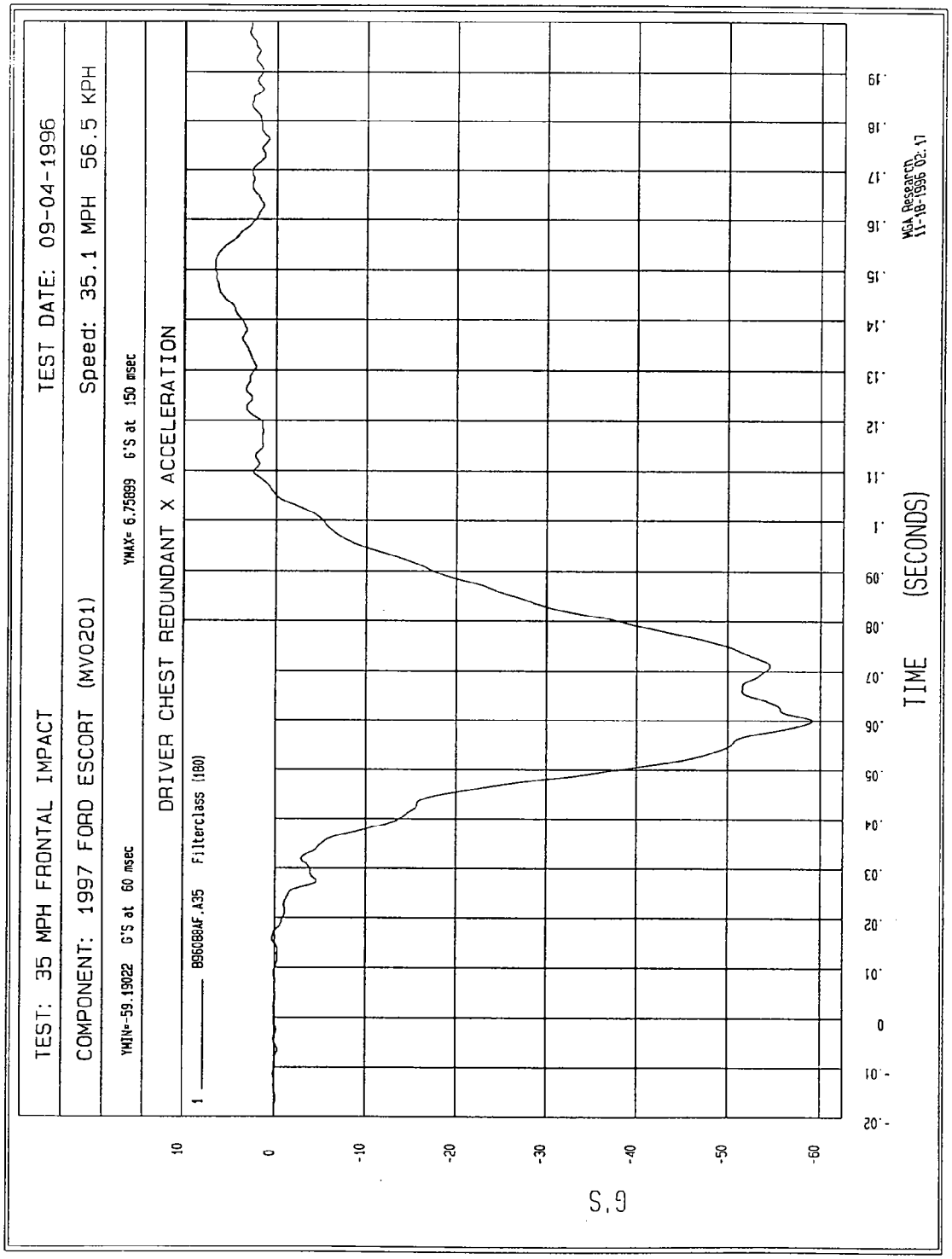
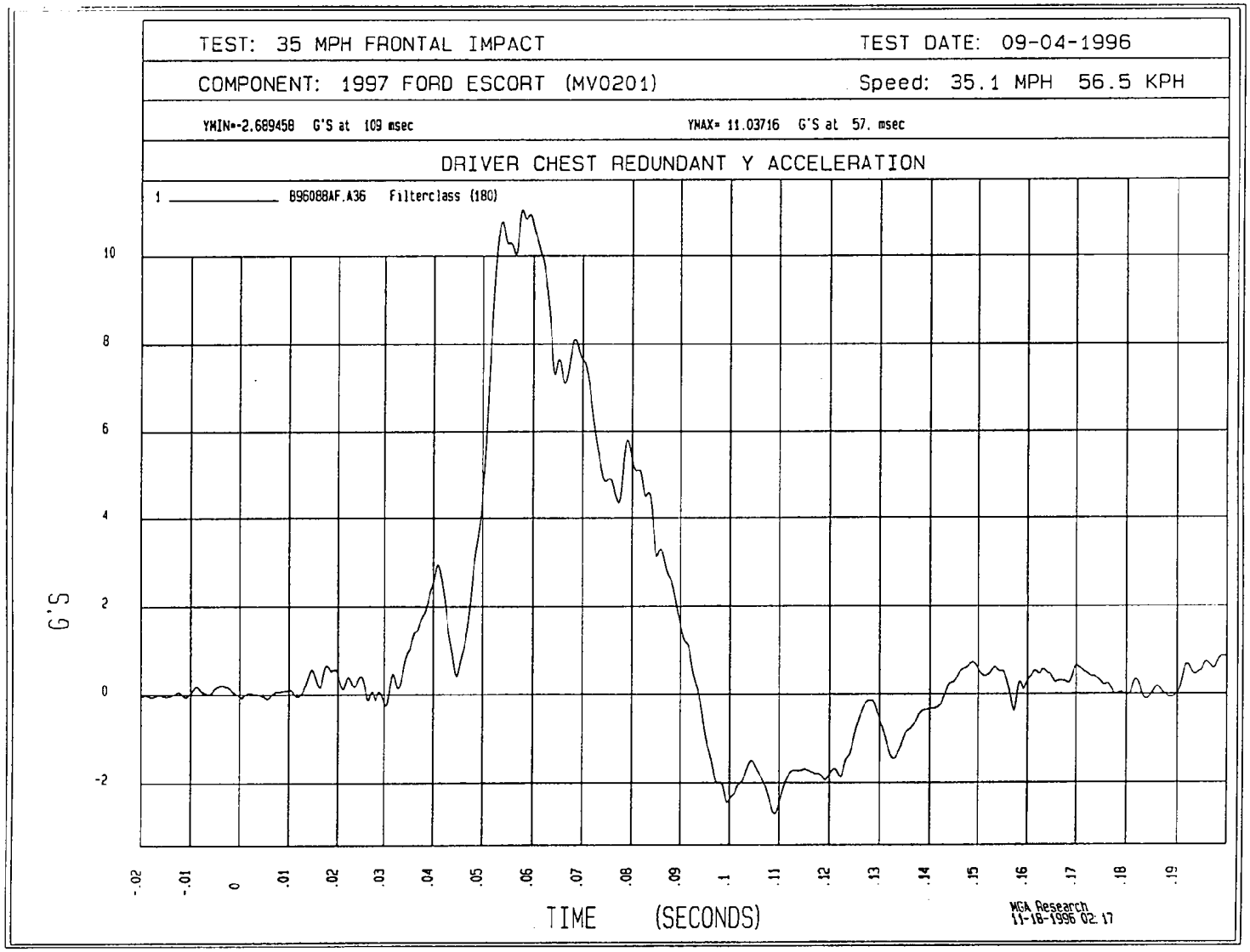
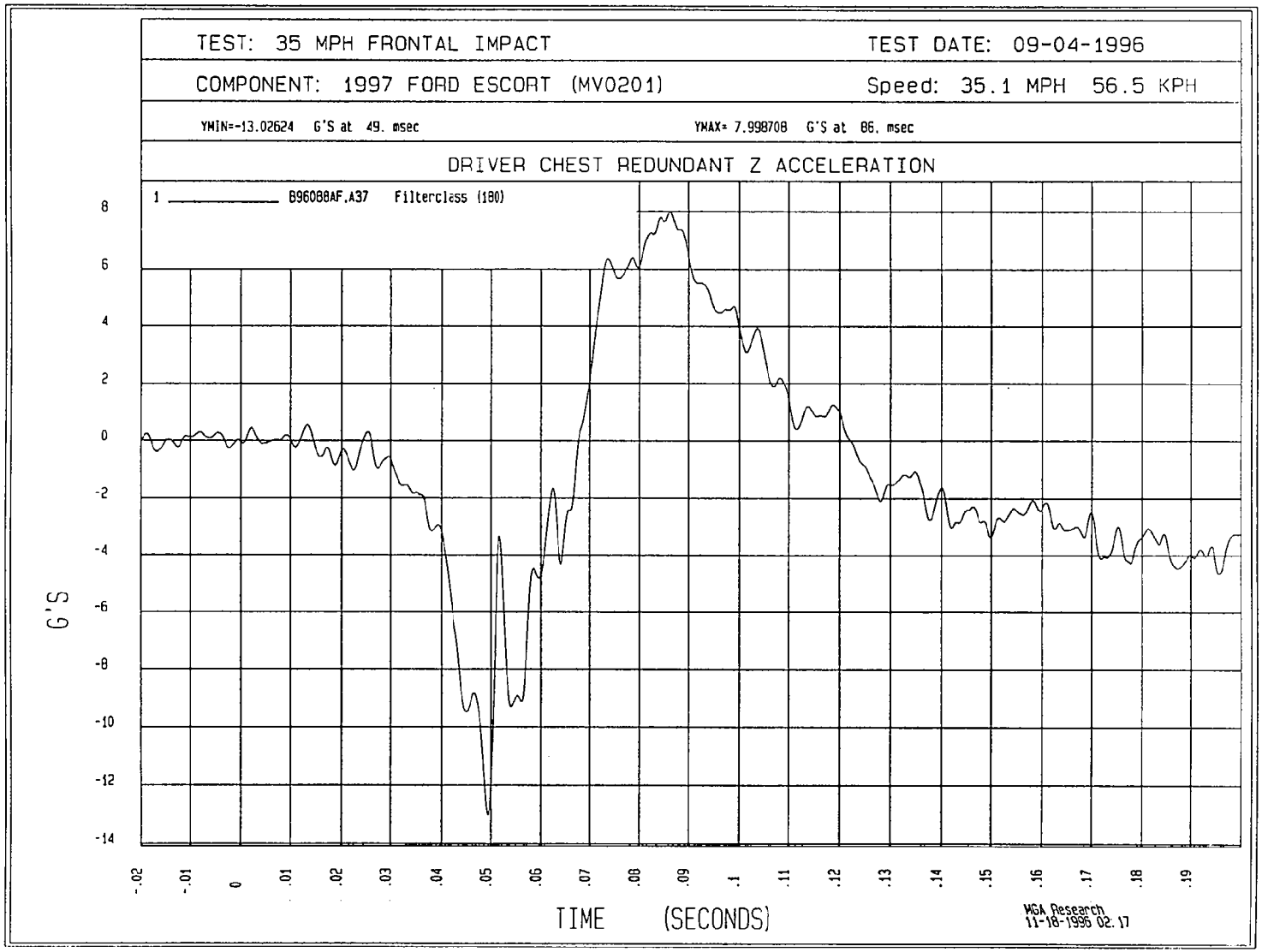
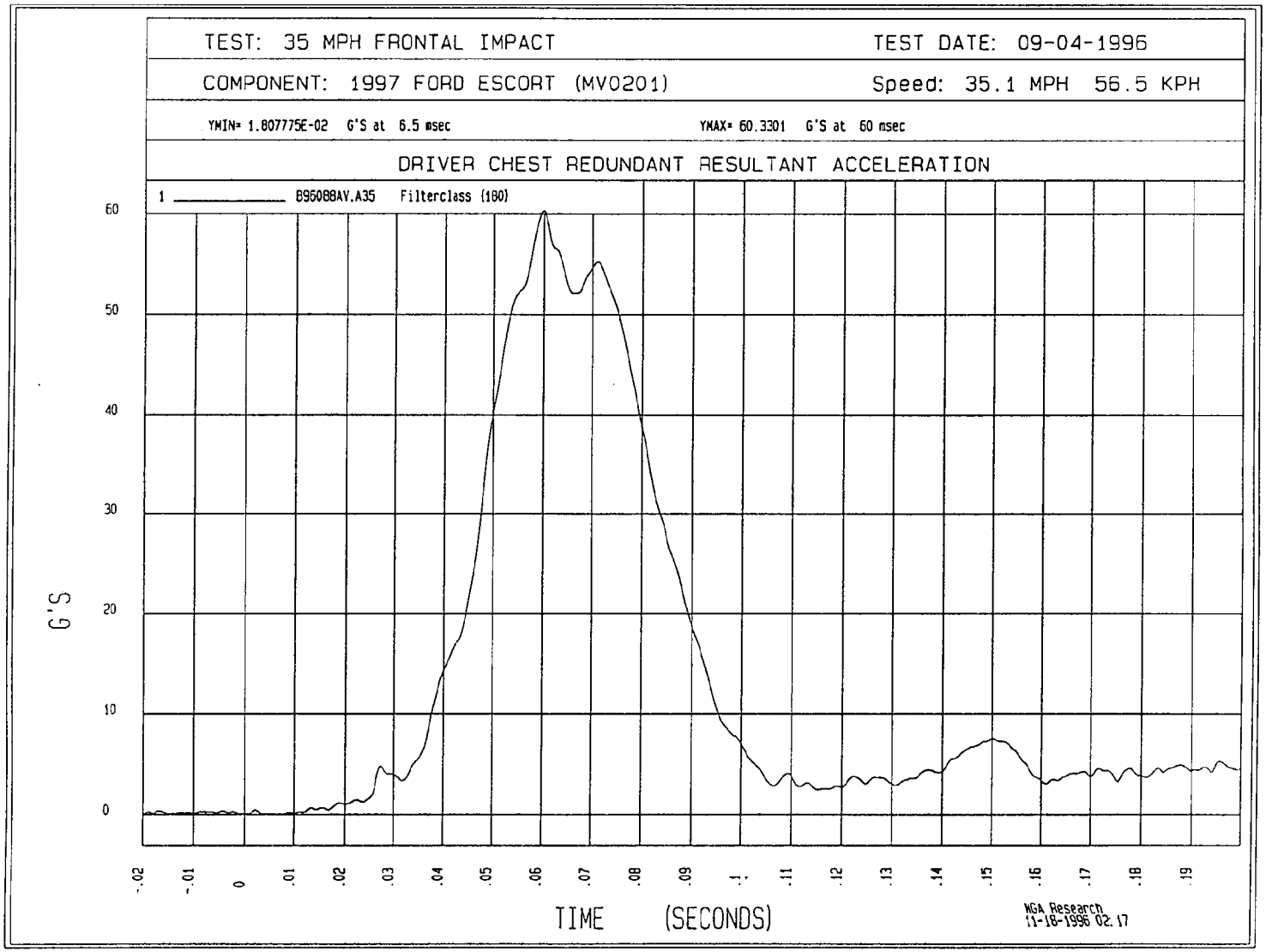
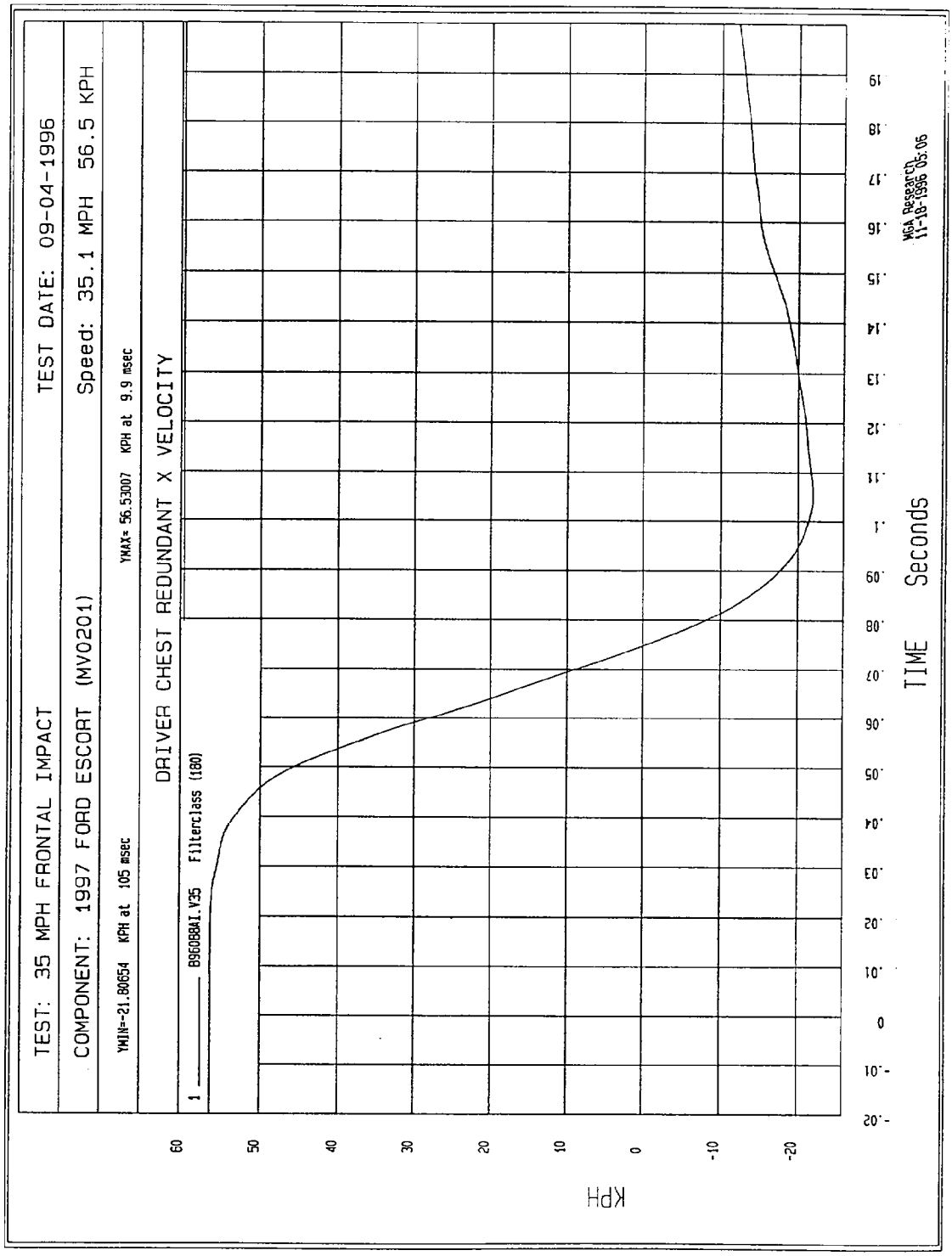
.16
.17
.18
.19
TIME Seconds
NGA Research
11-18-1996 05:05

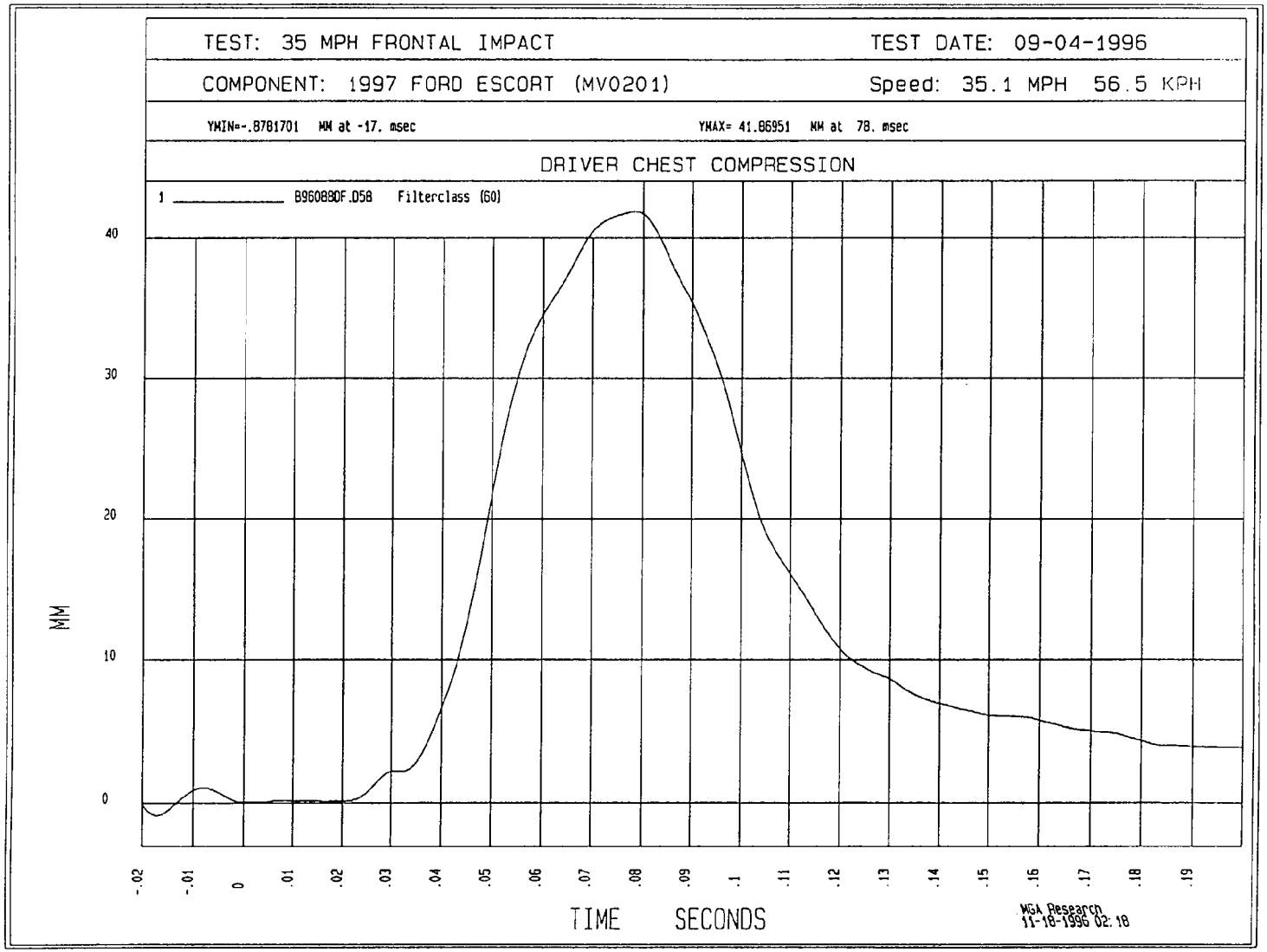

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-59.19022 G'S at 60 msec
YMAX= 6.75899 G'S at 150 msec
DRIVER CHEST REDUNDANT X ACCELERATION
1 B960B8AF.A35 Filterclass (180)
10
0
-10
-20
-30
-40
-50
-60
G'S
TIME (SECONDS)
MGA Research
11-18-1996 02:17

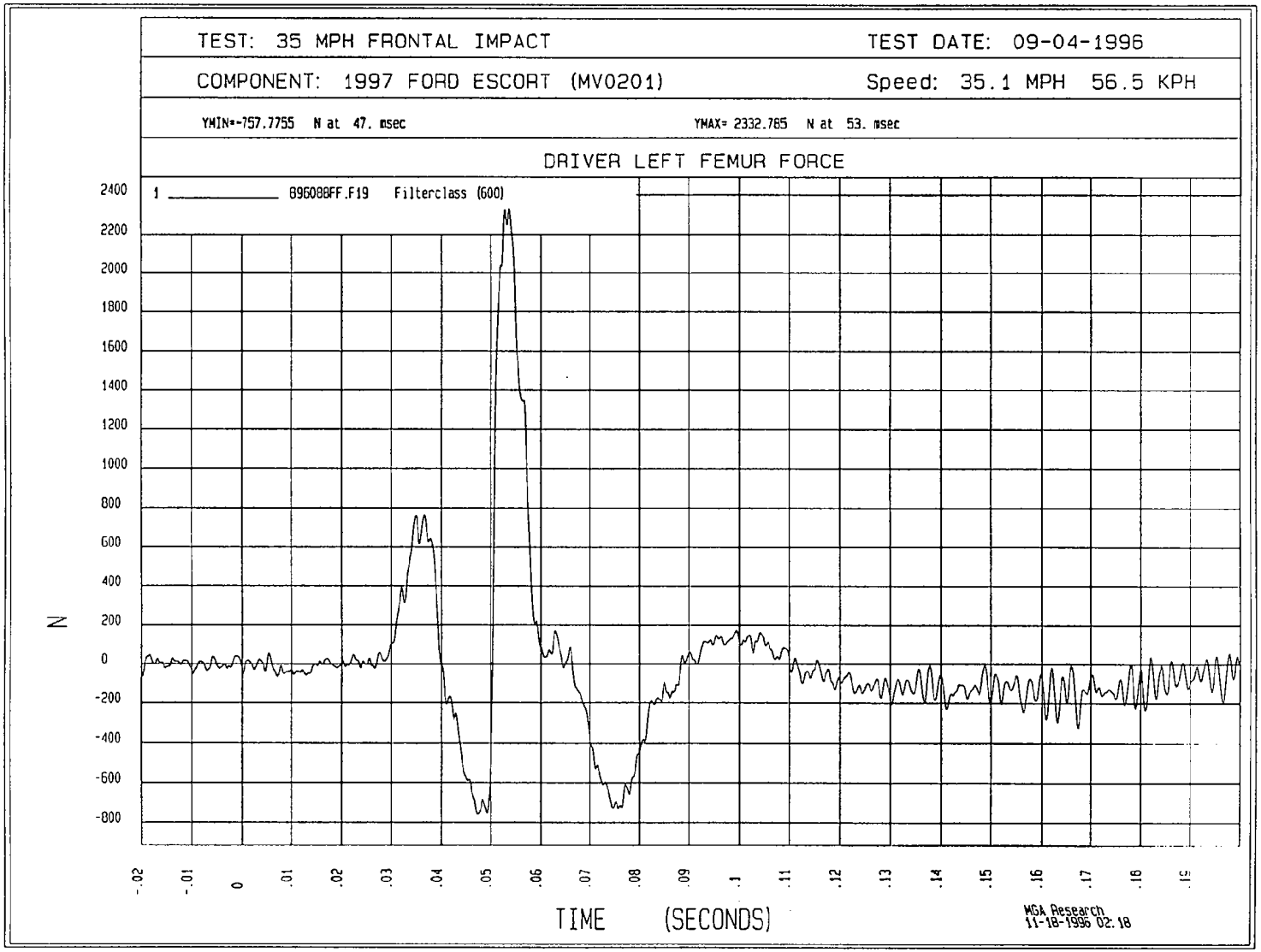

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-2.689458 G'S at 109 msec
YMAX= 11.03716 G'S at 57. msec
DRIVER CHEST REDUNDANT Y ACCELERATION
1 B96088AF.A36 Filterclass (180)
G'S
10
8
6
4
2
0
-2
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
11-18-1996 02:17

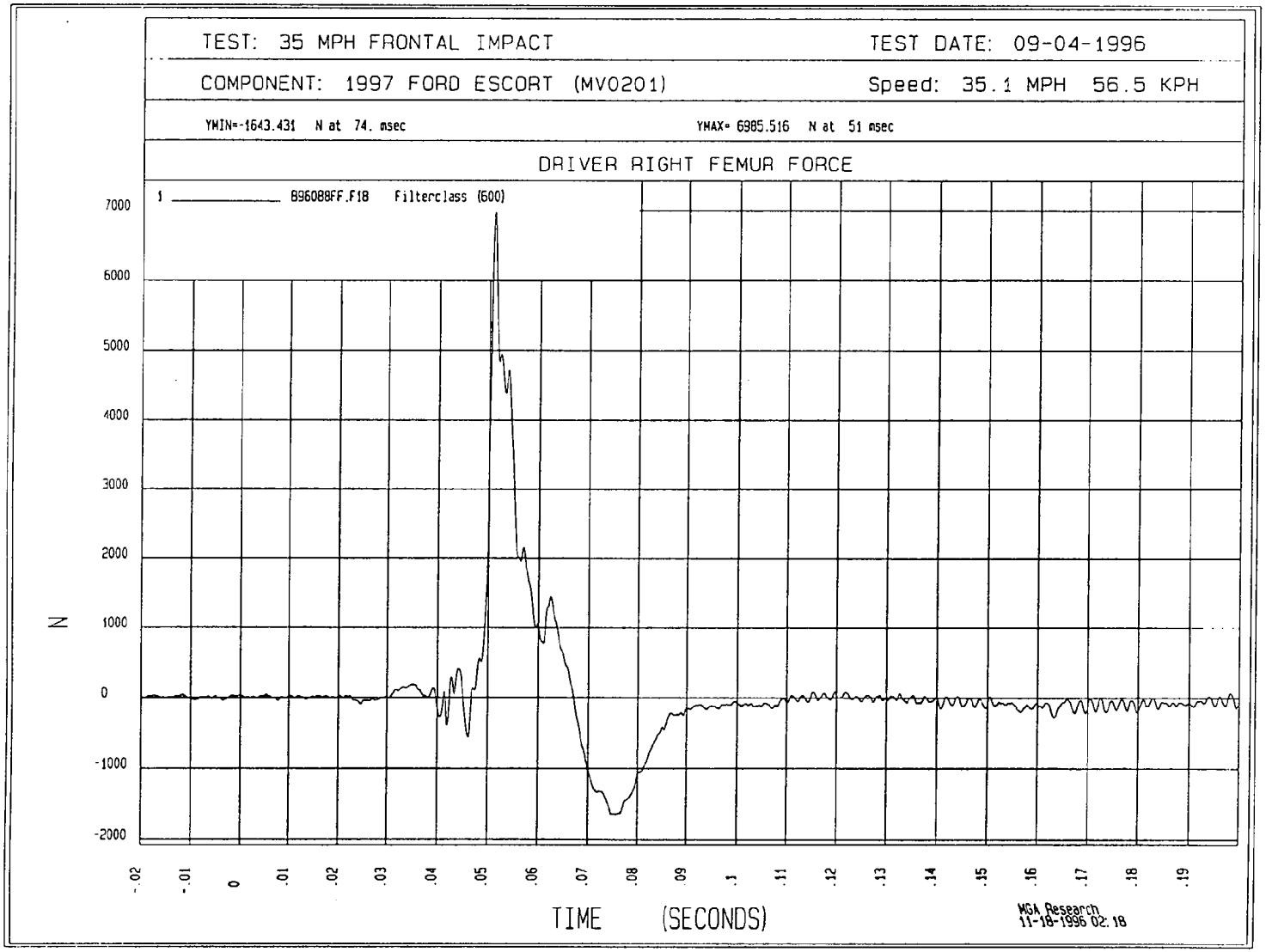

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-13.02624 G'S at 49. msec
YMAX= 7.998708 G'S at 86. msec
DRIVER CHEST REDUNDANT Z ACCELERATION
1 B96088AF.A37 Filterclass (180)
8
6
4
2
0
-2
-4
-6
-8
-10
-12
-14
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
11-18-1996 02.17

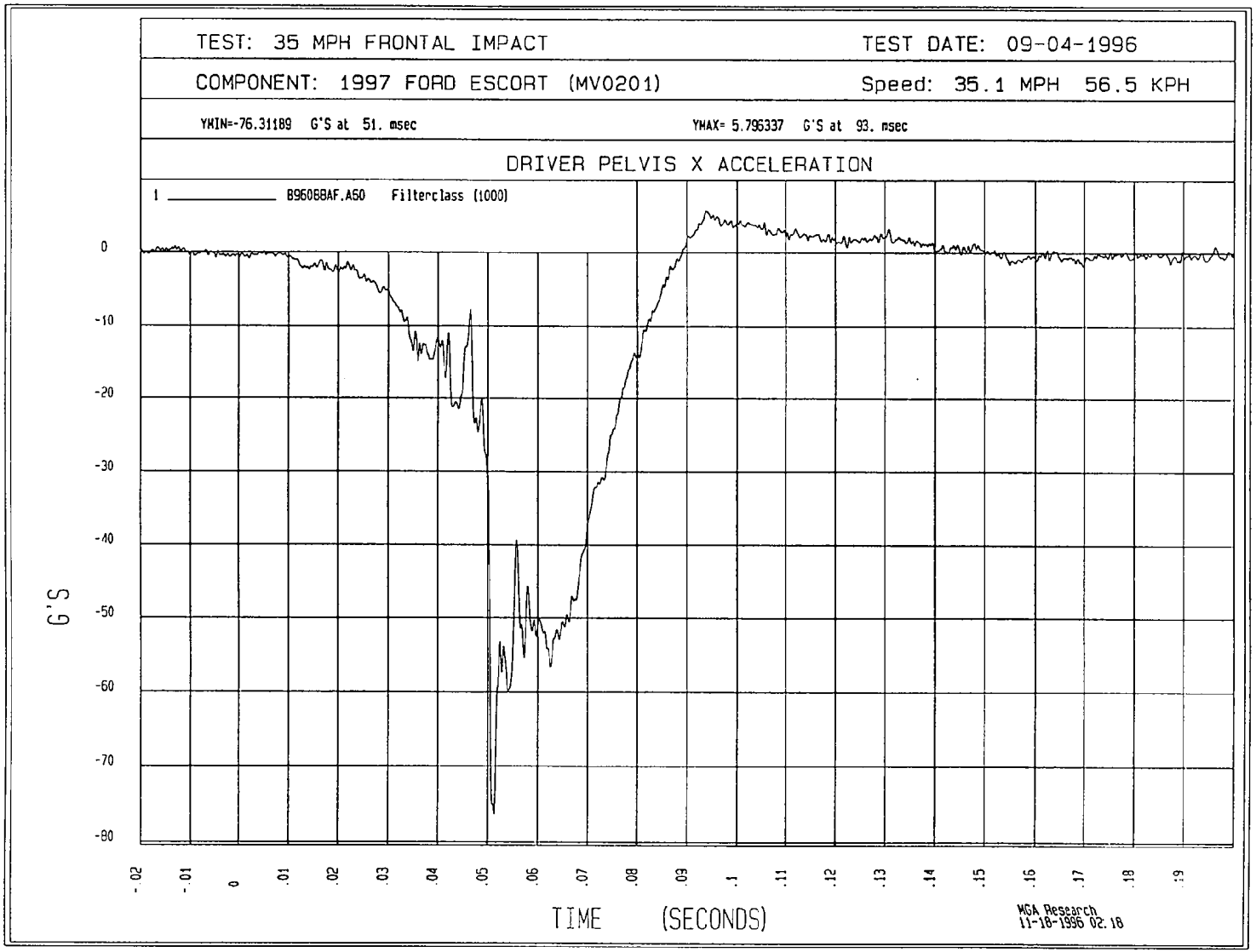

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN= 1.807775E-02 G'S at 6.5 msec
YMAX= 60.3301 G'S at 60 msec
DRIVER CHEST REDUNDANT RESULTANT ACCELERATION
1 B96088AV.A35 Filterclass (180)
G'S
60
50
40
30
20
10
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
NGA Research
11-18-1996 02.17

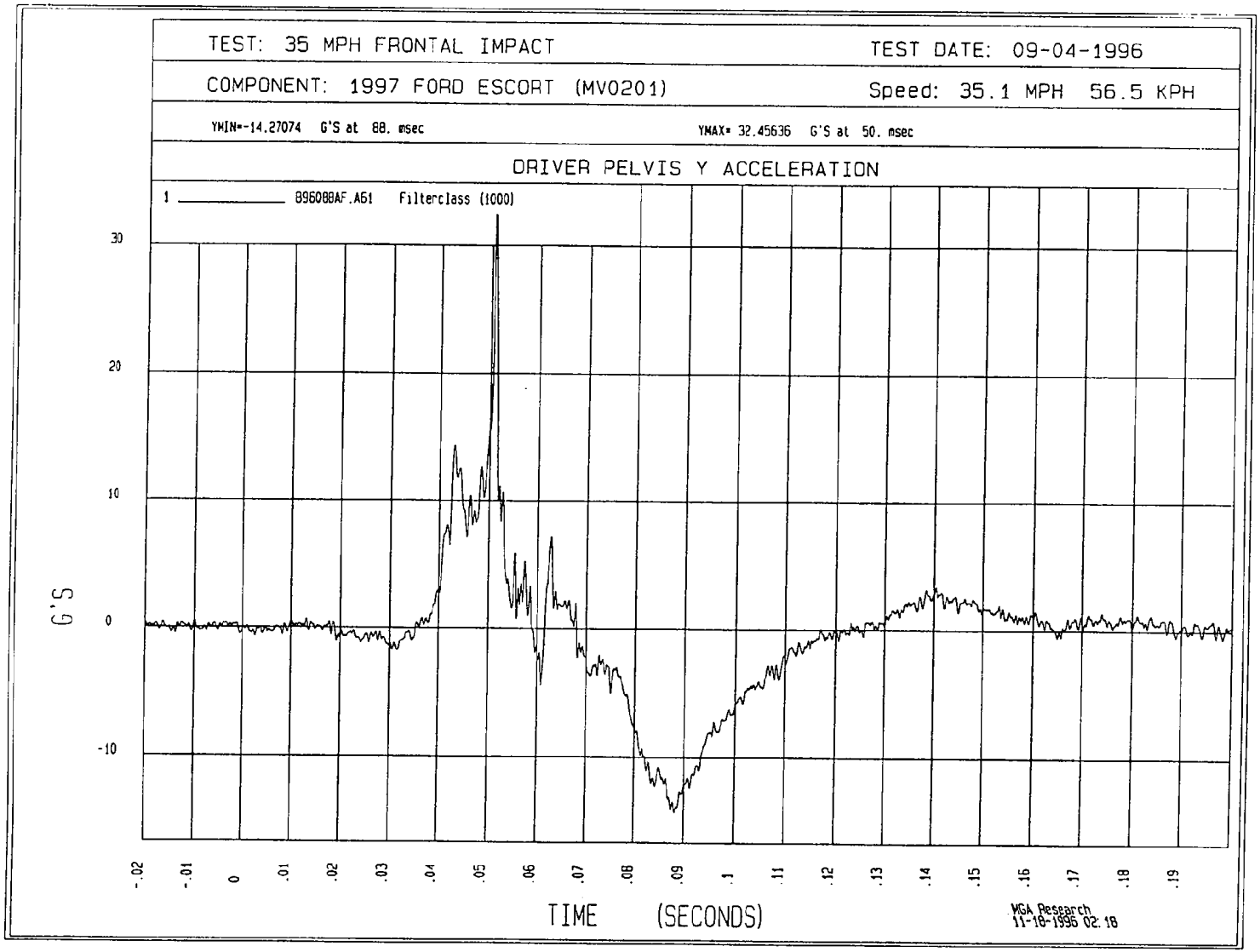

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-21.80654 KPH at 105 msec
YMAX= 56.53007 KPH at 9.9 msec
DRIVER CHEST REDUNDANT X VELOCITY
1 B960884I.V35 Filterclass (180)
KPH
60
50
40
30
20
10
0
-10
-20
TIME Seconds
.19
.18
.17
.16
.15
.14
.13
.12
.11
.1
.09
.08
.07
.06
.05
.04
.03
.02
.01
0
-.01
-.02
MGA Research
11-18-1996 08:06

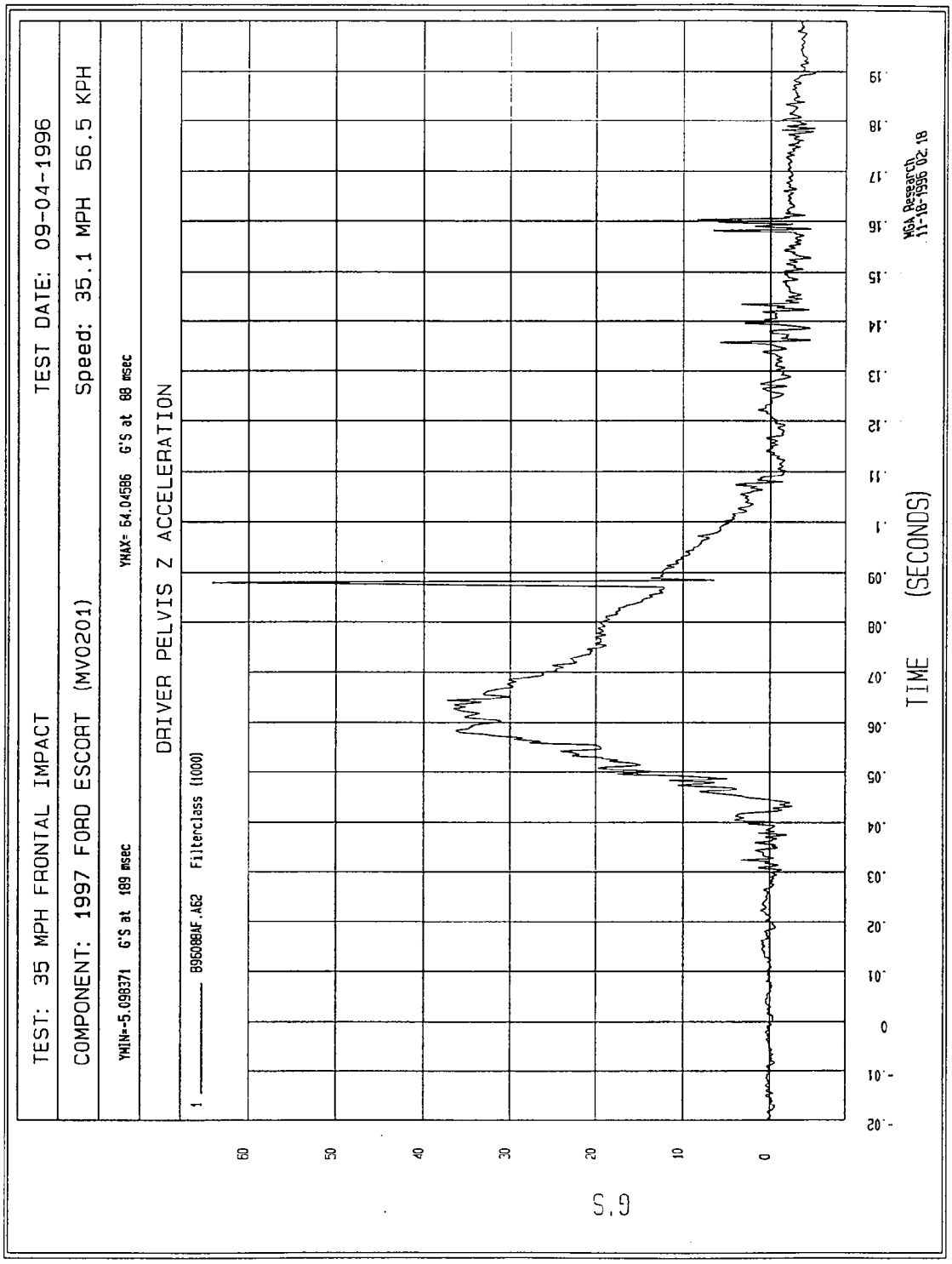

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-.8781701 MM at -17. msec
YMAX= 41.86951 MM at 78. msec
DRIVER CHEST COMPRESSION
1 B960880F.D58 Filterclass (60)
MM
40
30
20
10
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME SECONDS
MGA Research
11-18-1996 02:18


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-757.7755 N at 47. msec
YMAX= 2332.785 N at 53. msec
DRIVER LEFT FEMUR FORCE
1 B96088FF.F19 Filterclass (600)
2400
2200
2000
1800
1600
1400
1200
1000
800
600
400
200
0
-200
-400
-600
-800
N
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
TIME (SECONDS)
MGA Research
11-18-1996 02:18

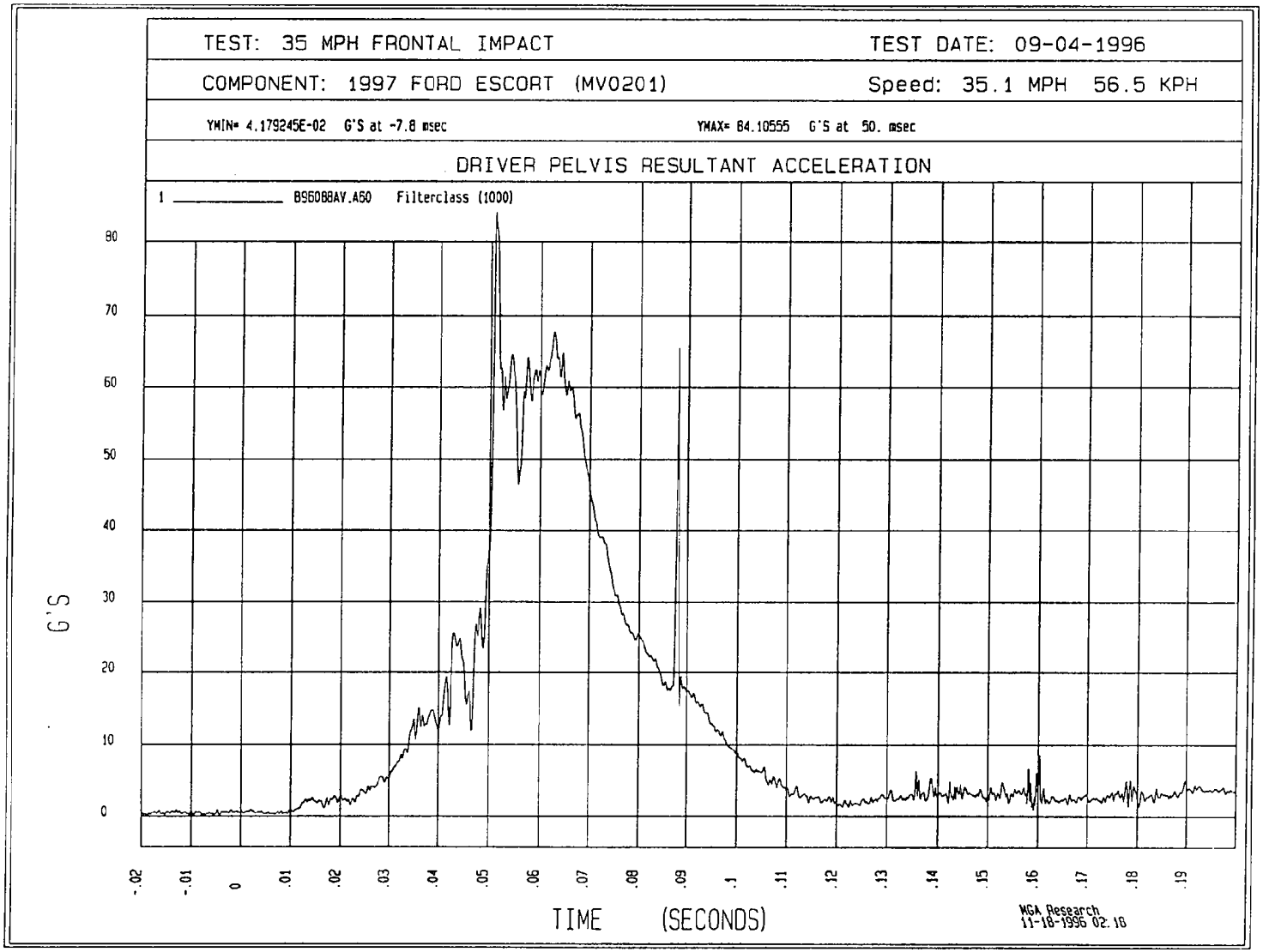

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-1643.431 N at 74. msec
YMAX= 6985.516 N at 51 msec
DRIVER RIGHT FEMUR FORCE
1 B96088FF.F18 Filterclass (600)
7000
6000
5000
4000
3000
2000
1000
0
-1000
-2000
N
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
11-18-1996 02:18

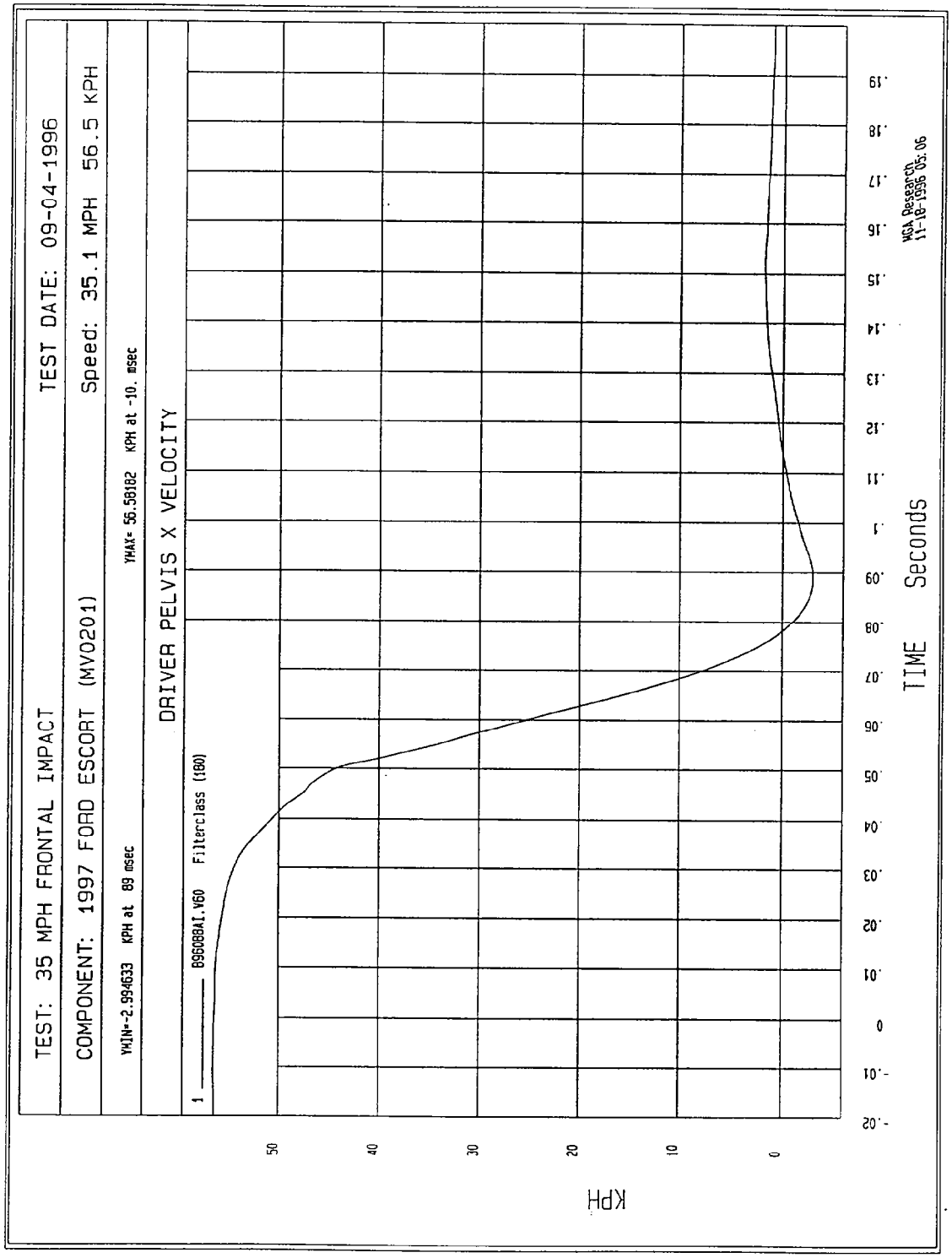

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-76.31189 G'S at 51. msec
YMAX= 5.796337 G'S at 93. msec
DRIVER PELVIS X ACCELERATION
1 B9608BAF.A60 Filterclass (1000)
0
-10
-20
-30
-40
-50
-60
-70
-80
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
11-18-1996 02.18

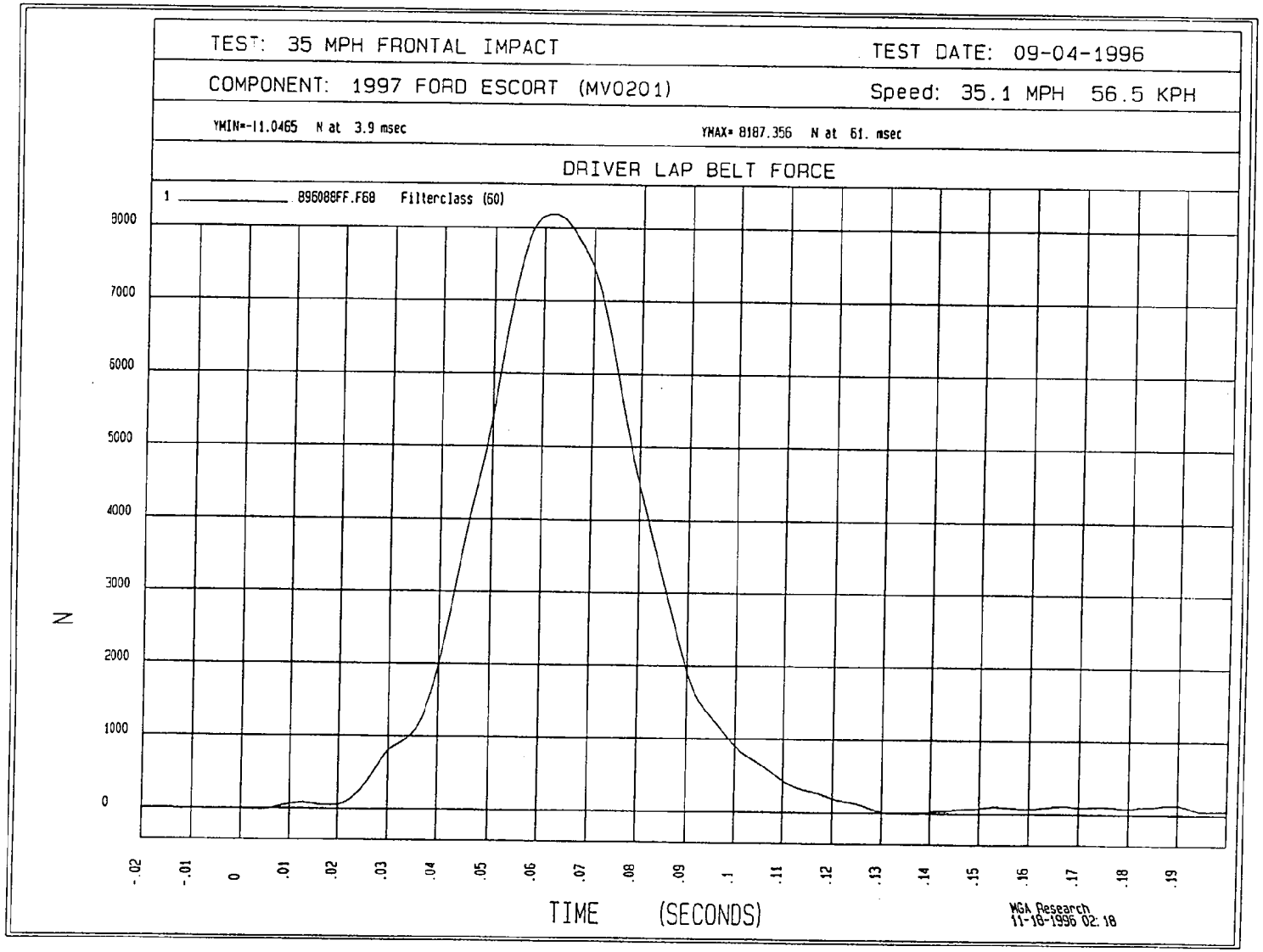

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-14.27074 G'S at 88. msec
YMAX= 32.45636 G'S at 50. msec
DRIVER PELVIS Y ACCELERATION
1 896088AF.A61 Filterclass (1000)
30
20
10
0
-10
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
11-18-1996 02:18

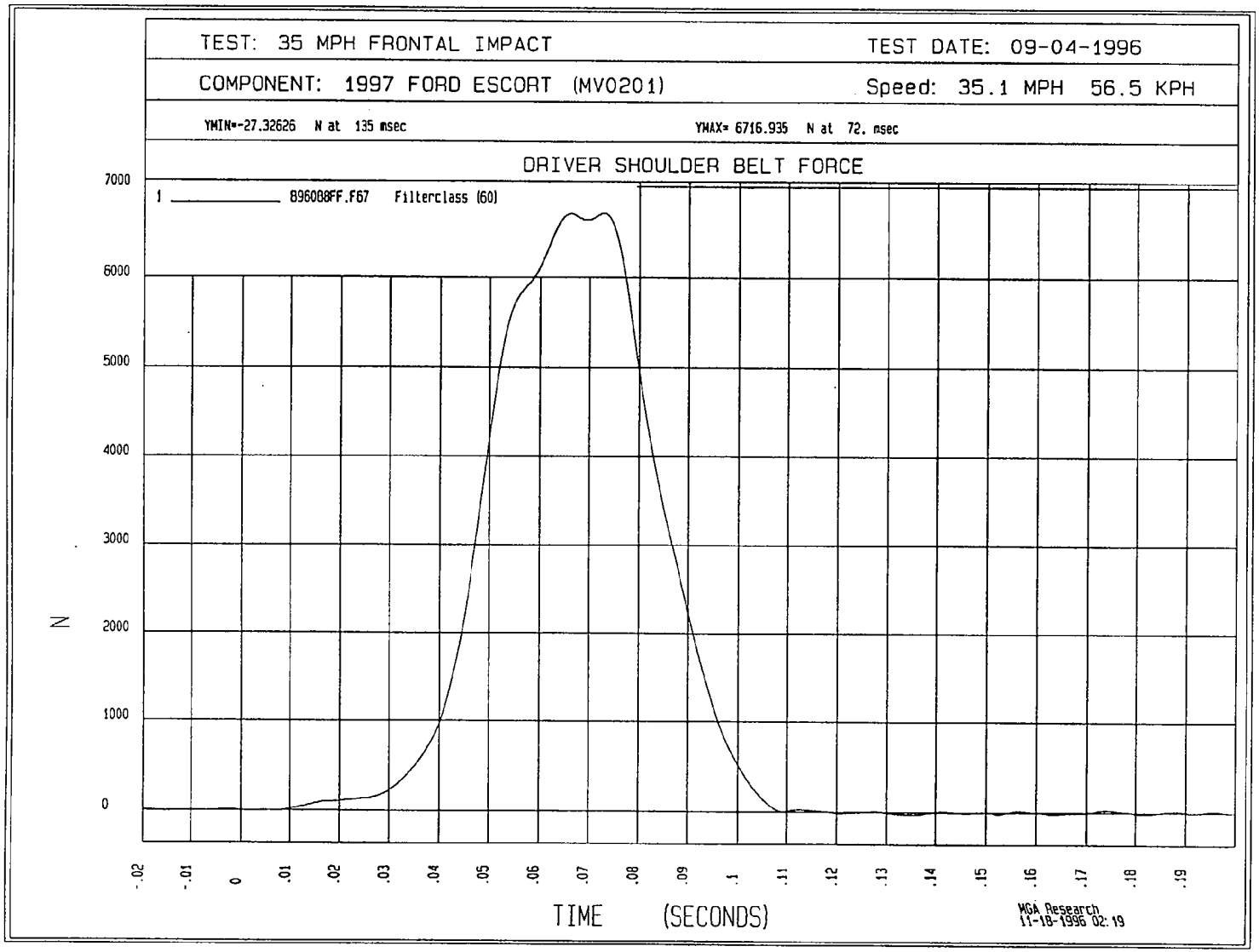

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-5.098371 G'S at 189 msec
YMAX= 64.04586 G'S at 88 msec
DRIVER PELVIS Z ACCELERATION
1 B9608BAF.A62 Filterclass (1000)
60
50
40
30
20
10
0
-10
-20
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
190
TIME (SECONDS)
MGA Research
11-18-1996 02:18

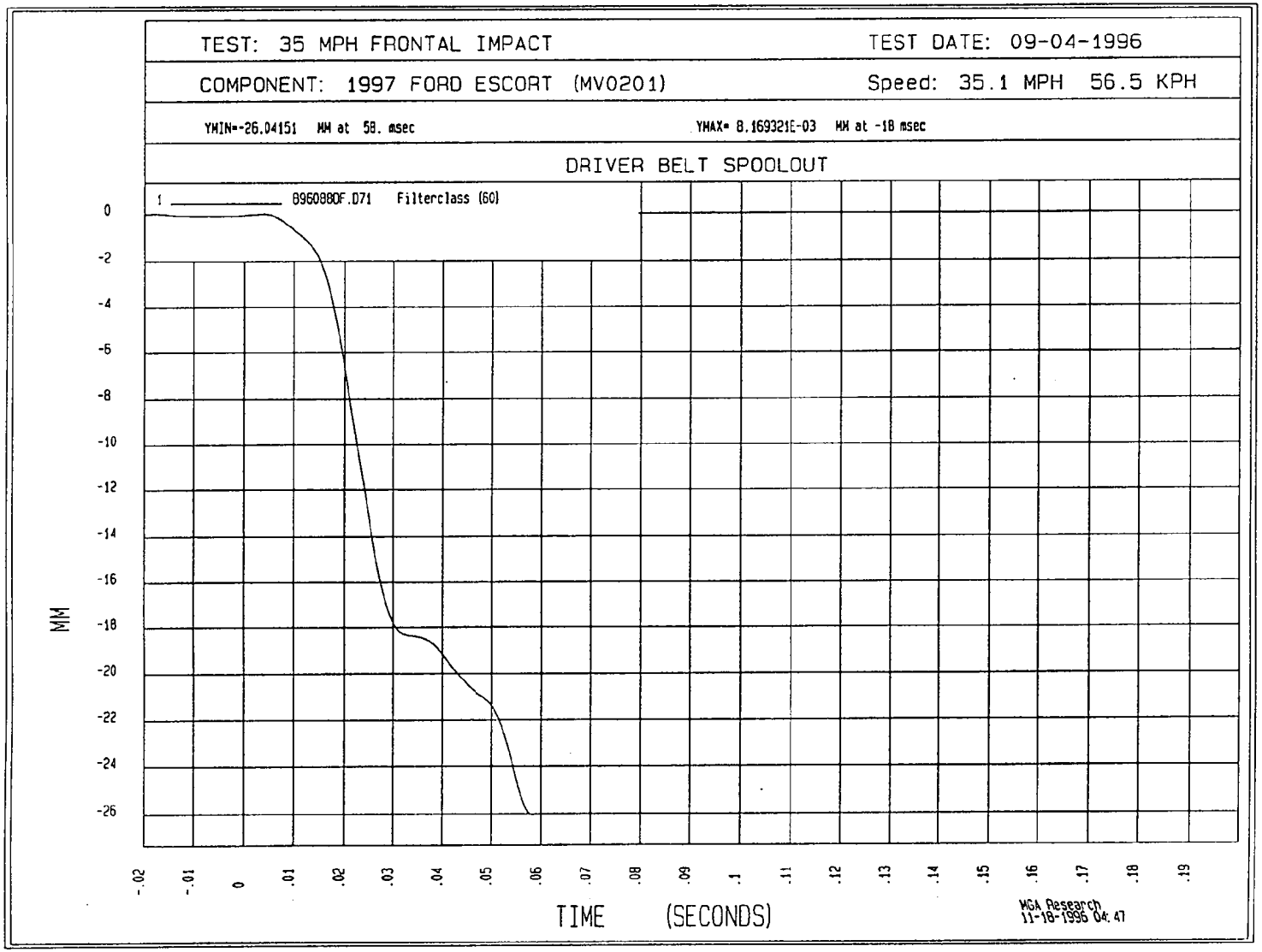
S.9


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN= 4.179245E-02 G'S at -7.8 msec
YMAX= 84.10555 G'S at 50. msec
DRIVER PELVIS RESULTANT ACCELERATION
1 B960B8AV.A60 Filterclass (1000)
G'S
80
70
60
50
40
30
20
10
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
11-18-1996 02:18


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-2.994633 KPH at 89 msec
YMAX= 56.58182 KPH at -10. msec
DRIVER PELVIS X VELOCITY
1 _____ B96088AI.V60 Filterclass (180)
KPH
50
40
30
20
10
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME Seconds
MGA Research
11-18-1996 05:06

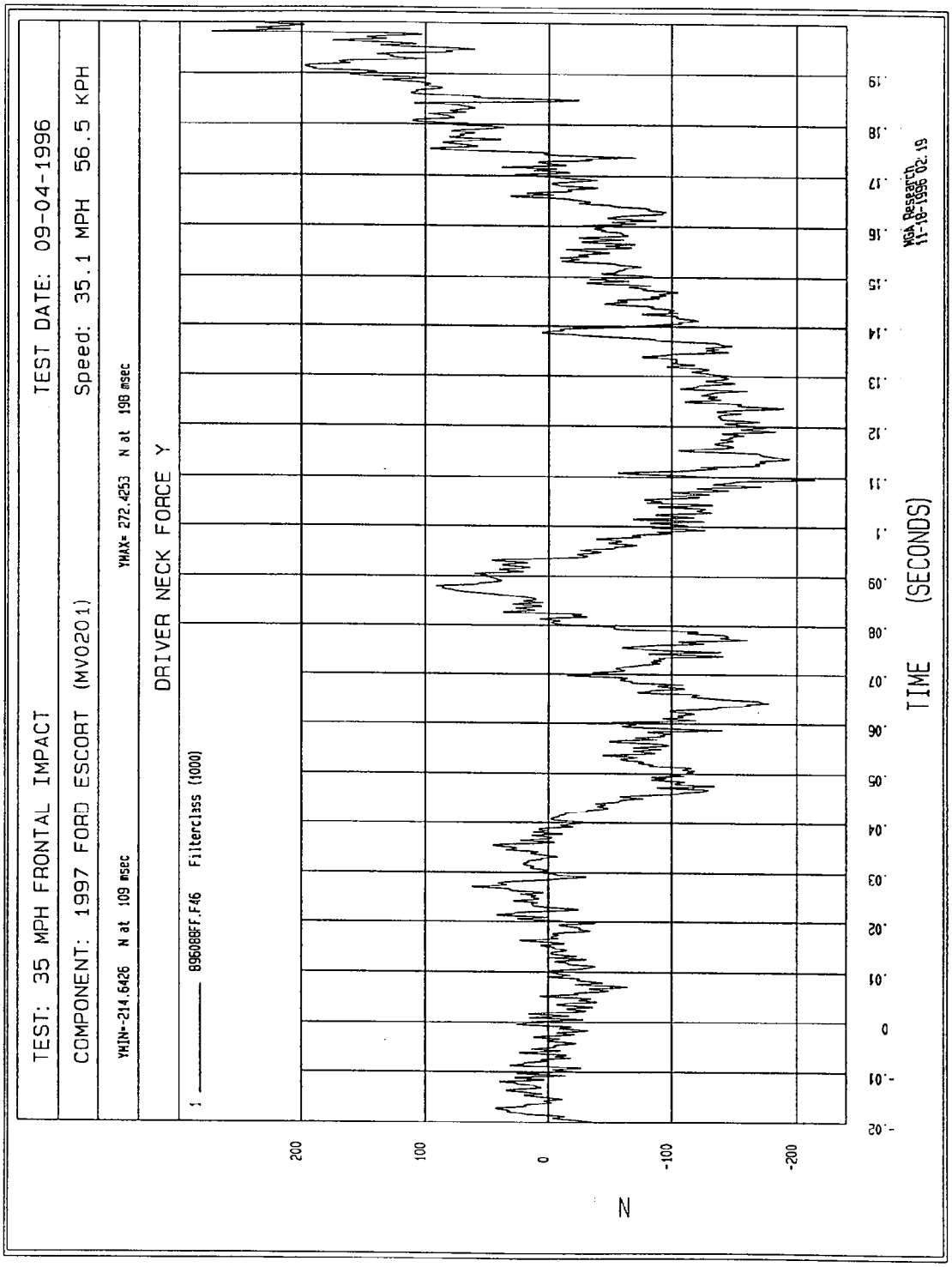

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-11.0465 N at 3.9 msec
YMAX= 8187.356 N at 61. msec
DRIVER LAP BELT FORCE
1 896088FF.F68 Filterclass (60)
9000
7000
6000
5000
4000
3000
2000
1000
0
N
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
11-18-1996 02:18

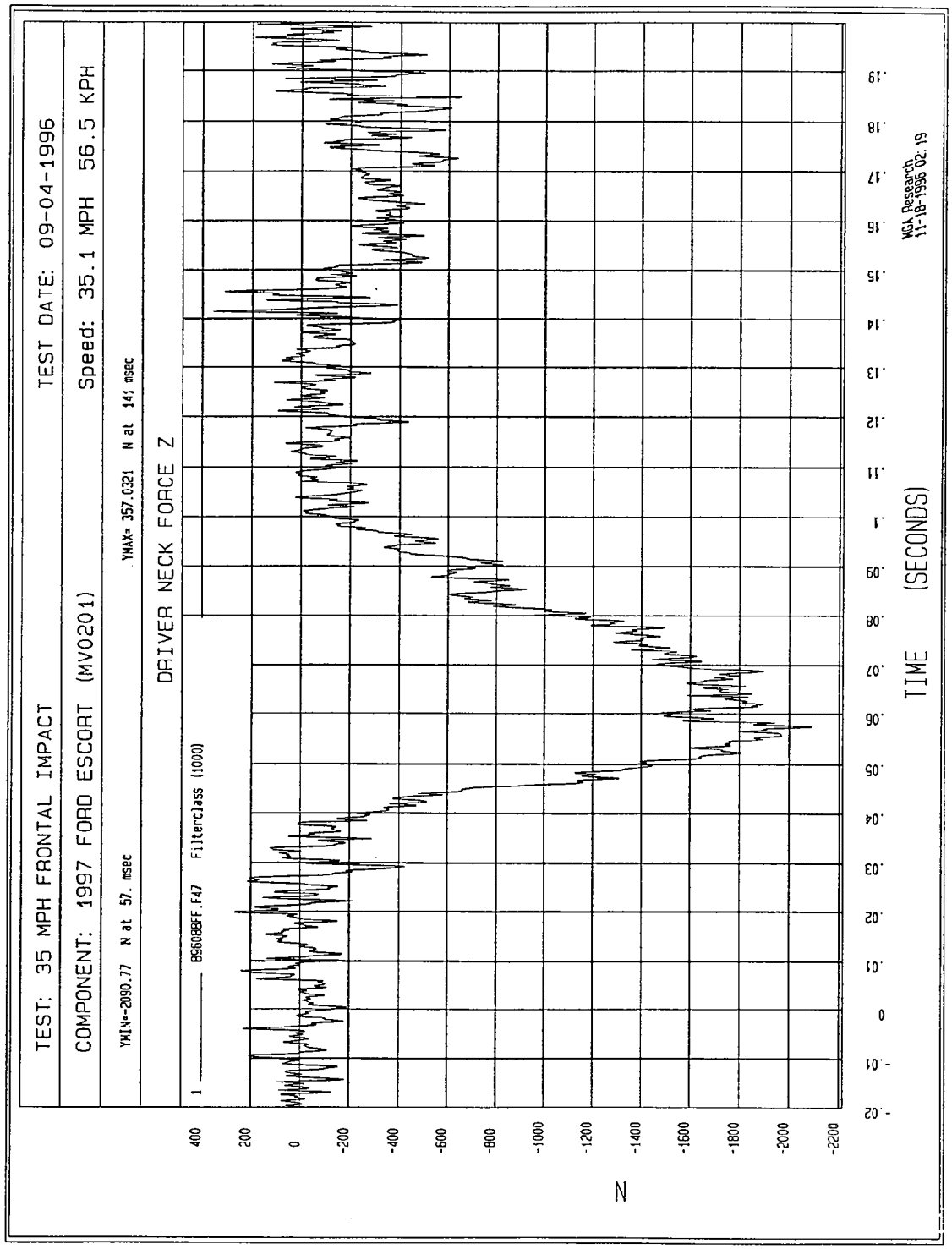

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-27.32626 N at 135 msec
YMAX= 6716.935 N at 72. msec
DRIVER SHOULDER BELT FORCE
1 896088FF.F67 Filterclass (60)
7000
6000
5000
4000
3000
2000
1000
0
N
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
11-18-1996 02:19

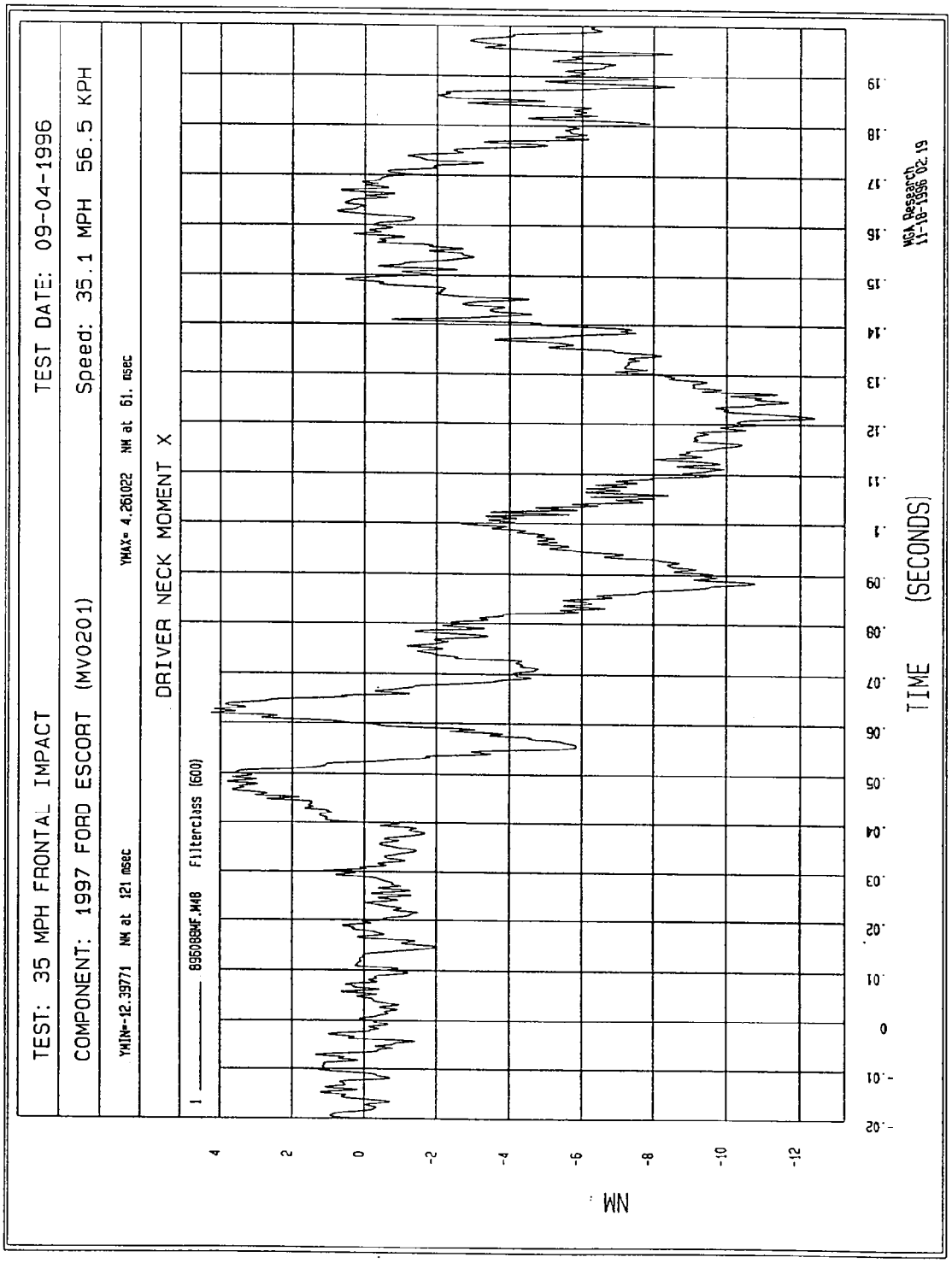

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-26.04151 MM at 58. msec
YMAX= 8.169321E-03 MM at -18 msec
DRIVER BELT SPOOLOUT
1 B960880F.D71 Filterclass (60)
MM
0
-2
-4
-6
-8
-10
-12
-14
-16
-18
-20
-22
-24
-26
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
11-18-1996 04:47

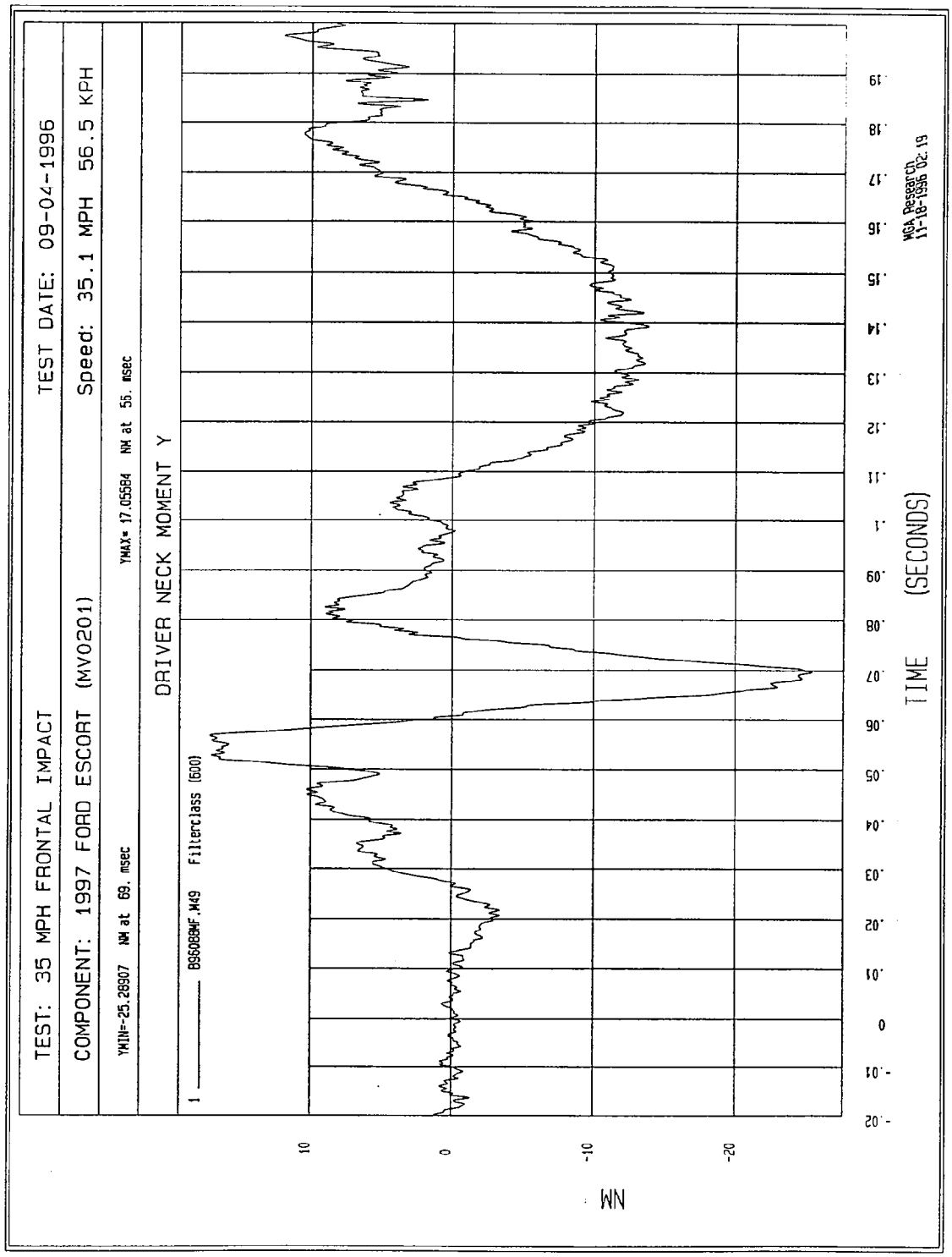
DRIVER NECK FORCE X VS. TIME

NO VALID DATA COLLECTED


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-214.6426 N at 109 msec
YMAX= 272.4253 N at 198 msec
DRIVER NECK FORCE Y
1 ——— 896088FF.F46 Filterclass (1000)
200
100
0
-100
-200
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
11-18-1996 02:19


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-2090.77 N at 57. msec
YMAX= 357.0321 N at 141 msec
DRIVER NECK FORCE Z
1 B960888FF.F47 Filterclass (1000)
400
200
0
-200
-400
-600
-800
-1000
-1200
-1400
-1600
-1800
-2000
-2200
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
11-18-1996 02:19


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-12.39771 NM at 121 msec
YMAX= 4.261022 NM at 61. msec
DRIVER NECK MOMENT X
1 _____ 8950884F.M48 Filterclass (600)
NM
TIME (SECONDS)
MGA Research
11-18-1996 02:19


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-25.26907 NM at 69. msec
YMAX= 17.05584 NM at 55. msec
DRIVER NECK MOMENT Y
1 B9500BMF.M49 Filterclass (600)
NM
10
0
-10
-20
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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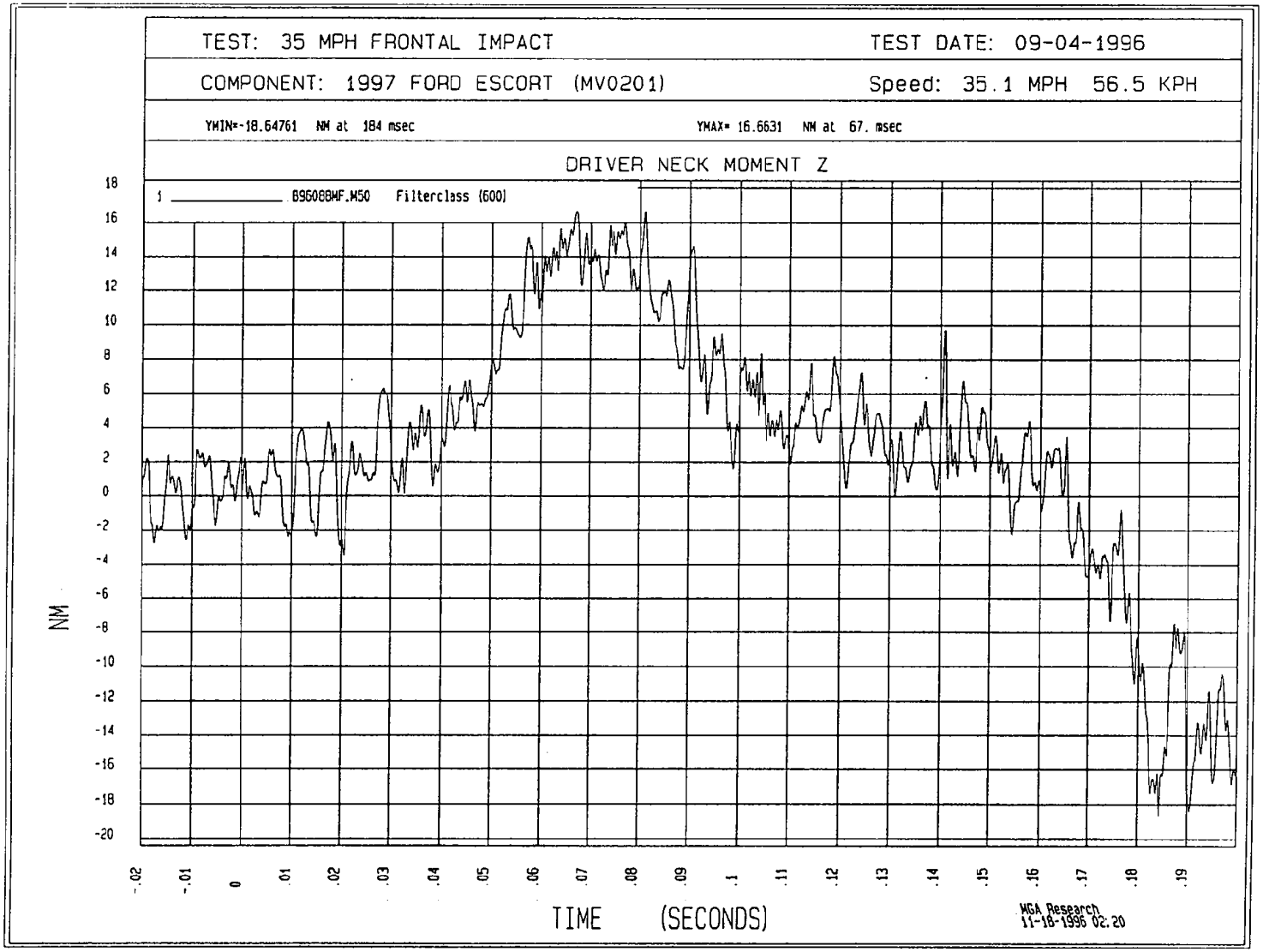
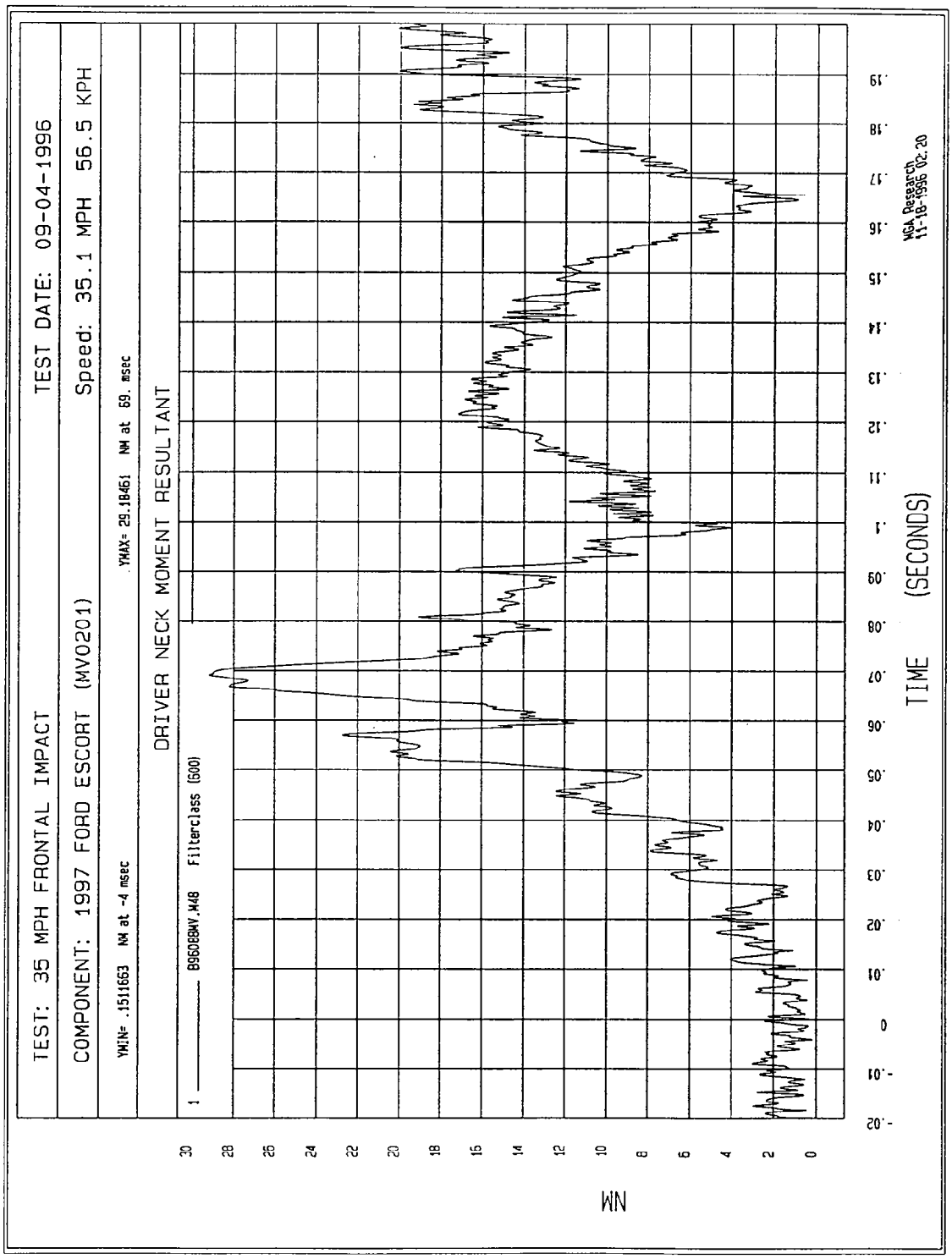
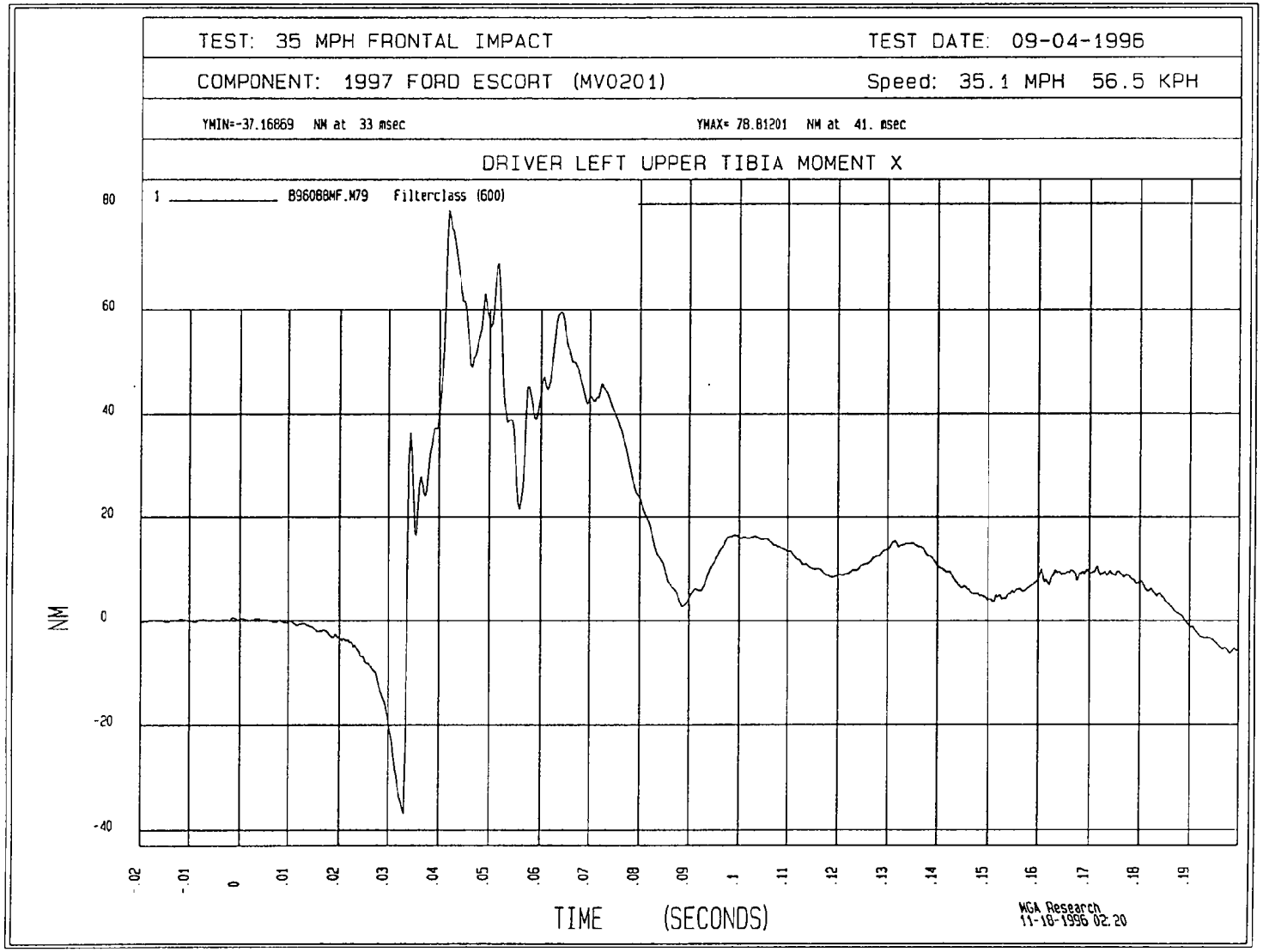
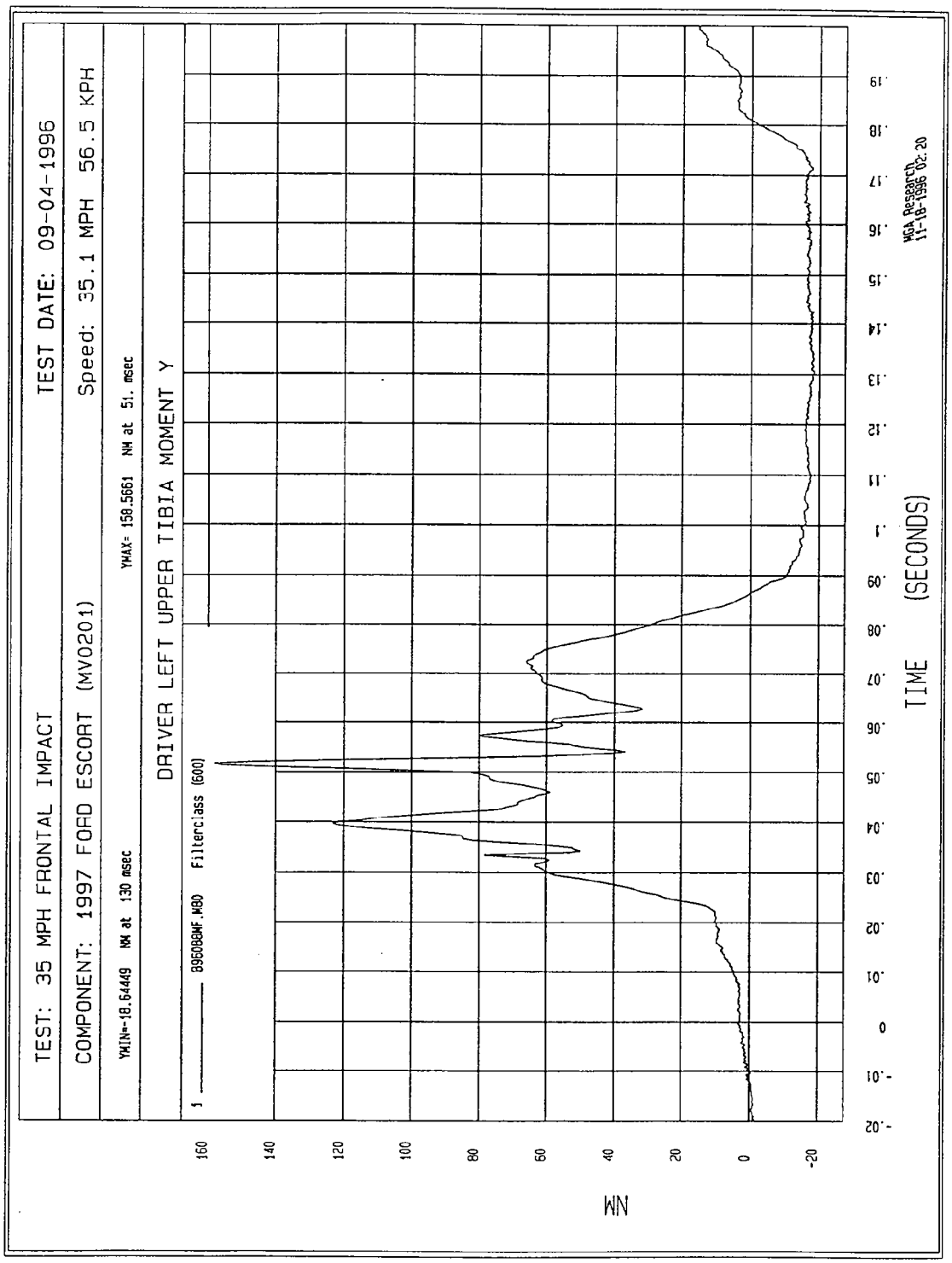
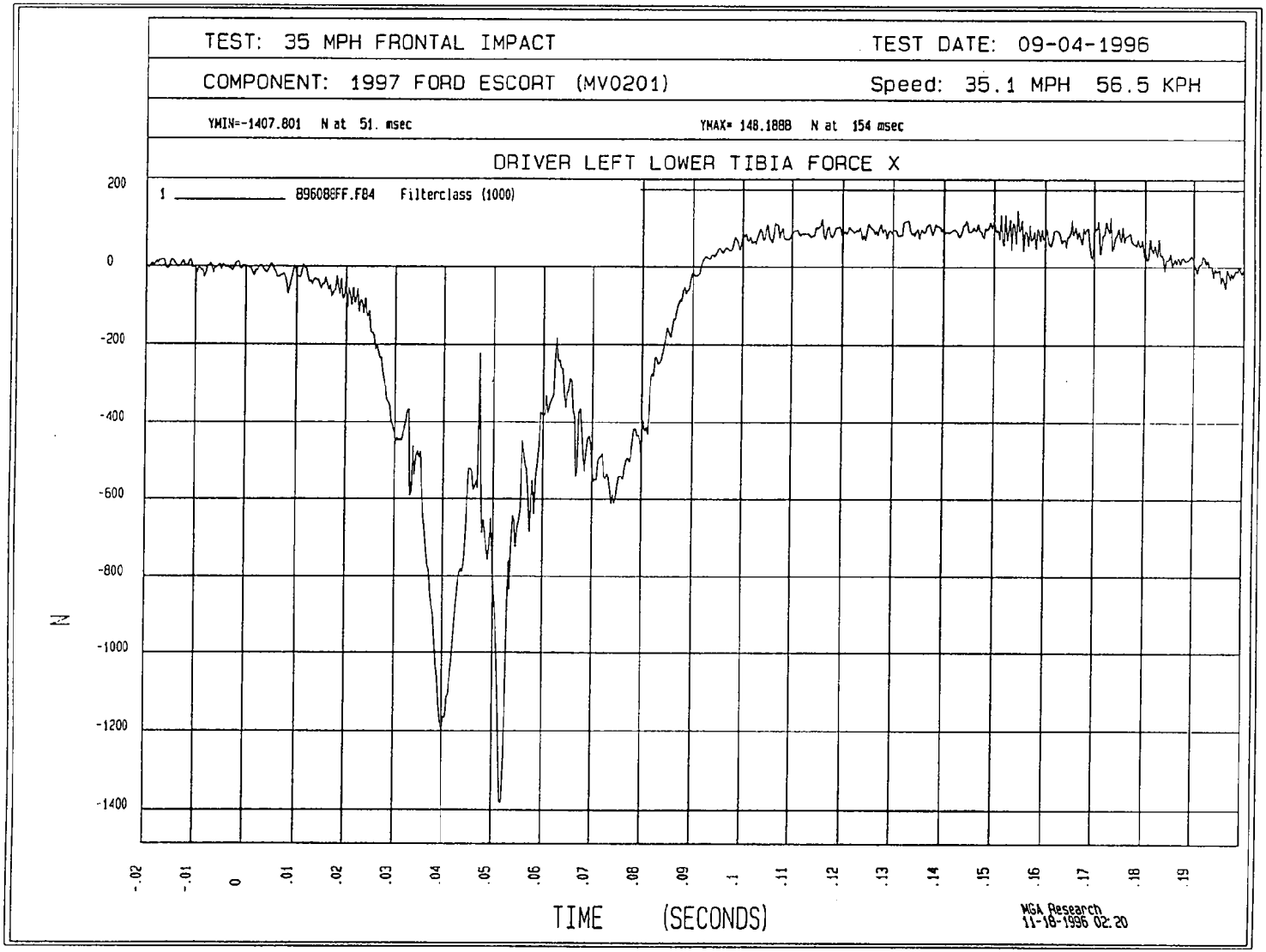
.18
.19
MGA Research
11-18-1996 02:19

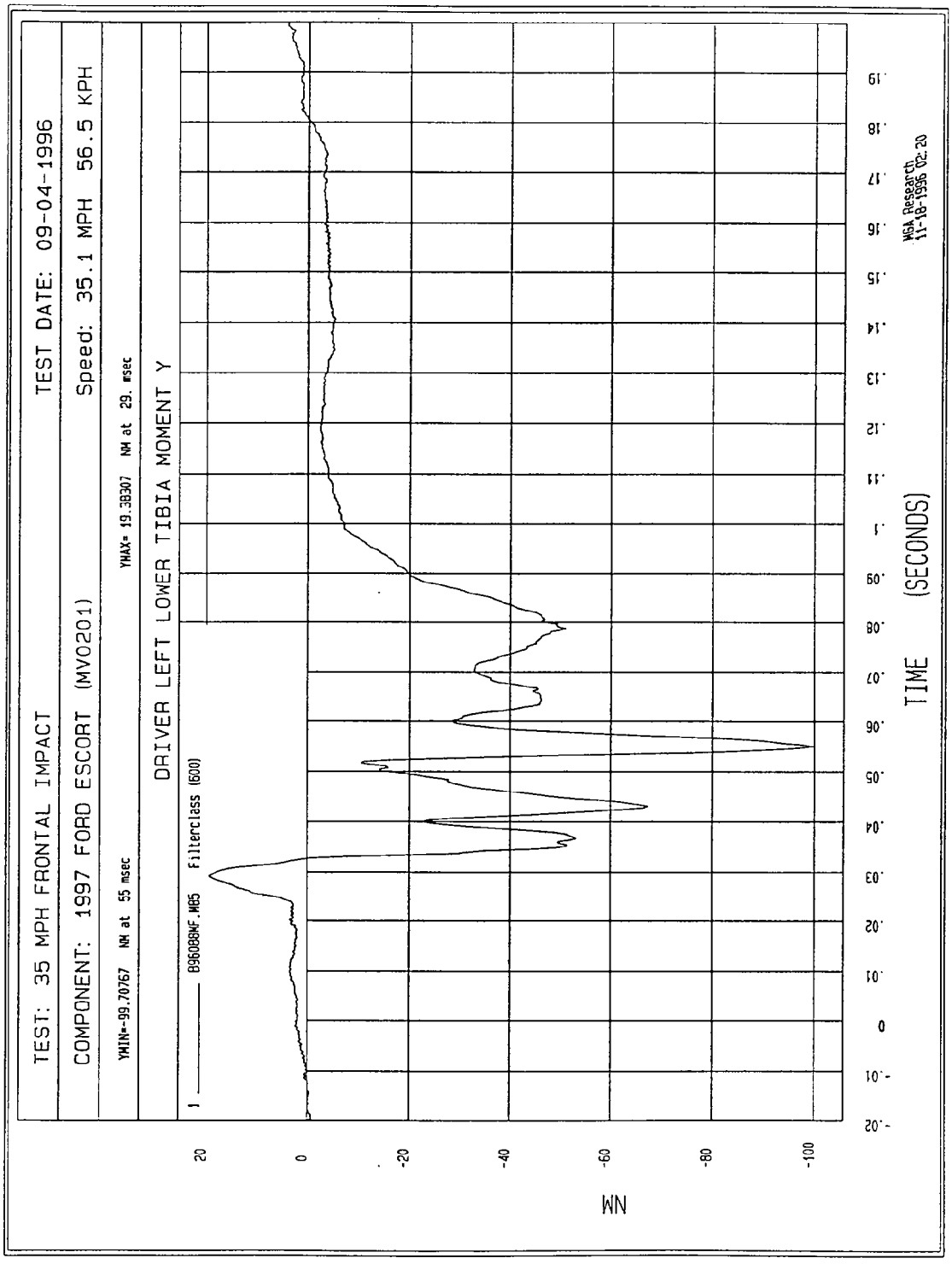

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-18.64761 NM at 184 msec
YMAX= 16.6631 NM at 67. msec
DRIVER NECK MOMENT Z
1 B9608BWF.M50 Filterclass (600)
NM
TIME (SECONDS)
MGA Research
11-18-1996 02:20


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN= .1511663 NM at -4 msec
YMAX= 29.18461 NM at 69. msec
DRIVER NECK MOMENT RESULTANT
1 B9608NV.M48 Filterclass (600)
NM
TIME (SECONDS)
NGA Research
11-18-1996 02:20


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-37.16869 NM at 33 msec
YMAX= 78.81201 NM at 41. msec
DRIVER LEFT UPPER TIBIA MOMENT X
1 B96088MF.M79 filterclass (600)
80
60
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
11-18-1996 02.20

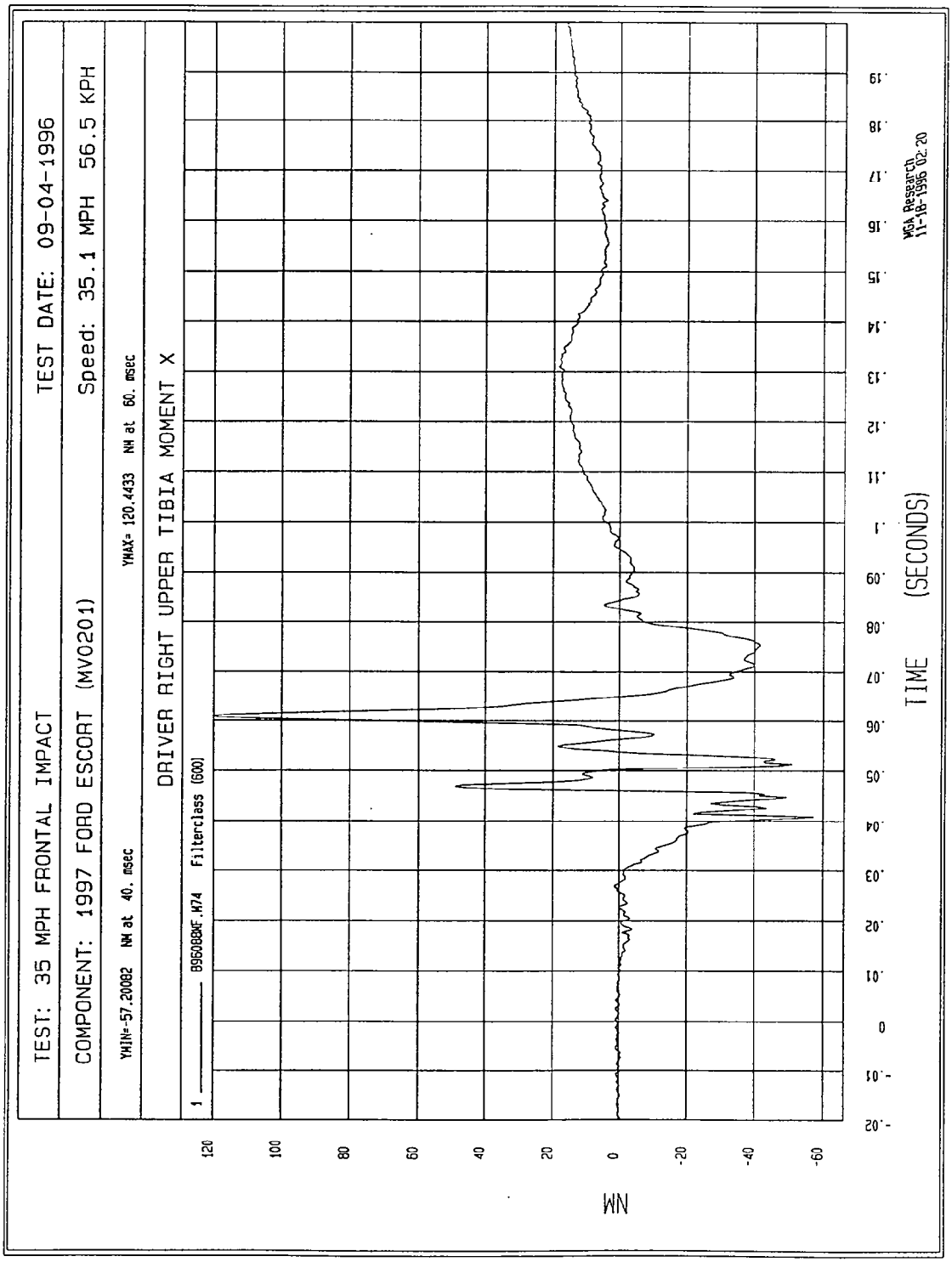

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-18.64449 MM at 130 msec
YMAX= 158.5661 MM at 51. msec
DRIVER LEFT UPPER TIBIA MOMENT Y
1 ——— 896080MF.M80 Filterclass (600)
NM
TIME (SECONDS)
MGA Research
11-18-1996 02:20

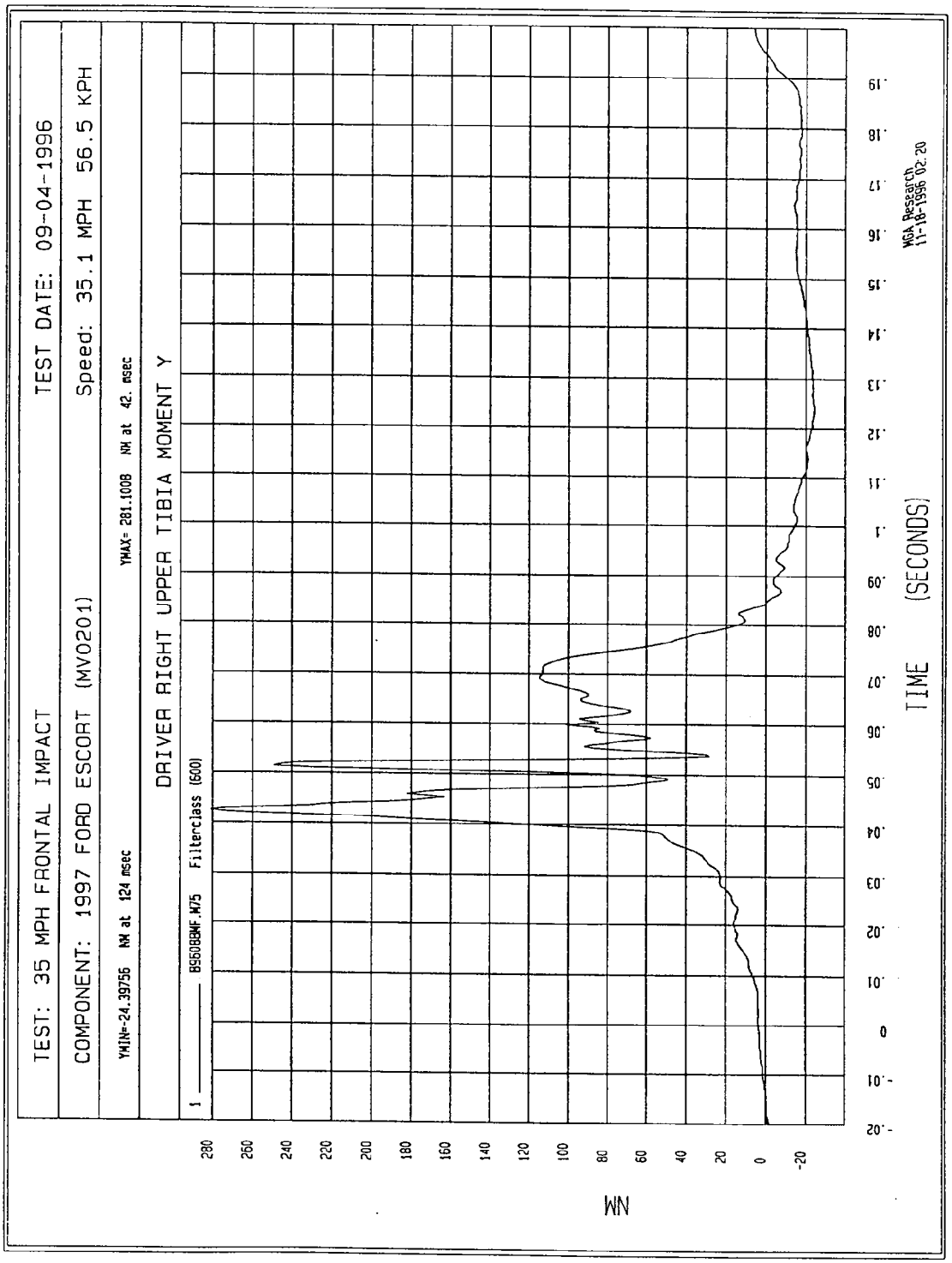

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-1407.801 N at 51. msec
YMAX= 148.1888 N at 154 msec
DRIVER LEFT LOWER TIBIA FORCE X
1 89608FF.F84 Filterclass (1000)
200
0
-200
-400
-600
-800
-1000
-1200
-1400
N
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
11-18-1996 02:20

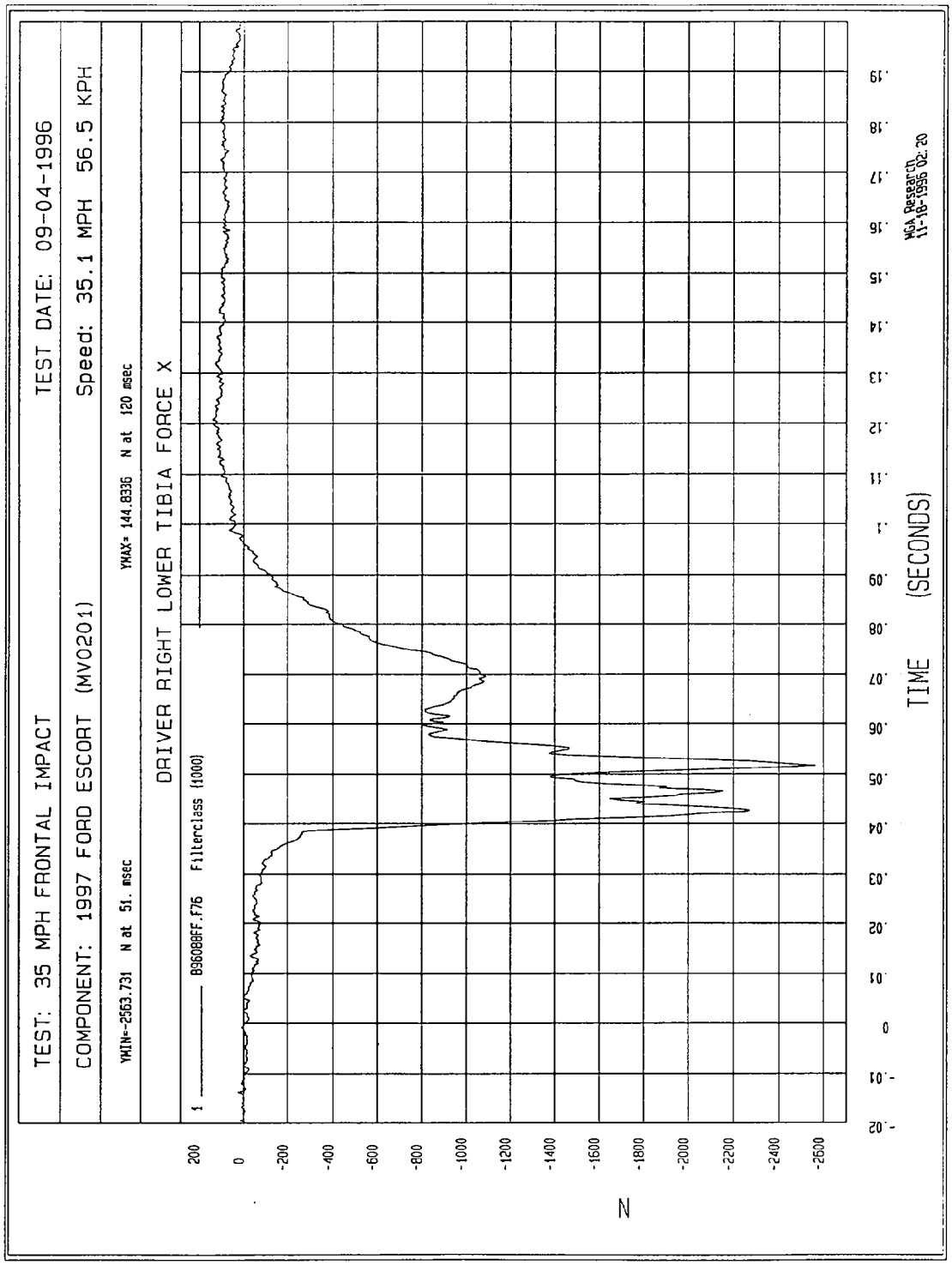

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-99.70767 NM at 55 msec
YMAX= 19.38307 NM at 29. msec
DRIVER LEFT LOWER TIBIA MOMENT Y
1 B96080NF.MBS Filterclass (600)
NM
TIME (SECONDS)
MGA Research
11-18-1996 02:20

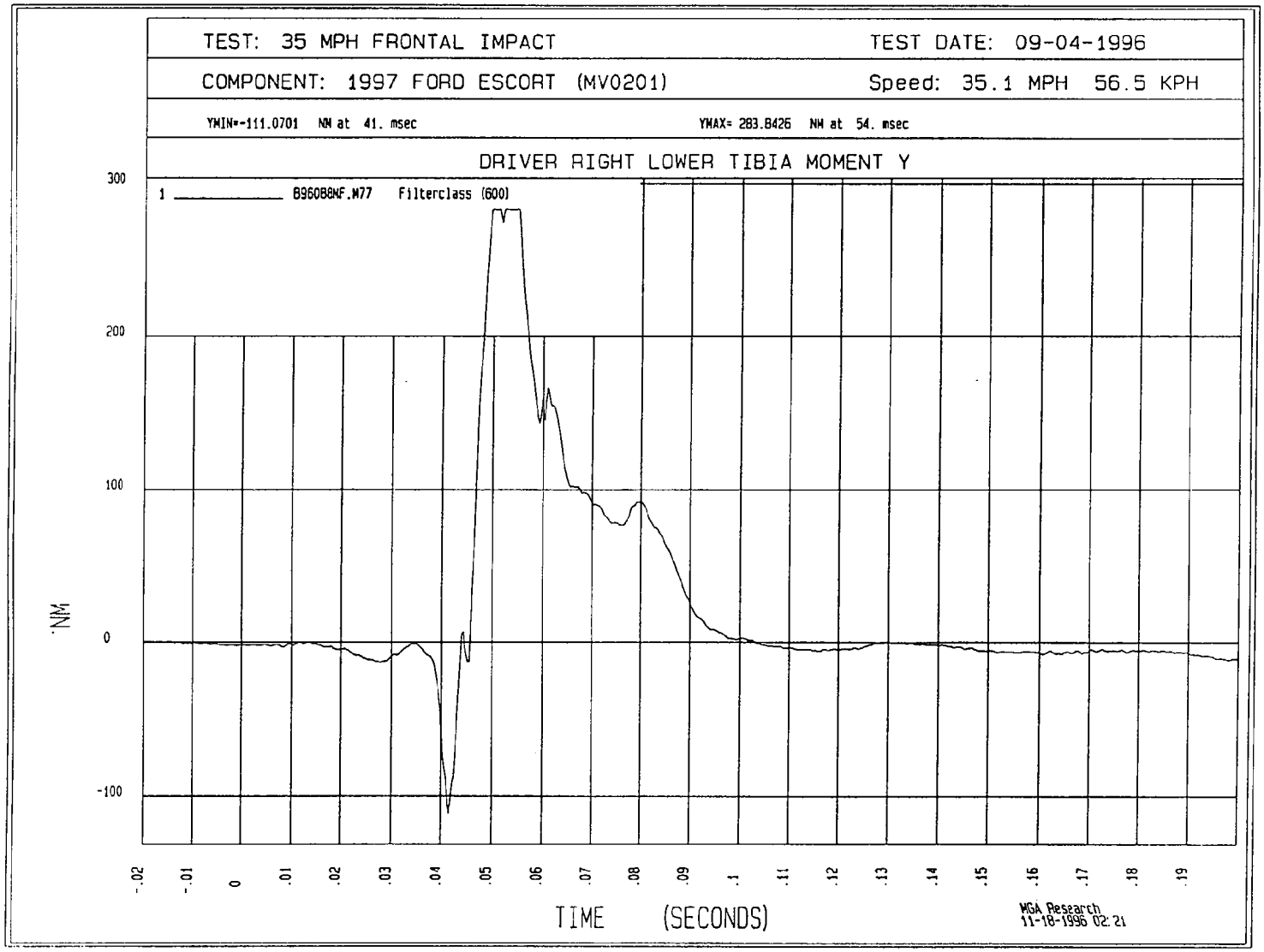
DRIVER LEFT LOWER TIBIA FORCE Z VS. TIME

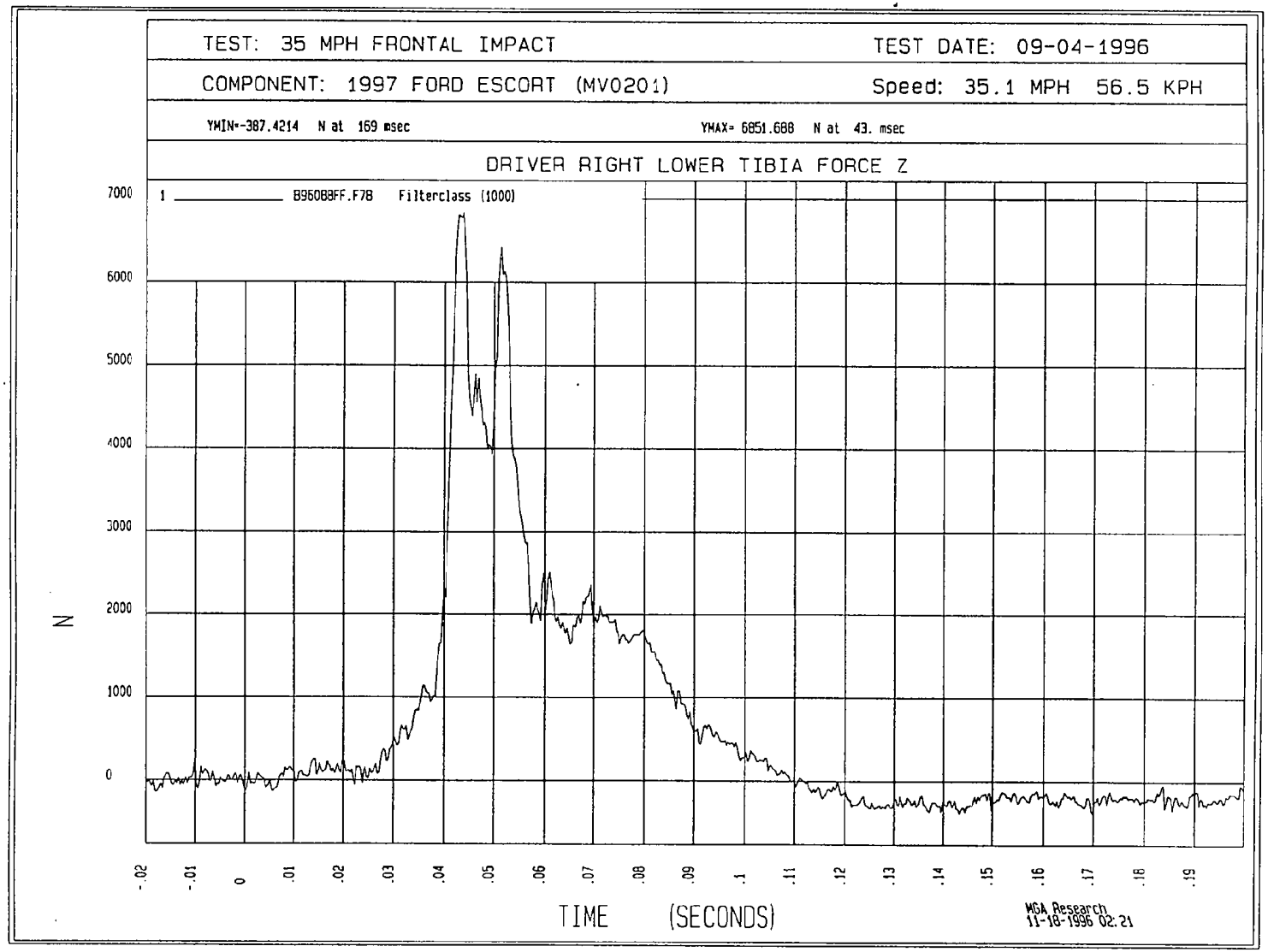
NO VALID DATA COLLECTED

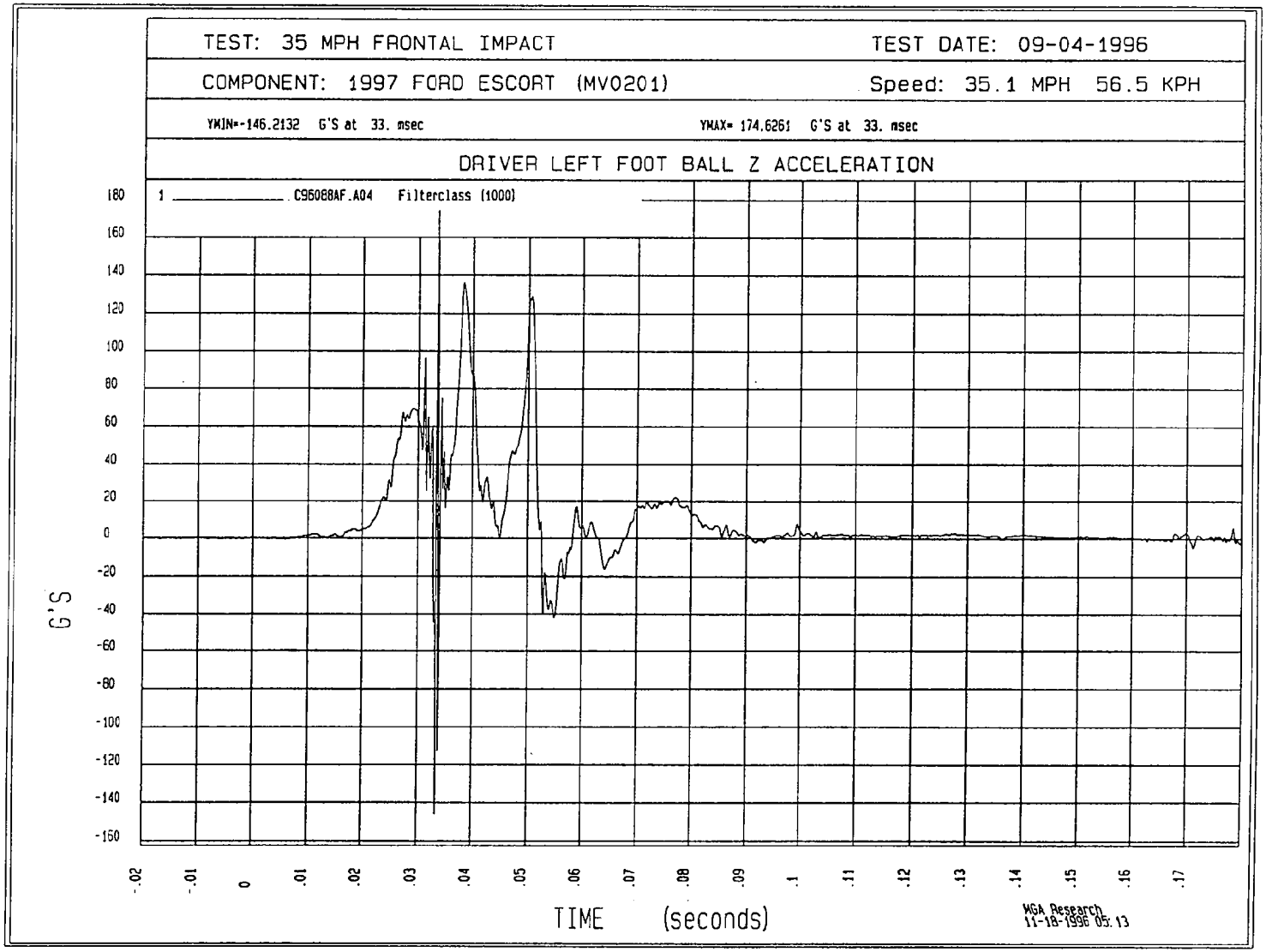

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-57.20082 NM at 40. msec
YMAX= 120.4433 NM at 60. msec
DRIVER RIGHT UPPER TIBIA MOMENT X
1 B96088NF.H74 Filterclass (600)
NM
TIME (SECONDS)
MGA Research
11-18-1996 02:20

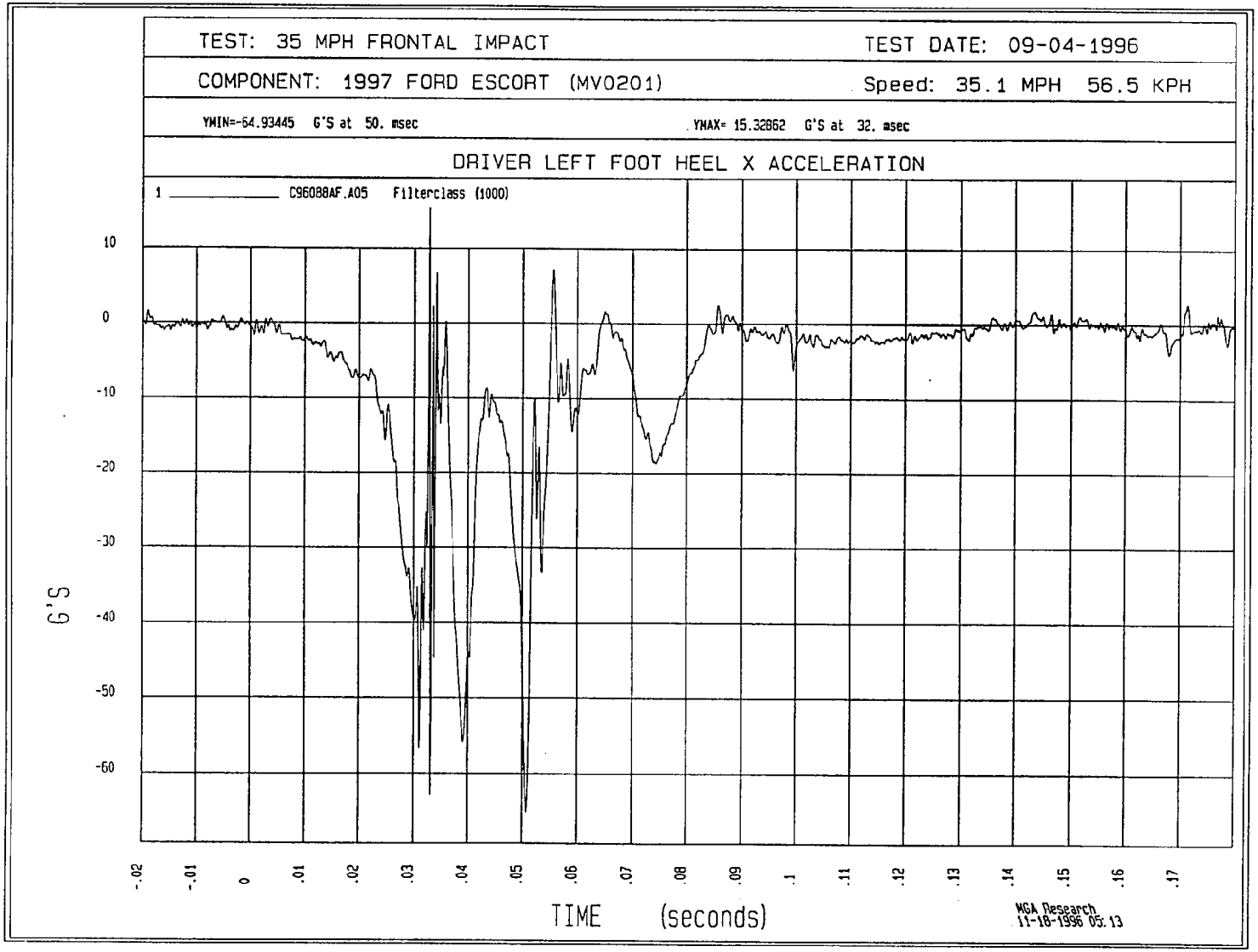

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-24.39756 NM at 124 msec
YMAX= 281.1008 NM at 42. msec
DRIVER RIGHT UPPER TIBIA MOMENT Y
1 B9600BMF.M75 Filterclass (600)
NM
TIME (SECONDS)
MGA Research
11-18-1996 02:20

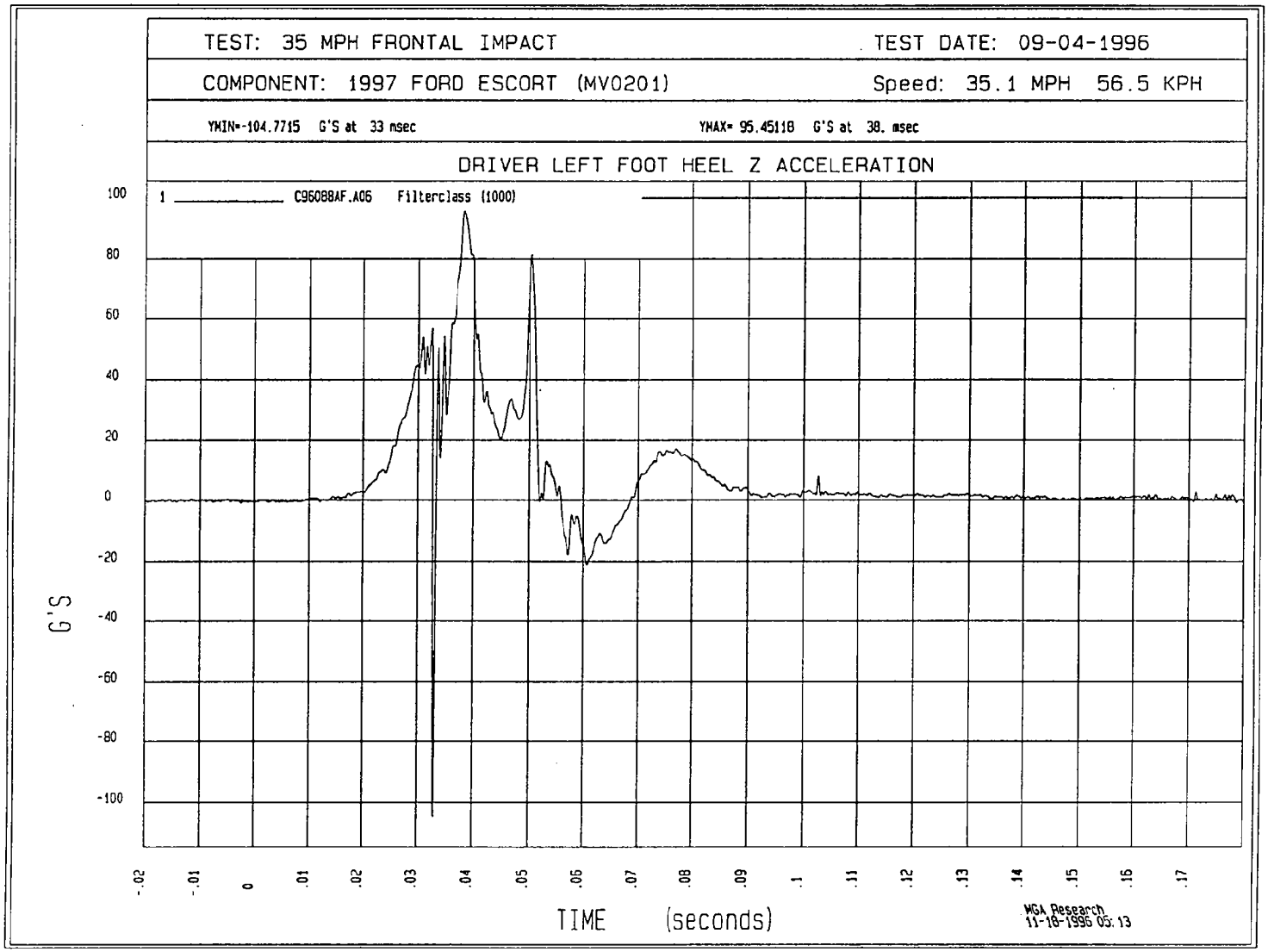

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-2563.731 N at 51. msec
YMAX= 144.8336 N at 120 msec
DRIVER RIGHT LOWER TIBIA FORCE X
1 B96088FF.F76 Filterclass (1000)
N
TIME (SECONDS)
NGA Research
11-16-1995 02.20

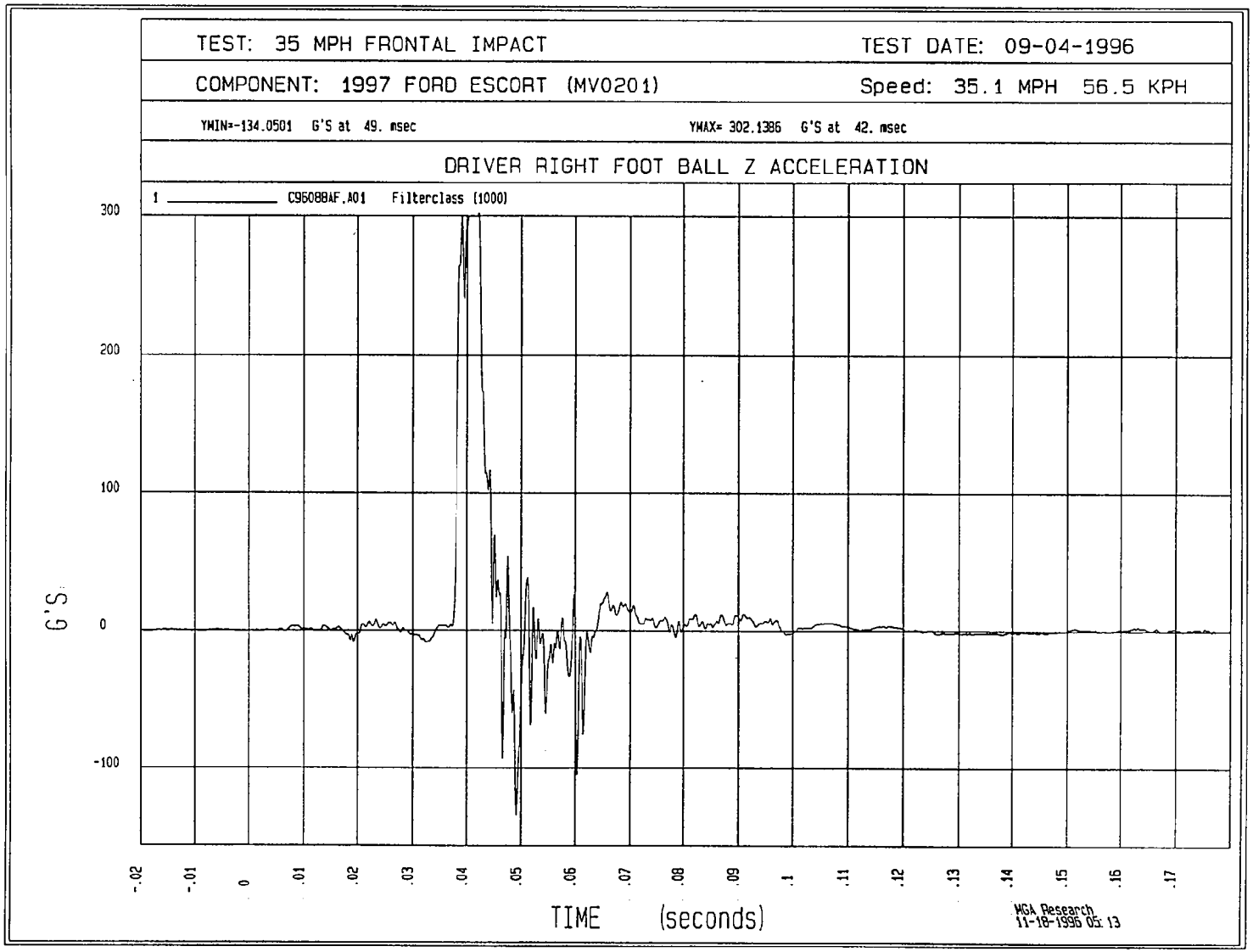

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-111.0701 NM at 41. msec
YMAX= 283.8426 NM at 54. msec
DRIVER RIGHT LOWER TIBIA MOMENT Y
1 B960B8NF.M77 Filterclass (600)
300
200
100
0
-100
NM
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
11-18-1996 02:21

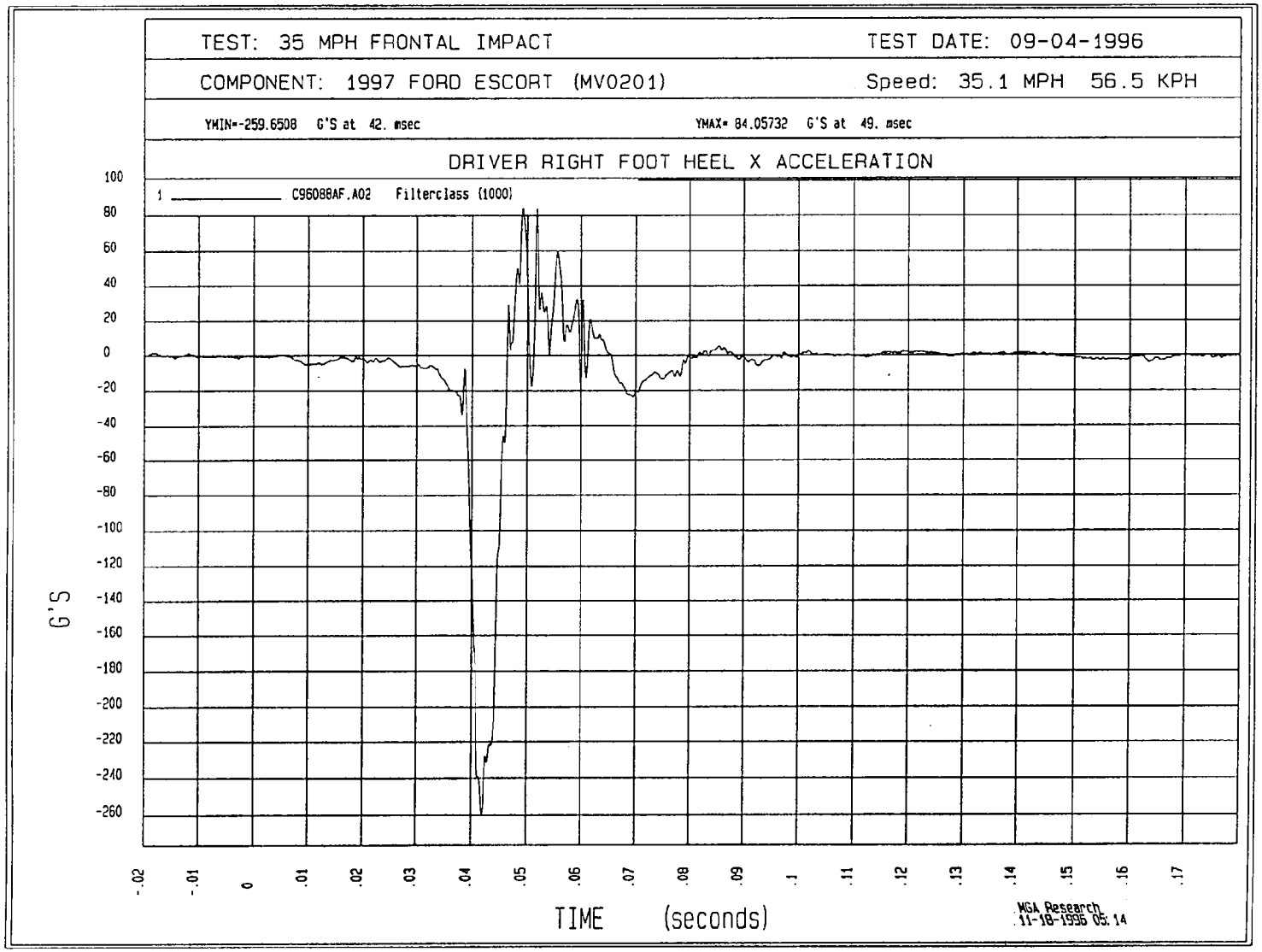

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-387.4214 N at 169 msec
YMAX= 6851.688 N at 43. msec
DRIVER RIGHT LOWER TIBIA FORCE Z
1 B95083FF.F78 Filterclass (1000)
7000
6000
5000
4000
3000
2000
1000
0
N
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
11-18-1996 02:21

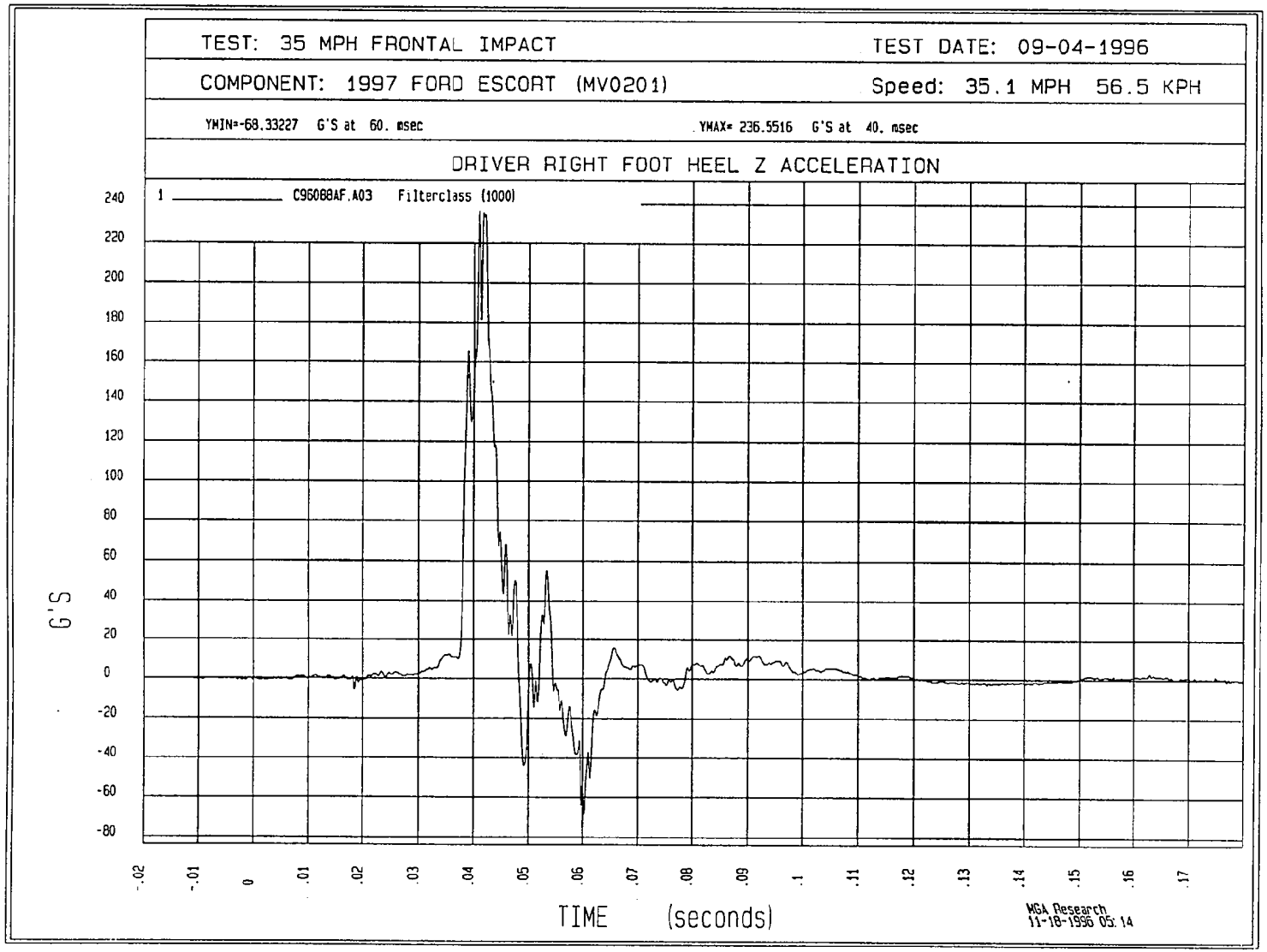

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-146.2132 G'S at 33. msec
YMAX= 174.6261 G'S at 33. msec
DRIVER LEFT FOOT BALL Z ACCELERATION
1 C96088AF.A04 Filterclass (1000)
180
160
140
120
100
80
60
40
20
0
-20
-40
-60
-80
-100
-120
-140
-150
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
TIME (seconds)
MGA Research
11-18-1996 05:13

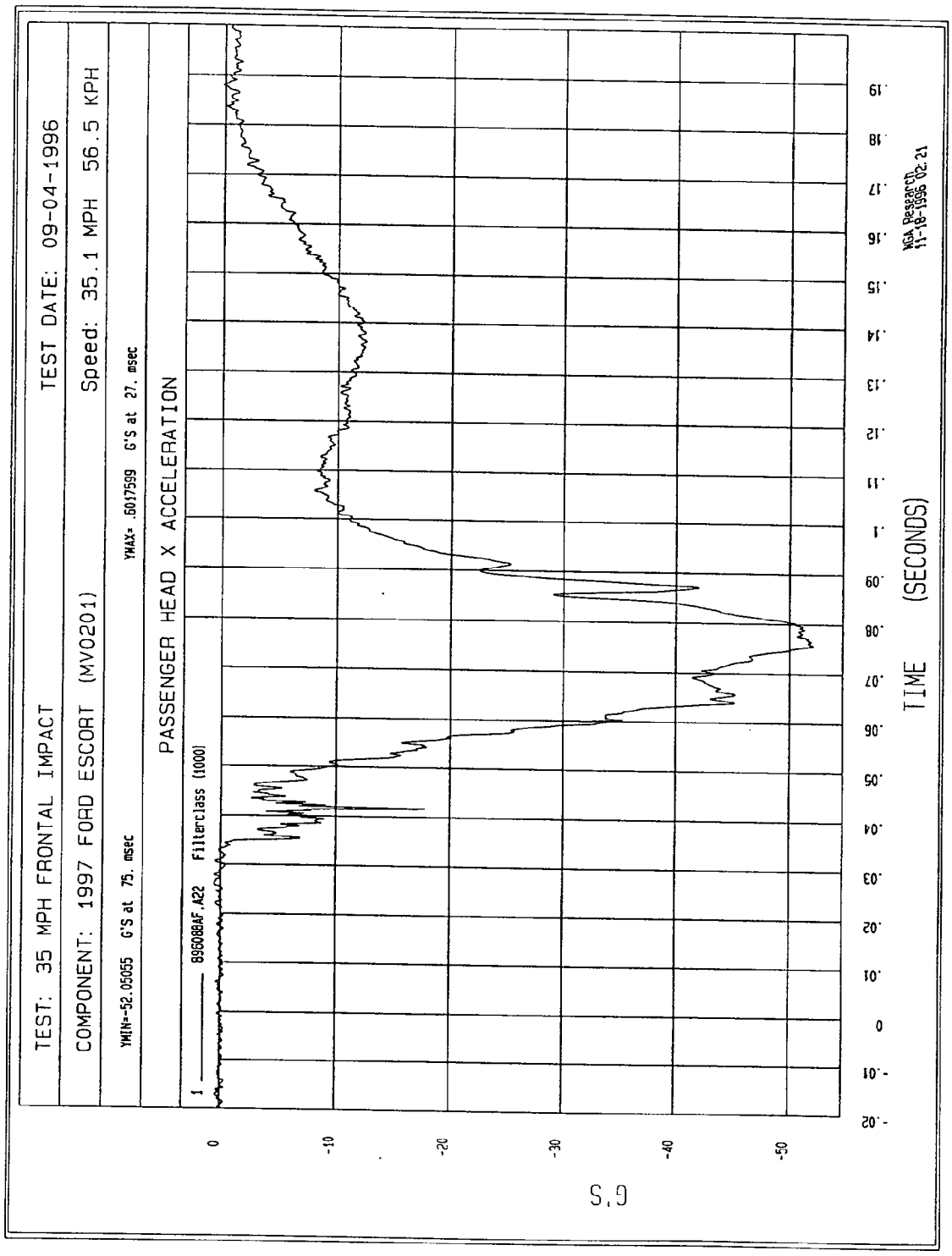

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-64.93445 G'S at 50. msec
YMAX= 15.32862 G'S at 32. msec
DRIVER LEFT FOOT HEEL X ACCELERATION
1 C96088AF.A05 Filterclass (1000)
10
0
-10
-20
-30
-40
-50
-60
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
TIME (seconds)
MGA Research
11-18-1996 05:13

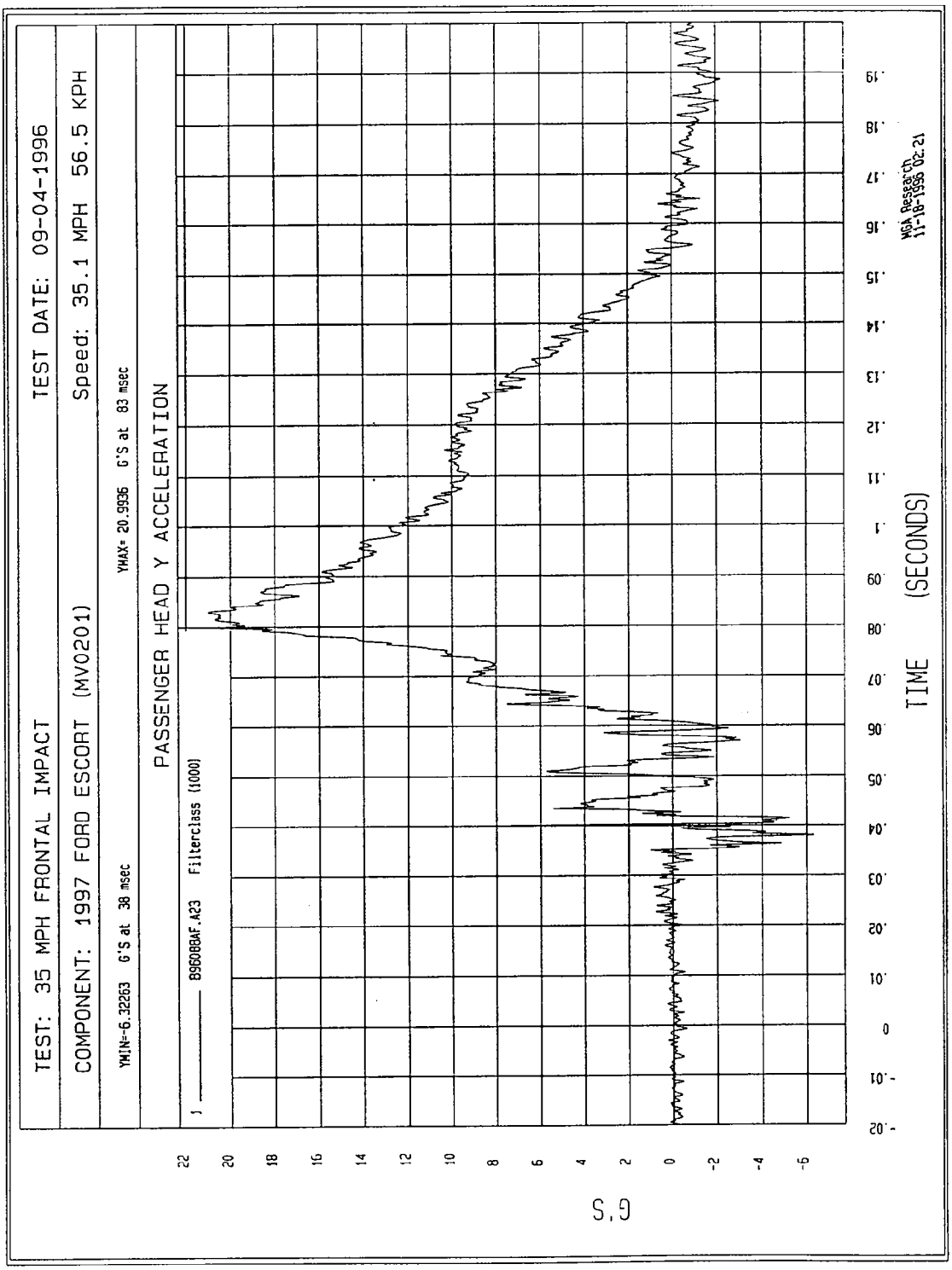

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-104.7715 G'S at 33 msec
YMAX= 95.45118 G'S at 38. msec
DRIVER LEFT FOOT HEEL Z ACCELERATION
1 C95088AF.A06 Filterclass (1000)
100
80
60
40
20
0
-20
-40
-60
-80
-100
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
TIME (seconds)
MGA Research
11-18-1996 05:13

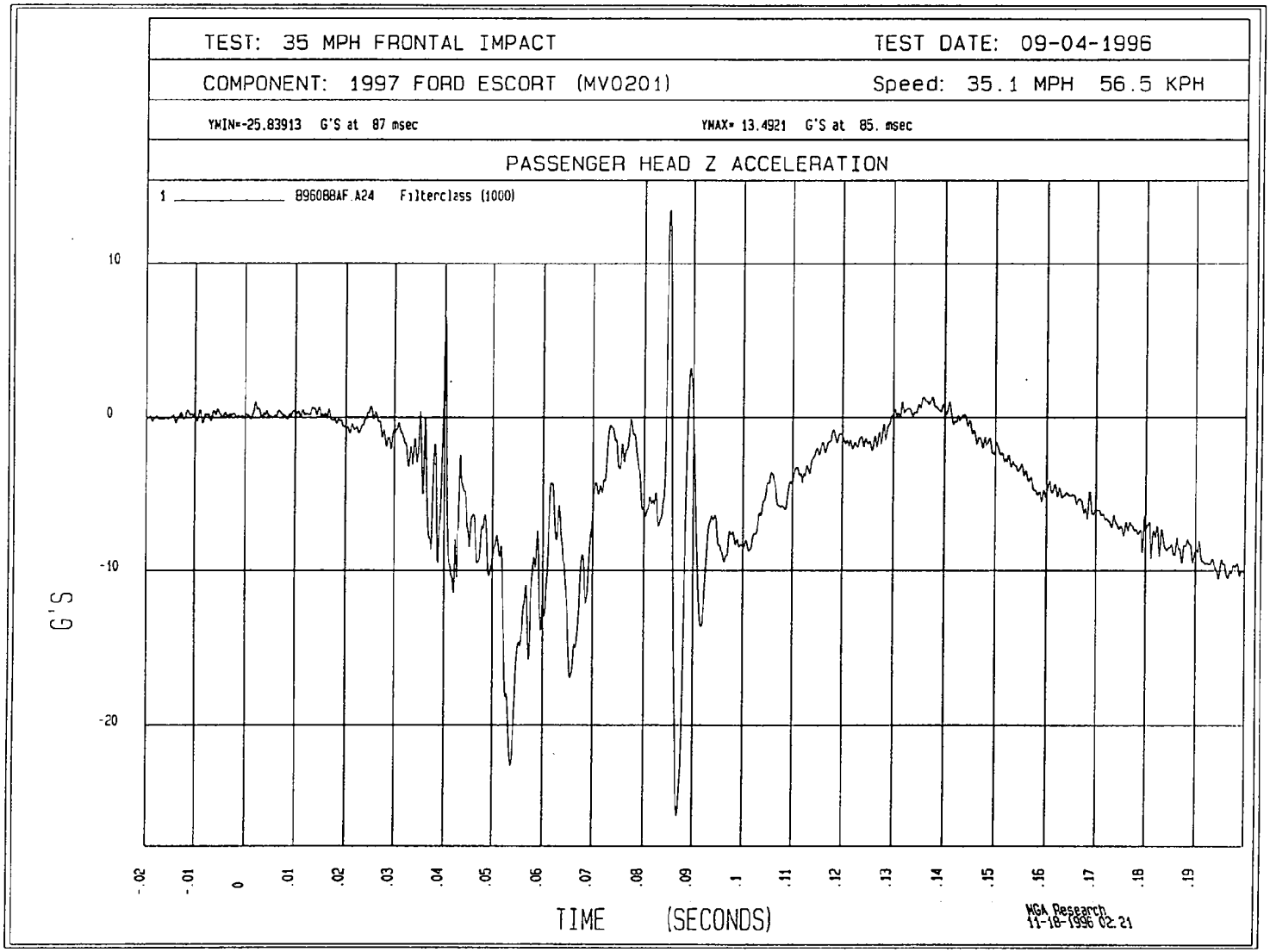

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-134.0501 G'S at 49. msec
YMAX= 302.1386 G'S at 42. msec
DRIVER RIGHT FOOT BALL Z ACCELERATION
1 C9608BAF.A01 Filterclass (1000)
300
200
100
0
-100
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
TIME (seconds)
MGA Research
11-18-1996 05:13

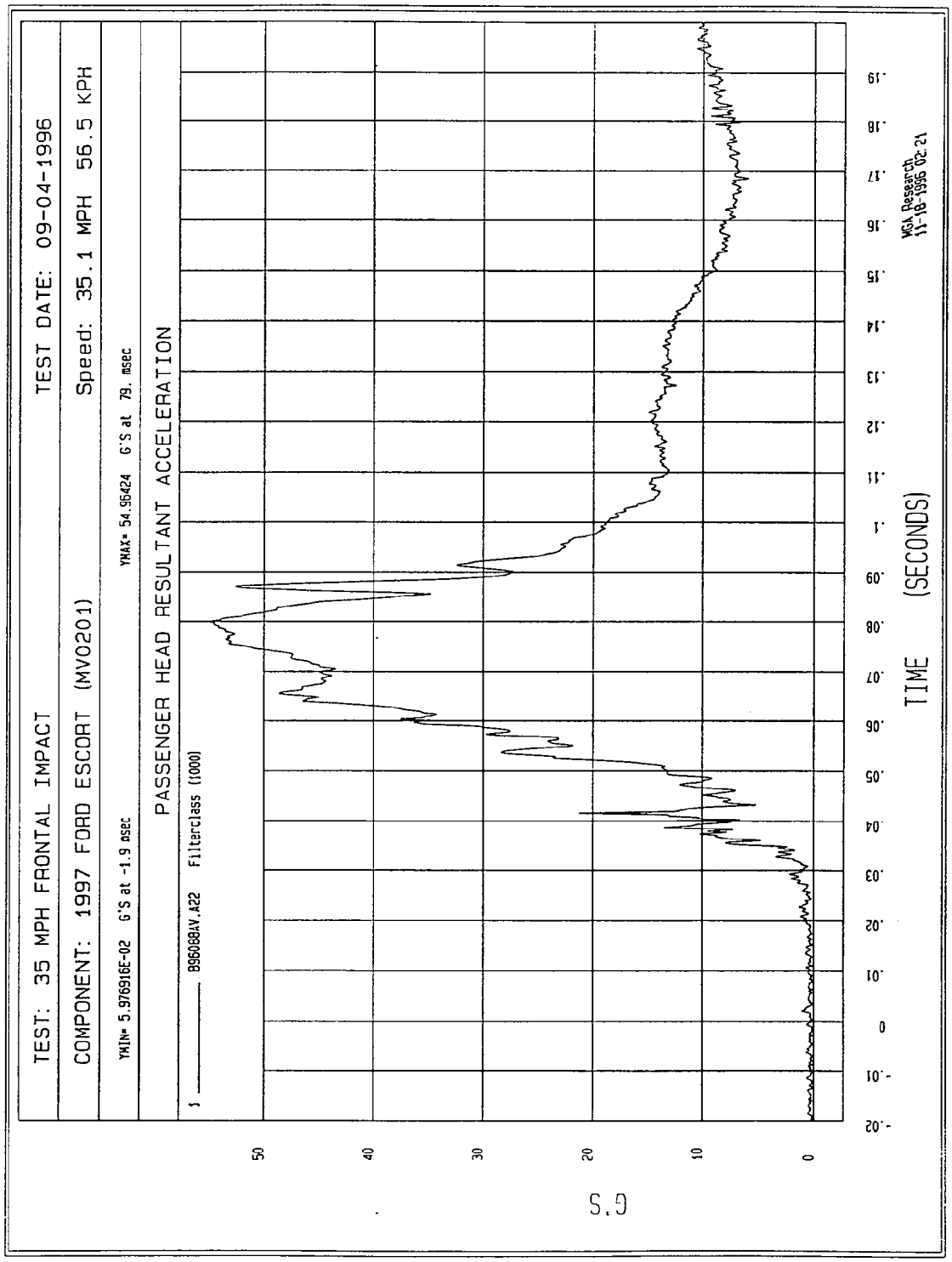

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-259.6508 G'S at 42. msec
YMAX= 84.05732 G'S at 49. msec
DRIVER RIGHT FOOT HEEL X ACCELERATION
1 C96088AF.A02 Filterclass (1000)
100
80
60
40
20
0
-20
-40
-60
-80
-100
-120
-140
-160
-180
-200
-220
-240
-260
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
TIME (seconds)
MGA Research
11-18-1996 05:14

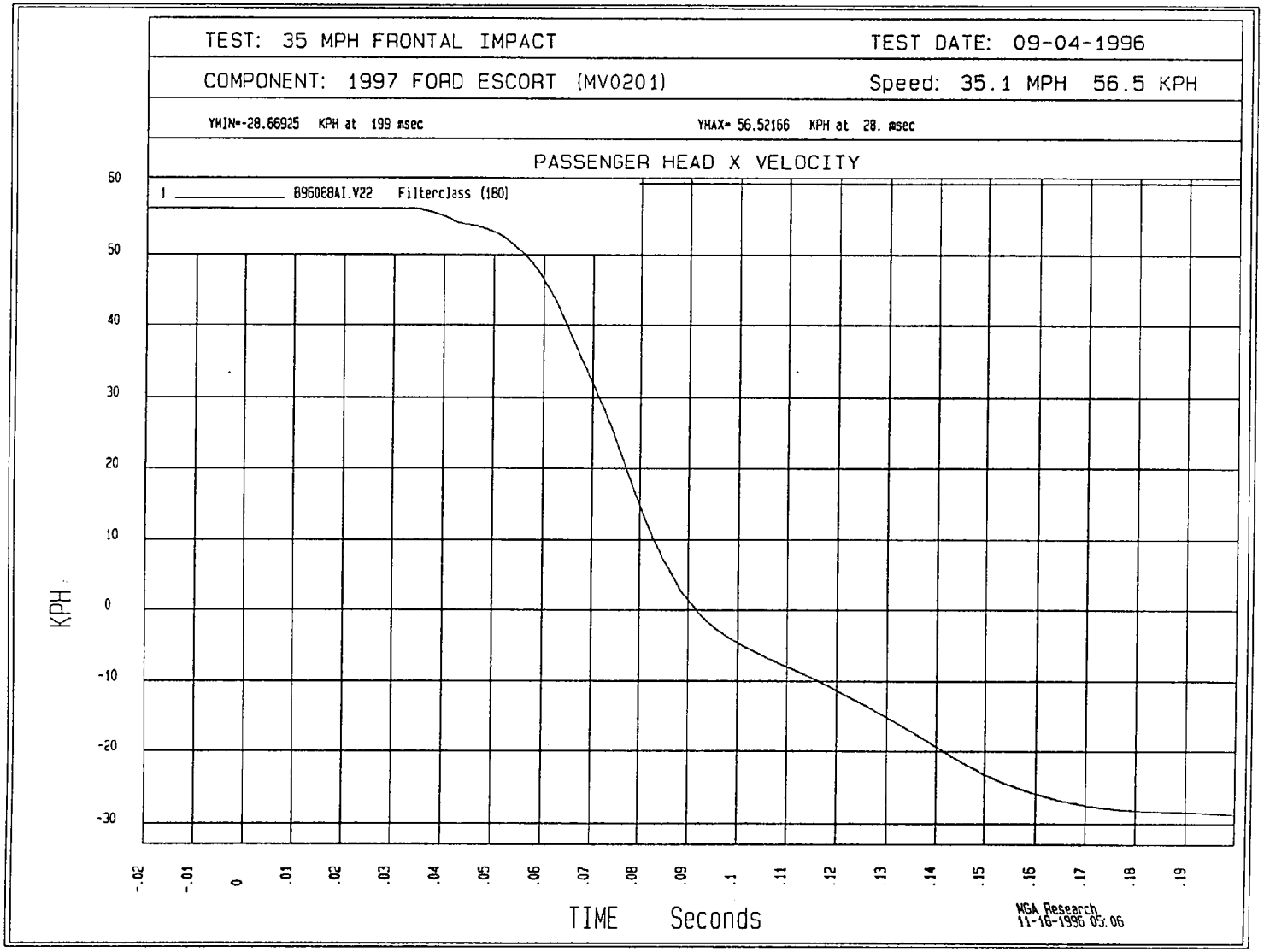

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-68.33227 G'S at 60. msec
YMAX= 236.5516 G'S at 40. msec
DRIVER RIGHT FOOT HEEL Z ACCELERATION
1 C96088AF.A03 Filterclass (1000)
240
220
200
180
160
140
120
100
80
60
40
20
0
-20
-40
-60
-80
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
TIME (seconds)
MGA Research
11-18-1996 05:14

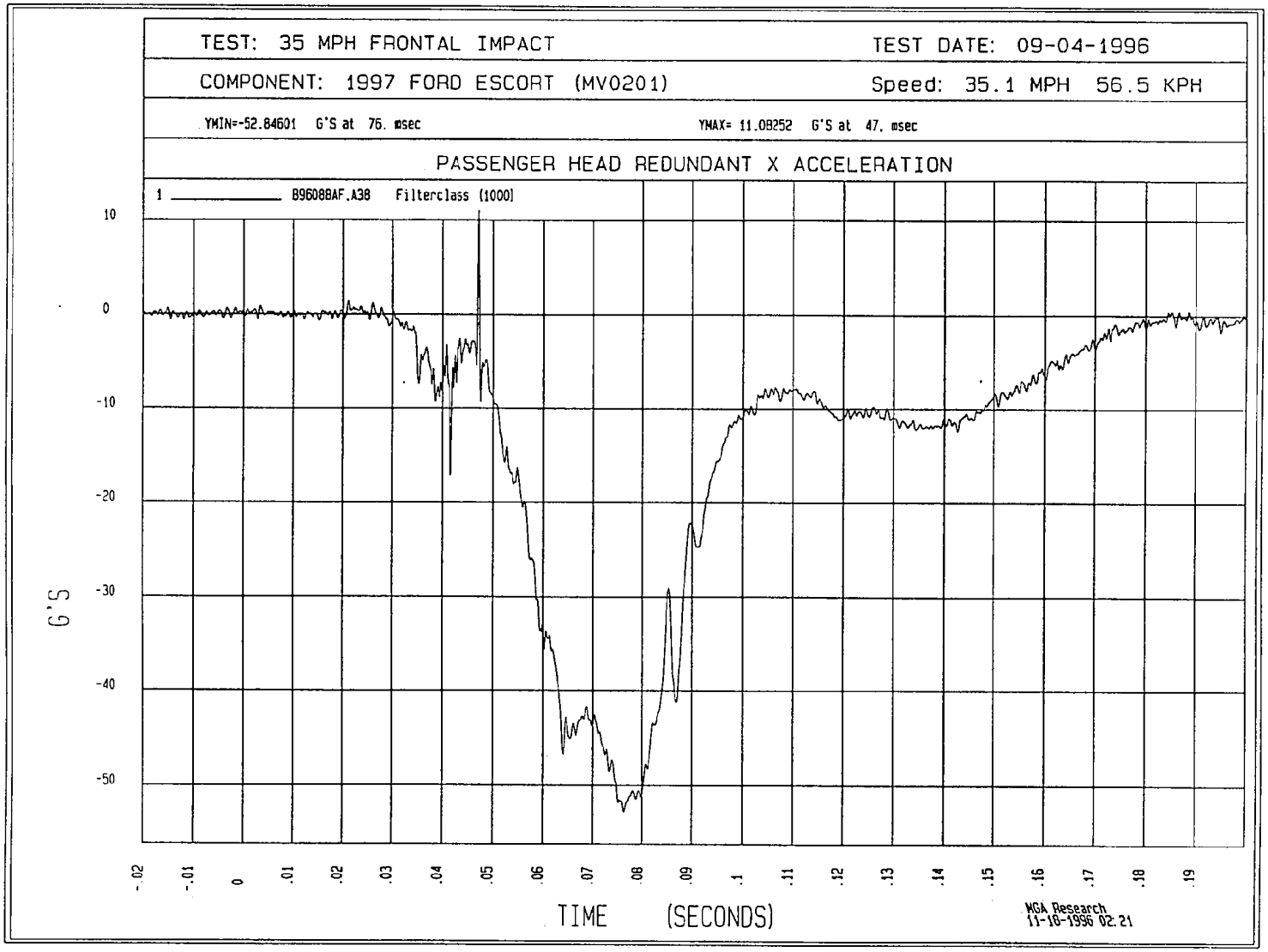

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-52.05055 G'S at 75. msec
YMAX= .5017599 G'S at 27. msec
PASSENGER HEAD X ACCELERATION
1 _____ B9608AF.A22 Filterclass (1000)
0
-10
-20
-30
-40
-50
G'S
TIME (SECONDS)
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
MGA Research
11-18-1996 02:21

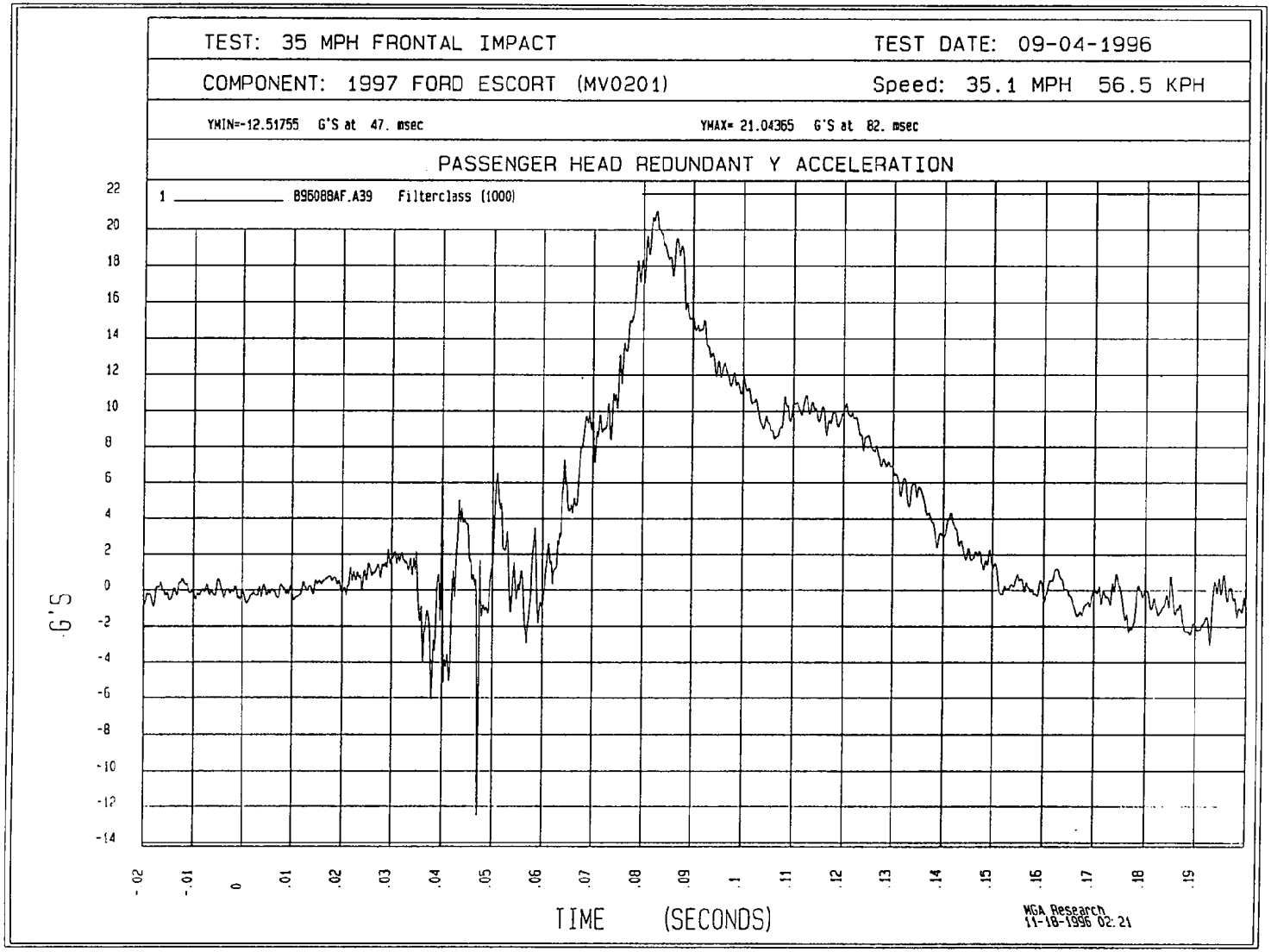

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-6.32263 G'S at 38 msec
YMAX= 20.9936 G'S at 83 msec
PASSENGER HEAD Y ACCELERATION
1 B96008AF.A23 Filterclass (1000)
G'S
TIME (SECONDS)
MGA Research
11-18-1996 02:21

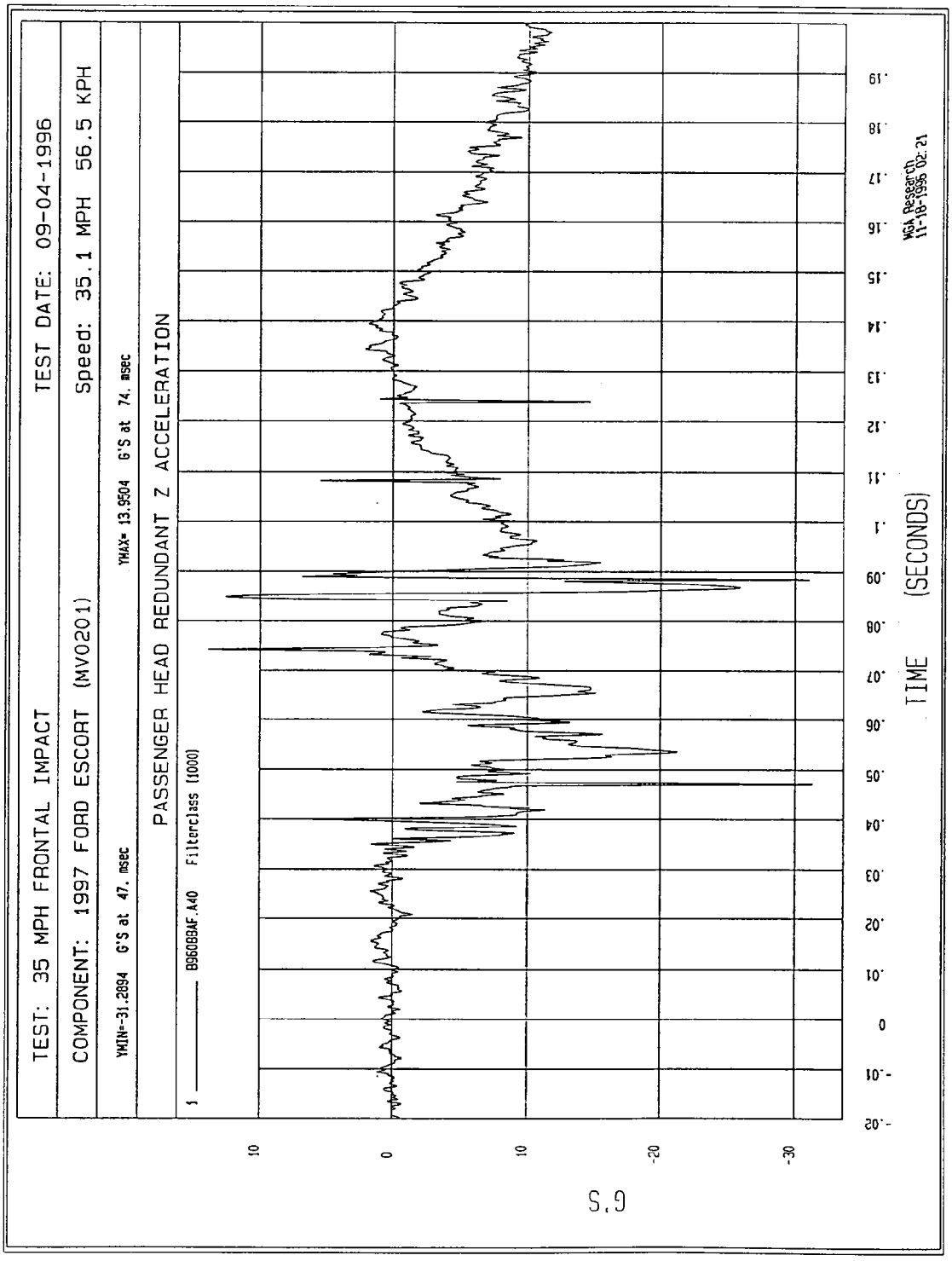

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-25.83913 G'S at 87 msec
YMAX= 13.4921 G'S at 85. msec
PASSENGER HEAD Z ACCELERATION
1 _____ 8960B8AF.A24 Filterclass (1000)
10
0
-10
-20
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
11-18-1996 02:21

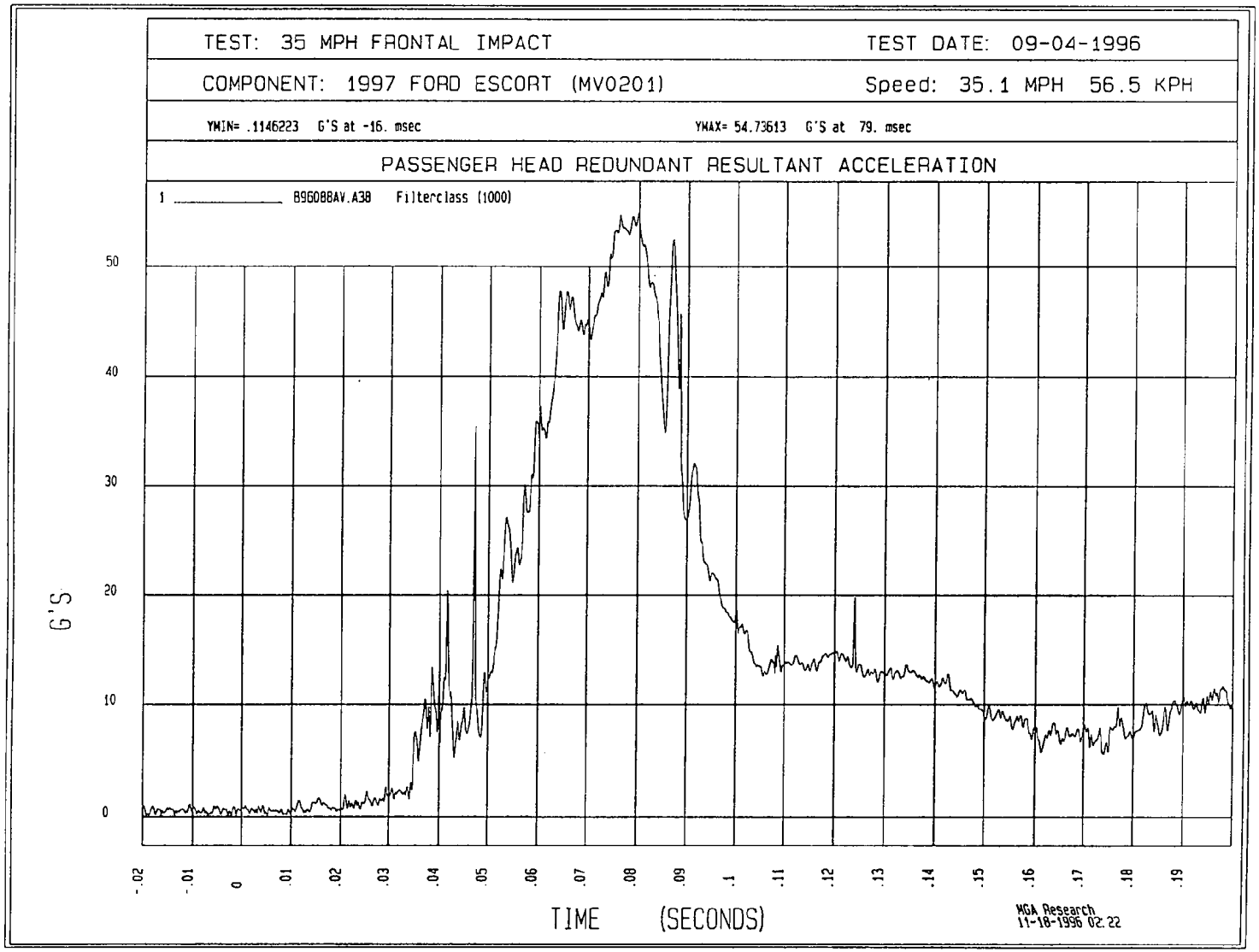

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN= 5.976916E-02 G'S at -1.9 msec
YMAX= 54.95424 G'S at 79. msec
PASSENGER HEAD RESULTANT ACCELERATION
1 B96068AV.A22 Filterclass (1000)
G'S
TIME (SECONDS)
MGA Research
11-18-1996 02:21

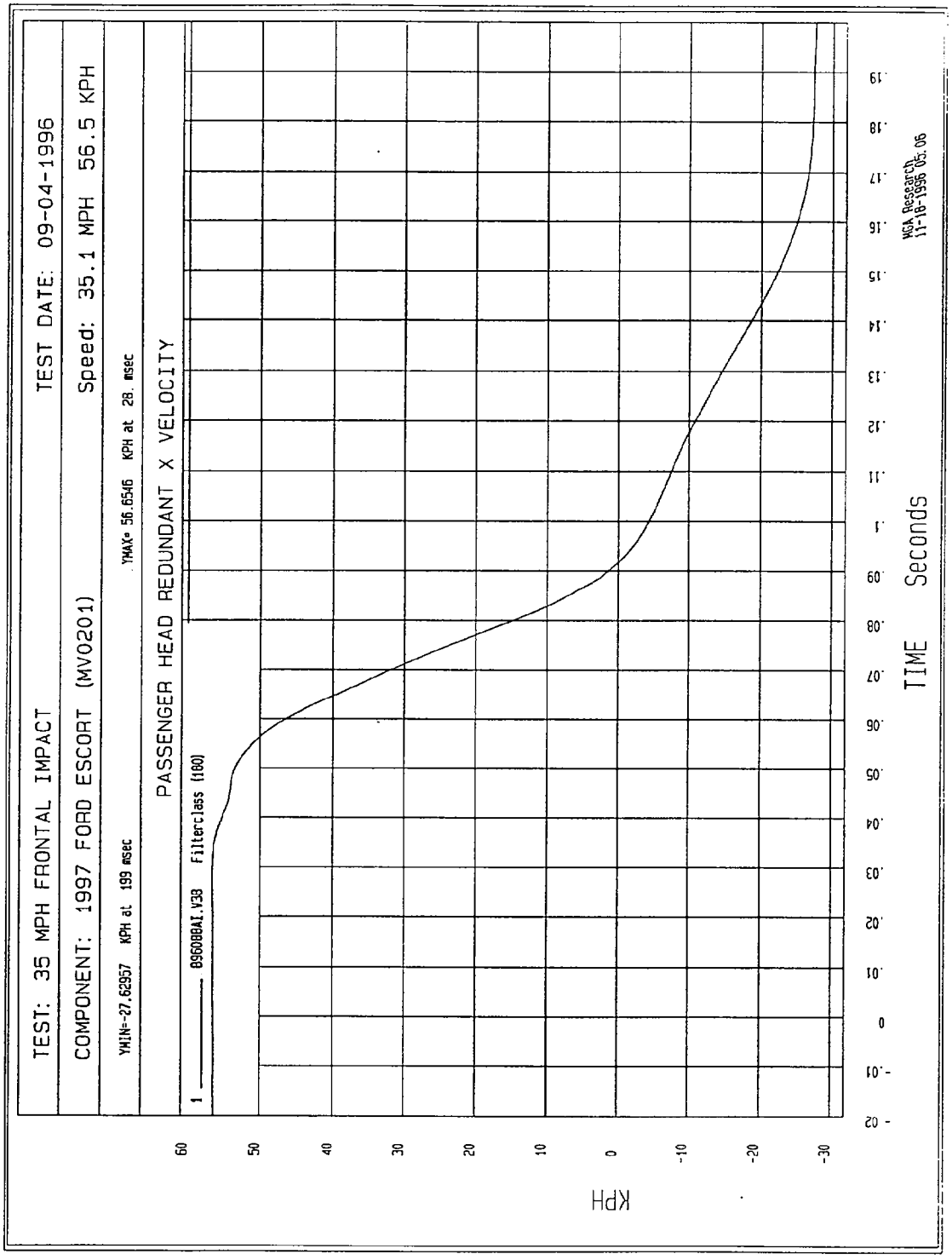

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-28.66925 KPH at 199 msec
YMAX= 56.52166 KPH at 28. msec
PASSENGER HEAD X VELOCITY
1 B96088AI.V22 Filterclass (180)
KPH
60
50
40
30
20
10
0
-10
-20
-30
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME Seconds
MGA Research
11-18-1996 05:06

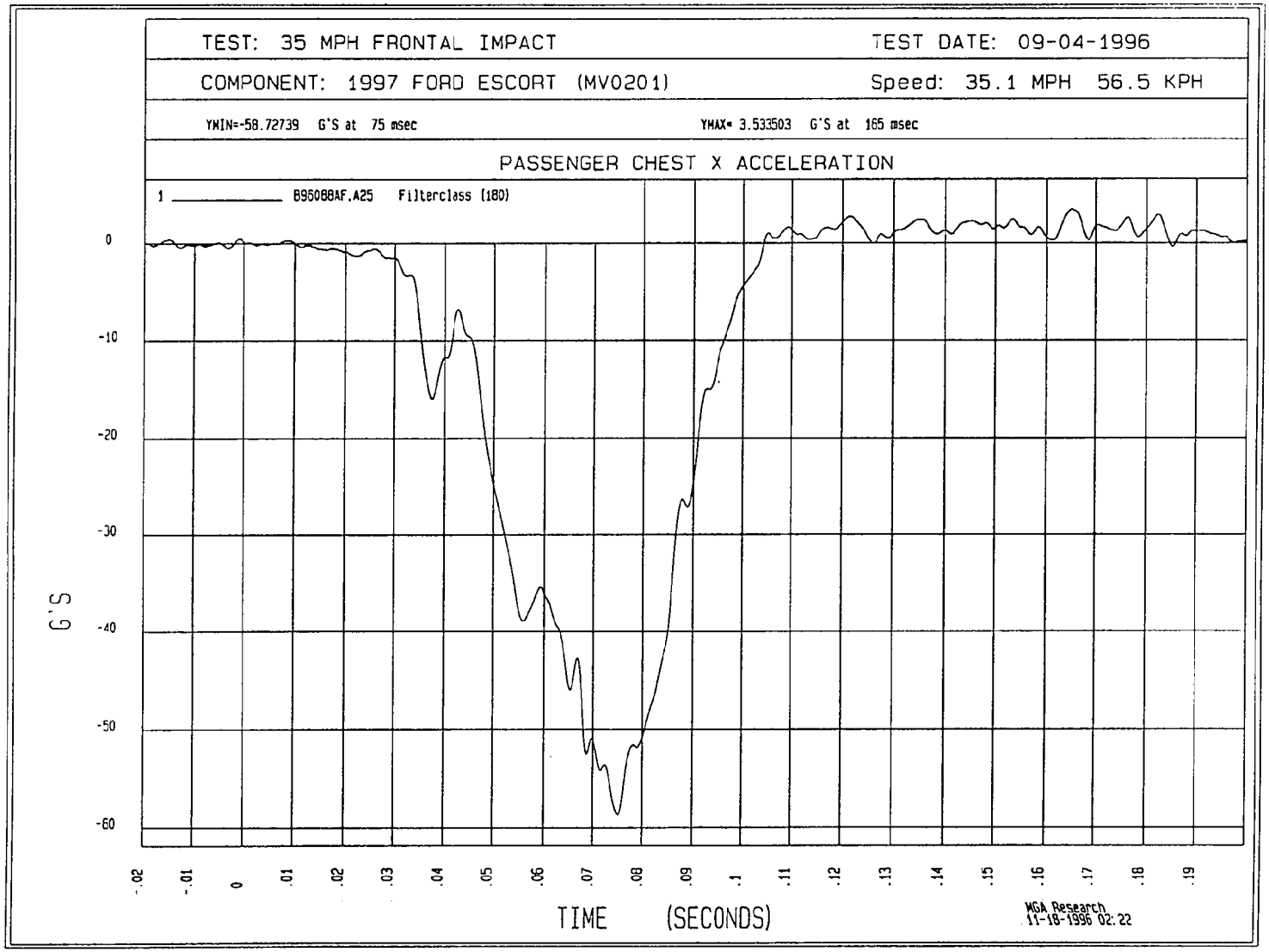

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-52.84601 G'S at 76. msec
YMAX= 11.08252 G'S at 47. msec
PASSENGER HEAD REDUNDANT X ACCELERATION
1 B96088AF.A38 Filterclass (1000)
10
0
-10
-20
-30
-40
-50
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
11-18-1996 02:21


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-12.51755 G'S at 47. msec
YMAX= 21.04365 G'S at 82. msec
PASSENGER HEAD REDUNDANT Y ACCELERATION
1 B96088AF.A39 Filterclass (1000)
G'S
TIME (SECONDS)
MGA Research
11-18-1996 02:21


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-31.2894 G'S at 47. msec
YMAX= 13.9504 G'S at 74. msec
PASSENGER HEAD REDUNDANT Z ACCELERATION
1 B9608AF.A40 Filterclass (1000)
10
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)
MGA Research
11-10-1995 02:21


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN= .1146223 G'S at -16. msec
YMAX= 54.73613 G'S at 79. msec
PASSENGER HEAD REDUNDANT RESULTANT ACCELERATION
1 B96088AV.A38 Filterclass (1000)
G'S
50
40
30
20
10
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
11-18-1996 02:22


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-27.62957 KPH at 199 msec
YMAX= 56.6546 KPH at 28. msec
PASSENGER HEAD REDUNDANT X VELOCITY
1 _____ 89608BAI.V38 Filterclass (180)
KPH
TIME Seconds
MGA Research
11-18-1996 06:06


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-58.72739 G'S at 75 msec
YMAX= 3.533503 G'S at 165 msec
PASSENGER CHEST X ACCELERATION
1 B95088AF,A25 Filterclass (180)
0
-10
-20
-30
-40
-50
-60
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
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.12
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.14
.15
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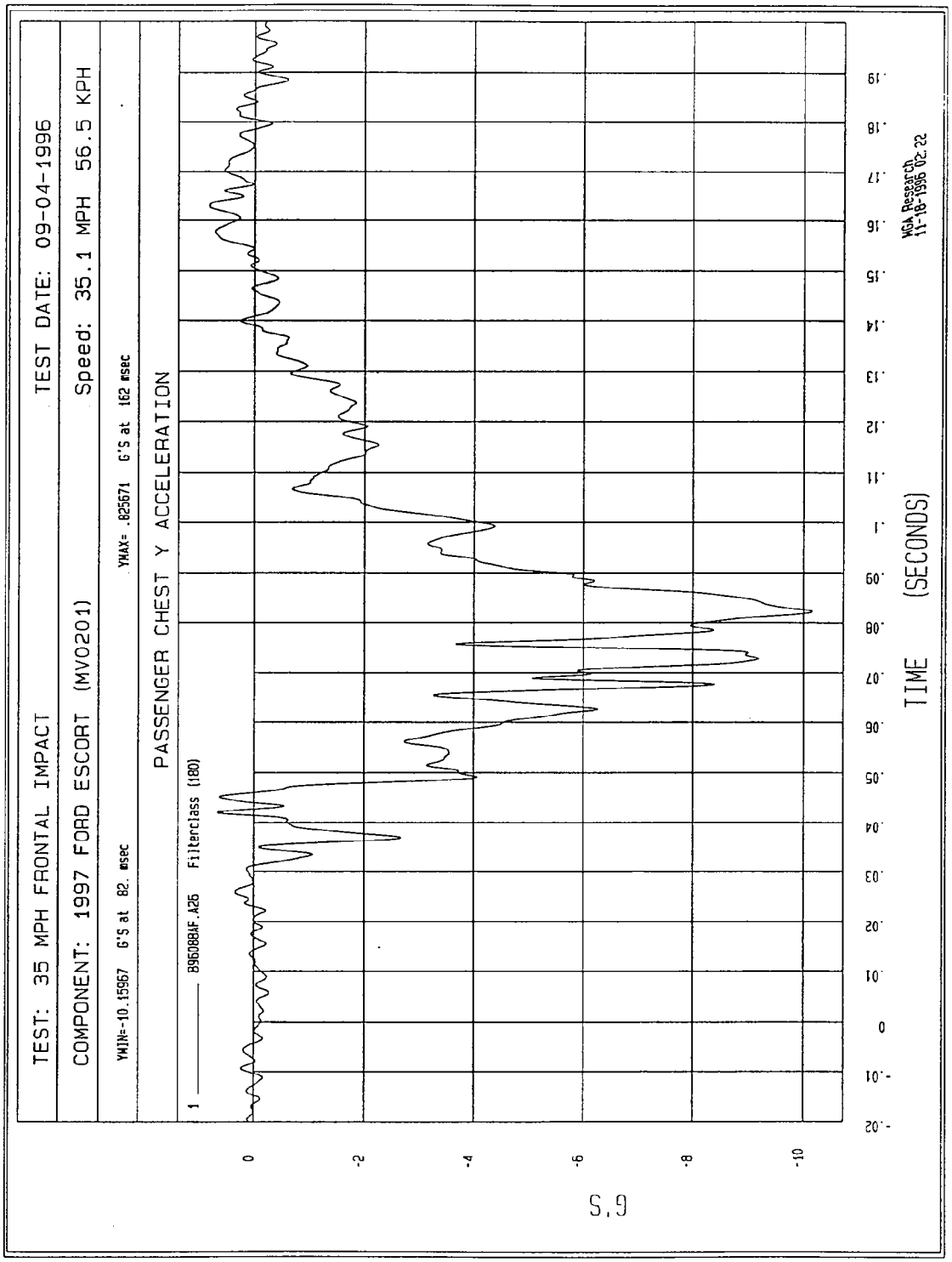
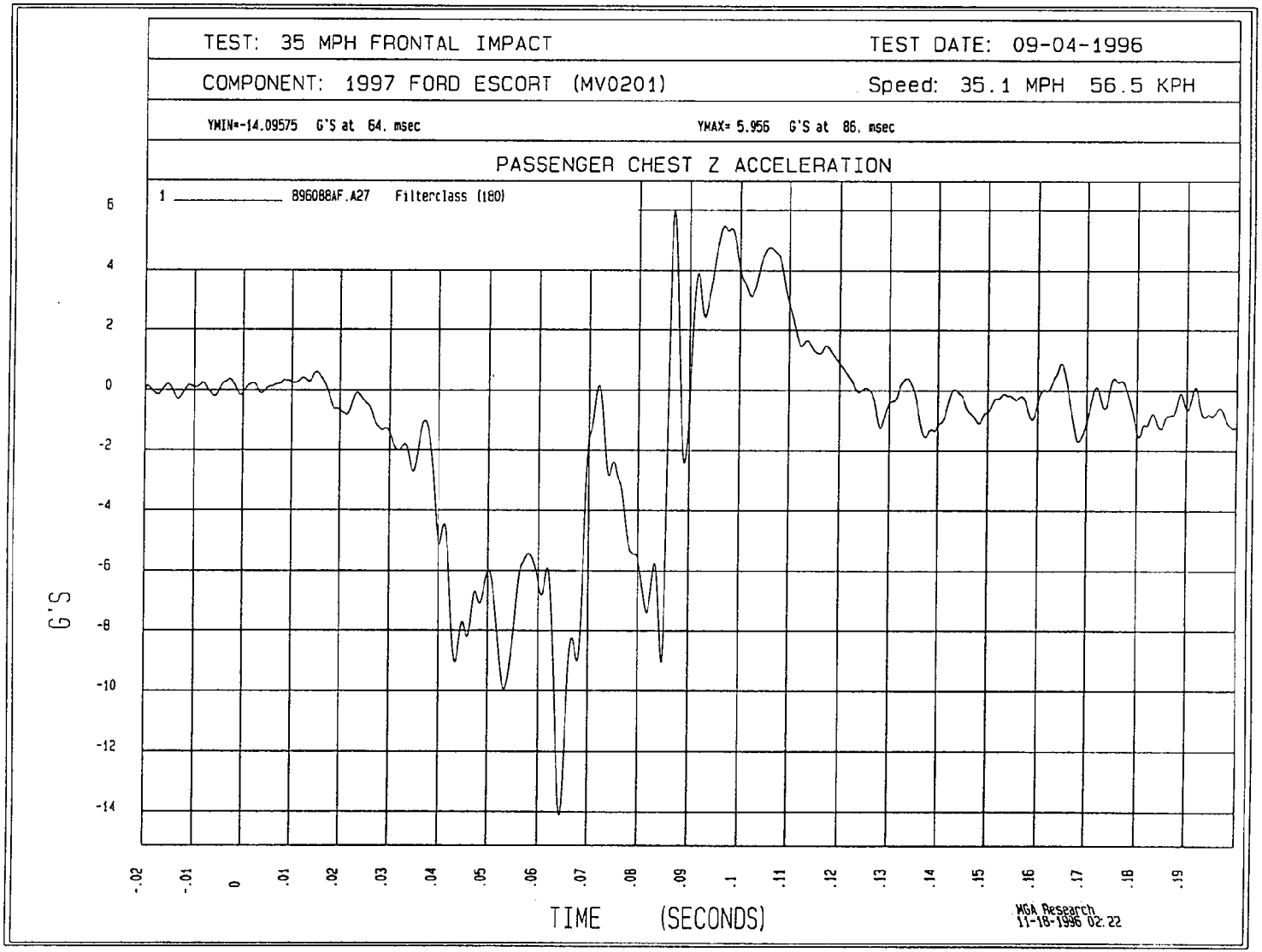
.17
.18
.19
TIME (SECONDS)
MGA Research
11-18-1996 02:22


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-10.15967 G'S at 82. msec
YMAX= .825671 G'S at 162 msec
PASSENGER CHEST Y ACCELERATION
1 B96088AF.A26 Filterclass (180)
0
-2
-4
-6
-8
-10
.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
11-18-1996 02:22

S.9


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-14.09575 G'S at 64. msec
YMAX= 5.956 G'S at 86. msec
PASSENGER CHEST Z ACCELERATION
1 896088AF.A27 Filterclass (180)
G'S
6
4
2
0
-2
-4
-6
-8
-10
-12
-14
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
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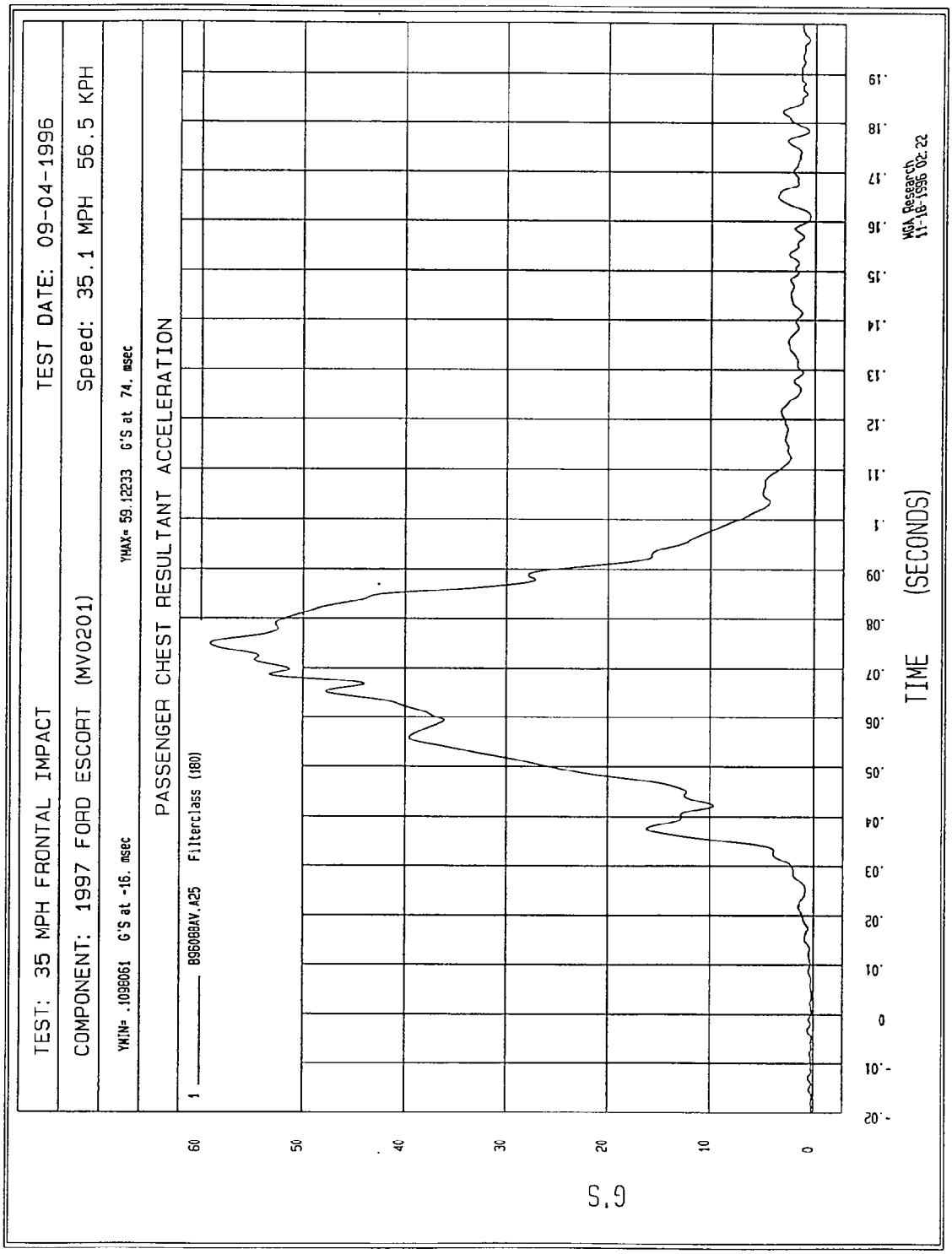
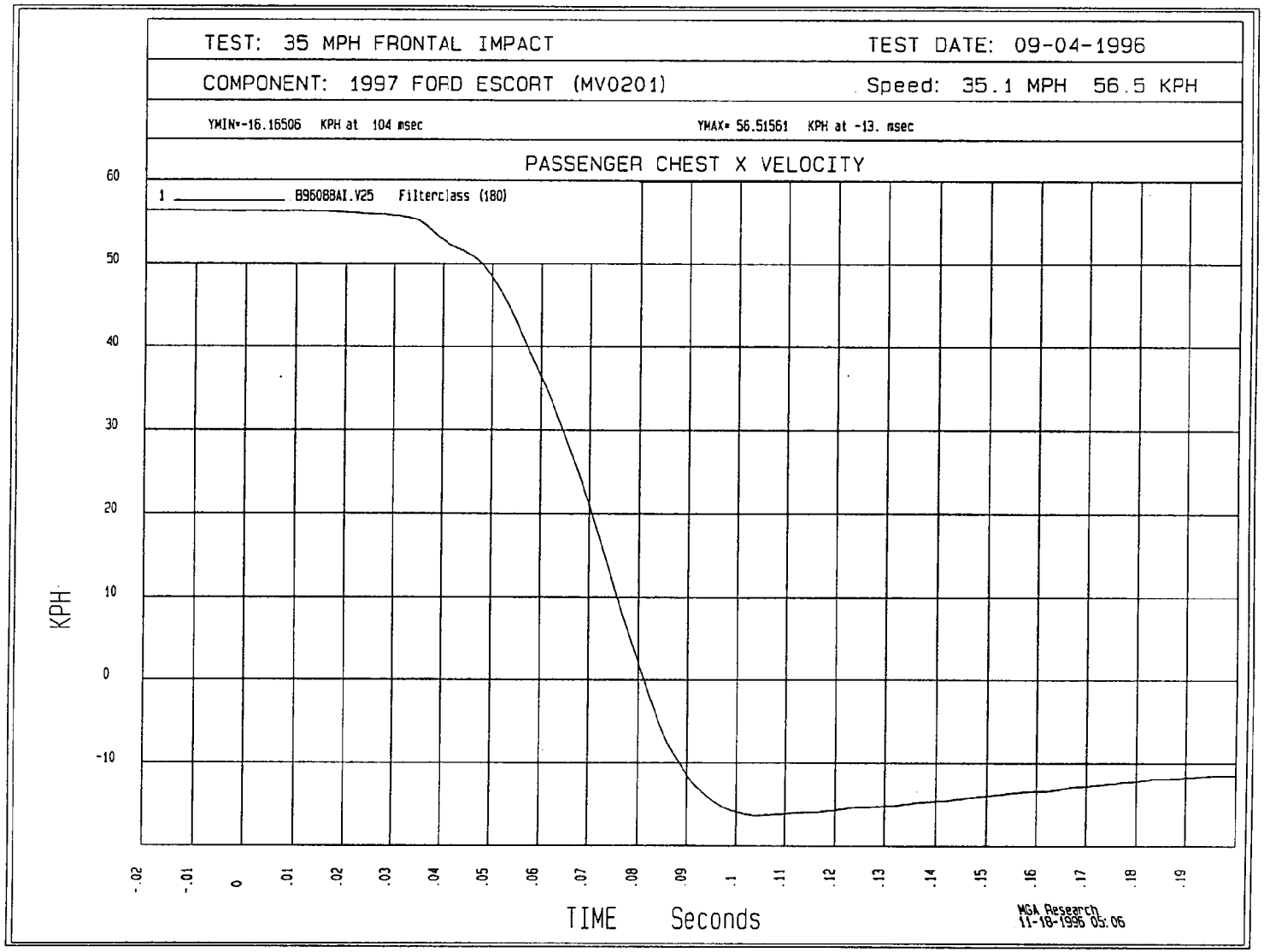
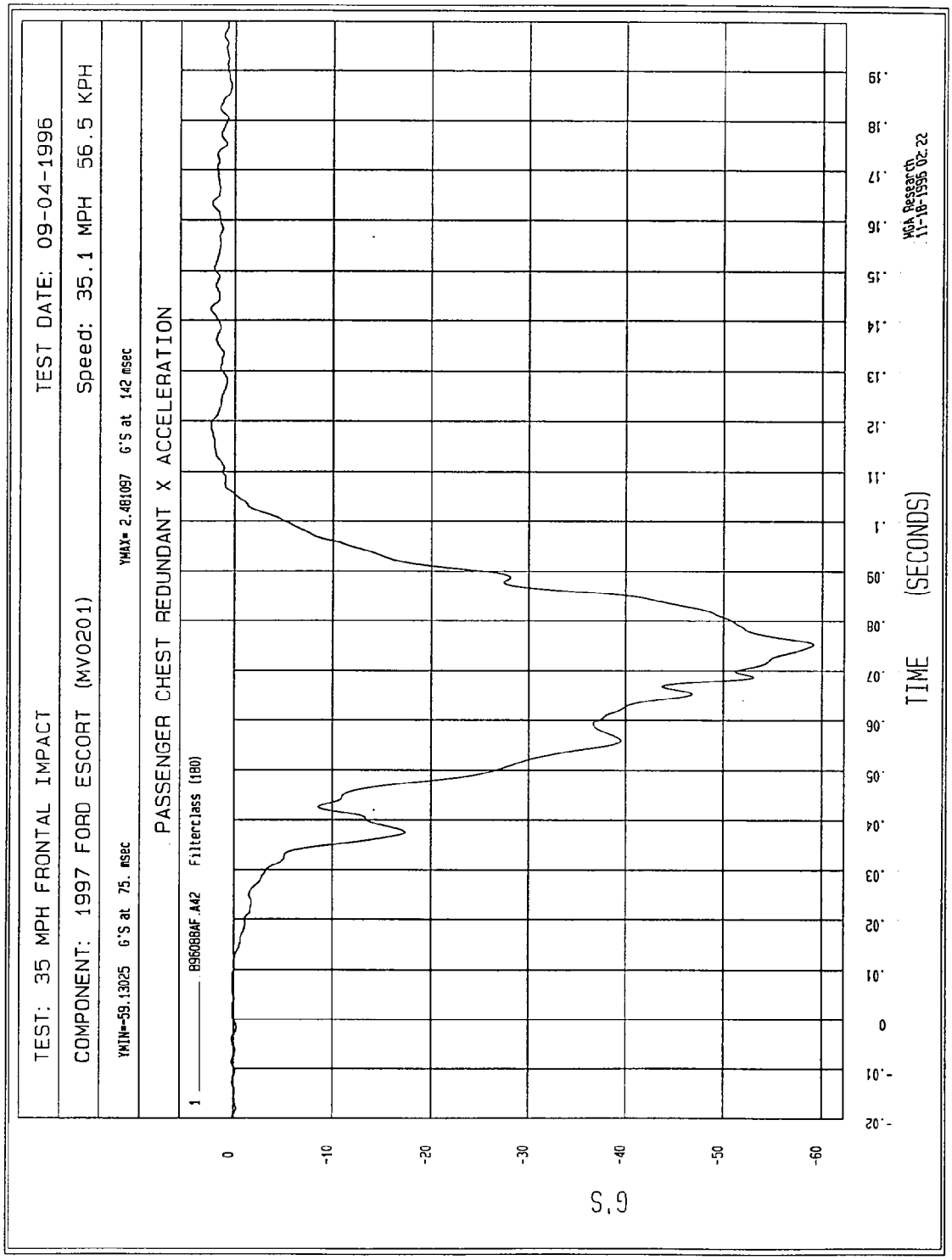
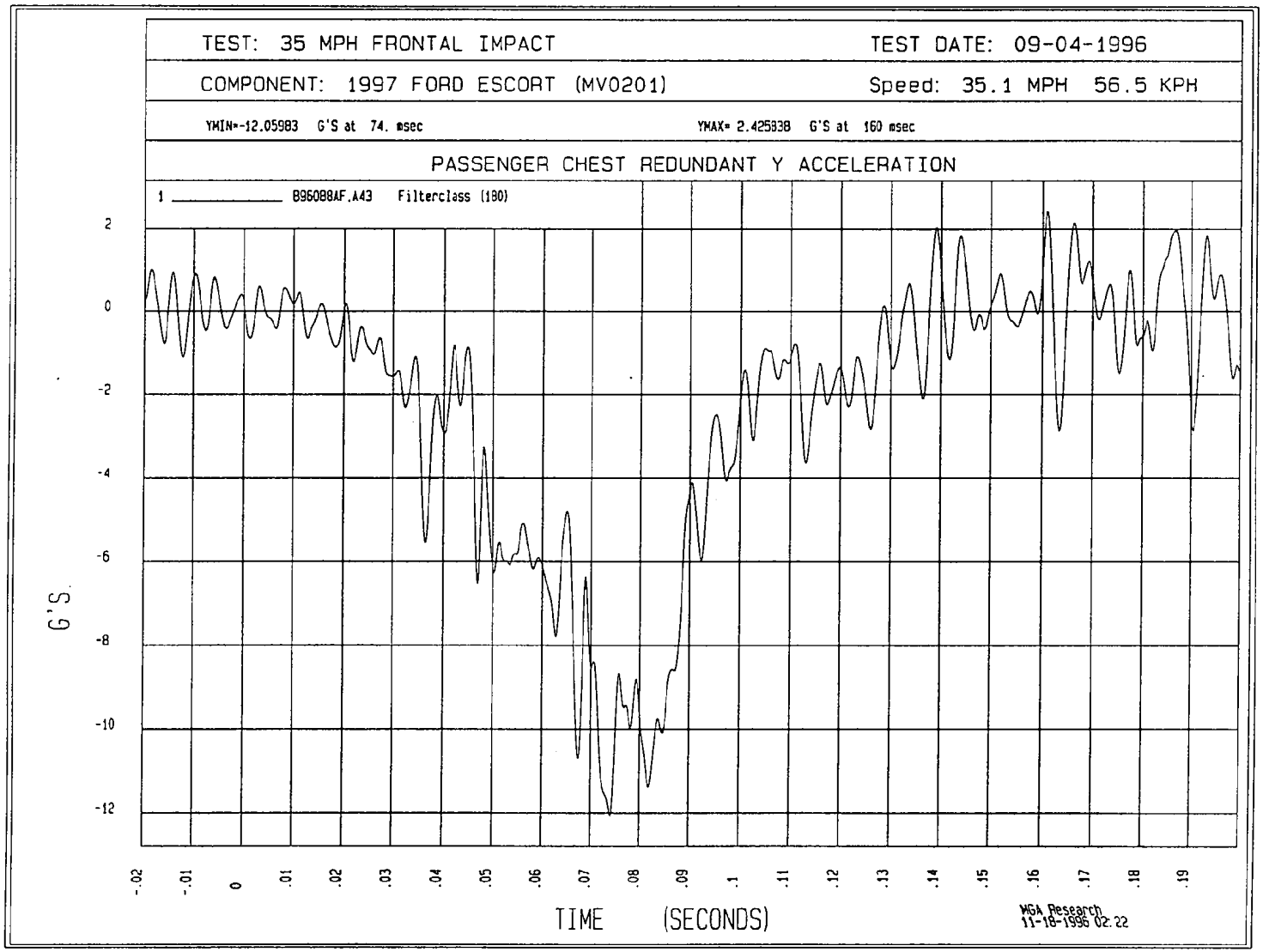
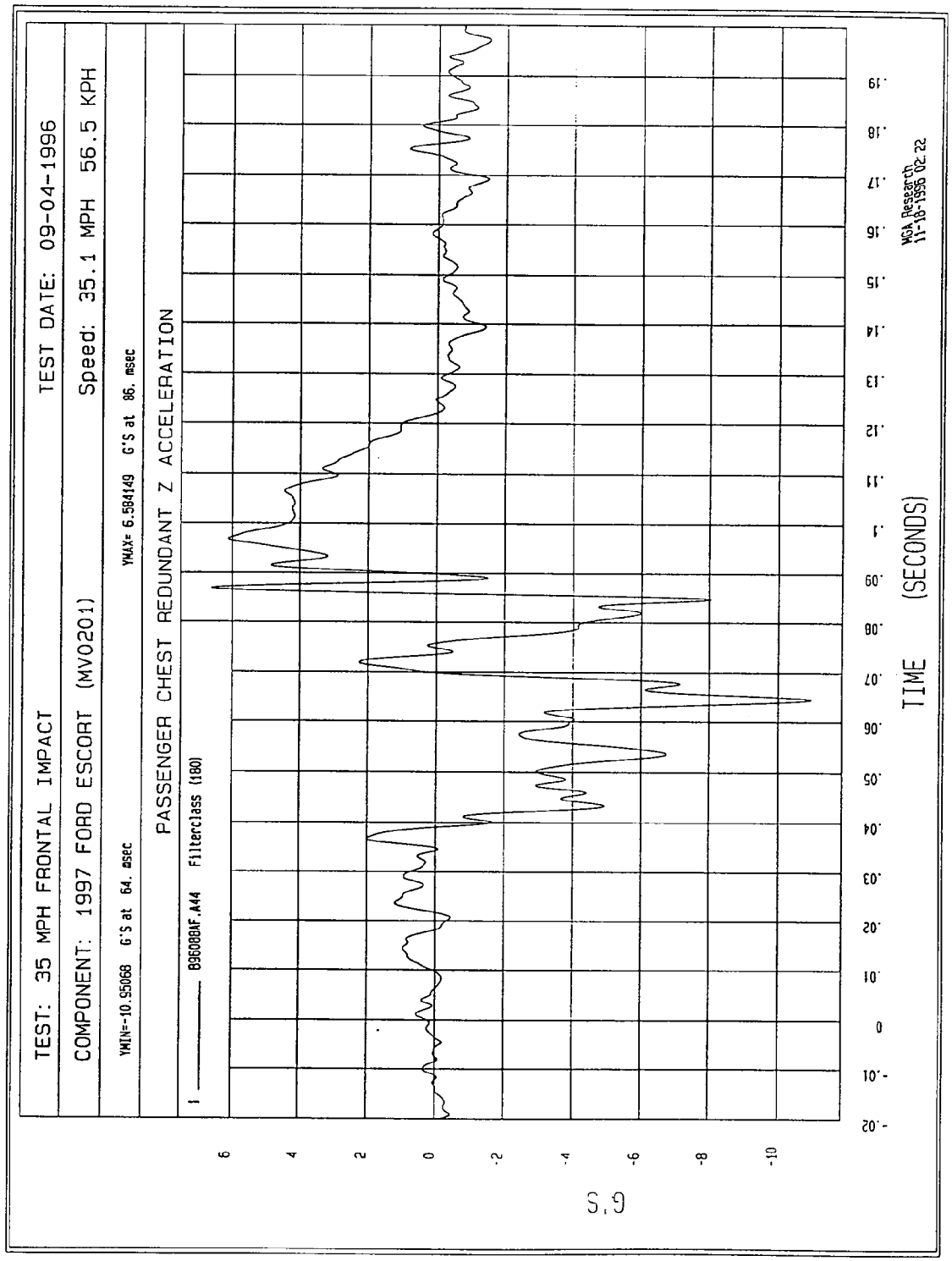
.18
.19
TIME (SECONDS)
MGA Research
11-18-1996 02:22

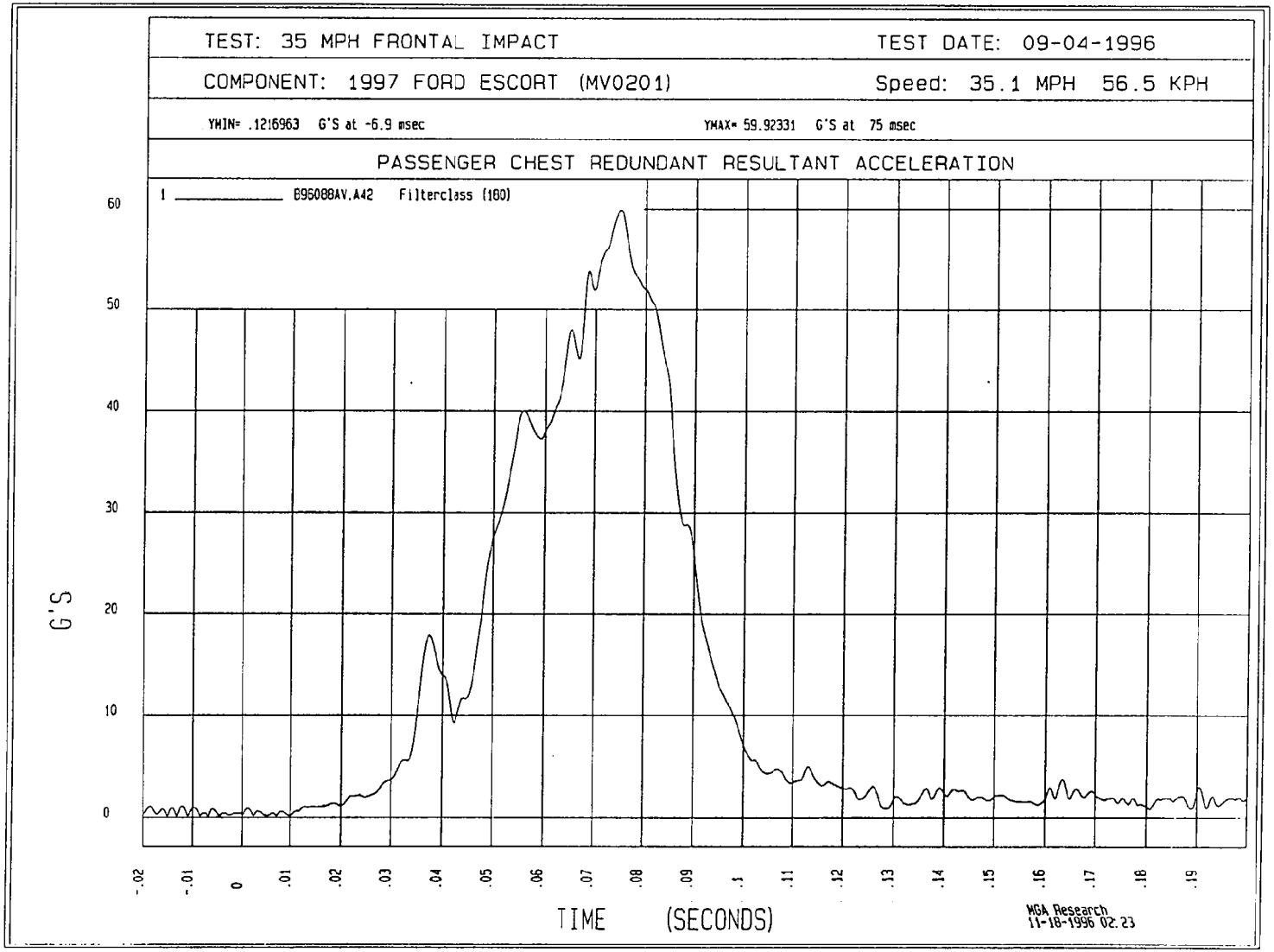

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN= .1098061 G'S at -16. msec
YMAX= 59.12233 G'S at 74. msec
PASSENGER CHEST RESULTANT ACCELERATION
1 B9608BAV.A25 Filterclass (180)
60
50
40
30
20
10
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
11-18-1996 02:22
G's

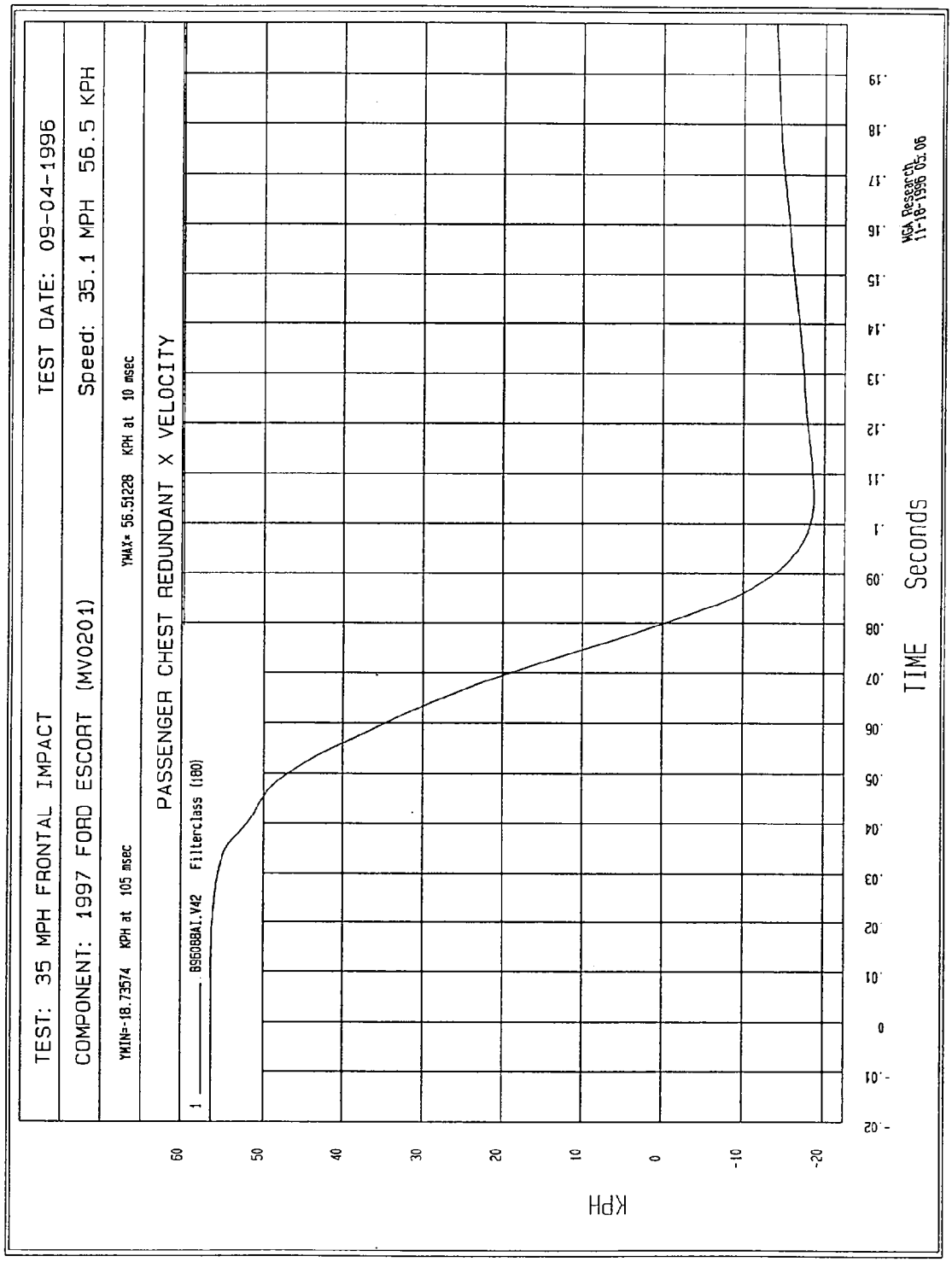

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-16.16506 KPH at 104 msec
YMAX= 56.51561 KPH at -13. msec
PASSENGER CHEST X VELOCITY
1 B96088AI.V25 Filterclass (180)
KPH
60
50
40
30
20
10
0
-10
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME Seconds
MGA Research
11-18-1996 05:06

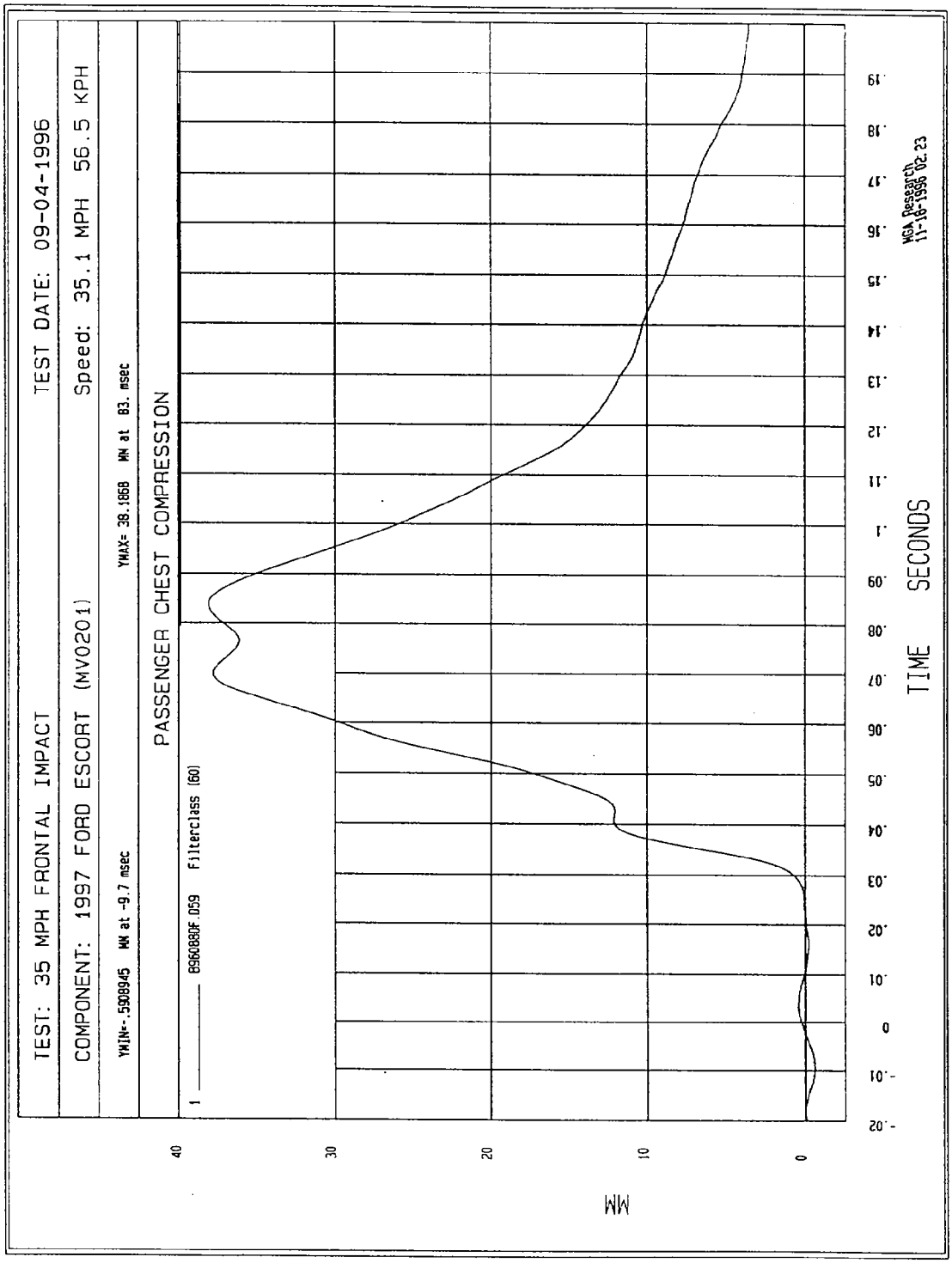

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-59.13025 G'S at 75. msec
YMAX= 2.481097 G'S at 142 msec
PASSENGER CHEST REDUNDANT X ACCELERATION
1 B9608BAF.A42 Filterclass (180)
0
-10
-20
-30
-40
-50
-60
G'S
.19
.18
.17
.16
.15
.14
.13
.12
.11
.1
.09
.08
.07
.06
.05
.04
.03
.02
.01
0
-.01
-.02
TIME (SECONDS)
MGA Research
11-18-1996 02:22

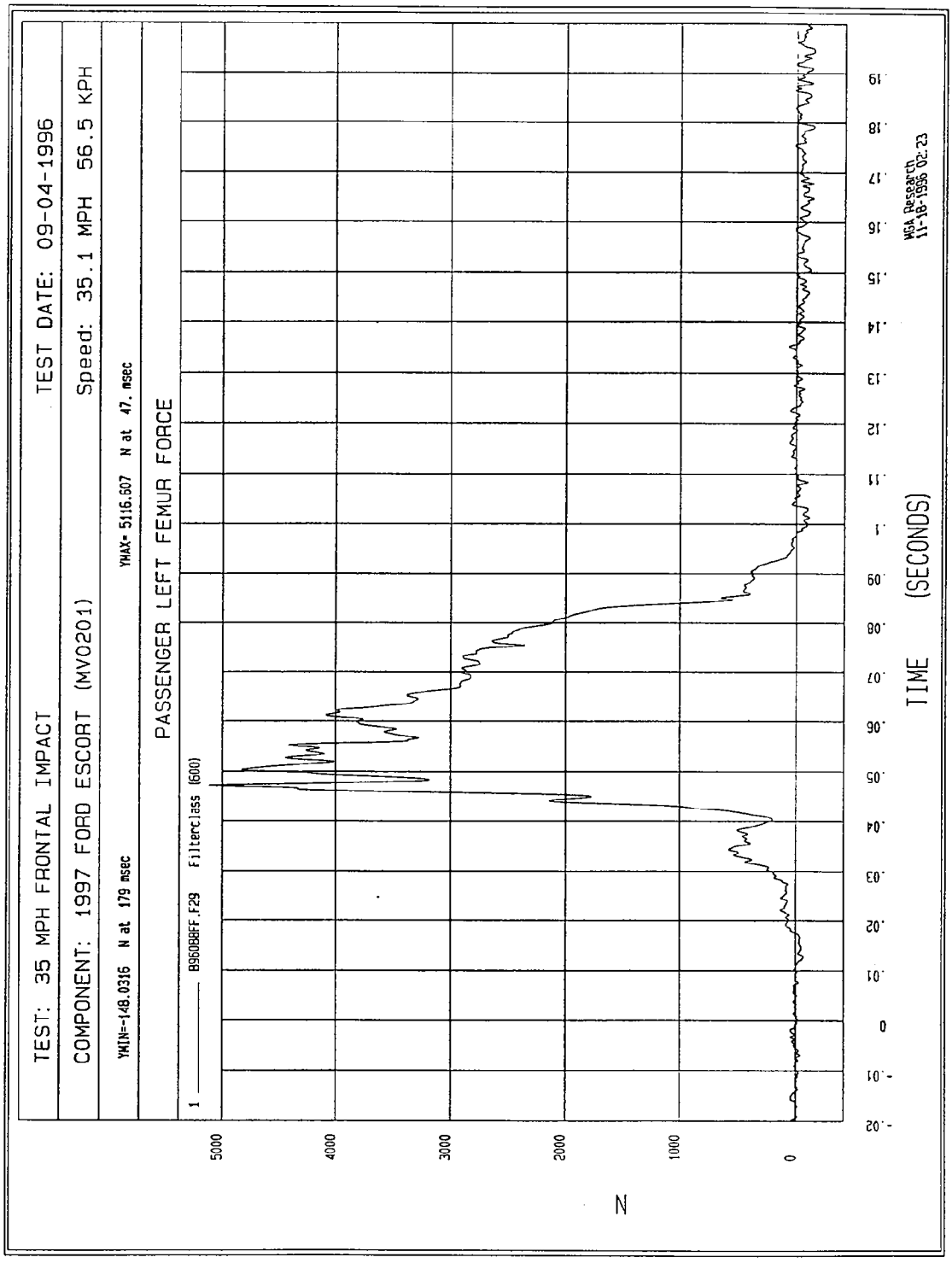

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-12.05983 G'S at 74. msec
YMAX= 2.425838 G'S at 160 msec
PASSENGER CHEST REDUNDANT Y ACCELERATION
1 B96088AF.A43 Filterclass (180)
2
0
-2
-4
-6
-8
-10
-12
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
11-18-1996 02:22

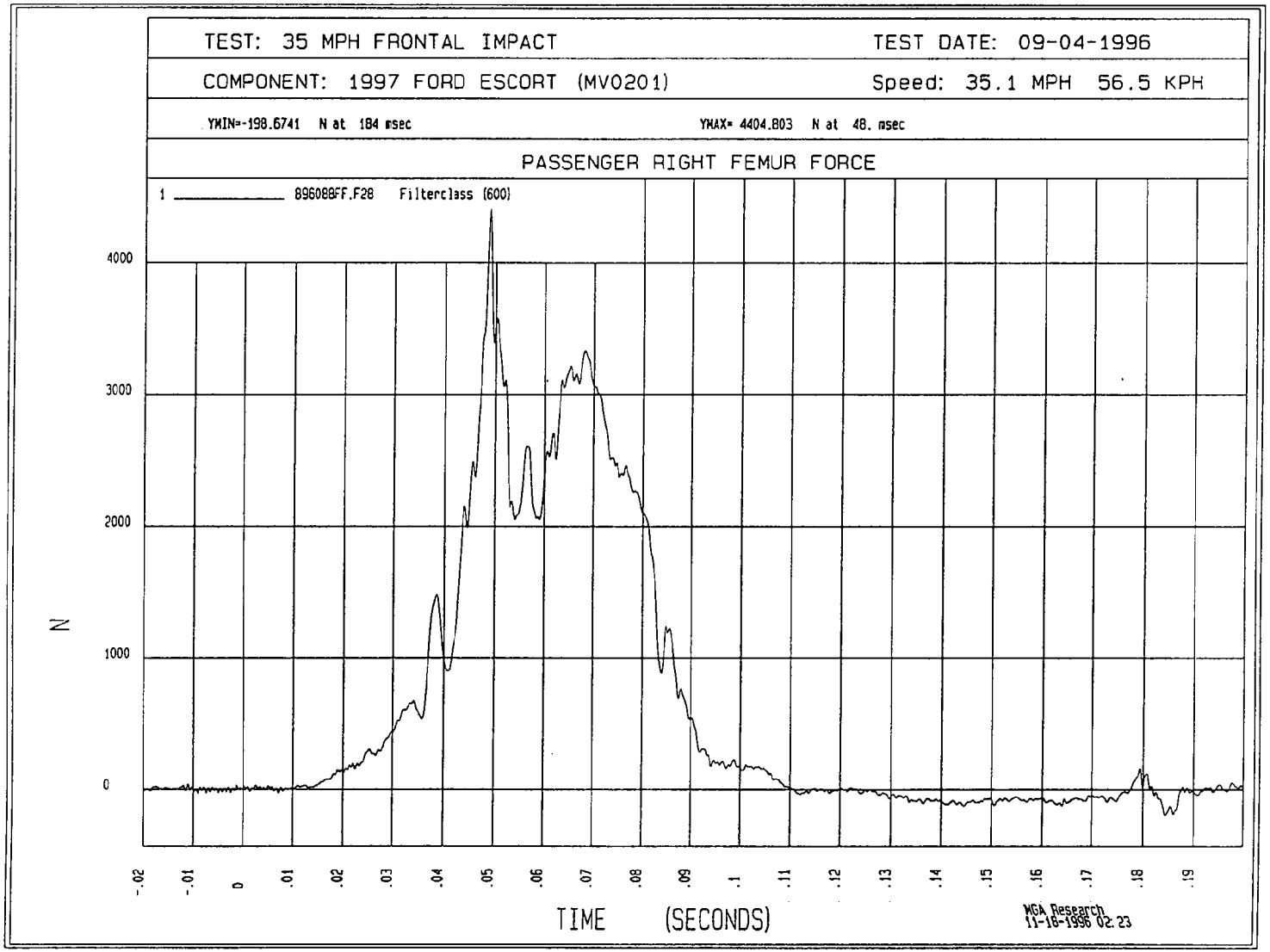

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-10.95068 G'S at 64. msec
YMAX= 6.584149 G'S at 86. msec
PASSENGER CHEST REDUNDANT Z ACCELERATION
1 _____ B96008AF.A44 Filterclass (180)
6
4
2
0
-2
-4
-6
-8
-10
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
11-16-1996 02:22

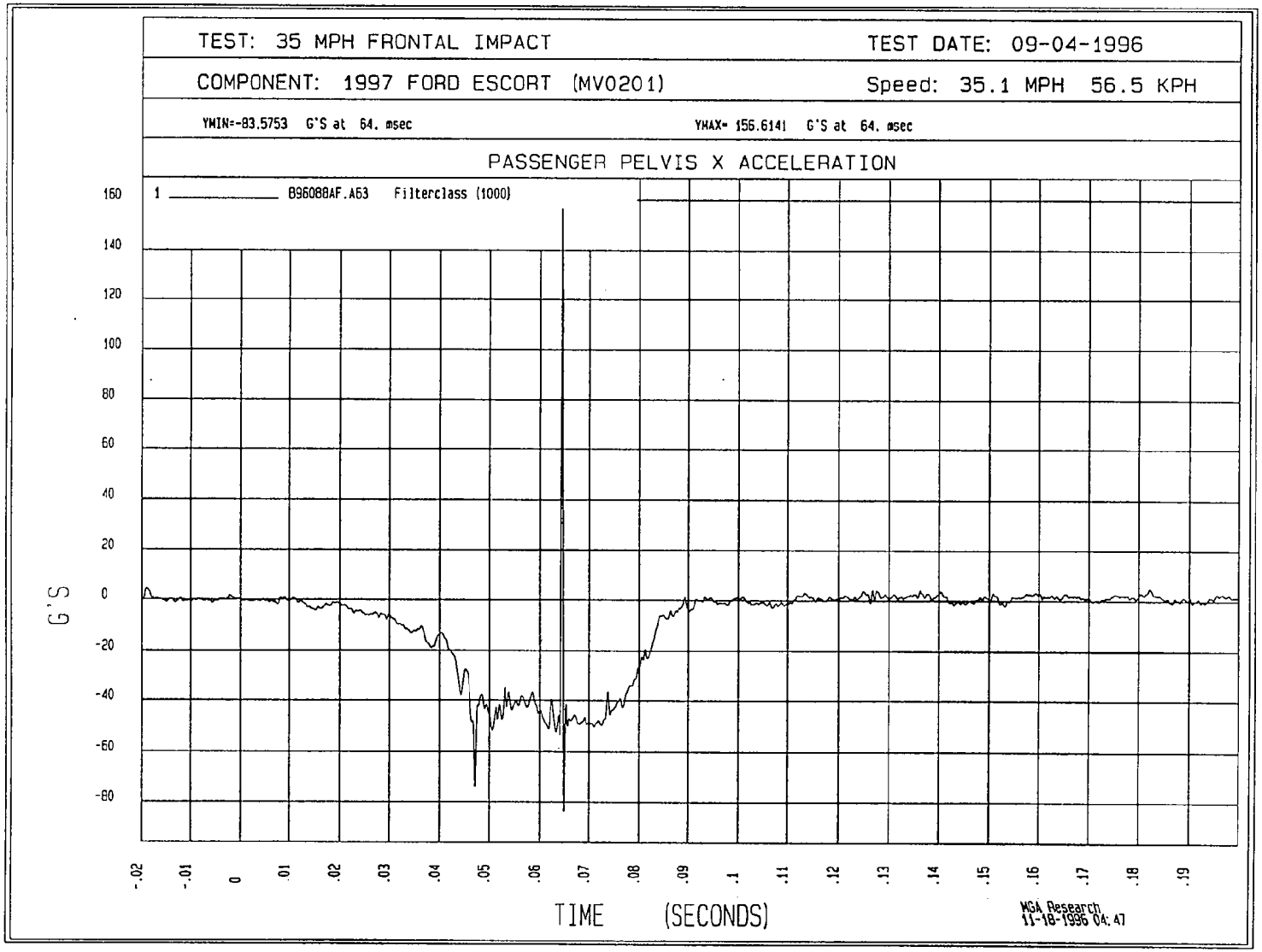

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN= .1216963 G'S at -6.9 msec
YMAX= 59.92331 G'S at 75 msec
PASSENGER CHEST REDUNDANT RESULTANT ACCELERATION
1 B95088AV.A42 Filterclass (180)
G'S
60
50
40
30
20
10
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
11-18-1996 02:23

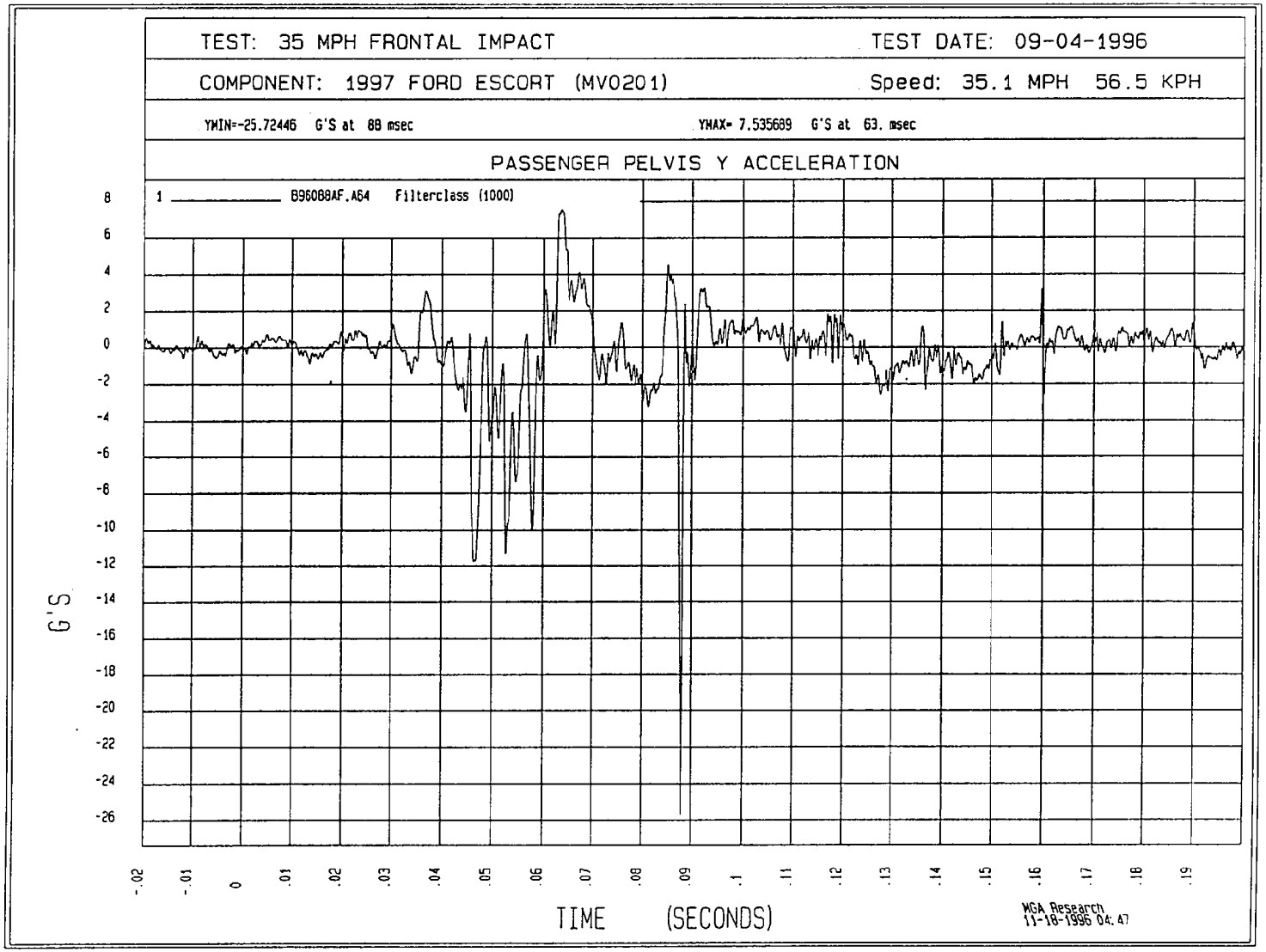

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-18.73574 KPH at 105 msec
YMAX= 56.51228 KPH at 10 msec
PASSENGER CHEST REDUNDANT X VELOCITY
1 B9508BAI.V42 Filterclass (180)
KPH
TIME Seconds
WSA Research
11-18-1996 05:06

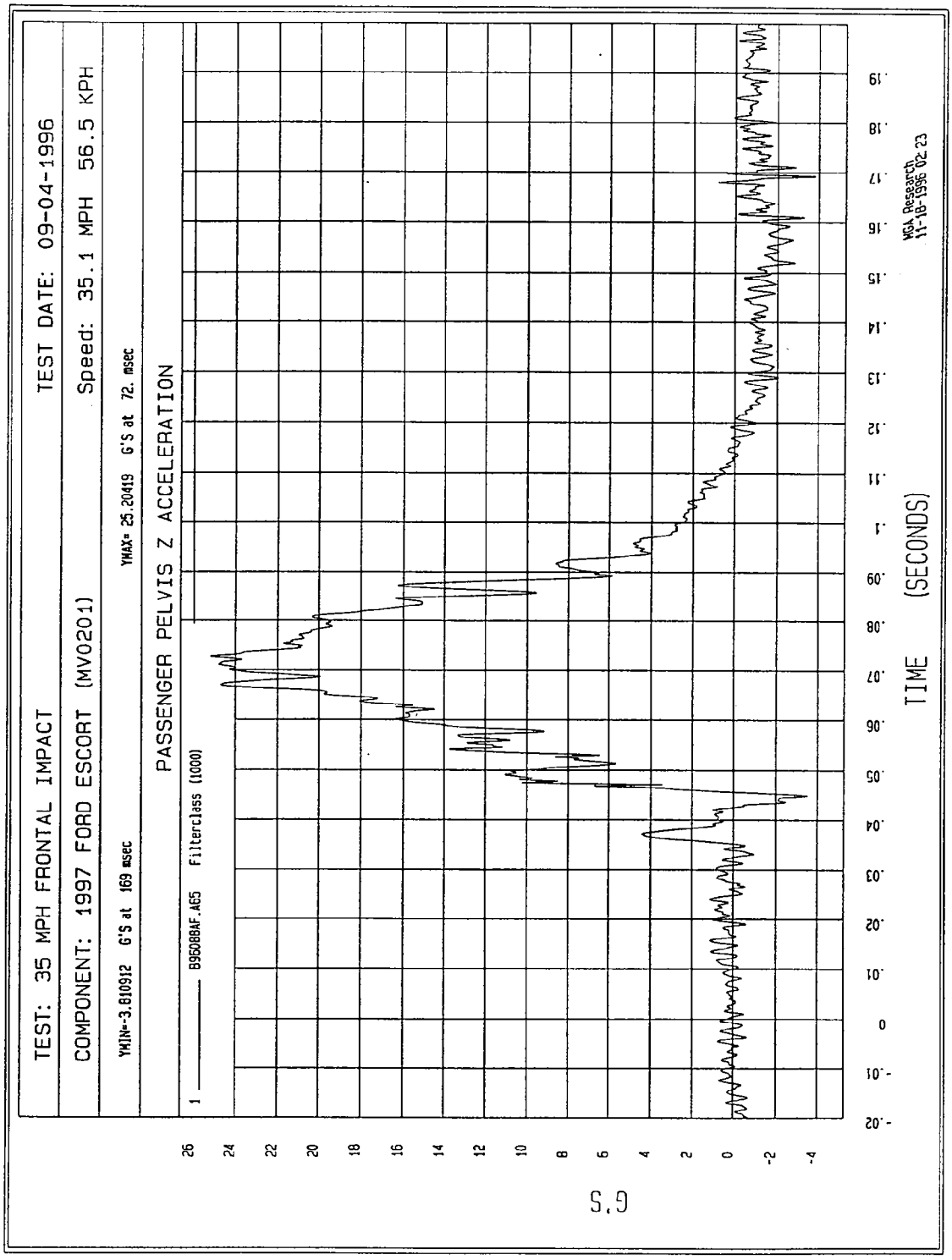

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-.5908945 MM at -9.7 msec
YMAX= 38.1868 MM at 83. msec
PASSENGER CHEST COMPRESSION
1 _____ 896080F 059 Filterclass (60)
MM
TIME SECONDS
MGA Research
11-16-1996 02:23

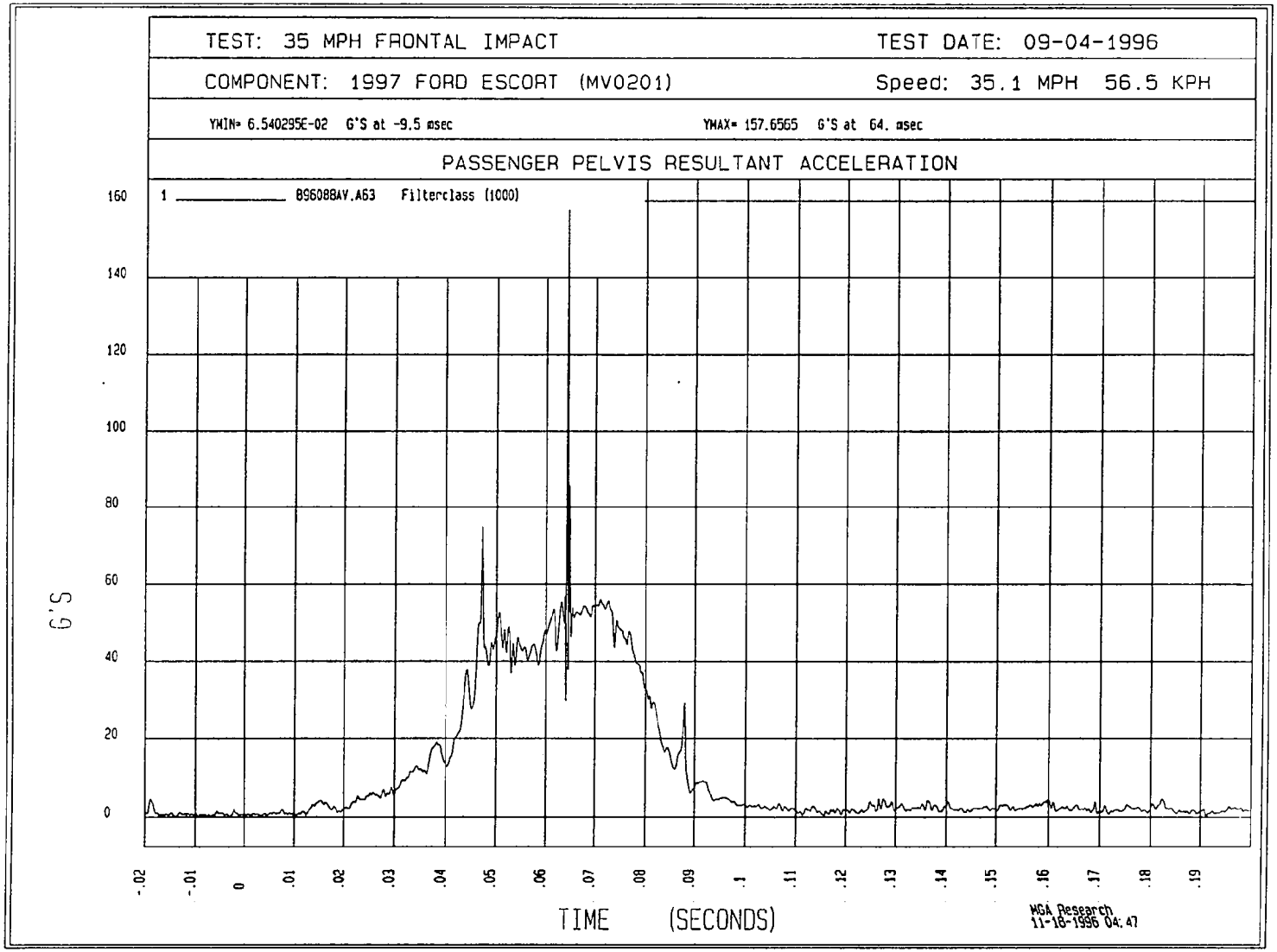

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-148.0316 N at 179 msec
YMAX= 5116.607 N at 47. msec
PASSENGER LEFT FEMUR FORCE
1 B960B8FF.F29 Filterclass (600)
5000
4000
3000
2000
1000
0
N
.19
.18
.17
.16
.15
.14
.13
.12
.11
.1
.09
.08
.07
.06
.05
.04
.03
.02
.01
0
-.01
-.02
TIME (SECONDS)
MGA Research
11-18-1996 02:23

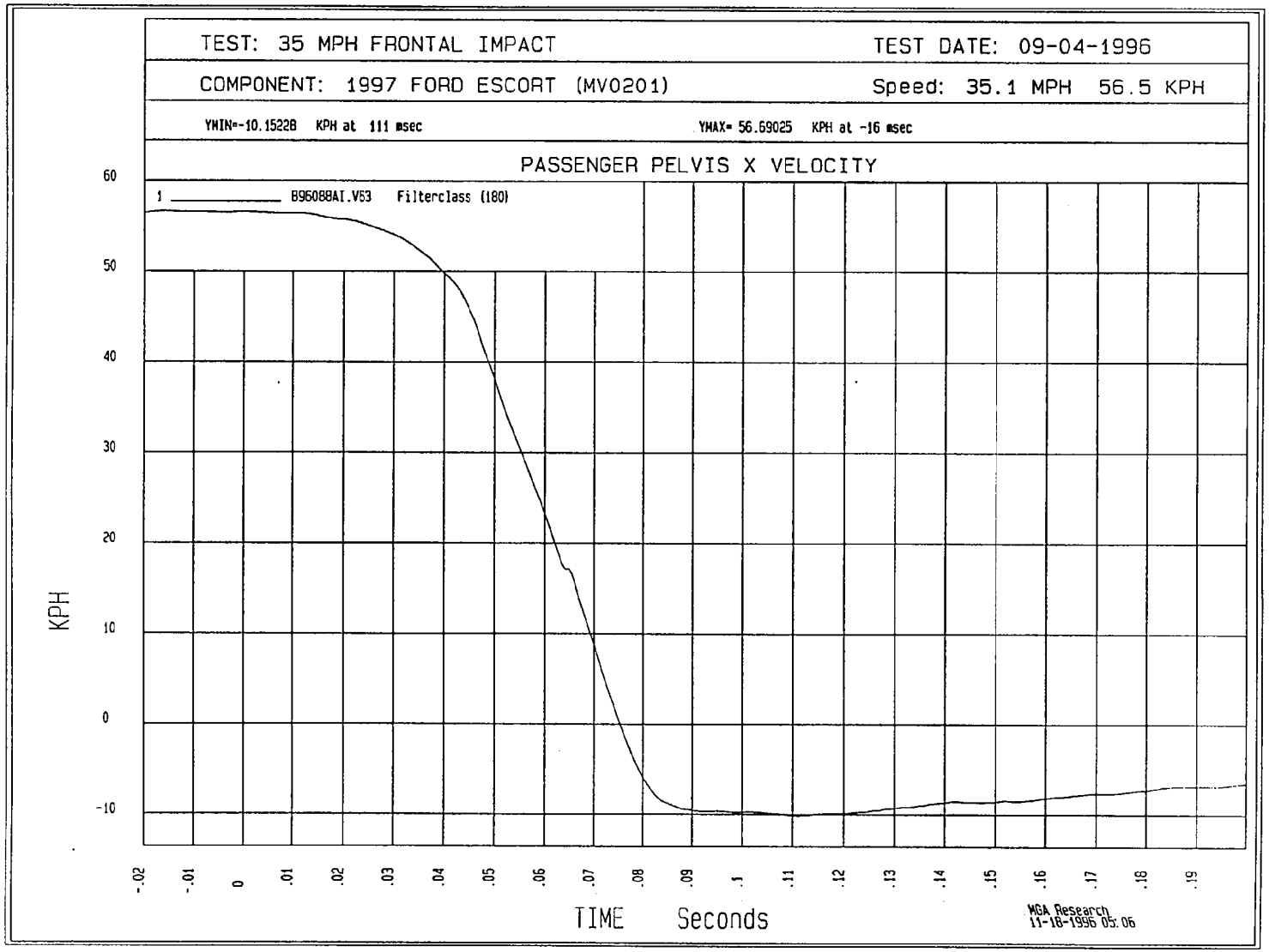

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-198.6741 N at 184 msec
YMAX= 4404.803 N at 48. msec
PASSENGER RIGHT FEMUR FORCE
1 896088FF.F28 Filterclass (600)
4000
3000
2000
1000
0
N
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
11-18-1996 02:23

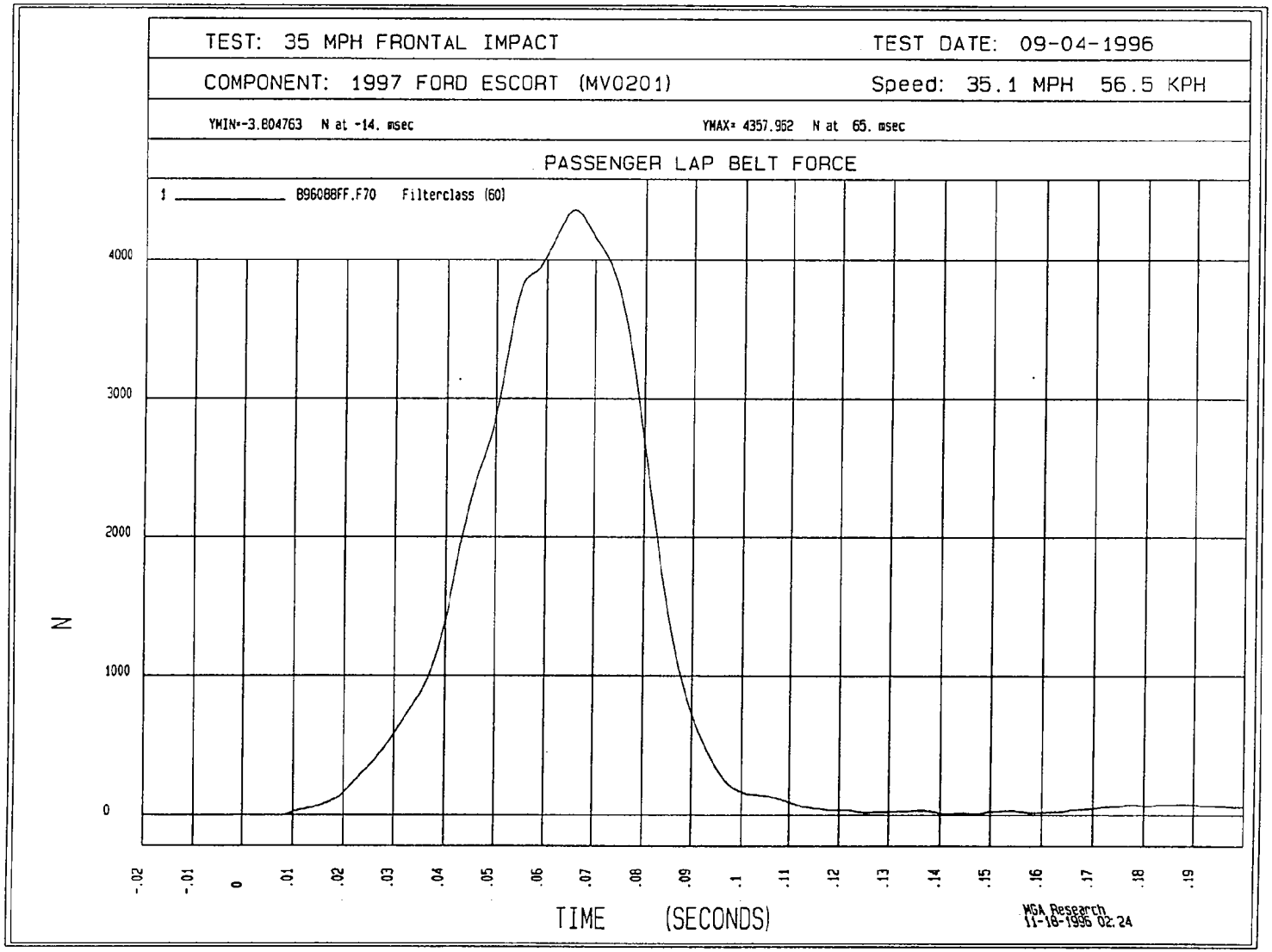

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-83.5753 G'S at 64. msec
YMAX= 156.6141 G'S at 64. msec
PASSENGER PELVIS X ACCELERATION
1 B96088AF.A63 Filterclass (1000)
160
140
120
100
80
60
40
20
0
-20
-40
-60
-80
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
11-18-1996 04:47

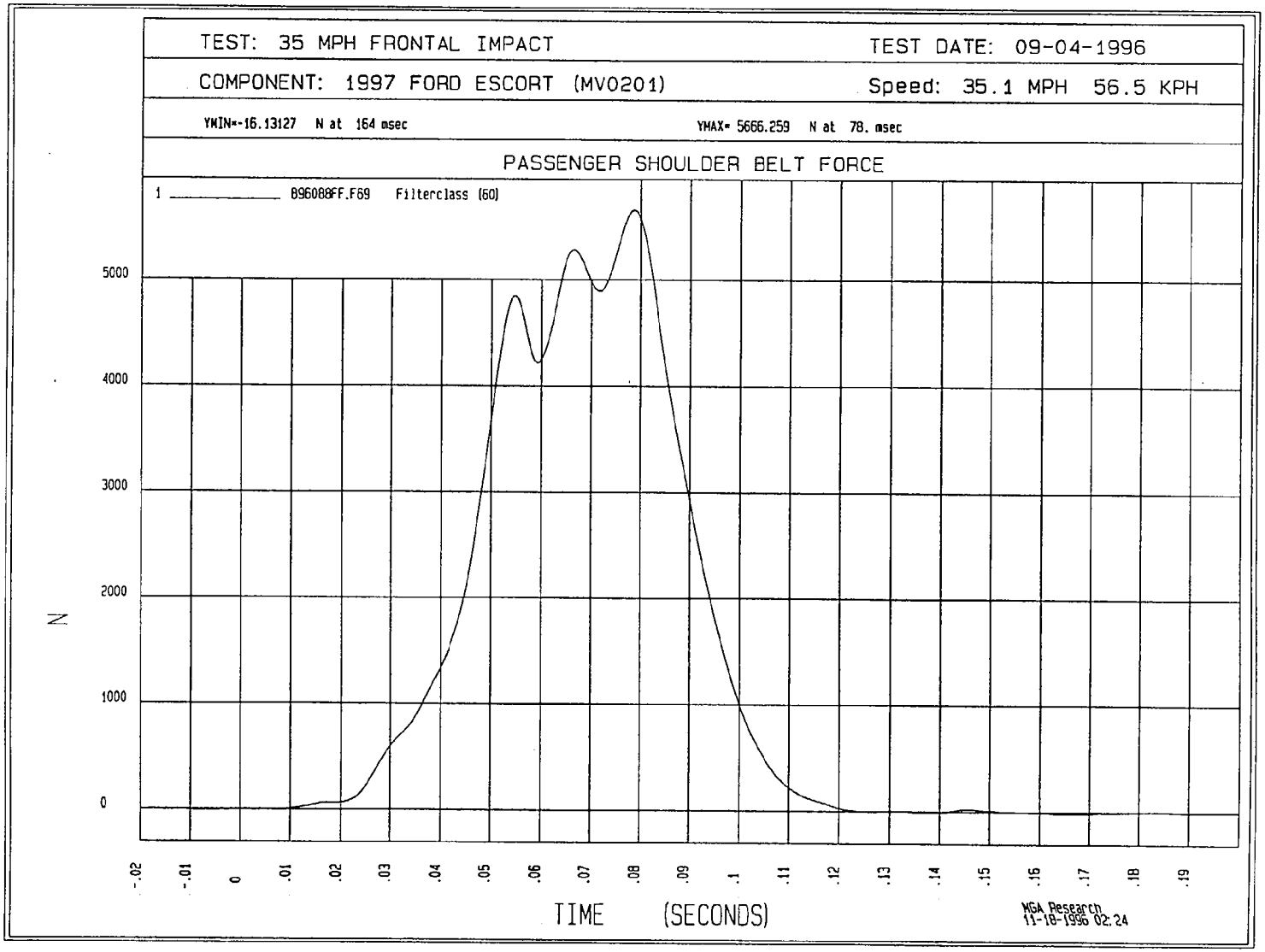

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-25.72446 G'S at 88 msec
YMAX= 7.535689 G'S at 63. msec
PASSENGER PELVIS Y ACCELERATION
1 B960B8AF.A64 Filterclass (1000)
8
6
4
2
0
-2
-4
-6
-8
-10
-12
-14
-16
-18
-20
-22
-24
-26
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
11-18-1996 04:47

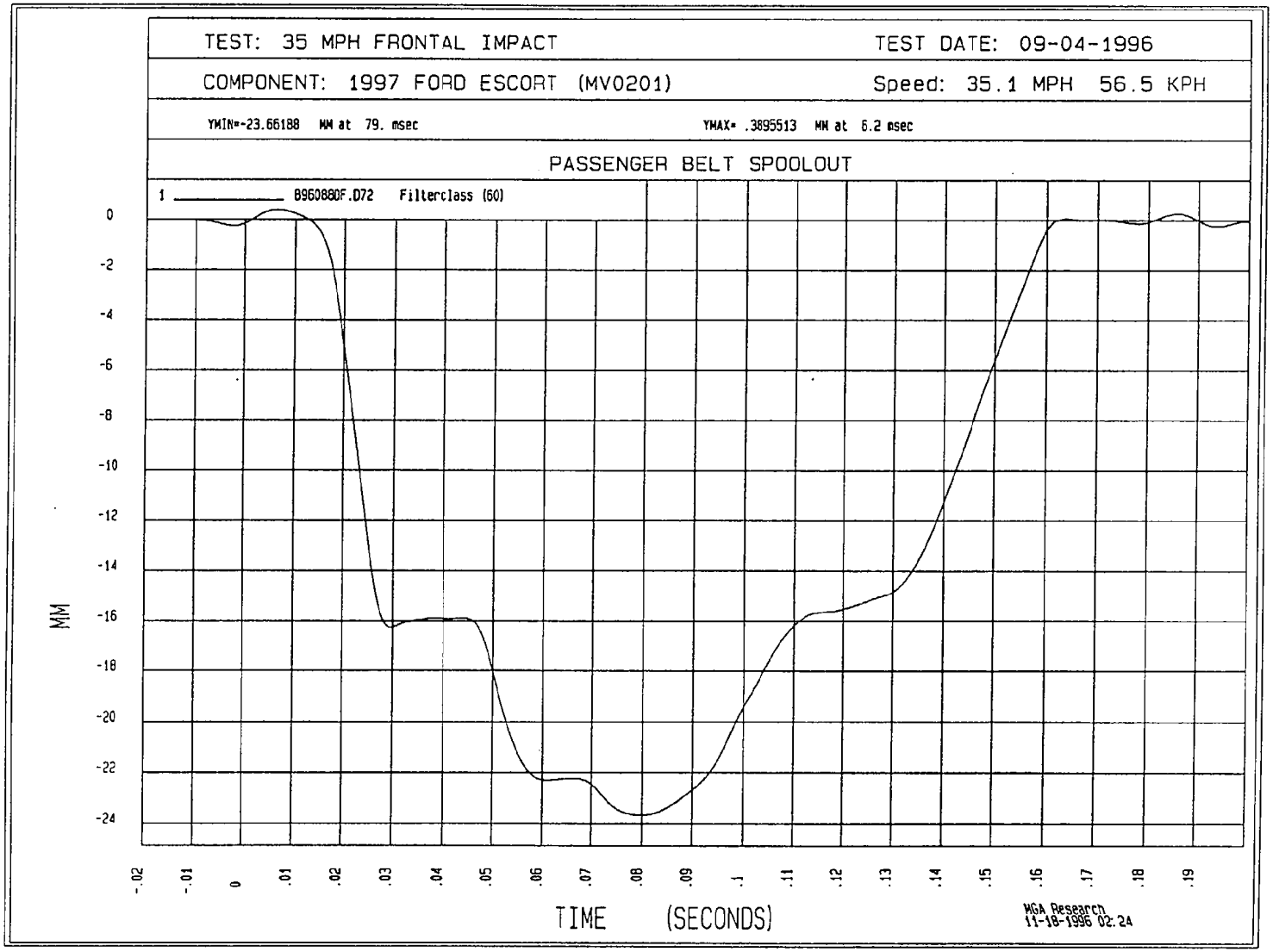

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-3.810912 G'S at 169 msec
YMAX= 25.20419 G'S at 72. msec
PASSENGER PELVIS Z ACCELERATION
1 B9508BAF.A65 Filterclass (1000)
26 24 22 20 18 16 14 12 10 8 6 4 2 0 -2 -4
G'S
.20 .10 0 .10 .02 .03 .04 .05 .06 .07 .08 .09 .1 .11 .12 .13 .14 .15 .16 .17 .18 .19
TIME (SECONDS)
MGA Research
11-18-1996 02:23

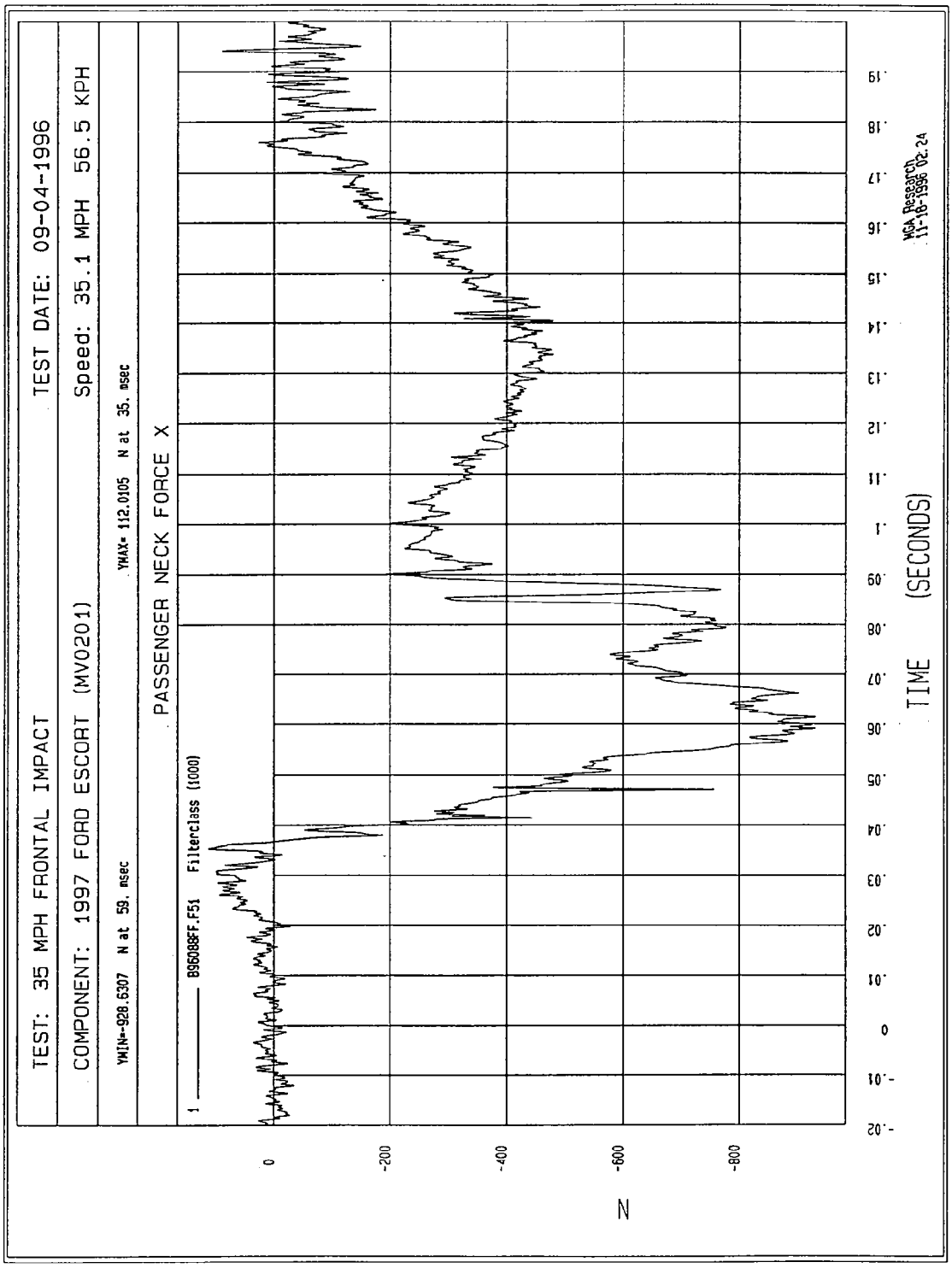

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN= 6.540295E-02 G'S at -9.5 msec
YMAX= 157.6565 G'S at 64. msec
PASSENGER PELVIS RESULTANT ACCELERATION
1 896088AV.A63 Filterclass (1000)
160
140
120
100
80
60
40
20
0
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
11-18-1996 04:47

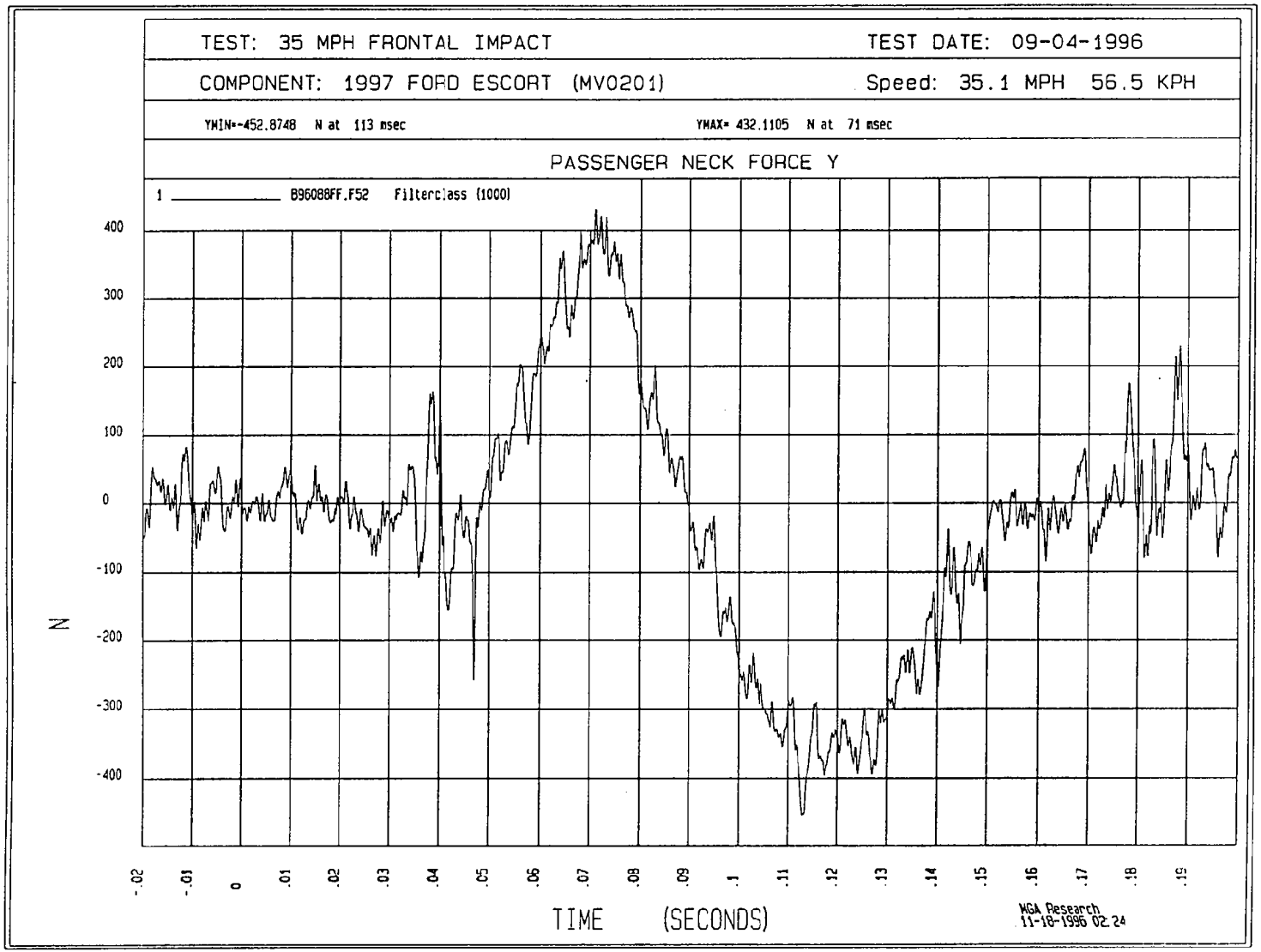

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-10.15228 KPH at 111 msec
YMAX= 56.69025 KPH at -16 msec
PASSENGER PELVIS X VELOCITY
1 B96088AI.V63 Filterclass (180)
KPH
60
50
40
30
20
10
0
-10
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME Seconds
MGA Research
11-18-1996 05:06

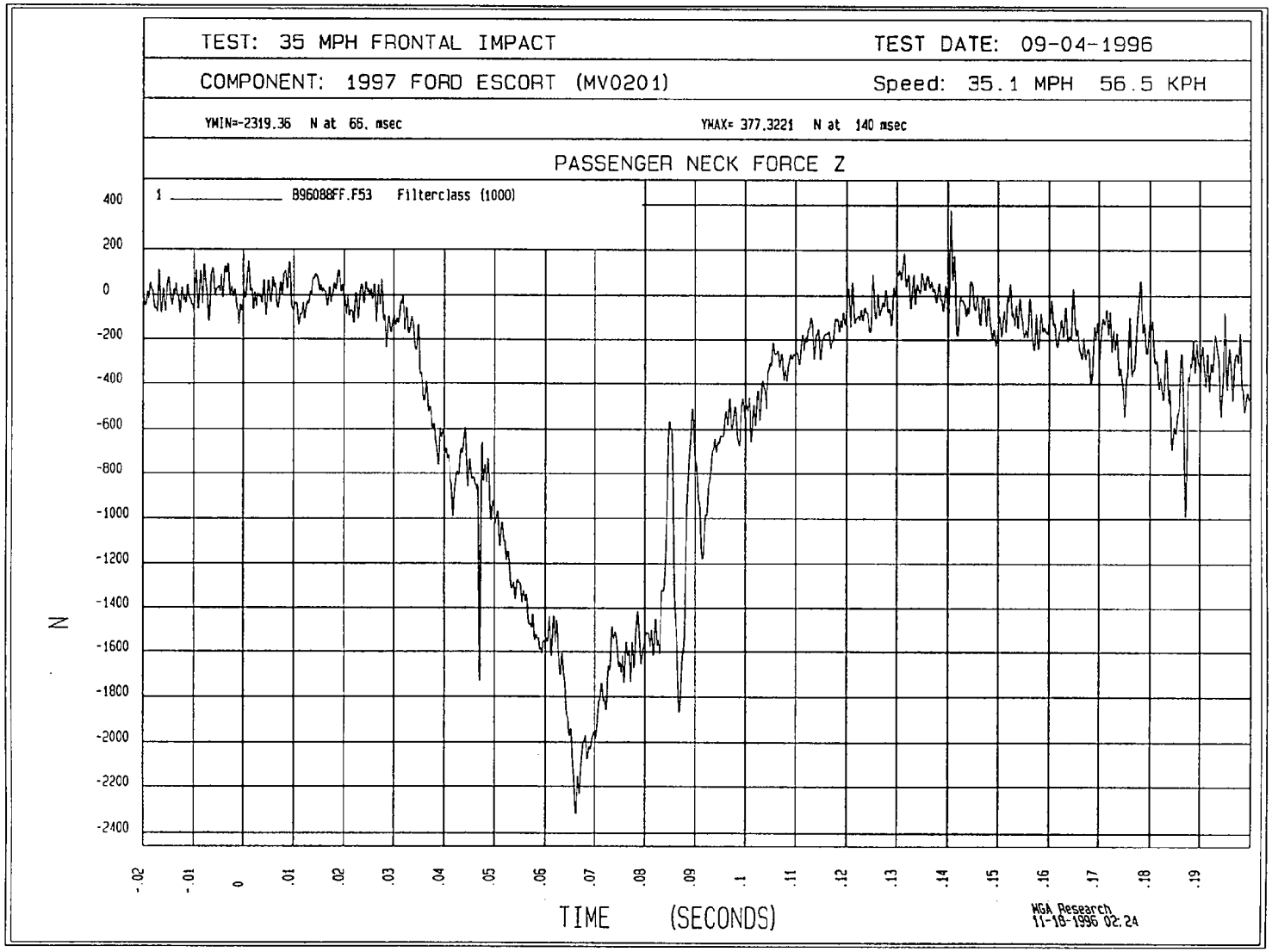

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-3.804763 N at -14. msec
YMAX= 4357.952 N at 65. msec
PASSENGER LAP BELT FORCE
1 B96088FF.F70 Filterclass (60)
4000
3000
2000
1000
0
N
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
NGA Research
11-18-1996 02:24

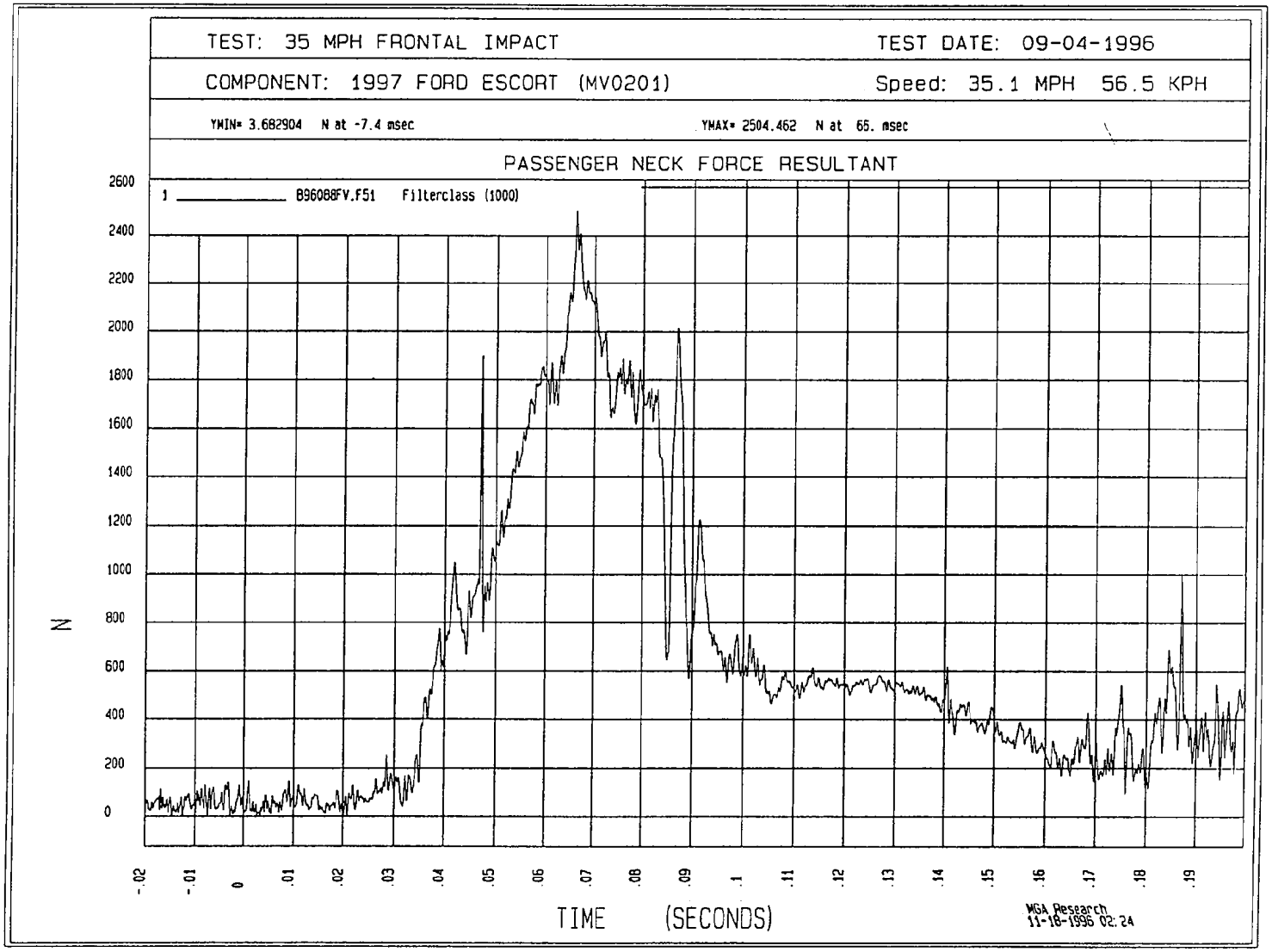

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-16.13127 N at 164 msec
YMAX= 5666.259 N at 78. msec
PASSENGER SHOULDER BELT FORCE
1 896088FF.F69 Filterclass (60)
5000
4000
3000
2000
1000
0
N
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
11-18-1996 02:24

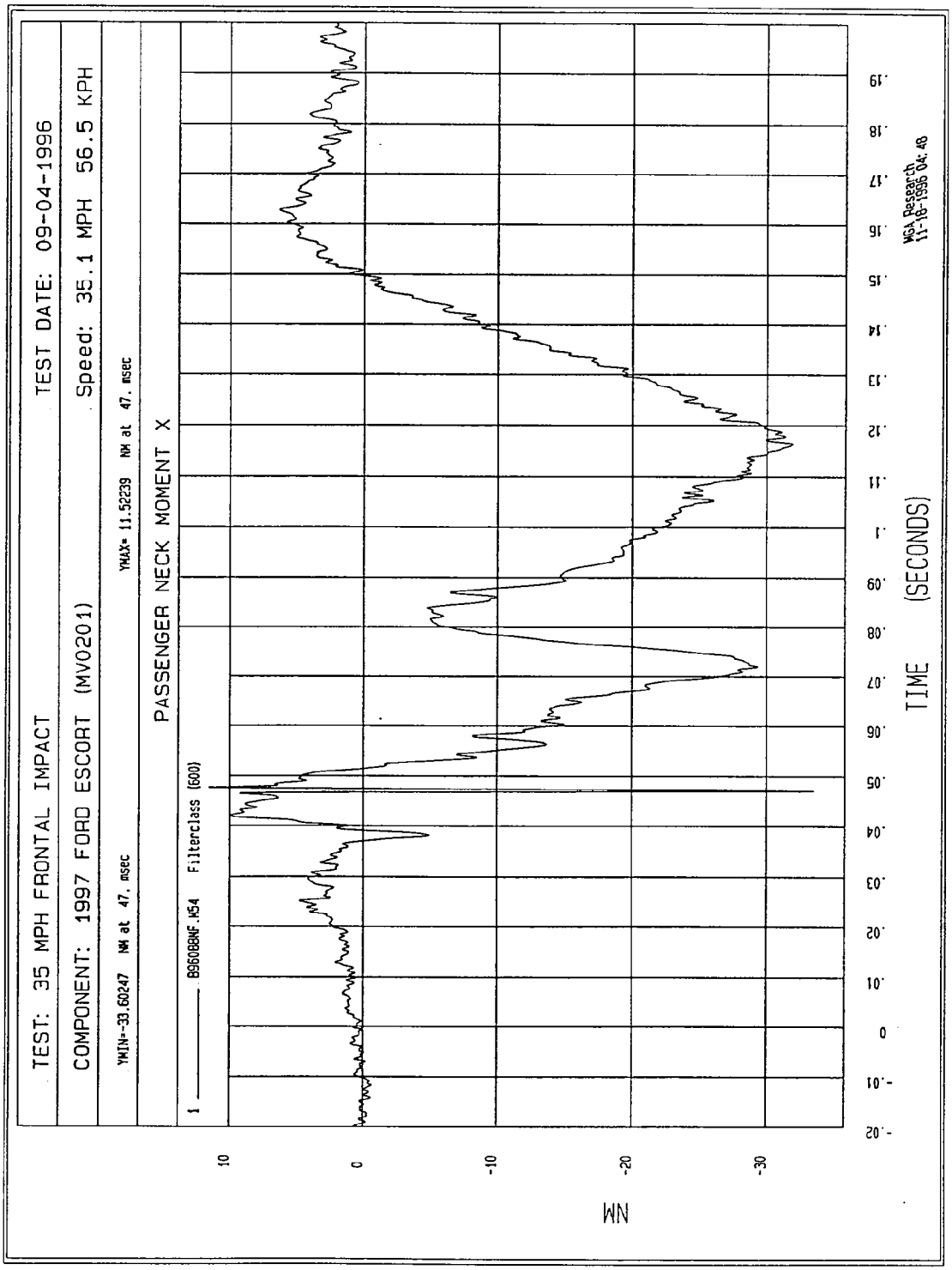

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-23.66188 MM at 79. msec
YMAX= .3895513 MM at 6.2 msec
PASSENGER BELT SPOOLOUT
1 B960880F.D72 Filterclass (60)
MM
0
-2
-4
-6
-8
-10
-12
-14
-16
-18
-20
-22
-24
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
11-18-1996 02:24

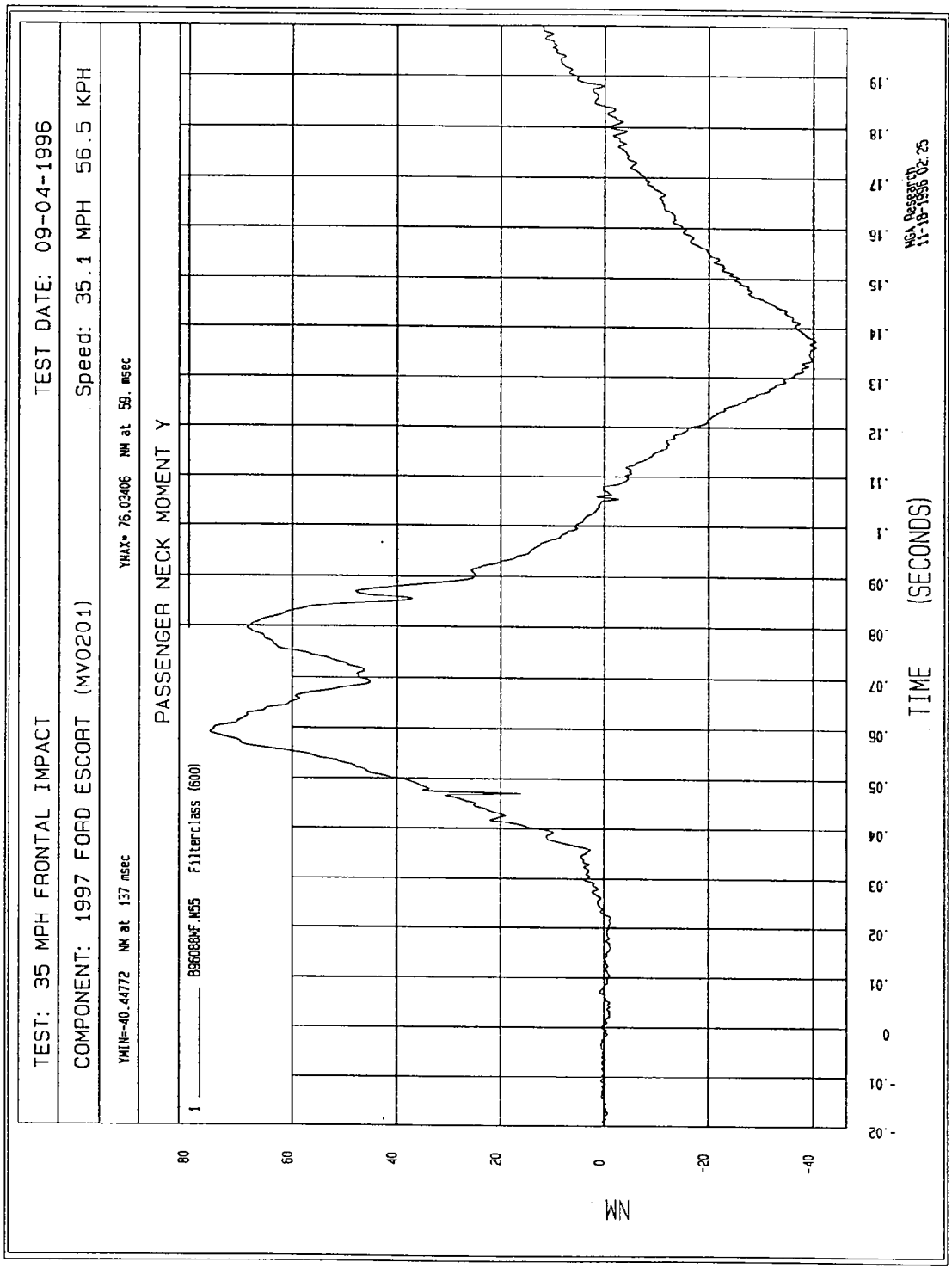

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-928.6307 N at 59. msec
YMAX= 112.0105 N at 35. msec
PASSENGER NECK FORCE X
1 B96088FF.F51 Filterclass (1000)
0
-200
-400
-600
-800
N
.19
.18
.17
.16
.15
.14
.13
.12
.11
.1
.09
.08
.07
.06
.05
.04
.03
.02
.01
0
-.01
-.02
TIME (SECONDS)
MGA Research
11-18-1996 02:24

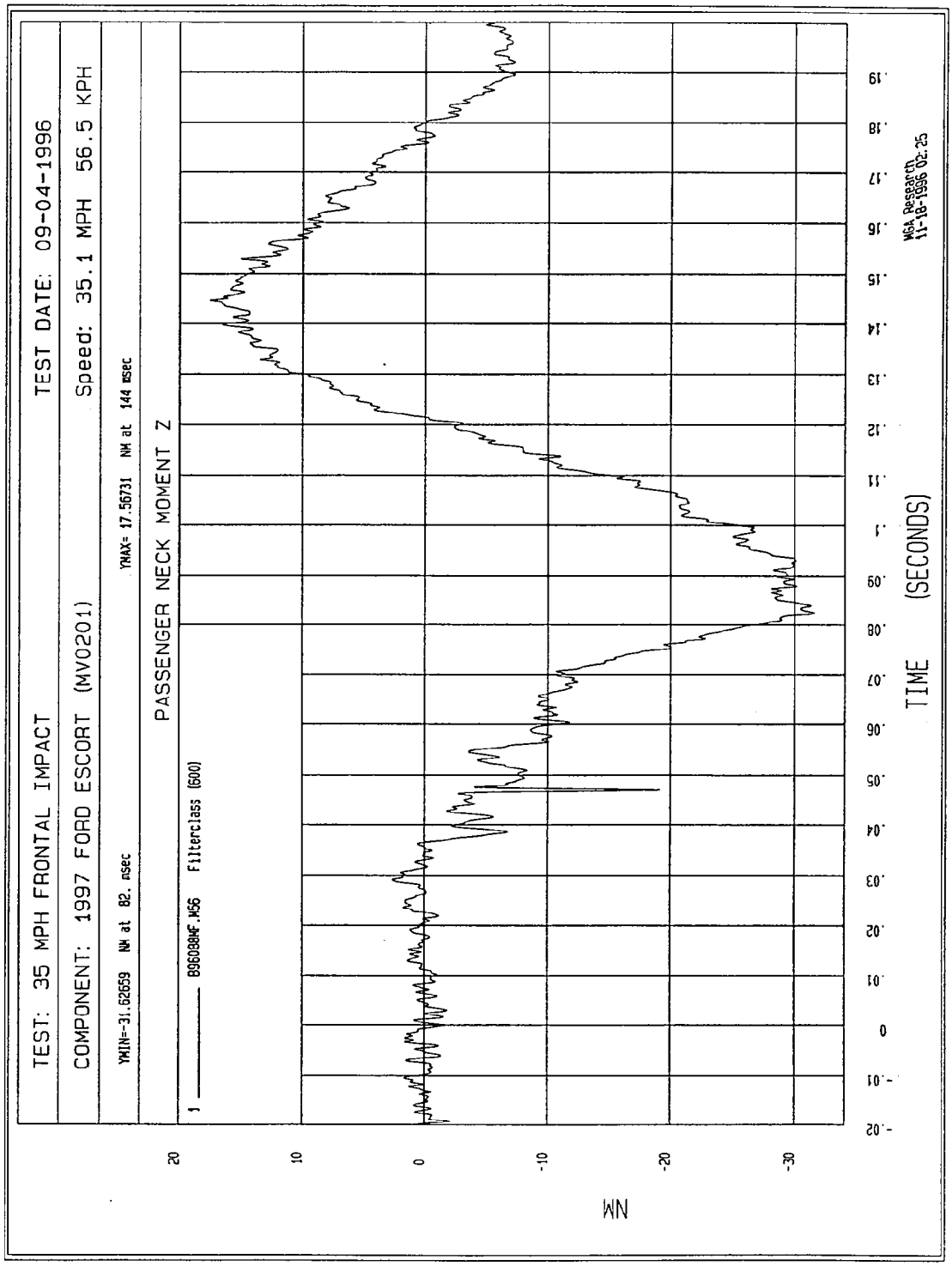

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-452.8748 N at 113 msec
YMAX= 432.1105 N at 71 msec
PASSENGER NECK FORCE Y
1 B96088FF.F52 Filterclass (1000)
400
300
200
100
0
-100
-200
-300
-400
N
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
NGA Research
11-18-1996 02.24

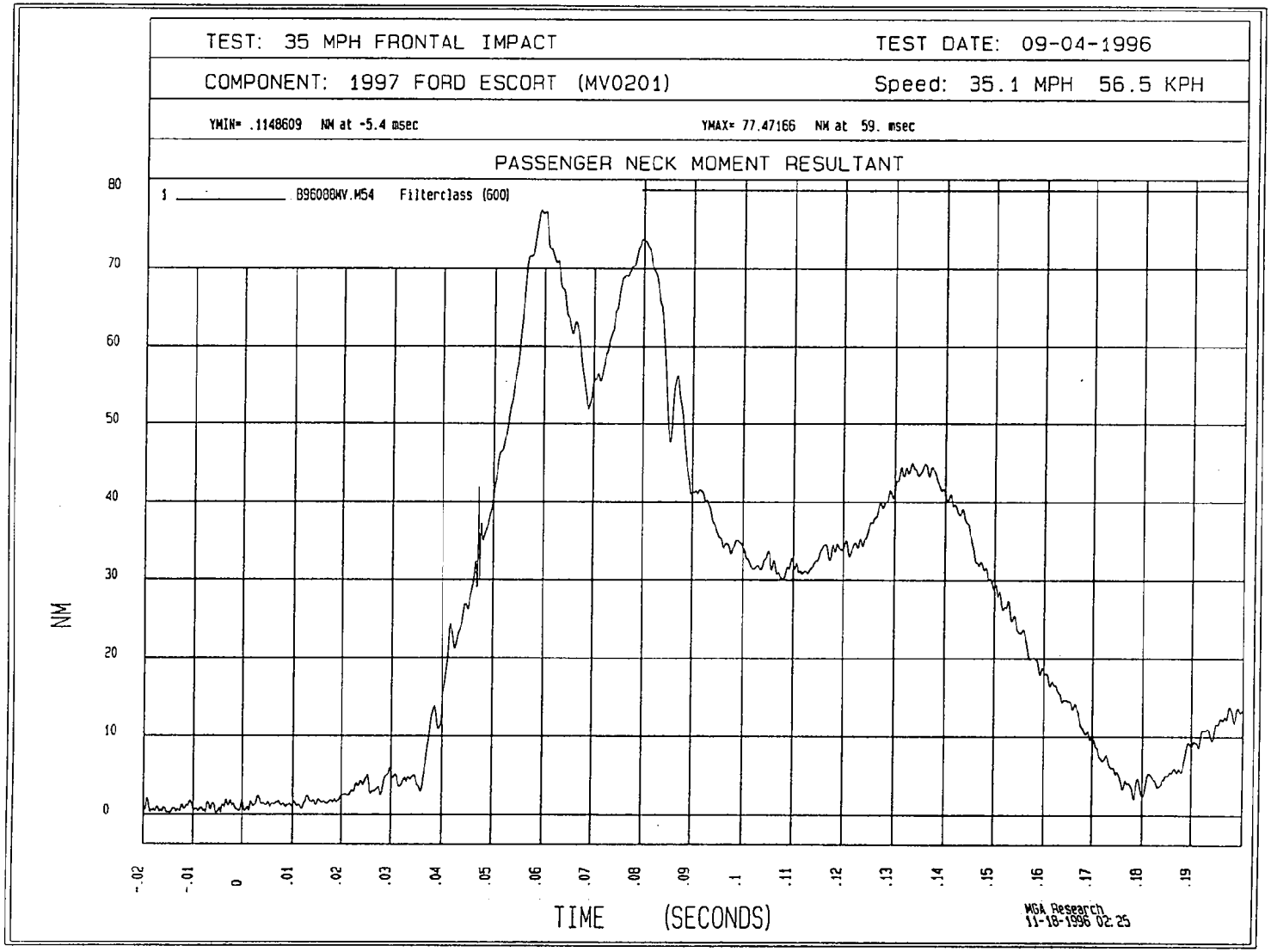

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-2319.36 N at 66. msec
YMAX= 377.3221 N at 140 msec
PASSENGER NECK FORCE Z
1 B96088FF.F53 Filterclass (1000)
400
200
0
-200
-400
-600
-800
-1000
-1200
-1400
-1600
-1800
-2000
-2200
-2400
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
11-18-1996 02:24

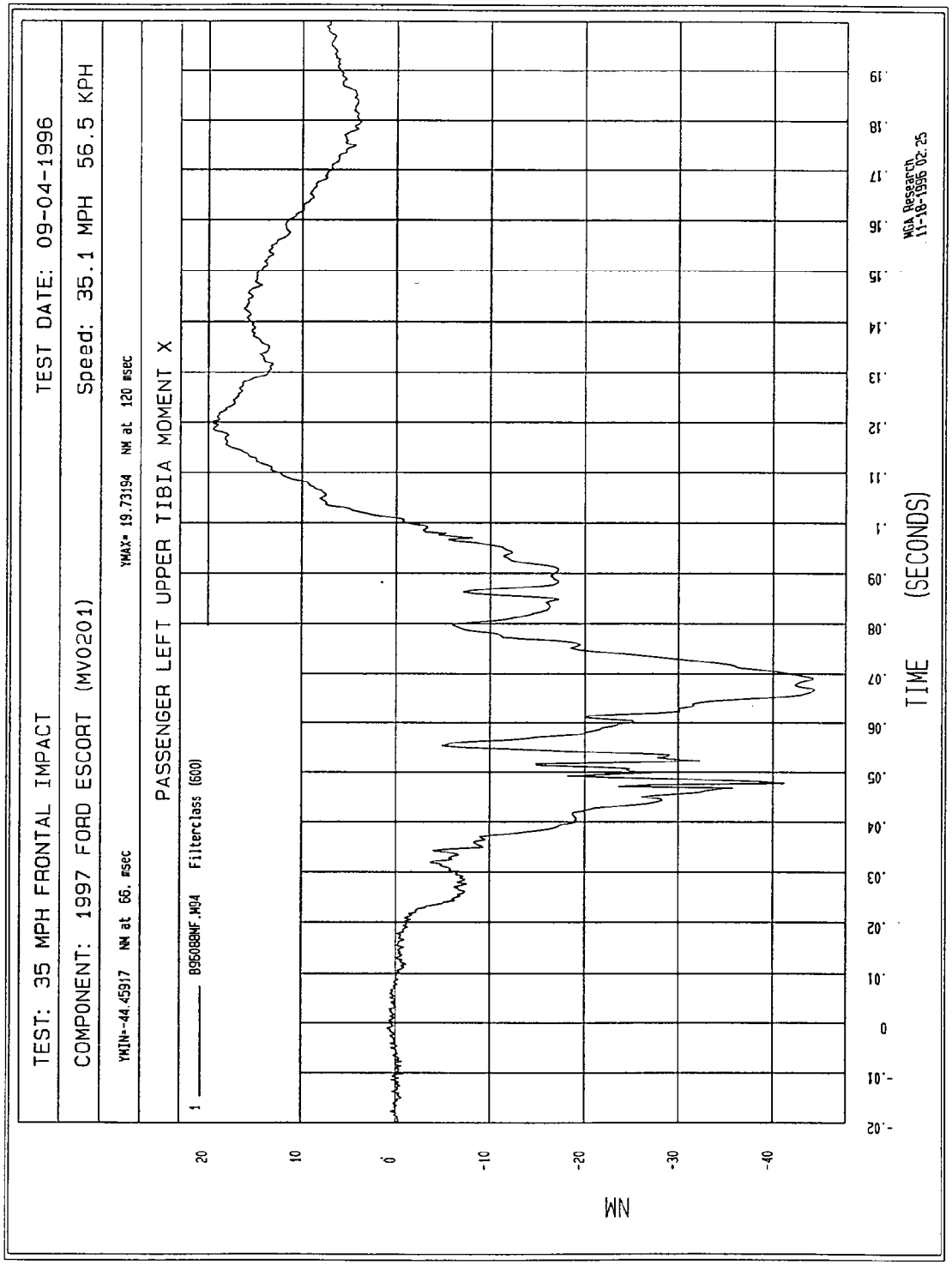

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN= 3.682904 N at -7.4 msec
YMAX= 2504.462 N at 65. msec
PASSENGER NECK FORCE RESULTANT
1 B96088FV.f51 Filterclass (1000)
N
2600
2400
2200
2000
1800
1600
1400
1200
1000
800
600
400
200
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
WGA Research
11-18-1996 02:24

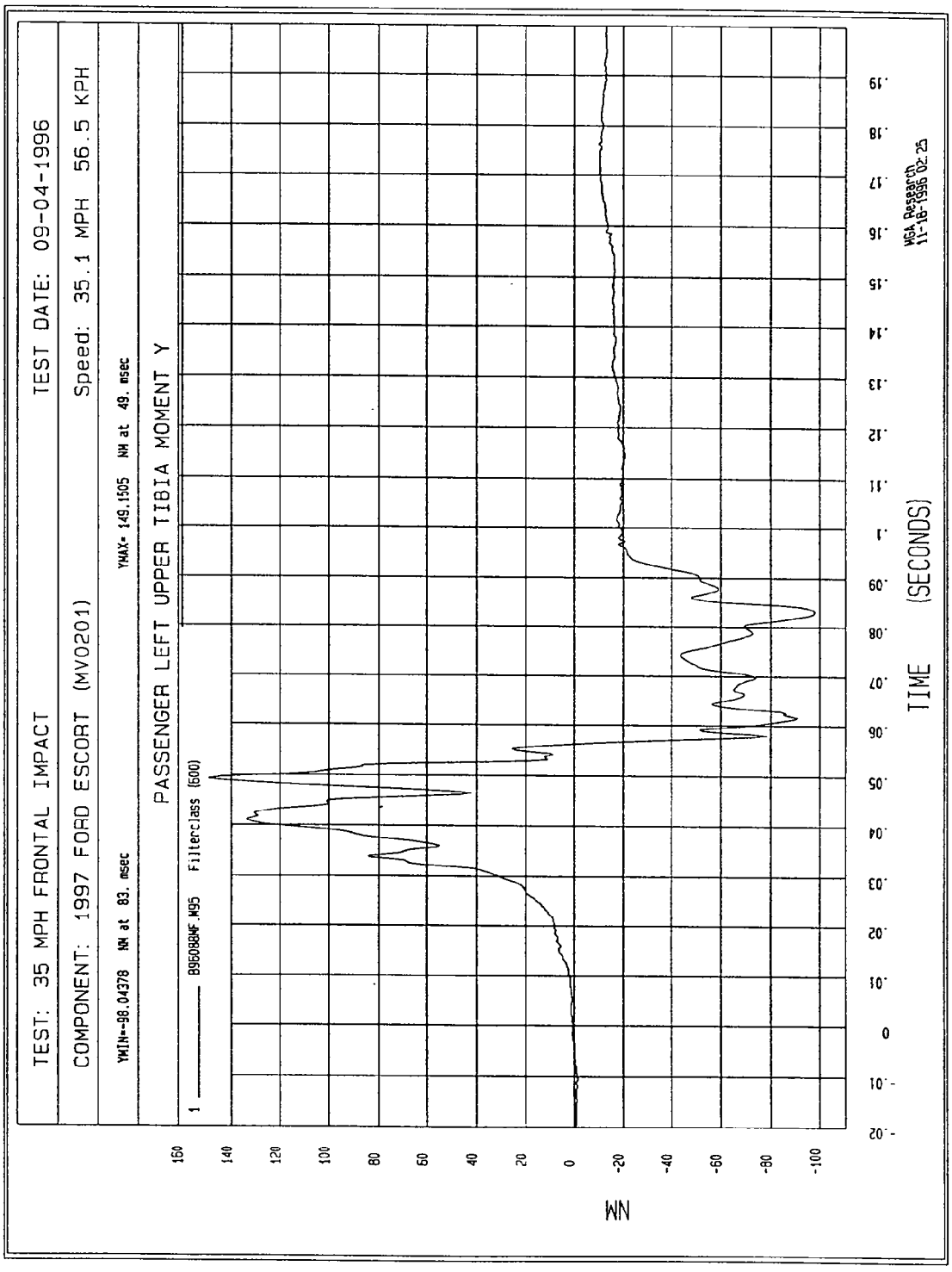

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-33.60247 NM at 47. msec
YMAX= 11.52239 NM at 47. msec
PASSENGER NECK MOMENT X
1 B9608BNF.M54 Filterclass (600)
NM
TIME (SECONDS)
MGA Research
11-18-1996 04:48

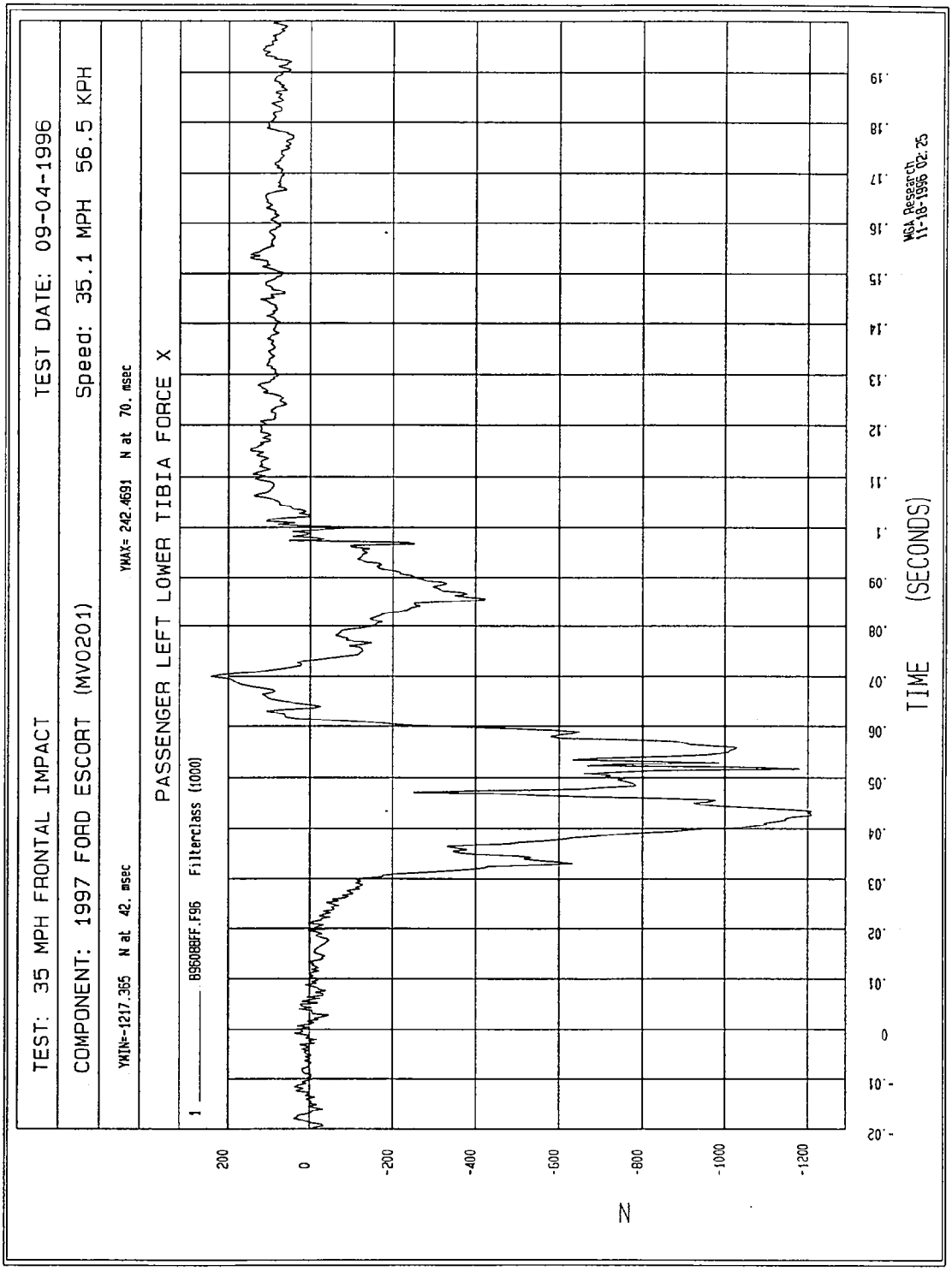

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-40.44772 NM at 137 msec
YMAX= 76.03406 NM at 59. msec
PASSENGER NECK MOMENT Y
1 B960804F.M55 Filterclass (600)
NM
TIME (SECONDS)
MGA Research
11-18-1996 02:25

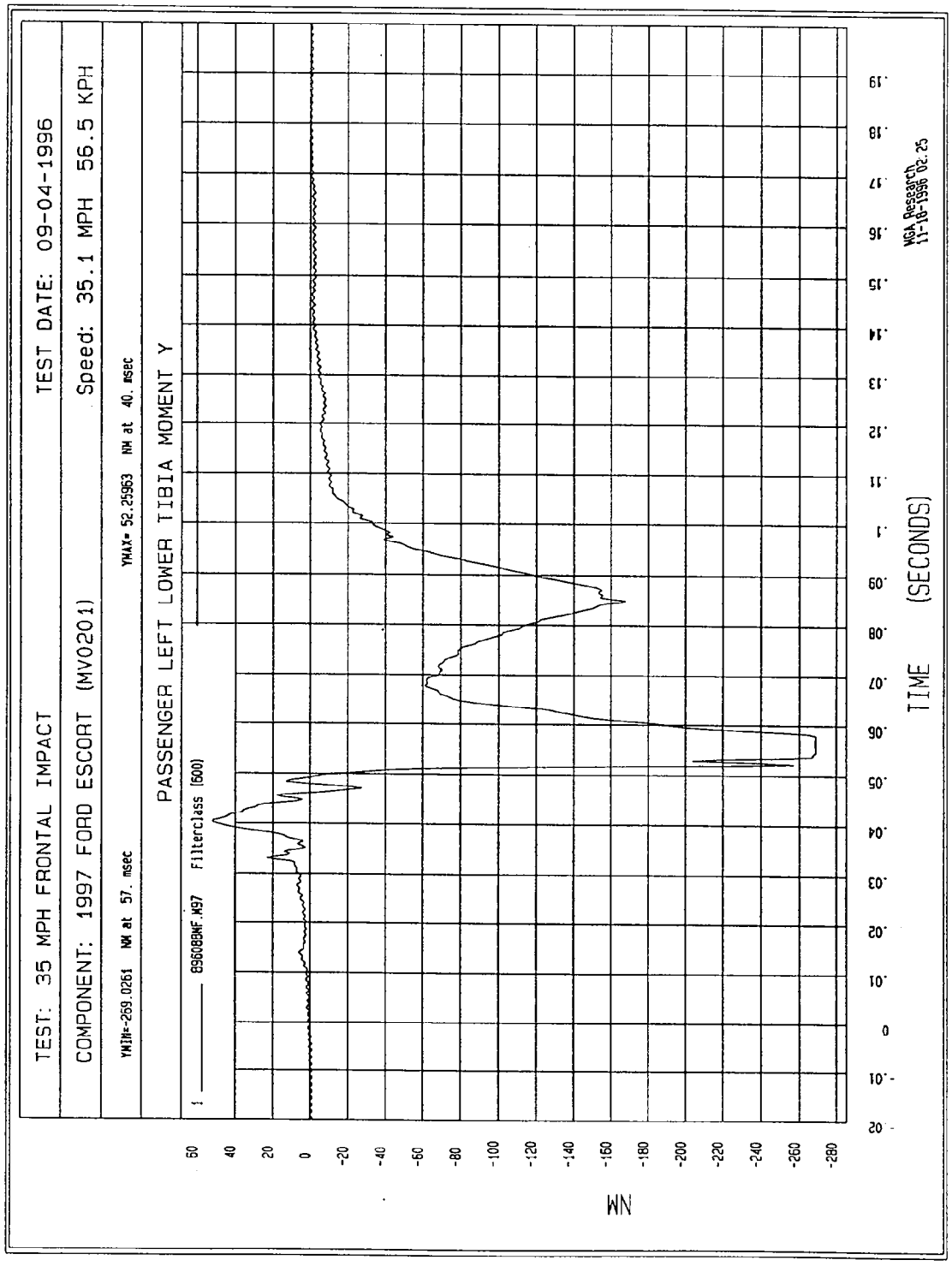

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-31.62659 NM at 82. msec
YMAX= 17.56731 NM at 144 msec
PASSENGER NECK MOMENT Z
1 B96038NF.MSG Filterclass (600)
NM
TIME (SECONDS)
NGA Research
11-18-1996 02:25

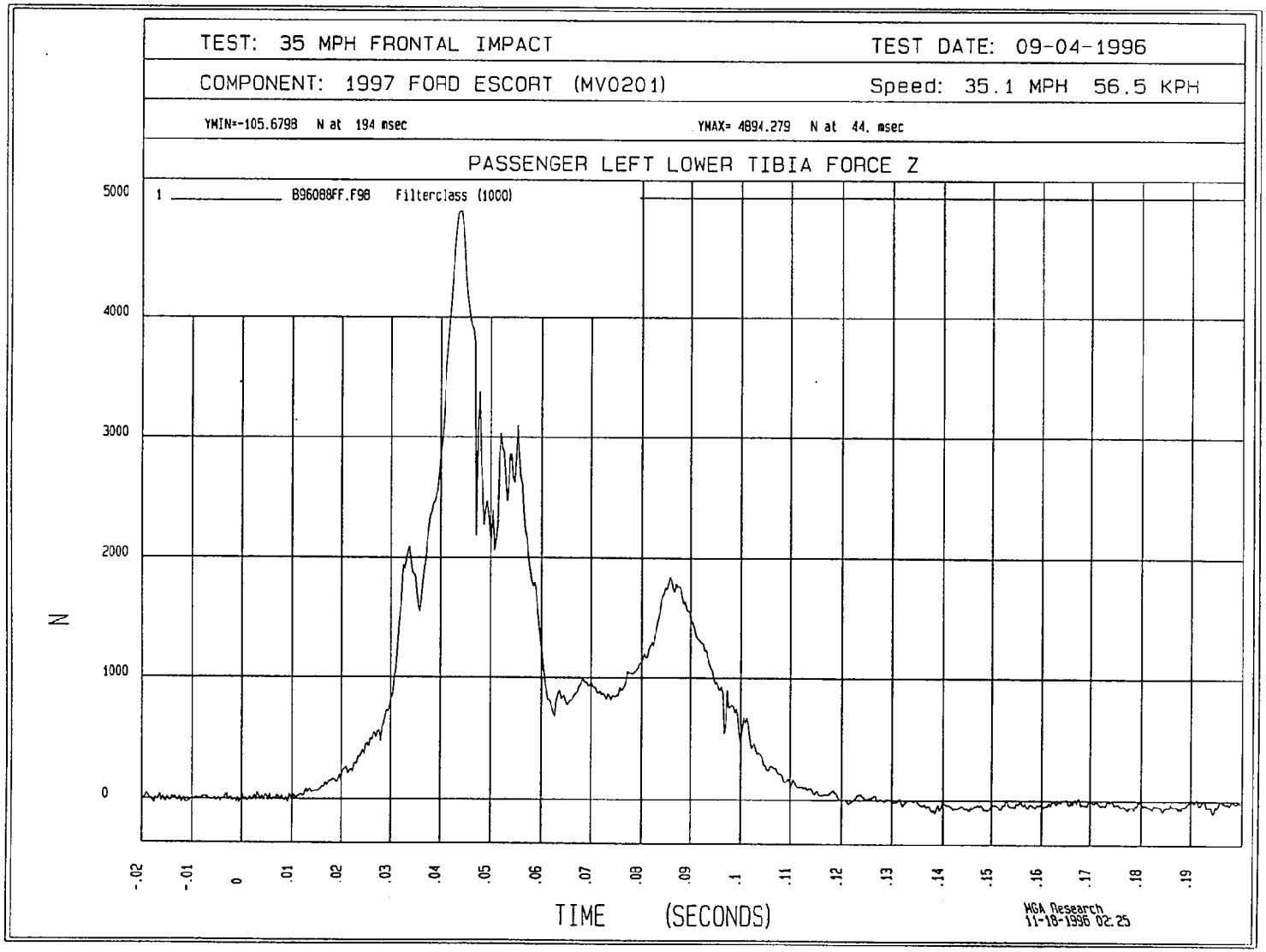

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN= .1148609 NM at -5.4 msec
YMAX= 77.47166 NM at 59. msec
PASSENGER NECK MOMENT RESULTANT
1 B96008MV.M54 Filterclass (600)
NM
80
70
60
50
40
30
20
10
0
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
11-18-1996 02:25

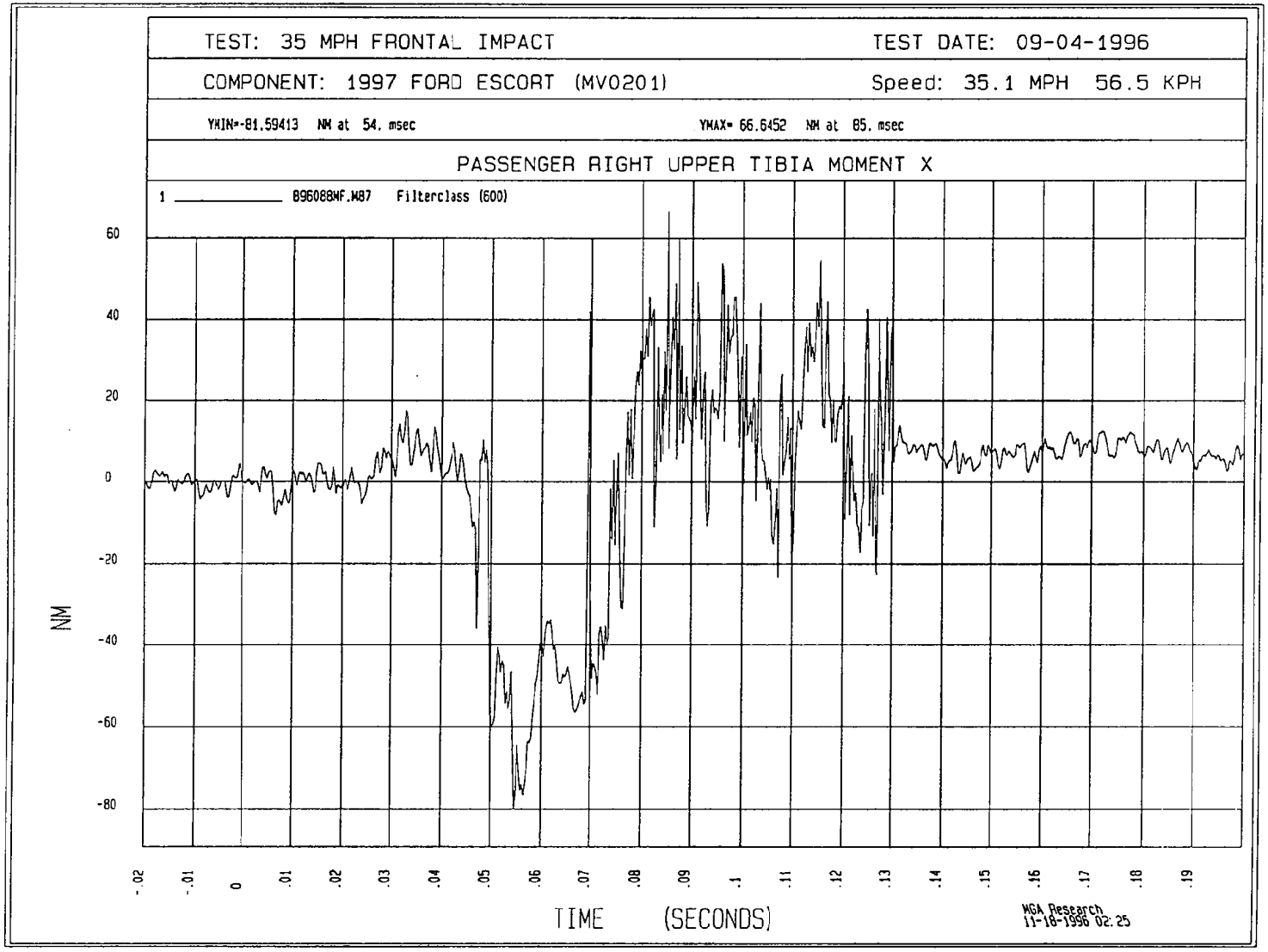

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-44.45917 NM at 66. msec
YMAX= 19.73194 NM at 120 msec
PASSENGER LEFT UPPER TIBIA MOMENT X
1 B9508BMF.M04 Filterclass (600)
NM
TIME (SECONDS)
NGA Research
11-10-1995 02:25

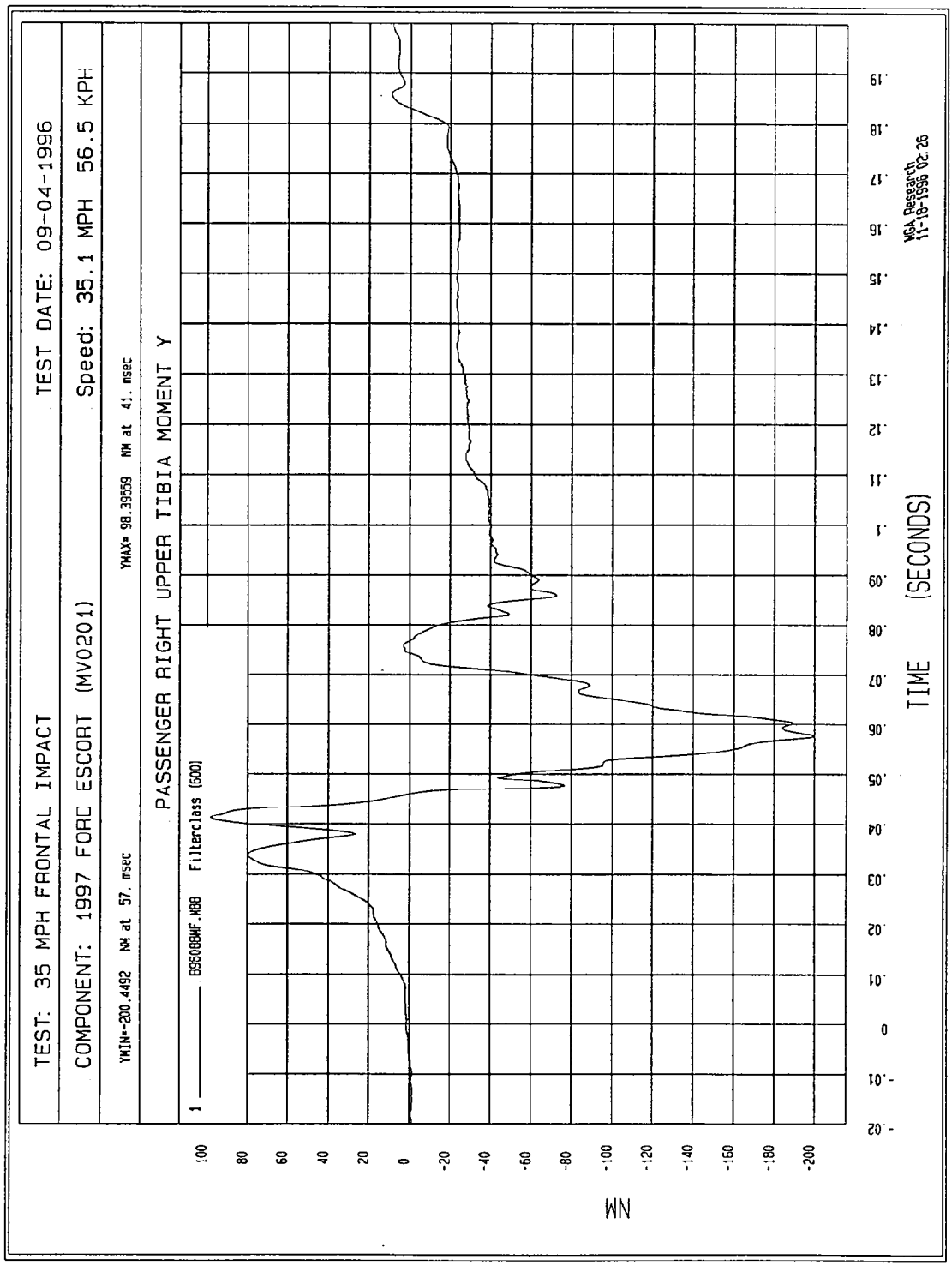

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-98.04378 NM at 83. msec
YMAX= 149.1505 NM at 49. msec
PASSENGER LEFT UPPER TIBIA MOMENT Y
1 B9608BMF.M95 Filterclass (600)
NM
TIME (SECONDS)
MGA Research
11-18-1996 02:25

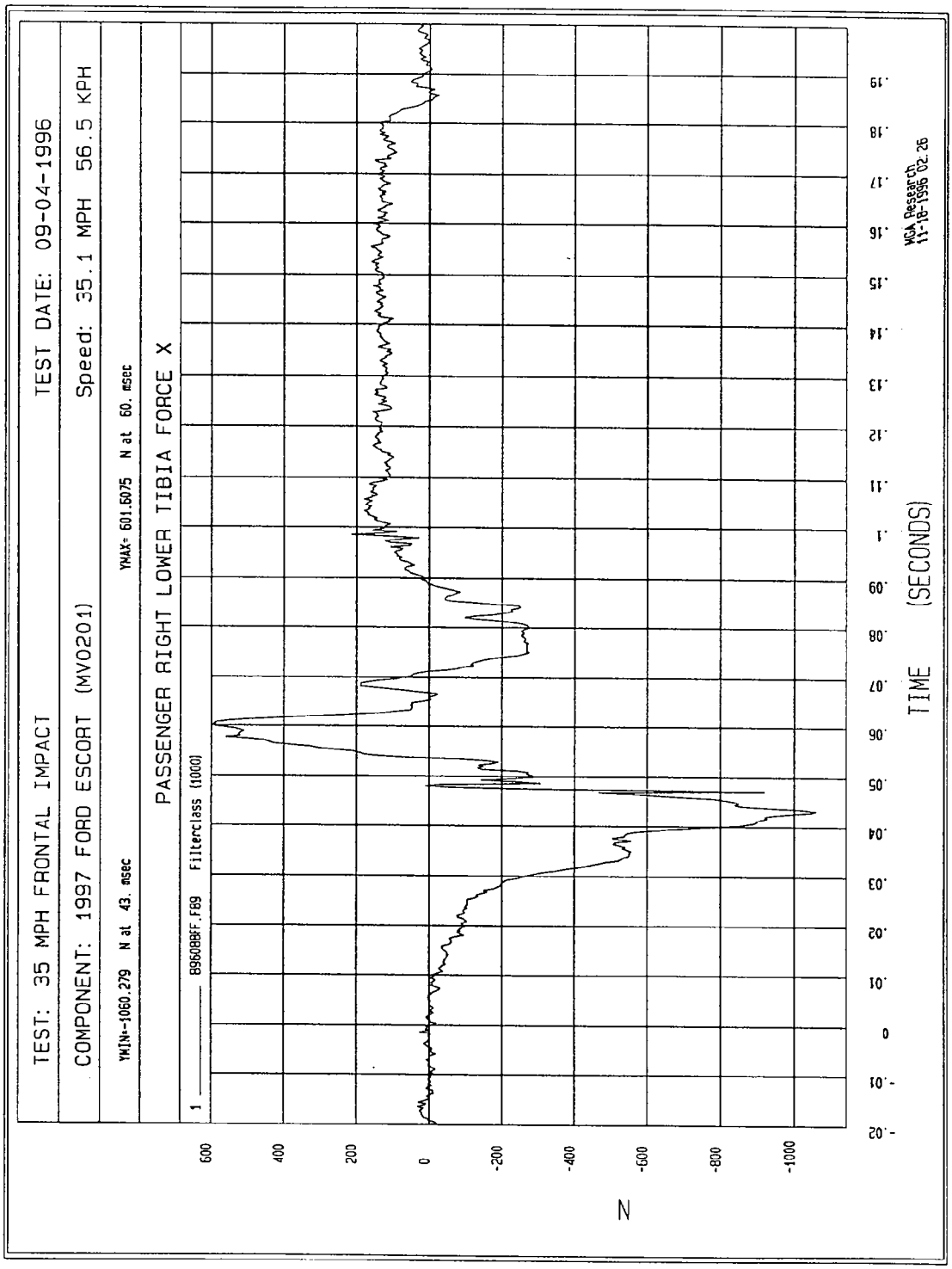

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-1217.365 N at 42. msec
YMAX= 242.4691 N at 70. msec
PASSENGER LEFT LOWER TIBIA FORCE X
1 B960B8FF.F96 Filterclass (1000)
200
0
-200
-400
-600
-800
-1000
-1200
N
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
11-18-1996 02:25

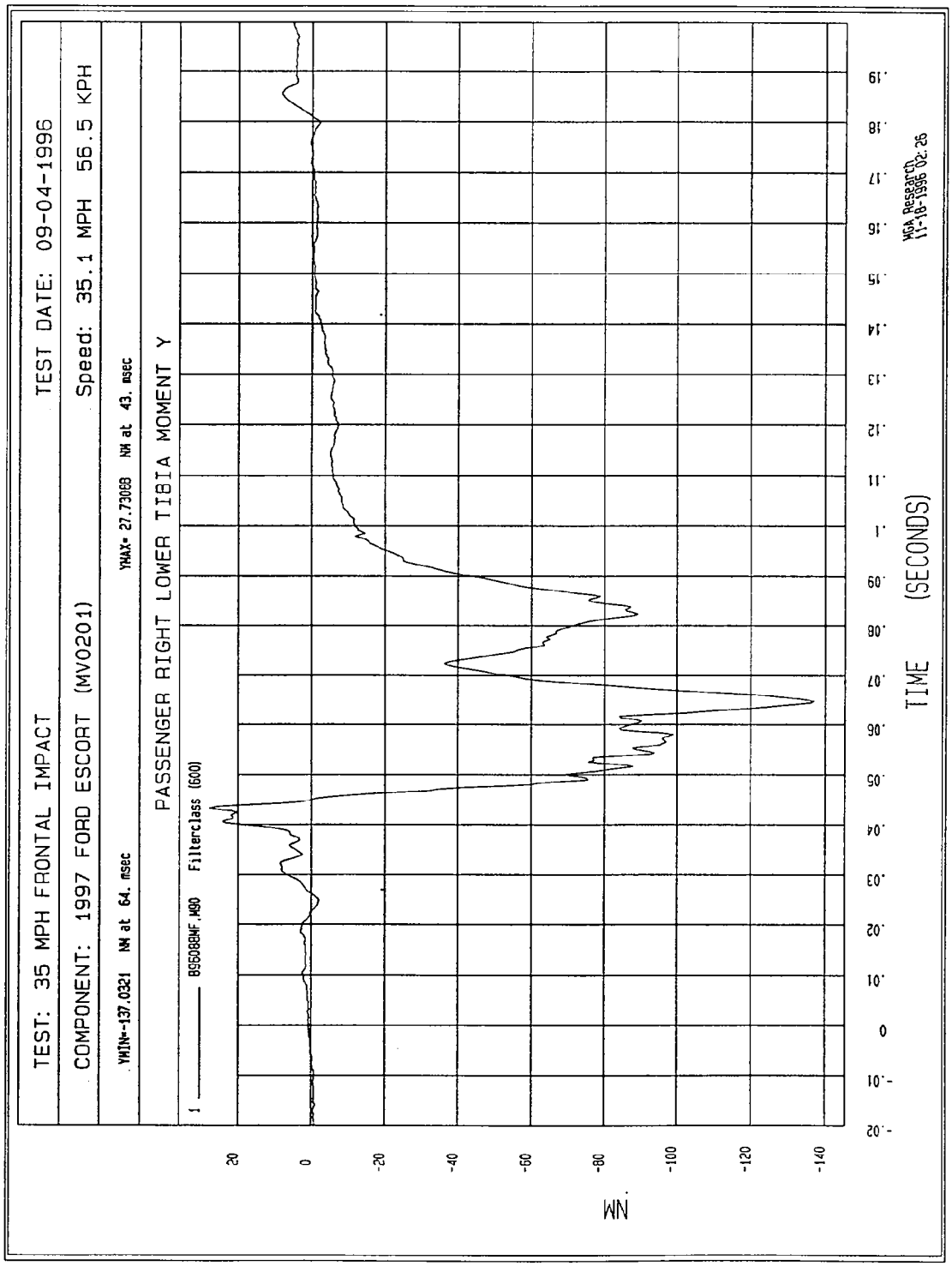

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-269.0261 NM at 57. msec
YMAX= 52.25963 NM at 40. msec
PASSENGER LEFT LOWER TIBIA MOMENT Y
1 _____ 89608BNF.M97 Filterclass (600)
NM
TIME (SECONDS)
MGA Research
11-18-1996 02:25

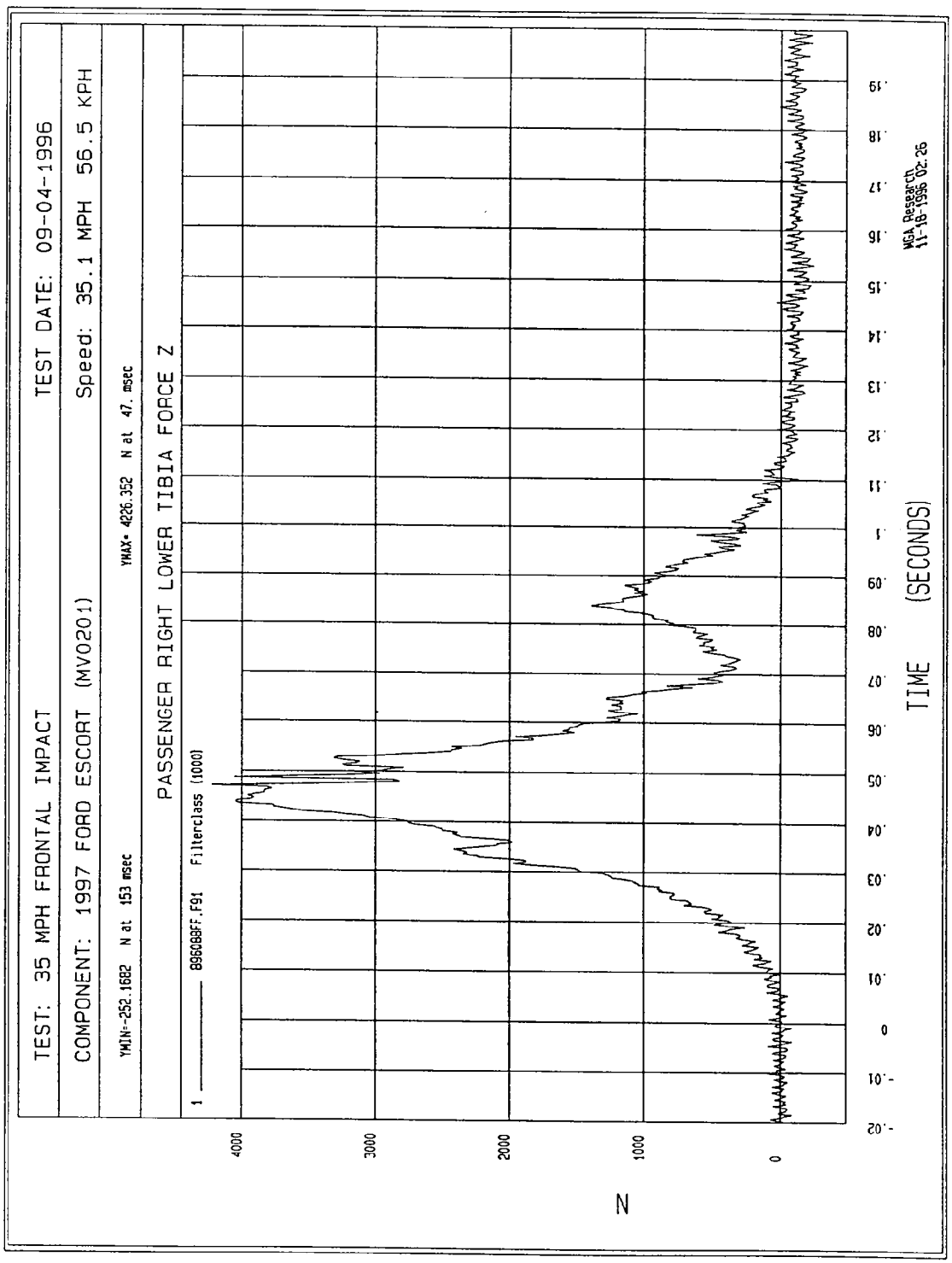

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-105.6798 N at 194 msec
YMAX= 4894.279 N at 44. msec
PASSENGER LEFT LOWER TIBIA FORCE Z
1 B96088FF.F98 Filterclass (1000)
5000
4000
3000
2000
1000
0
N
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
11-18-1996 02:25

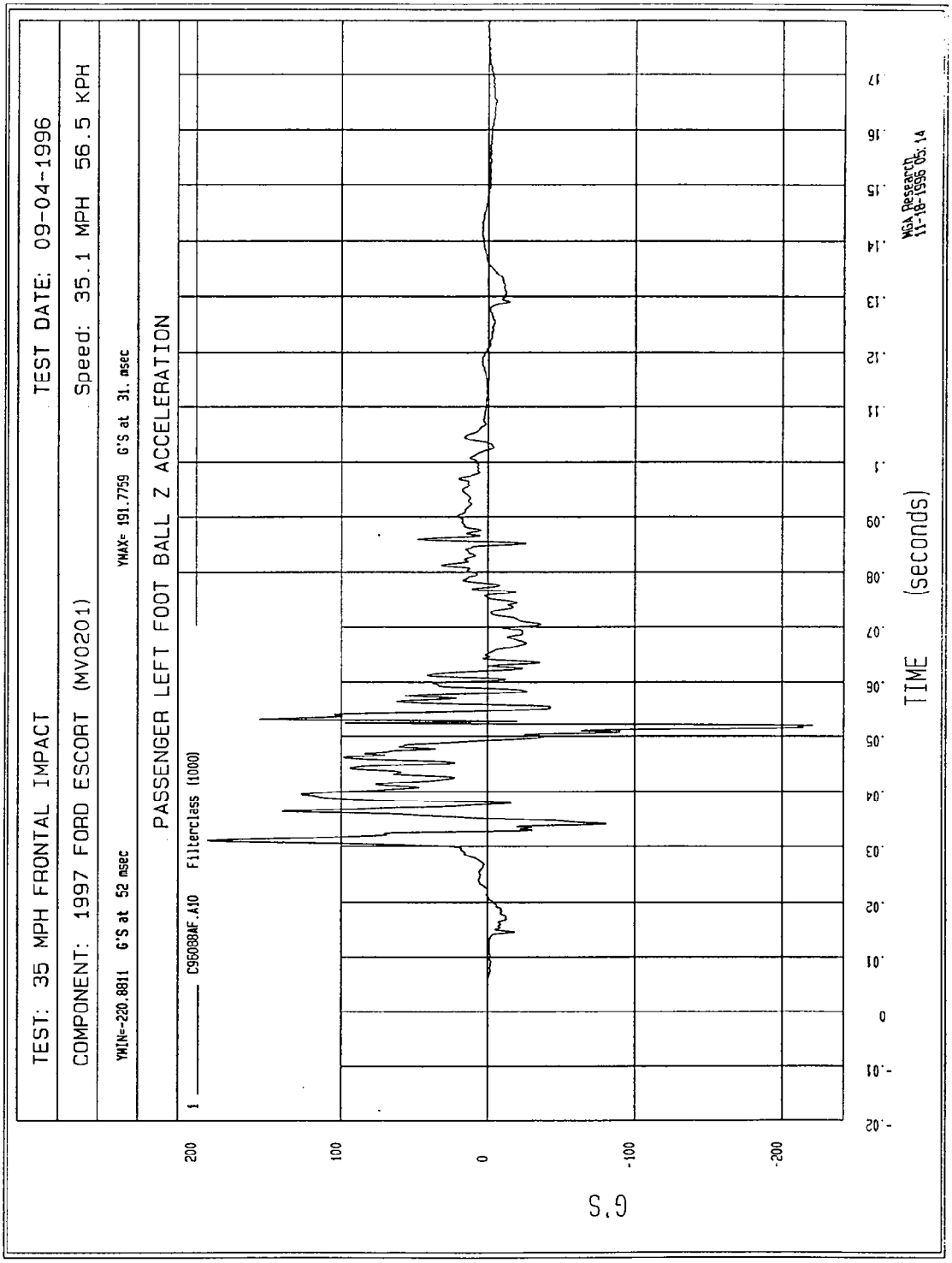

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-81.59413 NM at 54. msec
YMAX= 66.6452 NM at 85. msec
PASSENGER RIGHT UPPER TIBIA MOMENT X
1 B96088MF.M87 Filterclass (600)
60
40
20
0
-20
-40
-60
-80
NM
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
11-18-1996 02:25

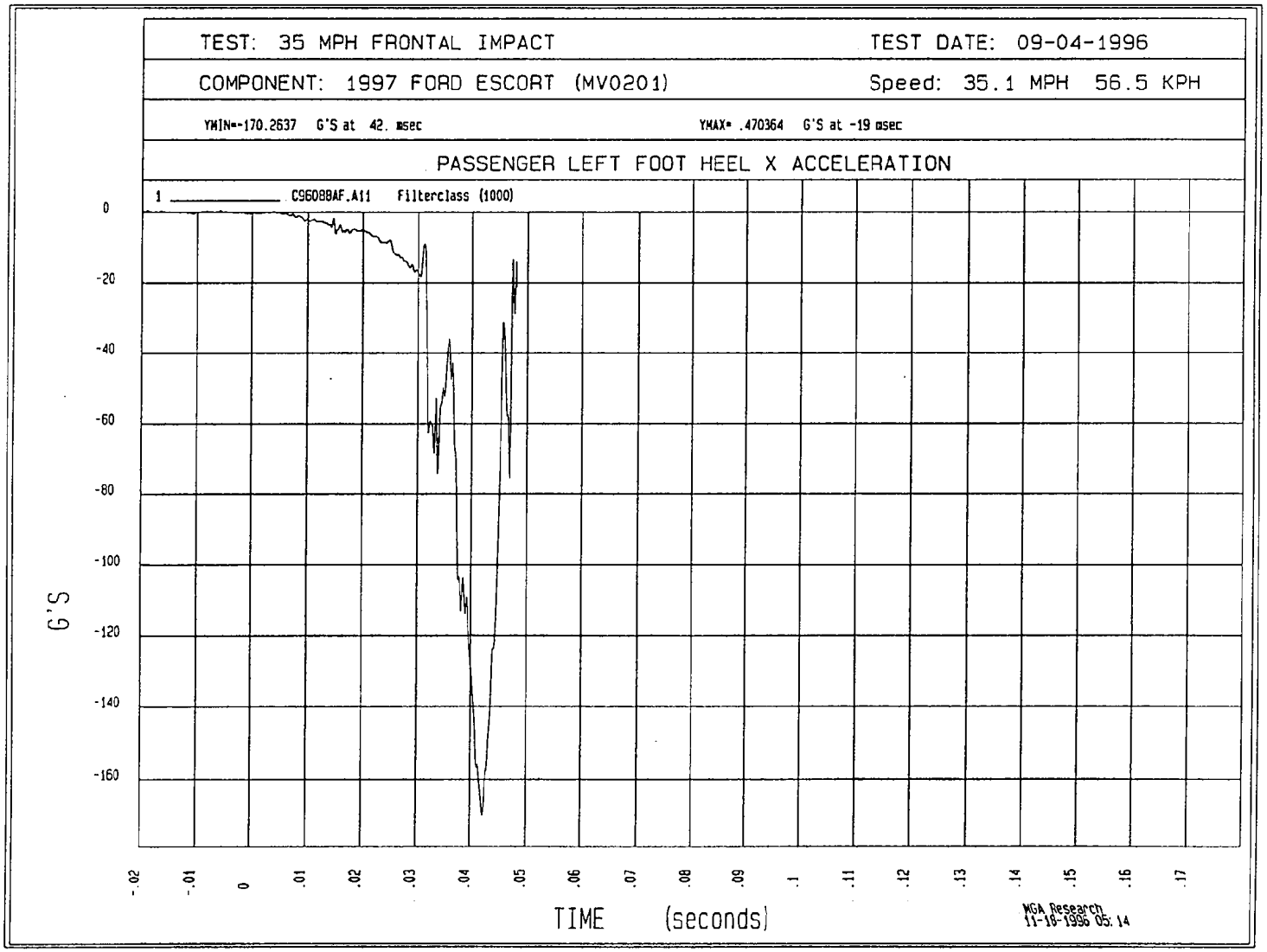

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-200.4492 NM at 57. msec
YMAX= 98.39559 NM at 41. msec
PASSENGER RIGHT UPPER TIBIA MOMENT Y
1 ——— B9500BHF.M88 Filterclass (600)
NM
TIME (SECONDS)
MGA Research
11-18-1996 02:26

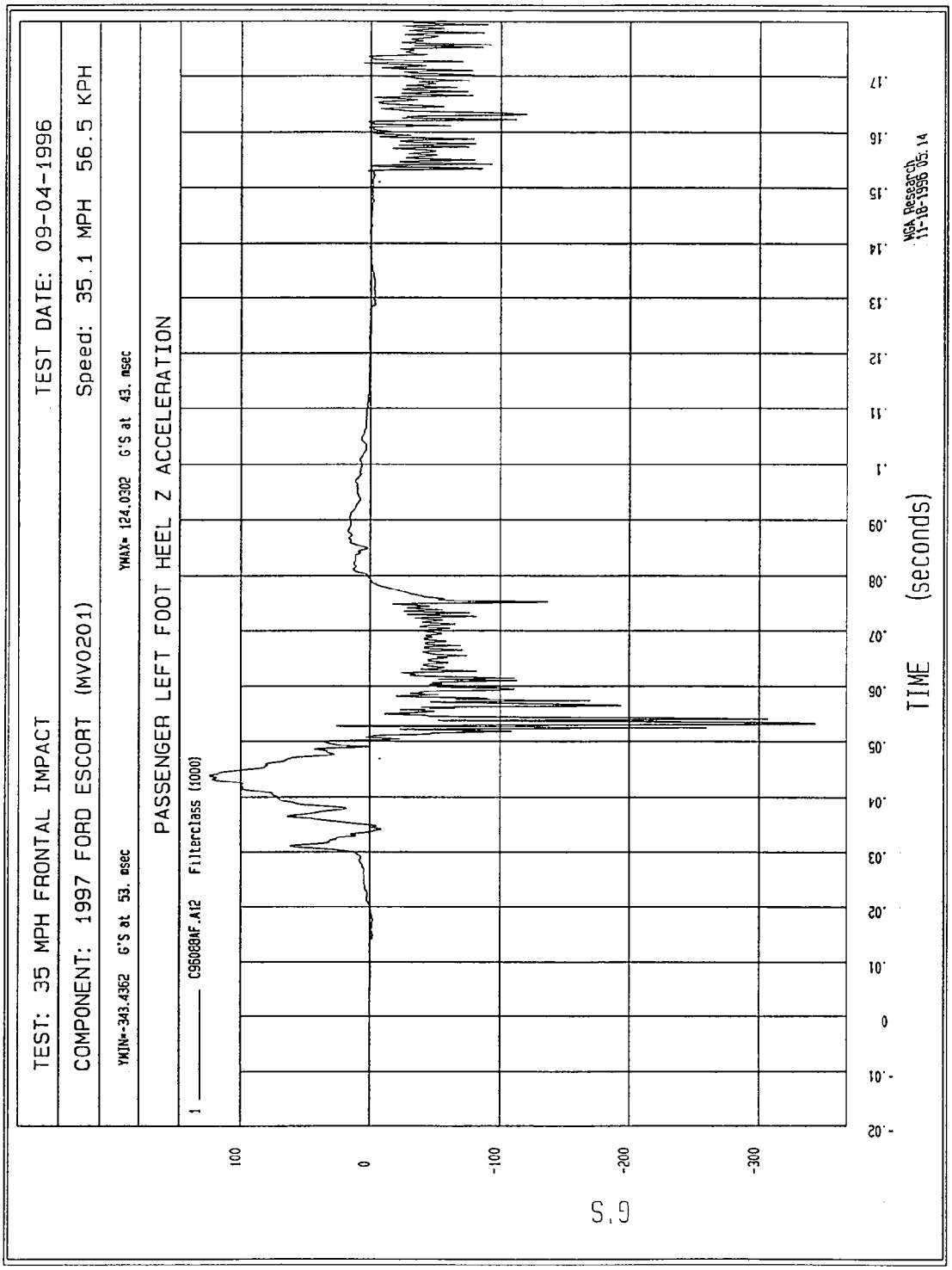

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-1060.279 N at 43. msec
YMAX= 601.5075 N at 60. msec
PASSENGER RIGHT LOWER TIBIA FORCE X
1 B960B8F.F69 Filterclass (1000)
600
400
200
0
-200
-400
-600
-800
-1000
N
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
11-18-1996 02:26

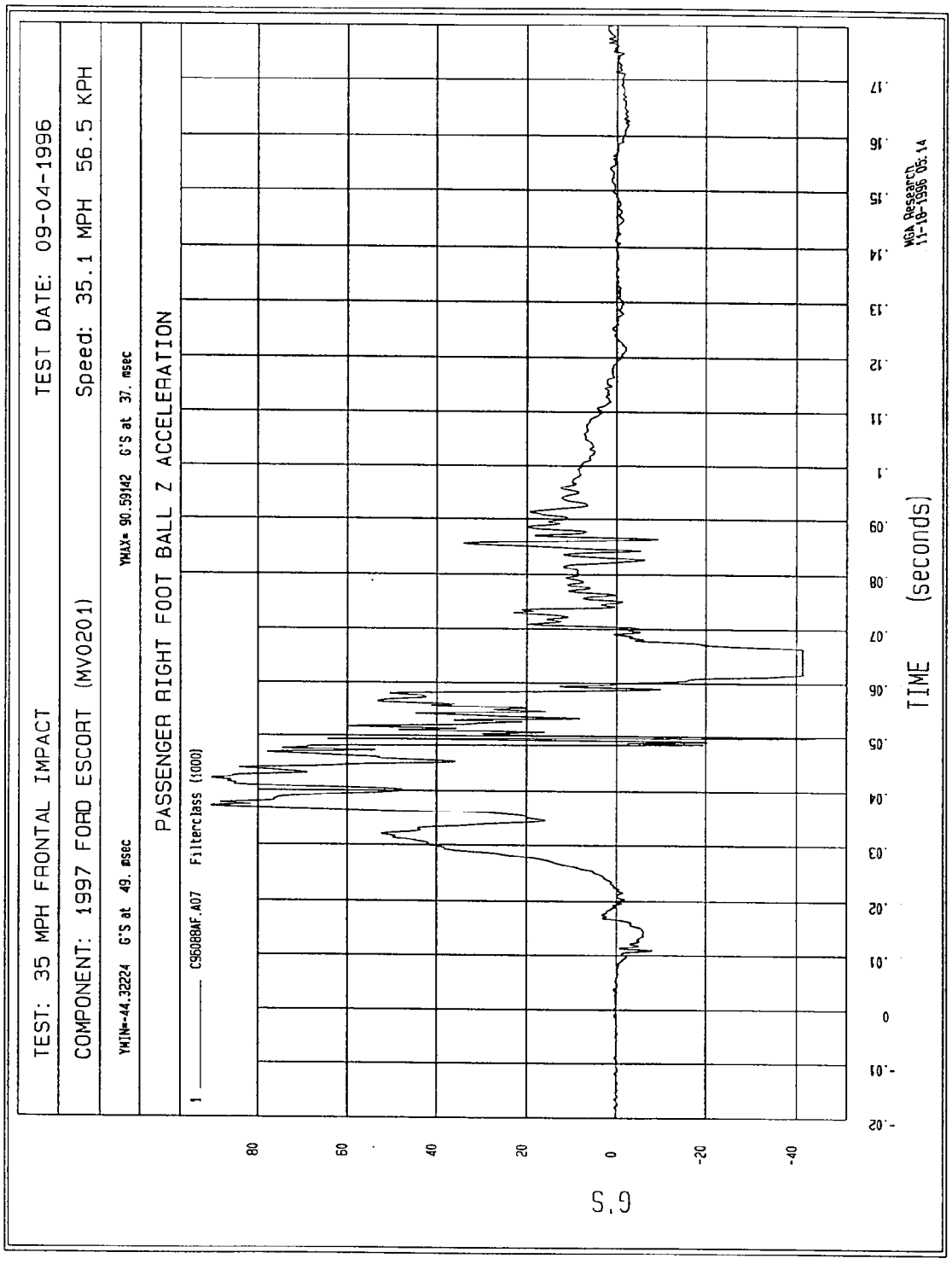

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-137.0321 NM at 64. msec
YMAX= 27.7306B NM at 43. msec
PASSENGER RIGHT LOWER TIBIA MOMENT Y
1 ——— 896088MF.M80 Filterclass (600)
NM
TIME (SECONDS)
MGA Research
11-18-1996 02:26

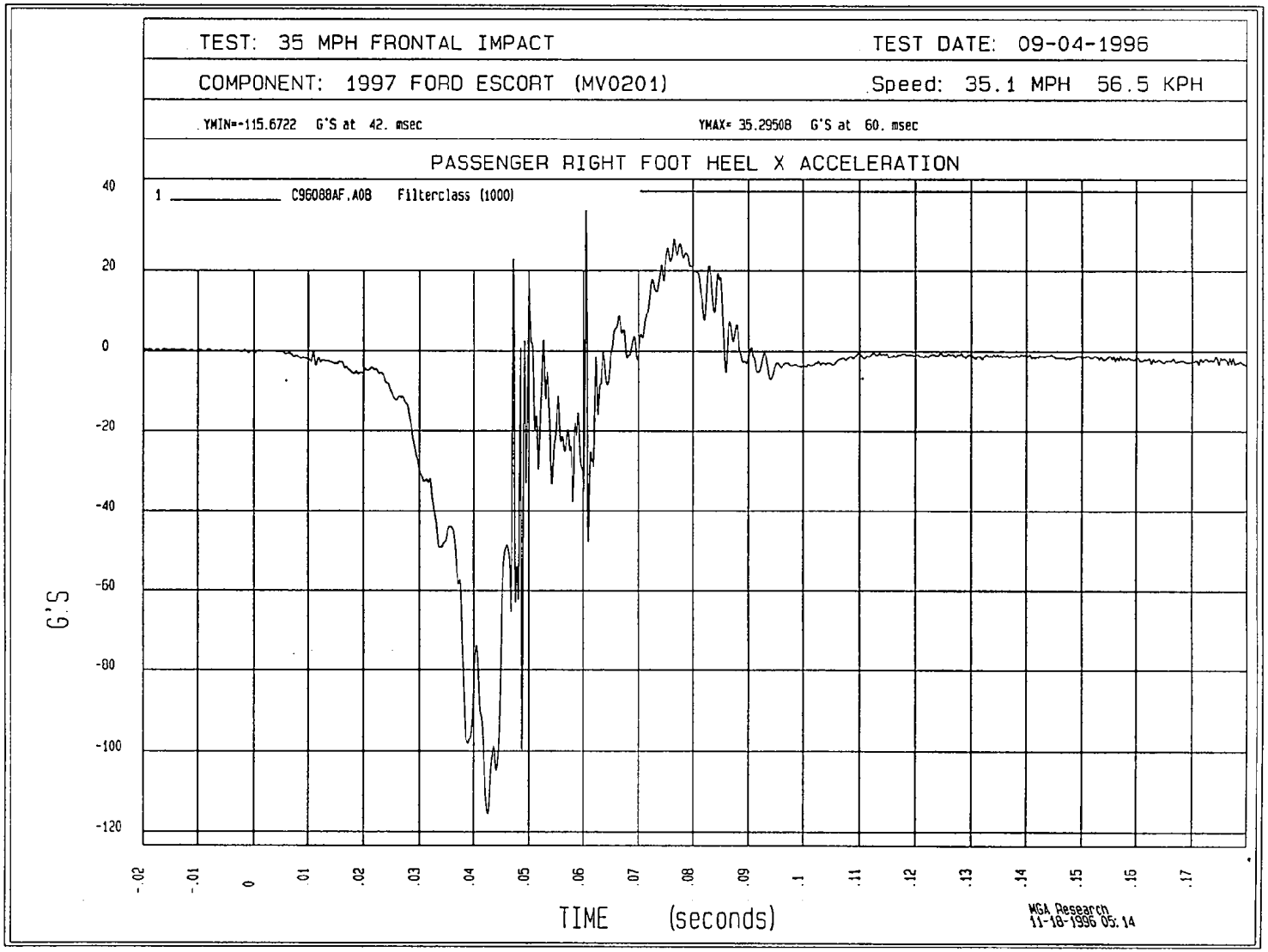

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-252.1682 N at 153 msec
YMAX= 4226.352 N at 47. msec
PASSENGER RIGHT LOWER TIBIA FORCE Z
1 ——— 8960B8FF.F91 Filterclass (1000)
N
TIME (SECONDS)
MGA Research
11-18-1996 02:26

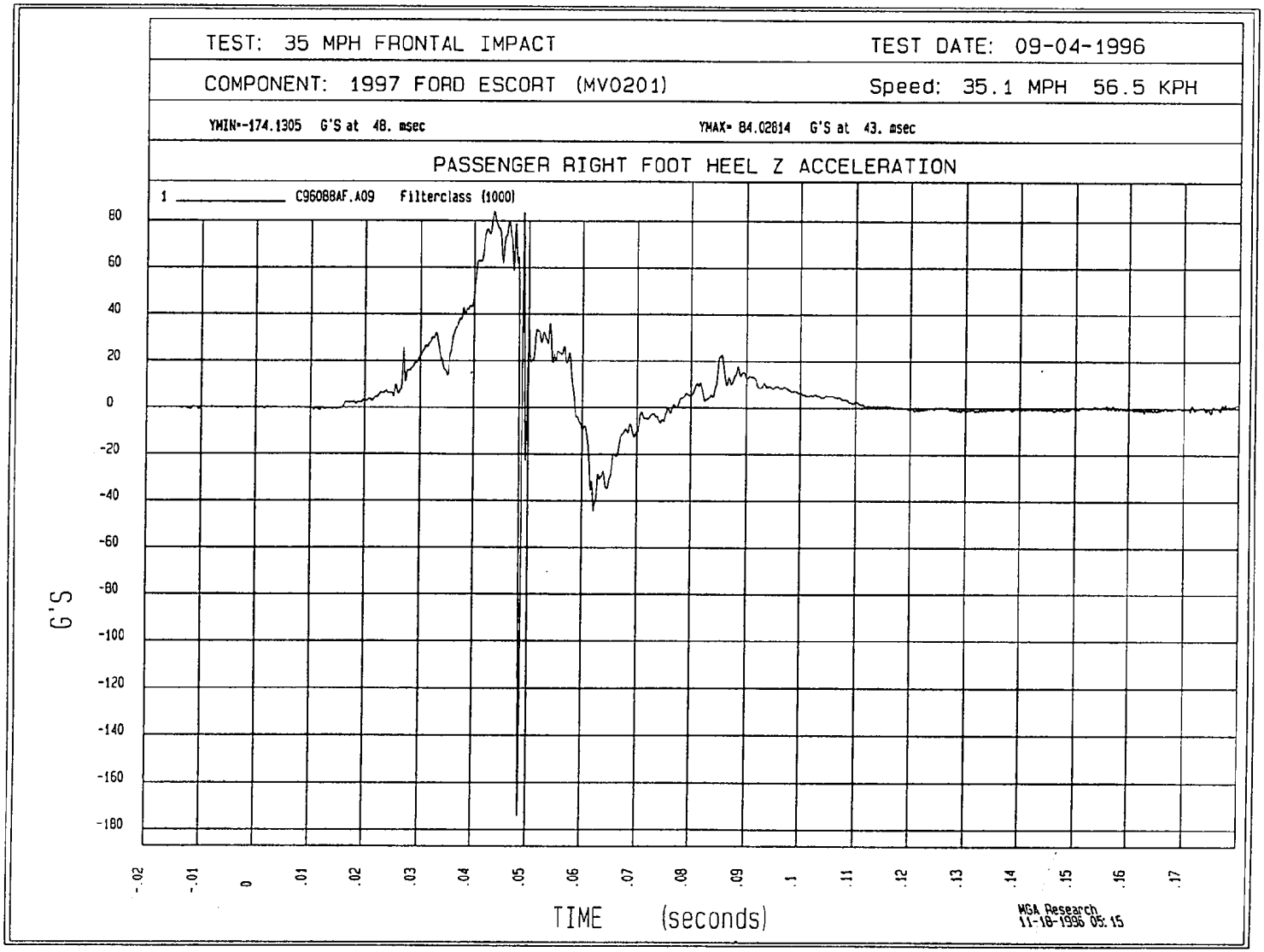

TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-220.8811 G'S at 52 msec
YMAX= 191.7759 G'S at 31. msec
PASSENGER LEFT FOOT BALL Z ACCELERATION
1 C960B8AF.A10 Filterclass (1000)
200
100
0
-100
-200
G'S
.17
.16
.15
.14
.13
.12
.11
.1
.09
.08
.07
.06
.05
.04
.03
.02
.01
0
-.01
-.02
TIME (seconds)
MGA Research
11-18-1996 05:14


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-170.2637 G'S at 42. msec
YMAX= .470364 G'S at -19 msec
PASSENGER LEFT FOOT HEEL X ACCELERATION
1 C9608BAF.A11 Filterclass (1000)
0
-20
-40
-60
-80
-100
-120
-140
-160
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
TIME (seconds)
MGA Research
11-18-1996 05:14


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-343.4362 G'S at 53. msec
YMAX= 124.0302 G'S at 43. msec
PASSENGER LEFT FOOT HEEL Z ACCELERATION
1 C95068AF.A12 Filterclass (1000)
100
0
-100
-200
-300
G's
.17
.16
.15
.14
.13
.12
.11
.1
.09
.08
.07
.06
.05
.04
.03
.02
.01
0
-.01
-.02
TIME (seconds)
NGA Research
11-18-1996 05.14


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-44.32224 G'S at 49. msec
YMAX= 90.59142 G'S at 37. msec
PASSENGER RIGHT FOOT BALL Z ACCELERATION
1 C960088AF.A07 Filterclass (1000)
80
60
40
20
0
-20
-40
G'S
TIME (seconds)
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
MGA Research
11-18-1996 05:14


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-115.6722 G'S at 42. msec
YMAX= 35.29508 G'S at 60. msec
PASSENGER RIGHT FOOT HEEL X ACCELERATION
1 C96088AF.A08 Filterclass (1000)
40
20
0
-20
-40
-60
-80
-100
-120
G'S
-.02
-.01
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
TIME (seconds)
MGA Research
11-18-1996 05:14


TEST: 35 MPH FRONTAL IMPACT
TEST DATE: 09-04-1996
COMPONENT: 1997 FORD ESCORT (MV0201)
Speed: 35.1 MPH 56.5 KPH
YMIN=-174.1305 G'S at 48. msec
YMAX= 84.02614 G'S at 43. msec
PASSENGER RIGHT FOOT HEEL Z ACCELERATION
1 C96088AF.A09 Filterclass (1000)
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
TIME (seconds)
MGA Research
11-18-1996 05:15

APPENDIX C

Dummy Configuration & Performance Verification Data

HYBRID III DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA

DUMMY NO.: 037 DUMMY CALIBRATION BY: Al Chalmers

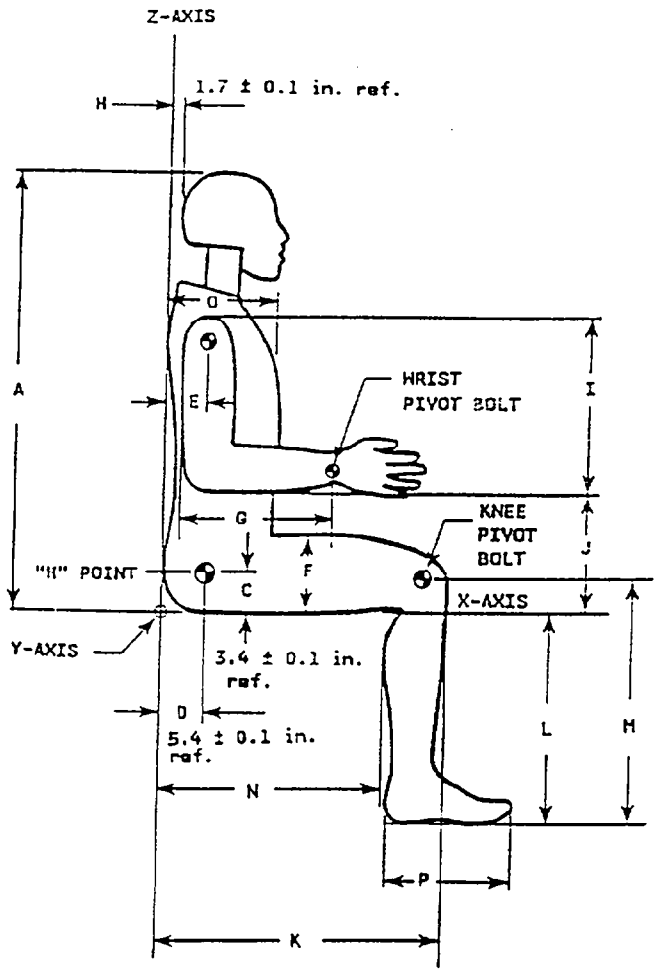
I. CONFIGURATION VERIFICATION DATA

DATE OF VERIFICATION: 5-8-96

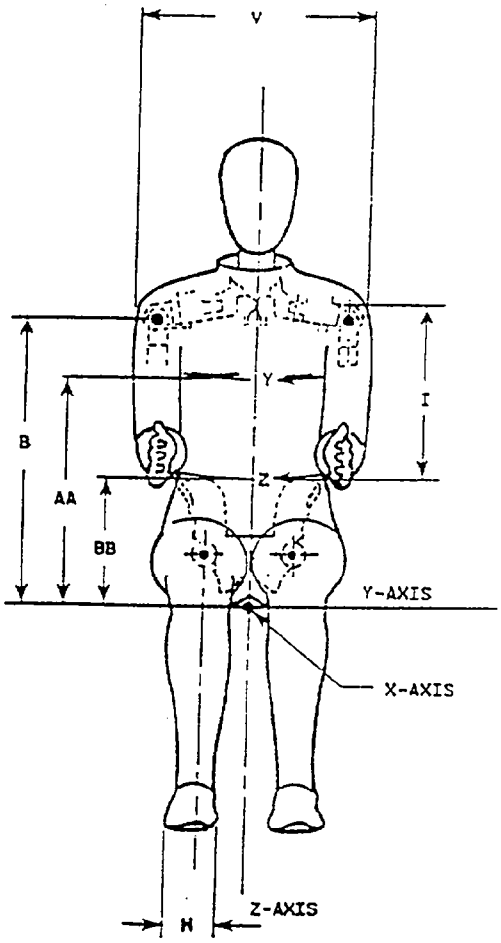
DESCRIPTION	SPECIFICATION (inches)	ACTUAL MEASUREMENT (inches)
A - Total Sitting Height	34.6 - 35.0	34.9
B - Shoulder Pivot Height	19.9 - 20.5	20.5
C - "H" Point Height	3.3 - 3.5	3.5
D - "H" Point from Seat Back	5.3 - 5.5	5.5
E - Shoulder Pivot From Backline	3.3 - 3.7	3.5
F - Thigh Clearance	5.5 - 6.1	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.: 037 DUMMY CALIBRATION BY: Al Chalmers

VERIFICATION DATE: 5-8-96

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

1.0 HEAD DROP TEST

	SPECIFICATION	MEASUREMENT
Peak Resultant Acceleration	225 - 275 G	256
Peak Lateral Acceleration	15 G. MAX	12
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	23.07
	20 MS	17.60 - 22.60 G	21.27
	30 MS	12.50 - 18.50 G	16.77
Max. Pendulum G Above 30 MS		29.0 G MAX	16.2
Deceleration - Time Curve Decay Time to 5 G		34 - 42 MS	38
D Plane Rotation	MAX	64 - 78 DEG.	71
	TIME	57 - 64 MS	59
Rotation Angle - Time Curve Decay Time to Zero		113 - 128 MS	114
Moment About Occipital Condyle	MIN.	65 - 80 FT. LBS	66
	TIME	47 - 58 MS	50
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	20.00
Pendulum Deceleration	10 MS	17.20 - 21.20 G	17.76
	20 MS	14.00 - 19.00 G	16.22
	30 MS	11.00 - 16.00 G	13.12
Max. Pendulum G Above 30 MS		22 G Max	13
Deceleration - Time Curve Decay Time to 5 G		38 - 46 MS	41
D Plane Rotation	MAX	81 - 106 DEG.	101
	TIME	72 - 82 MS	78
Rotation Angle - Time Curve Decay Time to Zero		147 - 174 MS	158
Moment About Occipital Condyle	MIN.	-59.0/-39.0 FT LBS	-45.0
	TIME	65 - 79 MS	73
Positive Moment - Time Curve Decay Time to Zero		120 - 148 MS	142

4.0 CHEST IMPACT TESTS

	SPECIFICATION	MEASUREMENT
Probe Speed	21.6 to 22.4 F/S	21.8
Peak Deflection	2.50 to 2.86 IN.	2.50
Peak Resistive Force	1160 to 1325 LBS.	1312
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.	1175

RIGHT KNEE	SPECIFICATION	MEASUREMENT
Probe Speed	6.8 to 7.0 F/S	7.0
Maximum Force	1060 - 1300 LBS.	1083

HYBRID III DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA

DUMMY NO.: 036 DUMMY CALIBRATION BY: Al Chalmers

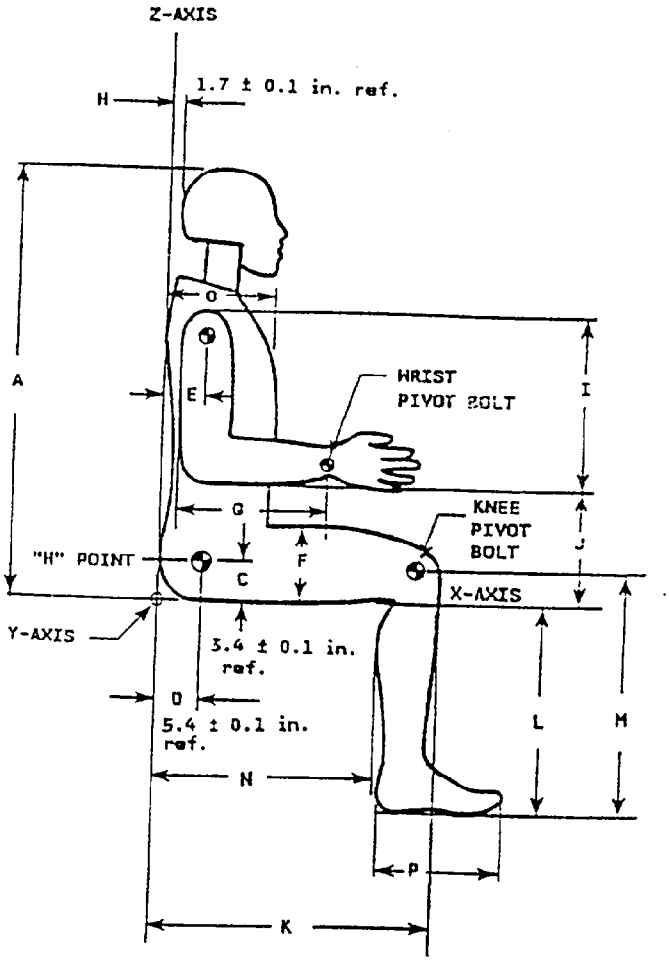
I. CONFIGURATION VERIFICATION DATA

DATE OF VERIFICATION: 5-30-96

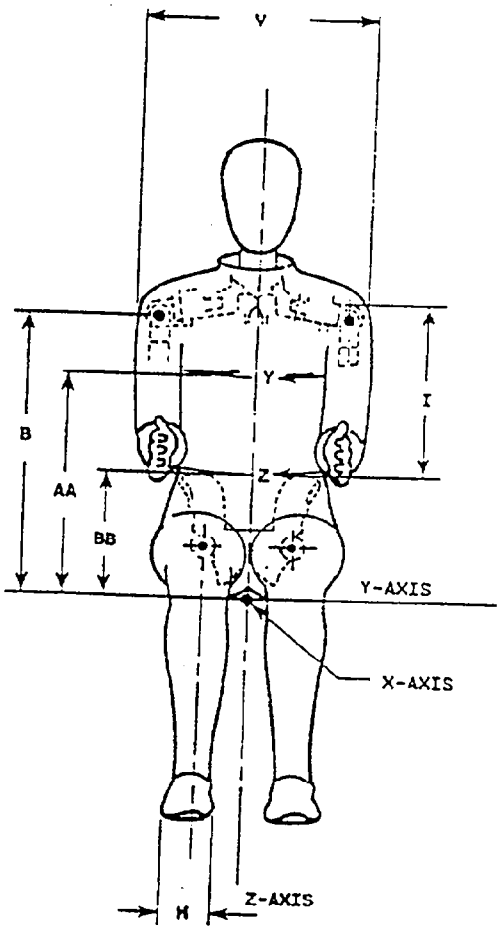
DESCRIPTION	SPECIFICATION (Inches)	ACTUAL MEASUREMENT (inches)
A - Total Sitting Height	34.6 - 35.0	34.8
B - Shoulder Pivot Height	19.9 - 20.5	20.5
C - "H" Point Height	3.3 - 3.5	3.5
D - "H" Point from Seat Back	5.3 - 5.5	5.5
E - Shoulder Pivot From Backline	3.3 - 3.7	3.5
F - Thigh Clearance	5.5 - 6.1	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.: 036 DUMMY CALIBRATION BY: Al Chalmers

VERIFICATION DATE: 5-30-96

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

1.0 HEAD DROP TEST

	SPECIFICATION	MEASUREMENT
Peak Resultant Acceleration	225 - 275 G	260
Peak Lateral Acceleration	15 G. MAX	7
Is Acceleration Curve Unimodal	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	24.20
	20 MS	17.60 - 22.60 G	21.54
	30 MS	12.50 - 18.50 G	16.74
Max. Pendulum G Above 30 MS		29.0 G MAX	16.7
Deceleration - Time Curve Decay Time to 5 G		34 - 42 MS	36
D Plane Rotation	MAX	64 - 78 DEG.	77
	TIME	57 - 64 MS	58
Rotation Angle - Time Curve Decay Time to Zero		113 - 128 MS	113
Moment About Occipital Condyle	MIN.	65 - 80 FT. LBS	80
	TIME	47 - 58 MS	48
Positive Moment - Time Curve Decay Time to Zero		97 - 107 MS	100

HYBRID III DUMMY CALIBRATION DATA SUMMARY SHEET (CONT.)

3.0 NECK EXTENSION TEST

		SPECIFICATION	MEASUREMENT
Pendulum Speed		19.50 - 20.30 F/S	20.00
Pendulum Deceleration	10 MS	17.20 - 21.20 G	18.83
	20 MS	14.00 - 19.00 G	17.23
	30 MS	11.00 - 16.00 G	13.76
Max. Pendulum G Above 30 MS		22 G Max	14
Deceleration - Time Curve Decay Time to 5 G		38 - 46 MS	39
D Plane Rotation	MAX	81 - 106 DEG.	101
	TIME	72 - 82 MS	76
Rotation Angle - Time Curve Decay Time to Zero		147 - 174 MS	158
Moment About Occipital Condyle	MIN.	-59.0/-39.0 FT LBS	-49.9
	TIME	65 - 79 MS	72
Positive Moment - Time Curve Decay Time to Zero		120 - 148 MS	143

4.0 CHEST IMPACT TESTS

	SPECIFICATION	MEASUREMENT
Probe Speed	21.6 to 22.4 F/S	21.8
Peak Deflection	2.50 to 2.86 IN.	2.64
Peak Resistive Force	1160 to 1325 LBS.	1280
Internal Hysteresis	69 to 85%	69

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	6.9
Maximum Force	1060 - 1300 LBS.	1161

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

APPENDIX D

Dummy, Vehicle and Laboratory Calibration Data

DUMMY, VEHICLE AND LABORATORY INSTRUMENT CALIBRATION

INSTRUMENTS FOR DUMMY NO. 037

	DRIVER		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Head X	ACCY6	Endevco	6/07/96
Head Y	ACCH1	Endevco	6/07/96
Head Z	AAMW5	Endevco	6/07/96
Head X Redundant	AJ9D2	Endevco	6/07/96
Head Y Redundant	AH1E2	Endevco	6/07/96
Head Z Redundant	AJ7K3	Endevco	6/07/96
Chest X	ACCY1	Endevco	6/06/96
Chest Y	ACCC8	Endevco	6/06/96
Chest Z	ACCT7	Endevco	6/06/96
Chest X Redundant	AJ904	Endevco	6/06/96
Chest Y Redundant	AJ9F3	Endevco	6/06/96
Chest Z Redundant	AJ9D9	Endevco	6/06/96
Right Femur Load Cell	261	Denton	8/28/96
Left Femur Load Cell	262	Denton	8/28/96
Pelvis X	ALDY8	Endevco	6/06/96
Pelvis Y	ALEK9	Endevco	6/06/96
Pelvis Z	ALE80	Endevco	6/06/96

DUMMY, VEHICLE AND LABORATORY INSTRUMENT CALIBRATION

INSTRUMENTS FOR DUMMY NO. 037

	DRIVER		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Neck Load Cell X	443	Denton	6/18/96
Neck Load Cell Y	443	Denton	6/18/96
Neck Load Cell Z	443	Denton	6/18/96
Neck Moment X	443	Denton	6/18/96
Neck Moment Y	443	Denton	6/18/96
Neck Moment Z	443	Denton	6/18/96
Chest Deflection Potentiometer	037	Servo	7/10/96
Lap Belt Load Cell	690	Lebow	6/18/96
Shoulder Belt Load Cell	624	Lebow	6/18/96

DUMMY, VEHICLE AND LABORATORY INSTRUMENT CALIBRATION

INSTRUMENTS FOR DUMMY NO. 037

	DRIVER		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Upper Right Tibia Moment X	436	Denton	6/18/96
Upper Right Tibia Moment Y	436	Denton	6/18/96
Lower Right Tibia Moment Y	424	Denton	6/14/96
Lower Right Tibia Force X	424	Denton	6/14/96
Lower Right Tibia Force Z	424	Denton	6/14/96
Upper Left Tibia Moment X	438	Denton	6/18/96
Upper Left Tibia Moment Y	438	Denton	6/18/96
Lower Left Tibia Moment Y	426	Denton	6/14/96
Lower Left Tibia Force X	426	Denton	6/14/96
Lower Left Tibia Force Z	426	Denton	6/14/96
Right Foot Ball Z	AP120	Endevco	6/06/96
Right Foot Heel X	AP2C4	Endevco	6/06/96
Right Foot Heel Z	AP042	Endevco	6/06/96
Left Foot Ball Z	AN8M6	Endevco	6/06/96
Left Foot Heel X	AHY99	Endevco	6/06/96
Left Foot Heel Z	APOE1	Endevco	6/06/96

DUMMY, VEHICLE AND LABORATORY INSTRUMENT CALIBRATION

INSTRUMENTS FOR DUMMY NO. 036

	PASSENGER		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Head X	AAMN8	Endevco	6/06/96
Head Y	ACC61	Endevco	6/06/96
Head Z	ACCW9	Endevco	6/06/96
Head X Redundant	AJ621	Endevco	6/06/96
Head Y Redundant	AJ619	Endevco	6/06/96
Head Z Redundant	AHY54	Endevco	6/06/96
Chest X	ACC78	Endevco	6/06/96
Chest Y	ACCE6	Endevco	6/06/96
Chest Z	ACCY3	Endevco	6/06/96
Chest X Redundant	AJ9J7	Endevco	6/06/96
Chest Y Redundant	AJ7A2	Endevco	6/06/96
Chest Z Redundant	AJ819	Endevco	6/06/96
Right Femur Load Cell	259	Denton	8/28/96
Left Femur Load Cell	260	Denton	8/28/96
Pelvis X	ALB87	Endevco	6/06/96
Pelvis Y	AGNB3	Endevco	6/06/96
Pelvis Z	AJ834	Endevco	6/06/96

DUMMY, VEHICLE AND LABORATORY INSTRUMENT CALIBRATION

INSTRUMENTS FOR DUMMY NO. 036

	PASSENGER		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Neck Load Cell X	442	Denton	6/18/96
Neck Load Cell Y	442	Denton	6/18/96
Neck Load Cell Z	442	Denton	6/18/96
Neck Moment X	442	Denton	6/18/96
Neck Moment Y	442	Denton	6/18/96
Neck Moment Z	442	Denton	6/18/96
Chest Deflection Gauge	036	Servo	5/08/96
Lap Belt Load Cell	657	Lebow	6/18/96
Torso Belt Load Cell	625	Lebow	6/18/96

DUMMY, VEHICLE AND LABORATORY INSTRUMENT CALIBRATION

INSTRUMENTS FOR DUMMY NO. 036

	PASSENGER		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Upper Right Tibia Moment X	040	Denton	4/16/96
Upper Right Tibia Moment Y	040	Denton	4/16/96
Lower Right Tibia Moment Y	034	Denton	4/17/96
Lower Right Tibia Force X	034	Denton	4/17/96
Lower Right Tibia Force Z	034	Denton	4/17/96
Upper Left Tibia Moment X	023	Denton	4/16/96
Upper Left Tibia Moment Y	023	Denton	4/16/96
Lower Left Tibia Moment Y	019	Denton	4/17/96
Lower Left Tibia Force X	019	Denton	4/17/96
Lower Left Tibia Force Z	019	Denton	4/17/96
Right Foot Ball Z	AP0P6	Endevco	6/06/96
Right Foot Heel X	AP0T3	Endevco	6/06/96
Right Foot Heel Z	AP122	Endevco	6/06/96
Left Foot Ball Z	ACC81	Endevco	6/06/96
Left Foot Heel X	AP1Y1	Endevco	6/06/96
Left Foot Heel Z	AMTB8	Endevco	6/06/96

DUMMY, VEHICLE AND LABORATORY INSTRUMENT CALIBRATION

	VEHICLE ACCELEROMETERS		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Left Rear Seat Crossmember X	L14-D08	Entran	7/03/96
Right Rear Seat Crossmember X	B14-R12	Entran	7/15/96
Top of Engine Block X	H16-X19	Entran	3/27/96
Bottom of Engine X	A15-Z16	Entran	6/04/96
Left Brake Caliper X	B14-R10	Entran	7/15/96
Right Brake Caliper X	A15-Z19	Entran	7/15/96
Instrument Panel X	J23-E09	Entran	7/03/96
Redundant Left Rear Seat Crossmember X	A10-G01	Entran	6/04/96
Redundant Right Rear Seat Crossmember X	A15-Z15	Entran	7/15/96

	LABORATORY INSTRUMENTS		
	SERIAL NO.	MANUFACTURER	CALIBRATION DATE
Neck Bending Pendulum Accelerometer	C12871	Endevco	2/29/96
Neck Bending Head Rotary Potentiometer	018	Spectrol	4/17/96
Neck Bending Pendulum Rotary Potentiometer	019	Spectrol	4/17/96
Chest Probe Accelerometer	AN9E3	Endevco	2/16/96
Knee Impact Accelerometer	5220072	Kyowa	2/23/96

APPENDIX E

Vehicle Owner's Occupant Restraint System Instructions

SAFETY RESTRAINTS PRECAUTIONS

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 the use of safety belts.

To reduce the risk of serious injury in a collision, always drive and ride with your seatback upright and the lap belt snug and low across the hips.

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

To prevent the risk of injury, make sure children sit where they can be properly restrained.

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

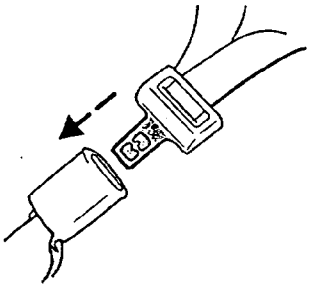
Do not allow people to ride in any area of your vehicle that is not equipped with seats and safety belts.

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

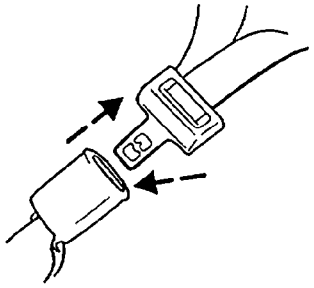
USING THE SAFETY RESTRAINTS PROPERLY

Combination lap and shoulder belts

Insert the buckle into the slot to fasten.



Push the orange release button and remove the buckle from the slot to unfasten.



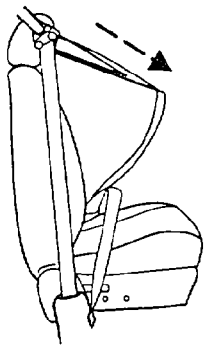
The lap belts should be snug and as low as possible around the hips, not around the waist.

The outboard safety restraints in the vehicle are combination lap and shoulder safety belts. The front and rear seat passenger outboard safety belts have the two types of locking modes.

Vehicle sensitive (emergency) locking mode

The vehicle sensitive mode is the normal retractor mode, which locks the belts in response to vehicle movement. For example, if the driver brakes suddenly or turns a corner sharply, the combination safety belts will lock to restrain forward movement of the driver and passengers.

The retractor can be made to lock by pulling sharply on the belt.



Automatic locking mode

In this mode, the occupant is locked in a certain position by the shoulder belt and the belt does not adjust tightness during vehicle movement.

The automatic locking mode is not available on the driver safety belt.

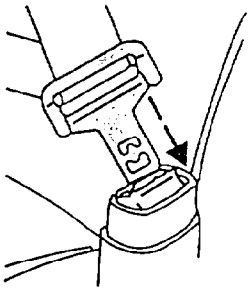
When to use the automatic locking mode

- When a tight lap and shoulder belt fit is desired.
- **Any time** a child safety seat is installed in the vehicle. For more information on the proper use of a child safety seat, refer to *Children and infant or child safety seats* later in this chapter.

Using the automatic locking mode

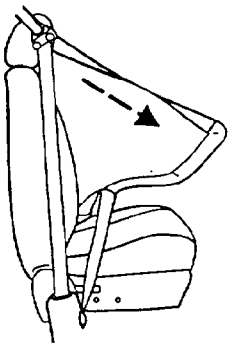
The automatic locking mode must be used when installing an aftermarket child safety seat in any outboard passenger seat.

1. Buckle the combination lap and shoulder belt.



2. Grasp the shoulder belt portion and pull downward until the entire belt is extracted.

3. Allow the belt to retract. As the belt retracts, you will hear a clicking sound. This indicates that the safety belt is now in the automatic locking mode.



Canceling the automatic locking mode

Disconnect the combination lap and shoulder belt and allow it to completely retract. This will cancel the automatic locking mode and activate the vehicle sensitive (emergency locking) mode.

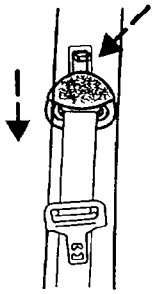
Front seat safety belt height adjustment

Adjust the height of the shoulder belt so the belt rests across the middle of your shoulder.

- To lower the height of the shoulder belt:

Push the button down.

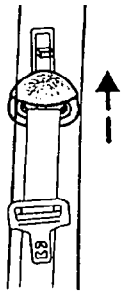
Slide down.



- To raise the height of the shoulder belt:

Slide up.

Pull down on the height adjustment assembly to make sure it is locked in place.



Lap belt

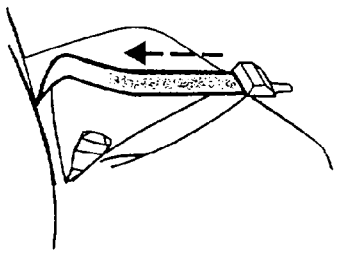
A lap belt is located in the center of the rear seat.

Adjusting the lap belt

Because the lap belt does not have a retractor to automatically adjust itself during vehicle movement, the lap belt should be adjusted before use.

- To shorten the belt:

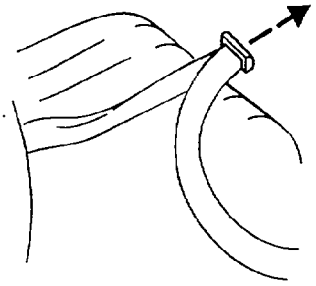
Buckle the belt. Pull the loose end of the belt until snug.



- To lengthen the belt:

Tip and pull the tongue

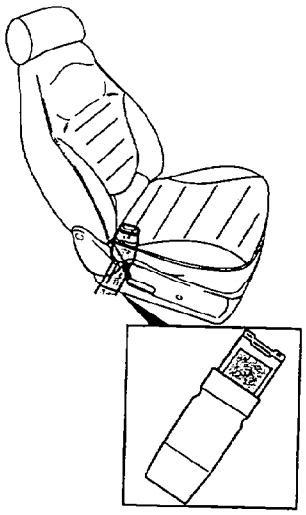
The lap belt must fit snugly and as low as possible around the hips. Do not wear the lap belt around your waist.



Safety belt maintenance

Check the safety belt systems periodically for damage and to ensure that they work properly.

The short plastic boot on the front safety belt at the passenger inboard buckle location covers an energy absorbing sew pattern on the safety belt. In the event of a collision, the sew pattern may release, and the orange portion of the warning label may become visible. If this occurs, the safety belt and buckle must be replaced.



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

SAFETY BELT INDICATOR LIGHT AND WARNING CHIME

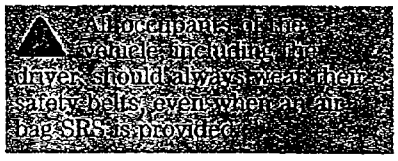
illuminates in the instrument cluster and a chime sounds to remind the occupants to fasten their safety belts.

Conditions of operation

If . . .	Then . . .
The driver's safety belt is not buckled before the ignition key is turned to ON...	The safety belt indicator illuminates for one to two minutes and the warning chime sounds for 4-8 seconds.
The driver's side safety belt is buckled while the indicator light is illuminated and the warning chime is sounding...	The safety belt indicator light and the warning chime turn off.
The driver's safety belt is buckled before the ignition key is turned to ON...	The safety belt indicator light and warning chime remain off.

AIR BAG PRECAUTIONS

Your vehicle is equipped with an air bag supplemental restraint system (SRS) designed to work with the safety belts to help protect you and your right front seat passenger in the event of a collision.



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

Do not attempt to service, repair, or modify the air bag SRS or its fuses. See your Ford or Lincoln-Mercury dealer.

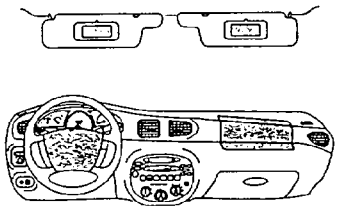
AIR BAG SYSTEM DESCRIPTION

The air bags and their corresponding warning and information labels are found in the following locations:

The air bag system activates in collisions more severe than hitting a parked vehicle (of similar size and weight) head-on at approximately 20 km/h (13 mph). This activation speed may vary if your vehicle is involved in a collision with something that will move or deform and according to the angle of impact. The air bag is not designed to inflate in rollovers, side impacts, or rear impacts.

Air bags and air bag equipped vehicles should be disposed of only by qualified service personnel using Ford approved procedures.

The system consists of two parts:



- The driver air bag in the middle of the steering wheel and the passenger air bag above the glove compartment.
- The electrical system, made up of impact sensors, a diagnostic module, and a backup power supply.

The air bags inflate within a fraction of a second after air bag sensors detect a severe frontal collision. Gas generators within the air bags fill the air bags with a non-toxic, non-flammable gas. After the vehicle occupants have impacted the air bags, the gas empties through holes in the air bags and the air bags deflate. You may notice smoke and smell the escaping gas after the air bags deflate. This is normal.

You and your passenger **must** wear your safety belts in order for the air bag system to operate effectively.

AIR BAG WARNING LIGHT AND WARNING CHIME

When you turn the ignition key to the ON position, the air bag system performs a self-check of the:

- air bag sensors
- air bag module
- air bag inflators
- available battery power
- air bag warning light

Following a successful system self-check, the warning light in the instrument cluster illuminates for approximately six seconds to indicate that the system is functional.

If you hear a group of five beeps, or if the warning light does not illuminate, stays lit, or flashes, the air bag system requires immediate service. Have the vehicle serviced by your dealer.