V2844

REPORT NO. 208-MGA-98-006

SAFETY COMPLIANCE TESTING FOR FMVSS 208 OCCUPANT CRASH PROTECTION (SLED TEST)

Ford Motor Company
1998 Ford Escort 4 Door
NHTSA NO. CW0206

MGA RESEARCH CORPORATION
5000 WARREN ROAD
BURLINGTON, WI 53105

Test Date: March 26, 1998

Report Date: April 2, 1998

Final Report

Prepared For:
U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
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OFFICE OF VEHICLE SAFETY COMPLIANCE
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16. Abstract Compliance tests (sled test) were conducted on the subject 1998 Ford Escort 4 Door in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP208S-00 for the determination of FMVSS 208 compliance. Test failures identified were as follows: NONE			
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PURPOSE AND TEST PROCEDURE

PURPOSE

This sled test is part of the Federal Motor Vehicle Safety Standard (FMVSS) 208 compliance test program conducted for the National Highway Traffic Safety Administration (NHTSA) by MGA Research Corporation (MGA) under Contract No. DTNH22-93-D-21089. The purpose of this test was to determine whether the subject vehicle, a 1998 Ford Escort 4 Door, NHTSA No. CW0206, meets the performance requirements of FMVSS 208, "Occupant Crash Protection". The compliance test was conducted using the requirements found in the OVSC Laboratory Test Procedure No. TP-208S-00 dated June 17, 1997.

TEST PROCEDURE

This test was conducted in accordance with NHTSA's Office of Vehicle Safety Compliance (OVSC) Laboratory Test Procedure No. TP-208S-00 dated June 17, 1997. Data was obtained relative to FMVSS 208, "Occupant Crash Protection".

The test vehicle was instrumented with four (4) accelerometers to measure longitudinal axis accelerations.

The test vehicle contained two (2) Part 572 E 50th percentile adult male anthropomorphic test devices (ATDs). The dummies were positioned in the front outboard seating positions according to the dummy placement procedures specified in Appendix B of the Laboratory Test Procedure.

Both dummies were instrumented with head and chest accelerometers to measure longitudinal, lateral, and vertical accelerations; a chest potentiometer to measure longitudinal deflection; an upper neck load cell to measure longitudinal, lateral, and vertical neck forces and moments; and left and right femur load cells to measure axial forces.

The thirty-seven (37) data channels were multiplexed and recorded on five IBM PC compatible computers with Metrabyte DAS-16F A/D converter boards. The data was digitally sampled at 10,000 samples per second and processed per Section 11.7 through 11.9 of the Laboratory Test Procedure.

The crash event was recorded by one (1) real-time panning motion picture camera and six (6) high-speed motion picture cameras. The pre-test and post-test conditions were recorded by the real-time motion picture camera.

The vehicle and occupant data are summarized in Section 2. The FMVSS 208 data is presented in Section 3. The vehicle, occupant, and camera measurements are presented in Section 4. Appendix A contains the still photographic prints. Appendix B contains the dummy and vehicle data plots. Appendix C contains the manufacturer's vehicle information.

SECTION 2

COMPLIANCE DATA SUMMARY

TEST RESULTS SUMMARY

This sled test was conducted at MGA Research Corporation on March 26, 1998.

The test vehicle, a 1998 Ford Escort 4 Door, NHTSA No. CW0206, appeared to comply with the performance requirements of FMVSS 208. The Head Injury Criteria (HIC) calculations were less than 1000, the chest resultant accelerations did not exceed 60 g's. The compressive forces transmitted through the upper legs did not exceed 2,250 pounds as measured by Part 572 E dummies seated in the front outboard designated seating positions. For each Part 572 E dummy, the chest deflection did not exceed 3.0 inches. For each Part 572E dummy, the maximum peak flexion bending moment about the occipital condyle did not exceed 190 N-m. The maximum peak extension bending moment did not exceed 57 N-m. The maximum peak axial tension did not exceed 3300 N. The maximum peak axial compression did not exceed 4000 N. The maximum peak fore and aft shear did not exceed 3100 N. The vehicle's restraint system met the applicable comfort and convenience requirements.

The test vehicle was equipped with an airbag and a Type 2 seat belt in the front outboard designated seating positions. Both dummies were restrained only by the airbag during the test.

The driver's HIC was 271. The maximum peak flexion bending moment about the occipital condyle was 42.5 N-m, the maximum peak extension bending moment was 21.4 N-m, the maximum peak axial tension was 1084.3 N, the maximum peak axial compression was 1183.1 N, the maximum peak fore/aft shear was 1018.4 N. The driver's chest maximum resultant acceleration with three (3) milliseconds minimum duration was 35 g's. The driver's chest maximum deflection was 1.3 inches. The driver's left and right femur maximum compressive forces were 1172 pounds and 1194 pounds, respectively.

The right front passenger's HIC was 150. The maximum peak flexion bending moment about the occipital condyle was 49.3 N-m, the maximum peak extension bending moment was 19.3 N-m, the maximum peak axial tension was 434.4 N, the maximum peak axial compression

was 645.2 N, the maximum peak fore/aft shear was 1144.5 N. The right front passenger's chest maximum resultant acceleration with three (3) milliseconds minimum duration was 28 g's. The right front passenger's chest maximum deflection was 0.2 inches. The right front passenger's left and right femur maximum compressive forces were 1237 pounds and 1079 pounds, respectively.

TEST NOTES

TABLE 1 SLED TEST SUMMARY

Vehicle Yr/Make/Model/Body Style: 1998/Ford/Escort/4 Door

Vehicle NHTSA No.: CW0206 Test Type: Sled Test

Test Date: March 26, 1998 Time: 1:05 p.m. Temp: 71°F

Vehicle Test Weight: 2875 lbs.

Sled Velocity Change: 28.9 mph

Airbag Fire Time: 20 msec

Dummies:	Driver	Passenger
Dummy Type	Part 572E	Part 572E
Serial Number	401	403
Restraint System	Airbag	Airbag
No. of Data Channels	15	15

Number of Cameras: 1 Real Time

6 High Speed

Door Opening Data: Left Front: Opened Left Rear: Opened

Right Front: Opened Right Rear: Opened

Front Seat(s) Data:	Driver	Passenger
Seat Track Failure	0 in.	0 in.
Seat Back Failure	None	None

Visible Dummy Contact Points:	Driver	Passenger
Head	Airbag, windshield	Airbag
Chest	Airbag	Airbag
Left Knee	Instrument Panel	Glovebox
Right Knee	Instrument Panel	Glovebox

TABLE 2 GENERAL TEST AND VEHICLE PARAMETER DATA

Vehicle Yr/Make/Model/Body Style: 1998/Ford/Escort/4 Door

NHTSA No: CW0206 VIN: 1FAFP10P8WW208504 Body Color: Blue

Engine: 4 Cylinders; __C.I.D.; 2.0 liters; __CC

X Gas; __Diesel; ___Turbocharged

__Longitudinal; X Transverse

Transmission: 5 Speed; X Manual; _Automatic; X Overdrive

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

Major Option: __A/C; X P/S; X P/B; __P/wdo; __P/door locks;

__P/seats; __Tilt Wheel; __Anti-skid Brakes; __Cruise Control

Date Received: 2/16/98 ; Odometer Reading: 18 miles

Dealer's Name/Address: Geneva Lakes Ford Inc.
W2542 Highway 120
Lake Geneva, WI 53147

DATA FROM VEHICLE'S CERTIFICATION LABEL:

Vehicle Manufactured By: Ford Motor Company

Date of Manufacture: 1/98 ; VIN: 1FAFP10P8WW208504

GVWR: 3485 lbs; GAWR Front: 1911 lbs. GAWR Rear: 1574 lbs.

DATA FROM TIRE PLACARD:

Tire Pressure with maximum capacity vehicle load: Front 32 psi Rear 32 psi

Recommended Tire Size: P185/65R14

Recommended Cold Tire Pressure: Front 32 psi; Rear 32 psi

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

Type of Spare Tire: spacesaver

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; X Lever; _Rot. Knob __Power

TABLE 2 GENERAL TEST AND VEHICLE PARAMETER DATA (Cont.)

VEHICLE CAPACITY WEIGHT (VCW) = 830 lbs.

No. Of Occupants x 150 lbs = 750 lbs.

Rated Cargo/Luggage Weight (RCWL) = 80 lbs.

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

Right Front = 745 lbs Right Rear = 473 lbs

Left Front = 772 lbs Left Rear = 456 lbs

TOTAL FRONT WEIGHT = 1517 lbs (62 % of Total Vehicle Weight)

TOTAL REAR WEIGHT = 929 lbs (38 % of Total Vehicle Weight)

TOTAL UNLOADED DELIVERED WEIGHT (UDW) = 2446 lbs

WEIGHT OF TEST VEHICLE WITH REQUIRED DUMMIES AND CARGO WEIGHT:

Right Front = 844 lbs Right Rear = 590 lbs

Left Front = 868 lbs Left Rear = 573 lbs

TOTAL FRONT WEIGHT = 1712 lbs (60 % of Total Vehicle Weight)

TOTAL REAR WEIGHT = 1163 lbs (40 % of Total Vehicle Weight)

TOTAL TEST WEIGHT = 2875 lbs

VEHICLE ATTITUDE:

Delivered Door Sill Angle: -0.7°

Fully Loaded Door Sill Angle: 0.3°

Test Door Sill Angle: -0.1°

Wheel Base: 98.4 in

Fuel System Capacity From Owner's Manual = 12.7 gallons

Usable Capacity Figure Furnished by COTR = 12.7 gallons

TABLE 3 VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY

Vehicle Year/Make/Model/Body Style:1998/Ford/Escort/4 Door

Vehicle NHTSA No.:CW0206; Test Date:March 26, 1998

ACCELEROMETER LOCATION (inches)				
	Description	X	Y	Z
1	Engine	28.3	0	31.3
2	Left B-Post	90.9	25.4	17.9
3	Right B-Post	94.1	25.4	16.1
4	Rear Axle	127.4	0	14.4

Reference: X = Front of Sled Carriage
Y = Centerline of Sled Carriage
Z = Top of Sled Carriage

ACCELEROMETER DATA SUMMARY					
No.	DESCRIPTION	MAXIMUM (g's)	TIME (msec)	MINIMUM (g's)	TIME (msec)
1	Engine	2.5	129	-20.3	47
2	Left B-Post	2.4	127	-17.4	39
3	Right B-Post	2.3	127	-17.7	48
4	Rear Axle	1.9	125	-16.8	66

TABLE 4 REPORT OF VEHICLE CONDITION AT THE COMPLETION OF TESTING

Contract Number: DTNH22-93-D-21089

From: MGA Research Corporation
5000 Warren Road
Burlington, WI 53105

To: Mr. Charles Case, COTR
Office of Vehicle Safety Compliance

The following vehicle has been subjected to testing for FMVSS 208. The vehicle was inspected upon arrival at the laboratory for the test and found to contain all of the equipment listed below. The vehicle was again inspected after the above test had been conducted, and all changes were noted below. The final condition of the vehicle was also noted in detail.

Vehicle Year/Make/Model/Body Style: 1998/Ford/Escort/4 Door
Vehicle NHTSA No.: CW0206 Body Color: Blue
VIN: 1FAFP10P8WW208504 Cost: $11,885
Odometer: Arrival Date: 2/06/98 Reading: 16 miles
Completion Date: 3/26/98 Reading: 18 miles
Engine: 4 Cylinders; 2.0 Liters; __ Gas; __ Diesel
Transmission: 5 Speed; X Manual; __ Automatic
Final Drive: X Front Wheel; __ Rear Wheel; __ Four Wheel
Tire Size: P185/65R14 ; Manufacturer: Uniroyal

Air Conditioner	No	Console	Yes	Brakes	Power
Tinted Glass	No	Tachometer	No	Front	Disc
Power Steering	Yes	Cruise Control	No	Rear	Drum
Power Windows	No	Rear Window Def.	Yes	Front Seats	Bucket
Power Door Locks	No	Sun/Moon Roof	No	Seat Type	
Radio	Yes	T-Top	No	Front	Adjustable
Clock	Yes	Tilt Steering Wheel	No	Rear	Non-adjustable
Roof Rack	No	Other Options:	____	No. of Seats	5

Equipment that is no longer on the vehicle as noted above: Spare tire, jack, rear seats, taillights, Rear speakers, rear cargo area trim, rear deck lid.

Explanation:
Items removed to allow installation of data acquisition system.

Vehicle Condition:
The vehicle was subjected to a sled test. The engine, suspension, and exhaust system have been fixed and have numerous beams and brackets welded to them. A steel framework is attached to the vehicle. Various interior and exterior portions of the vehicle have been painted and have had holes drilled to facilitate attachment of instrumentation. Various body parts have been removed. THE VEHICLE IS FOR SALVAGE ONLY AND IS NOT TO BE REPAIRED FOR HIGHWAY USE.

SECTION 3

SUMMARY OF RESULTS FOR FMVSS 208

TABLE 5 FMVSS 208 OCCUPANT INJURY CRITERIA

Veh. Yr./Make/Model/Body Style:1998/Ford/Escort/4 Door

Veh. NHTSA No.:CW0206 Test Date:March 26, 1998

MAXIMUM ACCELERATION VALUES: (g's)	DRIVER DUMMY #401	PASSENGER DUMMY #403
Head Channel X	-56.4	-24.5
Head Channel Y	-6.8	-25.7
Head Channel Z	49.2	20.8
HEAD RESULTANT	74.9	34.7
Chest Channel X	-33.2	-25.9
Chest Channel Y	3.5	-2.6
Chest Channel Z	21.8	15.5
CHEST RESULTANT	38.1	28.5

HEAD INJURY CRITERIA (HIC) VALUES:

HIC	271	150
t_1 = (msec)	90.6	81.2
t_2 = (msec)	126.6	117.2

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

CHEST INJURY CRITERIA (CLIP) VALUES: (g's)

CLIP	35	28
t^1 = (msec)	96.0	94.2
t^2 = (msec)	99.1	97.2
CHEST DEFLECTION (in)	1.3	0.2

TABLE 5 FMVSS 208 OCCUPANT INJURY CRITERIA (Cont.)

Veh. Yr./Make/Model/Body Style:1998/Ford/Escort/4 Door

Veh. NHTSA No.:CW0206 Test Date:March 26, 1998

MAX. COMPRESSIVE FEMUR FORCES:	Units (lbs) DRIVER DUMMY #401	PASSENGER DUMMY #403
Left Side (lbs)	1172	1237
Right Side (lbs)	1194	1079

NECK FORCES:

Neck Force X (N)	1018.4	1144.5
Neck Force Y (N)	-103.9	1034.2
Neck Force Z (N)	-1183.1	-645.2

NECK MOMENTS:

Neck Moment X (N-m)	7.1	-20.7
Neck Moment Y (N-m)	80.4	69.3
Neck Moment Z (N-m)	6.9	45.3

TABLE 5 FMVSS 208 OCCUPANT INJURY CRITERIA (Cont.)

NECK INJURY CRITERIA:	DRIVER DUMMY #401	PASSENGER DUMMY #403
Peak Flexion Bending Moment (N-m) about the Occipital Condyle	42.5	49.3
Peak Extension Bending Moment (N-m) about the Occipital Condyle	21.4	19.3
Peak Axial Tension (N)	1084.3	434.4
Peak Axial Compression (N)	1183.1	645.2
Peak Fore Shear (N)	1018.4	1144.5
Peak Aft Shear (N)	168.1	306.7

TABLE 6 DUMMY KINEMATIC SUMMARY

DRIVER DUMMY

Upon impact, the driver dummy translated forward on the seat impacting both knees into the instrument panel. The dummy's head impacted the airbag and windshield with the dummy's head rotating rearward. The driver dummy was restrained by the airbag. The driver dummy came to rest in the seat.

RIGHT FRONT PASSENGER DUMMY

Upon impact, the right front passenger dummy translated forward on the seat impacting both knees into the dashboard. The dummy's head and chest impacted the airbag with the dummy's head rotating rearward. The right front passenger dummy was restrained by the airbag. The dummy rebounded rearward into the seat back. The right front passenger dummy came to rest in the seat.

TABLE 7 FMVSS 208 SEAT BELT COMFORT AND CONVENIENCE TEST SUMMARY
FRONT OUTBOARD DESIGNATED SEATING POSITIONS

Vehicle Year/Make/Model/Body Style:1998/Ford/Escort/4 Door

NHTSA No.:CW0206; Date of Comfort/Convenience Check: March 19, 1998

Technician Performing Check: Al Chalmers

GVWR: 3485 lbs

Automatic seat belts installed in any vehicle, other than a walk-in van-type vehicle which has a gross vehicle weight rating of 10,000 pounds or less, and is manufactured on or after September 1, 1986, shall meet the requirements for convenience hooks, webbing tension relieving devices, and belt contact force.

Manual seat belts installed for compliance with this standard in front outboard designated seating positions of any vehicle, other than a walk-in van-type vehicle which has a gross vehicle rating of 10,000 pounds or less, and is manufactured on or after September 1, 1989, shall meet the requirements for belt contact force, plate access, retraction and seat belt guides, and hardware.

VEHICLE EQUIPMENT:

The vehicle's front outboard seating positions were equipped with manual Type 2 seat belts which must comply with the dynamic test requirements of S5.1; requirements for webbing tension-relieving devices (S7.4.2), belt contact force (S7.4.3), latchplate access (S7.4.4), retraction (S7.4.5), and seat belt guides and hardware (S7.4.6) apply.

CONVENIENCE HOOKS (S7.4.1):

Not applicable, the vehicle was not equipped with automatic seat belts.

WEBBING TENSION-RELIEVING DEVICE (S7.4.2)

The seat belt assembly on the front outboard seating positions did not have webbing tension-relieving devices.

TABLE 7 FMVSS 208 SEAT BELT COMFORT AND CONVENIENCE TEST SUMMARY
FRONT OUTBOARD DESIGNATED SEATING POSITIONS, (Cont.)

BELT CONTACT FORCE (S7.4.3)

The belt contact force on the chest of the test dummy was 0.5 pounds.

LATCHPLATE ACCESS (S7.4.4)

The seat belt latchplates, in their normal stowed position, were within the reach envelope.

The clearance test block moved unhindered to the latchplate or buckle.

RETRACTION (S7.4.5):

The seat belt automatically retracted when the seat belt latchplate was released.

The stowed seat belt webbing and hardware were not pinched when the door was closed.

SEAT BELT GUIDES AND HARDWARE (S7.4.6)

The seat cushion was movable, but the seat back did not serve as a function other than seating.

The seat was not removable.

The seat was not movable so that the space formerly occupied by the seat could be used for a secondary function.

Note: If the seat or seat cushion is removable or if the seat is movable so that the space formerly occupied by the seat can be used for a secondary function, the seat belt guides and hardware requirements do not apply.

TABLE 7 FMVSS 208 SEAT BELT COMFORT AND CONVENIENCE TEST SUMMARY
FRONT OUTBOARD DESIGNATED SEATING POSITIONS, (Cont.)

SEAT BELT GUIDES AND HARDWARE (S7.4.6)(Cont.)

The webbing was not designed to pass through the seat cushion or between the cushion and seat back.

The remaining two parts (the seat belt latchplate and the buckle) were accessible under normal conditions.

The latchplate and buckle did not pass through the guides provided and fall behind the seat when the belt was completely retracted (or detached if not retractable) and the seat was moved to any position.

TABLE 7 FMVSS 208 SEAT BELT COMFORT AND CONVENIENCE TEST SUMMARY

FRONT OUTBOARD DESIGNATED SEATING POSITIONS (Cont.)

FMVSS 208 SEAT BELT WARNING SYSTEM CHECK
Vehicle Year/Make/Model/Body Style: 1998/Ford/Escort/4 Door
NHTSA No.: CW0206 ; Technician: Al Chalmers ; Date: March 17, 1998

Complete the following to determine which seat belt warning system option (S7.3(a)(1) or S7.3 (a)(2)) is used. (Manufacturers may use either option.)

A. With occupant in driver's position and lap belt in stowed position and ignition switch placed in "Start/On" position:

A.1 S7.3(a)(1)
Time duration of audible warning signal = (4 to 8 seconds) 6 seconds

Time duration of reminder light operation = (no less than 60 seconds) 65 seconds

A.2 S7.3(a)(2)
Time duration of audible warning signal = (4 to 8 seconds)(see 49 USCS @ 30124) ____ seconds

Time duration of reminder light operation = (4 to 8 seconds) ____ seconds

B. With occupant in driver's position and lap belt in use and ignition switch placed in "Start/On" position:

B.1 S7.3(a)(1)
Time duration of audible warning signal = (audible warning not required) 0 seconds

Time duration of reminder light operation = (reminder light not required) 0 seconds

B.2 S7.3(a)(2)
Time duration of audible warning signal = (audible warning not required) ____ seconds

Time duration of reminder light operation = (4 to 8 seconds) ____ seconds

A. Note wording of visual warning: ( )Fasten seat belt ( )Fasten Belt
(X)Symbol 101

TABLE 7 FMVSS 208 SEAT BELT COMFORT AND CONVENIENCE TEST SUMMARY
FRONT OUTBOARD DESIGNATED SEATING POSITIONS (Cont.)

FMVSS 208 READINESS INDICATOR (S4.5.2)

Vehicle Year/Make/Model/Body Style: 1998/Ford/Escort/4 Door

NHTSA No.: CW0206 ; Technician: Al Chalmers ; Date: March 17, 1998

An occupant restraint system that deploys in the event of a crash shall have a monitoring system with a readiness indicator. A totally mechanical system is exempt from this requirement. (11/8/94 legal interpretation)

1. Is the system totally mechanical? ( )Yes (X)No
   (If YES this Data Sheet is complete.)

2. Describe the location of the readiness indicator: Lower left corner of instrument cluster

3. Is the readiness indicator clearly visible to the driver?
   (X)Yes-Pass ( )**No-FAIL**

4. Is a list of the elements in the occupant restraint system, being monitored by the readiness indicator, provided?
   (X)Yes-Pass ( )**No-FAIL**

TABLE 7 FMVSS 208 SEAT BELT COMFORT AND CONVENIENCE TEST SUMMARY
FRONT OUTBOARD DESIGNATED SEATING POSITIONS (Cont.)

FMVSS 208 REAR OUTBOARD SEATING POSITION SEAT BELTS

Vehicle Year/Make/Model/Body Style: 1998/Ford/Escort/4 Door
NHTSA No.: CW0206 ; Technician: Al Chalmers ; Date: March 17, 1998

1. Do all rear outboard seating positions have type 2 seat belts?

(X)Yes ( )No

If NO, describe the seat belt installed, the seat location, and any other information about the seat that would explain why a type 2 belt was not installed.

_____

_____

TABLE 8 LAP BELT LOCKABILITY

Passenger cars, trucks, buses, and multipurpose passenger vehicles with a GVWR of 10,000 pounds or less. (S7.1.1.5)

Complete one of these forms for **each** designated seating position with forward-facing seats, other than the driver's seat, or seats that can be adjusted to forward-facing **and** that has seat belt retractors that are not automatic locking retractors. (S7.1.1.5(c))

Vehicle Year/Make/Model/Body Style:1998/Ford/Escort/4 Door
NHTSA No.:CW0206; Technician: Al Chalmers ; Date: March 17, 1998
Designated Seating Position Tested: Right Front Outboard

1. Record the seating position. Mid Position
(Any position is acceptable.)

2. Buckle the seat belt.

3. Complete any procedures recommended in the vehicle owner's manual to activate any locking feature.

4. Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT have to be attached by the vehicle user to the seat belt webbing, retractor, or any other part of the vehicle.
(X)Yes-Pass ( ) **No-FAIL**

5. Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT require inverting, twisting or deforming of the belt webbing.
(X)Yes-Pass ( ) **No-FAIL**

6. Does the vehicle user need to take some action to activate the locking feature on the lap belt portion of the seat belt in any forward-facing seat or seat that can be adjusted to forward-facing? (X)Yes, go to 6.1 ( ) No, go to 7.

   6.1 If yes, does the vehicle owner's manual include a description in words and/or diagrams describing how to activate the locking feature so that the seat belt assembly can tightly secure a child restraint system and how to deactivate the locking feature to remove the child restraint system.
   (X)Yes-Pass ( ) **No-FAIL**

7. Locate a reference point A on the seat belt buckle.

TABLE 8 LAP BELT LOCKABILITY (Cont.)

8. Locate a reference point B on the attachment hardware or retractor assembly at the other end of the lap belt or lap belt portion of the seat belt assembly.

9. Adjust the lap belt or lap belt portion of the seat belt assembly according to any procedures recommended in the vehicle owner's manual to activate any locking feature so that the webbing between points A and B is at the maximum length allowed by the belt system.

10. Measure and record the distance between points A and B along the longitudinal centerline of the webbing for the lap belt or lap belt portion of the seat belt assembly.

Measured distance between A and B is 57 inches.

11. Readjust the belt system so that the webbing between points A and B is at any length that is 5 inches or more shorter than the maximum length of the webbing.

12. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal.

The measured force application angle = 14 degrees.

Webbing Tension Pull Device

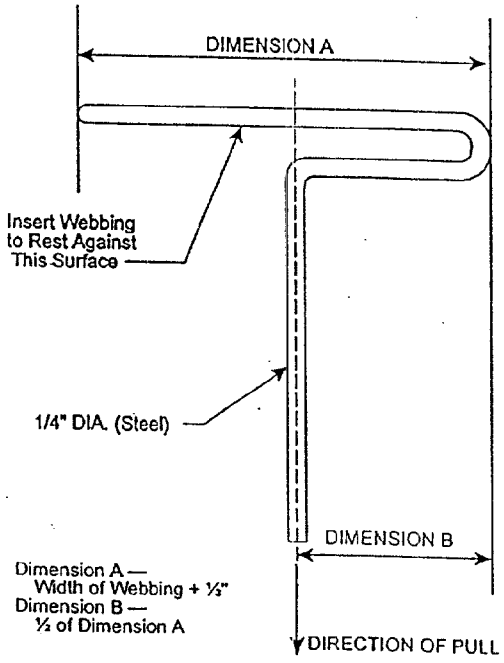


FIGURE 5

TABLE 8 LAP BELT LOCKABILITY (Cont.)

13. The length between points A and B along the longitudinal centerline of the webbing while the preload is being applied.

Measured distance between A and B is 51.8 inches.

14. Increase the load to 50 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds. Measure and record the distance between points A and B along the longitudinal centerline of the webbing.

Record onset rate: 28 lb/sec.

Record the distance between points A and B: 51.9 inches

15. Subtract the measurement in 14 from the measurement in 13. Is the difference 2 inches or less? 14-13 = 0.1 inches (X)Yes-Pass ( ) **No-FAIL**

16. Subtract the measurement in 10 from the measurement in 14. Is the difference 3 inches or more? 10-14 = 5.1 inches (X)Yes-Pass ( ) **No-FAIL**

TABLE 8 LAP BELT LOCKABILITY (Cont.)

Vehicle Year/Make/Model/Body Style:1998/Ford/Escort/4 Door
NHTSA No.:CW0206; Technician: Al Chalmers ; Date: March 17, 1998
Designated Seating Position Tested: Left Rear Outboard

1. Record the seating position. Non-Adjustable
(Any position is acceptable.)

2. Buckle the seat belt.

3. Complete any procedures recommended in the vehicle owner's manual to activate any locking feature.

4. Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT have to be attached by the vehicle user to the seat belt webbing, retractor, or any other part of the vehicle.
(X)Yes-Pass ( ) **No-FAIL**

5. Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT require inverting, twisting or deforming of the belt webbing.
(X)Yes-Pass ( ) **No-FAIL**

6. Does the vehicle user need to take some action to activate the locking feature on the lap belt portion of the seat belt in any forward-facing seat or seat that can be adjusted to forward-facing? (X)Yes, go to 6.1 ( ) No, go to 7.

   6.1 If yes, does the vehicle owner's manual include a description in words and/or diagrams describing how to activate the locking feature so that the seat belt assembly can tightly secure a child restraint system and how to deactivate the locking feature to remove the child restraint system.
   (X)Yes-Pass ( ) **No-FAIL**

7. Locate a reference point A on the seat belt buckle.

TABLE 8 LAP BELT LOCKABILITY (Cont.)

8. Locate a reference point B on the attachment hardware or retractor assembly at the other end of the lap belt or lap belt portion of the seat belt assembly.

9. Adjust the lap belt or lap belt portion of the seat belt assembly according to any procedures recommended in the vehicle owner's manual to activate any locking feature so that the webbing between points A and B is at the maximum length allowed by the belt system.

10. Measure and record the distance between points A and B along the longitudinal centerline of the webbing for the lap belt or lap belt portion of the seat belt assembly.

Measured distance between A and B is 40 inches.

11. Readjust the belt system so that the webbing between points A and B is at any length that is 5 inches or more shorter than the maximum length of the webbing.

12. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal.

The measured force application angle = 12 degrees.

Webbing Tension Pull Device

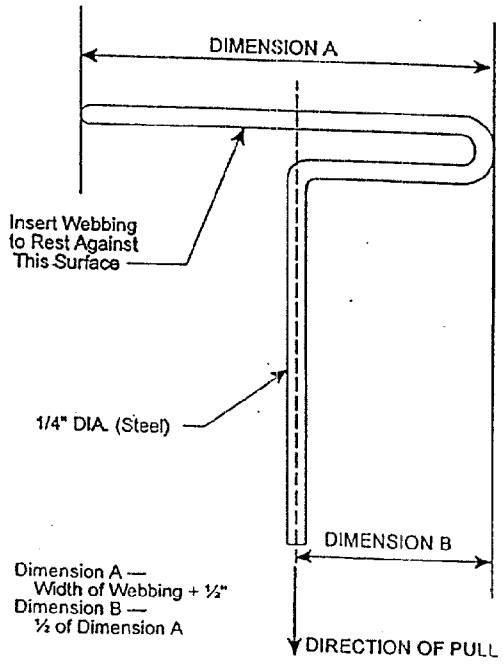


FIGURE 5

TABLE 8 LAP BELT LOCKABILITY (Cont.)

13. The length between points A and B along the longitudinal centerline of the webbing while the preload is being applied.

Measured distance between A and B is 34.5 inches.

14. Increase the load to 50 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds. Measure and record the distance between points A and B along the longitudinal centerline of the webbing.

Record onset rate: 16 lb/sec.

Record the distance between points A and B: 34.5 inches

15. Subtract the measurement in 14 from the measurement in 13. Is the difference 2 inches or less? 14-13 = 0 inches (X)Yes-Pass ( ) **No-FAIL**

16. Subtract the measurement in 10 from the measurement in 14. Is the difference 3 inches or more? 10-14 = 5.5 inches (X)Yes-Pass ( ) **No-FAIL**

TABLE 8 LAP BELT LOCKABILITY (Cont.)

Vehicle Year/Make/Model/Body Style:1998/Ford/Escort/4 Door
NHTSA No.:CW0206; Technician: Al Chalmers ; Date: March 17, 1998
Designated Seating Position Tested: Center Rear Outboard

1. Record the seating position. Non-Adjustable
(Any position is acceptable.)

2. Buckle the seat belt.

3. Complete any procedures recommended in the vehicle owner's manual to activate any locking feature.

4. Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT have to be attached by the vehicle user to the seat belt webbing, retractor, or any other part of the vehicle.
(X)Yes-Pass ( ) **No-FAIL**

5. Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT require inverting, twisting or deforming of the belt webbing.
(X)Yes-Pass ( ) **No-FAIL**

6. Does the vehicle user need to take some action to activate the locking feature on the lap belt portion of the seat belt in any forward-facing seat or seat that can be adjusted to forward-facing? (X)Yes, go to 6.1 ( ) No, go to 7.

6.1 If yes, does the vehicle owner's manual include a description in words and/or diagrams describing how to activate the locking feature so that the seat belt assembly can tightly secure a child restraint system and how to deactivate the locking feature to remove the child restraint system.
(X)Yes-Pass ( ) **No-FAIL**

7. Locate a reference point A on the seat belt buckle.

TABLE 8 LAP BELT LOCKABILITY (Cont.)

8. Locate a reference point B on the attachment hardware or retractor assembly at the other end of the lap belt or lap belt portion of the seat belt assembly.

9. Adjust the lap belt or lap belt portion of the seat belt assembly according to any procedures recommended in the vehicle owner's manual to activate any locking feature so that the webbing between points A and B is at the maximum length allowed by the belt system.

10. Measure and record the distance between points A and B along the longitudinal centerline of the webbing for the lap belt or lap belt portion of the seat belt assembly.

    Measured distance between A and B is 37.3 inches.

11. Readjust the belt system so that the webbing between points A and B is at any length that is 5 inches or more shorter than the maximum length of the webbing.

12. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal.

    The measured force application angle = 14 degrees.

Webbing Tension Pull Device

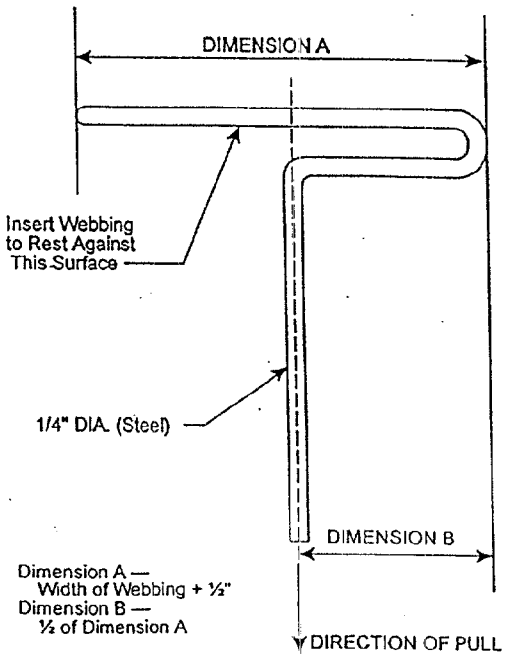


FIGURE 5

TABLE 8 LAP BELT LOCKABILITY (Cont.)

13. The length between points A and B along the longitudinal centerline of the webbing while the preload is being applied.

    Measured distance between A and B is 31.2 inches.

14. Increase the load to 50 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds. Measure and record the distance between points A and B along the longitudinal centerline of the webbing.

    Record onset rate: 20 lb/sec.

    Record the distance between points A and B: 31.3 inches

15. Subtract the measurement in 14 from the measurement in 13. Is the difference 2 inches or less? 14-13 = 0.1 inches (X)Yes-Pass ( ) **No-FAIL**

16. Subtract the measurement in 10 from the measurement in 14. Is the difference 3 inches or more? 10-14 = 6.0 inches (X)Yes-Pass ( ) **No-FAIL**

TABLE 8 LAP BELT LOCKABILITY (Cont.)

Vehicle Year/Make/Model/Body Style:1998/Ford/Escort/4 Door
NHTSA No.:CW0206; Technician: Al Chalmers ; Date: March 17, 1998
Designated Seating Position Tested: Right Rear Outboard

1. Record the seating position. Non-Adjustable
(Any position is acceptable.)

2. Buckle the seat belt.

3. Complete any procedures recommended in the vehicle owner's manual to activate any locking feature.

4. Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT have to be attached by the vehicle user to the seat belt webbing, retractor, or any other part of the vehicle.
(X)Yes-Pass ( ) **No-FAIL**

5. Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT require inverting, twisting or deforming of the belt webbing.
(X)Yes-Pass ( ) **No-FAIL**

6. Does the vehicle user need to take some action to activate the locking feature on the lap belt portion of the seat belt in any forward-facing seat or seat that can be adjusted to forward-facing? (X)Yes, go to 6.1 ( ) No, go to 7.

6.1 If yes, does the vehicle owner's manual include a description in words and/or diagrams describing how to activate the locking feature so that the seat belt assembly can tightly secure a child restraint system and how to deactivate the locking feature to remove the child restraint system.
(X)Yes-Pass ( ) **No-FAIL**

7. Locate a reference point A on the seat belt buckle.

TABLE 8 LAP BELT LOCKABILITY (Cont.)

8. Locate a reference point B on the attachment hardware or retractor assembly at the other end of the lap belt or lap belt portion of the seat belt assembly.

9. Adjust the lap belt or lap belt portion of the seat belt assembly according to any procedures recommended in the vehicle owner's manual to activate any locking feature so that the webbing between points A and B is at the maximum length allowed by the belt system.

10. Measure and record the distance between points A and B along the longitudinal centerline of the webbing for the lap belt or lap belt portion of the seat belt assembly.
Measured distance between A and B is 40.5 inches.

11. Readjust the belt system so that the webbing between points A and B is at any length that is 5 inches or more shorter than the maximum length of the webbing.

12. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal.
The measured force application angle = 14 degrees.

Webbing Tension Pull Device

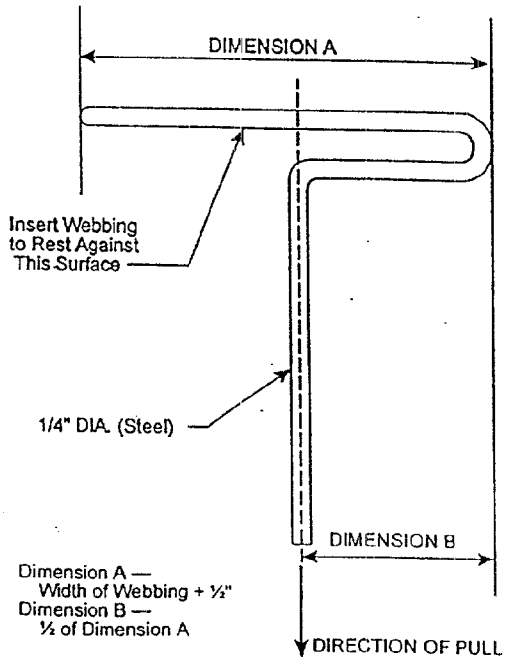


FIGURE 5

TABLE 8 LAP BELT LOCKABILITY (Cont.)

13. The length between points A and B along the longitudinal centerline of the webbing while the preload is being applied.

Measured distance between A and B is 34.8 inches.

14. Increase the load to 50 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds. Measure and record the distance between points A and B along the longitudinal centerline of the webbing.

Record onset rate: 25 lb/sec.

Record the distance between points A and B: 35 inches

15. Subtract the measurement in 14 from the measurement in 13. Is the difference 2 inches or less? 14-13 = 0.2 inches (X)Yes-Pass ( ) **No-FAIL**

16. Subtract the measurement in 10 from the measurement in 14. Is the difference 3 inches or more? 10-14 = 5.5 inches (X)Yes-Pass ( ) **No-FAIL**

TABLE 9 AIR BAG LABELS

Vehicle Year/Make/Model/Body Style:1998/Ford/Escort/4 Door

NHTSA No.:CW0206; Technician: Al Chalmers ; Date: March 17, 1998

1. Air bag maintenance label and owner's manual instructions:

1.1. Does the manufacturer recommend periodic maintenance or replacement of the airbag? ( )Yes, go to 1.2 (X) No, go to 2

1.2. Does the vehicle have a maintenance or replacement label?

( )Yes-Pass ( ) **No-FAIL**

1.3. Does the label contain one of the following?

( )Yes-Pass ( ) **No-FAIL**

Schedule on label specifies month and year

Schedule on label specifies vehicle mileage

Schedule on label specifies interval measured from date on certification label

1.4. Is the label permanently affixed within the passenger compartment?

( )Yes-Pass ( ) **No-FAIL**

1.5. Is the label lettered in English?

( )Yes-Pass ( ) **No-FAIL**

1.6. Is the label in block capitals and numerals?

( )Yes-Pass ( ) **No-FAIL**

1.7. Are the letters and numerals at least 3/32 inches high?

( )Yes-Pass ( ) **No-FAIL**

1.8. Does the owner's manual set forth the recommended schedule for maintenance or replacement? ( )Yes-Pass ( ) **No-FAIL**

2. Does the owner's manual:

2.1 Include a description of the vehicle's airbag system in an easily understandable format? (X)Yes-Pass ( ) **No-FAIL**

2.2 Include a statement that the vehicle is equipped with an airbag and a lap/shoulder belt at the front outboard seating positions?

(X)Yes-Pass ( ) **No-FAIL**

TABLE 9 AIR BAG LABELS (Cont.)

2.3 Include a statement that the air bag is a supplemental restraint at the front outboard seating positions?

(X)Yes-Pass ( ) **No-FAIL**

2.4 Emphasize that all occupants, including the driver, should always wear their seat belts whether or not an airbag is also provided at their seating positions to minimize the risk of severe injury or death in the event of a crash?

(X)Yes-Pass ( ) **No-FAIL**

2.5 Provide any necessary precautions regarding the proper positioning of occupants, including children, at seating positions equipped with air bags to insure maximum safety protection for those occupants?

(X)Yes-Pass ( ) **No-FAIL**

2.6 Explain that no objects should be placed over or near the air bag on the steering wheel or on the instrument panel, because any such objects could cause harm if the vehicle is in a crash severe enough to cause the air bag to inflate?

(X)Yes-Pass ( ) **No-FAIL**

3. Does the vehicle:

3.1. Provide an automatic means to ensure that the airbag does not deploy when a child seat or child with a total mass of 30 kg or less is present on the front outboard passenger? ( )Yes (X) No

3.2. Incorporate sensors, other than or in addition to weight sensors, which automatically prevent the passenger air bag from deploying in situations in which is might have an adverse effect on infants in rear-facing child seats, and unbelted or improperly belted children? ( )Yes-Pass (X) No

3.3. have a passenger air bag designed to deploy in a manner that does not create a risk of serious injury to infants in rear-facing child seats, and unbelted or improperly belted children? ( )Yes (X) No

TABLE 9 AIR BAG LABELS (Cont.)

If yes to 3.1, or 3.2, or 3.3, the vehicle is not required to have a sunvisor warning label, an airbag alert label or a label on the dash and this check sheet is complete. If no to 3.1, 3.2, and 3.3, go to 4.

4. Sun Visor Warning Label

4.1. Is the label permanently affixed (may be permanent marking or molding) to either side of the sunvisor at each front outboard seating position with an airbag?

Driver Side - (X)Yes-Pass ( ) **No-FAIL**

Passenger Side - (X)Yes-Pass ( ) **No-FAIL**

4.2. Does the label conform in content (vehicles without back seats may omit the statement: "The back seat is the safest place for children.") to either label shown on the next page as appropriate at each front outboard seating position with an air bag?

4.2.1 **Dual air bags:** ( ) Not Applicable

Driver Side - (X)Yes ( ) **No-FAIL**

Passenger Side - (X)Yes ( ) **No-FAIL**

4.2.2 **Vehicle with driver air bag ONLY - either 3.2.1 or 3.2.2 is applicable, not both.**

4.2.2.1 Does the label conform in content to either label shown on the following page as appropriate?

(X) Not Applicable

Driver Side - ( )Yes-Pass ( ) **No-FAIL**

4.2.2.2 Does the label conform in content to the first label shown on the following page where the label can be modified to omit the pictogram and the message text may read:

TABLE 9 AIR BAG LABELS (Cont.)

DEATH or SERIOUS INJURY can occur.

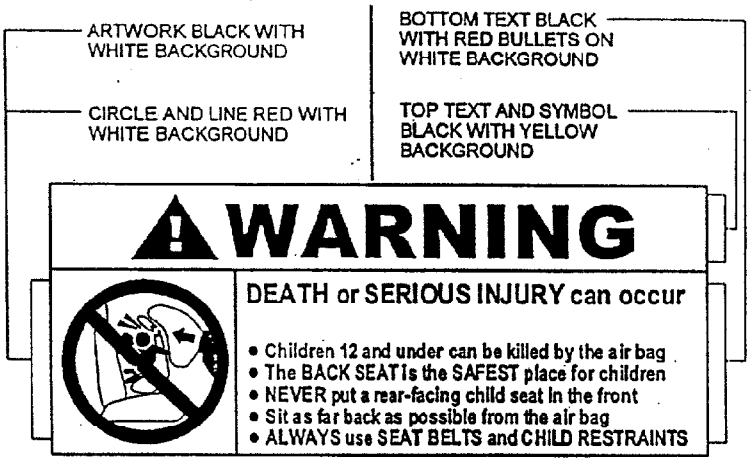
- Sit as far back as possible from the air bag.
- ALWAYS use SEAT BELTS and CHILD RESTRAINTS
- The BACK SEAT is the SAFEST place for children.

(X) Not Applicable

Driver Side - ( )Yes-Pass ( ) **No-FAIL**

SUN VISOR LABEL VISIBLE WHEN VISOR IS IN DOWN POSITION

LABEL OUTLINE, VERTICAL AND HORIZONTAL LINE BLACK



SUN VISOR LABEL VISIBLE WHEN VISOR IS IN DOWN POSITION

LABEL OUTLINE, VERTICAL AND HORIZONTAL LINE BLACK

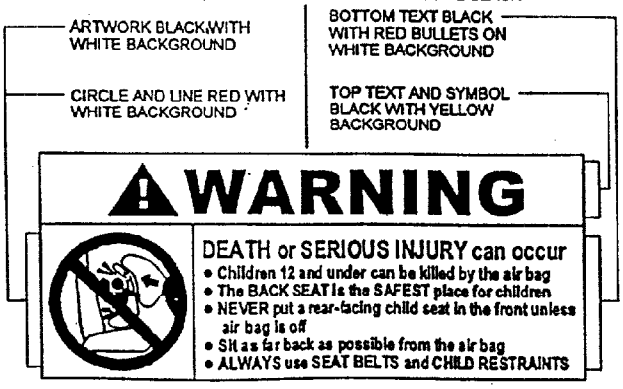


TABLE 9 AIR BAG LABELS (Cont.)

4.3 Is the label heading area yellow with the word "warning" and the alert symbol in black?

Driver Side - (X)Yes-Pass ( ) **No-FAIL**

Passenger Side - (X)Yes-Pass ( ) **No-FAIL**

4.4 Is the message white with black text?

Driver Side - (X)Yes-Pass ( ) **No-FAIL**

Passenger Side - (X)Yes-Pass ( ) **No-FAIL**

4.5 Is the message area at least 30 cm^2? Actual message area: 47 cm^2

Driver Side - (X)Yes-Pass ( ) **No-FAIL**

Passenger Side - (X)Yes-Pass ( ) **No-FAIL**

4.6 Is the pictogram black with a red circle and slash on a white background?

For vehicles with driver side air bag ONLY ( ) Not Applicable

Driver Side - (X)Yes-Pass ( ) **No-FAIL**

Passenger Side - (X)Yes-Pass ( ) **No-FAIL**

4.7 Is the pictogram at least 30 mm in diameter? Actual diameter: 30 mm

For vehicles with driver side air bag ONLY ( ) Not Applicable

Driver Side - (X)Yes-Pass ( ) **No-FAIL**

Passenger Side - (X)Yes-Pass ( ) **No-FAIL**

4.8 Is the same side of the sun visor to which the sun visor label is affixed free of other information with the exception of an air bag maintenance label?

Driver Side - (X)Yes-Pass ( ) **No-FAIL**

Passenger Side - (X)Yes-Pass ( ) **No-FAIL**

4.9 Is the sun visor free of other information about air bags or the need to wear seat belts with the exception of the air bag alert label or the utility vehicle label?

Driver Side - (X)Yes-Pass ( ) **No-FAIL**

Passenger Side - (X)Yes-Pass ( ) **No-FAIL**

TABLE 9 AIR BAG LABELS (Cont.)

5. Air Bag Alert Label

5.1 Is the Sun Visor Warning Label visible when the sunvisor is in the stowed position?

Driver Side - (X)Yes, go to 6 ( ) No

Passenger Side - ( )No air bag (X)Yes ( ) No

5.2 Does the label conform in content to the label shown below?

Driver Side - ( )Yes ( ) **No-FAIL**

Passenger Side - ( )No air bag ( )Yes-Pass ( ) **No-FAIL**

5.3 Is the message area black with yellow text?

Driver Side - ( )Yes-Pass ( ) **No-FAIL**

Passenger Side - ( )No air bag ( )Yes-Pass ( ) **No-FAIL**

5.4 Is the message area at least 20 cm^2? Actual message area: _____ cm^2

Driver Side - ( )Yes-Pass ( ) **No-FAIL**

Passenger Side - ( )No air bag ( )Yes-Pass ( ) **No-FAIL**

5.5 Is the pictogram black with a red circle and slash on a white background?

For vehicles with driver side air bag ONLY ( ) Not Applicable

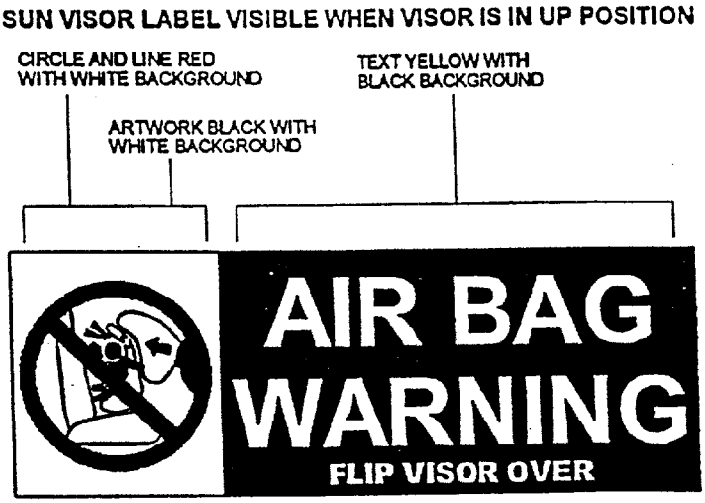
( )Yes-Pass ( ) **No-FAIL**

TABLE 9 AIR BAG LABELS (Cont.)

5.6 Is the pictogram at least 20 mm in diameter? Actual diameter _____ mm

For vehicles with driver side air bag ONLY ( ) Not Applicable

( )Yes-Pass ( ) **No-FAIL**



6. Label On the Dash

6.1 Does the vehicle have a passenger side air bag?

(X)Yes ( ) No, check sheet is complete.

6.2 Does the vehicle have a label on the dash or steering wheel hub?

(X)Yes-Pass ( ) **No-FAIL**

6.3 Does the label conform in content (vehicles without back seats may omit the statement: "The back seat is the safest place for children 12 and under." to the label shown below. (X)Yes-Pass ( ) **No-FAIL**

6.4 Is the heading area yellow with the word "warning" and the alert symbol in black?

(X)Yes-Pass ( ) **No-FAIL**

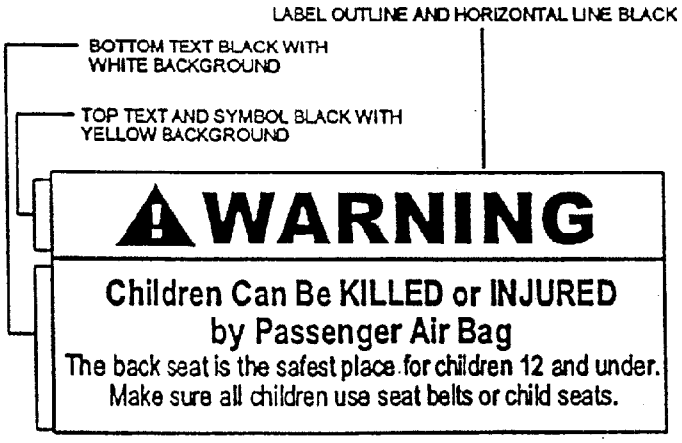
TABLE 9 AIR BAG LABELS (Cont.)

6.5 Is the message white with black text? (X)Yes-Pass ( ) **No-FAIL**

6.6 Is the message area at least 30 cm^2? Actual message area: 40 cm^2

(X)Yes-Pass ( ) **No-FAIL**

REMOVABLE LABEL ON DASH



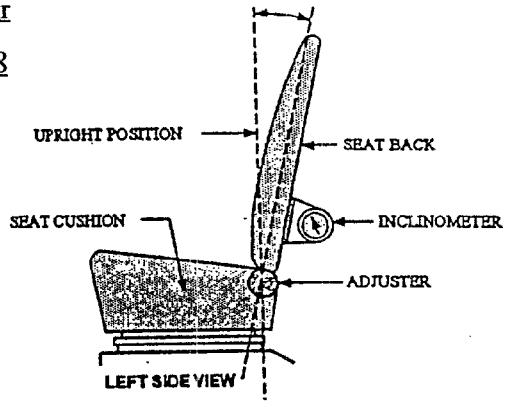
SECTION 4

OCCUPANT, VEHICLE, AND CAMERA INFORMATION

TABLE 10 SEAT AND STEERING COLUMN POSITIONING DATA

Vehicle Year/Make/Model/Body Style: 1998/Ford/Escort/4 Door

Vehicle NHTSA No.: CW0206 Test Date: March 26, 1998



NOMINAL DESIGN RIDING POSITION:

Driver Seat: Seat Back Angle = 21.8°

Passenger Seat: Seat Back Angle = 21.8°

SEAT FORE AND AFT POSITIONS:

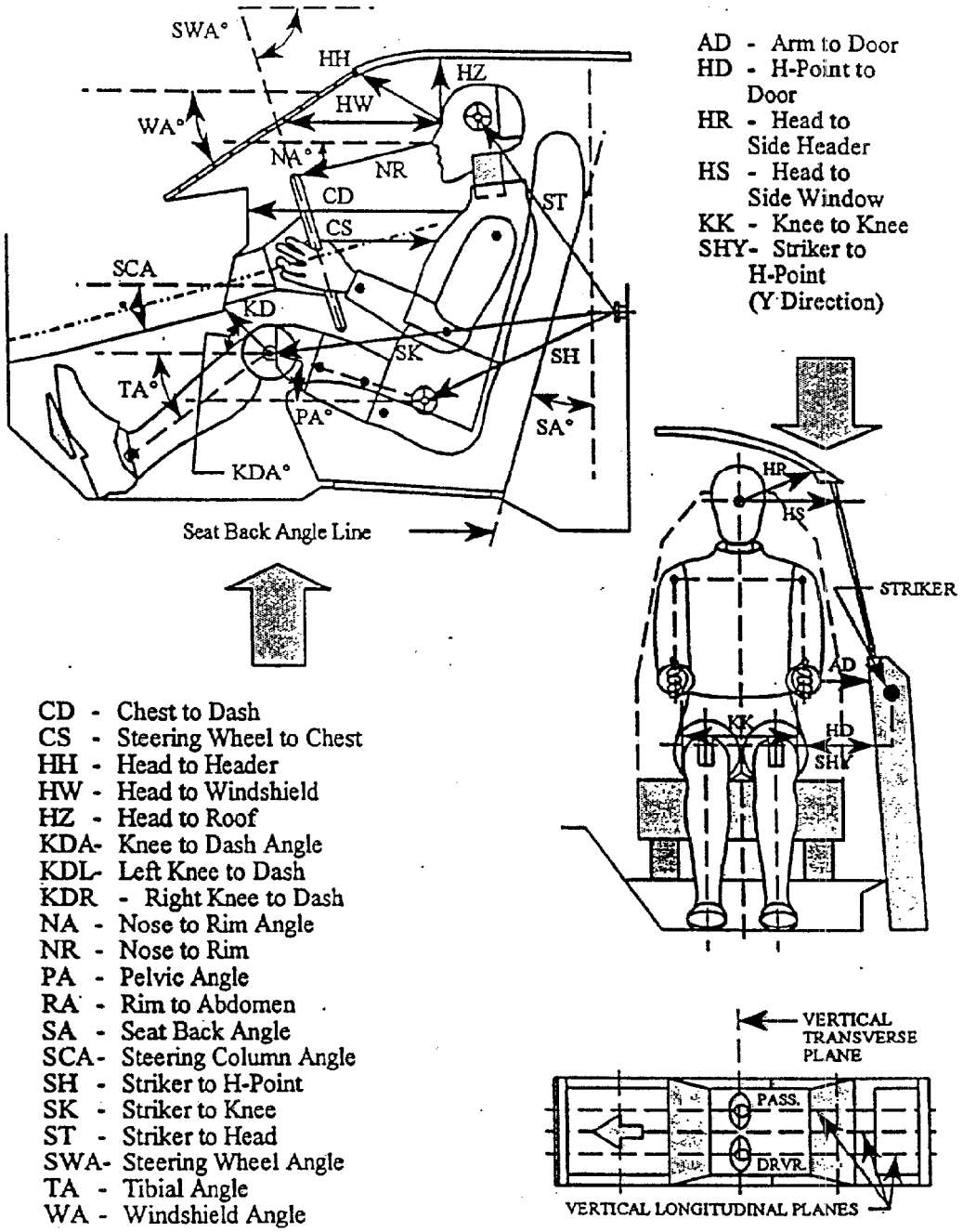
Driver Seat: The seat track had a total position movement of 23 notches and was positioned 12 notches rearward from the foremost position with the forward most locking position as zero.

Passenger Seat: The seat track had a total position movement of 23 notches and was positioned 12 notches rearward from the foremost position with the forward most locking position as zero.

STEERING COLUMN ADJUSTMENTS:

The steering column was not adjustable.

FIGURE 1 DUMMY MEASUREMENT LOCATIONS FOR FRONT SEAT OCCUPANTS



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

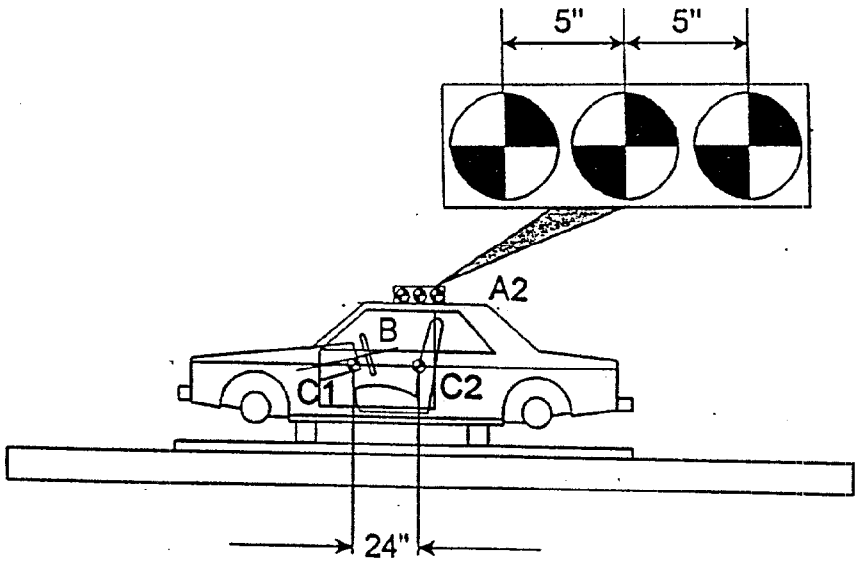
TABLE 11 DUMMY MEASUREMENT DATA FOR FRONT SEAT OCCUPANTS

Vehicle Year/Make/Model/Body Style:1998/Ford/Escort/4 Door

Vehicle NHTSA No.: CW0206 Test Date: March 26, 1998

	DRIVER (Serial #401)	PASSENGER (Serial #403)
WA°	29.8°	
SWA°	66.4°	N/A
SCA°	22.9°	N/A
SA°	21.8°	21.8°
HZ	6.8 in.	6.8 in.
HH	12.3 in.	12.0 in.
HW	22.4 in.	20.7 in.
HR	9.1 in.	8.7 in.
NR	15.2 in. Angle (NA) 12.3°	N/A
CD	20.9 in.	24.5 in.
CS	12.7 in.	N/A
RA	7.0 in.	N/A
KDL	7.2 in Angle (KDA) 34.4°	6.0 in.
KDR	7.1 in.	5.8 in. Angle (KDA) 31.2°
PA°	23.5°	23.0°
TA°	43.1°	38.8°
KK	13.0 in.	10.2 in.
ST	21.3 in. Angle 9.5°	21.8 in. Angle 7.5°
SK	22.6 in. Angle 87.5°	22.6 in. Angle 89.0°
SH	9.1 in. Angle 115.7°	9.0 in. Angle 114.7°
SHY	9.3 in.	9.4 in.
HS	11.3 in.	11.2 in.
HD	5.4 in.	5.9 in.
AD	3.8 in.	3.3 in.

FIGURE 2 VEHICLE TARGET LOCATIONS



LEFT SIDE VIEW

FIGURE 3 CAMERA POSITIONS

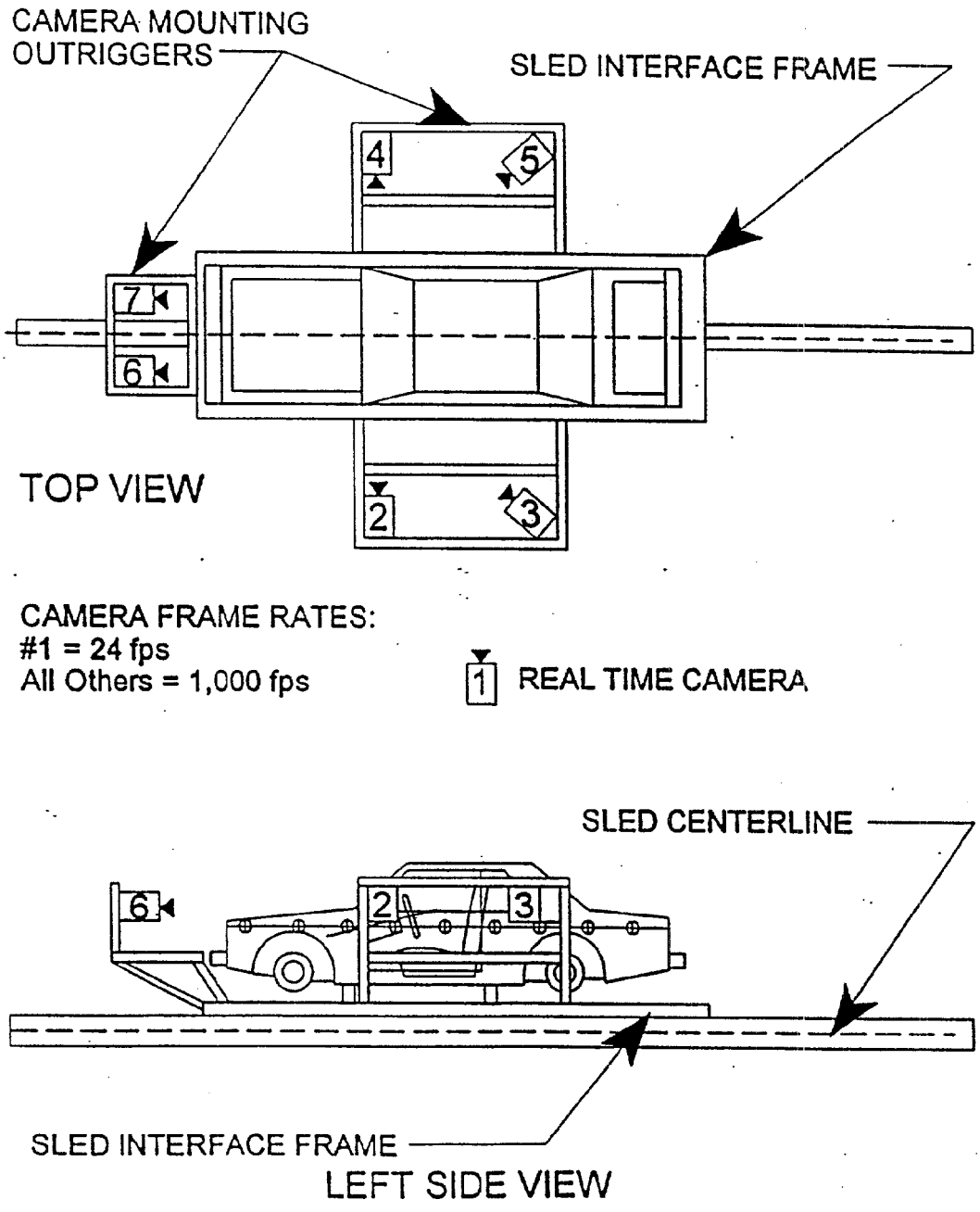


TABLE 12 CAMERA LOCATIONS

Veh. Year/Make/Model/Body Style:1998/Ford/Escort/4 Door

Vehicle NHTSA No.:CW0206; Test Date:March 26, 1998

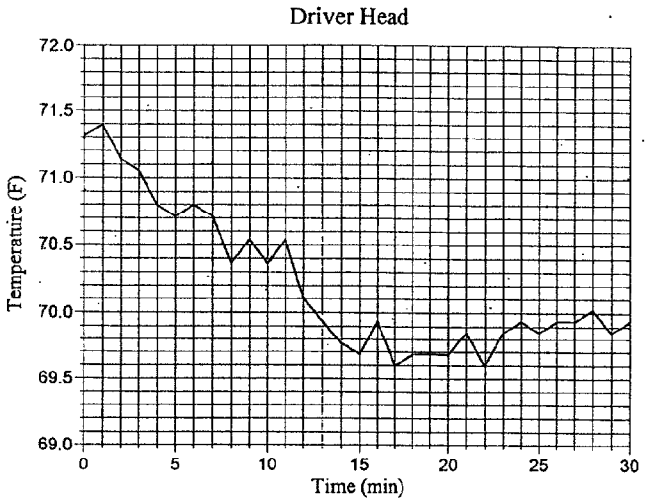
	VIEW	CAMERA POSITIONS (inches)*			ANGLE (deg)	LENS (mm)	SPEED (fps)
		X	Y	Z			
1	Real-Time (Pre and Post)					10	24
2	Onboard Driver	75.0	87.2	39.0	90	13	1010
3	Onboard Driver Angle	102.4	87.6	49.2		13	1015
4	Onboard Passenger	74.0	89.2	39.4	90	13	725
5	Onboard Passenger Angle	105.1	91.1	48.0		13	1000
6	Onboard Windshield Driver	22.8	10.2	44.5		13	939
7	Onboard Windshield Passenger	24.2	13.8	44.3		13	966

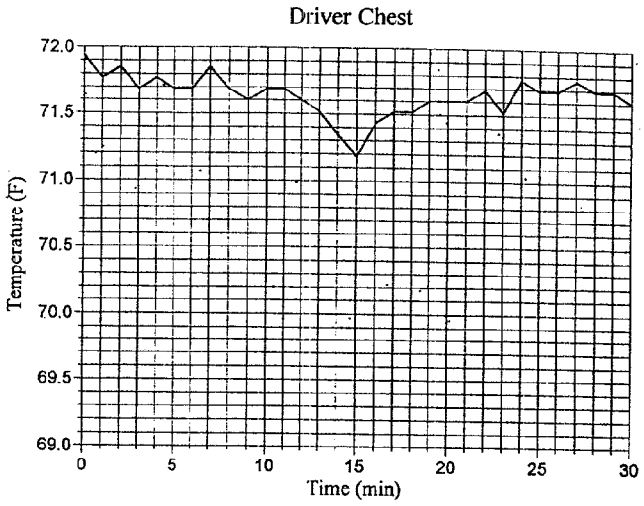
* +X = Rearward of the front of the sled carriage

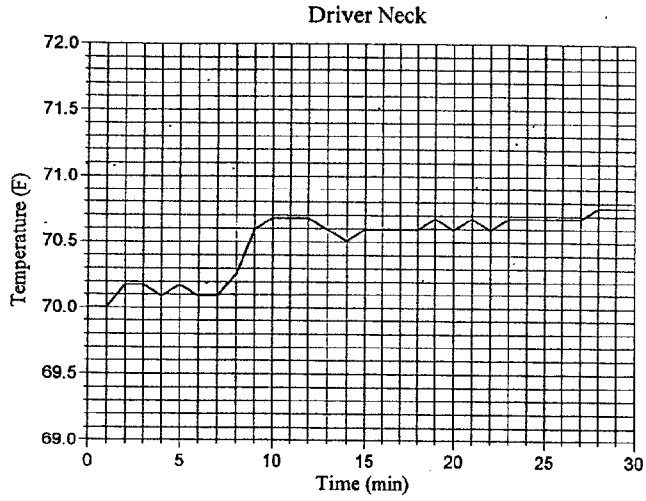
+Y = Right of the sled carriage longitudinal centerline

+Z = Above the top of the sled carriage

FIGURE 4 DRIVER DUMMY TEMPERATURE







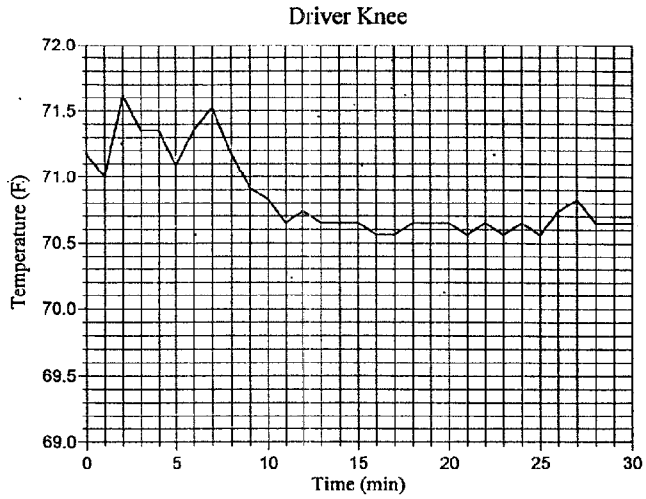
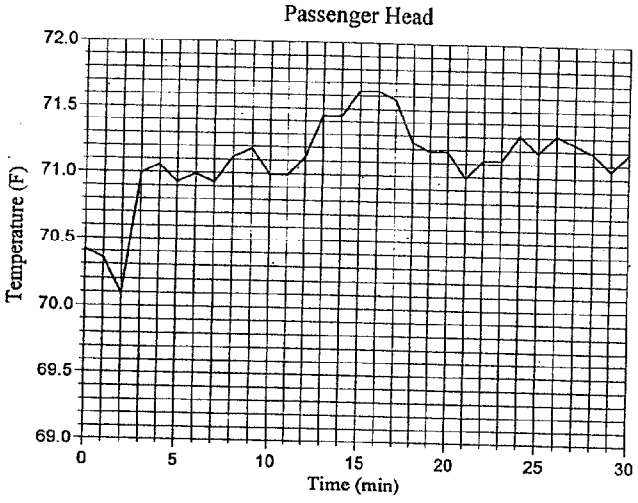
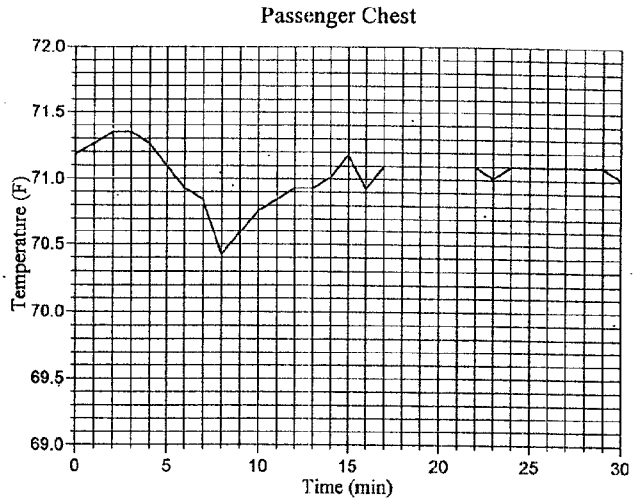
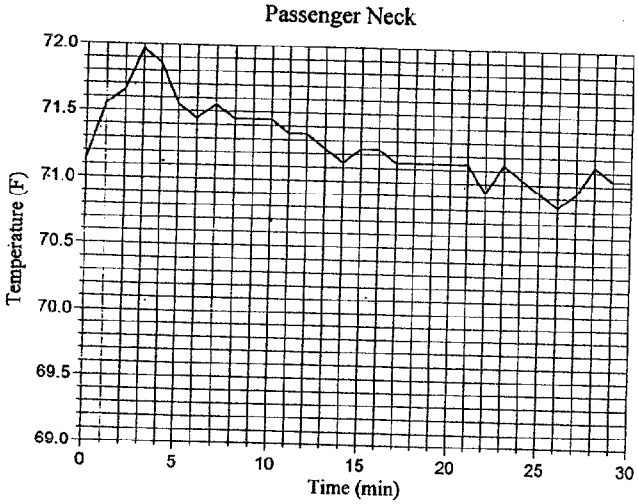


FIGURE 5 PASSENGER DUMMY TEMPERATURE







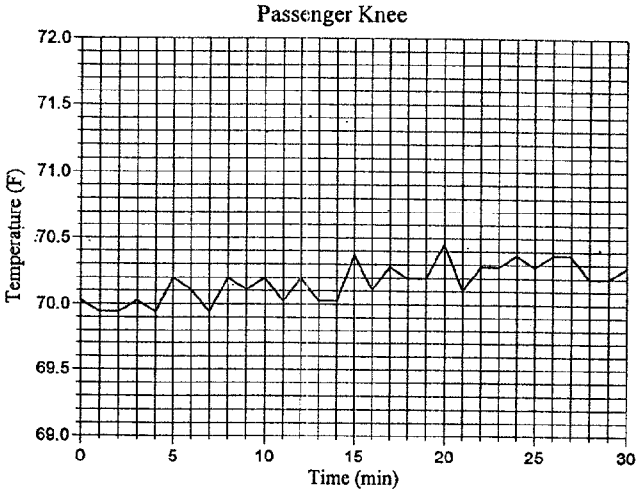
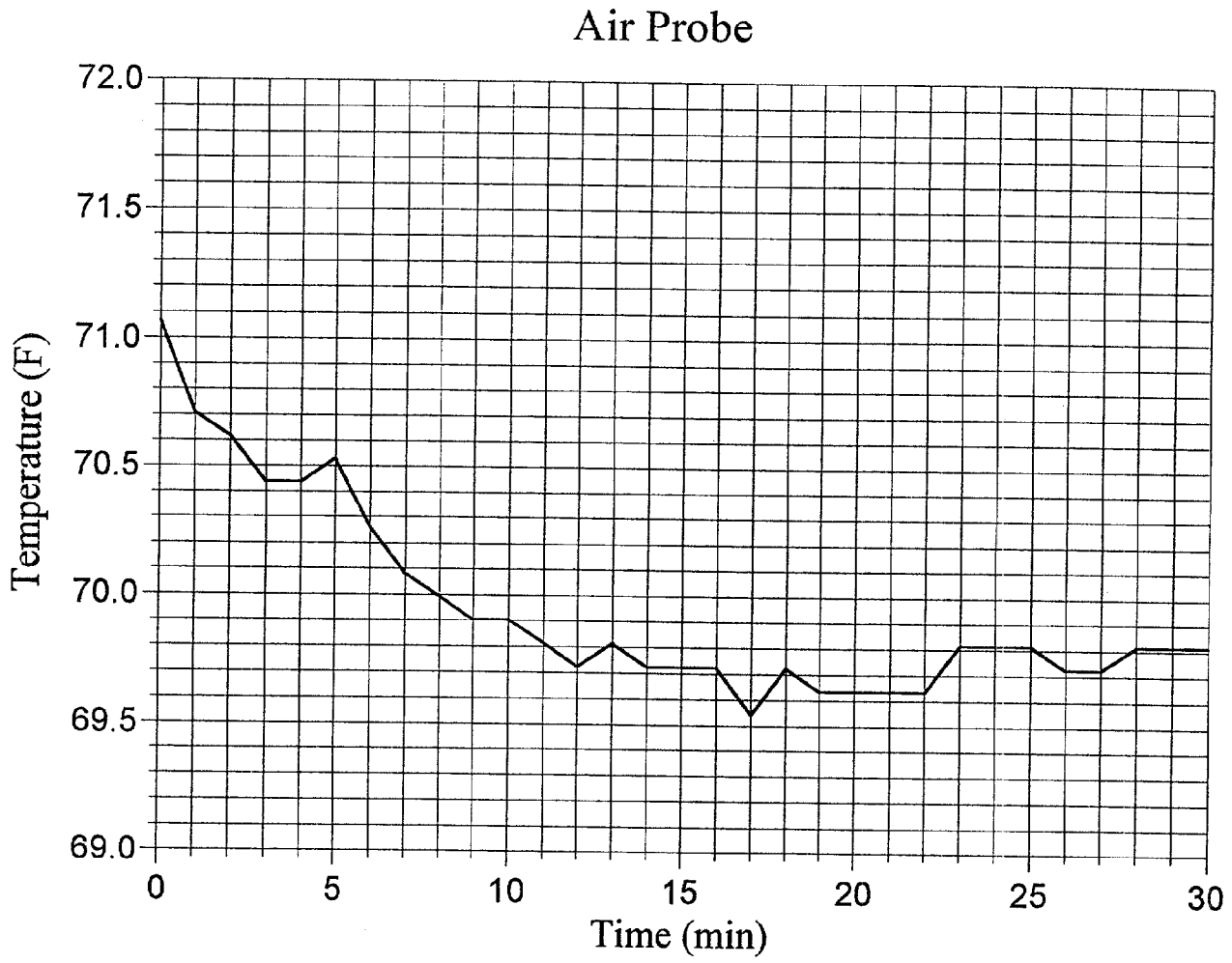


FIGURE 6 AIR PROBE TEMPERATURE



APPENDIX A
PHOTOGRAPHS

TABLE OF PHOTOGRAPHS

TABLE OF PHOTOGRAPHS (Cont.)

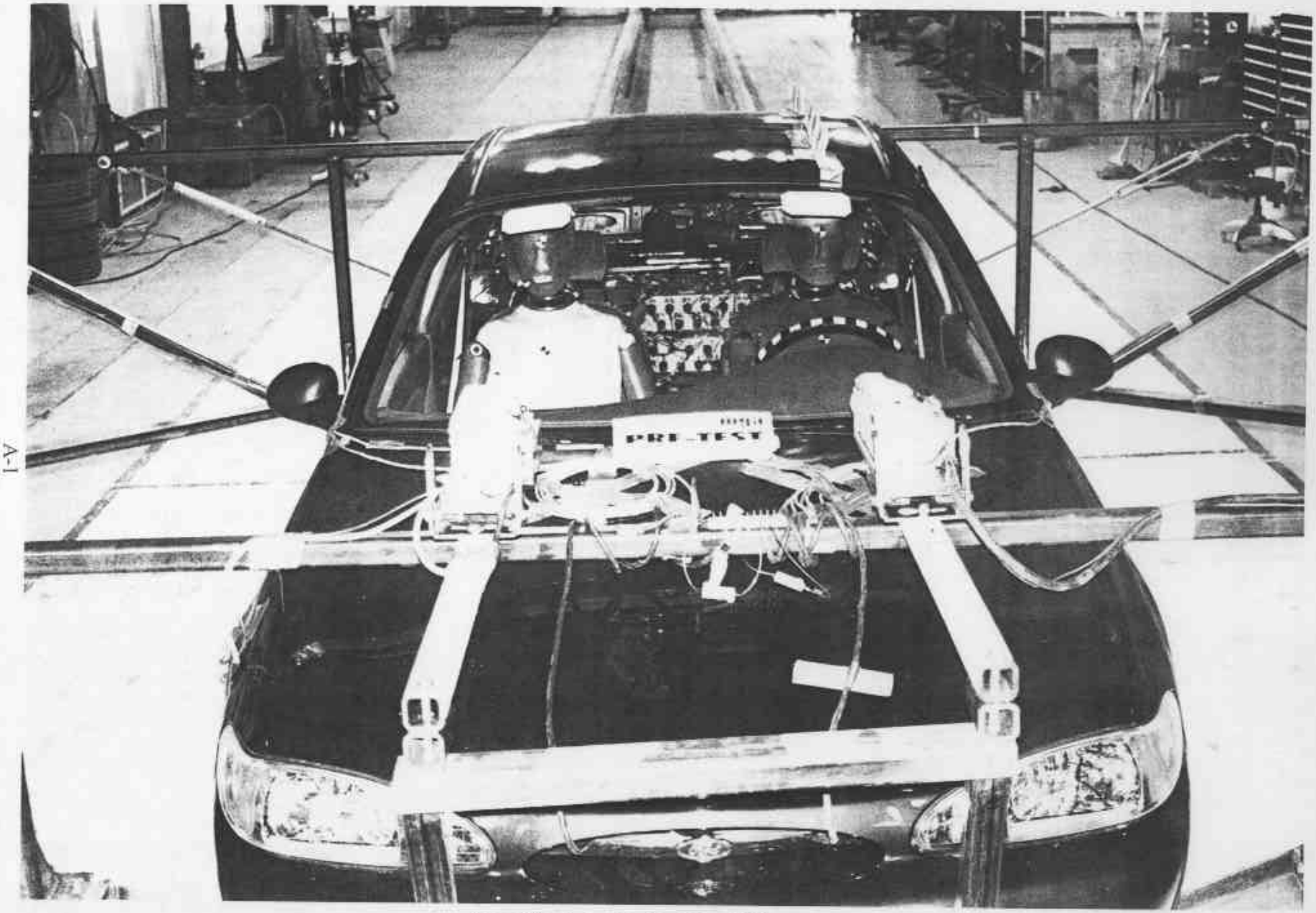


Photo No. A-1 - Pre-Test Front View

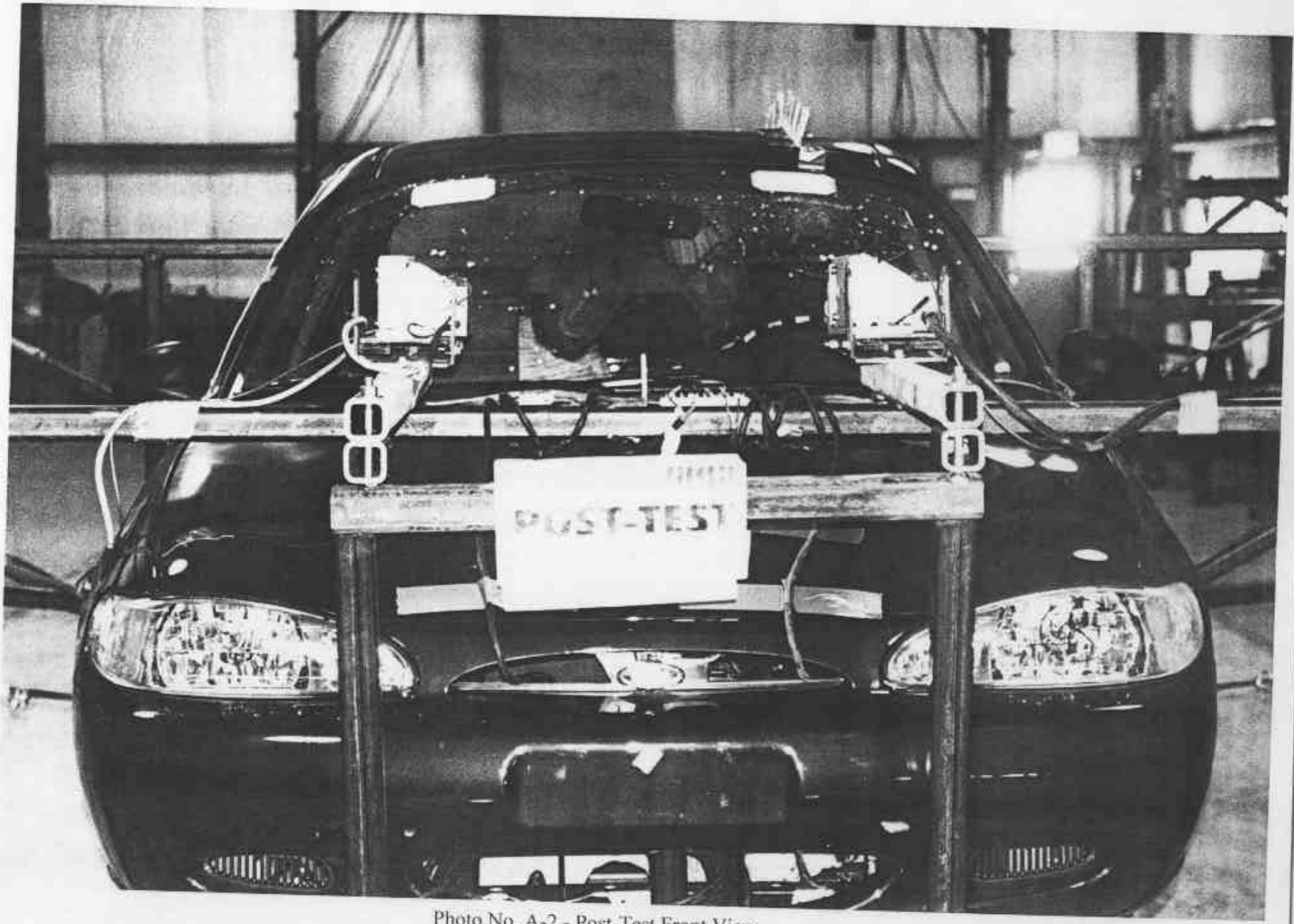


Photo No. A-2 - Post-Test Front View

A-3

Photo No. A-3 - Pre-Test Left Side View

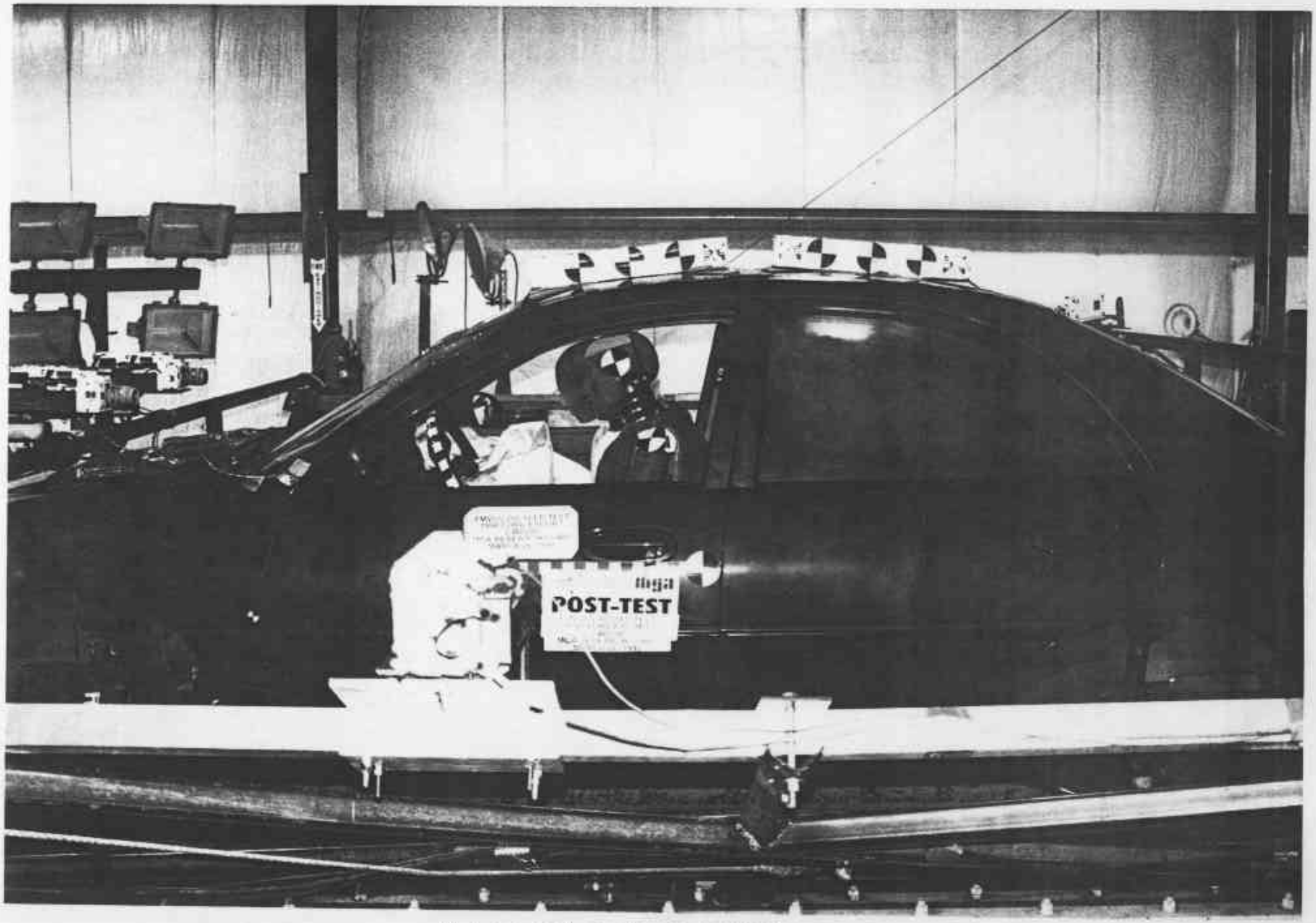


Photo No. A-4 - Post-Test Left Side View

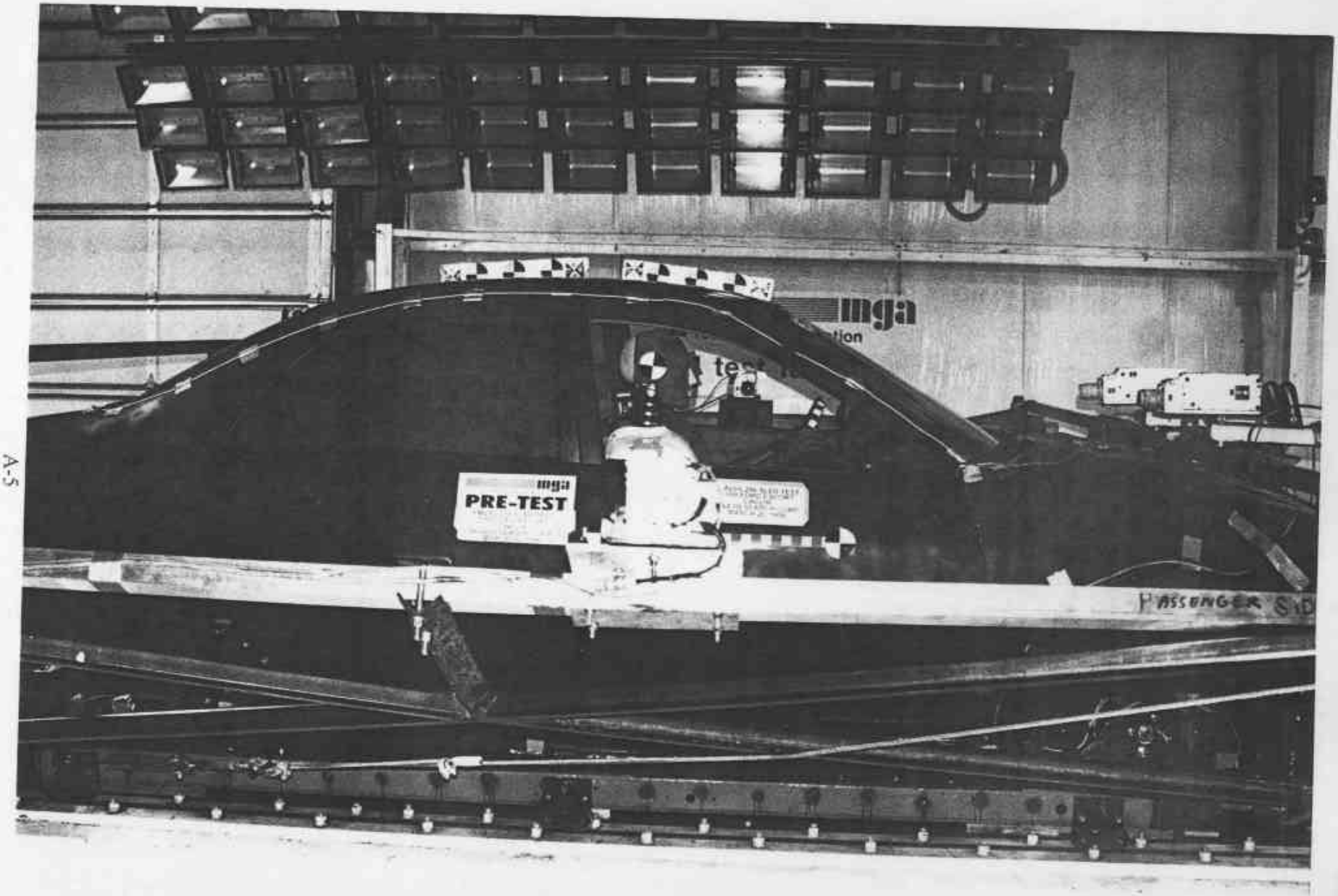


Photo No. A-5 - Pre-Test Right Side View

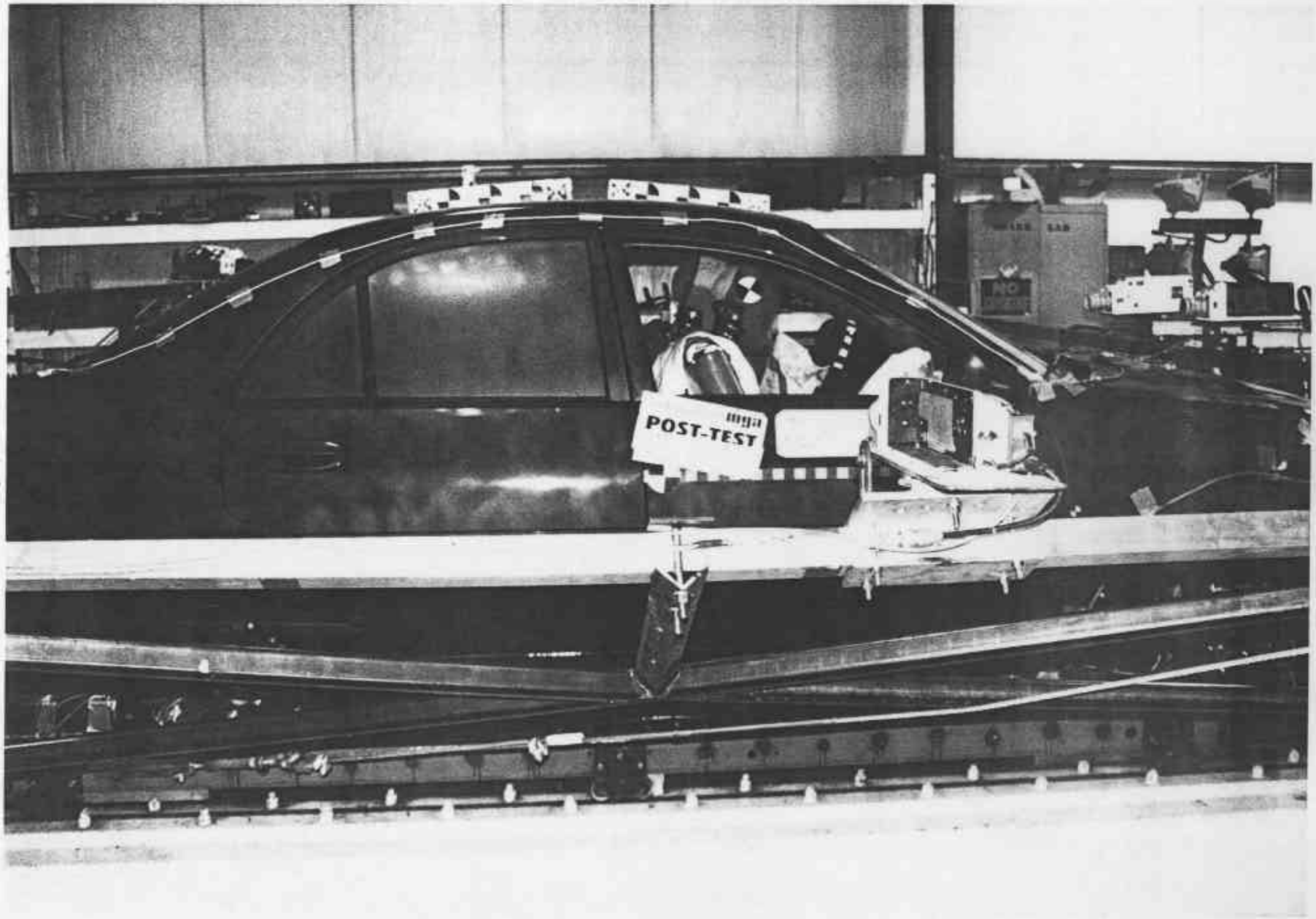


Photo No. A-6 - Post-Test Right Side View

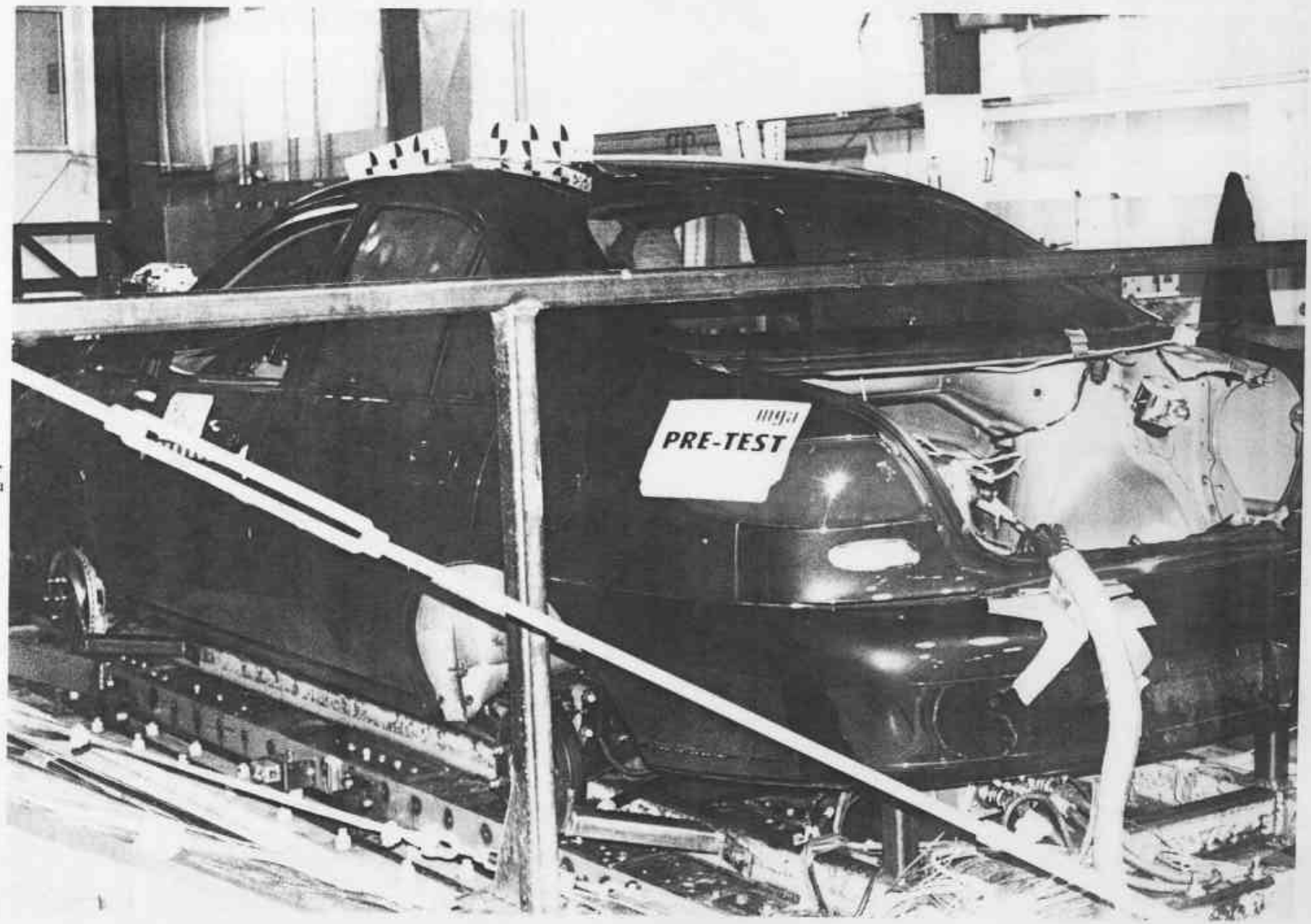


Photo No. A-7 - Pre-Test 3/4 Left Rear View

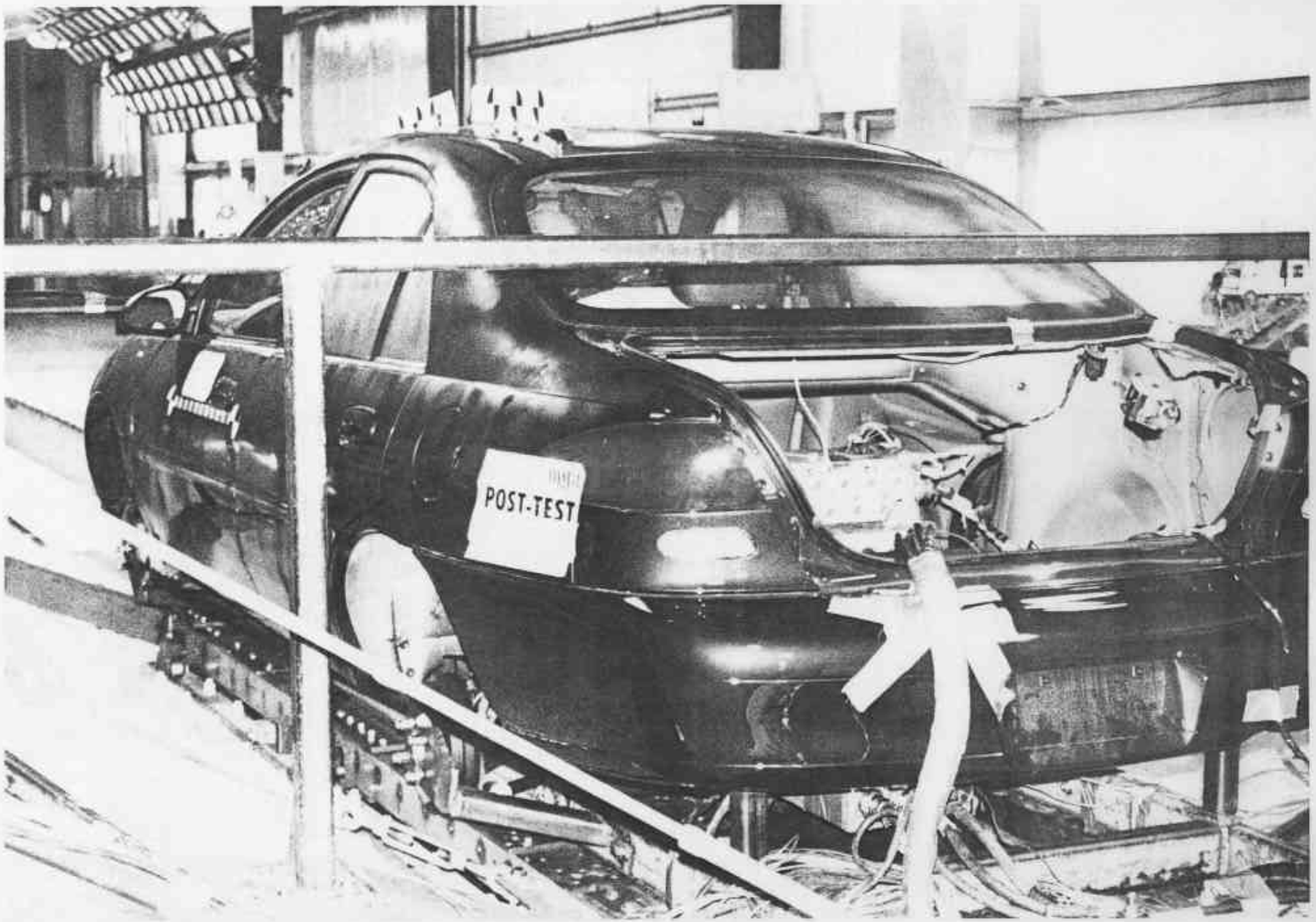


Photo No. A-8 - Post-Test 3/4 Left Rear View

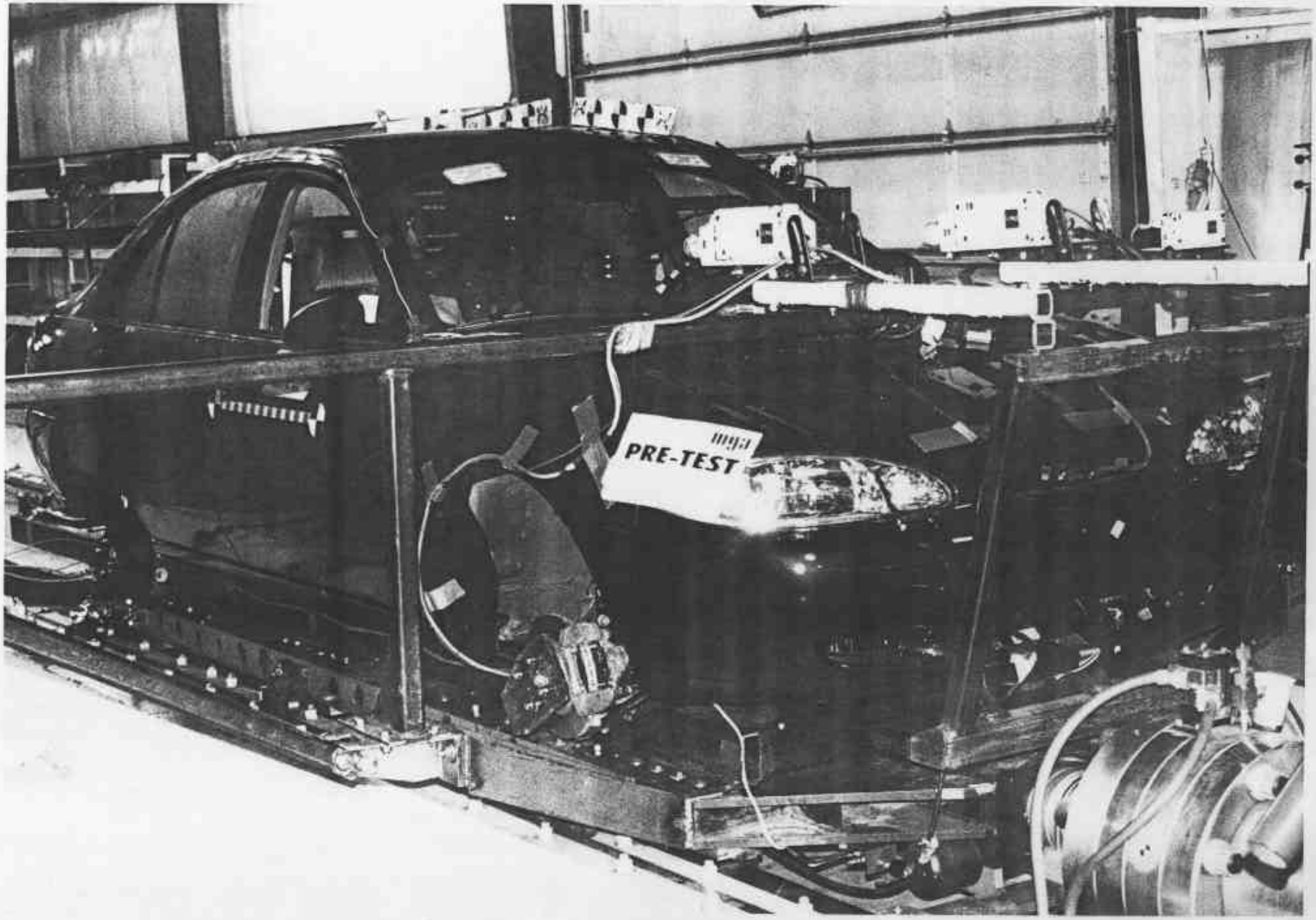


Photo No. A-9 - Pre-Test 3/4 Right Front View

Photo No. A-10 - Post-Test 3/4 Right Front View

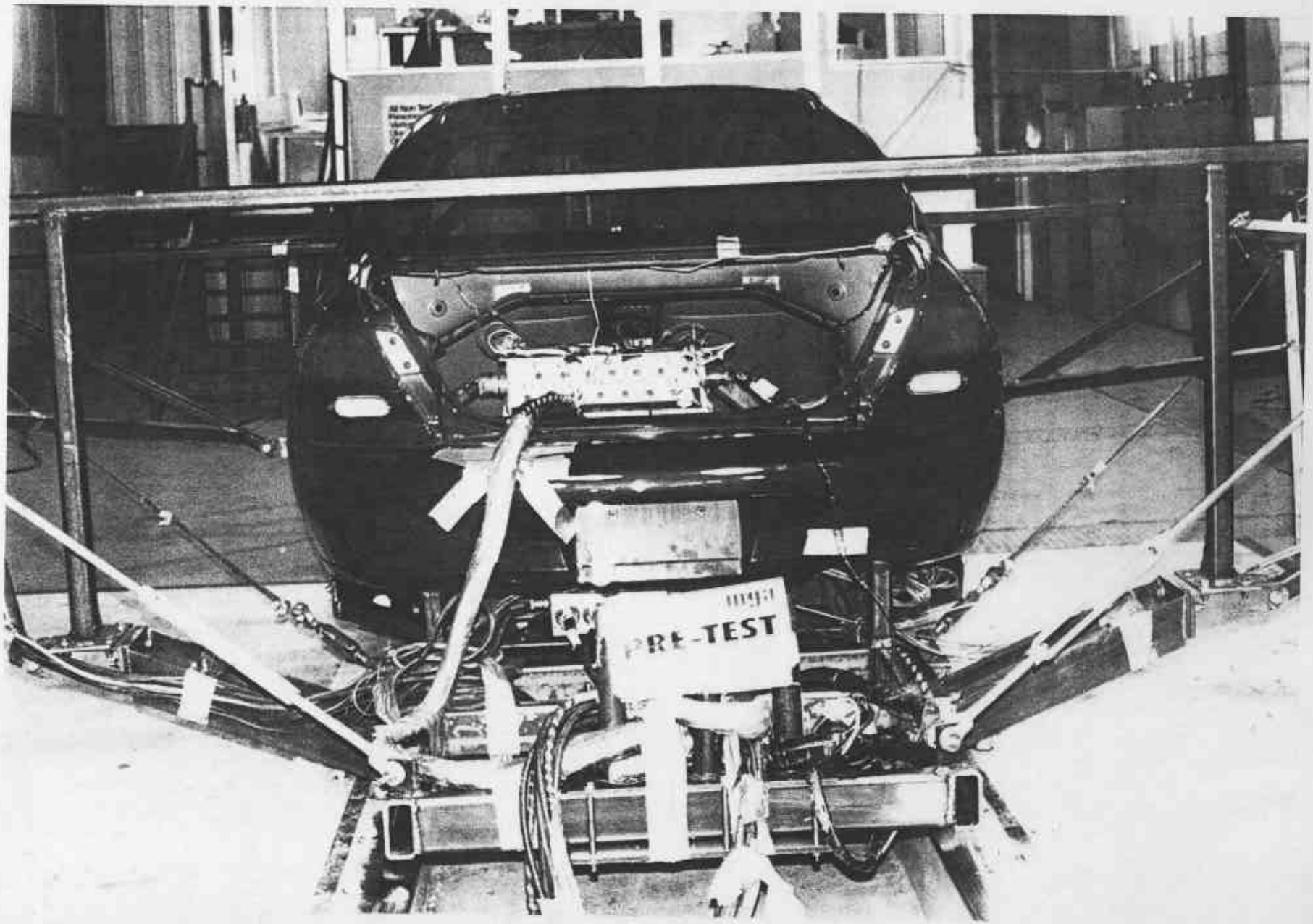


Photo No. A-11 - Pre-Test Rear View

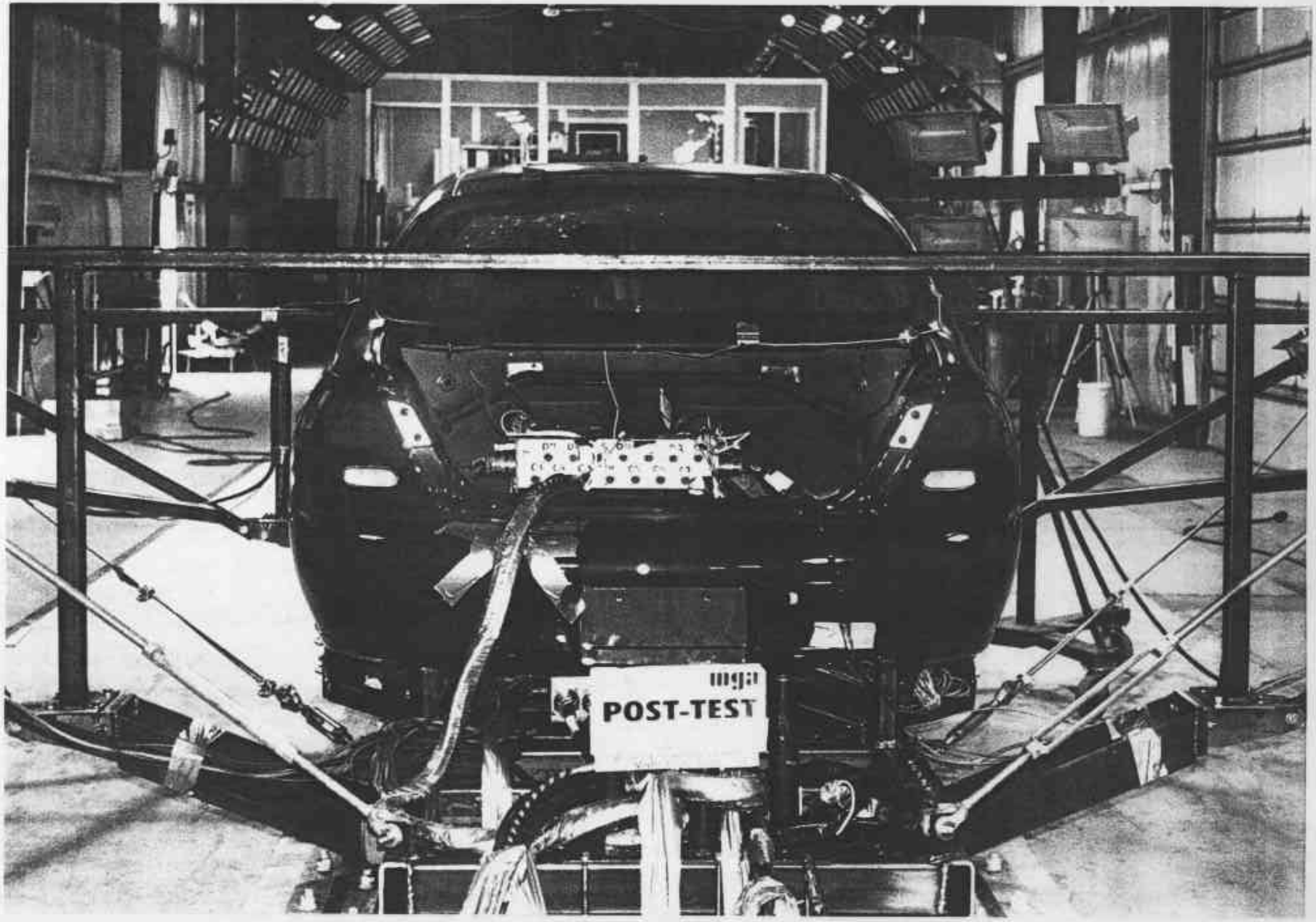


Photo No. A-12 - Post-Test Rear View

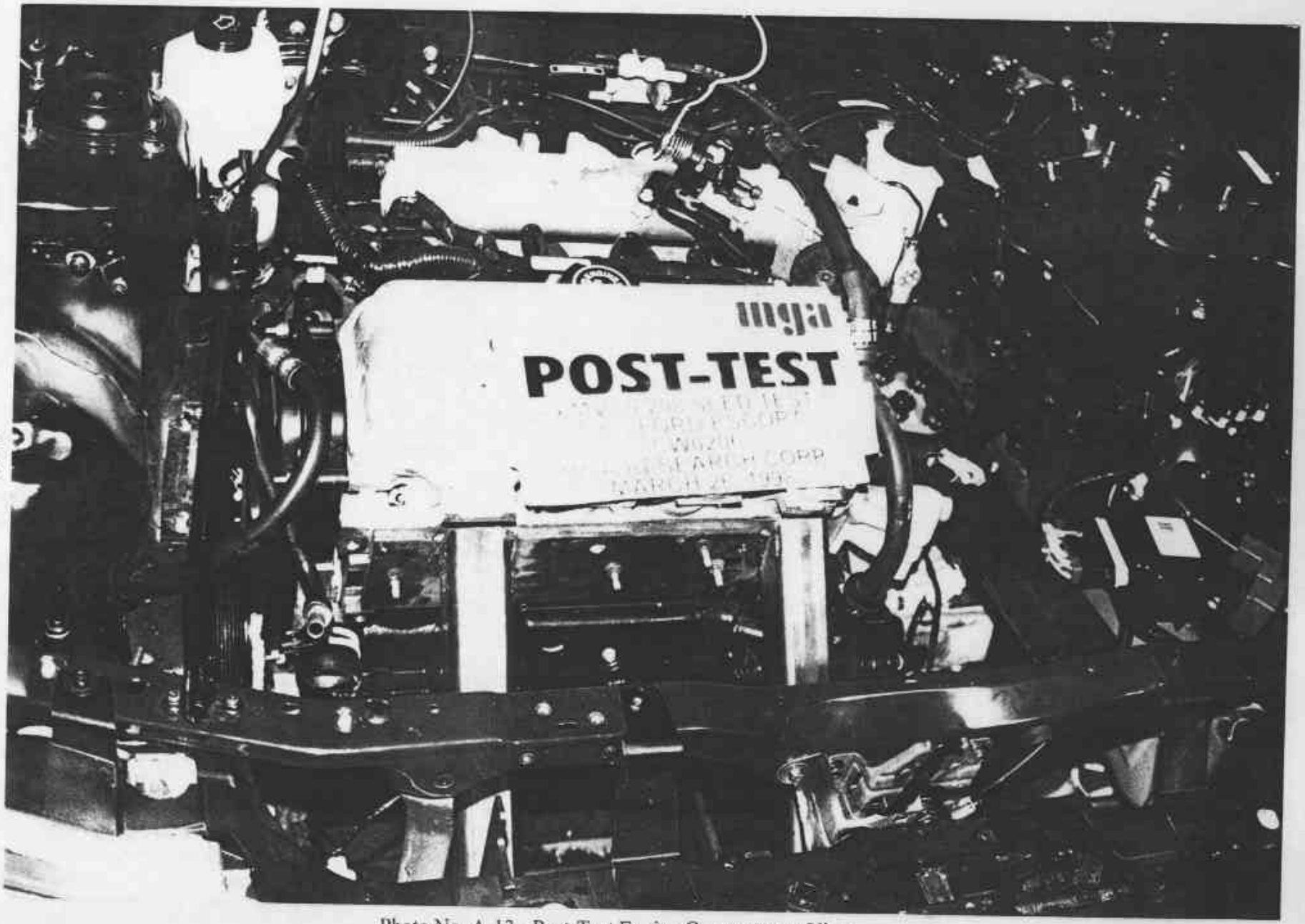


Photo No. A-13 - Post-Test Engine Compartment View

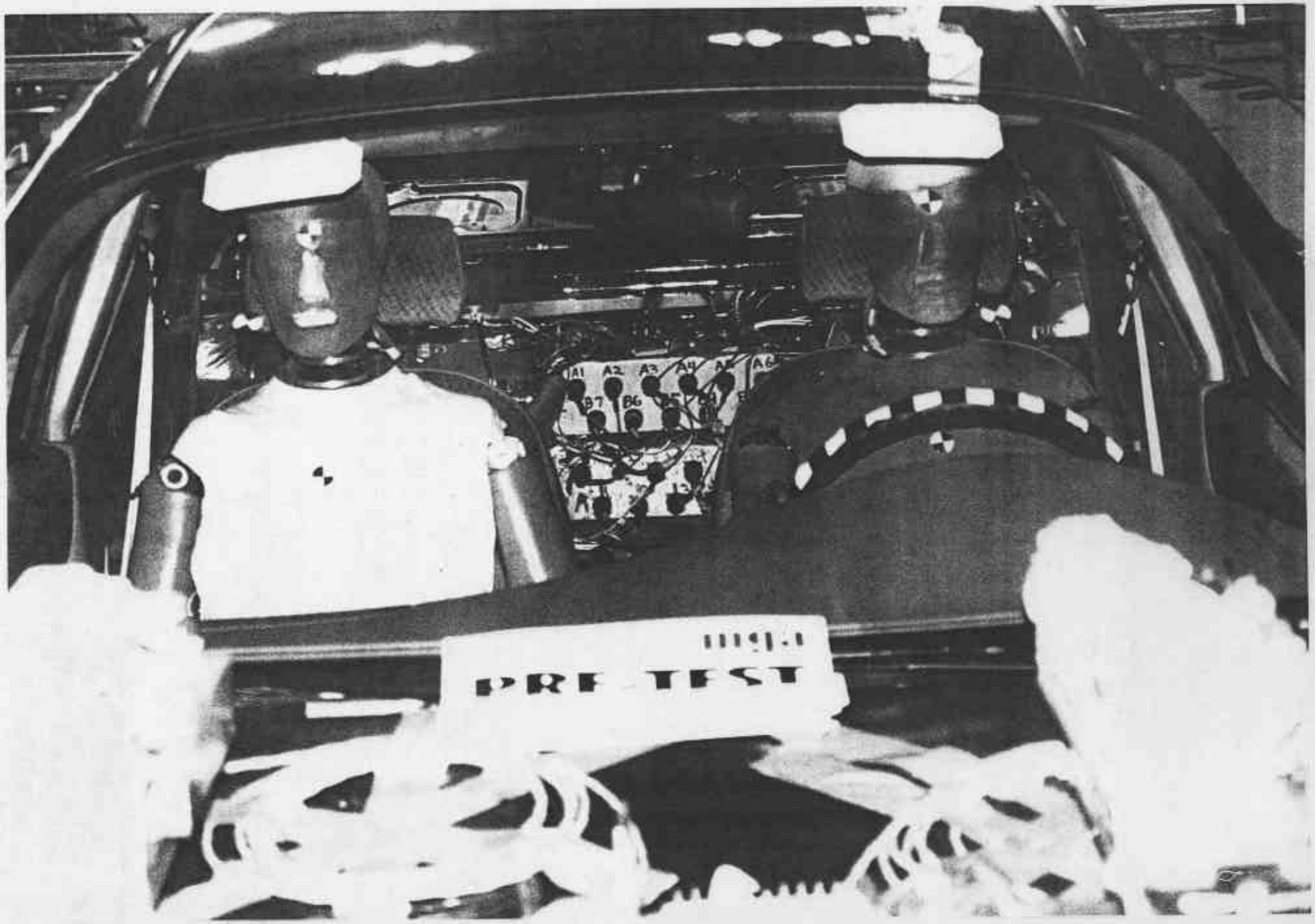


Photo No. A-14 - Pre-Test Windshield View

Photo No. A-15 - Post-Test Windshield View

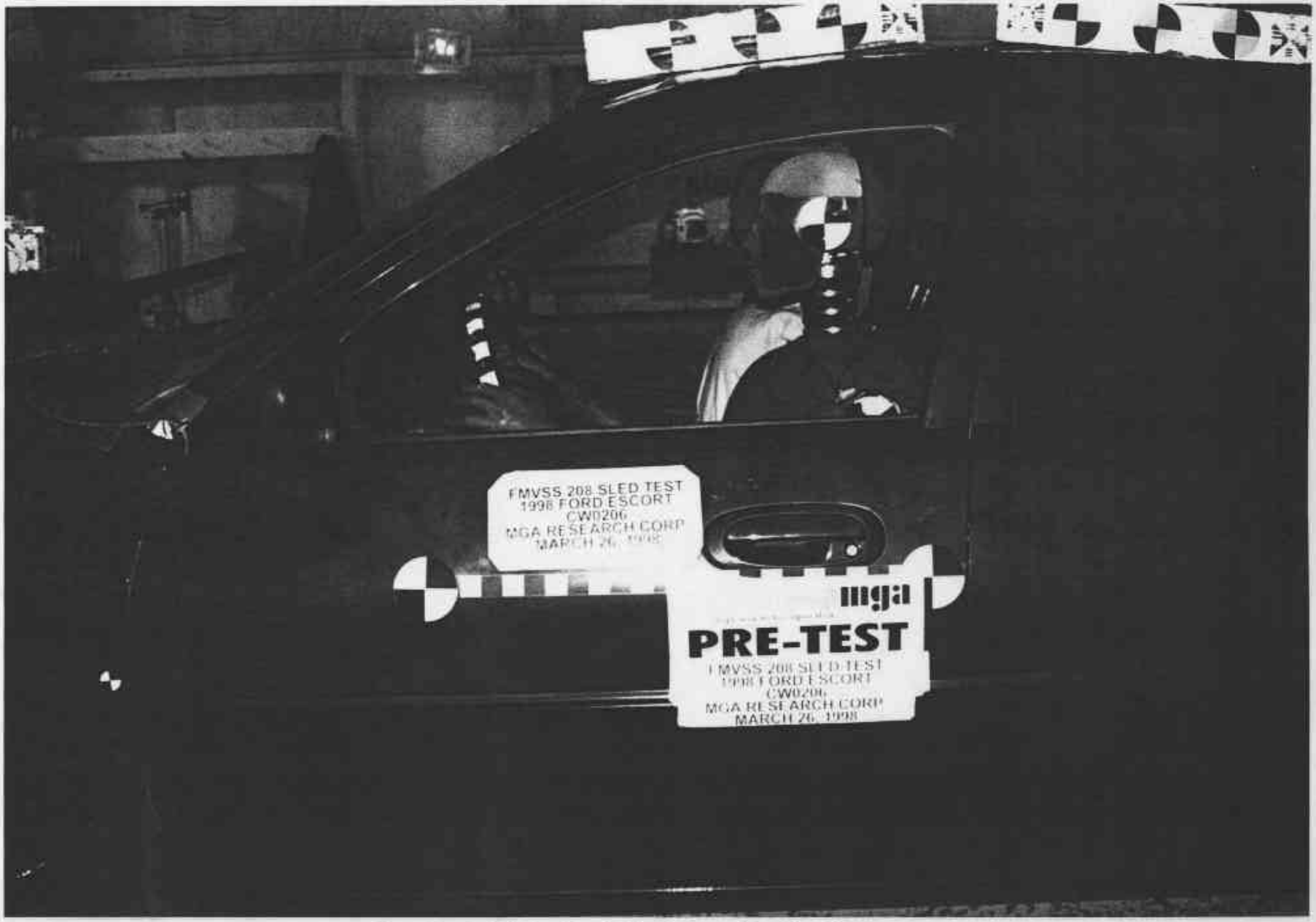


Photo No. A-16 - Pre-Test Driver Dummy Position View

Photo No. A-17 - Post-Test Driver Dummy Position View

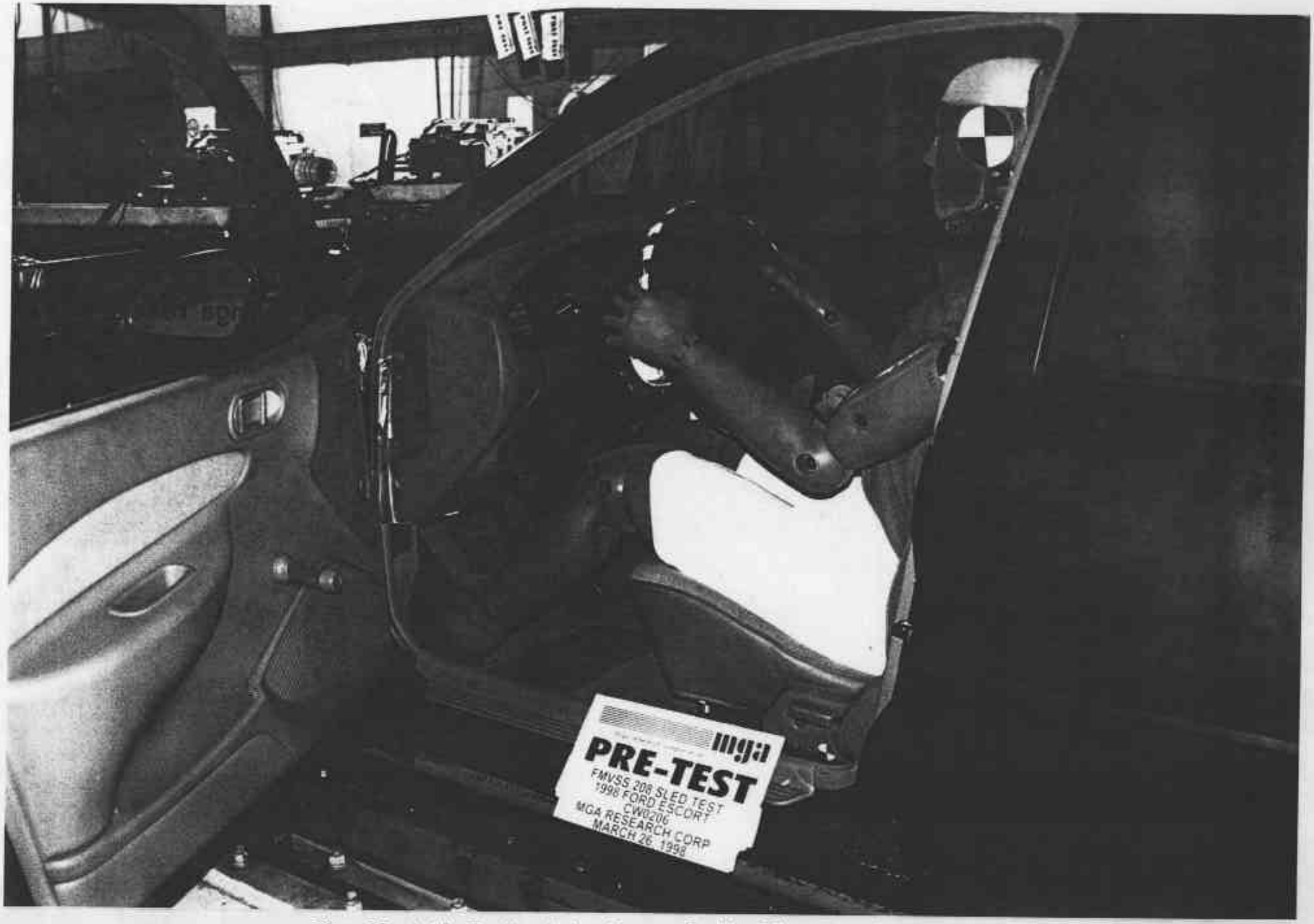


Photo No. A-18 - Pre-Test Driver Dummy Position View (Door Open)

Photo No. A-19 - Post-Test Driver Dummy Position View (Door Open)

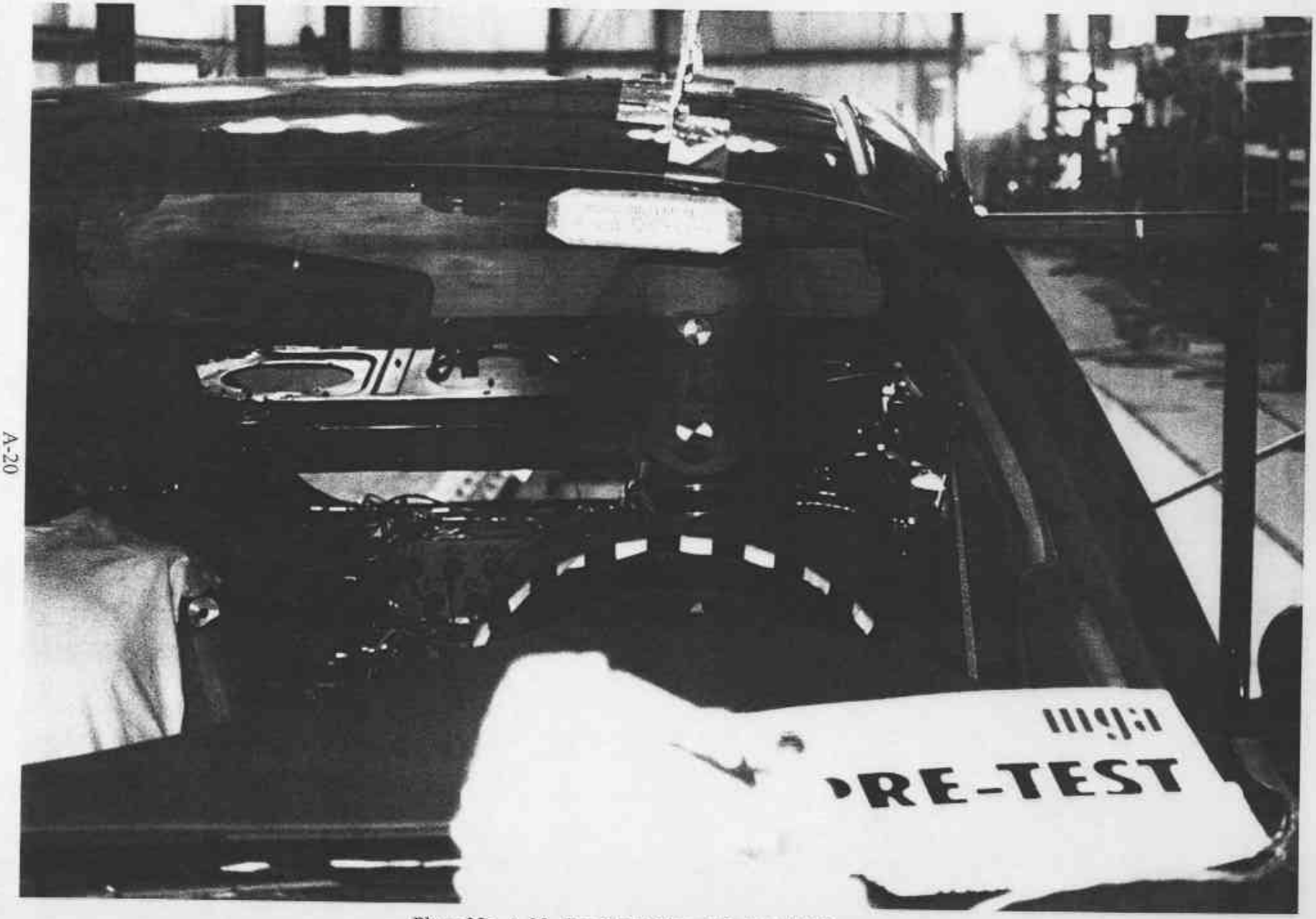


Photo No. A-20 - Pre-Test Driver Windshield View

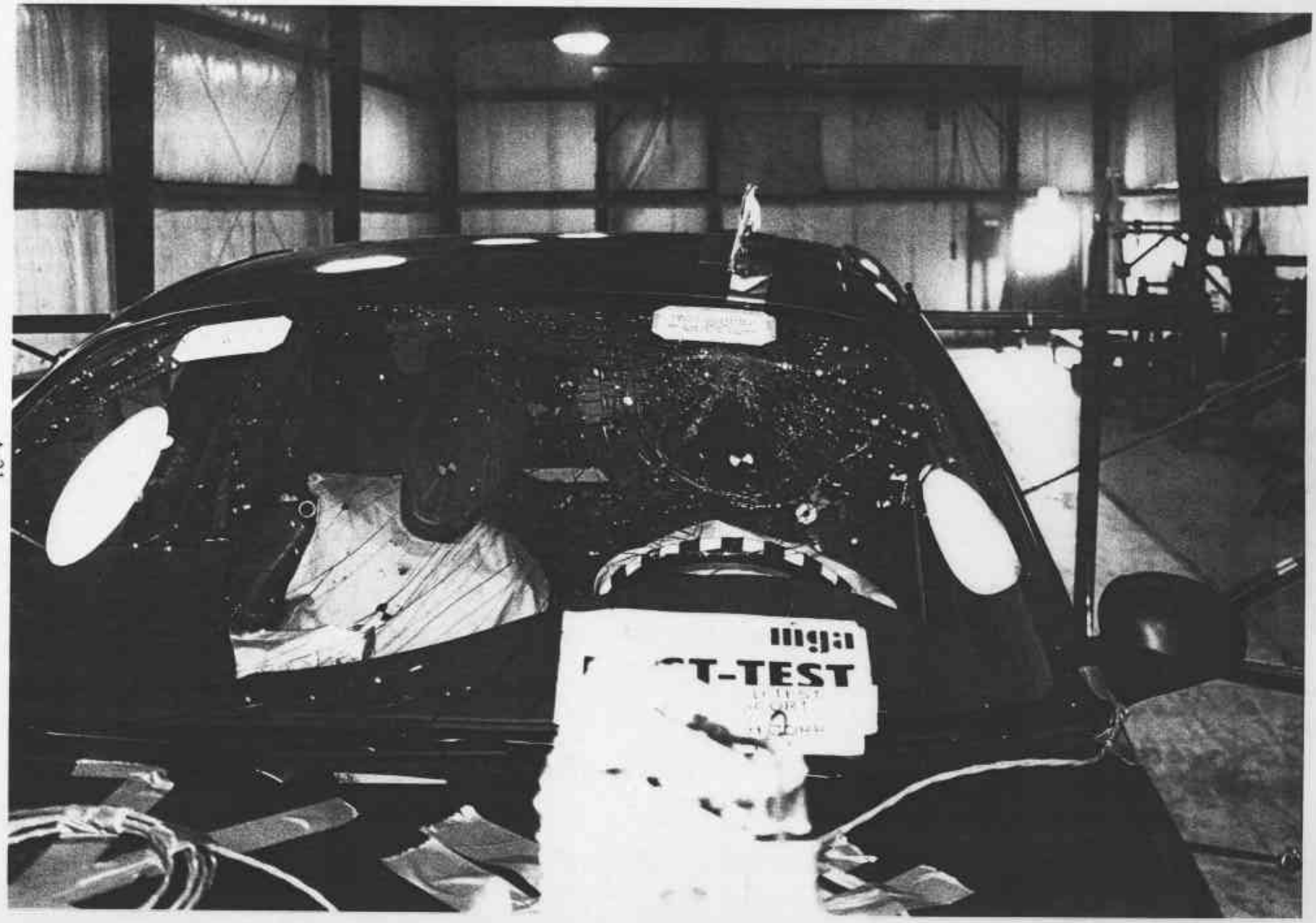


Photo No. A-21 - Post-Test Driver Windshield View

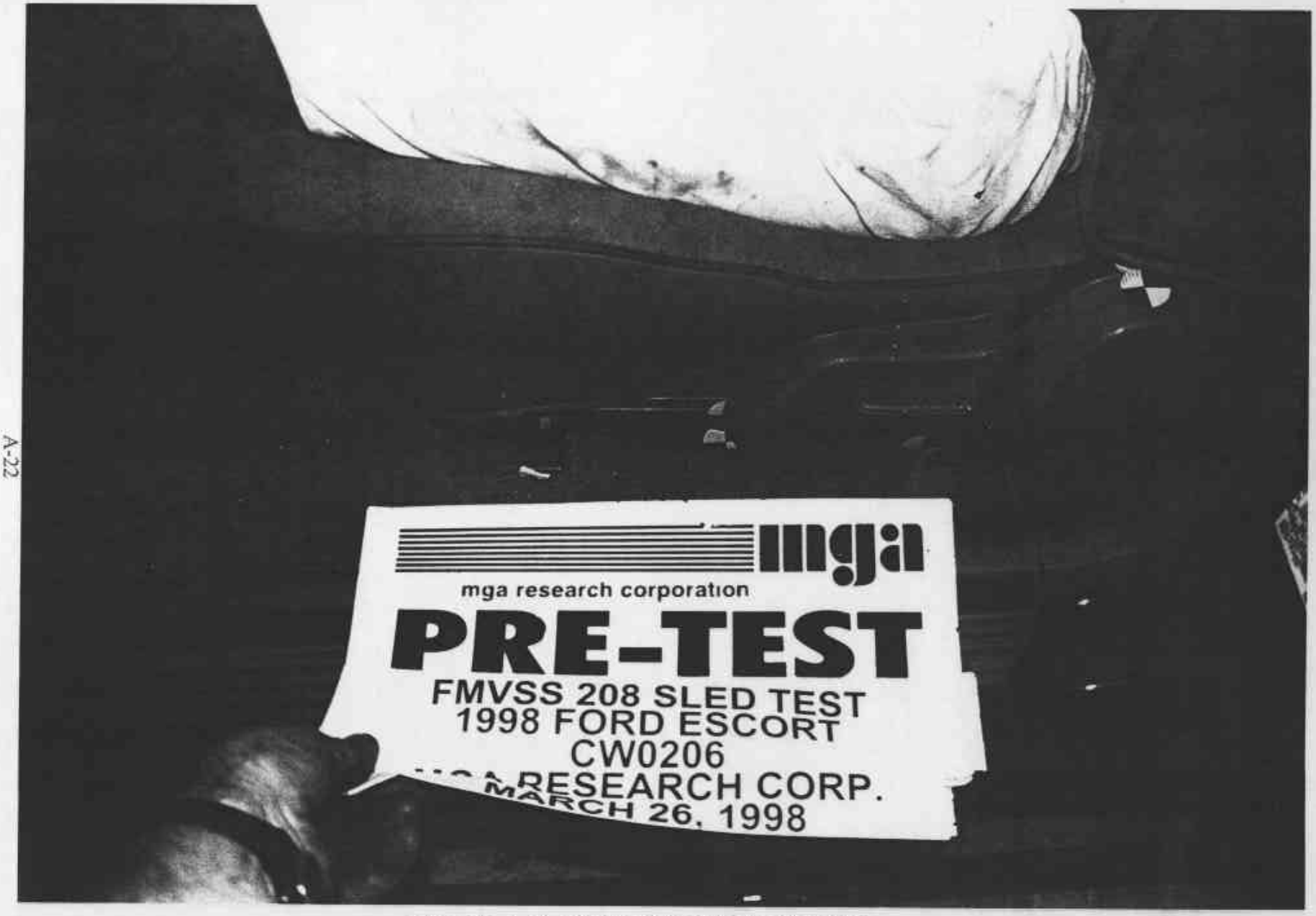


Photo No. A-22 - Pre-Test Driver Seat Position View

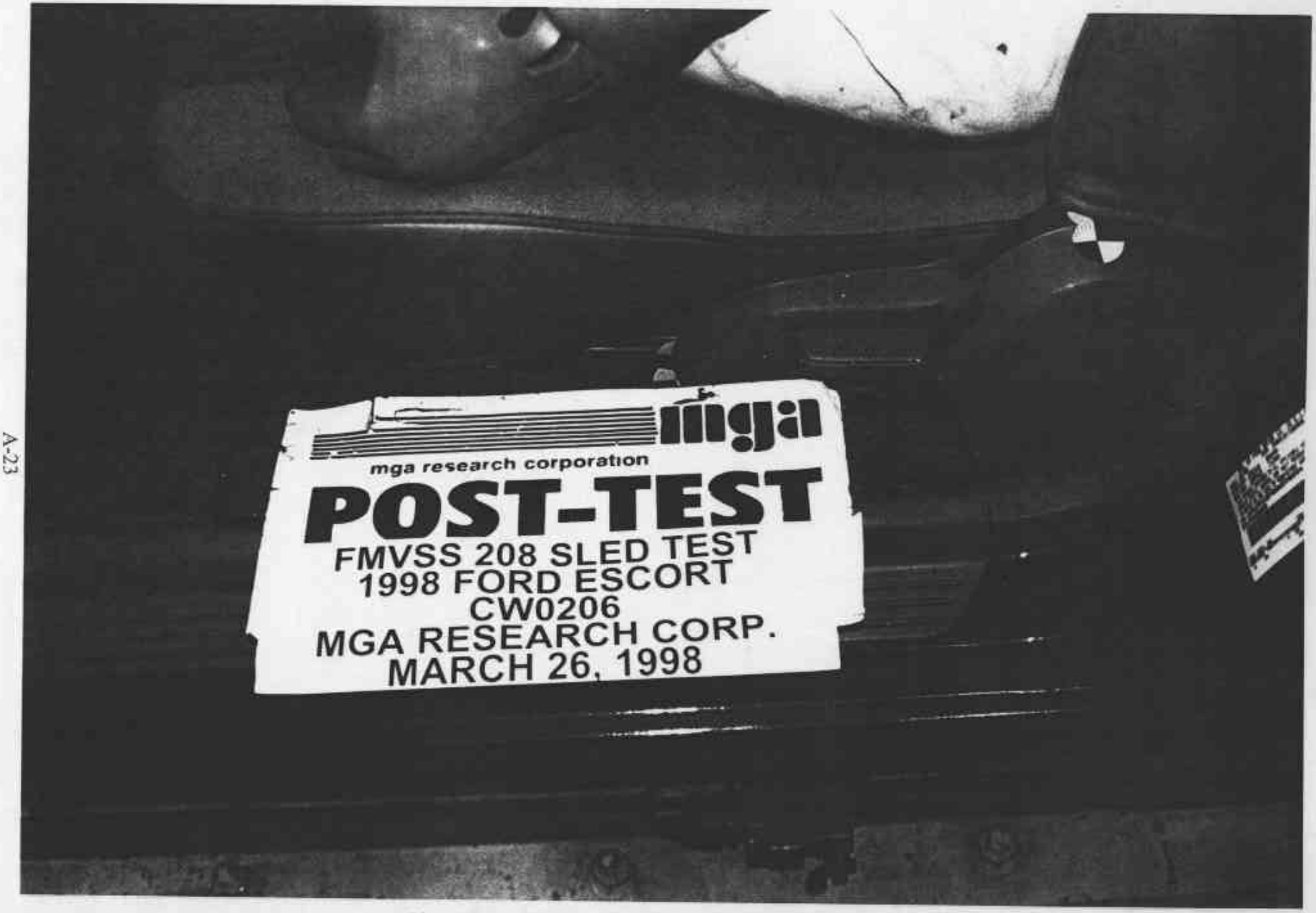


Photo No. A-23 - Post-Test Driver Seat Position View

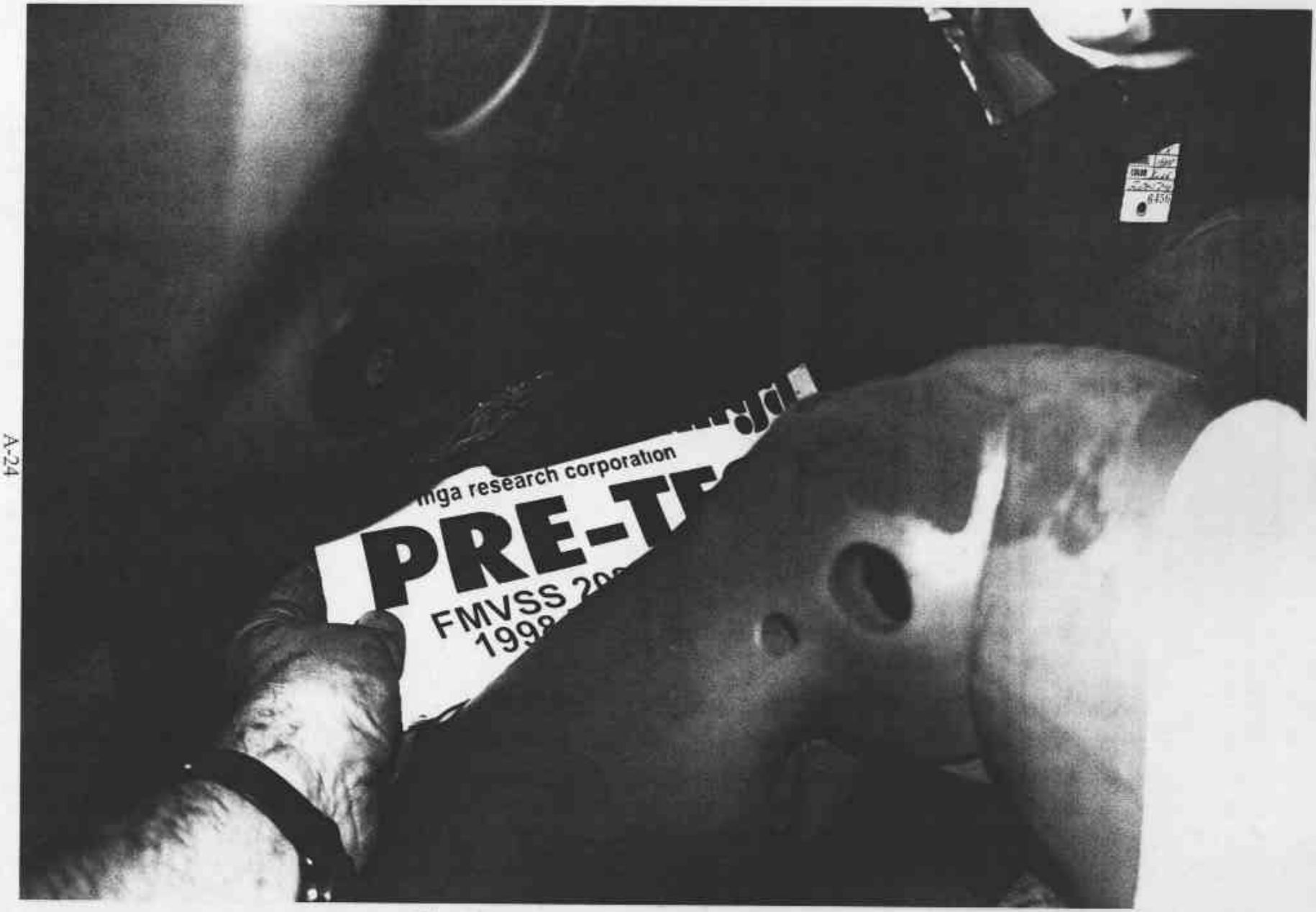


Photo No. A-24 - Pre-Test Driver Knee Bolster View

Photo No. A-25 - Post-Test Driver Knee Bolster View

Photo No. A-26 - Post-Test Driver Airbag View

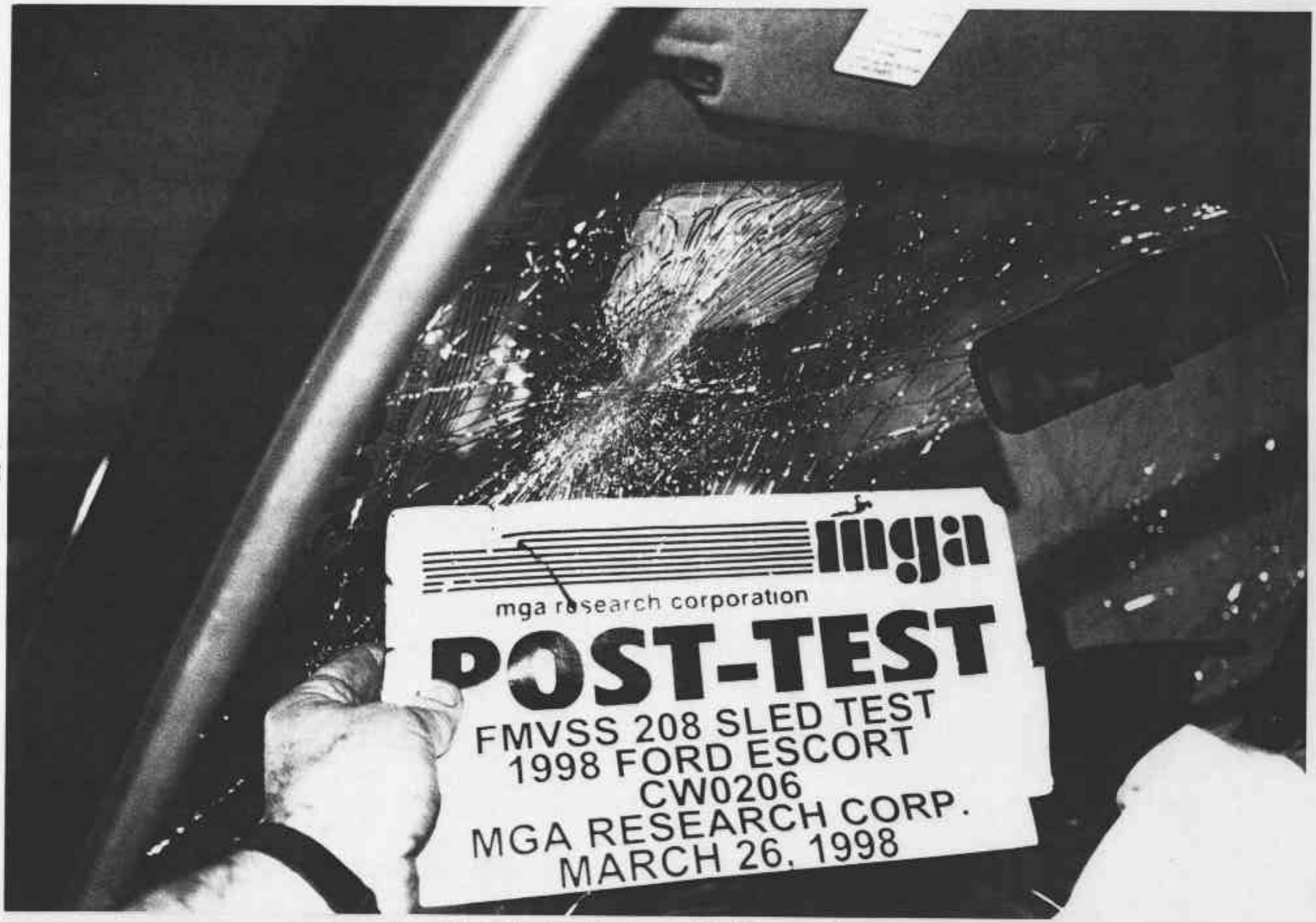


Photo No. A-27 - Post-Test Driver Head Contact View

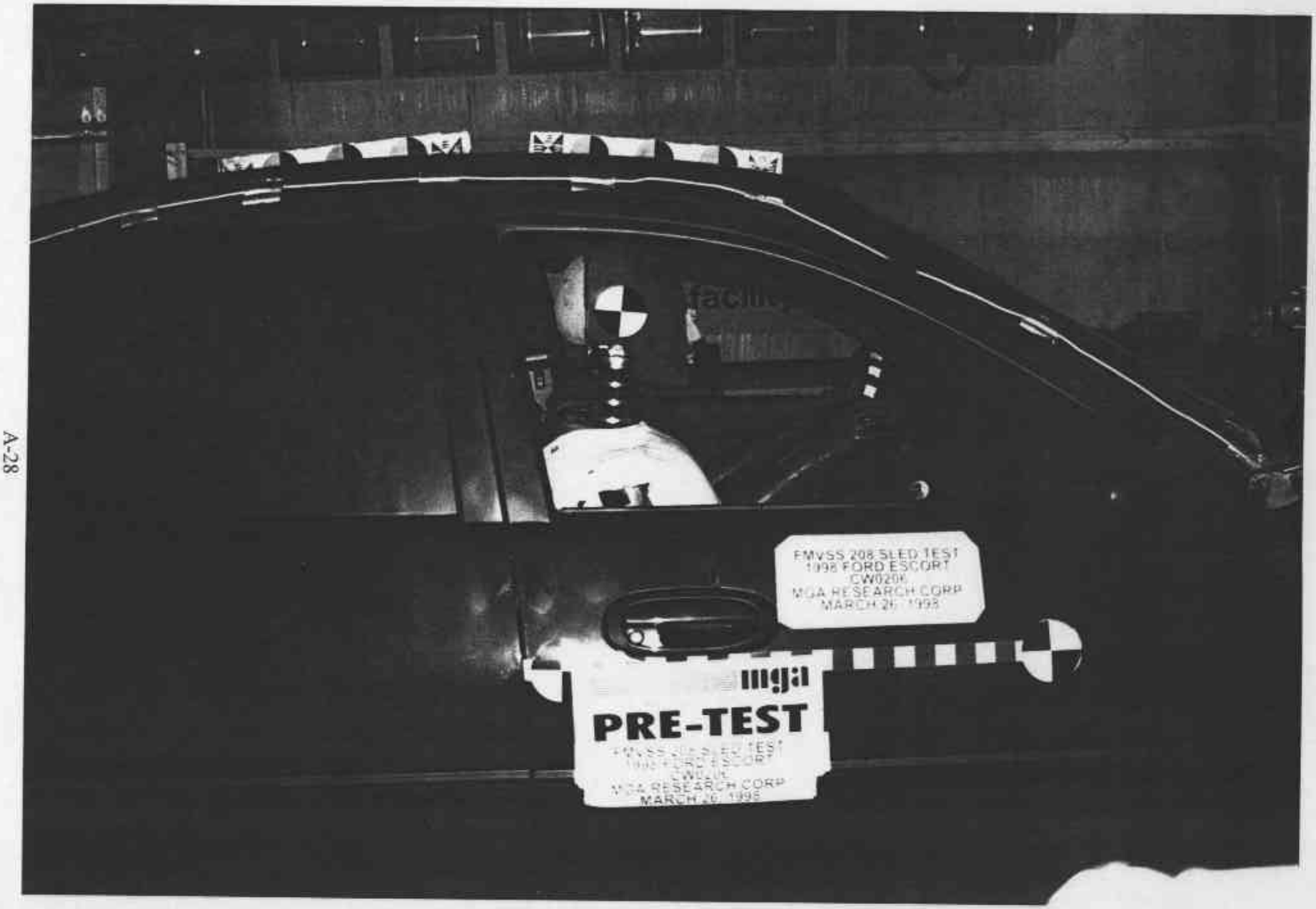


Photo No. A-28 - Pre-Test Passenger Dummy Position View

Photo No. A-29 - Post-Test Passenger Dummy Position View

Photo No. A-30 - Pre-Test Passenger Dummy Position View (Door Open)

Photo No. A-31 - Post-Test Passenger Dummy Position View (Door Open)

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

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

Photo No. A-34 - Pre-Test Passenger Seat Position View

Photo No. A-35 - Post-Test Passenger Seat Position View

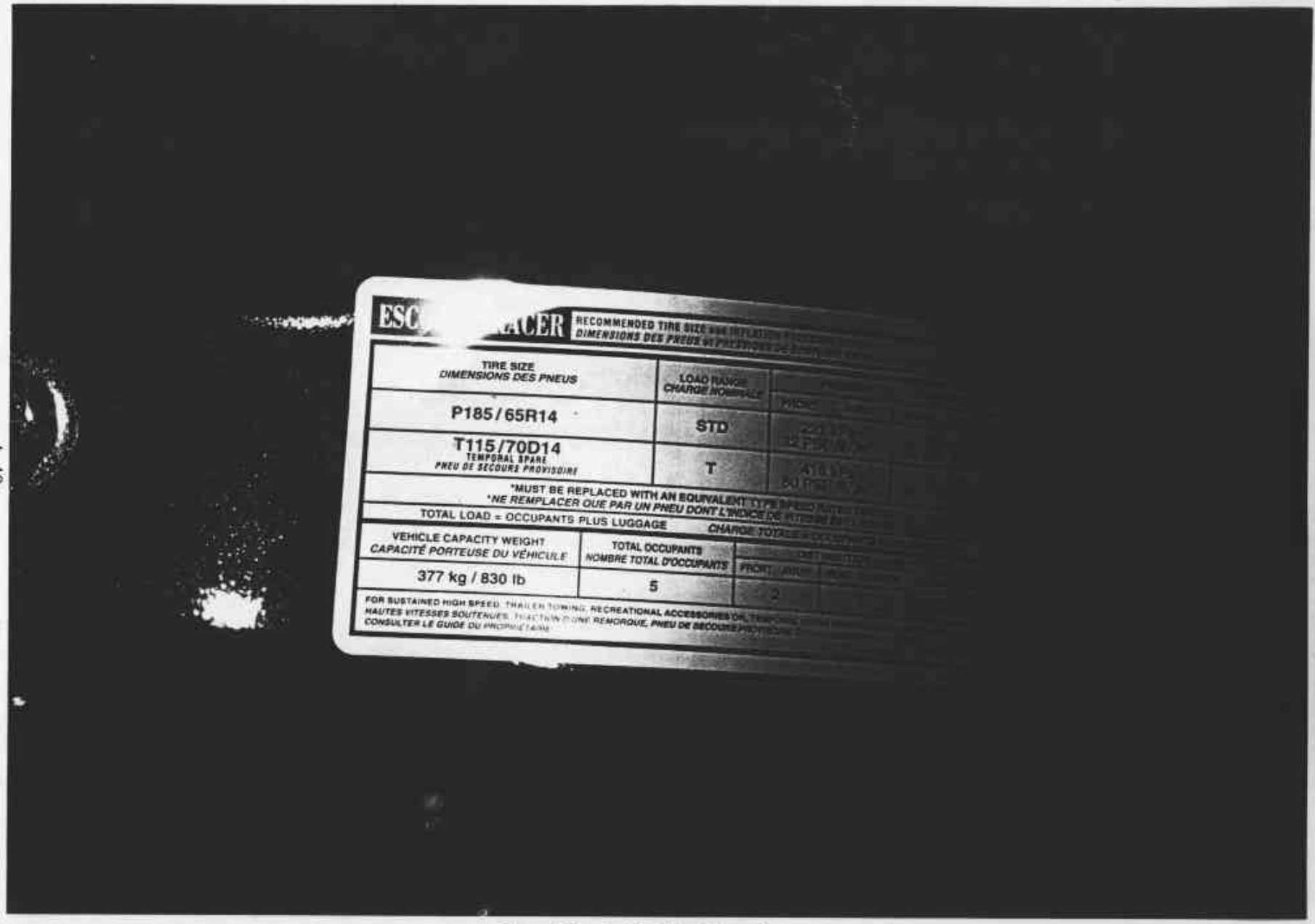
Photo No. A-36 - Pre-Test Passenger Dummy Knee Bolster View

Photo No. A-37 - Post-Test Passenger Dummy Knee Bolster View

Photo No. A-38 - Post-Test Passenger Dummy Airbag View

A-39

Photo No. A-39 - Vehicle Certification Label



A-40

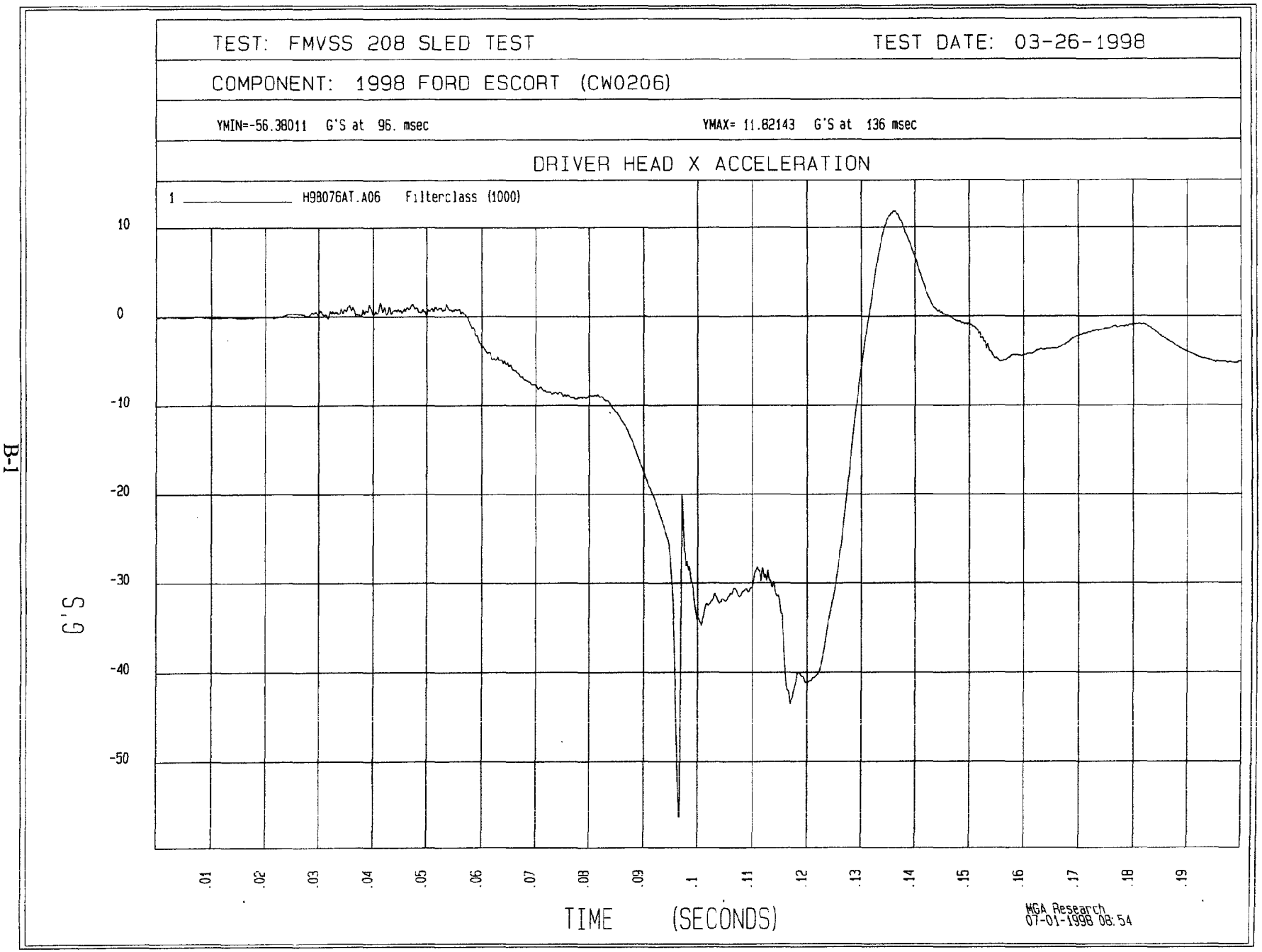
Photo No. A-40 - Tire Placard

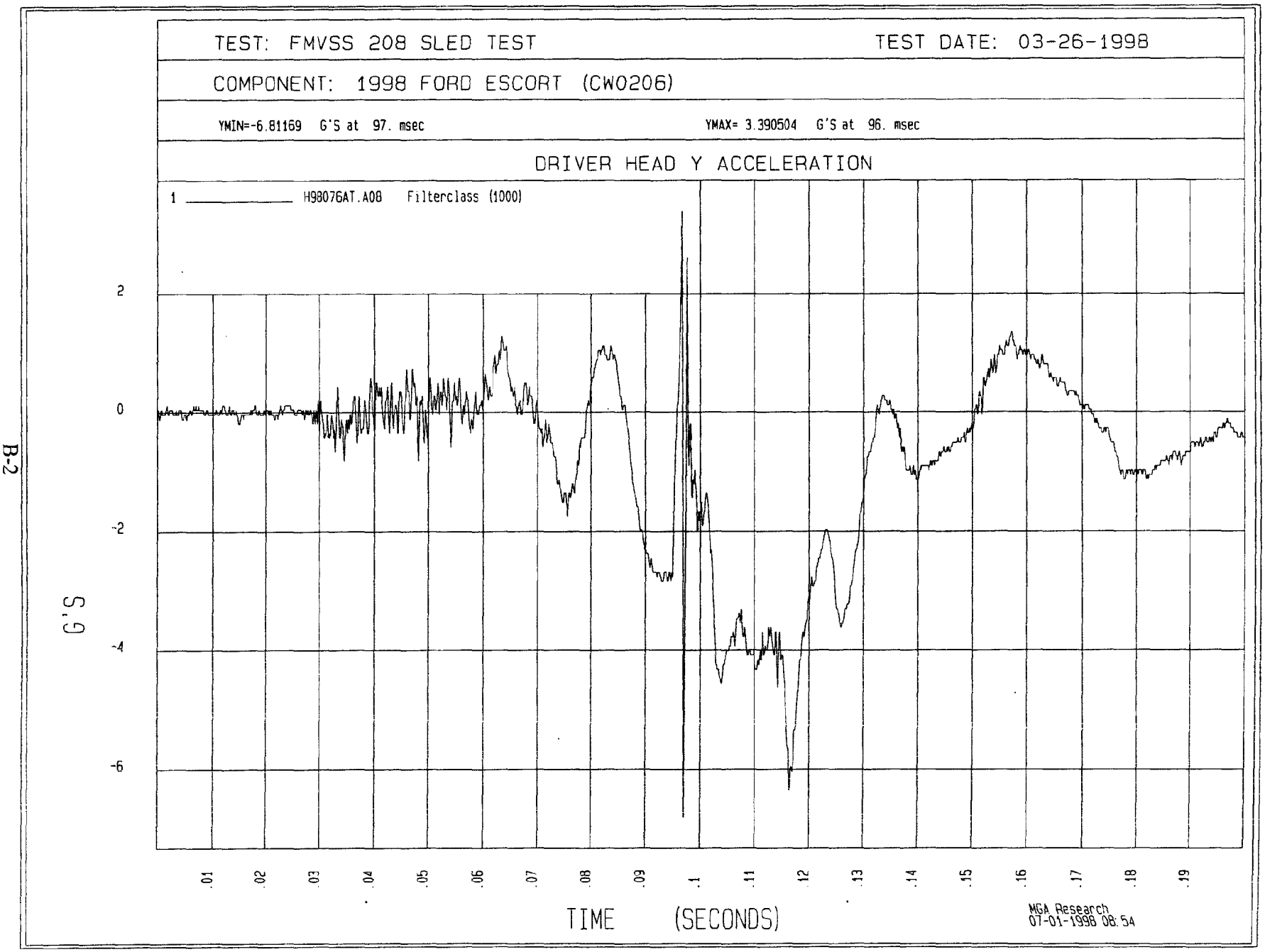
APPENDIX B

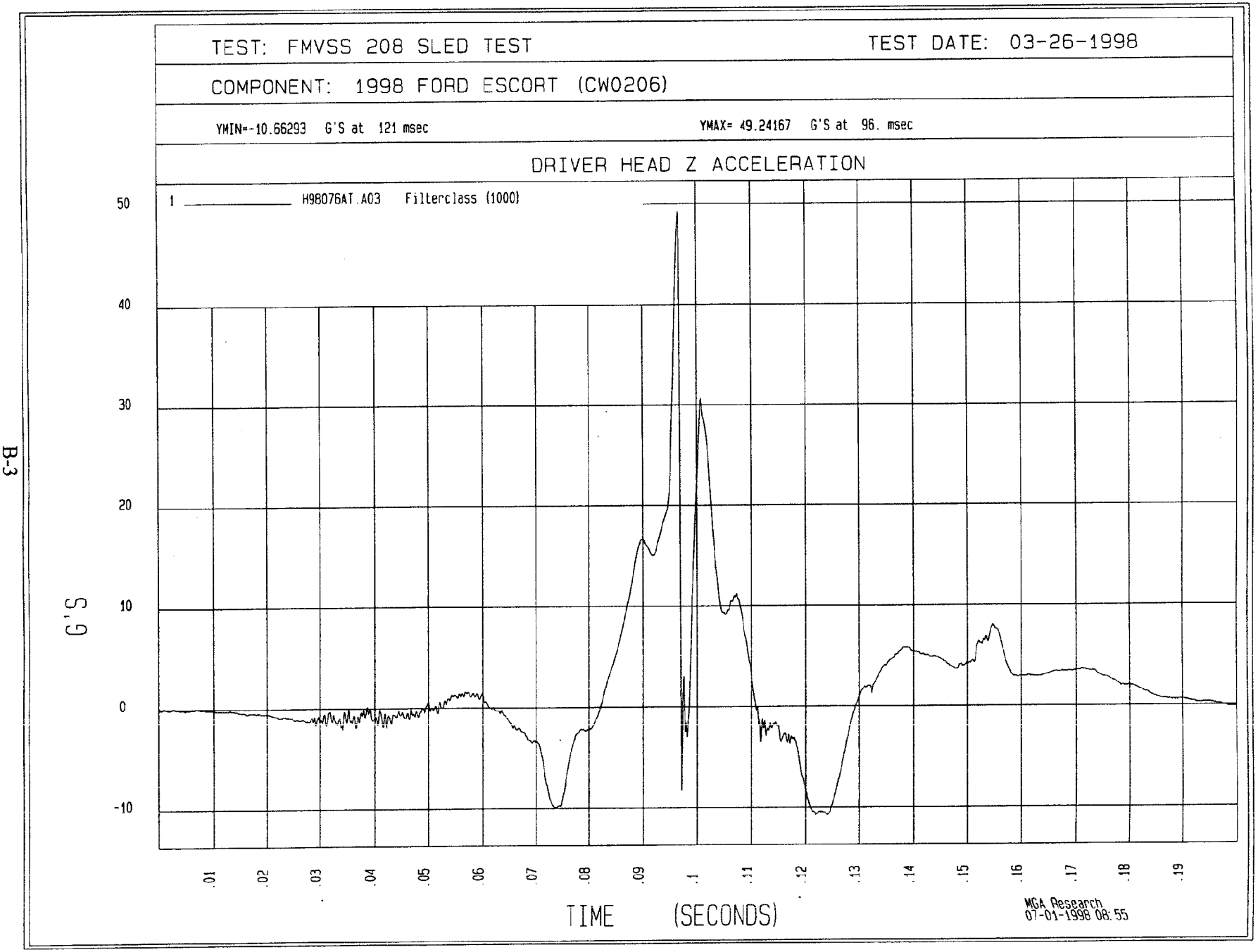
DATA PLOTS

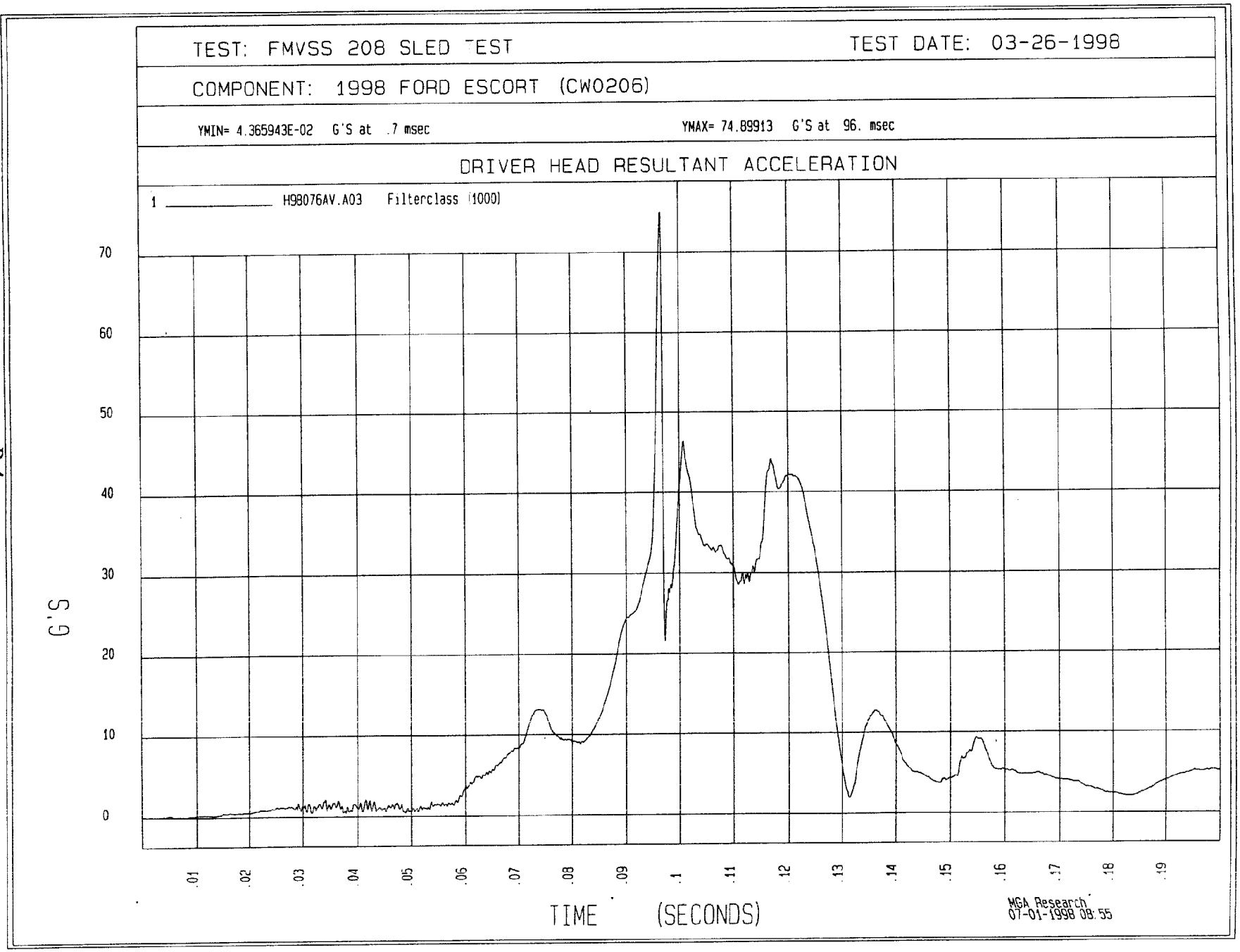
TABLE OF DATA PLOTS

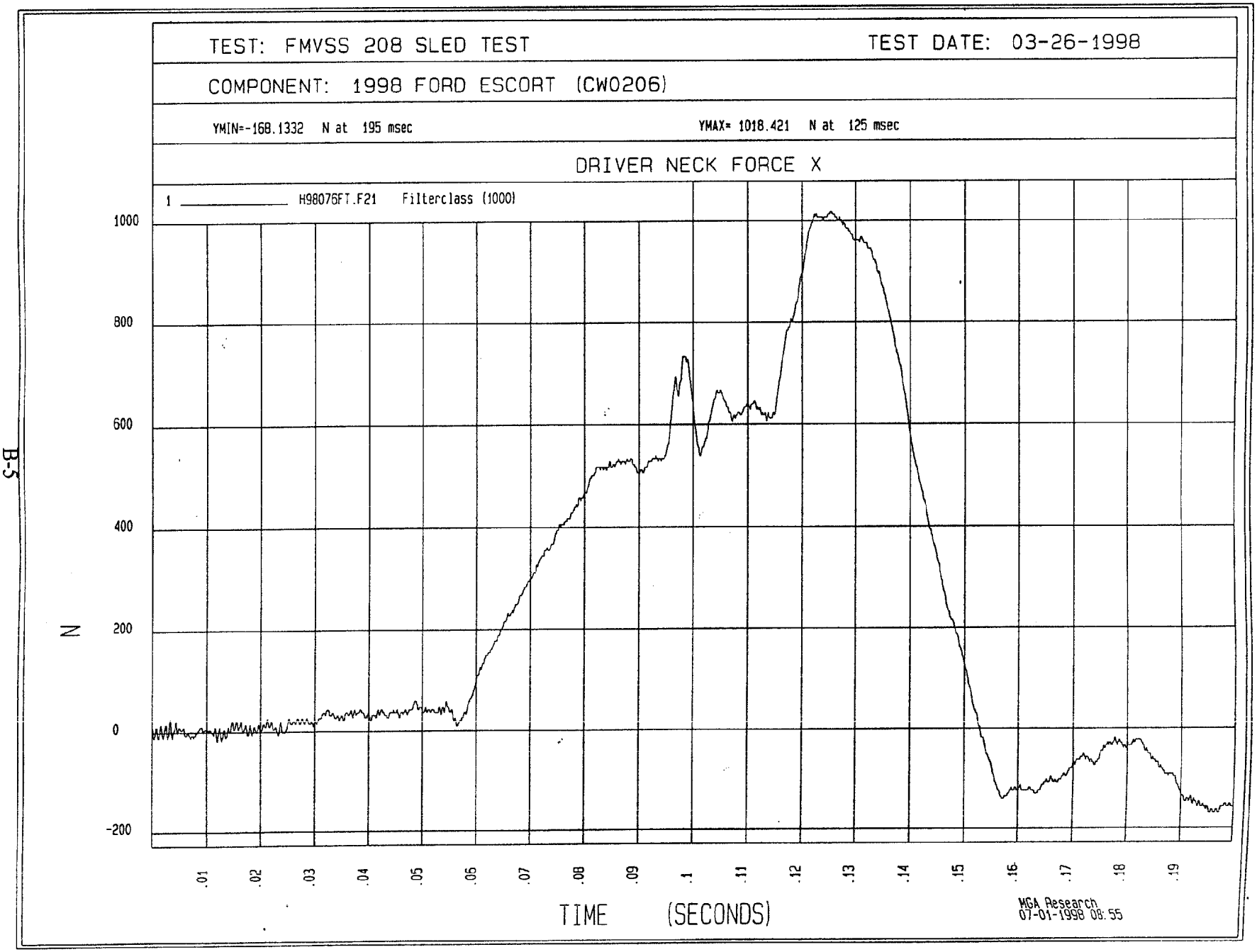
TABLE OF DATA PLOTS (Cont.)

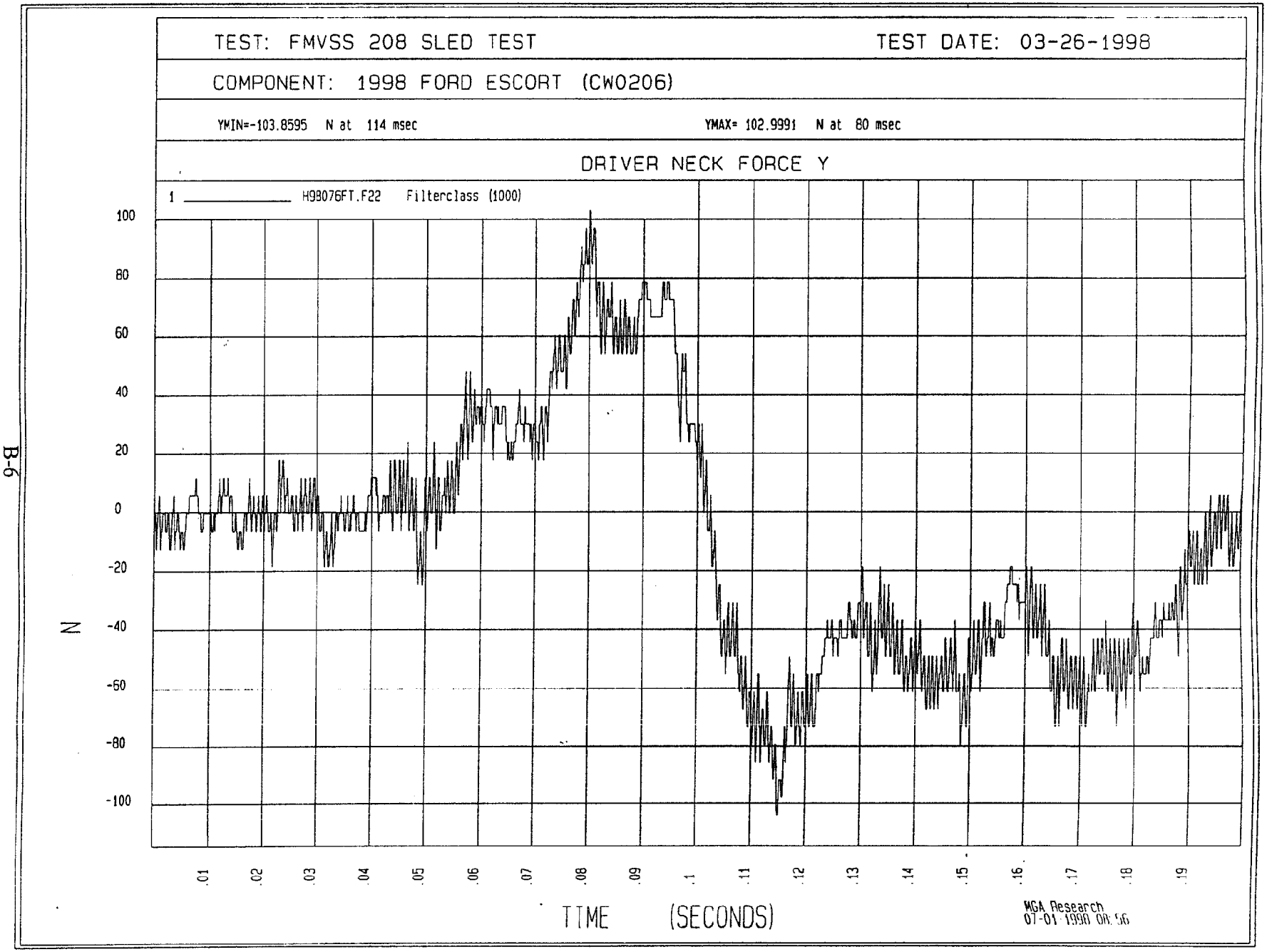

TEST: FMVSS 208 SLED TEST
TEST DATE: 03-26-1998
COMPONENT: 1998 FORD ESCORT (CW0206)
YMIN=-56.38011 G'S at 96. msec
YMAX= 11.82143 G'S at 136 msec
DRIVER HEAD X ACCELERATION
1 H98076AT.A06 Filterclass (1000)
10
0
-10
-20
-30
-40
-50
G'S
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
07-01-1998 08:54

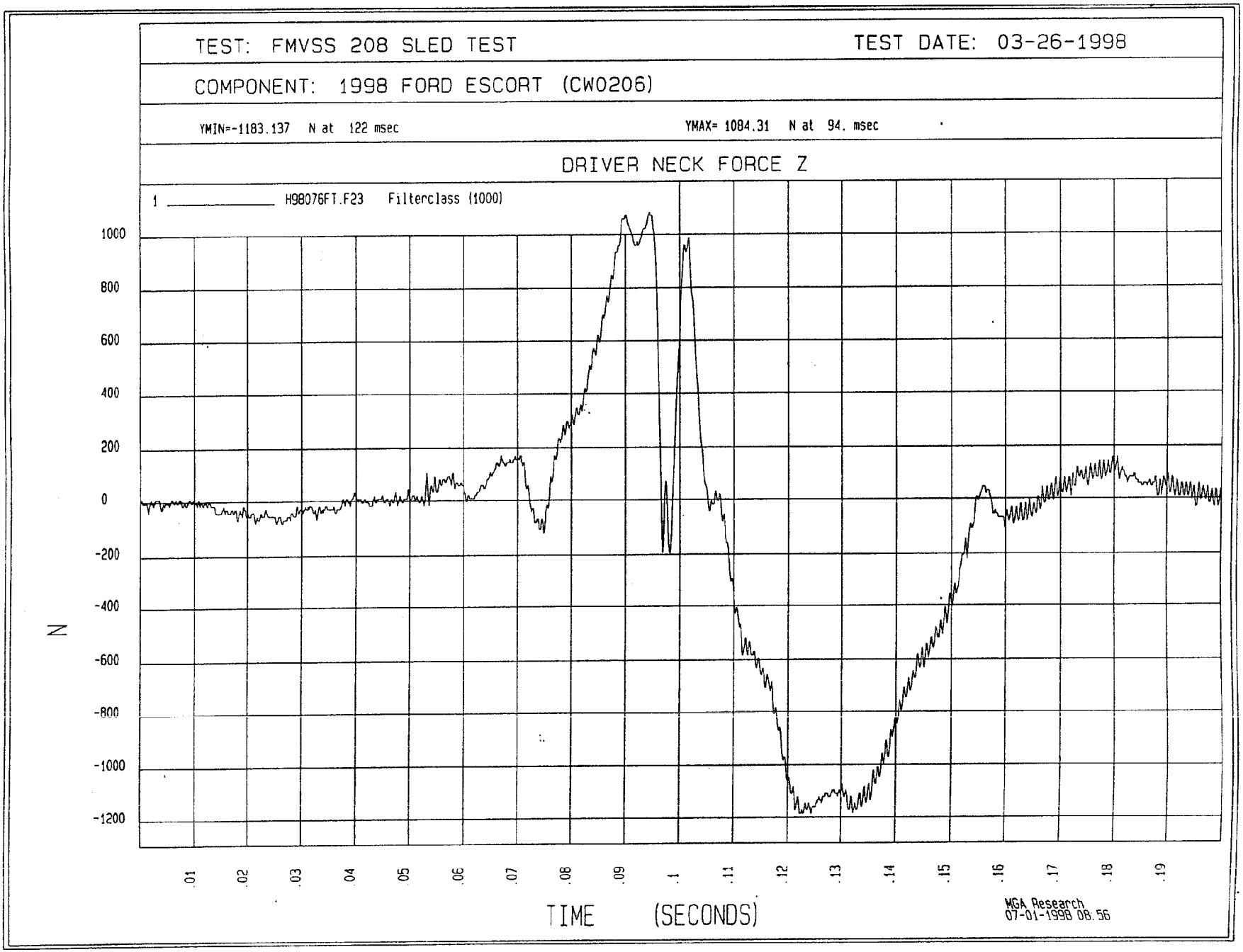

TEST: FMVSS 208 SLED TEST
TEST DATE: 03-26-1998
COMPONENT: 1998 FORD ESCORT (CW0206)
YMIN=-6.81169 G'S at 97. msec
YMAX= 3.390504 G'S at 96. msec
DRIVER HEAD Y ACCELERATION
1 H98076AT.A08 Filterclass (1000)
2
0
-2
-4
-6
G'S
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
07-01-1998 08:54

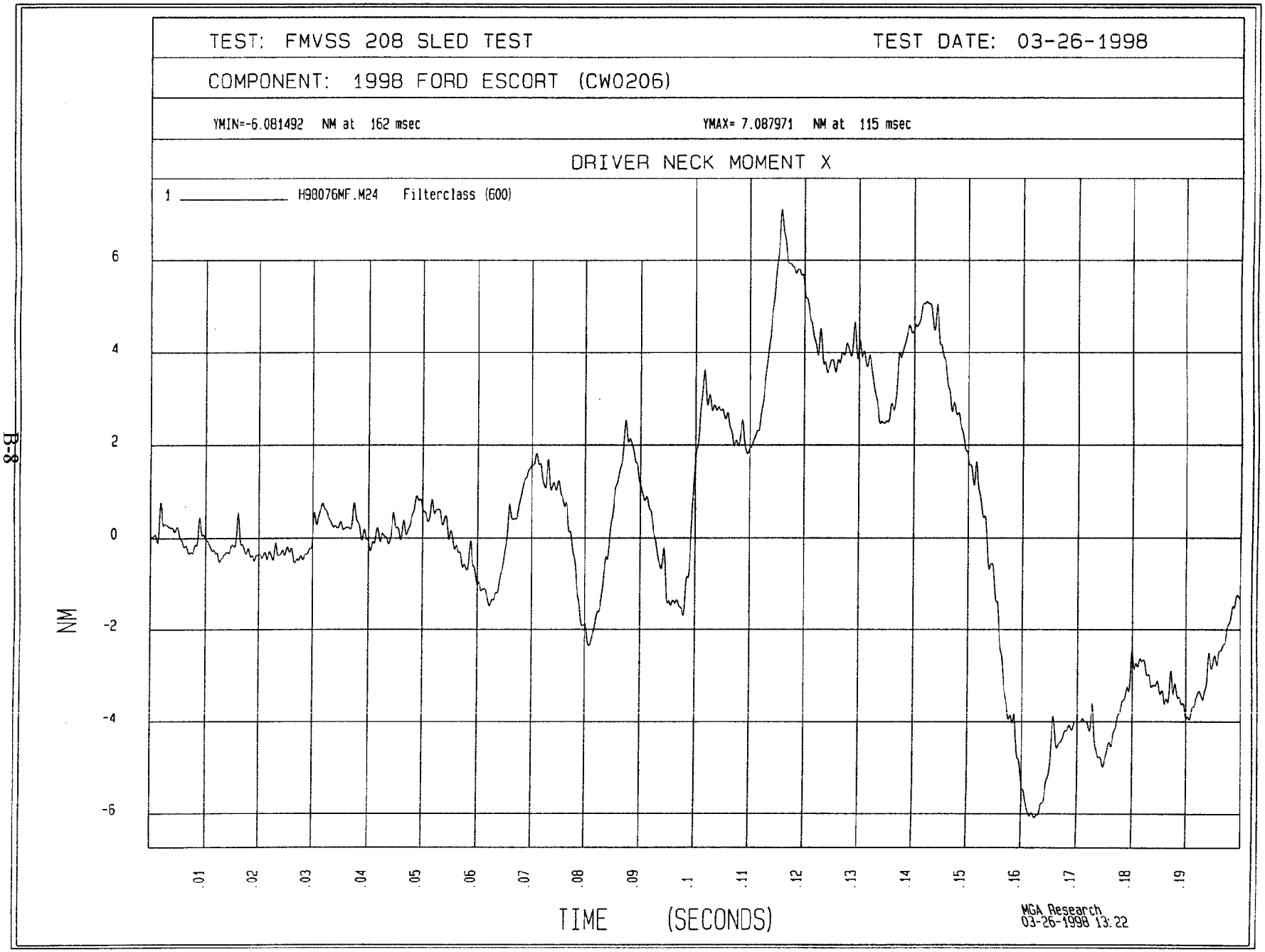

TEST: FMVSS 208 SLED TEST
TEST DATE: 03-26-1998
COMPONENT: 1998 FORD ESCORT (CW0206)
YMIN=-10.66293 G'S at 121 msec
YMAX= 49.24167 G'S at 96. msec
DRIVER HEAD Z ACCELERATION
1 H98076AT.A03 Filterclass (1000)
50
40
30
20
10
0
-10
G'S
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
07-01-1998 08:55

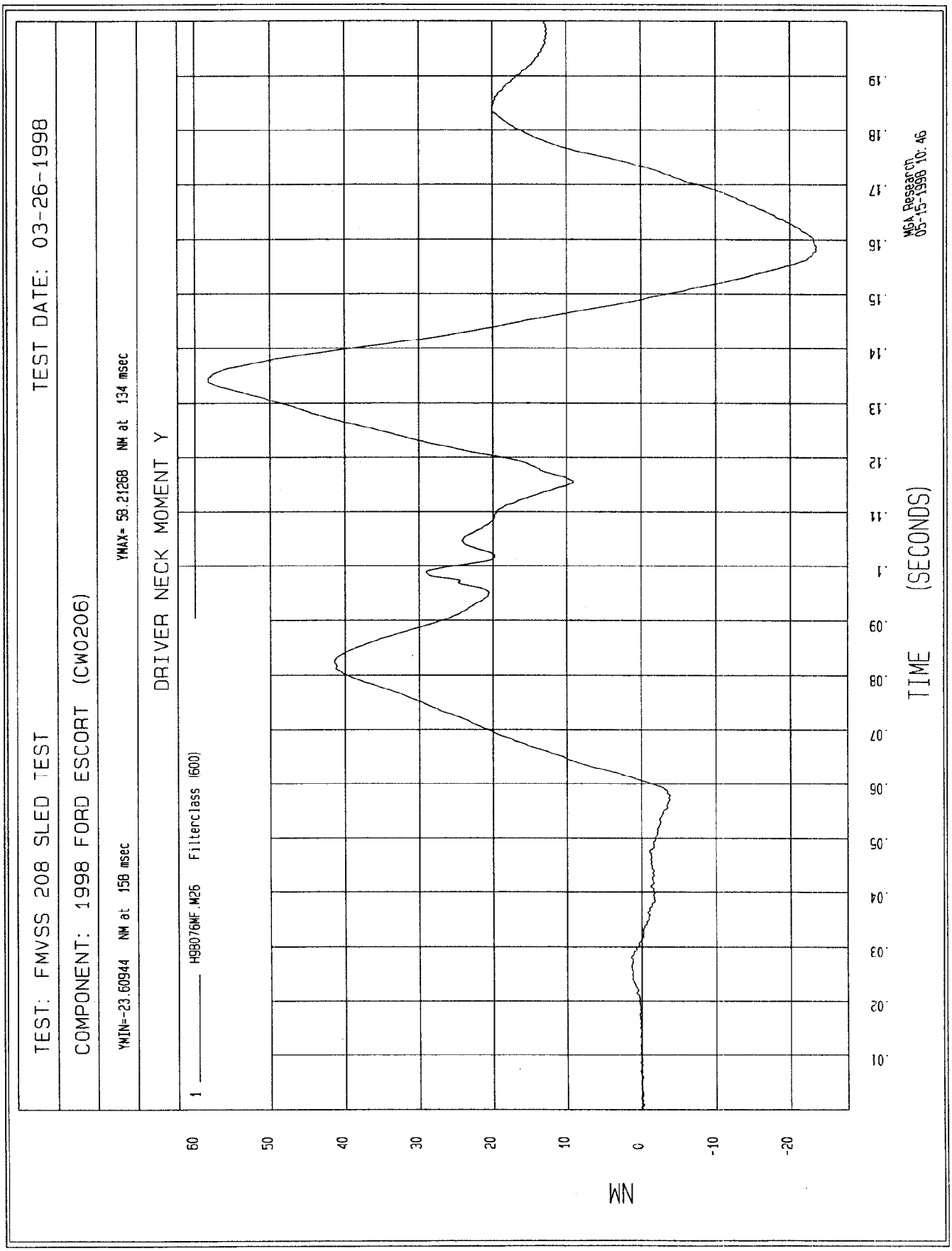

TEST: FMVSS 208 SLED TEST
TEST DATE: 03-26-1998
COMPONENT: 1998 FORD ESCORT (CW0206)
YMIN= 4.365943E-02 G'S at .7 msec
YMAX= 74.89913 G'S at 96. msec
DRIVER HEAD RESULTANT ACCELERATION
1 H98076AV.A03 Filterclass (1000)
G'S
70
60
50
40
30
20
10
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
07-01-1998 08:55

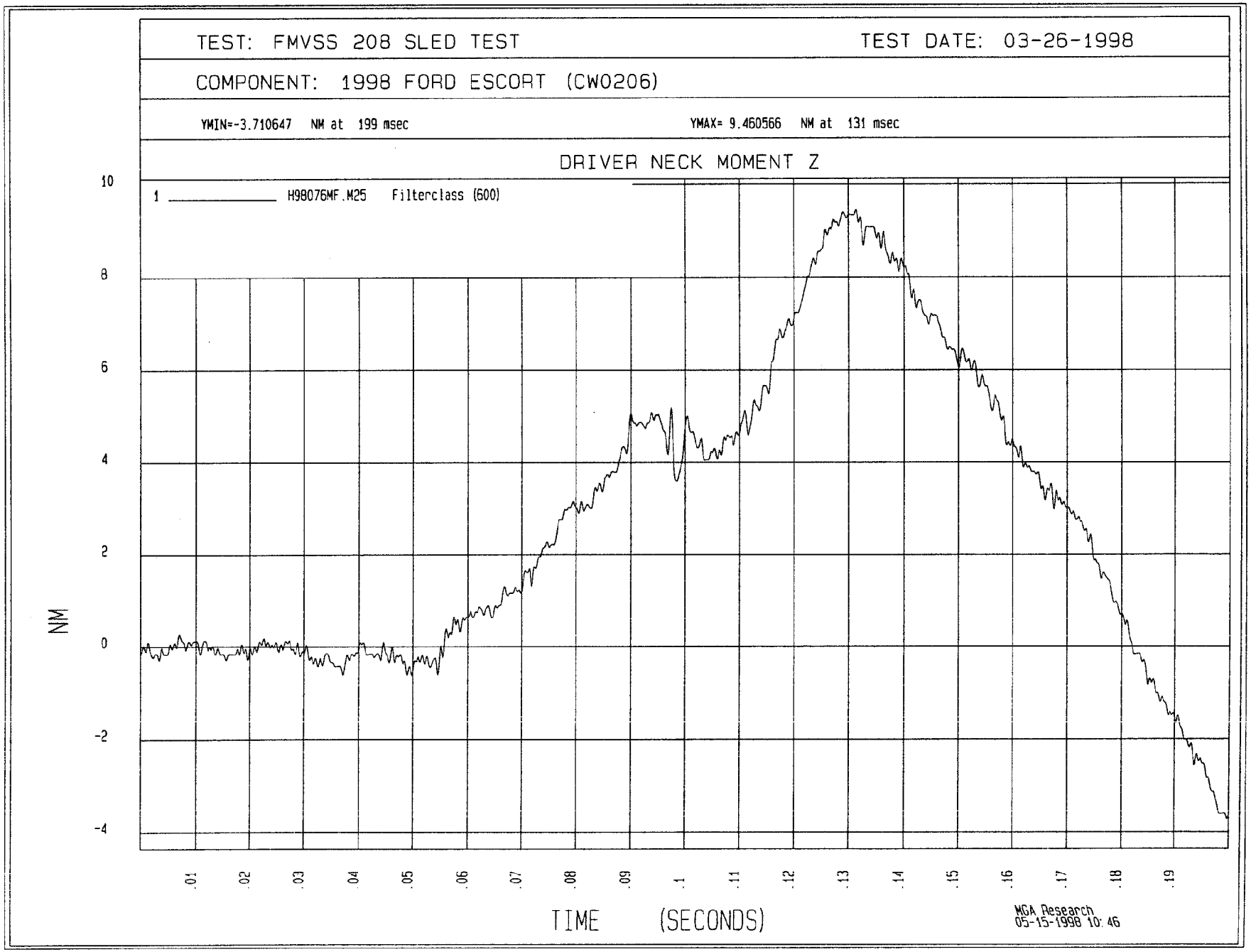

TEST: FMVSS 208 SLED TEST
TEST DATE: 03-26-1998
COMPONENT: 1998 FORD ESCORT (CW0206)
YMIN=-168.1332 N at 195 msec
YMAX= 1018.421 N at 125 msec
DRIVER NECK FORCE X
1 H98076FT.F21 Filterclass (1000)
1000
800
600
400
200
0
-200
N
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
07-01-1998 08:55

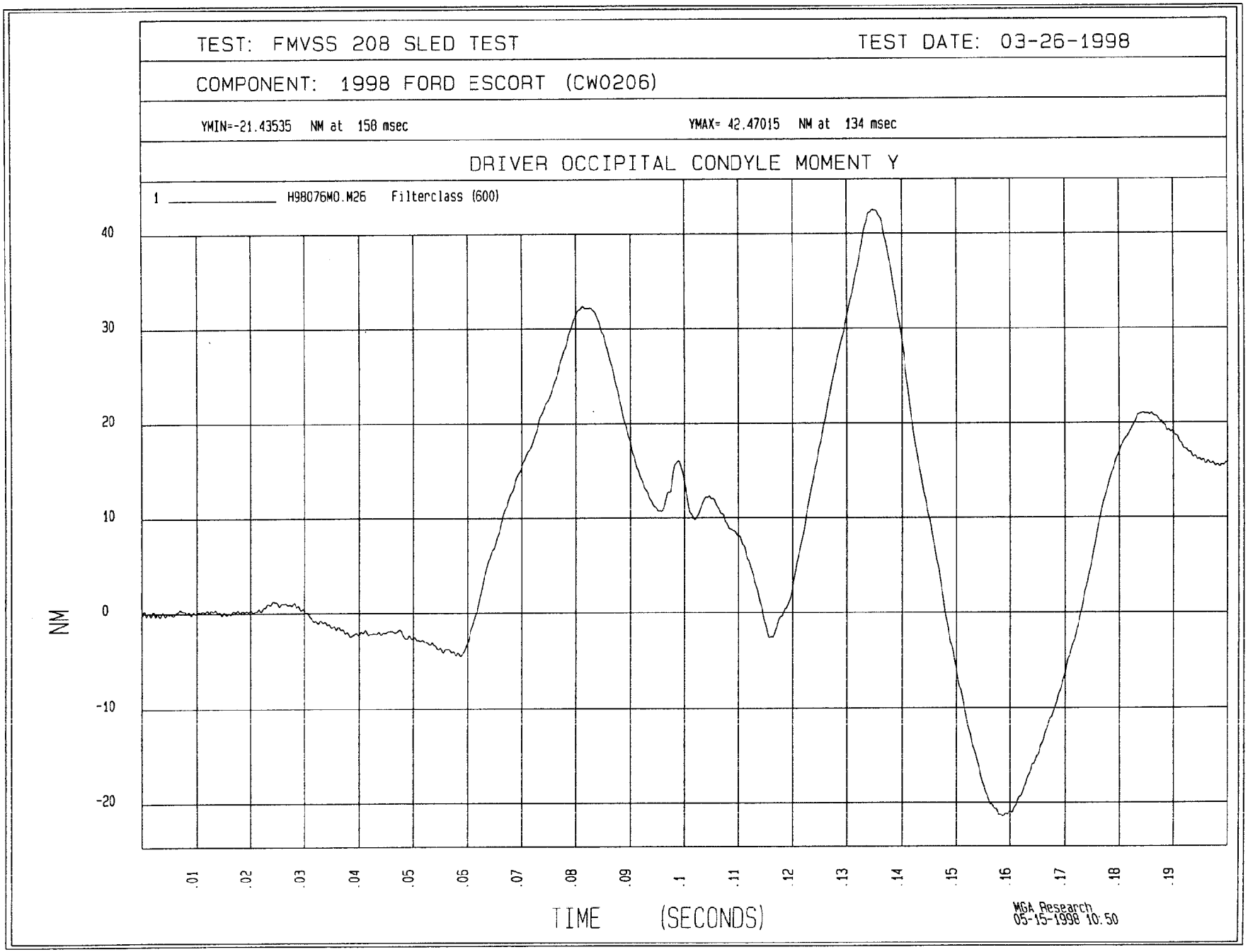

TEST: FMVSS 208 SLED TEST
TEST DATE: 03-26-1998
COMPONENT: 1998 FORD ESCORT (CW0206)
YMIN=-103.8595 N at 114 msec
YMAX= 102.9991 N at 80 msec
DRIVER NECK FORCE Y
1 H98076FT.F22 Filterclass (1000)
100
80
60
40
20
0
-20
-40
-60
-80
-100
N
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
07-01-1998 08:56

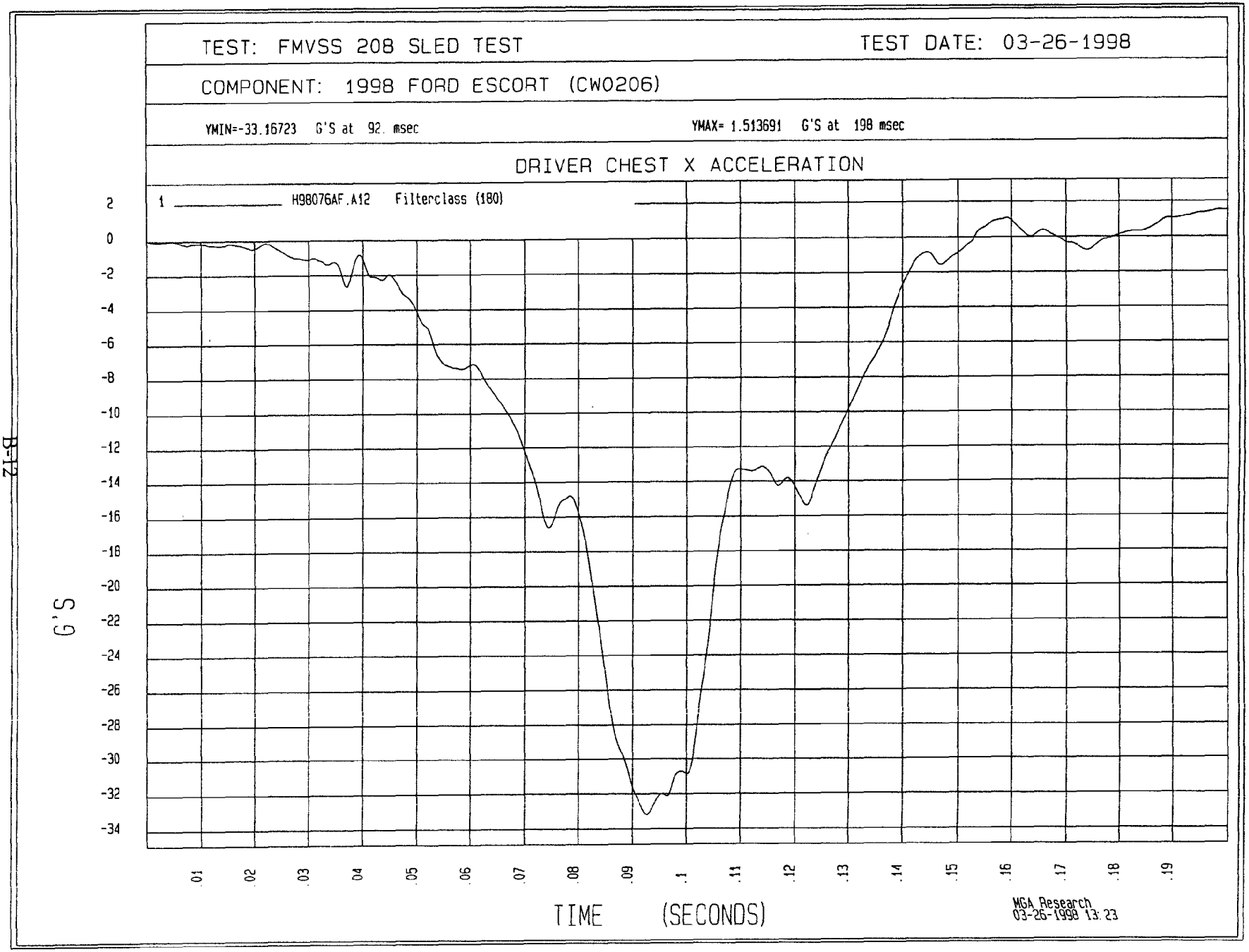

TEST: FMVSS 208 SLED TEST
TEST DATE: 03-26-1998
COMPONENT: 1998 FORD ESCORT (CW0206)
YMIN=-1183.137 N at 122 msec
YMAX= 1084.31 N at 94. msec
DRIVER NECK FORCE Z
1 H98076FT.F23 Filterclass (1000)
1000
800
600
400
200
0
-200
-400
-600
-800
-1000
-1200
N
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
07-01-1998 08.56

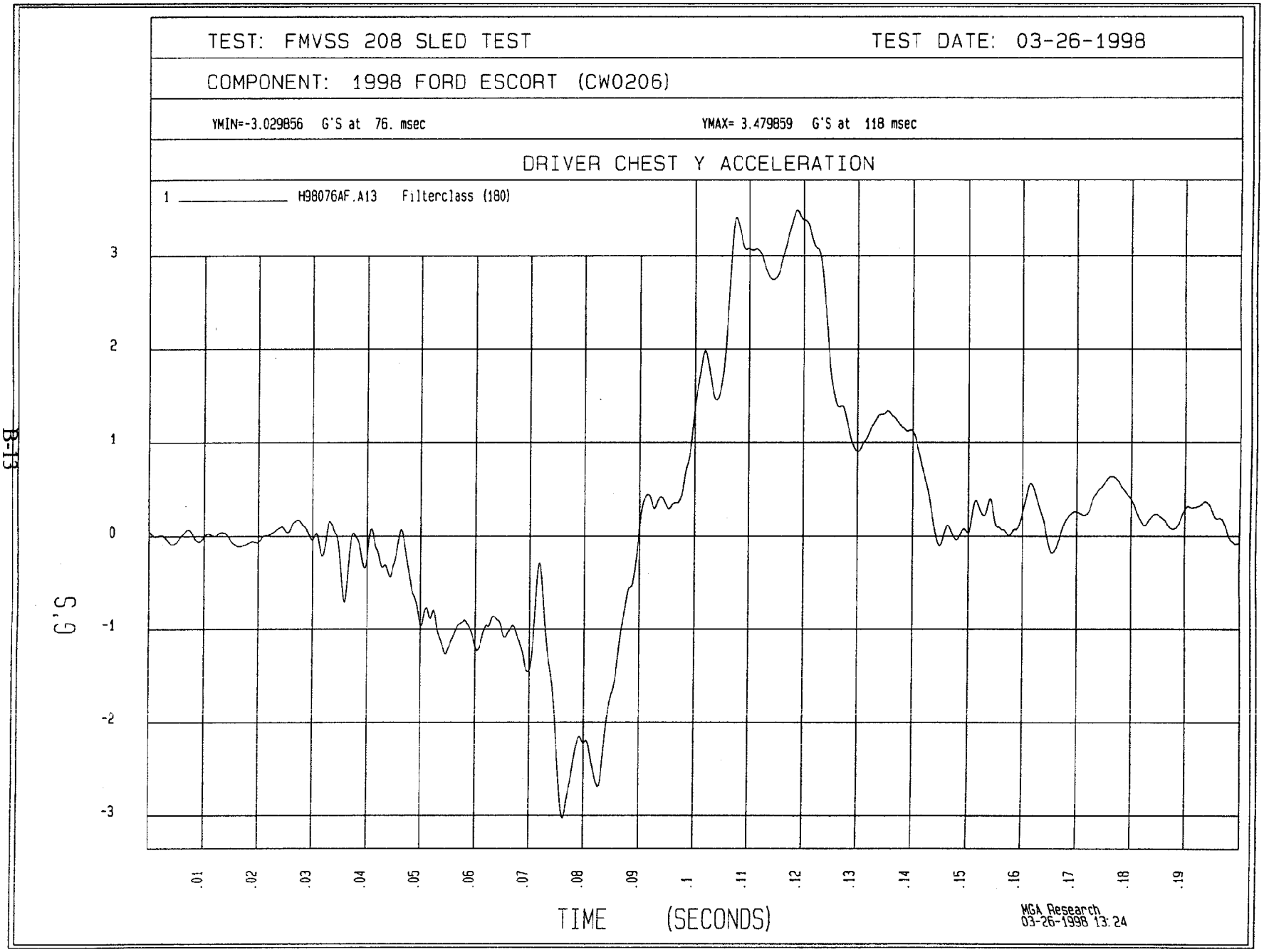

TEST: FMVSS 208 SLED TEST
TEST DATE: 03-26-1998
COMPONENT: 1998 FORD ESCORT (CW0206)
YMIN=-6.081492 NM at 162 msec
YMAX= 7.087971 NM at 115 msec
DRIVER NECK MOMENT X
1 H98076MF.M24 Filterclass (600)
6
4
2
0
-2
-4
-6
NM
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
03-26-1998 13:22

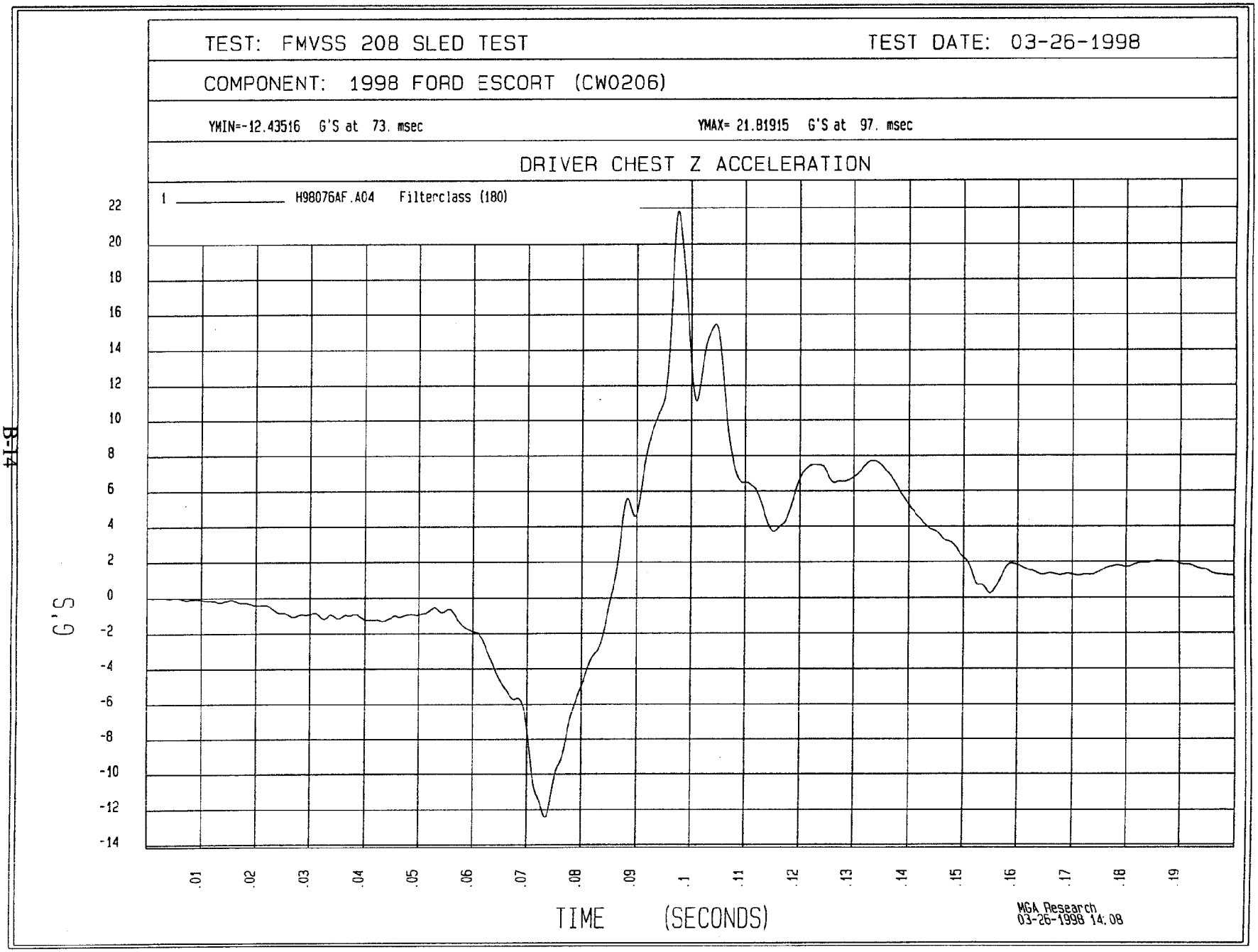

TEST: FMVSS 208 SLED TEST
TEST DATE: 03-26-1998
COMPONENT: 1998 FORD ESCORT (CW0206)
YMIN=-23.60944 NM at 158 msec
YMAX= 58.21268 NM at 134 msec
DRIVER NECK MOMENT Y
1 H98076NF.M26 Filterclass (600)
NM
TIME (SECONDS)
MGA Research
05-15-1998 10:46

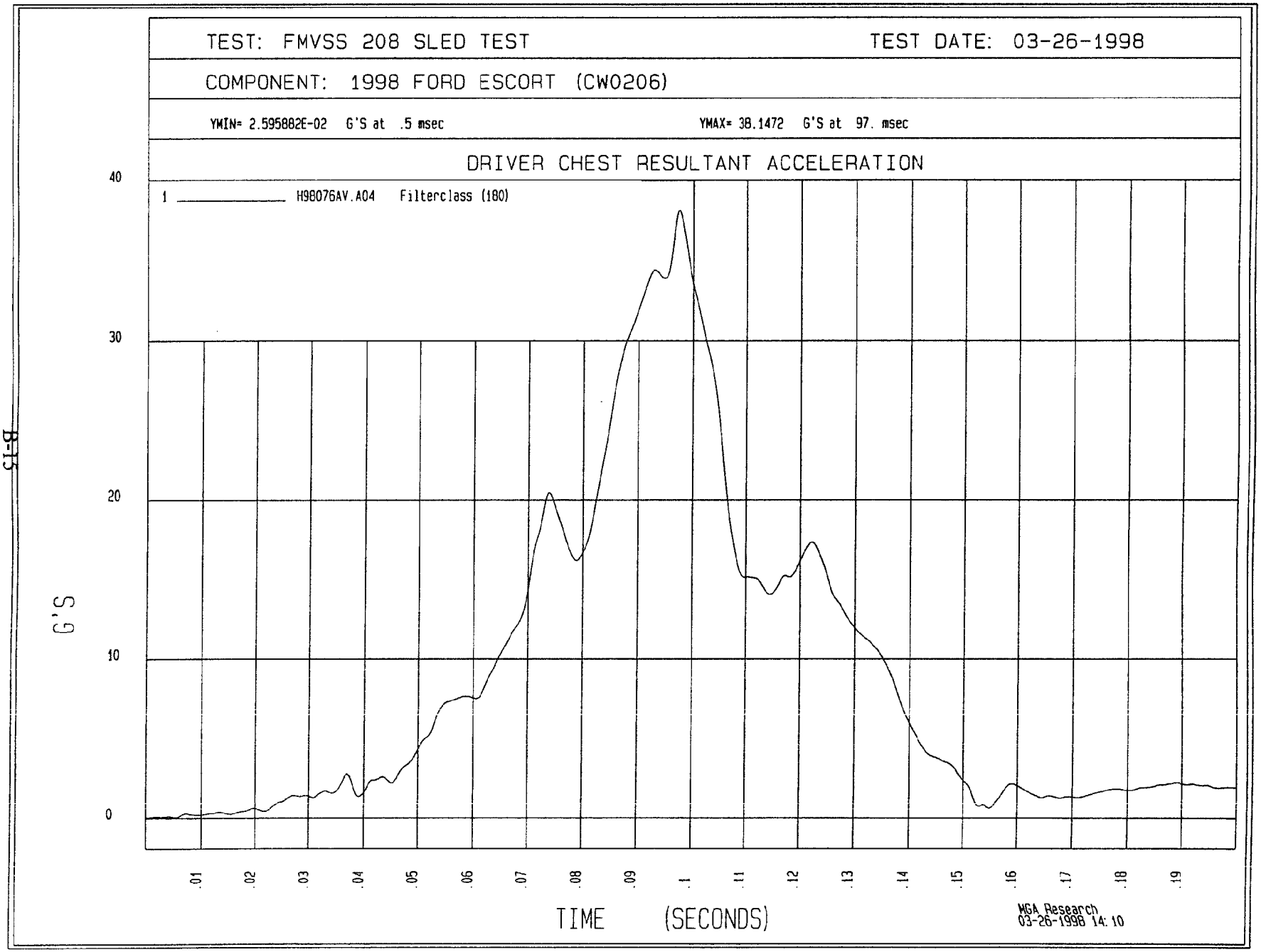

TEST: FMVSS 208 SLED TEST
TEST DATE: 03-26-1998
COMPONENT: 1998 FORD ESCORT (CW0206)
YMIN=-3.710647 NM at 199 msec
YMAX= 9.460566 NM at 131 msec
DRIVER NECK MOMENT Z
1 H98076MF.M25 Filterclass (600)
10
8
6
4
2
0
-2
-4
NM
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
05-15-1998 10:46

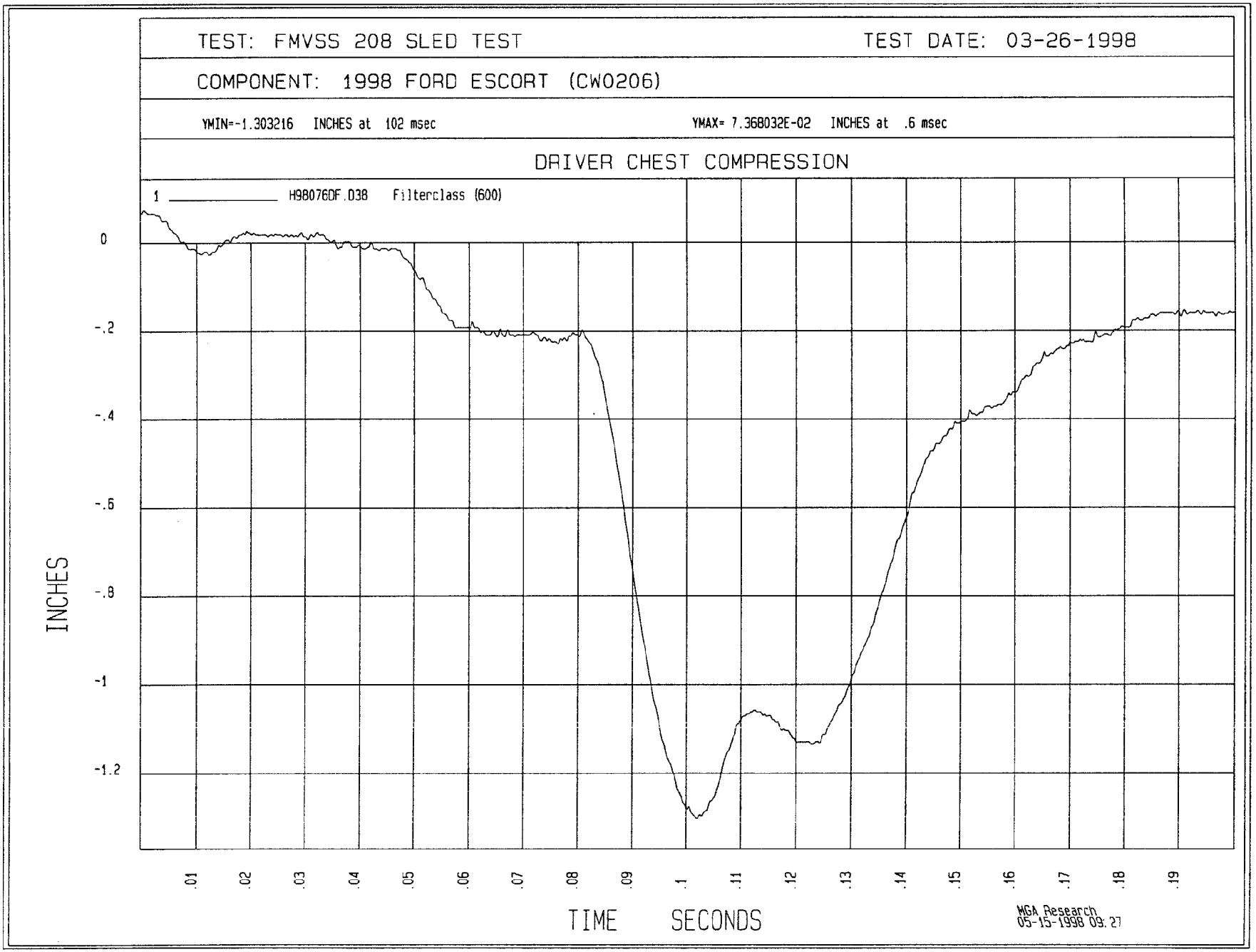

TEST: FMVSS 208 SLED TEST
TEST DATE: 03-26-1998
COMPONENT: 1998 FORD ESCORT (CW0206)
YMIN=-21.43535 NM at 158 msec
YMAX= 42.47015 NM at 134 msec
DRIVER OCCIPITAL CONDYLE MOMENT Y
1 H98076M0.M26 Filterclass (600)
NM
40
30
20
10
0
-10
-20
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
05-15-1998 10:50

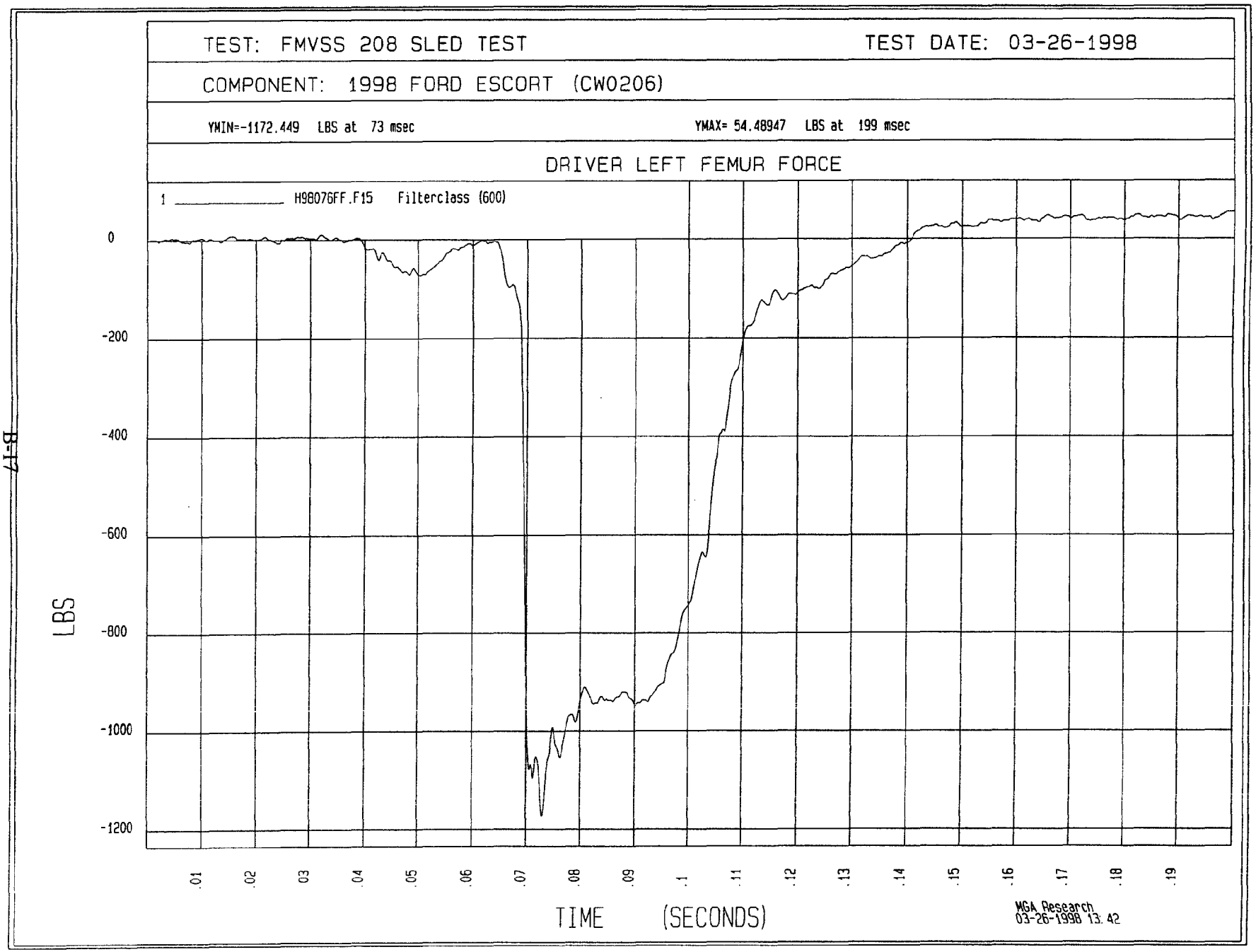

TEST: FMVSS 208 SLED TEST
TEST DATE: 03-26-1998
COMPONENT: 1998 FORD ESCORT (CW0206)
YMIN=-33.16723 G'S at 92. msec
YMAX= 1.513691 G'S at 198 msec
DRIVER CHEST X ACCELERATION
1 H98076AF.A12 Filterclass (180)
2
0
-2
-4
-6
-8
-10
-12
-14
-16
-18
-20
-22
-24
-26
-28
-30
-32
-34
G'S
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
03-26-1998 13:23

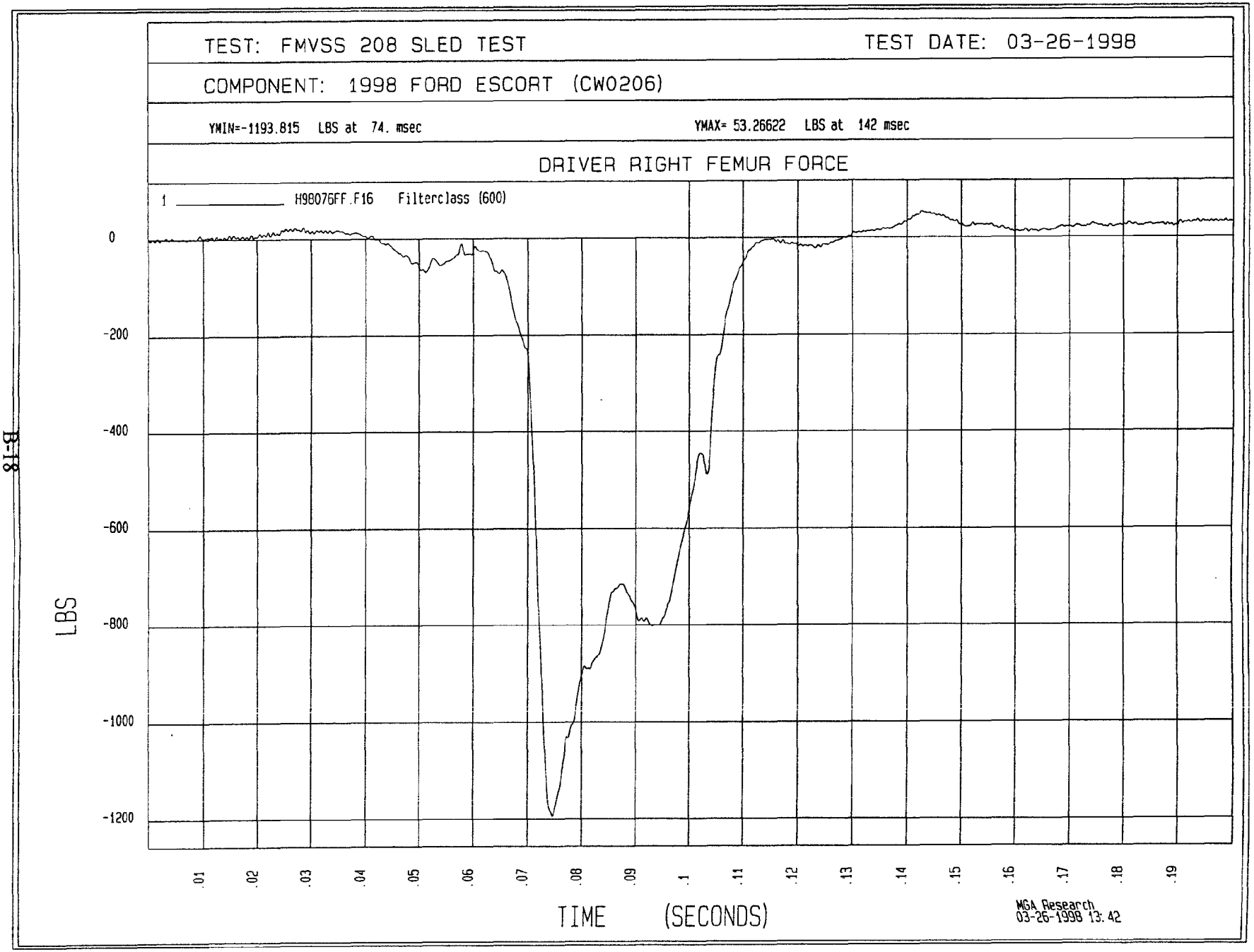

TEST: FMVSS 208 SLED TEST
TEST DATE: 03-26-1998
COMPONENT: 1998 FORD ESCORT (CW0206)
YMIN=-3.029856 G'S at 76. msec
YMAX= 3.479859 G'S at 118 msec
DRIVER CHEST Y ACCELERATION
1 H98076AF.A13 Filterclass (180)
3
2
1
0
-1
-2
-3
G'S
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
03-26-1998 13:24

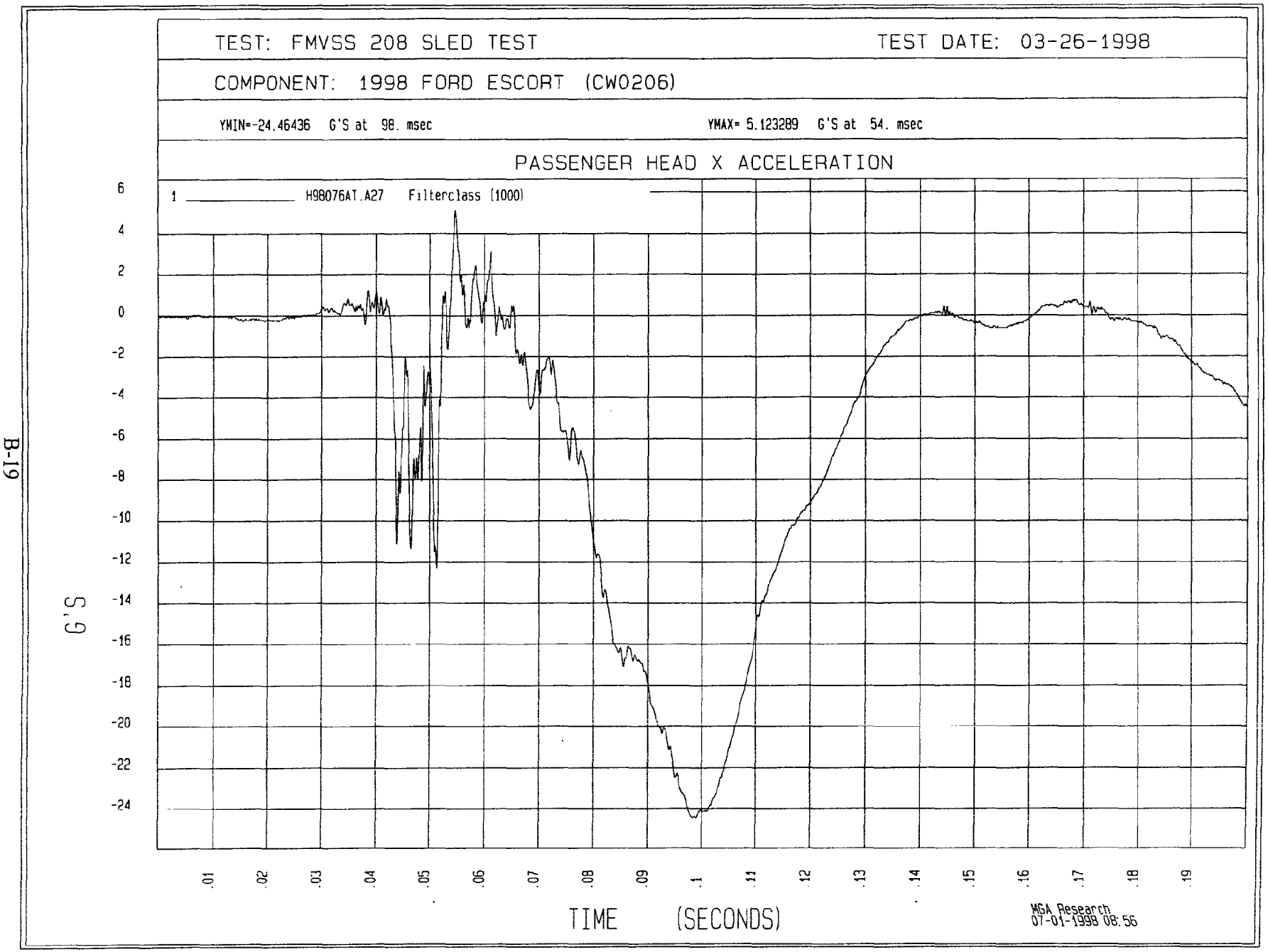

TEST: FMVSS 208 SLED TEST
TEST DATE: 03-26-1998
COMPONENT: 1998 FORD ESCORT (CW0206)
YMIN=-12.43516 G'S at 73. msec
YMAX= 21.81915 G'S at 97. msec
DRIVER CHEST Z ACCELERATION
1 H98076AF.A04 Filterclass (180)
22
20
18
16
14
12
10
8
6
4
2
0
-2
-4
-6
-8
-10
-12
-14
G'S
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
03-26-1998 14:08

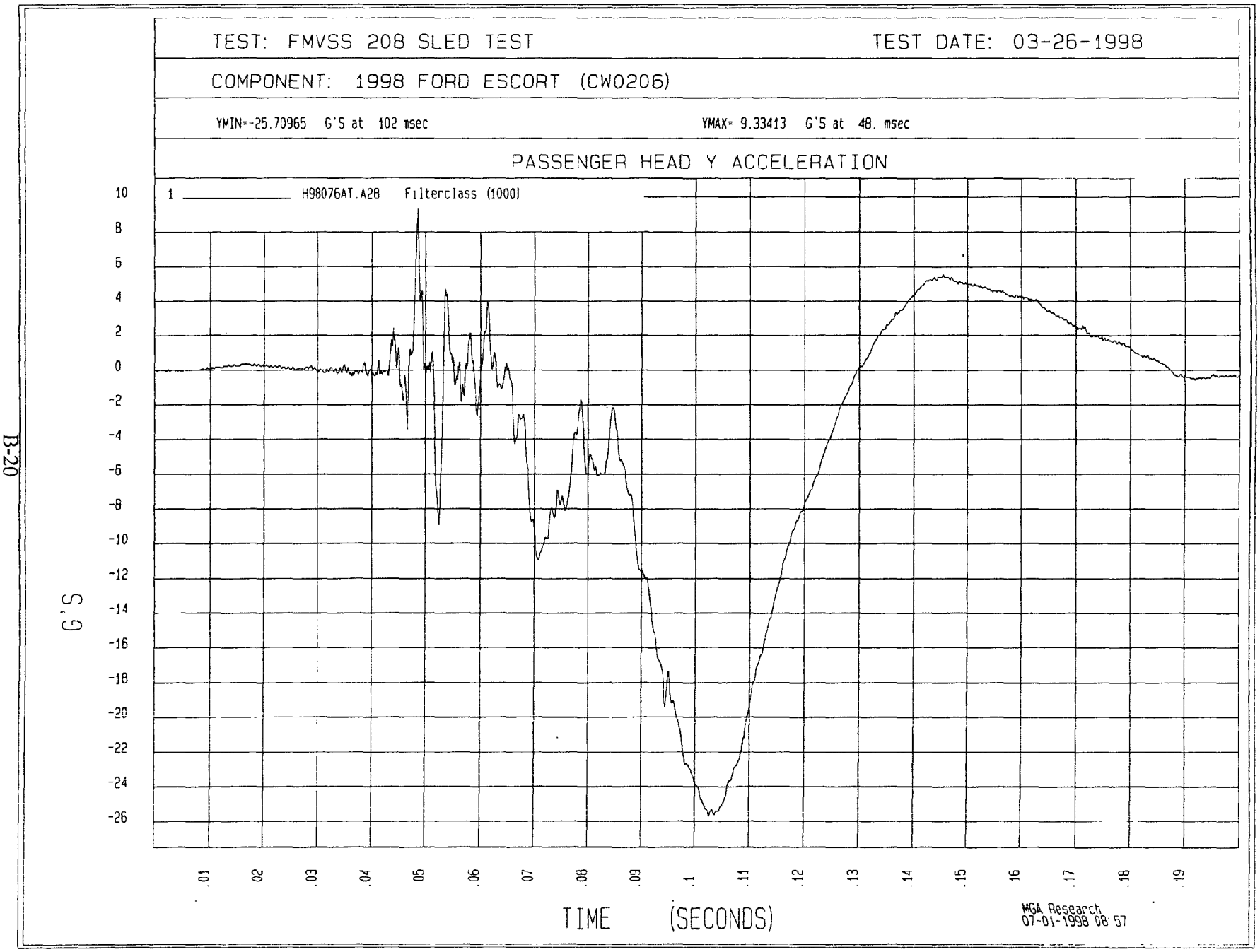

TEST: FMVSS 208 SLED TEST
TEST DATE: 03-26-1998
COMPONENT: 1998 FORD ESCORT (CW0206)
YMIN= 2.595882E-02 G'S at .5 msec
YMAX= 38.1472 G'S at 97. msec
DRIVER CHEST RESULTANT ACCELERATION
1 H98076AV.A04 Filterclass (180)
40
30
20
10
0
G'S
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
03-26-1998 14:10

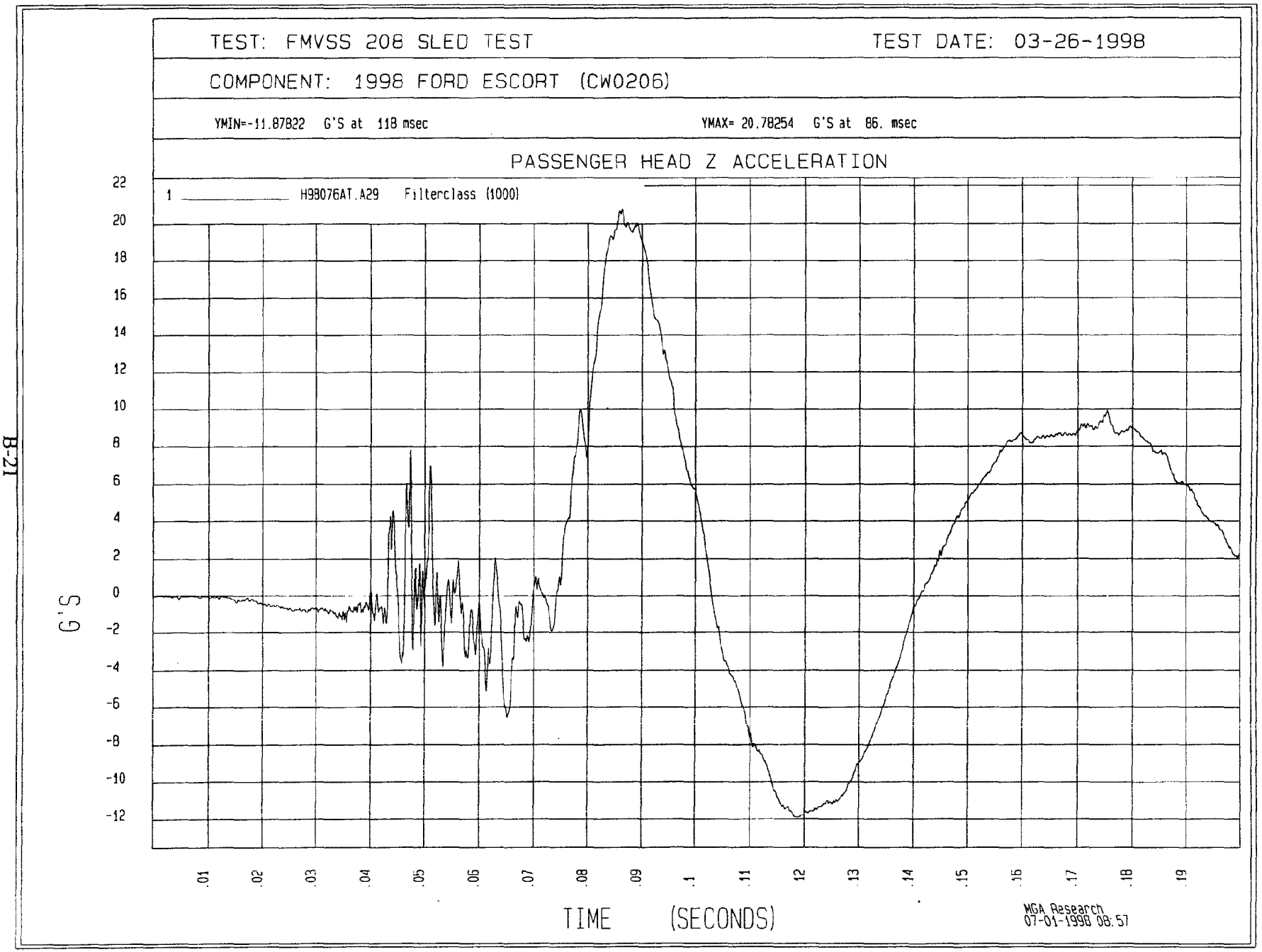

TEST: FMVSS 208 SLED TEST
TEST DATE: 03-26-1998
COMPONENT: 1998 FORD ESCORT (CW0206)
YMIN=-1.303216 INCHES at 102 msec
YMAX= 7.368032E-02 INCHES at .6 msec
DRIVER CHEST COMPRESSION
1 H980760F.038 Filterclass (600)
0
-.2
-.4
-.6
-.8
-1
-1.2
INCHES
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME SECONDS
MGA Research
05-15-1998 09:27

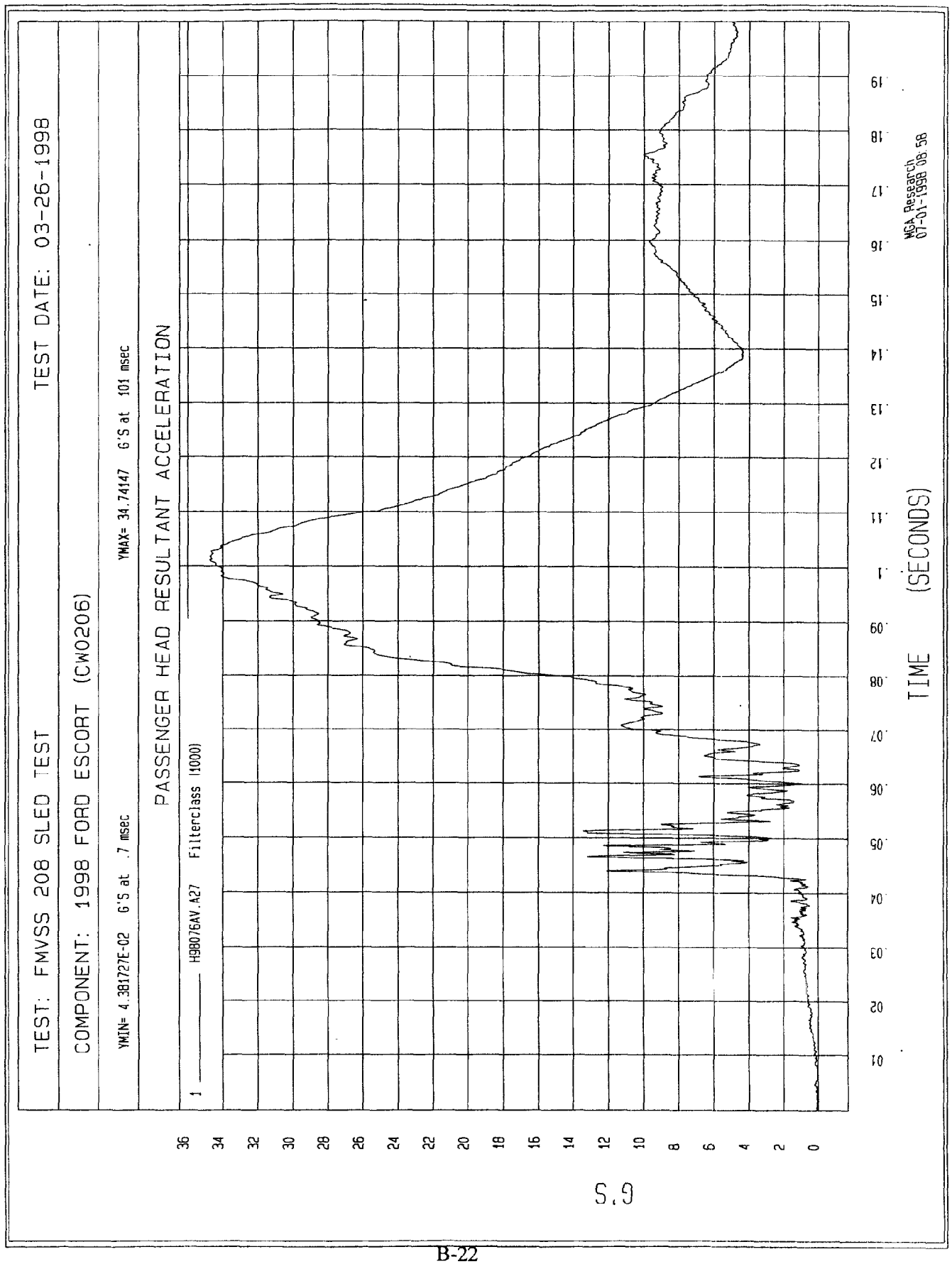

TEST: FMVSS 208 SLED TEST
TEST DATE: 03-26-1998
COMPONENT: 1998 FORD ESCORT (CW0206)
YMIN=-1172.449 LBS at 73 msec
YMAX= 54.48947 LBS at 199 msec
DRIVER LEFT FEMUR FORCE
1 H98076FF.F15 Filterclass (600)
0
-200
-400
-600
-800
-1000
-1200
LBS
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
03-26-1998 13:42

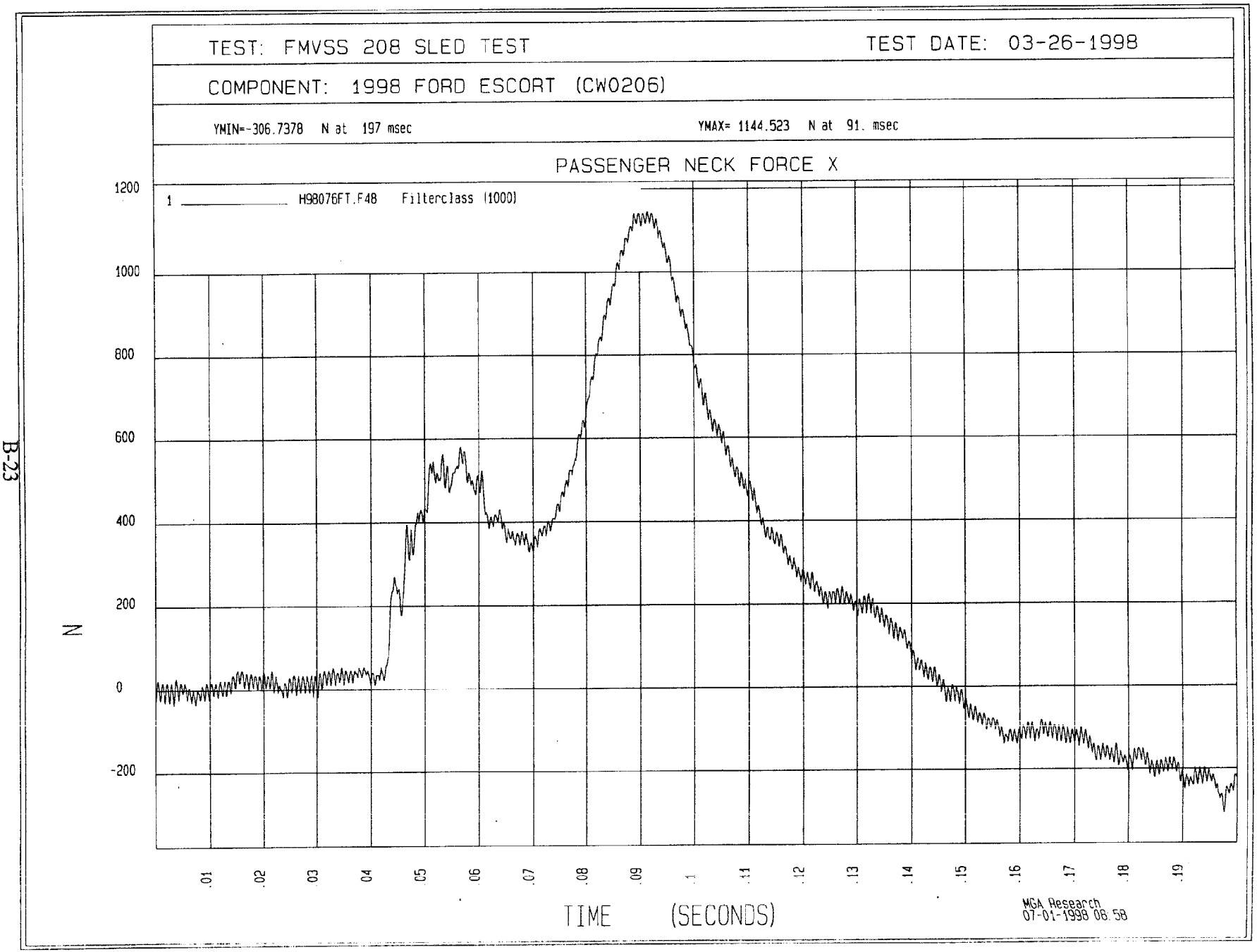

TEST: FMVSS 208 SLED TEST
TEST DATE: 03-26-1998
COMPONENT: 1998 FORD ESCORT (CW0206)
YMIN=-1193.815 LBS at 74. msec
YMAX= 53.26622 LBS at 142 msec
DRIVER RIGHT FEMUR FORCE
1 H98076FF.F16 Filterclass (600)
0
-200
-400
-600
-800
-1000
-1200
LBS
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
03-26-1998 13:42

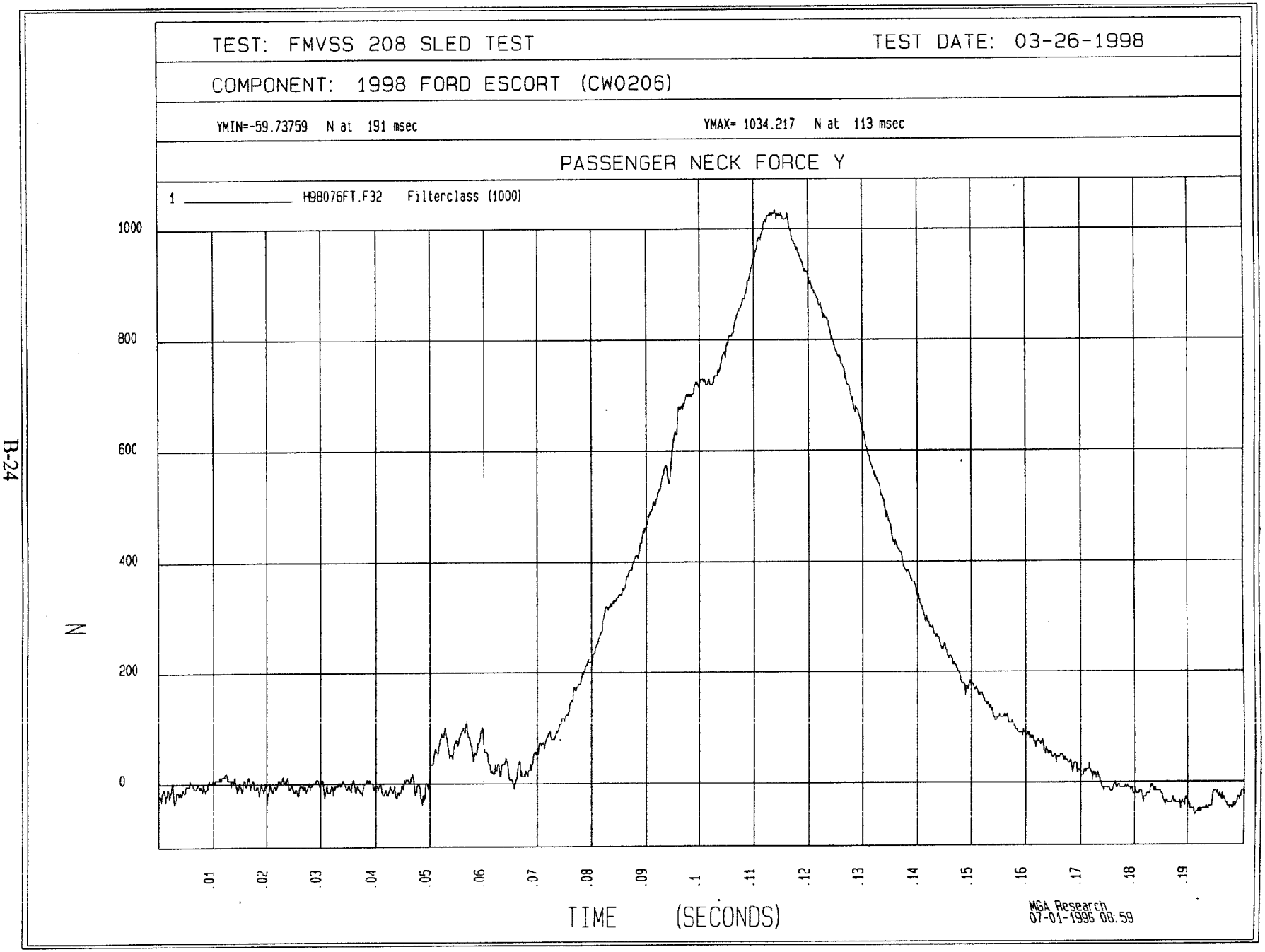

TEST: FMVSS 208 SLED TEST
TEST DATE: 03-26-1998
COMPONENT: 1998 FORD ESCORT (CW0206)
YMIN=-24.46436 G'S at 98. msec
YMAX= 5.123289 G'S at 54. msec
PASSENGER HEAD X ACCELERATION
1 H98076AT.A27 Filterclass (1000)
6
4
2
0
-2
-4
-6
-8
-10
-12
-14
-16
-18
-20
-22
-24
G'S
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
07-01-1998 08:56

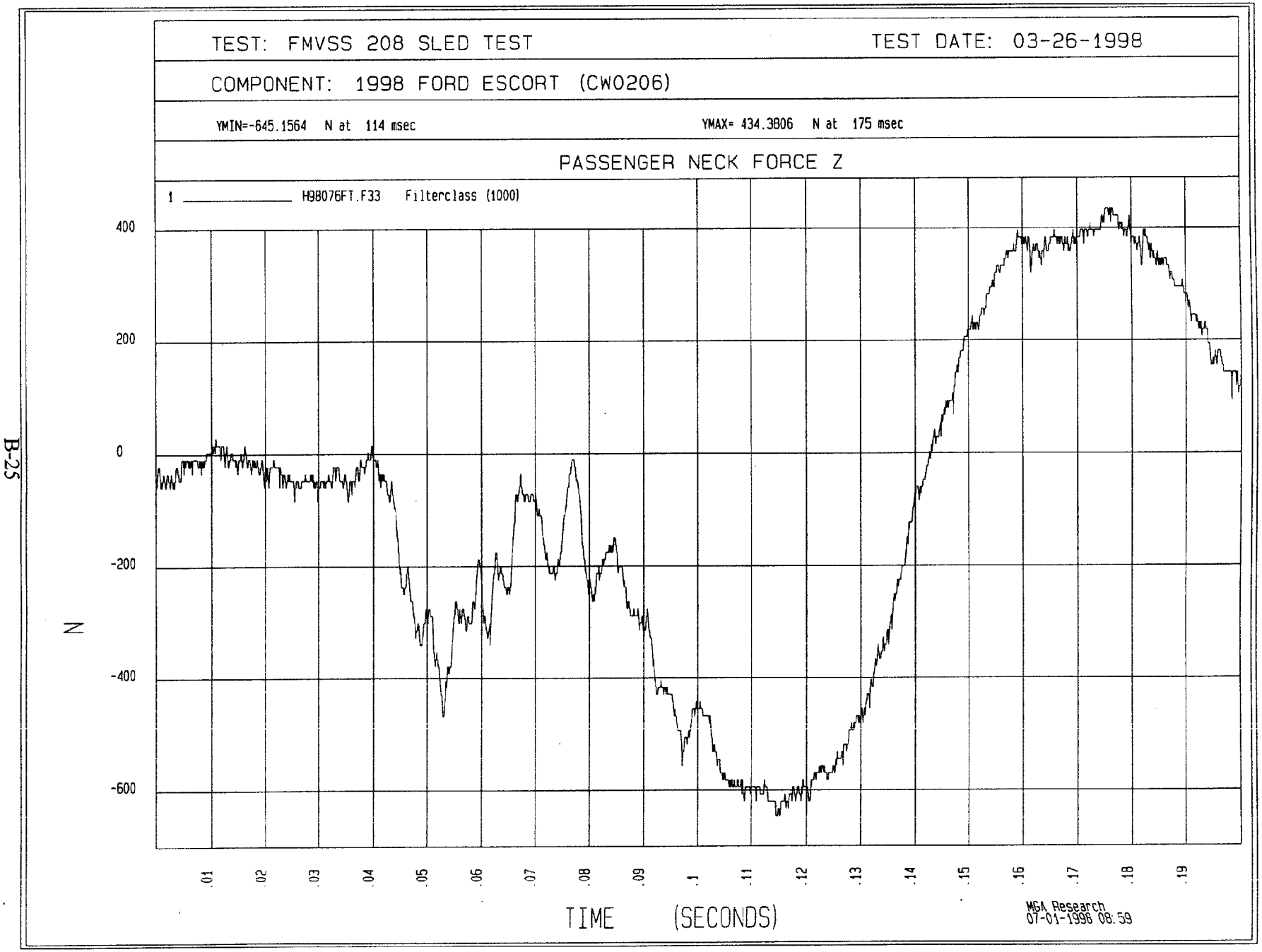

TEST: FMVSS 208 SLED TEST
TEST DATE: 03-26-1998
COMPONENT: 1998 FORD ESCORT (CW0206)
YMIN=-25.70965 G'S at 102 msec
YMAX= 9.33413 G'S at 48. msec
PASSENGER HEAD Y ACCELERATION
1 H98076AT.A28 Filterclass (1000)
10
8
6
4
2
0
-2
-4
-6
-8
-10
-12
-14
-16
-18
-20
-22
-24
-26
G'S
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
07-01-1998 08:57

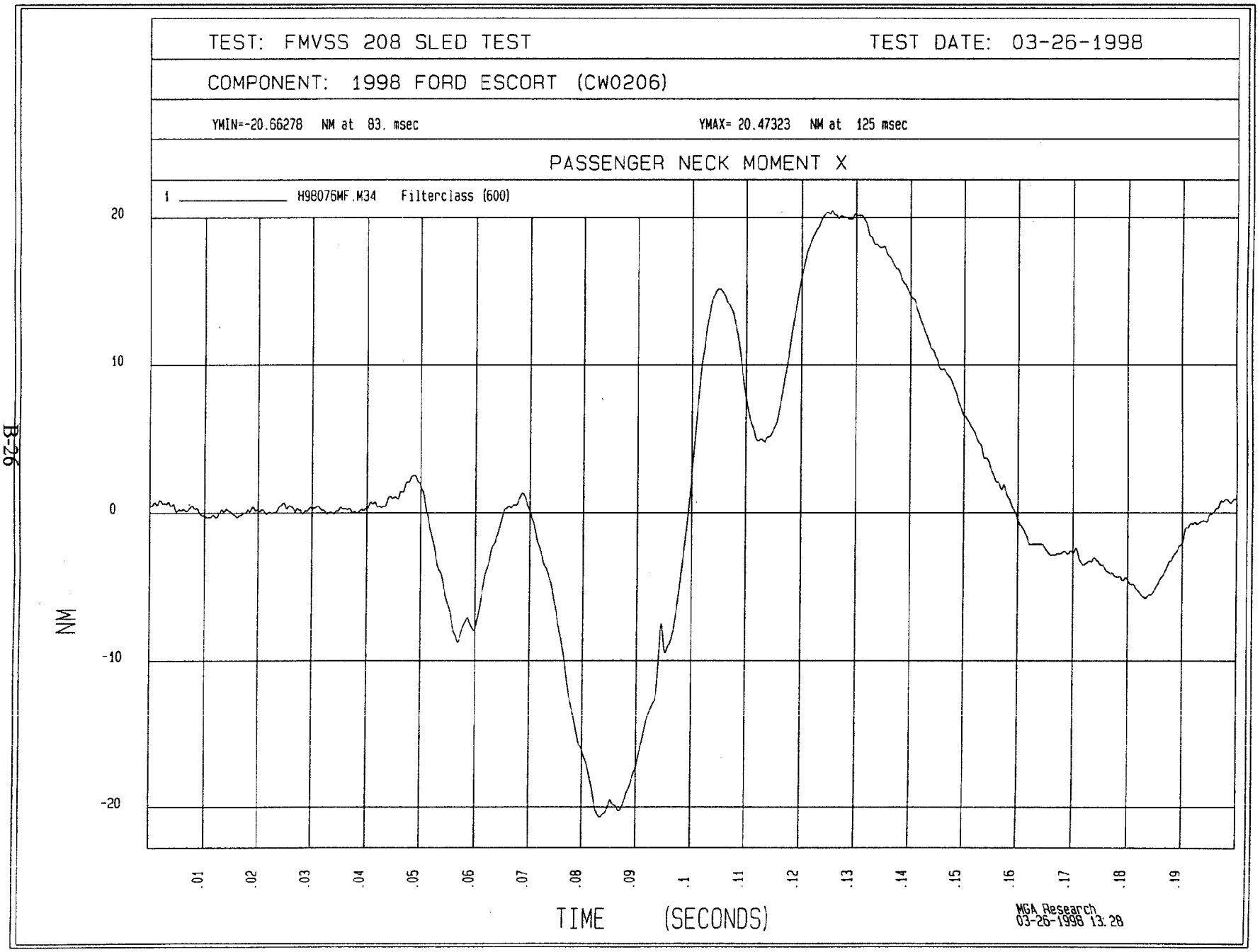

TEST: FMVSS 208 SLED TEST
TEST DATE: 03-26-1998
COMPONENT: 1998 FORD ESCORT (CW0206)
YMIN=-11.87822 G'S at 118 msec
YMAX= 20.78254 G'S at 86. msec
PASSENGER HEAD Z ACCELERATION
1 H98076AT.A29 Filterclass (1000)
G'S
22
20
18
16
14
12
10
8
6
4
2
0
-2
-4
-6
-8
-10
-12
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
07-01-1998 08:57

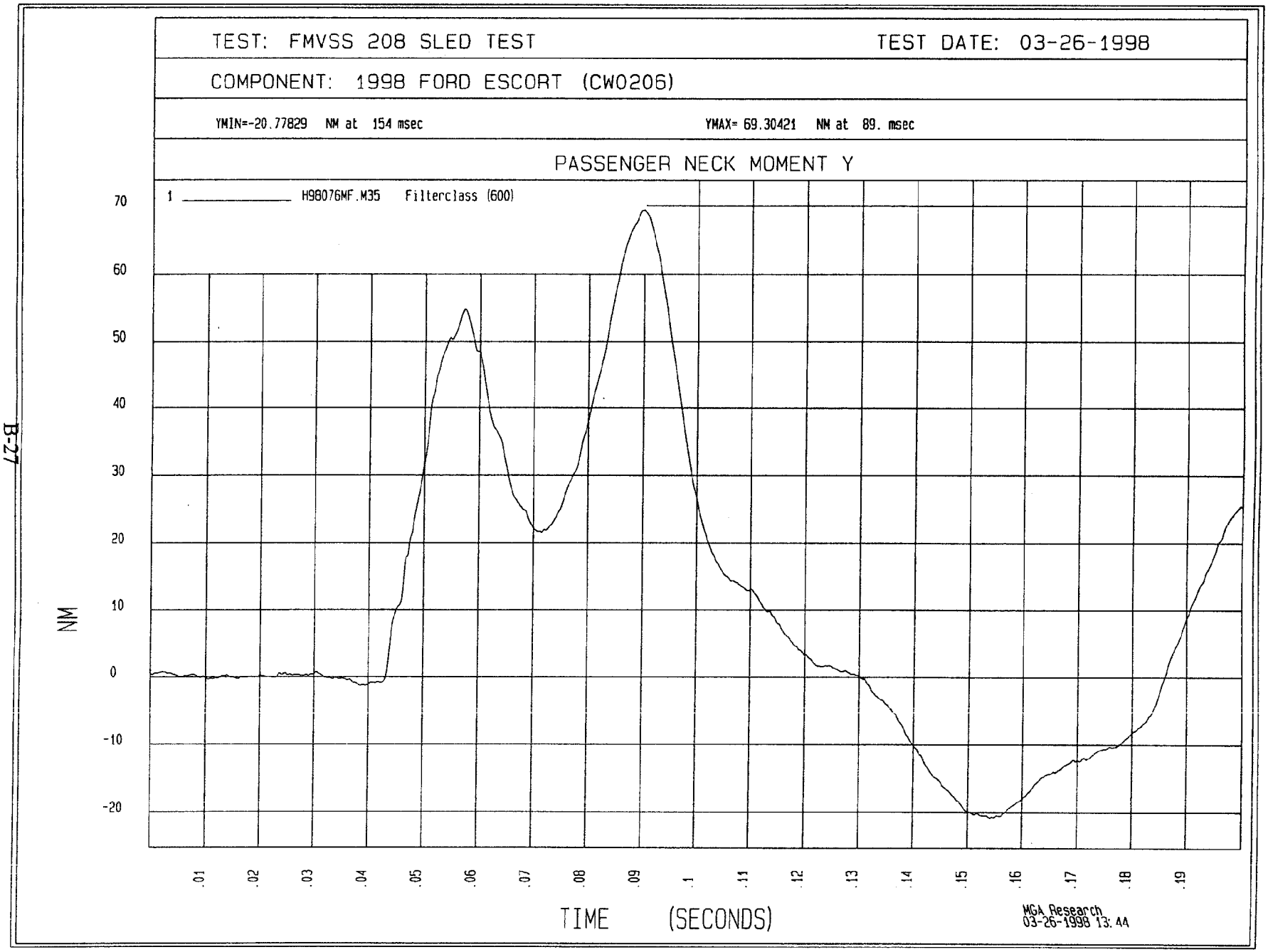

TEST: FMVSS 208 SLED TEST
TEST DATE: 03-26-1998
COMPONENT: 1998 FORD ESCORT (CW0206)
YMIN= 4.381727E-02 G'S at .7 msec
YMAX= 34.74147 G'S at 101 msec
PASSENGER HEAD RESULTANT ACCELERATION
1 H9B076AV.A27 Filterclass (1000)
TIME (SECONDS)
MGA Research
07-01-1998 08:58

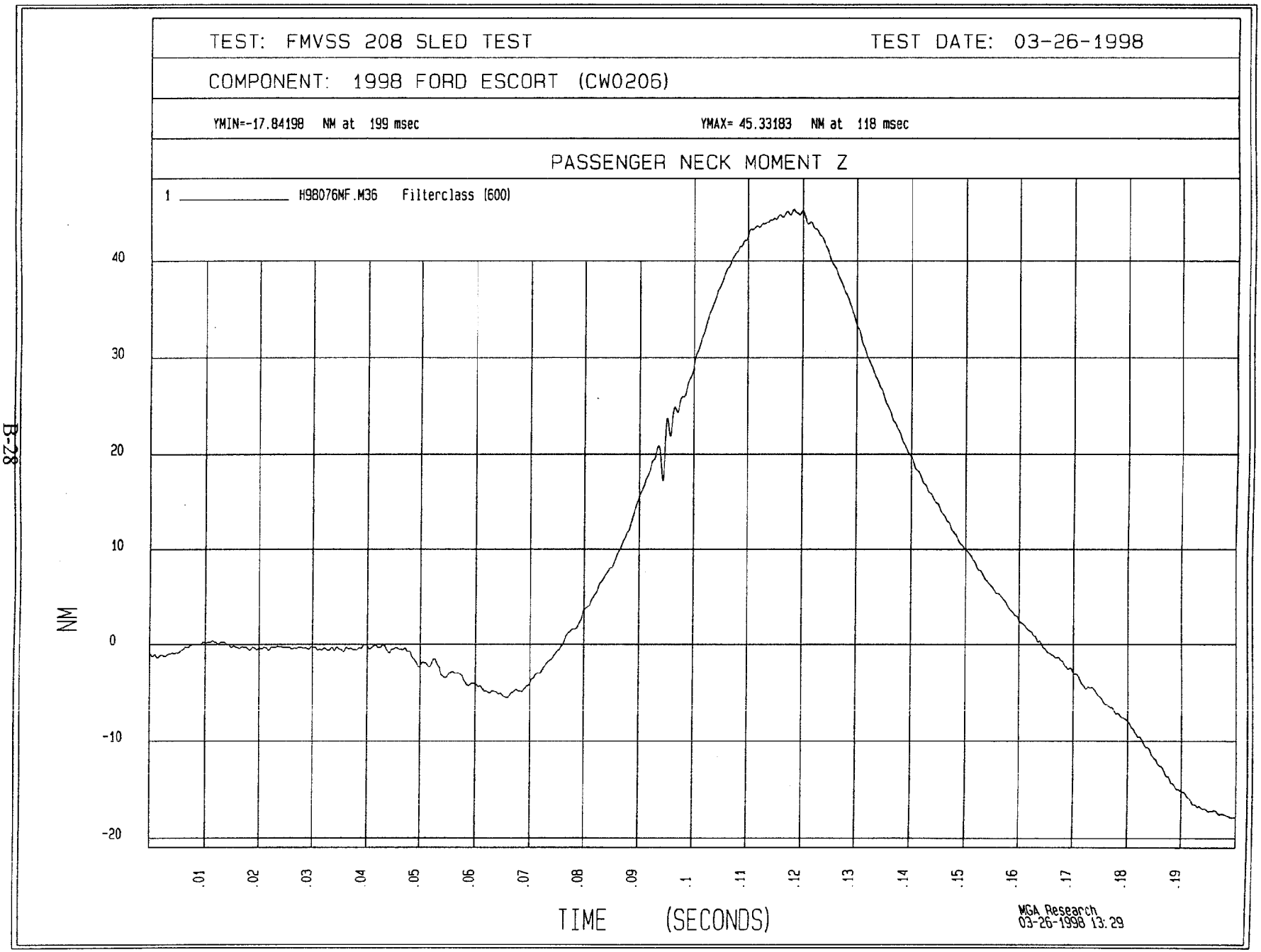

TEST: FMVSS 208 SLED TEST
TEST DATE: 03-26-1998
COMPONENT: 1998 FORD ESCORT (CW0206)
YMIN=-306.7378 N at 197 msec
YMAX= 1144.523 N at 91. msec
PASSENGER NECK FORCE X
1 H98076FT.F48 Filterclass (1000)
1200
1000
800
600
400
200
0
-200
N
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
07-01-1998 08:58

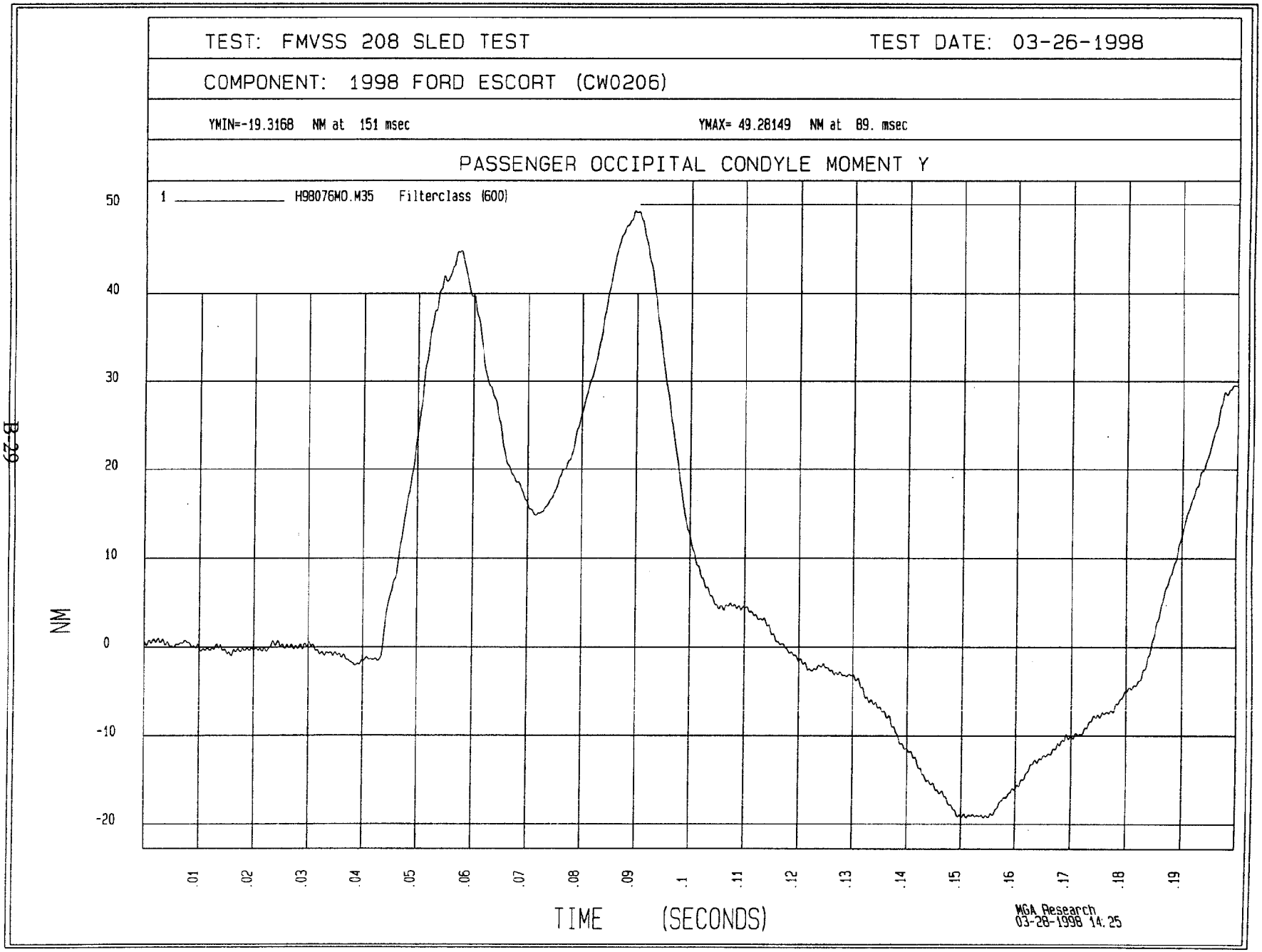

TEST: FMVSS 208 SLED TEST
TEST DATE: 03-26-1998
COMPONENT: 1998 FORD ESCORT (CW0206)
YMIN=-59.73759 N at 191 msec
YMAX= 1034.217 N at 113 msec
PASSENGER NECK FORCE Y
1 H98076FT.F32 Filterclass (1000)
1000
800
600
400
200
0
N
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
07-01-1998 08:59

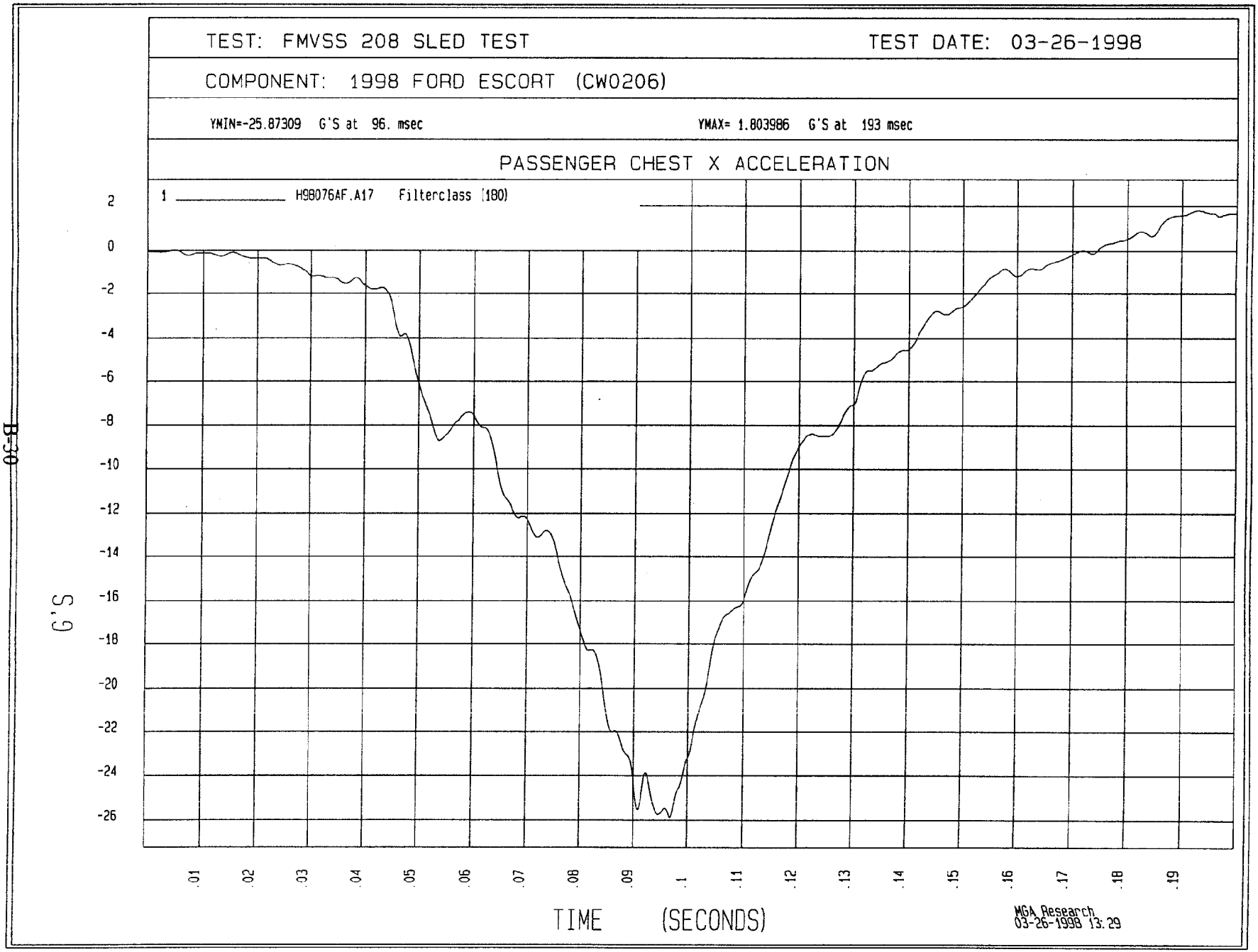

TEST: FMVSS 208 SLED TEST
TEST DATE: 03-26-1998
COMPONENT: 1998 FORD ESCORT (CW0206)
YMIN=-645.1564 N at 114 msec
YMAX= 434.3806 N at 175 msec
PASSENGER NECK FORCE Z
1 H98076FT.F33 Filterclass (1000)
400
200
0
-200
-400
-600
N
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
07-01-1998 08:59

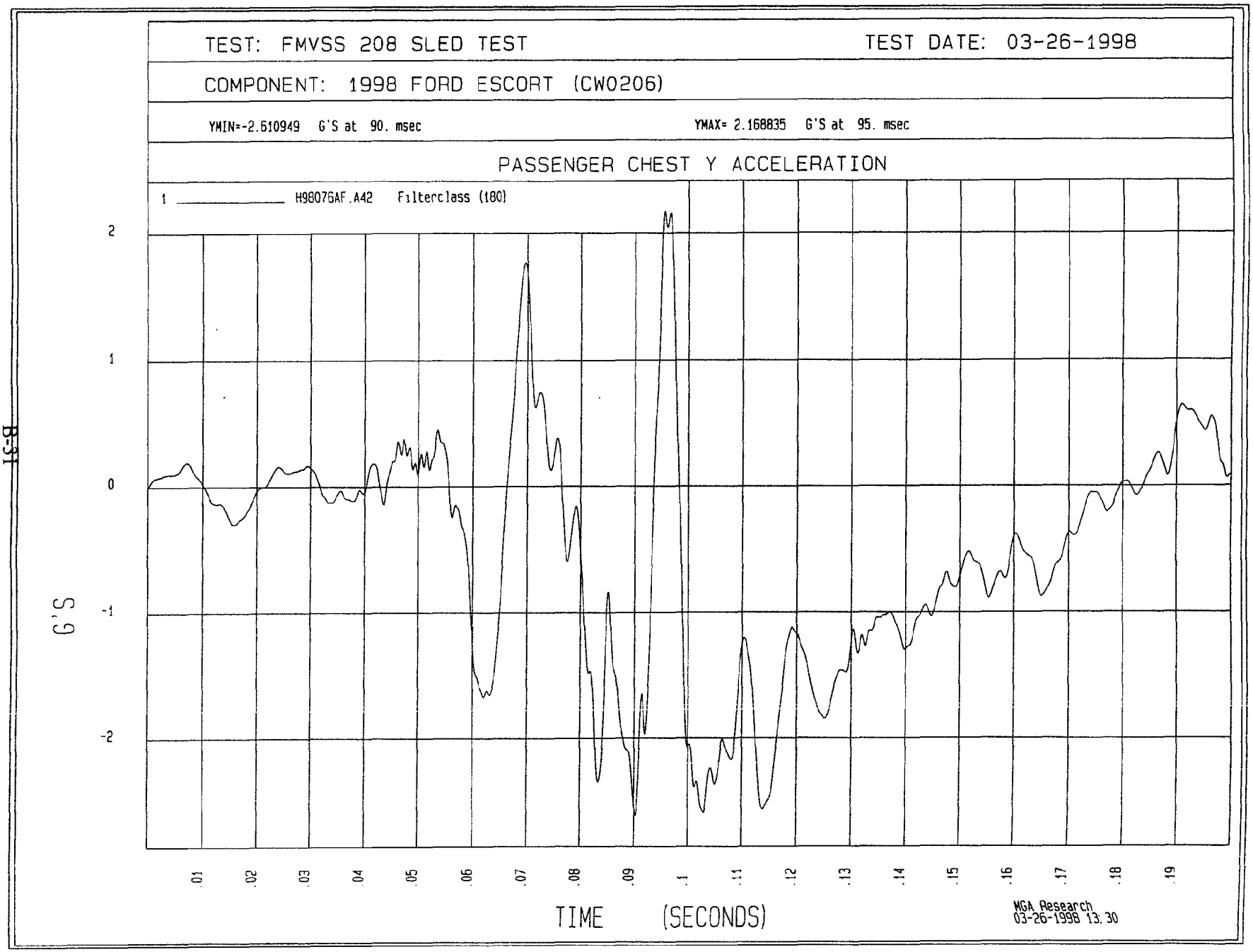

TEST: FMVSS 208 SLED TEST
TEST DATE: 03-26-1998
COMPONENT: 1998 FORD ESCORT (CW0206)
YMIN=-20.66278 NM at 83. msec
YMAX= 20.47323 NM at 125 msec
PASSENGER NECK MOMENT X
1 H98076MF.M34 Filterclass (600)
20
10
0
-10
-20
NM
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
03-26-1998 13:28


TEST: FMVSS 208 SLED TEST
TEST DATE: 03-26-1998
COMPONENT: 1998 FORD ESCORT (CW0206)
YMIN=-20.77829 NM at 154 msec
YMAX= 69.30421 NM at 89. msec
PASSENGER NECK MOMENT Y
1 H98076MF.M35 Filterclass (600)
70
60
50
40
30
20
10
0
-10
-20
NM
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
03-26-1998 13:44


TEST: FMVSS 208 SLED TEST
TEST DATE: 03-26-1998
COMPONENT: 1998 FORD ESCORT (CW0206)
YMIN=-17.84198 NM at 199 msec
YMAX= 45.33183 NM at 118 msec
PASSENGER NECK MOMENT Z
1 H98076NF.M36 Filterclass (600)
NM
40
30
20
10
0
-10
-20
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
03-26-1998 13:29


TEST: FMVSS 208 SLED TEST
TEST DATE: 03-26-1998
COMPONENT: 1998 FORD ESCORT (CW0206)
YMIN=-19.3168 NM at 151 msec
YMAX= 49.28149 NM at 89. msec
PASSENGER OCCIPITAL CONDYLE MOMENT Y
1 H98076MO.M35 Filterclass (600)
50
40
30
20
10
0
-10
-20
NM
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
03-28-1998 14:25


TEST: FMVSS 208 SLED TEST
TEST DATE: 03-26-1998
COMPONENT: 1998 FORD ESCORT (CW0206)
YMIN=-25.87309 G'S at 96. msec
YMAX= 1.803986 G'S at 193 msec
PASSENGER CHEST X ACCELERATION
1 H98076AF.A17 Filterclass (180)
2
0
-2
-4
-6
-8
-10
-12
-14
-16
-18
-20
-22
-24
-26
G'S
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
03-26-1998 13:29


TEST: FMVSS 208 SLED TEST
TEST DATE: 03-26-1998
COMPONENT: 1998 FORD ESCORT (CW0206)
YMIN=-2.610949 G'S at 90. msec
YMAX= 2.168835 G'S at 95. msec
PASSENGER CHEST Y ACCELERATION
1 _____ H98076AF.A42 Filterclass (180)
2
1
0
-1
-2
G'S
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
03-26-1998 13:30


TEST: FMVSS 208 SLED TEST
TEST DATE: 03-26-1998
COMPONENT: 1998 FORD ESCORT (CW0206)
YMIN=-6.554692 G'S at 67 msec
YMAX= 15.50916 G'S at 106 msec
PASSENGER CHEST Z ACCELERATION
1 H98076AF.A43 Filterclass (180)
16
14
12
10
8
6
4
2
0
-2
-4
-6
G'S
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
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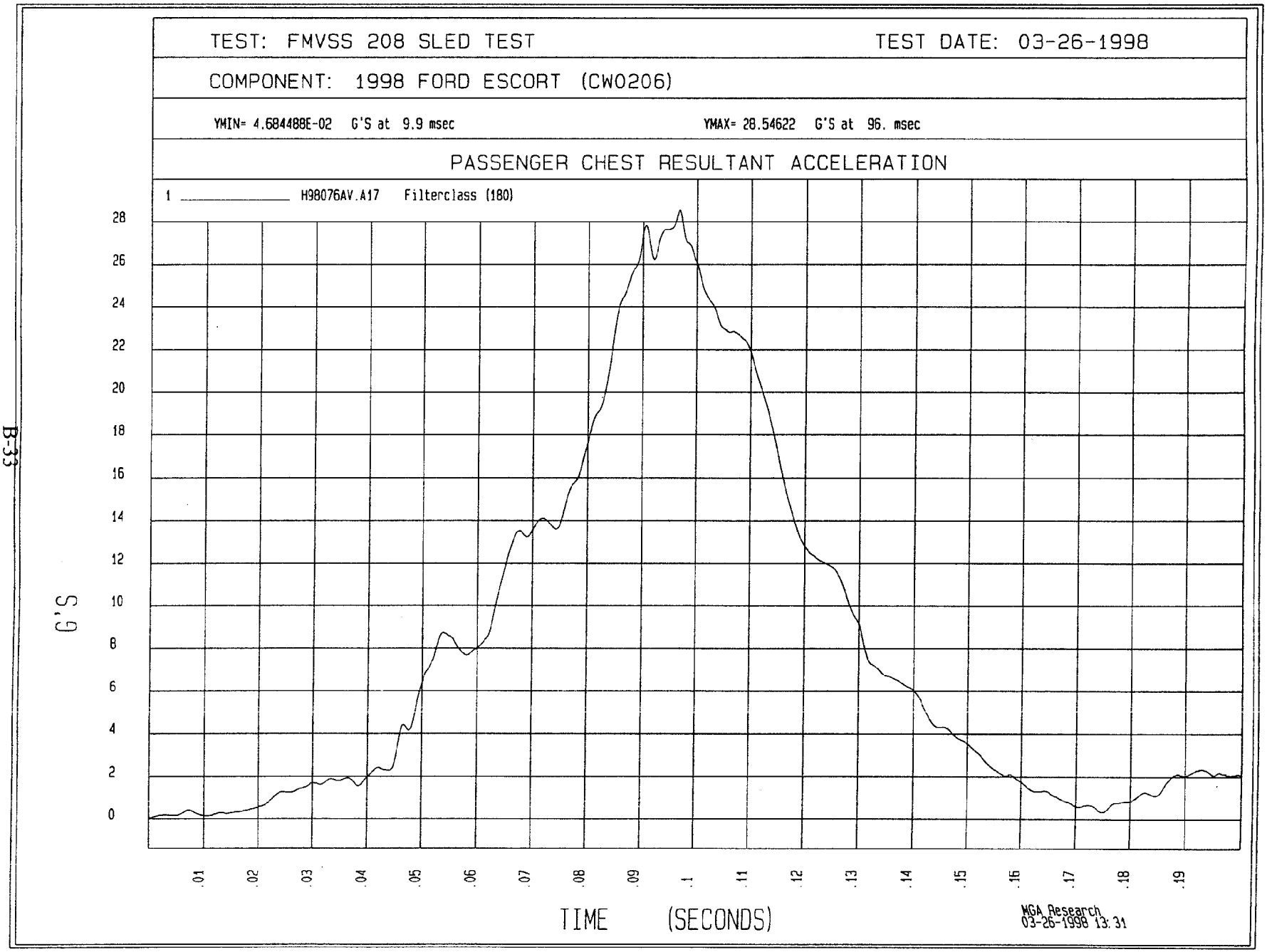
.19
TIME (SECONDS)
MGA Research
03-26-1998 13:31


TEST: FMVSS 208 SLED TEST
TEST DATE: 03-26-1998
COMPONENT: 1998 FORD ESCORT (CW0206)
YMIN= 4.684488E-02 G'S at 9.9 msec
YMAX= 28.54622 G'S at 96. msec
PASSENGER CHEST RESULTANT ACCELERATION
1 H98076AV.A17 Filterclass (180)
G'S
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
.01
.02
.03
.04
.05
.06
.07
.08
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.1
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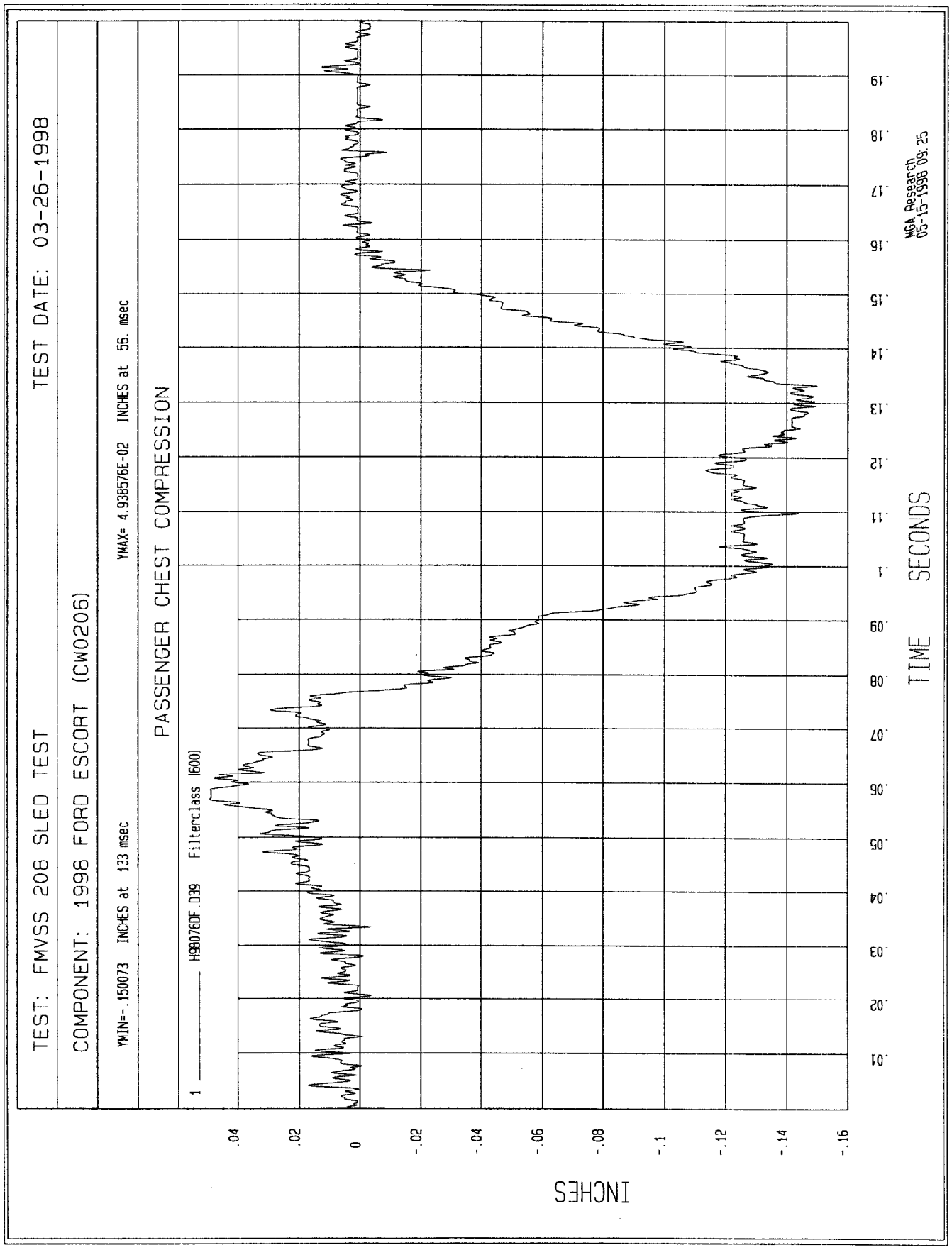
TIME (SECONDS)
MGA Research
03-26-1998 13:31


TEST: FMVSS 208 SLED TEST
TEST DATE: 03-26-1998
COMPONENT: 1998 FORD ESCORT (CW0206)
YMIN=-.150073 INCHES at 133 msec
YMAX= 4.938576E-02 INCHES at 56. msec
PASSENGER CHEST COMPRESSION
1 H980760F.039 Filterclass (600)
INCHES
.04
.02
0
-.02
-.04
-.06
-.08
-.1
-.12
-.14
-.16
TIME SECONDS
01
02
03
04
05
06
07
08
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1
11
12
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14
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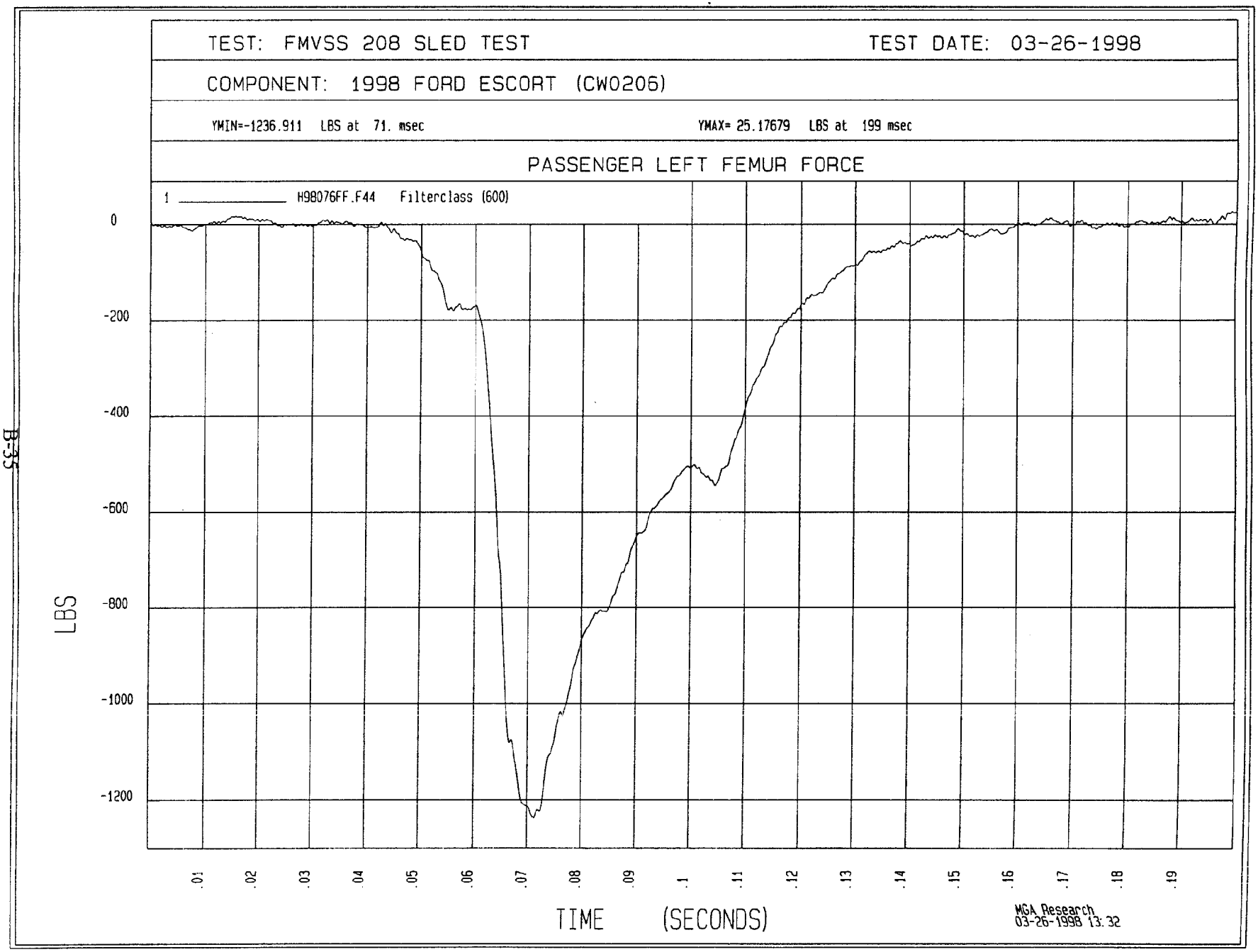
MGA Research
05-15-1998 09:25


TEST: FMVSS 208 SLED TEST
TEST DATE: 03-26-1998
COMPONENT: 1998 FORD ESCORT (CW0206)
YMIN=-1236.911 LBS at 71. msec
YMAX= 25.17679 LBS at 199 msec
PASSENGER LEFT FEMUR FORCE
1 H98076FF.F44 Filterclass (600)
0
-200
-400
-600
-800
-1000
-1200
LBS
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
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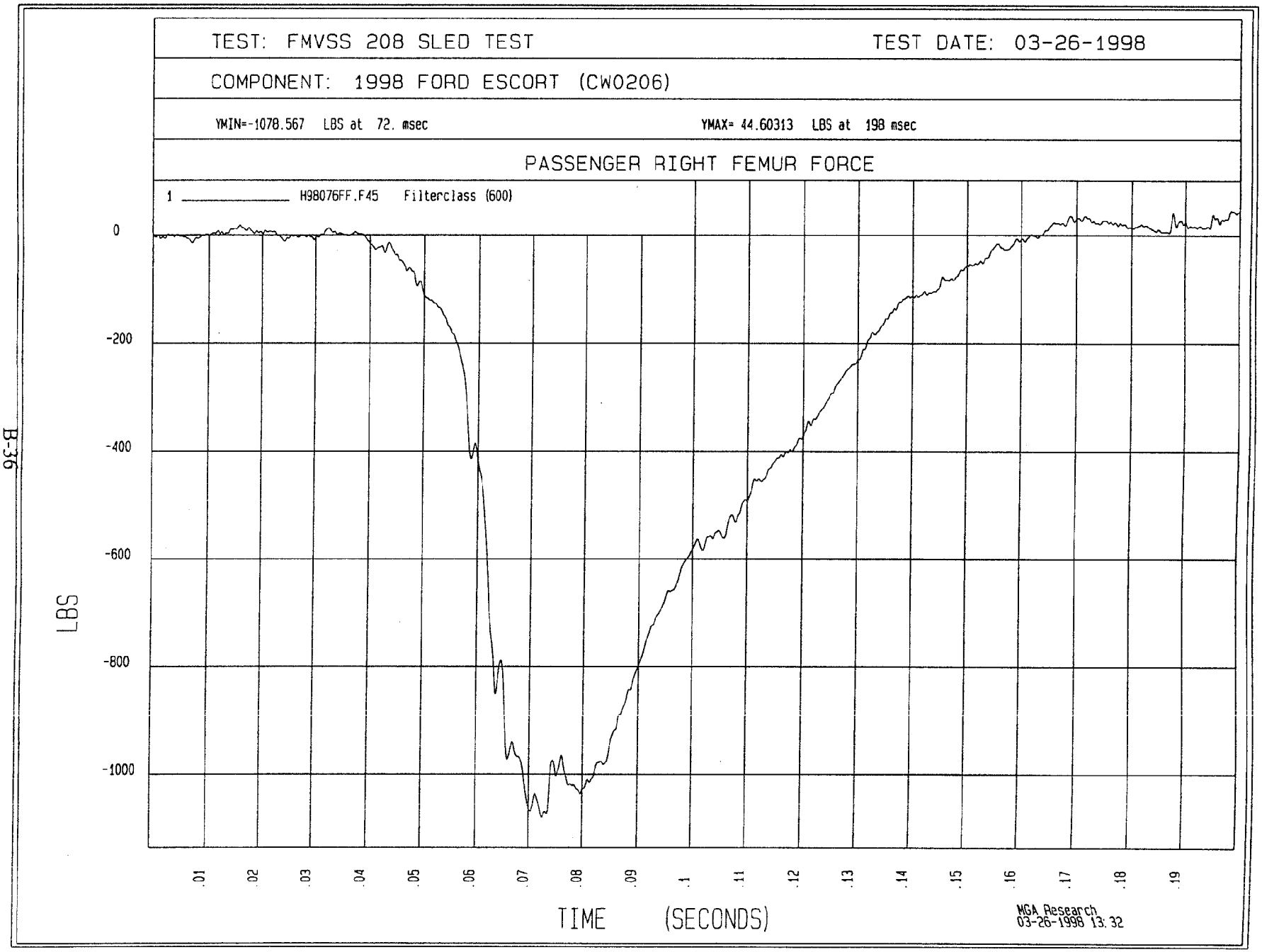
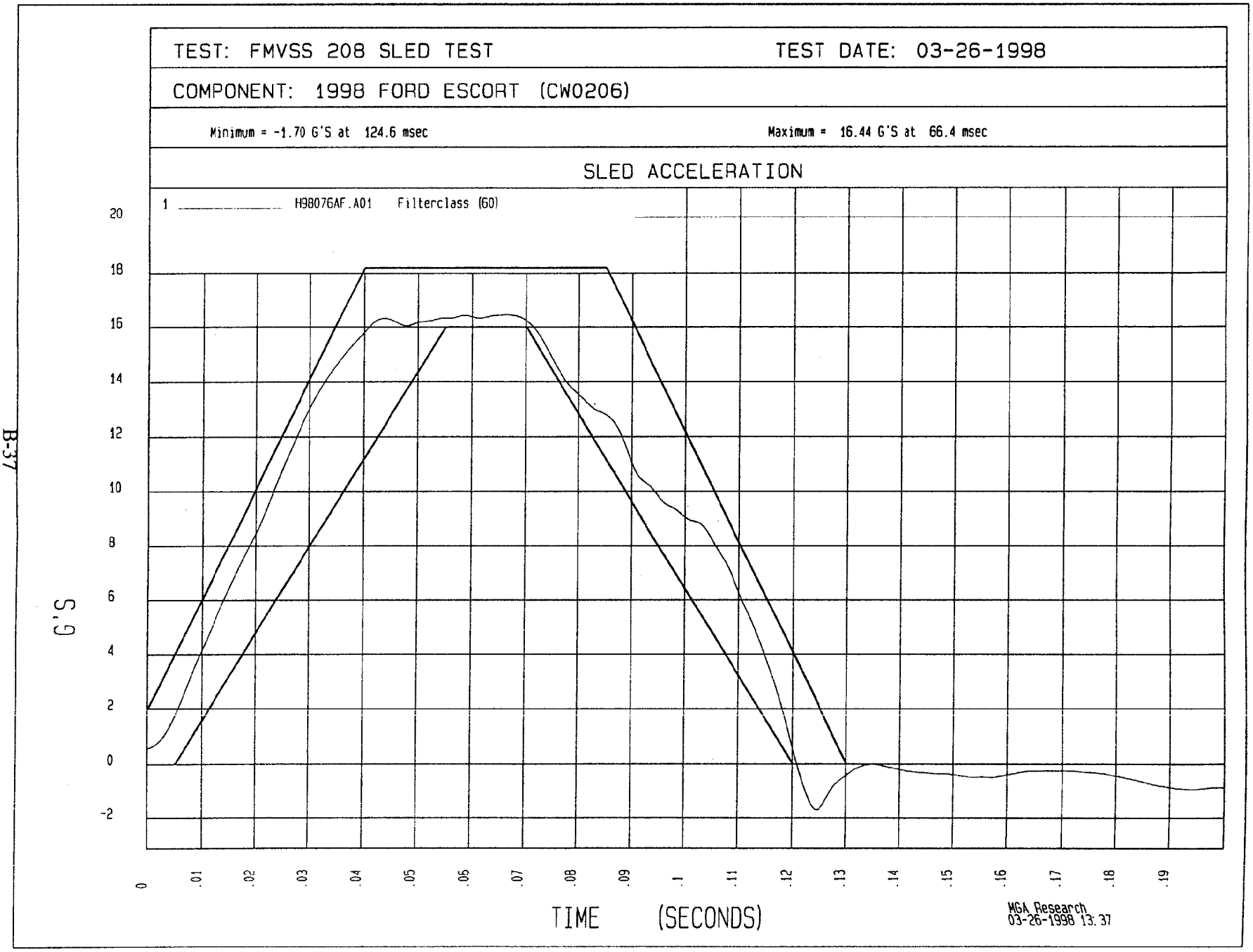
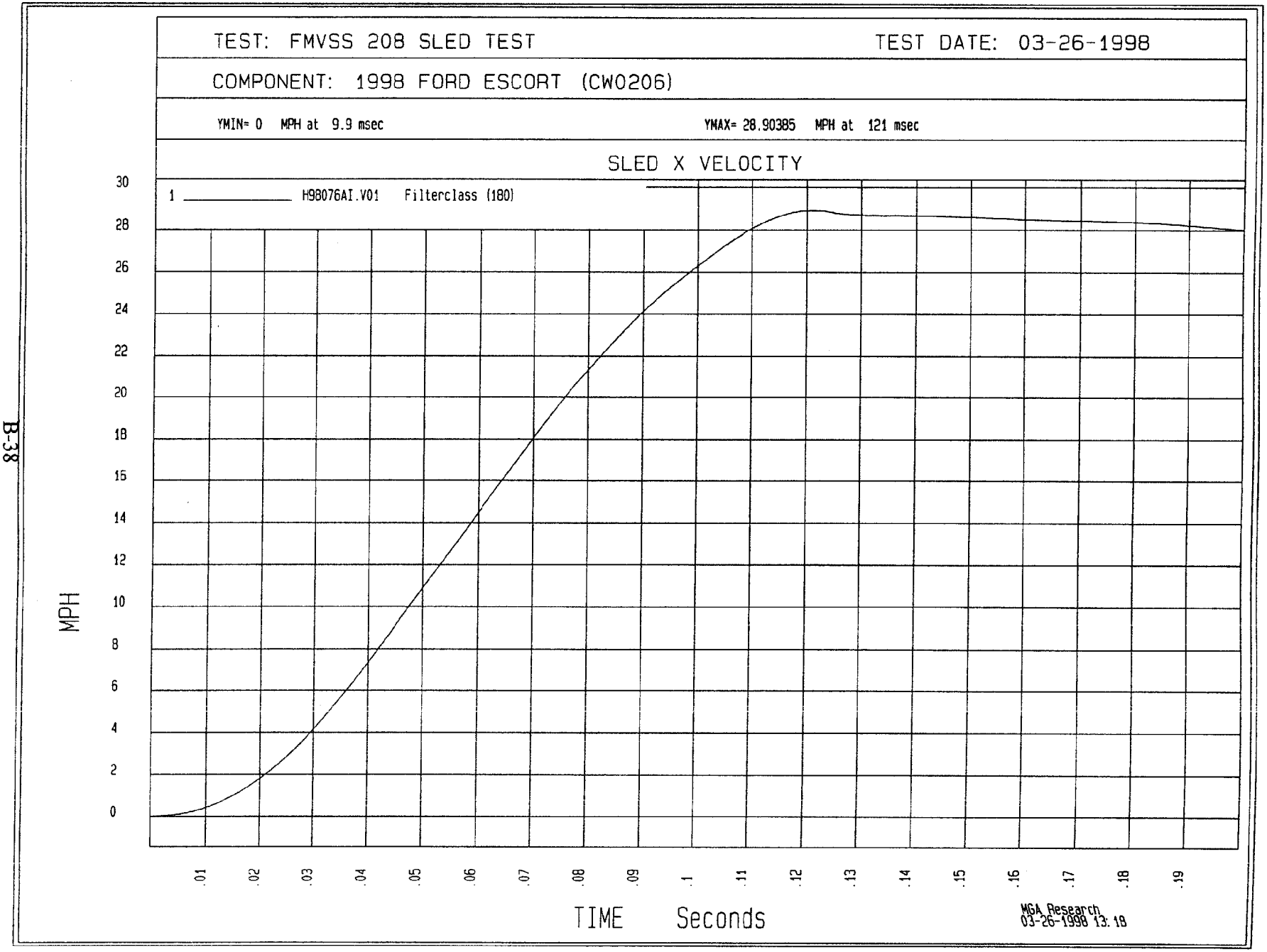
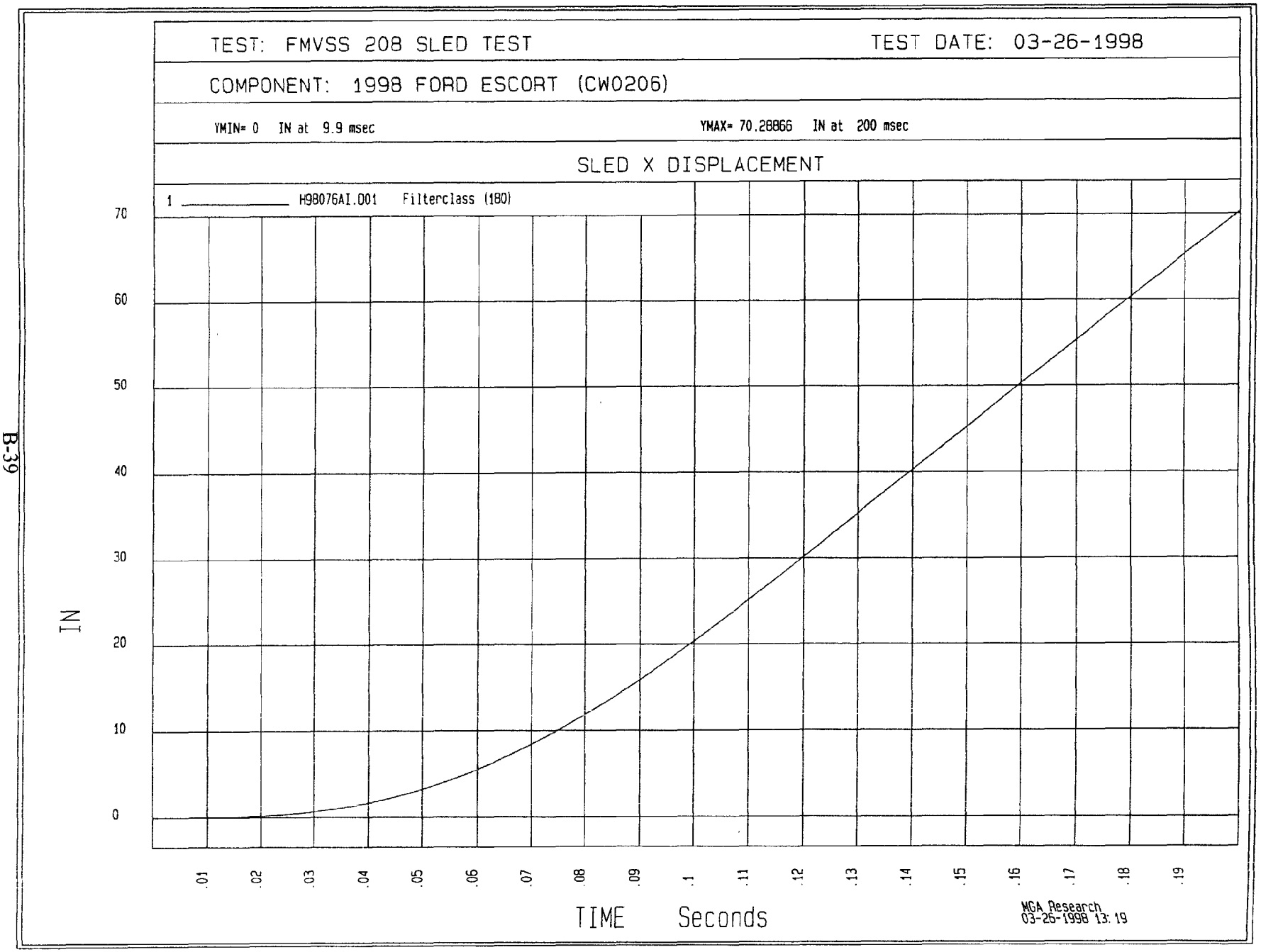
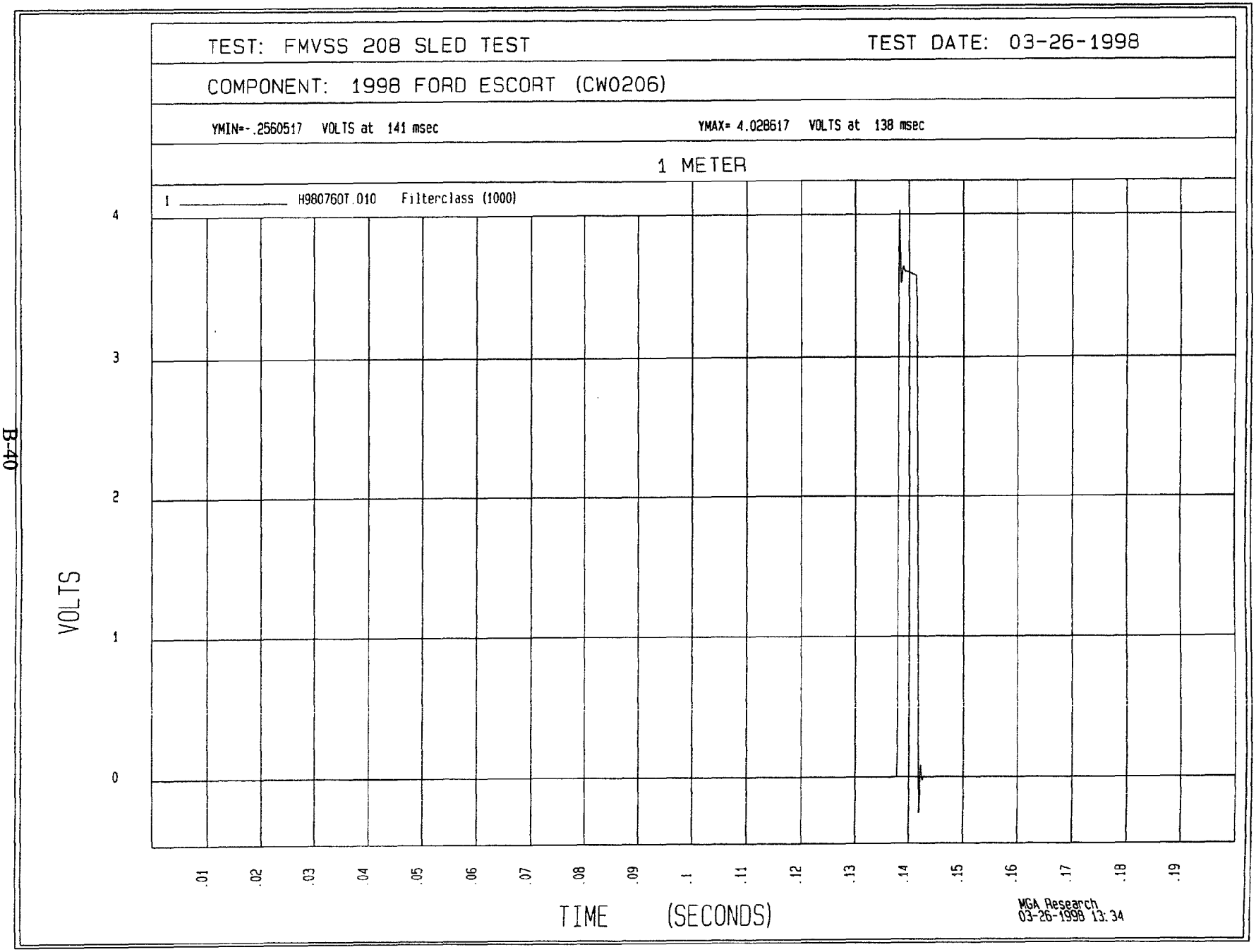
.19
TIME (SECONDS)
MGA Research
03-26-1998 13:32

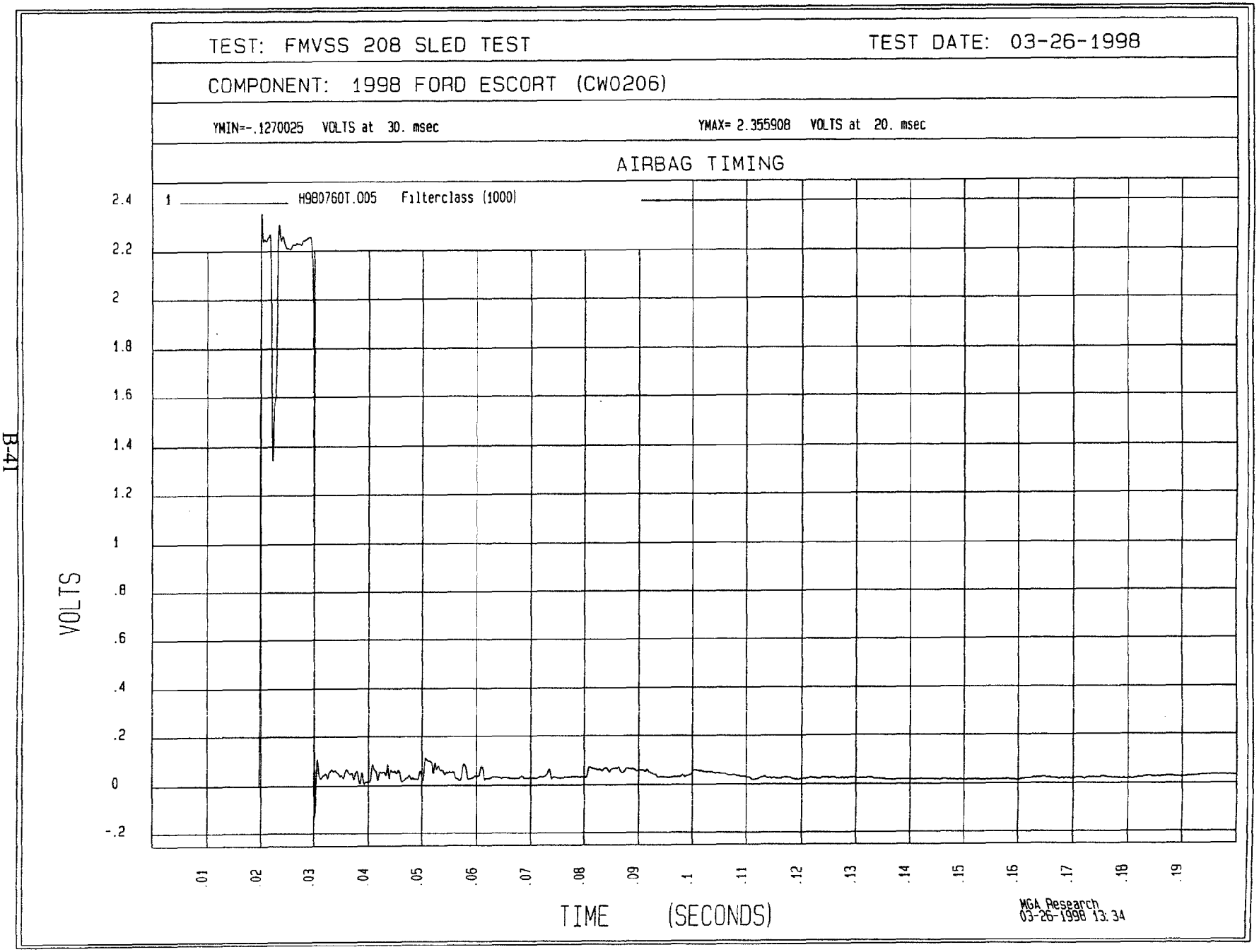

TEST: FMVSS 208 SLED TEST
TEST DATE: 03-26-1998
COMPONENT: 1998 FORD ESCORT (CW0206)
YMIN=-1078.567 LBS at 72. msec
YMAX= 44.60313 LBS at 198 msec
PASSENGER RIGHT FEMUR FORCE
1 H98076FF.F45 Filterclass (600)
0
-200
-400
-600
-800
-1000
LBS
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
03-26-1998 13:32


TEST: FMVSS 208 SLED TEST
TEST DATE: 03-26-1998
COMPONENT: 1998 FORD ESCORT (CW0206)
Minimum = -1.70 G'S at 124.6 msec
Maximum = 16.44 G'S at 66.4 msec
SLED ACCELERATION
1 H98076AF.A01 Filterclass (60)
20
18
16
14
12
10
8
6
4
2
0
-2
G'S
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
03-26-1998 13:37


TEST: FMVSS 208 SLED TEST
TEST DATE: 03-26-1998
COMPONENT: 1998 FORD ESCORT (CW0206)
YMIN= 0 MPH at 9.9 msec
YMAX= 28.90385 MPH at 121 msec
SLED X VELOCITY
1 H98076AI.V01 Filterclass (180)
MPH
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME Seconds
MGA Research
03-26-1998 13:18


TEST: FMVSS 208 SLED TEST
TEST DATE: 03-26-1998
COMPONENT: 1998 FORD ESCORT (CW0206)
YMIN= 0 IN at 9.9 msec
YMAX= 70.28866 IN at 200 msec
SLED X DISPLACEMENT
1 H98076AI.D01 Filterclass (180)
IN
70
60
50
40
30
20
10
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME Seconds
MGA Research
03-26-1998 13:19


TEST: FMVSS 208 SLED TEST
TEST DATE: 03-26-1998
COMPONENT: 1998 FORD ESCORT (CW0206)
YMIN=-.2560517 VOLTS at 141 msec
YMAX= 4.028617 VOLTS at 138 msec
1 METER
1 H980760T.010 Filterclass (1000)
VOLTS
4
3
2
1
0
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
.16
.17
.18
.19
TIME (SECONDS)
MGA Research
03-26-1998 13:34


TEST: FMVSS 208 SLED TEST
TEST DATE: 03-26-1998
COMPONENT: 1998 FORD ESCORT (CW0206)
YMIN=-.1270025 VOLTS at 30. msec
YMAX= 2.355908 VOLTS at 20. msec
AIRBAG TIMING
1 H980760T.005 Filterclass (1000)
VOLTS
2.4
2.2
2
1.8
1.6
1.4
1.2
1
.8
.6
.4
.2
0
-.2
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
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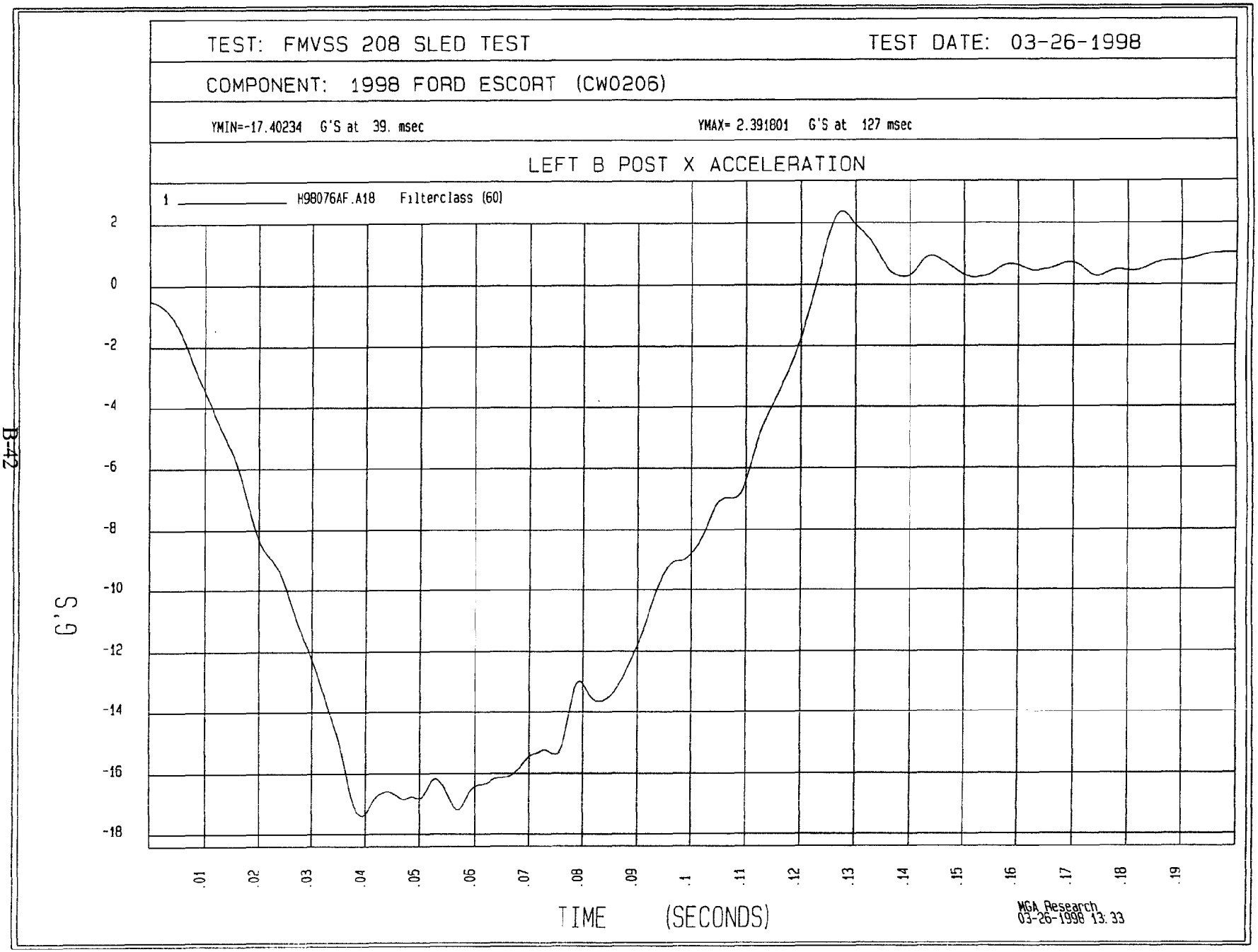
TIME (SECONDS)
MGA Research
03-26-1998 13:34


TEST: FMVSS 208 SLED TEST
TEST DATE: 03-26-1998
COMPONENT: 1998 FORD ESCORT (CW0206)
YMIN=-17.40234 G'S at 39. msec
YMAX= 2.391801 G'S at 127 msec
LEFT B POST X ACCELERATION
1 M98076AF.A18 Filterclass (60)
2
0
-2
-4
-6
-8
-10
-12
-14
-16
-18
G'S
.01
.02
.03
.04
.05
.06
.07
.08
.09
.1
.11
.12
.13
.14
.15
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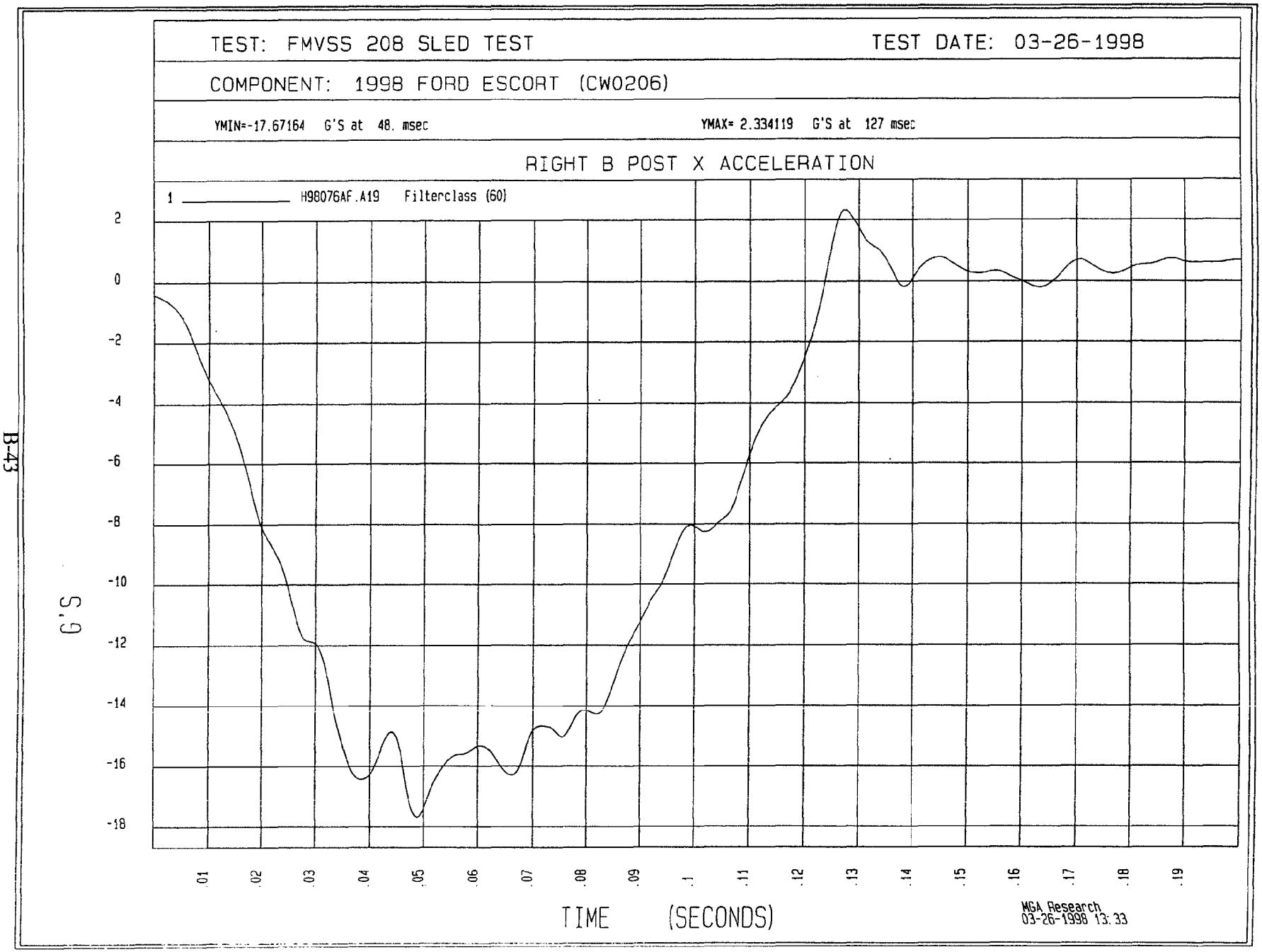
TIME (SECONDS)
MGA Research
03-26-1998 13:33


TEST: FMVSS 208 SLED TEST
TEST DATE: 03-26-1998
COMPONENT: 1998 FORD ESCORT (CW0206)
YMIN=-17.67164 G'S at 48. msec
YMAX= 2.334119 G'S at 127 msec
RIGHT B POST X ACCELERATION
1 H98076AF.A19 Filterclass (60)
2
0
-2
-4
-6
-8
-10
-12
-14
-16
-18
G'S
.01
.02
.03
.04
.05
.06
.07
.08
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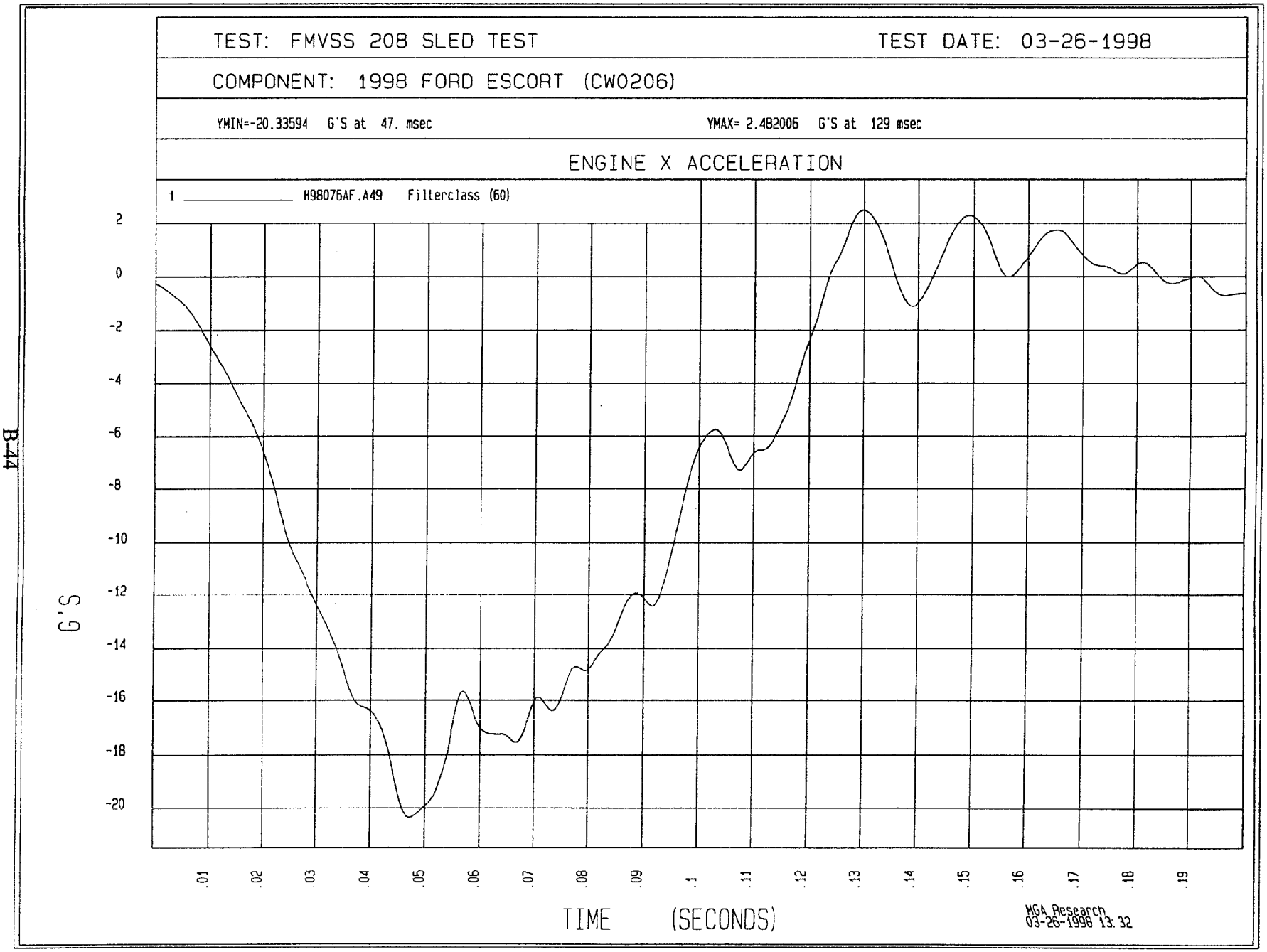
TIME (SECONDS)
MGA Research
03-26-1998 13:33


TEST: FMVSS 208 SLED TEST
TEST DATE: 03-26-1998
COMPONENT: 1998 FORD ESCORT (CW0206)
YMIN=-20.33594 G'S at 47. msec
YMAX= 2.482006 G'S at 129 msec
ENGINE X ACCELERATION
1 H98076AF.A49 Filterclass (60)
2
0
-2
-4
-6
-8
-10
-12
-14
-16
-18
-20
G'S
.01
.02
.03
.04
.05
.06
.07
.08
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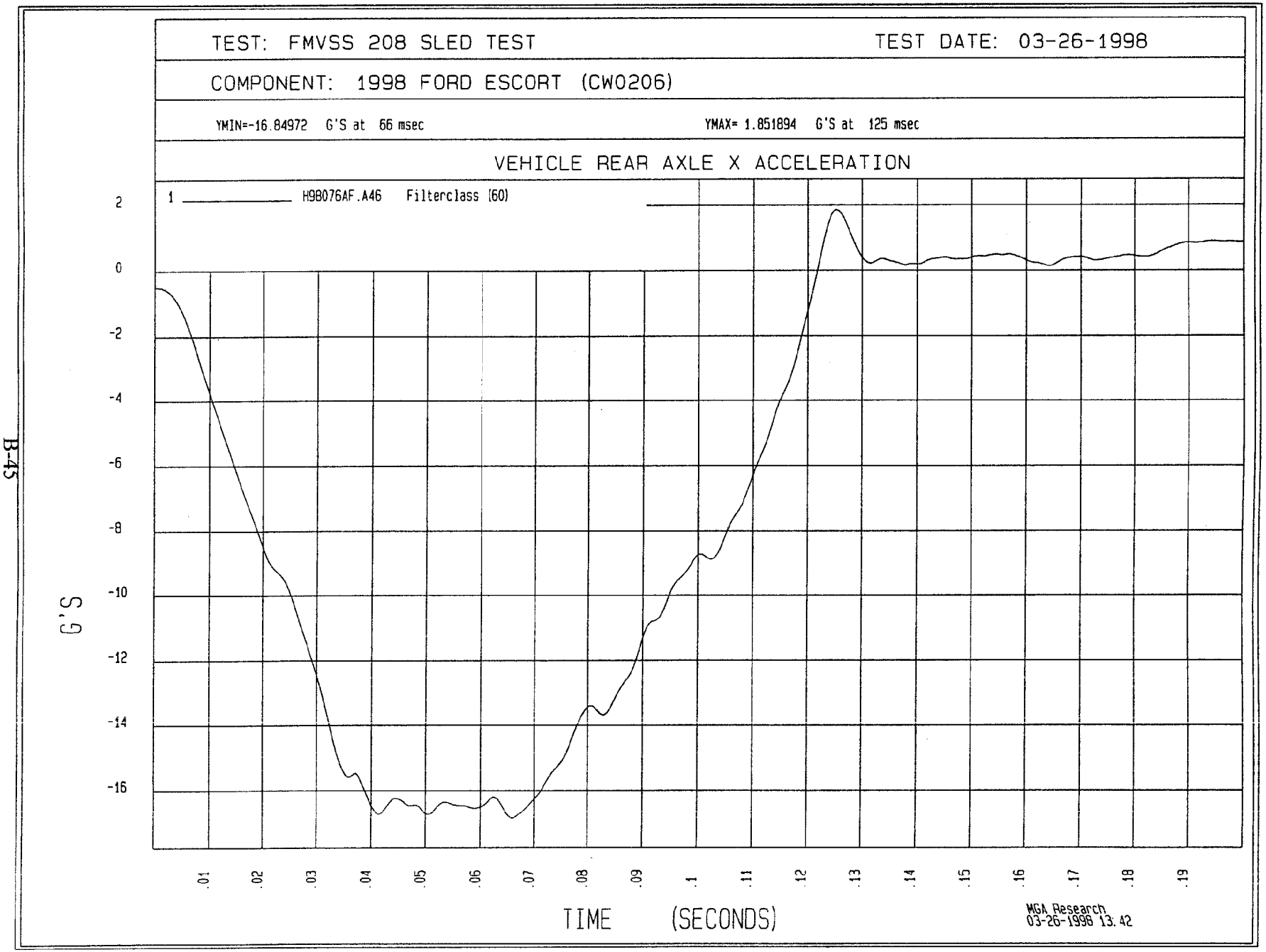
TIME (SECONDS)
MGA Research
03-26-1998 13:32


TEST: FMVSS 208 SLED TEST
TEST DATE: 03-26-1998
COMPONENT: 1998 FORD ESCORT (CW0206)
YMIN=-16.84972 G'S at 66 msec
YMAX= 1.851894 G'S at 125 msec
VEHICLE REAR AXLE X ACCELERATION
1 H98076AF.A46 Filterclass (60)
2
0
-2
-4
-6
-8
-10
-12
-14
-16
G'S
.01
.02
.03
.04
.05
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TIME (SECONDS)
MGA Research
03-26-1998 13:42

APPENDIX C

MANUFACTURER'S VEHICLE INFORMATION

L. W. Camp
Director
Automotive Safety Office
Environmental And Safety Engineering

Ford Motor Company
330 Town Center Drive
Dearborn, Michigan 48126

September 26, 1997

Mr. Harry Thompson
Chief, Vehicle Division
Office of Vehicle Safety Compliance
National Highway Traffic Safety
Administration
400 Seventh Street, S. W.
Washington, D.C. 20590

Dear Mr. Thompson:

Reference: NSA-31CCA/ OA:208970811M

This supplements and completes our September 22, 1997 response to your letter of August 13, 1997, requesting information relative to possible FMVSS 208 testing by OVSC of the 1998 model year Ford Escort (all models) equipped with driver and passenger air bag restraint systems.

Based on information provided to Ford by representatives of Mazda Motor Corporation (Mazda), we are completing the responses to your request nos. 1, 4, 6 and 10. For your convenience, each portion of your request for which we are submitting information is listed followed by Ford's response.

Request No. 1

> "If the air bags were installed to meet the requirements of S13, please provide a copy of the certification test reports for the frontal/angular barrier impact tests of the automatic restraint system with the manual safety belts fastened and the certification test reports for the sled test with only the automatic restraint system."

Response

Copies of the following test reports demonstrating FMVSS 208 conformance for the 1998 Escort are provided as Attachment I to this letter:

- Sled test (Report No. 16-7477) with only automatic restraint system (Second Generation Air Bags) for Escort Sedan and Wagon
- Frontal barrier impact tests (Report Nos. 16-7480 and 16-7479 : Second Generation Air Bags) with manual safety belts fastened for Escort Sedan and Wagon [Note: Passenger side dummy data is not provided in report No. 16-7480; passenger side dummy data found in report No. 16-7479 was by engineering judgment used to demonstrate conformance for both the Sedan and the Wagon.]
- Angular barrier impact tests (Report Nos. 14-6813 and 15-1022 : Full Power Air Bags) for Escort Sedan and Wagon with manual safety belts unfastened (judgmentally determined to address angular tests of Second Generation Air Bags with belts fastened)

- Sled test (Report No. 16-7478) with only automatic restraint system (Second Generation Air Bags) for Escort Coupe
- Frontal barrier impact test (Report No. 16-7562 : Second Generation Air Bags) for Escort Coupe with manual safety belts fastened
- Angular barrier impact tests (Report No. 15-7011 and 15-7010 : Full Power Air Bags) for Escort Coupe with manual safety belts unfastened (judgmentally determined to address angular tests of Second Generation Air Bags with belts fastened)

Request No. 4

"... Describe the method used in certification to determine when to trigger the air bag and the system used to trigger the air bag."

Response

The method used to determine when to trigger the air bag is to measure the electric current in the wire connected to the inflator. The minimum current should be 1.75A for 2 msec. A 12V battery was used to power the trigger system.

Request No. 6

"FMVSS No. 208, S8.1.5, allows the manufacturer the option of having movable vehicle windows and vents placed in the closed position. State whether the vehicle's movable windows and vents were opened or closed for the certification tests."

Response

The positions of moveable windows in the crash tests that were relied upon as a basis to demonstrate conformance to FMVSS 208 for 1998 Escort vehicles were as indicated in the test report summaries included as Attachment I.

Request No. 10

" For barrier tests provide the speed at impact, vehicle test weight, and resulting injury criteria (i.e., HIC, chest acceleration, chest compression and femur loads) recorded for all certification tests conducted to meet the requirements of S4.1.5.1(a)(1). For sled tests, provide the resulting injury criteria (i.e., HIC, chest acceleration, chest compression, femur loads, and neck moments and forces) recorded for all certification tests conducted to met the requirements of S13."

Response

This information is included in the test report summaries provided in Attachment 1.

If you have any questions concerning this response, please call Mr. Roger Kolassa on (313) 337-6969.

Very truly yours,

L. W. Camp

Attachment

L. W. Camp
Director
Automotive Safety Office
Environmental And Safety Engineering

Ford Motor Company
330 Town Center Drive
Dearborn, Michigan 48126

September 22, 1997

Mr. Harry Thompson
Chief, Vehicle Division
Office of Vehicle Safety Compliance
National Highway Traffic Safety
Administration
400 Seventh Street, S. W.
Washington, D.C. 20590

Dear Mr. Thompson:

Reference: NSA-31CCA/ OA:208970811M

This is in response to your letter of August 13, 1997, requesting information relative to possible FMVSS 208 testing by OVSC of the 1998 model year Ford Escort (all models) equipped with driver and passenger air bag restraint systems.

Based on information provided to Ford by representatives of Mazda Motor Corporation (Mazda), we are responding in full to your request nos. 2, 3, 5, 7, 8, 9, 11, 12, and 13 and in part to your request nos. 1, 4, 6, and 10. We currently estimate that we will provide the remaining information by September 30, 1997. For your convenience, each request is listed followed by Ford's response.

Request No. 1

"Please inform OVSC if the air bag restraint system is certified to meet the requirements of S4.1.5.1(a)(1) or S13.

If the air bags were installed to meet the requirements of S4.1.5.1(a)(1), please provide a copy of the certification test reports for the frontal/angular barrier impact tests of the automatic restraint system with the manual safety belts unfastened and fastened.

If the air bags were installed to meet the requirements of S13, please provide a copy of the certification test reports for the frontal/angular barrier impact tests of the automatic restraint system with the manual safety belts fastened and the certification test reports for the sled test with only the automatic restraint system."

Response

Ford is installing Second Generation air bags in all 1998 MY vehicles subject to the FMVSS 208 passive restraint requirements. The air bag restraint systems for all 1998 Ford Escort sedans and wagons manufactured on or after August 6, 1997 at our Wayne, Michigan plant (September 8, 1997 at our Hermosillo, Mexico plant), incorporated Second Generation air bags and meet the requirements of S13 of FMVSS 208. Similarly, Second Generation air bags will be incorporated in all 1998 Ford Escort ZX2 coupes manufactured on or after October 1, 1997, and these vehicles will meet the requirements of S13 of FMVSS 208.

Test reports demonstrating FMVSS 208 conformance for these Second Generation air bag vehicles will be finalized and provided to you by September 30, 1997.

Request No. 2

> "If the air bags are or will be depowered or changed from the previous model year, explain the changes."

Response

The 1998 Ford Escort Second Generation driver air bag system has a lower maximum inflator pressure for a more shallow rise rate, a smaller bag diameter, and the bag material in the rear of the bag does not have a coating. The Second Generation passenger air bag system has a lower maximum inflator pressure for a more shallow rise rate, revised air bag venting (vents were enlarged), a roll type fold rather than an accordion type fold, and two flaps at the upper and lower parts of the bag.

Request No. 3

> "If the air bag has been depowered or changed, explain how it can be determined, prior to purchase, that a particular vehicle has a depowered air bag."

Response

Attachment 1 contains a copy of the label affixed to the driver and front passenger side door windows indicating that the vehicle contains Second Generation air bags. Attachment 2 contains a copy of that portion of the Ford Vehicle Identification Number (VIN) code information pertaining to restraint systems. For 1998 Escort sedans and wagons, the presence of an "F" in position 4 of the VIN indicates that the vehicle was built with Second Generation air bags. For the 1998 Escort ZX2 coupes, the presence of a "K" in position 4 of the VIN indicates that the vehicle was built with Second Generation air bags. Please note that a few early built vehicles have been equipped with the Second Generation air bags but may not contain these codes. The presence of the label in the door windows should be relied on for establishing with certainty the presence of Second Generation air bags.

Request No. 4

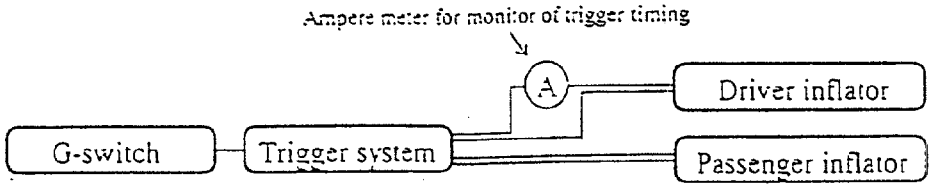
> "If the vehicle was certified with unrestrained dummies to meet the requirements of S13, describe how to disconnect the air bags from the vehicle sensors and connect them to the triggering mechanism used in the sled test. Describe the method used in certification to determine when to trigger the air bag and the system used to trigger the air bag."

Response

To disconnect the air bags from the vehicle sensors:

1. Disconnect the battery terminal
2. For the driver side air bag, unfasten the two bolts on the back of the steering wheel. For the passenger air bag, remove the glove box and unfasten the four bolts on the back of the air bag inflator.
3. Disconnect the coupler connected to the air bag inflator.

To connect the air bags to the triggering mechanism:
With additional wires connect the coupler for each of the inflators to the triggering mechanism as shown in the diagram.



The method used to determine when to trigger the air bag is to measure the electric current in the wire connected to the inflator. Specific information concerning what this measurement should be will be provided to you by September 30, 1997.

Request No.5

"State for any safety belt system in this vehicle whether or not it is equipped with a tension-relieving device. Provide a copy of the information furnished in accordance with S7.4.2, if the tension-relieving device is used."

Response

Tension-relieving devices are not used in 1998 Escort safety belt systems.

Request No. 6

"FMVSS No. 208, S8.1.5, allows the manufacturer the option of having movable vehicle windows and vents placed in the closed position. State whether the vehicle's movable windows and vents were opened or closed for the certification tests."

Response

The positions of moveable windows in the crash tests that were relied upon as a basis to demonstrate conformance to FMVSS 208 for 1998 Escort vehicles will be provided with the test report summaries which will be forwarded to you by September 30, 1997.

Request No. 7

" Submit dummy placement measurements, including diagrams or photographs which show exactly where measurements were taken. Enclosed is a diagram of some of OVSC's dummy measurements. Where possible, use the dimension shown in the diagram to provide the individual dummy placement measurements.

State whether the vehicle has a foot rest for the driver."

Response

Attachment 3 contains dummy placement measurements applicable to the 1998 Ford Escort.

The 1998 Escort has a foot rest for the driver .

Request No. 8

"Provide the seat positioning, steering column positioning, and fuel tank data on the enclosed form. If more than one front seating configuration, steering column, or fuel tank are available on this vehicle, provide separate information for each."

Response

Attachment 4 contains the NHTSA form enclosed with your letter completed with the requested seat positioning, steering column positioning, and fuel tank data applicable to FMVSS No. 208 impact testing of the 1998 Escort.

Request No. 9

"If the vehicle is equipped with adjustable seat belt anchorages, provide the manufacturer's nominal design position for a 50th percentile adult male occupant."

Response

The 1998 Escort sedan and wagon models are equipped with adjustable seat belt anchorages. The nominal design position of the D-ring for the 50th percentile adult male occupant is in the lowest position.
The 1998 Escort coupe is not equipped with adjustable seat belt anchorages.

Request No. 10

" For barrier tests provide the speed at impact, vehicle test weight, and resulting injury criteria (i.e., HIC, chest acceleration, chest compression and femur loads) recorded for all certification tests conducted to meet the requirements of S4.1.5.1(a)(1). For sled tests, provide the resulting injury criteria (i.e., HIC, chest acceleration, chest compression, femur loads, and neck moments and forces) recorded for all certification tests conducted to met the requirements of S13."

Response

This information is included in the test reports which will be forwarded to you by September 30, 1997.

Request No. 11

"When vehicle components must be removed to obtain the proper test weight for the barrier test, what components do you recommend for removal and in what priority order do you recommend removal?"

Response

The following is a suggested list of items which may be removed from the test vehicle for the barrier test. The list below is in order of removal priority:

- ◊ Rear seat cushion
- ◊ Rear seat back
- ◊ Spare Tire
- ◊ Jack and tool set
- ◊ Rear seat belt
- ◊ Trunk lid
- ◊ Rear bumper

All onboard instrumentation should be included in the vehicle test weight.

Request No. 12

> "If the vehicle uses a pressure vessel to inflate the air bag, provide a copy of the test reports or engineering analysis to demonstrate that it meets all the requirements of S9.1."

Response

The 1998 Escort vehicles do not use pressure vessels to inflate the air bags.

Request No. 13

> "If the vehicle uses an explosive device to inflate the air bag, provide a copy of the test report or engineering analysis to demonstrate that it meets all the requirements of S9.2."

Response

Attachment 5 contains those portions of the engineering analysis and supplier test data that were used as a basis for compliance to S9.2 of FMVSS 208 for the driver and passenger air bag restraint systems.

We believe the information and test reports contained herein are otherwise fully responsive to your request. If you have any questions, please call Mr. Roger Kolassa on (313) 337-6969.

Very truly yours,

L. W. Camp

Attachments

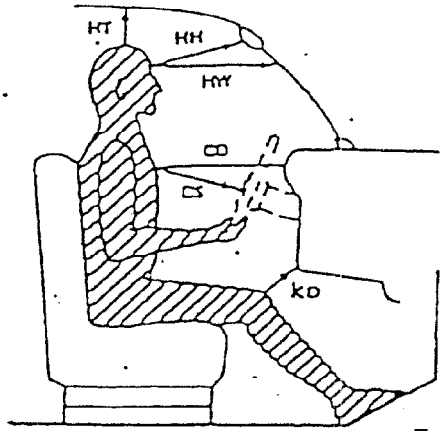
1998MY Ford Escort
Dummy Positioning Data

1998 MY FORD ESCORT Sedan / Wagon

Pre-Test

OCCUPANT CLEARANCE DIMENSIONS

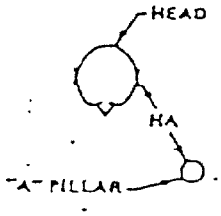
	DRIVER	PASSENGER
HH	No Data	No Data
HW	No Data	No Data
CD	20.9 in.	No Data
CS	11.7 in.	
KDL	3.4 in.	1.8 in.
LDR	3.2 in.	1.7 in.
SA	21 degrees	21 degrees
TA	24 degrees	24 degrees
HT	4.7 in.	4.7 in

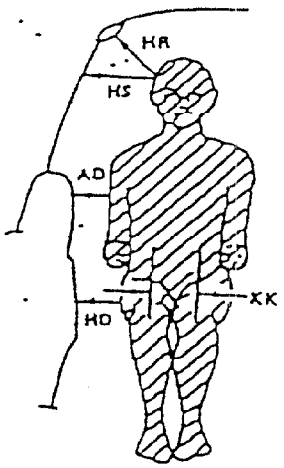


HH : Head to Windshield Header
HW : Head to Windshield
CD : Chest to Dash
CS : Chest to Steering Wheel
KD (L/R) : Knee to Dash (Left/Right)
SA : Seat Back Angle
TA : Torso Angle

HA : Head Target to "A" Pillar
HR : Head to Side Roof

HS : Head to Side Window
AD : Arm to Door
HD : Hip to Door
KK : Knee to Knee (Center)
HT : Head Top to Roof

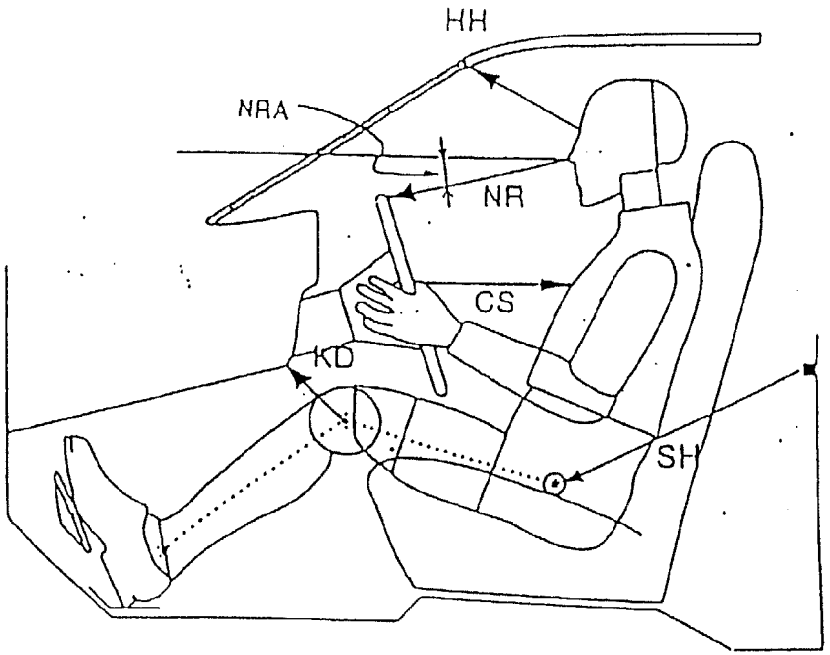


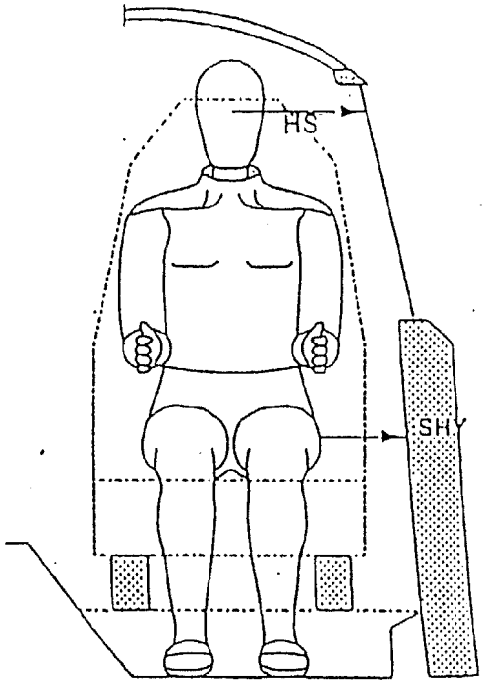


	DRIVER	PASSENGER
HR	No Data	No Data
HS	No Data	No Data
AD	3.4 in.	3.4 in.
HD	No Data	No Data
KK	10.9 in.	8.1 in.
HA	No Data	No Data

1998. MY FORD ESCORT Sedan/Wagon

DUMMY MEASUREMENTS FOR FRONT SEAT PASSENGERS





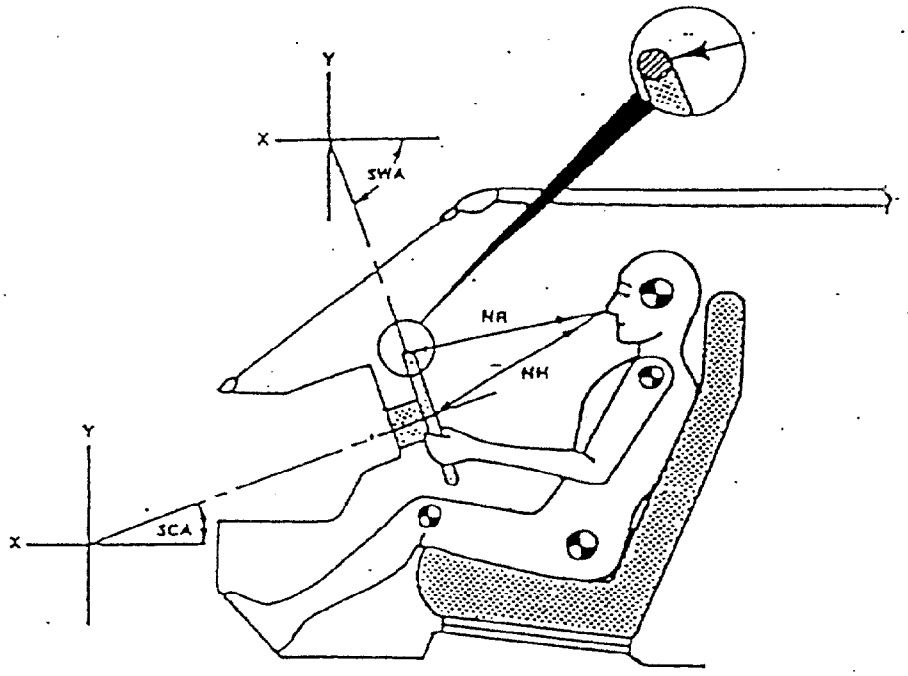
		Driver	Passenger
HH	: Head to Header	No Data	No Data
NR	: Nose to Rim	15.5 in.	
CS	: Steering Wheel to Chest	11.7 in.	
KD (L/R)	: Knee to Dash	3.4 / 3.2 in.	1.8 / 1.7 in.
SH	: Striker to H-Point	8.8 in.	
NRA		12 degrees	

	Driver	Passenger
SH : Striker to H-Point (Y Dir.)	No Data	No Data
HS : Head to Side Window	11.9 in.	11.9 in.

1998 MY FORD ESCORT Sedan / Wagon

Pre-Test

DRIVER DUMMY TO STEERING COLUMN / WHEEL ASSY. REFERENCE DIMENSIONS



LEFT SIDE VIEW

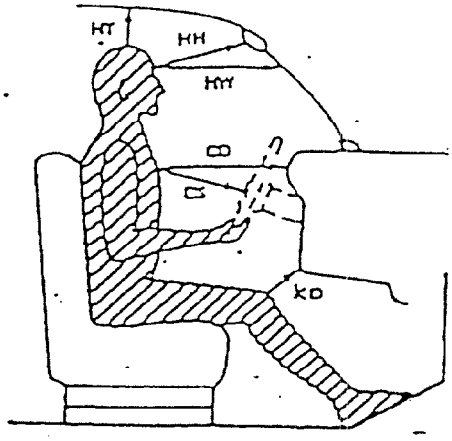
		MEASUREMENTS	
NR	Distance from tip of dummy's nose to Top Rear surface of steering wheel rim	15.5	Inches
NH	Distance from tip of dummy's nose to center of steering column hub	15.9	Inches
SCA	Angle of steering column relative to the holizontal X axis	23	Degrees
SWA	Angle of steering wheel relative to the horizontal X axis	67	Degrees

1998 MY FORD ESCORT Coupe

Pre-Test

OCCUPANT CLEARANCE DIMENSIONS

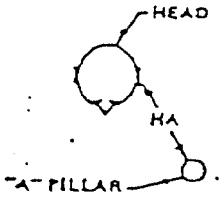
	DRIVER	PASSENGER
HH	No Data	No Data
HW	No Data	No Data
CD	No Data	No Data
CS	11.7 in.	
KDL	3.4 in.	1.8 in.
LDR	3.2 in.	1.7 in.
SA	21 degrees	21 degrees
TA	24 degrees	24 degrees
HT	No Data	No Data

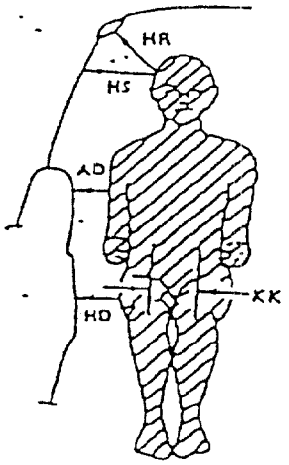


HH : Head to Windshield Header
HW : Head to Windshield
CD : Chest to Dash
CS : Chest to Steering Wheel
KD (L/R) : Knee to Dash (Left/Right)
SA : Seat Back Angle
TA : Torso Angle

HA : Head Target to "A" Pillar
HR : Head to Side Roof

HS : Head to Side Window
AD : Arm to Door
HD : Hip to Door
KK : Knee to Knee (Center)
HT : Head Top to Roof

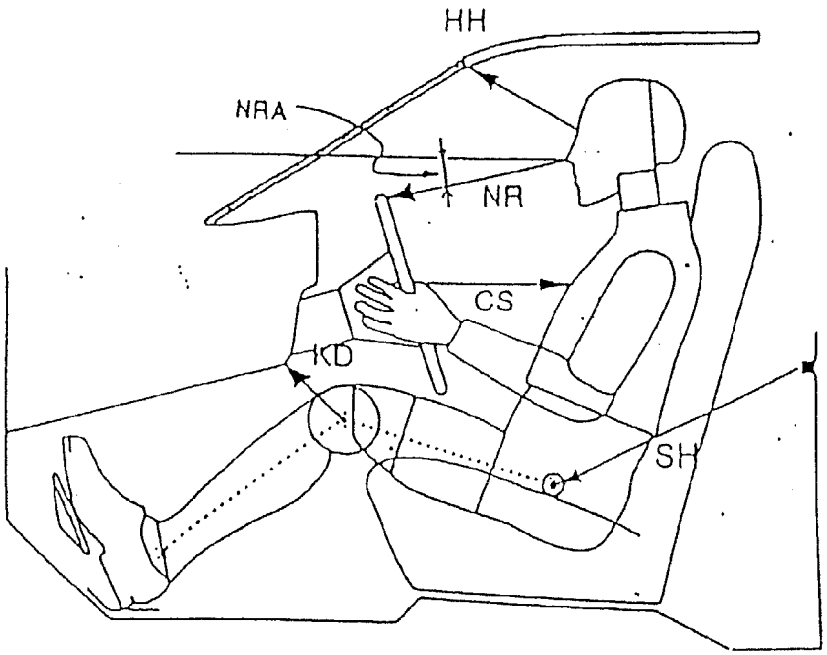


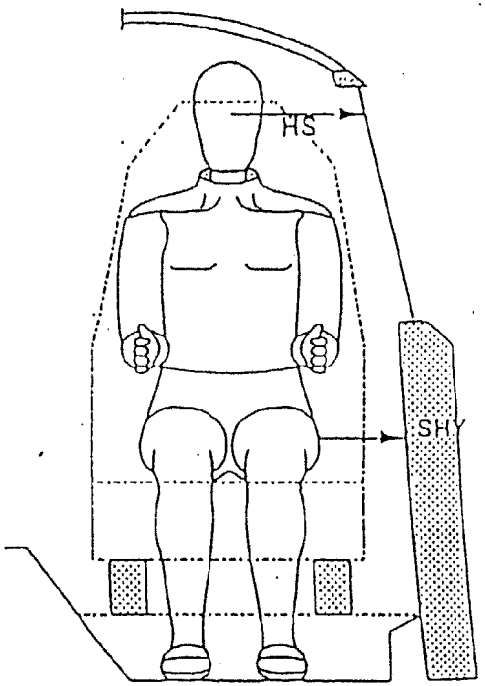


	DRIVER	PASSENGER
HR	No Data	No Data
HS	No Data	No Data
AD	No Data	No Data
HD	No Data	No Data
KK	10.9 in.	8.1 in.
HA	No Data	No Data

1998 MY FORD ESCORT Coupe

DUMMY MEASUREMENTS FOR FRONT SEAT PASSENGERS





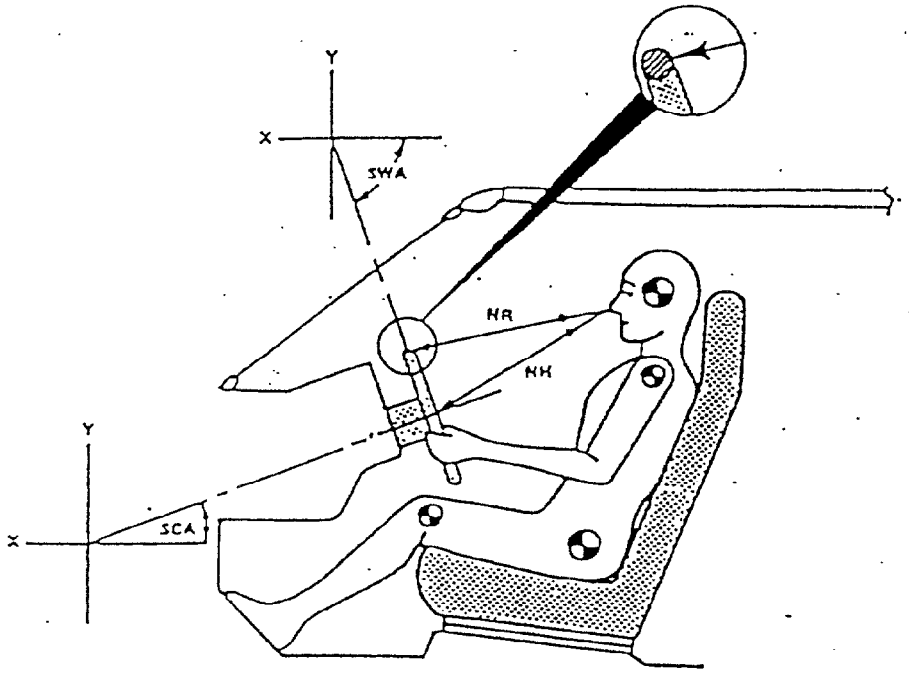
		Driver	Passenger
HH	: Head to Header	No Data	No Data
NR	: Nose to Rim	15.5 in.	
CS	: Steering Wheel to Chest	11.7 in.	
KD (L/R)	: Knee to Dash	3.4 / 3.2 in.	1.8 / 1.7 in.
SH	: Striker to H-Point	No. Data	
NRA		12 degrees	

	Driver	Passenger
SH : Striker to H-Point (Y Dir.)	No Data	No Data
HS : Head to Side Window	No Data	No Data

1998 MY FORD ESCORT Coupe

Pre-Test

DRIVER DUMMY TO STEERING COLUMN / WHEEL ASSY. REFERENCE DIMENSIONS



LEFT SIDE VIEW

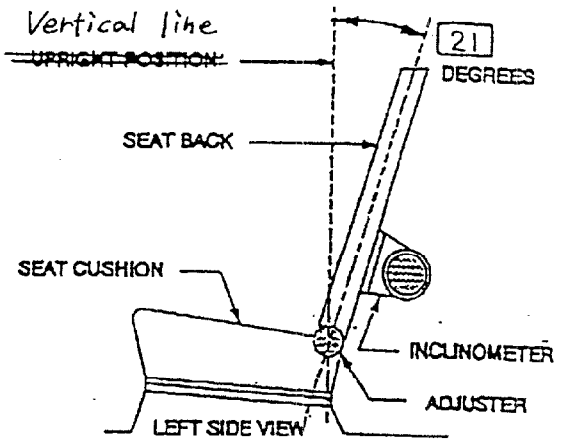
		MEASUREMENTS	
NR	Distance from tip of dummy's nose to Top Rear surface of steering wheel rim	15.5	Inches
NH	Distance from tip of dummy's nose to center of steering column hub	15.9	Inches
SCA	Angle of steering column relative to the holizontal X axis	23	Degrees
SWA	Angle of steering wheel relative to the horizontal X axis	67	Degrees

1998MY Ford Escort
Seat Adjusting and Fuel Tank Data

TEST VEHICLE INFORMATION

Vehicle Model Year & Make: 1998 MY FORD ESCORT (SEDAN/WAGON/COUPE)
Vehicle Model & Body Style: _____

1. NOMINAL DESIGN RIDING POSITION - -
For adjustable driver and passenger seat backs.
Please describe how to position the inclinometer to measure the seat back angle. Include description of the location of the adjustment latch detent if applicable. Indicate, if applicable, how the detents are numbered (Is the first detent "0" of "1"?). Indicate if the seat back angle is measured with the dummy in the seat.



Seat back angle for driver's seat = 21 degrees.
Measurement Instructions:

Seat back angle is measured along rear edge of outer seat back fram. Adjust the seat back to the 5th latch from the first detent "0".

Seat back angle for passenger's seat = 21 degrees.
Measurement Instructions:

Same as driver side.

2. SEAT FORE & AFT POSITIONS - -
Provide instructions for positioning the driver and front outboard passenger seat(s) in the center of fore and aft travel. For example, indicate how the detents are numbered (Is the first detent "0" or "1"?). Provide information to locate the detent in which the seat track is to be locked.

Positioning of the driver's seat:

Adjust the seat slider to the 11th latch position from the most forward position. The first detent of the most forward position is "0".

Positioning of the passenger's seat (if applicable):

Same as driver side.

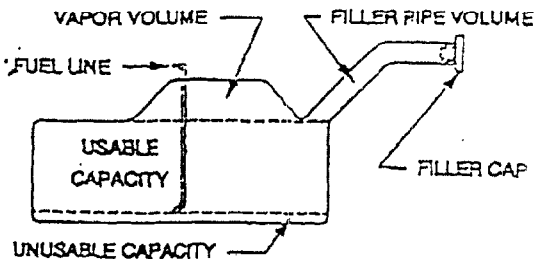
Rev. 7/11/94

3. FUEL TANK CAPACITY DATA - -

3.1 A. "Usable Capacity" of standard equipment fuel tank = 12.7 gallons.

B. "Usable Capacity" of optional equipment fuel tank = N/A gallons.

C. "Usable Capacity" of vehicle(s) used for certification testing to requirements of FMVSS 301 = 12.7 gallons.



VEHICLE FUEL TANK ASSEMBLY

Operational Instructions:

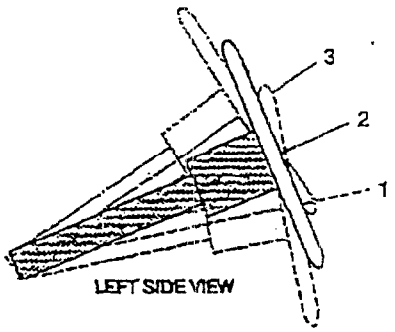
3.2 Amount of Stoddard solvent added to vehicle(s) used for certification test(s) = 12.3 gallons

3.3 Is vehicle equipped with electric fuel pump? √ YES ___ NO
If YES, explain the vehicle operating conditions under which the fuel pump will pump fuel.

Activate the starter or the engine.

4. STEERING COLUMN ADJUSTMENTS - -

Steering wheel and column adjustments are made so that the steering wheel hub is at the geometric center of the locus it describes when it is moved through its full range of driving positions. If the tested vehicle has any of these adjustments, does your company use any specific procedures to determine the geometric center.



STEERING COLUMN ASSEMBLY

Operational Instructions:

No specific procedure.