

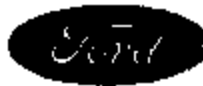
EAO3-010

Ford

10/22/03

Attachment F

Book 22 of 24



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FINAL TEST REPORT

CONFIDENTIAL

**Global Test Operations
 Advanced Vehicle Technology**

TO:	A. Tamb	Test Order No. Work Task W. O. No. Test Date Date Reported Sheet	T-B0652 F09 11/4/98 4/16/99 1 of 58
SUBJECT:	Crash Test 11264 (90° Left Side Fixed Pole Impact at 12.0 ± 0.4 mph, 19.3 ± 0.6 km/h) - 2000 Taurus (D166) 4-Door Sedan		
REQUESTED BY:	Vehicle Safety and CAE Department, Advanced Vehicle Technology - K. Ewing		
OBJECT:	To obtain development data relative to air bag system sensors.		
SUMMARY OF TEST RESULTS:	See Section 1.0 for air bag system sensor data.		

R. Oda
 Engineering Data Control Analysis

Handwritten: M. L. 4/15/99

Concur: S. Leah
 Section Supervisor
 Operations Engineering Section

VEHICLE DATA:

Make and Model	2000 Taurus (D188) 4-Door Sedan (Confirmation Prototype)	
ID Numbers	1FALP63U5YB100584, 590-W-002, DC060019	
Power Train	3.0L, EFI, Automatic Transaxle	
Fuel Tank(s)	Usable Capacity: 16.0 gal. (60.8L) Test Condition: Empty	
Front Seat(s)	Type: Bucket Cover: Cloth Tracks/Position: Manual/Mechanical Mid Seat Backs/Position: Adjustable/28.7° Rear of Vertical Head Restraints/Position: Adjustable/Up	
Restraint System	LF: 3-Point Continuous Loop Active Belt and Seat Back Side Air Bag	
Occupants	LF: BIO-SID Uninstrumented Dummy	
Test Weight	Front: 2240 lb (1016 kg) Rear: 1655 lb (751 kg) Total: 3895 lb (1757 kg)	
Tires	Front: P215/60R16 Rear: P215/60R16 Spare: Removed	30 psi (207 kPa) 30 psi (207 kPa)
Significant Content or Accessories:	Air Conditioning, Power Steering, Power Brakes	

GENERAL TEST COMMENTS:**1. Test Procedure**

The test was performed according to the following Corporate test procedure(s):

Proposed non-regulator crash test procedure.

1.1 Vehicle Alignment

The test vehicle impacted an 360 mm diameter steel pole structure, rigidly attached to the barrier face. The vertical steel pole was aligned so that the point of vehicle impact was centered on the test dummy's left front head center of gravity.

2. Remarks

Crash movies, pre- and post-crash still images of the test vehicle and copies of this report are available through the Operations Engineering Section, Safety Laboratories Department, GTO. The crash still images are stored and archived on CD ROMs. The file names of the still images are listed under crash number and a three digit sequence number which are 11864001 through 11864041.

TEST RESULTS:

1.0 Sensor Development

Time histories of the air bag/sensor(s) are included in this report.

Time histories of any requested derived data (i.e. integrations, etc.) were given to the requesting activity and are not included in this report.

2.0 Vehicle Crush, Film Analysis and/or Instrumentation Data

Time histories of the vehicle accelerations and other instrumentation are included in this report.

Time histories of vehicle dynamic displacements obtained from Film Analysis are included in this report.

Static displacements of various body points obtained by Dimensional Analysis are included in this report.

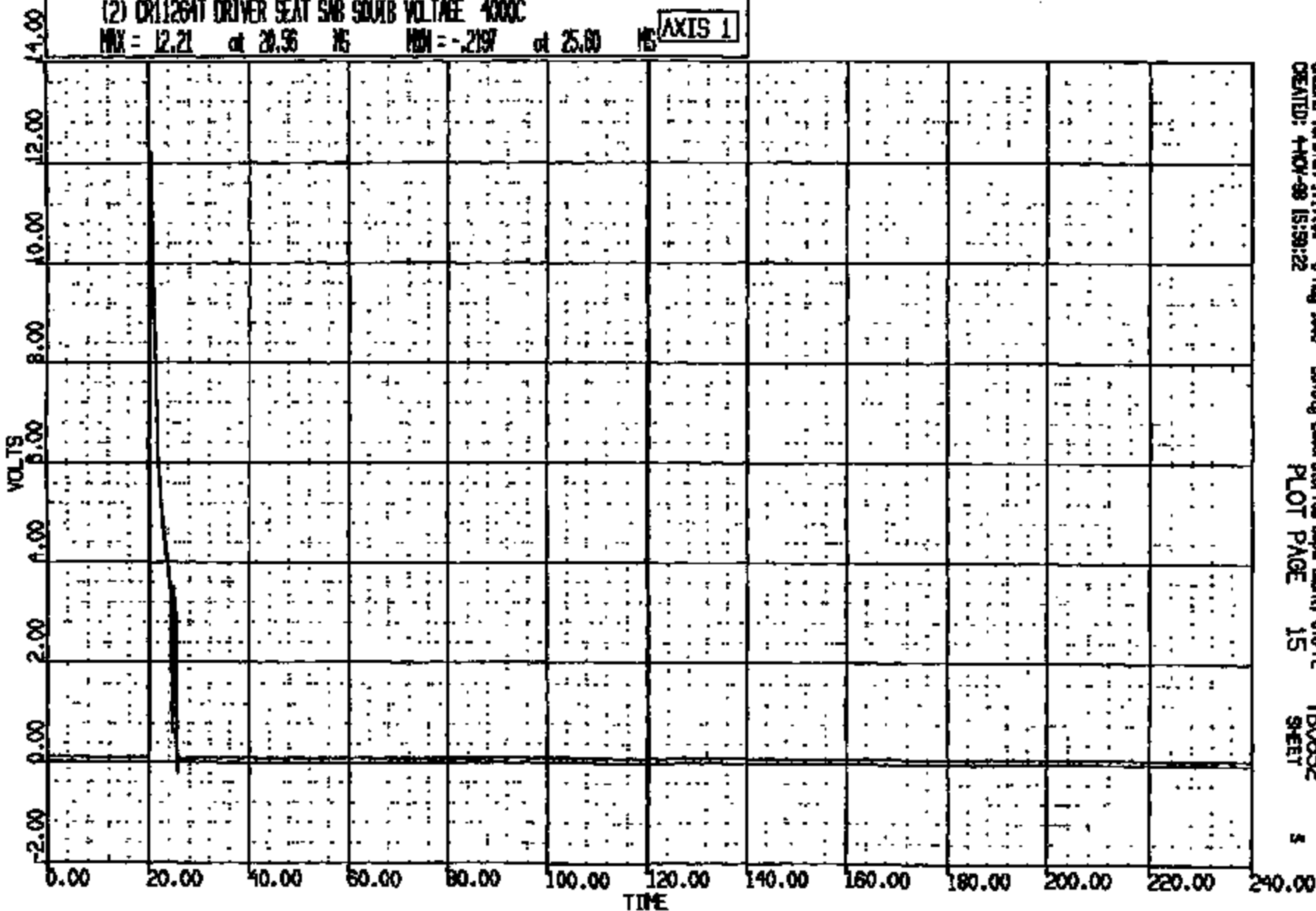
Time histories of any requested derived data (i.e. integrations, etc.) were given to the requesting activity and are not included in this report.

CR R: 11264 TO: TB0652 DATE: 981104 15:25:20
2000 TAURUS UNKNOWN

(2) CR11264T DRIVER SEAT SRS SQUIB VOLTAGE 4000C

MAX = 12.21 at 20.56 MS MIN = -2.197 at 25.00 MS

AXIS 1



CRS008 Version 1.17.00 - 8-Aug-1999
CREATED: 4-NOV-98 15:59:22

Safety Laboratory Department, 610-PL
PLOT PAGE 15

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SHEET

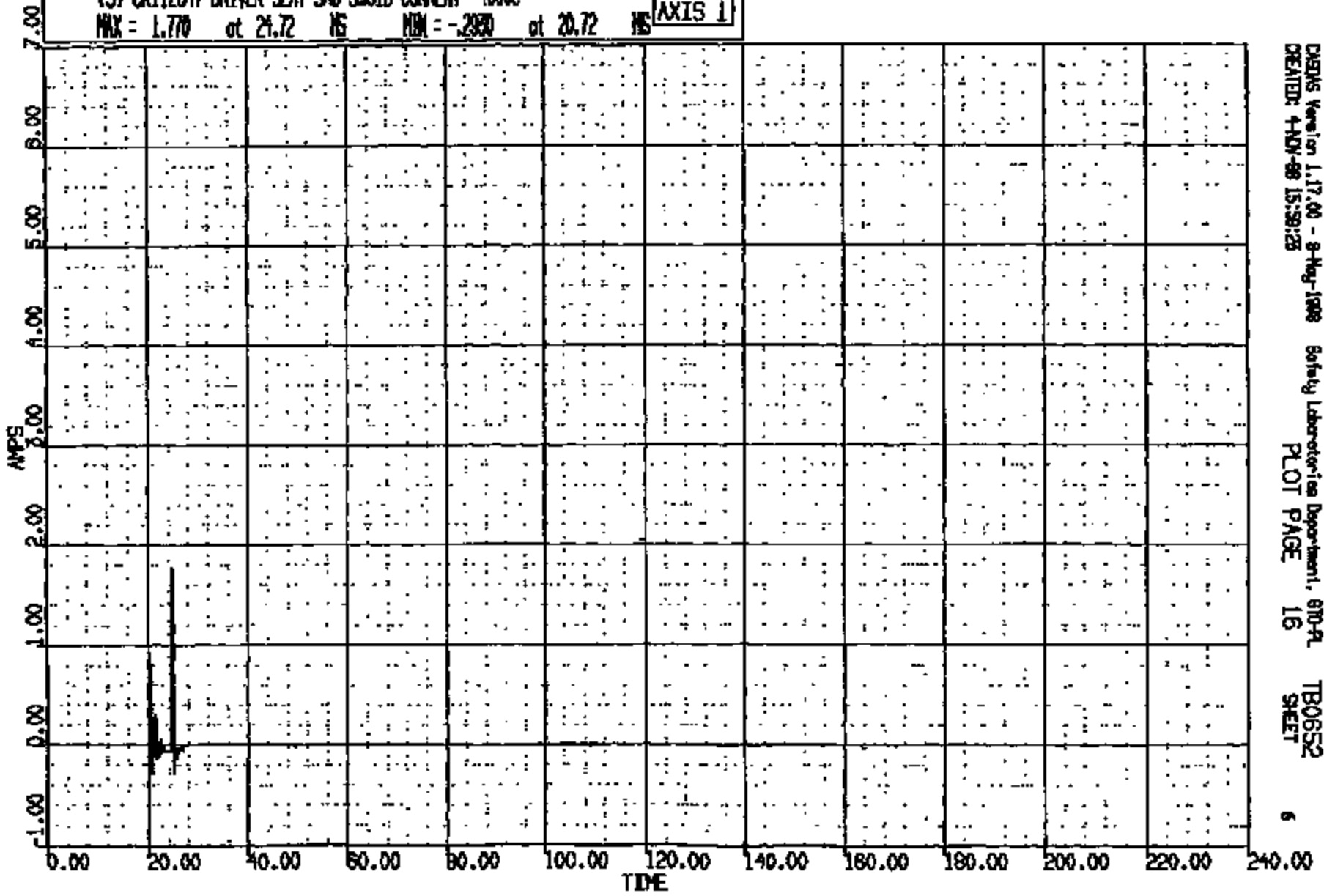
5

CRIS 0011264

CR #: 11264 TO: TB0852 DATE: 981104 15:25:20
2000 TAURUS UNKNOWN

(3) CR11264T DRIVER SEAT SAB SCOUT CURRENT 400C
MAX = 1.770 at 21.72 MS MIN = -.2980 at 20.72 MS

AXIS 1

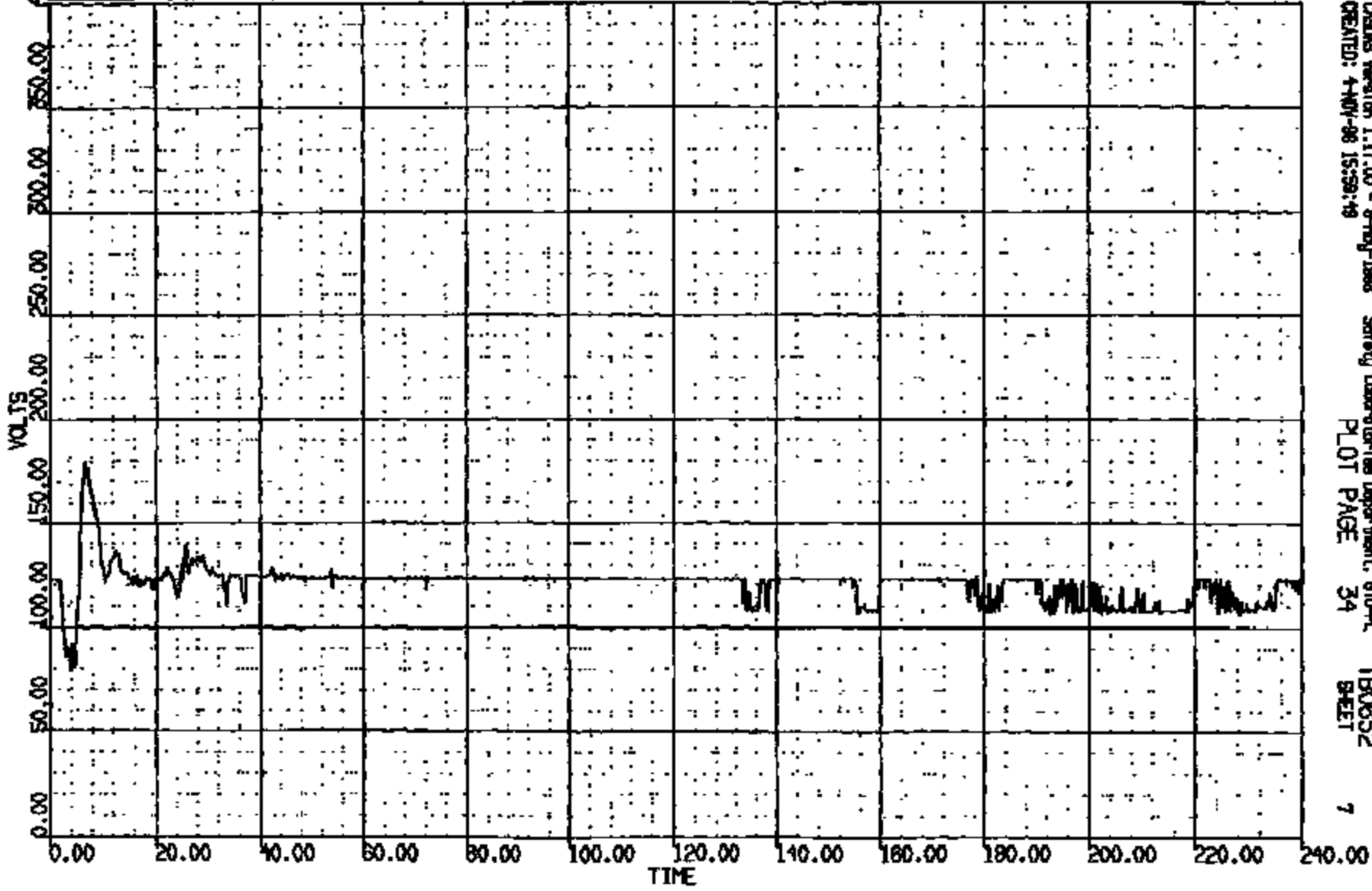


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CREATED: 4-NOV-98 15:59:25 PLOT PAGE 16 SHEET

CRIS 0011264

CR R: 11264 TO: TB0652 DATE: 881104 15:35:30
2000 TALRUS UNKNOWN

(21) CR1264T L/B-PLR BLW BELT TAR2 ST004-3 400C
MAX = 179.2 at 6.720 MS MIN = 79.59 at 3.990 MS **AXIS 1**



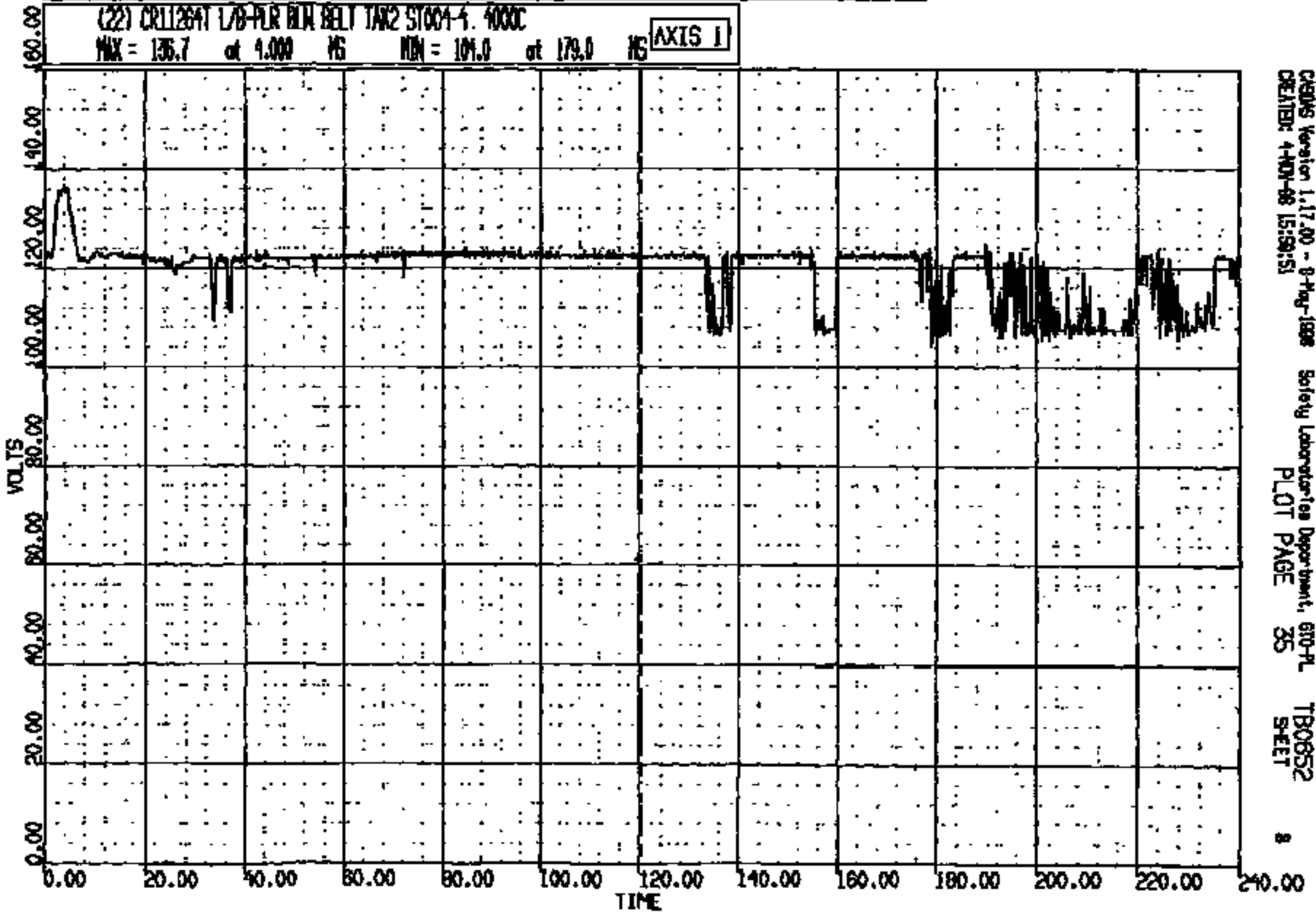
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CREATED: 4-MAY-88 15:39:49 PLOT PAGE 34 SHEET 7

CRIS 0011264

CR R: 11259 TD: TB0652 DATE: 981104 15:35:30
2000 TAURUS UNKNOWN

(22) CR11264T L70-PLR BLW BELT TAN2 ST004-4. 4000C
MAX = 135.7 at 9.000 MS MIN = 104.0 at 179.0 MS

AXIS 1



CRIMS Version 1.17.00 - 8-Aug-1998
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Safety Laboratories Department, 610-PL
PLOT PAGE 35

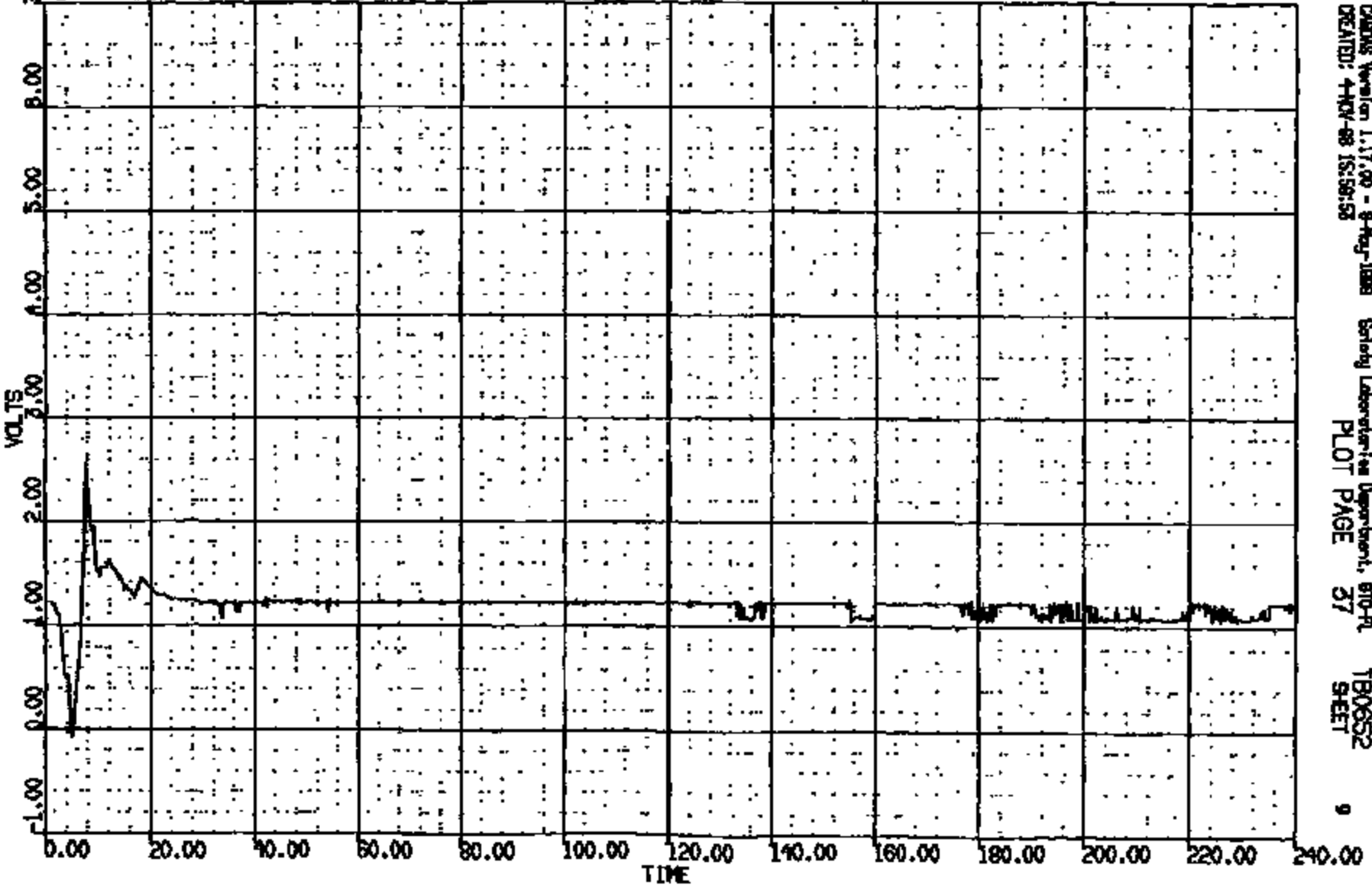
TB0652
SHEET

8

CRIS 0011264

CR R: 11264 TO: TB0652 DATE: 981104 15:35:30
2000 TAURUS UNKNOWN

(24) CR11264T L/D-PLR IN @ HPT TARI 51004-1 4000
MAX = 2.563 at 7.760 NS MIN = -.880E-01 at 1.960 NS **AXIS 1**



CARDAS Version 1.17.00 - 8-May-1998 Safety Laboratory Department, 610-P
CREATED: 4-NOV-98 15:56:52 PLOT PAGE 37 TB0652
SHEET 9

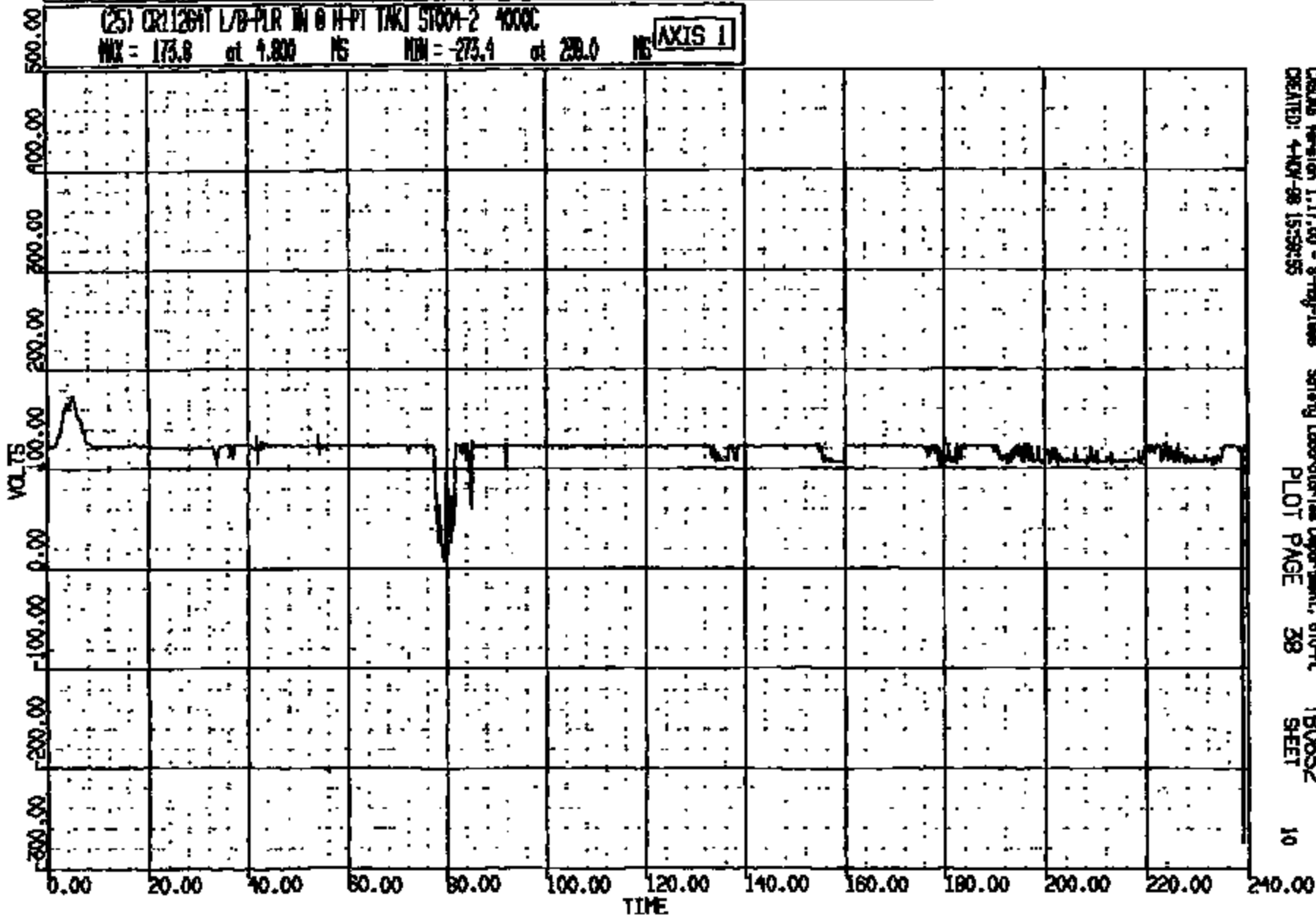
CRTS 0011264

CR R: 11264 TO: TB0652 DATE: 981104 15:55:50
2000 TAURUS UNKNOWN

(25) CR11264T L/B-PLR IN @ H-PT TAKI ST004-2 4000

MAX = 173.8 at 4.800 MS MIN = -273.4 at 230.0 MS

AXIS 1



CASLAB Version 1.17.00 - 8-May-1998
CREATED: 4-NOV-98 15:59:55

Safety Laboratory/ees Department, 610-R
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TB0652
SHEET

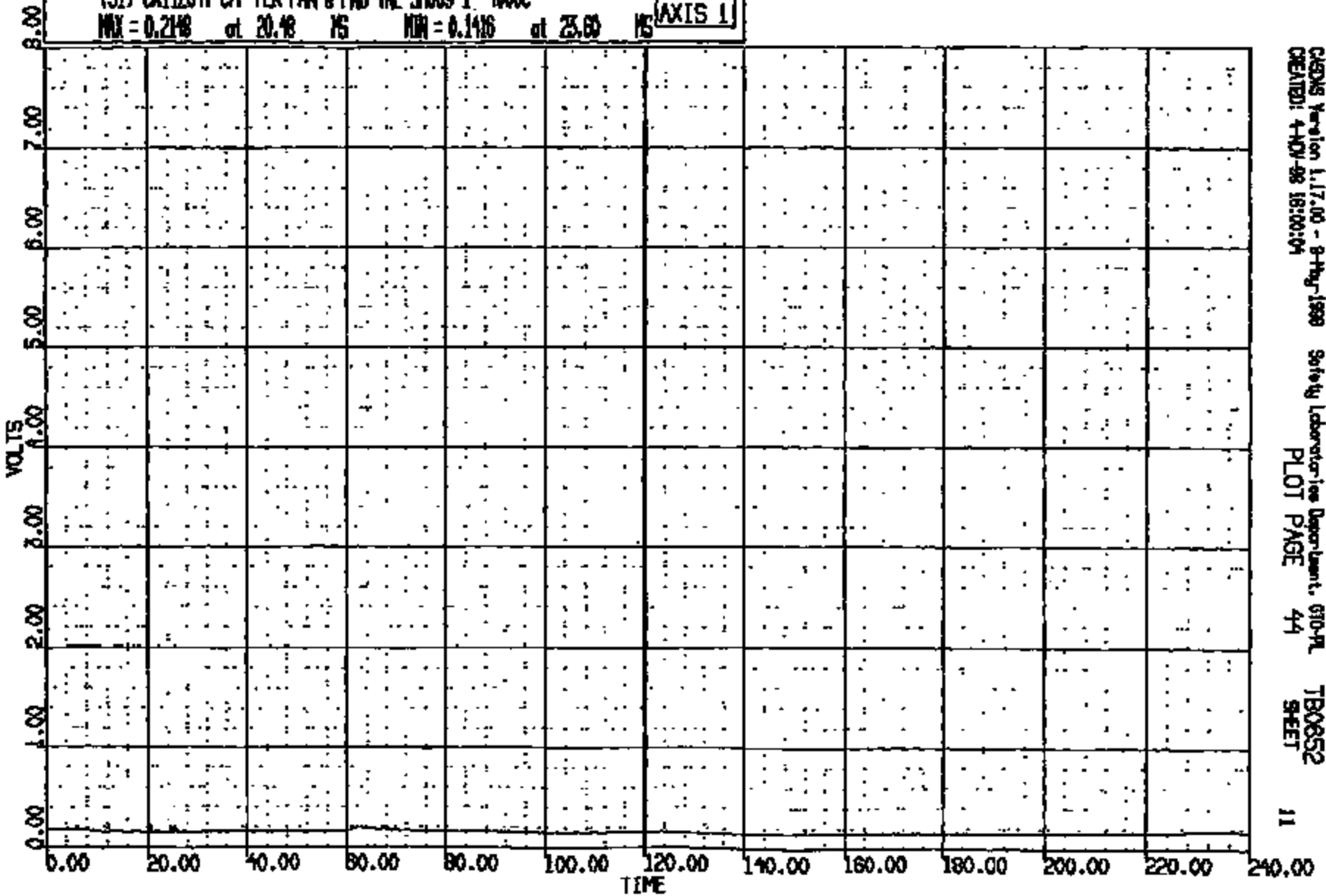
10

CRTS 0011264

CR R: 11264 TO: TB0652 DATE: 981104 15:55:50
2000 TAURUS UNKNOWN

(31) CR11264T C/F FLR PAN @ FWD TR. SMOG-1 400C
MAX = 0.2148 at 20.48 MS MIN = 0.1416 at 23.60 MS

AXIS 1



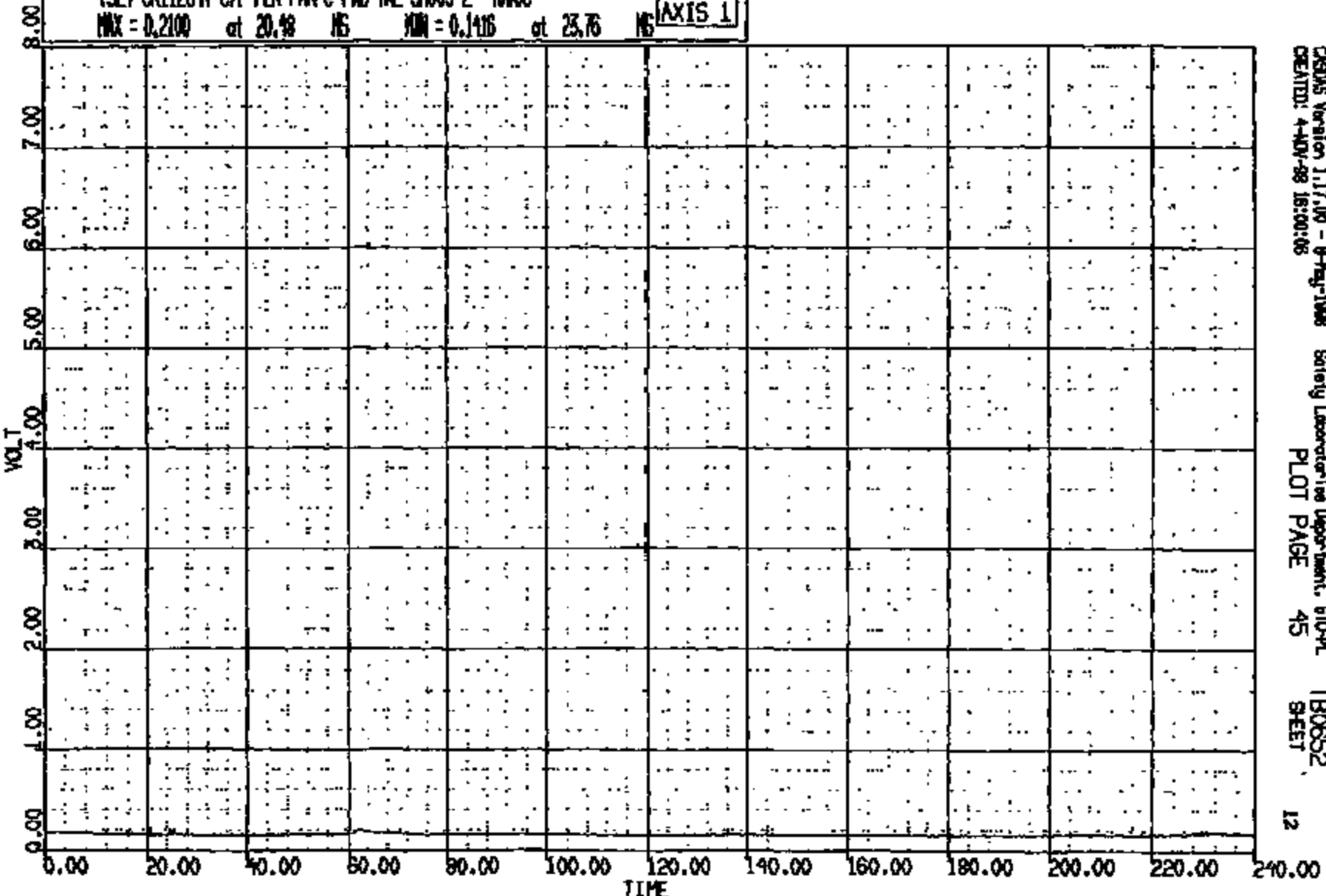
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CREATED: 4-NOV-98 16:00:04 PLOT PAGE 44 SHEET 11

CRIS 0011264

CR R: 11264 TO: TB0652 DATE: 881104 16:35:20
2000 TAURUS UNKNOWN

(32) CRL12641 C/F FLR PAN @ FWD TML 59009-2 4000C
MAX = 0.2100 at 20.48 NS MIN = 0.1416 at 23.76 NS

AXIS 1



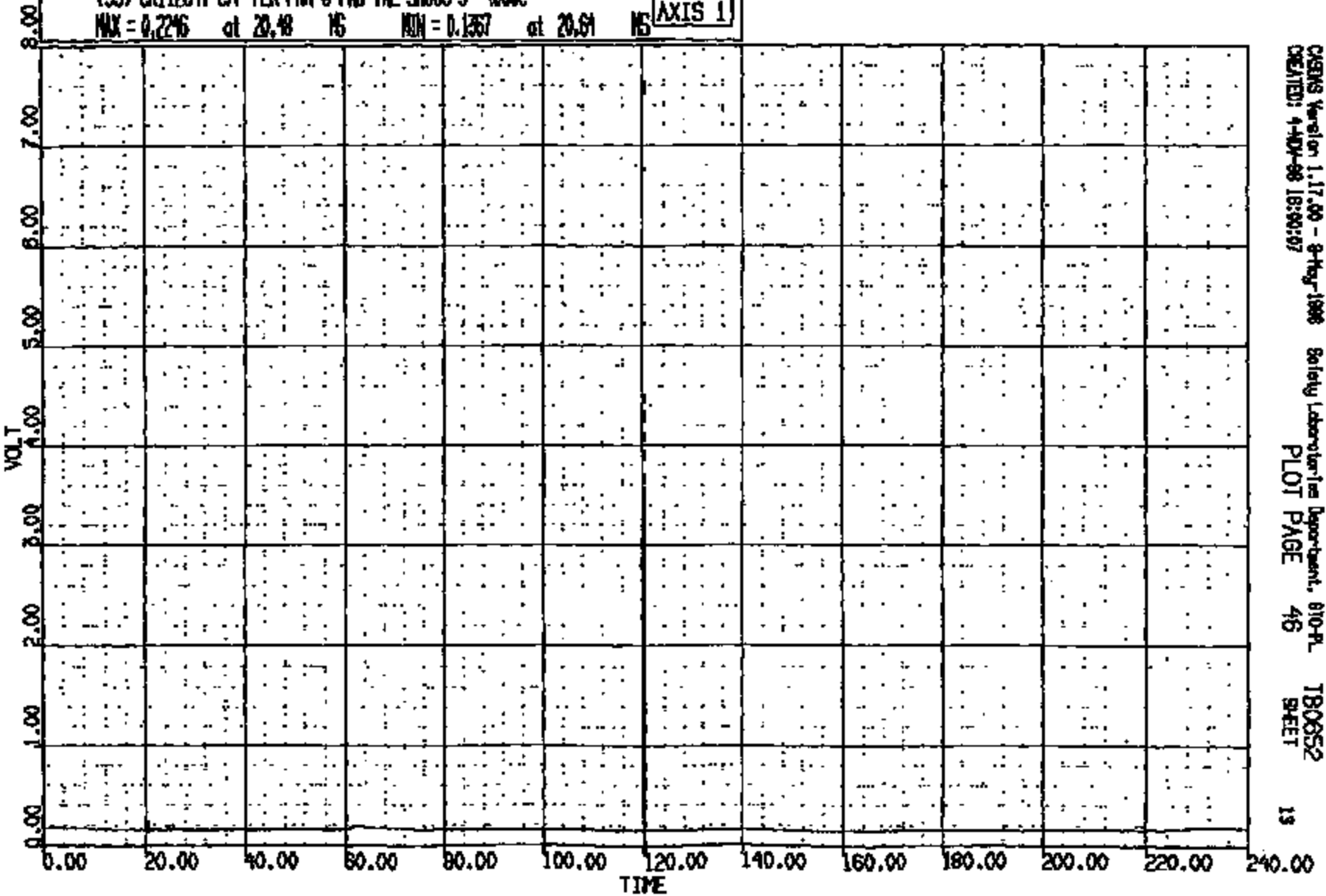
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CRTS 0011264

CR R: 11264 TO: TB0652 DATE: 981104 15:35:50
E000 TAURUS UNKNOWN

(33) CR11264T C/F FLR PHN @ FND TML S1000-3 4000
MAX = 0.2246 at 20.48 MS MIN = 0.1357 at 20.61 MS

AXIS 1



CRS Version 1.17.00 - 9-May-1998
CREATED: 4-NOV-98 18:30:07

Safety Laboratories Department, 810-PL
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SHEET

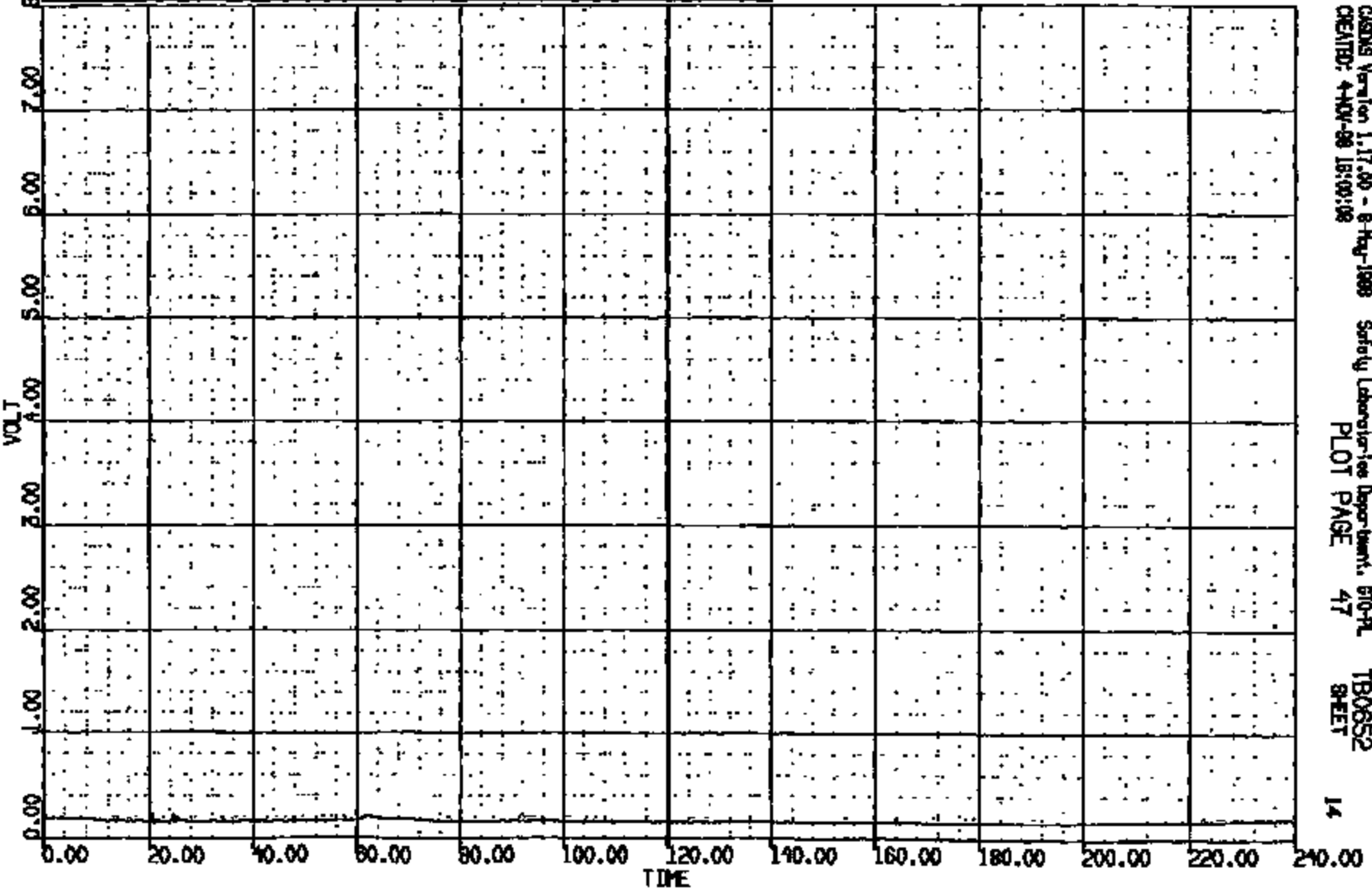
13

CRIS 0011264

CR R: 11264 TO: T80652 DATE: 981104 15:55:50
2000 TAURUS UNKNOWN

(34) CR11264T C/F FLR PAN @ FWD TAIL SH009-4 4000C
MAX = 0.2197 of 20.48 NS MIN = 0.1514 of 20.64 NS

AXIS 1



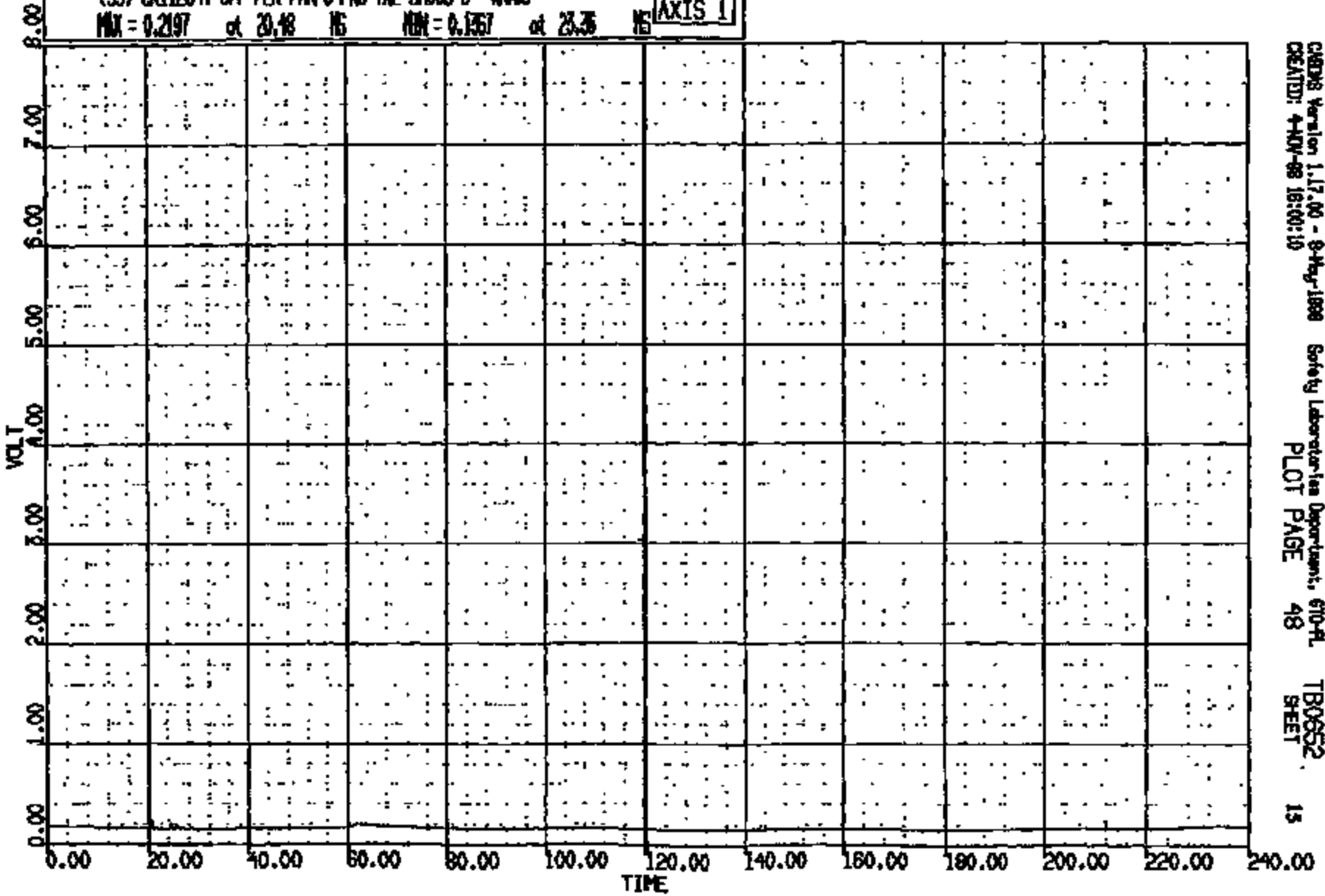
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CREATED: 4-NOV-98 16:00:08 PLOT PAGE 47 SHEET 14

CRIS 0011264

CR R: 11264 TO: TB0652 DATE: 981104 15:35:30
2000 TAURUS UNKNOWN

(35) CR11264T C/ FLR PAN @ FND TML SMOG-5 400C
MAX = 0.2197 at 20.48 NS MIN = 0.1357 at 23.35 NS

AXIS 1



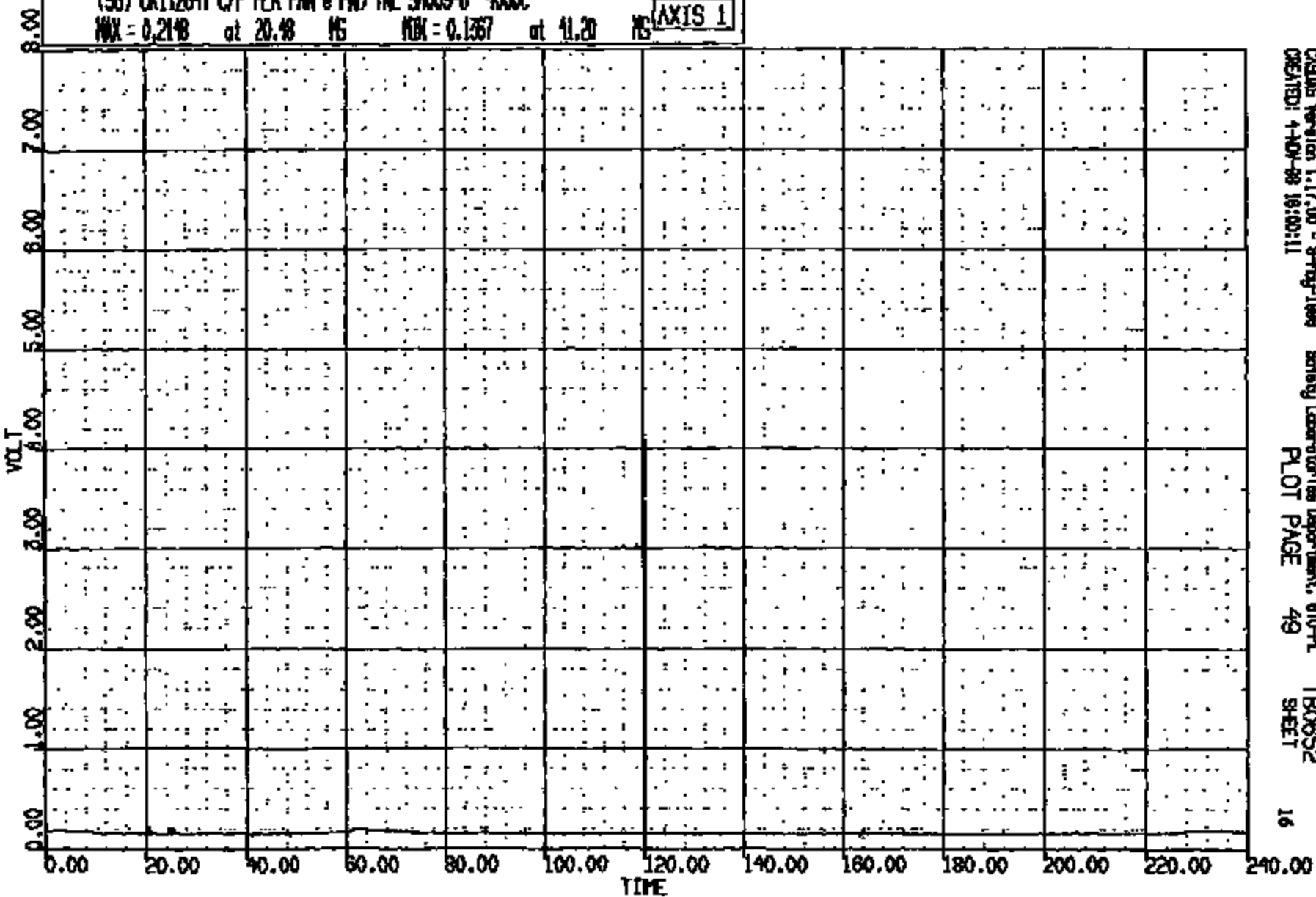
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CREATED: 4-NOV-98 18:00:10 PLOT PAGE 48 SHEET 15

CRTS 0011264

CR #: 11264 TO: TB0652 DATE: 981104 13:55:50
2000 TAURUS UNKNOWN

(35) CR11264T C/F FLR PNM @ FND TML 5000-6 400C
MAX = 0.2148 at 20.48 MS MIN = 0.1357 at 11.20 MS

AXIS 1



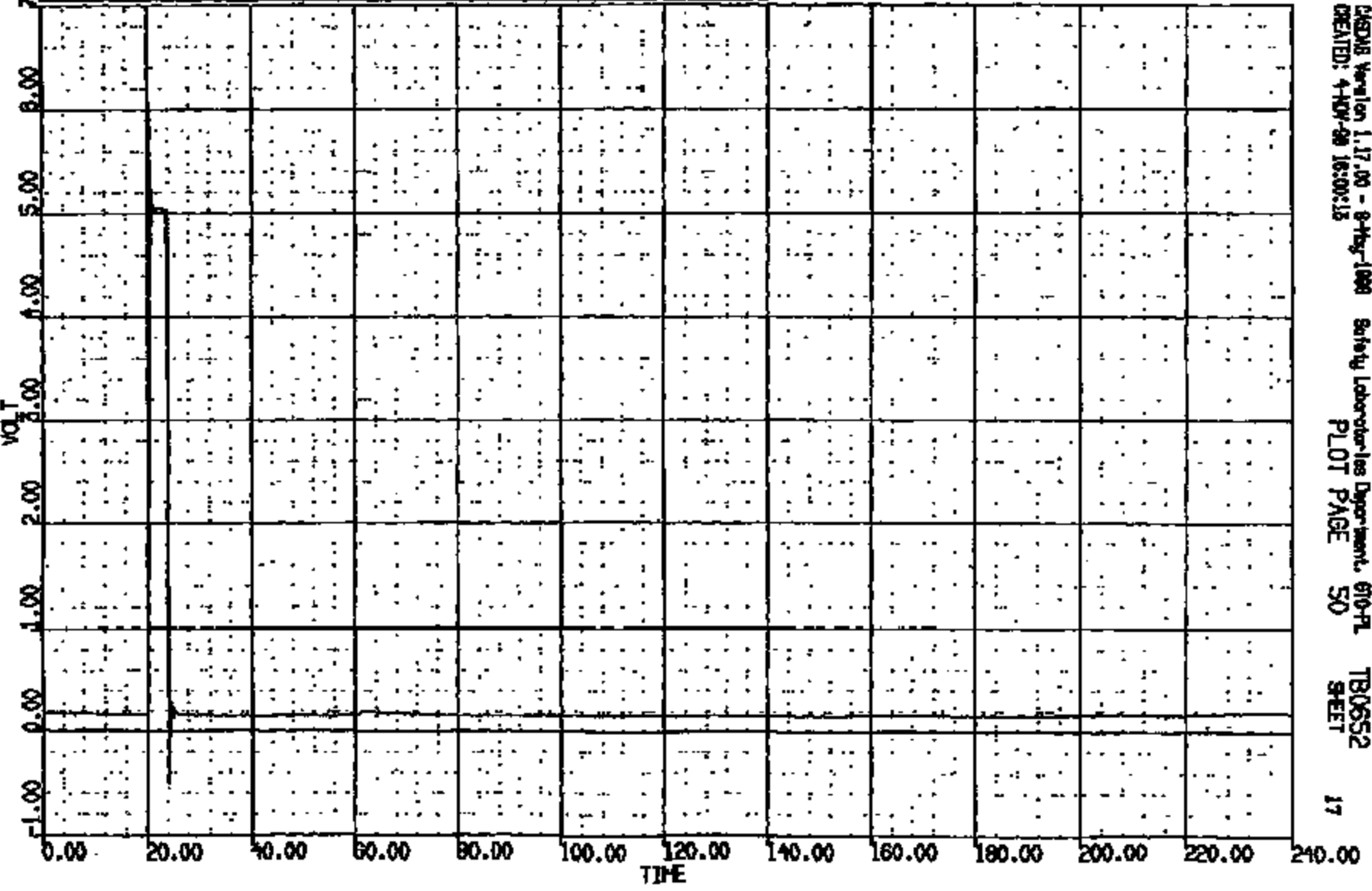
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CREATED: 4-NOV-98 16:00:11 PLOT PAGE 49 SHEET 16

CRTS 0011264

CR R: 11264 TO: TB0652 DATE: 981104 16:26:30
2000 TAURUS UNKNOWN

(37) CR1126RT C/F FLR PNM @ FND TLE 51009-7 4000
MAX = 6.079 at 20.48 NS MIN = -.5127 at 24.08 NS

AXIS 1



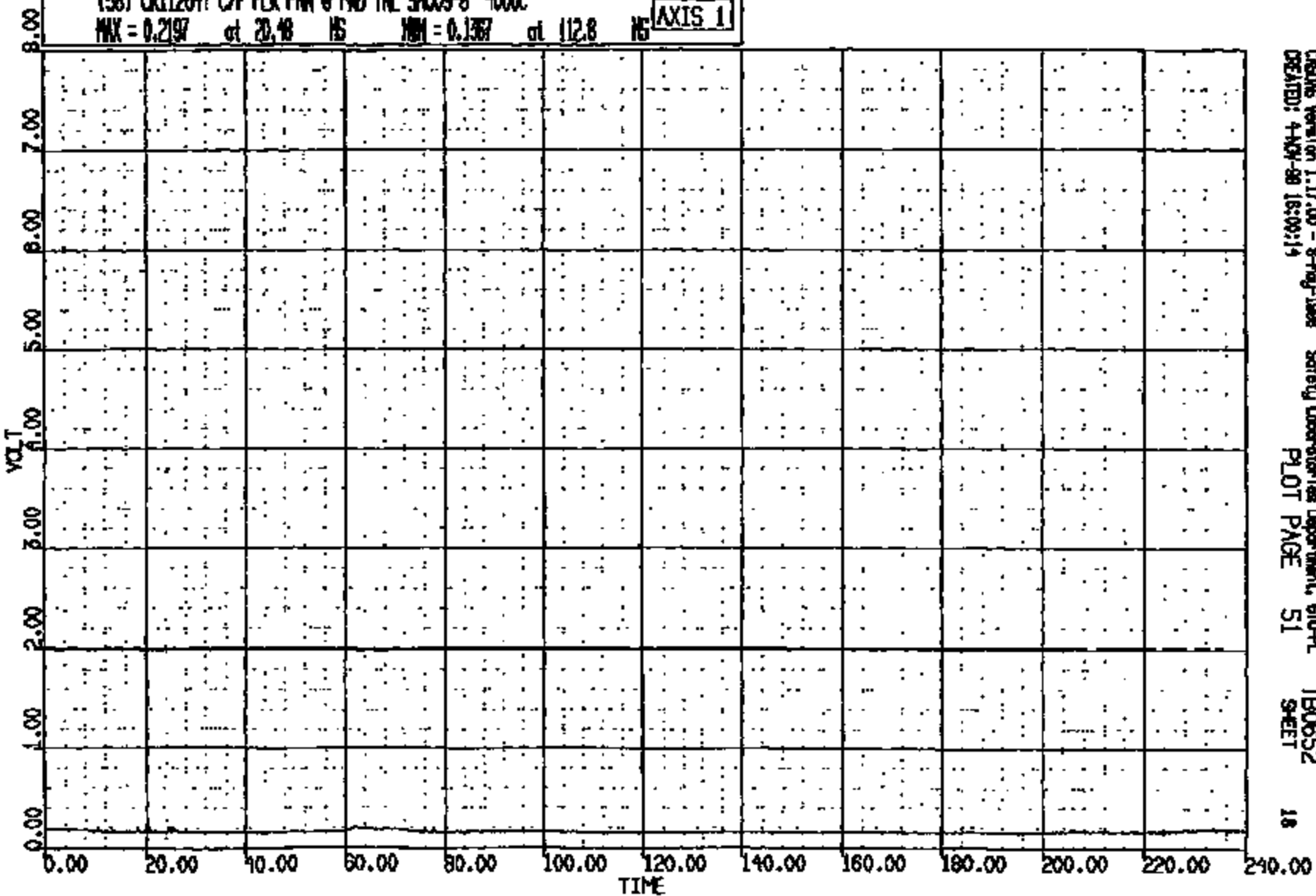
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CRIS 0011264

CR R: 11264 TO: TB0652 DATE: 061104 15:26:30
2000 TAURUS UNKNOWN

(38) CR126AT C/F FLR PWR @ FND TNL SPO09-8 4000C
MAX = 0.2197 at 20.48 IS MIN = 0.1367 at 112.8 IS

AXIS 1



CRSIS Version 1.17.00 - 8-May-1998
CREATED: 4-Nov-98 16:09:14

Safety Laboratories Department, 610-PL
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SHEET

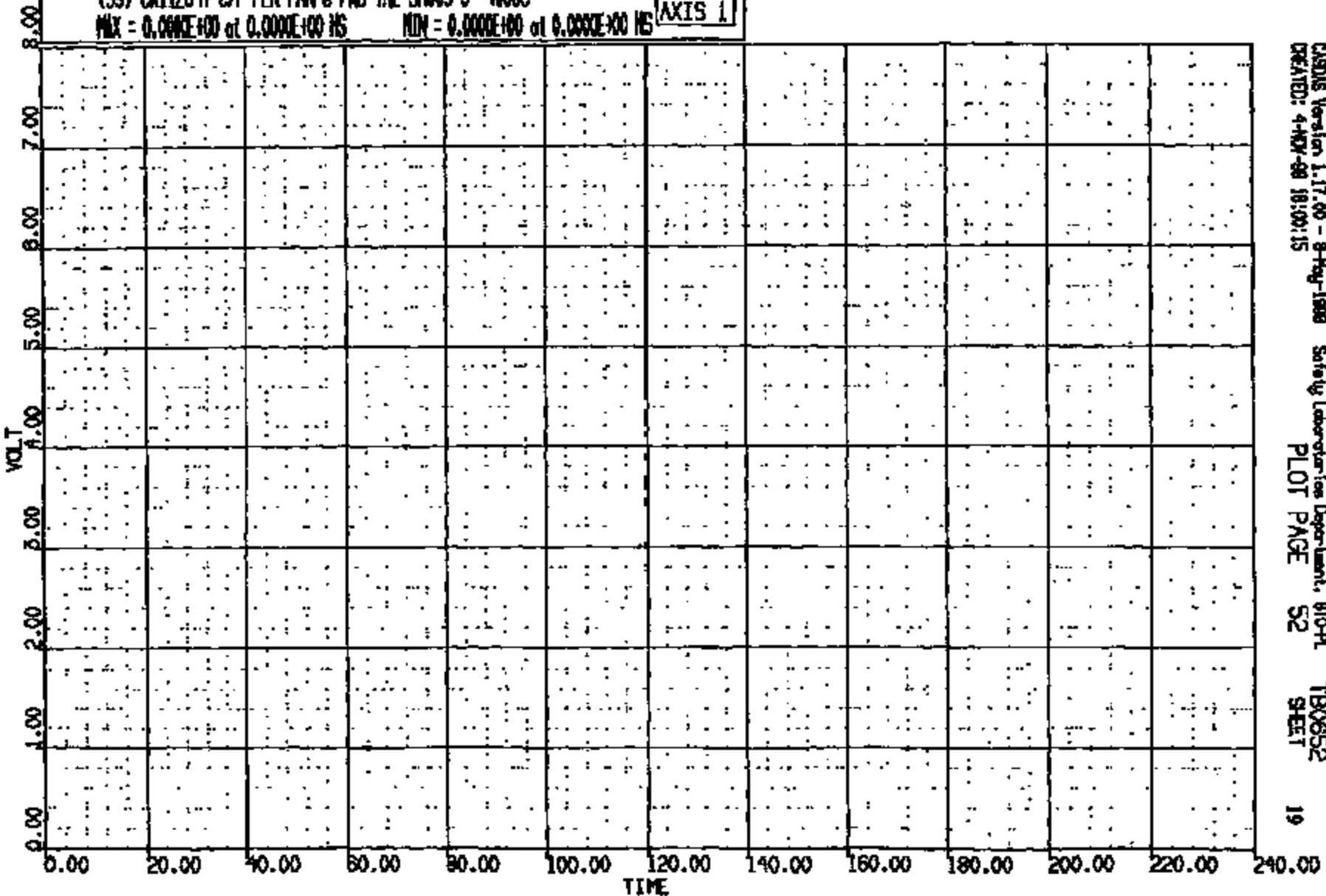
18

CRIS 0011264

CR R: 11264 TO: TB0652 DATE: 881104 16:55:50
2000 TAURUS UNKNOWN

(39) CR11264T C/F FLR PAN @ FND TML SMOG-9 4X00C
MAX = 0.000E+00 of 0.000E+00 HS MIN = 0.000E+00 of 0.000E+00 HS

AXIS 1



CARDIS Version 1.17.00 - 8-Aug-1988 Safety Laboratories Department, 810-PL
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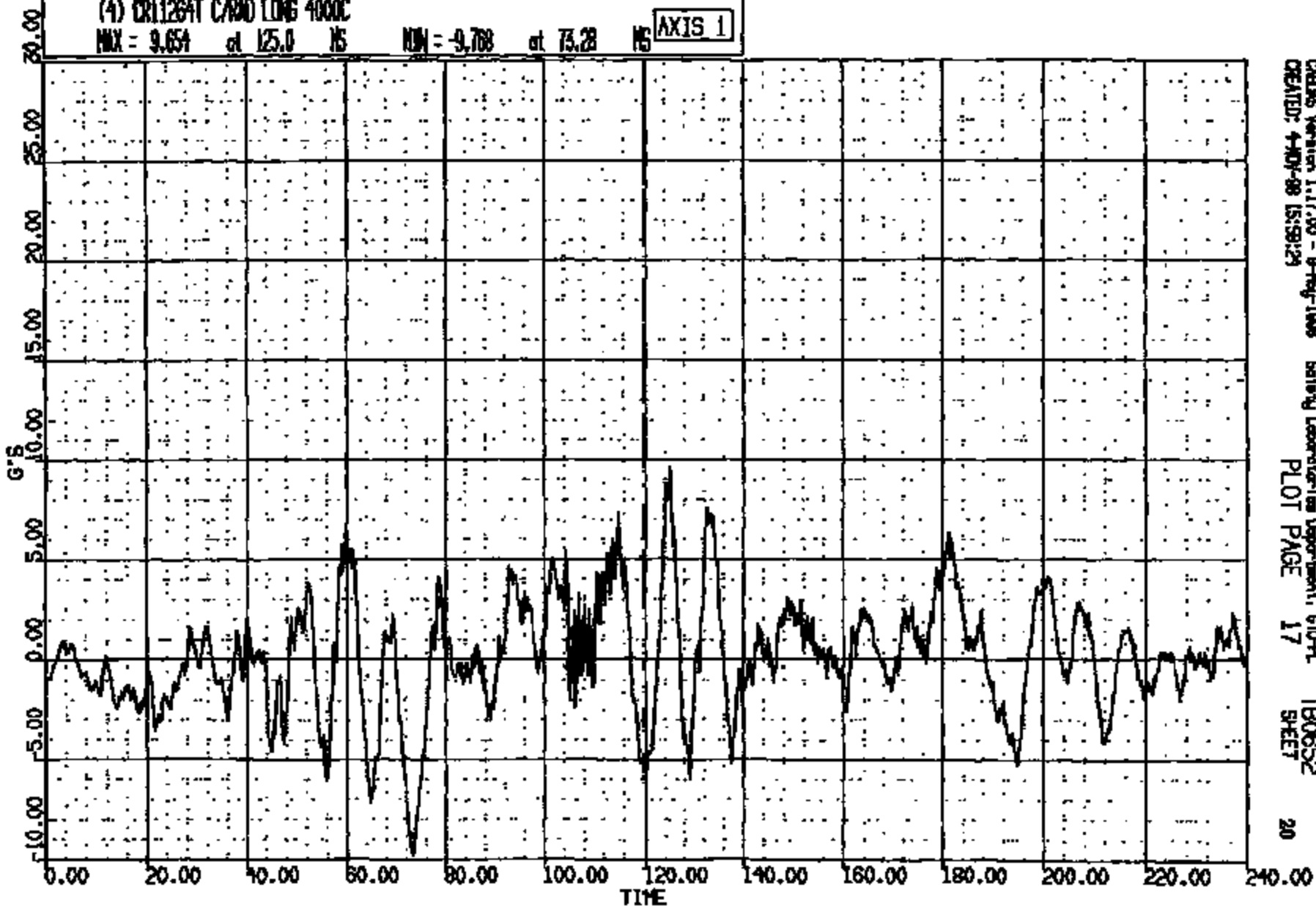
CRIS 0011264

CR R: 11264 TO: TB0652 DATE: 981104 15:25:50
2000 TAURUS UNKNOWN

(4) CR11264T C/RAD LONG 400C

MAX = 9.654 at 125.0 MS MIN = -9.768 at 73.28 MS

AXIS 1



CRAMS Version 1.17.00 - 9-May-1998
CREATED: 4-MAY-98 15:59:25

Safety Laboratory Department, 610-PL
PLOT PAGE 17

TB0652
SHEET

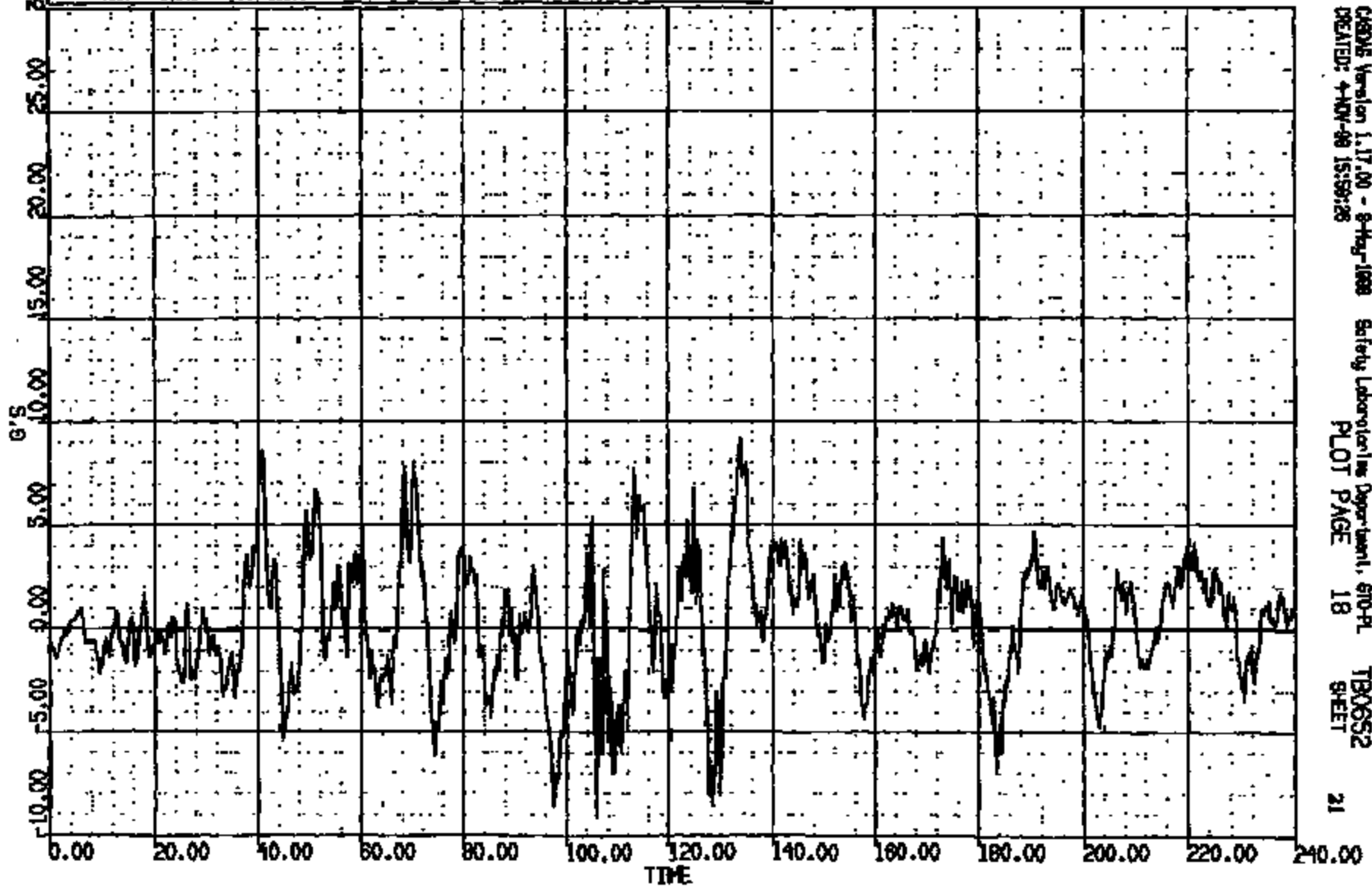
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CRTS 0011264

CR #: 11264 TO: TB0652 DATE: 081104 15:28:20
2000 TAURUS UNKNOWN

(S) CR11264T CARD VERT 4000C
MAX = 9.140 at 133.8 MS MIN = -9.140 at 145.8 MS

AXIS 1



CRS05E Version 1.17.00 - 8-Aug-1999
CREATED: 4-NOV-98 15:58:28

Safety Laboratories Department, 610-PL
PLOT PAGE 18

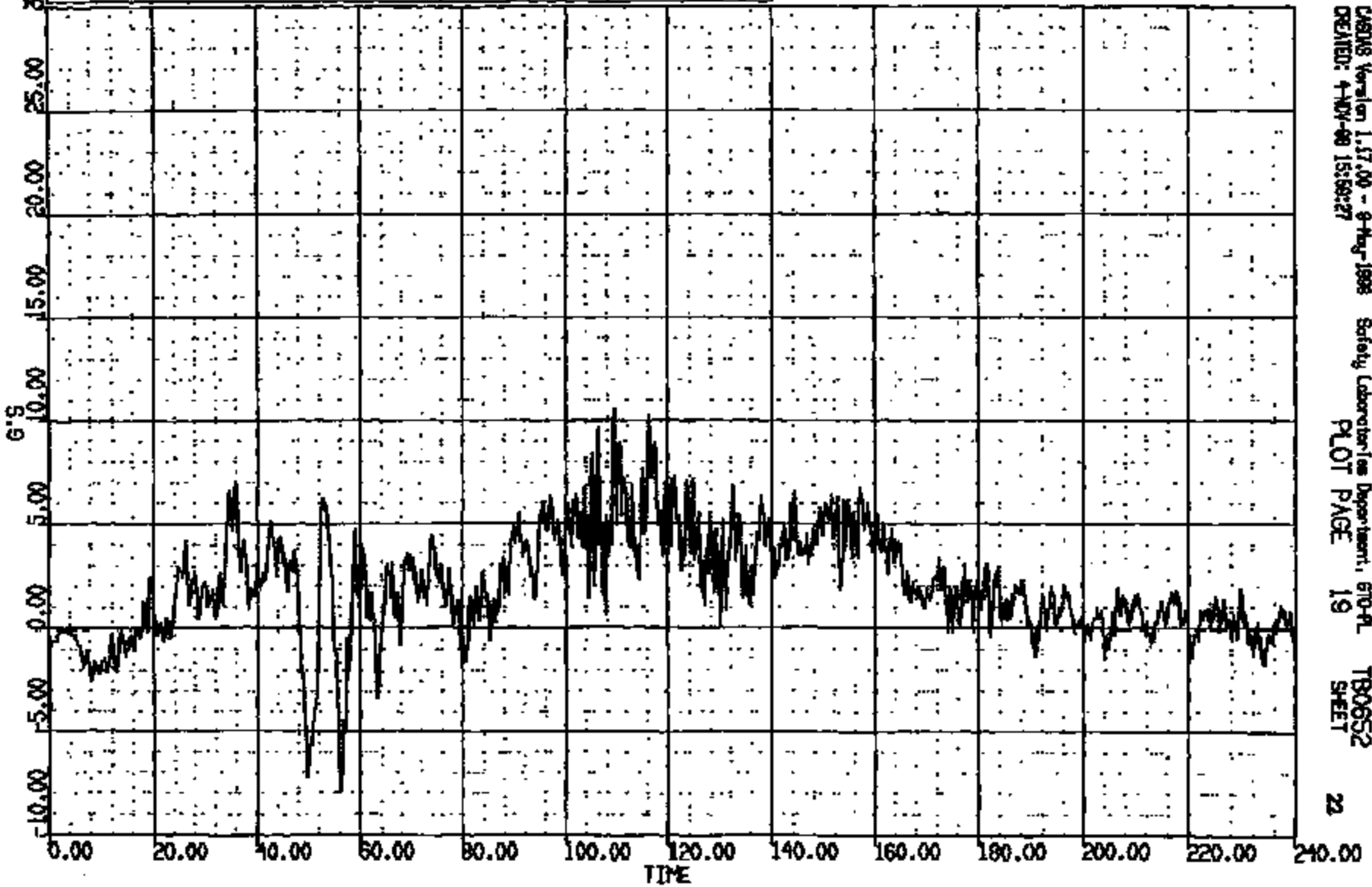
TB0652
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21

CRIS 0011264

CR# 11264 TO: T80652 DATE: 981104 16:55:30
2000 TAURUS UNKNOWN

(6) CR11264T CARD LAT 400C
MAX = 10.53 at 109.4 MS MIN = -7.98 at 56.16 MS **AXIS 1**

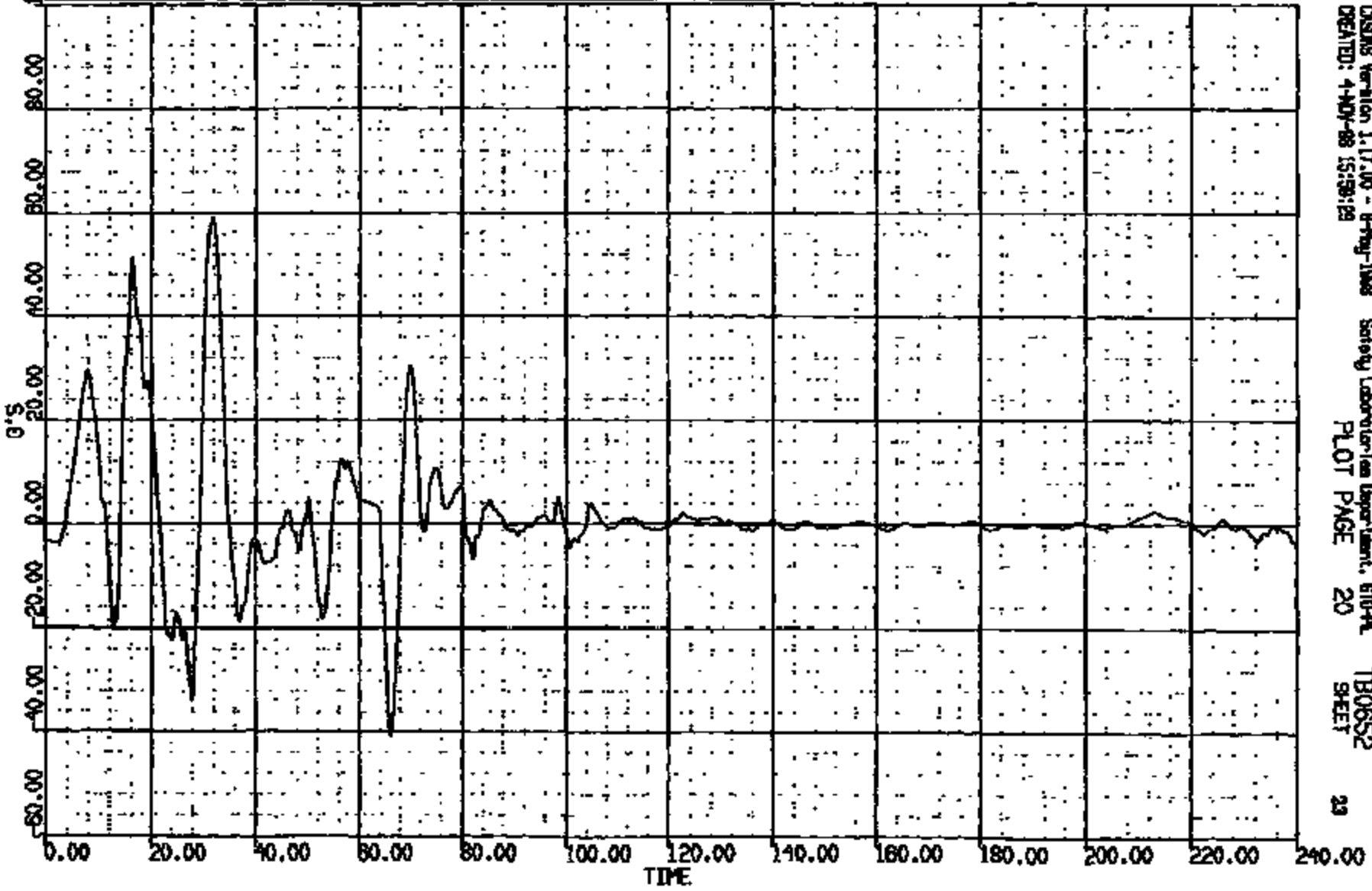


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CREATED: 4-NOV-98 15:59:27 PLOT PAGE 19 SHEET 22

CRIS 0011264

CR R: 11264 TO: TB0652 DATE: 881104 15:55:30
5000 TAURUS UNKNOWN

(7) CR11264 LAF DOOR @ BELTLINE MID LAT SOC
MAX = 59.10 at 31.92 NS MIN = -40.97 at 66.16 NS **AXIS 1**



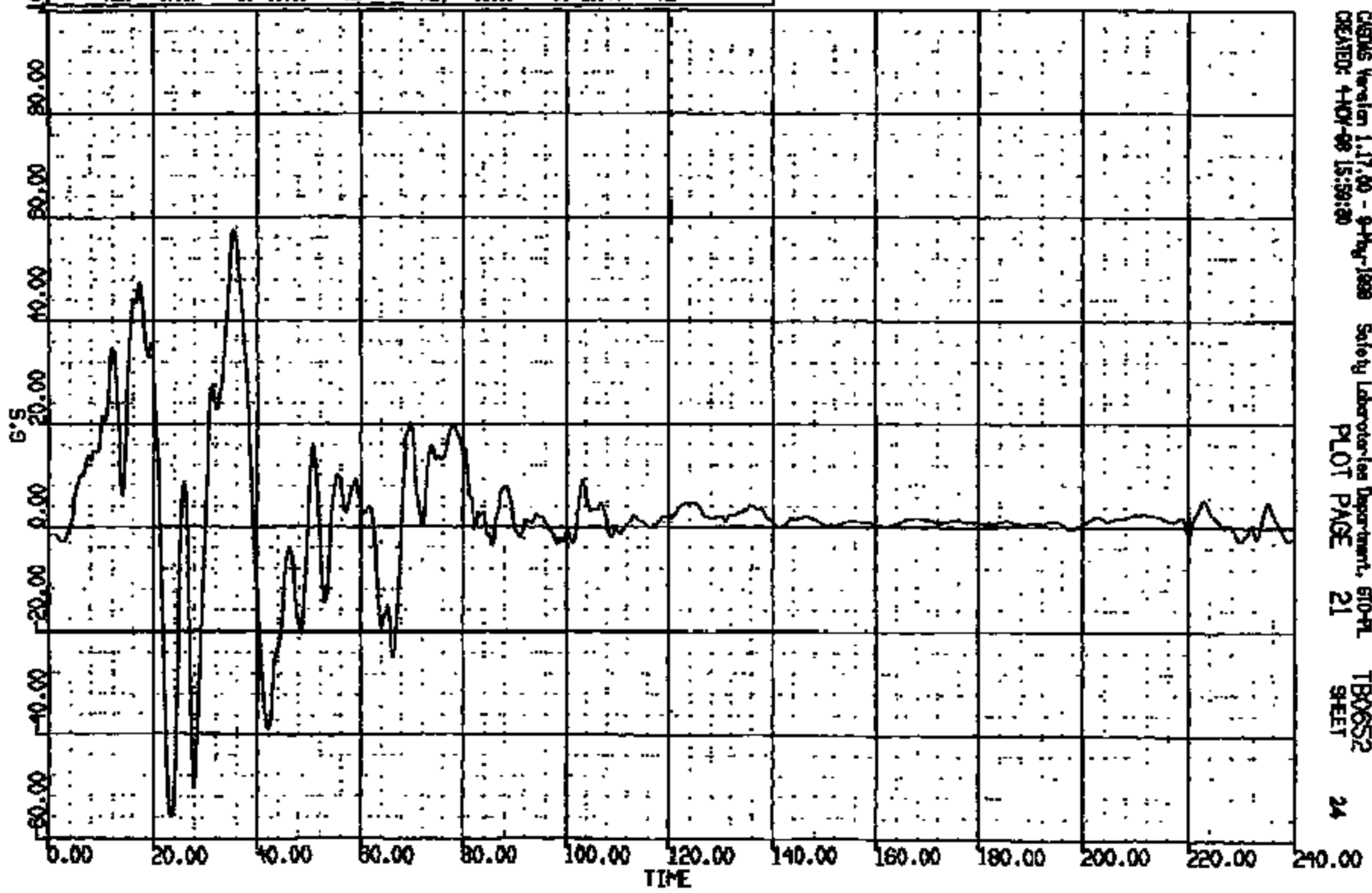
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CREATED: 4-MAY-88 15:59:19 PLOT PAGE 20 SHEET 23

CRIS 0011264

CR R: 11264 TD: T8052 DATE: 981104 15:35:30
2000 TAURUS UNKNOWN

(8) CR11264T L/F DOOR OVER ARREST LAT GDC
MAX = 57.57 at 35.35 NS MIN = -55.90 at 28.44 NS

AXIS 1

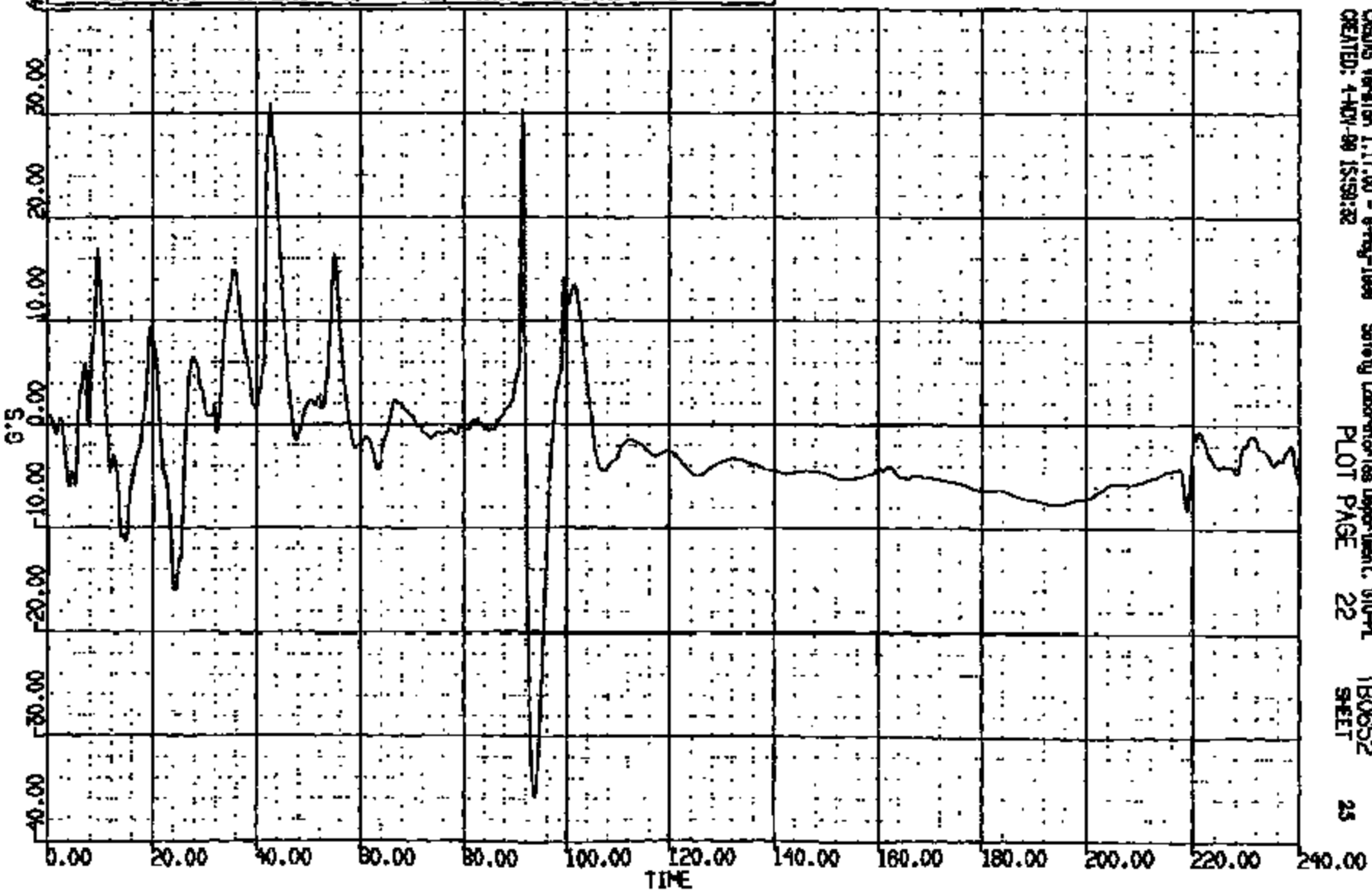


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CREATED: 4-NOV-98 15:39:20 PLOT PAGE 21 SHEET 24

CRTS 0011264

CR R: 11264 TO: TB0652 DATE: 001104 15:35:30
2000 TAURUS UNKNOWN

(9) CR11264T LAF DOOR REAR OF SEAT H-PT LONG 60C
MAX = 30.77 at 42.80 MS MIN = -35.87 at 93.50 MS **AXIS 1**



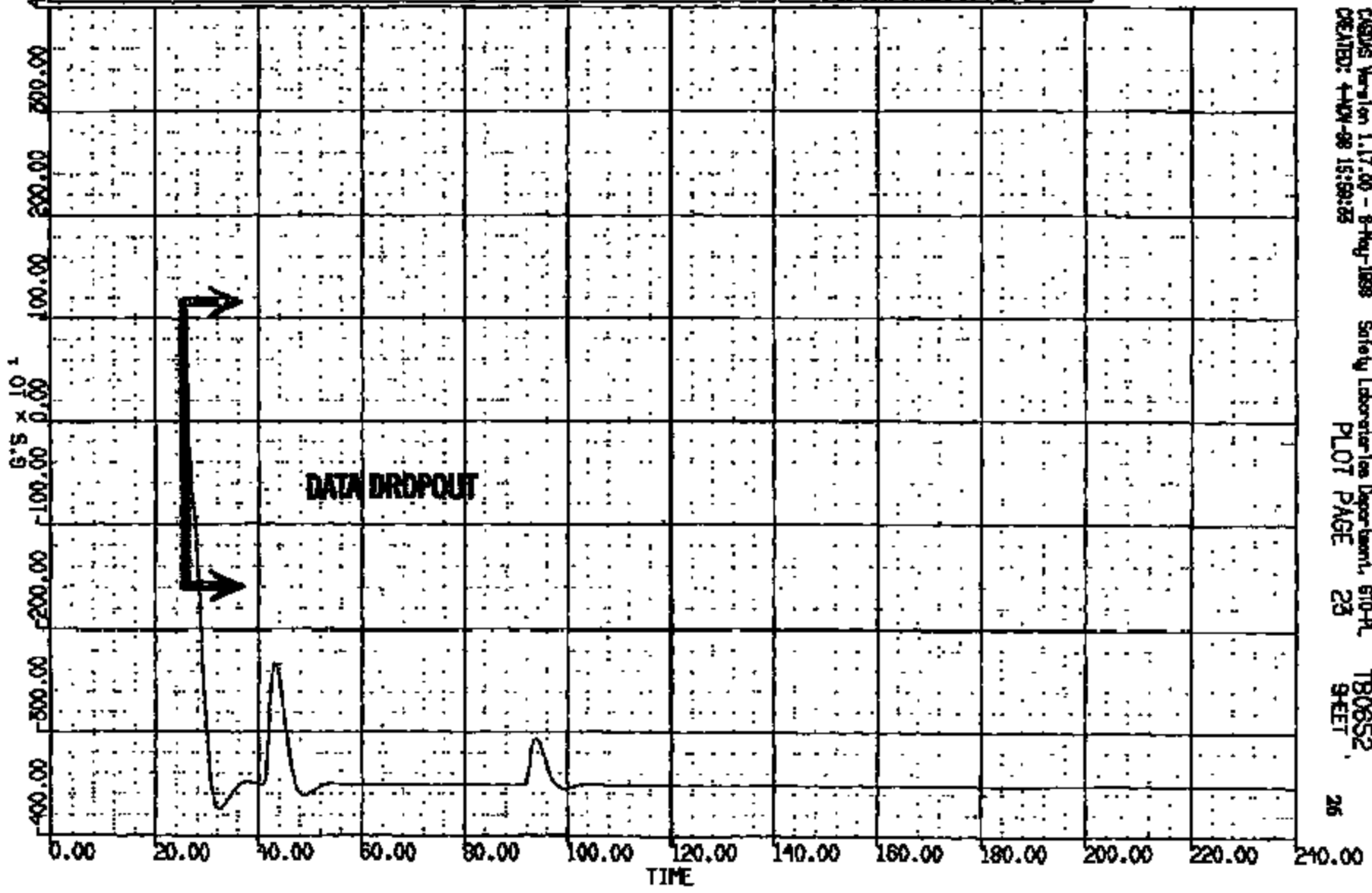
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CREATED: 4-NOV-99 15:35:32 PLOT PAGE 22 SHEET 23

CRIS 0011264

CR R: 11264 TO: TB0652 DATE: 981104 15:35:30
8000 TAURUS UNKNOWN

110) CR11264T L/R DOOR REAR OF SEAT H-PT VERT GOC
MAX = 11.51 at 13.81 MS MIN = ~~3.45~~ at 32.98 MS **AXIS 1**

LEGEND KEYS
O - Midboard data extended full scale
X - Midboard data >80.0% of full scale
S - All data < 10.0% of full scale
E - 21 percent offset of scale

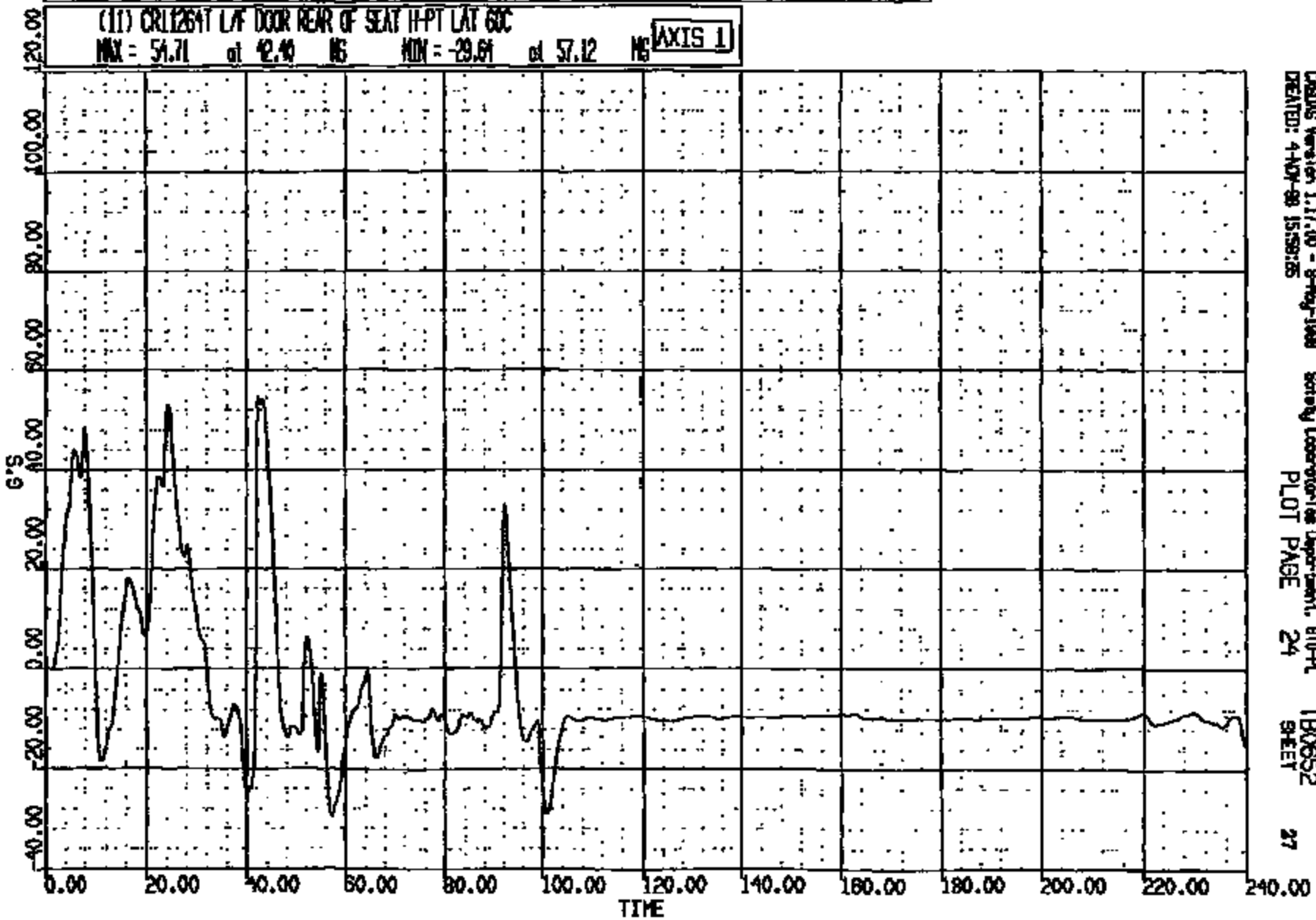


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CREATED: 4-Nov-98 15:59:25 PLOT PAGE 23 SHEET 26

CRTS 0011264

CR #: 11264 TO: TB0652 DATE: 981104 15:25:20
2000 TAURUS UNKNOWN

(11) CR11264T L/R DOOR REAR OF SEAT HPT LAT 60C
MAX = 54.71 at 42.40 MS MIN = -29.61 at 57.12 MS **AXIS 1**



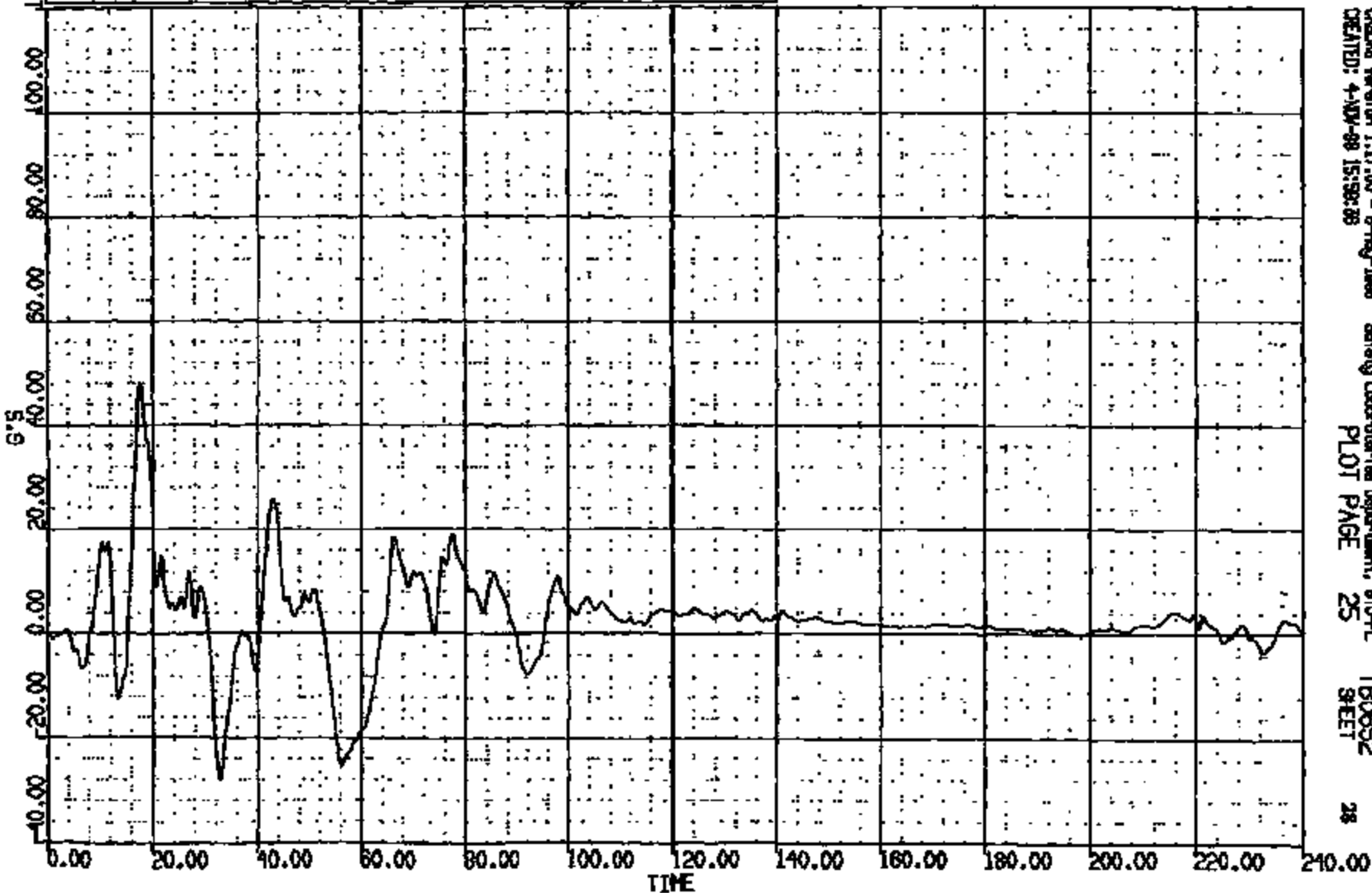
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CREATED: 4-MAY-98 15:59:25 PLOT PAGE 24 SHEET 27

CRTS 0011264

CR R: 11264 TO: TB0852 DATE: 981104 15:25:30
2000 TAURUS UNKNOWN

(12) CR11264T L/F DOOR SPEAKER HOLE LAT 60C
MAX = 47.99 at 17.68 MS MIN = -28.13 at 32.80 MS

AXIS 1



CASDA Version 1.17.00 - 9-May-1998
CREATED: 4-NOV-98 15:38:08

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PLOT PAGE 25

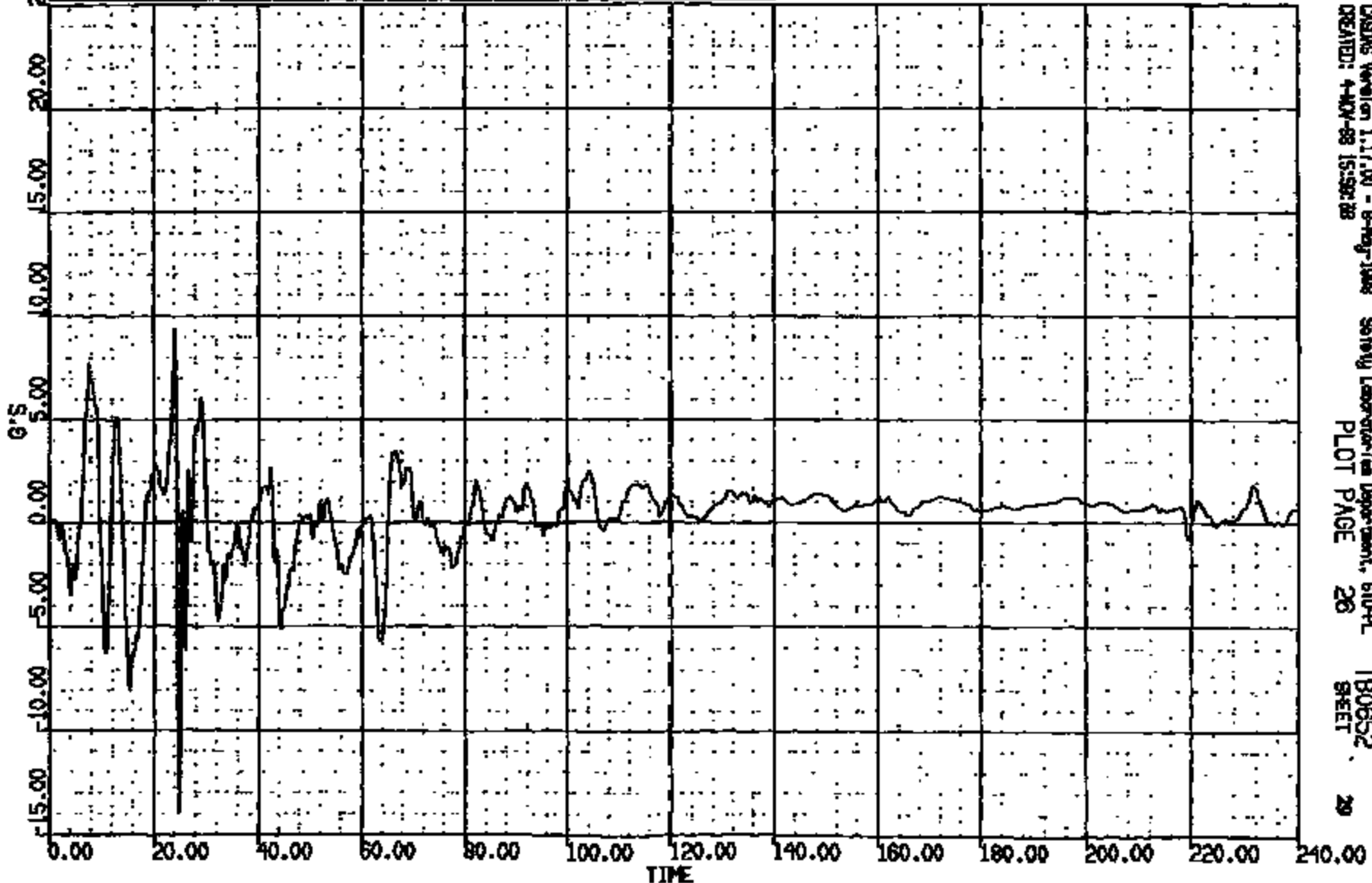
TB0852
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CR11264

CR R: 11264 TO: TB0652 DATE: 981104 16:56:50
2000 TAURUS UNKNOWN

(13) CRT1264T L/F DOOR BELOW BELT LINE REAR LONG 60C
MAX = 9.360 at 21.16 MS MIN = -13.55 at 21.08 MS **AXIS 1**

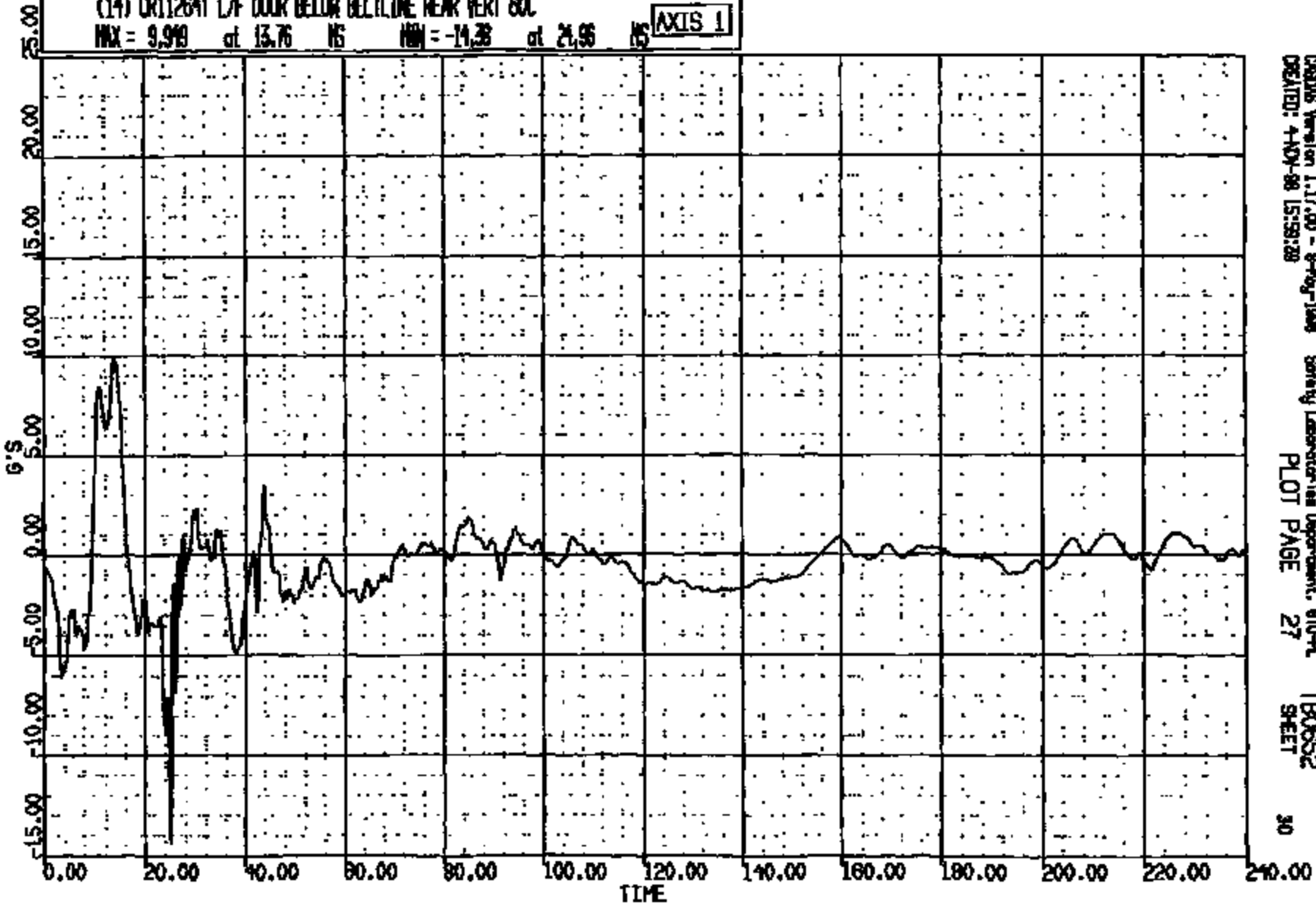


CRSIS Version 1.17.00 - 8-May-1998 Safety Laboratory Department, 610-PL
CREATED: 4-MAY-98 15:59:28 PLOT PAGE 26 TB0652
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CRTS 0011264

CR R: 11264 TO: TB0652 DATE: 081104 15:35:30
2000 TAURUS UNKNOWN

(14) CR11264T L/F DOOR BELOW BELT LINE NEAR VERT 80C
MAX = 9.919 at 13.76 NS MIN = -14.38 at 21.96 NS **AXIS 1**



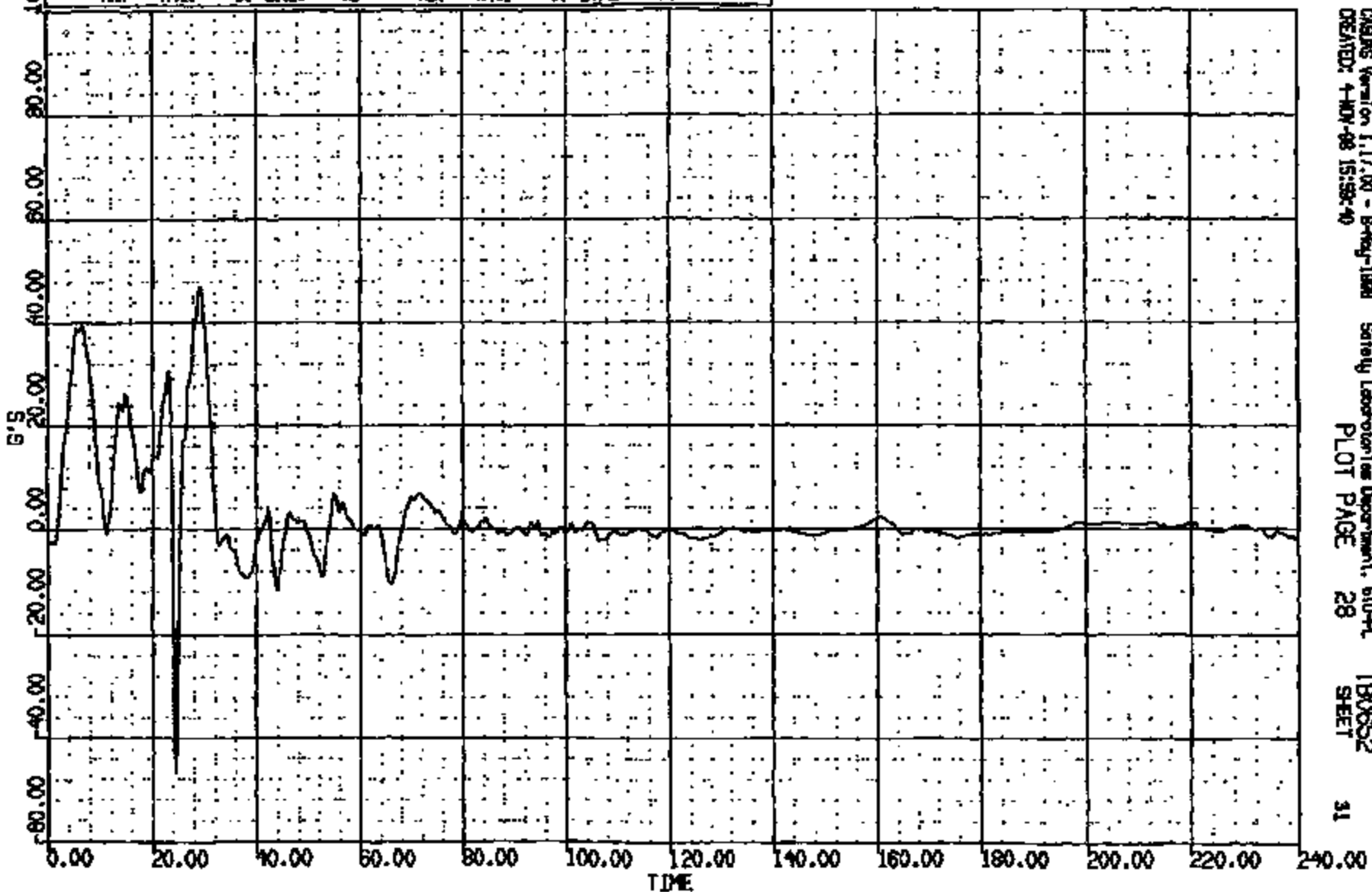
CASUS Version 1.17.00 - 8-Aug-1998 Safety Laboratory Department, 610-PL
CREATED: 4-NOV-98 15:35:28 PLOT PAGE 27 TB0652 SHEET 30

CRIS 0011264

CR R: 11264 TO: TB0652 DATE: 081104 15:35:30
2000 TAURUS UNKNOWN

(15) CR11264T L/F DOOR BELOW BELTLINE NEAR LAT 60C
MAX = 47.10 at 29.20 NS MIN = -46.61 at 21.48 NS

AXIS 1



CRS Version 1.17.00 - 8-Feb-1998
CREATED: 4-MAY-98 15:39:40

Safety Laboratories Department, 610-PL
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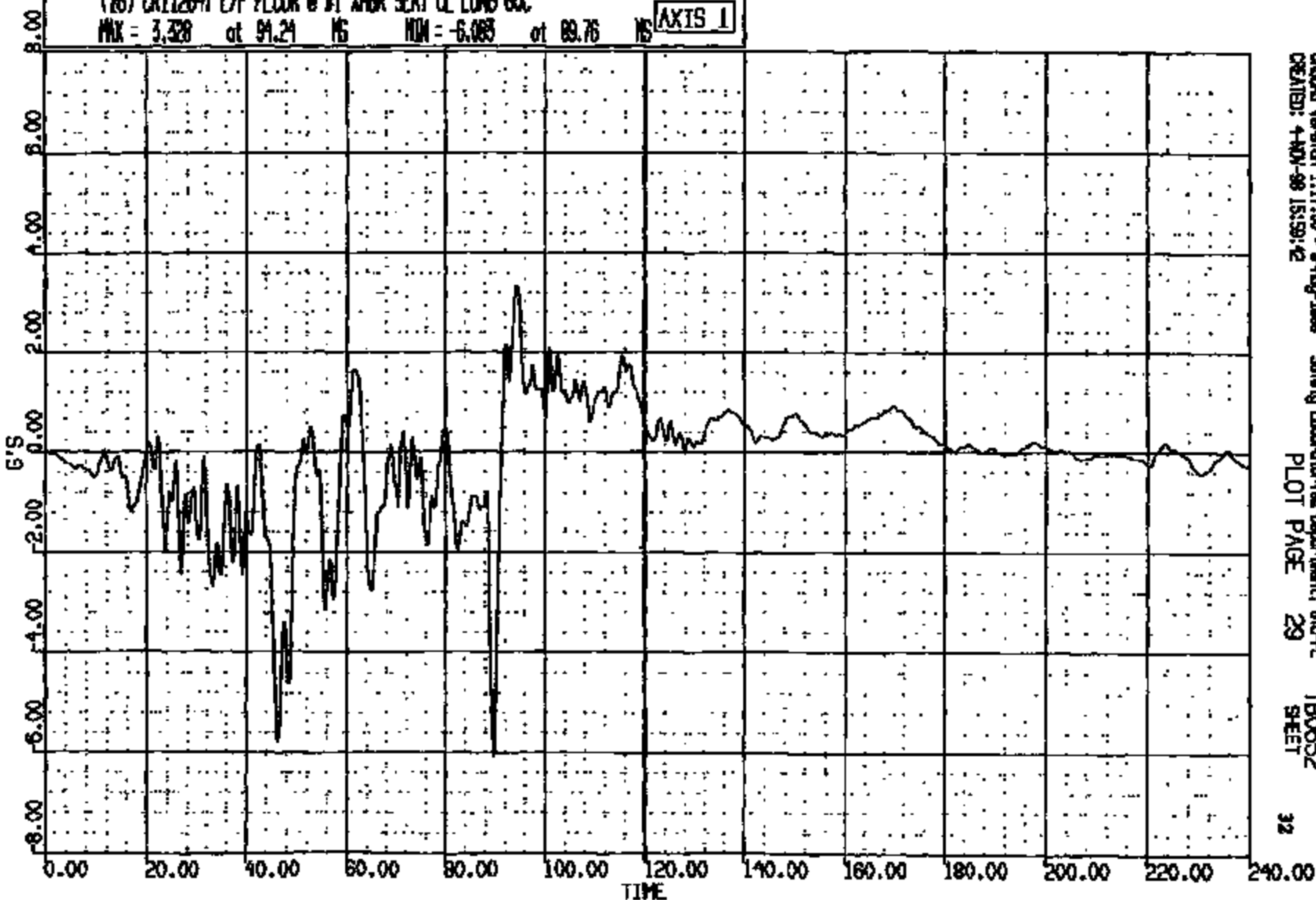
CRTS 0011264

CR R: 11264 TD: TB0652 DATE: 981104 15:35:30
2000 TAURUS UNKNOWN

(16) CR11264T L/F FLOOR @ #1 WHOR SEAT CL LONG GC

MAX = 3.328 at 91.24 MS MIN = -6.083 at 89.76 MS

AXIS 1



CRS06 Version 1.17.00 - 9-May-1998
CREATED: 4-NOV-98 15:59:42

Safety Laboratories Department, 610-PL
PLOT PAGE 29

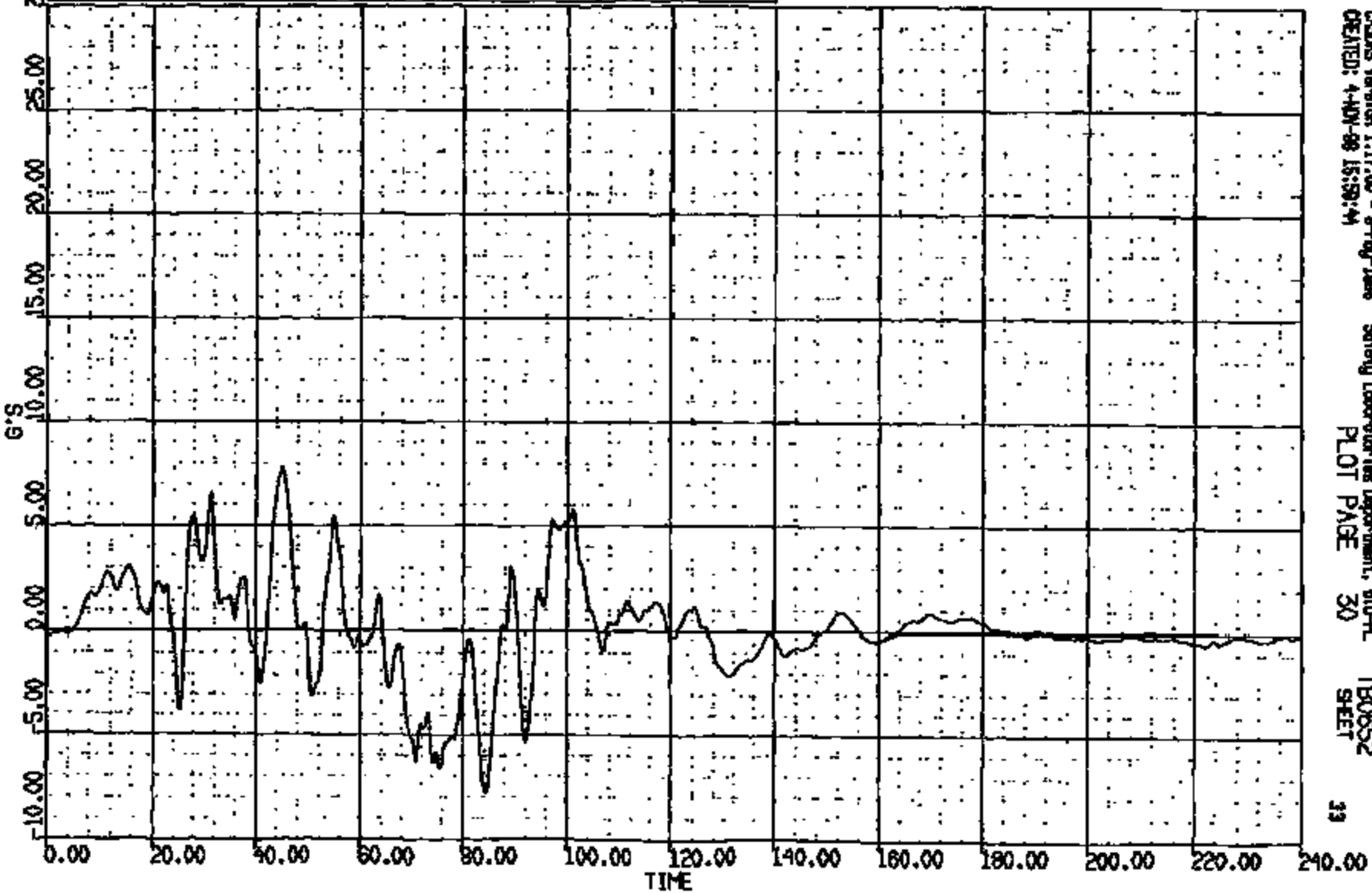
TB0652
SHEET

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CRIS 0011264

CR R: 11264 TO: TB0652 DATE: 081104 15:35:30
2000 TAURUS UNKNOWN

(17) CR11264T L/F FLOOR @ #1 XMR SEAT CL VERT GDC
MAX = 7.791 at 45.01 MS MIN = -7.891 at 81.21 MS **AXIS 1**



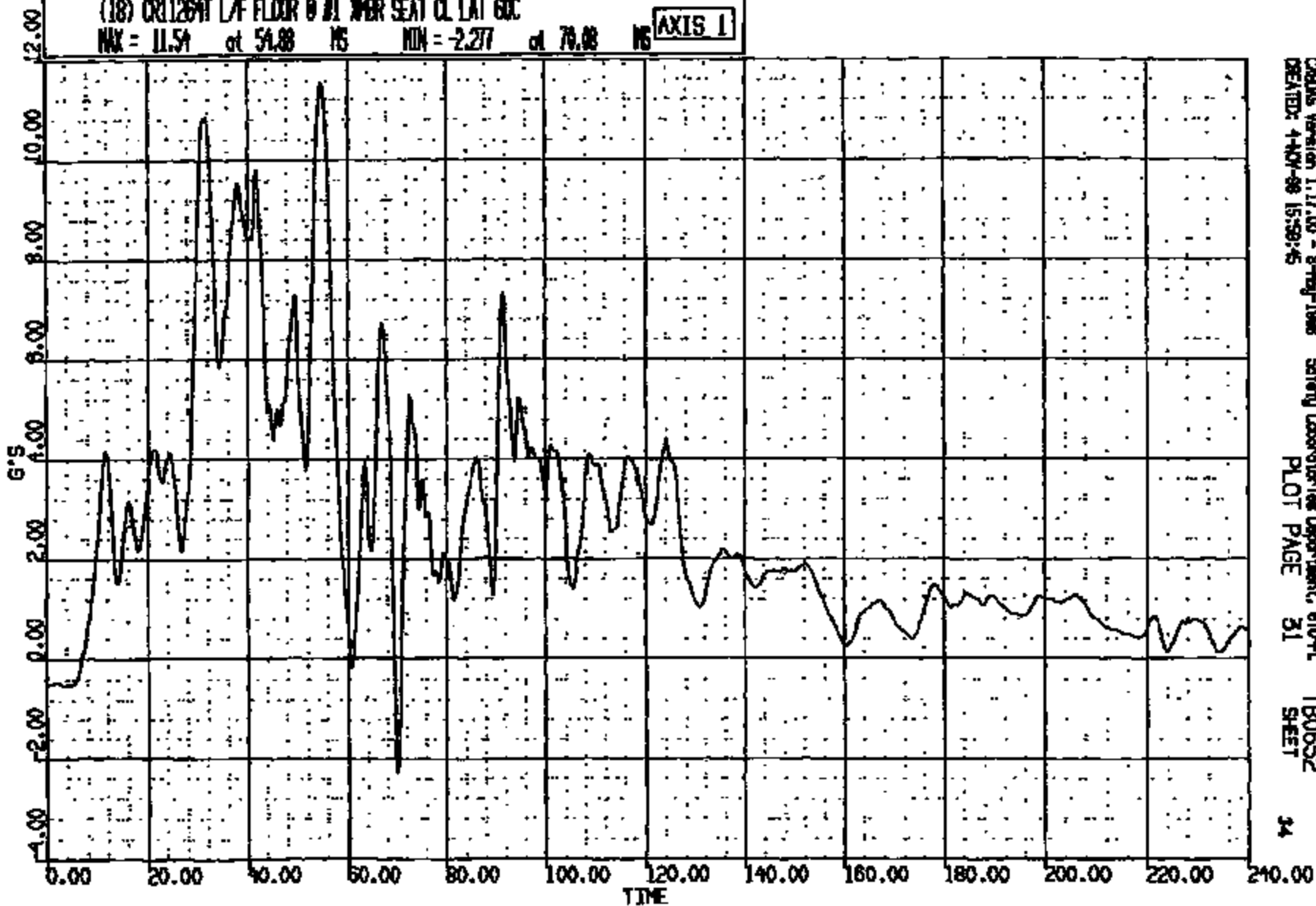
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CREATED: 4-NOV-98 15:39:44 PLOT PAGE 30 SHEET 33

CRTS 0011264

CR R: 11264 TO: TB0652 DATE: 981104 15:59:50
2000 TAURUS UNKNOWN

(18) CR1264T L/F FLOOR 0 #1 WBR SEAT CL LAT 60C

MAX = 11.51 at 54.88 MS MIN = -2.27 at 70.08 MS **AXIS 1**



CRSUS Version 1.17.00 - 8-May-1998
CREATED: 4-Nov-98 15:59:45

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TB0652
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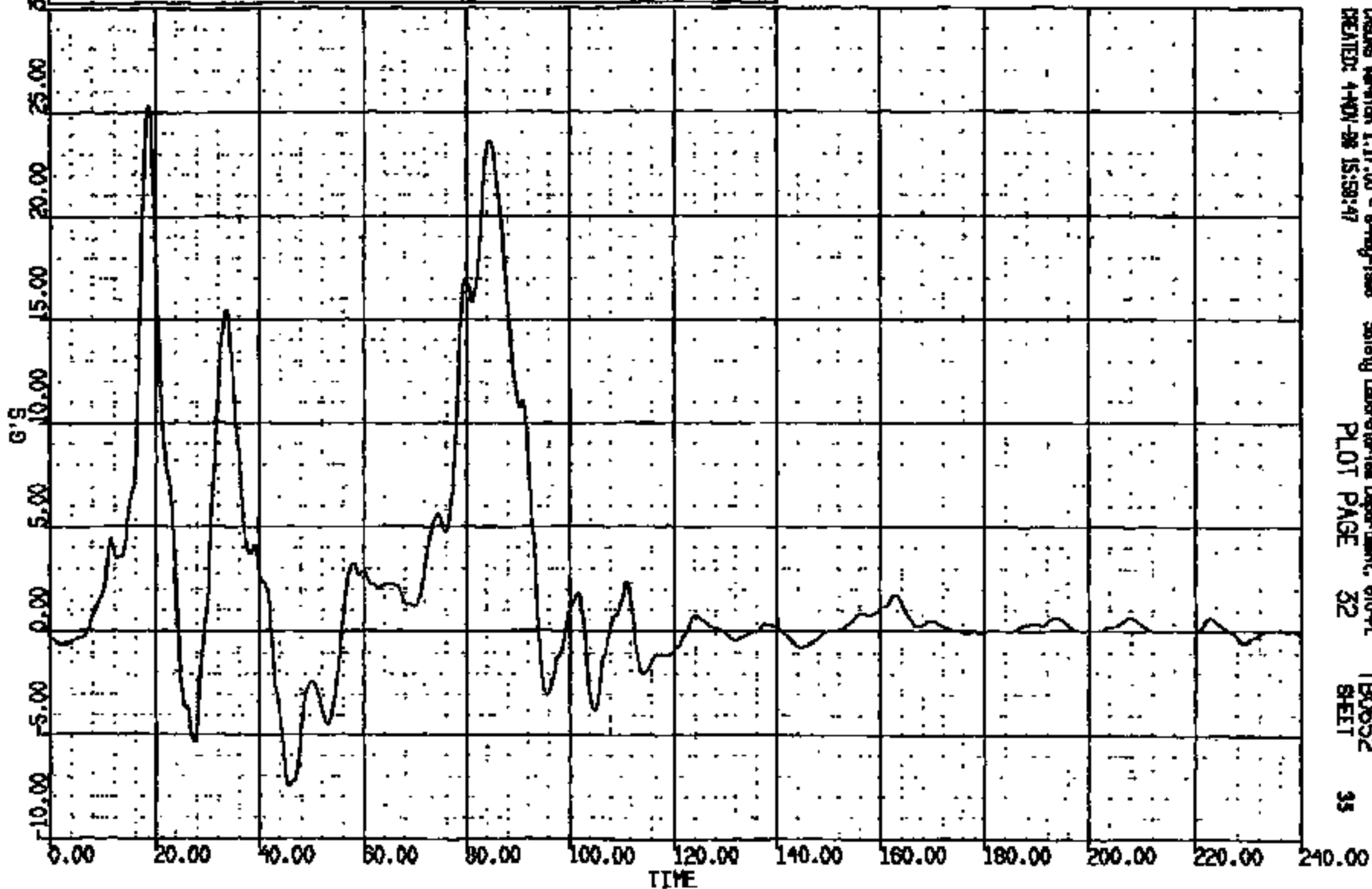
CRIS 0011264

CR R: 11264 TO: TB0652 DATE: 981104 15:55:30
E000 TAURUS UNKNOWN

(19) CR11264T L/B-PLR INSIDE @ ROOF LAT SOC

MAX = 25.32 at 18.61 MS MIN = -7.495 at 45.76 MS

AXIS 1



CASAS Version 1.17.00 - 8-May-1998
PLOTTER: 4401-28 15:59:47

Safety Laboratories Department, 610-PL
PLOT PAGE 32

TB0652
SHEET

33

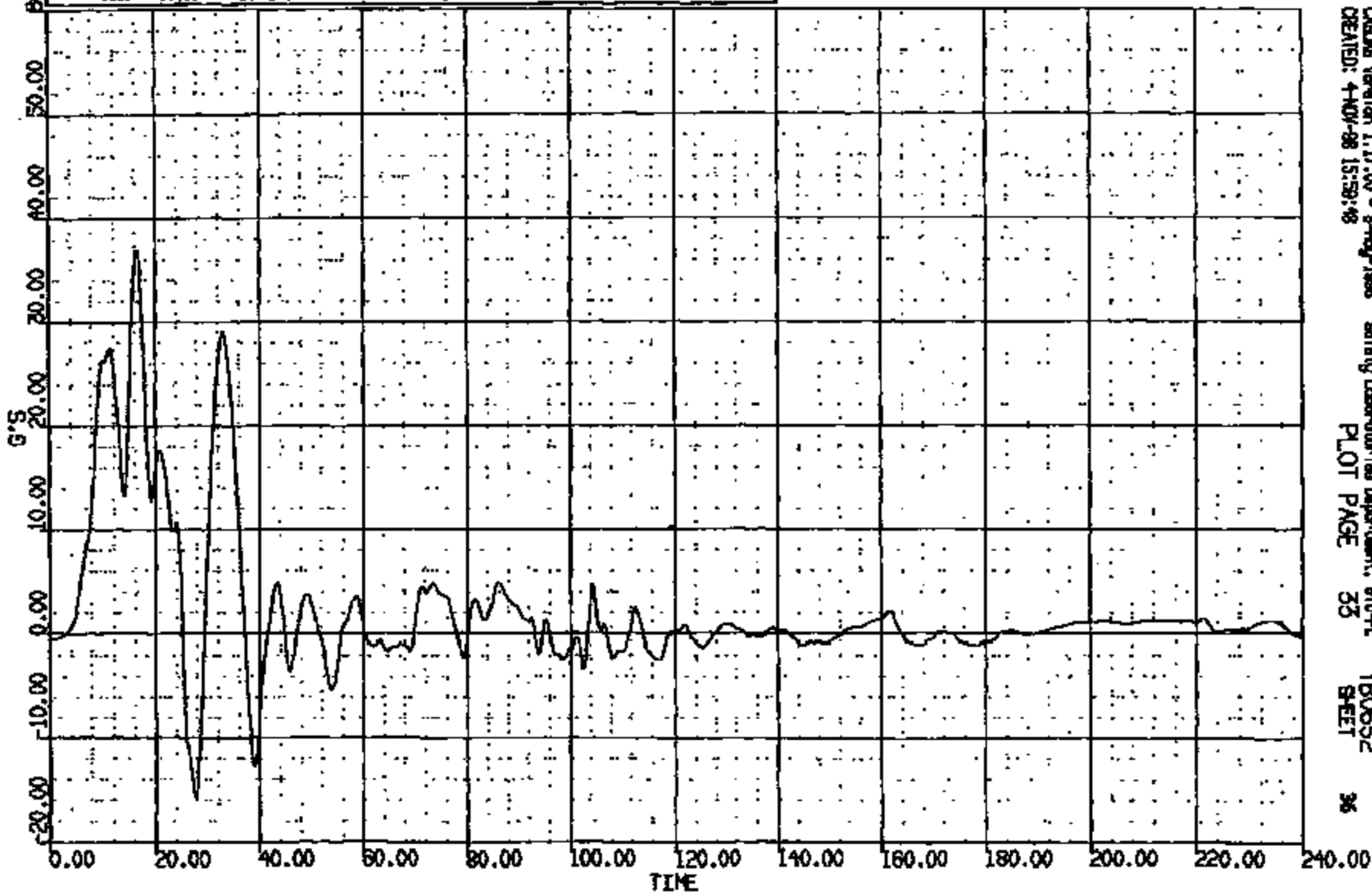
CRTS 0011264

CR R: 11264 TO: TB0652 DATE: 981104 15:35:30
2000 TAURUS UNKNOWN

(20) CR11264T L/B-PLR INSIDE @ BELTLINE LAT 60C

MAX = 37.05 at 16.40 NS MIN = -15.71 at 27.89 NS

AXIS 1



CASDA Version 1.17.00 - 9-May-1998
CREATED: 4-MAY-98 15:59:48

Safety Laboratories Department, 610-PL
PLOT PAGE 35

TB0652
SHEET

36

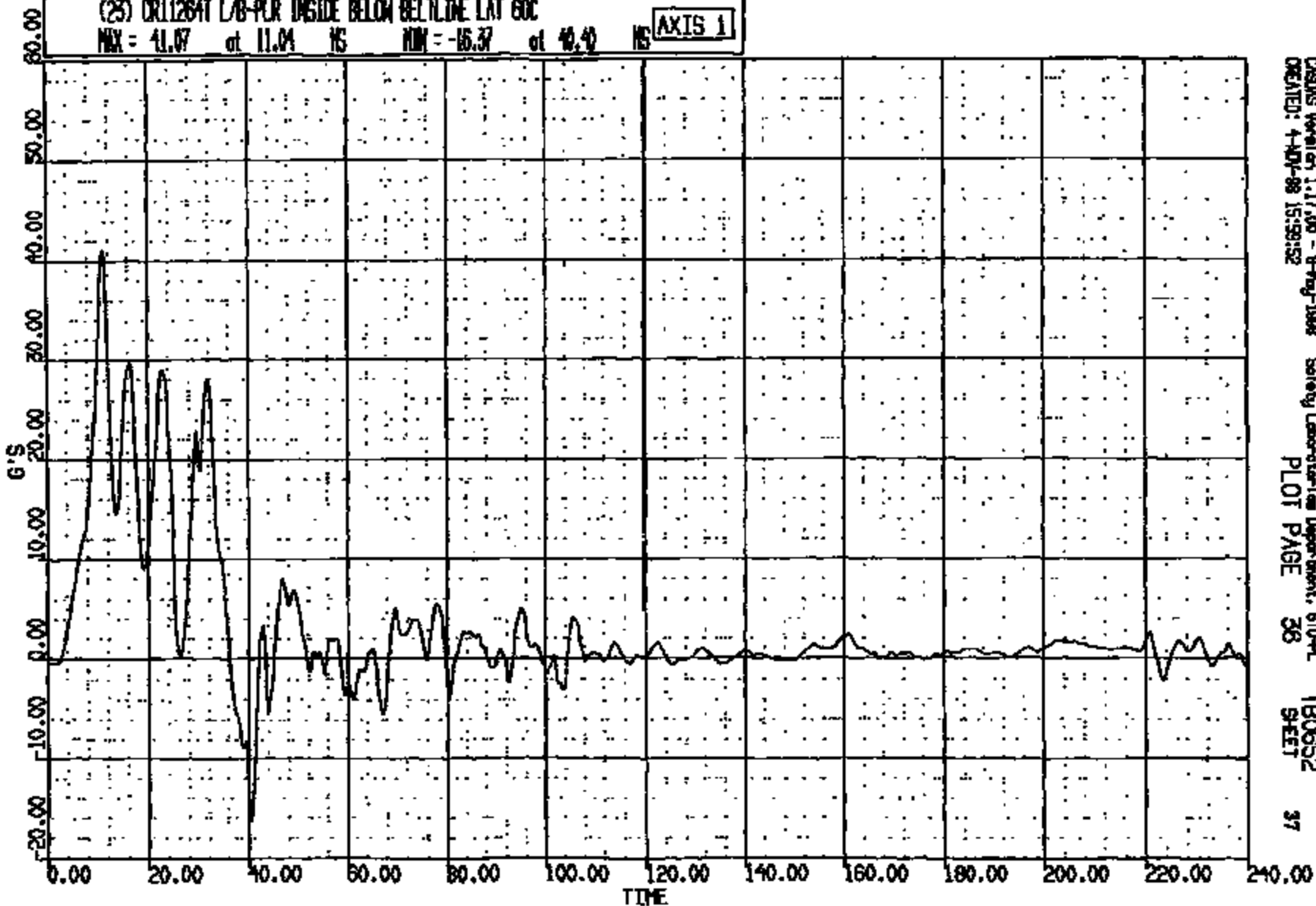
CRTS 0011264

CR R: 11264 TO: TB0652 DATE: 981104 15:35:50
2000 TAURUS UNKNOWN

(25) CR11264T L/B-PLR INSIDE BELOW BELTLINE LAT 60C

MAX = 41.07 at 11.04 MS MIN = -16.37 at 40.40 MS

AXIS 1



CRAMS Version 1.17.00 - 8-Aug-1998
CREATED: 4-NOV-98 15:39:52

Safety Laboratory Department, 610-PL
PLOT PAGE 36

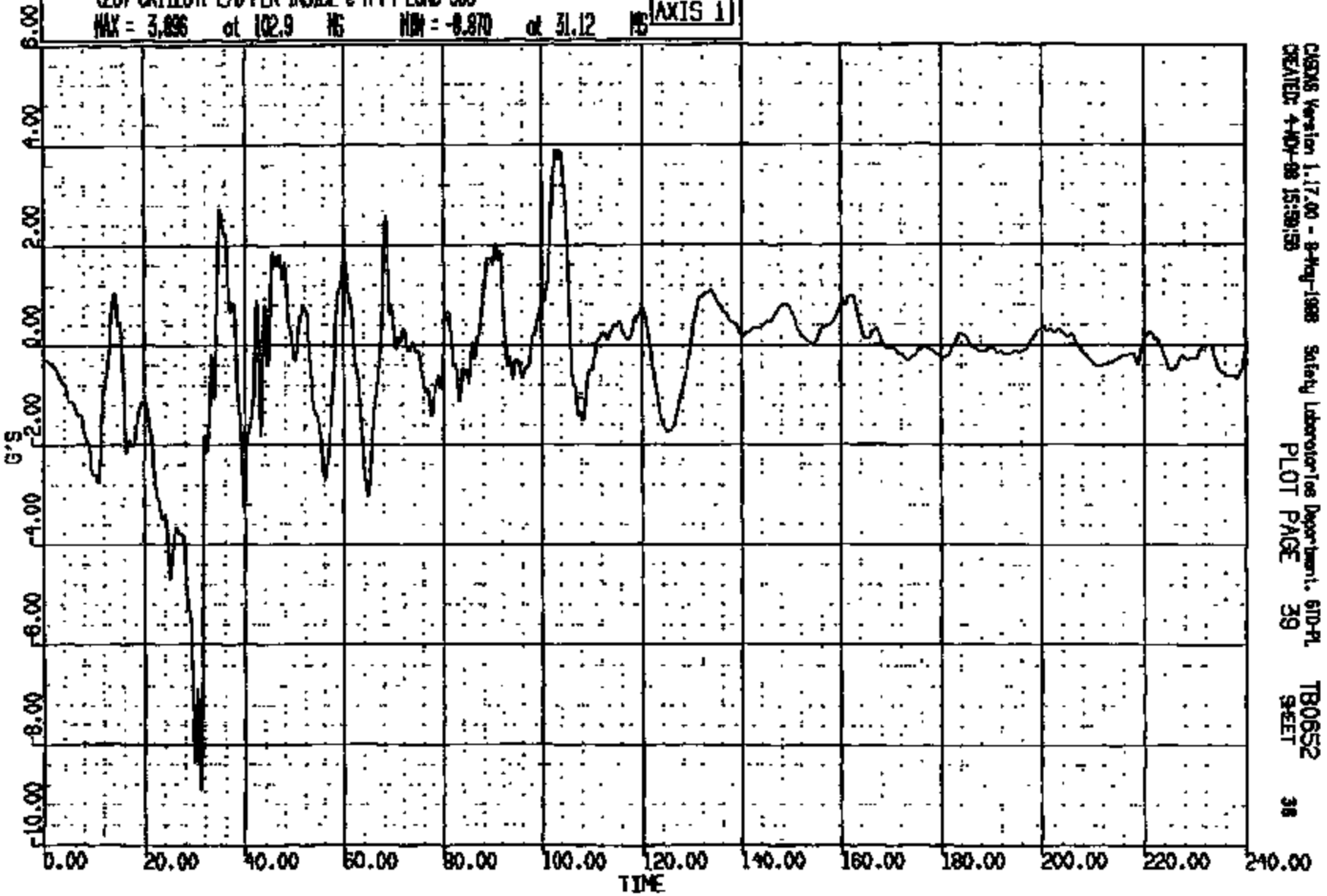
TB0652
SHEET

37

CRTS 0011264

CR R: 11264 TO: TB0652 DATE: 981104 15:35:50
2000 TAURUS UNKNOWN

(26) CR11264T L/O-PLR INSIDE @ H-PT LONG 60C
MAX = 3.896 at 102.9 MS MIN = -8.870 at 31.12 MS [AXIS 1]



CR11264 Version 1.17.00 - 8-May-1998 Safety Laboratories Department, STD-PL TB0652
CREATED: 4-MAY-98 15:39:58 PLOT PAGE 39 SHEET 38

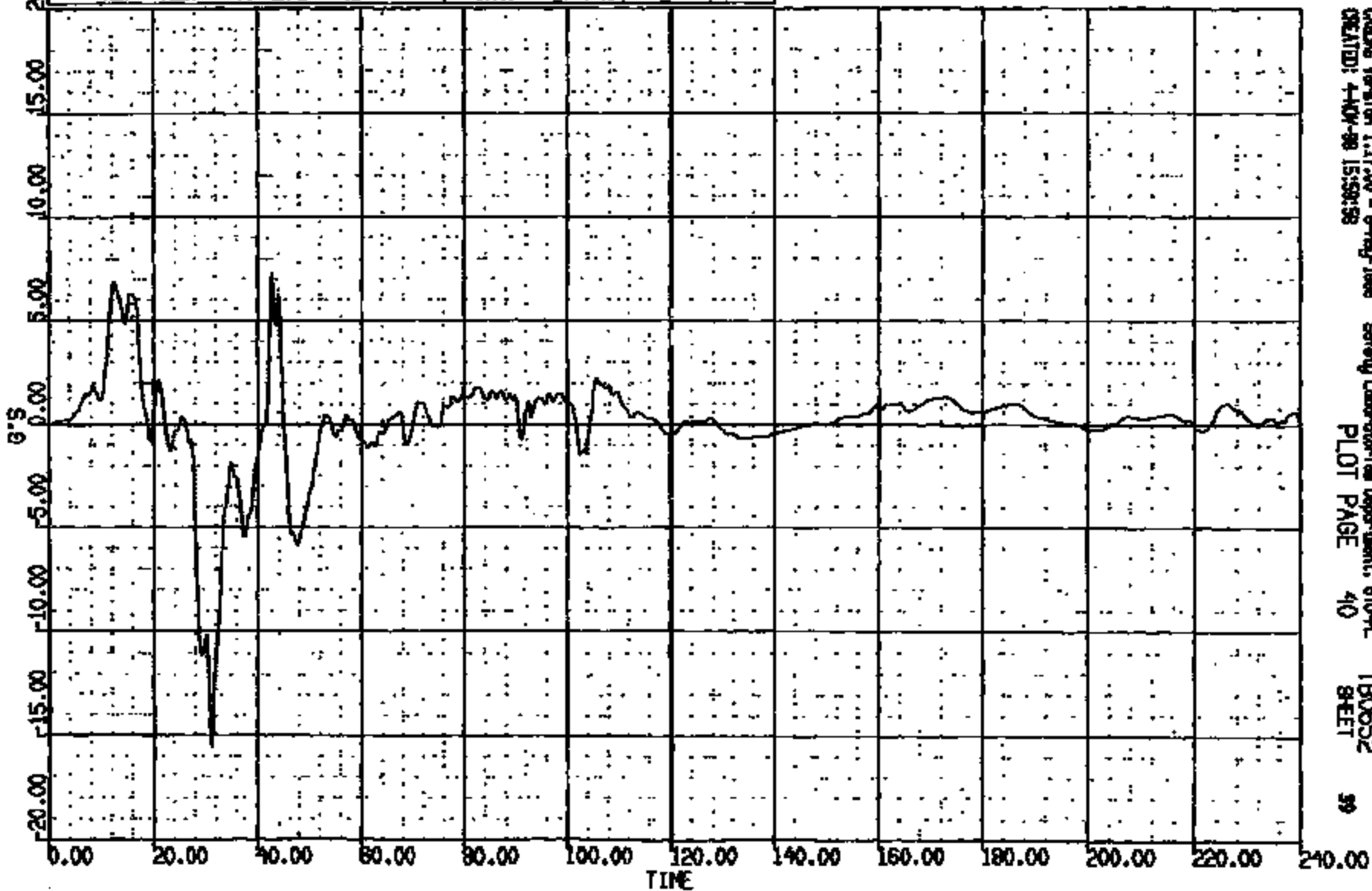
CRTS 0011264

CR R: 11264 TO: TB0652 DATE: 981104 16:55:30
2000 TAURUS UNKNOWN

(27) CR11264T L/8-PLR INSIDE @ H-PT VERT GOC

MAX = 7.216 at 42.72 MS MIN = -15.51 at 31.20 MS

AXIS 1



CRSAS Version 1.11.00 - 9-May-1998
CREATED: 4-NOV-98 15:59:58

Safety Laboratory Department, 610-PL
PLOT PAGE 4/0

TB0652
SHEET

99

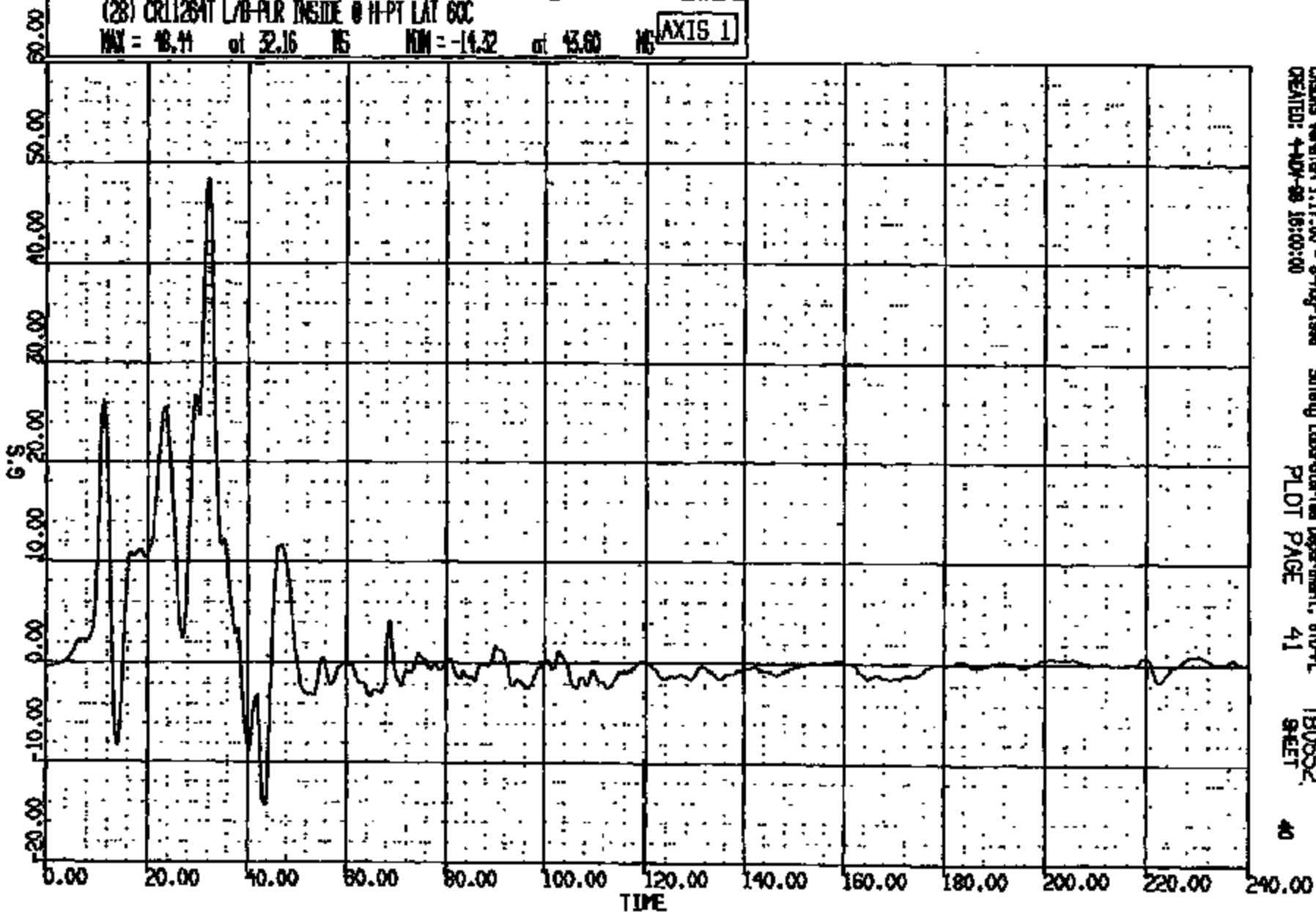
CRTS 0011264

CR R: 11264 TO: TB0652 DATE: 881104 15:55:30
2000 TAURUS UNKNOWN

(28) CR11264T L/O-PLR INSIDE @ H-PT LAT 60C

MAX = 18.11 at 32.16 NS MIN = -14.32 at 43.60 NS

AXIS 1



CRSIS Version 1.17.00 - 8-May-1988
CREATED: 4-NOV-88 18:00:00

Safety Laboratory Department, 810-PL
PLOT PAGE 41

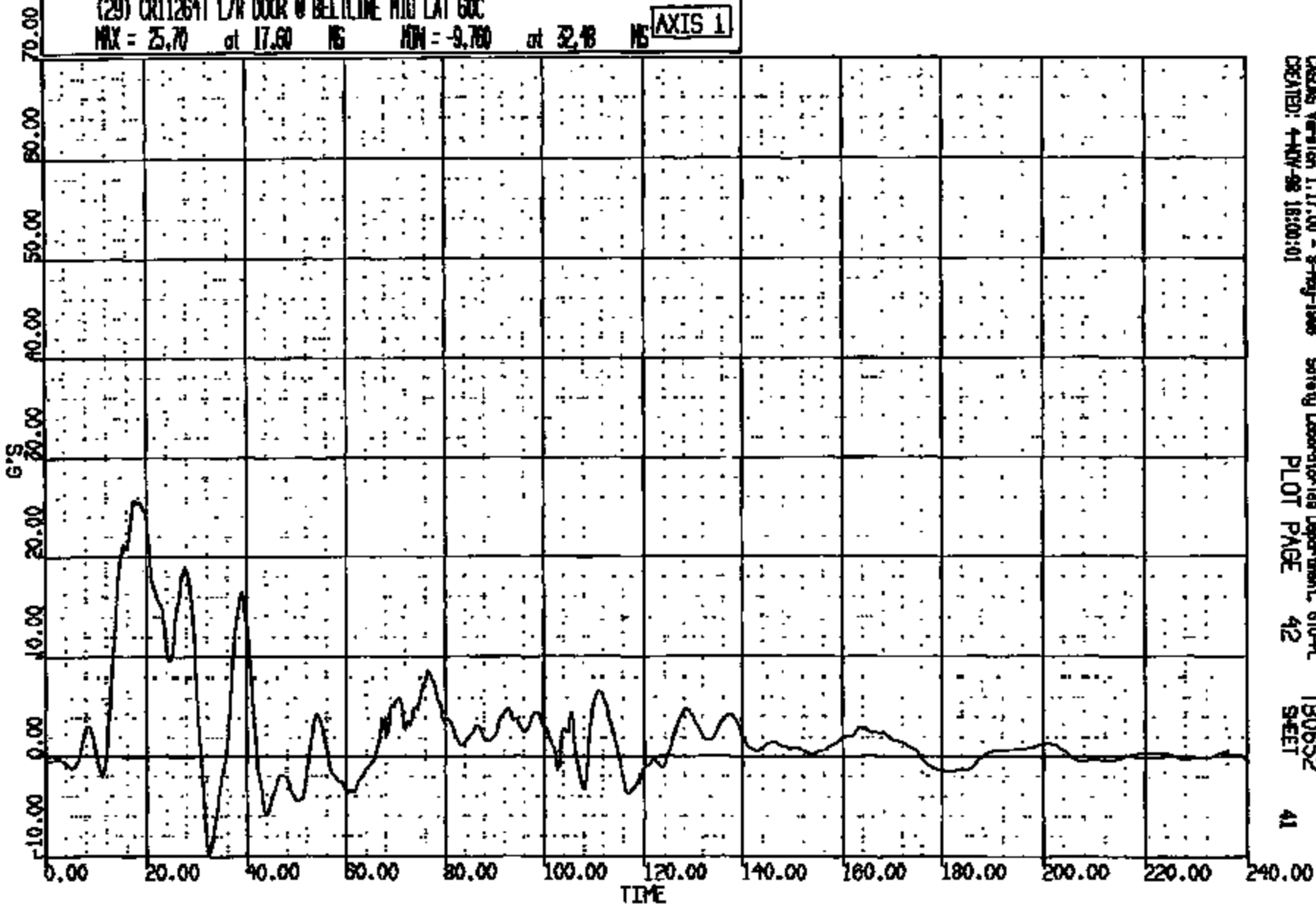
TB0652
SHEET

40

CRTS 0011264

CR #: 11264 TO: TB0652 DATE: 981104 15:35:50
2000 TAURUS UNKNOWN

(29) CR11264T L/R DOOR @ BELTLINE MID LAT GOC
MAX = 25.70 at 17.60 MS MIN = -9.760 at 32.48 MS **AXIS 1**



CASDIS Version 1.17.00 - 8-May-1998
CREATED: 4-NOV-98 16:00:01

Safety Laboratories Department, 610-PL
PLOT PAGE 42

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SHEET

41

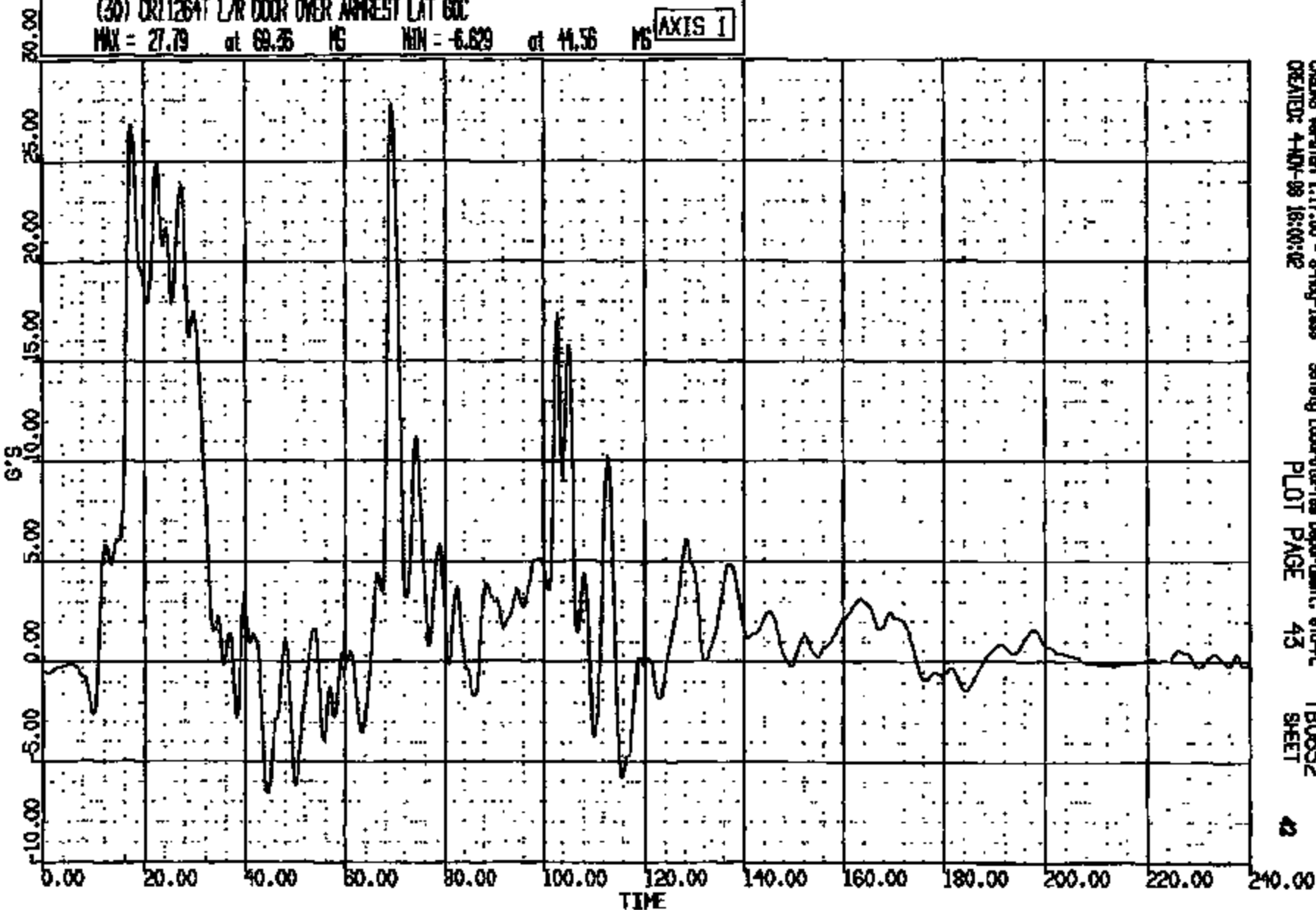
CRTS 0011264

CR R: 11264 TO: TB0652 DATE: 981104 15:55:30
8000 TAURUS UNKNOWN

(30) CR11264T L/R DOOR OVER ARREST LAT 60C

MAX = 27.79 at 69.36 MS MIN = -6.629 at 44.36 MS

AXIS 1

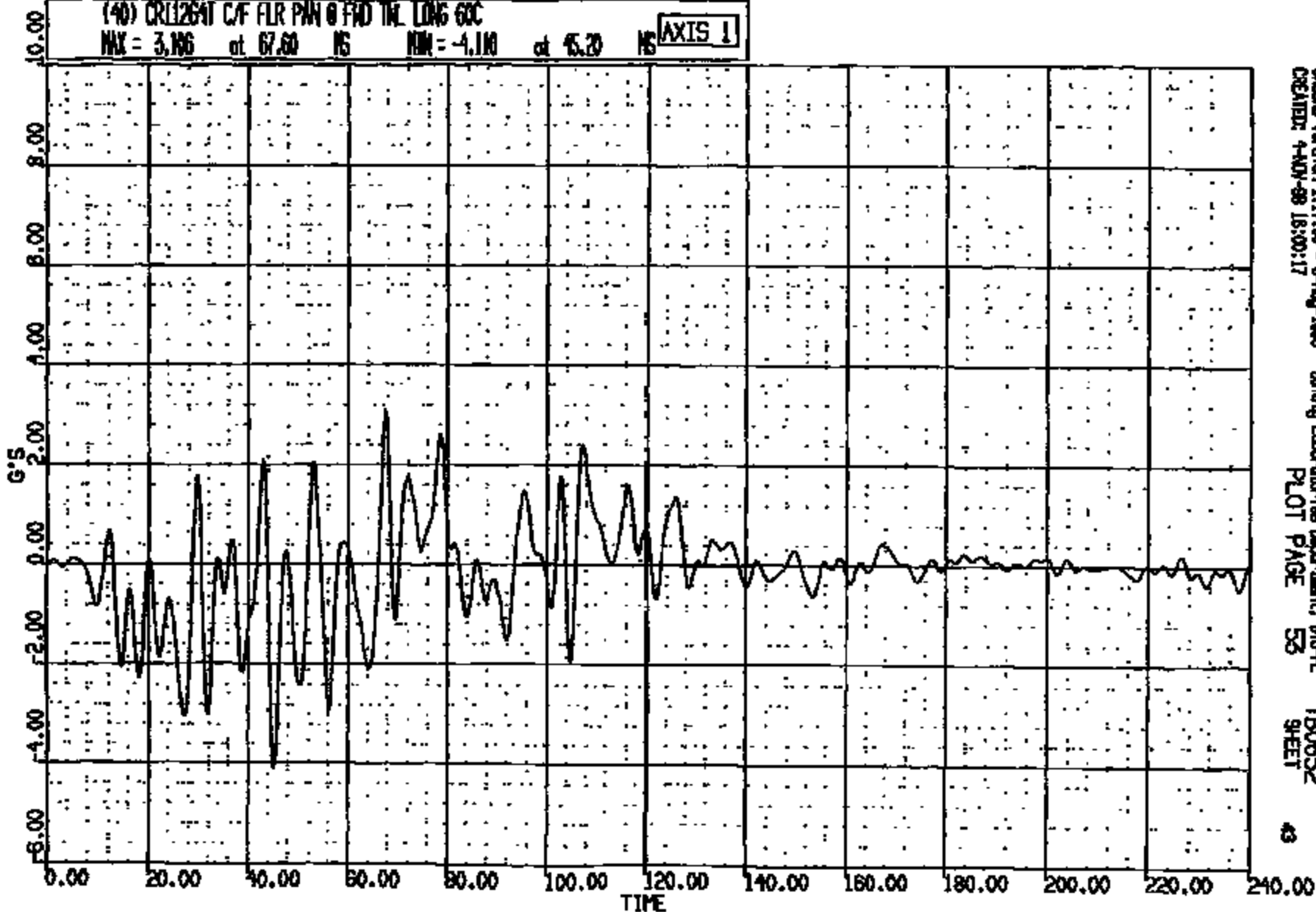


CHANS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 610-PL TB0652
CREATED: 4-NOV-98 16:00:02 PLOT PAGE 43 SHEET 42

CRTS 0011264

CR R: 11264 TO: TB0652 DATE: 881104 15:25:20
2000 TAURUS UNKNOWN

(40) CR11264T C/F FLR PAN @ FID TML LONG 60C
MAX = 3.196 at 67.60 NS MIN = -4.110 at 45.20 NS **AXIS 1**



CRSIS Version 1.17.00 - 9-May-1988 Safety Laboratories Department, 810-PL TB0652
CREATED: 4-MAY-88 16:30:17 PLOT PAGE 53 SHEET 43

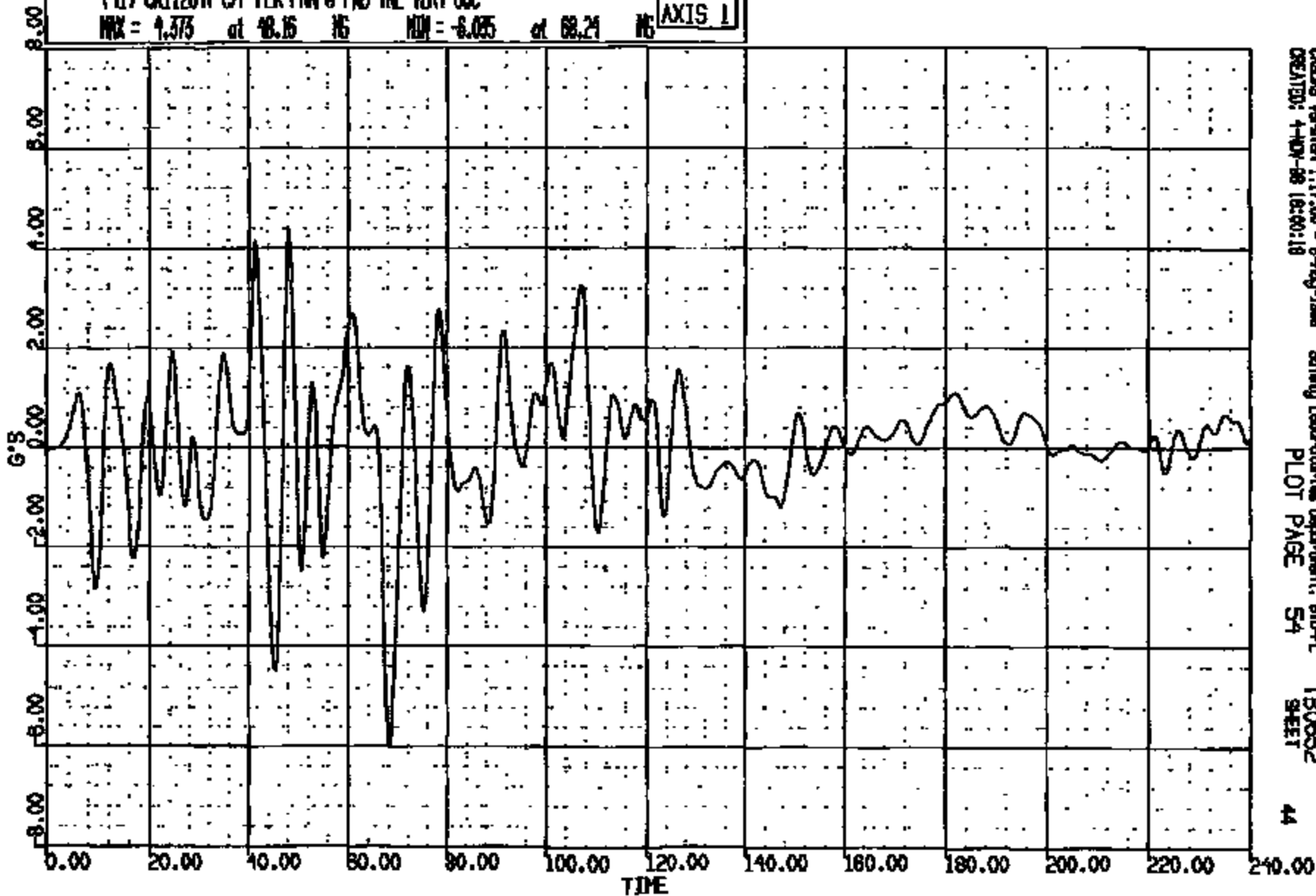
CRIS 0011264

CR #: 11264 TO: TB0652 DATE: 08:104 15:36:30
2000 TAURUS UNKNOWN

(41) CR11264T C/F FLR PAN @ FND TNL VERT 60C

MAX = 4.375 at 48.15 NS MIN = -6.035 at 68.24 NS

AXIS 1



CRSING Version 1.17.00 - 8-May-1998
CREATED: 4-MAY-98 16:00:18

Safety Laboratories Department, BLD-PL
PLOT PAGE 54

TB0652
SHEET

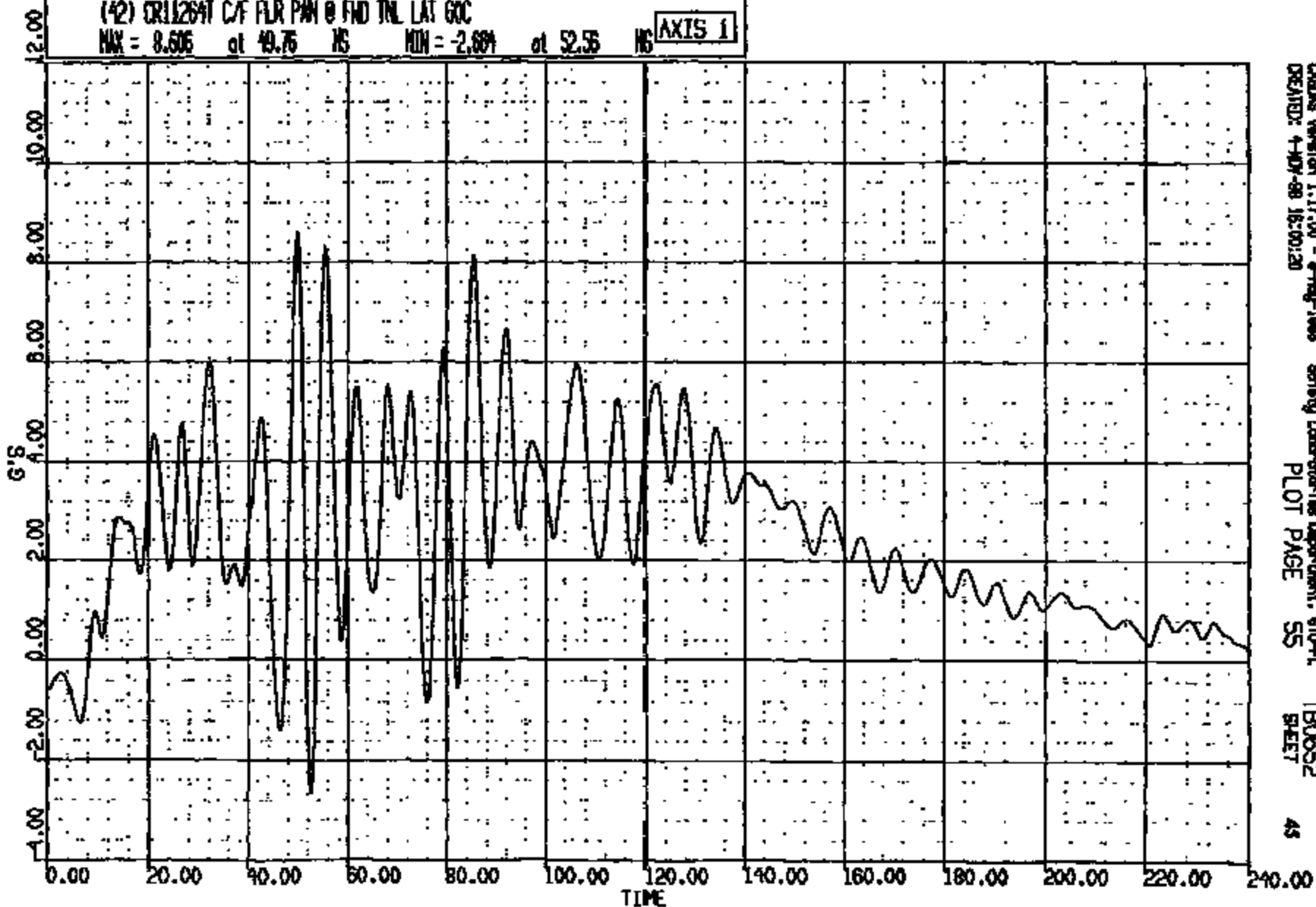
44

CRIS 0011264

CR R: 11264 TO: T80652 DATE: 981104 15:23:20
2000 TAURUS UNKNOWN

(42) CR112641 C/F FLR PAN @ FND TNL LAT GOC
MAX = 8.506 at 49.76 NS MIN = -2.804 at 52.55 NS

AXIS 1



CRSUS Version 1.17.00 - 9-May-1998
CREATED: 4-MAY-98 15:50:20

Safety Laboratory Department, STORL
PLOT PAGE 55

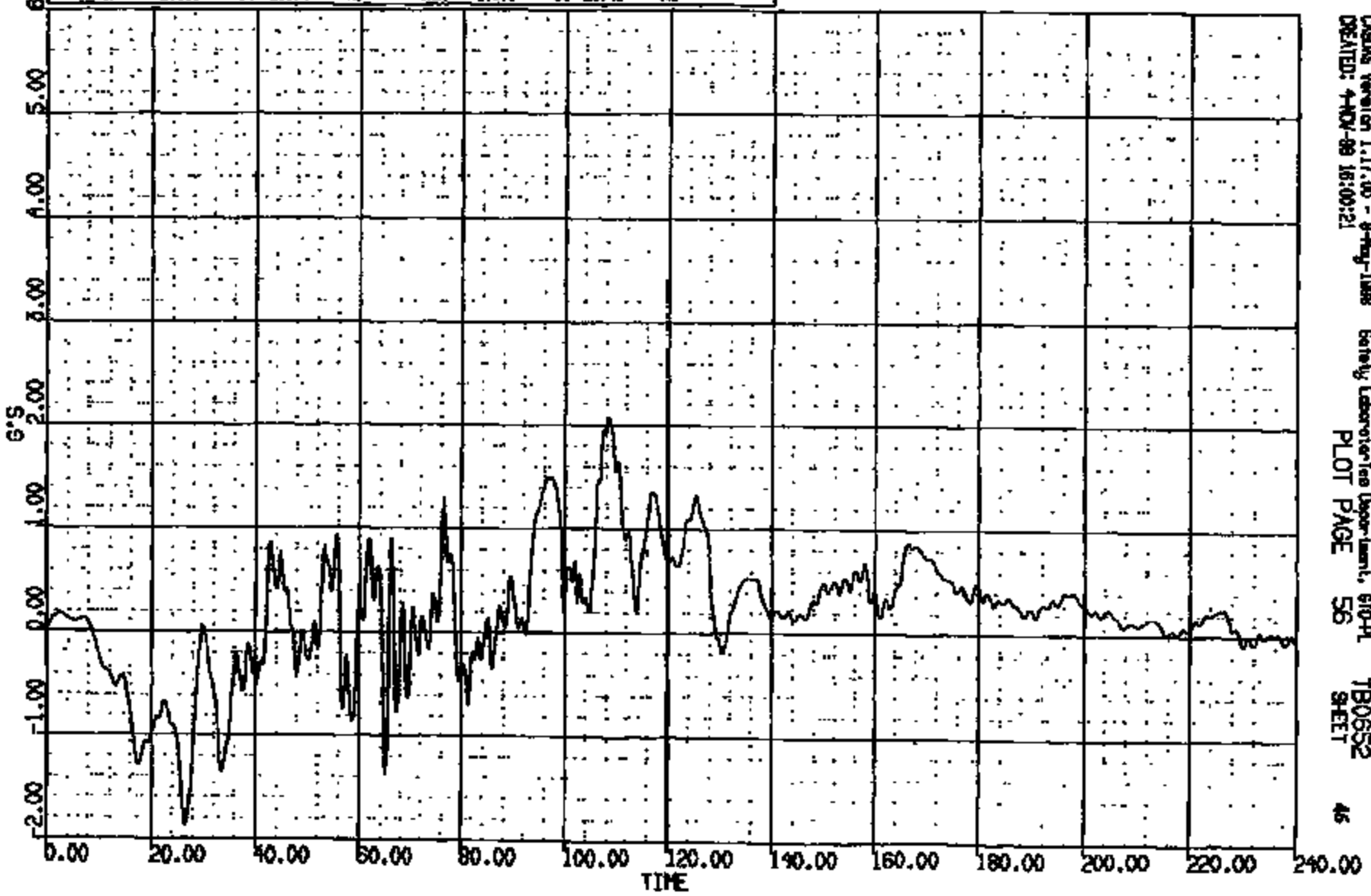
T80652
SHEET

45

CRTS 0011264

CR RE 11264 TO: TB0652 DATE: 881104 15:55:30
8000 TAURUS UNKNOWN

(45) CR11264T R/F FLOOR 8 #1 XBR SEAT CL LONG 60C
MAX = 2.000 at 108.4 MS MIN = -1.873 at 26.48 MS **AXIS 1**



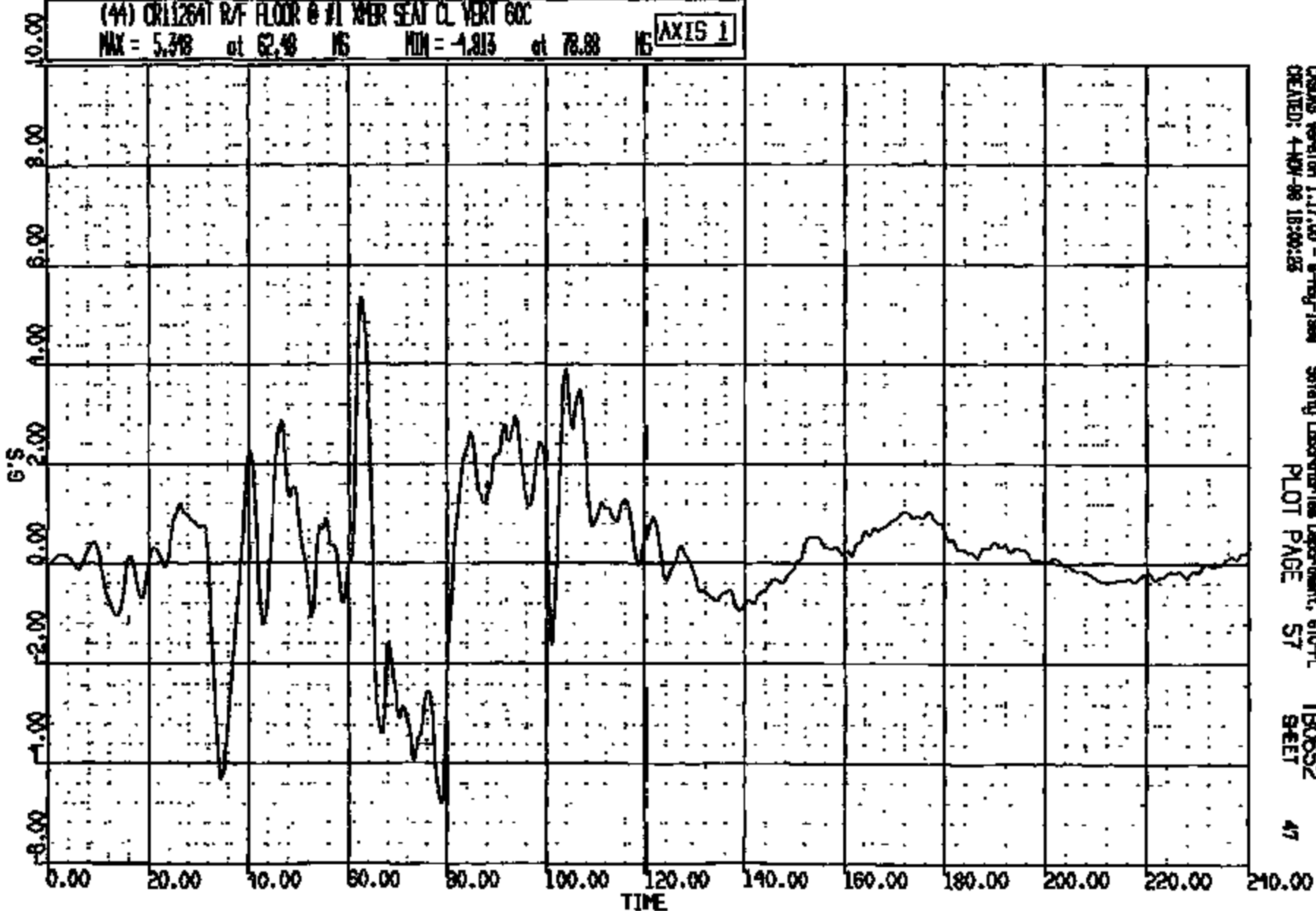
CASUS Version 1.17.00 - 8-Aug-1988 Safety Laboratories Department, 670-PL TB0652
CREATED: 4-MAY-88 16:00:21 PLOT PAGE 56 SHEET 46

CRIS 0011264

CR R: 11264 TO: TB0652 DATE: 981104 15:25:30
2000 TAURUS UNKNOWN

(44) CR11264T R/F FLOOR @ #1 W/ER SEAT CL VERT 60C
MAX = 5.318 at 62.48 MS MIN = -1.813 at 78.88 MS

AXIS 1



CASMS Version 1.17.00 - 8-May-1998
CREATED: 4-NOV-98 15:00:05

Safety Laboratories Department, 610-PL
PLOT PAGE 57

TB0652
SEIT

47

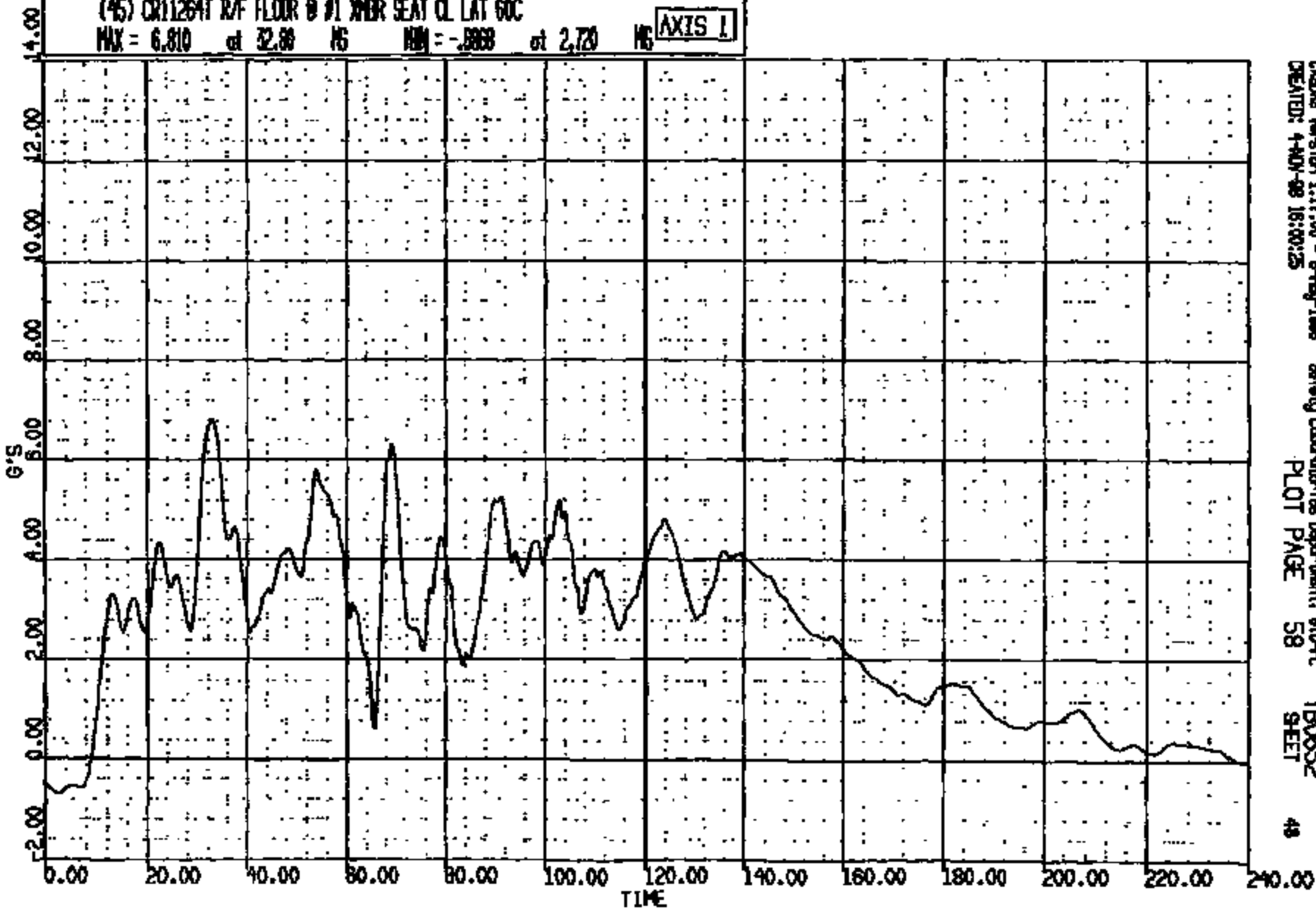
CR11264

CR R: 11264 TO: TB0652 DATE: 981104 15:55:50
2000 TAURUS UNKNOWN

(45) CR11264T R/F FLOOR @ #1 XMR SEAT CL LAT 60C

MAX = 6.810 at 32.88 MS MIN = -0.868 at 2.720 MS

AXIS 1



CRASH Version 1.17.00 - 8-May-1998
CREATED: 4-NOV-98 16:00:25

Safety Laboratories Department, 610-PL
PLOT PAGE 58

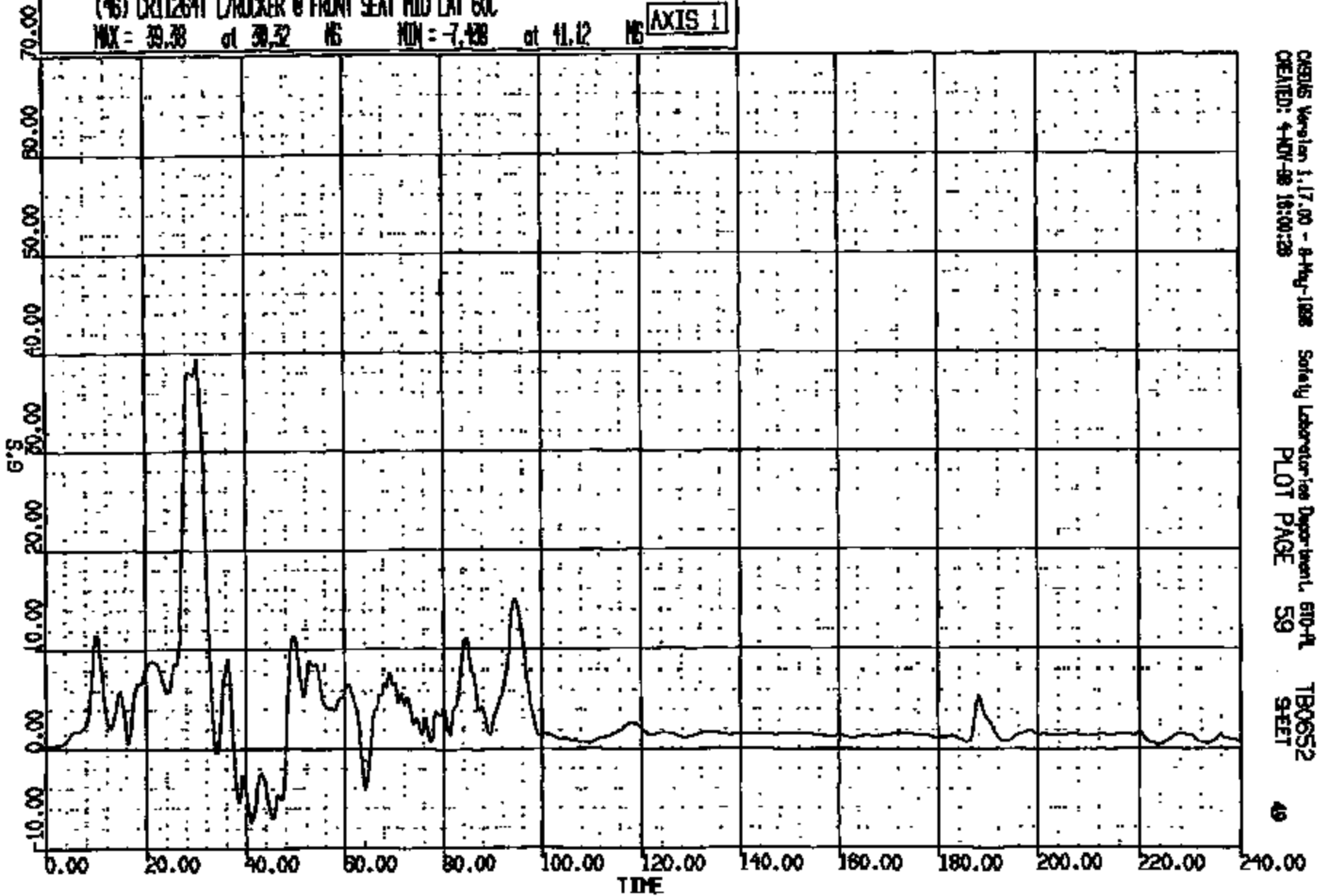
TB0652
SHEET

48

CRIS 0011264

CR R: 11264 TO: TB0652 DATE: 991104 15:35:50
2000 TAURUS UNKNOWN

(16) CR112641 L/ROCKER @ FRONT SEAT MID LAT 60C
MAX = 39.38 at 30.32 MS MIN = -7.428 at 41.12 MS **AXIS 1**

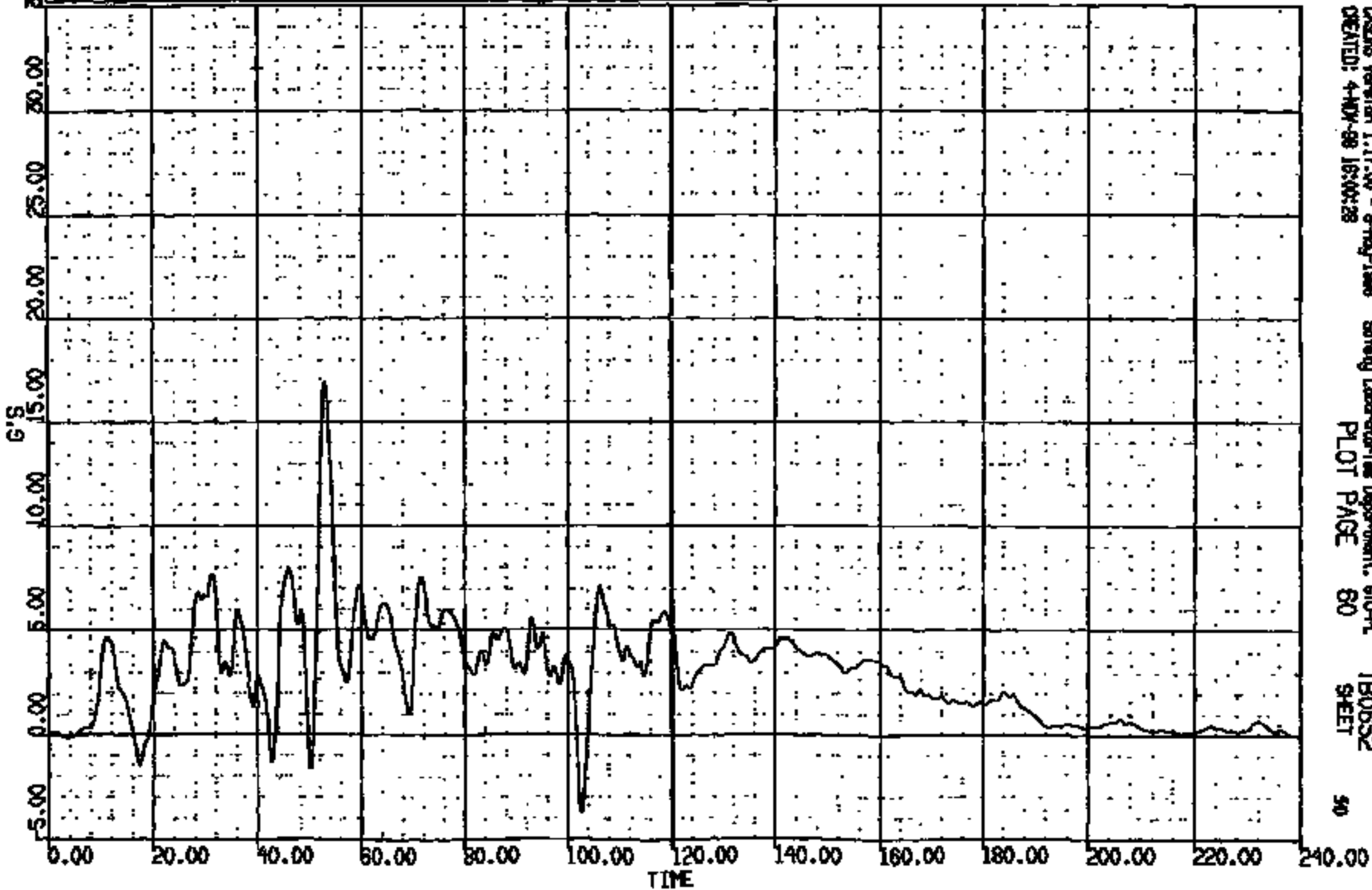


CREGIS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 610-PL TB0652
CREATED: 4-MAY-99 16:00:28 PLOT PAGE 59 SHEET 49

CRIS 0011264

CR R: 112B4 TO: TB0652 DATE: 081104 15:25:50
2000 TAURUS UNKNOWN

(47) CR112641 L/RUCKER @ REAR SEAT MID LAT 60C
MAX = 16.90 at 52.88 MS MIN = -3.765 at 102.8 MS **AXIS 1**



CASIMS Version 1.17.00 - 9-May-1999
CREATED: 4-NOV-98 16:00:28

Safety Laboratories Department, 610-PL
PLOT PAGE 60

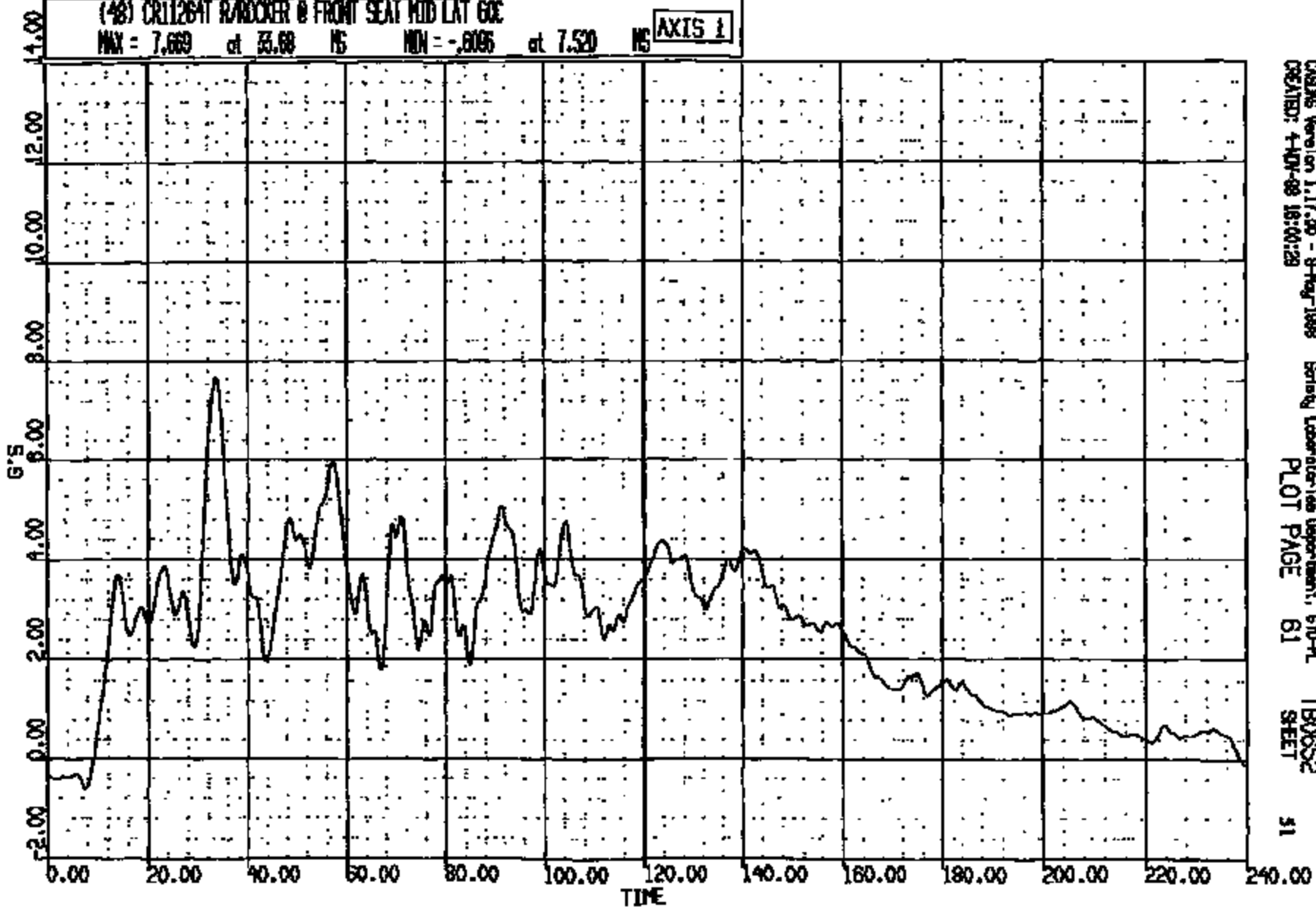
TB0652
SHEET

50

CR11264

CR # : 11264 TO: TB0652 DATE: 981104 15:25:30
2000 TAURUS UNKNOWN

(48) CR11264T R/WOCKER @ FRONT SEAT MID LAT GOC
MAX = 7.669 at 33.68 MS MIN = -.6065 at 7.520 MS **AXIS 1**

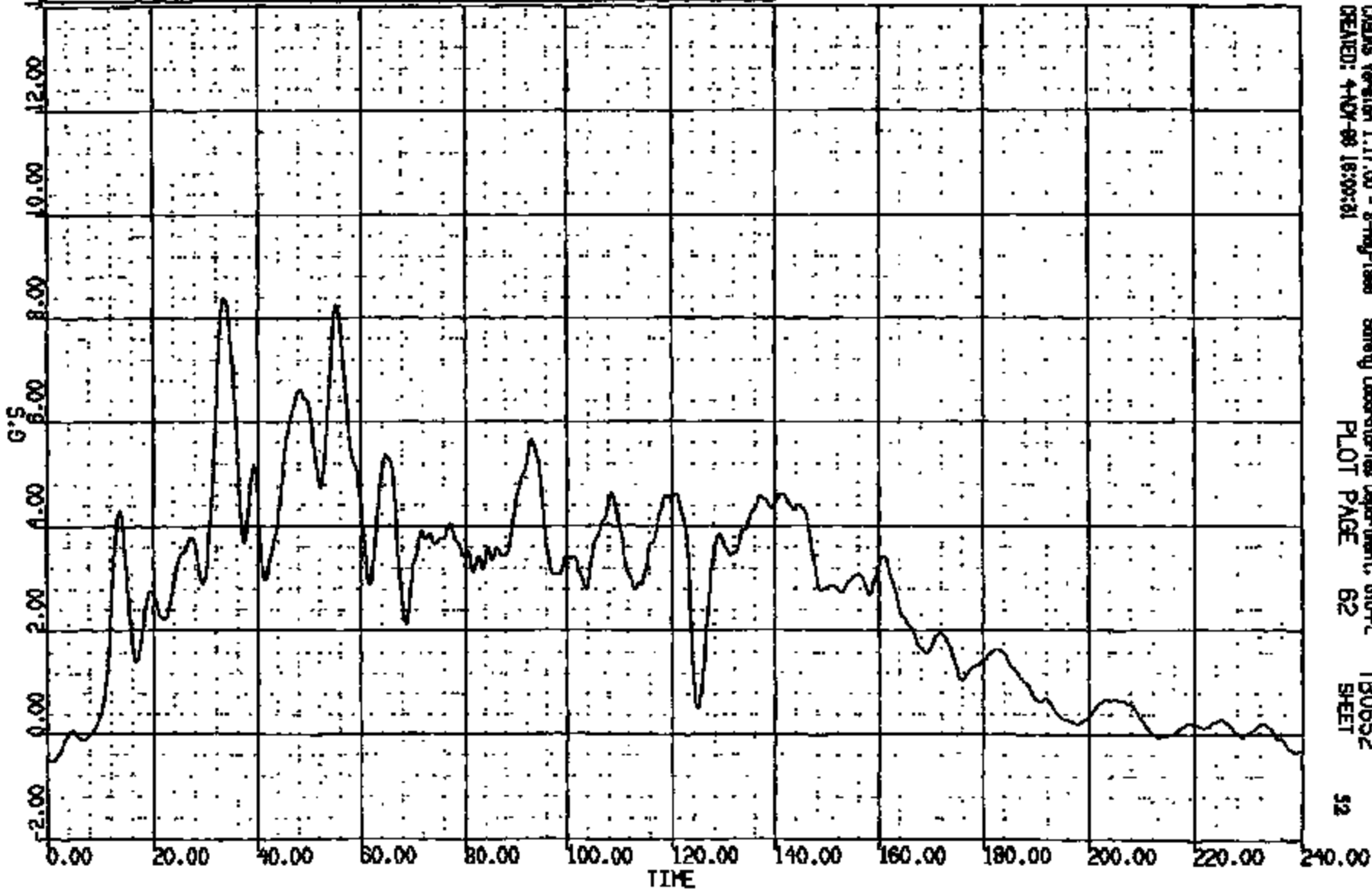


CASMS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 670-PL TB0652
CREATED: 4-10-98 18:00:28 PLOT PAGE 61 SHEET 51

CRTS 0011264

CR #: 11264 TO: TB0652 DATE: 881104 15:55:50
2000 TAURUS UNKNOWN

(49) CR112641 R/ROCKER @ REAR SEAT MID LAT 60C
MAX = 8.386 at 33.68 MS MIN = -.5308 at 0.9800 MS **AXIS 1**



CAEDIS Version 1.17.00 - 8-May-1988
CREATED: 4-MAY-88 18:00:31

Safety Laboratories Department, 610-PL
PLOT PAGE 62

TB0652
SHEET

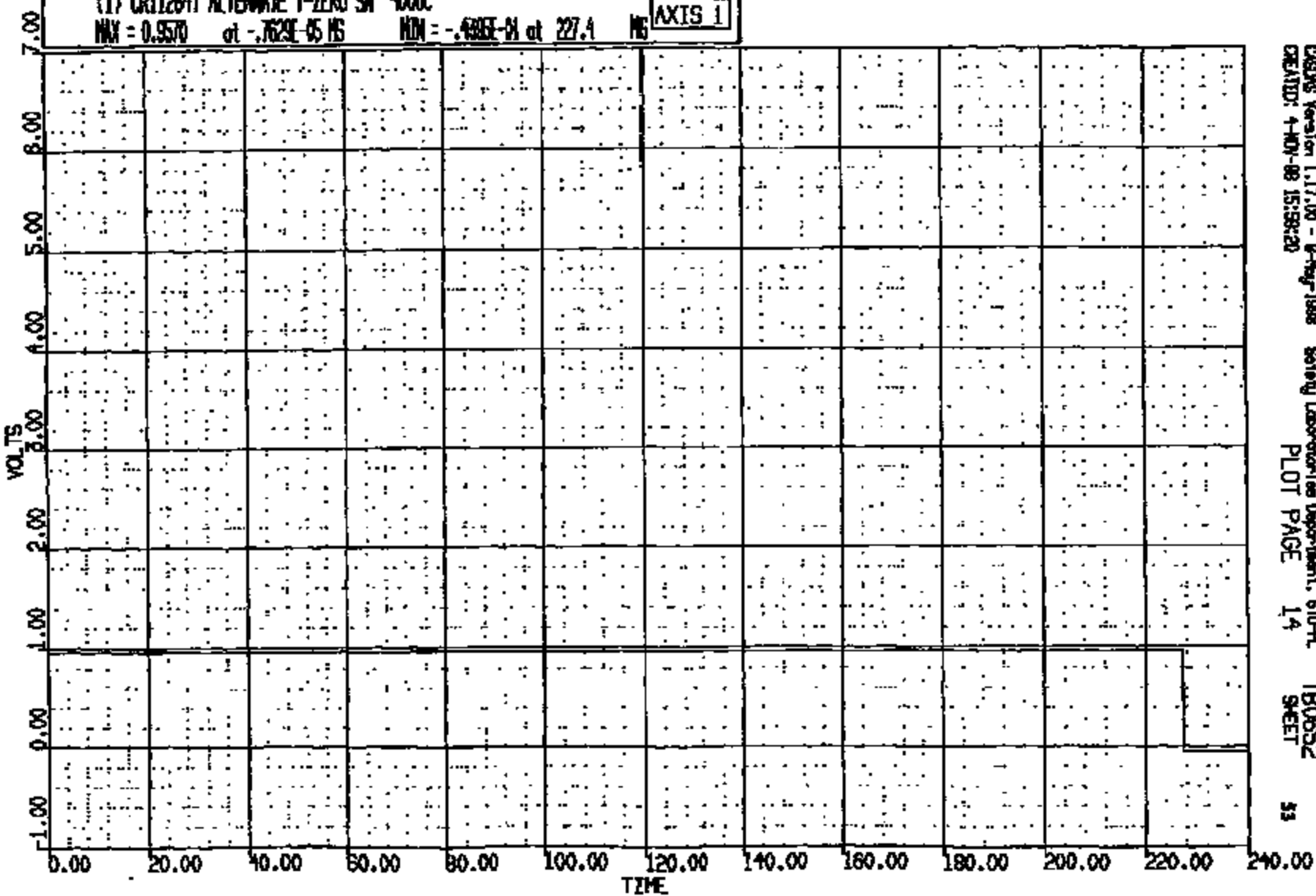
52

CRTS 0011264

CR R: 11264 TO: TB0652 DATE: 981104 15:55:30
2000 TAURUS UNKNOWN

(1) CR11264T ALTERNATE I-ZERO SN 4000
MAX = 0.9570 at -.7629E-05 MS MIN = -.438E-01 at 227.4 MS

AXIS 1

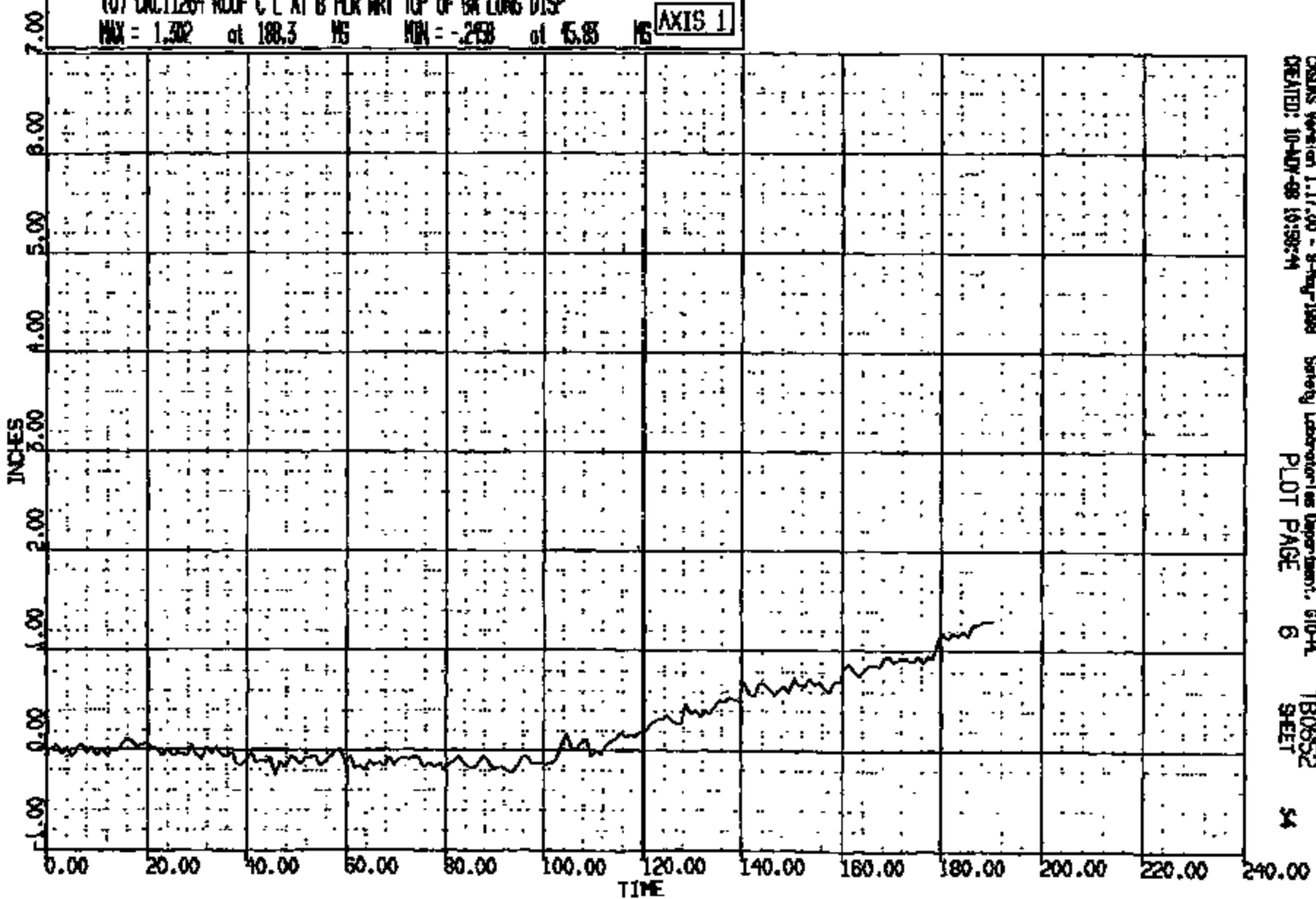


CASYS Version 1.17.00 - 8-Aug-1998 Safety Laboratories Department, 610-PL TB0652
CREATED: 4-NOV-98 15:58:20 PLOT PAGE 14 SHEET 53

CRTS 0011264

CR R: 11264 TO: TB0652 DATE: 981104 15:35:30
2000 TAURUS UNKNOWN

(0) CRC11264 ROOF C L AT B FLR WRY TOP OF BA LONG DISP
MAX = 1.302 at 188.3 MS MIN = -.243 at 15.85 MS **AXIS 1**

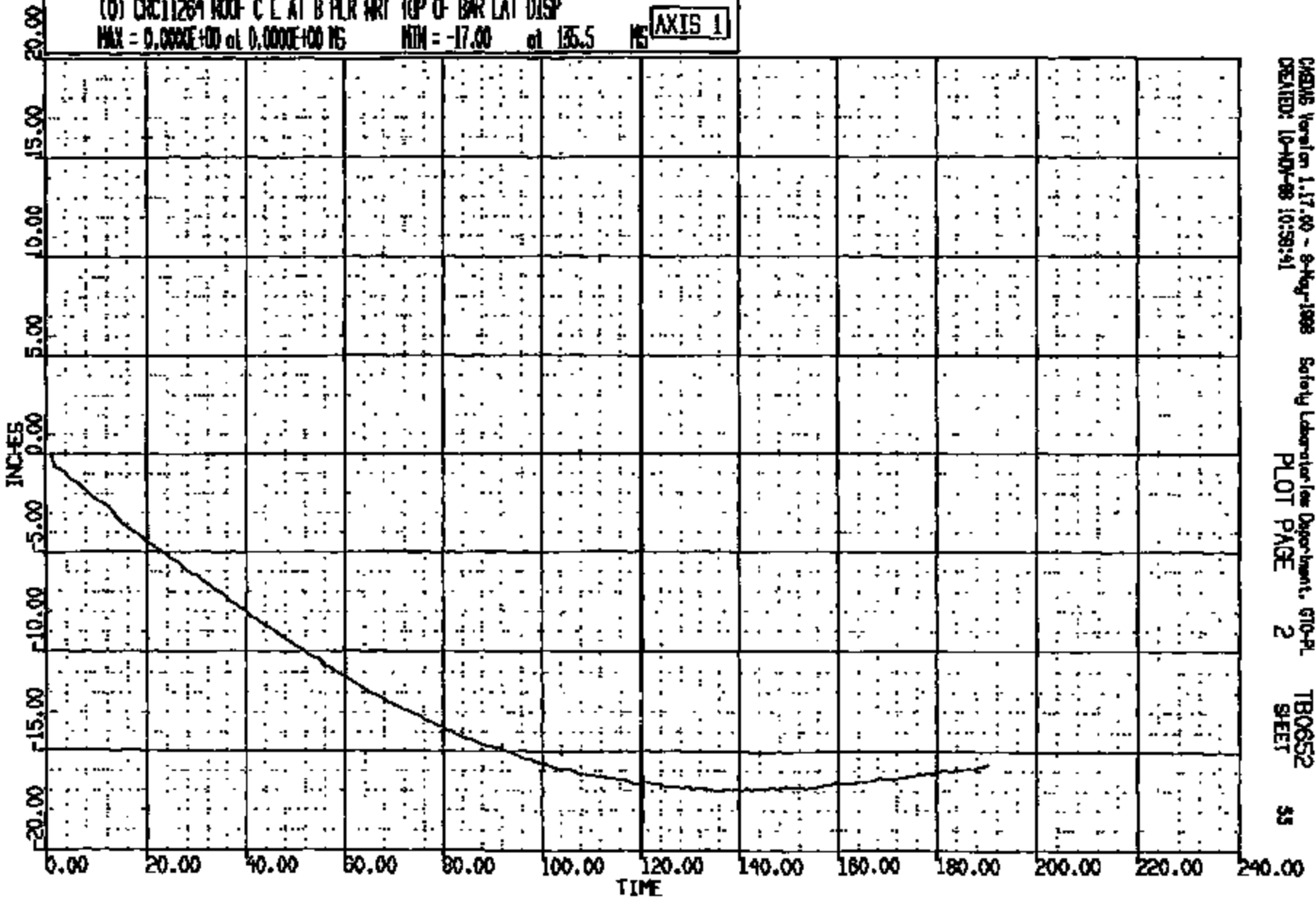


CSDAS Version 1.17.00 - 8-Aug-1998 Safety Laboratories Department, GTU-A
CREATED: 10-NOV-98 16:58:24 TB0652
PLOT PAGE 6 SHEET 54

CRTS 0011264

CR R: 11264 TO: TB0652 DATE: 981104 15:38:30
2000 TAURUS UNKNOWN

(0) CRC11264 ROOF C L AT B PLR WRT TOP OF BAR LAT DISP
MAX = 0.000E+00 at 0.000E+00 MS MIN = -17.00 at 135.5 MS **AXIS 1**

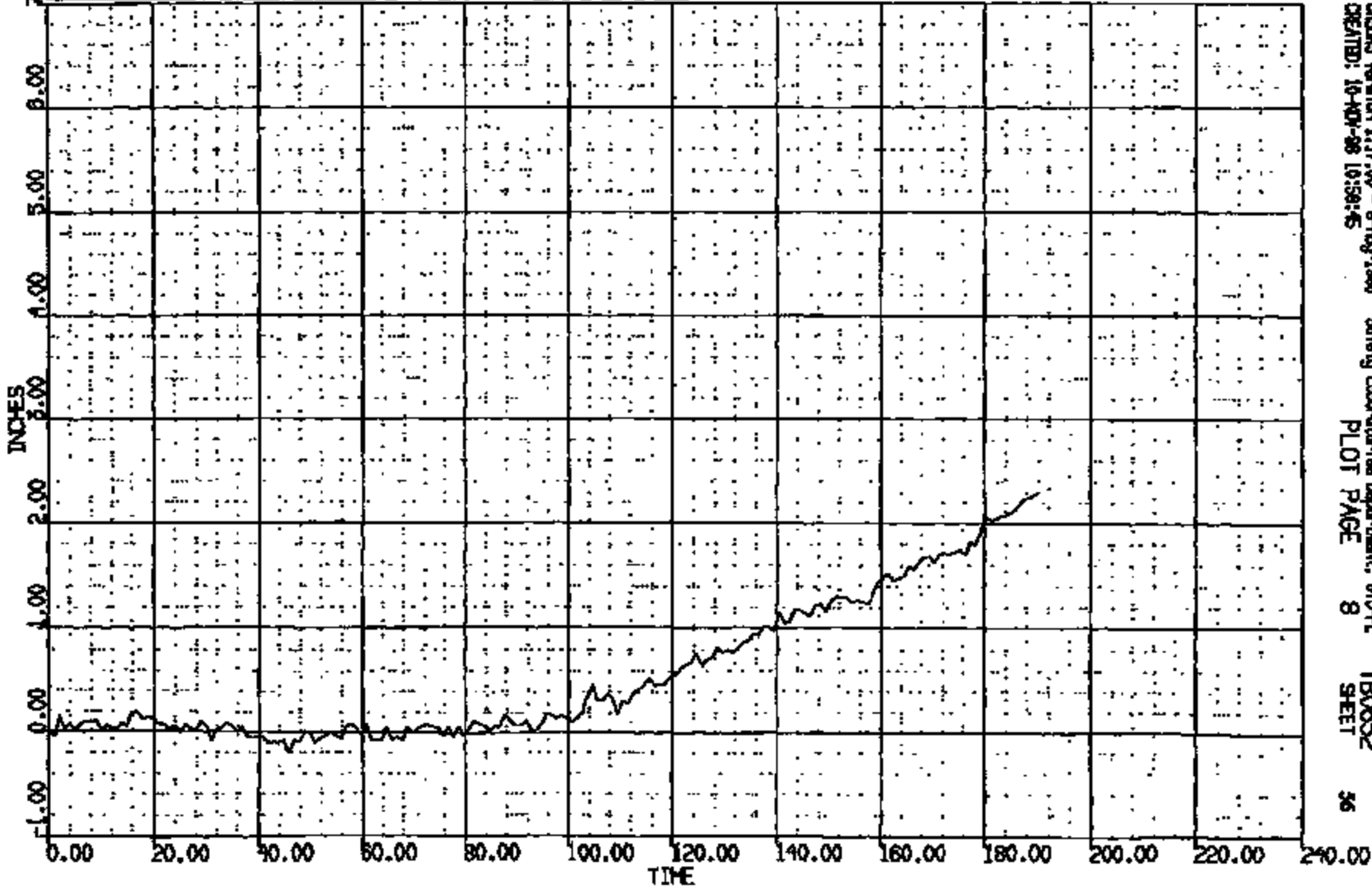


CASIMS Version 1.17.00 - 8-May-1998 Safety Laboratory/see Department, G10-PL
CREATED: 10-MAY-98 10:38:41 PLOT PAGE 2 TB0652
SHEET 35

CRTS 0011264

CR R= 11264 TO: TB0652 DATE: 981104 15:55:50
2000 TAURUS UNKNOWN

(0) CR011264 R S ROOF AT B PLR WRT TOP OF BA LONG DISP
MAX = 2.297 at 190.3 MS MIN = -.2005 at 45.08 MS **AXIS 1**

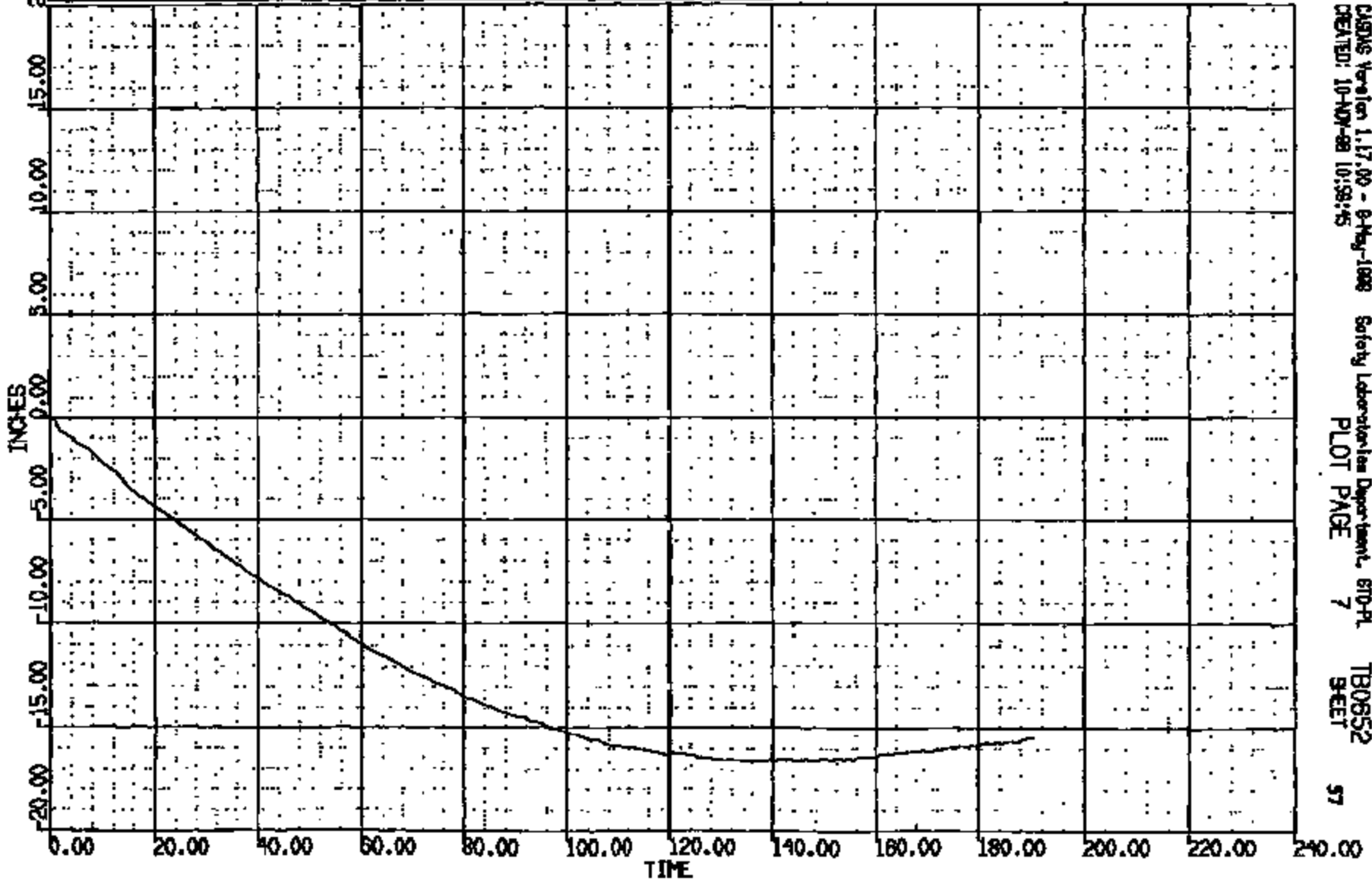


CLIGS Version 1.17.00 - 8-May-1998 Safety Laboratory Department, ST-PL TB0652
CREATED: 10-NOV-98 10:58:45 PLOT PAGE 8 SHEET 36

CRTS 0011264

CR R: 11264 TO: TB0652 DATE: 981104 15:35:30
2000 TAURUS UNKNOWN

(0) CR11264 R S ROOF AT B PLR WRT TOP OF BAR LAT DISP
MAX = -.1000E-05 at 0.0000E+00 MS MIN = -16.64 at 135.5 MS **AXIS 1**



CASMS Version 1.17.00 - 8-May-1998 Safety Laboratory Department, STD-PL
CREATED: 10-NOV-98 10:58:45 PLOT PAGE 7 TB0652
57

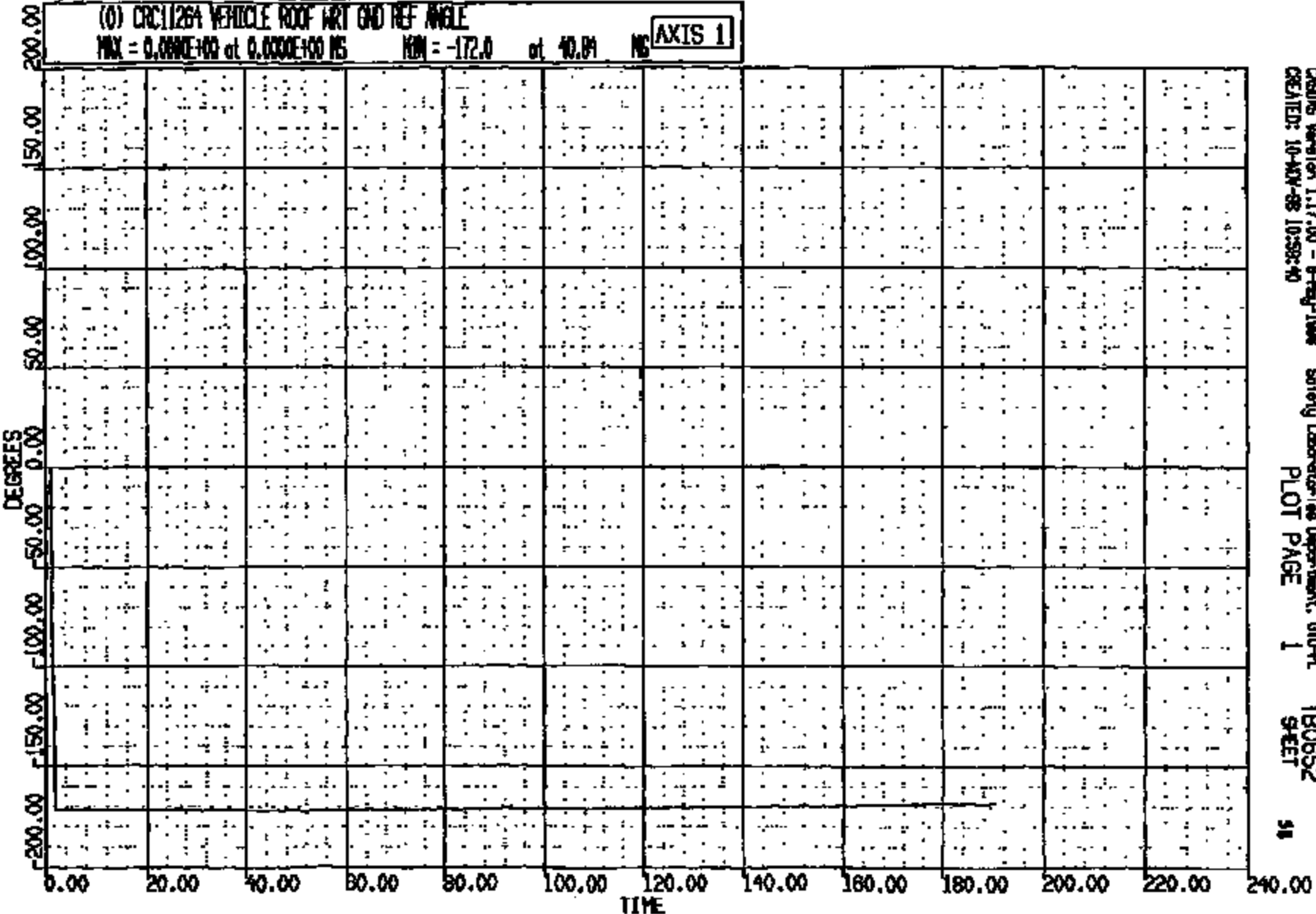
CRTS 0011264

CR: R: 11264 TO: TB0652 DATE: 981104 16:33:30
R000 TAURUS UNKNOWN

(0) CR011264 VEHICLE ROOF WRT GND REF ANGLE

MAX = 0.000E+00 at 0.000E+00 MS MIN = -172.0 at 40.04 MS

AXIS 1



ABC TO #: T- TH0652

DIMENSIONAL ANALYSIS REPORT

CRASH #: 11264

VEHICLE INFORMATION

TEST DESCRIPTION: 90 DEG. LEFT SIDE FIXED POLE
VEHICLE PROGRAM YEAR: 2000
VEHICLE MODEL NAME: D-186
VEHICLE PROGRAM NAME: TAD008
VEHICLE ID NUMBER: 590W002
CERTIFICATION VEHICLE CODE: DV
REQUESTOR NAME: J. E. ABRAMCZYK
TEST ENGINEER NAME:

CRTS 0011264

TIME AND DATE OF REPORT: 6-APR-99 12:44:08

ASC TO #: T- T80652

DIMENSIONAL ANALYSIS REPORT

CRASH #: 11264

** POINT COORDINATES **

UNIT NO	SIDE	PRT NO	DESCRIPTION		INCHES			INCHES CHANGED					
					LONG X	LAT Y	VERT Z	X	Y	Z	D		
071			MISCELLANEOUS / SIDED										
	L	07	CONTROL SWITCH/BOLE C/L SET DR/SIDE WEAR./PASS	REF AFT	93.61	-26.52	14.42						
	R	07	CONTROL SWITCH/BOLE C/L SET DR/SIDE WEAR./PASS	REF AFT	93.61	26.52	14.40						
074			CHN POSITIONING REF.										
		41	CHN FRONT DOOR A PILLAR @ROOF @SIDE OF IMPAC	REF AFT	108.52	-24.24	54.92						
		42	CHN FRONT DOOR A PILLAR @ROOF @SIDE OF IMPAC	REF AFT	88.35	-30.83	40.12						
		43	CHN FRONT DOOR A PILLAR @ROCKER @SIDE OF IMPAC	REF AFT	91.40	-30.98	17.99						
		44	CHN FRONT DOOR @PILLAR @SIDE OF IMP	REF AFT	120.82	-31.02	17.56						
		46	CHN REAR DOOR B PILLAR @ROOF @SIDE OF IMPAC	REF AFT	133.58	-23.21	57.24						
		47	CHN REAR DOOR B PILLAR @ROOF @SIDE OF IMPAC	REF AFT	130.86	-31.12	39.30						
		48	CHN REAR DOOR B PILLAR @ROCKER @SIDE OF IMPAC	REF AFT	133.83	-30.93	17.40						
		49	CHN REAR DOOR @PILLAR @SIDE OF IMP	REF AFT	149.76	-31.06	17.20						
	L	53		REF AFT	92.29	30.94	17.57						
	L	54		REF AFT	118.46	31.13	17.09						

* VALUE WAS TRANSLATED

TIME AND DATE OF REPORT: 6-APR-99 12:44:09

PAGE 1

CRTS 0011264

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T-80652

UNIT NO	SIDE	PRT NO	DESCRIPTION	** POINT COORDINATES **			INCHES CHANGED			
				LONG X	LAT Y	VERT Z	X	Y	Z	D
411			TOP (BODY) NON SIDED							
		01	EXTRA SET UP POINT (LEFT FOREMOST FRAME)	REF AFT	34.96	-23.24	22.90			
		02	EXTRA SET UP POINT (RIGHT FOREMOST FRAME)	REF AFT	34.70	23.92	22.79			
		03	EXTRA SET UP POINT (LEFT REARMOST FRAME)	REF AFT	210.68	-19.22	20.67			
		04	EXTRA SET UP POINT (RIGHT REARMOST FRAME)	REF AFT	210.60	20.01	20.63			
		26	"H" POINT LOCATION ON OUTER PRT/OCCUPANT DOOR	REF AFT	116.69	-36.65	25.96			
		38	TOP OF ROCKER BILL IN LINE W/FRONT "H" PT.	REF AFT	116.74	-36.68	17.20			
		57	FRONT OCCUPANT HEAT C/L (WIDTH)	REF AFT		-14.40				
		84	"W.R.T." ON ROCKER SIDE OPPOSITE OF INRAC	REF AFT	118.46	31.13	17.09			
412			TOP (BODY) SIDED POINTS							
	L	09	END OF FRONT SPINDLE @ CENTERLINE(WHEELBASE)	REF AFT	66.26	-33.54	17.63			
	R	09	END OF FRONT SPINDLE @ CENTERLINE(WHEELBASE)	REF AFT	66.30	33.59	17.37			
	L	10	FRONT FENDER LIP (BOTTOM SIDE) @ AXLE C/LINE	REF AFT	66.27	-35.32	34.80			
	R	10	FRONT FENDER LIP (BOTTOM SIDE) @ AXLE C/LINE	REF AFT	66.33	35.19	34.58			

* VALUE WAS TRANSLATED

TIME AND DATE OF REPORT: 6-APR-99 12:44:10

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ASC TO #: T- TB0652

DIMENSIONAL ANALYSIS REPORT

CRASH #: 11264

UNIT NO	SIDE	PWT NO	DESCRIPTION		** POINT COORDINATES **			INCHES CHANGED			
					LONG X	LAT Y	VERT Z	X	Y	Z	D
L	16		LATCH/STRIKER BOLT @C/L OR U-BOLT/TOP SB PILLA	BEF AFT	125.14	-31.10	31.07				
R	16		LATCH/STRIKER BOLT @C/L OR U-BOLT/TOP SB PILLA	BEF AFT	125.03	31.37	30.93				
L	18		LATCH/STRIKER BOLT @C/L OR U-BOLT/TOP @C PILLA	BEF AFT	165.55	-31.00	38.18				
R	18		LATCH/STRIKER BOLT @C/L OR U-BOLT/TOP @C PILLA	BEF AFT	165.34	31.52	37.92				
L	86		REAR FENDER LIP (BOTTOM SIDE) @ AXLE C/LINE	BEF AFT	174.66	-35.80	31.89				
R	86		REAR FENDER LIP (BOTTOM SIDE) @ AXLE C/LINE	BEF AFT	174.59	35.82	31.80				
L	89		END OF REAR SPINDLE @ CENTERLINE (WHEELBASE)	BEF AFT	174.57	-33.56	16.61				
R	89		END OF REAR SPINDLE @ CENTERLINE (WHEELBASE)	BEF AFT	174.58	33.50	16.67				
650			BLANK UNIT POINTS								
	01	1	SEE COMMENTS PAGE	BEF AFT	93.77	26.60	14.50				
	02	2	SEE COMMENTS PAGE	BEF AFT	146.84	26.67	13.60				
	03	3	SEE COMMENTS PAGE	BEF AFT	114.49	-27.22	14.15				
	04	4	SEE COMMENTS PAGE	BEF AFT	113.41	28.30	14.04				
	05	5	SEE COMMENTS PAGE	BEF AFT	110.88	-30.02	39.91				

* VALUE WAS TRANSLATED

TIME AND DATE OF REPORT: 6-APR-93 12:44:10

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T-B0652

ASC TO #: T- 120652

DIMENSIONAL ANALYSIS REPORT

CRASH #: 11264

** POINT COORDINATES **

INCHES

INCHES CHANGED

UNIT NO	SIDE	PNT NO	DESCRIPTION		INCHES			INCHES CHANGED				
					LONG X	LMT Y	VERT Z	X	Y	Z	D	
		06	6	SEE COMMENTS PAGE	REP AFT	97.74	-29.91	30.49				
		07	7	SEE COMMENTS PAGE	REP AFT	109.89	-30.32	33.79				
		08	8	SEE COMMENTS PAGE	REP AFT	132.65	-21.38	56.91				
		09	9	SEE COMMENTS PAGE	REP AFT	129.86	-28.59	42.40				
		10	10	SEE COMMENTS PAGE	REP AFT	126.55	-28.54	33.31				
		11	11	SEE COMMENTS PAGE	REP AFT	125.35	-28.47	20.56				
		12	12	SEE COMMENTS PAGE	REP AFT	147.79	-30.33	39.75				
		13	13	SEE COMMENTS PAGE	REP AFT	146.14	-30.07	34.27				
		14	14	SEE COMMENTS PAGE	REP AFT	63.05	31.65	40.36				
		15	15	SEE COMMENTS PAGE	REP AFT	177.06	31.65	43.65				

* VALUE WAS TRANSLATED

TIME AND DATE OF REPORT: 6-APR-99 12:44:10

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T-120652

** COMMENTS **

ANY AUTOMATICALLY GENERATED COMMENTS APPEAR IN THIS BOX:

THIS VEHICLE IS SET UP TO DESIGN ATTITUDE AND WHILE REPORTED IN ENGLISH UNITS, USES A METRIC PRINT TEEO. SUSPENSION COMPONENTS ARE NOT IN DESIGN POSITION. COORDINATES CAN BE CONVERTED TO DESIGN PRINT VALUES BY USING THE FOLLOWING: asking for a metric print-out or

TO CONVERT TO METRIC DESIGN PRINT VALUES: MULTIPLY BY 25.4.
TO CONVERT TO ENGLISH DESIGN PRINT VALUES: (for most DOMESTIC VEHICLES)
SUBTRACT 78.74 (2000 MM) FROM THE X VALUE AND SUBTRACT 19.69 (500 MM) FROM THE Z VALUE.

*** THIS DIMENSION SYSTEM UTILIZES THE RIGHT HAND RULE ***
from Front of Vehicle FACING REARWARD
+ = Rearward, Up, & Left (AMERICAN PASSENGER SIDE)
[Lateral Zero is Centerline of Vehicle]

*** THE " D " DIMENSION UNDER " INCHES CHANGED X Y Z " ***
*** IS THE SCALAR (TRUE VALUE) DISTANCE CHANGE OF THE POINT ***

REMINDER::: Print a C/L stripe on tunnel from front seat to and including rear seat where applicable.

*** If this is a POLE IMPACT TEST, do NOT scribe cart edges. ***

ON SIDE IMPACTS FOR VEHICLES WITH A WHEELBASE OF 114 inches or less
SCRIBE (4) VERTICAL LINES on side of impact from ROCKER TO BELT LINE @:
(1) WHEELBASE C/L (2) 37" FORWARD OF WHEELBASE C/L
(3) 4" FORWARD OF WHEELBASE C/L (4) 29" REARWARD OF WHEELBASE C/L

ON SIDE IMPACTS FOR VEHICLES WITH A WHEEL BASE GREATER THAN 114 INCHES
SCRIBE (4) VERTICAL LINES on side of impact from ROCKER TO BELT LINE @:
(1) 20" (2) 53" (3) 86" REARWARD OF FRONT AXLE CENTER LINE
(4) @ WHEELBASE CENTER LINE

ON SIDE IMPACTS FOR VEHICLES WITH A WHEELBASE OF 114 inches or less
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TIME AND DATE OF REPORT: 6-APR-99 12:44:10

PAGE 1

**** COMMENTS ****

ON SIDE IMPACTS FOR VEHICLES WITH A WHEELBASE OF 114 inches or less
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ON SIDE IMPACTS FOR VEHICLES WITH A WHEELBASE GREATER THAN 114 INCHES
 SCRIBE (4) VERTICAL LINES on side of impact from ROCKER TO BELT LINE @:
 (1) 20" (2) 53" (3) 86" REARWARD OF FRONT AXLE CENTER LINE
 (4) @ WHEELBASE CENTER LINE

BELT LINE (EXTERIOR SECTION) LOCATED @ 1st INCREMENTED 50mm BODY
 LINE BELOW GLASS/WEATHERSTRIP

RID LINE (EXTERIOR SECTION) LOCATED @ _____mm BODY LINE

CHARACTER LINE (EXTERIOR SECTION) LOCATED @ _____mm BODY LINE

ROCKER LINE (EXTERIOR SECTION) LOCATED @
 1st INCREMENTED 10mm BODY LINE BELOW DOOR OPENING

SCRIBE A LONGITUDINAL C/L ALONG THE ENTIRE EXTERIOR BODY
 (USE TAPE OR PAINT ON THE WINDSHIELD & BACKLIGHT)

SCRIBE A LONGITUDINAL C/L IN THE INTERIOR ON THE ROOF, TUNNEL/CONSOLE
 AND OR SEATS

MARK A LONGITUDINAL C/L ON THE OCCUPANT FRONT & REAR SEATS

ANY COMMENTS ENTERED BY OPERATORS APPEAR BELOW THIS LINE:

NOTE: NO REAR HANDBLIND

UNIT 411 POINT 37 FAIL IN INNER DOOR OPENING.
 UNIT 411 POINTS 36, 37, 39, 67 NOT APPLICABLE.
 UNIT 411 POINT 57 SEAT C/L - -14.40".

UNIT 650 POINT DESCRIPTIONS ARE AS FOLLOWS:

- 01. R/F SILL POST SET-UP POINT.
- 02. R/R SILL POST SET-UP POINT.

POINTS 3 THRU 13 ARE ACCELEROMETERS.

TIME AND DATE OF REPORT: 6-APR-99 12:44:10

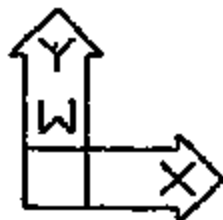
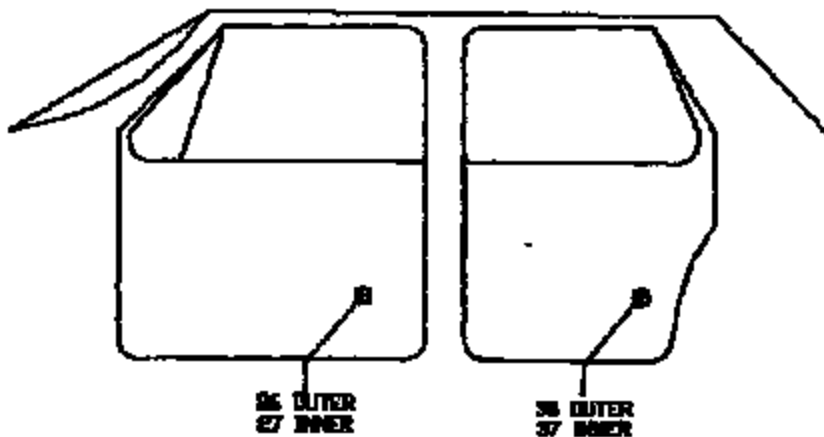
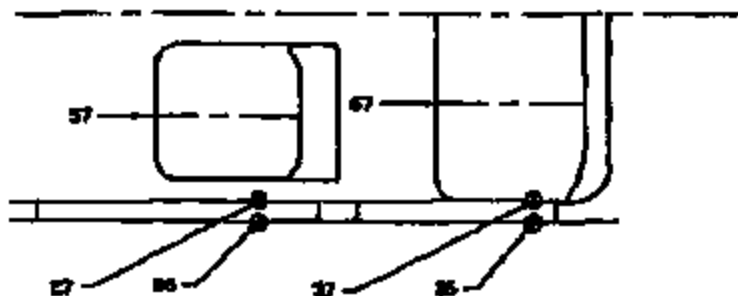
PAGE 2

** COMMENTS **

- 03. L/S ROCKER SILL.
- 04. R/S ROCKER SILL.
- 05. L/S FRONT DOOR.
- 06. L/S FRONT DOOR.
- 07. L/S FRONT DOOR.
- 08. L/S B-PILLAR AT ROOF.
- 09. L/S B-PILLAR AT BELTLINE.
- 10. L/S B-PILLAR AT BELTLINE LOWER.
- 11. L/S B-PILLAR AT ROCKER.
- 12. L/S REAR DOOR.
- 13. L/S REAR DOOR.

- 14. R/Y ALIGNMENT POINT.
- 15. R/R ALIGNMENT POINT.

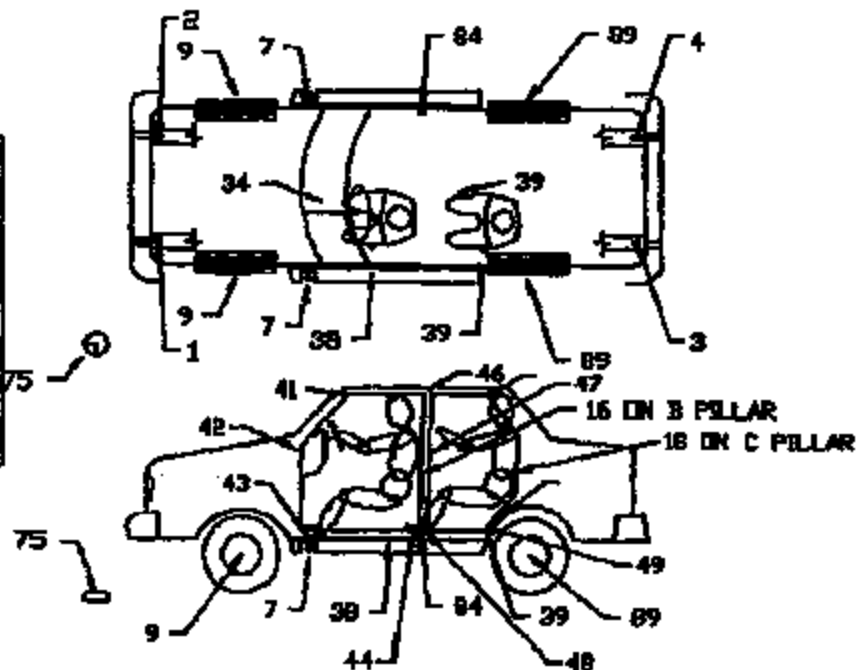
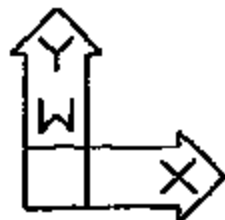
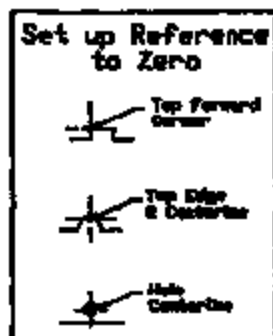
PRE-CRASH LATERAL C/L'S 14' POINTS + REQUEST 417
 UNIT 421 POINTS 26,27,36,37,37,67



REQUEST 417 UPIC 984 88/96

DREVELL

CONTROL POINTS (SIDE IMPACT CAR) REQUEST 404
 UNIT 70 POINT 75
 UNIT 71 POINTS 7 LEFT & RIGHT
 UNIT 74 POINTS 41-44,46-49 ON SIDE OF IMPACT
 UNIT 74 POINTS 53,54 ON SIDE OPPOSITE OF IMPACT
 UNIT 411 POINTS 1-4,38,39,84
 UNIT 412 POINTS 9,16,18,89 LEFT & RIGHT
 (LEFT SIDE IMPACT SHOWN)



REQUEST 404 IPRC, 960 1P/96

DEFIN: 1



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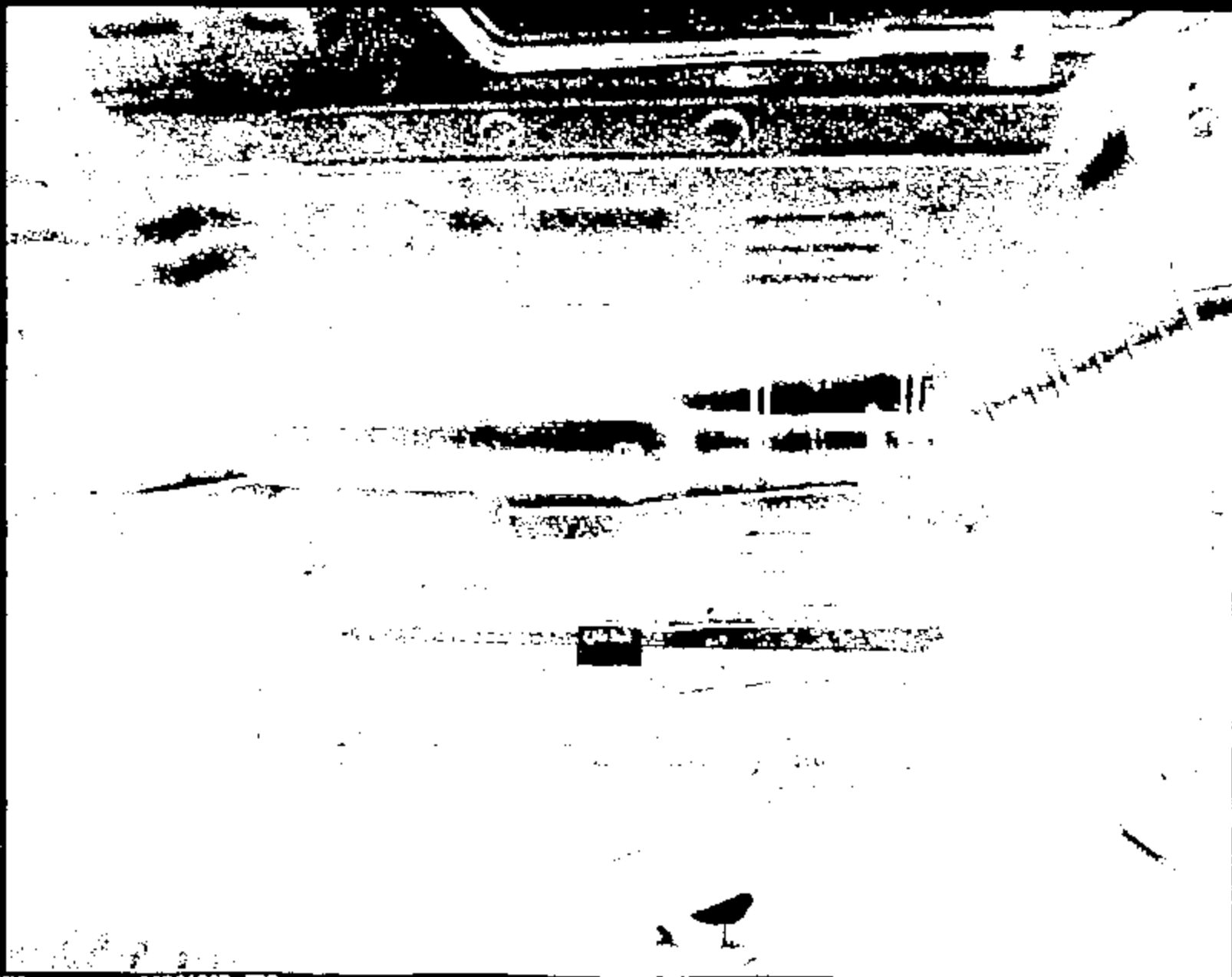
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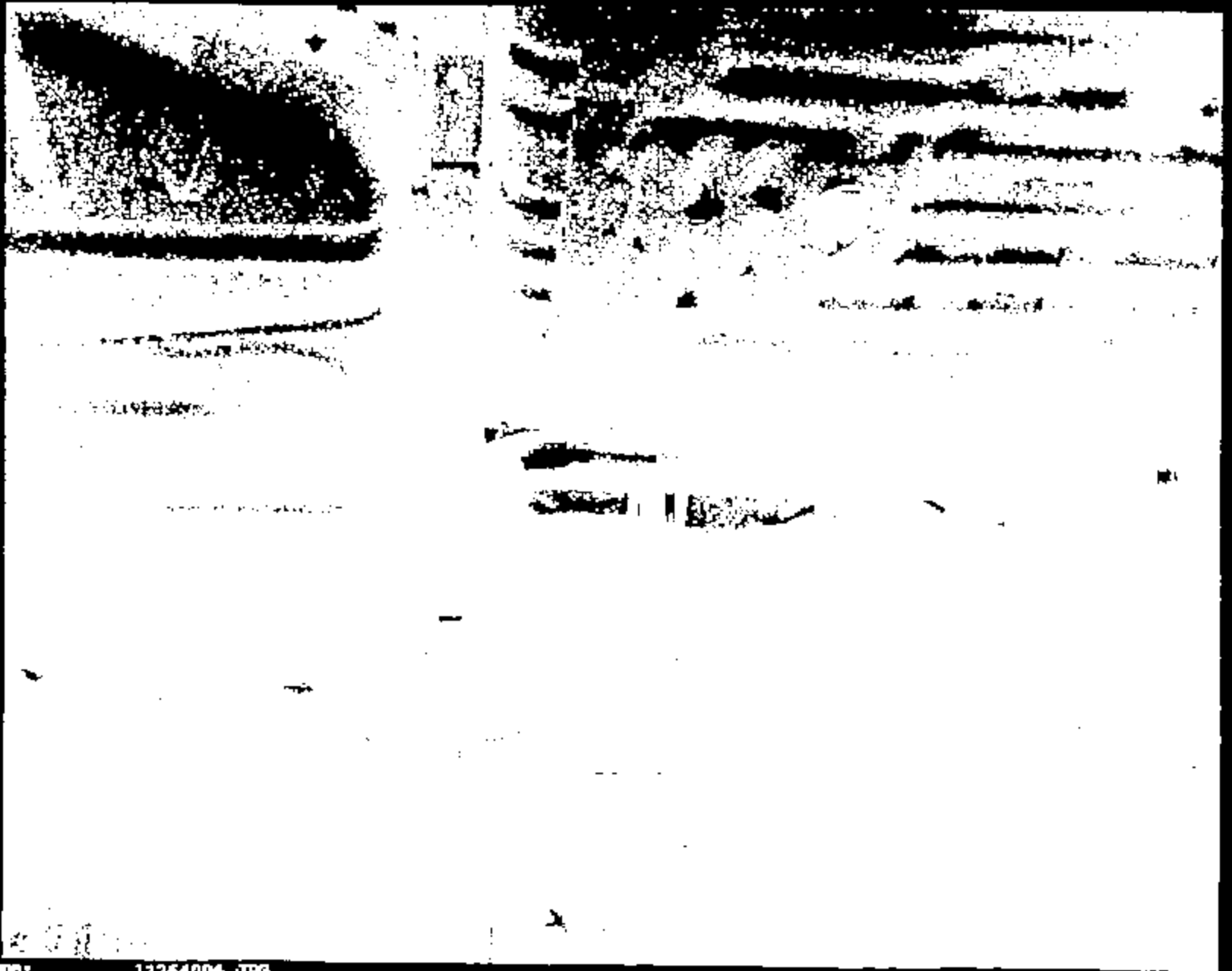
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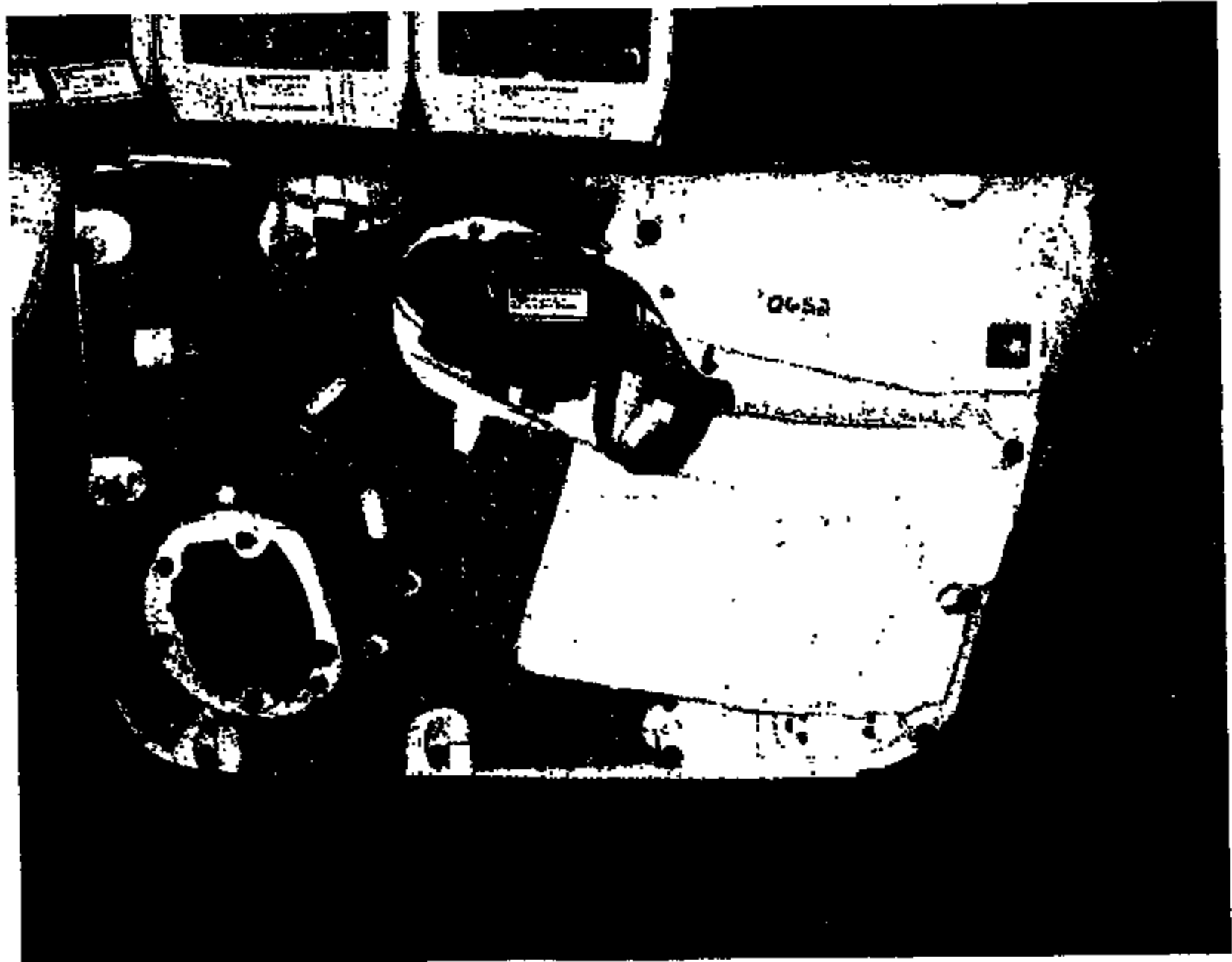
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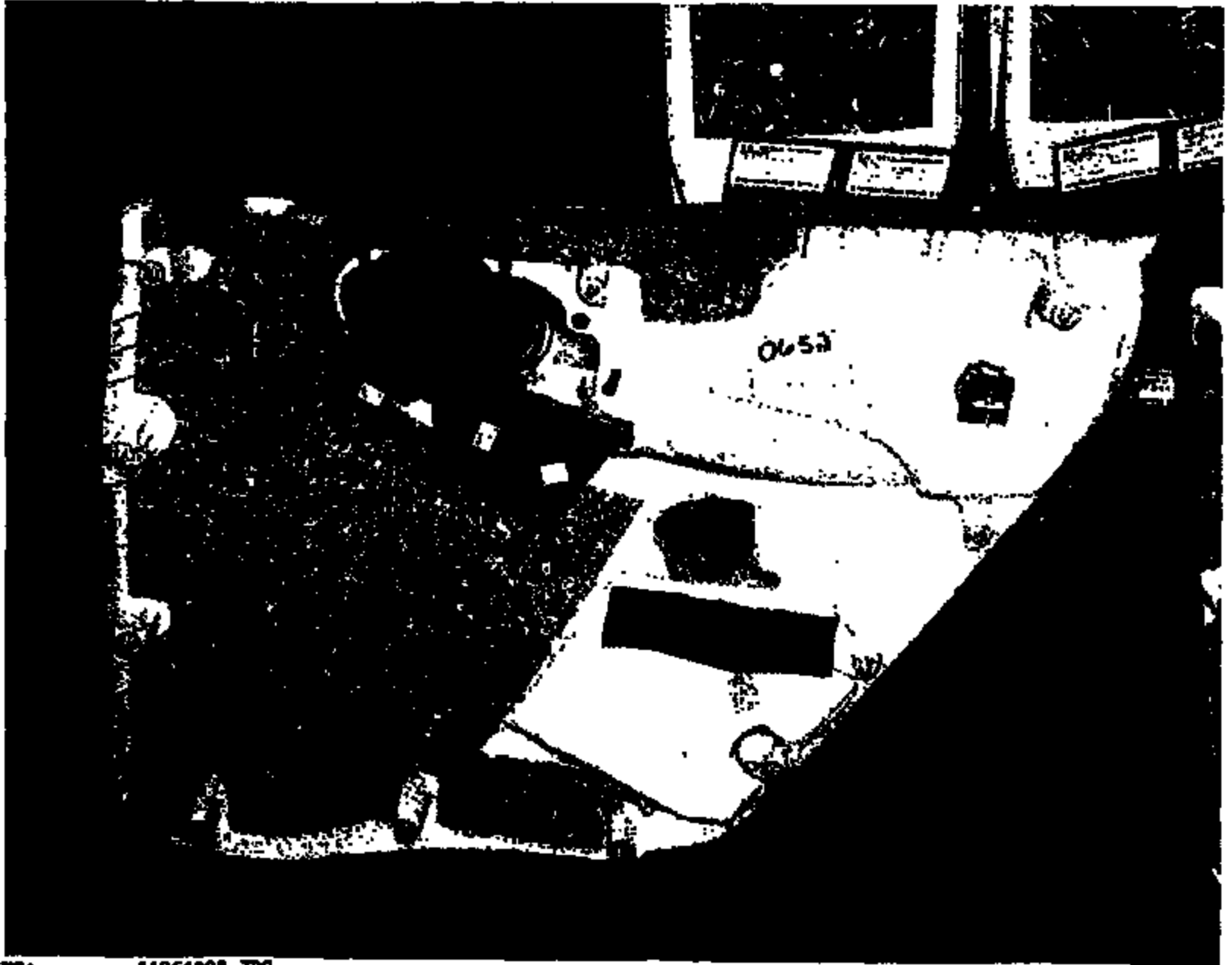
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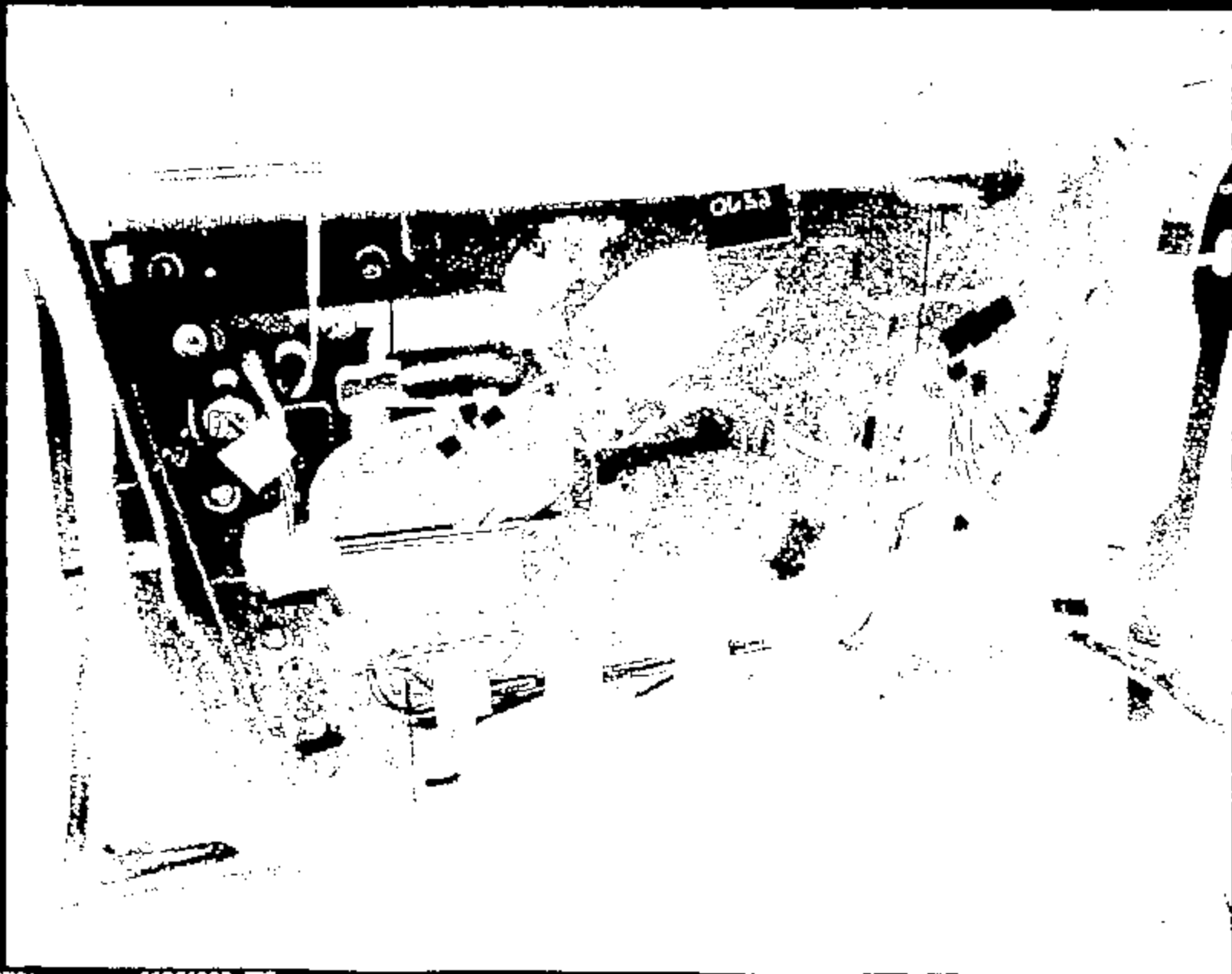
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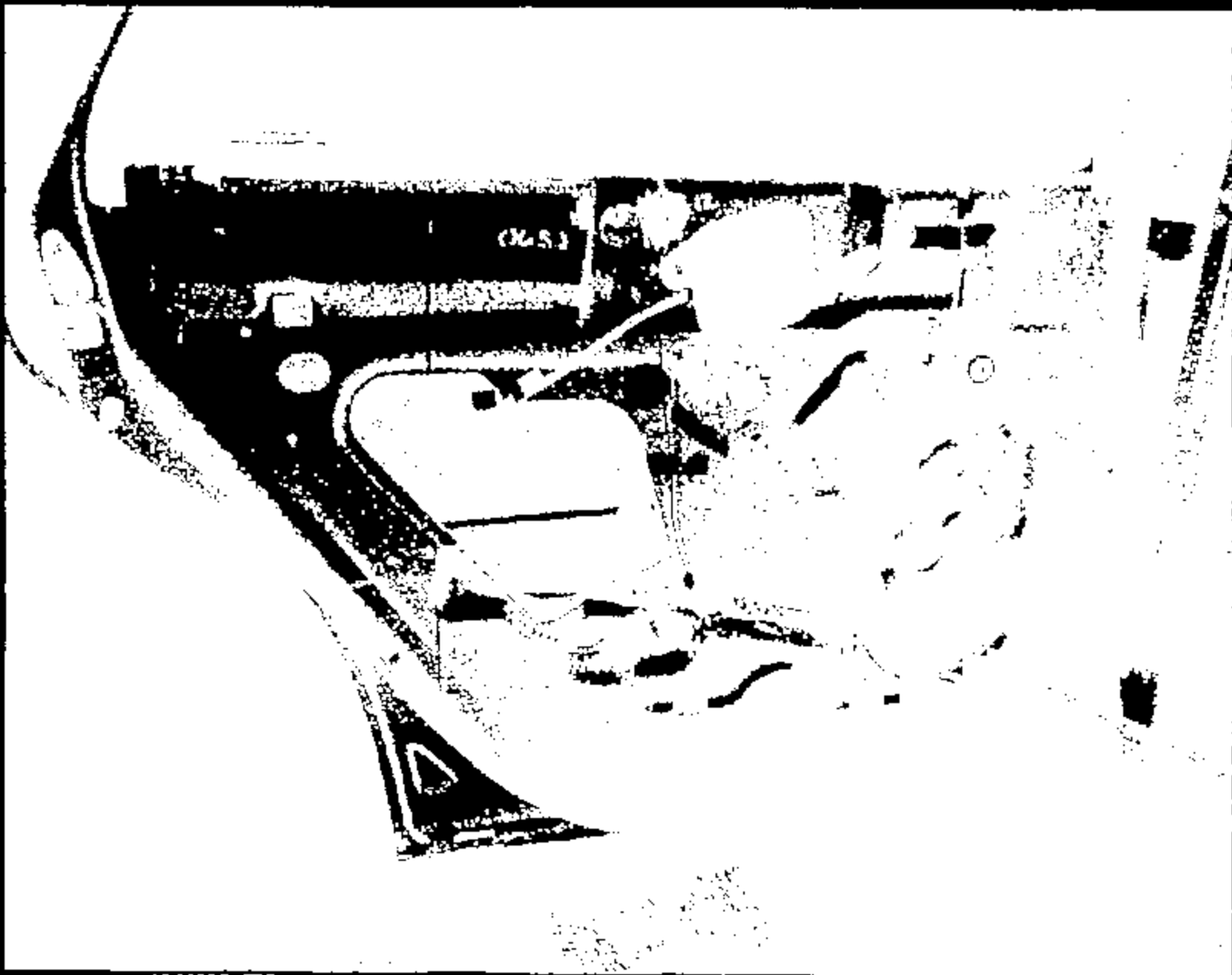
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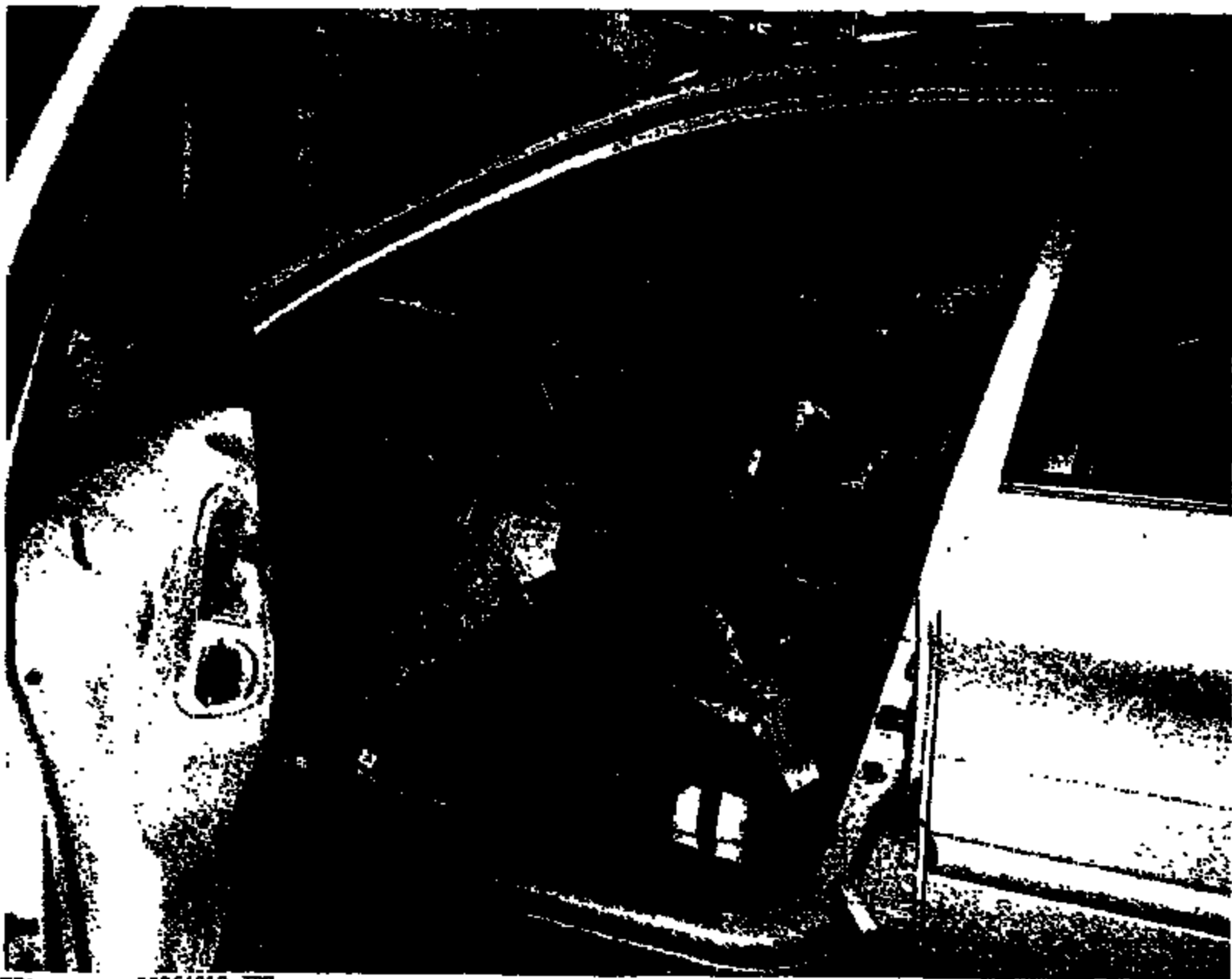
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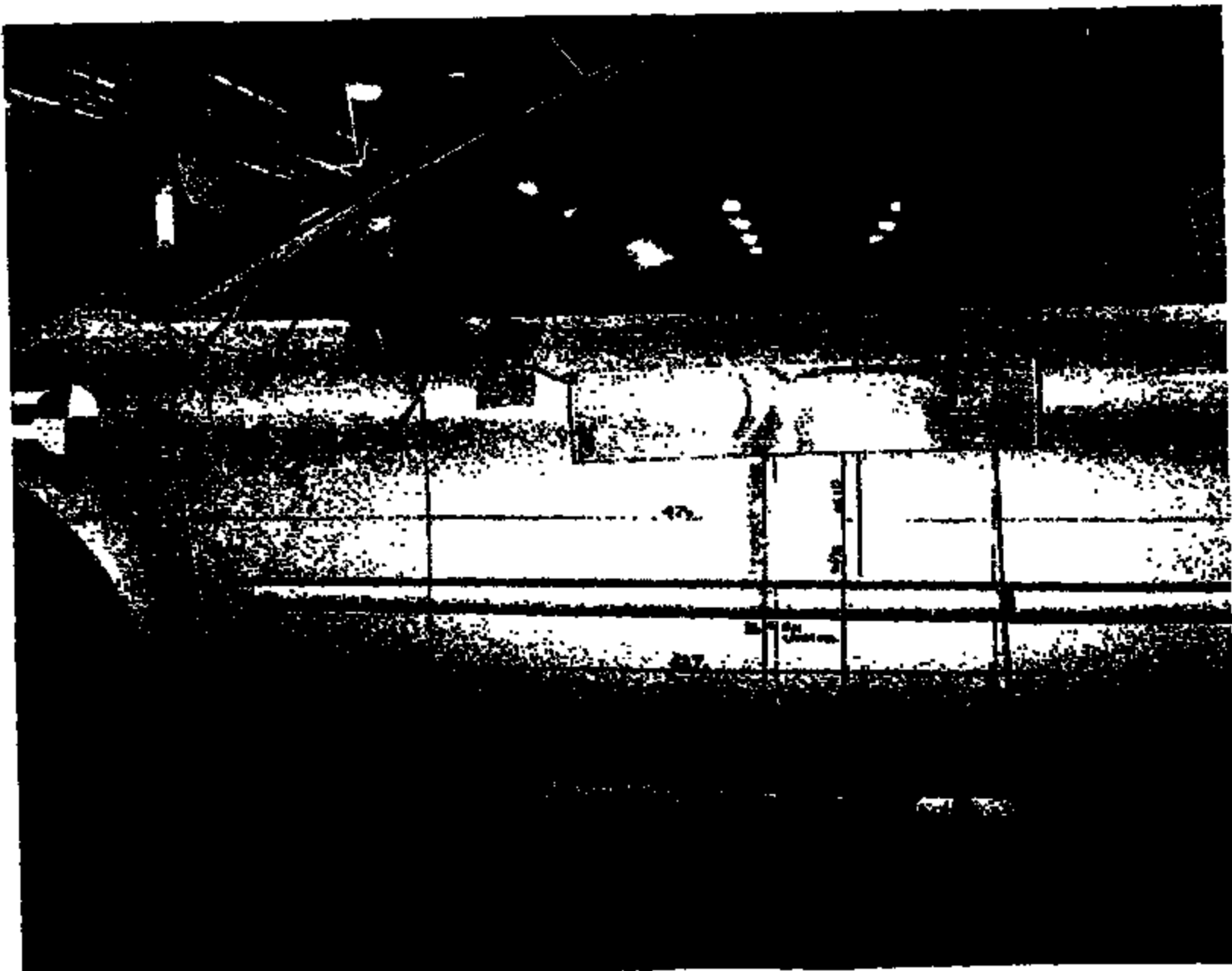
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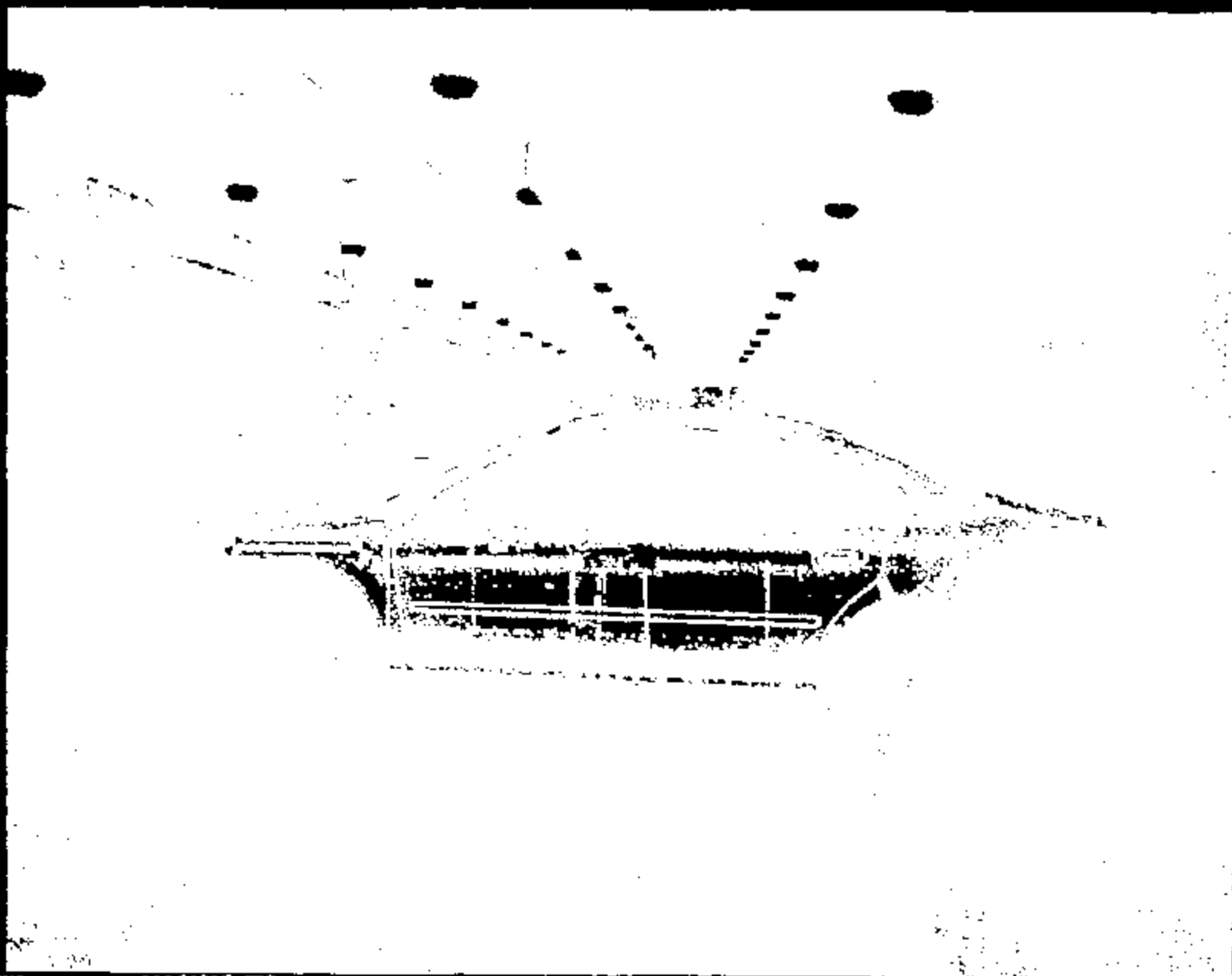
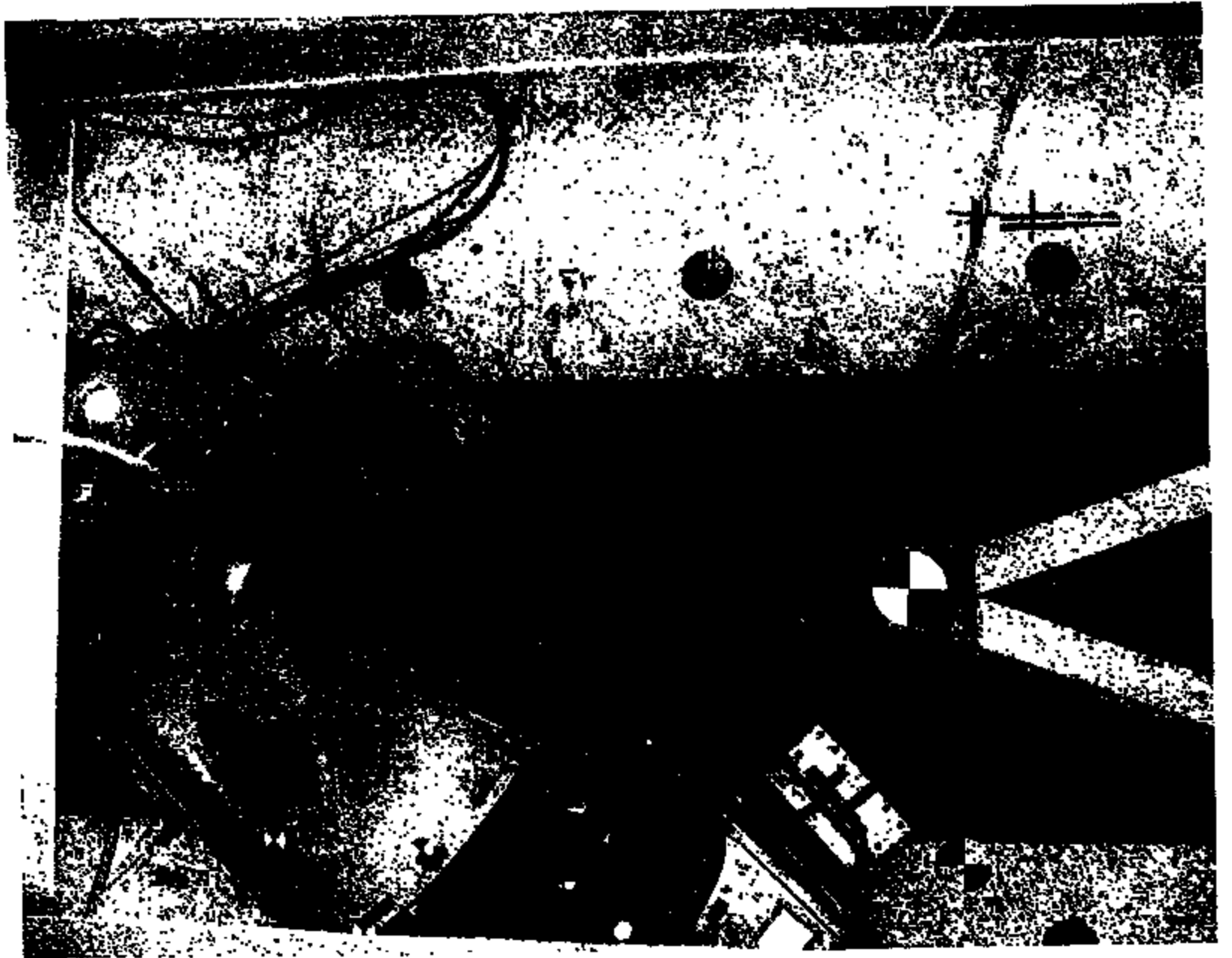


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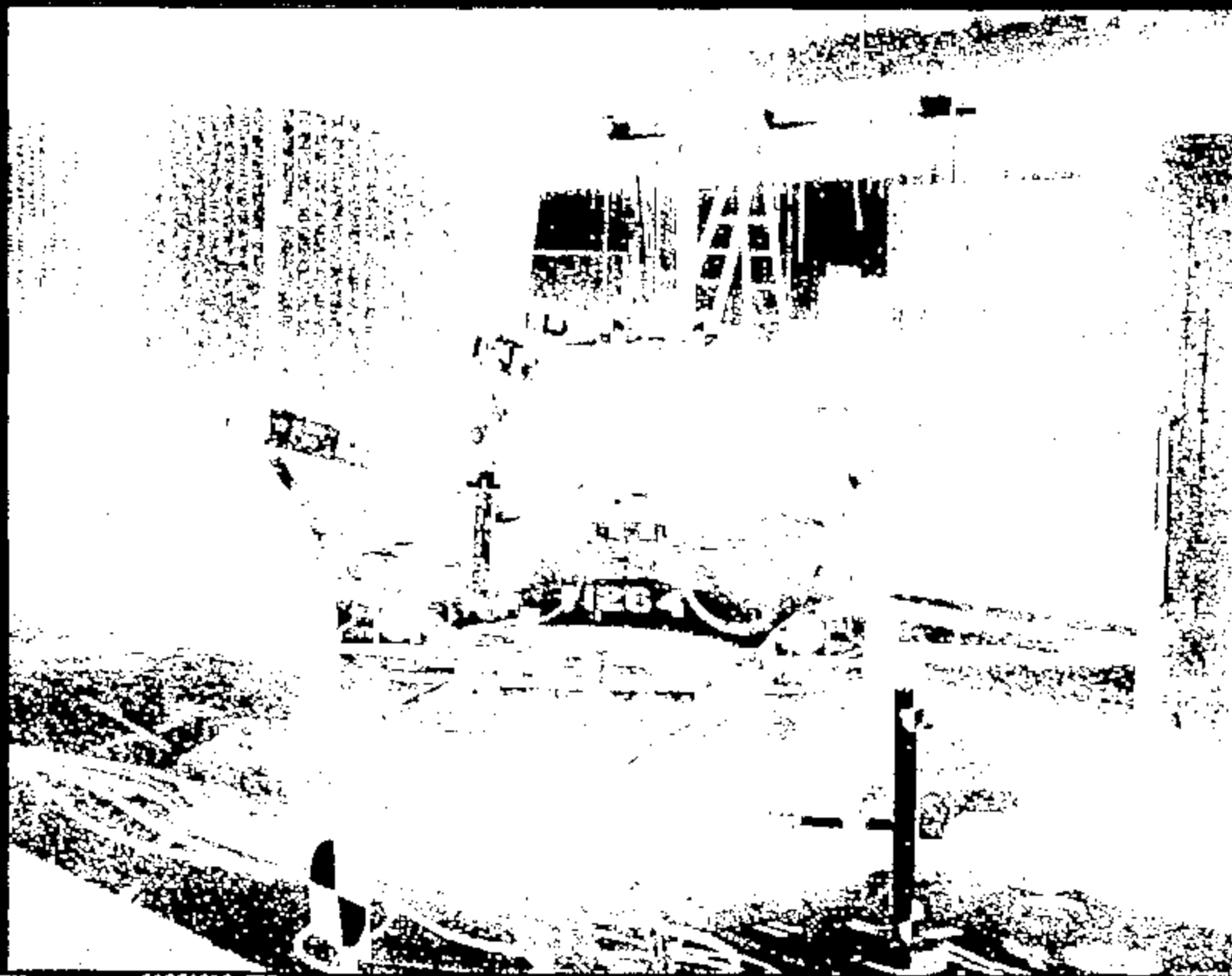
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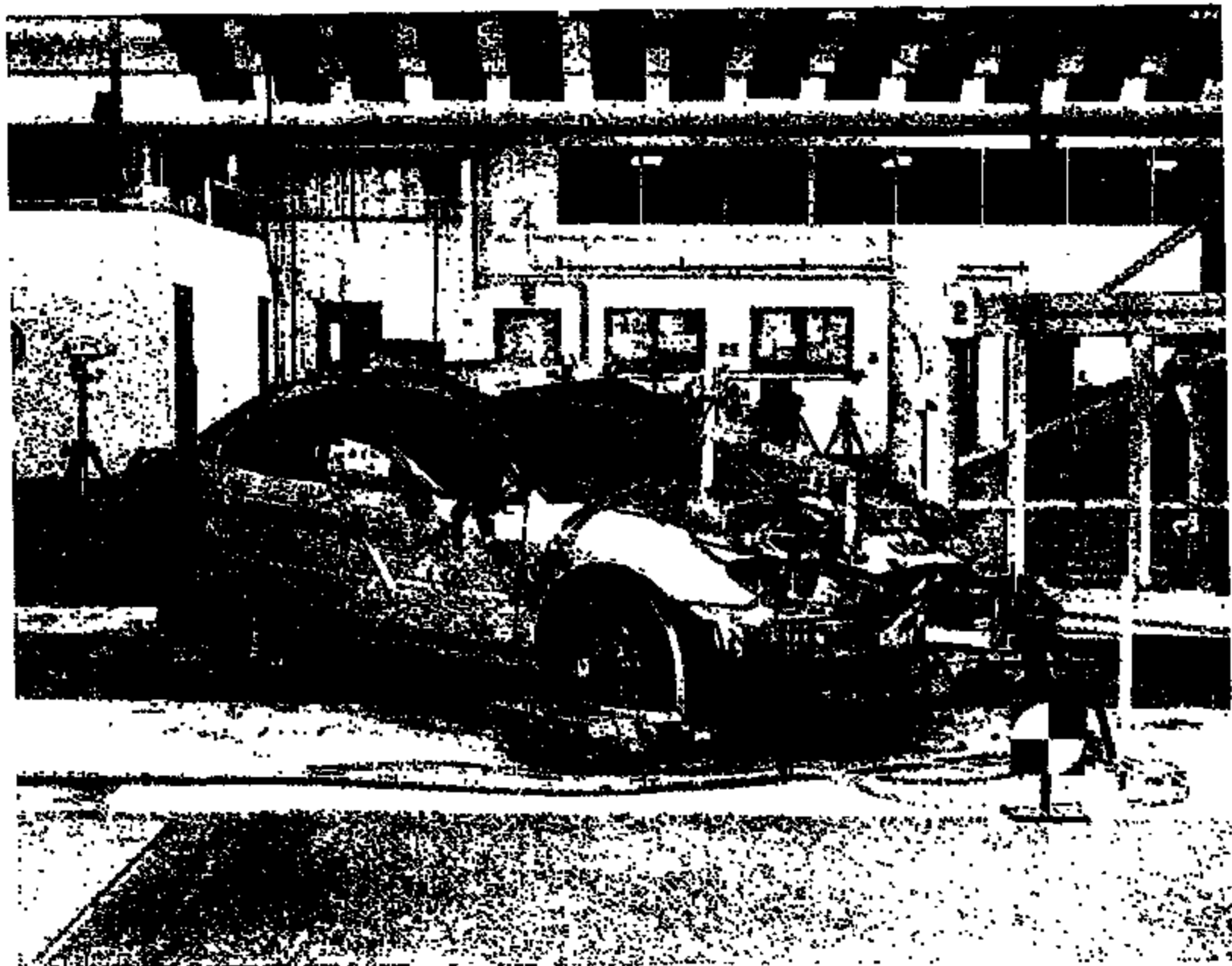
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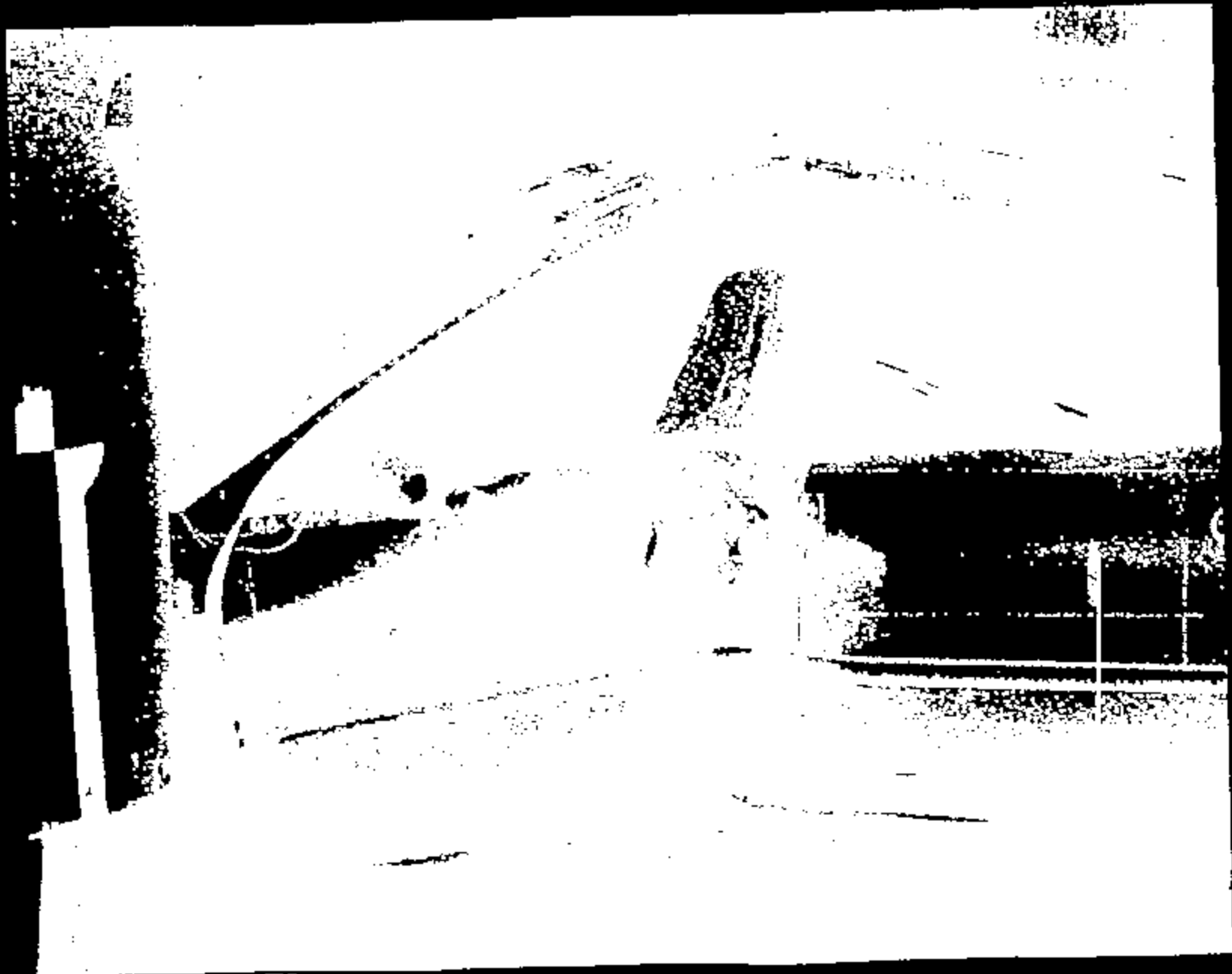
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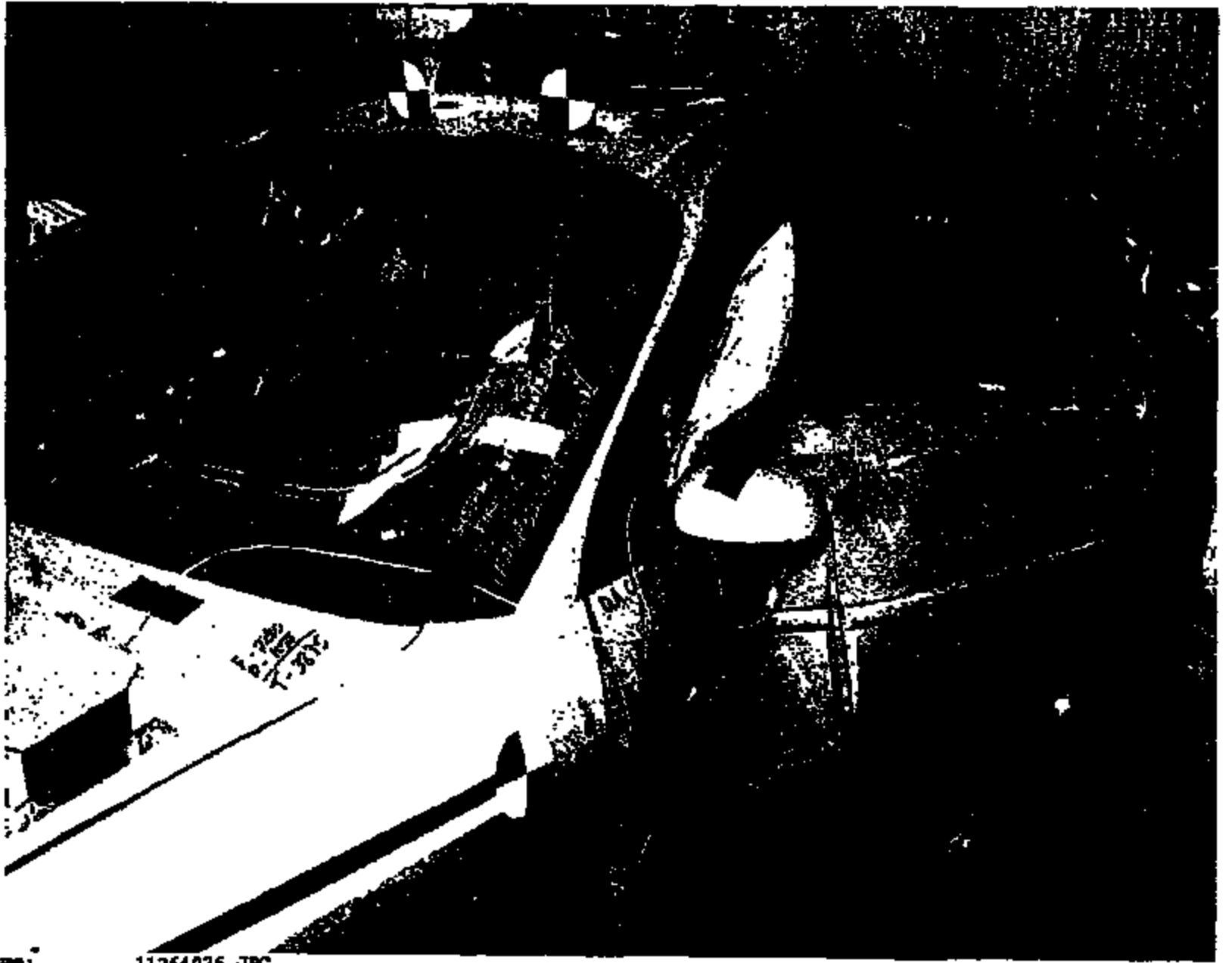
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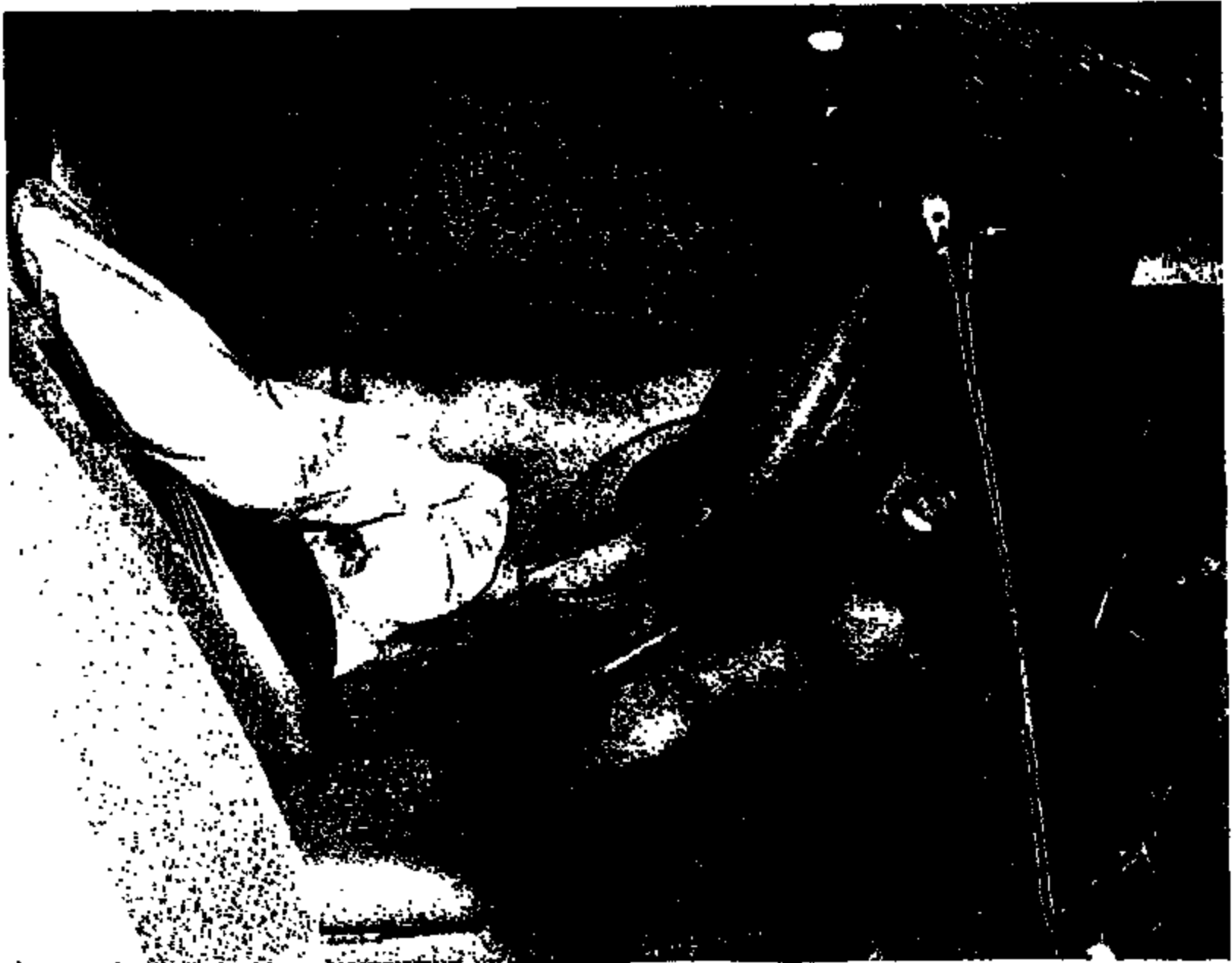
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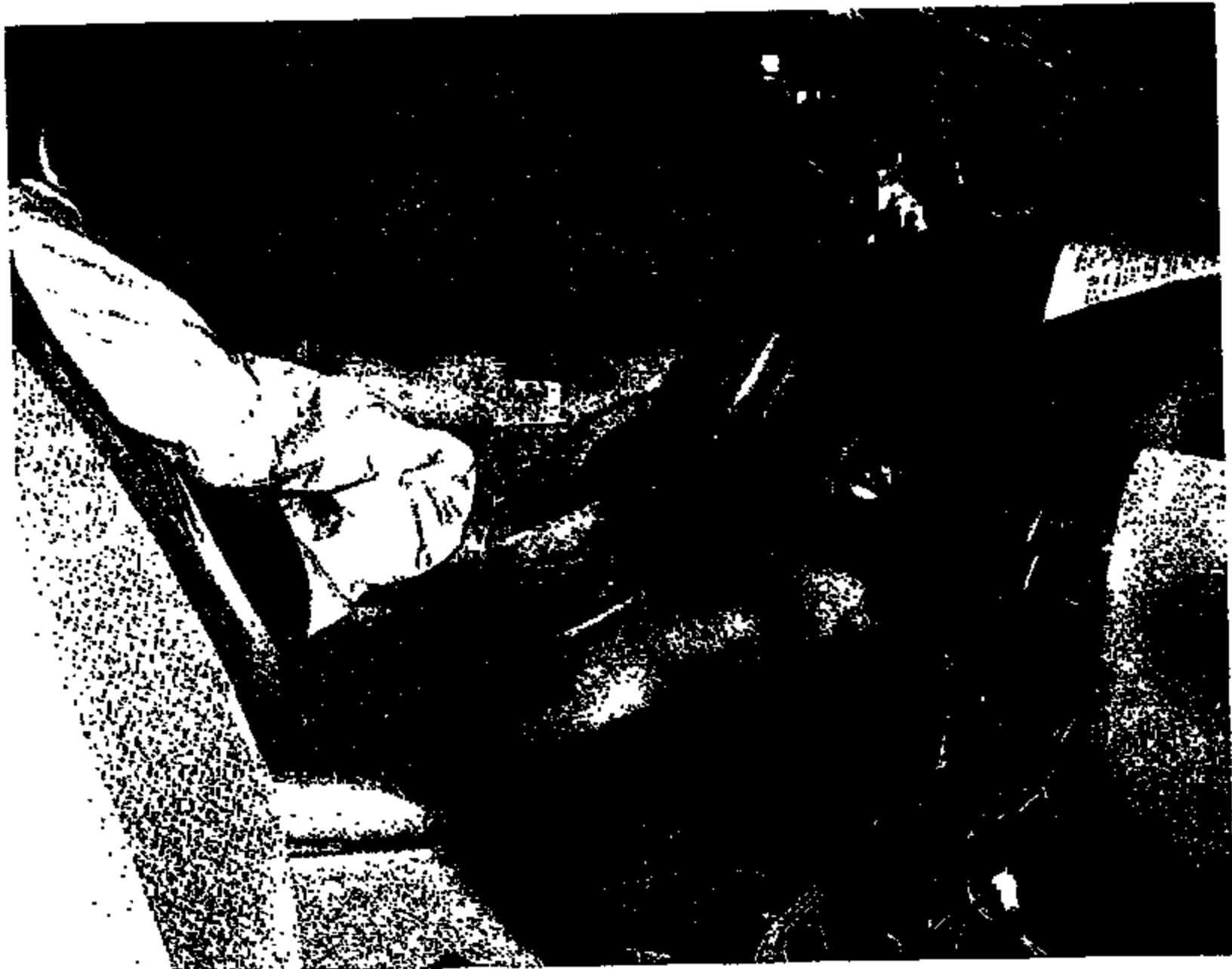
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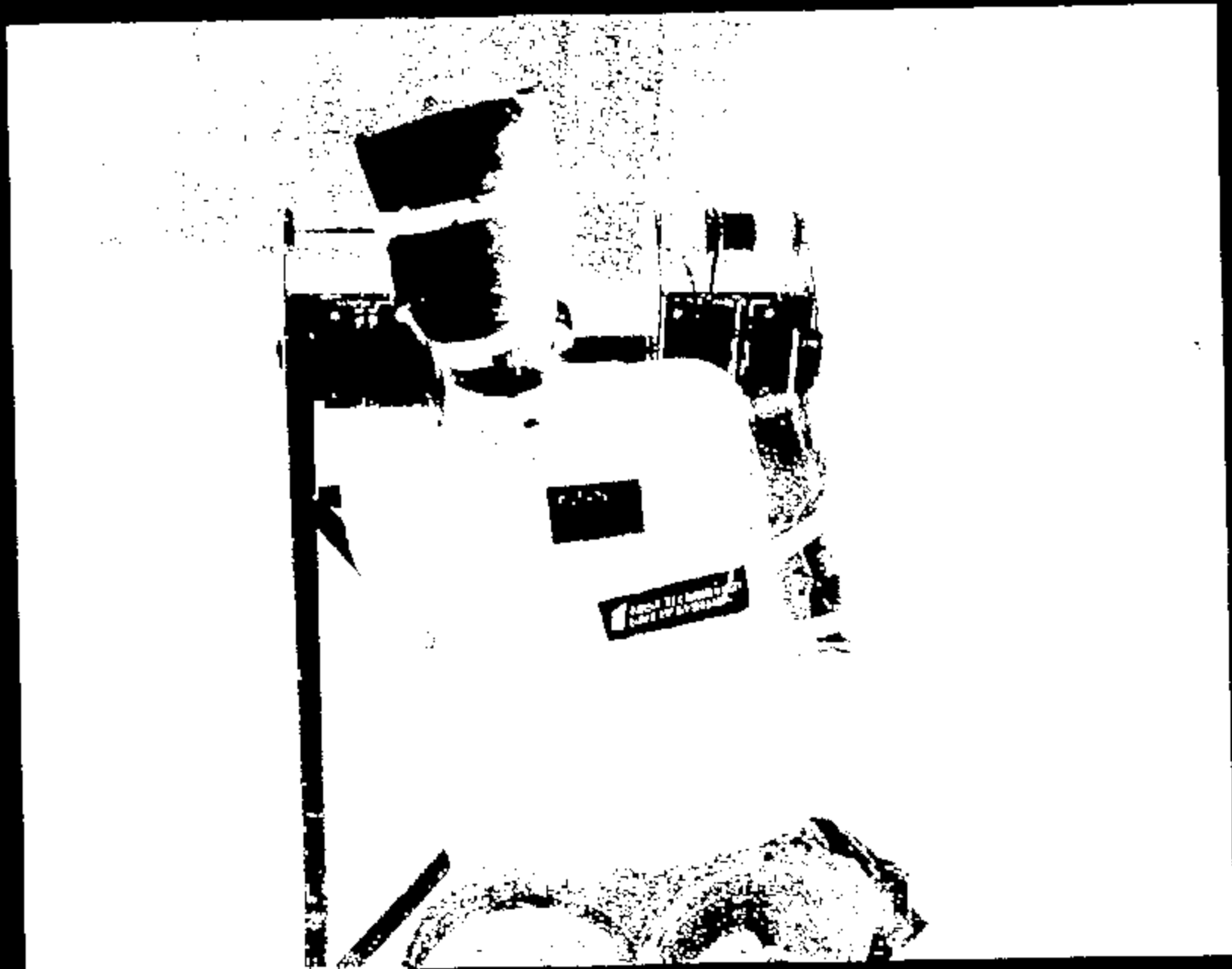
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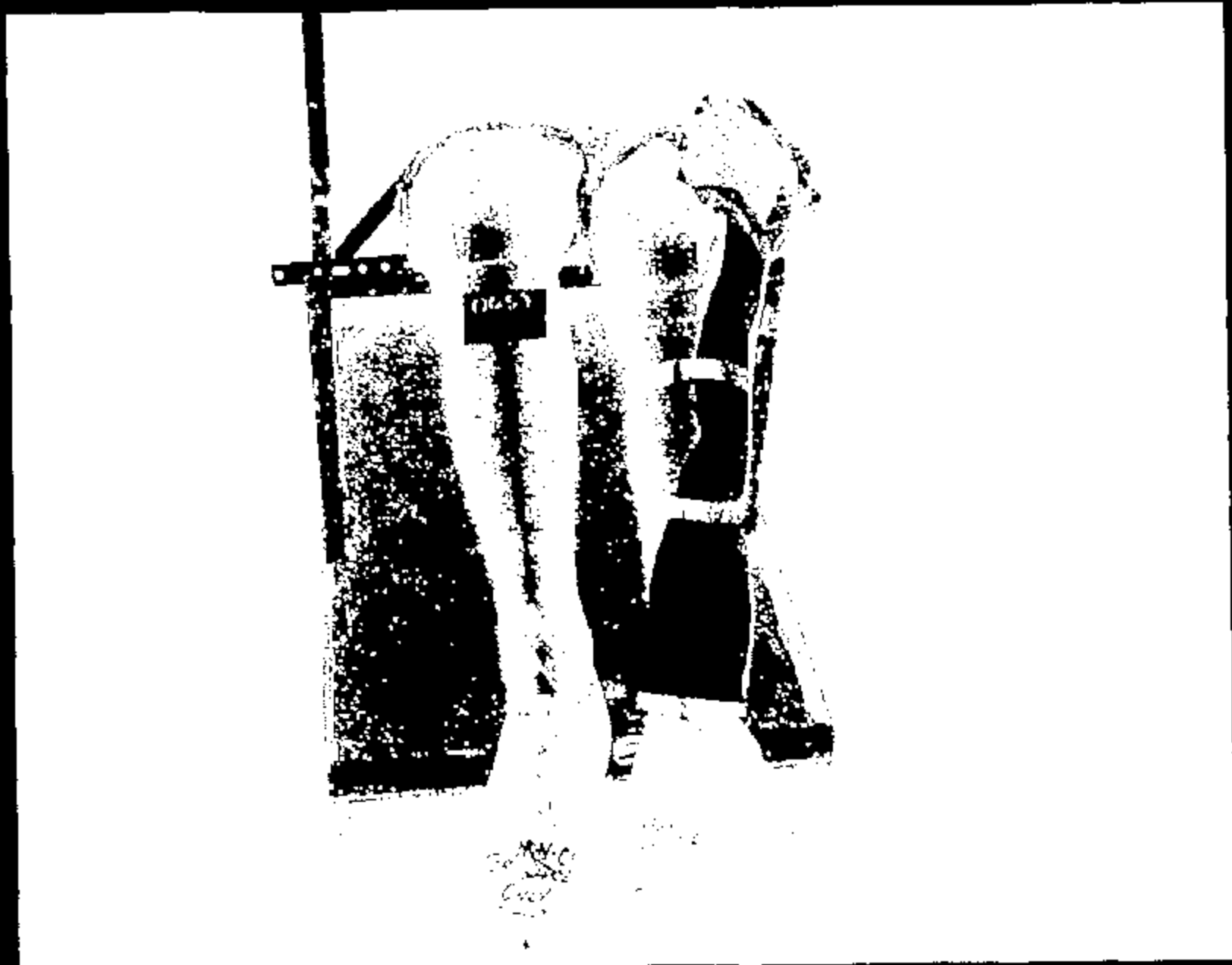
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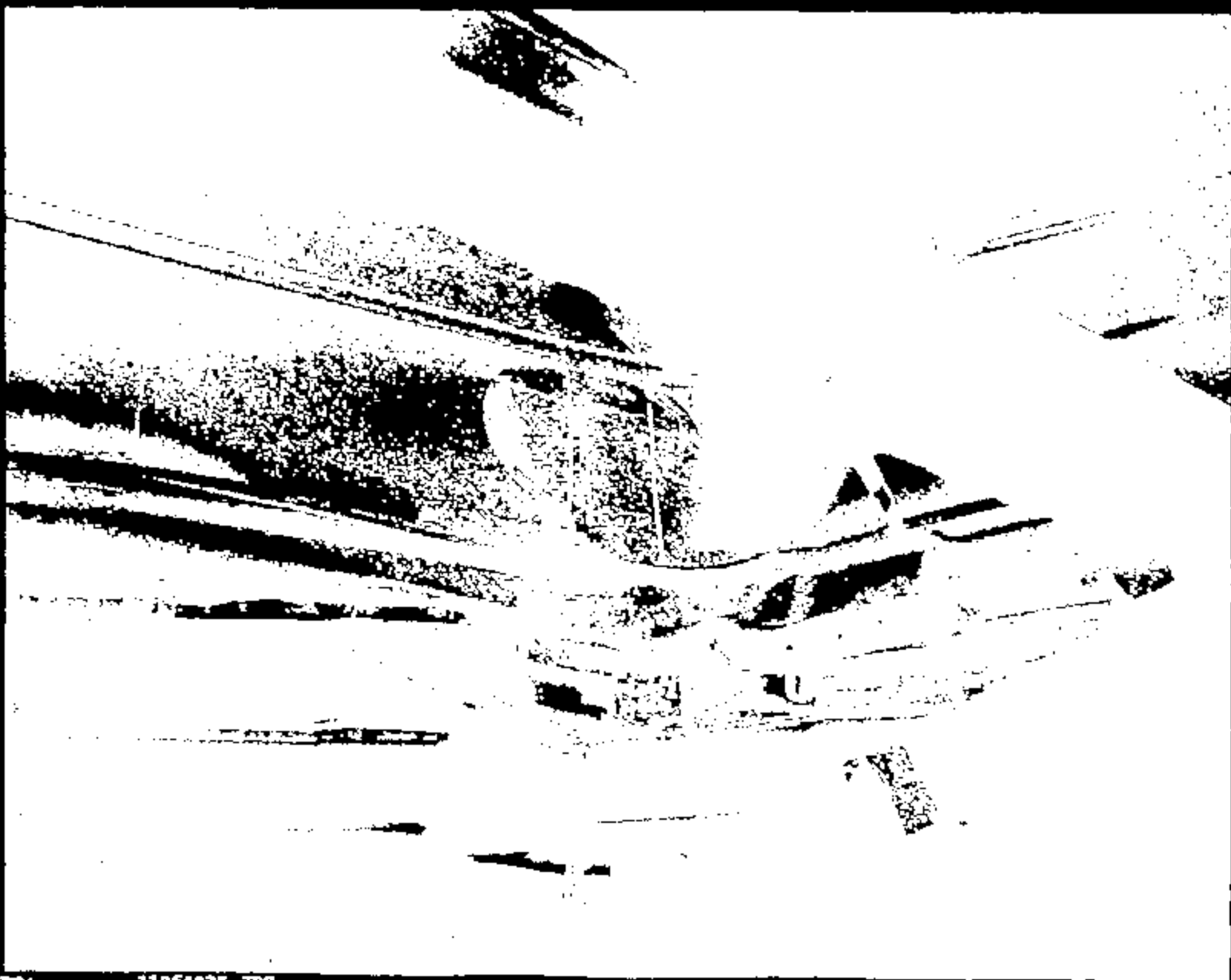
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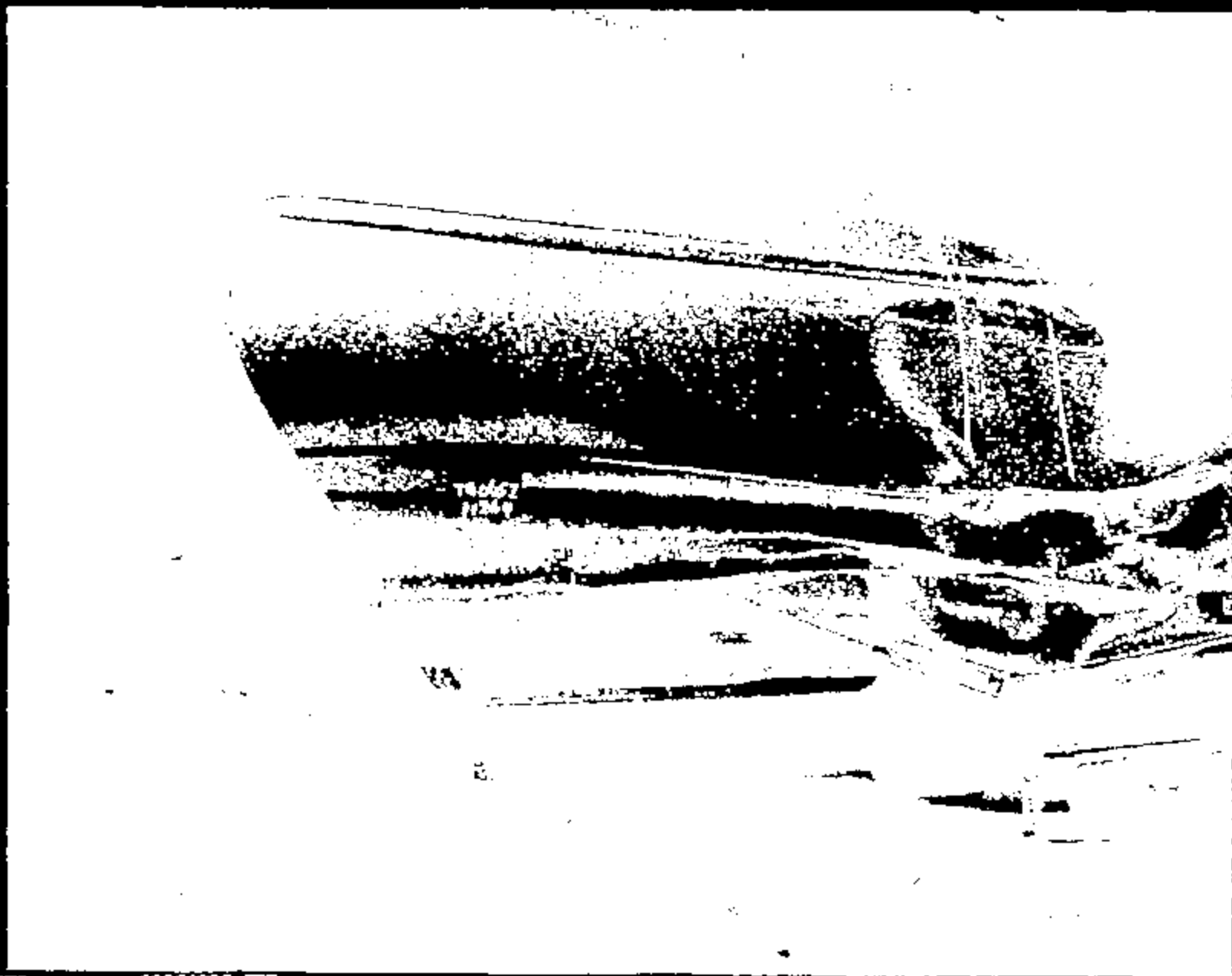
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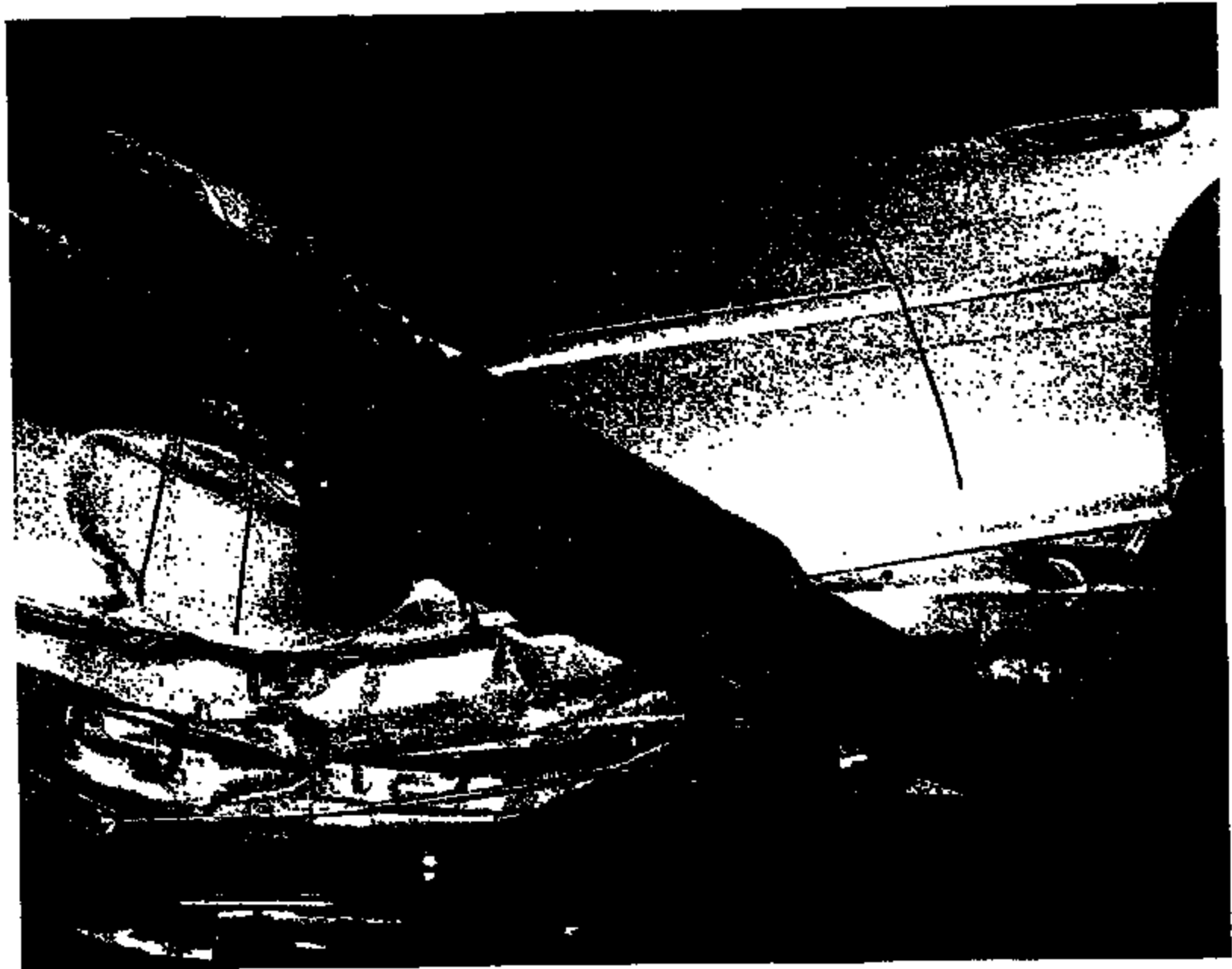
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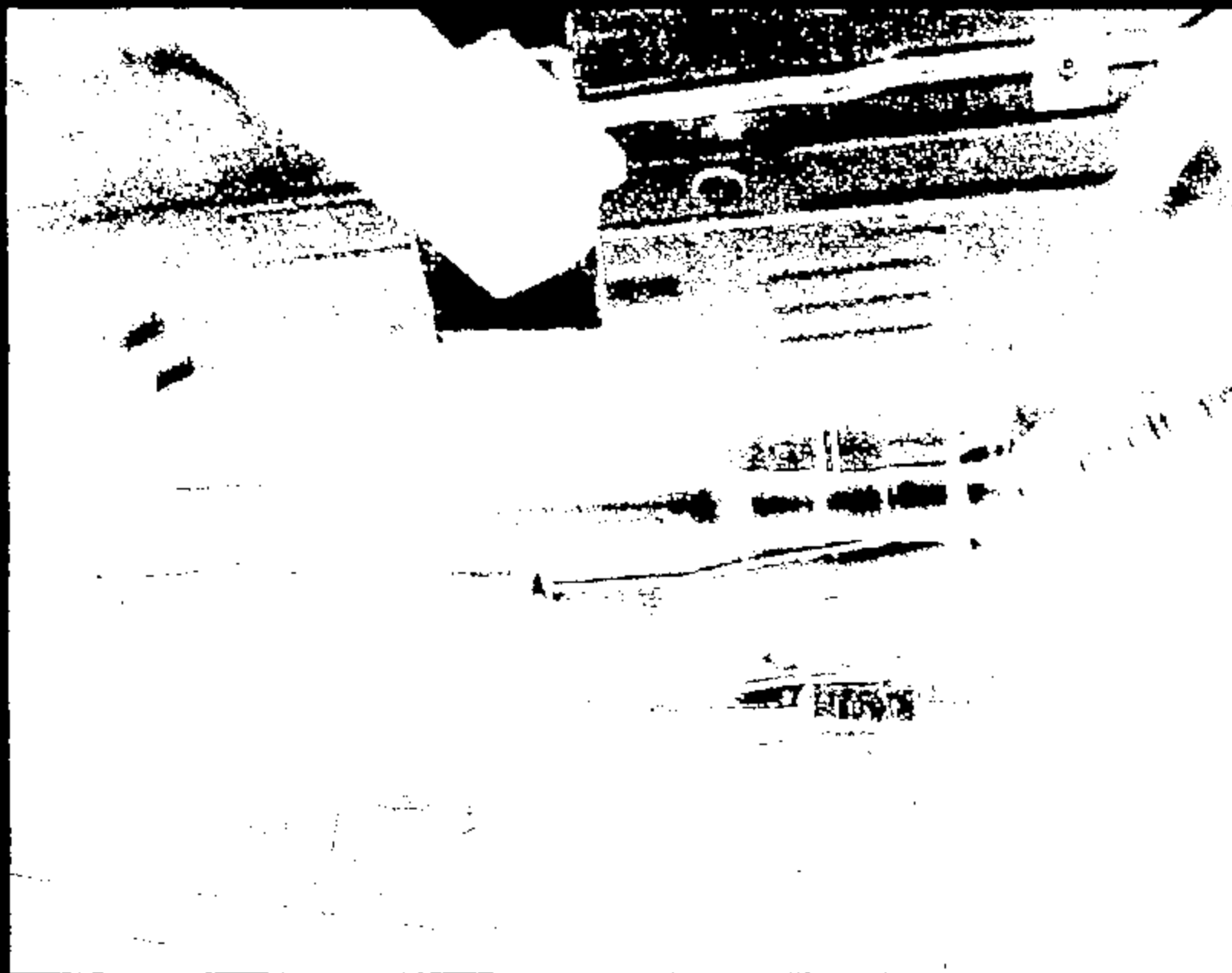
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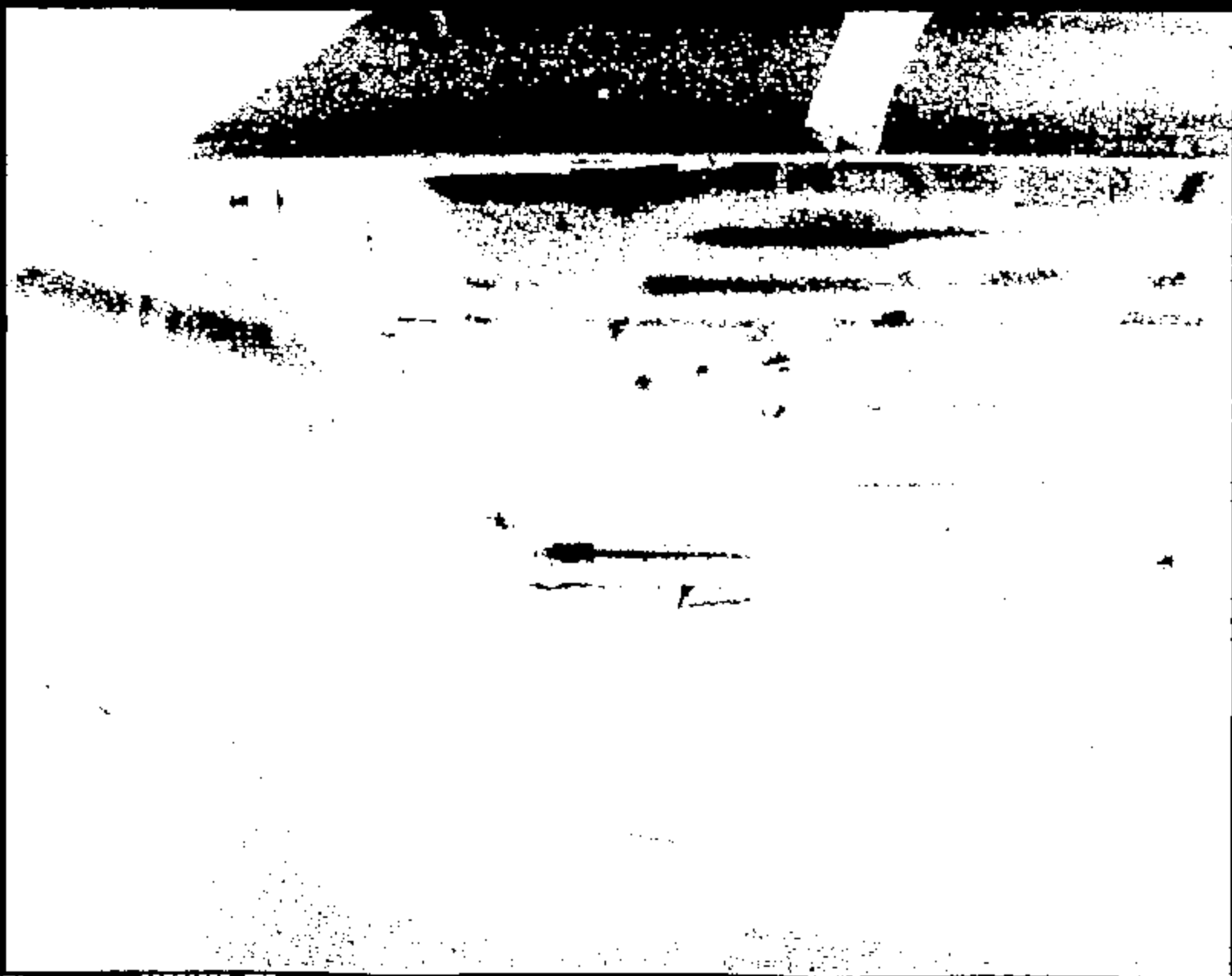
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GTO Test Request

Requester/Coordinator (PROPS ID):
 KEWING
 KURT EWING

Testing Authority: Crash Barrier Test Lab	Date Submitted:	Requested Completion Date: 18-OCT-08 <i>90</i> <i>10/18/08</i>	Requester Reference Number:
--	-----------------	---	-----------------------------

Test Procedure Number: CRS-00	Test Title and / or Subject of Test: D185 Side Sensor Verification - 12 mph LH Pole
----------------------------------	--

Billable Requestor Dept No.: T651 AY2218A	Worksheet/Work Order Number: F00	Test conducted to certify control item compliance with Government Regulations Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/>
Billable Requestor PROPS LD.: JABRAMCZ	Billable Requestor Name: JOE ABRAMCZYK	

Complete the following two questions as indicated

1 - Rational for not replacing this test by CAE Analysis:

- No CAE Methodology or process available
- For CAE Correlation
- Insufficient confidence in CAE
- To obtain basic data for CAE
- Replacement or improvement of existing Test
- Testing is Quicker
- Mandatory or Regulatory
- Certification
- Development test for P88
- Not applicable

Other:

(Check appropriate boxes)

2 - What is the expected Test Outcome:

- Results will meet DVP/PCR requirements
- System Component will not meet Test specification
- Unknown
- Above is Based on CAE?

Other:

(Check appropriate boxes)

Test Purpose/Test Procedure or Description of Test

Custom Test Procedure T657-229

"RECORD COPY"
 Schedule No. 7-7-12
 Retain Until 2019

Signature Approvals (As Required for Control Purposes)

Requesting Engineer: <u>KURT EWING</u>	Testing Engineer: _____
Requesting Supervisor/Manager: <u>SLAN TAUB</u>	Testing Supervisor: _____

Vehicle Information

Model Year	2000
Vehicle Line	DT6
Model	Sedan
Build Number	DD00019
Tag Number	893W02
VIN Number	1FALP62L98108894
Fuel System Rated Capacity (Gallons)	16
Prototype Level	CP

Test Weight & Ride Attitude

	Front	Rear	Total
Vehicle at Curb Weight	2144	1198	3342
Vehicle at Test Weight	2202	1643	3845

<input checked="" type="checkbox"/>	Minimum Option Weight
<input type="checkbox"/>	55% Option Weight
<input type="checkbox"/>	Maximum Option Weight
<input checked="" type="checkbox"/>	Weight Effect Attached
200	lbs Rated Luggage Load

	L/F	R/F	L/R	R/R
Ride Height at Curb Weight				
Ride Height at Test Weight				

Fuel System to undergo FMVSS 301 evaluation Rollover Pressure Check
 15.2 Gallons Woodard Solvent (FMVSS 214 testing)
 10.6 Gallons Water (European Side Impact testing)

Test Mode

30.0 MPH 27 degree LH Crabbled Side Impact 11 Inch Clearance - Bottom of Barrier to Ground
 30.0 MPH 90 degree LH European Side Impact 300 mm Clearance - Bottom of Barrier to Ground
 120 MPH Vehicle into Pole - LH Side 300 mm Pole Diameter

Test Dummies

	ED	EURO-1	EURO-2
L/F Seating Position		X	
R/F Seating Position			
L/R Seating Position			
R/R Seating Position			

	0	40 +/- 5	45	90
Angle of F/Dummy arm WRT torso	X			
Angle of R/Dummy arm WRT torso				

USE ALL AVAILABLE REDUNDANT SYSTEMS

Adjustable Seat Position

	Mid	Full Forward	Full Rear	Back Angle
L/F Seating Position	X			27.2
R/F Seating Position	X			27.2
L/R Seating Position				
R/R Seating Position				

Dimensional Analysis

Req	Unit	Description	Location
X	404	Control Points (CAR)	Exterior
	405	Control Points (TRUCO)	Exterior
X	407	Body Torques & Orientation Points (Wheel Up)	Exterior
X	417	PRE CRASH Lateral Rear C1's H-Pls, etc	Exterior/Interior
	414	POST CRASH NHTSA Bumper face Profiles (Mid-Bumper, Mid-Stack Top of Bumper)	Exterior
	419	POST CRASH European Bumper face Profiles (Mid-Bumper, Mid-Stack Top of Bumper)	Exterior
	420	PRE CRASH Volvo FMVSS 214 Car Impact Lines	Exterior
	422	PRE CRASH Volvo European Car Impact Lines	Exterior
	423	PRE CRASH Beltline exterior section (1st 60mm Body line below glass/weather strip)	Exterior
	425	POST CRASH Beltline exterior section (1st 60mm Body line below glass/weather strip)	Exterior
	426	PRE CRASH Mid-line exterior section (plan view @ 800 mm Body line)	Exterior
	428	POST CRASH Mid-line exterior section (plan view @ 800 mm Body line)	Exterior
	427	PRE CRASH Character line exterior section (plan view @ 600 mm Body line)	Exterior
	427	POST CRASH Character line exterior section (plan view @ 600 mm Body line)	Exterior
	429	PRE CRASH Bottom of door exterior section	Exterior
	429	POST CRASH Bottom of door exterior section	Exterior
	431	PRE CRASH Rocker line exterior section (1st 10 mm Body line below door opening)	Exterior
	431	POST CRASH Rocker line exterior section (1st 10 mm Body line below door opening)	Exterior
	433	PRE CRASH Roof line interior section	Interior
	433	POST CRASH Roof line interior section	Interior
	435	PRE CRASH Beltline interior section	Interior
	435	POST CRASH Beltline interior section	Interior
	437	PRE CRASH Hip line interior section	Interior
	437	POST CRASH Hip line interior section	Interior
	438	PRE CRASH Hinge Pillar exterior section (1st 60mm Body line forward of hinge plane)	Exterior
	438	POST CRASH Hinge Pillar exterior section (1st 60mm Body line forward of hinge plane)	Exterior
	439	PRE CRASH 2820 mm Body line Interior and exterior sections	Exterior/Interior
	439	POST CRASH 2820 mm Body line Interior and exterior sections	Exterior/Interior
	440	PRE CRASH Front H-Point Mid-Seat Location Interior and exterior sections (per package)	Exterior/Interior
	440	POST CRASH Front H-Point Mid-Seat Location Interior and exterior sections (per package)	Exterior/Interior
	441	PRE CRASH B-Pillar Interior and exterior sections (1st 60mm Body line rearward of filler plane)	Exterior/Interior
	441	POST CRASH B-Pillar Interior and exterior sections (1st 60mm Body line rearward of filler plane)	Exterior/Interior
	442	PRE CRASH Rear H-Point Location Interior and exterior sections (per package)	Exterior/Interior
	442	POST CRASH Rear H-Point Location Interior and exterior sections (per package)	Exterior/Interior
	443	PRE CRASH Accelerometer Locations	Pre Impact
		Additional Requirements	

Data Requirements

Req	Location	Always Test Channels			Unit	Filter
		Long	Vert	Lat		
X	L/F SIDE BAG SOLID VOLTAGE				VOLT	1000 Hz
X	L/F SIDE BAG SOLID CURRENT				VOLT	1000 Hz
	L/F SIDE BAG PRESSURE				PSI	60 Hz

Data Requirements

Sensor System Requirements			
X	Sensor Fire		
	Remote Trigger	Requested Trigger Time	ms
X	Remote Back-Up (Side Air Bag Only)	Requested Trigger Time	20 ms
	Monitor Closure of Single Point Sensor		
	Monitor Closure of Distributed Sensor		
X	See Sensor Map for sensor and additional accelerometer locations		

Film Analysis

- Impact Speed
- Impact Angle
- Dummy Head w/ Vehicle Lateral
- Dummy Head w/ Vehicle Vertical
- Dummy Head w/ Vehicle Resultant
- Car w/ Vehicle Impact Point
- Dummy Chest w/ Vehicle
- Car w/ Vehicle Intrusion (overhead)
- Vehicle w/ Pole Intrusion (overhead)
- Dummy Head w/ Pole

High Speed Photography

- 2 Copies of High Speed Film Required
- Copies of High Speed Film Required in VHS Format

On-Board Vehicle

- Front Dummy from Vehicle Hood
- Front Dummy from Opposite Window Opening
- Rear Dummy from Opposite Window Opening
- Rear Dummy from Vehicle Trunk
- View of Front Seat to show Dummy Interaction with Trim from front (Fiber Optic)
- View of Front Seat from across hood to show Dummy Interaction with side airbag (PASSENGER)

On-Board Car

- Car Centerline - View of Impact
- Floor Coverage**
- Left 3/4 view of Impact (overall)
- Right 3/4 view of Impact (overall)
- View of Impact from front of vehicle (in line with body side)
- View of Impact from rear of vehicle (in line with body side)
- Close-Up view of Impact point from front @ 45 deg
- Close-Up view of Impact point from rear @ 45 deg
- View of Car for Velocity determination

FR Coverage

- Pole contact - view of impacted side of vehicle with car contact
- Car contact - overlap view of impacted side of vehicle with car contact

Overhead Coverage

- Overall view of impacted vehicle side including pole
- View of impacted vehicle side focus on front door opening area

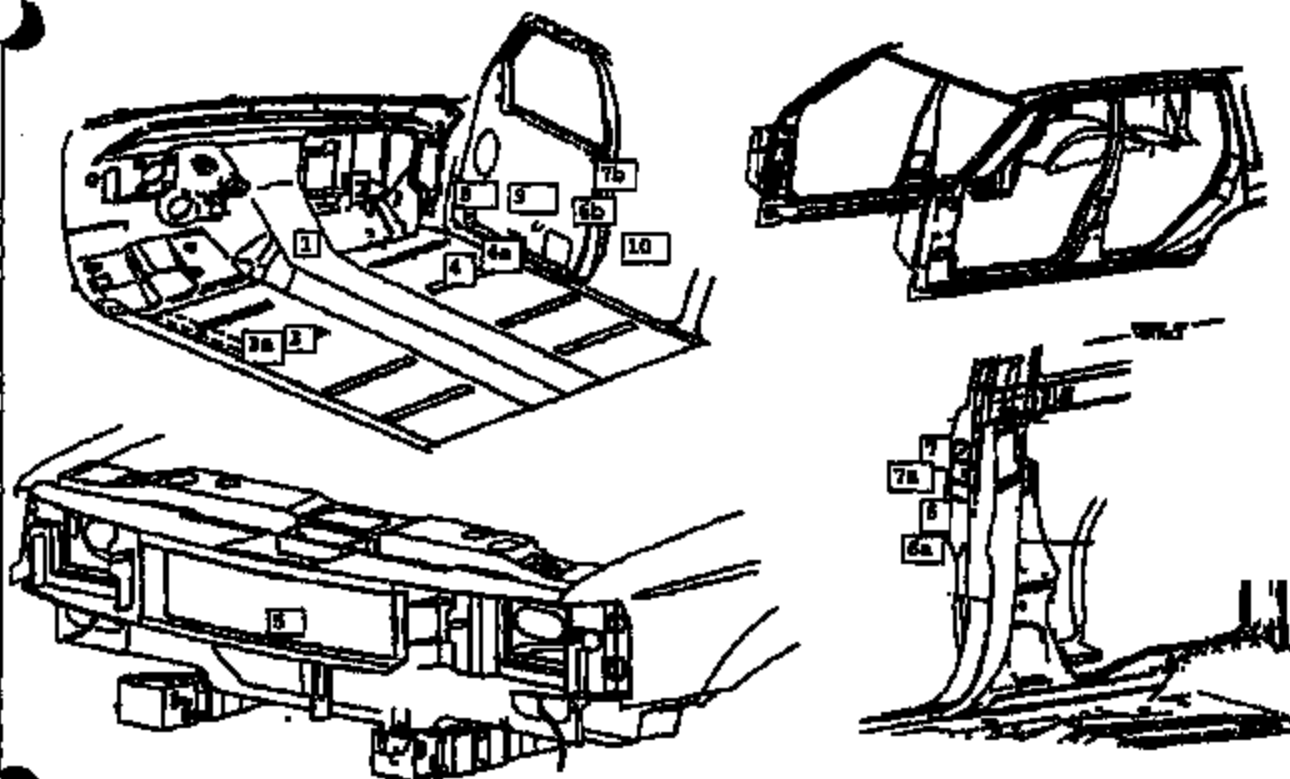
Still Photography

- Pre Test Documentation Photographs
- Post Test Documentation Photographs

SENSOR MAP

Vehicle ID: 660W002
Build level: CP

Program: D188
Test Mode: 120MPH pole
TA No.: TB0652



Location Name	Supplier	Output	Sensor Channels only		Serial #	
			Nominal (+/-)	Max/Min		
1 C/P_FLOOR_RHS_S_FWD_TMR (LHD WORK Location)	66008-1	VISION	DABL_OUT	0	10	
	66008-2		DAB2_OUT	0	10	
	66008-3		FAB1_OUT	0	10	
	66008-4		FAB2_OUT	0	10	
	66008-5		D_PSP_OUT	0	10	
	66008-6		F_PSP_OUT	0	10	
	66008-7		D_SAB1_OUT	0	10	
	66008-8		F_SAB1_OUT	0	10	
	66008-9		STATUS	5	10	
1 C/P_FLOOR_RHS_S_FWD_TMR	66001		VISION	TRIAK	ON SIGCON	10
2a L/P_FLOOR-S_S1_XMR_OUTED	VISION	SENSOR	FCB			AD6C81
3 L/P_FLOOR-S_S1_XMR_SEAT_CL	66001	VISION	TRIAK			NA
4a R/P_FLOOR-S_S1_XMR_OUTED	VISION	SENSOR	FCB			AD6C82
4 R/P_FLOOR-S_S1_XMR_SEAT_CL	66001	VISION	TRIAK			NA
5 C/RAD	FCB	VISION	FCB			21D (CPC)
6 C/RAD	66001	VISION	TRIAK	Next to FCB		NA

T pins required. Assured system power from vehicle wiring and battery - use provided harness

Location Name		Supplier	Output	Nominal (+/-)	Max/Min	Serial #
6	L/R_PLR_INSIDE_B_E-PT_TAK1 located 6-8" below striker on B pillar	ST004-1 Takata	SENSOR	1.23V	(+/-) 10	5K3 NA
	L/R_PLR_INSIDE_B_M-PT_TAK1 located 6-8" below striker on B pillar	ST004-2 Takata	SENSOR	1.23V	(+/-) 10	5K3 NA
6A	L/R_PLR_INSIDE_B_E-PT located next to #6	accel	TRIAX			NA
6b	L/R_DOOR_REAR_OF_SEAT_N-PT located across from #6 on door frame	accel	TRIAX			NA NA
7	L/R_PLR_BELOW_BELT_TAK2 located approx. 4" above striker on B pillar	ST004-3 Takata	SENSOR	1.23V	(+/-) 10	6K3 NA
7	L/R_PLR_BELOW_BELT_TAK2 located approx. 4" above striker on B pillar	ST004-4 Takata	SENSOR	1.23V	(+/-) 10	6K3 NA
7a	L/R_PLR_INSIDE_BELOW_BELTLINE located next to #7	accel	Lat			NA NA
7b	L/R_DOOR_BELOW_BELTLINE_REAR located across from 7a on door frame	accel	TRIAX			NA NA
8	L/R_DOOR_INNER @ SPEAKER 12V POWER SUPPLY & T-ZERO REQUIRED	BREED	NONE TO ODAS		NA	
9	L/R_DOOR @ BELTLINE_MID 12V power supply and T-Zero required	Visteon	None to ODAS			1989 DOR4-013088A
10	L/R_DOOR @ BELTLINE_MID 12V power supply and T-zero required	Visteon	None to ODAS			1988A

REVISION LOG

DESCRIPTION	PAGE AFFECT	DATE	DATE
Change vehicle from RH impact to LH impact	All	JARRANCE	10/2/98
Update Takata Sensor Serial Numbers	2	JARRANCE	10/2/98
Update Visteon Sensor Serial Numbers	1	FVOLVEI	10/16/98
Change Accelerometer from Triax to Lat only at Location	All	JARRANCE	10/21/98

Test Definition Worksheet

Request No: TB0882

D186 Side Sensor Verification - 12 mph LH Pole

File/Procedure: CRB-00

Custom Test Procedure TB57-229

Test Object:

Request Date:

Requester: KURT EWING (KEWING)

Requester Phone: 313-24-86186

Sample #:	Part #:	Part Description:
1	1FALP62U6Y9100604	2000 D186 CPF PROTOTYPE DC000019 TAG # 080W002

Parameter:	Value:	Units:
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"RECORD COPY"

Schedule No. 7-2-63

Retain Until 2019

Inter Office

Advanced Vehicle Technology

April 20, 1999

To: J. Kilsdonk

Subject: Crash Test No. 11300, T-B2281 Test Report Corrections, R/1

The final report of the subject crash test was corrected as follows:

Sheet 1 Subject - 1999 Taurus 4-Door Sedan was changed to "199X
Taurus 4-Door Sedan".

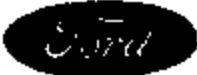
Sheet 2 Make and Model - 1999 Taurus 4-Door Sedan was changed
to "199X Taurus 4-Door Sedan".

M. A. DeShong
M. A. DeShong
Operations Engineering Section
Safety Laboratories Department

Stephen M. Lash 4/20/99
Concur: S. Lash
Section Supervisor
Operations Engineering Section

corr. 11330

CRTS 0011300



"RECORD COPY"
 Schedule No. 7-2-12
 Retain Until 2017
 CONFIDENTIAL

FINAL TEST REPORT

**Global Test Operations
 Advanced Vehicle Technology**

TO: A. Taub

Test Order No. T-B2281
Work Task W. O. No. AR481
Test Date 12/12/98
Date Reported 2/26/99
Sheet 1 of 104

SUBJECT: Crash Test 11300 (90° Front 40% Offset Left Side Barrier with a Deformable Barrier Face Impact at 25.1 ± 0.4 mph, 40.4 ± 0.6 km/h) - 199X TAURUS 4-Door Sedan

REQUESTED BY: Vehicle Safety and CAB Department, Advanced Vehicle Technology - K. Warmann

OBJECT: To obtain development data relative to the evaluation of Advanced Restraints.

SUMMARY OF TEST RESULTS: See Section 1.0 for injury criteria data.

E. Roese
 Test Development Engineer

Concur: M. N. Hamilton
 Section Supervisor
 Operations Engineering Section

VEHICLE DATA:

Make and Model	199K Taurus 4-Door Sedan	
ID Numbers	1FALP68223K0100004, 578-T-870	
Power Train	3.0L, EFI, Automatic Transaxle	
Fuel Tank(s)	Test Condition: Empty	
Front Seat(s)	Type: Bucket Cover: Cloth Tracks/Position: Manual/Mechanical Mid Seat Backs/Position: Adjustable/Not Measured Head Restraints/Position: Adjustable/Up	
Restraint System	LF & RF: 3-Point Continuous Loop Active Belt	
Occupants	LF & RF: 5th Percentile Female, Hybrid III, Instrumented	
Test Weight	Front: 2279 lb (1034 kg) Rear: 1601 lb (726 kg) Total: 3880 lb (1760 kg)	
Tires	Front: P205/65R16 Rear: P205/65R16 Spare: Removed	30 psi (207 kPa) 30 psi (207 kPa)
Significant Content or Accessories:	Air Conditioning, Power Steering, Power Brakes, Tilt Steering Wheel	

GENERAL TEST COMMENTS:

1. Test Procedure

The test was performed according to the following Corporate test procedure(s):

Occupant Crash Protection, ST-25 dated January 15, 1982.

1.1 Vehicle Alignment

A fixture attached to the normal fixed barrier face and aligned to contact 40% of the front of the test vehicle from its longitudinal centerline to the left (driver) side. A deformable barrier face was mounted to it so that the deformable bumper's lower edge was 300 mm above and parallel to the ground.

2. Remarks

Crash movies, pre- and post-crash still images of the test vehicle and copies of this report are available through the Operations Engineering Section, Safety Laboratories Department, GTO. The crash still images are stored and archived on CD ROMs. The file names of the still images are listed under crash number and a three digit sequence number which are 11300001 through 11300062.

TEST RESULTS:**1.0 Occupant Injury Data (FMVSS 208)**

	<u>L. F. Dummy</u>	<u>R. F. Dummy</u>
Head Performance Criteria (HPC)	238	53
Interval		
t1	97 ms	105 ms
t2	112 ms	141 ms
Chest resultant acceleration level at 8 ms cumulative duration	17 g	16 g
Chest Deflection (Hybrid III)	0.8 in	0.4 in
Peak axial compression load:		
Left femur	271 lb	98 lb
Right femur	60 lb	97 lb
Peak axial tension load:		
Left femur	7 lb	27 lb
Right femur	63 lb	48 lb
Dummy contained within the vehicle during the crash	Yes	Yes

Time histories of the dummy instrumentation are included in this report.

Time histories of the dummy dynamic displacements obtained from Film Analysis are included in this report.

Time histories of the air bag/sensor(s) are included in this report.

Time histories of any requested derived data (i.e. integrations, etc.) were given to the requesting activity and are not included in this report.

2.0 Vehicle Crush, Film Analysis and/or Instrumentation Data

	<u>Maximum Dynamic Longitudinal Crush</u>	
	<u>in.</u>	<u>(mm)</u>
Left Side	34.0	(864)
Right Side	37.9	(963)

Time histories of the vehicle accelerations and other instrumentation are included in this report.

Time histories of vehicle dynamic displacements obtained from Film Analysis are included in this report.

Time histories of any requested derived data (i.e. integrations, etc.) were given to the requesting activity and are not included in this report.

CR R: 11500 TO: TB2281 DATE: 991212 09:40:17
BOOK D-199

(1) CR113007 L/F DUMMY HEAD C.G. LONG 1000C
MAX = 0.5507 at 38.56 MS MIN = -58.59 at 103.4 MS

AXIS 1



CRS08 Version 1.17.00 - 8-May-1998
CREATED: 14-DEC-99 14:17:22

Safety Laboratories Department, 810-PL
PLOT PAGE 8

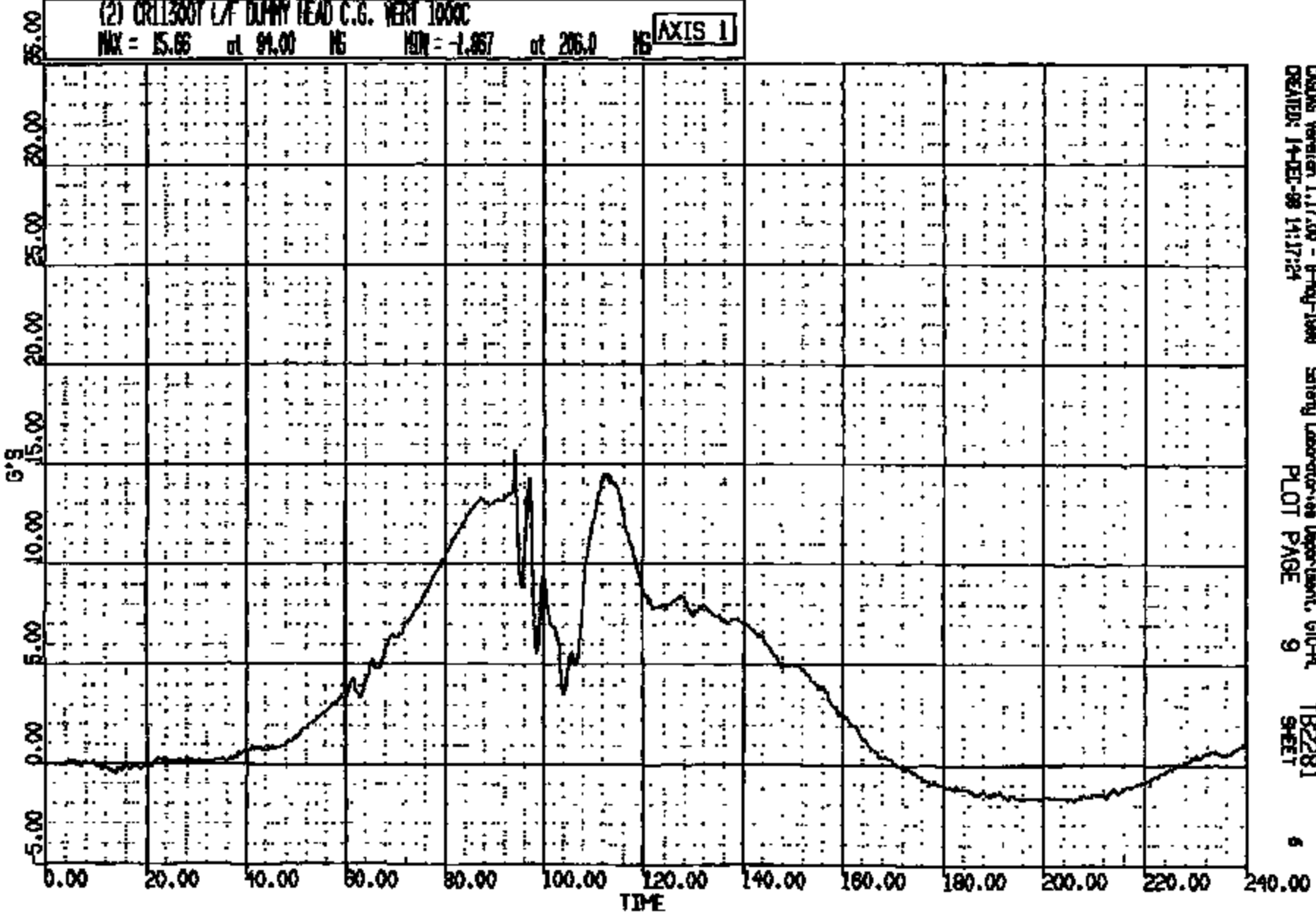
TB2281
SHEET

5

CRTS 0011300

CR R: 11300 TC: TB2281 DATE: 881212 09:40:17
BOOK D-188

(2) CR113007 L/R DUMMY HEAD C.G. VERT 1000C
MAX = 15.66 at 84.00 MS MIN = -1.867 at 206.0 MS **AXIS 1**



CASINS Version 1.17.00 - 8-Aug-1989
CREATED: 14-DEC-88 14:17:24

Safety Laboratories Department, G10-7A
PLOT PAGE 9

TB2281
SHEET

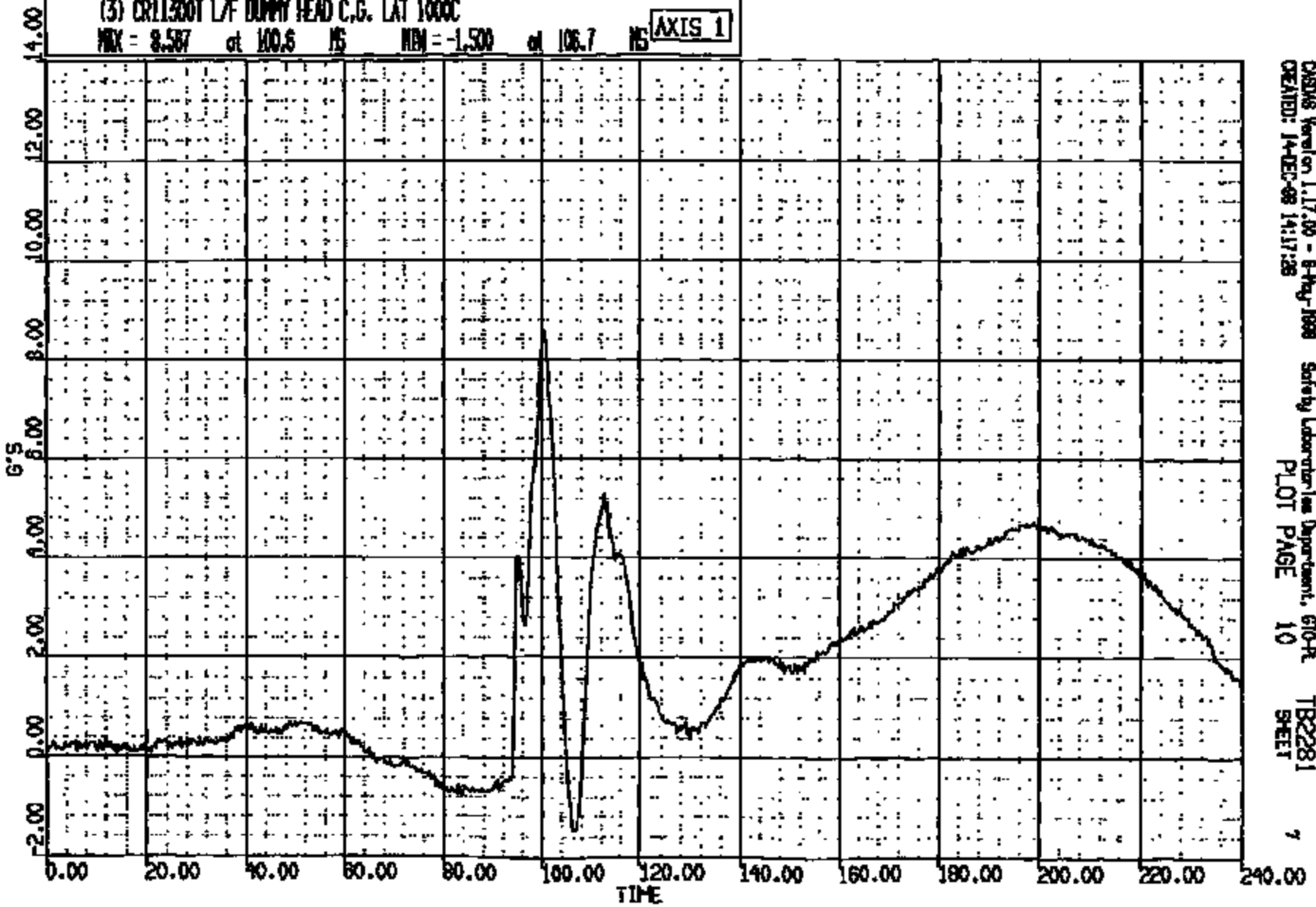
CR113007

CR R1 11500 TO: T52281 DATE: 881212 08:40:17
BOOK 0-188

(3) CR11300T L/F DUMMY HEAD C.G. LAT 1000C

MAX = 8.587 at 100.6 MS MIN = -1.500 at 106.7 MS

AXIS 1

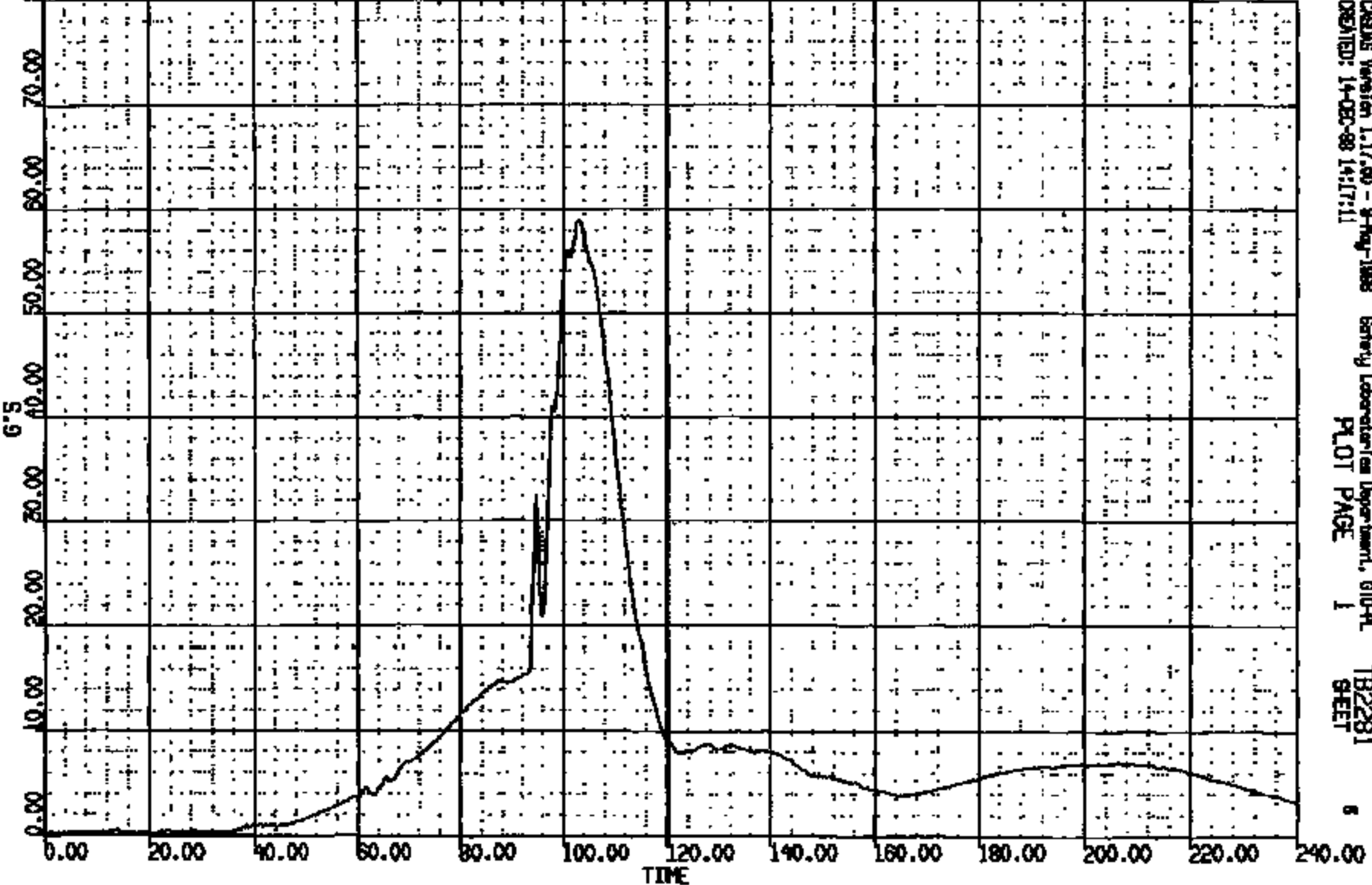


CASMG Version 1.17.00 - 8-May-1988 Safety Laboratories Department, 610-PL
CREATED: 14-DEC-88 14:17:28
PLOT PAGE 10
SHEET 7

CRTS 0011300

INCR R: 11200 TO: TB2281 DATE: 981218 09:40:17
 INCR: 0-100
 INCR: 2000. DUR: 240.0 T1/TM: 00.0 // 1100.
 INCR: 2000. DUR: 20.0 T1/TM: 00.0 // 1100.
 INCR: 2000. DUR: 15.0 T1/TM: 00.0 // 1100.

(1000) CR1300T L/F DUMP HEAD C.G. RES 1000
 MAX = 58.95 at 103.4 MS MIN = 0.7291 at 6.000 MS **AXIS 1**



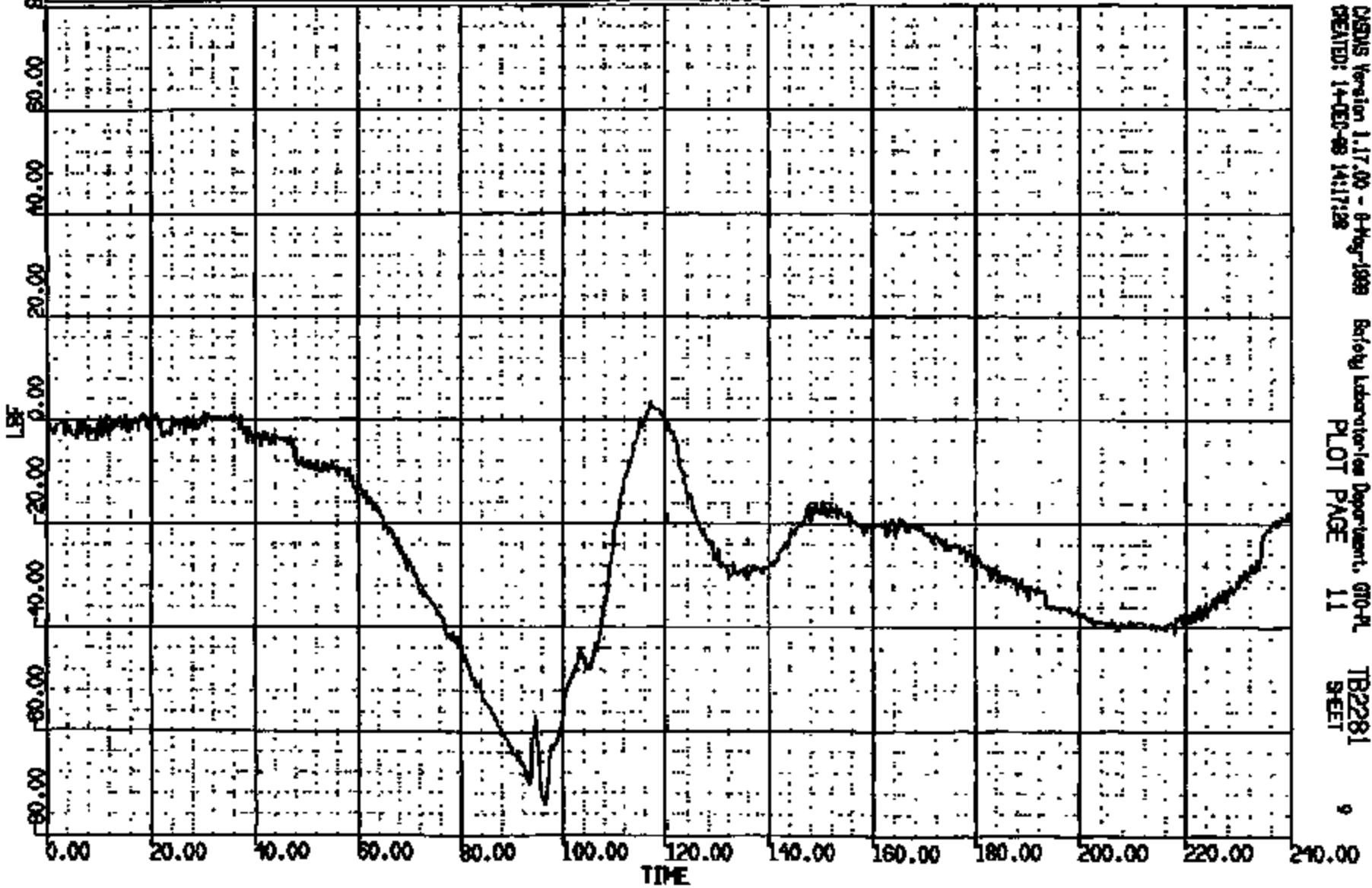
CRTS 0011300

CADDS Version 1.17.00 - 9-May-1998 Safety Laboratories Department, G10-4L TB2281
 CREATED: 14-DEC-98 14:17:11 PLOT PAGE 1 SHEET 5

CR R: 11300 TO: TB2281 DATE: 981212 09:40:17
200X 0-188

(4) CR11300T L/F CUMM NECK UPPER LOAD FX 1000C
MAX = 3.300 at 117.2 MS MIN = -71.35 at 95.5 MS

AXIS 1

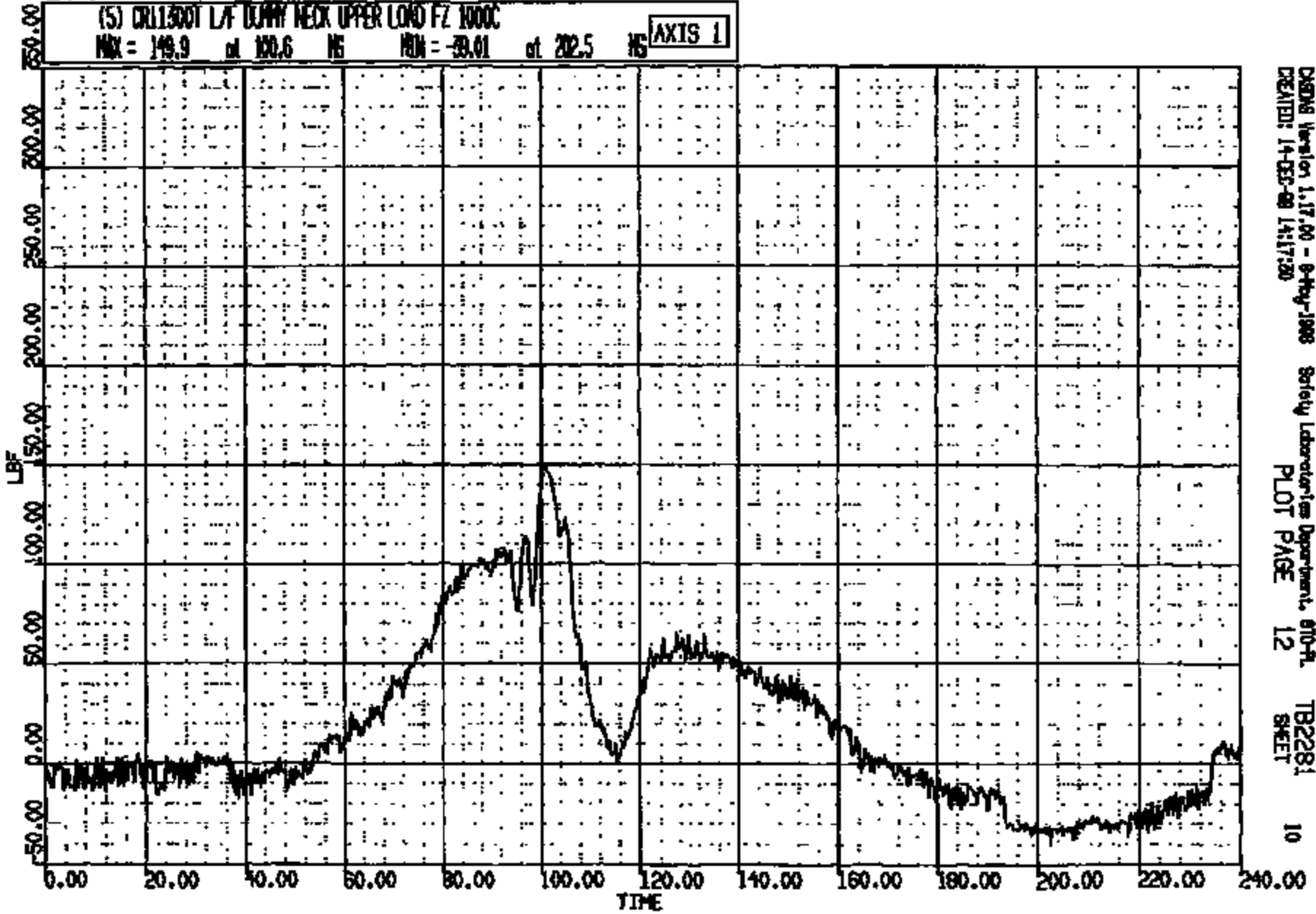


CASUS Version 1.17.00 - 0-Msg-1998 Safety Laboratories Department, 010-PL
CREATED: 14-DEC-98 14:17:28 PLOT PAGE 11 SHEET 9

CRTS 0011300

CR #: 11300 TO: TB2281 DATE: 981212 09:40:17
200X D-188

(S) CR11300T L/T DUMMY NECK UPPER LOAD FZ 1000
MAX = 149.9 at 100.6 MS MIN = -39.01 at 202.5 MS **AXIS 1**



CR11300T Revision 1.17.00 - 9-Feb-1998 Safety Laboratories Department, 610-FL TB2281
CREATED: 14-DEC-98 14:17:20 PLOT PAGE 12 SHEET 10

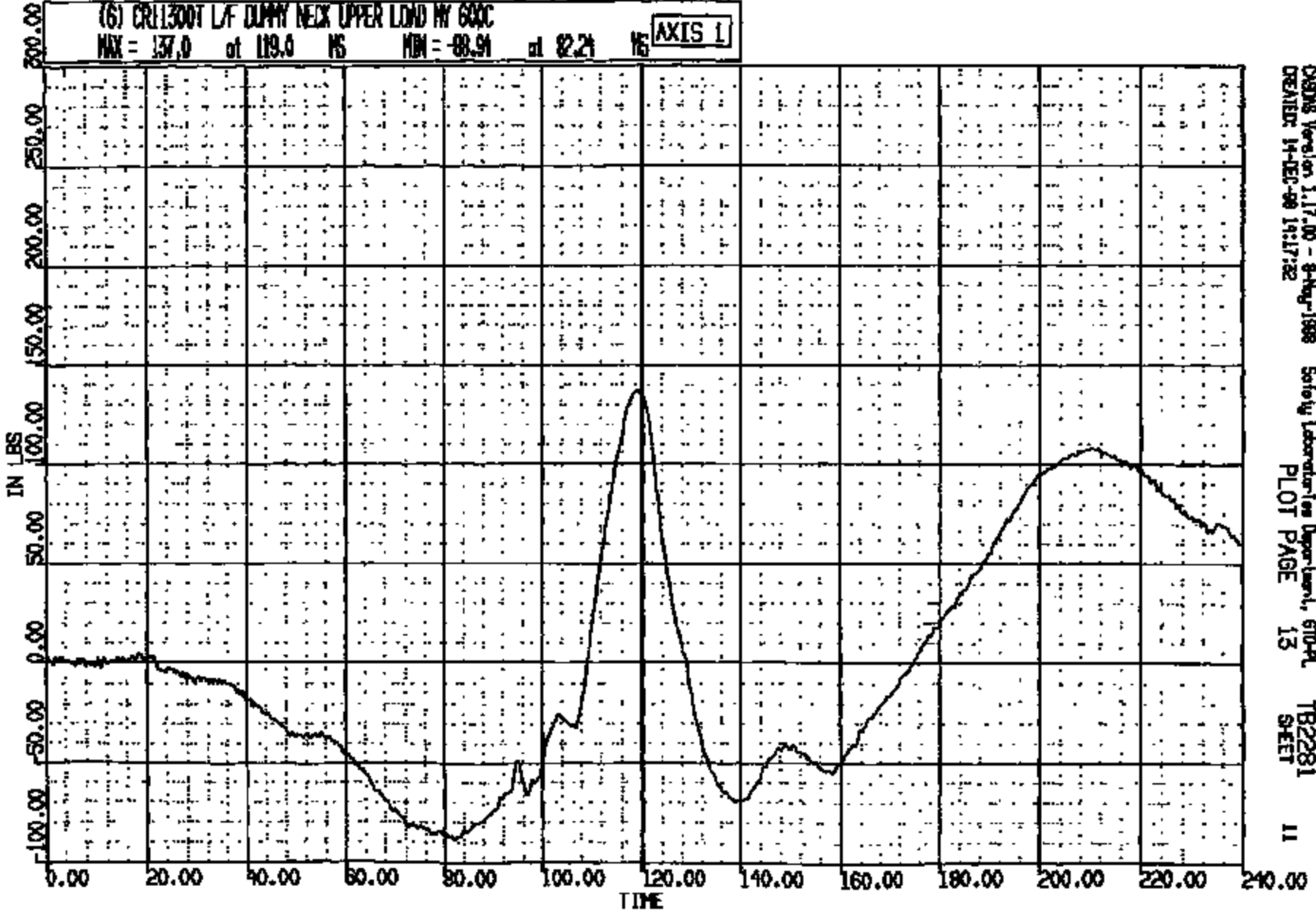
CRIS 0011300

CR R: 11800 TO: TB2281 DATE: 981212 09:40:17
NOX 0-188

(6) CR11300T L/F DUMMY NECK UPPER LOAD NY 600C

MAX = 137.0 of 119.0 MS MIN = -88.91 of 82.21 MS

AXIS 1



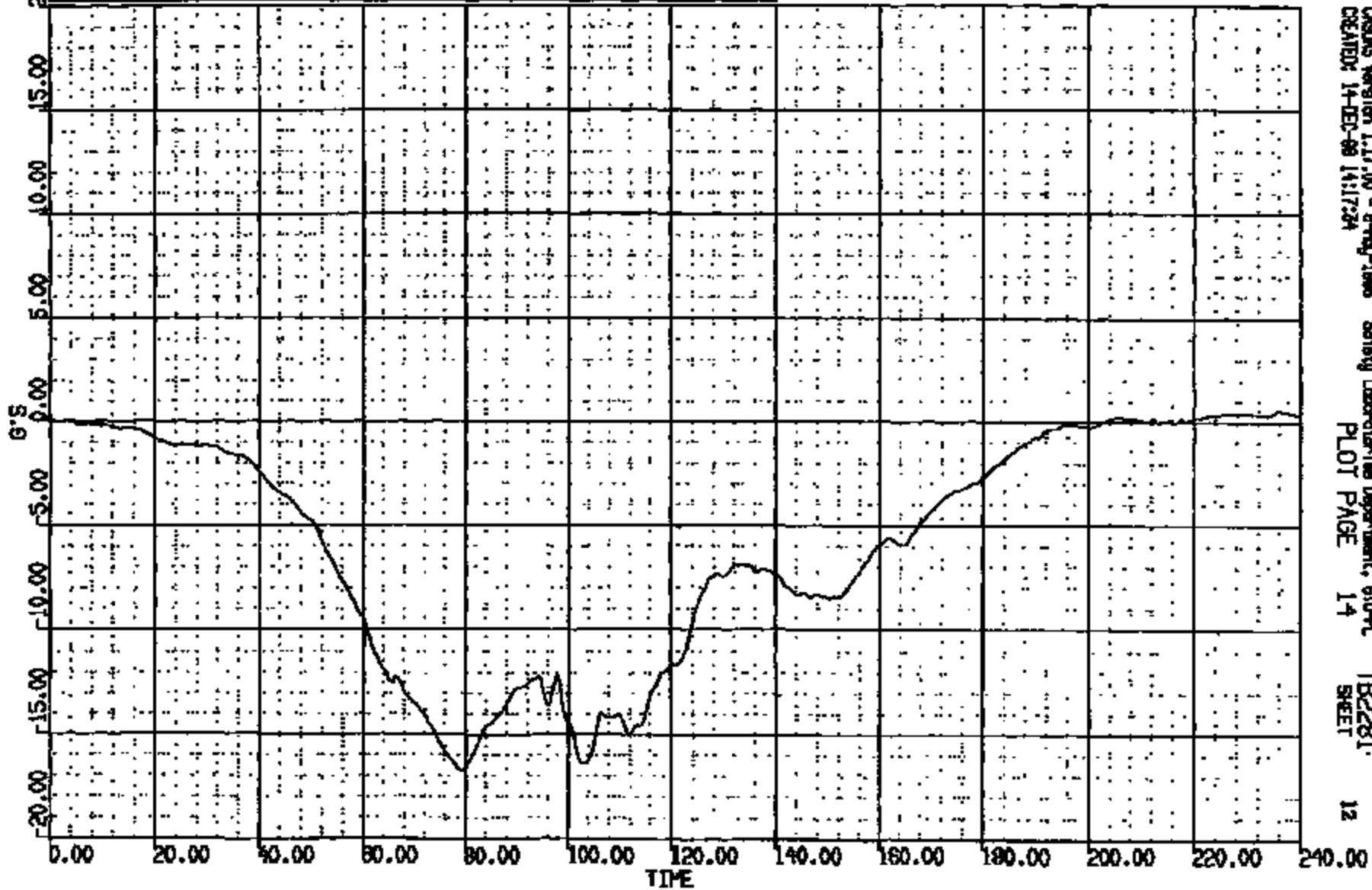
OSDMS Version 1.17.00 - 8-Aug-1998 Safety Laboratories Department, 610-PL TB2281
REVISED 14-DEC-98 14:17:32 PLOT PAGE 13 SHEET 11

CRTS 0011300

CR R: 11500 TO: 782281 DATE: 881212 08:40:17
MOOX D-188

(7) CR11300 L/F DUMMY CHEST LONG 180C
MAX = 0.5686 at 285.8 MS MIN = -16.74 at 78.28 MS

AXIS 1

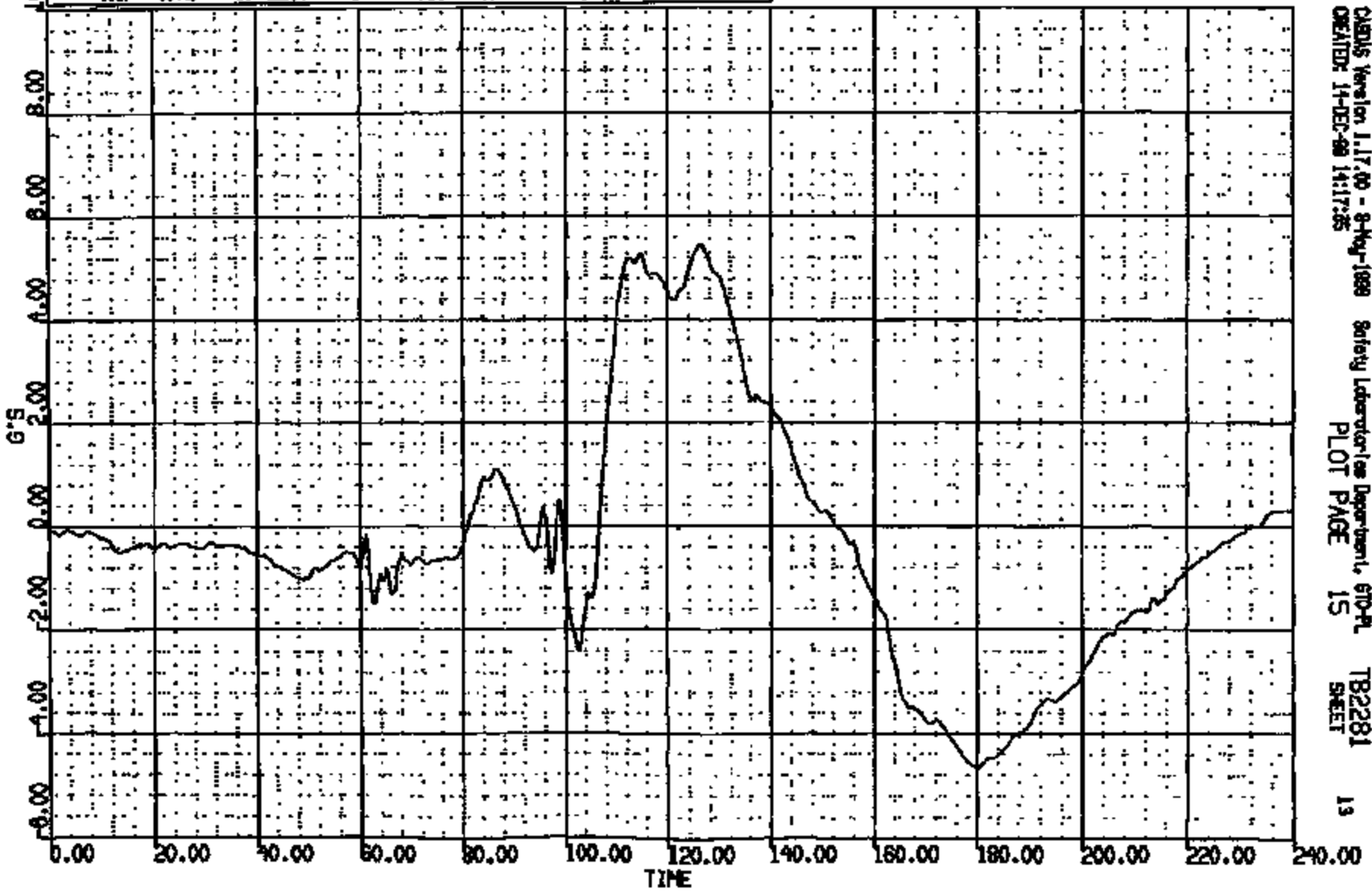


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PLOT PAGE 14
TB2281
SHEET 12

CR11300

CR 22-11500 TO: TB2281 DATE: 981212 09:40:17
BOOK D-188

(8) CR11300 L/F DUMMY CHEST VERT 180C
MAX = 5.148 at 128.4 MS MIN = -4.678 at 180.1 MS [AXIS 1]



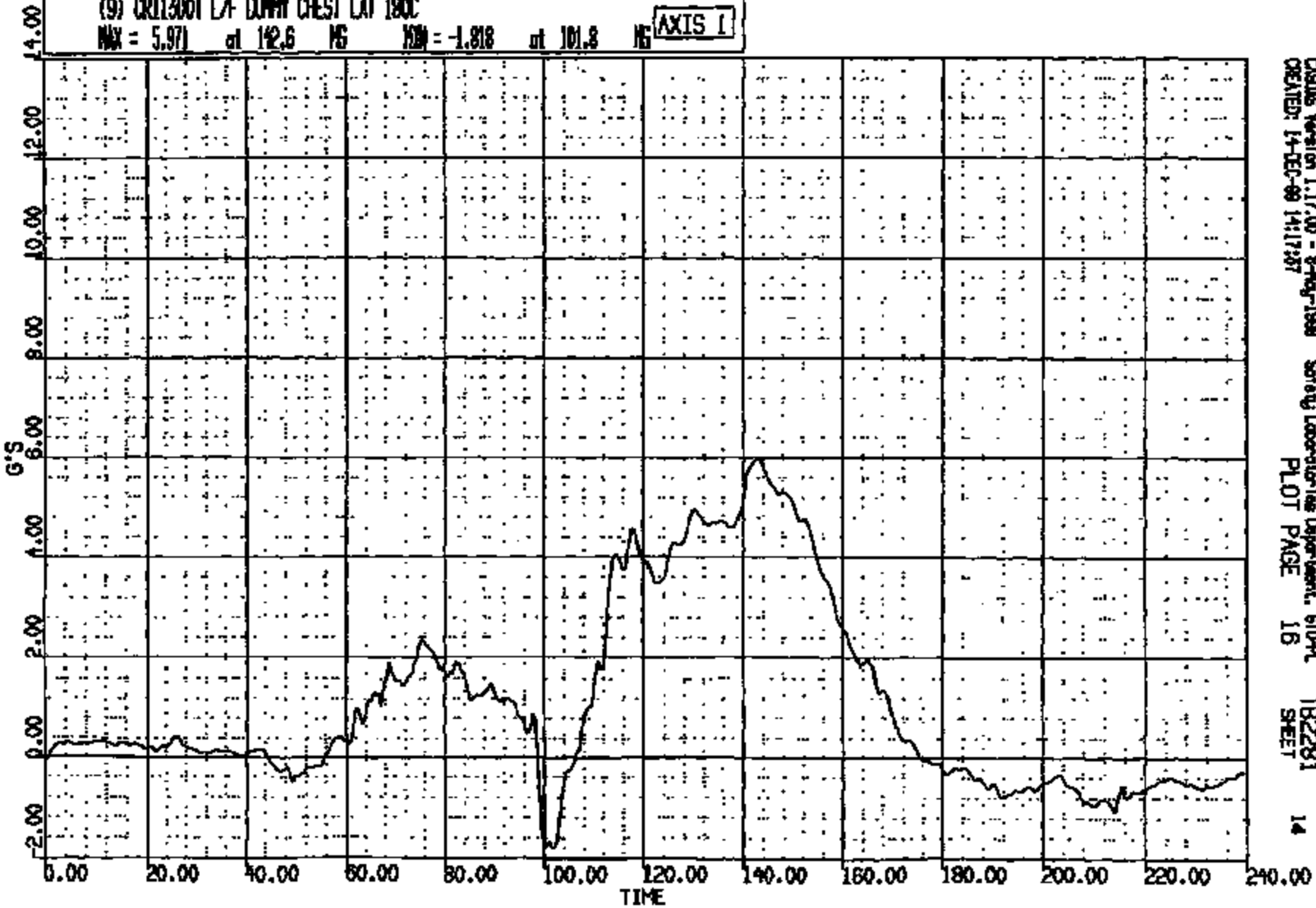
CR11300 Version 1.17.00 - 9-May-1998 Safety Laboratories Department, SIO-PL TB2281
CREATED: 14-DEC-98 14:17:35 PLOT PAGE 15 SHEET 13

CRTS 0011300

DR #: 11500 TO: TB2281 DATE: 961212 09:40:17
BOOK D-198

(9) CR11300T L/F DUMMY CHEST LAT 180C
MAX = 5.971 at 142.6 MS MIN = -1.818 at 101.8 MS

AXIS 1



CRSUS Version 1.17.00 - 8-May-1998
CREATED: 14-DEC-99 14:17:57

Safety Laboratories Department, 610-PL
PLOT PAGE 16

TB2281
SHEET

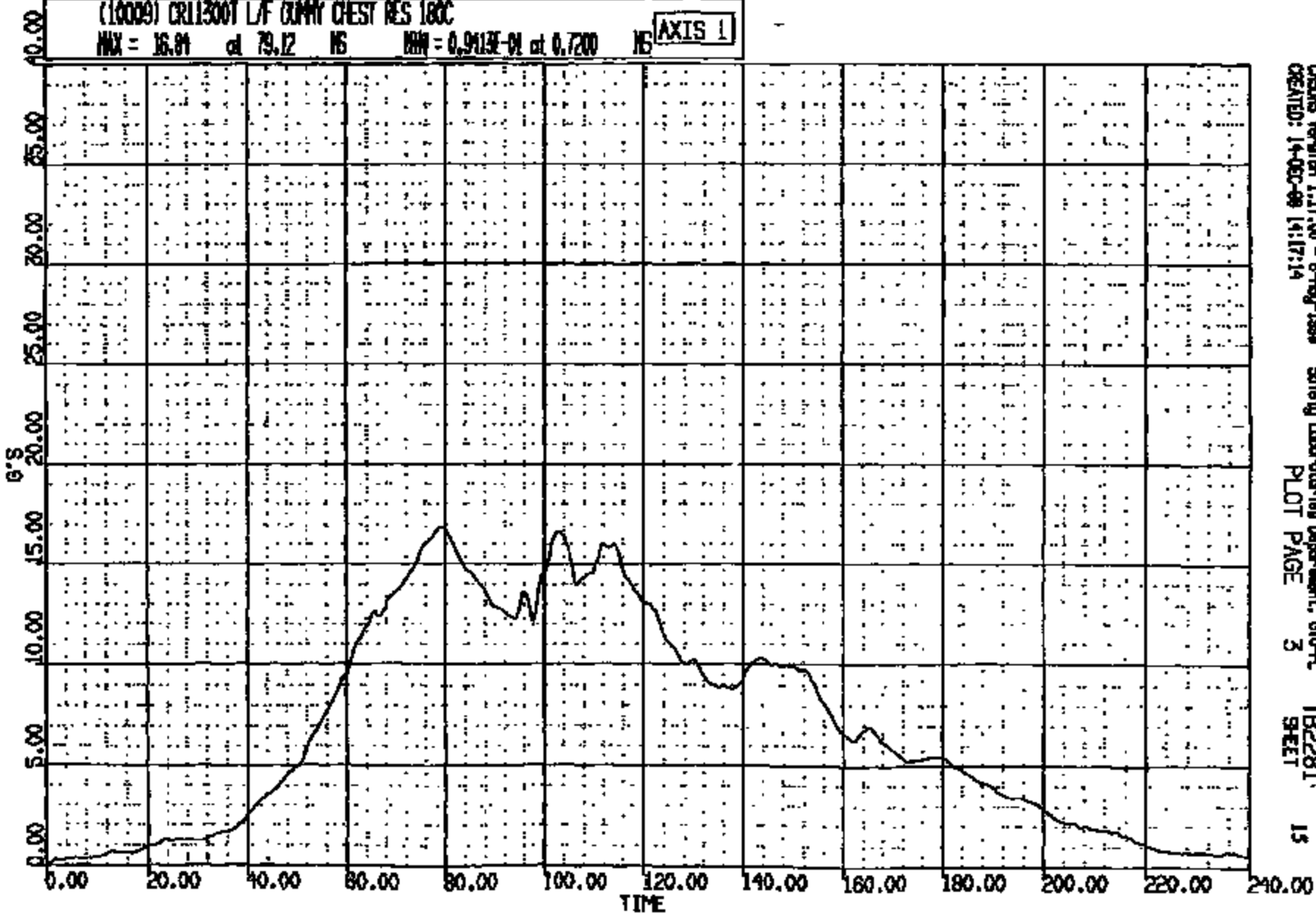
CRTS 0011300

DR: 11300 TO: TB2281 DATE: 981212 08:40:17
BOOK: 0-188
DUMDUR = 16.602 Duration time = 2.9978

(10009) CR11300T L/F CUMY CHEST RES 180C

MAX = 16.81 at 79.12 MS MIN = 0.9113E-01 at 0.7200 MS

AXIS 1



CRS Version 1.17.00 - 8-Aug-1998
CREATED: 14-DEC-98 14:17:14

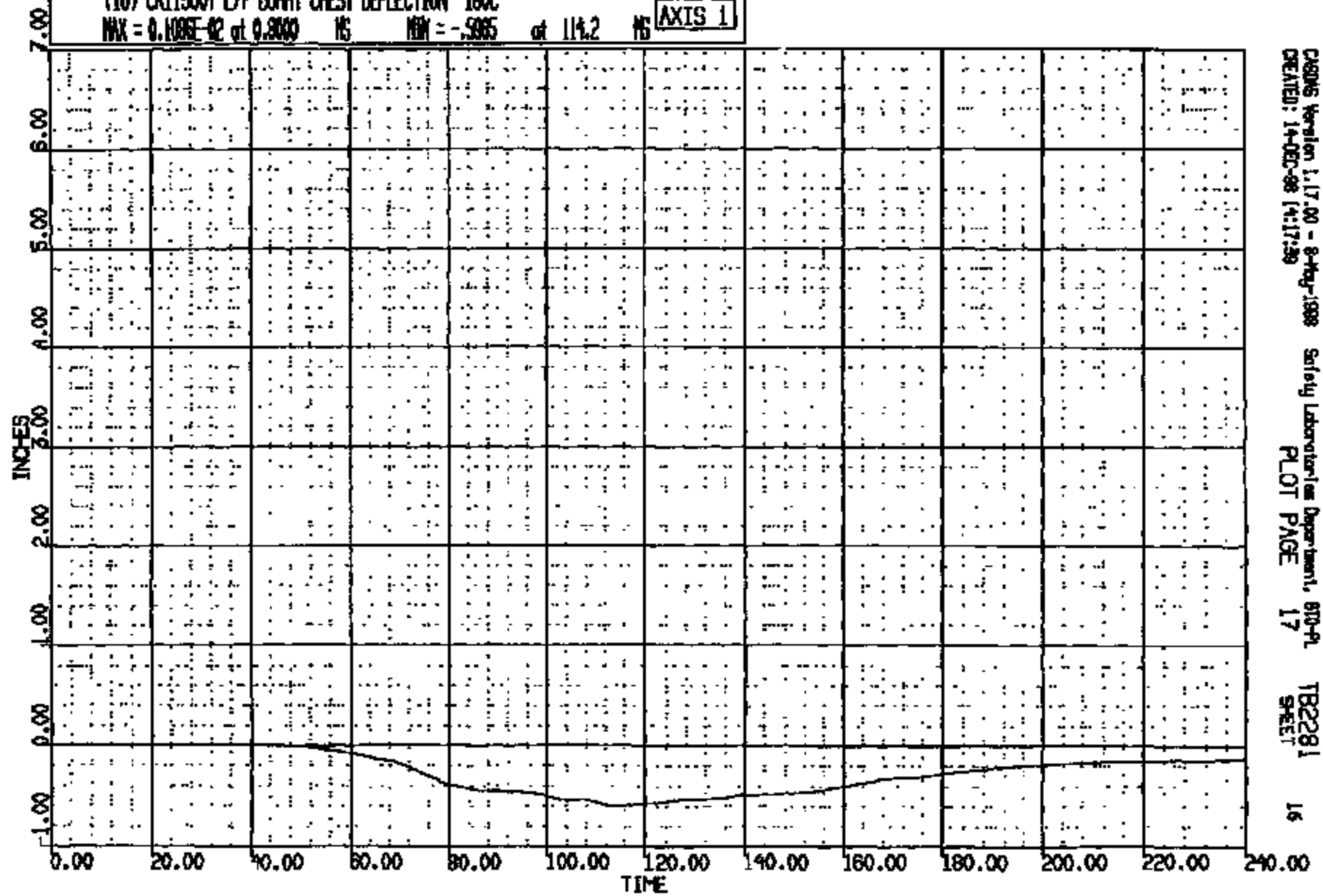
Safety Laboratories Department, 610-A
PLOT PAGE 3

TB2281
SHEET 15

CRIS 0011300

CR #: 11300 TO: TB2281 DATE: 881212 09:40:17
BOOK D-180

(10) CR1300 L/F DUMMY CHEST DEFLECTION 180C
MAX = 0.108E-02 at 0.800 MS MIN = -.5085 at 114.2 MS **AXIS 1**



CRS Version 1.17.00 - 8-Aug-1988 Safety Laboratories Department, 810-PL
CREATED: 14-DEC-88 14:17:30 PLOT PAGE 17 SHEET 16

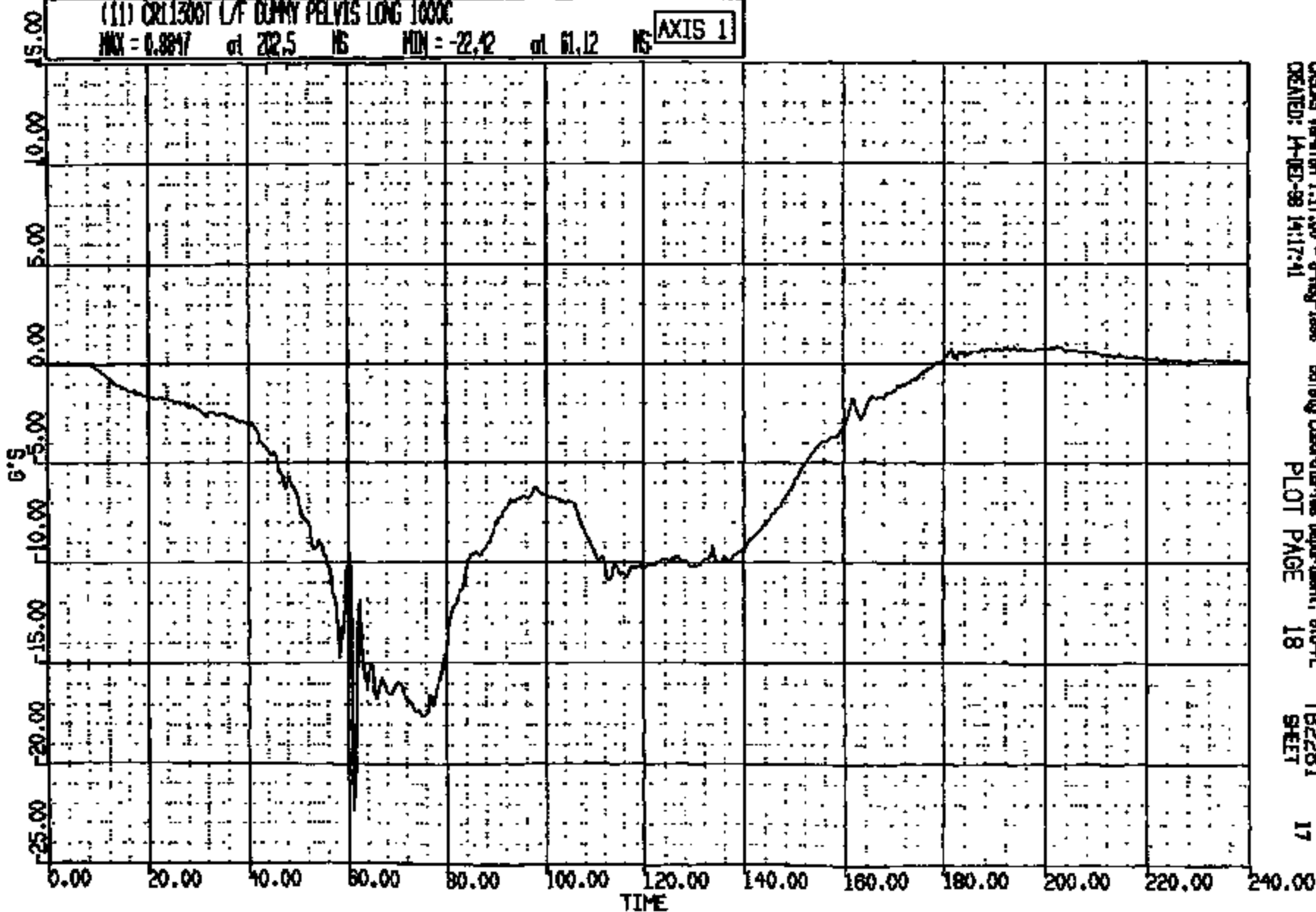
CRTS 0011300

CR R: 11500 TO: TB2281 DATE: 981212 09:40:17
MOOX D-188

(11) CR11300T L/F DUFFY PELVIS LONG 1000C

MAX = 0.8817 at 202.5 NS MIN = -22.42 at 61.12 NS

AXIS 1



CADDS Version 1.17.00 - 9-Aug-1998
CREATED: 14-DEC-98 14:17:41

Softyq Laboratories Department, 670-PL
PLOT PAGE 18

TB2281
SHEET

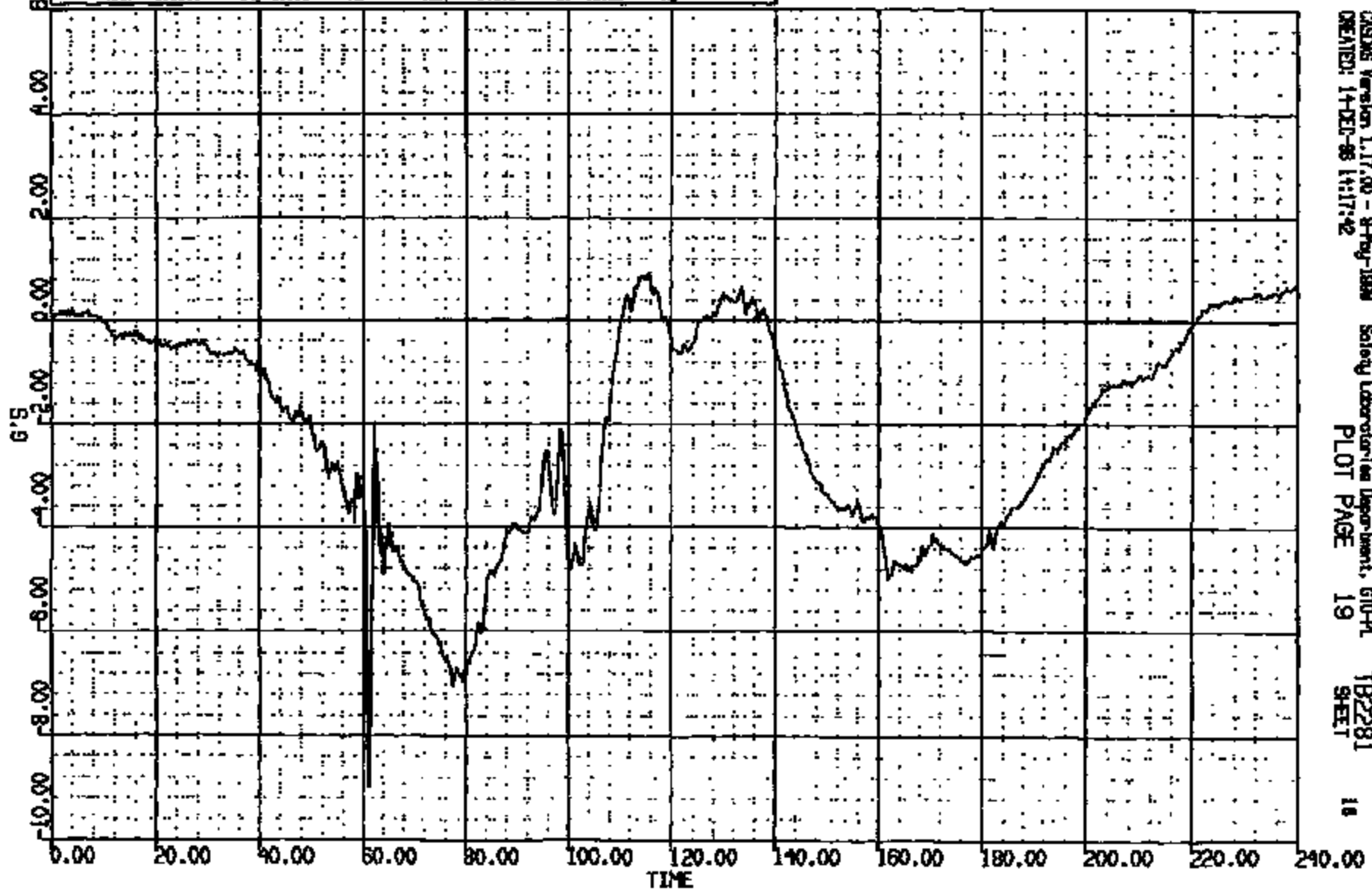
17

CR1S 0011300

CR R: 11800 TO: TB2281 DATE: 881212 08:40:17
BOOK D-188

(12) CRT1300T L/F DUMMY PELVIS VERT 1000C
MAX = 0.9188 at 115.8 NS MIN = -8.970 at 61.12 NS

AXIS 1



CASMS Version 1.17.00 - 8-May-1988
CREATED: 14-DEC-88 14:17:42

Safety Laboratories Department, 610-PL
PLOT PAGE 19

TB2281
SHEET

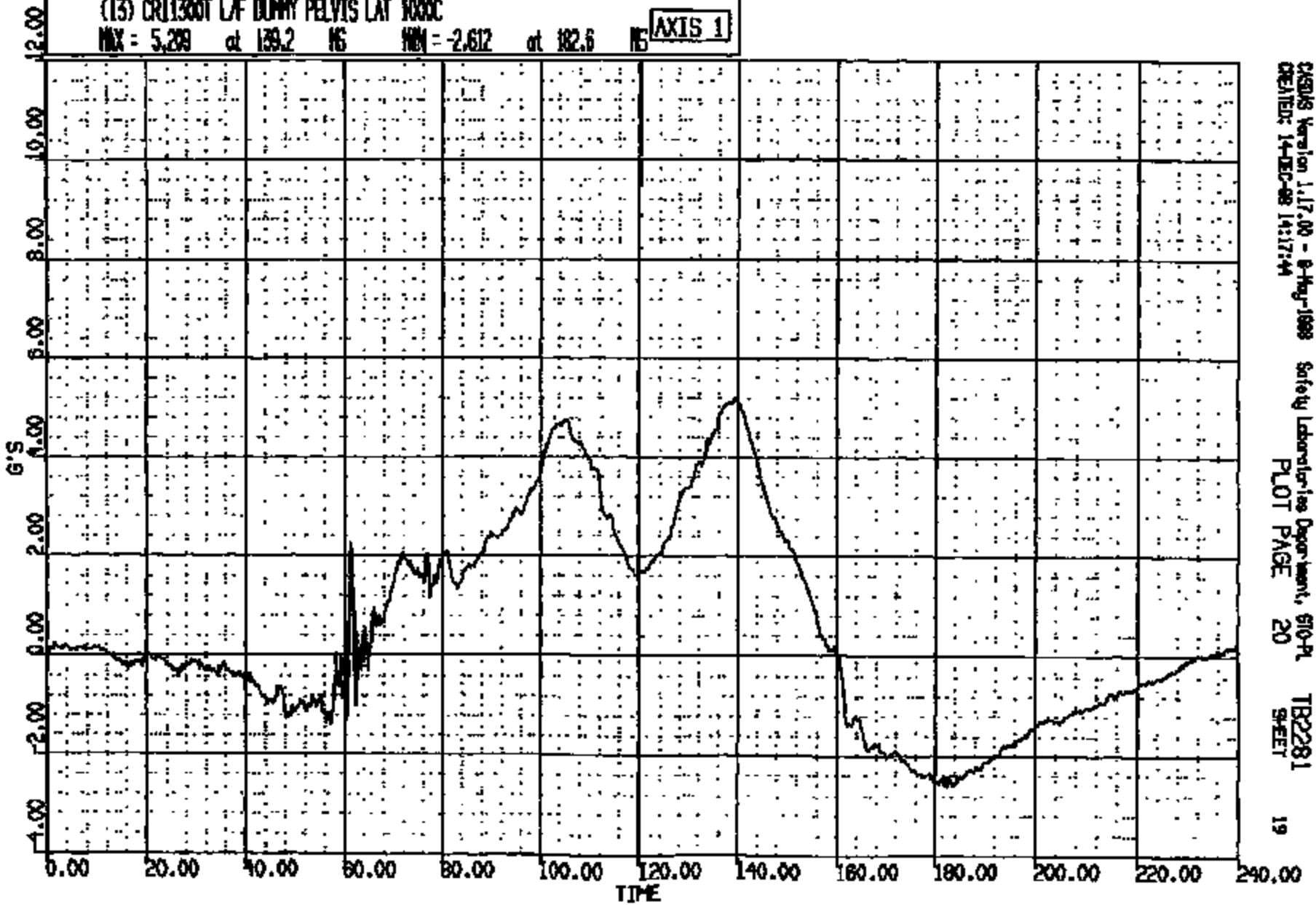
CRTS 0011300

DR R: 11500 TO: TB2281 DATE: 881212 08:40:17
BOOK D-188

(15) CR1300T LAF DUMMY PELVIS LAT 6000C

MAX = 5.209 at 139.2 MS MIN = -2.612 at 182.6 MS

AXIS 1



CASRS Version 1.17.00 - 8-Aug-1988
CREATED: 14-DEC-88 14:17:44

Safety Laboratories Department, 610-PL
PLOT PAGE 20

TB2281
SHEET

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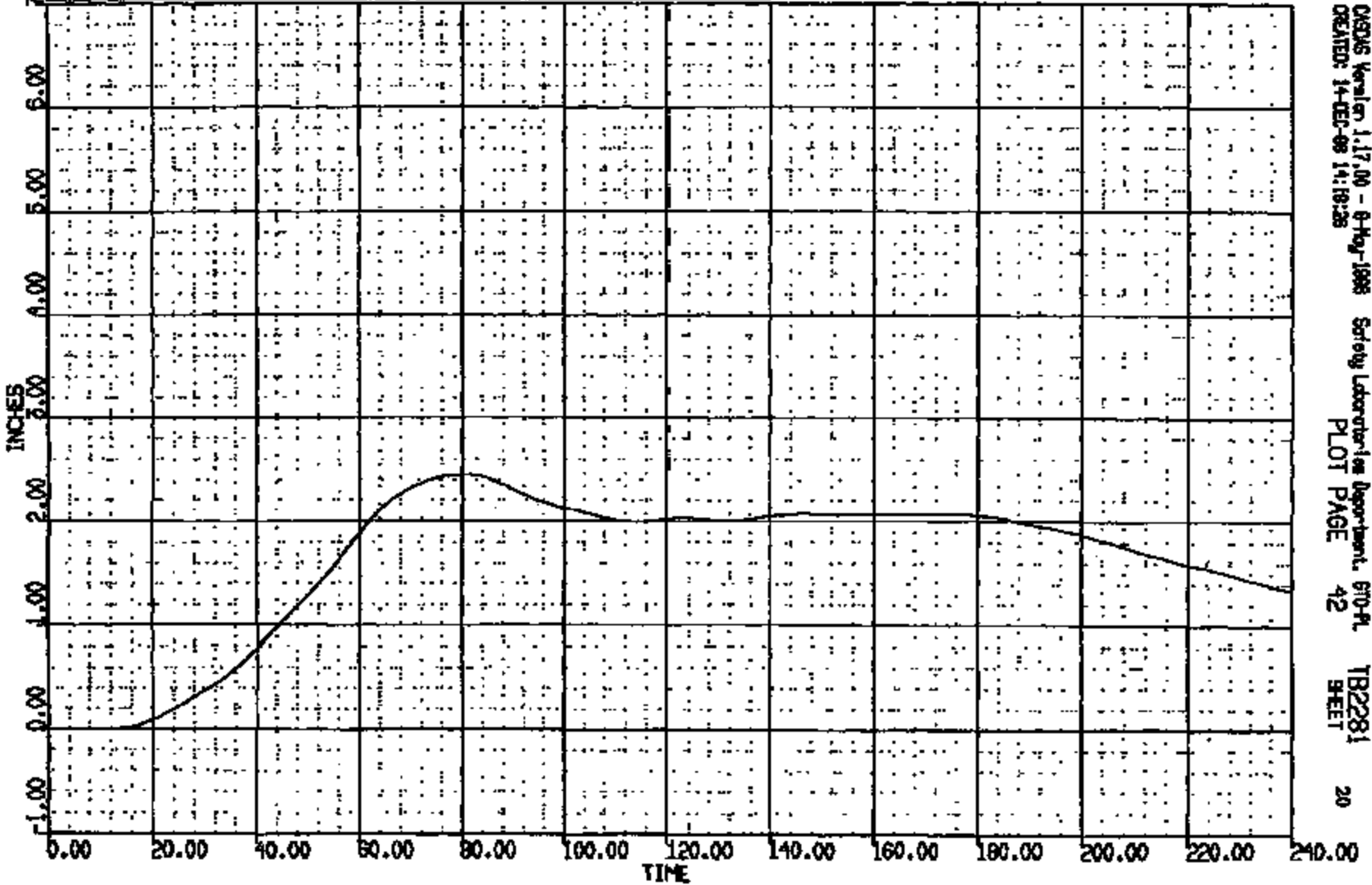
CRTS 0011300

CR #: 11200 TO: TB2281 DATE: 991212 09:40:17
200X D-188

(35) CR11300T L/F DUMMY PELVIS S.P. 60C

MAX = 2.418 at 80.00 MS MIN = -.548E-03 at 1.000 MS

AXIS 1



CRSIS Version 1.17.00 - 9-May-1998 Safety Laboratory Department, 610-PL
CREATED: 14-DEC-99 14:18:28 PLOT PAGE 42 TB2281 SHEET 20

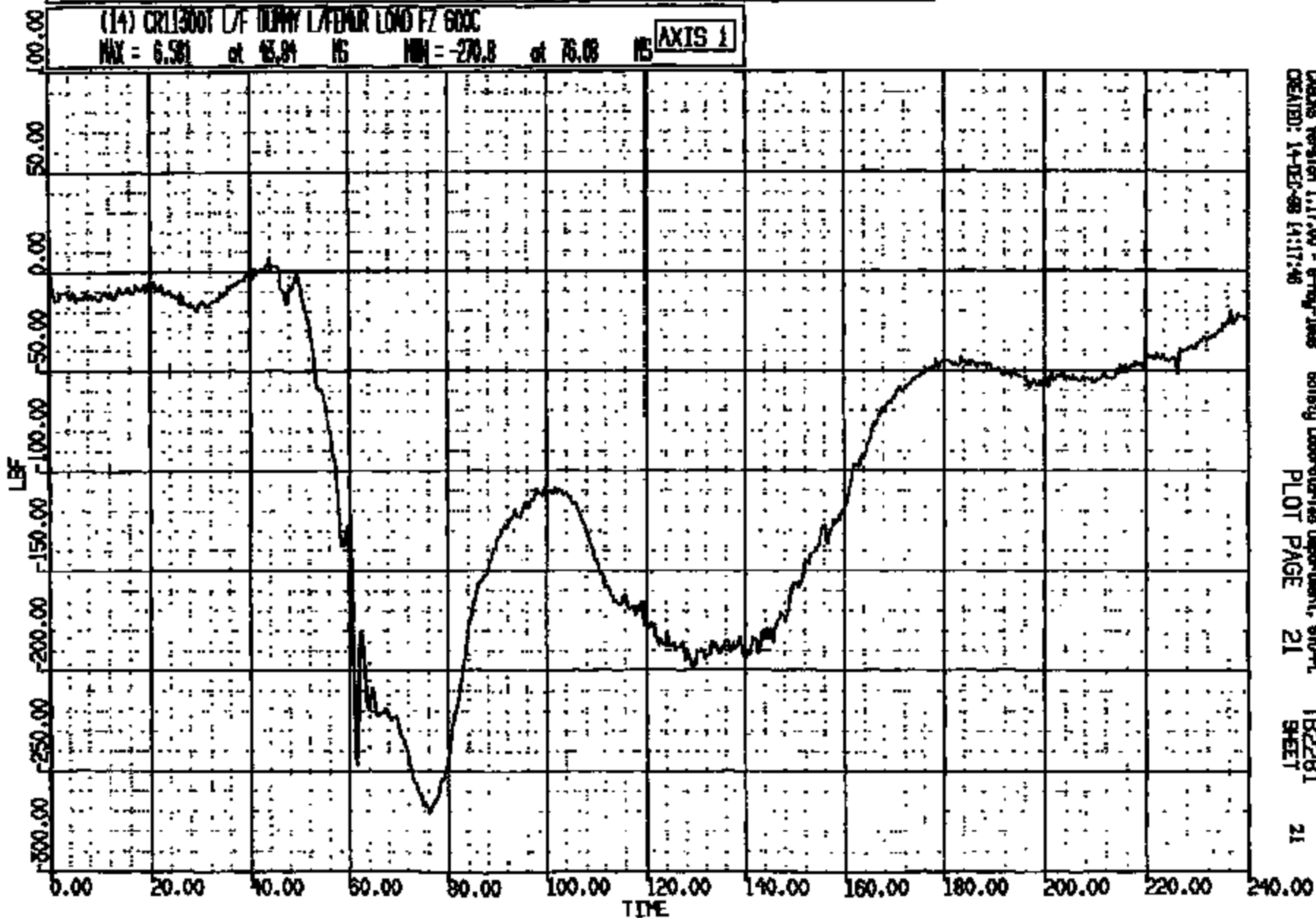
CRIS 0011300

CR #: 11500 TO: TB2281 DATE: 981212 09:40:17
BOOK D-188

(14) CR11300T L/F DUMMY L/FBUR LOAD FZ 600C

MAX = 6.581 of 65.81 IS MIN = -270.8 of 76.08 IS

AXIS 1



CRS Version 1.17.00 - 8-May-1998
CREATED: 14-DEC-98 14:17:46

Safety Laboratories Department, 670-PL
PLOT PAGE 21

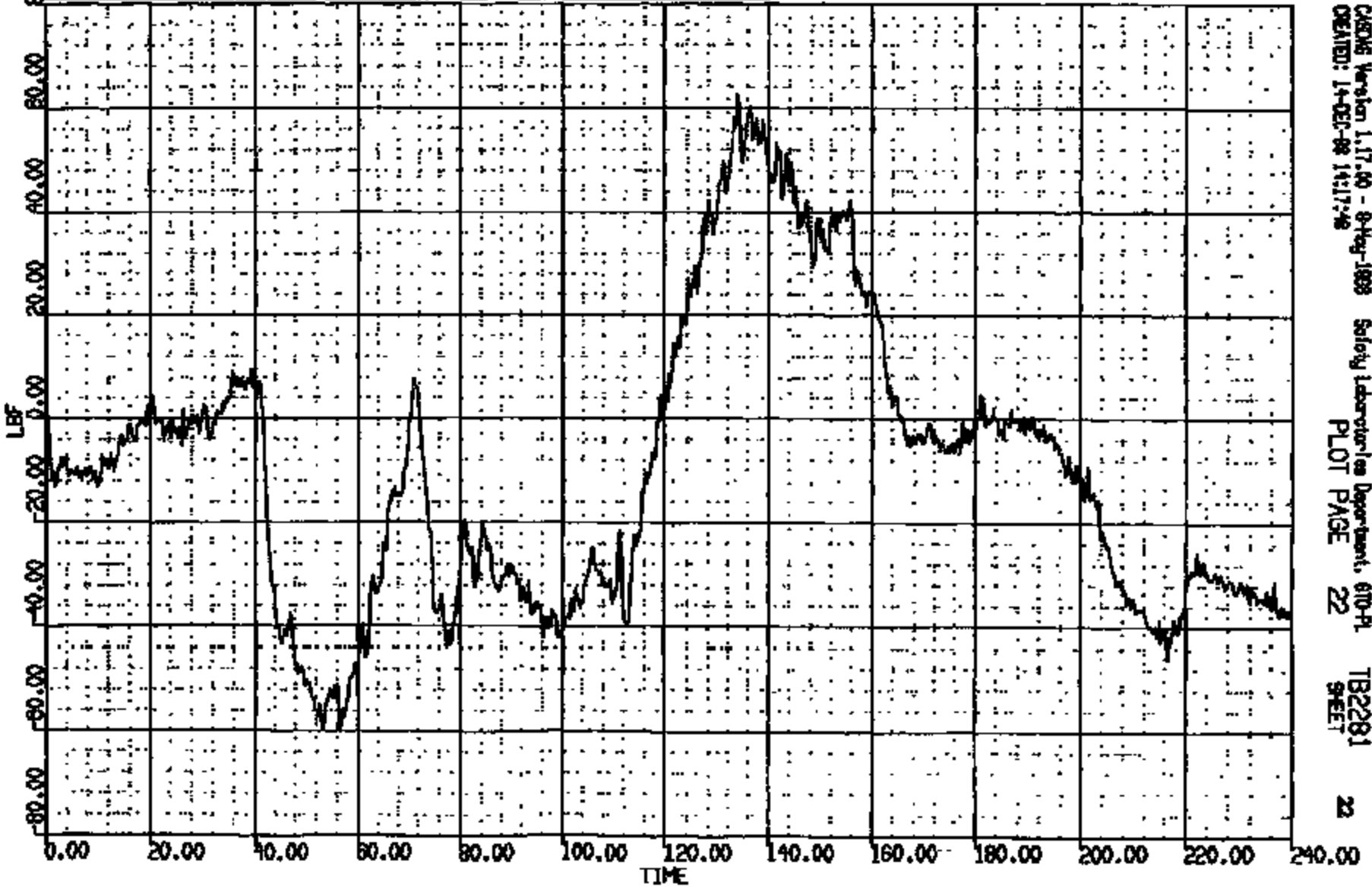
TB2281
SHEET

21

CRTS 0011300

CR R: 11500 TO: TB2281 DATE: 881212 09:40:17
BOOK D-188

(15) CR11300 L/F DUMMY REFER LOAD FZ 60AC
MAX = 62.61 at 138.9 MS MIN = -60.25 at 56.72 MS **AXIS 1**



CASMS Version 1.17.00 - 8-Aug-1988
CREATED: 14-DEC-88 14:17:46

Safety Laboratories Department, 610-PL
PLOT PAGE 22

TB2281
SHEET

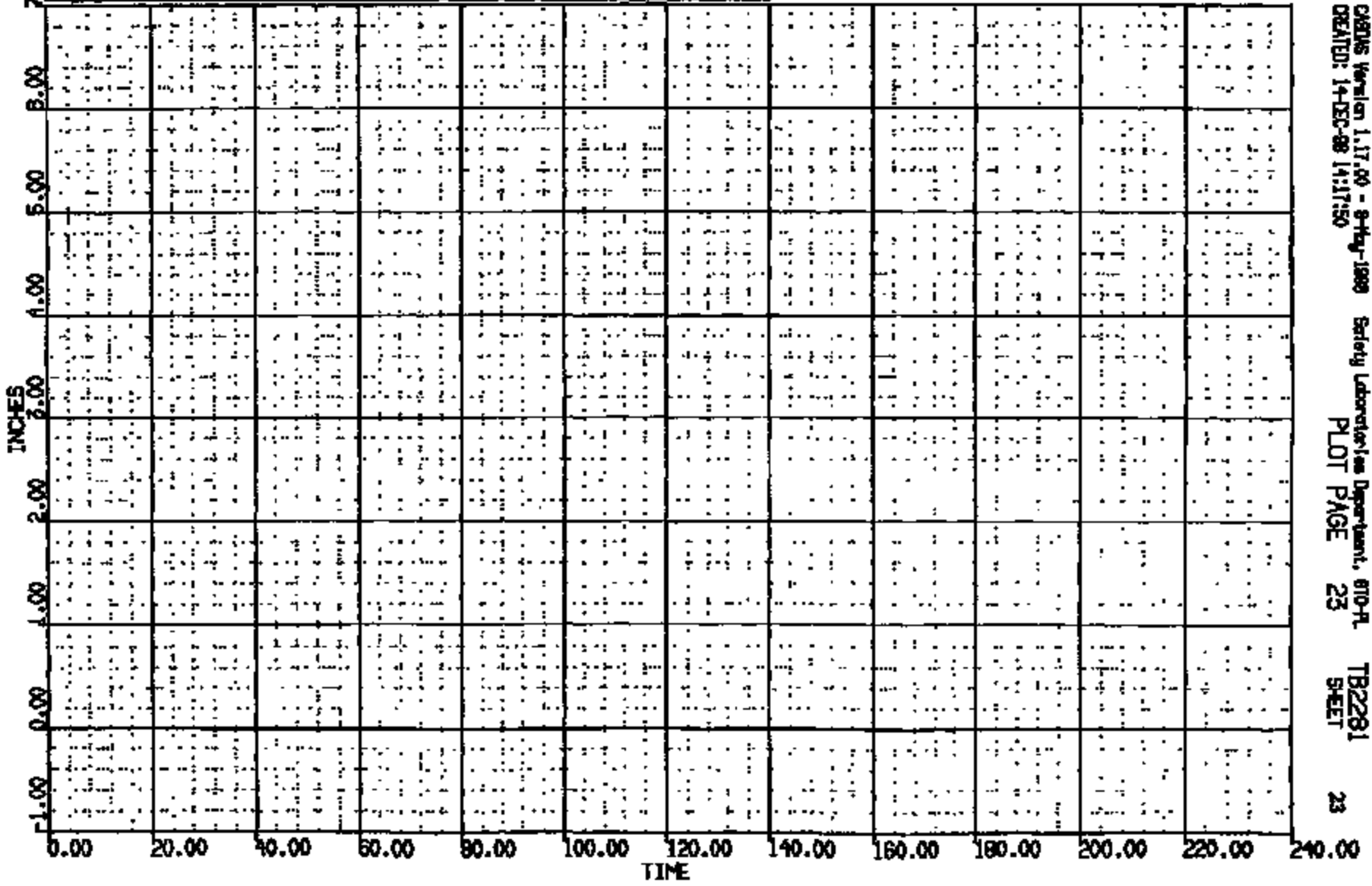
22

CRTS 0011300

CR 7: 11300 TO: TB2281 DATE: 861212 09:40:17
BOOK D-188

(16) CR1200T L/R DUMMY L/KNEE SLIDER (STD) 180C
MAX = 0.270E-02 at 116.9 MS MIN = -.341E-02 at 207.0 MS

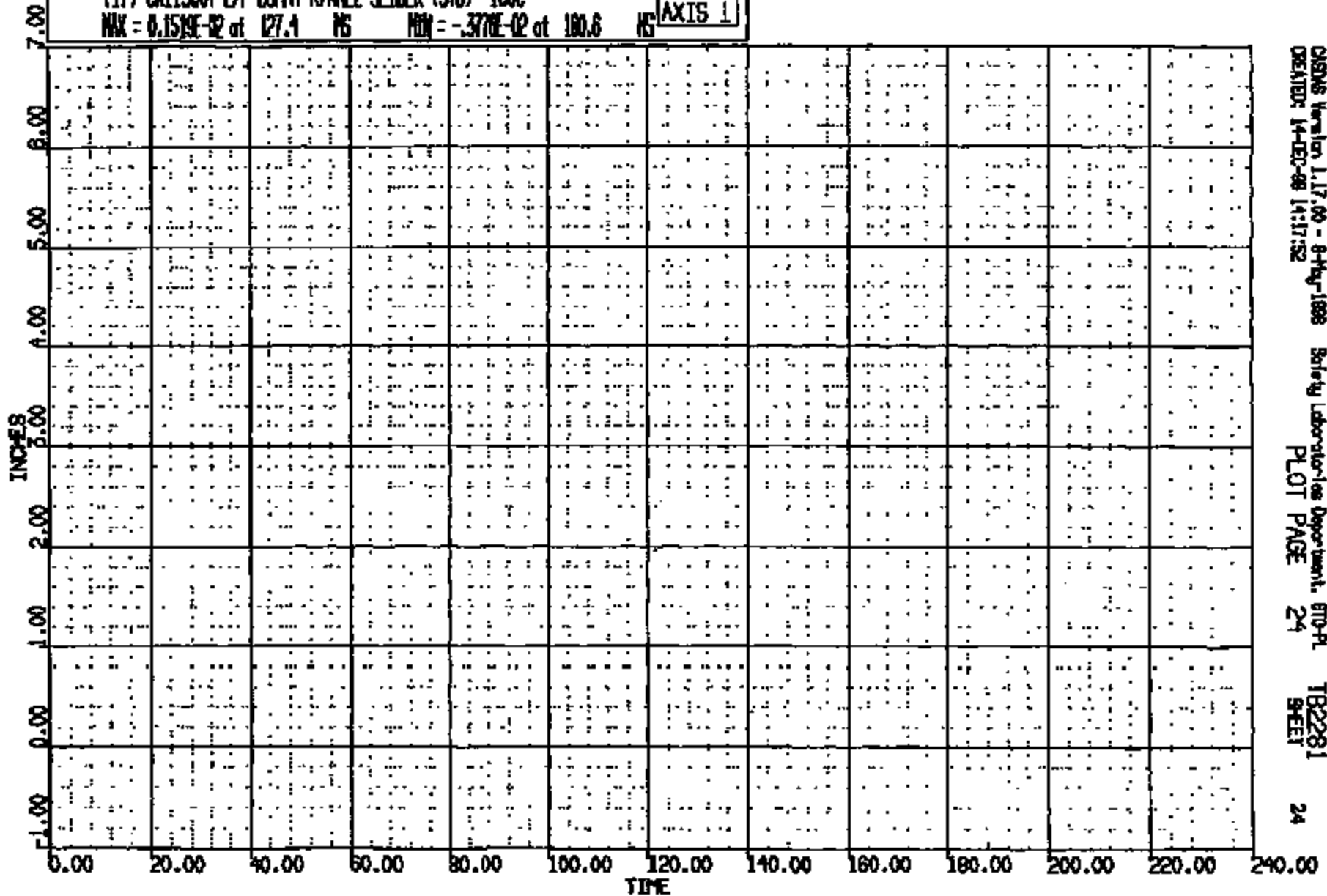
AXIS 1



CR R: 11800 TC: TB2281 DATE: 881212 09:40:17
200X D-188

(17) CR11300 L/F DUMMY RANGE SLIDER (STD) 180C
MAX = 0.1519E-02 at 127.4 NS MIN = -.3770E-02 at 180.6 NS

AXIS 1



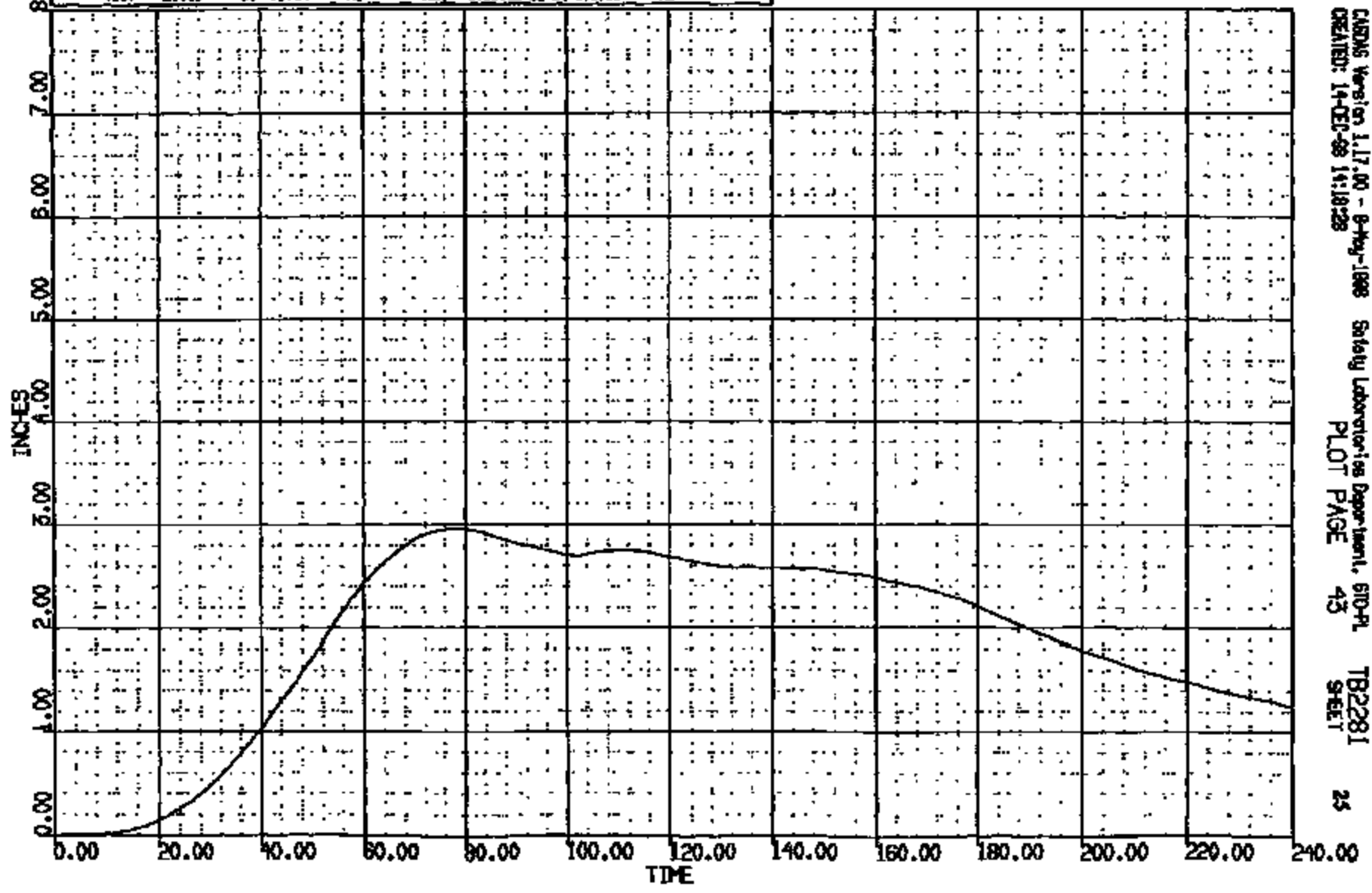
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CREATED: 14-ED-88 14:17:52 PLOT PAGE 24 SHEET 24

CR11300

NO. R: 11500 TO: TB2281 DATE: 981212 09:40:17
BOOK D-188

(35) CR1300T L/F DUNN L'KNEE S.P. 60C
MAX = 2.98 at 78.01 MS MIN = 0.30E-02 at 0.000 MS

AXIS 1



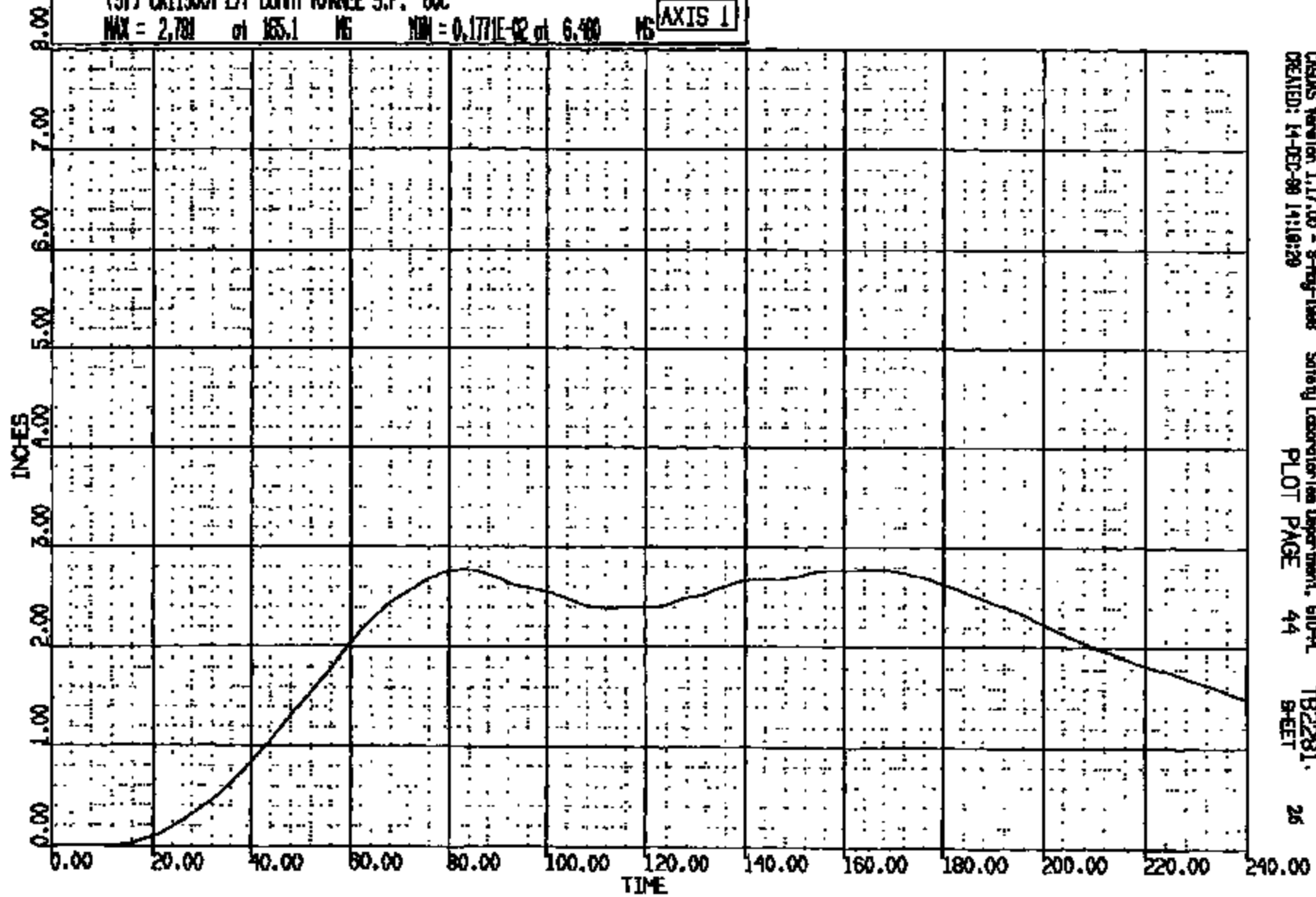
CADWIS Version 1.17.00 - 9-May-1998 Safety Laboratories Department, 610-PL
CREATED: 14-DEC-98 14:18:28 PLOT PAGE 43 SHEET 25

CRTS 0011300

CR R: 11800 TO: TB2281 DATE: 881212 08:40:17
BOOK D-188

(37) CR1300T L/F DUMMY RANGE S.P. 60C
MAX = 2.781 at 85.1 MS MIN = 0.1771E-02 at 6.400 MS

AXIS 1



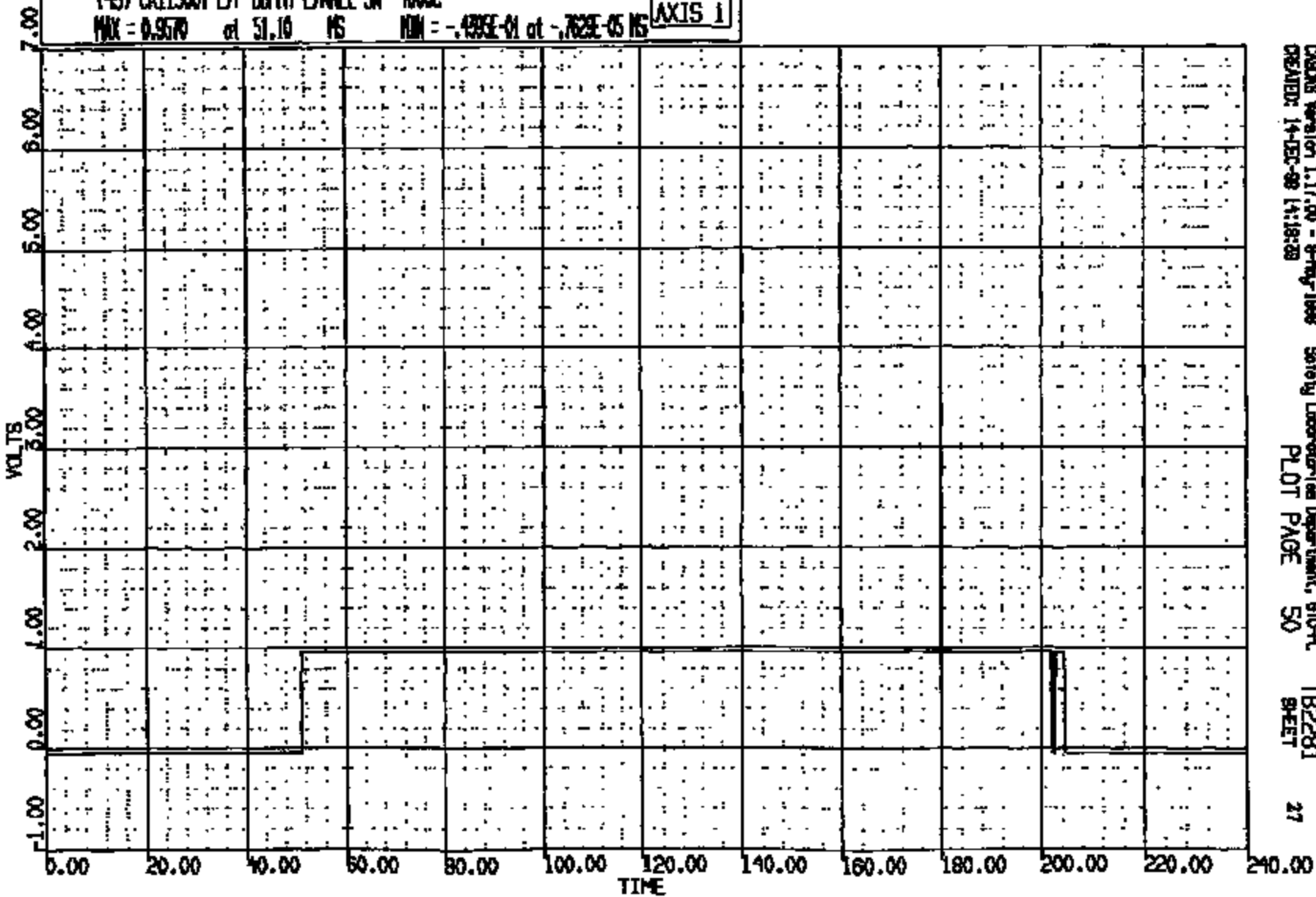
CR1300T 0011300

CASMS Version 1.17.00 - 8-Aug-1988 Safety Laboratories Department, 610-PL TB2281, 26
CREATED: 14-DEC-88 14:18:20 PLOT PAGE 44 SHEET

CR R: 11500 TO: TB2281 DATE: 881212 09:40:17
800X D-188

(43) CR11300T L/F DUMMY LAMPE SN 4000C
MAX = 0.9570 at 51.10 MS MIN = -.499E-01 at -.762E-05 MS

AXIS 1



CRSIS Version 1.17.00 - 8-May-1988
CREATED: 14-DEC-88 14:18:28

Safety Laboratories Department, 610-PL
PLOT PAGE 50

TB2281
SHEET

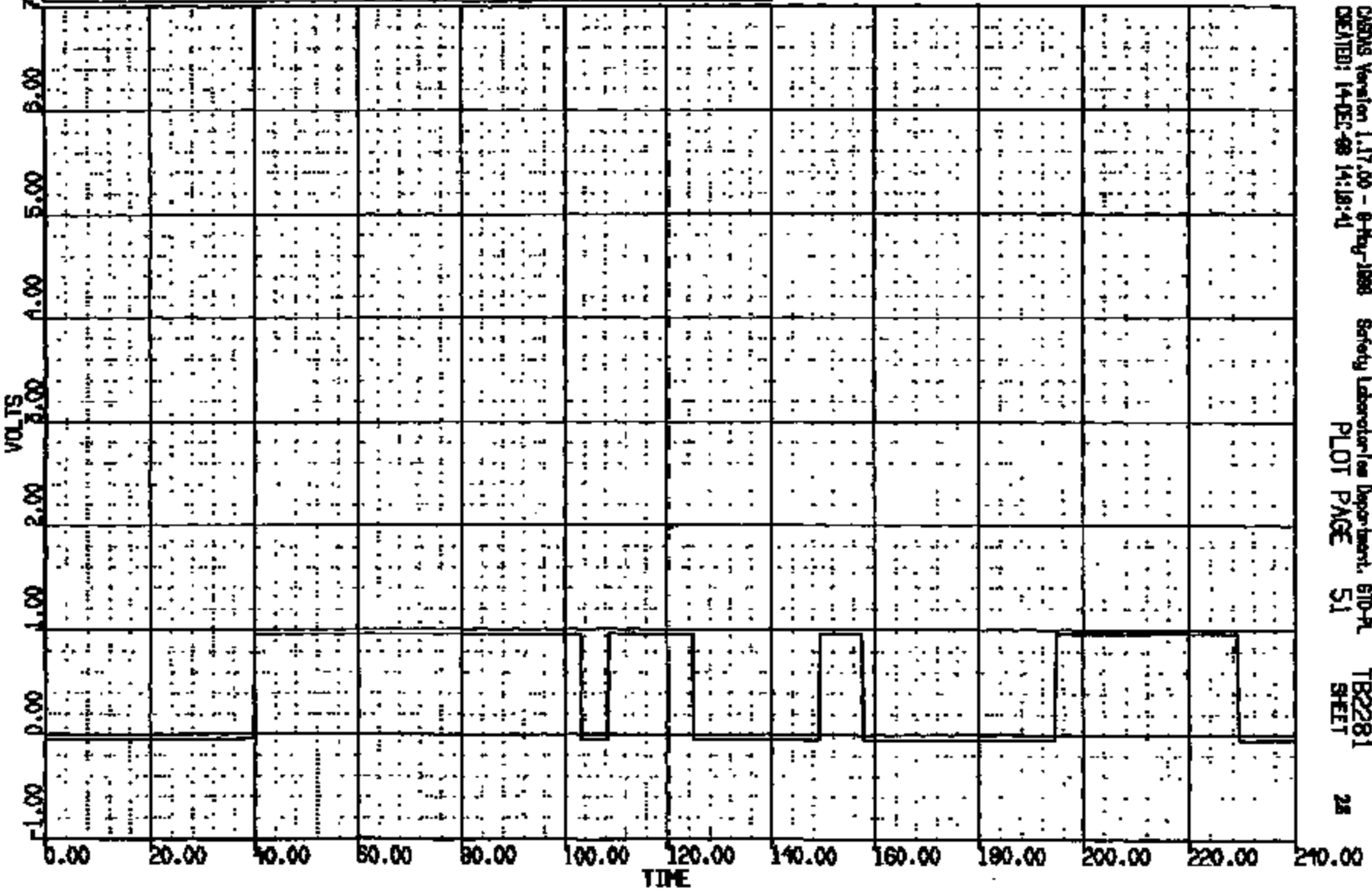
27

CRIS 0011300

CR: R: 11300 TO: TB2281 DATE: 981212 09:40:17
BOOK D-186

(44) CR11300T L/F DUMMY RANGE SN 4000
MAX = 0.9570 at 40.00 NS MIN = -.4385E-01 at -.7629E-05 NS

AXIS 1



CRS Version 1.17.00 - 6-Feb-1998 Safety Laboratory Department, 610-A
CREATED: 14-DEC-98 14:18:41 PLOT PAGE 51 TB2281 SHEET 28

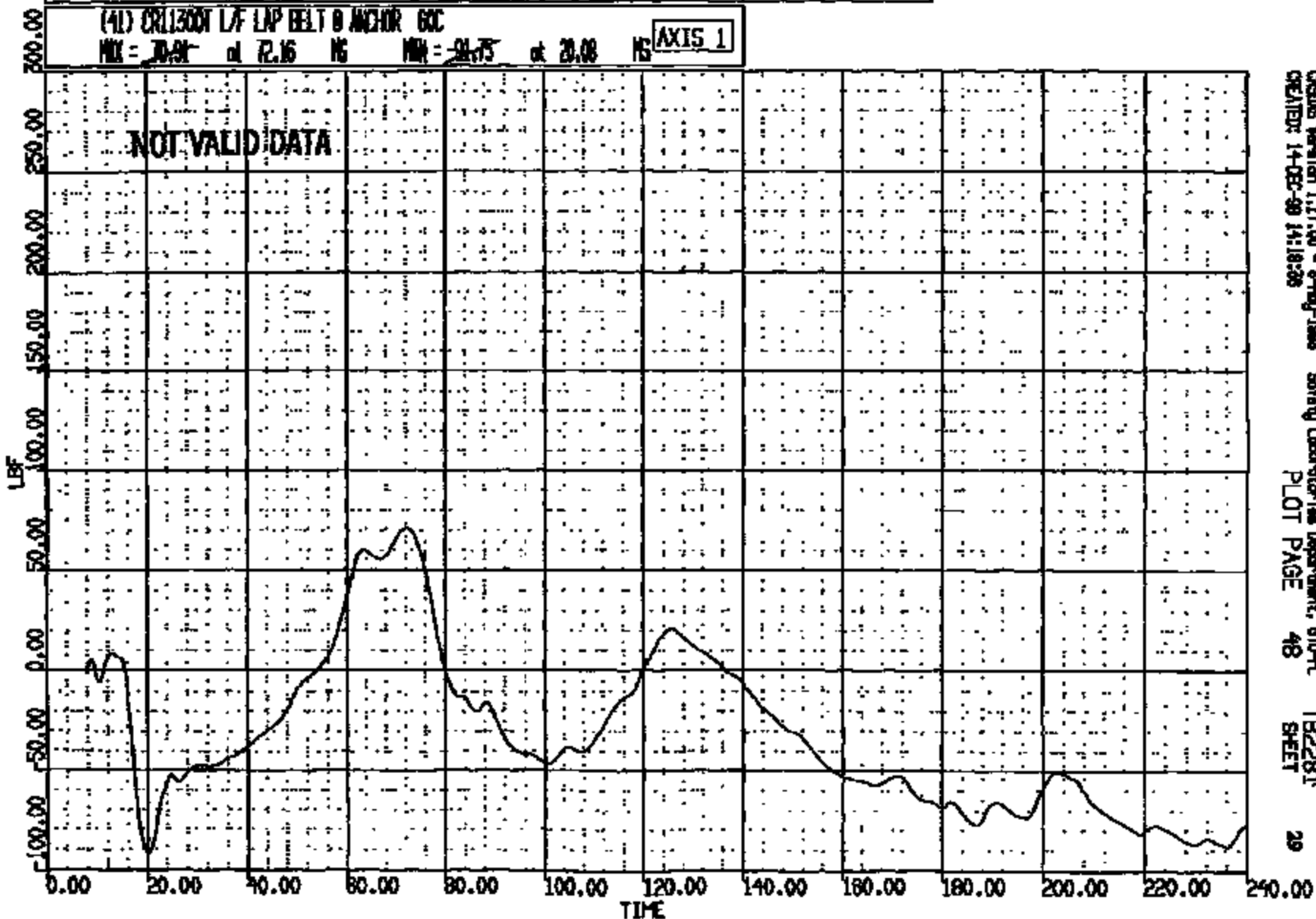
CRTS 0011300

CR #: 11300 TC: TB2281 DATE: 981212 08:40:17
200X D-100

(41) CR11300N L/F LAP BELT @ ANCHOR GOC

MAX = 70.91 at 72.16 HG MIN = 91.75 at 20.08 HS

AXIS 1



CRS Version 1.17.00 - 8-May-1998
CREATED: 14-DEC-98 14:18:26

Safety Laboratories Department, 610-PL
PLOT PAGE 48

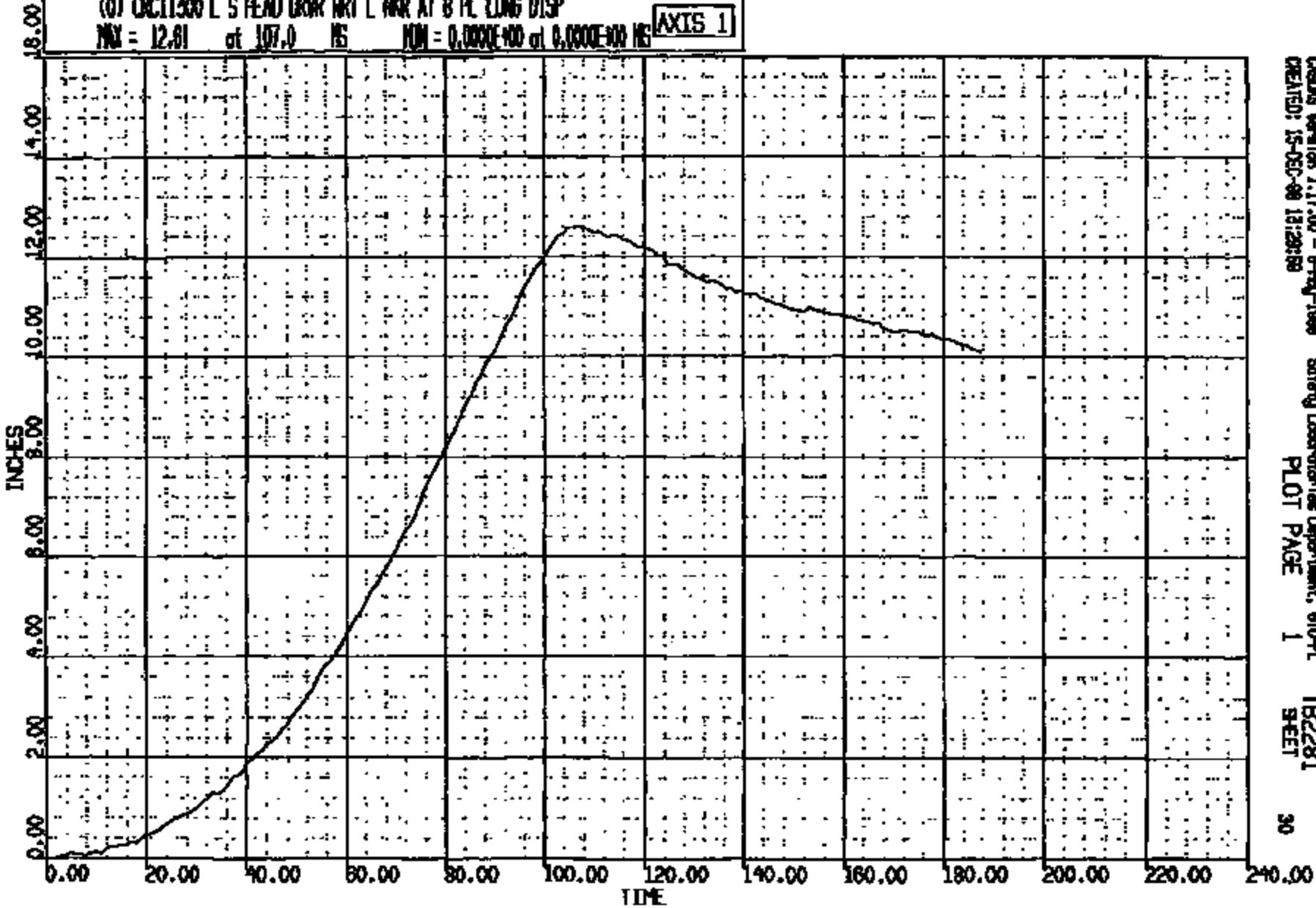
TB2281
SHEET 29

CRIS 0011300

CR# R: 11300 TO: TB2281 DATE: 981212 08:40:17
BOOK D-189

(0) CR11300 L S HEAD DRWR HRT L RGR AT 8 PL LONG DISP
MAX = 12.81 at 107.0 MS MIN = 0.0000E+00 at 0.0000E+00 MS

AXIS 1

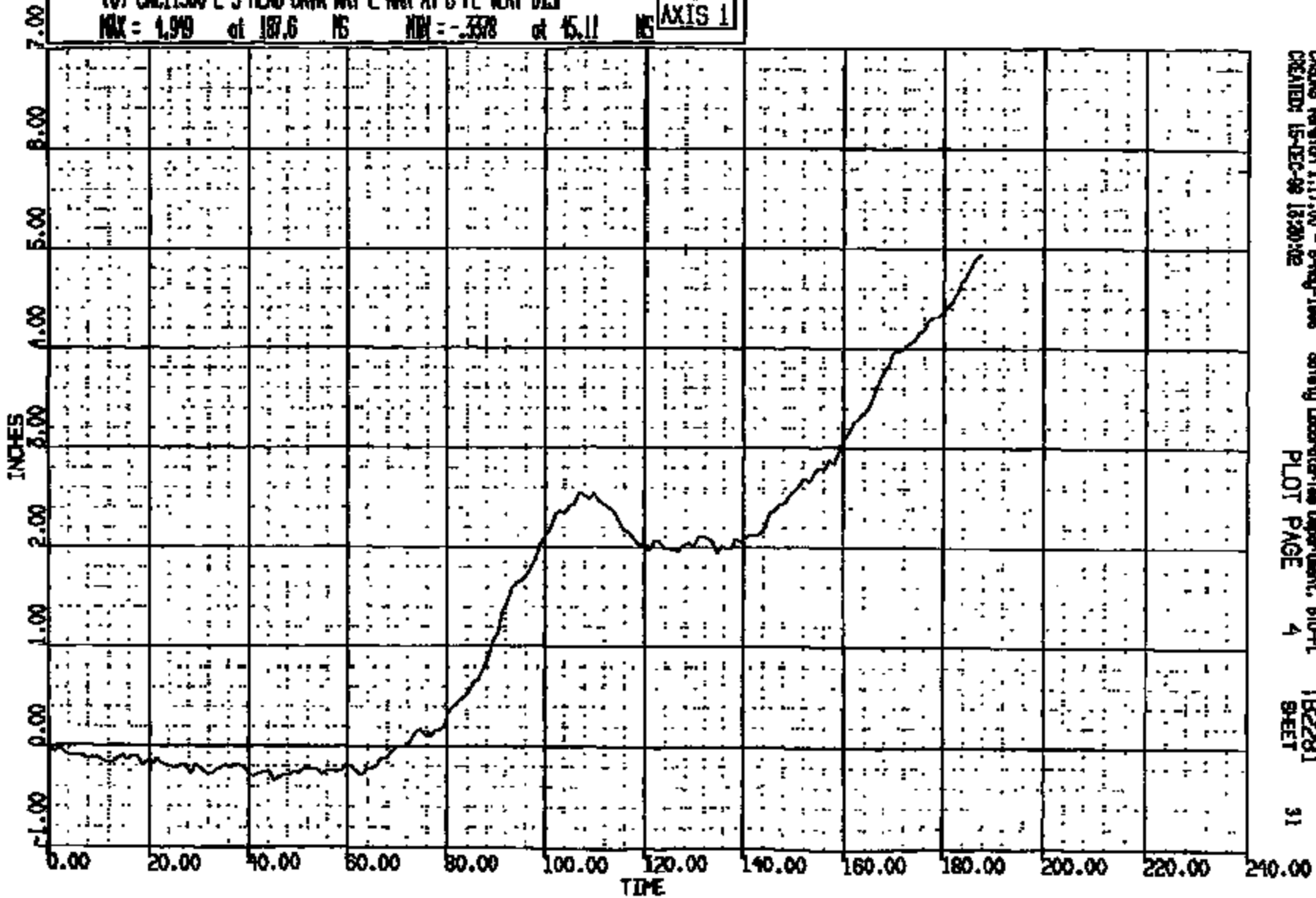


CASYS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, STD-PL
CREATED: 15-DEC-98 13:29:58 PLOT PAGE 1 SHEET 30

CRTS 0011300

CR R: 11500 TO: T82281 DATE: 981212 09:40:17
200X D-186

(0) CR011300 L 5 HEAD ORNR WRT L INR AT B PL VERT DISP
MAX = 1.949 at 187.6 MS MIN = -.3378 at 45.11 MS **AXIS 1**



CRSNG Version 1.17.00 - 9-May-1998
CREATED: 15-DEC-98 18:20:42

Safety Laboratories Department, 610-Pl
PLOT PAGE 4

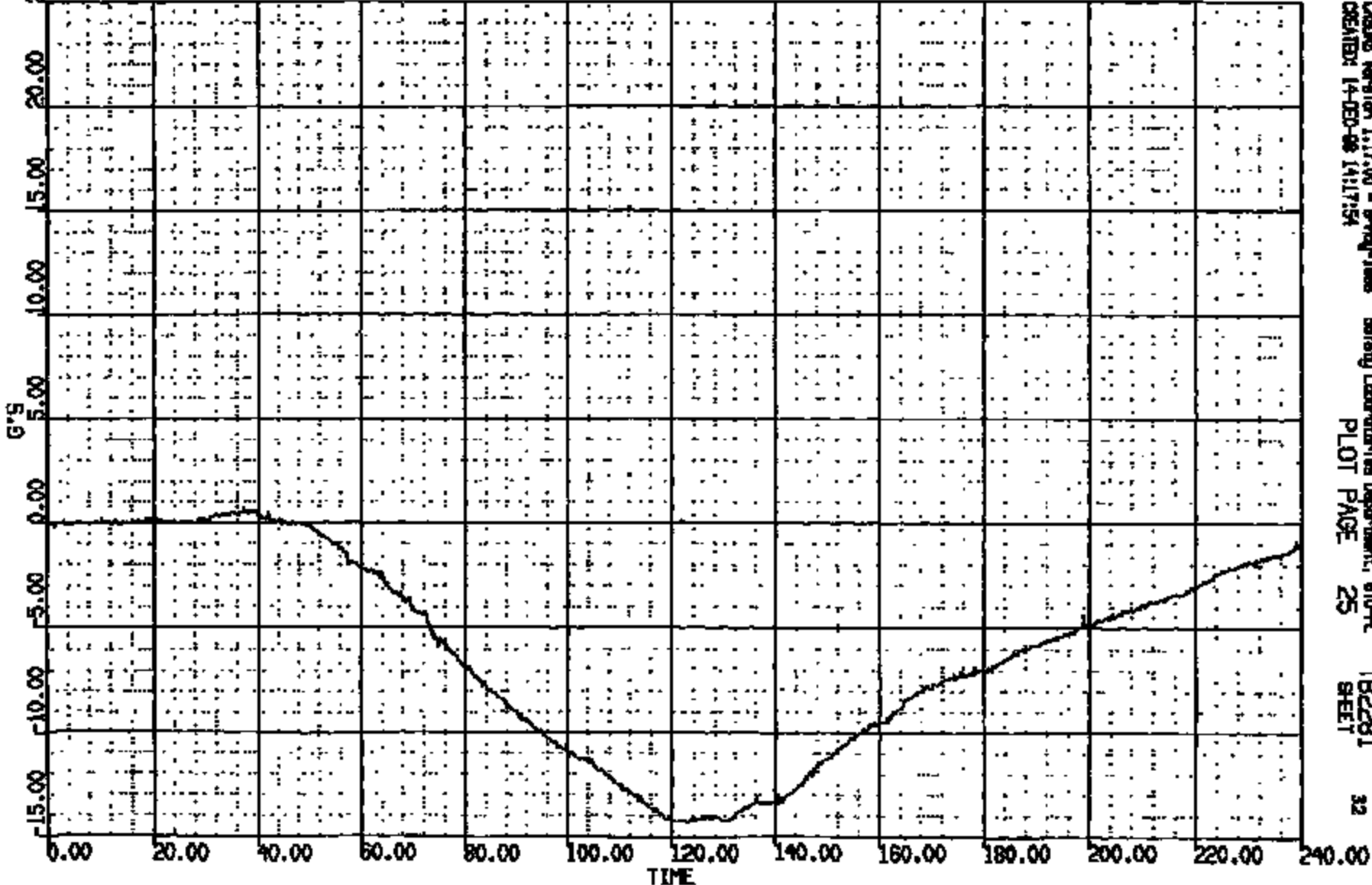
T82281
SHEET

31

CR011300

CR R: 11300 TO: T82281 DATE: 981212 09:40:17
200X D-188

(18) CR11300T R/F DUMMY HEAD C.G. LONG 1000
MAX = 0.8521 at 37.20 MS MIN = -11.34 at 122.8 MS **AXIS 1**



CRAMS Version 1.17.00 - 9-May-1998 Safety Laboratories Department, 810-A
CREATED: 14-DEC-98 14:17:54 PLOT PAGE 25 T82281 32
SHEET

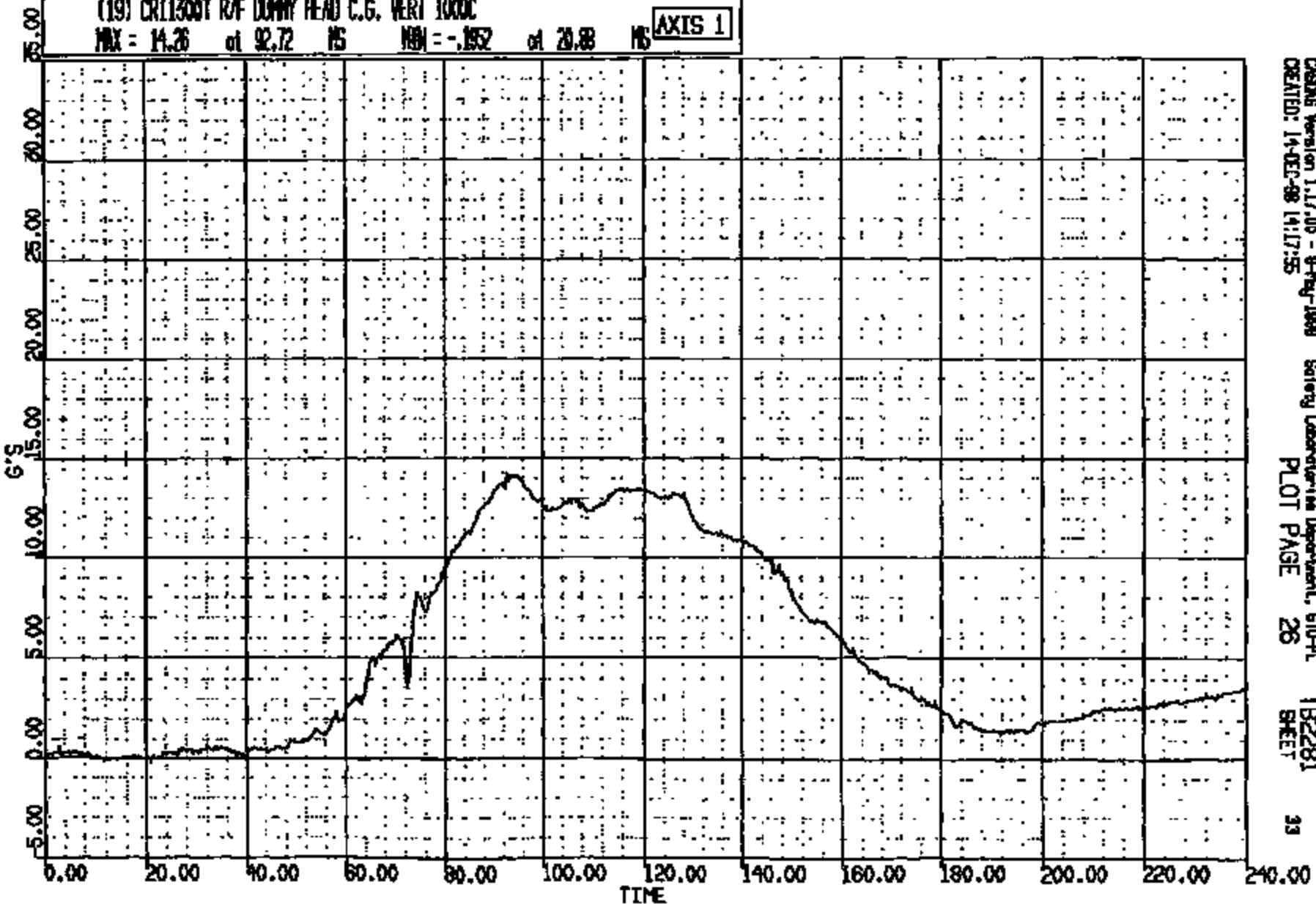
CRIS 0011300

CR R: 11300 TO: TB2281 DATE: 881212 09:40:17
200X D-188

(19) CR11300T R/F DUMMY HEAD C.G. VERT 1000C

MAX = 14.26 at 92.72 MS MIN = -.1952 at 20.88 MS

AXIS 1



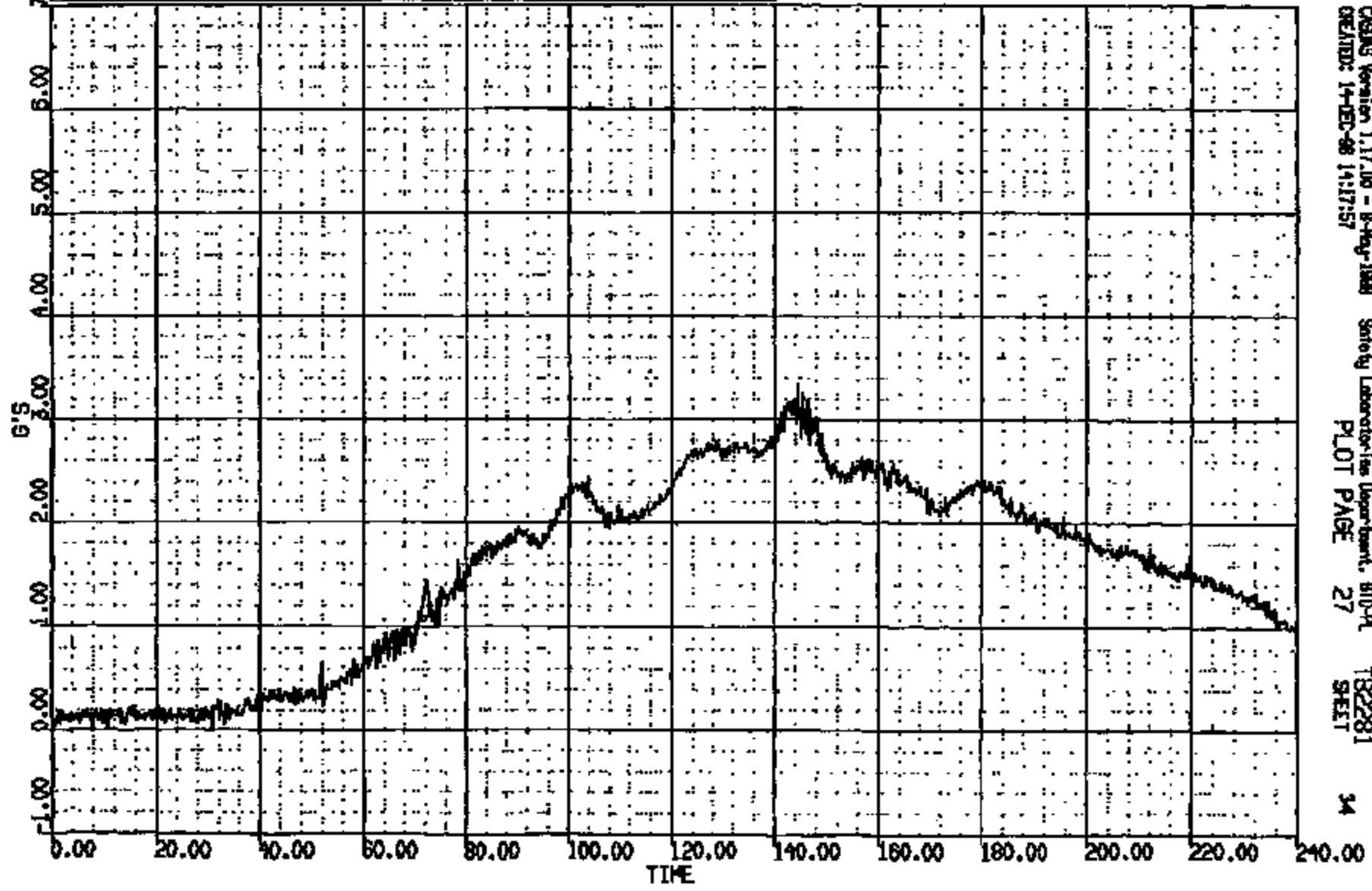
CASDAS Version 1.17.00 - 8-Aug-1988 Safety Laboratory Department, 610-PL
CREATED: 14-DEC-88 14:17:55 PLOT PAGE 26 TB2281 SHEET 33

CRIS 0011300

CR R: 11300 TO: TB2281 DATE: 881212 09:40:17
BOOK D-188

(20) CR11300T R/F DUMMY HEAD C.G. LAT 1000C
MAX = 3.341 at 144.4 NS MIN = -.148E-01 at 7.840 NS

AXIS 1

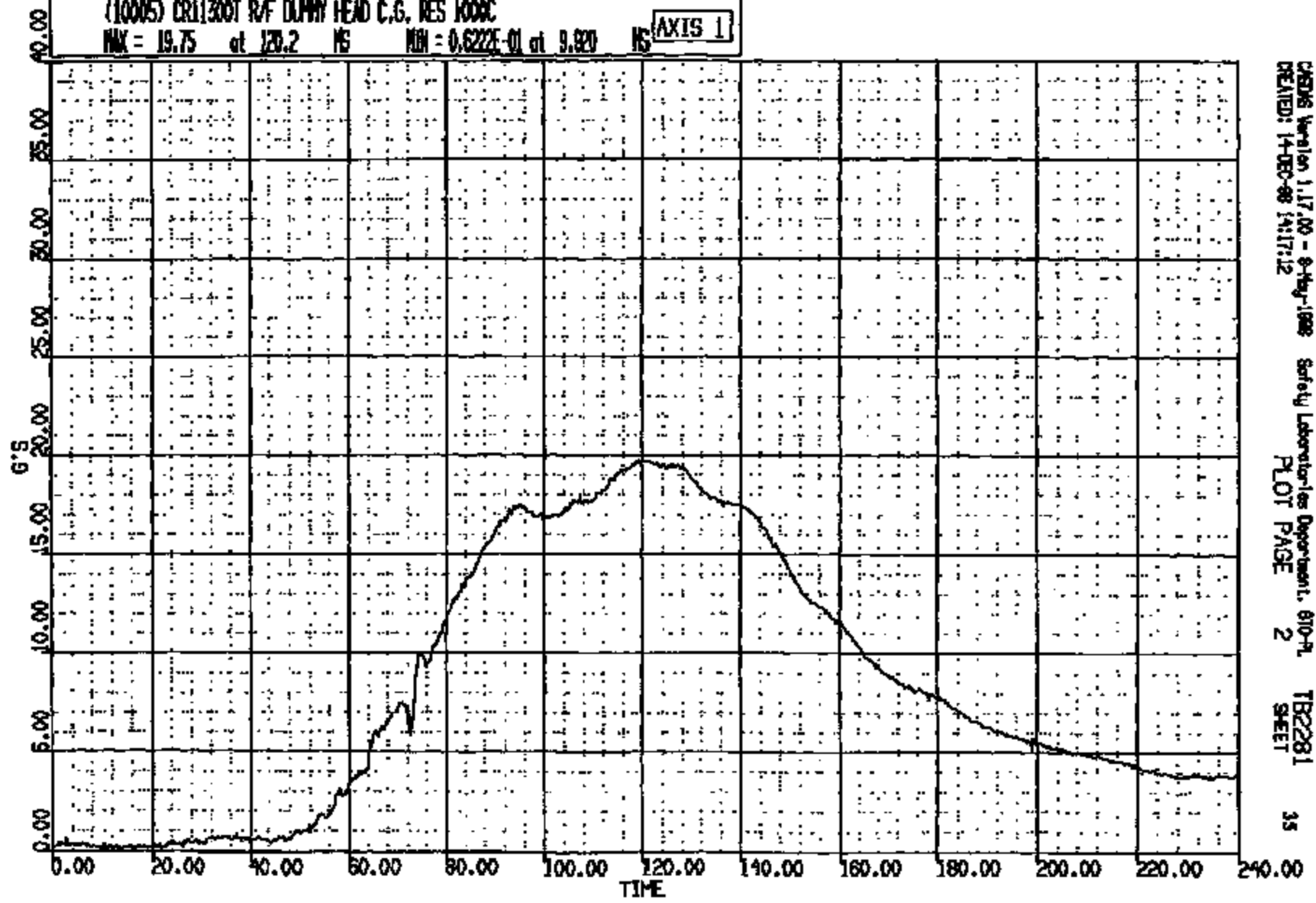


CASING Version 1.17.00 - 8-Aug-1989 Safety Laboratories Department, 810-PL
CREATED: 14-DEC-88 14:17:57 PLOT PAGE 27 SHEET 34

CRIS 0011300

INCR R: 11300 TO: TB2281 DATE: 881212 08:40:17
 INCOX: 0-11300
 INCO: 55. DUR: 240.0 T1/T2: 74.1 // 157.
 INCO: 55. DUR: 50.0 T1/T2: 106. // 141.
 INCO: 55. DUR: 16.0 T1/T2: 118. // 130.

(10005) CR113001 R/F DUMMY HEAD C.G. RES K00C
 MAX = 19.75 at 120.2 MS MIN = 0.622E-01 at 9.920 MS **AXIS 1**



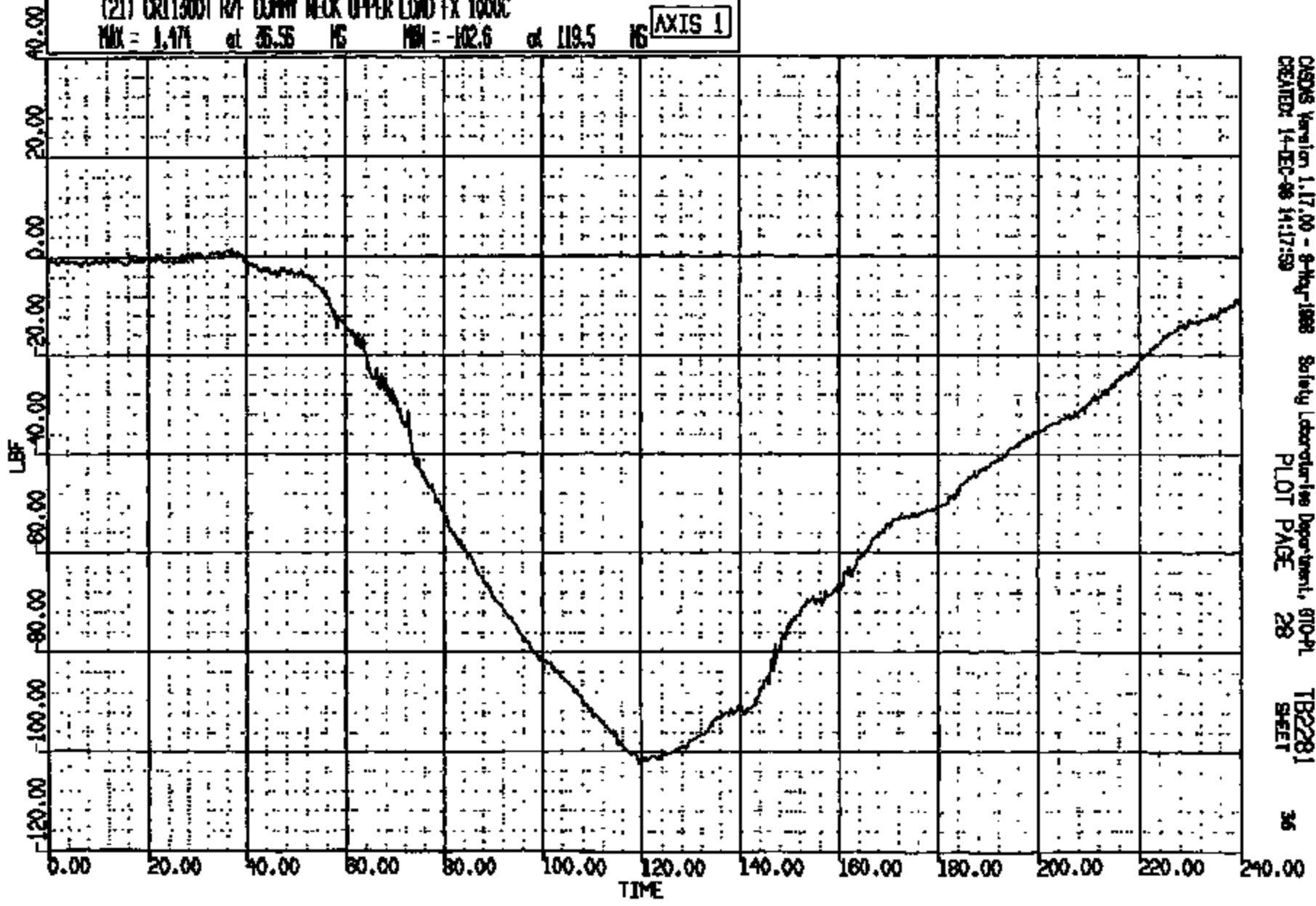
CHROM Version 1.17.00 - 8-May-1988 Safety Laboratories Department, 810-PL TB2281 35
 CREATED: 14-DEC-88 14:17:12 PLOT PAGE 2 SHEET

CRTS 0011300

CR R: 11300 TO: TB2281 DATE: 991212 09:40:17
MOOX 0-188

(21) CRT1300T R/F DUMMY NECK UPPER LOWD FX 1000C
MAX = 1.174 at 35.55 HS MIN = -102.6 at 119.5 HS

AXIS 1

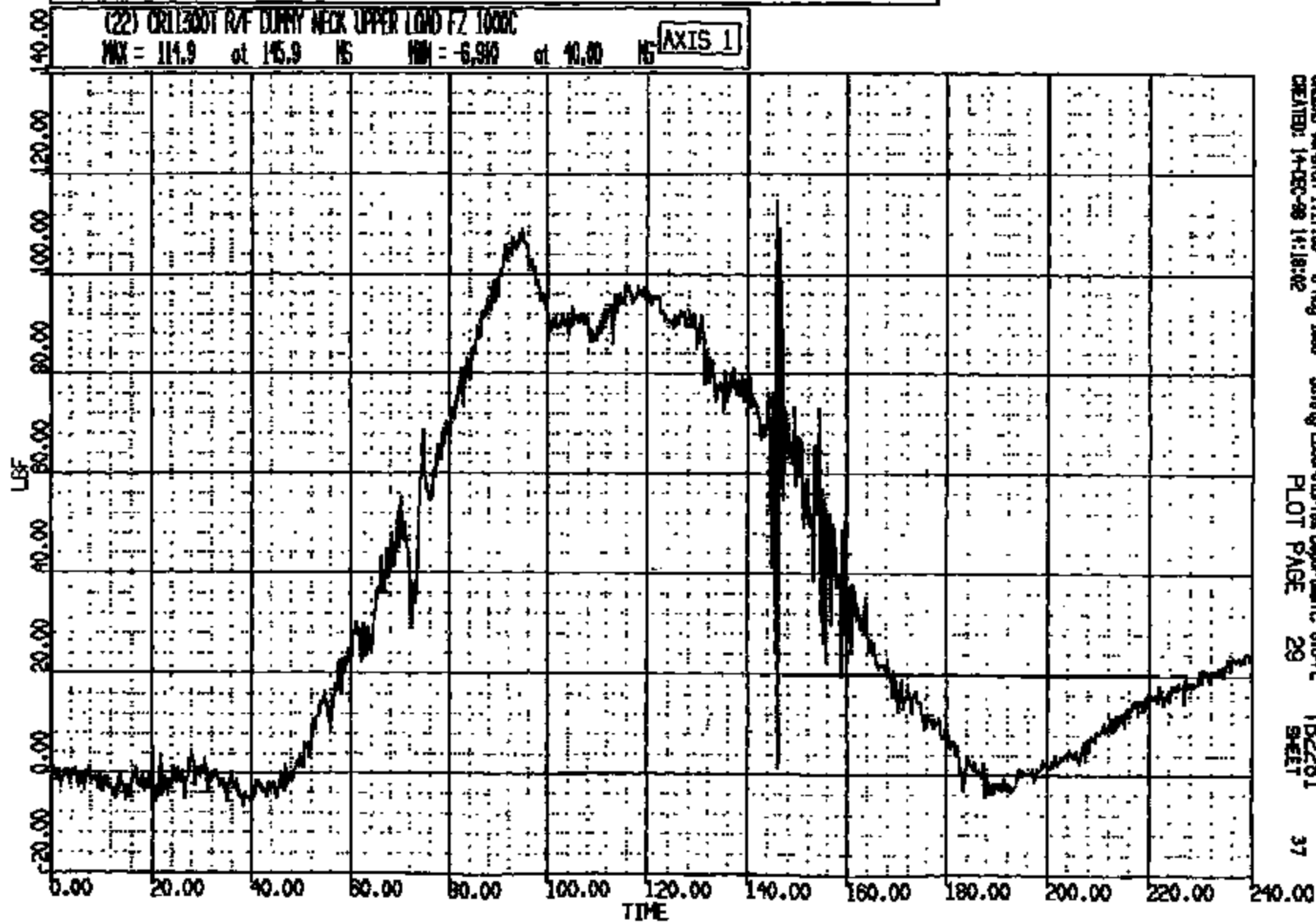


CADDS Version 1.17.00 - 9-May-1988 Safety Laboratories Department, 610-PL
CREATED: 14-DEC-99 14:17:59 PLOT PAGE 28 SHEET 36

CRTS 0011300

CR R: 11300 TO: TB2281 DATE: 881212 08:40:17
BOOK D-188

(22) CRILL300T R/F DUNNY NECK UPPER LOAD FZ 1000C
MAX = 114.9 at 145.9 HS MIN = -6.980 at 140.00 HS **AXIS 1**

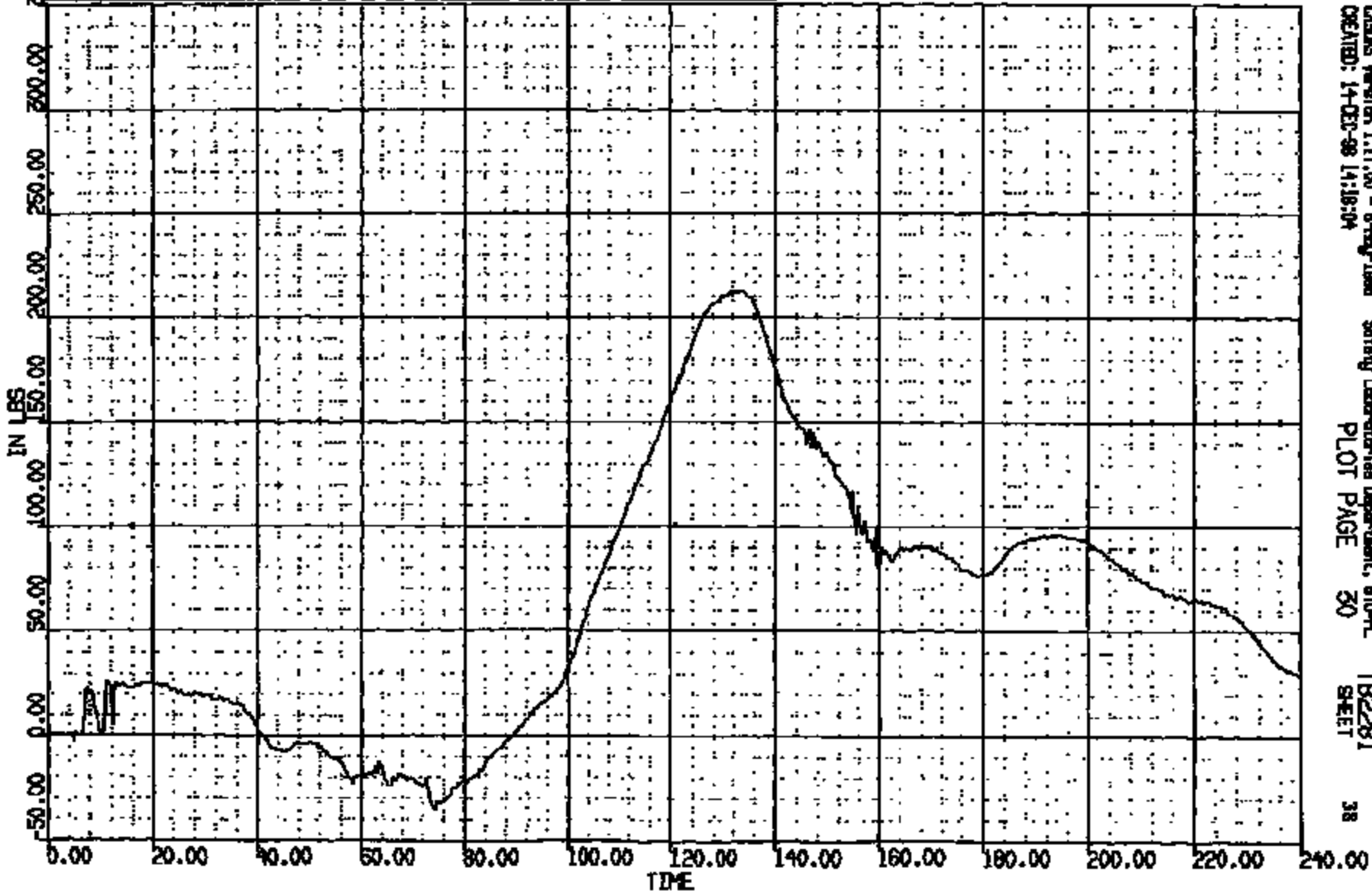


CASUS Version 1.17.00 - 8-Aug-1988 Safety Laboratories Department, 910-PL
CREATED: 14-DEC-88 14:18:02 PLOT PAGE 29 SHEET 37

CRTS 0011300

CR R: 11300 TO: TB2281 DATE: 881212 09:40:17
200X D-188

(23) CR11300T R/F DUMMY NECK UPPER LOAD BY 600C
MAX = 213.0 at 131.5 MG MIN = -35.39 at 74.40 MG **AXIS 1**



CRS05 Version 1.17.00 - 8-May-1988
CREATED: 14-DEC-98 14:18:04

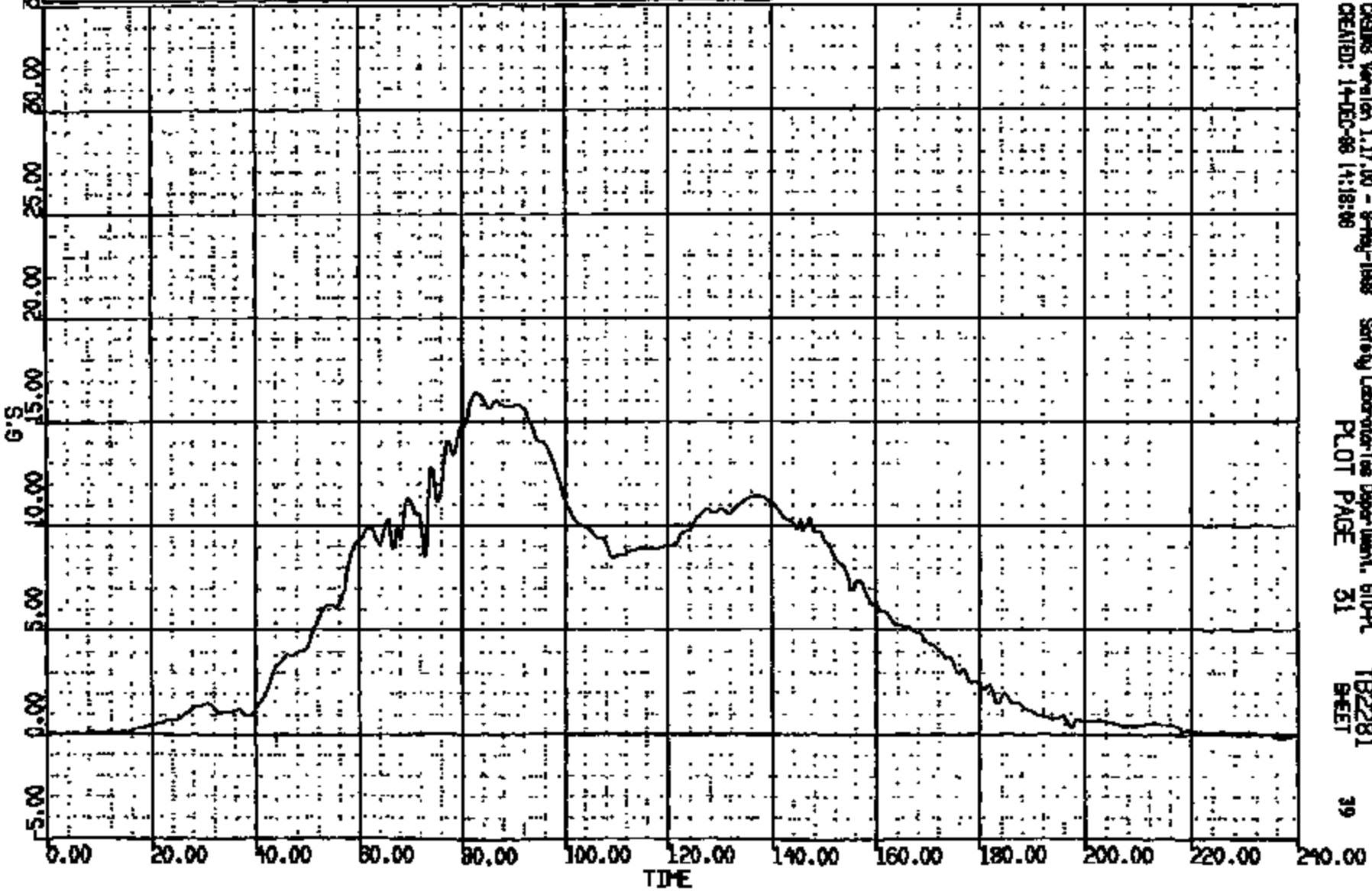
Safety Laboratories Department, 610-PL
PLOT PAGE 20

TB2281
SHEET

CRTS 0011300

CR N: 11800 TO: TB2281 DATE: 881212 08:40:17
200X D-198

(24) CRL1300T R/F DUMMY CHEST LONG 180C
MAX = 16.37 at 82.88 NS MIN = -.1688 at 235.6 NS **AXIS 1**

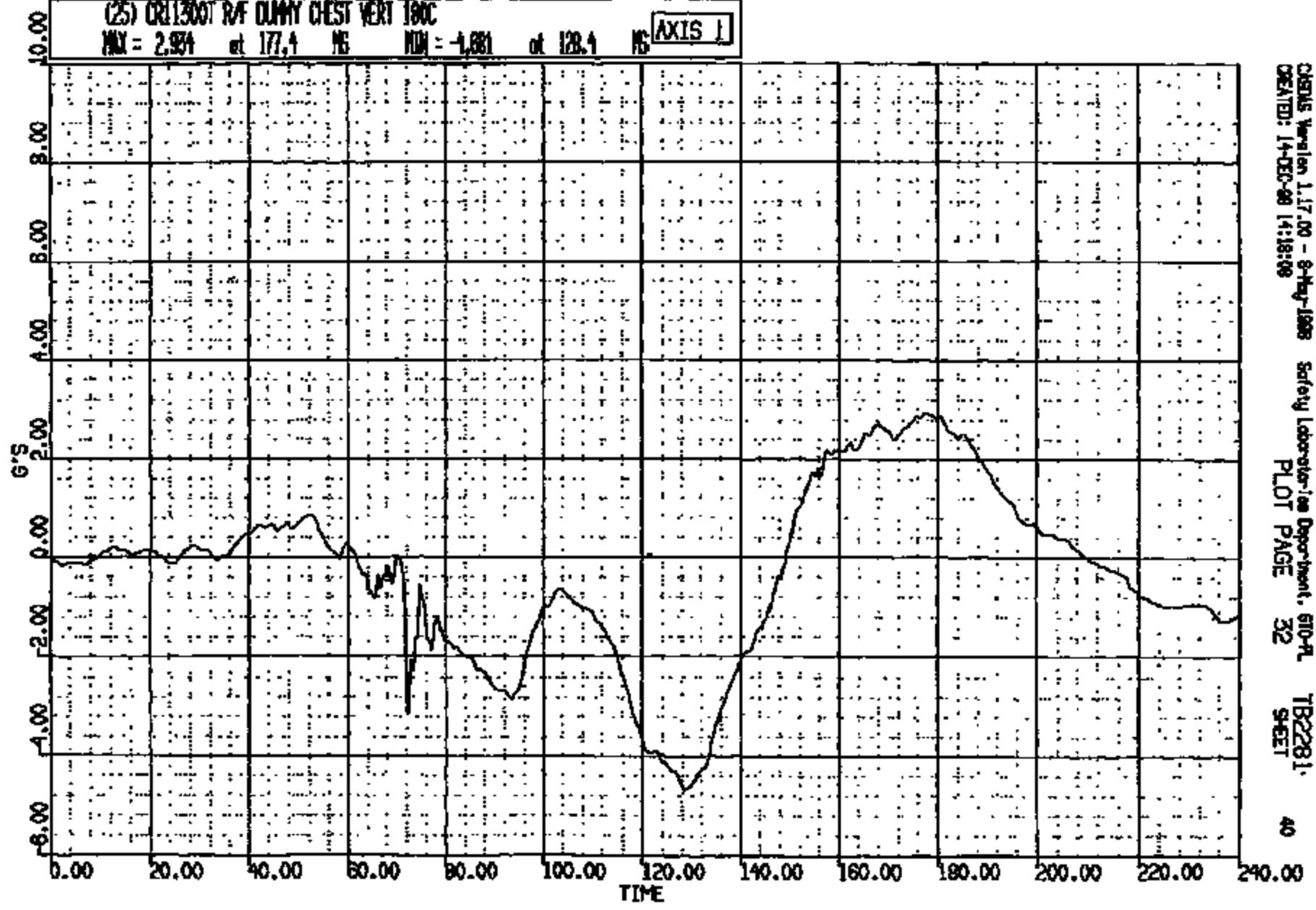


CRS Version 1.17.00 - 8-May-1988 Safety Laboratory Department, 610-PL TB2281
CREATED: 14-MED-88 14:18:38 PLOT PAGE 31 SHEET 39

CRIS 0011300

DR R: 11300 TD: TB2281 DATE: 881218 09:40:17
BOOK D-168

(25) CRT1300 R/F DUMMY CHEST VERT 180C
MAX = 2.934 at 177.4 MS MIN = -4.881 at 128.4 MS **AXIS 1**



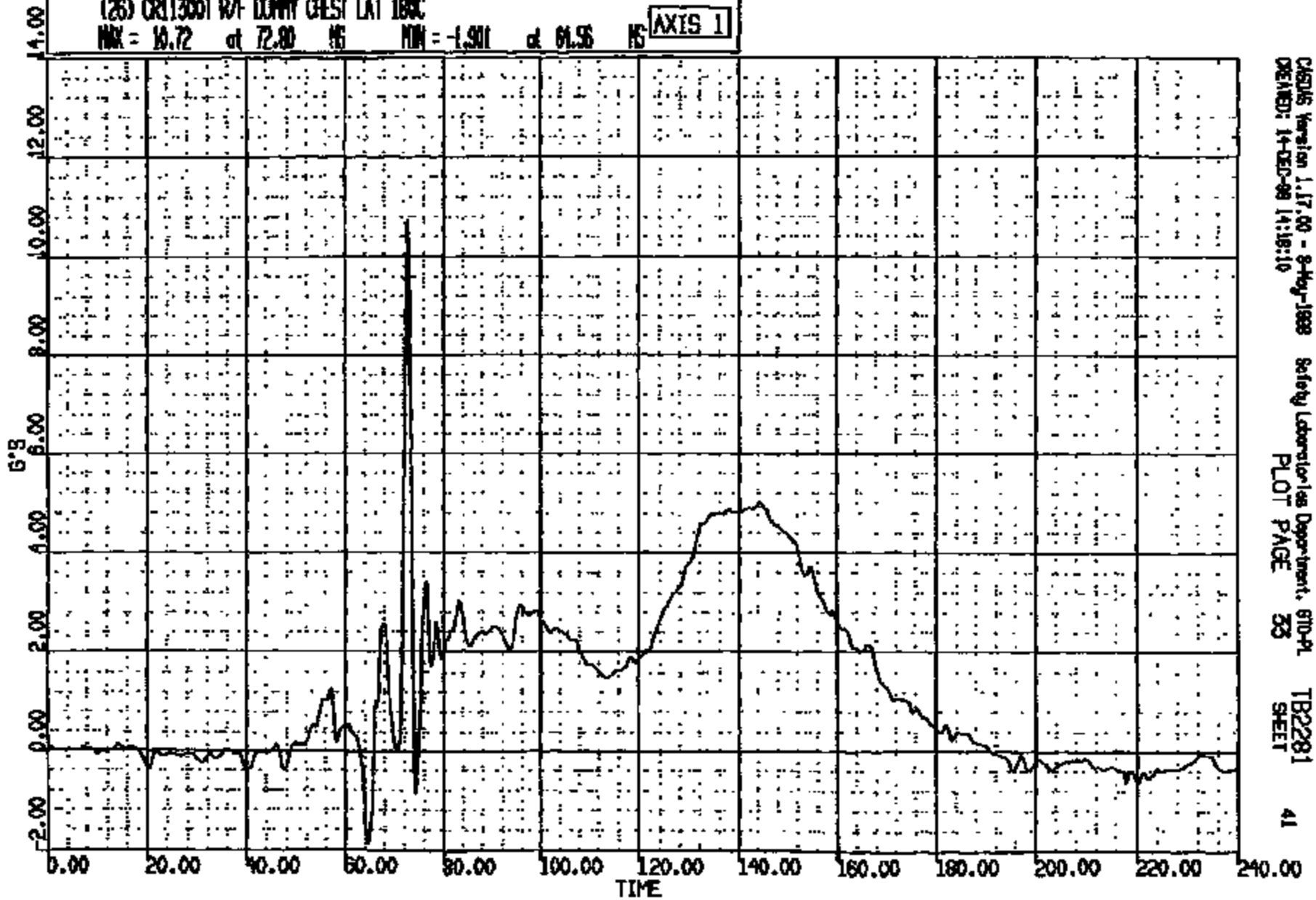
CRSUS Version 1.17.00 - 8-May-1988 Safety Laboratories Department, 610-PL TB2281, 40
CREATED: 14-DEC-88 14:18:08 PLOT PAGE 32 SHEET

CRTS 0011300

CR R# 11500 TO: TB2281 DATE: 981212 09:40:17
200X D-188

(26) CR1300T R/F DUMMY CHEST LAT 180C
NRK = 10.72 at 72.80 NS NRM = -1.901 at 61.55 NS

AXIS 1



CRSIS Version 1.17.00 - 8-May-1998
CREATED: 14-DEC-98 14:18:10

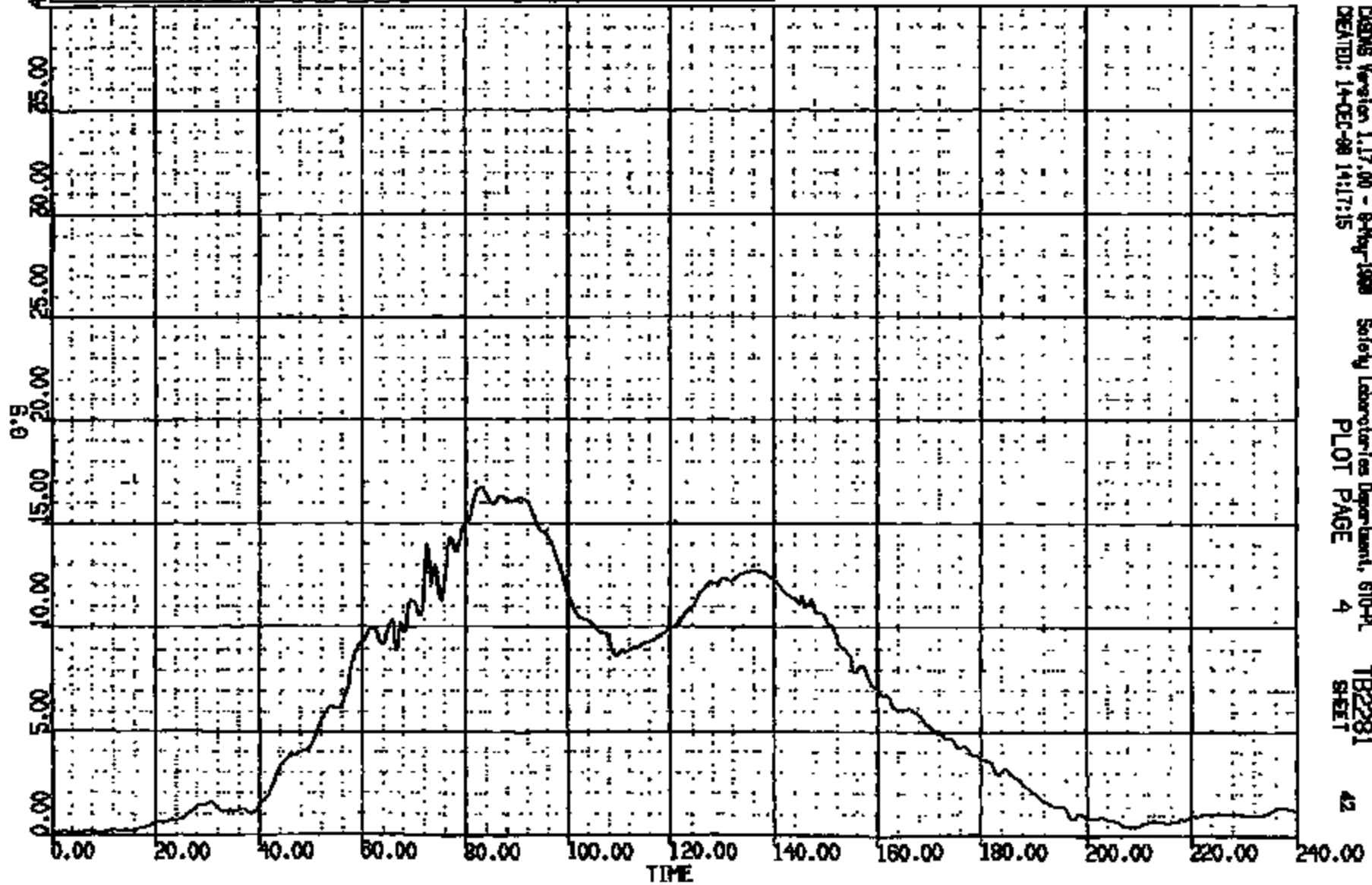
Safety Laboratories Department, 810-PL
PLOT PAGE 53

TB2281
SHEET

CRTS 0011300

CR N: 11500 TO: TB2281 DATE: 861212 09:40:17
200X D-188
CUMDUR = 18.287 Duration time = 2.9878

(10011) ORL13001 R/F DUMMY CHEST RES 180C
MAX = 16.74 at 85.01 MS MIN = 0.988E-01 at 9.280 MS **AXIS 1**



CRMS Version 1.17.00 - 8-May-1988 Safety Laboratories Department, SIO-PL
CREATED: 14-DEC-88 14:17:15 PLOT PAGE 4 TB2281
SHEET 42

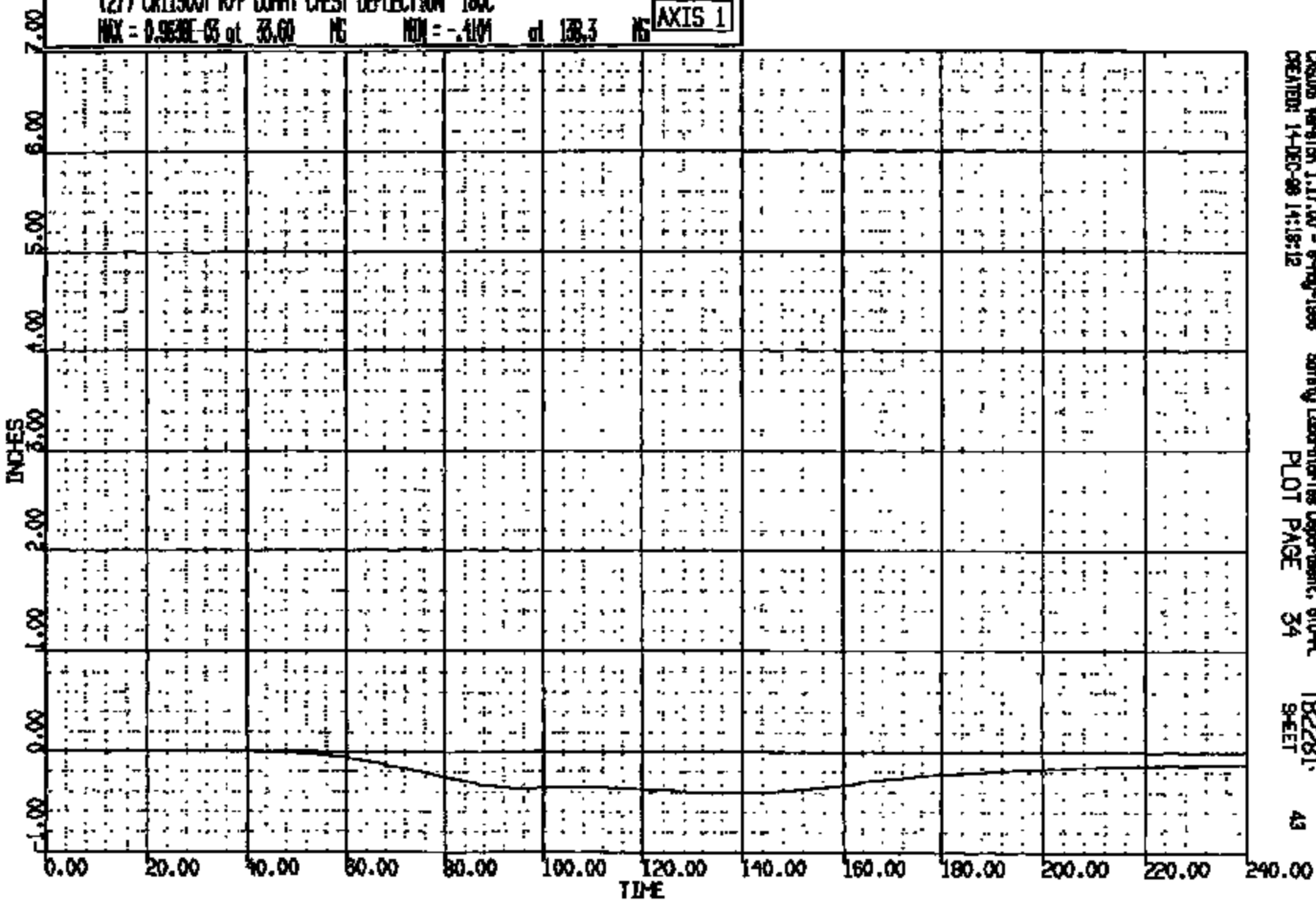
CRTS 0011300

CR R: 11500 TO: TB2281 DATE: 861218 09:40:17
BOOK D-100

(27) CR113001 R/F CUNNY CHEST DEFLECTION 180C

MAX = 0.9639E-05 at 33.00 MS MIN = -.4101 at 133.3 MS

AXIS 1



CASUS Version 1.17.00 - 6-May-1988
CREATED: 14-DEC-88 14:18:12

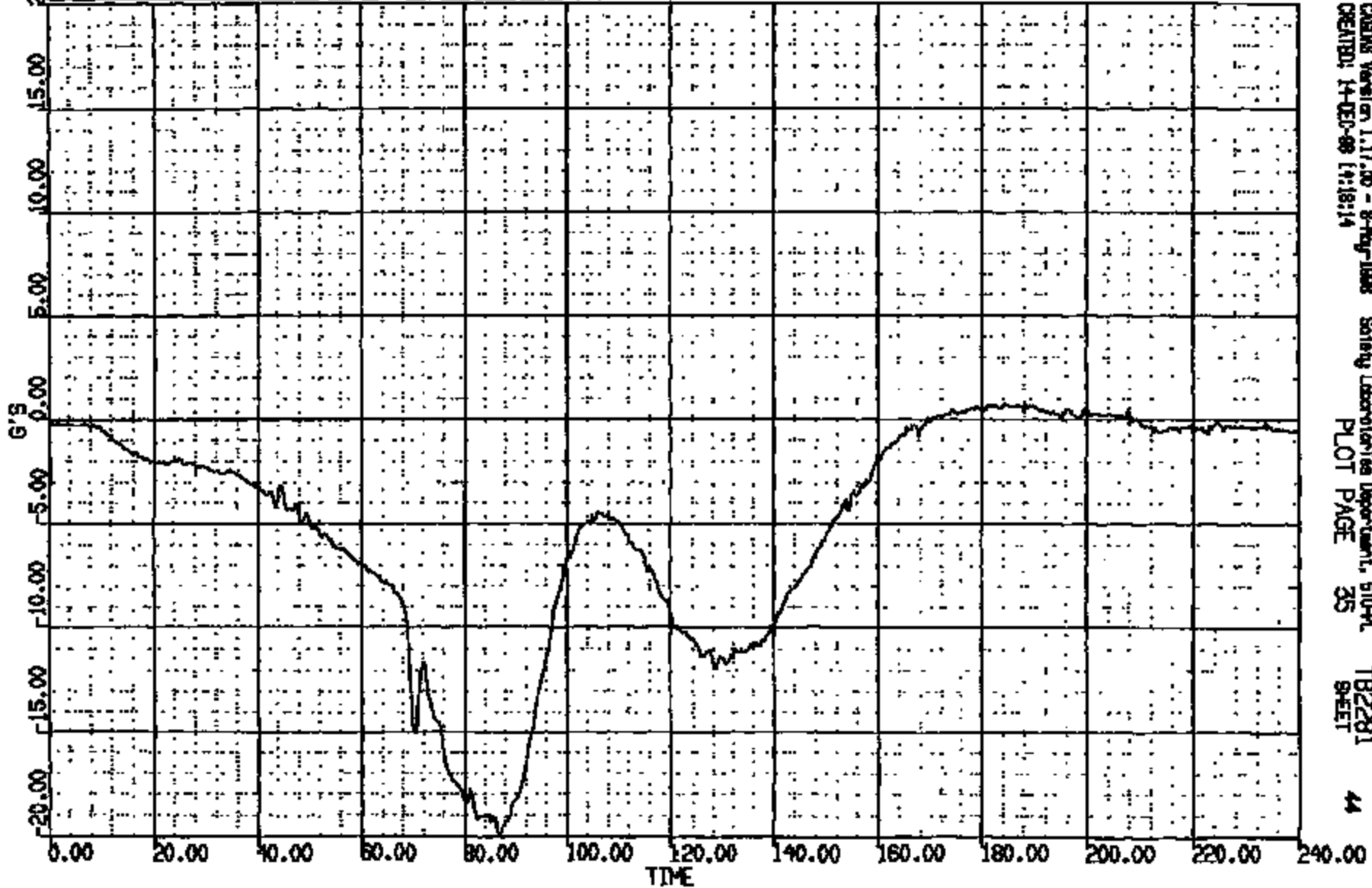
Safety Laboratories Department, 810-PL
PLOT PAGE 34

TB2281
SHEET

CRIS 0011300

CR R: 11500 TO: TB2281 DATE: 961212 09:40:17
200X D-128

(28) ORL13001 RVF DUMMY PELVIS LONG 1000C
MAX = 0.7857 at 188.2 MS MIN = -19.92 at 85.61 MS AXIS 1



CADDS Version 1.17.00 - 8-Aug-1998 Safety Laboratories Department, 510-9L TB2281 44
CREATED: 14-DEC-98 14:18:14 PLOT PAGE 35 SHEET

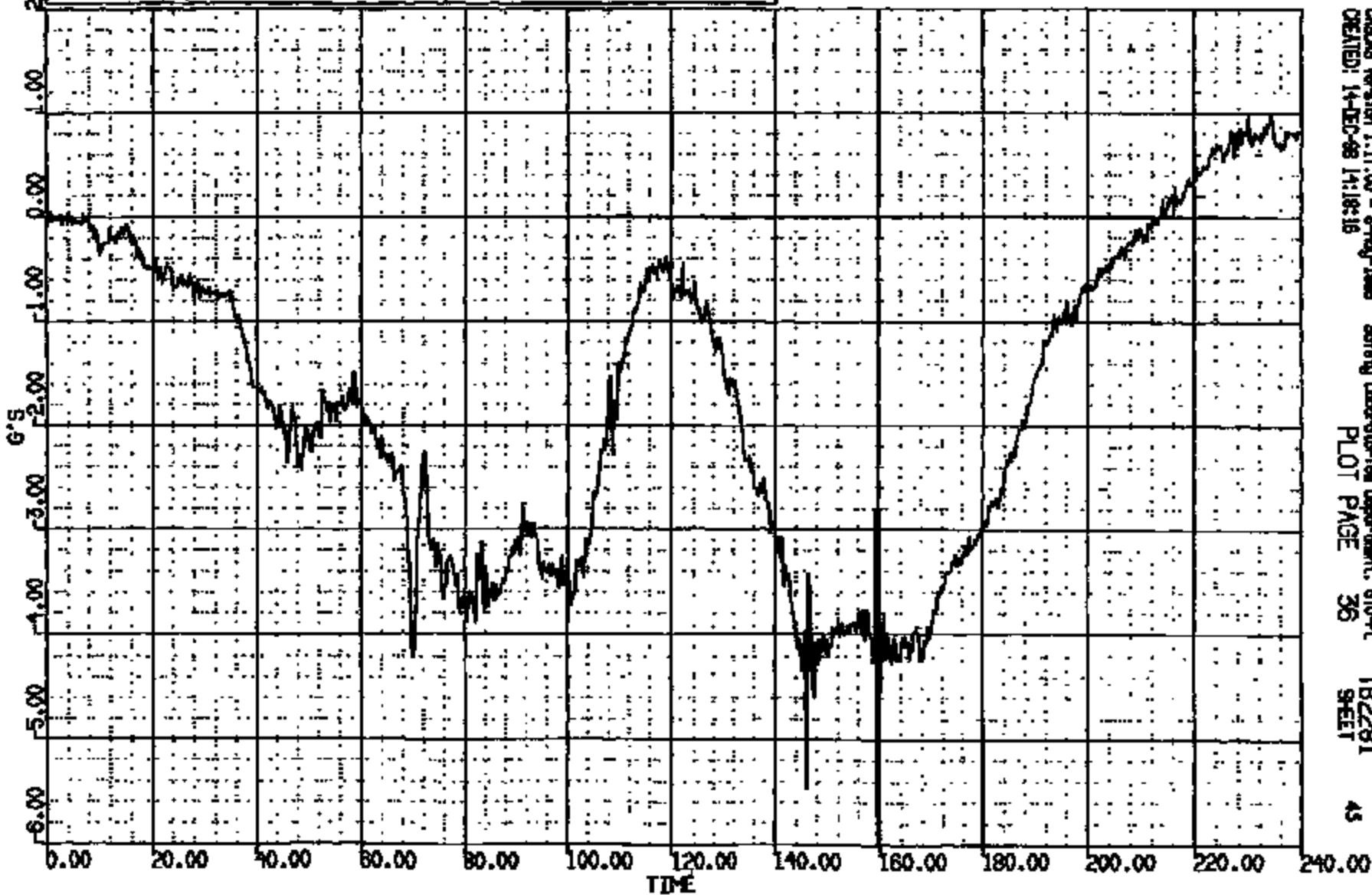
CRTS 0011300

CR R: 11500 TO: TB2281 DATE: 881212 09:40:17
200X D-199

(29) CR1300T R/F CUMY PELVIS VERT 1000C

MAX = 0.9889 at 271.2 MS MIN = -5.990 at 158.6 MS

AXIS 1



CRS Version 1.17.00 - 8-May-1988
CREATED: 14-DEC-88 14:18:16

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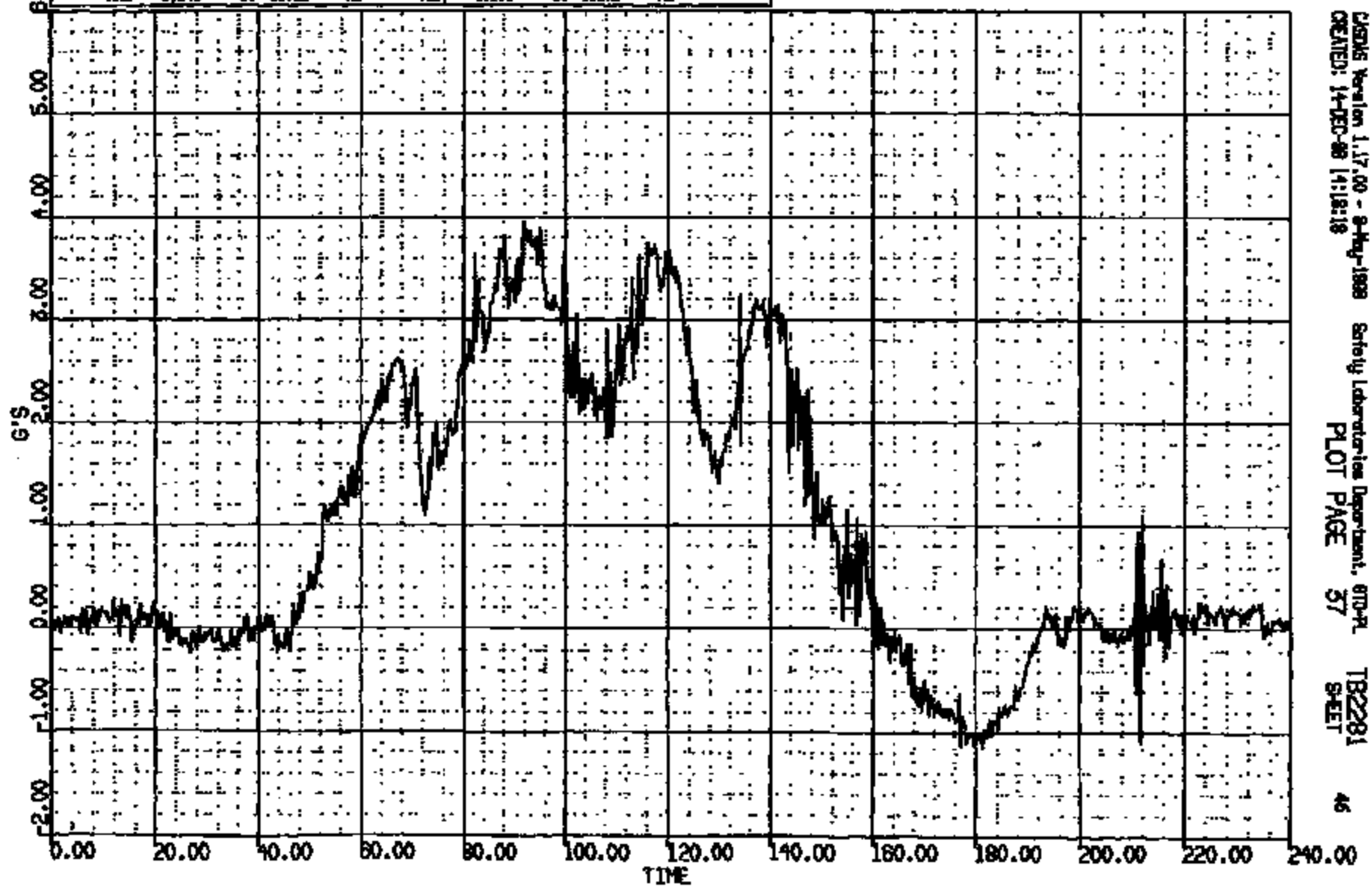
TB2281
SHEET 43

CRIS 0011300

CR R: 11500 TO: TB2281 DATE: 881218 09:40:17
200X D-168

(30) CR1300T R/F DUMMY PELVIS LAT 100C
MAX = 3.946 at 91.92 NS MIN = -1.151 at 181.2 NS

AXIS 1

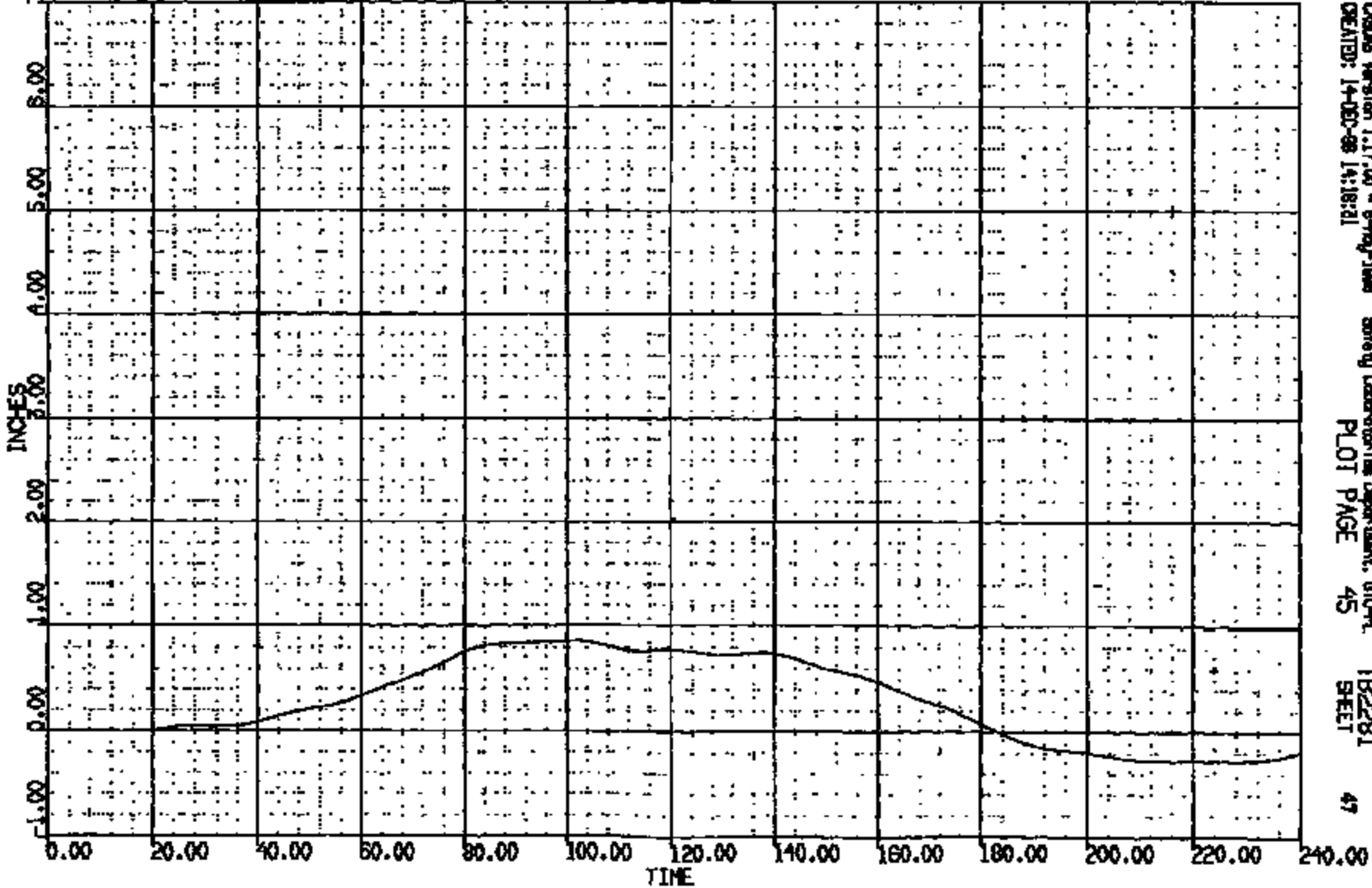


USDS Version 1.17.00 - 8-May-1988 Safety Laboratories Department, SLM-PL
CREATED: 14-DEC-88 14:18:18 PLOT PAGE 57 TB2281 46
SHEET

CRTS 0011300

DR R: 11500 TO: TB2281 DATE: 981212 09:40:17
BOOK D-188

(38) CR11300T R/F DUMMY PELVIS S.P. 60C
MAX = 0.8668 at 101.1 MS MIN = -.2730 at 226.6 MS **AXIS 1**



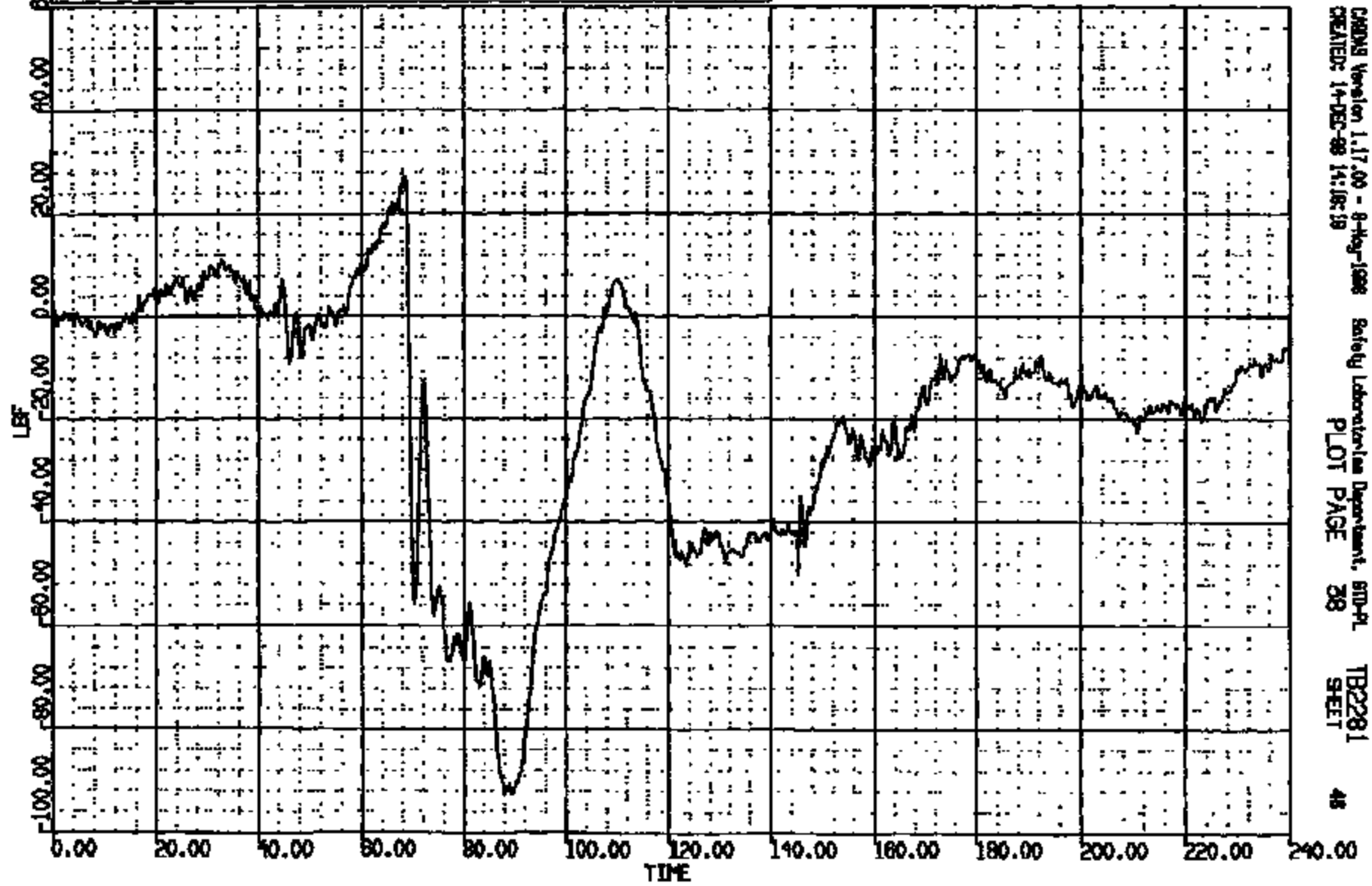
CRS08 Version 1.17.00 - 8-Aug-1999 Safety Laboratory/Im Department, 010-PL
CREATED: 14-DEC-98 14:18:21 PLOT PAGE 45 SHEET 47

CRIS 0011300

CR R: 11500 TO: TB2281 DATE: 881212 09:40:17
BOOK D-188

(31) CR11300T R/F DUMMY LATER LOW FZ 600C
MAX = 27.18 at 68.56 HS MIN = -32.99 at 83.44 HS

AXIS 1



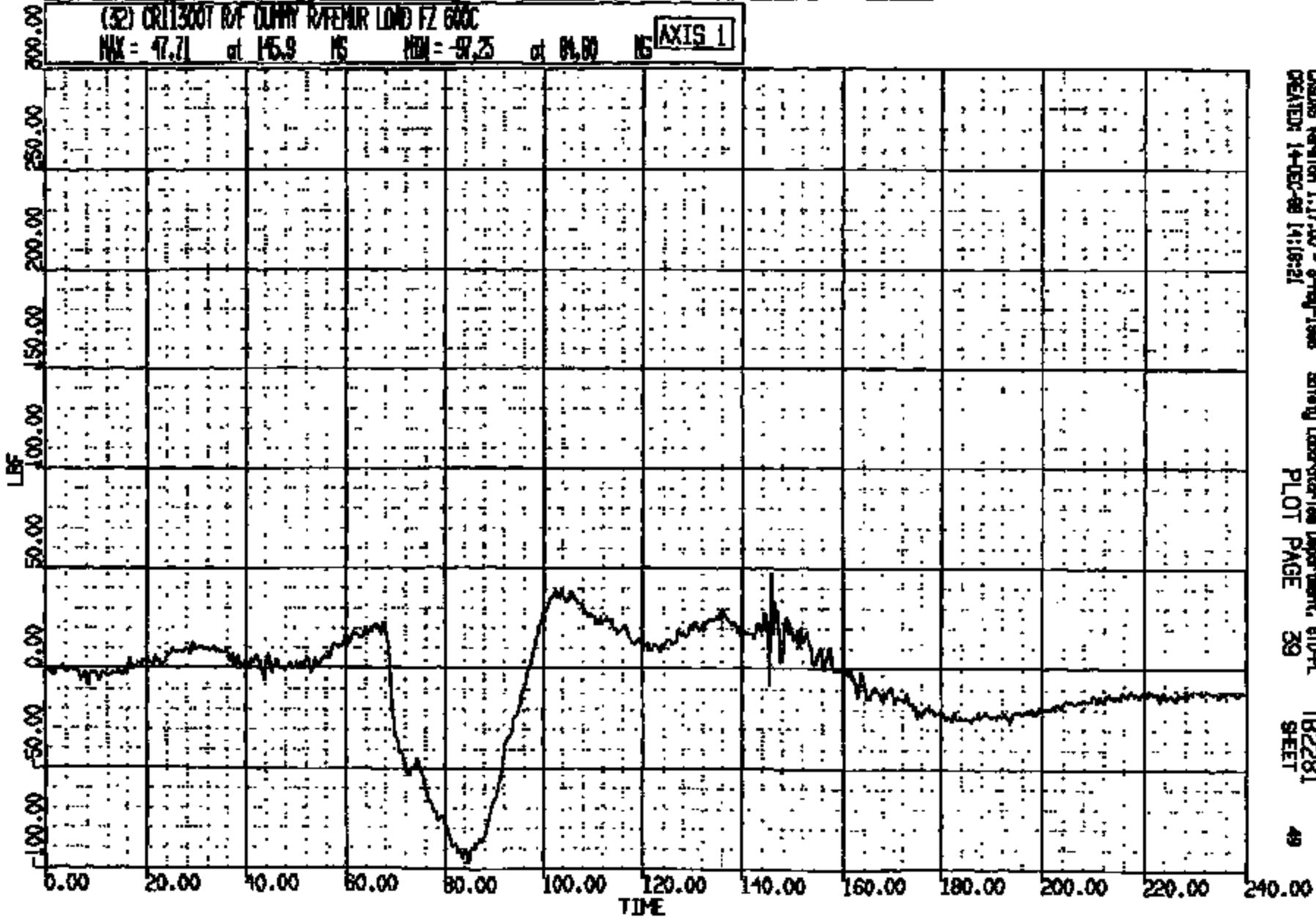
CRANDS Version 1.17.00 - 8-May-1988 Safety Laboratories Department, SIM-PL
CREATED: 14-DEC-88 14:18:19 PLOT PAGE 28 SHEET 48

CR11300

CR R: 11300 TO: T82281 DATE: 981212 09:40:17
200X D-198

(32) CR11300T R/F DUMMY REFERIOR LOAD FZ 600C
MAX = 47.71 at 145.9 MS MIN = -97.25 at 84.00 MS

AXIS 1

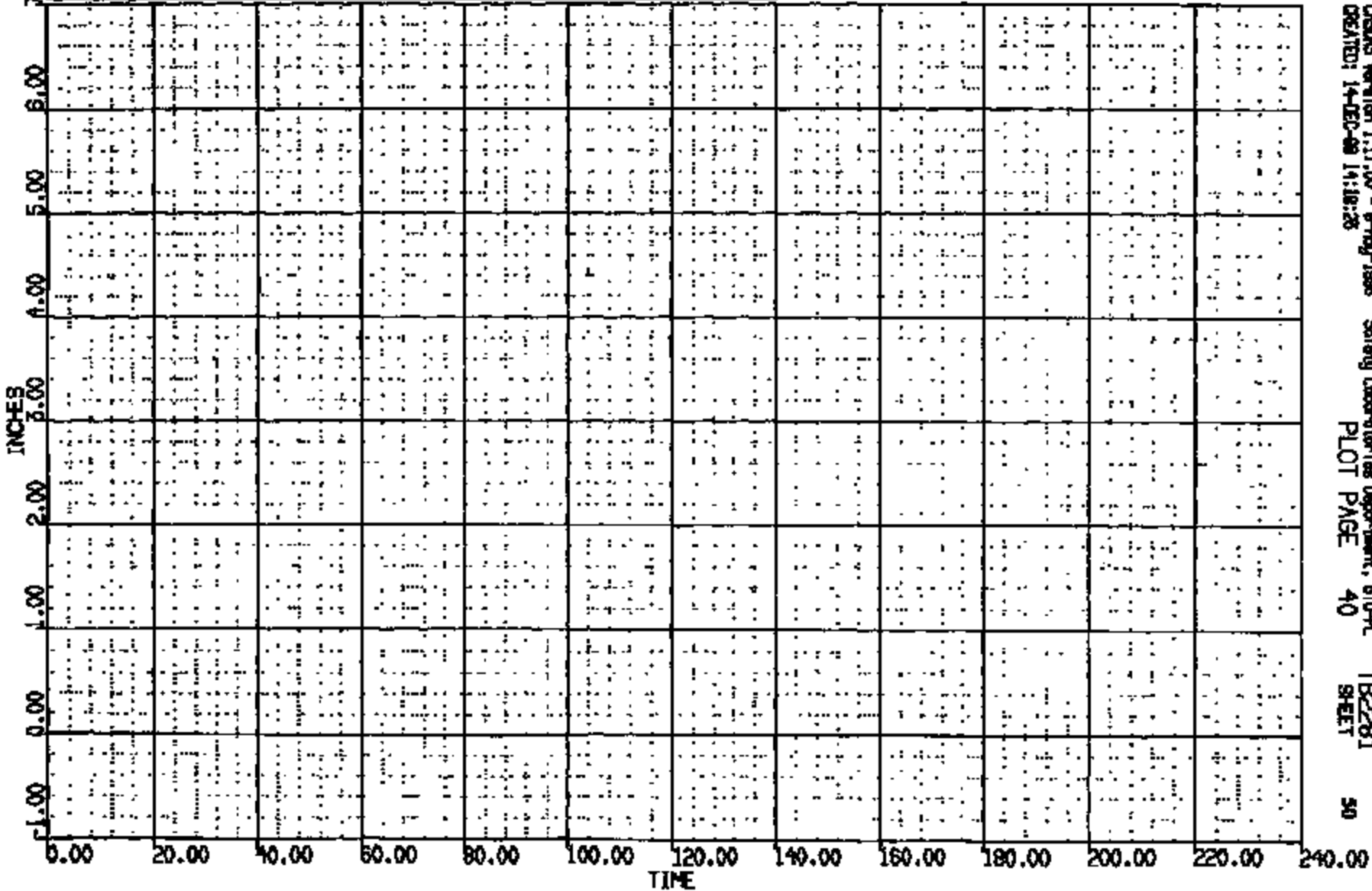


CADDS Version 1.17.00 - 9-May-1998 Safety Laboratories Department, 810-PL TB2281
CREATED: 14-DEC-98 14:16:21 PLOT PAGE 39 SHEET 49

CRIS 0011300

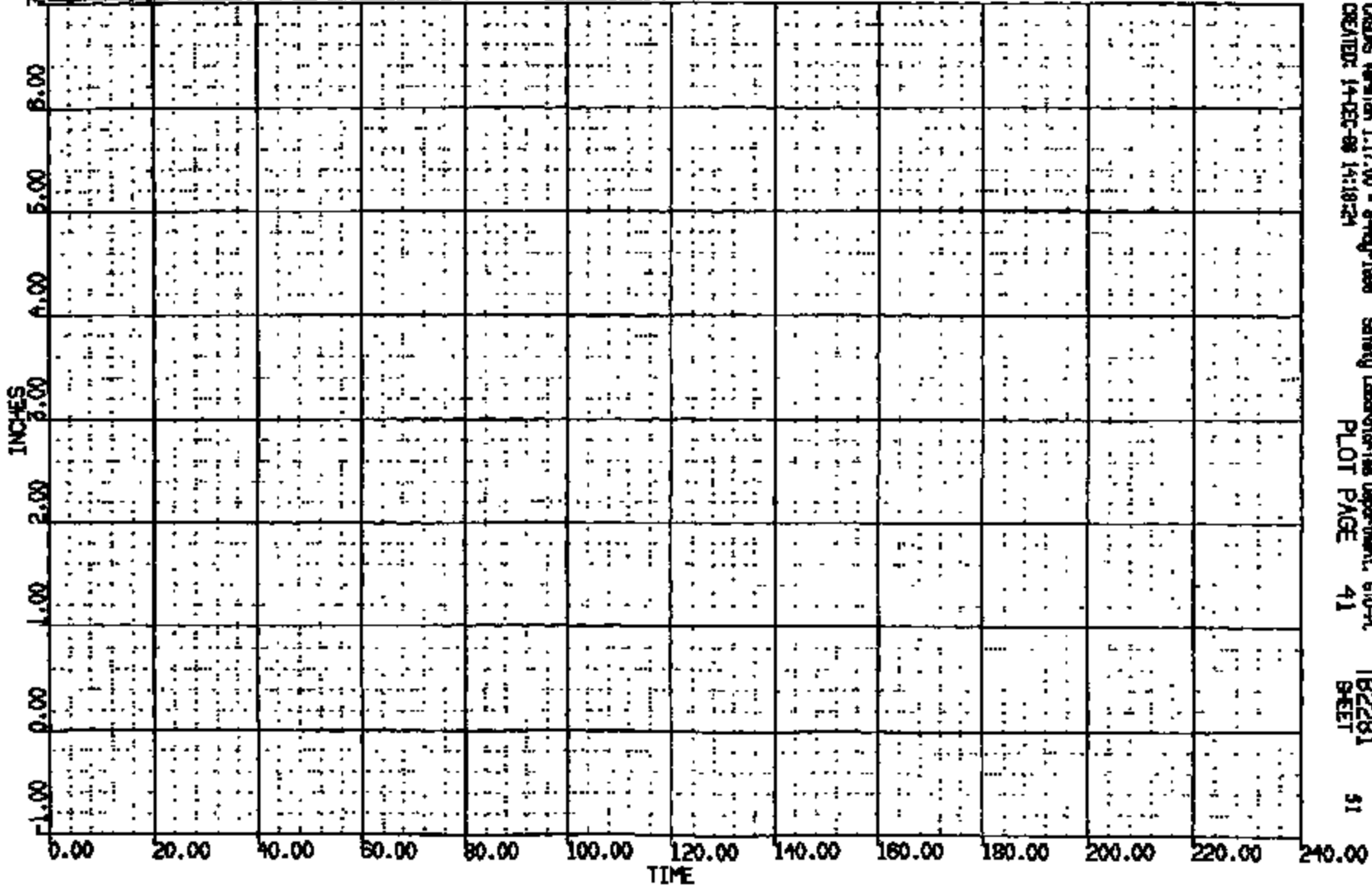
OP R: 11300 TO: TB2281 DATE: 991212 09:40:17
BOOK D-188

(53) CR113001 R/F DUMMY L/KNEE SLIDER (STD) 180C
MAX = 0.5519E-02 at 221.3 MS MIN = -.1020E-02 at 57.01 MS AXIS 1



CR R: 11300 TO: TB2281 DATE: 981212 09:40:17
200X D-188

(34) CR11300T R/F CUNNY RANGE SLIDER (STD) 100C
MAX = 0.1230E-03 at 25.7 NS MIN = -.8590E-03 at 124.6 NS **AXIS 1**



CRS Version 1.17.00 - 8-May-1998
CREATED: 14-DEC-98 14:18:24

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SHEET

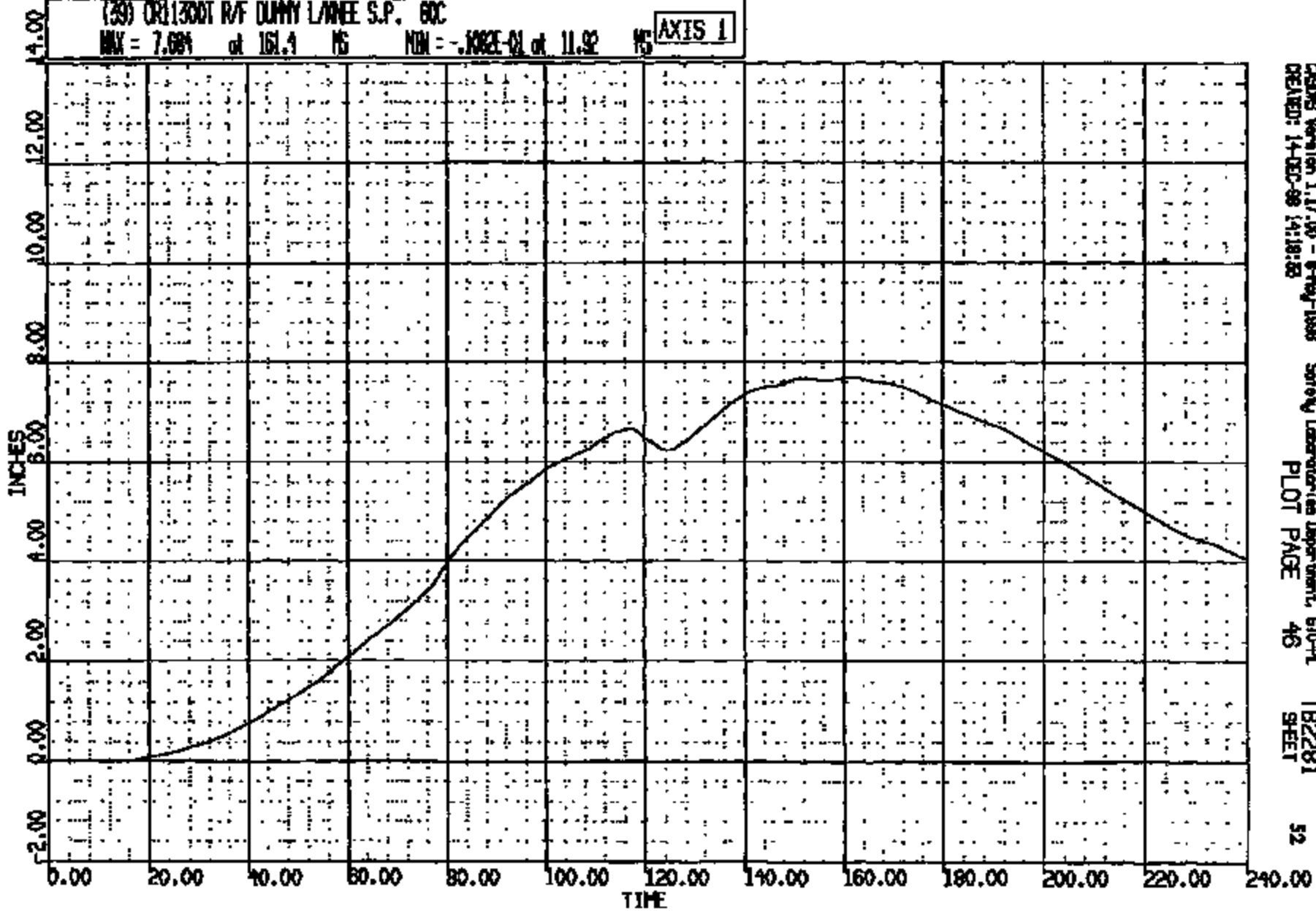
51

CRIS 0011300

CR R: 11300 TO: TB2281 DATE: 881212 09:40:17
NOOX D-180

(39) CR1300T R/F DUMMY L/NEE S.P. 60C
MAX = 7.684 at 161.4 MS MIN = -.1082E-01 at 11.82 MS

AXIS 1



CRS013 Version 1.17.00 - 8-May-1988
CREATED: 14-DEC-88 14:18:58

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SHEET

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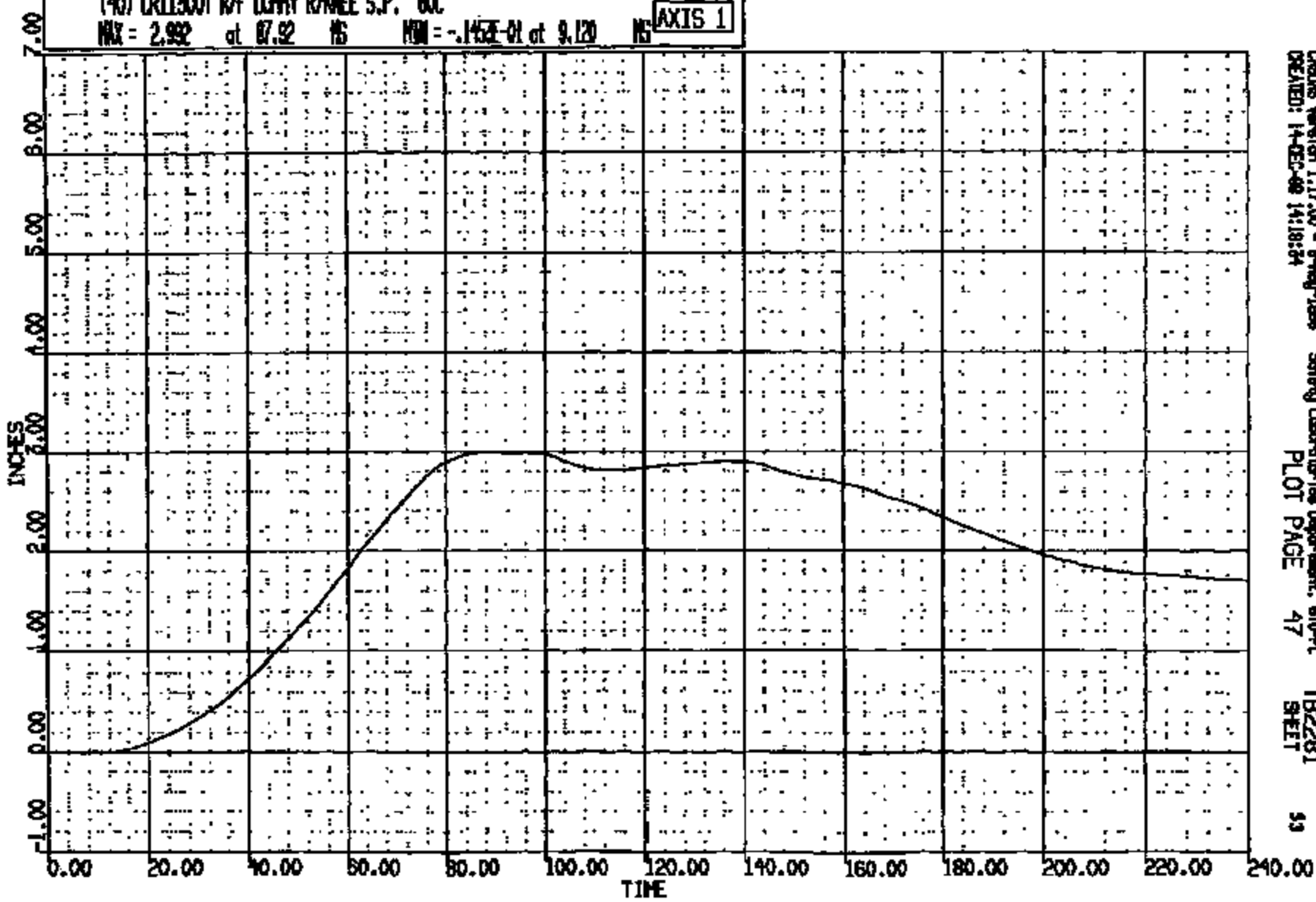
CRIS 0011300

NO: 11500 TO: TB2281 DATE: 861212 09:40:17
NOX: 0-1198

(40) DRILL3001 W/ DUMMY RANGE S.P. 60C

MAX = 2.992 at 87.92 MS MIN = -.1457-01 at 9.120 MS

AXIS 1



CRONUS Version 1.17.00 - 8-May-1988
CREATED: 14-DEC-88 14:18:34

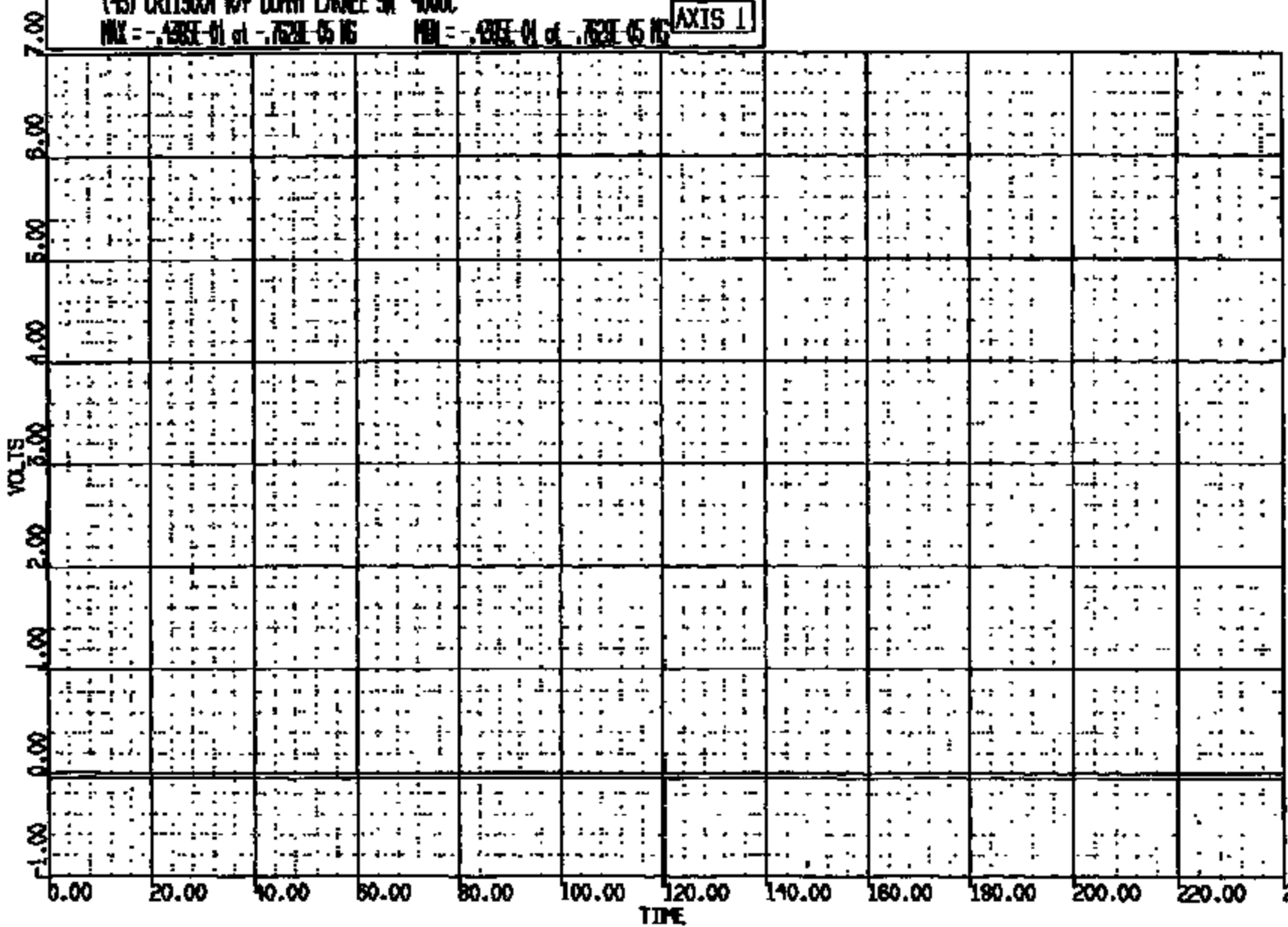
Safety Laboratory Department, 610-91
PLOT PAGE 47

TB2281
SHEET

CR R: 11500 TO: TB2281 DATE: 881212 08:40:17
200X 0-188

(45) CRT1300 WAF DUMPY LANCE SH 400C
MAX = -.488E-01 at -.752E-05 NS MIN = -.488E-01 at -.752E-05 NS

AXIS 1



CARDIS Version 1.17.00 - 8-16-1988 Safety Laboratories Department, BFD-PL TB2281
CREATED: 14-DEC-88 14:18:42 PLOT PAGE 52 SHEET 54

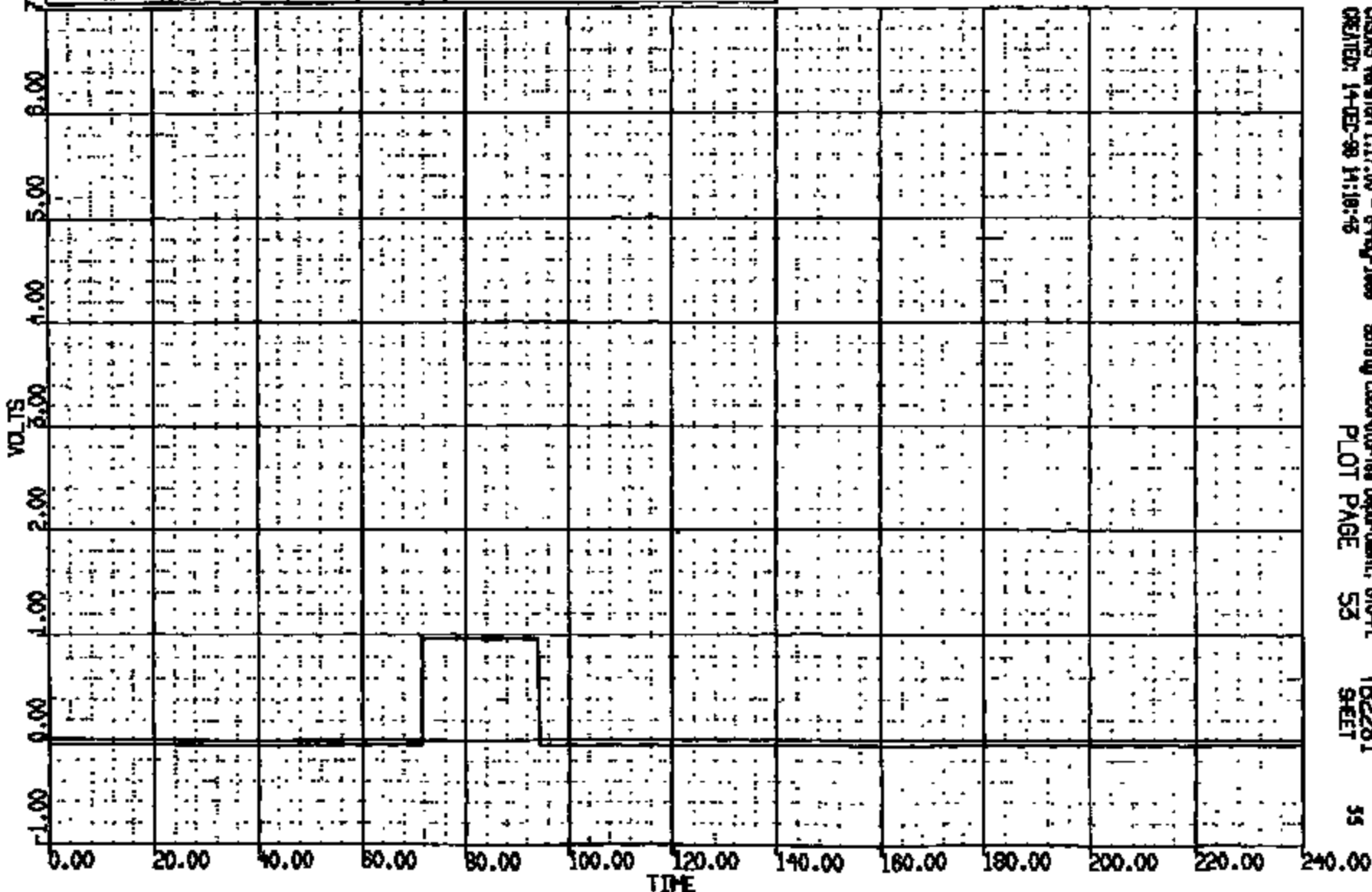
CRTS 0011300

CR N: 11800 TO: TB2281 DATE: 981212 09:40:17
200X D-188

(46) CR11300T R/F CUMY RAMEE SH 4000

MAX = 0.9570 at 71.70 NS MIN = -.485E-01 at -.762E-05 NS

AXIS 1



CASIMS Version 1.17.00 - 8-May-1999
CREATED: 14-DEC-98 11:18:45

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PLOT PAGE 53

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SHEET

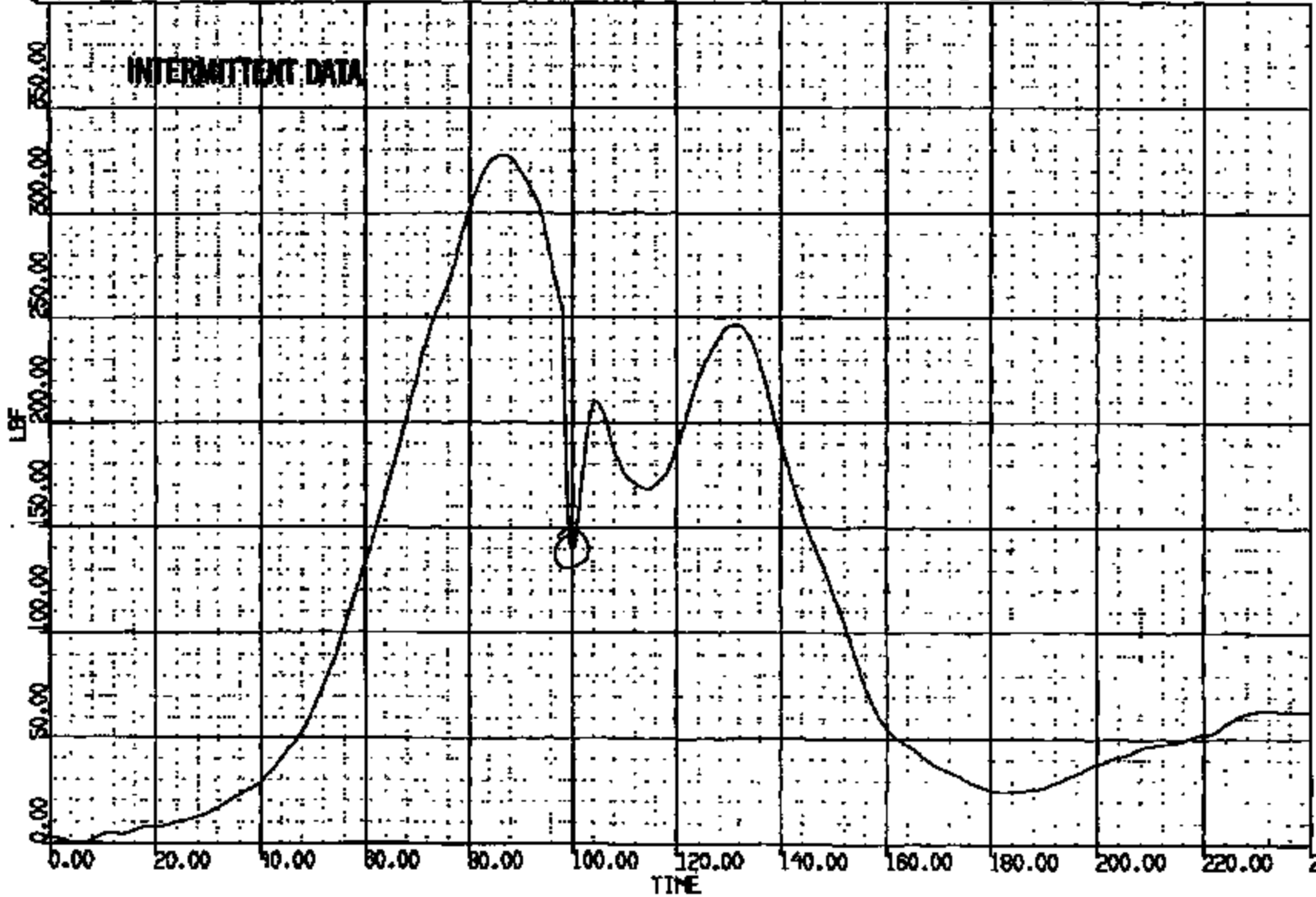
55

CR11300 0011300

DDP #: 11800 TO: TB2281 DATE: 081212 08:40:17
BOOK 0-188

(42) CR11300Y R/F LAP BELT @ ANCHOR GOC
MAX = 327.3 at 85.48 MS MIN = 0.4760 at 6.160 MS **AXIS 1**

ANOMALY KEY:
W - Histogram data exceeded full scale
B - Histogram data 25% of full scale
A - All data < 15% of full scale
S - 21 percent offset at I-zero

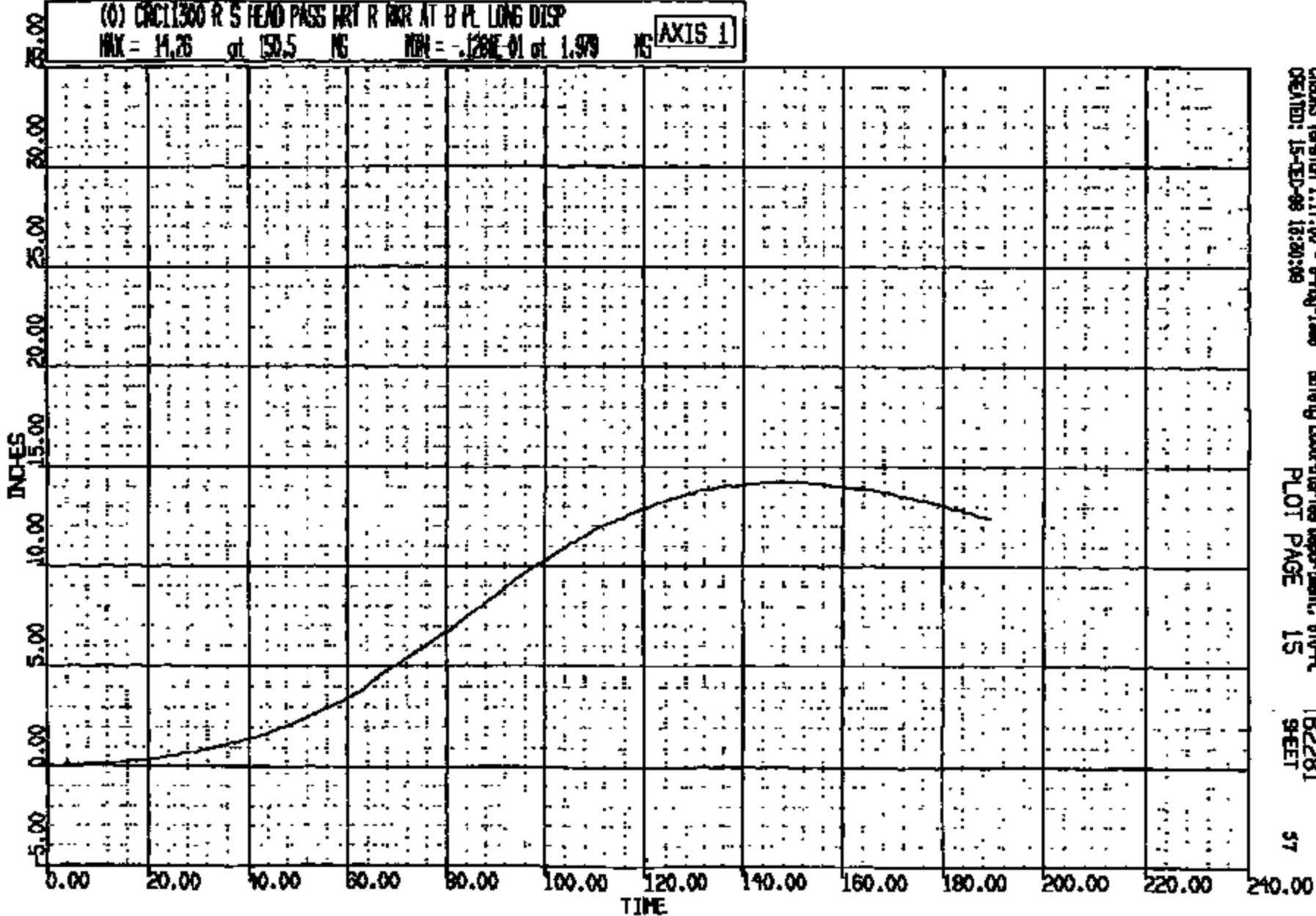


CASMS Version 1.17.00 - 8-May-1988 Safety Laboratories Department, 810-PL TB2281
CREATED: 14-DEC-98 14:18:28 PLOT PAGE 49 SHEET 56

CRIS 0011300

CR R: 11500 TO: TB2281 DATE: 951212 09:40:17
200X D-198

(0) CIRC1300 R S HEAD PASS WRT R RWR AT B PL LONG DISP
MAX = 11.26 at 150.5 MS MIN = -.128E-01 at 1.979 MS **AXIS 1**



CASIMS Version 1.17.00 - 04-Aug-1989
CREATED: 15-SEP-89 12:20:39

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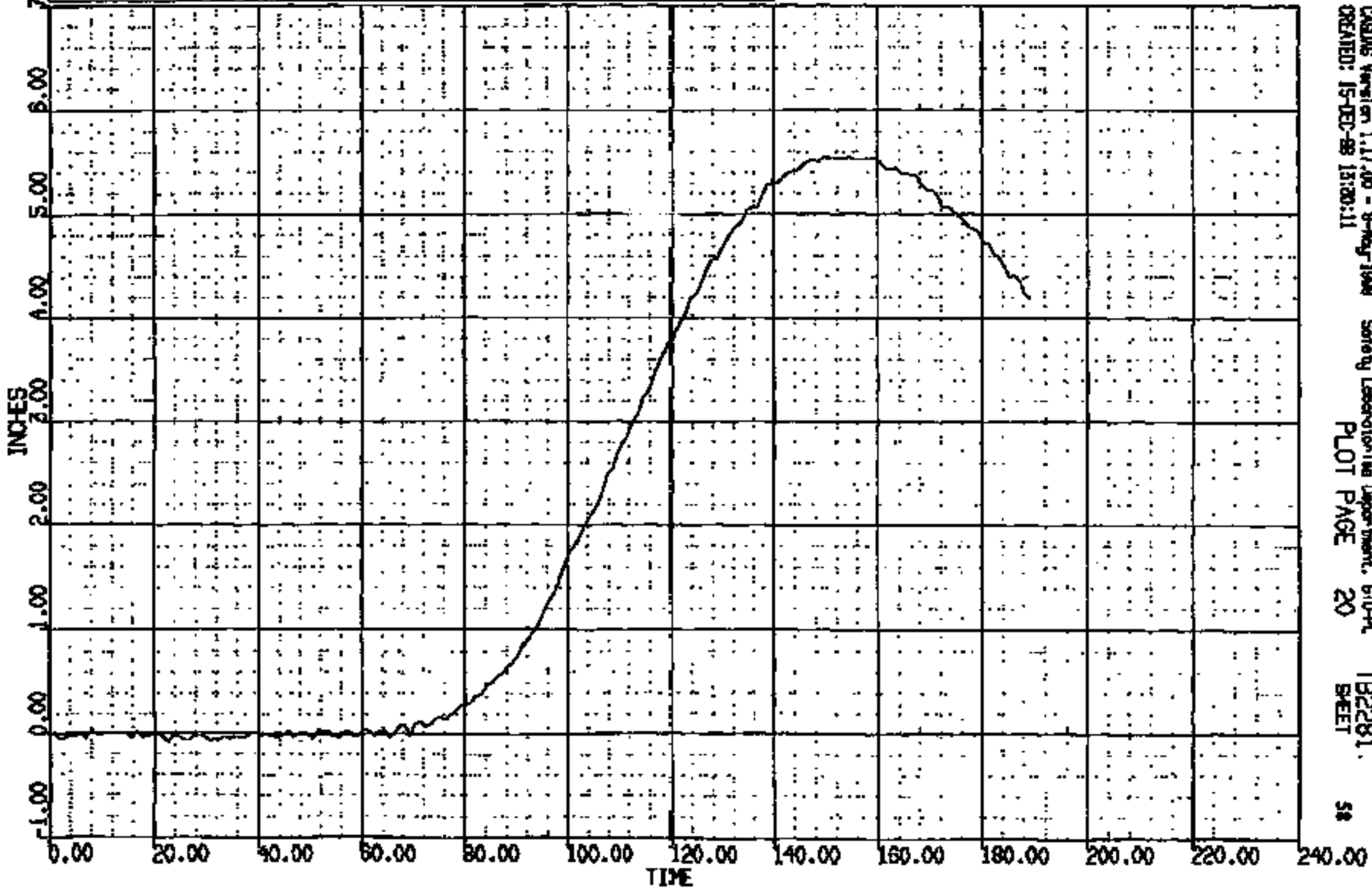
CRTS 0011300

CR R: 11500 TO: T82281 DATE: 981212 08:40:17
BOOK D-186

(0) CMC1300 R S HEAD PASS WRT R DRG AT B PL VERT DISEP

MAX = 5.551 at 154.5 MS MIN = -.8588E-01 at 22.79 MS

AXIS 1

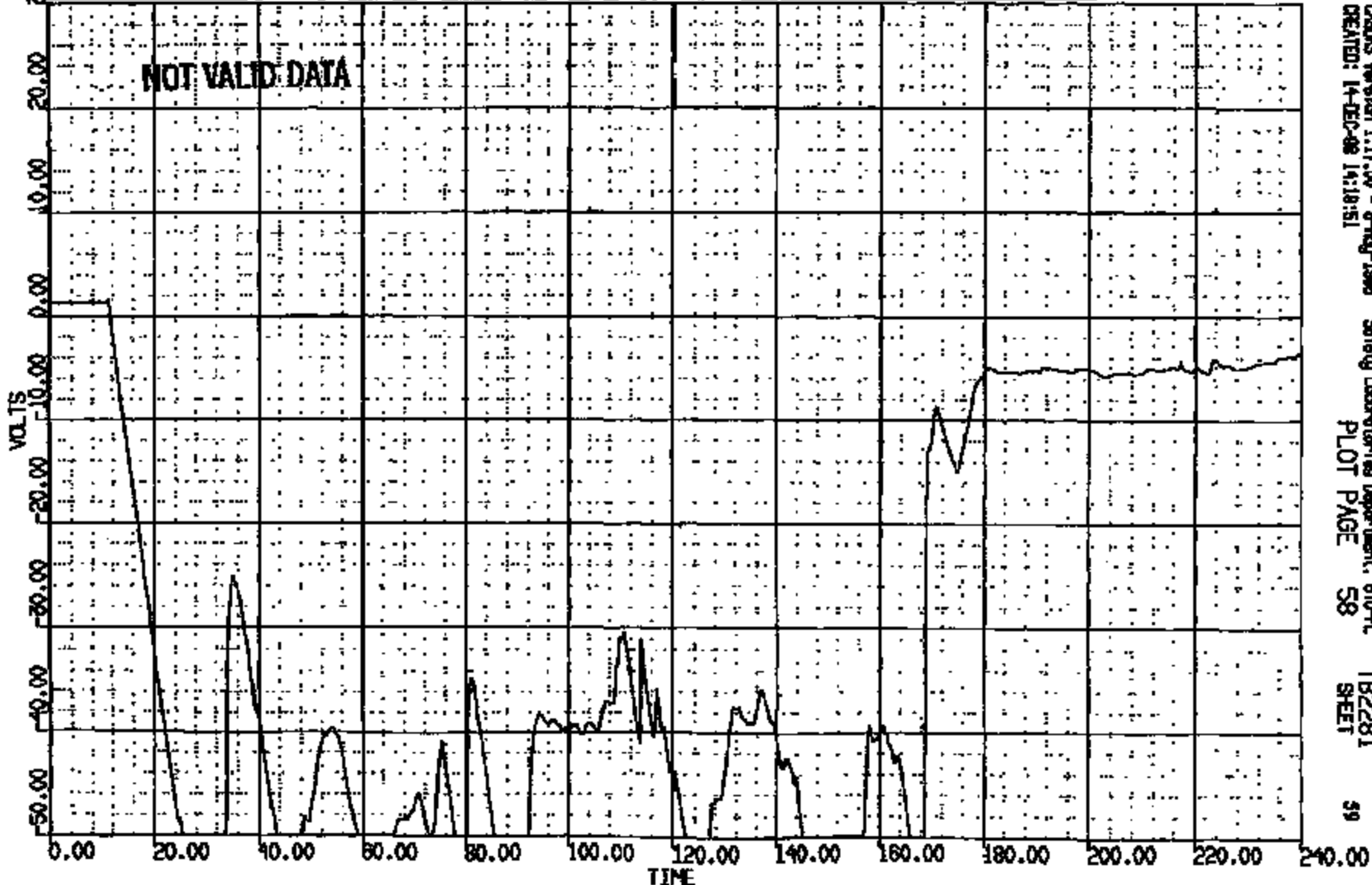


CRTS 0011300

CR #: 11300 TO: TB2281 DATE: 881212 09:40:17
BOOK D-188

(S1) CR11300 DRIVER SOLID VOLTAGE PRI 4000C
MAX = 1.835 at 11.04 MS MIN = -0.38 at 25.41 MS

AXIS 1
MAXIMUM KEYS:
* - Midboard data associated full scale
- Midboard data 250.0% of full scale
@ - All data < 10.0% of full scale
\$ - 21 percent offset of T-zero



CRDS Version 1.17.00 - 8-Aug-1989 Safety Laboratories Department, 810-PL
CREATED: 14-DEC-88 14:18:51
PLOT PAGE 58 SHEET 59

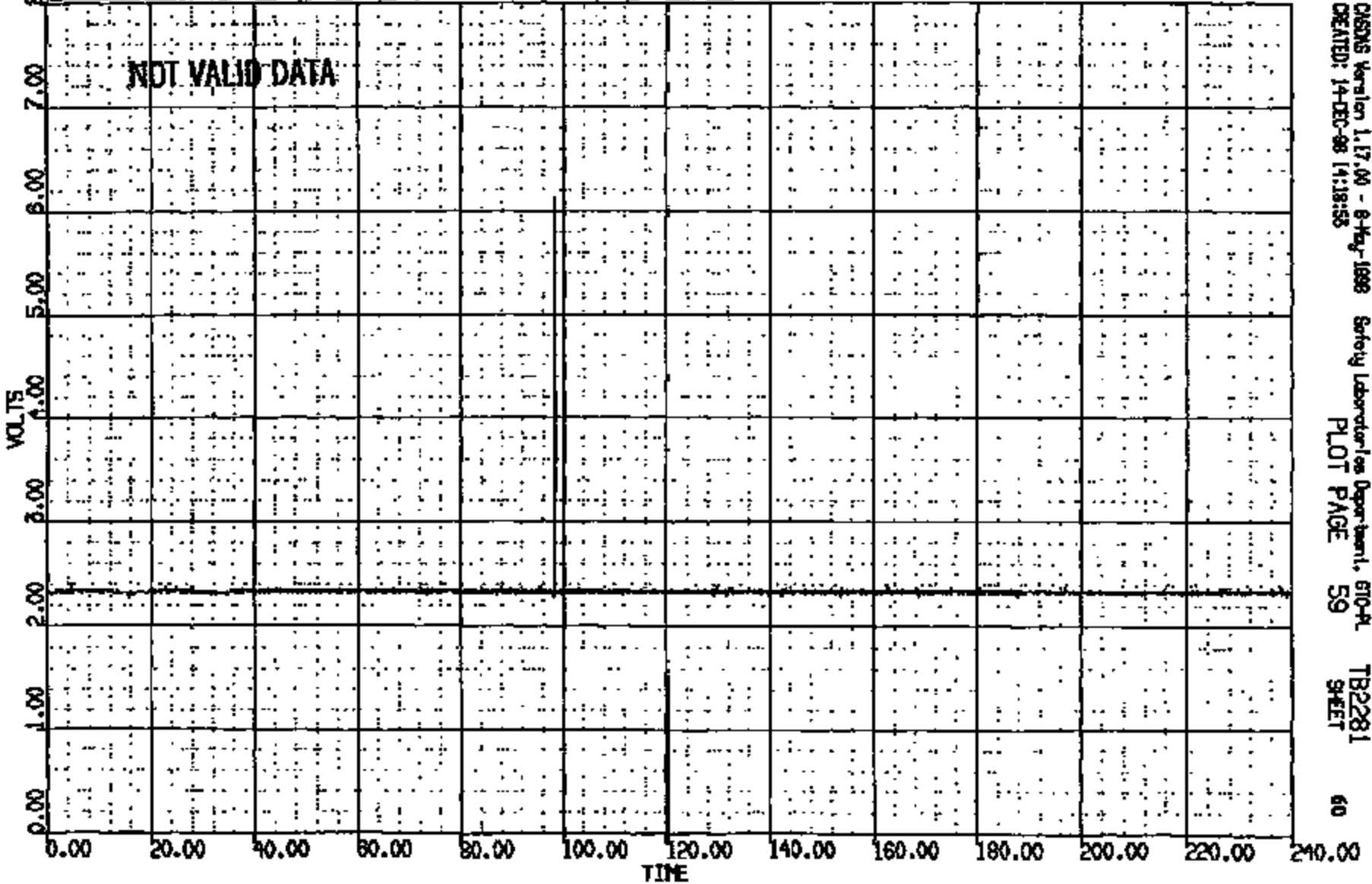
CRTS 0011300

CR R: 11500 TO: TB2281 DATE: 981218 09:40:17
200X D-188

(52) CR11300T DRIVER SOURCE VOLTAGE SEC 4000C

MAX = 6.128 at 98.21 MS MIN = 2.271 at 15.76 MS

AXIS 1



CRSMS Version 1.17.00 - 8-May-1999
CREATED: 14-DEC-98 14:18:55

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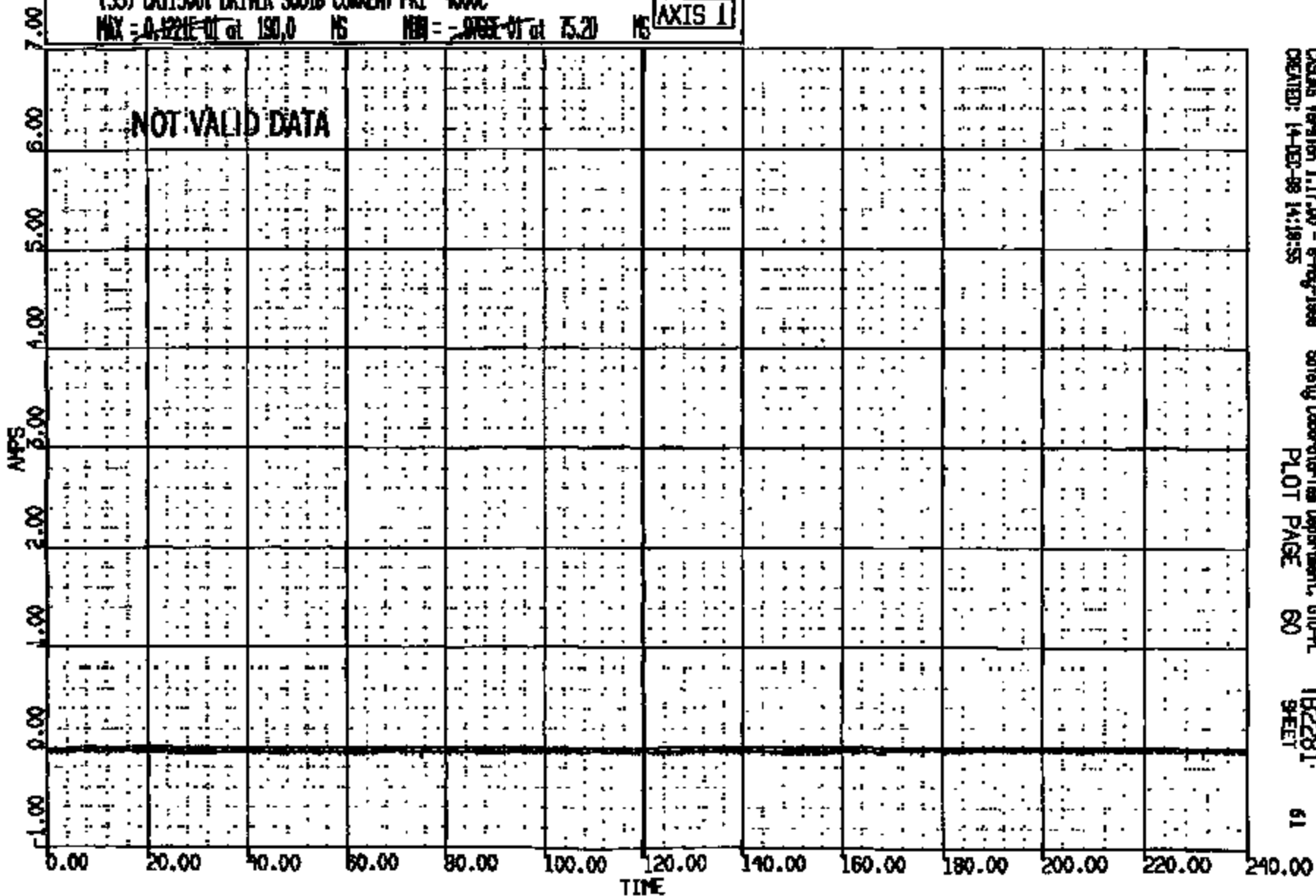
CRIS 0011300

CR R: 11500 TC: TB2281 DATE: 981212 09:40:17
200X D-188

(53) CR11300T DRIVER SOLID CURRENT PRI 400C

MAX = 0.422E-01 at 150.0 MS MIN = -0.003E-01 at 75.20 MS

AXIS 1



CASMS Version 1.17.00 - 8-May-1998
CREATED: 14-DEC-98 14:19:55

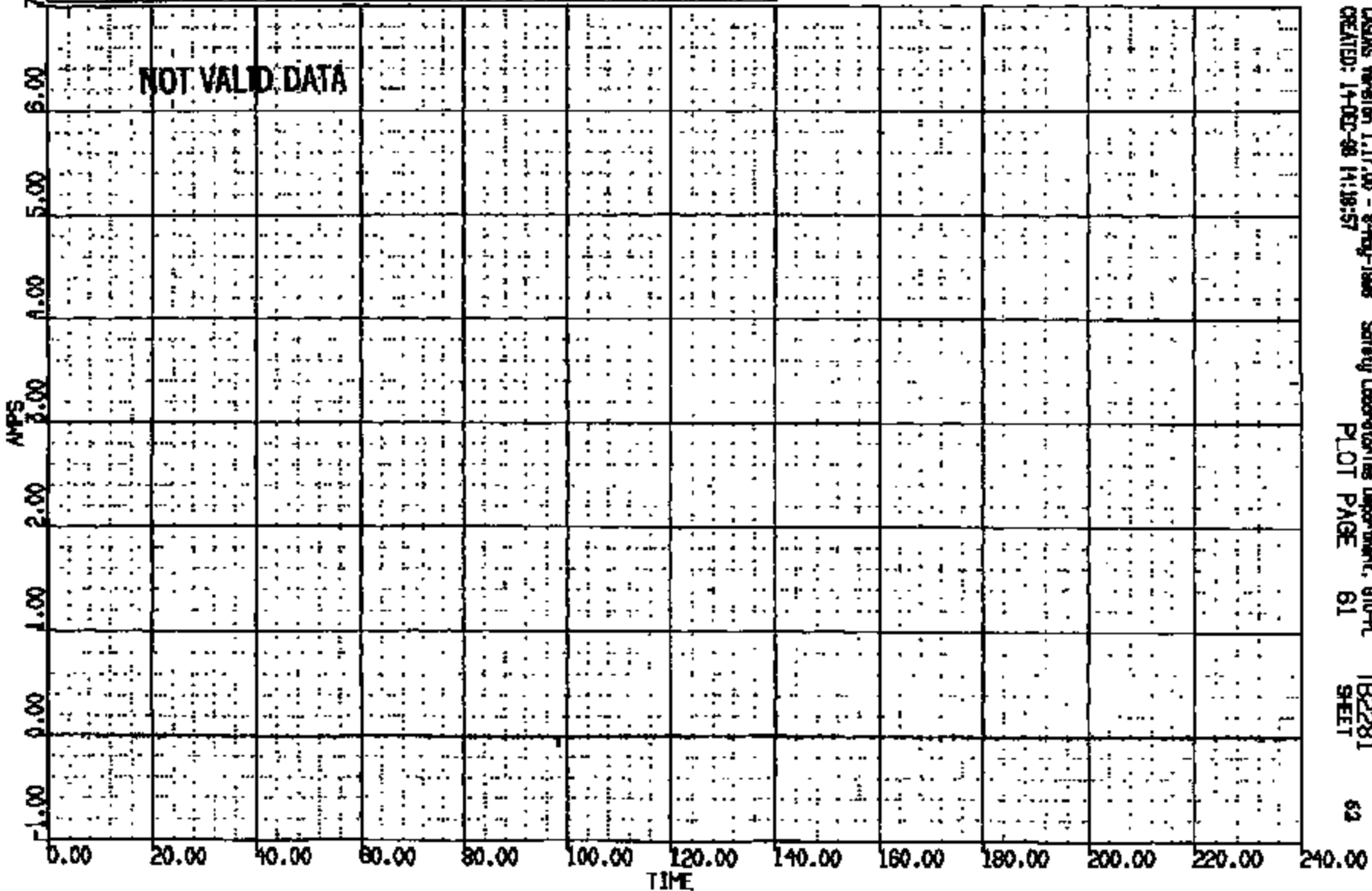
Safety Laboratories Department, G10-PL
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SHEET

CR R: 11500 TO: TB2281 DATE: 961212 09:40:17
200X D-188

(54) CR11300T DRIVER SCOUT CURRENT SEC 4000C
MAX = 0.1224E-01 at 0.5800 MS MIN = -9.769E-01 at 88.24 MS

AXIS 1



CASMS Version 1.17.00 - 8-May-1999
CREATED: 14-DEC-98 14:18:57

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SHEET

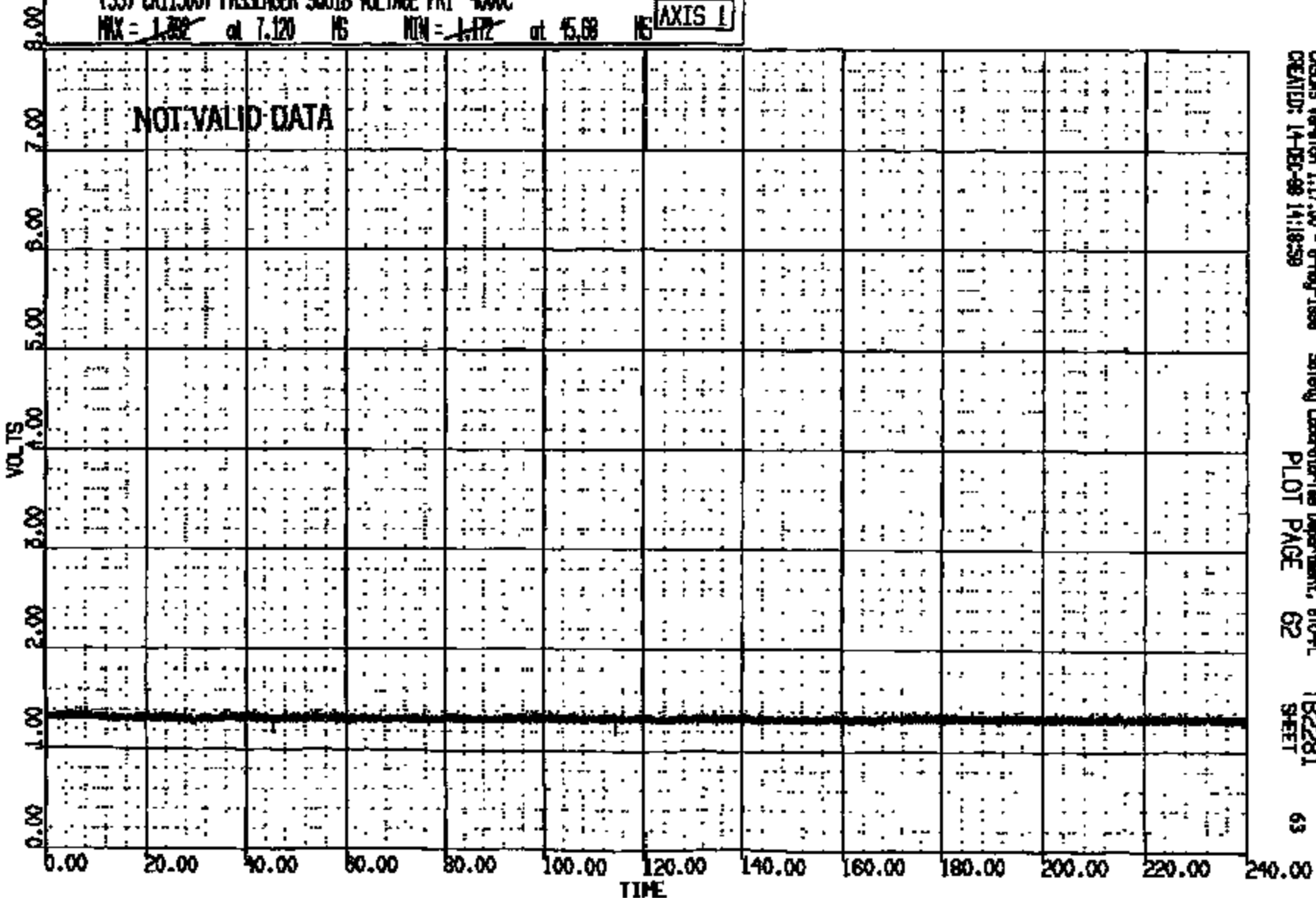
CRTS 0011300

CR R: 11500 TO: TB2281 DATE: 991212 09:40:17
200X D-195

(55) CR11300 PASSENGER SQUIB VOLTAGE PRI 4000C

MAX = ~~1.32~~ at 7.120 NS MIN = ~~1.172~~ at 45.08 NS

AXIS 1



CRMS Version 1.17.00 - 8-May-1998
CREATED: 14-DEC-99 14:18:59

Safety Laboratories Department, 870-F
PLOT PAGE 62

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SHEET

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CRMS 0011300

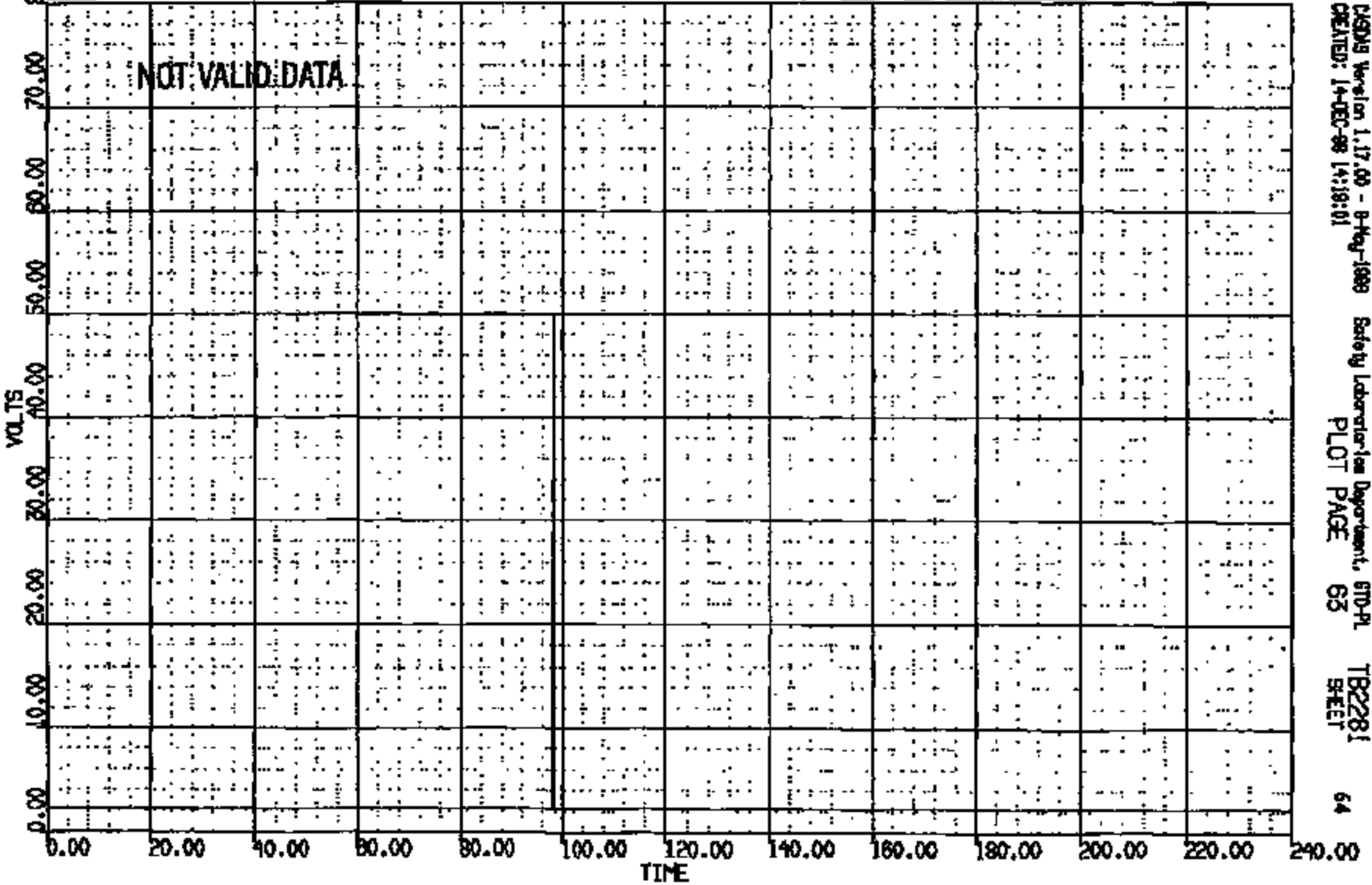
DR R: 11300 TO: TB2281 DATE: 881212 09:40:17
BOOK D-188

(56) CR1300T PASSENGER SQUIB VOLTAGE SEC 4000

MAX = 50.00 at 98.24 IS MIN = 2.148 at 23.28 IS

AXIS 1

GRAPHY KEY:
* - Missing data extended full scale
- Missing data 250.0% of full scale
- All data < 12.0% of full scale
- 21 percent offset at 1.0000



CR1300T Version 1.17.00 - 8-May-1988
CREATED: 14-DEC-88 14:18:01

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SHEET

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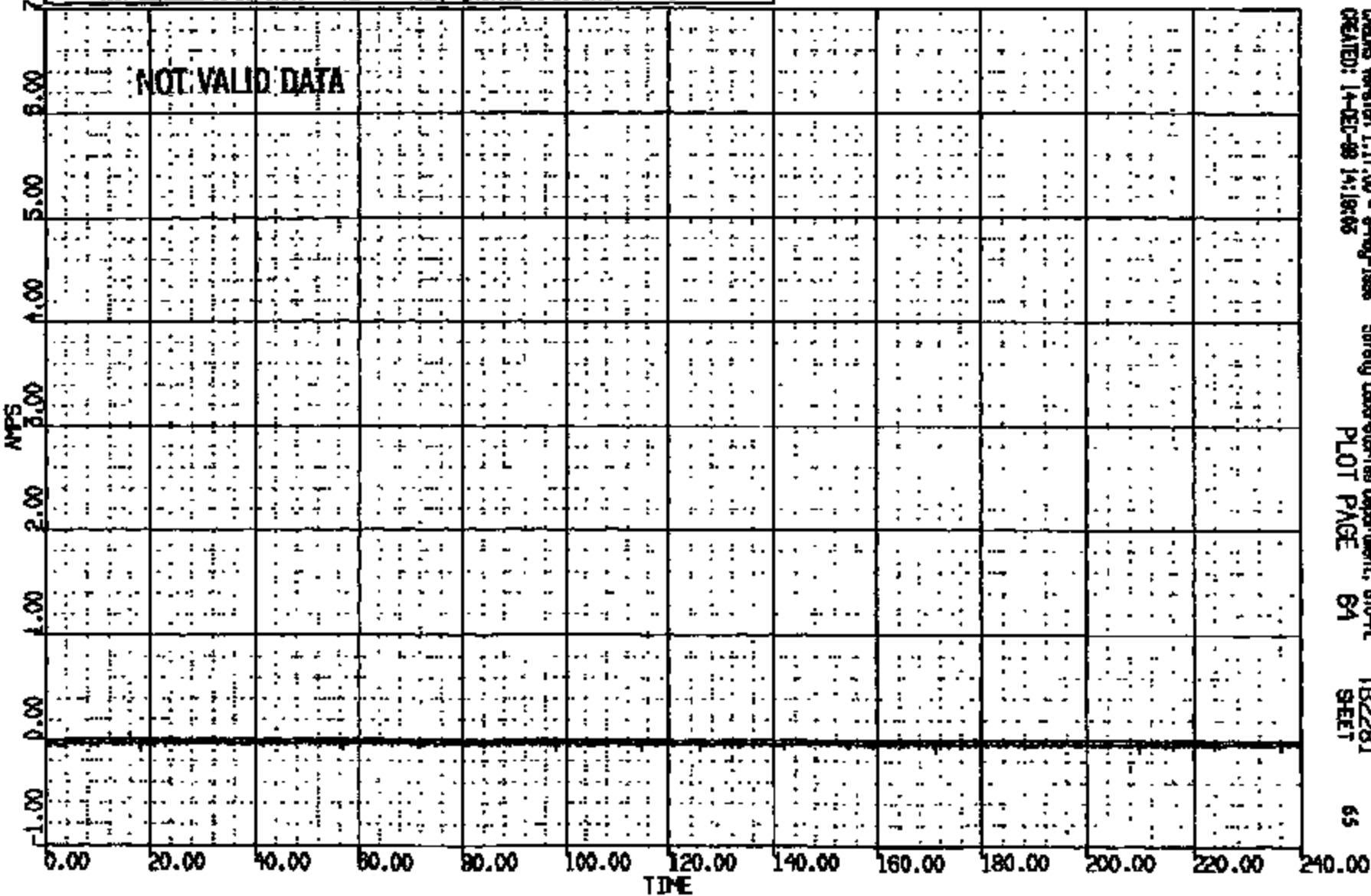
CR1300T 0011300

CR RI 11300 TO: TB2281 DATE: 981212 09:40:17
BOOK D-199

(57) CR11300 PASSENGER SQUIB CURRENT PRI 400C

MAX = 0.1224-01 at 178.6 MS MIN = -0.0000-01 at 18.24 MS

AXIS 1



CADMS Version 1.17.00 - 8-Aug-1998
CREATED: 14-DEC-98 14:18:05

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TB2281
SHEET

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CRTS 0011300

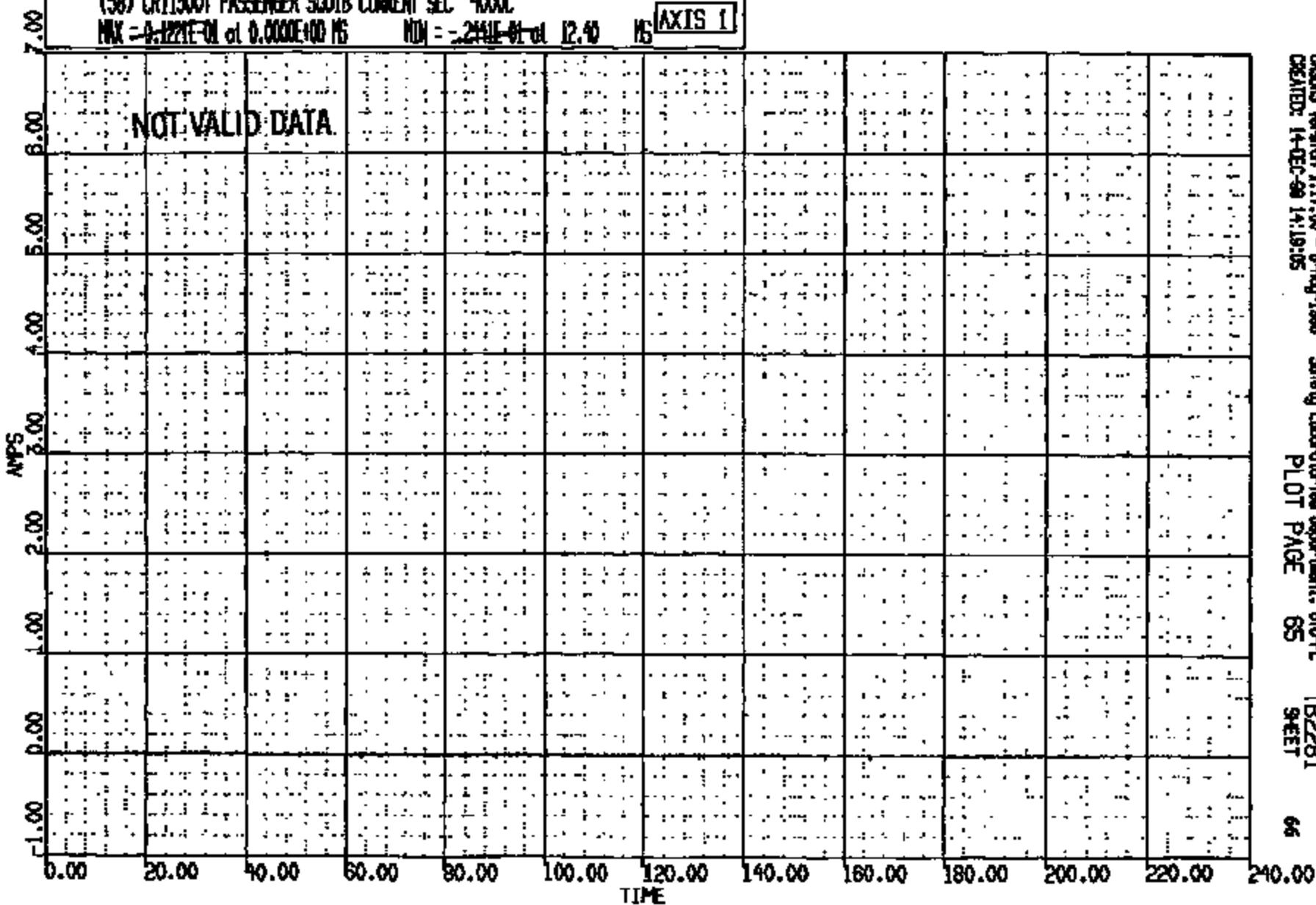
CR R: 11300 TO: TB2281 DATE: 981212 09:40:17
200X D-188

(58) CR11300T PASSENGER SCOUT CURRENT SEC 4000C

MAX = 0.1221E-01 of 0.0000E+00 MS

MIN = -2.241E-01 of 12.40 MS

AXIS 1



CARDUS Version 1.17.00 - 8-May-1998
CREATED: 14-DEC-98 14:19:05

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SHEET

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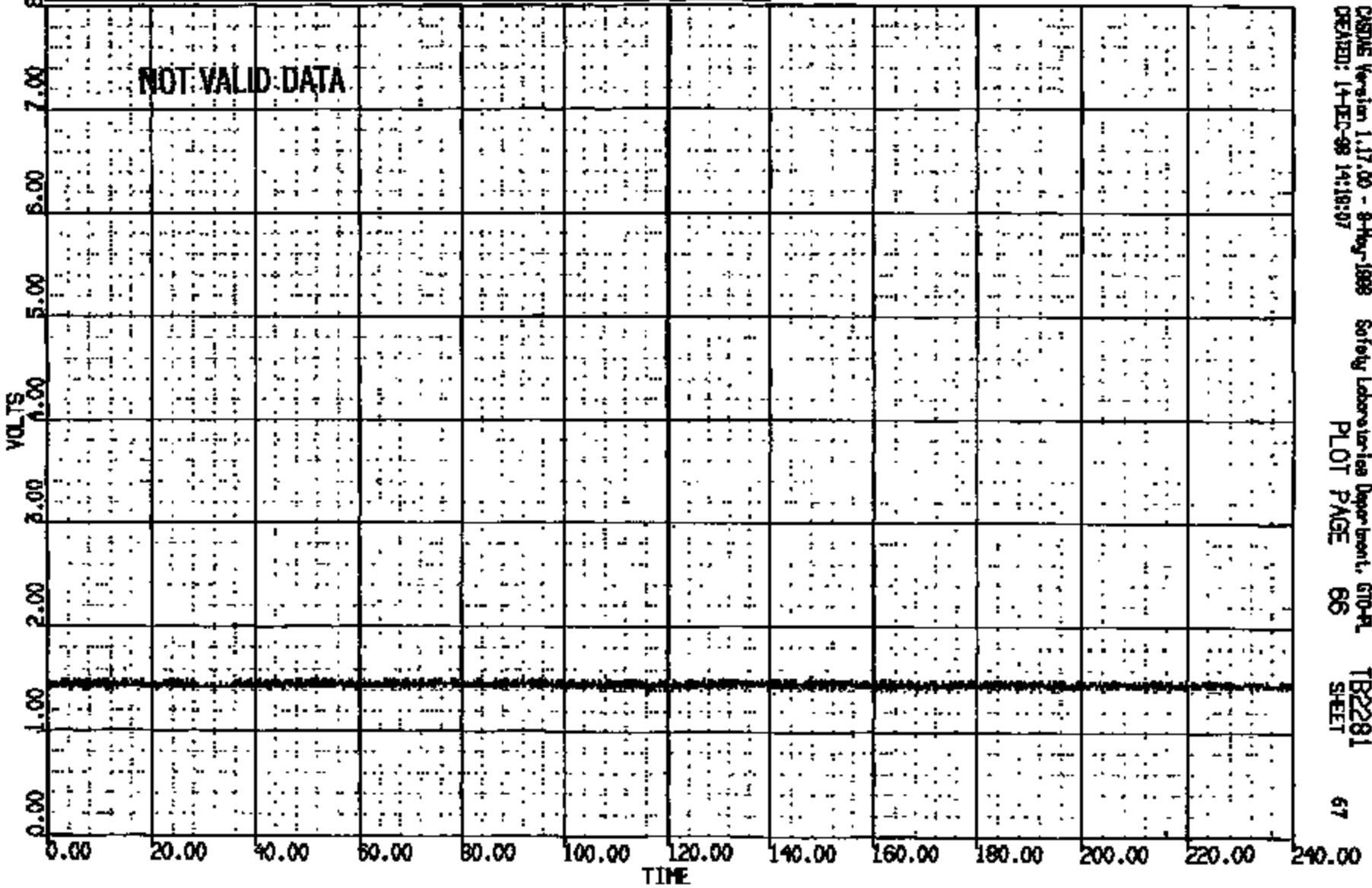
CRTS 0011300

CR R: 11500 TO: TB2281 DATE: 981212 08:40:17
200X D-188

(59) CR11300T DRIVER PYRO VOLTAGE 4000C

MAX = 1.89 at 0.320 MS MIN = 1.37 at 116.2 MS

AXIS 1



CASME Version 1.17.00 - 8-May-1998
CREATED: 14-DEC-98 14:18:07

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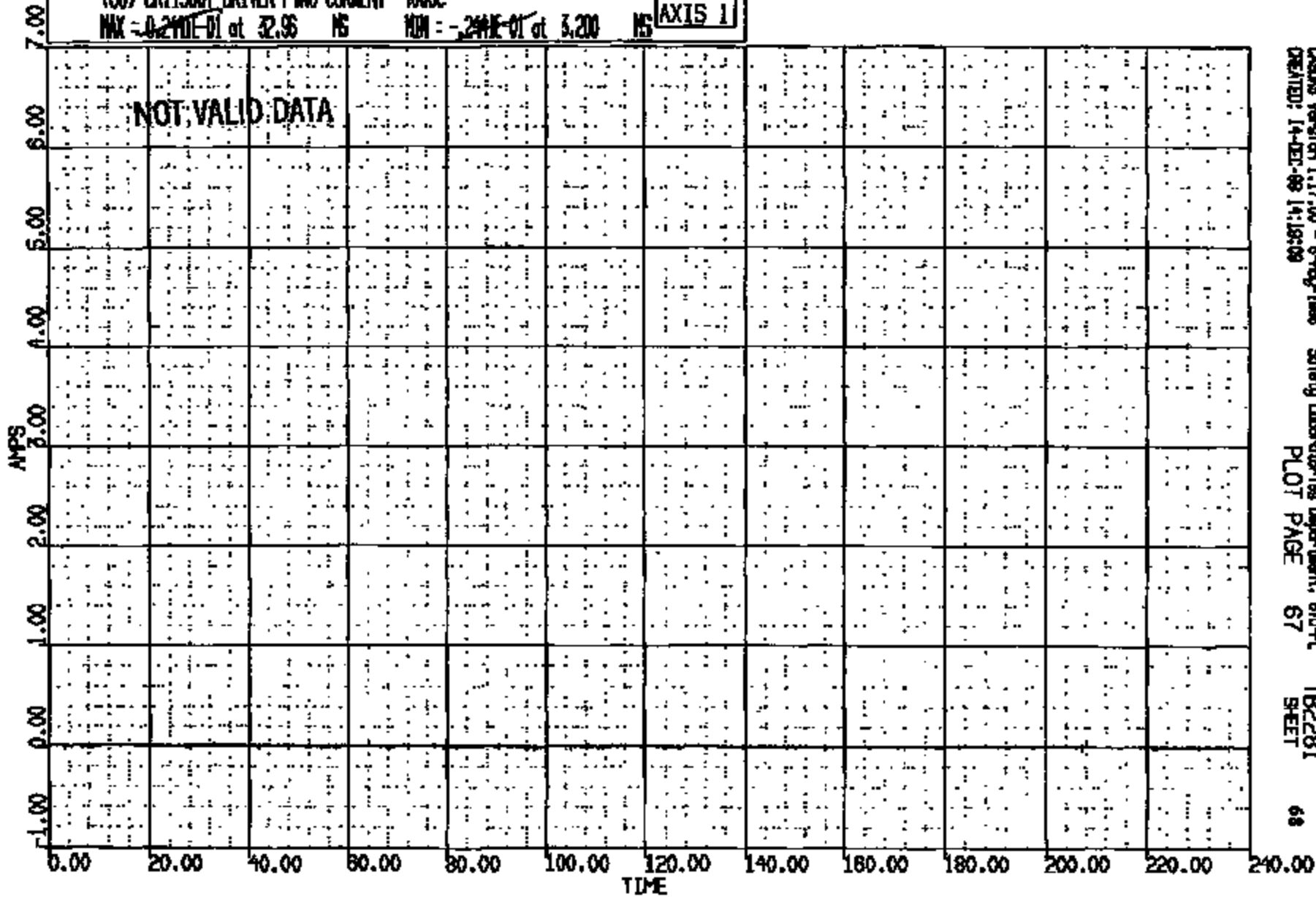
TB2281
SHEET

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CRIS 0011300

CR R: 11300 TO: TB2281 DATE: 881212 09:40:17
BOOK D-188

(60) CR11300T DRIVER PWD CURRENT 4000C
MAX = 0.241E-01 at 32.95 MS MIN = -0.241E-01 at 3.200 MS **AXIS 1**



CRAMS Version 1.17.00 - 8-Aug-1988
CREATED: 14-DEC-88 14:18:00

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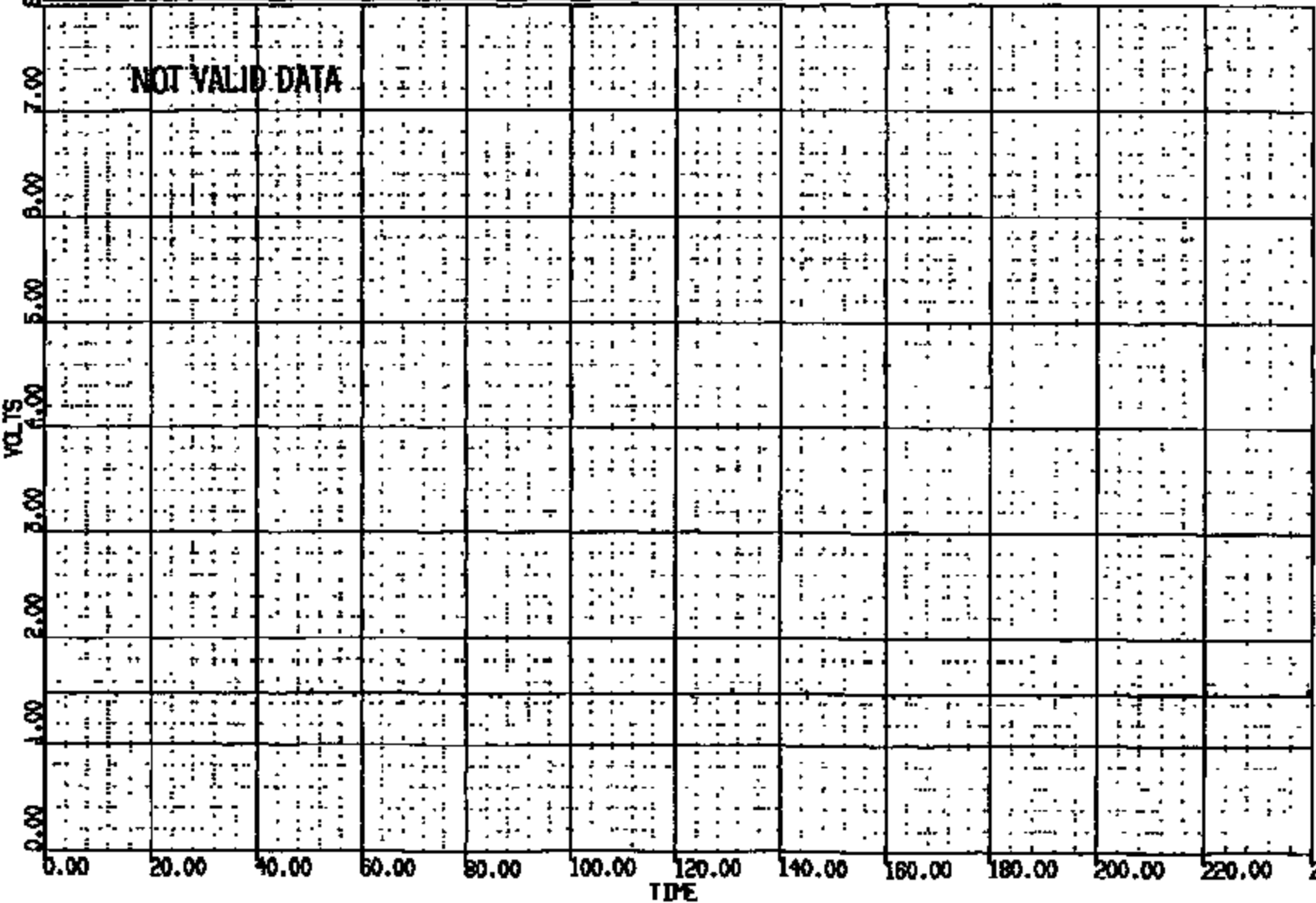
68

CRIS 0011300

CR# R: 11300 TO: T82281 DATE: 881212 09:40:17
MOOX D-188

(61) CR11300 PASSENGER PYRO VOLTAGE 400C
MIN = 1.485 at 130.9 MS MAX = 1.485 at 1.92 MS

AXIS 1



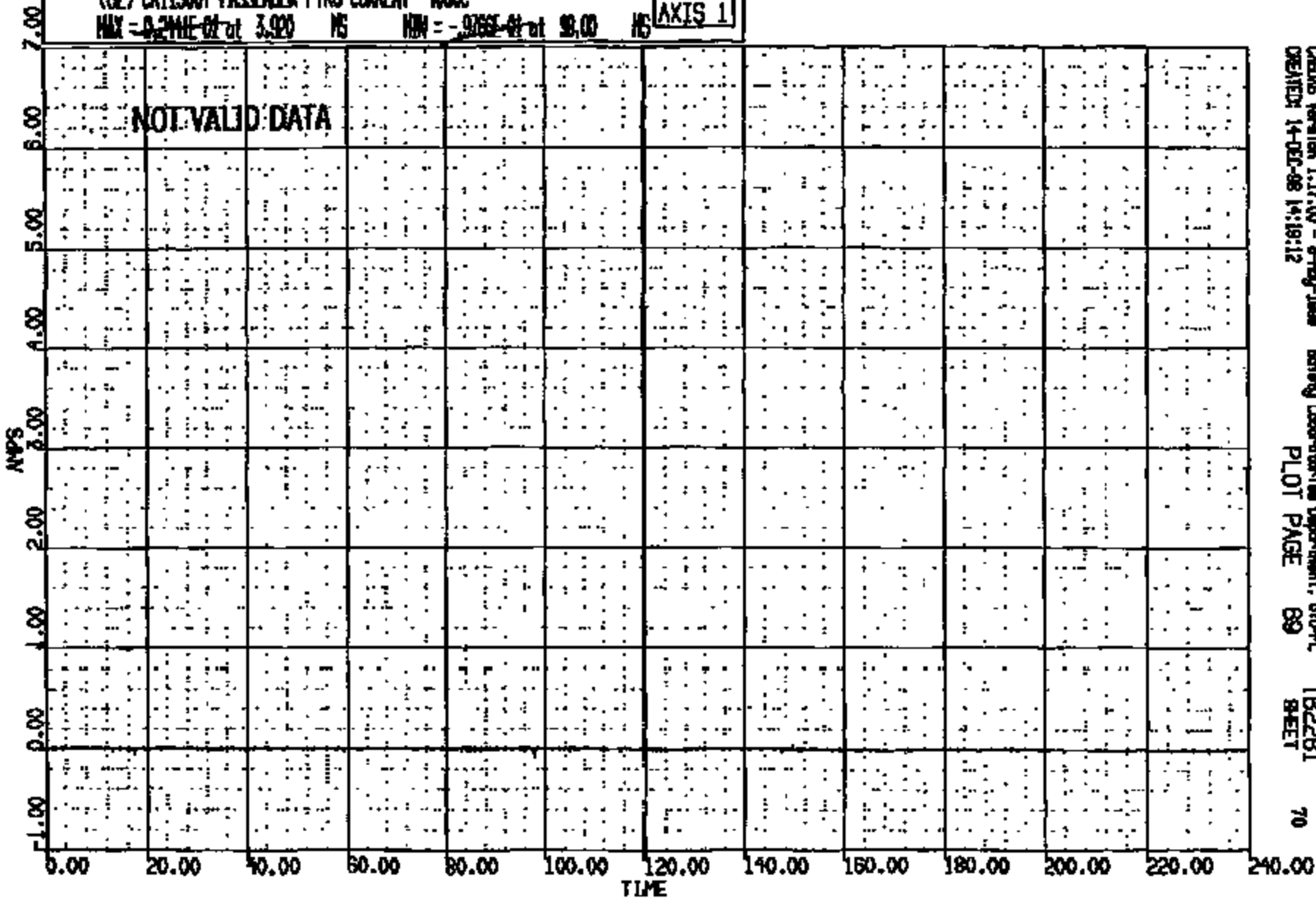
CASUS Version 1.17.00 - 8-May-1988 Safety Laboratories Department, GTR-PL T82281
CREATED: 14-DEC-88 14:18:16 PLOT PAGE 68 SHEET 69

CRTS 0011300

CR: R: 11500 TO: TB2281 DATE: 981212 09:40:17
200X D-186

(62) CRT1300T PASSENGER PYRO CURRENT 400C
MAX = 0.241E-01 at 3.920 MS MIN = -.0765E-01 at 98.00 MS

AXIS 1



CRMS Version 1.17.00 - 8-May-1998
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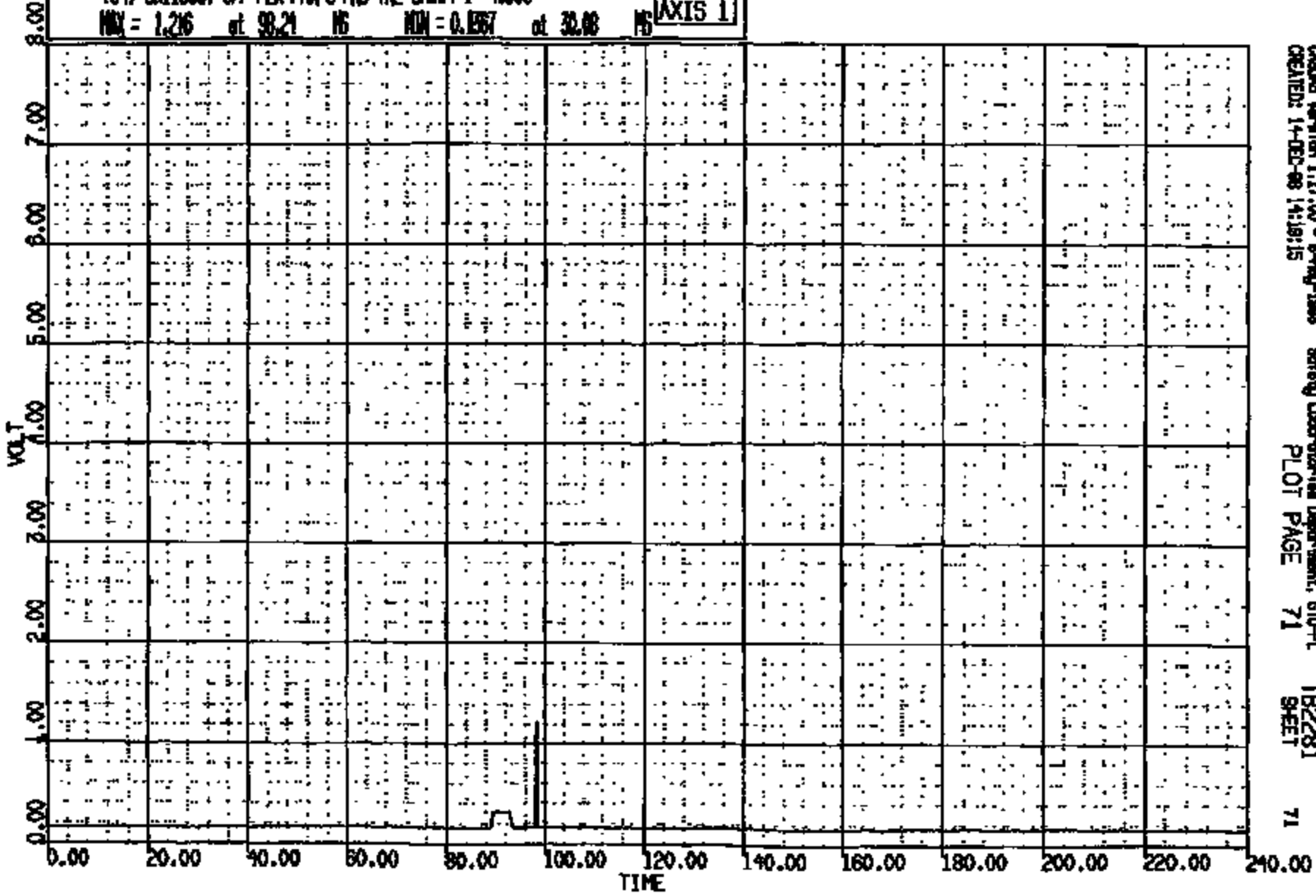
70

CRTS 0011300

CX R: 11300 TO: TB2281 DATE: 981212 09:40:17
BOOK D-189

(GA) CR11300 C/F FLR PNM @ FID TML SMOA-1 400C
MAX = 1.216 at 98.21 NS MIN = 0.1957 at 30.08 NS

AXIS 1



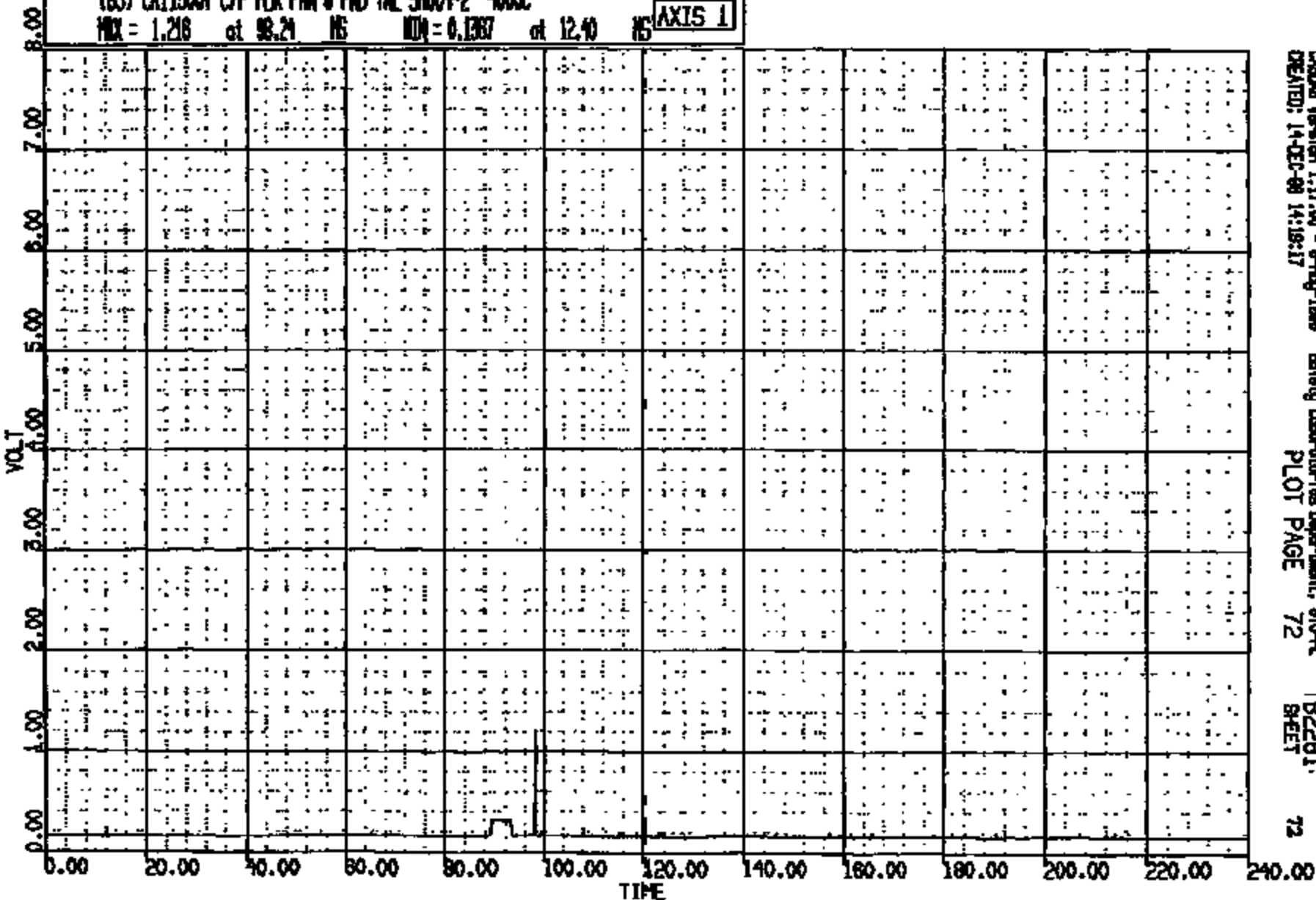
EXTRA Version 1.17.00 - 8-May-1998 Safety Laboratory Department, 610-Pl TB2281
CREATED: 14-DEC-98 14:19:15 PLOT PAGE 71 SHEET 71

CRTS 0011300

CR R: 11500 TO: TB2281 DATE: 981212 09:40:17
200X D-100

(65) CR13001 C/F FLR PHN @ FND TML SMOA-2 4000
MAX = 1.216 at 98.24 NS MIN = 0.1387 at 12.40 NS

AXIS 1



CRS06 Version 1.17.00 - 8-May-1998
CREATED: 14-DEC-98 14:19:17

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SHEET

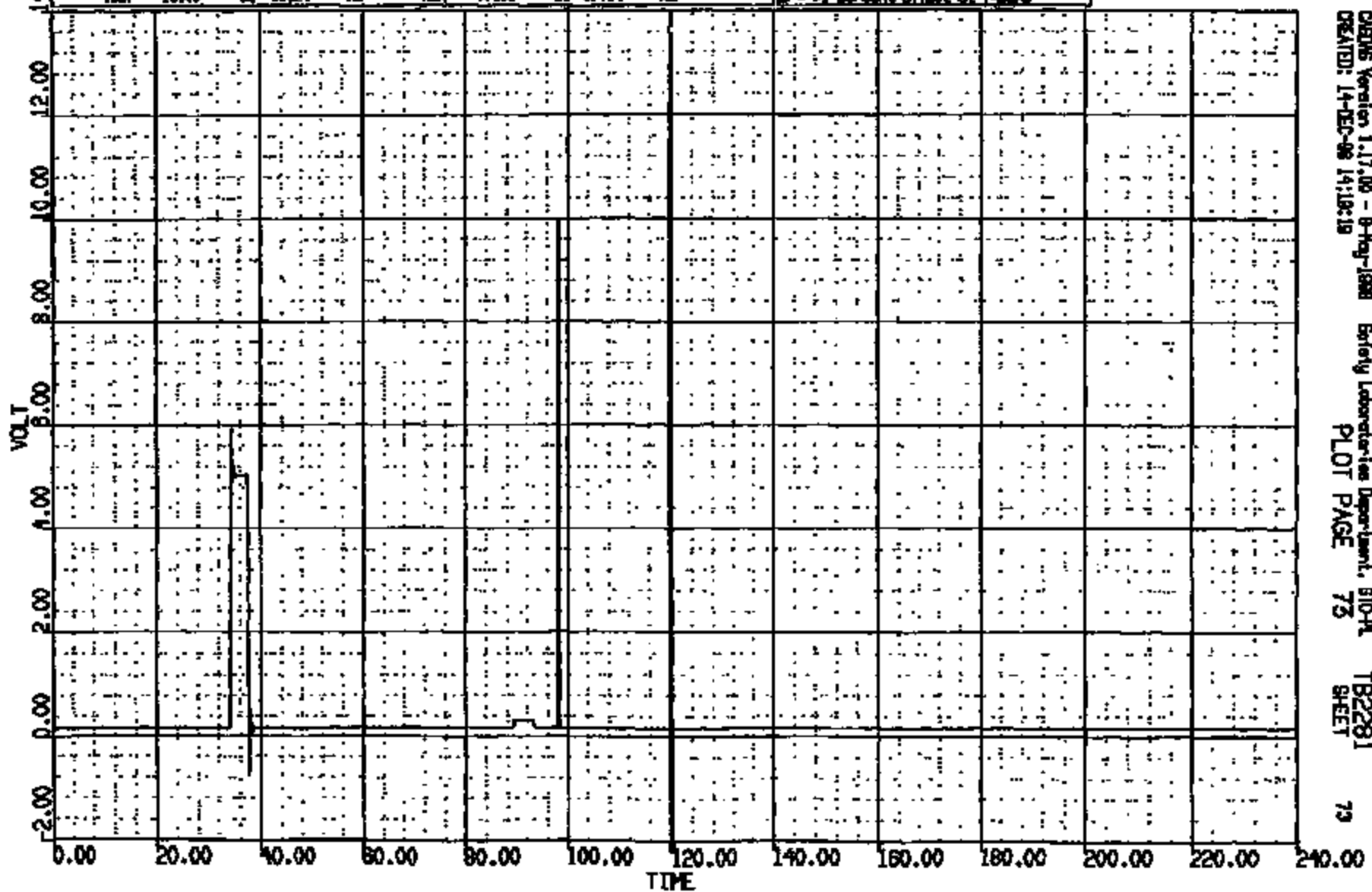
72

CRIS 0011300

DR R: 11300 TO: TB2281 DATE: 981212 08:40:17
300X D-185

(66) CR113001 C/F FLR PAN 0 FND TML SMOO-3 4000C
MAX = 10.00 at 38.21 NS MIN = -.7666 at 37.61 NS

AXIS 1
REMARKS KEY:
* - Midband data exceeded full scale
@ - Midband data >90.0% of full scale
! - All data < 10.0% of full scale
- >1 percent offset of 1-gauss



CRIMS Version 1.17.00 - 8-May-1988 Safety Laboratories Department, B10-PA
CREATED: 14-DEC-98 14:18:19 PLOT PAGE 73 TB2281
SHEET 79

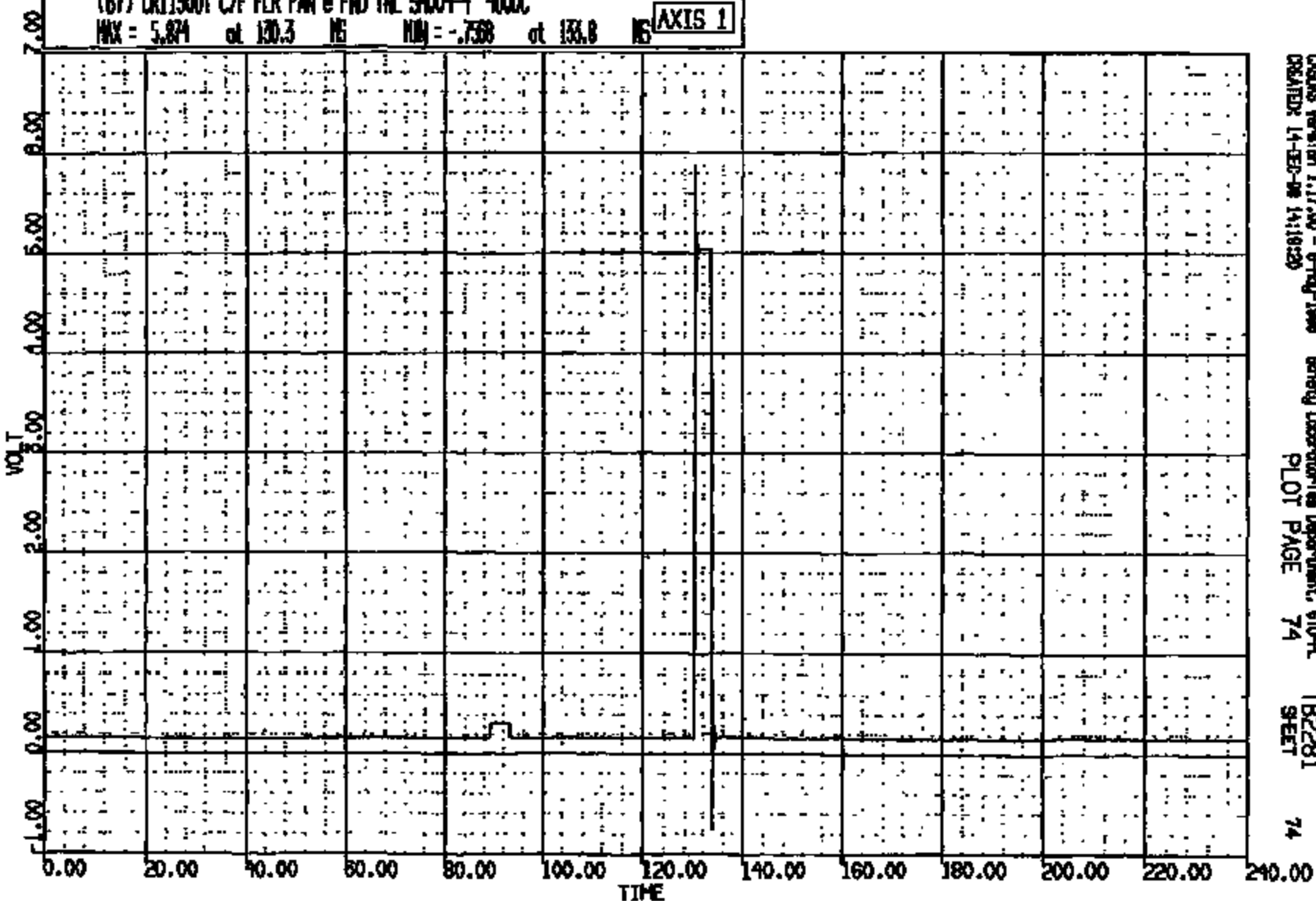
CRTS 0011300

CR R: 11500 TO: TB2281 DATE: 981212 09:40:17
R00X D-188

(67) CR11300T C/F FLR PAN @ FND TML 59004-4 400C

MAX = 5.874 at 130.3 MS MIN = -.758 at 133.8 MS

AXIS 1



CASUS Version 1.17.00 - 6-May-1998 Safety Laboratories Department, 610-R
CREATED: 14-SEP-98 14:18:20
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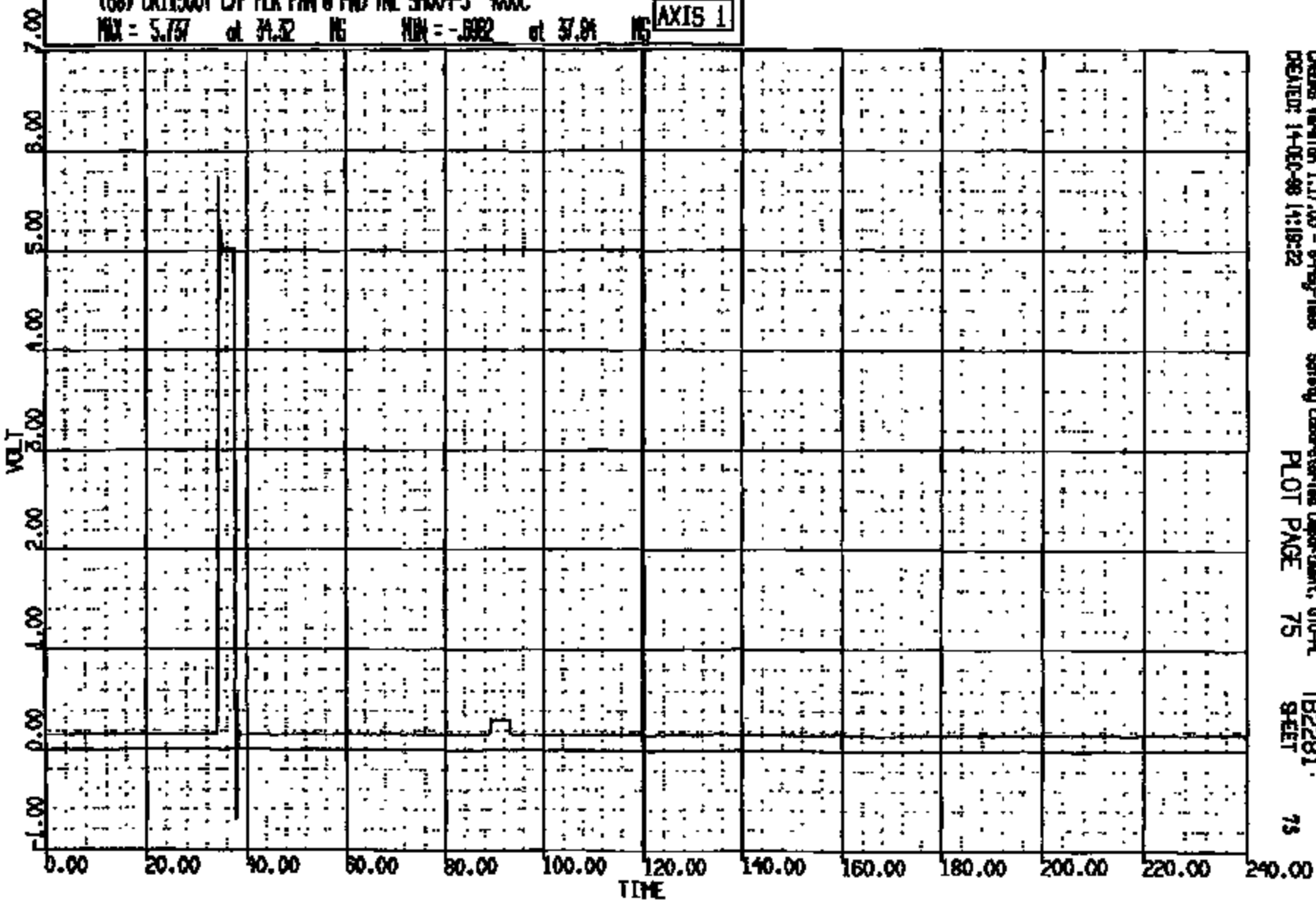
CRTS 0011300

CR R: 11200 TO: TB2281 DATE: 881212 08:40:17
200X D-188

(68) CR11300T C/F FLR P/W @ FND TML 54004-5 400C

MAX = 5.757 at 34.32 NS MIN = -.0082 at 37.94 NS

AXIS 1



CADWIS Version 1.17.00 - 8-May-1988
CREATED: 14-DEC-88 14:19:22

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TB2281
SHEET

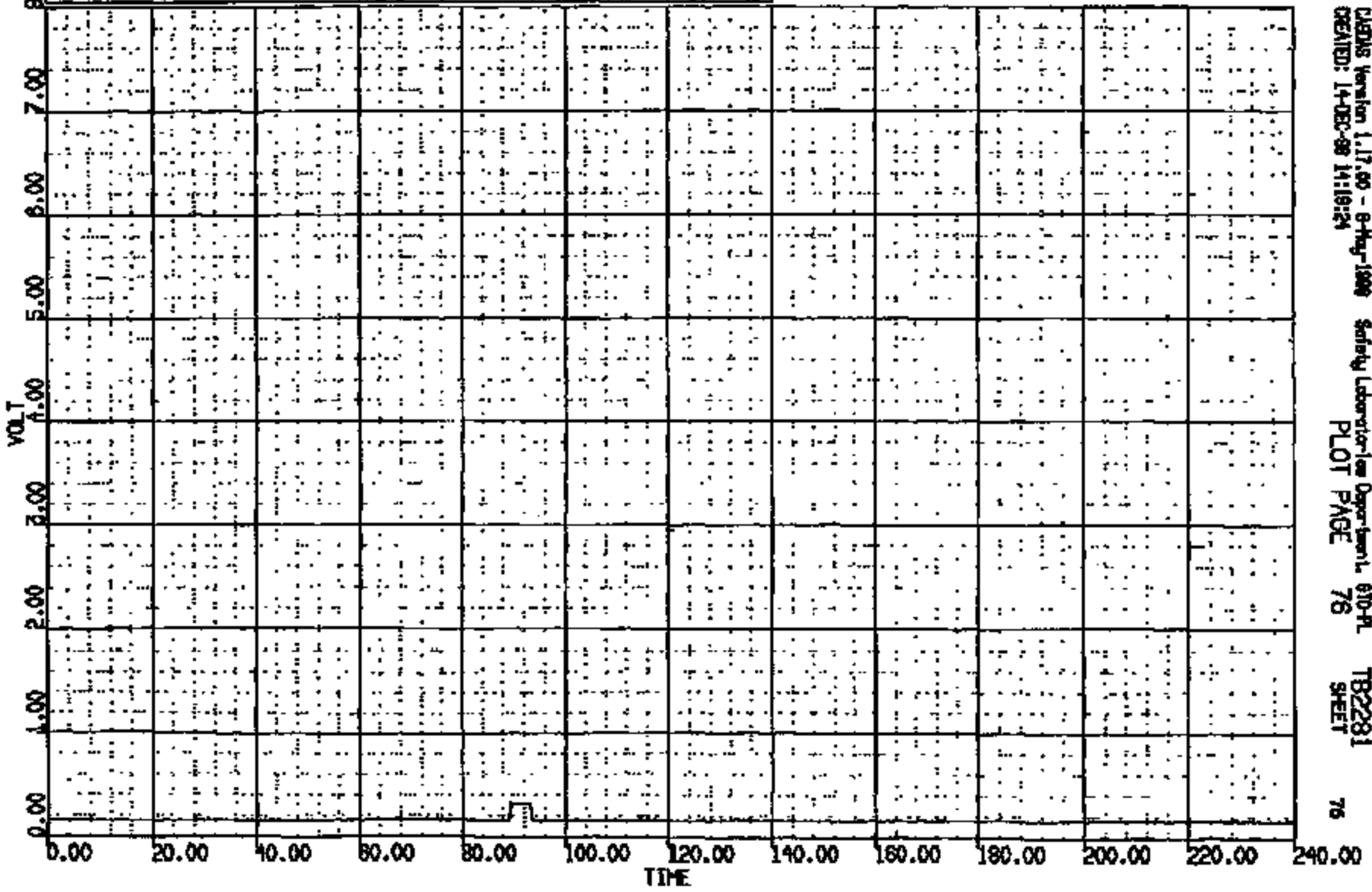
75

CR11300T

CR #: 11500 TO: TB2281 DATE: 981212 09:40:17
200X D-198

(69) CR113001 C/F FLR PAN @ FND TML 5004-6 400C
MAX = 0.3125 at 89.36 NS MIN = 0.1267 at 96.96 NS

AXIS 1



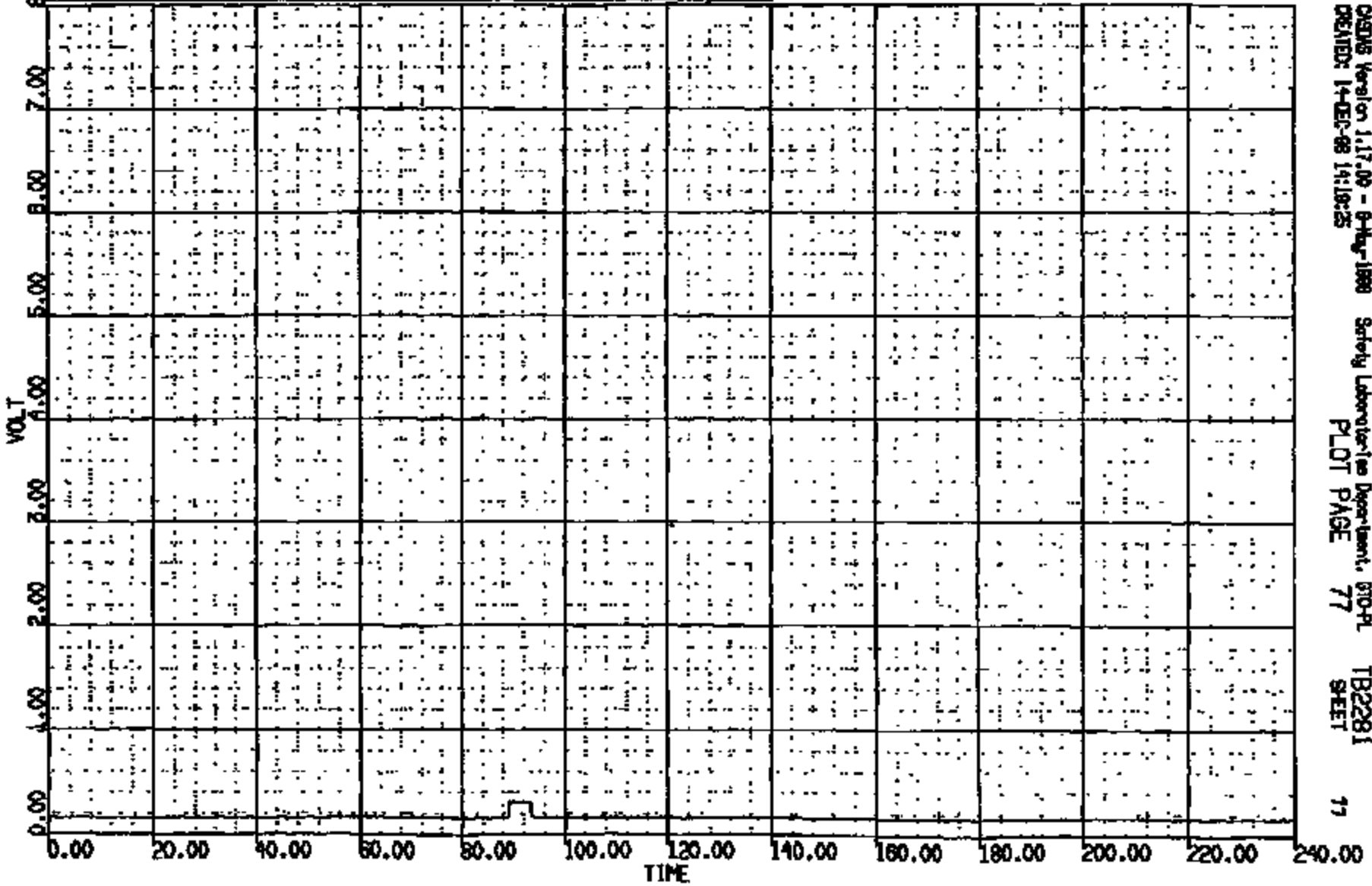
CRS Version 1.17.00 - 8-May-1998 Safety Laboratory Department L 610-4L TB2281
CREATED: 14-DEC-98 14:19:24 PLOT PAGE 76 SHEET 76

CR11300

CR #: 11500 TO: TB2281 DATE: 981212 09:40:17
BOOK D-188

(70) CR11300Y C/F FLR PNH @ FND TNL 98024-7 400C
MAX = 0.3125 at 89.35 NS MIN = 0.1267 at 45.68 NS

AXIS 1

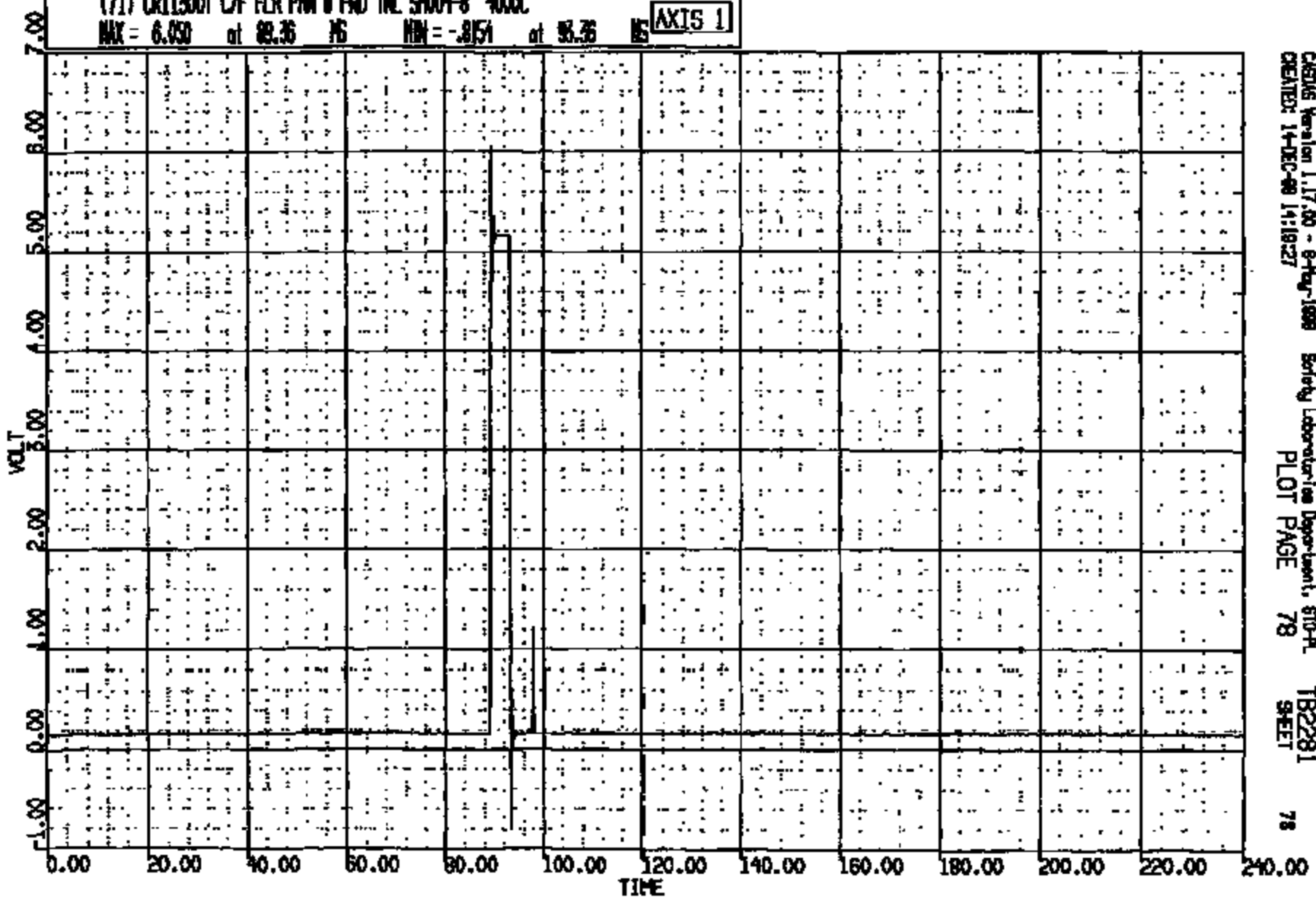


CRSUS Version 1.17.00 - 9-Aug-1989 Safety Laboratories Department, STPL
CREATED: 14-DEC-98 14:18:25 PLOT PAGE 77 SHEET 77

CRIS 0011300

CR R: 11300 TO: TB2281 DATE: 981212 09:40:17
200X D-186

(71) CR11300 C/F FLR P/W @ F/D TML S1004-8 4000C
MAX = 6.050 at 89.36 MS MIN = -0.8154 at 93.36 MS **AXIS 1**



CASYS Version 1.17.00 - 6-Aug-1998 Safety Laboratory Department, SIO-FL TB2281
CREATED: 14-DEC-98 14:18:27 PLOT PAGE 78 SHEET 78

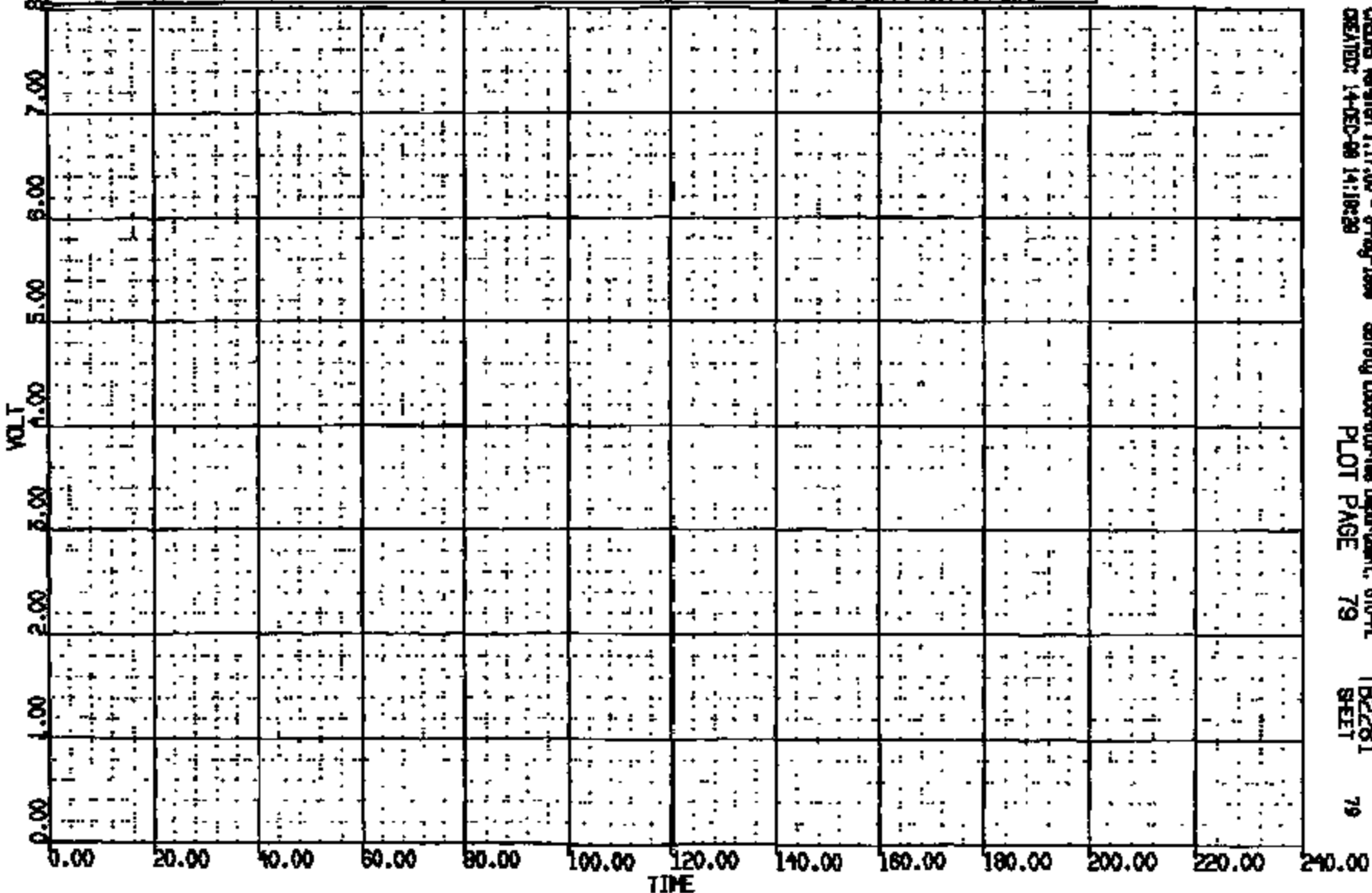
CRTS 0011300

CR R: 11300 TO: T82281 DATE: 981212 09:40:17
BOOK D-198

(72) CR1300T C/F FLR PAN @ FND TML SMO4-9 4000C
MAX = 0.000E+00 of 0.000E+00 MS MIN = 0.000E+00 of 0.000E+00 MS

AXIS 1

ANOMALY KEYS
* - Missing data corrected full scale
* - Missing data 500.0% of full scale
* - All data < 1% of full scale
* - 21 percent offset at 1-scale



CRSIS Version 1.17.00 - 9-May-1998
CREATED: 14-DEC-98 14:10:29

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T82281
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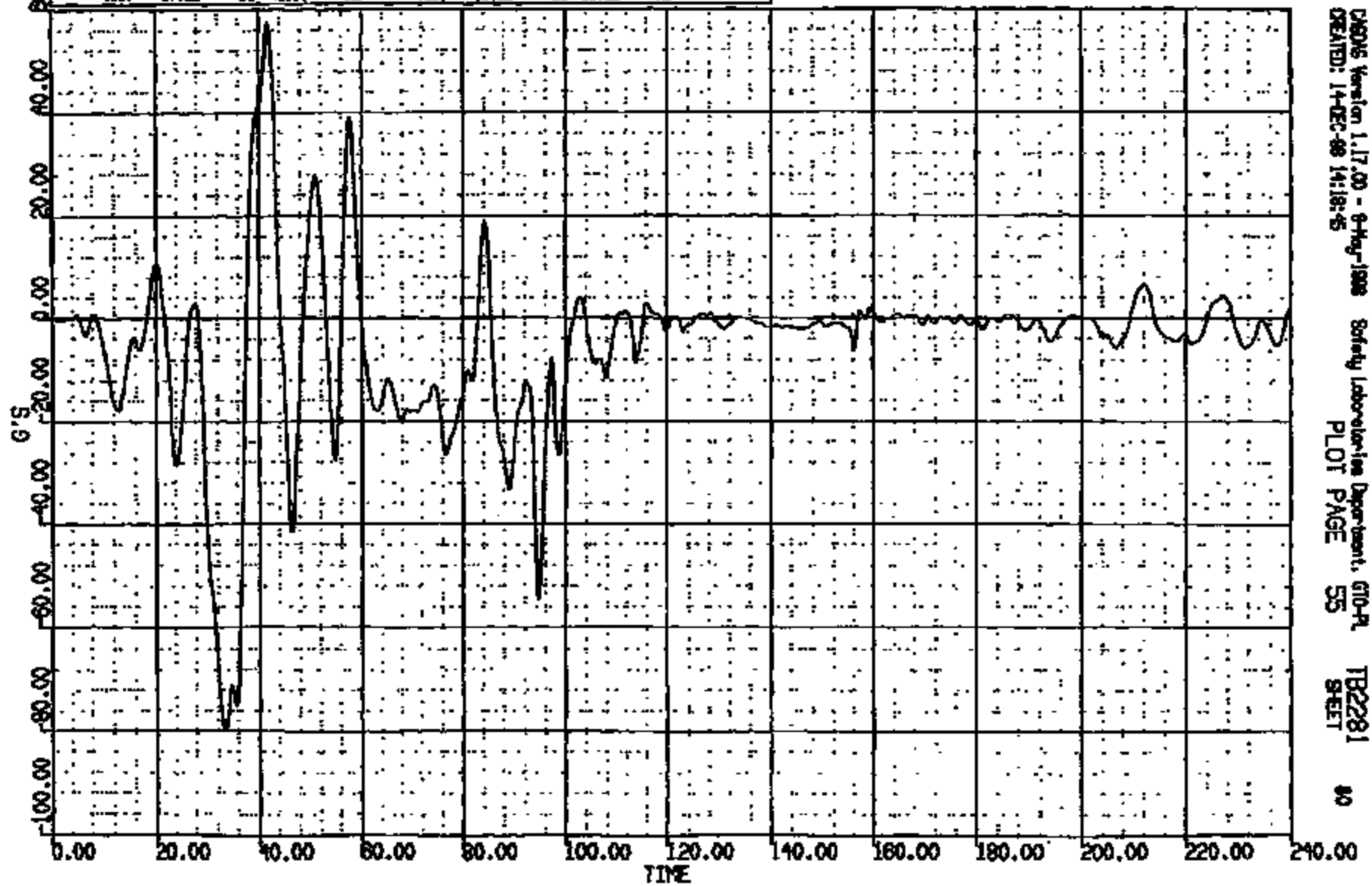
79

CRIS 0011300

CR R# 11300 TO: TB2281 DATE: 881214 09:40:17
BOOK 0-198

(48) CR11300T C/R/D IS LONG 60C
MAX = 57.52 at 41.08 MS MIN = -80.52 at 33.52 MS

AXIS 1



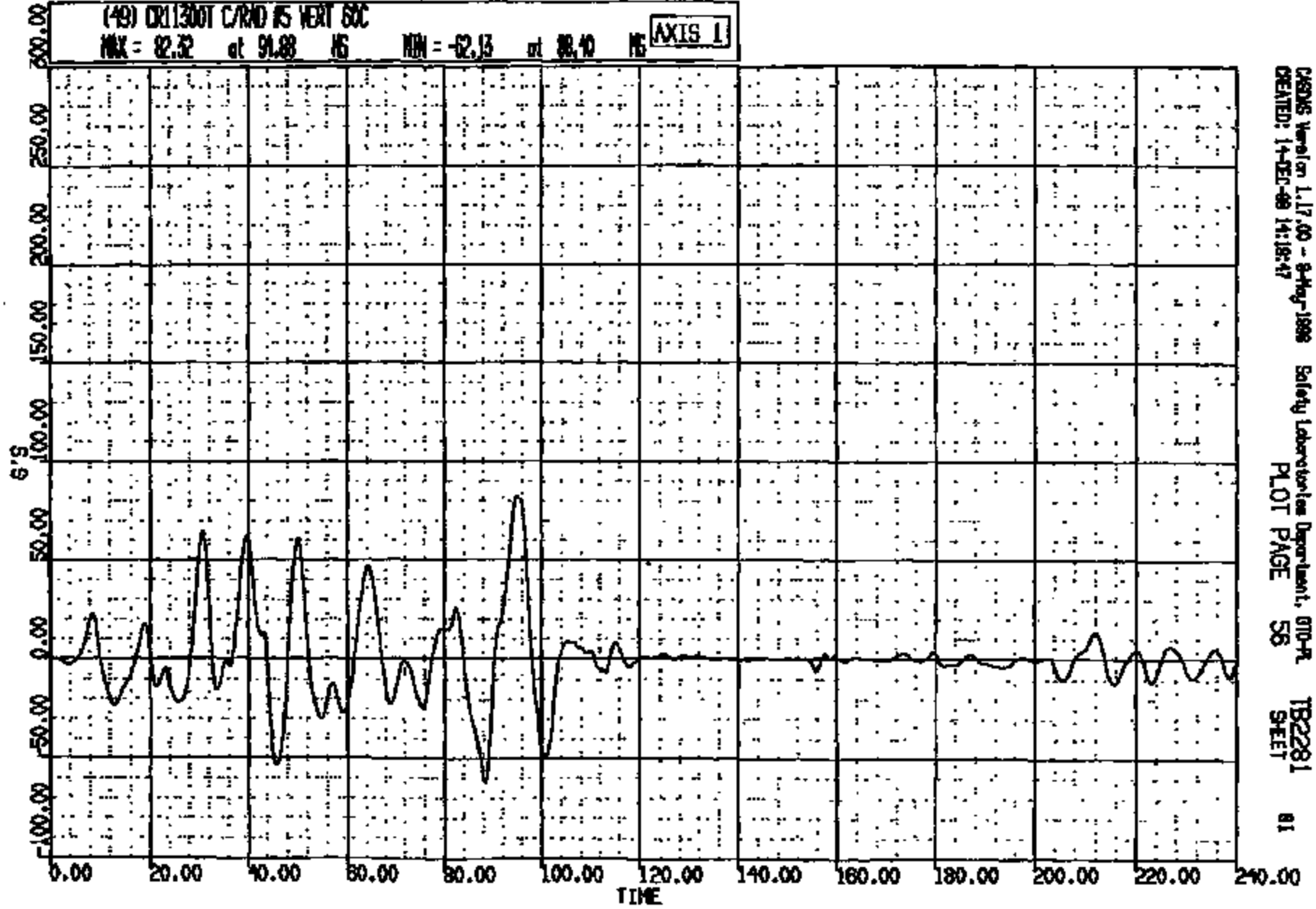
DAQS Version 1.17.00 - 9-May-1988 Safety Laboratories Department, G10-PL
CREATED: 14-DEC-88 14:18:45 PLOT PAGE 55 TB2281 40
SHEET

CRTS 0011300

CR R: 11800 TO: TB2281 DATE: 881212 09:40:17
BOOK D-188

(49) CR11300T C/RND NS NEXT SOC
MAX = 82.32 at 91.88 NS MIN = -82.13 at 88.40 NS

AXIS 1



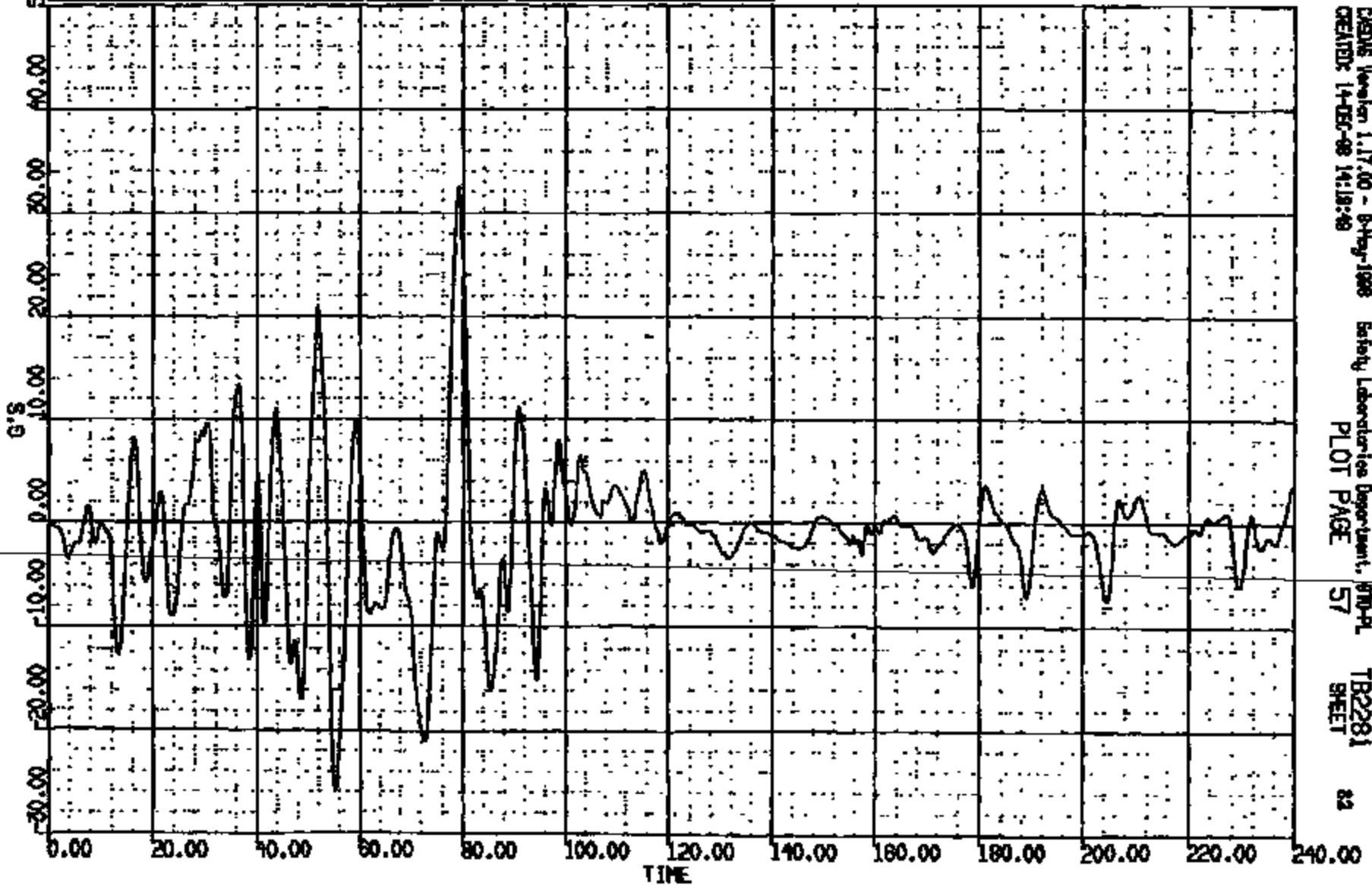
CRS05 Version 1.17.00 - 8-May-1988 Safety Laboratories Department, DTIC-PL
CREATED: 14-DEC-88 14:18:47 PLOT PAGE 56 SHEET 81

CRTS 0011300

CR R: 11300 TO: TB2281 DATE: 881212 08:40:17
200X 0-198

(50) CR11300T C/RAD IS LAT GC
MAX = 32.48 at 79.20 MS MIN = -25.96 at 55.12 MS

AXIS 1



CRIME Version 1.17.00 - 8-May-1988 Safety Laboratories Department, 670-PL TB2281 82
CREATED: 14-DEC-88 14:18:48 PLOT PAGE 57 SHEET

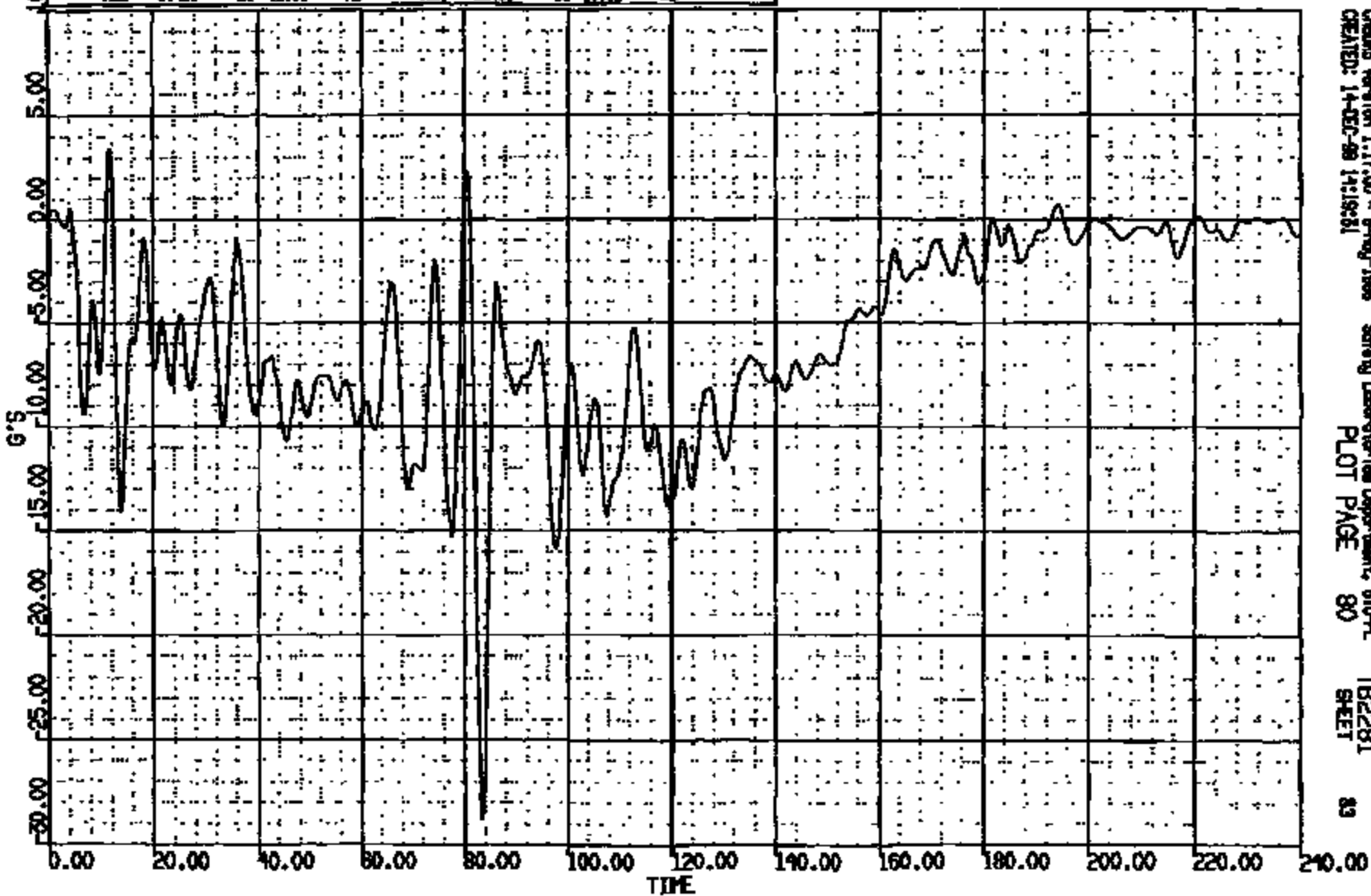
CRTS 0011300

CR R: 11300 TO: TB2281 DATE: 981212 08:40:17
200X D-190

173) CR11300T C/F FLR PAN @ FWD TAIL BRKT #1 LONG 60C

MAX = 3.95 at 11.68 MS MIN = -28.95 at 85.52 MS

AXIS 1



CADWIS Version 1.17.00 - 8-May-1998
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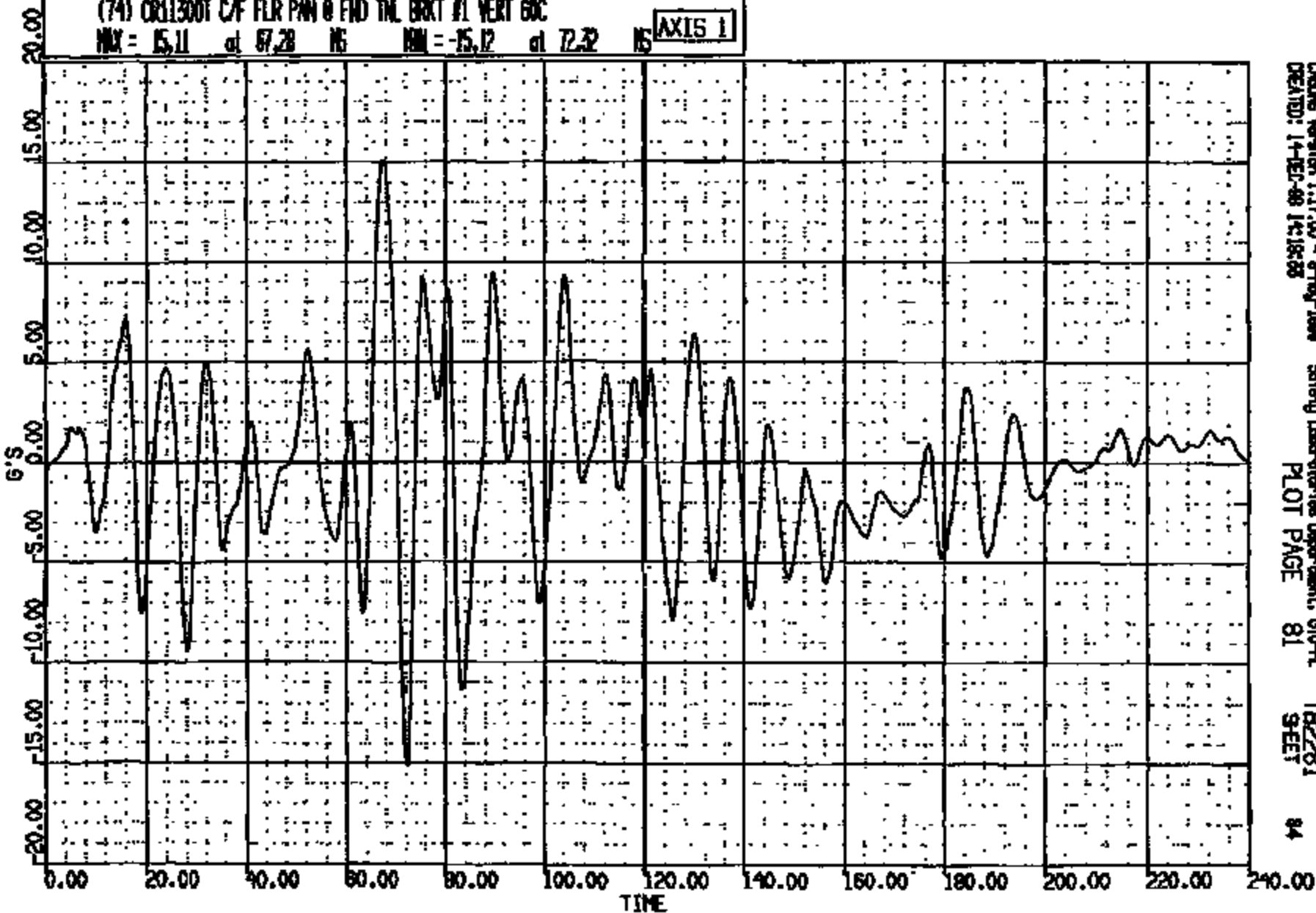
CR11300T

CR R: 11500 TO: TB2281 DATE: 881212 09:40:17
200X D-188

(74) CR113001 C/F FLR PAN @ FND TML BRKT #1 VERT 60C

MAX = 15.11 at 67.28 MS MIN = -15.12 at 72.32 MS

AXIS 1



CRS08 Version 1.17.00 - 8-May-1988
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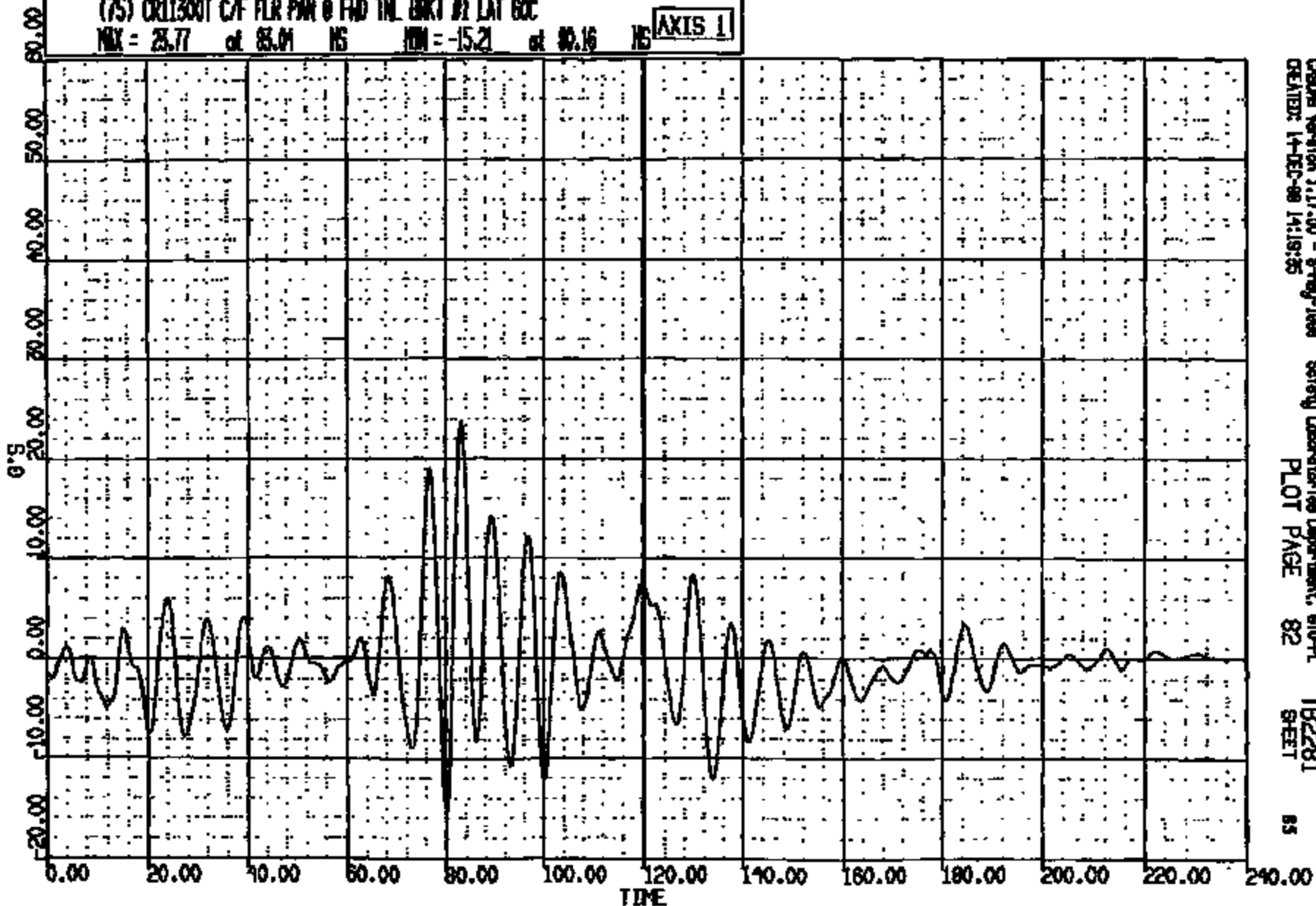
84

CRTS 0011300

CR R: 11300 TO: TB2281 DATE: 881212 08:40:17
ROOX D-188

(75) CR11300T C/F FLR PAN @ FID TNL BRKT #2 LAT 60C
MAX = 25.77 at 83.01 NS MIN = -15.21 at 80.16 NS

AXIS 1



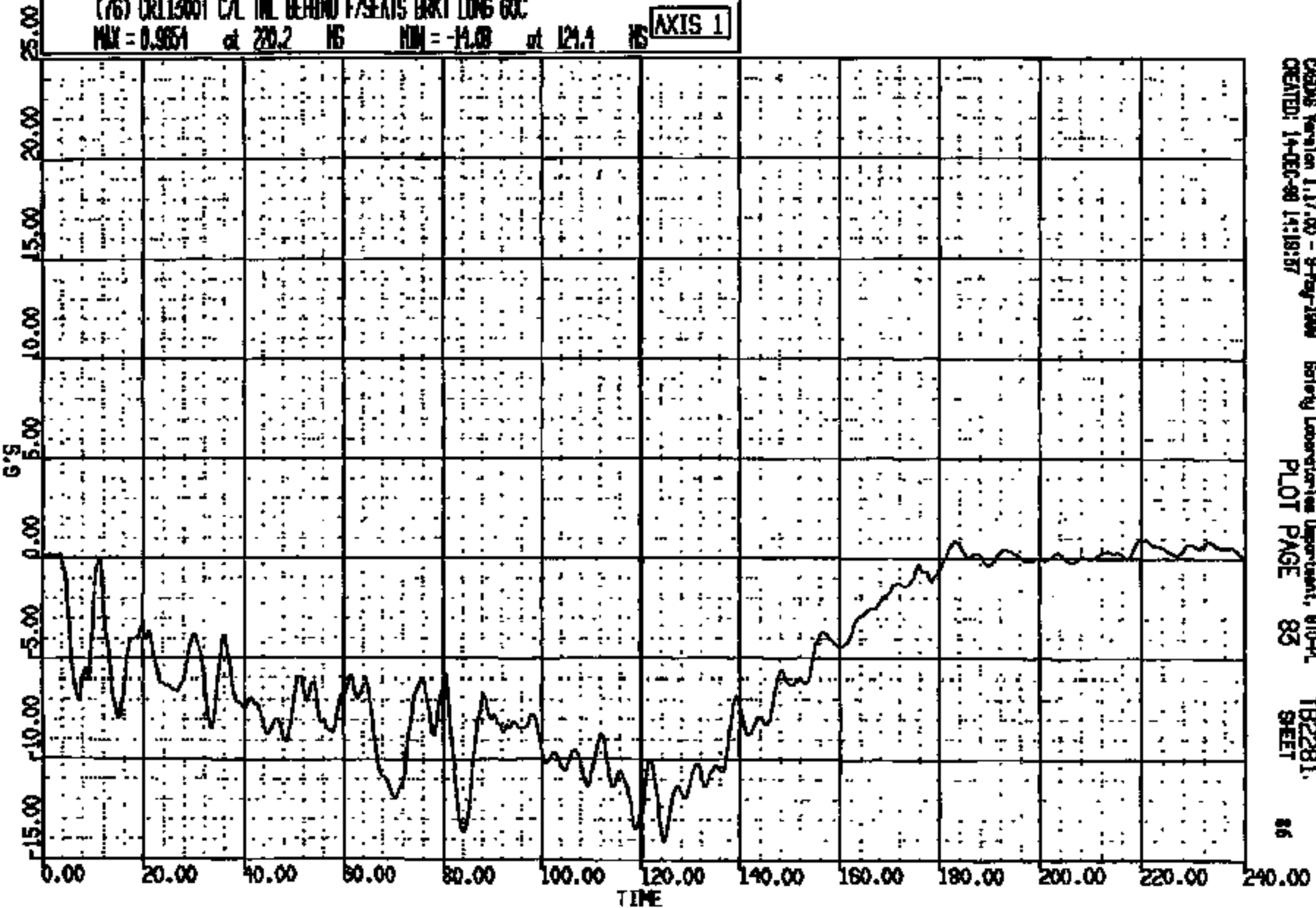
CRS08 Version 1.17.00 - 8-May-1988 Safety Laboratory Department, 610-PL
CREATED: 14-DEC-88 14:19:35 PLOT PAGE 82 SHEET TB2281 85

CRIS 0011300

CR R: 11300 TC: TB2281 DATE: 881212 08:40:17
200X D-195

(76) CR11300T C/L TML BEHIND F/SEATS BRKT LONG GOC
MAX = 0.9851 at 220.2 HS MIN = -11.00 at 121.1 HS

AXIS 1



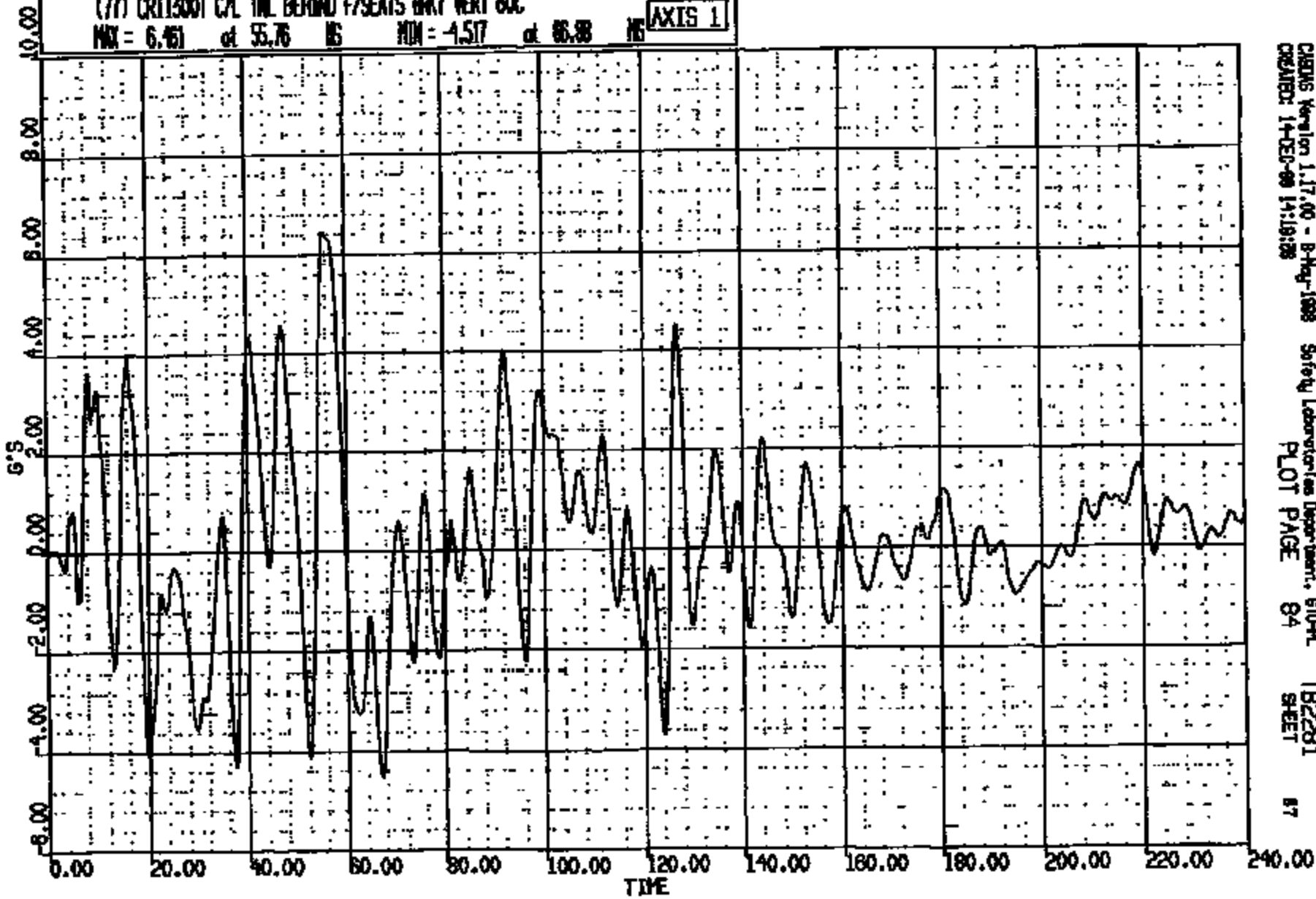
CASDS Version 1.17.00 - 8-Aug-1988 Safety Laboratory Department, 810-PL TB2281.
CREATED: 14-DEC-88 14:18:57 PLOT PAGE 83 SHEET 86

CR11300

CR R: 11500 TO: TB2281 DATE: 881212 09:40:17
BOOK D-188

(77) CR113001 CAL TNL BEHIND F/SEATS BRKT VERT 60C
MIN = 6.451 at 55.76 MS MAX = -4.517 at 66.88 MS

AXIS 1



CRAMS Version 1.17.00 - 8-May-1988 Safety Laboratories Department, 610-AL TB2281
CREATED: 14-DEC-88 14:19:28 PLOT PAGE 84 SHEET 87

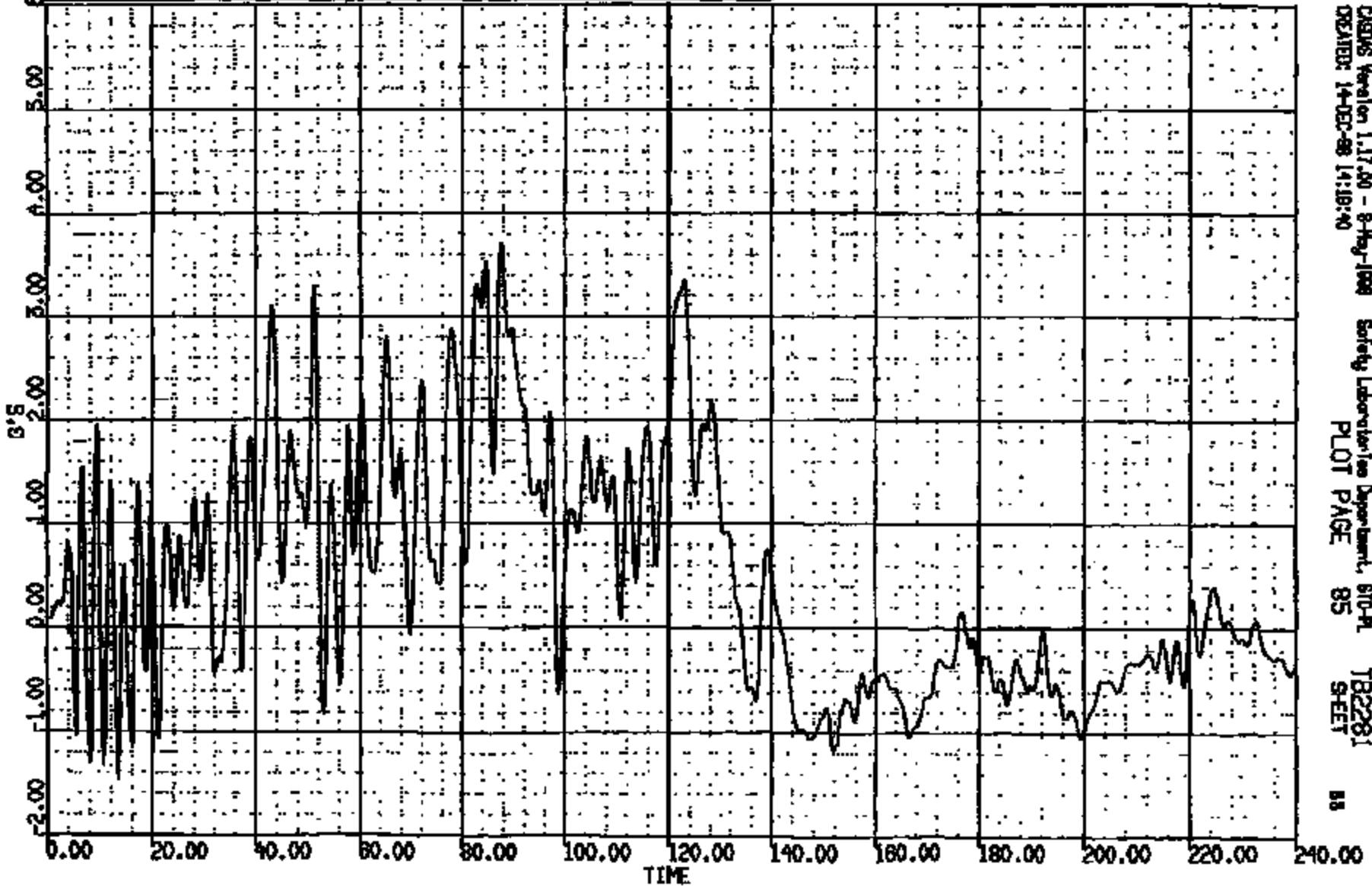
CR113001

CR R: 11300 TO: TB2281 DATE: 981212 09:40:17
200X 0-188

(78) CR11300T C/L TNL BEHIND F/SEATS BRKT LAT 60C

MAX = 3.707 at 87.88 NS MIN = -1.461 at 13.41 NS

AXIS 1

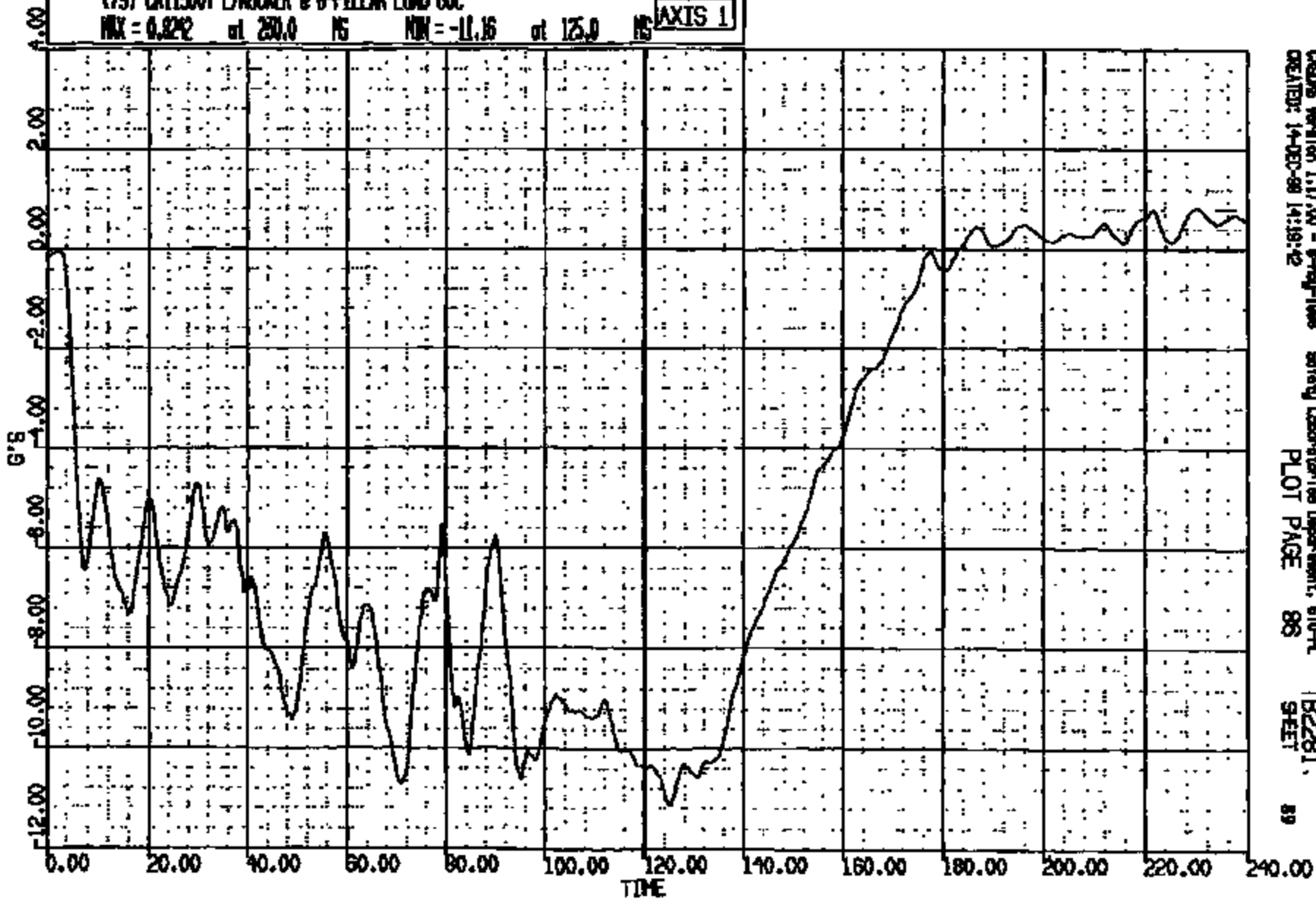


CASINS Version 1.17.00 - 8-May-1998 Safety Laboratories Department, 610-PL
CREATED: 14-DEC-98 14:19:40 PLOT PAGE 85 TB2281 SHEET 18

CRTS 0011300

CR #: 11500 TO: TB2281 DATE: 881212 08:40:17
BOOK D-188

(79) CR113001 L/ROCKER @ 0-PILLAR LONG GOC
MAX = 0.8242 at 230.0 MS MIN = -11.16 at 125.0 MS **AXIS 1**



CRS016 Version 1.17.00 - 8-May-1988
CREATED: 14-DEC-88 14:19:42

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PLOT PAGE 88

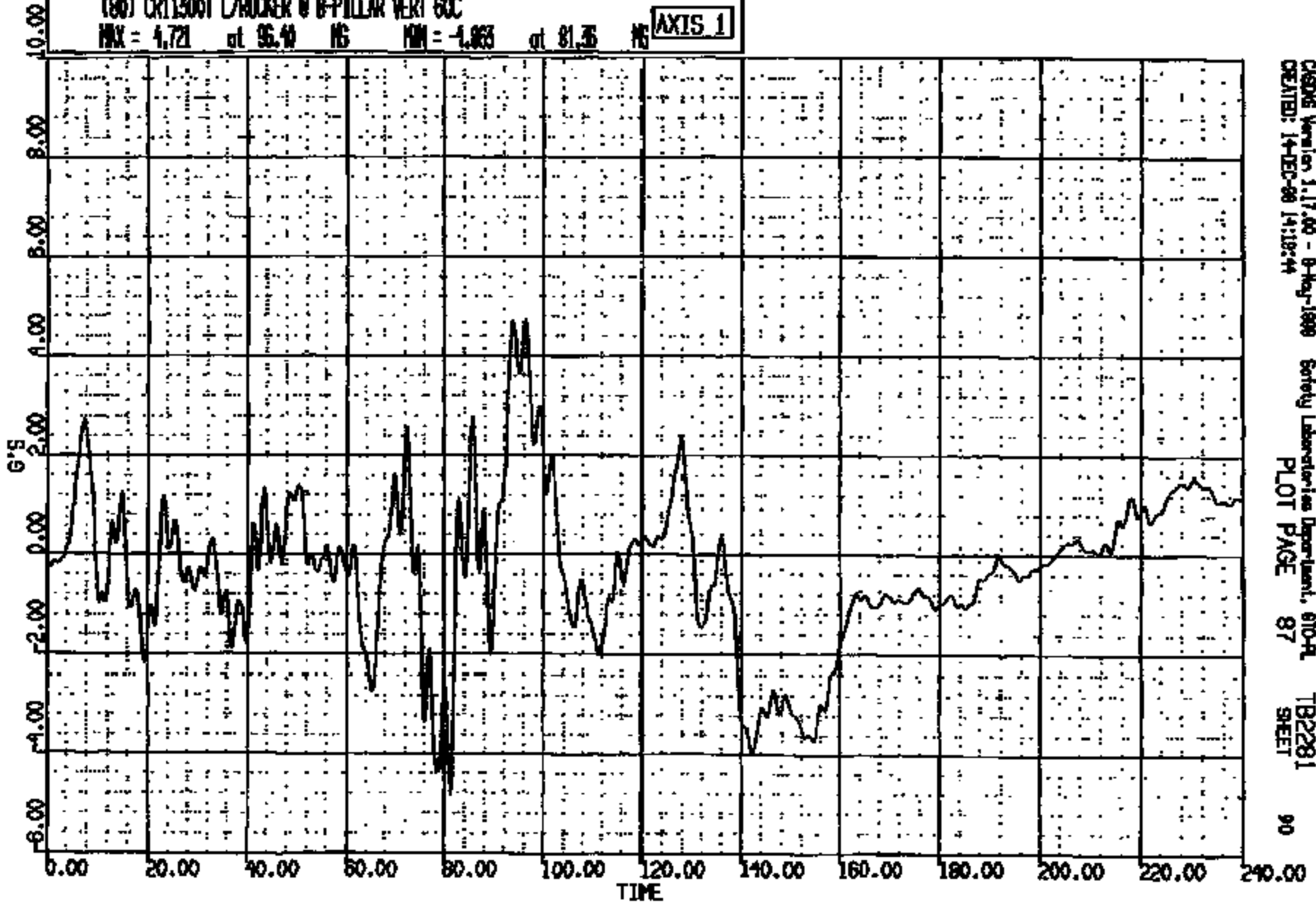
TB2281
SHEET

89

CRTS 0011300

CR R: 11500 TO: TB2281 DATE: 961212 09:40:17
200X 0-188

(80) CR11300T L/ROCKER @ B-PILLAR VERT 60C
MAX = 4.721 at 95.40 MS MIN = -1.863 at 81.35 MS **AXIS 1**



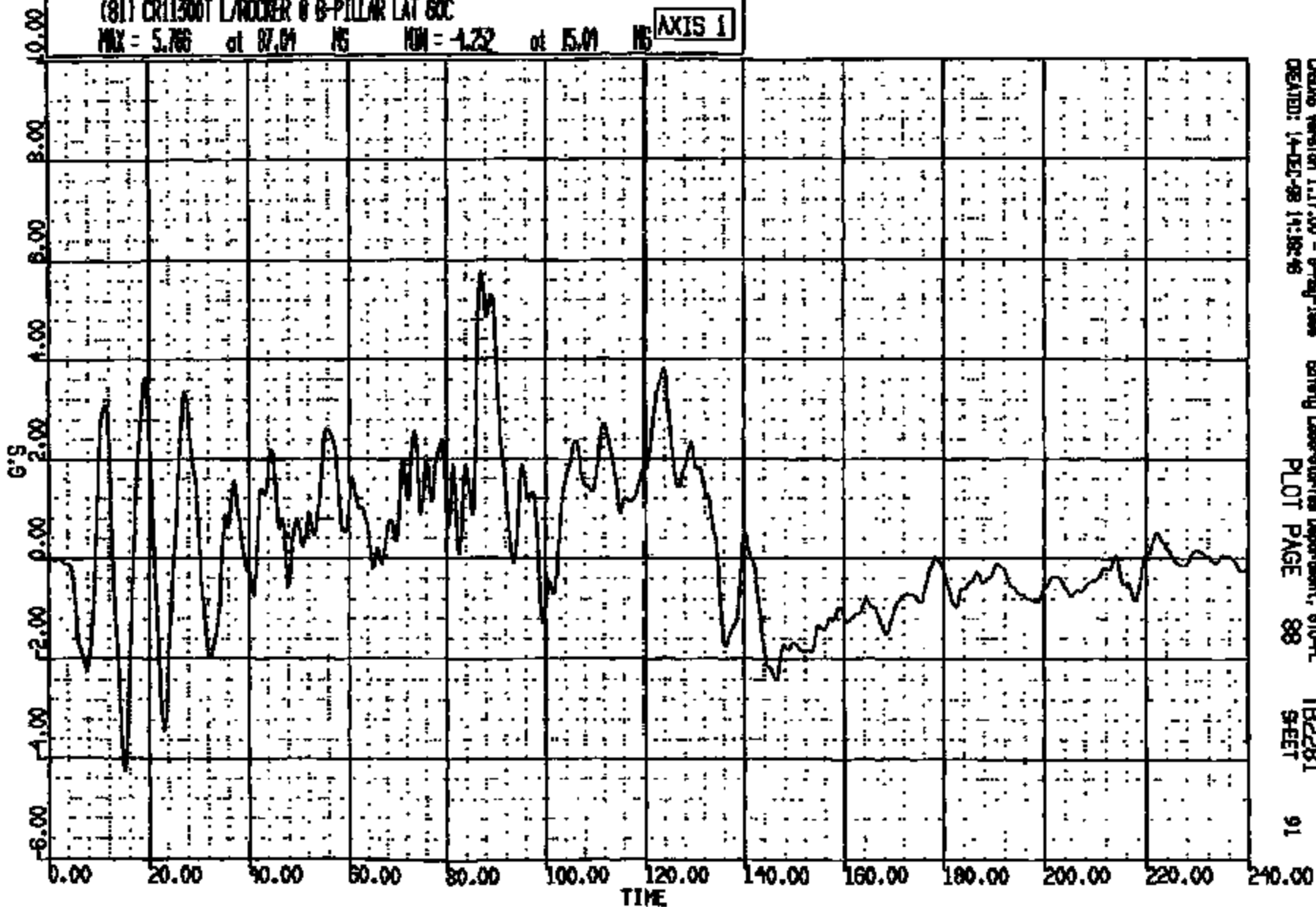
CADDS Version 1.17.00 - 8-May-1999 Safety Laboratories Department, 610-94
CREATED: 14-DEC-98 14:18:44 PLOT PAGE 87 TB2281
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CRTS 0011300

CR R: 11300 TO: TB2281 DATE: 881212 08:40:17
200X D-188

(81) CR11300T L/ROCKER @ B-PILLAR LAT 80C

MAX = 5.766 at 87.01 MS MIN = -1.232 at 15.01 MS **AXIS 1**



CARDAS Version 1.17.00 - 8-Aug-1988
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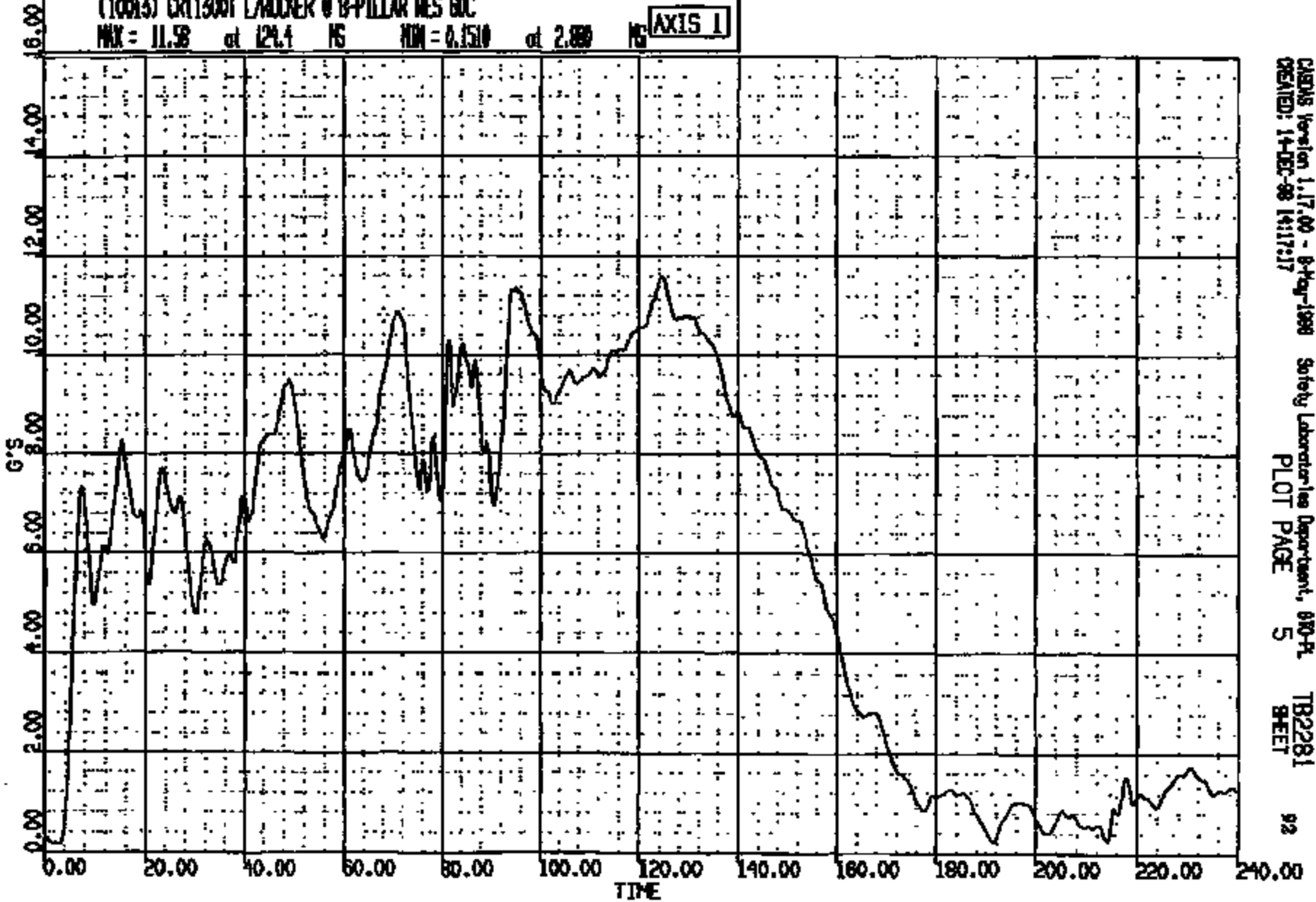
CRTS 0011300

NOX 11500 TO: TB2281 DATE: 981212 09:40:17
NOOX 0-199

(10613) CR11300T LADDER @ B-PILLAR MES GIC

MAX = 11.58 at 129.4 MS MIN = 0.1510 at 2.880 MS

AXIS 1



CRAMS Version 1.17.00 - 8-May-1998
CREATED: 14-DEC-98 14:17:37

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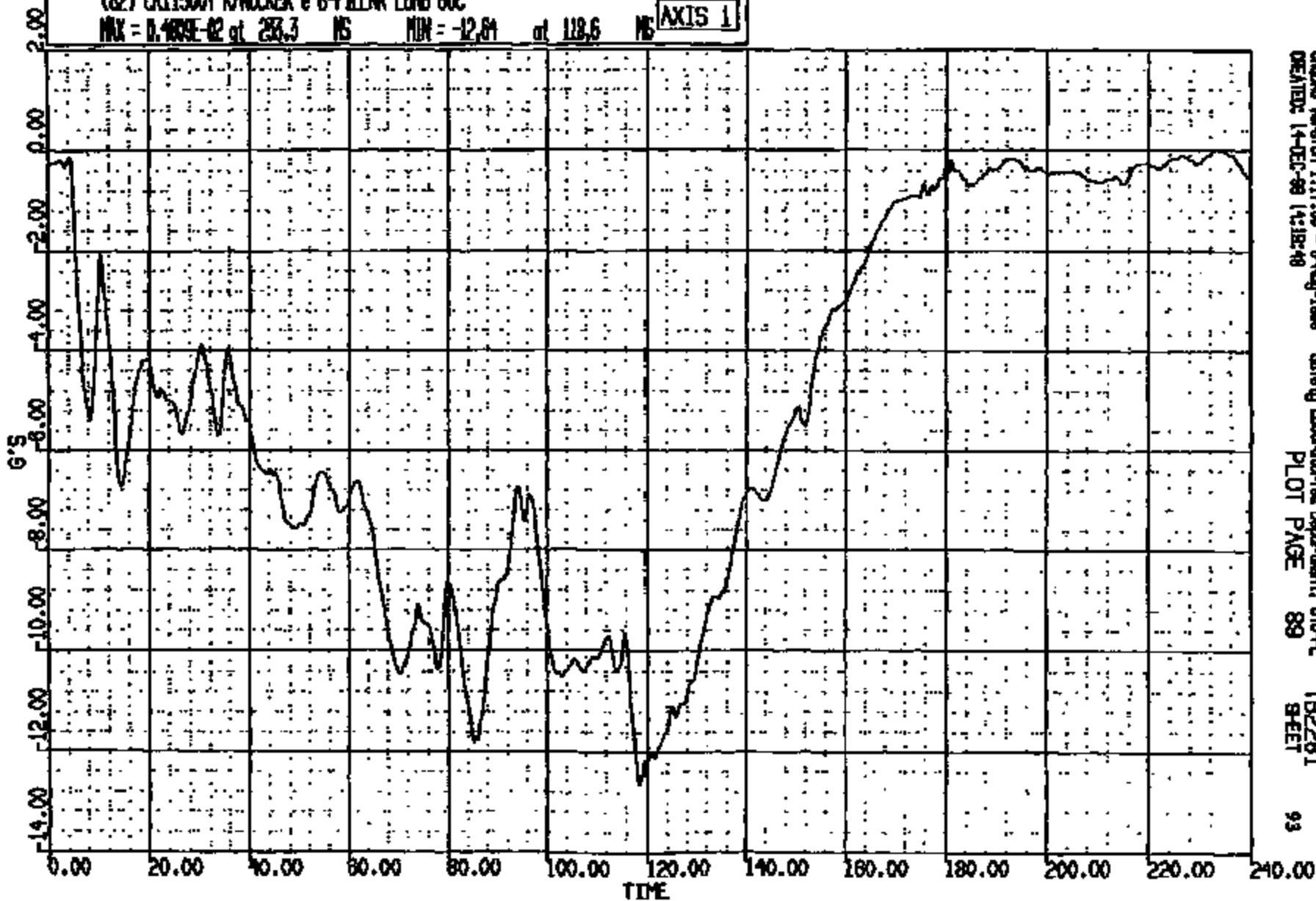
CR11300

CR R: 11500 YD: TB2281 DATE: 881212 09:40:17
200X D-188

(82) CR11300T R/ROCKER @ B-PILLAR LONG GFC

MAX = 0.489E-02 at 253.3 MS MIN = -12.81 at 118.6 MS

AXIS 1



CRSIS Version 1.17.00 - 8-May-1988
CREATED: 14-DEC-88 14:18:40

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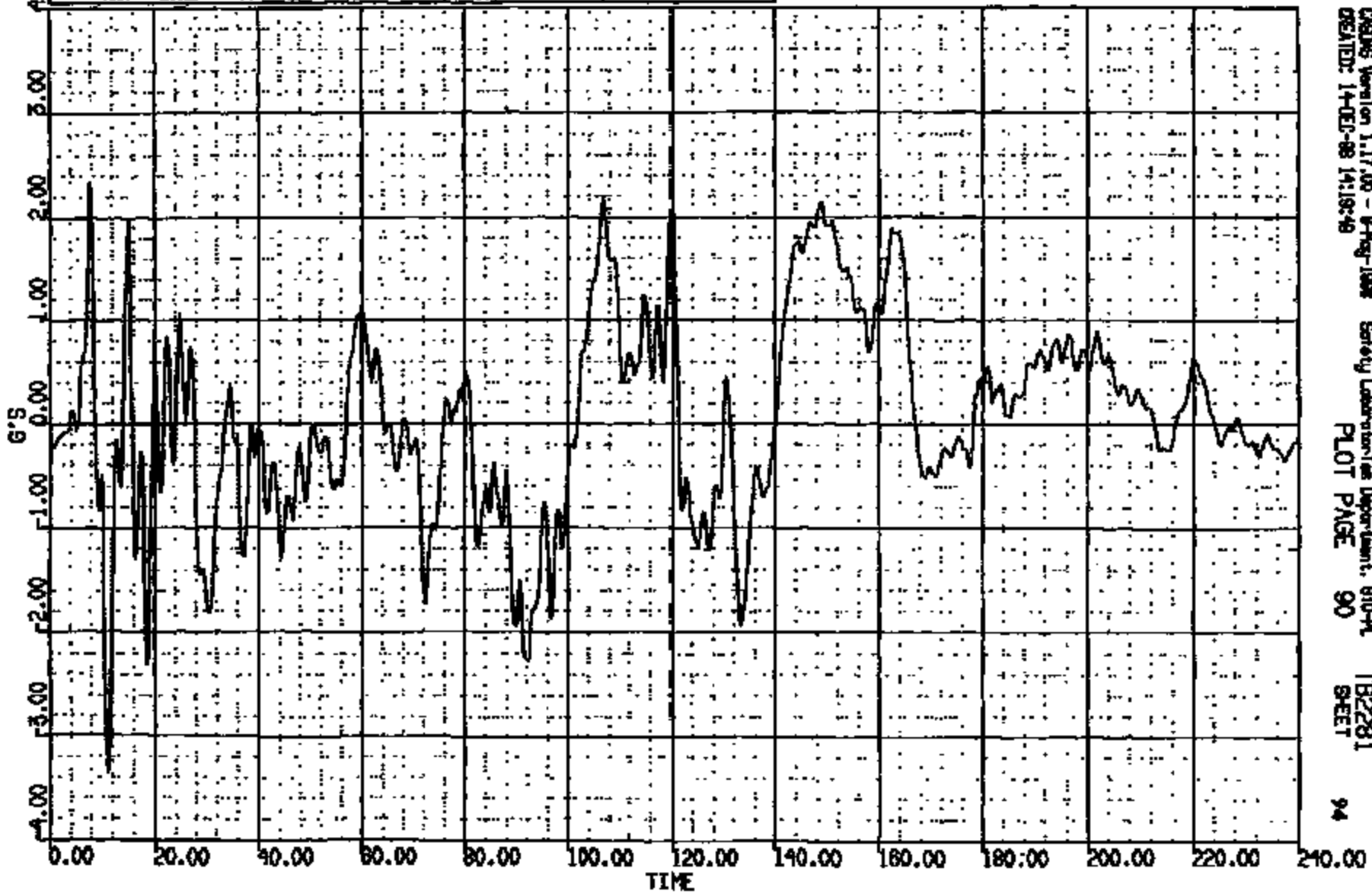
CRTS 0011300

CR R: 11500 TO: TB2281 DATE: 881212 08:40:17
BOOK D-198

(83) CR11300T R/ROCKER B B-PILLAR WERT GC

MAX = 2.328 at 7.920 MS MIN = -3.303 at 11.28 MS

AXIS 1



CASDS Version 1.17.00 - 8-May-1988 Safety Laboratories Department, 810-PL
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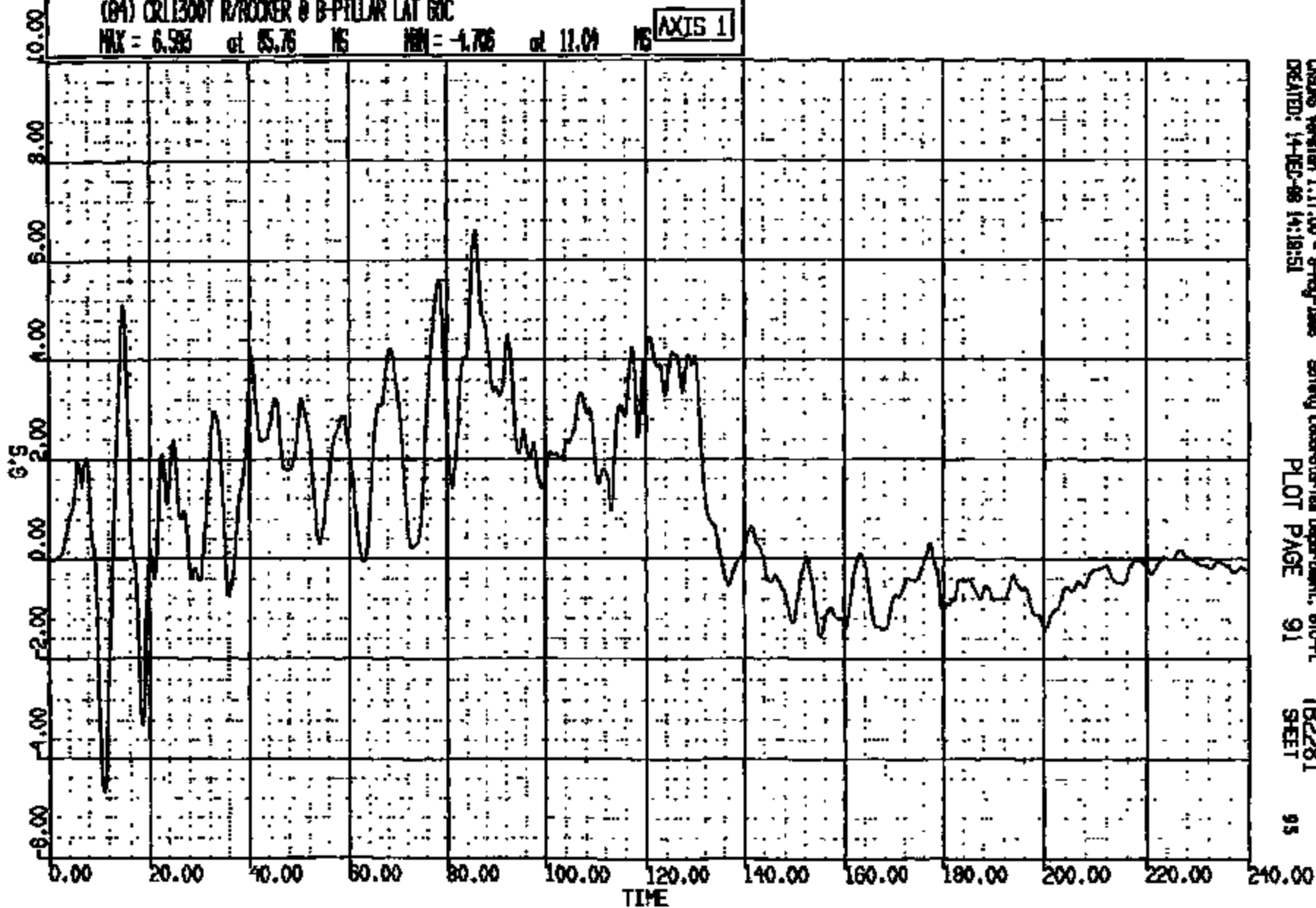
CRTS 0011300

CR R: 11800 TO: TB2281 DATE: 981212 09:40:17
BOOK D-188

(04) CR113007 R/ROCKER @ B-PILLAR LAT GOC

MAX = 6.586 at 85.76 MS MIN = -4.706 at 11.09 MS

AXIS 1



CASING Version 1.17.00 - 8-Aug-1998
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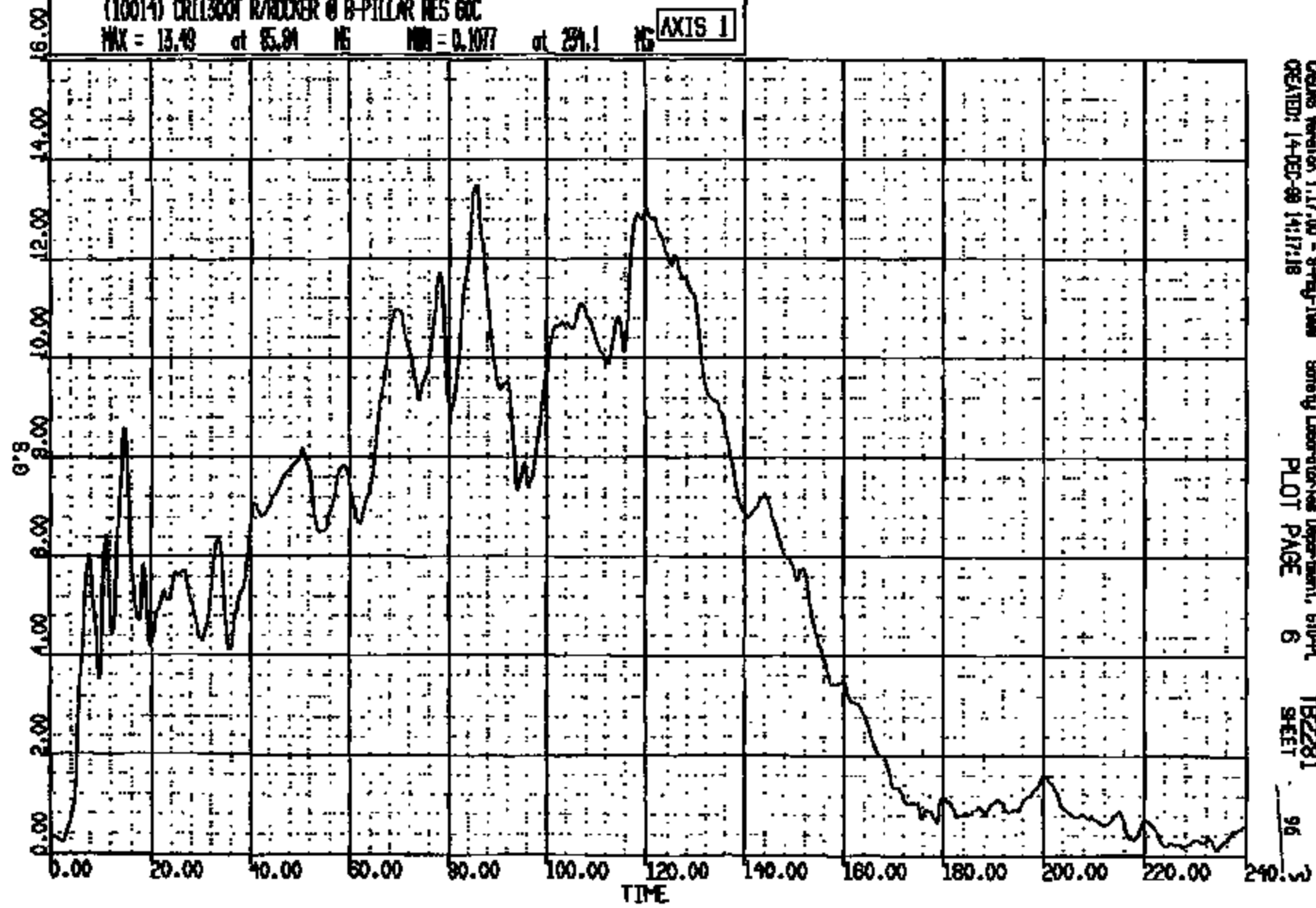
95

CRTS 0011300

CR R: 11300 TO: TB2281 DATE: 861218 09:40:17
BOOK D-188

(10014) CR113001 R/ROCKER @ B-PILLAR RES GOC
MAX = 13.49 at 85.81 NS MIN = 0.1077 at 231.1 NS

AXIS 1

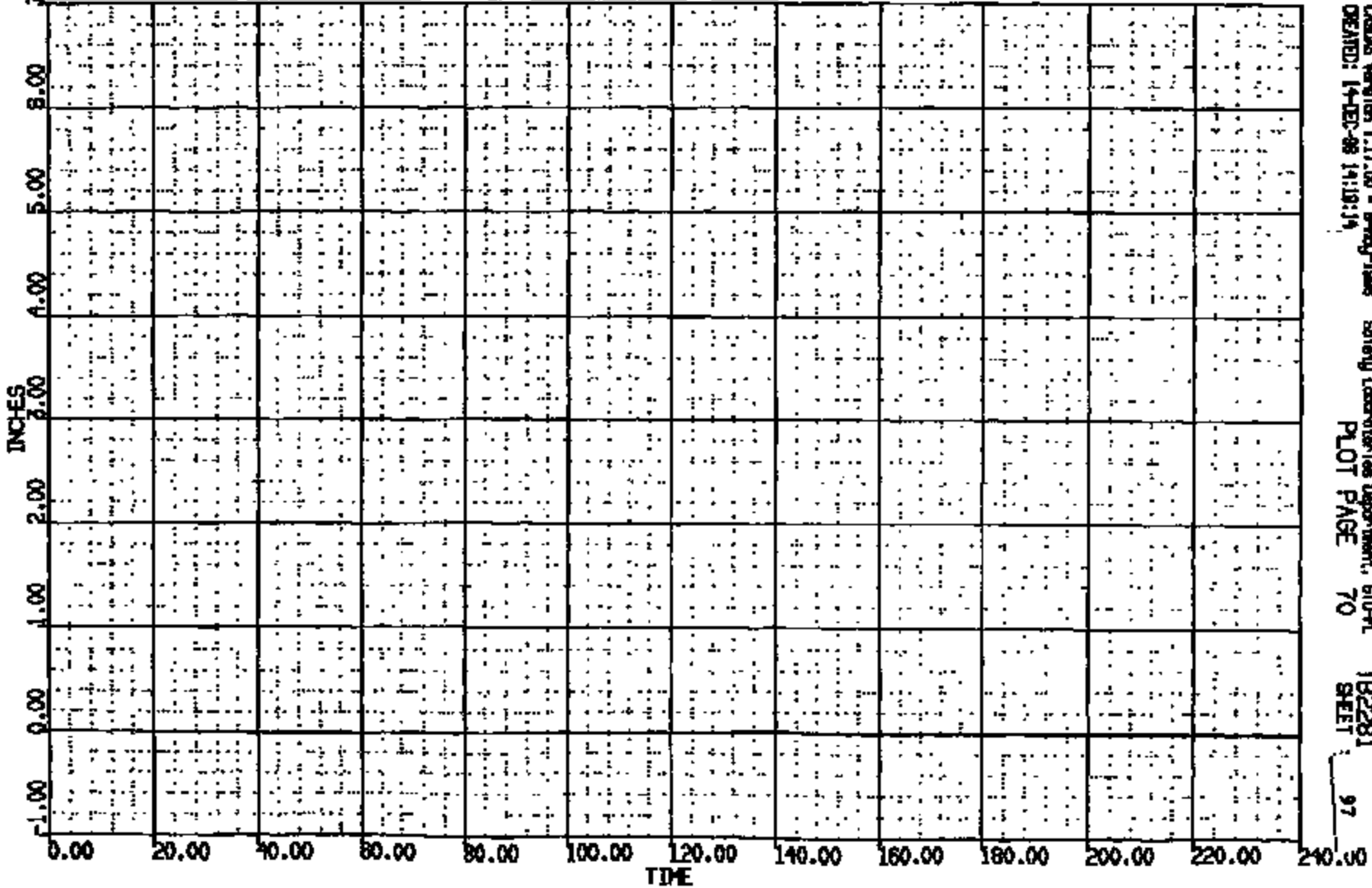


OSGMS Version 1.17.00 - 8-May-1988 Safety Laboratories Department, 610-PL TB2281
CREATED: 14-DEC-88 14:17:18 PLOT PAGE 6 SHEET 96

CRIS 0011300

CR #: 11500 TO: TB2281 DATE: 881212 09:40:17
200X D-188

(63) ORL13001 SIG CO. THR INST PNL DISP S.P. 60C
MM = 0.252E-01 at 137.4 NS MM = -.127E-01 at 237.0 NS AXIS 1



CRS008 Version 1.17.00 - 8-May-1988
CREATED: 14-DEC-88 14:19:14

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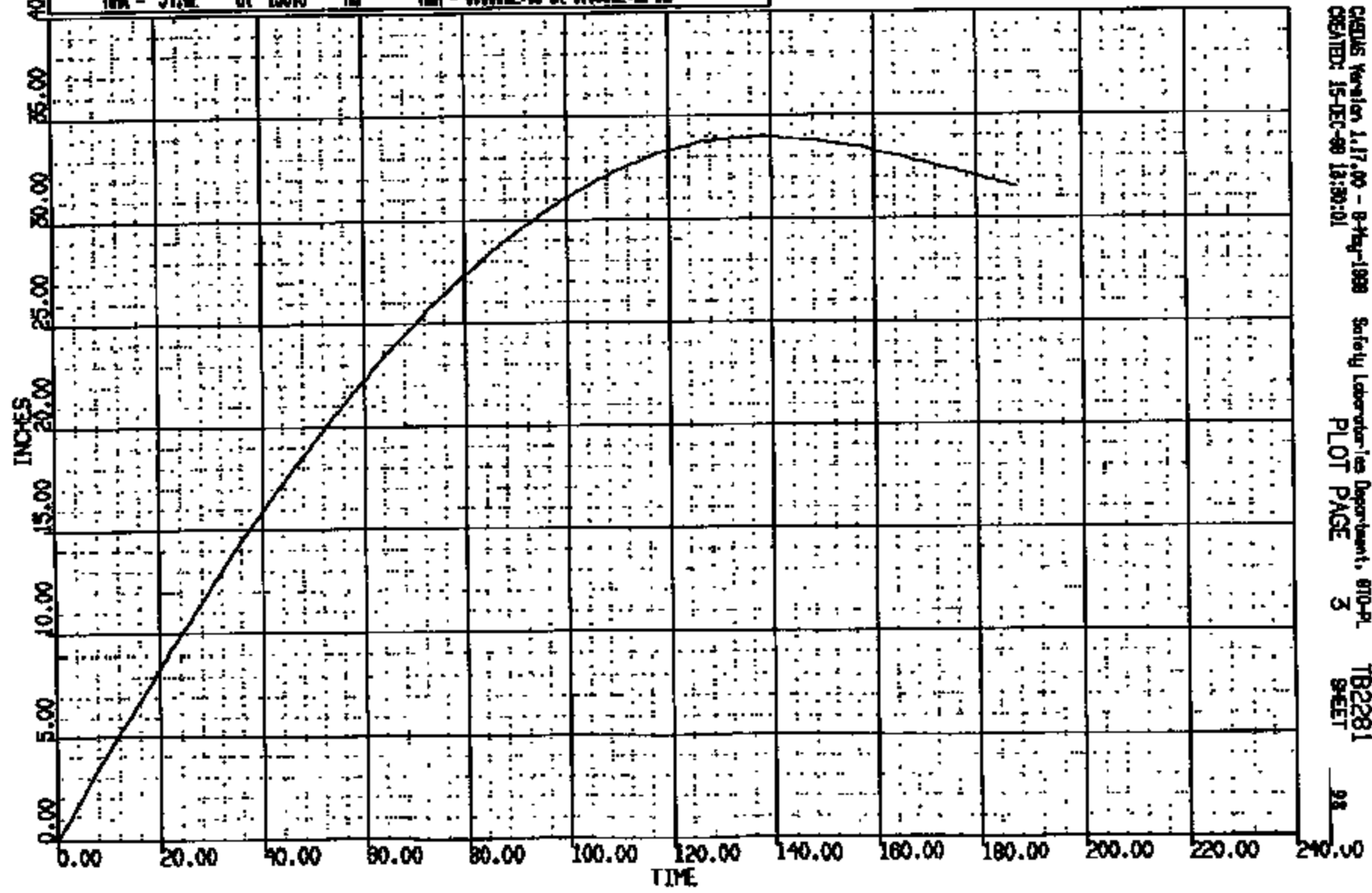
TB2281
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CRTS 0011300

CR R: 11300 TO: TB2281 DATE: 881218 08:40:17
200X D-168

(0) CRCL1300 L RNR AT B PLR NRT L GND REF LONG DISP
MAX = 34.02 at 138.5 NS MIN = 0.000E+00 at 0.000E+00 NS

AXIS 1



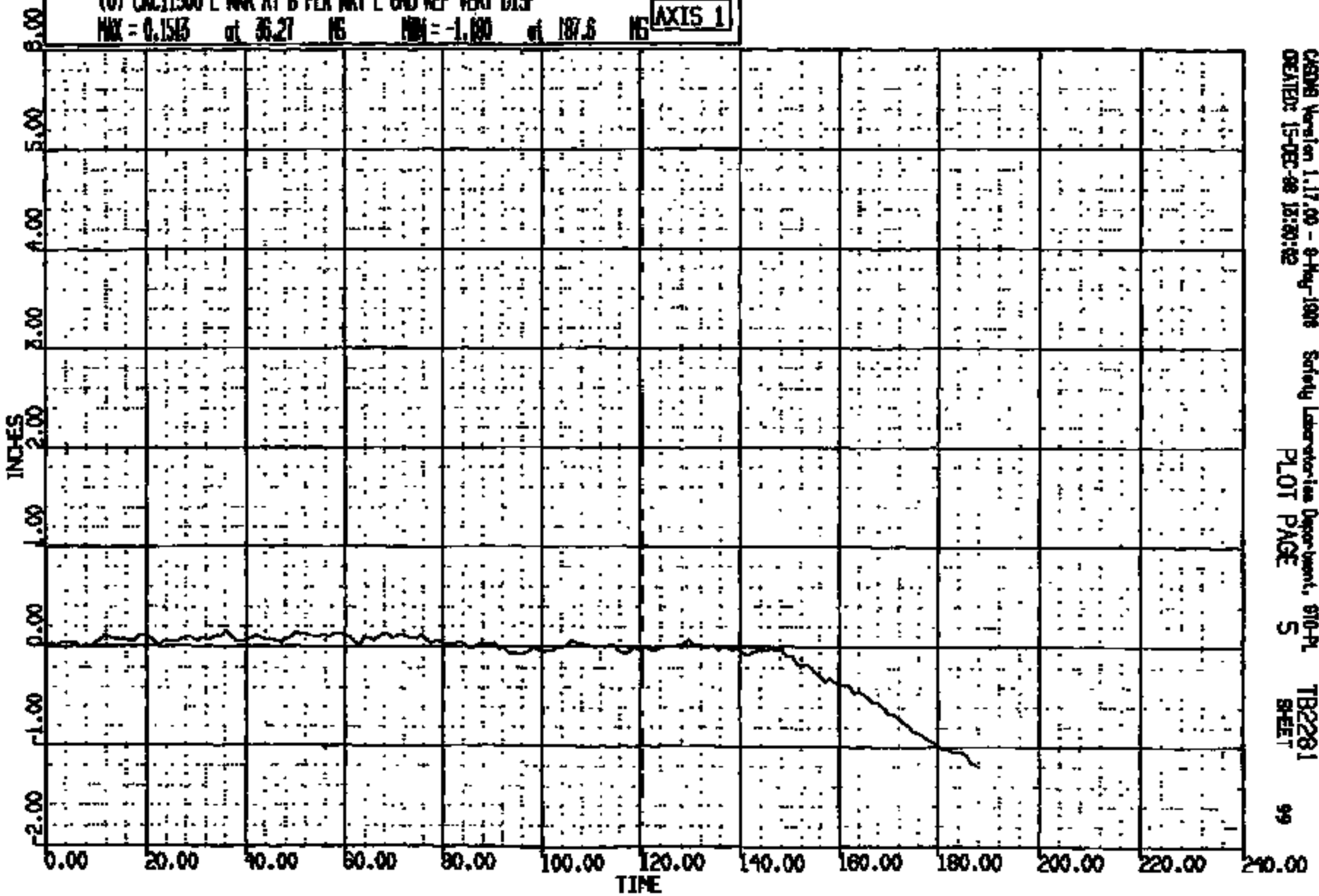
CRTS 0011300

CRSUS Version 1.17.00 - 8-May-1988 Safety Laboratories Department, 810-PL
CREATED: 15-DEC-88 18:30:01 PLOT PAGE 3 TB2281
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DR R: 11300 TO: TB2281 DATE: 881212 08:40:17
BOOK D-188

(0) CRC11300 L RWR AT B FLR WRT L END REF VERT DISP
MAX = 0.1543 at 36.27 MS MIN = -1.000 at 187.6 MS

AXIS 1



CASINO Version 1.17.00 - 8-May-1988
CREATED: 15-DEC-88 12:30:52

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PLOT PAGE 5

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SHEET

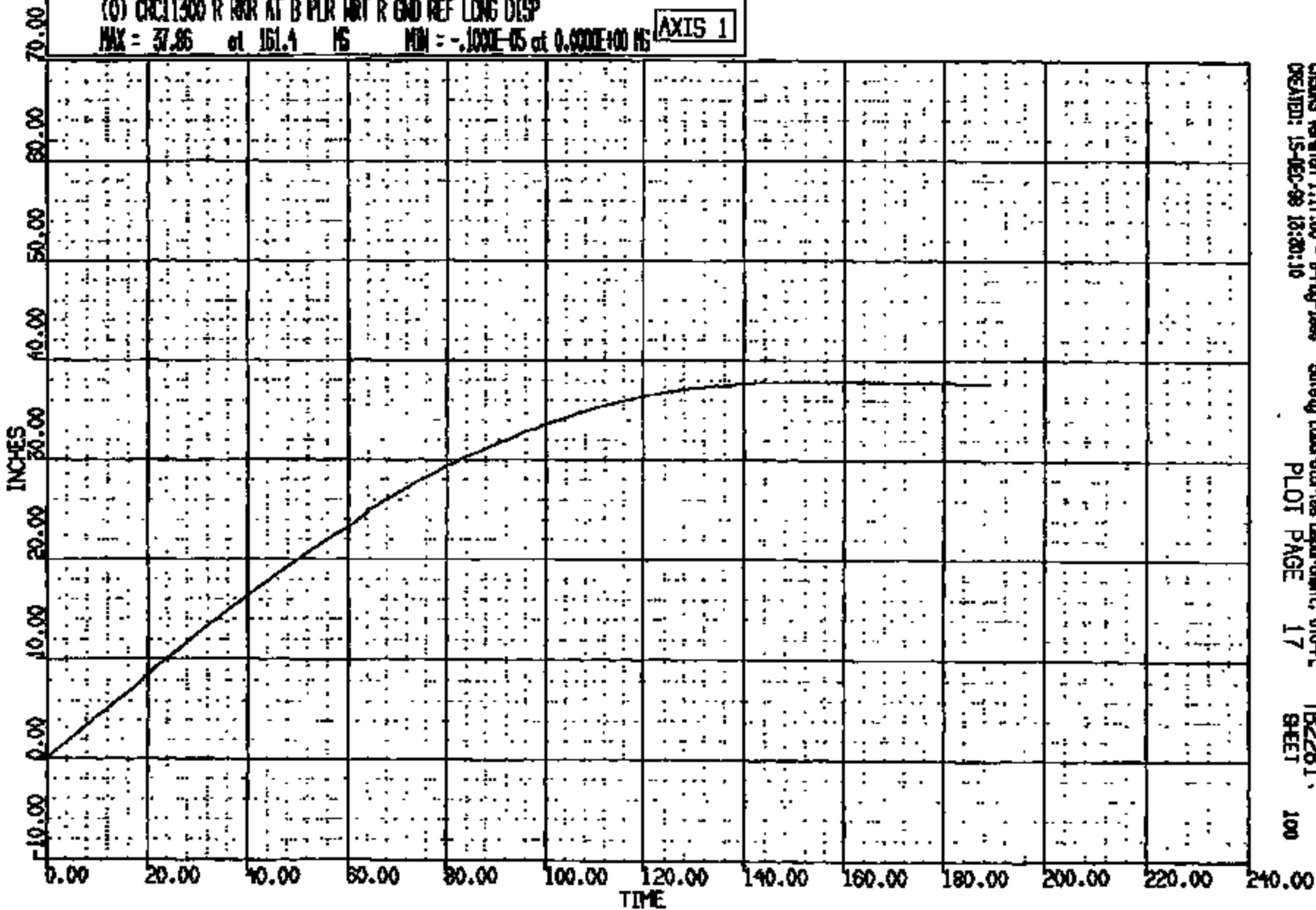
99

CRTS 0011300

CR 7: 11300 TO: TB2281 DATE: 981212 09:40:17
NOOX 0-198

(0) CR011300 R ROR AT B PLR WRT R END REF LONG DISP
MAX = 37.86 at 161.4 MS MIN = -.100E-05 at 0.000E+00 MS

AXIS 1



CRS0011300
CREATED: 15-DEC-98 18:30:10

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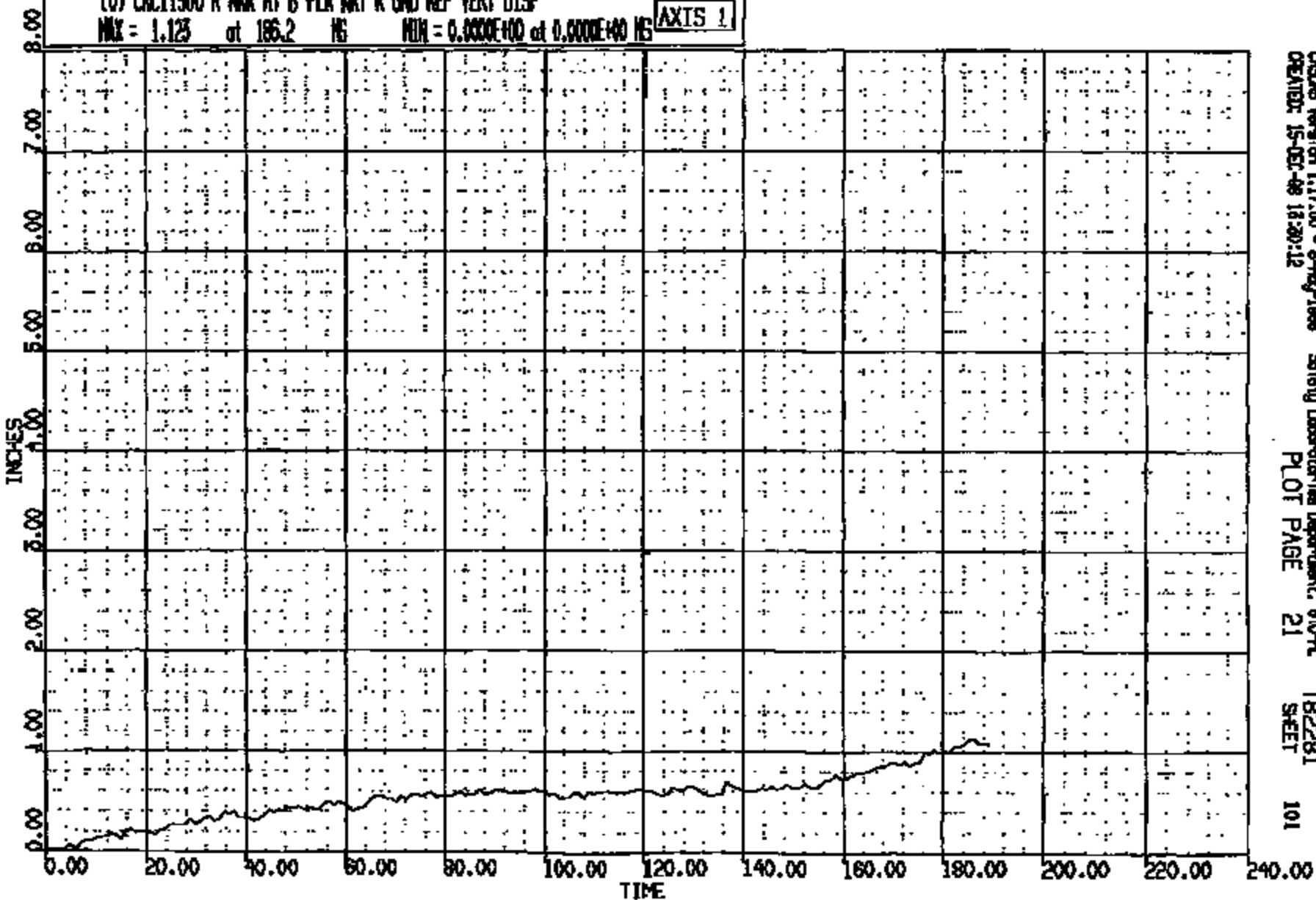
TB2281,
SHEET 100

CRIS 0011300

CR R: 11500 TO: TB2281 DATE: 981212 09:40:17
200X D-188

(0) CRT11300 R RWR AT B FLR WRT R QND REF VERT DISP
MAX = 1.123 at 186.2 MS MIN = 0.000E+00 at 0.000E+00 MS

AXIS 1



CHDS Version 1.17.00 - 9-May-1998
CREATED: 15-DEC-98 18:20:12

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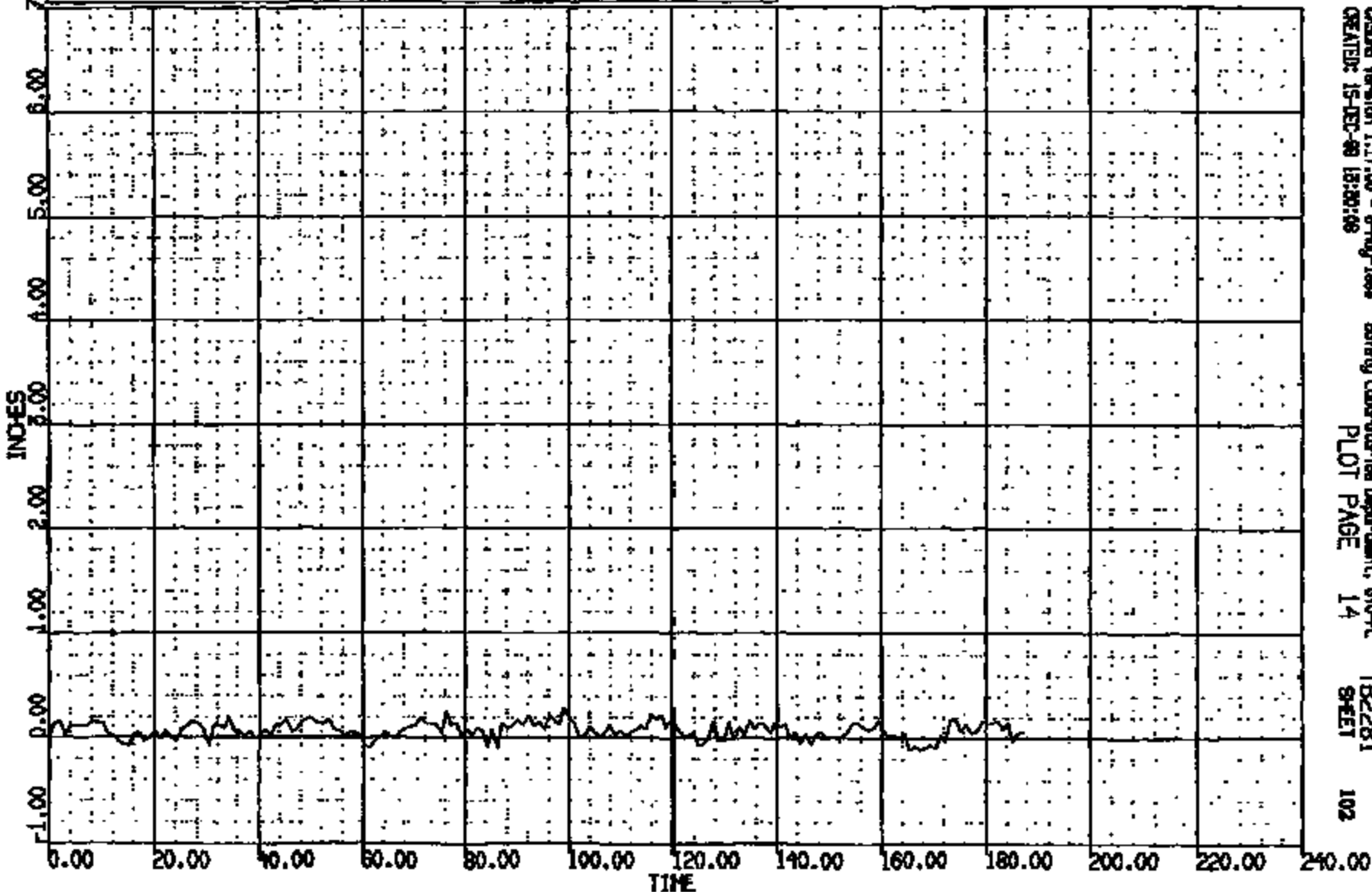
CRTS 0011300

CR R: 11300 TO: TB2281 DATE: 991212 09:40:17
BOOK D-196

(6) CRCL1300 TOP OF BARR HT GND REF LONG DISP

MAX = 0.2713 at 99.05 NS MIN = -.1548 at 165.4 NS

AXIS 1



CRS08 Version 1.17.00 - 8-May-1998
CREATED: 15-DEC-99 18:20:28

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TB2281
SHEET

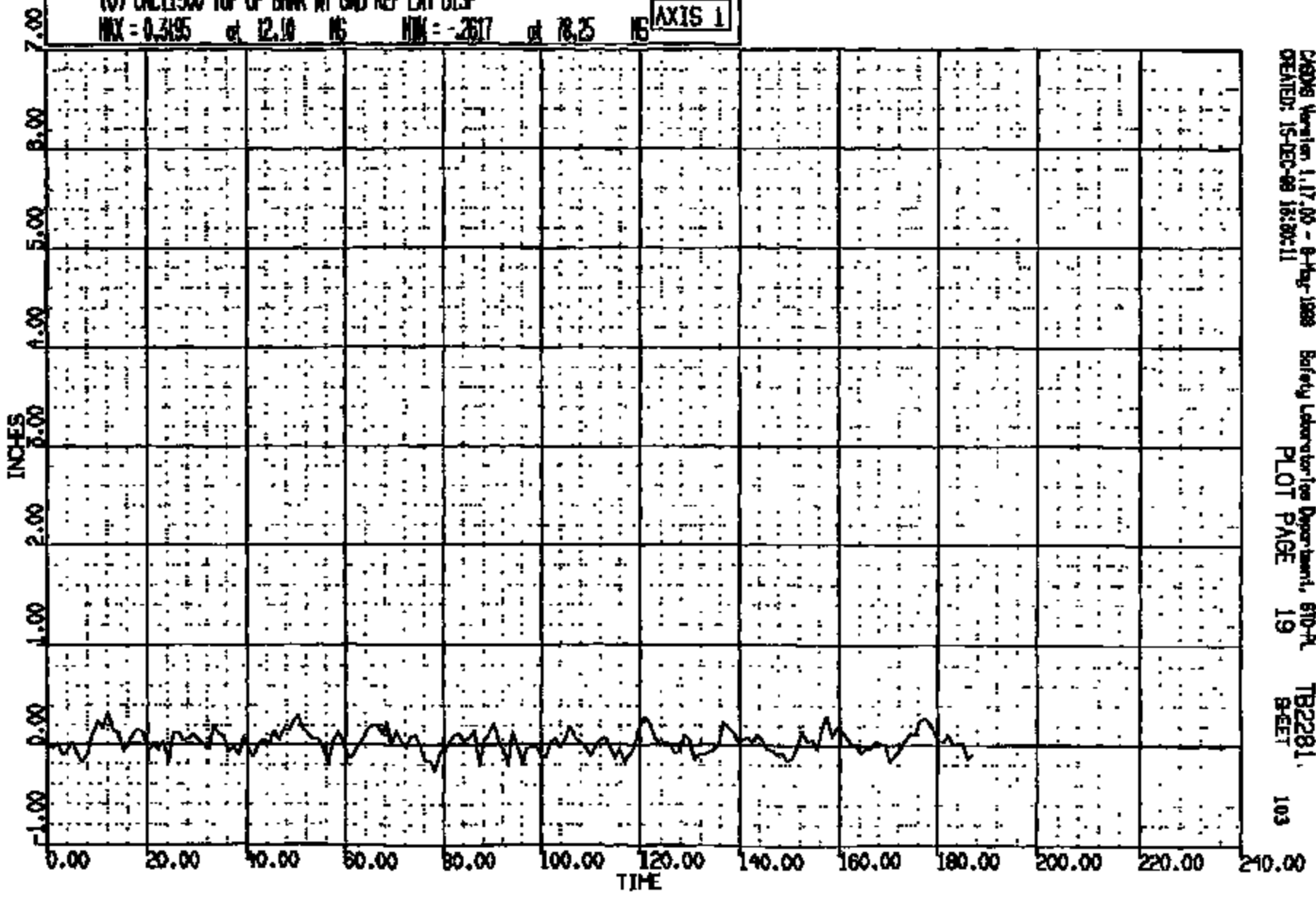
102

CRIS 0011300

CR R: 11300 TO: TB2281 DATE: 881212 08:40:17
BOOK D-188

(0) CRCL1300 TOP OF BARR MT GND REF LAT DISP
MAX = 0.3495 at 12.10 NS MIN = -.2617 at 78.25 NS

AXIS 1



CADMS Version 1.17.00 - 8-Aug-1988
CREATED: 15-DEC-88 18:30:11

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SHEET

103

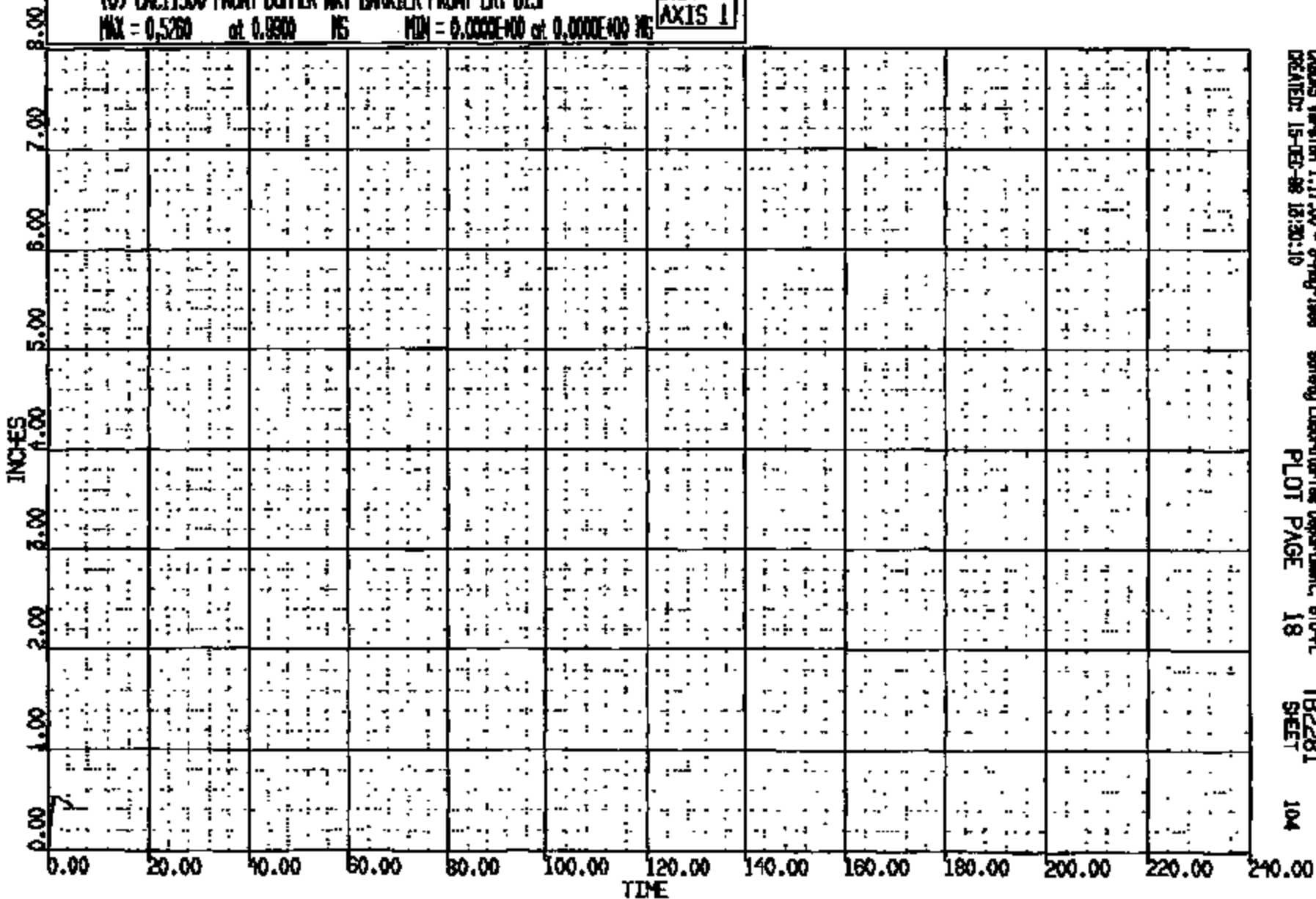
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AXIS 1



CRTS 0011300

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Safety Laboratory Inc Department, 670-PL
PLOT PAGE 18

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104

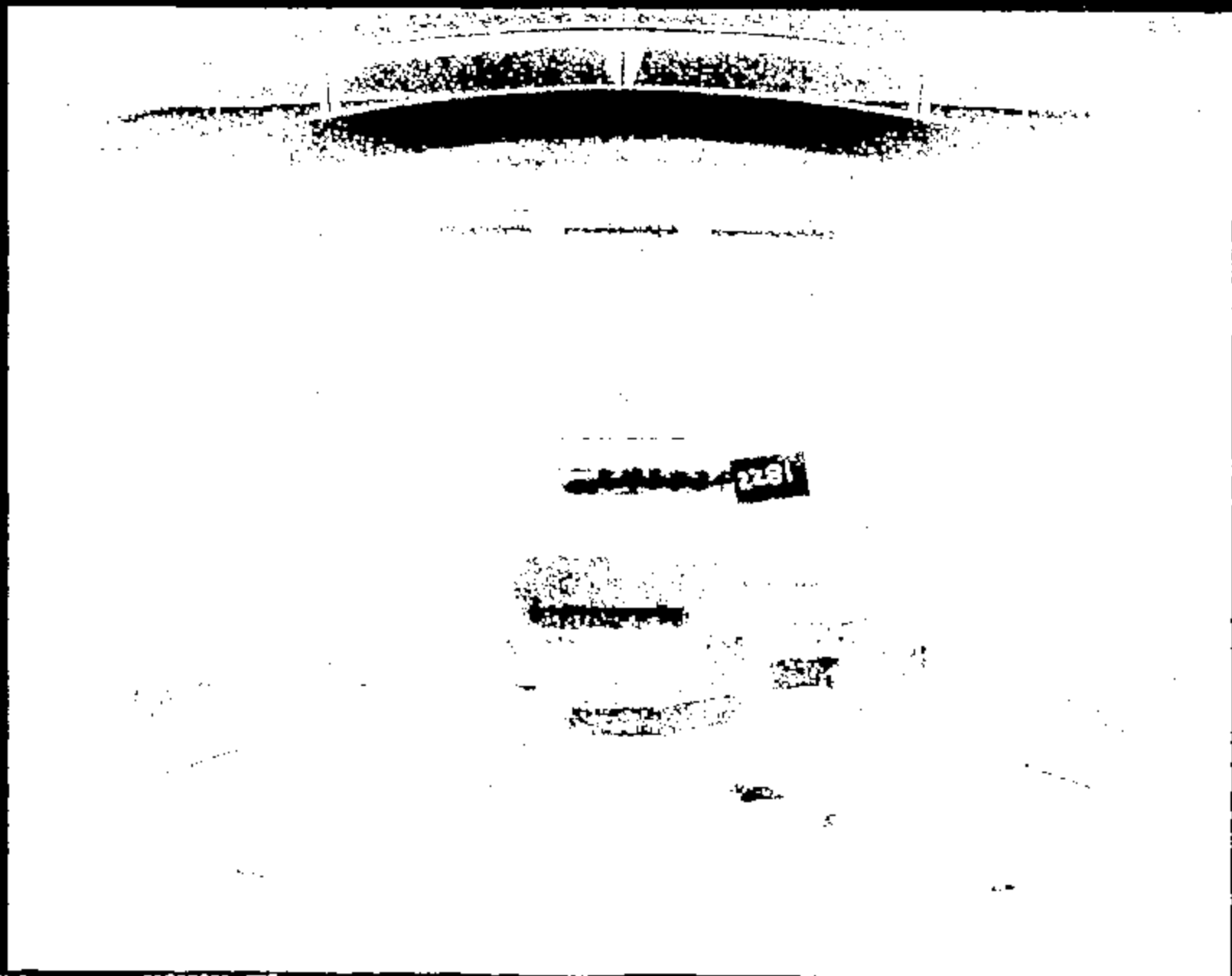


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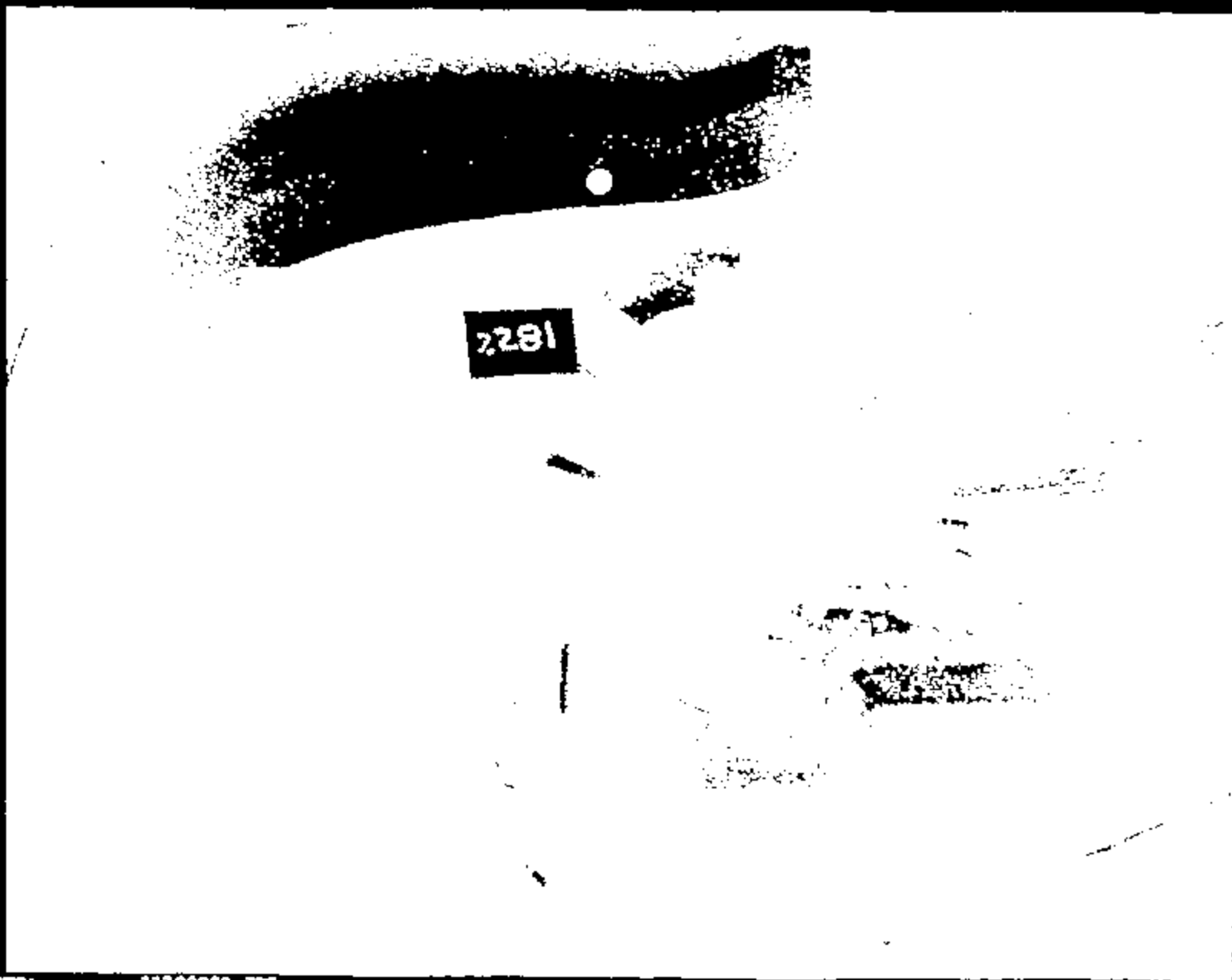
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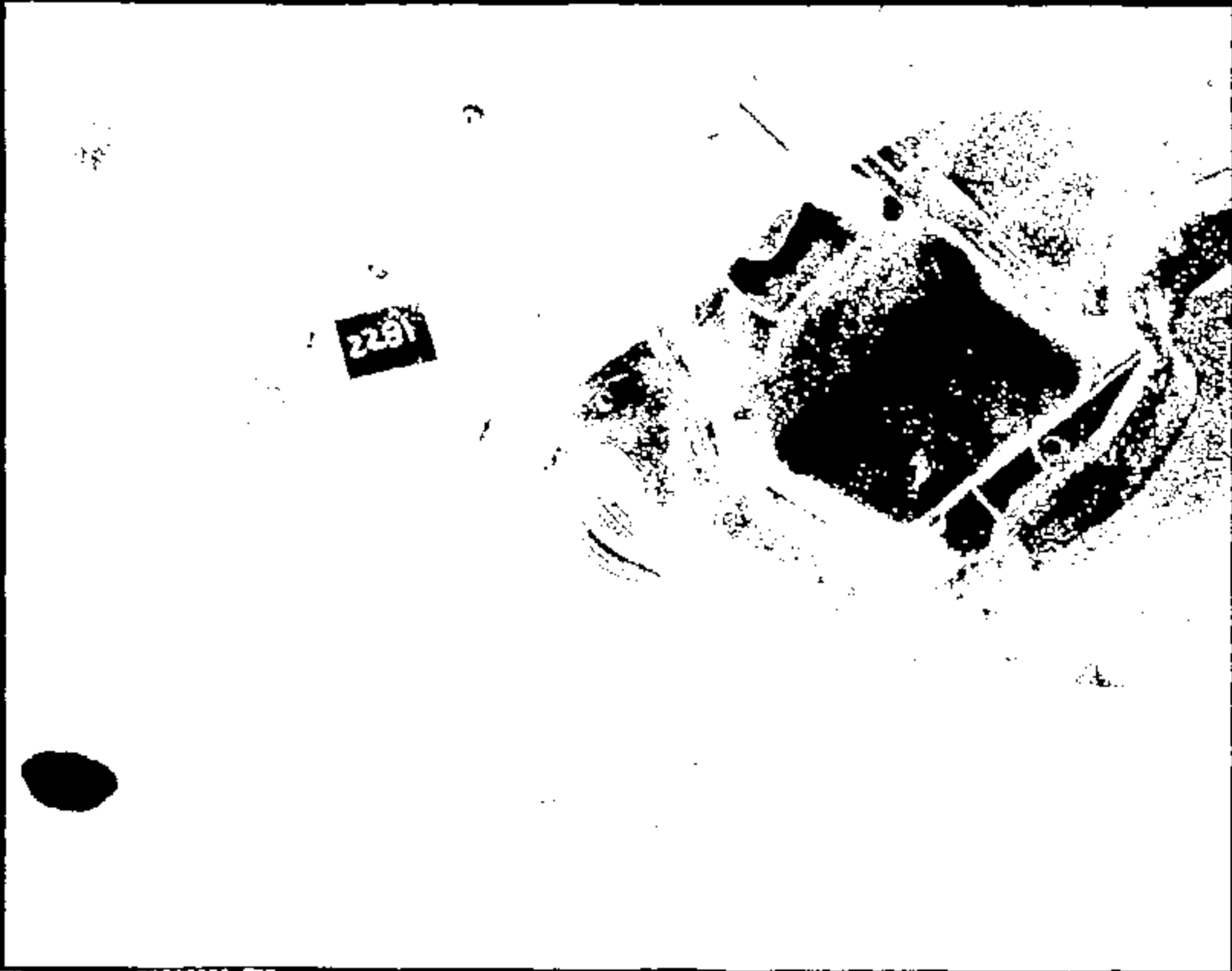
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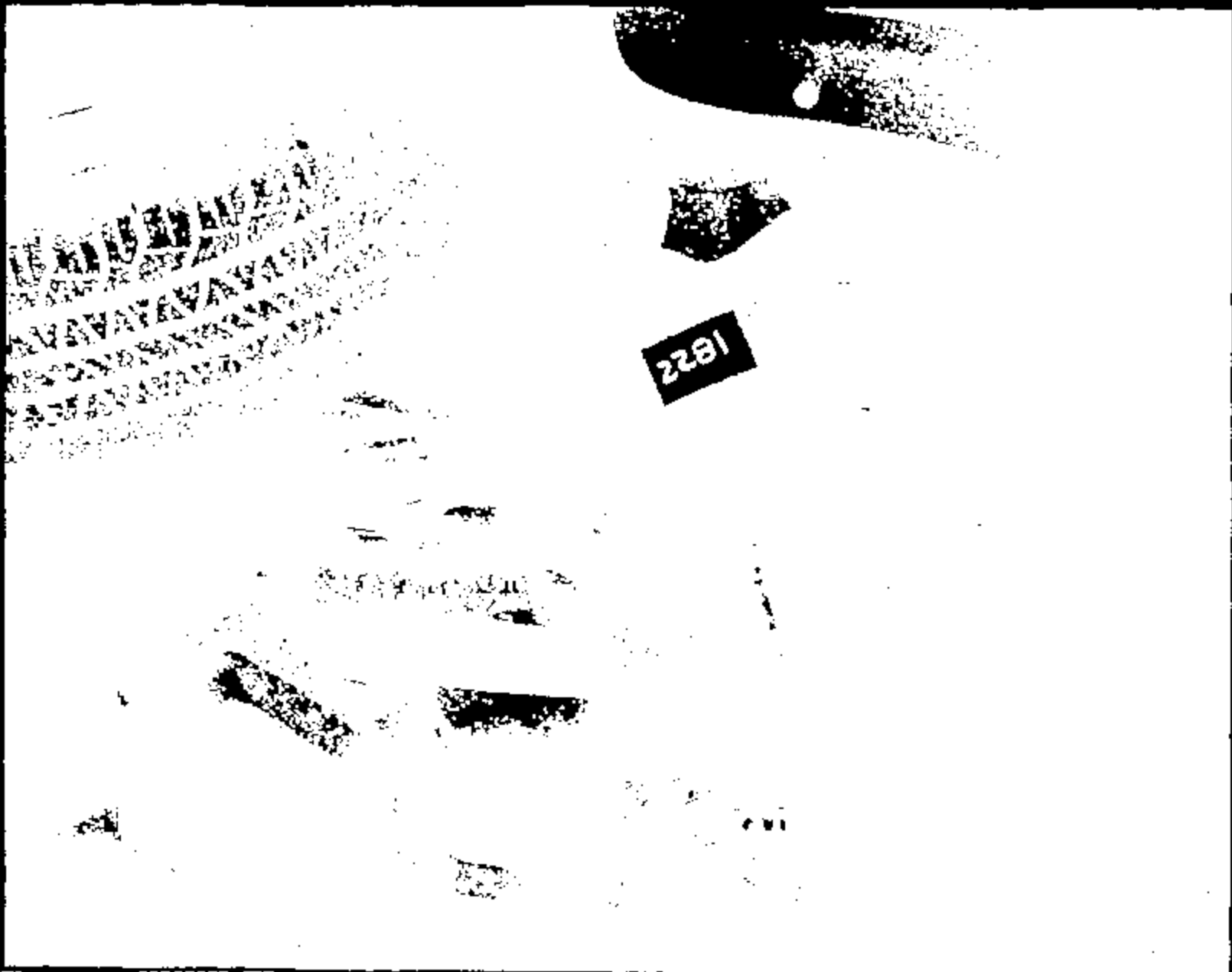
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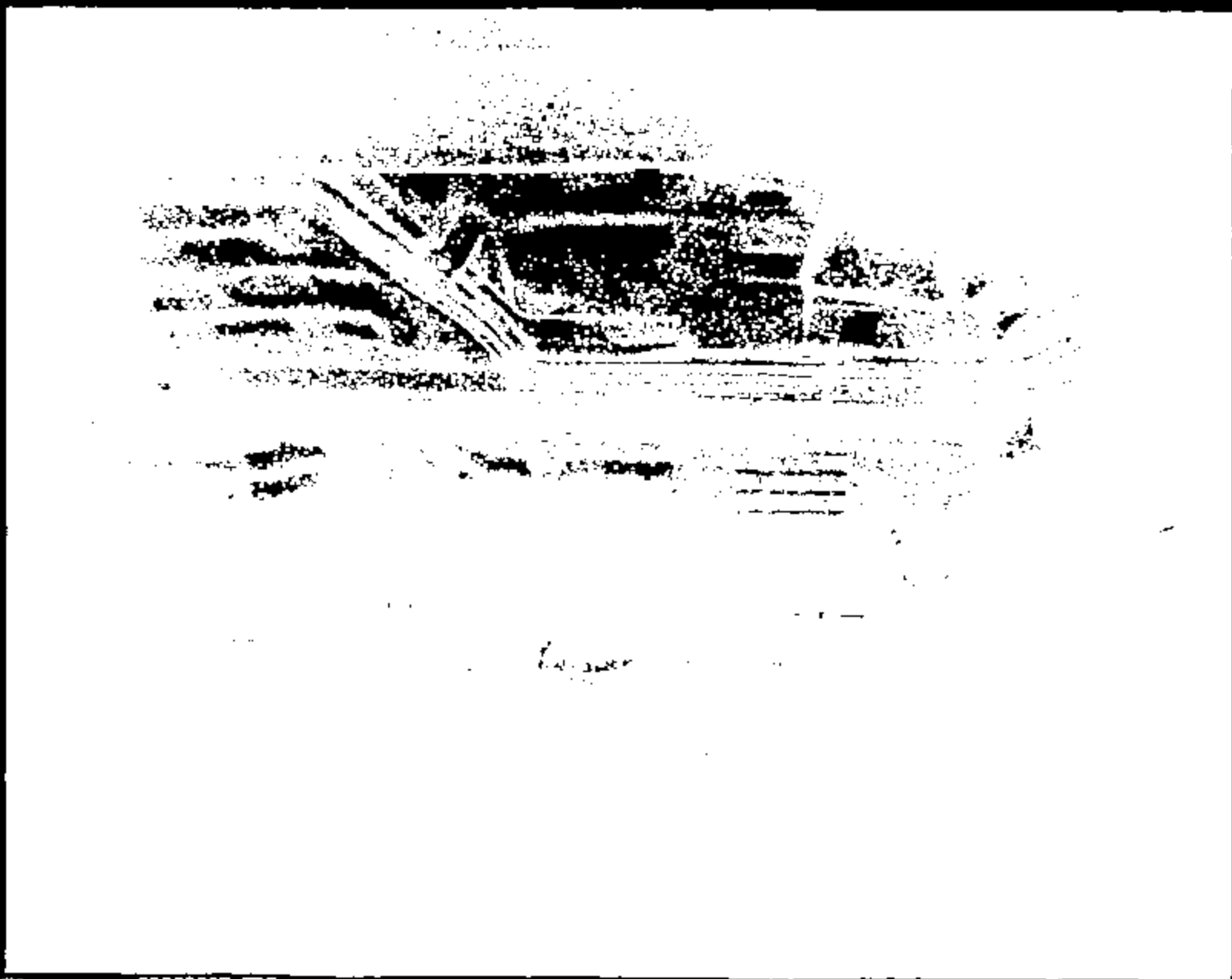
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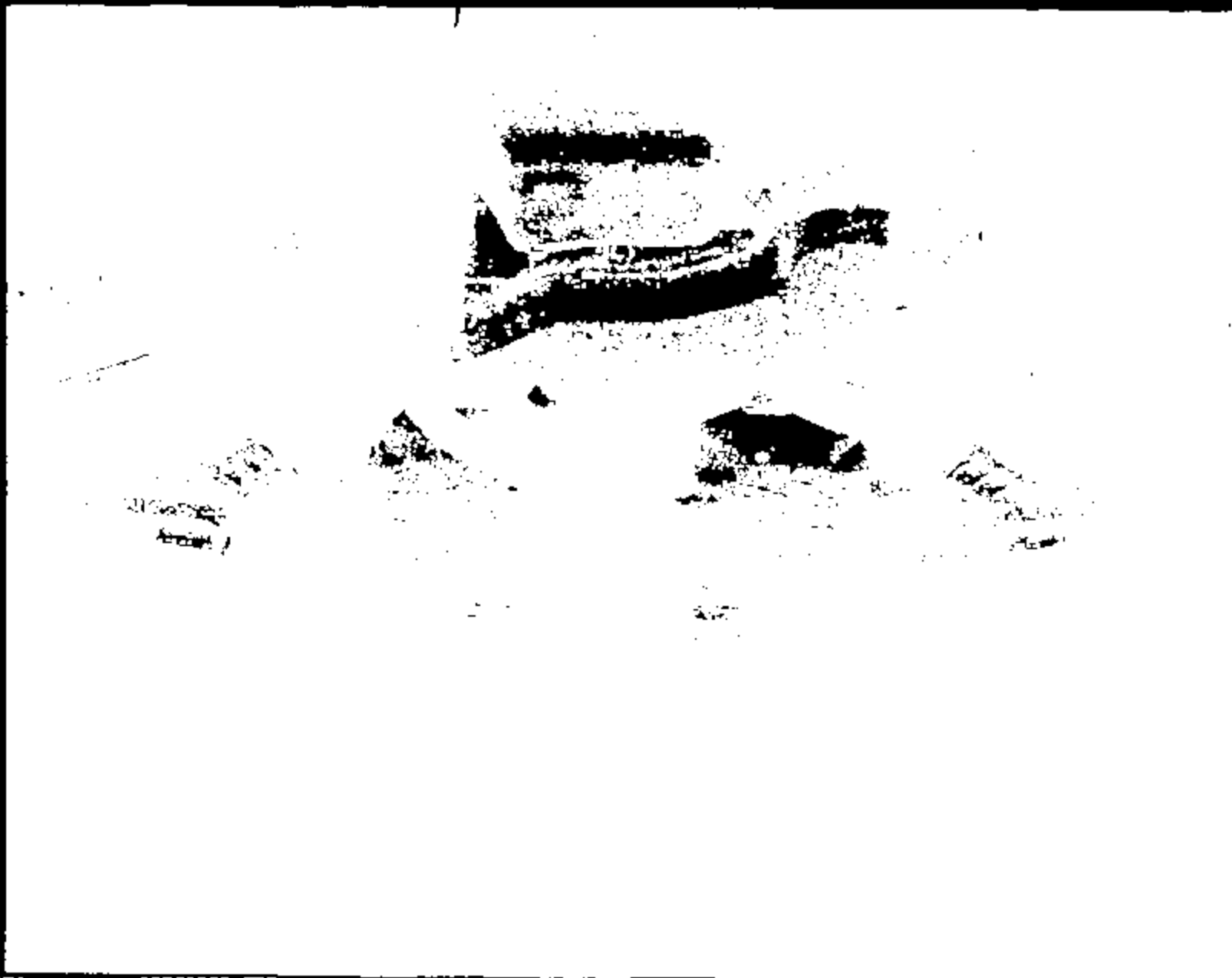
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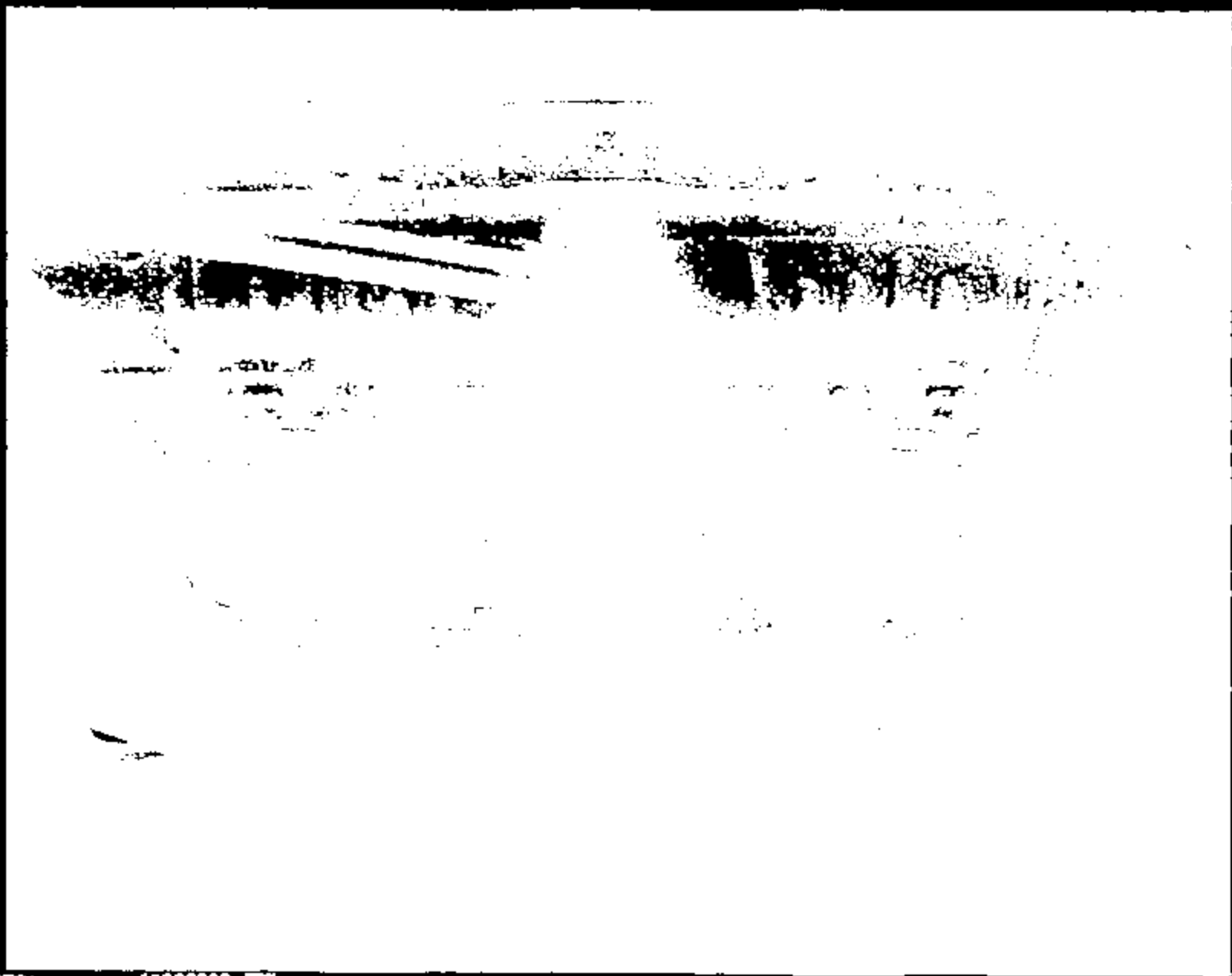
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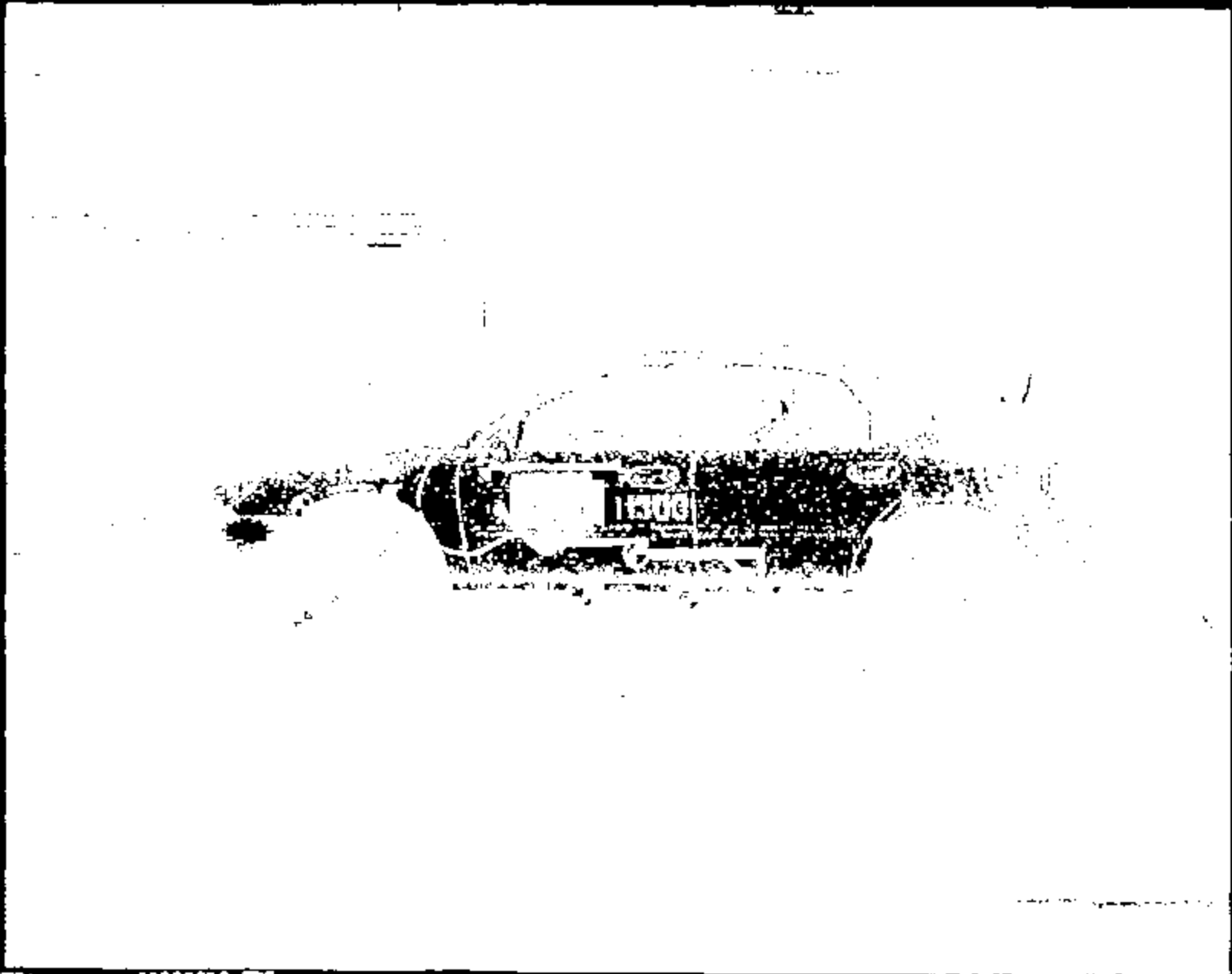
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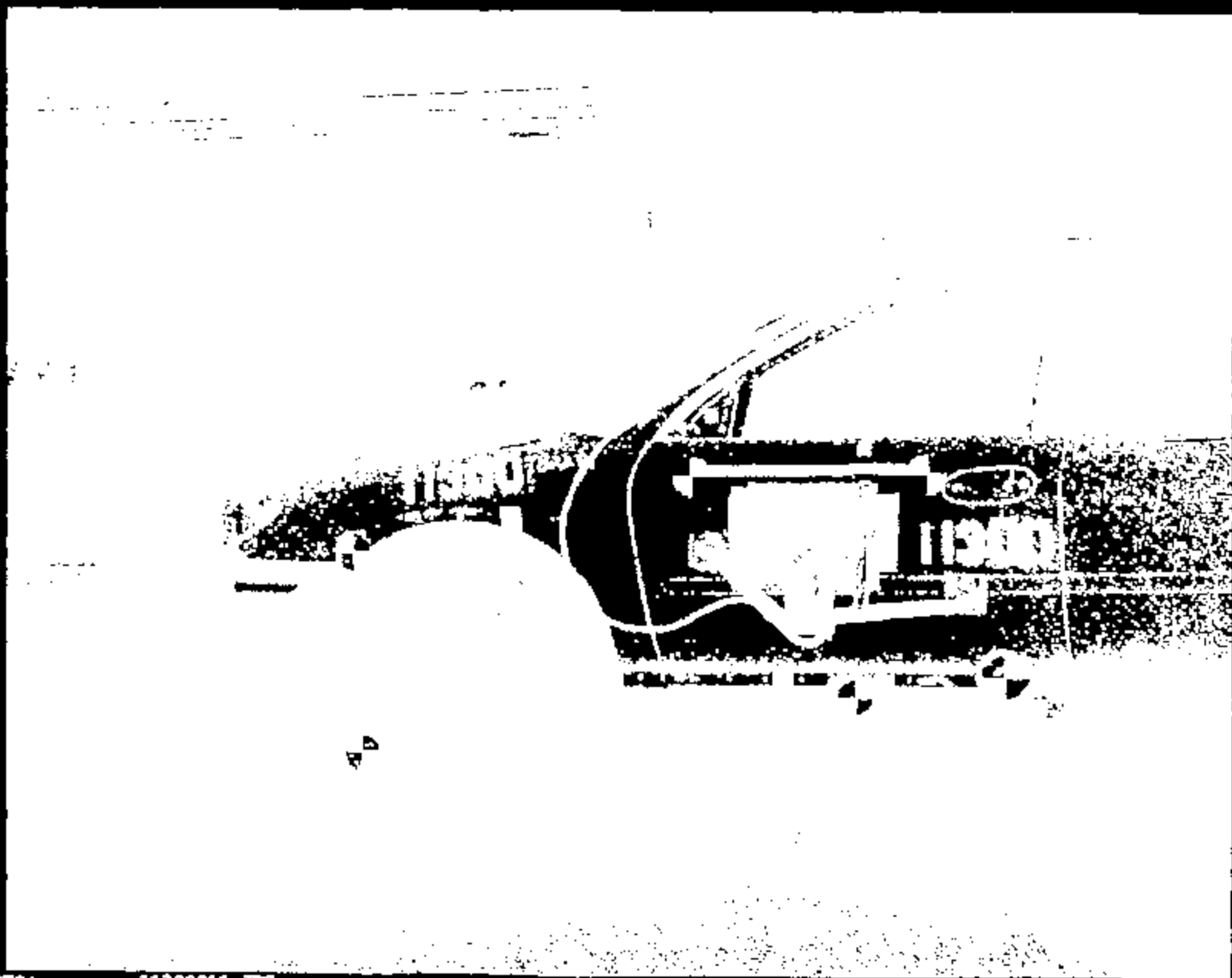
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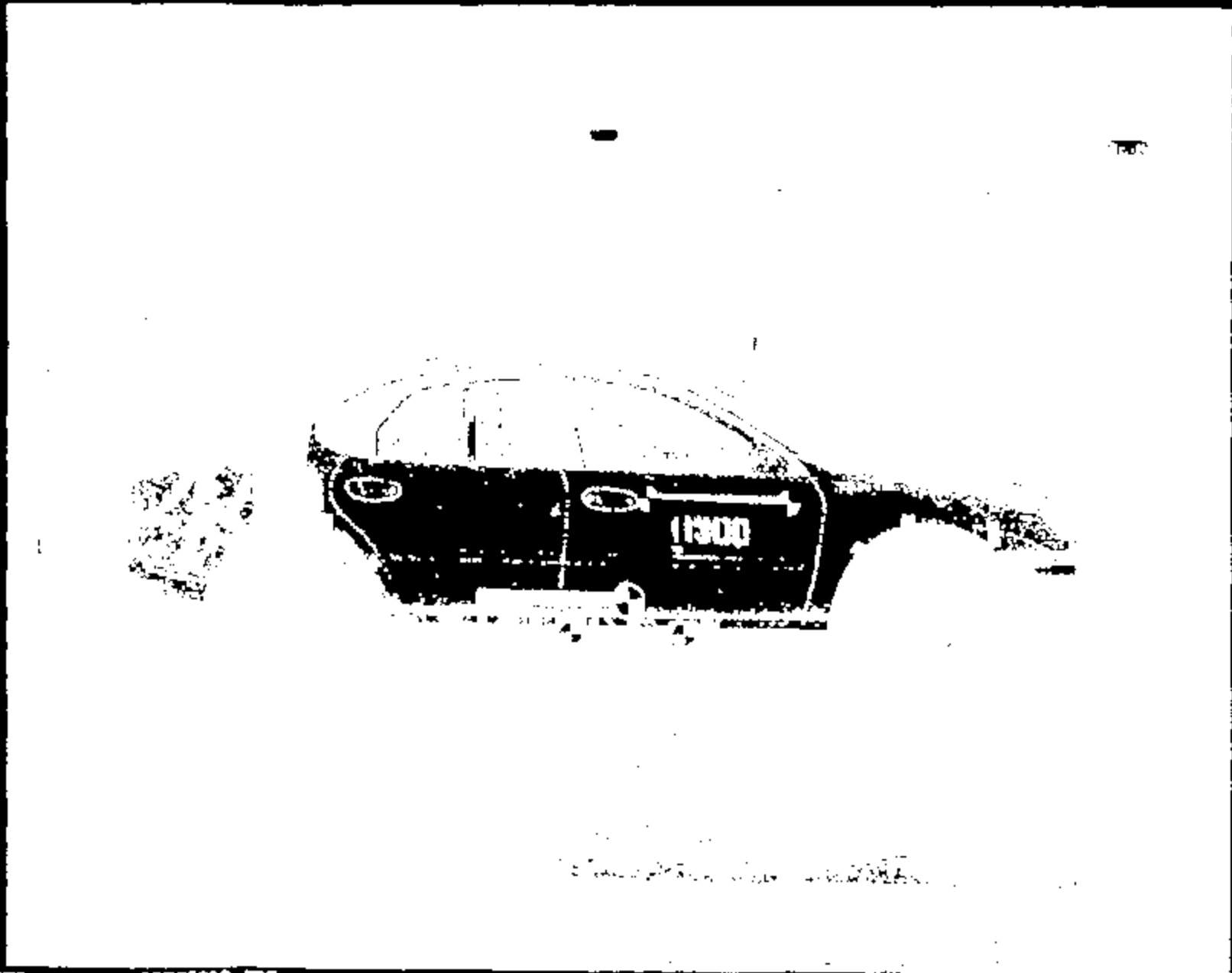
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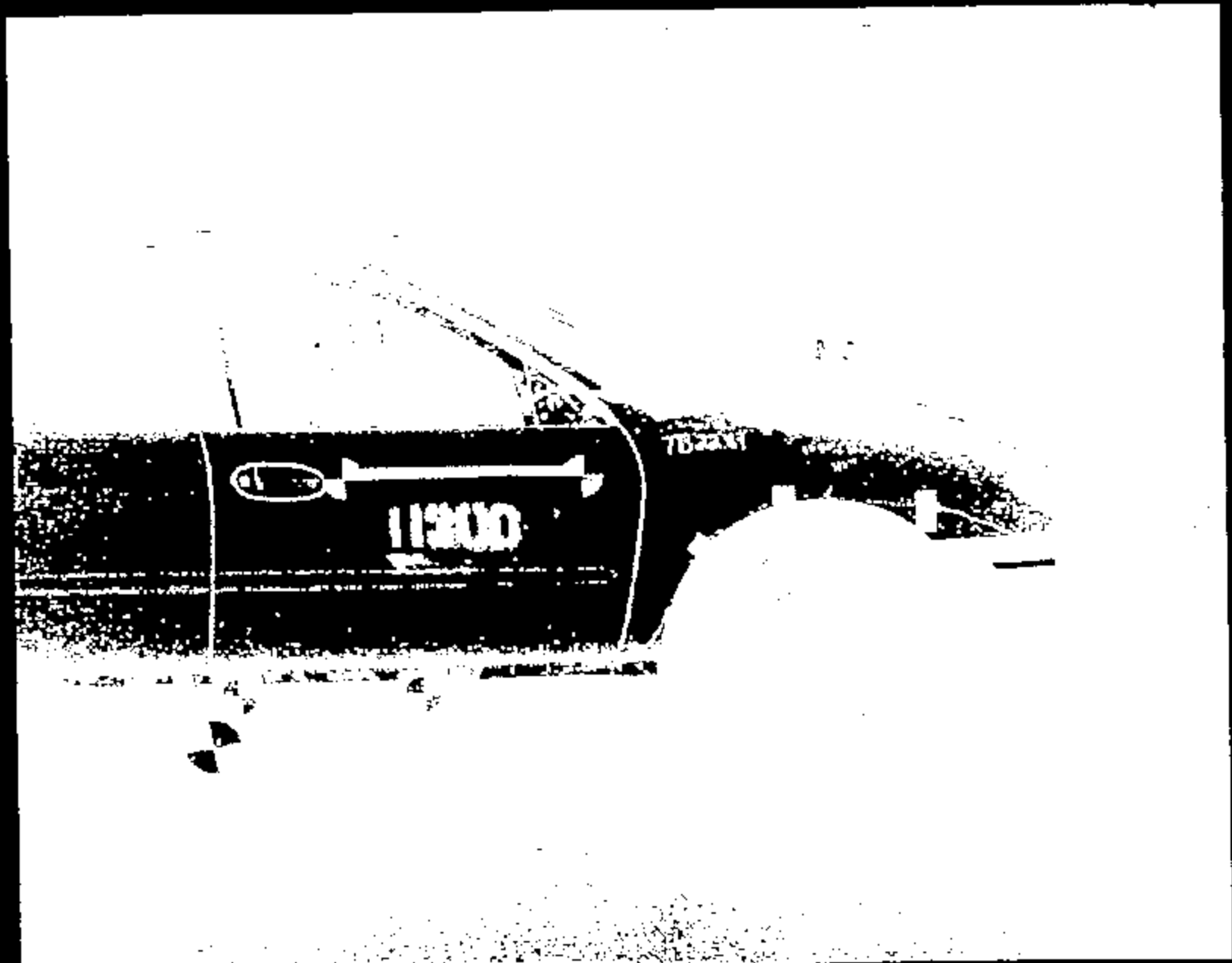
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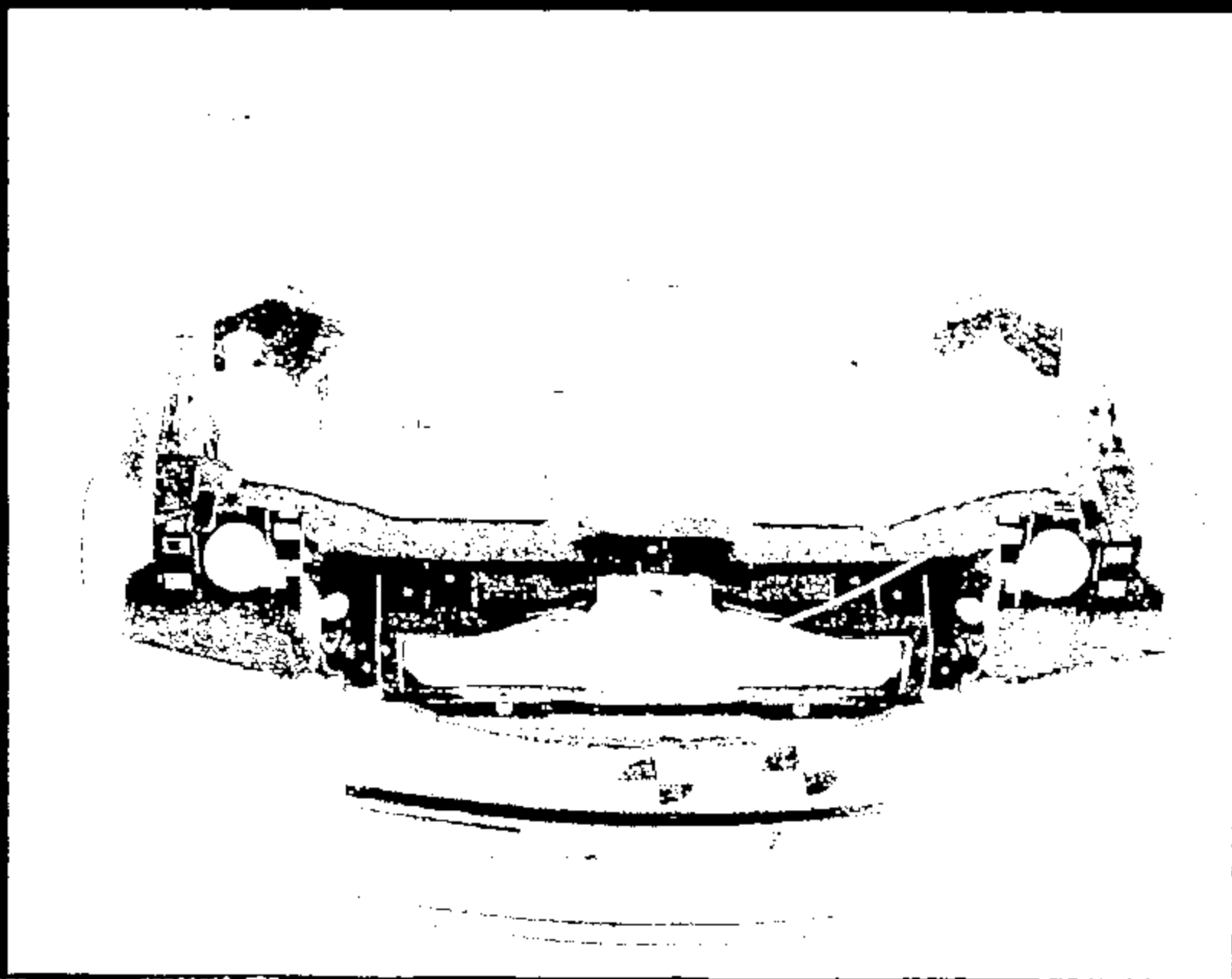
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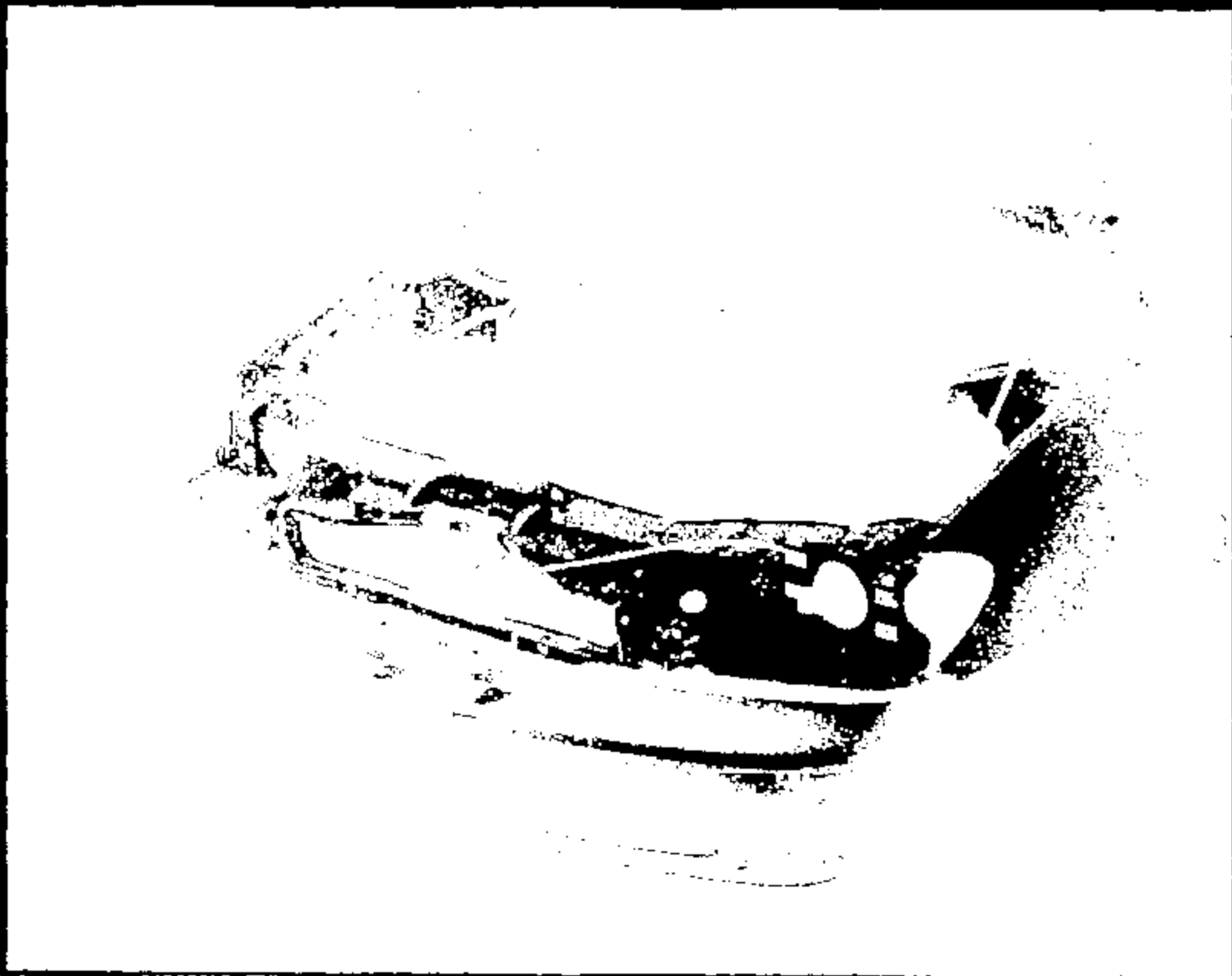
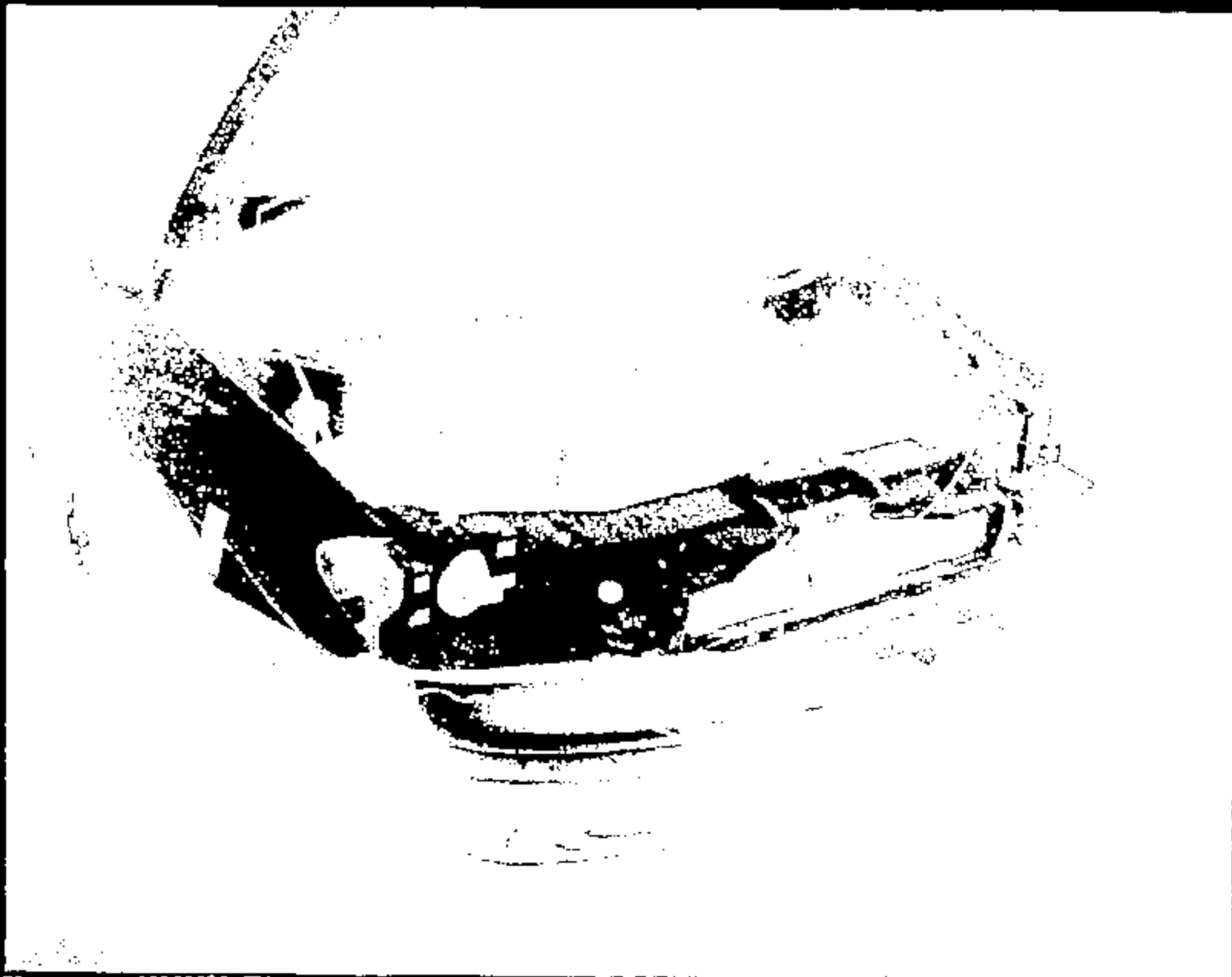


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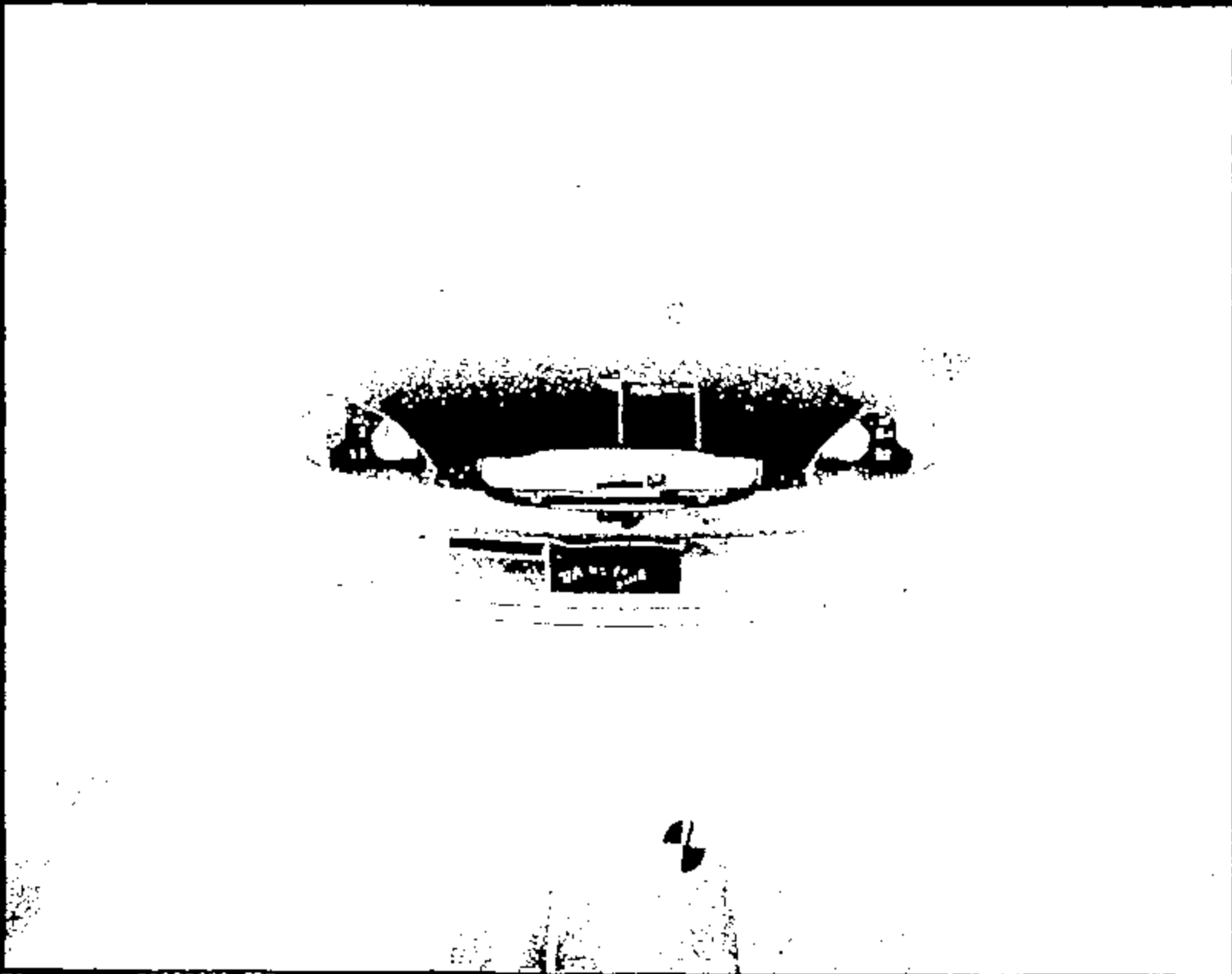
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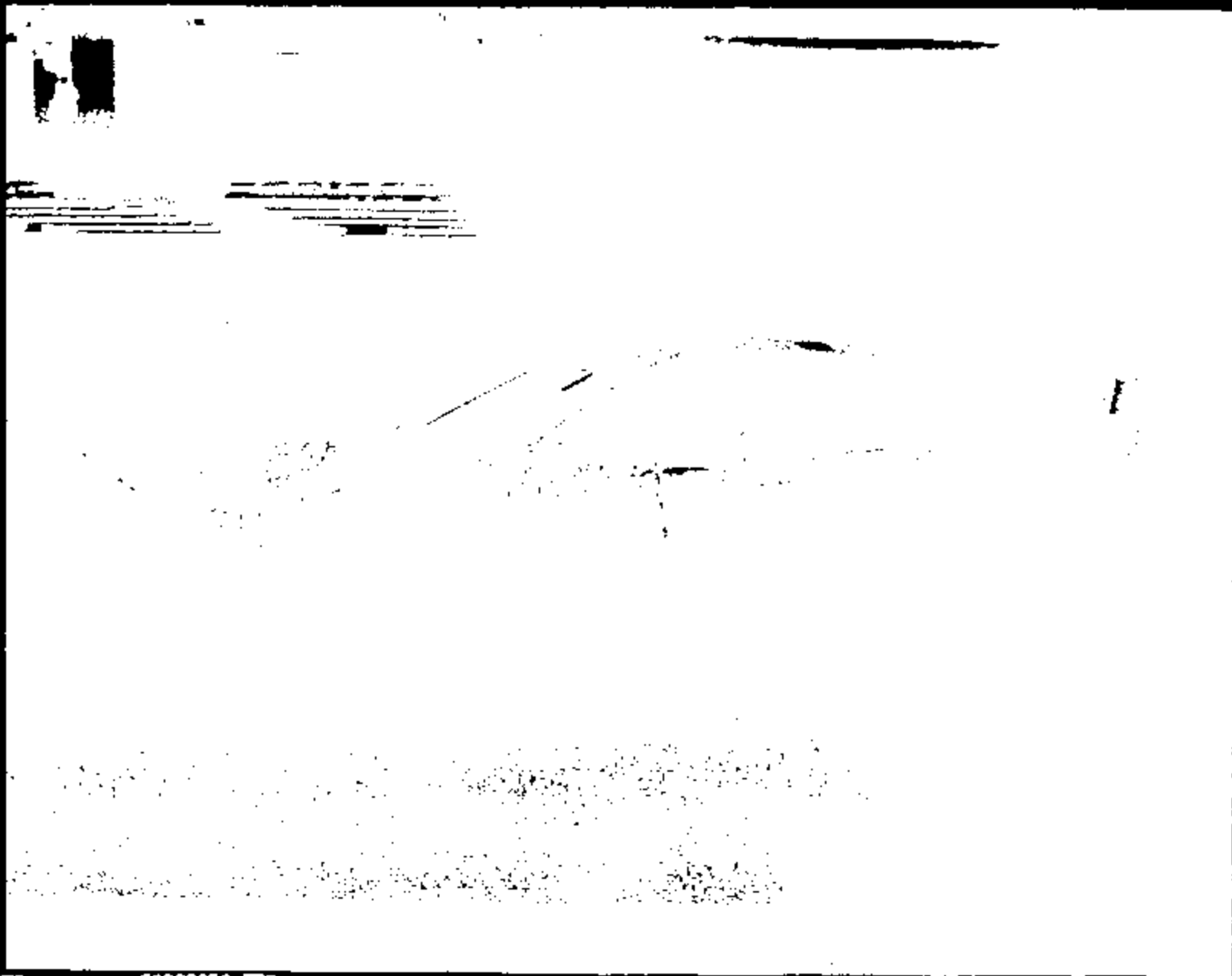
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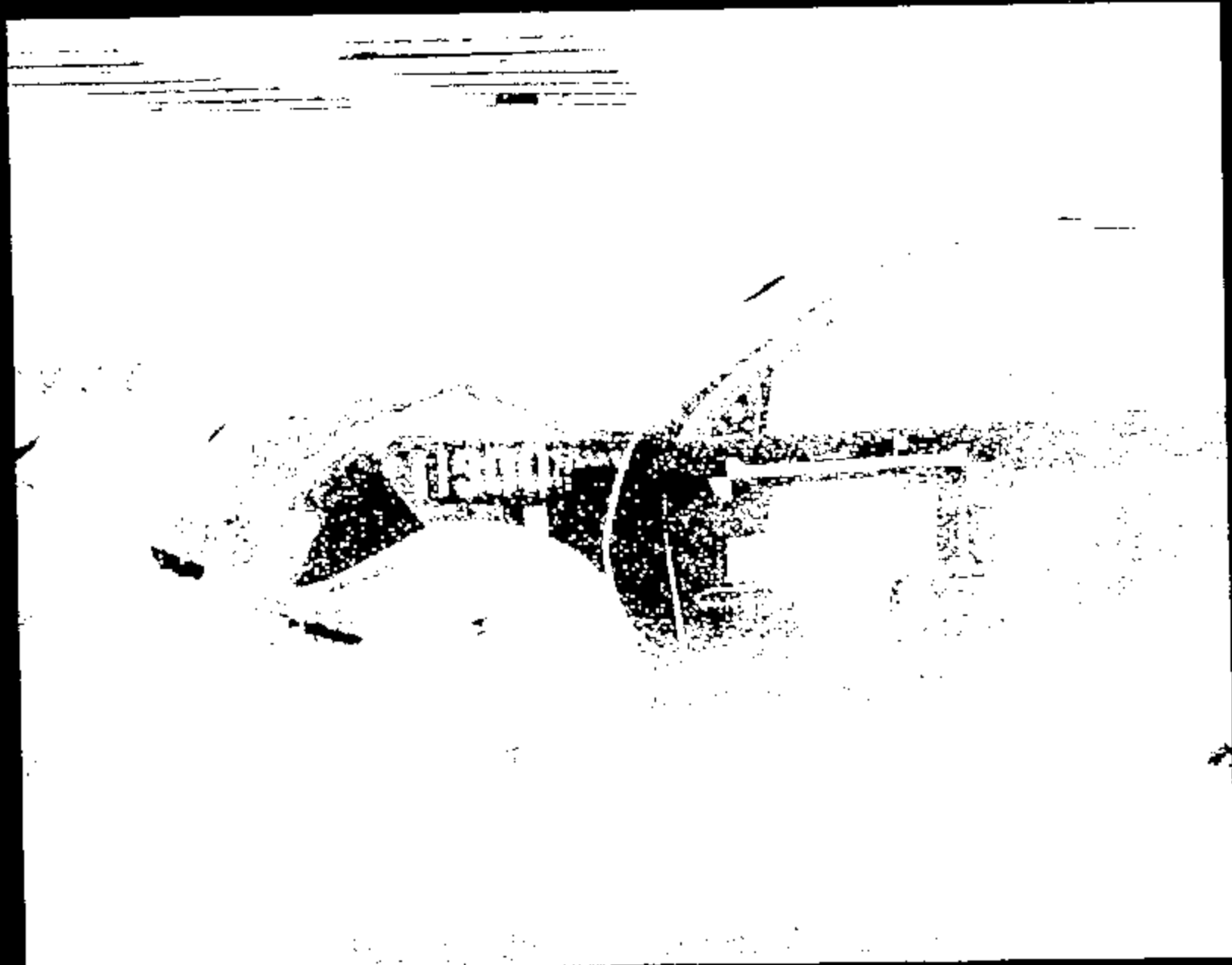
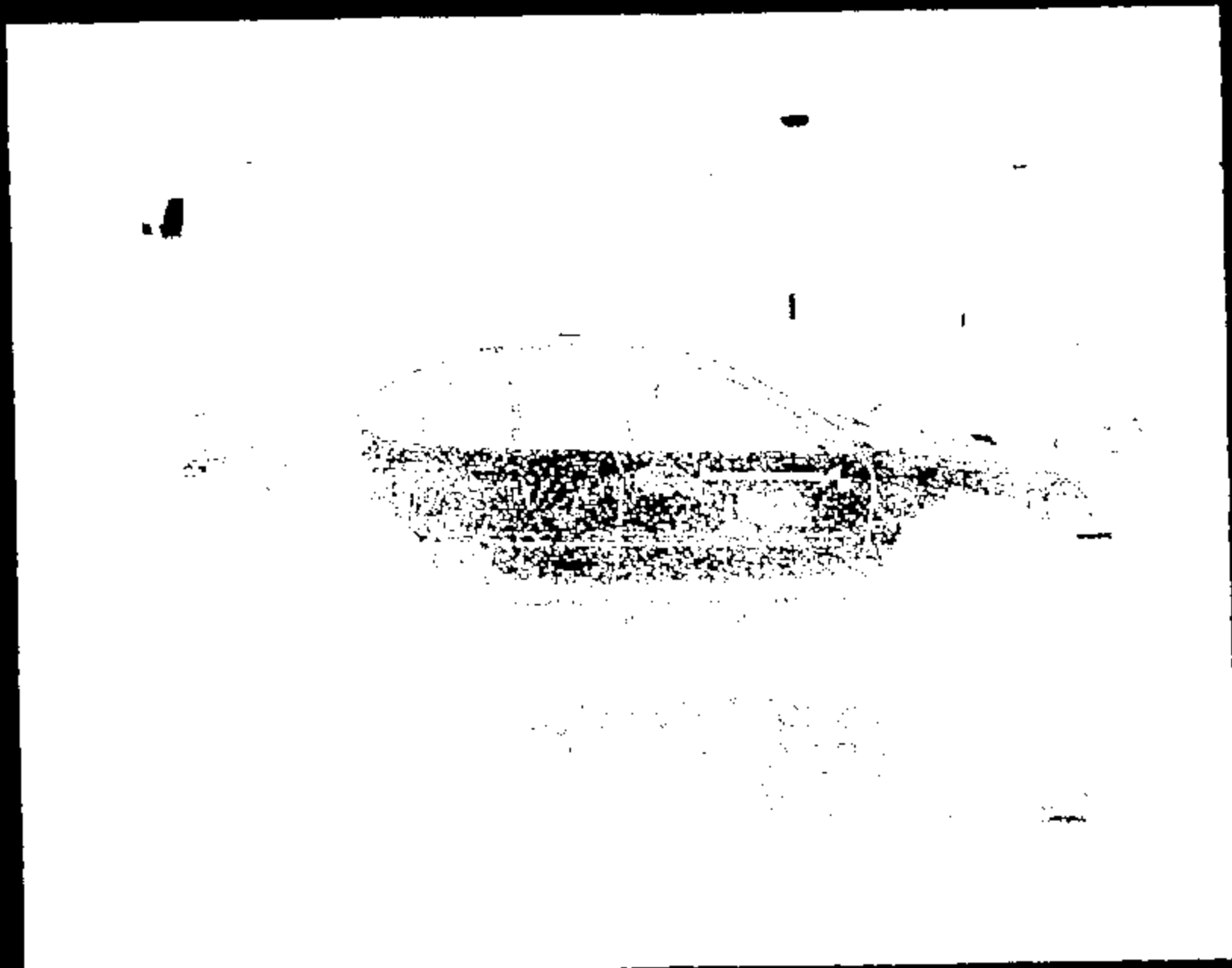


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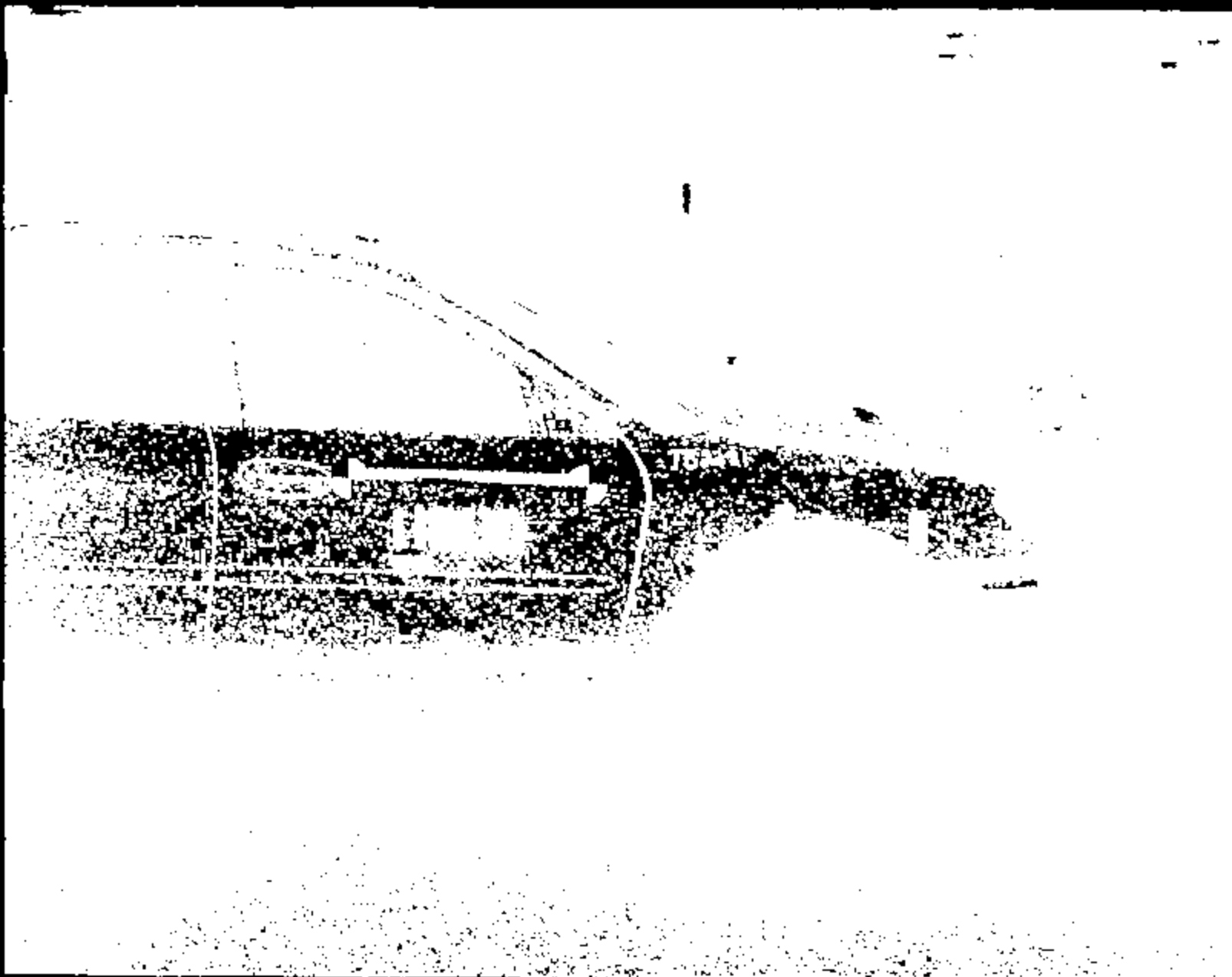
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CRTS 0011300



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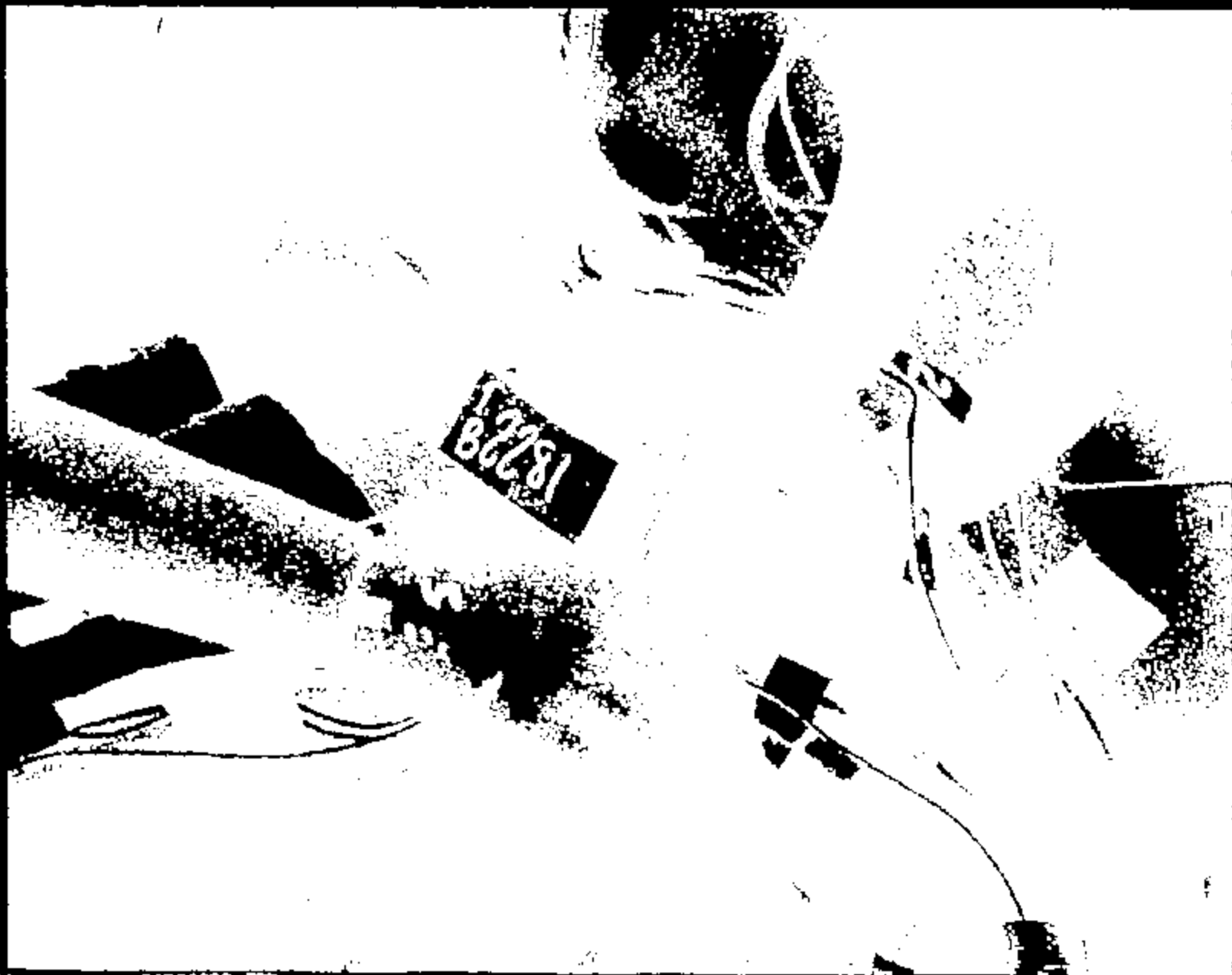
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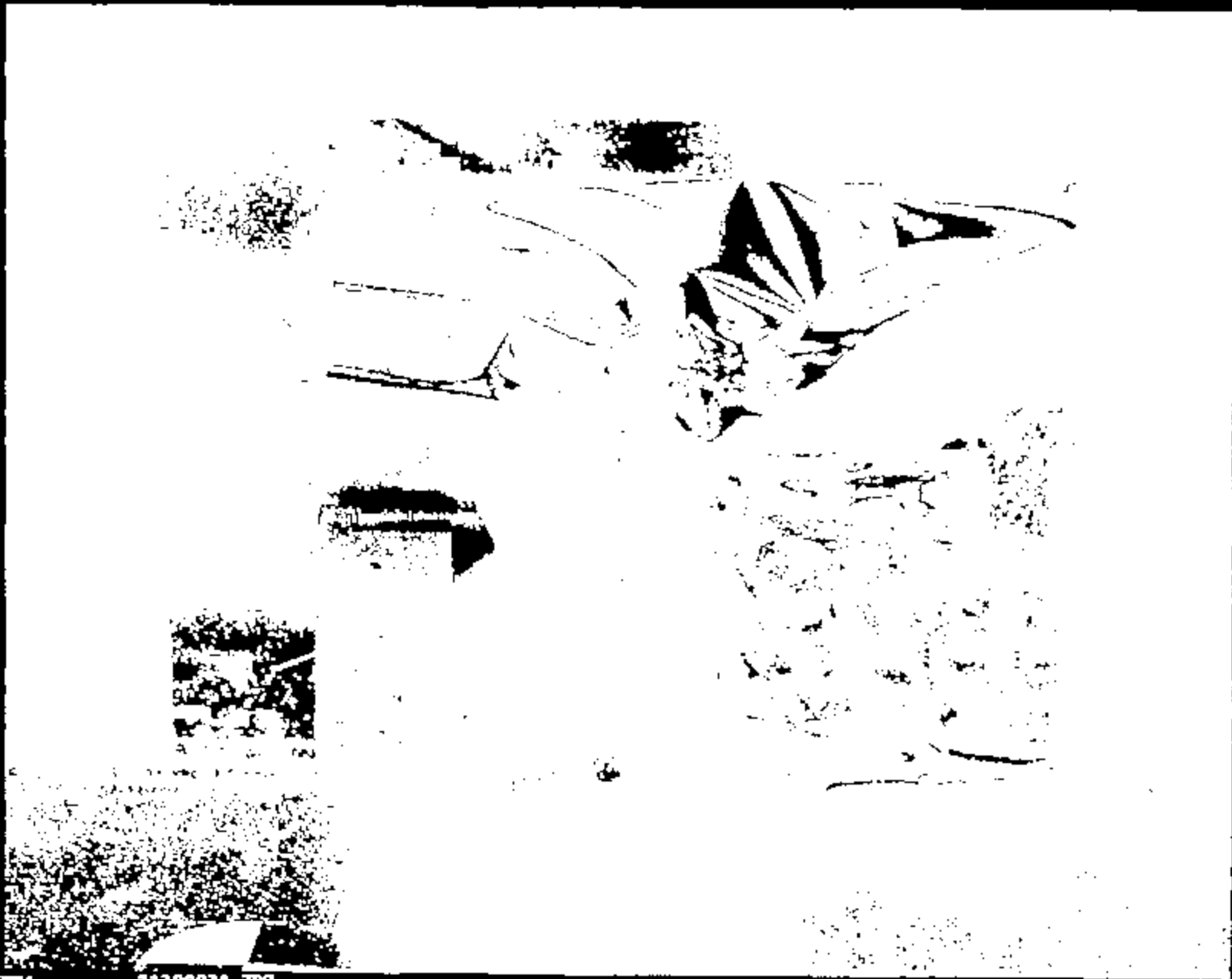
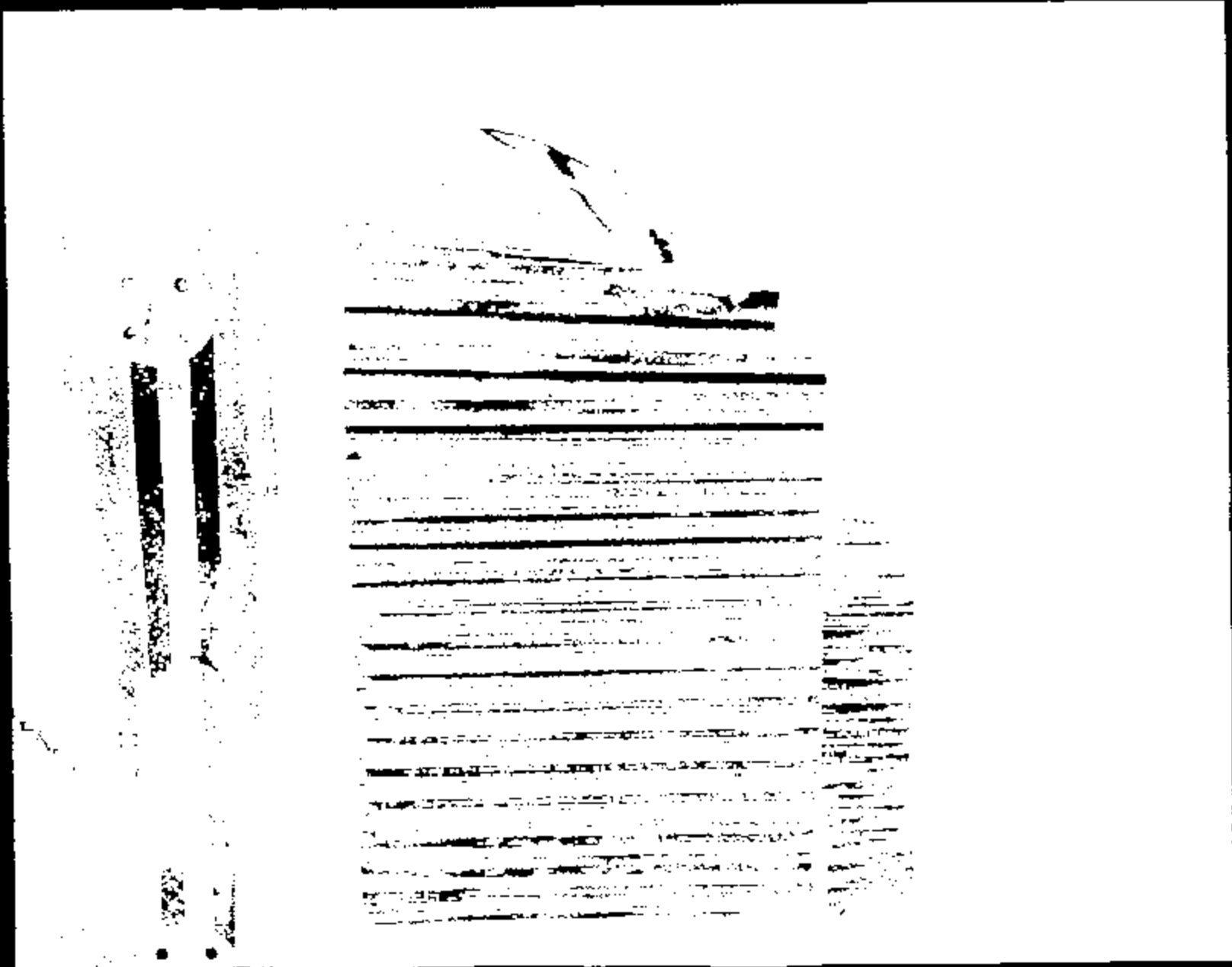


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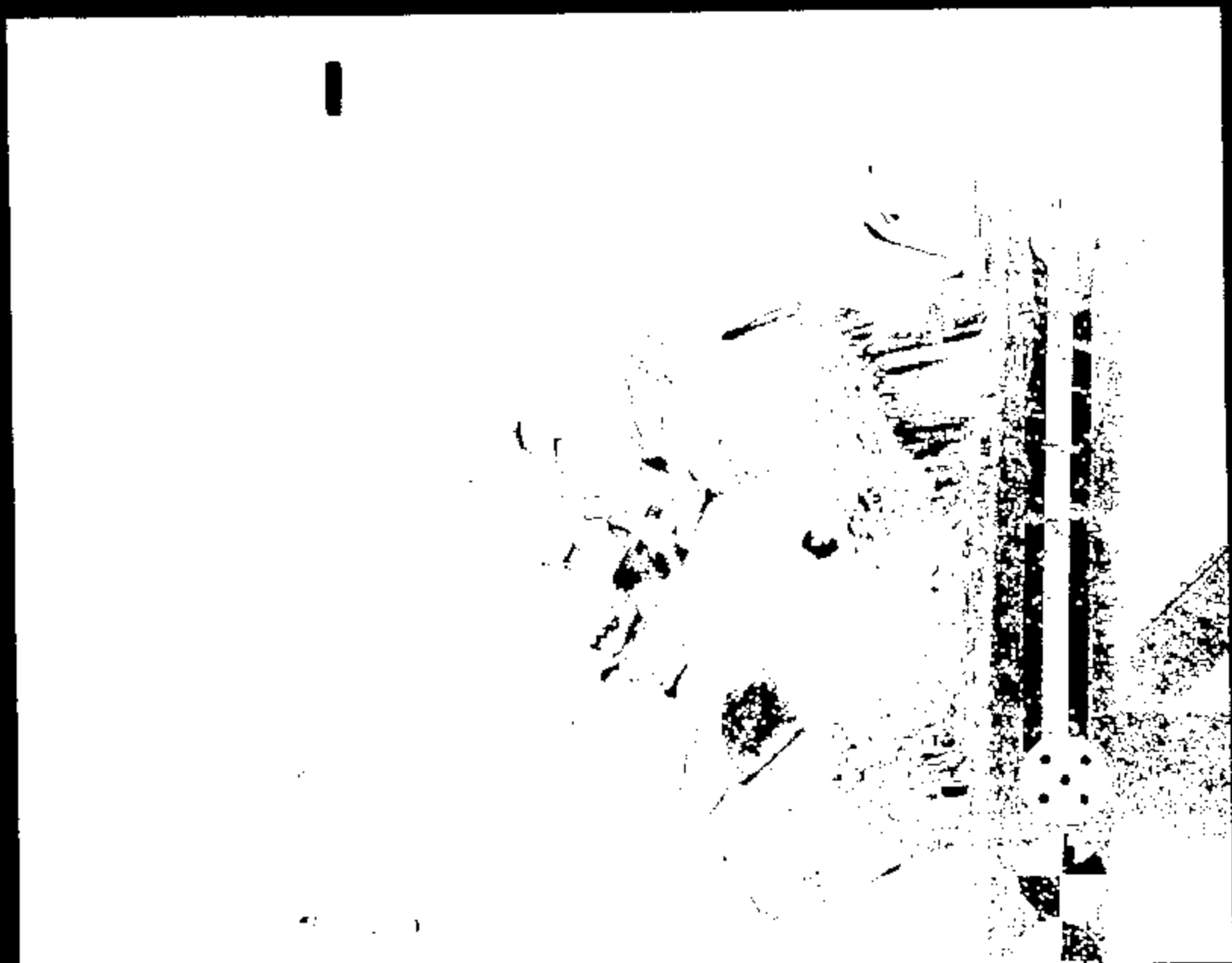
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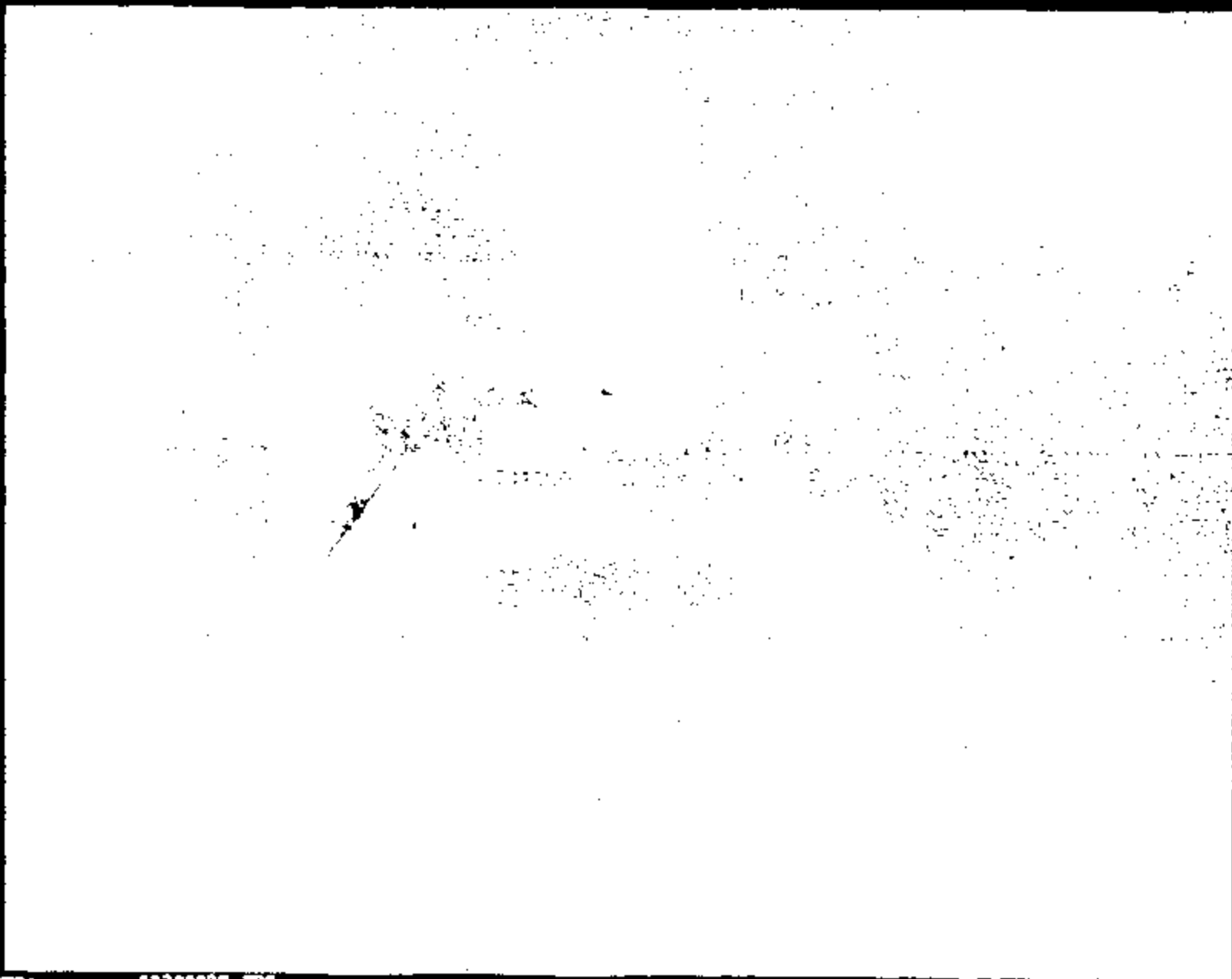
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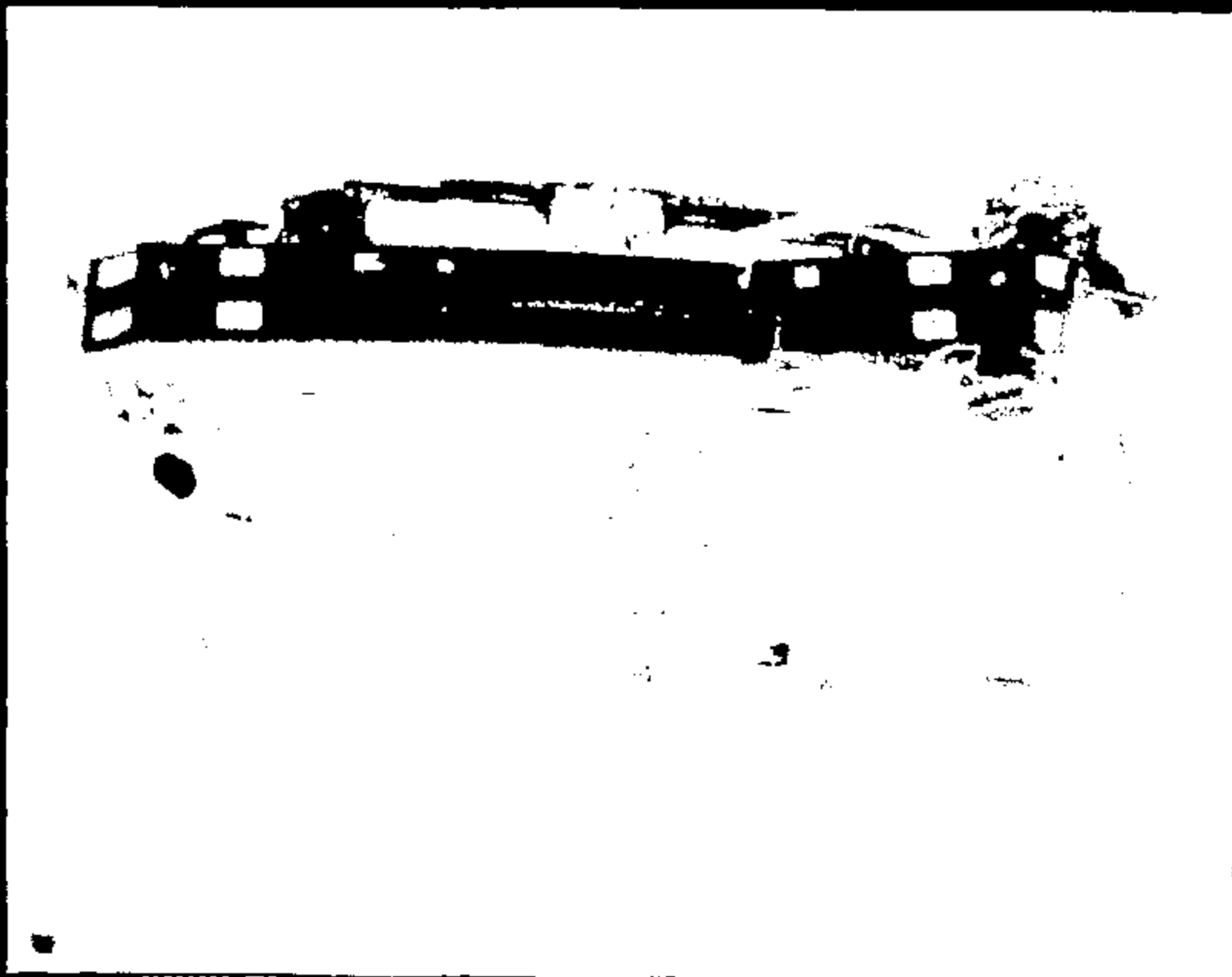
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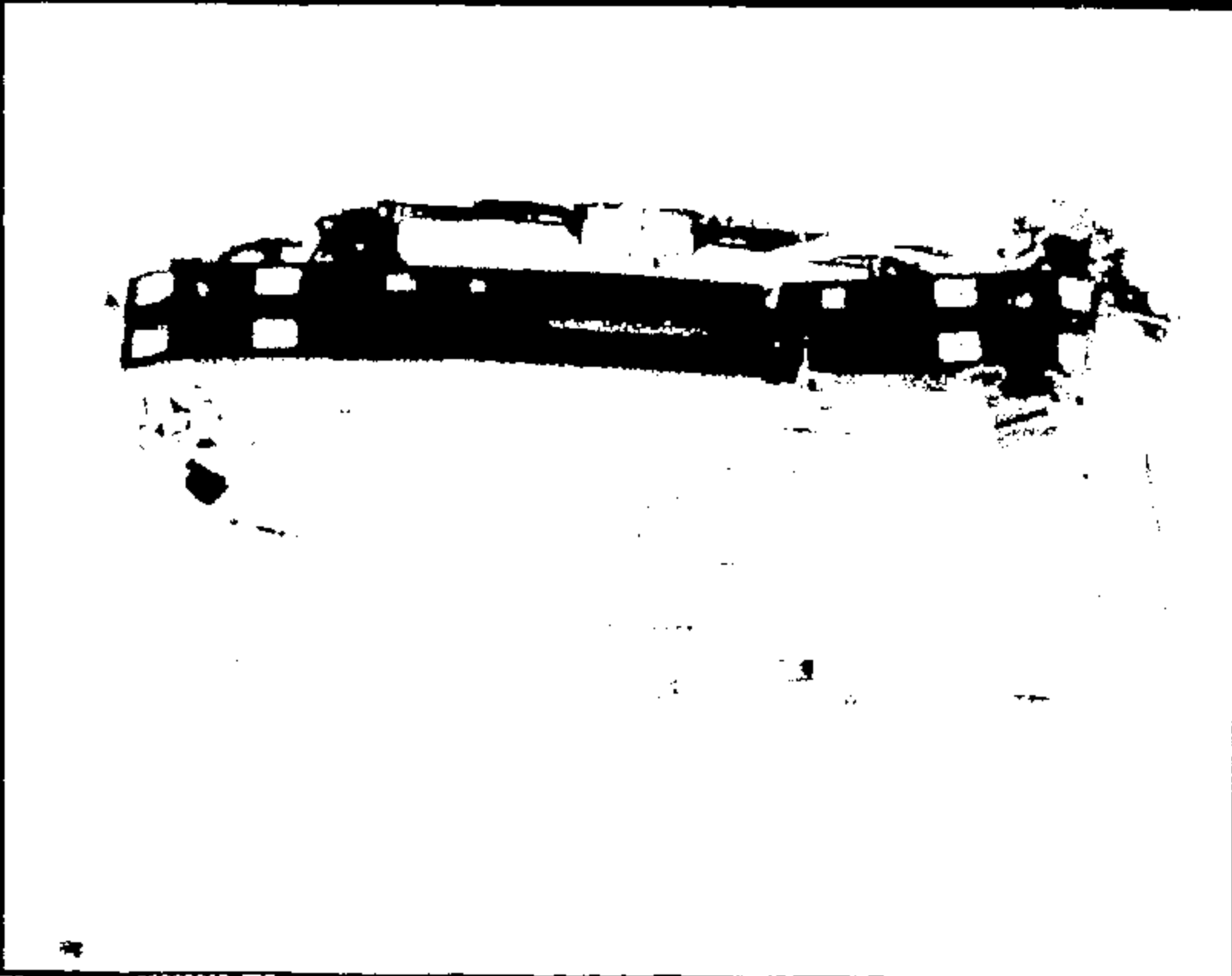
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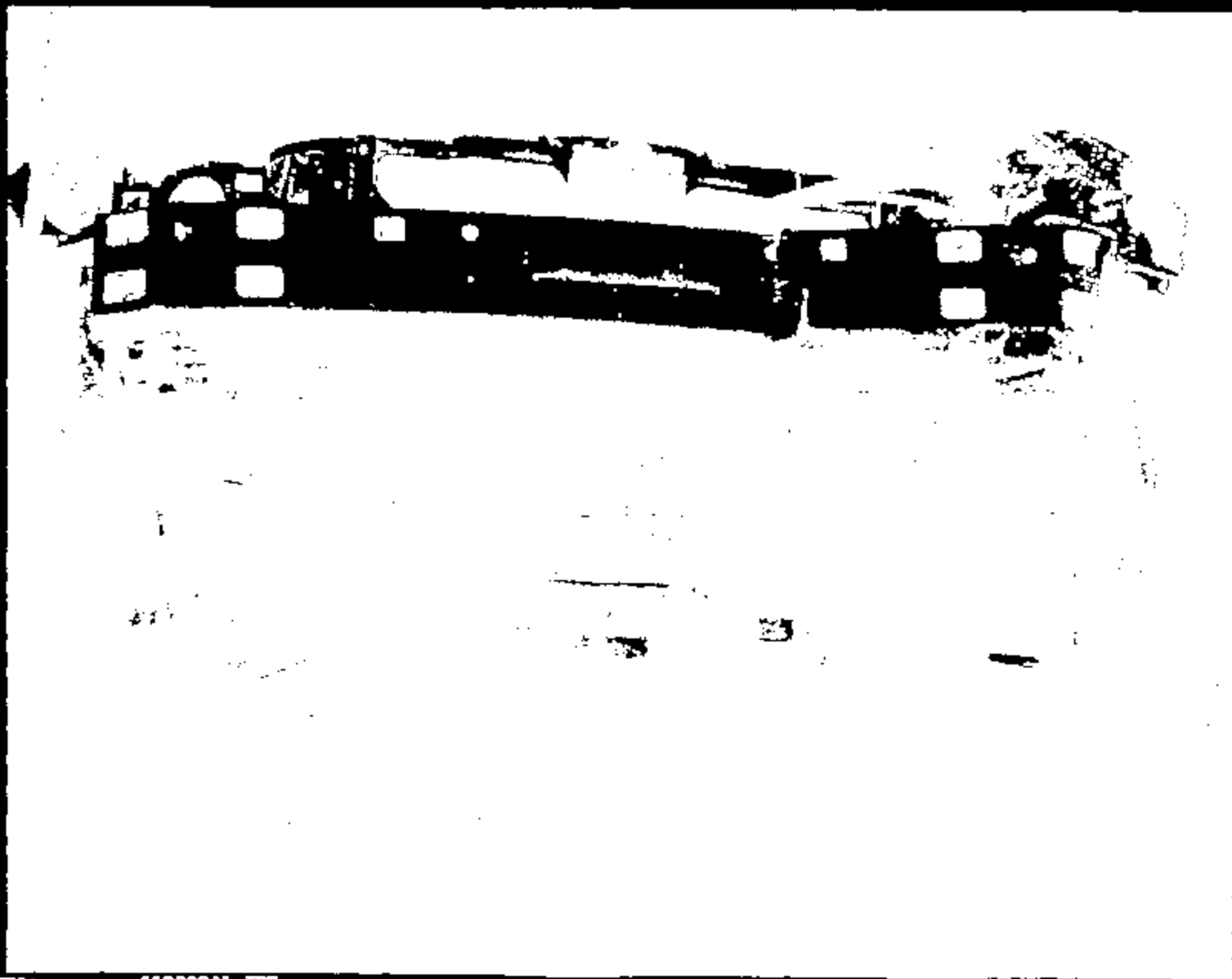
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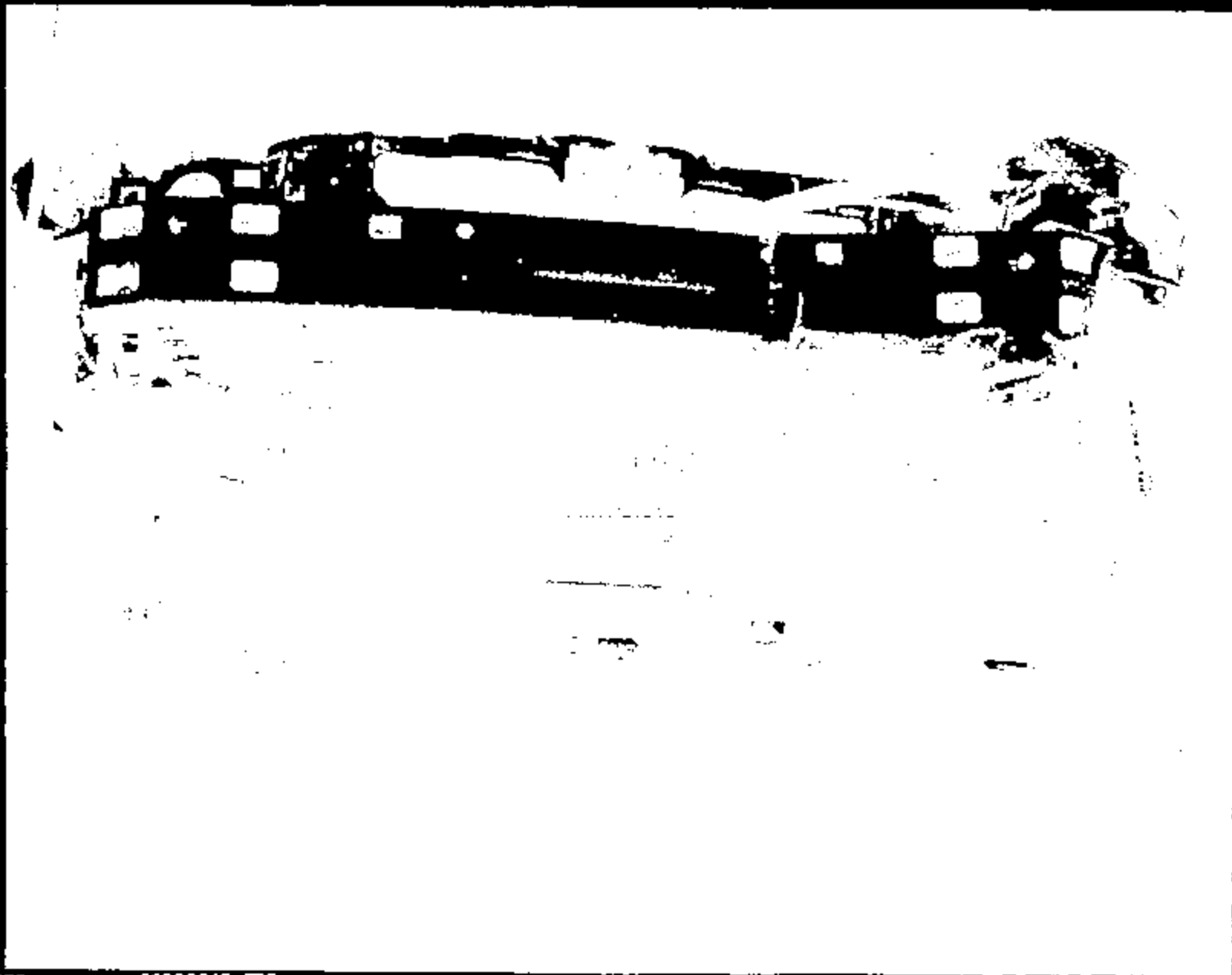
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CRTS 0011300



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11300047.JPG

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Image 1

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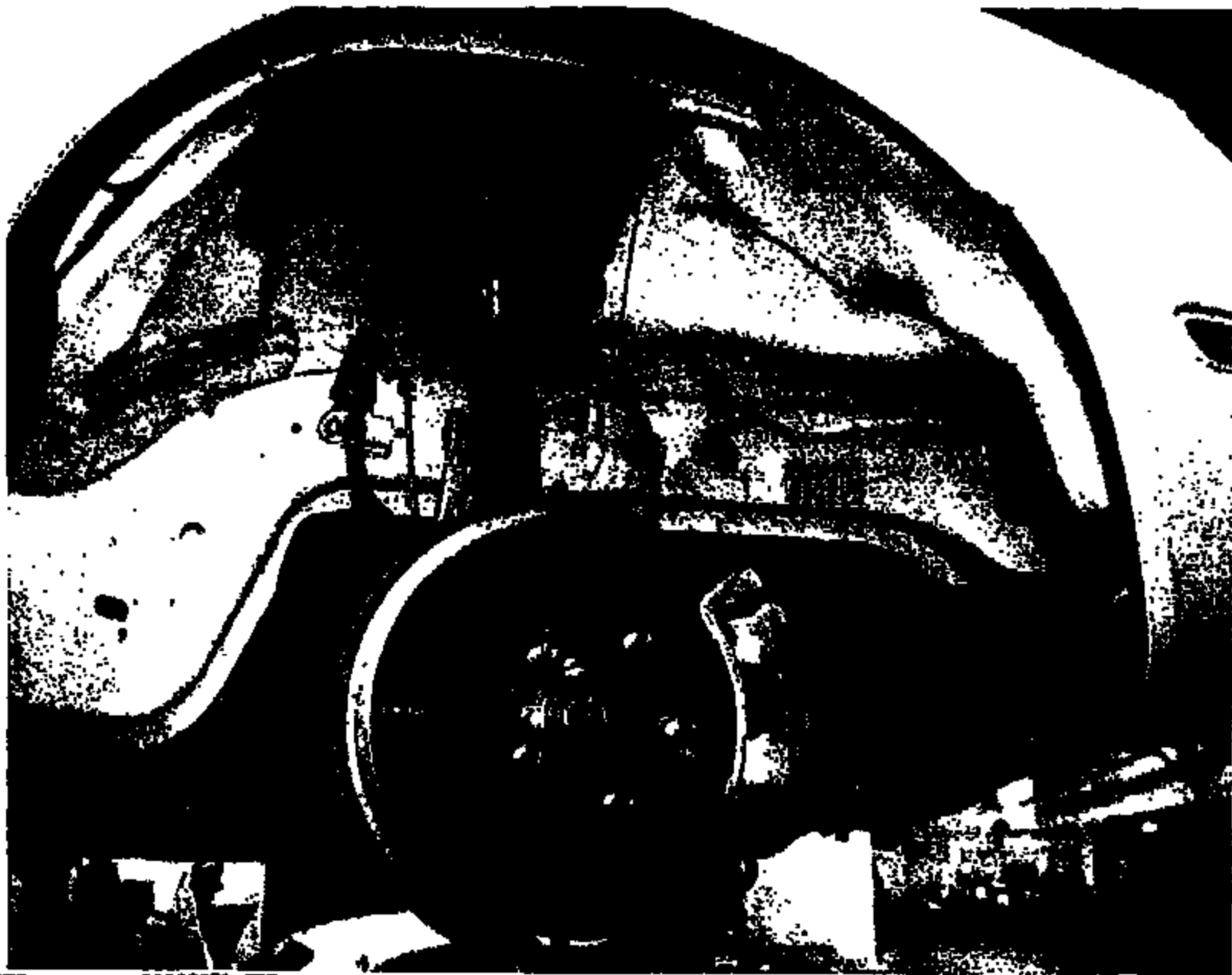
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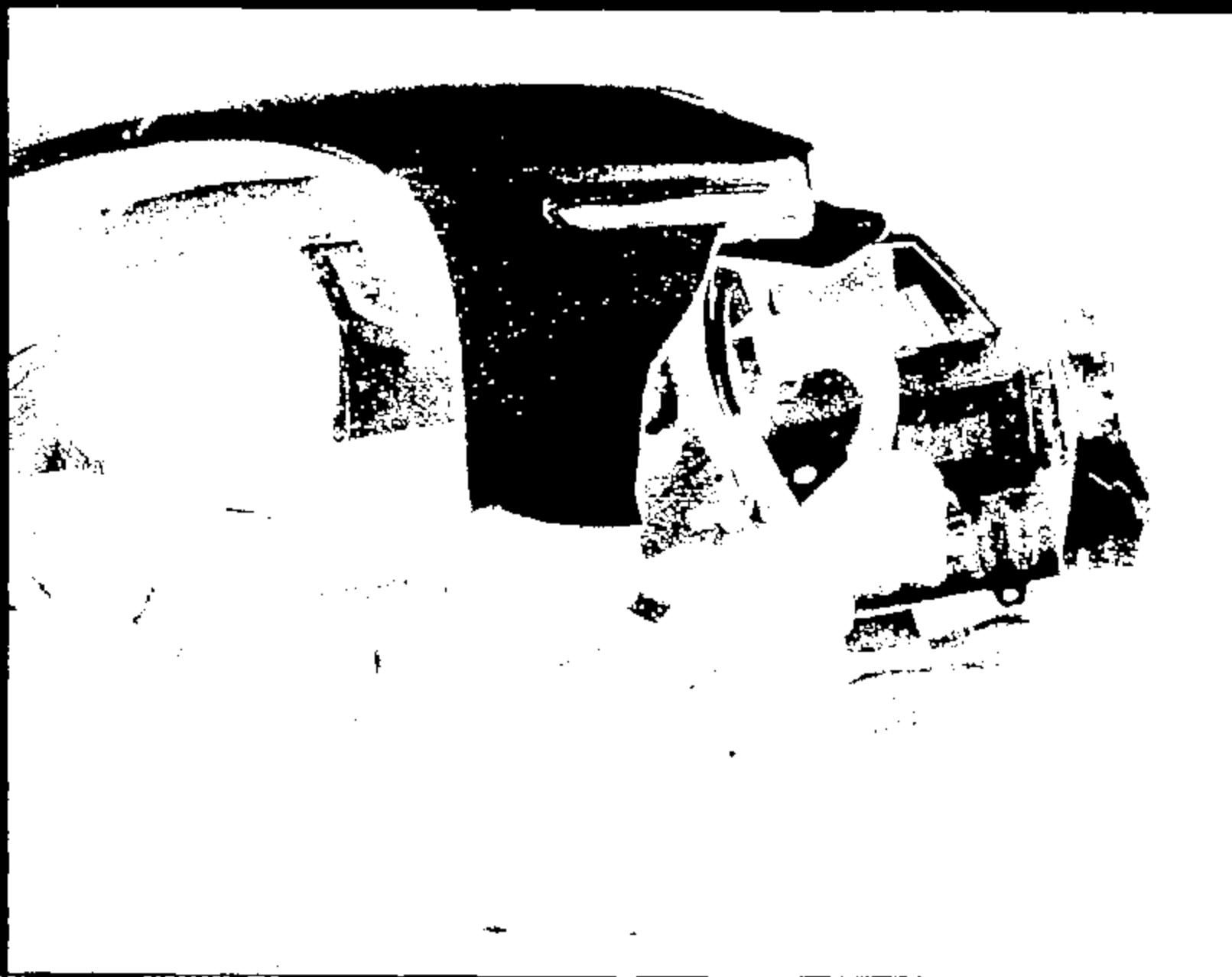
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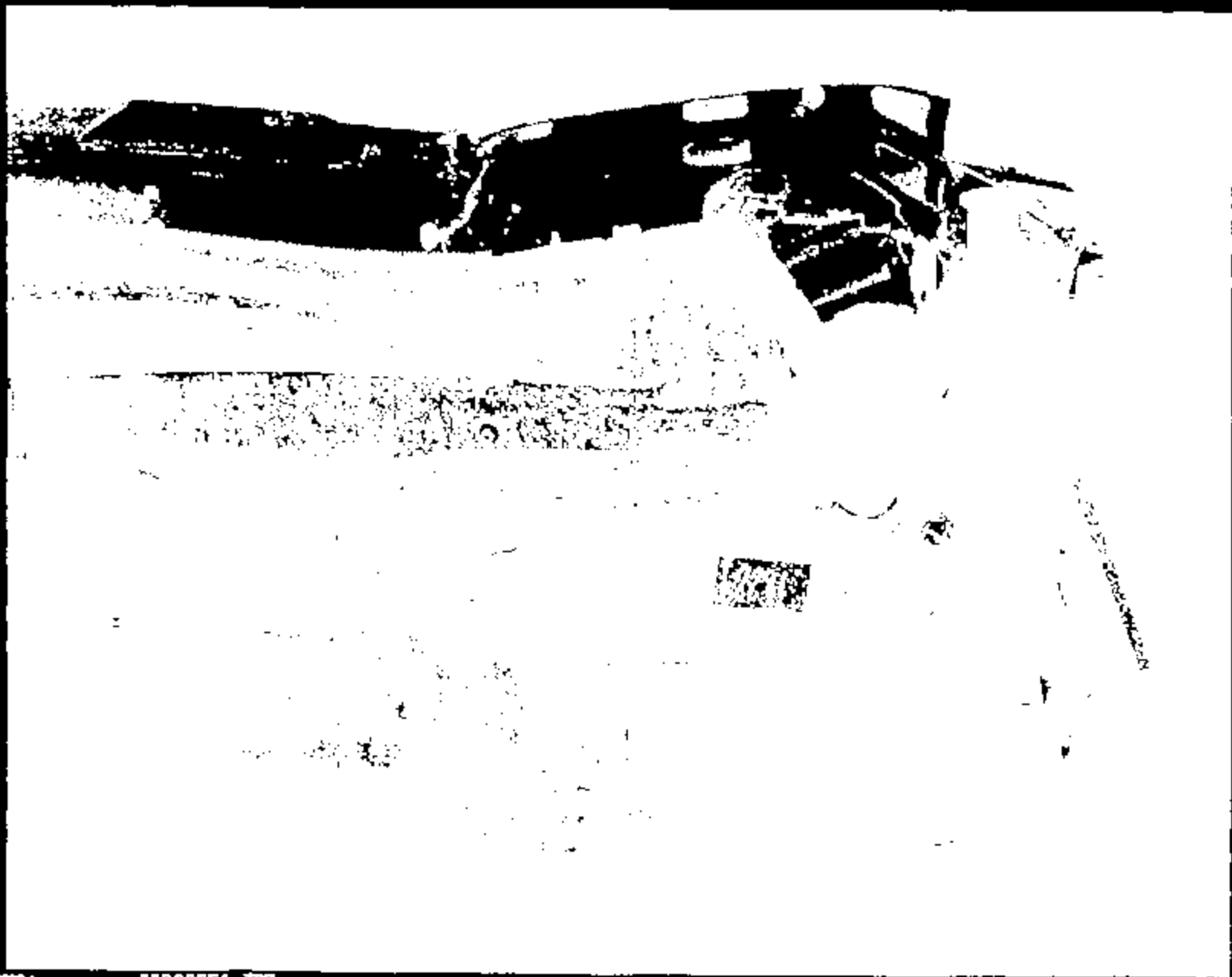
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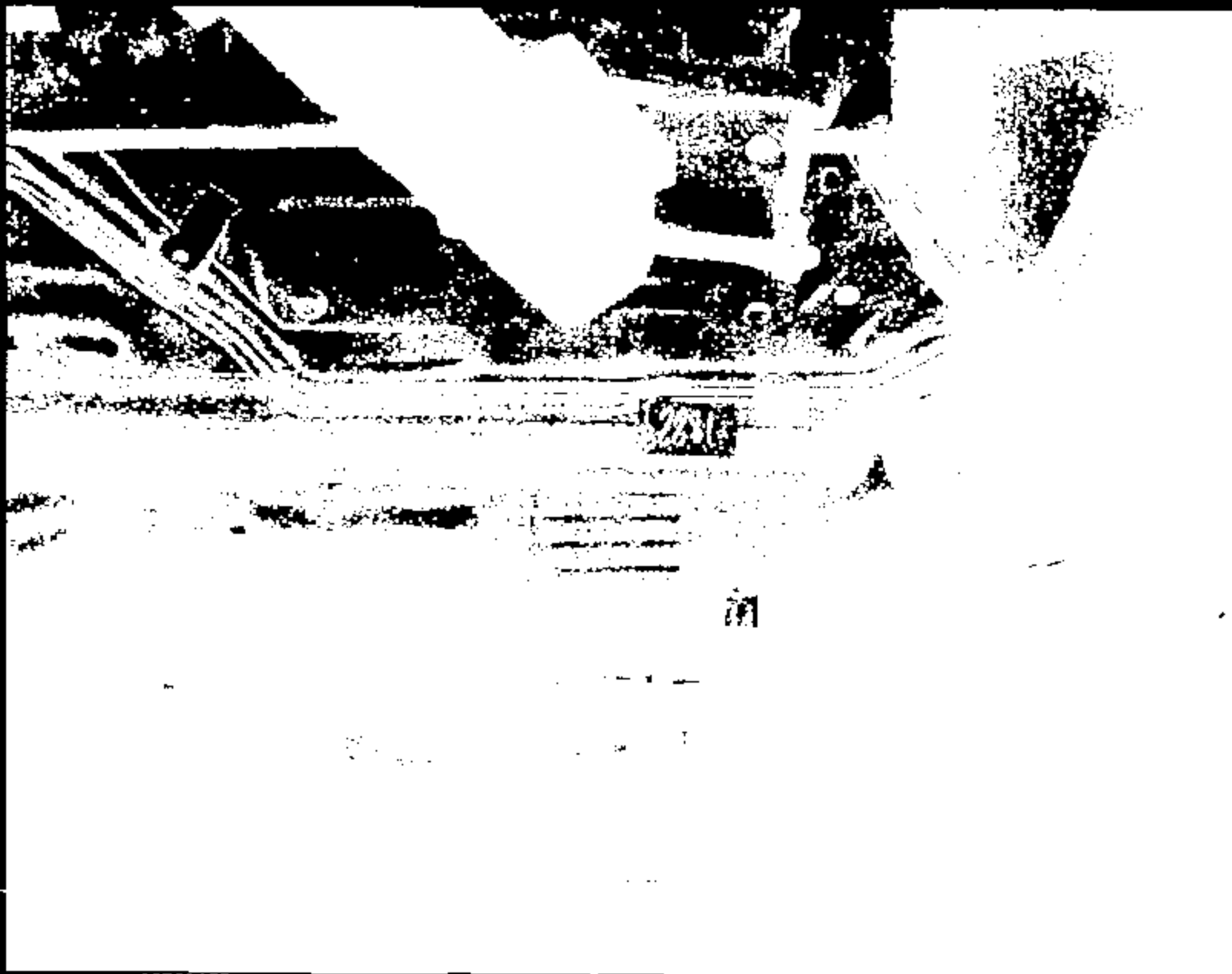
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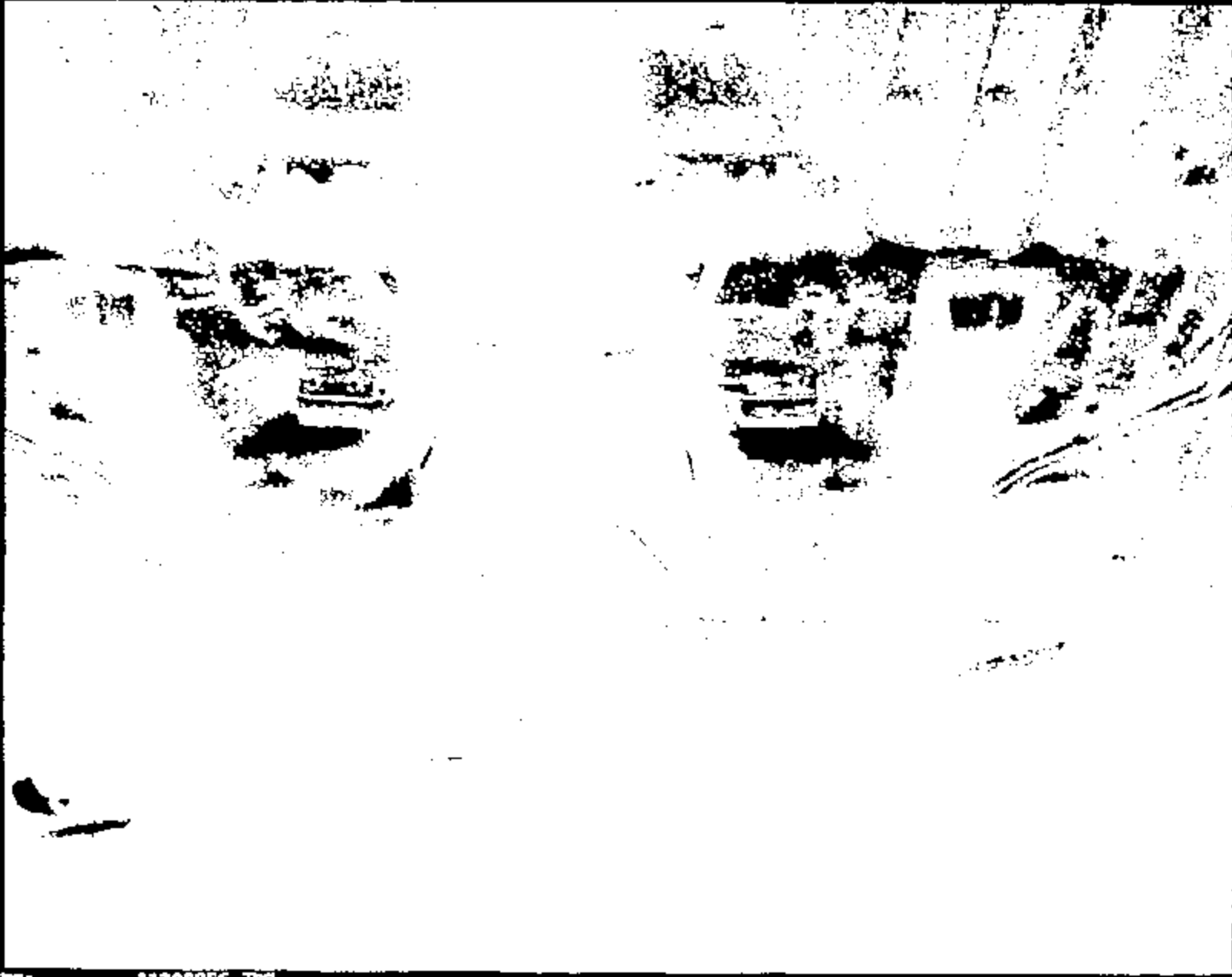
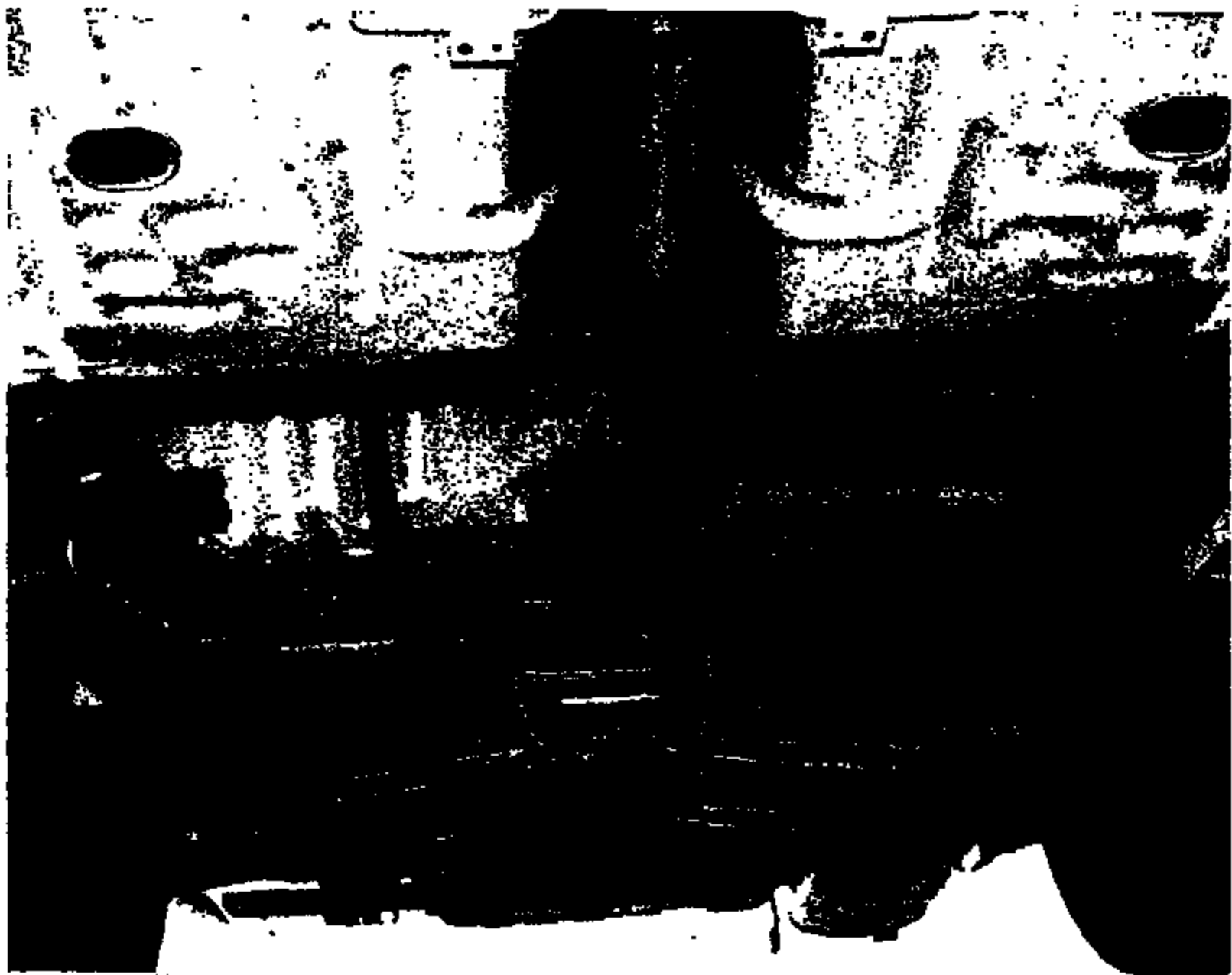


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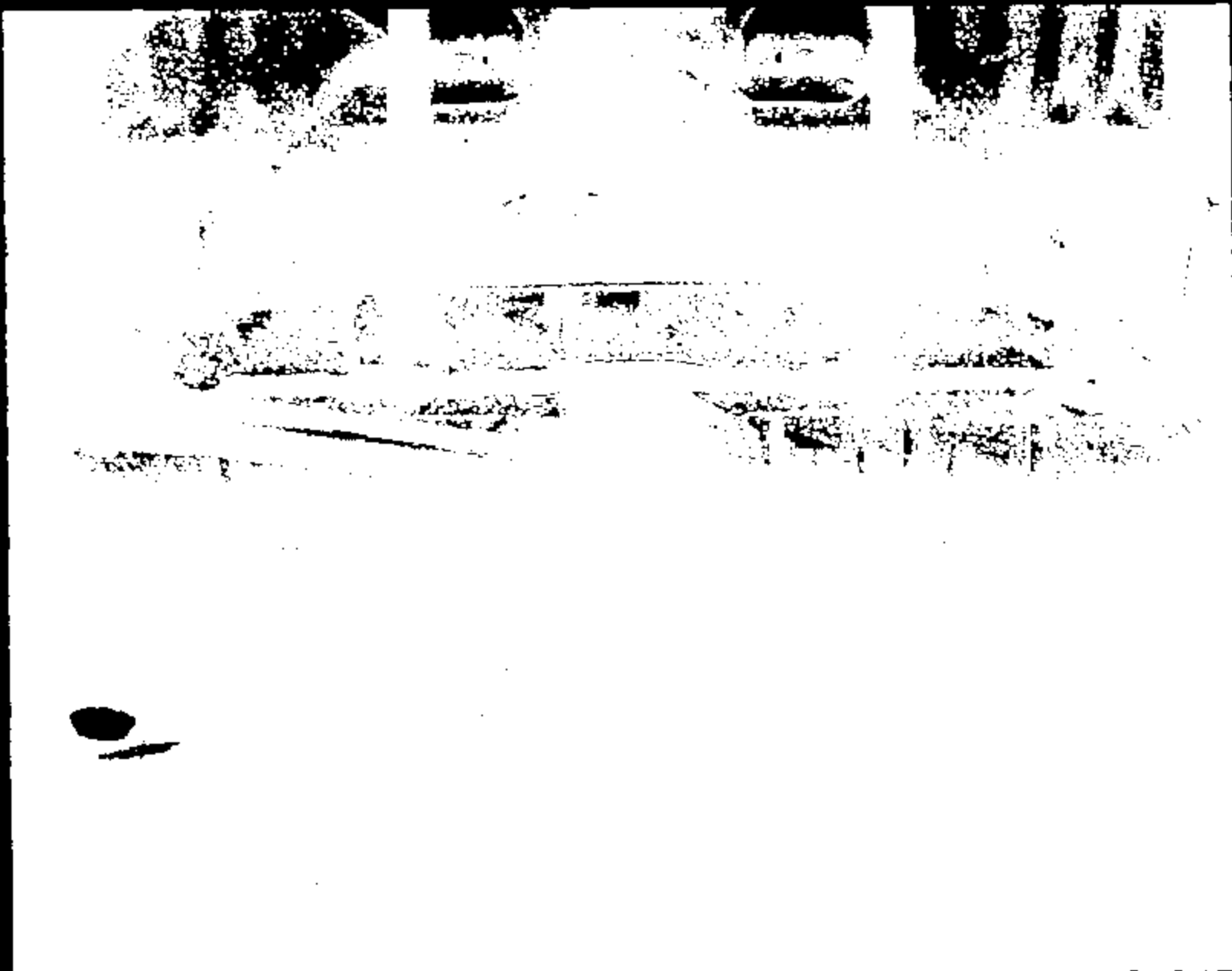
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Motor

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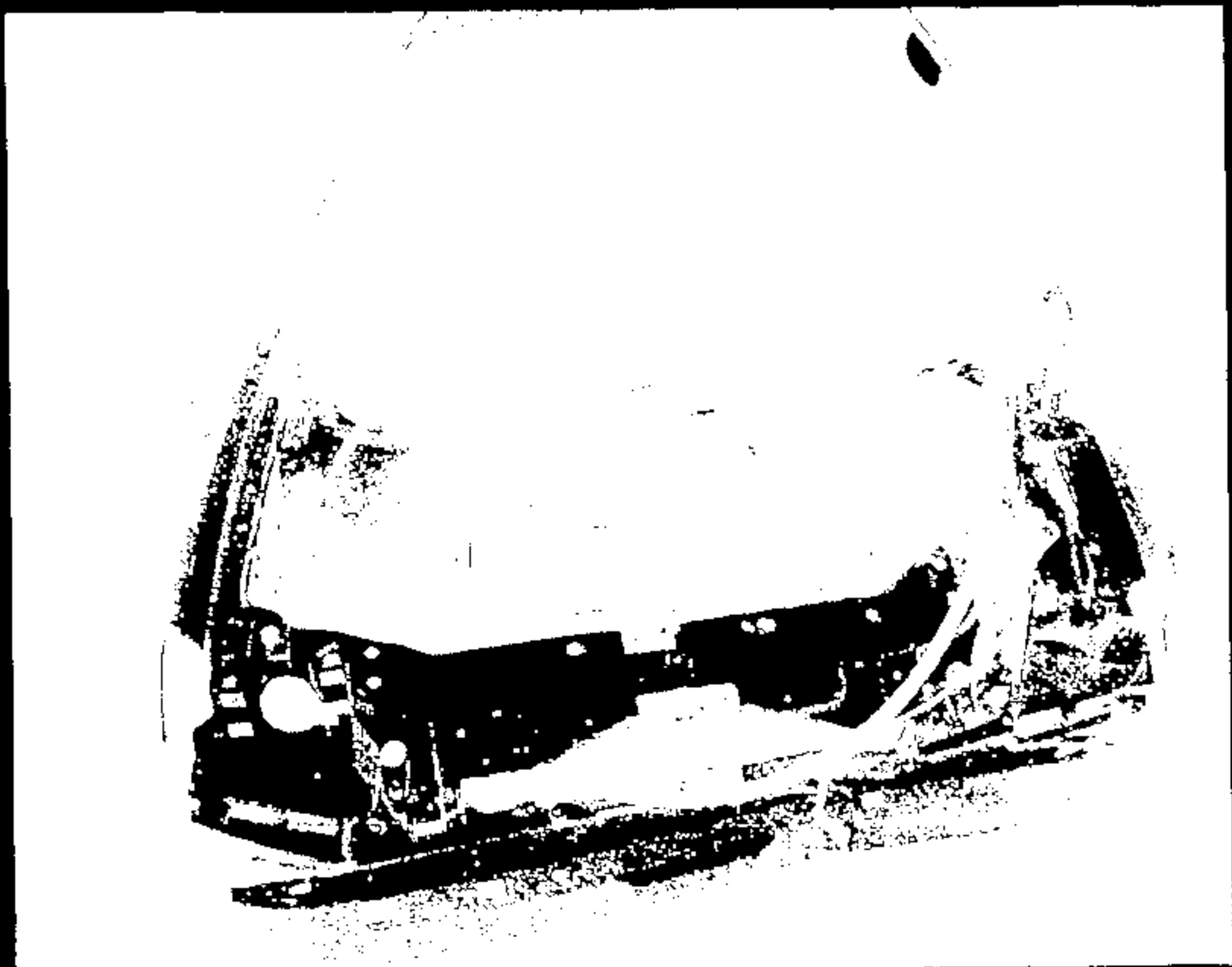
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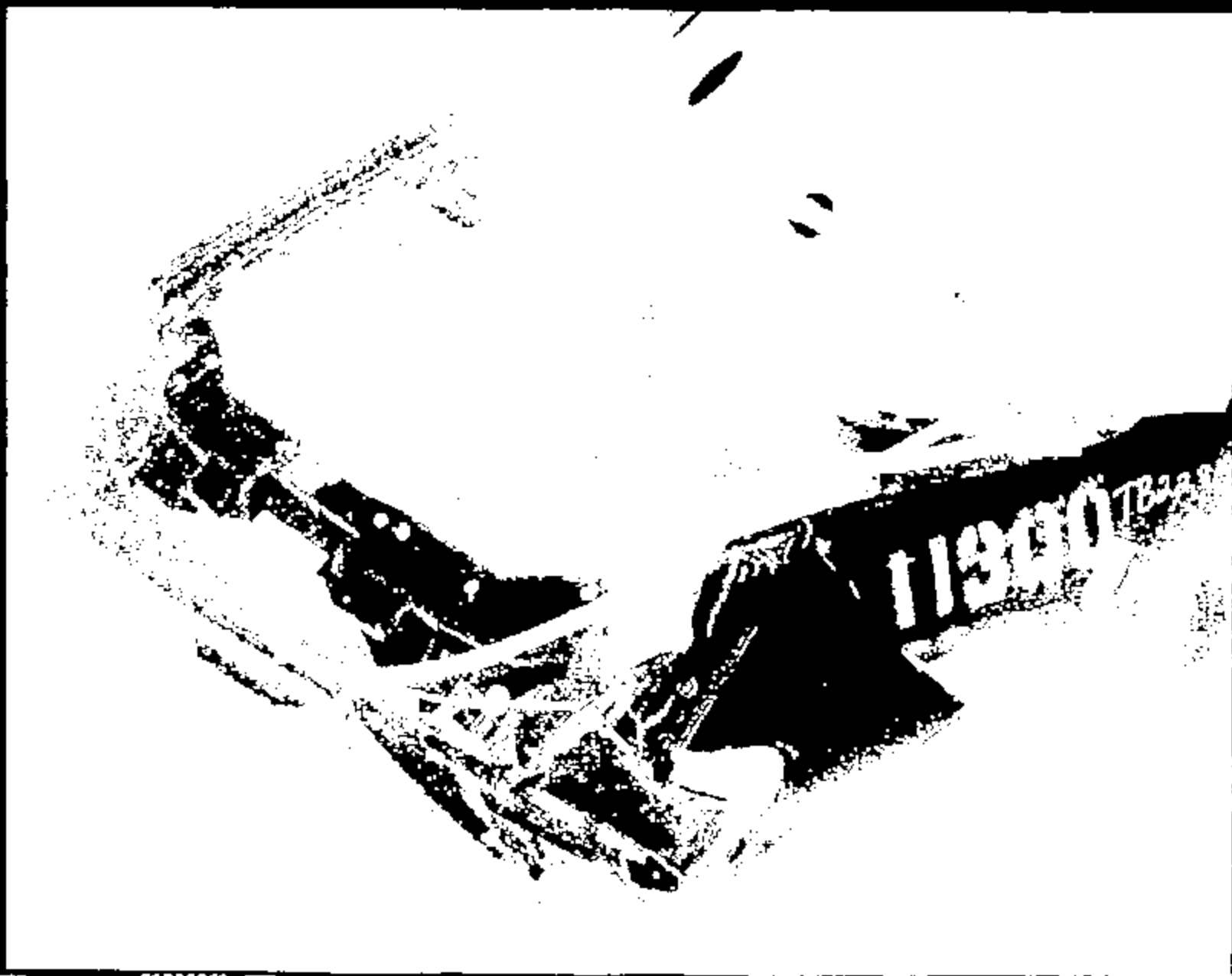
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 GTO Test Request	Requester/Coordinator (PROPS ID): KWARMANN KF88 WARMANN
---	--

Testing Activity: Crash Barrier Test Lab	Date Submitted: 30-OCT-98	Requested Completion Date: 15-NOV-98	Requestor Reference Number:
---	------------------------------	---	-----------------------------

Test Procedure Number: CFB-00	Test Title and / or Subject of Test: 25 mph offset barrier impact
----------------------------------	--

Billable Requestor Dept No.: T651 AV2215A	Worksheet/Work Order Number: AF431	Test conducted to certify control item compliance with Government Regulations: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Billable Requestor PROPS I.D.: KWARMANN	Billable Requestor Name: KF88 WARMANN	

Complete the following two questions as indicated

I - Rational for not replacing this test by CAE Analysis

- No CAE Methodology or process available
- For CAE Correlation
- Insufficient confidence in CAE
- To obtain basic data for CAE
- Replacement or improvement of existing Test
- Testing is Quicker
- Mandatory or Regulatory
- Certification
- Development test for PSE
- Not applicable

Other: _____

(Check appropriate boxes)

II - What is the expected Test Outcome

- Results will meet DVP/MCR requirements
- System Component will not meet Test specification
- Unknown
- Above is Based on CAE?

Other: _____

(Check appropriate boxes)

Test Purpose/Test Procedure or Description of Test:

Custom Test Procedure T657-228

"RECORD COPY"

Schedule No. 2-7-12

Retain Until 2018

Signature Approvals (As Required for Control Purpose)

Requesting Engineer: <u>KF88 WARMANN</u> <i>[Signature]</i>	Testing Engineer: _____
Requesting Supervisor/Manager: <u>ALAN TAUB</u>	Testing Supervisor: _____

TEST OBJECTIVE: Evaluation of Advanced Restraints to Proposed Regulation
IMPACT SPEED (MPH): 25mph
TEST PROCEDURE: ST-85
 25 mph, 40% offset deformable barrier impact

TEST VEHICLE TAG: 578T870
TEST VEHICLE VIN: 1FAFP3ED20100004
MODEL: TAURUS XV Hybrid
MODEL YEAR: 2008
TASK NO.: AP491
BILLABLE DEPT.: T882
POI: nh

FUEL: TYPE= NONE FILL LEVEL (GAL.)= 0

FUEL SYSTEM WILL NOT BE EVALUATED ON EITHER VEHICLE. TANK CAN BE REMOVED IF REQUIRED TO MEET TEST WEIGHTS.

TIRE PRESSURE (PSI): FRONT = 30 REAR = 30 SPARE = NA
CURB WEIGHT (LBF.): FRONT = 2142 REAR = 1407 TOTAL = 3549
TEST WEIGHT (LBF.): FRONT = 2222 REAR = 1579 TOTAL = 3801
WEIGHT TOLERANCE (LBF): FRONT = +/- 10 REAR = +/- 18 TOTAL = +/- 28

RIDE HEIGHTS (IN): FRONT = Level REAR = Level
 +/- = +/-

WEIGH UP INSTRUCTIONS:

MAY REMOVE: EXHAUST, LIFT GATE, DOOR GLASS, INTERIOR TRIM, FUEL TANK.
DO NOT PLACE WEIGHT: FRONT FOOTWELLS, OR UNDERHOOD LOCATIONS OTHER THAN IN ENGINE (SEE BELOW).
MAX ADD TO ENGINE: 75 LBF.

OCCUPANT TYPE: LEFT FRONT = HYBRID 8 5TH %
 RIGHT FRONT = HYBRID 8 5TH %

DUMMY POSITIONING: YES DRIVER FOOT-REST: YES

SEAT POSITIONING:

	LONG	VERT	BACK ANGLE (DEG.)	PKG CHK.
LEFT FRONT =	FF	na	18 +/- 2	Y
RIGHT FRONT =	FF	na	18 +/- 2	Y

Please do dummy drop with 5th manikin developed by Riss and Courtney

NOTE TO PACKAGE LAB: PLEASE RECORD BODY COORDINATES OF ROCKER & B-PILLAR TGT ALSO.

RESTRAINTS USAGE:

	BELT	PYRO BELT	FRT BAG	SIDE BAG
LEFT FRONT =	X	X	X	
RIGHT FRONT =	X	X	X	

SENSOR SYSTEM: Remote fire. First Stage Fire Time = 40ms Second Stage Fire Time = 150ms Pyro buckle Fire Time = 40ms
 REMOTE FIRE BLT, MONITOR D186 SENSOR SYSTEM

DIMENSIONAL ANALYSIS: TEST VEHICLE

None required

STILL PHOTO:

STANDARD PRE & POST TEST

HIGH SPEED FILM:

OFFBOARD			ONBOARD		
1	RIGHT	OVERALL	1	LEFT	DRIVER OVER SHOULDER
2	RIGHT	A-PILLAR FORWARD	2	RIGHT	PASSENGER OVER SHOULDER
3	RIGHT	DUMMY KINEMATICS	3	LEFT	DRIVER DOOR
4	LEFT	OVERALL	4	RIGHT	PASSENGER INBOARD KNEE FROM BEHIND
5	LEFT	A-PILLAR FORWARD	5	LEFT	DRIVER INBOARD KNEE FROM BEHIND
6	LEFT	DUMMY KINEMATICS			
7	OVERHEAD	OVERALL			
8	OVERHEAD	A-PILLAR FORWARD			
9	PIT	A-PILLAR FORWARD			
TOTAL OFFBOARD = 9			TOTAL ONBOARD = 6		

FILM ANALYSIS:

LEFT ROCKER DISP. & VELOCITY @ B-PILLAR WRT GROUND
 RIGHT ROCKER DISP. & VELOCITY @ B-PILLAR WRT GROUND
 LEFT DUMMY HEAD DISP. & VELOCITY WRT LEFT ROCKER @ B-PILLAR
 RIGHT DUMMY HEAD DISP. & VELOCITY WRT RIGHT ROCKER @ B-PILLAR
 VEHICLE FITCH
 VEHICLE DROP

DIGITIZED FILM:

OFFBOARD	9	RIGHT	DUMMY KINEMATICS
OFFBOARD	6	LEFT	DUMMY KINEMATICS

SPECIAL BUILD INSTRUCTIONS:

- 1 UPDATE INSTRUMENT PANEL TO D186 LEVEL
- 2 INSTALL DRIVER AND PASSENGER AIRBAGS
- 3 REMOVE TK YOKE FROM OLD PANEL AND INSTALL IN D186 PANEL
- 4 Update (if required) driver and passenger seats to manual seats
- 5 INSTALL DRIVER AND PASSENGER PYRO BUCKLES ON SEATS
- 6 UPDATE DRIVER AND PASSENGER SEAT BELTS
- 7 UPDATE D186 ROM
- 8 UPDATE GOR
- 9 UPDATE HOOD, HINGES AND STRIKER
- 10 UPDATE HOOD LATCH
- 11 UPDATE FRONT CRASH SENSOR BRACKET
- 12 UPDATE FRONT CRASH SENSOR

CONTACTS:

	NAME	PHONE	PAGER
REQUESTOR:	K. Wismann	84-87147	KWAR
BLD. COORD:	R. Kay	38-84815	BKAY
BLD. COORD:			

Level	Date	Comments
Original	10/28/1998	
A	11/12/1998	Added TAG and VIN numbers

FIBCAP CRITICAL OR NON-STANDARD ITEMS

- 1 Requested Impact speed is 30 mph (not 31 mph)
- 2 Dual stage airbags
- 3 60% Side belted dummies
- 4 Package check will be different than usual
- 5 Update front end
- 6 Update sensor system to monitor output. Bags are remote fired.

DUMMY MEASUREMENT REPORT
CRASH BARRIER

...ON NUMBER 11300
TEST ORDER NUMBER TB2261

DUMMY POSITION LEFT
DUMMY ABBREV 5QH3

FRONT

ABSOLUTE MEASUREMENTS(INCH)	MEASUREMENT
LEG(HYB II)/KNEE(HYB III) TO INST PANEL LEFT	1.30
LEG(HYB II)/KNEE(HYB III) TO INST PANEL RIGHT	0.80
ROCKER TARGETS TO GROUND FRONT	6.90
ROCKER TARGETS TO GROUND REAR	6.70
NOSE TO STEERING WHEEL	9.50
NOSE TO INSTRUMENT PANEL	
INSTRUMENT PANEL TO TORSO	
STEERING WHEEL TO TORSO	2.70
STEERING WHEEL TOP LEGS	3.20
KNEE SPREAD OS-OS(HYB II)/CL-CL(HYB III)	8.10
SEAT BACK ANGLE	18.40
PELVIC ANGLE	23.10
HEAD ANGLE	0.30
ROCKER ANGLE	0.50
NECK BRACKET ANGLE	0.00
BUMPER TARGET TO GROUND	

RELATIVE MEASUREMENTS(INCH)	VRT FRT RKR TOT
AD LAT	15.00
AD VERT	35.90
HEAD LONG	8.10

SHOULDER LAT
SHOULDER VERT
SHOULDER LONG

H-POINT LAT	12.20
H-POINT VERT	13.00
H-POINT LONG	3.10

O/S KNEE BOLT LAT	12.20
O/S KNEE BOLT VERT	16.20
O/S KNEE BOLT LONG	-9.30

DUMMY MEASUREMENT REPORT
CRASH BARRIER

V NUMBER 11300
TEST ORDER NUMBER TB2281

DUMMY POSITION RIGHT FRONT
DUMMY ABBREV 50H3

ABSOLUTE MEASUREMENTS (INCH)	MEASUREMENT
LEG(HYB II)/KNEE(HYB III) TO INST PANEL LEFT	2.00
LEG(HYB II)/KNEE(HYB III) TO INST PANEL RIGHT	2.00
ROCKER TARGETS TO GROUND FRONT	7.00
ROCKER TARGETS TO GROUND REAR	7.10
NOSE TO STEERING WHEEL	
NOSE TO INSTRUMENT PANEL	15.10
INSTRUMENT PANEL TO TORSO	13.00
STEERING WHEEL TO TORSO	
STEERING WHEEL TOP LEGS	
KNEE SPREAD OS-OS(HYB II)/CL-CL(HYB III)	7.80
SEAT BACK ANGLE	17.90
PELVIC ANGLE	20.30
HEAD ANGLE	0.50
ROCKER ANGLE	1.20
NECK BRACKET ANGLE	0.00
BUMPER TARGET TO GROUND	

RELATIVE MEASUREMENTS (INCH)	WRT FRT RKR TGT
HEAD LAT	15.40
AD VERT	35.40
AD LONG	8.70

SHOULDER LAT
SHOULDER VERT
SHOULDER LONG

H-POINT LAT	11.60
H-POINT VERT	12.90
H-POINT LONG	4.00

O/S KNEE BOLT LAT	13.00
O/S KNEE BOLT VERT	15.40
O/S KNEE BOLT LONG	-8.90

**Final Test Report
Confidential**

**PAV - Safety Laboratories
Research & Vehicle Technology**

Test Order No.: TC1094
Subject: Rear Seat Restraint Enhancement, Mid-Size Car
Requested By: Susan Young
Requesting Dept.: T551
Work Task No.: AHE98
Test Facility: Hyge
Date Reported: 1/18/2001
Test Dates: 10/10/2000 - 11/22/2000
Run Numbers: H31210 - H31215, H31286 - H31295
Test Speeds: 81 mph
Dummies used: 1-50HS, 2-50HS, 1-5HS, 1-5YR
Procedure(s): T887-100
Blank #: 418
Page: 1 of 38

1. TO USE of Copy
Sheet (Stamped) by:
2. TO USE of Copy
Sheet (Stamped) Thru: 2006
3. TO USE of Copy
Sheet (Stamped) Thru: 7-4-2

Objective:

We will investigate the effect of different factors on occupant kinematics and injury response:

- * Web grabber retractors
- * Pyrotechnic Pretensioners
- * Pulse
- * Booster seat

Summary:


The test data is retained at the Safety Laboratories Department as specified by record retention guidelines. A copy of the high speed film and test data have been given to the requester for evaluation. The still photographs are in digital format and are stored on the Safety Laboratories Department intranet home page under <http://www-safetylab.ford.com/>.

Attachments:

- I. Test Authorization
- II. Test Matrix
- III. Sled Parameters
- IV. Post Test Observations
- V. Dummy Positioning

Consent:


Steve Lesh
Section Supervisor
Operations Engineering
Safety Laboratories Department


Kathryn M. Howie
Product Test Engineer
Operations Engineering
Safety Laboratories Department

TC-1094
Sheet 2

Attachment I.
Test Authorization

GTO Test Request

Requester / Coordinator (Print)
 YOUNG
 SUSAN YOUNG

Performing Activity

MS - for MIBS test procedure to start

Date Submitted

15-MAY-2006

Requested Completion Date

01-JUN-2006

Requester Reference Number

Procedure Number

SLD-00

Request Title and / or Subject of Request

REAR SEAT BELT ASSEMBLY EXPANDED/STANDARD-SEAT CAR

Requester's Dept No.

TR11

AN2216A

Work Task / Work Order Number

AP221

Request submitted to verify control item compliance with Government Requirements

Requester's (Print)

YOUNG

Requester's Name

SUSAN YOUNG

Yes

No

Complete the following two questions as indicated

1 - Rational for not replacing this test by ONE Analysis:

- No ONE Methodology or process available
- For OAS Correlation
- Insufficient evidence in OAS
- To obtain basic data for ONE
- Replacement or improvement of existing Test
- Testing in Outdoor
- Mandatory or Regulatory
- Certification
- Development test for FDS
- Not applicable

Other:

(Check appropriate boxes)

2 - What is the expected Test Outcome:

- Results will meet DPMPCO requirements (Sign-Off)
- System Component will not meet Test specification
- Unknown
- Above is Based on OAS?

Other:

(Check appropriate boxes)

Request Purpose / Request Procedure or Description of Request

TR11-002 Custom Test Procedure

Test Object	Reference Object	Reference Description
	NA	NA

Sample #	Object ID	Object Description
1	TEST PARTS	NA
2	TEST PARTS	NA
3	TEST PARTS	NA
4	TEST PARTS	NA
5	TEST PARTS	NA
6	TEST PARTS	NA

Signature Approvals (As Required for Control Purposes)

Requesting Engineer	<u>SUSAN YOUNG</u>	Assigned Coordinator	<u>KATHRYN SWANSON</u>
Request Authorized by	<u>Not Required</u>	Assigned Supervisor	<u>BILL McDONALD</u>

TC-1094
Sheet 4

Attachment II.
Test Matrix

TAF TC10:

Flight Date
 Month Year

SYSTEM
 DATE: MM/YY

													PERFORMANCE LEVEL												
CLASS	REQ#	ITRNO	RTRN	RTRN	RTRN	RTRN	RTRN	RTRN	RTRN	RTRN	RTRN	RTRN	RTRN	RTRN	RTRN	RTRN	RTRN	RTRN	RTRN	RTRN	RTRN	PERFORMANCE LEVEL			
																						SI	SI	SI	SI
01	01	01																							
01	02	02																							
01	03	03																							
01	04	04																							
01	05	05																							
01	06	06																							
01	07	07																							
01	08	08																							
01	09	09																							
01	10	10																							
01	11	11																							
01	12	12																							
01	13	13																							
01	14	14																							
01	15	15																							
01	16	16																							
01	17	17																							
01	18	18																							
01	19	19																							
01	20	20																							
01	21	21																							
01	22	22																							
01	23	23																							
01	24	24																							
01	25	25																							
01	26	26																							
01	27	27																							
01	28	28																							
01	29	29																							
01	30	30																							
01	31	31																							

TC-1094
8/20/84
S

SLRD 0038467

TC-1094
Sheet 7

Attachment III.
Sled Parameters

[A large table with many columns and rows, mostly containing illegible text or symbols.]

TC-1094
Sheet 8

TC-1094
Sheet 9

Attachment IV.
Post Test Observations

HYGE Sled Test Summary

Sheet 10
 Unknown Series Y
 Form 30808

HYGE Run # **21210** Run Date **10/10/00**
 Test Engineer: **D** Test Auth # **TC1094**
 Requester: **Brian Young** BUCK# **418**
 Test Title/Description: **Rear Seat Restraint, Mid-Size Car**
 Crash/HYGE Pulse Ref: _____ Simulated Speed: **81 MPH** P# **90**

1

MATRIX #

	LEFT	Airbag: Pyro Buckle:	ms ms	WEHT	Airbag: Pyro Buckle:	ms ms
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy	5TH		Jummy	95TH	
	AB			Belt		
	Belt	R-1			R-2	
	Seat	S-1		Dr. AB Puff	S-1	
	Tracks:	power manual		Pass. FMF	power manual	
Position:		Welded? Y N			Welded? Y N	
Instrument Panel:						
Steering Column:						
Pre-Test OBSERVATIONS:	Did you raise a seat?					
	Did you use a booster seat (note location)?					

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below

	LEFT	Upright	Left	Right		RIGHT
	<input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> On Seat	<input type="checkbox"/> Upright <input type="checkbox"/> On Seat	<input type="checkbox"/> Left <input type="checkbox"/> Off Seat	<input type="checkbox"/> Right <input type="checkbox"/> Off Seat		<input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> On Seat
LEFT SIDE	AB Intact (No Holes): Y/N		AB Intact (No Holes): Y/N			AB Intact (No Holes): Y/N
	Face to AB Y/N		Face to AB Y/N			Face to AB Y/N
	Contact Location: High Mid Low		Contact Location: High Mid Low			Contact Location: High Mid Low
	AB Cover Attached to Can./Cover: Y/N		AB Cover Attached to Can./Cover: Y/N			AB Cover Attached to Can./Cover: Y/N
	AB D-ring Remain in Position: Y/N		AB D-ring Remain in Position: Y/N			AB D-ring Remain in Position: Y/N
	Retractor Intact: <input checked="" type="checkbox"/> Y/N	Retractor Intact: <input checked="" type="checkbox"/> Y/N	Retractor Intact: <input checked="" type="checkbox"/> Y/N	Retractor Intact: <input checked="" type="checkbox"/> Y/N		Retractor Intact: <input checked="" type="checkbox"/> Y/N
	Buckle Held: <input checked="" type="checkbox"/> Y/N	Buckle Held: <input checked="" type="checkbox"/> Y/N	Buckle Held: <input checked="" type="checkbox"/> Y/N	Buckle Held: <input checked="" type="checkbox"/> Y/N		Buckle Held: <input checked="" type="checkbox"/> Y/N
	Seat-Tracker-Hold: Y/N	Seat-Tracker-Hold: Y/N	Seat-Tracker-Hold: Y/N	Seat-Tracker-Hold: Y/N		Seat-Tracker-Hold: Y/N
	Crash-In/P: Y/N	Crash-In/P: Y/N	Crash-In/P: Y/N	Crash-In/P: Y/N		Crash-In/P: Y/N
	Steering Wheel Deformed: Y/N	Steering Wheel Deformed: Y/N	Steering Wheel Deformed: Y/N	Steering Wheel Deformed: Y/N		Steering Wheel Deformed: Y/N
	Column Stroked w/o Interference: Y/N	Column Stroked w/o Interference: Y/N	Column Stroked w/o Interference: Y/N	Column Stroked w/o Interference: Y/N		Column Stroked w/o Interference: Y/N
	Column Stroke: Left: _____		Column Stroke: Right: _____			

Post Test COMMENTS: *** TEST LOOKED NORMAL**

OBSERVER: *[Signature]*

HYGE Sled Test Summary

Sheet 11

HYGE Run # **21211**

Run Date **10 10 00**

Test Engineer: **0**

Test Auth # **TC1094**

Requester: **Susan Young**

BUCK# **418**

Test Title/Description: **Rear Seat Restraint, Mid-Size Car**

Crash/HYGE Pulse Ref:

Simulated Speed: **31 MPH**

Pin # **50**

2
MATRIX #

	LEFT	Airbag: Pyro Buckle:	ms	RIGHT	Airbag: Pyro Buckle:	ms
PRE-TEST OBSERVATIONS	Left	Dummy 5TH		Center	Dummy	
		AB R-1			AB R-2	
		Belt			Belt	
		Seat S-1			Seat S-1	
	Tracks:	power manual		Pass. FINE		
	Position:	Welded?	Y N	Position:	Welded?	Y N
	Instrument Panel:					
	Steering Column:					
	Pre-Test OBSERVATIONS: <u>Did you reuse a seat? YES</u>					
	Did you use a booster seat (note location)?					
POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:						
	<input checked="" type="checkbox"/> Upright <input type="checkbox"/> On Seat	<input type="checkbox"/> I/S <input type="checkbox"/> Off Seat	<input type="checkbox"/> O/S	<input type="checkbox"/> Upright <input type="checkbox"/> On Seat	<input type="checkbox"/> Left <input type="checkbox"/> Off Seat	<input type="checkbox"/> Right <input type="checkbox"/> Off Seat
LEFT SIDE	AB Intact (No Holes):		Y / N	AB Intact (No Holes):		Y / N
	Face to AB		Y / N	Face to AB		Y / N
	Contact Location:		Y / N	Contact Location:		Y / N
	AB Cover Attached to Can/Cover:		Y / N	AB Cover Attached to Can/Cover:		Y / N
	AB D-ring Remain in Position:		Y / N	AB D-ring Remain in Position:		Y / N
	Retractor Intact:		Y / N	Retractor Intact:		Y / N
	Buckle Held:		Y / N	Buckle Held:		Y / N
	Seat-Footer Held:		Y / N	Seat-Footer Held:		Y / N
	Cracks in MP:		Y / N	Cracks in MP:		Y / N
	Steering Wheel Deformed:		Y / N	Steering Wheel Deformed:		Y / N
Column Bracket Work Intact:		Y / N	Column Bracket Work Intact:		Y / N	
Column Brake: Left:			Right:			
Post Test COMMENTS: <u>* TEST LOOKED NORMAL</u>						
<u>* 5TH DUMMY APPEARS TO HAVE</u>						
<u>SUGARING</u>						
						OBSERVER: <i>[Signature]</i>

HYGE Sled Test Summary

Sheet 12

HYGE Run H **21212**
 Test Engineer: **0**

Run Date **10/10/00**
 Test Auth # **TC1094**

Subject: **2000**
 Part: **20000**

Requester: **Susan Young**

BUCK # **418**

3
MATRIX #

Test Title/Description: **Rear Seat Restraint, Mid-Size Car**

Crash/HYGE Pulse Ref:

Simulated Speed: **81 MPH**

Pin # **50**

	LEFT	Airbag:	ms	RIGHT	Airbag:	ms	
		Pyro Buckle:	ms		Pyro Buckle:	ms	
PULSE INFORMATION PRE-TEST OBSERVATIONS	Dummy	5TH		Dummy	95TH		
	A/B			A/B			
	Belt	R-3		Belt	R-4		
	Seat	S-1		Seat	S-1		
	Tracks:	power manual		Tracks:	power manual		
	Position:	Welded? Y N		Position:	Welded? Y N		
	Instrument Panel:			Instrument Panel:			
	Bleeding Column:			Bleeding Column:			
	Pre-Test OBSERVATIONS:	Did you reuse a seat? YES					
		Did you use a booster seat (note location)?					

POST-TEST OBSERVATIONS & CHECKLIST Connect (if needed) below:

	Upright On Seat	MS	CR	Upright On Seat	Left Off Seat	Right Off Seat	Upright On Seat	MS	CR				
A/B Intact (No Holes):	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>						
Face to A/B		MS	Center	CR			Face to A/B	MS	Center	CR			
Contact Location:		High	Mid	Low			Contact Location:	High	Mid	Low			
A/B Cover Attached to Can/Cover:							A/B Cover Attached to Can/Cover:						
Adj. D-ring Remains in Position:							Adj. D-ring Remains in Position:						
Retractor Intact:	<input checked="" type="checkbox"/>	N	Locked:	<input checked="" type="checkbox"/>	Y	<input checked="" type="checkbox"/>	Retractor Intact:	<input checked="" type="checkbox"/>	N	Locked:	<input checked="" type="checkbox"/>	Y	<input checked="" type="checkbox"/>
Buckle Held:	<input checked="" type="checkbox"/>	N	Webbing Intact:	<input checked="" type="checkbox"/>	Y	<input checked="" type="checkbox"/>	Buckle Held:	<input checked="" type="checkbox"/>	N	Webbing Intact:	<input checked="" type="checkbox"/>	Y	<input checked="" type="checkbox"/>
Seat Tracks Held:							Seat Tracks Held:						
Cracks in IP:							Cracks in IP:						
Bleeding Wheel Deformed:							Bleeding Wheel Deformed:						
Column Striked w/o Interference:							Column Striked w/o Interference:						
Column Striker: Left:							Column Striker: Right:						

Post Test COMMENTS:

Test Normal

OBSERVER:

HYGE Sled Test Summary

Sheet 13

HYGE Run # 21213
 Test Engineer: 0

Run Date 10/10/90
 Test Auth # TC1094

Matrix: Sum Y
 Form: 20886

4

MATRIX #

Requester: Susan Young BUCK# 418
 Test Title/Description: Rear Seat Restraints, Mid-Size Car

Crash/HYGE Pulse Ref: _____ Simulated Speed: 81 MPH Pin #: _____

	LEFT	Airbag:	ms	RIGHT	Airbag:	ms	
		Pyro Ejector:	ms		Pyro Ejector:	ms	
MATRIX NUMBER FROM PRE-TEST OBSERVATIONS	Dummy			Dummy			
	AB			AB			
	Belt			Belt			
	Seat			Seat			
	Tracks:	power manual		Pass. FMB		Tracks: power manual	
	Position:		Welded? Y N			Position:	Welded? Y N
	Instrument Panel:						
	Steering Column:						
	Pre-Test OBSERVATIONS:	<u>Did you reuse a seat?</u>					
		<u>Did you use a booster seat (note location)?</u>					

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below

<input checked="" type="checkbox"/> Upright On Seat <input type="checkbox"/> MB On Seat <input type="checkbox"/> O/S On Seat	<input type="checkbox"/> Upright On Seat <input type="checkbox"/> Left On Seat <input type="checkbox"/> Right On Seat	<input checked="" type="checkbox"/> Upright On Seat <input type="checkbox"/> MB On Seat <input type="checkbox"/> O/S On Seat
A/B Intact (No Holes): <u>Y/N</u> Face to A/B: <u>YS</u> Center <u>US</u> Contact Location: <u>High</u> Mid <u>Low</u>	A/B Intact (No Holes): <u>Y/N</u> Face to A/B: <u>YS</u> Center <u>US</u> Contact Location: <u>High</u> Mid <u>Low</u>	A/B Intact (No Holes): <u>Y/N</u> Face to A/B: <u>YS</u> Center <u>US</u> Contact Location: <u>High</u> Mid <u>Low</u>
MB Cover Attached to Car/Cover: <u>Y/N</u> Adj. D-ring Remain in Position: <u>Y/N</u> Retractor Intact: <u>Y/N</u> Locked: <u>Y/N</u> Buckle Held: <u>Y/N</u> Webbing Intact: <u>Y/N</u> Seat Tracks Held: <u>Y/N</u> Cracks in IP: <u>Y/N</u> Steering Wheel Deformed: <u>Y/N</u> Column Stroked w/o Interference: <u>Y/N</u>	MB Cover Attached to Car/Cover: <u>Y/N</u> Adj. D-ring Remain in Position: <u>Y/N</u> Retractor Intact: <u>Y/N</u> Locked: <u>Y/N</u> Buckle Held: <u>Y/N</u> Webbing Intact: <u>Y/N</u> Seat Tracks Held: <u>Y/N</u> Cracks in IP: <u>Y/N</u> Steering Wheel Deformed: <u>Y/N</u> Column Stroked w/o Interference: <u>Y/N</u>	MB Cover Attached to Car/Cover: <u>Y/N</u> Adj. D-ring Remain in Position: <u>Y/N</u> Retractor Intact: <u>Y/N</u> Locked: <u>Y/N</u> Buckle Held: <u>Y/N</u> Webbing Intact: <u>Y/N</u> Seat Tracks Held: <u>Y/N</u> Cracks in IP: <u>Y/N</u> Steering Wheel Deformed: <u>Y/N</u> Column Stroked w/o Interference: <u>Y/N</u>

Post Test COMMENTS: L.H. Dummy tested
inboard approximately 130° otherwise
test normal

OBSERVER: [Signature]

HYGE Sled Test Summary

Sheet 14
 Edition: Series V
 Form: 20000

HYGE Run H 21214 Run Date 10/10/00
 Test Engineer: 0 Test Auth # TC1094
 Requester: Sean Young BUCK# 418
 Test Title/Description: Rear Seat Restraints, Mid-Size Car
 Crash/HYGE Pulse Ref: _____ Simulated Speed: 21 MPH Pin # _____

5

MATRX #

	LEFT	Airbag: Pyro Buckle:	ms ms	RIGHT	Airbag: Pyro Buckle:	ms ms
PORTS / DESCRIPTION PRE-TEST OBSERVATIONS	Dummy		Jury		Dummy	
	A/B		Belt		A/B	
	Belt		Dr. A/B P/B		Belt	
	Seat		_____		Seat	
	Tracks: power manual		Pass. P/B		Tracks: power manual	
	Position: _____		Welded? Y N		Position: _____ Welded? Y N	
	Instrument Panel: _____					
	Steering Column: _____					
	Pre-Test OBSERVATIONS: <u>Did you reuse a seat?</u>					
	<u>Did you use a booster seat (note location)?</u>					

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	Upright On Seat	V/S Off Seat	Upright On Seat	Left Off Seat	Right Off Seat	Upright On Seat	V/S Off Seat
AB Intact (No Holes):	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Face to AB	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Contact Location:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
AB Cover Attached to Car/Cover:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Adj. D-ring Remain in Position:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Retractor Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Locked:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Buckle Held:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Webbing Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Seat Tracks Held:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Cracks in IP:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Steering Wheel Deformed:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Column Stroked w/o Interference:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Column Stroke: Left: _____			Right: _____				

Post Test COMMENTS: _____

Test Normal

OBSERVER: _____

[Signature]

HYGE Sled Test Summary

Sheet 15

HYGE Run H 21215 Run Date 10/1/100
 Test Engineer: 0 Test Auth # TC1094
 Requester: Susan Young BUCK# 418
 Test Title/Descriptor: Rear Seat Restraints, Mid-Size Car
 Green/HYGE Pulse Ref: _____ Simulated Speed: 81 MPH Pin # 50

Index: Data Y
 Name: 20808

6

MATRIX#

	LEFT	Airbag:	ms	RIGHT	Airbag:	ms	
		Pyro Buckle:	ms		Pyro Buckle:	ms	
PWRD RECORDER/LOG PWRD START OPERATIONS	Dummy	<u>50TH</u>		Dummy	<u>50TH</u>		
	A/B			A/B			
	Belt	<u>R-3</u>		Belt	<u>R-3</u>		
	Seat	<u>5-1</u>		Seat	<u>5-1</u>		
	Tracks:	power manual		Tracks:	power manual		
	Position:	Welded? Y N		Position:	Welded? Y N		
	Instrument Panel:						
	Steering Column:						
	Pre-Test OBSERVATIONS:	<u>Did you reuse a seat? YES</u>					
		<u>Did you use a booster seat (write location)?</u>					
POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:							
	<input checked="" type="checkbox"/> Upright	VB	O/B	<input checked="" type="checkbox"/> Upright	VB	O/B	
	<input checked="" type="checkbox"/> On Seat	Off Seat		<input checked="" type="checkbox"/> On Seat	Off Seat		
LEFT SIDE RIGHT SIDE	 A/B Filler (No Holes): <u>Y/N</u> Face to A/B <u>Center</u> O/B Contact Location: <u>High</u> <u>Mid</u> <u>Low</u> A/B Cover Attached to Can./Cover: <u>Y/N</u> D-ring Remain in Position: <u>Y/N</u> Retractor Intact: <u>Y</u> N Locked: <u>Y</u> <u>N</u> Buckle Held: <u>Y</u> N Webbing Intact: <u>Y</u> N Seat-Tracker Hold: <u>Y/N</u> Caster/IRP: <u>Y/N</u> Steering Wheel Belatched: <u>Y/N</u> Column/Breast-plate Reference: <u>Y/N</u> 			 A/B Filler (No Holes): <u>Y/N</u> Face to A/B <u>Center</u> O/B Contact Location: <u>High</u> <u>Mid</u> <u>Low</u> A/B Cover Attached to Can./Cover: <u>Y/N</u> D-ring Remain in Position: <u>Y/N</u> Retractor Intact: <u>Y</u> N Locked: <u>Y</u> <u>N</u> Buckle Held: <u>Y</u> N Webbing Intact: <u>Y</u> N Seat-Tracker Hold: <u>Y/N</u> Caster/IRP: <u>Y/N</u> Steering Wheel Belatched: <u>Y/N</u> Column/Breast-plate Reference: <u>Y/N</u> 			
	Column Steer: Left: _____ Right: _____						
	Post Test COMMENTS: <u>TEST LOOKED NORMAL</u>						
	OBSERVER: <u>[Signature]</u>						

HYGE Sled Test Summary

Sheet 16

HYGE Run H **21291** Run Date **21 Nov, 00**
 Test Engineer: **0** Test Auth # **TC1094**
 Requester: **Susan Young** BUCK # **418**
 Test Title/Description: **Seat Restraints, Mid-Size Car**
 Crash/HYGE Pulse Ref: _____ Striked Speed: **31 MPH**

Minimum Speed Y
 Floor 20000

7

MATRIX #

Ph # **93**

	LEFT	Airbag:	RIGHT	Airbag:		
		Pyro Buckle:		Pyro Buckle:		
PRE-TEST OBSERVATIONS PRE-TEST OBSERVATIONS	Dummy		Dummy			
	A/B		Belt			
	Belt					
	Seat					
	Tracks: power manual		Dr. A/B PMS		Tracks: power manual	
	Position: Welded? Y N				Position: Welded? Y N	
	Instrument Panel:					
	Steering Column:					
	Pre-Test OBSERVATIONS: <i>Did you reuse a seat?</i>				<i>YES</i>	
	Pre-Test OBSERVATIONS: <i>Did you use a booster seat (note location)?</i>				<i>No</i>	
POST-TEST OBSERVATIONS & CHECKLIST <small>Comments (if needed) follow</small>						
	<input checked="" type="checkbox"/> On Seat <input type="checkbox"/> Off Seat	<input type="checkbox"/> Upright <input type="checkbox"/> Left <input type="checkbox"/> Right		<input type="checkbox"/> Upright <input type="checkbox"/> Left <input type="checkbox"/> Right	<input type="checkbox"/> On Seat <input type="checkbox"/> Off Seat	
LEFT SIDE	A/B Intact (No Holes): Y / N		RIGHT SIDE	A/B Intact (No Holes): Y / N		
	Face to A/B: High <u>Center</u> Low			Face to A/B: <u>High</u> Center Low		
	Contact Location: <u>High</u> Mid Low			Contact Location: <u>High</u> Mid Low		
	A/B Cover Attached to Car/Cover: <u>Y</u> / N			A/B Cover Attached to Car/Cover: Y / N		
	Adj. D-ring Remain in Position: <u>EYE</u> Y / N			Adj. D-ring Remain in Position: Y / N		
	Retractor Intact: <u>Y</u> / N Locked: <u>Y</u> / N			Retractor Intact: Y / N Locked: Y / N		
	Buckle Held: <u>Y</u> / N Webbing Intact: <u>Y</u> / N			Buckle Held: Y / N Webbing Intact: Y / N		
	Seat Tracks Held: <u>Y</u> / N			Seat Tracks Held: Y / N		
	Cracks in IP: <u>Y</u> / N			Cracks in IP: Y / N		
	Steering Wheel Deformed: <u>Y</u> / N					
	Column Stroked w/o Interference: <u>Y</u> / N					
	Column Stroke: Left: _____ Right: _____					
Post Test COMMENTS: <u>UP RIGHT AND NORMAL</u>						
OBSERVER: <u>[Signature]</u>						

HYGE Sled Test Summary

Sheet 17

HYGE Run # **21088**

Run Date // **12/1/00**

Test Engineer: **0**

Test Auth # **TC1094**

Requester: **Rusan Young**

BUCK # **418**

Test Title/Description: **Rear Seat Restraints, Mid-Size Car**

Crash/HYGE Pulse Ref:

Simulated Speed: **81 MPH**

File # **214**

8
MATRIX #

	LEFT	Airbag:	ms	RIGHT	Airbag:	ms
		Pyro Buckle:	ms		Pyro Buckle:	ms
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy	5TH		Dummy	50TH	
	A/B			A/B		
	Belt	R-3		Belt	R-4	
	Seat			Seat		
	Tracks: power manual		Dr. A/B PMS	Tracks: power manual		Pass. PMS
	Position: Welded? Y N			Position: Welded? Y N		
	Instrument Panel:					
	Blowing Column:					
	Pre-Test OBSERVATIONS: <u>Did you reuse a seat? Y</u>					
	<u>Did you use a booster seat (note location)? N</u>					
POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:						
LEFT SIDE	<input checked="" type="checkbox"/> On Seat	UB	O/B	Upright	Left	Right
		Off Seat		On Seat	Off Seat	Off Seat
	A/B Intact (No Holes):			Y/N		
	Face to A/B			UB - Center O/B		
	Contact Location: High Mid Low			Y/N		
	A/B Cover Attached to Can/Cover:			Y/N		
	Self-D-ring Remains in Position:			Y/N		
	Retractor Intact: <input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N			Looked: <input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N		
	Buckle Held: <input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N			Webbing Intact: <input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N		
	Seat-Track-Holder			Y/N		
RIGHT SIDE	<input checked="" type="checkbox"/> On Seat	UB	O/B	Upright	Left	Right
		Off Seat		On Seat	Off Seat	Off Seat
	A/B Intact (No Holes):			Y/N		
	Face to A/B			UB - Center O/B		
	Contact Location: High Mid Low			Y/N		
	A/B Cover Attached to Can/Cover:			Y/N		
	Self-D-ring Remains in Position:			Y/N		
	Retractor Intact: <input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N			Looked: <input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N		
	Buckle Held: <input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N			Webbing Intact: <input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N		
	Seat-Track-Holder			Y/N		
Column Stroke: Left: _____ Right: _____						
Post Test COMMENTS: <u># TEST LOOKED NORMAL</u>						
OBSERVER:						

HYGE Sled Test Summary

Sheet 18

HYGE Run # **31289** Run Date **11/21/00**
 Test Engineer: **0** Test Auth # **TC1094**
 Requester: **Susan Young** BUCK# **418**
 Test Title/Description: **Rear Seat Restraint, Mid-Size Car**
 Crash/HYGE Pulse Ref: Simulated Speed: **31 MPH** Pin # **319**

Label: Seat Y
 Rev: 10000

9
 MATRIX#

	LEFT	Airbag: Pyro Buckle:	ms ms	RIGHT	Airbag: Pyro Buckle:	ms ms
PRE-TEST OBSERVATIONS	Dummy	5TH		Dummy	50TH	
	AB			AB		
	Seat	R-5		Seat	R-6	
	Tracks:	power manual		Tracks:	power manual	
	Position:	Welded? Y N		Position:	Welded? Y N	
	Instrument Panel:			Instrument Panel:		
	Steering Column:			Steering Column:		
	Pre-Test OBSERVATIONS: Did you reuse a seat?					
	Did you use a booster seat (note location)?					

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

<table border="0"> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/> Upright</td> <td style="text-align: center;">IB</td> <td style="text-align: center;">O/S</td> <td></td> <td style="text-align: center;">Upright</td> <td style="text-align: center;">Left</td> <td style="text-align: center;">Right</td> <td></td> <td style="text-align: center;">Upright</td> <td style="text-align: center;">IB</td> <td style="text-align: center;">O/S</td> </tr> <tr> <td style="text-align: center;">On Seat</td> <td style="text-align: center;">Off Seat</td> <td></td> <td style="text-align: center;">Y/N</td> <td style="text-align: center;">On Seat</td> <td style="text-align: center;">Off Seat</td> <td style="text-align: center;">Off Seat</td> <td></td> <td style="text-align: center;">On Seat</td> <td style="text-align: center;">Off Seat</td> <td style="text-align: center;">Off Seat</td> </tr> </table>	<input checked="" type="checkbox"/> Upright	IB	O/S		Upright	Left	Right		Upright	IB	O/S	On Seat	Off Seat		Y/N	On Seat	Off Seat	Off Seat		On Seat	Off Seat	Off Seat	<table border="0"> <tr> <td style="text-align: center;">Upright</td> <td style="text-align: center;">IB</td> <td style="text-align: center;">O/S</td> <td></td> <td style="text-align: center;">Upright</td> <td style="text-align: center;">Left</td> <td style="text-align: center;">Right</td> <td></td> <td style="text-align: center;">Upright</td> <td style="text-align: center;">IB</td> <td style="text-align: center;">O/S</td> </tr> <tr> <td style="text-align: center;">On Seat</td> <td style="text-align: center;">Off Seat</td> <td></td> <td style="text-align: center;">Y/N</td> <td style="text-align: center;">On Seat</td> <td style="text-align: center;">Off Seat</td> <td style="text-align: center;">Off Seat</td> <td></td> <td style="text-align: center;">On Seat</td> <td style="text-align: center;">Off Seat</td> <td style="text-align: center;">Off Seat</td> </tr> </table>	Upright	IB	O/S		Upright	Left	Right		Upright	IB	O/S	On Seat	Off Seat		Y/N	On Seat	Off Seat	Off Seat		On Seat	Off Seat	Off Seat	<table border="0"> <tr> <td style="text-align: center;">Upright</td> <td style="text-align: center;">IB</td> <td style="text-align: center;">O/S</td> <td></td> <td style="text-align: center;">Upright</td> <td style="text-align: center;">Left</td> <td style="text-align: center;">Right</td> <td></td> <td style="text-align: center;">Upright</td> <td style="text-align: center;">IB</td> <td style="text-align: center;">O/S</td> </tr> <tr> <td style="text-align: center;">On Seat</td> <td style="text-align: center;">Off Seat</td> <td></td> <td style="text-align: center;">Y/N</td> <td style="text-align: center;">On Seat</td> <td style="text-align: center;">Off Seat</td> <td style="text-align: center;">Off Seat</td> <td></td> <td style="text-align: center;">On Seat</td> <td style="text-align: center;">Off Seat</td> <td style="text-align: center;">Off Seat</td> </tr> </table>	Upright	IB	O/S		Upright	Left	Right		Upright	IB	O/S	On Seat	Off Seat		Y/N	On Seat	Off Seat	Off Seat		On Seat	Off Seat	Off Seat
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On Seat	Off Seat		Y/N	On Seat	Off Seat	Off Seat		On Seat	Off Seat	Off Seat																																																										
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On Seat	Off Seat		Y/N	On Seat	Off Seat	Off Seat		On Seat	Off Seat	Off Seat																																																										

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Buckle Held:	Y / N																																																													
Seat Tracks Held:	Y / N																																																													
Cracks in IP:	Y / N																																																													

Post Test COMMENTS: Test looked Normal

OBSERVER: *J. B.*

HYGE Sled Test Summary

Sheet 19
 Indicator: Blank Y
 Plate: X808

HYGE Run # **21290** Run Date **11/21/00**
 Test Engineer: **0** Test Auth # **TC1094**
 Requester: **Susan Young** BUICK# **418**
 Test Title/Description: **Rear Seat Restraints, Mid-Size Car**
 Crash/HYGE Pulse Rat: Simulated Speed: **81 MPH** Pn# **219**

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MATRIX #

	LEFT	Airbag: Pyro Buckle:	ms ms	RIGHT	Airbag: Pyro Buckle:	ms ms
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy	5TH		Dummy	50TH	
	A/B			A/B		
	Belt	R-5		Belt	R-6	
	Seat			Seat		
	Dr. A/B Path _____			Dr. A/B Path _____		
	Tracks: power manual _____			Tracks: power manual _____		
	Position: Welded? Y N			Position: Welded? Y N		
	Instrument Panel: _____			Instrument Panel: _____		
	Steering Column: _____			Steering Column: _____		
	Pre-Test OBSERVATIONS: <u>Did you reuse a seat?</u>					
	Did you use a booster seat (note location)? _____					

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

		IB	O/S		Upright	Left	Right		IB	O/S
		<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
		On Seat	Off Seat		On Seat	Off Seat	Off Seat		On Seat	Off Seat
LEFT SIDE	A/B Intact (No Holes):	Y/N			A/B Intact (No Holes):	Y/N				
	Face to A/B	MS	Center	O/S	Face to A/B	MS	Center	O/S		
	Contact Location:	High	Mid	Low	Contact Location:	High	Mid	Low		
	A/B Cover Attached to Car/Cover:	Y/N			A/B Cover Attached to Car/Cover:	Y/N				
	Adj. D-ring Remain in Position:	Y/N			Adj. D-ring Remain in Position:	Y/N			Y/N	
	Retractor Intact:	<input checked="" type="checkbox"/>	N	Locked:	<input checked="" type="checkbox"/>	N	Locked:	<input checked="" type="checkbox"/>	N	
	Buckle Held:	<input checked="" type="checkbox"/>	N	Webbing Intact:	<input checked="" type="checkbox"/>	N	Webbing Intact:	<input checked="" type="checkbox"/>	N	
	Seat Trackers Held:	Y/N			Seat Trackers Held:	Y/N			Y/N	
	Cracks in IP:	Y/N			Cracks in IP:	Y/N			Y/N	
	Steering Wheel Deformed:	Y/N			Steering Wheel Deformed:	Y/N			Y/N	
Column Stroked w/o Interference:	Y/N			Column Stroked w/o Interference:	Y/N			Y/N		
Column Stroke:	Left: _____			Right: _____						
Post Test COMMENTS:										
BOTH DUMMIES UP RIGHT AND NORMAL										
OBSERVER: <i>[Signature]</i>										

HYGE Sled Test Summary

Sheet 20

HYGE Run H **21292** Run Date **21 Nov 00**
 Test Engineer: **0** Test Auth # **TC1094**
 Requester: **Susan Young** BUCK# **418**
 Test Title/Description: **Rear Seat Restraints, Mid-Size Car**
 Crash/HYGE Pulse Ref: _____ Simulated Speed: **51 MPH** Pin # **93**

Edition 2000 Y
 Form 300000

11
 MATRIX#

	LEFT	Airbag: Pyro Buckle:	m m	RIGHT	Airbag: Pyro Buckle:	m m	
PLACE DESCRIPTION PRE-TEST OBSERVATIONS	Dummy			Dummy			
	A/B			A/B			
	Belt			Belt			
	Seat			Seat			
	Tracks: power manual		Dr. A/B P/M		Tracks: power manual		
Position: _____		Welded? Y N		Position: _____		Welded? Y N	
Instrument Panel: _____							
Steering Column: _____							
Pre-Test OBSERVATIONS: <u>Did you reuse a seat? NO</u> <u>Did you use a booster seat (note location)? R/L</u>							

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below

<input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> On Seat <input type="checkbox"/> Off Seat	<input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> On Seat <input type="checkbox"/> Left <input type="checkbox"/> Right <input type="checkbox"/> Off Seat	<input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> On Seat <input type="checkbox"/> Off Seat
--	--	--

LEFT SIDE A/B Intact (No Holes): <u>Y/N</u> Face to A/B: <u>I/B</u> Center <u>O/B</u> Contact Location: <u>High</u> Mid <u>Low</u> A/B Cover Attached to Gen./Cover: <u>Y/N</u> Adj. D-ring Remain in Position: <u>Y/N</u> Retractor Intact: <u>Y/N</u> Locked: <u>Y/N</u> Buckle Held: <u>Y/N</u> Webbing Intact: <u>Y/N</u> Seat Tracks Held: <u>Y/N</u> Cracks in IP: <u>Y/N</u> Steering Wheel Deformed: <u>Y/N</u> Column Stroked w/o Interference: <u>Y/N</u> Column Stroke: Left: _____ Right: _____	RIGHT SIDE A/B Intact (No Holes): <u>Y/N</u> Face to A/B: <u>I/B</u> Center <u>O/B</u> Contact Location: <u>High</u> Mid <u>Low</u> A/B Cover Attached to Gen./Cover: <u>Y/N</u> Adj. D-ring Remain in Position: <u>Y/N</u> Retractor Intact: <u>Y/N</u> Locked: <u>Y/N</u> Buckle Held: <u>Y/N</u> Webbing Intact: <u>Y/N</u> Seat Tracks Held: <u>Y/N</u> Cracks in IP: <u>Y/N</u>
--	--

Post Test COMMENTS: _____

BOTH SIDES ROTATED

I/B

OBSERVER: [Signature]

HYGE Sled Test Summary

Sheet 21

HYGE Run H **21293** Run Date **1 / 1**
 Test Engineer: **0** Test Auth # **TC1094**
 Requester: **Susan Young** BUICK # **418**
 Test Title/Description: **Rear Seat Restraints, Mid-Size Car**

Option Size Y
 Floor 20000
12
 MATRIX #

Crash/HYGE Pulse Ref: _____ Simulated Speed: **61 MPH** Pin # **33**

	LEFT	Airbag: Pyro Buckle:	ms ms	RIGHT	Airbag: Pyro Buckle:	ms ms
NORTH TOPOGRAPHICAL PRE-TEST OBSERVATIONS	Dummy			Dummy		
	A/B			A/B		
	Belt			Belt		
	Seat			Seat		
	Tracks: <input type="checkbox"/> power manual		Dr. A/B PMS _____		Tracks: <input type="checkbox"/> power manual	
Position: _____		Welded? <input type="checkbox"/> Y <input type="checkbox"/> N		Position: _____		Welded? <input type="checkbox"/> Y <input type="checkbox"/> N
Instrument Panel: _____						
Steering Column: _____						
Pre-Test OBSERVATIONS: Did you reuse a seat? YES						
Did you use a locator seat (note location)? Y - RH - REUSE						

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

<p><input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> On Seat</p> <p><input type="checkbox"/> Off Seat</p>	<p><input checked="" type="checkbox"/> Upright <input type="checkbox"/> Left <input type="checkbox"/> Right</p> <p><input type="checkbox"/> On Seat <input type="checkbox"/> Off Seat</p>	<p><input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> On Seat</p> <p><input type="checkbox"/> Off Seat</p>
<p>AB Intact (No Holes): <u>Y-N</u></p> <p>Face to A/B: <u>Center</u> <input type="checkbox"/> <u>Low</u></p> <p>Contact Location: <u>High</u> <input type="checkbox"/> <u>Mid</u> <input type="checkbox"/> <u>Low</u></p>		<p>AB Intact (No Holes): <u>Y-N</u></p> <p>Face to A/B: <u>Center</u> <input type="checkbox"/> <u>Low</u></p> <p>Contact Location: <u>High</u> <input type="checkbox"/> <u>Mid</u> <input type="checkbox"/> <u>Low</u></p>
<p>AB Cover Attached to Can/Cover: <u>Y-N</u></p> <p>Adj. D-ring Remains in Position: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N</p> <p>Retractor Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Locked: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N</p> <p>Buckle Held: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Webbing Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N</p> <p>Seat Tracks Held: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N</p> <p>Cracks in UP: <u>Y-N</u></p> <p>Steering Wheel Deformed: <u>Y-N</u></p> <p>Column Broke w/o Interference: <u>Y-N</u></p> <p>Column Stroke: Left: _____ Right: _____</p>		<p>AB Cover Attached to Can/Cover: <u>Y-N</u></p> <p>Adj. D-ring Remains in Position: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N</p> <p>Retractor Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Locked: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N</p> <p>Buckle Held: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Webbing Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N</p> <p>Seat Tracks Held: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N</p> <p>Cracks in UP: <u>Y-N</u></p>

Post Test COMMENTS:

BOTH DUMMIES TRIPPED

E/B

OBSERVER: *[Signature]*

HYGE Sled Test Summary

Sheet 22

HYGE Run # **21294** Run Date **11/18/10**
 Test Engineer: **0** Test Auth # **TC1094**
 Requestor: **Brian Young** BUCK# **418**
 Test Title/Description: **Rear Seat Restraints, Mid-Size Car**

Matrix # **13**

Crash/HYGE Pulse Ref: _____ Simulated Speed: **21 MPH** Pn # _____

Pn #	LEFT	Airbag:	ms	ms/ft	Airbag:	ms			
		Pyro Buckle: 10	ms		Pyro Buckle: 10	ms			
POST-TEST OBSERVATIONS	Dummy 60R	Center	Dummy		Dummy 60R				
	AB		Belt		AB				
	Belt R-5				Belt R-6				
	Seat				Seat				
	Tracks: power manual		Dr. AB PMS		Tracks: power manual				
	Position: Welded? Y N		Post. FMP		Position: Welded? Y N				
	Instrument Panel								
	Steering Column:								
	Pre-Test OBSERVATIONS: Did you reuse a seat? Y								
	Did you use a loader seat (w/te. loader)? R								
POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:									
LEFT SIDE	<input checked="" type="checkbox"/> Upright	IS	OS		<input checked="" type="checkbox"/> Upright	IS	OS		
	<input checked="" type="checkbox"/> On Seat	Off Seat		<input checked="" type="checkbox"/> On Seat	Off Seat	<input checked="" type="checkbox"/> On Seat	Off Seat		
	AB Intact (No Holes):		Y / N	AB Intact (No Holes):		Y / N			
	Face to AB	IS	Center	OS	Face to AB	IS	Center	OS	
	Contact Location:	High	Mid	Low	Contact Location:	High	Mid	Low	
	AB Cover Attached to Car/Cover:		Y / N	AB Cover Attached to Car/Cover:		Y / N			
	Adj. D-ring Remains in Position:		Y / N	Adj. D-ring Remains in Position:		Y / N			
	Retractor Intact:	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> N	Locked:	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> N	Locked:	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> N
	Buckle Held:	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> N	Webbing Intact:	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> N	Webbing Intact:	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> N
	Seat Tracks Held:		Y / N	Seat Tracks Held:		Y / N		Y / N	
Cracks in IP:		Y / N	Cracks in IP:		Y / N		Y / N		
Steering Wheel Deformed:		Y / N	Steering Wheel Deformed:		Y / N		Y / N		
Column Struck w/o Interference:		Y / N	Column Struck w/o Interference:		Y / N		Y / N		
Column Struck: Left: _____		Right: _____	Column Struck: Left: _____		Right: _____		Right: _____		
Post Test COMMENTS: * RIGHT SIDE BUCKLE COVER									
CAME OFF (BELT HELD)									
* RIGHT SIDE BELT WAS LOADED									
BETWEEN NECK AND SHOULDER									
						OBSERVER: <i>[Signature]</i>			

HYGE Sled Test Summary

Sheet 23

HYGE Run # **21295** Run Date // **122106**
 Test Engineer: **0** Test Auth # **TC1094**
 Requester: **Susan Young** BUCK# **418**
 Test Title/Description: **Rear Seat Restraint, Mid-Size Car**
 Crash/HYGE Pulse Ref: _____ Simulated Speed: **31 MPH** Pin # **219**

Edition Date Y
 Form: X26000

14
 MATRIX #

PRE-TEST OBSERVATIONS	LEFT Airbag: _____ ms Pyro Buckle: 10 ms	CENTER Dummy Buckle	RIGHT Airbag: _____ ms Pyro Buckle: 10 ms
	Dummy AB Belt R-5 Seat Tracks: power manual Position: Welded? Y N		Dummy AB Belt R-6 Seat Tracks: power manual Position: Welded? Y N
	Instrument Panel: Steering Column: Pre-Test OBSERVATIONS: <u>Did you reuse a seat? Y</u> <u>Did you use a booster seat (note location)? R</u>		

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

LEFT SIDE	Upright	IB	O/B	CENTER	Upright	Left	Right	RIGHT SIDE	Upright	IB	O/B	
	On Seat	Off Seat	Off Seat		On Seat	On Seat	Off Seat		On Seat	Off Seat		
	A/B Intact (No Holes):			Y / N	A/B Intact (No Holes):			Y / N				
	Face to A/B			IB	Center	O/B	Face to A/B			IB	Center	O/B
	Contact Location:			High	Mid	Low	Contact Location:			High	Mid	Low
	A/B Cover Attached to Can/Cover:			Y / N	A/B Cover Attached to Can/Cover:			Y / N				
	Adj. D-ring Remains in Position:			Y / N	Adj. D-ring Remains in Position:			Y / N				
	Retractor Intact:			<input checked="" type="checkbox"/> N	Retractor Intact:			<input checked="" type="checkbox"/> N	Retractor Intact:			<input checked="" type="checkbox"/> N
	Webbing Intact:			<input checked="" type="checkbox"/> N	Webbing Intact:			<input checked="" type="checkbox"/> N	Webbing Intact:			<input checked="" type="checkbox"/> N
	Buckle Held:			<input checked="" type="checkbox"/> N	Buckle Held:			<input checked="" type="checkbox"/> N	Buckle Held:			<input checked="" type="checkbox"/> N
	Seat Tracks Held:			Y / N	Seat Tracks Held:			Y / N	Seat Tracks Held:			Y / N
	Cracks in MP:			Y / N	Cracks in MP:			Y / N	Cracks in MP:			Y / N
	Steering Wheel Deformed:			Y / N	Steering Wheel Deformed:			Y / N	Steering Wheel Deformed:			Y / N
	Column Striked w/o Interference:			Y / N	Column Striked w/o Interference:			Y / N	Column Striked w/o Interference:			Y / N
	Column Stroke: Left:			_____	Column Stroke: Right:			_____	Column Stroke: Right:			_____
	Post Test COMMENTS: <u>* RIGHT SIDE Buckle COVER</u> <u>CAME OFF</u>											
	OBSERVER: <i>[Signature]</i>											

IC-1094
Sheet 24

Attachment V.
Dummy Positioning

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 25

Initial: Ross Young
Form: 302000

TC1094

Run H 21210

Date 10-10-90

Rear Seat Restraint Enhancement, Mid-Size Car

1

Buck # 418

LR	RIGHT	Center
SM	DUMMYTYPE	95TH
	SEAT POSITION	
365	DUMMY NUMBER	346

Reference: H
H
H

very important!!
 Please record reference location of reference points used

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (± mm)	
					1st RUN	ADDL
Seat Back Angle (15° above pivot)		0	0		0	+/-1 notch
Pelvic Angle (+/- 2.5 deg.; +/-1.0 for 960s)						
Column Angle					at left	at left
H-Point Longitudinal	1173			1198	12	0
H-Point Vertical	-153			-158		0
H-Point Lateral	860			848	12	0
Knee Longitudinal	830			797		
Knee Vertical	-93			-39		
Knee Lateral	294			263	0	0
Head Longitudinal	1352			1376	level	0
Head Vertical	409			507	level	0
Head Lateral	317			368	level	0
Dummy Neck Adjustment (Shot run only)						
Knee Centerline to Knee Centerline (mm)	164			170		
Left Knee to Bolster						0
Right Knee to Bolster						0
Nose to Steering Wheel Upper Rim or VP						0
Torso to Steering Wheel Lower Rim						0
Reference Target to Seat Belt Longitudinal						
Reference Target to Seat Belt Vertical						
Reference Target to Seat Belt Lateral						
Reference Target Absolute Longitudinal						
Reference Target Absolute Vertical						
Reference Target Absolute Lateral						

FILM ANALYSIS

Knee (target) Lateral	365		360		
Thigh Lateral	855		850		
Phantom Lateral	252		248		
Shoulder Lateral	168		180		
Other					
Other					
Knee to H-Point	300		304		
Knee to Phantom	170		183		
Knee to Thigh	95		113		
Distance Between A or B Piller Targets	51		51		
Upper or Forward Reference Target	817		790		
Lower or Rearward Reference Target	800		799		
Reference Bar to Film Face					
Camera Angle	276.3		10.7		< 5 deg. < 5 deg.

Notes: Please carefully seat each dummy for first run of dummy type. Record position and match those numbers for repeat runs of that dummy type. +/- 5mm

Sheet 26

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Inhale: Sam Young
 Pass: 201000

TC1094

Run H 81211

Date 10-10-00

Rear Seat Restraint Enhancement, Mid-Size Car

2

Buck # 418

Reference: H
 H
 H

Left	Right	Center
DUMMY TYPE		
SEAT POSITION		
DUMMY NUMBER		

Please - record location of reference/very important!!

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (in mm)	
					1st RUN	ADDL
Seat Back Angle (15° above pivot)		0	0		0	+/-1 mm
Pelvic Angle (+/- 2.5 deg.; +/- 3.0 for 50th)						
Column Angle					at left	at left
H-Point Longitudinal Lane # 4		1173	1198		12	0
H-Point Vertical Lane # 4		-153	-169			0
H-Point Lateral Lane # 4	260	260	257	250	12	0
Knee Longitudinal Lane # 2		232	247			
Knee Vertical Lane # 2		-93	-33			
Knee Lateral Lane # 2	295	293	263	263	0	0
Head Longitudinal Lane # 3		1322	1316		level	0
Head Vertical Lane # 3		169	507		level	0
Head Lateral Lane # 3	317	317	318	317	level	0
Dummy Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (mm)	164	164	236	236		
Left Knee to Bolster						0
Right Knee to Bolster						0
Wrist to Steering Wheel Upper Rim or 2P						0
Wrist to Steering Wheel Lower Rim						0
Reference Target to Seat Belt Longitudinal						
Reference Target to Seat Belt Vertical						
Reference Target to Seat Belt Lateral						
Reference Target Absolute Longitudinal						
Reference Target Absolute Vertical						
Reference Target Absolute Lateral						

FILE ANALYSIS

Knee (target) Lateral	260		240	
Thigh Lateral	254		235	
Phantom Lateral	255		239	
Shoulder Lateral	185		185	
Other				
Other				
Other				
Knee to H-Point				
Knee to Phantom				
Knee to Thigh				
Distance Between A or B P-Bar Targets				
Upper or Forward Reference Target				
Lower or Rearward Reference Target				
Reference Bar to Floor Plane				
Column Angle				

< 8 deg. | < 8 deg.

Notes: Please carefully seat each dummy for first run of dummy type. Record position and match those numbers for repeat runs of that dummy type.

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 27
 Author: Steve Young
 Form 72000

TC1094

Run: H 81812

Date 10-10-00

Rear Seat Restraint Enhancement, Mid-Size Car

33

Buck # 418

Reference: H
 H
 H

Left	Right	Center
DUMMY TYPE		
SEAT POSITION		
DUMMY NUMBER		

Repeat
 after
 target

VERY important!!
 Please record location of reference points used

POSITIONING	L	R	ACTUAL	TARGET	TARGET	ACTUAL	TOLERANCE (in mm)	
			LEFT	LEFT	RIGHT	RIGHT	1st RUN	ADDL
Seat Back Angle (13° above pivot)				0	0		0	< 1 notch
Pelvic Angle (+/- 2.5 degs +/- 1.0 for 9th/10)			22	21°	22.5°	23		
Column Angle							at left	at left
H-Point Longitudinal	Lower 4		1173	1175	1198	1198	0	0
H-Point Vertical	Lower 4		-153	-153	-168	-162	0	0
H-Point Lateral			265	265	249	249	12	0
Knee Longitudinal	Lower 3		832	838	797	797		
Knee Vertical	Lower 3		-98	-98	-88	-88		
Knee Lateral			293	293	267	265	0	0
Head Longitudinal	Lower 3		1352	1363	1276	1276	level	0
Head Vertical	Lower 3		409	409	407	38	level	0
Head Lateral			340	317	318	366	level	0
Dummy Neck Adjustment (Eyes run only)								
Knee Clearance to Knee Connection (mm)			165	164	236	236		
Left Knee to Soler								0
Right Knee to Soler								0
Neck to Steering Wheel Upper Rim or IP								0
Neck to Steering Wheel Lower Rim								0
Reference Target to Seat Belt Longitudinal								
Reference Target to Seat Belt Vertical								
Reference Target to Seat Belt Lateral								
Reference Target Absolute Longitudinal								
Reference Target Absolute Vertical								
Reference Target Absolute Lateral								

FILE ANALYSIS	L	R		
Knee (target) Lateral	260		243	
Thigh Lateral	265		253	
Phantom Lateral	265		230	
Shoulder Lateral	170		185	
Other				
Other				
Other				
Knee to H-Point				
Knee to Phantom				
Knee to Thigh				
Distance Between A or B Film Targets				
Upper or Forward Reference Target				
Lower or Rearward Reference Target				
Reference Bar to Film Plane				
Camera Angle				

Notes: Please carefully seat each dummy for first run of dummy type. Record position and match those numbers for repeat runs of that dummy type.

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 28
 Author: Sam Young
 Form 30000

TC1094

Run: H 8120

Date: 10-10-00

Rear Seat Restraint Enhancement, Mid-Size Car

4

Buck # 418

Reference: H
 H
 H

Left	Right	Center
DUMMY TYPE		
SEAT POSITION		
DUMMY NUMBER		

Please set angle

VERY important!!
 Please record reference position of reference! You used!

POSITIONING		ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (4 RUN)	
						1st RUN	ADD'L
Seat Back Angle (12° above pivot)			0	0		0	<±1 notch
Pelvis Angle (+/- 2.5 deg. ±1.0 for 5th)		22	31	22.5	2.0		
Crotch Angle						at left	at left
H-Point Longitudinal	Laser # 4		1178	1148		12	0
H-Point Vertical	Laser # 4		-183	-180			0
H-Point Lateral		260	260	288	245	12	0
Knee Longitudinal	Laser # 2		838	797			
Knee Vertical	Laser # 2		-93	-89			
Knee Lateral		275	293	262	265	0	0
Head Longitudinal	Laser # 3		1320	1270		level	0
Head Vertical	Laser # 3		109	507		level	0
Head Lateral		315	317	312	375	level	0
Dummy Neck Adjustment (Ergo not only)							
Knee Centerline to Knee Centerline (rear)			160	230			0
Left Knee to H-Point							0
Right Knee to H-Point							0
Hips to Steering Wheel Upper Rim or 1P							0
Toes to Steering Wheel Lower Rim							0
Reference Target to Seat Belt Longitudinal							
Reference Target to Seat Belt Vertical							
Reference Target to Seat Belt Lateral							
Reference Target Abdomen Longitudinal							
Reference Target Abdomen Vertical							
Reference Target Abdomen Lateral							

FILM ANALYSIS

Knee (Target) Lateral	275		255	
Thigh Lateral	260		230	
Pelvis Lateral	265		230	
Shoulder Lateral	205		180	
Other				
Other				
Other				
Knee to H-Point				
Knee to Pelvis				
Knee to Thigh				
Distance Between A or B Plier Targets				
Upper or Forward Reference Target				
Lower or Rearward Reference Target				
Reference Bar to Plier Faces				
Camera Angle				

Notes: Please carefully seat each dummy for first run of dummy type. Record position and match these numbers for repeat runs of that dummy type.

HYGE - DUMMY POSITIONING and FIA TARGETING Sheet

Sheet 29

Subject: Susan Young
Mass: 70000

TC1094

Run H 21214

Date 10-10-00

Rear Seat Restraint Enhancement, Mid-Size Car

5

Buck # 418

Reference: H
H
H

Left	Right	Center
ED%	DUMMY TYPE	50%
	SEAT POSITION	
	DUMMY NUMBER	

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (+/- mm)	
					1st RUN	ADDL
Seat Back Angle (13° above plow)		0	0		0	+/-1 notch
Pelvis Angle (+/- 2.5 deg.; +/- 1.0 for 50th)	20°	22.5°	22.6°	19.5		
Column Angle					at left	at left
H-Point Longitudinal	Laser # 4	1219		1234	12	0
H-Point Vertical	Laser # 4	-174		-149		0
H-Point Lateral		1255		255	12	0
Knee Longitudinal	Laser # 2	223		229		
Knee Vertical	Laser # 2	-81		-53	0	0
Knee Lateral		280		295	level	0
Head Longitudinal	Laser # 3	1763		1715	level	0
Head Vertical	Laser # 3	438		425	level	0
Head Lateral		330		370	level	0
Dummy Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (mm)		95		95		0
Left Knee to Bolster						0
Right Knee to Bolster						0
Neck to Steering Wheel Upper Rim or 3P						0
Neck to Steering Wheel Lower Rim						0
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal						
Reference Target Absolute Vertical						
Reference Target Absolute Lateral						

VERY important!!
 Please record reference location if you used!

FILM ANALYSIS	Left	Right	Center
Knee (target) Lateral	230		245
Thigh Lateral	252		240
Phantom Lateral	252		280
Shoulder Lateral	200		100
Other			
Other			
Other			
Knee to H-Point			
Knee to Phantom			
Knee to Thigh			
Distance Between A or B Pillar Targets			
Upper or Forward Reference Target			
Lower or Rearward Reference Target			
Reference Bar to Film Plane			
Camera Angle			

Notes: Please carefully seat each dummy for first run of dummy type. Record position and match those numbers for repeat runs of that dummy type.

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 30
 Editor: Steve Young
 Form: 20800

TC1084

Run H 21215

Date 10-11-00

Rear Seat Restraint Enhancement, Mid-Size Car

10

Buck # 418

Reference: H
 H
 H

Left	Right	Center
DUMMY TYPE		
SEAT POSITION		
DUMMY NUMBER		

very important!!
 Please record reference location of your target!

POSITIONING		ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (± mm)	
						1st RUN	ADJL
Seat Back Angle (13° above pivot)			0	0		0	+/-1 notch
Pelvic Angle (±2.3 deg.; ±1.0 for 5140s)							
Chest Angle						at left	at left
H-Point Longitudinal	Level # 4	1219	1219	1238	1239	12	0
H-Point Vertical	Level # 4	-174	-174	-189	-189		0
H-Point Lateral		260	255	256	250	12	0
Knee Longitudinal	Level # 2	223	223	239	239		
Knee Vertical	Level # 2	-81	-81	-53	-53		
Knee Lateral		290	295	295	293	0	0
Head Longitudinal	Level # 3	1264	1263	1293	1293	level	0
Head Vertical	Level # 3	488	488	485	485	level	0
Head Lateral		350	358	370	370	level	0
Driver's Head Adjustment (first run only)							
Knee Centerline to Knee Centerline (MAX)		195	195	195	195		
Left Knee to Bolster							0
Right Knee to Bolster							0
Neck to Steering Wheel Upper Rim or 1P							0
Neck to Steering Wheel Lower Rim							0
Reference Target to Seat Bolt Longitudinal							
Reference Target to Seat Bolt Vertical							
Reference Target to Seat Bolt Lateral							
Reference Target Absolute Longitudinal							
Reference Target Absolute Vertical							
Reference Target Absolute Lateral							

FILM ANALYSIS

Knee (target) Lateral	260		260
Thigh Lateral	257		257
Flare/Lateral	258		257
Shoulder Lateral	184		200
Other			
Other			
Other			
Knee to H-Point			
Knee to Flare/Lateral			
Knee to Thigh			
Distance Between A or B Pellet Targets			
Upper or Forward Reference Target			
Lower or Rearward Reference Target			
Reference Bar to Film Film			
Camera Angle			

Notes: Please carefully seat each dummy for first run of dummy type. Record position and match those numbers for repeat runs of that dummy type.

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 31
 Author: Russ Young
 Project: 200000

TC1084

Run H 21291

Date 21/Nov/2000

Rear Seat Restraint Enhancement, Mid-Size Car

7

Buck # 418

Reference: H
 H
 H

Left	DUMMY TYPE	Right	Center
	SEAT POSITION		
	DUMMY NUMBER		

POSITIONING

	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (+mm)	1st RUN	ADDL
Seat Back Angle (13° above post)		0	0		0		+/-1 notch
Pelvic Angle (+/- 2.5 deg.; +/- 0.5 for 5th)							
Column Angle					at left		at left
H-Point Longitudinal Layer = 4	3958	3958			12		0
H-Point Vertical Layer = 4	668	668					0
H-Point Lateral	268	268			12		0
Knee Longitudinal Layer = 3	3500	3500					
Knee Vertical Layer = 1	723	723					
Knee Lateral	512	512			0		0
Head Longitudinal Layer = 5	4077	4077			level		0
Head Vertical Layer = 3	1240	1240			level		0
Head Lateral	330	330			level		0
Dummy Neck Adjustment (Seat run only)							
Knee Centerline to Knee Centerline (mm)	164	164					0
Left Knee to Beltline							0
Right Knee to Beltline							0
Neck to Steering Wheel Upper Rim or HP							0
Torso to Steering Wheel Lower Rim							0
Reference Target to Seat Belt Longitudinal							
Reference Target to Seat Belt Vertical							
Reference Target to Seat Belt Lateral							
Reference Target to Head Longitudinal							
Reference Target to Head Vertical							
Reference Target to Head Lateral							

Very important!
 Record position of seat local!

PILR ANALYSIS

Knee (Target) Lateral				
Thigh Lateral				
Shoulder Lateral				
Other				
Other				
Other				
Knee to H-Point				
Knee to Shoulder				
Knee to Thigh				
Distance Between A or B Pilr Targets				
Upper or Forward Reference Target				
Lower or Rearward Reference Target				
Reference Bar to Pilr Plane				
Column Angle				

Notes: Please carefully seat each dummy for first run of dummy type. Record position and match those numbers for repeat runs of that dummy type.

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 32
 Exhibit: Susan Young
 Room: X0000

TC1094

Run H 31888

Date 11-21-00

Rear Set

8

Buck # 418

Reference: H
 H
 H

LN E7.H3	DUMMY TYPE	RN 528.H3	Center
REF 220	SEAT POSITION	REF 220	
	DUMMY NUMBER		

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (± mm)	
					1st RUN	ADDL
Seat Back Angle (15° above pivot)		21°	22.5°		0	±1 notch
Pelvic Angle (+/- 2.5 deg.; +A-1.0 for 3M4a)						
Cabins Angle					at left	at left
H-Point Longitudinal Laser # 4	3437	3447	3442	3445	12	0
H-Point Vertical Laser # 5	4628	4628	4628	4628		0
H-Point Lateral	3160	260	-256	275	12	0
Knee Longitudinal Laser # 2	2597			2585		
Knee Vertical Laser # 2	723			767		
Knee Lateral	312	310	-310	308	0	0
Head Longitudinal Laser # 3	9043			9043	level	0
Head Vertical Laser # 3	1242			1242	level	0
Head Lateral	337	330		335	level	0
Dummy Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (mm)	169	162	143	144		
Left Knee to Bolster						0
Right Knee to Bolster						0
Wrist to Steering Wheel Upper Rim or IF						0
Torso to Steering Wheel Lower Rim						0
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal	2739			2739		
Reference Target Absolute Vertical	308			307		
Reference Target Absolute Lateral						

FILM ANALYSIS					
Knee (target) Lateral					
Thigh Lateral					
Phantom Lateral					
Shoulder Lateral					
Other					
Other					
Other					
Knee to H-Point					
Knee to Phantom					
Knee to Thigh					
Distance Between A or B Pillar Targets					
Upper or Forward Reference Target					
Lower or Rearward Reference Target					
Reference Bar to Film Plane					
Cabins Angle					< 5 deg. < 5 deg.

Notes: Please carefully seat each dummy for first run of dummy type. Record position and match those numbers for repeat runs of that dummy type.
 If it may be hard to position, could use 2nd

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 33
 Higher Same Team
 Form: 280000

TC1094

Run H 81289

Date 11-21-00

Rear Seat Restraint Enhancement, Mid-Size Car

9

Buck # 418

Reference: H
 H
 H

Lat	Right	Center
DUMMY TYPE		
SEAT POSITION		
DUMMY NUMBER		

POSITIONING	Laser #	ACTUAL	TARGET	TARGET	ACTUAL	TOLERANCE (± mm)	
		LEFT	LEFT	RIGHT	RIGHT	1st RUN	ADJL
Seat Back Angle (13° above pivot)			0	0		0	±1 match
Pelvis Angle (±1.5 deg; ±1.0 for SMI)							
Column Angle						at left	at left
H-Point Longitudinal	4	3042	3038	3042	3042	12	0
H-Point Vertical	4	7167	7167	7167	7167		0
H-Point Lateral		2105	2105	2105	2105	12	0
Knee Longitudinal	2	3557	3559	3553	3553		
Knee Vertical	2	723	723	727	727		
Knee Lateral		312	312	308	306	0	0
Head Longitudinal	5	4077	4077	4073	4073	level	0
Head Vertical	5	1240	1240	1240	1240	level	0
Head Lateral		330	330	335	333	level	0
Dummy Neck Adjustment (first run only)							
Knee Centerline to Knee Centerline (mm)		162	164	194	194		0
Left Knee to Heel							0
Right Knee to Heel							0
Wrist to Steering Wheel Upper Rim or SP							0
Wrist to Steering Wheel Lower Rim							0
Reference Target to Seat Belt Longitudinal							
Reference Target to Seat Belt Vertical							
Reference Target to Seat Belt Lateral							
Reference Target Absolute Longitudinal							
Reference Target Absolute Vertical							
Reference Target Absolute Lateral							

VERY important!!
 Please record location of reference point used!

FILM ANALYSIS

Knee (target) Lateral				
Thigh Lateral				
Pelvis Lateral				
Shoulder Lateral				
Other				
Other				
Other				
Knee to H-Point				
Knee to Pelvis				
Knee to Thigh				
Distance Between A or B Pillar Targets				
Upper or Forward Reference Target				
Lower or Rearward Reference Target				
Reference Bar to Film Plane				
Camera Angle				

Notes: Please carefully seat each dummy for first run of dummy type. Record position and match those numbers for repeat runs of that dummy type.

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 34
 Edition: Rev 0000
 Form 20000

TC1084

Run H 21090

Date 11-21-00

Rear Seat Restraint Enhancement, Mid-Size Car

10

Buck # 418

Reference: H
 H
 H

Left	Right	Center
DUMMY TYPE		
SEAT POSITION		
DUMMY NUMBER		

VERY IMPORTANT!!
 Use - Record Reference Position of Reference VEH USED!

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (in mm)	
					Latitud	Acct.
Seat Back Angle (13° above pivot)		0	0		0	+/-1 repeat
Pelvic Angle (+/- 2.5 deg; +/-1.0 for PH20)						
Column Angle					at left	at left
H-Point Longitudinal Layer 4	3531	3538	3538	3532	12	8
H-Point Vertical Layer 4	668	668	659	649		8
H-Point Lateral	260	260	245	247	12	8
Knee Longitudinal Layer 2	3658	3659	3653	3658		
Knee Vertical Layer 2	723	723	707	707		
Knee Lateral	318	318	305	305	8	8
Head Longitudinal Layer 3	4077	4077	4048	4043	level	8
Head Vertical Layer 3	1840	1840	1840	1842	level	8
Head Lateral	398	393	393	383	level	8
Dummy Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (max)	164	164	194	154		
Left Knee to Bumper						8
Right Knee to Bumper						8
Knee to Steering Wheel Upper Rim or JP						8
Toes to Steering Wheel Lower Rim						8
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal						
Reference Target Absolute Vertical						
Reference Target Absolute Lateral						

FILM ANALYSIS

Knee (target) Lateral					
Thigh Lateral					
Flank Lateral					
Shoulder Lateral					
Other					
Other					
Other					
Knee to H-Point					
Knee to Flank					
Knee to Thigh					
Distance Between A or B Piller Targets					
Upper or Forward Reference Target					
Lower or Rearward Reference Target					
Reference Bar to Film Plane					
Camera Angle					

Notes: Please carefully seat each dummy for first run of dummy type. Record position and match those numbers for repeat runs of that dummy type.

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 35
 Release from Yang
 Form 10000

TC1094

Run H 21292

Date 21/Nov/06

Rear Seat Restraint Enhancement, Mid-Size Car

11

Buck # 418

Reference: H
 H
 H

Left	DUMMY TYPE	Right	Code
	SEAT POSITION		
	DUMMY NUMBER		

VERY IMPORTANT!
 Record position of reference!
 VISA used!

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (in mm)	
					1st RUN	ADDL
Seat Back Angle (13" above pivot)		0	0		0	+/-1 notch
Pelvic Angle (+/- 2.5 deg., +/- 1.0 for P-4's)						
Column Angle					at left	at left
H-Point Longitudinal Layer # 4					12	0
H-Point Vertical Layer # 4						0
H-Point Lateral				30.5	12	0
Knee Longitudinal Layer # 2	31.5			31.5		
Knee Vertical Layer # 3	14.0			14.0		
Knee Lateral	31.0			31.5	0	0
Head Longitudinal Layer # 5					level	0
Head Vertical Layer # 5					level	0
Head Lateral					level	0
Dummy Neck Adjustment (first run only)						
Knee Carpelus to Knee Carpelus (max)						
Left Knee to Bolster						0
Right Knee to Bolster						0
Neck to Steering Wheel Upper Rim or HP						0
Neck to Steering Wheel Lower Rim						0
Reference Target to Seat Belt Longitudinal						
Reference Target to Seat Belt Vertical						
Reference Target to Seat Belt Lateral						
Reference Target Abductor Longitudinal						
Reference Target Abductor Vertical						
Reference Target Abductor Lateral						
Reference Target Hips/Ankle Central						

FILM ANALYSIS

Knee (target) Lateral				
Thigh Lateral				
Pelvis Lateral				
Shoulder Lateral				
Other				
Other				
Other				
Knee to H-Point				
Knee to Pelvis				
Knee to Thigh				
Distance Between A or B Film Targets				
Upper or Forward Reference Target				
Lower or Rearward Reference Target				
Reference Bar to Film Plane				
Camera Angle				

< 0 deg. | < 0 deg.

Notes: Please carefully seat each dummy for first run of dummy type. Record position and match these numbers for repeat runs of that dummy type.

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 36
 Label: None
 Press: None
 12

TC1084

Run H2/293

Date 21/Nov/00

Rear Seat Restraint Enhancement, Mid-Size Car

Buck # 418

Reference: H
 H
 H

Left	Right	Center
DUMMY TYPE		
SEAT POSITION		
DUMMY NUMBER		

VERY important!!
 Record reference position of your load!

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (in mm)	
					1st RUN	ADJL
Seat Back Angle (13° above prism)		0	0		0	+/-1 match
Pelvis Angle (+/- 2.5 deg; +/- 0 for 3rd etc)						
Column Angle					at 1st	at 1st
H-Point Longitudinal Laser = 4					12	0
H-Point Vertical Laser = 4						0
H-Point Lateral	3/5			505	12	0
Knee Longitudinal Laser = 3	375			375		
Knee Vertical Laser = 3	790			790		
Knee Lateral	3/0			2/5	0	0
Head Longitudinal Laser = 3					level	0
Head Vertical Laser = 3					level	0
Head Lateral					level	0
Dummy Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (mm)						0
Left Knee to Bolster						0
Right Knee to Bolster						0
Head to Steering Wheel Upper Rim or IP						0
Head to Steering Wheel Lower Rim						0
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target to Pelvis Longitudinal						
Reference Target to Pelvis Vertical						
Reference Target to Pelvis Lateral						

FILM ANALYSIS

Knee (target) Lateral				
Thigh Lateral				
Hipbone Lateral				
Shoulder Lateral				
Other				
Other				
Other				
Knee to H-Point				
Knee to Pelvis				
Knee to Thigh				
Distance Between A or B Piller Targets				
Upper or Forward Reference Target				
Lower or Rearward Reference Target				
Reference Bar to Film Plane				
Column Angle				

< 5 deg. | < 5 deg.

Notes: Please carefully seat each dummy for first run of dummy type. Record position and match those numbers for repeat runs of that dummy type.

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 37
 Name: Dan Yang
 Date: 11-22-00

TC1094

Run H 91294

Date 11-22-00

Rear Seat Restraint Enhancement, Mid-Size Car

13

Buck # 418

Reference: H
 H
 H

Left	Right	Center
DUMMY TYPE		
SEAT POSITION		
DUMMY NUMBER		

VERY important!!
 Please record reference position of reference! You used!

POSITIONING		ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (in mm)	
						1st RUN	ADJL.
Seat Back Angle (13° above pivot)			0	0		0	+/-1 mm
Pelvic Angle (+/- 2.5 deg.; +/-1.0 for 2nd)						at left	at left
Chest Angle							
H-Point Longitudinal	Laser # 1	3925			3925	12	0
H-Point Vertical	Laser # 1	648			743		0
H-Point Lateral		310	315	305	305	12	0
Knee Longitudinal	Laser # 2	3718	3701	3738	3738		
Knee Vertical	Laser # 3	736	742	747	749		
Knee Lateral		320	310	315	315	0	0
Head Longitudinal	Laser # 3	4059			4059	level	0
Head Vertical	Laser # 3	1110			1158	level	0
Head Lateral		340			340	level	0
Dummy Neck Adjustment (first run only)							
Knee Centerline to Knee Centerline (mm)							
Left Knee to Bolster							0
Right Knee to Bolster							0
Hips to Steering Wheel Upper Rim or IP							0
Thighs to Steering Wheel Lower Rim							0
Reference Target to Seat Belt Longitudinal							
Reference Target to Seat Belt Vertical							
Reference Target to Seat Belt Lateral							
Reference Target Absolute Longitudinal							
Reference Target Absolute Vertical							
Reference Target Absolute Lateral							

FILM ANALYSIS

Knee (target) Lateral			
Thigh Lateral			
Phantom Lateral			
Shoulder Lateral			
Other			
Other			
Other			
Knee to H-Point			
Knee to Phantom			
Knee to Thigh			
Distance Between A or B Filter Targets			
Upper or Forward Reference Target			
Lower or Rearward Reference Target			
Reference Bar to Film Plane			
Camera Angle			

Notes: Please carefully seat each dummy for first run of dummy type. Record position and match those numbers for repeat runs of that dummy type.

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 38
Edition: June 1994
Form 30800

TC1094

Run H 21295

Date 11-22-00

Rear Seat Restraint Enhancement, Mid-Size Car

14

Buck # 418

Reference: H
H
H

Left	Right	Center
DUMMY TYPE		
SEAT POSITION		
DUMMY NUMBER		

very important!!
 Please record reference position of reference target used!

POSITIONING		ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (in mm)	
						1st RUN	ADDL
Seat Back Angle (13° above pivot)			0	0		0	±1 notch
Pelvic Angle (+/- 2.5 degs +/-1.0 for S side)							
Column Angle						at left	at left
H-Point Longitudinal	Laser # 4	3925	3925	3950	3950	12	0
H-Point Vertical	Laser # 4	648	648	715	715		0
H-Point Lateral		885	310	308	805	12	0
Knee Longitudinal	Laser # 2	3718	3718	3738	3738		
Knee Vertical	Laser # 2	736	736	827	827		
Knee Lateral		310	310	318	315	0	0
Head Longitudinal	Laser # 5	4059	4059	4077	4077	level	0
Head Vertical	Laser # 5	1110	1110	1108	1107	level	0
Head Lateral		390	390	340	340	level	0
Dummy Neck Adjusters (not run only)							
Knee Centerline to Knee Centerline (rear)							0
Left Knee to Bolster							0
Right Knee to Bolster							0
Neck to Steering Wheel Upper Rim or IF							0
Neck to Steering Wheel Lower Rim							0
Reference Target to Seat Belt Longitudinal							
Reference Target to Seat Belt Vertical							
Reference Target to Seat Belt Lateral							
Reference Target Absolute Longitudinal							
Reference Target Absolute Vertical							
Reference Target Absolute Lateral							

FILM ANALYSIS

Knee (target) Lateral				
Thigh Lateral				
Phantom Lateral				
Shoulder Lateral				
Other				
Other				
Other				
Knee to H-Point				
Knee to Phantom				
Knee to Thigh				
Distance Between A or B Film Targets				
Upper or Forward Reference Target				
Lower or Rearward Reference Target				
Reference Bar to Film Plane				
Camera Angle				

Notes: Please carefully seat each dummy for first run of dummy type. Record position and match those numbers for repeat runs of that dummy type.

**Final Test Report
Confidential**



**PAV - Safety Laboratories
Research & Vehicle Technology**

Test Order No.: TC1784
Subject: 900x Mid-Size Car
Rear Seat/Restraint Dummy Kinematics Investigation
Requested By: Susan Young
Requesting Dept.: TSS9
Work Task No.: AR326
Test Facility: Hyge
Date Reported: 1/18/2001
Test Dates: 11/10/2000
Run Numbers: EN1997
Test Speed: 31 mph
Dummies used: 2 - 5H3
Procedure(s): T657-100
Back #: 418
Page: 1 of 11

Stamp: Original Copy
Date: 2006
Number: 7-4-2

Objective:

Kinematics and hardware investigation using a 5th percentile test dummy.


Summary:

The test data is retained at the Safety Laboratories Department as specified by record retention guidelines. A copy of the high speed film and test data have been given to the requester for evaluation. The still photographs are in digital format and are stored on the Safety Laboratories Department internet home page under <http://www.safetylab.ford.com/>.

- Attachments:**
- I. Test Authorization
 - II. Test Matrix
 - III. Sled Parameters
 - IV. Post Test Observations
 - V. Dummy Positioning

Concurrence:


Steve Leach
Section Supervisor
Operations Engineering
Safety Laboratories Department


Kathryn Howie
Product Test Engineer
Operations Engineering
Safety Laboratories Department

TC-1784
Sheet 2

Attachment I
Test Authorization

Sheet 3

GTO Test Request

Requester / Coordinator (PROXY):
BYOUNG

SUSAN YOUNG

Performing Activity

Misc - for MISO test procedures to come

Date Submitted:

19-OCT-2000

Requested Completion Date:

30-OCT-2000

Requester Reference Number

Procedure Number:

BLD-08

Request Title and / or Subject of Request:

REAR SEAT LIME BODY TEST

Requester's Dept No.:

T801

AV2218A

Work Task / Work Order Number:

AR225

Request submitted to verify control item compliance with Government Regulations:

Yes:

No:

Requester's (PROXY):

BYOUNG

Requester's Name:

SUSAN YOUNG

Complete the following two questions as indicated

1 - Rational for not replacing this test by GAE Analysis:

- No GAE Methodology or process available
- For GAE Correlation
- Insufficient confidence in GAE
- To obtain basic data for GAE
- Replacement or improvement of existing Test
- Testing in Other
- Mandatory or Regulatory
- Certification
- Development test for P&B
- Not applicable

Other:

(Check appropriate boxes)

2 - What is the expected Test Outcome:

- Results will meet DWPWOP requirements (Mgn-08)
- System Component will not meet Test specification
- Unknown
- Above is based on GAEY

Other:

(Check appropriate boxes)

Request Purpose / Request Procedure or Description of Request:

T801-229 Custom Test Procedure

Test Object:

Reference Object:

N/A

Reference Description:

N/A

Sample #

Object ID

Object Description

1

TEST PARTS

N/A

Signature Approvals (All Required for Control Purposes)

Requesting Engineer

SUSAN YOUNG

Assigned Coordinator

KATHRYN SWANSON

Request

Authorized by

Not Required

Assigned Supervisor

BILL McDONALD

TC-1284
Sheet 4

Attachment II.

Test Matrix

TA# TC1784

Revised Form 7-88
Form 30000

SYSTEM:
DATE: 06/02

CUMULATIVE TIME	TYPE	TIME	DATE	LOC	ALTITUDE	PRESS	WIND	WIND DIR	TEMP	REL HUMID	VIS	SEC	LAT	LONG	UTIME	DAYS	LUNGS	VARIABLES AND COMMENTS																															
																		ST	RE	CH	SL	WL	PL	RE	CO	CR	OR																						
01																																																	
02																																																	

NOTES:
000 (FILM) CTRM Y126

- 01 DATA RECORD PRODUCTION FILM SEAT
- 02 LEFT DATA RECORD PRODUCTION RESTRAINT
- 03 RIGHT DATA RECORD PRODUCTION RESTRAINT
- 04 LEFT HAND BLOCKED SEAT
- 05 RIGHT HAND BLOCKED SEAT

INSTRUMENTATION:

SMS Tilted back, down, and pitch-up sensor; Upper & Lower seat belt roll (Pa, Pz, Pw); Chest detector potentiometer; Air/Fuel Flow; Fuel and Air flow (Pa, Pz);
 CR INCH Roll and pitch on top hat (strap load on the right side of seat; down is roll up; and on lower hat is pitch).

SLEED 0039094

TC-1784
Sheet 5

TC-1784
Sheet 6

Attachment III.
Sled Parameters

NO.	NAME	ADDRESS	CITY	STATE	ZIP	PHONE	FAX	TELETYPE	RADIO	TELEVISION	OTHER	EMAIL	URL	WORKING	MEMBER	STATUS	DATE	BY
1																		
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

TC-1784
8 Post-7

TC-1784
Sheet 8

Attachment IV.
Post Test Observations

HYGE Sled Test Summary

Sheet 9

HYGE Run # 21267

Run Date 11/10/00

Test Engineer: 0

Test Auth # TG1784

Regulator: Steen Young

BUICK # Unltd

Test Title/Description: Rear Seat/Restraint Body-In-White Investigation

1
MATRX #

Crash/HYGE Pulse Ref:

Simulated Speed:

Pin #

	LEFT	Airbag: Pyro Buckle:	ms	ms	RIGHT	Airbag: Pyro Buckle:	ms	ms
PARTS DESCRIPTION POST-TEST OBSERVATIONS	Dummy				Dummy			
	AB				AB			
	Belt				Belt			
	Seat				Seat			
	Tracks: <u>power manual</u>				Tracks: <u>power manual</u>			
Position:		Welded? <u>Y N</u>				Welded? <u>Y N</u>		
Instrument Panel:								
Steering Column:								
Pre-Test OBSERVATIONS:								

POST-TEST OBSERVATIONS & CHECKLIST Comment if needed below:

	Upright				Upright				Upright		
	MS	MS	OSB		Left	Right	MS		MS	OSB	
	On Seat	Off Seat		On Seat	Off Seat		On Seat	Off Seat		Off Seat	
A/B Intact (No Holes):			Y / N	A/B Intact (No Holes):			Y / N				
Face to A/B		MS Center OSB		Face to A/B		MS Center OSB					
Contact Location:		High Mid Low		Contact Location:		High Mid Low					
A/B Cover Attached to Can./Cover:			Y / N	A/B Cover Attached to Can./Cover:			Y / N				
Adj. D-ring Remain in Position:			Y / N	Adj. D-ring Remain in Position:			Y / N				
Retractor Intact:	Y / N	Looked:	Y / N	Retractor Intact:	Y / N	Looked:	Y / N				
Buckle Held:	Y / N	Webbing Intact:	Y / N	Buckle Held:	Y / N	Webbing Intact:	Y / N				
Seat Tracks Held:			Y / N	Seat Tracks Held:			Y / N				
Cracks in IP:			Y / N	Cracks in IP:			Y / N				
Steering Wheel Deformed:			Y / N								
Column Striked w/o Interference:			Y / N								
Column Stroke:	Left: _____		Right: _____								
Post Test COMMENTS:	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>										
OBSERVER: _____											

TC-1784
Sheet 10

Attachment V.
Dummy Positioning

HYGE - DUMMY POSITIONING and FIA TARGETING Sheet

Sheet 11
 Revision: Same Young
 Form: 200001

TC1784

Run H 21267

Date 11-10-00

Rear Seat/Restraint Dummy Kinematics Invs

Buck # TED

Reference: H
 H
 H

Left	Right	Center
5% FHM	DUMMY TYPE	5% FHM
FLR	SEAT POSITION	FLR
Forward	DUMMY NUMBER	Forward

POSITIONING		ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (in mm)	
						1st RUN	ADJL
Seat Back Angle (13° above photo)			0	0		0	+/-1 notch
Delta Angle (+/- 2.5 deg.; +/- 1.0 for 50th)			21	21			
Column Angle						at left	at left
H-Point Longitudinal	Laser # 4	3047.8	3047.8	3047.8	3047.8	12	0
H-Point Vertical	Laser # 4	689	689	689	689		0
H-Point Lateral		-644	644	644	644	12	0
Knee Longitudinal	Laser # 2	3058.0			3058.0		
Knee Vertical	Laser # 2	574.2			574.2		
Knee Lateral		-494	494	494	494	6	0
Head Longitudinal	Laser # 5	510.0			510.0	level	0
Head Vertical	Laser # 5	123.0			123.0	level	0
Head Lateral		-200.0			200.0	level	0
Dummy Neck Adjustment (first run only)							
Knee Centerline to Knee Centerline (mm)		1164	162	162	1164		
Left Knee to Bolster							0
Right Knee to Bolster							0
Head to Steering Wheel Upper Rim or LP							0
Head to Steering Wheel Lower Rim							0
Reference Target Absolute Longitudinal		2700			2700		
Reference Target Absolute Vertical		800			800		
Reference Target Absolute Lateral		-872			872		
Reference Target Absolute Longitudinal		0			0		
Reference Target Absolute Vertical		0			0		
Reference Target Absolute Lateral		0			0		

FILM ANALYSIS

Knee (target) Lateral	313	310	
Thigh Lateral	239	264	
Flotation Lateral	280	310	
Shoulder Lateral	217	220	
Other			
Other			
Other			
Knee to H-Point	382	381	
Knee to Flotation	170	200	
Knee to Thigh	95	113	
Distance Between A or B Filmer Targets	51	51	
Upper or Forward Reference Target	817	790	
Lower or Rearward Reference Target	840	789	
Reference Bar to Film Plane	940	805	
Camera Angle	206	206	< 5 deg. < 5 deg.

Notes: 50th percentile H-Point location: x=3042.8, centerline y=11361, z=689
 ALL LOCATIONS SHOWN ARE IN BODY COORDINATES AND ARE NOT RELATIVE TO ANY TARGET.

**Final Test Report
Confidential**

Test Order No.: TA1172
Subject: 2000 D185 AIRBAG & BOLSTER EVALUATION
HYGE SLED SERIES
Requested By: K. WARMANN
(Dept.): T551
Date Received: 10/17/96
Work Task No.: P08
Test Facility: HYGE
Test Dates: 1/22 - 1/24/97
Run Numbers: H18066 - 073
Procedure(s): T688-106
Date Reported: 5/27/97
Page: 1 of 30



DISPOSE of Copies (Black Stamped) by:	
RETAIN Record Copy (Red Stamped) Date:	2002
Schedule Number:	7-4-2

Objective:

To perform a design verification and evaluate dummy kinematics in VN127.

Summary:

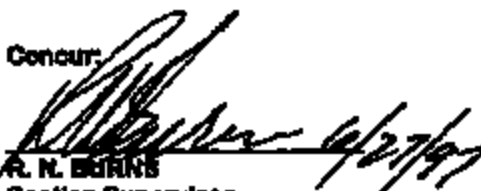
Eight tests were conducted on the Hyge sled using two instrumented 50% Hybrid III test dummies. The testing was conducted using the rigid DN101 test buck (S406). The test data is retained at the Safety Laboratories Department as specified by record retention guidelines. A copy of the high speed film, still photographs, and test data have been given to the requester for evaluation. The negative numbers for the still photographs are:

CN821885: 001 through 072

Attachments:

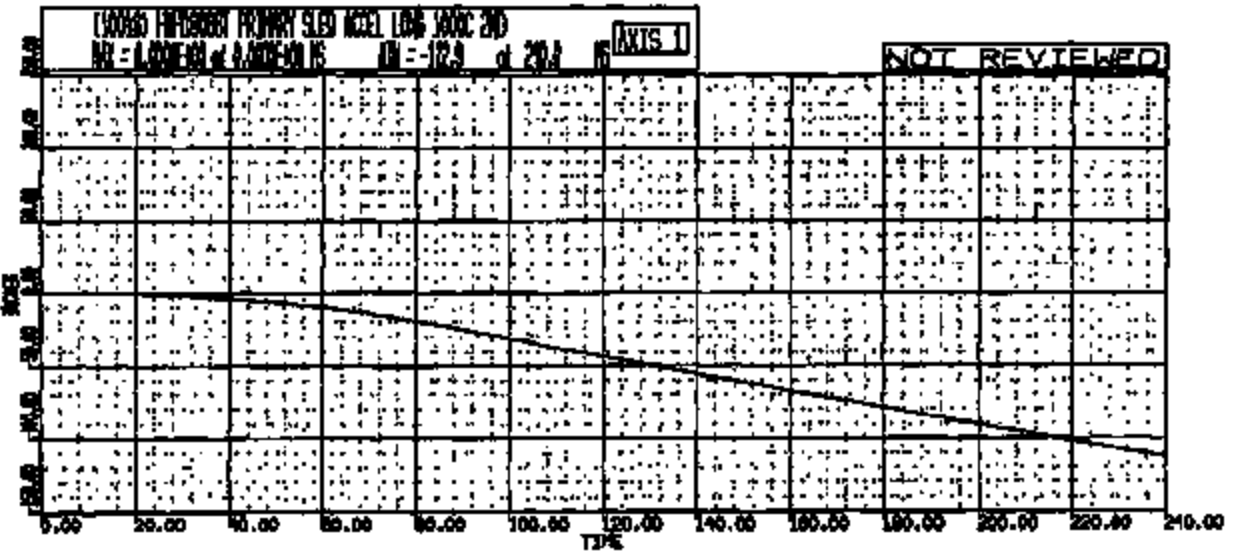
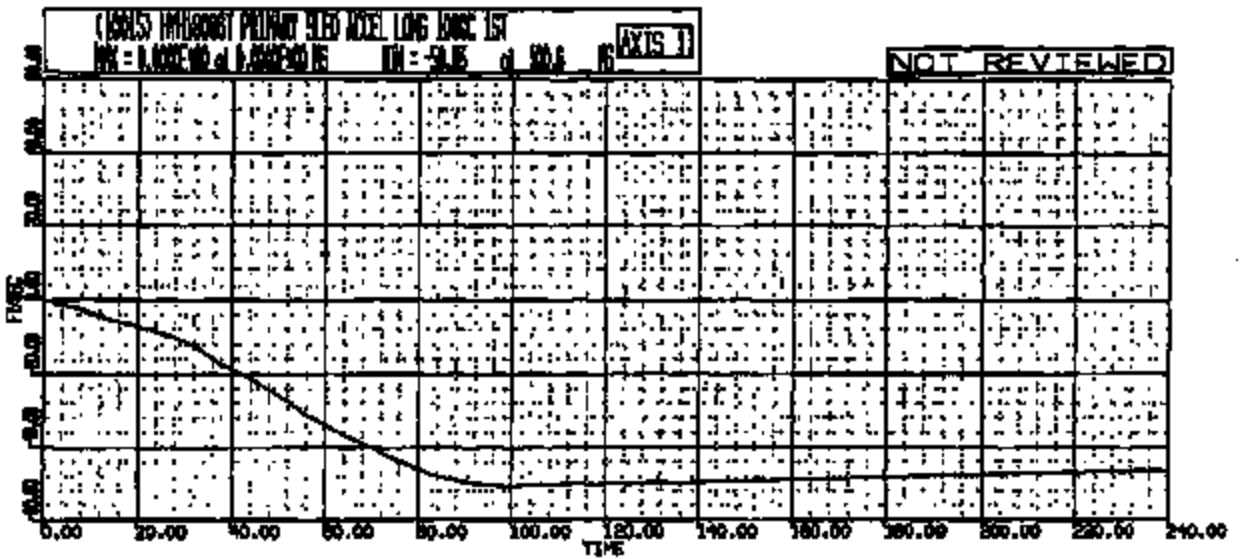
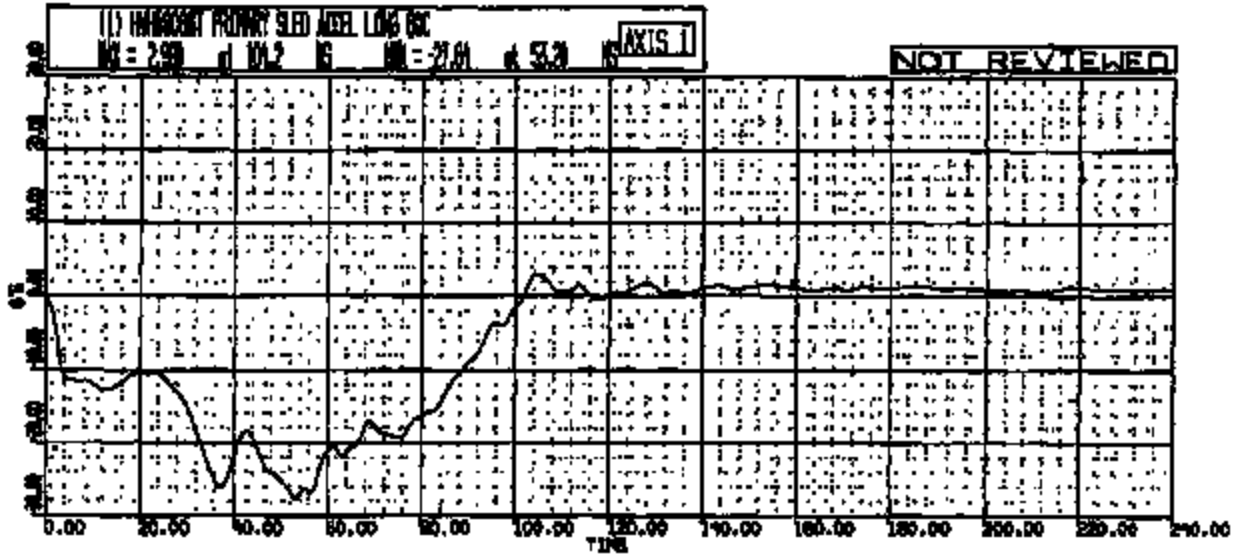
- I. Sted Pulse
- II. Sted Parameters
- III. Test Authorization
- IV. Matrix
- V. Post Test Observations
- VI. Dummy Positioning Sheets
- VII. Photographic Setup Sheet

Concur:

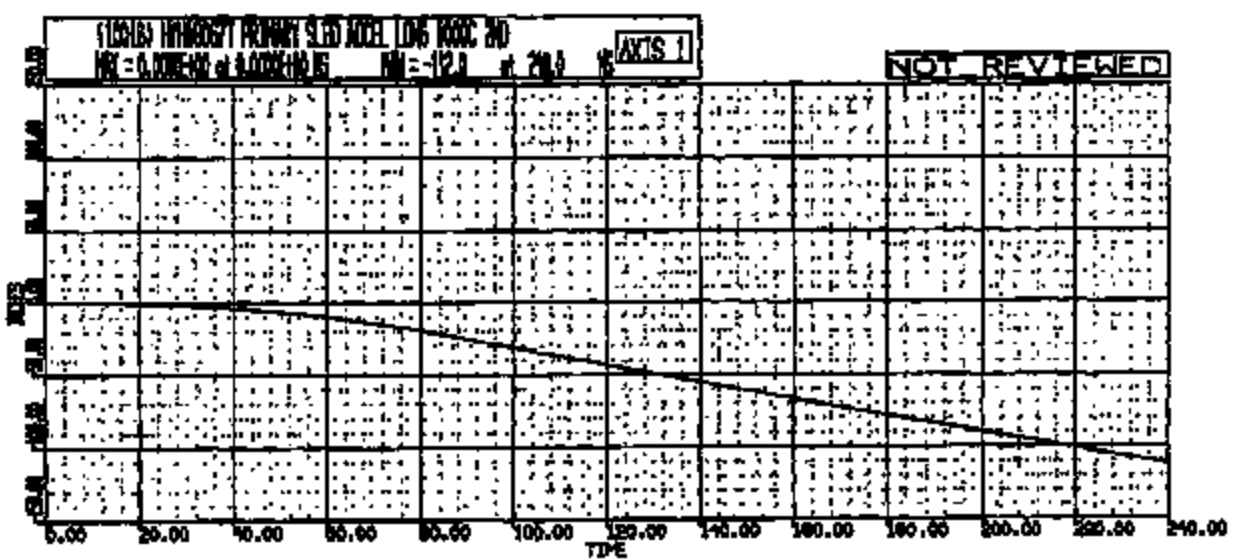
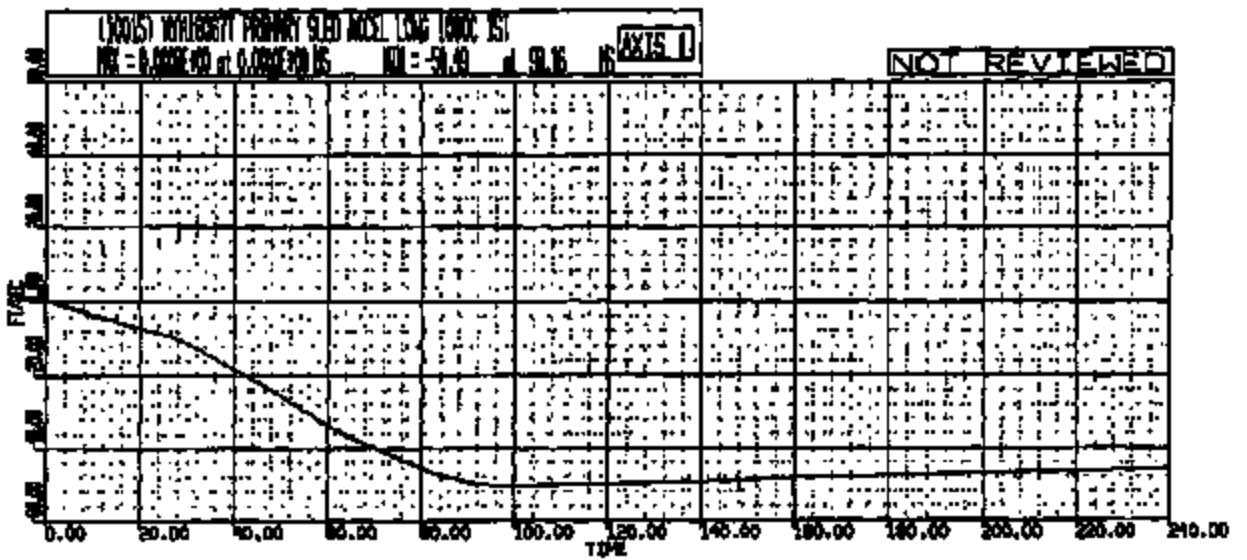
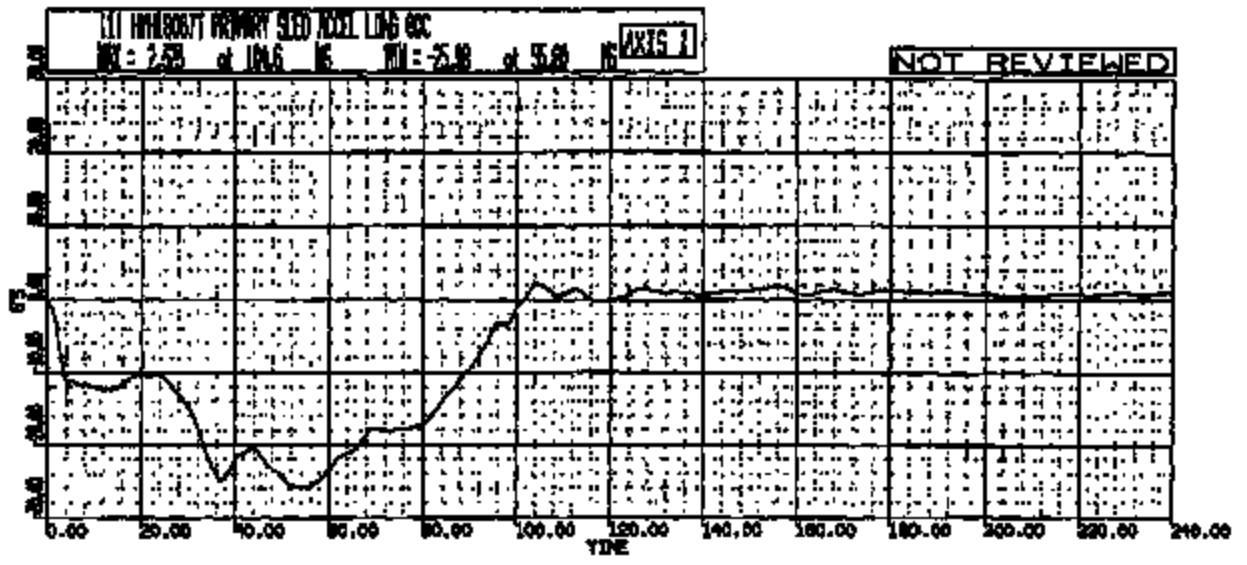

R. N. BURNS
Section Supervisor
HYGE/Impact Simulation Test Section
Safety Laboratories Department


M. T. DORAN
Test Development Engineer
HYGE Test Section
Safety Laboratories Department

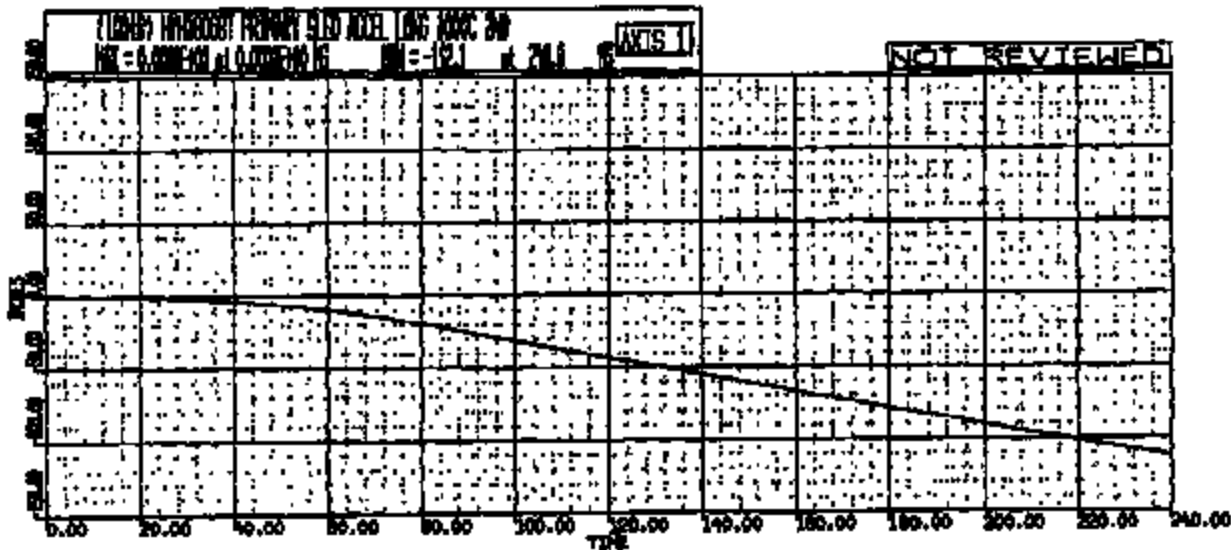
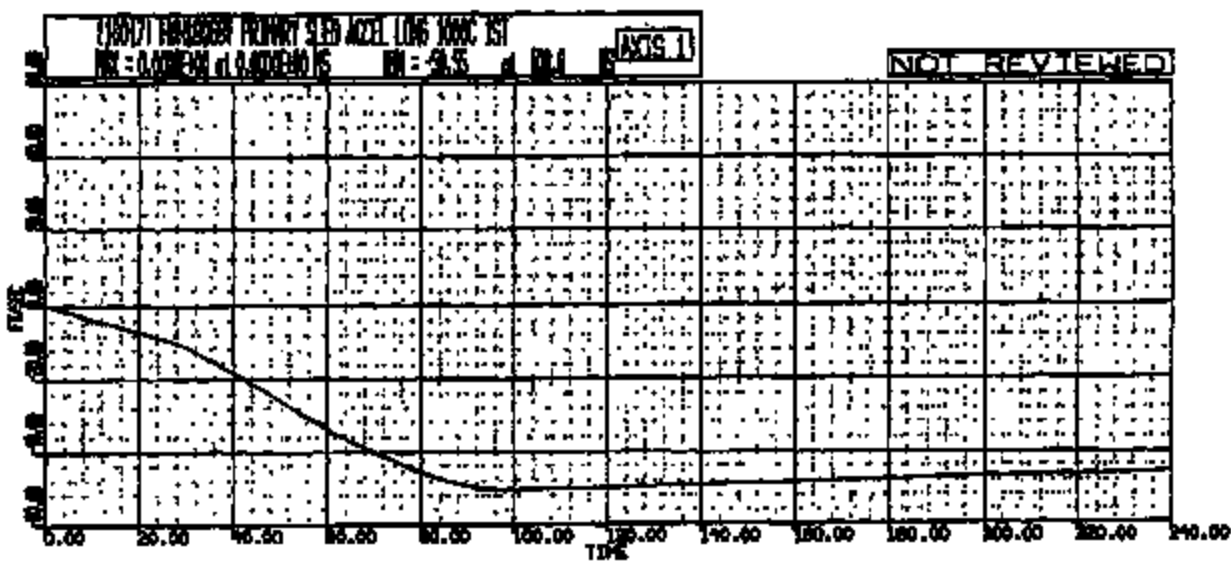
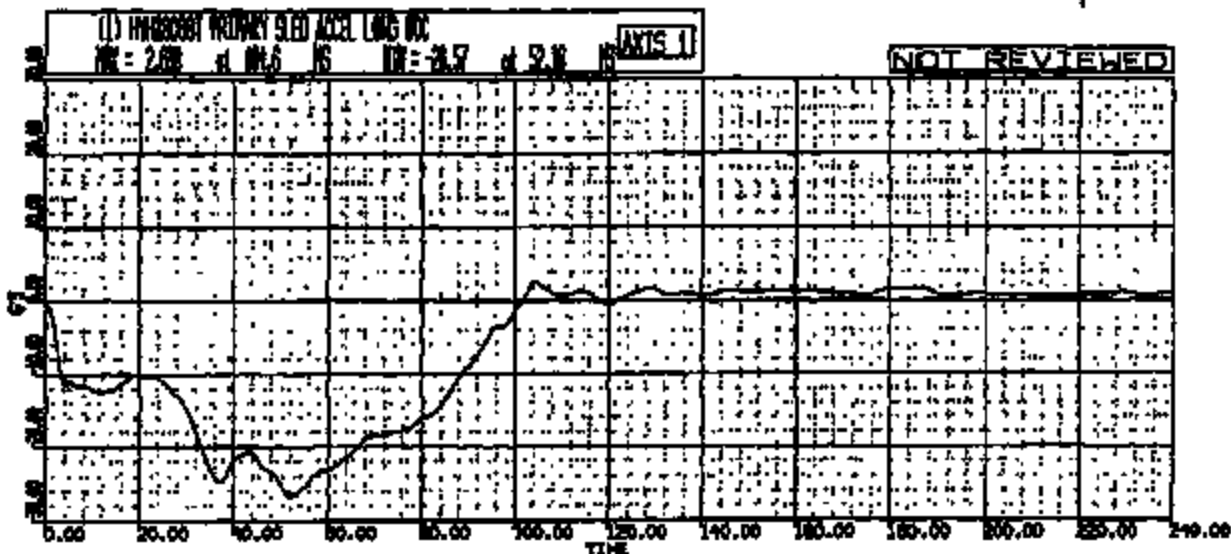
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2000 D186

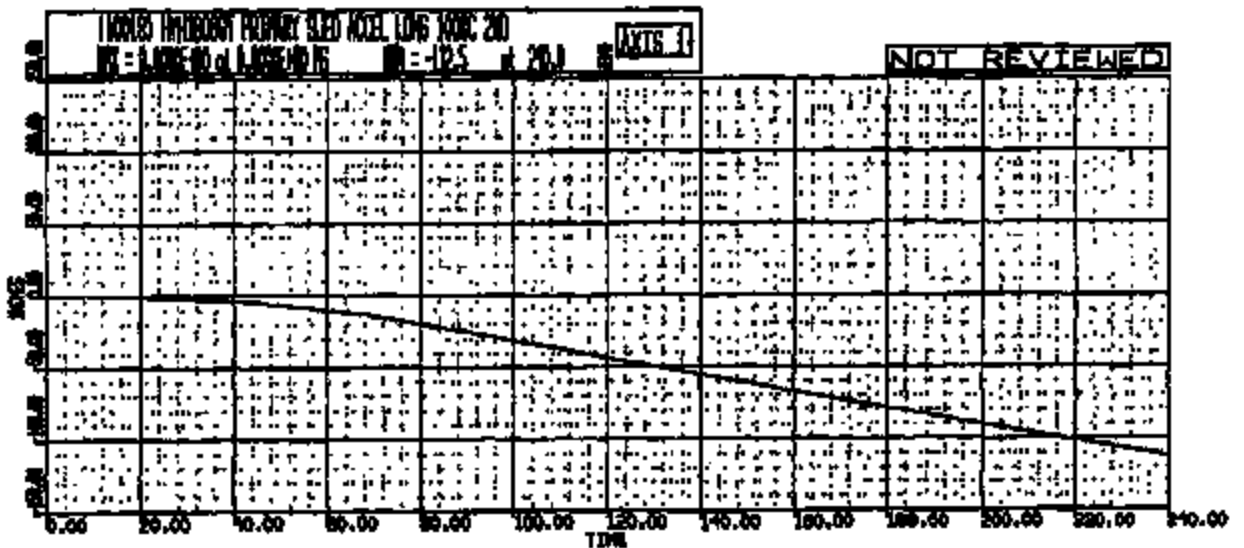
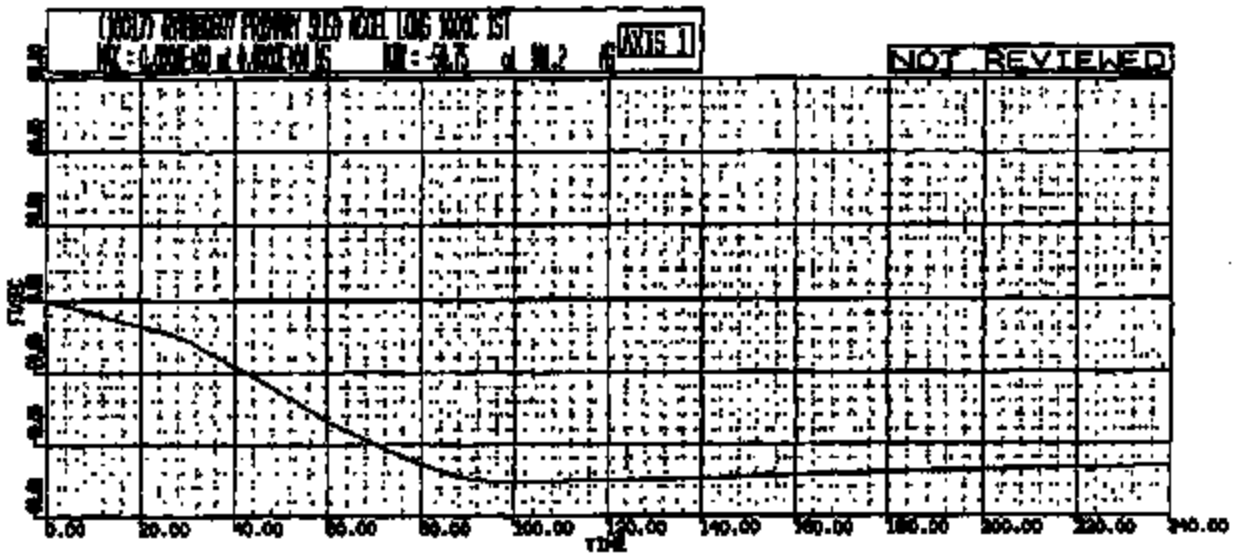
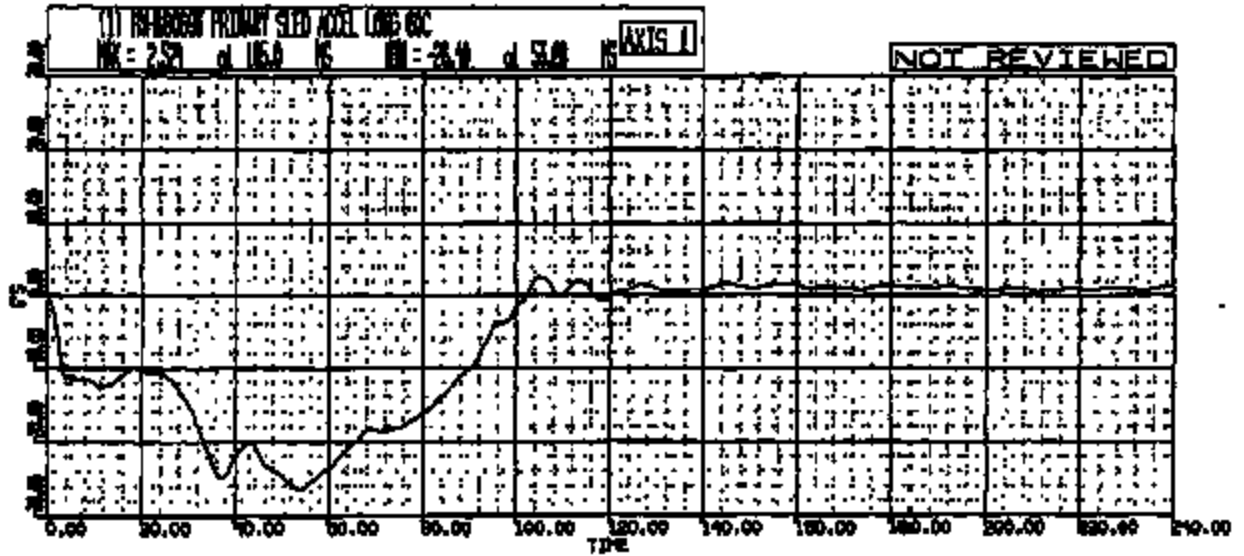


MY R: H18087 TO: TA1172 DATE: 970122 10:20:11
2000 0186



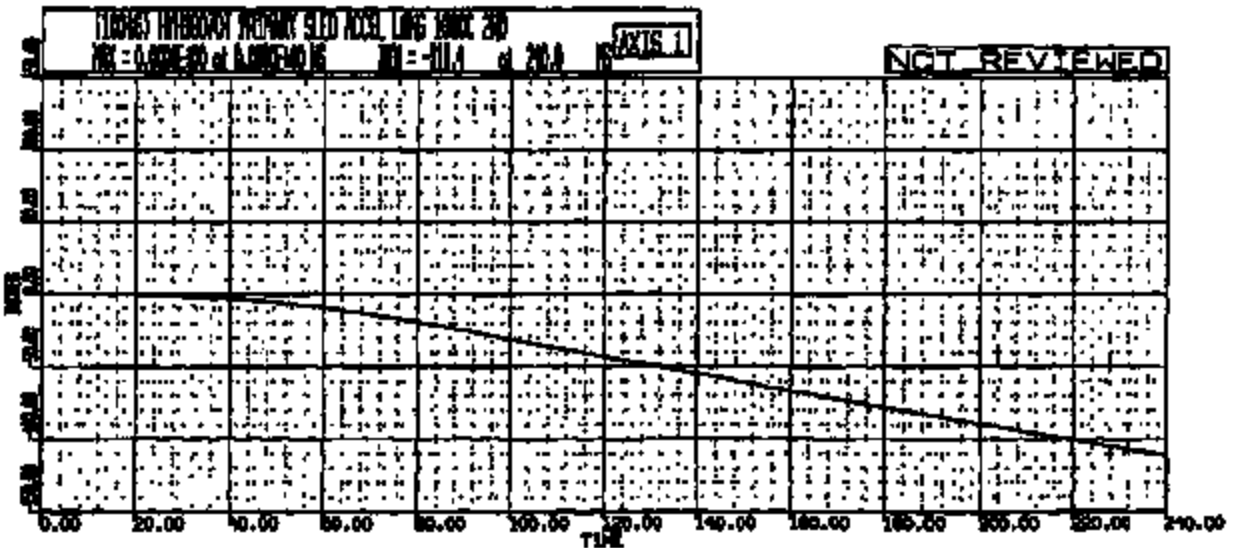
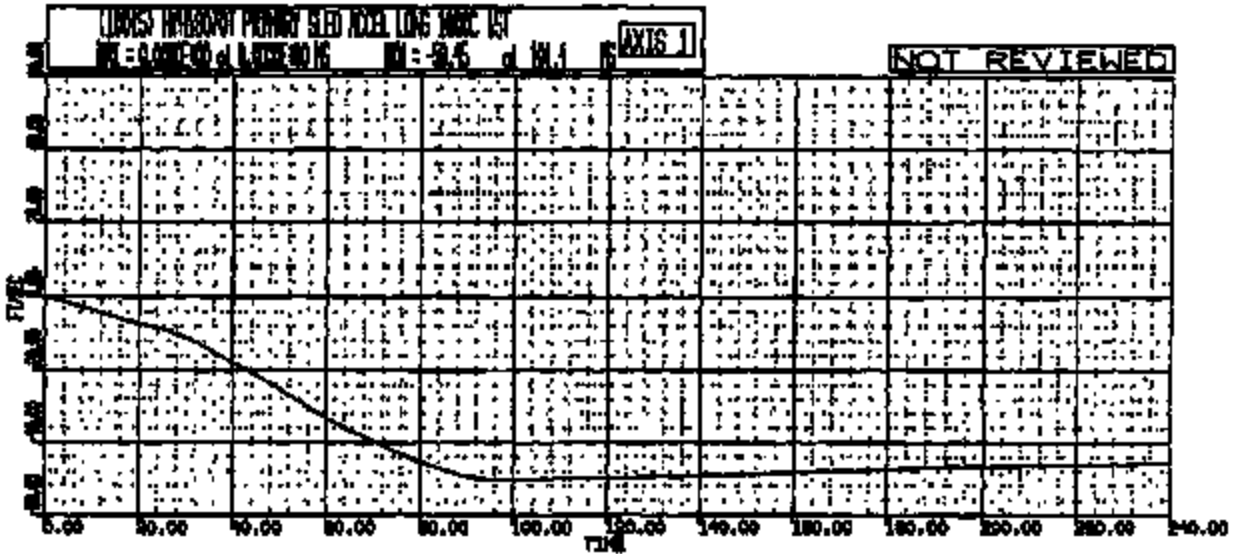
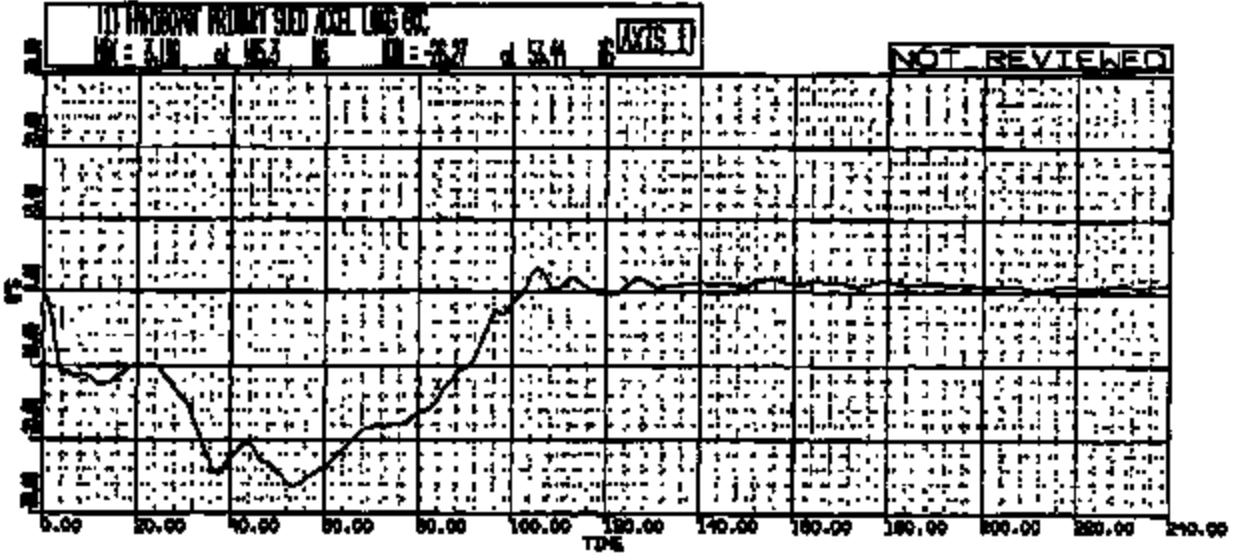
...R: H18088 TO: TA1172 DATE: 870.-2 12:37:48
2000 DISE

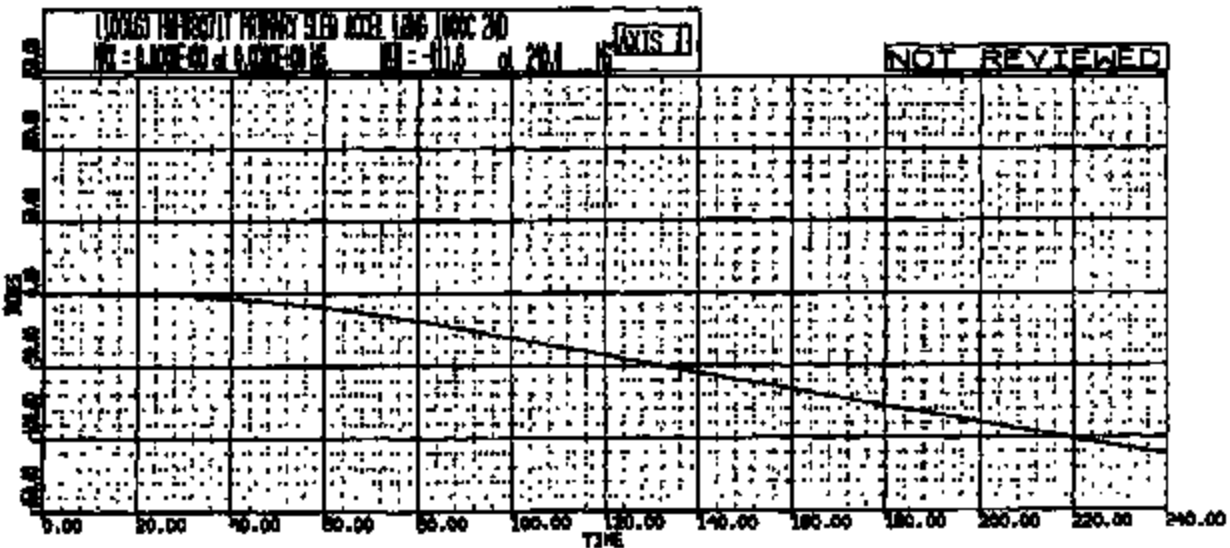
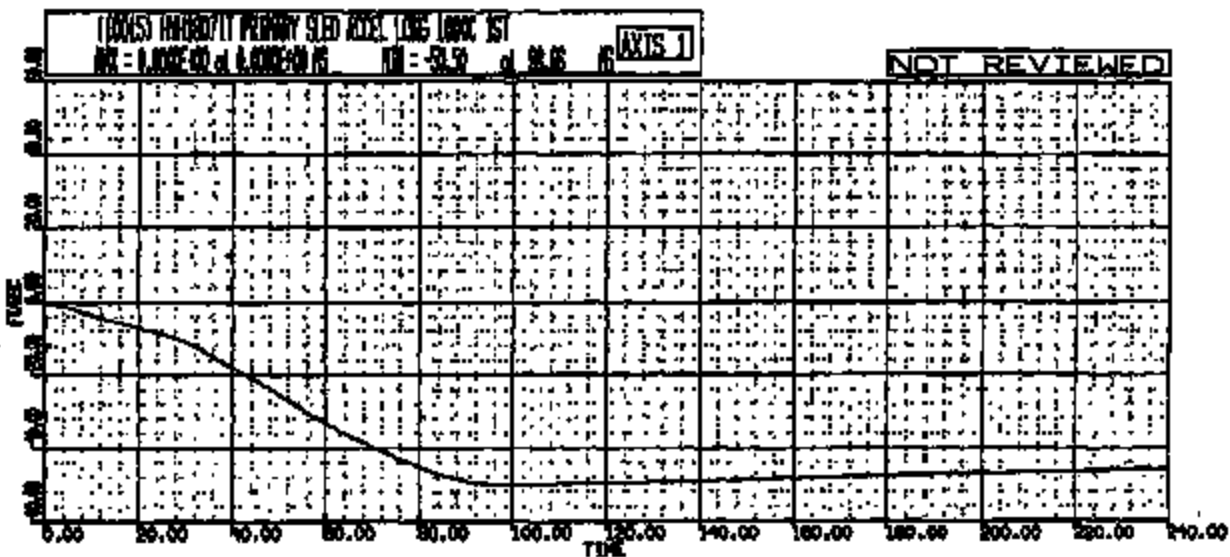
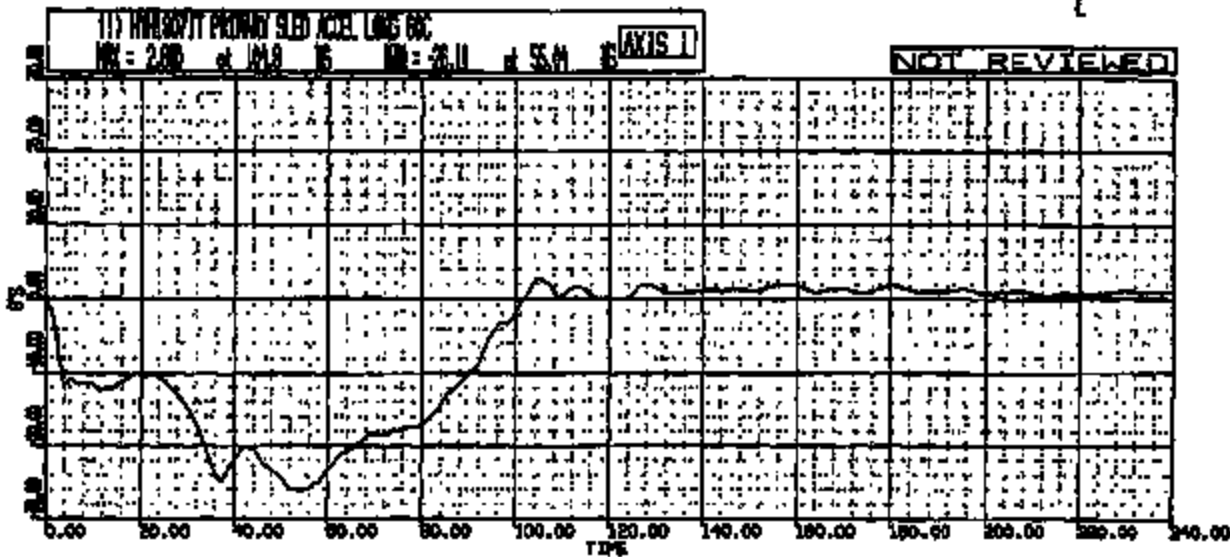




BY R: HIG089 TO: TA1172 DATE: 970125 08:09:48
2000 DIGB

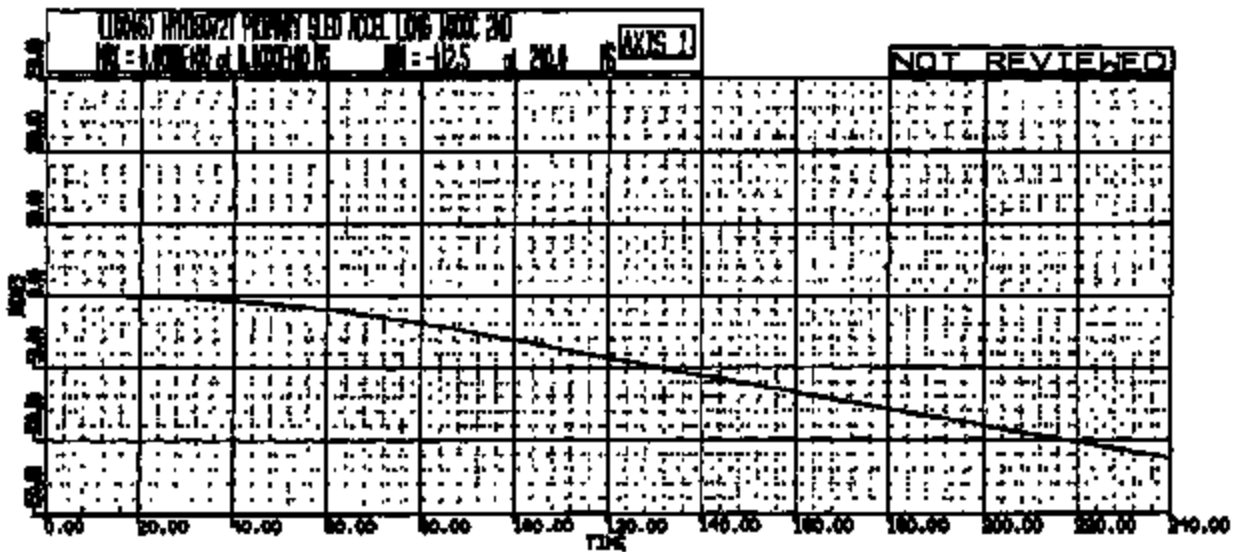
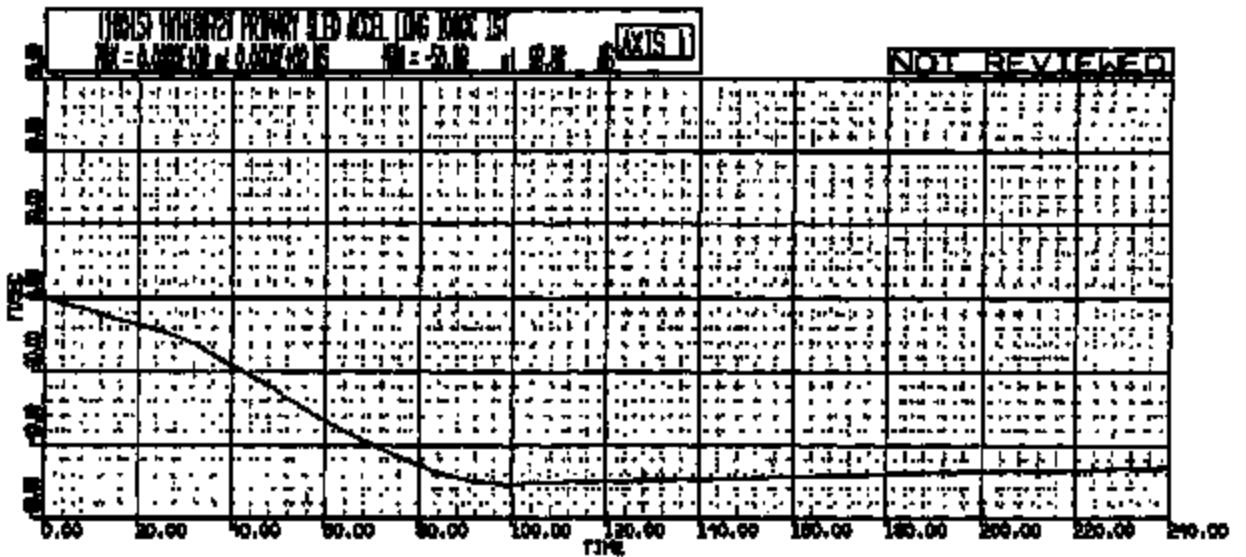
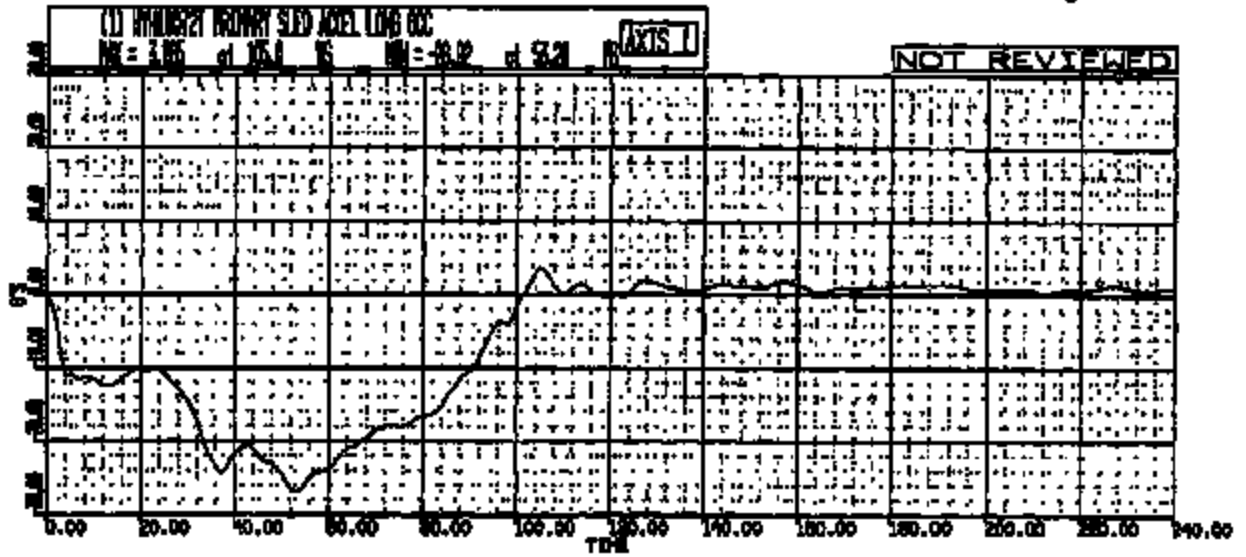
R: H18070 TO: TA1172 DATE: 970128 09:48:45
2000 DIBB

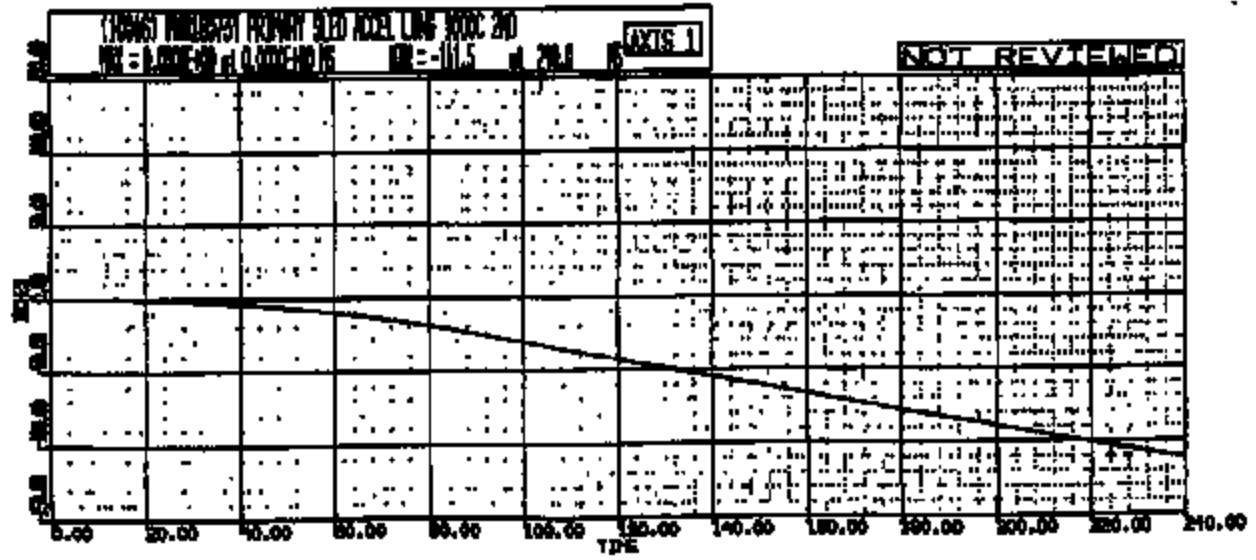
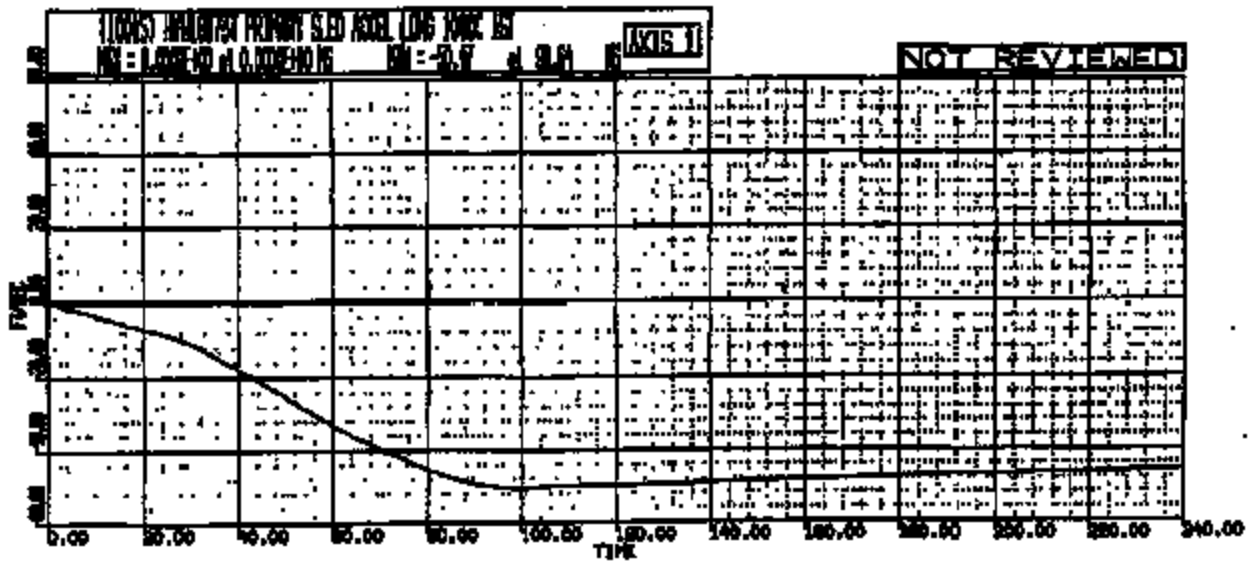
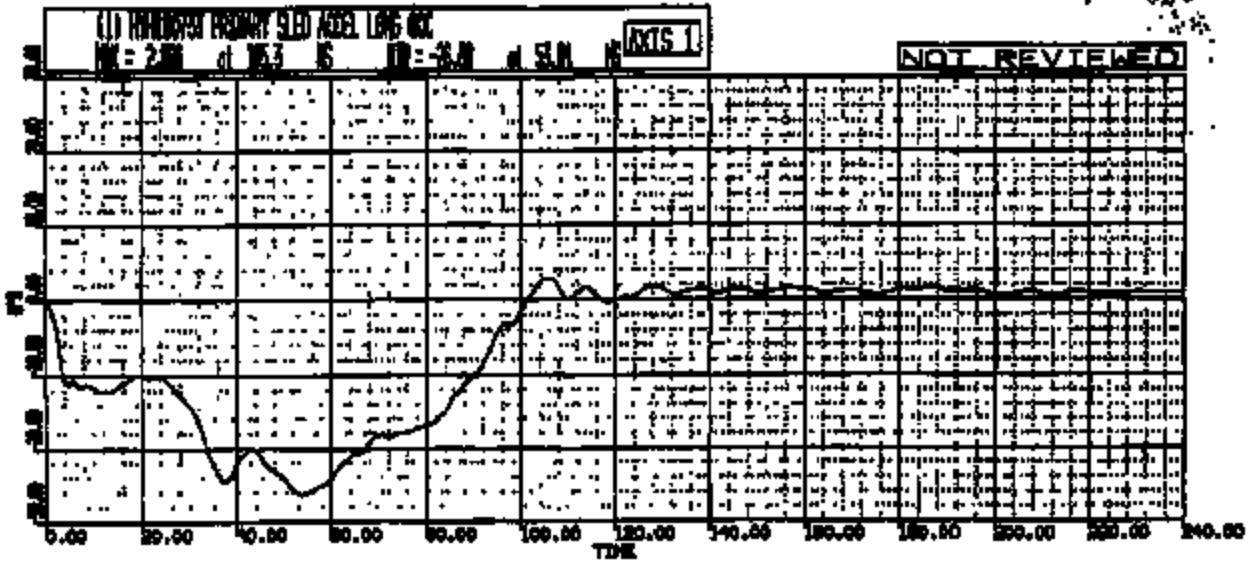




MY R: H18071 TO: TA1172 DATE: 970123 13:33:49
2000 D166

R: H18072 TO: TA1172, DATE: 9701A 08:24:08
2000 DISB





C R: HIB073 TO: TAL172 DATE: 970-24 10:20:53
2000 DISC

NUMBER OF BURNS	WIN #	T.A.#	TEST TYPE	DATE	TIME	DATA CHANG.	WEIGHT (LB)	HPCL	WRCHE	LOAD	BT	SEAVE	ROCK #	VELOCITY (MPH)	LEFT	DURNEY WIN CHANG.	RIGHT	FW	INNER RING	OUTER RING
1	1006	A1172	2500 DMS PASSENGER AIR FOLDS	1/23/77	1200	21	500	100	20	200	400	100	400	30	200	---	200	50	IN	IN
2	1007	A1172	2500 DMS PASSENGER AIR FOLDS	1/23/77	1200	44	500	100	20	200	400	100	400	30	200	---	200	50	IN	IN
3	1008	A1172	2500 DMS PASSENGER AIR FOLDS	1/23/77	1200	49	500	100	20	200	400	100	400	30	200	---	200	50	IN	IN
4	1009	A1172	2500 DMS PASSENGER AIR FOLDS	1/23/77	1200	49	500	100	20	200	400	100	400	30	200	---	200	50	IN	IN
5	1010	A1172	2500 DMS PASSENGER AIR FOLDS	1/23/77	1200	24	500	100	20	200	400	100	400	30	200	---	200	50	IN	IN
6	1011	A1172	2500 DMS PASSENGER AIR FOLDS	1/23/77	1200	44	500	100	20	200	400	100	400	30	200	---	200	50	IN	IN
7	1012	A1172	2500 DMS PASSENGER AIR FOLDS	1/23/77	1200	44	500	100	20	200	400	100	400	30	200	---	200	50	IN	IN
8	1013	A1172	2500 DMS PASSENGER AIR FOLDS	1/23/77	1200	24	500	100	20	200	400	100	400	30	200	---	200	50	IN	IN

ATTACHMENT B
 TR 1172
 Sheet 10

TEST AUTHORIZATION

TEST ORDER NUMBER TA1172

TO: J. Kiladnyk	CC: R. H. BLANK R. J. CHASE R. E. CHESTNUT M. J. DESSOM L. J. SMITH	REQUEST DATE 10-17-96	REQUESTED COMPLETION DATE 12-15-96
		REQUEST NUMBER TA1172	PROJECT NUMBER N/A
		REMARKS/REVISIONS NONE	

TITLE OF TEST SW186 Passenger A/B Development - B			PARTS DUE DATE 12-01-96
TYPE OF TEST VEHICLE _____ <input checked="" type="checkbox"/> LABORATORY _____	VEHICLE NUMBER OR OTHER IDENTIFICATION S-405	VEHICLE MODEL & YEAR SW186 00	PROPERTY OR ENG. LETTER N/A
ENGINE NO. DYPL. ENG. 3.0L	TRANSMISSION AXAM	AXLE RATIO N/A	TEST COMPLETED TO CERTIFY CONTROL ITEM COMPLIANCE WITH GOVERNMENT REGULA- TIONS? YES _____ NO <input checked="" type="checkbox"/>
TYPE OF FUEL N/A	CONVERTER N/A	IGNITION TIMING N/A	
CHASSIS DR. AND CAPACITY N/A	TIRE SIZE AND PLY RATING N/A	REPORT CATEGORIES <input checked="" type="checkbox"/> ENGINEERING <input checked="" type="checkbox"/> DATA RAW DATA	DISPOSITION OF PARTS Scrap
VEHICLE TIRE WEIGHT FRONT N/A REAR N/A TOTAL N/A	TIRE PRESSURE FRONT N/A REAR N/A		PROCUREMENT REQUIRED? <input checked="" type="checkbox"/> YES _____ NO CODE _____
			MAIL REPORT TO: ROOM N/A BLDG N/A

1. OBJECT OF TEST: Passenger A/B development - Horizontal Deployment

2. TEST PROCEDURES: HY8-00

3. NUMBER OF SAMPLES: 12

4. NAME PER SAMPLE: 0

5. ITEMS TO BE TESTED:

DESCRIPTION	PART NOS	QUANTITY
DN101 Driver A/B	DAB	(04)
DN101 Cabled J/P	F608-340A30A	(12)
DN101 Belts (Passenger)	F608-34002882	(12)
DN101 Belts (Driver)	F608-34002882	(04)
DN101 Passenger A/B - Tether A	FAB-A	(12)
DN101 C/O Passenger Seat		(12)
DN101 C/O Driver Seat		(04)
DN101 Steering Column		(04)

REQUESTING DEPT NO T637	WORK ORDER/WORK TASK T98	ISSUED/REQUESTED BY HURPEY	PHONE 08819	APPROVALS BOLAND	TEST TYPE	RISK	SIGN-OFF DATE
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REQUESTER DO NOT WRITE BELOW THIS LINE

WORK STANDARDS NUMBER	TITLE SW186 Passenger A/B Development - B
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MANDATORY				OPTIONAL					
TEST ORDER #	CATEGORY	REQD SECT	EST COMP DATE	REQD	TEST ENG'G INT	UNIT CODE	TEST ORDER DATE	USER CODE	PROD CODE
TA1172	4	T637		K	HY8-183		10-17-96		
PERFORMING SECT.	ROOM	MATERIAL CONT	COMP. CONT	PARTS DUE DATE	EST START DATE	EST COMP DATE	STATUS	COMPLETE	
DESIGN	0	0	0						
ENGINEERING	0	0	0						
TECHNICAL	0	0	0						
TOTAL	0	0	0						

TEST AUTHORIZATION

TEST ORDER NUMBER TA1172
90-1172-13

TO: J. Kiladnik	CC: R. N. BIRGE S. CAYNEY R. R. Chestnut R. DEGENH L. SMITH	REQUEST DATE 10-17-96	REQUESTED COMPLETION DATE 12-15-96
		REQUEST NUMBER TA1172	PROJECT NUMBER N/A
REQUESTING SECTION AVIATION			

TITLE OF TEST BMW5 Passenger A/B Development - B			PARTS DUE DATE 12-01-96
TYPE OF TEST <input type="checkbox"/> VEHICLE <input type="checkbox"/> BENCH <input checked="" type="checkbox"/> LABORATORY <input type="checkbox"/> OTHER	VEHICLE NUMBER OR OTHER IDENTIFICATION B-605		VEHICLE MODEL & YEAR BMW 00
VEHICLE NO. DTPL. CUB. 3.0L	TRANSMISSION MAN	AXLE RATIO N/A	PRODUCT OR ENG. LETTER N/A
TYPE OF FUEL N/A	COMPUTER N/A	IGNITION TIMING N/A	TEST CONDUCTED TO CERTIFY CONTROL ITEM COMPLIANCE WITH GOVERNMENT REGULA- TIONS? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
CHANGE OIL AND CAPACITY N/A	TIRE SIZE AND PLY RATING N/A	REPORT CATEGORIES <input checked="" type="checkbox"/> ENGINEERING <input checked="" type="checkbox"/> DATA <input type="checkbox"/> RAW DATA	DISPOSITION OF PARTS Scrap
VEHICLE TEST WEIGHT FRONT N/A REAR N/A TOTAL N/A	TIRE PRESSURE FRONT N/A REAR N/A		PROCUREMENT REQUIREMENT <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO CODE
			MAIL REPORT TO: ROOM N/A BLDG N/A

1. OBJECT OF TEST: Passenger A/B development - Horizontal Deployment

2. TEST PROCEDURE: NYG-00

3. NUMBER OF SAMPLES: 12

4. RUNS PER SAMPLE: 0

5. ITEMS TO BE TESTED:

DESCRIPTION	PART NOS	QUANTITY
BM101 Steering Wheel		(04)
BM101 Tokes/shrouds/Key Locks/Multifunction		(04)

REQUESTING DEPT NO T657	WORK CENTER/WORK TASK FOB	ISSUED/REQUESTED BY MURPHY	PHONE 66819	APPROVALS SOLAND	TEST TYPE	A/C	START-UP DATE
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RESIDENTS DO NOT WRITE BELOW THIS LINE

WORK STANDARDS NUMBER	TITLE BMW5 Passenger A/B Development - B
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MANDATORY				OPTIONAL					
TEST ORDER #	CATEGORY	EMP SECT	EST COMP DATE	PID	TEST ENG'RS 1917	UNIT CODE	TEST ORDER DATE	USER CODE	PROJ CODE
TA1172	6	T657		X		HYB 18	10-17-96		
PRODUCTION SECT.	HOURS	MATERIAL COST	EMP. COST	PARTS DUE DATE	EST START DATE	EST COMP DATE	STATUS	COMPLETE	
DESIGN	0	0	0						
ENGINEERING	0	0	0						
TECHNICAL	0	0	0						
TOTAL	0	0	0						

HYGE Sled Test Summary

HYGE Run H 18066
 Test Engineer: M. Doren
 Requester: Kia Warmann
 Test Title/Description: 2000 D100 B - Passenger airbag/booster evaluation

Run Date 1/22/97
 Test Auth # TA1172
 BUCK # 304

1

MATRIX #

Sheet 14

Crash/HYGE Pulse Ref: C8881, H17930 Simulated Speed: 31mph Pin # #F50

	LEFT	Airbag: <u>12 ms</u>	RIGHT	Airbag: <u>12 ms</u>	
		Pyro Buckle: <u>N/A ms</u>		Pyro Buckle: <u>N/A ms</u>	
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy	<u>60 HB</u>	Dummy	<u>50 HB</u>	
	A/B	<u>D1</u>	A/B	<u>P4</u>	
	Belt	<u>N/A</u>	Belt	<u>N/A</u>	
	Seat	<u>S1</u>	Seat	<u>S2</u>	
	Tracks:	<u>none manual</u>	Dr. AB FMS		Tracker: <u>none</u>
			Pass. FMS		
	Position: <u>MD</u>	Welded? <u>No</u>		Position: <u>MD</u> Welded? <u>Yes</u>	
	Instrument Panel: <u>E1</u>				
	Steering Column: <u>S1</u>				
	Pre-Test OBSERVATIONS: <u>No passenger airbag covers</u>				

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	LEFT	IB O/B	ON SEAT	OFF SEAT	RIGHT	IB O/B	ON SEAT	OFF SEAT
		<u>Upright</u>	<u>On Seat</u>			<u>Upright</u>	<u>On Seat</u>	
LEFT SIDE	A/B Intact (No Holes):			<u>Y</u> N				<u>Y</u> N
	Face to A/B	<u>IB</u>	<u>Center</u>	<u>O/B</u>		<u>IB</u>	<u>Center</u>	<u>O/B</u>
	Contact Location:	<u>High</u>	<u>Mid</u>	<u>Low</u>		<u>High</u>	<u>Mid</u>	<u>Low</u>
	A/B Cover Attached to Can/Cover:			<u>Y</u> N				<u>Y</u> N
	Adj. D-ring Remain in Position:			<u>NA</u>				<u>NA</u>
	Retractor Intact:	<u>Y</u> N			<u>NA</u>			<u>NA</u>
	Locked:			<u>NA</u>				<u>NA</u>
	Buckle Held:	<u>Y</u> N			<u>NA</u>			<u>NA</u>
	Webbing Intact:			<u>NA</u>				<u>NA</u>
	Seat Tracks Held:			<u>Y</u> N				<u>Y</u> N
Cracks in I/P:			<u>Y</u> N				<u>Y</u> N	
Steering Wheel Deformed:			<u>Y</u> N				<u>Y</u> N	
Column Stroked w/o Interference:			<u>Y</u> N				<u>Y</u> N	
Column Strokes:	Left: <u>20 mm</u>				Right: <u>32 mm</u>			
Post Test COMMENTS:								
								OBSERVER: <u>M. Doren</u>

HYGE Sled Test Summary

HYGE Run H 18067
 Test Engineer: M. Doran
 Requester: Kris Wairmann

Run Date 1/22/97
 Test Auth # TA1172
 BUCK # 408

2

MATRIX #

Sheet 15

Test Title/Description: 2000 D188 B - Passenger airbag/booster evaluation

Crash/HYGE Pulse Ref: C9881, H17998

Simulated Speed: 81 mph

Pin # 9F50

	LEFT	Airbag: <u>12 ms</u>	RIGHT	Airbag: <u>12 ms</u>	
		Pyro Buoids: <u>N/A ms</u>		Pyro Buoids: <u>N/A ms</u>	
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy	<u>50 HS</u>	Dummy	<u>50 HS</u>	
	A/B	<u>D /</u>	Belt	<u>N/A</u>	
	Belt	<u>N/A</u>	Belt	<u>N/A</u>	
	Seat	<u>81</u>	Seat	<u>82</u>	
	Tracks:	<u>manual</u>	Dr. A/B FMS	<u>Post. FMS</u>	
	Position:	<u>MID</u>	Welded?	<u>No</u>	
	Instrument Panel:	<u>1-2</u>			
	Steering Column:	<u>SC1</u>			
	Pre-Test OBSERVATIONS: <u>No passenger airbag covers</u>				

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	LEFT	Upright <input checked="" type="checkbox"/> On Seat	IB <input checked="" type="checkbox"/> Off Seat	O/B <input checked="" type="checkbox"/> Off Seat	RIGHT	Upright <input checked="" type="checkbox"/> On Seat	IB <input checked="" type="checkbox"/> Off Seat	O/B <input checked="" type="checkbox"/> Off Seat
LEFT SIDE	A/B Intact (No Holes):	<input checked="" type="checkbox"/> N				<input checked="" type="checkbox"/> N		
	Face to A/B		IB <input checked="" type="checkbox"/> Center	O/B <input checked="" type="checkbox"/> Low			IB <input checked="" type="checkbox"/> Center	O/B <input checked="" type="checkbox"/> Low
	Contact Location:		<input checked="" type="checkbox"/> Mid				<input checked="" type="checkbox"/> High	
	A/B Cover Attached to Can./Cover:	<input checked="" type="checkbox"/> N						N/A
RIGHT SIDE	Seat Tracks Held:	<input checked="" type="checkbox"/> N				<input checked="" type="checkbox"/> N		
	Cracks in VP:	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> N			<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> N	
	Steering Wheel Deformed:	<input checked="" type="checkbox"/> N				<input checked="" type="checkbox"/> N		
	Column Stroked w/o Interference:	<input checked="" type="checkbox"/> N				<input checked="" type="checkbox"/> N		
	Column Stroke: Left: <u>10</u>					Right: <u>21</u>		

Post Test COMMENTS:

OBSERVER: M. Doran

HYGE Sled Test Summary

HYGE Run H 1806B Run Date 1/12/97
 Test Engineer: M. Doran Test Auth # TA1172
 Requester: Kris Wermann BUCK # 405

3

MATRIX #

Sheet 16

Test Title/Description: 2000 D185 B - Passenger airbag/booster evaluation
 Crash/HYGE Pulse Ref: C9881, H17999 Simulated Speed: 31mph Pin # #F60

	LEFT	Airbag: <u>12 ms</u> Pyro Buckle: <u>N/A</u> ms	FRONT	Airbag: <u>12 ms</u> Pyro Buckle: <u>N/A</u> ms		
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy	<u>80 HS</u>	Dummy	<u>N/A</u>	Dummy	
	AB	<u>D 2</u>	Belt	<u>N/A</u>	AB	
	Belt	<u>N/A</u>			Belt	
	Seat	<u>S1</u>	Dr. AB PMP		Seat	
	Tracks:	<u>manual</u>	Pass. PMP		Tracks:	
	Position:	<u>MID</u>	Welded? <u>No</u>		Position:	
	Instrument Panel:	<u>L 2</u>			Welded? <u>Yes</u>	
	Steering Column:	<u>SC1</u>				
	Pre-Test OBSERVATIONS: <u>No passenger airbag covers</u>					

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

<p>LEFT</p> <p>Upright <input checked="" type="checkbox"/> VS O/B <input type="checkbox"/> On Seat <input checked="" type="checkbox"/> Off Seat <input type="checkbox"/></p> <p>A/B Intact (No Holes): <input checked="" type="checkbox"/> Y / N</p> <p>Face to A/B <input type="checkbox"/> VS Center <input type="checkbox"/> O/B <input type="checkbox"/> Contact Location: High Mid Low</p> <p>A/B Cover Attached to Can./Cover: <input checked="" type="checkbox"/> Y N</p> <p>Seat Tracks Held: <input checked="" type="checkbox"/> Y N</p> <p>Cracks in IP: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N</p> <p>Steering Wheel Deformed: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N</p> <p>Column Stroked w/o Interference: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N</p> <p>Column Stroke: Left: <u>16 mm</u> Right: <u>16 mm</u></p>	<p>FRONT</p> <p>Upright <input type="checkbox"/> VS O/B <input type="checkbox"/> On Seat <input type="checkbox"/> Off Seat <input type="checkbox"/></p> <p>A/B Intact (No Holes): <input checked="" type="checkbox"/> Y N</p> <p>Face to A/B <input type="checkbox"/> VS Center <input type="checkbox"/> O/B <input type="checkbox"/> Contact Location: High Mid Low</p> <p>A/B Cover Attached to Can./Cover: <input type="checkbox"/> N/A</p> <p>Seat Tracks Held: <input type="checkbox"/> Y N</p> <p>Cracks in IP: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N</p>	<p>RIGHT</p> <p>Upright <input checked="" type="checkbox"/> VS O/B <input type="checkbox"/> On Seat <input checked="" type="checkbox"/> Off Seat <input type="checkbox"/></p> <p>A/B Intact (No Holes): <input checked="" type="checkbox"/> Y N</p> <p>Face to A/B <input type="checkbox"/> VS Center <input type="checkbox"/> O/B <input type="checkbox"/> Contact Location: High Mid Low</p> <p>A/B Cover Attached to Can./Cover: <input type="checkbox"/> N/A</p> <p>Seat Tracks Held: <input type="checkbox"/> Y N</p> <p>Cracks in IP: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N</p>
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Post Test COMMENTS: _____

OBSERVER: M. Doran

HYGE Sled Test Summary

HYGE Run # 10069 Run Date 1/23/77
 Test Engineer: M. Doran Test Auth # TA1172
 Requester: Kris Wamann BUCK # 405
 Test Title/Description: 2000 D186 B - Passenger airbag/bolster evaluation

4

MATRIX #

Sheet 17

Crash/HYGE Pulse Ref: C0861, H17099 Simulated Speed: 91mph Pin # #F50

PRE-TEST OBSERVATIONS	LEFT	CENTER	RIGHT
	Airbag: <u>12 ms</u>		Airbag: <u>12 ms</u>
	Pyro Buckle: <u>N/A</u>		Pyro Buckle: <u>N/A</u>
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy: <u>60 HS</u>	Dummy: <u>N/A</u>	Dummy: <u>60 HS</u>
	A/B: <u>D 2</u>	Belt: <u>N/A</u>	A/B: <u>P 5</u>
	Belt: <u>N/A</u>		Belt: <u>N/A</u>
	Seat: <u>S1</u>	Dr. A/B FMM: _____	Seat: <u>B2</u>
	Tracks: <u>manual</u>	Pass. FMM: _____	Tracks: <u>manual</u>
	Position: <u>MID</u>	Welded? <u>No</u>	Position: <u>MID</u>
	Instrument Panel: <u>1-2</u>		Welded? <u>Yes</u>
	Steering Column: <u>BC1</u>		
	Pre-Test OBSERVATIONS: <u>No passenger airbag covers</u>		

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below

	Upright <input checked="" type="checkbox"/> MB <input checked="" type="checkbox"/> O/B <input checked="" type="checkbox"/>		Upright <input checked="" type="checkbox"/> MB <input checked="" type="checkbox"/> O/B <input checked="" type="checkbox"/>		Upright <input checked="" type="checkbox"/> MB <input checked="" type="checkbox"/> O/B <input checked="" type="checkbox"/>
	On Seat	Off Seat	On Seat	Off Seat	On Seat
LEFT SIDE	A/B Intact (No Holes): <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		A/B Intact (No Holes): <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		
	Face to A/B: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	MB <u>Can't</u> O/B <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	Face to A/B: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	MB <u>Can't</u> O/B <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
	Contact Location: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	High <u>Mid</u> Low	Contact Location: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	High <u>Mid</u> Low	
	A/B Cover Attached to Can./Cover: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		A/B Cover Attached to Can./Cover: <input type="checkbox"/> N/A		
	Seat Tracks Held: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		Seat Tracks Held: <input type="checkbox"/> N/A		WELDED
	Cracks in VP: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		Cracks in VP: <input type="checkbox"/> N/A		Y <input checked="" type="checkbox"/> N
	Steering Wheel Deformed: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N				
	Column Stroked w/o Interference: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N				
	Column Stroked: Left: <u>18 mm</u>		Right: <u>22 mm</u>		
Post Test COMMENTS: _____					

OBSERVER: <u>M. Doran</u>					

HYGE Sled Test Summary

HYGE Run H 10070
 Test Engineer: M. Doran
 Requester: Kris Warrmann
 Test Title/Description: 2000 D100 B - Passenger airbag/booster evaluation

Run Date 1/23/97
 Test Auth # TA1172
 SLECK # 408

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MATRIX #

Sheet 18

Crash-HYGE Pulse Ref: 08801, H17889

Simulated Speed: 31mph

Pin # 0F00

LEFT	Airbag: <u>12 ms</u> Pyro Buckle: <u>N/A ms</u>	RIGHT	Airbag: <u>12 ms</u> Pyro Buckle: <u>N/A ms</u>		
LEFT	Dummy <u>50 HS</u> A/B <u>D /</u> Belt <u>N/A</u> Seat <u>S1</u> Tracks: <u>manual</u> Position: <u>MID</u> Welded? <u>No</u> Instrument Panel: <u>1-3</u> Steering Column: <u>SC1</u>	CENTER	Dummy <u>N/A</u> Belt <u>N/A</u> Dr. A/B <u>FMH</u> Pass. <u>FMH</u>	RIGHT	Dummy <u>50 HS</u> A/B <u>P 6</u> Belt <u>N/A</u> Seat <u>S2</u> Tracks: <u>manual</u> Position: <u>MID</u> Welded? <u>Yes</u>
Pre-Test OBSERVATIONS: <u>No passenger airbag covers</u>					

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	LEFT SIDE		RIGHT SIDE
	<input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> On Seat	Upright / On Seat Y / N	<input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> On Seat
	A/B Intact (No Holes): <input checked="" type="checkbox"/> Y / N Face to A/B: <u>?</u> <input type="checkbox"/> High <input type="checkbox"/> Mid <input type="checkbox"/> Low Contact Location: <u>?</u>		A/B Intact (No Holes): <input checked="" type="checkbox"/> Y / N Face to A/B: <input type="checkbox"/> High <input checked="" type="checkbox"/> Mid <input type="checkbox"/> Low Contact Location: <u>?</u>
	A/B Cover Attached to Can./Cover: <input checked="" type="checkbox"/> Y / N		A/B Cover Attached to Can./Cover: <u>NA</u>
	Seat Tracks Held: <input checked="" type="checkbox"/> Y / N Cracks in IP: <input type="checkbox"/> Y / <input checked="" type="checkbox"/> N Steering Wheel Deformed: <input type="checkbox"/> Y / <input checked="" type="checkbox"/> N Column Stroked w/o Interference: <input type="checkbox"/> Y / <input checked="" type="checkbox"/> N		Seat Tracks Held: <u>WELDED</u> Cracks in IP: <input type="checkbox"/> Y / <input checked="" type="checkbox"/> N
	Column Stroked: Left: <u>10</u> Right: <u>15</u>		

Post Test COMMENTS: S/C TILT HOOD FRACTURED DURING TEST.

OBSERVER: M. Doran

HYGE Sled Test Summary

HYGE Run H: 18071 Run Date: 1/29/97
 Test Engineer: M. Doran Test Auth #: TA1172
 Requester: Kyle Warmann BUCK #: 406
 Test Title/Description: 2000 D188 B - Passenger airbag/booster evaluation

6

MATRIX #

Sheet 19

Crash-HYGE Pulse Ref: 08881, H17889 Simulated Speed: 31mph Pin #: #F50

	LEFT	Airbag: <u>12 ms</u> Pyro Buckle: <u>N/A ms</u>	RIGHT	Airbag: <u>12 ms</u> Pyro Buckle: <u>N/A ms</u>
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy	<u>BO HB</u>	Dummy	<u>N/A</u>
	A/B	<u>D /</u>	Belt	<u>N/A</u>
	Belt	<u>N/A</u>	Dr. A/B FM9	
	Seat	<u>B1</u>	Pass. FM9	
	Tracks:	<u>manual</u>	Pass. FM9	
	Position:	<u>MID</u> Welded? <u>No</u>	Position:	<u>MID</u> Welded? <u>Yes</u>
	Instrument Panel:	<u>1-3</u>		
	Steering Column:	<u>BC1</u>		
	Pre-Test OBSERVATIONS: <u>No passenger airbag covers</u>			

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	LEFT SIDE	Upright <input checked="" type="checkbox"/> On Seat / Inverted <input type="checkbox"/> Off Seat	RIGHT SIDE	Upright <input checked="" type="checkbox"/> On Seat / Inverted <input type="checkbox"/> Off Seat
	A/B Intact (No Holes):	<input checked="" type="checkbox"/> Y / <input type="checkbox"/> N	A/B Intact (No Holes):	<input checked="" type="checkbox"/> Y / <input type="checkbox"/> N
	Face to A/B Contact Location:	I/B <u>Center</u> / O/B <u>High</u> / <u>Mid</u> / Low	Face to A/B Contact Location:	I/B <u>Center</u> / O/B <u>High</u> / <u>Mid</u> / Low
	A/B Cover Attached to Can./Cover:	<input checked="" type="checkbox"/> Y / <input type="checkbox"/> N	A/B Cover Attached to Can./Cover:	<input type="checkbox"/> N/A
	Seat Tracks Held:	<input checked="" type="checkbox"/> Y / <input type="checkbox"/> N	Seat Tracks Held:	<input type="checkbox"/> N/A
	Cracks in I/P:	<input type="checkbox"/> Y / <input checked="" type="checkbox"/> N	Cracks in I/P:	<input checked="" type="checkbox"/> WELDED Y / <input type="checkbox"/> N
	Steering Wheel Deformed:	<input type="checkbox"/> Y / <input checked="" type="checkbox"/> N		
	Column Stroked w/o Interference:	<input type="checkbox"/> Y / <input checked="" type="checkbox"/> N		
	Column Stroke: Left: <u>10 mm</u>		Column Stroke: Right: <u>15 mm</u>	

Post Test COMMENTS:

OBSERVER: M. Doran

HYGE Sled Test Summary

HYGE Run H: 18072 Run Date: 1/12/97
 Test Engineer: M. Doran Test Auth #: TA1172
 Requester: Kris Warmann BUCK #: 405

7

MATRIX #

Sheet 20

Test Title/Descriptor: 2000 D188 B - Passenger airbag/bolster evaluation

Crash/HYGE Pulse Ref: G9851, H17830

Simulated Speed: 31mph

Pin # #F50

	LEFT	Airbag: <u>12 ms</u>	Pyro Buckle: <u>N/A ms</u>	RIGHT	Airbag: <u>12 ms</u>	Pyro Buckle: <u>N/A ms</u>
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy	<u>50 HS</u>		Dummy	<u>N/A</u>	
	AB	<u>D /</u>		Belt	<u>N/A</u>	
	Belt	<u>N/A</u>		Seat	<u>S2</u>	
	Seat	<u>S1</u>	Dr. A/B FMF			
	Tracks:	<u>manual</u>	Pass. FMF			
Position:	<u>MID</u>	Welded? <u>No</u>		Position:	<u>MID</u>	Welded? <u>Yes</u>
Instrument Panel:	<u>F 4</u>					
Steering Column:	<u>SC1</u>					
Pre-Test OBSERVATIONS:	<u>No passenger airbag covers</u>					

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	Upright	IB	O/B		Upright	IB	O/B	
	<u>On Seat</u>		<u>Off Seat</u>		<u>On Seat</u>		<u>Off Seat</u>	
LEFT SIDE	A/B Intact (No Holes):							<u>Y</u> N
	Face to A/B							<u>Y</u> N
	Contact Location:		<u>Center</u>					<u>Y</u> N
	A/B Cover Attached to Car/Cover:		<u>Firm</u>					<u>Y</u> N
	Seat Tracks Held:							<u>Y</u> N
RIGHT SIDE	A/B Intact (No Holes):							<u>Y</u> N
	Face to A/B							<u>Y</u> N
	Contact Location:		<u>Center</u>					<u>Y</u> N
	A/B Cover Attached to Car/Cover:		<u>High</u>					<u>Y</u> N
	Seat Tracks Held:							<u>Y</u> N
Cracks in VP:								<u>WELDED</u>
Steering Wheel Deformed:								<u>Y</u> N
Column Stroked w/o Interference:								<u>Y</u> N
Column Stroke: Left:	<u>16mm</u>			Right:	<u>22</u>			

Post Test COMMENTS: MARK ON DRIVER SEAT TRACK WAS NOT
ALIGNED POST TEST. (246mm).

OBSERVER: M. Doran

HYGE Sled Test Summary

HYGE Run H: 18073 Run Date: 11/21/97
 Test Engineer: M. Doran Test Auth #: TA1172
 Requester: Kris Warmann BUCK #: 405
 Test Title/Description: 2000 D186 B - Passenger airbag/booster evaluation
 Crash/HYGE Pulse Ref: C8861, H17839 Simulated Speed: 31mph Pin #: #F60

8

MATRIX #

Sheet 21

	LEFT	Airbag: <u>12 ms</u> Pyro Buckle: <u>N/A ms</u>	RIGHT	Airbag: <u>12 ms</u> Pyro Buckle: <u>N/A ms</u>	
PARTS DESCRIPTIONS PRE-TEST OBSERVATIONS	Dummy	<u>50 HS</u>	Dummy	<u>N/A</u>	
	A/B	<u>D</u>	Belt	<u>N/A</u>	
	Belt	<u>N/A</u>	Seat	<u>50 HS</u>	
	Seat	<u>BT</u>	Dr. A/B FM#	<u>P</u>	
	Tracks:	<u>normal</u>	Pass. FM#	<u>N/A</u>	
	Position:	<u>MID</u>	Welded?	<u>No</u>	
	Instrument Panel:	<u>-</u>	Tracks:	<u>normal</u>	
	Steering Column:	<u>SC1</u>	Position:	<u>MID</u>	
	Pre-Test OBSERVATIONS: <u>No passenger airbag covers</u>				

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	LEFT SIDE	Upright <input checked="" type="checkbox"/> <u>VB</u> <input checked="" type="checkbox"/> <u>Q/B</u> On Seat / Off Seat	DRIVER	Upright <input checked="" type="checkbox"/> <u>VB</u> <input checked="" type="checkbox"/> <u>Q/B</u> On Seat / Off Seat	PASSENGER	Upright <input checked="" type="checkbox"/> <u>VB</u> <input checked="" type="checkbox"/> <u>Q/B</u> On Seat / Off Seat
A/B Intact (No Holes):		<input checked="" type="checkbox"/> <u>Y</u> <input type="checkbox"/> <u>N</u>		<input checked="" type="checkbox"/> <u>Y</u> <input type="checkbox"/> <u>N</u>		<input checked="" type="checkbox"/> <u>Y</u> <input type="checkbox"/> <u>N</u>
Face to A/B		<input checked="" type="checkbox"/> <u>VB</u> <input checked="" type="checkbox"/> <u>Center</u> <input type="checkbox"/> <u>Q/B</u>		<input checked="" type="checkbox"/> <u>VB</u> <input checked="" type="checkbox"/> <u>Center</u> <input type="checkbox"/> <u>Q/B</u>		<input checked="" type="checkbox"/> <u>VB</u> <input checked="" type="checkbox"/> <u>Center</u> <input type="checkbox"/> <u>Q/B</u>
Contact Location:		<input checked="" type="checkbox"/> <u>High</u> <input type="checkbox"/> <u>Mid</u> <input type="checkbox"/> <u>Low</u>		<input checked="" type="checkbox"/> <u>High</u> <input type="checkbox"/> <u>Mid</u> <input type="checkbox"/> <u>Low</u>		<input checked="" type="checkbox"/> <u>High</u> <input type="checkbox"/> <u>Mid</u> <input type="checkbox"/> <u>Low</u>
A/B Cover Attached to Can/Cover:		<input checked="" type="checkbox"/> <u>Y</u> <input type="checkbox"/> <u>N</u>		<input type="checkbox"/> <u>N/A</u>		<input type="checkbox"/> <u>N/A</u>
Seat Tracks Held:		<input type="checkbox"/> <u>Y</u> <input checked="" type="checkbox"/> <u>N</u>		<input type="checkbox"/> <u>Y</u> <input checked="" type="checkbox"/> <u>N</u>		<input type="checkbox"/> <u>Y</u> <input checked="" type="checkbox"/> <u>N</u>
Cracks in I/P:		<input type="checkbox"/> <u>Y</u> <input checked="" type="checkbox"/> <u>N</u>		<input type="checkbox"/> <u>Y</u> <input checked="" type="checkbox"/> <u>N</u>		<input type="checkbox"/> <u>Y</u> <input checked="" type="checkbox"/> <u>N</u>
Steering Wheel Deformed:		<input checked="" type="checkbox"/> <u>Y</u> <input type="checkbox"/> <u>N</u>		<input checked="" type="checkbox"/> <u>Y</u> <input type="checkbox"/> <u>N</u>		<input checked="" type="checkbox"/> <u>Y</u> <input type="checkbox"/> <u>N</u>
Column Stroked w/o Interference:		<input checked="" type="checkbox"/> <u>Y</u> <input type="checkbox"/> <u>N</u>		<input checked="" type="checkbox"/> <u>Y</u> <input type="checkbox"/> <u>N</u>		<input checked="" type="checkbox"/> <u>Y</u> <input type="checkbox"/> <u>N</u>
Column Stroke:		Left: <u>25mm</u>		Right: <u>25mm</u>		
Post Test COMMENTS: <u>CRACK IN O/B DRIVER TRACK.</u>						
						OBSERVER: <u>M. Doran</u>

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

ATTACHMENT VI

TA# TA1172

Run H 18066

Date 1/22/97

Matrix

1

Buck # 304

Reference: H17939

H

H

Left		Right
60HS	DUMMY TYPE	60HS
MID	SEAT POSITION	MID
336	DUMMY NUMBER	327

Center

TA1172
Sheet 22

POSITIONING	ACTUAL	TARGET	TARGET	ACTUAL	TOLERANCE (± mm)	
	LEFT	LEFT	RIGHT	RIGHT	1st RUN	ADD'L
Seat Back Angle (13" above pivot)	24	24	24	24	0	+/-1 notch
Pelvic Angle (+/- 2.5 deg.; +/-1.0 for 5%ile)	22	22.5	22.5	22	at left	at left
H-Point Longitudinal	230	228	228	230	12	0
H-Point Vertical	225	200	200	190		0
H-Point Lateral	211	210	210	210	12	0
Knee Longitudinal	180	180	179	179		
Knee Vertical	100	100	80	80		
Knee Lateral	255	255	240	240	6	0
Head Longitudinal	335	338	315	325	level	0
Head Vertical	425	470	455	455	level	0
Head Lateral	330	330	345	345	level	0
Dummy Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (mm)	240	240	200	200		
Left Knee to Bolster	85			72		0
Right Knee to Bolster	82			73		0
Nose to Steering Wheel Upper Rim or IP	392			646		0
Torso to Steering Wheel Lower Rim	190					0
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal						
Reference Target Absolute Vertical						
Reference Target Absolute Lateral						

FILM ANALYSIS	ACTUAL	TARGET	TARGET	ACTUAL	TOLERANCE	
	LEFT	LEFT	RIGHT	RIGHT	1st RUN	ADD'L
Knee (target) Lateral	220			210		
Thigh Lateral	210			200		
Phantom Lateral	210			210		
Shoulder Lateral	185			175		
Other						
Other						
Other						
Knee to H-Point	350			350		
Knee to Phantom	270			300		
Knee to Thigh	140			150		
Distance Between A or B Pillar Targets	50			50		
Upper or Forward Reference Target	50			50		
Lower or Rearward Reference Target	50			50		
Reference Bar to Film Plane	1310			1275		
Camera Angle	3.5 Deg			3.5 Deg	< 5 deg.	< 5 deg.

Notes:

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

TA# TA1172

Run **H 18067**

Date **1/22/77**

Matrix

2
TA1172
Sheet 23

Buck # **405**

Reference: **H17039**
H
H

Left SOHS	DUMMY TYPE	Right SOHS	Center
MID	SEAT POSITION	MID	
996	DUMMY NUMBER	997	

POSITIONING	ACTUAL	TARGET	TARGET	ACTUAL	TOLERANCE (± mm)	
	LEFT	LEFT	RIGHT	RIGHT	1st RUN	ADD'L
Seat Back Angle (13° above pivot)	24	24	24	24	0	±1 notch
Pelvic Angle (+/- 2.5 deg.; +/-1.0 for SMI)	22	22.5	22.5	22	at left	at left
H-Point Longitudinal	L	220	218	L	12	0
H-Point Vertical	L	-215	-190	L	12	0
H-Point Lateral	210	-211	-210	205	0	0
Knee Longitudinal	L	-180	-177	L	level	0
Knee Vertical	L	-100	-80	L	level	0
Knee Lateral	250	-255	-240	290	level	0
Hong Longitudinal	L	338	325	L	level	0
Head Vertical	L	470	455	L	level	0
Head Lateral	330	-330	-345	345	level	0
Dummy Neck Adjustmax (first run only)						
Knee Centerline to Knee Centerline (max)	240	240	200	200		
Left Knee to Bolster	85	85	72	75		0
Right Knee to Bolster	85	82	79	75		0
Neck to Steering Wheel Upper Rim or IP	100	92	84	85		0
Torso to Steering Wheel Lower Rim	110	190				0
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal						
Reference Target Absolute Vertical						
Reference Target Absolute Lateral						

FILM ANALYSIS

Knee (target) Lateral	220	208	
Thigh Lateral	210	202	
Phantom Lateral	215	205	
Shoulder Lateral	110	165	
Other			
Other			
Other			
Knee to H-Point	360	370	
Knee to Phantom	370	300	
Knee to Thigh	140	150	
Distance Between A or B Pillar Targets	50	50	
Upper or Forward Reference Target	50	50	
Lower or Rearward Reference Target	50	50	
Reference Bar to Film Plane	1310	1285	
Camera Angle	3 deg	3.5 deg	< 5 deg. < 5 deg.

Notes:

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

TA# TA1172

Run H 1868

Date 1/22/97

Matrix

3

Buck # 408

Reference: H1799
H
H

Left 50F8	DUMMY TYPE	Right 50F8
MID	SEAT POSITION	MID
338	DUMMY NUMBER	337

Center

TA1172
Sheet 24

POSITIONING	ACTUAL	TARGET	TARGET	ACTUAL	TOLERANCE (\pm mm)	
	LEFT	LEFT	RIGHT	RIGHT	1st RUN	ADJL
Seat Back Angle (13" above pivot)	29	24	24	29	0	+/-1 notch
Pelvic Angle (+/- 2.5 deg.; +/-1.0 for 5%ile)	22	22.5	22.5	22	at left	at left
H-Point Longitudinal	L	220	218	L	12	0
H-Point Vertical	L	-216	-190	L	12	0
H-Point Lateral	210	-211	-210	210	12	0
Knee Longitudinal	L	-180	-177	L		
Knee Vertical	L	-100	-80	L		
Knee Lateral	250	-255	-240	240	0	0
Head Longitudinal	L	338	325	L	level	0
Head Vertical	L	470	455	L	level	0
Head Lateral	350	-330	-345	340	level	0
Dummy Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (max)	240	240	200	220		
Left Knee to Bolster	25	65	72	75		0
Right Knee to Bolster	25	82	73	80		0
Noes to Steering Wheel Upper Rim or IP	370	382	648	645		0
Torso to Steering Wheel Lower Rim	190	190				0
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal						
Reference Target Absolute Vertical						
Reference Target Absolute Lateral						

FILM ANALYSIS

Knee (target) Lateral	215		215		
Thigh Lateral	215		210		
Phantom Lateral	220		215		
Shoulder Lateral	185		175		
Other					
Other					
Other					
Knee to H-Point	350		370		
Knee to Phantom	270		300		
Knee to Thigh	140		160		
Distance Between A or B Piller Targets	50		50		
Upper or Forward Reference Target	50		50		
Lower or Rearward Reference Target	50		50		
Reference Bar to Film Plane	1810		1250		
Camera Angle	3 dwn		3.5 dwn		< 5 deg. < 5 deg.

Notes:

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

TA# TA1172

Run H 18069

Date 1/22/97

Matrix

Y

Buck # 405

Reference: H17889
H
H

Lat 80HS	DUMMY TYPE	High 80HS
MID	SEAT POSITION	MID
898	DUMMY NUMBER	897

Center

TA1172
Sheet 25

POSITIONING

	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (± mm)	
					1st RUN	ADDL
Seat Back Angle (13° above pivot)	24	24	24	24	0	+/-1 notch
Pelvic Angle (+/- 2.5 deg; +/-1.0 for 5%ile)	22	22.5	22.5	22	at left	at left
H-Point Longitudinal	L	220	218	L	12	0
H-Point Vertical	L	-215	-190	L		0
H-Point Lateral	210	-211	-210	210	12	0
Knee Longitudinal	L	-180	-177	L		
Knee Vertical	L	-100	-80	L		
Knee Lateral	255	-235	-240	240	0	0
Head Longitudinal	L	338	325	L	level	0
Head Vertical	L	470	455	L	level	0
Head Lateral	235	-390	-345	245	level	0
Dummy Neck Adjustment (First run only)						
Knee Centerline to Knee Centerline (mm)	240	240	200	200		
Left Knee to Bolster	159	85	72	155		0
Right Knee to Bolster	155	82	73	155		0
Nose to Steering Wheel Upper Rim or VP	355	302	345	645		0
Torso to Steering Wheel Lower Rim	180	180				0
Reference Target to Seat Belt Longitudinal						
Reference Target to Seat Belt Vertical						
Reference Target to Seat Belt Lateral						
Reference Target Absolute Longitudinal						
Reference Target Absolute Vertical						
Reference Target Absolute Lateral						

FILM ANALYSIS

Knee (target) Lateral	215		270	
Thigh Lateral	205		215	
Phantom Lateral	212		204	
Shoulder Lateral	155		172	
Other				
Other				
Other				
Knee to H-Point	950		870	
Knee to Phantom	270		300	
Knee to Thigh	140		150	
Distance Between A or B Pilar Targets	50		50	
Upper or Forward Reference Target	50		50	
Lower or Rearward Reference Target	50		50	
Reference Bar to Film Plane	1910		1295	
Camera Angle	3.5 dwn		3.5 dwn	< 5 deg. < 5 deg.

Notes:

HYGE - DUMMY POSITIONING and P/A TARGETING Sheet

TAB TA1172

Run H 18070

Date 11/23/77

Matrix

5

Buck # 405

Reference: H17929

H

H

Left BOFB	DUMMY TYPE	Right BOFB
MID	SEAT POSITION	MID
388	DUMMY NUMBER	337

Circle	TR 1172 Sheet 26
--------	---------------------

POSITIONING	ACTUAL	TARGET	TARGET	ACTUAL	TOLERANCE (in mm)	
	LEFT	LEFT	RIGHT	RIGHT	1st RUN	ADJL
Seat Back Angle (13° above pivot)	27	24	24	27	0	+/-1 (90°)
Pelvic Angle (+/- 2.5 deg; +/-1.0 for 394g)	22	22.5	22.5	22	at left	at left
H-Point Longitudinal	2	220	216	2	12	0
H-Point Vertical	2	-216	-190	2		0
H-Point Lateral	-107	-211	-210	-102	18	0
Knee Longitudinal	2	-180	-177	2		
Knee Vertical	2	-100	-80	2		
Knee Lateral	250	-225	-240	245	0	0
Head Longitudinal	2	328	328	2	level	0
Head Vertical	2	470	465	2	level	0
Head Lateral	320	-380	-348	345	level	0
Dummy Neck Adjustments (first run only)						
Knee Centerline to Knee Centerline (max)	270	240	200	200		
Left Knee to Bolster	70	68	72	72		0
Right Knee to Bolster	70	82	78	72		0
Nose to Steering Wheel Upper Rim or IP	370	302	648	645		0
Tomco to Steering Wheel Lower Rim	170	160				0
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Abductor Longitudinal						
Reference Target Abductor Vertical						
Reference Target Abductor Lateral						

FILM ANALYSIS	ACTUAL	TARGET	ACTUAL	TOLERANCE
Knee (mgt) Lateral	315		215	
Thigh Lateral	210		205	
Phantom Lateral	210		210	
Shoulder Lateral	155		175	
Other				
Other				
Other				
Knee to H-Point	380		370	
Knee to Phantom	270		300	
Knee to Thigh	140		180	
Distance Between A or B Pillar Targets	50		50	
Upper or Forward Reference Target	50		50	
Lower or Rearward Reference Target	50		50	
Reference Bar to Film Plane	1810		1280	
Camera Angle	3 dmm		3.5 dmm	< 6 deg. < 6 deg.

Notes:

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

TA# TA1172

Run H 18071

Date 1/23/97

Matrix

6

Buck # 405

Reference: H17839

H

H

Left SOFS	DUMMY TYPE	Right SOFS
MID	SEAT POSITION	MID
986	DUMMY NUMBER	987

Gender	Matrix
	6
TA1172 Sheet 27	

POSITIONING

	ACTUAL	TARGET	TARGET	ACTUAL	TOLERANCE (+ mm)	
	LEFT	LEFT	RIGHT	RIGHT	1st RUN	ADDL
Seat Back Angle (13" above pivot)	24	24	24	24	0	+/-1 notch
Pelvic Angle (+/- 2.5 deg.; +/-1.0 for 5%ile)	22	22.5	22.5	22	at left	at left
H-Point Longitudinal	2	220	210	2	12	6
H-Point Vertical	2	-215	-190	2		6
H-Point Lateral	212	-211	-210	202	12	0
Knee Longitudinal	2	-180	-177	2		
Knee Vertical	2	-100	-80	2		
Knee Lateral	252	-258	-240	242	0	6
Head Longitudinal	2	338	335	2	level	6
Head Vertical	2	470	488	2	level	6
Head Lateral	370	-380	-348	345	level	6
Dummy Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (max)	240	240	200	20		
Left Knee to Bolster	22	66	72	76		6
Right Knee to Bolster	22	62	73	79		6
Noes to Steering Wheel Upper Rim or IP	380	382	345	345		6
Teeth to Steering Wheel Lower Rim	190	180				6
Reference Target to Seat Back Longitudinal						
Reference Target to Seat Back Vertical						
Reference Target to Seat Back Lateral						
Reference Target Absolute Longitudinal						
Reference Target Absolute Vertical						
Reference Target Absolute Lateral						

FILM ANALYSIS

Knee (target) Lateral	215		205	
Thigh Lateral	210		210	
Phantom Lateral	205		205	
Shoulder Lateral	165		175	
Other				
Other				
Other				
Knee to H-Point	950		970	
Knee to Phantom	270		300	
Knee to Thigh	140		150	
Distance Between A or B Pillar Targets	60		60	
Upper or Forward Reference Target	60		60	
Lower or Rearward Reference Target	60		60	
Reference Bar to Film Plane	1910		1888	
Camera Angle	3 dwn		3.5 dwn	< 8 deg. < 8 deg.

Notes:

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

TA# TA1172

Run H 18072

Date 1/4/97

Metric

7

Buck # 408

Reference: H17839

H

H

Lat		Right
BOHS	DUMMY TYPE	BOHS
MD	SEAT POSITION	MD
338	DUMMY NUMBER	337

Center

TA1172
Sheet 28

POSITIONING	ACTUAL	TARGET	TARGET	ACTUAL	TOLERANCE (+ mm)	
	LEFT	LEFT	RIGHT	RIGHT	1st RUN	ADDL
Seat Back Angle (13° above pivot)	24	24	24	24	0	+/-1 notch
Pelvic Angle (+/- 2.5 deg; +/- 1.0 for 5%ile)	22	22.5	22.5	22.0	at left	at left
H-Point Longitudinal	L	220	218	L	12	6
H-Point Vertical	L	-215	-190	L		6
H-Point Lateral	212	-211	-210	210	12	6
Knee Longitudinal	L	-180	-177	L		
Knee Vertical	L	-100	-80	L		
Knee Lateral	257	-258	-240	24	6	6
Head Longitudinal	L	538	528	L	level	6
Head Vertical	L	470	468	L	level	6
Head Lateral	330	-330	-348	345	level	6
Dummy Neck Adjustment (flat rim only)						
Knee Centerline to Knee Centerline (max)	240	240	200	200		
Left Knee to Bolster	85	85	72	78		6
Right Knee to Bolster	85	82	78	84		6
Nose to Steering Wheel Upper Rim or LP	385	388	348	345		6
Topo to Steering Wheel Lower Rim	185	180				6
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal						
Reference Target Absolute Vertical						
Reference Target Absolute Lateral						

FILM ANALYSIS					
Knee (target) Lateral	211			207	
Thigh Lateral	205			206	
Phantom Lateral	210			210	
Shoulder Lateral	160			188	
Other					
Other					
Other					
Knee to H-Point	360			370	
Knee to Phantom	270			300	
Knee to Thigh	140			150	
Distance Between A or B Pillar Targets	50			50	
Upper or Forward Reference Target	50			50	
Lower or Rearward Reference Target	50			50	
Reference Bar to Film Plane	1310			1285	
Camera Angle	3 dwn			3.5 dwn	< 6 deg. < 5 deg.

Notes: _____

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

TA# TA1172

Run 'H' 18073

Date 1/24/77

Matrix

8

Buck # 405

Reference: H17890

H

H

Left BOFS	DUMMY TYPE	Right BOFS
MID	SEAT POSITION	MID
888	DUMMY NUMBER	937

Center

TA1172
Sheet 29

POSITIONING

	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (± mm)	
					1st RUN	ADDL
Seat Back Angle (15° above pivot)	24	24	24	24	0	+1 notch
Pelvis Angle (+/- 2.5 deg.; +/-1.0 for 5%ile)	22	22.5	22.5	22	at left	at left
H-Point Longitudinal	L	220	219	L	12	6
H-Point Vertical	L	-215	-190	L		6
H-Point Lateral	200	-211	-210	207	12	6
Knee Longitudinal	L	-180	-177	L		
Knee Vertical	L	-160	-80	L		
Knee Lateral	252	-255	-240	245	6	6
Head Longitudinal	L	338	328	L	level	6
Head Vertical	L	470	480	L	level	6
Head Lateral	395	-390	-345	343	level	6
Dummy Neck Adjustment (first run only)						
Knee Contact to Knee Curvature (mm)	240	240	200	200		
Left Knee to Bolster	77	82	78	75		6
Right Knee to Bolster	70	82	75	75		6
Neck to Steering Wheel Upper Rim or LP	370	362	348	345		6
Torso to Steering Wheel Lower Rib	170	190				6
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal						
Reference Target Absolute Vertical						
Reference Target Absolute Lateral						

FILM ANALYSIS

Knee (target) Lateral	210		205		
Thigh Lateral	207		205		
Phantom Lateral	210		205		
Shoulder Lateral	160		175		
Other					
Other					
Other					
Knee to H-Point	950		970		
Knee to Phantom	270		300		
Knee to Thigh	140		160		
Distance Between A or B Film Targets	60		60		
Upper or Forward Reference Target	60		60		
Lower or Rearward Reference Target	60		60		
Reference Bar to Film Plane	1310		1285		
Camera Angle	3 dcm		3.5 dcm		< 5 deg. < 5 deg.

Notes:

PHOTOGRAPHIC REQUEST SHEET FOR TA - TA1172
TEST DESCRIPTION: 2000 D186 B Passenger airbag/booster evaluation Sheet 30

HIGH SPEED FILM COVERAGE**• On-board Cameras:**

<u>2</u> Over Shoulder Head to Airbag	<u>X</u>	Left	<u>X</u>	Right				
_____ Belt 'D' Ring	_____	Left	_____	Right				
_____ Belt Retractor	_____	Left	_____	Right				
_____ Belt Buckle, Inboard	_____	Left	_____	Right				
_____ Inboard Knee to I/P Contact	_____	Left	_____	Right				
_____ Steering Column Stroke	_____	Left	_____	Right				
_____ Inner Instrument Panel	_____	Left	_____	Right				
_____ Dummy Roll Out	_____	Left	_____	Center	_____	Right		
_____ Seat Tracks	_____	Lt Inbd	_____	Lt o/b	_____	Rt Inbd	_____	Rt o/b
_____ Fiber Optics	_____	_____	_____	_____	_____	_____	_____	_____

• Outrigger Cameras

<u>2</u> Overall Kinematic (F/A)	<u>X</u>	Left	<u>X</u>	Right
<u>2</u> Knee to Bolster	<u>X</u>	Left	<u>X</u>	Right
<u>1</u> Chest to Steering Wheel	<u>X</u>	Left	_____	Right
_____ Retractor Payout, Cross-car	_____	Left	_____	Right
_____ Lap Belt on Dummy	_____	Left	_____	Right
_____ Seat Track/Cushion	_____	Left	_____	Right

• Off-board Cameras

_____ Offboard - Floor Overall
 _____ Offboard - Kinematic

• OTHER H.S. Film Camera Coverage On/Off-board or Outrigger

1 Other: Front of buck looking at back of driver bolster - TK Yoke to back of bolster
1 Other: Front of buck looking at passenger knee bolster - Outboard crush can
 _____ Other: _____
 _____ Other: _____
 _____ Other: _____

HIGH SPEED VIDEO COVERAGE

X High Speed Video: Overall kinematic Left
X High Speed Video: Overall kinematic Right

STILL PHOTOGRAPHS:

<u>X</u> Pre & Post Test Overall	<u>X</u>	Left	<u>X</u>	Right
<u>X</u> Knee Bolster(s)	<u>X</u>	Left	<u>X</u>	Right
<u>X</u> A/B Face Print	<u>X</u>	Left	<u>X</u>	Right
_____ Other: _____	_____	_____	_____	_____
_____ Other: _____	_____	_____	_____	_____
_____ Other: _____	_____	_____	_____	_____
_____ Other: _____	_____	_____	_____	_____

ADDITIONAL INFO:

<u>8</u> Number of Runs	Refer this to: TA1172
<u>2</u> Number of High Speed Films	REQUESTER Info: Dept. No. <u>T265</u>
_____ VHS Copies of H.S. Films	Work Task No. <u>FO9</u>
_____ VHS Copies of H.S. Video	TEST ENG. NAME <u>M. Doran</u>
# Still Photos _____ 4" x 5"	Phone No. <u>406072</u>
<u>1</u> Contact Sheets	

ADDITIONAL NOTES:

**Final Test Report
Confidential**



Test Order No.: TA2365
Subject: 2000 D166 DUAL STAGE INFLATOR EVALUATION
- SERIES 'D'
Requested By: K. WARMANN
(Dept.): T266
Date Received: 8/21/97
Work Task No.: F09
Test Facility: HYGE
Test Dates: 8/21/97 to 8/22/97
Run Numbers: H18818 to H18819
Procedure(s): T667-108
Date Reported: 10/3/97
Page: 1 of 26

DISPOSE of Copies (Black Stamped) by:	
RETAIN Record Copy (Red Stamped) Thru	2001
Schedule Number:	7-4-2

Objective:

To get performance information of various occupant in various test modes using the Autoliv dual stage inflator.

Summary:

Two 30 MPH (Generic Pulse), one 31 MPH, and two 35 MPH tests were conducted on the Hyge sled using one or two instrumented 5% or 50% hybrid III test dummies. The testing was conducted using the DM101 / D166 front body buck (#405). The test data is retained at the Safety Laboratories Department as specified by record retention guidelines. A copy of the high speed film and test data have been given to the requester for evaluation. The still photographs are in digital format and are stored on the Safety Laboratories Department intranet home page under <http://www-safetylab.ford.com/>.

Attachments:

- I. Sled Pulse
- II. Sled Parameters
- III. Test Matrix
- IV. Test Authorization
- V. Post Test Observations
- VI. Photographic Set-Up

Concurs:


E. N. Burris
Section Supervisor
Operations Engineering
Safety Laboratories Department

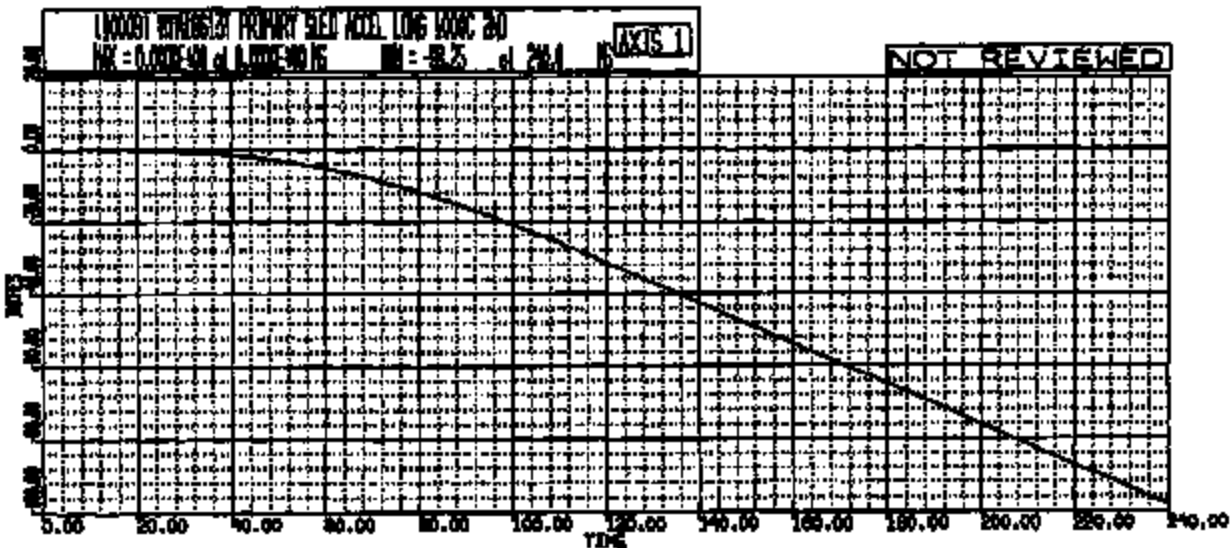
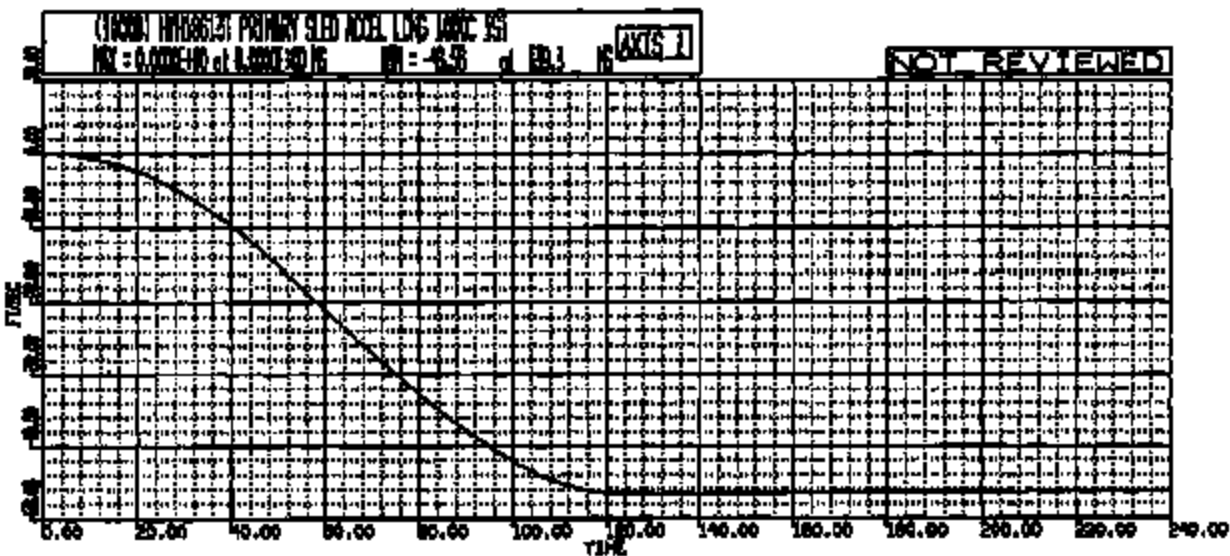
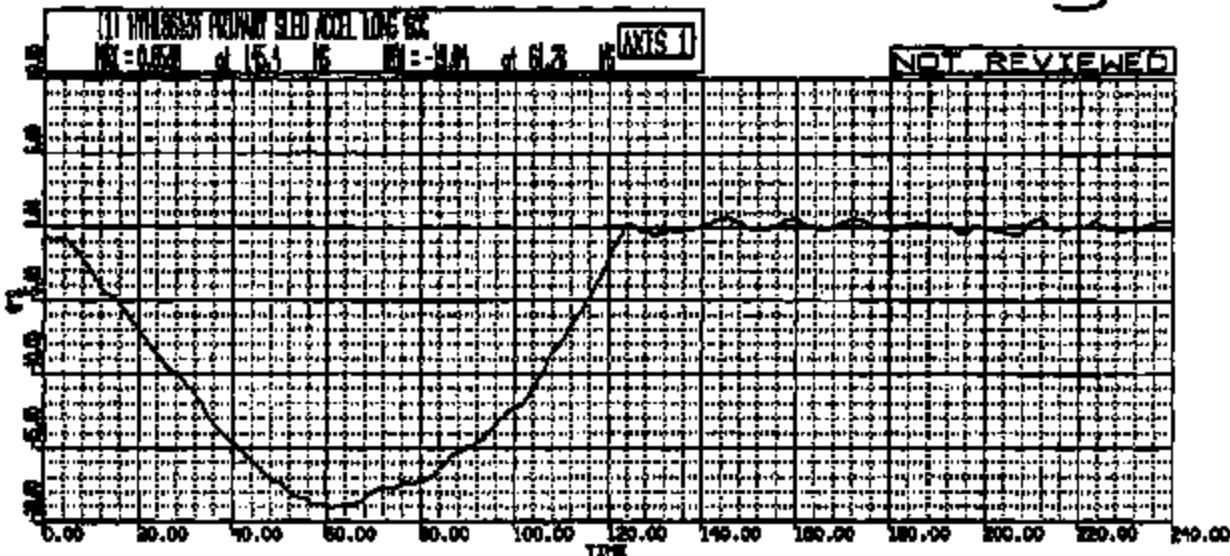

W. H. Van Gilsbeek
Product Test Engineer
Operations Engineering
Safety Laboratories Department

Attachment I.

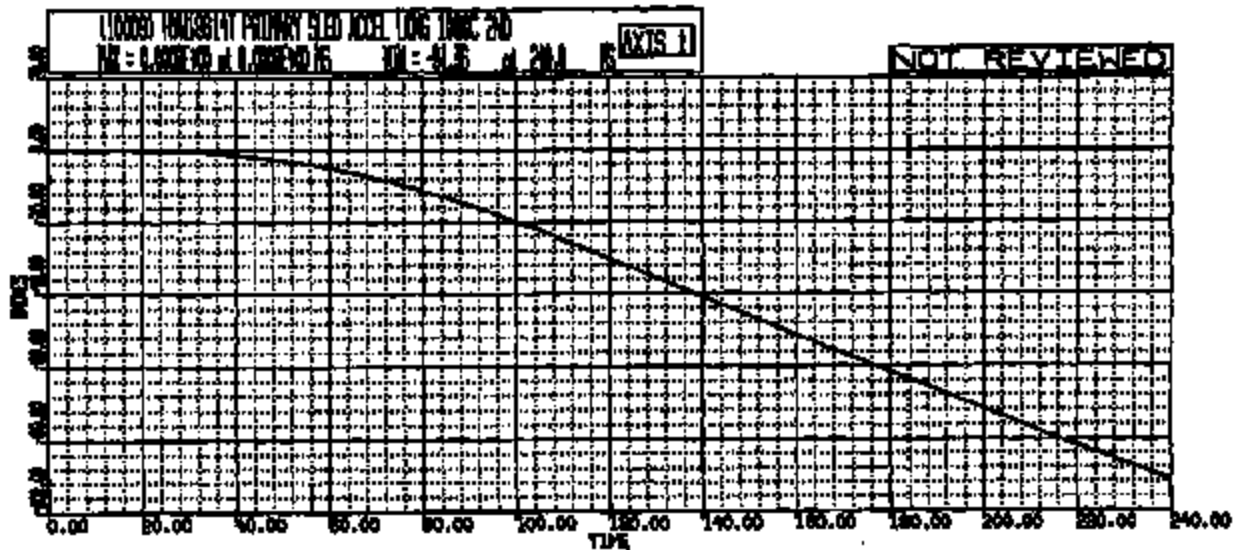
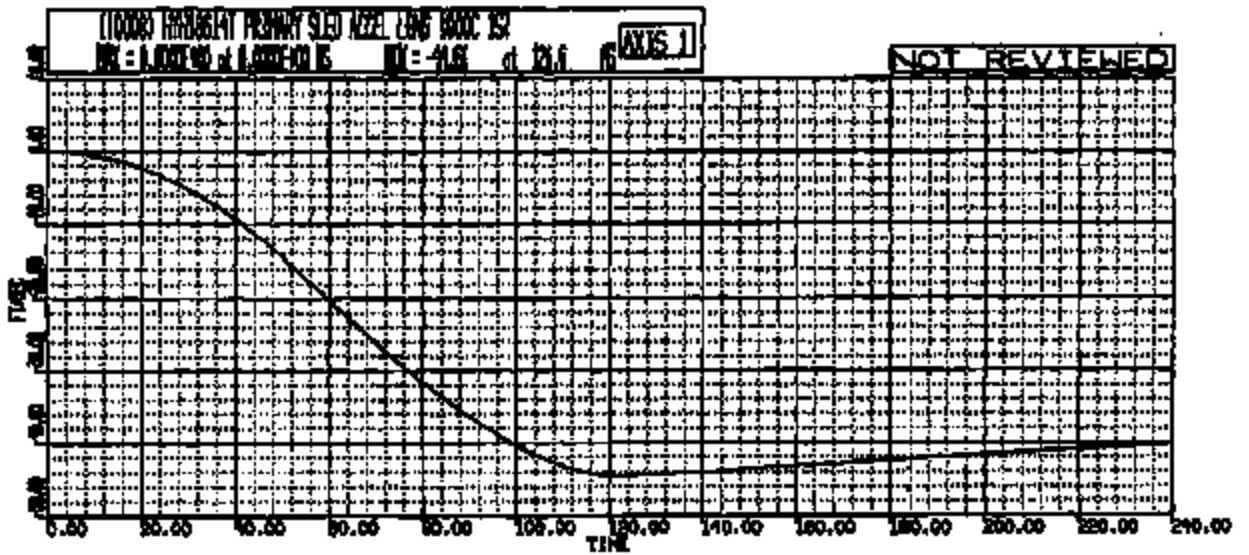
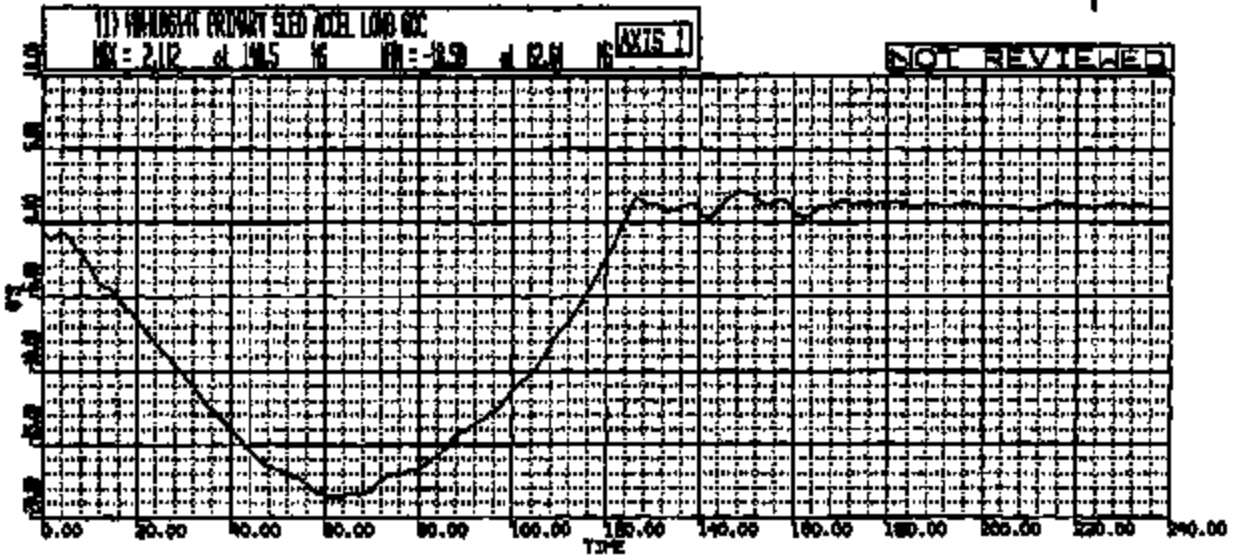
Sled Pulse

TA-2365
Sheet 2

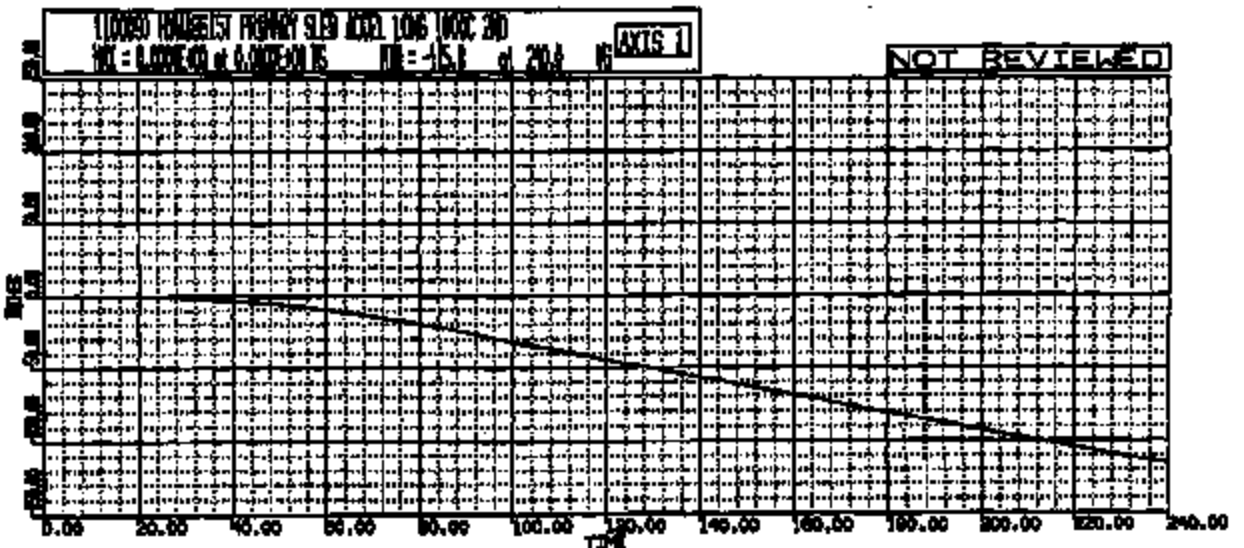
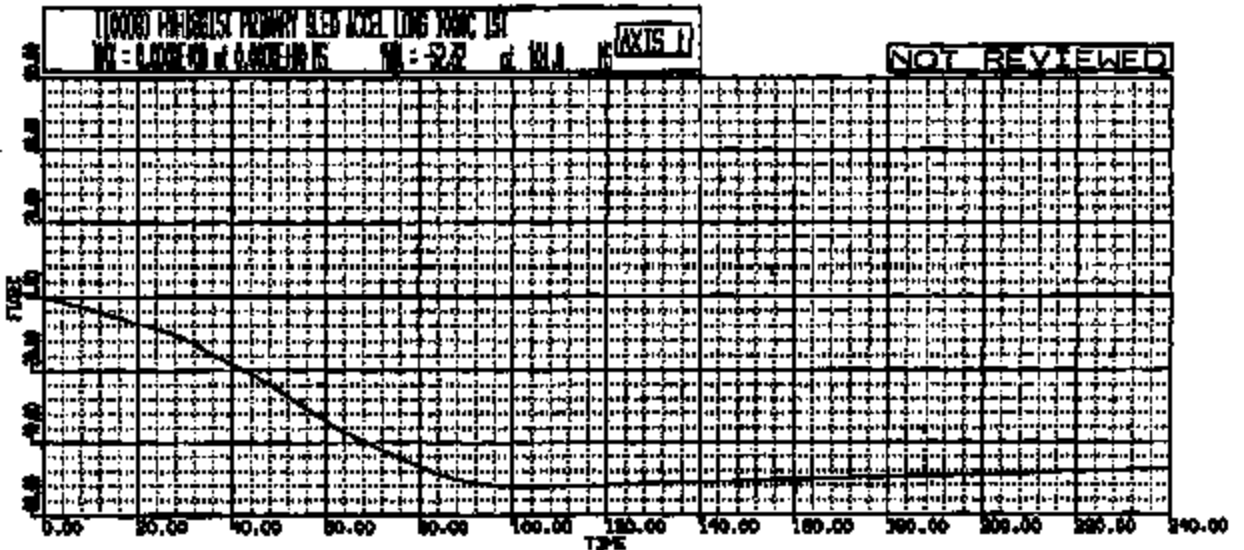
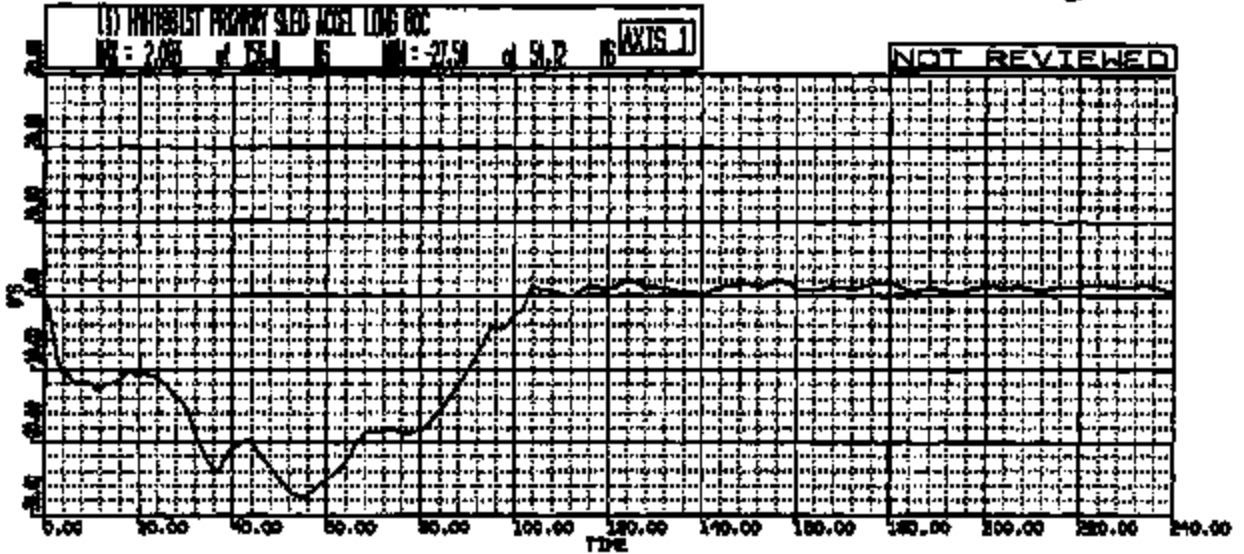
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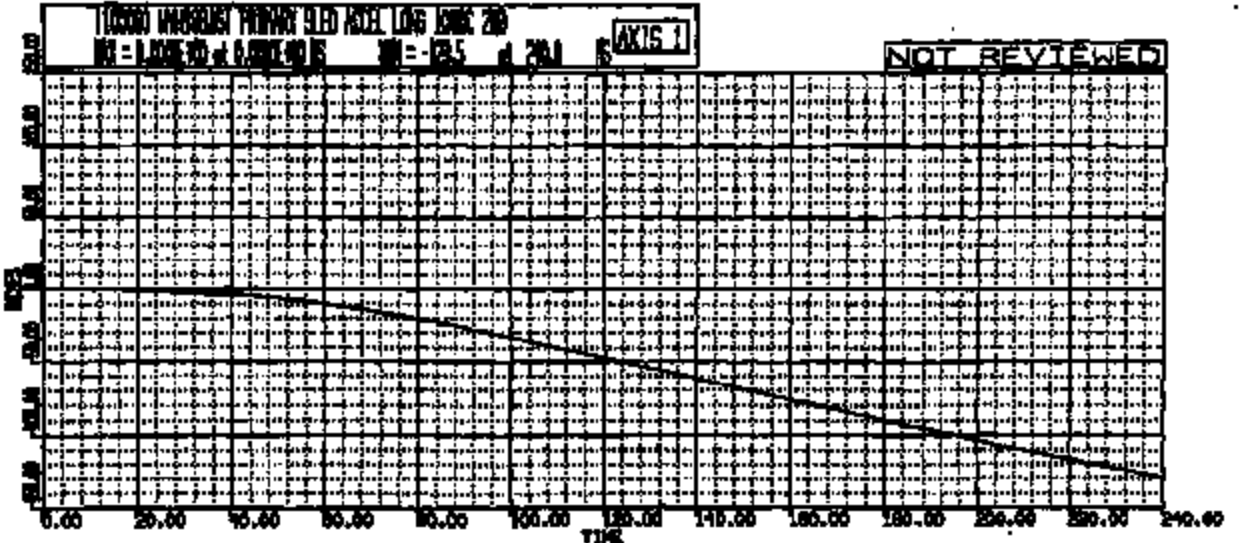
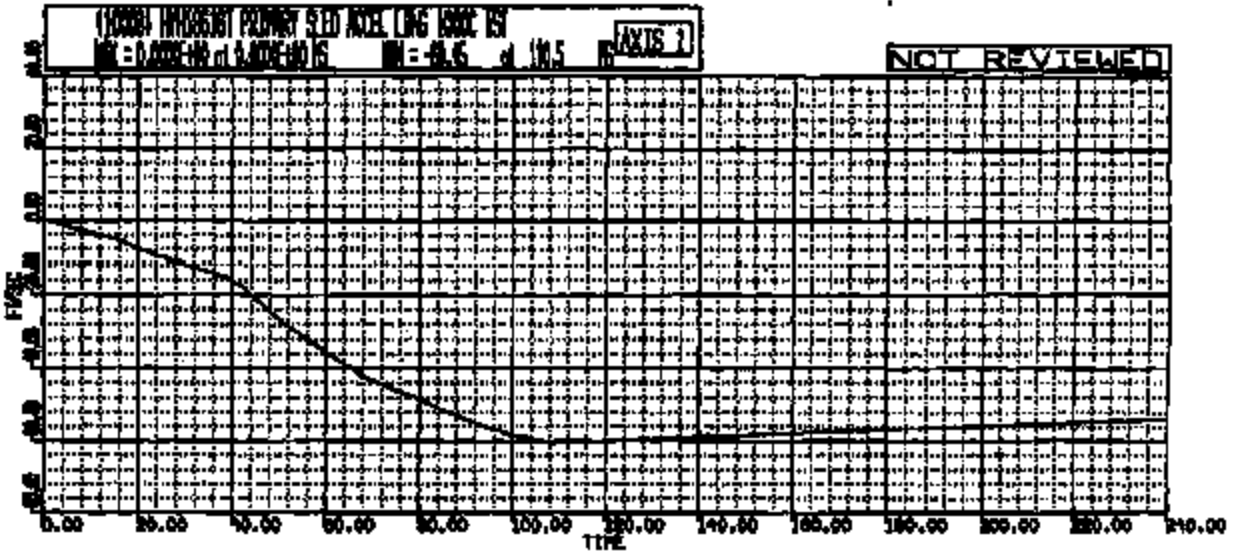
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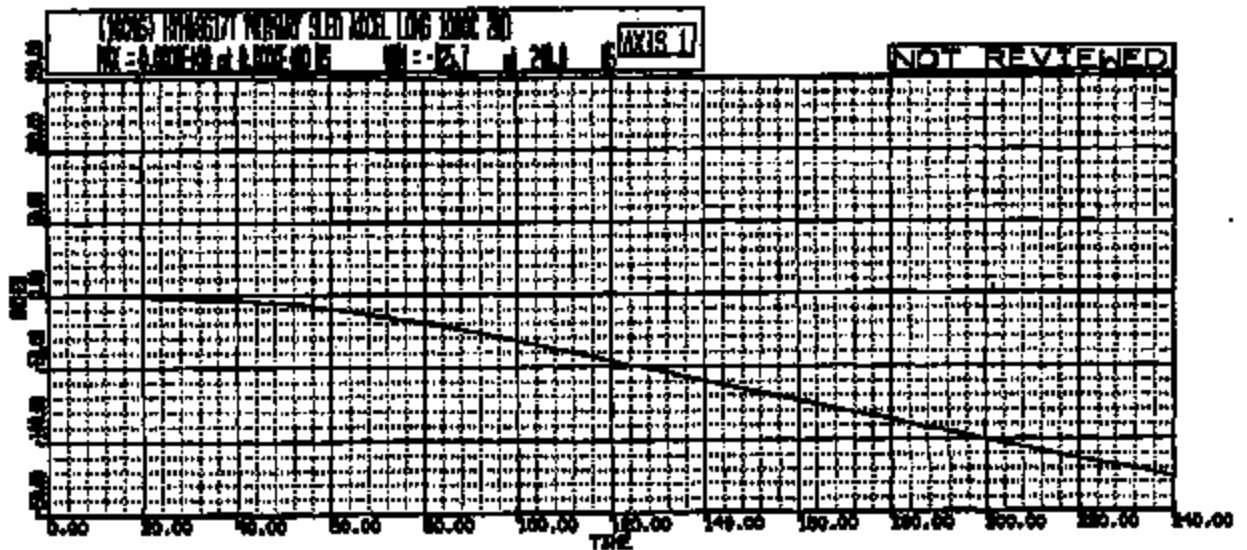
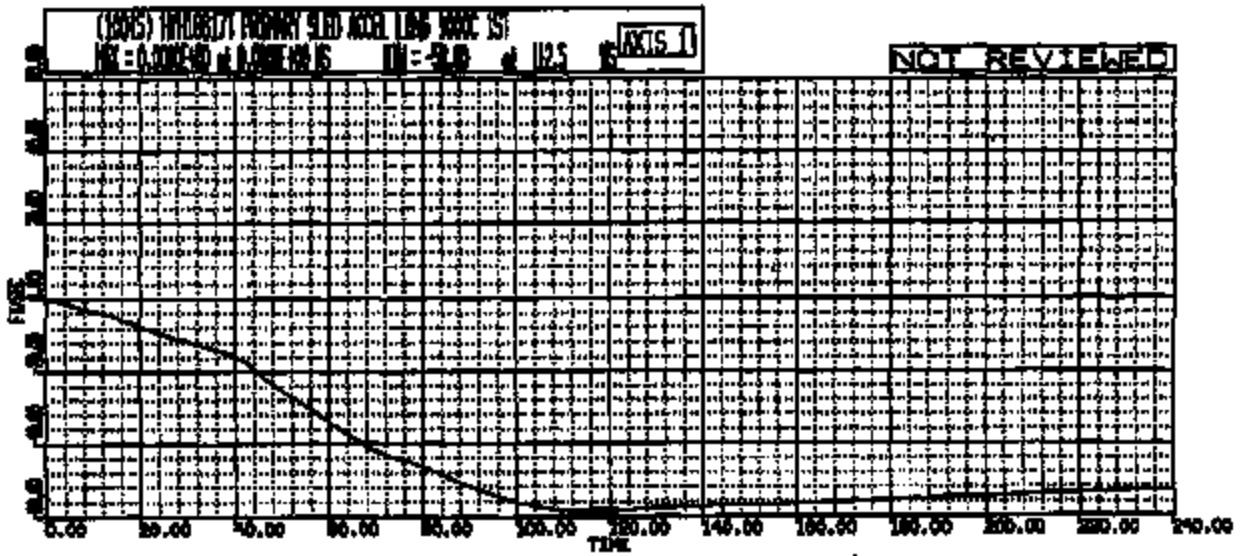
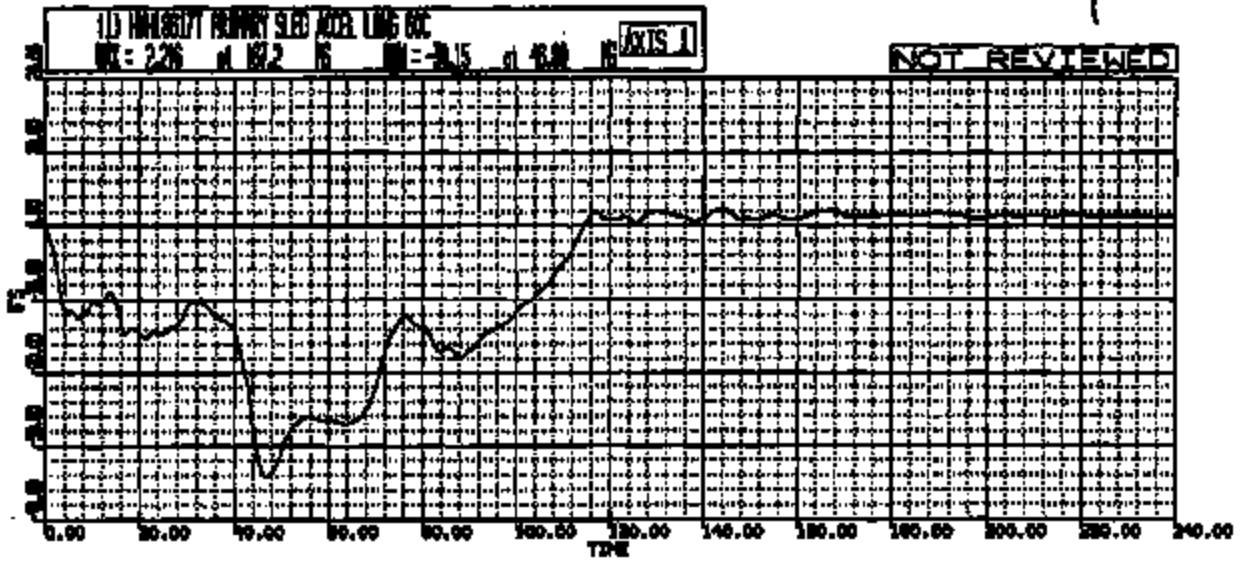
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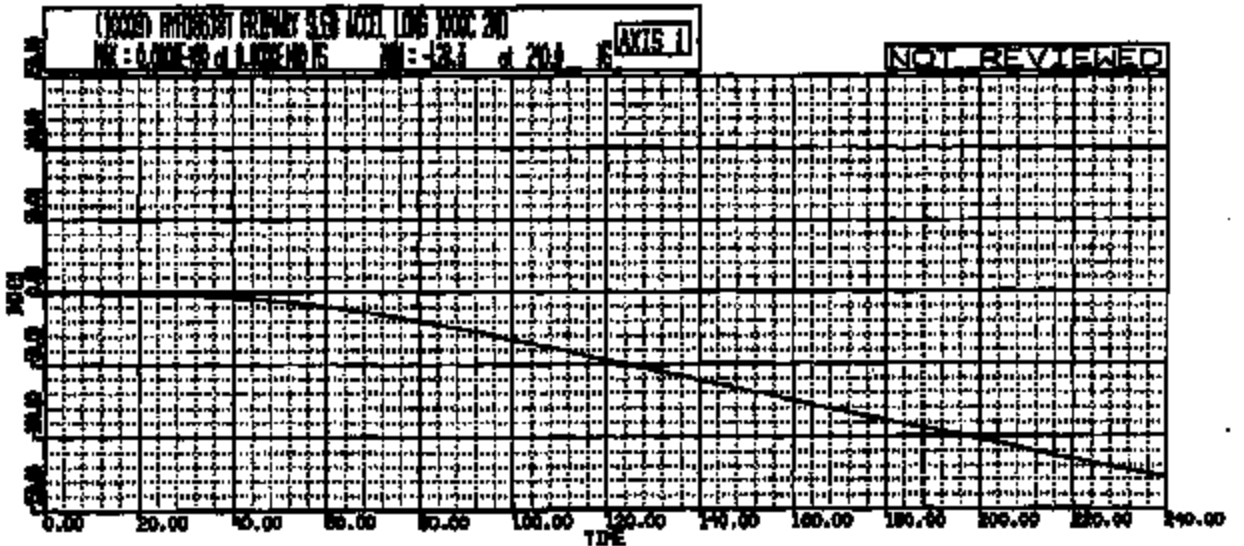
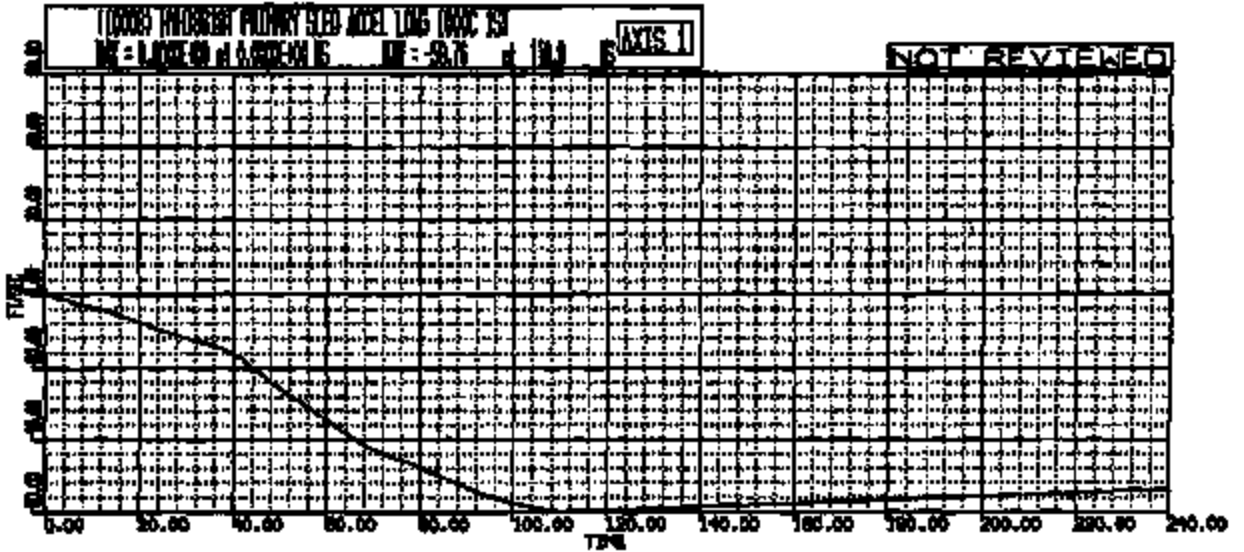
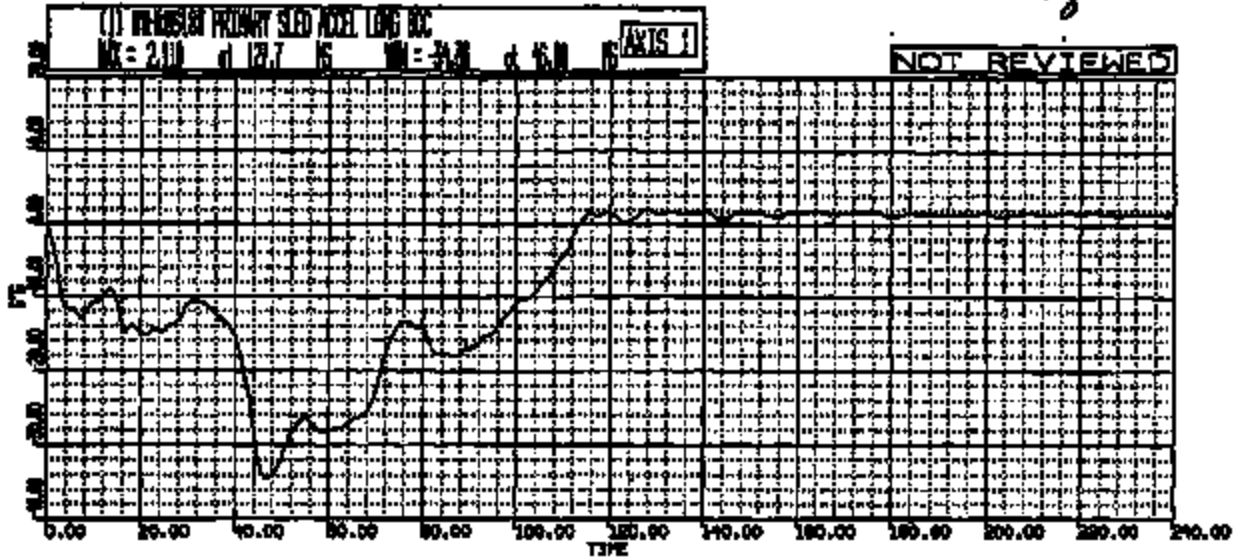
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UNKNOWN



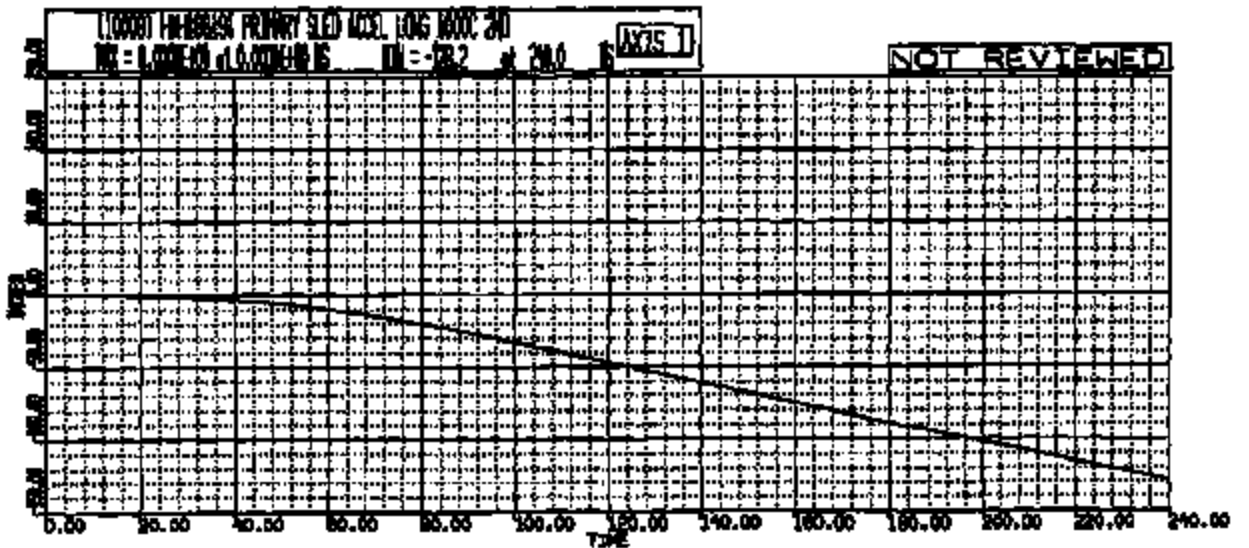
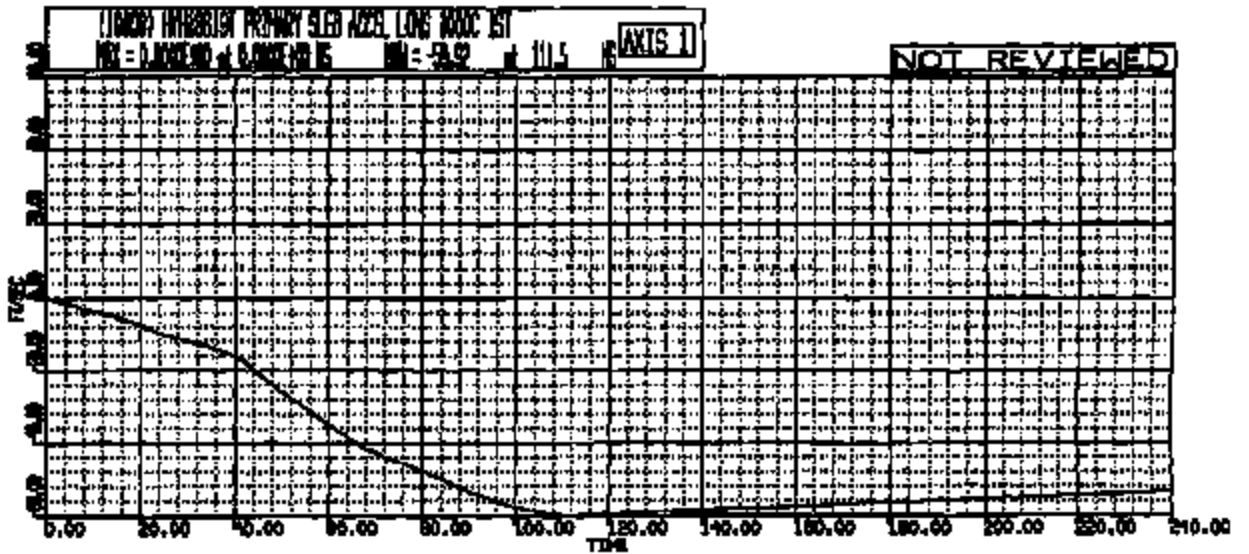
BY R: M18617 TO: TA2365D DATE: 970822 11:01:18
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UNKNOWN



MY R: H16619 TO: TA2365B DATE: 970822 10:24:11
UNKNOWN



Attachment II.

Sled Parameters

TA-2365
Sheet 10

BLN #	LA #	TEST TYPE	DATE	TIME	DATA CHANL	WEIGHT (LB)	HPCL	SECONE	LOAD	SET	BRAKE	BUCK #	VELOCITY (MPH)	LEFT	DRUM SPN (C/MIN)	RIGHT	FIN	INNER RING	OUTER RING
10013	100000A	CONTROL SAMPLE 'D'	6/21/97	1615	31	5008	44	24	1878	313	125	405	30	---	---	304	95	CUT	CUT
10014	100000B	CONTROL SAMPLE 'D'	6/21/97	1708	31	5008	48	24	1878	315	125	405	30	---	---	318	95	CUT	CUT
10015	100000C	CONTROL SAMPLE 'D'	6/21/97	2001	34	5005	52	27	2002	302	155	405	33	---	---	318	95	N	RE
10016	100000D	CONTROL SAMPLE 'D'	6/22/97	0803	34	5008	50	27	2044	404	200	405	35	---	---	318	94A	N	IN
10017	100000E	CONTROL SAMPLE 'D'	6/22/97	1109	34	5008	50	27	2044	404	200	405	35	---	---	318	94A	N	IN
10018	100000F	CONTROL SAMPLE 'D'	6/22/97	1400	34	5005	50	27	2044	404	200	405	35	---	---	---	---	N	IN
10019	100000G	CONTROL SAMPLE 'D'	6/22/97	1624	34	5005	50	27	2044	404	200	405	35	---	---	318	94A	N	IN

SLEED 002271B

 IR-2365
 Sheet. 11

Attachment III.

TA-2365
Sheet 12

Test Matrix

TA# TA2365

SYSTEM
DATE 03/08

														UNDERSTANDING								INSTR.			
CORE	TRAIL	TRAIL	TRAIL	TRAIL	TRAIL	TRAIL	TRAIL	TRAIL	TRAIL	TRAIL	TRAIL	TRAIL	TRAIL	TRAIL	TRAIL	TRAIL	TRAIL	TRAIL	TRAIL	TRAIL	TRAIL	TRAIL	TRAIL	TRAIL	
01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01
02	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01
03	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01
04	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01
05	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01
06	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01

NOTES:

Header core handpoint must be installed
D-ring Position 3=Mid 5=Full Down

PLANNING

REVISION	DATE	DESCRIPTION
01		
02		
03		
04		

- 01 = Drill Stage
- 02 = 1/2" drill bit, 1/2" length, with 1/2" diameter (1/2" penetration level)
- 03 = 1/2" drill bit, 1/2" length, with 1/2" diameter (1/2" penetration level)
- 04 = Full stage indicator, 1/2" diameter
- 05 = Full stage indicator, 1/2" diameter, (uncut) 1/2" hole, (uncut 1/2") hole, (uncut 1/2") hole
- 06 = Full stage indicator, 1/2" diameter, (uncut) 1/2" hole, (uncut 1/2") hole, (uncut 1/2") hole
- 07 = Full stage indicator, 1/2" diameter, (uncut) 1/2" hole, (uncut 1/2") hole, (uncut 1/2") hole
- 08 = Full stage indicator, 1/2" diameter, (uncut) 1/2" hole, (uncut 1/2") hole, (uncut 1/2") hole
- 09 = Full stage indicator, 1/2" diameter, (uncut) 1/2" hole, (uncut 1/2") hole, (uncut 1/2") hole
- 10 = Full stage indicator, 1/2" diameter, (uncut) 1/2" hole, (uncut 1/2") hole, (uncut 1/2") hole

SLHD 0022720

TA-2365
Blank-13

Attachment IV.

Test Authorization

TA-2365
Sheet 14

TEST AUTHORIZATION

Sheet 15
 TEST ORDER NUMBER TA2365

TO: J. Klumbank	OO: R. N. BLUMS R. A. CHERRY R. A. CHERRY R. A. CHERRY R. A. CHERRY R. A. CHERRY	REQUEST DATE 08-21-97	REQUESTED COMPLETION DATE 08-22-97
		REQUEST NUMBER TA2365	PROJECT NUMBER
		REGULATING SECTION AV2213A	

TITLE OF TEST D186 Type Sled Series D			PARTS DUE DATE 08-21-97
TYPE OF TEST VEHICLE _____ BENCH _____ LABORATORY _____ X_OTHER _____	VEHICLE NUMBER OR OTHER IDENTIFICATION	VEHICLE MODEL & YEAR	PRODUCT OR ENG. LETTER
ENGINE NO. DISPL. CARS.	TRANSMISSION	AXLE RATIO	TEST CONDUCTED TO CERTIFY CONTROL ITEM COMPLIANCE WITH GOVERNMENT REGULATION?
TYPE OF FUEL	CONVERTER	IGNITION TIMING	DISPOSITION OF PARTS YES _____ NO _____
ENGINE OIL AND CAPACITY	TIRE SIZE AND PLY RATING	REPORT CATEGORIES ENGINEERING _____ DATA _____ RAW DATA _____	REWORK REQUIRED? YES _____ NO _____ CODE _____
VEHICLE TEST WEIGHT FRONT _____ REAR _____ TOTAL _____	TIRE PRESSURE FRONT _____ REAR _____		MAIL REPORT TO: ROOM _____ BLDG _____

1. OBJECT OF TEST: Evaluate dual stage airbags

2. TEST PROCEDURE: HTG-00

3. NUMBER OF SAMPLES: 1

4. RUNS PER SAMPLE: 0

5. ITEMS TO BE TESTED:

DESCRIPTION	PART NOS	QUANTITY
airbags		(2) 7 200

REGULATING DEPT NO T361	WORK ORDER/WORK TASK 109	ISSUED/REQUESTED BY LAMBANK	PHONE 87147	APPROVALS BOLAND	TEST TYPE	RISK	SIGN-OFF DATE
----------------------------	-----------------------------	--------------------------------	----------------	---------------------	-----------	------	---------------

REGISTER: DO NOT ENTER BELOW THIS LINE

WORK STANDARD NUMBER		TITLE D186 Type Sled Series D							
MANDATORY				OPTIONAL					
TEST ORDER #	CATEGORY	REQD SECT	EST COMP DATE	PRO	TEST ENG'DR IN'Y	ESTY CODE	TEST ORDER DATE	UNER CODE	PROD CODE
TA2365	6	7457		X	HTG 101		08-21-97		
PERFORMING SECT.	HOURS	MATERIAL COST	COMP. COST	PARTS DUE DATE	EST START DATE	EST COMP DATE	STATUS	COMPLETS	
DESIGN	0	\$	\$						
MANUFACTURING	0	\$	\$						
TECHNICAL	0	\$	\$						
		\$	\$						
TOTAL	0	\$	\$						

SLED 0022722

Attachment V.
Post Test Observations

TA-2365
Sheet 16

HYGE Sled Test Summary

Sheet 17

1

MATRIX #

HYGE Run #: 18613 Run Date: 8/31/97
 Test Engineer: Mike Doran Test Auth #: TA2388
 Requester: Kris Wermann BUCK #: 405
 Test Title/Description: D100 Hyge Sled Series D - Dual Stage Inflator Evaluation

Crash/HYGE Pulse Rat: _____ Simulated Speed: 30 Ptn #: 93

TYPE TEST	LEFT Airbag: _____ ms Pyro Buckle: _____ ms	RIGHT	Airbag: <u>90</u> ms Pyro Buckle: <u>150</u> ms	
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy _____ A/B _____ Belt _____ Seat _____ Tracks: <u>power manual</u> Position: _____ Welded? <u>Y</u> N	COLUMN	Dummy _____ Belt _____ Dr. A/B P/M _____ Pass. P/M _____ Position: _____ Welded? <u>Y</u> N	
	Instrument Panel: <u>T-5</u> Steering Column: <u>N/A</u> Pre-Test OBSERVATIONS: _____ _____ _____	Dummy <u>5/3</u> A/B <u>PT</u> Belt <u>R3</u> Seat <u>S1</u> Tracks: <u>power manual</u> Position: _____ Welded? <u>Y</u> N		

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	Upright	I/B	O/B		Upright	I/B	O/B		Upright	I/B	O/B
	On Seat	Off Seat			On Seat	Off Seat			On Seat	Off Seat	
LEFT SIDE	A/B Intact (No Holes):			Y / N	A/B Intact (No Holes):			Y / N			
	Face to A/B		I/B Center O/B		Face to A/B		I/B Center O/B				
	Contact Location:		High Mid Low		Contact Location:		High Mid Low				
	A/B Cover Attached to Can/Cover:			Y / N	A/B Cover Attached to Can/Cover:			Y / N			
	Adj. D-ring Remains in Position:			Y / N	Adj. D-ring Remains in Position:			Y / N			
	Retractor Intact:		Y / N	Looked:	Y / N	Retractor Intact:		Y / N	Looked:	Y / N	
	Buckle Held:		Y / N	Webbing Intact:	Y / N	Buckle Held:		Y / N	Webbing Intact:	Y / N	
	Seat Tracks Held:			Y / N	Seat Tracks Held:			Y / N			
	Cracks in I/P:			Y / N	Cracks in I/P:			Y / N			
	Steering Wheel Deformed:			Y / N	Steering Wheel Deformed:			Y / N			
Column Stroked w/o Interference:			Y / N	Column Stroked w/o Interference:			Y / N				
Column Stroked:			Left: _____ Right: _____	Column Stroked:			Left: _____ Right: _____				
Post Test COMMENTS:											

SLIGHT BOLSTER CONTACT
NO VISIBLE DAMAGE -
SEAT NORMAL

OBSERVER: [Signature]

Sheet 18

HYGE Sled Test Summary

2
MATRIX #

HYGE Run # 18614 Run Date 8/31/99
 Test Engineer: Mike Doren Test Auth # TA2386
 Requester: Kris Warmann BUCK # 405
 Test Title/Description: D188 Hyge Sled Series D - Dual Stage Inflator Evaluation

Crash/HYGE Pulse Rat: _____ Simulated Speed: 30 Ft # 93

PARTS DESCRIPTION PRE-TEST OBSERVATIONS	LEFT	Airbag: _____ ms	RIGHT	Airbag: <u>20</u> ms
		Pyro Buckle: _____ ms		Pyro Buckle: <u>150</u> ms
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy	_____	Dummy	_____
	A/B	_____	A/B	<u>6043</u>
	Belt	_____	Belt	<u>P8</u>
	Seat	_____	Seat	<u>1/A</u>
	Dr. A/B PMS	_____	Dr. A/B PMS	<u>51</u>
	Tracker: power manual	_____	Tracker: power manual	<u>Manual</u>
Position: _____ Welded? Y N		Position: _____ Welded? Y N		
Instrument Panel: _____	<u>25</u>	Instrument Panel: _____		
Steering Column: _____	<u>N/A</u>	Steering Column: _____		
Pre-Test OBSERVATIONS:	_____			

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

LEFT SIDE	Upright	VB	QB	RIGHT SIDE	Upright	VB	QB
	On Seat	Off Seat	Off Seat		On Seat	Off Seat	Off Seat
A/B Intact (No Holes):							
Face to A/B							
Contact Location:							
A/B Cover Attached to Ours/Cover:							
Adj. D-ring Remain in Position:							
Retractor Intact:							
Buckle Held:							
Seat Tracks Held:							
Cracks in IP:							
Steering Wheel Deformed:							
Column Stroked w/o Interference:							
Column Stroke: Left: _____ Right: _____							
Post Test COMMENTS:	_____						
<p>BOLSTER DRIVEN INTO GLOVE BOX CAVITY - SEAT BACK TWISTED I/B</p>							
OBSERVER: _____							

HYGE Sled Test Summary

Sheet 19
3
 MATRX #

HYGE Run H: 15815 Run Date: 1/1
 Test Engineer: Mike Doran Test Auth # TA2305
 Requestor: Kris Warmann BUCK # 405
 Test Title/Description: D188 Hyge Sled Series D - Dual Stage Inflation Evaluation

Crash/HYGE Pulse Ref: _____ Simulated Speed: 31 Pin # 80

	LEFT Airbag: _____ ms	RIGHT Airbag: <u>17</u> ms	
	Pyro Buckle: _____ ms	Pyro Buckle: <u>150</u> ms	
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy _____	Dummy _____	Dummy <u>SD13</u>
	A/B _____	Belt _____	A/B <u>P3</u>
	Seat _____	Dr. A/B PWR _____	Belt <u>R3</u>
	Tractor: power manual _____	Pass. PWR _____	Seat <u>S1</u>
	Position: _____ Welded? Y N		Tractor: power <u>man</u>
	Instrument Panel: _____		Position: _____ Welded? Y <u>N</u>
	Steering Column: <u>N/A</u>		
	Pre-Test OBSERVATIONS: _____		

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

LEFT SIDE	Upright	IB	O/B	CENTER	Upright	IB	O/B	RIGHT
	On Seat	Off Seat			On Seat	Off Seat		
A/B Intact (No Holes):								
Face to A/B								
Contact Location:								
A/B Cover Attached to Can./Cover:								
Adj. D-ring Remain in Position:								
Retractor Intact:								
Buckle Held:								
Seat Tracks Held:								
Cracks in MP:								
Steering Wheel Deformed:								
Column Stroked w/o Interference:								
Column Stroke: Left: _____								

Post Test COMMENTS: _____

Belt cut into plastic cover on seat. Bolster contact w/ deformation - Bolster pushed into glove box cavity

OBSERVER: Warmann

HYGE Sled Test Summary

Sheet 20



HYGE Run # 13616 Run Date 8/22/97
 Test Engineer: Mike Down Test Auth # TA2386
 Requester: Kris Warmann BUCK # 406
 Test Title/Description: D188 Hyge Sled Series D - Dual Stage Inflator Evaluation

Crash/HYGE Pulse Rat: _____ Simulated Speed: 35 Pin # 57A

PARTS DESCRIPTION PRE-TEST OBSERVATIONS	LEFT	Airbag: _____ ms Pyro Buckle: _____ ms	RIGHT	Airbag: <u>13</u> ms Pyro Buckle: <u>17</u> ms
	LEFT	Dummy _____ A/B _____ Belt _____ Seat _____ Tracks: power manual _____ Position: _____ Welded? Y N _____	CENTER	Dummy _____ Belt _____ Dr. A/B PMS _____ Pass. FMS _____ Tracks: power manual _____ Position: _____ Welded? Y N _____
	RIGHT	Dummy <u>SONS</u> A/B <u>P2</u> Belt <u>P3</u> Seat <u>51</u> Tracks: power manual _____ Position: _____ Welded? Y N _____		
	Instrument Panel: _____ Steering Column: <u>N/A</u> Pre-Test OBSERVATIONS: _____			

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below

	LEFT			CENTER	RIGHT		
	Upright On Seat	I/B Off Seat	O/B Off Seat		Upright On Seat	I/B Off Seat	O/B Off Seat
A/B Intact (No Holes):				Y / N			
Face to A/B Contact Location:		I/B Center High	O/B Center Mid Low				
A/B Cover Attached to Can./Cover:				Y / N			
Adj. D-ring Remain in Position:				Y / N			
Retractor Intact:	Y / N		Locked:	Y / N			
Buckle Held:	Y / N		Webbing Intact:	Y / N			
Seat Tracks Held:				Y / N			
Cracks in IP:				Y / N			
Steering Wheel Deformed:				Y / N			
Column Stroked w/o Interference:				Y / N			
Column Stroke:	Left: _____			Right: _____			
Post Test COMMENTS:	<p style="font-size: 1.2em; margin-left: 20px;"><u>Seat back buckled on right side of frame.</u></p>						
OBSERVER: <u>WAV</u>							

HYGE Sled Test Summary

Sheet 21
5
 MATRIX #

HYGE Run H 18617 Run Date 8/20/97
 Test Engineer: Mike Donan Test Auth # TA2985
 Requester: Kris Warmann BUCK # 405
 Test Title/Description: DJ88 Hyge Sled Series D - Dual Stage Inflator Evaluation
 Original HYGE Pulse Ref: _____ Simulated Speed: 35 Pn # 54A

PARTS DESCRIPTION PRE-TEST OBSERVATIONS	LEFT	Airbag: _____ ms	RIGHT	Airbag: <u>17</u> ms	
	Pyro Buckle:	ms	Pyro Buckle:	<u>22</u> ms	
LEFT DUMMY	Dummy	<u>50#3</u>	RIGHT DUMMY	Dummy	<u>50#3</u>
	A/B	<u>D3</u>		A/B	<u>P3</u>
	Belt	<u>R3</u>		Belt	<u>P3</u>
	Seat	<u>S1</u>		Seat	<u>S1</u>
	Tracks: power manual	Pass. FMB _____		Tracks: power manual	Pass. FMB _____
	Position: _____	Webbed? Y N		Position: _____	Webbed? Y N
	Instrument Panel: _____			Instrument Panel: _____	
	Steering Column: _____	<u>SC2</u>		Steering Column: _____	
	Pre-Test OBSERVATIONS: _____			Pre-Test OBSERVATIONS: _____	

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

LEFT SIDE	Upright / On Seat	I/B	O/B	MID	Upright / On Seat	I/B	O/B	RIGHT	Upright / On Seat	I/B	O/B
	Y	N	Y		N	Y	N		Y	N	Y
A/B Intact (No Holes):	Y				A/B Intact (No Holes):	Y			Y		
Face to A/B		Y	N		Face to A/B		Y	N		Y	N
Contact Location:		Y	N		Contact Location:		Y	N		Y	N
A/B Cover Attached to Can./Cover:		Y	N		A/B Cover Attached to Can./Cover:		Y	N		Y	N
Adj. D-ring Remain in Position:		Y	N		Adj. D-ring Remain in Position:		Y	N		Y	N
Retractor Intact:		Y	N		Retractor Intact:		Y	N		Y	N
Buckle Held:		Y	N		Buckle Held:		Y	N		Y	N
Webbing Intact:		Y	N		Webbing Intact:		Y	N		Y	N
Cracks in IP:		Y	N		Cracks in IP:		Y	N		Y	N
Steering Wheel Deformed:		Y	N								
Column Stroked w/o Interference:		Y	N								
Column Stroke: Left: _____					Right: _____						
Post Test COMMENTS:											
<u>Passenger Side:</u>											
<u>D' Ring Bolt not tightened & came out</u>											
<u>during test</u>											
OBSERVER: <u>WAD</u>											

HYGE Sled Test Summary

6
MATRIX #

HYGE Run H 18618
Test Engineer: Mike Doran
Requester: Kris Wernann
Test Title/Description: D186 Hyge Sled Series D - Dual Stage Inflator Evaluation

Run Date 8/00/97
Test Auth # TAD885
BUCK # 408

Crash/HYGE Pulse Ref: _____ Simulated Speed: 35 Ptn # 51A

PARTS DESCRIPTIONS PRE-TEST OBSERVATIONS	LEFT	Airbag: <u>na</u>	RIGHT	Airbag: <u>17</u>	na
		Pyro Buckle: <u>na</u>		Pyro Buckle: <u>82</u>	na
	Dummy	<u>50 lbs</u>	Dummy	<u>50 lbs</u>	
	A/B	<u>03</u>	Belt	<u>02</u>	
	Belt	<u>R3</u>	Seat	<u>21</u>	
	Seat	<u>21</u>	Dr. A/B P/M		
	Tracks:	<u>power manual</u>	Pass. P/M		
	Position:	Welded? <u>Y N</u>	Position:	Welded? <u>Y N</u>	
	Instrument Panel:				
	Steering Column:	<u>EL2</u>			

Pre-Test OBSERVATIONS: _____

POST-TEST OBSERVATIONS & CHECKLIST: Comment (if needed) below

LEFT SIDE	Upright		RIGHT	Upright	
	MB On Seat	OB Off Seat		MB On Seat	OB Off Seat
A/B Intact (No Poles):	Y / N		A/B Intact (No Poles):	Y / N	
Face to A/B	MB <u>Center</u>	OB	Face to A/B	MB Center	OB
Contact Location:	<u>High</u> <u>Mid</u> <u>Low</u>		Contact Location:	High Mid Low	
A/B Cover Attached to Can./Cover:	<u>Y</u> / N		A/B Cover Attached to Can./Cover:	Y / N	
Adj. D-ring Remain in Position:	<u>Y</u> / N		Adj. D-ring Remain in Position:	Y / N	
Retractor Intact:	<u>Y</u> / N	Locked:	Retractor Intact:	Y / N	Locked:
Buckle Held:	<u>Y</u> / N	Webbing Intact:	Buckle Held:	Y / N	Webbing Intact:
Seat Tracks Held:	<u>Y</u> / N		Seat Tracks Held:	Y / N	
Cracks in MP:	<u>Y</u> / N		Cracks in MP:	Y / N	
Steering Wheel Deformed:	<u>Y</u> / N				
Column Stroked w/o Interference:	<u>Y</u> / N				
Column Stroke: Left: _____		Right: _____			

Post Test COMMENTS: _____

I/B BUCKLE ANCHOR DEFORMED
ON SEAT - BOOSTER COACHES
W/ SLIGHT DEFORMATION

OBSERVER: M...

HYGE Sled Test Summary

Sheet 23

7

MATRIX #

HYGE Run H: 18619 Run Date: 3, 27, 97
 Test Engineer: Wim Van Glabbeek Test Auth #: TA2885
 Requester: Kris Warmann BUCK #: #REF!
 Test Title/Description: D188 Hyge Sled Series D - Dual Stage Inertia Evaluation

Crash/HYGE Pulse Ref: _____ Simulated Speed: 35 Ph #: 544

	LEFT Airbag: _____ ms Pyro Buckle: _____ ms		RIGHT Airbag: _____ ms Pyro Buckle: _____ ms
PHOTO DOCUMENTATION POST-TEST CONSIDERATIONS	Dummy _____ A/B _____ Belt _____ Seat _____ Tracks: power manual _____ Position: _____ Welded? Y N _____	DUMMY Dummy _____ Belt _____ Dr. A/B P/B _____ Pass. F/M _____ Tracks: power manual _____ Position: _____ Welded? Y N _____	Dummy <u>50H3</u> A/B <u>P3</u> Belt <u>P3</u> Seat <u>S1</u> Tracks: power manual _____ Position: _____ Welded? Y N _____
	Instrument Panel: _____ Steering Column: _____ <u>N/A</u>		
	Pre-Test OBSERVATIONS: _____		

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

LEFT SIDE	Upright	IB	QB	CENTRE	Upright	IB	QB	RIGHT SIDE	
	On Seat	Off Seat	Off Seat		On Seat	Off Seat	Off Seat		
AB Intact (No Holes):				Y / N	AB Intact (No Holes):			Y / N	
Face to AB		IB	QB		Face to AB		IB	QB	
Contact Location:		High	Mid	Low	Contact Location:		High	Mid	Low
AB Cover Attached to Can./Cover:				Y / N	AB Cover Attached to Can./Cover:				Y / N
Adj. D-ring Remain in Position:				Y / N	Adj. D-ring Remain in Position:				Y / N
Retractor Intact:	Y / N			Locked:	Y / N			Locked:	Y / N
Buckle Held:	Y / N			Webbing Intact:	Y / N			Webbing Intact:	Y / N
Seat Tracks Held:				Y / N	Seat Tracks Held:				Y / N
Cracks in I/P:				Y / N	Cracks in I/P:				Y / N
Steering Wheel Deformed:				Y / N					
Column Broke w/o Interference:				Y / N					
Column Stroke: Left: _____					Right: _____				

Post Test COMMENTS:
BOLSTER CONTACT w/ SLIGHT
DEFORMATION - I/B SEAT
DEFORMATION @ BUCKLE ANCHOR

OBSERVER: [Signature]

Attachment VI.
Photographic Set-up

TA-2365
Sheet-24

PHOTOGRAPHIC REQUEST SHEET FOR TA -

Sheet 25
TA2365

TEST DESCRIPTION: D185 Hyge sled Series D - Dual Stage Inflator Evaluation

HIGH SPEED FILM COVERAGE

• ON-BUCK Cameras

<u>2</u>	Over Shoulder Head to Airbag	<u>X</u>	Left	<u>X</u>	Right
<u>2</u>	Belt "D" Ring	<u>X</u>	Left	<u>X</u>	Right
<u>2</u>	Belt Retractor	<u>X</u>	Left	<u>X</u>	Right
	Belt Buckle, Inboard		Left		Right
	Inboard Knee to I/P Contact		Left		Right
	Steering Column Stroke				
	Inner Instrument Panel				
	Dummy Roll Out		Left	Center	Right
	Seat Tracks		Lt Inbd	Lt o/b	Rt Inbd Rt o/b
	Fiber Optics				

• OTHER Camera Coverage On-BUCK

Other: _____
 Other: _____
 Other: _____
 High Speed Videos: _____

• OUTRIGGER Cameras

<u>2</u>	Overall Kinematics (RA)	<u>X</u>	Left	<u>X</u>	Right
	Knee to Bolster		Left		Right
	Chest to Steering Wheel		Left		Right
	Retractor Payout, Cross-car		Left		Right
	Lap Belt on Dummy		Left		Right
	Seat Track/Cushion		Left		Right

• OTHER Camera Coverage Outrigger

Other: _____
 Other: _____
1 High Speed Videos Overall kinematics from Right Side Outrigger
1 High Speed Videos Overall kinematics from Left Side Outrigger

• OFF-BOARD Cameras

Offboard - Floor Overall _____
 Offboard - Kinematics _____

Total On-BUCK Cameras = 6 Total OUTRIGGER Cameras = 4

STILL PHOTOGRAPHS:

<u>X</u>	Pre & Post Test Overall	<u>X</u>	Left	<u>X</u>	Right
<u>X</u>	Knee Bolster(s)	<u>X</u>	Left	<u>X</u>	Right
<u>X</u>	A/B Face Print	<u>X</u>	Left	<u>X</u>	Right
	Other: _____				
	Other: _____				
	Other: _____				
	Other: _____				

ADDITIONAL INFO:

6 Number of Runs
2 Number of High Speed Films
 VHS Copies of H.S. Films _____
 VHS Copies of H.S. Video _____
 # Still Photos 0 4" x 5"
1 Contact Sheets

Refer this to TA _____
 REQUESTER Info: Dept. No. T265
 Work Task No. F09
 TEST ENG. NAME Win Van Glabbeek
 Phone No. 308073

ADDITIONAL NOTES: Delete LHS coverage on runs 1-3, and 6

FILM ANALYSIS REQUEST SHEET FOR TA -

TA2365

FILM ANALYSIS:

- Head Disp. & Velocity wrt _____
- Shoulder Disp. & Velocity wrt _____
- El-pt Disp. & Velocity wrt _____
- Knee Disp. & Velocity wrt _____
- Other, Specify: _____

NO FILM ANALYSIS REQUIRED

Other, Specify: _____

Other, Specify: _____

Other, Specify: _____

**Final Test Report
Confidential**



Test Order No.: TA2888
Subject: 2000 D188 DUAL STAGE INFLATOR EVALUATION
Requested By: K. WARMANN
(Dept.): TSS1
Date Received: 10/21/97
Work Task No.: K09
Test Facility: HYGE
Test Dates: 10/22/97 to 10/28/97
Run Numbers: H18705 to H18710
Procedure(s): T887-106
Data Reported: 12/4/97
Page: 1 of 21

DISPOSE of Copies (Black Stamped) by:	
RETAIN Record Copy (Red Stamped) Thru:	2002
Schedule Number:	7-4-2

Objective:

To evaluate the effect of driver airbag venting and passenger airbag shape / volume on NCAP and Generic Pulse sled tests.

Summary:

Four 35 MPH and two 30 MPH (Generic Pulse) tests were conducted on the Hyge sled using one or two 50% instrumented hybrid III test dummies. The testing was conducted using the rigid front body buck (#405). The test data is retained at the Safety Laboratories Department as specified by record retention guidelines. A copy of the high speed film and test data have been given to the requester for evaluation. The still photographs are in digital format and are stored on the Safety Laboratories Department intranet home page under <http://www.safetylab.ford.com/>.

Attachments:

- I. Test Authorization
- II. Test Matrix
- III. Sled Pulse
- IV. Sled Parameters
- V. Post Test Observations
- VI. Photographic Set-Up

Concurred:


R. N. Burns
Section Supervisor
Operations Engineering
Safety Laboratories Department


W. H. Van Glabbeek
Product Test Engineer
Operations Engineering
Safety Laboratories Department

TA 2366
Sheet 2

Attachment 1.

Test Authorization

TEST AUTHORIZATION

TEST ORDER NUMBER TA2366 Sheet 3

TO: J. Kiledonk	CC: R. K. KURR G. J. CAYRE R. N. CHRISTIAN M. J. BISHOP K. J. SIMPSON J. J. PRINCE	REQUEST DATE 10-21-97	REQUESTED COMPLETION DATE 10-22-97
		REQUEST NUMBER TA2366	PROBLEM NUMBER
		REQUESTING SECTION AV2213A	

TITLE OF TEST D186 Hyge Sled Series E			PARTS DUE DATE 10-21-97
TYPE OF TEST VEHICLE _____ RENCH LABORATORY <u>X</u> OTHER	VEHICLE NUMBER OR OTHER IDENTIFICATION	VEHICLE MODEL & YEAR	PRODUCT OR ENG. LETTER
ENGINE NO. SIMPL. CASES.	TRANSMISSION	AXLE RATIO	TEST CONDUCTED TO CERTIFY CONTROL ITEM COMPLIANCE WITH GOVERNMENT REGULATIONS YES _____ NO _____
TYPE OF FUEL	CONVERTER	IGNITION TIMING	DISPOSITION OF PARTS PROCUREMENT REQUIRED? YES _____ NO _____ CODE _____
CHAMBER OIL AND CAPACITY	TIRE SIZE AND PLY RATING	REPORT CATEGORIES ENGINEERING _____ DATA _____ RAW DATA _____	MAIL REPORT TO: ROOM _____ BLDG _____
VEHICLE TEST WEIGHT FRONT _____ REAR _____ TOTAL _____	TIRE PRESSURE FRONT _____ REAR _____		

1. OBJECT OF TEST: Evaluate dual stage
2. TEST PROCEDURE: HYB-00
3. NUMBER OF SAMPLES: 1
4. KMS PER SAMPLE: 0
5. ITEMS TO BE TESTED:

PART NOS	QUANTITY
driver string	(04)

REQUESTING DEPT NO 1331	WORK ORDER/WORK TASK PO9	ISSUED/REQUESTED BY LAWMAN	PHONE 57147	APPROVALS BOLAND	TEST TYPE	RISK	SIGN-OFF DATE
----------------------------	-----------------------------	-------------------------------	----------------	---------------------	-----------	------	---------------

REQUESTERS DO NOT WRITE BELOW THIS LINE

WORK STANDARDS NUMBER	TITLE D186 Hyge Sled Series E
-----------------------	----------------------------------

LABORATORY				OPTIONAL					
TEST ORDER #	CATEGORY	COMP SECT	EST COMP DATE	REQ	TEST NUMBER INIT	UNIT CODE	TEST ORDER DATE	USER CODE	REQ CODE
TA2366	6	T637		X		HYB 181	10-21-97		
PERFORMING SECT.	HOURS	MATERIAL COST	COMP. COST	PARTS DUE DATE	EST START DATE	EST COMP DATE	STATUS	COMPLETE	
DESIGN	0	\$	\$						
ENGINEERING	0	\$	\$						
TECHNICAL	0	\$	\$						
TOTAL	0	\$	\$						

Attachment II.

Test Matrix

TA2366
Sheet 4

TAB TA2366

Author: Ed Williams
Plan: 02147

SYMBOL: 880108
DATE: 880108
REVISION: 10/8807

CUMULATIVE PARTS LIST		SYMBOL FILE	HYD QUANT	TOTAL PARTS	TOTAL PIP	TOTAL VAL	SUPP CODE	TOTAL DATE	1st Stage		2nd Stage		PART NO	PART QTY	REL	D-RING	DUMPS	APPLIES FROM COL SYSTEM AND COMMENTS	MANDATORY LEVEL										FWD	INT																	
FILE	NO								THRU	THRU	THRU	THRU							THRU	THRU	THRU	THRU	THRU	THRU	THRU	THRU	THRU	THRU			THRU	P	C	P	PL	AM	SC	ST	DL	OY	SCN						
01	01				E	PUMP		01	DEC	12	16	22	22	14	MID	Y	3	DEC	BCAP - DP, 3" DIA, 1000 lb CPN	01	01																										
01	02				PUMP		01	DEC	17	17	22	22	14	MID	Y	3	DEC	BCAP - DP, 3" DIA, 1000 lb CPN	01	01																											
02	01				PUMP		05	DEC	17	17	22	22	14	MID	Y	3	DEC	BCAP - DP, 3" DIA, 1000 lb CPN	01	01																											
04	01				PUMP		05	DEC	17	17	22	22	14	MID	Y	3	DEC	BCAP - DP, 3" DIA, 1000 lb CPN	01	01																											
00	01				PUMP		05	DEC	20	20	22	22	14	MID	N			BCAP - DP, 3" DIA, 1000 lb CPN	01	01																											
02	01				PUMP		05	DEC	22	22	22	22	14	MID	N			BCAP - DP, 3" DIA, 1000 lb CPN	01	01																											

A
A
B
B
C
C

NOTES:

Heater core handpoint must be installed
D-Ring Position 3 = MID

01 = 1700 Flange

02 = c/c 1800 (lower) w/ 1800 steel holder cover (1 1/2" protrusion (rad) WITHOUT BK Yoke
03 = c/c 1800 (upper) w/ 1800 steel holder cover

04 = AP021-F0 Dual Stage Initiator, 2000-2000 1/2" stainless steel, 0200 hole, up holder, no device vent.

05 = AP021-F0 Dual Stage Initiator, 2000-2000 1/2" stainless steel, 0200 hole, up holder, no device vent.

06 = AD021-F3 Dual Stage Initiator, 20" dia. 1000 lb CPN, coated front and back panel, 2000 1/2" stainless steel.

08 = AD021-F0 Dual Stage Initiator, 20" dia. 1000 lb CPN, coated front and back panel, 2000 1/2" stainless steel.

01 = Allot broken for 1000 lb CPN, with standard 0-1% nitrogen filling.

02 = Allot broken for 1000 lb CPN, with standard 0-1% nitrogen filling.

SCB - Production 02001 (existing column with 10" gap to 1 1/2" studs of 1 1/2" dia spaced. NO 02001 (existing)

01 = 02001 (existing)

TA2366
Sheet 5

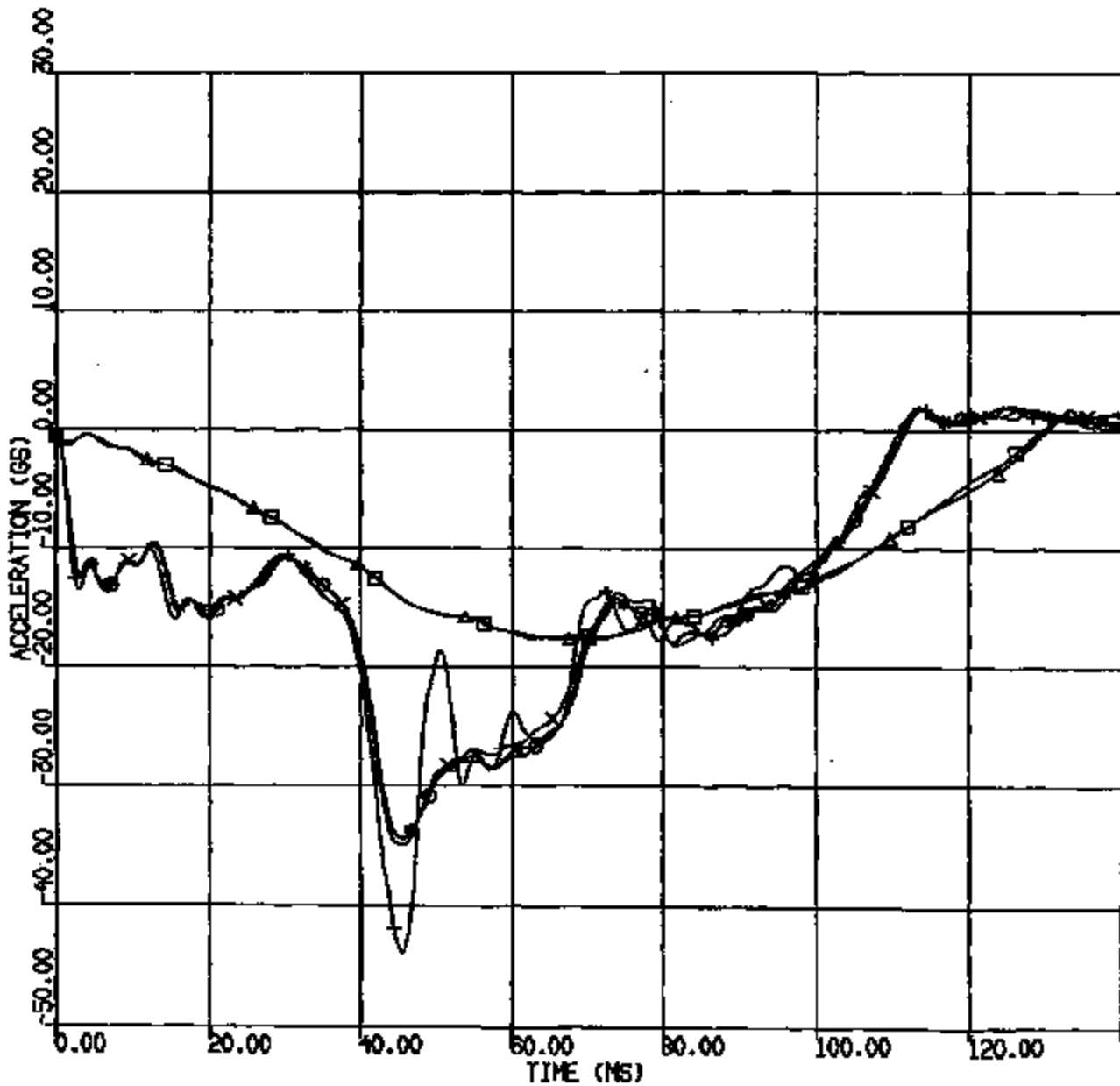
Attachment III.

Sled Pulse

TA2366
Sheet 6

ESTS H18705 H18706 H18707
 H18708 H18709 H18710
 PRIMARY SLED ACCEL LONG @ 60C

NOT REVIEWED



MS 1	(1) H18705 PRIMARY SLED ACCEL LONG 60C	MAX = 2.012 at 113.5 MS	MIN = -43.86 at 45.52 MS
MS 1	(1) H18706 PRIMARY SLED ACCEL LONG 60C	MAX = 2.034 at 125.0 MS	MIN = -31.27 at 45.60 MS
MS 1	(1) H18707 PRIMARY SLED ACCEL LONG 60C	MAX = 1.987 at 113.4 MS	MIN = -31.33 at 45.68 MS
MS 1	(1) H18708 PRIMARY SLED ACCEL LONG 60C	MAX = 2.000 at 126.0 MS	MIN = -31.83 at 45.68 MS
MS 1	(1) H18709 PRIMARY SLED ACCEL LONG 60C	MAX = 1.171 at 132.2 MS	MIN = -17.68 at 71.04 MS
MS 1	(1) H18710 PRIMARY SLED ACCEL LONG 60C	MAX = 1.374 at 132.2 MS	MIN = -17.49 at 66.00 MS

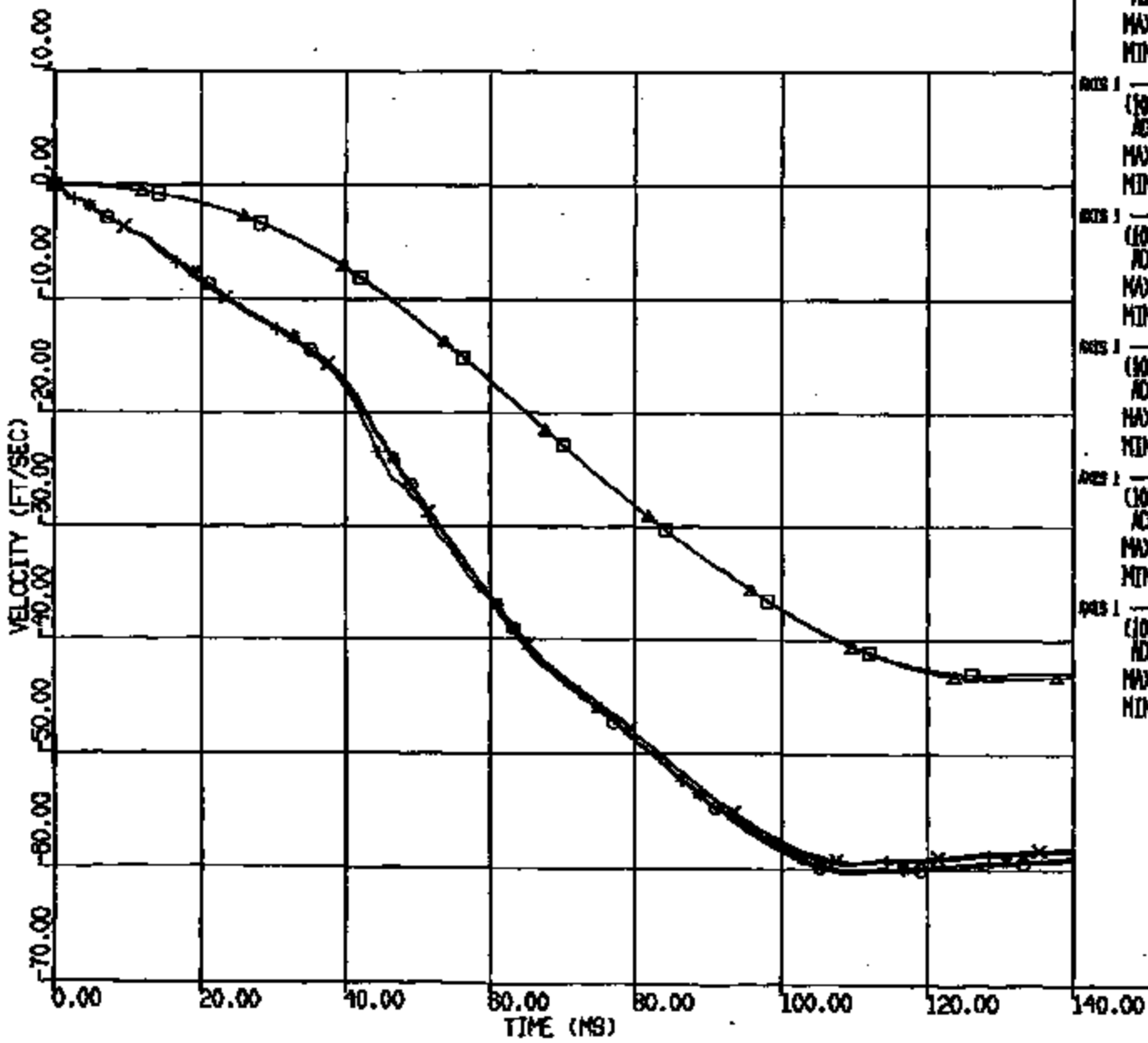
CASDS Version 1.16.14 - B-01-1998 Safety Laboratories Department, SE Unit
 CREATED: 12-APR-97 11:28:45

SLED 0022740

TR 2366
 Sheet 7

ESTS H18705 H18706 H18707
 H18708 H18709 H18710
 PRIMARY SLED ACCEL LONG VELOCITY

NOT REVIEWED



PTS 1	(10001) H18705 PRIMARY SLED ACCEL LONG INT	MAX =0.0000E+00 at 0.0000E+00 MS MIN =-59.51 at 109.3 MS
PTS 1	(10005) H18706 PRIMARY SLED ACCEL LONG INT	MAX =0.0000E+00 at 0.0000E+00 MS MIN =-60.07 at 110.2 MS
PTS 1	(10005) H18707 PRIMARY SLED ACCEL LONG INT	MAX =0.0000E+00 at 0.0000E+00 MS MIN =-60.32 at 109.8 MS
PTS 1	(10007) H18708 PRIMARY SLED ACCEL LONG INT	MAX =0.0000E+00 at 0.0000E+00 MS MIN =-59.34 at 109.9 MS
PTS 1	(10080) H18709 PRIMARY SLED ACCEL LONG INT	MAX =0.0000E+00 at 0.0000E+00 MS MIN =-43.42 at 128.6 MS
PTS 1	(10011) H18710 PRIMARY SLED ACCEL LONG INT	MAX =0.0000E+00 at 0.0000E+00 MS MIN =-43.05 at 127.2 MS

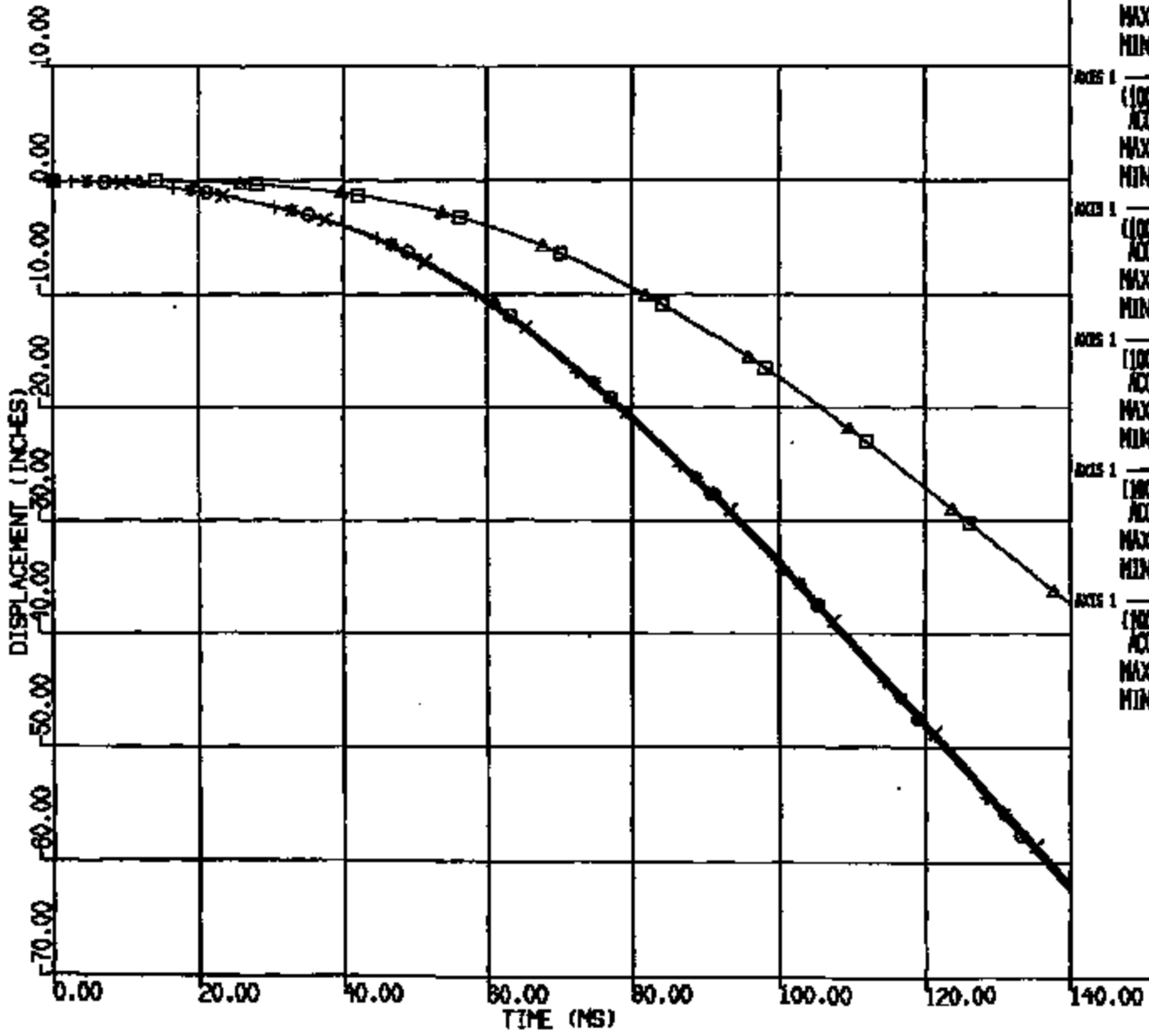
CASUS Version 1.16.14 - 8-26-1998 Safety Laboratories Department, SE Unit
 CREATED: 12-MAY-87 14:20:48

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TR 2366
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EBTS H18706 H18708 H18707
 H18708 H18709 H18710
 PRIMARY SLED ACCEL LONG DISPLACEMENT

NOT REVIEWED



ACES 1	(10002) HYDROST PRIMARY SLED ACCEL LONG INT2 MAX =0.0000E+00 at 0.0000E+00 MS MIN =-62.35 at 140.0 MS
ACES 1	(10004) HYDROST PRIMARY SLED ACCEL LONG INT2 MAX =0.0000E+00 at 0.0000E+00 MS MIN =-62.20 at 140.0 MS
ACES 1	(10006) HYDROST PRIMARY SLED ACCEL LONG INT2 MAX =0.0000E+00 at 0.0000E+00 MS MIN =-62.43 at 140.0 MS
ACES 1	(10008) HYDROST PRIMARY SLED ACCEL LONG INT2 MAX =0.0000E+00 at 0.0000E+00 MS MIN =-61.69 at 140.0 MS
ACES 1	(10010) HYDROST PRIMARY SLED ACCEL LONG INT2 MAX =0.0000E+00 at 0.0000E+00 MS MIN =-37.40 at 140.0 MS
ACES 1	(10012) HYDROST PRIMARY SLED ACCEL LONG INT2 MAX =0.0000E+00 at 0.0000E+00 MS MIN =-37.34 at 140.0 MS

CASUS Version 1.18.14 - 8-Oct-1998 Safety Laboratories Department, SE Unit
 CREATED: 12-NOV-87 14:20:50

SLED 0022742

TR 2366
 Sheet 9

TR 2366
Sheet 10

Attachment IV.

Sled Parameters

NUM #	LA. #	TEST TYPE	DATE	TIME	DATA CHANG	WINDV (MPH)	WINDD	WINDS	LOAD	SET	BRACE	BUCK#	VELOCITY (MPH)	LEFT	DUMMY SW CENTER	RIGHT	PH	INNER BNC	OUTER BNC
18705	YASAMA	DMS AHEAD DEVE	10/22/97	2013	05	3800	120	67	280	442	200	400	35	300	---	334	34A	IN	IN
18706	YASAMA	DMS AHEAD DEVE	10/22/97	1020	05	3800	120	67	280	440	200	400	35	300	---	---	34A	IN	IN
18707	YASAMA	DMS AHEAD DEVE	10/22/97	1500	05	3800	120	67	280	440	200	400	35	300	---	---	34A	IN	IN
18708	YASAMA	DMS AHEAD DEVE	10/22/97	1730	05	3800	120	67	280	440	210	400	35	300	---	334	34A	IN	IN
18709	YASAMA	DMS AHEAD DEVE	10/22/97	2000	01	3800	45	54	1000	300	130	400	30	---	---	334	08	CUT	CUT
18710	YASAMA	DMS AHEAD DEVE	10/22/97	2130	01	3800	45	54	1000	300	120	400	30	---	---	334	08	CUT	CUT

PG. 1

SLIED 0022744

TRA 2366
Blade N

TA 2366
~~Sheet~~ 12

Attachment V.
Post Test Observations

HYGE Sled Test Summary

Sheet 13

Inhibitor: Kris Wasmann
Phone: 287147

HYGE Run # 17705
Test Engineer: Wim Van Glabbeek
Requester: Kris Wasmann

Run Date 10/22/97
Test Auth # TA2388
BUCK # 408



Test Title/Description: D188 Hyge Sled Series E - Dual Stage Inhibitor Evaluation

Crash/HYGE Pulse Ref: _____ Simulated Speed: _____ Pin # _____

	LEFT	Airbag: _____ ms Pyro Buckle: _____ ms	RIGHT	Airbag: _____ ms Pyro Buckle: _____ ms
PARTS DESCRIPTIONS PRE-TEST OBSERVATIONS	Dummy	<u>B34</u>	Dummy	<u>E23</u>
	A/B	<u>DA</u>	Bel	<u>PA</u>
	Seat	<u>R4</u>	Dr. A/B PMS	<u>R4</u>
	Tractor	power <input checked="" type="checkbox"/> Welded? <input checked="" type="checkbox"/> N	Pass. PMS	power <input checked="" type="checkbox"/> Welded? <input checked="" type="checkbox"/> N
	Position:	<u>20° COLUMN ANGLE</u>		

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

LEFT SIDE	Upright On Seat	MB Off Seat	O/B Off Seat	RIGHT SIDE	Upright On Seat	MB Off Seat	O/B Off Seat
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A/B Intact (No Holes):	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N			A/B Intact (No Holes):	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N		
Face to A/B	<input checked="" type="checkbox"/> MB <input checked="" type="checkbox"/> Low			Face to A/B	<input checked="" type="checkbox"/> MB <input checked="" type="checkbox"/> Low		
Contact Location:	<input checked="" type="checkbox"/> Low			Contact Location:	<input checked="" type="checkbox"/> High		
A/B Cover Attached to Gen./Cover:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N			A/B Cover Attached to Gen./Cover:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N		
Adj. D-ring Remains in Position:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N			Adj. D-ring Remains in Position:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N		
Retractor Intact:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N			Retractor Intact:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N		
Buckle Held:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N			Buckle Held:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N		
Webbing Intact:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N			Webbing Intact:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N		
Seat Tracks Held:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N			Seat Tracks Held:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N		
Cracks in I/P:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N			Cracks in I/P:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N		
Steering Wheel Deformed:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N						
Column Stroked w/o Interference:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N						
Column Stroke:	Left: <u>18mm</u> Right: <u>23mm</u>						
Post Test COMMENTS:	<u>25° COLUMN ANGLE</u>						
	<u>TEST SEEN NORMAL</u>						
	OBSERVER: <u>[Signature]</u>						

HYGE Sled Test Summary

Sheet 14
Author: Kris Warmann
Phone: 287167

HYGE Run H 18706 Run Date 10/23/97
 Test Engineer: Wim Van Glabbeek Test Auth # TA2308
 Requester: Kris Warmann BUCK # 405



Test Title/Description: D188 Hyge Sled Series E - Dual Stage Inflator Evaluation

Crash/HYGE Pulse Ref: _____ Simulated Speed: 35 Pin # _____

PRE-TEST OBSERVATIONS	LEFT Airbag: <u>17/22</u> ms Pyro Buckle: _____ ms	RIGHT Airbag: _____ ms Pyro Buckle: _____ ms
PARTS DESCRIPTION	Dummy <u>50143</u> A/B <u>05</u> Belt <u>R3</u> Seat <u>S1</u>	Dummy _____ Belt _____ Dr. A/B FMI _____ Pass. FMI _____
	Tracks: <u>power manual</u> Position: _____ Welded? <input checked="" type="checkbox"/> N	Tracks: <u>power manual</u> Position: _____ Welded? <input type="checkbox"/> Y N
	Instrument Panel: <u>26</u>	
	Steering Column: <u>563</u>	
	Pre-Test OBSERVATIONS: <u>column angle = 20 deg</u>	

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	LEFT SIDE			RIGHT SIDE			
		Upright On Seat	Inflator Off Seat		Upright On Seat	Inflator Off Seat	
A/B Intact (No Holes):			<input checked="" type="checkbox"/> Y / N	A/B Intact (No Holes):			Y / N
Face to A/B Contact Location:		<u>FB</u>	<u>Center</u> O/B Mid Low	Face to A/B Contact Location:			High Mid Low
A/B Cover Attached to Can./Cover:			<input checked="" type="checkbox"/> Y / N	A/B Cover Attached to Can./Cover:			Y / N
Adj. D-ring Remain in Position:			<input checked="" type="checkbox"/> Y / N	Adj. D-ring Remain in Position:			Y / N
Retractor Intact:		<input checked="" type="checkbox"/> Y / N	Locked: <input checked="" type="checkbox"/> Y / N	Retractor Intact:		<input checked="" type="checkbox"/> Y / N	Locked: <input checked="" type="checkbox"/> Y / N
Buckle Held:		<input checked="" type="checkbox"/> Y / N	Webbing Intact: <input checked="" type="checkbox"/> Y / N	Buckle Held:		<input checked="" type="checkbox"/> Y / N	Webbing Intact: <input checked="" type="checkbox"/> Y / N
Seat Tracks Held:			<input checked="" type="checkbox"/> Y / N	Seat Tracks Held:			<input checked="" type="checkbox"/> Y / N
Cracks in IP:			<input checked="" type="checkbox"/> Y / N	Cracks in IP:			<input checked="" type="checkbox"/> Y / N
Steering Wheel Deformed:			<input checked="" type="checkbox"/> Y / N				
Column Stroked w/o Interference:			<input checked="" type="checkbox"/> Y / N				
Column Stroke: Left: _____				Right: _____			
Post Test COMMENTS: <u>column angle = 25 deg</u>							

OBSERVER: <u>W/HV</u>							

HYGE Sled Test Summary

20 Oct 1992
 Tester: Kite Warmann
 Form: 107147

5
 MATRIX #

HYGE Run # 18907 Run Date 10/23/92
 Test Engineer: Wm Van Glabbeek Test Auth # TA2386
 Requester: Kite Warmann BUCK # 406
 Test Title/Description: D188 Hyge Sled Series E - Dual Stage Inflator Evaluation

Crash/HYGE Pulse Rat: _____ Simulated Speed: 55 Fin # _____

	LEFT	Airbag: <u>17/22</u> ms Pyro Buckle: _____ ms	RIGHT	Airbag: _____ ms Pyro Buckle: _____ ms
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy	<u>SDR3</u>	Dummy	_____
	A/B	<u>D4</u>	Belt	_____
	Belt	<u>P3</u>	Seat	_____
	Seat	<u>S1</u>	Dr. A/B PMS	_____
	Tractor:	<u>power manual</u>	Pass. PMS	_____
	Position:	_____ Welded? <u>Y</u> N	Tractor:	<u>power manual</u>
	Instrument Panel:	<u>76</u>	Position:	_____ Welded? Y N
	Steering Column:	<u>SC3</u>	Pre-Test OBSERVATIONS: <u>Column Angle = 22 deg</u>	

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	LEFT SIDE			RIGHT SIDE		
		Upright On Seat	O/B Off Seat		Upright On Seat	O/B Off Seat
A/B Intact (No Holes):		<u>Y</u>	N	A/B Intact (No Holes):		Y / N
Face to A/B	I/B	<u>Center</u>	O/B	Face to A/B	I/B	Center O/B
Contact Location:	<u>High</u>	<u>Mid</u>	Low	Contact Location:	<u>High</u>	<u>Mid</u> Low
A/B Cover Attached to Can./Cover:		<u>Y</u>	N	A/B Cover Attached to Can./Cover:		Y / N
Adj. D-ring Remain in Position:		<u>Y</u>	N	Adj. D-ring Remain in Position:		Y / N
Retractor Intact:	<u>Y</u>	N	Locked:	Retractor Intact:	Y / N	Locked:
Buckle Held:	<u>Y</u>	N	Webbing Intact:	Buckle Held:	Y / N	Webbing Intact:
Seat Tracks Held:	<u>Y</u>	N		Seat Tracks Held:	Y / N	
Cracks in I/P:	<u>Y</u>	N		Cracks in I/P:	Y / N	
Steering Wheel Deformed:	<u>Y</u>	N				
Column Stroked w/o Interference:	<u>Y</u>	N				
Column Stroke: Left: _____ Right: _____						
Post Test COMMENTS:	<u>Column Angle 24°</u>					

Plastic piece on D'Ring came apart - D'Ring remained in correct position

OBSERVER: WAV

HYGE Sled Test Summary

Sheet 16

Inhibitor: Eric Wermann

Form: 007147

HYGE Run # 18708

Run Date 10/29/97

Test Engineer: Wim Van Glabbeek

Test Auth # TA2286

Requester: Kris Wermann

BUCK # 405



Test Title/Description: D160 Hyge Sled Series E - Dual Stage Inhibitor Evaluation

Crash/HYGE Pulse Ref: _____ Simulated Speed: 35 Pft # _____

	LEFT	Airbag: <u>17/22</u> ms Pyro Buckle: _____ ms	RIGHT	Airbag: <u>17/22</u> ms Pyro Buckle: _____ ms
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy	<u>5063</u>	Dummy	<u>5063</u>
	A/B	<u>D5</u>	Belt	<u>R4</u>
	Seat	<u>S1</u>	Di. A/B FMB	<u>S1</u>
	Tracks:	power <input checked="" type="checkbox"/> manual <input type="checkbox"/>	Pass. FMB	power <input checked="" type="checkbox"/> manual <input type="checkbox"/>
	Position:	<u>MID</u> Welded? <input checked="" type="checkbox"/> N	Position:	<u>MID</u> Welded? <input checked="" type="checkbox"/> N
Instrument Panel: _____				
Steering Column: _____				
Pre-Test OBSERVATIONS: <u>Calan Angle</u>				

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	Upright	I/B	O/B		Upright	Left	Right		Upright	I/B	O/B
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Off Seat	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	On Seat	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A/B Intact (No Holes)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Face to A/B	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Mid	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Low	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Contact Location:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Mid	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Low	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A/B Cover Attached to Can/Cover:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Adj. D-ring Remain in Position:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Retractor Intact:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Locked:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Buckle Held:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Webbing Intact:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Seat Tracks Held:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Cracks in I/P:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Steering Wheel Deformed:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Column Stroked w/o Interference:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Column Stroke:	Left: <u>18</u>		Right: <u>23</u>								
Post Test COMMENTS:	<u>Calan Angle = 24.2°</u>										
<u>SLIGHT BOLSTER CONTACT W/</u>											
<u>NO VISIBLE DEFORMATION</u>											
<u>R.H. Both Knees contact glove box</u>											
<u>cracks right center of I/P</u>											
<u>HEAVY DEFORMATION @ 1.25"</u>											
OBSERVER: <u>Rich Rangel</u>											

HYGE Sled Test Summary

Sheet 17

Initiator: Eric Wismann
Phase: 297147

HYGE Run # 18709

Run Date 10/23/97

Test Engineer: Wm Van Glabbeek

Test Auth # TA2386

Requester: Kris Wismann

BUOK # 406

5

MATRIX #

Test Title/Description: O165 Dual Stage Initiator Evaluation

Crash/HYGE Pulse Plot

Simulated Speed: 31

Pin # 93

	LEFT	Airbag: <u>2.0/1.0</u> ms Pyro Buckle: _____ ms	RIGHT	Airbag: <u>2.0/1.0</u> ms Pyro Buckle: _____ ms
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy	_____	Dummy	_____
	A/B	_____	Belt	_____
	Belt	_____		_____
	Seat	_____	Dr. A/B PMS	_____
		Tracks: power _____ Webbing: <u>Y</u>	Pass. PMS	_____
	Position: <u>MD</u>			Position: <u>MD</u>
	Instrument Panel: _____			
	Steering Column: _____			
	Pre-Test OBSERVATIONS: _____			

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	LEFT				RIGHT			
	Upright On Seat	I/B Off Seat	O/B		Upright On Seat	Left Off Seat	Right Off Seat	
A/B Intact (No Holes):	Y	N			Y	N		
Face to A/B			I/B	Center	O/B			
Contact Location:			High	Mid	Low			
A/B Cover Attached to Can/Cover:	Y	N			Y	N		
Adj. D-ring Remain in Position:	Y	N			Y	N		
Retractor Intact:	Y	N	Locked:	Y	N			
Buckle Held:	Y	N	Webbing Intact:	Y	N			
Seat Tracks Held:	Y	N			Y	N		
Cracks in I/P:	Y	N			Y	N		
Steering Wheel Deformed:	Y	N			Y	N		
Column Stroked w/o interference:	Y	N			Y	N		
Column Stroked:	Left: _____				Right: _____			
Post Test COMMENTS:	<p style="font-size: 1.2em; margin: 0;">* BOLSTER CONTACT W/ SLIGHT DEFORMATION - SEAT NORMAL TO CATCH UNDER CHIEF - ALSO DOUBLE PAINT MARK ON BAG - LOWER I/B (UNDE?)</p>							

OBSERVER: M...

HYGE Sled Test Summary

Sheet 18
 Revision: Kris Wermann
 Form 27147

HYGE Run H 18710 Run Date 10/23/97
 Test Engineer: Wim Van Glabbeek Test Auth # TA2366
 Requester: Kris Wermann BUCK # 406

6

MATRIX #

Test Title/Description: D166 Hyge Sled Series E - Dual Stage Inflator Evaluation
 Crash/HYGE Pulse Ref: _____ Simulated Speed: 30 Pin # 93

	LEFT	Airbag: <u>20/100</u> ms Pyro Buckle: _____ ms	RIGHT	Airbag: <u>20/100</u> ms Pyro Buckle: _____ ms
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy _____	Center Dummy _____	Dummy _____	
	A/B _____	Belt _____	A/B _____	
	Seat _____	Dr. A/B PMP _____	Seat _____	
	Tracks: power manual _____	Pass. PMP _____	Tracks: power <u>MANUAL</u>	
	Position: _____	Welded? Y N _____	Position: _____	Welded? <u>Y</u> N
	Instrument Panel: _____			
	Steering Column: _____			
	Pre-Test OBSERVATIONS: _____			

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	LEFT SIDE			CENTER			RIGHT SIDE			
	Upright	I/B	O/B	Upright	Left	Right	Upright	I/B	O/B	
	On Seat	Off Seat		On Seat	Off Seat		On Seat	Off Seat		
A/B Intact (No Holes):			Y / N				A/B Intact (No Holes):		<u>O</u> / N	
Face to A/B		I/B	Center	O/B			Face to A/B		I/B	
Contact Location:		High	Mid	Low			Contact Location:		High	
A/B Cover Attached to Can/Cover:			Y / N				A/B Cover Attached to Can/Cover:		<u>O</u> / N	
Adj. D-ring Remain in Position:			Y / N				Adj. D-ring Remain in Position:		<u>Y</u> / N	
Retractor Intact:	Y / N		Locked:	Y / N			Retractor Intact:	<u>Y</u> / N	Locked:	
Buckle Held:	Y / N		Webbing Intact:	Y / N			Buckle Held:	<u>Y</u> / N	Webbing Intact:	
Seat Tracks Held:			Y / N				Seat Tracks Held:	<u>Weld</u>	Y / N	
Cracks in UP:			Y / N				Cracks in UP:		Y / N	
Steering Wheel Deformed:			Y / N							
Column Stroked w/o Interference:			Y / N							
Column Stroke: Left: _____							Right: _____			
Post Test COMMENTS: _____										
<p>BOLSTER DEFORMATION - GLOVE BOX OPENED - SEAT NORMAL - I/B EDGE OF SEAT TRACK RENT BEAR ON REBOUND</p>										
								OBSERVER: <u>MW</u>		

Attachment VI.
Photographic Set-up

TR 2366
Sheet 19

PHOTOGRAPHIC REQUEST SHEET FOR
TEST DESCRIPTION: D186-Dual Stage Inflator Evaluation

TA2366

Initiator: Kris Wermann

~~XR~~ ~~20~~

Phone: x87147

HIGH SPEED FILM COVERAGE

• ON-BUCK Cameras:

2	Over Shoulder Head to Airbag	<input checked="" type="checkbox"/>	Left	<input checked="" type="checkbox"/>	Right
2	Belt "D" Ring (Runs 1 - 4 only)	<input checked="" type="checkbox"/>	Left	<input checked="" type="checkbox"/>	Right
2	Belt Retractor (Runs 1 - 4 only)	<input checked="" type="checkbox"/>	Left	<input checked="" type="checkbox"/>	Right
	Belt Buckle, Inboard		Left		Right
	Inboard Knee to IP Contact		Left		Right
	Steering Column Stroke				
	Inner Instrument Panel				
	Dummy Roll Out		Left	Center	Right
	Seat Tracks		Lt Inbd	Lt o/b	Rt Inbd Rt o/b
	Fiber Optics				

- OTHER Camera Coverage On-BUCK

Other: _____

1 Other: Passenger head to windshield contact from front of buck (only on runs 5 and 6)

Other: _____

High Speed Video:

• OUTRIGGER Cameras:

2	Overall Kinematics (F/A)	<input checked="" type="checkbox"/>	Left	<input checked="" type="checkbox"/>	Right
	Knee to Bolster		Left		Right
	Chest to Steering Wheel		Left		Right
	Retractor Payout, Cross-car		Left		Right
	Lap Belt on Dummy		Left		Right
	Seat Track/Cushion		Left		Right

- OTHER Camera Coverage Outrigger

Other: _____

Other: _____

1 High Speed Video: Driver overall kinematics

1 High Speed Video: Passenger overall kinematics

• OFF-BOARD Cameras

Offboard - Floor Overall _____

Offboard - Kinematics _____

Total On-BUCK Cameras =	7	Total OUTRIGGER Cameras =	4
-------------------------	---	---------------------------	---

DIGITAL STILL PHOTOGRAPHS:

<input checked="" type="checkbox"/>	Pre & Post Test Overall	<input checked="" type="checkbox"/>	Left	<input checked="" type="checkbox"/>	Right
	Knee Bolster(s)		Left		Right
<input checked="" type="checkbox"/>	A/B Face Print	<input checked="" type="checkbox"/>	Left	<input checked="" type="checkbox"/>	Right
	Other: _____				
	Other: _____				
	Other: _____				
	Other: _____				

ADDITIONAL INFO:

6	Number of Runs
1	Requestor High Speed Films
1	Safety Lab High Speed Films
0	VHS Copies of H.E. Films
0	VHS Copies of H.S. Video

Refer this to TA	
Requestor Infr:	Dept. Name
	Dept. No.
	Work Task No.
	Requestor
	Phone No.
	Vehicle Safety and CAE
	7351
	POB
	Kris Wermann
	x87147

Additional Comments: _____

FILM ANALYSIS REQUEST SHEET FOR

TA2366

Instructor: Kris Wernman
Phone: 257147

Sheet 21

FILM ANALYSIS:

Head Disp. & Velocity wrt _____

Shoulder Disp. & Velocity wrt _____

El-yt Disp. & Velocity wrt _____

Knee Disp. & Velocity wrt _____

Other, Specify: _____

Other, Specify: _____

Other, Specify: _____

Other, Specify: _____

**Final Test Report
Confidential**

Test Order No.: TA5932
Subject: 2000 D166 DUAL STAGE INFLATOR EVALUATION
Requested By: K. WARMANN
(Dept.): T651
Date Received: 12/18/97
Work Task No.: F08
Test Facility: HYGE
Test Dates: 12/17/97
Run Numbers: H18855 to H18858
Procedure(s): T857-110
Date Reported: 1/20/98
Page: 1 of 28



DISPOSE of Copies (Black Stamped) by:	
RETAIN Record Copy (Red Stamped) thru:	0003
Schedule Number:	7-4-21

Objective:

Evaluate the effect of driver airbag venting and passenger airbag shape and volume on NCAP and Generic Pulse sled results.

Summary:

Three 35 MPH and two 30 MPH (Generic pulse) tests were conducted on the Hyge sled using either one or two 80% instrumented hybrid III test dummies. The testing was conducted using both the D166/DN101 rigid front body buck (#405). The test data is retained at the Safety Laboratories Department as specified by record retention guidelines. A copy of the high speed film and test data have been given to the requester for evaluation. The still photographs are in digital format and are stored on the Safety Laboratories Department intranet home page under <http://www-safetylab.ford.com/>.

- Attachments:**
- I. Test Authorization
 - II. Test Matrix
 - III. Sled Pulse
 - IV. Sled Parameters
 - V. Post Test Observations
 - VI. Dummy Positioning
 - VII. Photographic Set-Up

Concur:



R. N. Burns
Section Supervisor
Operations Engineering
Safety Laboratories Department


W. H. Van Glabbeek
Product Test Engineer
Operations Engineering
Safety Laboratories Department

TA 5932
Sheet 2

Attachment I.

Test Authorization

 GTO Test Request		Requester/Coordinator (PROPS ID): KWARMANN	
		KRS WARMANN	
Testing Activity: HYGE and VIA sled	Date Submitted: 08-DEC-87	Requested Completion Date: 18-DEC-87	Requestor Reference Number: 1
Test Procedure Number: HYG-00	Test Title and / or Subject of Test: D188 Hyge Sled Series F (Part 1)		
Requestor Dept No.: T851 AV2215A	Workorder/Work Order Number: F88	Test conducted to certify control item compliance with Government Regulations: Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/>	
Requestor PROPS I.D.: KWARMANN	Requestor Name: KRS WARMANN		
Complete the following two questions as indicated 1 - Rational for not replacing this test by CAE Analysis: <input type="checkbox"/> No CAE Methodology or process available <input type="checkbox"/> For CAE Correlation <input type="checkbox"/> Insufficient confidence in CAE <input type="checkbox"/> To obtain basic data for CAE <input type="checkbox"/> Replacement or improvement of existing Test <input type="checkbox"/> Testing is Cheaper <input type="checkbox"/> Mandatory or Regulatory <input type="checkbox"/> Certification <input type="checkbox"/> Development test for F88 <input type="checkbox"/> Not applicable Other: xxx (Check appropriate boxes)		2 - What is the expected Test Outcome: <input type="checkbox"/> Results will meet DVP/WCA requirements <input type="checkbox"/> System Component will not meet Test specification <input type="checkbox"/> Unknown <input type="checkbox"/> Above is Based on CAE? Other: xxx (Check appropriate boxes)	
Test Purpose/Test Procedure or Description of Test: Evaluate dual stage HYGE Test Procedure T857-110			
Signature Approvals (As Required for Control Purposes): Requesting Engineer: <u>KRS WARMANN</u> Testing Engineer: <u>WIM VAN GLABBEK</u> Requesting Supervisor/Manager: <u>JEN BOLAND</u> Testing Supervisor: <u>RICHARD BURNS</u>			

TA 5932
Sheet 4

Attachment II.

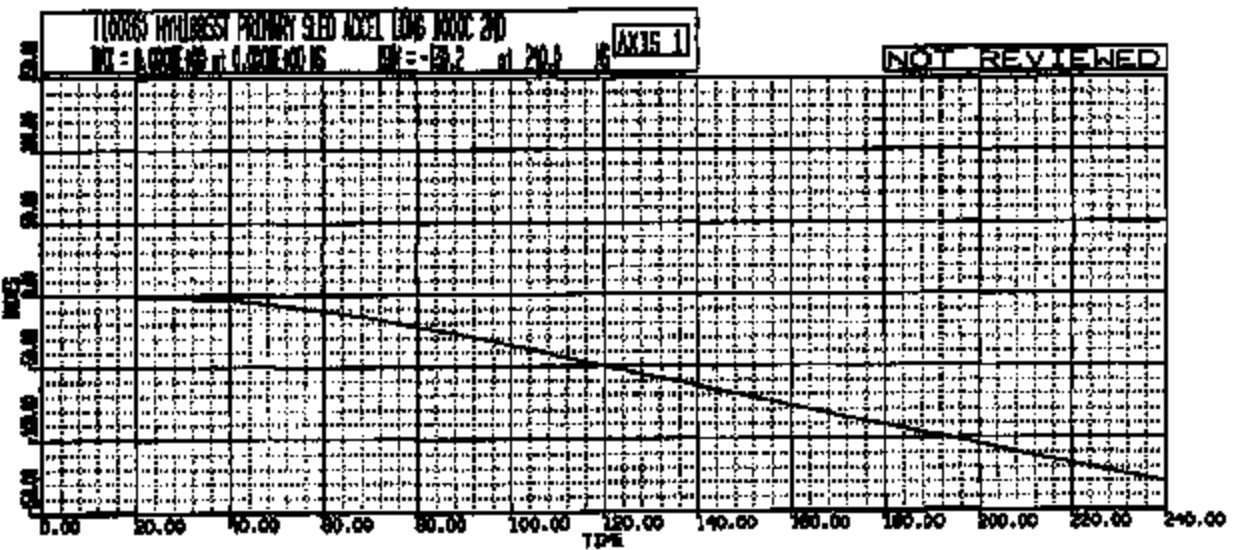
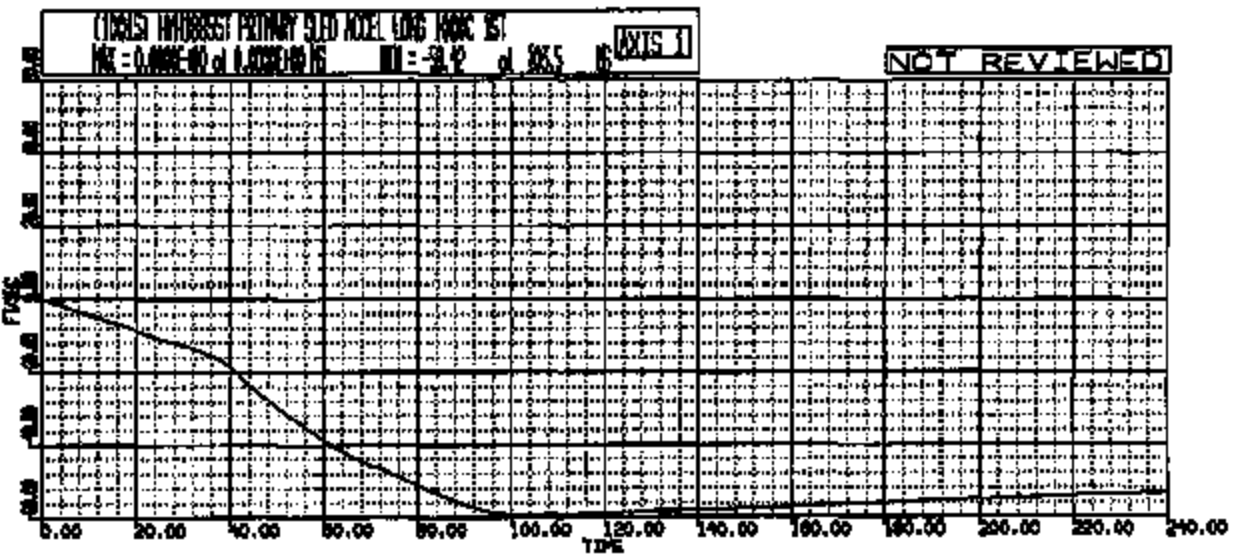
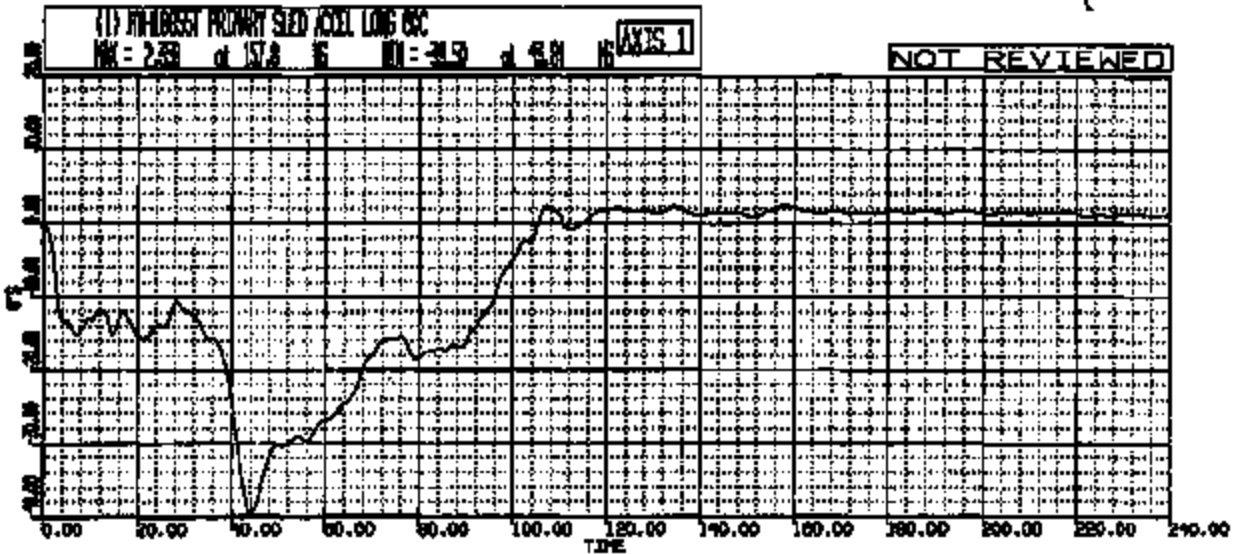
Test Matrix

IA5932
Sheet 6

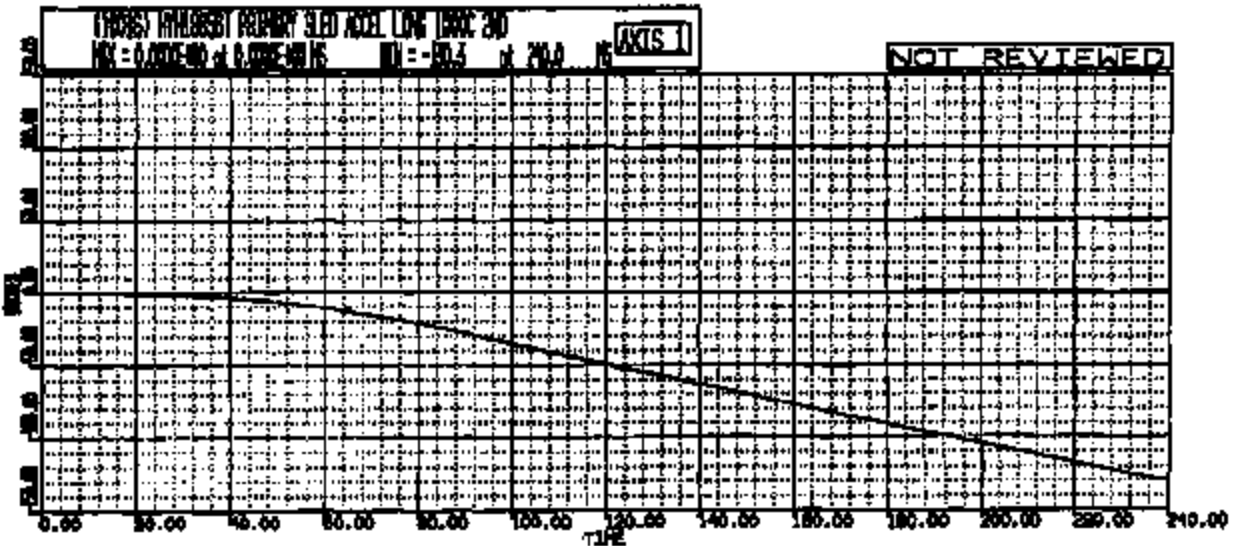
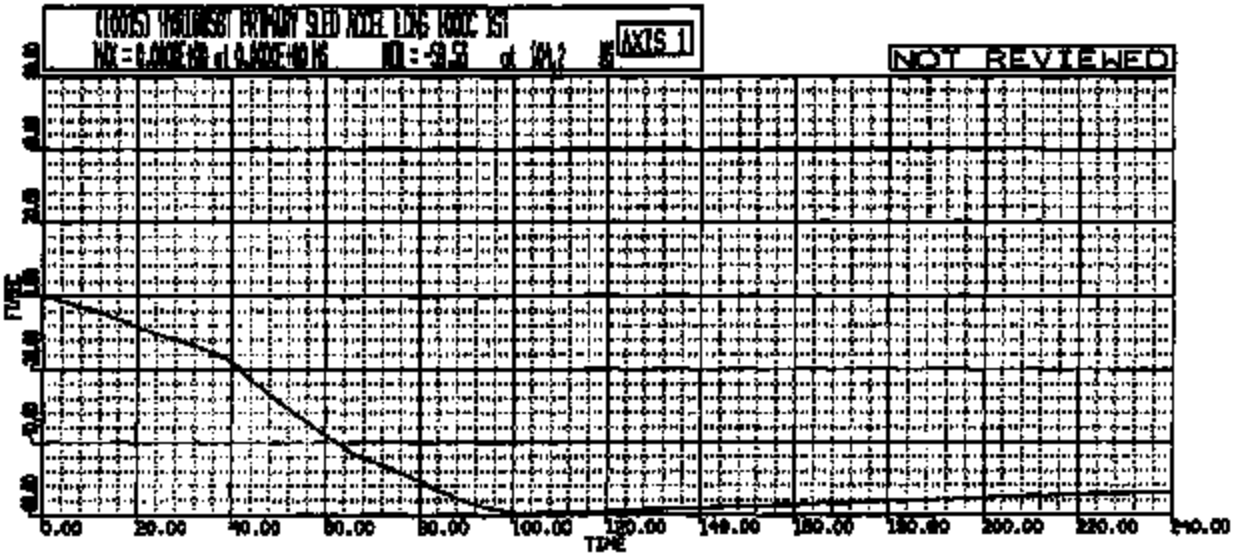
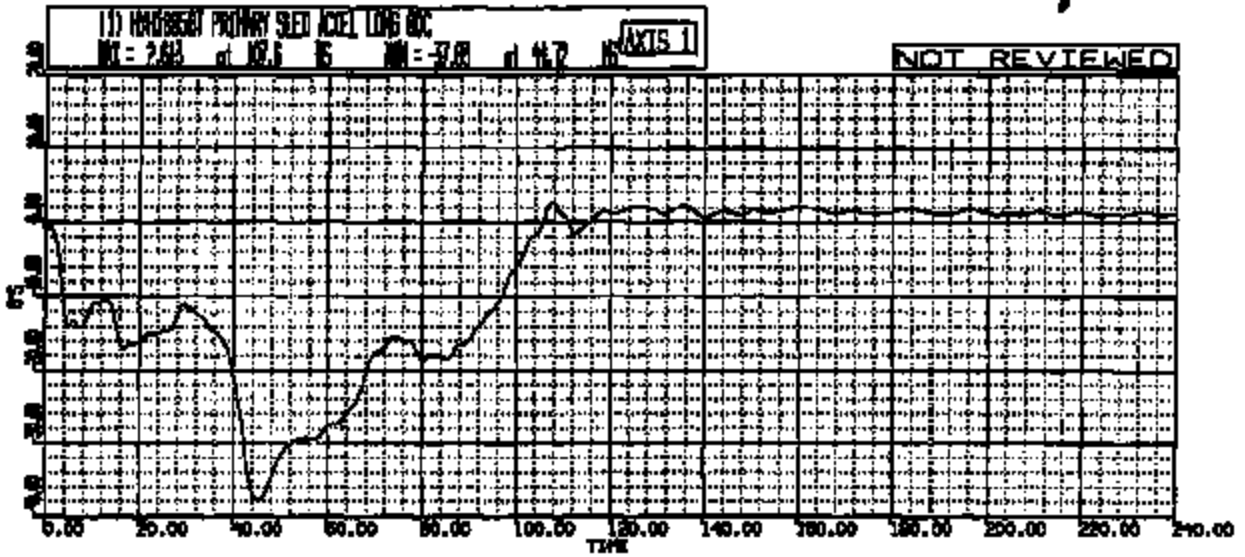
Attachment III.

Sled Pulse

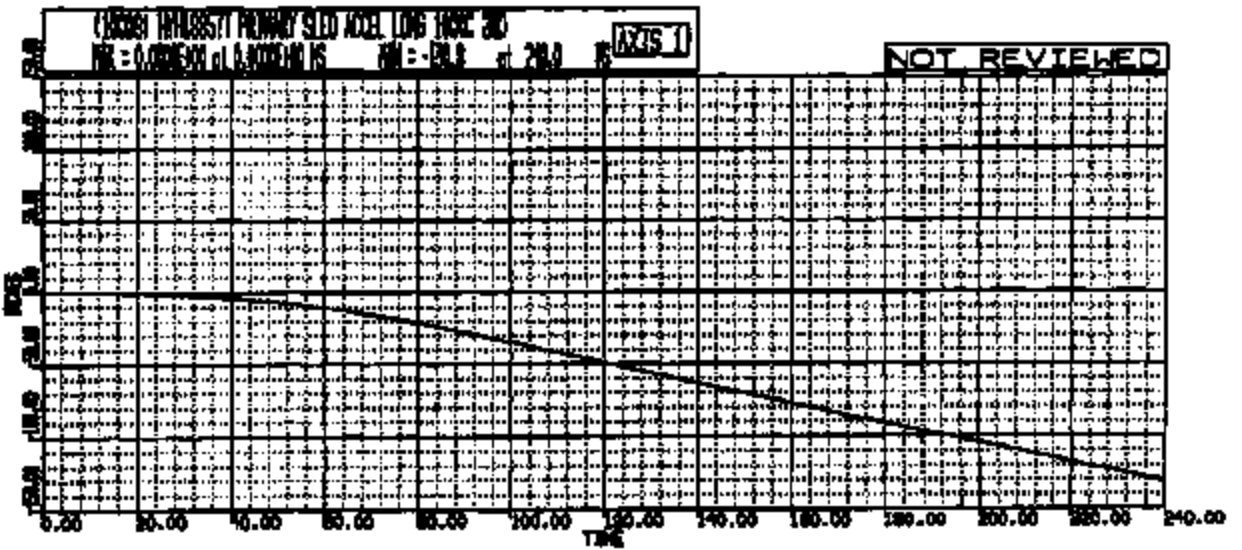
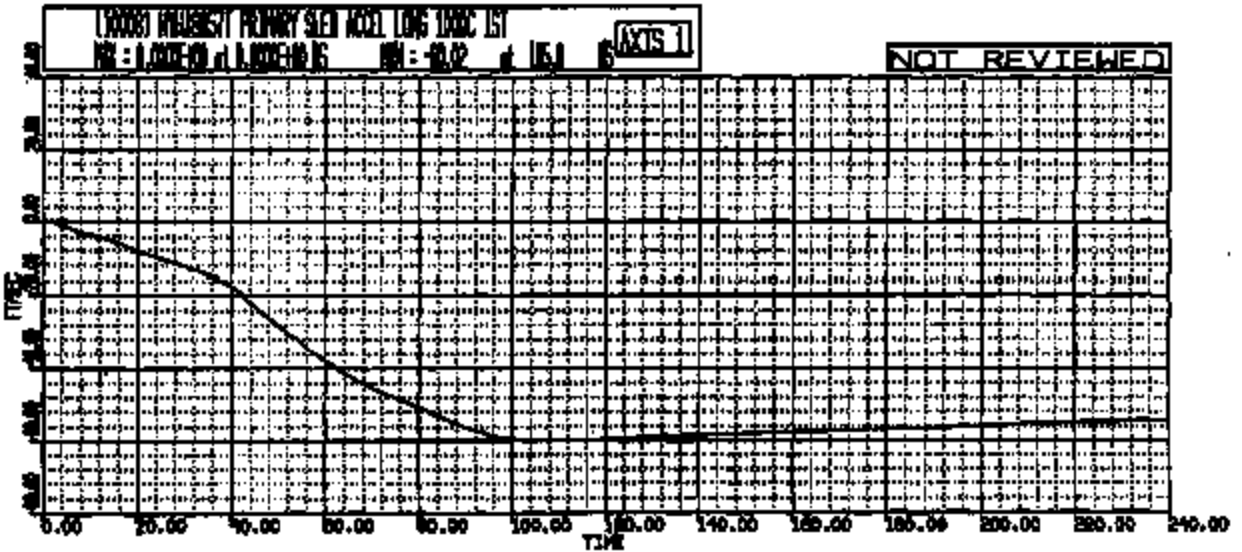
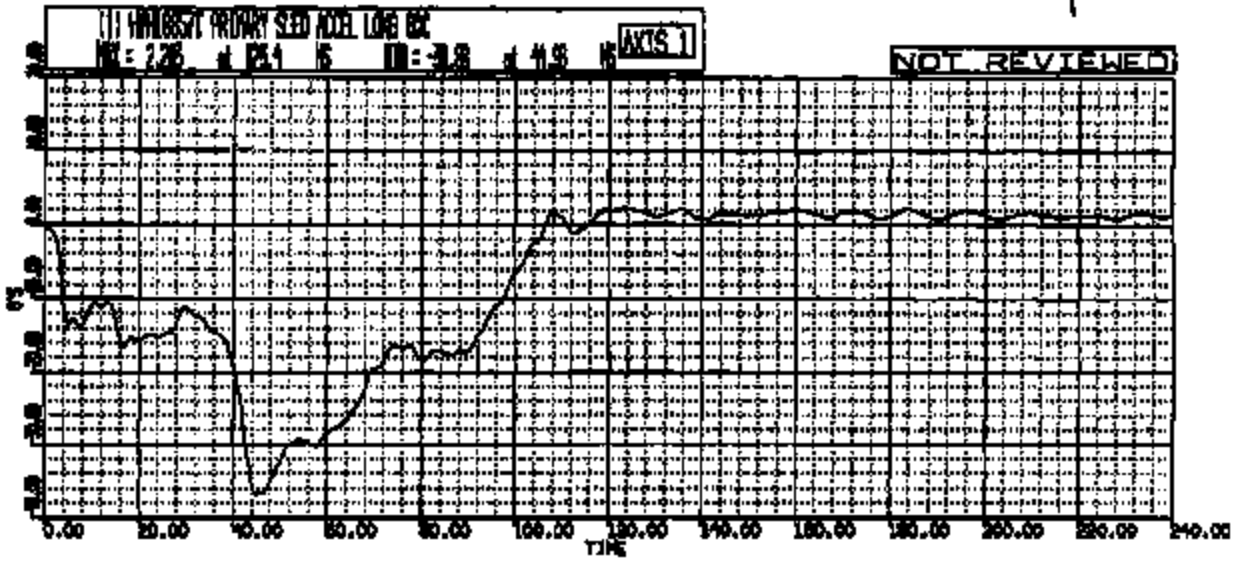
MY R: H18855 TO: TA5932A DATE: 971217 10:59:04
2000 D106



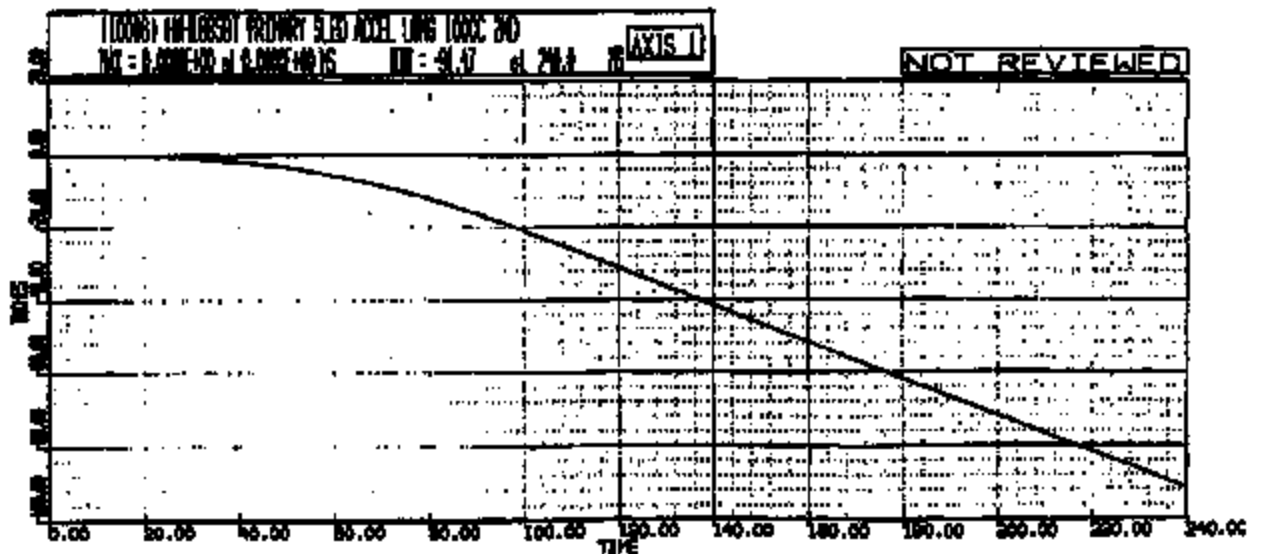
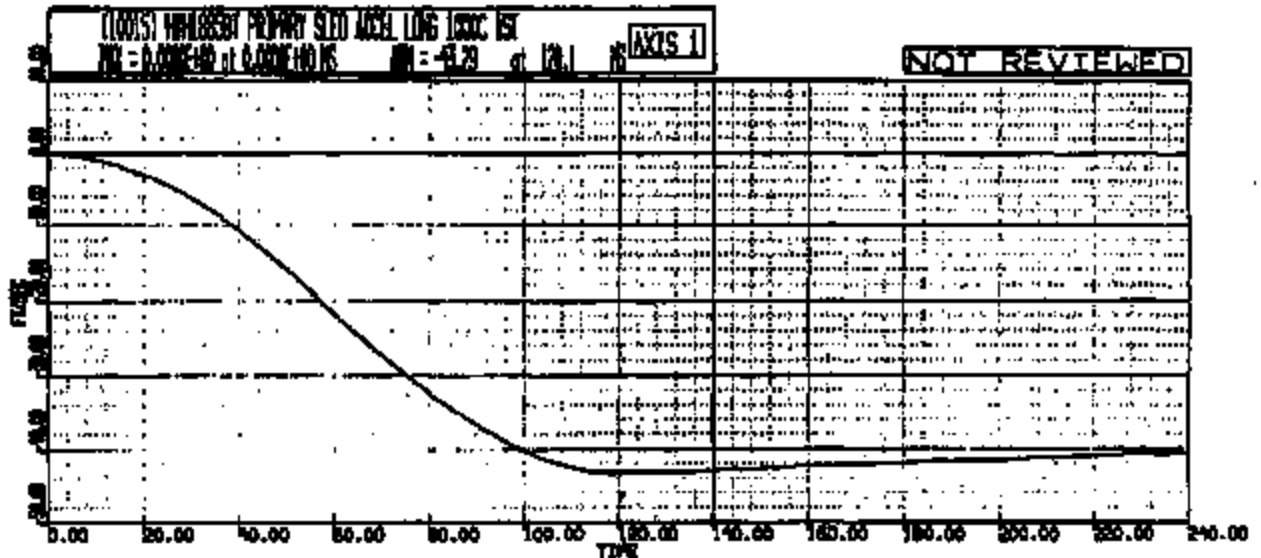
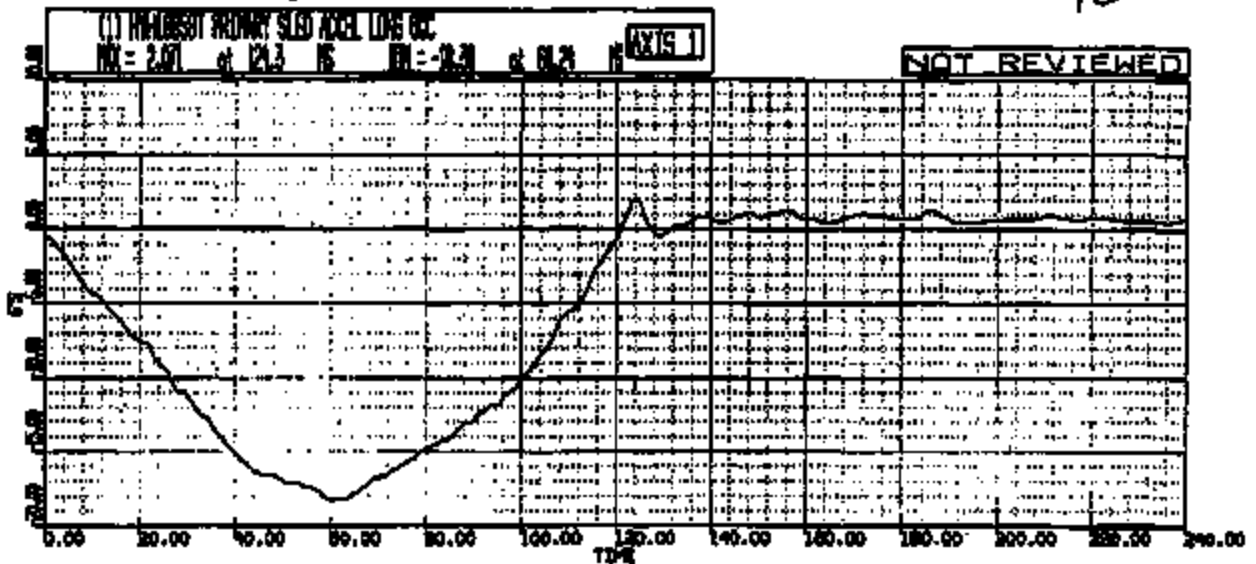
U/R: H16888 TO: TAS932A DATE: 97-12-17 15:59:43
2000 D186



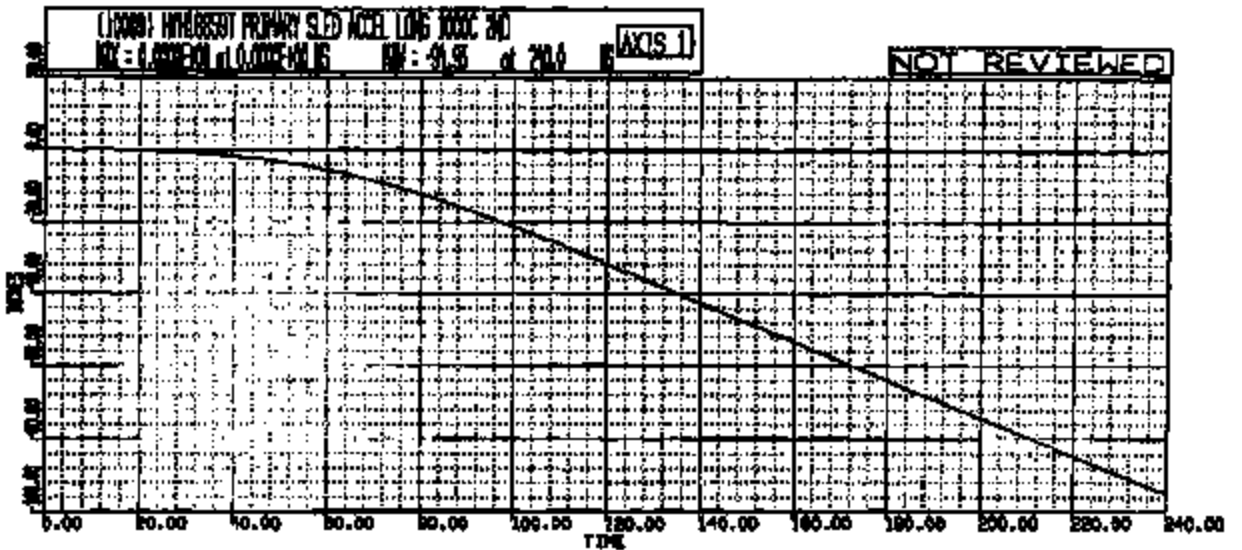
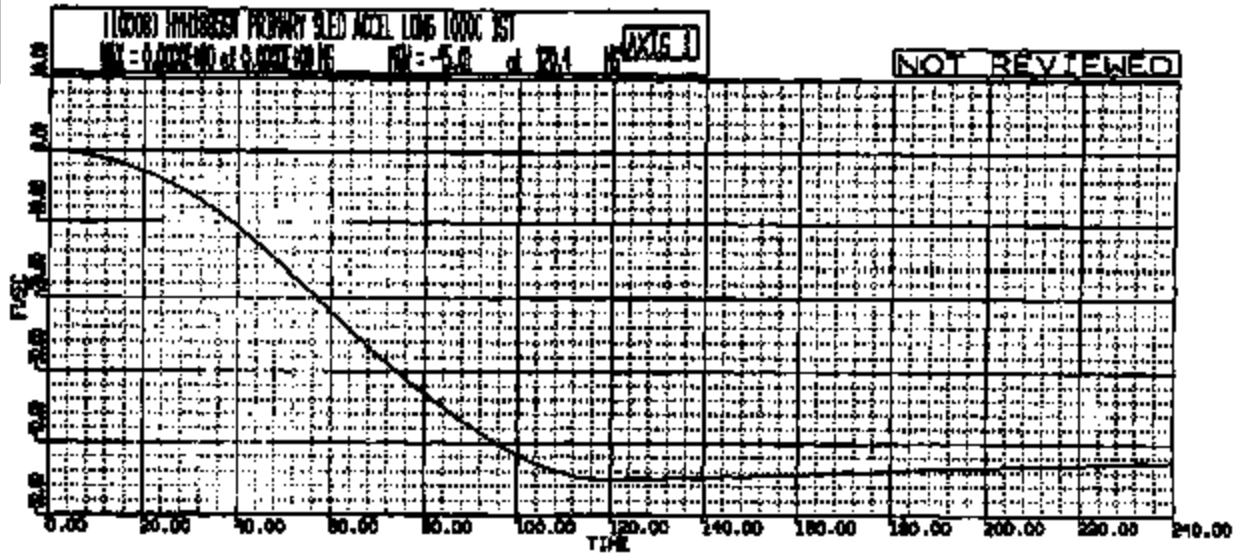
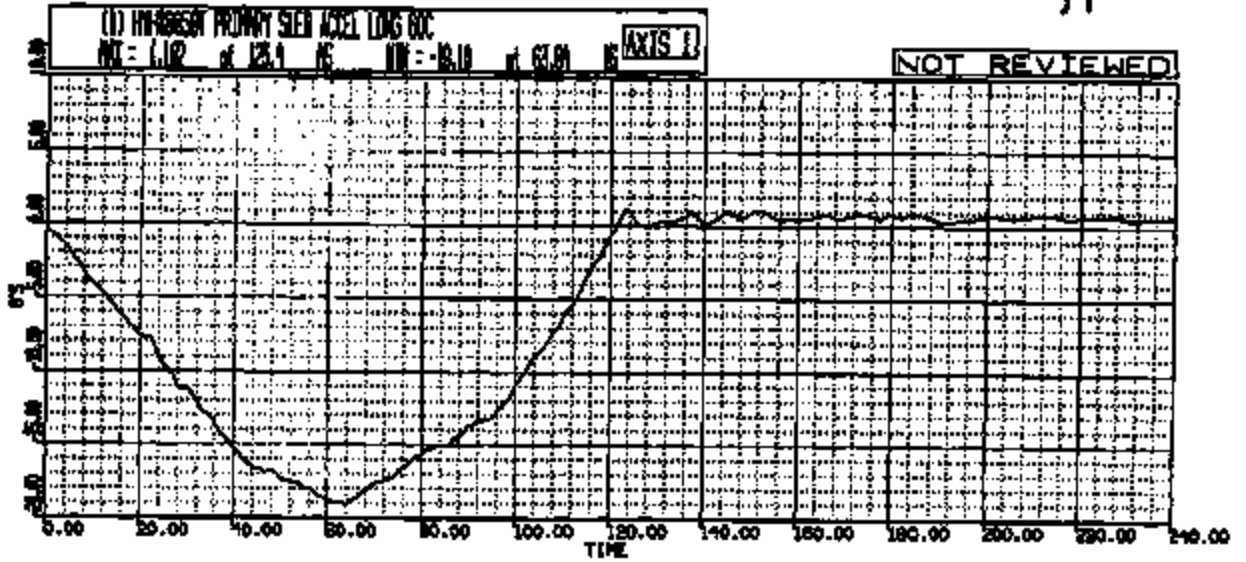
MY R: H16857 TO: TA5932B DATE: 071417 18:26:17
2000 D188



HY R: H18858 TO: TA5932C DATE: 971217 19:16:51
2000 D188



NY R: H19859 TO: TA5932D DATE: 971217 22:18:52
2000 D160



Attachment IV.

Sled Parameters

TA 5932
Sheet 12

TRN#	T.A.#	TEST TYPE	DATE	TIME	DATA CRANK	WEIGHT (LBS)	HPC/L	SHOCK	LOAD	SET	WRAKE	SLICK#	VELOCITY (MPH)	LEW	CURRY IN CENTER	NOSE	FIN	INNER RING	OUTER RING
1805	1803A	DAS AIRING DEVL	12/17/99	2207	66	6007	130	61	2885	480	274	405	25	320		320	64A	IN	IN
1806	1803A	DAS AIRING DEVL	12/17/99	2237	66	6007	130	61	2888	480	275	405	25	320		320	64A	IN	IN
1807	1803A	DAS AIRING DEVL	12/17/99	2246	66	6007	130	61	2796	461	260	405	25	320		320	64A	IN	IN
1808	1803A	DAS AIRING DEVL	12/17/99	2248	60	5997	80	64	1999	288	138	405	30	320		320	65	CUT	CUT
1809	1803A	DAS AIRING DEVL	12/17/99	2216	31	2530	68	64	1380	311	128	405	30	320		320	65	CUT	CUT

SLEED 0023303

TR 5932
 8000 X 93

TA 5932
Sheet 14

Attachment V.

Post Test Observations

HYGE Sled Test Summary

Sheet 15

Initiator: Kilo Whistle
Pulse: 187147

HYGE Run # 18855 Run Date 12/17/97
 Test Engineer: Wim Van Glabbeek Test Auth # TAB032
 Requester: Kris Warmann BUCK # 405
 Test Title/Description: D188 Dust Stage Indicator Evaluation

1
MATRIX #

Crash/HYGE Pulse Ref: _____ Simulated Speed: 35 Pin # 344

	LEFT	Airbag: <u>17/22</u> ms Pyro Buckle: _____ ms	RIGHT	Airbag: <u>17/22</u> ms Pyro Buckle: _____ ms
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy	<u>6543</u>	Dummy	<u>6213</u>
	A/B	<u>DK</u>	Belt	<u>P/S</u>
	Belt	<u>R4</u>	Belt	<u>R4</u>
	Seat	<u>S1</u>	Seat	<u>S1</u>
	Tracks:	<u>power manual</u>	Dr. A/B FM	<u>power manual</u>
			Pass. FM	
	Position:	<u>Welded? Y N</u>	Position:	<u>Welded? Y N</u>
	Instrument Panel:	<u>26</u>		
	Steering Column:	<u>SL3</u>		
	Pre-Test OBSERVATIONS:	_____		

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	LEFT	Upright On Seat	Left Off Seat	RIGHT	Upright On Seat	Right Off Seat
LEFT SIDE	A/B Intact (No Holes):	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Face to A/B	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Contact Location:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	A/B Cover Attached to Can/Cover:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Adj. D-ring Remain in Position:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Retractor Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Buckle Held:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Seat Tracks Held:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Cracks in IP:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Steering Wheel Deformed:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Column Stroke: Left:	_____		Right:	_____		
Post Test COMMENTS:	_____					

OBSERVER: WJH

HYGE Sled Test Summary

Sheet 16

Initiator Krs Wamann

Phone: 287147

HYGE Run # 18856

Run Date 12/17/97

Test Engineer: Wim Van Glabbeek

Test Auth # TAB932

Requester: Kris Wamann

BUCK # 405

2

MATRIX #

Test Title/Description: D188 Dual Stage Initiator Evaluation

Crash/HYGE Pulse Rat: _____

Simulated Speed: 35

Pin # 54A

	LEFT	Airbag: <u>17/22</u> ms Pyro Builde: _____ ms	RIGHT	Airbag: <u>17/22</u> ms Pyro Builde: _____ ms
PARTS DESCRIPTION Pre-Test Observations	Dummy	<u>50/3</u>	Dummy	<u>60/3</u>
	A/B	<u>09</u>	Belt	<u>#14</u>
	Belt	<u>R4</u>	Belt	<u>R4</u>
	Seat	<u>31</u>	Seat	<u>31</u>
	Tracks: power manual	_____	Tracks: power manual	_____
	Position: _____	Welded? <u>Y</u> <u>N</u>	Position: _____	Welded? <u>Y</u> <u>N</u>
	Instrument Panel: _____	<u>IK</u>	Instrument Panel: _____	_____
	Steering Column: _____	<u>AC 3</u>	Steering Column: _____	_____
	Pre-Test OBSERVATIONS: _____		Pre-Test OBSERVATIONS: _____	
	Pre-Test OBSERVATIONS: _____		Pre-Test OBSERVATIONS: _____	

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	Upright	IB	QB	Upright	Left	Right	Upright	IB	QB
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	On Seat	Off Seat	Off Seat	On Seat	Off Seat	Off Seat	On Seat	Off Seat	Off Seat
A/B Intact (No Holes):	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Face to A/B	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Contact Location:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A/B Cover Attached to Can./Cover:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Adj. D-ring Remain in Position:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Retractor Intact:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Buckle Held:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Seat Tracks Held:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Cracks in IP:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Steering Wheel Deformed:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Column Stroked w/o Interference:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Column Stroke: Left: _____			Right: _____						

Post Test COMMENTS:

Passenger side IP at bottom of bag on right side
cracked.

OBSERVER: 1/1/1

HYGE Sled Test Summary

Sheet 17

Mission: Kris Wammern
Phone: 297147

HYGE Run H 10357 Run Date 02/17/97
 Test Engineer: Wim Van Glabbeek Test Auth # TA6082
 Requester: Kris Wammern BUCK # 408
 Test Title/Description: D186 Dual Stage Inflator Evaluation

3

MATRX #

Crash/HYGE Pulse Ref: _____ Stimulated Speed: 25 Pin # 544

	LEFT		RIGHT
AIRBAG	Airbag: <u>17/22</u> ms		Airbag: _____ ms
PYRO	Pyro Builde: _____ ms		Pyro Builde: _____ ms
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy <u>3043</u>	DUMMY	Dummy _____
	A/B <u>D10</u>	BELT	Belt _____
	Belt <u>R4</u>	DR. A/B FMS	_____
	Seat <u>S1</u>	PASS. FMS	_____
	Tracks: <u>power manual</u>	POSITION:	Tracks: _____
	Position: <u>MED</u> Welded? <u>(Y) N</u>	POSITION:	Welded? <u>Y N</u>
	Instrument Panel: <u>26</u>		
	Steering Column: <u>663</u>		
Pre-Test OBSERVATIONS: <u>steering column angle: 20°</u>			

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

		LEFT			RIGHT		
		Upright	I/B	O/B	Upright	I/B	O/B
		On Seat	Off Seat	On Seat	Off Seat	On Seat	Off Seat
LEFT SIDE	A/B Intact (No Holes):	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			
	Face to A/B		I/B <u>Center</u>		O/B		
	Contact Location:		<u>High</u> Mid Low				
	A/B Cover Attached to Can/Cover:	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			
	Adj. D-ring Remain in Position:	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			
	Retractor Intact:	<u>DLN</u>		Locked:	<input checked="" type="checkbox"/>		
	Buckle Held:	<input checked="" type="checkbox"/>		Webbing Intact:	<input checked="" type="checkbox"/>		
	Seat Tracks Held:	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>		
	Cracks in MP:				<input checked="" type="checkbox"/>		
	Steering Wheel Deformed:				<input checked="" type="checkbox"/>		
	Column Stroked w/o interference:				<input checked="" type="checkbox"/>		
	Column Stroke: Left: _____ Right: _____						

Post Test COMMENTS: STEERING COLUMN ANGLE 21°

Steering Column string pot bracket came off during test.

OBSERVER: *[Signature]*

HYGE Sled Test Summary

Sheet 18

Initiator: Kris Werners
Form: 2871-01

HYGE Run # 18858

Run Date 12/17/97

Test Engineer: Wim Van Glabbeek

Test Auth # TAB982

Requester: Kris Werners

BUCK # 406

4

MATRIX #

Test Title/Description: D185 Dual Stage Inflator Evaluation

Crash/HYGE Pulse Ref: _____

Simulated Speed: 80 Km/h

Pl # 93

	LEFT	Airbag: <u>20ms</u> ms Pyro Buckle: _____ ms	RIGHT	Airbag: <u>20ms</u> ms Pyro Buckle: _____ ms
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy	<u>50 H3</u>	Dummy	<u>50 H3</u>
	A/B	<u>DG</u>	Belt	<u>P12</u>
	Belt	<u>NA</u>	Belt	<u>NA</u>
	Seat	<u>51</u>	Seat	<u>51</u>
	Tracks: <u>power manual</u>		Tracks: <u>power manual</u>	
	Position: <u>MID</u> Welded? <u>Y</u> N		Position: <u>MID</u> Welded? <u>Y</u> N	
	Instrument Panel: _____			
	Steering Column: _____			
	Pre-Test OBSERVATIONS: _____			

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	LEFT	Upright	IB	O/B	RIGHT	Upright	Left	Right	Upright	IB	O/B
		On Seat	On Seat	Off Seat		On Seat	Off Seat	Off Seat	On Seat	Off Seat	Off Seat
A/B Intact (No Holes):											<u>Y</u> N
Face to A/B			<u>Y</u>	<u>Center</u>						<u>Y</u>	<u>Center</u>
Contact Location:			<u>Mid</u>	<u>Low</u>						<u>Mid</u>	<u>Low</u>
A/B Cover Attached to Can/Cover:											<u>Y</u> N
Adj. D-ring Remain in Position:											<u>Y</u> N
Retractor Intact:		<u>Y</u>		<u>Looked</u>							<u>Y</u> N
Buckle Held:		<u>Y</u>		<u>Webbing Intact:</u>							<u>Y</u> N
Seat Tracks Held:											<u>Y</u> N
Cracks in IP:											<u>Y</u> N
Steering Wheel Deformed:											<u>Y</u> N
Column Stroked w/o Interference:											<u>Y</u> N
Column Stroke:		Left: <u>5mm</u>				Right: <u>7mm</u>					

Post Test COMMENTS: Driver dummy contact later fully. Pass. dummy contact glove box fully. Seat look normal. Column angle 24°.

OBSERVER: [Signature]

HYGE Sled Test Summary

Sheet 19

Director: Kris Wermann
Phone: 287347

HYGE Run H 18859

Run Date 12/19/97

Test Engineer: Wim Van Glabbeek

Test Auth # TAS022

Requester: Kris Wermann

BUCK # 405



Test Title/Description: D186 Dual Stage Inlet Evaluation

Crash/HYGE Pulse Ref: _____ Simulated Speed: _____ Pin # _____

	LEFT	RIGHT	
	Airbag: _____ Pyro Buckle: _____	Airbag: <u>SD</u> Pyro Buckle: _____	ms ms
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy	Dummy	Dummy <u>SD73</u>
	A/B	Belt	A/B <u>PK</u>
	Seat	Dr. A/B P/B	Seat <u>SI</u>
	Tracks: power manual	Pass. P/B	Tracks: power manual
	Position: _____	Welded? Y N	Position: <u>AD</u> Welded? <input checked="" type="checkbox"/> N
	Instrument Panel:		
	Steering Column:		
	Pre-Test OBSERVATIONS: _____		

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	LEFT		RIGHT			RIGHT	
	Upright	On Seat	Upright	On Seat		Upright	On Seat
A/B Intact (No Holes):			Y / N		A/B Intact (No Holes):		Y / N
Face to A/B					Face to A/B		<u>Y / N</u>
Contact Location:			High Mid Low		Contact Location:		<u>High Mid Low</u>
A/B Cover Attached to Can/Cover:			Y / N		A/B Cover Attached to Can/Cover:		<u>Y / N</u>
Adj. D-ring Remain in Position:			Y / N		Adj. D-ring Remain in Position:		<u>Y / N</u>
Retractor Intact: Y / N			Locked: Y / N		Retractor Intact: <u>Y / N</u>		Locked: <u>Y / N</u>
Buckle Held: Y / N			Webbing Intact: Y / N		Buckle Held: <u>Y / N</u>		Webbing Intact: <u>Y / N</u>
Seat Tracks Held:			Y / N		Seat Tracks Held:		<u>Y / N</u>
Cracks in IP:			Y / N		Cracks in IP:		<u>Y / N</u>
Steering Wheel Deformed:			Y / N				
Column Struck w/o interference:			Y / N				
Column Stroke: Left: <u>25 mm</u>			Right: <u>27 mm</u>				

Post Test COMMENTS: Dummy contacted glove box fully. Dummy sitting on middle of seat tracks.

OBSERVER: Chris A...

Attachment VI.
Dummy Positioning

TAS
Sheet



HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

TR 5732
Sheet 21
Edition: Eris Version
Phone: 287147

TA5832

Run **H 19855**

Date **12/17/97**

D188 Dual Stage Inflator Evaluation

1

Buck # 405

Reference: H
H
H

Lot	DUMMY TYPE	Right
80F3	DUMMY TYPE	80F3
MO	SEAT POSITION	MID
	DUMMY NUMBER	

Center

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (± mm)	
					1st RUN	ADDL
Seat Back Angle (13° above pivot)	27.5	27.8	27.8	27	0	+/-1 notch
Pelvic Angle (+/- 2.5 deg., +/-1.0 for 396kg)	25	22.5	22.5	22		
Column Angle	21	21	21		at left	at left
H-Point Longitudinal Layer # <u>4</u>	232	232	231	231	12	8
H-Point Vertical Layer # <u>4</u>	196	-198	-198	198		8
H-Point Lateral	214	210	211	214	12	8
Knee Longitudinal Layer # <u>2</u>	168	-188	-188	168		
Knee Vertical Layer # <u>2</u>	98	-88	-71	101		
Knee Lateral	264	264	265	265	6	8
Head Longitudinal Layer # <u>2</u>	345	347	333	333	level	8
Head Vertical Layer # <u>2</u>	455	449	424	439	level	8
Head Lateral	323	323	324	324	level	8
Dummy Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (mm)	184	184	184	194		8
Left Knee to Bolster	83	85	85	86		8
Right Knee to Bolster	85	88	88	92		8
None to Steering Wheel Upper Rim or VP	369	373	360	395		8
None to Steering Wheel Lower Rim	179	180				8
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal	2787			2738		
Reference Target Absolute Vertical	898			894		
Reference Target Absolute Lateral	798			770		

FILM ANALYSIS						
Knee (target) Lateral	235			233		
Thigh Lateral	227			218		
Phantom Lateral	255			210		
Shoulder Lateral	247			254		
Other						
Other						
Other						
Knee to H-Point	385			386		
Knee to Phantom	294			223		
Knee to Thigh	117			112		
Distance Between A or B Pillar Targets	50			48		
Upper or Forward Reference Target	35			29		
Lower or Rearward Reference Target	52			36		
Reference Bar to Film Plane	1060			1254		
Camera Angle	2° 4'			2° 4'	< 6 deg.	< 6 deg.

Notes: _____

HYGE - DUMMY POSITIONING and H/A TARGETING Sheet

JA 5932
Sheet 22

Initiator: Eda Whelan
Form 487147

TA5932

Run H 18836

Date 12/17/97

D186 Dual Stage Inflator Evaluation

2

Buck # 405

Reference: H
H
H

Left 50/HS	DUMMY TYPE	Right 50/HS
MD	SEAT POSITION	MD
	DUMMY NUMBER	

Center

POSITIONING

	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCES (± mm)	
					1st RUN	ADD'L
Seat Back Angle (15° above pivot)	27	27.8	27.8	27	0	+/-1 notch
Pelvis Angle (± 2.5 deg.; ±1.0 for 594th)	26	22.5	22.5	22		
Collar Angle	21	21	21	21	at left	at left
H-Point Longitudinal Laser # 4	232	232	231	231	12	6
H-Point Vertical Laser # 4	-196	-198	-198	-192		6
H-Point Lateral Laser # 4	213	214	211	213	12	6
Knee Longitudinal Laser # 2	-162	-168	-168	-162		
Knee Vertical Laser # 2	-98	-98	-101	-101		
Knee Lateral Laser # 2	265	264	265	265	0	0
Head Longitudinal Laser # 3	345	345	333	333	level	0
Head Vertical Laser # 3	485	485	490	479	level	0
Head Lateral Laser # 3	323	325	324	324	level	0
Damage Neck Adjustment (flat run only)						
Knee Centerline to Knee Centerline (mm)	194	194	194	194		
Left Knee to Bolster	82	88	88	82		0
Right Knee to Bolster	85	88	82	87		0
Head to Steering Wheel Upper Rim or LP	375	360	360	367		0
Head to Steering Wheel Lower Rim	191	170				0
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal	2737			2728		
Reference Target Absolute Vertical	882			884		
Reference Target Absolute Lateral	700			710		

FILM ANALYSIS

Knee (target) Lateral	225			232		
Thigh Lateral	227			255		
Phantom Lateral	230			215		
Shoulder Lateral	182			160		
Other						
Other						
Other						
Knee to H-Point						
Knee to Phantom						
Knee to Thigh						
Distance Between A or B Piller Targets						
Upper or Forward Reference Target						
Lower or Rearward Reference Target						
Reference Bar to Film Plane						
Camera Angle					< 5 deg.	< 5 deg.

Notes:

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

TA5932
BR 23

Initiator: Ed Wessman
Phone: 287147

TA5932

Run H 18857

Date 12/17/97

D186 Dual Stage Inflator Evaluation

5

Buck # 405
Reference: H
H
H

Left SOFS	DUMMY TYPE	Right SOFS	Center
MD	SEAT POSITION	MD	
	DUMMY NUMBER		

POSITIONING	Laser #	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (± mm)	
						1st RUN	ADDL
Seat Back Angle (13° above pivot)		27.8	27.8	27.8		0	±1 notch
Pelvic Angle (± 2.5 deg; ± 1.0 for 590lb)		25	22.5	22.5			
Column Angle		21	21	21		at left	at left
H-Point Longitudinal	4	232	232	231		12	6
H-Point Vertical	4	-196	-108	-108			6
H-Point Lateral		214	214	211		12	6
Knee Longitudinal	2	-168	-108	-108			
Knee Vertical	2	-78	-68	-101			
Knee Lateral		262	264	265		6	6
Head Longitudinal	3	345	345	333		level	6
Head Vertical	3	455	455	439		level	6
Head Lateral		325	325	324		level	6
Dummy Neck Adjustment (first run only)							
Knee Chineline to Knee Centerline (mm)		194	194	194			
Left Knee to Bolster		90	82	85			6
Right Knee to Bolster		92	85	82			6
Neck to Steering Wheel Upper Rim or IP		363	360	365			6
Neck to Steering Wheel Lower Rim		190	179				6
Reference Target to Seat Belt Longitudinal							
Reference Target to Seat Belt Vertical							
Reference Target to Seat Belt Lateral							
Reference Target Absolute Longitudinal		2737			2788		
Reference Target Absolute Vertical		692			694		
Reference Target Absolute Lateral		789			770		

FILM ANALYSIS

Knee (target) Lateral	335						
Thigh Lateral	227						
Flucton Lateral	270						
Shoulder Lateral	160						
Other							
Other							
Other							
Knee to H-Point							
Knee to Flucton							
Knee to Thigh							
Distance Between A or B Pillar Targets							
Upper or Forward Reference Target							
Lower or Rearward Reference Target							
Reference Bar to Film Plane							
Camera Angle						< 5 deg.	< 5 deg.

Notes:

TA5932
Sheet 24

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Instructor: Ed Wagoner
Phone: 47147

TA5932

Run H 1885B

Date _____

D188 Dual Stage Infirator Evaluation

--

Buck # 405

Reference: H
H
H

Left	DUMMY TYPE	Right
SOHS		SOHS
MID	SEAT POSITION	MID
309	DUMMY NUMBER	329

Center

4
2
5

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (at run)	
					1st RUN	ADDT.
Seat Back Angle (15° above pivot)	28°	27.8	27.8	28	0	+/-1 notch
Pelvic Angle (+/- 2.5 deg.; +/- 1.0 for 5Mde)	23°	22.5	22.5	23		
Chin Angle	21°	21	21		at left	at left
H-Point Longitudinal Laser # 4	232	232	231	231	12	6
H-Point Vertical Laser # 4	-176	-188	-198	-178		6
H-Point Lateral	216	214	211	209	12	6
Knee Longitudinal Laser # 2	-168	-168	-169	-168		
Knee Vertical Laser # 2	-98	-99	-101	-101		
Knee Lateral	263	264	265	265	6	6
Head Longitudinal Laser # 3	345	345	338	338	level	6
Head Vertical Laser # 3	407	405	400	400	level	6
Head Lateral	328	325	324	323	level	6
Dummy Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (max)	194	184	184	190		
Left Knee to Bolster	87	88	88	80		6
Right Knee to Bolster	86	86	82	90		6
Nose to Shoulder Wheel Upper Rim or LP	378	360	365	360		6
Top to Shoulder Wheel Lower Rim		170				6
Reference Target to Seat Belt Longitudinal						
Reference Target to Seat Belt Vertical						
Reference Target to Seat Belt Lateral						
Reference Target Absolute Longitudinal	2737			2736		
Reference Target Absolute Vertical	682			684		
Reference Target Absolute Lateral	760			770		

FILM ANALYSIS	Left	Right	Tolerance
Knee (target) Lateral	281	287	
Thigh Lateral	232	222	
Phantom Lateral	221	211	
Shoulder Lateral	138	162	
Other			
Other			
Other			
Knee to H-Point		324	
Knee to Phantom		324	
Knee to Thigh		172	
Distance Between A or B Pillar Targets			
Upper or Forward Reference Target			
Lower or Rearward Reference Target			
Reference Bar to Film Plane			
Cannula Angle			< 6 deg. < 6 deg.

Notes: NOSE TO CENTER OF A/B SEAM.

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

TR 5932
Sheet 25

Initiator: Edn Wynn
Phone: 387147

TA5932

Run H 18859

Date 12/17

D186 Dual Stage Inflator Evaluation

5

Buck # 406

Reference: H
H
H

Left SOFS	DUMMY TYPE	Right SOFS	Circle
MID	SEAT POSITION	MID	
	DUMMY NUMBER	229	

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (in mm)	
					Lat RUN	ADDL
Seat Back Angle (13° above pivot)		27.8	27.8	26.5	0	+/-1 notch
Pelvic Angle (+/- 2.5 deg.; +/-1.0 for 5980)		22.5	22.5	21		
Crotch Angle		21	21		at left	at left
H-Point Longitudinal Laser # 4		232	231	231	12	0
H-Point Vertical Laser # 4		-196	-196	-196		0
H-Point Lateral		214	211	215	12	0
Knee Longitudinal Laser # 2		-199	-199	-168		
Knee Vertical Laser # 2		-98	-101	-101		
Knee Lateral		204	205	205	0	0
Head Longitudinal Laser # 5		345	333	333	level	0
Head Vertical Laser # 5		455	430	439	level	0
Head Lateral		323	324	325	level	0
Dummy Neck Adjustment (first run only)						
Knee Contact to Knee Centerline (max)		194	194	194		
Left Knee to Bolster		82	80	91		0
Right Knee to Bolster		85	82	93		0
Head to Steering Wheel Upper Rim or IP		300	305	1600		0
Head to Steering Wheel Lower Rim		179				0
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal	2737			2736		
Reference Target Absolute Vertical	892			894		
Reference Target Absolute Lateral	709			770		

4
2
5

FLM ANALYSIS	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (in mm)
Knee (target) Lateral				210	
Thigh Lateral				225	
Phantom Lateral				213	
Shoulder Lateral				165	
Other					
Other					
Other					
Knee to H-Point					
Knee to Phantom					
Knee to Thigh					
Distance Between A or B Piller Targets					
Upper or Forward Reference Target					
Lower or Rearward Reference Target					
Reference Bar to Piller Plane					
Camera Angle					< 6 deg. < 6 deg.

Notes: NOSE TO CENTER OF A/B SEAM

TA 5932
Sheet 26

Attachment VII.
Photographic Set-up

PHOTOGRAPHIC REQUEST SHEET FOR
TEST DESCRIPTION: D186 Dual Stage Inflator Evaluation

TA5932

Sheet 27

Initiator: Kels Warrum

Phone: x87147

HIGH SPEED FILM COVERAGE

• ON-BUCK Cameras

2	Over Shoulder Head to Airbag	<input checked="" type="checkbox"/>	Left	<input checked="" type="checkbox"/>	Right
2	Belt "D" Ring (Runs 1 - 3 only)	<input checked="" type="checkbox"/>	Left	<input checked="" type="checkbox"/>	Right
2	Belt Retractor (Runs 1 - 3 only)	<input checked="" type="checkbox"/>	Left	<input checked="" type="checkbox"/>	Right
	Belt Buckle, Inboard		Left		Right
	Inboard Knee to I/P Contact		Left		Right
	Steering Column Stroke				
	Inner Instrument Panel				
	Dummy Roll Out		Left	Center	Right
	Seat Tracks		Lt Inbd	Lt o/b	Rt Inbd Rt o/b
	Fiber Optics				

- OTHER Camera Coverage On-BUCK

1	Other:	Passenger head to windshield contact from front of truck (only on runs 4 and 5)
1	Other:	Driver head to windshield contact from front of truck (only on run 4)
	Other:	
	High Speed Video:	

• OUTRIGGER Cameras:

2	Overall Kinematics (F/A)	<input checked="" type="checkbox"/>	Left	<input checked="" type="checkbox"/>	Right
	Knee to Bolster		Left		Right
	Chest to Steering Wheel		Left		Right
	Retractor Payout, Cross-ctr		Left		Right
	Lap Belt on Dummy		Left		Right
	Seat Track/Cushion		Left		Right

- OTHER Camera Coverage Outrigger

	Other:	
	Other:	
1	High Speed Video:	Driver overall kinematics
1	High Speed Video:	Passenger overall kinematics

• OFF-BOARD Cameras

	Offboard - Floor Overall	
	Offboard - Kinematics	

Total On-BUCK Cameras = 8 Total OUTRIGGER Cameras = 4

DIGITAL STILL PHOTOGRAPHS:

<input checked="" type="checkbox"/>	Pre & Post Test Overall	<input checked="" type="checkbox"/>	Left	<input checked="" type="checkbox"/>	Right
<input checked="" type="checkbox"/>	Knee Bolster(s)	<input checked="" type="checkbox"/>	Left	<input checked="" type="checkbox"/>	Right
<input checked="" type="checkbox"/>	A/B Face Print	<input checked="" type="checkbox"/>	Left	<input checked="" type="checkbox"/>	Right
	Other:				
	Other:				
	Other:				
	Other:				

ADDITIONAL INFO:

5	Number of Runs	Refer this to TA TA5932
1	Requestor High Speed Films	Requestor Inbd: Dept. Name Vehicle Safety and CAE
1	Safety Lab High Speed Films	Dept. No. T331
0	VHS Copies of H.S. Films	Work Task No. F09
0	VHS Copies of H.S. Video	Requestor: Kels Warrum
		Phone No. x87147

Additional Comments: _____

Sheet 28

FILM ANALYSIS REQUEST SHEET FOR

TA5932

Inhibitor: Kris Wassman
Photo: a87147

FILM ANALYSIS:

_____ Head Disp. & Velocity wrt _____

_____ Shoulder Disp. & Velocity wrt _____

_____ H-pt Disp. & Velocity wrt _____

_____ Knee Disp. & Velocity wrt _____

_____ Other, Specify: _____

_____ Other, Specify: _____

_____ Other, Specify: _____

_____ Other, Specify: _____

**Final Test Report
Confidential**

Test Order No.: TA5697
Subject: 2000 D100 DUAL STAGE INFLATOR EVALUATION
HYGE SLED SERIES 'F'
Requested By: K. WARMANN
(Dept.): T651
Date Received: 11/10/97
Work Task No.: F09
Test Facility: HYGE
Test Dates: 12/1 - 12/2/97
Run Numbers: H16006 - 811
Procedure(s): T657-100, T657-108
Date Reported: 7/6/98
Page: 1 of 16



DISPOSE of Copies (Black Stamped) by:	
RETAIN Record Copy (Red Stamped) Thru:	2005
Schedule Number:	7-4-2

Objective:

To evaluate different driver air bag vents along with passenger air bag size and shape changes.

Summary:

Four tests were conducted on the Hyge sled using two instrumented 50% Hybrid III test dummies. The testing was conducted in the rigid DN101 test buck (#408). The test data is retained at the Safety Laboratories Department as specified by record retention guidelines. A copy of the high speed film and test data have been given to the requester for evaluation. The still photographs are in digital format and are stored on the Safety Laboratories Department Intranet home page under <http://www-safetylab.ford.com/>.

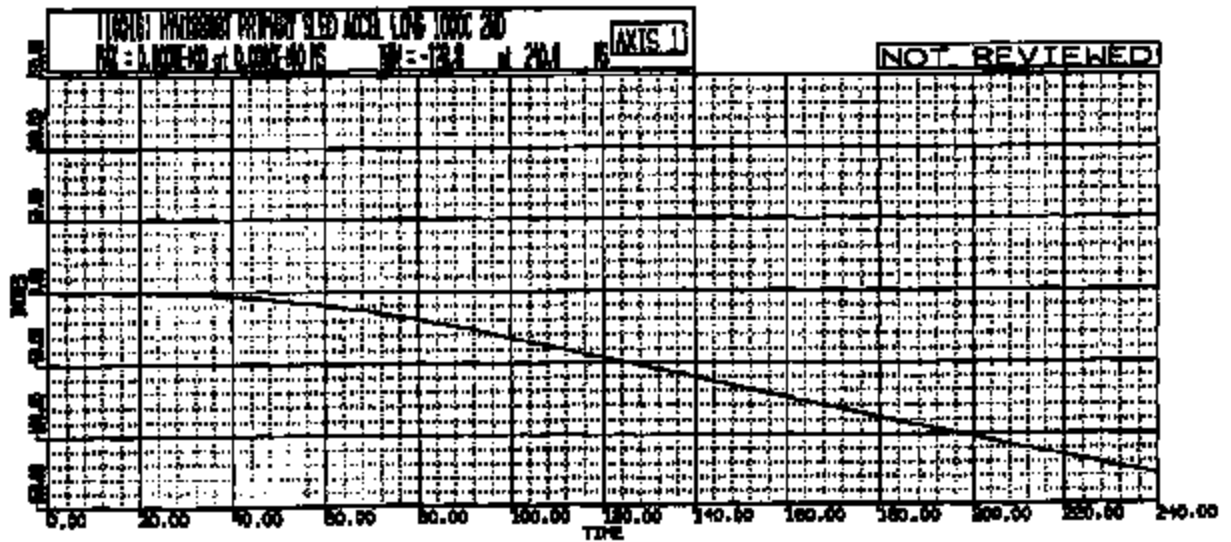
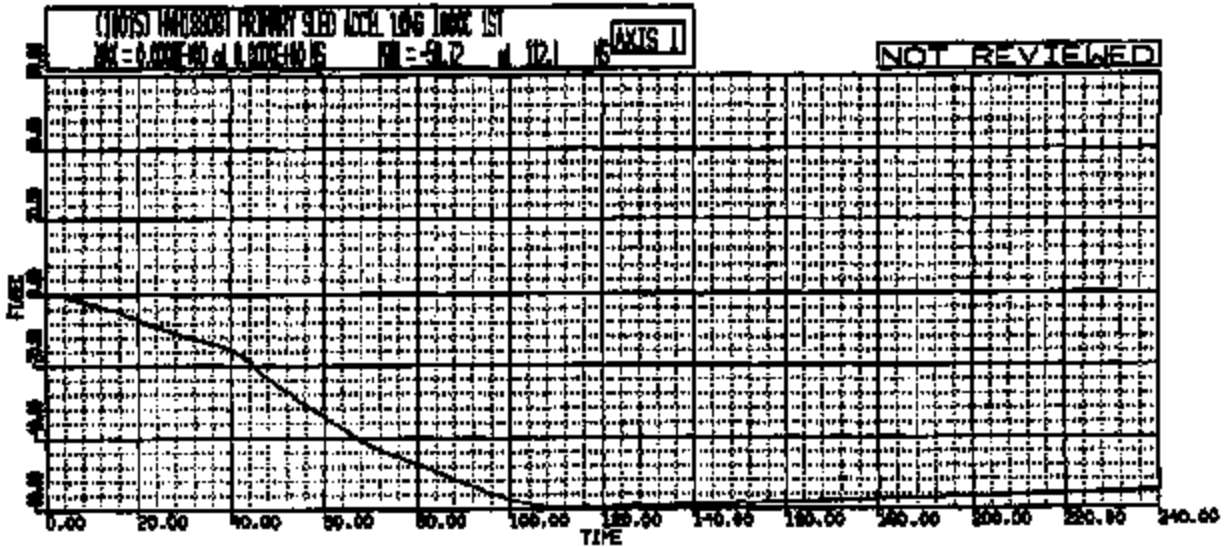
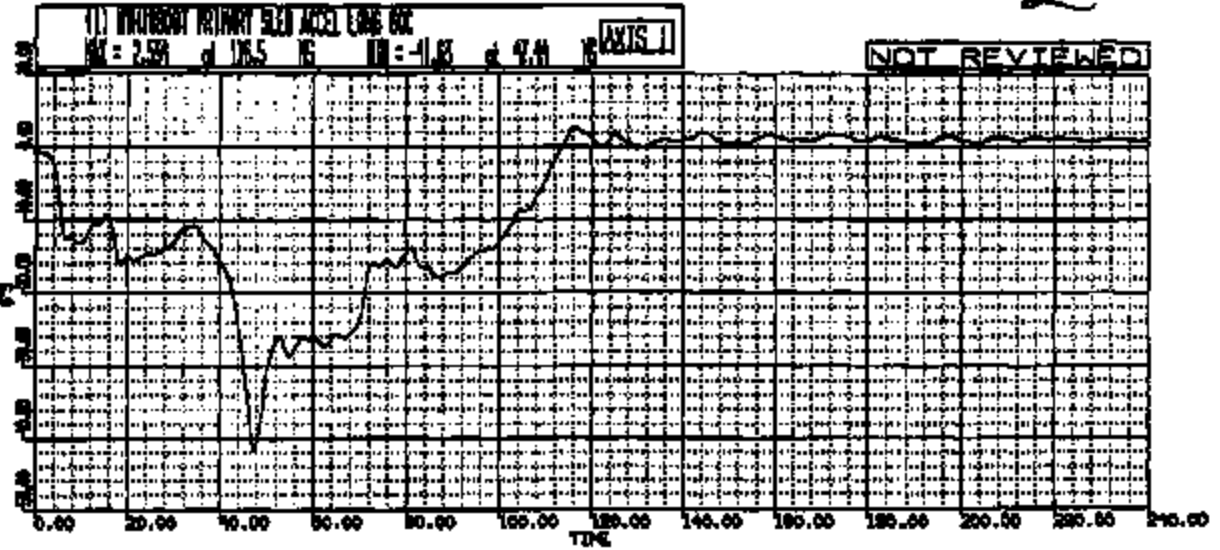
- Attachments:**
- I. Sled Pulse
 - II. Sled Parameters
 - III. Test Authorization
 - IV. Matrix
 - V. Post Test Observations
 - VI. Dummy Positioning Sheets

Concur:

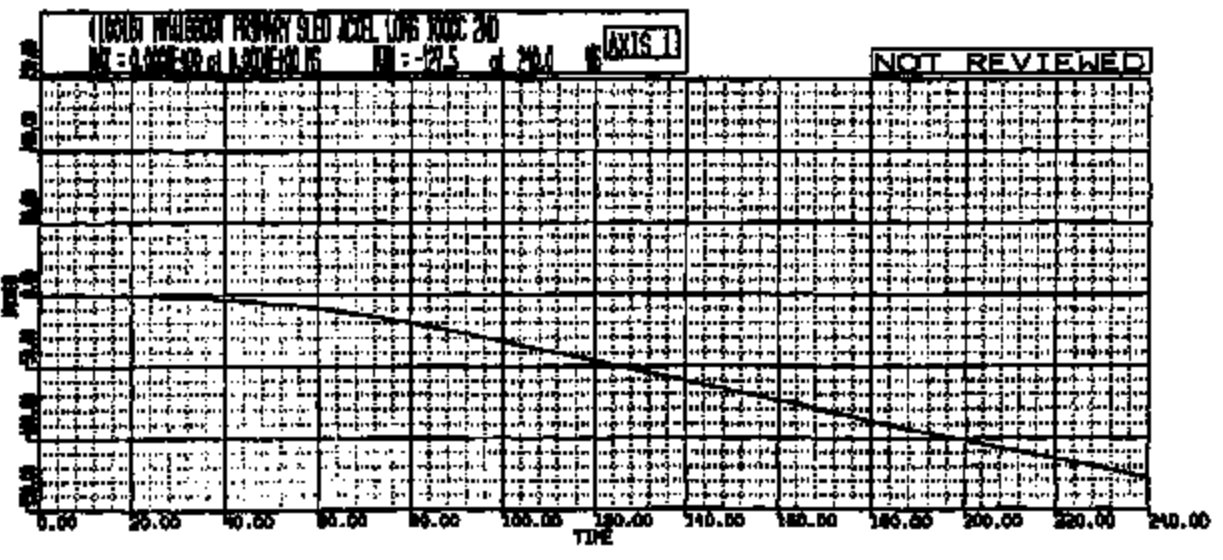
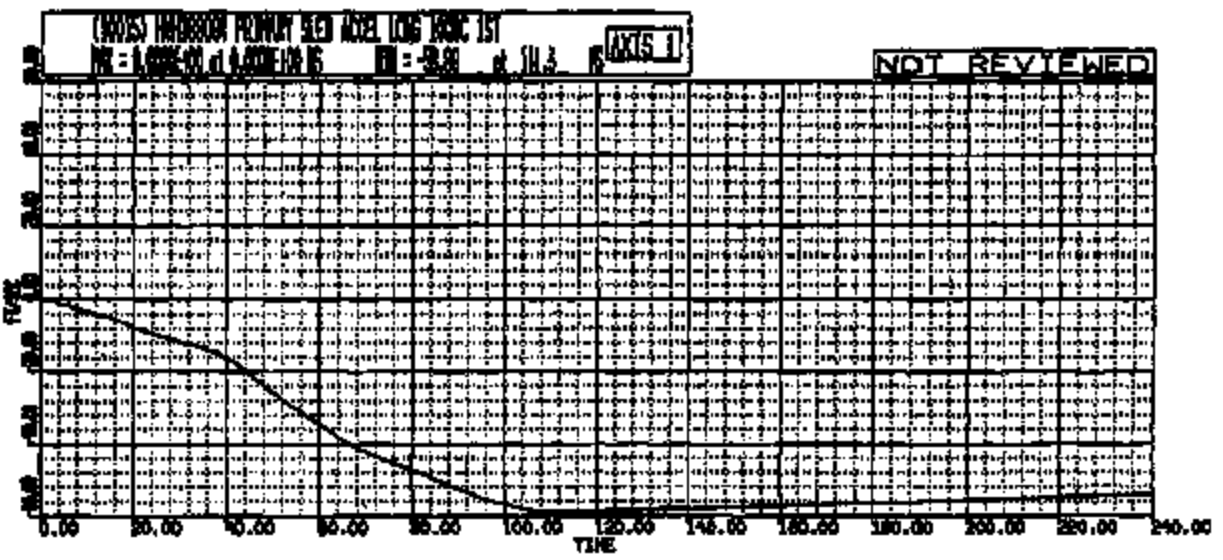
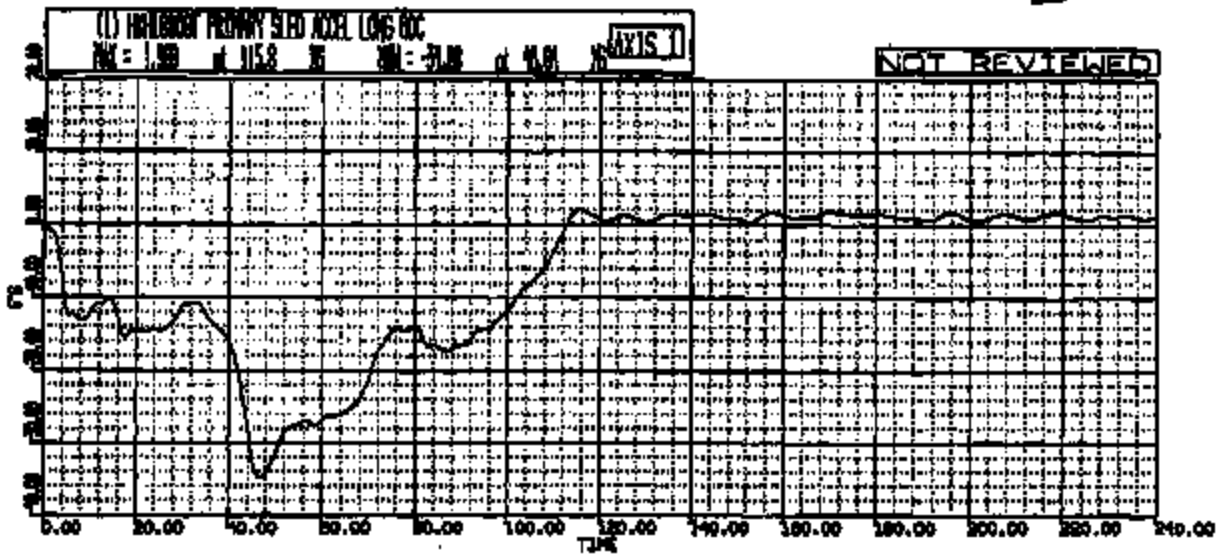

K. N. BURNS
Section Supervisor
HYGE Impact Simulation Test Section
Safety Laboratories Department


M. T. DORAN
Test Development Engineer
HYGE Test Section
Safety Laboratories Department

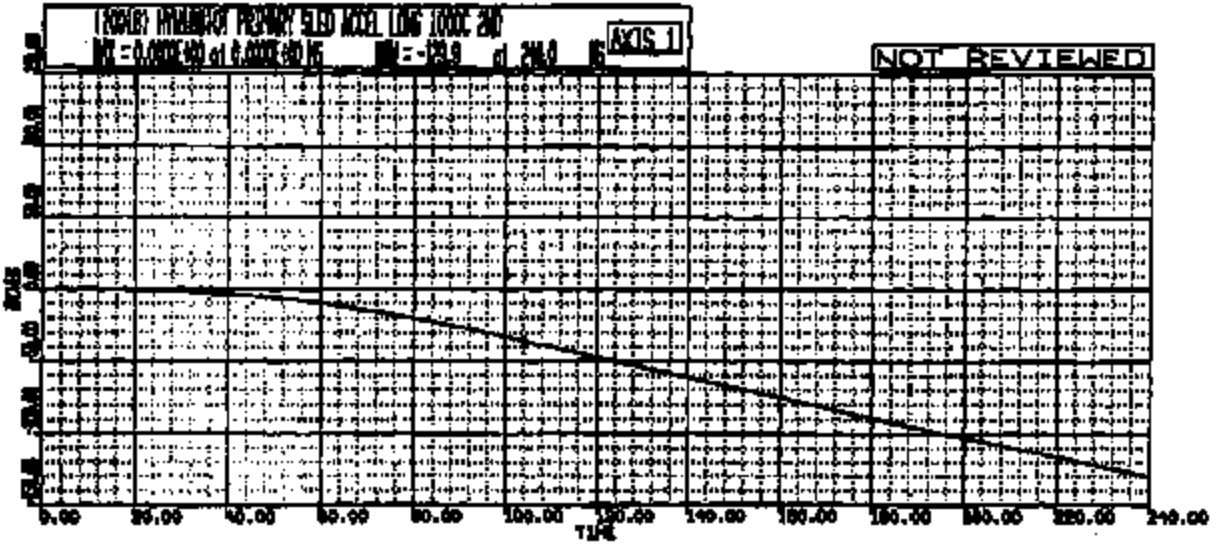
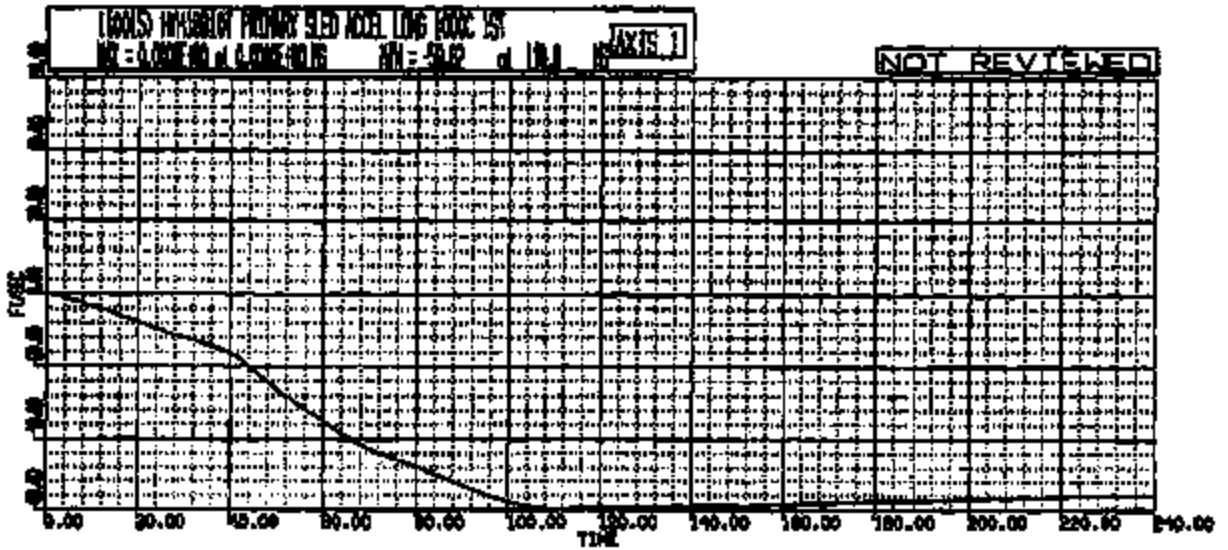
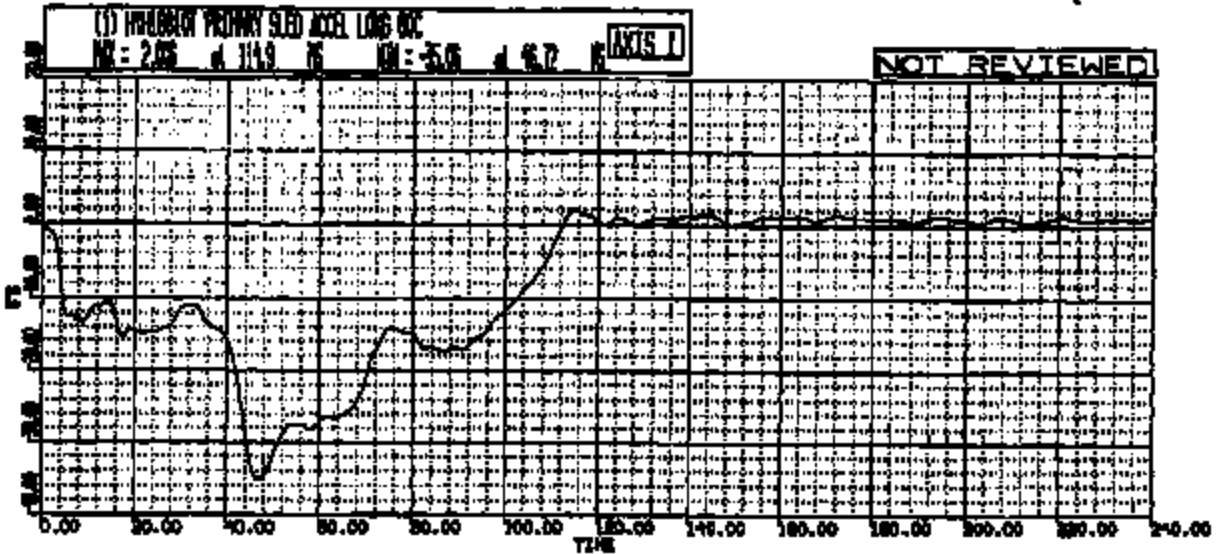
MY R: H18808 TO: TAS697A DATE: 971201 14:42:45
2000 D188



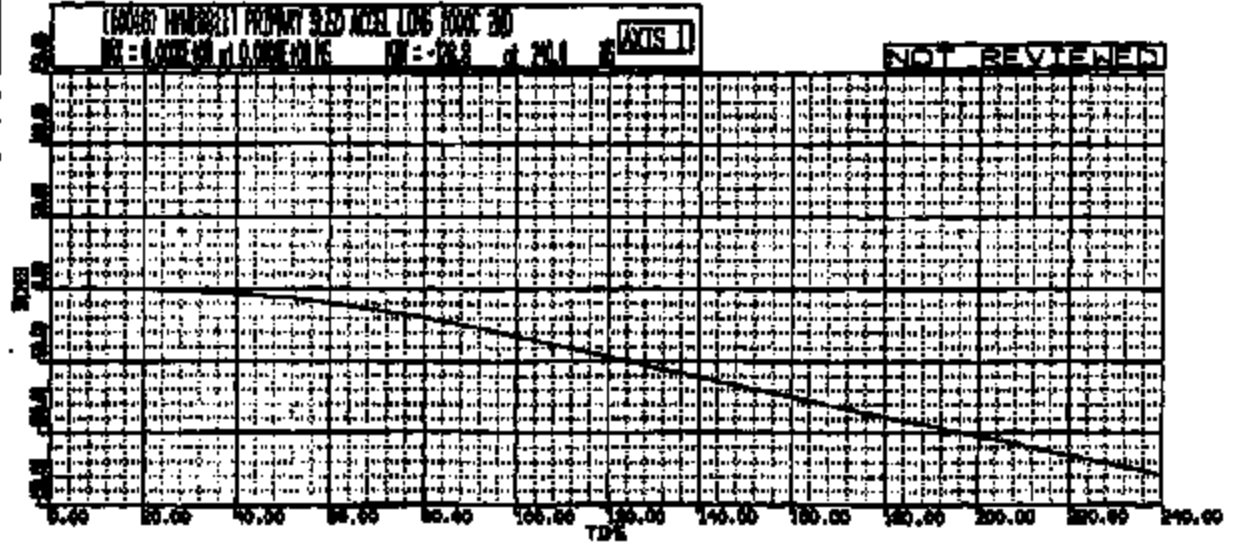
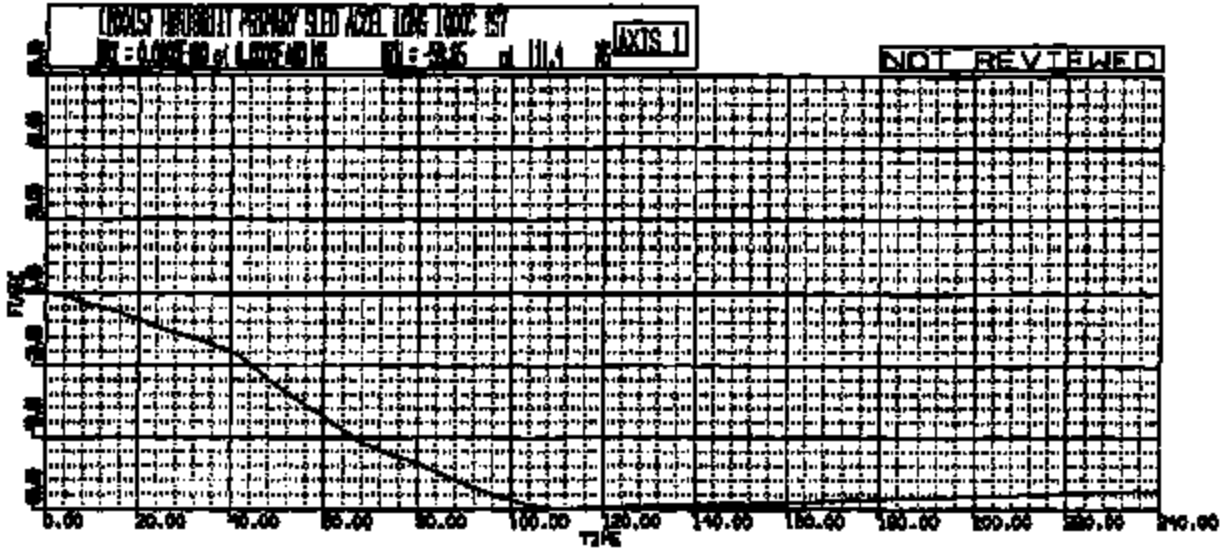
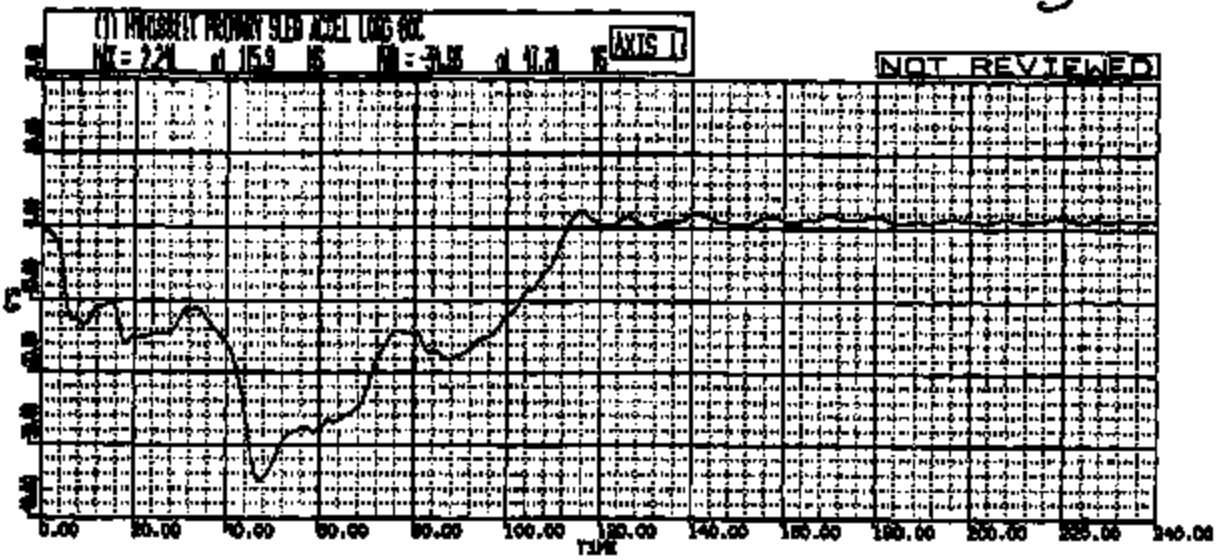
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2000 D180



HY R: HIBBIO TO: TA5697A DATE: 971201 22:55:01
2000 D180



HY R: HISS11 TO: TA5697A DATE: 871202 09:53:45
2000 0180



BUN #	TA #	WGT TYPE	DATE	TIME	DATA CHANG.	WEIGHT (LB)	HFCL	SCORE	LOAD	WE	SPACE	BUCK #	VELOCITY (MPH)	LEFT	DUMMY SYN CORNER	RIGHT	FT#	SWER BING	CURR BING
1000	10000A	ONE / 2500 DOWL	12/1/07	14:02	08	8774	120	67	2700	481	210	405	35	300		300	100	01	01
1000	10000A	ONE / 2500 DOWL	12/1/07	17:40	05	8704	120	67	2700	481	210	405	35	300		300	100	01	01
1000	10000A	ONE / 2500 DOWL	12/1/07	18:28	05	8704	120	67	2700	481	210	405	35	300		300	100	01	01
1001	10000A	ONE / 2500 DOWL	12/1/07	19:58	04	8774	120	67	2700	481	210	405	35	300		300	100	01	01

ATTACHMENT II
 TA-5697
 Sheet 6

SLED 0025787

HYGE Sled Test Summary

Sheet 10

Initiator: Kris Wermann

Phone: 477147

HYGE Run #: 18809

Run Date: 12/1/97

Test Engineer: Wim Van Glabbeek

Test Auth #: TA6697

Requester: Kris Wermann

BUCK#: 405

2

MATRX #

Test Title/Description: D185 Dual Stage Inflator Evaluation

Crash/HYGE Pulse Ref: _____

Simulated Speed: _____

Pin #: _____

PARTS DESCRIPTION PRE-TEST OBSERVATIONS	<p>LEFT Airbag: _____ ms</p> <p>Pyro Buckle: _____ ms</p> <p>Dummy: <u>50 H</u></p> <p>A/B: <u>07</u></p> <p>Belt: <u>R6</u></p> <p>Seat: <u>S-1</u></p> <p>Tracks: power <input checked="" type="checkbox"/> Welded? <input checked="" type="checkbox"/> N</p> <p>Position: <u>MID</u></p> <p>Instrument Panel: <u>16</u></p> <p>Steering Column: <u>SC3</u></p>	CHECKLIST	<p>RIGHT Airbag: _____ ms</p> <p>Pyro Buckle: _____ ms</p> <p>Dummy: _____</p> <p>Belt: _____</p> <p>Dr. A/B PMS: _____</p> <p>Pass. PMS: _____</p> <p>Position: _____</p>
	<p>RIGHT Dummy: <u>50 H</u></p> <p>A/B: <u>P13</u></p> <p>Belt: <u>R4</u></p> <p>Seat: <u>S-1</u></p> <p>Tracks: power <input checked="" type="checkbox"/> Welded? <input checked="" type="checkbox"/> N</p> <p>Position: <u>MID</u></p>		
Pre-Test OBSERVATIONS: _____			

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

LEFT	<p><input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> IB <input checked="" type="checkbox"/> O/S</p> <p><input checked="" type="checkbox"/> On Seat <input type="checkbox"/> Off Seat</p>	RIGHT	<p><input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> IB <input checked="" type="checkbox"/> O/S</p> <p><input checked="" type="checkbox"/> On Seat <input type="checkbox"/> Off Seat</p>
LEFT SIDE	<p>A/B Intact (No Holes): Y / N</p> <p>Face to A/B: <input checked="" type="checkbox"/> Center <input type="checkbox"/> O/S</p> <p>Contact Location: <input checked="" type="checkbox"/> High <input type="checkbox"/> Mid <input type="checkbox"/> Low</p> <p>A/B Cover Attached to Can/Cover: <input checked="" type="checkbox"/> Y / N</p> <p>Adj. D-ring Remain in Position: <input checked="" type="checkbox"/> Y / N</p> <p>Retractor Intact: <input checked="" type="checkbox"/> Y / N Locked: <input checked="" type="checkbox"/> Y / N</p> <p>Buckle Held: <input checked="" type="checkbox"/> Y / N Webbing Intact: <input checked="" type="checkbox"/> Y / N</p> <p>Seat Tracks Held: <input checked="" type="checkbox"/> Y / N</p> <p>Cracks in IP: <input checked="" type="checkbox"/> Y / N</p> <p>Steering Wheel Deformed: <input checked="" type="checkbox"/> Y / N</p> <p>Column Stroked w/o Interference: <input checked="" type="checkbox"/> Y / N</p> <p>Column Stroke: Left: <u>7</u> Right: <u>12</u></p>	RIGHT SIDE	<p>A/B Intact (No Holes): Y / N</p> <p>Face to A/B: <input checked="" type="checkbox"/> Center <input type="checkbox"/> O/S</p> <p>Contact Location: <input checked="" type="checkbox"/> High <input type="checkbox"/> Mid <input type="checkbox"/> Low</p> <p>A/B Cover Attached to Can/Cover: <input checked="" type="checkbox"/> Y / N</p> <p>Adj. D-ring Remain in Position: <input checked="" type="checkbox"/> Y / N</p> <p>Retractor Intact: <input checked="" type="checkbox"/> Y / N Locked: <input checked="" type="checkbox"/> Y / N</p> <p>Buckle Held: <input checked="" type="checkbox"/> Y / N Webbing Intact: <input checked="" type="checkbox"/> Y / N</p> <p>Seat Tracks Held: <input checked="" type="checkbox"/> Y / N</p> <p>Cracks in IP: <input checked="" type="checkbox"/> Y / N</p>

Post Test COMMENTS: COLUMN ANGLE 23°
DUMMY KNEE CONTACTED BOLSTER ON DRIVER
SIDE. PASS. KNEE CONTACTED ON GLOVE BOX.
TEST LOOKS NORMAL.

OBSERVER: GLEE

HYGE Sled Test Summary

Sheet 11

Initiator: Kris Wermann
Phone: 487147

HYGE Run # 18310 Run Date 12/1/97
 Test Engineer: Wim Van Glabbeek Test Auth # TAS097
 Requestor: Kris Wermann BUCK # 402
 Test Title/Description: D166 Dual Stage Initiator Evaluation



	Crash/HYGE Pulse Ref:	Simulated Speed:	Pin #	
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	LEFT Airbag: _____ ms	RIGHT Airbag: _____ ms		
	Pyro Buckle: _____ ms	Pyro Buckle: _____ ms		
	Dummy <u>504L</u>	Dummy _____	Dummy <u>504L</u>	
	A/B <u>06</u>	Belt _____	A/B <u>P12</u>	
	Belt <u>R4</u>	Dr. AB FM# _____	Belt <u>R4</u>	
	Seat <u>S1</u>	Pass. FM# _____	Seat <u>S1</u>	
	Tracks: power <input checked="" type="checkbox"/>		Tracks: power <input checked="" type="checkbox"/>	
	Position: <u>MID</u> Welded? <input checked="" type="checkbox"/> N		Position: <u>MID</u> Welded? <input checked="" type="checkbox"/> N	
	Instrument Panel: <u>16</u>			
	Steering Column: <u>SCB</u>			
Pre-Test OBSERVATIONS: _____				

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	LEFT		RIGHT	
	<input checked="" type="checkbox"/> On Seat	<input checked="" type="checkbox"/> Off Seat	<input checked="" type="checkbox"/> On Seat	<input checked="" type="checkbox"/> Off Seat
LEFT SIDE	A/B Intact (No Holes):	Y / <input checked="" type="checkbox"/> N	A/B Intact (No Holes):	Y / <input checked="" type="checkbox"/> N
	Face to A/B	IB <input checked="" type="checkbox"/> O/B <input checked="" type="checkbox"/>	Face to A/B	IB <input checked="" type="checkbox"/> O/B <input checked="" type="checkbox"/>
	Contact Location:	<u>Low</u>	Contact Location:	<u>High</u>
	A/B Cover Attached to Can./Cover:	<input checked="" type="checkbox"/> N	A/B Cover Attached to Can./Cover:	<input checked="" type="checkbox"/> N
	Adj. D-ring Remain in Position:	Y / N	Adj. D-ring Remain in Position:	Y / N
	Retractor Intact:	Y / N	Retractor Intact:	Y / N
	Buckle Held:	Y / N	Buckle Held:	Y / N
	Seat Tracks Held:	Y / N	Seat Tracks Held:	Y / N
	Cracks in IP:	Y / N	Cracks in IP:	Y / N
	Steering Wheel Deformed:	Y / N		
Column Stroked w/o Interference:	Y / N			
Column Stroke: Left: <u>9mm</u>		Right: <u>9mm</u>		
Post Test COMMENTS: <u>COLUMN ANGLE 23°</u>				
<u>PASS. DUMMY CONTACTED I.P. DRIVER</u>				
<u>CONTACTED BOLSTER. TEST SEEM NORMAL</u>				
<u>IP ON DRIVER SIDE CRACKED AT JUNT.</u>				
<u>PASS. SIDE OF IP SLIGHT CRACK NEXT</u>				
<u>TO A/B.</u>				
				OBSERVER: <u>[Signature]</u>

HYGE Sled Test Summary

Sheet 12

Issued: Edin Wamser
Print: 04/14/77

HYGE Run #: 18811

Run Date: 12 12 1977

Test Engineer: Wm Van Glabbeek

Test Auth #: TA8887

Requester: Kris Wamser

BUCK #: 408

4

MATRIX #

Test Title/Description: D100 Dual Stage Inflator Evaluation

Crash/HYGE Pulse Ref: _____

Simulated Speed: _____

Pin #: _____

LEFT	Airbag: <u>17/22</u> <small>ms</small>	RIGHT	Airbag: <u>17/22</u> <small>ms</small>
	Pyro Buckle: <u>ms</u>		Pyro Buckle: <u>ms</u>
LEFT	Dummy: <u>BTM</u>	CENTER	Dummy: _____
	A/B: <u>D-7</u>		Belt: _____
	Belt: <u>R-4</u>		
	Seat: <u>S-1</u>		Dr. A/B FMB: _____
	Tracks: power <u>Normal</u>		Pass. Prot: _____
	Position: <u>MID</u> Welded? <input checked="" type="checkbox"/> N		
	Instrument Panel: <u>1-6</u>		
	Steering Column: <u>SC-3</u>		
	Pre-Test OBSERVATIONS: _____		

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	LEFT		RIGHT		RIGHT		RIGHT	
	Upright	IB	Upright	IB	Upright	IB	Upright	IB
	On Seat	Off Seat	On Seat	Off Seat	On Seat	Off Seat	On Seat	Off Seat
LEFT SIDE	A/B Intact (No Holes): <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		A/B Intact (No Holes): <u>HOLE IN BAG</u> <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		Face to A/B: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		Face to A/B: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
	Contact Location: <u>High</u> <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		Contact Location: <u>High</u> <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		Retractor Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		Retractor Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
	AB Cover Attached to Can/Cover: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		AB Cover Attached to Can/Cover: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		Adj. D-ring Remains in Position: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		Adj. D-ring Remains in Position: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
	Buckle Held: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		Buckle Held: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		Belt Tracks Held: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		Belt Tracks Held: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
	Cracks in IP: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		Cracks in IP: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		Steering Wheel Deformed: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		Steering Wheel Deformed: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
	Column Stroked w/o Interference: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		Column Stroked w/o Interference: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		Column Stroke: Left: <u>8</u>		Column Stroke: Right: <u>10</u>	
<p>Post Test COMMENTS: <u>21° COLUMN ANGLE</u></p> <p><u>2° A/B FIRE TIME WAS 26 MS. ALTHOUGH</u></p> <p><u>22 MS.</u></p>								
OBSERVER: <u>M. O'Connell</u>								

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

ATTACHMENT VII

TA5687

Run H18808

Date 12-1-97

Author: Kib Whelan
Form: 87147
Sheet 13

D186 Dual Stage Inflator Evaluation

1

Buck # 405

Reference: H
H
H

Left	Right
SOFS	SOFS
DUMMY TYPE	SOFS
MB	MB
SEAT POSITION	
320	DUMMY NUMBER
	229

Center

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (in mm)	
					1st RUN	ADDL
Seat Back Angle (13° above pivot)	28	27.8	27.8	28	0	+1 notch
Pelvic Angle (+/- 2.5 deg.; +/- 1.0 for 394a)	24	22.5	22.5	21		
Crotch Angle	21	21	21		at left	at left
H-Point Longitudinal Laser #	232	232	231	234	12	0
H-Point Vertical Laser #	-196	-188	-188	-197		0
H-Point Lateral	210	210	211	211	12	0
Knee Longitudinal Laser #	-168	-168	-168	-155		
Knee Vertical Laser #	-98	-98	-91	-97		
Knee Lateral	264	264	268	264	0	0
Head Longitudinal Laser #	347	347	335	335	level	0
Head Vertical Laser #	448	448	434	440	level	0
Head Lateral	328	328	324	325	level	0
Dummy Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (mm)	195	184	184	194		
Left Knee to Bolster	78	85	85	100		0
Right Knee to Bolster	75	85	85	100		0
Neck to Steering Wheel Upper Rim or 1/2	370	378	380	600	MID	0
Neck to Steering Wheel Lower Rim	179	180				0
Reference Target to Seat Belt Longitudinal						
Reference Target to Seat Belt Vertical						
Reference Target to Seat Belt Lateral						
Reference Target Absolute Longitudinal	2737			2738		
Reference Target Absolute Vertical	662			664		
Reference Target Absolute Lateral	780			770		

FILM ANALYSIS

Knee (target) Lateral	235		235	
Thigh Lateral	225		222	
Phantom Lateral	226		222	
Shoulder Lateral	151		172	
Other				
Other				
Other				
Knee to H-Point	380		375	
Knee to Phantom	226		219	
Knee to Thigh	116		111	
Distance Between A or B Filler Targets	50		48	
Upper or Forward Reference Target	-40		-25	
Lower or Rearward Reference Target	-48		-36	
Reference Bar to Film Flare	1253		1301	
Camera Angle	5° E		35°	

Notes:

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

KWAR

TA5897

Run H 18809

Date 12-1-97

Instructor: Kris Wimmer

Sheet 14

D186 Dual Stage Inflator Evaluation

2

Buck # 405
 Reference: H
 H
 H

Left SDHS	DUMMY TYPE	Right SDHS	Center
MID	SEAT POSITION	MID	
320	DUMMY NUMBER	329	

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (in mm)	
					1st RUN	ADD'L
Seat Back Angle (15" above pivot)	28°	27.8	27.8	28°	0	+/-1 notch
Pelvic Angle (+/- 2.5 deg.; +/-1.0 for 5946)	22°	22.5	22.5	21.5°		
Coccyx Angle	21°	21	21		at left	at left
H-Point Longitudinal	232	232	231	234	12	6
H-Point Vertical	-196	-198	-198	-197		6
H-Point Lateral	210	210	211	210	12	6
Knee Longitudinal	-168	-168	-168	-165		
Knee Vertical	-98	-88	-71	-97		
Knee Lateral	265	264	265	265	6	6
Head Longitudinal	347	347	333	315	level	6
Head Vertical	448	448	434	446	level	6
Head Lateral	323	323	324	324	level	6
Dummy Neck Adjustment (1st run only)						
Knee Centerline to Knee Centerline (max)	194	194	194	194		
Left Knee to Bolster	90	88	88	101		6
Right Knee to Bolster	90	88	88	102		6
None to Steering Wheel Upper Rim or LP	375	376	380	395		6
None to Steering Wheel Lower Rim		180				6
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal	2737			2738		
Reference Target Absolute Vertical	662			664		
Reference Target Absolute Lateral	766			770		

FILM ANALYSIS	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE
Knee (target) Lateral	235			235	
Thigh Lateral	228			225	
Phantom Lateral	226			215	
Shoulder Lateral	160			160	
Other					
Other					
Other					
Knee to H-Point					
Knee to Phantom					
Knee to Thigh					
Distance Between A or B Film Targets					
Upper or Forward Reference Target					
Lower or Rearward Reference Target					
Reference Bar to Film Plane					
Camera Angle					< 5 deg. < 5 deg.

Notes: _____

HYGR - DUMMY POSITIONING and F/A TARGETING Sheet

Index: Ede Warden

TA6897

Run H 18810

Date 12/1/97 2000-15

D186 Dual Stage Inflator Evaluation

3

Buck # 405

Reference: H
H
H

Left EOPIS	DUMMY TYPE	Right EOPIS	Center
MID	SEAT POSITION	MID	
330	DUMMY NUMBER	329	

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (± min)	
					1st RUN	ADDL
Seat Back Angle (13° above pivot)	28°	27.8	27.8	28	0	+/-1 notch
Pelvis Angle (+/- 2.5 deg.; +/-1.0 for 5%ile)	23°	22.6	22.6	21.5		
Column Angle	21	21	21		at left	at left
H-Point Longitudinal Laser #	272	282	281	281	12	6
H-Point Vertical Laser #	-196	-188	-188	-198		6
H-Point Lateral	210	210	211	211	12	6
Knee Longitudinal Laser #	-168	-188	-188	-168		
Knee Vertical Laser #	-98	-88	-71	-71		
Knee Lateral	265	284	288	265	6	6
Head Longitudinal Laser #	347	347	333	328	level	6
Head Vertical Laser #	448	448	434	424	level	6
Head Lateral	325	328	324	321	level	6
Dummy Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (mm)	194	184	184	195		
Left Knee to Bolster	97	88	88	95		6
Right Knee to Bolster	90	88	88	95		6
Thru to Steering Wheel Upper Rim or V*	380	378	380	395		6
Thru to Steering Wheel Lower Rim	180	180				6
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal	2787			2788		
Reference Target Absolute Vertical	882			884		
Reference Target Absolute Lateral	788			770		

FILM ANALYSIS	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE
Knee (target) Lateral	230			235	
Thigh Lateral	220			220	
Phantom Lateral	225			215	
Shoulder Lateral	63			160	
Other					
Other					
Other					
Knee to H-Point					
Knee to Phantom					
Knee to Thigh					
Distance Between A or B Plier Targets					
Upper or Forward Reference Target					
Lower or Rearward Reference Target					
Reference Bar to Film Plane					
Camera Angle					< 5 deg. < 6 deg.

Notes: _____

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Initiator: Kris Wernam

TA5687

Run H 18811

Date 12/27/97

Spec: 85714

16

D186 Dual Stage Inflator Evaluation

H

Buck # 495

Reference: H
H
H

Left SBS	DUMMY TYPE	Right SBS	Carrier
MD	SEAT POSITION	MD	
320	DUMMY NUMBER	329	

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (\pm mm)	
					1st RUN	ADDL
Seat Back Angle (13° above pivot)	23°	27.8	27.8	23°	0	+/-1 notch
Pelvis Angle (+/- 2.5 deg; +/-1.0 for 3456)	21°	22.8	22.8	21°		
Delors Angle	21°	21	21	21°	at left	at left
H-Point Longitudinal	---	232	231	---	12	8
H-Point Vertical	---	-198	-198	---		8
H-Point Lateral	210	210	211	214	12	8
Knee Longitudinal	---	-188	-188	---		
Knee Vertical	---	-88	-71	---		
Knee Lateral	264	264	268	265	8	8
Head Longitudinal	---	347	338	---	level	8
Head Vertical	---	448	434	---	level	8
Head Lateral	323	323	324	324	level	8
Dummy Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (max)	194	184	184	194		
Left Knee to Bolster	85	85	85	105		8
Right Knee to Bolster	85	85	85	105		8
Neck to Steering Wheel Upper Rim or IP	575	578	680	575		8
Turn to Steering Wheel Lower Rim	180	180				8
Reference Target to Seat Belt Longitudinal						
Reference Target to Seat Belt Vertical						
Reference Target to Seat Belt Lateral						
Reference Target Absolute Longitudinal	2757			2758		
Reference Target Absolute Vertical	882			884		
Reference Target Absolute Lateral	788			770		

FILM ANALYSIS	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (\pm deg)	ADDL
Knee (target) Lateral	245			235		
Thigh Lateral	230			220		
Flaming Lateral	235			220		
Shoulder Lateral	165			165		
Other						
Other						
Other						
Knee to H-Point						
Knee to Flaming						
Knee to Thigh						
Distance Between A or B Piller Targets						
Upper or Forward Reference Target						
Lower or Rearward Reference Target						
Reference Bar to Piller Face						
Camera Angle					< 6 deg.	< 6 deg.

Notes:

**Final Test Report
Confidential**

Test Order No.: TA8843
Subject: D186 DUAL STAGE AIR BAG INFLATOR
EVALUATION HYGE SLED SERIES 'G'
Requested By: K. WARMANN
(Dept.): T581
Date Received: 1/20/98
Work Task No.: F09
Test Facility: HYGE
Test Dates: 2/5, 2/6/98
Run Numbers: H18981 - 988
Procedure(s): T857-100, T857-108
Date Reported: 5/19/98
Page: 1 of 28



EXPOSE of Copies	
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YEAR Record Copy	2003
(not Stamped) Thru:	
Schedule Number:	7-4-2

Objective:

To evaluate the performance of dual stage air bag inflators in D186 under dynamic conditions.

Summary:

Eight tests were conducted on the Hyge sled using two instrumented 50% HII test dummies. The testing was conducted using the rigid DN101 front row test buck (#405). The test data is retained at the Safety Laboratories Department as specified by record retention guidelines. A copy of the high speed film and test data have been given to the requester for evaluation. The still photographs are in digital format and are stored on the Safety Laboratories Department intranet home page under <http://www-safetylab.ford.com/>.

Attachments:

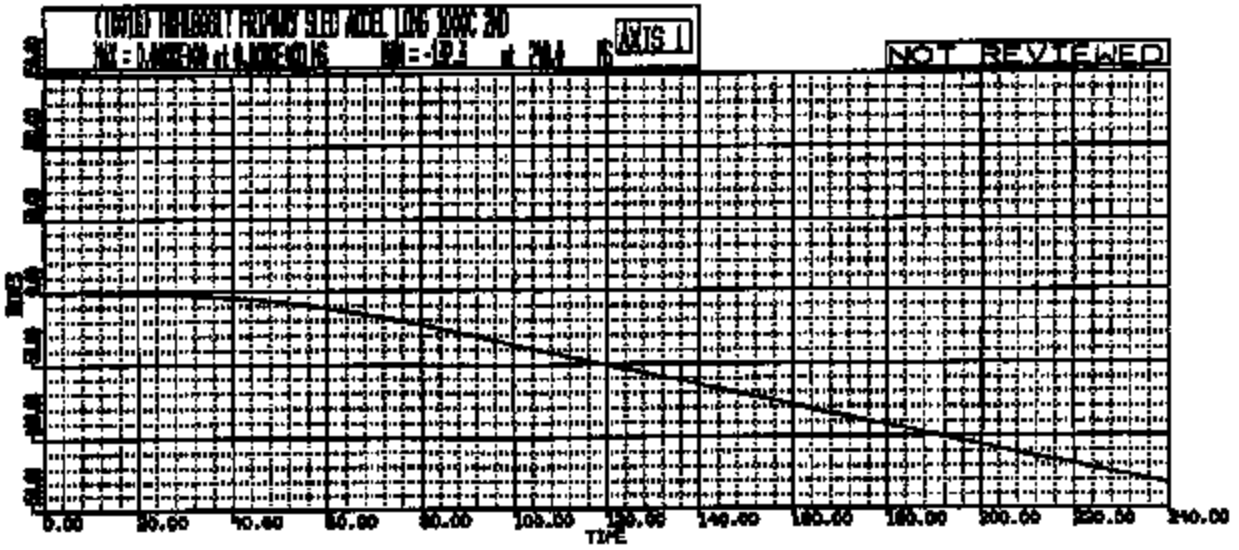
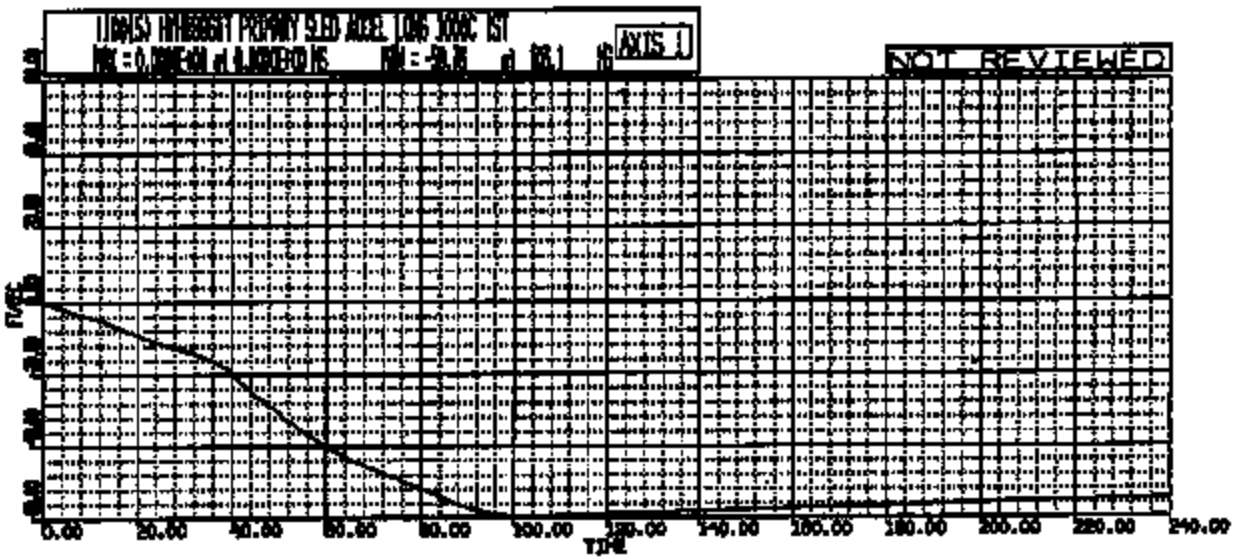
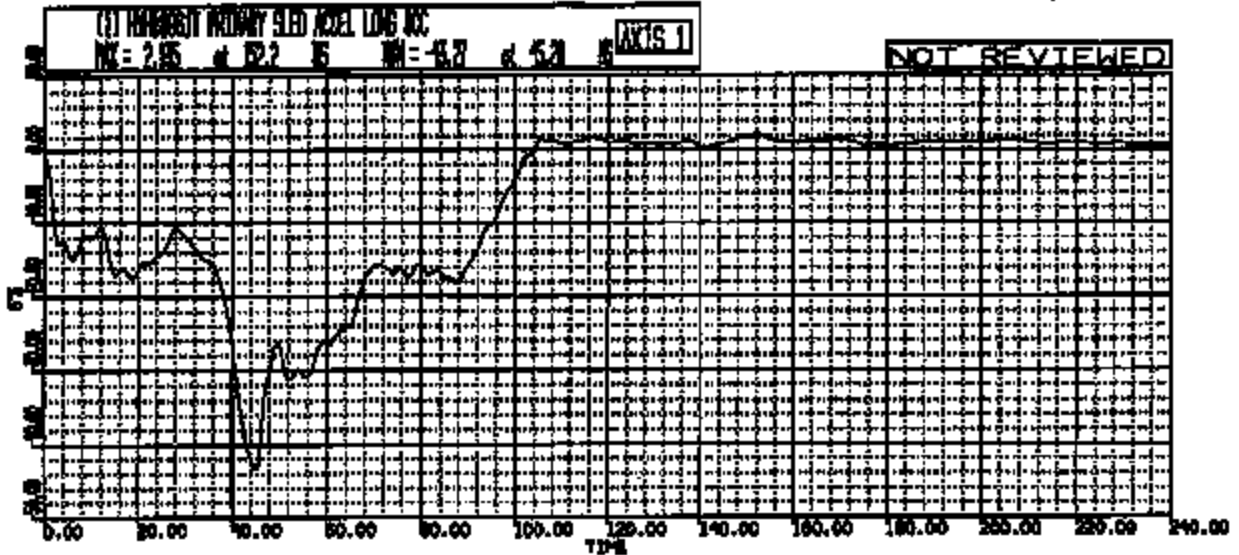
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- II. Sled Parameters
- III. Test Authorization
- IV. Matrix
- V. Post Test Observations
- VI. Dummy Positioning Sheets

Conductor:

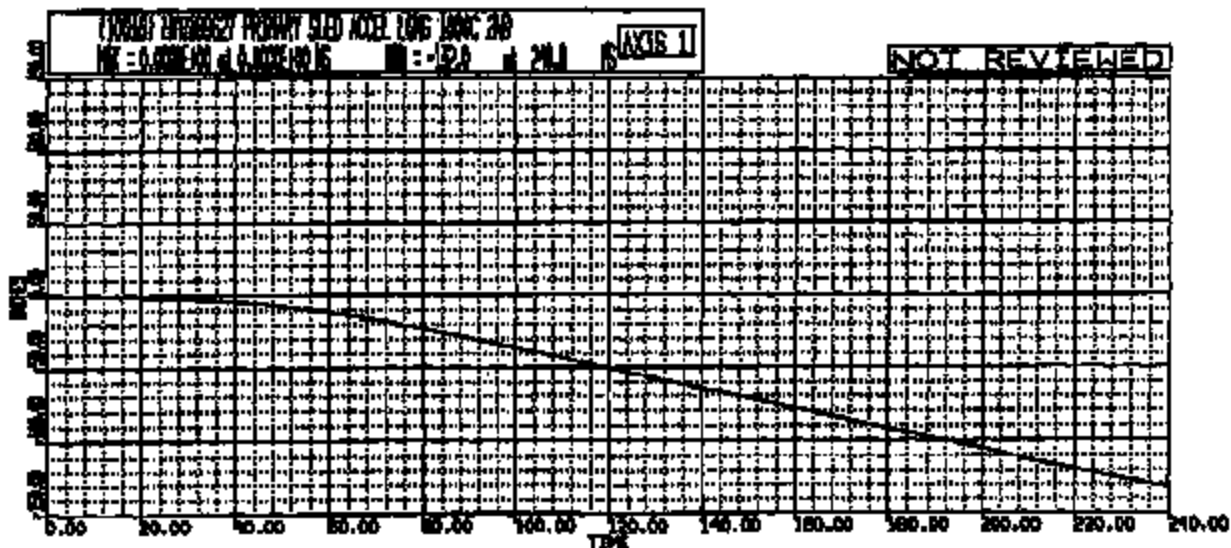
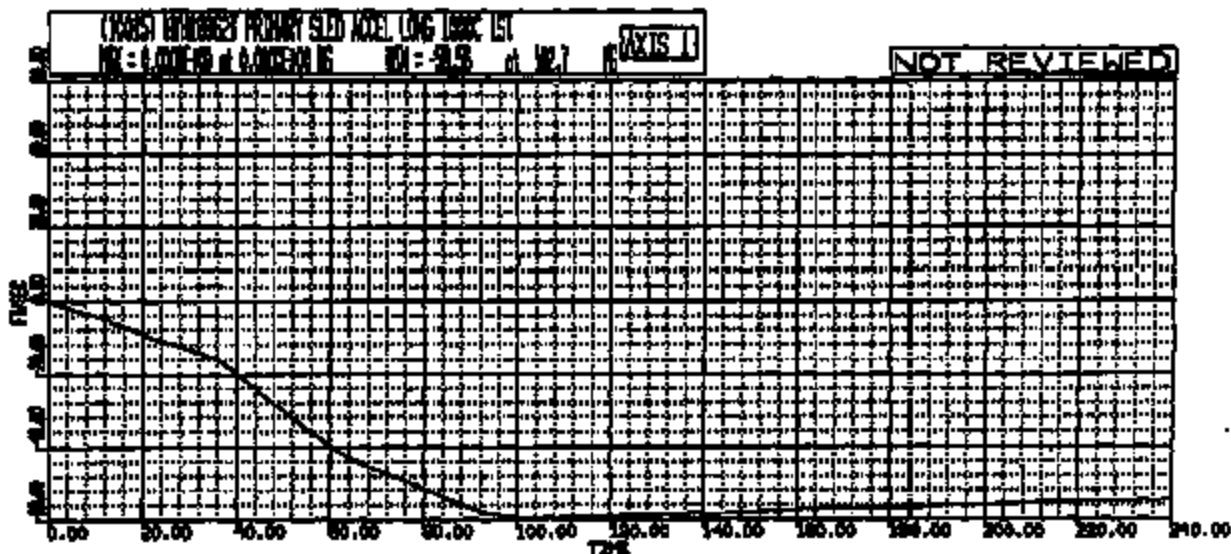
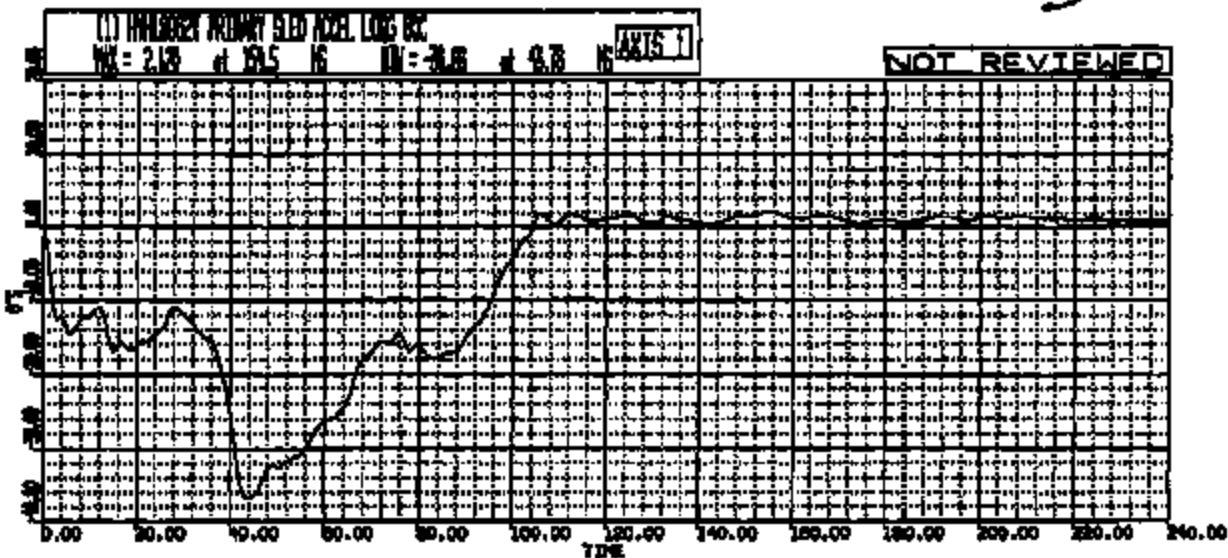

B. N. BURNS
Section Supervisor
HYGE/Impact Simulation Test Section
Safety Laboratories Department


M. T. DORAN
Test Development Engineer
HYGE Test Section
Safety Laboratories Department

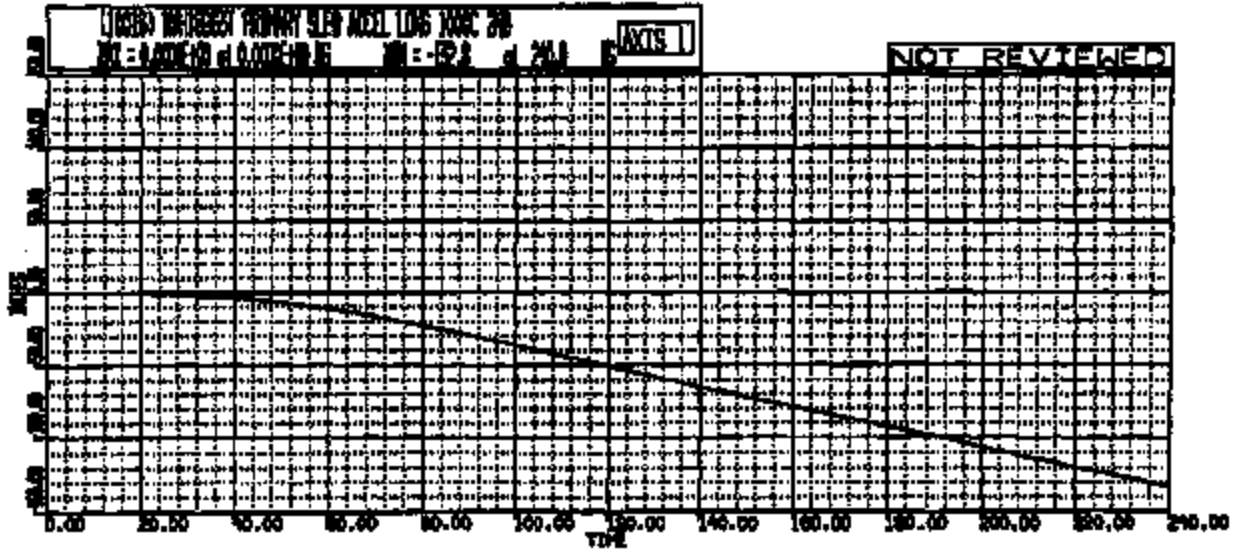
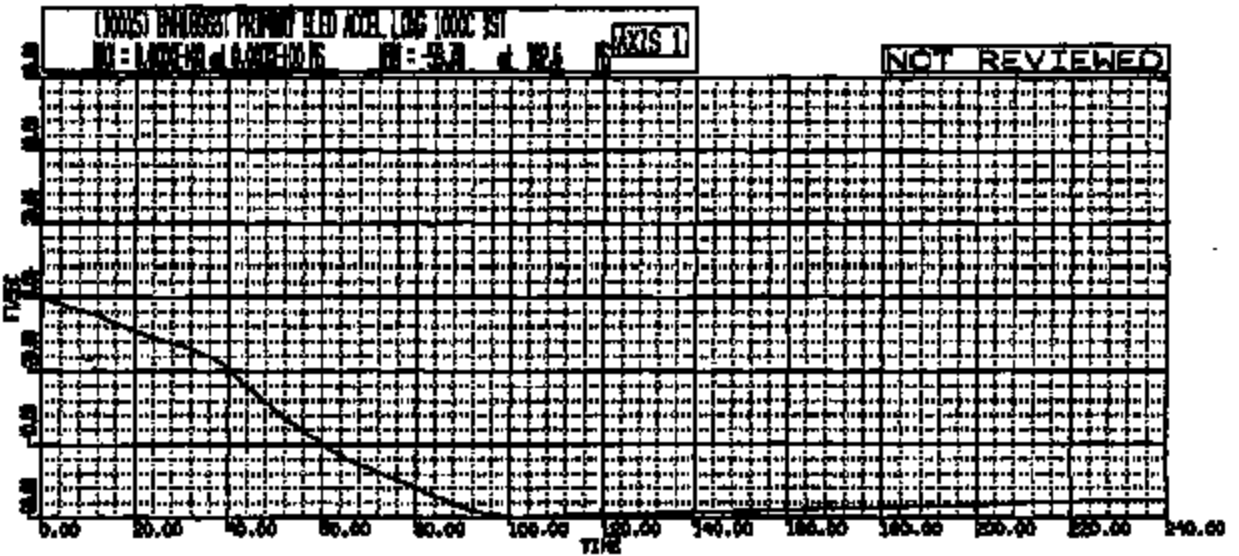
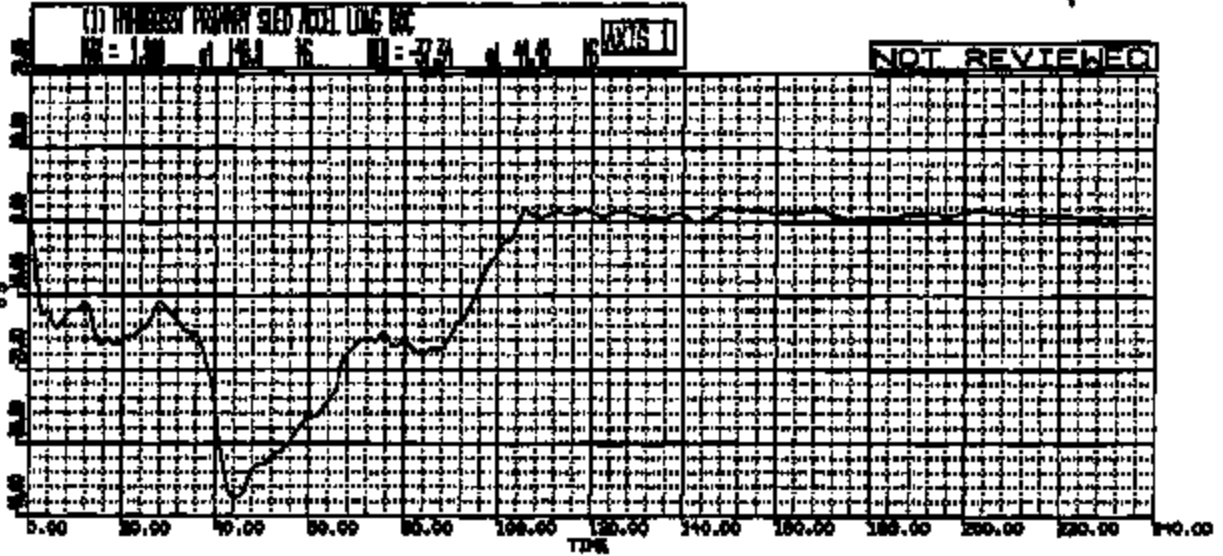
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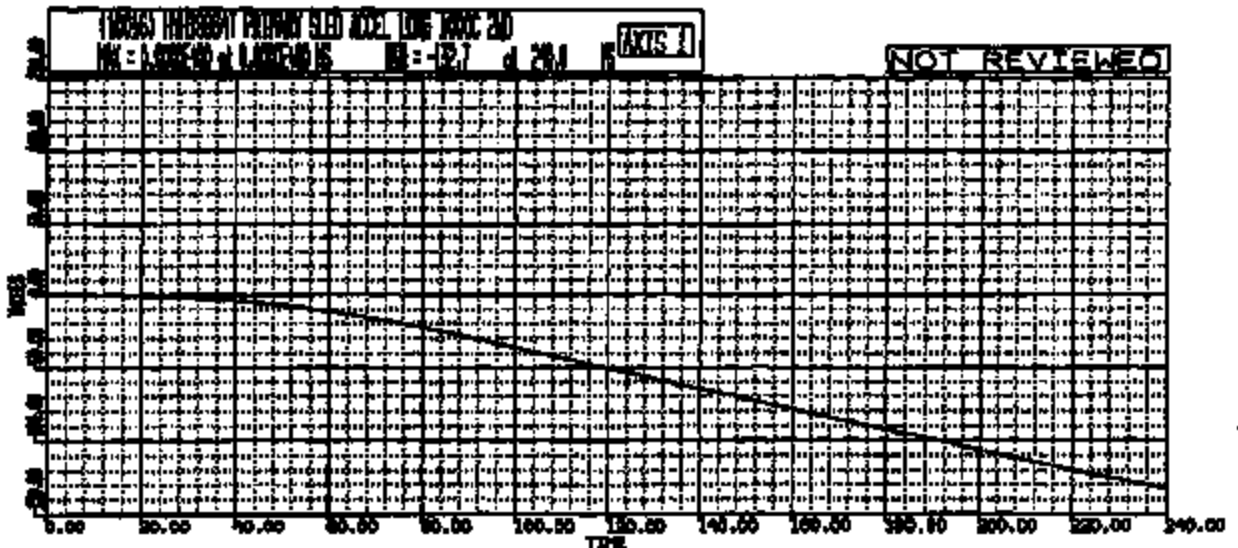
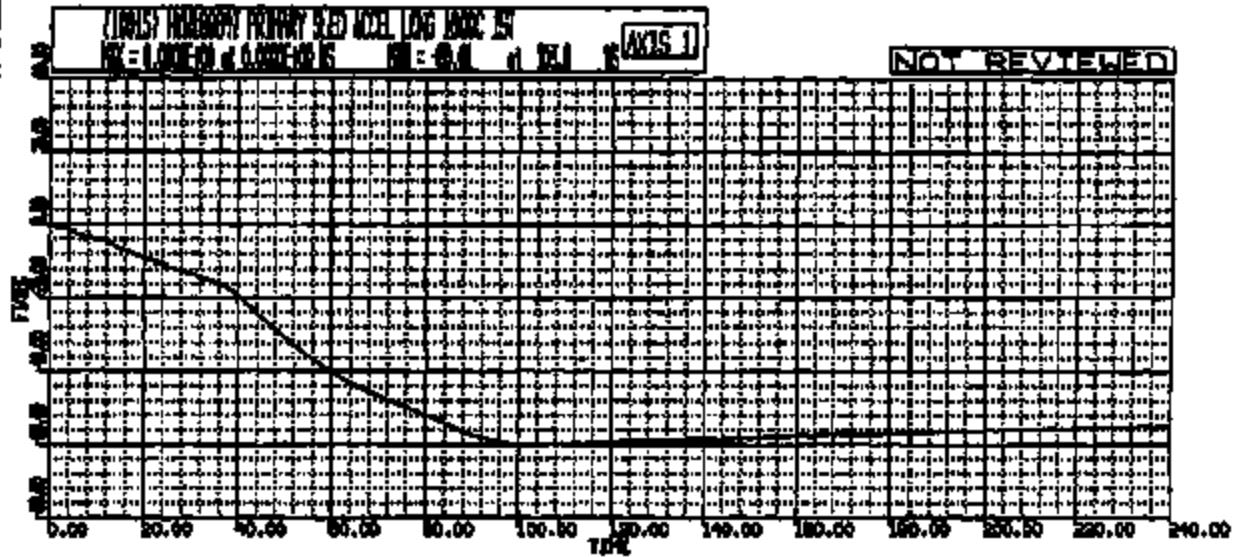
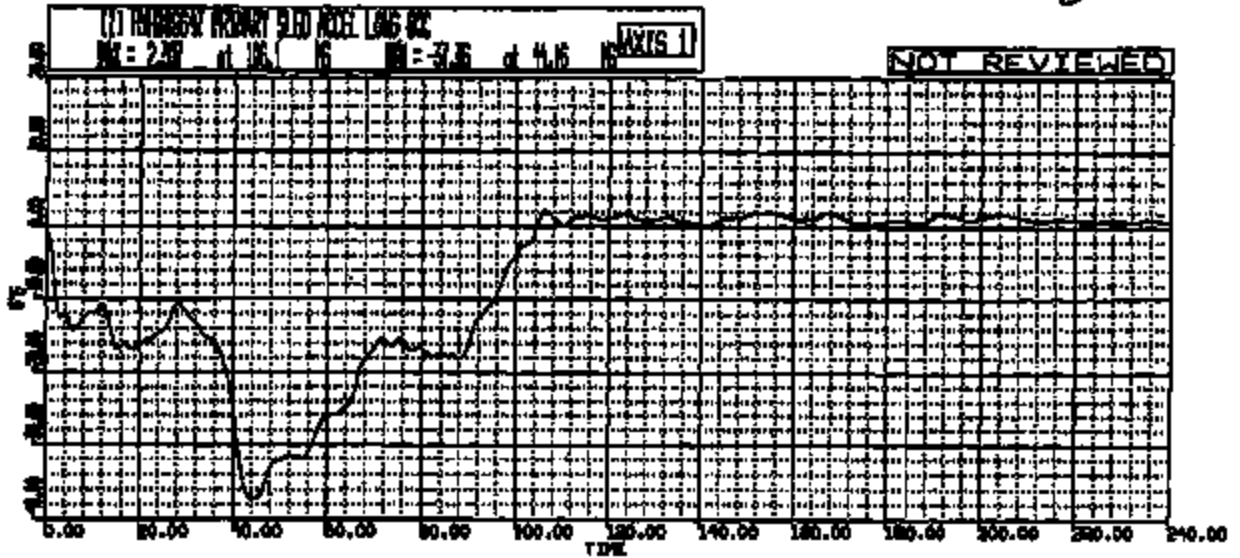
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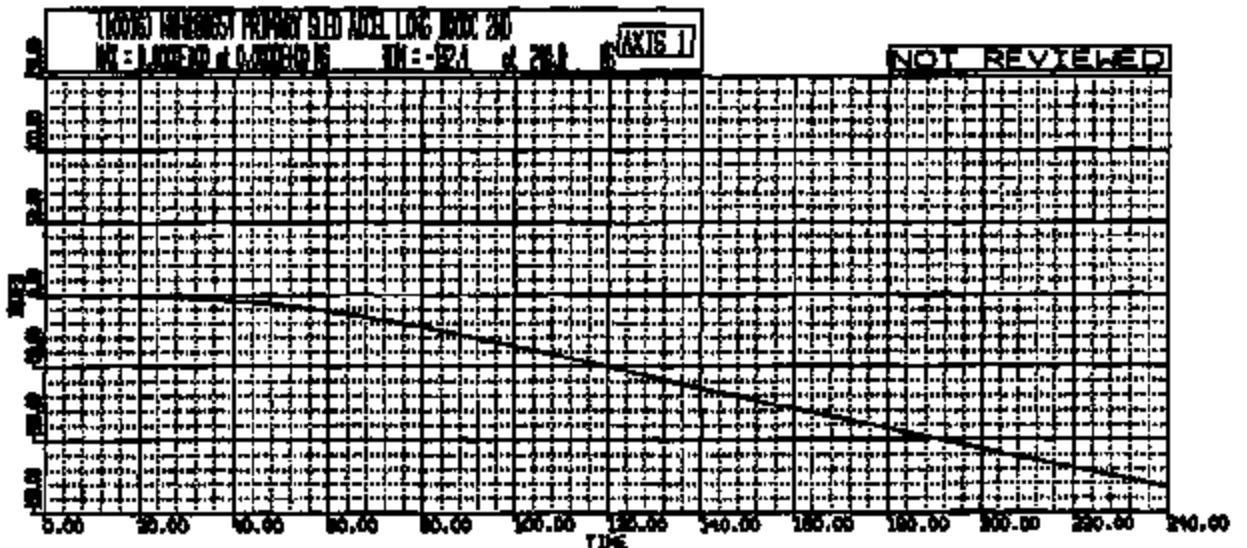
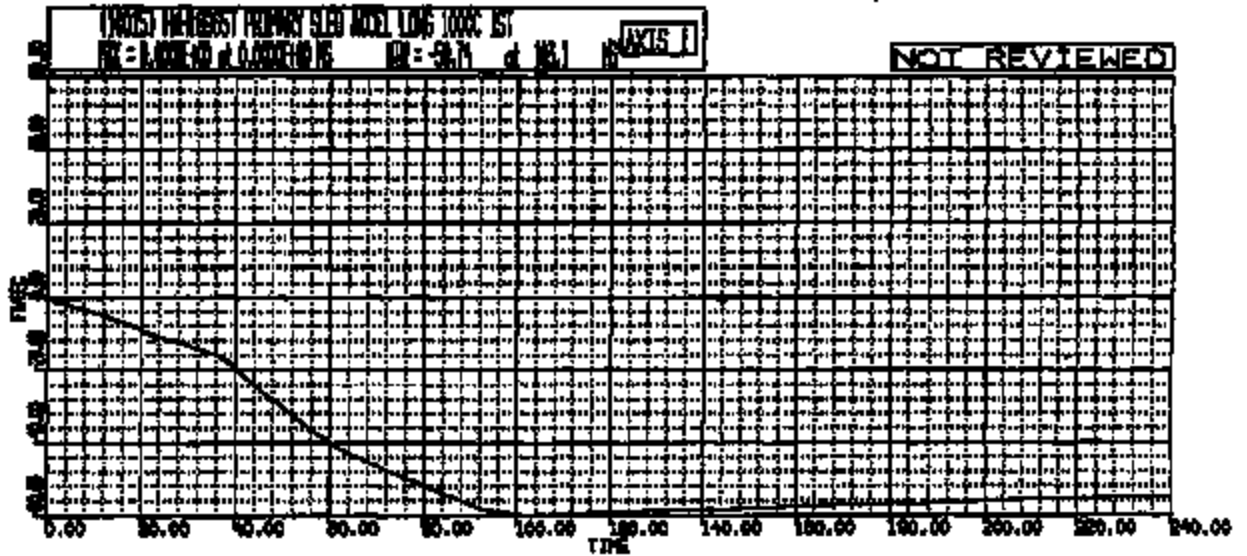
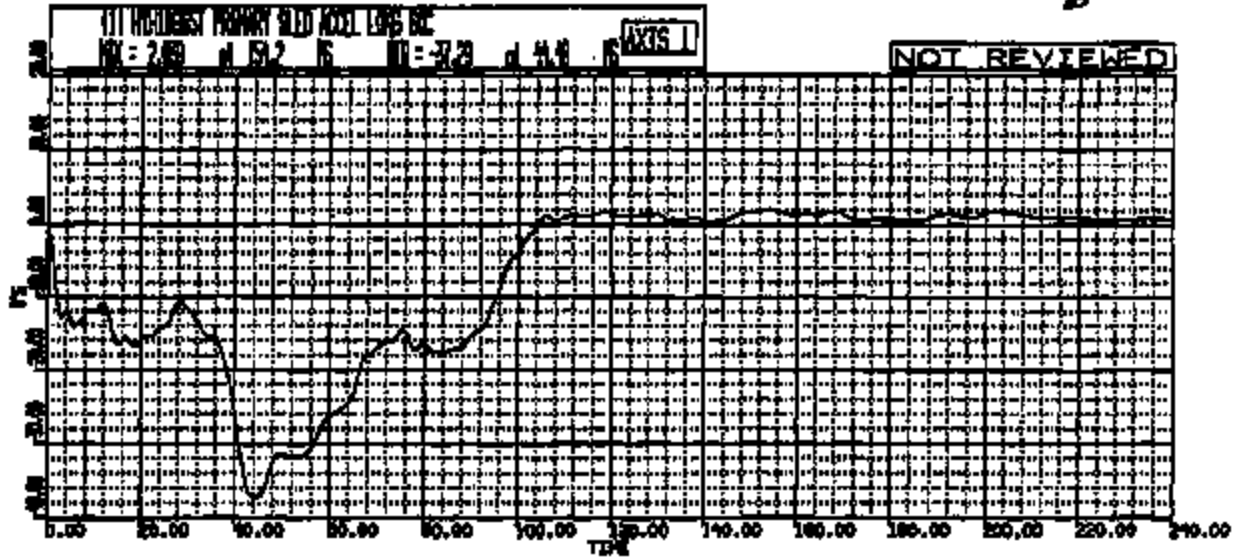
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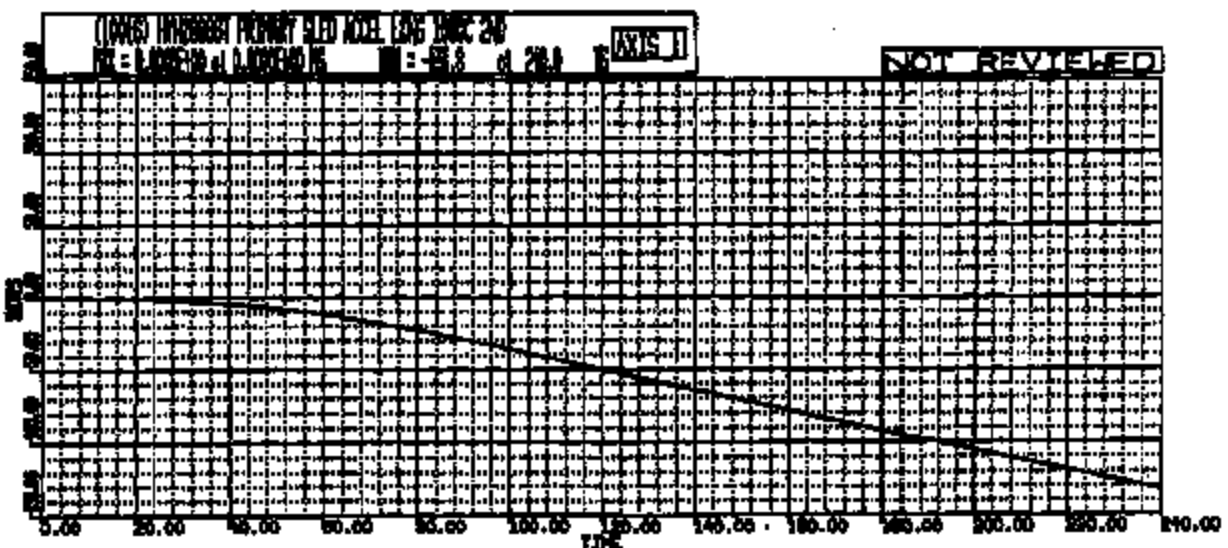
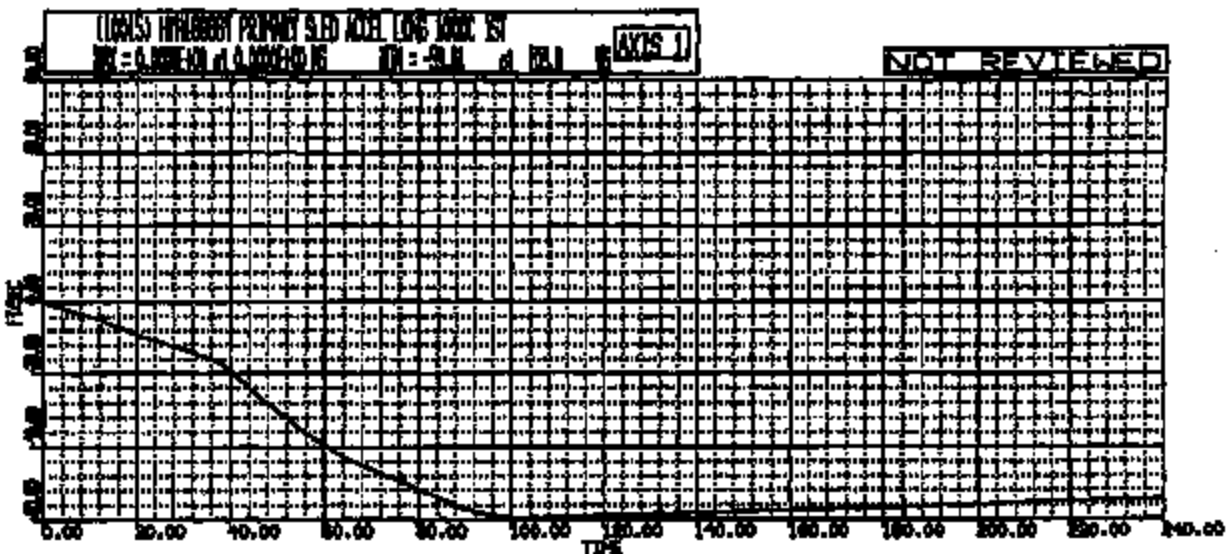
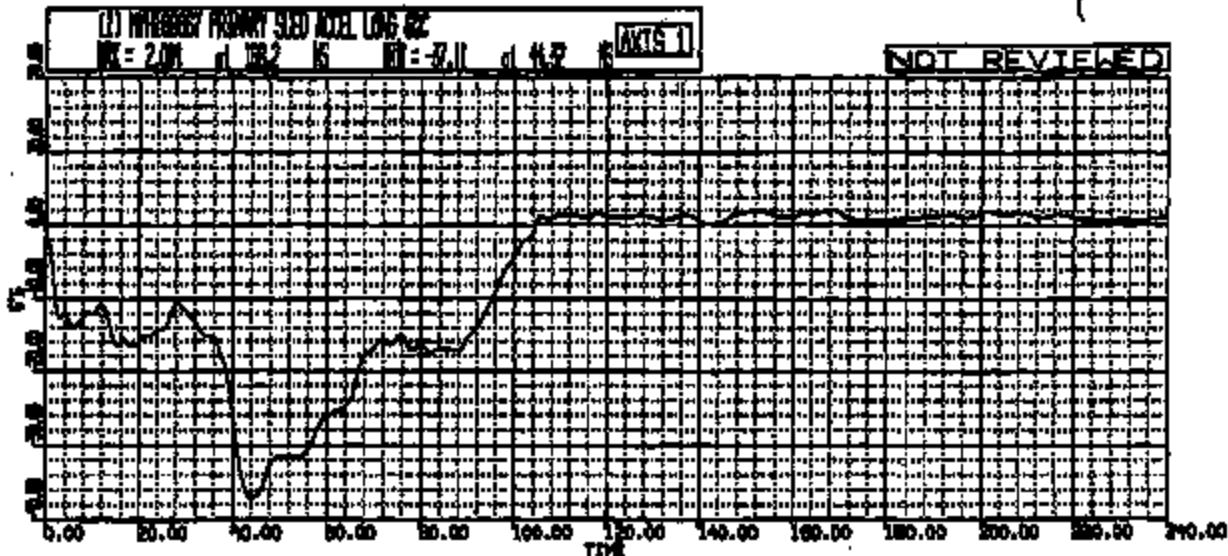
HY R: H18884 TO: TAS843A DATE: 880208 13:08:58
2000 0100

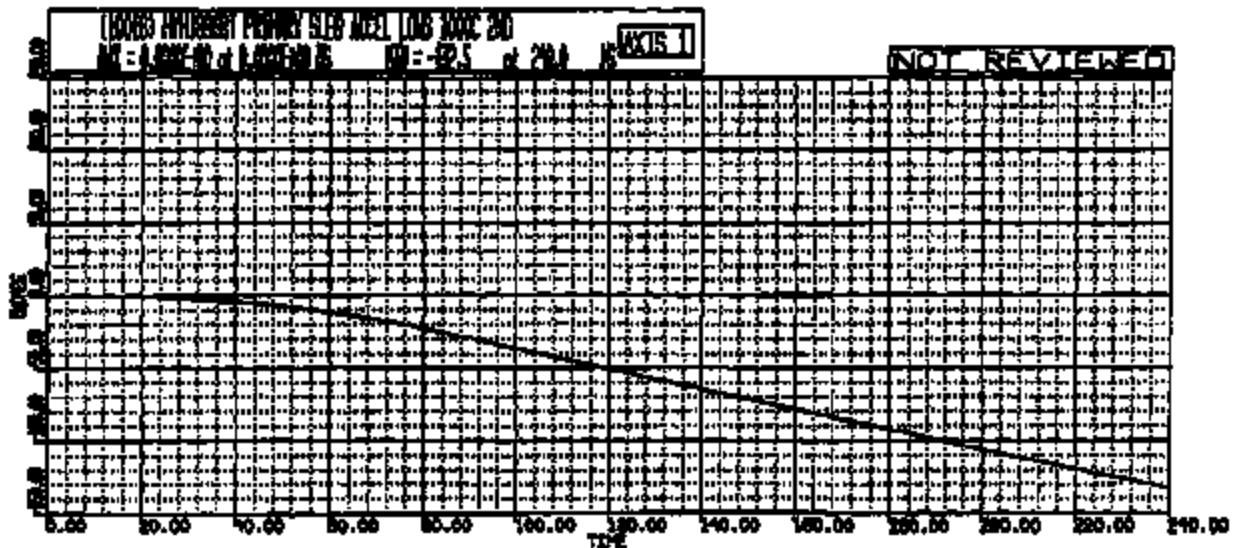
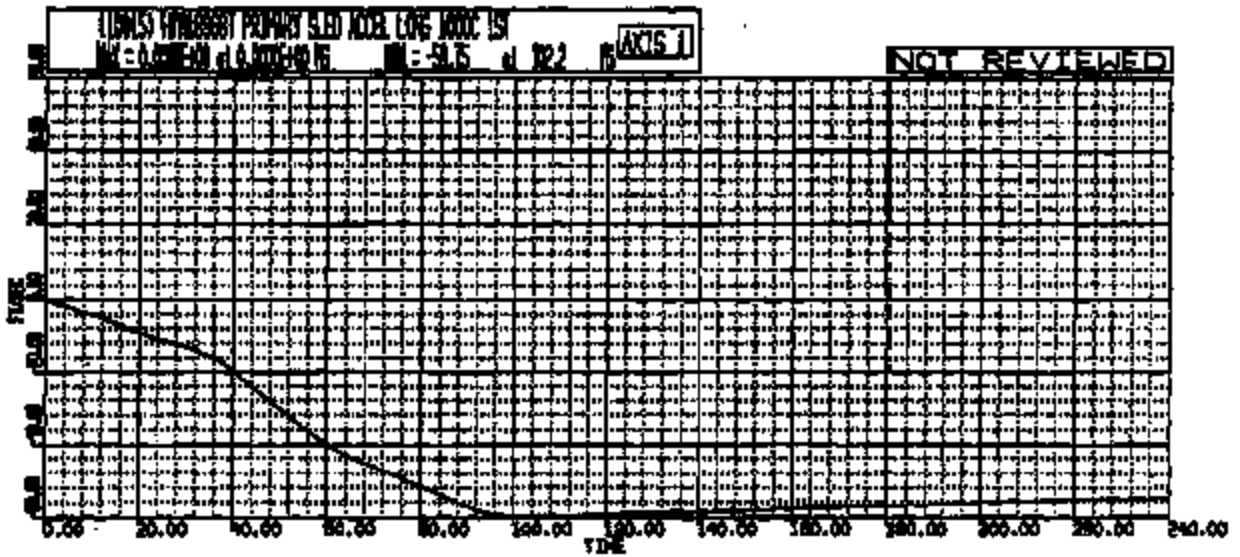
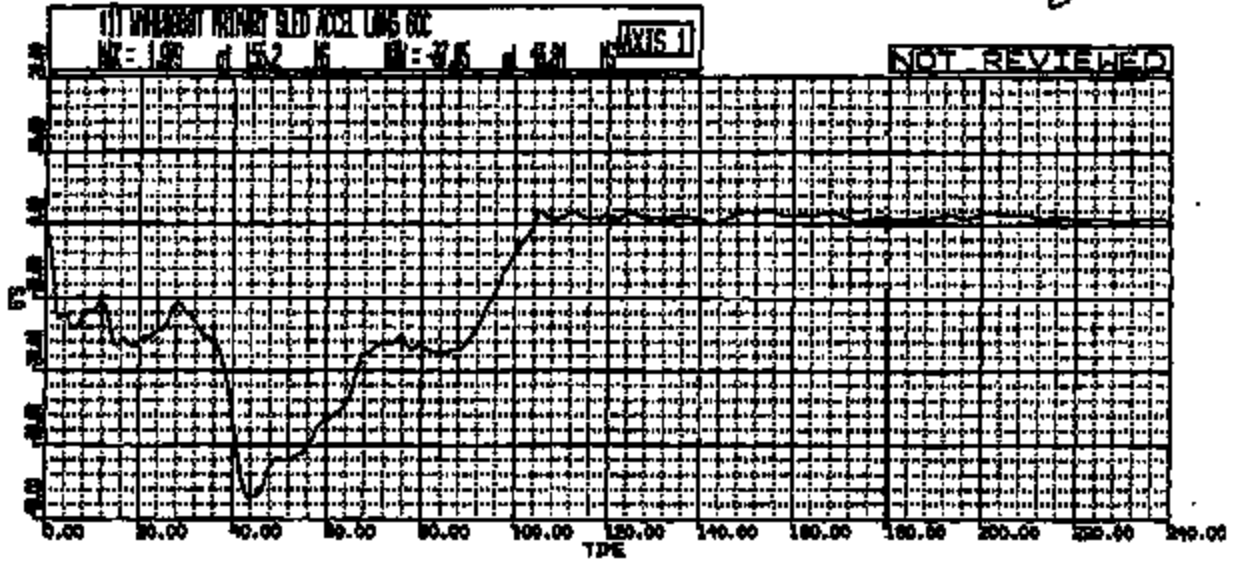


HY R: H16066 TO: TAS843A DATE: 980208 14:43:12
2000 D180



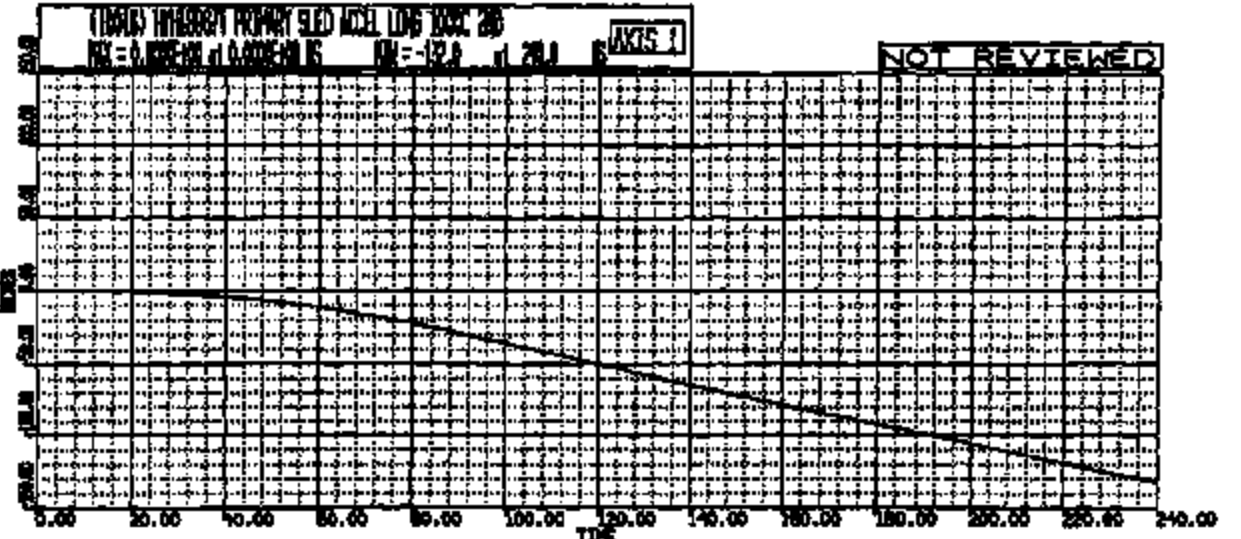
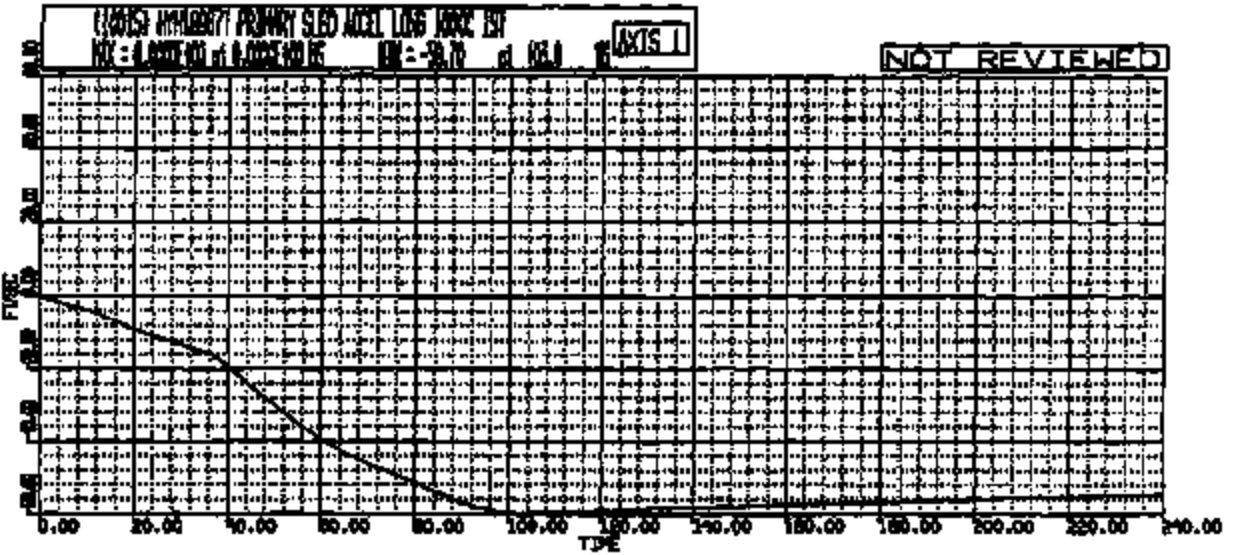
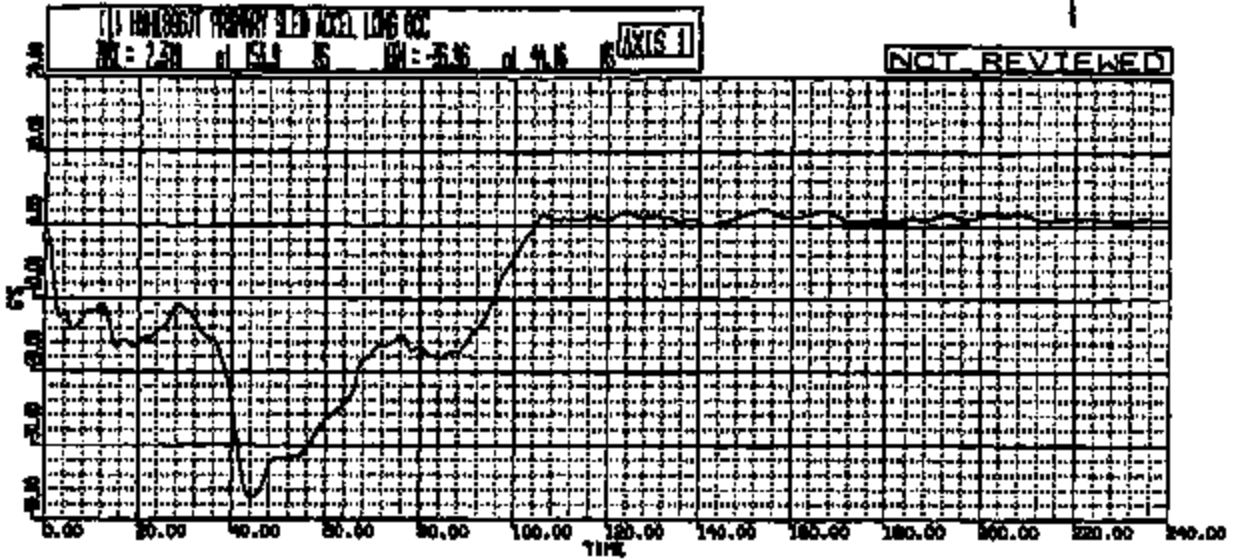
HY R: H18988 TO: TA5843A DATE: 980206 17:08:08
2000 D188





HY R: H19088 TO: TAS843A DATE: 880206 21:40:27
2000 D188


HY R: H1887 TO: TAB843A DATE: 980208 18:00:43
E000 D180



TRN #	TA #	TEST TYPE	DATE	TIME	DATA CHANNEL	WEIGHT (LBS)	HFCL	STRONG	LOAD	SET	EDGE	BACK #	VELOCITY (MPH)	LEFT	DUMPER RPM (REV)	RENT	PN	RPM	CUTER
1001	100001	100001	10/10	10:00	100001	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
1002	100002	100002	10/10	10:05	100002	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
1003	100003	100003	10/10	10:10	100003	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
1004	100004	100004	10/10	10:15	100004	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
1005	100005	100005	10/10	10:20	100005	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
1006	100006	100006	10/10	10:25	100006	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
1007	100007	100007	10/10	10:30	100007	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
1008	100008	100008	10/10	10:35	100008	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
1009	100009	100009	10/10	10:40	100009	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
1010	100010	100010	10/10	10:45	100010	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000

SLIED 0025835

ATTACHMENT 2780.F10
T7A5843

 GTO Test Request		Requester/Coordinator (PROPS ID): <i>Sheet 11</i>	
		KWARMANN KRIS WARMANN	
Testing Activity: HYGE and VIA Sled	Date Submitted: 20-JAN-98	Requested Completion Date: 10-FEB-98	Requester Reference Number:
Test Procedure Number: HYG-00	Test Title and / or Subject of Test: D185 Hyge Sled Series G		
Billable Requestor Dept No.: T851 AV2215A	Worksheet/Work Order Number: F00	Test conducted to certify control item compliance with Government Regulations: Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/>	
Billable Requestor PROPS I.D.: KWARMANN	Billable Requestor Name: KRIS WARMANN		
Complete the following two questions as indicated 1 - Rational for not replacing this test by CAE Analysis: <input type="checkbox"/> No CAE Methodology or process available <input type="checkbox"/> For CAE Correlation <input type="checkbox"/> Insufficient confidence in CAE <input type="checkbox"/> To obtain basic data for CAE <input type="checkbox"/> Replacement or improvement of existing Test <input type="checkbox"/> Testing is Quicker <input type="checkbox"/> Mandatory or Regulatory <input type="checkbox"/> Certification <input type="checkbox"/> Development test for FSS <input type="checkbox"/> Not applicable Other: xxxxxxxxxx (Check appropriate boxes)		2 - What is the expected Test Outcome: <input type="checkbox"/> Results will meet DV/PWCR requirements <input type="checkbox"/> System Component will not meet Test specification <input type="checkbox"/> Unknown <input type="checkbox"/> Above is Based on CAE? Other: xxxxxxxxxxxxxx (Check appropriate boxes)	
Test Purpose/Test Procedure or Description of Test: Evaluate dual stage HYGE Test Procedure T857-110			
Signature Approvals (As Required for Control Purposes)			
Requesting Engineer: <u>KRIS WARMANN</u>		Testing Engineer: <u>WIM VAN GLASBEK</u>	
Requesting Supervisor/Manager: <u>JIM BOLAND</u>		Testing Supervisor: <u>RICHARD BURNS</u>	

HYGE Sled Test Summary

20-13
 Reference: Kils Warnmann
 Form: 48747

HYGE Run # 18961 Run Date 2/15/98
 Test Engineer: Wim Van Glabbeek Test Auth # TA8843
 Requester: Kils Warnmann BUCK# 408
 Test Title/Description: D188 Dual Stage Inflator Evaluation

1
 MATRIX #

Crash/HYGE Pulse Ref: Crash 10988 Simulated Speed: 36 mph Pin # 54A

FRONT	LEFT	Airbag: 17/22	ms	RIGHT	Airbag: 17/22	ms
	Pyro Buckle:		ms	Pyro Buckle:		ms
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy	BOHS		Dummy		
	A/B	O-7		A/B	P-12	
	Belt	R-9		Belt	R-7	
	Seat	S-1		Seat	S-1	
	Tracks:	power <u>ON</u>		Tracks:	power <u>ON</u>	
	Position:	<u>M10</u>	Welded? <u>N</u>	Position:	<u>M10</u>	Welded? <u>N</u>
	Instrument Panel: <u>IG</u>					
	Steering Column: <u>SC3</u>					
	Pre-Test OBSERVATIONS:					

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	IB	O/B	Upright	Left	Right	IB	O/B
	On Seat	Off Seat	On Seat	Off Seat	On Seat	On Seat	Off Seat
LEFT SIDE	A/B Intact (No Holes):						Y/N
	Face to A/B	IB <u>ON</u>	O/B			IB <u>ON</u>	O/B
	Contact Location:	High <u>ON</u>	Low			High <u>ON</u>	Low
	A/B Cover Attached to Can./Cover:						Y/N
	Adj. D-ring Remain in Position:						Y/N
	Retractor Intact:	<u>Y</u> /N	Locked:	Y/ <u>N</u>			Y/ <u>N</u>
	Buckle Held:	<u>Y</u> /N	Webbing Intact:	<u>Y</u> /N			<u>Y</u> /N
	Seat Tracks Held:			<u>Y</u> /N			<u>Y</u> /N
	Cracks in IP:			Y/ <u>N</u>			Y/ <u>N</u>
	Steering Wheel Deformed:			Y/ <u>N</u>			Y/ <u>N</u>
Column Stroked w/o Interference:			<u>Y</u> /N			<u>Y</u> /N	
Column Stroke: Left: <u>15MM</u>			Right: <u>17MM</u>				
Post Test COMMENTS:							
<u>1/ BOLSTER CONTACT W/ NO VISIBLE OUTSIDE DAMAGE - SEAT NORMAL</u>							
<u>2/ TOP OF I/P CRACKED - BOLSTER CONTACT - NO VISIBLE DEFORMATION, SEAT NORMAL</u>							
OBSERVER: <u>MSD</u>							

HYGE Sled Test Summary

Sheet 14

Initiator: Kris Warrmann
Phone: 27147

HYGE Run H 18962 Run Date 2/05/98
 Test Engineer: Wim Van Glabbeek Test Auth # TA5843
 Requester: Kris Warrmann BUCK # 405

2
MATRIX #

Test Title/Description: O188 Dual Stage Initiator Evaluation

Crash/HYGE Pulse Ref: Crash 10866 Simulated Speed: 35 mph Pin # SCA

PRE-TEST OBSERVATIONS	LEFT Airbag: <u>17/22</u> ms Pyro Buckle: _____ ms	CENTER	RIGHT Airbag: <u>17/22</u> ms Pyro Buckle: _____ ms
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy <u>BOHS</u> A/B _____ Belt _____ Seat _____	PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy <u>BOHS</u> A/B _____ Belt _____ Seat _____
	Tracks: <u>power manual</u> Position: _____ Welded? <u>Y N</u>		Tracks: <u>power manual</u> Position: _____ Welded? <u>Y N</u>
	Instrument Panel: <u>I8</u> Steering Column: <u>SC3</u>		
	Pre-Test OBSERVATIONS: _____		

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

LEFT SIDE	IB	OB	Upright	Left	Right	RIGHT SIDE	IB	OB
	On Seat	Off Seat	On Seat	Off Seat	On Seat		Off Seat	On Seat
A/B Intact <u>Y</u>						A/B Intact <u>Y</u>		
Face to A/B	<u>Y</u>	<u>N</u>				Face to A/B	<u>Y</u>	<u>N</u>
Contact Location:	<u>Mid</u>	<u>Low</u>				Contact Location:	<u>High</u>	<u>Low</u>
A/B Cover Attached to Can./Cover:	<u>Y</u>	<u>N</u>				A/B Cover Attached to Can./Cover:	<u>Y</u>	<u>N</u>
Adj. D-ring Remain in Position:	<u>Y</u>	<u>N</u>				Adj. D-ring Remain in Position:	<u>Y</u>	<u>N</u>
Retractor Intact:	<u>Y</u>	<u>N</u>	Looked:	<u>Y</u>	<u>N</u>	Retractor Intact:	<u>Y</u>	<u>N</u>
Buckle Held:	<u>Y</u>	<u>N</u>	Webbing Intact:	<u>Y</u>	<u>N</u>	Buckle Held:	<u>Y</u>	<u>N</u>
Seat Tracks Held:	<u>weld</u>			<u>Y</u>	<u>N</u>	Seat Tracks Held:	<u>weld</u>	
Cracks in IP:				<u>Y</u>	<u>N</u>	Cracks in IP:		
Steering Wheel Deformed:				<u>Y</u>	<u>N</u>			
Column Stroked w/o Interference:				<u>Y</u>	<u>N</u>			
Column Stroke: Left: <u>23</u>						Column Stroke: Right: <u>20</u>		

Post Test COMMENTS:

L/ BOLSTER CONTACT W/ NO VISIBLE DEFORMATION - SEAT NORMAL

R/ BOLSTER CONTACT W/ NO VISIBLE DEFORMATION - SEAT NORMAL

OBSERVER: MVA

HYGE Sled Test Summary

Sheet 15

Inventor: Kris Wismann
Phone: 257147

HYGE Run # 18963

Run Date 8/16/98

Test Engineer: Wim Van Glabbeek

Test Auth # TA5843

Requester: Kris Wismann

BUCK # 405

3

MATRIX #

Test Title/Description: D188 Dual Stage Inflator Evaluation

Crash/HYGE Pulse Ref: Crash 10955

Simulated Speed: 35 mph

Pin #

	LEFT	Airbag: 1722 ms	RIGHT	Airbag: 1722 ms
PRE-TEST OBSERVATIONS		Pyro Buckle: ms		Pyro Buckle: ms
	Dummy: <u>80-13</u>		Dummy: <u>80-13</u>	
	A/B: <u>D-7</u>		A/B: <u>D-12</u>	
	Belt: <u>R-9</u>		Belt: <u>R-7</u>	
	Seat: <u>S-1</u>		Seat: <u>S-1</u>	
	Tracks: power <u>marked</u>		Tracks: power <u>marked</u>	
	Position: <u>MID</u> Welded? <input checked="" type="checkbox"/> K		Position: <u>MID</u> Welded? <input checked="" type="checkbox"/> N	
	Instrument Panel: <u>IB</u>			
	Steering Column: <u>SCS</u>			
	Pre-Test OBSERVATIONS:			
POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:				
	<input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> On Seat	I/B Off Seat	O/B Off Seat	Upright On Seat
	<input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> On Seat	I/B Off Seat	O/B Off Seat	Upright On Seat
LEFT SIDE	A/B Intact (No Holes): <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N			A/B Intact (No Holes): <input checked="" type="checkbox"/> SMALL HOLE <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N
	Face to A/B: <input checked="" type="checkbox"/> I/B <input checked="" type="checkbox"/> O/B			Face to A/B: <input checked="" type="checkbox"/> I/B Center <input checked="" type="checkbox"/> O/B
	Contact Location: <input checked="" type="checkbox"/> High <input checked="" type="checkbox"/> Mid <input checked="" type="checkbox"/> Low			Contact Location: <input checked="" type="checkbox"/> High <input checked="" type="checkbox"/> Mid <input checked="" type="checkbox"/> Low
	A/B Cover Attached to Can/Cover: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N			A/B Cover Attached to Can/Cover: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N
	Adj. D-ring Remain in Position: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N			Adj. D-ring Remain in Position: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N
	Retractor Intact: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N	Locked: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N		Retractor Intact: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N
	Buckle Held: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N	Webbing Intact: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N		Buckle Held: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N
	Seat Tracks Held: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N			Seat Tracks Held: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N
	Cracks in IP: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N			Cracks in IP: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N
	Steering Wheel Deformed: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N			
	Column Stroked w/o Interference: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N			
	Column Stroke: Left: <u>18</u>			Right: <u>15</u>
	Post Test COMMENTS:			
	OBSERVER: <i>[Signature]</i>			

HYGE Sled Test Summary

Sheet 16

Labster: Kris Wernann
Phone: 187147

HYGE Run # 18904

Run Date 2/10/98

Test Engineer: Wim Van Glabbeek

Test Auth # TAS843

Requester: Kris Wernann

BUCK # 405

4

MATRIX #

Test Title/Description: D186 Dual Stage Inflator Evaluation

Crash/HYGE Pulse Ref: Crash 10008

Simulated Speed: 35 mph

Pin # _____

	LEFT	RIGHT		LEFT	RIGHT	
PYRO TUBES	Airbag: <u>17/22</u> ms	Airbag: <u>17/22</u> ms		Pyro Buckle: _____ ms	Pyro Buckle: _____ ms	
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy: <u>BOHS</u>	Dummy: _____		Dummy: <u>BOHS</u>	Dummy: _____	
	A/B: <u>D-6</u>	Belt: _____		A/B: <u>D-12</u>	Belt: _____	
	Seat: <u>R-9</u>	Dr. A/B FMS: _____		Seat: <u>R-9</u>	Dr. A/B FMS: _____	
	Seat: <u>S-1</u>	Pass. FMS: _____		Seat: <u>S-1</u>	Pass. FMS: _____	
	Tracks: <u>power</u> <input checked="" type="checkbox"/> <u>trans</u>			Tracks: <u>power</u> <input checked="" type="checkbox"/> <u>trans</u>		
	Position: <u>M/D</u> Welded? <input checked="" type="checkbox"/> <u>N</u>			Position: <u>M/D</u> Welded? <input checked="" type="checkbox"/> <u>N</u>		
	Instrument Panel: <u>IS</u>			Instrument Panel: _____		
	Steering Column: <u>SC3</u>			Steering Column: _____		
	Pre-Test OBSERVATIONS: _____					
	POST-TEST OBSERVATIONS & CHECKLIST <small>Comment (if needed) below:</small>					
LEFT SIDE	<input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> On Seat	<input checked="" type="checkbox"/> MB <input checked="" type="checkbox"/> Off Seat	RIGHT SIDE	<input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> On Seat	<input checked="" type="checkbox"/> MB <input checked="" type="checkbox"/> Off Seat	
LEFT SIDE	A/B Intact <input checked="" type="checkbox"/> <u>No Holes</u> : <input checked="" type="checkbox"/> <u>Y</u> / <input checked="" type="checkbox"/> <u>N</u> Face to A/B: <input checked="" type="checkbox"/> <u>MB</u> <input checked="" type="checkbox"/> <u>Center</u> <input checked="" type="checkbox"/> <u>O/B</u> Contact Location: <input checked="" type="checkbox"/> <u>High</u> <input checked="" type="checkbox"/> <u>Mid</u> <input checked="" type="checkbox"/> <u>Low</u>		RIGHT SIDE	A/B Intact <input checked="" type="checkbox"/> <u>No Holes</u> : <input checked="" type="checkbox"/> <u>Y</u> / <input checked="" type="checkbox"/> <u>N</u> Face to A/B: <input checked="" type="checkbox"/> <u>MB</u> <input checked="" type="checkbox"/> <u>Center</u> <input checked="" type="checkbox"/> <u>O/B</u> Contact Location: <input checked="" type="checkbox"/> <u>High</u> <input checked="" type="checkbox"/> <u>Mid</u> <input checked="" type="checkbox"/> <u>Low</u>		
LEFT SIDE	A/B Cover Attached to Can./Cover: <input checked="" type="checkbox"/> <u>Y</u> / <input checked="" type="checkbox"/> <u>N</u> Adj. D-ring Remain in Position: <input checked="" type="checkbox"/> <u>Y</u> / <input checked="" type="checkbox"/> <u>N</u> Retractor Intact: <input checked="" type="checkbox"/> <u>Y</u> / <input checked="" type="checkbox"/> <u>N</u> Looked: <input checked="" type="checkbox"/> <u>Y</u> / <input checked="" type="checkbox"/> <u>N</u> Buckle Held: <input checked="" type="checkbox"/> <u>Y</u> / <input checked="" type="checkbox"/> <u>N</u> Webbing Intact: <input checked="" type="checkbox"/> <u>Y</u> / <input checked="" type="checkbox"/> <u>N</u> Seat Tracks Held: <input checked="" type="checkbox"/> <u>Y</u> / <input checked="" type="checkbox"/> <u>N</u> Cracks in IP: <input checked="" type="checkbox"/> <u>Y</u> / <input checked="" type="checkbox"/> <u>N</u> Steering Wheel Deformed: <input checked="" type="checkbox"/> <u>Y</u> / <input checked="" type="checkbox"/> <u>N</u> Column Stroked w/o Interference: <input checked="" type="checkbox"/> <u>Y</u> / <input checked="" type="checkbox"/> <u>N</u>		RIGHT SIDE	A/B Cover Attached to Can./Cover: <input checked="" type="checkbox"/> <u>Y</u> / <input checked="" type="checkbox"/> <u>N</u> Adj. D-ring Remain in Position: <input checked="" type="checkbox"/> <u>Y</u> / <input checked="" type="checkbox"/> <u>N</u> Retractor Intact: <input checked="" type="checkbox"/> <u>Y</u> / <input checked="" type="checkbox"/> <u>N</u> Looked: <input checked="" type="checkbox"/> <u>Y</u> / <input checked="" type="checkbox"/> <u>N</u> Buckle Held: <input checked="" type="checkbox"/> <u>Y</u> / <input checked="" type="checkbox"/> <u>N</u> Webbing Intact: <input checked="" type="checkbox"/> <u>Y</u> / <input checked="" type="checkbox"/> <u>N</u> Seat Tracks Held: <input checked="" type="checkbox"/> <u>Y</u> / <input checked="" type="checkbox"/> <u>N</u> Cracks in IP: <input checked="" type="checkbox"/> <u>Y</u> / <input checked="" type="checkbox"/> <u>N</u>		
Column Stroke: Left: <u>60</u> Right: <u>55</u>						
Post Test COMMENTS: _____ _____ _____ _____ _____ _____						
OBSERVER: <u>D. Duder</u>						

HYGE Sled Test Summary

Sheet 17

Index: K/s Warmann
Phone: 487147

HYGE Run # 18965
 Test Engineer: Wim Van Giebbek
 Requester: K/s Warmann

Run Date 8/16/98
 Test Auth # TA5843
 BUCK # 405

5

MATRIX #

Test Title/Description: D188 Dual Stage Inletor Evaluation

Crash/HYGE Pulse Ref: Crash 10968

Simulated Speed: 36 mph

Pin #

	LEFT	Airbag: <u>4788-1 8/17 ms</u>	RIGHT	Airbag: <u>4788-1 8/17 ms</u>
		Pyro Buckle: <u>ms</u>		Pyro Buckle: <u>ms</u>
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	LEFT	Dummy: <u>60H3</u>	CENTER	Dummy: <u>60H3</u>
		A/B: <u>D-6</u>		A/B: <u>D-12</u>
		Belt: <u>R-9</u>		Belt: <u>R-9</u>
		Seat: <u>S1</u>		Seat: <u>S1</u>
		Tracks: <u>power</u> <input checked="" type="checkbox"/> <u>Welded?</u> <input checked="" type="checkbox"/> <u>N</u>		Tracks: <u>power</u> <input checked="" type="checkbox"/> <u>Welded?</u> <input checked="" type="checkbox"/> <u>N</u>
		Position: <u>MID</u>		Position: <u>MID</u>
	Instrument Panel: <u>IB</u>			
	Steering Column: <u>BC3</u>			
	Pre-Test OBSERVATIONS:			

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	LEFT	C/B	O/B	UPRIGHT	LEFT	RIGHT	RIGHT	C/B	O/B
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	A/B Intact: <u>(No Holes)</u>								
		Face to A/B: <u>IB</u>	Center: <u>High</u>	Low: <u>Mid</u>					
		Contact Location: <u>High</u>							
		A/B Cover Attached to Can/Cover: <input checked="" type="checkbox"/>							
		Adj. D-ring Remain in Position: <input checked="" type="checkbox"/>							
		Retractor Intact: <input checked="" type="checkbox"/> <u>N</u>	Locked: <input checked="" type="checkbox"/> <u>Y</u>						
		Buckle Held: <input checked="" type="checkbox"/> <u>N</u>	Webbing Intact: <input checked="" type="checkbox"/> <u>Y</u>						
		Seat Tracks Held: <u>Weld</u>							
		Cracks in IP: <input checked="" type="checkbox"/> <u>Y</u>							
		Steering Wheel Deformed: <input checked="" type="checkbox"/> <u>Y</u>							
		Column Stroked into Interference: <input checked="" type="checkbox"/> <u>Y</u>							
		Column Stroke: Left: <u>22</u>							Right: <u>25</u>

Post Test COMMENTS:

L/ SLIGHT BOLSTER CONTACT W/ MIN DEFORMATION

R/ BOLSTER CONTACT W/ NO VISIBLE DEFORMATION

OBSERVER: M...

HYGE Sled Test Summary

Sheet 18

Initiator: K/1 Warmann
Phone: x571-07

HYGE Run H: 18960a
 Test Engineer: Wim Van Glabbeek
 Requester: Kris Warmann

Run Date: 2/16/98
 Test Auth #: TAS843
 BUICK #: 405



Test Title/Description: D188 Dual Stage Inflator Evaluation

Crash/HYGE Pulse Ref: Crash 10988

Simulated Speed: 35 mph

Pin #

	LEFT		RIGHT
	Airbag: <u>1982 12/17 ms</u>		Airbag: <u>1982 12/17 ms</u>
	Pyro Buckle: _____ ms		Pyro Buckle: _____ ms
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy: <u>5013</u>		Dummy: <u>5013</u>
	A/B: <u>D-10</u>	Center Belt: _____	A/B: <u>P-10</u>
	Belt: <u>R-9</u>	Dr. A/B FMR: _____	Belt: <u>R-8</u>
	Seat: <u>S1</u>	Pass. Pass: _____	Seat: <u>S1</u>
	Track: <u>power (circled)</u>		Track: <u>power (circled)</u>
	Position: <u>MID</u> Welded? <u>(X) N</u>		Position: <u>MID</u> Welded? <u>(X) N</u>
	Instrument Panel: <u>15</u>		
	Steering Column: <u>SC3</u>		
	Pre-Test OBSERVATIONS: _____		

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	LEFT			RIGHT		
	Upright	IB	Off Seat	Upright	IB	Off Seat
A/B Intact (No Peak)	<u>(X) ON SEAT</u>	<u>(X) ON SEAT</u>	<u>(X) ON SEAT</u>	<u>(X) ON SEAT</u>	<u>(X) ON SEAT</u>	<u>(X) ON SEAT</u>
Face to A/B	<u>(X) High</u>	<u>(X) Mid</u>	<u>(X) Low</u>	<u>(X) High</u>	<u>(X) Mid</u>	<u>(X) Low</u>
Contact Location:	<u>(X) High</u>	<u>(X) Mid</u>	<u>(X) Low</u>	<u>(X) High</u>	<u>(X) Mid</u>	<u>(X) Low</u>
A/B Cover Attached to Can./Cover:	<u>(X) Y</u>	<u>(X) N</u>	<u>(X) N</u>	<u>(X) Y</u>	<u>(X) N</u>	<u>(X) N</u>
Adj. D-ring Remain in Position:	<u>(X) Y</u>	<u>(X) N</u>	<u>(X) N</u>	<u>(X) Y</u>	<u>(X) N</u>	<u>(X) N</u>
Retractor Intact:	<u>(X) Y</u>	<u>(X) N</u>	<u>(X) N</u>	<u>(X) Y</u>	<u>(X) N</u>	<u>(X) N</u>
Locked:	<u>(X) Y</u>	<u>(X) N</u>	<u>(X) N</u>	<u>(X) Y</u>	<u>(X) N</u>	<u>(X) N</u>
Buckle Held:	<u>(X) Y</u>	<u>(X) N</u>	<u>(X) N</u>	<u>(X) Y</u>	<u>(X) N</u>	<u>(X) N</u>
Webbing Intact:	<u>(X) Y</u>	<u>(X) N</u>	<u>(X) N</u>	<u>(X) Y</u>	<u>(X) N</u>	<u>(X) N</u>
Seat Tracks Held:	<u>(X) Y</u>	<u>(X) N</u>	<u>(X) N</u>	<u>(X) Y</u>	<u>(X) N</u>	<u>(X) N</u>
Cracks in MP:	<u>(X) Y</u>	<u>(X) N</u>	<u>(X) N</u>	<u>(X) Y</u>	<u>(X) N</u>	<u>(X) N</u>
Steering Wheel Deformed:	<u>(X) Y</u>	<u>(X) N</u>	<u>(X) N</u>	<u>(X) Y</u>	<u>(X) N</u>	<u>(X) N</u>
Column Stroked w/o Interference:	<u>(X) Y</u>	<u>(X) N</u>	<u>(X) N</u>	<u>(X) Y</u>	<u>(X) N</u>	<u>(X) N</u>
Column Stroke:	Left: <u>18</u>			Right: <u>21</u>		

Post Test COMMENTS:
L/ BOLSTER CONTACT W/ SLIGHT DEFORMATION - SEAT NORMAL

R/ SLIGHT BOLSTER DEFORMATION - SEAT NORMAL

OBSERVER: Wim

HYGE Sled Test Summary

Sheet 19

Inhibitor: Kris Worman

Phone: #7147

HYGE Run # 18768

Run Date 2/6/98

Test Engineer: Wm Van Glabbeek

Test Auth # TA5843

Requestor: Kris Worman

BUCK # 405



Test Title/Description: D196 Dual Stage Inflator Evaluation

Crash/HYGE Pulse Ref: Crash 10988

Simulated Speed: 35 mph

Pin # _____

PRE-TEST	LEFT Airbag: <u>17/22</u> ms Pyro Buckle: ms	RIGHT Airbag: <u>17/22</u> ms Pyro Buckle: ms	
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy <u>SDH3</u> A/B <u>D6</u> Belt <u>R11</u> Seat <u>S1</u>	Dummy _____ A/B _____ Belt _____ Seat _____	Dummy <u>SDH3</u> A/B <u>P12</u> Belt <u>R11</u> Seat <u>S1</u>
	Tracks: power <u>Serial</u> Position: <u>M10</u> Welded? <u>N</u>	Dr. A/B FMF _____ Pass. FMF _____	Tracks: power <u>Serial</u> Position: <u>M10</u> Welded? <u>DN</u>
	Instrument Panel: <u>IS</u>		
	Steering Column: <u>SC3</u>		
	Pre-Test OBSERVATIONS: _____		

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	Upright Left Right On Seat Off Seat Off Seat	
LEFT SIDE	A/B Intact: <u>Y</u> <u>DN</u> <u>Y</u> <u>N</u> Face to A/B: <u>US</u> <u>Center</u> <u>O/B</u> Contact Location: <u>Right</u> <u>Low</u> A/B Cover Attached to Can./Cover: <u>Y</u> <u>N</u> Adj. D-ring Remain in Position: <u>Y</u> <u>N</u> Retractor Intact: <u>Y</u> <u>N</u> Locked: <u>Y</u> <u>DN</u> Buckle Held: <u>Y</u> <u>N</u> Webbing Intact: <u>Y</u> <u>N</u> Seat Tracks Held: <u>Weld</u> <u>Y</u> <u>DN</u> Cracks in IP: _____ Steering Wheel Deformed: <u>Y</u> <u>DN</u> Column Stroked w/o Interference: <u>Y</u> <u>DN</u>	RIGHT SIDE
	A/B Intact: <u>Y</u> <u>DN</u> <u>Y</u> <u>N</u> Face to A/B: <u>US</u> <u>Center</u> <u>O/B</u> Contact Location: <u>High</u> <u>Low</u> A/B Cover Attached to Can./Cover: <u>Y</u> <u>N</u> Adj. D-ring Remain in Position: <u>Y</u> <u>N</u> Retractor Intact: <u>Y</u> <u>N</u> Locked: <u>Y</u> <u>DN</u> Buckle Held: <u>Y</u> <u>N</u> Webbing Intact: <u>Y</u> <u>N</u> Seat Tracks Held: <u>Weld</u> <u>Y</u> <u>DN</u> Cracks in IP: _____	
Column Stroke: Left: <u>22 mm</u> Right: <u>20 mm</u>		

Post Test COMMENTS:

L/BOLSTER CONTACT W/ NO VISIBLE DEFORMATION - SEAT NORMAL

R/GLOVEBOX OPENED W/ SLIGHT DEFORMATION - SEAT NORMAL

OBSERVER: Moran

HYGE Sled Test Summary

Sheet 20
 Initiator: Kris Warmann
 Floor: x8747

HYGE Run H 18967 Run Date 2/06/98
 Test Engineer: Wm Van Glabbeek Test Auth # TA5843
 Requestor: Kris Warmann BUCK # 405

7

MATRIX #

Test Title/Description: D188 Dual Stage Initiator Evaluation
 Crash/HYGE Pulse Ref: Crash 10958 Simulated Speed: 35 mph Pin # _____

LEFT	Airbag: <u>17/22</u> ms	RIGHT	Airbag: <u>17/22</u> ms	
	Pyro Buckle: _____ ms		Pyro Buckle: _____ ms	
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy: <u>SOHS</u>	Dummy: _____	Dummy: <u>SOHS</u>	
	A/B: <u>PIC</u>	Belt: _____	A/B: <u>PIC</u>	
	Belt: <u>R10</u>	Dr. A/B FMB: _____	Belt: <u>R10</u>	
	Seat: <u>S1</u>	Pass. FMB: _____	Seat: <u>S1</u>	
	Tracks: power <input checked="" type="checkbox"/>		Tracks: power <input checked="" type="checkbox"/>	
	Position: <u>M10</u> Welded? <input checked="" type="checkbox"/> N		Position: <u>M10</u> Welded? <input checked="" type="checkbox"/> N	
	Instrument Panel: <u>IS</u>			
	Steering Column: <u>SC3</u>			
	Pre-Test OBSERVATIONS: _____			

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

LEFT SIDE	Upright	Left	Right	RIGHT SIDE	
	On Seat	Off Seat	Off Seat		
A/B Intact (No Holes):	<input checked="" type="checkbox"/> N			A/B Intact (No Holes):	<input checked="" type="checkbox"/> N
Face to A/B	<input checked="" type="checkbox"/> Center	<input type="checkbox"/> OVB		Face to A/B	<input checked="" type="checkbox"/> Center
Contact Location:	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Mid	<input type="checkbox"/> Low	Contact Location:	<input checked="" type="checkbox"/> High
A/B Cover Attached to Can./Cover:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N		A/B Cover Attached to Can./Cover:	<input checked="" type="checkbox"/> Y
Adj. D-ring Remains in Position:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N		Adj. D-ring Remains in Position:	<input checked="" type="checkbox"/> Y
Retractor Intact:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	Locked: <input checked="" type="checkbox"/> Y	Retractor Intact:	<input checked="" type="checkbox"/> Y
Buckle Held:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	Webbing Intact: <input checked="" type="checkbox"/> Y	Buckle Held:	<input checked="" type="checkbox"/> Y
Seat Tracks Held:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	Cracks in VP: <input checked="" type="checkbox"/> Y	Seat Tracks Held:	<input checked="" type="checkbox"/> Y
Cracks in VP:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N		Cracks in VP:	<input checked="" type="checkbox"/> Y
Steering Wheel Deformed:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N			
Column Stroked w/o Interference:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N			
Column Stroke: Left: <u>21</u>			Right: <u>17</u>		
Post Test COMMENTS:					
<u>L/ BOLSTER CONTACT W/ NO VISIBLE DEFORMATION - SEAT NORMAL</u>					
<u>R SEAT NORMAL - BOLSTER CONTACT W/ NO DEFORMATION</u>					
OBSERVER: <u>Wm Van Glabbeek</u>					

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 21

Author: Kals Wagoner

Phone: x97147

TA5843

Run H 18961

Date 2-5-98

D100 Dual Stage Inflator Evaluation

1

Buck # 405

Reference: H
H
H

Left BOHS	DUMMY TYPE	Right 60-18
MID	SEAT POSITION	MID
321	DUMMY NUMBER	309

Center

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (\pm mm)	
					1st RUN	ADD'L
Seat Back Angle (15° above pivot)	27	27.8	27.8	27	0	+/-1 notch
Pelvic Angle (+/- 2.3 deg; +/-1.0 for 5961a)	25	22.8	22.8	21		
Column Angle		21	21		at left	at left
H-Point Longitudinal Laser # 4	232	232	231	231	12	6
H-Point Vertical Laser # 4	-217	-198	-198	198		6
H-Point Lateral	210	210	211	210	12	6
Knee Longitudinal Laser # 2	-145	-168	-168	168		
Knee Vertical Laser # 2	-73	-68	-71	70		
Knee Lateral	264	264	265	263	6	6
Head Longitudinal Laser # 6	347	347	347	347	level	6
Head Vertical Laser # 5	448	448	448	444	level	6
Head Lateral	323	323	324	325	level	6
Dummy Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (max)	194	184	184	195		
Left Knee to Bolster	85	88	88	85		6
Right Knee to Bolster	70	88	88	70		6
Neck to Steering Wheel Upper Rim or RP	375	376	380	370		6
Torso to Steering Wheel Lower Rim	185	180				6
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal	2787			2786		
Reference Target Absolute Vertical	882			884		
Reference Target Absolute Lateral	799			770		

FILM ANALYSIS

Knee (target) Lateral	325		330	
Thigh Lateral	305		320	
Phantom Lateral	305		210	
Shoulder Lateral	185		165	
Other				
Other				
Other				
Knee to H-Point	360		335	
Knee to Phantom	215		255	
Knee to Thigh	100		90	
Distance Between A or B Pillar Targets	50		50	
Upper or Forward Reference Target	-40		-25	
Lower or Rearward Reference Target	-45		-35	
Reference Bar to Film Plane	1075		1015	
Camera Angle	$\downarrow 1.5^\circ$		$\downarrow 5^\circ$	

Notes:

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 22

Inhibitor: Kirk Wassman
Phone: 287147

TA5843

Run H 18,262

Date 2/05/98

D188 Dual Stage Inflator Evaluation

2

Buck # 405

Reference: H
H
H

Left SOHS	DUMMY TYPE	Right SOHS
MID	SEAT POSITION	MID
321	DUMMY NUMBER	309

Center
X

POSITIONING	Laser #	ACTUAL	TARGET	TARGET	ACTUAL	TOLERANCE (± mm)	
		LEFT	LEFT	RIGHT	RIGHT	1st RUN	ADD'L
Seat Back Angle (13° above pivot)		25	27.8	27.8	25	0	+1 notch
Pelvis Angle (+/- 2.5 deg.; +/- 1.0 for SMI)		22	22.8	22.5	22		
Column Angle			21	21		at left	at left
H-Point Longitudinal		232	232	231	230	12	0
H-Point Vertical		195	-198	-198	195		0
H-Point Lateral		210	210	211	210	12	0
Knee Longitudinal		168	-188	-188	168		
Knee Vertical		98	-88	-71	71		
Knee Lateral		263	284	285	263	0	0
Head Longitudinal		341	347	333	333	level	0
Head Vertical		448	448	434	439	level	0
Head Lateral		325	328	324	325	level	0
Dummy Neck Adjustment (1st run only)							
Knee Connection to Knee Curvature (mm)		155	184	184	155		
Left Knee to Bolster		90	85	85	90		0
Right Knee to Bolster		90	85	85	90		0
Neck to Steering Wheel Upper Rim or VP		372	378	380	380		0
Neck to Steering Wheel Lower Rim		185	180				0
Reference Target to Seat Bolt Longitudinal							
Reference Target to Seat Bolt Vertical							
Reference Target to Seat Bolt Lateral							
Reference Target Absolute Longitudinal		2737			2738		
Reference Target Absolute Vertical		882			884		
Reference Target Absolute Lateral		788			770		

FILM ANALYSIS

Knee (target) Lateral	235			235		
Thigh Lateral	220			225		
Pelvis Lateral	220			210		
Shoulder Lateral	165			165		
Other						
Other						
Other						
Knee to H-Point						
Knee to Pelvis						
Knee to Thigh						
Distance Between A or B Plier Targets						
Upper or Forward Reference Target						
Lower or Rearward Reference Target						
Reference Bar to Film Plane						
Camera Angle						

Notes:

HYGE - DUMMY POSITIONING and P/A TARGETING Sheet

Sheet 23

Inhosen Eric Warren
Phone: 287147

TA5843

Run H 189.63

Date 2/6/98

D185 Dual Stage Inflator Evaluation

3

Buck # 405

Reference: H
H
H

LAH	Right
SOHS	DUMMY TYPE
MID	SEAT POSITION
321	DUMMY NUMBER
	309

Center

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (± mm)	
					1st RUN	ADD'L
Seat Back Angle (13" above pivot)	27	27.8	27.8	27	0	+/-1 notch
Pelvic Angle (+/- 2.5 deg; +/- 1.0 for 5Wils)	22	22.8	22.8	20		
Column Angle		21	21		at left	at left
H-Point Longitudinal Laser #	232	232	231	231	12	8
H-Point Vertical Laser #	217	-198	-198	198		8
H-Point Lateral	203	210	211	210	12	8
Knee Longitudinal Laser #	145	-188	-188	189		
Knee Vertical Laser #	25	-88	-71	71		
Knee Lateral	204	204	205	204	8	8
Head Longitudinal Laser #	247	247	238	248	level	8
Head Vertical Laser #	448	448	434	449	level	8
Head Lateral	323	323	324	325	level	8
Occupant Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (max)	238	238	184	195		
Left Knee to Bolster	87	85	85	82		8
Right Knee to Bolster	97	85	85	90		8
Neck to Steering Wheel Upper Rim or MP	385	378	380	405		8
Torso to Steering Wheel Lower Rim	198	180				8
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal	2787			2788		
Reference Target Absolute Vertical	882			884		
Reference Target Absolute Lateral	789			770		

FILM ANALYSIS

Knee (target) Lateral	230			239		
Thigh Lateral	210			205		
Phantom Lateral	206			215		
Shoulder Lateral	155			149		
Other						
Other						
Other						
Knee to H-Point						
Knee to Phantom						
Knee to Thigh						
Distance Between A or B Plier Targets						
Upper or Forward Reference Target						
Lower or Rearward Reference Target						
Reference Bar to Film Plane						
Canon Angle						

< 5 deg. < 5 deg.

Notes:

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 24
 Author: Kilo Whisman
 Phone: 487147

TA5849

Run H 18964

Date 2-6-98

D188 Dual Stage Inflator Evaluation

4

Buck # 405

Reference: H
 H
 H

Left		Right
SOHS	DUMMY TYPE	SOHS
MID	SEAT POSITION	MID
	DUMMY NUMBER	

Center

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (+/- mm)	
					1st RUN	ADD'L
Seat Back Angle (13° above pivot)	27	27.8	27.8	27	0	+1 notch
Pelvic Angle (+/- 2.5 deg, +/- 1.0 for SWLs)	24	22.5	22.5	20		
Column Angle		21	21		at left	at left
H-Point Longitudinal Laser #	222	222	231	231	12	8
H-Point Vertical Laser #	217	-180	-190	192		8
H-Point Lateral	211	210	211	206	12	6
Knee Longitudinal Laser #	145	-188	-188	169		
Knee Vertical Laser #	83	-83	-71	71		
Knee Lateral	223	284	285	268	6	8
Head Longitudinal Laser #	347	347	328	318	level	8
Head Vertical Laser #	442	448	427	409	level	8
Head Lateral	323	323	324	325	level	8
Dummy Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (max)	238	238	404	194		
Left Knee to Bolster	85	85	85	86		8
Right Knee to Bolster	97	88	88	97		8
Neck to Steering Wheel Upper Rim or LP	378	375	580	605		8
Turns to Steering Wheel Lower Rim	190	190				8
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal	2737			2738		
Reference Target Absolute Vertical	882			884		
Reference Target Absolute Lateral	789			770		

FILM ANALYSIS

Knee (target) Lateral	228		239		
Thigh Lateral	216		229		
Phantom Lateral	208		212		
Shoulder Lateral	154		160		
Other					
Other					
Other					
Knee to H-Point					
Knee to Phantom					
Knee to Thigh					
Distance Between A or B Pillar Targets					
Upper or Forward Reference Target					
Lower or Rearward Reference Target					
Reference Bar to Film Plane					
Camera Angle					

Notes:

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 25

Author: Ed Wharton
Form: 287147

TA5B43

Run H 18965

Date 2-6-98

D188 Dual Stage Inflator Evaluation

5

Buck # 408

Reference: H
H
H

Left 80HS	DUMMY TYPE	Right 80HS
MID	SEAT POSITION	MID
321	DUMMY NUMBER	729

Center

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (+/- mm)	
					1st RUN	ADDL.
Seat Back Angle (13" above pivot)	27	27.8	27.8	27	0	+/-1 notch
Pelvis Angle (+/- 2.5 deg.; +/-1.0 for 38/40)	24	22.5	22.5	22		
Column Angle		21	21		at left	at left
H-Point Longitudinal Laser #	232	232	231	231	12	8
H-Point Vertical Laser #	217	-198	-198	198		8
H-Point Lateral	210	210	211	210	12	8
Knee Longitudinal Laser #	145	-188	-188	188		8
Knee Vertical Laser #	83	-88	-71	71		8
Knee Lateral	264	264	265	265	8	8
Head Longitudinal Laser #	347	347	349	353	level	8
Head Vertical Laser #	448	448	434	419	level	8
Head Lateral	288	288	284	284	level	8
Dummy Neck Adjustment (first run only)						
Knee Contact to Knee Contact (max)	235	235	184	185		8
Left Knee to Bolster	85	85	85	80		8
Right Knee to Bolster	90	85	85	98		8
Num to Steering Wheel Upper Rim or I/P	374	375	390	405		8
Turn to Steering Wheel Lower Rim	188	180				8
Reference Target to Seat Belt Longitudinal						
Reference Target to Seat Belt Vertical						
Reference Target to Seat Belt Lateral						
Reference Target Absolute Longitudinal	2787			2788		
Reference Target Absolute Vertical	888			884		
Reference Target Absolute Lateral	788			770		

FILM ANALYSIS

Knee (target) Lateral	208		215	
Thigh Lateral	208		213	
Phantom Lateral	210		214	
Shoulder Lateral	135		143	
Other				
Other				
Other				
Knee to H-Point				
Knee to Phantom				
Knee to Thigh				
Distance Between A or B Plier Targets				
Upper or Forward Reference Target				
Lower or Rearward Reference Target				
Reference Bar to Film Plane				
Column Angle				< 8 deg. < 8 deg.

Notes

HYGE - DUMMY POSITIONING and F/A TARGETING sheet

Sheet 26

Instructor: Eric Wozniak
Phone: 487147

TA5843

Run H 18966

Date 2-6-98

D186 Dual Stage Inflator Evaluation

6

Buck # 405

Reference: H
H
H

Left SOFS	DUMMY TYPE	Right SOFS
MID	SEAT POSITION	MID
321	DUMMY NUMBER	307

Center

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (in mm)	
					1st RUN	ADD'L
Seat Back Angle (15° above pivot)	28	27.8	27.8	28	0	+/-1 notch
Pelvic Angle (+/- 2.5 deg.; +/-1.0 for SMOs)	22	22.5	22.5	22		
Column Angle		21	21		at left	at left
H-Point Longitudinal Laser #	232	232	231	231	12	5
H-Point Vertical Laser #	190	-190	-186	192		5
H-Point Lateral Laser #	210	210	211	210	12	5
Knee Longitudinal Laser #	168	-188	-188	168		
Knee Vertical Laser #	98	-98	-71	79		
Knee Lateral Laser #	265	284	285	265	5	5
Head Longitudinal Laser #	347	347	348	348	level	5
Head Vertical Laser #	448	448	449	450	level	5
Head Lateral Laser #	325	325	324	325	level	5
Dummy Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (max)	238	235-484	184	195		
Left Knee to Bolster	50	45	85	85		5
Right Knee to Bolster	100	95	85	88		5
Note to Steering Wheel Upper Rim or IP	180	175	180	180		5
Torso to Steering Wheel Lower Rim	190	180				5
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Torso Absolute Longitudinal	8797			2738		
Reference Torso Absolute Vertical	882			884		
Reference Torso Absolute Lateral	789			770		

FILM ANALYSIS

Knee (target) Lateral	240		230
Thigh Lateral	230		220
Forearm Lateral	225		210
Shoulder Lateral	170		170
Other			
Other			
Other			
Knee to H-Point			
Knee to Pelvis			
Knee to Thigh			
Distance Between A or B Pillar Targets			
Upper or Forward Reference Target			
Lower or Rearward Reference Target			
Reference Bar to Film Plane			
Camera Angle			

Notes:

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 27

Inhibitor: Kris Werners
Phone: 47147

TA5843

Run H 18960

Date 2-6-98

D186 Dual Stage Inflator Evaluation

8

Buck # 405

Reference: H
H
H

Left SOHS	DUMMY TYPE	Right SOHS	Center
MID	SEAT POSITION	MID	
321	DUMMY NUMBER	709	

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (+/- 2mm)	
					1st RUN	ADDL
Seat Back Angle (13" above pivot)	25	27.8	27.8	25	0	+/-1 posch
Pelvic Angle (+/- 2.5 deg.; +/-1.0 for S&Ds)	22	22.5	22.5	22		
Column Angle		21	21		at left	at left
H-Point Longitudinal Laser #	232	232	231	231	12	0
H-Point Vertical Laser #	217	-199	-198	198		0
H-Point Lateral	210	210	211	211	12	0
Knee Longitudinal Laser #	145	-168	-168	159		
Knee Vertical Laser #	83	-68	-71	71		
Knee Lateral	265	264	265	265	0	0
Head Longitudinal Laser #	347	347	348	348	level	0
Head Vertical Laser #	448	448	434	434	level	0
Head Lateral	323	323	324	324	level	0
Dummy Neck Adjustment (Not run only)						
Knee Centerline to Knee Centerline (mm)	235	235	194	194		
Left Knee to Bolster	85	85	85	80		0
Right Knee to Bolster	85	85	85	85		0
Neck to Steering Wheel Upper Rim or HP	395	375	680	610		0
Neck to Steering Wheel Lower Rim	185	180				0
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal	2737			2738		
Reference Target Absolute Vertical	802			804		
Reference Target Absolute Lateral	759			770		

FILM ANALYSIS

Knee (target) Lateral	220		220	
Thigh Lateral	215		210	
Phantom Lateral	210		200	
Shoulder Lateral	150		165	
Other				
Other				
Other				
Knee to H-Point				
Knee to Phantom				
Knee to Thigh				
Distance Between A or B Plier Targets				
Upper or Forward Reference Target				
Lower or Rearward Reference Target				
Reference Bar to Film Plane				
Camera Angle				< 5 deg. < 5 deg.

Notes:

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 28

Revisor: Kris Whipple
Form: 087147

TA5843

Run H1A267

Date 2/06/98

D186 Dual Stage Inflator Evaluation

7

Buck # 405

Reference: H
H
H

Left SOHS	DUMMY TYPE	Right SOHS
MWD	SEAT POSITION	MWD
<u>321</u>	DUMMY NUMBER	<u>309</u>

Center
X

POSITIONING

	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (± mm)	
					1st RUN	ADJZ
Seat Back Angle (13° above pivot)	<u>28</u>	27.8	27.8	<u>25</u>	0	+/-1 notch
Pelvic Angle (+/- 2.5 deg.; +/-1.0 for SMIIs)	<u>23</u>	22.5	22.5	<u>22</u>		
Chin Angle		21	21		at left	at left
H-Point Longitudinal <i>Lower #</i>	<u>232</u>	232	231	<u>231</u>	12	0
H-Point Vertical <i>Lower #</i>	<u>196</u>	-188	-188	<u>194</u>		0
H-Point Lateral	<u>210</u>	210	211	<u>210</u>	18	0
Knee Longitudinal <i>Lower #</i>	<u>165</u>	-188	-188	<u>165</u>		
Knee Vertical <i>Lower #</i>	<u>38</u>	-88	-71	<u>41</u>		
Knee Lateral	<u>262</u>	264	265	<u>265</u>	0	0
Head Longitudinal <i>Lower #</i>	<u>347</u>	347	<u>347</u>	<u>348</u>	level	0
Head Vertical <i>Lower #</i>	<u>448</u>	448	<u>448</u>	<u>450</u>	level	0
Head Lateral	<u>325</u>	323	324	<u>324</u>	level	0
Dummy Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (max)	<u>238</u>	239	194	<u>194</u>		
Left Knee to Bolster	<u>90</u>	88	88	<u>88</u>		0
Right Knee to Bolster	<u>78</u>	85	88	<u>85</u>		0
Neck to Steering Wheel Upper Rim or IP	<u>370</u>	375	680	<u>680</u>		0
Neck to Steering Wheel Lower Rim	<u>189</u>	180				0
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal	<u>2737</u>			<u>2735</u>		
Reference Target Absolute Vertical	<u>882</u>			<u>884</u>		
Reference Target Absolute Lateral	<u>789</u>			<u>779</u>		

FILM ANALYSIS

Knee (target) Lateral	<u>235</u>		<u>220</u>	
Thigh Lateral	<u>220</u>		<u>215</u>	
Phantom Lateral	<u>215</u>		<u>200</u>	
Shoulder Lateral	<u>165</u>		<u>160</u>	
Other				
Other				
Other				
Knee to H-Point				
Knee to Phantom				
Knee to Thigh				
Distance Between A or B Film Targets				
Upper or Forward Reference Target				
Lower or Rearward Reference Target				
Reference Bar to Film Plane				
Camera Angle				

Notes:

**Final Test Report
Confidential**



Test Order No.: TA5844
Subject: 2000 D188 DUAL STAGE INFLATOR EVAL
HYGE SLED SERIES 'H'
Requested By: K. WARMANN
(Dept.): T681
Date Received: 3/16/98
Work Task No.: F09
Test Facility: HYGE
Test Dates: 3/28/98
Run Numbers: H19037 - 039
Procedure(s): T687-100, T687-106
Date Reported: 6/15/98
Page: 1 of 13

Number of Copies	
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RYAN Receiv Copy	2003
(Not Stamped) Thus	
chedule Number:	7-4-2

Objective:

To evaluate the dual stage air bag inflator and pyro builde in D188.

Summary:

Three tests were conducted on the Hyge sled using two instrumented 50% Hybrid III test dummies. The testing was conducted in the rigid DN101 buck (M405). The test data is retained at the Safety Laboratories Department as specified by record retention guidelines. A copy of the high speed film and test data have been given to the requester for evaluation. The still photographs are in digital format and are stored on the Safety Laboratories Department intranet home page under <http://www-safetylab.ford.com/>.

Attachments:

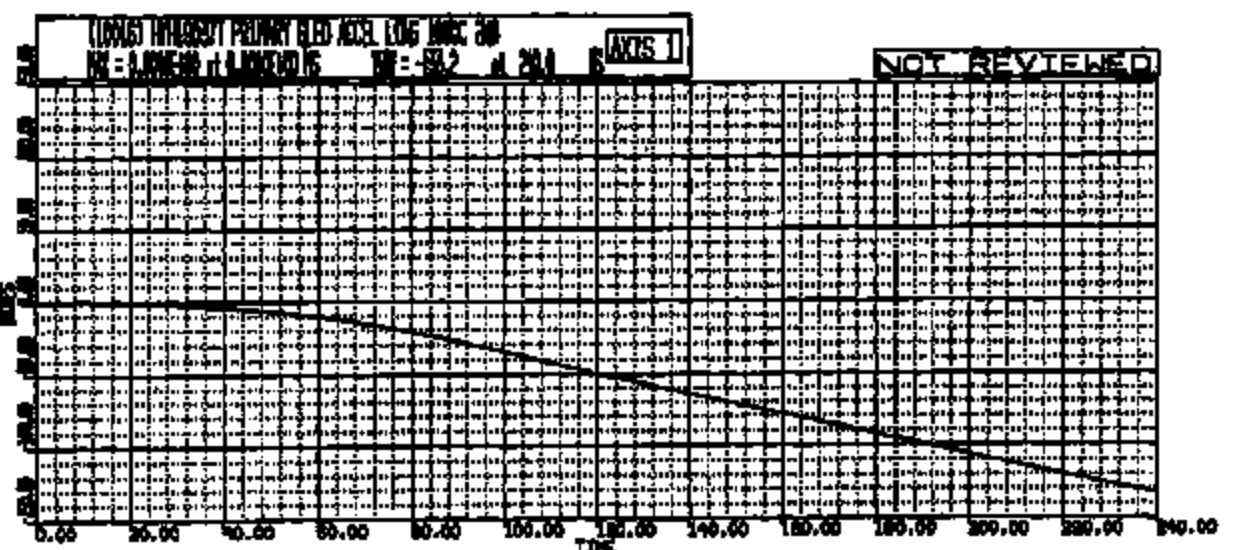
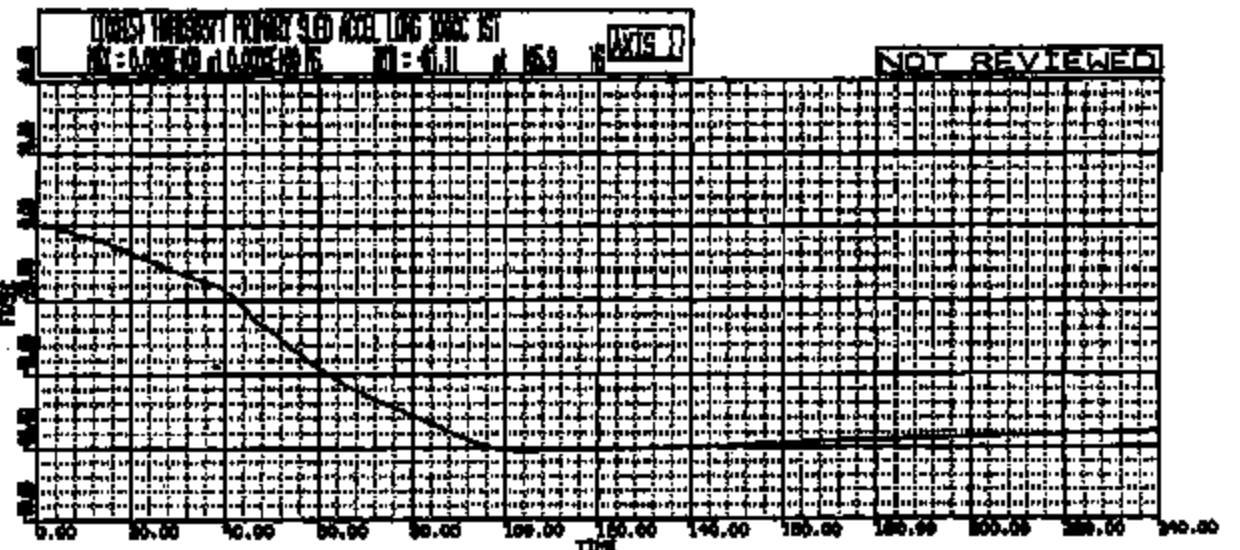
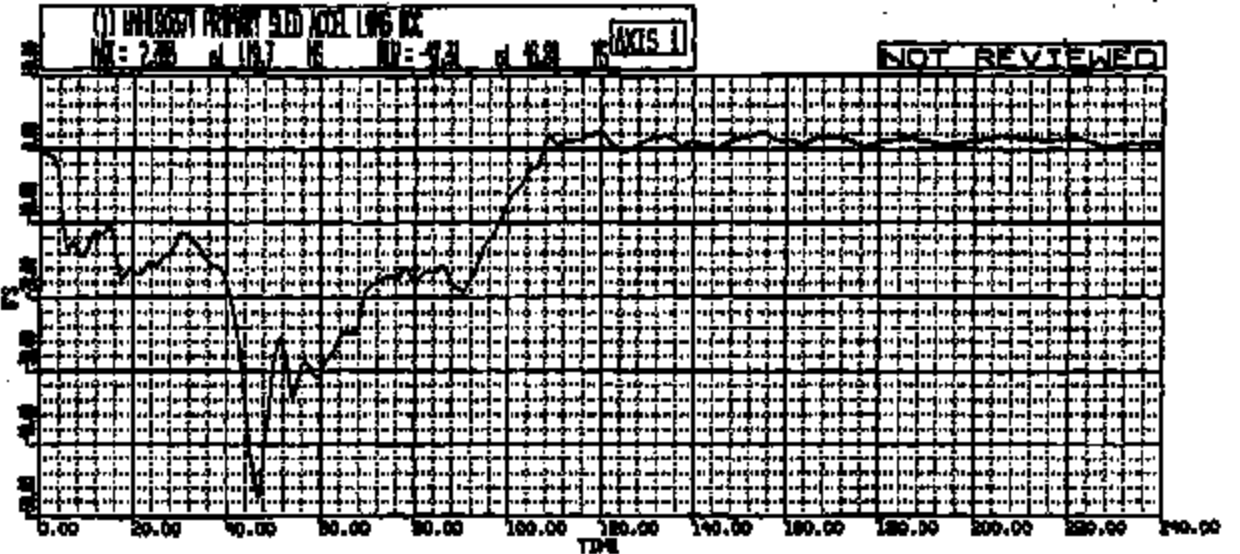
- I. Sled Pulse
- II. Sled Parameters
- III. Test Authorization
- IV. Matrix
- V. Post Test Observations
- VI. Dummy Positioning Sheet

Concur:

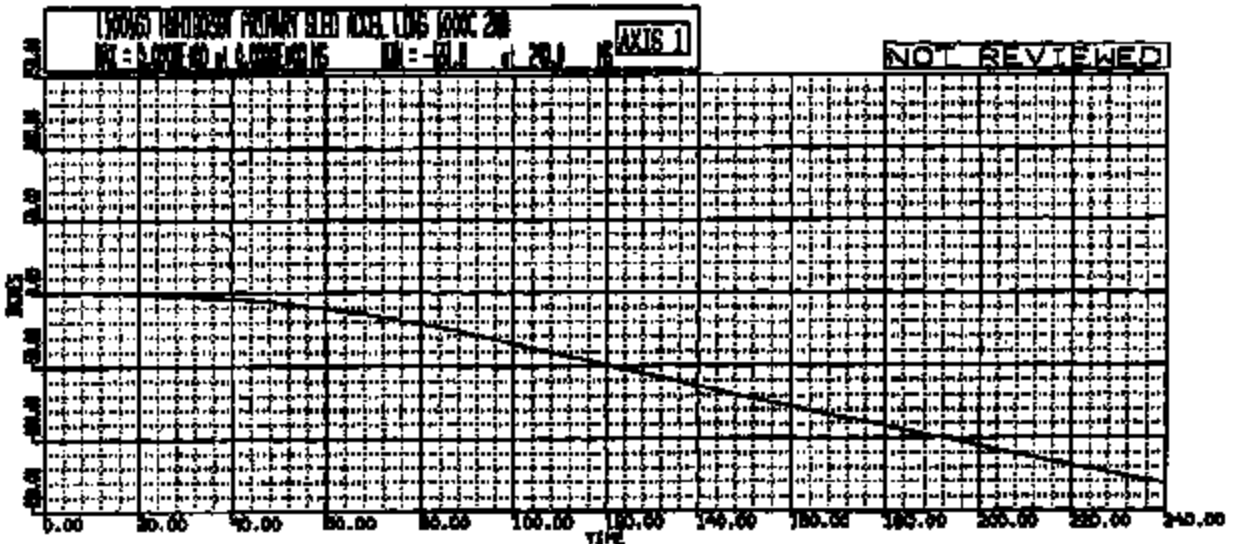
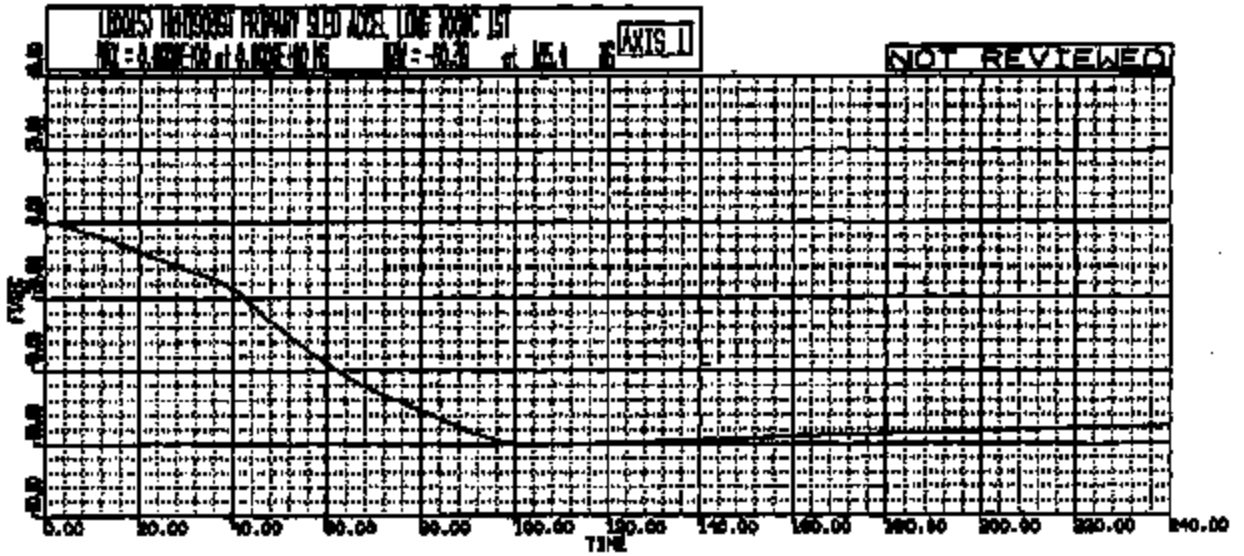

R. N. BURNE
Section Supervisor
HYGE/Impact Simulation Test Section
Safety Laboratories Department


M. T. MORAN
Test Development Engineer
HYGE Test Section
Safety Laboratories Department

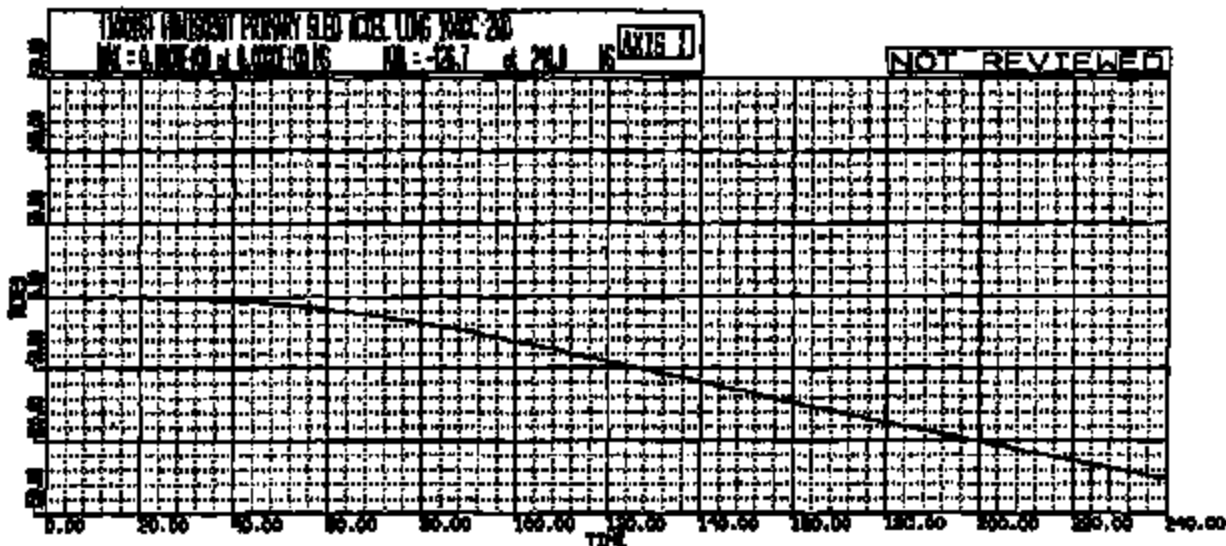
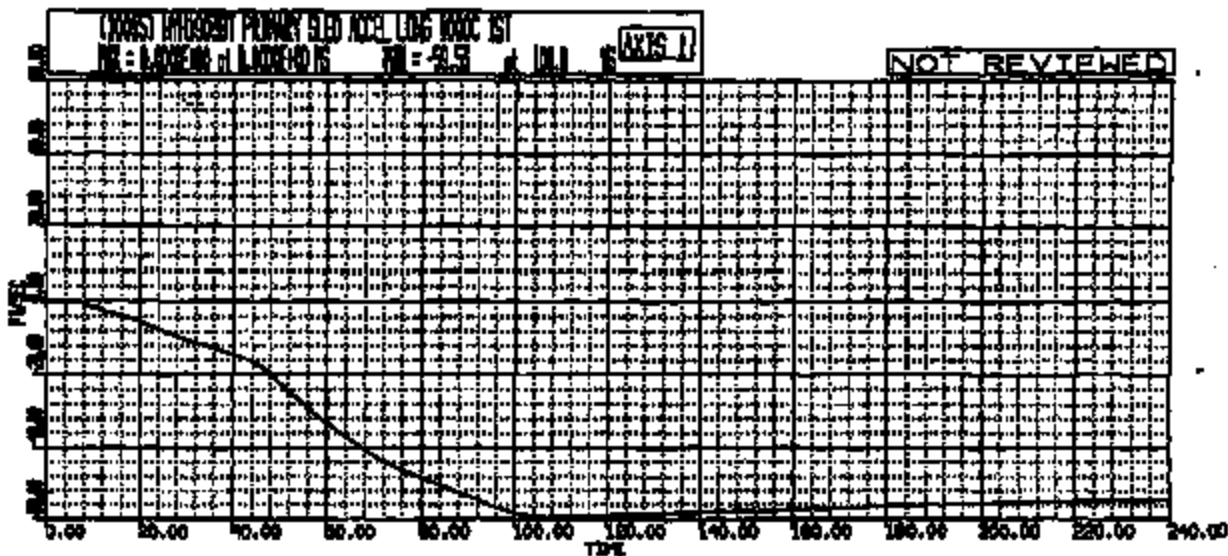
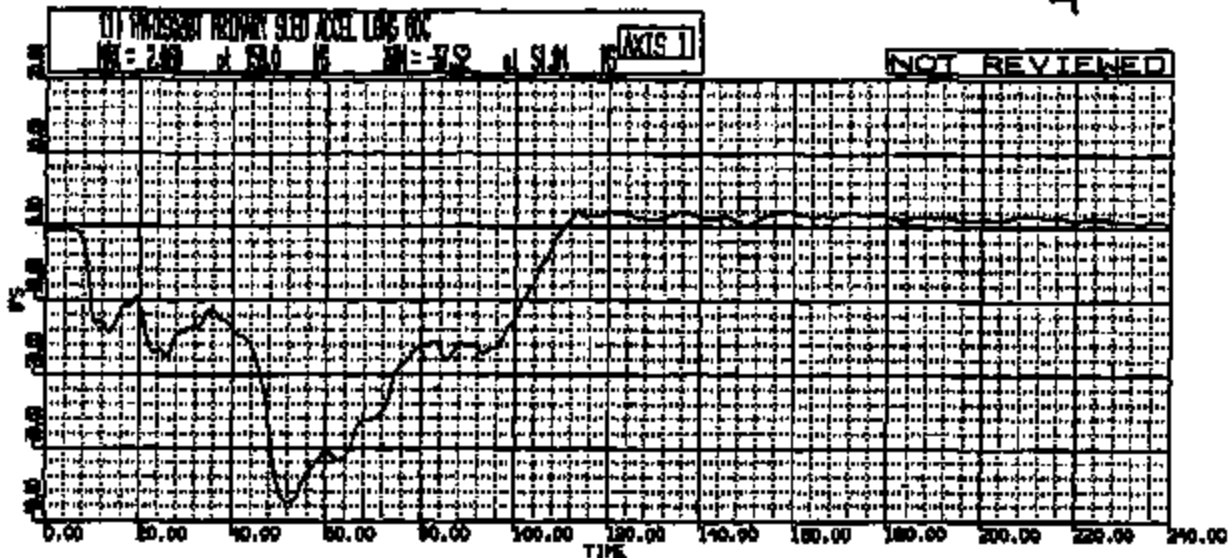
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UNKNOWN



HY R: H18039 TO: TA5844A DATE: 980326 16:04:14
UNKNOWN

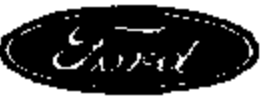


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UNKNOWN



MIN #	T.A.#	TRIP TYPE	DATE	TIME	DIPA CLASS	WEIGHT (#)	MPCL	MOOSE	LOAD	ST	BRNZE	BUCK #	VELOCITY (MPH)	LEFT	DUMPER ON CENTER	RIGHT	TV	INNER 2002	CLER END
1000	1488AA	DUM DUM BRACE BR/BOB	3/24/78	1235	BB	200	150	41	200	20	214	405	35	330	-	330	54	74	IN
1000	1488AA	DUM DUM BRACE BR/BOB	3/24/78	1244	BB	200	150	41	200	20	214	405	35	330	-	330	54	74	IN
1000	1488AA	DUM DUM BRACE BR/BOB	3/24/78	1251	BB	200	150	41	200	20	214	405	35	330	-	330	54	74	IN

ATTACHMENT II
 TA-5844
 Sheet 5

 GTO Test Request		Requestor/Coordinator (PROF'S ID): KWARMANN	
		KRIS WARMANN	
Testing Authority: HYGE and VA Bldg	Date Submitted: 16-MAR-88	Requested Completion Date: 20-MAR-88	Requestor Reference Number:
Test Procedure Number: HYG-00	Test Title and / or Subject of Test: D186 Hyge Bldg Series H		
BU/Inlab Requestor Dept No.: T681 AV2215A	Workorder/Work Order Number: F00	Test conducted to certify control item compliance with Government Regulations: Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/>	
BU/Inlab Requestor PROF'S I.D.: KWARMANN	BU/Inlab Requestor Name: KRIS WARMANN		
Complete the following two questions as indicated 1 - Rational for not replacing this test by CAE Analysis: <input type="checkbox"/> No CAE Methodology or process available <input type="checkbox"/> For OAE Correlation <input type="checkbox"/> Insufficient confidence in OAE <input type="checkbox"/> To obtain basic data for OAE <input type="checkbox"/> Replacement or improvement of existing Test <input type="checkbox"/> Testing in Qualifier <input type="checkbox"/> Mandatory or Regulatory <input type="checkbox"/> Certification <input type="checkbox"/> Development test for P88 <input type="checkbox"/> Not applicable Other: xxxxxx (Check appropriate boxes)		2 - What is the expected Test Outcome: <input type="checkbox"/> Results will meet DVPWCR requirements <input type="checkbox"/> System Component will not meet Test specification <input type="checkbox"/> Unknown <input type="checkbox"/> Above is Based on CAE? Other: xxxxxx (Check appropriate boxes)	
Test Purpose/Test Procedure or Description of Test: Evaluate dual stage HYGE Test Procedure T687-110			
Signature Approvals (As Required for Control Purposes)			
Requesting Engineer' <u>KRIS WARMANN</u>		Testing Engineer _____	
Requesting Supervisor/Manager <u>JIM BOLAND</u>		Testing Supervisor _____	

HYGE Sled Test Summary

ATTACHMENT **II**

Sheet 8

Requester: Kris Warmann
Name: 27147

HYGE Run # 19037 Run Date 3/26/94
 Test Engineer: Wim Van Glabbeek Test Auth # TABE44
 Requester: Kris Warmann BUICK # 408

1

MATRIX #

Test Title/Description: D168 Dual Stage Inflator Evaluation

res/HYGE Pulse Ref: _____ Simulated Speed: 35 Km/h 54

	LEFT	Inbag: <u>12/17</u> ms	ms	RIGHT	Airbag: <u>12/17</u> ms
		Pyro Buckle: _____ ms			Pyro Buckle: _____ ms
INSTRUMENT PANEL PRE-TEST OBSERVATIONS	Dummy	<u>SOH3</u>		Dummy	<u>SOH3</u>
	A/B	<u>DL</u>		Belt	_____
	Belt	<u>LR12</u>		Belt	<u>LR12</u>
	Seat	<u>S1</u>		Seat	<u>S2</u>
	Tracker	<u>power manual</u>		Tracker	<u>power manual</u>
	Position	<u>MID</u> Walked? <input checked="" type="checkbox"/> N		Position	<u>MID</u> Walked? <input checked="" type="checkbox"/> N
Instrument Panel:		<u>IS</u>			
Steering Column:		<u>SC3</u>			
Pre-Test OBSERVATIONS: _____					

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

		<input checked="" type="checkbox"/> Upright On Seat	<input type="checkbox"/> V/B Off Seat	<input type="checkbox"/> O/B Off Seat		<input checked="" type="checkbox"/> Upright On Seat	<input type="checkbox"/> V/B Off Seat	<input type="checkbox"/> O/B Off Seat
LEFT SIDE	A/B Intact (No Holes):	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N			A/B Intact (No Holes):	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
	Face to A/B	<input type="checkbox"/> V/B	<input checked="" type="checkbox"/> Center	<input type="checkbox"/> O/B		Face to A/B	<input type="checkbox"/> V/B	<input checked="" type="checkbox"/> Center
	Connector Location:	<input checked="" type="checkbox"/> High	<input type="checkbox"/> Mid	<input type="checkbox"/> Low		Connector Location:	<input type="checkbox"/> High	<input checked="" type="checkbox"/> Mid
	A/B Cover Attached to Can./Cover:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N			A/B Cover Attached to Can./Cover:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
	Adj. D-ring Remain in Position:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N			Adj. D-ring Remain in Position:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
	Retractor Intact:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	Locked:	<input checked="" type="checkbox"/> Y	Retractor Intact:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
	Buckle Held:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	Webbing Intact:	<input checked="" type="checkbox"/> Y	Buckle Held:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
	Seat Tracks Held:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N			Seat Tracks Held:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
	Cracks in U/P:	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N			Cracks in U/P:	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N
	Steering Wheel Deformed:	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N					
Column Stroked w/o Interference:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N						
Column Stroke:	Left: _____				Right: _____			
Post Test COMMENTS: _____								

OBSERVER: <u>M. Doran</u>								

HYGE Sled Test Summary

Sheet 9
 Initiator: Kris Warmann
 Phone: 487147
3
MATRIX #

HYGE Run H: 19039 Run Date: 3/26/98
 Test Engineer: Wim Van Glabbeek Test Auth #: TA5844
 Requester: Kris Warmann BUCK #: 405
 Test Title/Description: D188 Dual Stage Initiator Evaluation

Crash/HYGE Pulse Ref: _____ Simulated Speed: 35 Pin #: 54

HYGE TEST	LEFT Airbag: _____ ms Pyro Buckle: _____ ms	RIGHT	Airbag: _____ ms Pyro Buckle: _____ ms
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy <u>50HS</u> A/B <u>D8</u> Belt _____ Seat <u>S1</u> Tracks: <u>power manual</u> Position: <u>mjd</u> Welded? <u>Y</u> Instrument Panel: <u>IS</u> Steering Column: <u>SCS</u> Pre-Test OBSERVATIONS: _____	CENTRE	Dummy _____ Belt _____ Or. A/B P/M _____ Pass. P/M _____ Tracks: _____ Position: _____ Welded? _____
	Dummy <u>50HS</u> A/B <u>P12</u> Belt _____ Seat <u>S2</u> Tracks: <u>power manual</u> Position: <u>mjd</u> Welded? <u>Y</u>		

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

LEFT SIDE	<input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> On Seat	I/B	O/B	OFF Seat	E	Upright	Left	Right	OFF Seat	I/B	O/B	OFF Seat
	A/B Intact (No Holes): <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N Face to A/B: I/B <input checked="" type="checkbox"/> Center O/B <input checked="" type="checkbox"/> Contact Location: High <input checked="" type="checkbox"/> Low <input type="checkbox"/> A/B Cover Attached to Can/Cover: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N Adj. D-ring Remain in Position: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N Retractor Intact: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N Locked: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N Buckle Held: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N Webbing Intact: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N Seat Tracks Held: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N Cracks in IP: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N Steering Wheel Deformed: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N Column Stroked w/o Interference: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N Column Stroke: Left: _____ Right: _____											

Post Test COMMENTS:
NO BOLSTER CONTACT - NO VISIBLE
EXTERNAL DEFORMATION
NO BOLSTER CONTACT W/ NO
VISIBLE DEFORMATION
 OBSERVER: [Signature]

HYGE Sled Test Summary

Sheet 10

Initiator: Kris Wannann

Model: 47147

HYGE Run # 19038

Run Date 3/24/98

Test Engineer: Wim Van Glabbeek

Test Auth # TAB944

Requester: Kris Wannann

BUCK # 406

2

MATRIX #

Test Title/Description: D185 Dual Stage Initiator Evaluation

Crash/HYGE Pulse Ref: _____

Simulated Speed: 35

Pin # 54

	LEFT	Airbag: <u>12/17</u> <small>ms</small>	RIGHT	Airbag: <u>12/17</u> <small>ms</small>
		Pyro Buckle: <u>10</u> <small>ms</small>		Pyro Buckle: <u>10</u> <small>ms</small>
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy	<u>SDHS</u>	Dummy	<u>SDHS</u>
	A/B	<u>D6</u>	Belt	<u>P12</u>
	Belt		Seat	<u>92</u>
	Seat	<u>91</u>	Dr. A/B FMR	
	Tracker:	<u>power manual</u>	Pass. FMR	
	Position:	<u>mid</u> Welded? <u>Y</u>	Position:	<u>mid</u> Welded? <u>Y</u>
Instrument Panel:		<u>10</u>		
Steering Column:		<u>SDS</u>		
Pre-Test OBSERVATIONS: _____				

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	<input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> On Seat	VB <input checked="" type="checkbox"/> On Seat O/S <input type="checkbox"/> Off Seat		<input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> On Seat	Left <input type="checkbox"/> Off Seat Right <input type="checkbox"/> Off Seat		<input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> On Seat	O/S <input type="checkbox"/> Off Seat
LEFT SIDE	A/B Intact <input checked="" type="checkbox"/> <u>NO HOLD</u>			A/B Intact <input checked="" type="checkbox"/> <u>NO HOLD</u>				
	Face to A/B	VB <input checked="" type="checkbox"/> <u>High</u> O/S <input type="checkbox"/> <u>Low</u>		Face to A/B	VB <input checked="" type="checkbox"/> <u>High</u> O/S <input type="checkbox"/> <u>Low</u>			
	A/B Cover Attached to Can./Cover	<input checked="" type="checkbox"/> <u>Y</u> N		A/B Cover Attached to Can./Cover	<input checked="" type="checkbox"/> <u>Y</u> N			
	Adj. D-ring Remain in Position	<input checked="" type="checkbox"/> <u>Y</u> N		Adj. D-ring Remain in Position	<input checked="" type="checkbox"/> <u>Y</u> N			
	Retractor Intact	<input checked="" type="checkbox"/> <u>Y</u> N Locked: <input checked="" type="checkbox"/> <u>Y</u> / <input type="checkbox"/> <u>N</u>		Retractor Intact	<input checked="" type="checkbox"/> <u>Y</u> N Locked: <input checked="" type="checkbox"/> <u>Y</u> / <input type="checkbox"/> <u>N</u>			
	Buckle Held	<input checked="" type="checkbox"/> <u>Y</u> / <input type="checkbox"/> <u>N</u> Webbing Intact: <input checked="" type="checkbox"/> <u>Y</u> / <input type="checkbox"/> <u>N</u>		Buckle Held	<input checked="" type="checkbox"/> <u>Y</u> / <input type="checkbox"/> <u>N</u> Webbing Intact: <input checked="" type="checkbox"/> <u>Y</u> / <input type="checkbox"/> <u>N</u>			
	Seat Tracker Held:	<input checked="" type="checkbox"/> <u>Y</u> / <input type="checkbox"/> <u>N</u>		Seat Tracker Held:	<input checked="" type="checkbox"/> <u>Y</u> / <input type="checkbox"/> <u>N</u>			
	Cracks in VP:	<input checked="" type="checkbox"/> <u>Y</u> / <input type="checkbox"/> <u>N</u>		Cracks in VP:	<input checked="" type="checkbox"/> <u>Y</u> / <input type="checkbox"/> <u>N</u>			
Steering Wheel Deformed:	<input checked="" type="checkbox"/> <u>Y</u> / <input type="checkbox"/> <u>N</u>							
Column Stroked w/o Interference:	<input checked="" type="checkbox"/> <u>Y</u> / <input type="checkbox"/> <u>N</u>							
Column Stroke:	Left: _____		Right: _____					

Post Test COMMENTS:

L/ BUCKLE RELEASED, BOLSTER CONTACT W/ DEFORMATION

R/ BOLSTER CONTACT - W/ DEFORMATION MUCH SLASH IN BELT

OBSERVER: Man

TA5B44

Run H 19037

Date 3/26/98

D186 Dual Stage Inflator Evaluation

Sheet 1 of 1

Buck # 408

Reference: H

H

H

LR SOB	DUMMY TYPE	RR SOB	Other
MD	SEAT POSITION	MD	
330	DUMMY NUMBER	333	

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (+/- mm)	
					1st RUN	ADJ'L
Seat Back Angle (13° above pivot)	28	27.8	27.8	28	0	+/-1 notch
Pelvic Angle (M: 2.5 deg; +/-1.0 for PMAs)	24	23.8	23.8	24		
Coxon Angle		21	21		at left	at left
H-Point Longitudinal Laser #	232	232	231	231	12	0
H-Point Vertical Laser #	196	-186	-186	196		0
H-Point Lateral	215	210	211	215	12	0
Knee Longitudinal Laser #	168	-188	-188	168		
Knee Vertical Laser #	98	-98	-71	-71		
Knee Lateral	264	264	261	264	0	0
Head Longitudinal Laser #	347	347	333	333	level	0
Head Vertical Laser #	448	448	434	434	level	0
Head Lateral	325	323	324	330	level	0
Dummy Neck Adjustments (See run only)						
Knee Connection to Knee Centerline (mm)	240	184	184	194		
Left Knee to Bolster	82	88	88	90		0
Right Knee to Bolster	85	88	88	93		0
Flare to Steering Wheel Upper Rim or SP	382	378	390	392		0
Torso to Steering Wheel Lower Rim	190	180				0
Reference Target to Seat Belt Longitudinal						
Reference Target to Seat Belt Vertical						
Reference Target to Seat Belt Lateral						
Reference Target Absolute Longitudinal	2737			2738		
Reference Target Absolute Vertical	882			884		
Reference Target Absolute Lateral	788			790		

FILM ANALYSIS	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (+/- deg)
Knee (Ingr) Lateral	220			235	
Thigh Lateral	210			250	
Flareon Lateral	210			220	
Shoulder Lateral	160			160	
Other					
Other					
Knee to H-Point					
Knee to Flareon					
Knee to Thigh					
Distance Between A or B Film Targets	57			51	
Upper or Forward Reference Target	25			25	
Lower or Rearward Reference Target	82			85	
Reference Bar to Film Plane	1103			1035	
Coxon Angle					< 0 deg, < 0 deg

Notes: _____

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 12
Address: Eric W. Warren
Phone: 187147

TA5844

Run **H 19039**

Date **3-26-98**

D186 Dual Stage Inflator Evaluation

3

Buck # 405

Reference: H
H
H

Left 5049	DUMMY TYPE	Right 5045	Center
MD	SBAT POSITION	MD	
890	DUMMY NUMBER	899	

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCES (± mm)	
					1st RUN	ADDL.
Seat Back Angle (15° above pivot)	23	27.8	27.8	23	0	+/-1 (nom)
Pelvic Angle (+/- 2.5 deg; +/-1.0 for 540s)	23	22.8	22.8	23		
Crotch Angle					at left	at left
H-Point Longitudinal Layer 8	232	232	231	231	12	8
H-Point Vertical Layer 8	196	-199	-199	199		8
H-Point Lateral	210	210	211	211	12	6
Knee Longitudinal Layer 8	168	-166	-166	170		
Knee Vertical Layer 8	90	-90	-71	70		
Knee Lateral	265	264	266	265	8	8
Head Longitudinal Layer 8	331	347	359	335	level	8
Head Vertical Layer 8	442	448	434	434	level	8
Head Lateral	323	323	324	324	level	8
Dummy Neck Adjustment (first run only)						
Knee Coradia to Knee Coradia (rear)	240	240	194	195		
Left Knee to Bolster	90	85	85	90		8
Right Knee to Bolster	90	85	85	90		8
Neck to Steering Wheel Upper Rim or SP	280	276	600	573		8
Neck to Steering Wheel Lower Rim	190	190				8
Reference Target to Seat Belt Longitudinal						
Reference Target to Seat Belt Vertical						
Reference Target to Seat Belt Lateral						
Reference Target Absolute Longitudinal	277			278		
Reference Target Absolute Vertical	692			694		
Reference Target Absolute Lateral	799			770		

FILM ANALYSIS						
Knee (right) Lateral	225			220		
Thigh Lateral	215			210		
Pelvis Lateral	205			205		
Shoulder Lateral	165			155		
Other						
Other						
Other						
Knee to H-Point	243			235		
Knee to Pelvis	190			275		
Knee to Thigh	90			75		
Distance Between A or B Pillar Targets	51			51		
Upper or Forward Reference Target	85			85		
Lower or Rearward Reference Target	35			35		
Reference Bar to Film Plane	1106			1085		
Crotch Angle					< 5 deg.	< 5 deg.

Notes: _____

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 13

Initiator: Eric Wiggins

Form: 1271-67

TA5844

Run H 1903B

Date 3/26/98

D188 Dual Stage Inflator Evaluation

2

Buck # 405

Reference: H
H
H

Left 6PH9	DUMMY TYPE	Right 6PH9	Center
MD	SEAT POSITION	MD	
330	DUMMY NUMBER	333	

POSITIONING

	Laser #	ACTUAL	TARGET	TARGET	ACTUAL	TOLERANCE (± mm)	
		LEFT	LEFT	RIGHT	RIGHT	1st RUN	ADD'L
Seat Back Angle (15° above pivot)		25	27.8	27.8	25	0	±1 notch
Pelvic Angle (± 2.5 deg, ± 1.0 for 3PH9)		24	22.5	22.5	24		
Column Angle						± left	± left
H-Point Longitudinal	Laser #	232	232	231	231	12	0
H-Point Vertical	Laser #	-196	-198	-198	198		0
H-Point Lateral		210	210	211	219	12	0
Knee Longitudinal	Laser #	-768	-188	-188	168		
Knee Vertical	Laser #	-98	-88	-71	71		0
Knee Lateral		264	284	288	265	0	0
Head Longitudinal	Laser #	347	347	333	333	level	0
Head Vertical	Laser #	448	448	494	494	level	0
Head Lateral		323	323	324	324	level	0
Dummy Neck Adjustment (flat top only)							
Knee Centrifug to Knee Centrifug (max)		240	240	194	194		
Left Knee to Bolster		85	85	88	85		0
Right Knee to Bolster		85	85	85	90		0
Whee to Steering Wheel Upper Rim or VP		386	376	350	390		0
Type to Steering Wheel Lower Rim		195	190				0
Reference Target to Seat Belt Longitudinal							
Reference Target to Seat Belt Vertical							
Reference Target to Seat Belt Lateral							
Reference Target Absolute Longitudinal		2737			2738		
Reference Target Absolute Vertical		882			884		
Reference Target Absolute Lateral		788			770		

FILM ANALYSIS

Knee (target) Lateral	215		225	
Thigh Lateral	210		210	
Phantom Lateral	200		200	
Shoulder Lateral	160		160	
Other				
Other				
Other				
Knee to H-Point				
Knee to Phantom				
Knee to Thigh				
Distance Between A or B Filar Target	51		51	
Upper or Forward Reference Target	25		25	
Lower or Rearward Reference Target	35		35	
Reference Bar to Film Plane	1108		1095	
Camera Angle				

Notes:

**Final Test Report
Confidential**



Advanced Vehicle Technology

Test Order No.: TASS40
Subject: 2000 D188 Series J
Driver/Passenger Belt/Bag Evaluation
Requested By: Dale Perrigo
Requesting Dept.: T651
Work Task No.: F09
Test Facility: Hyge
Date Received: 9/21/98
Date Reported: 10/21/98
Test Dates: 10-14-98 to 10-16-98
Run Numbers: H19443-H19453
Procedure(s): T887-110
Page: 1 of 48
Date: 11/24/98

Copy of Copy	
(Each Stamped) by:	
HEYAN Record Copy	
(Each Stamped) This	5023
Schedule Number	7-4-2

Objective:

Evaluate pretensioner improvements


Summary:

Six 25 MPH, four 30 MPH (Generic pulse), and one 25 MPH test were conducted on the Hyge sled using either one or two 95%, 50%, or 5% instrumented hybrid III test dummies. The testing was conducted using the D188/DN101 rigid front body buck (#405). The test data is retained at the Safety Laboratories Department as specified by record retention guidelines. A copy of the high speed film and test data have been given to the requester for evaluation. The still photographs are in digital format and are stored on the Safety Laboratories Department intranet home page under <http://www-safetylab.ford.com/>.

Attachments:

- I. Test Authorization
- II. Test Matrix
- III. Sled Pulse
- IV. Sled Parameters
- V. Post Test Observations
- VI. Dummy Positioning
- VII. Photographic Set-Up

Concur:


R. N. Burns
Section Supervisor
Operations Engineering
Safety Laboratories Department

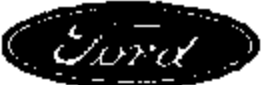

Chris Deagan
Product Test Engineer
Operations Engineering
Safety Laboratories Department

SLED 0025867

TR5846
Sheet 2

Attachment I.
Test Authorization

SLED 0025868

 GTO Test Request		Requester/Coordinator (PROPS ID): DPERRIGO	
		DALE PERRIGO	
Testing Activity: HYGE and VIA Blad	Date Submitted: 21-SEP-96	Requested Completion Date: 11-JUN-98	Requester Reference Number:
Test Procedure Number: HYG-00	Test Title used / or Subject of Test: D100 Hyge Blad Series J		
Requester Dept No.: T881 AV2218A	Workcenter/Work Order Number: F00	Test conducted to certify control item compliance with Government Regulations: Year <input type="checkbox"/> No: <input checked="" type="checkbox"/>	
Requester PROPS LD.: KWARMANN	Requester Name: KRIS WARMANN		
<p>Complete the following two questions as indicated</p> <p>1 - Rational for not replacing this test by CAE Analysis:</p> <ul style="list-style-type: none"> <input type="checkbox"/> No CAE Methodology or process available <input type="checkbox"/> For CAE Correlation <input type="checkbox"/> Insufficient confidence in CAE <input type="checkbox"/> To obtain basis data for CAE <input type="checkbox"/> Replacement or improvement of existing Test <input type="checkbox"/> Testing is Quicker <input type="checkbox"/> Mandatory or Regulatory <input type="checkbox"/> Certification <input type="checkbox"/> Development test for FSB <input checked="" type="checkbox"/> Not applicable <p>Other:</p> <p style="text-align: center;">[Check appropriate boxes]</p>		<p>2 - What is the expected Test Outcome:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Results will meet DVP/NDP requirements <input type="checkbox"/> System Component will not meet Test specification <input type="checkbox"/> Unknown <input type="checkbox"/> Above is Based on DAB? <p>Other:</p> <p style="text-align: center;">[Check appropriate boxes]</p>	
<p>Test Purpose/Test Procedure or Description of Test</p> <p>Evaluate dual stage</p> <p>HYGE Test Procedure T887-110</p>			
<p>Signature Approvals (As Required for Control Purposes)</p> <p>Requesting Engineer <u>DALE PERRIGO</u> Testing Engineer <u>CHRISTOPHER DRAGAN</u></p> <p>Requesting Supervisor/Manager <u>ALAN TAUB</u> Testing Supervisor <u>RICHARD BURNS</u></p>			

Test Definition Worksheet

Request No: TAB46 D185 Hyge Std Series J
 Loc/Procedure: HYG-00 HYGE Test Procedure T887-110

Test Object: Request Date: 21-SEP-88
 Requester: DALE PERRIGO (DPERRIGO) Requester Phone: 84-68018

Sample #:	Part #:	Part Description:
1	NO_PART_NUMBER_GIVEN	PART NUMBER NOT PROVIDED IN VERSION 1.4 OF TESTNET

Parameter:	Value:	Unit:
Vehicle Model	DW186	

TA5846
Sheet 5

Attachment II.

Test Matrix



TA# TA5848

Order No. 1001 Release Date 04/20/1968
Order No. 1001

Release Date Order
1001

CLASSIFICATION	FORM	DATE	ISSUE	PAGE NO.	ISSUE NO.	ISSUE DATE	ISSUE TIME	ISSUE LOCATION	ISSUE STATUS	ISSUE TYPE	ISSUE REASON	ISSUE COMMENTS	ISSUE ACTION	ISSUE RESULT	ISSUE STATUS	ISSUE COMMENTS	ISSUE ACTION	ISSUE RESULT	ISSUE STATUS	ISSUE COMMENTS	ISSUE ACTION	ISSUE RESULT	
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02	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01
03	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01
04	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01
05	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01
06	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01
07	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01
08	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01
09	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01
10	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01
11	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01

FC
A
A
C
B
B
A

001 Head Page No. 001. Please refer to the appropriate order number for the appropriate page number. The date stamp on the PT will give the date of the page.

002 Head Page No. 002. Please refer to the appropriate order number for the appropriate page number. The date stamp on the PT will give the date of the page.

003 Head Page No. 003. Please refer to the appropriate order number for the appropriate page number. The date stamp on the PT will give the date of the page.

004 Head Page No. 004. Please refer to the appropriate order number for the appropriate page number. The date stamp on the PT will give the date of the page.

005 Head Page No. 005. Please refer to the appropriate order number for the appropriate page number. The date stamp on the PT will give the date of the page.

006 Head Page No. 006. Please refer to the appropriate order number for the appropriate page number. The date stamp on the PT will give the date of the page.

007 Head Page No. 007. Please refer to the appropriate order number for the appropriate page number. The date stamp on the PT will give the date of the page.

008 Head Page No. 008. Please refer to the appropriate order number for the appropriate page number. The date stamp on the PT will give the date of the page.

009 Head Page No. 009. Please refer to the appropriate order number for the appropriate page number. The date stamp on the PT will give the date of the page.

010 Head Page No. 010. Please refer to the appropriate order number for the appropriate page number. The date stamp on the PT will give the date of the page.

NOTE:
All runs use intermetallic ductiles.
Right hand core should be retained for all runs.

SLIED 0025872

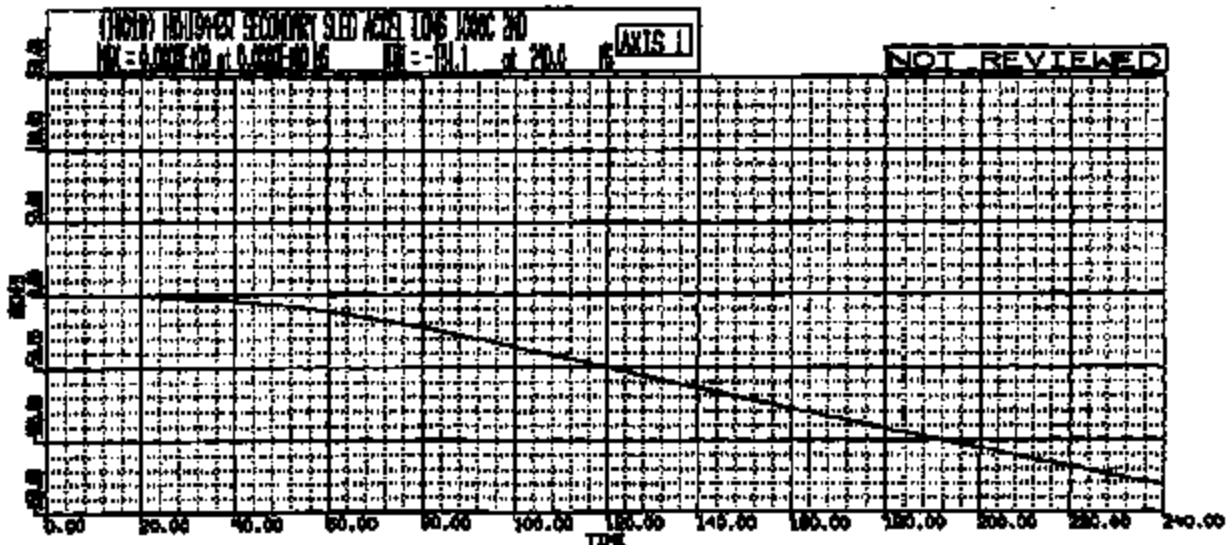
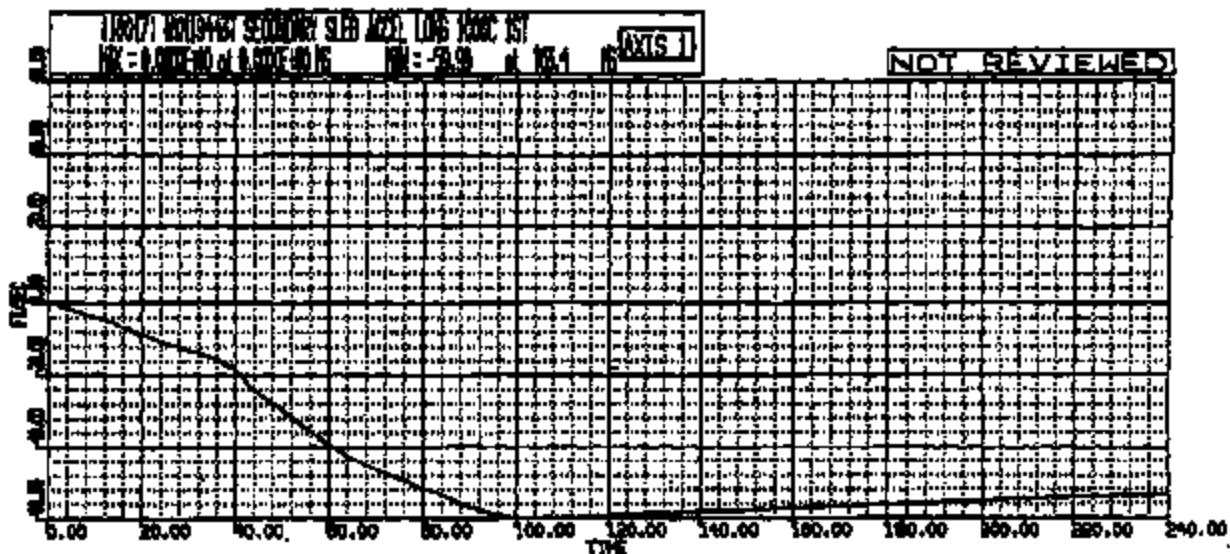
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TA 5846
Sheet 7

Attachment III.

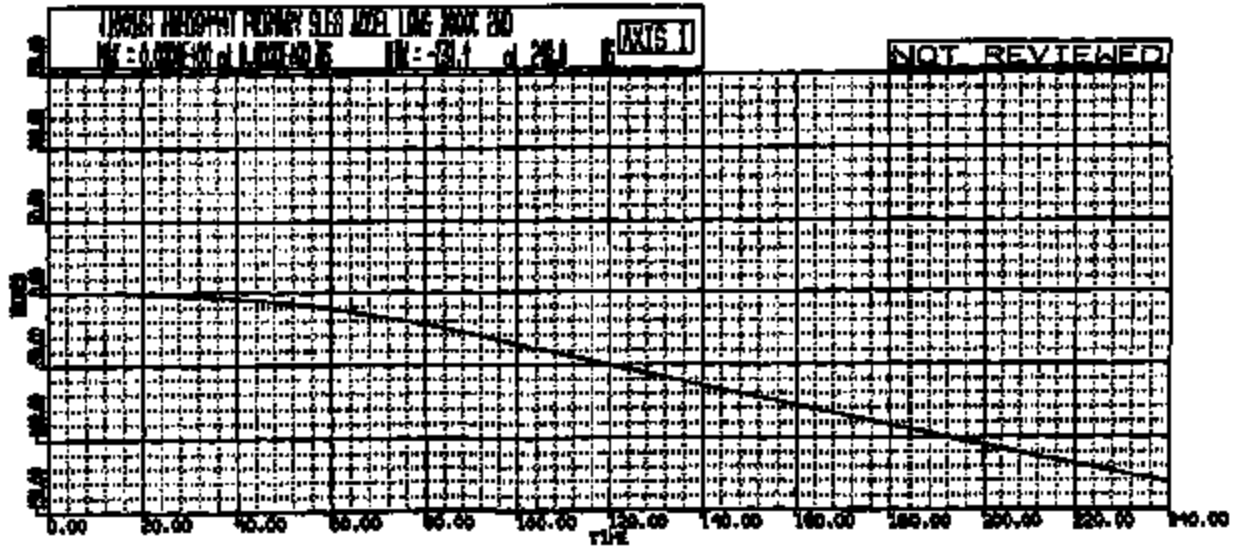
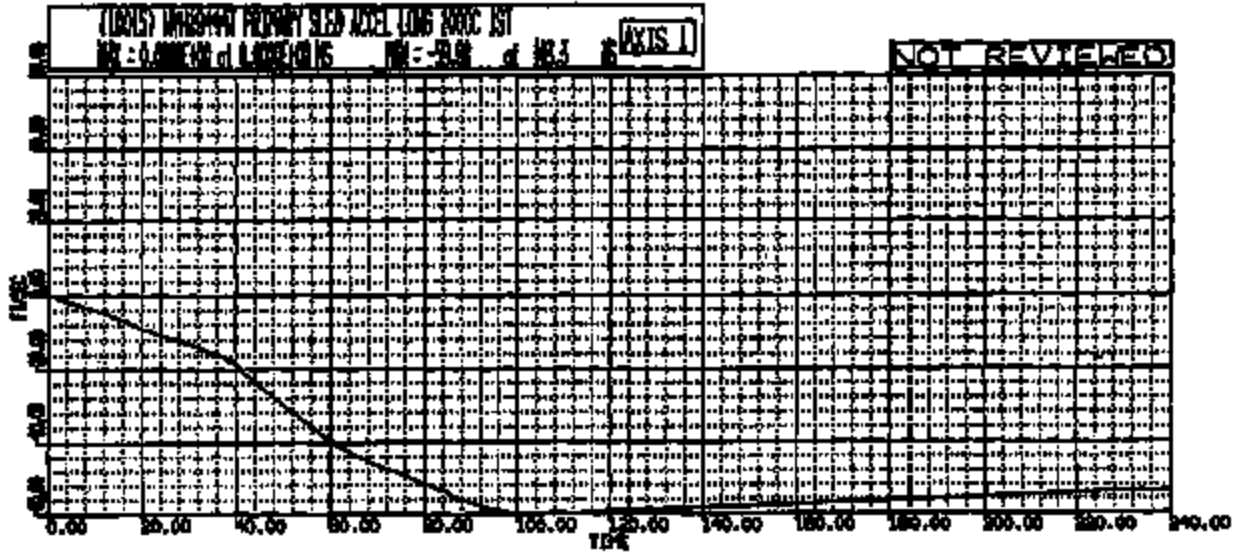
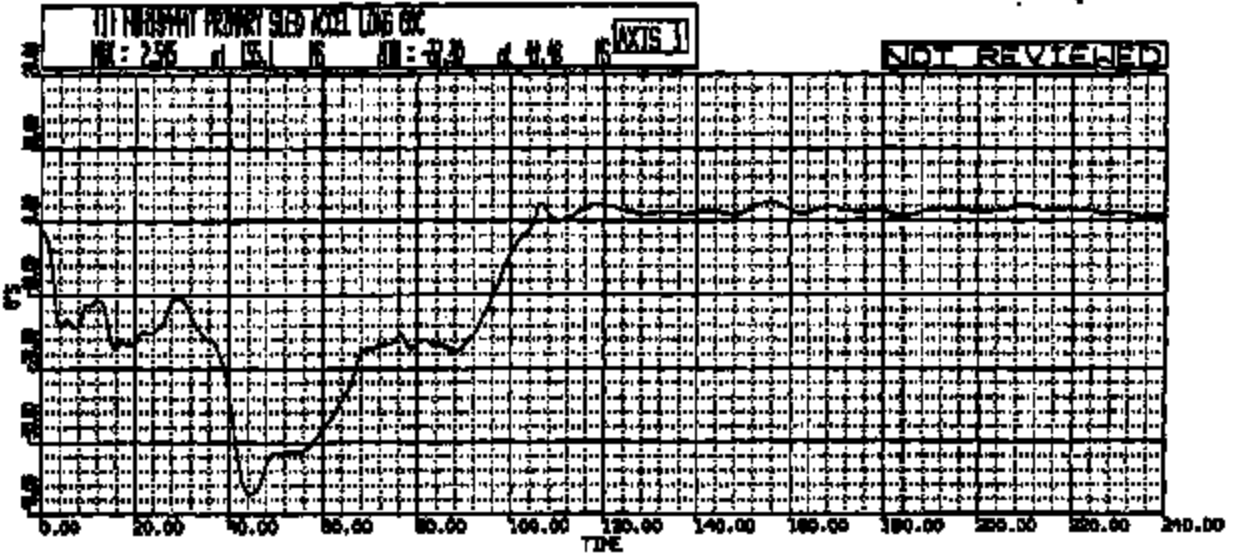
Sled Pulse

SLED 0025873

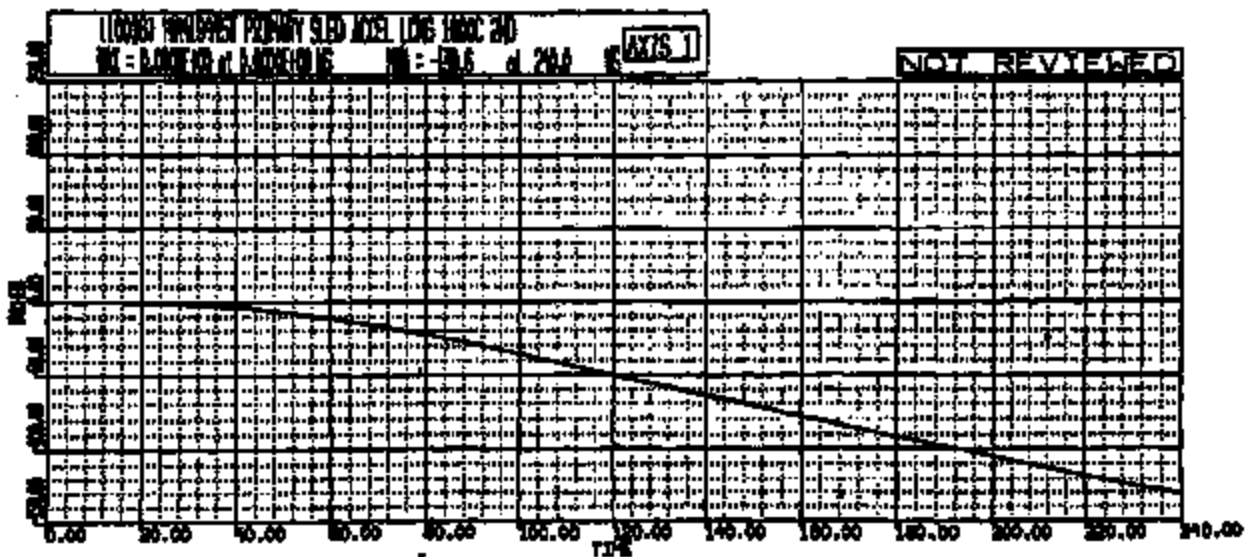
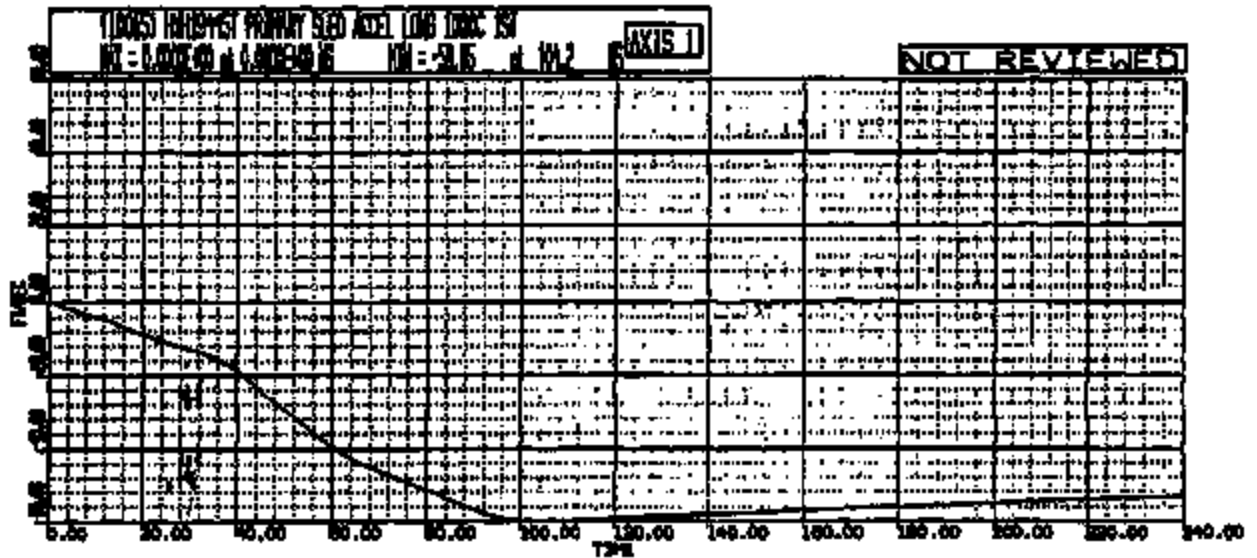
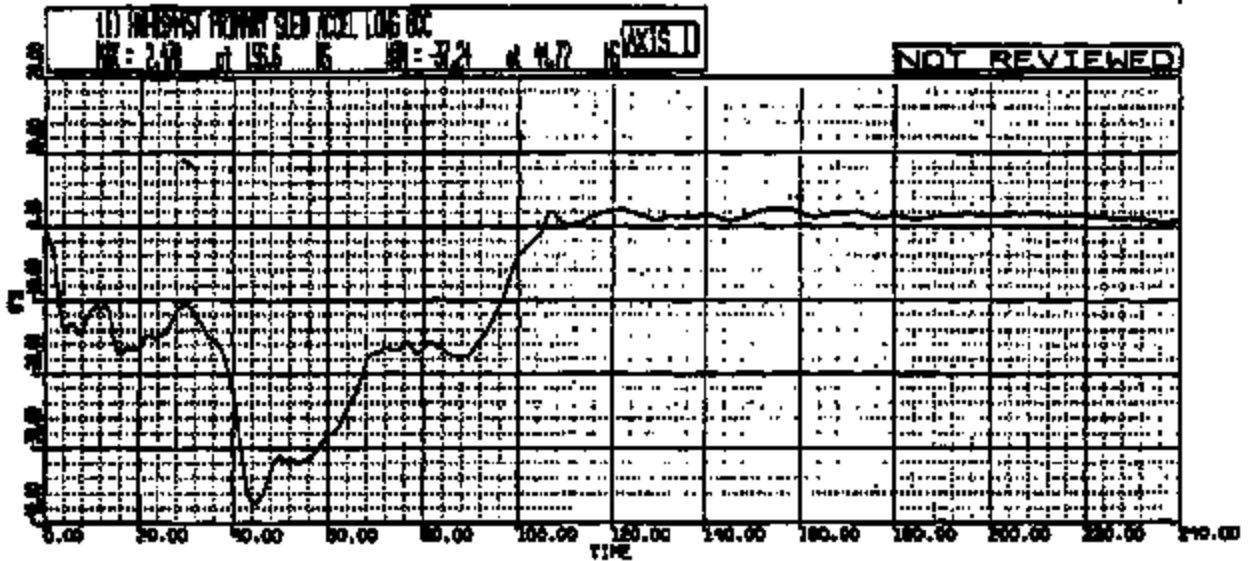


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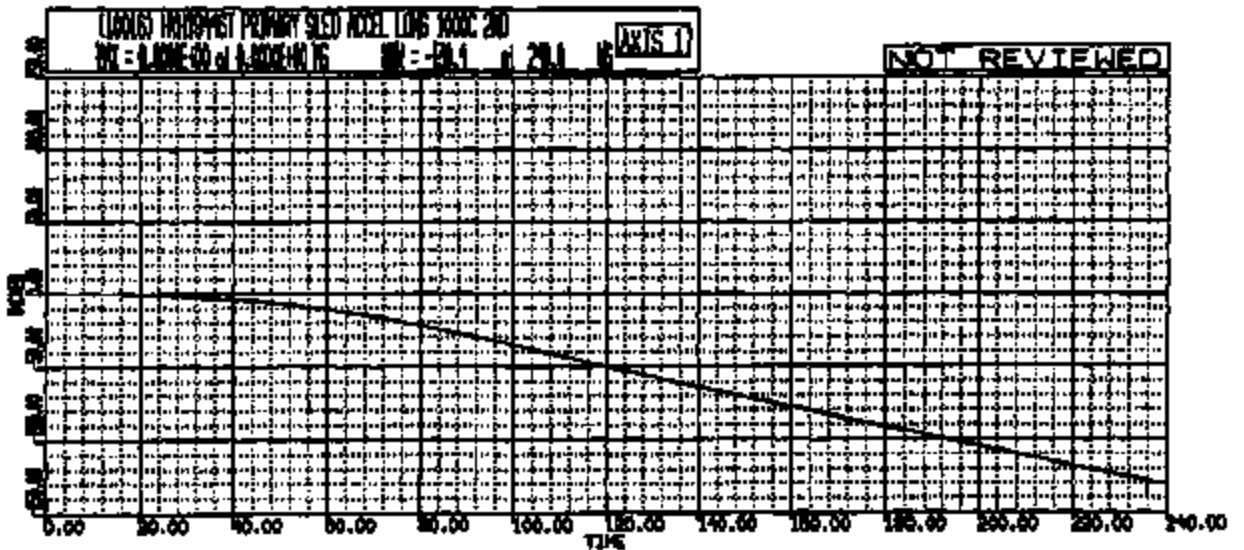
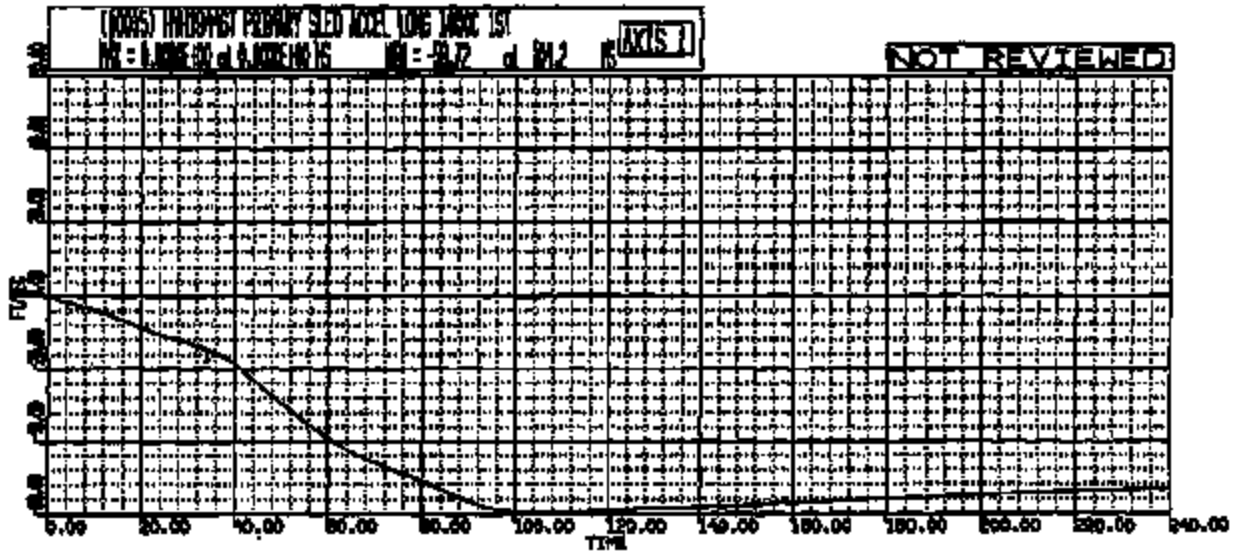
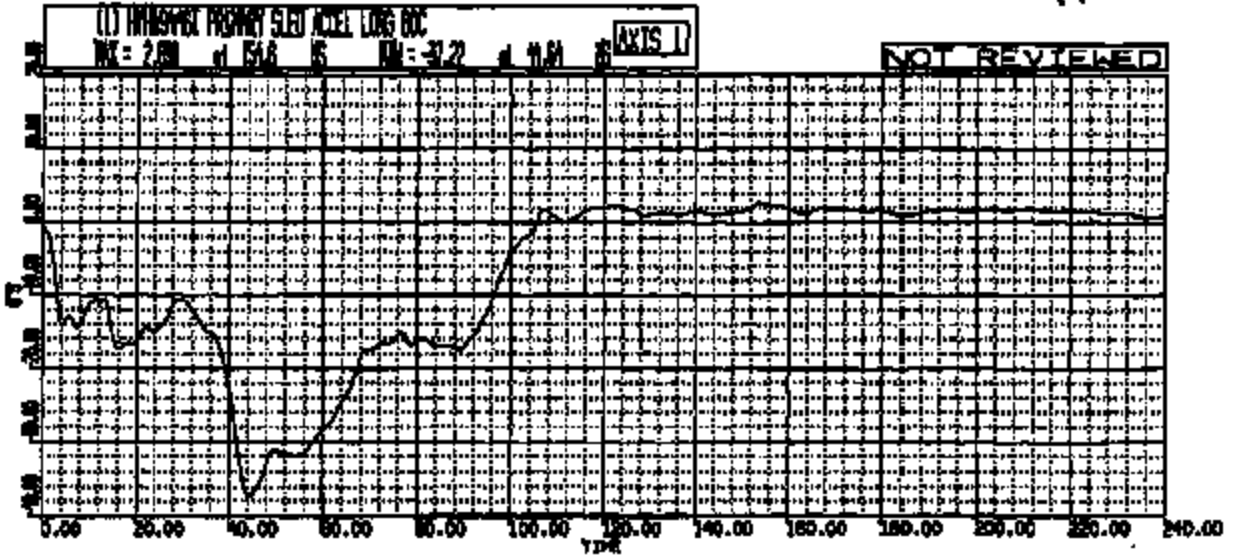
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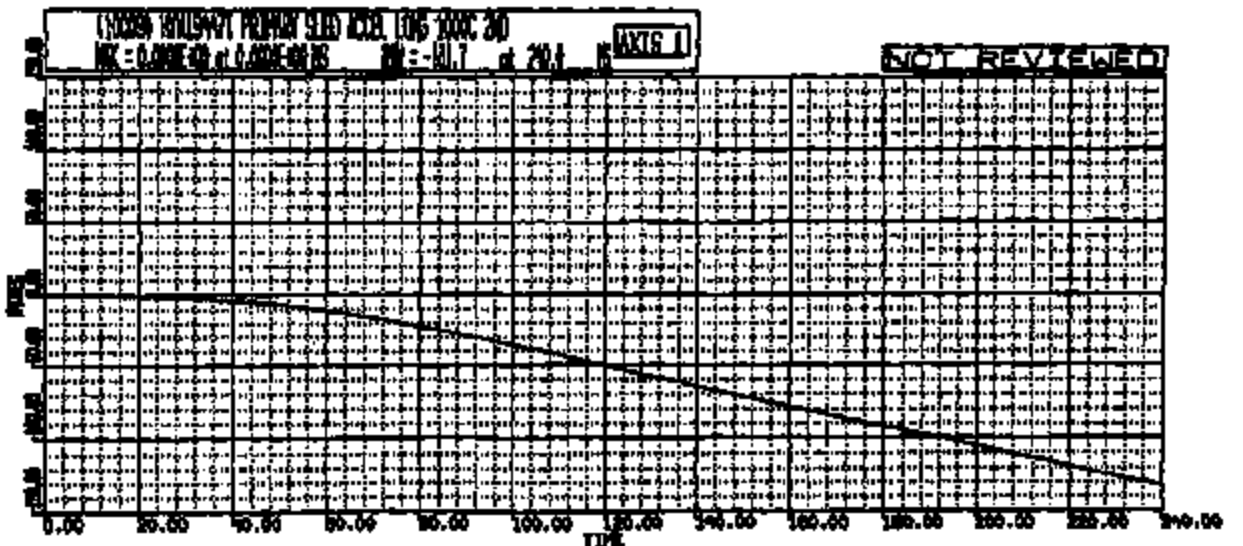
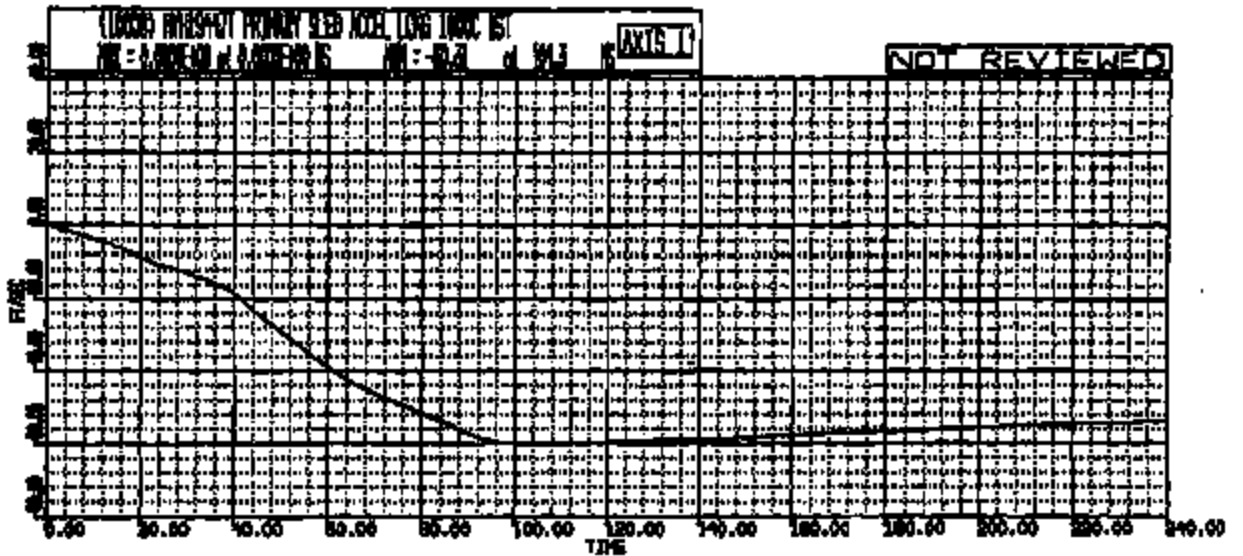
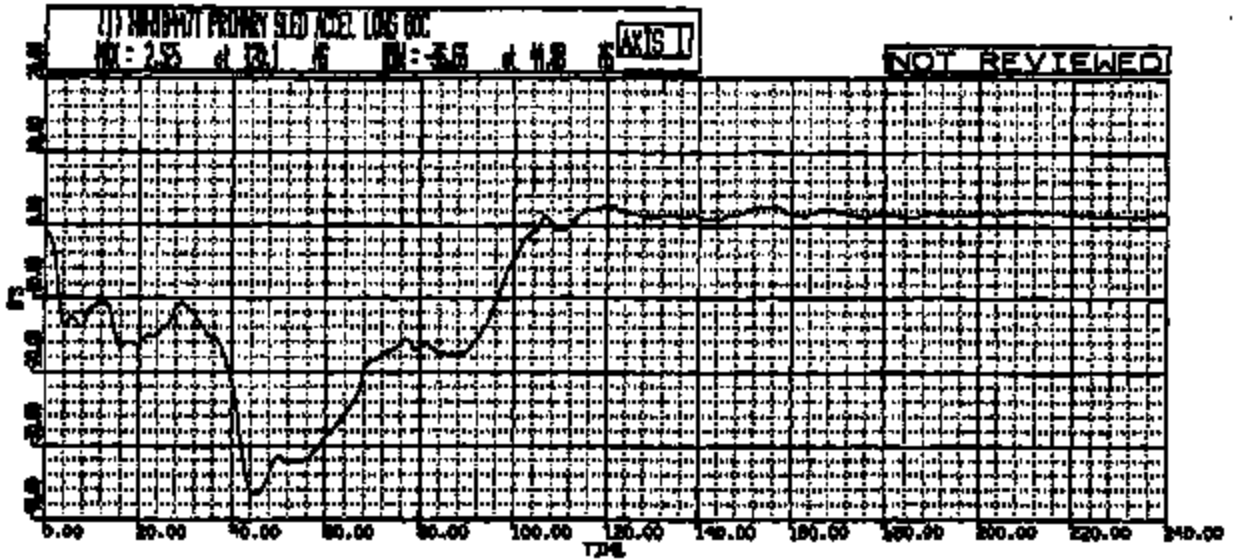
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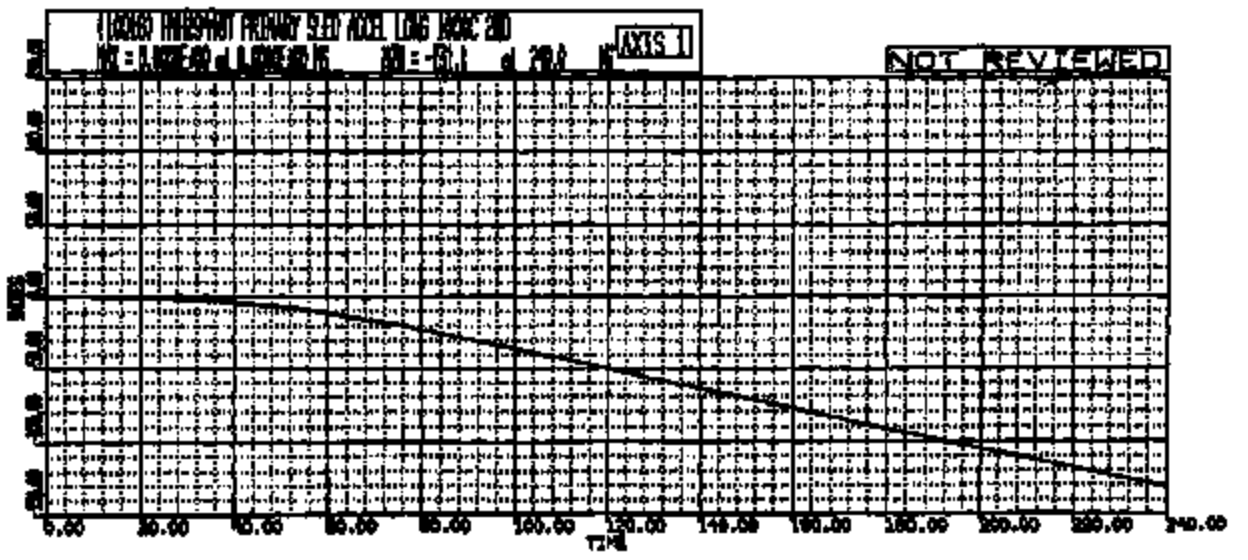
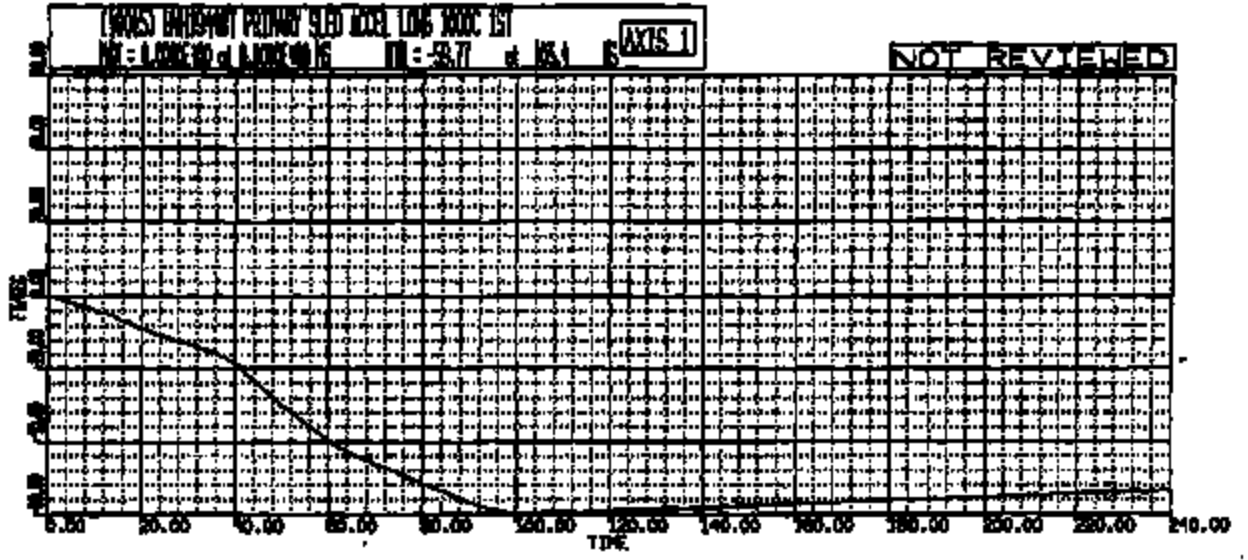
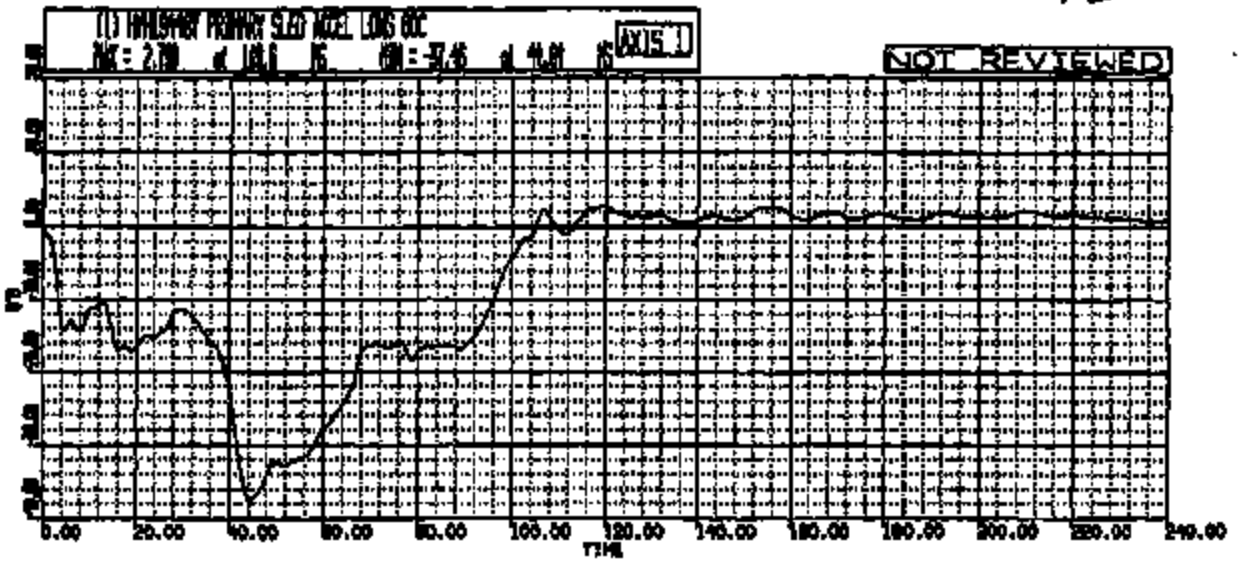
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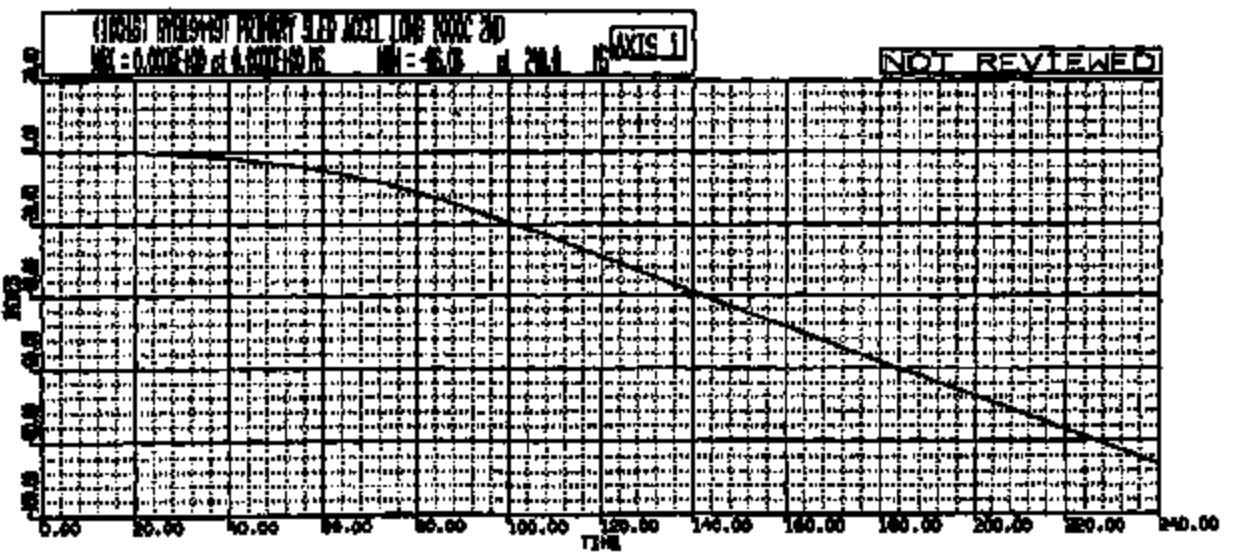
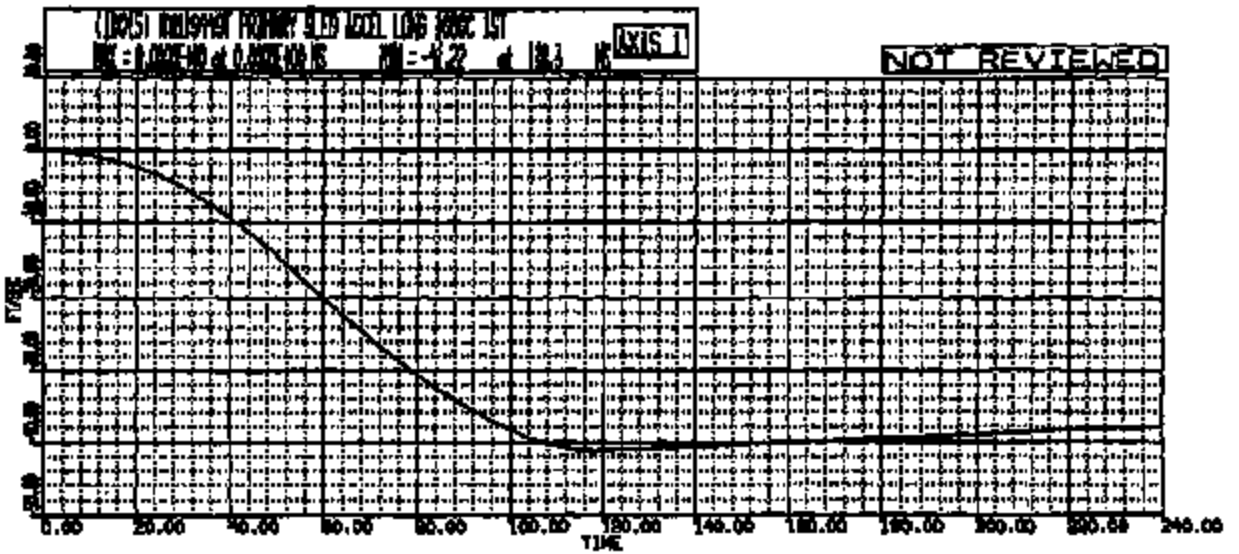
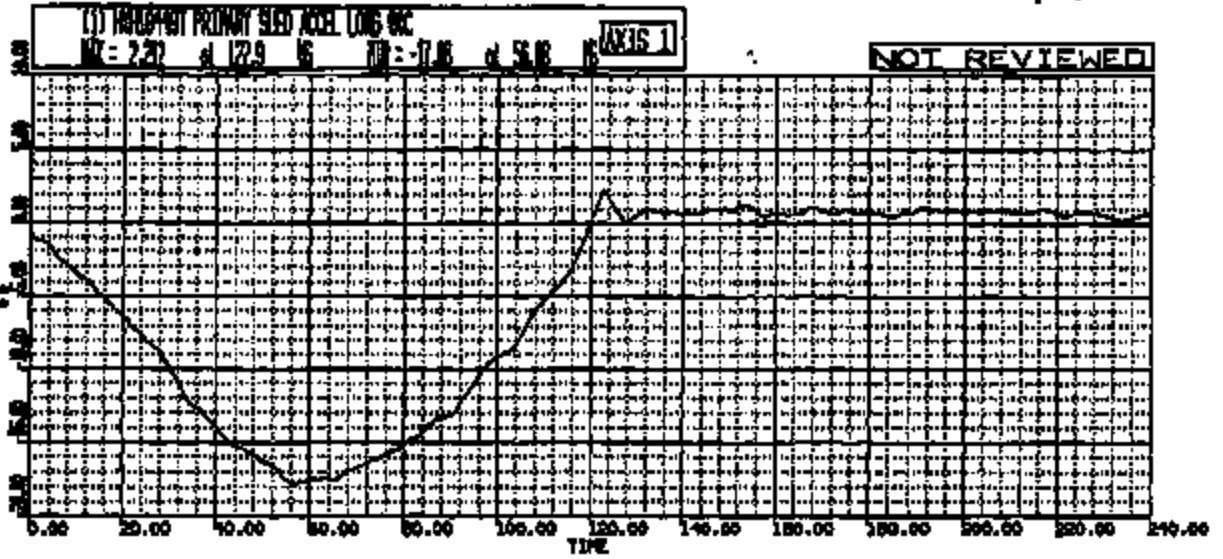
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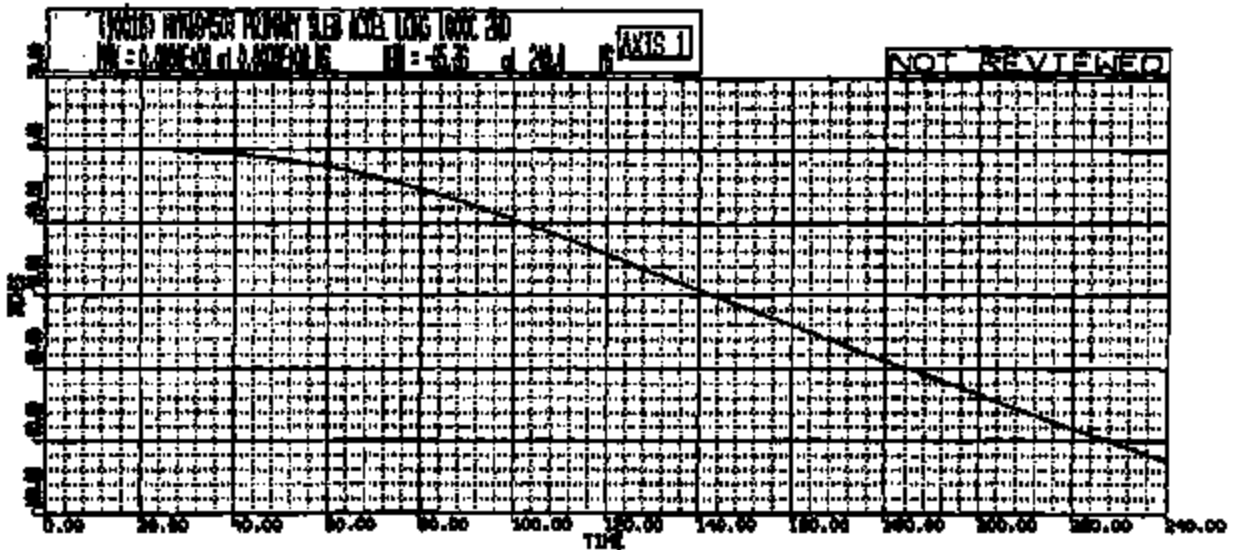
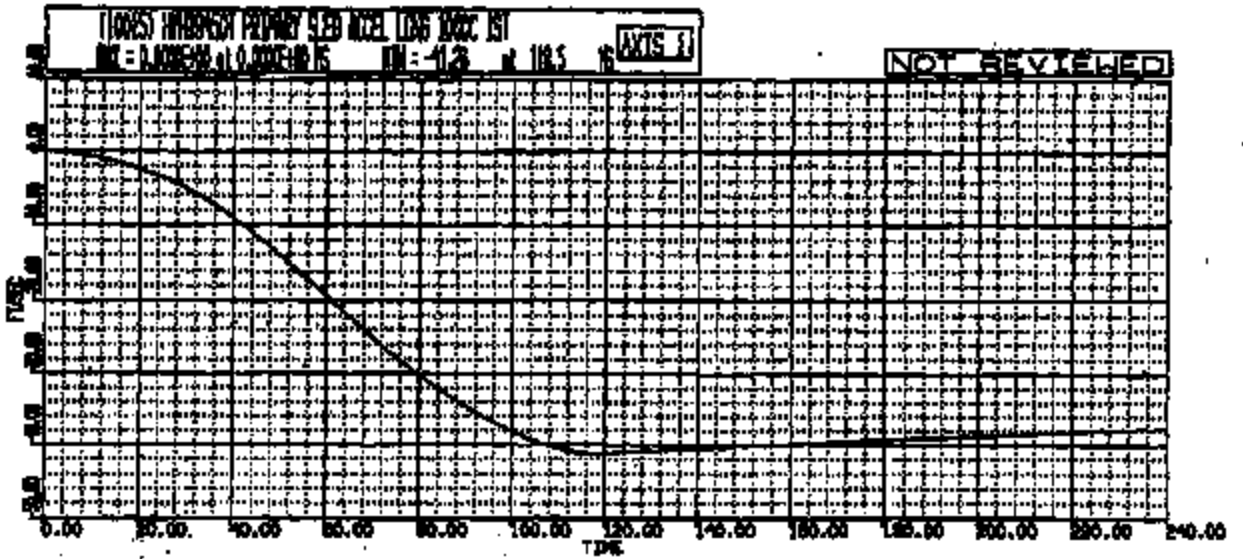
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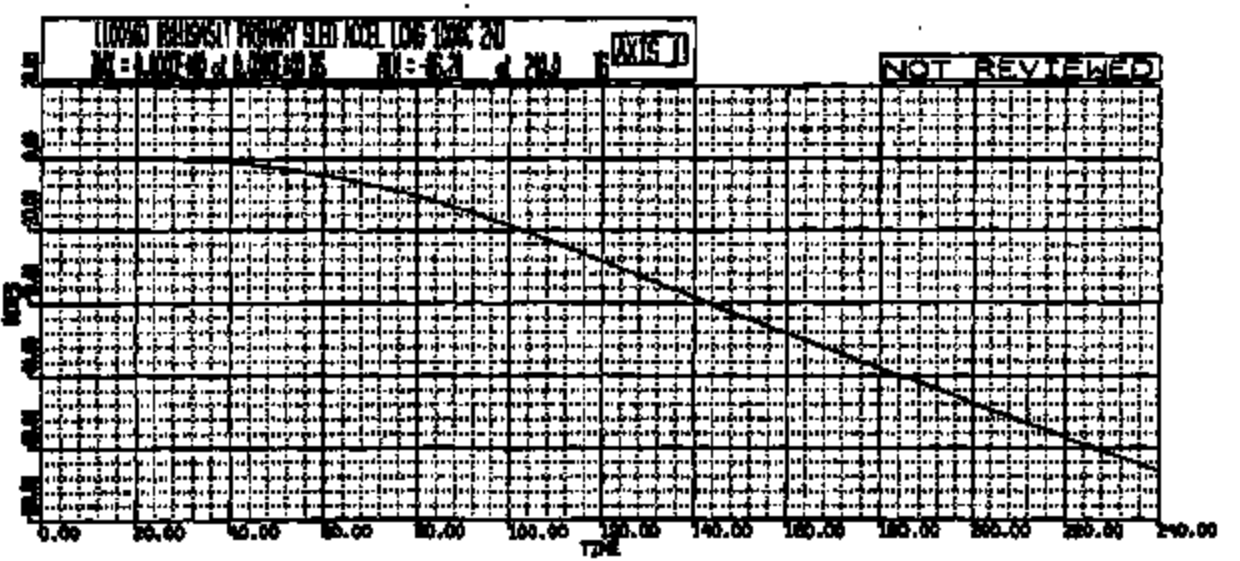
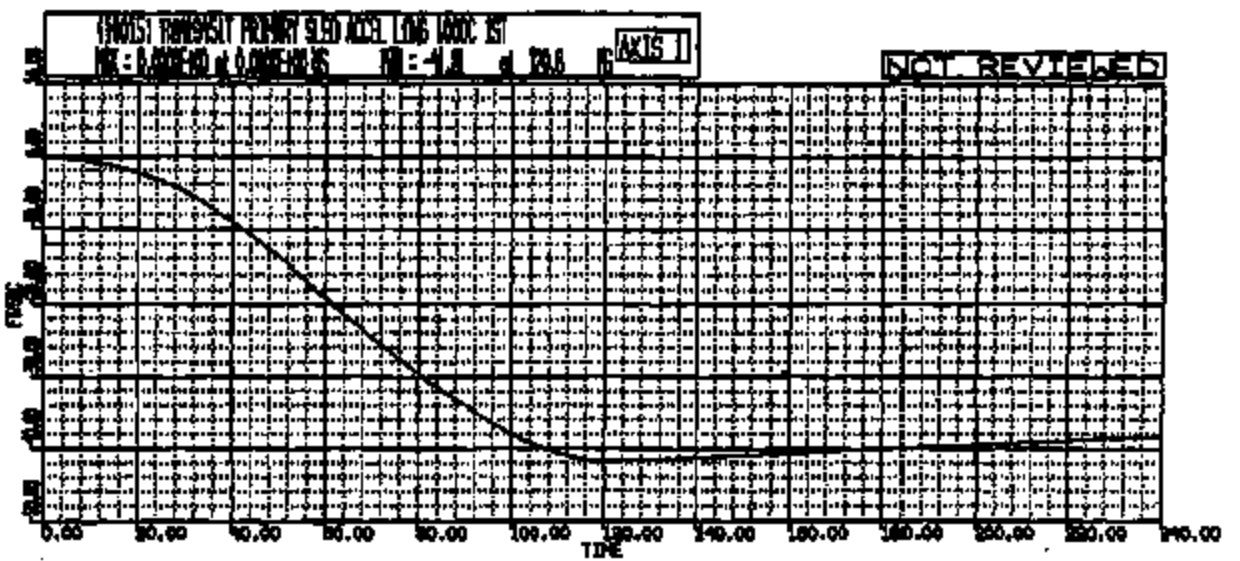
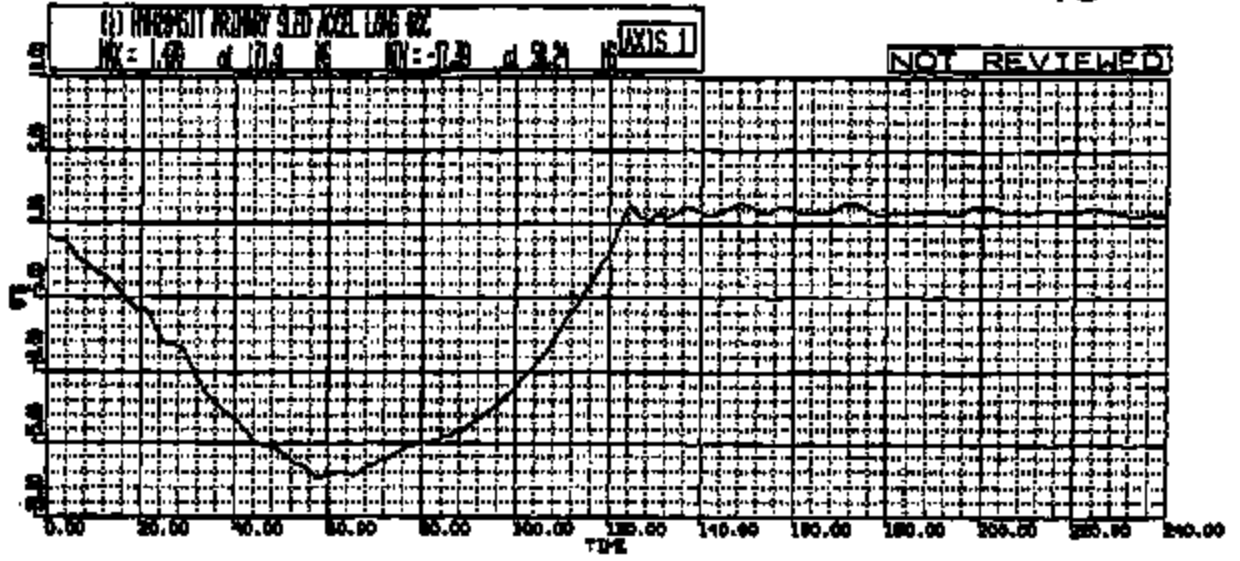
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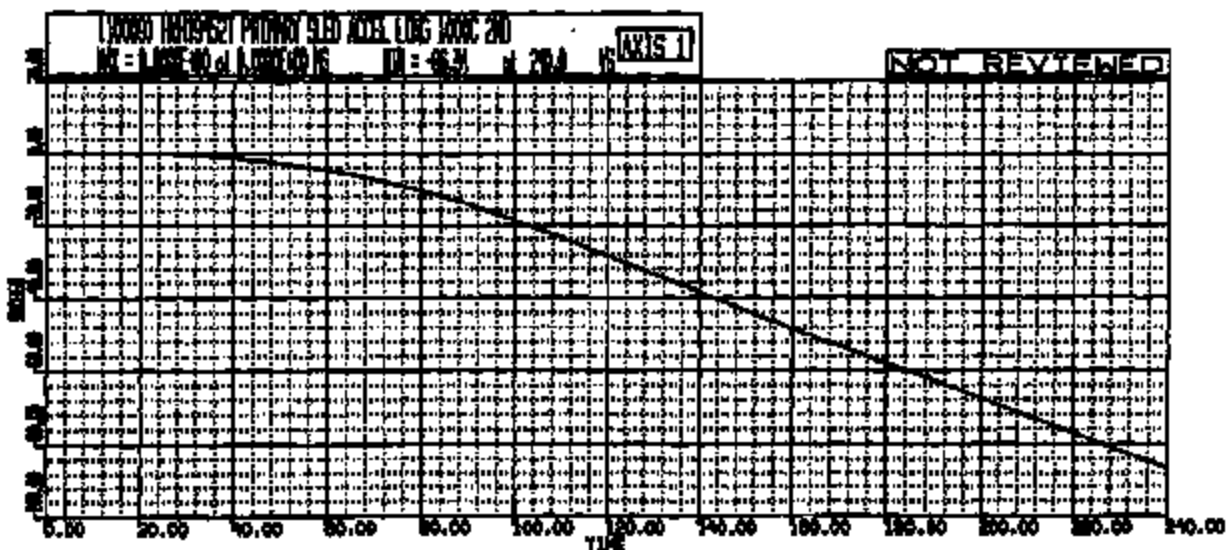
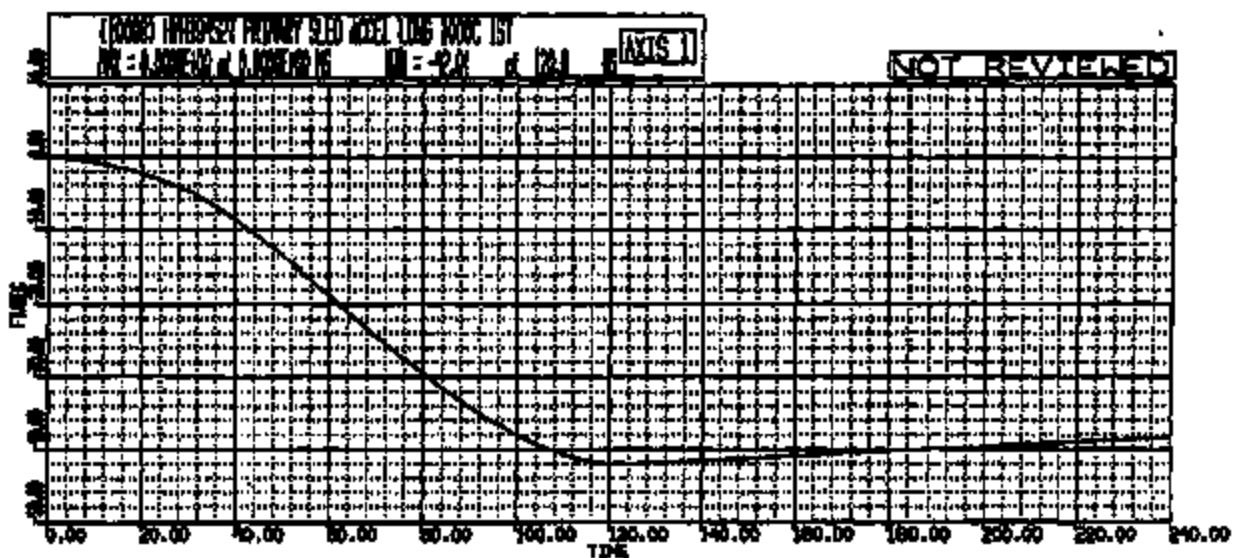
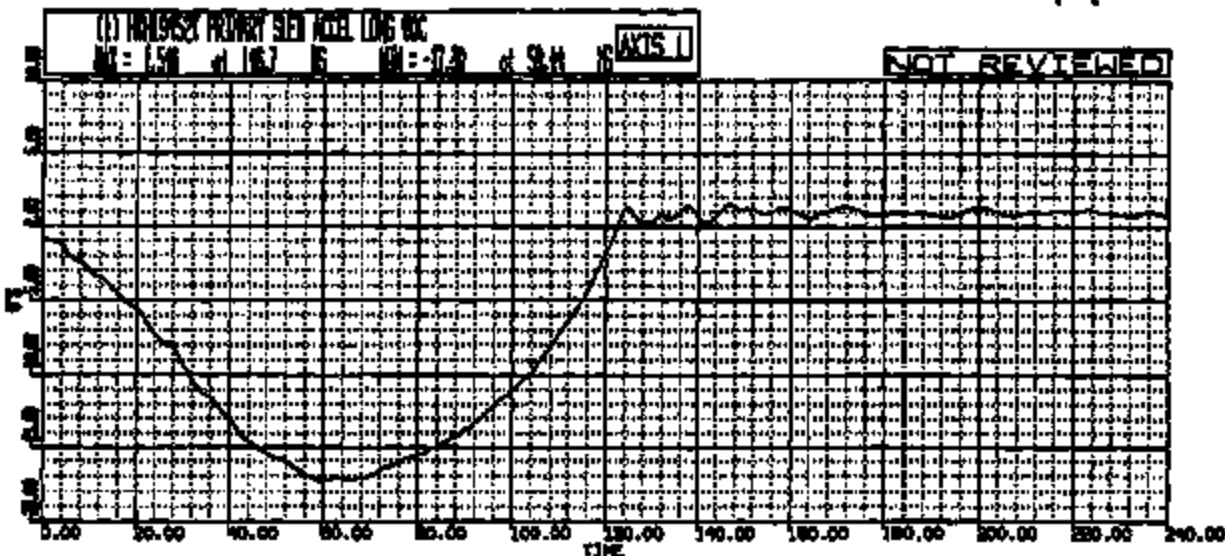
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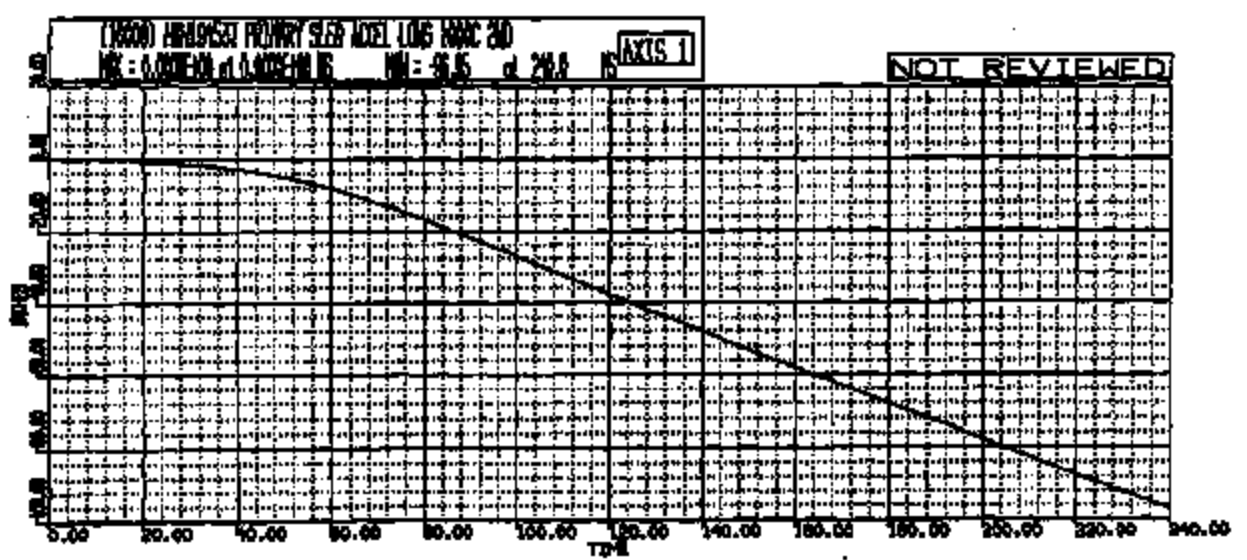
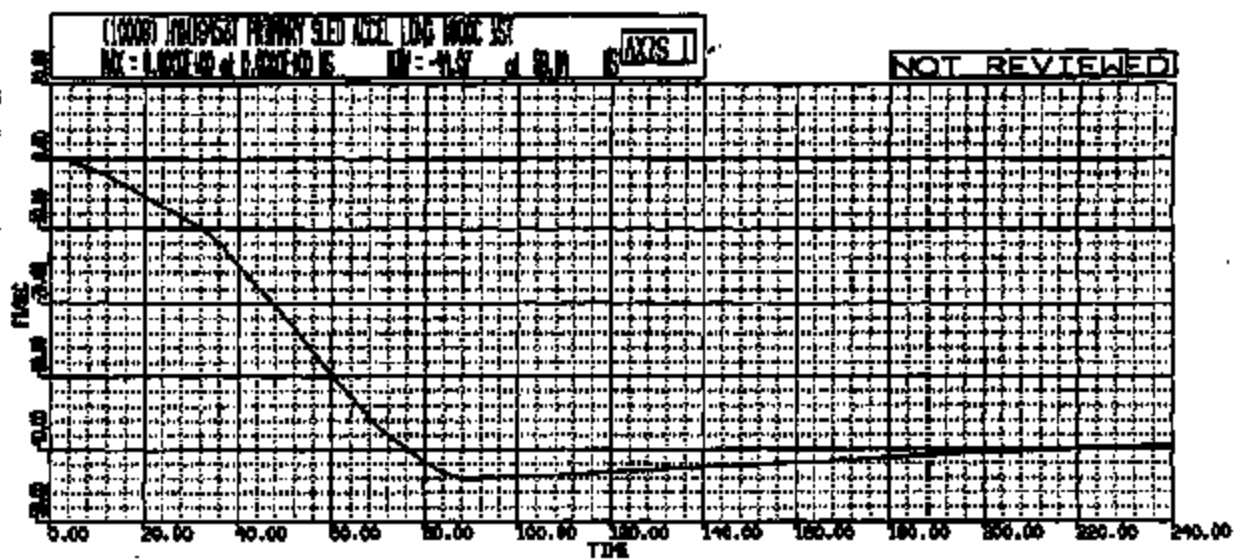
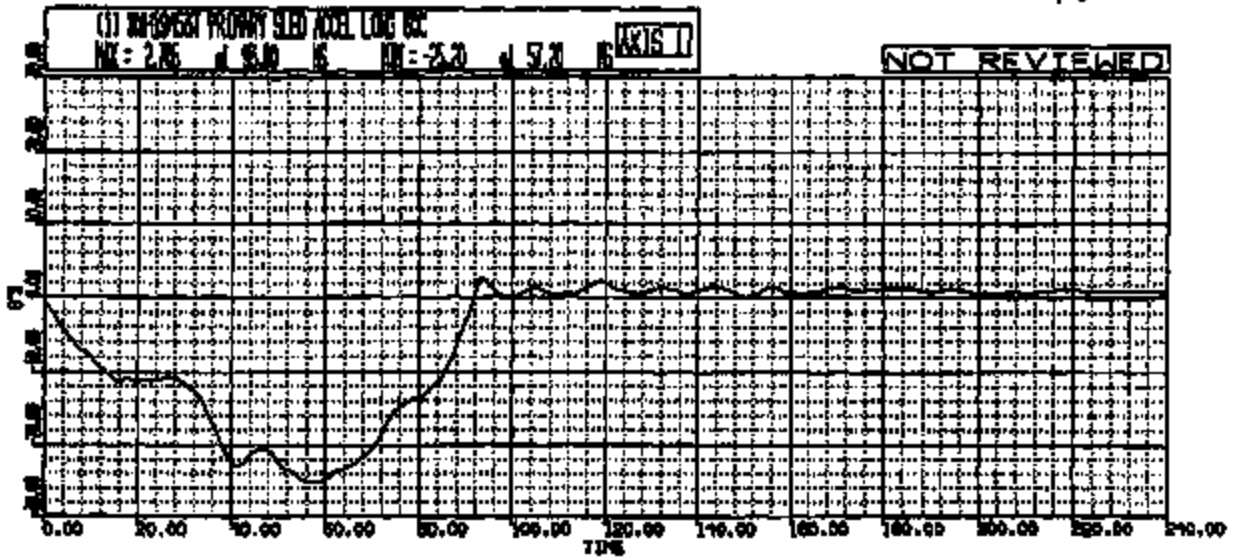
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TA 5846
Sheet 19

Attachment IV.
Sled Parameters

HYGE - FIRING PARAMETERS SHEET

Sheet 20

Initiation Date/Time: _____
Name: x5641

Test Order # **TA5846**

Fixture / Buckle: **405**

Test Description:

Total # of Runs: **18**

Driver/Passenger Belt/Bag Evaluation

Std Parameters				Test Eng. initials & date: CD 10/12/95						
Matr. #	Weight lb	SSCL in	Stroke in	Load psi	Set psi	Scale psi	Speed mph	Meter Pin	Orifice rings	Dummy Config
1-4	5862	130	61	2826	471	210	35	54	IN	2-50R3
5	5959	130	61	2862	477	210	35	54	IN	1-95H3 1-50R3
6	5682	130	61	2742	457	200	35	54	IN	1-50R3
7	5921	65	48	1842	307	120	30	93	OUT	2-50H3
REF	XXXX	XX	XX	XXXX	XXX	XXX	XX	XXX	XXXX XX	X-XXXX X-XXXX

Crash Ref: _____ Ref. HYGE Run#: **H18345 (35mph)** Other Ref.: _____

Weight Calculation

Item	Configuration #1 2-50R3			Configuration #2 1-95H3 1-50H3			Configuration #3 1-50H3			Configuration #4 2-50H3		
	QTY	WT	TOTL	QTY	WT	TOTL	QTY	WT	TOTL	QTY	WT	TOTL
Downies												
Item description												
sled			2041			2041			2041			2041
ray overrigger/beddowns	6	152/1800	912			912			912			912
Misc. Pigs. & Attach.			369			369			369			369
32 ch. edge bar	3	37	111	3	37	111	3	37	111	3	37	111
SUBTOTAL			3678			3678			3678			3678
Buckle # 405			1708			1708			1708			1708
quantity	10	90	900	10	90	900	10	90	900	10	90	900
lubers	8	12	96	8	12	96	8	12	96	8	12	96
other shells	2	6	12	2	6	12	2	6	12	2	6	12
mounts	8	17	136	8	17	136	8	17	136	8	17	136
SUBTOTAL			1678			1678			1678			1678
Downies												
60H3	0	228	0	1	228	228	0	228	0	0	228	0
H2H3	2	180	360	1	180	180	1	180	180	2	180	360
2MS	8	110	880	2	110	220	0	110	0	0	110	0
INFANT	0	20	0	0	20	0	0	20	0	0	20	0
3 YEAR	0	25	0	0	25	0	0	25	0	0	25	0
8 YEAR	0	45	0	0	45	0	0	45	0	0	45	0
seals												
Driver/Left	1	45	45	1	45	45	1	45	45	1	45	45
Pass./Right	1	45	45	1	45	45	0	45	0	1	45	45
Center/Bench	0	60	0	0	60	0	0	60	0	0	60	0
Motor seat	0	80	0	0	80	0	0	80	0	0	80	0
other seat	0	80	0	0	80	0	0	80	0	0	80	0
Inst. panel			102			102			102			102
beltset			0			0			0			0
other	0	0	0	0	0	0	0	0	0	0	0	0
other	0	0	0	0	0	0	0	0	0	0	0	0
other	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL			892			892			892			892
TOTALS			892			892			892			892

Additional Pileup Information:

HYGE - FIRING PARAMETERS SHEET

Sheet 21

Issued: Dts Perigo
Form: 24615

Test Order # **TA5846**

Fixture / Buckle: **405**

Test Description: _____ Total # of Runs: **10**

Driver/Passenger Belt/Bag Evaluation

Grid Parameters		Test Eng. initials & date: CD 10/12/98								
Matrix #	Weight lb	SPCL in	Stroke in	Load psi	Set psi	Break psi	Speed mph	Matrix Pin	Orifice rings	Dummy Config
8	5966	65	48	1854	309	120	30	93	OUT	1-5H3 1-50H3
9	5767	65	48	1800	300	120	30	93	OUT	2-5H3
10	5612	65	48	1752	292	120	30	93	OUT	1-5H3
11	5689	92	34	2328	388	120	25	50	HLF	1-50H3
REF	XXXX	XX	XX	XXXX	XX	XX	XX	XXX	XXXX XXX	X-XXXX X-XXXX

Crash Ref: _____ Ref. HYGE Run#: _____ Other Ref.: _____

Weight Calculation												
Dummies	Configuration #1 1-5H3 1-50H3			Configuration #2 2-5H3			Configuration #3 1-5H3			Configuration #4 1-50H3		
	Wt	H	Total	Wt	H	Total	Wt	H	Total	Wt	H	Total
Item description												
Head			2041			2041			2041			2041
new outriggers/beddown			588			588			588			588
Wdg, Pigs, & Attach.			300			300			300			300
32 ch. offset box	3	37	111	3	37	111	3	37	111	3	37	111
SUBTOTAL			3978			3978			3978			3978
Buckle # 405			1788			1788			1788			1788
coverings	10	90	100	10	10	100	10	90	100	10	10	100
tubers	8	12	88	8	12	88	8	12	88	8	12	88
claw shells	2	8	12	2	8	12	2	8	12	2	8	12
mounts	8	17	0	8	17	0	8	17	0	8	17	0
SUBTOTAL			1878			1878			1878			1878
Dummies 9070	1	228	228	1	228	0	0	228	0	0	228	0
H26 50H3	1	180	180	1	180	0	0	180	0	1	180	180
5H3	0	110	0	2	110	280	1	190	110	0	110	0
INFANT	0	20	0	0	20	0	0	20	0	0	20	0
3 YEAR	0	35	0	0	35	0	0	35	0	0	35	0
6 YEAR	0	45	0	0	45	0	0	45	0	0	45	0
seats Driver/Left	1	82	82	1	45	48	1	45	48	1	82	82
Pass./Right	1	82	82	1	45	48	0	50	0	0	82	0
Center/Back	0	80	0	0	80	0	0	50	0	0	80	0
blocker seat	0	80	0	0	80	0	0	80	0	0	80	0
other seat	0	80	0	0	80	0	0	80	0	0	80	0
Instr. panel			102			102			102			102
belts			0			0			0			0
other	0	0	0	0	0	0	0	0	0	0	0	0
other	0	0	0	0	0	0	0	0	0	0	0	0
other	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL			671			418			287			534
TOTAL			8998			5787			6912			6698

Additional Pulse Information:

SLED 0025887

TR5846
Sheet 22

Attachment V.
Post Test Observations

HYGE Sled Test Summary

Sheet 23

Initiator: Dale Ferrigo
Phone: 45818

HYGE Run # 19443

Run Date 10/14/98

Test Engineer: Wim Van Glabbeek

Test Auth # TAS848

Requester: Dale Ferrigo

BUCK # 405

1

MATRX #

Test Title/Description: Driver/Passenger Belt/Bag Evaluation

Crash/HYGE Pulse Ref: _____

Simulated Speed: 35

Pin # 54

FIM TIME	LEFT	Airbag: <u>12/17</u> ms Pyro Buckle: <u>10</u> ms	RIGHT	Airbag: <u>12/17</u> ms Pyro Buckle: <u>10</u> ms
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy	<u>SOOTH</u>	Dummy	<u>SOOTH</u>
	A/B	<u>D-11</u>	A/B	<u>P-15</u>
	Belt	<u>LR-24</u>	Belt	<u>RR-24</u>
	Seat	<u>S-1</u>	Seat	<u>S-1</u>
	Tracks:	power <input checked="" type="radio"/> manual	Dr. A/B FMM	Pass. FMM
Position:	<u>MID</u> Welded? <input checked="" type="radio"/> N	Position:	<u>MID</u> Welded? <input checked="" type="radio"/> N	
Instrument Panel:	<u>1-8</u>			
Steering Column:	<u>SC3</u>			
Pre-Test OBSERVATIONS: _____				

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	<input checked="" type="radio"/> Upright /B <input checked="" type="radio"/> O/B <input checked="" type="radio"/> On Seat <input checked="" type="radio"/> Off Seat	LEFT		RIGHT	<input checked="" type="radio"/> Upright /B <input checked="" type="radio"/> O/B <input checked="" type="radio"/> On Seat <input checked="" type="radio"/> Off Seat
LEFT SIDE	A/B Intact (No Holes)	<input checked="" type="radio"/> Y		<input checked="" type="radio"/> Y	
	Face to A/B				
	Contact Location:	High <input checked="" type="radio"/> Low <input checked="" type="radio"/>		High <input checked="" type="radio"/> Low <input checked="" type="radio"/>	
	A/B Cover Attached to Can./Cover:	<input checked="" type="radio"/> Y		<input checked="" type="radio"/> Y	
	Adj. D-ring Remains in Position:	<input checked="" type="radio"/> Y		<input checked="" type="radio"/> Y	
	Retractor Intact:	<input checked="" type="radio"/> Y / N		<input checked="" type="radio"/> Y / N	
	Buckle Held:	<input checked="" type="radio"/> Y / N		<input checked="" type="radio"/> Y / N	
	Seat Tracks Held:	<input checked="" type="radio"/> Y		<input checked="" type="radio"/> Y	
	Cracks in VP:	<input checked="" type="radio"/> Y		<input checked="" type="radio"/> Y	
	Steering Wheel Deformed:	<input checked="" type="radio"/> Y		<input checked="" type="radio"/> Y	
Column Striked w/o interference:	<input checked="" type="radio"/> Y / N		<input checked="" type="radio"/> Y / N		
Column Striker:	Left: _____		Right: _____		

Post Test COMMENTS: ↓ BLUE BOX DOOR CAME OPEN
↓ A LOT OF DEFORMATION AROUND THE
PYRO BUCKLE AREA ON THE SEAT

OBSERVER: *[Signature]*

HYGE Sled Test Summary

Sheet 24

Revision: Dale Parrigo
Form: 156018

HYGE Run # 19444
Test Engineer: Wim Van Glabbeek
Requester: Dale Parrigo

Run Date 10/14/98
Test Auth # TAS846
BUCK # 405

MATRIX # 2

Test Title/Description: Driver/Passenger Belt/Bag Evaluation

Crash/HYGE Pulse Ref:

Simulated Speed: 35 Pin # 54

PRE-TEST OBSERVATIONS	LEFT	Airbag: <u>12/17</u> ms Pyro Buckle: <u>10</u> ms	RIGHT	Airbag: <u>12/17</u> ms Pyro Buckle: <u>10</u> ms
	Duration <u>50TH</u> A/B <u>D-11</u> Belt <u>LR-25</u> Seat <u>S-1</u> Tracks: <u>power</u> Position: <u>MID</u> Welded? <input checked="" type="checkbox"/> N Instrument Panel: <u>18</u> Steering Column: <u>SC3</u>		Duration <u>50TH</u> A/B <u>P-15</u> Belt <u>RR-25</u> Seat <u>S-1</u> Tracks: <u>power</u> Position: <u>MID</u> Welded? <input checked="" type="checkbox"/> N	
Pre-Test OBSERVATIONS:				

POST-TEST OBSERVATIONS & CHECKLIST

<input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> On Seat		<input checked="" type="checkbox"/> I/B <input checked="" type="checkbox"/> Off Seat	<input checked="" type="checkbox"/> O/B <input checked="" type="checkbox"/> Off Seat	<input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> On Seat	<input checked="" type="checkbox"/> Left <input checked="" type="checkbox"/> Off Seat	<input checked="" type="checkbox"/> Right <input checked="" type="checkbox"/> Off Seat	<input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> On Seat	<input checked="" type="checkbox"/> I/B <input checked="" type="checkbox"/> Off Seat	<input checked="" type="checkbox"/> O/B <input checked="" type="checkbox"/> Off Seat
LEFT SIDE	A/B Intact/No Hold:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N		RIGHT SIDE	A/B Intact/No Hold:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N			
	Face to A/B	I/B	Center		O/B	Face to A/B	I/B	Center	O/B
	Contact Location:	<u>High</u> <input checked="" type="checkbox"/> <u>Mid</u> <input checked="" type="checkbox"/> <u>Low</u> <input checked="" type="checkbox"/>			Contact Location:	<u>High</u> <input checked="" type="checkbox"/> <u>Mid</u> <input checked="" type="checkbox"/> <u>Low</u> <input checked="" type="checkbox"/>			
	A/B Cover Attached to Can./Cover:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N			A/B Cover Attached to Can./Cover:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N			
	Adj. D-ring Remain in Position:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N			Adj. D-ring Remain in Position:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N			
	Refractor Intact:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N	Locked:		<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N	Refractor Intact:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N	Locked:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N
	Buckle Held:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N	Webbing Intact:		<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N	Buckle Held:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N	Webbing Intact:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N
Seat Tracks Held:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N		Seat Tracks Held:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N					
Cracks in SP:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N		Cracks in SP:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N					
Steering Wheel Deformed:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N		Steering Wheel Deformed:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N					
Column Broke w/o Interference:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N		Column Broke w/o Interference:	<input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N					
Column Stroke: Left:	_____		Column Stroke: Right:	_____					

Post Test COMMENTS:

L/ SLIGHT BOLSTERED CONTACT W/ NO DEFORMATION

R/ NO VISIBLE BOLSTERED DEFORMATION

BOTH SEATS NORMAL W/ DEFORMATION IN PYRO AREA

* DATA REVIEWED

OBSERVER: NOM

HYGE Sled Test Summary

Sheet 25

Inches Dale Perrigo
Phone #36018

HYGE Run # 19445
Test Engineer: Wim Van Glabbeek
Requester: Dale Perrigo

Run Date 10/14/98
Test Auth # TA5948
BUCK# 405

3

MATRIX #

Test Title/Description: Driver/Passenger Belt/Bag Evaluation

	Crash/HYGE Pulse Ref:	Simulated Speed:	Pin #
LEFT	Airbag: _____ ms Pyro Buckle: _____ ms	RIGHT	Airbag: _____ ms Pyro Buckle: _____ ms
PRE-TEST OBSERVATIONS	Dummy _____	Dummy _____	Dummy _____
	A/B _____	Belt _____	A/B _____
	Belt _____	Dr. A/B PWB _____	Belt _____
	Seat _____	Pass. PWB _____	Seat _____
	Tracks: power manual _____	_____	Tracks: power manual _____
Position: _____	Welded? Y N _____	Position: _____	Welded? Y N _____
Instrument Panel: _____			
Steering Column: _____			
Pre-Test OBSERVATIONS: _____			

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	VIB		DIR	Upright		DIR	VIB	
	On Seat	Off Seat		Left	Right		On Seat	Off Seat
LEFT SIDE	A/B Intact <input checked="" type="checkbox"/> NO FRONT			Y / N			A/B Intact <input checked="" type="checkbox"/> NO FRONT	
	Face to A/B	V/B <input checked="" type="checkbox"/> OFF OFF		O/B			Face to A/B	V/B <input checked="" type="checkbox"/> CENTER OFF
	Contact Location:	High <input checked="" type="checkbox"/> LOW		Low			Contact Location:	High <input checked="" type="checkbox"/> LOW
	A/B Cover Attached to Can./Cover:						A/B Cover Attached to Can./Cover:	
	Adj. D-ring Remain in Position:						Adj. D-ring Remain in Position:	
	Retractor Intact:	<input checked="" type="checkbox"/> Y / N		Locked:	<input checked="" type="checkbox"/> Y / N		Retractor Intact:	<input checked="" type="checkbox"/> Y / N
	Buckle Held:	<input checked="" type="checkbox"/> Y / N		Webbing Intact:	<input checked="" type="checkbox"/> Y / N		Buckle Held:	<input checked="" type="checkbox"/> Y / N
	Seat Tracks Held:	<u>weld</u>			<input checked="" type="checkbox"/> Y / N		Seat Tracks Held:	<u>weld</u>
	Cracks in MP:				<input checked="" type="checkbox"/> Y / N		Cracks in MP:	<input checked="" type="checkbox"/> Y / N
	Steering Wheel Deformed:				<input checked="" type="checkbox"/> Y / N			
	Column Stroked w/o Interference:				<input checked="" type="checkbox"/> Y / N			
	Column Stroke: Left _____			Right: _____				
Post Test COMMENTS:								
<u>1/ SLIGHT BOLTER CONTACT W/ NO VISIBLE DEFORMATION</u>								
<u>2/ GLOVE BOX OPENED - NO VISIBLE DEFORMATION</u>								
<u>BOTH SEATS NORMAL - DEFORMATION IN PYRO AREA</u>								
OBSERVER: <u>man</u>								

HYGE Sled Test Summary

Sheet 26

Motor: Dale Parrigo
Form #5438

HYGE Run #: 19446

Run Date: 10/14/98

Test Engineer: Wm Van Glabbeek

Test Auth # TAS946

Requester: Dale Parrigo

BUCK # 406

4

MATRIX #

Test Title/Description: Driver/Passenger Belt/Bag Evaluation

Crash/HYGE Pulse Ref: _____

Simulated Speed: 35 Pin # 54

	LEFT	Airbag: <u>12/17</u> ms	ms	RIGHT	Airbag: <u>12/17</u> ms
		Pyro Builde: <u>10</u> ms			Pyro Builde: <u>10</u> ms
FACTS DESCRIPTION POST-TEST OBSERVATIONS	Dummy	<u>50%</u>		Dummy	<u>50%</u>
	A/B			A/B	
	Belt			Belt	
	Seat	<u>S-1</u>		Seat	<u>S-1</u>
	Tractor:	<u>power manual</u>		Tractor:	<u>power manual</u>
	Position:	<u>M</u> <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		Position:	<u>M</u> <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Instrument Panel: _____					
Steering Column: _____					
Pre-Test OBSERVATIONS: _____					

POST-TEST OBSERVATIONS & CHECKLIST Consistent (if needed) below:

		VB	OB	Upright	Left	Right		VB	OB
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Off Seat		<input checked="" type="checkbox"/>	<input type="checkbox"/> On Seat	<input type="checkbox"/> Off Seat		<input checked="" type="checkbox"/>	<input type="checkbox"/> Off Seat
LEFT SIDE	A/B Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/> N					<input type="checkbox"/>	<input type="checkbox"/> N
	Face to A/B	VB	OB					VB	OB
	Contact Location:	High	<input checked="" type="checkbox"/> Low					High	<input checked="" type="checkbox"/> Low
	A/B Cover Attached to Can./Cover:		<input checked="" type="checkbox"/> N						<input checked="" type="checkbox"/> N
	Adj. D-ring Remain in Position:		<input checked="" type="checkbox"/> N						<input checked="" type="checkbox"/> N
	Retractor Intact:	<input checked="" type="checkbox"/> N	Looked:	<input checked="" type="checkbox"/> N				<input checked="" type="checkbox"/> N	Looked:
	Buckle Held:	<input checked="" type="checkbox"/> N	Webbing Intact:	<input checked="" type="checkbox"/> N				<input checked="" type="checkbox"/> N	Webbing Intact:
	Seat Tracks Held:	<u>weld</u>		<input checked="" type="checkbox"/> N				<u>weld</u>	
	Cracks in IP:			<input type="checkbox"/> Y <input checked="" type="checkbox"/> N					<input type="checkbox"/> Y <input checked="" type="checkbox"/> N
	Steering Wheel Deformed:			<input type="checkbox"/> Y <input checked="" type="checkbox"/> N					<input type="checkbox"/> Y <input checked="" type="checkbox"/> N
Column Stroked w/o Interference:			<input checked="" type="checkbox"/> N					<input checked="" type="checkbox"/> N	
Column Stroke:	Left:			Right:					

Post Test COMMENTS:

R/ GLOVE BOX DOOR OPENED W/ SLIGHT CONTACT

L/ SLIGHT BOLSTER CONTACT

W/ NO VISIBLE DEFORMATION

BOTH SEATS NORMAL - PYRO AREA DEFORMED

OBSERVER: MLM

HYGE Sled Test Summary

Sheet 27

Index: Dale Parrigo
Phone: 236018

HYGE Run # 19447

Run Date 10/15/98

Test Engineer: Wm Van Glabbeek

Test Auth # TAS846

Requester: Dale Parrigo

BUCK # 405

6

MATRIX #

Test Title/Description: Driver/Passenger Belt/Bag Evaluation

Crash/HYGE Pulse Ref: _____

Simulated Speed: 35

Pin # 54

PRE-TEST OBSERVATIONS	<p>LEFT Airbag: <u>12/17</u> ms Pyro Buckle: <u>10</u> ms</p> <p>Dummy <u>50TH</u> A/B <u>D-12</u> Belt <u>LA-25</u> Seat _____ Tracks: cover <u>normal</u> Position: <u>MID</u> Webbed? <input checked="" type="checkbox"/> N Instrument Panel: <u>18</u> Steering Column: <u>303</u> Pre-Test OBSERVATIONS: _____</p>	CENTER	<p>RIGHT Airbag: <u>12/17</u> ms Pyro Buckle: <u>10</u> ms</p> <p>Dummy _____ A/B _____ Belt _____ Seat _____ Tracks: power <u>normal</u> Position: _____ Webbed? <input type="checkbox"/> Y N Pre-Test OBSERVATIONS: _____</p>
POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:			
LEFT SIDE	<p><input checked="" type="checkbox"/> Upright <input type="checkbox"/> IB <input type="checkbox"/> O/B <input checked="" type="checkbox"/> On Seat <input type="checkbox"/> Off Seat</p> <p>A/B Intact <u>No Holes</u> <input checked="" type="checkbox"/> Y <input type="checkbox"/> N</p> <p>Face to A/B <input type="checkbox"/> IB <input checked="" type="checkbox"/> Center <input type="checkbox"/> O/B Contact Location: High <u>Mid</u> Low</p> <p>A/B Cover Attached to Can./Cover: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Adj. D-ring Remain in Position: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Retractor Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Locked: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Buckle Held: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Webbing Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Seat Tracks Held: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Cracks in IP: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Steering Wheel Deformed: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Column Stroked w/o Interference: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N</p> <p>Column Stroke: Left _____ Right _____</p>	RIGHT SIDE	<p><input type="checkbox"/> Upright <input type="checkbox"/> IB <input type="checkbox"/> O/B <input type="checkbox"/> On Seat <input type="checkbox"/> Off Seat</p> <p>A/B Intact (No Holes): _____ Y / N</p> <p>Face to A/B <input type="checkbox"/> IB <input type="checkbox"/> Center <input type="checkbox"/> O/B Contact Location: High Mid Low</p> <p>A/B Cover Attached to Can./Cover: _____ Y / N Adj. D-ring Remain in Position: _____ Y / N Retractor Intact: Y / N Locked: _____ Y / N Buckle Held: Y / N Webbing Intact: _____ Y / N Seat Tracks Held: _____ Y / N Cracks in IP: _____ Y / N</p>
<p>Post Test COMMENTS: <u>1/2 AREA OF DEFORMATION AROUND THE PYRO AREA</u> <u>1/2 TEST LOOKED NORMAL</u></p>			
OBSERVER: <u>D. Duda</u>			

HYGE Slad Test Summary

Sheet 28

Initiator Data Form
Form: 10618

HYGE Run # 19448 Run Date 10/15/98
 Test Engineer: Wim Van Glabbeek Test Auth # TA5548
 Requester: Dale Ferrigo BUCK # 405

5

MATRIX #

Test Title/Description: Driver/Passenger Belt/Bag Evaluation
 Crash/HYGE Pulse Ref: _____ Simulated Speed: 35 Ph # 54

	LEFT	Airbag: <u>12/17</u> ms	RIGHT	Airbag: <u>12/17</u> ms
		Pyro Buckle: <u>10</u> ms		Pyro Buckle: <u>10</u> ms
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy	<u>50TH</u>	Dummy	<u>95TH</u>
	AB	<u>D-12</u>	Belt	<u>D-15</u>
	Belt	<u>18-85</u>		<u>20-85</u>
	Seat	<u>S-1</u>	Dr. AB FM#	<u>S-4</u>
	Tracks:	power <input checked="" type="checkbox"/> manual	Pass. FM#	Tracks: power <input checked="" type="checkbox"/> manual
	Position:	<u>mid</u> Welded? <input checked="" type="checkbox"/> N		<u>FR</u> Welded? <input checked="" type="checkbox"/> Y
Instrument Panel:	<u>1-8</u>			
Steering Column:	<u>SC3</u>			
Pre-Test OBSERVATIONS:	_____			

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	LEFT	Upright /B O/B On Seat / Off Seat	RIGHT	Upright /B O/B On Seat / Off Seat	
LEFT SIDE	A/B Intact (No Holes)	<input checked="" type="checkbox"/> Y / <input type="checkbox"/> N	RIGHT SIDE	A/B Intact (No Holes)	<input checked="" type="checkbox"/> Y / <input type="checkbox"/> N
	Face to A/B	I/B <input checked="" type="checkbox"/> Center O/B <input checked="" type="checkbox"/> <u>Mid</u>		Face to A/B	I/B <input checked="" type="checkbox"/> Center O/B <input checked="" type="checkbox"/> <u>Mid</u>
	Contact Location:	High <input checked="" type="checkbox"/> Low		Contact Location:	High <input checked="" type="checkbox"/> Low
	A/B Cover Attached to Can./Cover:	<input checked="" type="checkbox"/> Y / <input type="checkbox"/> N		A/B Cover Attached to Can./Cover:	<input checked="" type="checkbox"/> Y / <input type="checkbox"/> N
	Adj. D-ring Remain in Position:	<input checked="" type="checkbox"/> Y / <input type="checkbox"/> N		Adj. D-ring Remain in Position:	<input checked="" type="checkbox"/> Y / <input type="checkbox"/> N
	Retractor Intact:	<input checked="" type="checkbox"/> Y / <input type="checkbox"/> N Lock: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N		Retractor Intact:	<input checked="" type="checkbox"/> Y / <input type="checkbox"/> N Lock: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N
	Buckle Held:	<input checked="" type="checkbox"/> Y / <input type="checkbox"/> N Webbing Intact:		Buckle Held:	<input checked="" type="checkbox"/> Y / <input type="checkbox"/> N Webbing Intact:
	Seat Tracks Held:	<input checked="" type="checkbox"/> Y / <input type="checkbox"/> N		Seat Tracks Held:	<input checked="" type="checkbox"/> Y / <input type="checkbox"/> N
	Cracks in I/P:	<input type="checkbox"/> Y / <input checked="" type="checkbox"/> N		Cracks in I/P:	<input type="checkbox"/> Y / <input checked="" type="checkbox"/> N
	Steering Wheel Deformed:	<input type="checkbox"/> Y / <input checked="" type="checkbox"/> N			
Column Stroked w/o Interference:	<input checked="" type="checkbox"/> Y / <input type="checkbox"/> N				

Column Stroke: Left: _____ Right: _____

Post Test COMMENTS: * TEST LOOKED NORMAL

OBSERVER: [Signature]

HYGE Sled Test Summary

Sheet 29

Inhibitor: Dale Perrigo
Phone: 78013

HYGE Run # 19449
Test Engineer: Wim Van Glabbeek
Requester: Dale Perrigo

Run Date 10/15/98
Test Auth # TASS46
BUCK # 405

8

MATRIX #

Test Title/Description: Driver/Passenger Belt/Bag Evaluation

Crash/HYGE Pulse Ref: _____ Simulated Speed: 30 Pn # 93

	LEFT	Airbag: _____ ms	RIGHT	Airbag: _____ ms
		Pyro Buckle: _____ ms		Pyro Buckle: _____ ms
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy	<u>50%</u>	Dummy	<u>55%</u>
	A/B	<u>D-12</u>	A/B	<u>D-15</u>
	Belt	<u>---</u>	Belt	<u>DR-25</u>
	Seat	<u>S-1</u>	Seat	<u>S-1</u>
	Tracker:	<u>power</u> manual	Tracker:	<u>power</u> manual
	Position:	<u>MIB</u> Welded? <u>Y</u>	Position:	<u>FR</u> Welded? <u>Y</u>
Instrument Panel: _____				
Steering Column: _____				
Pre-Test OBSERVATIONS: _____				

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	<input checked="" type="checkbox"/> Upright	<input type="checkbox"/> VS	<input type="checkbox"/> O/B	<input type="checkbox"/> Upright	<input type="checkbox"/> Left	<input type="checkbox"/> Right	<input checked="" type="checkbox"/> Upright	<input type="checkbox"/> VS	<input type="checkbox"/> O/B
	<input checked="" type="checkbox"/> On Seat	<input type="checkbox"/> Off Seat		<input type="checkbox"/> On Seat	<input type="checkbox"/> Off Seat		<input checked="" type="checkbox"/> On Seat	<input type="checkbox"/> Off Seat	
LEFT SIDE	A/B Intact	<input checked="" type="checkbox"/> N		A/B Intact	<input checked="" type="checkbox"/> N				
	Face to A/B	<input type="checkbox"/> N	<input checked="" type="checkbox"/> VS	O/B	Face to A/B	<input type="checkbox"/> N	<input checked="" type="checkbox"/> VS	O/B	
	Contact Location:	<input type="checkbox"/> High	<input checked="" type="checkbox"/> Mid	<input type="checkbox"/> Low	Contact Location:	<input type="checkbox"/> High	<input checked="" type="checkbox"/> Mid	<input type="checkbox"/> Low	
	A/B Cover Attached to Can./Cover:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N		A/B Cover Attached to Can./Cover:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N		
	Adj. D-ring Remain in Position:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N		Adj. D-ring Remain in Position:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N		
	Retractor Intact:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	Locked:	Retractor Intact:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	Locked:	<input checked="" type="checkbox"/> Y
	Buckle Held:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	Webbing Intact:	Buckle Held:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	Webbing Intact:	<input checked="" type="checkbox"/> Y
	Seat Tracks Held:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N		Seat Tracks Held:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N		
	Cracks in IP:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N		Cracks in IP:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N		
	Steering Wheel Deformed:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N		Steering Wheel Deformed:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N		
Column Stroked w/o Interference:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N		Column Stroked w/o Interference:	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N			
Column Stroke:	Left: _____			Right: _____					

Post Test COMMENTS:

L/ BOLSTER DEFORMATION -
LOWER 1/3 S/W DEFORMED
SEAT NORMAL

R/ LOWER EDGE BOLSTER
CONTACT NO DEFORMATION
SEAT NORMAL

OBSERVER: WVG

HYGE Sled Test Summary

Sheet 30

Release: Dale Parigo

Form: 45018

HYGE Run H 19450

Run Date 10/15/98

Test Engineer: Wm Van Gribbek

Test Auth # TA6848

Requester: Dale Parigo

BUCK # 405

7

MATRIX #

Test Title/Description: Driver/Passenger Belt/Bag Evaluation

Crash/HYGE Pulse Rat: _____

Simulated Speed: 30

Pin # 23

	LEFT		RIGHT
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Airbag: _____ ms		Airbag: _____ ms
	Pyro Buckle: _____ ms		Pyro Buckle: _____ ms
	Dummy <u>5070</u>		Dummy <u>5070</u>
	A/B _____		A/B _____
	Belt _____		Belt _____
	Seat <u>S-L</u>		Seat <u>S-L</u>
	Tracks: <u>man</u> manual		Tracks: <u>man</u> manual
	Position: <u>M</u> Welded? <u>Y</u>		Position: <u>M</u> Welded? <u>Y</u>
	Instrument Panel: _____		
	Steering Column: _____		
	Pre-Test OBSERVATIONS: _____		

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

<p><input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> On Seat</p> <p><input type="checkbox"/> On Seat</p>	<p><input type="checkbox"/> Upright <input type="checkbox"/> On Seat</p> <p><input type="checkbox"/> Left <input type="checkbox"/> Off Seat</p> <p><input type="checkbox"/> Right <input type="checkbox"/> Off Seat</p>
<p>A/B Intact <input checked="" type="checkbox"/> <u>Y</u> N</p> <p>Face to A/B <input type="checkbox"/> High <input checked="" type="checkbox"/> Low</p> <p>A/B Cover Attached to Can/Cover: <input checked="" type="checkbox"/> Y N</p> <p>Adj. D-ring Remain in Position: <input checked="" type="checkbox"/> Y N</p> <p>Retractor Intact: <input checked="" type="checkbox"/> Y N</p> <p>Buckle Held: <input checked="" type="checkbox"/> Y N</p> <p>Cracks in IP: <input type="checkbox"/> N</p> <p>Steering Wheel Deformed: <input type="checkbox"/> N</p> <p>Column Stroked w/o Interference: <input type="checkbox"/> N</p> <p>Column Stroke: Left: _____ Right: _____</p>	<p>A/B Intact <input checked="" type="checkbox"/> <u>Y</u> N</p> <p>Face to A/B <input type="checkbox"/> High <input checked="" type="checkbox"/> Low</p> <p>A/B Cover Attached to Can/Cover: <input type="checkbox"/> N</p> <p>Adj. D-ring Remain in Position: <input type="checkbox"/> Y N</p> <p>Retractor Intact: <input type="checkbox"/> Y N</p> <p>Buckle Held: <input checked="" type="checkbox"/> Y N</p> <p>Cracks in IP: <input type="checkbox"/> N</p>

Post Test COMMENTS:

LOWER 1/3 S/W DEFORMED

BOLSTER DEFORMATION - SEAT

NORMAL

DUMMY BETWEEN SEATS

GLOVE BOX DOOR OPENED

* DATA SHEET AT T-2000, CH 35-40

OBSERVER: MA

HYGE Sled Test Summary

Sheet 31

Inflator Date Perig
Type: J5818

HYGE Run # 19451 Run Date 10/16/98

Test Engineer: Wm Van Glatbeek Test Auth # TA5545

Requester: Dale Perrigo BUCK # 405

9

MATRIX #

Test Title/Description: Driver/Passenger Belt/Bag Evaluation

Crash/HYGE Pulse Ref: _____ Simulated Speed: 30 Fin # 93

	LEFT		RIGHT
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Airbag: <u>20/AUTO</u> ms		Airbag: <u>20/150</u> ms
	Pyro Buckle: <u>10</u> ms		Pyro Buckle: <u>10</u> ms
	Dummy <u>5TH</u>	DUMMY	Dummy <u>5TH</u>
	AB <u>D-12</u>	Belt	AB <u>D-15</u>
	Belt <u>LR-25</u>		Belt <u>RR-25</u>
	Seat <u>S-1</u>	Dr. AB FMH	Seat <u>S-1</u>
	Tracks: power <u>normal</u>	Pass. FMH	Tracks: power <u>normal</u>
	Position: <u>EE</u> Welded? <input checked="" type="checkbox"/> N		Position: <u>FF</u> Welded? <input checked="" type="checkbox"/> N
	Instrument Panel: <u>18</u>		
	Steering Column: <u>SC3</u>		
Pre-Test OBSERVATIONS: _____			

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	LEFT SIDE		RIGHT SIDE
	<input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> I/B <input checked="" type="checkbox"/> O/B <input checked="" type="checkbox"/> On Seat <input type="checkbox"/> Off Seat	UPRIGHT	<input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> I/B <input checked="" type="checkbox"/> O/B <input checked="" type="checkbox"/> On Seat <input type="checkbox"/> Off Seat
	AB Intact <u>(No Holes)</u> <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		AB Intact <u>(No Holes)</u> <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
	Face to AB <input checked="" type="checkbox"/> I/B <input checked="" type="checkbox"/> O/B Contact Location: High <u>(Mid)</u> Low		Face to AB <input checked="" type="checkbox"/> I/B <input checked="" type="checkbox"/> O/B Contact Location: High <u>(Mid)</u> Low
	AB Cover Attached to Can./Cover: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		AB Cover Attached to Can./Cover: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
	Adj. D-ring Remain in Position: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		Adj. D-ring Remain in Position: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
	Retractor Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Locked: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		Retractor Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Locked: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
	Buckle Held: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Webbing Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		Buckle Held: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Webbing Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
	Seat Tracks Held: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		Seat Tracks Held: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
	Cracks in VP: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N		Cracks in VP: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N
	Steering Wheel Deformed: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N		Steering Wheel Deformed: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N
	Column Broke w/o Interference: <u>3 cracks</u> <input type="checkbox"/> Y <input checked="" type="checkbox"/> N		Column Broke w/o Interference: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N
	Column Stroke: Left: _____ Right: _____		Column Stroke: Left: _____ Right: _____

Post Test COMMENTS: * TEST LOOKED NORMAL

* CH 31 NOT VALID DMTB

OBSERVER: J. D. [Signature]

HYGE Sled Test Summary

Sheet 32

Informs Dale Perrigo
Form 00018

HYGE Run H 19452
 Test Engineer: Wim Van Giebbek
 Requester: Dale Perrigo

Run Date 10/16/98
 Test Auth # TA5946
 BUICK # 405

10

MATRIX #

Test Title/Description: Driver/Passenger Belt/Bag Evaluation

Crash/HYGE Pulse Ref: _____

Simulated Speed: _____

Pin # _____

LEFT	Airbag: <u>30/AUTO</u> ms Pyro Buckle: <u>10</u> ms	RIGHT	Airbag: _____ ms Pyro Buckle: _____ ms
LEFT	Dummy <u>5-11</u> A/B <u>D-11</u> Belt <u>12-25</u> Seat <u>5-1</u> Tracks: <u>power</u> <input checked="" type="checkbox"/> <u>manually</u> Position: <u>FF</u> Welded? <input checked="" type="checkbox"/> <u>N</u>	CENTER	Dummy _____ Belt _____ Dr. A/B FMB _____ Pass. FMB _____ Tracks: <u>power</u> <input type="checkbox"/> <u>manually</u> Position: _____ Welded? <input type="checkbox"/> <u>Y</u> <input type="checkbox"/> <u>N</u>
RIGHT	Instrument Panel: <u>18</u> Steering Column: <u>SC3</u> Pre-Test OBSERVATIONS: _____		

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

<table border="0"> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/> Upright</td> <td style="text-align: center;">I/B</td> <td style="text-align: center;">O/B</td> <td style="text-align: center;">On Seat</td> <td style="text-align: center;">Off Seat</td> </tr> </table>	<input checked="" type="checkbox"/> Upright	I/B	O/B	On Seat	Off Seat	<table border="0"> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/> Upright</td> <td style="text-align: center;">L/R</td> <td style="text-align: center;">Right</td> <td style="text-align: center;">On Seat</td> <td style="text-align: center;">Off Seat</td> </tr> </table>	<input checked="" type="checkbox"/> Upright	L/R	Right	On Seat	Off Seat	<table border="0"> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/> Upright</td> <td style="text-align: center;">I/B</td> <td style="text-align: center;">O/B</td> <td style="text-align: center;">On Seat</td> <td style="text-align: center;">Off Seat</td> </tr> </table>	<input checked="" type="checkbox"/> Upright	I/B	O/B	On Seat	Off Seat
<input checked="" type="checkbox"/> Upright	I/B	O/B	On Seat	Off Seat													
<input checked="" type="checkbox"/> Upright	L/R	Right	On Seat	Off Seat													
<input checked="" type="checkbox"/> Upright	I/B	O/B	On Seat	Off Seat													

<table border="0"> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/> A/B Intact (No Holes)</td> <td style="text-align: center;">Y / N</td> </tr> <tr> <td>Face to A/B</td> <td style="text-align: center;">I/B</td> <td style="text-align: center;">Center</td> <td style="text-align: center;">O/B</td> </tr> <tr> <td>Contact Location:</td> <td style="text-align: center;">High</td> <td style="text-align: center;">Mid</td> <td style="text-align: center;">Low</td> </tr> <tr> <td>A/B Cover Attached to Can./Cover:</td> <td style="text-align: center;"><input checked="" type="checkbox"/> Y / N</td> </tr> <tr> <td>Adj. D-ring Remain in Position:</td> <td style="text-align: center;"><input checked="" type="checkbox"/> Y / N</td> </tr> <tr> <td>Retractor Intact:</td> <td style="text-align: center;"><input checked="" type="checkbox"/> Y / N</td> <td style="text-align: center;">Locked:</td> <td style="text-align: center;"><input checked="" type="checkbox"/> Y / N</td> </tr> <tr> <td>Buckle Held:</td> <td style="text-align: center;"><input checked="" type="checkbox"/> Y / N</td> <td style="text-align: center;">Webbing Intact:</td> <td style="text-align: center;"><input checked="" type="checkbox"/> Y / N</td> </tr> <tr> <td>Seat Tracks Held:</td> <td style="text-align: center;"><input checked="" type="checkbox"/> Y / N</td> </tr> <tr> <td>Cracks in IP:</td> <td style="text-align: center;">Y / <input checked="" type="checkbox"/> N</td> </tr> <tr> <td>Steering Wheel Deformed:</td> <td style="text-align: center;">Y / <input checked="" type="checkbox"/> N</td> </tr> <tr> <td>Column Stroked w/o Interference:</td> <td style="text-align: center;"><input checked="" type="checkbox"/> Y / N</td> </tr> </table>	<input checked="" type="checkbox"/> A/B Intact (No Holes)	Y / N	Face to A/B	I/B	Center	O/B	Contact Location:	High	Mid	Low	A/B Cover Attached to Can./Cover:	<input checked="" type="checkbox"/> Y / N	Adj. D-ring Remain in Position:	<input checked="" type="checkbox"/> Y / N	Retractor Intact:	<input checked="" type="checkbox"/> Y / N	Locked:	<input checked="" type="checkbox"/> Y / N	Buckle Held:	<input checked="" type="checkbox"/> Y / N	Webbing Intact:	<input checked="" type="checkbox"/> Y / N	Seat Tracks Held:	<input checked="" type="checkbox"/> Y / N	Cracks in IP:	Y / <input checked="" type="checkbox"/> N	Steering Wheel Deformed:	Y / <input checked="" type="checkbox"/> N	Column Stroked w/o Interference:	<input checked="" type="checkbox"/> Y / N	<table border="0"> <tr> <td style="text-align: center;"><input type="checkbox"/> A/B Intact (No Holes):</td> <td style="text-align: center;">Y / N</td> </tr> <tr> <td>Face to A/B</td> <td style="text-align: center;">I/B</td> <td style="text-align: center;">Center</td> <td style="text-align: center;">O/B</td> </tr> <tr> <td>Contact Location:</td> <td style="text-align: center;">High</td> <td style="text-align: center;">Mid</td> <td style="text-align: center;">Low</td> </tr> <tr> <td>A/B Cover Attached to Can./Cover:</td> <td style="text-align: center;">Y / N</td> </tr> <tr> <td>Adj. D-ring Remain in Position:</td> <td style="text-align: center;">Y / N</td> </tr> <tr> <td>Retractor Intact:</td> <td style="text-align: center;">Y / N</td> <td style="text-align: center;">Locked:</td> <td style="text-align: center;">Y / N</td> </tr> <tr> <td>Buckle Held:</td> <td style="text-align: center;">Y / N</td> <td style="text-align: center;">Webbing Intact:</td> <td style="text-align: center;">Y / N</td> </tr> <tr> <td>Seat Tracks Held:</td> <td style="text-align: center;">Y / N</td> </tr> <tr> <td>Cracks in IP:</td> <td style="text-align: center;">Y / N</td> </tr> </table>	<input type="checkbox"/> A/B Intact (No Holes):	Y / N	Face to A/B	I/B	Center	O/B	Contact Location:	High	Mid	Low	A/B Cover Attached to Can./Cover:	Y / N	Adj. D-ring Remain in Position:	Y / N	Retractor Intact:	Y / N	Locked:	Y / N	Buckle Held:	Y / N	Webbing Intact:	Y / N	Seat Tracks Held:	Y / N	Cracks in IP:	Y / N
<input checked="" type="checkbox"/> A/B Intact (No Holes)	Y / N																																																								
Face to A/B	I/B	Center	O/B																																																						
Contact Location:	High	Mid	Low																																																						
A/B Cover Attached to Can./Cover:	<input checked="" type="checkbox"/> Y / N																																																								
Adj. D-ring Remain in Position:	<input checked="" type="checkbox"/> Y / N																																																								
Retractor Intact:	<input checked="" type="checkbox"/> Y / N	Locked:	<input checked="" type="checkbox"/> Y / N																																																						
Buckle Held:	<input checked="" type="checkbox"/> Y / N	Webbing Intact:	<input checked="" type="checkbox"/> Y / N																																																						
Seat Tracks Held:	<input checked="" type="checkbox"/> Y / N																																																								
Cracks in IP:	Y / <input checked="" type="checkbox"/> N																																																								
Steering Wheel Deformed:	Y / <input checked="" type="checkbox"/> N																																																								
Column Stroked w/o Interference:	<input checked="" type="checkbox"/> Y / N																																																								
<input type="checkbox"/> A/B Intact (No Holes):	Y / N																																																								
Face to A/B	I/B	Center	O/B																																																						
Contact Location:	High	Mid	Low																																																						
A/B Cover Attached to Can./Cover:	Y / N																																																								
Adj. D-ring Remain in Position:	Y / N																																																								
Retractor Intact:	Y / N	Locked:	Y / N																																																						
Buckle Held:	Y / N	Webbing Intact:	Y / N																																																						
Seat Tracks Held:	Y / N																																																								
Cracks in IP:	Y / N																																																								

Column Stroke: Left: _____ Right: _____

Post Test COMMENTS: TEST LOOKED NORMAL

OBSERVER: *[Signature]*

HYGE Sled Test Summary

Sheet 33

Inflation Date Perigo
Form: 24812

HYGE Run # 19453 Run Date 10/16/98
 Test Engineer: Wim Van Glasbeek Test Auth # TASB48
 Requester: Dale Perigo BUCK# 405

11

MATRIX #

Test Title/Description: Driver/Passenger Belt/Bag Evaluation

Crash/HYGE Pulse Ref:		Simulated Speed:		Pin #							
LEFT	Airbag: <u>ms</u>	RIGHT	Airbag: <u>13/18</u> ms								
	Pyro Buckle: <u>ms</u>		Pyro Buckle: <u>12</u> ms								
PARTIAL DESCRIPTION PRE-TEST OBSERVATIONS	Dummy _____ AB _____ Belt _____ Seat _____ Tracks: <u>power manual</u> Position: _____ Welded? <u>Y N</u> Instrument Panel _____ Steering Column: _____ Pre-Test OBSERVATIONS: _____	Dummy _____ Belt _____ Dr. AB FMP _____ Pass. FMP _____ Tracks: _____ Position: _____ Welded? <u>Y N</u>	Dummy <u>50M</u> AB <u>P-15</u> Belt <u>N/A</u> Seat <u>S-4</u> Tracks: <u>power manual</u> Position: <u>D19</u> Welded? <u>Y N</u>								
POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below											
LEFT	Upright <u>Y</u> On Seat	IB <u>Y</u> Off Seat	O/B <u>Y</u> Off Seat	RIGHT	Upright <u>Y</u> On Seat	Left <u>Y</u> Off Seat	Right <u>Y</u> Off Seat	RIGHT	Upright <u>Y</u> On Seat	IB <u>Y</u> Off Seat	O/B <u>Y</u> Off Seat
LEFT SIDE	A/B Intact (No Holes): <u>Y / N</u> Face to A/B <u>Y</u> Contact Location: <u>High</u> <u>Mid</u> <u>Low</u> A/B Cover Attached to Can./Cover: <u>Y / N</u> Adj. D-ring Remains in Position: <u>Y / N</u> Retractor Intact: <u>Y / N</u> Lockset: <u>Y / N</u> Buckle Hold: <u>Y / N</u> Webbing Intact: <u>Y / N</u> Seat Tracks Held: <u>Y / N</u> Cracks in IP: <u>Y / N</u> Steering Wheel Deformed: <u>Y / N</u> Column Striked into Interference: <u>Y / N</u> Column Striker: Left: _____ Right: _____			RIGHT SIDE	A/B Intact <u>Y / N</u> Face to A/B <u>Y</u> Contact Location: <u>High</u> <u>Low</u> A/B Cover Attached to Can./Cover: <u>Y / N</u> Adj. D-ring Remains in Position: <u>Y / N</u> Retractor Intact: <u>Y / N</u> Lockset: <u>Y / N</u> Buckle Hold: <u>Y / N</u> Webbing Intact: <u>Y / N</u> Seat Tracks Held: <u>Y / N</u> Cracks in IP: <u>Y / N</u>						
Post Test COMMENTS: <u>FACE DOWN ON LH SIDE OF FLOOR - BOLSTER CONTACT W/ SLIGHT DEFORMATION</u>											
OBSERVER: <u>WV</u>											

TA5846
Sheet 34

Attachment VI.
Dummy Positioning

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 35

Revision Data Package
Form: 258912

TA5848

Run 19443 1 to 4

Date 10-14-98

Driver/Passenger Belt/Bag Evaluation

1

Buck # 408

Reference: H
H
H

Left	Right	Center
50FS	50FS	
DUMMY TYPE		
MID	MID	
SEAT POSITION		
310	330	
DUMMY NUMBER		

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (in mm)	
					1st RUN	ADDFL
Seat Back Angle (15° above pivot)	28	27.8	27.8	28	0	+1 notch
Pelvic Angle (± 2.5 deg.; ± 1.0 for 5160)	25	22.5	22.5	21		
Column Angle		21	21		at left	at left
H-Point Longitudinal Laser # 4	251	251	250	242	12	8
H-Point Vertical Laser # 4	-202	-217	-219	-190		8
H-Point Lateral	215	210	210	210	12	6
Knee Longitudinal Laser # 2	-159			-162		
Knee Vertical Laser # 2	-105			-125		
Knee Lateral	267	254	260	260	8	8
Head Longitudinal Laser # 5	245			252	level	8
Head Vertical Laser # 5	428			451	level	8
Head Lateral 340	282	340-282	282	287	level	8
Dummy Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (max)	240	240	184	195		
Left Knee to Bolster	110			104		8
Right Knee to Bolster	109			111		8
Neck to Steering Wheel Upper Rim or 1/2	270		TO CROSS	248		8
Thru to Steering Wheel Lower Rim	194					8
Reference Target to Seat Belt Longitudinal						
Reference Target to Seat Belt Vertical						
Reference Target to Seat Belt Lateral						
Reference Target Absolute Longitudinal	2730			2737		
Reference Target Absolute Vertical	882			884		
Reference Target Absolute Lateral						

FILM ANALYSIS	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE
Knee (angle) Lateral	237			227	
Thigh Lateral	229			215	
Phantom Lateral	209			214	
Shoulder Lateral	155			175	
Other					
Other					
Other					
Knee to H-Point	370			365	
Knee to Phantom	221			218	
Knee to Thigh	181			132	
Distance Between A or B Pillar Targets	51			51	
Upper or Forward Reference Target	43			40	
Lower or Rearward Reference Target	45			40	
Reference Bar to Film Plane	1018			949	
Camera Angle	80			72	< 8 deg. < 8 deg.

Notes: _____

HYGE - DUMMY POSITIONING and P/A TARGETING Sheet

Sheet 36

Inhibitor: Data Package
Phone: x14412

TA5846

Run 9444 2 to 4

Date 10-14-98

Driver/Passenger Belt/Bag Evaluation

2

Buck # 406

Reference: H
H
H

Left 50HS	DUMMY TYPE	Right 50HS	Center
MID	SEAT POSITION	MID	
310	DUMMY NUMBER	332	

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (in mm)	
					1st RUN	ADD'L
Seat Back Angle (13° above pivot)	28	27.8	27.8	28	0	+/-1 notch
Pelvic Angle (+/- 2.5 deg; +/-1.0 for 9941a)	25	22.8	22.8	20		
Column Angle		21	21		at left	at left
H-Point Longitudinal		281	242		12	B
H-Point Vertical		-203	-190			B
H-Point Lateral	215	218	210	213	12	B
Knee Longitudinal		-158	-162			
Knee Vertical		-105	-125			
Knee Lateral	264	264	260	260	B	B
Head Longitudinal		348	352		level	B
Head Vertical		488	481		level	B
Head Lateral	340	340	337	337	level	B
Dummy Neck A-Point (1st run only)						
Knee Centerline to Knee Centerline (mm)	240	240	184	194		B
Left Knee to Bolster	110	110	104	104		B
Right Knee to Bolster	109	109	111	111		B
Hips to Steering Wheel Upper Rim or VP	376	376	548 to crease	502		B
Torso to Steering Wheel Lower Rim	194	184				B
Reference Target to Seat Belt Longitudinal						
Reference Target to Seat Belt Vertical						
Reference Target to Seat Belt Lateral						
Reference Target Absolute Longitudinal	2738			2737		
Reference Target Absolute Vertical	882			884		
Reference Target Absolute Lateral						

FILM ANALYSIS	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE
Knee (target) Lateral	235			230	
Thigh Lateral	230			215	
Fluxicon Lateral	225			215	
Shoulder Lateral	185			175	
Other					
Other					
Other					
Knee to H-Point					
Knee to Fluxicon					
Knee to Thigh					
Distance Between A or B Pillar Targets					
Upper or Forward Reference Target					
Lower or Rearward Reference Target					
Reference Bar to Film Plane					
Camera Angle					< 5 deg. < 5 deg.

Notes: _____

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 37

Revision: Dale Pezigo
Form 28014

TA5846

Run 19445 2 to 4

Date 10-14-98

Driver/Passenger Belt/Bag Evaluation

3

Block # 405
Reference: H
H
H

Left SOFS	DUMMY TYPE	Right SOFS	Center
MD	SEAT POSITION	MD	
	DUMMY NUMBER		

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (± mm)	
					1st RUN	ADDL.
Seat Back Angle (13" above pivot)	2.8	27.8	27.8	2.8	0	+/-1 notch
Pelvic Angle (+/- 2.5 deg.; +/-1.0 for S148s)	2.2	22.8	22.5	2.2		
Column Angle	2.1	21	21		at left	at left
H-Point Longitudinal Laser # 4	251	251	242	242	12	0
H-Point Vertical Laser # 4	203	-208	-190	150		0
H-Point Lateral Laser # 4	215	215	210	210	12	0
Knee Longitudinal Laser # 2	140	-139	-182	162		
Knee Vertical Laser # 2	105	-105	-128	125		
Knee Lateral	255	284	280	260	0	0
Head Longitudinal Laser # 5	345	345	352	352	level	0
Head Vertical Laser # 5	458	468	461	451	level	0
Head Lateral	340	340	337	337	level	0
Dummy Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (max)	240	240	194	195		
Left Knee to Bolster	113	110	104	108		0
Right Knee to Bolster	105	109	111	112		0
Head to Steering Wheel Upper Rim or 1/2	375	378	548 to cross	535		0
Torso to Steering Wheel Lower Rim	202	194				0
Reference Target to Seat Belt Longitudinal						
Reference Target to Seat Belt Vertical						
Reference Target to Seat Belt Lateral						
Reference Target Absolute Longitudinal	2736			2737		
Reference Target Absolute Vertical	862			864		
Reference Target Absolute Lateral						

FILM ANALYSIS	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE
Knee (target) Lateral	225			225	
Thigh Lateral	220			220	
Flattom Lateral	215			220	
Shoulder Lateral	175			185	
Other					
Other					
Other					
Knee to H-Point					
Knee to Flattom					
Knee to Thigh					
Distance Between A or B Piller Targets					
Upper or Forward Reference Target					
Lower or Rearward Reference Target					
Reference Bar to Film Plane					
Camera Angle					< 5 deg. < 5 deg.

Notes: _____

HYGE - DUMMY POSITIONING and FIA TARGETING Sheet

Sheet 38

Initiator: Dale Prudge
Form 43012

TA5648

Run 19446 2 to 4

Date 10/14/98

Driver/Passenger Belt/Bag Evaluation

4

Buck # 405

Reference: H
H
H

Left 60HS	DUMMY TYPE	Right 60HS	Center
MID	SEAT POSITION	MID	
	DUMMY NUMBER		

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (± mm)	
					1st RUN	ADJL
Seat Back Angle (15° above pivot)	28	27.8	27.8	28	0	+/-1 notch
Pelvic Angle (+/- 2.5 deg.; +/- 1.0 for 594ln)	23	22.5	22.5	23		
Column Angle		21	21		at left	at left
H-Point Longitudinal	251	251	242	242	12	6
H-Point Vertical	202	-203	-100	198		6
H-Point Lateral	215	216	210	210	12	6
Knee Longitudinal	140	-138	-182	142		
Knee Vertical	105	-108	-125	105		
Knee Lateral	265	264	260	260	6	6
Hand Longitudinal	345	346	362	352	level	6
Hand Vertical	458	458	481	452	level	6
Hand Lateral	340	340-388	337	350	level	6
Dummy Neck Adjustment (front only)						
Knee Centerline to Knee Centerline (mm)	198	240	184	195		
Left Knee to Bolster	115	110	104	105		6
Right Knee to Bolster	105	108	111	110		6
Head to Steering Wheel Upper Rim or VP	375	378	648 to cross	385		6
Head to Steering Wheel Lower Rim	190	184				6
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal	278			277		
Reference Target Absolute Vertical	862			864		
Reference Target Absolute Lateral						

FILM ANALYSIS	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE
Knee (target) Lateral	225			225	
Thigh Lateral	220			215	
Phantom Lateral	220			215	
Shoulder Lateral	165			160	
Other					
Other					
Other					
Knee to H-Point					
Knee to Phantom					
Knee to Thigh					
Distance Between A or B Pilar Targets					
Upper or Forward Reference Target					
Lower or Rearward Reference Target					
Reference Bar to Film Plane					
Camera Angle					< 5 deg. < 5 deg.

Notes: _____

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 39

Address: Dale Paragon
Phone: 48018

TA5546

Run 19447 B

Date 10-15-98

Driver/Passenger Belt/Bag Evaluation

6

Buck # 405

Reference: H
H
R

Left		Right	Center
SOFS	DUMMY TYPE		
MID	SEAT POSITION		
310	DUMMY NUMBER		

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (+/- mm)	
					1st RUN	ADDL
Seat Back Angle (13° above pivot)	23	27.8			0	+/-1 notch
Pelvis Angle (+/- 2.5 deg; +/- 1.0 for SMIle)	25	22.5				
Column Angle		21			at left	at left
H-Point Longitudinal	Laser # 4	257	251		12	0
H-Point Vertical	Laser # 4	-203	205	210		0
H-Point Lateral		211	210		12	0
Knee Longitudinal	Laser # 2	-139				
Knee Vertical	Laser # 2	-105				
Knee Lateral		260	254		0	0
Head Longitudinal	Laser # 5	345			level	0
Head Vertical	Laser # 5	452			level	0
Head Lateral		340	340	285	level	0
Dummy Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (mm)			240			
Left Knee to Bolster		104	110			0
Right Knee to Bolster		108	109			0
Neck to Steering Wheel Upper Rim or IP		378	370			0
Turn to Steering Wheel Lower Rim		191	194			0
Reference Target to Seat Belt Longitudinal						
Reference Target to Seat Belt Vertical						
Reference Target to Seat Belt Lateral						
Reference Target Absolute Longitudinal		2736				
Reference Target Absolute Vertical		862				
Reference Target Absolute Lateral						

FILM ANALYSIS				
Knee (target) Lateral		335		
Thigh Lateral		260		
Pelvis Lateral		200		
Shoulder Lateral		110		
Other				
Other				
Other				
Knee to H-Point				
Knee to Pelvis				
Knee to Thigh				
Distance Between A or B Pelvis Targets				
Upper or Forward Reference Target				
Lower or Rearward Reference Target				
Reference Bar to Film Plane				
Camera Angle				
				< 5 deg. < 5 deg.

Notes: _____

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 40

Editor: Dale Parigo
Form: 25003

TA5846

Run 19448 5

Date 10-15-98

Driver/Passenger Belt/Bag Evaluation

5

Buck # 406

Reference: H
H
H

Lab	Right	Center
80FS	DUMMY TYPE	88FS
MID	SEAT POSITION	FULL REAR
310	DUMMY NUMBER	314

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (in mm)	
					1st RUN	ADDL
Seat Back Angle (13° above pivot)	28	27.8		28	0	+1 notch
Pelvic Angle (+/- 2.5 deg.; +/- 1.0 for 294fs)	25	22.5	22.5	21		
Column Angle		21			at left	at left
H-Point Longitudinal	351	261	387	359	12	0
H-Point Vertical	-203	-23	-268	-201		0
H-Point Lateral	216	215	-141	182	12	0
Knee Longitudinal	-139	-12		-59		
Knee Vertical	-105	-65		-149		
Knee Lateral	265	284	-200	230	0	0
Head Longitudinal	345	345		400	level	0
Head Vertical	452	453		481	level	0
Head Lateral	345	340	-22	318	level	0
Dummy Neck Adjustment (test run only)						
Knee Contact to Knee Contact (max)	240	240	228	225		
Left Knee to Bolster	107	110		157		0
Right Knee to Bolster	109	109		191		0
Distance to Steering Wheel Upper Rim or VP	350	372		622		0
Distance to Steering Wheel Lower Rim	198	196				0
Reference Target to Seat Back Longitudinal						
Reference Target to Seat Back Vertical						
Reference Target to Seat Back Lateral						
Reference Target Absolute Longitudinal	2730			2501		
Reference Target Absolute Vertical	802			1208		
Reference Target Absolute Lateral				715		

FILM ANALYSIS

Knee (target) Lateral	244		200	
Thigh Lateral	226		194	
Shoulder Lateral	233		192	
Shoulder Lateral	167		187	
Other				
Other				
Other				
Knee to H-Point			355	
Knee to Flotation			622	
Knee to Thigh			184	
Distance Between A or B P-Flar Targets				
Upper or Forward Reference Target				
Lower or Rearward Reference Target				
Reference Bar to Film Plane				
Camera Angle				

Notes:

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 41

Author: Dale Perrigo
Phone: 456018

TA5546

Run 19449

Date 10/15/98

Driver/Passenger Belt/Bag Evaluation

8

Buck # 405

Reference: H
H
H

Left 60HS	DUMMY TYPE	Right 60HS	Center
MD	SEAT POSITION	FULL REAR	
	DUMMY NUMBER		

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCES (+/- mm)	
					3rd RUN	ADDL
Seat Back Angle (13" above pivot)	2.5	27.8		2.5	0	+/- 1 notch
Pelvic Angle (+/- 2.5 deg.; +/-1.0 for 3rd run)	2.3	22.5	22.5	2.5		
Column Angle		21			at left	at left
H-Point Longitudinal	251	251	357	251	12	5
H-Point Vertical	217	-217	-298	277		5
H-Point Lateral	210	210	-141	180	12	5
Knee Longitudinal	139			60		
Knee Vertical	105			150		
Knee Lateral	255	254	-200	200	5	5
Head Longitudinal	245			440	level	5
Head Vertical	458			481	level	5
Head Lateral	337	345-350		320	level	5
Dummy Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (mm)	240	240	238	225		
Left Knee to Bolster	105			225		5
Right Knee to Bolster	110			200		5
Notes to Steering Wheel Upper Rim or VZ	300			675		5
Notes to Steering Wheel Lower Rim	205					5
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal	2738			2801		
Reference Target Absolute Vertical	522			1205		
Reference Target Absolute Lateral				718		

FILM ANALYSIS	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCES (+/- deg.)
Knee (target) Lateral	215			180	
Thigh Lateral	200			175	
Phantom Lateral	200			170	
Shoulder Lateral	155			115	
Other					
Other					
Other					
Knee to H-Point				255	
Knee to Phantom				262	
Knee to Thigh				125	
Distance Between A or B Piller Targets					
Upper or Forward Reference Target					
Lower or Rearward Reference Target					
Reference Bar to Film Plane					
Camera Angle					< 5 deg. < 5 deg.

Notes: _____

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 42
Revision Date Period
Phone: 130018

TA5846

Run 19450

Date 10/15

Driver/Passenger Belt/Bag Evaluation

7

Buck # 406

Reference: H
H
H

Left	DUMMY TYPE	Right	Center
6043		6043	
MID	SEAT POSITION	MID	
	DUMMY NUMBER		

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (in mm)	
					1st RUN	ADDL
Seat Back Angle (13" above pivot)	28	27.8	27.8	28	0	+/-1 notch
Pelvic Angle (+/- 2.5 deg; +/-1.0 for 5941a)	23	22.8	22.8	23		
Column Angle		21	21		at left	at left
H-Point Longitudinal	250	251	250	250	12	8
H-Point Vertical	217	217	218	223		8
H-Point Lateral	210	210	210	210	12	8
Knee Longitudinal	140			140		
Knee Vertical	195			195		
Knee Lateral	265	264		265	8	8
Head Longitudinal	455			455	level	8
Head Vertical	455			455	level	8
Head Lateral	347	345-488	440	340	level	8
Dummy Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (max)	240	240	184	195		8
Left Knee to Bolster	160			110		8
Right Knee to Bolster	160			115		8
Neck to Steering Wheel Upper Rim or 1/P	370			390		8
Torso to Steering Wheel Lower Rim	190					8
Reference Target to Seat Bolt Longitudinal						
Reference Target to Seat Bolt Vertical						
Reference Target to Seat Bolt Lateral						
Reference Target Absolute Longitudinal	2738			2737		
Reference Target Absolute Vertical	882			884		
Reference Target Absolute Lateral						

FILM ANALYSIS	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (in mm)
Knee (target) Lateral	230			230	
Thigh Lateral	215			215	
Phantom Lateral	215			215	
Shoulder Lateral	170			175	
Other					
Other					
Other					
Knee to H-Point					
Knee to Phantom					
Knee to Thigh					
Distance Between A or B Piller Targets					
Upper or Forward Reference Target					
Lower or Rearward Reference Target					
Reference Bar to Film Plane					
Camera Angle					< 5 deg. < 5 deg.

Notes: _____

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 43

Inhibitor: Dale Perdue
Phone: 256811

TA5846

Run 19451 9

Date 10-16-98

Driver/Passenger Belt/Bag Evaluation

9

Buck # 408

Reference: H
H
H

Left	DUMMY TYPE	Right	Center
5% HIL		5% HIL	
Full Forward	SEAT POSITION	Full Forward	
335	DUMMY NUMBER	356	

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (\pm mm)	
					Let RUN	ADD'L
Seat Back Angle (13° above pivot)	20°			20°	0	± 1 notch
Pelvic Angle (± 2.5 deg; ± 1.0 for SMI)	28°	21	21	17°		
Column Angle					at left	at left
H-Point Longitudinal Laser # 4	133/113	136	140	147/112	12	0
H-Point Vertical Laser # 4	-186	-200	-238	-177		0
H-Point Lateral	-280	-288	-198	230	12	0
Knee Longitudinal Laser # 3	-225			223		
Knee Vertical Laser # 3	-126			124		
Knee Lateral	-278	-278	-348	246	0	0
Head Longitudinal Laser # 5	197			188	level	0
Head Vertical Laser # 5	388			375	level	0
Head Lateral	-325			330	level	0
Dummy Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (mm)	162	162	162	162		0
Left Knee to Bolster	60			190		0
Right Knee to Bolster	45			170		0
Neck to Steering Wheel Upper Rim or VP	225			375		0
Turn to Steering Wheel Lower Rim	90					0
Reference Target to Seat Belt Longitudinal						
Reference Target to Seat Belt Vertical						
Reference Target to Seat Belt Lateral						
Reference Target Absolute Longitudinal	2008			2001		
Reference Target Absolute Vertical	1202			1208		
Reference Target Absolute Lateral	747			718		

FLM ANALYSIS	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	Let RUN	ADD'L
Knee (target) Lateral	250			225		
Thigh Lateral	245			230		
Phantom Lateral	235			238		
Shoulder Lateral	90			200		
Other						
Other						
Other						
Knee to H-Point	290			305		
Knee to Phantom	225			180		
Knee to Thigh	117			90		
Distance Between A or B Piller Targets						
Upper or Forward Reference Target						
Lower or Rearward Reference Target						
Reference Bar to Film Plane						
Custom Angle					≤ 5 deg.	≤ 5 deg.

Notes: _____

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 44
 Indicator: Data Page
 Phone: 43018

TA5545

Run 19458 10

Date 10-16-98

Driver/Passenger Belt/Bag Evaluation

10

Buck # 405

Reference: H
 H
 H

Lat	Right	Center
896 HIN	DUMMY TYPE	
Full Forward	SEAT POSITION	
355	DUMMY NUMBER	

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (in mm)	
					1st RUN	ADD'L
Seat Back Angle (15" above pivot)	21	20			0	+/-1 notch
Pelvic Angle (+/- 2.5 deg.; +/-1.0 for SMIIs)	19	21				
Column Angle					at left	at left
H-Point Longitudinal Laser # 4	121/113	121/113/35			12	6
H-Point Vertical Laser # 4	188	193 -880				6
H-Point Lateral	-228	-228			12	6
Knee Longitudinal Laser # 2	-275	-285				
Knee Vertical Laser # 2	-136	-136				
Knee Lateral	-278	-278			6	6
Head Longitudinal Laser # 5	197	197			level	6
Head Vertical Laser # 5	382	382			level	6
Head Lateral	-325	-325			level	6
Dummy Neck Adjustment (1st run only)						
Knee Centerline to Knee Centerline (mm)		162				
Left Knee to Bolster	60	60				6
Right Knee to Bolster	45	45				6
Noe to Steering Wheel Upper Rim or IP	225	225				6
Top of Steering Wheel Lower Rim	90	90				6
Reference Target to Seat Belt Longitudinal						
Reference Target to Seat Belt Vertical						
Reference Target to Seat Belt Lateral						
Reference Target Absolute Longitudinal	269					
Reference Target Absolute Vertical	1202					
Reference Target Absolute Lateral	767					

FILM ANALYSIS	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (in mm)
Knee (target) Lateral	262				
Thigh Lateral	240				
Phantom Lateral	240				
Shoulder Lateral	190				
Other					
Other					
Other					
Knee to H-Point					
Knee to Phantom					
Knee to Thigh					
Distance Between A or B Fillet Targets					
Upper or Forward Reference Target					
Lower or Rearward Reference Target					
Reference Bar to Fillet Plane					
Camera Angle					< 6 deg. < 6 deg.

Notes: _____

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 45
 Inclusion Dub Perrigo
 Phone 268118

TA6846

Run 19453 11

Date 10-16-98

Driver/Passenger Belt/Bag Evaluation

11

Buck # 406
 Reference: H
H
H

Left	Right	Center
DUMMY TYPE		SDH3
SEAT POSITION		MID
DUMMY NUMBER		936

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (+/- mm)	
					1st RUN	ADJPL
Seat Back Angle (15° above pivot)			27.5	28	0	+/-1 notch
Pelvic Angle (+/- 2.5 deg; +/- 1.0 for SMAs)			22.8	23		
Column Angle					at left	at left
H-Point Longitudinal	Lower # 4		242.888	242	12	0
H-Point Vertical	Lower # 4		-190.218	-190		0
H-Point Lateral			210	212	12	0
Knee Longitudinal	Lower # 2		-168	-162		
Knee Vertical	Lower # 2		-105	-125		
Knee Lateral			260	260	0	0
Head Longitudinal	Lower # 3		352	352	level	0
Head Vertical	Lower # 3		451	452	level	0
Head Lateral			337.448	340	level	0
Destroy Neck Adjustment (Start on only)						
Knee Centerline to Knee Centerline (mm)			104	105		
Left Knee to Bolster			104	105		0
Right Knee to Bolster			111	105		0
Nose to Steering Wheel Upper Rim or IP			548	545		0
Torso to Steering Wheel Lower Rim						0
Reference Target to Seat Belt Longitudinal						
Reference Target to Seat Belt Vertical						
Reference Target to Seat Belt Lateral						
Reference Target Absolute Longitudinal				2737		
Reference Target Absolute Vertical				064		
Reference Target Absolute Lateral						

FILM ANALYSIS

Knee (target) Lateral			230			
Thigh Lateral			220			
Phantom Lateral			220			
Shoulder Lateral			175			
Other						
Other						
Other						
Knee to H-Point						
Knee to Phantom						
Knee to Thigh						
Distance Between A or B Film Targets						
Upper or Forward Reference Target						
Lower or Rearward Reference Target						
Reference Bar to Film Plane						
Camera Angle					< 5 deg.	< 5 deg.

Notes:

TA 5846
Sheet 46

Attachment VII.
Photographic Set-Up

SLED 0025912

Sheet 47

PHOTOGRAPHIC REQUEST SHEET FOR

TA5846

Initiator: Dale Perrigo

TEST DESCRIPTION: Driver/Passenger Belt/Bag Evaluation

Phone: 256018

HIGH SPEED FILM COVERAGE

• ON-BUCK Cameras:

<u>2</u> Over Shoulder Head to Airbag	<u>X</u> Left	<u>X</u> Right	
<u>2</u> Belt "D" Ring	<u>X</u> Left	<u>X</u> Right	
<u>2</u> Belt Retractor	<u>X</u> Left	<u>X</u> Right	Low angle, cross bar
<u>2</u> Belt Buckle, inboard	<u>X</u> Left	<u>X</u> Right	
_____ Inboard Knee to LP Contact	_____ Left	_____ Right	
_____ Steering Column Stroke			
_____ Inner Instrument Panel			
_____ Dummy Roll Out	_____ Left	_____ Center	_____ Right
_____ Seat Tracks	_____ Lt inbd	_____ Lt o/b	_____ Rt inbd _____ Rt o/b
_____ Fiber Optics			

- OTHER Camera Coverage On-BUCK

Other: _____
 Other: _____
 Other: _____
 High Speed Video: _____

• OUTRIGGER Cameras:

<u>2</u> Overall Kinematics (F/A)	<u>X</u> Left	<u>X</u> Right
_____ Knee to Holster	_____ Left	_____ Right
_____ Chest to Steering Wheel	_____ Left	_____ Right
_____ Retractor Payment, Cross-car	_____ Left	_____ Right
_____ Lap Belt on Dummy	_____ Left	_____ Right
_____ Seat Track/Cushion	_____ Left	_____ Right

- OTHER Camera Coverage Outrigger

Other: _____
 Other: _____
 High Speed Video: _____
 High Speed Video: _____

• OFF-BOARD Cameras

_____ Offboard - Floor Overall
 _____ Offboard - Kinematics

Total On-BUCK Cameras = 8

Total OUTRIGGER Cameras = 2

DIGITAL STILL PHOTOGRAPHS:

<u>X</u> Pre & Post Test Overall	<u>X</u> Left	<u>X</u> Right
_____ Knee Bolster(s)	_____ Left	_____ Right
_____ A/B Face Print	_____ Left	_____ Right
<u>X</u> Other: Pre-test shot of pyros installed in back		
<u>X</u> Other: Post-test shot of pyros still installed in back		
_____ Other:		
_____ Other:		

ADDITIONAL INFO:

<u>10</u> Number of Runs
<u>1</u> Requester High Speed Films
<u>1</u> Safety Lab High Speed Films
<u>1</u> VHS Copies of H.S. Films
<u>0</u> VHS Copies of H.R. Video

Refer this to TA	
Requester Info:	Dept. Name: Vehicle Crash Safety
	Dept. No.: T551
	Work Task No.: F09
	Requester: Dale Perrigo
	Phone No.: 256018

Additional Comments:

Sheet 48

FILM ANALYSIS REQUEST SHEET FOR

TA5846

Initiator: Dale Ferrigo
Form: 216014

FILM ANALYSES:

_____	Head Disp. & Velocity wrt	_____
_____	Shoulder Disp. & Velocity wrt	_____
_____	H-pt Disp. & Velocity wrt	_____
_____	Knee Disp. & Velocity wrt	_____
_____	Other, Specify:	_____

_____	Other, Specify:	_____

_____	Other, Specify:	_____

_____	Other, Specify:	_____

**Final Test Report
Confidential**



Test Order No.: TA8847
Subject: 2000 D186 FRONT BELT/BAG EVALUATION
HYGE SLED SERIES 'K'
Requested By: D. PERRIGO
(Dept.): T851
Date Received: 10/22/98
Work Task No.: F08
Test Facility: HYGE
Test Dates: 12/2 - 12/4/98
Run Numbers: H19888 - 888
Procedure(s): T857-100, T857-106
Date Reported: 12/21/98
Page: 1 of 31

Number of Copies (Back Stamped) by:	
Number of Copies (Not Stamped) This	2003
Schedule Number:	7-4-2

Objective:

To conduct design verification testing on the front row restraint system in the D186.

Summary:

Nine tests were conducted on the Hyge sled using two instrumented 50% Hybrid III test dummies and up to two instrumented 5% Hybrid III test dummies. The testing was conducted using the new D186 rigid body buck (8418). The test data is retained at the Safety Laboratories Department as specified by record retention guidelines. A copy of the high speed film and test data have been given to the requester for evaluation. The still photographs are in digital format and are stored on the Safety Laboratories Department Intranet home page under <http://www-safetylab.ford.com/>.

Attachments:

- I. Sled Pulse
- II. Sled Parameters
- III. Test Authorization
- IV. Matrix
- V. Post Test Observations
- VI. Dummy Positioning Sheets

Concur:

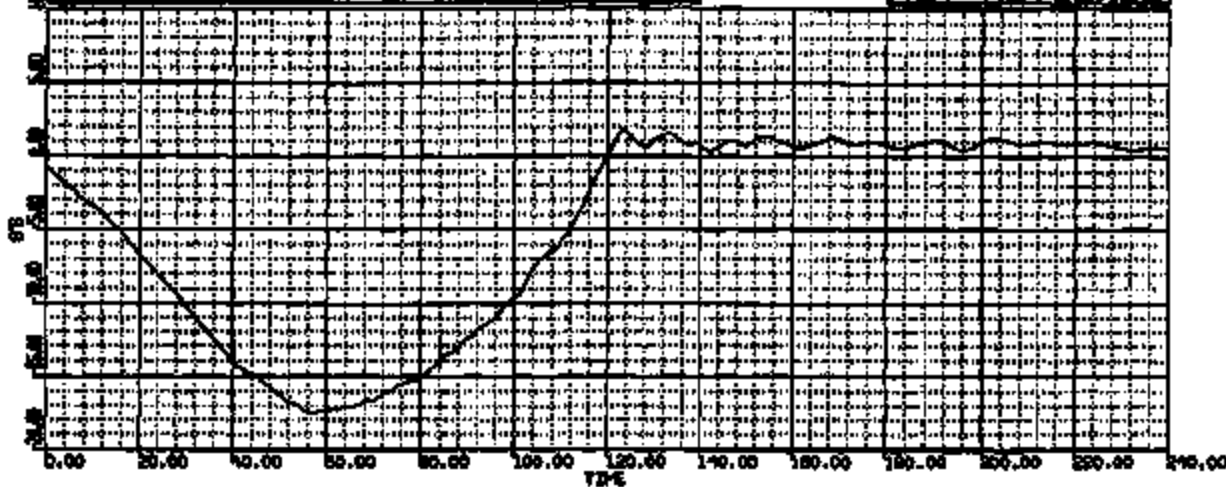

R. N. BURNS
Section Supervisor
HYGE/Impact Simulation Test Section
Safety Laboratories Department


M. T. DORAN
Test Development Engineer
HYGE Test Section
Safety Laboratories Department

HY R: H19568 TO: TA5847AA DATE: 981202 08:38:04
UNKNOWN

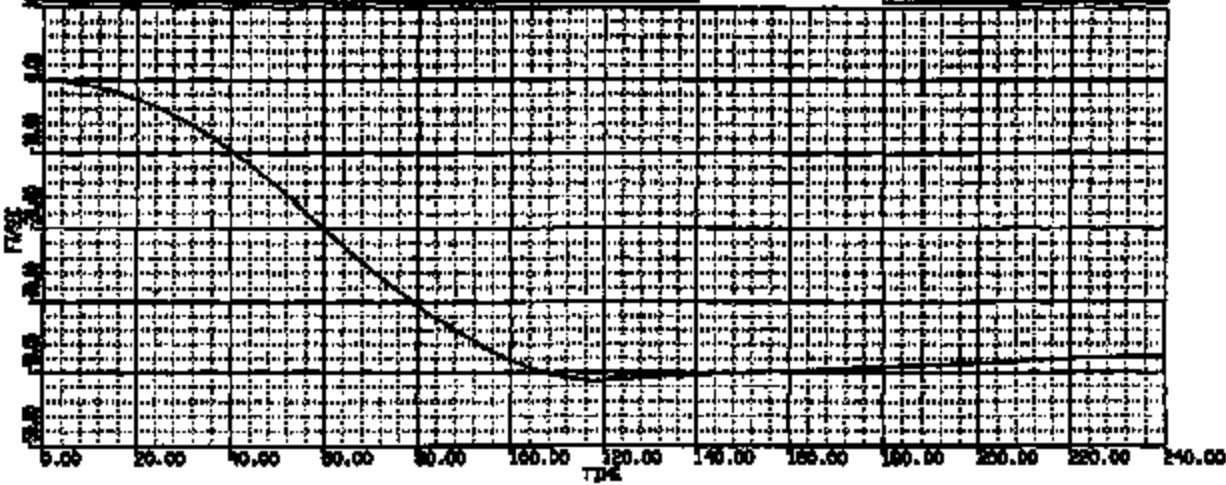
(1) HANDBOOK PRIMARY SLED AXCEL LOGS 00C
ME = 1.78E-01 of 128.00 IS MI = -17.51 of 57.12 IS AXIS 1

NOT REVIEWED



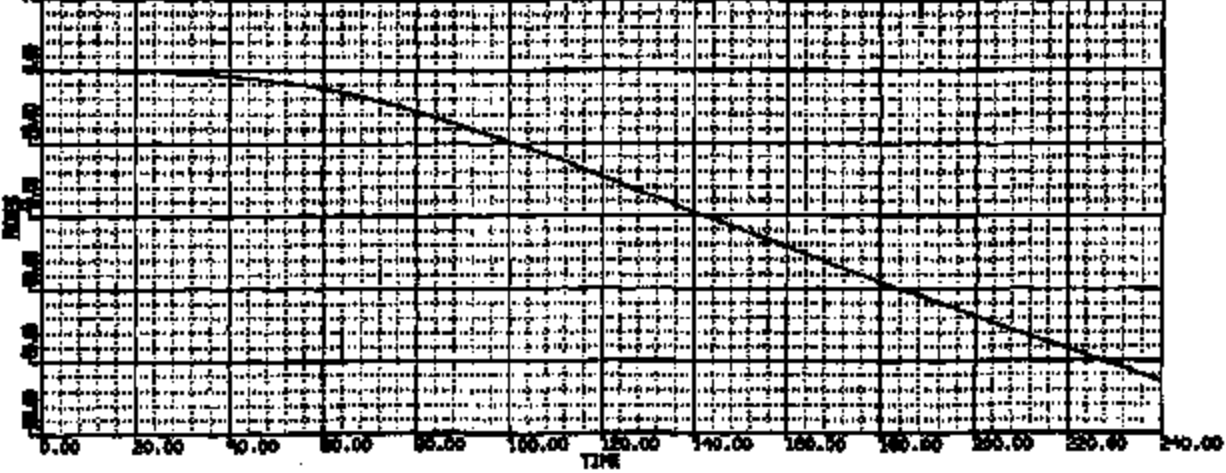
(2005) HANDBOOK PRIMARY SLED AXCEL LOGS 00C 15A
ME = 1.49E-01 of 140.00 IS MI = -11.82 of 18.12 IS AXIS 1

NOT REVIEWED

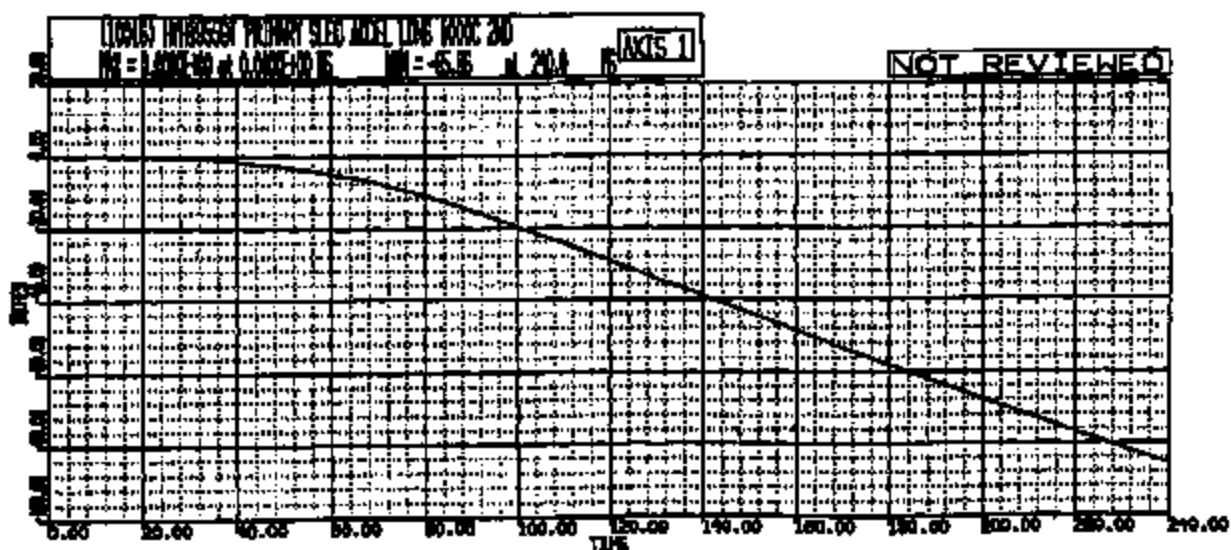
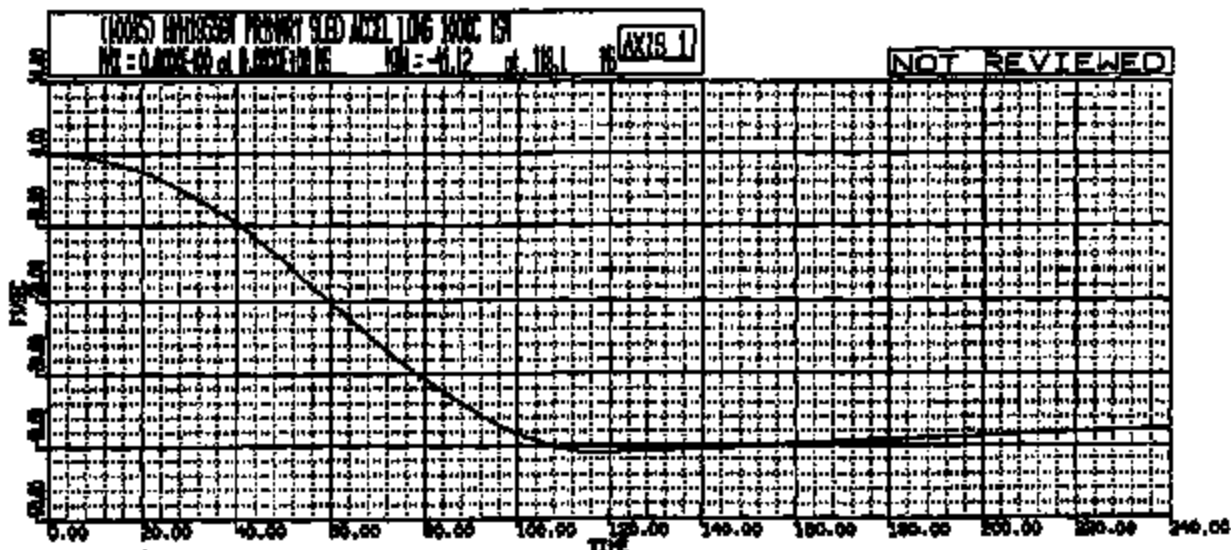
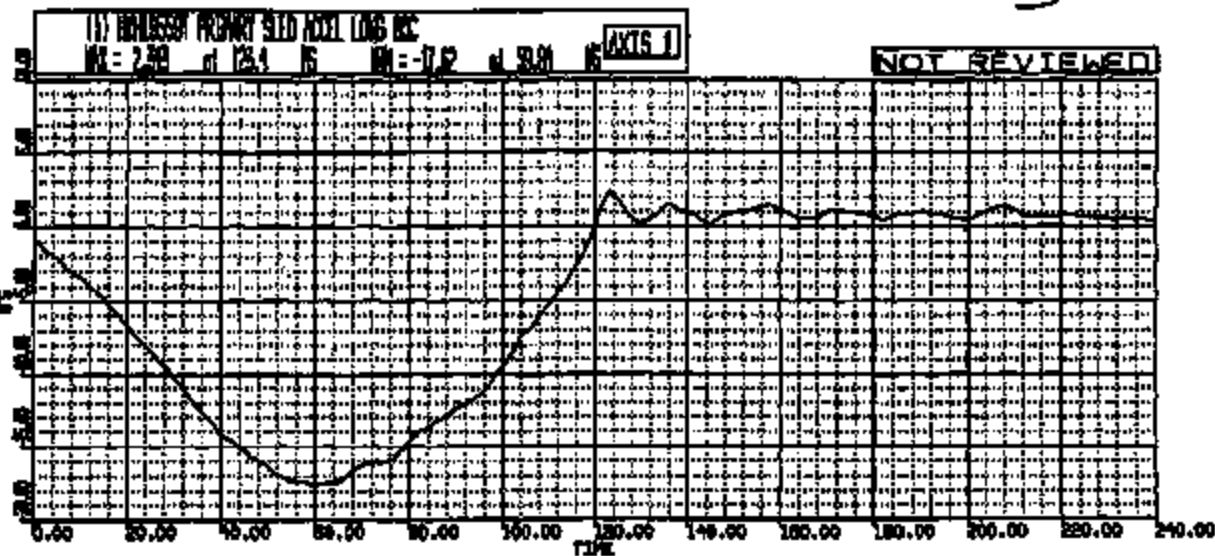


(1000) HANDBOOK PRIMARY SLED AXCEL LOGS 100C 200
ME = 1.49E-01 of 140.00 IS MI = -15.91 of 20.12 IS AXIS 1

NOT REVIEWED



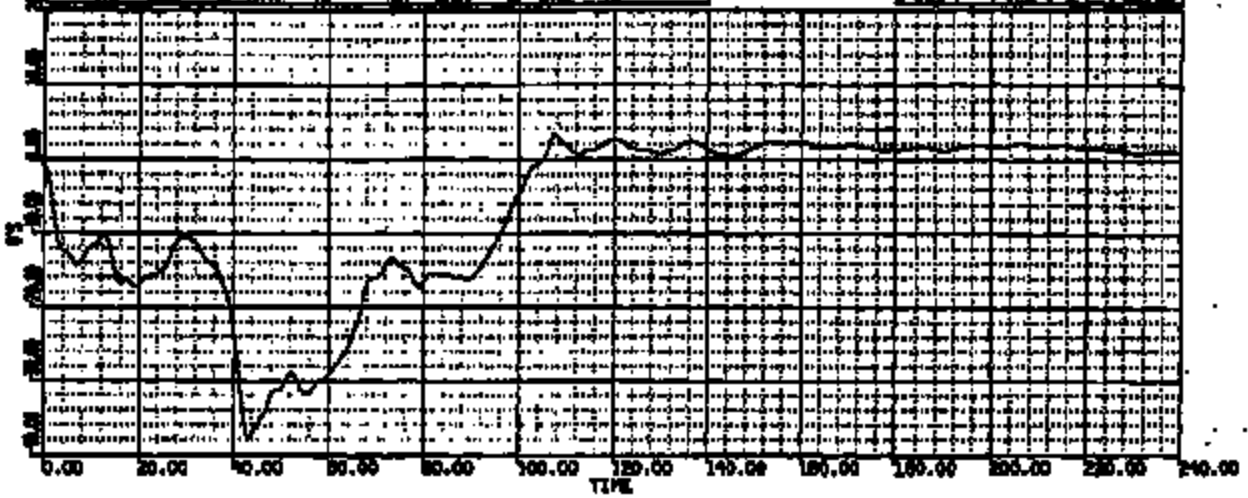
HY R: H18559 TO: TA5847A DATE: 881202 13:42:40
UNKNOWN



(1) HUBBARD PRIMARY SLED AXCEL LONG SEC
PK = 3.28 @ 10.5 MS TR = 31.73 @ 93.0 MS

AXIS 1

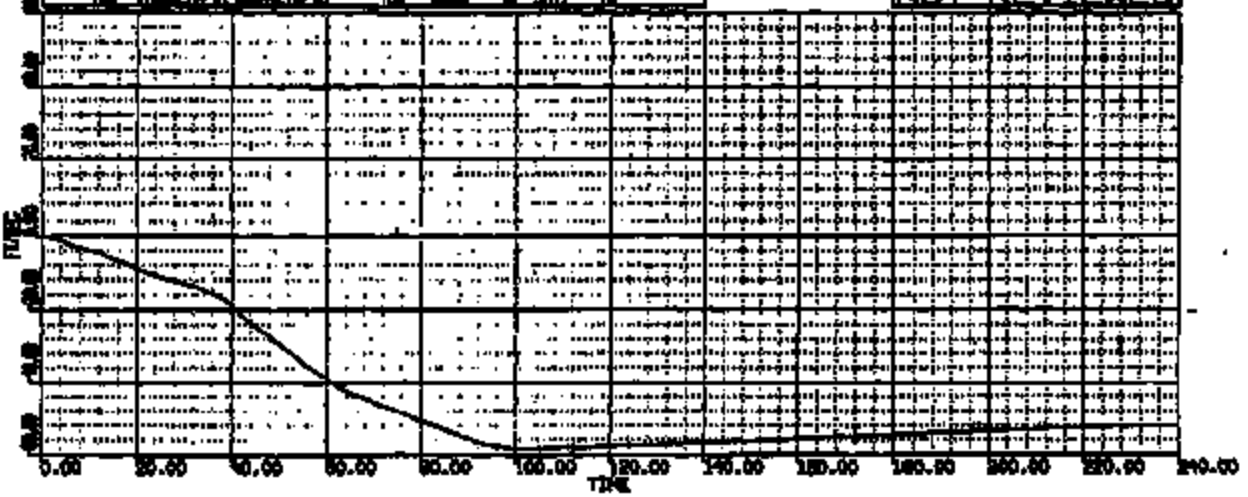
NOT REVIEWED



(2) HUBBARD PRIMARY SLED AXCEL LONG 500C 1ST
PK = 0.0000 @ 0.0000 MS TR = 91.9 @ 91.1 MS

AXIS 1

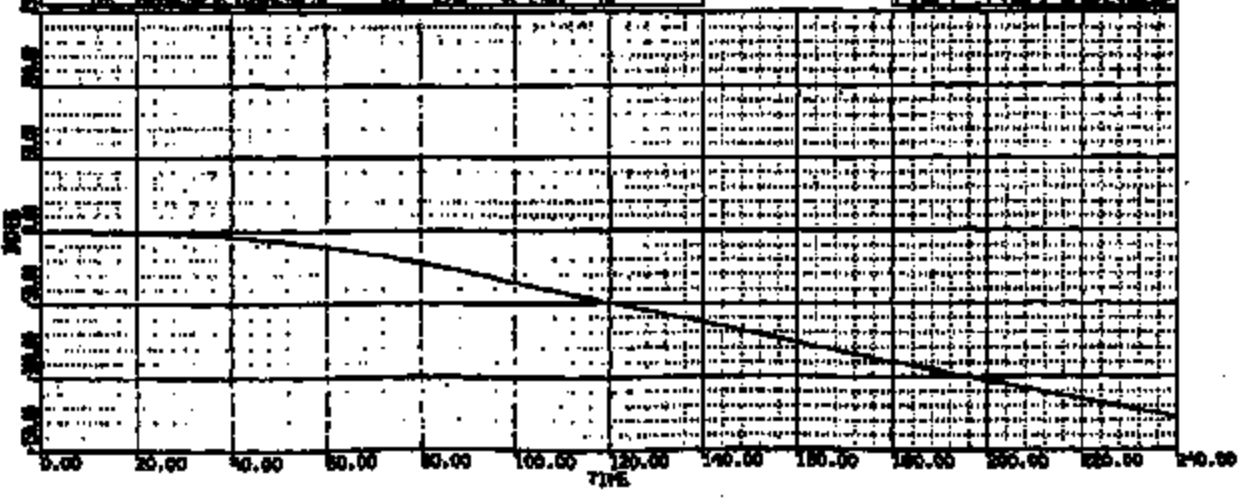
NOT REVIEWED



(3) HUBBARD PRIMARY SLED AXCEL LONG 500C 2ND
PK = 0.0000 @ 0.0000 MS TR = 97.9 @ 70.0 MS

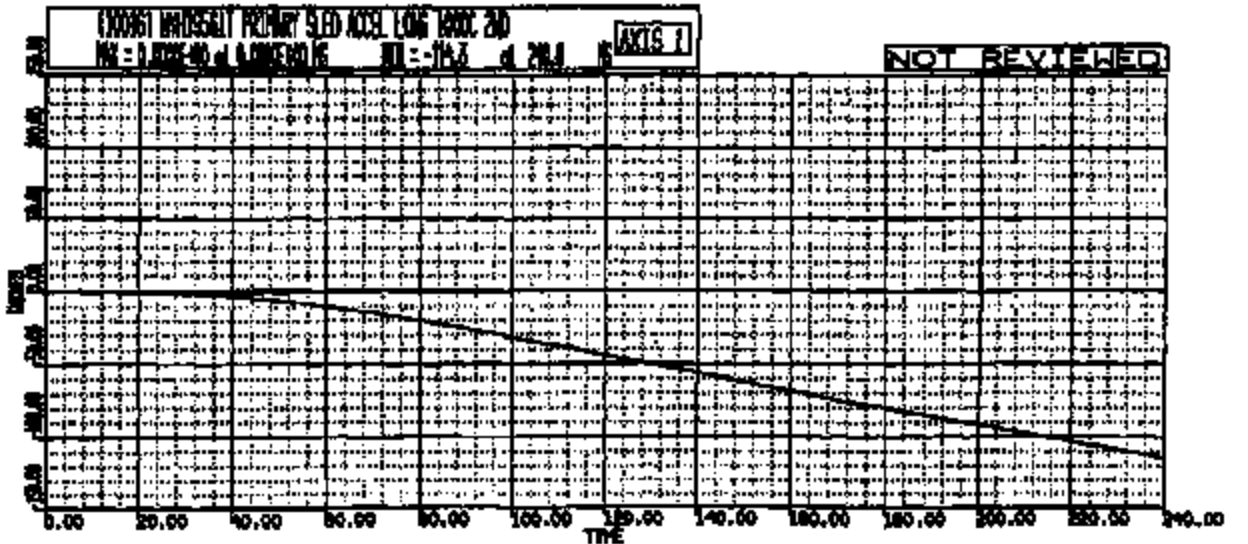
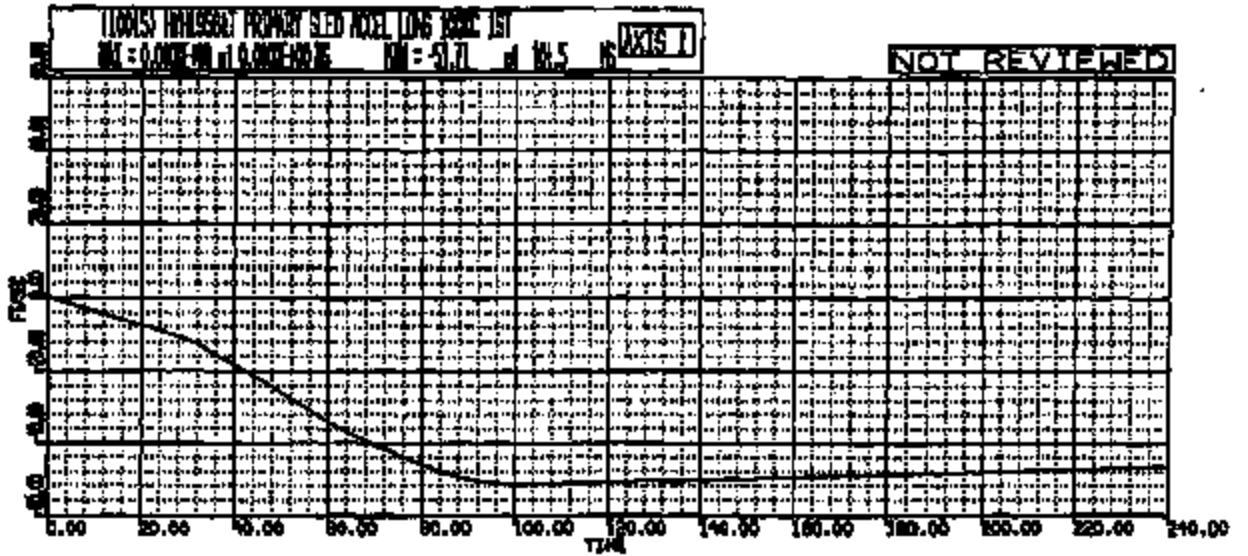
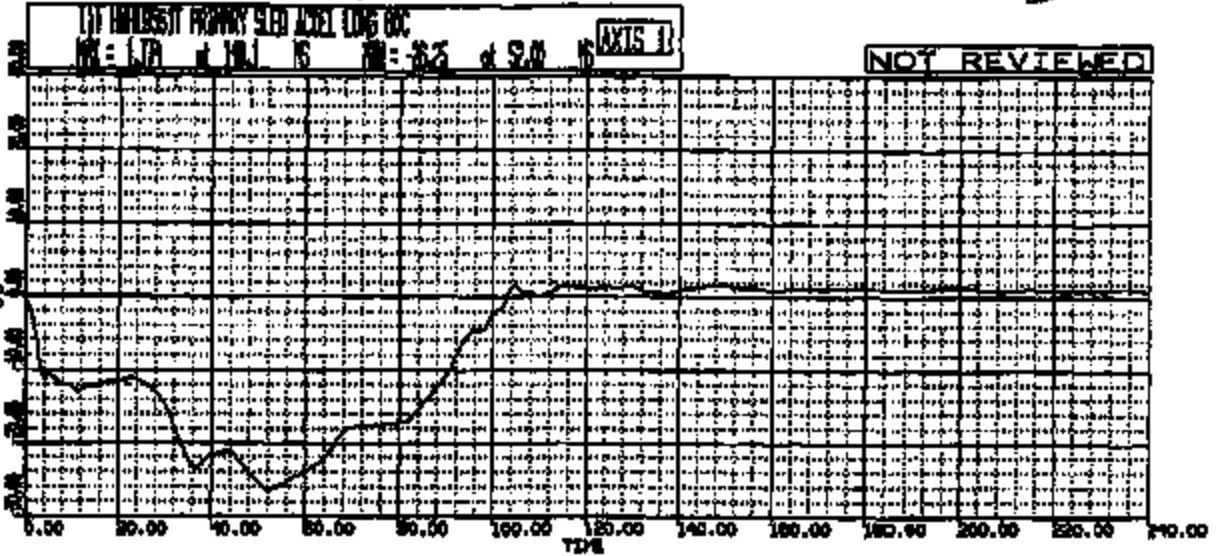
AXIS 1

NOT REVIEWED

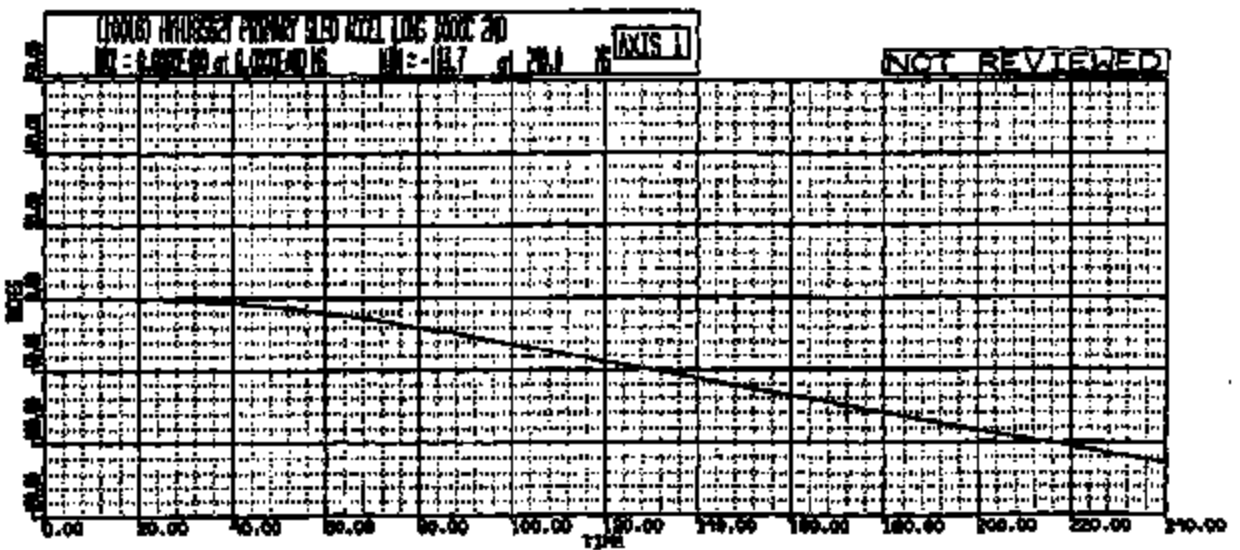
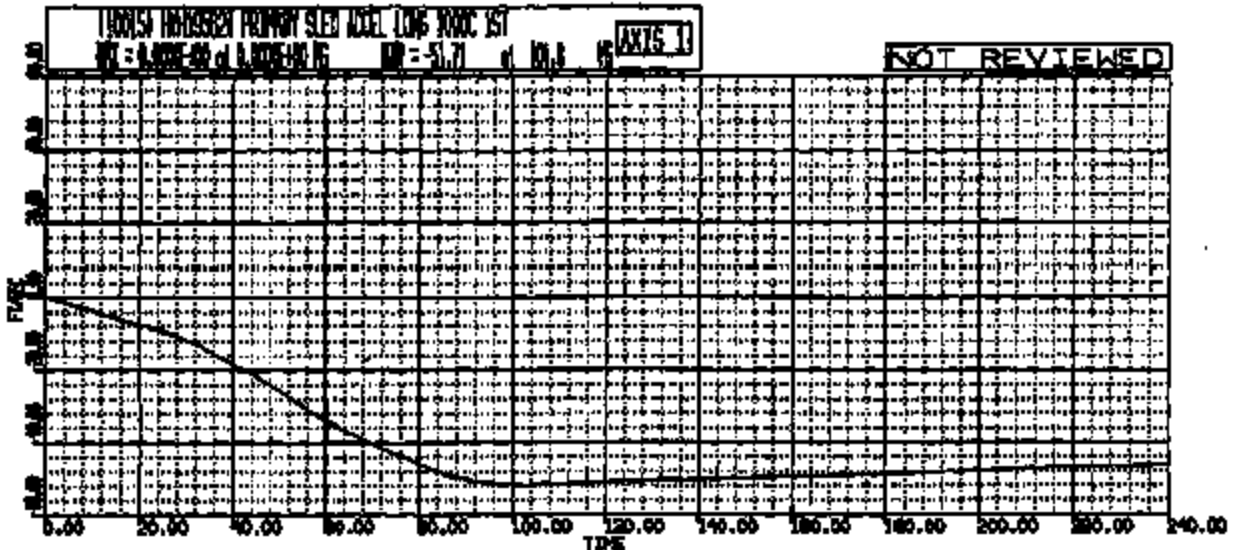
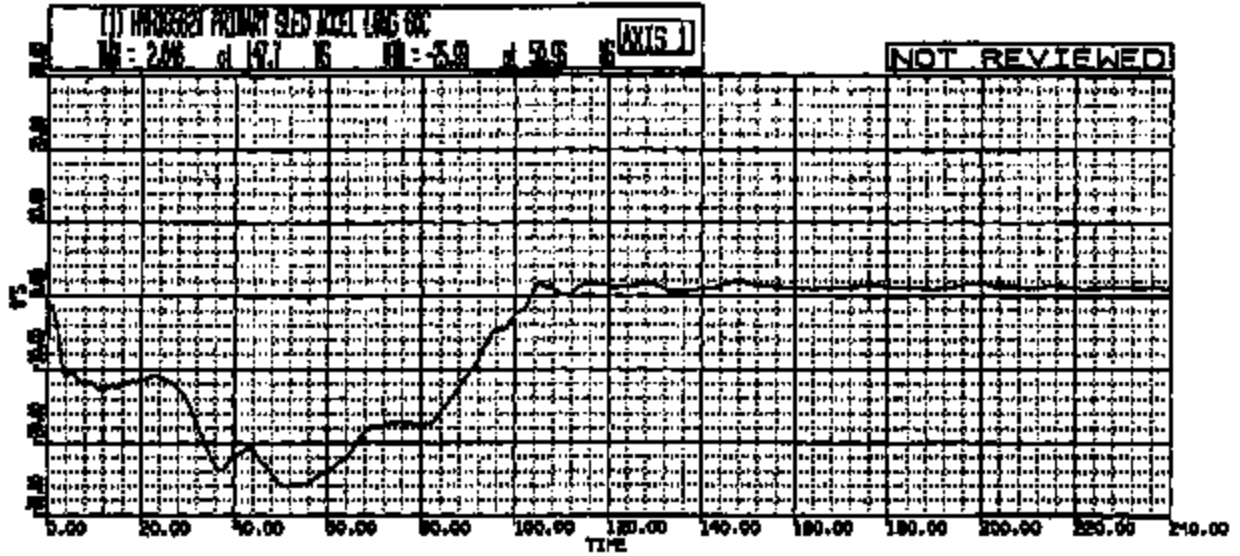


HY RI H1886 TO: TA5847C DATE: 981202 18:54:27
UNKNOWN

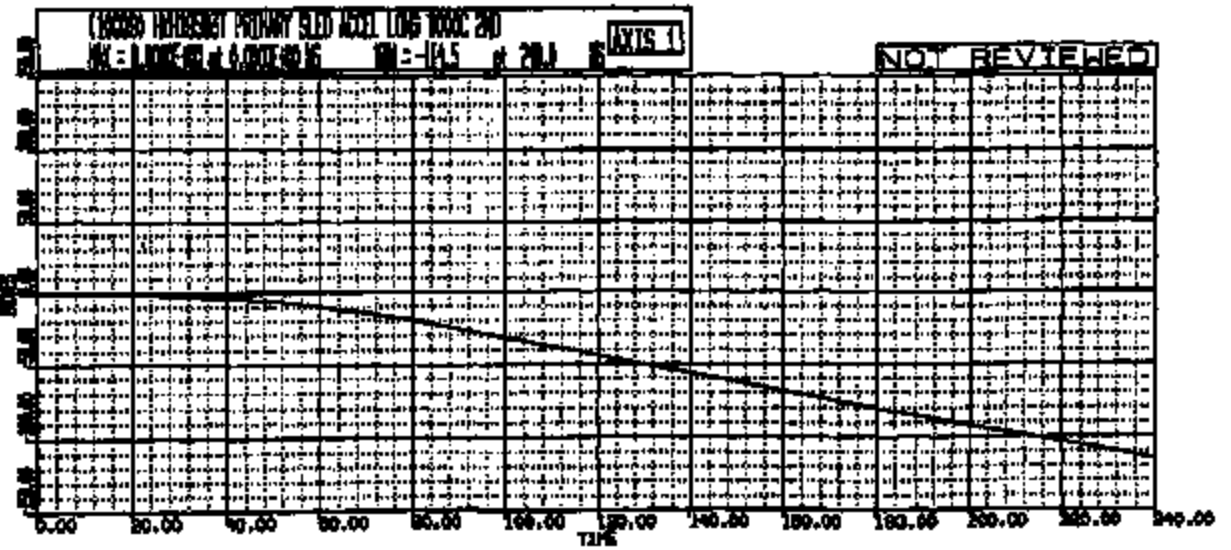
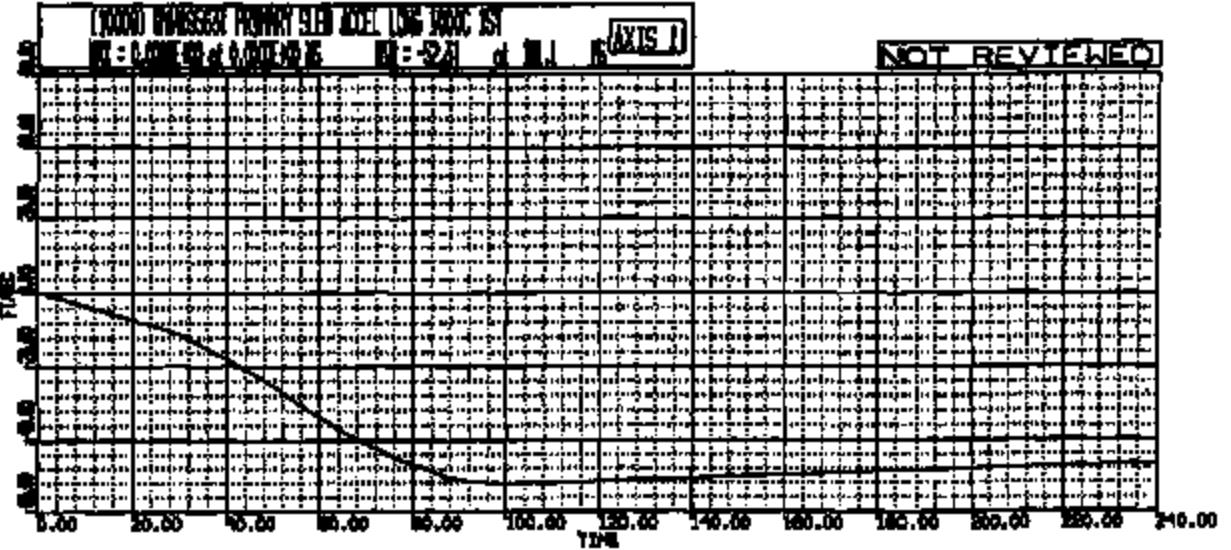
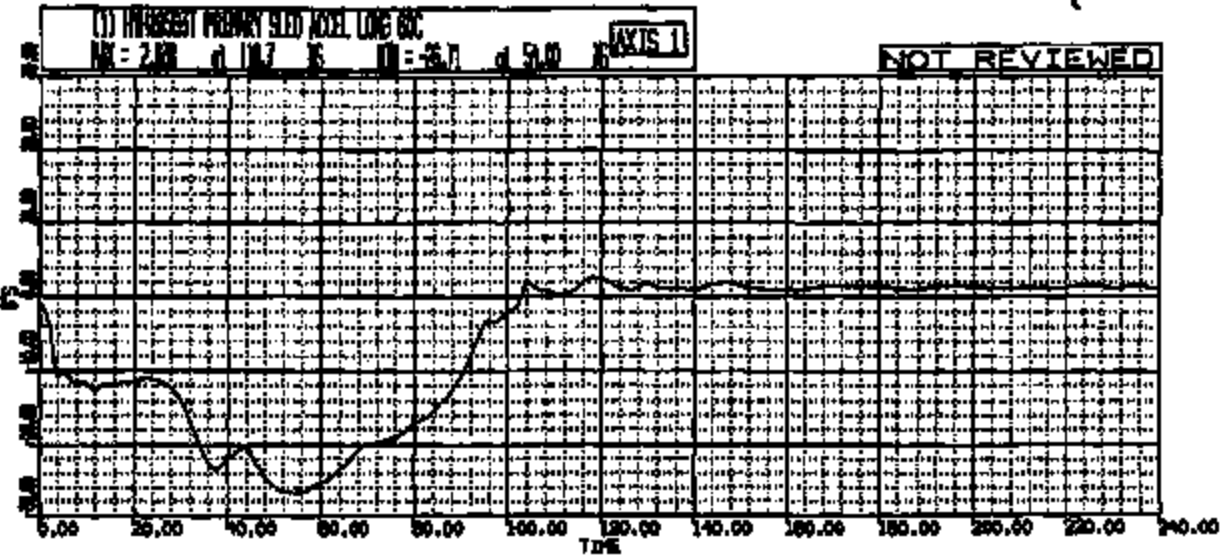
HY R: H19561 TO: TA5847A DATE: 881202 22:34:23
UNKNOWN



HY RE: H19552 TO: TA5847A DATE: 981203 12:58:48
UNKNOWN



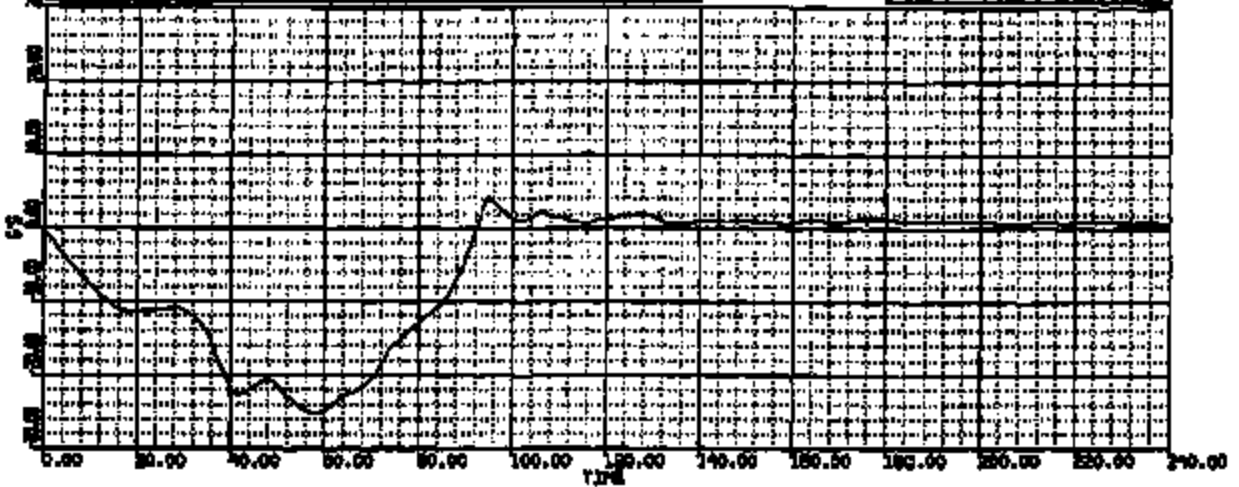
HY R: H16505 TO: TA5847B DATE: 081203 15:34:10
UNKNOWN



HY R: H18604 TO: TA5847AA DATE: 881205 18:45:52
UNKNOWN

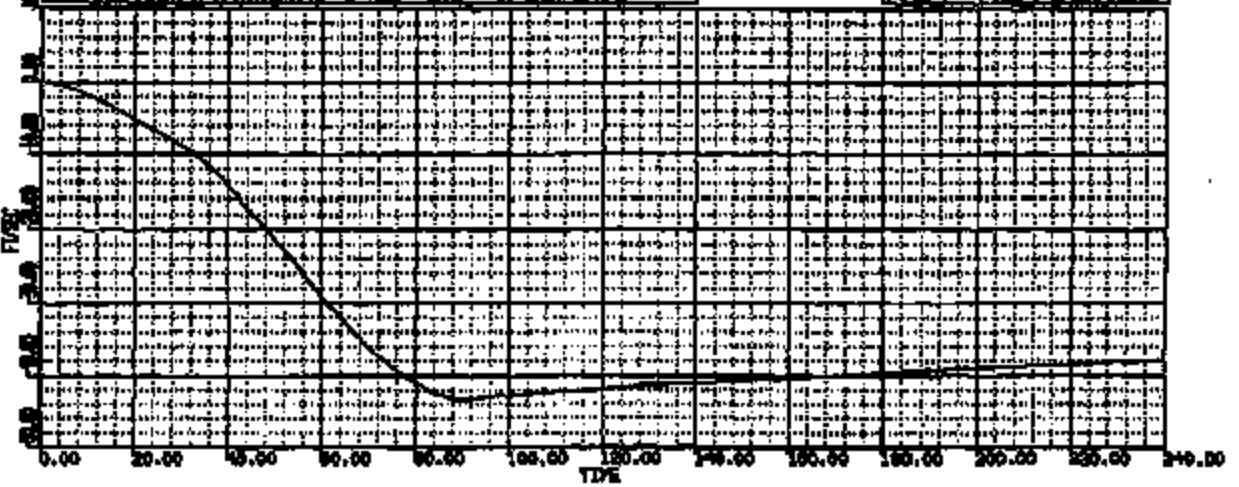
(11) HINSHIPP PRIMARY SLED AXEL LONG 80C
IN = 1.65 @ 31.8 IS IN = 5.10 @ 33.9 IS (AXIS 1)

NOT REVIEWED



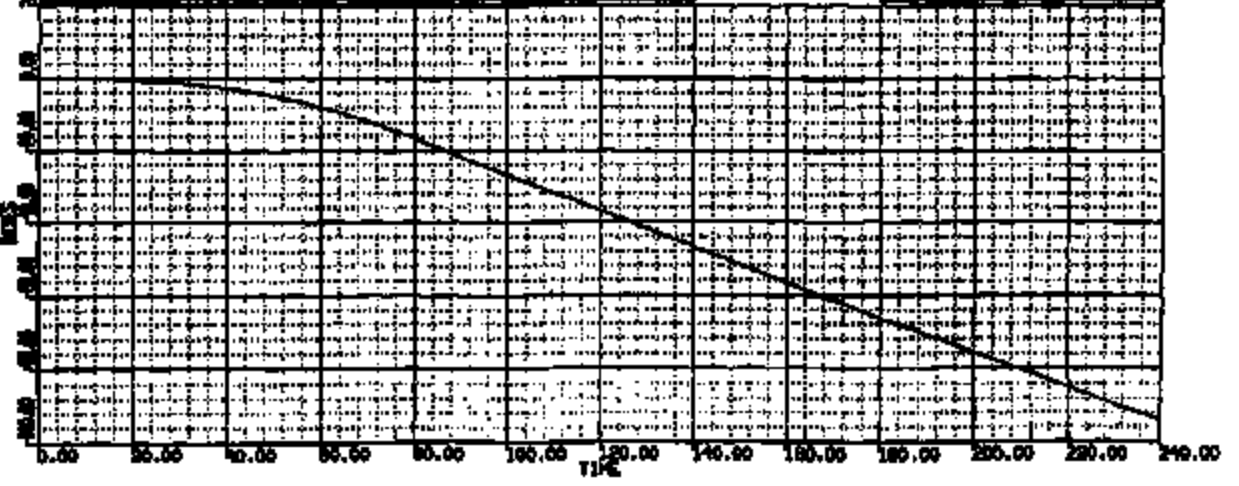
(10) HINSHIPP PRIMARY SLED AXEL LONG 100C 15T
IN = 0.0000 @ 0.0000 IS IN = 0.00 @ 0.21 IS (AXIS 1)

NOT REVIEWED

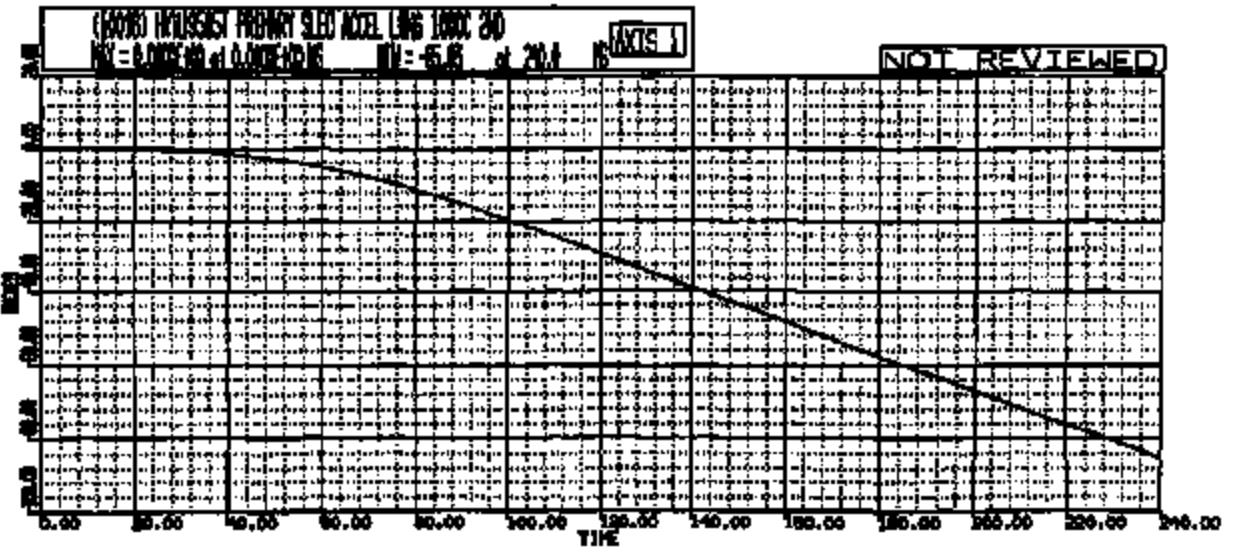
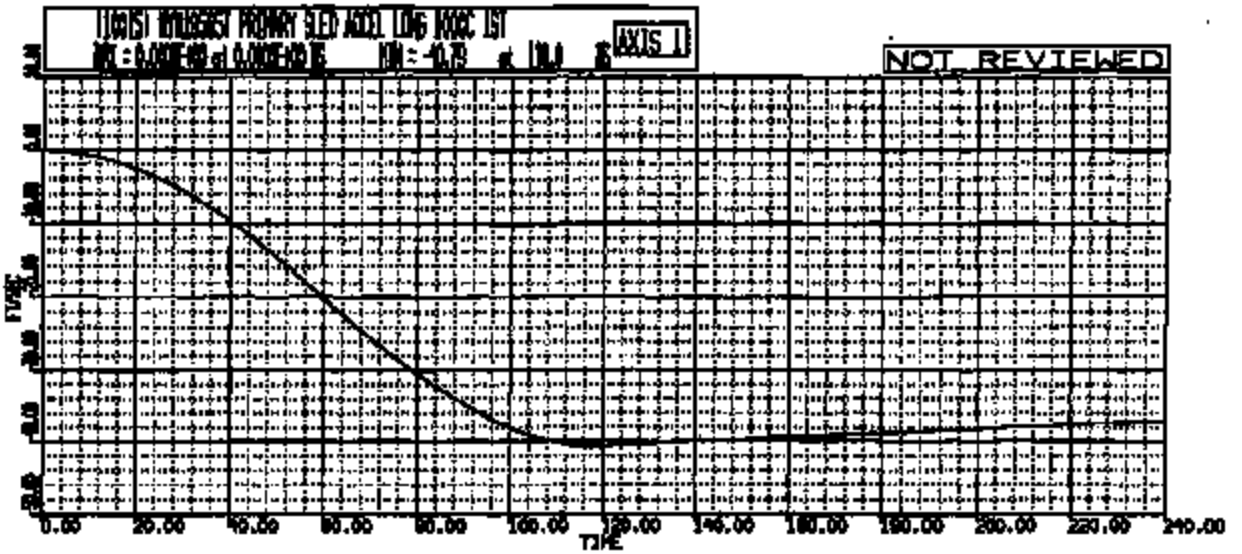
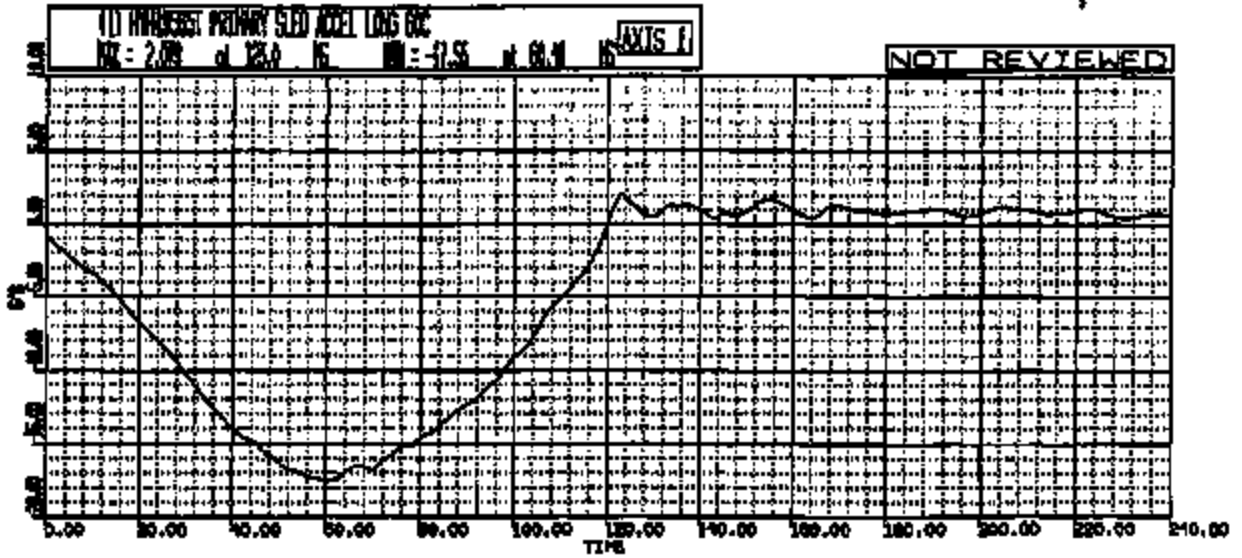


(10) HINSHIPP PRIMARY SLED AXEL LONG 100C 240
IN = 0.0000 @ 0.0000 IS IN = 0.00 @ 20.0 IS (AXIS 1)

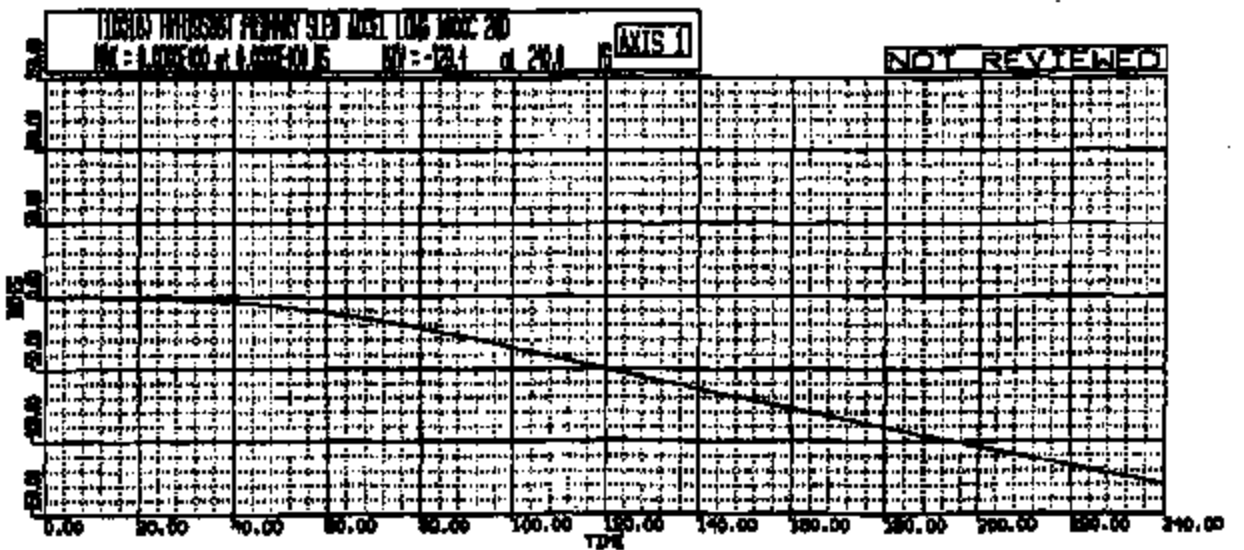
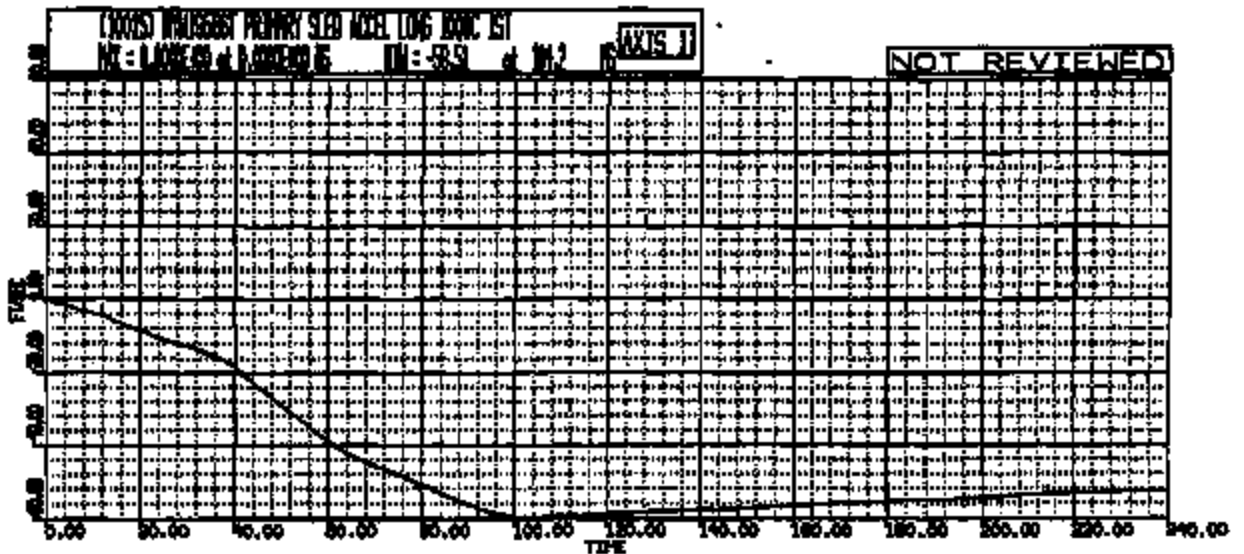
NOT REVIEWED



HY R: H16009 TO: TAS847A DATE: 981203 21:15:51
UNKNOWN



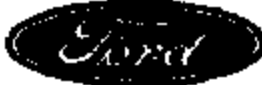
MY R: H10586 TO: TA5847D DATE: 991204 10:16:21
UNKNOWN



NUM#	LA.#	EDTYP	DATE	TIME	DATA CHANL	WGT# GRD	HFCL	SRCS	LOAD	RET	BRAM	BUCK#	VELOCITY @MPS	LEFT	DURAY 6N CRNER	REN#	FN	BRER SPC	CLER SPC
1000	1000	0000	12/27/78	5:20	00	000	00	00	1700	200	110	410	30	207	-	300	00	CLB	CLB
1001	1000	0000	12/27/78	5:22	00	000	00	00	1700	200	110	410	30	207	-	300	00	CLB	CLB
1002	1000	0000	12/27/78	5:24	00	000	100	01	2712	200	110	410	30	207	-	300	00	CLB	CLB
1003	1000	0000	12/27/78	5:26	00	000	100	02	3814	200	110	410	31	207	-	300	00	CLB	CLB
1004	1000	0000	12/27/78	5:28	00	000	100	03	5214	200	110	410	31	207	-	300	00	CLB	CLB
1005	1000	0000	12/27/78	5:30	00	000	100	04	6814	200	110	410	31	207	-	300	00	CLB	CLB
1006	1000	0000	12/27/78	5:32	00	000	100	05	8414	200	110	410	31	207	-	300	00	CLB	CLB
1007	1000	0000	12/27/78	5:34	00	000	100	06	10000	200	110	410	31	207	-	300	00	CLB	CLB
1008	1000	0000	12/27/78	5:36	00	000	100	07	12000	200	110	410	30	207	-	300	00	CLB	CLB
1009	1000	0000	12/27/78	5:38	00	000	100	08	14000	200	110	410	30	207	-	300	00	CLB	CLB
1010	1000	0000	12/27/78	5:40	00	000	100	09	16000	200	110	410	30	207	-	300	00	CLB	CLB

ATTACHMENT
 TR-584-77
 Blank 11

SLIED 0025925

 GTO Test Request		Requester/Coordinator (PROPS ID): <i>Sheet 12</i> DPERRIGO	
		DALE PERRIGO	
Testing Activity: HYGE and VIA Med	Date Submitted: 28-OCT-98	Requested Completion Date: 22-JUL-99	Requester Reference Number:
Test Procedure Number: HYG-00	Test Title and / or Subject of Test: D186 Hype Med Series K		
IR/able Requester Dept No.: T881 AV2216A	Worksheet/Work Order Number: Fps	Test conducted to certify control item compliance with Government Regulations: Yes: <input type="checkbox"/> No: <input checked="" type="checkbox"/>	
IR/able Requester PROPS ID: DPERRIGO	IR/able Requester Name: DALE PERRIGO		
Complete the following two questions as indicated 1 - Rational for not replacing this test by CAE Analysis: <input checked="" type="checkbox"/> No CAE Methodology or process available <input type="checkbox"/> For CAE Correlation <input type="checkbox"/> Insufficient confidence in CAE <input type="checkbox"/> To obtain basic data for CAE <input type="checkbox"/> Replacement or Improvement of existing Test <input type="checkbox"/> Testing is Outlier <input type="checkbox"/> Mandatory or Regulatory <input type="checkbox"/> Certification <input type="checkbox"/> Development test for FSB <input type="checkbox"/> Not applicable Other:		2 - What is the expected Test Outcome: <input type="checkbox"/> Results will meet DVP/MQR requirements <input type="checkbox"/> System Component will not meet Test specification <input checked="" type="checkbox"/> Unknown <input type="checkbox"/> Above is Based on CAE? Other:	
(Check appropriate boxes)			
Test Purpose/Test Procedure or Description of Test: Evaluate dual stage HYGE Test Procedure T887-110			
Signatures Approvals (As Required for Control Purposes)			
Requesting Engineer: <u>DALE PERRIGO</u>		Testing Engineer: _____	
Requesting Supervisor/Manager: <u>ALAN TAUB</u>		Testing Supervisor: _____	

TAF TA5847

Revision: Data Package
Form: 0098

STATION: 8499 Instrumented / no charge evaluation
DATE: 840801

CR	FL	TR	HT	PK	PR	FL	PK	TEST	PR	TEST	PR	TEST	PR	TEST	PR	TEST	PR	TEST	PR	TEST	PR	TEST	PR	TEST	PR	TEST	PR	TEST	PR	TEST	PR	TEST	PR	TEST	PR	TEST	PR			
04	01			0	990			1000	1200	1400	1600	1800	2000	2200	2400	2600	2800	3000	3200	3400	3600	3800	4000																	
05	01			0	990			1000	1200	1400	1600	1800	2000	2200	2400	2600	2800	3000	3200	3400	3600	3800	4000																	
06	01			0	990			1000	1200	1400	1600	1800	2000	2200	2400	2600	2800	3000	3200	3400	3600	3800	4000																	
04	01			0	990			1000	1200	1400	1600	1800	2000	2200	2400	2600	2800	3000	3200	3400	3600	3800	4000																	
05	01			0	990			1000	1200	1400	1600	1800	2000	2200	2400	2600	2800	3000	3200	3400	3600	3800	4000																	
06	01			0	990			1000	1200	1400	1600	1800	2000	2200	2400	2600	2800	3000	3200	3400	3600	3800	4000																	
04	01			0	990			1000	1200	1400	1600	1800	2000	2200	2400	2600	2800	3000	3200	3400	3600	3800	4000																	
05	01			0	990			1000	1200	1400	1600	1800	2000	2200	2400	2600	2800	3000	3200	3400	3600	3800	4000																	
06	01			0	990			1000	1200	1400	1600	1800	2000	2200	2400	2600	2800	3000	3200	3400	3600	3800	4000																	
04	01			0	990			1000	1200	1400	1600	1800	2000	2200	2400	2600	2800	3000	3200	3400	3600	3800	4000																	
05	01			0	990			1000	1200	1400	1600	1800	2000	2200	2400	2600	2800	3000	3200	3400	3600	3800	4000																	
06	01			0	990			1000	1200	1400	1600	1800	2000	2200	2400	2600	2800	3000	3200	3400	3600	3800	4000																	
04	01			0	990			1000	1200	1400	1600	1800	2000	2200	2400	2600	2800	3000	3200	3400	3600	3800	4000																	
05	01			0	990			1000	1200	1400	1600	1800	2000	2200	2400	2600	2800	3000	3200	3400	3600	3800	4000																	
06	01			0	990			1000	1200	1400	1600	1800	2000	2200	2400	2600	2800	3000	3200	3400	3600	3800	4000																	

- 090 Head Passage CPFL. Pressure Log: up against on under web cover evaluation (warmer hot dog). 02 Joint change CP load FT with polar design load glass joints.
- 011 Axle CP load supported axial sllng. F2 failure, 240000 lbs.
- 012 Axle CP load supported axial sllng. F2 failure, 240000 lbs. and alternate tests.
- F10 Axle CP load passage log. 187L, full test, AZZ load cover.
- F30 Axle passage log. 187L, 2400 with AZZ load cover.
- F47 Axle passage log. 187L, full test, AZZ load cover.
- 01 02H Head Test
- 04 WTTN 8 Power Drive
- 023 Steady column with axle failed by direct load with 85 lb gap. No shear failure.
- 01 CP load test supports AZZ load passage sllng cover.

NOTE:
All runs use instrumented drum test.
Run 2 both sides and Runs 1 and 6 passenger side airbags should be run at -80 deg. C.
Right header core **MUST** be installed for all runs.

SLED 0025927

ATTACHMENT IV
Sheet 13

HYGE Sled Test Summary

ATTACHMENT II

Spent 44

Address: Dale Perrigo
Phone: x30012

HYGE Run H 19558

Run Date 12/2/98

Test Engineer: Wim Van Glabbeek

Test Auth # TAS847

Requestor: Dale Perrigo

BUCK # 406

1

MATRIX #

Test Title/Description: Driver/Passenger Belt/Bag Evaluation

Crash/HYGE Pulse Ref: _____

Simulated Speed: 30 Pin # 93

PRE-TEST	LEFT Airbag: <u>80/AUTO</u> ms Pyro Buckle: <u>N/A</u> ms	RIGHT	Airbag: <u>80/AUTO</u> ms Pyro Buckle: <u>N/A</u> ms	
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy <u>50TH</u> A/B <u>0-12</u> Belt <u>N/A</u> Seat <u>S-1</u> Tracks: power <u>manual</u> Position: <u>MID</u> Welded? <input checked="" type="checkbox"/> N	CENTER	Dummy _____ A/B _____ Belt _____ Seat _____ Tracks: power _____ Position: _____ Welded? <input type="checkbox"/> N	
	Instrument Panel: <u>18</u> Steering Column: <u>SC3</u> Pre-Test OBSERVATIONS: _____		Dummy <u>50TH</u> A/B <u>P-16</u> Belt <u>N/A</u> Seat <u>S-1</u> Tracks: power <u>manual</u> Position: <u>MID</u> Welded? <input checked="" type="checkbox"/> N	
	POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:			
	LEFT SIDE A/B Intact (No Holes) <input checked="" type="checkbox"/> Y / N Face to A/B I/B Center O/B Contact Location: High <u>Mid</u> Low A/B Cover Attached to Can./Cover: <input checked="" type="checkbox"/> Y / N Adj. B-ring Remains in Position: _____ Y / N Retractor Intact: _____ Y / N Locked: _____ Y / N Buckle Held: _____ Y / N Webbing Intact: _____ Y / N Seat Tracks Held: _____ Y / N Cracks in I/P: _____ Y / N Steering Wheel Deformed: _____ Y / N Column Stroked w/o Interference: _____ Y / N Column Stroke: Left: _____ Right: _____	RIGHT SIDE A/B Intact (No Holes) <input checked="" type="checkbox"/> Y / N Face to A/B I/B Center O/B Contact Location: High <u>Mid</u> Low A/B Cover Attached to Can./Cover: <input checked="" type="checkbox"/> Y / N Adj. B-ring Remains in Position: _____ Y / N Retractor Intact: _____ Y / N Locked: _____ Y / N Buckle Held: _____ Y / N Webbing Intact: _____ Y / N Seat Tracks Held: _____ Y / N Cracks in I/P: _____ Y / N		
	Post Test COMMENTS: <u>* BOTH DUMMIES HIT THE WINDSHIELD</u> <u>* GLOVE BOX DOOR CAME OPEN</u> <div style="text-align: center; border: 1px solid black; padding: 5px; font-weight: bold; font-size: 1.2em;">DATA REVIEWED</div> <u>* CH 25 INTERMITTENT</u> <u>* SECONDARIES DID FIRE AT 300MS</u>			
OBSERVER: <u><i>J. Decker</i></u>				

HYGE Sled Test Summary

Sheet 15

Inflator: Dale Parrigo
Form #5601

HYGE Run # 19559 Run Date 10/2/98
 Test Engineer: Wim Van Glabbeek Test Auth # TA5847
 Requester: Dale Parrigo BUCK# 405

2

MATRIX #

Test Title/Description: Driver/Passenger Belt/Bag Evaluation
 Crash/HYGE Pulse Ref: _____ Stimulated Speed: 30 P# # 93

	LEFT	Airbag: <u>20/AUTO</u> ms Pyro Buckle: <u>N/A</u> ms	RIGHT	Airbag: <u>20/AUTO</u> ms Pyro Buckle: <u>N/A</u> ms
PASTE OBSERVATION PRE-TEST OBSERVATIONS	Dummy	<u>50TH</u>	Dummy	<u>50TH</u>
	AB	<u>D-12</u>	Belt	<u>P-17</u>
	Belt	<u>N/A</u>	Dr. AB FMB	<u>N/A</u>
	Seat	<u>S-1</u>	Pass. FMB	<u>S-1</u>
	Tracks:	<u>power (hand)</u>		<u>power (hand)</u>
Position:	<u>mid</u>	Welded? <input checked="" type="checkbox"/> N	Position:	<u>mid</u> Welded? <input checked="" type="checkbox"/> N
Instrument Panel:	<u>18</u>			
Steering Column:	<u>503</u>			
Pre-Test OBSERVATIONS:	_____			

POST-TEST OBSERVATIONS & CHECKLIST Consent (if needed) below:

	LEFT			RIGHT		
	Upright <input checked="" type="checkbox"/> On Seat	IB Off Seat	O/B	Upright <input checked="" type="checkbox"/> On Seat	Left Off Seat	Right Off Seat
A/B Intact <u>(No Holes)</u>	<input checked="" type="checkbox"/> N			A/B Intact <u>(No Holes)</u>	<input checked="" type="checkbox"/> N	
Face to A/B		IB <u>Center</u>	O/B	Face to A/B	IB <u>Center</u>	O/B
Contact Location:		High <u>Mid</u>	Low	Contact Location:	High <u>Mid</u>	Low
A/B Cover Attached to Can./Cover:			Y / N	A/B Cover Attached to Can./Cover:		<input checked="" type="checkbox"/> N
Adj. B-ring Remains in Position:			Y / N	Adj. B-ring Remains in Position:		Y / N
Retractor Intact:	Y / N		Looked: Y / N	Retractor Intact:	Y / N	Looked: Y / N
Buckle Held:	Y / N		Wobbling Intact: Y / N	Buckle Held:	Y / N	Wobbling Intact: Y / N
Seat Tracks Held:			<input checked="" type="checkbox"/> N	Seat Tracks Held:		<input checked="" type="checkbox"/> N
Cracks in IP:			<input checked="" type="checkbox"/> N	Cracks in IP:		Y <input checked="" type="checkbox"/> N
Steering Wheel Deformed:			<input checked="" type="checkbox"/> N			
Column Stroked w/o Interference:			<input checked="" type="checkbox"/> N			
Column Stroke:	Left: _____			Right: _____		

Post Test COMMENTS: * BOTH DUMMIES HIT THE WINDSHIELD
* TEST LOOKED NORMAL

DATA REVIEWED

* CH 25

OBSERVER: D. Duda

HYGE Sled Test Summary

Sheet 16

HYGE Run # 19566

Run Date 12/2/98

Test Engineer: Wim Van Glabbeek

Test Auth # TAS847

Requester: Dele Ferrigo

BUCK# 408

3

MATRIX #

Test Title/Description: Driver/Passenger Belt/Bag Evaluation

Crash/HYGE Pulse Rat _____

Simulated Speed: _____

Pin # _____

	LEFT	RIGHT	
	Airbag: _____ ms	Airbag: _____ ms	
	Pyro Buckle: _____ ms	Pyro Buckle: _____ ms	
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy _____	Dummy _____	Dummy _____
	A/B _____	Belt _____	A/B _____
	Belt _____		Belt _____
	Seat _____	Dr. A/B P/M# _____	Seat _____
	Tracks: power manual _____	Pass. P/M# _____	Tracks: power manual _____
	Position: _____ Welded? Y N		Position: _____ Welded? Y N
	Instrument Panel: _____		
	Steering Column: _____		
	Pre-Test OBSERVATIONS: _____		

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	Upright <input checked="" type="checkbox"/> YB <input type="checkbox"/> O/B On Seat <input type="checkbox"/> Off Seat	Upright <input type="checkbox"/> Left <input type="checkbox"/> Right On Seat <input type="checkbox"/> Off Seat	Upright <input checked="" type="checkbox"/> YB <input type="checkbox"/> O/B On Seat <input type="checkbox"/> Off Seat	
LEFT SIDE	A/B Intact (No Holes):	Y / N	A/B Intact (No Holes):	Y / N
	Face to A/B	YB / Center / O/B	Face to A/B	YB / O/B
	Contact Location:	High - Mid - Low	Contact Location:	High / Low
	A/B Cover Attached to Can/Cover:	Y / N	A/B Cover Attached to Can/Cover:	Y / N
	Adj. D-ring Remains in Position:	Y / N	Adj. D-ring Remains in Position:	Y / N
	Retractor Intact:	Y / N Locked: Y / N	Retractor Intact:	Y / N Locked: Y / N
	Buckle Held:	Y / N Webbing Intact: Y / N	Buckle Held:	Y / N Webbing Intact: Y / N
	Seat Tracks Held:	Y / N	Seat Tracks Held:	Y / N
	Cracks in I/P:	Y / N	Cracks in I/P:	Y / N
	Steering Wheel Deformed:	Y / N		
Column Stroked w/o Interference:	Y / N			
Column Stroke: Left: _____		Right: _____		

Post Test COMMENTS:

L/ DUMMY EAT UPPER S/W AND I/P. BAG NEVER FULLY DEPLOYED BOLSTER DEFORMATION - ID ADJUST - TWISTED FORWARD - SEAT BACK RECLINED

R/ GLOVEBOX DOOR OPENED - SEAT BACK RECLINED - 1/2 PYRO AREA DEFORMED BOTH SIDES

*63, 69

DATA REVIEWED

OBSERVER: M

HYGE Sled Test Summary

Sheet 17

Revision Date:
Form: 4001A

HYGE Run H: 19561 Run Date: 12/2/98
 Test Engineer: Wm Van Glabbeek Test Auth #: TA5847
 Requester: Dale Ferrigo BUCK#: 418
 Test Title/Description: Driver/Passenger Belt/Bag Evaluation

4

MATRIX #

	Crash/HYGE Pulse Ref: _____	Simulated Speed: _____	Pin #: _____
LEFT	Airbag: _____ Pyro Buckle: _____	RIGHT	Airbag: _____ Pyro Buckle: _____
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	Dummy _____	Dummy _____	Dummy _____
	A/B _____	Belt _____	A/B _____
	Belt _____	Dr. A/B Pass _____	Belt _____
	Seat _____	Pass. FMB _____	Seat _____
	Tracks: <u>power</u> manual _____	Pass. FMB _____	Tracks: <u>power</u> manual _____
	Position: _____ Welded? Y N		Position: _____ Welded? Y N
Instrument Panel: _____			
Steering Column: _____			
Pre-Test OBSERVATIONS: _____			

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

<input checked="" type="checkbox"/> Upright On Seat	<input checked="" type="checkbox"/> Upright Left Off Seat	<input checked="" type="checkbox"/> Upright Right Off Seat
LEFT SIDE		RIGHT SIDE
A/B In tact: <u>Not ROLLED</u> <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N		A/B In tact: <u>Not ROLLED</u> <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N
Face to A/B: <u>Center</u> <input checked="" type="checkbox"/> High <input checked="" type="checkbox"/> Low		Face to A/B: <u>Center</u> <input checked="" type="checkbox"/> High <input checked="" type="checkbox"/> Low
A/B Cover Attached to Can/Cover: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N		A/B Cover Attached to Can/Cover: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N
Adj. D-ring Remain in Position: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N		Adj. D-ring Remain in Position: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N
Retractor In tact: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N Locked: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N		Retractor In tact: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N Locked: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N
Buckle Held: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N Webbing In tact: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N		Buckle Held: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N Webbing In tact: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N
Seat Tracks Held: <u>Weld</u> <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N		Seat Tracks Held: <u>Weld</u> <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N
Cracks in IP: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N		Cracks in IP: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N
Steering Wheel Deformed: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N		
Column Stroked w/o Interference: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N		
Column Struts: Left: _____ Right: _____		
Post Test COMMENTS:		
<u>W/ SLIGHT BOLSTER CONTACT W/ NO VISIBLE DEFORMATION - SEAT NORMAL & UP RIGHT</u>		
<u>R/ GLOVE BOX OPENED - SEAT NORMAL</u>		
DATA REVIEWED		
* CH 29 } * CH 39 } BAD * CH 62 }		
OBSERVER: <u>Wm</u>		

HYGE Sled Test Summary

Sheet 18

Inquirer: Dale Ferrigo
Form: 24418

HYGE Run # 19562 Run Date 12/3/98
 Test Engineer: Wm Van Glabbeek Test Auth # TA5847
 Requester: Dale Ferrigo BUCK # 405

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MATRIX #

Test Title/Description: Driver/Passenger Belt/Bag Evaluation
 Crash/HYGE Pulse Ref: _____ Simulated Speed: 31 Pin # 50

PRE-TEST OBSERVATIONS	LEFT Airbag: <u>12/17</u> ms Pyro Buckle: <u>10</u> ms Dummy: <u>SOT4</u> A/B _____ Belt: <u>LR25</u> Seat: <u>S-1</u> Tracks: power <u>Normal</u> Position: <u>MID</u> Welded? <input checked="" type="checkbox"/> N Instrument Panel: <u>18</u> Steering Column: <u>SC3</u> Pre-Test OBSERVATIONS: _____	CENTER	RIGHT Airbag: <u>12/17</u> ms Pyro Buckle: <u>10</u> ms Dummy: <u>SOT4</u> A/B _____ Belt: <u>RR2</u> Seat: <u>S-1</u> Tracks: power <u>Normal</u> Position: <u>MID</u> Welded? <input checked="" type="checkbox"/> N Dr. A/B FMI _____ Pass. FMI _____
-----------------------	--	--------	--

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

<table border="0" style="width: 100%;"> <tr> <td style="width: 5%; text-align: center;">LEFT</td> <td style="width: 45%;"> Upright <input checked="" type="checkbox"/> V/B On Seat O/B Off Seat </td> <td style="width: 5%; text-align: center;">RIGHT</td> <td style="width: 45%;"> Upright <input checked="" type="checkbox"/> V/B On Seat O/B Off Seat </td> </tr> </table> <table border="0" style="width: 100%;"> <tr> <td style="width: 5%; text-align: center;">LEFT SIDE</td> <td style="width: 45%;"> A/B Intact <u>(No Holes)</u> <input checked="" type="checkbox"/> Y N Face to A/B: V/B <u>Center</u> O/B _____ Contact Location: High <u>MID</u> Low _____ A/B Cover Attached to Can./Cover: <input checked="" type="checkbox"/> Y N Adj. D-ring Remain in Position: <input checked="" type="checkbox"/> Y N Retractor Intact: <input checked="" type="checkbox"/> Y N Locked: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N Buckle Held: <input checked="" type="checkbox"/> Y N Webbing Intact: <input checked="" type="checkbox"/> Y N Seat Tracks Held: <input checked="" type="checkbox"/> Y N Cracks in VP: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N Steering Wheel Deformed: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N Column Stroked w/o Interference: <input checked="" type="checkbox"/> Y N Column Stroke: Left: _____ Right: _____ </td> <td style="width: 5%; text-align: center;">RIGHT SIDE</td> <td style="width: 45%;"> A/B Intact <u>(No Holes)</u> <input checked="" type="checkbox"/> Y N Face to A/B: V/B <u>Center</u> O/B _____ Contact Location: High <u>MID</u> Low _____ A/B Cover Attached to Can./Cover: <input checked="" type="checkbox"/> Y N Adj. D-ring Remain in Position: <input checked="" type="checkbox"/> Y N Retractor Intact: <input checked="" type="checkbox"/> Y N Locked: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N Buckle Held: <input checked="" type="checkbox"/> Y N Webbing Intact: <input checked="" type="checkbox"/> Y N Seat Tracks Held: <input checked="" type="checkbox"/> Y N Cracks in VP: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N </td> </tr> </table> <p>Post Test COMMENTS: <u>GLOVE BOX DOOR CAME OPEN</u> <u>TEST LOOKED NORMAL</u></p>	LEFT	Upright <input checked="" type="checkbox"/> V/B On Seat O/B Off Seat	RIGHT	Upright <input checked="" type="checkbox"/> V/B On Seat O/B Off Seat	LEFT SIDE	A/B Intact <u>(No Holes)</u> <input checked="" type="checkbox"/> Y N Face to A/B: V/B <u>Center</u> O/B _____ Contact Location: High <u>MID</u> Low _____ A/B Cover Attached to Can./Cover: <input checked="" type="checkbox"/> Y N Adj. D-ring Remain in Position: <input checked="" type="checkbox"/> Y N Retractor Intact: <input checked="" type="checkbox"/> Y N Locked: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N Buckle Held: <input checked="" type="checkbox"/> Y N Webbing Intact: <input checked="" type="checkbox"/> Y N Seat Tracks Held: <input checked="" type="checkbox"/> Y N Cracks in VP: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N Steering Wheel Deformed: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N Column Stroked w/o Interference: <input checked="" type="checkbox"/> Y N Column Stroke: Left: _____ Right: _____	RIGHT SIDE	A/B Intact <u>(No Holes)</u> <input checked="" type="checkbox"/> Y N Face to A/B: V/B <u>Center</u> O/B _____ Contact Location: High <u>MID</u> Low _____ A/B Cover Attached to Can./Cover: <input checked="" type="checkbox"/> Y N Adj. D-ring Remain in Position: <input checked="" type="checkbox"/> Y N Retractor Intact: <input checked="" type="checkbox"/> Y N Locked: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N Buckle Held: <input checked="" type="checkbox"/> Y N Webbing Intact: <input checked="" type="checkbox"/> Y N Seat Tracks Held: <input checked="" type="checkbox"/> Y N Cracks in VP: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N
LEFT	Upright <input checked="" type="checkbox"/> V/B On Seat O/B Off Seat	RIGHT	Upright <input checked="" type="checkbox"/> V/B On Seat O/B Off Seat					
LEFT SIDE	A/B Intact <u>(No Holes)</u> <input checked="" type="checkbox"/> Y N Face to A/B: V/B <u>Center</u> O/B _____ Contact Location: High <u>MID</u> Low _____ A/B Cover Attached to Can./Cover: <input checked="" type="checkbox"/> Y N Adj. D-ring Remain in Position: <input checked="" type="checkbox"/> Y N Retractor Intact: <input checked="" type="checkbox"/> Y N Locked: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N Buckle Held: <input checked="" type="checkbox"/> Y N Webbing Intact: <input checked="" type="checkbox"/> Y N Seat Tracks Held: <input checked="" type="checkbox"/> Y N Cracks in VP: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N Steering Wheel Deformed: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N Column Stroked w/o Interference: <input checked="" type="checkbox"/> Y N Column Stroke: Left: _____ Right: _____	RIGHT SIDE	A/B Intact <u>(No Holes)</u> <input checked="" type="checkbox"/> Y N Face to A/B: V/B <u>Center</u> O/B _____ Contact Location: High <u>MID</u> Low _____ A/B Cover Attached to Can./Cover: <input checked="" type="checkbox"/> Y N Adj. D-ring Remain in Position: <input checked="" type="checkbox"/> Y N Retractor Intact: <input checked="" type="checkbox"/> Y N Locked: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N Buckle Held: <input checked="" type="checkbox"/> Y N Webbing Intact: <input checked="" type="checkbox"/> Y N Seat Tracks Held: <input checked="" type="checkbox"/> Y N Cracks in VP: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N					

OBSERVER: D. Ferrigo

HYGE Sled Test Summary

Sheet 19
 Editor: Dale Perrigo
 Form 4504E

HYGE Run #: 19528 Run Date: 12/3/98
 Test Engineer: Wm Van Glabbeek Test Auth #: TASB47
 Requester: Dale Perrigo BUCK #: 406

7

MATRIX #

Test Title/Description: Driver/Passenger Belt/Bag Evaluation
 Crash/HYGE Pulse Ref: _____ Simulated Speed: 31 Ph #: 50

	LEFT Airbag: _____ ms Pyro Buckle: _____ ms		RIGHT Airbag: <u>18/17</u> ms Pyro Buckle: _____ ms
PRE-TEST OBSERVATIONS	LEFT Dummy _____ A/B _____ Belt _____ Seat _____	CENTER Dummy _____ Belt _____ Dr. A/B FMF _____ Pass. FMF _____	RIGHT Dummy <u>5TH</u> A/B <u>P-16</u> Belt <u>N/A</u> Seat <u>3-4</u>
	Tracks: power manual Pass. FMF _____		Tracks: <u>power</u> manual _____
	Position: _____ Welded? Y N		Position: <u>FR</u> Welded? Y <input checked="" type="checkbox"/> N
	Instrument Panel: <u>18</u>		
	Steering Column: <u>N/A</u>		

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	LEFT				RIGHT						
	Upright	I/B	O/B		Upright	Left	Right				
	On Seat	Off Seat			On Seat	Off Seat		Upright	I/B	O/B	
								On Seat	Off Seat	Off Seat	
LEFT SIDE	A/B Intact (No Holes): Y / N				A/B Intact (No Holes): Y / N				A/B Intact (No Holes) : Y / N		
	Face to A/B Contact Location:		I/B Center High Mid Low	O/B	Face to A/B Contact Location:		I/B Center High Low	O/B	Face to A/B Contact Location: High Low		
	A/B Cover Attached to Can/Cover: Y / N				A/B Cover Attached to Can/Cover: Y / N				A/B Cover Attached to Can/Cover: Y / N		
	Adj. D-ring Remains in Position: Y / N				Adj. D-ring Remains in Position: Y / N				Adj. D-ring Remains in Position: Y / N		
	Retractor Intact: Y / N		Locked:	Y / N	Retractor Intact: Y / N		Locked: Y / N	Y / N		Y / N	
	Buckle Held: Y / N		Webbing Intact:	Y / N	Buckle Held: Y / N		Webbing Intact: Y / N	Y / N		Y / N	
	Seat Tracks Held: Y / N				Seat Tracks Held: Y / N				Seat Tracks Held: Y / N		
	Cracks in I/P: Y / N				Cracks in I/P: Y / N				Cracks in I/P: Y / N		
	Steering Wheel Deformed: Y / N				Steering Wheel Deformed: Y / N				Steering Wheel Deformed: Y / N		
	Column Stroked w/o Interference: Y / N				Column Stroked w/o Interference: Y / N				Column Stroked w/o Interference: Y / N		
	Column Stroke: Left _____		Right _____		Column Stroke: Left _____		Right _____		Column Stroke: Left _____		
Post Test COMMENTS:											
<p style="font-size: 1.2em; margin: 0;"><u>R/ GLOVE BOX DRIVEN INTO SIMULATED HVAC BELT - MUCH LOWER I/P DEFORMATION SEAT NORMAL</u></p>											
OBSERVER: <u>Wm</u>											

HYGE Sled Test Summary

Sheet 20

Initiator: Dale Perrigo
Phone: 45012

HYGE Run H 19564 Run Date 12/3/98
 Test Engineer: Wim Van Glabbeek Test Auth # TA5047
 Requester: Dale Perrigo BUCK# 405



Test Title/Description: Driver/Passenger Belt/Bag Evaluation

Crash/HYGE Pulse Ref: _____ Simulated Speed: _____ Pin #: _____

TEST	LEFT	Airbag: _____ Pyro Buckle: _____	RHS	Airbag: _____ Pyro Buckle: _____	RHS	
PASSENGER DESCRIPTION PRE-TEST OBSERVATIONS	LEFT	Dummy _____ A/B _____ Belt _____ Seat _____	CENTRAL	Dummy _____ Belt _____ Dr. A/B P/M _____ Pass. P/M _____	RIGHT	Dummy _____ A/B _____ Belt _____ Seat _____
	Tracks: power manual _____		Tracks: power manual _____		Tracks: power manual _____	
	Position: _____ Welded? Y N		Position: _____ Welded? Y N		Position: _____ Welded? Y N	
	Instrument Panel: _____					
	Steering Column: _____					
Pre-Test OBSERVATIONS: _____						

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

<p><input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> On Seat <input type="checkbox"/> Off Seat</p> <p>LEFT SIDE</p> <p>A/B Intact (No Holes): Y / N</p> <p>Face to A/B: <input checked="" type="checkbox"/> High <input type="checkbox"/> Low</p> <p>Contact Location: <input checked="" type="checkbox"/> High <input type="checkbox"/> Low</p> <p>A/B Cover Attached to Can./Cover: <input checked="" type="checkbox"/> N</p> <p>Adj. D-ring Remain in Position: <input checked="" type="checkbox"/> N</p> <p>Retractor Intact: <input checked="" type="checkbox"/> N Locked: <input checked="" type="checkbox"/> N</p> <p>Buckle Held: <input checked="" type="checkbox"/> N Webbing Intact: <input checked="" type="checkbox"/> N</p> <p>Seat Tracks Held: <input checked="" type="checkbox"/> N</p> <p>Cracks in I/P: <input checked="" type="checkbox"/> N</p> <p>Steering Wheel Deformed: <input checked="" type="checkbox"/> N</p> <p>Column Stroked w/o Interference: <input checked="" type="checkbox"/> N</p> <p>Column Stroke: Left: _____ Right: _____</p>	<p><input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> On Seat <input type="checkbox"/> Off Seat</p> <p>RIGHT SIDE</p> <p>A/B Intact (No Holes): <input checked="" type="checkbox"/> N</p> <p>Face to A/B: <input checked="" type="checkbox"/> High <input type="checkbox"/> Low</p> <p>Contact Location: <input checked="" type="checkbox"/> High <input type="checkbox"/> Low</p> <p>A/B Cover Attached to Can./Cover: <input checked="" type="checkbox"/> N</p> <p>Adj. D-ring Remain in Position: <input checked="" type="checkbox"/> N</p> <p>Retractor Intact: <input checked="" type="checkbox"/> N Locked: <input checked="" type="checkbox"/> N</p> <p>Buckle Held: <input checked="" type="checkbox"/> N Webbing Intact: <input checked="" type="checkbox"/> N</p> <p>Seat Tracks Held: <input checked="" type="checkbox"/> N</p> <p>Cracks in I/P: <input checked="" type="checkbox"/> N</p>	
--	--	--

Post Test COMMENTS:

L LOWER 1/3 S/W DEFORMED -
SHOULDER OPENED - MUCH BOLSTER
DEFORMATION - SEAT NORMAL

R GLOVEBOX OPENED - SLIGHT
DEFORMATION - SEAT NORMAL

OBSERVER: WVG

HYGE Sled Test Summary

Sheet 21
 Julian Dale Perrigo
 Phone: 258018

HYGE Run H 19565
 Test Engineer: Wm Van Glabbeek
 Requester: Dale Perrigo

Run Date 12/3/98
 Test Auth # TASB47
 BUCK # 406

9

MATRIX #

Test Title/Description: Driver/Passenger Belt/Bag Evaluation

Crash/HYGE Pulse Ref: _____ Simulated Speed: 30 Pin # 93

	LEFT	Airbag: _____ Pyro Buckle: _____		RIGHT	Airbag: _____ Pyro Buckle: _____	
PARTS DESCRIPTION PRE-TEST OBSERVATIONS	LEFT	Dummy _____ A/B _____ Belt _____ Seat _____ Tracks: power manual _____ Position: _____ Welded? Y N _____	CENTER	RIGHT	Dummy _____ A/B _____ Belt _____ Seat _____ Tracks: power manual _____ Position: _____ Welded? Y N _____	
	Instrument Panel: _____		Instrument Panel: _____		Instrument Panel: _____	
	Steering Column: _____		Steering Column: _____		Steering Column: _____	
	Pre-Test OBSERVATIONS: <u>W/ W-34160</u>		Pre-Test OBSERVATIONS: _____		Pre-Test OBSERVATIONS: _____	
	<u>COLD TEST</u>		Pre-Test OBSERVATIONS: _____		Pre-Test OBSERVATIONS: _____	

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	<input checked="" type="checkbox"/> Upright On Seat	<input type="checkbox"/> Upright Off Seat		<input checked="" type="checkbox"/> Upright On Seat	<input type="checkbox"/> Upright Off Seat
LEFT SIDE	A/B Inflat: <u>NO CONTACT</u>	<input checked="" type="checkbox"/> N	A/B Inflat: <u>NO CONTACT</u>	<input type="checkbox"/> N	
	Face to A/B Contact Location: <u>Mid</u>	<input type="checkbox"/> High <input checked="" type="checkbox"/> Mid <input type="checkbox"/> Low	Face to A/B Contact Location: <u>High</u>	<input type="checkbox"/> High <input checked="" type="checkbox"/> Mid <input type="checkbox"/> Low	
	A/B Cover Attached to Can./Cover: <input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	A/B Cover Attached to Can./Cover: <input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	
	Adj. D-ring Remain in Position: <input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	Adj. D-ring Remain in Position: <input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	
	Retractor Inflat: <input checked="" type="checkbox"/> Y	Locked: <input checked="" type="checkbox"/> Y	Retractor Inflat: <input checked="" type="checkbox"/> Y	Locked: <input checked="" type="checkbox"/> Y	
	Buckle Held: <input checked="" type="checkbox"/> Y	Webbing Inflat: <input checked="" type="checkbox"/> Y	Buckle Held: <input checked="" type="checkbox"/> Y	Webbing Inflat: <input checked="" type="checkbox"/> Y	
	Seat Tracks Held: <u>Weld</u>	<input checked="" type="checkbox"/> Y	Seat Tracks Held: <u>Weld</u>	<input type="checkbox"/> N	
	Cracks in IP: <input type="checkbox"/> N	<input checked="" type="checkbox"/> Y	Cracks in IP: <input type="checkbox"/> N	<input checked="" type="checkbox"/> Y	
	Steering Wheel Deformed: <input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	Steering Wheel Deformed: <input checked="" type="checkbox"/> Y	<input type="checkbox"/> N	
	Column Stroked w/o interference: <input type="checkbox"/> N	<input checked="" type="checkbox"/> Y	Column Stroked w/o interference: <input type="checkbox"/> N	<input checked="" type="checkbox"/> Y	

Post Test COMMENTS:

L/R/AM slight lower 1/2 S/W DEFORMATION - HEAD TO W/S CONTACT ~ 5" BELOW HEADER - BOLTED DEFORMATION - SEAT NORMAL

R/ GLOVE BOX DOOR OPENED, SLIGHT DEFORMATION - SEAT NORMAL

W/S REMAINED IN TOTAL CONTACT WITH FRAME

OBSERVER: WAV

HYGE Sled Test Summary

Sheet 22

Inchase Dale Parigo
Phone: x56018

HYGE Run # 95660

Run Date 12/14/98

Test Engineer: Wim Van Glabbeek

Test Auth # TA5847

Requester: Dale Parigo

SLICK # 405

10

MATRIX #

Test Title/Description: Driver/Passenger Belt/Bag Evaluation

Crash/HYGE Pulse Ref: _____

Simulated Speed: 35

Pin # _____

	LEFT Airbag: <u>18/17</u> ms Pyro Buckle: <u>10</u> ms		RIGHT Airbag: <u>18/17</u> ms Pyro Buckle: <u>10</u> ms	
PRE-TEST OBSERVATIONS	Dummy <u>95TH</u> A/B <u>D-12</u> Belt <u>LR-2</u> Seat <u>S-4</u> Tracks: <u>power</u> <u>manual</u> Position: <u>FR</u> Welded? <u>Y</u> <input checked="" type="checkbox"/> <u>N</u>	CENTER Dummy _____ Belt _____ Dr. A/B FMF _____ Pass. FMF _____	Dummy <u>BOTH</u> A/B <u>P-16</u> Belt <u>RR-2</u> Seat <u>S-1</u> Tracks: <u>power</u> <u>manual</u> Position: <u>MID</u> Welded? <u>Y</u> <input checked="" type="checkbox"/> <u>N</u>	
	Instrument Panel: <u>18</u>		Steering Column: <u>SC3</u>	
	Pre-Test OBSERVATIONS: _____			

POST-TEST OBSERVATIONS & CHECKLIST Comment (if needed) below:

	LEFT SIDE		RIGHT SIDE
	<input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> On Seat	Upright On Seat	<input checked="" type="checkbox"/> Upright <input checked="" type="checkbox"/> On Seat
	A/B Intact <u>(No Holes)</u> <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N	A/B Intact <u>(No Holes)</u> <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N	A/B Intact <u>(No Holes)</u> <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N
	Face to A/B Contact Location: <u>Center</u> <input checked="" type="checkbox"/> High <input checked="" type="checkbox"/> Mid <input checked="" type="checkbox"/> Low	Face to A/B Contact Location: <u>Center</u> <input checked="" type="checkbox"/> High <input checked="" type="checkbox"/> Mid <input checked="" type="checkbox"/> Low	Face to A/B Contact Location: <u>Center</u> <input checked="" type="checkbox"/> High <input checked="" type="checkbox"/> Mid <input checked="" type="checkbox"/> Low
	A/B Cover Attached to Can./Cover: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N	A/B Cover Attached to Can./Cover: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N	A/B Cover Attached to Can./Cover: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N
	Adj. D-ring Remain in Position: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N	Adj. D-ring Remain in Position: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N	Adj. D-ring Remain in Position: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N
	Retractor Intact: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N Locked: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N	Retractor Intact: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N Locked: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N	Retractor Intact: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N Locked: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N
	Buckle Held: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N Webbing Intact: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N	Buckle Held: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N Webbing Intact: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N	Buckle Held: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N Webbing Intact: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N
	Seat Tracks Held: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N	Seat Tracks Held: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N	Seat Tracks Held: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N
	Cracks in I/P: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N	Cracks in I/P: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N	Cracks in I/P: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N
	Steering Wheel Deformed: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N	Steering Wheel Deformed: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N	Steering Wheel Deformed: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N
	Column Stroked w/o Interference: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N	Column Stroked w/o Interference: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N	Column Stroked w/o Interference: <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N
	Column Stroke: Left: _____ Right: _____	Column Stroke: Left: _____ Right: _____	Column Stroke: Left: _____ Right: _____

Post Test COMMENTS: # BOTH DUMMIES CONTACTED THE WINDSHIELD
GLOVE BOX DOOR CAME OPEN
TEST LOOKED NORMAL
DRIVER SIDE SEAT BACK BROKE ON REBOUND

OBSERVER: [Signature]

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 23

Revision Data Package Form 126019

TA5847

Run 19558

Date 12-1-98

Driver/Passenger Belt/Bag Evaluation

02

Buck # 418
 Reference: H
 H
 H

Left 50% Fill	DUMMY TYPE	Right 50% Fill
Mid	SEAT POSITION	Mid
	DUMMY NUMBER	

Center

POSITIONING	Layer #	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (±mm)	
						1st RUN	ADD'L
Seat Back Angle (13" above pivot)		28	27.8	27.8	28	0	+/-1 notch
Field Angle (+/- 2.5 deg; +/-1.0 for 594lb)		25	22.6	22.6	24		
Column Angle						at left	at left
H-Point Longitudinal	Layer # 4	2960	2900	2900	2959	12	6
H-Point Vertical	Layer # 4	668	608	608	679		6
H-Point Lateral		315	313	313	315	12	6
Knee Longitudinal	Layer # 2	3577			3568		
Knee Vertical	Layer # 2	763			761	6	6
Knee Lateral		350	367	367	350		
Head Longitudinal	Layer # 5	3077			3107	level	6
Head Vertical	Layer # 5	1309			1309	level	6
Head Lateral		402	-426	426	401	level	6
Dummy Neck Adjustment (first run only)							
Knee Centerline to Knee Centerline (mm)		195	194	194	194		
Left Knee to Bolster		87			87		6
Right Knee to Bolster		88			88		6
Neck to Steering Wheel Upper Rim or VP		377			353		6
Neck to Steering Wheel Lower Rim		187					6
Reference Target to Seat Belt Longitudinal							
Reference Target to Seat Belt Vertical							
Reference Target to Seat Belt Lateral							
Reference Target Absolute Longitudinal		2738			2738		
Reference Target Absolute Vertical		808			807		
Reference Target Absolute Lateral		872			873		

FILM ANALYSIS	Left	Right
Knee (target) Lateral	325	380
Thigh Lateral	317	318
Flare Lateral	317	380
Shoulder Lateral	242	289
Other		
Other		
Other		
Knee to H-Point	362	356
Knee to Flare	233	315
Knee to Thigh	116	93
Distance Between A or B Pillar Targets	51	51
Upper or Forward Reference Target	104	100
Lower or Rearward Reference Target	93	91
Reference Bar to Film Plane	975	830
Cannon Angle	54	2°

< 5 deg. < 5 deg.

Notes: _____

673
 1741
 16
 16
 873
 9
 1053
 575
 80

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 24

Initiator: Dale Pezigo
Phone: x36818

TA6847

Run 19559

Date 12-2-98

Driver/Passenger Belt/Bag Evaluation

12

Buck # 418

Reference: H _____
H _____
H _____

Left 60% FH	DUMMY TYPE	Right 60% FH	Center
Mid	SEAT POSITION	Mid	
367	DUMMY NUMBER	369	

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (+/- mm)	
					1st RUN	ADD'L
Seat Back Angle (15° above pivot)	28	27.8	27.8	28	0	+/-1 notch
Pelvic Angle (+/- 2.5 deg.; +/-1.0 for 39416)	25	22.6	22.6	21		
Column Angle					at left	at left
H-Point Longitudinal Laser # 4	2960	2980	2980	2959	12	8
H-Point Vertical Laser # 4	668	668	668	678		8
H-Point Lateral	311	313	-314	318	12	8
Knee Longitudinal Laser # 2	2577	2577	2688	2568		
Knee Vertical Laser # 3	763	783	781	761		
Knee Lateral	366	367	-366	363	8	8
Head Longitudinal Laser # 5	3077	3077	3107	3107	level	8
Head Vertical Laser # 5	1307	1308	1308	1309	level	8
Head Lateral	425	426	-427	426	level	8
Shoulder Neck Adjustment (1st run only)						
Knee Centeline to Knee Centeline (mm)	194	184	184	194		
Left Knee to Bolster	82	87	87	83		8
Right Knee to Bolster	78	82	82	83		8
Nose to Steering Wheel Upper Rim or LP	371	371	683	552		8
Foot to Steering Wheel Lower Rim	187	188				8
Reference Target to Seat Belt Longitudinal						
Reference Target to Seat Belt Vertical						
Reference Target to Seat Belt Lateral						
Reference Target Absolute Longitudinal	2738			2738		
Reference Target Absolute Vertical	808			807		
Reference Target Absolute Lateral	-872			878		

FILM ANALYSIS	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE
Knee (target) Lateral	345			330	
Thigh Lateral	330			311	
Phantom Lateral	321			310	
Shoulder Lateral	257			262	
Other					
Other					
Other					
Knee to H-Point					
Knee to Phantom					
Knee to Thigh					
Distance Between A or B Plier Targets					
Upper or Forward Reference Target					
Lower or Rearward Reference Target					
Reference Bar to Film Plane					
Camera Angle					< 8 deg. < 8 deg.

Notes: _____

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 25

Inhibitor: Data Purge
Phone: x78812

TA5847

Run

19560

Date

12-2-98

Driver/Passenger Belt/Bag Evaluation

3

Buck # 418

Reference: H
H
H

Left		Right
85% HIII	DUMMY TYPE	95% HII
Full Rear	SEAT POSITION	Full Rear
	DUMMY NUMBER	

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (± mm)	
					1st RUN	ADD'L
Seat Back Angle (13° above pivot)	25	27.8	27.8	28	0	+/-1 notch
Pelvic Angle (+/- 2.5 deg; +/- 1.0 for 5Wile)	22	22.5	22.5	23		
Column Angle					at left	at left
H-Point Longitudinal	3063	3083	3083	3065	12	8
H-Point Vertical	655	683	683	655		8
H-Point Lateral	293	293	294	292	12	8
Knee Longitudinal	2651			2655		
Knee Vertical	720			730		
Knee Lateral	252	260	263	255	8	8
Head Longitudinal	2206			2216	level	8
Head Vertical	1342			1340	level	8
Head Lateral	476	428	427	425	level	8
Dummy Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (mm)	225	228	228	225		
Left Knee to Bolster	1605			160		8
Right Knee to Bolster	1600			163		8
Nose to Steering Wheel Upper Rim or 1/2	325			660		8
Torso to Steering Wheel Lower Rim	265					8
Reference Target to Seat Belt Longitudinal						
Reference Target to Seat Belt Vertical						
Reference Target to Seat Belt Lateral						
Reference Target Absolute Longitudinal	2728			2728		
Reference Target Absolute Vertical	808			807		
Reference Target Absolute Lateral	-872			873		

FILM ANALYSIS				
Knee (target) Lateral	315		310	
Thigh Lateral	310		312	
Phantom Lateral	300		300	
Shoulder Lateral	230		235	
Other				
Other				
Other				
Knee to H-Point	365		350	
Knee to Phantom	185		203	
Knee to Thigh	95		113	
Distance Between A or B Filtr Targets				
Upper or Forward Reference Target				
Lower or Rearward Reference Target				
Reference Bar in Film Plane				
Camera Angle				

Notes:

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 26

Inhibitor: Dale Pearce
Phone: 216018

TA6847

Run 19569

Date 12/2

Driver/Passenger Belt/Bag Evaluation

4, 5

Buck # 418

Reference: H _____
H _____
H _____

Left 80% HIL	DUMMY TYPE	Right 80% HIL	Center
Mid	SEAT POSITION	Mid	
	DUMMY NUMBER		

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (± mm)	
					1st RUN	ADDL
Seat Back Angle (13° above pivot)	28.5	27.8	27.8	28	0	+/-1 notch
Pelvic Angle (+/- 2.5 deg.; +/- 1.0 for 5M6)	23	22.8	22.8	23		
Column Angle					at left	at left
H-Point Longitudinal Lower # 4	2960	2880	2880	2900	12	0
H-Point Vertical Lower # 4	668	688	688	668		0
H-Point Lateral	310	313	-314	310	12	0
Knee Longitudinal Lower # 2	2577	2677	2688	2500		
Knee Vertical Lower # 2	763	783	781	767	0	0
Knee Lateral	367	387	-388	368	0	0
Head Longitudinal Lower # 5	3017	3077	3107	3107	level	0
Head Vertical Lower # 5	1309	1308	1308	1309	level	0
Head Lateral	425	428	-427	427	level	0
Dummy Neck Adjustment (first run only)						
Knee Centerline to Knee Centerline (max)	194	184	184	195		
Left Knee to Bolster	85	87	87	90		0
Right Knee to Bolster	97	82	82	85		0
Nose to Steering Wheel Upper Rim or 1/P	375	371	383	375		0
Torso to Steering Wheel Lower Rim	150	188				0
Reference Target to Seat Belt Longitudinal						
Reference Target to Seat Belt Vertical						
Reference Target to Seat Belt Lateral						
Reference Target Absolute Longitudinal	2738			2738		
Reference Target Absolute Vertical	808			807		
Reference Target Absolute Lateral	-372			373		

FILM ANALYSIS	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE
Knee (target) Lateral	320			335	
Thigh Lateral	325			320	
Phantom Lateral	320			325	
Shoulder Lateral	250			265	
Other					
Other					
Other					
Knee to H-Point					
Knee to Phantom					
Knee to Thigh					
Distance Between A or B Filler Targets					
Upper or Forward Reference Target					
Lower or Rearward Reference Target					
Reference Bar to Film Plane					
Column Angle					± 5 deg. < 5 deg.

Notes: _____

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 27

Inhibitor: Dale Pevigo
Form: 24011

TA8847

Run 195602

Date 12-3-98

Driver/Passenger Belt/Bag Evaluation

45

Buck # 418

Reference: H
H
H

Left	Right
50% Hgt	DUMMY TYPE
Mid	SEAT POSITION
307	DUMMY NUMBER
	329

Center

POSITIONING

	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (\pm mm)
					Lat RUN ADDL
Seat Back Angle (13" above pivot)	28	27.8	27.8	28	0 +/- 1 notch
Pelvic Angle (\pm 2.5 deg; \pm 1.0 for 5%ile)	25	22.5	22.5	21	
Column Angle					at left at left
H-Point Longitudinal Laser # 4	2960	2980	2980	2960	12 8
H-Point Vertical Laser # 4	668	688	688	668	8 8
H-Point Lateral	311	313	314	316	12 8
Knee Longitudinal Laser # 2	2527	2577	2588	2568	
Knee Vertical Laser # 2	763	763	781	761	6 8
Knee Lateral	267	287	288	270	level 8
Head Longitudinal Laser # 3	3077	3077	3107	3107	level 8
Head Vertical Laser # 3	1309	1308	1308	1309	level 8
Head Lateral	488	426	427	430	level 8
Dummy Neck Adjustment (first run only)					
Knee Centerline to Knee Centerline (mm)	194	184	184	194	
Left Knee to Bolster	85	87	87	85	8
Right Knee to Bolster	75	82	82	84	8
Neck to Steering Wheel Upper Rim or VP	371	371	363	350	8
Torso to Steering Wheel Lower Rim	185	188			8
Reference Target to Seat Belt Longitudinal					
Reference Target to Seat Belt Vertical					
Reference Target to Seat Belt Lateral					
Reference Target Absolute Longitudinal	2738			2738	
Reference Target Absolute Vertical	808			807	
Reference Target Absolute Lateral	572			573	

FILM ANALYSIS

Knee (target) Lateral	330		337	
Thigh Lateral	381		388	
Flare Lateral	318		322	
Shoulder Lateral	255		267	
Other				
Other				
Other				
Knee to H-Point				
Knee to Flare				
Knee to Thigh				
Distance Between A or B P/B Targets				
Upper or Forward Reference Target				
Lower or Rearward Reference Target				
Reference Bar to Film Plane				
Camera Angle				

Notes:

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 28

Editor: Dale Purdie
Phone: 480118

TA8847

Run 19543

Date 12-3-98

Driver/Passenger Belt/Bag Evaluation

7

Buck # 418

Reference: H
H
H

Left	Right
DUMMY TYPE	6% Fill
SEAT POSITION	Full Rear
DUMMY NUMBER	941

Center

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (6 sigma)	
					1st BLN	ADDL
Seat Back Angle (13" above pivot)			27.8	28	0	+/-1 notch
Pelvic Angle (+/- 2.5 deg.; +/- 1.0 for 5941a)			21	21		
Column Angle					at left	at left
H-Point Longitudinal Layer # 4			3098	3092	12	6
H-Point Vertical Layer # 4			848	838		6
H-Point Lateral			-348	345	12	6
Knee Longitudinal Layer # 2				2763		
Knee Vertical Layer # 2				699		
Knee Lateral			-358	356	6	6
Head Longitudinal Layer # 3				3179	level	6
Head Vertical Layer # 3				1155	level	6
Head Lateral			-458	434	level	6
Dummy Neck Adjustment (first pos only)						
Knee Occasion to Knee Centerline (max)			182	163		
Left Knee to Bolster				305		6
Right Knee to Bolster				303		6
Hips to Steering Wheel Upper Rim or VP				637		6
Torso to Steering Wheel Lower Rim						6
Reference Target to Seat Belt Longitudinal						
Reference Target to Seat Belt Vertical						
Reference Target to Seat Belt Lateral						
Reference Target Absolute Longitudinal				2738		
Reference Target Absolute Vertical				877		
Reference Target Absolute Lateral				673		

FILM ANALYSIS

Knee (target) Lateral				455		
Thigh Lateral				352		
Phantom Lateral				343		
Shoulder Lateral				300		
Other						
Other						
Other						
Knee to H-Point				283		
Knee to Phantom				309		
Knee to Thigh				111		
Distance Between A or B Plier Targets						
Upper or Forward Reference Target						
Lower or Rearward Reference Target						
Reference Bar to Film Plane						
Camera Angle					< 6 deg.	< 6 deg.

Notes:

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 29
 Initial: Dale Papp
 Date: 12/13/98

TA5847

Run 19564

Date 12/13/98

Driver/Passenger Belt/Bag Evaluation

8

Buck # 418

Reference: H
 H
 H

Left 50% HI	DUMMY TYPE	Right 50% HI	Center
Mid	SEAT POSITION	Mid	
	DUMMY NUMBER		

POSITIONING		ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (±mm)	
						1st RUN	ADDL.
Rest Back Angle (15° above pivot)		28	27.8	27.8	28	0	+/-1 notch
Pelvic Angle (+/- 2.5 deg; +/-1.0 for 50th)		23	22.5	22.5	23		
Column Angle						at left	at left
H-Point Longitudinal	Laser # 4	2573	2573	2573	2573	12	0
H-Point Vertical	Laser # 4	885	888	888	885		0
H-Point Lateral		313	313	314	316	12	0
Knee Longitudinal	Laser # 2	2577	2577	2575	2578		
Knee Vertical	Laser # 2	763	763	763	763		
Knee Lateral		367	367	368	369	0	0
Head Longitudinal	Laser # 5	3077	3077	3107	3107	level	0
Head Vertical	Laser # 5	1300	1310	1310	1310	level	0
Head Lateral		425	428	427	427	level	0
Dummy Neck Adjustment (first run only)							
Knee Centerline to Knee Centerline (mm)		195	194	194	195		
Left Knee to Bolster		110			105		0
Right Knee to Bolster		104			105		0
Head to Steering Wheel Upper Rim or VP		585			535		0
Head to Steering Wheel Lower Rim		205					0
Reference Target to Seat Belt Longitudinal							
Reference Target to Seat Belt Vertical							
Reference Target to Seat Belt Lateral							
Reference Target Absolute Longitudinal		2738			2738		
Reference Target Absolute Vertical		808			807		
Reference Target Absolute Lateral		-572			673		

FILM ANALYSIS

Knee (target) Lateral	225		220	
Thigh Lateral	120		120	
Shoulder Lateral	120		120	
Shoulder Lateral	265		260	
Other				
Other				
Other				
Knee to H-Point				
Knee to Pelvis				
Knee to Thigh				
Distance Between A or B Film Targets				
Upper or Forward Reference Target				
Lower or Rearward Reference Target				
Reference Bar to Film Plane				
Column Angle				

Notes: POWER SEATS

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 30

Initial Data Page
Form 10081a

TA8847

Run 19565

Date 12/3/98

Driver/Passenger Belt/Bag Evaluation

9

Buck # 418

Reference: H
H
H

Left	Right
DUMMY TYPE	50% FM
SEAT POSITION	Mid
DUMMY NUMBER	

Center

POSITIONING	ACTUAL	TARGET	TARGET	ACTUAL	TOLERANCE (+/- mm)	
	LEFT	LEFT	RIGHT	RIGHT	1st RUN	ADDL
Seat Back Angle (15° above pivot)	28		27.8	28	0	+/-1 notch
Pelvic Angle (+/- 2.5 deg.; +/- 1.0 for 50kg)	2.3		22.8	2.3		
Column Angle					at left	at left
H-Point Longitudinal	2573	2573	2590	2560	12	0
H-Point Vertical	665	665	680	665		0
H-Point Lateral	314		-314	314	12	0
Knee Longitudinal	2577	2577	2598	2570		
Knee Vertical	763	763	781	760		
Knee Lateral	367	367	-388	367	0	0
Head Longitudinal	3077	3077	3107	3107	level	0
Head Vertical	1310	1310	1308	1310	level	0
Head Lateral	427	427	-427	427	level	0
Dummy Neck Adjustment (if not on only)						
Knee Centerline to Knee Centerline (max)	195	195	194	197		
Left Knee to Bolster	105	110	87	88		0
Right Knee to Bolster	100	109	82	88		0
None in Steering Wheel Upper Rim or IP		387	663	480		0
None in Steering Wheel Lower Rim		208				0
Reference Target to Seat Belt Longitudinal						
Reference Target to Seat Belt Vertical						
Reference Target to Seat Belt Lateral						
Reference Target Absolute Longitudinal				2750		
Reference Target Absolute Vertical				607		
Reference Target Absolute Lateral				673		

FILM ANALYSIS

Knee (target) Lateral	338		330	
Thigh Lateral	320		325	
Phantom Lateral	325		325	
Shoulder Lateral	289		270	
Other				
Other				
Other				
Knee to H-Point				
Knee to Phantom				
Knee to Thigh				
Distance Between A or B Fillet Targets				
Upper or Forward Reference Target				
Lower or Rearward Reference Target				
Reference Bar to Film Plane				
Camera Angle				

Notes:

HYGE - DUMMY POSITIONING and F/A TARGETING Sheet

Sheet 31

Instructor: Dale Purigo
Phone: 250218

TA5847

Run 195666

Date 12-4-98

Driver/Passenger Belt/Bag Evaluation

10

Buck # 418
Reference: H
H
H

Left		Right
95% FM	DUMMY TYPE	50% FM
Full Row	SEAT POSITION	Mid
352	DUMMY NUMBER	329

POSITIONING	ACTUAL LEFT	TARGET LEFT	TARGET RIGHT	ACTUAL RIGHT	TOLERANCE (+/- mm)	
					1st RUN	ADDL
Seat Back Angle (15° above pivot)	28	27.8	27.8	28	0	+/-1 notch
Pelvic Angle (+/- 2.5 deg.; +/-1.0 for 50%ile)	22	22.8	22.8	21		
Column Angle					at left	at left
H-Point Longitudinal Laser# 4	2062	2063-2064	2060	2072	12	8
H-Point Vertical Laser# 6	653	653 648	658	665		8
H-Point Lateral	295	295	-314	311	12	8
Knee Longitudinal Laser# 2	2651	2651	2668	2575		
Knee Vertical Laser# 2	720	720	701	763		
Knee Lateral	352	382	-388	268	8	8
Head Longitudinal Laser# 5	3179	3066	3107	3108	level	8
Head Vertical Laser# 5	1352	1348	1308	1347	level	8
Head Lateral	428	428	-427	485	level	8
Dummy Neck Adjustment (Not on only)						
Knee Contact to Knee Contact (mm)	226	228	184	194		
Left Knee to Bolster	181	165	87	86		8
Right Knee to Bolster	170	160	82	90		8
Neck to Steering Wheel Upper Rim or IP	515	525	583	551		8
Turns to Steering Wheel Lower Rim	265	265				8
Reference Target to Seat Belt Longitudinal						
Reference Target to Seat Belt Vertical						
Reference Target to Seat Belt Lateral						
Reference Target Absolute Longitudinal	2739			2718		
Reference Target Absolute Vertical	808			877		
Reference Target Absolute Lateral	-872			878		

FILM ANALYSIS	Left	Right	Tolerance
Knee (target) Lateral	319	339	
Thigh Lateral	317	318	
Pelvis Lateral	301	310	
Shoulder Lateral	846	868	
Other			
Other			
Other			
Knee to H-Point			
Knee to Pelvis			
Knee to Thigh			
Distance Between A or B Pillar Targets			
Upper or Forward Reference Target			
Lower or Rearward Reference Target			
Reference Bar to Film Piece			
Camera Angle			< 6 deg. < 6 deg.

Notes: _____

