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REPORT NO. 208-MGA-99-04

SAFETY COMPLIANCE SLED TESTING FOR FMVSS 208  
OCCUPANT CRASH PROTECTION

DaimlerChrysler Motor Corporation  
1999 Dodge Dakota Pickup  
NHTSA NO. CX0303

MGA RESEARCH CORPORATION  
5000 WARREN ROAD  
BURLINGTON, WI 53105



Test Date: February 16, 1999

Report Date: February 26, 1999

FINAL REPORT

Prepared For:  
U.S. DEPARTMENT OF TRANSPORTATION  
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION  
SAFETY ASSURANCE  
OFFICE OF VEHICLE SAFETY COMPLIANCE  
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16. Abstract  A compliance test (sled test) was conducted on the subject 1999 Dodge Dakota Pickup in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP208S-01 for the determination of FMVSS 208 compliance. Test failures identified were as follows:  NONE			
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## Purpose

This Federal Motor Vehicle Safety Standard (FMVSS) 208 compliance sled test is part of the FMVSS compliance test program conducted for the National Highway Traffic Safety Administration (NHTSA) by MGA Research Corporation (MGA) under Contract No. DTNH22-98-D-11055. The purpose of this test was to determine if the subject vehicle, a 1999 Dodge Dakota Pickup, NHTSA No. CX0303, meets the performance requirements of FMVSS 208, "Occupant Crash Protection," in the impact simulation sled test mode.

## Test Procedure

This test was conducted in accordance with NHTSA's Office of Vehicle Safety Compliance (OVSC) Laboratory Test Procedure No. TP-208S-01 dated January 15, 1998. Data was obtained relative to FMVSS 208, "Occupant Crash Protection," performance.

The test vehicle was instrumented with six (6) accelerometers to measure longitudinal axis accelerations.

The test vehicle contained two (2) Part 572 E 50th percentile adult male anthropomorphic test devices (dummies). 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. The dummies were not restrained by seat belts.

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

The thirty-nine (39) data channels were digitally sampled at 10,000 samples per second and processed per Sections 11.7 through 11.9 of the Laboratory Test Procedure.

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

### Test Results Summary

This FMVSS 208 compliance sled test was conducted at MGA Research Corporation on February 16, 1999.

The test vehicle, a 1999 Dodge Dakota Pickup, NHTSA No. CX0303, appeared to comply with the performance requirements of FMVSS 208 in the impact simulation sled test mode as measured by Hybrid III 50th percentile male dummies.

	FMVSS 208 Max. Allowable Injury Assessment Values	Driver (Serial #340)	Passenger (Serial #312)
HIC	1000	111	250
Chest g	60 g	32	43
Chest displacement	3 inches	1.0	0.3
Left Femur	2250 lb	1298	1120
Right Femur	2250 lb	1195	1141
Neck Extension	57 Nm	15	17
Neck Flexion	190 Nm	27	23
Neck Tension	3300 N	1424	802
Neck Compression	4000 N	99	555
Neck Shear	3100 N	529	972

The vehicle also appears to meet the other FMVSS 208 requirements for which it was tested. These results are shown in the data sheets that are included in this report.

The test vehicle was equipped with air bags at the driver and passenger seating positions. The dummies were not restrained by seat belts. The sled carriage was accelerated to 17.2 g with an integrated velocity change of 29.6 mph. The air bags were triggered at 18 milliseconds after 0.5 g acceleration was measured by the firing circuit. Following subsequent digital data processing and filtering the acceleration signal to Channel Class 60, the air bag event trigger signal was 21 ms after the 0.5 g acceleration level was indicated.

INCLUDE DISCUSSION OF LOST CHANNELS OR OTHER TEST ISSUES.

Sled Test SummaryVehicle NHTSA No.: CX0303 Test Mode: FMVSS 208 SLED TESTVehicle Yr/Make/Model/Body Style: 1999/Dodge/Dakota/PickupTest Date: February 16, 1999 Time: 12:20 p.m. Temp: 69°FVehicle Test Weight: 4238 lbs.**DUMMY INFO.****DRIVER****PASSENGER**

Dummy Type

Part 572EPart 572E

Serial Number

340312

Restraint System

AirbagAirbag

No. Data Channels

1515

Number of Cameras:

1 Real Time6 High Speed

Door Opening Data:

yes Left Frontyes Right Front**FRONT SEAT(S) DATA****DRIVER****PASSENGER**

Seat Track Failure -

0 inches shift;0 inches shift

Seat Back Failure -

NoneNone**VISIBLE DUMMY  
CONTACT POINTS:****DRIVER****PASSENGER**

Head

AirbagHeadliner, visor, airbag

Chest

AirbagAirbag

Left Knee

Instrument PanelInstrument Panel

Right Knee

Instrument PanelInstrument Panel

General Test And Vehicle Parameter DataVehicle Yr/Make/Model/Body Style: 1999/Dodge/Dakota/PickupVehicle NHTSA No.: CX0303 VIN: 1B7FL26X0XS100874 Color: White

## Engine Data:

No. Cylinders: 6; CID:     ; Liters: 3.9; CCs:     Placement: Longitudinal/Inline: X; Transverse/Lateral:     

## Transmission Data:

Speeds: 5; Manual: X; Automatic:     ; Overdrive:     

## Final Drive:

Rear Wheel Drive: X; Front Wheel Drive:     ; Four Wheel Drive:     

## Major Options:

A/C: X; Pwr. Strg.: X; Pwr. Brakes: X; Pwr. Windows:     Pwr. Dr. Locks:     ; Other: tachometer, radioDate Received: 10/27/98; Odometer Reading: 94 milesSelling Dealer: Dodge City of Milwaukee Inc., 4640 South 27th Street, Milwaukee, WI 53221

REMARKS:

General Test And Vehicle Parameter Data (Cont.)

## DATA FROM VEHICLE'S CERTIFICATION LABEL:

Vehicle Manufactured By: DaimlerChrysler Motor CorporationDate of Manufacture: 7/98; VIN: 1B7FL26X0XS100874GVWR: 4810 lbs; GAWR Front: 3100 lbs.GAWR Rear: 3166 lbs.

## DATA FROM TIRE PLACARD:

Tire Pressure with Maximum Capacity Vehicle Load:

FRONT: 35 psi REAR: 35 psiRecommended Tire Size: P215/75R15

Recommended Cold Tire Pressure:

FRONT: 35 psi REAR: 35 psiSize of Tires on Test Vehicle: P215/75R15Type of Spare Tire: P215/75R15; Space Saver:     ; Standard: X

## Vehicle Capacity Data:

Type of Front Seats: X Bucket;      Bench;      Split BenchNumber of Occupants: 3 Front;      Rear;      3rd Seat; 3 TOTAL

## REMARKS:

VEHICLE CAPACITY WEIGHT (VCW) = 1228 lbs.No. Of Occupants x 150 lbs = 450 lbs.Rated Cargo/Luggage Weight (RCWL) = 778 lbs. (Difference)

General Test And Vehicle Parameter Data (Cont.)

WEIGHT OF TEST VEHICLE AS RECEIVED AT LABORATORY: (with maximum fluids)

Right Front =	<u>1058</u> lbs.	Right Rear =	<u>718</u> lbs.
Left Front =	<u>1078</u> lbs.	Left Rear =	<u>728</u> lbs.
TOTAL FRONT =	<u>2136</u> lbs.	TOTAL REAR =	<u>1446</u> lbs.
% Total Weight =	<u>60</u> %	% Total Weight =	<u>40</u> %
TOTAL DELIVERED WEIGHT = <u>3582</u> lbs.			

WEIGHT OF FULLY LOADED TEST VEHICLE WITH TWO DUMMIES AND 300 POUNDS OF CARGO WEIGHT:

Right Front =	<u>1153</u> lbs.	Right Rear =	<u>949</u> lbs.
Left Front =	<u>1167</u> lbs.	Left Rear =	<u>969</u> lbs.
TOTAL FRONT =	<u>2320</u> lbs.	TOTAL REAR =	<u>1918</u> lbs.
% Total Weight =	<u>55</u> %	% Total Weight =	<u>45</u> %
TOTAL WEIGHT = <u>4238</u> lbs.			

TEST VEHICLE ATTITUDE: (all measurements in degrees)

AS DELIVERED DOOR SILL ANGLE:	<u>-0.1</u>
AS TESTED DOOR SILL ANGLE:	<u>0.0</u>
FULLY LOADED DOOR SILL ANGLE:	<u>0.3</u>
Vehicle's Wheelbase =	<u>110.5</u> inches

FUEL SYSTEM DATA:

Fuel System Capacity From Owner's Manual =	<u>22</u> gallons
Usable Capacity Figure Furnished by COTR =	<u>22</u> gallons

REMARKS:

Post-Impact Data

Test number: HT99021601

NHTSA number: CX0303

Test date: February 16, 1999

Test time: 12:20 p.m.

Test type: FMVSS 208 Compliance Sled Test

Impact angle: 0°

Ambient Temperature  
at Impact Area: 69°

Temperature in  
Occupant Compartment: 69°

Impact Velocity:

    Integrated velocity from the integration of the entire sled acceleration: 29.6 mph

    Specified integrated velocity range: 28 to 30 mph

Sled Carriage Acceleration:

    Acceleration: 17.2 g

    Specified Acceleration Range: 16.0 - 18.2 g

Sled Carriage Acceleration Duration:

    Time from T-0 (-0.5 g) to 0.0 g: 122.3 msec

    Specified Acceleration Duration: 120.0 to 130.0 msec

The sled acceleration corridor was achieved.

## Seat and Steering Column Positioning Data

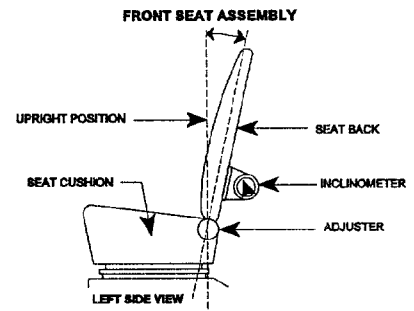
Vehicle Yr/Make/Model/Body Style: 1999/Dodge/Dakota/Pickup

Vehicle NHTSA No.: CX0303 Test Date: February 16, 1999

### NOMINAL DESIGN RIDING POSITION:

Driver Seat: Seat Back Angle =  $14.0^{\circ}$

Passenger Seat: Seat Back Angle =  $13.9^{\circ}$



### SEAT FORE AND AFT POSITIONS:

Driver Seat: The seat track had a total position movement of 20 notches and was positioned 11 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 20 notches and was positioned 11 notches rearward from the foremost position with the forward most locking position as zero.

### STEERING COLUMN ADJUSTMENTS:

The steering column was not adjustable.

Dummy Positioning Measurement Table

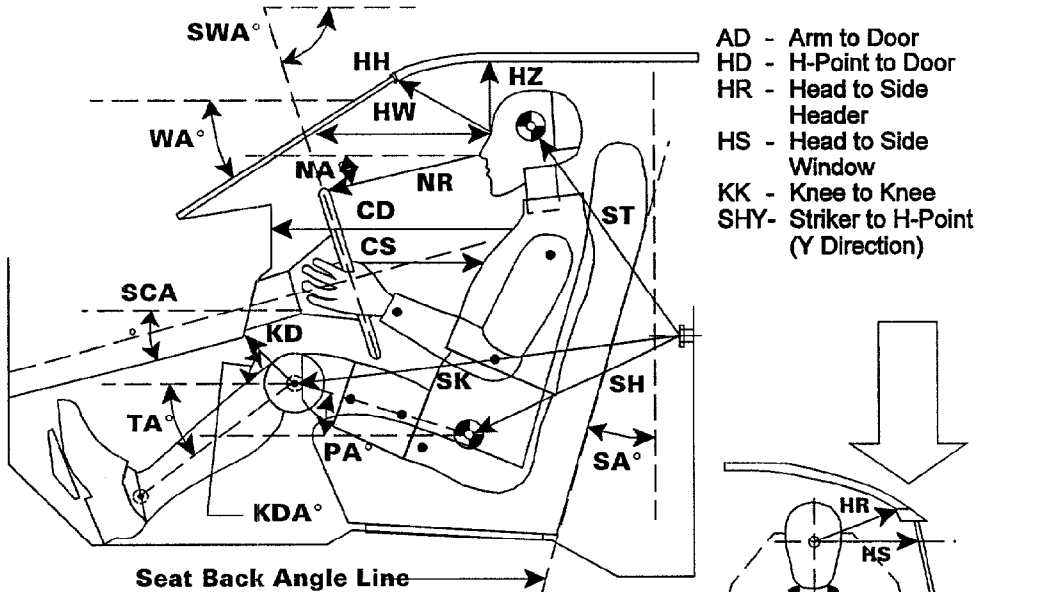
Vehicle Year/Make/Model/Body Style: 1999/Dodge/Dakota/Pickup

Vehicle NHTSA No.: CX0303 Test Date: February 16, 1999

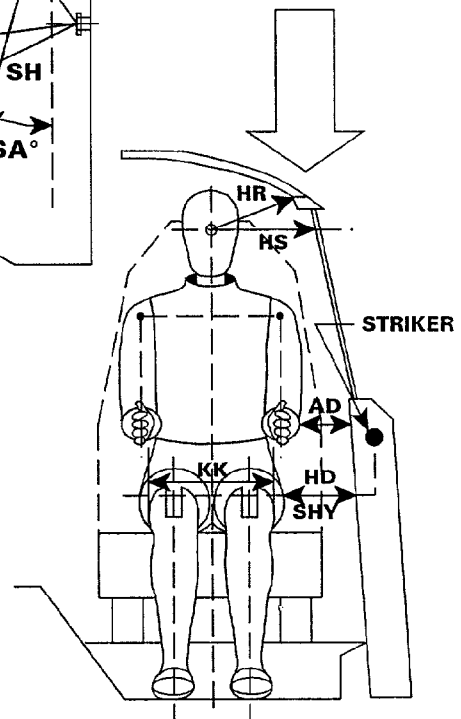
	DRIVER (Serial #340)	PASSENGER (Serial #312)
WA°	32.9°	
SWA°	64.9°	N/A
SCA°	24.9°	N/A
SA°	14.0°	13.9°
HZ	8.6	8.3
HH	15.7	16.3
HW	24.9	24.2
HR	9.4	9.5
NR	14.3 Angle (NA°) 12.5°	N/A
CD	20.0	21.6
CS	11.9	N/A
RA	6.7	N/A
KDL	6.2 Angle (KDA°) 17.8°	6.0
KDR	5.9	6.4 Angle (KDA°) 31.3°
PA°	24.4°	23.1°
TA°	40.8°	43.1°
KK	13.1	10.0
ST	23.9 Angle 16.2°	25.4 Angle 20.5°
SK	27.1 Angle 86.8°	27.1 Angle 86.4°
SH	12.9 Angle 102.1°	12.4 Angle 98.2°
SHY	9.5	9.7
HS	12.6	13.1
HD	6.7	7.0
AD	3.9	4.7

Dummy Positioning Measurement Locations

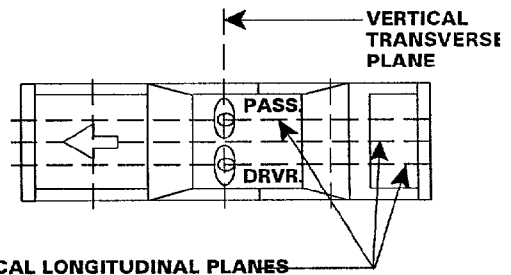
**DUMMY MEASUREMENT FOR FRONT SEAT PASSENGERS**



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



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



VERTICAL LONGITUDINAL PLANES

### Description of Dummy Measurements

When a level is to be used, it is to ensure that the line containing the two points described is either parallel or perpendicular to the ground. If a measurement to be made is less than 10 inches ignore the directions to use a level and approximate a level measurement. Also, when a measurement is to be taken to or from the center of a bolt on the dummy, take the measurement from the center of the bolt hole if the bolt is recessed.

**The following measurements are to be made within a vertical longitudinal plane.**

- \* HH Head to Header, taken from the point where the dummy's nose meets his forehead (between his eyes) to the furthest point forward on the header.
- \* HW Head to Windshield, taken from the point where the dummy's nose meets his forehead (between his eyes) to a point on the windshield. Use a level.
- HZ Head to Roof, taken from the point where the dummy's nose meets his forehead (between his eyes) to the point on the roof directly above it. Use a level.
- \* CS Steering Wheel to Chest, taken from the center of the steering wheel hub to the dummy's chest. Use a level.
- \* CD Chest to Dash, place a tape measure on the tip of the dummy's chin and rotate five inches of it downward toward the dummy to the point of contact on the transverse center of the dummy's chest. Then measure from this point to the closest point on the dashboard either between the upper part of the steering wheel between the hub and the rim, or measure to the dashboard placing the tape measure above the rim, whichever is a shorter measurement. See photograph.
- RA Steering Wheel Rim to Abdomen, taken from the bottommost point of the steering wheel rim horizontally rearward to the dummy. Use a level.
- NR Nose to Rim, taken from the tip of the dummy's nose to the closest point on the top of the steering wheel rim. Also indicate the angle this line makes with respect to the horizontal (NA).
- \*<sup>1</sup> KDL, KDR Left and Right Knees to Dashboard, taken from the center of the knee pivot bolt's outer surface to the closest point forward acquired by swinging the tape measure in continually larger arcs until it contacts the dashboard. Also reference the angle of this measurement with respect to the horizontal for the outboard knee (KDA). See photograph.

\* Measurement used in Data Tape Reference Guide

<sup>1</sup> Only outboard measurement is referenced in Data Tape Reference Guide

Description of Dummy Measurements (Cont.)

SH, SK, ST Striker to Hip, Knee, and Head, these measurements are to be taken in the X-Z plane measured from the forward most center point on the striker to the center of the H-point, outer knee bolt, and head target. When taking this measurement a firm device that can be rigidly connected to the striker should be used. Use a level. The angles of these measurements with respect to the horizontal should also be recorded. The measurement in the Y (transverse) direction from the striker to the H-point should also be taken (SHY). See photograph.

**The following measurements are to be made within a vertical transverse plane.**

- |      |   |
|------|---|
| HS   | Head to Side Window, taken from the point where the dummy's nose meets his forehead (between his eyes) to the outside of the side window. In order to make this measurement, roll the window down to the exact height which allows a level measurement. Use a level. See photograph.  |
| * AD | Arm to Door, taken from the outer surface of the elbow pivot bolt on a Hybrid II dummy to the first point it hits on the door. In the case of a Hybrid III dummy, measure from the bolt on the outer biceps. When a SID is used make the measurement from the center of the bottom of the arm segment where it meets the dummy's torso. |
| * HD | H-point to Door, taken from the H-point on the dummy to the closest point on the door. Use a level.   |
| * HR | Head to Side Header, measure the shortest distance from the point where the dummy's nose meets his forehead (between his eyes) to the side edge of the header just above the window frame, directly adjacent to the dummy.  |
| SHY  | Striker to H-point, taken from a rod rigidly connected to the forward most center point on the striker to the H-point. Use a level. See photograph.   |
| KK   | Knee to Knee, for Hybrid II dummies measure the distance between knee pivot bolt head outer surfaces. For Hybrid III dummies measure the distance between the outboard knee clevis flange surfaces. (This measurement may not be exactly transverse)  |

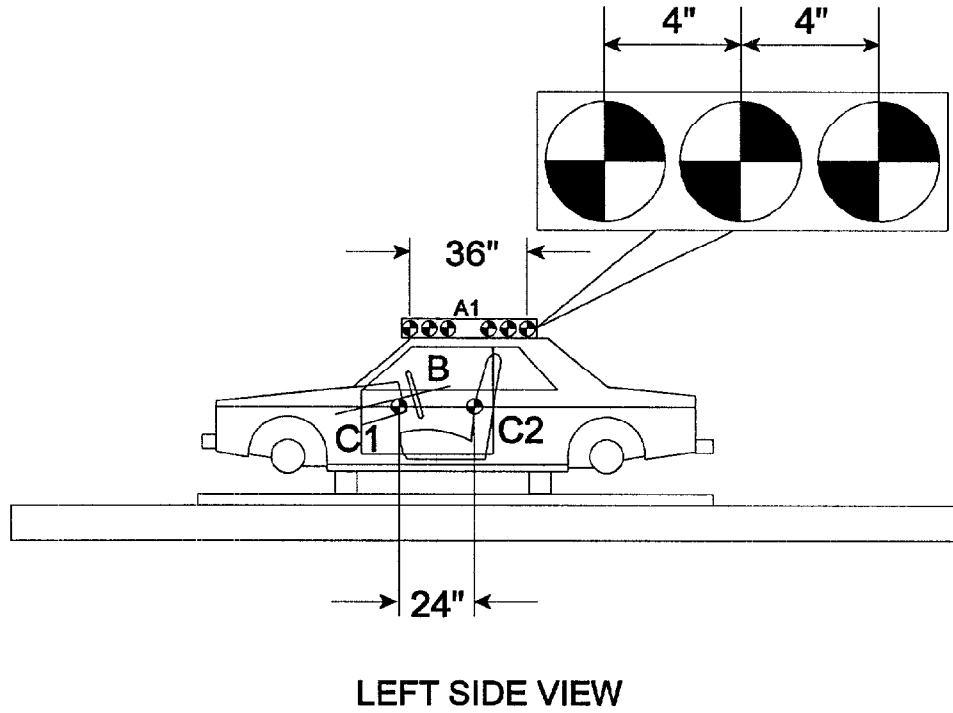
\* Measurement used in Data Tape Reference Guide

Description of Dummy Measurements (Cont.)**Angles**

SA	Seat Back Angle, find this angle using the instructions provided by the manufacturer. If the manufacturer doesn't provide clear instructions contact the COTR.
PA	Pelvic or Femur Angle, taken by inserting the pelvic angle gauge into the H-point gauging hole on the SID or the Hybrid III dummies and taking this angle with respect to the horizontal. Measure the angle of the line connecting the H-point hole and the outer knee pivot bolt hole on a Hybrid II dummy with respect to the horizontal, to find the femur angle.
SWA	Steering Wheel Angle, find this by placing a straight edge against the steering wheel rim along the longitudinal plane. Then measure the acute angle of the straight edge with respect to the horizontal.
SCA	Steering Column Angle, measured with respect to the horizontal by placing an inclinometer on the center of the underside of the steering column.
NA	Measure the angle made when taking the measurement NR with respect to the horizontal.
KDA	Knee to Dash Angle, the angle that the measurement KD is taken at with respect to the horizontal. Only get this angle for the outboard knee. See photograph.
WA	Windshield Angle, place an inclinometer along the transverse center of the windshield exterior (measurement is made with respect to horizontal).
TA	Tibial Angle, use a straight edge to connect the dummy's knee and ankle bolts. Then place an inclinometer on the straight edge and measure the angle with respect to the horizontal.

Vehicle Targeting Measurements

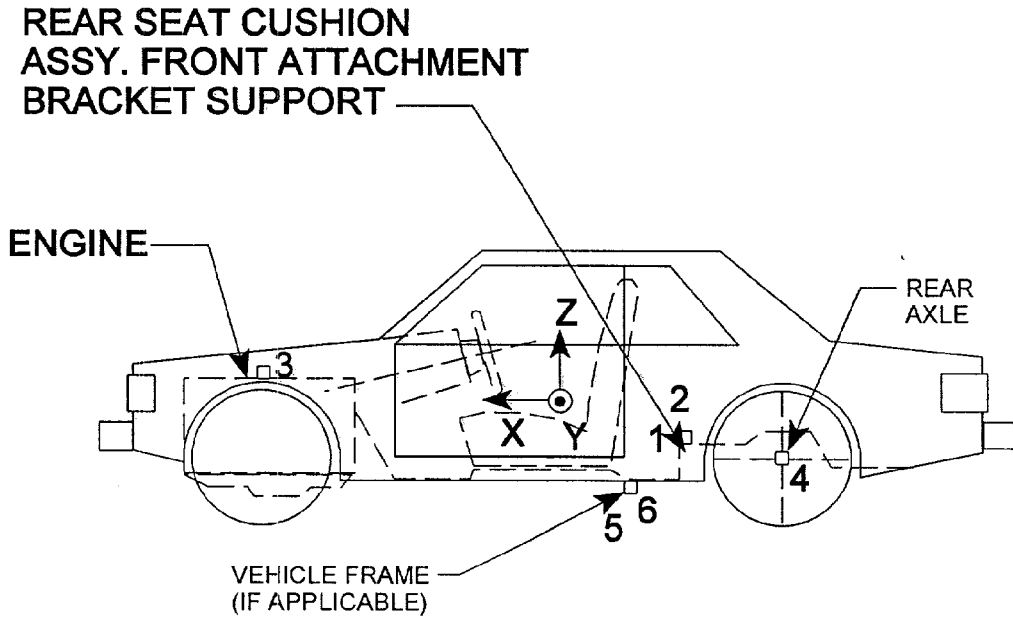
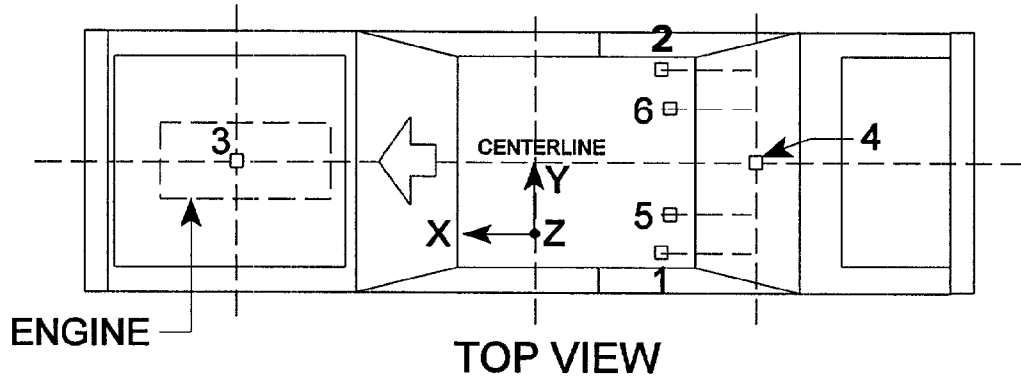
REFERENCE PHOTO TARGETS



Vehicle Accelerometer Placement and Data Summary

Vehicle Year/Make/Model/Body Style: 1999/Dodge/Dakota/Pickup

Vehicle NHTSA No.: CX0303 Test Date: February 16, 1999



**LEFT SIDE VIEW**

Vehicle Accelerometer Location Measurements and Data Summary

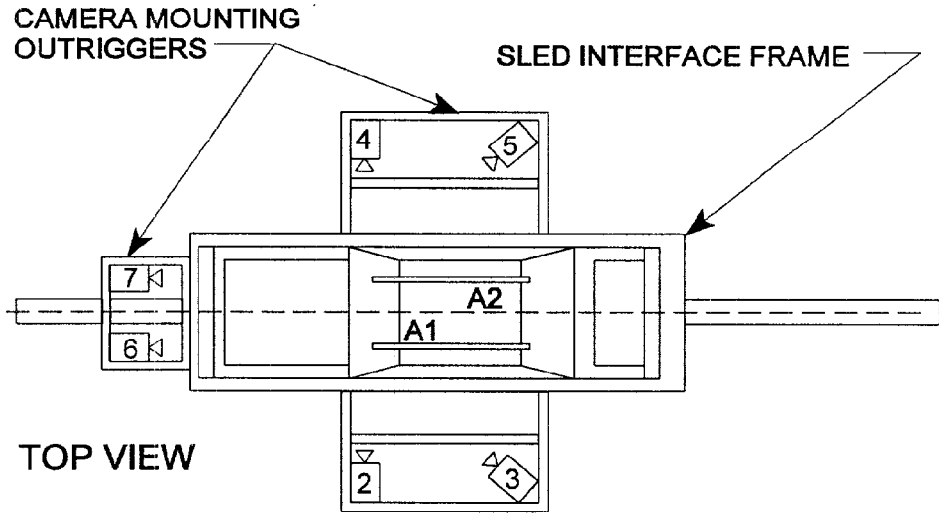
Vehicle Year/Make/Model/Body Style: 1999/Dodge/Dakota/Pickup

Vehicle NHTSA No.: CX0303 Test Date: February 16, 1999

No.	Location	X (in)	Y (in)	Positive Direction		Negative Direction	
				g's	msec	g's	msec
	Sled Primary Longitudinal	69.8	0	17.2	68	1.4	126
	Sled Redundant Longitudinal	116.8	0	17.0	68	1.3	126
	Sled Velocity Measured Integrated	69.8	0	29.6	151	-	-
4	Rear Axle Longitudinal	45.3	0	17.1	67	1.9	126
3	Top Engine Longitudinal	167.8	0	17.2	70	1.9	127
2	Right Rear Seat Member Longitudinal	93.3	24.5	20.0	61	1.7	127
1	Left Rear Seat Member Longitudinal	93.3	23.8	20.7	60	3.1	128
5	Left Vehicle Frame	110.5	15	17.0	68	1.4	125
6	Right Vehicle Frame	110.5	15	*	*	*	*

\* No Valid Data Collected

### Camera Positions



TOP VIEW

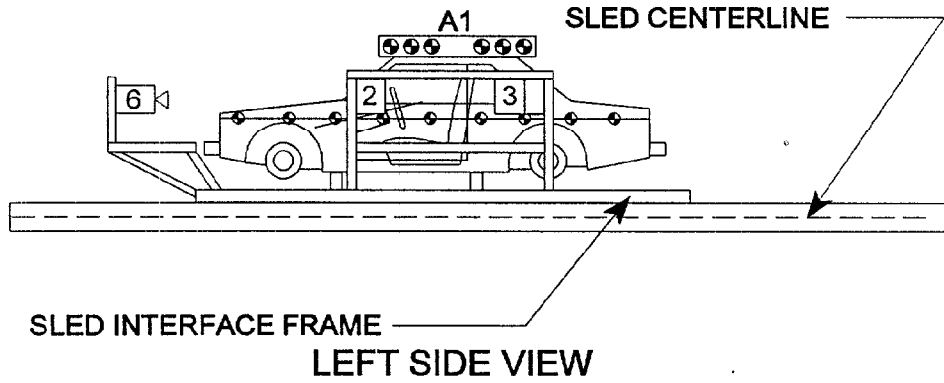
#### CAMERA FRAME RATES:

#1 = 24 fps

All Others = 1,000 fps



REAL TIME CAMERA



LEFT SIDE VIEW

Camera Location Measurements

Camera No.	VIEW	Camera Positions (inches)*			Angle (deg)	Film Plane To Head Target	Lens (mm)	Speed (fps)
		X	Y	Z				
1	Real-Time (Pre and Post)						10	24
2	Onboard Driver	66.3	82.5	41.3	90	64.0	13	1000
3	Onboard Driver Angle	144.8	85.8	50.0	--	--	13	1000
4	Onboard Passenger	68.3	84.0	42.5	90	65.5	13	948
5	Onboard Passenger Angle	146.3	86.5	51.5	--	--	13	1000
6	Onboard Windshield Driver	22.5	13.0	47.0	--	--	13	990
7	Onboard Windshield Passenger	22.3	13.5	47.3	--	--	13	1000

Reference\* X = Front of sled carriage  
 Y = Center of sled carriage  
 Z = Top of sled carriage

Occupant Injury Data

Vehicle Year/Make/Model/Body Style: 1999/Dodge/Dakota/Pickup

Vehicle NHTSA No.: CX0303 Test Date: February 16, 1999

MAXIMUM ACCELERATION VALUES: (g's)	DRIVER DUMMY #340	PASSENGER DUMMY #312
Head Channel X	-30.0	-36.1
Head Channel Y	5.2	-20.7
Head Channel Z	12.0	28.9
HEAD RESULTANT	32.2	40.6
Chest Channel X	-32.8	-42.8
Chest Channel Y	7.8	-3.3
Chest Channel Z	13.0	20.1
CHEST RESULTANT	33.1	44.6

HEAD INJURY CRITERIA (HIC) VALUES:

HIC	111	250
$t_1$ = (msec)	76.6	93.7
$t_2$ = (msec)	112.6	129.7

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

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

CLIP	32	43
$t_1$ = (msec)	88.6	99.9
$t_2$ = (msec)	91.7	103.0
CHEST DEFLECTION (in)	1.0	0.3

Occupant Injury Data (Cont.)

MAX. COMPRESSIVE FEMUR FORCES:	DRIVER DUMMY #340	PASSENGER DUMMY #312
Left Side (lbs)	1298	1120
Right Side (lbs)	1195	1141

## NECK INJURY CRITERIA:

Peak Flexion Bending Moment about the Occipital Condyle (N-m)	27.1	23.3
Peak Extension Bending Moment about the Occipital Condyle (N-m)	15.3	17.2
Peak Axial Tension (N)	1423.8	802.0
Peak Axial Compression (N)	99.2	555.0
Peak Fore Shear (N)	528.8	972.2
Peak Aft Shear (N)	151.2	188.8

Seat Belt Warning System Data

Vehicle Year/Make/Model/Body Style: 1999/Dodge/Dakota/Pickup

NHTSA No.: CX0303 ; Technician: David Winkelbauer ; Date: January 19, 1999

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 = \_\_\_\_\_ seconds  
(4 to 8 seconds)

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

A.2 S7.3(a)(2)  
Time duration of audible warning signal = 5 seconds  
(4 to 8 seconds)(see 49 USCS @ 30124)

Time duration of reminder light operation = 5 seconds  
(4 to 8 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 = \_\_\_\_\_ seconds  
(audible warning not required)

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

B.2 S7.3(a)(2)  
Time duration of audible warning signal = 0 seconds  
(audible warning not required)

Time duration of reminder light operation = 5 seconds  
(4 to 8 seconds)

C. Note wording of visual warning:

Fasten seat belt \_\_\_\_\_  
Fasten Belt \_\_\_\_\_  
Symbol 101 \_\_\_\_\_ X \_\_\_\_\_

Readiness Indicator

Vehicle Year/Make/Model/Body Style: 1999/Dodge/Dakota/Pickup

NHTSA No.: CX0303 ; Technician: David Winkelbauer ; Date: January 19, 1999

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: Below the speedometer on the instrument panel
  
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

Air Bag Labels Data

Vehicle Year/Make/Model/Body Style: 1999/Dodge/Dakota/Pickup

NHTSA No.: CX0303; Technician: David Winkelbauer; Date: January 19, 1999

1. Air bag maintenance label and owner's manual instructions (S4.5.1(a)):
  - 1.1. Does the manufacturer recommend periodic maintenance or replacement of the airbag?
 

Yes, go to 1.2                       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 (Date: \_\_\_\_\_)

Schedule on label specifies vehicle mileage (Mileage: \_\_\_\_\_)

Schedule on label specifies interval measured from date on certification label (Date: \_\_\_\_\_)
  - 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 (S4.5.1(f)):
  - 2.1. Include a description of the vehicle's airbag system in an easily understandable format?
 

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?
 

Yes-Pass                       No-FAIL

Air Bag Labels Data (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 it might have an adverse effect on infants in rear-facing child seats, and unbelted or improperly belted children?  

( )Yes      (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

If yes to 3.1, or 3.2, or 3.3, the vehicle is not required to have a sunvisor warning label (S4.5.1(6)), an airbag alert label (S4.5.1(c)) or a label on the dash (S4.5.2(e)) and this check sheet is complete (S4.5.1). 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?  
 (S4.5.1(b)(2))
 

Driver Side -		(X)Yes-Pass	( ) No-FAIL
Passenger Side -	( ) N/A	(X)Yes-Pass	( ) No-FAIL



Air Bag Labels Data (Cont.)

**SUN VISOR LABEL VISIBLE WHEN VISOR IS IN DOWN POSITION**

LABEL OUTLINE, VERTICAL AND HORIZONTAL LINE BLACK

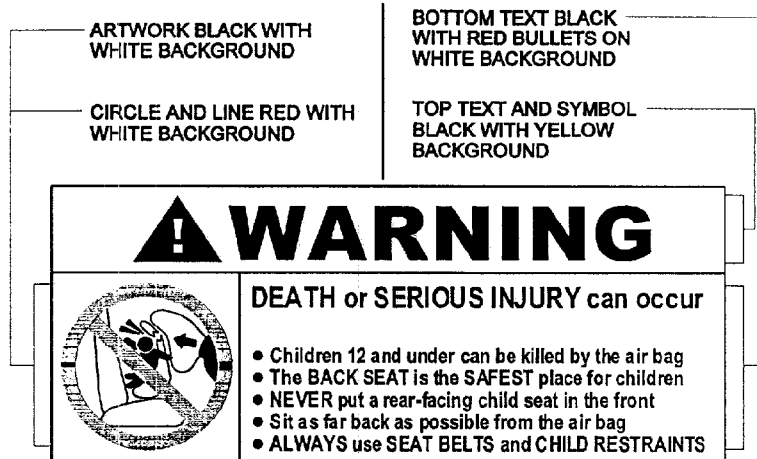


Figure 6a (S4.5.1(b)(2))

**SUN VISOR LABEL VISIBLE WHEN VISOR IS IN DOWN POSITION**

LABEL OUTLINE, VERTICAL AND HORIZONTAL LINE BLACK

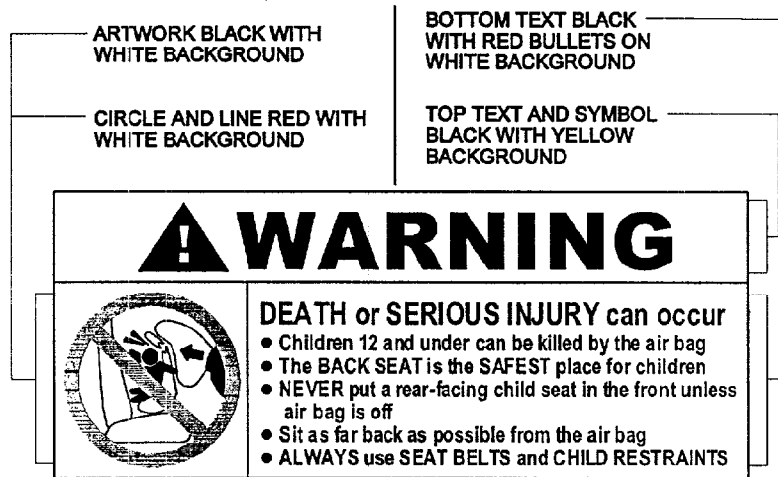


Figure 6b (S4.5.1(b)(2))

- 4.3 Is the label heading area yellow with the word "warning" and the alert symbol in black? (S4.5.1(b)(2)(i))
- |                  |                |              |
|------------------|----------------|--------------|
| Driver Side -    | (X) Yes-Pass   | ( ) No-FAIL  |
| Passenger Side - | ( ) No air bag | (X) Yes-Pass |
|                  |                | ( ) No-FAIL  |
- 4.4 Is the message white with black text? (S4.5.1(b)(2)(ii))
- |                  |                |              |
|------------------|----------------|--------------|
| Driver Side -    | (X) Yes-Pass   | ( ) No-FAIL  |
| Passenger Side - | ( ) No air bag | (X) Yes-Pass |
|                  |                | ( ) No-FAIL  |

Air Bag Labels Data (Cont.)

- 4.5 Is the message area at least 30 cm<sup>2</sup>? (S4.5.1(b)(2)(ii))  
Actual message area: 32 cm<sup>2</sup>
- |                                 |             |             |
|---------------------------------|-------------|-------------|
| Driver Side -                   | (X)Yes-Pass | ( ) No-FAIL |
| Passenger Side - ( ) No air bag | (X)Yes-Pass | ( ) No-FAIL |
- 4.6 Is the pictogram black with a red circle and slash on a white background?  
(S4.5.1(b)(2)(iii) & (S4.5.1(b)(2)(iv))  
For vehicles with driver side air bag ONLY ( ) Not Applicable
- |                                 |             |             |
|---------------------------------|-------------|-------------|
| Driver Side -                   | (X)Yes-Pass | ( ) No-FAIL |
| Passenger Side - ( ) No air bag | (X)Yes-Pass | ( ) No-FAIL |
- 4.7 Is the pictogram at least 30 mm in diameter? (S4.5.1(b)(2)(iii))  
Actual diameter: 30 mm  
For vehicles with driver side air bag ONLY ( ) Not Applicable
- |                                 |             |             |
|---------------------------------|-------------|-------------|
| Driver Side -                   | (X)Yes-Pass | ( ) No-FAIL |
| Passenger Side - ( ) No air bag | (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?  
(S4.5.1(b)(3))
- |                                 |             |             |
|---------------------------------|-------------|-------------|
| Driver Side -                   | (X)Yes-Pass | ( ) No-FAIL |
| Passenger Side - ( ) No air bag | (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?  
(S4.5.1(b)(3))
- |                                 |             |             |
|---------------------------------|-------------|-------------|
| Driver Side -                   | (X)Yes-Pass | ( ) No-FAIL |
| Passenger Side - ( ) No air bag | (X)Yes-Pass | ( ) No-FAIL |
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? (S4.5.1(c)(2))
- |                                 |             |             |
|---------------------------------|-------------|-------------|
| Driver Side -                   | ( )Yes      | ( ) No-FAIL |
| Passenger Side - ( ) No air bag | ( )Yes-Pass | ( ) No-FAIL |
- 5.3 Is the message area black with yellow text? (S4.5.1(c)(2)(I))
- |                                 |             |             |
|---------------------------------|-------------|-------------|
| Driver Side -                   | ( )Yes-Pass | ( ) No-FAIL |
| Passenger Side - ( ) No air bag | ( )Yes-Pass | ( ) No-FAIL |

Air Bag Labels Data (Cont.)

- 5.4 Is the message area at least 20 cm<sup>2</sup>? (S4.5.1(c)(2)(I))  
 Actual message area: \_\_\_\_\_ cm<sup>2</sup>  
 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?  
 (S4.5.1(c)(2)(ii))  
 For vehicles with driver side air bag ONLY ( ) Not Applicable  
 ( ) Yes-Pass ( ) No-FAIL
- 5.6 Is the pictogram at least 20 mm in diameter? (S4.5.1(c)(2)(ii))  
 Actual diameter \_\_\_\_\_ mm  
 For vehicles with driver side air bag ONLY ( ) Not Applicable  
 ( ) Yes-Pass ( ) No-FAIL

**SUN VISOR LABEL VISIBLE WHEN VISOR IS IN UP POSITION**

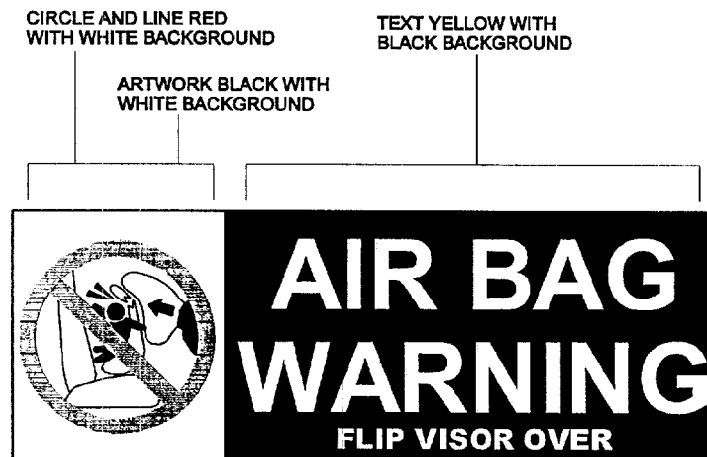


Figure 6c (S4.5.1(c)(2))

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? (S4.5.1(e))  
 (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." (S4.5.1(e)(iii)) to the label shown below. (S4.5.1(e))  
 (X) Yes-Pass ( ) No-FAIL

Air Bag Labels Data (Cont.)

- 6.4 Is the heading area yellow with the word "warning" and the alert symbol in black?  
(S4.5.1(e)(I)) (X)Yes-Pass ( )
- No-FAIL**
- 6.5 Is the message white with black text? (S4.5.1(e)(ii))  
(X)Yes-Pass ( ) **No-FAIL**
- 6.6 Is the message area at least 30 cm<sup>2</sup>? (S4.5.1(e)(ii))  
Actual message area: 30 cm<sup>2</sup> (X)Yes-Pass ( ) **No-FAIL**



Figure 7 (S4.5.1(e))

Rear Outboard Seating Position Seat Belt Data

Vehicle Year/Make/Model/Body Style: 1999/Dodge/Dakota/Pickup

NHTSA No.: CX0303 ; Technician: David Winkelbauer ; Date: January 19, 1999

**NOT APPLICABLE/NO REAR SEAT**

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

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.

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Lap Belt Lockability DataVehicle Year/Make/Model/Body Style: 1999/Dodge/Dakota/PickupNHTSA No.: CX0303 ; Technician: David Winkelbauer ; Date: January 19, 1999

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))

Designated Seating Position (DSP): Right Front

1. Record the seating position. Full Rear  
(S7.1.1.5(c)(1))  
(Any position is acceptable.)
2. Buckle the seat belt. (S7.1.1.5(c)(1))
3. Complete any procedures recommended in the vehicle owner's manual to activate any locking feature. (S7.1.1.5(c)(1))
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. (S7.1.1.5(a))  

(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. (S7.1.1.5(a))  

(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 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. (S7.1.1.5(b))  

(X)Yes-Pass      ( ) No-FAIL
7. Locate a reference point A on the seat belt buckle. (S7.1.1.5(c)(2))

Lap Belt Lockability Data (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. (S7.1.1.5(c)(2))
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. (S7.1.1.5(c)(2))
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. (S7.1.1.5(c)(2))

Measured distance between A and B is 48 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. (S7.1.1.5(c)(3))
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. (S7.1.1.5(c)(4))

The measured force application angle = 10 (spec. 5-15 degrees)

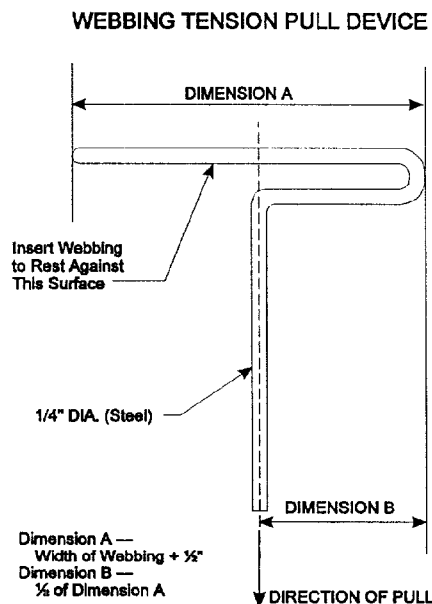


Figure 5 (S7.1.1.5(c)(4))

Lap Belt Lockability Data (Cont.)

13. Measure the length between points A and B along the longitudinal centerline of the webbing while the preload is being applied. (S7.1.1.5(c)(4))

Measured distance between A and B is 28 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. (S7.1.1.5(c)(5))

Record onset rate: 10 lb/sec (Spec. 10 to 50 lb/sec)

Measure distance between points A and B 28.3 inches (S7.1.1.5(c)(6))

15. Subtract the measurement in 13 from the measurement in 14. Is the difference 2 inches or less? (S7.1.1.5(c)(7))

14-13 = 0.3 inches (X)Yes-Pass ( ) No-FAIL

16. Subtract the measurement in 14 from the measurement in 10. Is the difference 3 inches or more?

10-14 = 19.7 inches (X)Yes-Pass ( ) No-FAIL

REMARKS:

Seat Belt Comfort and Convenience Data

**1. BELT CONTACT FORCE (S7.4.3)**

Test Vehicle NHTSA No.: CX0303

Vehicle Model Year/Make/Model/Body Style: 1999/Dodge/Dakota/Pickup

Designated Seating Position Tested: Left Front

Date of Comfort/Convenience Check: January 18, 1999

Technician Performing Check: David Winkelbauer

GVWR: 4810 lbs.

Test all Type 2 seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

- 1.1 Does the vehicle incorporate a webbing tension-relieving device?  
 Yes - go to latchplate access  
 No - continue with this check sheet
- 1.2 Adjustable seats are in adjustment position midway between the forward most and rearmost positions. If an adjustment position does not exist midway between the forward most and rearmost positions, the next closest adjustment position to the rear of the midpoint is used. (S8.1.2)  
 Check  
 N/A
- 1.3 If separately adjustable in a vertical direction, the seats are at the lowest position.  
 Check  
 N/A
- 1.4 Place adjustable seat backs in the manufacturer's nominal design riding position in the manner specified by the manufacturer.  
 Check  
 N/A
- 1.5 Place any adjustable anchorages at the manufacturer's nominal design position for a 50th percentile adult male (50M) occupant. This information will be furnished by the COTR.  
 Check  
 N/A
- 1.6 Place each adjustable head restraint in its highest adjustment position.  
 Check  
 N/A

Seat Belt Comfort and Convenience Data (Cont.)

- 1.7 Adjustable lumbar supports are positioned so that the lumbar support is in its lowest adjustment position. (S8.1.3)  
( ) Check  
(X) N/A
- 1.8 Position the test dummies according to dummy position placement instructions in Appendix B.  
(X) Check
- 1.9 Fasten the seat belt latch. Pull either 12 inches of belt webbing or the maximum available amount of belt webbing, whichever is less, from the retractor and then release it, allowing the belt webbing to return to the dummy's chest. Locate the point where the centerline of the upper torso belt webbing crosses the midsagittal line on the dummy's chest. At that point, pull the belt webbing out 3 inches from the dummy's chest and release until it is within one inch from the dummy's chest. (S10.8) Measure the contact force exerted by the belt webbing on the dummy's chest. Contact the COTR if the contact force exceeds 0.7 pounds.  
Contact Force 0.5 lb. (X) 0.0 to 0.7 pounds - Pass  
( ) greater than 0.7 pounds - FAIL\*

\* If the seat belts are voluntarily installed by the manufacturer they do not have to comply.

Seat Belt Comfort and Convenience Data (Cont.)

**1. BELT CONTACT FORCE (S7.4.3)**

Test Vehicle NHTSA No.: CX0303

Vehicle Model Year/Make/Model/Body Style: 1999/Dodge/Dakota/Pickup

Designated Seating Position Tested: Right Front

Date of Comfort/Convenience Check: January 18, 1999

Technician Performing Check: David Winkelbauer

GVWR: 4810 lbs.

Test all Type 2 seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

- 1.1 Does the vehicle incorporate a webbing tension-relieving device?  
 Yes - go to latchplate access  
 No - continue with this check sheet
- 1.2 Adjustable seats are in adjustment position midway between the forward most and rearmost positions. If an adjustment position does not exist midway between the forward most and rearmost positions, the next closest adjustment position to the rear of the midpoint is used. (S8.1.2)  
 Check  
 N/A
- 1.3 If separately adjustable in a vertical direction, the seats are at the lowest position.  
 Check  
 N/A
- 1.4 Place adjustable seat backs in the manufacturer's nominal design riding position in the manner specified by the manufacturer.  
 Check  
 N/A
- 1.5 Place any adjustable anchorages at the manufacturer's nominal design position for a 50th percentile adult male (50M) occupant. This information will be furnished by the COTR.  
 Check  
 N/A
- 1.6 Place each adjustable head restraint in its highest adjustment position.  
 Check  
 N/A

Seat Belt Comfort and Convenience Data (Cont.)

- 1.7 Adjustable lumbar supports are positioned so that the lumbar support is in its lowest adjustment position. (S8.1.3)  
 Check  
 N/A
- 1.8 Position the test dummies according to dummy position placement instructions in Appendix B.  
 Check
- 1.9 Fasten the seat belt latch. Pull either 12 inches of belt webbing or the maximum available amount of belt webbing, whichever is less, from the retractor and then release it, allowing the belt webbing to return to the dummy's chest. Locate the point where the centerline of the upper torso belt webbing crosses the midsagittal line on the dummy's chest. At that point, pull the belt webbing out 3 inches from the dummy's chest and release until it is within one inch from the dummy's chest. (S10.8) Measure the contact force exerted by the belt webbing on the dummy's chest. Contact the COTR if the contact force exceeds 0.7 pounds.  
Contact Force 0.5 lb.  0.0 to 0.7 pounds - Pass  
 greater than 0.7 pounds - FAIL\*

\* If the seat belts are voluntarily installed by the manufacturer they do not have to comply.

Seat Belt Comfort and Convenience Data (Cont.)

2. **LATCHPLATE ACCESS (S7.4.4)**

Test Vehicle NHTSA No.: CX0303

Vehicle Model Year/Make/Model/Body Style: 1999/Dodge/Dakota/Pickup

Designated Seating Position Tested: Left Front

Date of Comfort/Convenience Check: January 18, 1999

Technician Performing Check: David Winkelbauer

GVWR: 4810 lbs.

Test all front outboard seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

- 2.1 Position the seat in its forward most adjustment position.  
(X) Check
- 2.2 Position the test dummy using the procedures in Appendix B. (Some modifications to the positioning procedure may need to be made because the seat is in its forward most position.)  
(X) Check
- 2.3 Position the adjustable seat belt anchorage in the manufacturer's nominal design position for a 50th percentile adult male occupant.  
(X) Check
- 2.4 Attach the inboard and outboard reach string following the instructions on Figure 1C.  
(X) Check
- 2.5 Place the latch plate in the stowed position.  
(X) Check
- 2.6 Extend each line backward and outboard to generate arcs of the reach envelop of the test dummy's arms. Is the latch plate within the reach envelope?  
(X) Yes-Pass ( ) No-FAIL
- 2.7 Using the clearance test block, specified in Figure 2C, is there sufficient clearance between the vehicle seat and the side of vehicle interior to allow the test block to move unhindered to the latch plate or buckle?  
(X) Yes-Pass ( ) No-FAIL

Seat Belt Comfort and Convenience Data (Cont.)

2. **LATCHPLATE ACCESS (S7.4.4)**

Test Vehicle NHTSA No.: CX0303

Vehicle Model Year/Make/Model/Body Style: 1999/Dodge/Dakota/Pickup

Designated Seating Position Tested: Right Front

Date of Comfort/Convenience Check: January 19, 1999

Technician Performing Check: David Winkelbauer

GVWR: 4810 lbs.

Test all front outboard seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

- 2.1 Position the seat in its forward most adjustment position.  
(X) Check
- 2.2 Position the test dummy using the procedures in Appendix B. (Some modifications to the positioning procedure may need to be made because the seat is in its forward most position.)  
(X) Check
- 2.3 Position the adjustable seat belt anchorage in the manufacturer's nominal design position for a 50th percentile adult male occupant.  
(X) Check
- 2.4 Attach the inboard and outboard reach string following the instructions on Figure 1C.  
(X) Check
- 2.5 Place the latch plate in the stowed position.  
(X) Check
- 2.6 Extend each line backward and outboard to generate arcs of the reach envelop of the test dummy's arms. Is the latch plate within the reach envelope?  
(X) Yes-Pass ( ) No-FAIL
- 2.7 Using the clearance test block, specified in Figure 2C, is there sufficient clearance between the vehicle seat and the side of vehicle interior to allow the test block to move unhindered to the latch plate or buckle?  
(X) Yes-Pass ( ) No-FAIL

Seat Belt Comfort and Convenience Data (Cont.)

3. **RETRACTION (S7.4.5)**

Test Vehicle NHTSA No.: CX0303

Vehicle Model Year/Make/Model/Body Style: 1999/Dodge/Dakota/Pickup

Designated Seating Position Tested: Left Front

Date of Comfort/Convenience Check: January 18, 1999

Technician Performing Check: David Winkelbauer

GVWR: 4810 lbs.

Test all front outboard seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

- 3.1 Is the vehicle a passenger car or walk-in van-type vehicle?  
       ( ) Yes      If yes, go to seat belt guides and hardware.  
       (X) No
- 3.2 Adjustable seats are in the adjustment position midway between the forward most and rearmost positions. If an adjustment position does not exist midway between the forward most and rearmost positions, the next closest adjustment position to the rear of the midpoint is used. (S8.1.2)  
       (X) Check
- 3.3 If separately adjustable in a vertical direction, the seats are at the lowest position.  
       (X) Check
- 3.4 Place adjustable seat backs in the manufacturer's nominal design riding position in the manner specified by the manufacturer.  
       (X) Check
- 3.5 Place any adjustable anchorages at the manufacturer's nominal design position for a 50th percentile adult male (50M) occupant. This information will be furnished by the COTR.  
       (X) Check
- 3.6 Place each adjustable head restraint in its highest adjustment position.  
       (X) Check
- 3.7 Adjustable lumbar supports are positioned so that the lumbar support is in its lowest adjustment position (S8.1.3)  
       (X) Check

Seat Belt Comfort and Convenience Data (Cont.)

- 3.8 Use anthropomorphic test dummies whose arms have been removed and position the dummies in the front outboard designated seating positions according to instructions in Appendix B.  
(X) Check
- 3.9 Restrain the dummies using the belt systems for the position being tested.  
(X) Check
- 3.10 Stow outboard armrests which are capable of being stowed.  
(X) Check
- 3.11 Check the statement that applies to this test vehicle:
- (A) The torso and lap belt webbing of the seat belt system automatically retracts to a stowed position when the adjacent vehicle door is in an open position and the seat belt latch plate is released.  
(X) Pass
- (B) The torso and lap belt webbing of the seat belt system automatically retracts when the seat belt latch plate is released.  
( ) Pass
- (C) Neither A or B apply.  
( ) **FAIL**
- 3.12 With the webbing and hardware in the stowed position are the webbing and hardware prevented from being pinched when the door is closed?  
(X) Yes - Pass  
( ) No - **FAIL**
- 3.13 If this test vehicle has an open body (without doors) and has a seat belt system with a tension-relieving device, does the belt system fully retract when the tension-relieving device is deactivated?  
(X) N/A  
( ) Yes - Pass  
( ) No - **FAIL**

Seat Belt Comfort and Convenience Data (Cont.)

**3. RETRACTION (S7.4.5)**

Test Vehicle NHTSA No.: CX0303

Vehicle Model Year/Make/Model/Body Style: 1999/Dodge/Dakota/Pickup

Designated Seating Position Tested: Right Front

Date of Comfort/Convenience Check: January 18, 1999

Technician Performing Check: David Winkelbauer

GVWR: 4810 lbs.

Test all front outboard seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

- 3.1 Is the vehicle a passenger car or walk-in van-type vehicle?  
       ( ) Yes       If yes, go to seat belt guides and hardware.  
       (X) No
- 3.2 Adjustable seats are in the adjustment position midway between the forward most and rearmost positions. If an adjustment position does not exist midway between the forward most and rearmost positions, the next closest adjustment position to the rear of the midpoint is used. (S8.1.2)  
       (X) Check
- 3.3 If separately adjustable in a vertical direction, the seats are at the lowest position.  
       (X) Check
- 3.4 Place adjustable seat backs in the manufacturer's nominal design riding position in the manner specified by the manufacturer.  
       (X) Check
- 3.5 Place any adjustable anchorages at the manufacturer's nominal design position for a 50th percentile adult male (50M) occupant. This information will be furnished by the COTR.  
       (X) Check
- 3.6 Place each adjustable head restraint in its highest adjustment position.  
       (X) Check
- 3.7 Adjustable lumbar supports are positioned so that the lumbar support is in its lowest adjustment position (S8.1.3)  
       (X) Check

Seat Belt Comfort and Convenience Data (Cont.)

- 3.8 Use anthropomorphic test dummies whose arms have been removed and position the dummies in the front outboard designated seating positions according to instructions in Appendix B.  
(X) Check
- 3.9 Restrain the dummies using the belt systems for the position being tested.  
(X) Check
- 3.10 Stow outboard armrests which are capable of being stowed.  
(X) Check
- 3.11 Check the statement that applies to this test vehicle:
- (A) The torso and lap belt webbing of the seat belt system automatically retracts to a stowed position when the adjacent vehicle door is in an open position and the seat belt latch plate is released.  
(X) Pass
- (B) The torso and lap belt webbing of the seat belt system automatically retracts when the seat belt latch plate is released.  
( ) Pass
- (C) Neither A or B apply.  
( ) **FAIL**
- 3.12 With the webbing and hardware in the stowed position are the webbing and hardware prevented from being pinched when the door is closed?  
(X) Yes - Pass  
( ) No - **FAIL**
- 3.13 If this test vehicle has an open body (without doors) and has a seat belt system with a tension-relieving device, does the belt system fully retract when the tension-relieving device is deactivated?  
(X) N/A  
( ) Yes - Pass  
( ) No - **FAIL**

Seat Belt Comfort and Convenience Data (Cont.)

4. **SEAT BELT GUIDES AND HARDWARE (S7.4.6)**

Test Vehicle NHTSA No.: CX0303

Vehicle Model Year/Make/Model/Body Style: 1999/Dodge/Dakota/Pickup

Designated Seating Position Tested: Left Front

Date of Comfort/Convenience Check: January 18, 1999

Technician Performing Check: David Winkelbauer

GVWR: 4810 lbs.

Test seat belts except those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

The requirements for accessibility **DO NOT APPLY** to:

- A. Seats whose seat cushions are movable so that the seat back serves a function other than seating (S7.4.6.1(b))
- B. Seats which are removable.
- C. Seats which are movable so that the space formerly occupied by the seat can be used for a secondary function.

If the seats in this vehicle are different than the criteria above determine the following:

- 4.1 Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back?  
       ( ) Yes - Go to 4.2.  
       (X) No - this form is complete
- 4.2 Does one of the following three parts, the seat belt latch plate, the buckle, or the seat belt webbing, stay on top of or above the seat cushion under normal conditions (i.e., conditions other than when belt hardware is intentionally pushed behind the seat by a vehicle occupant)?  
       ( ) Yes - Pass  
       ( ) **No - FAIL**
- 4.3 Are the remaining two seat belt parts accessible under normal conditions?  
       ( ) Yes - Pass  
       ( ) **No - FAIL**

Seat Belt Comfort and Convenience Data (Cont.)

- 4.4 The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the following events occur in order:
- (A) The belt is completely retracted or, if the belt is nonretractable, the belt is unlatched.  Check
  - (B) The seat is moved to any position to which it is designed to be adjusted.  Check
  - (C) The seat back, if foldable, is folded forward as far as possible and then moved backward into position.  Check
- Yes - Pass  
 No - **FAIL**
- 4.5 Is the inboard receptacle end of the seat belt assembly, installed in the outboard designated seating position, accessible with the center arm rest in any position to which it can be adjusted (without moving the armrest)?
- Yes - Pass  
 No - **FAIL**

Seat Belt Comfort and Convenience Data (Cont.)

4. **SEAT BELT GUIDES AND HARDWARE (S7.4.6)**

Test Vehicle NHTSA No.: CX0303

Vehicle Model Year/Make/Model/Body Style: 1999/Dodge/Dakota/Pickup

Designated Seating Position Tested: Right Front

Date of Comfort/Convenience Check: January 18, 1999

Technician Performing Check: David Winkelbauer

GVWR: 4810 lbs.

Test seat belts except those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

The requirements for accessibility **DO NOT APPLY** to:

- A. Seats whose seat cushions are movable so that the seat back serves a function other than seating (S7.4.6.1(b))
- B. Seats which are removable.
- C. Seats which are movable so that the space formerly occupied by the seat can be used for a secondary function.

If the seats in this vehicle are different than the criteria above determine the following:

- 4.1 Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back?  
       ( ) Yes - Go to 4.2.  
       (X) No - this form is complete
- 4.2 Does one of the following three parts, the seat belt latch plate, the buckle, or the seat belt webbing, stay on top of or above the seat cushion under normal conditions (i.e., conditions other than when belt hardware is intentionally pushed behind the seat by a vehicle occupant)?  
       ( ) Yes - Pass  
       ( ) No - FAIL
- 4.3 Are the remaining two seat belt parts accessible under normal conditions?  
       ( ) Yes - Pass  
       ( ) No - FAIL

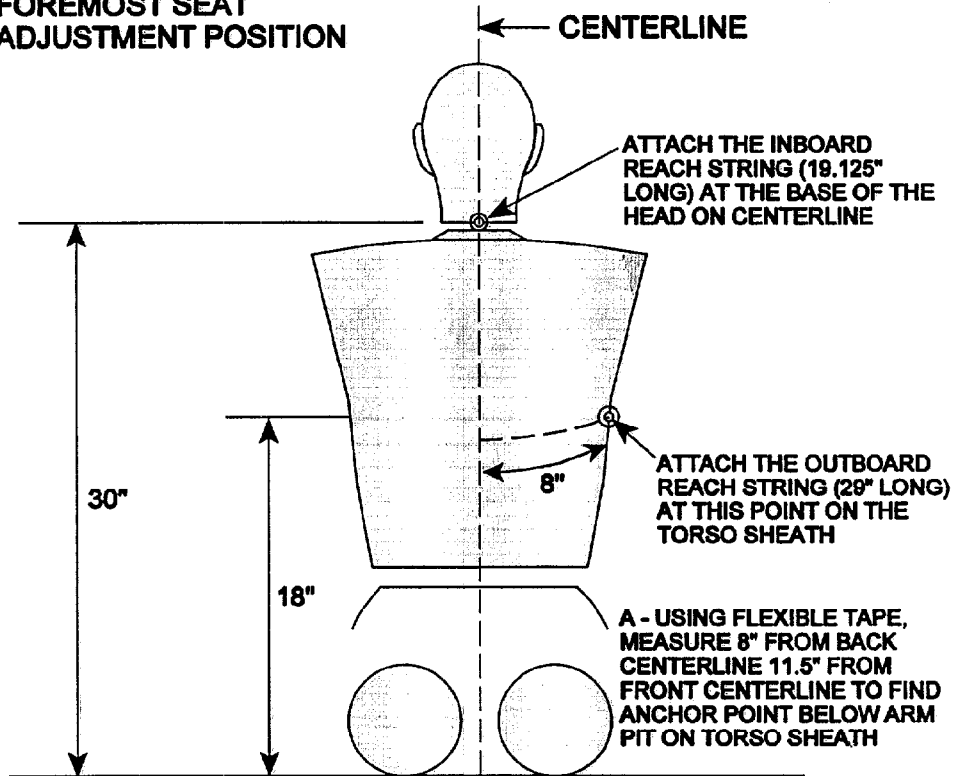
Seat Belt Comfort and Convenience Data (Cont.)

- 4.4 The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the following events occur in order:
- (A) The belt is completely retracted or, if the belt is nonretractable, the belt is unlatched. ( ) Check
  - (B) The seat is moved to any position to which it is designed to be adjusted. ( ) Check
  - (C) The seat back, if foldable, is folded forward as far as possible and then moved backward into position.  
( ) Check  
( ) Yes - Pass  
( ) No - FAIL
- 4.5 Is the inboard receptacle end of the seat belt assembly, installed in the outboard designated seating position, accessible with the center arm rest in any position to which it can be adjusted (without moving the armrest)?  
( ) Yes - Pass  
( ) No - FAIL

**LOCATION OF ANCHORING POINTS FOR  
LATCHPLATE REACH LIMITING CHAINS OR STRINGS  
TO TEST FOR LATCHPLATE ACCESSIBILITY**

**PART 572E DUMMY**

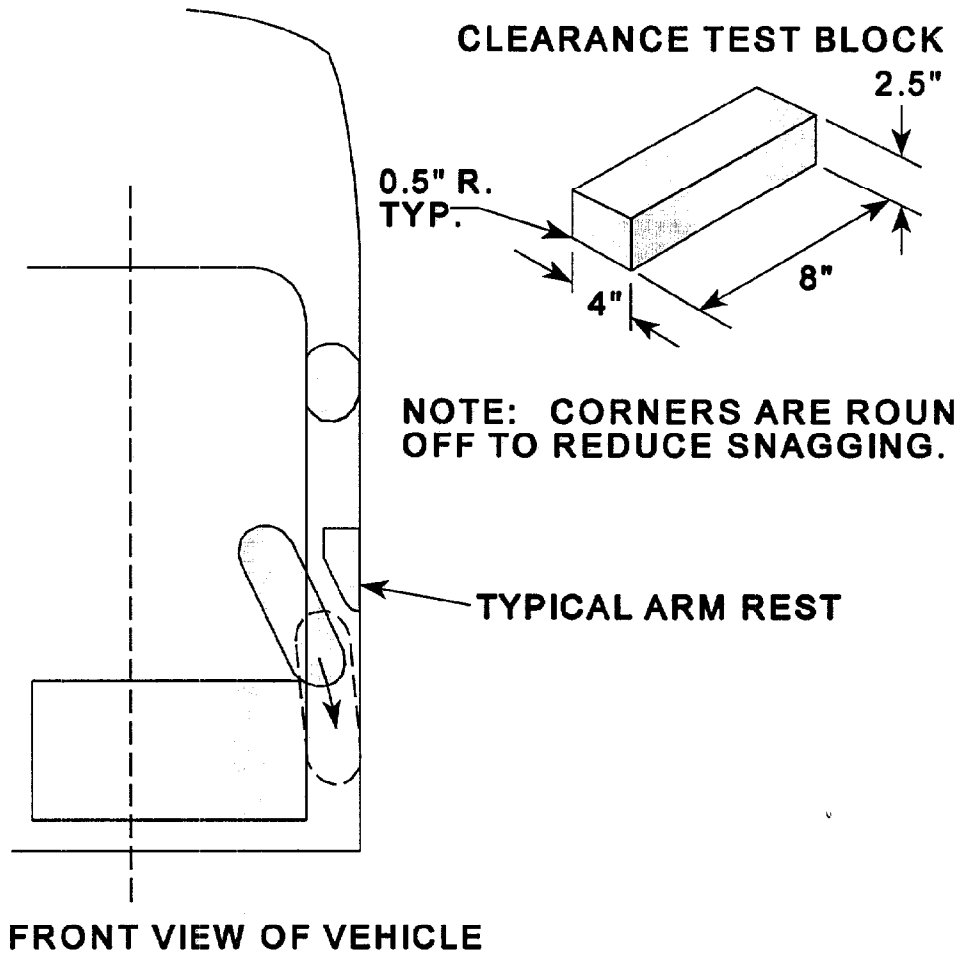
50TH PERCENTILE  
DUMMY SEATED IN  
FOREMOST SEAT  
ADJUSTMENT POSITION



SEAT PLANE IS 90 DEGREES TO THE TORSO LINE

**REAR VIEW**

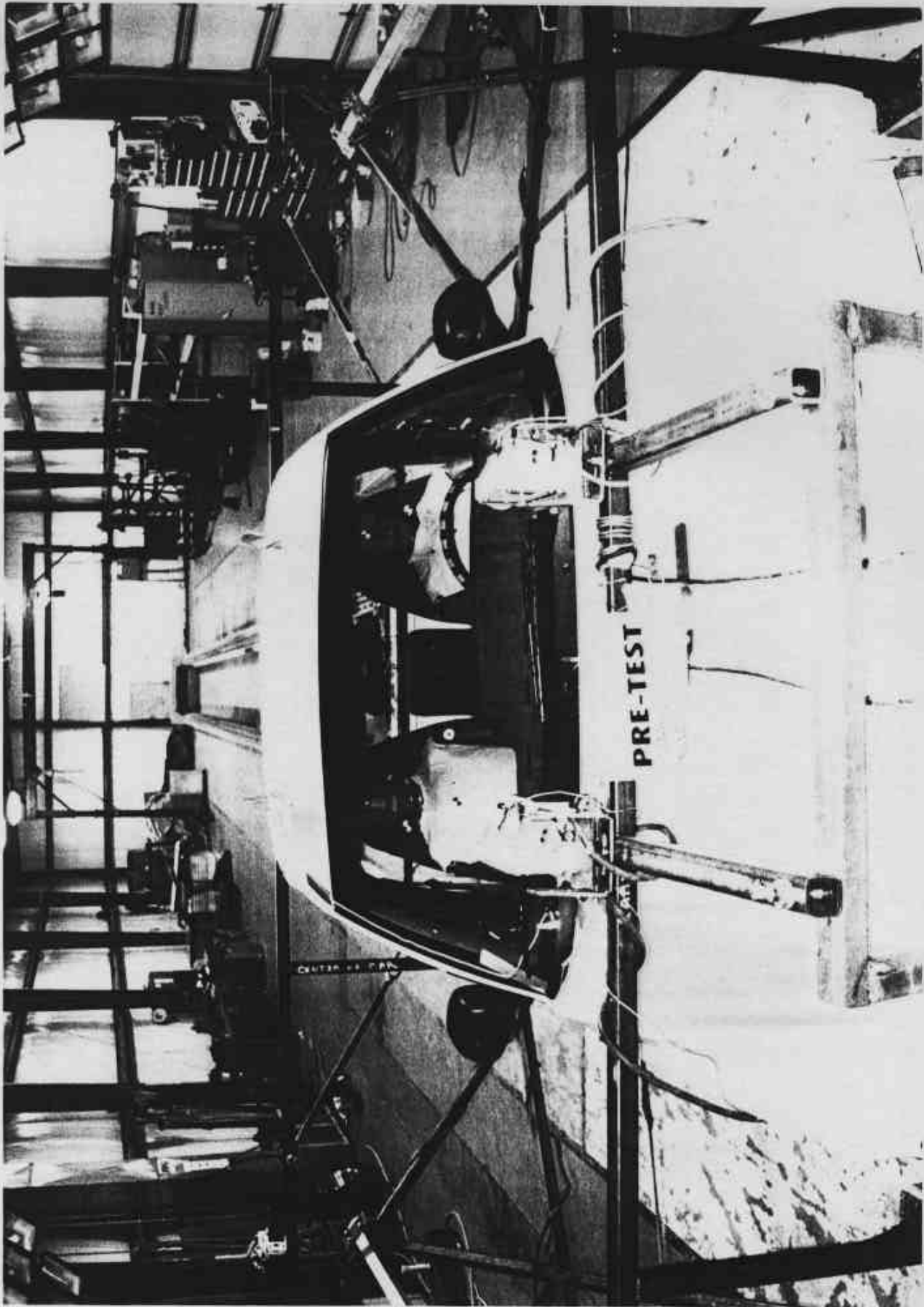
# USE OF CLEARANCE TEST BLOCK TO DETERMINE HAND/ARM ACCESS



**APPENDIX A  
PHOTOGRAPHS**

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A-1

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

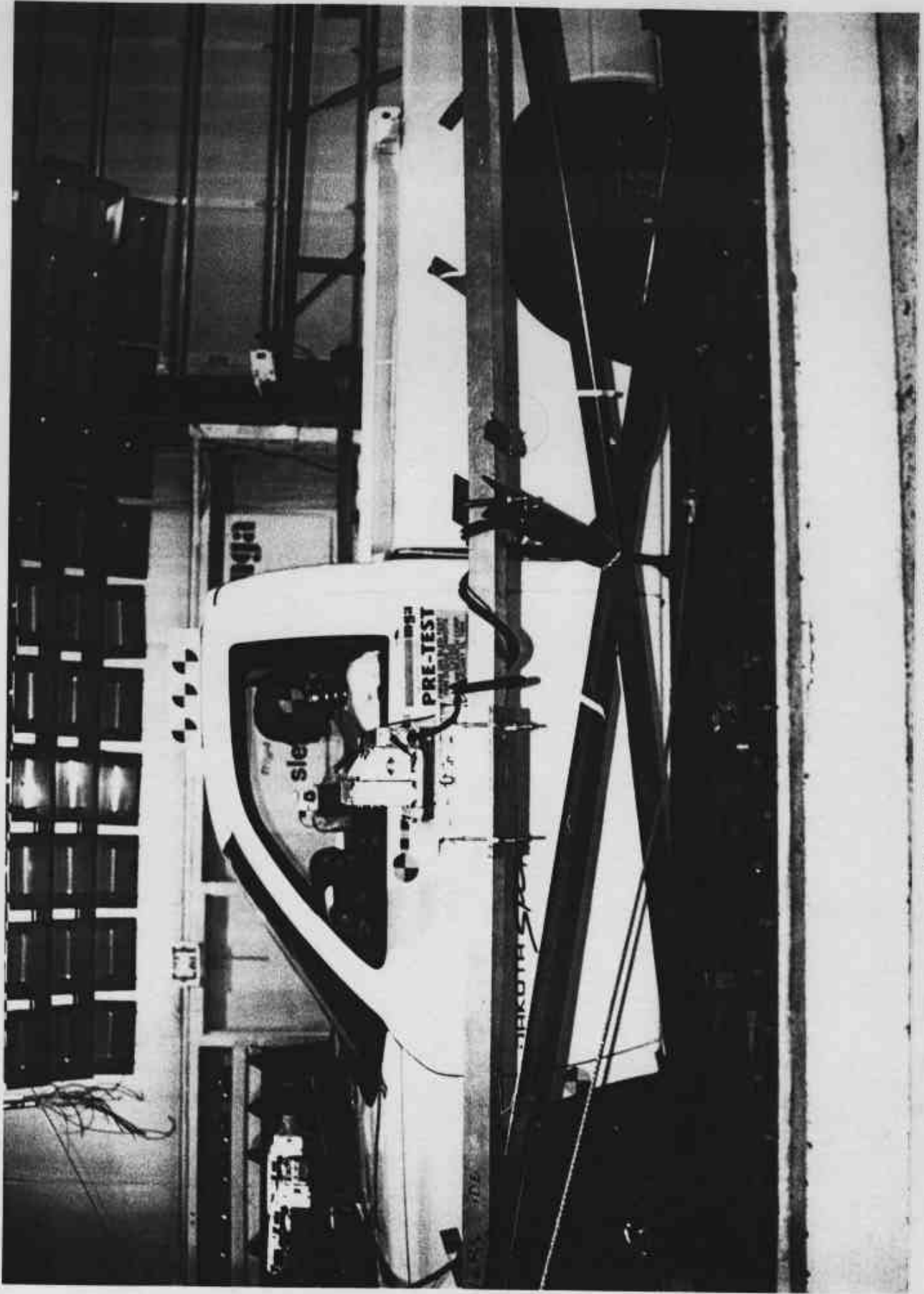


Photo No. A-2 - Pre-Test Left Side View

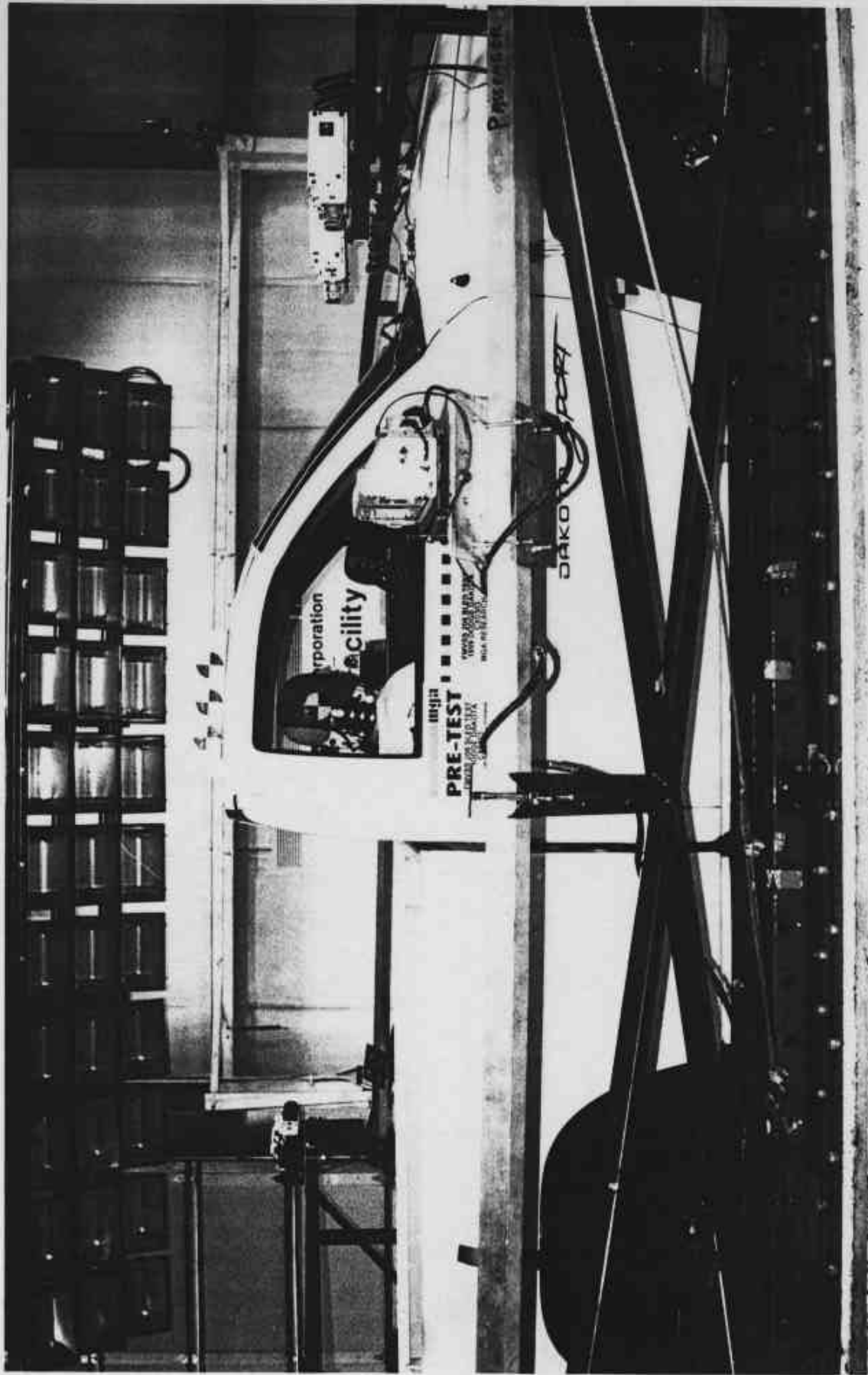


Photo No. A-3 - Pre-Test Right Side View

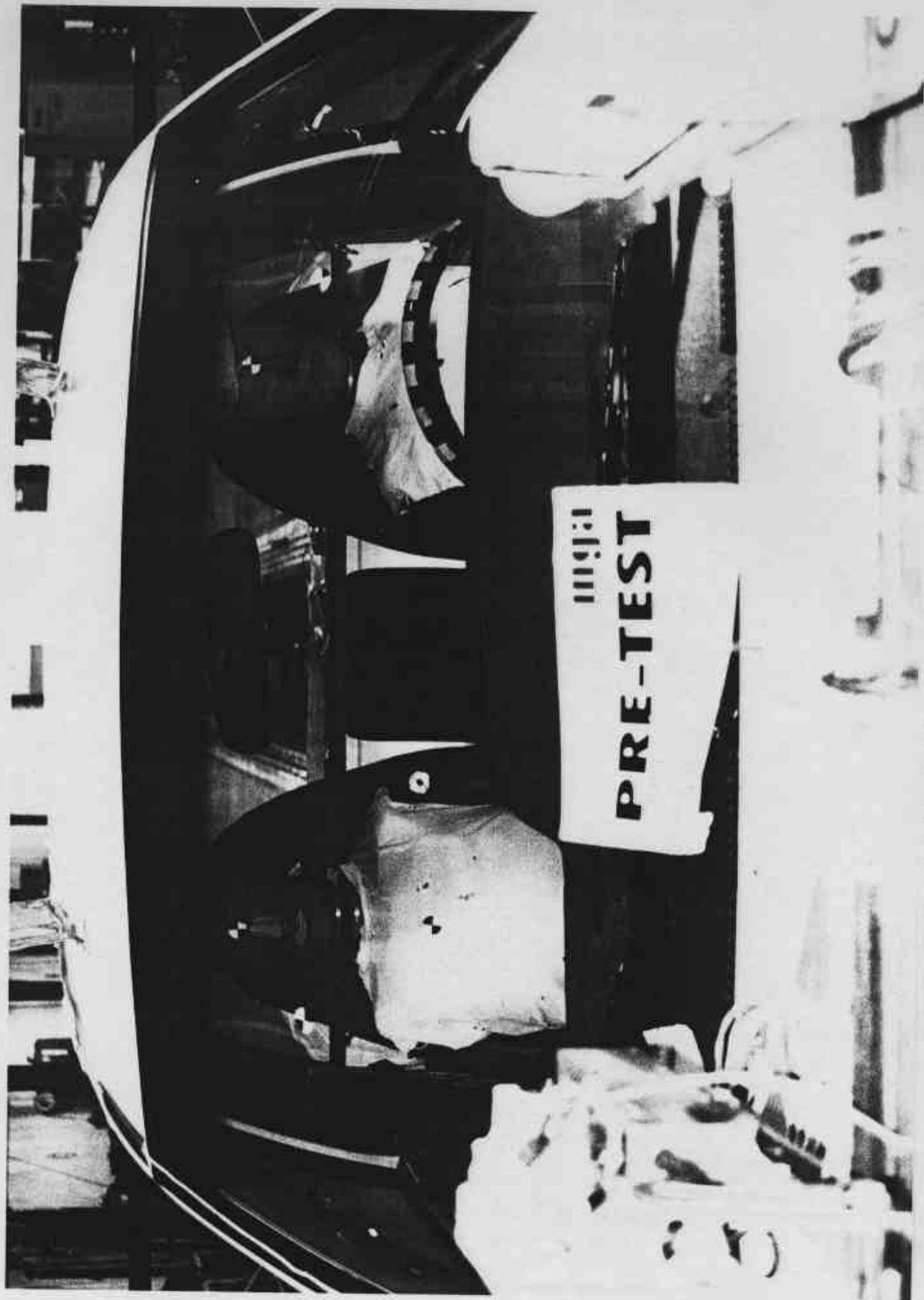


Photo No. A-4 - Pre-Test Windshield View

A-4

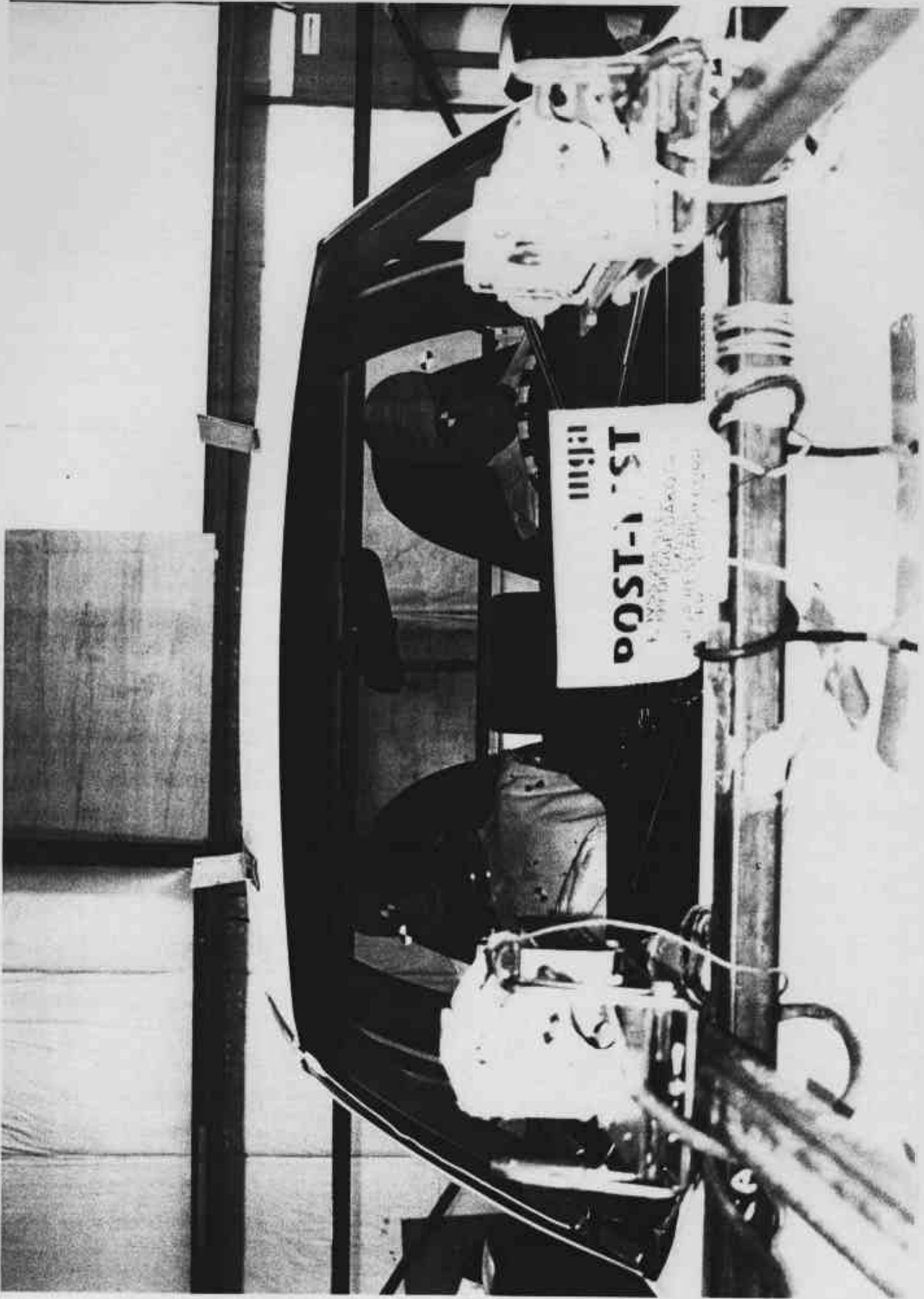


Photo No. A-5 - Post-Test Windshield View



Photo No. A-6 - Pre-Test Driver Dummy Position View (Door Open)



Photo No. A-7 - Post-Test Driver Dummy Position View (Door Open)



FMVSS 208 SLED TEST  
 1999 DODGE DAKOTA  
 CX0303  
 MGA RESEARCH CORP.  
 FEBRUARY 16, 1999



FMVSS 208 SLED TEST  
 1999 DODGE DAKOTA  
 CX0303  
 MGA RESEARCH CORP.  
 FEBRUARY 16, 1999

Photo No. A-8 - Pre-Test Driver Dummy Position View



mga

# POST-TEST

FMVSS 208 SLED TEST  
 1999 DODGE DAKOTA  
 CX0303  
 MGA RESEARCH CORP.  
 FEBRUARY 16, 1999



FMVSS 208 SLED TEST  
 1999 DODGE DAKOTA  
 CX0303  
 MGA RESEARCH CORP.  
 FEBRUARY 16, 1999

Photo No. A-9 - Post-Test Driver Dummy Position View



Photo No. A-10 - Pre-Test Passenger Dummy Position View (Door Open)



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**POST-TEST**

FMVSS 208 SLED TEST  
1999 DODGE DAKOTA  
CX0303

MGA RESEARCH CORP.  
FEBRUARY 16, 1999

Photo No. A-11 - Post-Test Passenger Dummy Position View (Door Open)



**PRE-TEST**  
MGA RESEARCH CORPORATION

**PRE-TEST**  
 FMVSS 208 SLED TEST  
 1999 DODGE DAKOTA  
 CX0303  
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 FEBRUARY 16, 1999



FMVSS 208 SLED TEST  
 1999 DODGE DAKOTA  
 CX0303  
 MGA RESEARCH CORP.  
 FEBRUARY 16, 1999

Photo No. A-12 - Pre-Test Passenger Dummy Position View



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 mga research corporation  
**POST-TEST**  
 FMVSS 208 SLED TEST  
 1999 DODGE DAKOTA  
 CX0303  
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 FEBRUARY 16, 1999

FMVSS 208 SLED TEST  
 1999 DODGE DAKOTA  
 CX0303  
 MGA RESEARCH CORP.  
 FEBRUARY 16, 1999

Photo No. A-13 - Post-Test Passenger Dummy Position View

# POST-TEST

FMVSS 208 SLED TEST  
1999 DODGE DAKOTA

CX0303

MGA RESEARCH CORP.  
FEBRUARY 16, 1999



Photo No. A-14 - Post-Test Driver Airbag View



Photo No. A-15 - Post-Test Passenger Dummy Airbag View

Photo No. A-16 - Post-Test Passenger Dummy Head Contact View (visor)



A-17



Photo No. A-17 - Pre-Test Driver Knee Bolster View



Photo No. A-18 - Post-Test Driver Knee Contact View



Photo No. A-19 - Pre-Test Passenger Knee Bolster View



Photo No. A-20 - Post-Test Passenger Knee Contact View

MFD BY CHRYSLER CORPORATION  
 GAWP FRONT WITH TIRES RIMS AT COLD 2182 KG (4810 LB)  
 1407 KG (3100 LB) P215/75R15 15X6 241 KPA (35 PSI)  
 GAWP REAR WITH TIRES RIMS AT COLD  
 1437 KG (3166 LB) P215/75R15 15X6 241 KPA (35 PSI)

THIS VEHICLE CONFORMS TO ALL APPLICABLE FEDERAL MOTOR VEHICLE SAFETY  
 STANDARDS IN EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE.

VIN: 1B7FL26X0XS100874 TYPE: TRUCK SINGLE X DUAL



MDH: 072800 024AA DMT:PW7 VEHICLE MADE IN U.S.A. TM:V9C3 4648541

APPENDIX B  
DATA PLOTS

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\* No Valid Data Collected

---

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TEST DATE: 02-16-1999

TEST: FMVSS 208 SLED TEST

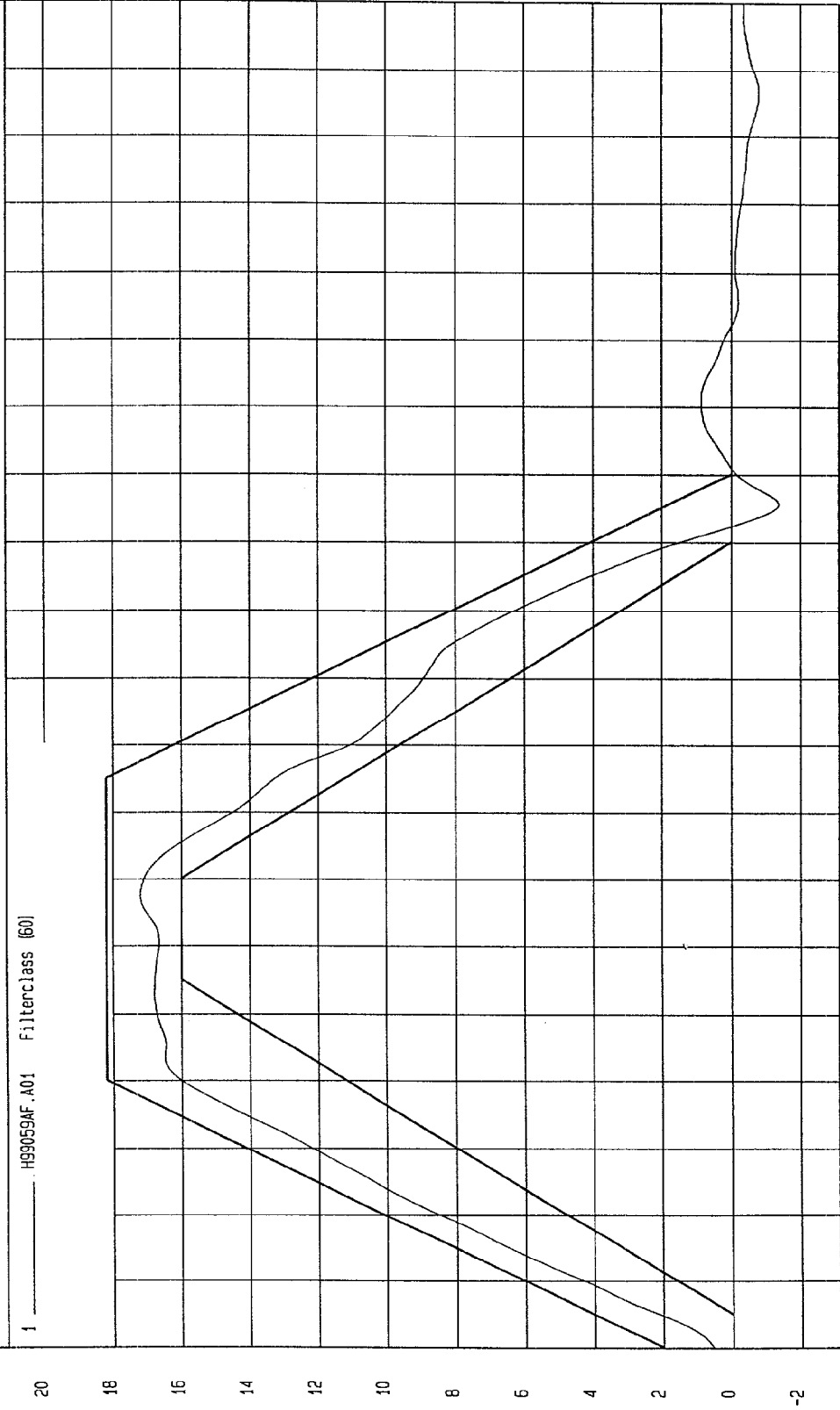
COMPONENT: 1999 DODGE DAKOTA CX0303

Maximum = 17.20 G'S at 67.6 msec

Minimum = -1.37 G'S at 125.7 msec

SLED ACCELERATION

1 H99059AF.A01 Filterclass (60)



TIME (SECONDS)

NGA Research  
02-16-1999 16.02

G'S

TEST DATE: 02-16-1999

TEST: FMVSS 208 SLED TEST

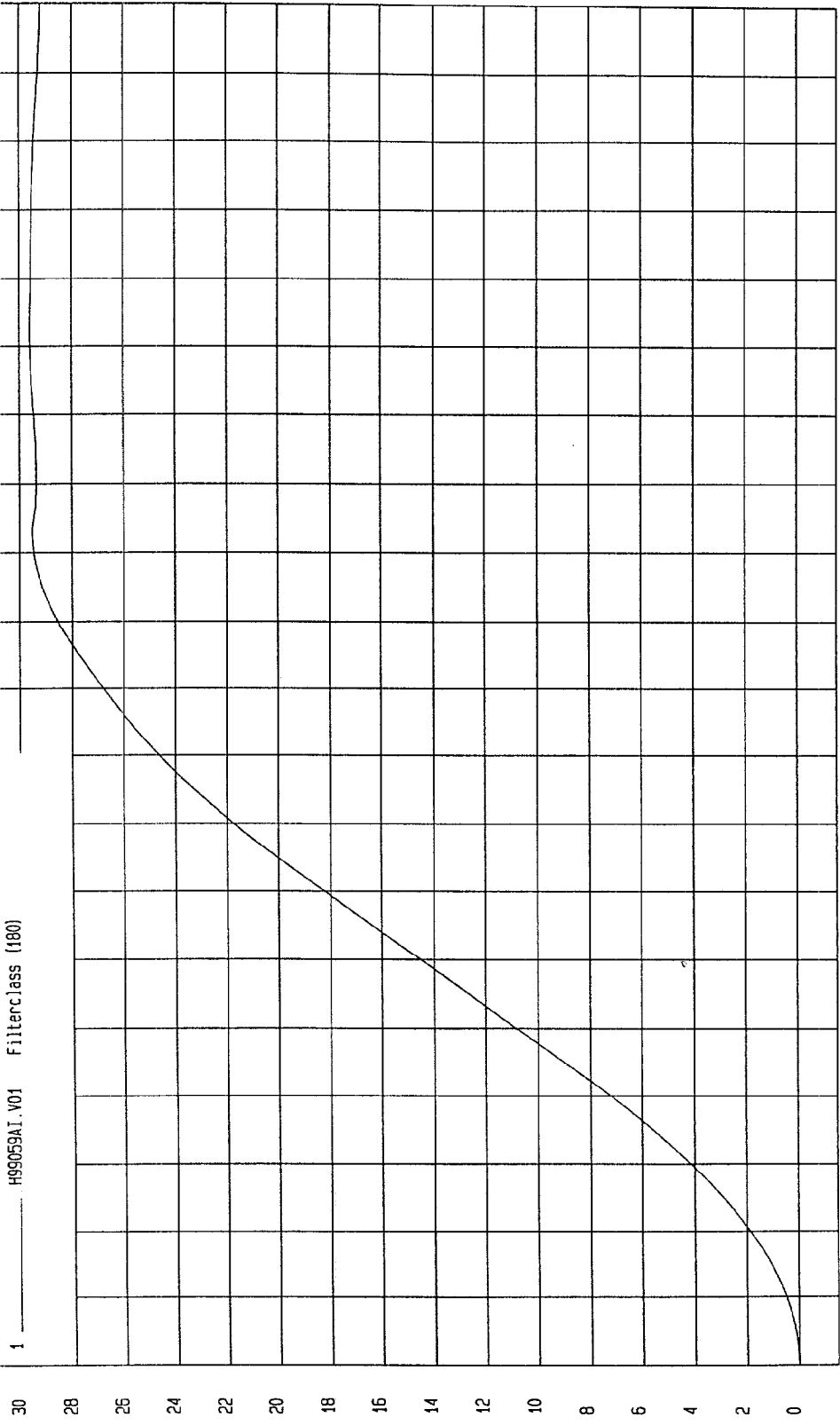
COMPONENT: 1999 DODGE DAKOTA CX0303

YMIN= 0 MPH at 9.9 msec

YMAX= 29.59306 MPH at 151 msec

SLED X VELOCITY

1 H90059AI.V01 Filterclass (180)



TEST DATE: 02-16-1999

TEST: FMVSS 208 SLED TEST

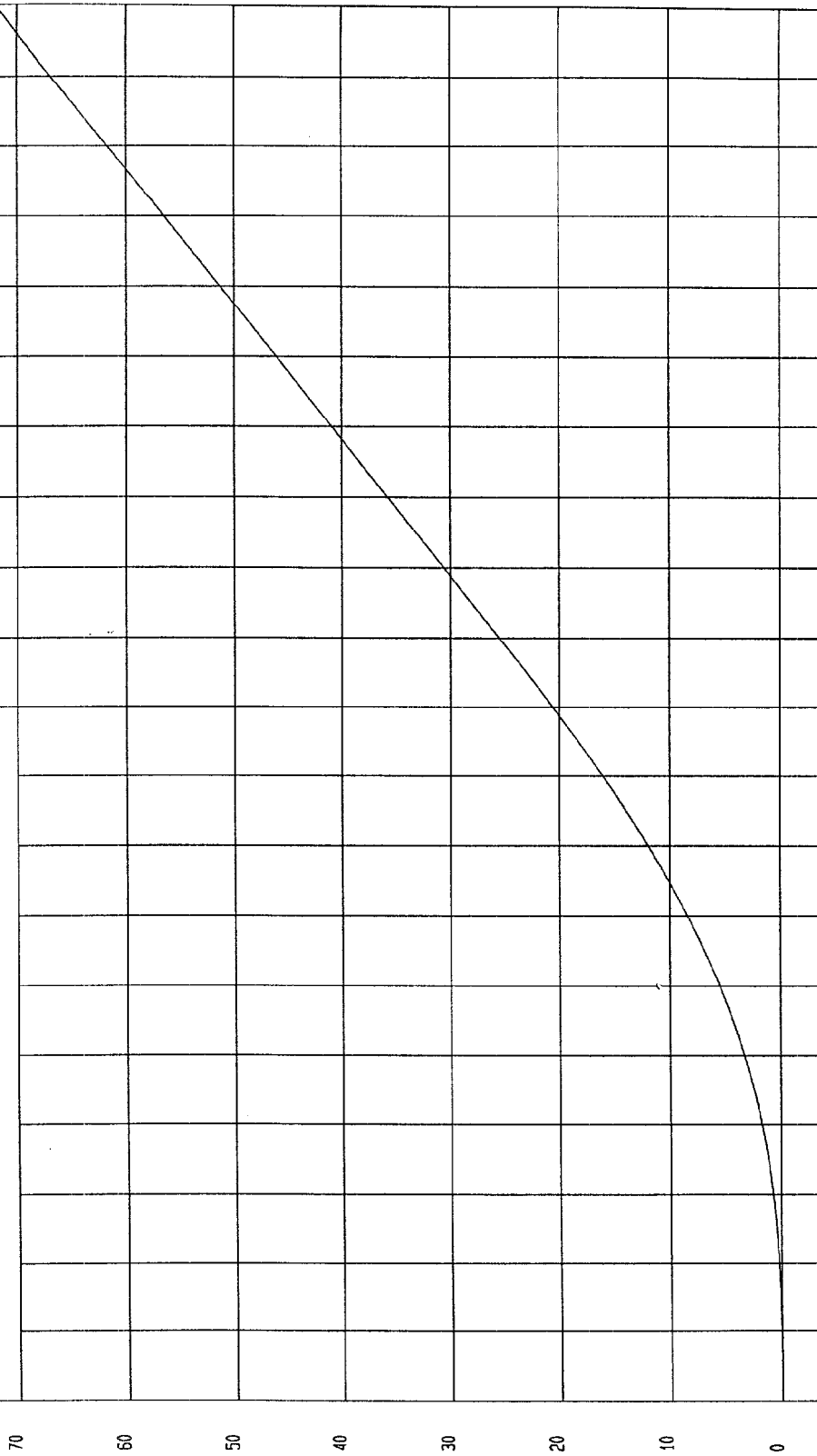
COMPONENT: 1999 DODGE DAKOTA CX0303

YMIN= 0 IN at 9.9 msec

YMAX= 72.03935 IN at 200 msec

SLED X DISPLACEMENT

1 \_\_\_\_\_ HG9059AI.001 Filterclass (180)



MCA Research  
02-16-1999 16:09

NI

TEST DATE: 02-16-1999

TEST: FMVSS 208 SLED TEST

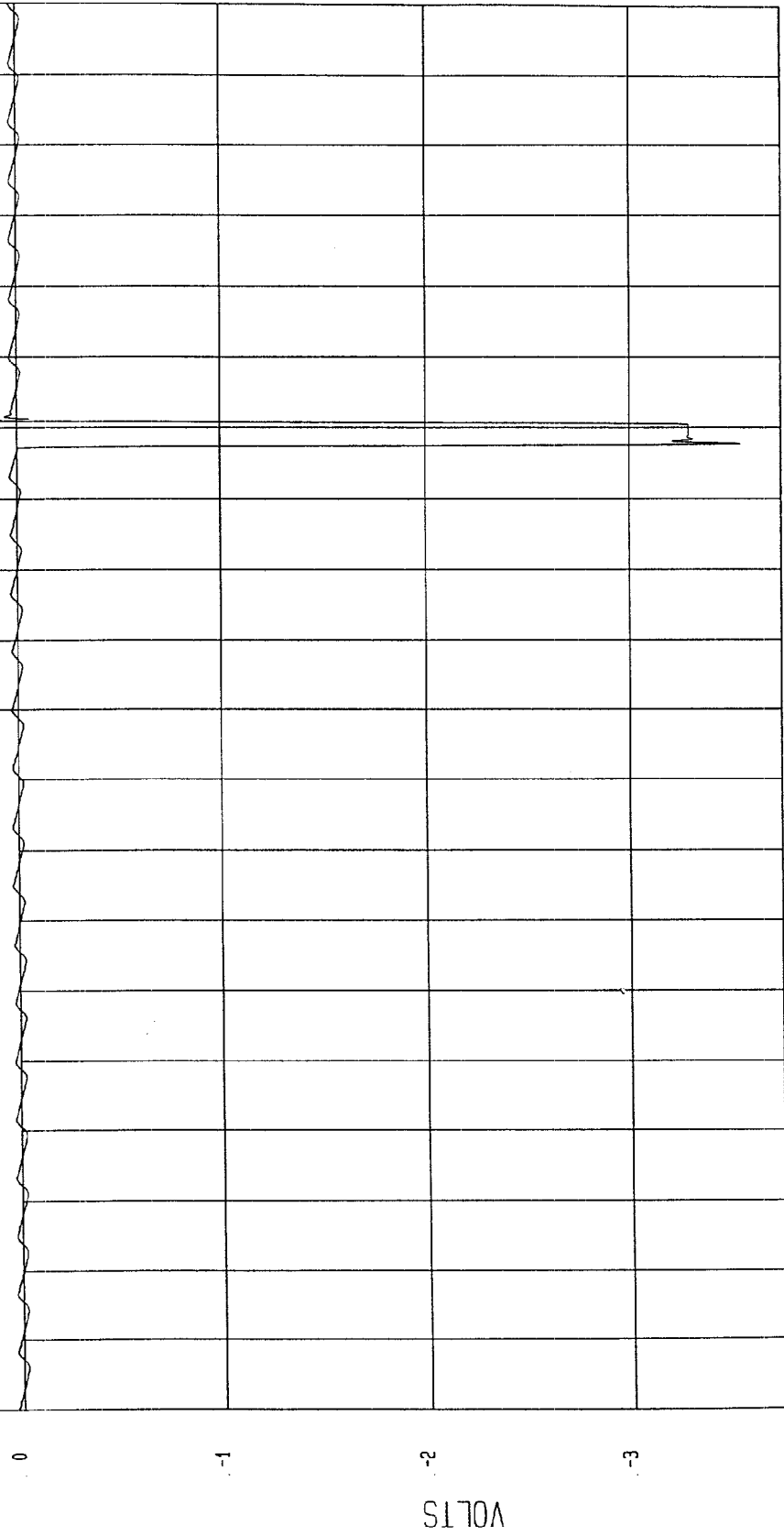
COMPONENT: 1999 DODGE DAKOTA CX0303

YMIN=-3.532247 VOLTS at 137 msec

YMAX= .3422651 VOLTS at 141 msec

1 METER

1 H990590T.010 Filterclass (1000)



TEST DATE: 02-16-1999

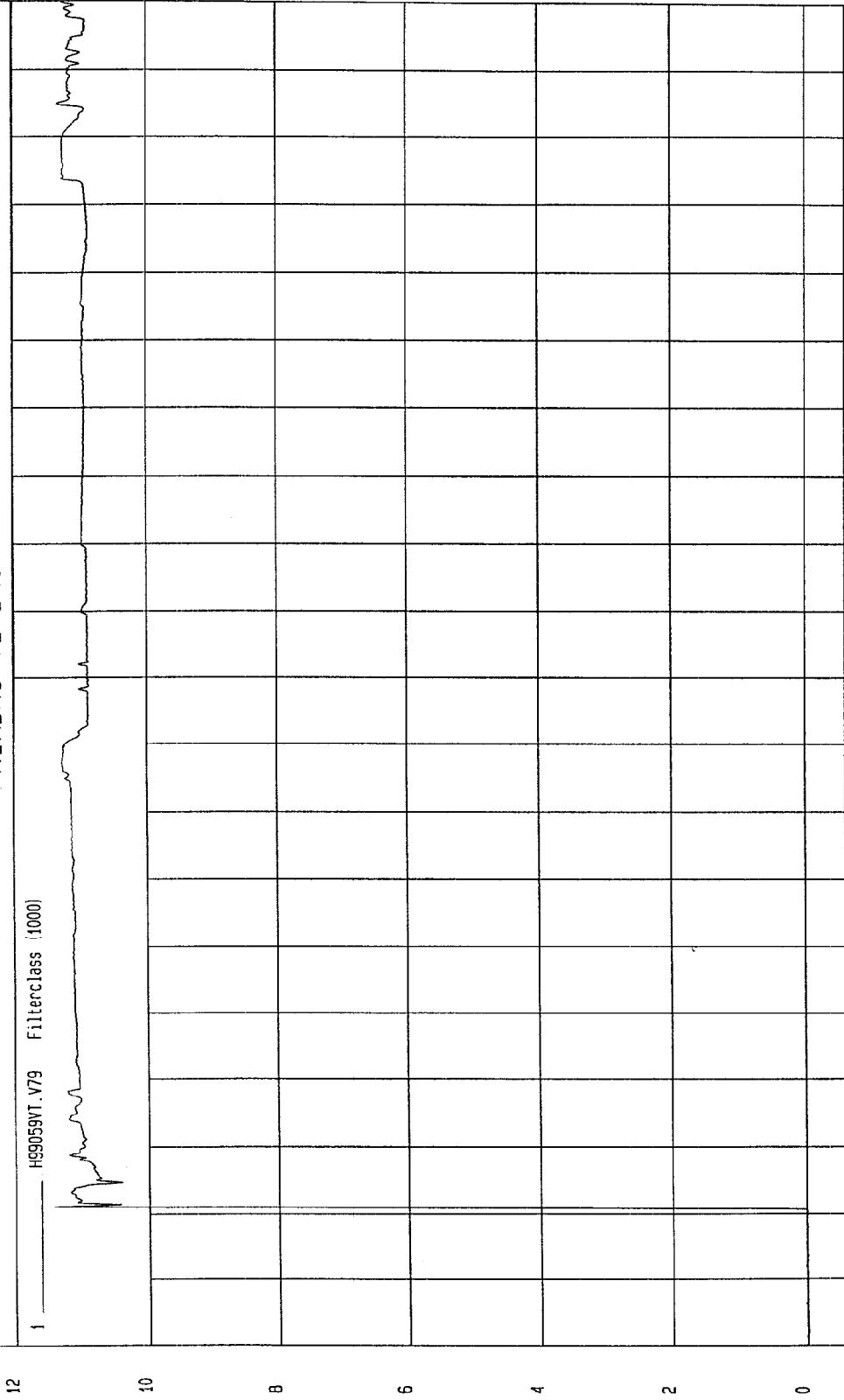
TEST: FMVSS 208 SLED TEST

COMPONENT: 1999 DODGE DAKOTA CX0303

YMIN=-2.527699E-02 VOLTS at 2.3 msec

YMAX= 11.43713 VOLTS at 21. msec

AIRBAG TIMING



WCA Research  
02-16-1999 16:14

VOLTS

TIME (SECONDS)

TEST DATE: 02-16-1999

TEST: FMVSS 208 SLED TEST

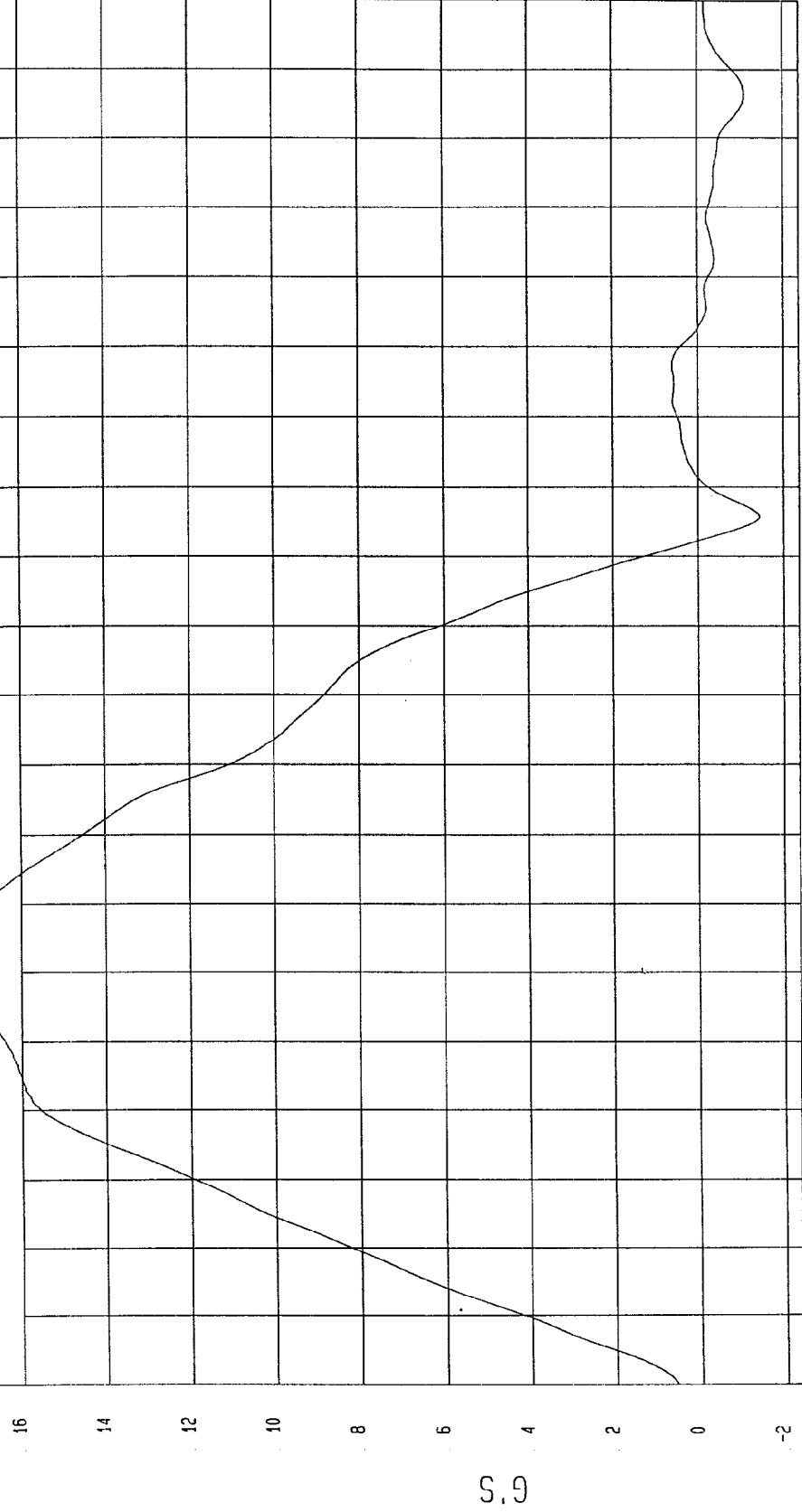
COMPONENT: 1999 DODGE DAKOTA CX0303

YMIN=-1.439486 G'S at 125 msec

YMAX= 15.96532 G'S at 68. msec

VEHICLE FRAME @ LEFT SIDE X ACCELERATION

1 ——— H99059AF.A76 Filterclass (60)



MCA Research  
02-16-1999 16:09

TIME (SECONDS)

G'S

Vehicle Frame @ Right Side X Acceleration vs. Time

No Valid Data Collected

TEST DATE: 02-16-1999

TEST: FMVSS 208 SLED TEST

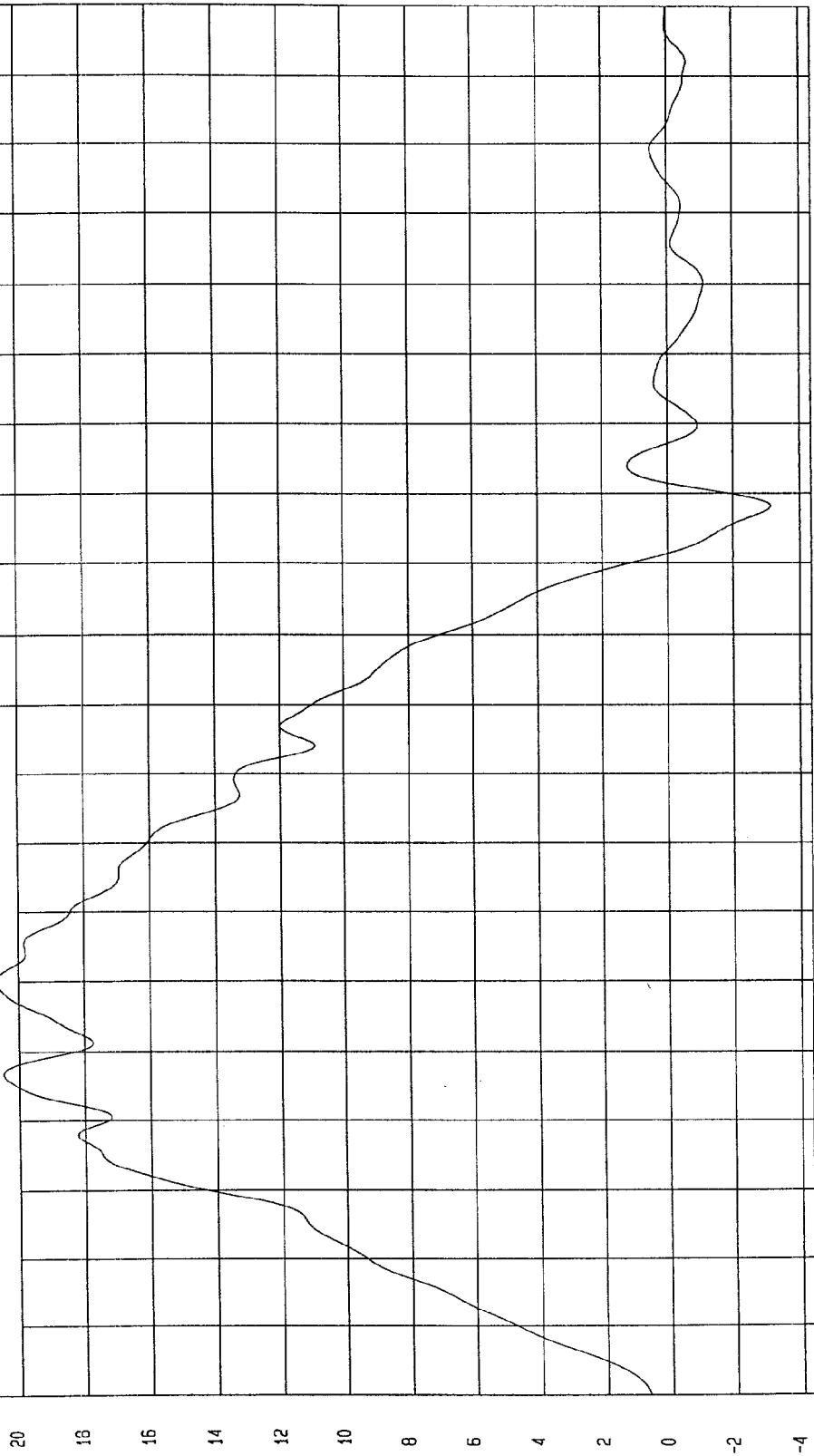
COMPONENT: 1999 DODGE DAKOTA CX0303

YMIN=-3.139/69 G'S at 128 msec

YMAX= 20.7205 G'S at 50. msec

SEAT CROSSMEMBER @ LEFT SIDE X ACCELERATION

1 \_\_\_\_\_ H99059AF.A74 FilterClass (60)



TIME (SECONDS)

MSA Research  
02-16-1999 16.31

G.S

TEST DATE: 02-16-1999

TEST: FMVSS 208 SLED TEST

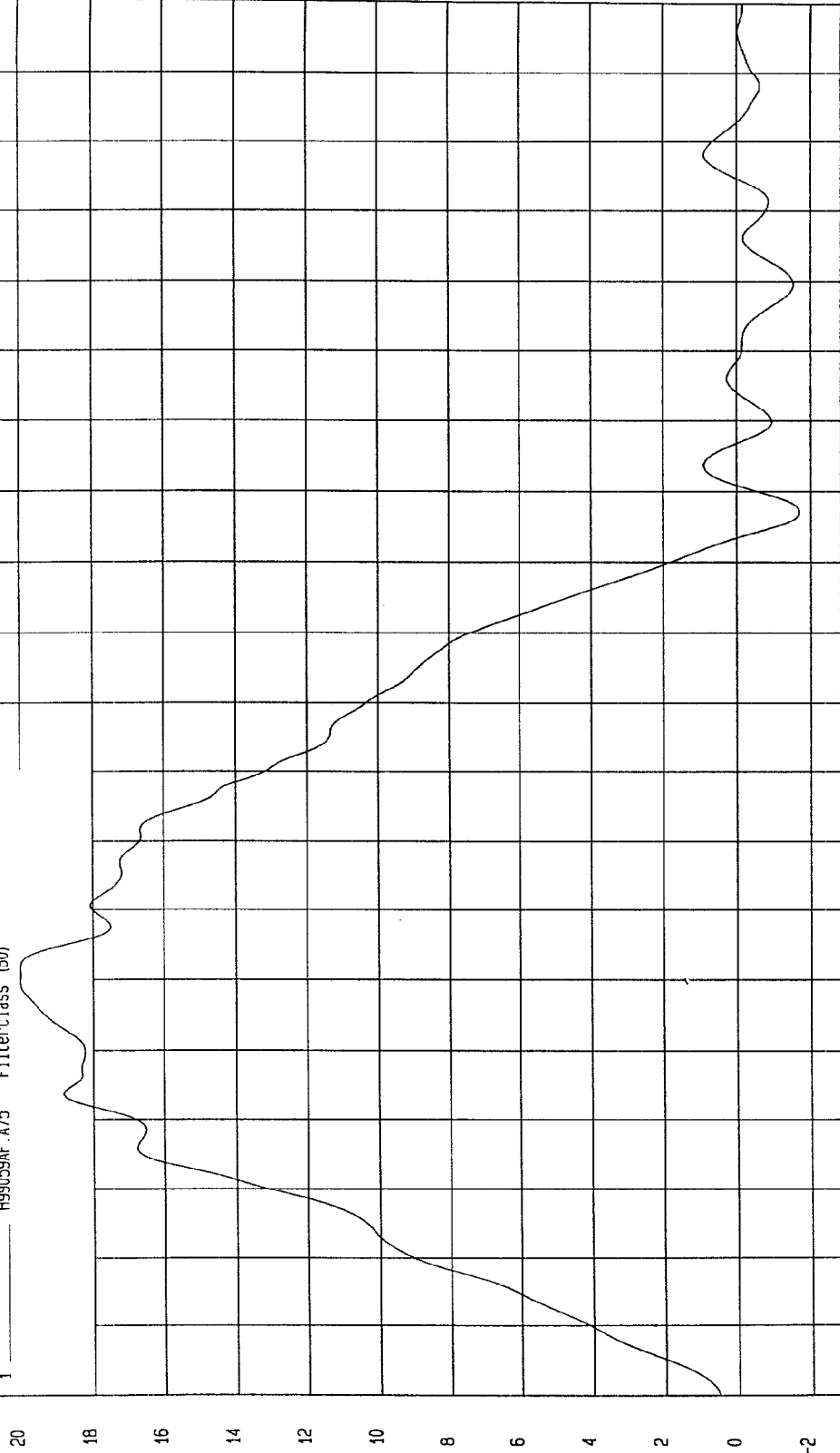
COMPONENT: 1999 DODGE DAKOTA CX0303

YMAX= 20.00265 G'S at 61. msec

YMIN=-1.702118 G'S at 127 msec

SEAT CROSSMEMBER @ RIGHT SIDE X ACCELERATION

1 H99059AF.A75 Filterclass (50)



MGA Research  
02-16-1999 16:35

TIME (SECONDS)

G.S

TEST DATE: 02-16-1999

TEST: FMVSS 208 SLED TEST

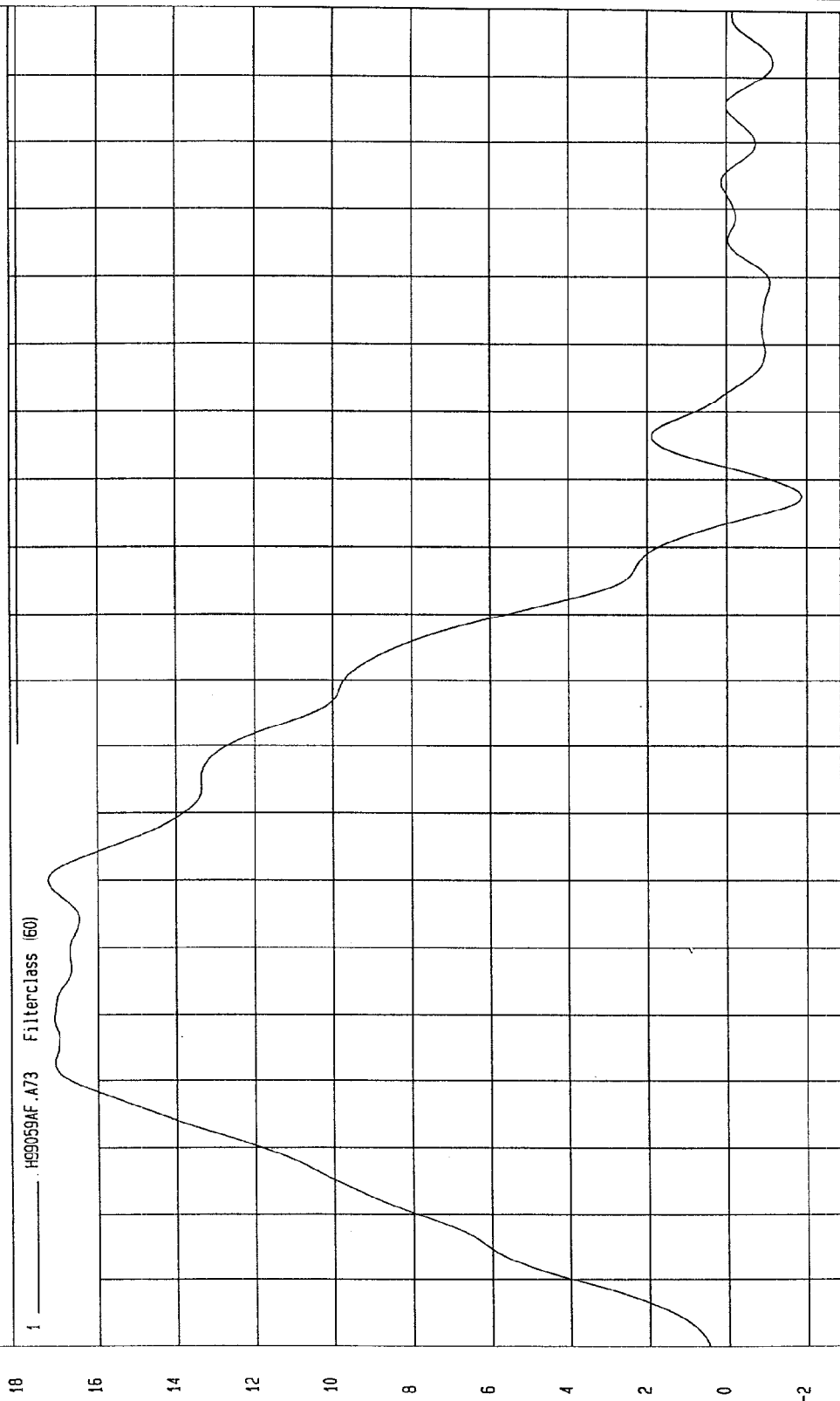
COMPONENT: 1999 DODGE DAKOTA CX0303

YMIN=-1.67565 G'S at 127 msec

YMAX= 17.23376 G'S at 70 msec

TOP OF ENGINE X ACCELERATION

1 \_\_\_\_\_ H99059AF.A73 FilterClass (60)



MCA Research  
02-16-1999 16:09

TIME (SECONDS)

G.S

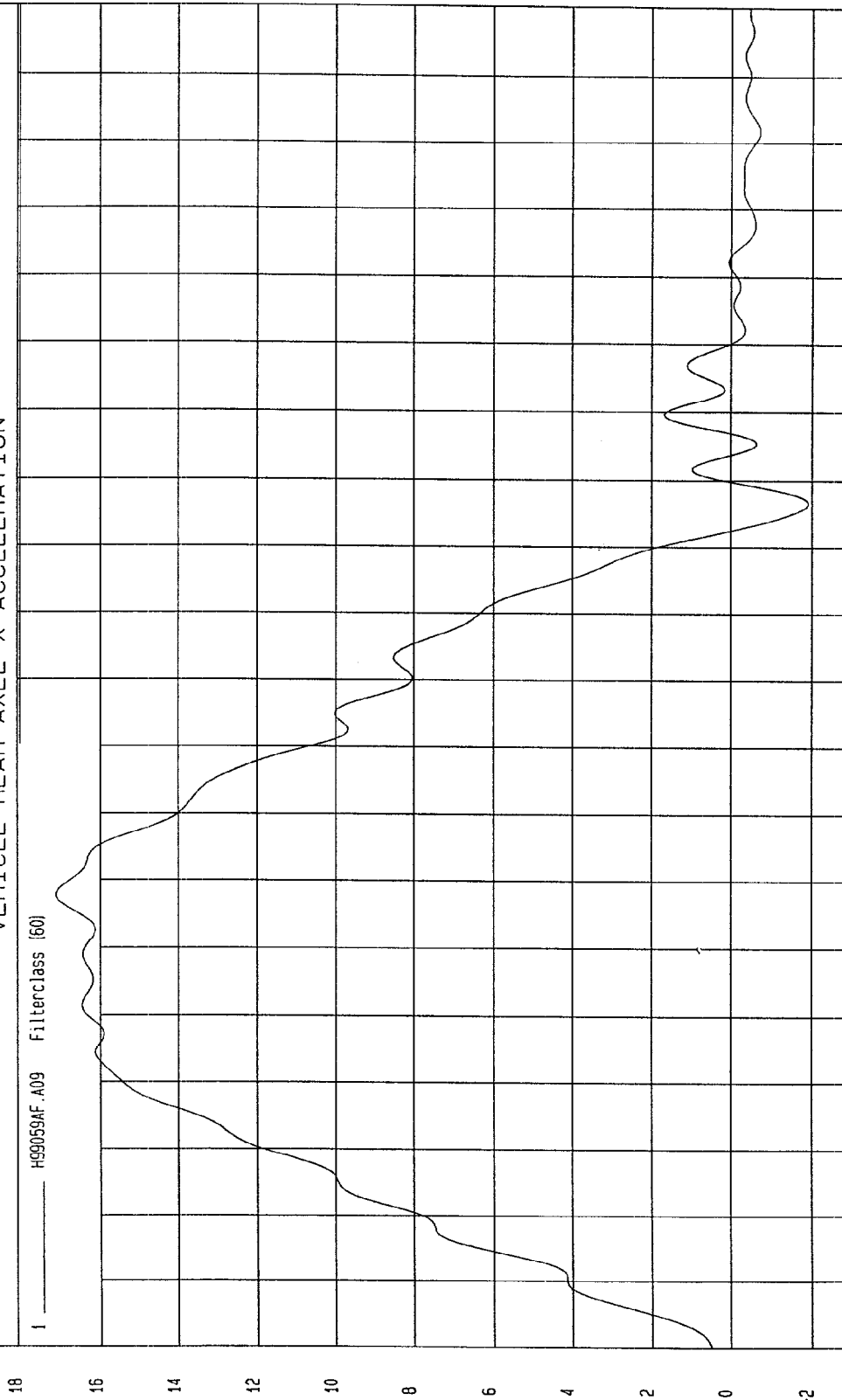
TEST: FMVSS 208 SLED TEST TEST DATE: 02-16-1999

COMPONENT: 1999 DODGE DAKOTA CX0303

YMIN=-1.904921 G'S at 126 msec YMAX= 17.11256 G'S at 67. msec

VEHICLE REAR AXLE X ACCELERATION

1 H99059AF.A09 FilterClass (60)



MCA Research  
02-16-1999 16:18

TIME (SECONDS)

G.S

TEST: FMVSS 208 SLED TEST TEST DATE: 02-16-1999

COMPONENT: 1999 DODGE DAKOTA CX0303

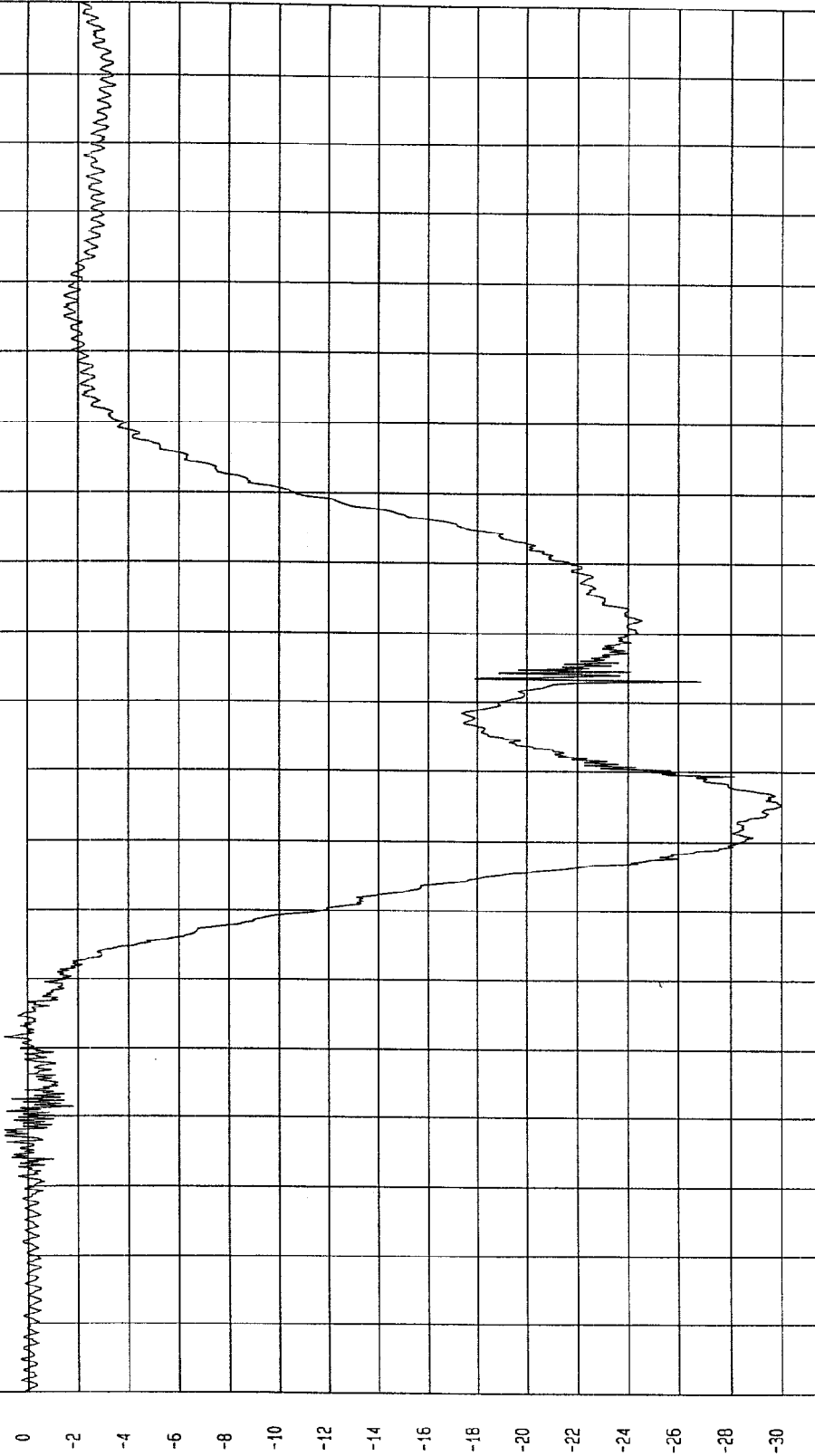
YMIN=-30.00707 G'S at 85. msec

YMAX= .9130158 G'S at 37. msec

DRIVER HEAD X ACCELERATION

1 H99059A1.A03 Filterclass (4000)

2



G.S

TIME (SECONDS)

MCA Research  
02-16-1999 16:04

TEST DATE: 02-16-1999

TEST: FMVSS 208 SLED TEST

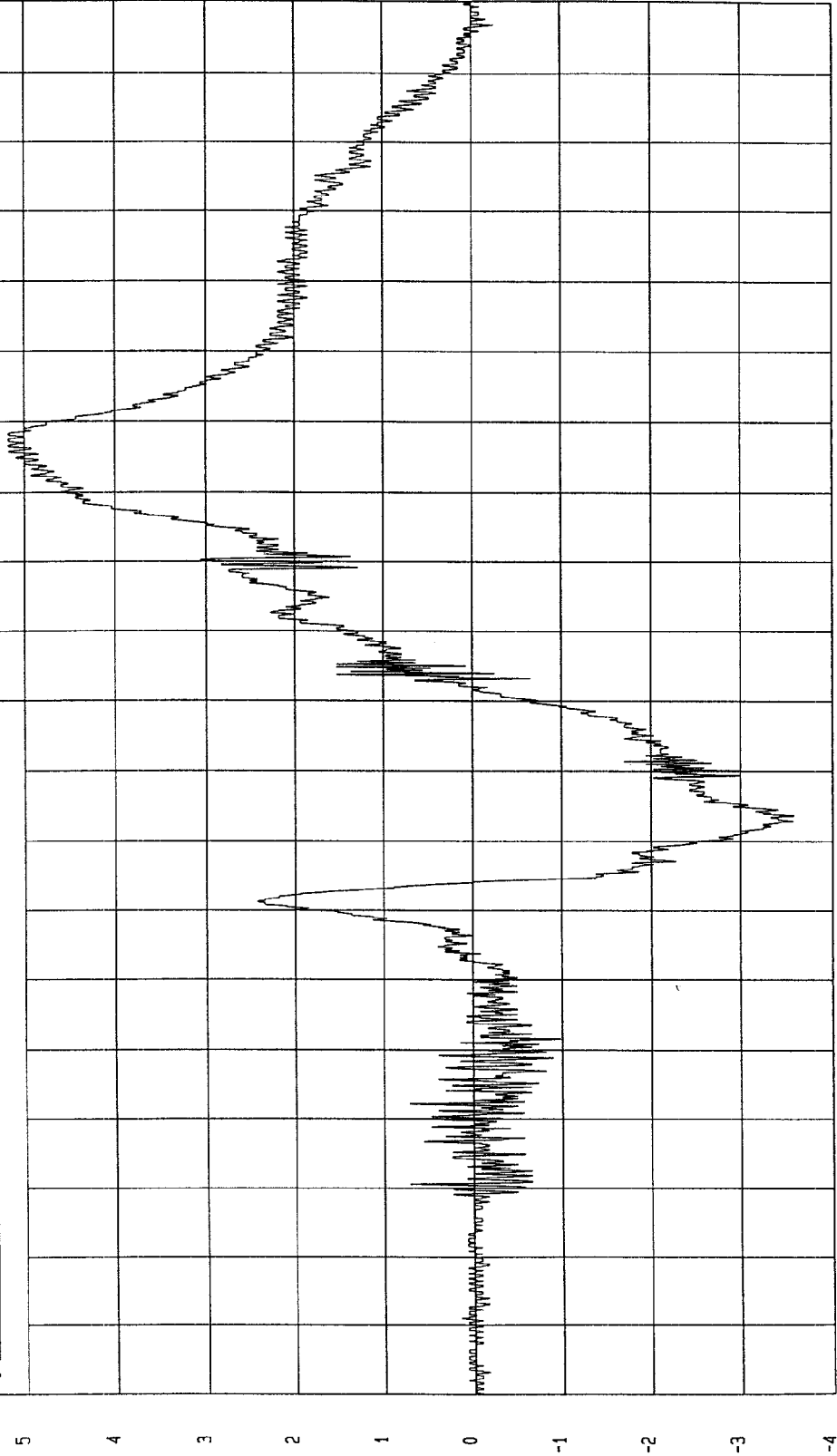
COMPONENT: 1999 DODGE DAKOTA CX0303

YMIN=-3.55/861 G'S at 82. msec

YMAX= 5.167211 G'S at 135 msec

DRIVER HEAD Y ACCELERATION

1 H99059AT.A04 Filterclass (1000)



WSA Research  
02-16-1999 16:04

TIME (SECONDS)

G.S

TEST DATE: 02-16-1999

TEST: FMVSS 208 SLED TEST

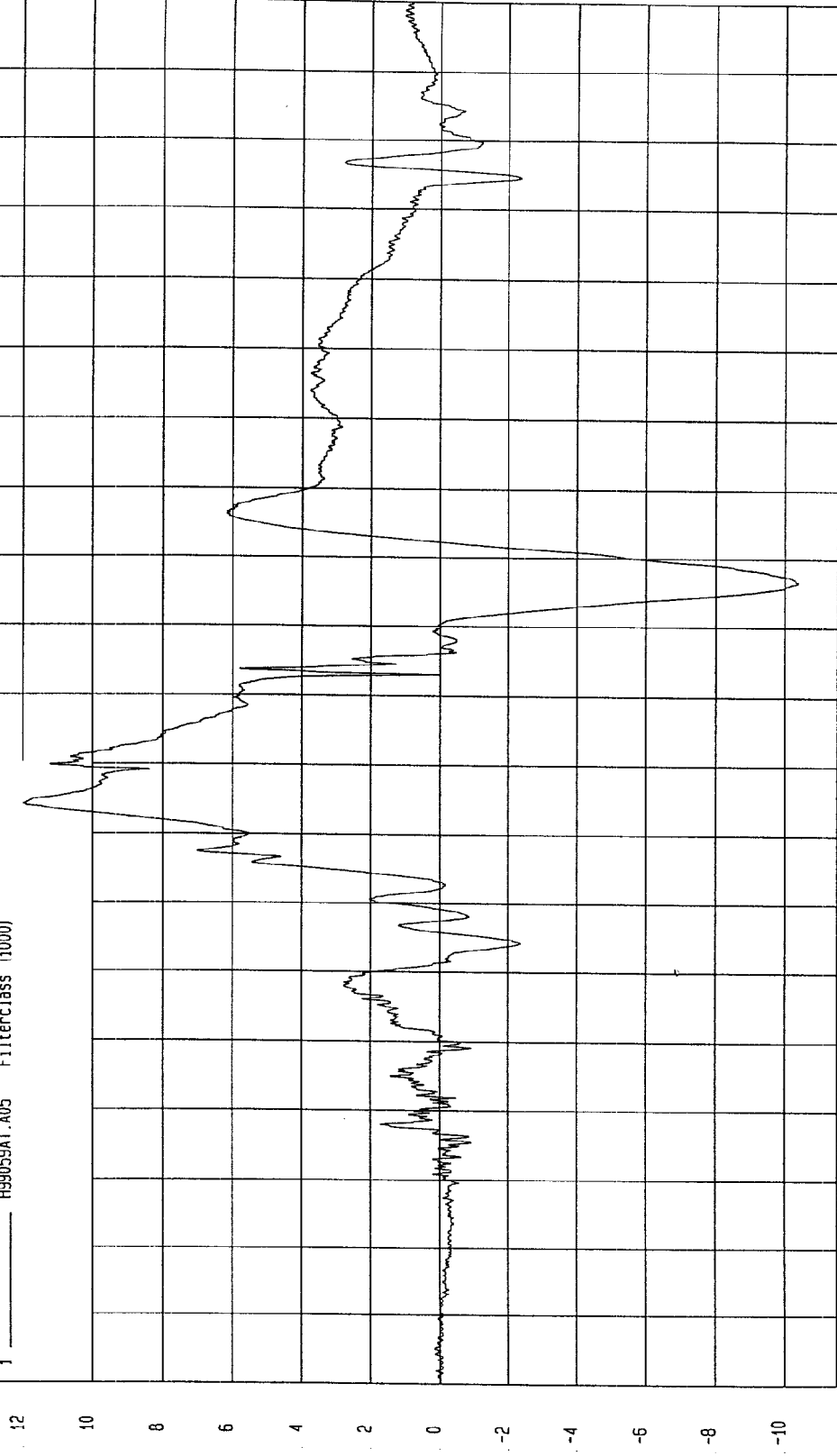
COMPONENT: 1999 DODGE DAKOTA CX0303

YMIN=-10.37424 G'S at 146 msec

YMAX= 11.99236 G'S at 84. msec

DRIVER HEAD Z ACCELERATION

1 H99059AT.A05 Filterclass (1000)



MSA Research  
02-16-1999 16.04

G.S

TEST DATE: 02-16-1999

TEST: FMVSS 208 SLED TEST

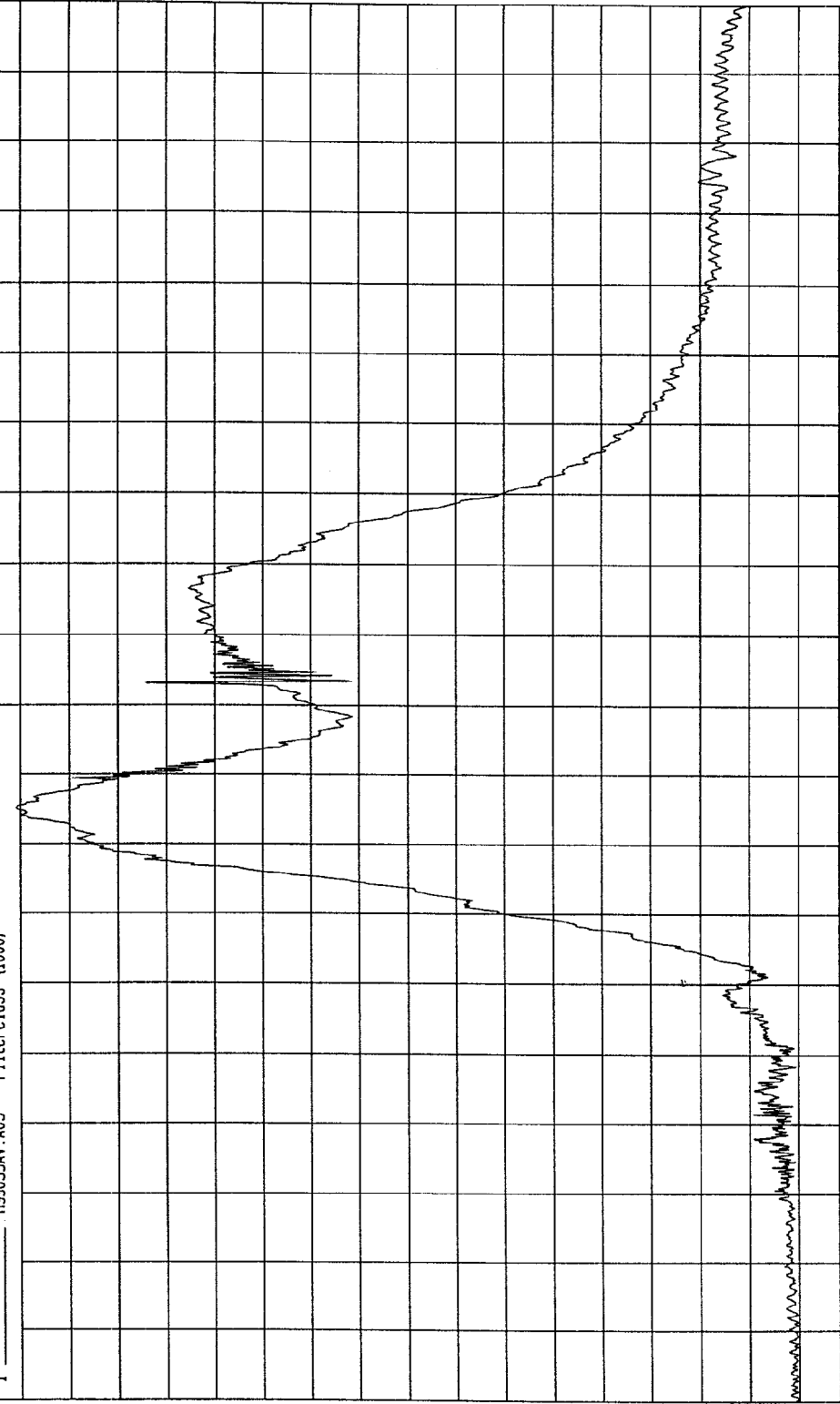
COMPONENT: 1999 DODGE DAKOTA CX0303

YMIN= 4.173017E-02 G'S at .3 msec

YMAX= 32.18781 G'S at 85. msec

DRIVER HEAD RESULTANT ACCELERATION

1 H99059AV.A03 Filterclass (1000)



NSA Research  
02-16-1999 16.04

G.S

TIME (SECONDS)

TEST DATE: 02-16-1999

TEST: FMVSS 208 SLED TEST

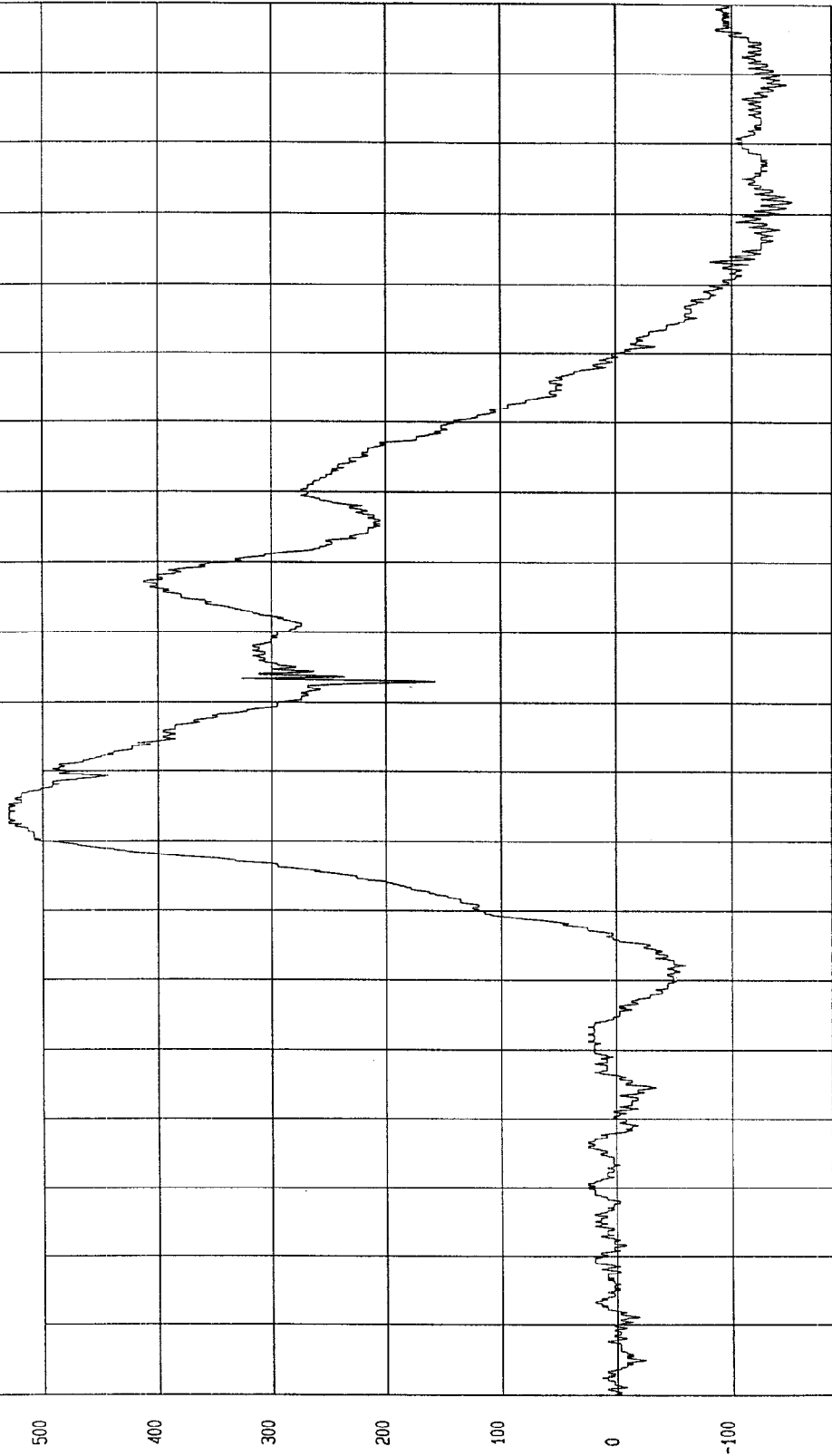
COMPONENT: 1999 DODGE DAKOTA CX0303

YMIN=-151.2193 N at 171 msec

YMAX= 528.7845 N at 82. msec

DRIVER NECK FORCE X

1 H99059FT.F21 Filterclass (1000)



MCA Research  
02-16-1999 16:04

TIME (SECONDS)

N

TEST DATE: 02-16-1999

TEST: FMVSS 208 SLED TEST

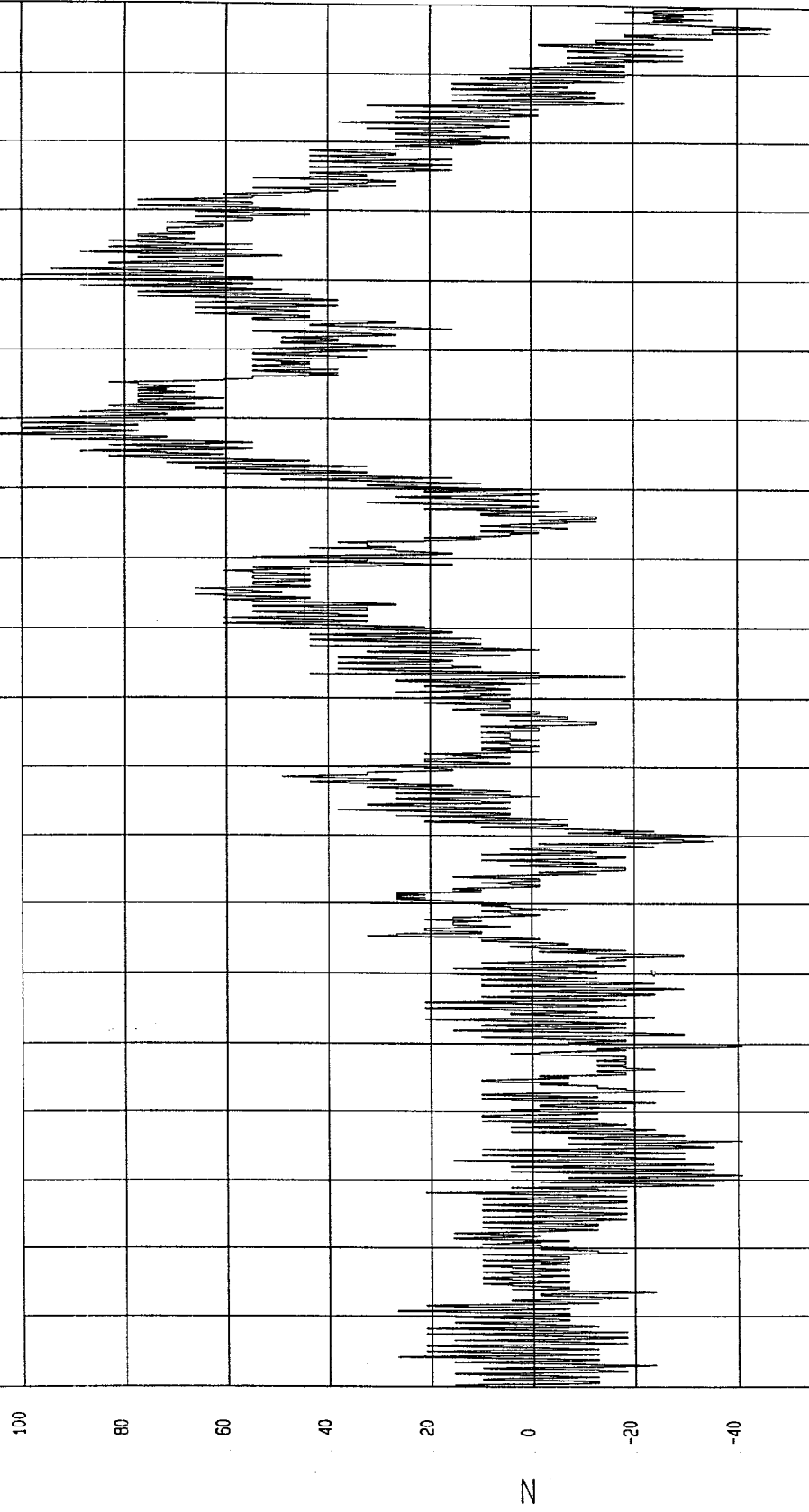
COMPONENT: 1999 DODGE DAKOTA CX0303

YMIN=-46.44188 N at 196 msec

YMAX= 105.5033 N at 137 msec

DRIVER NECK FORCE Y

1 H99059FT.F22 Filterclass (1000)



MGA Research  
02-16-1999 16:04

TIME (SECONDS)

TEST DATE: 02-16-1999

TEST: FMVSS 208 SLED TEST

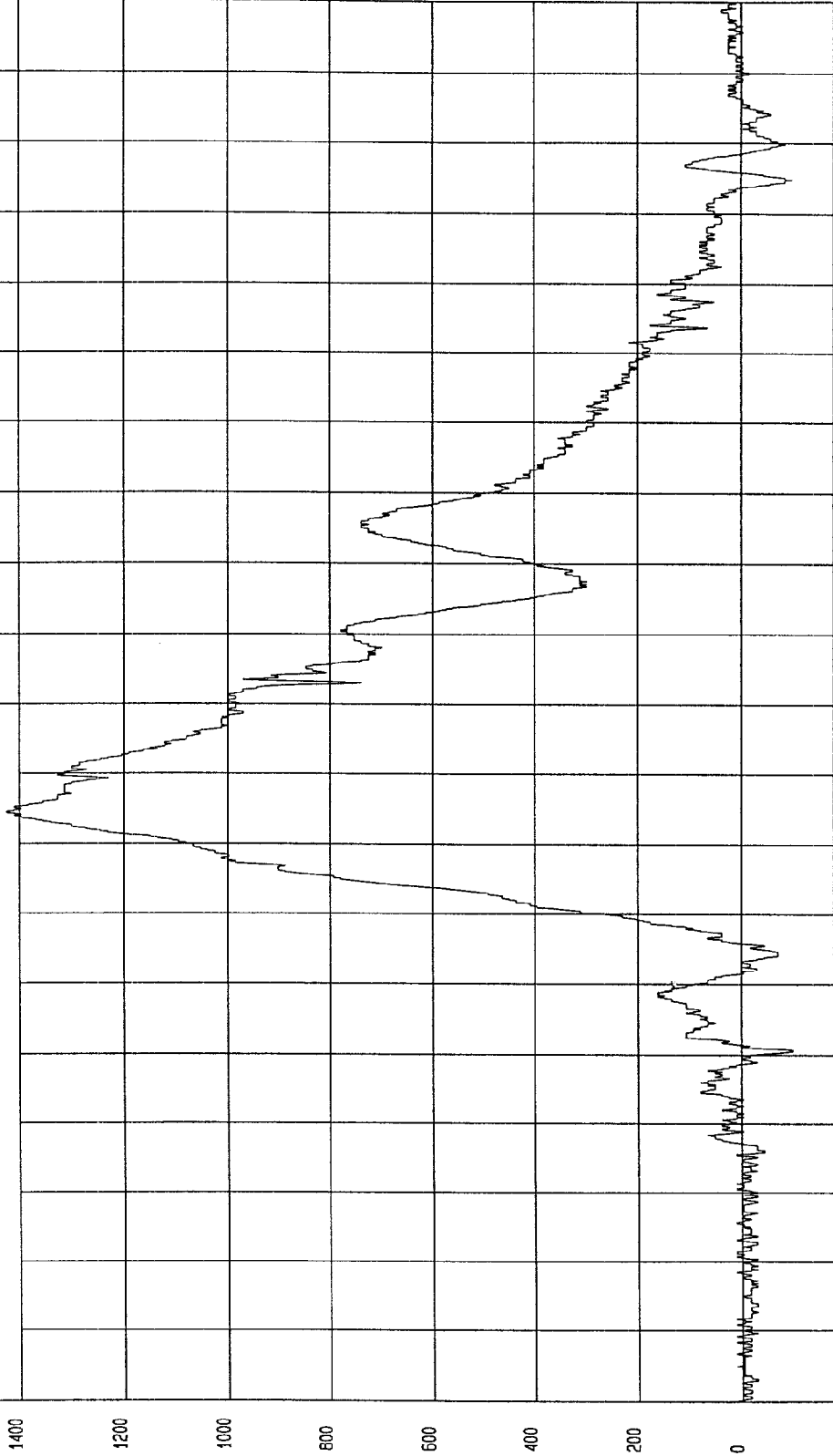
COMPONENT: 1999 DODGE DAKOTA CX0303

YMIN=-99.23717 N at 50. msec

YMAX= 1423.831 N at 84. msec

DRIVER NECK FORCE Z

1 H9905FT.F23 Filterclass (1000)



MGA Research  
02-16-1999 16:04

TIME (SECONDS)

TEST DATE: 02-16-1999

TEST: FMVSS 208 SLED TEST

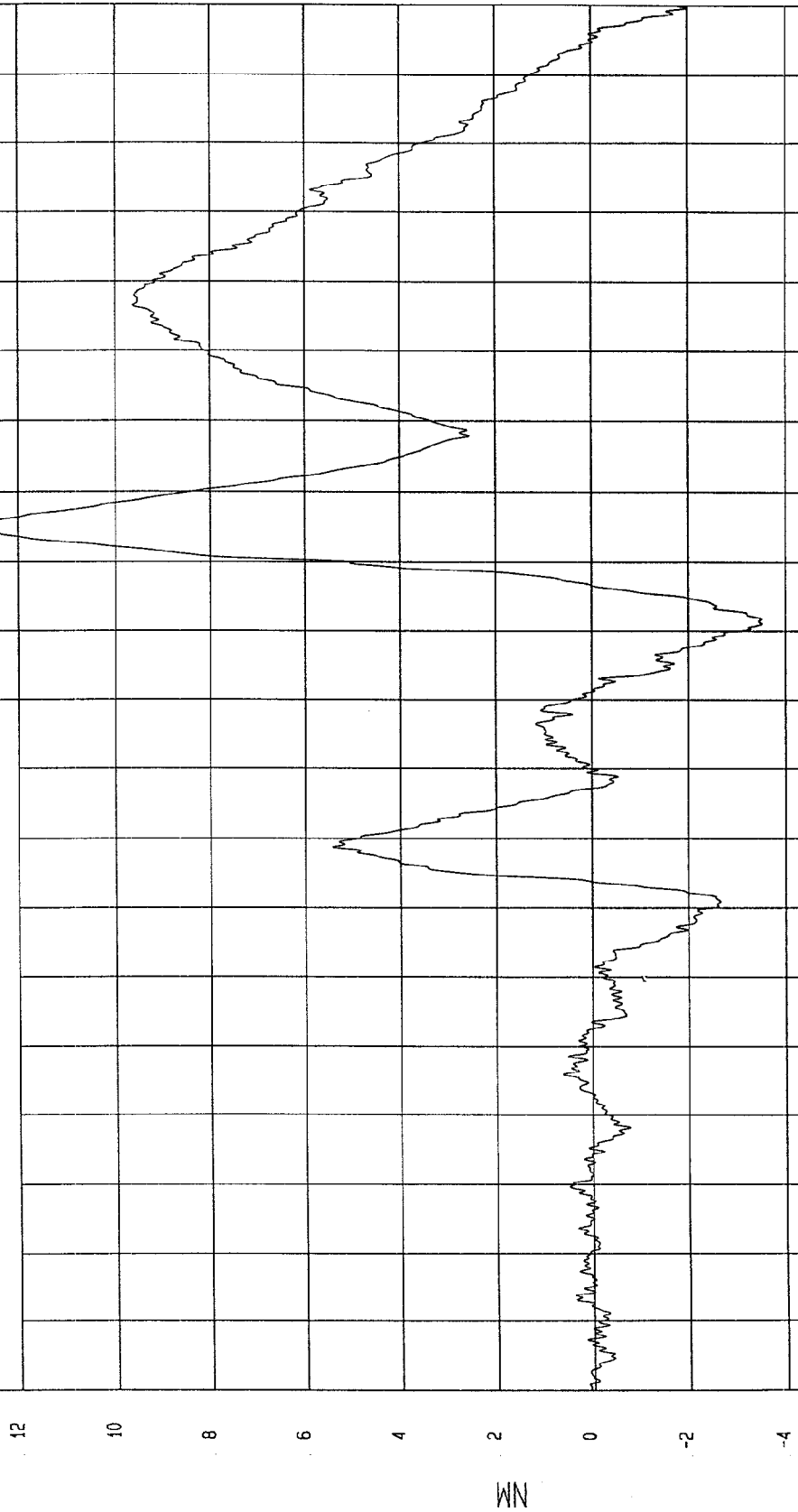
COMPONENT: 1999 DODGE DAKOTA CX0303

YMIN=-3.509828 NM at 111 msec

YMAX= 12.72353 NM at 124 msec

DRIVER NECK MOMENT X

1 H99059MF.M24 Filterclass (600)



MGA Research  
02-16-1999 16:04

TEST DATE: 02-16-1999

TEST: FMVSS 208 SLED TEST

COMPONENT: 1999 DODGE DAKOTA CX0303

YMIN=-10.21522 NM at 110 msec

YMAX= 36.42005 NM at 83. msec

DRIVER NECK MOMENT Y

1 \_\_\_\_\_ H99059MF.M25 Filterclass (500)



MCA Research  
02-16-1999 16.05

TIME (SECONDS)

NM

TEST DATE: 02-16-1999

TEST: FMVSS 208 SLED TEST

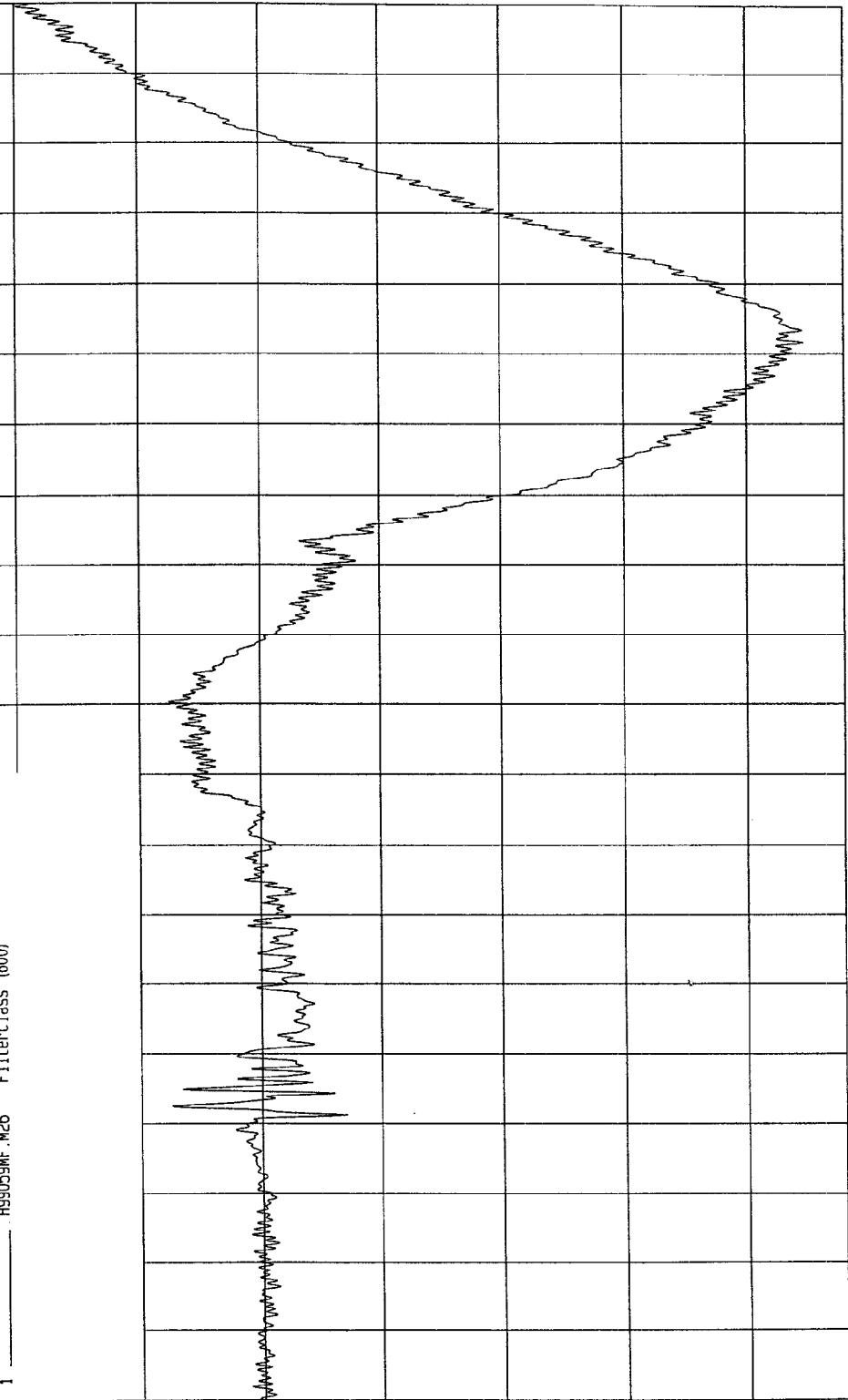
COMPONENT: 1999 DODGE DAKOTA CX0303

YMIN=-8.925378 NM at 151 msec

YMAX= 3.97022 NM at 199 msec

DRIVER NECK MOMENT Z

1 H99059MF.M26 Filterclass (600)



MGA Research  
02-16-1999 16:05

TIME (SECONDS)

NM

TEST: FMVSS 208 SLED TEST TEST DATE: 02-16-1999

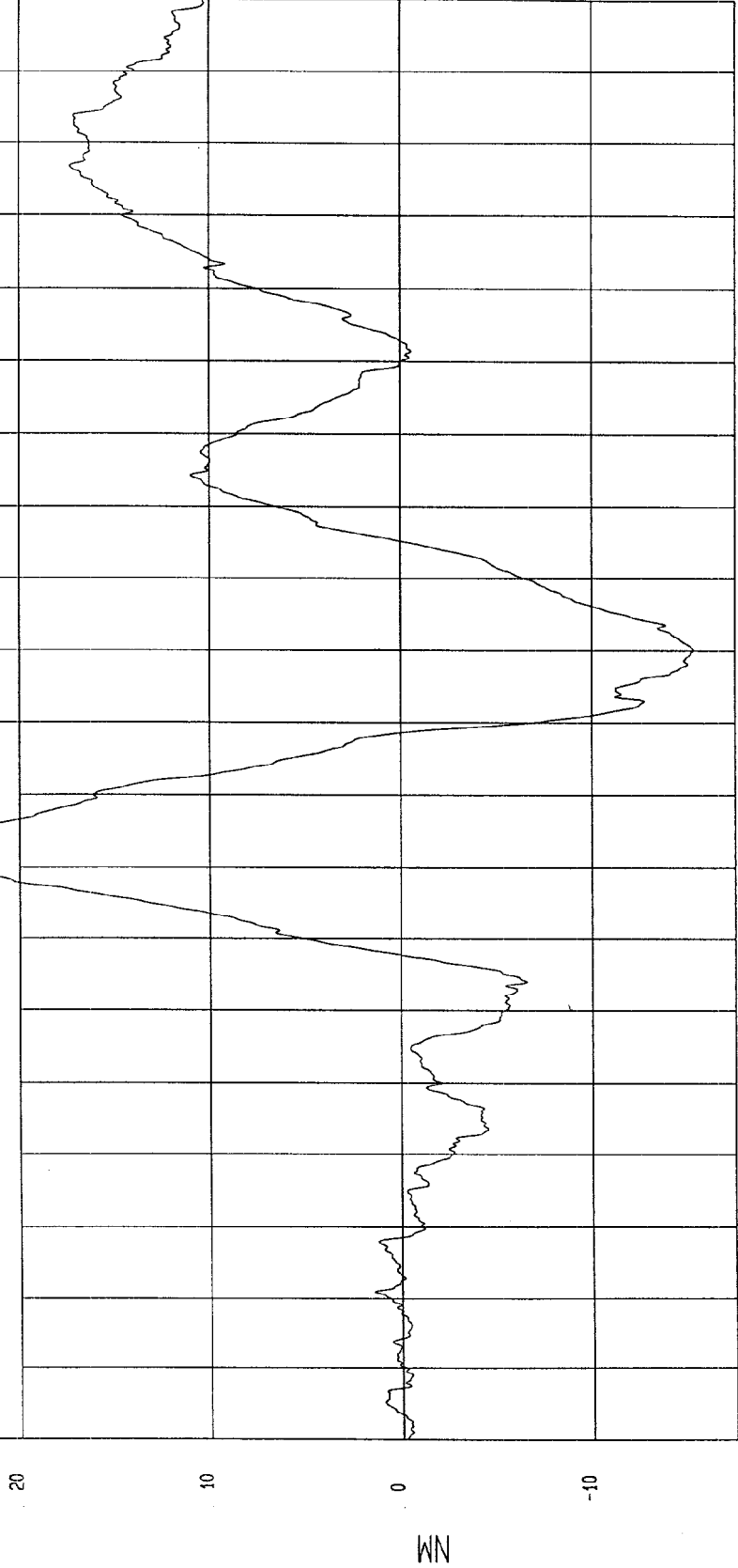
COMPONENT: 1999 DODGE DAKOTA CX0303

YMIN=-15.28466 NM at 110 msec

YMAX= 27.10321 NM at 82. msec

DRIVER OCCIPITAL CONDYLE MOMENT Y

1 H99059M0.M25 Filterclass (600)



MSA Research  
02-16-1999 16:05

TIME (SECONDS)

NM

TEST DATE: 02-16-1999

TEST: FMVSS 208 SLED TEST

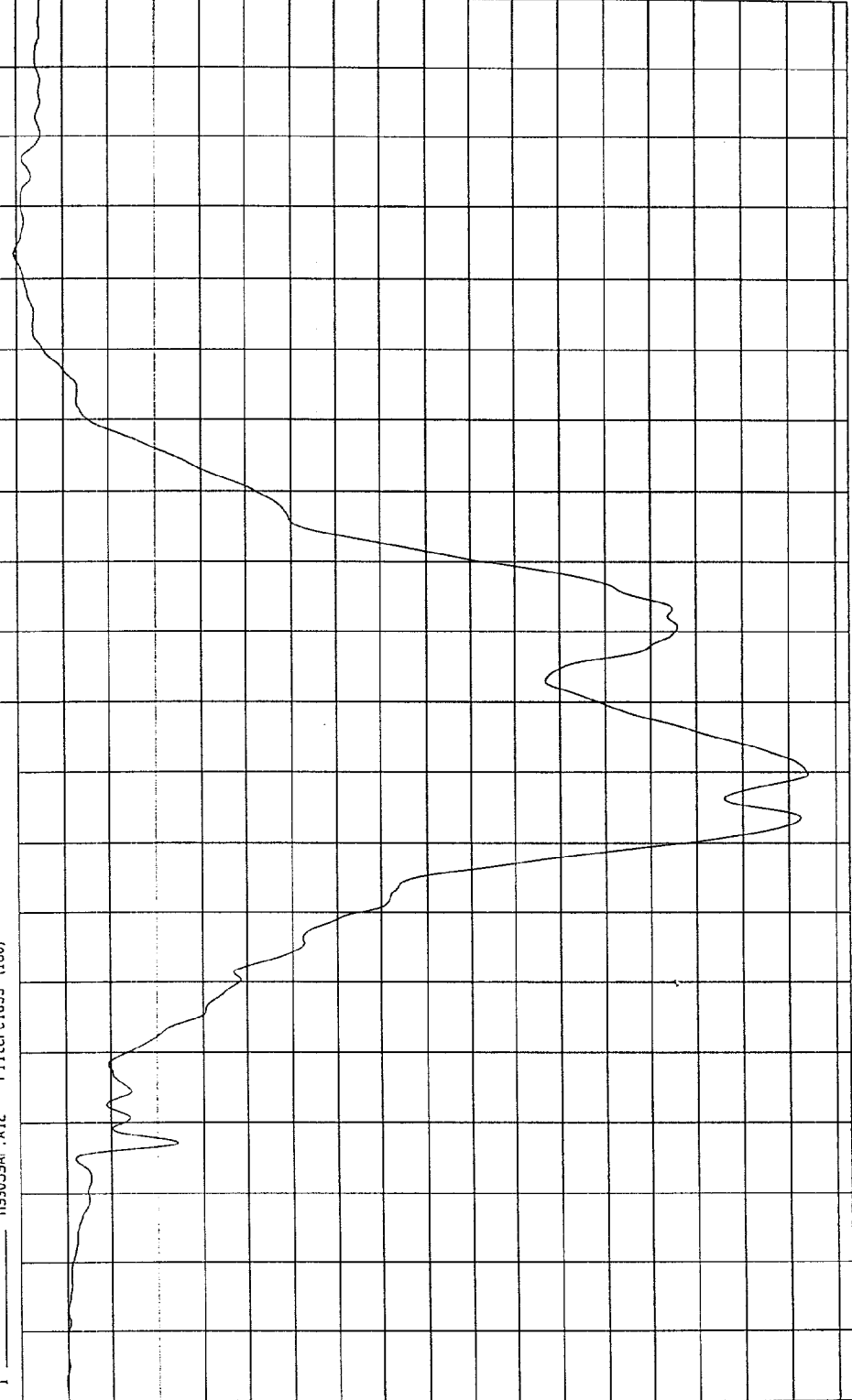
COMPONENT: 1999 DODGE DAKOTA CX0303

YMIN=-32.82914 G'S at 89. msec

YMAX= 2.113373 G'S at 163 msec

DRIVER CHEST X ACCELERATION

1 H99059AF.A12 Filterclass (180)



MGA Research  
02-16-1999 16:05

TEST DATE: 02-16-1999

TEST: FMVSS 208 SLED TEST

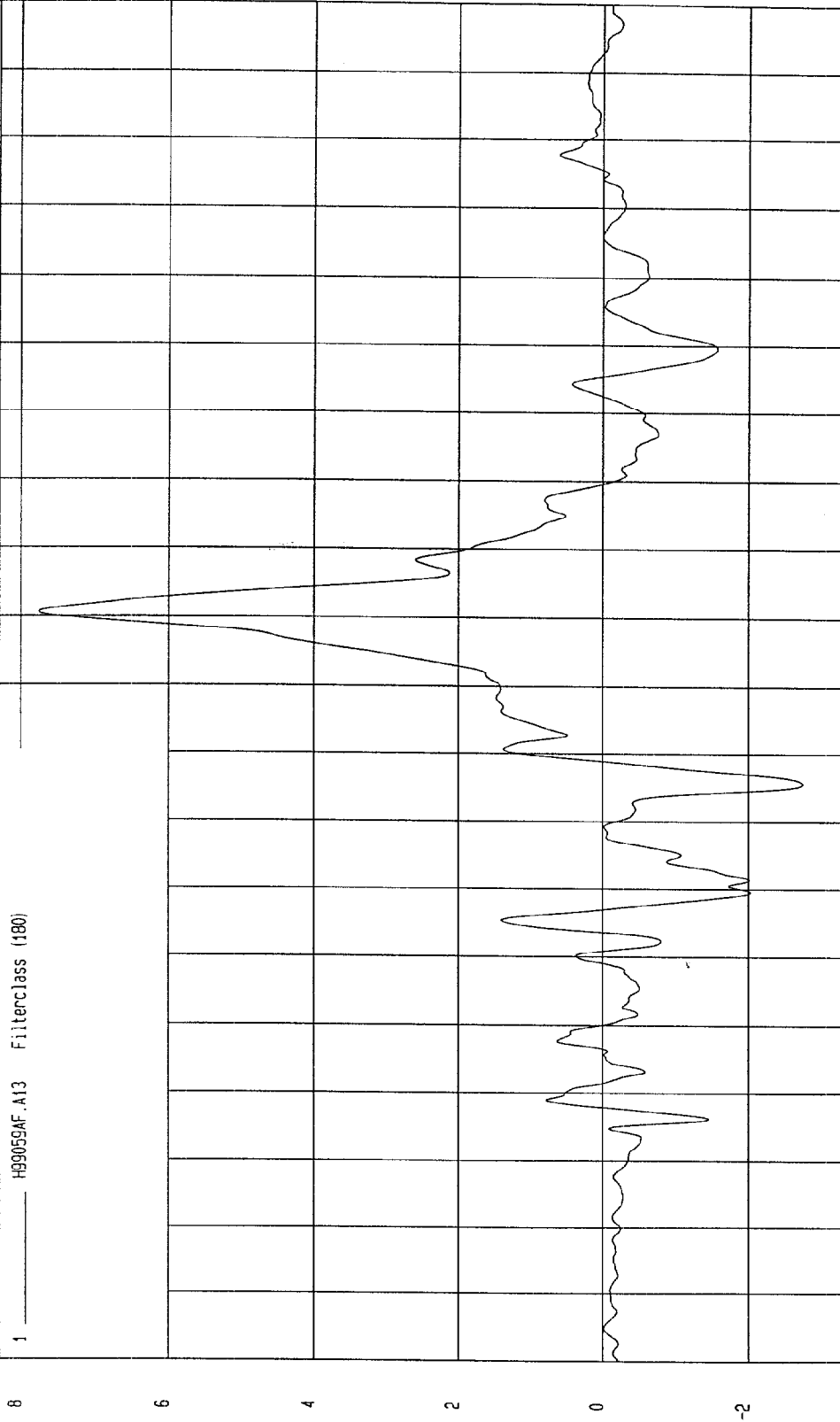
COMPONENT: 1999 DODGE DAKOTA CX0303

YMIN=-2.740015 G'S at 85. msec

YMAX= 7.766503 G'S at 110 msec

DRIVER CHEST Y ACCELERATION

1 H99059AF.A13 FilterClass (180)



MCA Research  
02-16-1999 16:05

TIME (SECONDS)

G.S

TEST DATE: 02-16-1999

TEST: FMVSS 208 SLED TEST

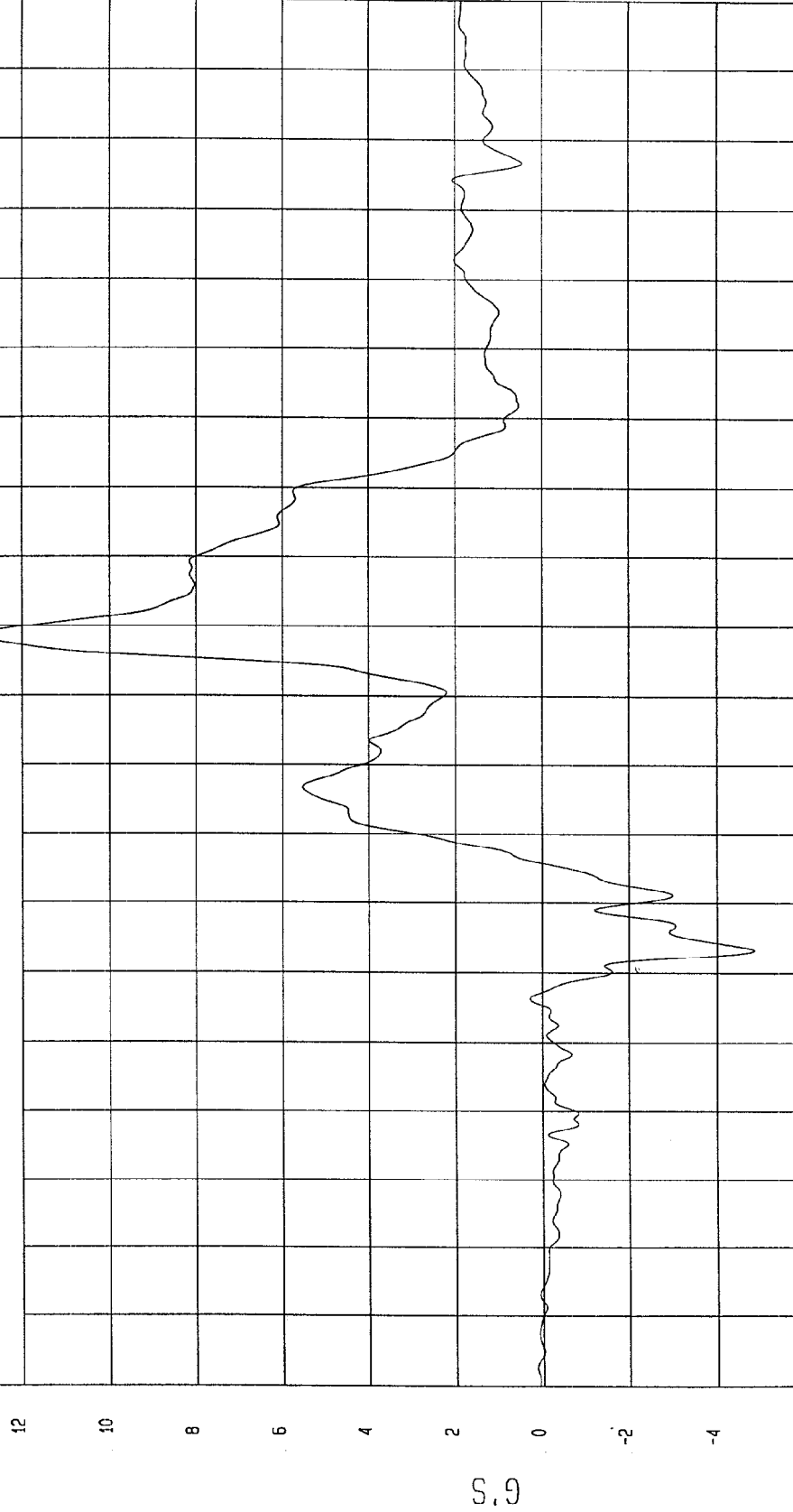
COMPONENT: 1999 DODGE DAKOTA CX0303

YMIN=-4.848707 G'S at 63. msec

YMAX= 12.99406 G'S at 108 msec

DRIVER CHEST Z ACCELERATION

1 H99059AF.A14 Filterclass (180)



MSA Research  
02-16-1999 16:05

TIME (SECONDS)

G.S

TEST: FMVSS 208 SLED TEST TEST DATE: 02-16-1999

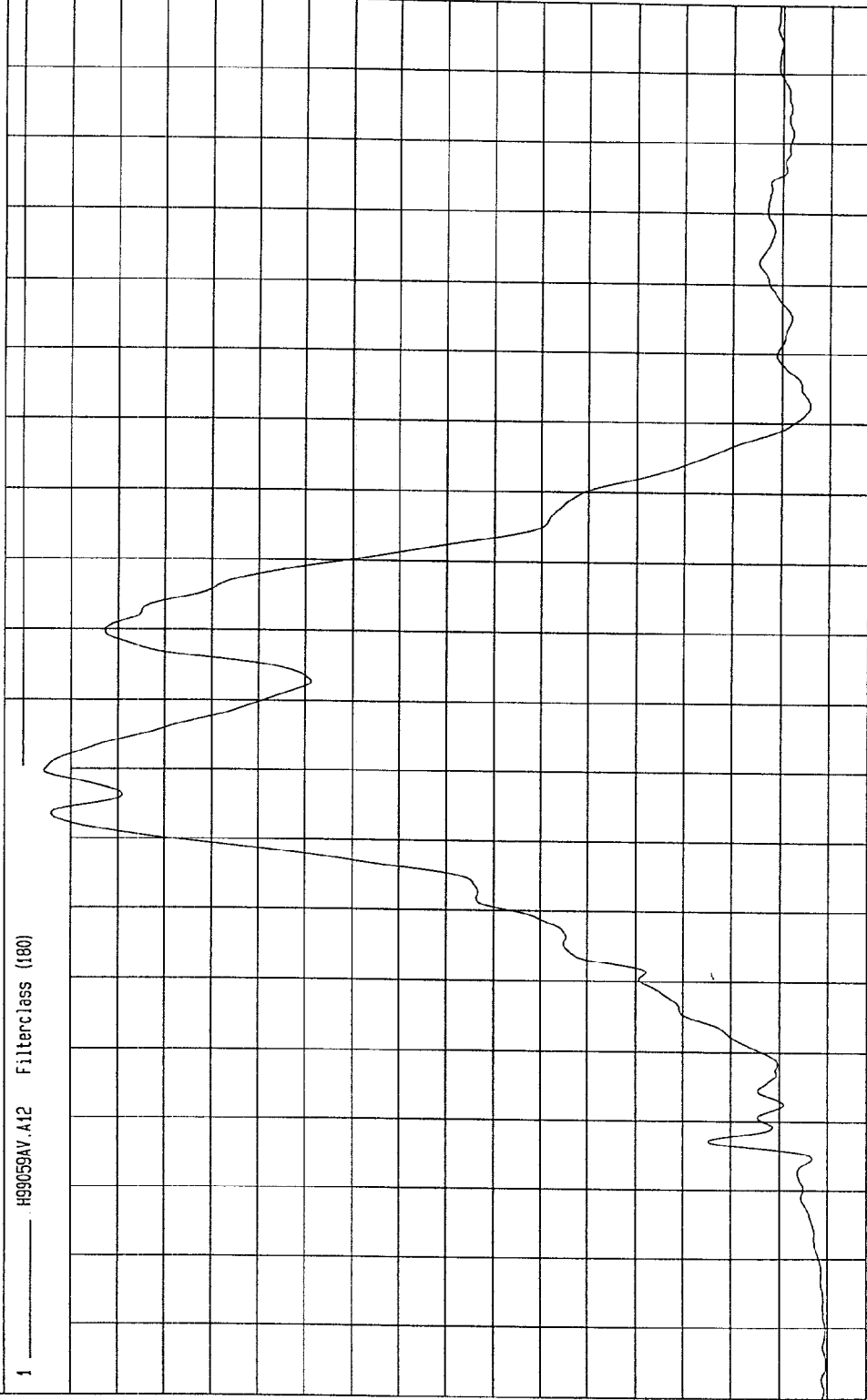
COMPONENT: 1999 DODGE DAKOTA CX0303

YMIN= 6.538542E-02 G'S at 4.3 msec

YMAX= 33.12725 G'S at 89. msec

DRIVER CHEST RESULTANT ACCELERATION

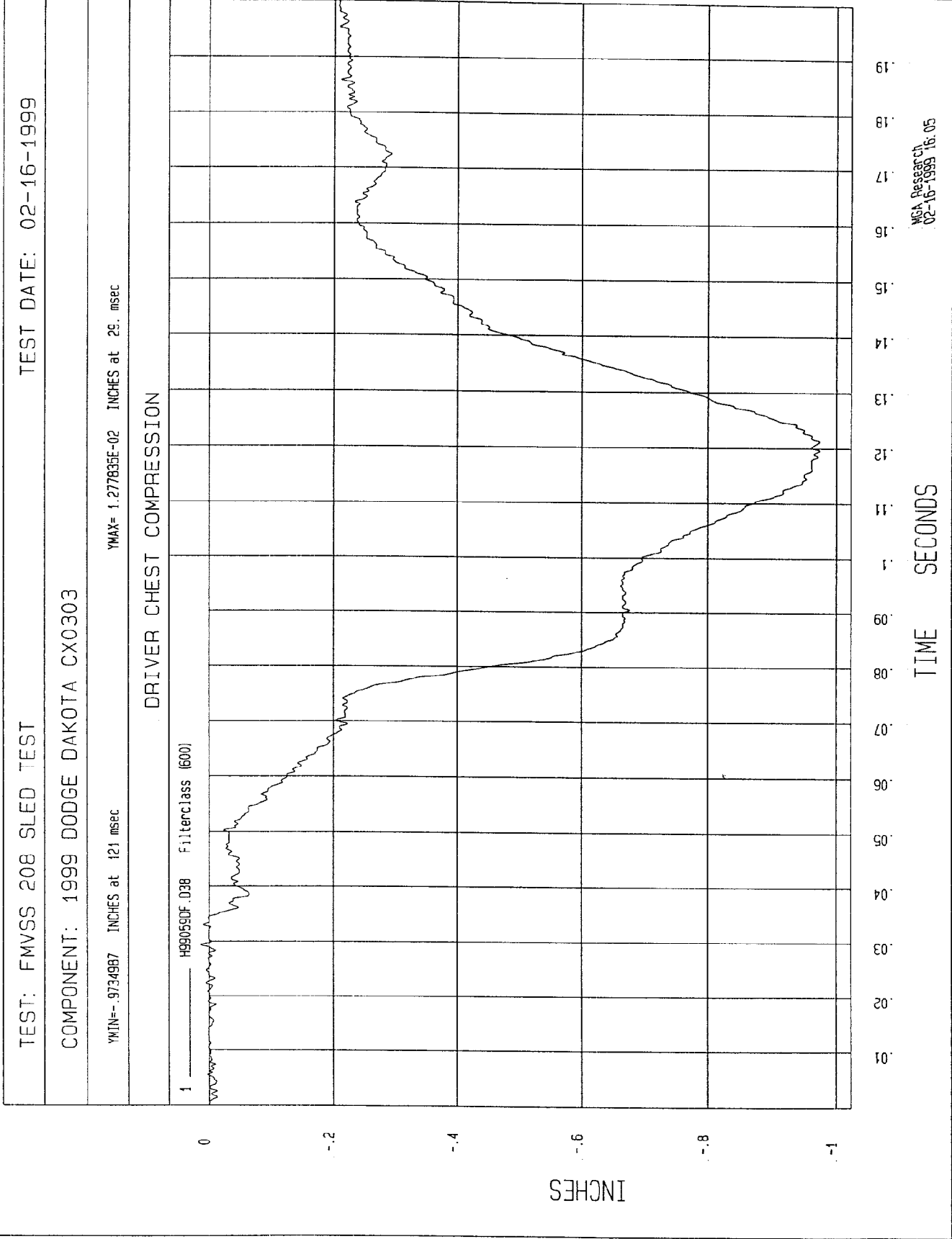
1 H99059AV.A12 Filterclass (180)



MGA Research  
02-16-1999 15:05

TIME (SECONDS)

G.S



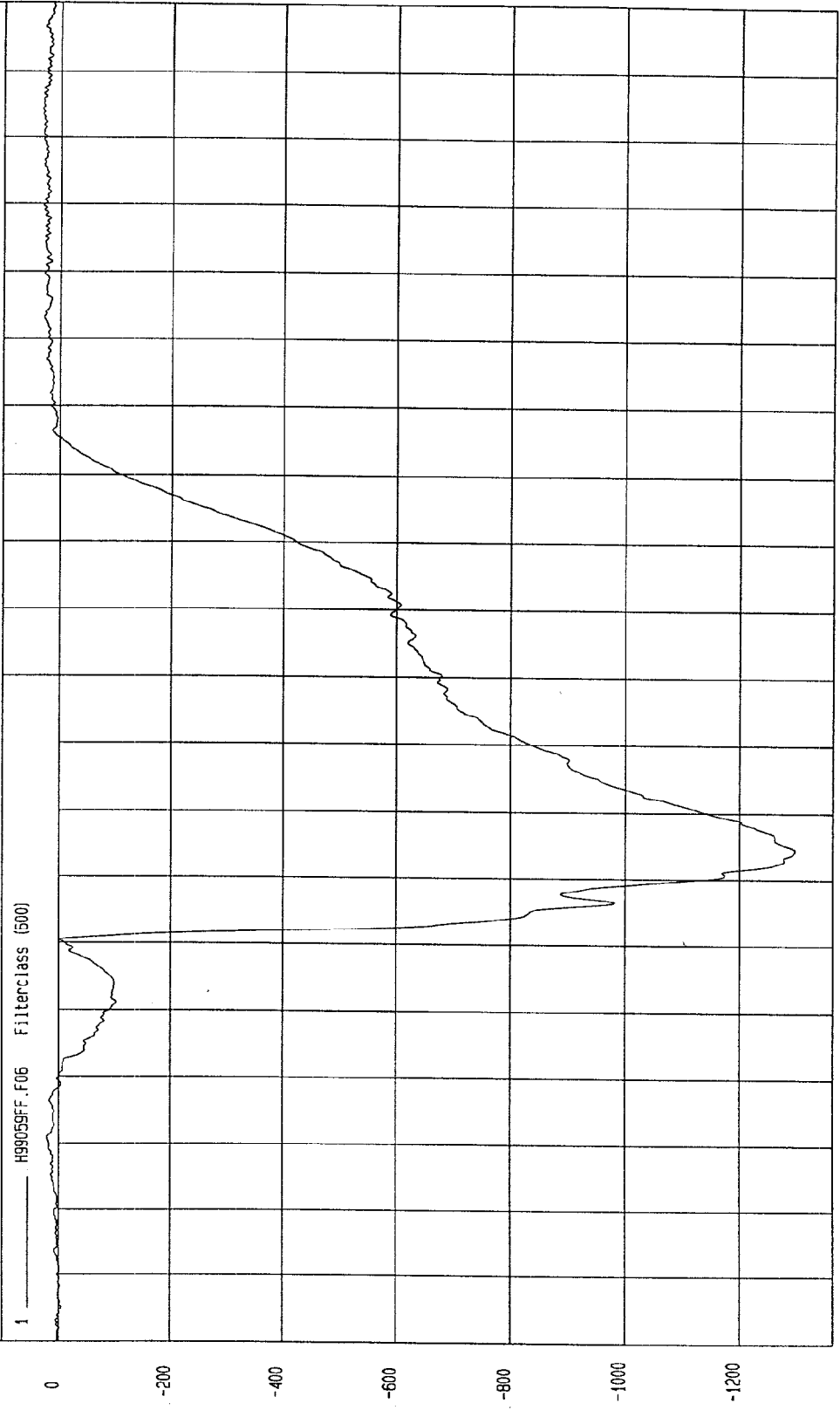
TEST: FMVSS 208 SLED TEST TEST DATE: 02-16-1999

COMPONENT: 1999 DODGE DAKOTA CX0303

YMIN=-1298.232 LBS at 74. msec

YMAX= 31.92319 LBS at 184 msec

DRIVER LEFT FEMUR FORCE



MGA Research  
02-16-1999 16:06

TIME (SECONDS)

LBS

TEST DATE: 02-16-1999

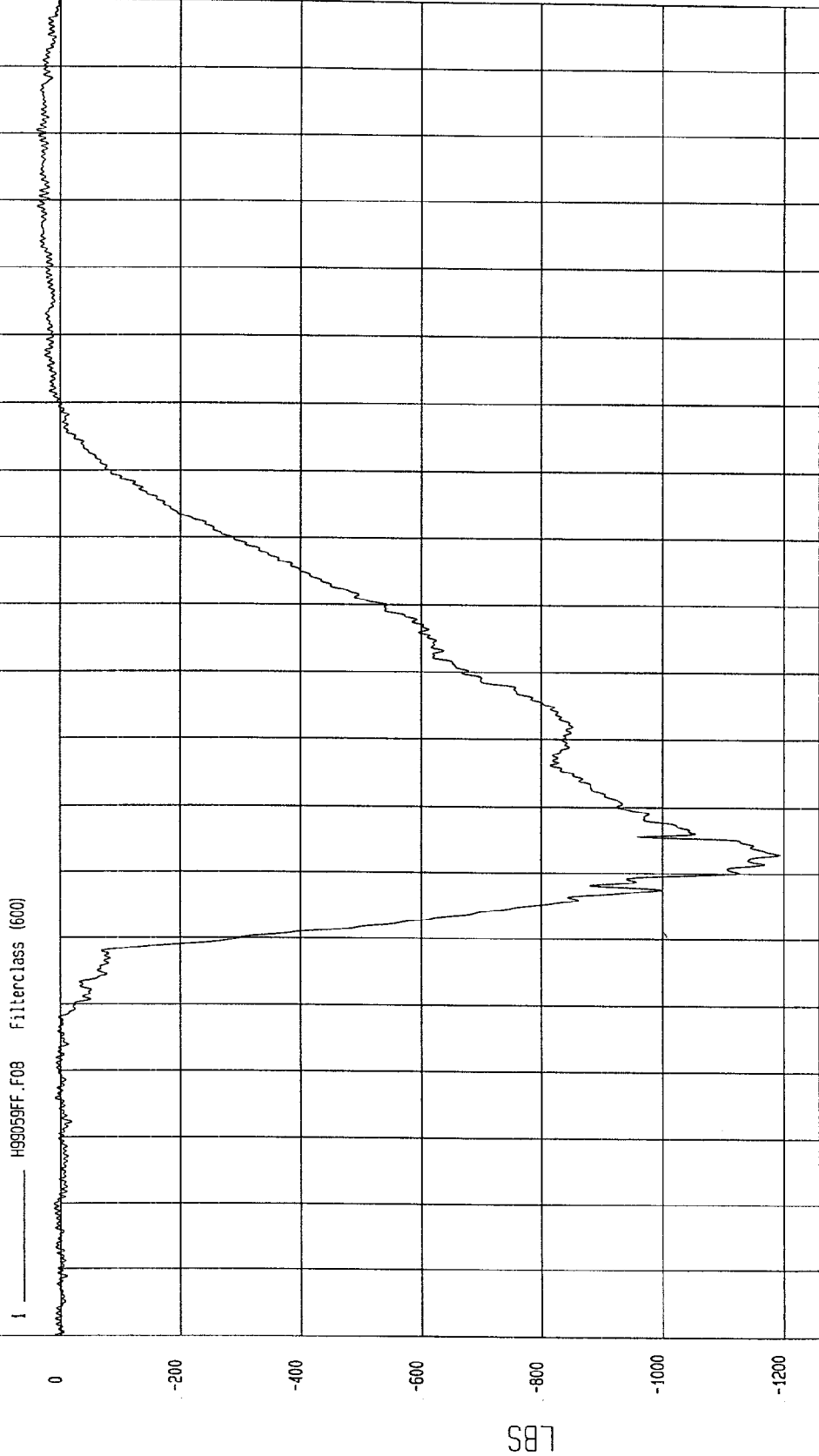
TEST: FMVSS 208 SLED TEST

COMPONENT: 1999 DODGE DAKOTA CX0303

YMIN=-1194.827 LBS at 72. msec

YMAX= 40.02416 LBS at 180 msec

DRIVER RIGHT FEMUR FORCE



MCA Research  
02-16-1999 16:06

TIME (SECONDS)

LBS

TEST DATE: 02-16-1999

TEST: FMVSS 208 SLED TEST

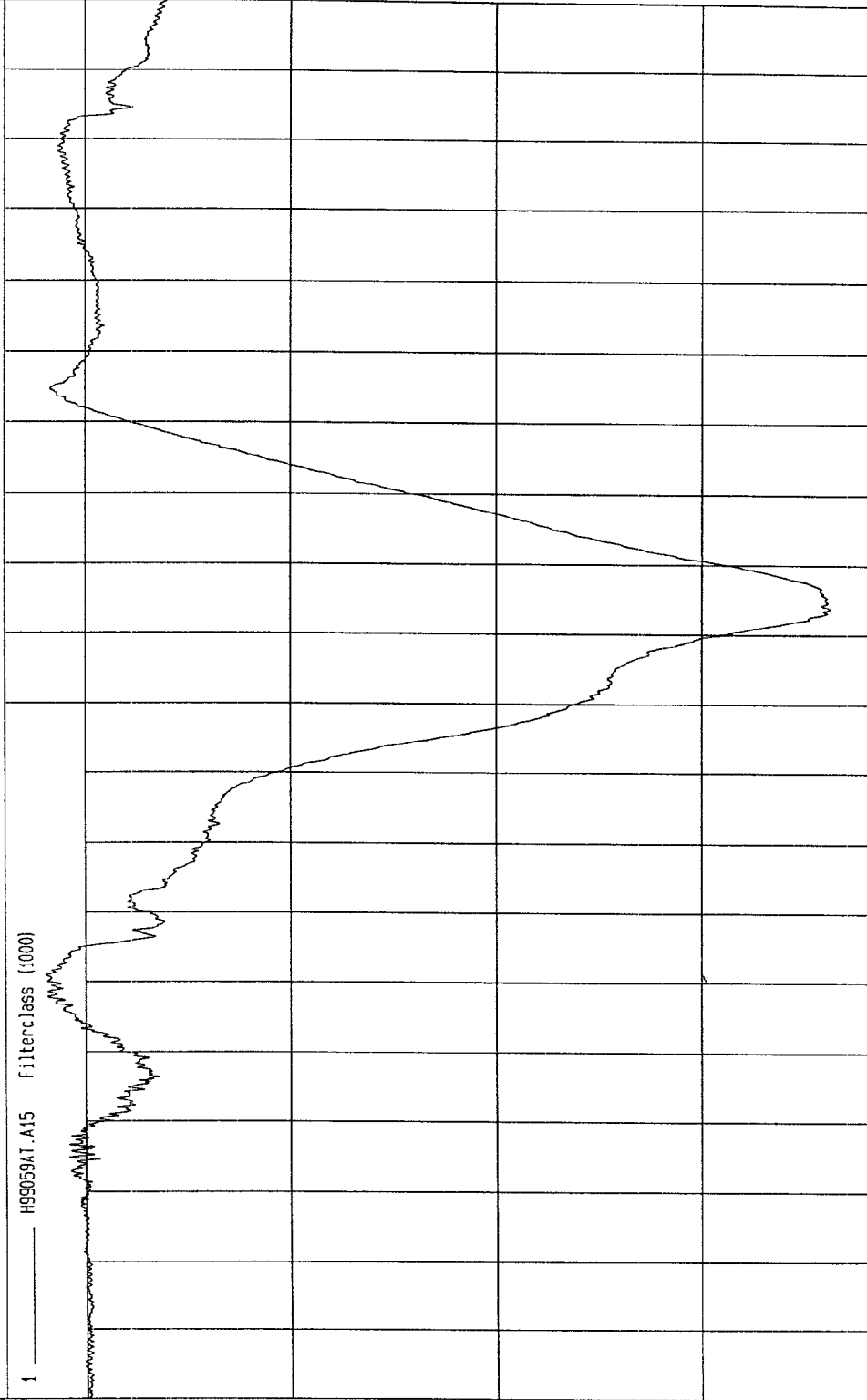
COMPONENT: 1999 DODGE DAKOTA CX0303

YMIN=-36.08031 G'S at 113 msec

YMAX= 1.89785 G'S at 60. msec

PASSENGER HEAD X ACCELERATION

1 H99059AT.A15 Filterclass (:000)



MCA Research  
02-16-1999 16:06

G.S.

TIME (SECONDS)

TEST DATE: 02-16-1999

TEST: FMVSS 208 SLED TEST

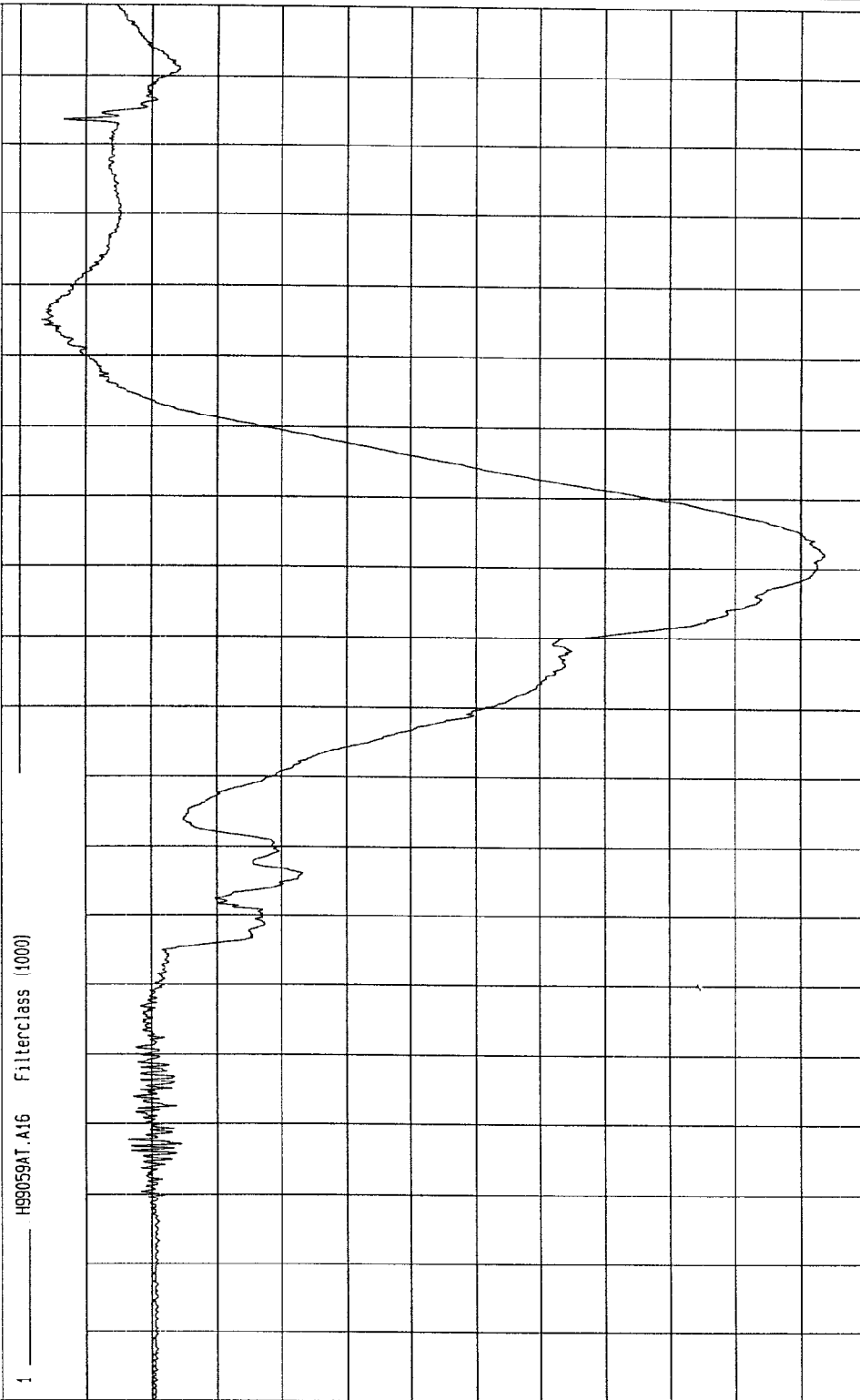
COMPONENT: 1999 DODGE DAKOTA CX0303

YMIN=-20.7216 G'S at 121 msec

YMAX= 3.347358 G'S at 154 msec

PASSENGER HEAD Y ACCELERATION

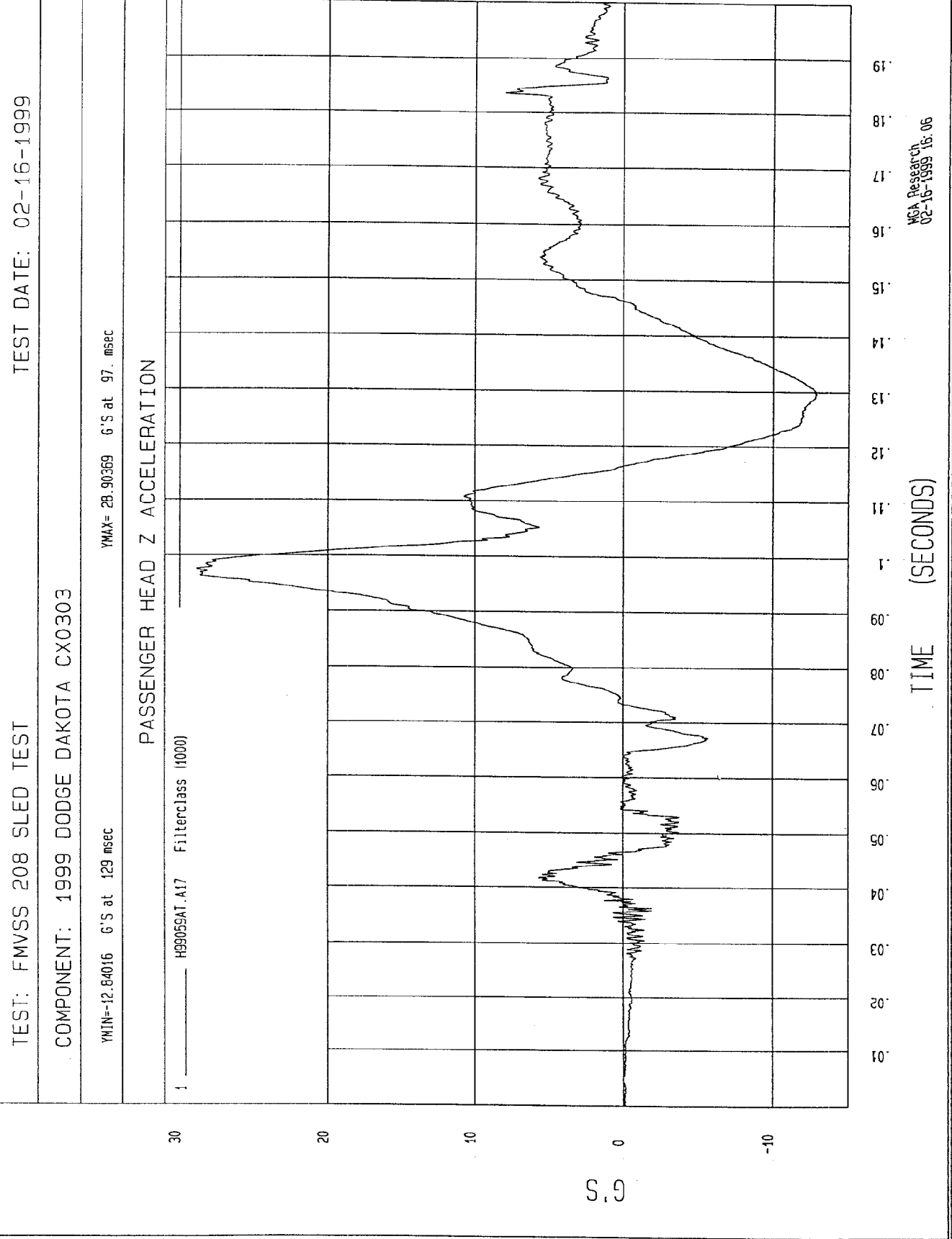
1 \_\_\_\_\_ H99059AT.A16 Filterclass (1000)



MCA Research  
02-16-1999 16.06

TIME (SECONDS)

G'S



TEST DATE: 02-16-1999

TEST: FMVSS 208 SLED TEST

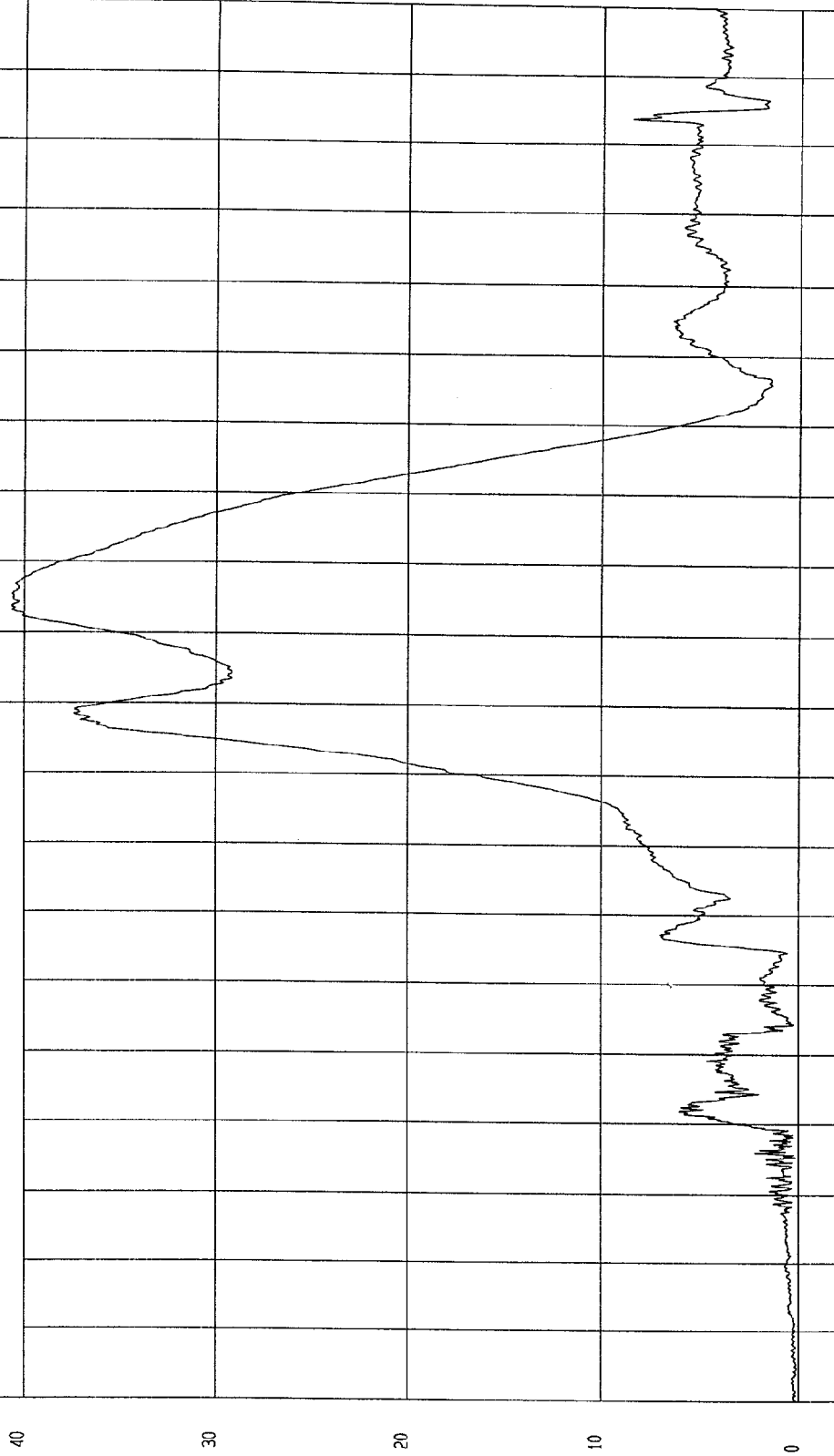
COMPONENT: 1999 DODGE DAKOTA CX0303

YMIN= .1037343 G'S at 4.5 msec

YMAX= 40.62585 G'S at 113 msec

PASSENGER HEAD RESULTANT ACCELERATION

1 \_\_\_\_\_ #H99059AV.A15 Filterclass (1000)



MCA Research  
02-16-1999 16:06

G'S

TIME (SECONDS)

TEST DATE: 02-16-1999

TEST: FMVSS 208 SLED TEST

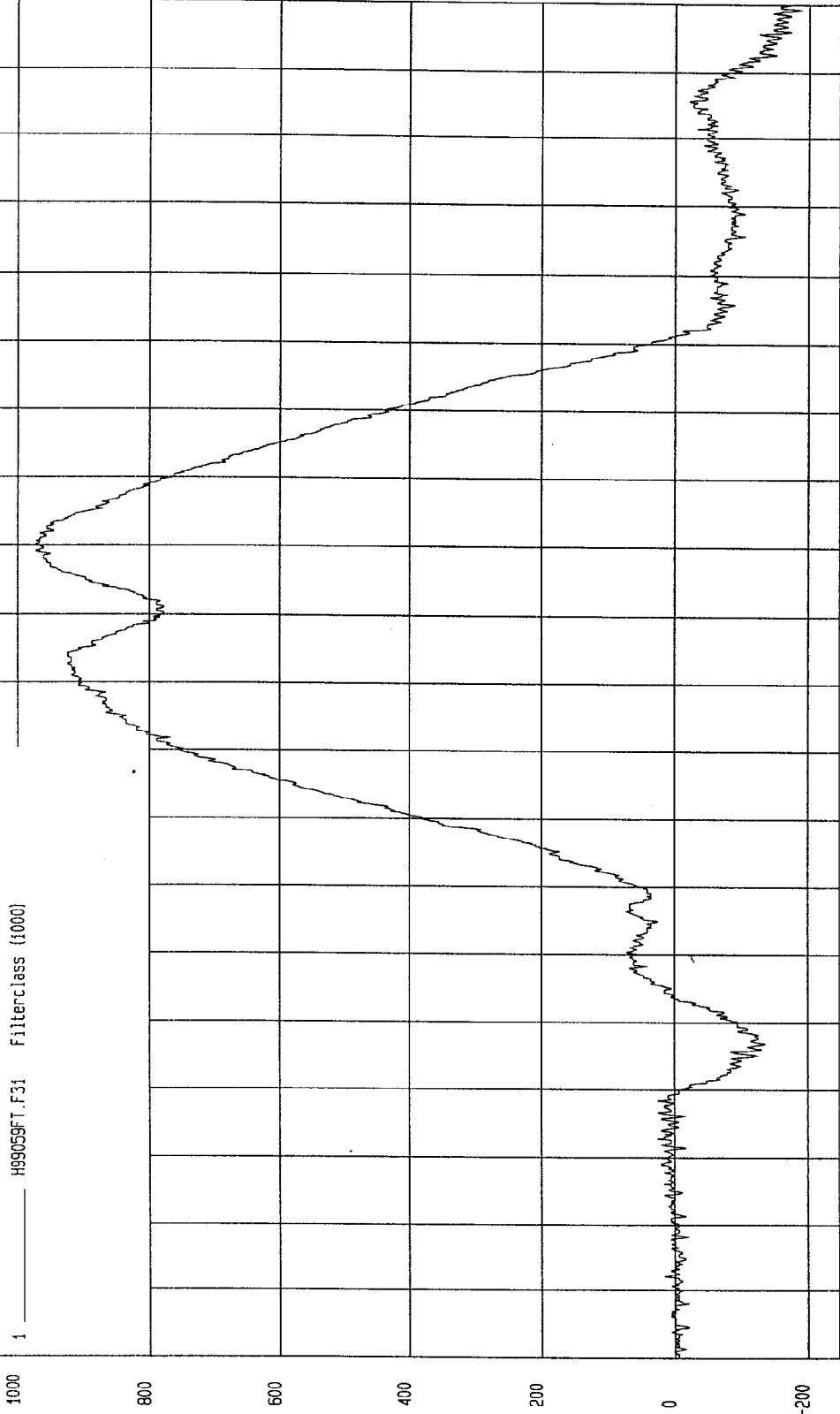
COMPONENT: 1999 DODGE DAKOTA CX0303

YMIN=-188.7959 N at 199 msec

YMAX= 972.1879 N at 119 msec

PASSENGER NECK FORCE X

1 H99059FT.F31 Filterclass (1000)



MCA Research  
02-16-1999 16:06

TIME (SECONDS)

N

TEST DATE: 02-16-1999

TEST: FMVSS 208 SLED TEST

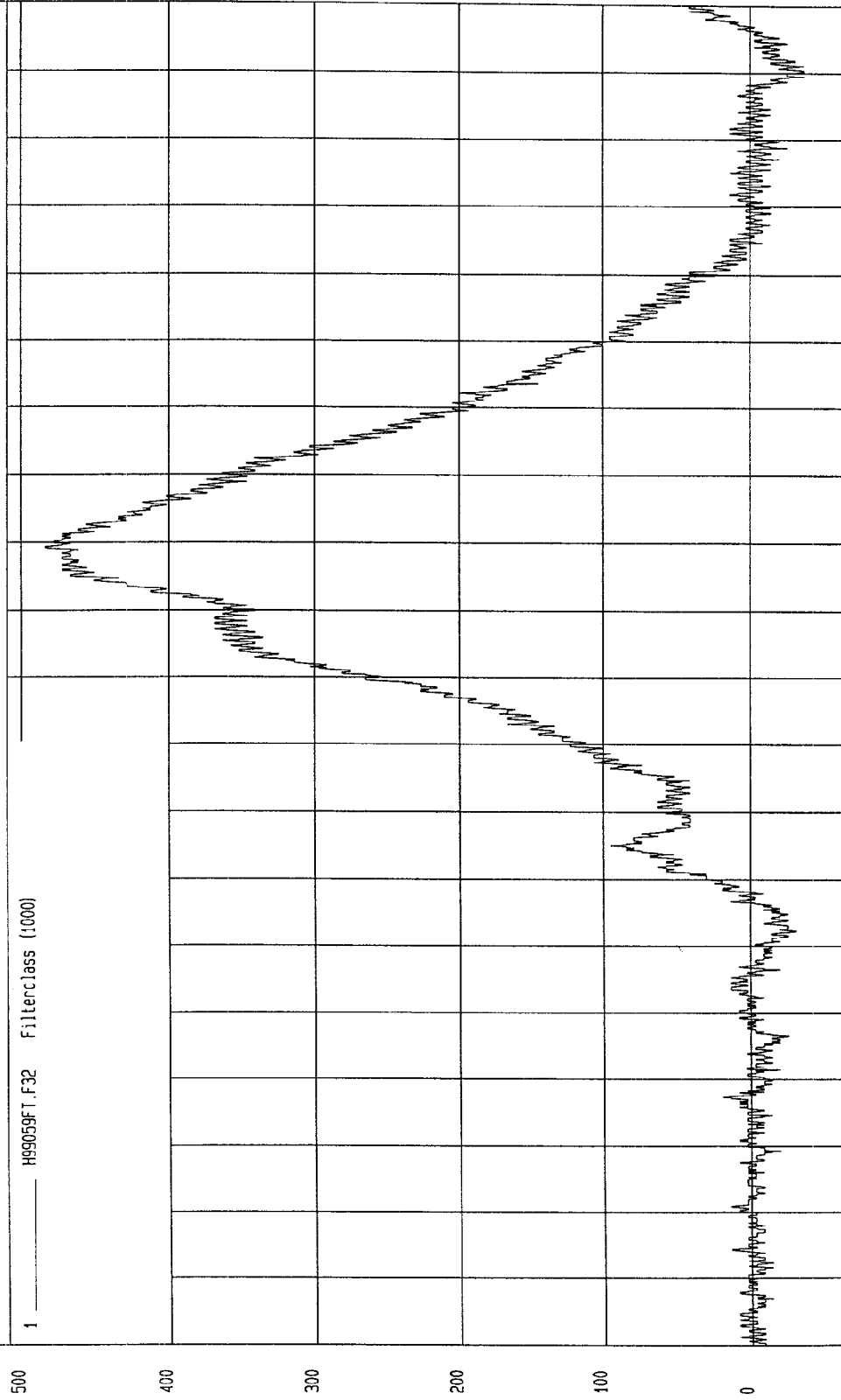
COMPONENT: 1999 DODGE DAKOTA CX0303

YMIN=-35.60307 N at 189 msec

YMAX=483.5396 N at 119 msec

PASSENGER NECK FORCE Y

1 H99059FT.F32 Filterclass (1000)



MGA Research  
02-16-1999 16:06

TIME (SECONDS)

N

TEST DATE: 02-16-1999

TEST: FMVSS 208 SLED TEST

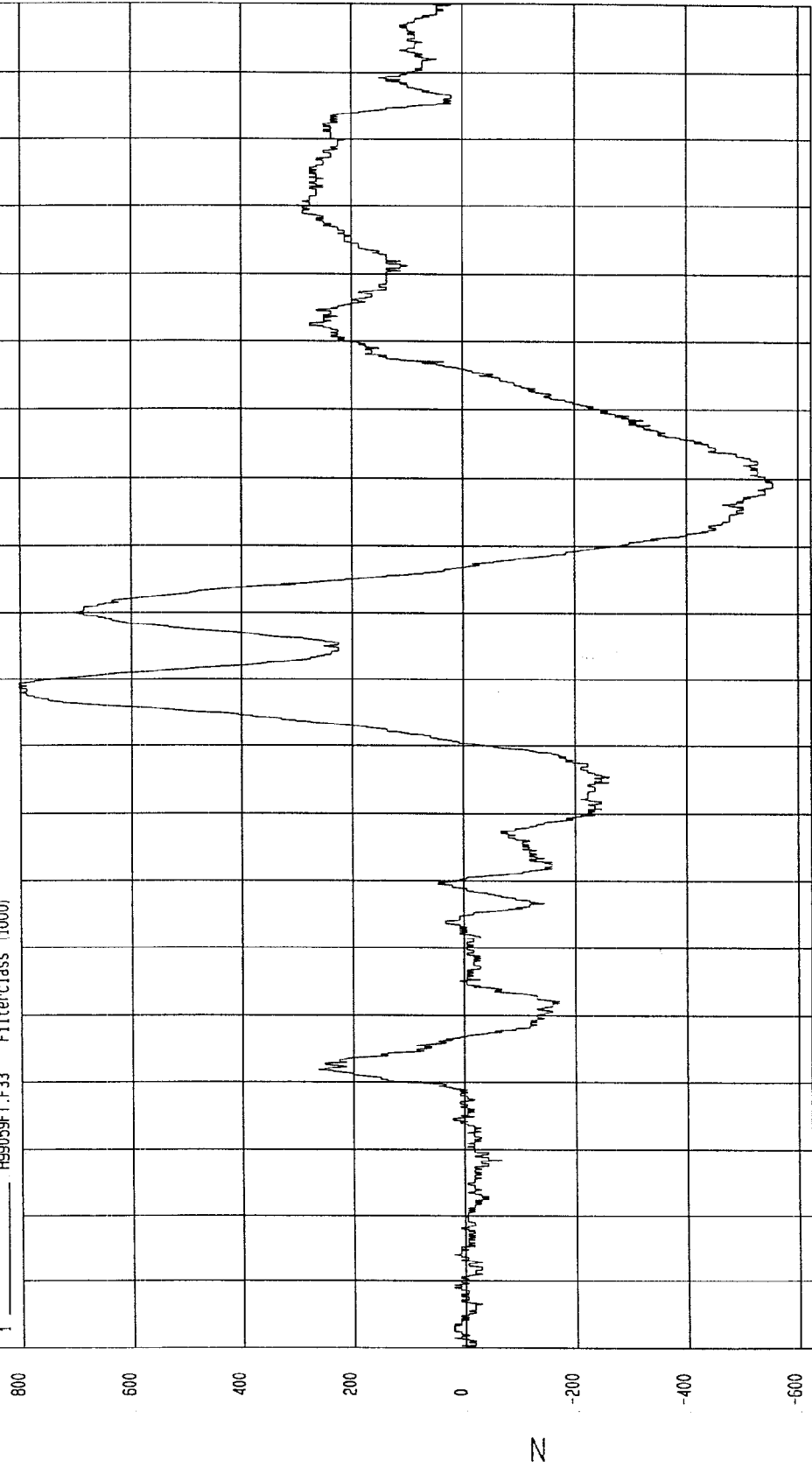
COMPONENT: 1999 DODGE DAKOTA CX0303

YMIN=-555.0419 N at 128 msec

YMAX= 802.0434 N at 98 msec

PASSENGER NECK FORCE Z

1 H99059FT.F33 Filterclass (1000)



MCA Research  
02-16-1999 16:06

TIME (SECONDS)

Z

TEST DATE: 02-16-1999

TEST: FMVSS 208 SLED TEST

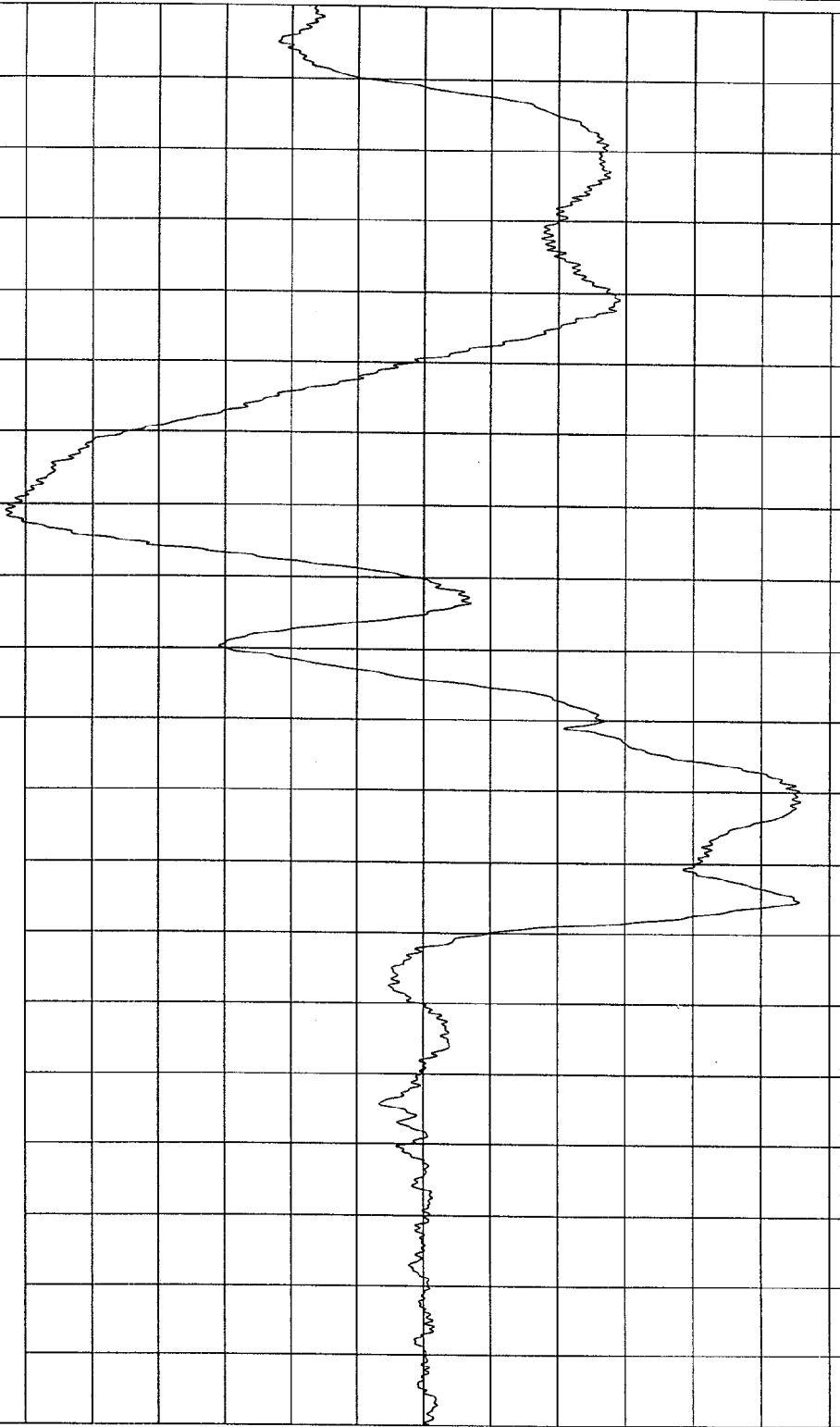
COMPONENT: 1999 DODGE DAKOTA CX0303

YMIN=-11.14962 NM at 88. msec

YMAX= 12.60572 NM at 129 msec

PASSENGER NECK MOMENT X

1 \_\_\_\_\_ H9059HF.M34 FilterClass (600)



MGA Research  
02-16-1999 16.06

TIME (SECONDS)

NM

TEST DATE: 02-16-1999

TEST: FMVSS 208 SLED TEST

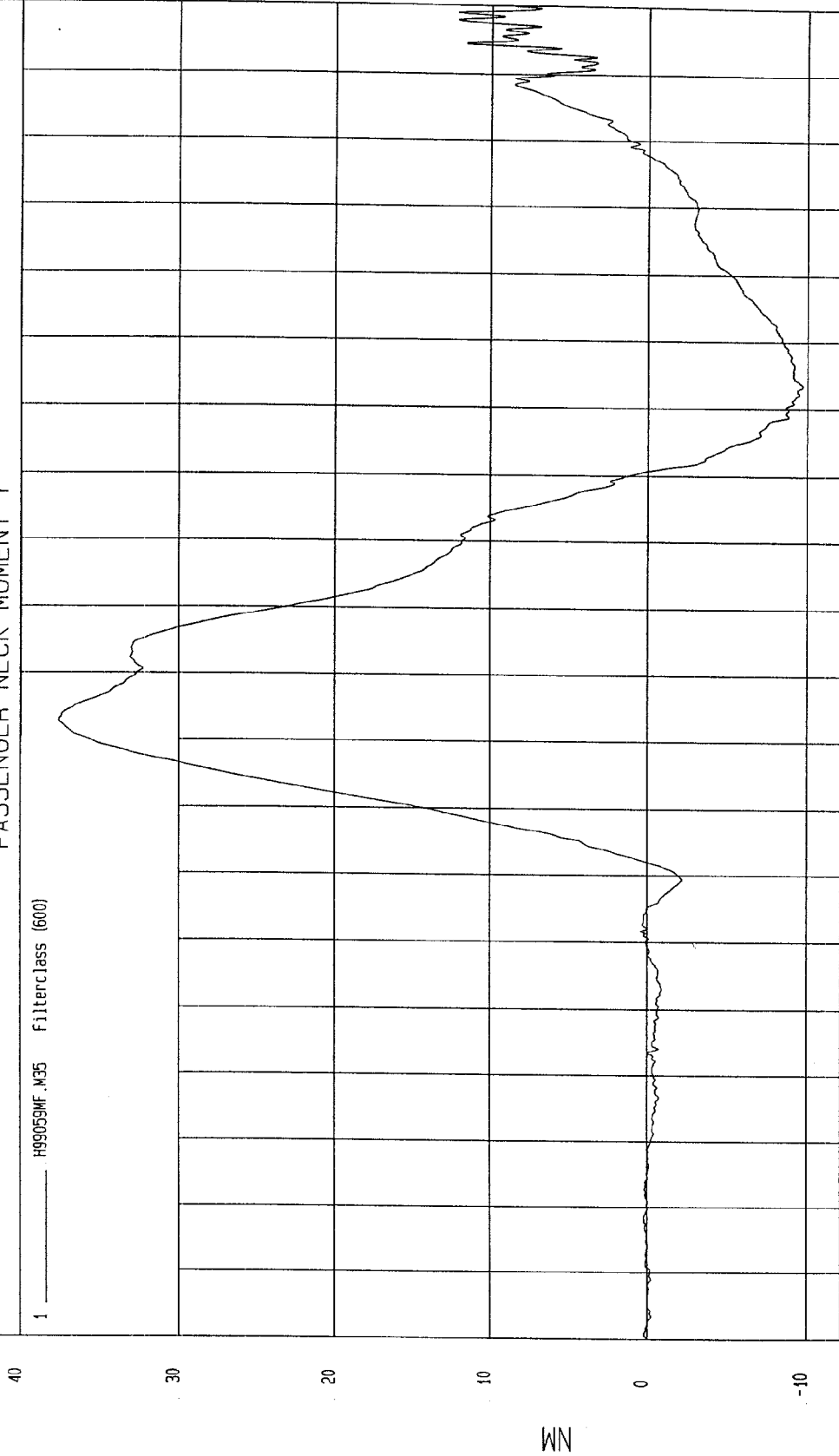
COMPONENT: 1999 DODGE DAKOTA CX0303

YMIN=-9.722377 NM at 143 msec

YMAX= 37.65242 NM at 92. msec

PASSENGER NECK MOMENT Y

1 ——— H99059MF.M35 Filterclass (600)



MGA Research  
02-18-1999 12:07

TIME (SECONDS)

NM

TEST DATE: 02-16-1999

TEST: FMVSS 208 SLED TEST

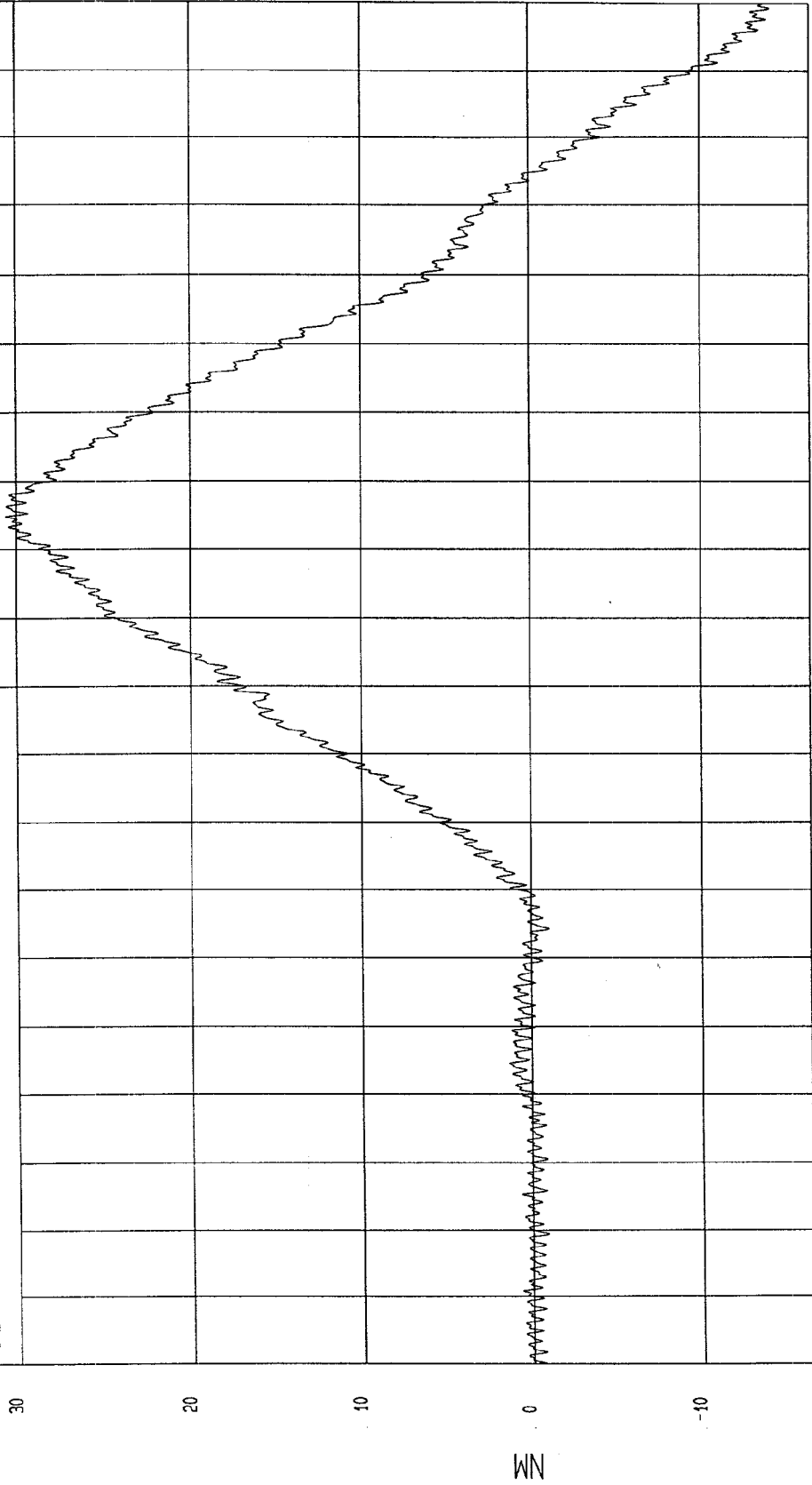
COMPONENT: 1999 DODGE DAKOTA CX0303

YMIN=-14.10932 NM at 199 msec

YMAX= 30.58456 NM at 124 msec

PASSENGER NECK MOMENT Z

1 H99059MF M36 FilterClass (600)



MSA Research  
02-16-1999 16:07

TIME (SECONDS)

NM

TEST DATE: 02-16-1999

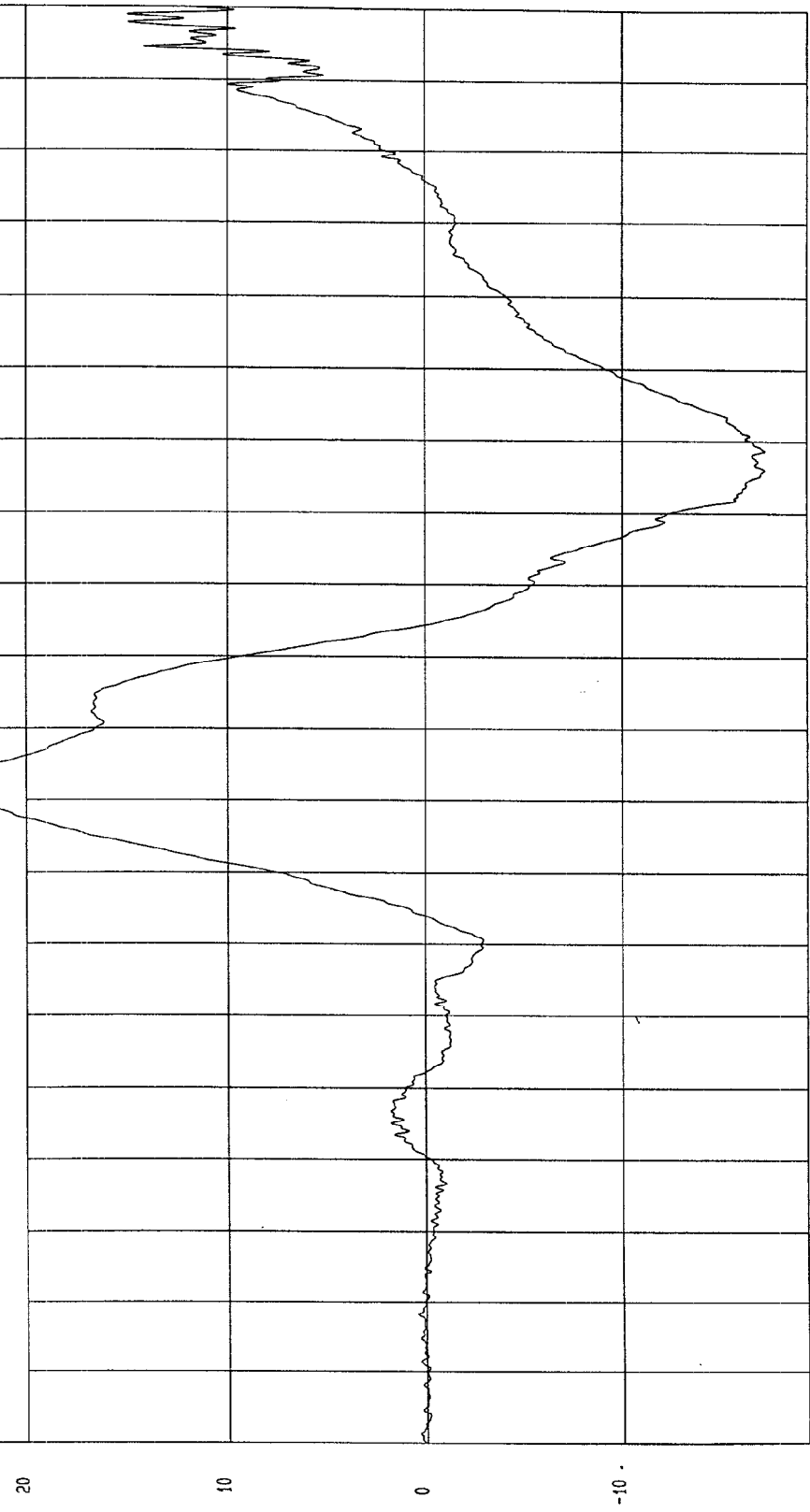
TEST: FMVSS 208 SLED TEST

COMPONENT: 1999 DODGE DAKOTA CX0303

YMIN=-17.17592 NM at 138 msec YMAX= 23.3467 NM at 91. msec

PASSENGER OCCIPITAL CONDYLE MOMENT Y

1 \_\_\_\_\_ H99059M0.M35 Filterclass (600)



NGA Research  
02-16-1999 12:11

TIME (SECONDS)

NM

TEST DATE: 02-16-1999

TEST: FMVSS 208 SLED TEST

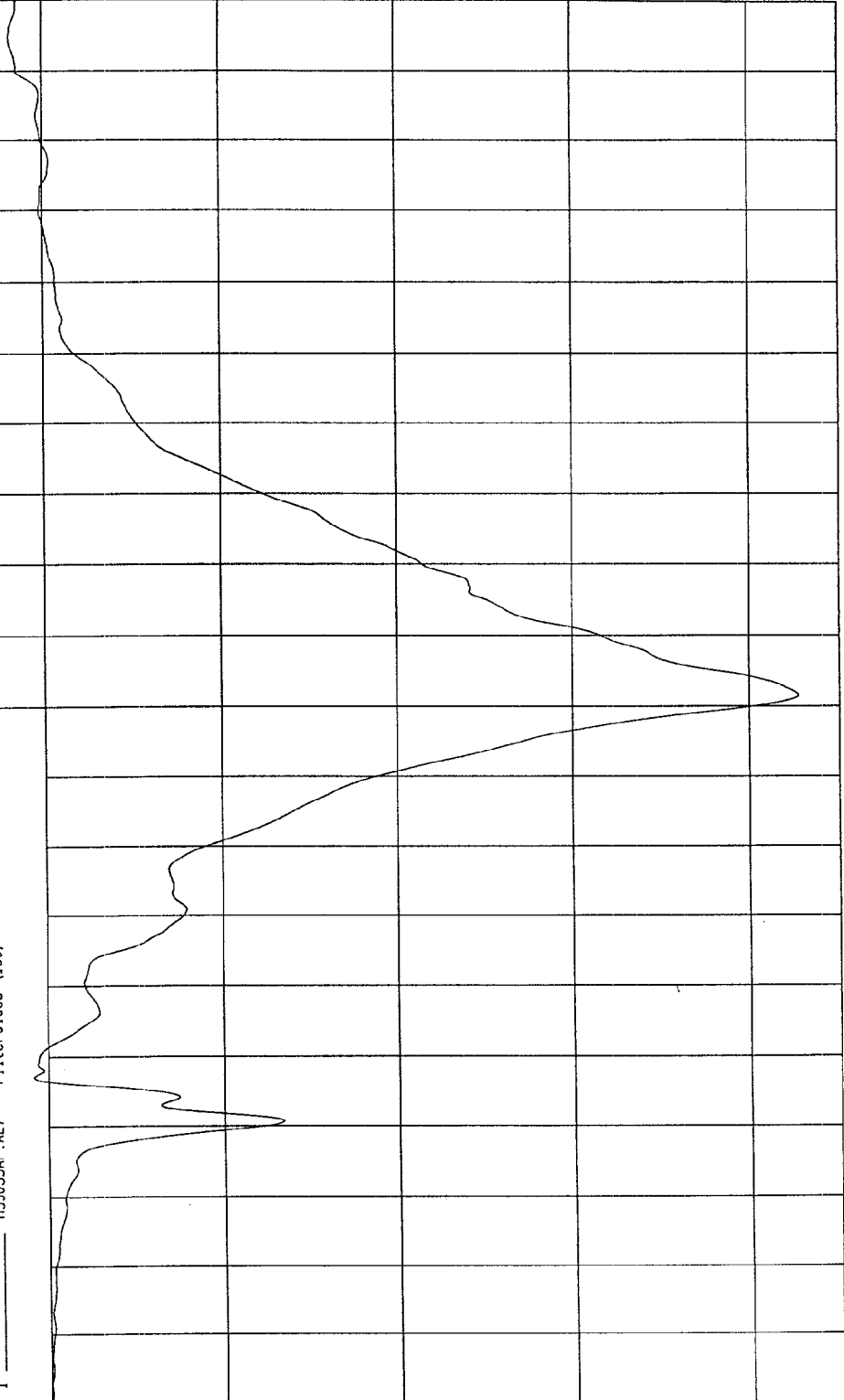
COMPONENT: 1999 DODGE DAKOTA CX0303

YMIN=-42.8338 G'S at 101 msec

YMAX= 1.851518 G'S at 194 msec

PASSENGER CHEST X ACCELERATION

1 H99059AF.A27 Filterclass (180)



MCA Research  
02-16-1999 16:07

TIME (SECONDS)

G'S

TEST DATE: 02-16-1999

TEST: FMVSS 208 SLED TEST

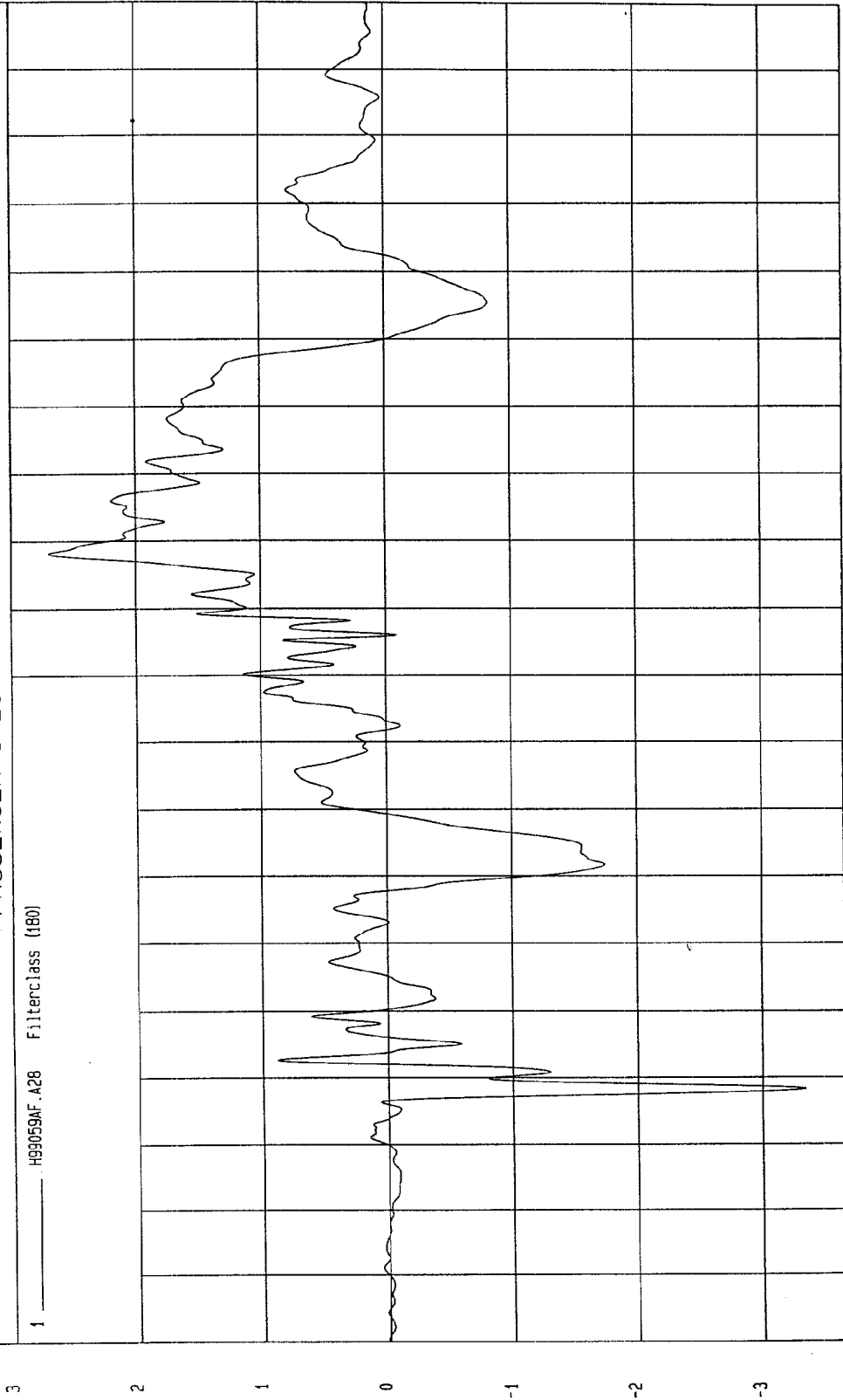
COMPONENT: 1999 DODGE DAKOTA CX0303

YMIN=-3.346691 G'S at 38. msec

YMAX= 2.701002 G'S at 118 msec

PASSENGER CHEST Y ACCELERATION

1 \_\_\_\_\_ H99059AF.A28 Filterclass (180)



MGA Research  
02-16-1999 16:07

TIME (SECONDS)

G.S

TEST DATE: 02-16-1999

TEST: FMVSS 208 SLED TEST

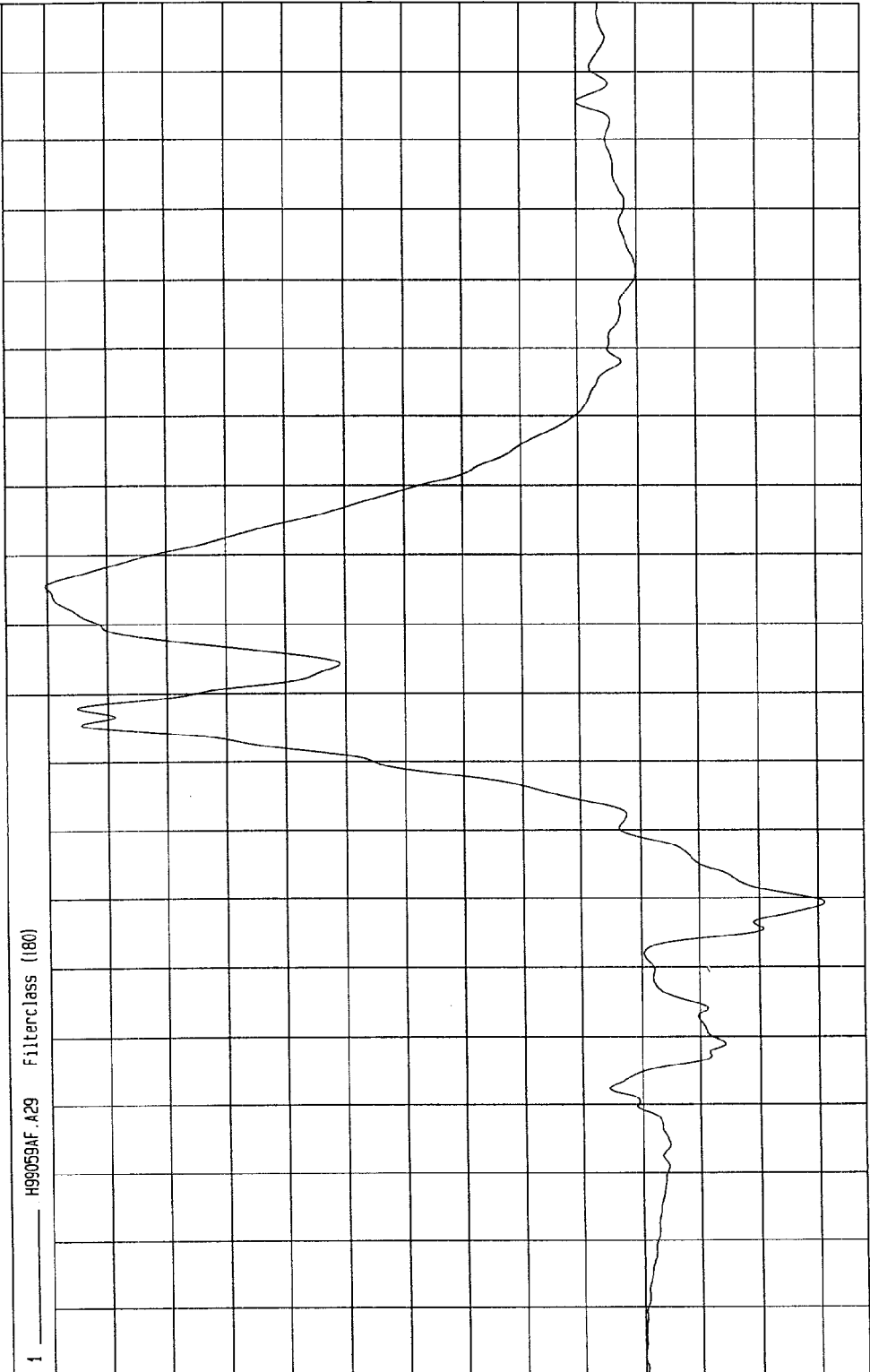
COMPONENT: 1999 DODGE DAKOTA CX0303

YMIN=-6.219305 G'S at 69. msec

YMAX= 20.08615 G'S at 115 msec

PASSENGER CHEST Z ACCELERATION

1 H99059AF.A29 Filterclass (180)



MGA Research  
02-16-1999 16:07

TIME (SECONDS)

G.S

TEST DATE: 02-16-1999

TEST: FMVSS 208 SLED TEST

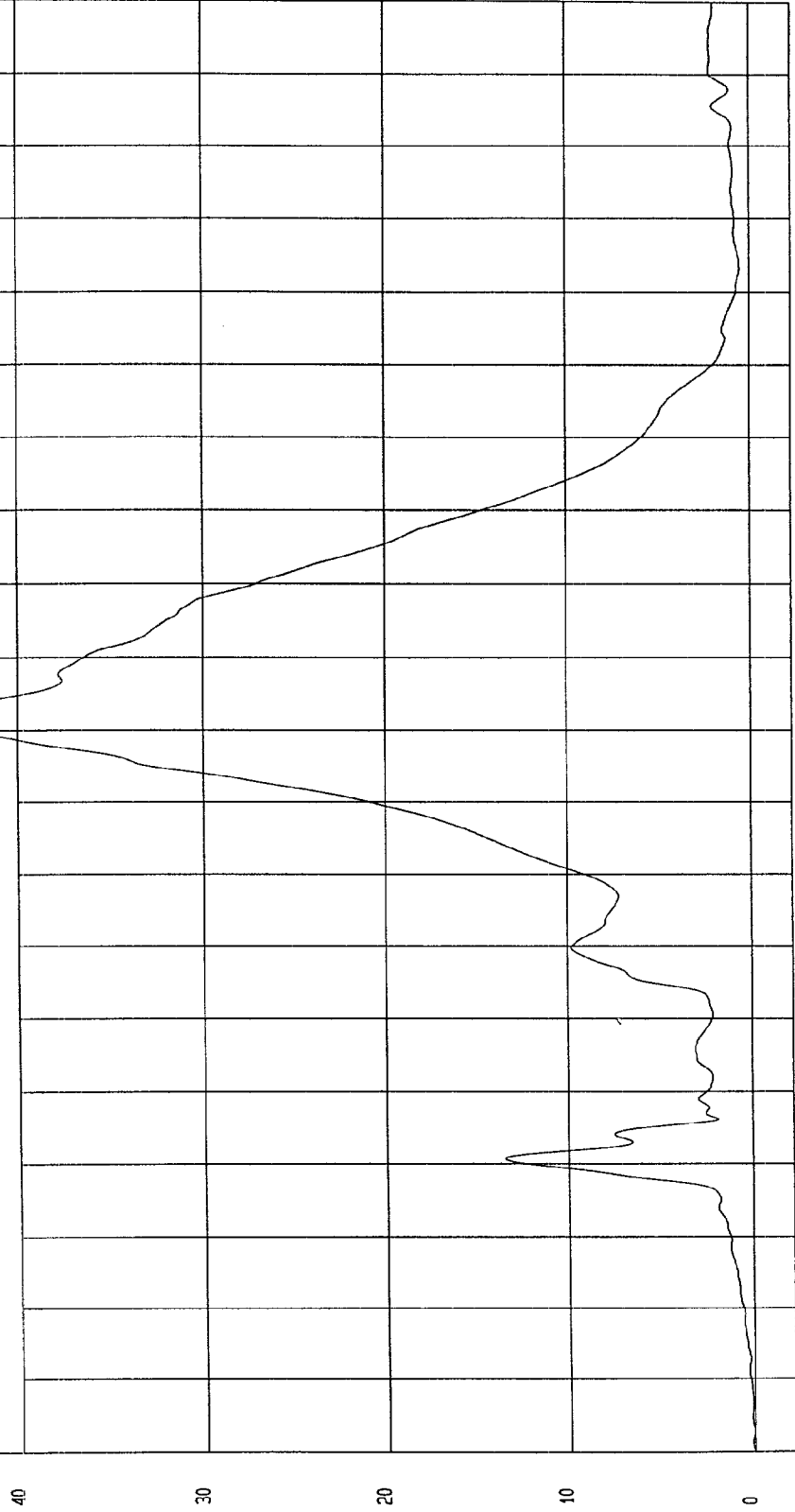
COMPONENT: 1999 DODGE DAKOTA CX0303

YMIN= 4.897678E-02 G'S at 2.9 msec

YMAX= 44.60984 G'S at 101 msec

PASSENGER CHEST RESULTANT ACCELERATION

1 H99059AV.A27 Filterclass (180)



HCA Research  
02-16-1999 16:07

TIME (SECONDS)

G.S

TEST DATE: 02-16-1999

TEST: FMVSS 208 SLED TEST

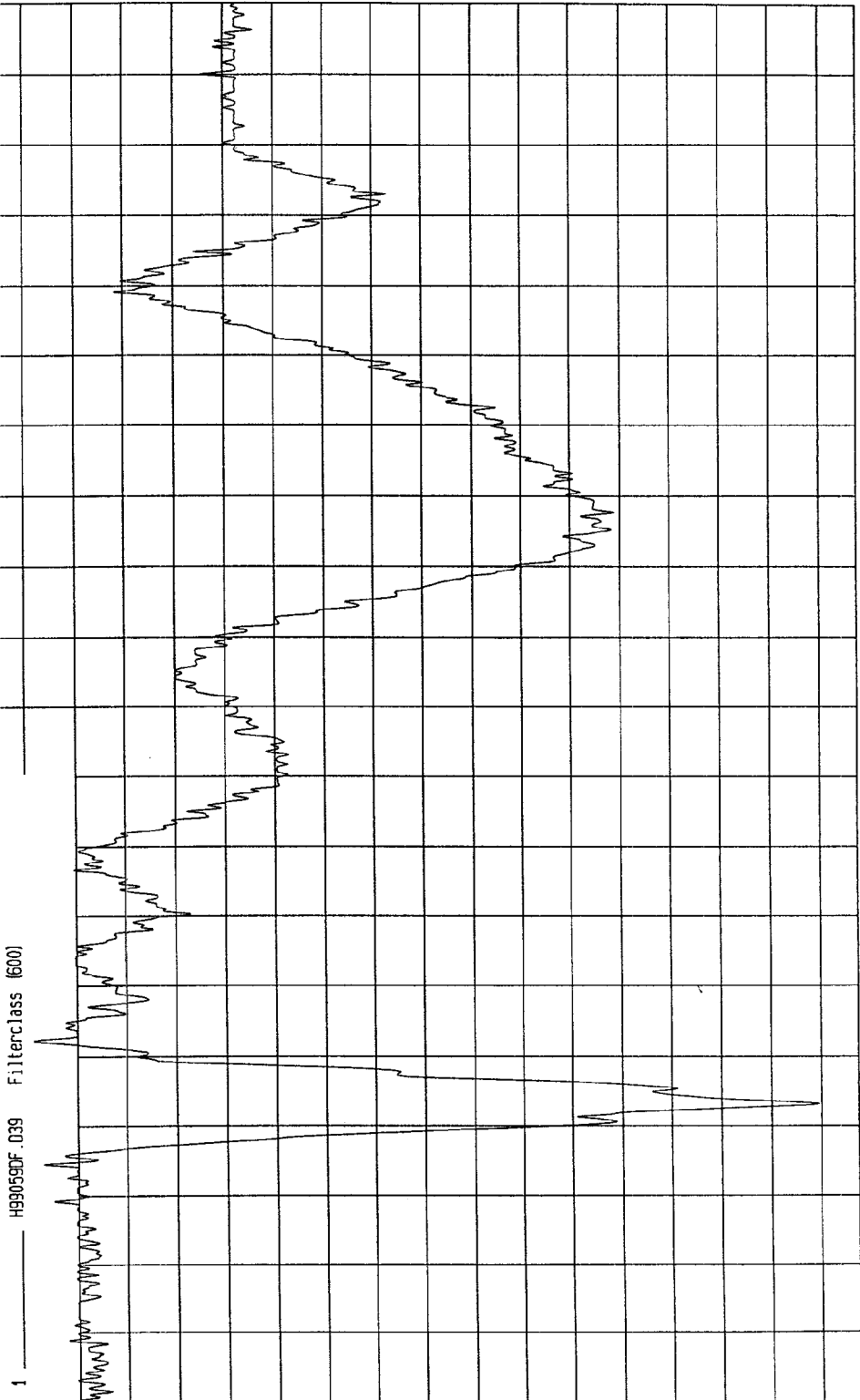
COMPONENT: 1999 DODGE DAKOTA CX0303

YMIN=-.2990112 INCHES at 43. msec

YMAX= 1.699705E-02 INCHES at 52. msec

PASSENGER CHEST COMPRESSION

1 H99059DF.039 Filterclass (600)



MCA Research  
02-16-1999 16:07

TIME SECONDS

INCHES

TEST DATE: 02-16-1999

TEST: FMVSS 208 SLED TEST

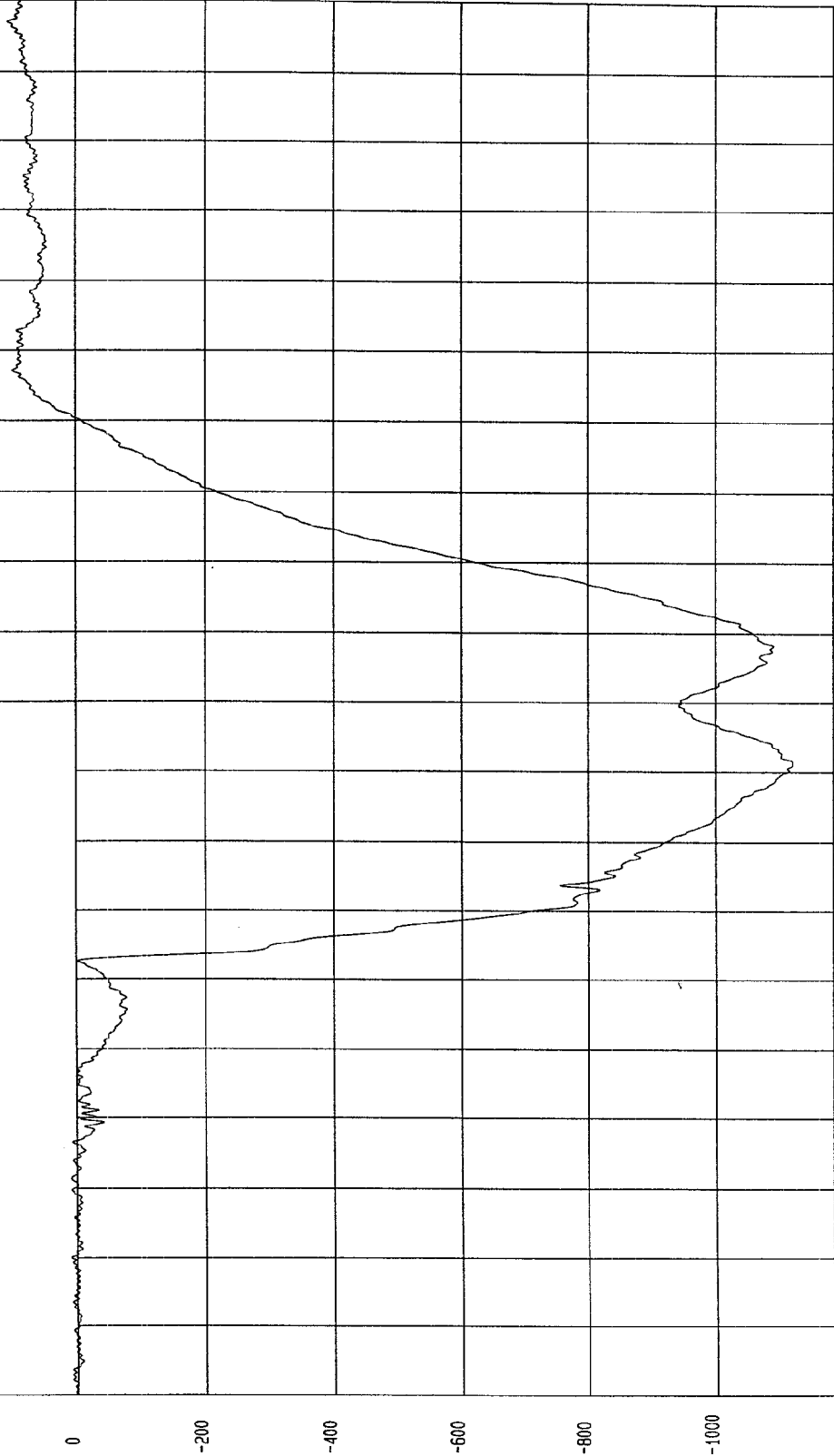
COMPONENT: 1999 DODGE DAKOTA CX0303

YMIN=-1119.873 LBS at 91. msec

YMAX= 106.0857 LBS at 197 msec

PASSENGER LEFT FEMUR FORCE

1 \_\_\_\_\_ H99059FF.F1B Filterclass (600)



MGA Research  
02-16-1999 16:07

TIME (SECONDS)

LBS

TEST DATE: 02-16-1999

TEST: FMVSS 208 SLED TEST

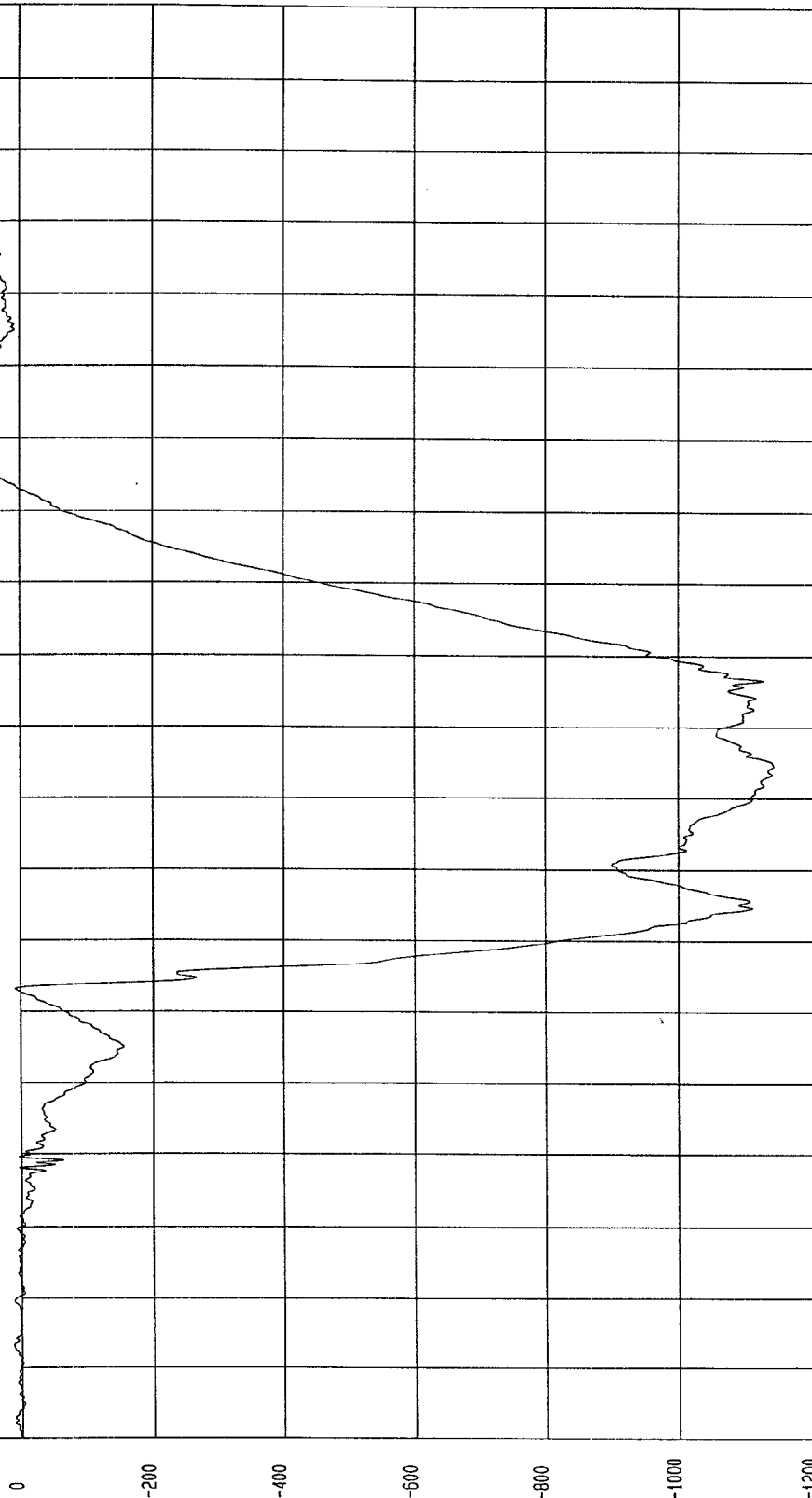
COMPONENT: 1999 DODGE DAKOTA CX0303

YMIN=-1141.42 LBS at 94. msec

YMAX= 75.61219 LBS at 139 msec

PASSENGER RIGHT FEMUR FORCE

1 ——— F99059FF.F19 Filterclass (600)



MCA Research  
02-16-1999 16:06

TIME (SECONDS)

LBS

APPENDIX C  
MANUFACTURER'S VEHICLE INFORMATION



Susan M Cischke  
Executive Director  
Vehicle Certification Compliance & Safety Affairs

October 23, 1998

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

00001 27 18:19  
1998 OCT 27 10:10

Dear Mr. Thompson:

Reference: NSA-31CCa OA-208980923C  
FMVSS 208 Occupant Crash Protection (Compliance Test)  
1999 Dodge Dakota

The following is provided in response to your August 13, 1997 information request.

**Q1. 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.**

**A1. The 1999 Dodge Dakota is certified to meet the requirements of FMVSS 208 S13. A copy of the carryover 1998 Compliance Report is provided in Attachment 1.**

**Q2. State when the air bag was depowered. Explain what other restraint changes have been made and what other vehicle changes have been made that might have affected FMVSS 208 performance since the last FMVSS 208 compliance test.**

A2. De-powered airbag is the same as 1998. The cushion profile of DAB has been changed from 28" dia. to 26.5" dia. and tether length reduced from 9" to 8.8". No other changes have been made that might affect the FMVSS 208 performance.

**Q3. State if these vehicles have crash event recorders. If yes, explain any procedures needed for the sled or barrier crash event to be recorded. In addition, explain how to retrieve the crash event data from the recorder.**

A3. The 1999 Model Year Dodge Dakota is equipped with an Airbag Control Module (ACM). The ACM records the following information for the last three crash events:

- 1) The active diagnostic codes.
- 2) Warning lamp status.
- 3) Warning lamp on time.
- 4) Total number of crash events.
- 5) Time since last deployment event.
- 6) Code for successful storage of crash recorder information.

Chrysler doesn't consider this ACM to be a crash event recorder.

**Q4. 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.**

A4. Disconnect the battery and wait at least two minutes. Remove the driver air bag module from the steering wheel and unplug the connector; unplug the passenger air bag pigtail from the vehicle body wiring harness underneath the instrument panel. Once the air bags have been disconnected, cut the wires on the body wiring harness. Use the cut wires to construct an overlay harness, which will be used to deploy the air bags remotely during the impact simulator test. Using the overlay harness, the air bags are wired in parallel to a 12 volt power supply controlled by an "air bag timer delay box" which is used to trigger the air bags 20 milliseconds following a 1/2 G carriage acceleration event.

**Q5. 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.**

A5. The safety belts are not equipped with tension-relieving devices.

**Q6. 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.**

A6. All tests were performed with the windows in the full down position.

**Q7. 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.**

A7. Dummy placement measurements, where available, are provided in Attachment 2. A driver foot rest is not provided on the Dakota.

**Q8. 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. In addition, provide the seating reference point for each seat for the lockable seat belt requirement in S7.1.1.5.**

A8. The requested set up information is provided in Attachment 3.

**Q9. If the vehicle is equipped with adjustable seatbelt anchorages, provide the manufacturer's nominal design position for a 50th percentile adult male occupant.**

A9. Place adjustable turning loop in the 3<sup>rd</sup> locking position (the top locking position is number one).

**Q10. 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 meet the requirements of S13.**

A10. The requested information is in the Compliance Report provided in Attachment 1.

**Q11. 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?**

A11. If vehicle components are removed, this is the recommended order; tail gate, spare tire and jack, rear bumper, rear carpet and rear seat on club cabs, and side glass.

**Q12. 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.**

A12. A pressure vessel is used to deploy the passenger air bag. See Attachment 4 for the requested information.

**Q13. 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.**

A13. Explosive devices are used to deploy the air bags. See Attachment 5 for the requested information.

If you have any questions regarding the information provided, please contact Mr. Archie J. Rock of my staff at (248) 576-7324.

Sincerely,



for S. M. Cischke

Attachments

**FMVSS 208**

**1999 DODGE DAKOTA**

**NSA-31CCa ; OA-208980923C**

**ATTACHMENT 1**

**RESPONSE TO QUESTION #1**

**COMPLIANCE REPORT**

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Safety Documentation Compliance Report

Introduction

Subject: OCCUPANT CRASH PROTECTION - 1998 Dodge Dakota Standard Cab and Club Cab having a GVWR of 8,500 pounds or less and a UVW of 5,500 pounds or less.

Object: Verification of design with the requirements of Federal Motor Vehicle Safety Standard No. 208.

Procedure: CP-194, CP-232 & CP-368

Conclusions: All Chrysler Corporation 1998 Dodge Dakota Standard Cab and Club Cab as evaluated under the listed compliance procedures, comply with the dynamic impact requirements of FMVSS 208.

Safety Documentation Compliance Report (Page 1 of 4)

Prepared by: J. L. Weigel 6-18-97  
J.L. Weigel, Prod. Dev. Engineer, Dept. 1160 Date

Approved by: V J Fischbach 6-18-97  
V.J. Fischbach, Manager, Dept. 1160 Date

Issued by: Truck Impact Development

## Safety Documentation Compliance Report

OCCUPANT CRASH PROTECTION  
1998 Dodge Dakota Standard Cab and Club Cab

Federal Motor Vehicle Safety Standard No. 208.

## Discussion

The Chrysler Corporation 1998 Dodge Dakota Standard Cab and Club Cab pickup truck (4x2) and (4x4) are essentially a carryover design from the 1997 model year with the following significant exceptions:

- New driver and passengers air bags
- New 5.9L V8 engine
- 2.5L engine for 4X2 club cab
- New fuel rails with diagnostic valve

The standard cab vehicle is offered with 112 and 124 inch wheelbases with 6.5 or 8.0 foot cargo boxes. The club cab vehicle is offered with 131 inch wheelbase and 6.5 foot cargo box only.

The Dakota pickup truck is offered with four power plant options. The 2.5 liter I-4 engine, is available with 5-speed manual transmission only. The 3.9 liter (V6) engine, and 5.2 liter (V8) engine are available on two wheel drive or four wheel drive with either a 5-speed manual or 4-speed overdrive automatic transmission. The 5.9 liter (V8) engine is available on 2-wheel drive or 4-wheel drive with a 4-speed overdrive automatic transmission. All the above engines for 1998 are multi-point fuel injection (MPI) type.

The telescoping steering column is available with both tilt and non-tilt mechanisms.

The driver has a 3-point active belt system with an adjustable turning loop as the primary restraint with a steering wheel mounted air bag as a supplemental restraint.

The passenger has a 3-point active belt system with an adjustable turning loop as the primary restraint with a supplemental air bag mounted in the instrument panel. A key operated switch mounted in the instrument panel allows the driver to disable the passenger air bag.

Vehicle capacities include seating positions for three occupants for the standard cab or six occupants for the club cab, 300 lbs. of luggage, and 15 or 20 gallons of fuel. The base payload of the vehicle is 1,250 pounds and the maximum payload is 2,600 pounds.

To ensure compliance with FMVSS 208 dynamic impact requirements, seven (7) Dodge Dakota trucks were dynamically tested.

Safety Documentation Compliance Report

Discussion contd.

VC's 06412, 06415, 06480, 06485 and 06489 were prepared and tested in accordance with the following Chrysler Corporation Compliance Procedures:

CP-194 "Fixed Collision Barrier 30 mph Frontal Impact Test", Change 'K'.

CP-368 "Occupant Restraint System, Dynamic Test", Change 'G'.

VC'S 06416 and 06479 were prepared and tested in accordance with the following Chrysler Corporation Compliance Procedures:

CP-232 "Fixed Collision Barrier, 30 mph Angled Frontal Impact Test", Change 'F'.

CP-368 "Occupant Restraint System, Dynamic Test", Change 'G'.

To ensure compliance with FMVSS 208, section 13, one sled test was conducted unbelted, with air bags.

Summaries of the test results are included in the attached test summary.

- Attachment A - Test letters
- Attachment B - Test data
- Attachment C - Sled test data

Prepared by: J. L. Weigel  
J.L. Weigel

Date: 6-18-97

**FMVSS 208**

**1999 DODGE DAKOTA**

**NSA-31CCa ; OA-208980923C**

**ATTACHMENT 2**

**RESPONSE TO QUESTION #7**

**DUMMY PLACEMENT**  
**MEASUREMENTS**

---

OCCUPANT DATA

TEST NUMBER VC6412 ITEM NUMBER N4808 TEST ENGINEER COLLINGS

OCCUPANT DIMENSIONS RELATIVE TO AN TEMPLATE

TEMPLATE LOCATION DATA - \*\*SHOULD BE SAME AS WHAT IS ON "J826" SHEET\*\*

\*\*"X" 9.9/9.8 INCHES FORWARD OF STRIKER MOUNTING VERTICAL SURFACE

"Z" 14.0/13.8 INCHES ABOVE SILL SURFACE

OCCUPANT LOCATION DATA

	LEFT FRONT				RIGHT FRONT				HYBRID III PELVIC ANG	
	X (INCHES)		Z (INCHES)		X (INCHES)		Z (INCHES)		LT	RT
	FWD	RWD	UP	DOWN	FWD	RWD	UP	DOWN		
HEAD	0.1			0.7	0.7		0.0		24°	23°
HIP	0.2			0.2	0.3		0.3			
KNEE		0.7	0.5		0.2		0.2			

KNEE CLEARANCE 1L 2.8 RT 3.0  
1R 3.3 3.5

STEERING WHEEL ANGLE MEASURED FROM HORIZONTAL 64.5 DEGREES

SILL ANGLE 1.0 DEGREES --  FRONT HIGH  FRONT LOW

THE FOLLOWING DIMENSIONS CORRESPOND TO INTERIOR MEASUREMENTS DEFINED BY NHTSA;

DRIVER - "NR" 15.0 TIP OF NOSE TO TOP REAR SURFACE OF UPPER STEERING WHEEL RIM  
 "NH" 15.4 TIP OF NOSE TO CENTER OF STEERING WHEEL HUB  
 "CH" 10.6 CHEST 9 INCHES DOWN FROM CHIN TO CENTER OF STEERING WHEEL HUB  
 PASSENGER - "A" 24.6 BRIDGE OF NOSE FORWARD TO WINDSHIELD  
 "B" 29.4 EAR TARGET FORWARD TO WINDSHIELD  
 "C" 19.1 CHEST 9 INCHES DOWN FROM CHIN FORWARD TO INSTRUMENT PANEL

SHOULDER BELT PAYOUT- LEFT 6.6 IN. RIGHT 4.4 IN.

LAP BELT PAYOUT- LEFT N/A IN. RIGHT N/A IN.

LAST FORM MODIFICATION 08/22/96 - GAB (TESTOBS896, DOCVCFORMS)

OCCUPANT DATA

TEST NUMBER VC6415 ITEM NUMBER N4886 TEST ENGINEER MANNEY

OCCUPANT DIMENSIONS RELATIVE TO AN TEMPLATE

TEMPLATE LOCATION DATA - \*\*SHOULD BE SAME AS WHAT IS ON "J826" SHEET\*\*

\*\*"X" LF 9.9 /RF 9.8 INCHES FORWARD OF STRIKER MOUNTING VERTICAL SURFACE  
 "Z" LF 13.9 /RF 13.7 INCHES ABOVE SILL SURFACE

OCCUPANT LOCATION DATA

	LEFT FRONT				RIGHT FRONT				HYBRID III PELVIC ANG	
	X (INCHES)		Z (INCHES)		X (INCHES)		Z (INCHES)		LT	RT
	FWD	RWD	UP	DOWN	FWD	RWD	UP	DOWN		
HEAD		0.8	0.3		Ø		Ø		23°	22°
HIP	0.1		0.4		0.9		0.5			
KNEE		0.5		Ø	0.1		0.5			

KNEE CLEARANCE 1L 3.3 RT 3.7  
1R 3.2 3.1

STEERING WHEEL ANGLE MEASURED FROM HORIZONTAL 64.2 DEGREES

SILL ANGLE 0.6 DEGREES --  FRONT HIGH  FRONT LOW

THE FOLLOWING DIMENSIONS CORRESPOND TO INTERIOR MEASUREMENTS DEFINED BY NHTSA;

DRIVER - "NR" 16.0 TIP OF NOSE TO TOP REAR SURFACE OF UPPER STEERING WHEEL RIM  
 "NH" 16.4 TIP OF NOSE TO CENTER OF STEERING WHEEL HUB  
 "CH" 11.2 CHEST 9 INCHES DOWN FROM CHIN TO CENTER OF STEERING WHEEL HUB  
 PASSENGER - "A" 26.1 BRIDGE OF NOSE FORWARD TO WINDSHIELD  
 "B" 28.7 EAR TARGET FORWARD TO WINDSHIELD  
 "C" 19.3 CHEST 9 INCHES DOWN FROM CHIN FORWARD TO INSTRUMENT PANEL

SHOULDER BELT PAYOUT- LEFT 5.8 IN. RIGHT 4.5 IN.  
 LAP BELT PAYOUT- LEFT N/A IN. RIGHT N/A IN.

LAST FORM MODIFICATION 08/22/96 - GAB (TESTOBS896, DOCVCFORMS)

OCCUPANT DATA

TEST NUMBER VC6416 ITEM NUMBER N4809 TEST ENGINEER MARTIN

OCCUPANT DIMENSIONS RELATIVE TO AN TEMPLATE

TEMPLATE LOCATION DATA - \*\*SHOULD BE SAME AS WHAT IS ON "J826" SHEET\*\*

\*\*"X" LT 9.8 / RT 9.9 INCHES FORWARD OF STRIKER MOUNTING VERTICAL SURFACE

"Z" LT 13.8 / RT 13.8 INCHES ABOVE SILL SURFACE

OCCUPANT LOCATION DATA

9.9 / 9.9  
13.8 / 13.8

	LEFT FRONT				RIGHT FRONT				HYBRID III PELVIC ANG	
	X (INCHES)		Z (INCHES)		X (INCHES)		Z (INCHES)		LT	RT
	FWD	RWD	UP	DOWN	FWD	RWD	UP	DOWN		
HEAD		.6		.4		.1		Ø	25	24
HIP		.1	.2		.7		.2			
KNEE		.9	1.0		.4		.6			

KNEE CLEARANCE 13 LT 3.2 RT 3.4 70.0 61.8  
1R 3.0 3.5 19.4 9.2

STEERING WHEEL ANGLE MEASURED FROM HORIZONTAL 60.8 DEGREES

SILL ANGLE 1.0 DEGREES --  FRONT HIGH  FRONT LOW

THE FOLLOWING DIMENSIONS CORRESPOND TO INTERIOR MEASUREMENTS DEFINED BY NHTSA;

- DRIVER - "NR" 16.1 TIP OF NOSE TO TOP REAR SURFACE OF UPPER STEERING WHEEL RIM
- "NH" 15.9 TIP OF NOSE TO CENTER OF STEERING WHEEL HUB
- "CH" 11.6 CHEST 9 INCHES DOWN FROM CHIN TO CENTER OF STEERING WHEEL HUB
- PASSENGER - "A" 26.6 BRIDGE OF NOSE FORWARD TO WINDSHIELD
- "B" 27.7 EAR TARGET FORWARD TO WINDSHIELD
- "C" 19.8 CHEST 9 INCHES DOWN FROM CHIN FORWARD TO INSTRUMENT PANEL

SHOULDER BELT PAYOUT- LEFT 5.2 IN. RIGHT 5.0 IN.

LAP BELT PAYOUT- LEFT NA IN. RIGHT NA IN.

LAST FORM MODIFICATION 08/22/96 - GAB (TESTOBS896, DOCVCFORMS)

OCCUPANT DATA

TEST NUMBER VC6479 ITEM NUMBER N4928 TEST ENGINEER MANNEY

OCCUPANT DIMENSIONS RELATIVE TO 11-BODY TEMPLATE

TEMPLATE LOCATION DATA - \*\*SHOULD BE SAME AS WHAT IS ON "J826" SHEET\*\*

\*\*"X" 9.8 | 1.9 INCHES FORWARD OF STRIKER MOUNTING VERTICAL SURFACE  
"Z" 13.9 | 14.0 INCHES ABOVE SILL SURFACE

OCCUPANT LOCATION DATA

	LEFT FRONT				RIGHT FRONT				HYBRID ILL PELVIC ANG	
	X (INCHES)	Z (INCHES)	X (INCHES)	Z (INCHES)	FWD	RWD	UP	DCWN	LT	RT
HEAD	0.7		0.3		0	0		0.5	27°	24°
HIP	0.4		0.2		0.8			0.5		
KNEE	0	0	0	0	0.2		0.9			

		<u>LT</u>	<u>RT</u>
KNEE CLEARANCE	<u>1L</u>	<u>2.9</u>	<u>3.0</u>
	<u>1R</u>	<u>2.4</u>	<u>2.7</u>

STEERING WHEEL ANGLE MEASURED FROM HORIZONTAL 63.5 DEGREES

SILL ANGLE 0.1 DEGREES --  FRONT HIGH  FRONT LOW

THE FOLLOWING DIMENSIONS CORRESPOND TO INTERIOR MEASUREMENTS DEFINED BY NHTSA;

DRIVER - "NR" 14.7 TIP OF NOSE TO TOP REAR SURFACE OF UPPER STEERING WHEEL RIM  
 "NH" 15.0 TIP OF NOSE TO CENTER OF STEERING WHEEL HUB  
 "CH" 9.9 CHEST 9 INCHES DOWN FROM CHIN TO CENTER OF STEERING WHEEL HUB  
 PASSENGER - "A" 24.8 BRIDGE OF NOSE FORWARD TO WINDSHIELD  
 "B" 29.3 EAR TARGET FORWARD TO WINDSHIELD  
 "C" 17.4 CHEST 9 INCHES DOWN FROM CHIN FORWARD TO INSTRUMENT PANEL

SHOULDER BELT PAYOUT- LEFT 5.9 IN. RIGHT 4.7 IN.

LAP BELT PAYOUT- LEFT      IN. RIGHT      IN.

LAST FORM MODIFICATION 08/22/96 - GAB (TESTOBS896, DOCVCFORMS)

OCCUPANT DATA

TEST NUMBER VC6480 ITEM NUMBER N4926 TEST ENGINEER KOBYLARZ

OCCUPANT DIMENSIONS RELATIVE TO AN TEMPLATE

TEMPLATE LOCATION DATA - \*\*SHOULD BE SAME AS WHAT IS ON "J826" SHEET\*\*

\*\*"X" LF <sup>D</sup> 7.7 /RF <sup>P</sup> 9.8 INCHES FORWARD OF STRIKER MOUNTING VERTICAL SURFACE  
"Z" LF 12.7 /RF 13.8 INCHES ABOVE SILL SURFACE

OCCUPANT LOCATION DATA

	LEFT FRONT				RIGHT FRONT				HYBRID III PELVIC ANG	
	X (INCHES)		Z (INCHES)		X (INCHES)		Z (INCHES)		LT	RT
	FWD	RWD	UP	DOWN	FWD	RWD	UP	DOWN		
HEAD	.6		<del>0</del>			.7		.1	23	21
HIP	.2		.2			.2	<del>0</del>			
KNEE		.1		.2		.4	.7			

KNEE CLEARANCE <sup>D</sup> 1L 3.1 3.1  
<sup>P</sup> 1R 3.1 3.8

STEERING WHEEL ANGLE MEASURED FROM HORIZONTAL 63.1 DEGREES

SILL ANGLE 0.3 DEGREES --  FRONT HIGH  FRONT LOW

THE FOLLOWING DIMENSIONS CORRESPOND TO INTERIOR MEASUREMENTS DEFINED BY NHTSA;

DRIVER - "NR" 15.0 TIP OF NOSE TO TOP REAR SURFACE OF UPPER STEERING WHEEL RIM  
 "NH" 15.1 TIP OF NOSE TO CENTER OF STEERING WHEEL HUB  
 "CH" 10.8 CHEST 9 INCHES DOWN FROM CHIN TO CENTER OF STEERING WHEEL HUB  
 PASSENGER - "A" 25.5 BRIDGE OF NOSE FORWARD TO WINDSHIELD  
 "B" 29.8 EAR TARGET FORWARD TO WINDSHIELD  
 "C" 19.8 CHEST 9 INCHES DOWN FROM CHIN FORWARD TO INSTRUMENT PANEL

SHOULDER BELT PAYOUT- LEFT 6.7 IN. RIGHT 4.9 IN.

LAP BELT PAYOUT- LEFT N/A IN. RIGHT N/A IN.

LAST FORM MODIFICATION 08/22/96 - GAB (TESTOBS896, DOCVCFORMS)

OCCUPANT DATA

TEST NUMBER VC6485 ITEM NUMBER N4925 TEST ENGINEER MARTIN

OCCUPANT DIMENSIONS RELATIVE TO N-Body TEMPLATE

TEMPLATE LOCATION DATA - \*\*SHOULD BE SAME AS WHAT IS ON "J826" SHEET\*\*

\*\*"X" 9.9/9.8 INCHES FORWARD OF STRIKER MOUNTING VERTICAL SURFACE

"Z" 13.8/13.8 INCHES ABOVE SILL SURFACE

OCCUPANT LOCATION DATA

	LEFT FRONT				RIGHT FRONT				HYBRID III PELVIC ANG	
	X (INCHES)		Z (INCHES)		X (INCHES)		Z (INCHES)		LT	RT
	FWD	RWD	UP	DOWN	FWD	RWD	UP	DOWN		
HEAD		1.1		0.5		1.0		0.3	24°	21°
HIP	Ø			0.1	0.2		0.2			
KNEE		0.5		0.4		0.3	0.8			

KNEE CLEARANCE    LT            RT  
                           1L 3.5            3.7  
                           1R 3.2            3.5

STEERING WHEEL ANGLE MEASURED FROM HORIZONTAL 63.1° DEGREES

SILL ANGLE 0.5 DEGREES -- |X| FRONT HIGH |  | FRONT LOW

THE FOLLOWING DIMENSIONS CORRESPOND TO INTERIOR MEASUREMENTS DEFINED BY NHTSA;

- DRIVER - "NR" 16.4 TIP OF NOSE TO TOP REAR SURFACE OF UPPER STEERING WHEEL RIM
- "NH" 16.4 TIP OF NOSE TO CENTER OF STEERING WHEEL HUB
- "CH" 12.0 CHEST 9 INCHES DOWN FROM CHIN TO CENTER OF STEERING WHEEL HUB
- PASSENGER - "A" 25.7 BRIDGE OF NOSE FORWARD TO WINDSHIELD
- "B" 29.8 EAR TARGET FORWARD TO WINDSHIELD
- "C" 19.8 CHEST 9 INCHES DOWN FROM CHIN FORWARD TO INSTRUMENT PANEL

SHOULDER BELT PAYOUT-    LEFT 5.8 IN.            RIGHT 4.4 IN.

LAP BELT PAYOUT-        LEFT    IN.            RIGHT    IN.

LAST FORM MODIFICATION 08/22/96 - GAB (TESTOBS896, DOCVCFORMS)

OCCUPANT DATA

TEST NUMBER VC6489 ITEM NUMBER N4924 TEST ENGINEER MANNEY

OCCUPANT DIMENSIONS RELATIVE TO N-TRUCK TEMPLATE

TEMPLATE LOCATION DATA - \*\*SHOULD BE SAME AS WHAT IS ON "J826" SHEET\*\*

\*\*"X" 9.9 9.9 INCHES FORWARD OF STRIKER MOUNTING VERTICAL SURFACE

"Z" 13.8 13.9 INCHES ABOVE SILL SURFACE

L R  
OCCUPANT LOCATION DATA

	LEFT FRONT				RIGHT FRONT				HYBRID III PELVIC ANG	
	X (INCHES)		Z (INCHES)		X (INCHES)		Z (INCHES)		LT	RT
	FWD	RWD	UP	DOWN	FWD	RWD	UP	DOWN		
HEAD	0.3		0	0	0.4			0.2	22'	25'
HIP	1.5		0.3		0.9		0.4			
KNEE	0.7		0.3		1.0		1.8			

		<u>LT</u>	<u>RT</u>
KNEE CLEARANCE	<u>1L</u>	<u>3.1</u>	<u>3.4</u>
	<u>1R</u>	<u>2.9</u>	<u>3.0</u>

STEERING WHEEL ANGLE MEASURED FROM HORIZONTAL 63.8 DEGREES

SILL ANGLE 0.1 DEGREES --  FRONT HIGH  FRONT LOW

THE FOLLOWING DIMENSIONS CORRESPOND TO INTERIOR MEASUREMENTS DEFINED BY NHTSA;

DRIVER - "NR" 15.1 TIP OF NOSE TO TOP REAR SURFACE OF UPPER STEERING WHEEL RIM  
 "NH" 15.7 TIP OF NOSE TO CENTER OF STEERING WHEEL HUB  
 "CH" 10.7 CHEST 9 INCHES DOWN FROM CHIN TO CENTER OF STEERING WHEEL HUB  
 PASSENGER - "A" 25.2 BRIDGE OF NOSE FORWARD TO WINDSHIELD  
 "B" 29.2 EAR TARGET FORWARD TO WINDSHIELD  
 "C" 18.9 CHEST 9 INCHES DOWN FROM CHIN FORWARD TO INSTRUMENT PANEL

SHOULDER BELT PAYOUT- LEFT 5.8 IN. RIGHT 7.9 IN.

LAP BELT PAYOUT- LEFT        IN. RIGHT        IN.

LAST FORM MODIFICATION 08/22/96 - GAB (TESTOBS896, DOCVCFORMS)

OCCUPANT DATA

TEST NUMBER 16771 ITEM NUMBER 7041 TEST ENGINEER ARMSTRONG

OCCUPANT DIMENSIONS RELATIVE TO N-Body TEMPLATE

TEMPLATE LOCATION DATA - \*\*SHOULD BE SAME AS WHAT IS ON "J826" SHEET\*\*

\*\*"X" 8.6 INCHES FORWARD OF STRIKER MOUNTING VERTICAL SURFACE

"Z" 13.7 INCHES ABOVE SILL SURFACE

OCCUPANT LOCATION DATA

	LEFT FRONT				RIGHT FRONT				HYBRID III PELVIC ANG	
	X (INCHES)		Z (INCHES)		X (INCHES)		Z (INCHES)		LT	RT
	FWD	RWD	UP	DOWN	FWD	RWD	UP	DOWN		
HEAD	.8		.7			0.3	0.7		22	24
HIP	1.1		.6		0.8		0.8			
KNEE	.7			.3	0.1		0.1			

	LT	RT
KNEE CLEARANCE	<u>1L 3.1</u>	<u>3.4</u>
	<u>1R 3.1</u>	<u>3.3</u>

STEERING WHEEL ANGLE MEASURED FROM HORIZONTAL 65 DEGREES

SILL ANGLE 0 DEGREES --  FRONT HIGH  FRONT LOW

THE FOLLOWING DIMENSIONS CORRESPOND TO INTERIOR MEASUREMENTS DEFINED BY NHTSA;

- DRIVER - "NR" 14.7 TIP OF NOSE TO TOP REAR SURFACE OF UPPER STEERING WHEEL RIM
- "NH" 15.7 TIP OF NOSE TO CENTER OF STEERING WHEEL HUB
- "CH" 10.0 CHEST 9 INCHES DOWN FROM CHIN TO CENTER OF STEERING WHEEL HUB
- PASSENGER - "A" 23.1 BRIDGE OF NOSE FORWARD TO WINDSHIELD
- "B" 28.1 EAR TARGET FORWARD TO WINDSHIELD
- "C" 20.8 CHEST 9 INCHES DOWN FROM CHIN FORWARD TO INSTRUMENT PANEL

SHOULDER BELT PAYOUT- LEFT \_\_\_\_\_ IN. RIGHT \_\_\_\_\_ IN.

LAP BELT PAYOUT- LEFT \_\_\_\_\_ IN. RIGHT \_\_\_\_\_ IN.

LAST FORM MODIFICATION 08/22/96 - GAB (TESTOBS896, DOCVCFORMS)

**FMVSS 208**

**1999 DODGE DAKOTA**

**NSA-31CCa ; OA-208980923C**

**ATTACHMENT 3**

**RESPONSE TO QUESTION #8**

**GENERAL SETUP CONDITIONS**

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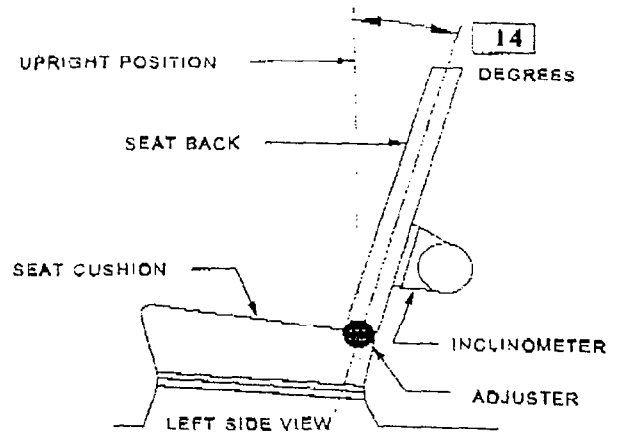
**TEST VEHICLE INFORMATION**

Vehicle Model Year & Make: 1999 Dodge  
 Vehicle Model & Body Style: Dakota Standard & Club Cabs

**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" or "1"?). Indicate if the seat back angle is measured with the dummy in the seat.

- Seat back angle for driver's seat = 14 degrees.  
 Measurement Instructions: Both door sill's must be level,  
1) Lift recliner handle to dump seat back full forward  
2) Push seat back to full up (first lock) position  
3) Cut away seat cover and padding(1/2 distance between top and bottom of seat back) and hold inclinometer against seat back frame tube and recline seat back to 14 degrees  
4) This should result in a torso angle of 22 degrees.



Seat back angle for passenger's seat = 14 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:

1. Position the seat at each extreme travel position and mark
2. Measure total travel (standard cab= 190mm, extended cab = 220mm)
3. Position seat at mid-travel; ext cab will locate directly in notch, std cab will locate in notch just rear of mid-point.

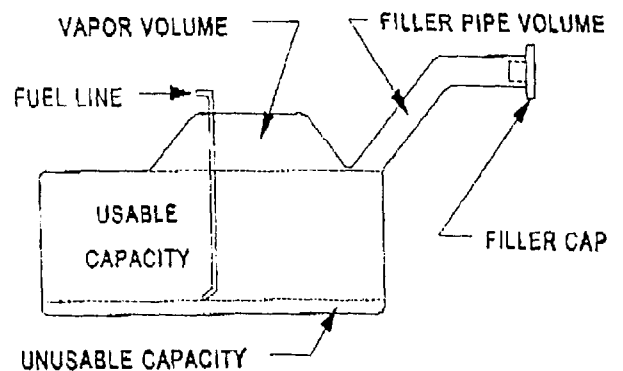
Positioning of the passenger's seat (if applicable):  
Same as driver side

**3. FUEL TANK CAPACITY DATA --**

- 3.1 A. "Usable Capacity" of standard equipment fuel tank = 15 gallons.
- B. "Usable Capacity" of optional equipment fuel tank = 22 gallons.
- C. "Usable Capacity" of vehicle(s) used for certification testing to requirements of FMVSS 301 = 15 gallons.  
22 gallons.

Operational Instructions:

- 3.2 Amount of Stoddard solvent added to vehicle(s) used for certification test(s) = 14.5 gallons  
20.9 gallons



**VEHICLE FUEL TANK ASSEMBLY**

FORM NO. 1 . . . . Continued

## TEST VEHICLE INFORMATION

- 3.3 Is vehicle equipped with electric fuel pump?  YES  NO  
 If YES, does pump normally operate when vehicle's electrical system is activated?  YES  NO

## 4. ADJUSTABLE UPPER ANCHORAGE POSITION:

Place adjustable turning loop in 3rd locking position from top (first locking position is one)

## 5. 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.

## Operational Instructions:

Five (5) tilt positions possible. Place steering wheel in full up position, pull tilt release lever and move strq. wheel down to next position, pull tilt release lever again and move strq. wheel down to next position. This is the geometric center of the locus.

