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**SAFETY COMPLIANCE TEST FOR
FMVSS 301-75R
FUEL SYSTEM INTEGRITY**

1993 FORD F-150 PICKUP

NHTSA No. CP0214

MOBILITY SYSTEMS AND EQUIPMENT COMPANY
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JUNE 2, 1993

FINAL REPORT

Prepared Under Contract No. DTNH22-93-C-01007

For:

U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
Office of Vehicle Safety Compliance
400 Seventh Street, S.W.
Washington, DC 20590

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Date:

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Contracting Officer's Technical Representative,
Office of Vehicle Safety Compliance

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SECTION 1

INTRODUCTION

This report presents information on tests conducted on a 1993 Ford F-150 Pickup, NHTSA No. CP0214, to determine compliance with the requirements of FMVSS 301-75 Rear impact testing. All tests were conducted in accordance with the National Highway Traffic Safety Administration (NHTSA) Office of Vehicle Safety Compliance (OVSC) Laboratory Procedure TP-301-00 dated April 26, 1989 and the corresponding Mobility Systems and Equipment Company (MSE) Test Procedure MSE-TP-301-75/R-01 dated March 19, 1993, which is approved by NHTSA officials. The tests were conducted under contract No. DTNH22-93-C-01007.

Section 2 of this report describes the test procedure and presents the summary data. Section 3 of this report presents all the test results. Section 5 presents all the pertinent photographs. Section 6 presents all the time history data plots.

No test failures related to FMVSS 301-75 Rear were identified for the tested 1993 Ford F-150 Pickup.

SECTION 2

TEST PROCEDURE AND SUMMARY DATA

The 1993 Ford F-150 Pickup, NHTSA No. CP0214, was subjected to FMVSS 301-75 Rear testing on May 5, 1993. The vehicle is shown in pretest condition in Figures 5-1 to 5-4. The manufacturer's certification label and tire placard are shown in Figure 5-5.

The vehicle was inspected, measured, weighed, marked, photographed and tested in accordance with the procedure requirements. A partially instrumented part 572E Anthropomorphic Test Device (ATD) was positioned in the vehicle, in the driver position. ATD instrumentation consists of triaxial accelerometers in the head, chest and pelvis and a six-axis neck transducer. Seven additional sensors were installed in the vehicle. The driver lap and shoulder belts were instrumented with load cells. A displacement transducer was installed to measure driver shoulder belt pullout. Primary and redundant X-axis accelerometers were placed at the approximate vehicle c.g. An angular rate sensor and an accelerometer were placed on the top frame rail of the driver seat. A non-instrumented part 572B ATD was positioned in the front passenger position for ballast.

High speed cameras were set up as required in the test procedure. The camera positions for the FMVSS 301-75 Rear test are as shown in Figure 2-1. Actual locations are presented in Table 2-1. All high speed cameras were set to run at a minimum of 500 frames per second. The onboard camera was set to run at a minimum of 1000 frames per second. Actual camera speeds are also presented in Table 2-2.

The test was conducted with a moving barrier impacting the rear of the stationary test vehicle. The center of the moving barrier was set to impact the longitudinal centerline of the vehicle. The test vehicle was checked for fuel system leaks for a thirty minute period after the initial impact and for successive 7 minute periods afterwards at 90, 180, 270 and 360 degree rollover attitudes.

The velocity of the impact sled was 29.43 mph. The 1993 Ford F-150 Pickup, NHTSA No. CP0214 had no fuel system leaks. No test failures related to FMVSS 301-75 Rear were identified on the tested 1993 Ford F-150 Pickup.

TABLE 2-1
SUMMARY OF RESULTS

VEHICLE YEAR/MAKE/MODEL/BODY STYLE: 1993/Ford/F-150/Pickup

VEHICLE NHTSA No.: CP0214 TEST MODE: Rear Moving Barrier

TEST DATE: 05/12/93 TIME: 4:00 pm TEMPERATURE: 76° F

VEHICLE TEST WEIGHT: 4648 lb IMPACT VELOCITY: 29.43 mph

STATIC CRUSH: Left Side = 10.2 in

Right Side = 10.4 in

Centerline = 11.2 in

AVERAGE CRUSH: 10.6 in

VEHICLE REBOUND: N/A in (Frontal impacts only)

TYPE OF FRONT OCCUPANT RESTRAINT INSTALLED IN TEST VEHICLE:

Driver DSP: 3 Point Continuous Webbing Active Belt

Outboard Front Passenger DSP: 3 Point Continuous Webbing Active Belt

VISIBLE ATD CONTACT POINTS:

Driver ATD: Top of head hit just above the rear window.

Passenger ATD: N/A

VEHICLE DOOR OPENING INFORMATION:

Door	Opened	Jammed
Right Front	Yes	No
Left Front	Yes	No
Right Rear	N/A	N/A
Left Rear	N/A	N/A

LOSS OF WINDSHIELD RETENTION: N/A

PENETRATION OF WINDSHIELD ZONE TEMPLATE: N/A

STODDARD SOLVENT SPILLAGE FROM VEHICLE'S FUEL SYSTEM: No spillage

TABLE 2-2
CAMERA DATA

Camera Location *	Coordinates (inches)			Angle (degrees)	Lens Size (mm)	Film Speed (fps)
	X	Y	Z			
1. Onboard	136	47	50	-1	16	1000
2. Overhead	-24	0	236	-90	16	520
3. Left Side View	30	-660	55	-2	28	600
4. Right Side View #1	-55	475	58	-2	13	590
5. Right Side View #2	0	1200	125	-12	15-70 Zoom	24
6. Underbody View #1	66	2	-64	67	16	490
7. Underbody View #2	114	0	-68	77	16	600
8. Underbody View #3	190	-1	-65	58	16	610

COORDINATE REFERENCE: X - Film plane to barrier face impact plane

Y - Film plane to monorail centerline

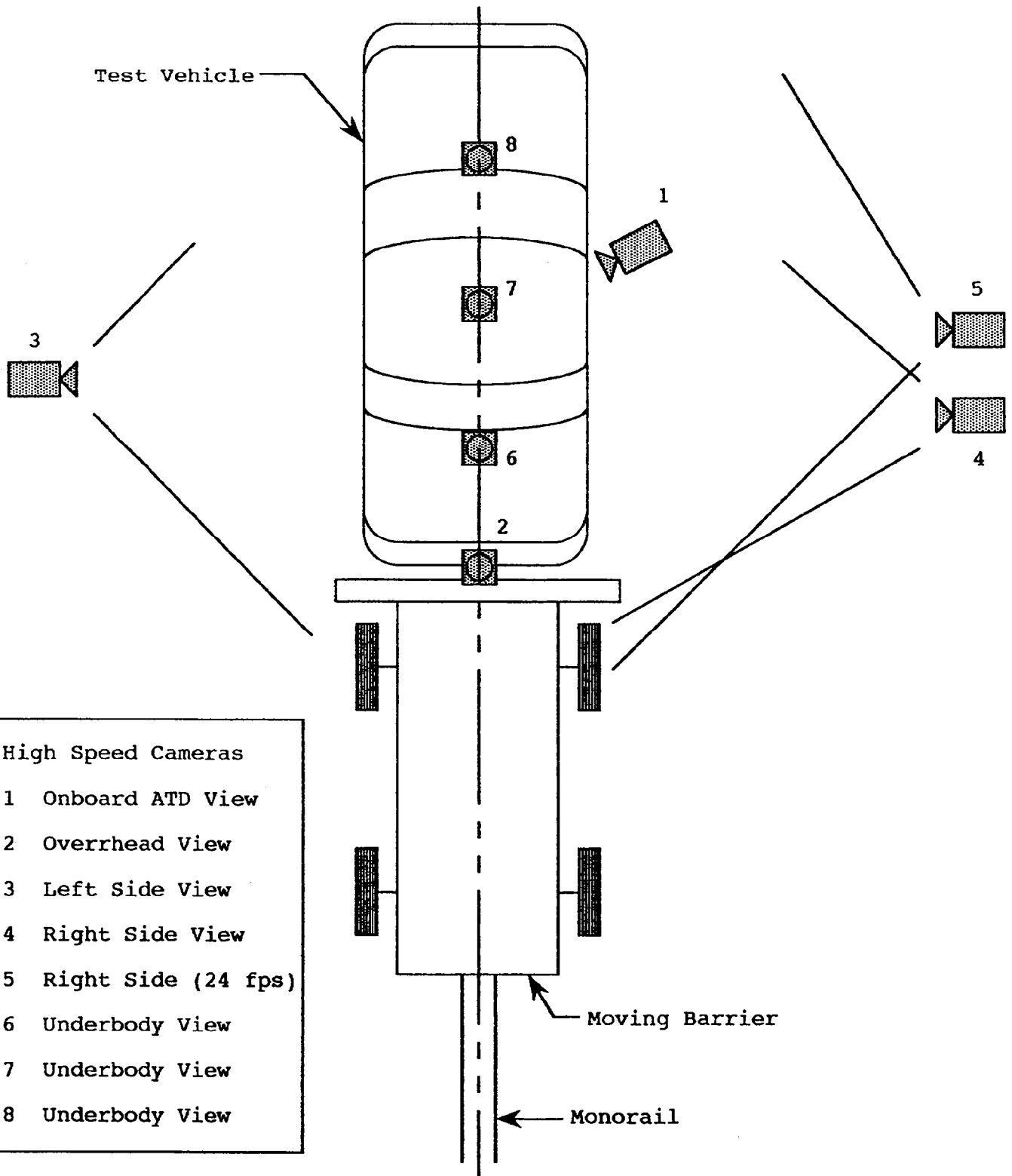
Z - Film plane to ground

Angle with reference to horizontal plane;
+ upwards, - downwards

* SEE FIGURE 2-1 FOR CAMERA POSITIONS

FIGURE 2-1

CAMERA POSITIONS



SECTION 3

COMPLIANCE TEST RESULTS

The results of the FMVSS 301-75 Rear compliance tests on the tested 1993 Ford F-150 Pickup, NHTSA No. CP0214, are presented in this section.

The test vehicle was inspected upon receipt. Vehicle pretest information, delivered weights and attitudes, test weights and attitudes, tire information and fuel system capacity were recorded and are presented in Table 3-1.

The velocity of the rear impact sled was 29.43 mph. Test velocity information and posttest crush details are given in Table 3-2. Posttest left side, front, right side and rear views of the test vehicle are given in Figures 5-6 to 5-9.

No solvent leaked from any part of the vehicle's fuel system during impact or for 30 minutes after the impact event. The vehicle was then placed on the static rollover machine and rotated to the 90, 180, 270 and 360 degree positions successively at the required time intervals. No fuel system leaks were detected at any of the rollover positions. The details of the rollover test sequence are presented in Table 3-3. Pretest and posttest views of the vehicle underbody are shown in Figures 5-10 to 5-12.

Upon impact the driver ATD moved rearward with its head hitting the rear of the cab above the window. The Head Injury Criteria (HIC) for the driver ATD was 207.6. The chest resultant (3 msec clip) was 19.5 g's. All driver ATD instrumentation results are presented in Table 3-4. Pretest measurements are shown in Tables 3-5 and 3-6. Pretest and posttest views of the Driver ATD position are shown in Figures 5-13 and 5-14. Vehicle accelerometers are shown in Figure 5-15. The MHD Sensor is shown in Figure 5-16 and the Seat Mounted Accelerometer is shown in Figure 5-17.

No test failures related to FMVSS 301-75 Rear were identified for the tested 1993 FORD F-150 Pickup.

TABLE 3-1

TEST VEHICLE DATA

VEHICLE YEAR/MAKE/MODEL/BODY STYLE: 1993/Ford/F-150/Pickup

VEHICLE NHTSA No.: C P 0 2 1 4; VIN: 2 F T D F 1 5 Y 2 C P A 4 5 4 3 3

VEHICLE BODY COLOR: White; MONTH AND YEAR OF MANUFACTURE: 12/92

ENGINE: 6 Cylinders; cu in; 4.9 Liters; cc
X Gas; Diesel; Turbocharged
 PLACEMENT: X Longitudinal; Transverse (Lateral)

TRANSMISSION: 4 Speed; X Manual; Automatic; X Overdrive

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

DATE VEHICLE AVAILABLE FOR TESTING: 03/18/93

ODOMETER READING: 68 mi; OPTIONS: A/C; X P/S; P/Window;
 Tilt Whl.; Cruise Control

GVWR: 5450 lb GAWR Front: 2650 lb GAWR Rear: 3166 lb

DATA RECORD FROM VEHICLE'S TIRE PLACARD:

Location of Placard on Vehicle: Driver Side Door

Recommended Cold Tire Pressure: 35 psi Front; 41 psi Rear

Tire Pressure (at maximum capacity): 35 psi Front; 41 psi Rear

Recommended Tire Size: P235/75R15XL Recommended Load Range: N/A

Tires on Vehicle: P235/75R15 Load Range: 2 Plies

Tire Manufacturer: Firestone Type of Spare Tire: T235/75R15

Number of Occupants: 3 Front; Rear; Third Seat; 3 TOTAL

Type of Front Seats: Bucket; X Bench; Split Bench

Type of Front Seat Back: X Fixed; Adj. Lever; Adj. Rotating Knob

Vehicle Maximum Capacity Loading: N/A lb

No. of Occupants x 150 lb: N/A lb

Cargo Capacity (Max - Occupants): 300 lb *

TEST VEHICLE DELIVERED WEIGHT WITH MAXIMUM FLUIDS:

Right Front:	<u>1158</u> lb		
Left Front:	<u>1188</u> lb	Total Front:	<u>2346</u> lb (60% of Total)
Right Rear:	<u>814</u> lb		
Left Rear:	<u>775</u> lb	Total Rear:	<u>1589</u> lb (40% of Total)
		Total Weight:	<u>3935</u> lb

CALCULATION OF TEST VEHICLE TARGET WEIGHT:

Total Test Vehicle Delivered Weight With Maximum Fluids:	<u>3935</u> lb
Maximum Cargo Carrying Capacity of Test Vehicle:	<u>300</u> lb *
Weight of Two Part 572 ATD's (2 * 164 lb):	<u>328</u> lb
TEST VEHICLE TARGET WEIGHT:	<u>4663</u> lb

* 300 lb for light trucks and MPV's

TABLE 3-1 (Cont.)

TEST VEHICLE DATA

ACTUAL WEIGHT OF TEST VEHICLE WITH 2 ATD's AND CARGO:

Right Front:	<u>1342 lb</u>		
Left Front:	<u>1327 lb</u>	Total Front:	<u>2669 lb</u> (57% of Total)
Right Rear:	<u>1011 lb</u>		
Left Rear:	<u>968 lb</u>	Total Rear:	<u>1979 lb</u> (43% of Total)

Total Weight: 4648 lb (includes 140 lb of sandbag ballast secured in the cargo / luggage area)

VEHICLE COMPONENTS REMOVED TO MEET TARGET WEIGHT:

1. N/A

2. N/A

TEST VEHICLE ATTITUDE:

As Delivered - Right Front:	<u>33.0 in</u>	Ready for Test - Right Front:	<u>31.8 in</u>
Left Front:	<u>32.4 in</u>	Left Front:	<u>31.4 in</u>
Right Rear:	<u>36.0 in</u>	Right Rear:	<u>35.2 in</u>
Left Rear:	<u>35.9 in</u>	Left Rear:	<u>34.4 in</u>

TEST VEHICLE DIMENSIONS:

Total Vehicle Length: 213.1 in

Wheelbase: 133.0 in

C. G. is 56.6 in rearward of front axle centerline.

FUEL SYSTEM DATA:

Fuel System Capacity Listed in Owner's Manual: 37.2 gallons
 Usable Capacity Figure Furnished by COTR: 37.2 gallons
 Test Volume Range (92% to 94% of Usable Capacity)
34.2 gallons to 35.0 gallons
 ACTUAL TEST VOLUME: 34.5 gallons (with entire fuel system filled)

Test Fluid Type: Stoddard Solvent
 Test Fluid Specific Gravity: 0.764
 Test Fluid Kinematic Viscosity: as per ASTM Standard D484-71
 Test Fluid Color: Red (Red is preferred)

Type of Vehicle Fuel Pump: Electric
 Electric Fuel Pump Operation with Ignition ON and Engine OFF:
Electric fuel pump runs for 2 sec. with ignition on and engine off

Details of Fuel System: Front tank is located forward of the rear axle, between the driveshaft and left frame rail. The filler neck is in front of the left rear wheel, with the hose running down and slightly forward to the fuel tank. The rear tank is aft of the rear axle, above the spare tire. The filler neck is behind the left rear wheel, with the hose running straight down and across to the tank.

TABLE 3-2

POST IMPACT DATA

VEHICLE YEAR/MAKE/MODEL/BODY STYLE: 1993/Ford/F-150/PickupVEHICLE NHTSA No.: CP0214 TEST MODE: Rear Moving BarrierTEST DATE: 05/12/93 TIME: 4:00 pm TEMPERATURE: 76° FREQUIRED IMPACT VELOCITY RANGE: 28.9 to 29.9 mph

ACTUAL IMPACT VELOCITY: (speed traps located within 5 feet of impact plane)

Trap No. 1 = 29.43 mph Trap No. 2 = 28.39 mphAverage Impact Speed = 28.92 mph

VEHICLE STATIC CRUSH:

Location	Pretest (in)	Posttest (in)	Crush(in)
Left Side	212.1	201.9	10.2
Right Side	212.1	201.7	10.4
Centerline	213.1	201.9	11.2
37.0" Left of C.L.	212.1	201.9	10.2
22.2" Left of C.L.	212.9	201.9	11.0
7.4" Left of C.L.	213.1	201.9	11.2
7.4" Right of C.L.	213.1	201.9	11.2
22.2" Right of C.L.	212.9	201.8	11.1
37.0" Right of C.L.	212.1	201.7	10.4

Collision Deformation Classification (CDC) Code: BMidpoint of Damage: Vehicle Longitudinal CenterlineLength of Damaged Area: 74.0 inVehicle Wheelbase: 133.0 in

TABLE No. 3-3

FMVSS No. 301-75 STATIC ROLLOVER DATA

VEHICLE YEAR/MAKE/MODEL/BODY STYLE: 1993/Ford/F-150/PickupVEH. NHTSA NO.: CP0214 TEST DATE: 05/12/93USABLE CAPACITY OF VEHICLE'S FUEL TANK: 37.2 Gallons (furnished by Mfr.)

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

34.5 Gallons, which is 92.7% of the stated usable capacity

SOLVENT SPILLAGE MEASUREMENT AFTER 20 MPH MOVING BARRIER IMPACT TEST:

	Actual	Max. Allowed
From impact until vehicle motion ceases	<u>0 oz.</u>	1 oz.
For 5 min. period after vehicle motion ceases	<u>0 oz.</u>	5 oz.
For next 25 min. at barrier face	<u>0 oz.</u>	1 oz./min.

SOLVENT SPILLAGE DETAILS: None

STATIC ROLLOVER MACHINE ROTATION TIME INFORMATION: (Spec. range = 1 to 3 min)

Time reqd. for machine to rotate 90°	<u>1</u> minutes, <u>20</u> seconds
FMVSS 301-75 position hold time	<u>5</u> minutes, <u>00</u> seconds
Total	<u>6</u> minutes, <u>20</u> seconds
Next whole minute interval	<u>7</u> minutes

VEHICLE STATIC ROLLOVER DATA:

	1st 5 Min.	6th min.	7th min.	8th min.
Max allowable solvent spillage	5 oz.	1 oz.	1 oz.	1 oz.
0° to 90° (filler cap down)	0 oz.	0 oz.	0 oz.	N/A
90° to 180°	0 oz.	0 oz.	0 oz.	N/A
180° to 270°	0 oz.	0 oz.	0 oz.	N/A
270° to 360°	0 oz.	0 oz.	0 oz.	N/A

SOLVENT SPILLAGE LOCATIONS: None

STATIC ROLLOVER TEST DATA:

A. Test Phase = 0 to 90 degrees

Determination of Stoddard
Solvent Collection Time Period:

1. Rollover Fixture 90 degree
Rotation Time = 1 minutes,
20 seconds

(Specified Range is 1 to 3
minutes)

2. FMVSS 301 Position Hold
Time = 5 minutes, 0 seconds

3. TOTAL = 6 minutes,
20 seconds

4. NEXT WHOLE MINUTE
INTERVAL = 7 minutes

Actual Test Vehicle Stoddard Solvent Spillage:

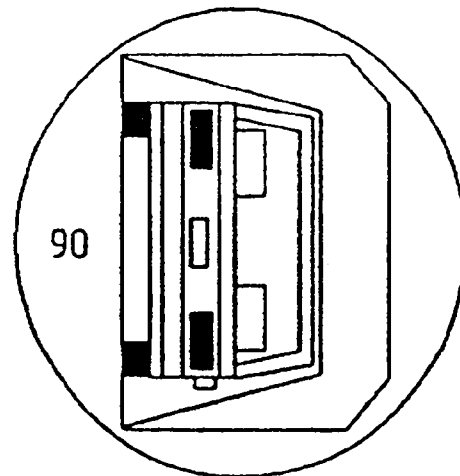
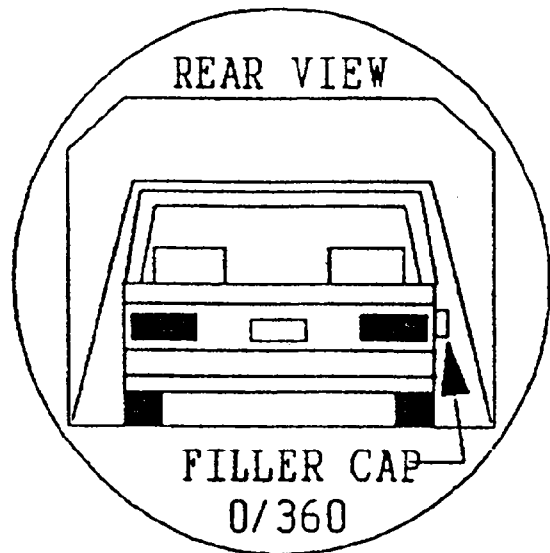
1. First 5 minutes from onset of
rotation = 0 oz. (5 oz.
allowed)

2. 6th minute = 0 oz. (1 oz.
allowed)

3. 7th minute = 0 oz. (1 oz.
allowed)

4. 8th minute (if required) = 0
oz. (1 oz. allowed)

Provide Details of Stoddard
Solvent Spillage Locations--



N/A

B. Test Phase = 90 to 180 degrees

Determination of Stoddard
Solvent Collection Time Period:

1. Rollover Fixture 90 degree
Rotation Time = 1 minutes,
20 seconds

(Specified Range is 1 to 3
minutes)

2. FMVSS 301 Position Hold
Time = 5 minutes, 0 seconds

3. TOTAL = 6 minutes, 20
seconds

4. NEXT WHOLE MINUTE INTERVAL =
7 minutes

Actual Test Vehicle Stoddard
Solvent Spillage:

1. First 5 minutes from onset of
rotation = 0 oz. (5 oz.
allowed)

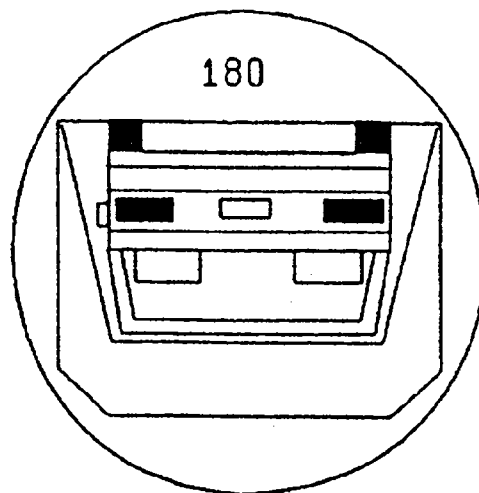
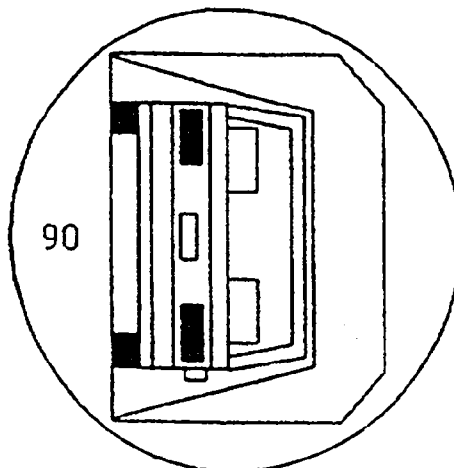
2. 6th minute = 0 oz. (1 oz.
allowed)

3. 7th minute = 0 oz. (1 oz.
allowed)

4. 8th minute (if required) = 0
oz. (1 oz. allowed)

Provide Details of Stoddard Solvent Spillage Locations--

N/A



C. Test Phase = 180 to 270 degrees

Determination of Stoddard Solvent Collection Time Period:

1. Rollover Fixture 90 degree Rotation Time = 1 minutes, 20 seconds

(Specified Range is 1 to 3 minutes)

2. FMVSS 301 Position Hold Time = 5 minutes, 0 seconds

3. TOTAL = 6 minutes, 20 seconds

4. NEXT WHOLE MINUTE INTERVAL = 0 minutes

Actual Test Vehicle Stoddard Solvent Spillage:

1. First 5 minutes from onset of rotation = 0 oz. (5 oz. allowed)

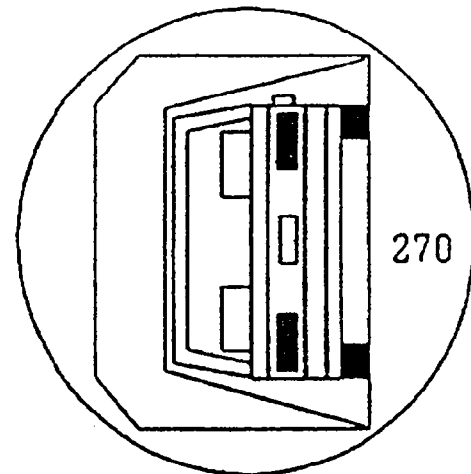
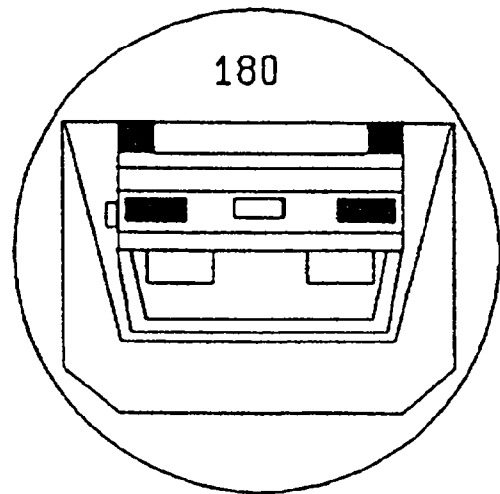
2. 6th minute = 0 oz. (1 oz. allowed)

3. 7th minute = 0 oz. (1 oz. allowed)

4. 8th minute (if required) = 0 oz. (1 oz. allowed)

Provide Details of Stoddard Solvent Spillage Locations--

N/A



- D. Test Phase = 270 to 360 degrees

Determination of Stoddard Solvent Collection Time Period:

1. Rollover Fixture 90 degree Rotation Time = 1 minutes, 20 seconds

(Specified Range is 1 to 3 minutes)

2. FMVSS 301 Position Hold Time = 5 minutes, 0 seconds

3. TOTAL = 6 minutes, 20 seconds

4. NEXT WHOLE MINUTE INTERVAL = 7 minutes

Actual Test Vehicle Stoddard Solvent Spillage:

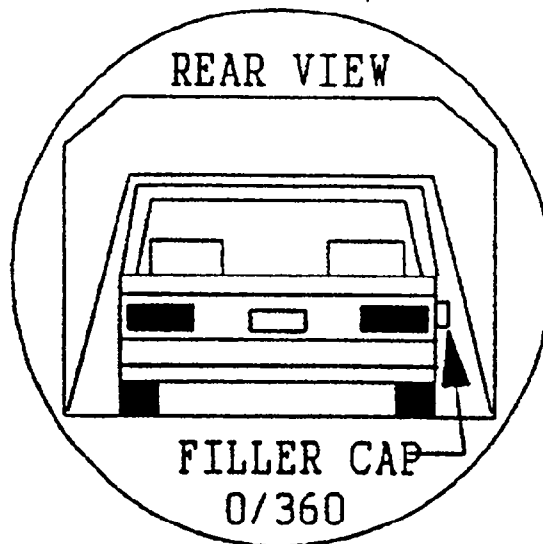
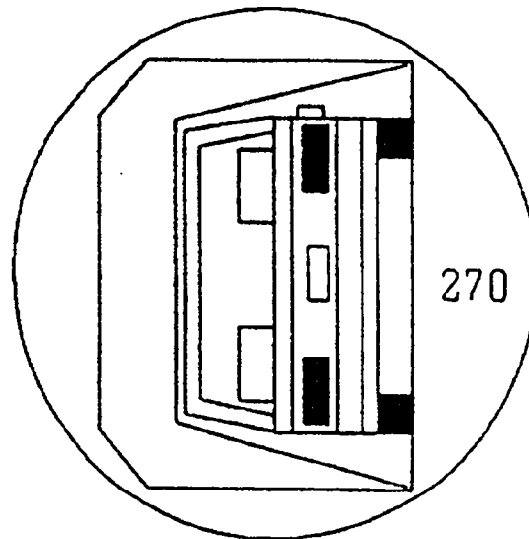
1. First 5 minutes from onset of rotation = 0 oz. (5 oz. allowed)

2. 6th minute = 0 oz. (1 oz. allowed)

3. 7th minute = 0 oz. (1 oz. allowed)

4. 8th minute (if required) = 0 oz. (1 oz. allowed)

Provide Details of Stoddard Solvent Spillage Locations-- N/A



Recorded By: Brian O'Keefe

Date: 05/05/93

Approved By: *[Signature]*

Date: 06/02/93

TABLE No. 3-4
FMVSS No. 208 OCCUPANT CRASH PROTECTION DATA SHEET

VEH. YEAR/MAKE/MODEL/BODY STYLE: 1993/Ford/F-150/Pickup

VEH. NHTSA NO.: CP0214

TEST DATE: 05/12/93

MAXIMUM ACCELERATION VALUES (g):	DRIVER ATD No. 339	PASSENGER ATD No. N/A
Head X	54.4	N/A
Head Y	4.3	N/A
Head Z	22.2	N/A
HEAD RESULTANT	56.8	N/A
Chest X	23.9	N/A
Chest Y	-5.4	N/A
Chest Z	7.3	N/A
CHEST RESULTANT (3msec clip)	19.5	N/A
TIME INTERVAL (msec)	52.6 to 55.6	N/A
Pelvis X	23.0	N/A
Pelvis Y	6.3	N/A
Pelvis Z	14.6	N/A
PELVIS RESULTANT	23.6	N/A

6 AXIS NECK TRANSDUCER VALUES:

Neck X - Load (lbs)	-127.6	N/A
Neck Y - Load (lbs)	-34.8	N/A
Neck Z - Load (lbs)	-114.1	N/A
NECK LOAD RESULTANT	157.2	N/A
Neck X - Moment (in-lbs)	-88.4	N/A
Neck Y - Moment (in-lbs)	405.5	N/A
Neck Z - Moment (in-lbs)	98.5	N/A
NECK MOMENT RESULTANT	419.6	N/A

HEAD INJURY CRITERIA (HIC) VALUES:

HIC	207.6	N/A
t ¹ (msec)	72.6	N/A
t ² (msec)	85.6	N/A
Avg. Acceleration t ¹ to t ² (g)	47.9	N/A

MAXIMUM SEAT BELT FORCES:

Lap Belt (lbs)	56.4	N/A
Shoulder Belt (lbs)	149.5	N/A

MAXIMUM SEAT BELT WEBBING SPOOLOUT (in):

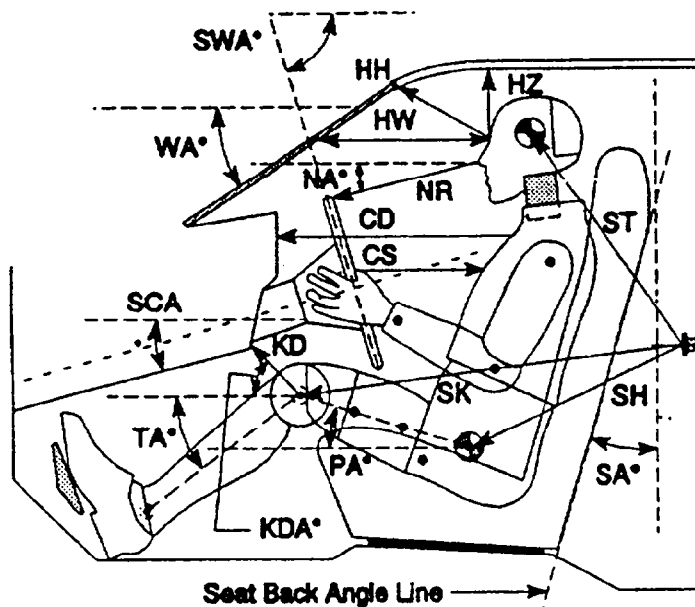
Lap/Shoulder Belt Combination	0.3	N/A
-------------------------------	-----	-----

TABLE No. 3-5
TEST ATD POSITIONING DATA

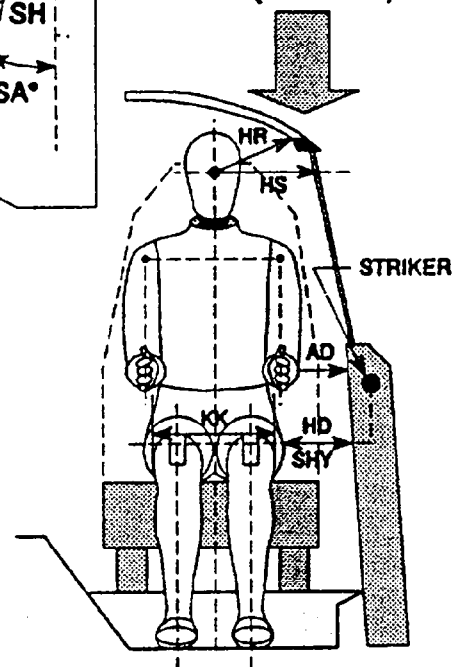
Measurement*	Driver (Serial No. 339)		Passenger (Serial No. N/A)	
	Length (in)	Angle (Degrees)	Length (in)	Angle (Degrees)
WA	---	45	---	---
SWA	---	64	---	---
SCA	---	26	---	---
SA	---	16	---	N/A
HZ	8.8	90	N/A	90
HH	17.2	---	N/A	---
HW	22.7	0	N/A	0
HR	10.8	---	N/A	---
NR	12.5	-11	---	---
CD	20.3	---	N/A	---
CS	9.3	0	---	---
RA	6.0	0	---	---
KDL	6.7	21	N/A	---
KDR	5.9	---	N/A	N/A
PA	---	20	---	N/A
TA	---	-44	---	N/A
KK	10.6	---	N/A	---
ST	27.5	67	N/A	N/A
SK	28.4	4	N/A	N/A
SH	12.0	-2	N/A	N/A
SHY	10.0	0	N/A	0
HS	11.8	0	N/A	0
HD	5.5	0	N/A	0
AD	3.2	0	N/A	0

* SEE FIGURE ON PAGE 12A

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

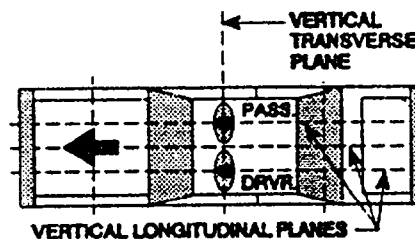
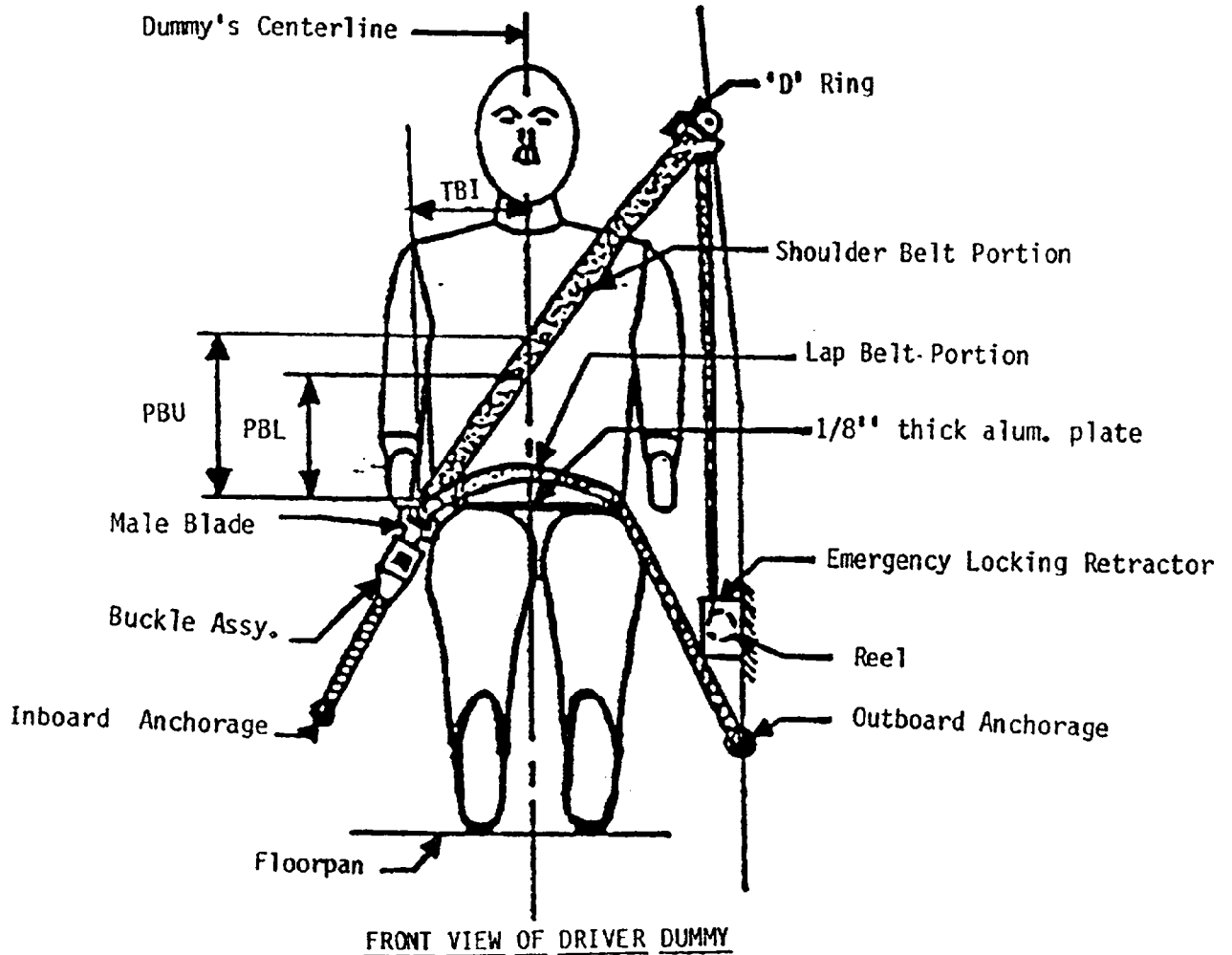


TABLE No. 3-6
SEAT BELT POSITIONING DATA



Measurement	Driver ATD	Passenger ATD
PBU - Top Surface of alum. plate to belt upper edge (in)	14.0	N/A
PBL - Top Surface of alum. plate to belt lower edge (in)	11.0	N/A
TBI - Vertical Centerline of ATD to belt intersection (in)	8.4	N/A
Lap Belt Tension (lbs)	N/D	N/A
Shoulder Belt Tension (lbs)	N/D	N/A

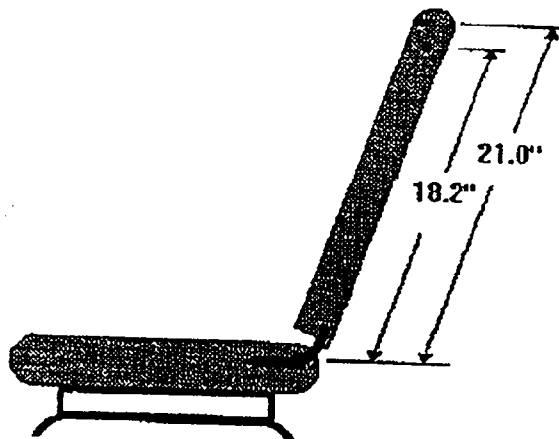
TABLE No. 3-7
VEHICLE TRANSDUCER LOCATION AND DATA SUMMARY

No.	Description	Location			Maximum Value *			
		X	Y	Z	-X	msec	+X	msec
1	Vehicle c.g. Primary	137	6	24	3.5	98.3	48.3	11.2
2	Vehicle c.g. Secondary	137	6	24	1.4	16.4	32.2	10.5
3	Top of driver seat Accelerometer	109	0	51	68.5	53.3	53.2	45.5
4	Top of driver seat Rate Sensor	109	-29	47	5.3	102.1	27.1	44.3

REFERENCE: X - Rear bumper trailing edge
Y - Vehicle centerline (Right Pos., Left Neg.)
Z - Ground level

All dimensions in inches

* g's for accelerometers, radians per second for rate sensor



Rate sensor mounted 18.2 inches above seatback pivot lock, on out-board. Seatback accel 21.0 inches above pivot lock at center of seat.

SECTION 4

LABORATORY NOTICE OF TEST FAILURE TO OVSC

FMVSS NO.: 301(R)

TEST DATE: _____

LABORATORY: MOBILITY SYSTEMS AND EQUIPMENT CO.

CONTRACT NO.: DTNH22-93-C-01007 DELV. ORDER NO.: _____

LABORATORY PROJECT ENGINEER'S NAME: _____

TEST SPECIMEN DESCRIPTION: _____

VEHICLE NHTSA NO.: _____ VIN: _____

MFR.: _____

TEST FAILURE DESCRIPTION: _____

FMVSS REQUIREMENT, PARAGRAPH S: _____

NOTIFICATION TO NHTSA (COTR): _____

DATE: _____; BY: _____

REMARKS: _____

SECTION 5
PHOTOGRAPHS



FIGURE 5-1 PRETEST LEFT SIDE VIEW



FIGURE 5-2 PRETEST FRONT VIEW

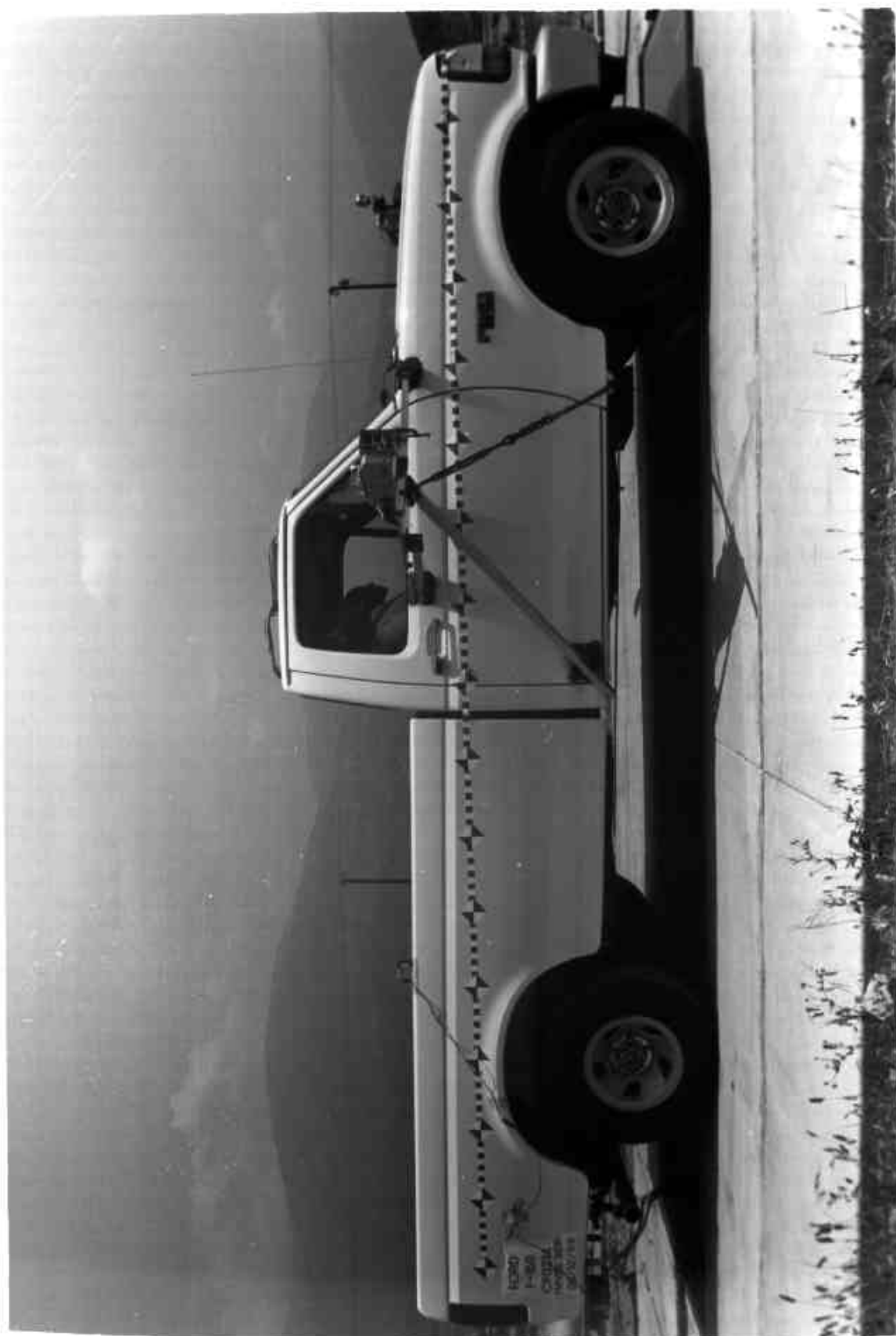


FIGURE 5-3 PRETEST RIGHT SIDE VIEW



FIGURE 5-4 PRETEST REAR VIEW

MFD. BY FORD MOTOR CO. OF CANADA LTD.
 DATE: 12/92
 FRONT GVWR: 2650LB
 1202KG
 P235/75R15XL
 15X7.5J
 AT 35 PSI COLD
 THIS VEHICLE CONFORMS TO ALL APPLICABLE FEDERAL MOTOR
 VEHICLE SAFETY STANDARDS IN EFFECT ON THE DATE OF
 MANUFACTURE SHOWN ABOVE.

5450LB/ 2472KG
 REAR GVWR: 3166LB
 1436KG
 P235/75R15XL
 15X7.5J
 AT 41 PSI COLD

WITH
 TIRES
 RIMS
 WITH
 TIRES
 RIMS

VIN: 2FTDF15Y2PCA45433
 TYPE: TRUCK

F0025
 T0392



EXTERIOR PAINT COLORS
 Y0
 133 F154 AB4 M 12
 MADE IN CANADA
 71
 DSO
 TAPE
 SPRINGS
 B V
 F07A-15254010-BA

FIGURE 5-5 MANUFACTURER'S CERTIFICATION LABEL AND TIRE PLACARD



FIGURE 5-6 POSTTEST LEFT SIDE VIEW



FIGURE 5-7 POSTTEST FRONT VIEW

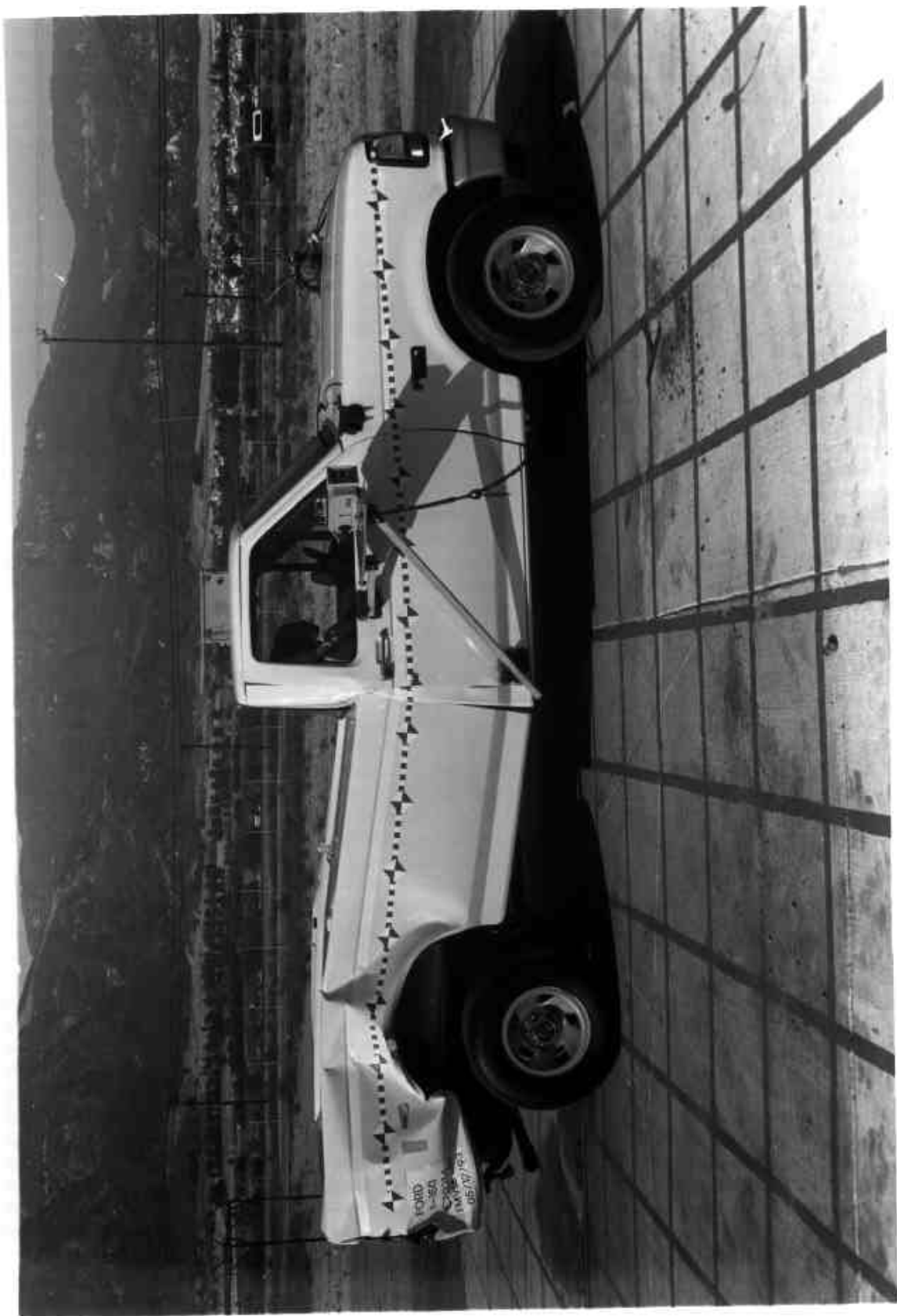


FIGURE 5-8 POSTTEST RIGHT SIDE VIEW



FIGURE 5-9 POSTTEST REAR VIEW



FIGURE 5-10 PRETEST FUEL TANK CLOSEUP VIEW

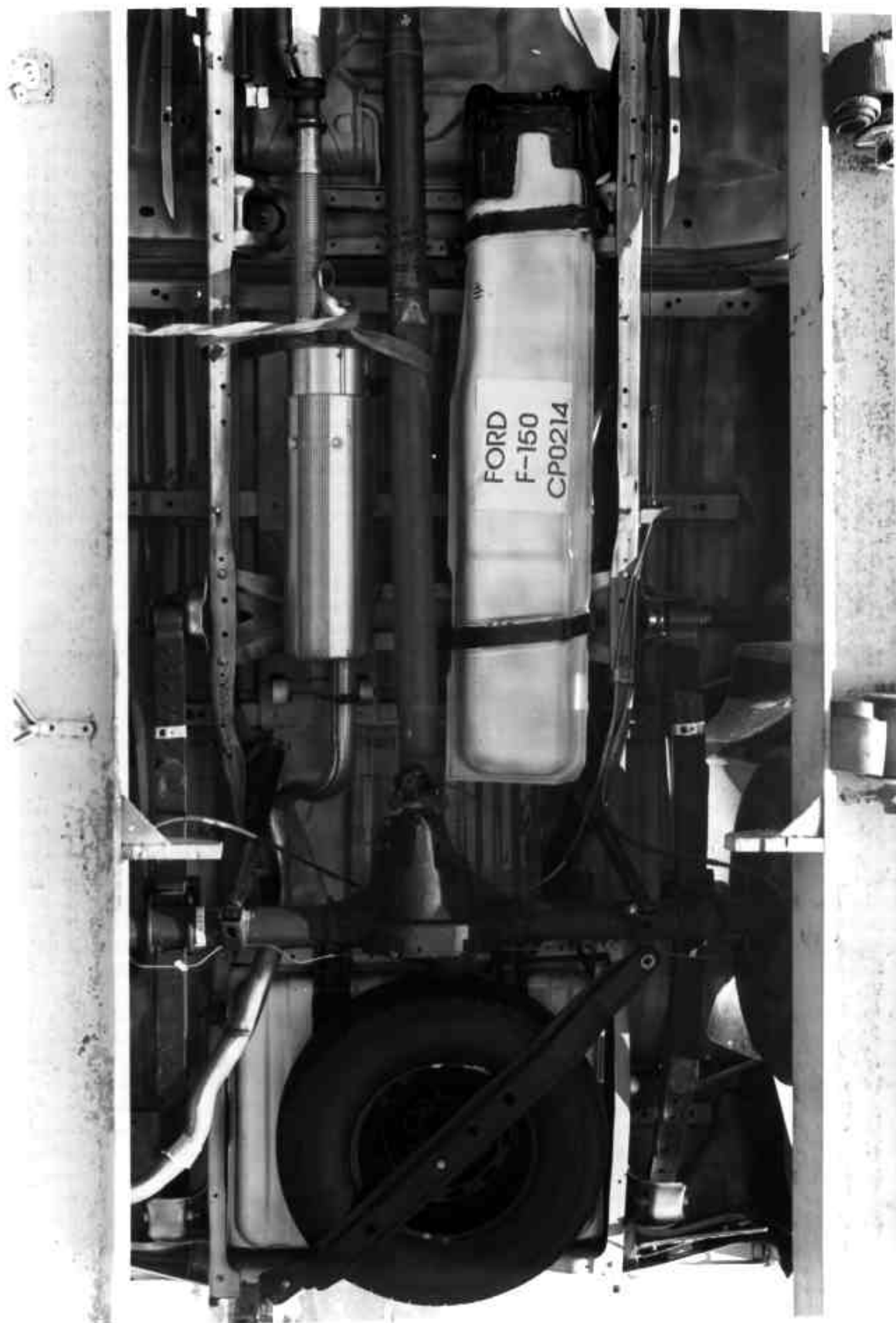


FIGURE 5-11 POSTTEST FUEL TANK CLOSEUP VIEW

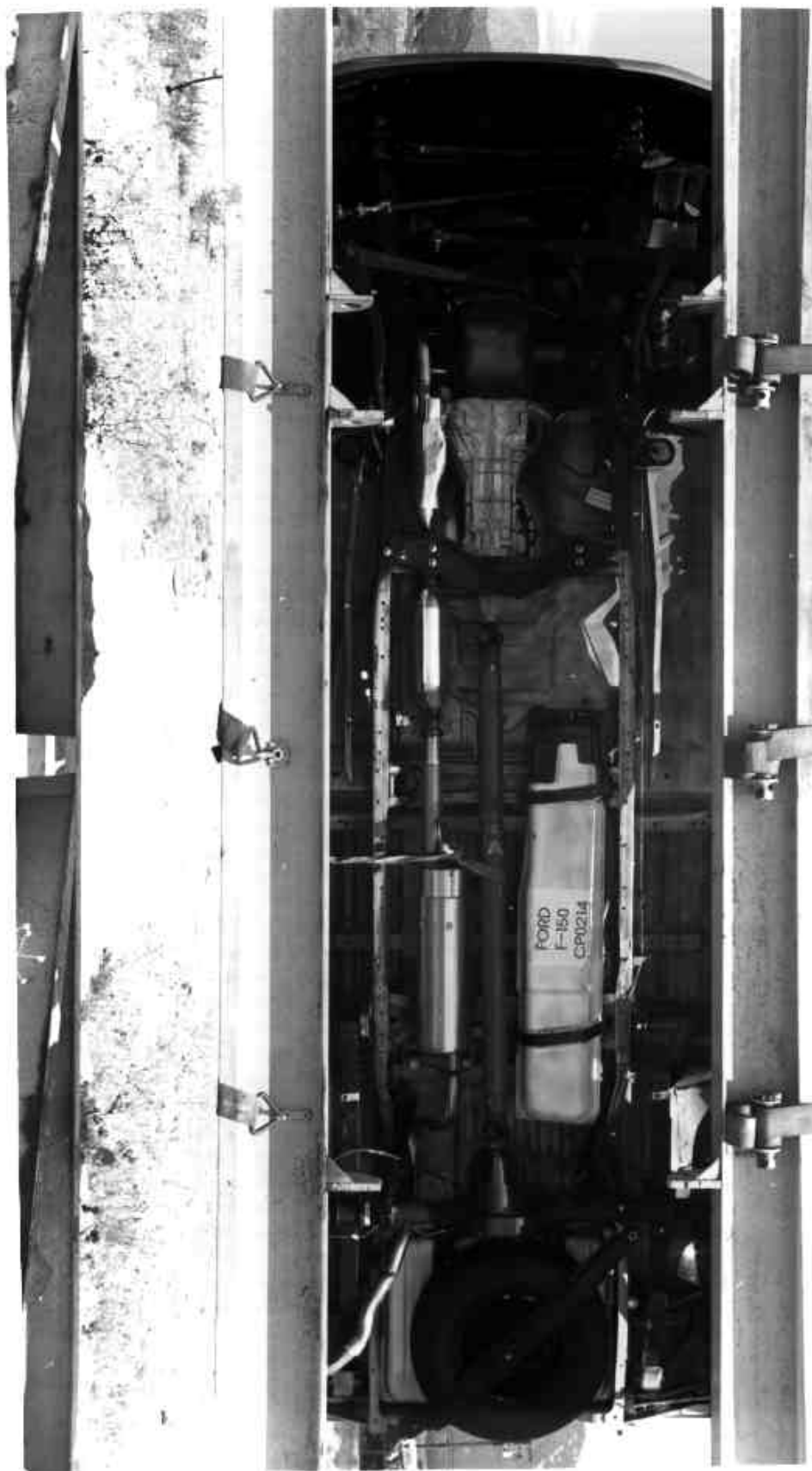


FIGURE 5-12 POSTTEST UNDERBODY VIEW



FIGURE 5-13 PRETEST DRIVER ATD POSITION



FIGURE 5-14 POSTTEST DRIVER ATD POSITION



FIGURE 5-15 VEHICLE ACCELEROMETERS

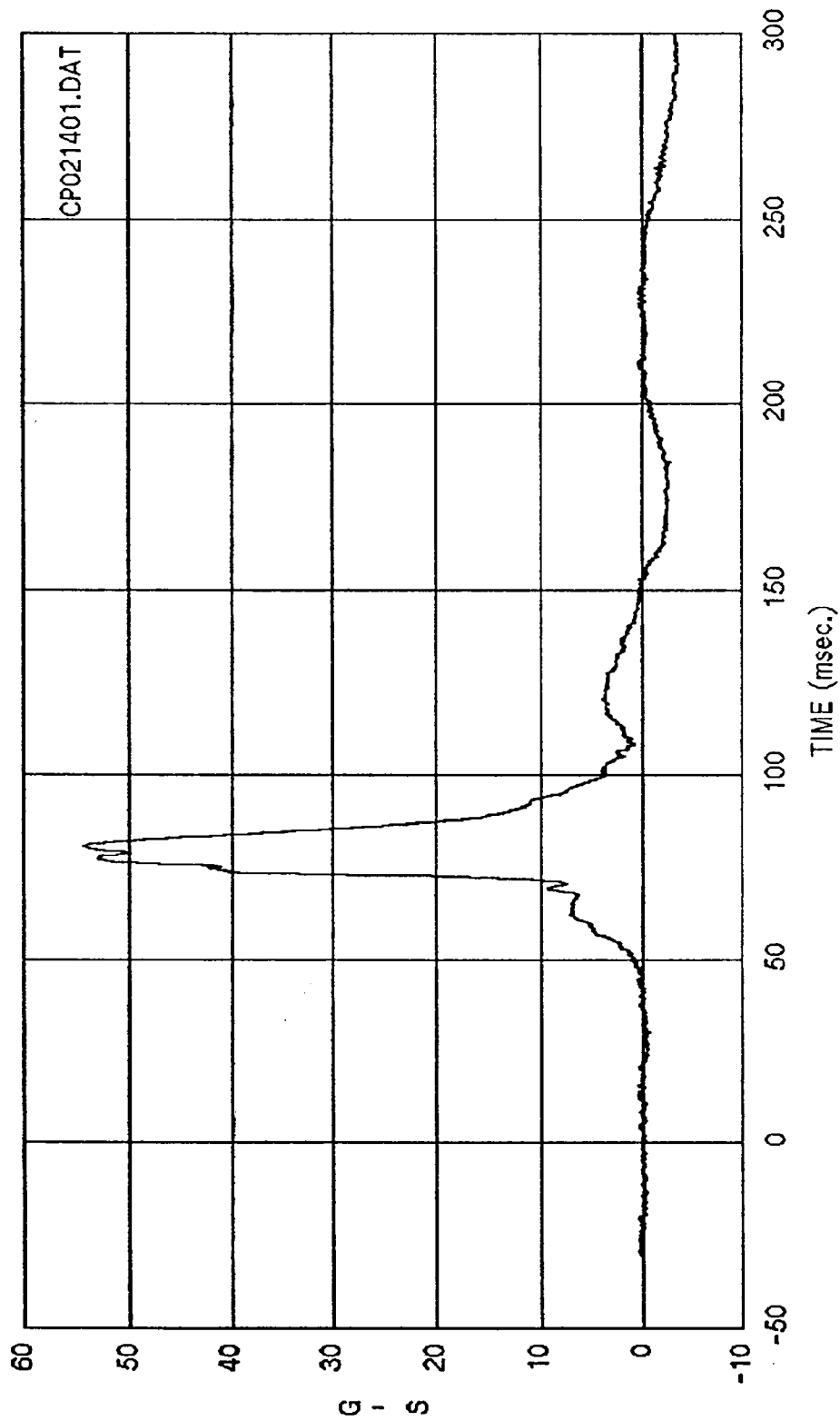


FIGURE 5-16 SEAT MOUNTED MHD SENSOR



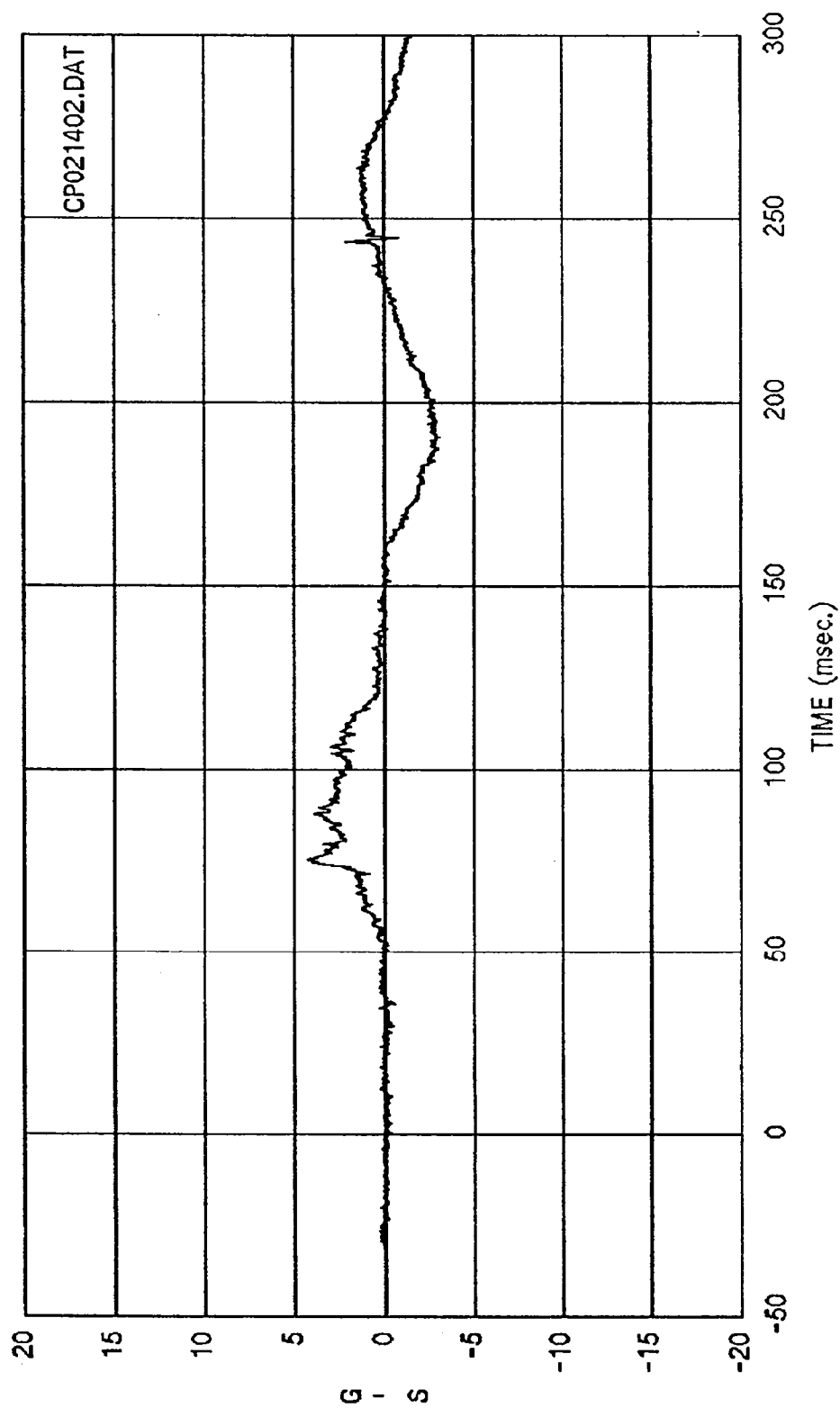
FIGURE 3-17 SEAT FRAME MOUNTED ACCELEROMETER

SECTION 6
TIME HISTORY DATA PLOTS



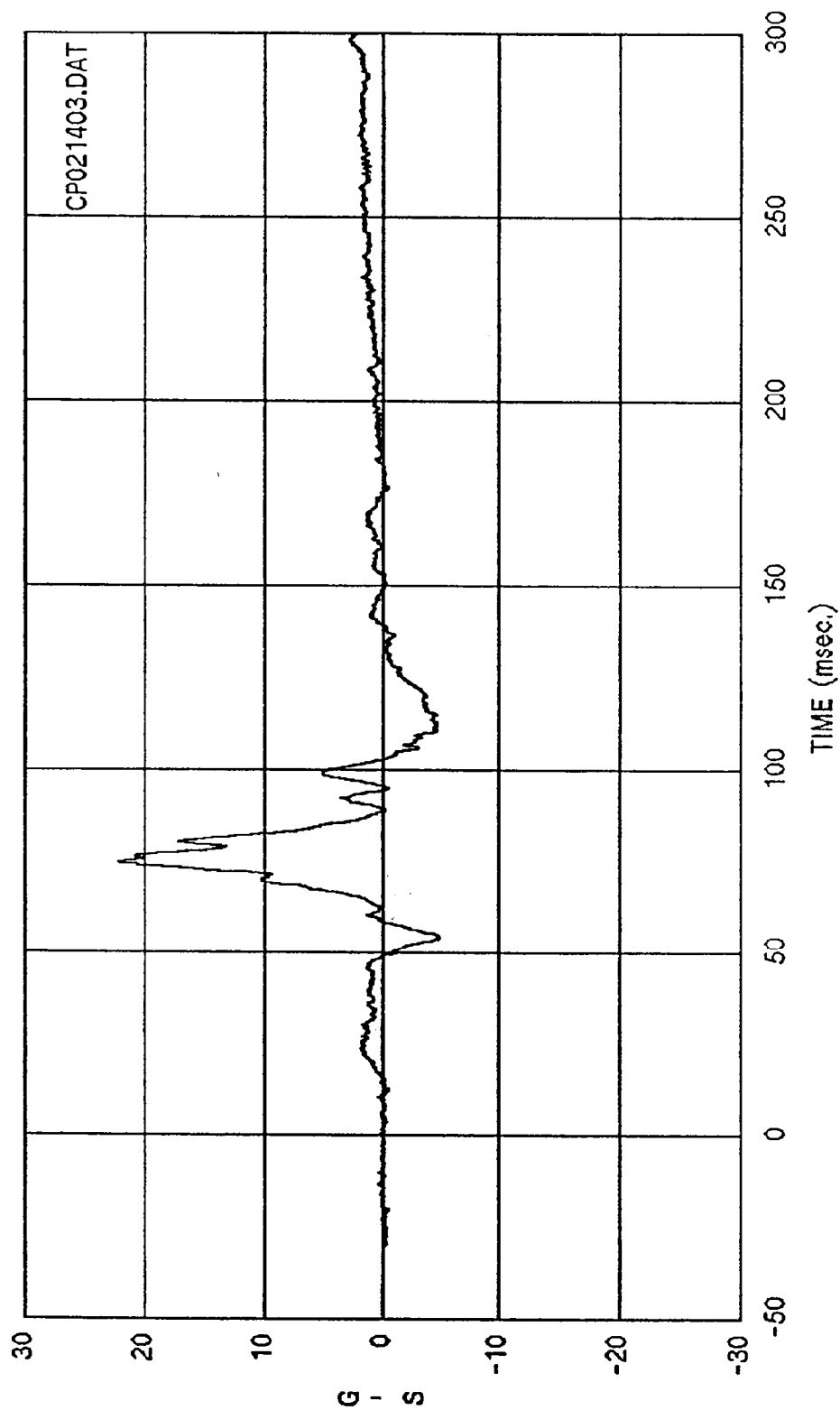
Curve: Driver head acceleration -- X axis Filter: SAE CLASS 1000 Max = 54.382 Min = -3.6959

MSE Date: 05/12/93 Program: 1993 FMVSS 301 Rear Vehicle: 1993 Ford F-150 Pickup



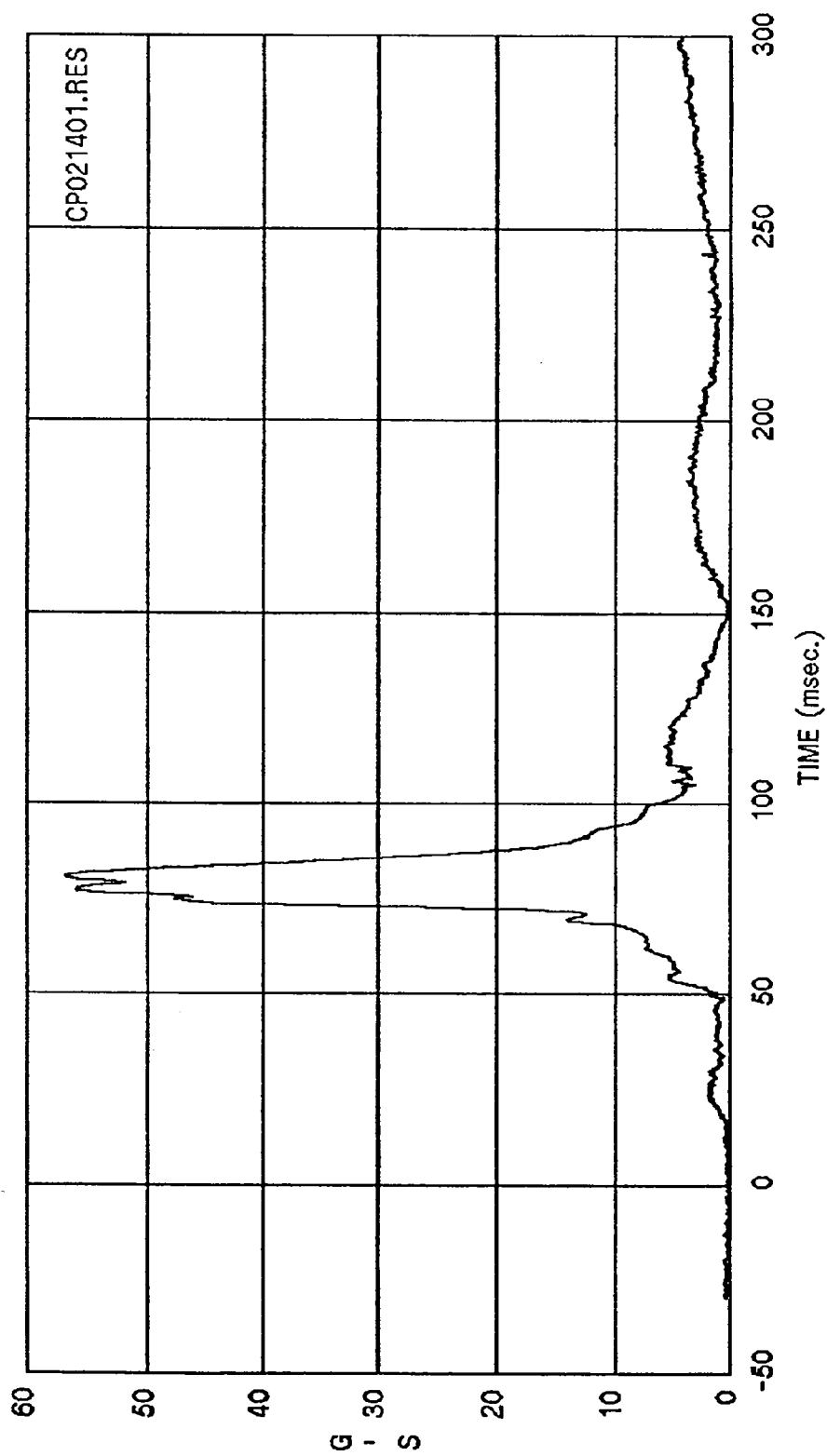
Curve: Driver head acceleration -- Y axis Filter: SAE CLASS 1000 Max = 4.2778 Min = -3.0125

MSE Date: 05/12/93 Program: 1993 FMVSS 301 Rear Vehicle: 1993 Ford F-150 Pickup



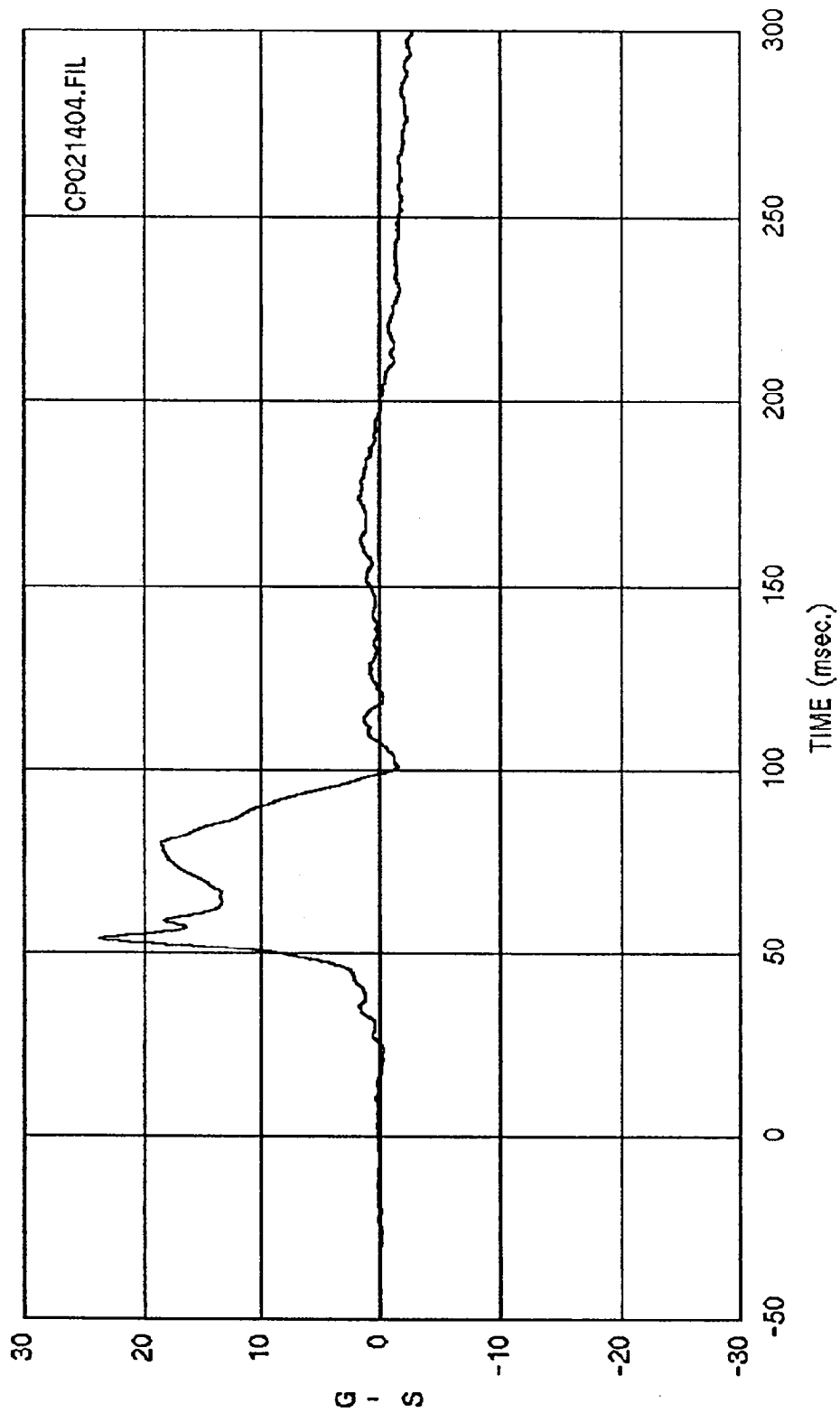
Curve: Driver head acceleration -- Z axis Filter: SAE CLASS 1000 Max = 22.249 Min = -4.9580

MSE Date: 05/12/93 Program: 1993 FMVSS 301 Rear Vehicle: 1993 Ford F-150 Pickup



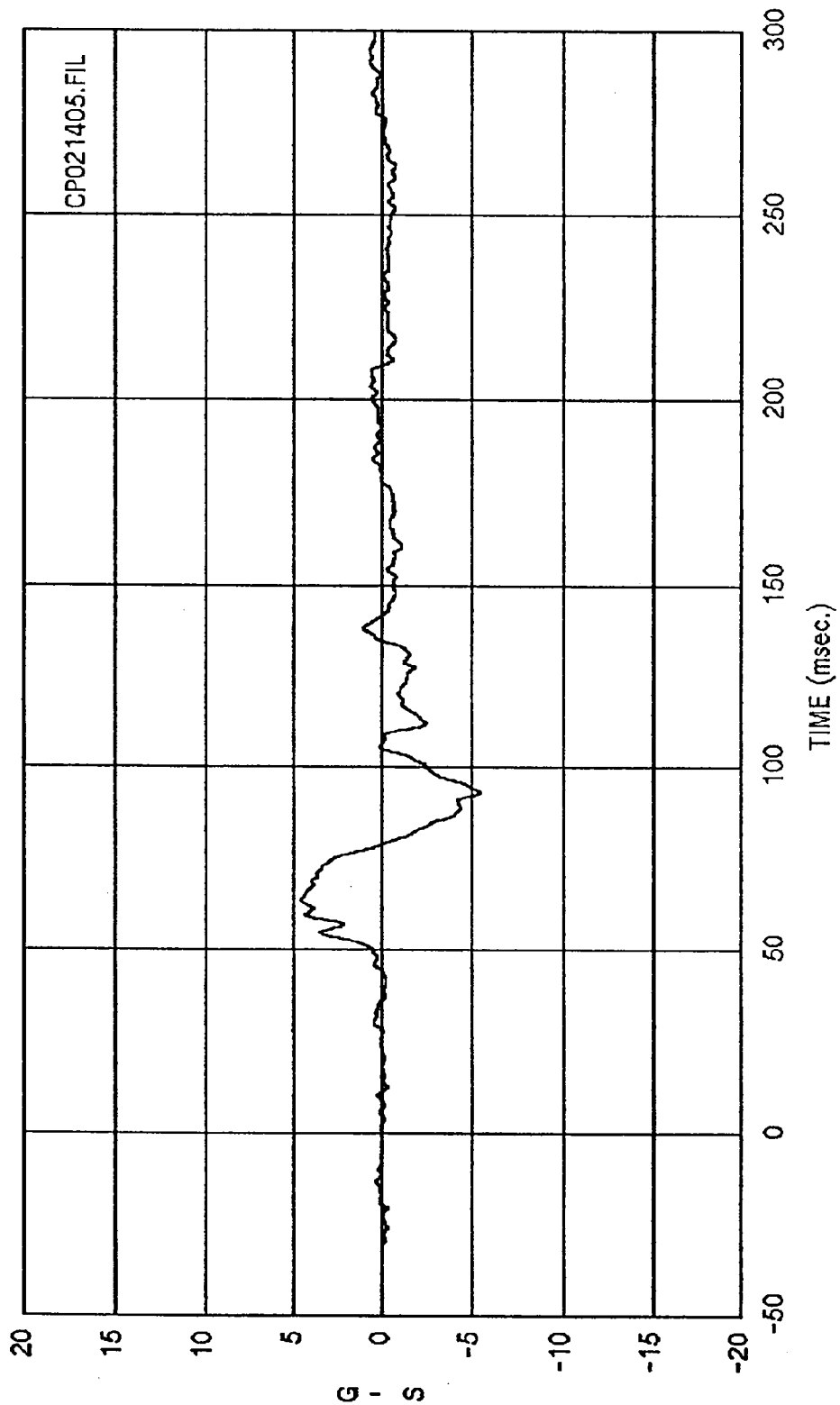
Curve: Driver head acceleration -- Resultant Filter: SAE CLASS 1000 Max = 56.773 Min = .58665E
01

MSE Date: 05/12/93 Program: 1993 FMVSS 301 Rear Vehicle: 1993 Ford F-150 Pickup



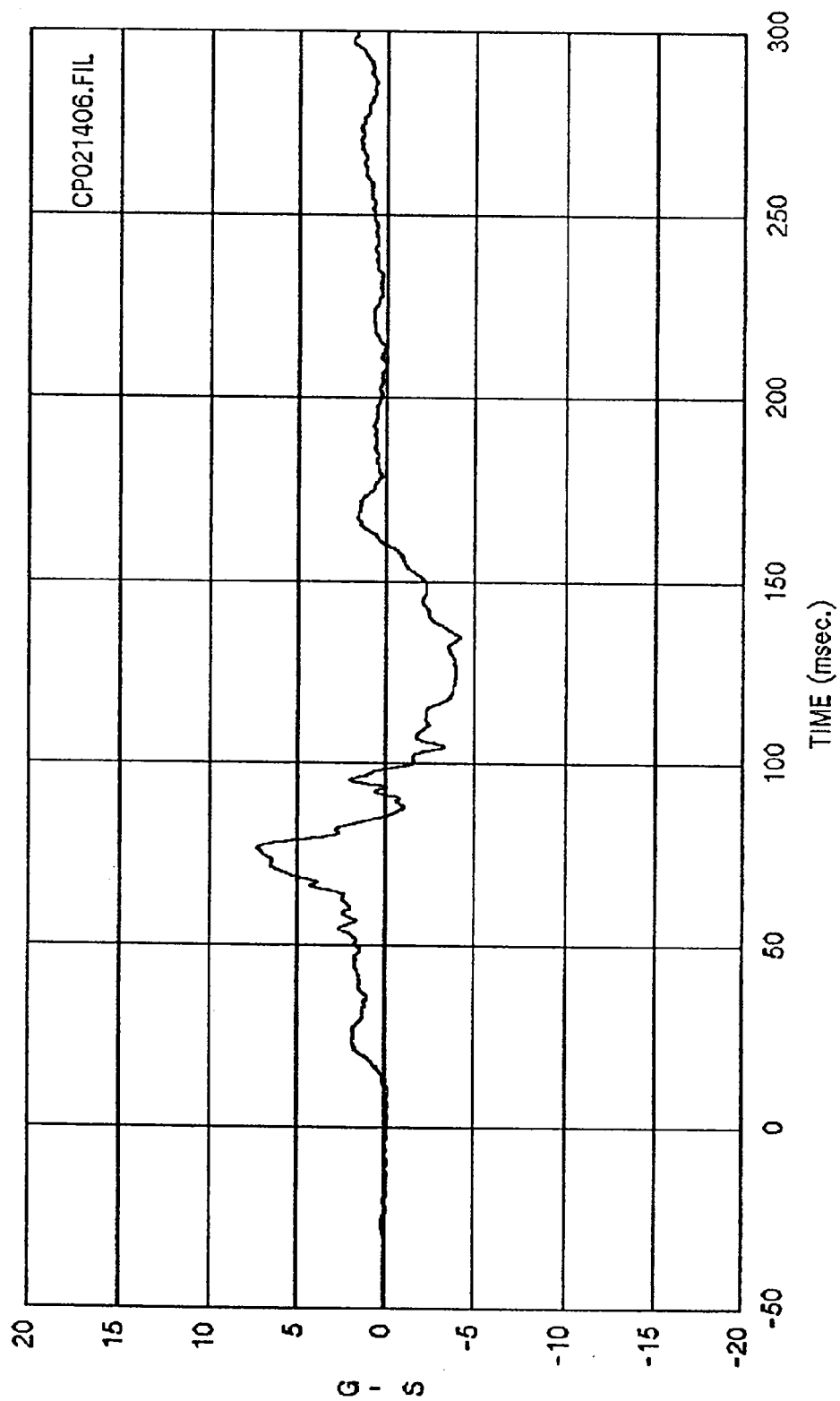
Curve: Driver chest acceleration -- X axis Filter: SAE CLASS 180 Max = 23.859 Min = -2.6587

MSE Date: 05/12/93 Program: 1993 FMVSS 301 Rear Vehicle: 1993 Ford F-150 Pickup



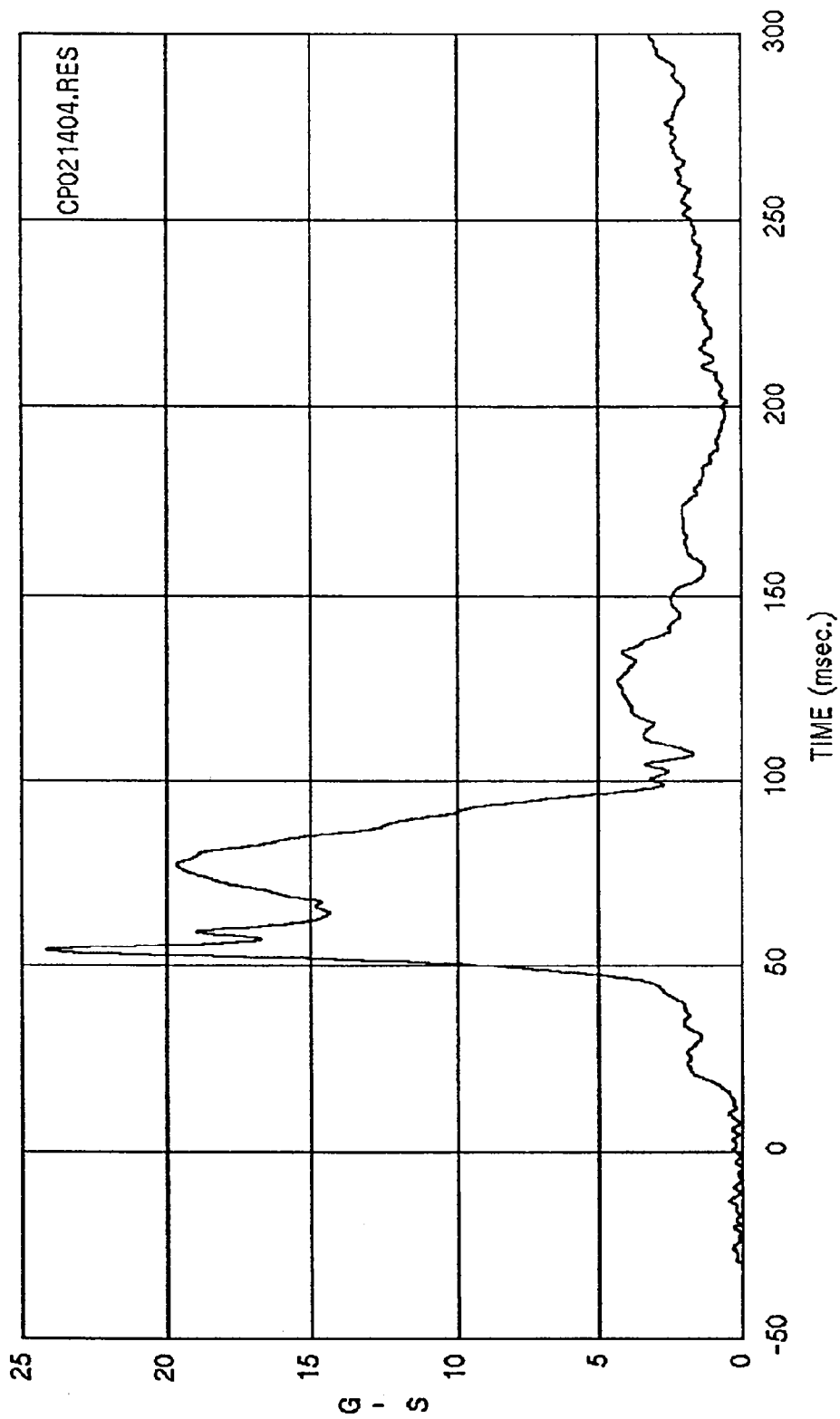
Curve: Driver chest acceleration -- Y axis Filter: SAE CLASS 180 Max = 4.6879 Min = -5.4216

MSE Date: 05/12/93 Program: 1993 FMVSS 301 Rear Vehicle: 1993 Ford F-150 Pickup

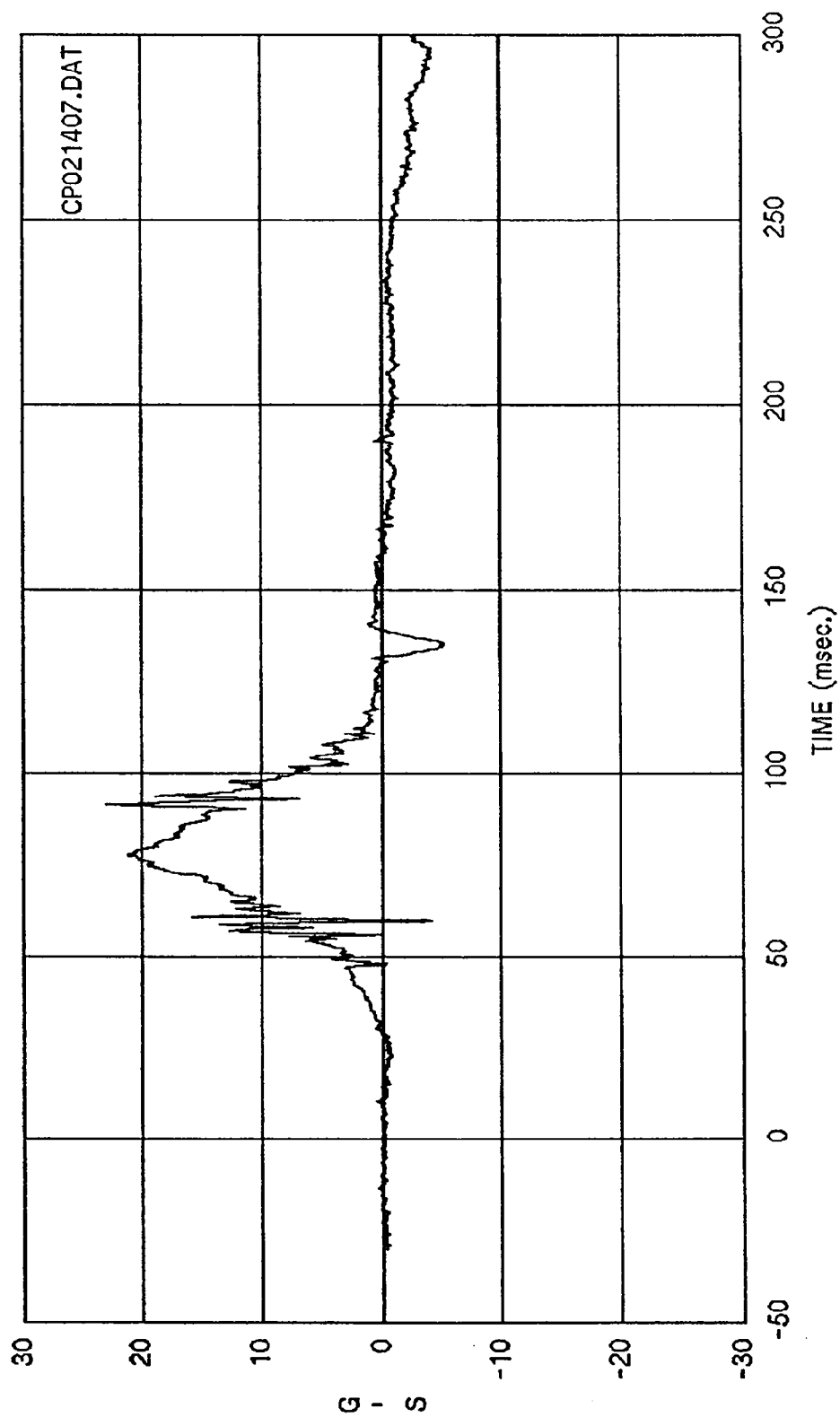


Curve: Driver chest acceleration -- Z axis Filter: SAE CLASS 180 Max = 7.3301 Min = -4.1799

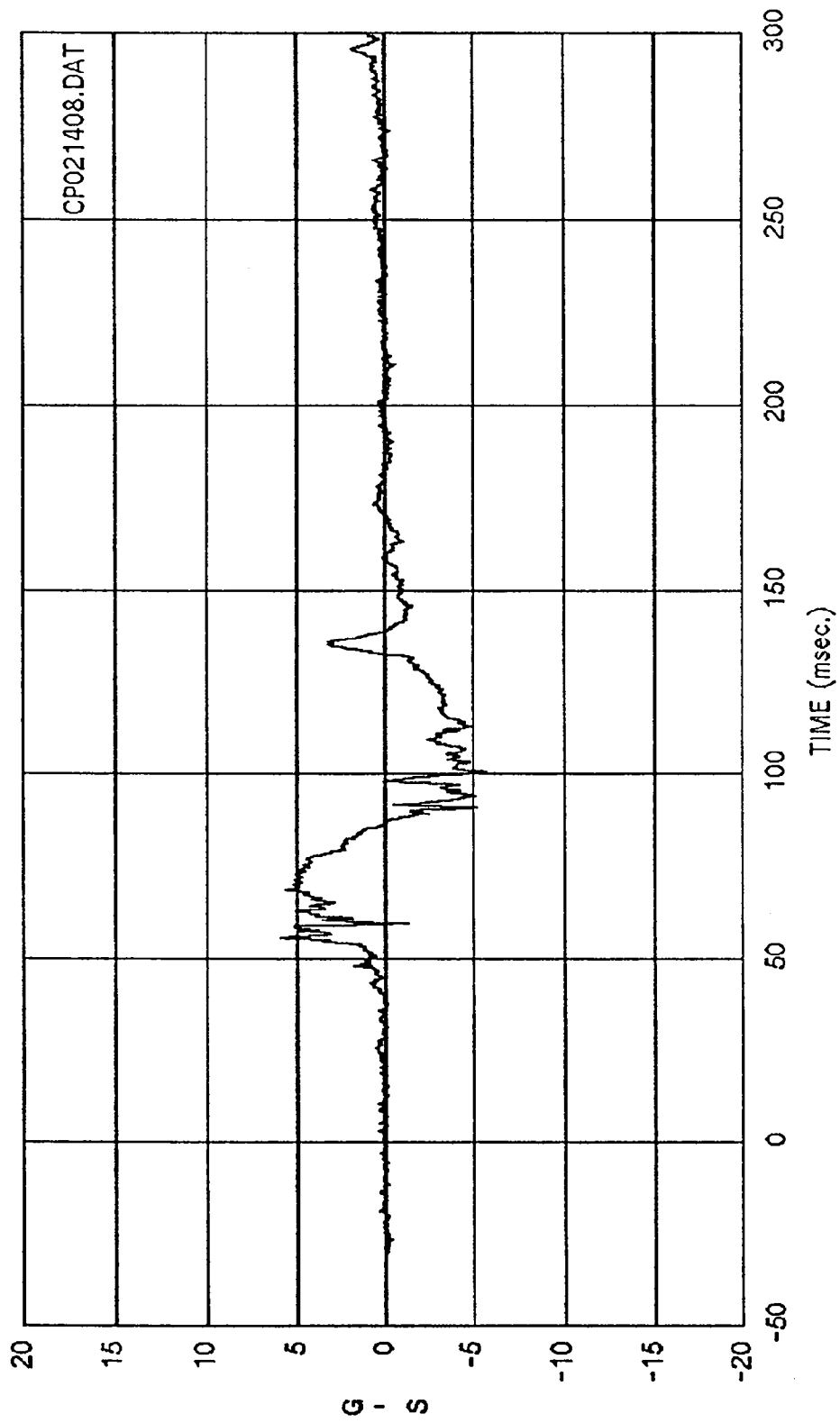
MSE Date: 05/12/93 Program: 1993 FMVSS 301 Rear Vehicle: 1993 Ford F-150 Pickup



Curve: Driver chest acceleration -- Resultant Filter: SAE CLASS 180 Max = 24.225 Min = .14086
MSE Date: 05/12/93 Program: 1993 FMVSS 301 Rear Vehicle: 1993 Ford F-150 Pickup

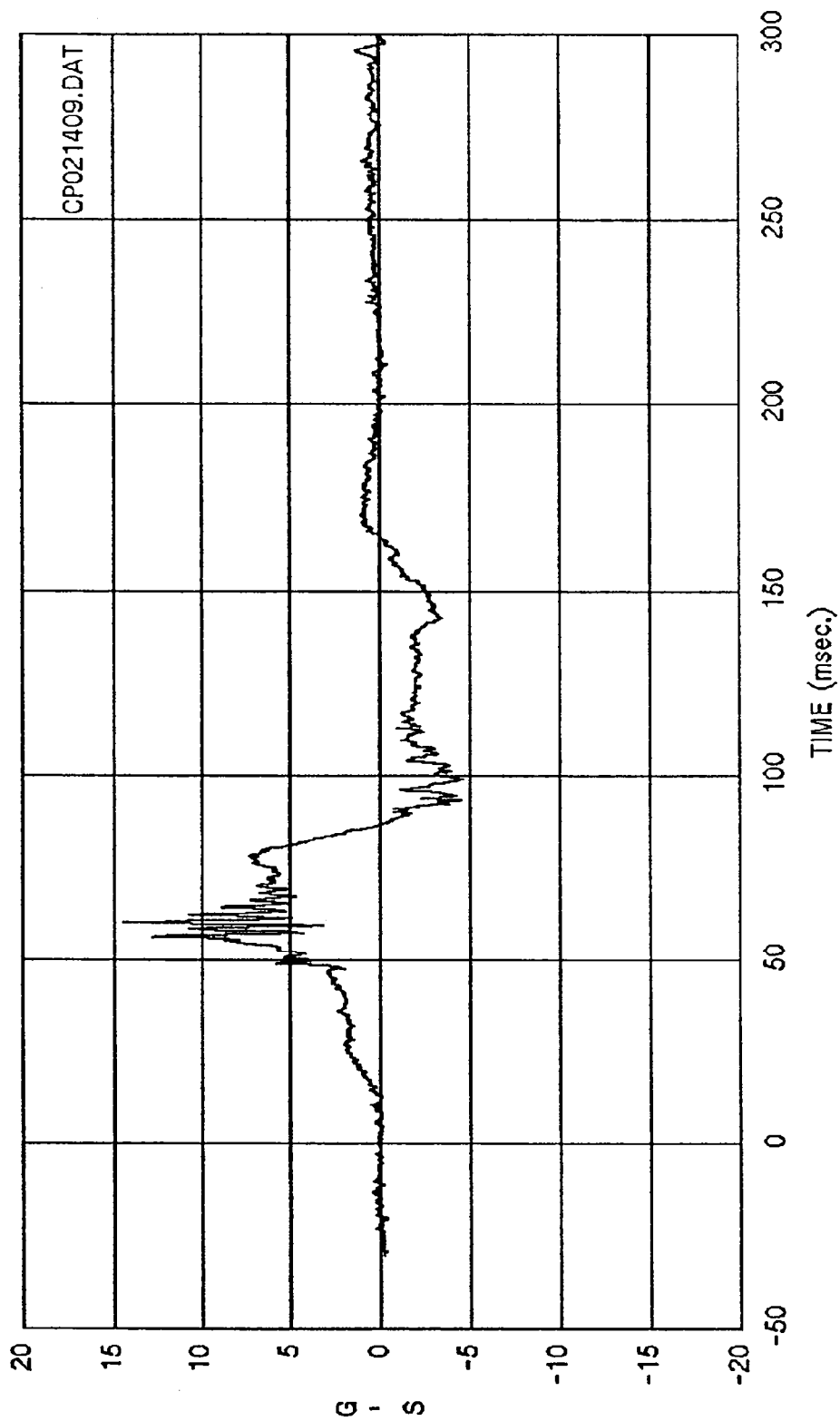


Curve: Driver pelvis acceleration -- X axis Filter: SAE CLASS 1000 Max = 23.024 Min = -5.2071
MSE Date: 05/12/93 Program: 1993 FMVSS 301 Rear Vehicle: 1993 Ford F-150 Pickup



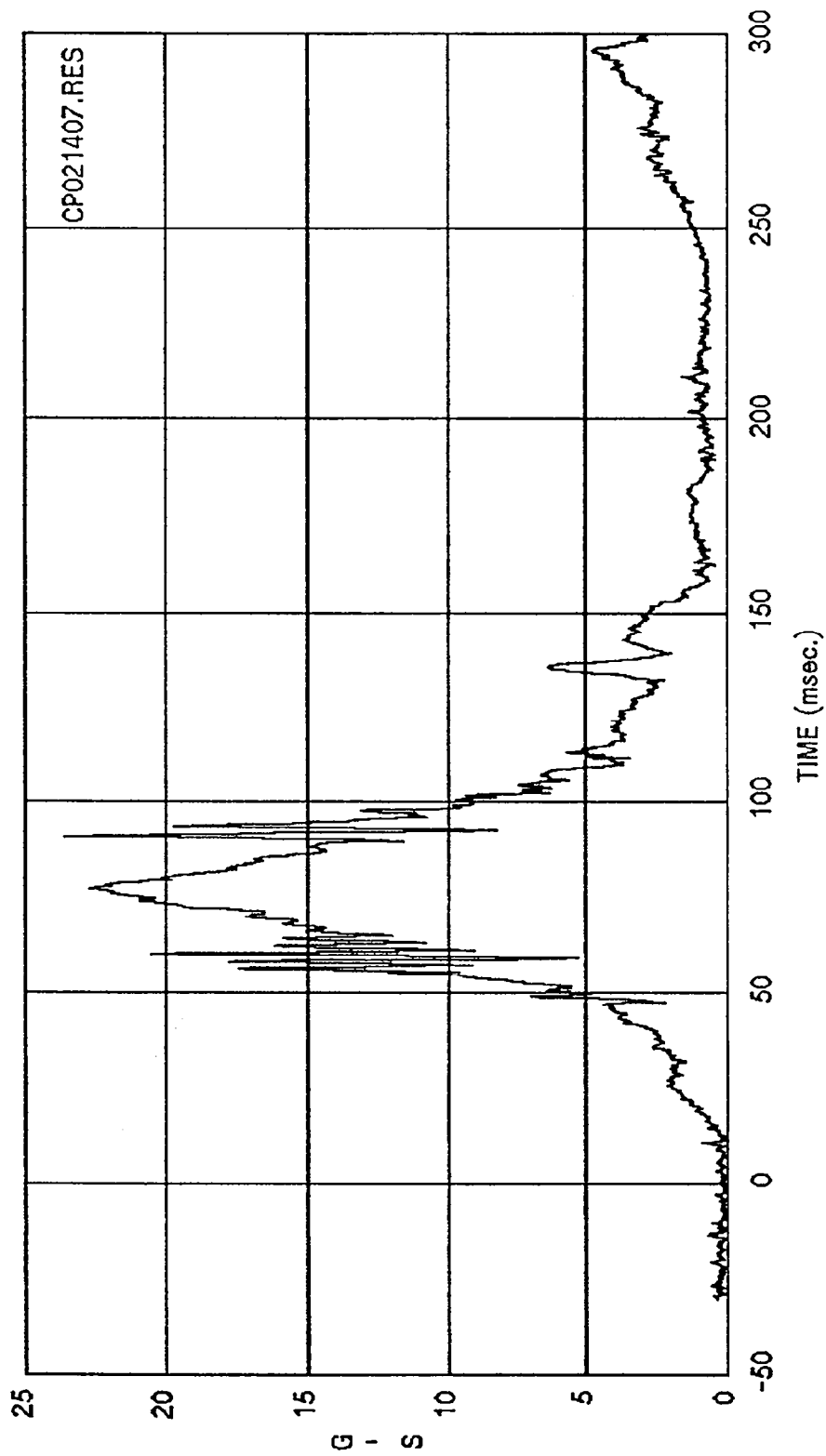
Curve: Driver pelvis acceleration -- Y axis Filter: SAE CLASS 1000 Max = 6.3308 Min = -5.6427

MSE Date: 05/12/93 Program: 1993 FMVSS 301 Rear Vehicle: 1993 Ford F-150 Pickup



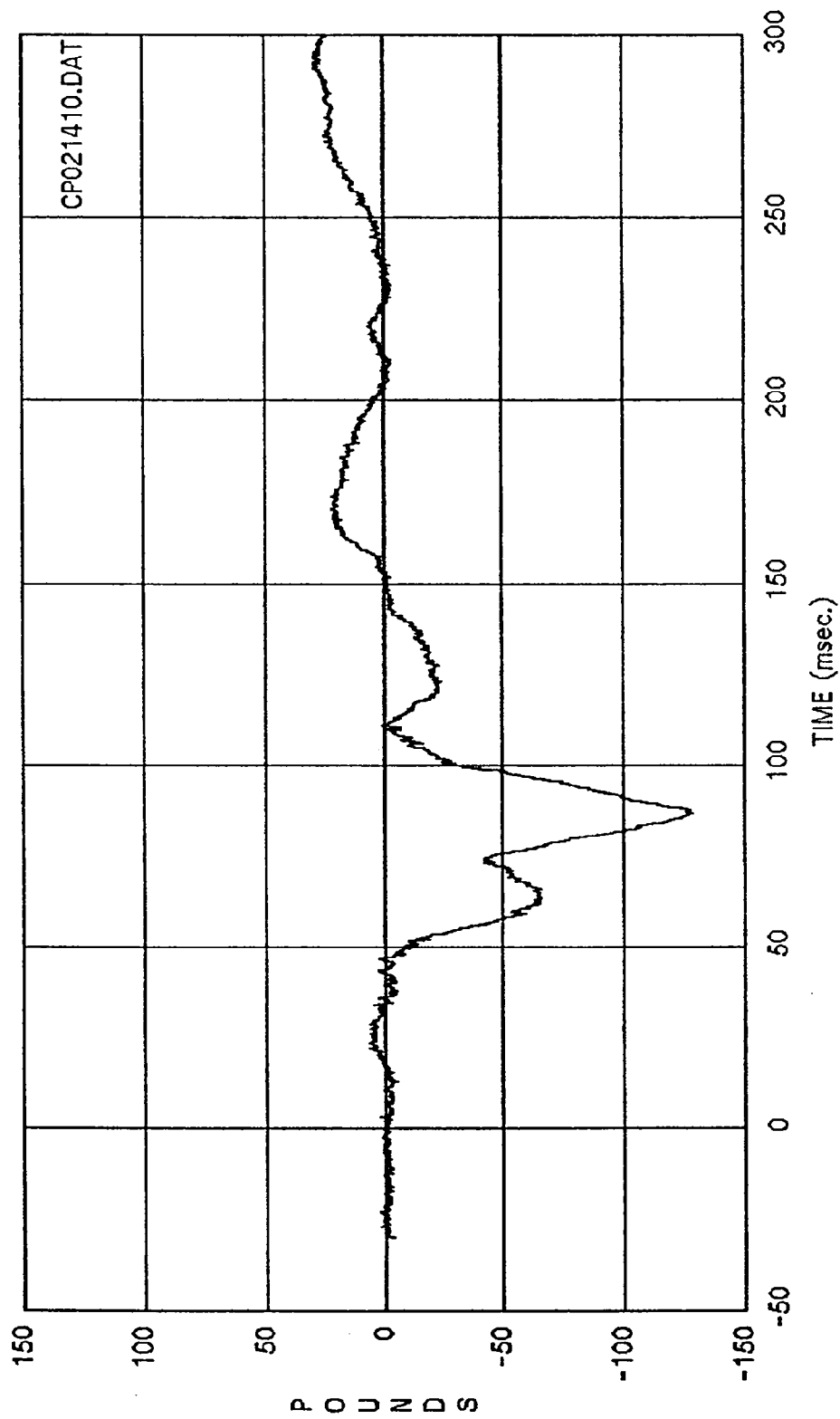
Curve: Driver pelvis acceleration -- Z axis Filter: SAE CLASS 1000 Max = 14.590 Min = -5.1697

MSE Date: 05/12/93 Program: 1993 FMVSS 301 Rear Vehicle: 1993 Ford F-150 Pickup



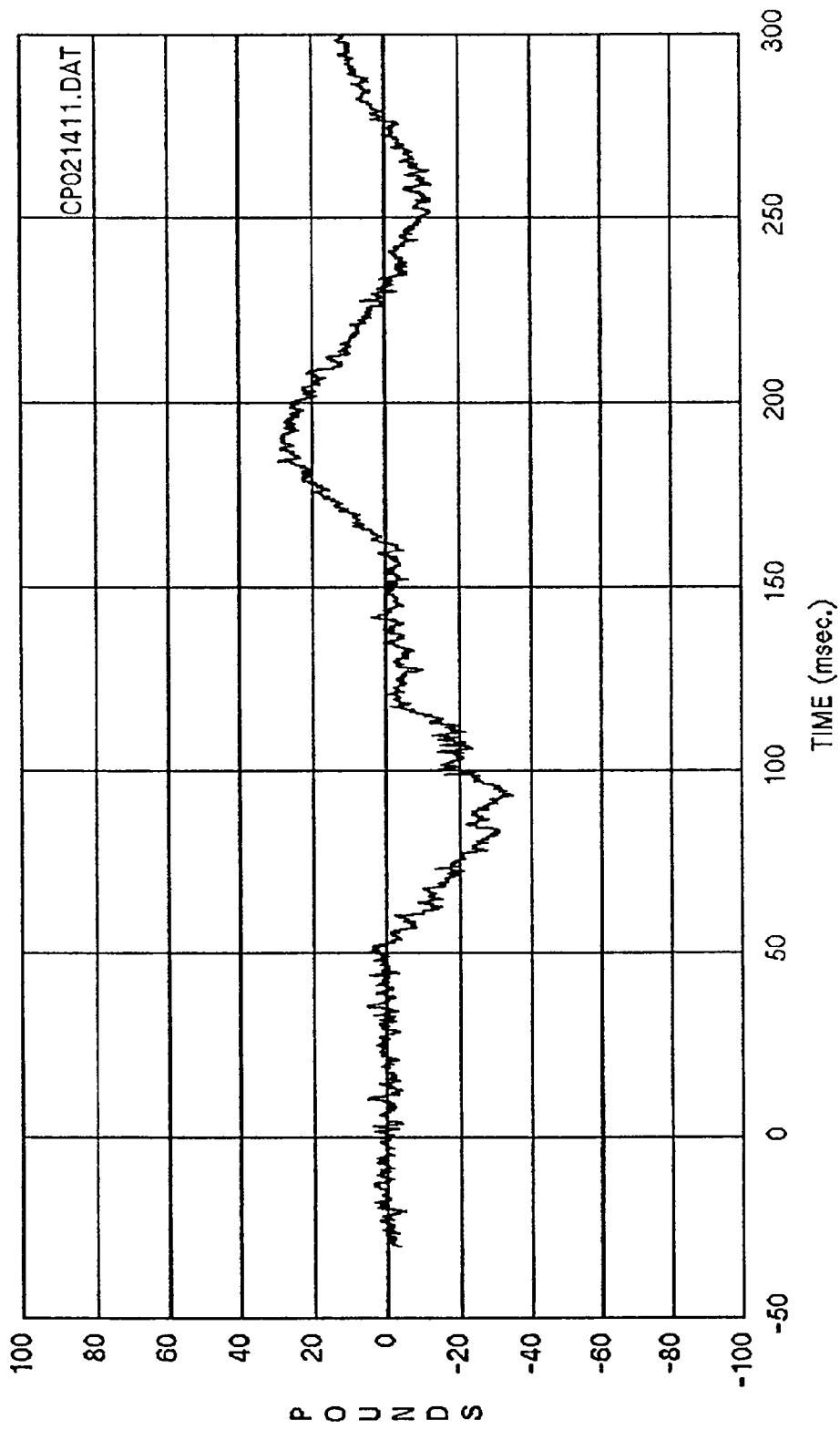
Curve: Driver pelvis acceleration -- Resultant Filter: SAE CLASS 1000 Max = 23.611 Min = .62736E
01

MSE Date: 05/12/93 Program: 1993 FMVSS 301 Rear Vehicle: 1993 Ford F-150 Pickup



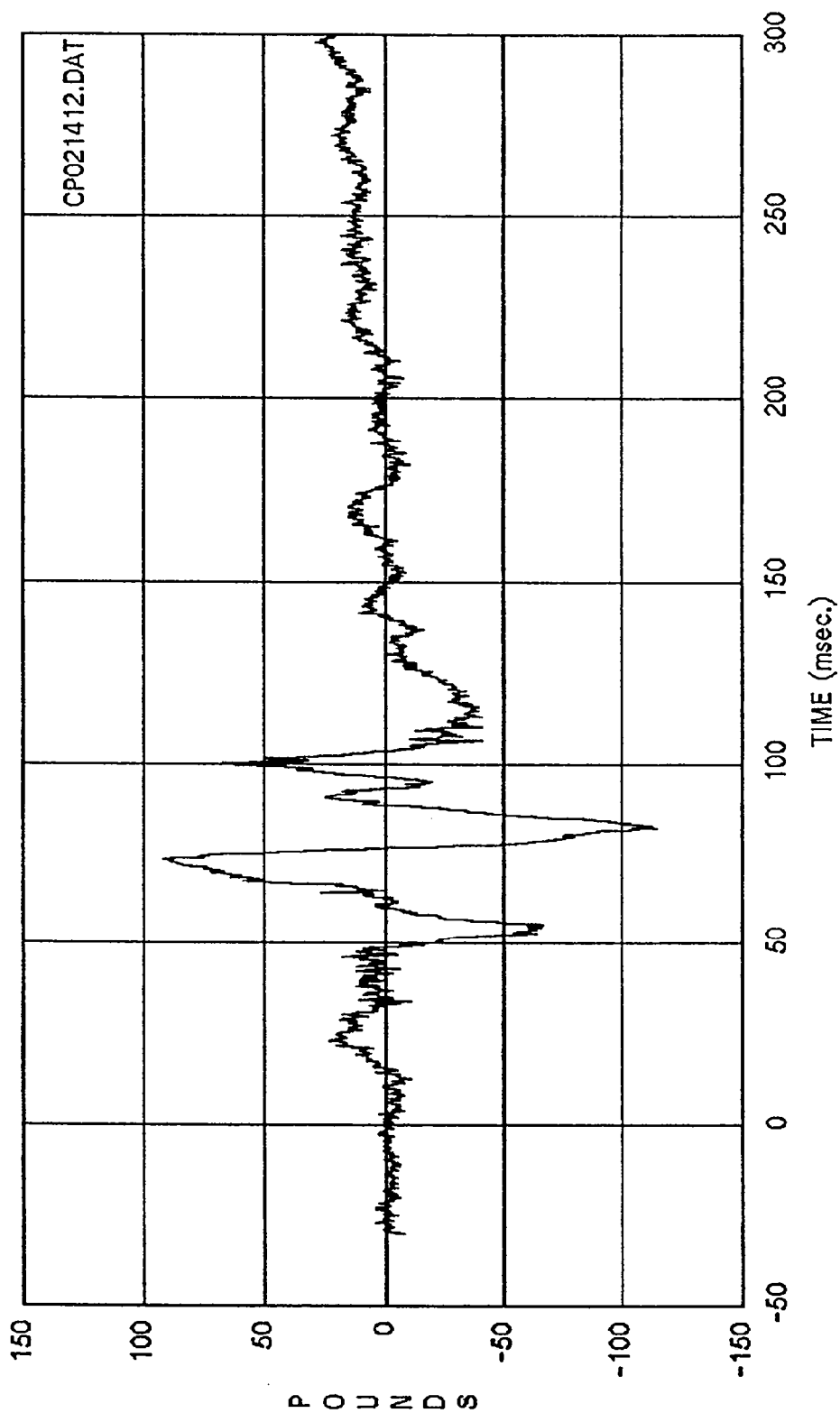
Curve: Driver neck force -- X axis Filter: SAE CLASS 1000 Max = 29.840 Min = -127.62

MSE Date: 05/12/93 Program: 1993 FMVSS 301 Rear Vehicle: 1993 Ford F-150 Pickup



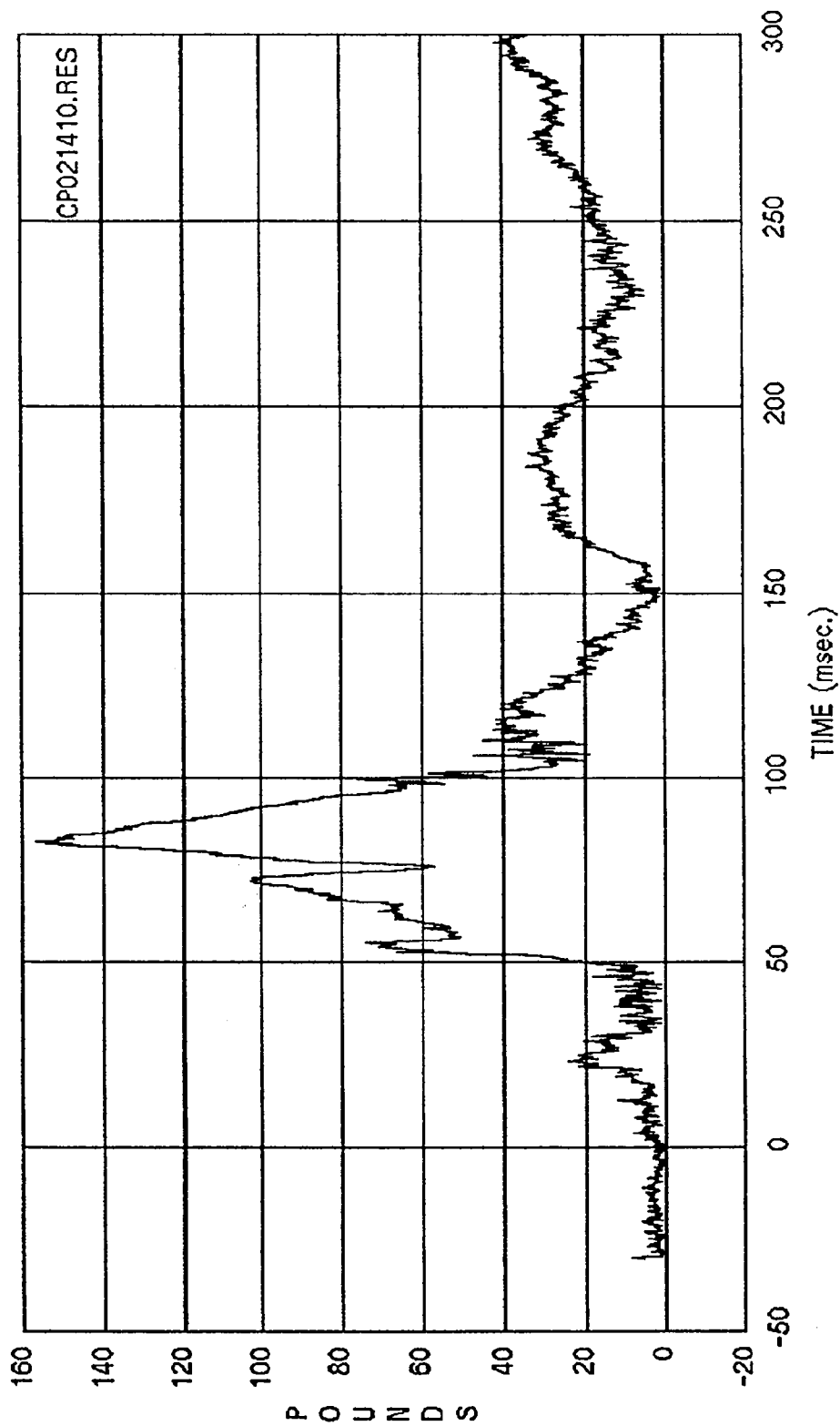
Curve: Driver neck force -- Y axis Filter: SAE CLASS 1000 Max = 30.086 Min = -34.766

MSE Date: 05/12/93 Program: 1993 FMVSS 301 Rear Vehicle: 1993 Ford F-150 Pickup



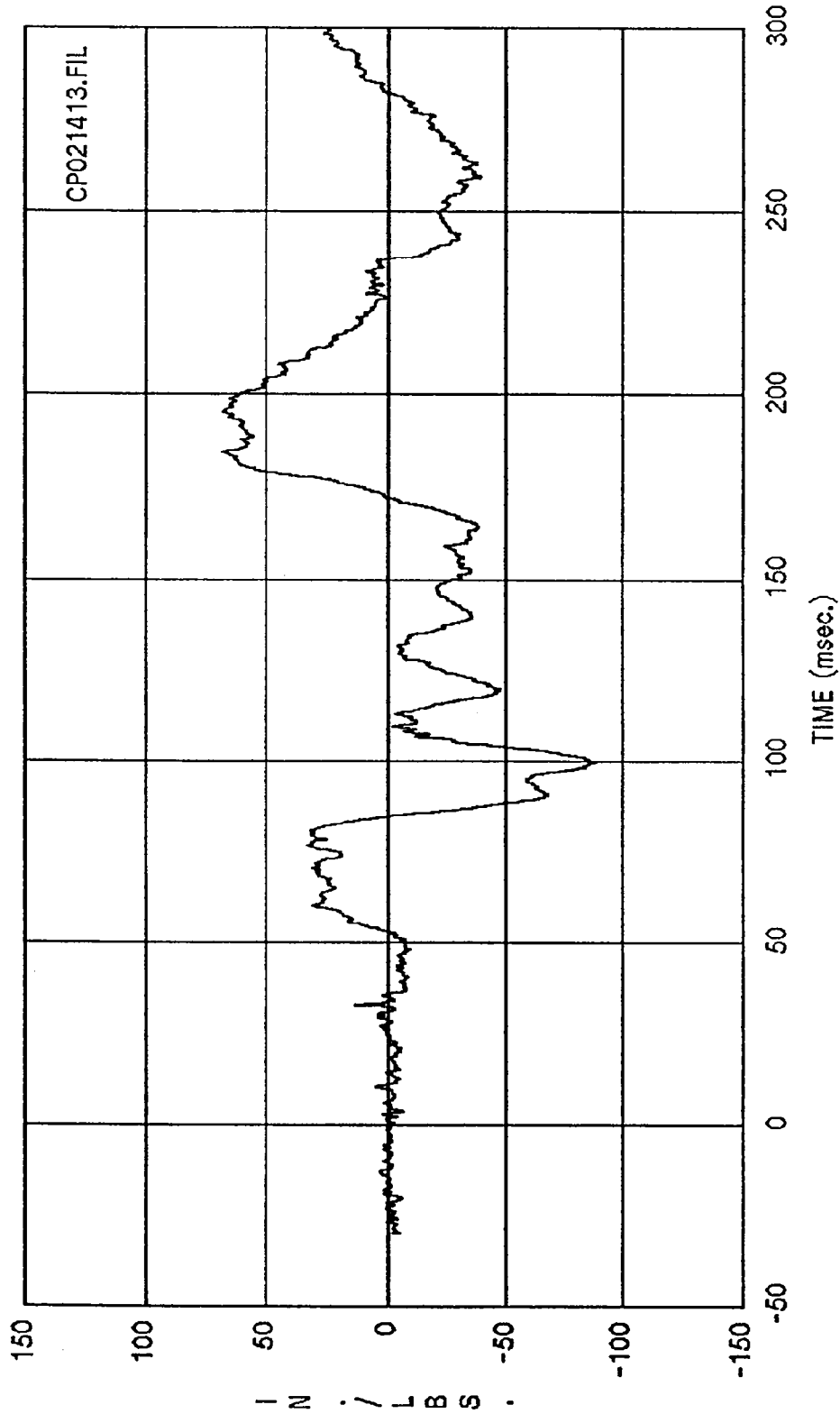
Curve: Driver neck force -- Z axis Filter: SAE CLASS 1000 Max = 91.814 Min = -114.07

MSE Date: 05/12/93 Program: 1993 FMVSS 301 Rear Vehicle: 1993 Ford F-150 Pickup

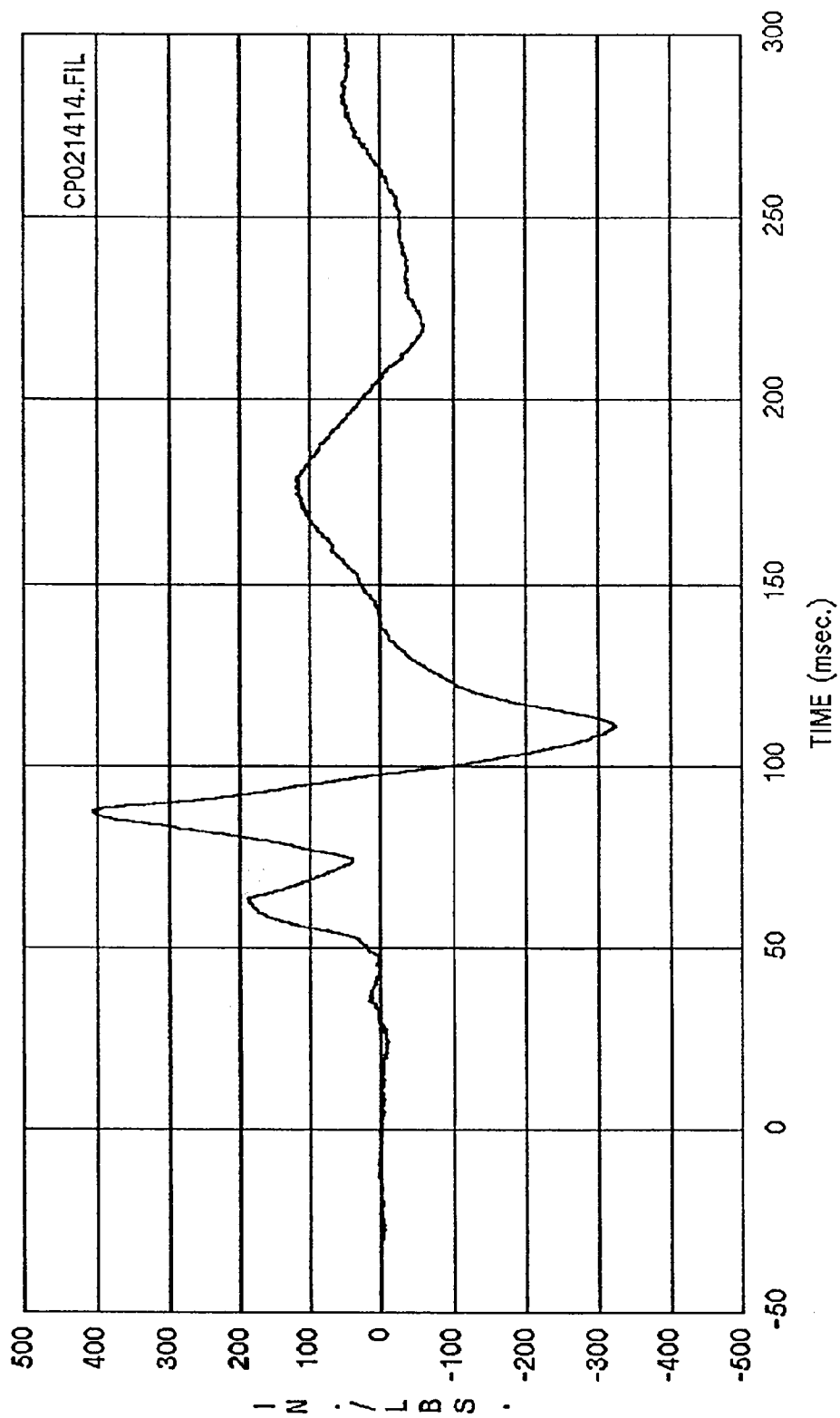


Curve: Driver neck force -- Resultant Filter: SAE CLASS 1000 Max = 157.19 Min = .63490

MSE Date: 05/12/93 Program: 1993 FMVSS 301 Rear Vehicle: 1993 Ford F-150 Pickup

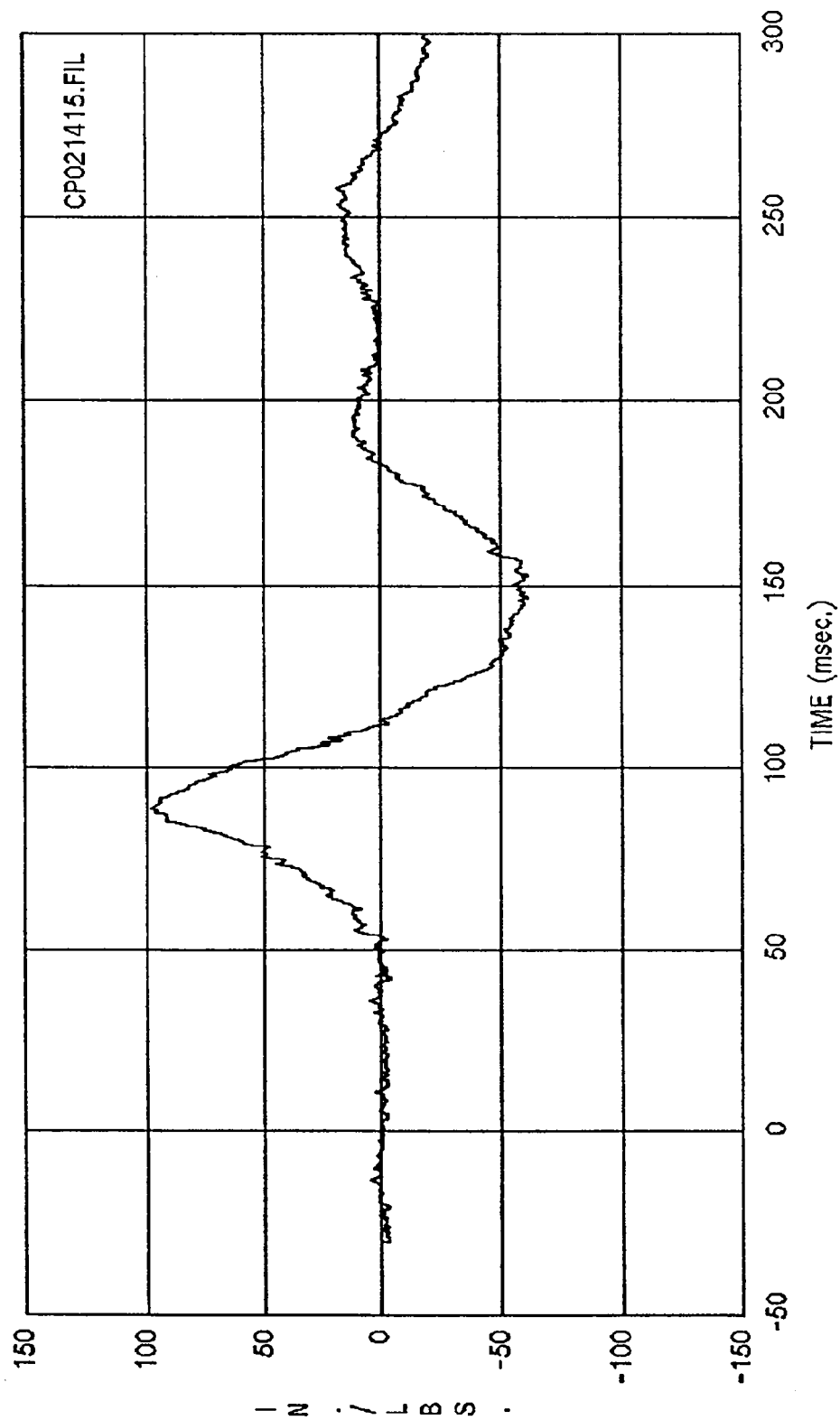


Curve: Driver neck moment -- X axis Filter: SAE CLASS 600 Max = 68.596 Min = -88.401
MSE Date: 05/12/93 Program: 1993 FMVSS 301 Rear Vehicle: 1993 Ford F-150 Pickup

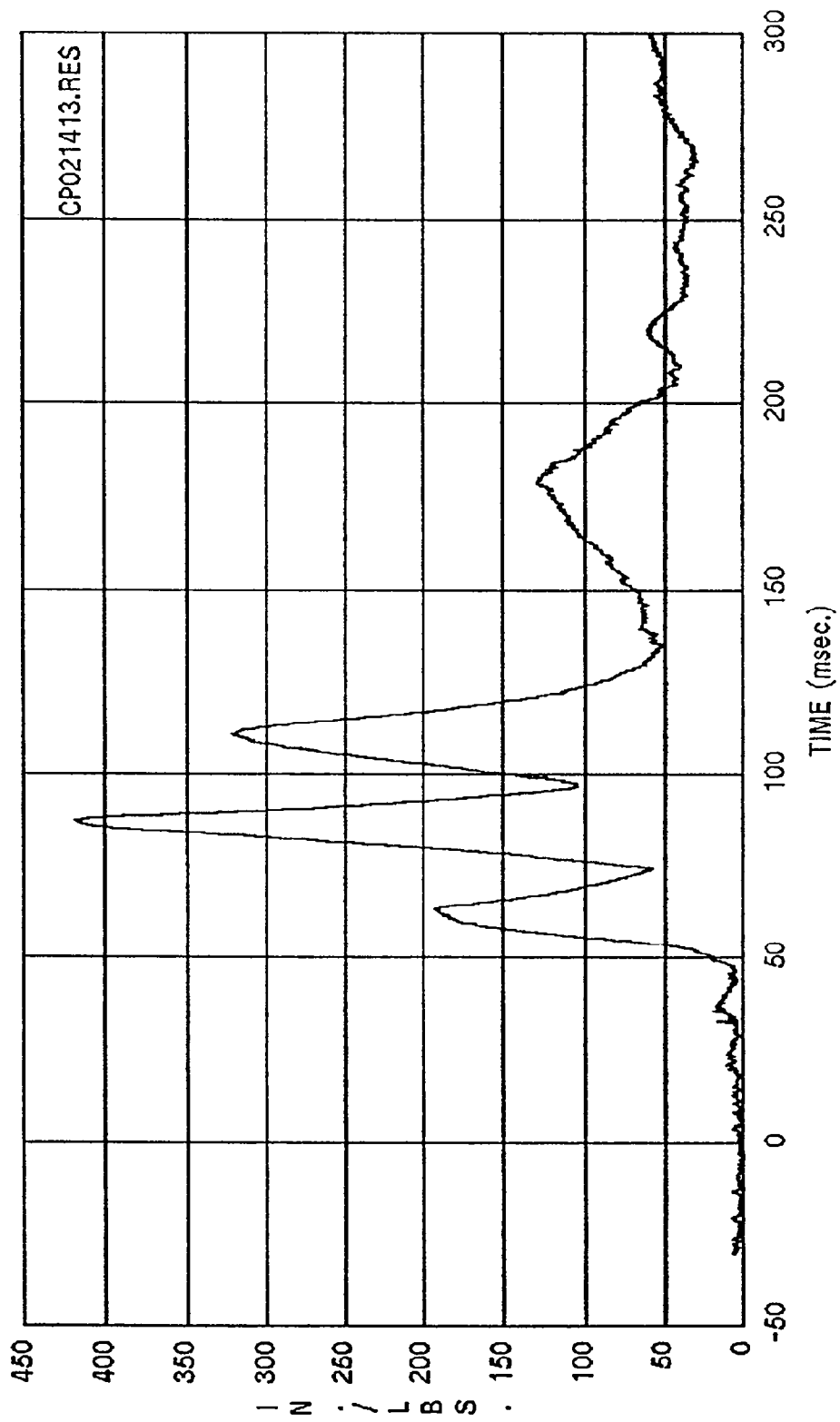


Curve: Driver neck moment -- Y axis Filter: SAE CLASS 600 Max = 405.51 Min = -321.53

MSE Date: 05/12/93 Program: 1993 FMVSS 301 Rear Vehicle: 1993 Ford F-150 Pickup

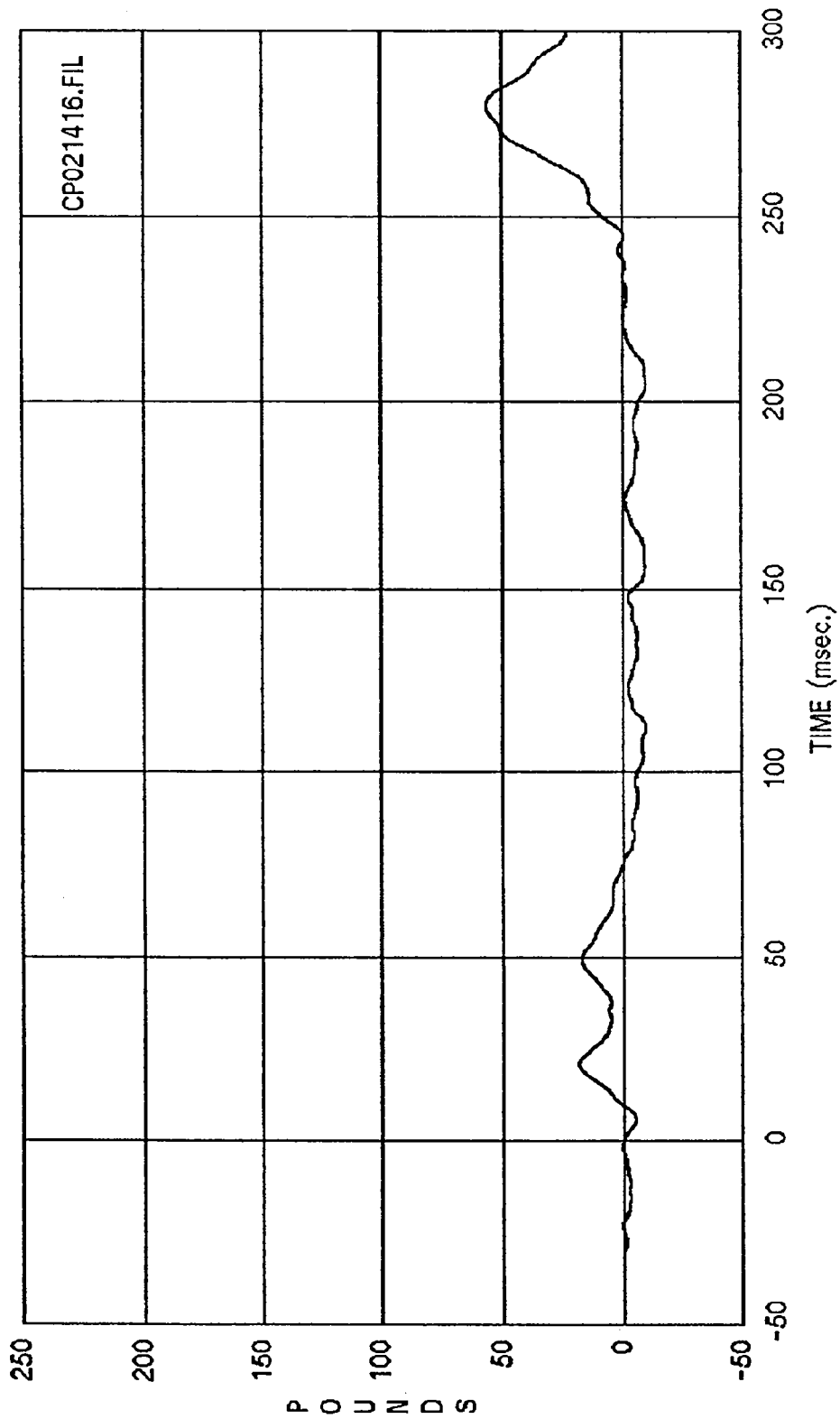


Curve: Driver neck moment -- Z axis Filter: SAE CLASS 600 Max = 98.490 Min = -61.289
MSE Date: 05/12/93 Program: 1993 FMVSS 301 Rear Vehicle: 1993 Ford F-150 Pickup

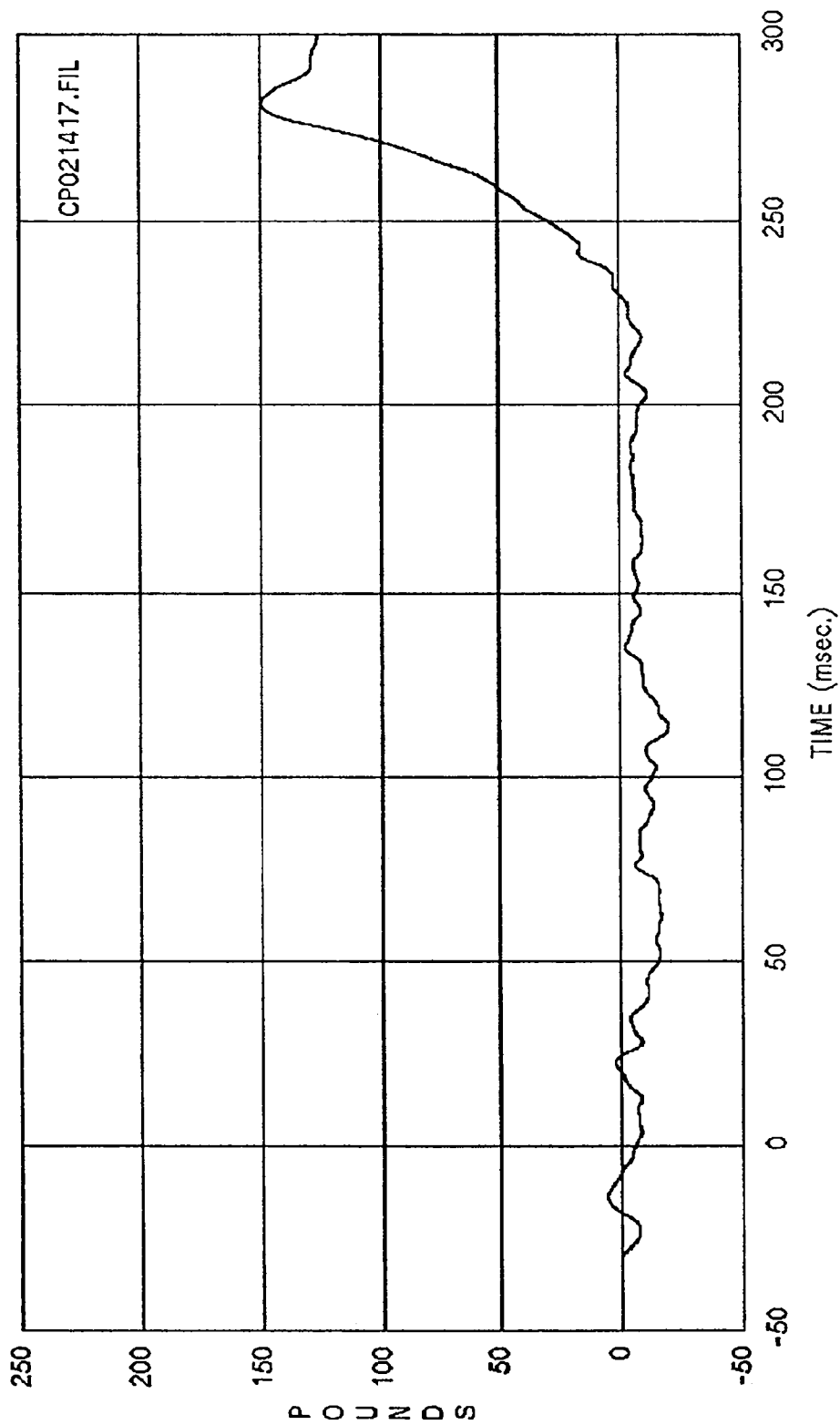


Curve: Driver neck moment -- Resultant Filter: SAE CLASS 600 Max = 419.57 Min = .00000

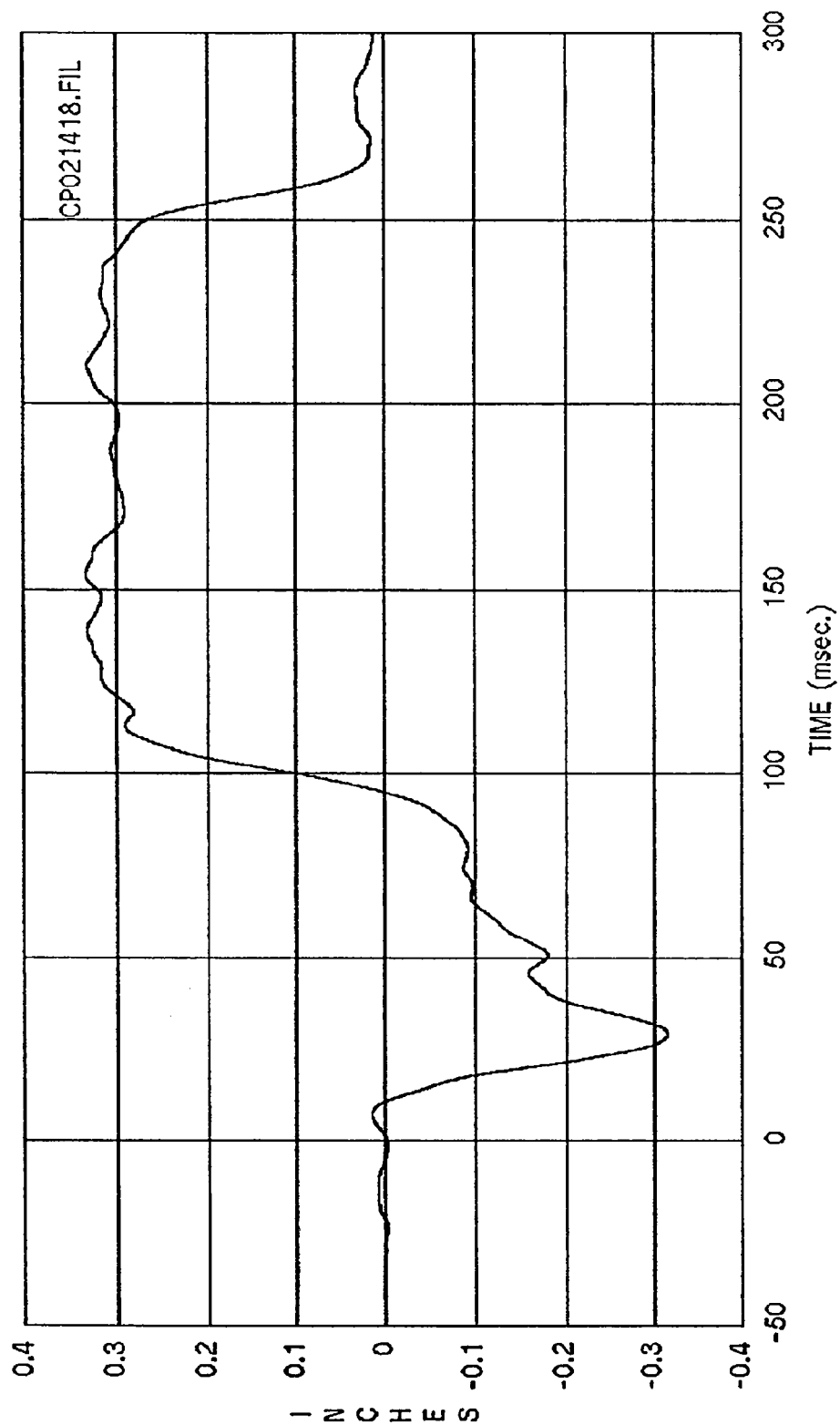
MSE Date: 05/12/93 Program: 1993 FMVSS 301 Rear Vehicle: 1993 Ford F-150 Pickup



Curve: Driver lap belt load Filter: SAE CLASS 60 Max = 56.443 Min = -9.5153
MSE Date: 05/12/93 Program: 1993 FMVSS 301 Rear Vehicle: 1993 Ford F-150 Pickup

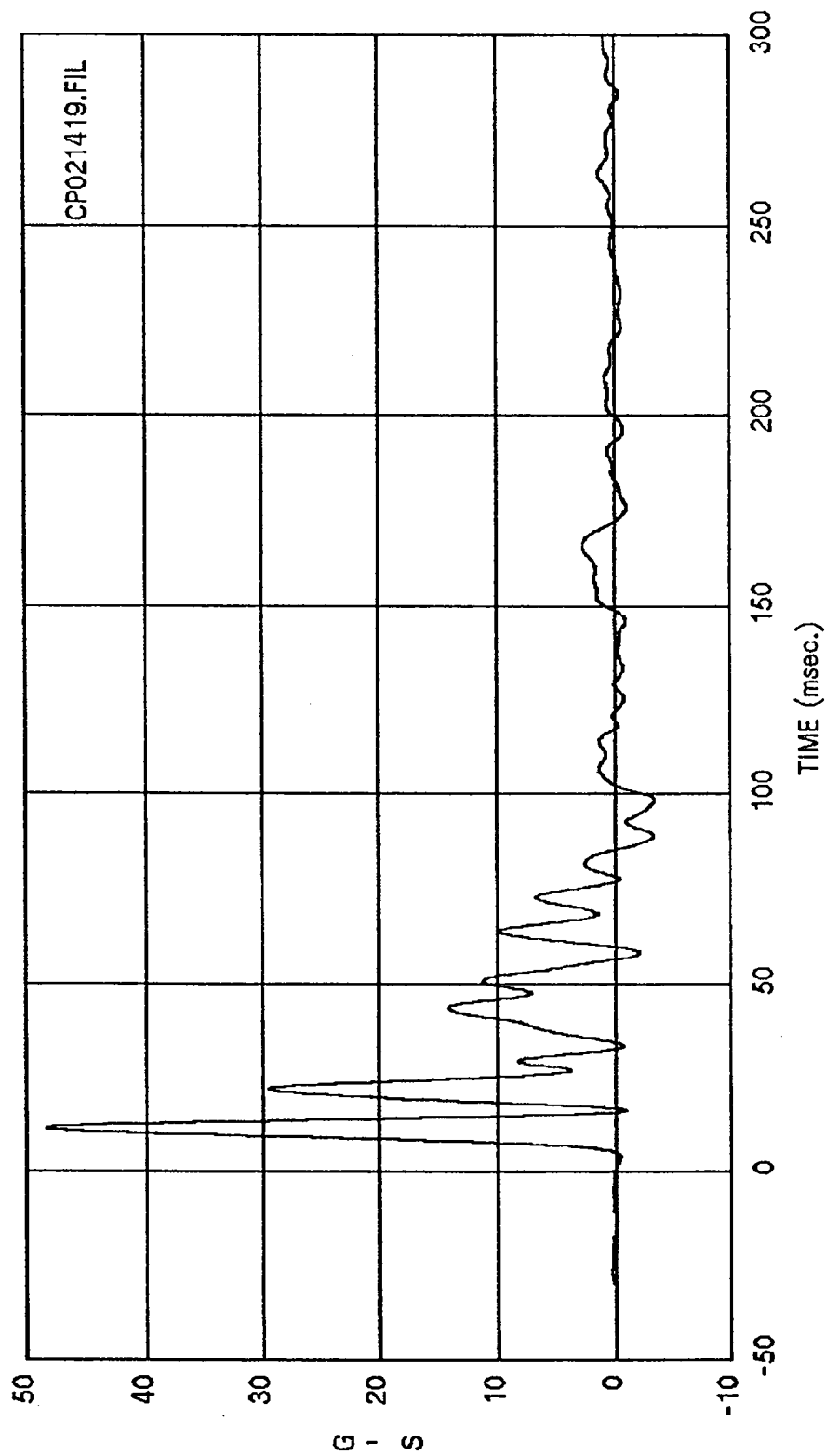


Curve: Driver shoulder belt load Filter: SAE CLASS 60 Max = 149.53 Min = -19.585
MSE Date: 05/12/93 Program: 1993 FMVSS 301 Rear Vehicle: 1993 Ford F-150 Pickup



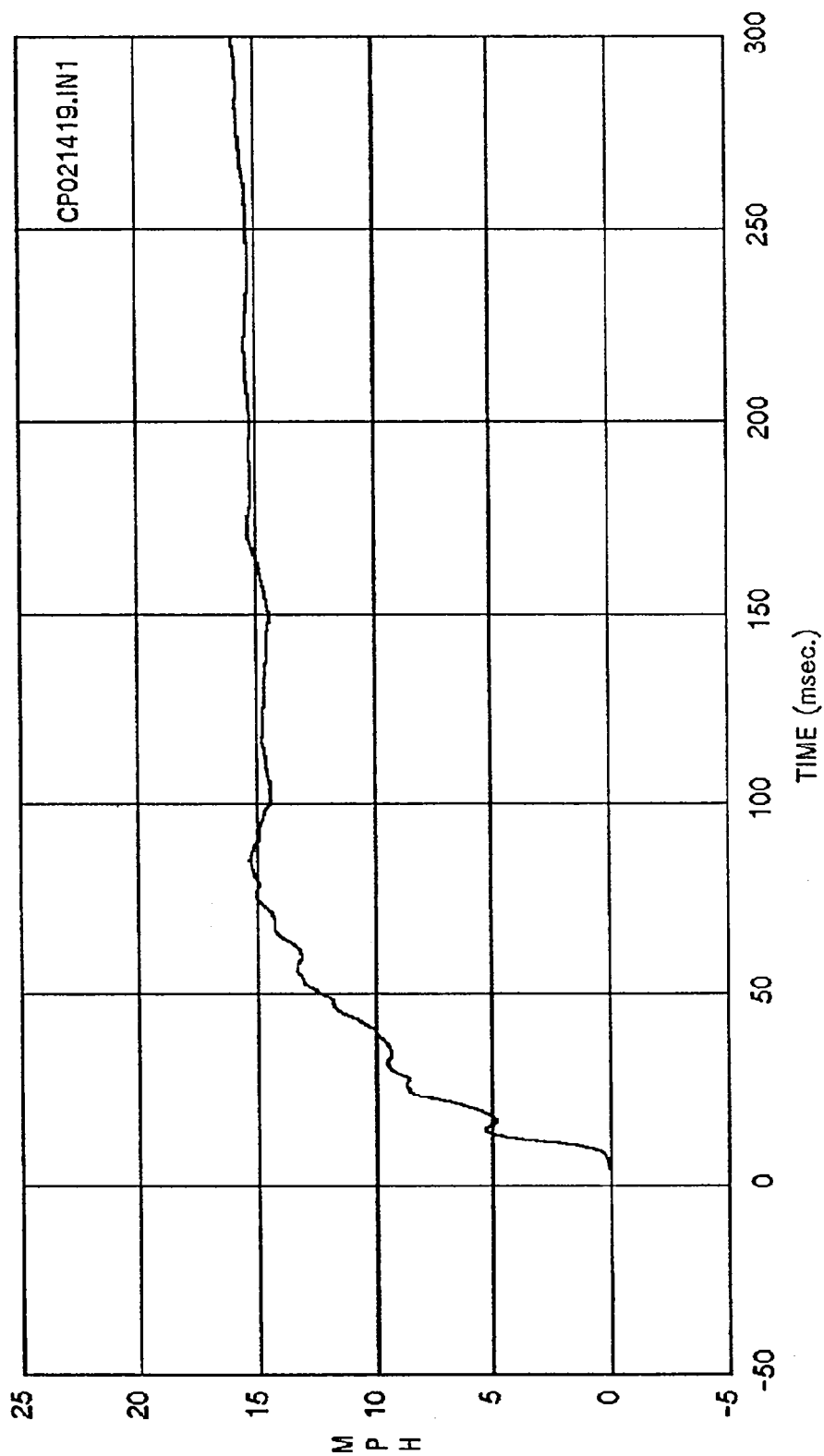
Curve: Driver seat belt pullout Filter: SAE CLASS 60 Max = .33312 Min = -.31538

MSE Date: 05/12/93 Program: 1993 FMVSS 301 Rear Vehicle: 1993 Ford F-150 Pickup

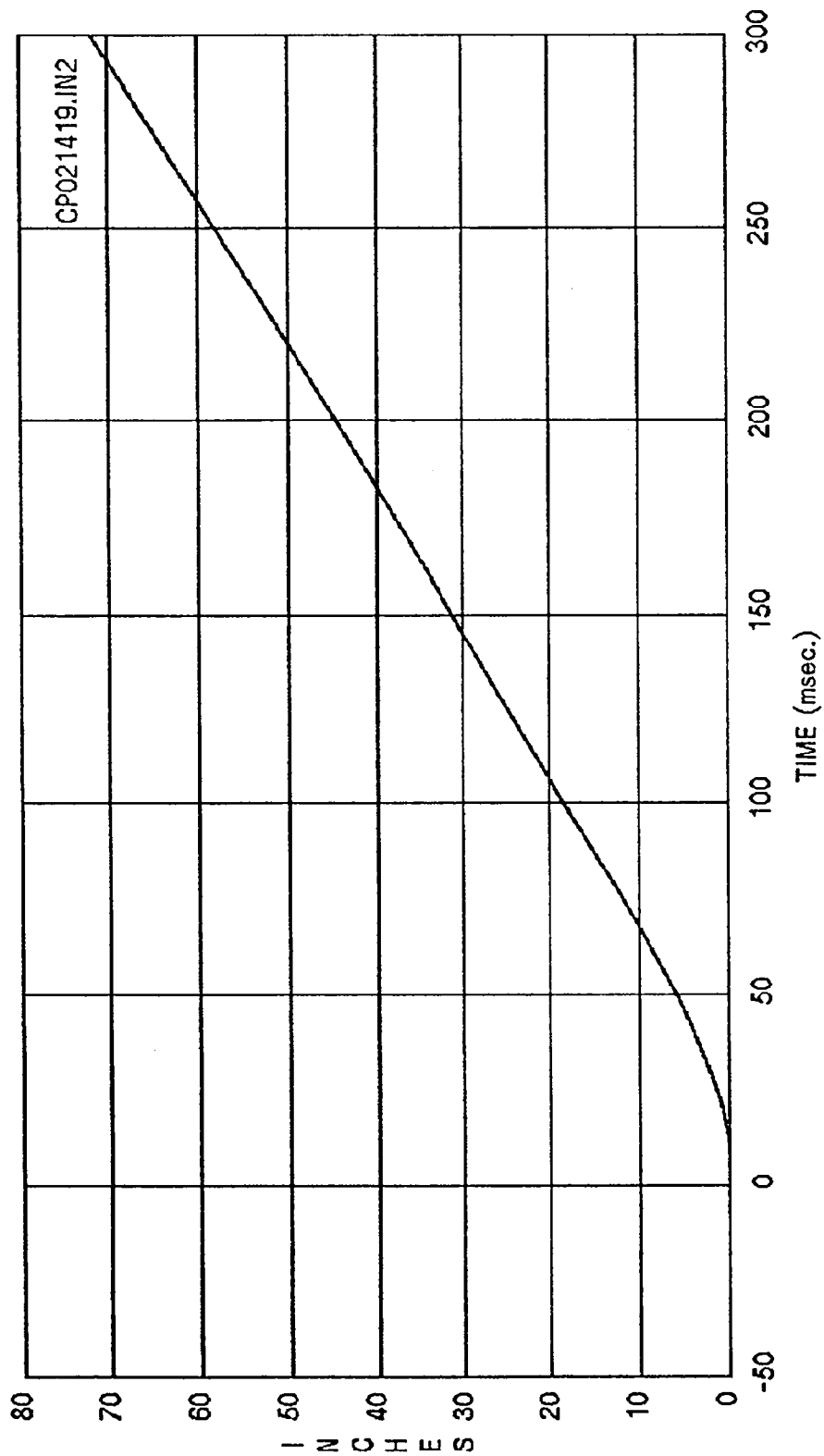


Curve: Vehicle C.G. acceleration -- X axis (Primary) Filter: SAE CLASS 60 Max = 48.348 Min = -3.4777

MSE Date: 05/12/93 Program: 1993 FMVSS 301 Rear Vehicle: 1993 Ford F-150 Pickup

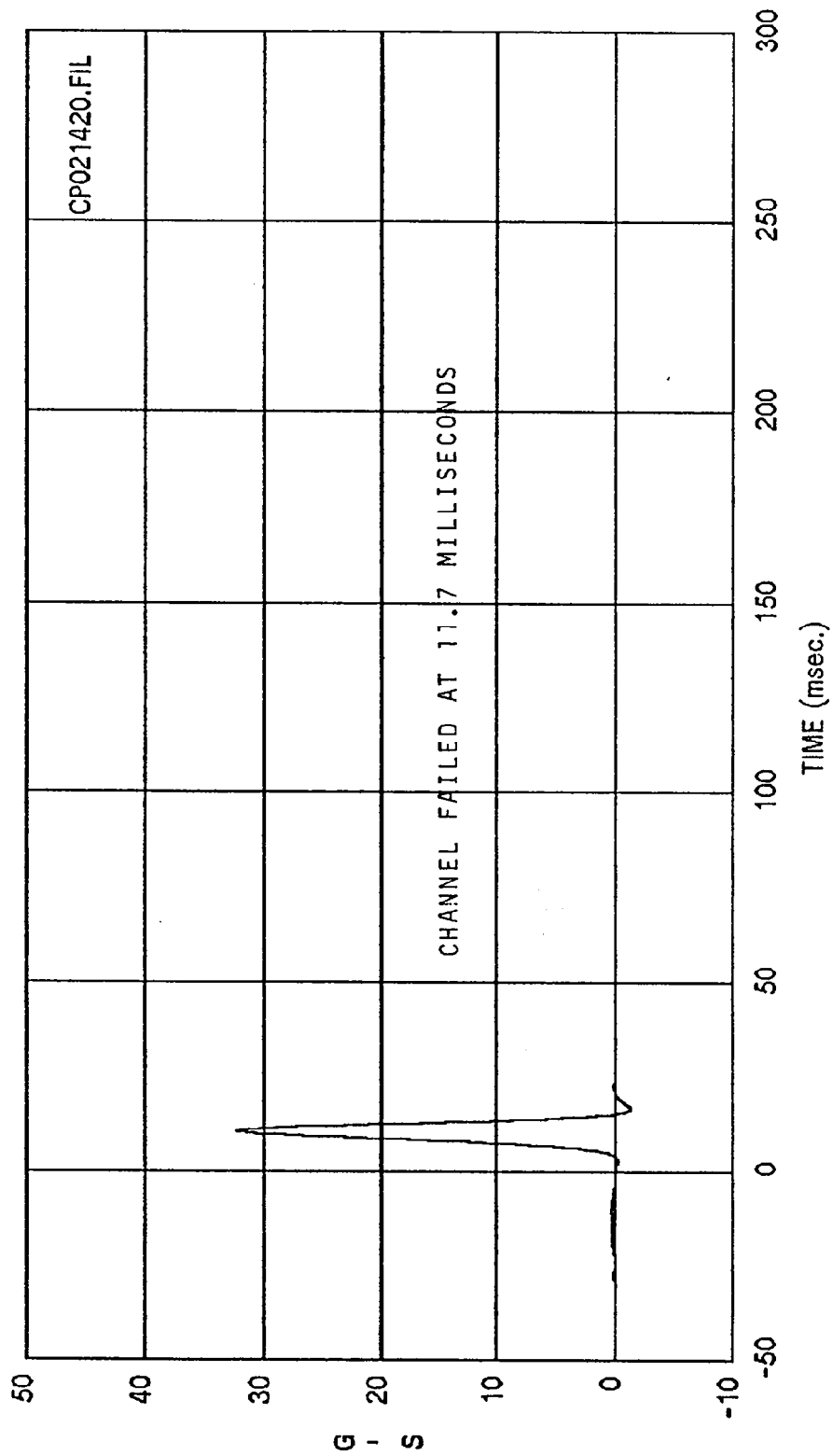


Curve: Vehicle C.G. delta V -- X axis (Primary) Filter: SAE CLASS 180 Max = 15.883 Min = 4.8166
MSE Date: 05/12/93 Program: 1993 FMVSS 301 Rear Vehicle: 1993 Ford F-150 Pickup



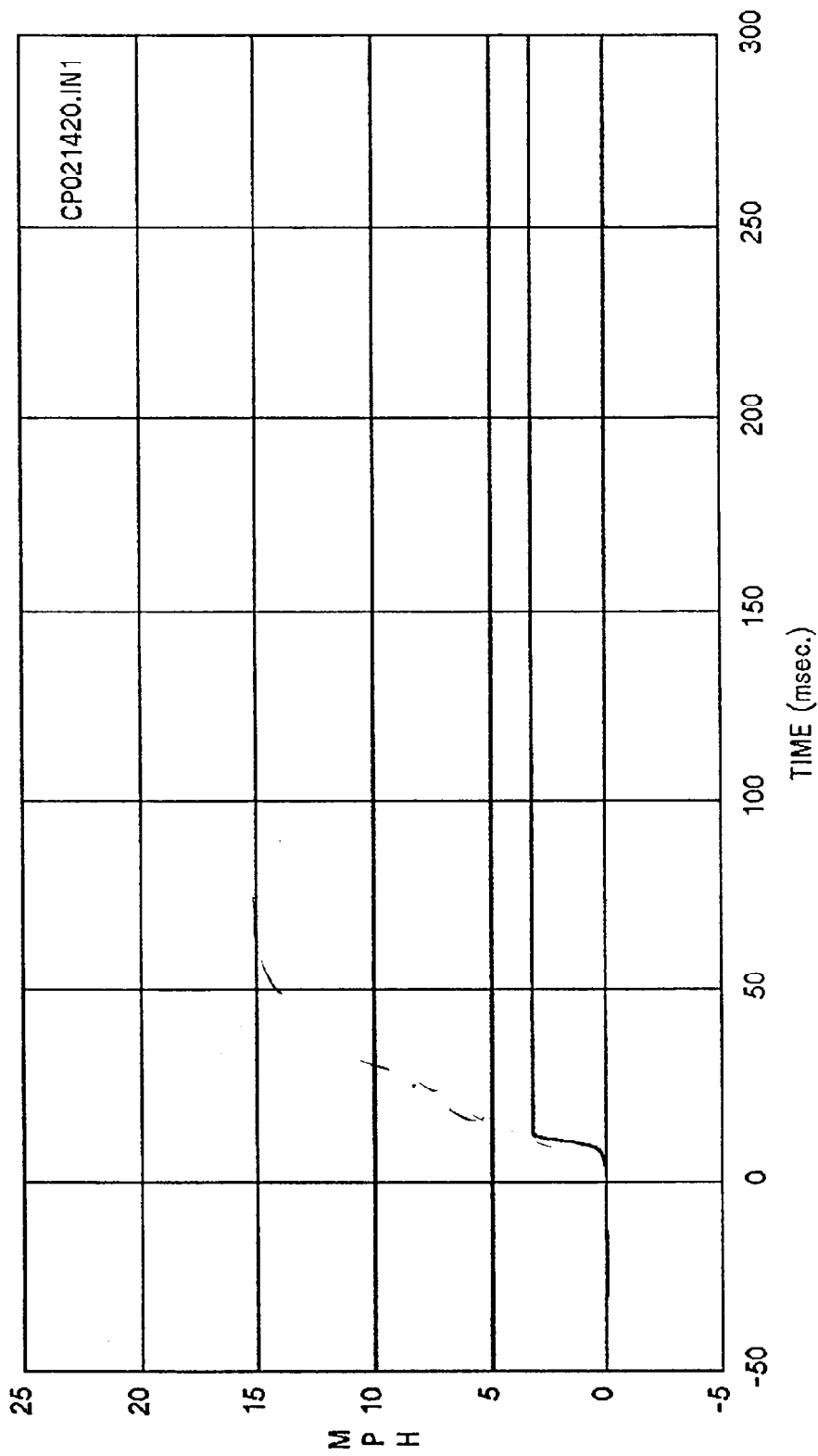
Curve: Vehicle C.G. displacement -- X axis (Primary) Filter: SAE CLASS 180 Max = 71.916 Min = .10000E+11

MSE Date: 05/12/93 Program: 1993 FMVSS 301 Rear Vehicle: 1993 Ford F-150 Pickup



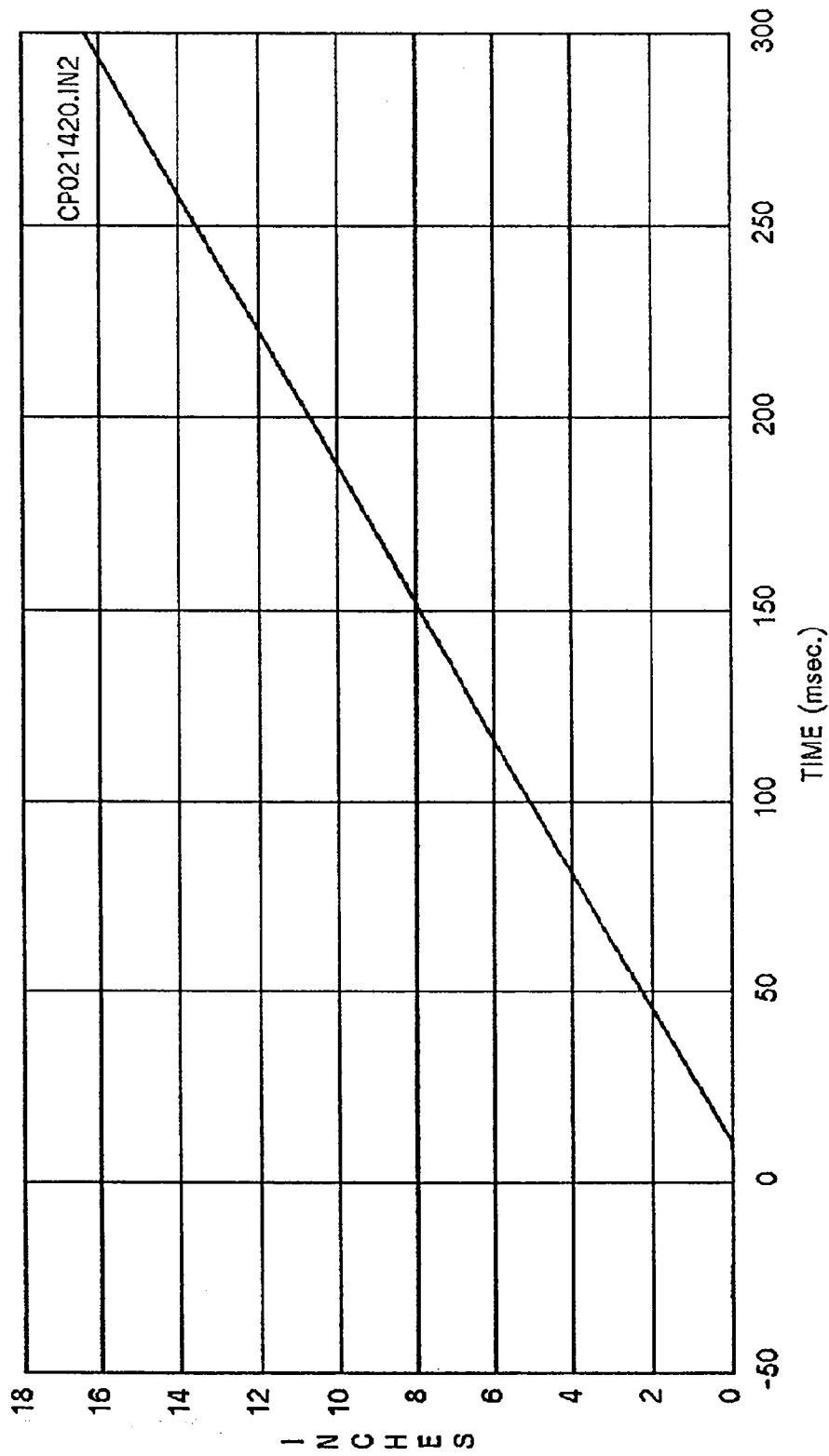
Curve: Vehicle C.G. acc. -- X axis (Sec.)(C.F. at 11.7) Filter: SAE CLASS 60 Max = 32.226 Min = -1.356

MSE Date: 05/12/93 Program: 1993 FMVSS 301 Rear Vehicle: 1993 Ford F-150 Pickup



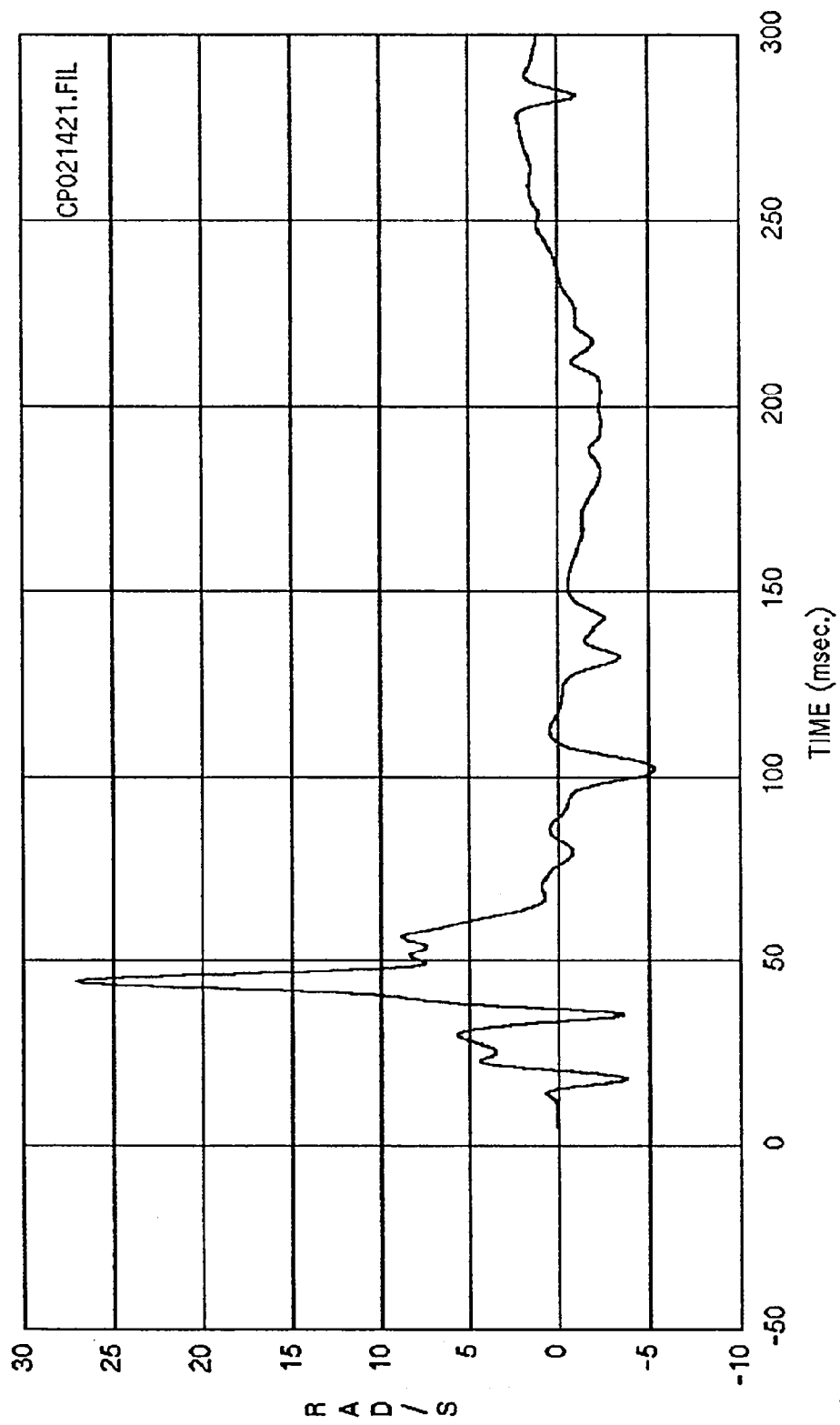
Curve: Vehicle C.G. delta V -- X axis Sec.(C.F. at 11.7) Filter: SAE CLASS 180 Max = 3.2561 Min = 3.209

MSE Date: 05/12/93 Program: 1993 FMVSS 301 Rear Vehicle: 1993 Ford F-150 Pickup

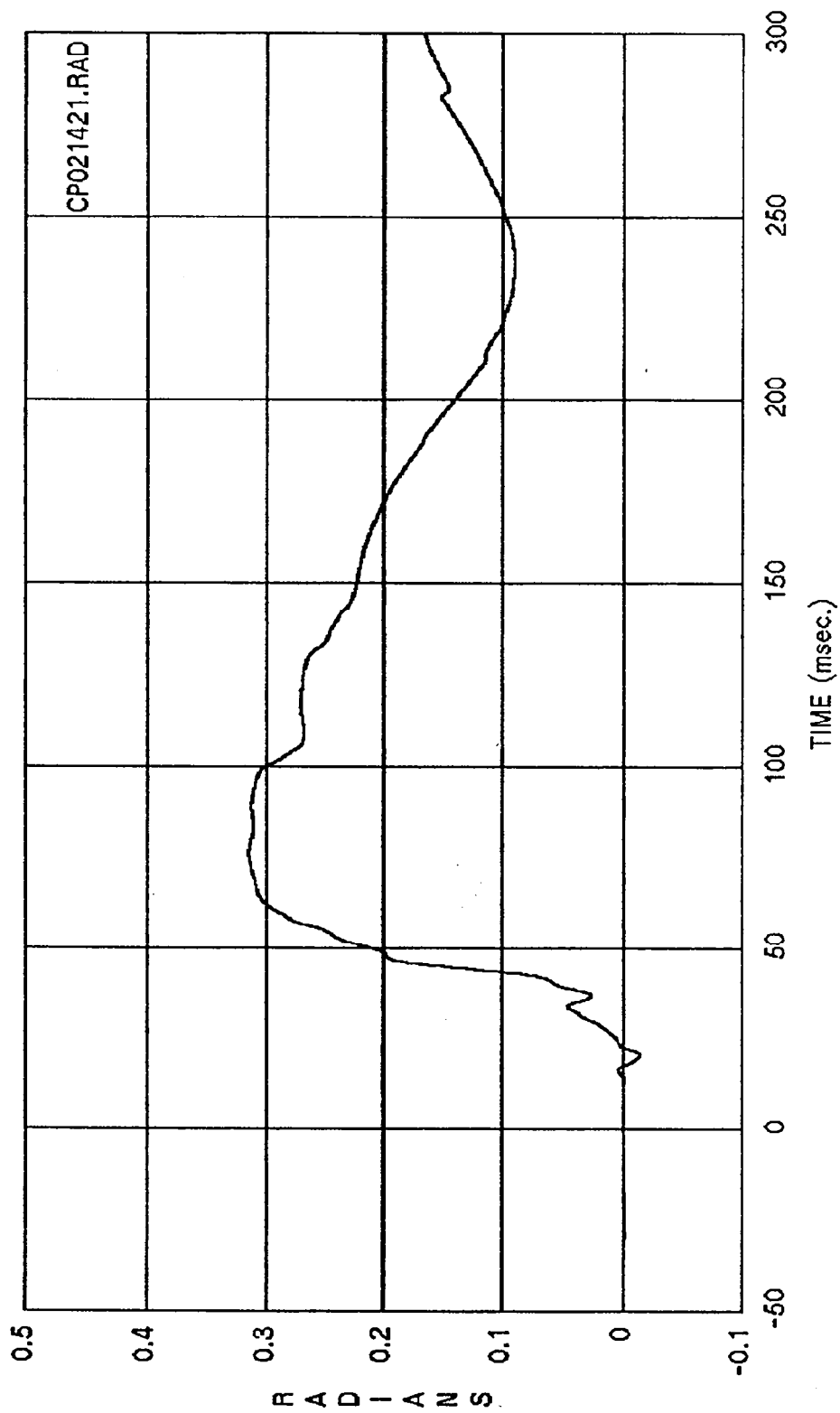


Curve: Vehicle C.G. displacement -- X axls(C.F. at 11.7) Filter: SAE CLASS 180 Max = 16.382 Min = .10000E+11

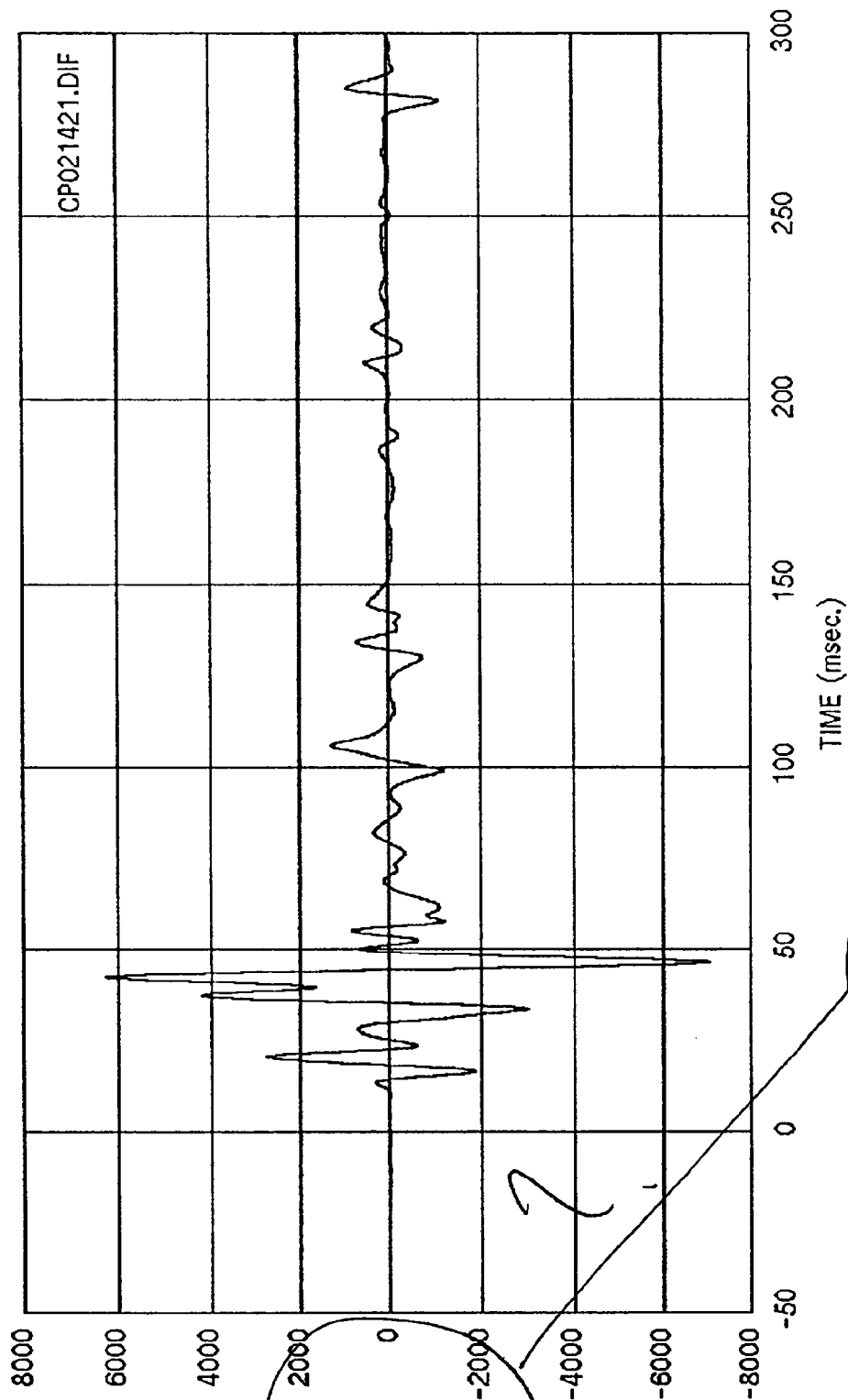
MSE Date: 05/12/93 Program: 1993 FMVSS 301 Rear Vehicle: 1993 Ford F-150 Pickup



Curve: Driver seatback angular rate -- X axis Filter: SAE CLASS 60 Max = 27.078 Min = -5.3225
MSE Date: 05/12/93 Program: 1993 FMVSS 301 Rear Vehicle: 1993 Ford F-150 Pickup



Curve: Driver seatback angular rotation Filter: SAE CLASS 180 Max = .31569 Min = -.13222E-
MSE Date: 05/12/93 Program: 1993 FMVSS 301 Rear Vehicle: 1993 Ford F-150 Pickup

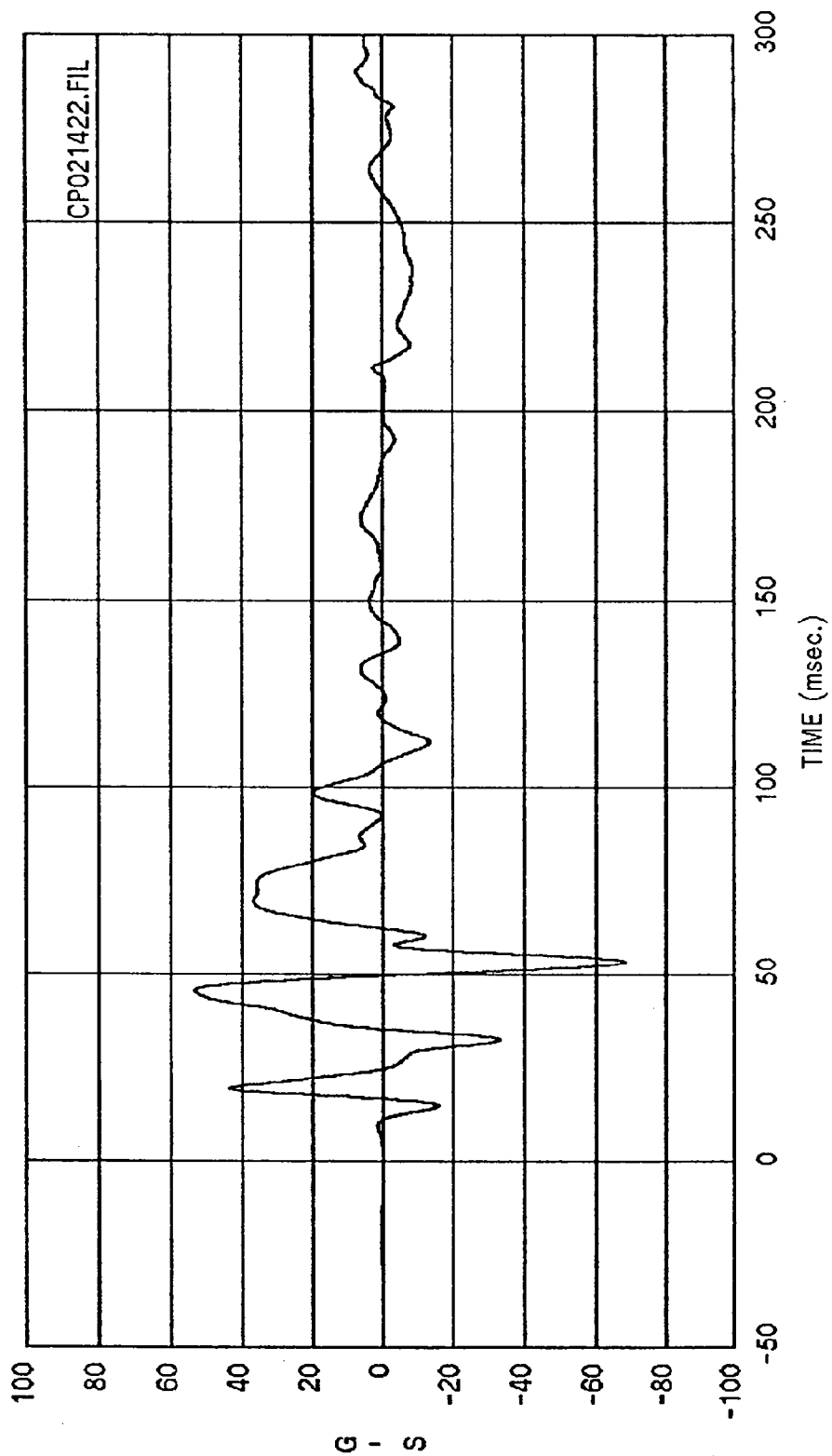


R A D / S / S

66

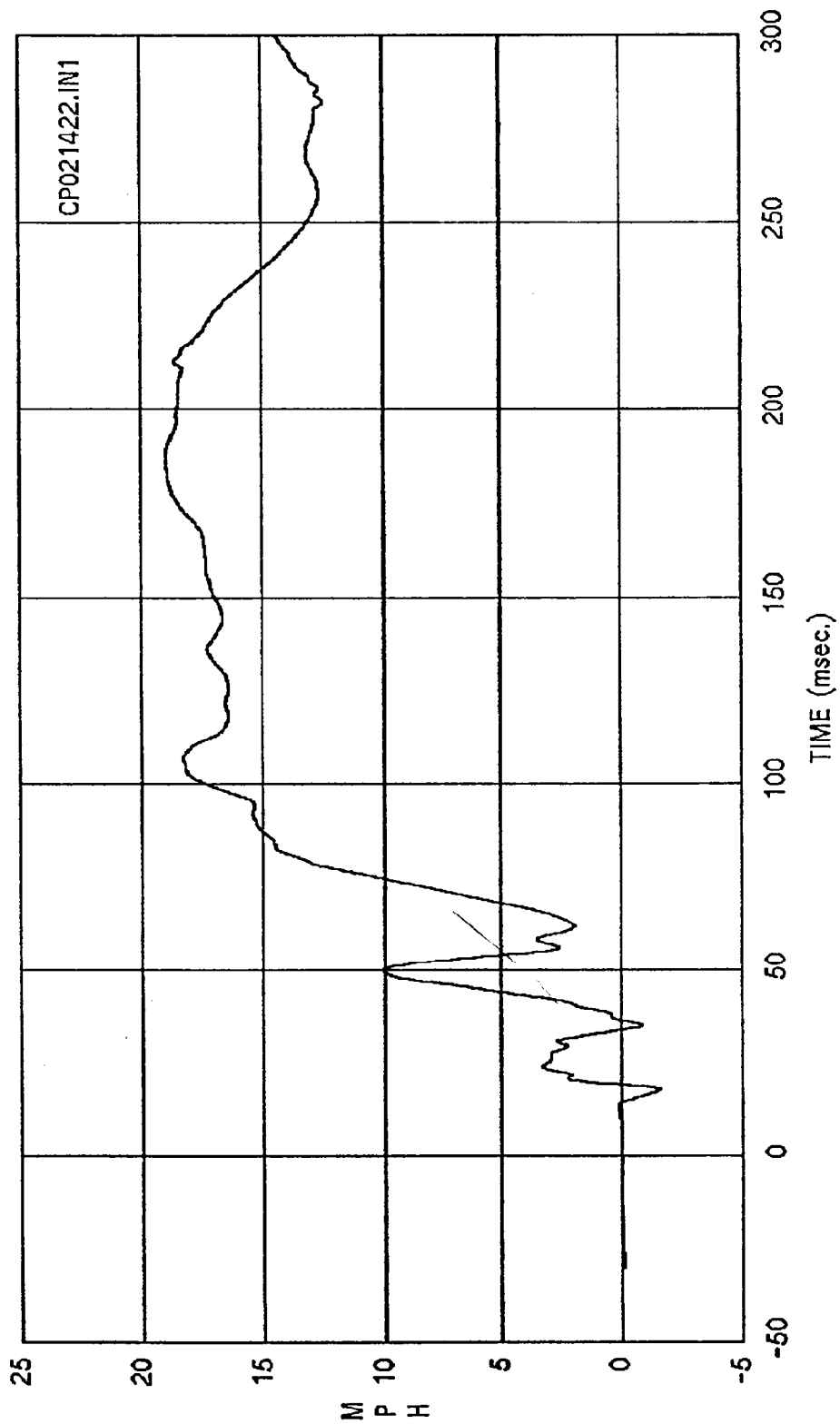
Curve: Driver seatback angular acceleration Filter: SAE CLASS 100 Max = 6269.6 Min = -7078.6

MSE Date: 05/12/93 Program: 1993 FMVSS 301 Rear Vehicle: 1993 Ford F-150 Pickup



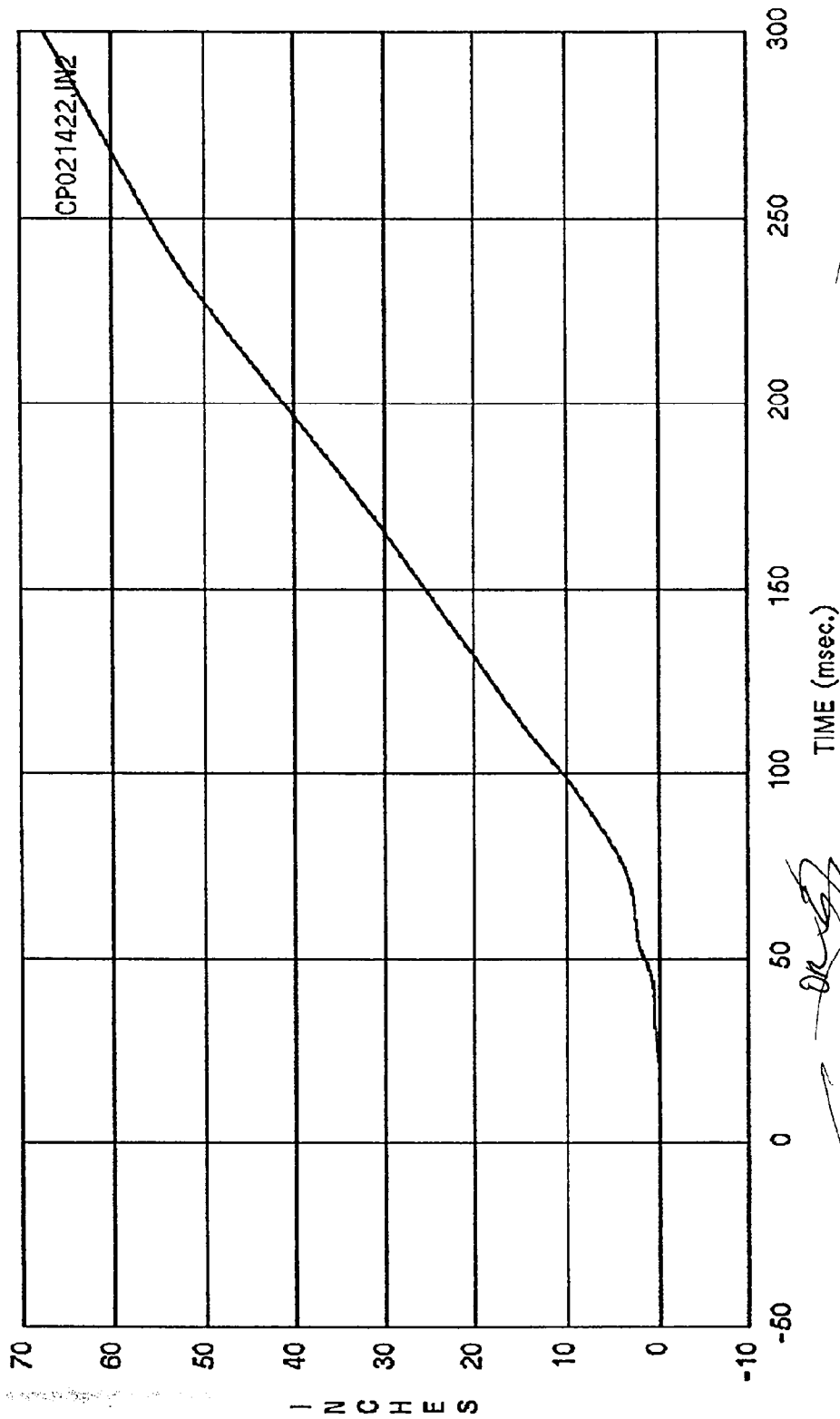
Curve: Driver seatback acceleration -- X axis Filter: SAE CLASS 60 Max = 53.201 Min = -68.545

MSE Date: 05/12/93 Program: 1993 FMVSS 301 Rear Vehicle: 1993 Ford F-150 Pickup



Curve: Driver seatback delta V -- X axis Filter: SAE CLASS 180 Max = 18.954 Min = -1.5981

MSE Date: 05/12/93 Program: 1993 FMVSS 301 Rear Vehicle: 1993 Ford F-150 Pickup



Curve: Driver seatback displacement
 Filter: SAE CLASS 180
 Max = 67.433
 Min = -.65259E-1
 Program: 1993 FMVSS 301 Rear
 Vehicle: 1993 Ford F-150 Pickup
 Date: 05/12/93

SECTION 7

INSTRUMENTATION AND CALIBRATION DATA

General Test Information

VERSNO: V2 TGID: 1
TITLE: 1993 FMVSS 301-75 REAR COMPLIANCE
TSTOBJ: DETERMINE COMPLIANCE TO 301-75 REAR/ACQUIRE DRIVER DUMMY DATA
TSTDAT: 12/MAY/93 TSTPRF: MSE CONNO: DTNH22-93-C-01007
TSTREF: CP0214 TSTTYP: COM TSTCFN: ITV
TKSURF: CON TKCOND: DRY TEMP: 76 RECTYP: FMT
LINK: UMB CLSSPD: 29.4 IMPANG: 180 OFFSET: 0.0
IMPPNT: 9999.9 MEASUR: ENG TOTCRV: 22
TSTCOM: NO COMMENTS


```
VGID: 2      VEHNO: 1      MAKE: 32      MODEL: 06  YEAR: 99      BODY: NA  
VIN: 99999999999999999999 ENGINE: NAPP    ENGDISP: 99999999999999999999 TRANSM: NA  
VEHWT: 3986      WHLBAS: 102.0      VEHLN: 139.0      VEHWID: 72.5  
VEHCG: 51.0      STRSEP: NA      COLMEC: NAP      MODIND: R  
MODDSC: FLAT IMPACTOR, MOVING  
BX
```

1:9999.9
2:9999.9
3:9999.9
4:9999.9
5:9999.9
6:9999.9
7:9999.9
8:9999.9
9:9999.9
10:9999.9
11:9999.9
12:9999.9
13:9999.9
14:9999.9
15:9999.9
16:9999.9
17:9999.9
18:9999.9
19:9999.9
20:9999.9
21:9999.9

VEHSPD: 29.4 CRBANG: 0 PDOF: 0 BMPENG: NA
SILENG: NA APLENG: NA
DPD

```
1: 0.0
2: 0.0
3: 0.0
4: 0.0
5: 0.0
6: 0.0
```

```

VDI: 9999999      LENCNT: 9999.9      DAMDST: 999.9      CRHDST: 999.9
AX

```

1:9999.9
2:9999.9
3:9999.9
4:9999.9
5:9999.9
6:9999.9
7:9999.9
8:9999.9
9:9999.9
10:9999.9
11:9999.9
12:9999.9
13:9999.9
14:9999.9
15:9999.9
16:9999.9
17:9999.9
18:9999.9
19:9999.9
20:9999.9
21:9999.9

CARANG: 999 VEHOR: 999
VEHCOM: NO COMMENTS

Vehicle Information

VGID: 2 VEHNO: 2 MAKE: 02 MODEL: 22 YEAR: 93 BODY: PU
 VIN: 2FTDF15Y2CPA45433 ENGINE: S6IF ENGDSP: 4.9 LITERS TRANSM: MR
 VEHIWT: 4648 WHLBAS: 133.0 VEHLN: 213.1 VEHWID: 79.0
 VEHCG: 56.6 STRSEP: NO COLMEC: CON MODIND: P
 MODDSC: UNMODIFIED
 BX

1:9999.9
 2:9999.9
 3:9999.9
 4:9999.9
 5:9999.9
 6:9999.9
 7:9999.9
 8:9999.9
 9:9999.9
 10:9999.9
 11:9999.9
 12:9999.9
 13:9999.9
 14:9999.9
 15:9999.9
 16:9999.9
 17:9999.9
 18:9999.9
 19:9999.9
 20:9999.9
 21:9999.9

VEHSPD: 0.0 CRBANG: 0 PDOF: 180 BIMPENG: DE
 SILENG: NA APLENG: NA

DPD

1: 10.2
 2: 11.0
 3: 11.2
 4: 11.2
 5: 11.1
 6: 10.4

VDI: 06BDEW9 LENCNT: 74.0 DAMDST: 0.0 CRHDST: 11.2

AX

1:9999.9
 2:9999.9
 3:9999.9
 4:9999.9
 5:9999.9
 6:9999.9
 7:9999.9
 8:9999.9
 9:9999.9
 10:9999.9
 11:9999.9
 12:9999.9
 13:9999.9
 14:9999.9
 15:9999.9
 16:9999.9
 17:9999.9
 18:9999.9
 19:9999.9
 20:9999.9
 21:9999.9

CARANG: 999 VEHOR: 999
 VEHCOM: NO COMMENT

Occupant Information

Occupant Group ID: 4 VEHNO: 2
OCCLOC: 01 OCCTYP: H3 OCCAGE: 99 OCCSEX: M OCCHT: 999 OCCWT: 999
MTHCAL: H3 DUMSIZ: 50
DUMMAN: MFG: FIRST TECHNOLOGY SAFETY SYSTEMS, S/N: 339
DUMMOD: UNMODIFIED
DUMDSC: NO COMMENT
HH: 17.2 HW: 22.7 HR: 10.8 HS: 11.8 CD: 20.3 CS: 9.3 AD: 3.2 HD: 5.5
KD: 5.9 HB: 999.9 NB: 999.9 CB: 999.9 KB: 999.9
RESTR1: 3PT RESTR2: SWE
RESTXT: NO COMMENTS
SEPOSN: CN AIRDEP: NA
CNTRH1: OT CNTRH2: NO CNTRC1: NO CNTRC2: NO CNTRL1: NO CNTRL2: NO
HIC: 208. T1: 72.600 T2: 85.600
CLIP3M: 19.5 LFEM: 9999. RFEM: 9999. CSI: 52. LBELT: 56. SBELT: 150.
OCCCOM: CNTRH1: HEAD CONTACTED REAR CAB HEADER

Instrumentation Information

Inst. Group ID: 5	VEHNO: 2	CURNO: 001	
SENTYP: AC	SENLOC: 01	SENATT: HDCG	
AXIS: XL	UNITS: G'S	PREFIL: 1650	
INSMAN: MFG: ENDEVCO,	MODEL: 7264-200,	S/N: BF83H	
CALDAT: 01/APR/93	INSRAT: 200	CHIMAX: 27	INIVEL: 0.0
NFP: -300	NLP: 2999	DELT: 100	DASTAT: AM
INSCOM: NO COMMENT			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 2	CURNO: 002	
SENTYP: AC	SENLOC: 01	SENATT: HDCG	
AXIS: YL	UNITS: G'S	PREFIL: 1650	
INSMAN: MFG: ENDEVCO,	MODEL: 7264-200,	S/N: BJ15H	
CALDAT: 01/APR/93	INSRAT: 200	CHIMAX: 2	INIVEL: 0.0
NFP: -300	NLP: 2999	DELT: 100	DASTAT: AM
INSCOM: NO COMMENT			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 2	CURNO: 003	
SENTYP: AC	SENLOC: 01	SENATT: HDCG	
AXIS: ZL	UNITS: G'S	PREFIL: 1650	
INSMAN: MFG: ENDEVCO,	MODEL: 7264-200,	S/N: BG29H	
CALDAT: 01/APR/93	INSRAT: 200	CHIMAX: 11	INIVEL: 0.0
NFP: -300	NLP: 2999	DELT: 100	DASTAT: AM
INSCOM: NO COMMENT			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 2	CURNO: 004	
SENTYP: AC	SENLOC: 01	SENATT: CHST	
AXIS: XL	UNITS: G'S	PREFIL: 1650	
INSMAN: MFG: ENDEVCO,	MODEL: 7264-200,	S/N: BJ61H	
CALDAT: 01/APR/93	INSRAT: 200	CHIMAX: 12	INIVEL: 0.0
NFP: -300	NLP: 2999	DELT: 100	DASTAT: AM
INSCOM: NO COMMENT			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 2	CURNO: 005	
SENTYP: AC	SENLOC: 01	SENATT: CHST	
AXIS: YL	UNITS: G'S	PREFIL: 1650	
INSMAN: MFG: ENDEVCO,	MODEL: 7264-200,	S/N: BG95H	
CALDAT: 01/APR/93	INSRAT: 200	CHIMAX: 3	INIVEL: 0.0
NFP: -300	NLP: 2999	DELT: 100	DASTAT: AM
INSCOM: NO COMMENT			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 2	CURNO: 006	
SENTYP: AC	SENLOC: 01	SENATT: CHST	
AXIS: ZL	UNITS: G'S	PREFIL: 1650	
INSMAN: MFG: ENDEVCO,	MODEL: 7264-200,	S/N: BJ54H	
CALDAT: 01/APR/93	INSRAT: 200	CHLMAX: 4	INIVEL: 0.0
NFP: -300	NLP: 2999	DELT: 100	DASTAT: AM
INSCOM: NO COMMENT			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 2	CURNO: 007	
SENTYP: LC	SENLOC: 01	SENATT: PVCN	
AXIS: XL	UNITS: G'S	PREFIL: 1650	
INSMAN: MFG: ENDEVCO,	MODEL: 7264-200,	S/N: AE09	
CALDAT: 01/APR/93	INSRAT: 200	CHLMAX: 12	INIVEL: 0.0
NFP: -300	NLP: 2999	DELT: 100	DASTAT: AM
INSCOM: NO COMMENT			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 2	CURNO: 008	
SENTYP: LC	SENLOC: 01	SENATT: PVCN	
AXIS: YL	UNITS: G'S	PREFIL: 1650	
INSMAN: MFG: ENDEVCO,	MODEL: 7264-200,	S/N: AD61	
CALDAT: 01/APR/93	INSRAT: 200	CHLMAX: 3	INIVEL: 0.0
NFP: -300	NLP: 2999	DELT: 100	DASTAT: AM
INSCOM: NO COMMENT			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 2	CURNO: 009	
SENTYP: AC	SENLOC: 01	SENATT: PVCN	
AXIS: ZL	UNITS: G'S	PREFIL: 1650	
INSMAN: MFG: ENDEVCO,	MODEL: 7264-200,	S/N: AD98	
CALDAT: 01/APR/93	INSRAT: 200	CHLMAX: 7	INIVEL: 0.0
NFP: -300	NLP: 2999	DELT: 100	DASTAT: AM
INSCOM: NO COMMENT			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 2	CURNO: 010	
SENTYP: LC	SENLOC: 01	SENATT: NECU	
AXIS: XL	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: R. A. DENTON,	MODEL: 1716A,	S/N: 0441 FX	
CALDAT: 02/NOV/92	INSRAT: 2000	CHLMAX: 6	INIVEL: 0.0
NFP: -300	NLP: 2999	DELT: 100	DASTAT: AM
INSCOM: NO COMMENT			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 2	CURNO: 011	
SENTYP: LC	SENLOC: 01	SENATT: NECU	
AXIS: YL	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: R. A. DENTON, MODEL: 1716A,	S/N: 0441 FY		
CALDAT: 02/NOV/92	INSRAT: 2000	CHIMAX: 2	INIVEL: 0.0
NFP: -300	NLP: 2999	DELT: 100	DASTAT: AM
INSCOM: NO COMMENT			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 2	CURNO: 012	
SENTYP: LC	SENLOC: 01	SENATT: NECU	
AXIS: ZL	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: R. A. DENTON, MODEL: 1716A,	S/N: 0441 FZ		
CALDAT: 02/NOV/92	INSRAT: 3000	CHIMAX: 4	INIVEL: 0.0
NFP: -300	NLP: 2999	DELT: 100	DASTAT: AM
INSCOM: NO COMMENT			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 2	CURNO: 013	
SENTYP: LC	SENLOC: 01	SENATT: NECU	
AXIS: XL	UNITS: OTH	PREFIL: 1650	
INSMAN: MFG: R. A. DENTON, MODEL: 1716A,	S/N: 0441 MX		
CALDAT: 02/NOV/92	INSRAT: 2500	CHIMAX: 4	INIVEL: 0.0
NFP: -300	NLP: 2999	DELT: 100	DASTAT: AM
INSCOM: UNITS: IN.-LBS.			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 2	CURNO: 014	
SENTYP: LC	SENLOC: 01	SENATT: NECU	
AXIS: YL	UNITS: OTH	PREFIL: 1650	
INSMAN: MFG: R. A. DENTON, MODEL: 1716A,	S/N: 0441 MY		
CALDAT: 02/NOV/92	INSRAT: 2500	CHIMAX: 16	INIVEL: 0.0
NFP: -300	NLP: 2999	DELT: 100	DASTAT: AM
INSCOM: UNITS: IN.-LBS.			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 2	CURNO: 015	
SENTYP: LC	SENLOC: 01	SENATT: NECU	
AXIS: ZL	UNITS: OTH	PREFIL: 1650	
INSMAN: MFG: R. A. DENTON, MODEL: 1716A,	S/N: 0441 MZ		
CALDAT: 02/NOV/92	INSRAT: 2500	CHIMAX: 4	INIVEL: 0.0
NFP: -300	NLP: 2999	DELT: 100	DASTAT: AM
INSCOM: UNITS: IN.-LBS.			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 2	CURNO: 016	
SENTYP: LC	SENLOC: NA	SENATT: LBPO	
AXIS: NA	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: LEBOW,	MODEL: 3371, S/N: 330		
CALDAT: 05/APR/93	INSRAT: 3500	CHLMAX: 2	INIVEL: 0.0
NFP: -300	NLP: 2999	DELT: 100	DASTAT: AM
INSCOM: NO COMMENT			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 2	CURNO: 017	
SENTYP: LC	SENLOC: NA	SENATT: SHBT	
AXIS: NA	UNITS: LBS	PREFIL: 1650	
INSMAN: MFG: LEBOW,	MODEL: 3371, S/N: 308		
CALDAT: 05/APR/93	INSRAT: 3500	CHLMAX: 4	INIVEL: 0.0
NFP: -300	NLP: 2999	DELT: 100	DASTAT: AM
INSCOM: NO COMMENT			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 2	CURNO: 018	
SENTYP: LC	SENLOC: NA	SENATT: SHBT	
AXIS: NA	UNITS: INS	PREFIL: 1650	
INSMAN: MFG: MSE,	MODEL: 101-24, S/N: 001		
CALDAT: 30/APR/93	INSRAT: 24	CHLMAX: 1	INIVEL: 0.0
NFP: -300	NLP: 2999	DELT: 100	DASTAT: AM
INSCOM: NO COMMENT			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 2	CURNO: 019	
SENTYP: AC	SENLOC: NA	SENATT: VECG	
AXIS: XG	UNITS: G'S	PREFIL: 1650	
INSMAN: MFG: I.C. SENSOR,	MODEL: 3031-200, S/N: 23-200		
CALDAT: 30/MAR/93	INSRAT: 200	CHLMAX: 43	INIVEL: 0.0
NFP: -300	NLP: 2999	DELT: 100	DASTAT: AM
INSCOM: NO COMMENT			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 2	CURNO: 020	
SENTYP: AC	SENLOC: NA	SENATT: VECG	
AXIS: XG	UNITS: G'S	PREFIL: 1650	
INSMAN: MFG: I.C. SENSOR,	MODEL: 3031-200, S/N: 26-200		
CALDAT: 30/MAR/93	INSRAT: 200	CHLMAX: 40	INIVEL: 0.0
NFP: -300	NLP: 2999	DELT: 100	DASTAT: AM
INSCOM: NO COMMENT			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 2	CURNO: 021	
SENTYP: AV	SENLOC: NA	SENATT: SELF	
AXIS: XG	UNITS: RPS	PREFIL: 1650	
INSMAN: MFG: ATA,	MODEL: ARS-01, S/N: 185		
CALDAT: 26/APR/93	INSRAT: 200	CHLMAX: 16	INIVEL: 0.0
NFP: -300	NLP: 2999	DELT: 100	DASTAT: AM
INSCOM: NO COMMENT			

Instrumentation Information

Inst. Group ID: 5	VEHNO: 2	CURNO: 022	
SENTYP: AC	SENLOC: NA	SENATT: SELF	
AXIS: XG	UNITS: G'S	PREFIL: 1650	
INSMAN: MFG: I.C. SENSOR,	MODEL: 3031-200, S/N: HDIMP		
CALDAT: 30/MAR/93	INSRAT: 200	CHLMAX: 64	INIVEL: 0.0
NFP: -300	NLP: 2999	DELT: 100	DASTAT: AM
INSCOM: NO COMMENT			