

DOT 427

Dynamic Science Report No. 212-DYS-80-010
Dynamic Science Report No. 219-DYS-80-010
Dynamic Science Report No. 301-DYS-80-010

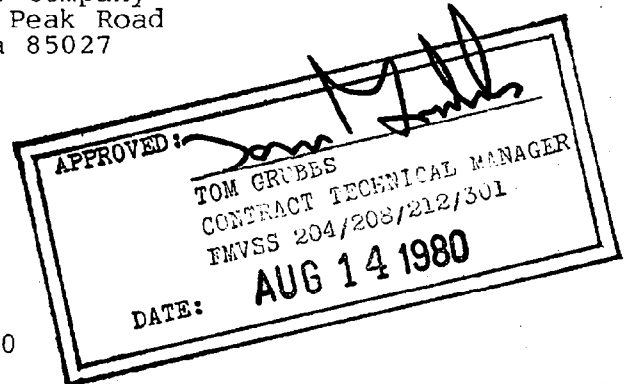
NEW VEHICLE ASSESSMENT AND
STANDARDS ENFORCEMENT INDICANT
TESTING

FMVSS 212, 219, AND 301-75

CHRYSLER CORPORATION
1980 CHRYSLER LEBARON
NHTSA NO. 800311

Prepared by:

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Phoenix, Arizona 85027



AUGUST 1980

FINAL REPORT

Prepared for:

U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
-----ENFORCEMENT-----
OFFICE OF VEHICLE SAFETY COMPLIANCE
400 SEVENTH STREET, S.W.
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Date

AUGUST 8, 1980

Report Accepted by:

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Office of Vehicle Safety Compliance

AUG 14 1980

Date

TECHNICAL REPORT STANDARD TITLE PAGE

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16. Abstract The vehicle was tested using test parameter values which are in excess of the current upper limits of the subject FMVSS in order to obtain research and vehicle rating data. This test, therefore, can only be viewed as an "indicant" test by the Office of Vehicle Safety Compliance. The front of the test vehicle impacted the fixed, load-measuring collision barrier at a speed of 35.05 mph. The test was conducted at the Dynamic Science, Inc. Deer Valley facility on June 13, 1980, with the following results: a) FMVSS 212 - No loss of windshield retention. b) FMVSS 219 - No intrusion into windshield protected zone. c) FMVSS 301 - Fuel leakage during the static rollover was within the allowable range.					
17. Key Words FMVSS 212 - Windshield Mounting FMVSS 219 - Windshield Zone Intrusion FMVSS 301-75 - Fuel System Integrity Vehicle Assessment, Occupant Response			18. Distribution Statement Copies of this report are available from Technical Reference Division, National Highway Traffic Safety Administration, Room 5108, Nassif Building, 400 7th Street, S.W., Washington, D.C. 20590		
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METRIC CONVERSION FACTORS

Approximate Conversions to Metric Measures

Symbol	When You Know	Multiply by	To Find	Symbol
LENGTH				
in	inches	2.5	centimeters	cm
ft	feet	30	centimeters	cm
yd	yards	0.9	meters	m
mi	miles	1.6	kilometers	km
AREA				
in ²	square inches	6.5	square centimeters	cm ²
ft ²	square feet	0.09	square meters	m ²
yd ²	square yards	0.8	square meters	m ²
mi ²	square miles	2.6	square kilometers	km ²
	acres	0.4	hectares	ha
MASS (weight)				
oz	ounces	28	grams	g
lb	pounds	0.45	kilograms	kg
	short tons	0.9	metric ton	t
	(2000 lb)			
VOLUME				
tsp	teaspoons	5	milliliters	ml
Tbsp	tablespoons	15	milliliters	ml
in ³	cubic inches	16	milliliters	ml
fl oz	fluid ounces	30	milliliters	ml
c	cups	0.24	liters	L
pt	pints	0.47	liters	L
qt	quarts	0.95	liters	L
gal	gallons	3.8	liters	L
ft ³	cubic feet	0.03	cubic meters	m ³
yd ³	cubic yards	0.76	cubic meters	m ³
TEMPERATURE (exact)				
°F	degrees Fahrenheit	5/9 (after subtracting 32)	degrees Celsius	°C

Approximate Conversions from Metric Measures

Symbol	When You Know	Multiply by	To Find	Symbol
LENGTH				
mm	millimeters	0.04	inches	in
cm	centimeters	0.4	inches	in
m	meters	3.3	feet	ft
m	meters	1.1	yards	yd
km	kilometers	0.6	miles	mi
AREA				
cm ²	square centimeters	0.16	square inches	in ²
m ²	square meters	1.2	square yards	yd ²
km ²	square kilometers	0.4	square miles	mi ²
ha	hectares	2.5	acres	
	(10 000 m ²)			
MASS (weight)				
g	grams	0.035	ounces	oz
kg	kilograms	2.2	pounds	lb
t	metric ton	1.1	short tons	
	(1000 kg)			
VOLUME				
ml	milliliters	0.03	fluid ounces	fl oz
ml	milliliters	0.06	cubic inches	in ³
L	liters	2.1	pints	pt
L	liters	1.06	quarts	qt
L	liters	0.26	gallons	gal
m ³	cubic meters	35	cubic feet	ft ³
m ³	cubic meters	1.3	cubic yards	yd ³
TEMPERATURE (exact)				
°C	degrees Celsius	9/5 (then add 32)	degrees Fahrenheit	°F

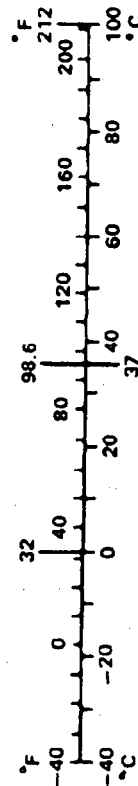


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SECTION 1
PURPOSE AND INTRODUCTION

PURPOSE:

The purpose of the test was to subject a 1980 Chrysler LeBaron to the indicant test requirements of DOT Test Plan TP-212-02, April 1, 1980, Standards Enforcement Indicant Testing for FMVSS No. 212, "Windshield Mounting," FMVSS No. 219, "Windshield Zone Intrusion," and FMVSS 301-75, "Fuel System Integrity." The vehicle was tested using test parameters which are in excess of the current upper limits of the subject FMVSS in order to obtain research and vehicle rating data. This test, therefore, can only be viewed as an "indicant" test by the Office of Vehicle Safety Compliance (OVSC).

INTRODUCTION:

Section 2 contains General Test and Vehicle Parameter Data. Section 3 contains Compliance Related Data for FMVSS 212, 219, 301-75 Indicant Testing, together with photographs related to these tests. Appendix A contains pre-test and post-test vehicle and dummy photographs. Appendix B contains Calcomp plots. Appendix C contains dummy certification data.

SECTION 2
GENERAL TEST AND VEHICLE PARAMETER DATA

The following data sheets and photographs describe the General Test and Vehicle Parameter Data.

GENERAL TEST AND VEHICLE PARAMETER DATA

TEST VEHICLE INFORMATION:

Vehicle Manufacturer: Chrysler Corporation
 Make/Model: Chrysler LeBaron
 Body Style: 2-door Coupe Model Year: 1980
 VIN: FM22CAG148179 Build Date: 11/79
 NHTSA No.: 800311 Color: White
 Engine Data: 6 cylinders; 225 in.³ displacement
 Transmission Data: 3 speed () Manual (X) Automatic
 Date Vehicle Received by Laboratory: December 5, 1979
 Dealer Name & Address: Bill Luke Chrysler Plymouth, Inc.
2425 W. Camelback Rd., Phoenix, Az. 85014

DATA FROM CERTIFICATION LABEL ON LEFT DOOR REAR FACE OR B-POST:

Vehicle Manufactured By: Chrysler Corporation
 Date of Manufacture: 11/79 ; VIN: FM22CAG148179
 GVWR: 4745 lb; GAWR: Front = 2315 lb; Rear = 2480 lb

DATA FROM "RECOMMENDED TIRE PRESSURE" LABEL ON DOOR, POST, GLOVE BOX, ETC.:

Vehicle Load:	FRONT	REAR	RECOMMENDED	LOAD RANGE:
Up to Capacity	<u>29</u> psi	<u>29</u> psi	TIRE SIZE:	
Vehicle Capacity:			<u>P195-75R15</u>	<u>B</u>
Type of Seats -	<u> </u> Bench	Number of Occupants =	<u>3</u>	Front
	<u> </u> Bucket	(Designated Seating	<u>3</u>	Rear
	<u>X</u> Split Bench	Capacity)	<u>6</u>	Total
CARGO LOAD =	<u>200</u> lb			
TOTAL =	<u>1100</u> lb			

WEIGHT OF TEST VEHICLE AS RECEIVED FROM DEALER (with max. fluids) (UDW)

Right Front =	<u>979</u> lb	Right Rear =	<u>679</u> lb
Left Front =	<u>966</u> lb	Left Rear =	<u>729</u> lb
TOTAL FRONT WEIGHT =	<u>1945</u> lb (<u>58</u> % of Total Vehicle Weight)		
TOTAL REAR WEIGHT =	<u>1408</u> lb (<u>42</u> % of Total Vehicle Weight)		
TOTAL DELV. WEIGHT =	<u>3353</u> lb		

WEIGHT OF TEST VEHICLE WITH REQUIRED DUMMIES AND 200 lb CARGO:

Right Front =	<u>1021</u> lb	Right Rear =	<u>905</u> lb
Left Front =	<u>988</u> lb	Left Rear =	<u>966</u> lb
TOTAL FRONT WEIGHT =	<u>2009</u> lb (<u>52</u> % of Total Vehicle Weight)		
TOTAL REAR WEIGHT =	<u>1871</u> lb (<u>48</u> % of Total Vehicle Weight)		
TOTAL TEST WEIGHT =	<u>3880</u> lb		

Weight of ballast secured in vehicle trunk area = 0 lb

TARGET WEIGHT = CARGO LOAD + UDW + 164 (NO. OF DUMMIES) = 3881 lb

GENERAL TEST AND VEHICLE PARAMETER DATA (CONTD)

TEST CONDITIONS:

Date of Test: June 13, 1980 Time of Test: 1028
 Ambient Temperature: 97 °F at impact area.
 Temperature in Occupant Compartment: 74 °F Windshield Molding Temperature: 77 °F

VEHICLE ATTITUDE: (all dimensions in inches)

Delivered Attitude: RF 31 LF 31 RR 31 LR 31
 Test Attitude: RF 31.5 LF 31.1 RR 29.2 LR 29.1

VEHICLE TIRE DATA:

Recommended Cold Tire Pressure: Front = 29 psi
 Rear = 29 psi

Recommended Tire Size: P195-75R15

Load Range: B

Tires on Vehicle: P195-75R15

Is Spare Tire a "Space Saver": (yes/no)

Is Spare Tire standard equipment: (yes/no)

TEST FLUID DATA:

Test Fluid Type: Red Stoddard Solvent ; Spec. Grav.: 0.764

Kinematic Viscosity: 0.99 centistokes

*Spill Point Volume: - Gallons

Test Volume: 16.66 Gallons

Fuel System Capacity (data from Owner's Manual): 18.0 gallons

Details of Fuel System: Rectangular metal fuel tank is attached to trunk floor by two metal straps. Sender tubes exit top center of tank and proceed to engine along right frame rail. Metal filler tube exits top of tank and proceeds to body wall aft of left rear wheel where it is sealed by a ratcheting metal twist cap. Filler cap is concealed by a hinged access door.

Electric Fuel Pump: No (yes/no); Fuel Injection: No (yes/no)

Does electric fuel pump operate with ignition switch "on" and the engine not operating: (yes/no)

VEHICLE REBOUND AND CRUSH:

Overall Length of Pre-test = R 197.6 L 197.6 inches
 Test Vehicle Post-test = R 171.7 L 171.9 inches

CRUSH = R 25.9 L 25.7

FOR FRONTAL IMPACTS, distance from front of test vehicle to the barrier after impact = 11.7 inches

*Spill point was not determined. Test volume is 93% of "usable capacity" as defined in the vehicle manufacturer's Part 1 submission to the EPA plus "unusable capacity." Specified capacities are supplied by the OVSC CTM.

GENERAL TEST AND VEHICLE PARAMETER DATA (CONTD)

VISIBLE DUMMY CONTACT POINTS

	<u>Driver</u>	<u>Passenger</u>
Head	<u>Steering Wheel hub, rim</u>	<u>None</u>
Chest	<u>Steering Wheel hub, rim</u>	<u>None</u>
Abdomen	<u>None</u>	<u>None</u>
Left Knee	<u>Dash</u>	<u>Dash</u>
Right Knee	<u>Dash</u>	<u>Dash</u>

	<u>Front</u>		<u>Rear</u>	
<u>DOOR OPENING</u>	<u>Left</u>	<u>Right</u>	<u>Left</u>	<u>Right</u>
Easy				
Difficult		X		
Tools Required	X			

SEAT BACK

Failure _____

GLAZING DAMAGE

Windshield Cracked; most fracturing is on left side.

Backlight _____

Others _____

OTHER NOTABLE IMPACT EFFECTS: Both front tires pinned. Right front floor pan separated from rocker panel for 20 inches aft of "A" pillar and 25 inches inboard along bottom of firewall. Entire dash panel rotated upward. Rearward stroke of drive shaft and forward inertia of rear tires combined to break rear axle; both rear wheels were touching the front of the wheel wells. Impact by differential deformed front edge of fuel tank.

SECTION 3

COMPLIANCE-RELATED DATA
FMVSS 212, 219, 301-75 INDICANT TESTING

The following data sheets and photographs document compliance data related to FMVSS 212, 219, and 301-75.

SUMMARY OF RESULTS
FMVSS 212 INDICANT DATA

VEHICLE DATA:

Manufacturer: Chrysler Corporation Model Year: 1980
Make/Model: Chrysler LeBaron
Body Style: 2-door Coupe Manufacture Date: 11/79
VIN: FM22CAG148179 NHTSA No.: 800311
Delivery Weight: 3353 lb; Test Weight: 3880 lb; GVWR: 4745 lb
Engine: No. of Cylinders 6 Displacement 225 in.³
Vehicle Mileage: 32.7 miles
Remarks: _____

GENERAL TEST CONDITIONS:

Vehicle Impact Speed:
Primary 35.05 mph; Secondary 35.05 mph
Speed Range Specified by CTM: 34.5 to 35.5 mph
Ambient Temperature at Time of Test: 97 °F
Date of Test: June 13, 1980 Time: 1028
Windshield Molding Temperature: 77 °F
Static Crush: 25.9 in. (right) 25.7 in. (left)

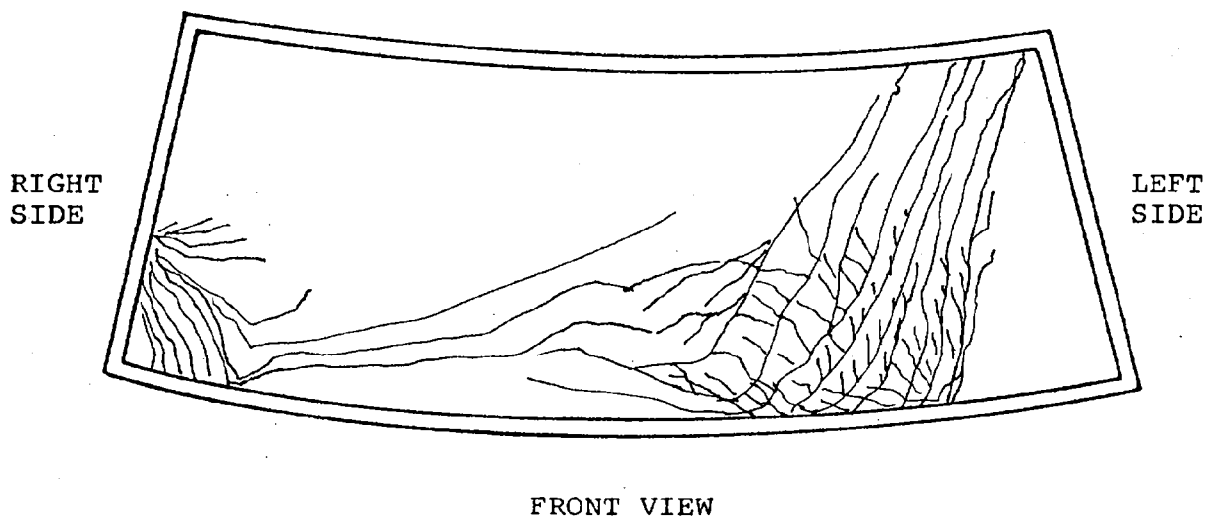
SUMMARY OF FMVSS 212 DATA

Details of windshield mounting (method of retention, type of trim, etc.): Windshield is held in place on all sides by a 1-inch wide black mastic. The windshield edge is concealed by a 1-inch wide metal molding attached by metal circlips 6 inches apart.

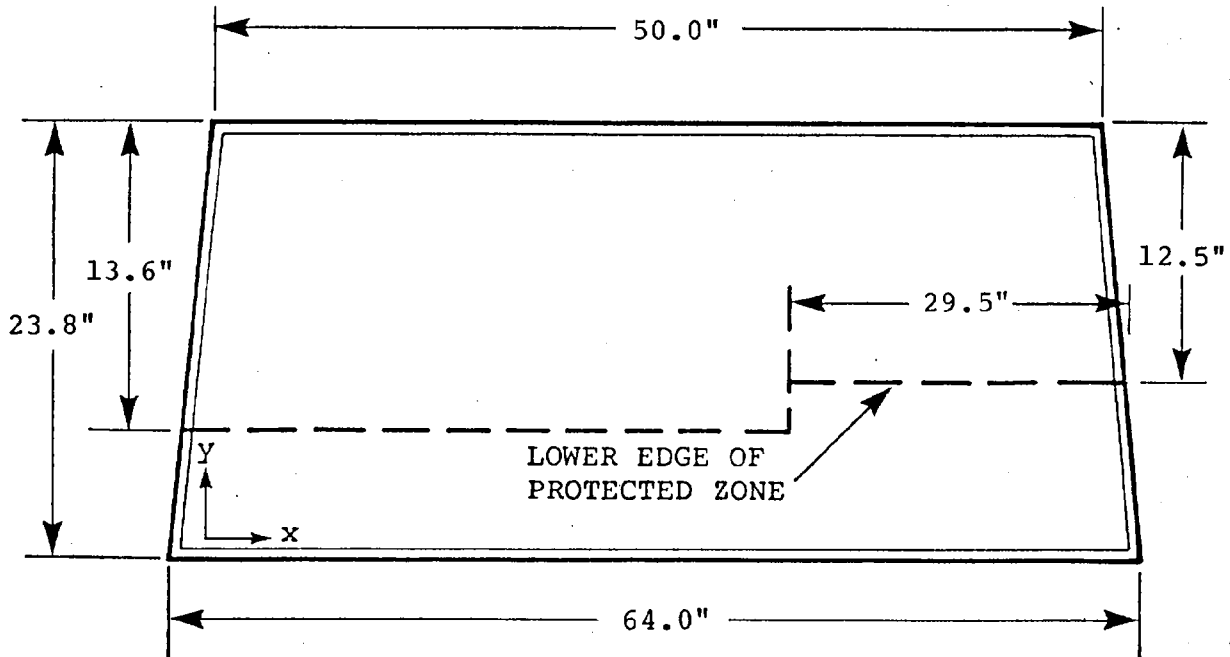
	<u>WINDSHIELD PERIPHERY</u>	
	<u>Pre-test</u>	<u>Post-test</u>
<u>RIGHT SIDE</u>	80.8	80.8
<u>LEFT SIDE</u>	80.8	80.8
<u>***TOTAL***</u>	161.6	161.6

The standard requires that POST-TEST be a minimum of 75 percent of the PRE-TEST total periphery measurement for vehicles not equipped with occupant passive restraints and 50 percent for each side of the windshield for vehicles which are equipped with occupant passive restraints.

AREA OF RETENTION FAILURE (as noted): None



WINDSHIELD ZONE INTRUSION, FMVSS 219



FRONT VIEW OF WINDSHIELD

With the zero coordinate for the X-Y grid located at the lower right corner (passenger side) of the windshield, record the following positions:

- A. The area that the "Protected Zone" template was penetrated more than 0.25 inch by a vehicle component other than one which is normally in contact with the windshield.

Coordinates	
<u>X</u>	<u>Y</u>
<u>N/A</u>	<u>N/A</u>
_____	_____
_____	_____

- B. The area beneath the "Protected Zone" that the inner surface of the windshield was penetrated by a vehicle component.

Coordinates	
<u>X</u>	<u>Y</u>
<u>N/A</u>	<u>N/A</u>
_____	_____
_____	_____

- C. Record any windshield retention clips or brackets used to ensure that the windshield would not disengage from the body.
No retention clips are evident.

POST IMPACT DATA

TYPE OF TEST:

X Frontal (90°) Impact

___ Oblique (___ °) Impact on ___ Left (Driver's) Side
 ___ Right Side

___ Lateral or Side Impact on ___ Left (Driver's) Side
 ___ Right Side

Rear Impact

DATE OF TEST: June 13, 1980 ; TIME: 1028 ; TEMP: 97 ° F

NHTSA NO.: 800311 ; VIN: FM22CAG148179

REQUIRED VEHICLE VELOCITY RANGE: 34.5 to 35.5 mph

IMPACT VELOCITY: (traps within 5 feet of impact event)

Primary = 35.05 mph; Secondary = 35.05 mph

Distance from the vehicle's front bumper to the barrier face
entering the vehicle velocity measurement device = 5.0 ft

exiting the vehicle velocity measurement device = 1.0 ft

VEHICLE STATIC CRUSH:

(For Frontal and Rear Impacts Only)

Driver's Side = 25.7 in.; Passenger's Side = 25.9 in.

Average = 25.8 in.

Crush Details: Symmetrical crush to "A" pillar. Severe floor pan deformation. Front floor pan separated along fire-wall and along rocker panel.

(For Side Impacts Only)

Amount of Crush = in. on side

Crush Details:

VEHICLE REBOUND:

(From rigid barrier only)

Driver's Side = 11.7 in.; Passenger's Side = 12.3 in.

Average = 12.0 in.

REMARKS: Metal bumper has 1.5-inch wide soft face material running its entire width. There are two 1.5- x 5-inch bumper guards of the same material spaced 29.5 inches apart.

FUEL SYSTEM INTEGRITY POST-IMPACT

TEST DATA, FMVSS NO. 301-75

TEST VEHICLE NHTSA NO.: 800311 ; TEST DATE: June 13, 1980

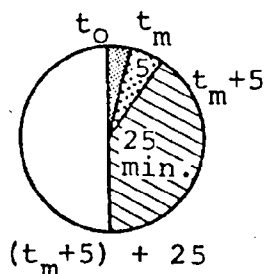
VEHICLE MANUFACTURER/
MAKE/MODEL: Chrysler Corporation, Chrysler LeBaron

Test vehicle fuel tank filled to 93% of "usable" plus "unusable" capacity with Stoddard Solvent and with electric fuel pump operating (if it will operate without engine operation). Part 572 test dummies located at each front designated seating position.

A. TEST VEHICLE IMPACT TYPE:

- ☒ Frontal (35 mph)
☐ Oblique (35 mph) with ° barrier face first contacting
 driver / passenger side.
☐ Rear Moving Barrier (30 mph)
☐ Lateral Moving Barrier (20 mph)

FUEL SPILLAGE MEASUREMENT



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

B. SOLVENT SPILLAGE DETAILS: None

C. FUEL SYSTEM DATA: Test Fluid: Stoddard Solvent No. 2
 Specific Gravity: 0.764

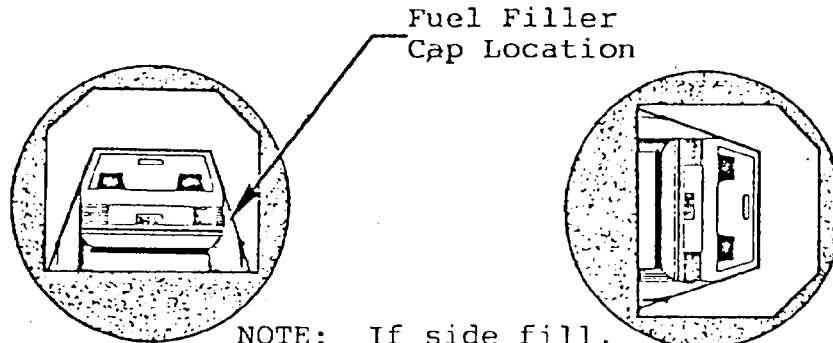
Kinematic Viscosity: 0.99 centistokes

Test Volume: 16.66 U.S. gal/lb Liquid Temp: 85 °F

Details of Fuel Tank, Filler Pipes, and Connections: Rectangular metal fuel tank is attached to trunk floor by two metal straps. Sender tubes exit top center of tank and proceed to engine along right frame rail. Metal filler tube exits top of tank and proceeds to body wall aft of left rear wheel where it is sealed by a racheting metal twist cap. Filler cap is concealed by a hinged access door.

FMVSS 301-75 INDICANT STATIC ROLLOVER DATA SHEET

TEST PHASE: 0° to 90° VEHICLE NHTSA NO. 800311



NOTE: If side fill, rotate so that filler cap is down.

DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time.... = 1 min, 35 sec +
(Spec. Range = 1 to 3 min)

FMVSS 301 Position Hold Time..... = 5 min, 0 sec =

Total..... = 6 min, 35 sec

Next Whole Minute Interval..... = 7 min

FMVSS 301 REQUIREMENTS AND ACTUAL TEST RESULTS:

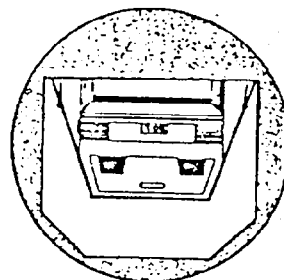
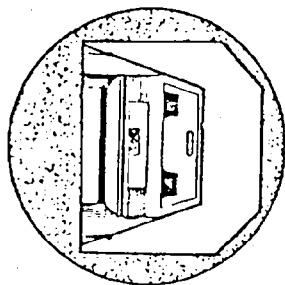
Time Period	First 5 min (from onset)	6th min	7th min	8th min (if req'd)
Maximum Spillage Allowed (oz)	5	1	1	1
Actual Spillage Recorded	Trace	Trace	Trace	-

NOTE: Spillage is recorded in whole minute intervals only - as determined above.

SOLVENT SPILLAGE LOCATION(S): Carburetor

FMVSS 301-75 INDICANT STATIC ROLLOVER DATA SHEET

TEST PHASE: 90° to 180° VEHICLE NHTSA NO. 800311



DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time.... = 1 min, 38 sec +
(Spec. Range = 1 to 3 min)

FMVSS 301 Position Hold Time..... = 5 min, 0 sec =

Total..... = 6 min, 38 sec

Next Whole Minute Interval..... = 7 min

FMVSS 301 REQUIREMENTS AND ACTUAL TEST RESULTS:

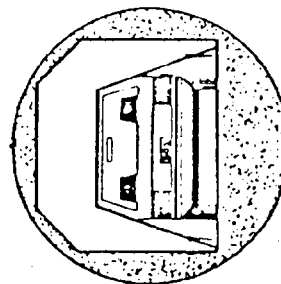
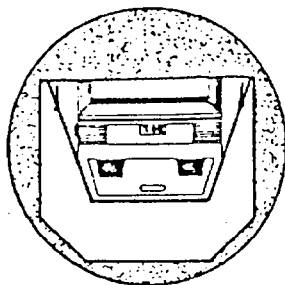
Time Period	First 5 min (from onset)	6th min	7th min	8th min (if req'd)
Maximum Spillage Allowed (oz)	5	1	1	1
Actual Spillage Recorded	1.1 Ounces	Trace	Trace	-

NOTE: Spillage is recorded in whole minute intervals only - as determined above.

SOLVENT SPILLAGE LOCATION(S): Carburetor

FMVSS 301-75 INDICANT STATIC ROLLOVER DATA SHEET

TEST PHASE: 180° to 270° VEHICLE NHTSA NO. 800311



DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time.... = 1 min, 36 sec +
(Spec. Range = 1 to 3 min)

FMVSS 301 Position Hold Time..... = 5 min, 0 sec =

Total..... = 6 min, 36 sec

Next Whole Minute Interval..... = 7 min

FMVSS 301 REQUIREMENTS AND ACTUAL TEST RESULTS:

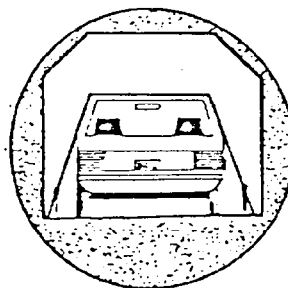
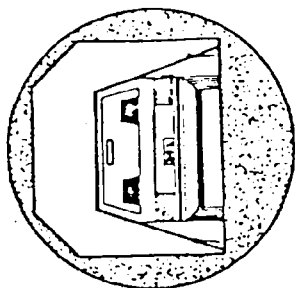
Time Period	First 5 min (from onset)	6th min	7th min	8th min (if req'd)
Maximum Spillage Allowed (oz)	5	1	1	1
Actual Spillage Recorded	Trace	Trace	Trace	-

NOTE: Spillage is recorded in whole minute intervals only - as determined above.

SOLVENT SPILLAGE LOCATION(S): Carburetor

FMVSS 301-75 INDICANT STATIC ROLLOVER DATA SHEET

TEST PHASE: 270° to 360° VEHICLE NHTSA NO. 800311



DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time.... = 1 min, 40 sec +
(Spec. Range = 1 to 3 min)

FMVSS 301 Position Hold Time..... = 5 min, 0 sec =

Total..... = 6 min, 40 sec

Next Whole Minute Interval..... = 7 min

FMVSS 301 REQUIREMENTS AND ACTUAL TEST RESULTS:

Time Period	First 5 min (from onset)	6th min	7th min	8th min (if req'd)
Maximum Spillage Allowed (oz)	5	1	1	1
Actual Spillage Recorded	Trace	0	0	-

NOTE: Spillage is recorded in whole minute intervals only - as determined above.

SOLVENT SPILLAGE LOCATION(S): Carburetor

568400

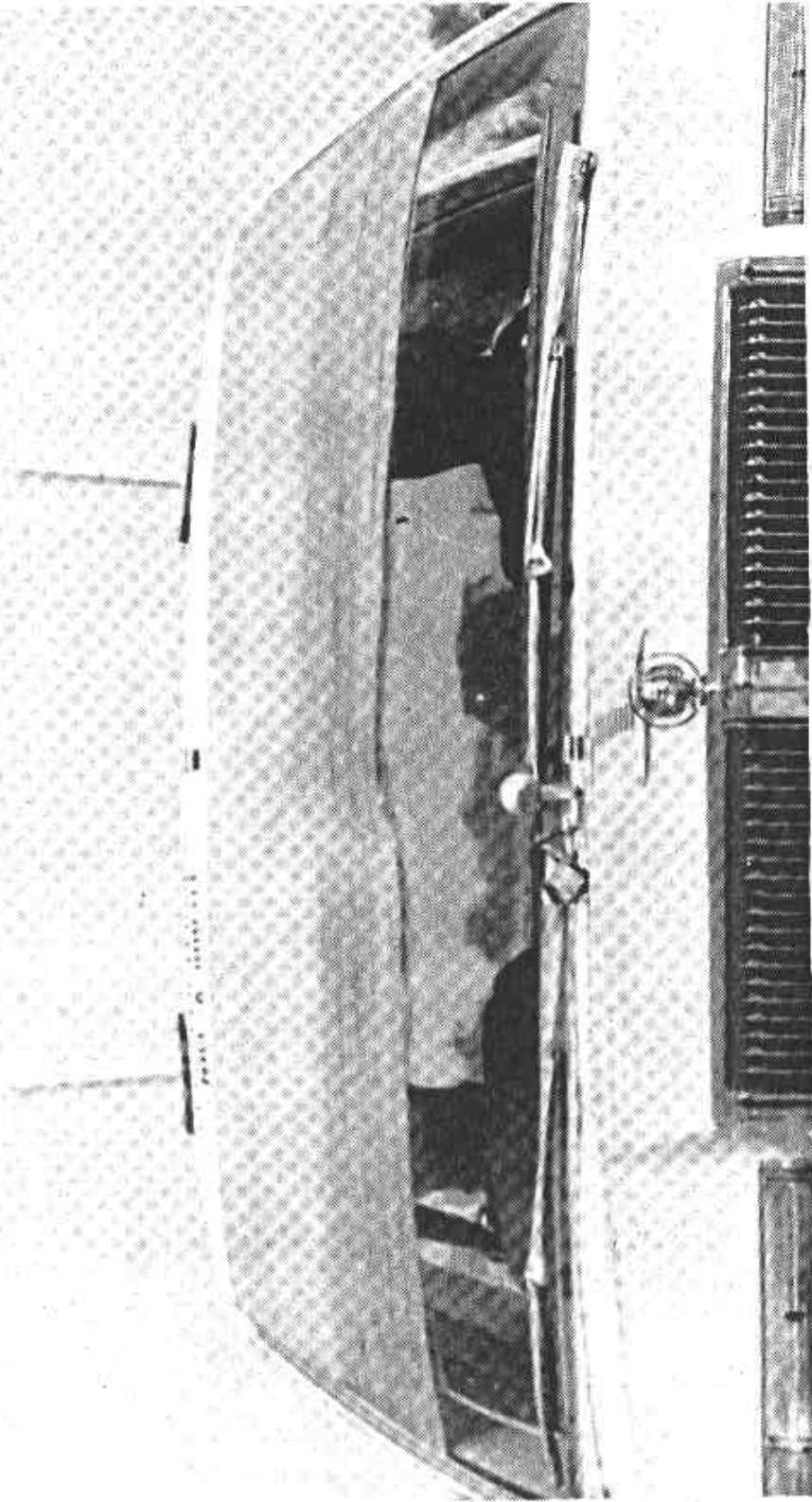


Figure 3-1. Pre-test Windshield - Overall View - 1980 Chrysler LeBaron - NHTSA 800311.

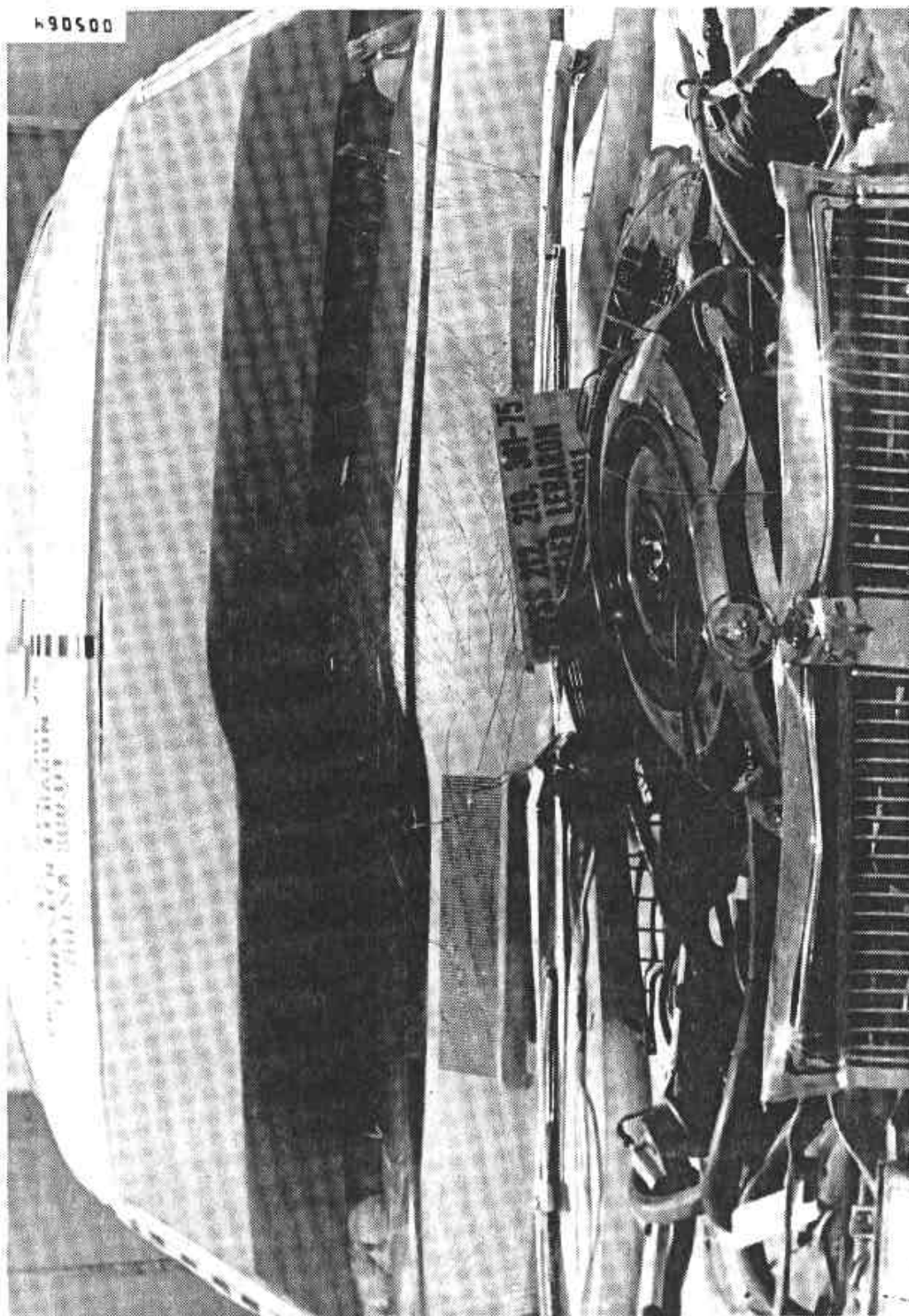


Figure 3-2. Post-test Windshield - Overall View - 1980 Chrysler LeBaron - NHTSA 800311.

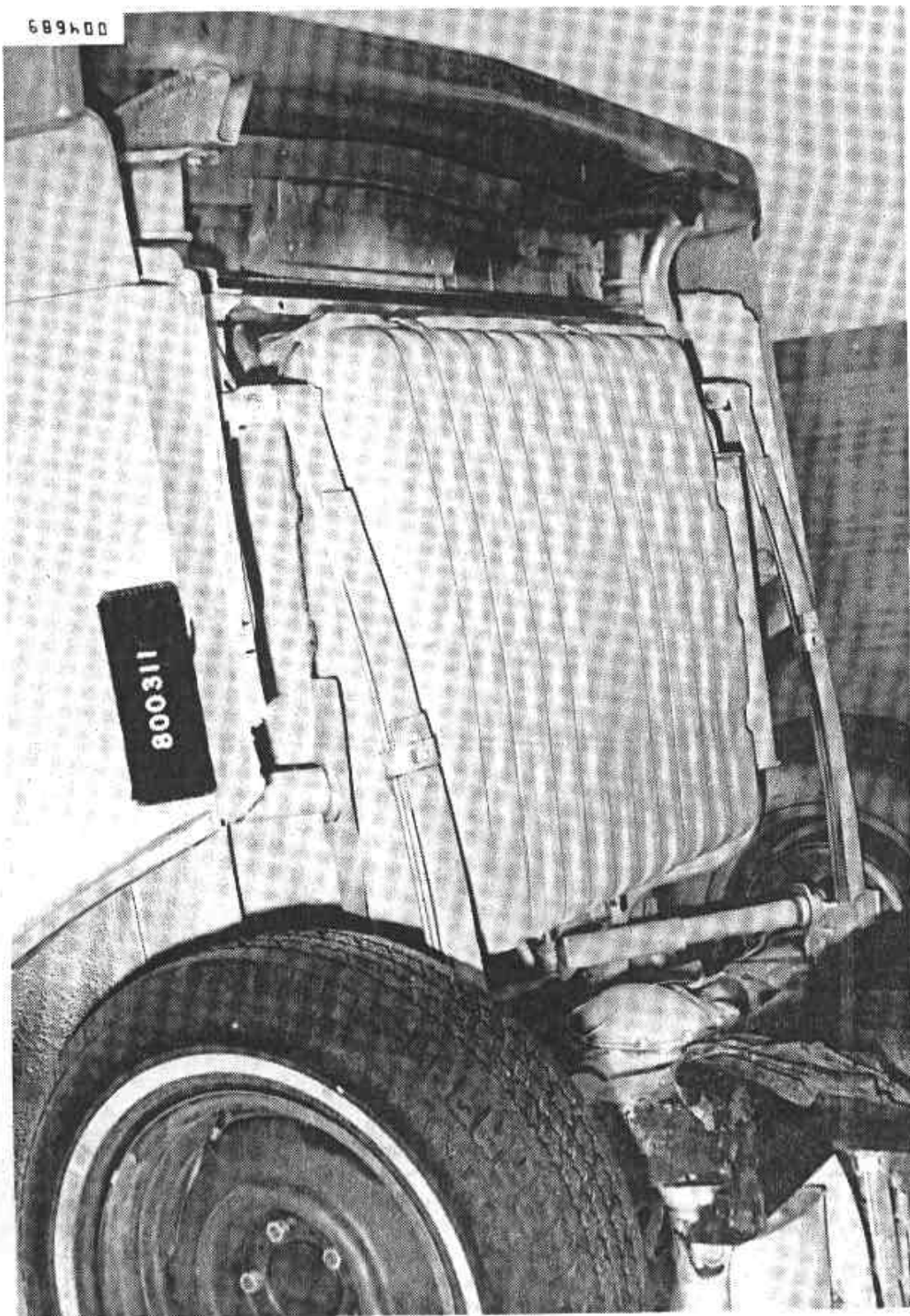


Figure 3-3. Pre-test View of Fuel Tank - 1980 Chrysler LeBaron - NHTSA 800311.

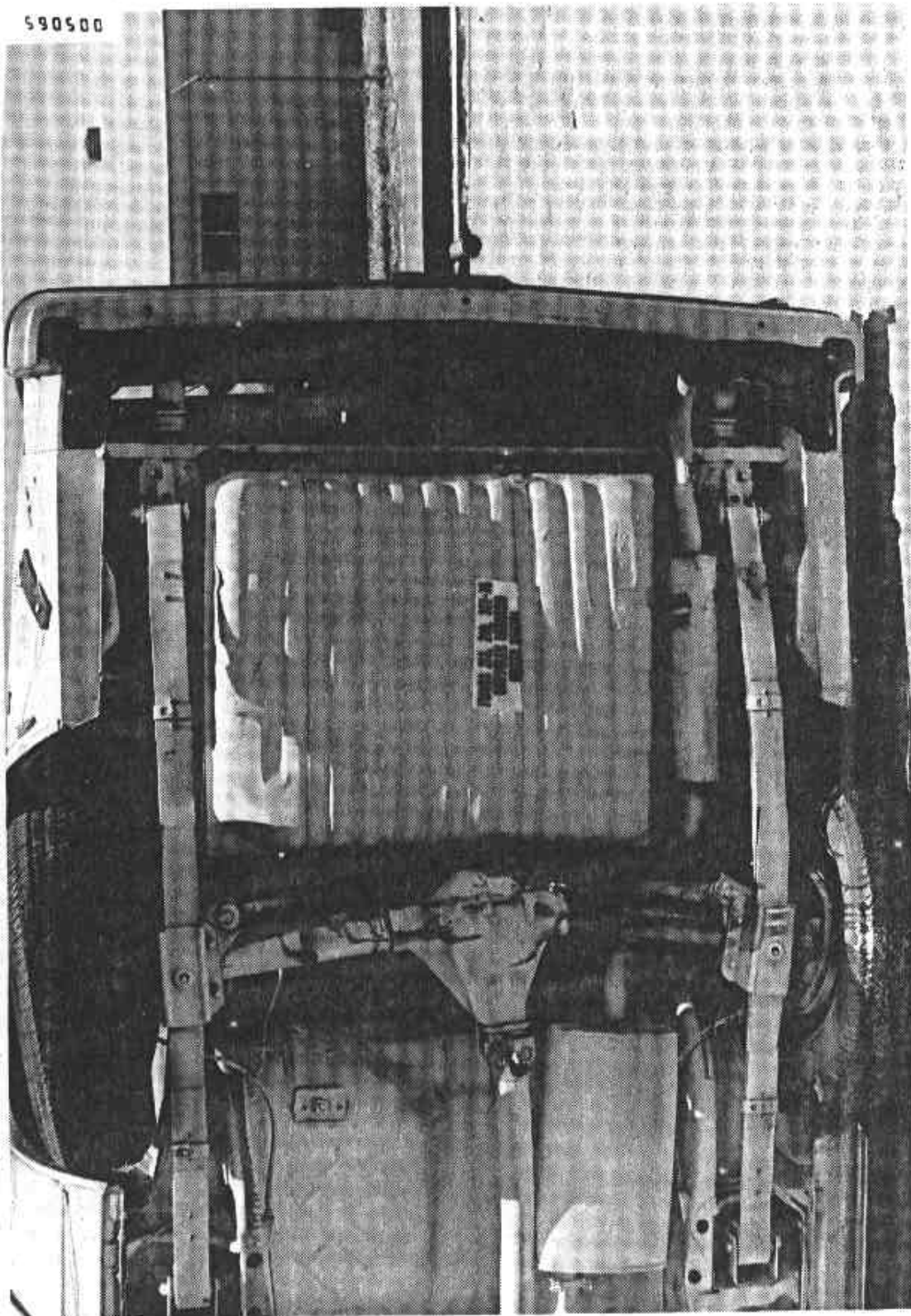


Figure 3-4. Post-test View of Fuel Tank - 1980 Chrysler LeBaron - NHTSA 800311.

SECTION 4
DATA REQUIRED BY R&D AND OAR

The following pages are included in this section:

1. Dummy positional data
2. Dummy injury summaries
3. Vehicle crush data
4. Accelerometer location and data summary
5. High-speed movie camera location and specification summary.

Pertinent photographs are presented in Appendix A. Calcomp plots of dummy and vehicle accelerometer data are presented in Appendix B.

DUMMY POSITIONING

Pre-test Dummy Positions

<u>Measurement</u>	<u>Driver (in.)</u>	<u>Passenger (in.)</u>
Dummy Centerline to Vehicle Centerline	<u>13.5</u>	<u>14.5</u>
Nose to Upper Rim Steering Wheel	<u>20.5</u>	<u>N/A</u>
Nose to Windshield (Horizontal Distance)	<u>21.5</u>	<u>17.5</u>
Left Knee to Closest Point on Lower Panel	<u>6.3</u>	<u>7.5</u>
Right Knee to Closest Point on Lower Panel	<u>6.7</u>	<u>7.8</u>
Ankle Distance	<u>10.0</u>	<u>10.0</u>
Knee Distance	<u>9.0</u>	<u>9.0</u>
Head to Windshield Header	<u>15.6</u>	<u>13.0</u>
Chest to Dash	<u>20.5</u>	<u>18.8</u>
Chest to Steering Wheel	<u>13.2</u>	<u>N/A</u>

Additional dummy positioning information is presented in the
PART 572 DUMMY IN-VEHICLE POSITION RECORDING SHEET which follows.

PART 572 DUMMY IN-VEHICLE POSITION RECORDING SHEET

NHTSA No.: 800311

Manufacturer: Chrysler Corporation

Make/Model: Chrysler LeBaron

Model Year: 1980

SEAT TYPE:

ADJUSTER TYPE:

BUCKET SEAT BACK TYPE:

☐ Bench ☐ Bucket

☒ Manual

☐ Adjustable Reclining

☒ Split Bench

☐ Power

☒ Fixed

AMBIENT TEMPERATURE: 97 °F; TIME: 1028

POSITIONING

TECHNICIANS: 1. M. Pozzi

DATE: June 13, 1980

2. P. Lanser

All front seat dummies are positioned according to the procedure "OSE RECOMMENDED PROCEDURE FOR POSITIONING PART 572 DUMMIES IN TEST VEHICLE."

DRIVER DUMMY#		PASSENGER DUMMY #	
A 0 3		A 0 4	
HEAD TARGET	2 4.5" / 3 0"	HEAD TARGET	2 6.0" / 2 9"
KNEE JOINT	3 9.5" / 9 7"	KNEE JOINT	3 9.0" / 9 4"
APPROXIMATE "H" POINT	2 4.5" / 1 0 4"	APPROXIMATE "H" POINT	2 3.5" / 1 0 1"
A 0 3		A 0 4	

*Door glass height is equal on the right and left side of vehicle.

PART 572 DUMMY DATA SUMMARY

	Driver Dummy				Passenger Dummy			
	Positive Direction*		Negative Direction**		Positive Direction*		Negative Direction**	
	Peak (G)	Time (msec)	Peak (G)	Time (msec)	Peak (G)	Time (msec)	Peak (G)	Time (msec)
Head Acceleration								
Longitudinal	27.7	161	-133.4	83	92.3	158	-46.9	102
Lateral	9.6	86	-33.9	81	9.4	82	-7.1	152
Vertical	103.5	87	-8.8	81	68.3	85	-6.2	194
Resultant	138.6	86			97.0	158		
HIC	1742 between 78 and 91 msec				1252 between 69 and 166 msec			
Chest Acceleration								
Longitudinal	8.1	170	-56.1	94	8.1	199	-46.4	71
Lateral	2.0	97	-11.5	68	10.5	78	-10.0	99
Vertical	15.4	46	-18.3	87	17.2	48	-11.7	139
Resultant (Max)	58.0	94			46.9	71		
Resultant (clip)	54.1	95			44.6	73		
TIME > 60 G	0 msec				0 msec			
SEVERITY INDEX	494.0 @ 200 msec				405.5 @ 200 msec			
	Peak (lb)	Time (msec)	Peak (lb)	Time (msec)	Peak (lb)	Time (msec)	Peak (lb)	Time (msec)
Femur Loads								
Left			-912.9	68			-677.5	41
Right			-859.8	74			-687.9	45
Belt Loads								
Lap	843.4	65			1522.1	66		
Torso	1732.4	93			2142.3	92		
Vehicle Impact Speed (mph): 35.05								
*Longitudinal:	Forward							
Lateral:	Rightward							
Vertical:	Downward							
**Longitudinal:	Rearward							
Lateral:	Leftward							
Vertical:	Upward							

DUMMY KINEMATIC SUMMARY

DRIVER - The steering column stroked approximately 6.1 inches upward prior to initial dummy contact between the sternum and the lower steering wheel rim. The dummy then struck the center of the steering wheel hub with the center of its face, and rebounded downward into the seatback. The dummy came to rest reclining slightly, with a lateral lean. Its head was approximately 4.1 inches above the door window level.

PASSENGER - The dummy did not strike the dash with its head, chest, or abdomen, and rebounded downward into the seatback with considerable force. The dummy came to rest reclining slightly, with a lateral lean. Its head was approximately 6.2 inches above the door window level.

PRE-/POST-TEST STATIC MEASUREMENT DATA
(See Following Page for Dimension Definition)

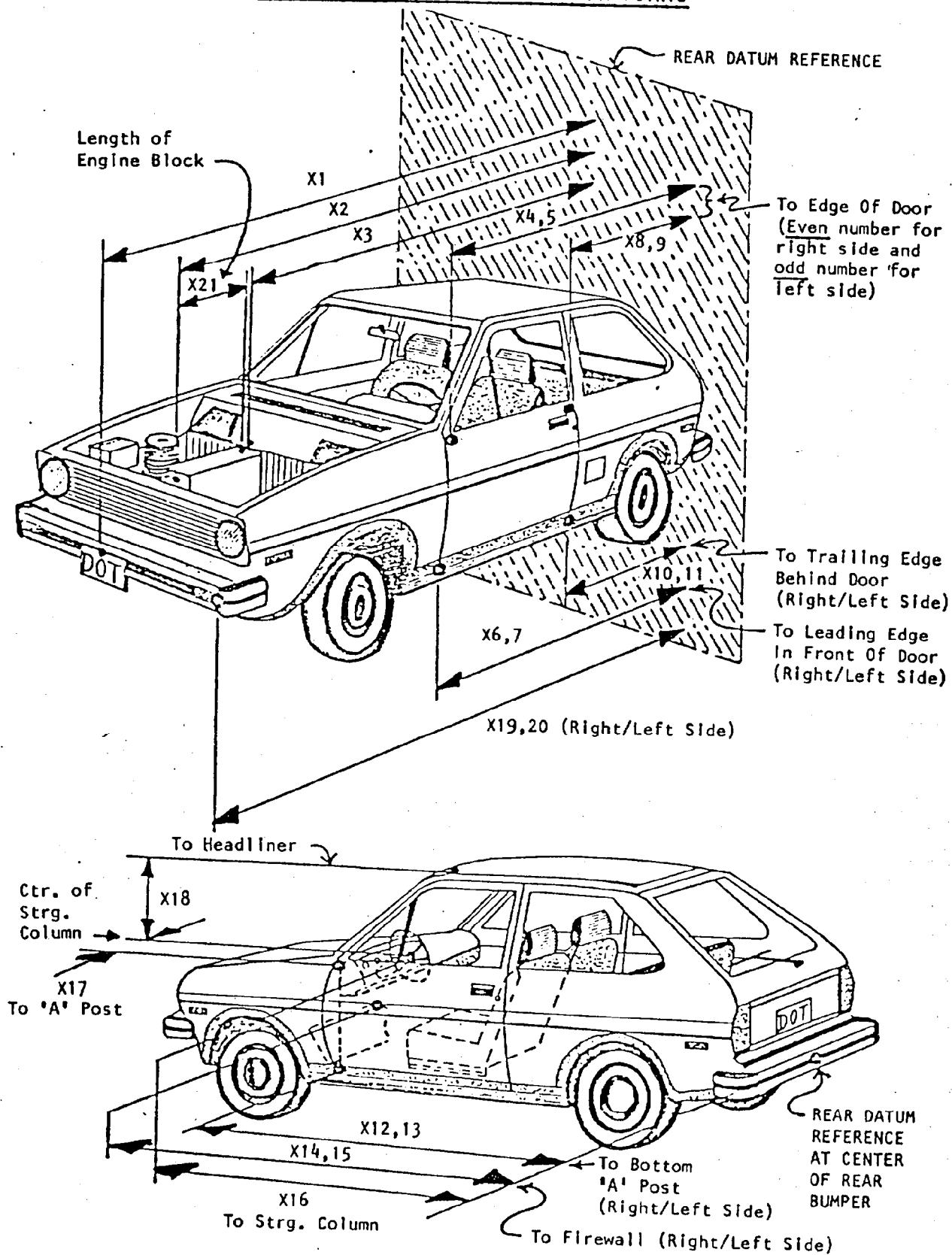
Vehicle: 1980 Chrysler LeBaron NHTSA No.: 800311

Test Date: June 13, 1980 D.S. No.: 1021

<u>Reference Dimension</u>	<u>Pre-test Measurement</u>	<u>Post-test Measurement</u>	<u>Change</u>
X ₁ *	200.5	173.4	27.1
X ₂	173.5	163.7	9.8
X ₃	145.2	136.0	9.2
X ₄	135.2	135.0	0.2
X ₅	135.2	135.3	0.1
X ₆	133.6	132.5	1.1
X ₇	133.6	133.0	0.6
X ₈ *	79.7	81.0	1.3
X ₉ *	79.7	80.6	0.9
X ₁₀	81.3	80.7	0.6
X ₁₁	81.3	80.9	0.4
X ₁₂	133.1	131.5	1.6
X ₁₃	133.1	132.5	0.6
X ₁₄	144.1	139.0	5.1
X ₁₅	144.0	140.4	3.6
X ₁₆	117.8	115.1	2.7
Y ₁₇	17.2	13.0	4.2
Z ₁₈	16.3	15.0	1.3
X ₁₉ *	197.6	171.7	25.9
X ₂₀ *	197.6	171.9	25.7
X ₂₁	27.7	27.5	0.2

*Rear impact data requirements.

PRE-TEST AND POST-TEST MEASUREMENT POINTS



VEHICLE PROFILE DATA SHEET

Vehicle: 1980 Chrysler LeBaron D.S. No.: 1021 Test Date: June 13, 1980

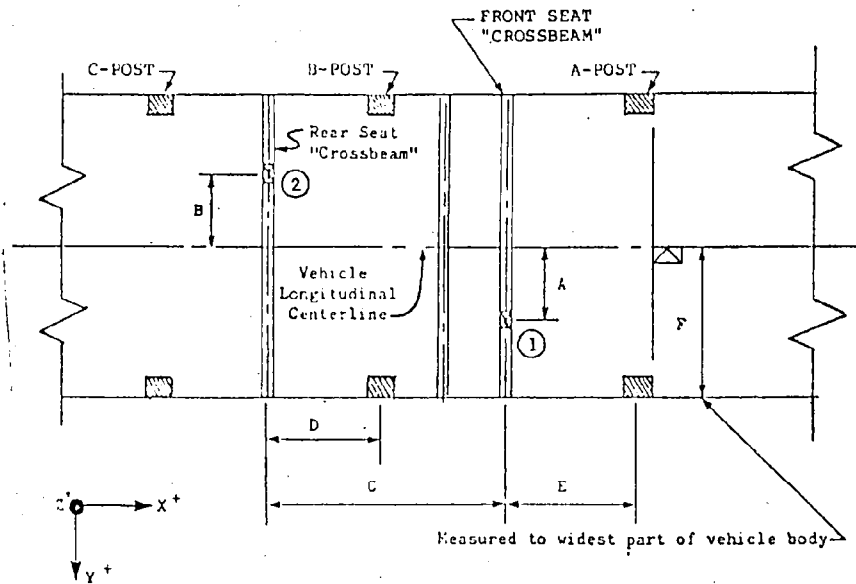
Measurement Date: Pre-test: June 12, 1980 Post-test: June 25, 1980

Exterior Measurements Referenced to Plane: 17' Forward of: Rear bumper

Location	Height	Vehicle Left (in.)						Vehicle Right (in.)					
		30	24	18	12	6	0	6	12	18	24	30	
Pre-test Profile (in.)													
Top of Front Bumper	20.0	6.8	6.8	6.6	6.2	5.2	4.2	5.2	6.3	6.8	6.9	6.9	
Front of Hood	34.5	13.0	12.8	12.8	11.3	10.4	9.1	10.3	11.3	12.9	12.9	13.1	
Post-test Profile (in.)													
Top of Front Bumper	24.0	32.1	31.7	32.1	31.7	31.0	30.6	31.1	31.9	32.2	31.5	31.7	
Front of Hood*	36.0	34.3	34.8	37.0	33.3	33.0	32.8	32.8	34.4	29.5	30.1	30.6	
Post-test Static Crush (in.)													
Top of Front Bumper	4.0	25.3	24.9	25.5	25.5	25.8	26.4	25.9	25.6	25.4	24.6	24.8	
Front of Hood	1.5	21.3	22.0	24.2	22.0	22.6	23.7	22.5	23.1	16.6	17.2	17.5	
*Hood level profile points lost, measurements made to nearest structure at 36-inch height.													

TEST VEHICLE ACCELEROMETER LOCATION DEFINITION AND DATA SUMMARY

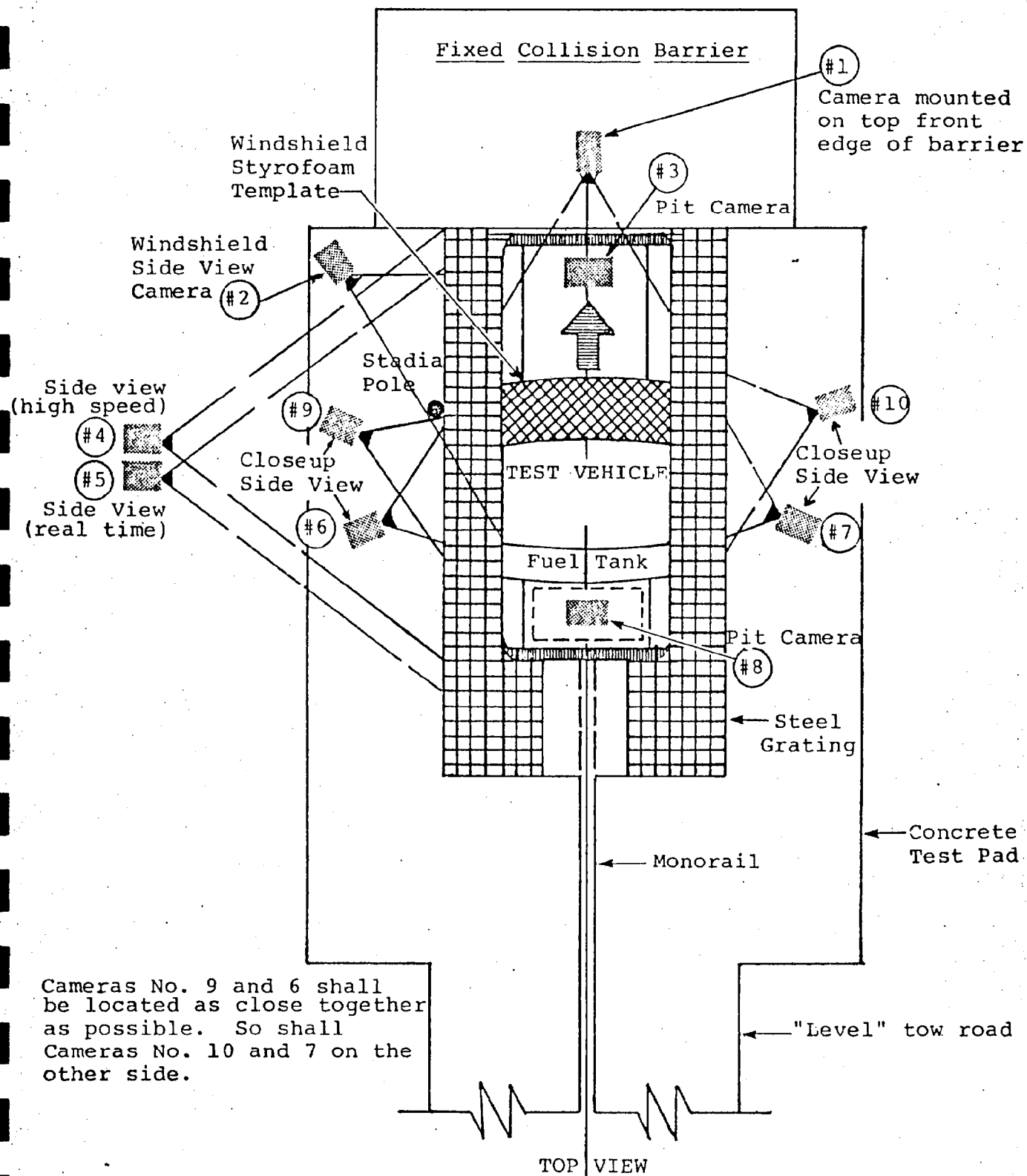
Dim.	Length (in.)
A	14.5
B	18.0
C	33.0
D	1.5
E	18.8
F	30.7



No.	Location Description	Component Direction	Data Summary Peak G @ msec					
			X	Y	Z	"+"	"-"	"+"
1	Below front seat area	✓	30.3 @ 12	-51.1 @ 44	@	@	@	@
2	Below rear seat area	✓	18.3 @ 13	-40.7 @ 19	@	@	@	@

SUMMARY OF CAMERA LOCATIONS AND DESCRIPTIONS

Loc. No.	Location	Field of View	Lens Size	Frame Rate	Timing Speed (HZ)	Ser No.	Impact Dist-X	Center-line Dist-Y	Camera Height
1	Overhead (Barrier)	Windshield styrofoam up to barrier-vehicle contact if possible	13mm	400	102	11	-5.0	0.0	12.0
2	Ground Based (Left)	Windshield	16mm	400	105	8	-3.0	-7.0	6.5
3	Pit	Engine underside and fuel pump	8mm	1000	100	6	3.0	0.0	-8.0
4	Ground Based (Left)	Views entire left side of vehicle	16mm	400	98	9	7.0	-35.0	5.0
5	Ground Based (Real Time)	Documentary	Zoom	24	N/A	None	8.0	-35.0	6.0
6	Ground Based (Left)	Driver dummy closeup	15mm	1000	102	8	4.0	5.0	5.0
7	Ground Based (Right)	Passenger dummy closeup	25mm	1000	100	5	5.0	10.0	5.5
8	Pit	Fuel tank	8mm	1000	105	7			
9	Ground Based (Left)	Same view as Camera No. 6	15mm	1000	104	10	4.0	5.0	5.0
10	Ground Based (Right)	Same view as Camera No. 7	25mm	1000	100	4	5.0	10.0	5.5



Cameras No. 9 and 6 shall be located as close together as possible. So shall Cameras No. 10 and 7 on the other side.

APPENDIX A
PHOTOGRAPHS

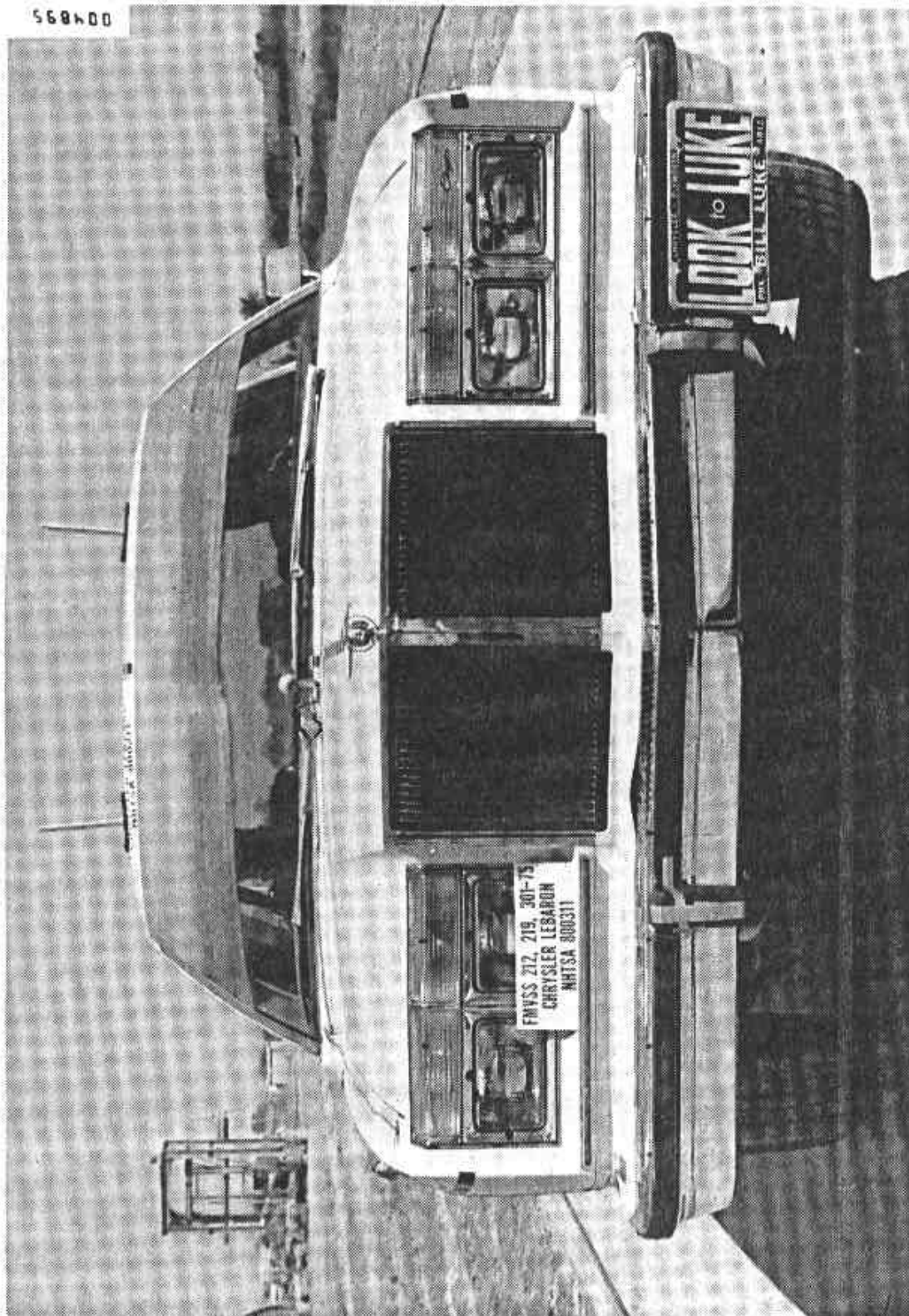


Figure A-1. Pre-test Front View - 1980 Chrysler LeBaron - NHTSA 800311.

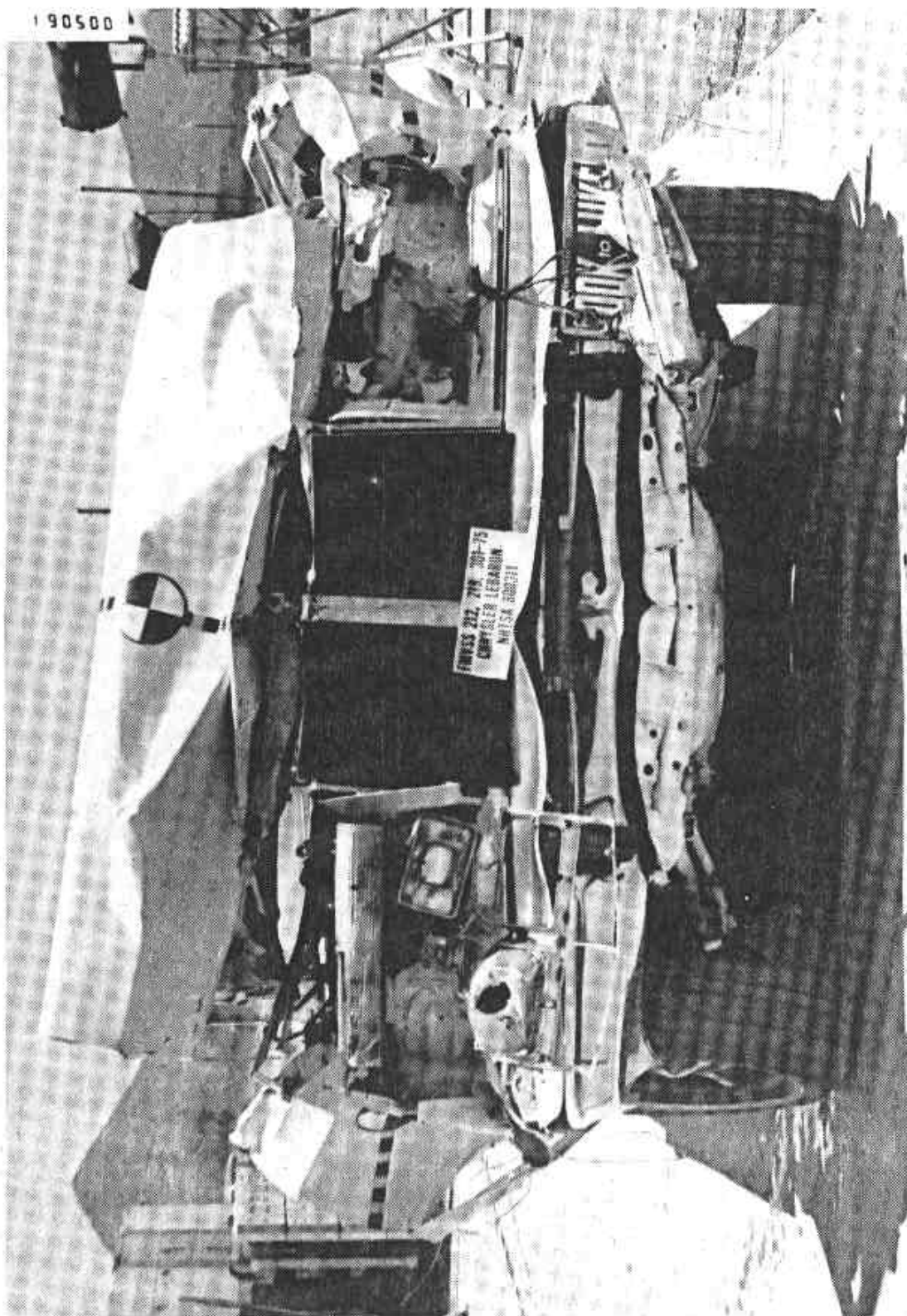


Figure A-2. Post-test Front View - 1980 Chrysler LeBaron - NHTSA 800311.

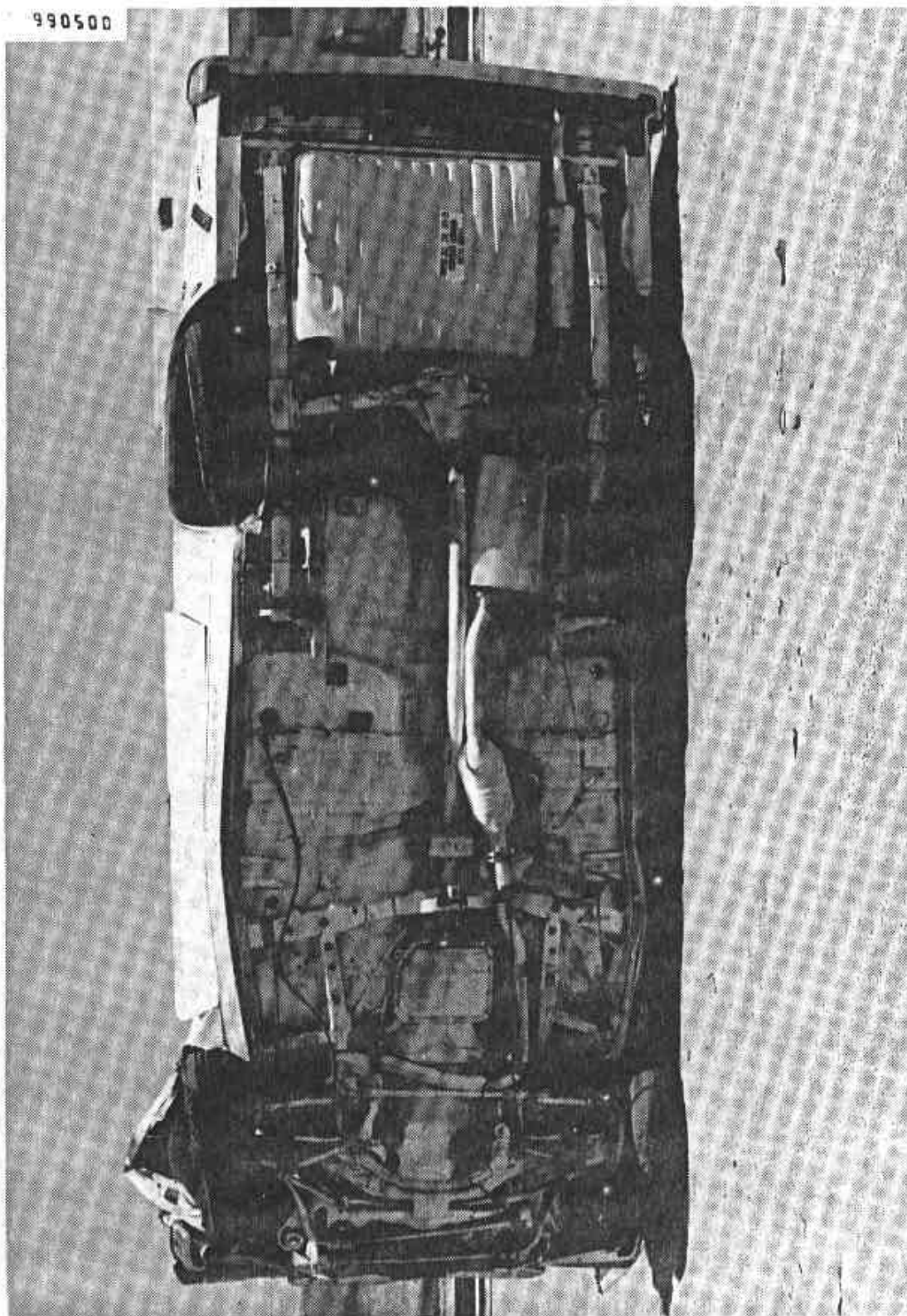


Figure A-3. Post-test Overall Underside View - 1980 Chrysler LeBaron - NHTSA 800311.

00600

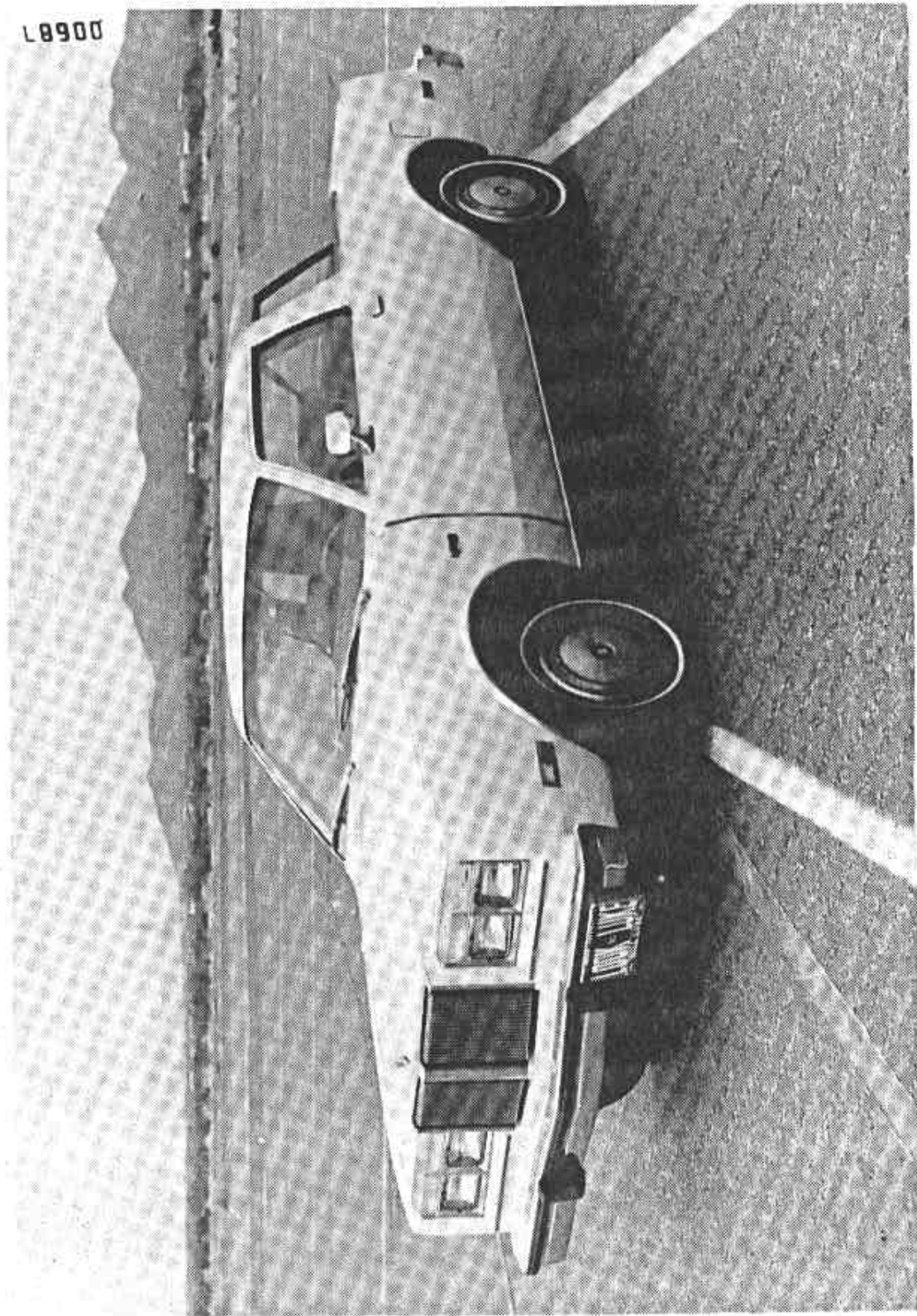


Figure A-4. Pre-test Left Front Quarter View - 1980 Chrysler LeBaron - NHTSA 800311.

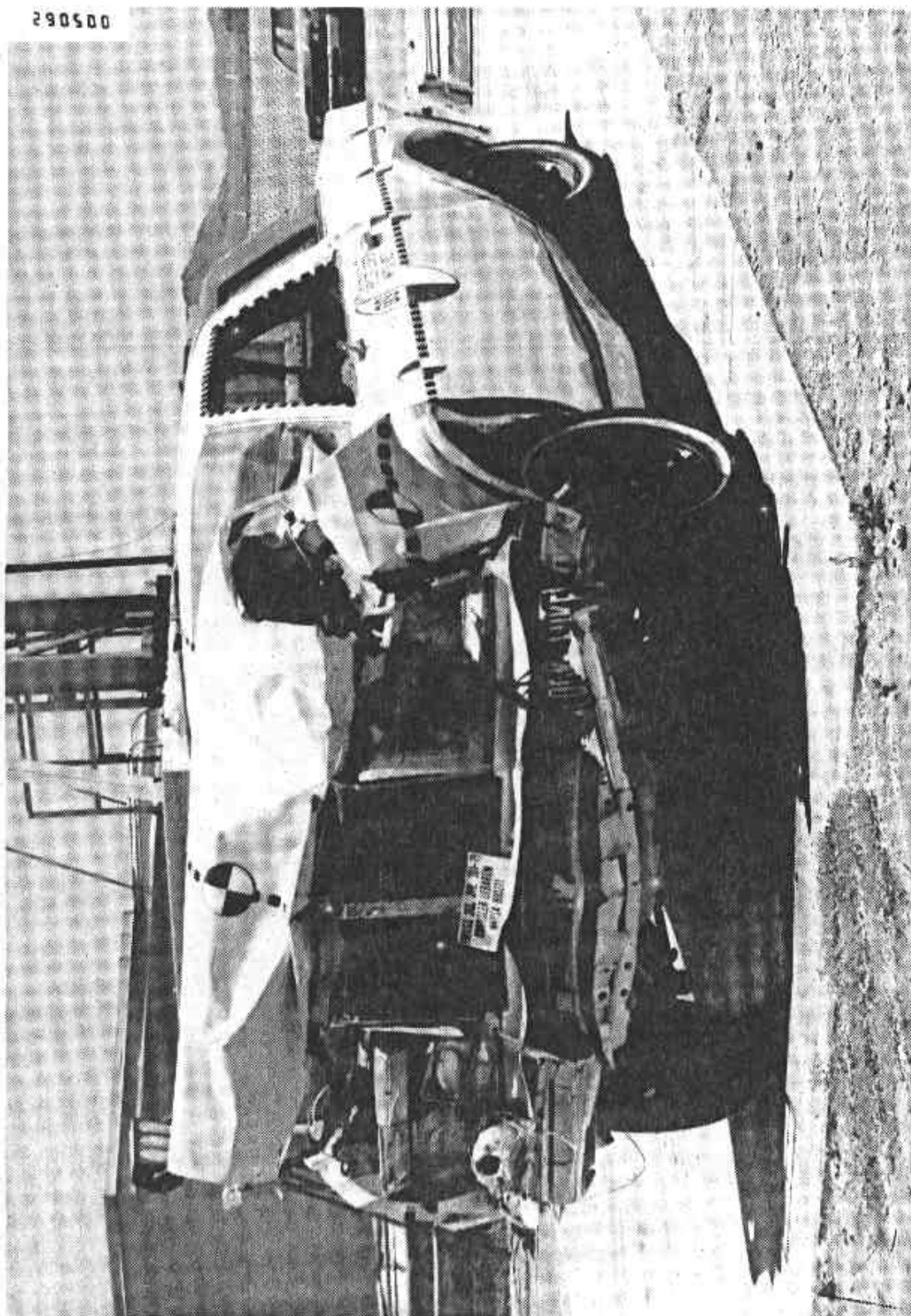


Figure A-5. Post-test Left Front Quarter View - 1980 Chrysler LeBaron - NHTSA 800311.



Figure A-6. Pre-test Driver Dummy Position - 1980 Chrysler LeBaron - NHTSA 800311.



Figure A-7. Post-test Driver Dummy Position - 1980 Chrysler LeBaron - NHTSA 800311.



Figure A-8. Pre-test Passenger Position - 1980 Chrysler LeBaron - NHTSA 800311.

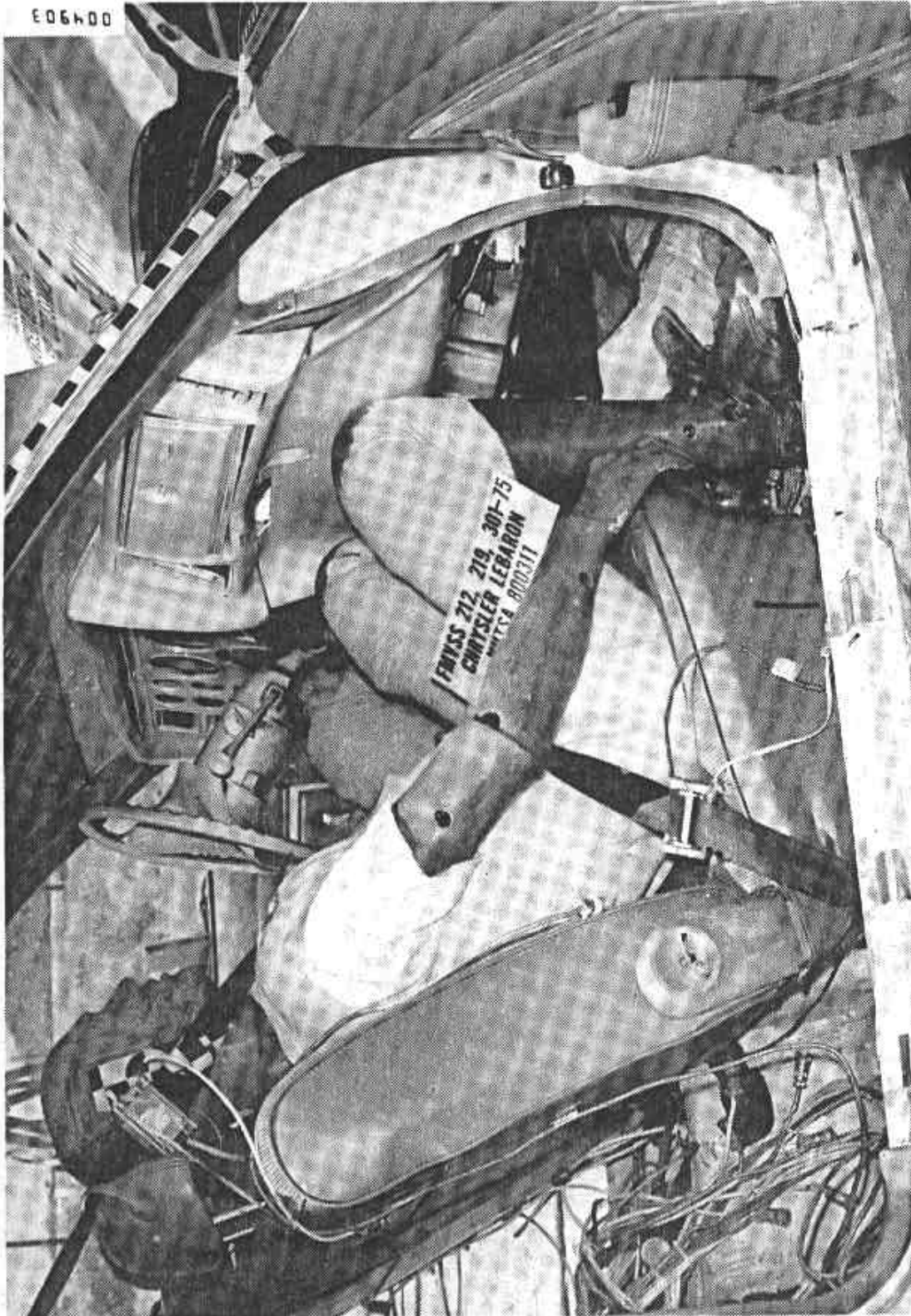


Figure A-9. Post-test Passenger Position - 1980 Chrysler LeBaron - NHTSA 800311.

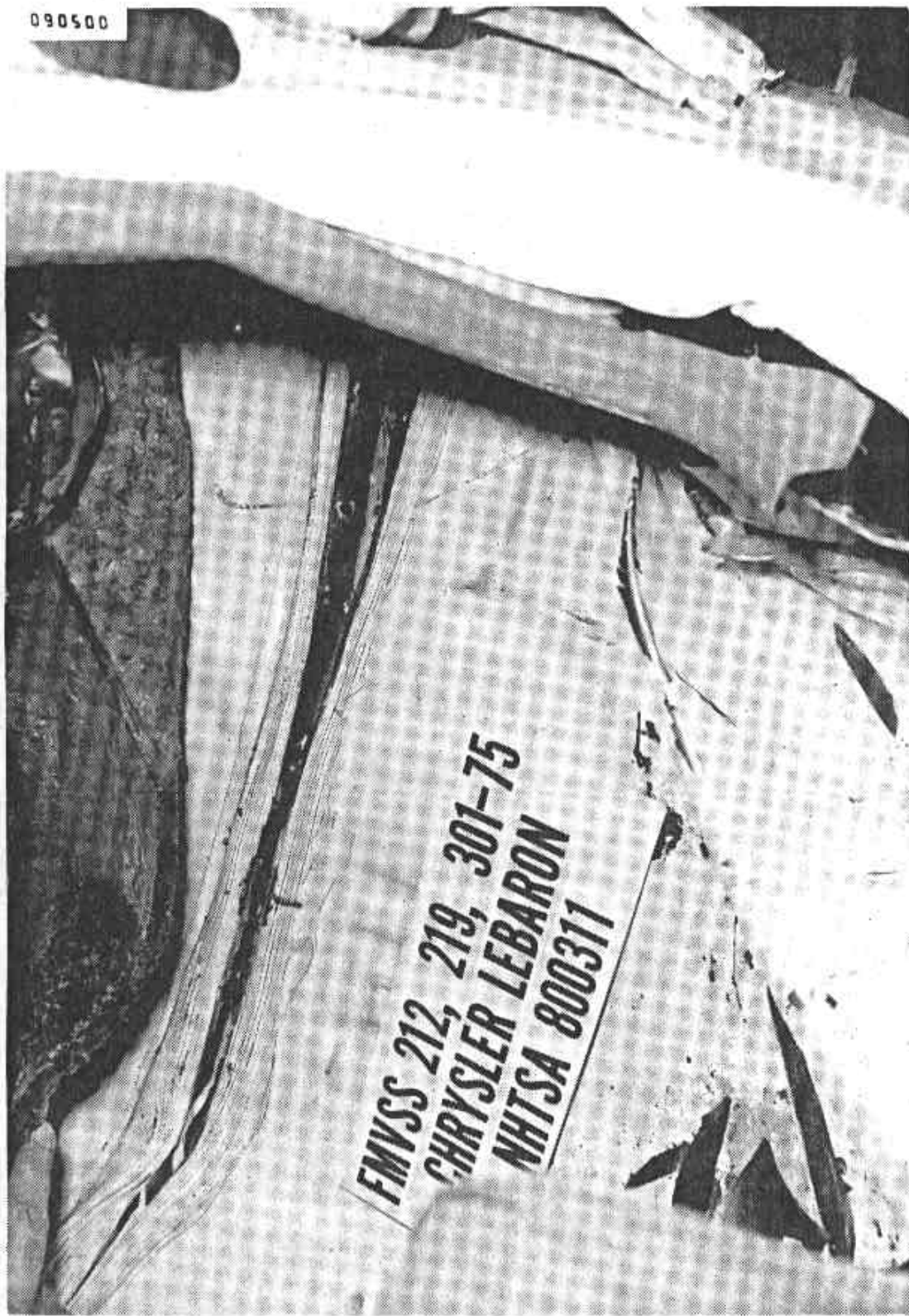


Figure A-10. Front Floorpan Rupture Along Firewall - 1980 Chrysler LeBaron - NHTSA 800311.

APPENDIX B
CALCOMP PLOT PRESENTATION

Calcomp plots generated from the crash test data are presented on the following pages. All data will be recorded on magnetic tape for inclusion in the NHTSA crash test data base system. All data was filtered according to SAE J211. Plot legends and test anomalies are listed below:

PLOT LEGEND

Dummy Data*

<u>Driver</u>	<u>RF Outboard Passenger</u>	<u>Data Description</u>
LF Head	RF Head	Head Acceleration (G)
LF Chest	RF Chest	Chest Acceleration (G)
LF Femurs	RF Femurs	Femur Loads (lb)
LF Belt Loads	RF Belt Loads	Lap and Torso Belt Loads (lb)

Vehicle Data**

	<u>Location</u>
Loc 1	Front Seat Area Acceleration (G)
Loc 2	Rear Seat Area Acceleration (G)

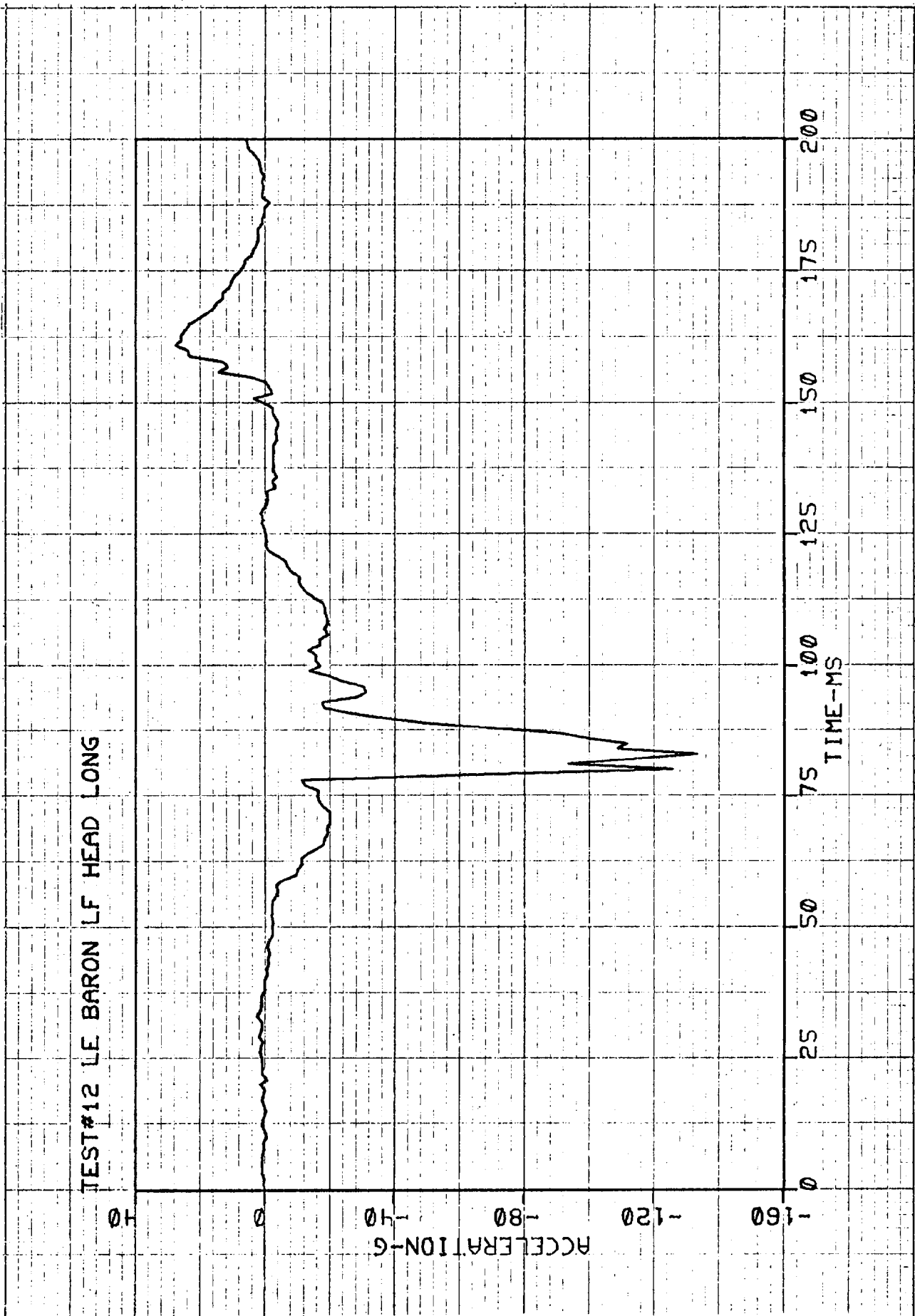
*Dummy Injury Summary presented on pages 4-4 and 4-5.

**Vehicle accelerometer location and data summarized on page 4-9.

APPENDIX B (CONTD)

Test Anomalies: None

TEST#12 LE BARON LF HEAD LONG



TEST#12 LE BARON LF HEAD VERT

160

120

80

40

ACCELERATION-G

-40

0

25

50

75

100

125

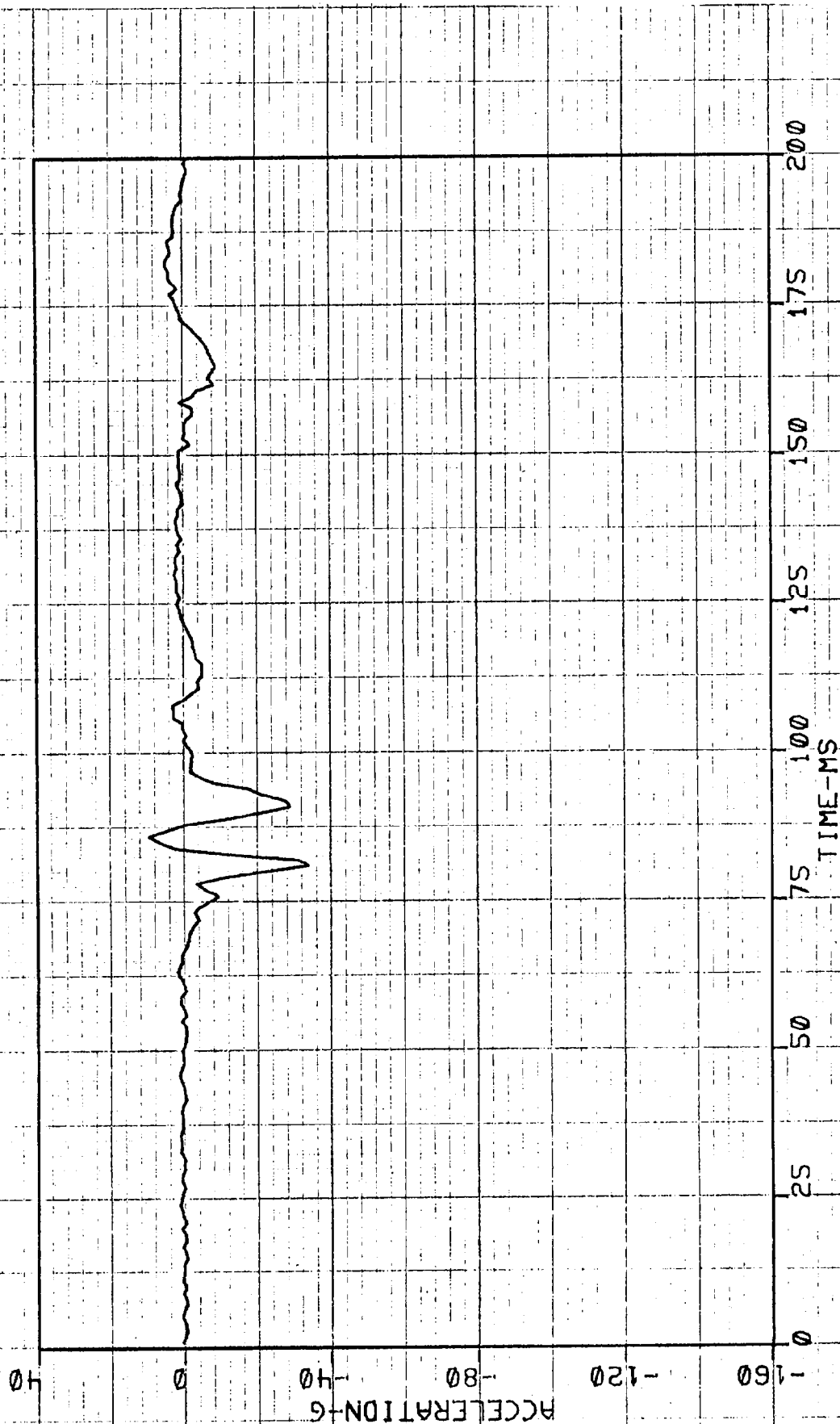
150

175

200

TIME-MS

TEST#12 LE BARON LF HEAD LAT



TEST#12 LE BARON LF HEAD RESULTANT

160

120

80

40

0

-40

ACCELERATION-G

200

175

150

125

100

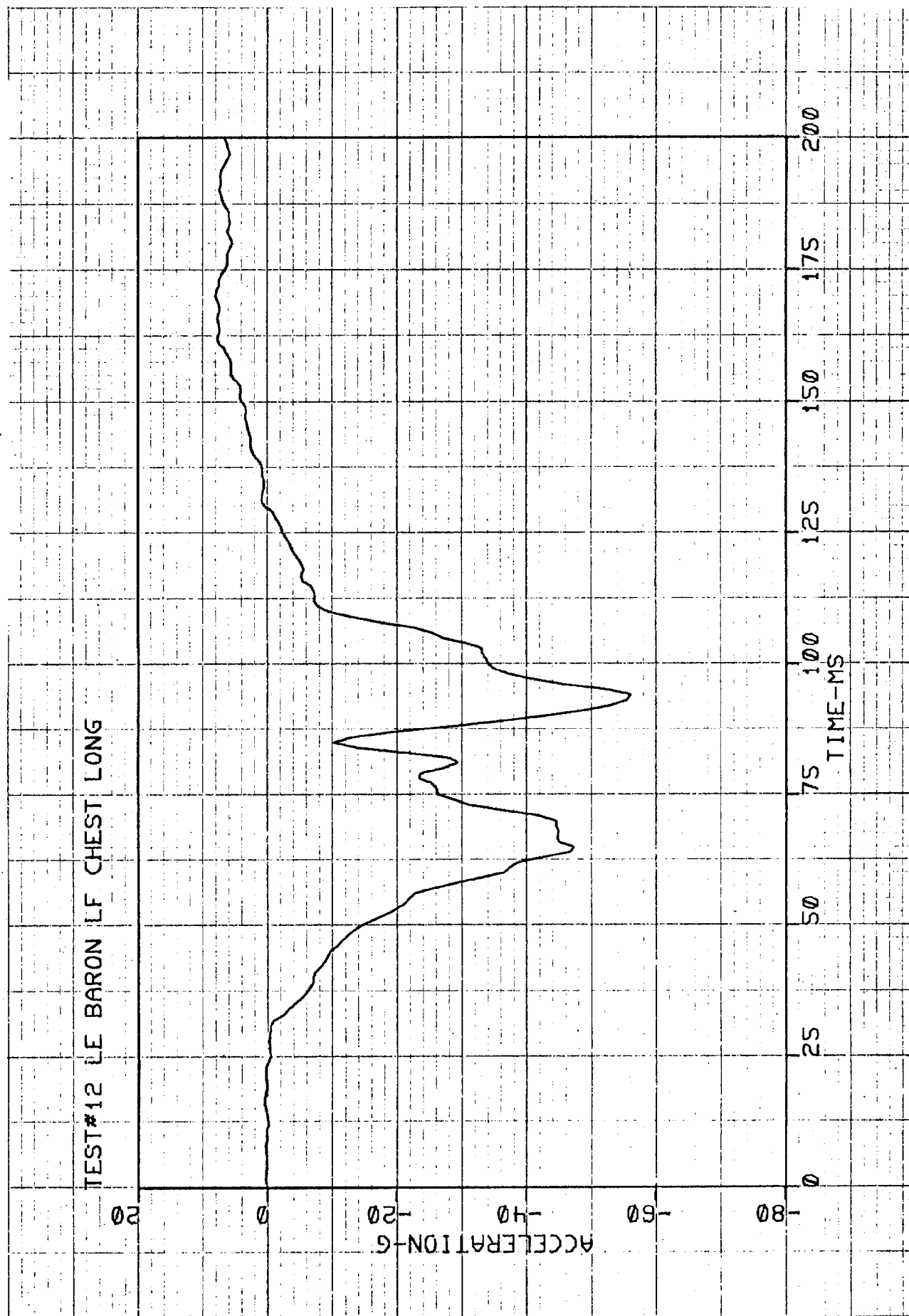
75

50

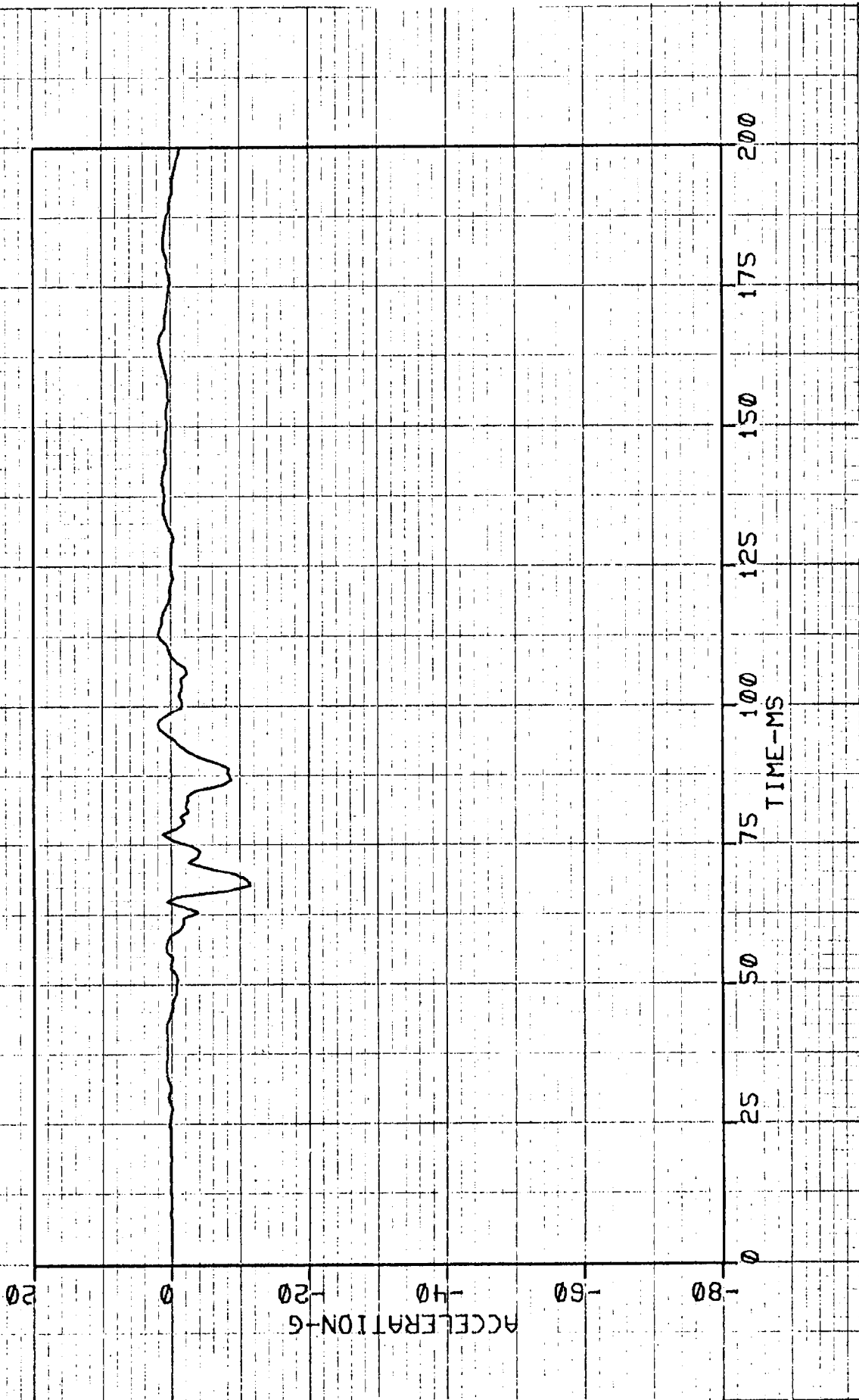
25

0

TIME-MS



TEST#12 LE BARON LF CHEST LAT



TEST#12 LE BARON LF CHEST VERT

20

0

-20

-40

-60

-80

ACCELERATION-G

200

175

150

125

100

75

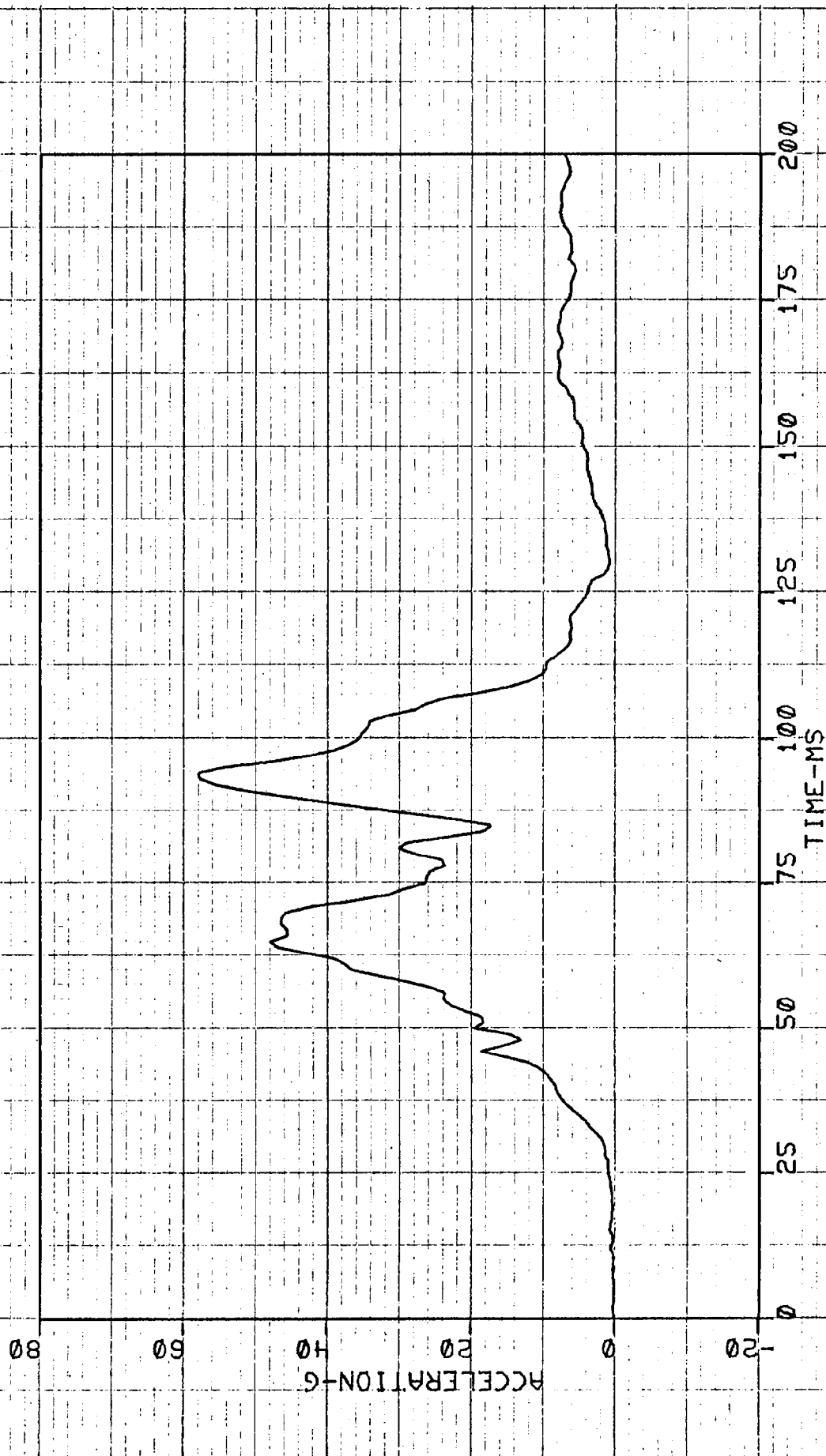
50

25

0

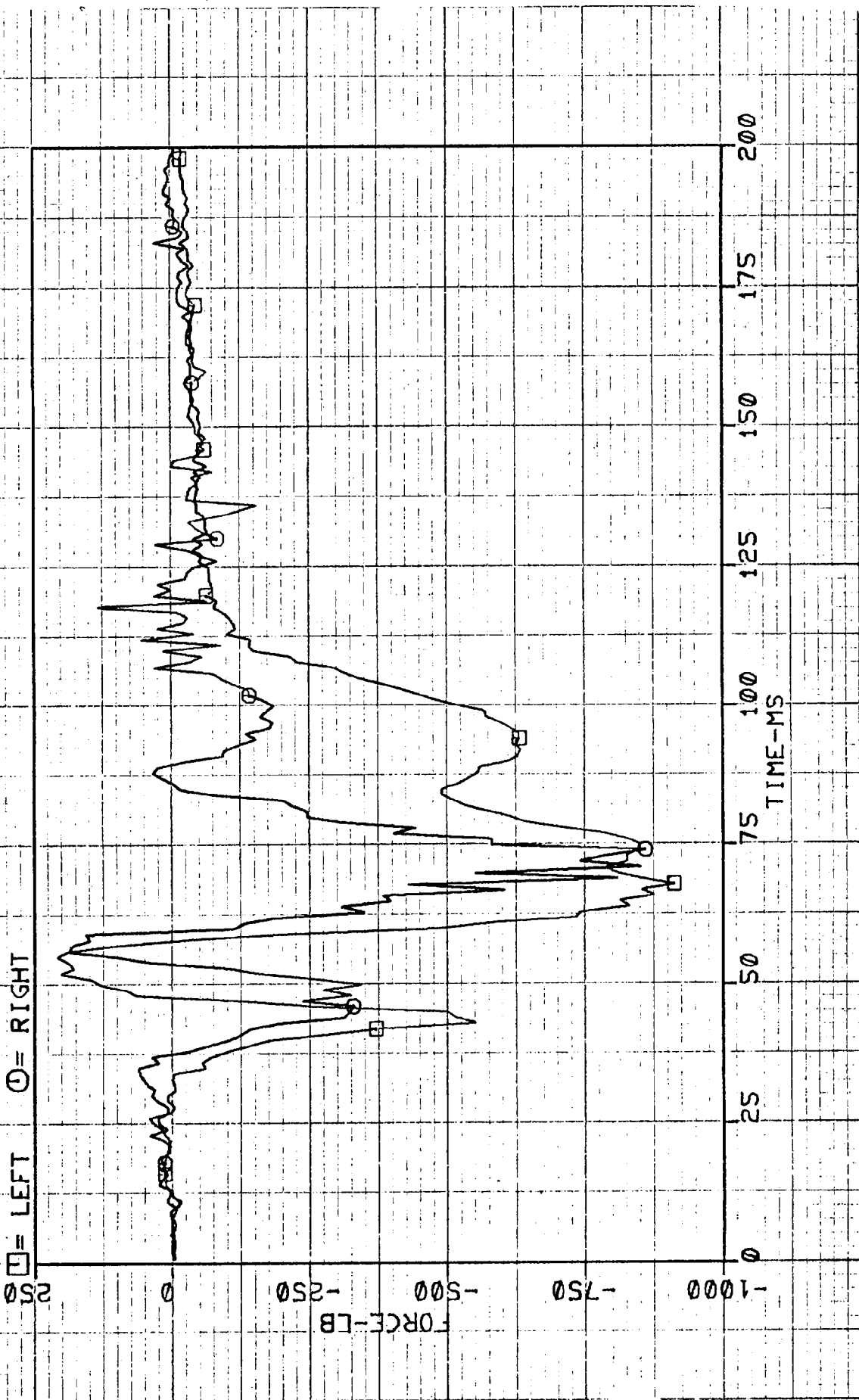
TIME-MS

TEST#12 LE BARON LF CHEST RESULTANT



TEST#12 LE BARON LF FEMURS

□ = LEFT ○ = RIGHT



TEST#12 LE BARON LF BELTS

□ = LAP

○ = TORSO

2000

1500

1000

500

0

-500

FORCE-LB

200

175

150

125

100

75

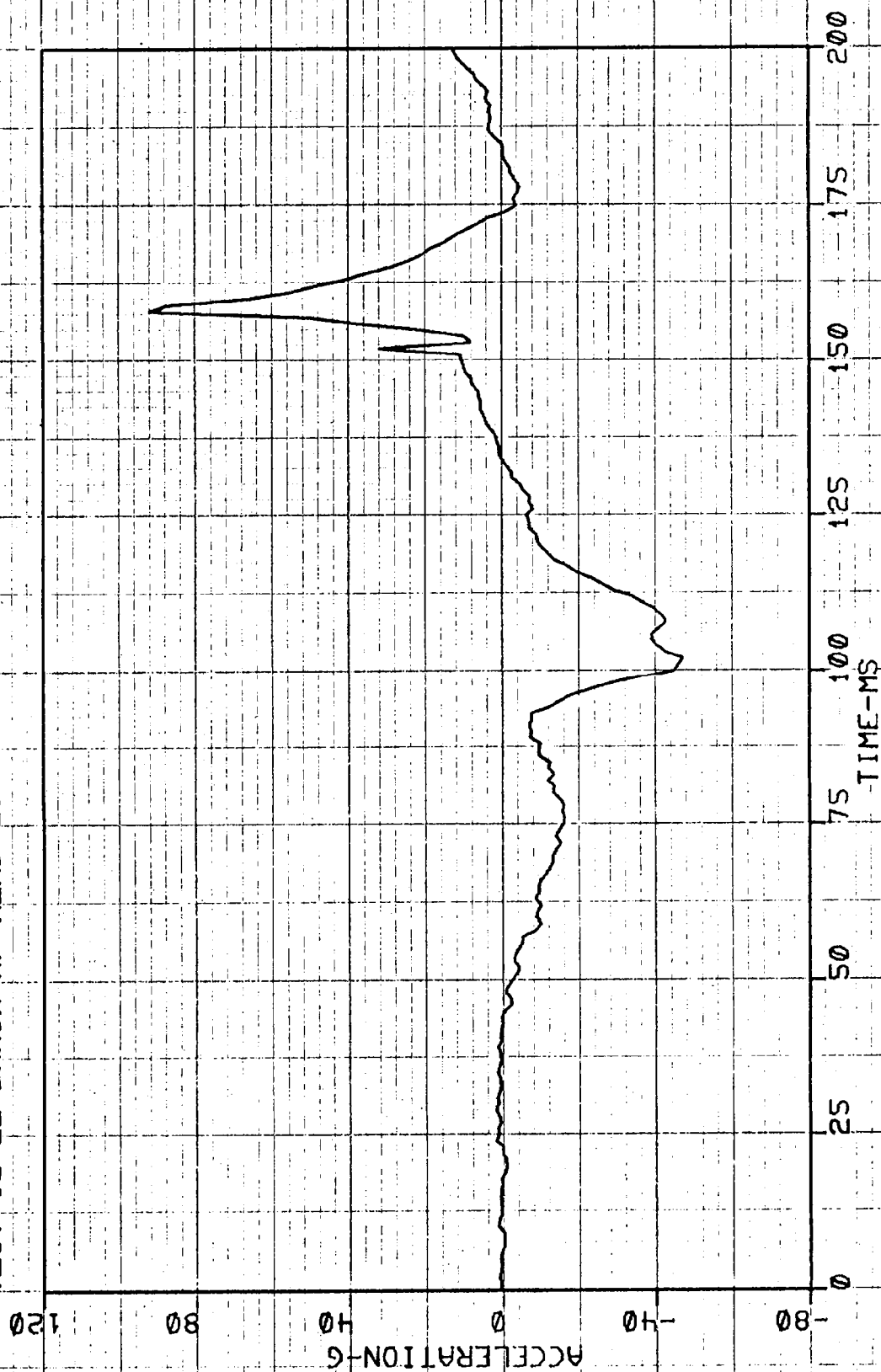
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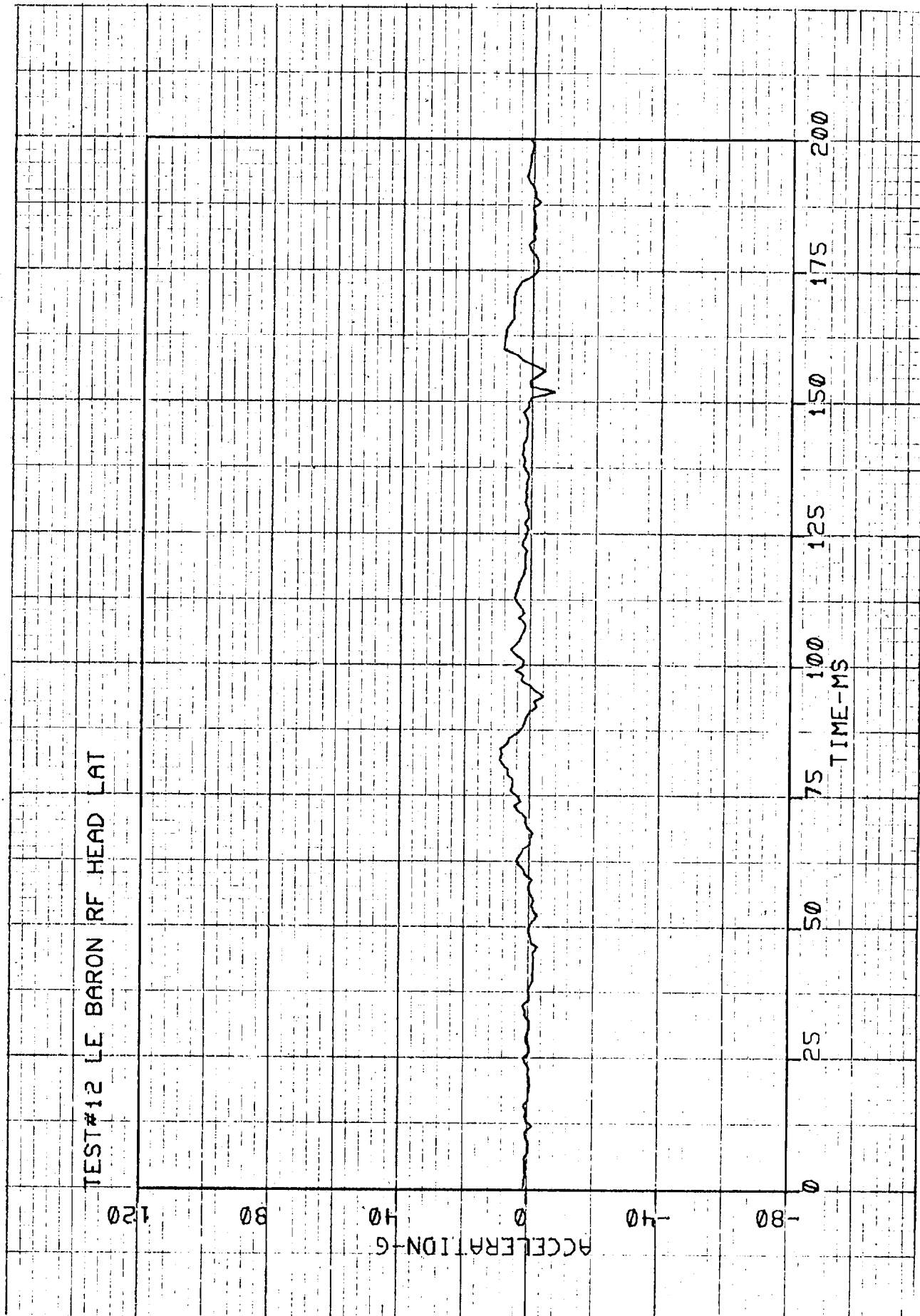
25

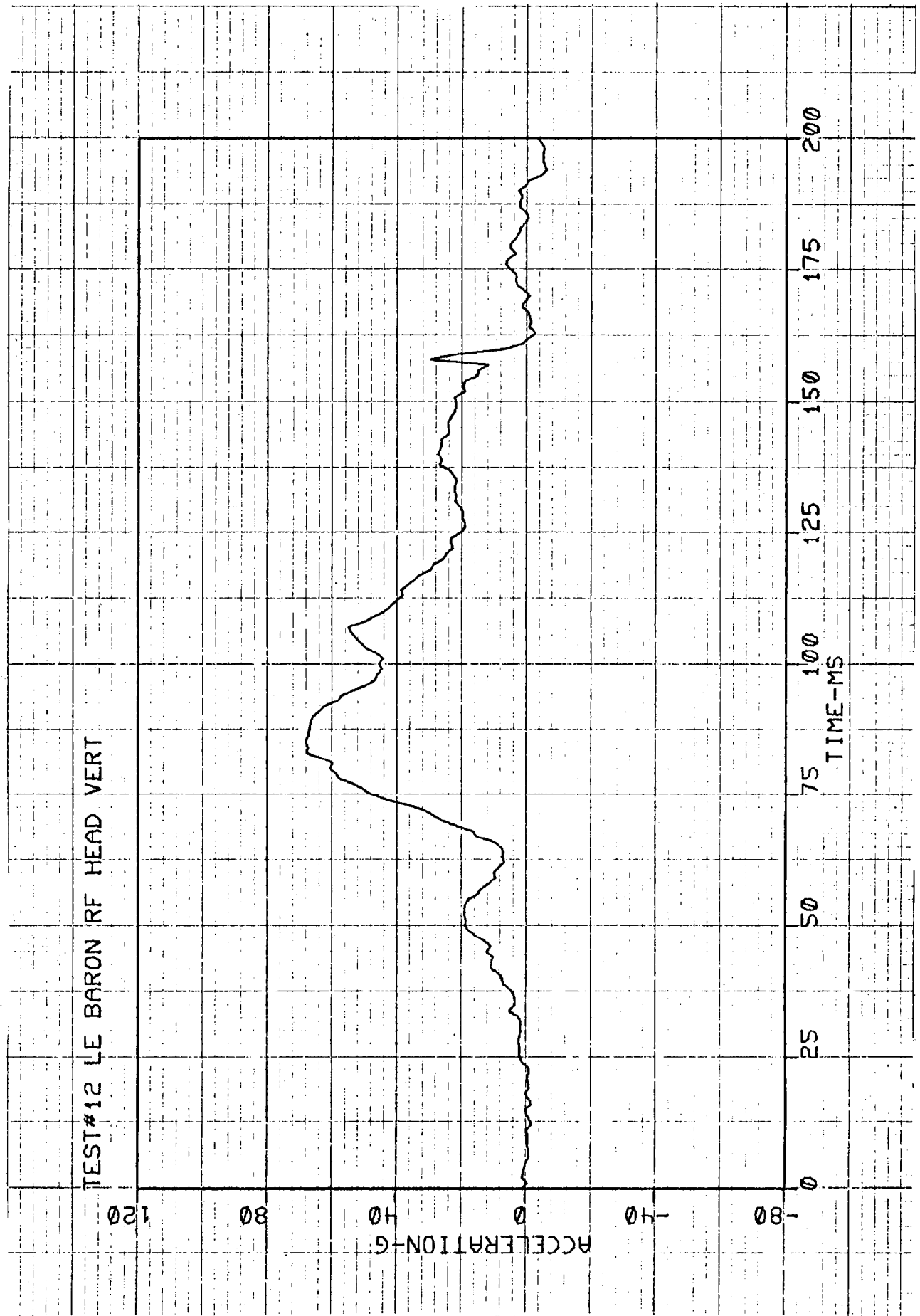
0

TIME-MS

TEST#12 LE BARON RF HEAD LONG







TEST#12 LE BARON RF HEAD RESULTANT

120

80

40

ACCELERATION-G

-40

-80

0

25

50

75

100

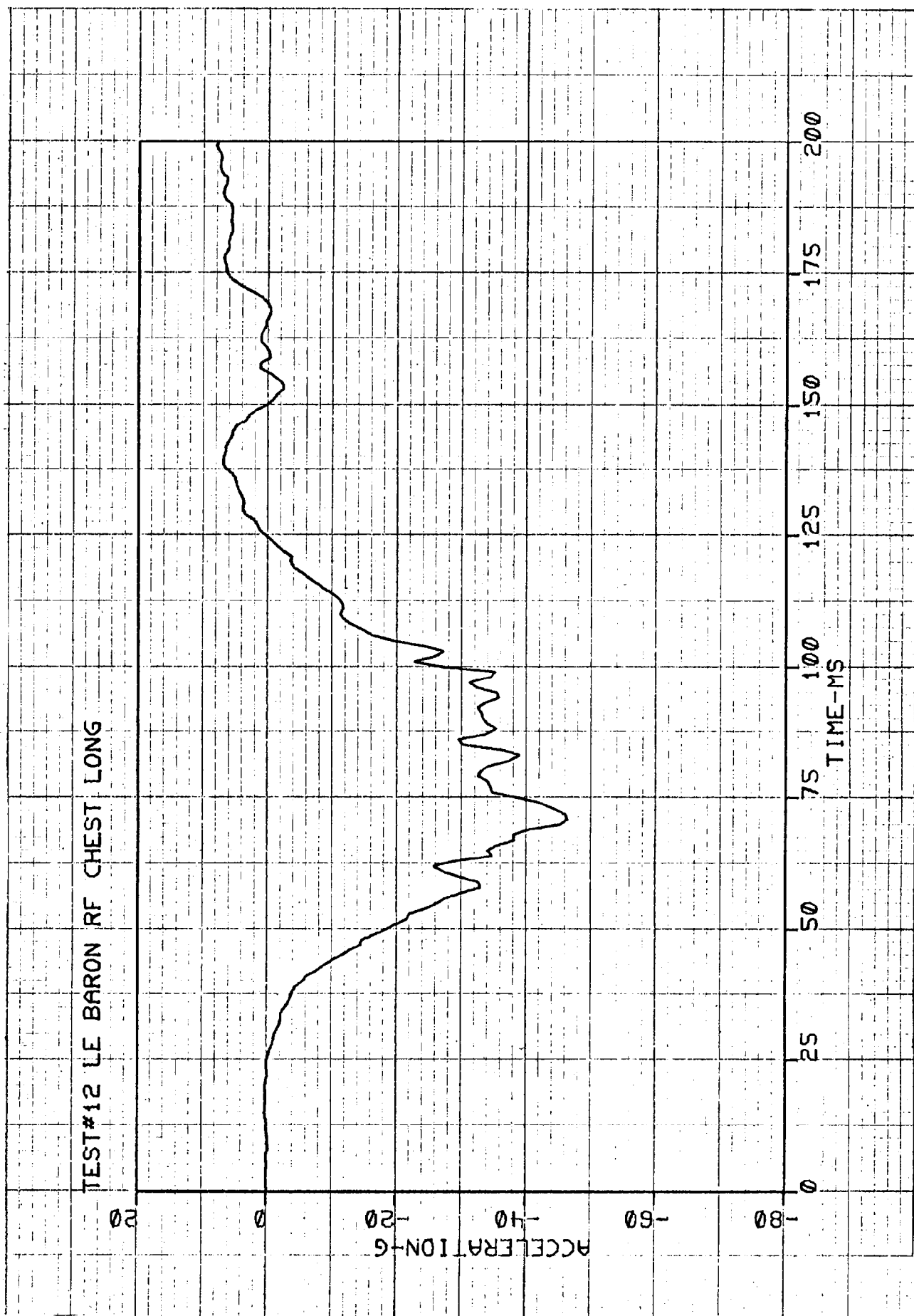
125

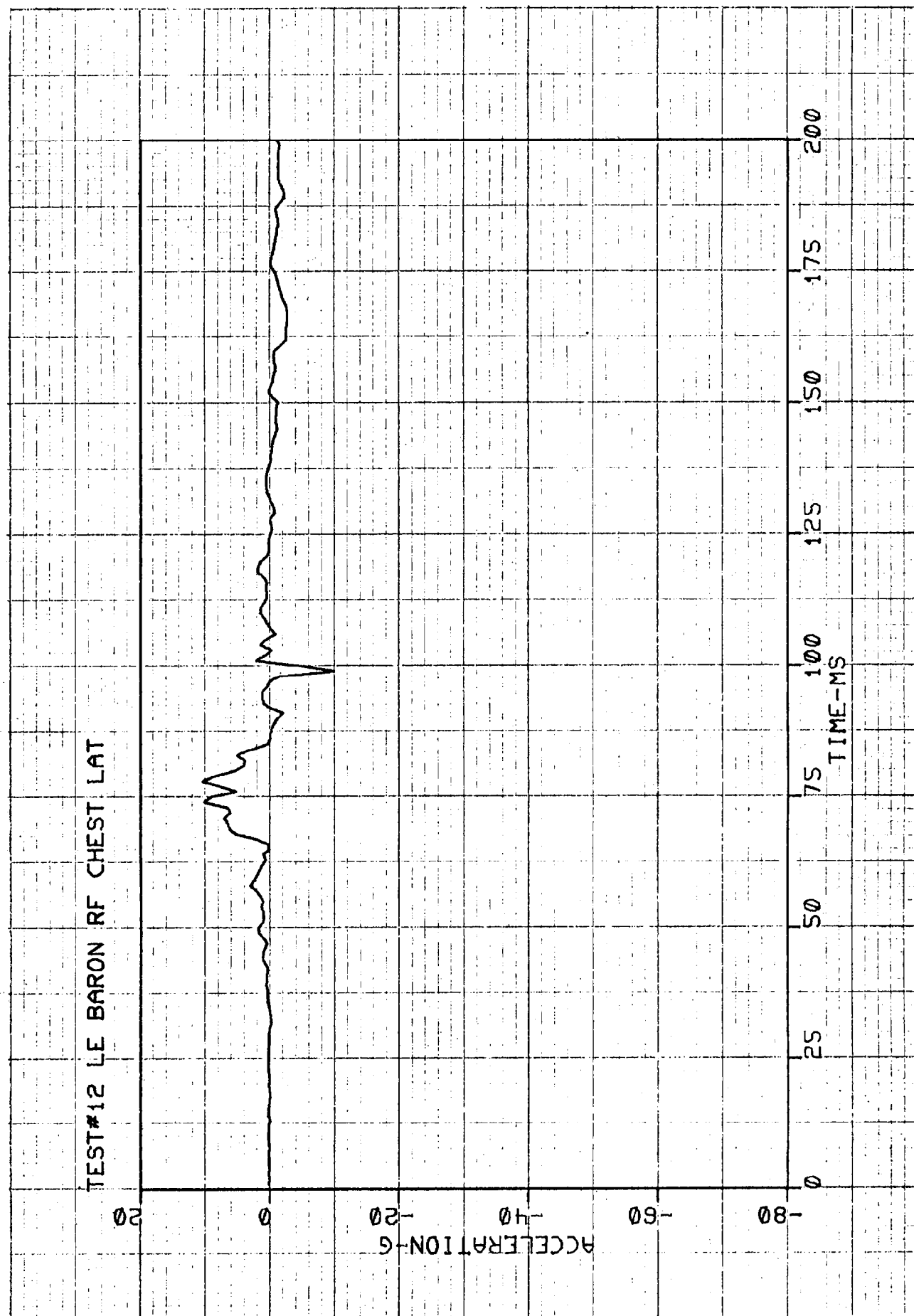
150

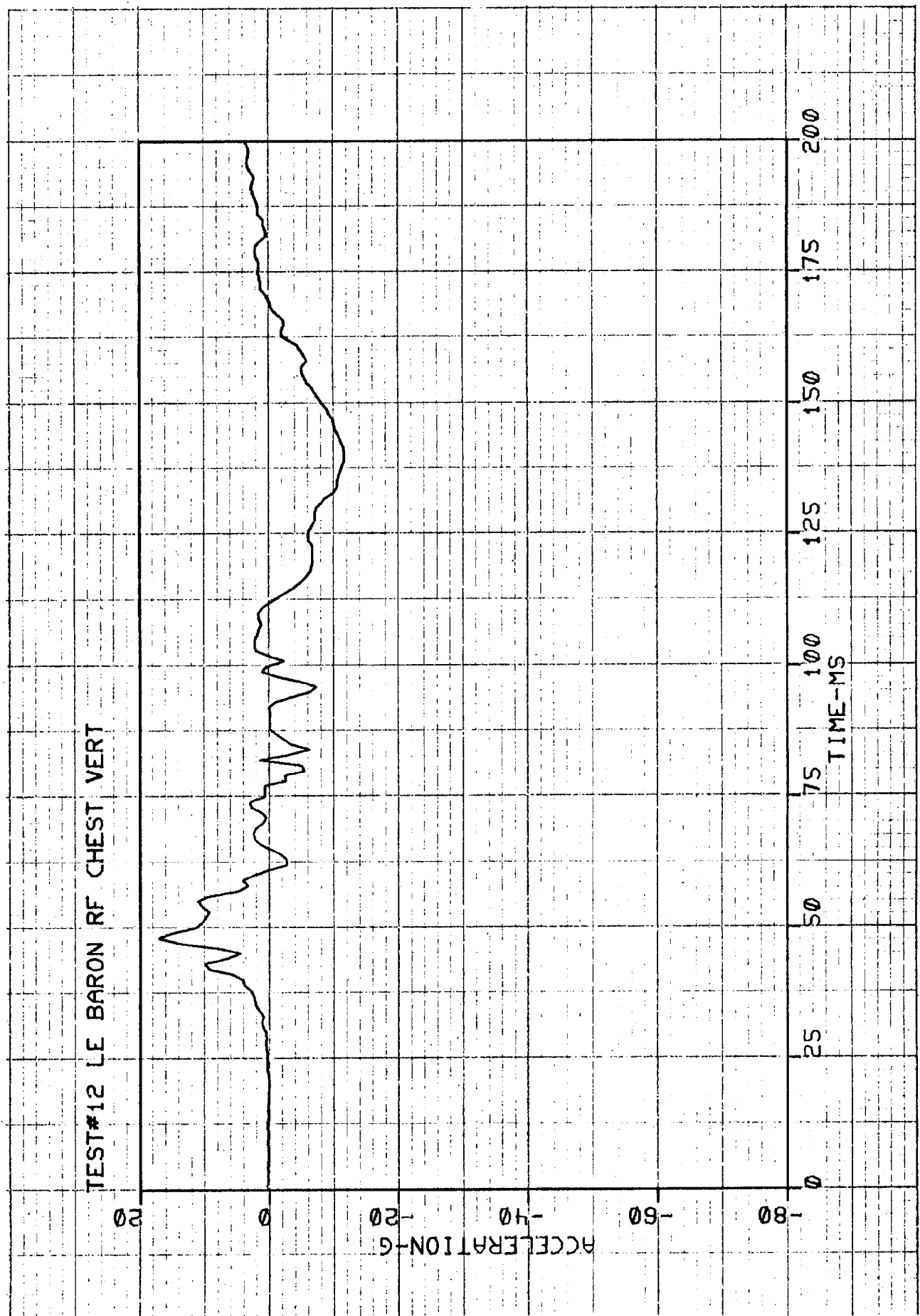
175

200

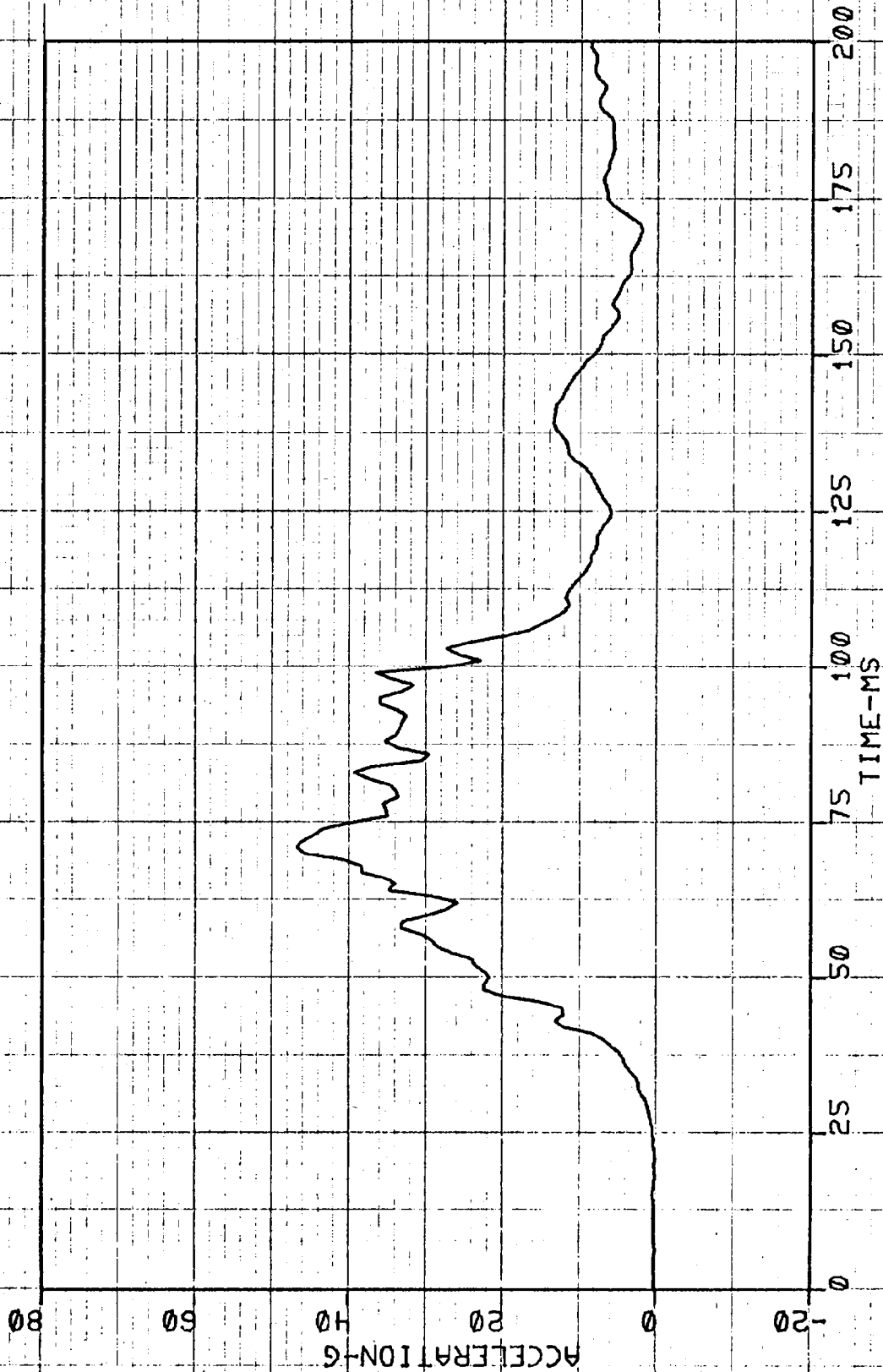
TIME-MS

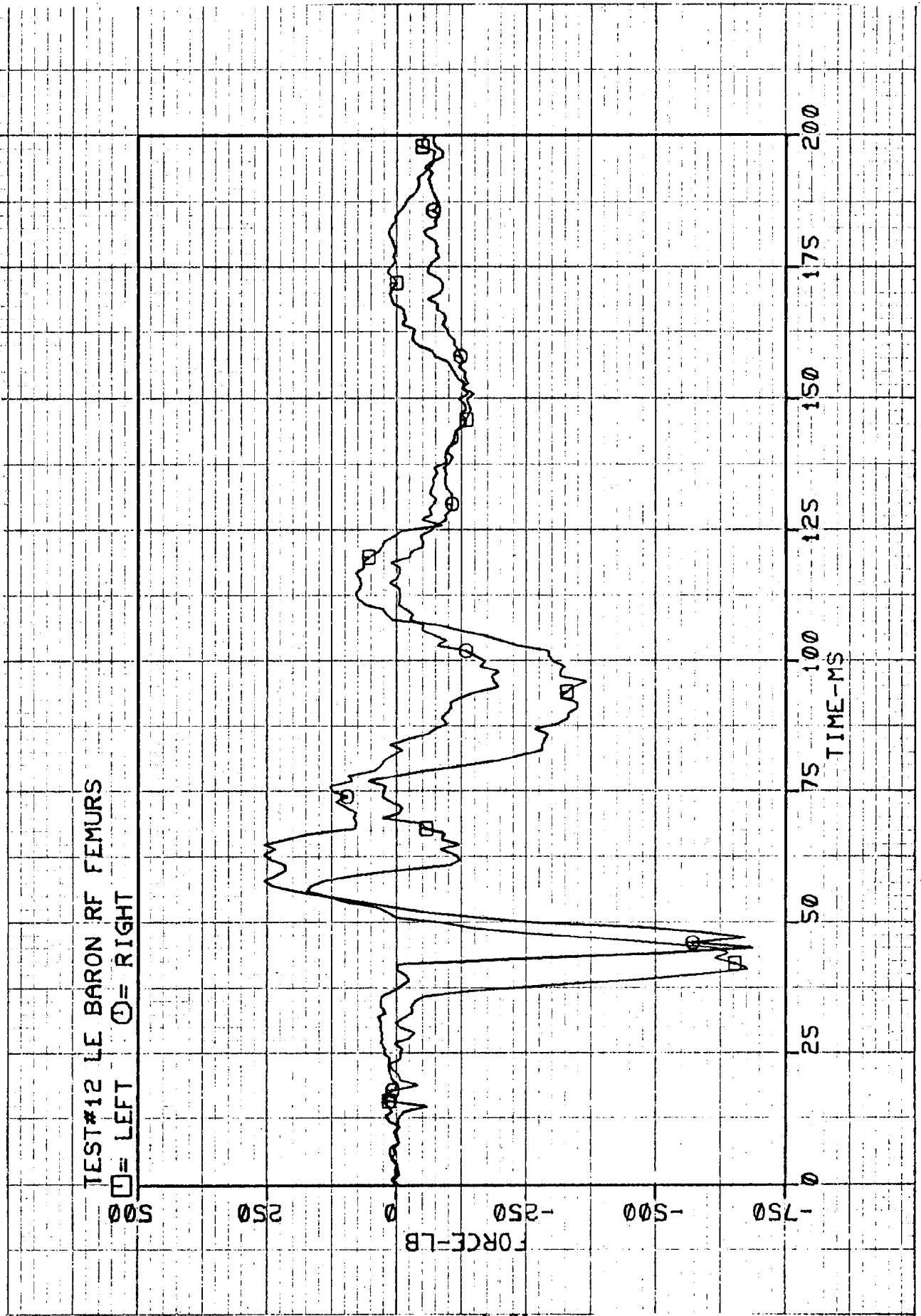






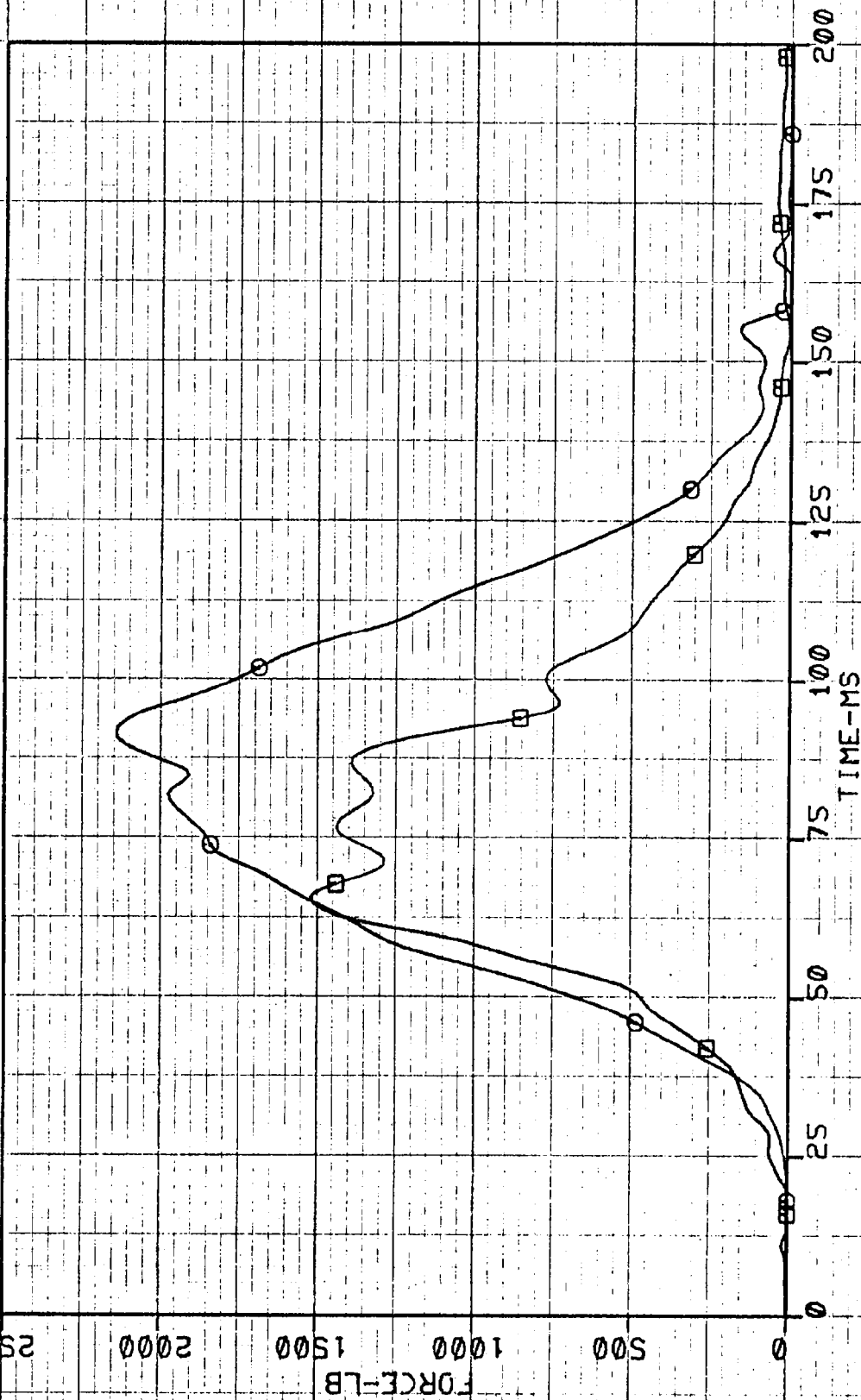
TEST#12 LE BARON RF CHEST RESULTANT

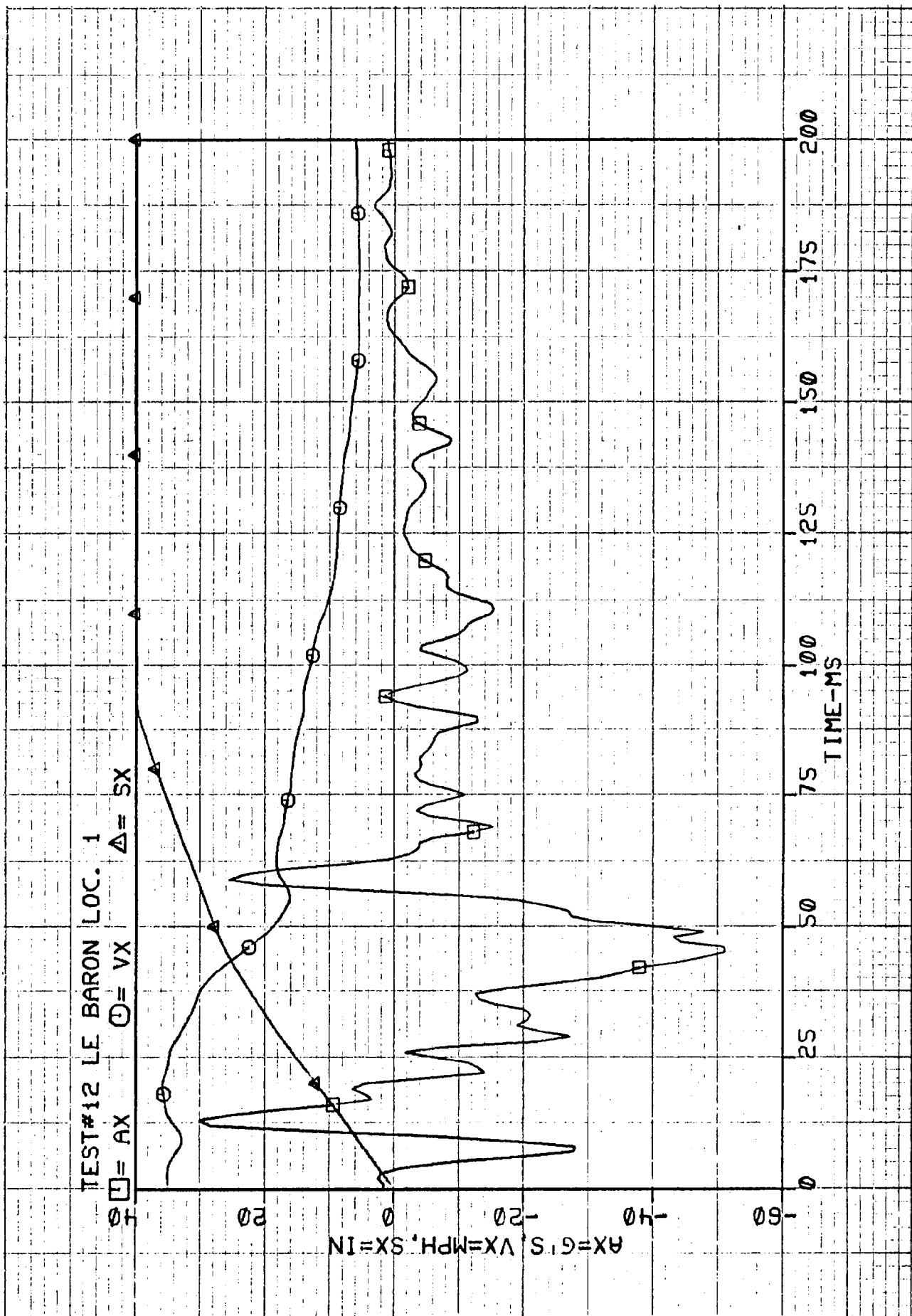




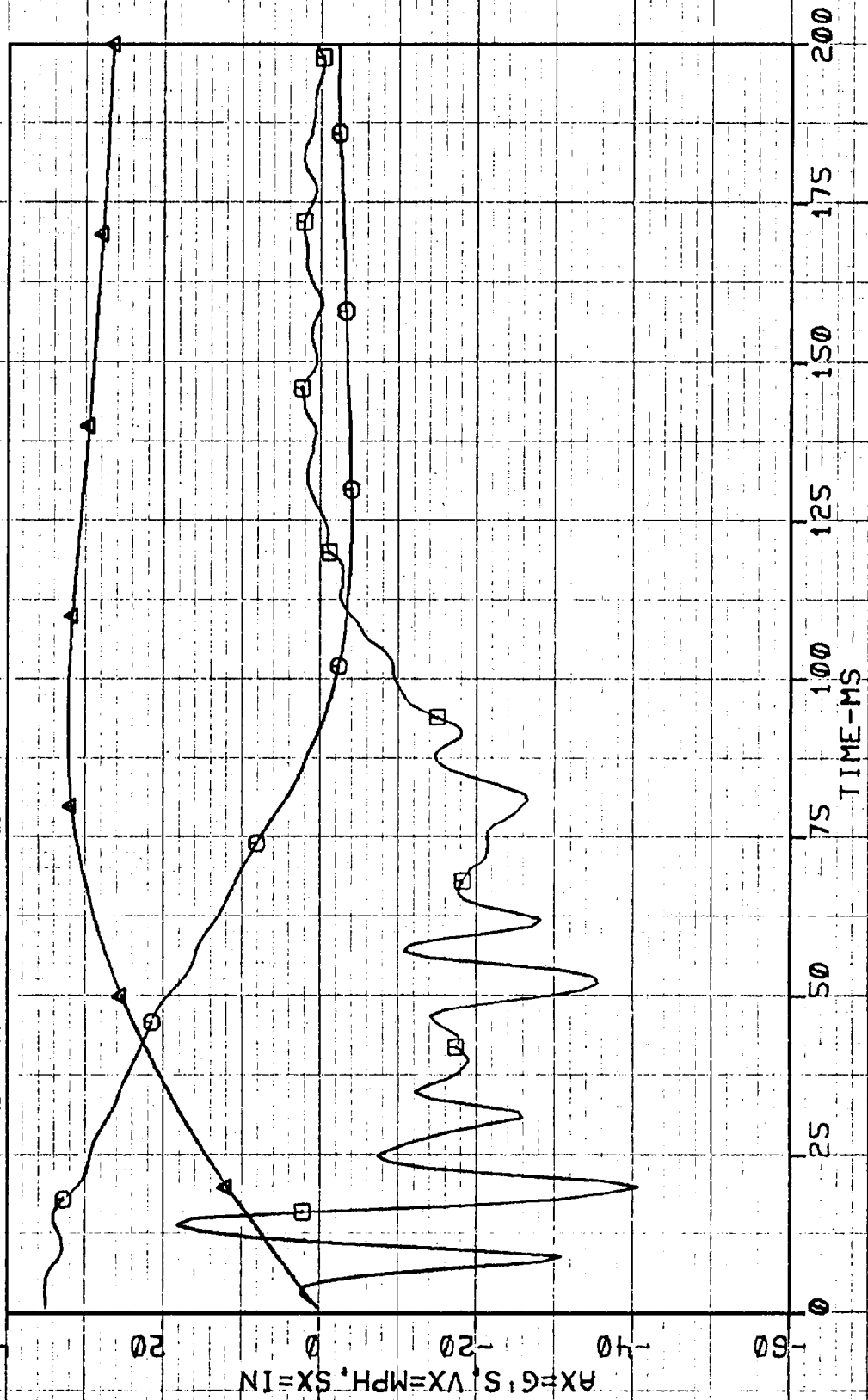
TEST#12 LE BARON RF BELTS

□ = LAP ○ = RIGHT





TEST#12 LE BARON LOC. 2
 $\square = AX$ $\circ = VX$ $\Delta = SX$



APPENDIX C
DUMMY CERTIFICATION DATA

PART 572 DUMMY CALIBRATION TEST DATA

NHTSA Dummy I.D. No.: A 0 3Laboratory Technician: R. Bishop, D. Hyatt

	Pre-test Calibration	Post-test Calibration
Date of Dummy Calibration	6-4-80	6-17-80
Calibration Sequential Number for Dummy	14	16
Temperature in Lab. (Spec. = 66 to 78 °F)	75°	72°
Relative Humidity in Lab. (Spec. = 10 to 70%)		

Test Parameter	Specification		
1. Head Drop Test:			
a. Peak Resultant Accel	210 - 260G	224.18	217.10
b. Peak Lateral Accel	< 10G	0.0	4.17
c. Time above 100G	0.9 - 1.5 ms	1.4	1.4
2. Neck Bending Test:			
a. Pendulum Speed	21.5 - 25.5 fps		21.96
b. Pendulum Avg Decel (over $t_3 - t_2$)	20 - 24G	21.7	21.10
c. Peak Resultant Head Acceleration	26G Maximum	20.5	19.84
d. Pendulum Decel ($t_2 - t_1$)	< 3 ms	2.0	1.75
e. Pendulum Decel ($t_3 - t_2$)	25 - 30 ms	27.75	27.75
f. Pendulum Decel ($t_4 - t_3$)	< 10 ms	3.75	5.75
g. Pendulum Direction Reversal Time	> 123 ms		
h. Maximum Head Rota- tion	63 to 73°	70.0°	70.74°
i. Chordal Displacement:			
Head Rotation Angle			
0°	Time	-2.0 - 2.0 ms	0.0
	Displ	-0.5 - 0.5 in.	0.0
30°	Time	25.6 - 34.4 ms	26.0
	Displ	2.1 - 3.1 in.	2.27
60°	Time	40.3 - 51.7 ms	43.0
	Displ	4.3 - 5.3 in.	4.39
Maximum (73°)	Time	53.2 - 66.8 ms	61.0
	Displ	5.0 - 6.0 in.	5.12

PART 572 DUMMY CALIBRATION TEST DATA (CONTINUED)

NHTSA Dummy I.D. No.: A 0 3

Test Parameter		Specification	Pre-test Calibration	Post-test Calibration
2. Neck Bending Test: (Continued)				
Head Rotation Angle				
60°	Time	67.0 - 83.0 ms	78.0	81.5
	Displ	4.3 - 5.3 in.	4.39	4.52
30°	Time	85.4 - 104.6 ms	96.0	99.25
	Displ	2.1 - 3.1 in.	2.26	2.33
0°	Time	101.0 - 123.0 ms	110.0	114.75
	Displ	-0.5 - 0.5 in.	0.0	0.0
3. Abdominal Compression Test: (Preload = 10 pounds)				
a. Force at 0.5 in.		14 - 26 lb	20.3	19.68
b. Force at 0.75 in.		27 - 40 lb	27.8	32.41
c. Force at 1.0 in.		40 - 53 lb	44.0	48.62
d. Force at 1.3 in.		63 - 78 lb	64.8	77.56
4. Lumbar Flexion Test:				
a. Force at 20°		22 - 34 lb	31.3	29.81
b. Force at 30°		34 - 46 lb	42.8	43.99
c. Force at 40°		46 - 58 lb	48.6	48.91
d. Return Angle		12° Maximum	2.2°	7.2°
5. Chest Impact Tests:				
a. High Speed				
1) Probe Speed		21.78-22.22 fps	22.0	21.94
2) Peak Deflection		1.7 in. Maximum	1.461	1.575
3) Peak Resistive Force		2250 lb Maximum	1710.57	1757.44
4) Internal Hysteresis		50 - 70%	63.0%	65.8%
a. Low Speed				
1) Probe Speed		13.86-14.14 fps	13.95	13.90
2) Peak Deflection		1.1 in. Maximum	1.015	1.020
3) Peak Resistive Force		1450 lb Maximum	1124.76	1089.61
4) Internal Hysteresis		50 - 70%	68.0%	57.5%

PART 572 DUMMY CALIBRATION TEST DATA (CONTINUED)

NHTSA Dummy I.D. No.: A 0 3

Test Parameter	Specification	Pre-test	Post-test
		Calibration	Calibration
6. Knee Impact Tests:			
a. Right Side			
1) Probe Speed	6.76 - 7.04 fps	6.9	6.86
2) Maximum Force	1850 - 2500 lb	2137.00	2337.30
3) Time >1000 lb	1.7 ms Minimum	2.0	1.95
a. Left Side			
1) Probe Speed	6.76 - 7.04 fps	6.9	6.84
2) Maximum Force	1850 - 2500 lb	2263.39	1870.44
3) Time >1000 lb	1.7 ms Minimum	1.75	2.25

PART 572 DUMMY CALIBRATION TEST DATA

NHTSA Dummy I.D. No.: A 0 4

Laboratory Technician: R. Bishop, D. Hyatt

	Pre-test Calibration	Post-test Calibration
Date of Dummy Calibration	6-4-80	6-17-80
Calibration Sequential Number for Dummy	14	16
Temperature in Lab. (Spec. = 66 to 78 °F)	75°	72°
Relative Humidity in Lab. (Spec. = 10 to 70%)		

Test Parameter	Specification		
----------------	---------------	--	--

1. Head Drop Test:			
a. Peak Resultant Accel	210 - 260G	233.74	212.43
b. Peak Lateral Accel	≤ 10G	0.0	8.34
c. Time above 100G	0.9 - 1.5 ms	1.35	1.3

2. Neck Bending Test:			
a. Pendulum Speed	21.5 - 25.5 fps	22.3	22.45
b. Pendulum Avg Decel (over t ₃ - t ₂)	20 - 24G	22.1	22.22
c. Peak Resultant Head Acceleration	26G Maximum	19.7	20.92
d. Pendulum Decel (t ₂ - t ₁)	≤ 3 ms	1.75	2.45
e. Pendulum Decel (t ₃ -t ₂)	25 - 30 ms	29.0	27.45
f. Pendulum Decel (t ₄ -t ₃)	≤ 10 ms	3.25	5.2
g. Pendulum Direction Reversal Time	≥ 123 ms		
h. Maximum Head Rota- tion	63 to 73°	72.8°	71.64°
i. Chordal Displacement:			

Head Rotation Angle

0°	Time	-2.0 - 2.0 ms	0.0	0.0
	Displ	-0.5 - 0.5 in.	0.0	0.0
30°	Time	25.6 - 34.4 ms	31.5	29.5
	Displ	2.1 - 3.1 in.	2.3	2.36
60°	Time	40.3 - 51.7 ms	45.5	46.75
	Displ	4.3 - 5.3 in.	4.3	4.54
Maximum (73°)	Time	53.2 - 66.8 ms	66.8	63.0
	Displ	5.0 - 6.0 in.	5.2	5.32

PART 572 DUMMY CALIBRATION TEST DATA (CONTINUED)

NHTSA Dummy I.D. No.: A 0 4

Test Parameter	Specification	Pre-test Calibration	Post-test Calibration
2. Neck Bending Test: (Continued)			
Head Rotation Angle			
60°	Time	67.0 - 83.0 ms	81.8
	Displ	4.3 - 5.3 in.	4.3
30°	Time	85.4 - 104.6 ms	97.3
	Displ	2.1 - 3.1 in.	2.3
0°	Time	101.0 - 123.0 ms	111.8
	Displ	-0.5 - 0.5 in.	0.0
3. Abdominal Compression Test: (Preload = 10 pounds)			
a. Force at 0.5 in.	14 - 26 lb	22.0	22.86
b. Force at 0.75 in.	27 - 40 lb	34.7	35.31
c. Force at 1.0 in.	40 - 53 lb	48.6	52.38
d. Force at 1.3 in.	63 - 78 lb	69.5	76.98
4. Lumbar Flexion Test:			
a. Force at 20°	22 - 34 lb	24.9	25.18
b. Force at 30°	34 - 46 lb	37.6	38.49
c. Force at 40°	46 - 58 lb	52.0	54.41
d. Return Angle	12° Maximum	9.9°	8.5°
5. Chest Impact Tests:			
a. High Speed			
1) Probe Speed	21.78-22.22 fps	22.01	21.97
2) Peak Deflection	1.7 in. Maximum	1.568	1.691
3) Peak Resistive Force	2250 lb Maximum	1546.4	1651.99
4) Internal Hysteresis	50 - 70%	62.14%	61.24%
a. Low Speed			
1) Probe Speed	13.86-14.14 fps	13.96	13.94
2) Peak Deflection	1.1 in. Maximum	1.064	1.095
3) Peak Resistive Force	1450 lb Maximum	1031.03	1077.90
4) Internal Hysteresis	50 - 70%	53.41%	59.23%

PART 572 DUMMY CALIBRATION TEST DATA (CONTINUED)

NHTSA Dummy I.D. No.: A 0 4

Test Parameter	Specification	Pre-test	Post-test
		Calibration	Calibration
6. Knee Impact Tests:			
a. Right Side			
1) Probe Speed	6.76 - 7.04 fps	6.83	6.86
2) Maximum Force	1850 - 2500 lb	2020.0	2420.78
3) Time >1000 lb	1.7 ms Minimum	1.75	1.75
a. Left Side			
1) Probe Speed	6.76 - 7.04 fps	6.84	6.84
2) Maximum Force	1850 - 2500 lb	2027.6	1917.60
3) Time >1000 lb	1.7 ms Minimum	1.75	1.95

Dynamic Science Report No.
3102-80-124A

DOT#427

DOT#427

BARRIER IMPACT LOAD DATA
1980 CHRYSLER LEBARON
NHTSA 800311

NO TAPE?
2/17/81

Prepared by:

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Prepared for:

U.S. Department of Transportation
National Highway Traffic Safety Administration
Office of Passenger Vehicle Research
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Washington, D.C. 20590

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1.0 INTRODUCTION

This report is an addendum to Report No. 301-DYS-80-010 and presents the barrier load measurement data acquired in testing a 1980 Chrysler LeBaron (NHTSA 800311).

Barrier impact speed was 35.05 mph.

Section 2.0 presents information on the load cell barrier and vehicle accelerometers.

Section 3.0 provides general test and vehicle parametric data.

Section 4.0 presents plots of load cell and accelerometer data versus time.

2.0 INSTRUMENTATION DESCRIPTION

2.1 LOAD CELL BARRIER

The load cell barrier face is pictured in Figure 2-1. The barrier consists of a 9 x 4 array of 50 klb. load cells each faced with a section of 1-3/4-inch thick plywood. Plywood sections for Rows C and D (upper two rows) each measure 10 inches high and 9 inches wide. Plywood sections for Rows A and B (lower two rows) each measure 9 inches high and 9 inches wide. Overall width of the barrier is 83 inches and overall height is 38-3/4 inches. The lower edge of the barrier is 2-5/8 inches above the surface of the ground.

2.2 PLACEMENT OF VEHICLE ACCELEROMETERS

Six longitudinal accelerometers were located on the vehicle as schematically illustrated in Figure 2-2. Two instruments (Loc. 1 and 2) represent occupant compartment accelerations. Two (Loc. 3 and 4) represent engine accelerations and two (Loc. 5 and 6) represent front wheel accelerations.

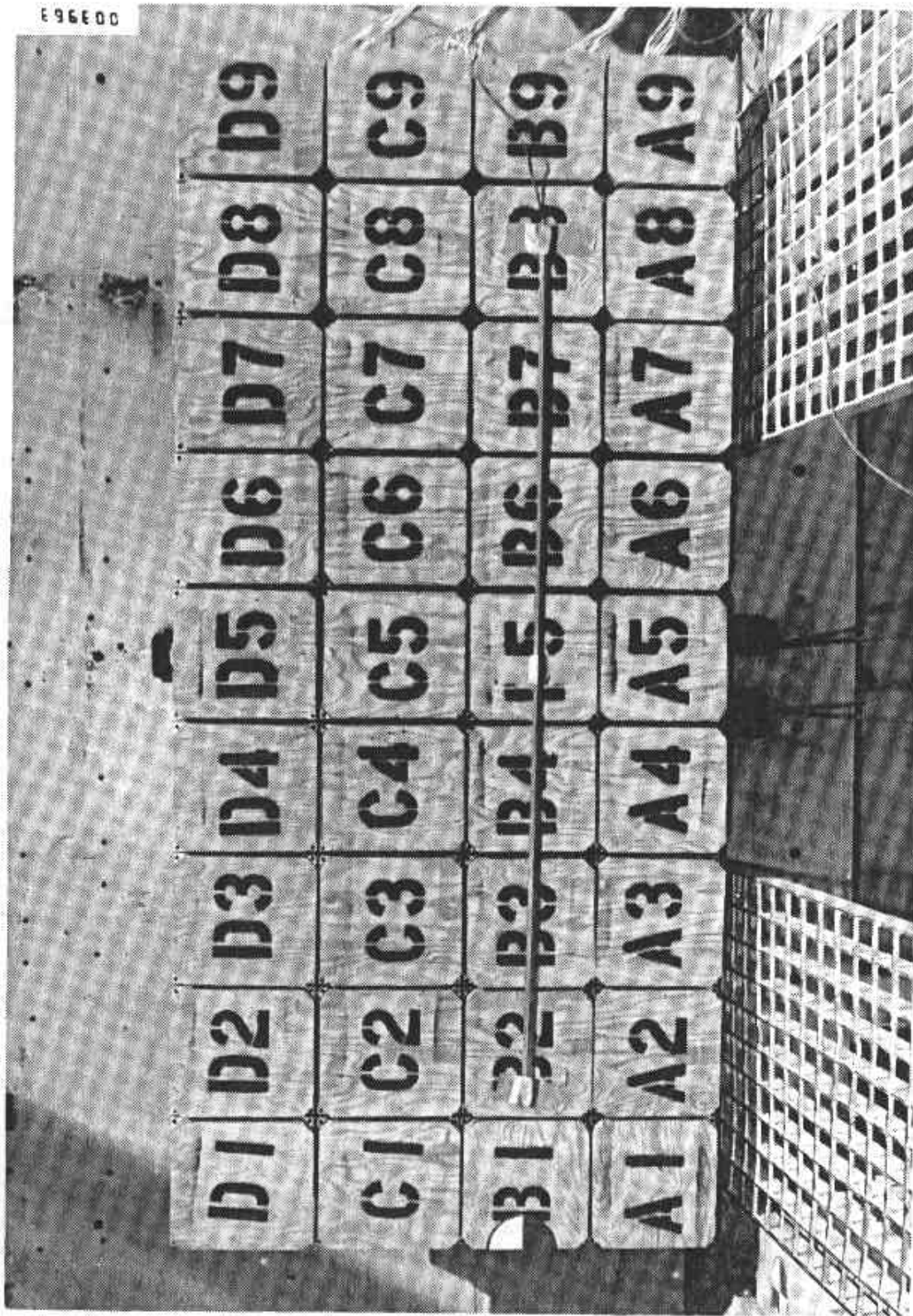
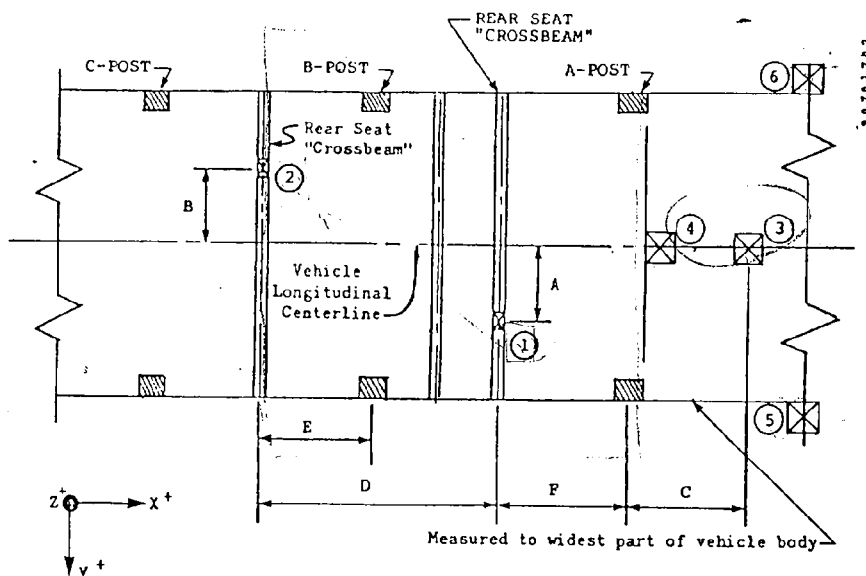


Figure 2-1. Load Cell Barrier Face.

TEST VEHICLE ACCELEROMETER LOCATION DEFINITION AND DATA SUMMARY

Dim.	Length (in.)
A Top	14.5
Bot.	18.0
B	25.0
C	33.0
D	1.5
E	18.8
F	20.5



No.	Location Description	Component Direction	Data Summary Peak G @ msec					
			X		Y		Z	
		X Y Z	"+"	"-"	"+"	"-"	"+"	"-"
1	Below front seat area	✓	30.3 @ 12	-51.1 @ 44	@	@	@	@
2	Below rear seat area	✓	18.3 @ 13	-40.7 @ 19	@	@	@	@
3	Engine top	✓	14.4 @ 71	-93.6 @ 39	@	@	@	@
4	Engine bottom	✓	16.8 @ 184	-101.9 @ 39	@	@	@	@
5	RF brake caliper	✓	19.4 @ 61	-115.6 @ 37	@	@	@	@
6	LF brake caliper	✓	40.1 @ 60	-126.3 @ 35	@	@	@	@

Compartment

Engine

3.0 GENERAL TEST AND VEHICLE PARAMETER DATA

This section consists of three tables which document vehicle information, test conditions, and the post-impact crush configuration.

GENERAL TEST AND VEHICLE PARAMETER DATA

TEST VEHICLE INFORMATION:

Vehicle Manufacturer: Chrysler Corporation
 Make/Model: Chrysler LeBaron
 Body Style: 2-door Coupe Model Year: 1980
 VIN: FM22CAG148179 Build Date: 11/79
 NHTSA No.: 800311 Color: White
 Engine Data: 6 cylinders; 225 in.³ displacement
 Transmission Data: 3 speed () Manual (X) Automatic
 Date Vehicle Received by Laboratory: December 5, 1979
 Dealer Name & Address: Bill Luke Chrysler Plymouth, Inc.
2425 W. Camelback Rd., Phoenix, Az. 85014

DATA FROM CERTIFICATION LABEL ON LEFT DOOR REAR FACE OR B-POST:

Vehicle Manufactured By: Chrysler Corporation
 Date of Manufacture: 11/79; VIN: FM22CAG148179
 GVWR: 4745 lb; GAWR: Front = 2315 lb; Rear = 2480 lb

DATA FROM "RECOMMENDED TIRE PRESSURE" LABEL ON DOOR, POST, GLOVE BOX, ETC.:

Vehicle Load:	FRONT	REAR	RECOMMENDED	LOAD RANGE:
Up to Capacity	<u>29</u> psi	<u>29</u> psi	TIRE SIZE:	
Vehicle Capacity:			<u>P195-75R15</u>	<u>B</u>
Type of Seats -	<u>Bench</u>	Number of Occupants =	<u>3</u>	Front
	<u>Bucket</u>	(Designated Seating	<u>3</u>	Rear
	<u>X</u> Split Bench	Capacity)	<u>6</u>	Total
CARGO LOAD =	<u>200</u> lb			
TOTAL =	<u>1100</u> lb			

WEIGHT OF TEST VEHICLE AS RECEIVED FROM DEALER (with max. fluids) (UDW)

Right Front =	<u>979</u> lb	Right Rear =	<u>679</u> lb
Left Front =	<u>966</u> lb	Left Rear =	<u>729</u> lb
TOTAL FRONT WEIGHT =	<u>1945</u> lb (<u>58</u> % of Total Vehicle Weight)		
TOTAL REAR WEIGHT =	<u>1408</u> lb (<u>42</u> % of Total Vehicle Weight)		
TOTAL DELV. WEIGHT =	<u>3353</u> lb		

WEIGHT OF TEST VEHICLE WITH REQUIRED DUMMIES AND 200 lb CARGO:

Right Front =	<u>1021</u> lb	Right Rear =	<u>905</u> lb
Left Front =	<u>988</u> lb	Left Rear =	<u>966</u> lb
TOTAL FRONT WEIGHT =	<u>2009</u> lb (<u>52</u> % of Total Vehicle Weight)		
TOTAL REAR WEIGHT =	<u>1871</u> lb (<u>48</u> % of Total Vehicle Weight)		
TOTAL TEST WEIGHT =	<u>3880</u> lb		

Weight of ballast secured in vehicle trunk area = 0 lb

TARGET WEIGHT = CARGO LOAD + UDW + 164 (NO. OF DUMMIES) = 3881 lb

POST IMPACT DATA

TYPE OF TEST: X Frontal (90°) Impact

___ Oblique (___°) Impact on ___ Left (Driver's) Side
Right Side

____ Lateral or Side Impact on ____ Left (Driver's) Side
Right Side

Rear Impact

DATE OF TEST: June 13, 1980 ; TIME: 1028 ; TEMP: 97 ° F

NHTSA NO.: 800311 ; VIN: FM22CAG148179

REQUIRED VEHICLE VELOCITY RANGE: 34.5 to 35.5 mph

IMPACT VELOCITY: (traps within 5 feet of impact event)

Primary = 35.05 mph; Secondary = 35.05 mph

Distance from the vehicle's front bumper to the barrier face
entering the vehicle velocity measurement device = 5.0 ft

exiting the vehicle velocity measurement device = 1.0 ft

VEHICLE STATIC CRUSH:

(For Frontal and Rear Impacts Only)

Driver's Side = 25.7 in.; Passenger's Side = 25.9 in.

Average = 25.8 in.

Crush Details: Symmetrical crush to "A" pillar. Severe floor pan deformation. Front floor pan separated along fire-wall and along rocker plate.

(For Side Impacts Only)

Amount of Crush = in. on side

Crush Details:

VEHICLE REBOUND:

(From rigid barrier only)

Driver's Side = 11.7 in.; Passenger's Side = 12.3 in.

Average = 12.0 in.

REMARKS: Metal bumper has 1.5-inch soft face material running its entire width. There are two 1.5- x 5-inch bumper guards of the same material spaced 29.5 inches apart.

VEHICLE PROFILE DATA SHEET

Vehicle: 1980 Chrysler LeBaron D.S.No. 1021 Test Date: June 13, 1980
 Measurement Date: Pre-test: June 12, 1980 Post-test: June 25, 1980 --
 Exterior Measurements Referenced to Plane: 17' Forward of: Rear bumper

Location	Height	Vehicle Left (in.)						Vehicle Right (in.)				
		30	24	18	12	6	0	6	12	18	24	30
Pre-test Profile (in.)												
Top of Front Bumper	20.0	6.8	6.8	6.6	6.2	5.2	4.2	5.2	6.3	6.8	6.9	6.9
Front of Hood	34.5	13.0	12.8	12.8	11.3	10.4	9.1	10.3	11.3	12.9	12.9	13.1
Post-test Profile (in.)												
Top of Front Bumper	24.0	32.1	31.7	32.1	31.7	31.0	30.6	31.1	31.9	32.2	31.5	31.7
Front of Hood*	36.0	34.3	34.8	37.0	33.3	33.0	32.8	32.8	34.4	29.5	30.1	30.6
Post-test Static Crush (in.)												
Top of Front Bumper	4.0	25.3	24.9	25.5	25.5	25.8	26.4	25.9	25.6	25.4	24.6	24.8
Front of Hood	1.5	21.3	22.0	24.2	22.0	22.6	23.7	22.5	23.1	16.6	17.2	17.5

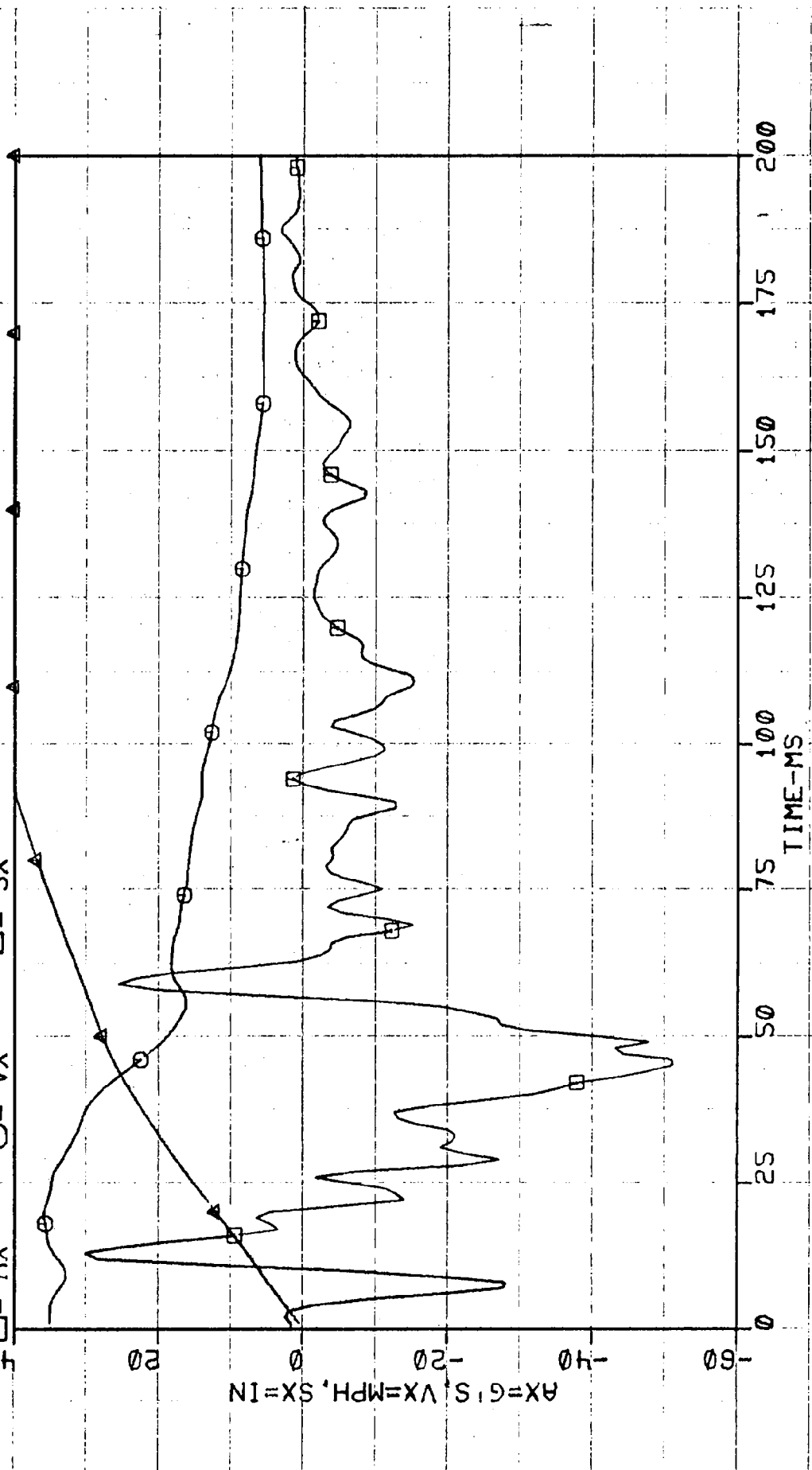
*Hood level profile points lost, measurements made to nearest structure at 36-inch height.

4.0 DATA PRESENTATION

Data plots are presented for each accelerometer and consist of the accelerometer data plus the first integral versus time (velocity) and the second integral versus time (displacement) of the acceleration data.

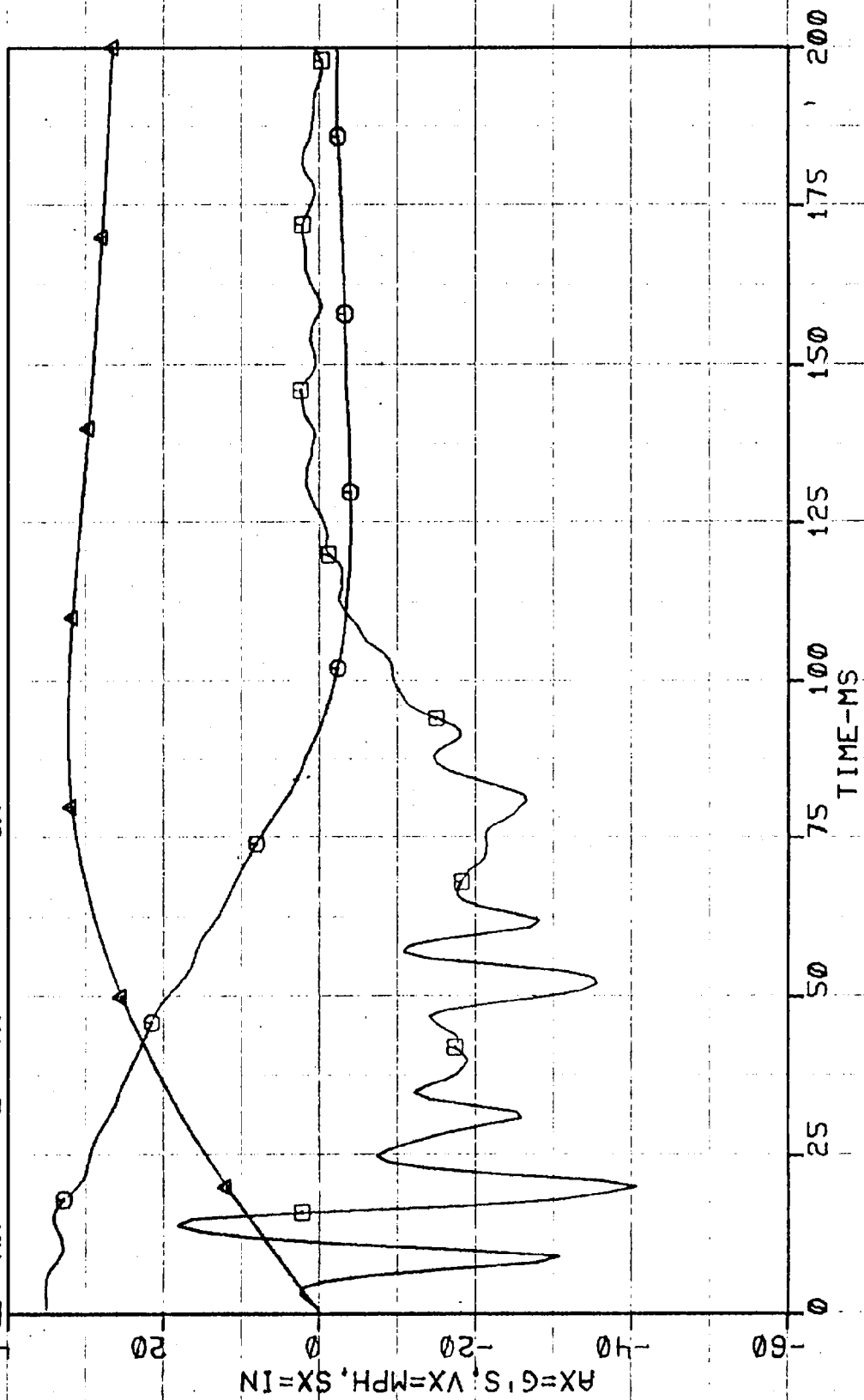
For the load cells, all data are summed and presented as total load versus time, upper two rows (C and D) summed versus time and lower two rows (A and B) summed versus time. Additional plots are presented for each cell multi-plotted by column. Individual loads may be difficult to discern on some of these plots. Tabular data can be provided if necessary.

TEST#12 LE BARON LOC. 1
 $\square = AX$ $\oplus = VX$ $\Delta = SX$



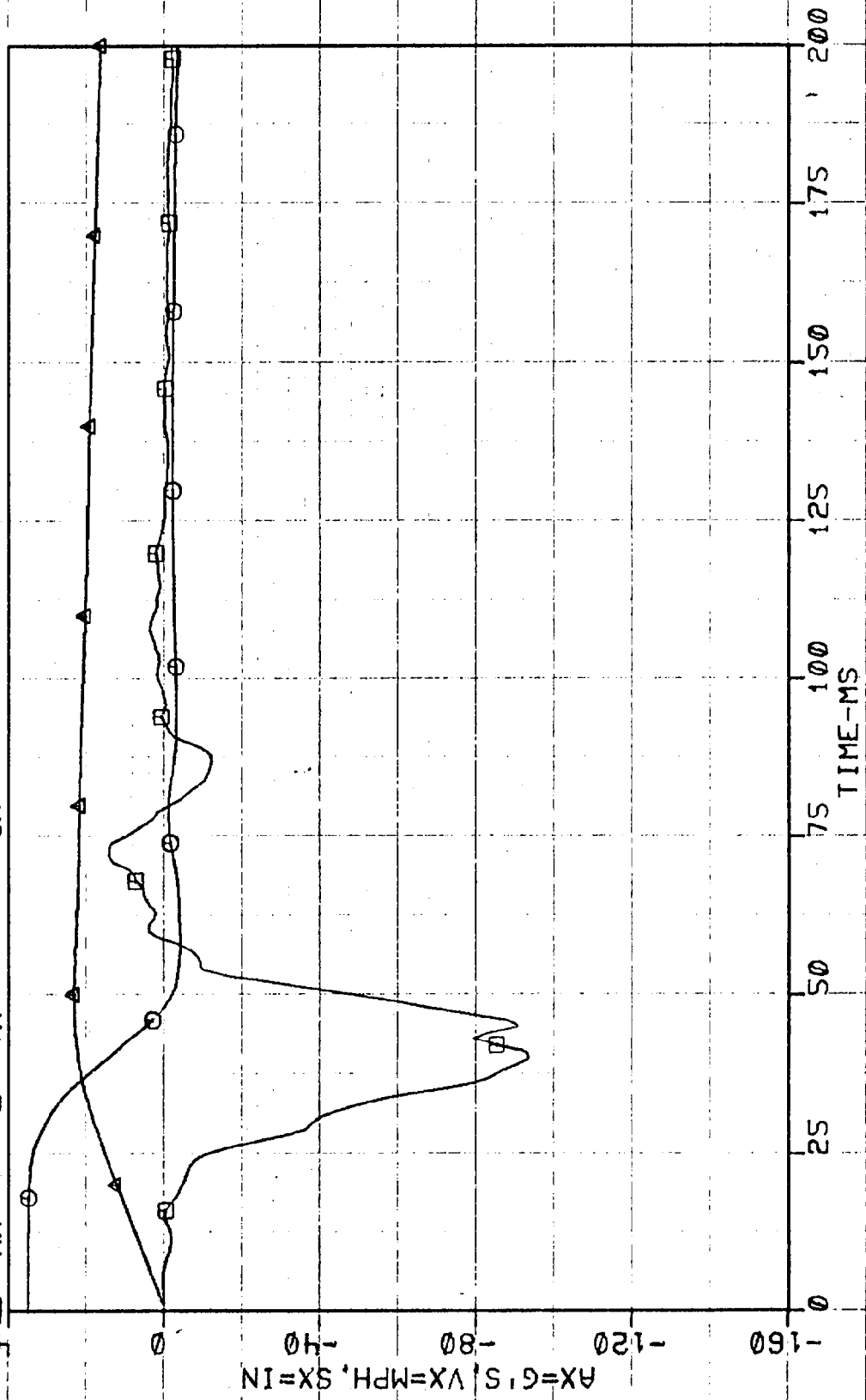
TEST#12 LE BARON LOC. 2

$\square$ = AX $\circ$ = VX Δ = SX

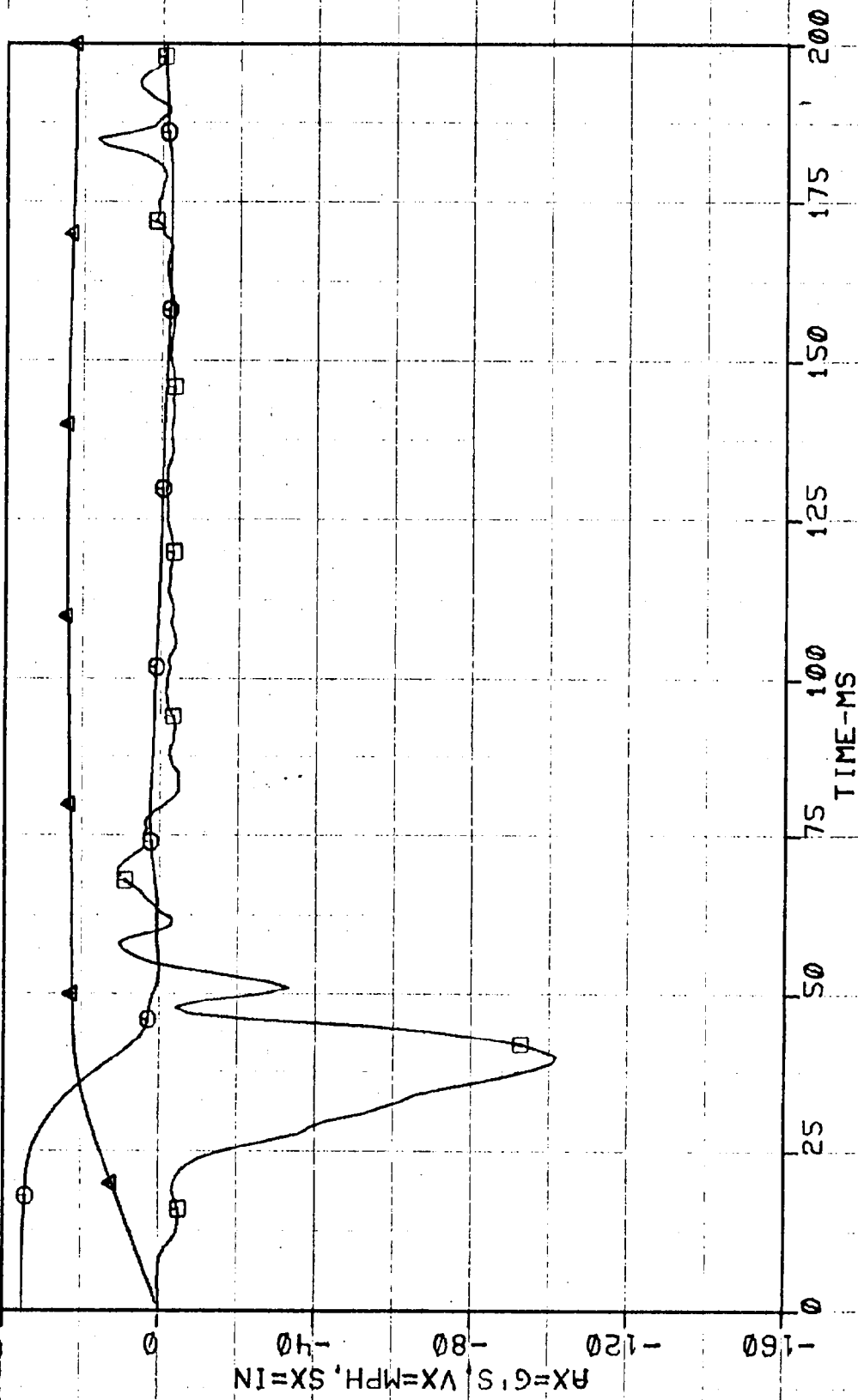


TEST#12 LE BARON LOC. 3

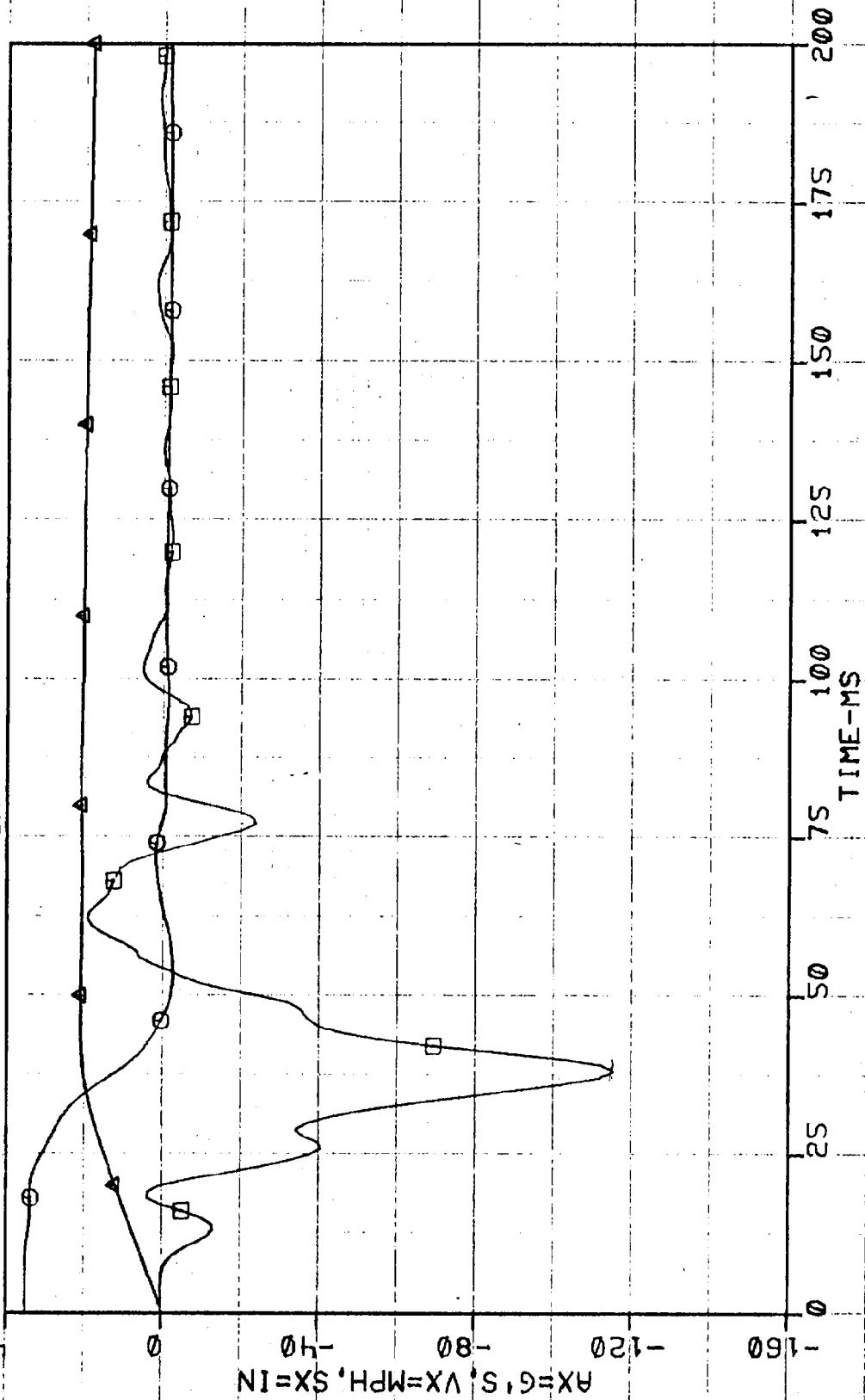
$\square$ = AX $\circ$ = VX Δ = SX



TEST#12 LE BARON LOC. 4
 $\square$ = AX $\oplus$ = VX Δ = SX

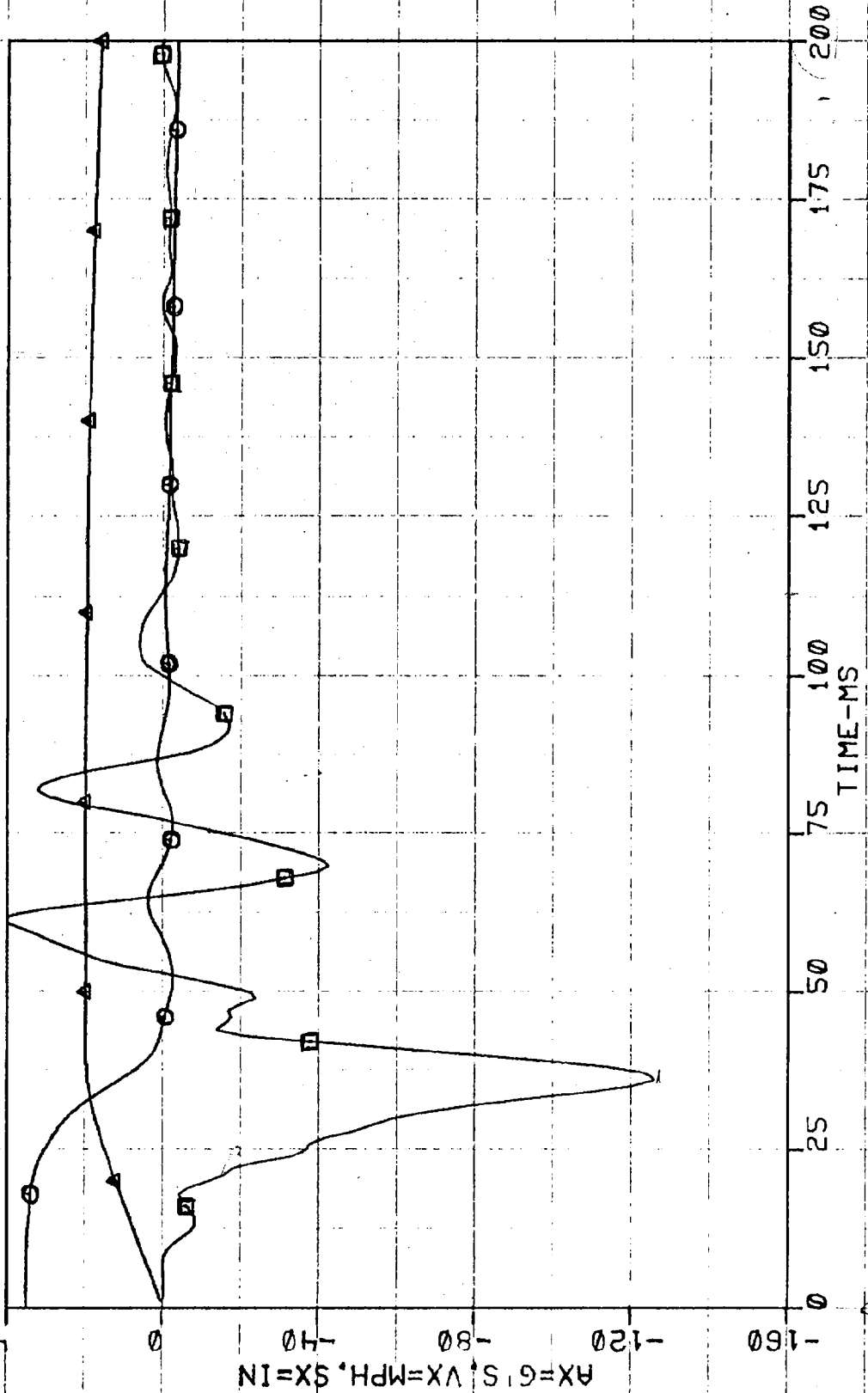


TEST#12 LE BARON LOC. 5
 $\square$ = AX $\oplus$ = VX $\triangle$ = SX

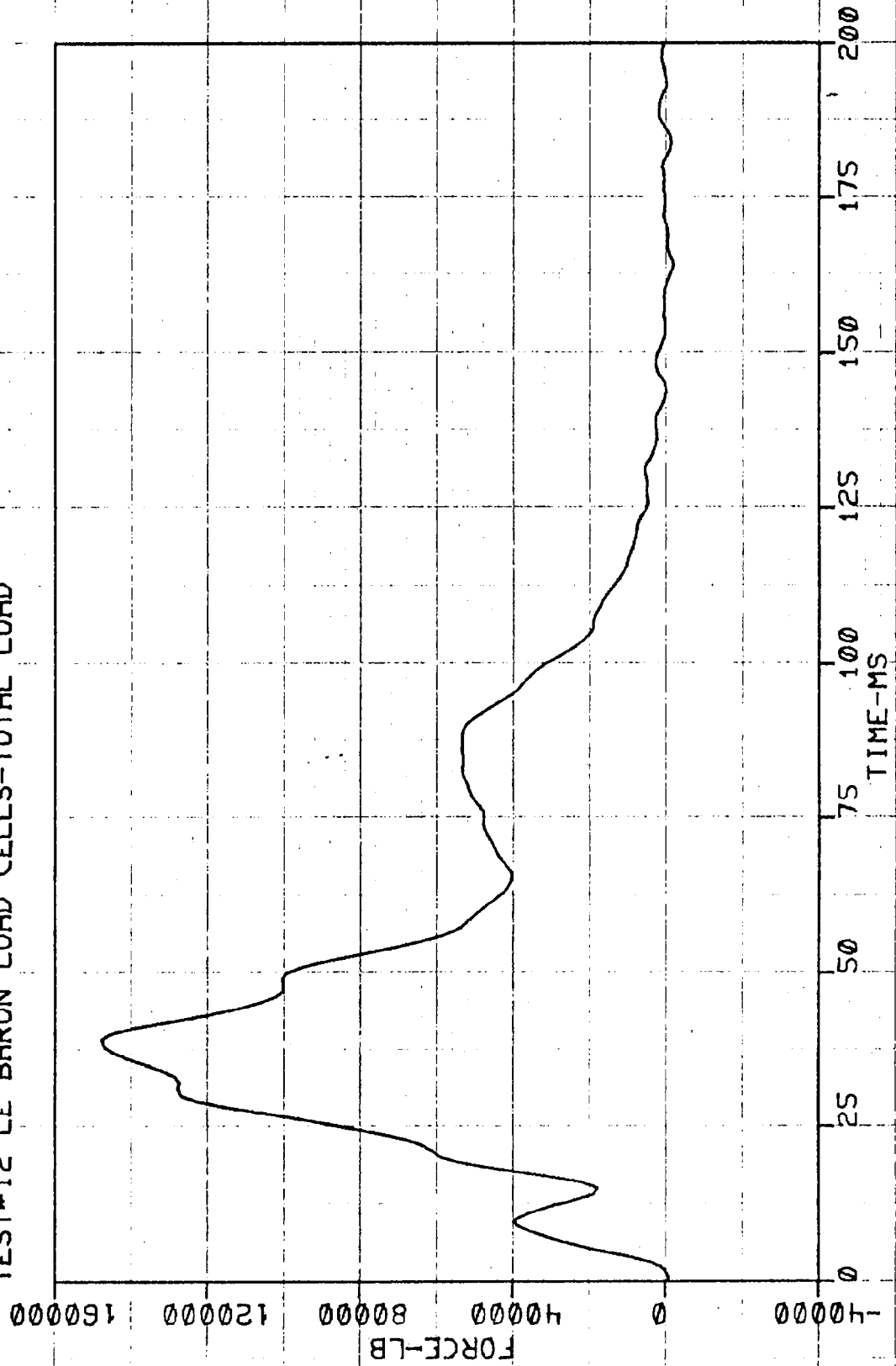


TEST#12 LE BARON LOC. 6

□ = AX ○ = VX △ = SX



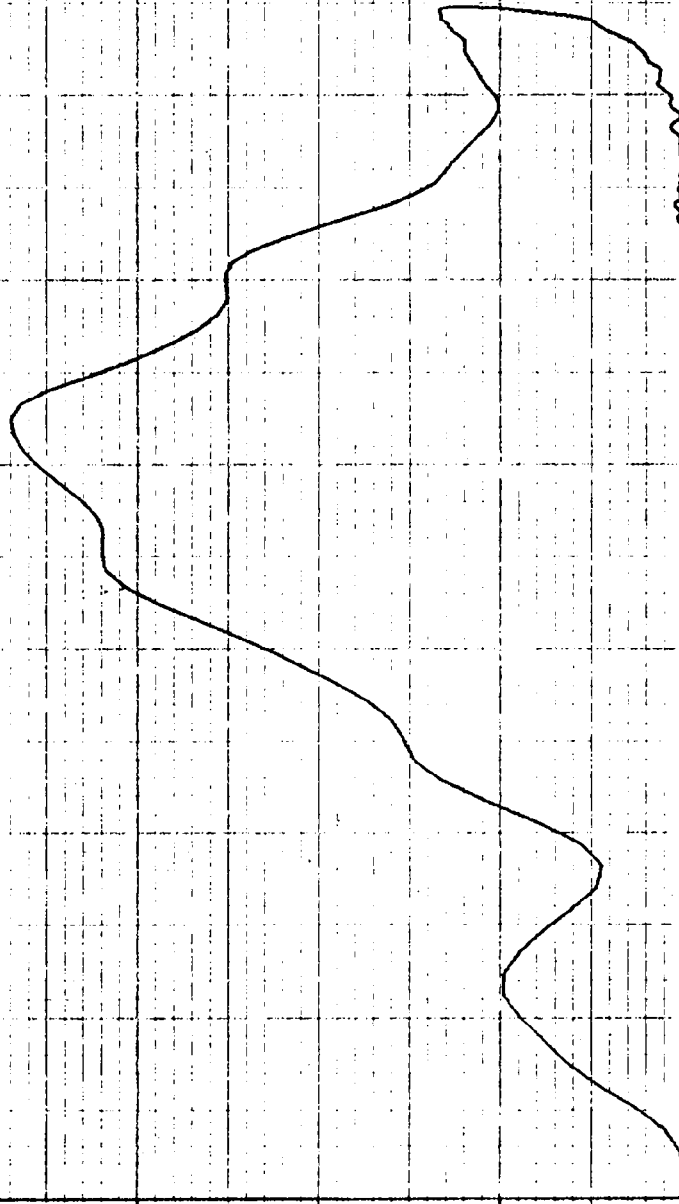
TEST#12 LE BARON LOAD CELLS-TOTAL LOAD



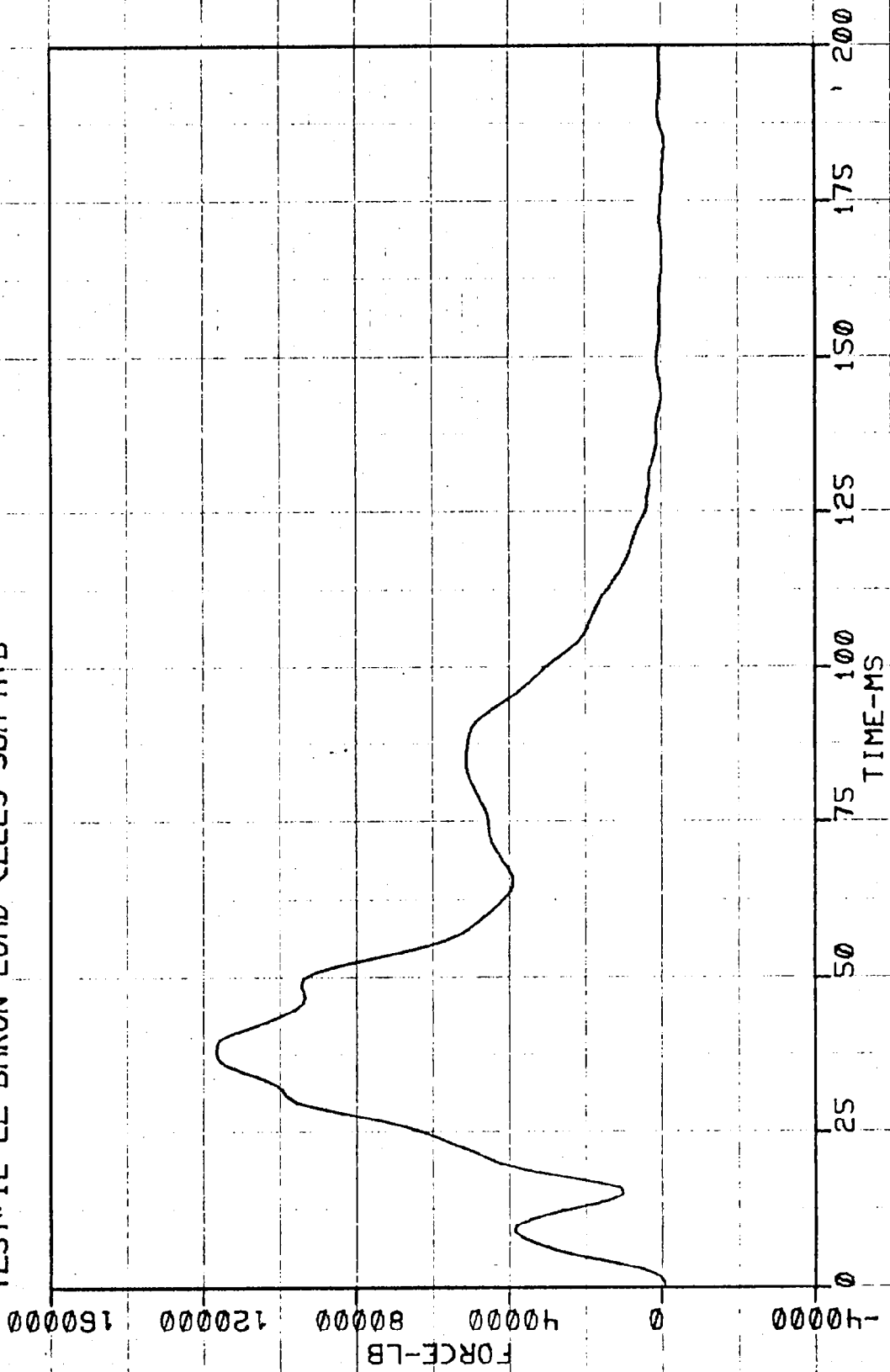
TEST#12 LE. BARON FORCE VS DISP.

FORCE-LB
200000
160000
120000
80000
40000
0

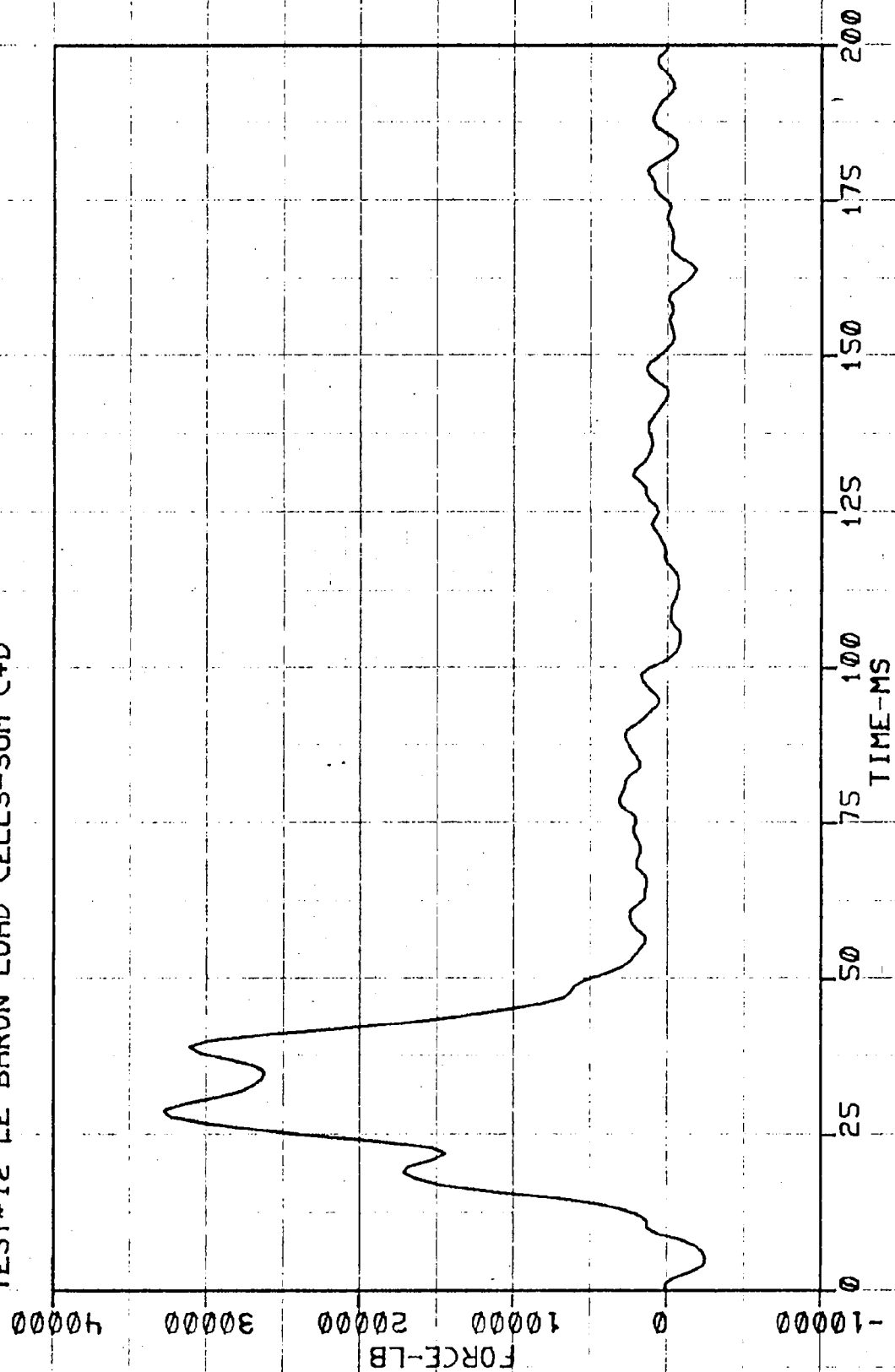
DISPLACEMENT-IN
0 5.0 10 15 20 25 30 35 40



TEST#12 LE BARON LOAD CELLS-SUM A+B

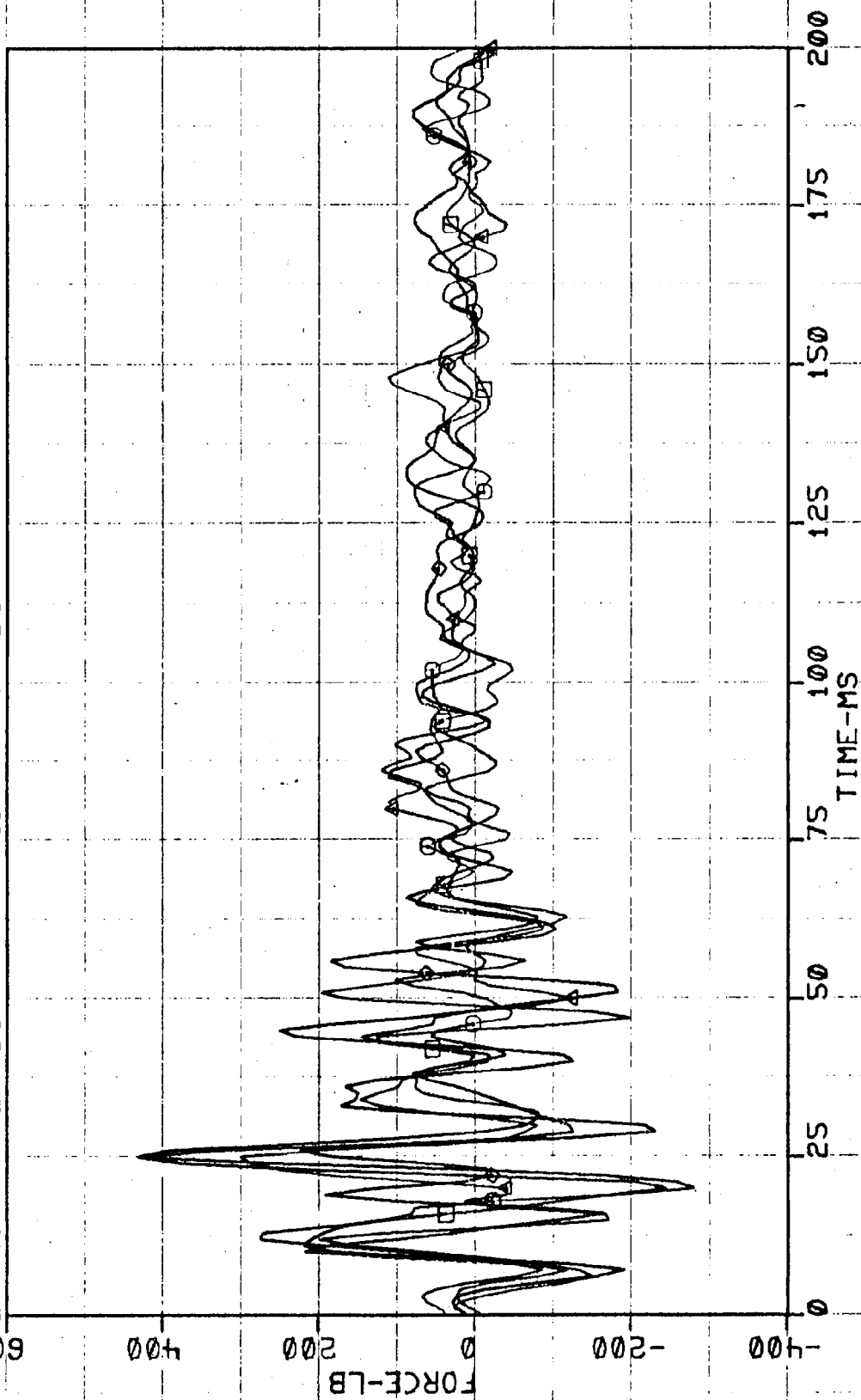


TEST#12 LE BARON LOAD CELLS-SUM C+D

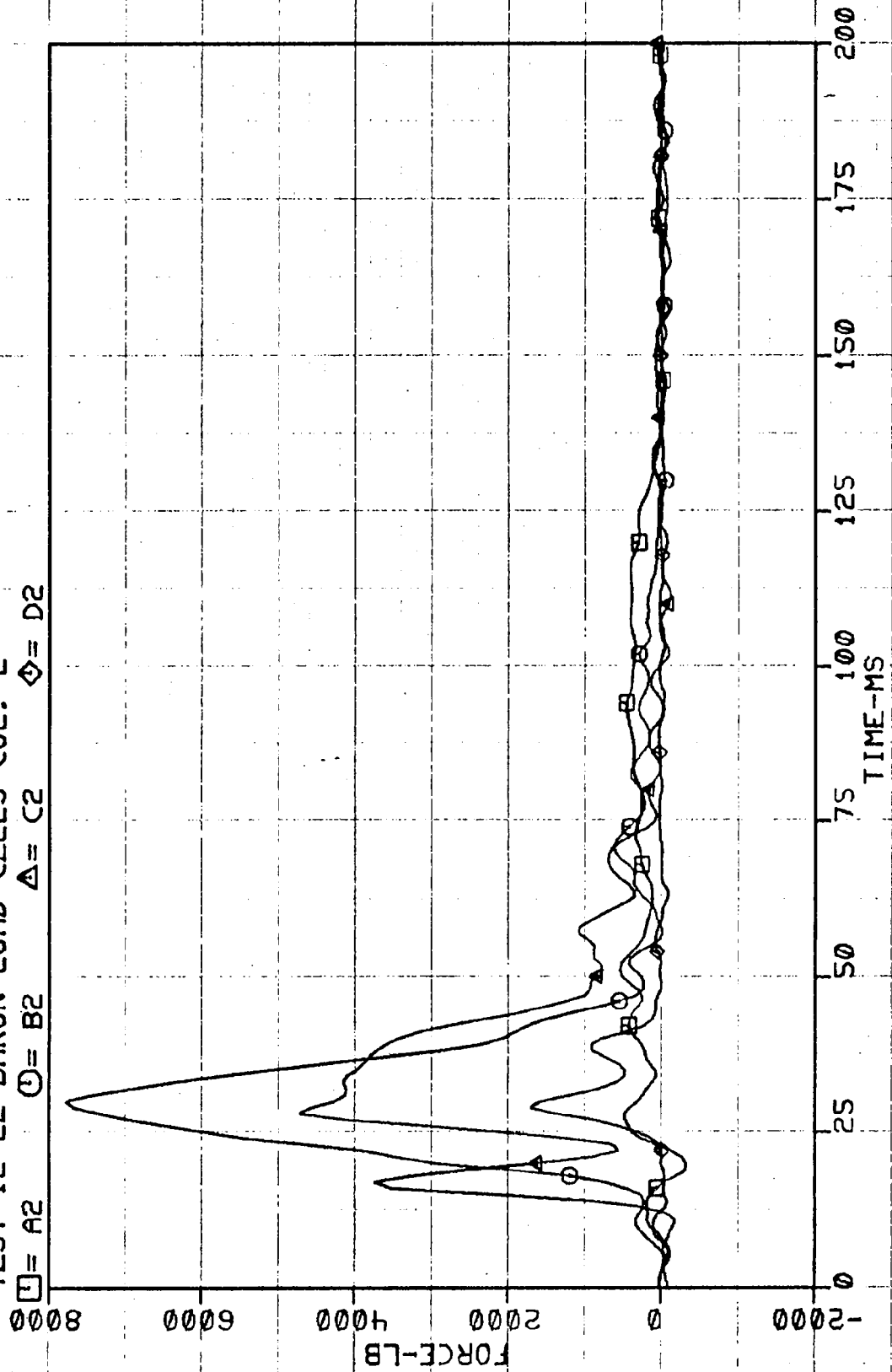


TEST#12 LE BARON LOAD CELLS COL. 1

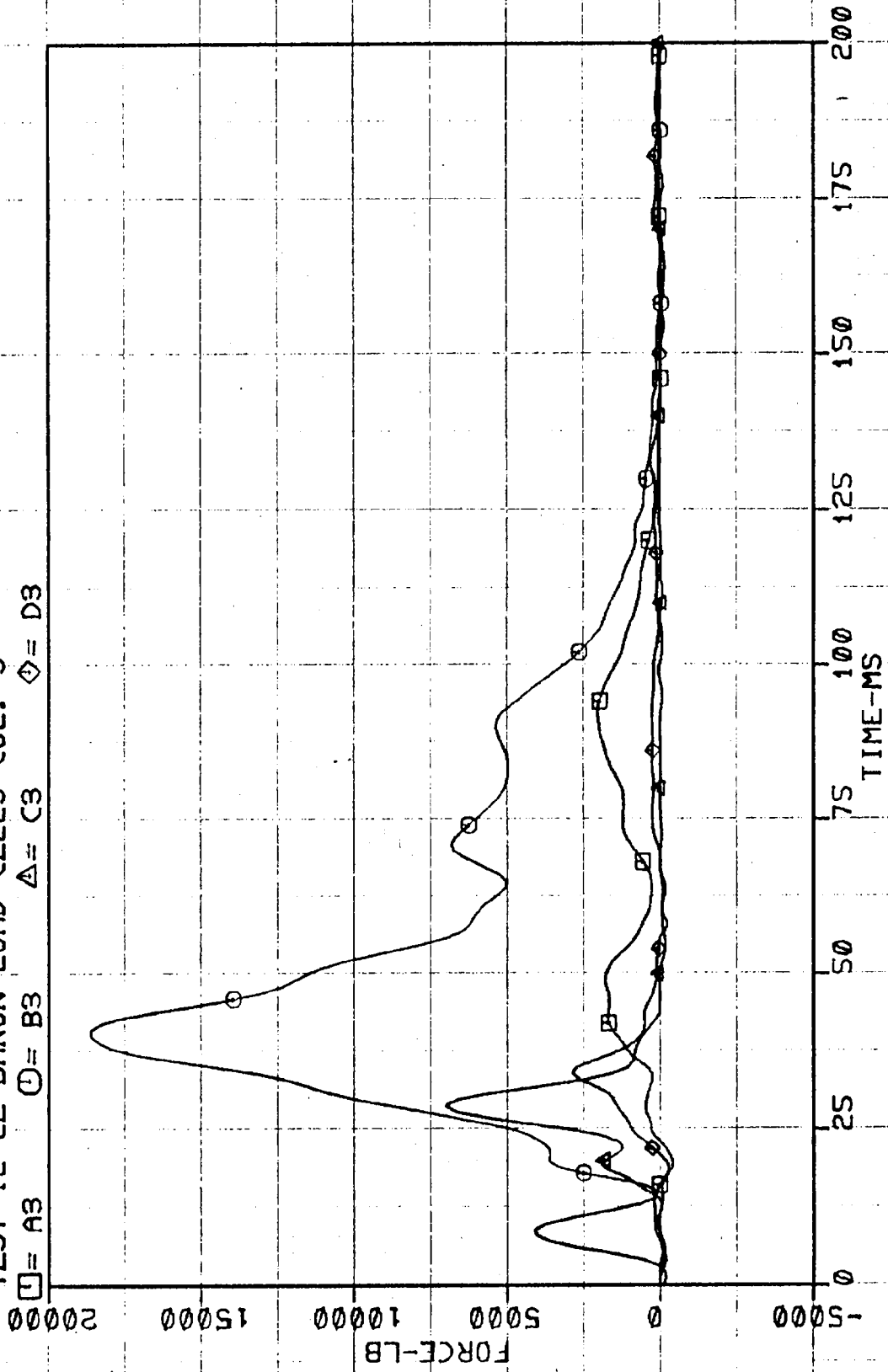
□ = A1 ⊖ = B1 Δ = C1 ◇ = D1



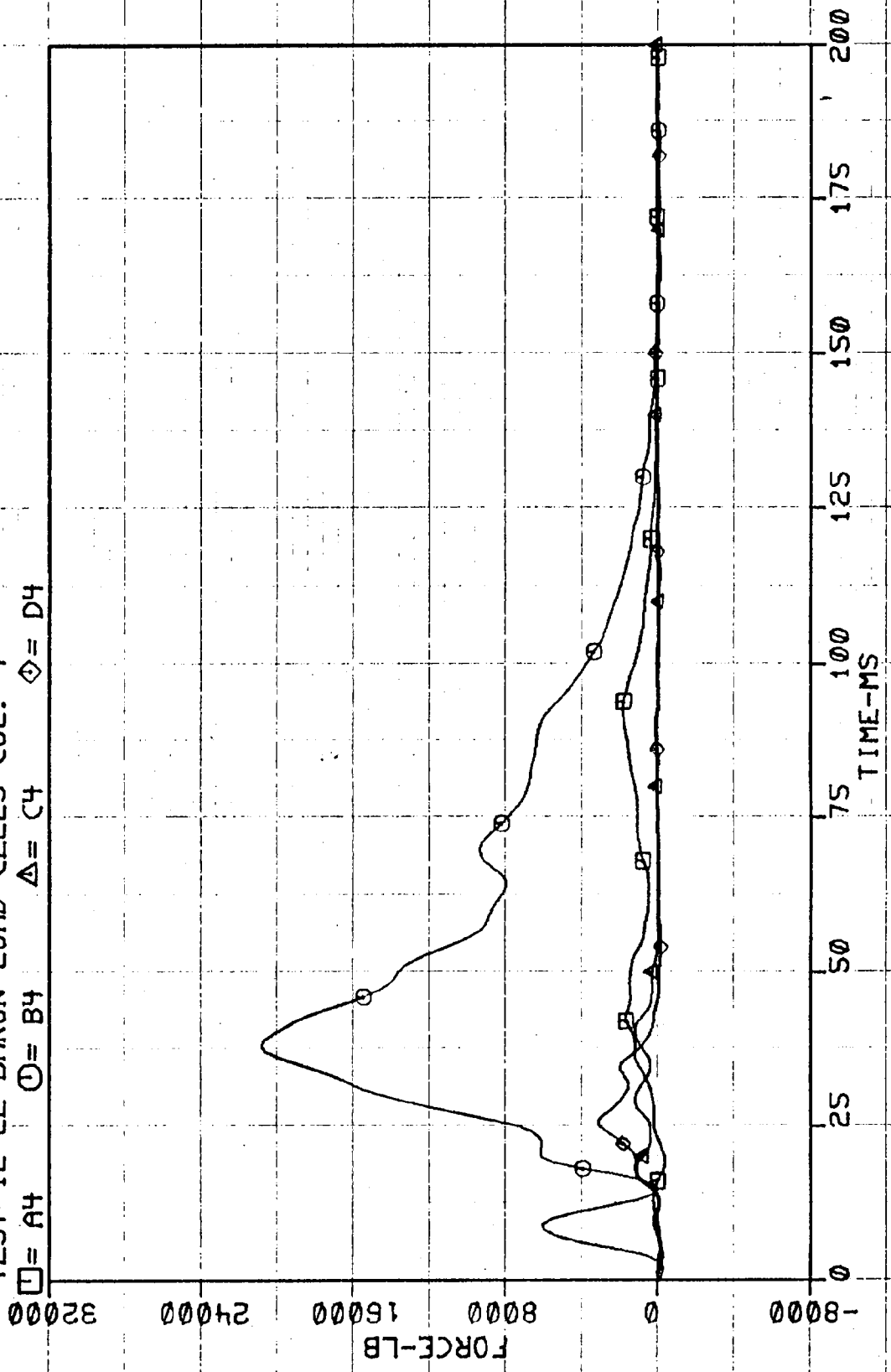
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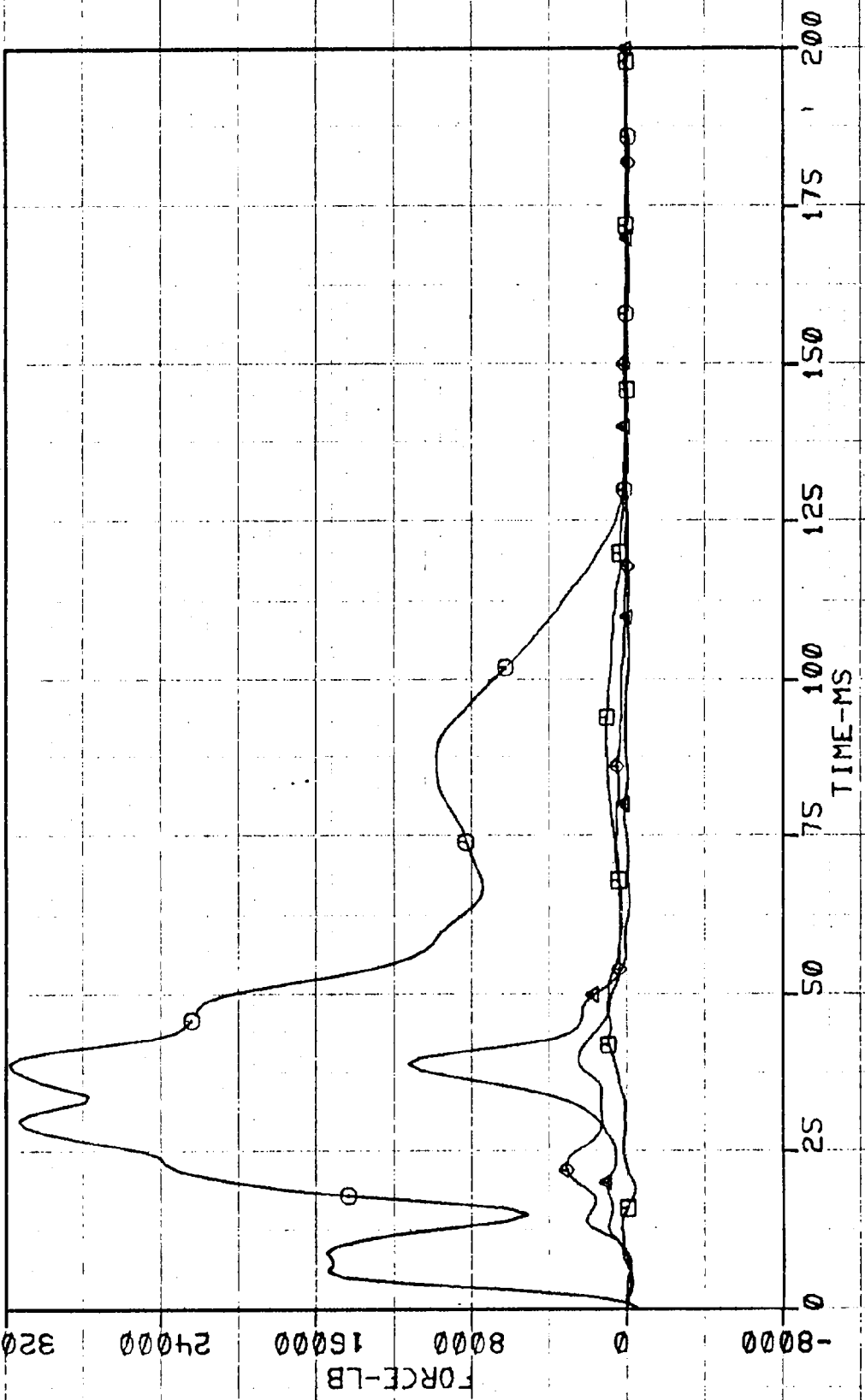
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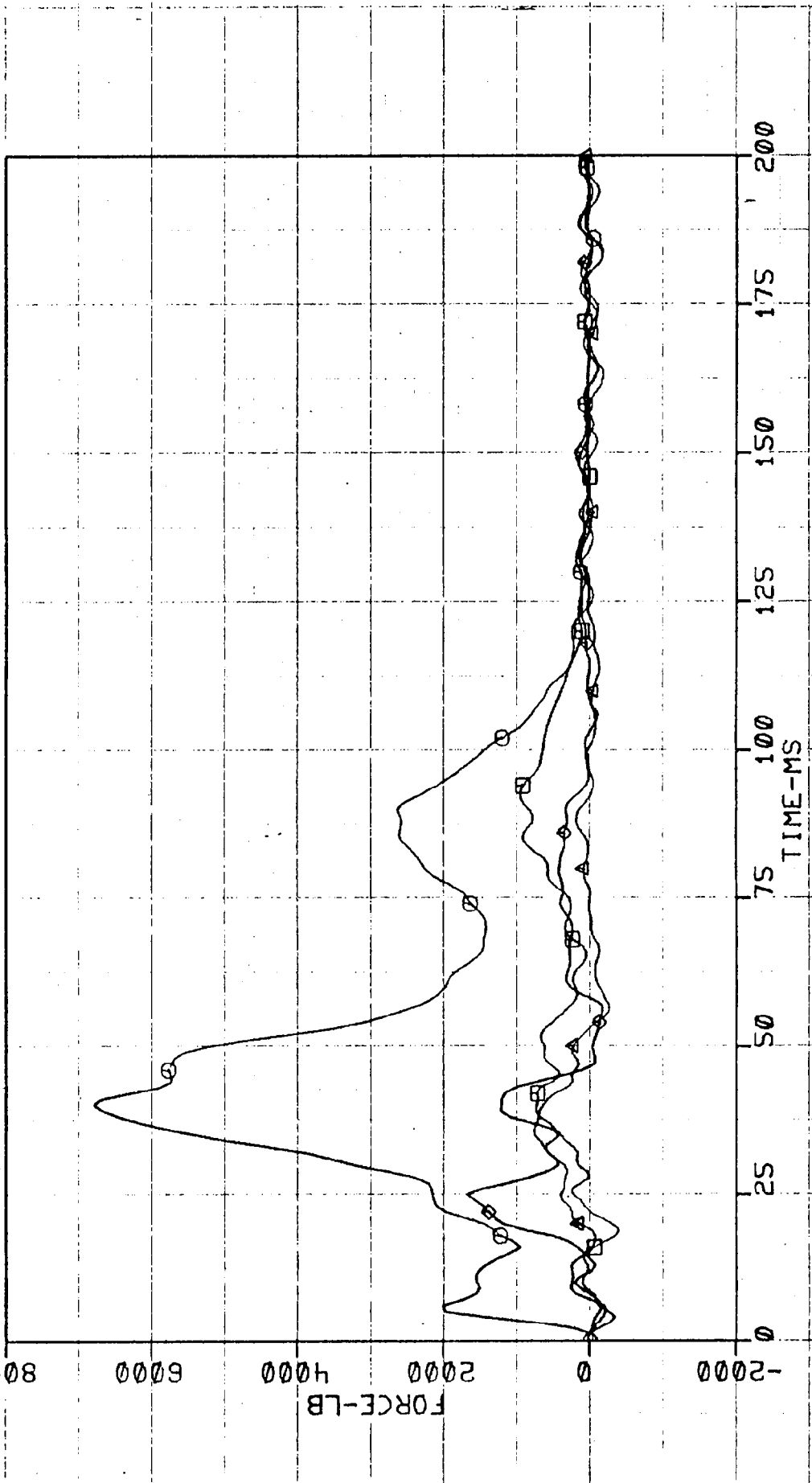
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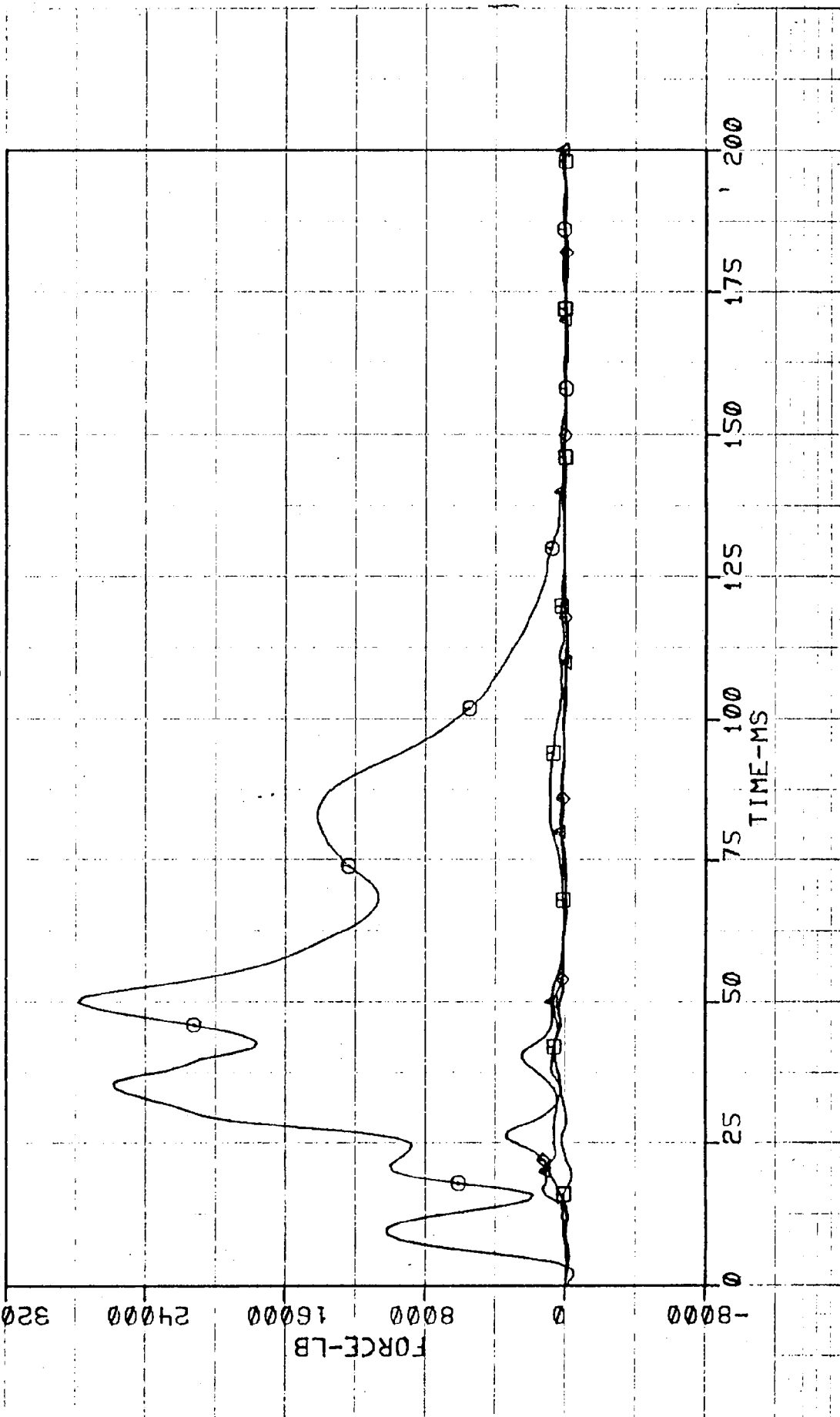
TEST#12 LE BARON LOAD CELLS COL. 5
 □ = A5 ○ = B5 △ = C5 ◇ = D5



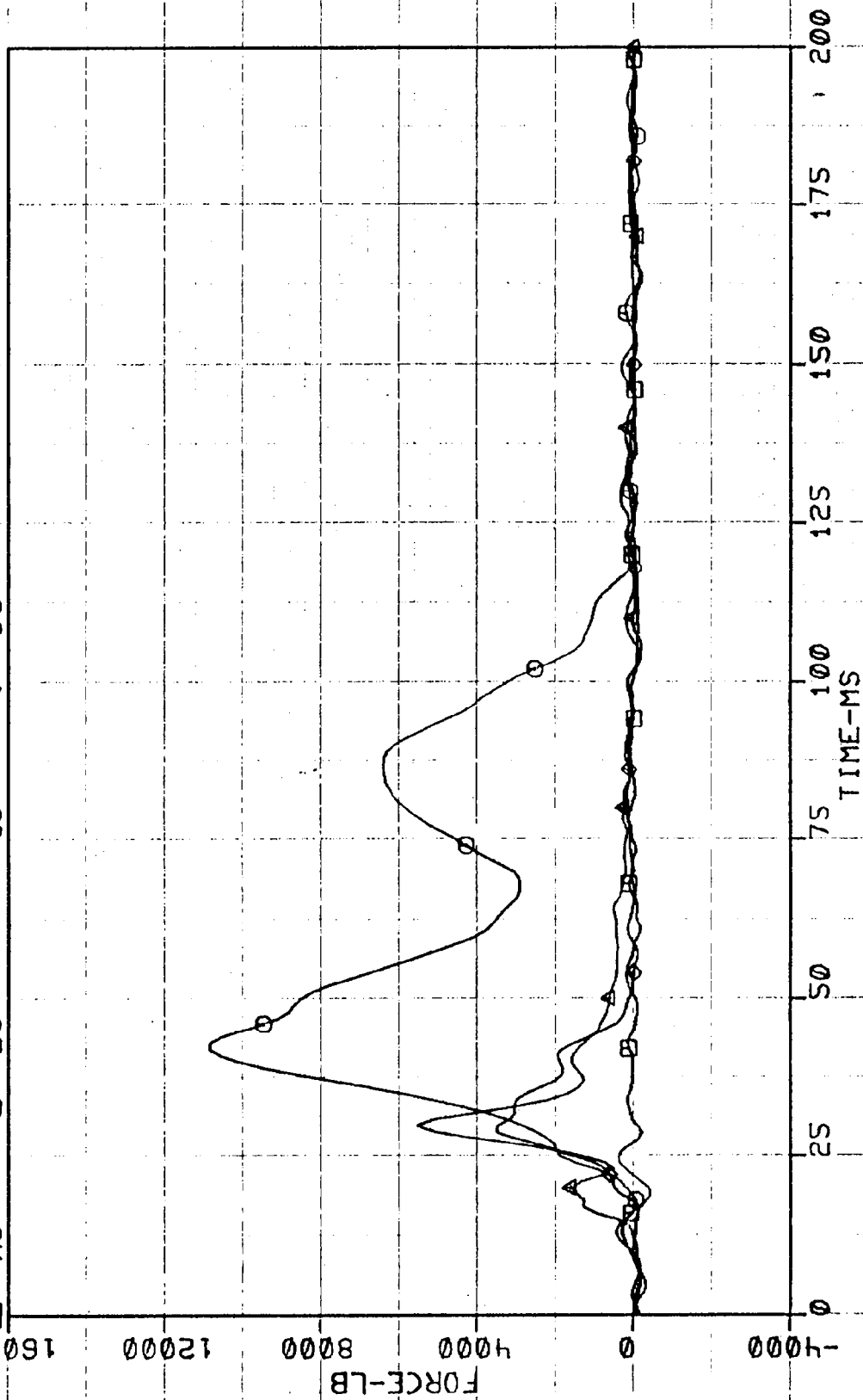
TEST#12 LE BARON LOAD CELLS COL. 6
 □ = A6 ○ = B6 △ = C6 ◇ = D6



TEST#12 LE BARON LOAD CELLS COL. 7
 □ = A7 ○ = B7 △ = C7 ◇ = D7



TEST#12 LE BARON LOAD CELLS COL. 8
 □ = A8 ○ = B8 △ = C8 ◇ = D8



TEST#12 LE BARON LOAD CELLS COL. 9
□ = A9 ○ = B9 △ = C9 ◇ = D9

