IRCOBI WORKSHOP ON SIDE IMPACT DUMMIES
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MVMA FULL VEHICLE SIDE IMPACT HARMONIZATION TEST PROGRAM

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The U.S. and Europe are preparing side impact standards which utilize considerably different test procedures and pass/fail criteria. Although some of the test distinctions between the U.S. and Europe are based on different highway environments, others are due to differences of expert opinion about representative dummies, injury criteria, moving barriers, test configuration and impact severity. In view of the potential significance of side impact legislation, the Motor Vehicle Manufacturers Association of the United States, Inc (MVMA) designed a test program to evaluate the U.S. National Highway Traffic Safety Administration (NHTSA) and European Experimental Vehicle Committee (EEVC) side impact tests and some of their individual components.

BACKGROUND

The MVMA full vehicle side impact test program began as the U.S. Government/Industry Coordinated Side Impact Research Program. The U.S. Government discontinued their participation in the program in 1983, but MVMA continued without Government participation and completed the program this year. As a part of this program, MVMA conducted a 16-test evaluation of the proposed U.S. test procedure and Side Impact Dummy. MVMA also investigated sub-system testing by developing and evaluating a dynamic sub-system test device and procedure. The results of both these programs were presented at the Society of Automotive Engineers Government/Industry meeting in Washington D.C.and at the last Experimental Safety Vehicles Conference. Improvements to the sub-syetem teet are currently being studied at the University of Virginia School of Engineering(U.V.). The U.V.test program is an extension of the earlier component test program development effort and seeks to explore implications of international harmonization of side impact standards. The U.V. project should be complete in October and will be reported on in the future. The following summarizes the findings of the MVMA full vehicle test matrix.

OBJECTIVES

As defined by the U.S. Government/Industry Coordinated Side Impact Research Program, three important criteria for a side impact test are (Figure 1): 1) the test should be related to human injury, 2) should have low test-to-test variability, and 3) should be able to discriminate vehicle design changes related to side impact. The MVMA full vehicle test program was designed to compare the U.S. Side Impact Dummy (SID) and the European Side Impact Dummy (EuroSID) and the NHTSA and EEVC test procedures on characteristics 2 and 3. The relationship between the test and human injury is complex and, perhaps, can only be resolved with real world accident data.

TEST PLAN

The test plan is a series of designed experiments of eight tests each (Figure 2). One experiment evaluated the EuroSID dummy in the NHTSA test procedure. Another investigated the complete EEVC test procedure and EuroSID dummy. The third experiment looked at the effect of replacing the NHTSA barrier face with the EEVC face using the NHTSA procedure. These 24 tests, all with the EuroSID dummy, can be combined with sixteen tests previously run of the NHTSA test procedure and SID dummy to allow comparisons of :

- o The SID and EuroSID dummies
- o The NHTSA and EEVC test procedures
- o The NHTSA and EEVC barrier faces

To evaluate the ability of the tests to distinguish side impact countermeasures, cars were tested with padded and unpadded doors, and with baseline and strengthened structures (Figure 3). Two tests were run at each of the four combinations of padding and structure for a total of eight tests. The replication of the experiment enabled an estimate of test variability to be made. The padding was 5" thick at the thorax and 6" at the pelvis (Figure 4). The side structure strength was approximately doubled for the modified cars.

The test vehicles were all 1985 Model Year Ford LTD vehicles and were as identical as practical to reduce vehicle to vehicle variability. Tests conducted with the SID dummy used two dummies to estimate dummy to dummy variability. Tests conducted with the EuroSID used only one dummy as the EuroSID was considered to be a pre production prototype and dummy to dummy variability was not expected to represent production EuroSIDs.

PRELIMINARY FINDINGS

- EuroSID responses were generally higher than SID.
- Of the three EuroSID test conditions investigated, the one that gave average Thoracic Trauma Index (TTI) dummy response values closest to the NHTSA test procedure with the SID was the NHTSA test procedure with the EEVC barrier face.
- EuroSID and SID TTI results were highly correlated, i.e., SID TTI was predictable from EuroSID TTI.
- The EuroSID responses were generally highest with the NHTSA test procedure and barrier face.
- The combination of the EEVC barrier face and the NHTSA test procedure generally produced the lowest responses of the EuroSID. EuroSID responses generally fell between these two when tested with the European test procedure and the EEVC barrier face.
- For the EuroSID, TTI discriminated padding better than rib deflection or viscous criterion.
- Structure changes were not as well discriminated as padding changes, but were better discriminated by lower rib and pelvic measures when the EEVC barrier face was used.
- EuroSID rib responses were erratic -- Viscous Criterion (V*C) and rib deflection variability were high.
- EuroSID pelvis responses were less variable than the thorax responses except for TTI. As with the thorax responses, structure changes were discriminated better by pelvic responses when the EEVC barrier face was used.
- Viscous Criterion averages ranged from 0.2 to 0.4 m/s, well below the EEVC-suggested tolerance limit of 1 m/s; V*C did not exceed this limit in any test.
- EuroSID durability was "normal". In 25 crash tests, one hand came loose, one shoulder came loose and one pelvis was cracked. Repairs were easily made and the same dummy was used for all tests.
- No problems were encountered with the EEVC barrier face, either in the 90 degree or crabbed modes. Deformation of the EEVC face was 305-381 mm compared to 51-102 mm for the NHTSA barrier face.

PRELIMINARY CONCLUSIONS

- The EEVC test procedure, including the EuroSID dummy and foam barrier face proved to be comparable to the NHTSA test in durability, and in the repeatability and discrimination ability of equivalent responses.

- The EuroSID dummy is not a direct replacement for the SID. Although variabilities were generally comparable, higher responses found with the EuroSID will require additional research to establish appropriate injury criteria or adjustment factors. The high correlation between SID and EuroSID responses suggest that it may be possible to adjust EuroSID results to allow SID injury criteria to be used.

- The EuroSID's reportedly more biofidelic thorax and rib deflection measurement capability is somewhat negated by the high variability of the rib responses. Coefficients of variation greater than 20% for upper rib deflection and 30% for viscous criterion would place manufacturers at high risk for regulatory compliance.

- The EEVC test procedure and barrier face gave lower results than the NHTSA procedure and face and enabled the test to better detect structure changes. Since results were as low or lower whether the EEVC face was used in the EEVC procedure or NHTSA procedure, it is probable that most of the measured injury response is due to the barrier face alone.

PRELIMINARY TEST RESULTS

SID and EuroSID

For Thoracic Trauma Index and the NHTSA test procedure (Figure 5), the SID and EuroSID were comparable in variability, the standard deviation being about 6.4% and 9.4% of the mean values of TTI respectively. The mean values of TTI, however were about 17 g's higher for the EuroSID. SID and EuroSID TTI's were highly correlated. Figure 6 shows the SID and EuroSID TTI's plotted with a linear regression. Although the EuroSID gives consistently higher TTI than the SID, Figure 6 suggests that it may be possible to adjust the EuroSID results to enable the EuroSID to be used with the SID TTI injury criterion. A summary of average TTI's for each of the four test series is shown in Figure 7. Both dummies had similar abilities to discriminate between padded and unpadded doors when TTI was the measure of performance. Once again, however, the EuroSID results were 13 g's higher than the SID.

In statistical terms, discrimination ability can be expressed by the F-ratios found in an analysis of variance of the

test results. Higher F-ratios indicate better discrimination ability. The TTI F-ratios for padding were 138 and 50 for the SID and EuroSID respectively (Figure 8). For pelvic acceleration, discrimination ability for both padding and structure were considerably better for the SID, which detected both padding and structure with statistical significance. Padding F-ratios were 173 for the SID and 50 for the EuroSID (Figure 8) for the NHTSA test procedure. For pelvic accelerations, the EuroSID yielded the highest results when tested using the proposed NHTSA test (Figure 9). The EuroSID pelvis acceleration did not detect the modified structure when tested with the NHTSA procedure (Figure 10).The effect of side structure was significant (F=13.8) for the SID based on TTI, as shown in Figure 10, but the TTI did not discriminate this effect in the EuroSID. It should be noted however that the F-ratios for the SID were based on 16 tests while the F-ratios for the EuroSID were only based on 8 tests. As discussed below, however, EuroSID pelvis acceleration detected structure changes when the EEVC barrier face was used with the NHTSA procedure.

No durability problems were encountered with either dummy. Three minor failures occurred with the EuroSID: 1) one hand came loose, 2) one shoulder came loose and 3) one pelvis cracked. These failures were quickly repaired and the test program was completed using the same dummy in every test.

RIB DEFLECTION

Variability of rib deflection on the EuroSID dummy was inconsistent (Figure 11). For example, the coefficient of variation for the upper rib was 23.4% with the NHTSA procedure and EuroSID dummy, 9.3% for the EEVC test procedure and 21.6% with the NHTSA procedure and EEVC barrier face. Average rib deflections for each of the four test series are shown in Figure 12. The SID rib deflection is only shown for comparison purposes as the SID thorax was not designed to discriminate rib deflection.

None of the rib deflections discriminated padding as well as TTI. Upper rib padding F-ratios were 6.5 for the NHTSA procedure, 34 for the EEVC procedure and 34 for the NHTSA procedure with the EEVC barrier face. When the EEVC barrier face was used with either test procedure, upper rib deflection discriminated the structure at a 10% significance level. The center and lower rib deflections did not discriminate padding as well as the upper rib. However, the lower ribs and pelvic measures did discriminate the effect of structure in the tests with the EEVC barrier face. An unexplained phenomenon was noted with the EuroSID ribs. Deflection did not follow the expected sinusoidal pattern, but had a flat-topped response with no clear single peak.

VISCOUS CRITERION

Viscous criterion, as measured on the EuroSID dummy, was more variable than TTI, with coefficients of variation greater than 30% (Figure 11). Upper rib V*C on the EuroSID discriminated padding, but not as well as did TTI. F-ratios were 12.2 for the NHTSA test procedure, 25.8 for the EEVC procedure and 24.2 for the NHTSA procedure with the EEVC barrier face (Figure 8). Structure was not discriminated by V*C in the NHTSA test procedure, but discrimination was significant at the 10% level when the EEVC barrier face was used with the NHTSA test procedure (Figure 10). The center and lower ribs also showed high variability, and did not discriminate the effect of padding. Average viscous criterion values for the three test series is shown in Figure 13). The highest average V*C was for the NHTSA test procedure with the EuroSID but only 0.29 m/s, well below the 1.0 m/s proposed by the EEVC. None of the individual MVMA tests produced a V*C that approached the 1.0 m/s proposal.

PUBIC SYMPHYSIS FORCE

Pubic symphysis force variability was high in the NHTSA test procedure with either barrier face, but considerably lower in the EEVC procedure. This suggests that the crabbed barrier increases pubic symphysis force variability. Padding was discriminated well, and structure was discriminated when the EEVC barrier face was used. Lateral pelvis acceleration and Pubic Symphysis Force were highly correlated in the EuroSID dummy with an R-squared of .935 (Figure 14). The data suggest that these may be redundant measures of pelvic injury and that tolerance limits could be expressed in terms of either measure.

ILIAC WING FORCE

Iliac wing force showed comparatively low variability, but did not discriminate padding or structure. Therefore, it was a meaningless measurement.

TEST PROCEDURES AND BARRIER FACES

The EuroSID was tested in three different combinations of test procedures and barrier face.The first EuroSID test series was with the NHTSA test procedure (crabbed barrier) and the NHTSA barrier face. The second EuroSID series was with the European test procedure (barrier not crabbed) and the EEVC barrier face. The last series combined the NHTSA test procedure (crabbed barrier) and the EEVC barrier face. In terms of average response

levels, these three series of tests with the EuroSID all produced responses that were generally higher than the original series with the NHTSA SID, NHTSA procedure (crabbed barrier) and NHTSA barrier face. The combination of the EuroSID with the NHTSA procedure and barrier face differed most from the SID in the same test configuration. The EuroSID, when tested using the NHTSA test procedure, but substituting the crabbed EEVC barrier face produced response levels most comparable to the SID with the NHTSA procedure (crabbed) and NHTSA barrier face.

TTI variability was generally comparable for the two procedures. For pelvis g, rib deflection and viscous criterion, however, variability tended to be lower for the EEVC procedure. This suggests that the crabbed barrier procedure produces more variability than the non-crabbed test. TTI consistently discriminated padding the best of the thorax injury criteria and was especially effective in combination with the NHTSA procedure and the EEVC barrier face. Rib deflection and viscous criterion discriminated best when the EEVC barrier face was used, regardless of the test procedure. For the EuroSID, the EEVC barrier face with the NHTSA test procedure produced lower responses than the EEVC test procedure or the NHTSA procedure and barrier face. Variability for the two barrier faces was comparable for all the responses. No durability or other problems were encountered with the EEVC barrier face. As noted earlier, repeatability was comparable to the NHTSA barrier face. Figure 11 summarizes the discrimination ability of the three thorax injury criteria for the four test conditions. The data for the complete test series are provided in Appendix I.

CAUTIONS

All tests were conducted with 1985 Ford LTD vehicles. The extent to which these results apply to other vehicles is not known. The countermeasures were chosen for purposes of evaluating the test procedures and were not meant to be production feasible. Different interior energy absorbing materials or different structural modifications may produce different results.

ACKNOWLEDGEMENT

The MVMA side impact test procedure program was developed and implemented through the MVMA Ad Hoc Engineering Research SubCommittee on Side Impact Test Procedure Development. Members of the SubCommittee are:

S. Henson	Ford Motor Company
W. Koebnick	Chrysler Corporation
H. Rouleau	Chrysler Corporation

P. Prasad	Ford Motor Company
J. Capp	General Motors Corp.
H. Mertz	General Motors Corp.
J. Stocke	General Motors Corp.
R. Wasko	MVMA

The results of the test program are due to the diligent efforts of the committee members. The statistical analysis was performed by K. Campbell and E. Smith of the University of Michigan Transportation Research Institute.

SIDE IMPACT TEST CRITERIA

RELATED TO HUMAN INJURY

LOW VARIABILITY

DISCRIMINATE

Figure 1 Test Criteria

MVMA SIDE IMPACT TEST PLAN

TEST PROCEDURE	BARRIER FACE	DUMMY SID	DUMMY EUROSID
NHTSA	EEVC		8
	NHTSA	16	8
EEVC	EEVC		8
	NHTSA		8

Figure 2

MVMA TEST MATRIX

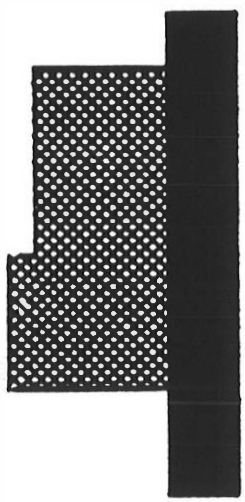
STRUCTURE	PADDING YES	PADDING NO
UNMODIFIED	2	2
MODIFIED	2	2

Figure 3

SIDE DOOR PADDING

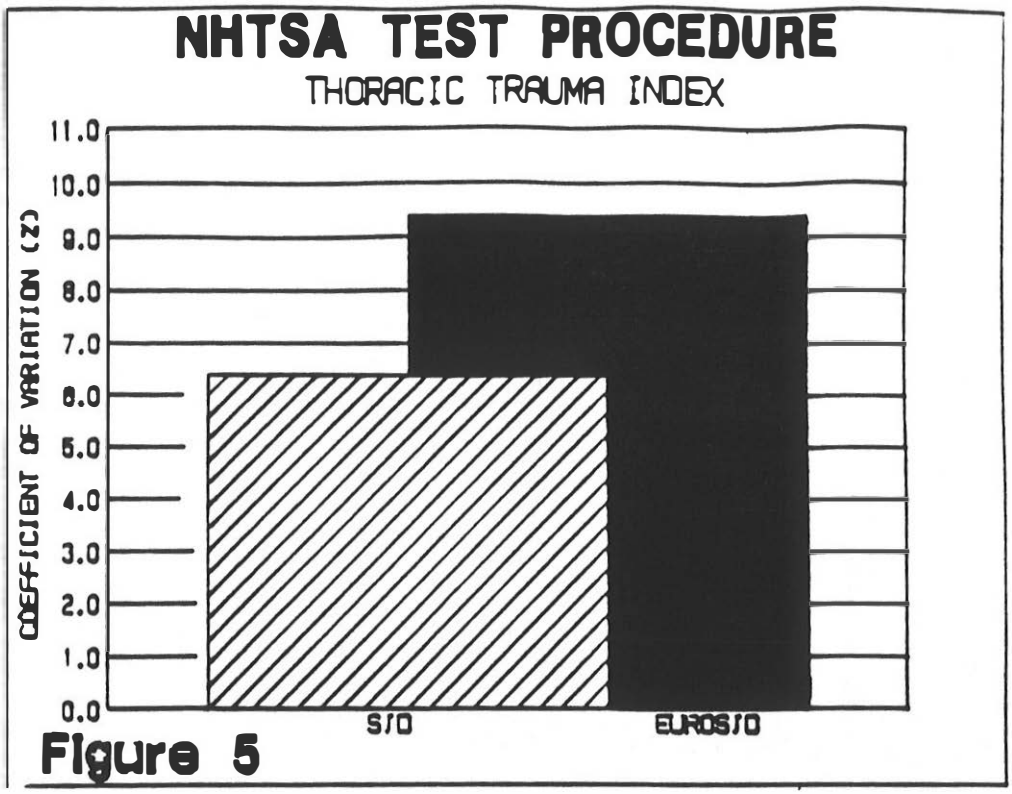
Thorax pad
12,7 cm thick

Pelvis pad
15,3 cm thick



Side of Door

Figure 4


NHTSA TEST PROCEDURE
THORACIC TRAUMA INDEX
COEFFICIENT OF VARIATION (%)
11.0
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
SID
EUROSID
Figure 5

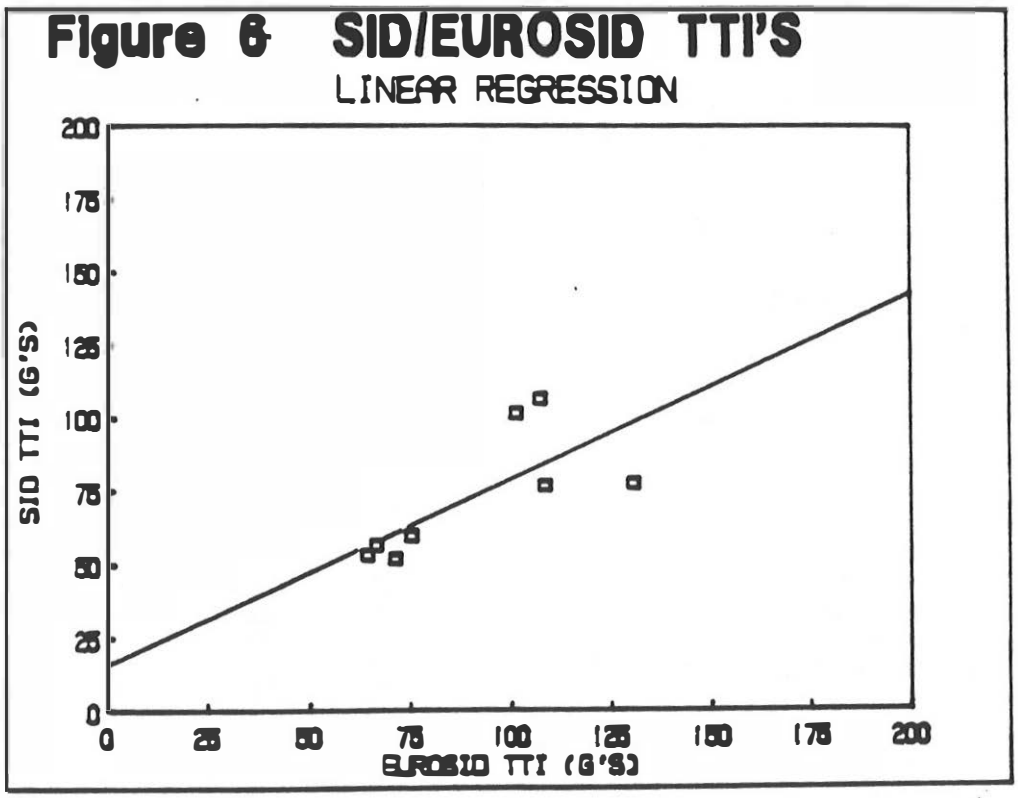


Figure 6 SID/EUROSID TTI'S
LINEAR REGRESSION
SID TTI (G'S)
EUROSID TTI (G'S)
0
25
50
75
100
125
150
175
200

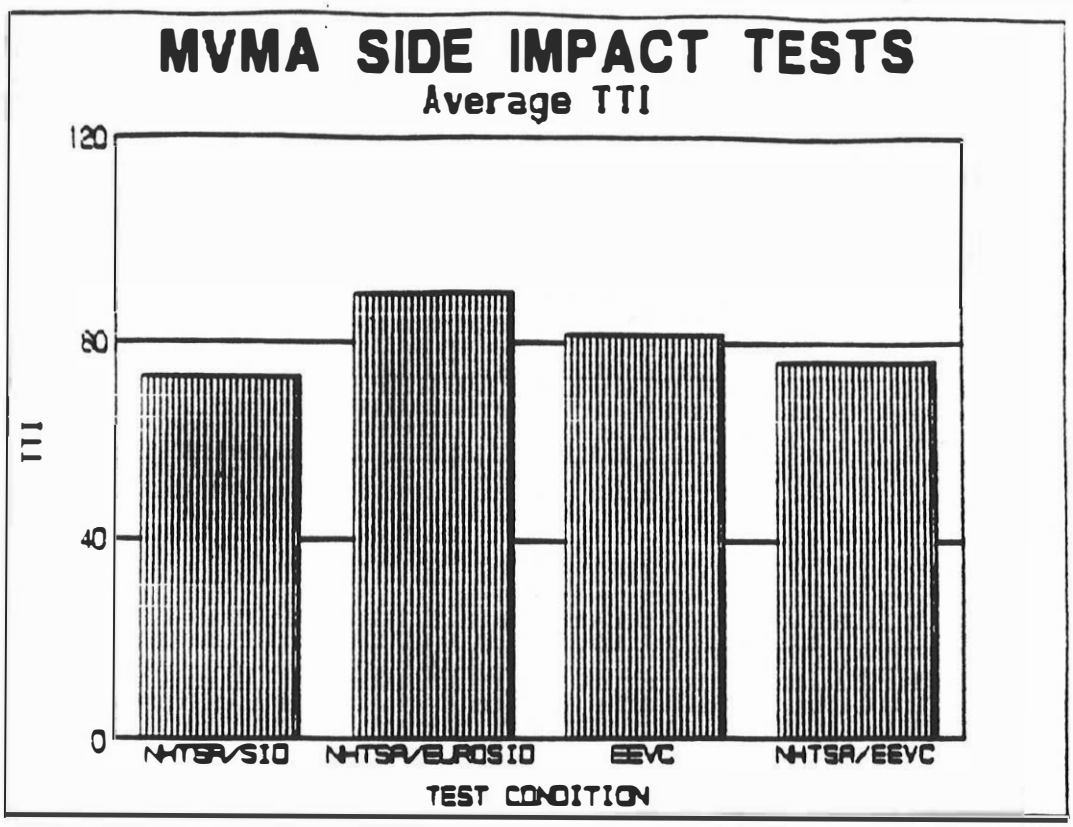


Figure 7

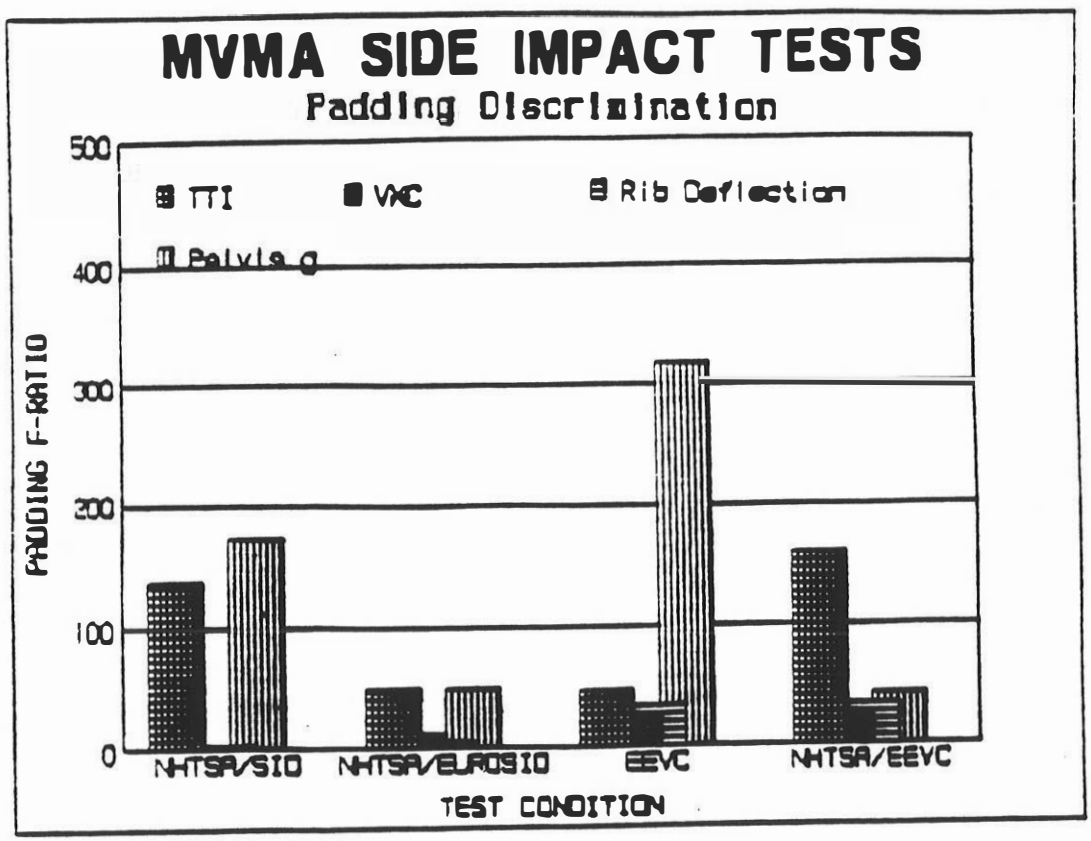


Figure 8

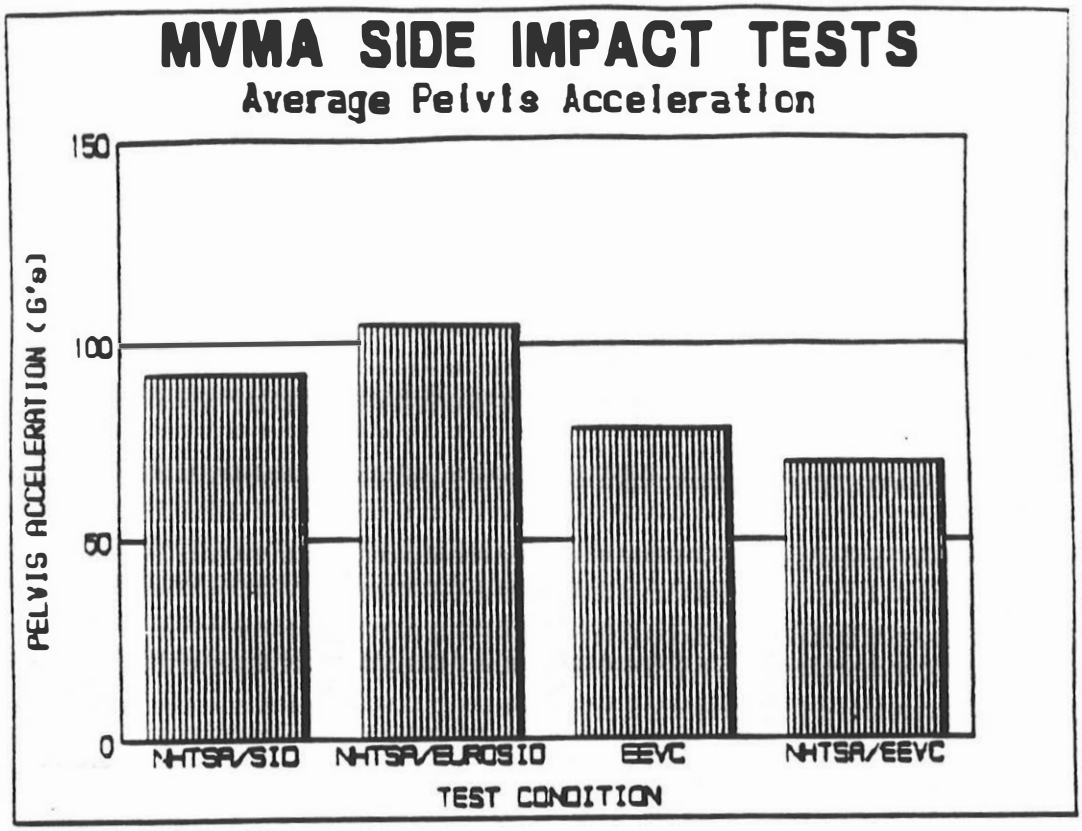


Figure 9

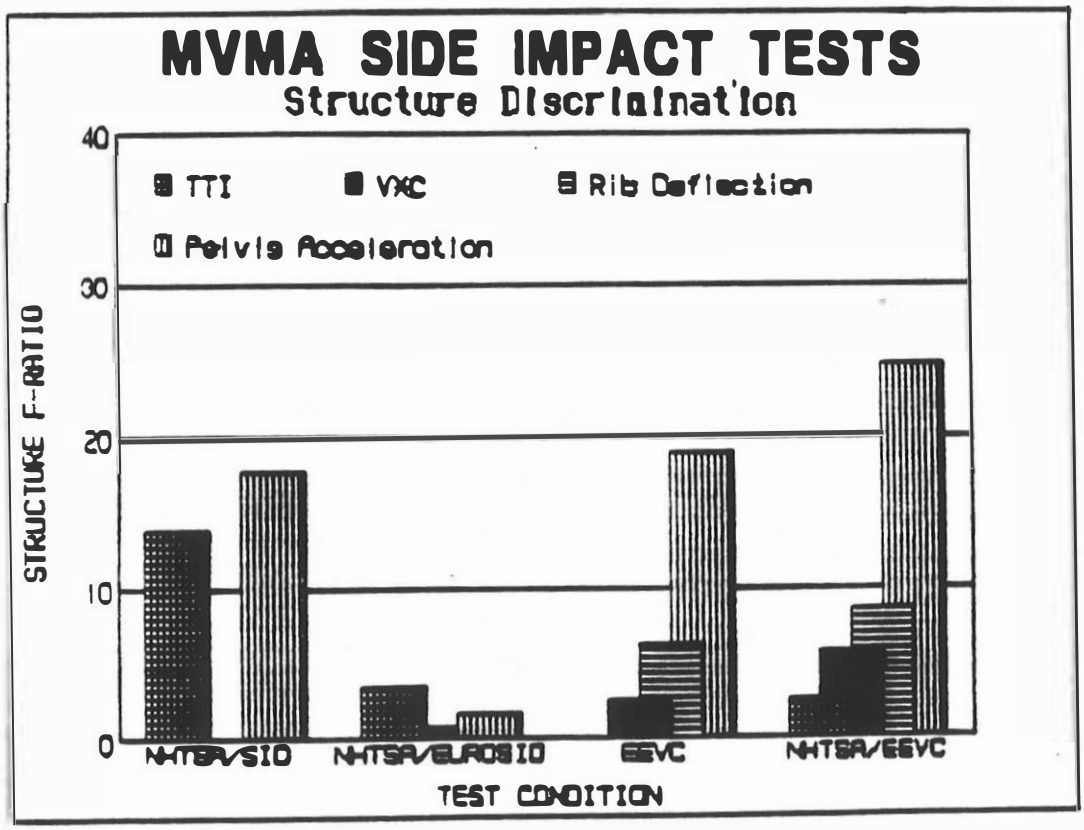


Figure 10

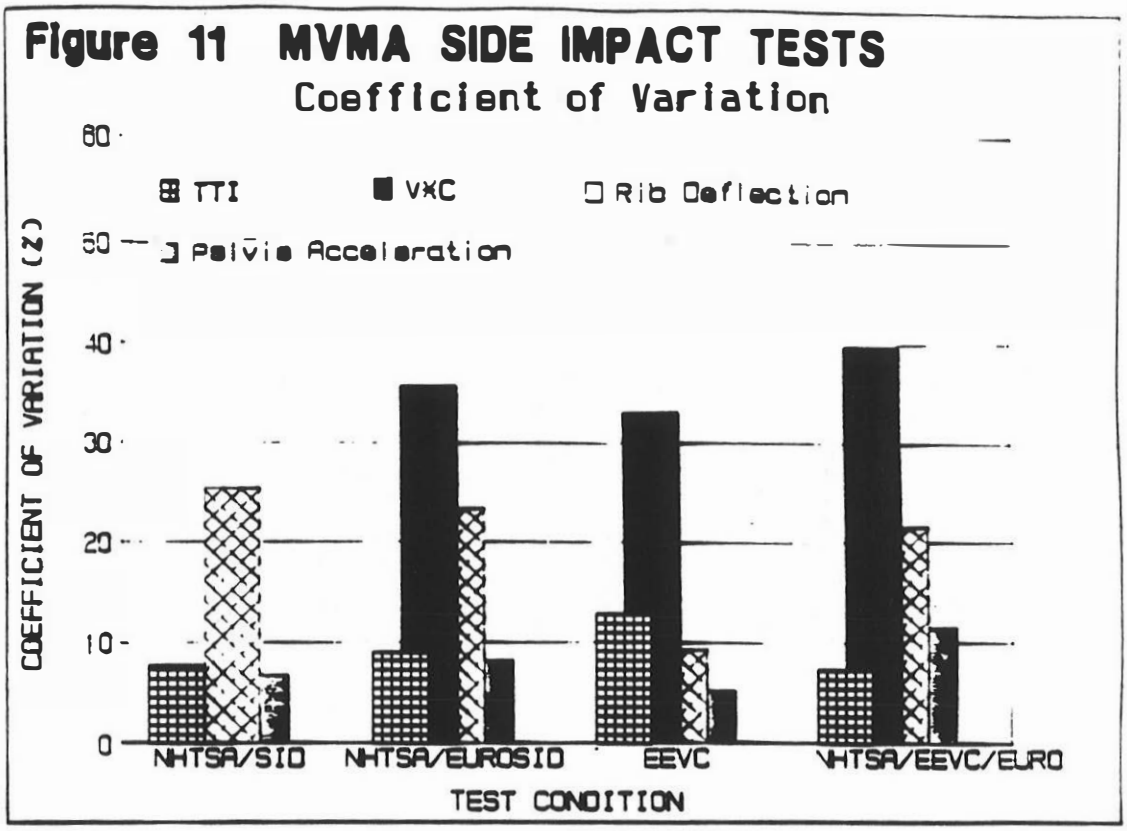


Figure 11 MVMA SIDE IMPACT TESTS
Coefficient of Variation
TTI
VxC
Rib Deflection
Pelvis Acceleration
COEFFICIENT OF VARIATION (%)
60
50
40
30
20
10
0
NHTSA/SID
NHTSA/EUROSID
EEVC
NHTSA/EEVC/EURO
TEST CONDITION

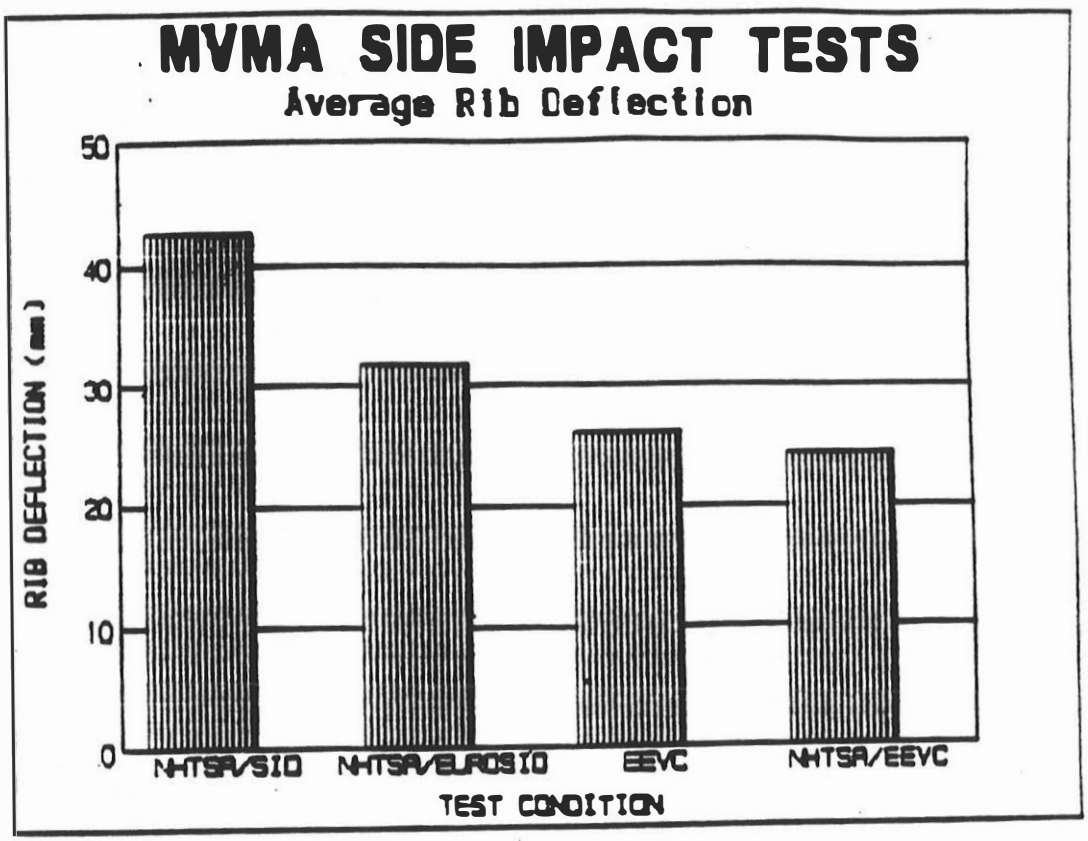

MVMA SIDE IMPACT TESTS
Average Rib Deflection
RIB DEFLECTION (mm)
50
40
30
20
10
0
NHTSA/SID
NHTSA/EUROSID
EEVC
NHTSA/EEVC
TEST CONDITION

Figure 12

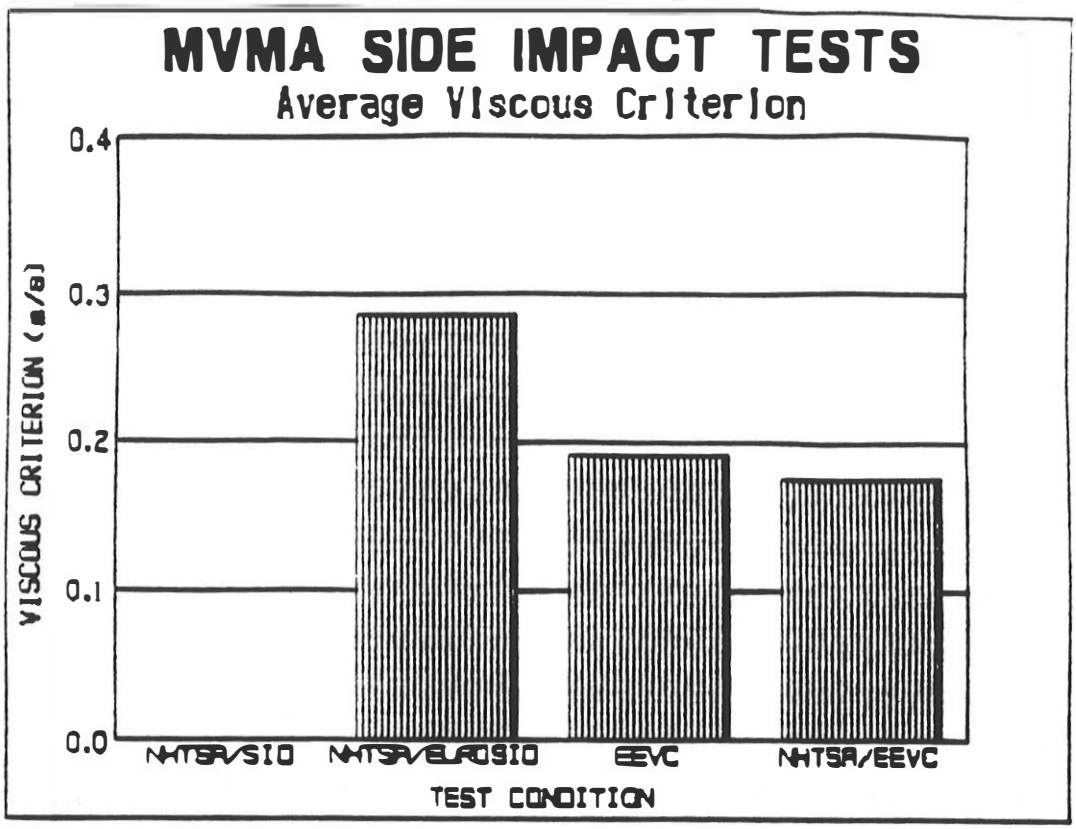


Figure 13

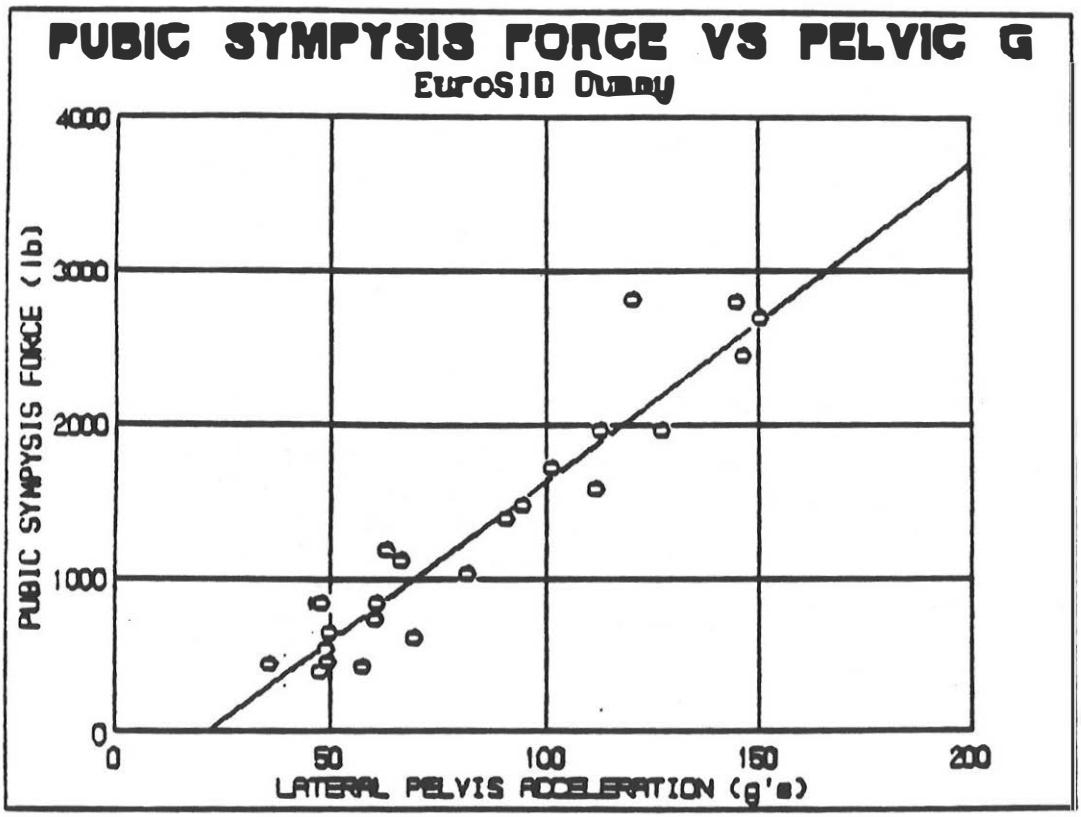


Figure 14

MVMA SIDE IMPACT TEST DATA SUMMARY

The attached are summary sheets for 41 side impact tests conducted by the MVMA in a factorial experiment design to investigate the repeatability and reproducability of:

Proposed NHTSA Side Impact Test Procedure
Proposed EEVC[1] Side Impact Test Procedure
Proposed NHTSA Side Impact Dummy (SID)
Proposed EEVC Side Impact Dummy (EUROSID)
EEVC Barrier Face
NHTSA Barrier Face

The data summary sheets are self explanatory except for a few specific items.

Test Number refers to the MVMA six digit test number which can be decoded as follows: 880321, the first two digits are the calendar year, second two digits are the month and the final two digits comprise the day of the month. The NHTSA file number is also given for those who would wish to request the data from NHTSA as the test reports are filed in the NHTSA docket.

Vehicles were either modified or left in baseline condition. The modification was structural changes that essentialy doubled the static crush force on the side of the vehicle. Baseline denotes that no modification to the structural elements of the side were made.

Vehicles either had padding or no padding. The padding was 5 inches thick at the thorax and 6 inches at the pelvis. The test program was not to evaluate padding but rather a padding thickness was chosen to significantly alter test results from a non padded vehicle.

All vehicles had the arm rest removed to reduce variability from the dummy interacting with the arm rest.

All vehicles had a 1/8 inch thick hardboard substituted for the interior door trim panel.

All vehicles tested were 1985 Model Year Ford LTD's.

The first 16 tests were for a matrix of padded, non padded, baseline and structurally modified with the dummy placed next to the door and then replicated with the dummy placed 6 inches from the door. The purpose was to obtain an estimation of the effect of spacing from the door. A statistical analysis of the first test series showed that dummy spacing was not significant and this condition was eliminated from the other test series.

Copies of each full test reports for each of the test series, with full details, are available in the NHTSA docket or from MVMA.

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[1] EEVC is the European Experimental Vehicle Committee comprised of European government representatives.

NOTES : TEST #s in the 800s used SID
TESTs remaining used EUROSID
P = Primary Sensor
R = Redundant Sensor
V*C = Viscous Criteria; refer to the 30th Stapp Car Crash Conference report (Society of Automotive Engineers P189) for details.

S I D E I M P A C T R E S U L T S

****

* TEST NUMBER : 880308 MVMA 1165 NHTSA *

* MODIFIED VEHICLE NO PADDING-1985 FORD LTD *

* NHTSA TEST PROCEDURE *

* EUROSID DUMMY *

****

MAXIMUM ACCELERATION (G s)

UPPER RIB(P)	147.24
UPPER RIB(R)	141.26
MIDDLE RIB(P)	161.48
MIDDLE RIB(R)	163.99
LOWER RIB(P)	162.13
LOWER RIB(R)	161.56
UPPER SPINE(P)	83.83
UPPER SPINE(R)	82.75
LOWER SPINE(P)	96.86
LOWER SPINE(R)	99.25
HEAD Y-DIRECTION	66.82
HEAD RESULTANT	70.30
PELVIS Y-DIRECTION	125.65

MAXIMUM DEFLECTIONS (INCHES)

UPPER RIB	1.63
MIDDLE RIB	1.75
LOWER RIB	1.68

MAXIMUM V*C CALCULATION

UPPER RIB	0.51
MIDDLE RIB	0.60
LOWER RIB	0.53

MISC. DATA

THORACIC TRAUMA INDEX (P)		130.5
THORACIC TRAUMA INDEX (R),		131.6
HEAD INJURY CRITERION		268.1
	T1	49.250
	T2	62.125

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**********************************************************
*    TEST NUMBER : 880408 MVMA      1168 NHTSA           *
*  MODIFIED VEHICLE WITH PADDING-1985  FORD  LTD         *
*  NHTSA TEST PROCEDURE  WITH EEVC BARRIER FACE          *
*   EUROSID DUMMY                                        *
**********************************************************
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MAXIMUM ACCELERATION (G s)

UPPER RIB(P)	37.42
UPPER RIB(R)	37.05
MIDDLE RIB(P)	34.84
MIDDLE RIB(R)	33.36
LOWER RIB(P)	52.88
LOWER RIB(R)	50.87
UPPER SPINE(P)	41.64
UPPER SPINE(R)	42.24
LOWER SPINE(P)	38.86
LOWER SPINE(R)	38.79
HEAD Y-DIRECTION	14.75
HEAD RESULTANT	31.61
PELVIS Y-DIRECTION	34.69

MAXIMUM DEFLECTIONS (INCHES)

UPPER RIB	0.06
MIDDLE RIB	0.91
LOWER RIB	1.30

MAXIMUM V*C CALCULATION

UPPER RIB	0.01
MIDDLE RIB	0.13
LOWER RIB	0.22

MISC. DATA

THORACIC TRAUMA INDEX	(P)	45.9
THORACIC TRAUMA INDEX	(R),	44.8
HEAD INJURY CRITERION		65.3
	T1	62.500
	T2	98.500

****
* TEST NUMBER : 880321 MVMA 1161 NHTSA *
* BASELINE VEHICLE NO PADDING-1985 FORD LTD *
* NHTSA TEST PROCEDURE WITH EEVC BARRIER FACE *
* EUROSID DUMMY *
****

MAXIMUM ACCELERATION (G s)

UPPER RIB(P)	125.10
UPPER RIB(R)	122.21
MIDDLE RIB(P)	89.79
MIDDLE RIB(R)	89.47
LOWER RIB(P)	90.23
LOWER RIB(R)	88.32
UPPER SPINE(P)	65.20
UPPER SPINE(R)	65.11
LOWER SPINE(P)	89.91
LOWER SPINE(R)	90.81
HEAD Y-DIRECTION	37.06
HEAD RESULTANT	49.93
PELVIS Y-DIRECTION	102.39

MAXIMUM DEFLECTIONS (INCHES)

UPPER RIB	1.48
MIDDLE RIB	1.25
LOWER RIB	1.22

MAXIMUM V*C CALCULATION

UPPER RIB	0.45
MIDDLE RIB	0.36
LOWER RIB	0.38

MISC. DATA

THORACIC TRAUMA INDEX (P)		107.5
THORACIC TRAUMA INDEX (R),		106.6
HEAD INJURY CRITERION		107.6
	T1	51.500
	T2	68.250

****

* TEST NUMBER : 880412 MVMA 1169 NHTSA *
* BASELINE VEHICLE NO PADDING 1985 FORD LTD *
* NHTSA TEST PROCEDURE WITH EEVC BARRIER FACE *
* EUROSID DUMMY *

****

MAXIMUM ACCELERATION (G s)

UPPER RIB(P)	100.01
UPPER RIB(R)	98.94
MIDDLE RIB(P)	105.25
MIDDLE RIB(R)	104.75
LOWER RIB(P)	93.64
LOWER RIB(R)	87.12
UPPER SPINE(P)	77.50
UPPER SPINE(R)	77.64
LOWER SPINE(P)	105.40
LOWER SPINE(R)	105.79
HEAD Y-DIRECTION	82.68
HEAD RESULTANT	117.96
PELVIS Y-DIRECTION	111.30

MAXIMUM DEFLECTIONS (INCHES)

UPPER RIB	1.31
MIDDLE RIB	1.13
LOWER RIB	1.14

MAXIMUM V*C CALCULATION

UPPER RIB	0.27
MIDDLE RIB	0.26
LOWER RIB	0.23

MISC. DATA

THORACIC TRAUMA INDEX (P)		105.3
THORACIC TRAUMA INDEX (R),		105.3
HEAD INJURY CRITERION		190.9
	T1	178.126
	T2	180.500

****
* TEST NUMBER : 880404 MVMA 1183 NHTSA *
* BASELINE/PADDED VEHICLE-1985 FORD LTD *
* NHTSA TEST PROCEDURE WITH REVC BARRIER *
* EUROSID DUMMY *
****

MAXIMUM ACCELERATION (G s)

UPPER RIB(P)	50.58
UPPER RIB(R)	49.68
MIDDLE RIB(P)	40.48
MIDDLE RIB(R)	43.53
LOWER RIB(P)	64.92
LOWER RIB(R)	61.52
UPPER SPINE(P)	49.15
UPPER SPINE(R)	49.63
LOWER SPINE(P)	50.84
LOWER SPINE(R)	51.44
HEAD Y-DIRECTION	69.30
HEAD RESULTANT	76.26
PELVIS Y-DIRECTION	58.79

MAXIMUM DEFLECTIONS (INCHES)

UPPER RIB	1.20
MIDDLE RIB	1.16
LOWER RIB	1.38

MAXIMUM V*C CALCULATION

UPPER RIB	0.15
MIDDLE RIB	0.19
LOWER RIB	0.29

MISC. DATA

THORACIC TRAUMA INDEX (P)		57.9
THORACIC TRAUMA INDEX (R),		56.5
HEAD INJURY CRITERION		280.3
	T1	53.875
	T2	74.250

****

* TEST NUMBER : 880422 MVMA 1171 NHTSA *
* BASELINE/PADDED VEHICLE-1985 FORD LTD *
* NHTSA TEST PROCEDURE WITH EEVC BARRIER FACE *
* EUROSID DUMMY *

****

MAXIMUM ACCELERATION (G s)

UPPER RIB(P)	48.32
UPPER RIB(R)	47.48
MIDDLE RIB(P)	38.06
MIDDLE RIB(R)	38.11
LOWER RIB(P)	52.86
LOWER RIB(R)	51.62
UPPER SPINE(P)	43.15
UPPER SPINE(R)	43.70
LOWER SPINE(P)	45.43
LOWER SPINE(R)	45.68
HEAD Y-DIRECTION	96.68
HEAD RESULTANT	106.21
PELVIS Y-DIRECTION	45.30

MAXIMUM DEFLECTIONS (INCHES)

UPPER RIB	0.73
MIDDLE RIB	0.94
LOWER RIB	1.28

MAXIMUM V*C CALCULATION

UPPER RIB	0.07
MIDDLE RIB	0.10
LOWER RIB	0.23

MISC. DATA

THORACIC TRAUMA INDEX (P)		49.1
THORACIC TRAUMA INDEX (R),		48.6
HEAD INJURY CRITERION		295.9
	T1	56.625
	T2	72.500

****
* TEST NUMBER : 880328 MVMA 1162 NHTSA *
* MODIFIED VEHICLE NO PADDING-1985 FORD LTD *
* NHTSA TEST PROCEDURE WITH REVC BARRIER FACE *
* EUROSID DUMMY *
****

MAXIMUM ACCELERATION (G s)	
UPPER RIB(P)	56.45
UPPER RIB(R)	56.47
MIDDLE RIB(P)	66.02
MIDDLE RIB(R)	66.02
LOWER RIB(P)	124.66
LOWER RIB(R)	123.60
UPPER SPINE(P)	44.32
UPPER SPINE(R)	44.84
LOWER SPINE(P)	56.56
LOWER SPINE(R)	59.40
HEAD Y-DIRECTION	24.64
HEAD RESULTANT	33.30
PELVIS Y-DIRECTION	60.60

MAXIMUM DEFLECTIONS (INCHES)	
UPPER RIB	1.54
MIDDLE RIB	1.47
LOWER RIB	1.59

MAXIMUM V*C CALCULATION	
UPPER RIB	0.24
MIDDLE RIB	0.35
LOWER RIB	0.37

MISC. DATA	
THORACIC TRAUMA INDEX (P)	91.6
THORACIC TRAUMA INDEX (R),	91.5
HEAD INJURY CRITERION	61.3
T1	55.125
T2	76.375

****
* TEST NUMBER : 880415 MVMA 1170 NHTSA *
* MODIFIED VEHICLE NO PADDING-1985 FORD LTD *
* NHTSA TEST PROCEDURE WITH EEVC BARRIER FACE *
* EUROSID DUMMY *
****

MAXIMUM ACCELERATION (G s)

UPPER RIB(P)	61.38
UPPER RIB(R)	58.76
MIDDLE RIB(P)	107.81
MIDDLE RIB(R)	106.97
LOWER RIB(P)	139.09
LOWER RIB(R)	137.91
UPPER SPINE(P)	47.27
UPPER SPINE(R)	47.08
LOWER SPINE(P)	60.52
LOWER SPINE(R)	61.08
HEAD Y-DIRECTION	88.12
HEAD RESULTANT	93.57
PELVIS Y-DIRECTION	65.65

MAXIMUM DEFLECTIONS (INCHES)

UPPER RIB	1.24
MIDDLE RIB	1.34
LOWER RIB	1.37

MAXIMUM V*C CALCULATION

UPPER RIB	0.23
MIDDLE RIB	0.28
LOWER RIB	0.34

MISC. DATA

THORACIC TRAUMA INDEX (P)	99.8
THORACIC TRAUMA INDEX (R),	99.5
HEAD INJURY CRITERION	264.4
T1	62.125
T2	71.500

****
* TEST NUMBER : 880425 MVMA 1172 NHTSA *
* MODIFIED/PADDED VEHICLE-1985 FORD LTD *
* NHTSA TEST PROCEDURE WITH EEVC BARRIER FACE *
* EUROSID DUMMY *
****

MAXIMUM ACCELERATION (G s)

UPPER RIB(P)	40.76
UPPER RIB(R)	38.34
MIDDLE RIB(P)	50.31
MIDDLE RIB(R)	46.41
LOWER RIB(P)	67.11
LOWER RIB(R)	64.87
UPPER SPINE(P)	42.93
UPPER SPINE(R)	43.64
LOWER SPINE(P)	46.00
LOWER SPINE(R)	46.50
HEAD Y-DIRECTION	13.55
HEAD RESULTANT	33.63
PELVIS Y-DIRECTION	45.96

MAXIMUM DEFLECTIONS (INCHES)

UPPER RIB	0.14
MIDDLE RIB	0.74
LOWER RIB	1.19

MAXIMUM V*C CALCULATION

UPPER RIB	NOT APPLICABLE
MIDDLE RIB	0.10
LOWER RIB	0.25

MISC. DATA

THORACIC TRAUMA INDEX (P)	56.6
THORACIC TRAUMA INDEX (R),	55.7
HEAD INJURY CRITERION	72.8
T1	59.500
T2	84.500

```
**************************************************
*    TEST NUMBER : 870917 MVMA    1094 NHTSA     *
*  BASELINE NO PADDING VEHICLE-1988 FORD LTD     *
*  NHTSA TEST PROCEDURE                          *
*  EUROSID DUMMY                                 *
**************************************************
```

MAXIMUM ACCELERATION (G s)

UPPER RIB(P)	103.19
UPPER RIB(R)	101.23
MIDDLE RIB(P)	82.59
MIDDLE RIB(R)	NOT MEASURED
LOWER RIB(P)	97.70
LOWER RIB(R)	NOT MEASURED
UPPER SPINE(P)	71.54
UPPER SPINE(R)	71.90
LOWER SPINE(P)	99.14
LOWER SPINE(R)	NOT MEASURED
HEAD Y-DIRECTION	73.17
HEAD RESULTANT	129.54
PELVIS Y-DIRECTION	120.59

MAXIMUM DEFLECTIONS (INCHES)

UPPER RIB	1.68
MIDDLE RIB	1.79
LOWER RIB	1.51

MAXIMUM V*C CALCULATION

UPPER RIB	0.47
MIDDLE RIB	0.56
LOWER RIB	0.45

MISC. DATA

THORACIC TRAUMA INDEX (P)	101.2
THORACIC TRAUMA INDEX (R)	NOT APP.
HEAD INJURY CRITERION	333.4
T1	138.000
T2	138.875

```
**************************************************
*    TEST NUMBER : 871006 MVMA      1098 NHTSA   *
*   BASELINE VEHICLE NO PADDING-1986  FORD  LTD  *
*   NHTSA TEST PROCEDURE                         *
*   EUROSID DUMMY                                *
**************************************************
```

MAXIMUM ACCELERATION (G s)

UPPER RIB(P)	99.24
UPPER RIB(R)	93.83
MIDDLE RIB(P)	91.40
MIDDLE RIB(R)	NOT MEASURED
LOWER RIB(P)	100.60
LOWER RIB(R)	NOT MEASURED
UPPER SPINE(P)	72.69
UPPER SPINE(R)	72.74
LOWER SPINE(P)	113.22
LOWER SPINE(R)	NOT MEASURED
HEAD Y-DIRECTION	83.30
HEAD RESULTANT	85.70
PELVIS Y-DIRECTION	140.35

MAXIMUM DEFLECTIONS (INCHES)

UPPER RIB	1.09
MIDDLE RIB	1.23
LOWER RIB	1.18

MAXIMUM V*C CALCULATION

UPPER RIB	0.23
MIDDLE RIB	0.31
LOWER RIB	0.27

MISC. DATA

THORACIC TRAUMA INDEX (P)	106.9
THORACIC TRAUMA INDEX (R)	NOT APP.
HEAD INJURY CRITERION	349.7
T1	48.500
T2	82.500

```
**************************************************
*    TEST NUMBER : 870921 MVMA  1095 NHTSA       *
*    BASELINE VEHICLE/PADDING-1985  FORD  LTD    *
*    NHTSA TEST PROCEDURE                        *
*    EUROSID DUMMY                               *
**************************************************
```

MAXIMUM ACCELERATION (G s)

UPPER RIB(P)	65.56
UPPER RIB(R)	63.29
MIDDLE RIB(P)	69.85
MIDDLE RIB(R)	NOT MEASURED
LOWER RIB(P)	84.50
LOWER RIB(R)	NOT MEASURED
UPPER SPINE(P)	59.10
UPPER SPINE(R)	53.50
LOWER SPINE(P)	57.09
LOWER SPINE(R)	NOT MEASURED
HEAD Y-DIRECTION	139.90
HEAD RESULTANT	184.28
PELVIS Y-DIRECTION	65.96

MAXIMUM DEFLECTIONS (INCHES)

UPPER RIB	1.15
MIDDLE RIB	1.43
LOWER RIB	1.65

MAXIMUM V*C CALCULATION

UPPER RIB	0.23
MIDDLE RIB	0.29
LOWER RIB	0.36

MISC. DATA

THORACIC TRAUMA INDEX (P)		70.6
THORACIC TRAUMA INDEX (R)		NOT APP.
HEAD INJURY CRITERION		592.6
	T1	145.625
	T2	147.750

```
**********************************************************
*    TEST NUMBER : 870928 MVMA   1096 NHTSA              *
*    BASELINE VEHICLE WITH PADDING-1985  FORD  LTD       *
*    NHTSA TEST PROCEDURE                                *
*    EUROSID DUMMY                                       *
**********************************************************
```

MAXIMUM ACCELERATION (G s)

UPPER RIB(P)	78.82
UPPER RIB(R)	75.35
MIDDLE RIB(P)	70.37
MIDDLE RIB(R)	NOT MEASURED
LOWER RIB(P)	71.20
LOWER RIB(R)	NOT MEASURED
UPPER SPINE(P)	60.13
UPPER SPINE(R)	61.41
LOWER SPINE(P)	70.99
LOWER SPINE(R)	NOT MEASURED
HEAD Y-DIRECTION	51.59
HEAD RESULTANT	64.62
PELVIS Y-DIRECTION	72.62

MAXIMUM DEFLECTIONS (INCHES)

UPPER RIB	0.94
MIDDLE RIB	1.09
LOWER RIB	1.28

MAXIMUM V*C CALCULATION

UPPER RIB	0.18
MIDDLE RIB	0.20
LOWER RIB	0.32

MISC. DATA

THORACIC TRAUMA INDEX (P)	74.9
THORACIC TRAUMA INDEX (R)	NOT APP.
HEAD INJURY CRITERION	162.5
T1	53.500
T2	89.500

****
* TEST NUMBER : 870624 MVMA 1093 NHTSA *
* MODIFIED VEHICLE WITHOUT PADDING-1985 FORD LTD *
* NHTSA TEST PROCEDURE *
* EUROSID DUMMY *
****

MAXIMUM ACCELERATION (G s)

UPPER RIB(P)	155.65
UPPER RIB(R)	152.57
MIDDLE RIB(P)	154.42
MIDDLE RIB(R)	NOT MEASURED
LOWER RIB(P)	135.69
LOWER RIB(R)	NOT MEASURED
UPPER SPINE(P)	66.92
UPPER SPINE(R)	66.95
LOWER SPINE(P)	103.42
LOWER SPINE(R)	NOT MEASURED
HEAD Y-DIRECTION	56.51
HEAD RESULTANT	NOT AVAILABLE
PELVIS Y-DIRECTION	127.99

MAXIMUM DEFLECTIONS (INCHES)

UPPER RIB	1.56
MIDDLE RIB	1.65
LOWER RIB	1.61

MAXIMUM V*C CALCULATION

UPPER RIB	0.56
MIDDLE RIB	0.56
LOWER RIB	0.59

MISC. DATA

THORACIC TRAUMA INDEX (P)	129.5
THORACIC TRAUMA INDEX (R)	NOT APPLICABLE
HEAD INJURY CRITERION	NOT APPLICABLE
T1	NOT APPLICABLE
T2	NOT APPLICABLE

```
**********************************************************
*    TEST NUMBER : 870924 MVMA   1076 NHTSA              *
*    MODIFIED VEHICLE/NO PADDING-1985  FORD  LTD         *
*    NHTSA TEST PROCEDURE                                *
*    EUROSID DUMMY                                       *
**********************************************************
```

MAXIMUM ACCELERATION (G s)

UPPER RIB(P)	93.72
UPPER RIB(R)	88.52
MIDDLE RIB(P)	114.48
MIDDLE RIB(R)	NOT MEASURED
LOWER RIB(P)	113.77
LOWER RIB(R)	NOT MEASURED
UPPER SPINE(P)	62.25
UPPER SPINE(R)	81.38
LOWER SPINE(P)	100.56
LOWER SPINE(R)	NOT MEASURED
HEAD Y-DIRECTION	94.38
HEAD RESULTANT	101.34
PELVIS Y-DIRECTION	141.29

MAXIMUM DEFLECTIONS (INCHES)

UPPER RIB	1.64
MIDDLE RIB	1.67
LOWER RIB	1.46

MAXIMUM V*C CALCULATION

UPPER RIB	0.43
MIDDLE RIB	0.40
LOWER RIB	0.43

MISC. DATA

THORACIC TRAUMA INDEX (P)	107.5
THORACIC TRAUMA INDEX (R)	NOT APPLICABLE
HEAD INJURY CRITERION	294.0
T1	46.625
T2	57.375

```
**********************************************************
*    TEST NUMBER : 870627 MVMA    1075 NHTSA             *
*    MODIFIED VEHICLE WITH PADDING-1985  FORD  LTD       *
*    NHTSA TEST PROCEDURE                                *
*    EUROSID DUMMY                                       *
**********************************************************
```

MAXIMUM ACCELERATION (G s)

UPPER RIB(P)	54.42
UPPER RIB(R)	53.89
MIDDLE RIB(P)	48.73
MIDDLE RIB(R)	NOT MEASURED
LOWER RIB(P)	79.85
LOWER RIB(R)	NOT MEASURED
UPPER SPINE(P)	42.33
UPPER SPINE(R)	41.64
LOWER SPINE(P)	51.52
LOWER SPINE(R)	NOT MEASURED
HEAD Y-DIRECTION	12.62
HEAD RESULTANT	33.96
PELVIS Y-DIRECTION	45.49

MAXIMUM DEFLECTIONS (INCHES)

UPPER RIB	0.66
MIDDLE RIB	1.11
LOWER RIB	1.31

MAXIMUM V*C CALCULATION

UPPER RIB	0.07
MIDDLE RIB	0.18
LOWER RIB	0.28

MISC. DATA

THORACIC TRAUMA INDEX (P)	65.7
THORACIC TRAUMA INDEX (R)	NOT APPLICABLE
HEAD INJURY CRITERION	68.8
T1	52.000
T2	79.375

****

* TEST NUMBER : 871001 1097 NHTSA *
* MODIFIED VEHICLE WITH PADDING-1985 FORD LTD *
* NHTSA TEST PROCEDURE *
* EUROSID DUMMY *

****

MAXIMUM ACCELERATION (G s)

UPPER RIB(P)	61.06
UPPER RIB(R)	60.62
MIDDLE RIB(P)	77.59
MIDDLE RIB(R)	NOT MEASURED
LOWER RIB(P)	79.34
LOWER RIB(R)	NOT MEASURED
UPPER SPINE(P)	107.36
UPPER SPINE(R)	42.36
LOWER SPINE(P)	49.39
LOWER SPINE(R)	NOT MEASURED
HEAD Y-DIRECTION	17.12
HEAD RESULTANT	36.86
PELVIS Y-DIRECTION	58.06

MAXIMUM DEFLECTIONS (INCHES)

UPPER RIB	1.20
MIDDLE RIB	1.19
LOWER RIB	1.26

MAXIMUM V*C CALCULATION

UPPER RIB	0.18
MIDDLE RIB	0.22
LOWER RIB	0.57

MISC. DATA

THORACIC TRAUMA INDEX (P)	64.4
THORACIC TRAUMA INDEX (R)	NOT APPLICABLE
HEAD INJURY CRITERION	85.1
T1	50.125
T2	76.250

****
* TEST NUMBER : 871014 MVMA 1135 NHTSA *
* BASELINE VEHICLE NO PADDING -1985 FORD LTD *
* EEVC TEST PROCEDURE *
* EUROSID DUMMY *
****

MAXIMUM ACCELERATION (G s)

UPPER RIB(P)	124.08
UPPER RIB(R)	121.67
MIDDLE RIB(P)	116.04
MIDDLE RIB(R)	NOT MEASURED
LOWER RIB(P)	87.24
LOWER RIB(R)	NOT MEASURED
UPPER SPINE(P)	51.34
UPPER SPINE(R)	51.90
LOWER SPINE(P)	83.32
LOWER SPINE(R)	NOT MEASURED
HEAD Y-DIRECTION	142.49
HEAD RESULTANT	149.55
PELVIS Y-DIRECTION	104.58

MAXIMUM DEFLECTIONS (INCHES)

UPPER RIB	1.21
MIDDLE RIB	0.94
LOWER RIB	0.93

MAXIMUM V*C CALCULATION

UPPER RIB	0.26
MIDDLE RIB	0.16
LOWER RIB	0.17

MISC. DATA

THORACIC TRAUMA INDEX (P)	103.7
THORACIC TRAUMA INDEX (R)	NOT APPLICABLE
HEAD INJURY CRITERION	506.8
T1	53.875
T2	57.625

```
**********************************************************
*    TEST NUMBER : 871112 MVMA   1138 NHTSA              *
*    BASELINE VEHICLE NO PADDING-1985  FORD  LTD         *
*    EEVC TEST PROCEDURE                                 *
*    EUROSID DUMMY                                       *
**********************************************************
```

MAXIMUM ACCELERATION (G s)

UPPER RIB(P)	144.55
UPPER RIB(R)	142.51
MIDDLE RIB(P)	106.21
MIDDLE RIB(R)	NOT MEASURED
LOWER RIB(P)	78.63
LOWER RIB(R)	NOT MEASURED
UPPER SPINE(P)	59.28
UPPER SPINE(R)	58.55
LOWER SPINE(P)	94.62
LOWER SPINE(R)	NOT MEASURED
HEAD Y-DIRECTION	91.06
HEAD RESULTANT	92.73
PELVIS Y-DIRECTION	106.32

MAXIMUM DEFLECTIONS (INCHES)

UPPER RIB	1.13
MIDDLE RIB	0.69
LOWER RIB	0.81

MAXIMUM V*C CALCULATION

UPPER RIB	0.25
MIDDLE RIB	0.15
LOWER RIB	0.17

MISC. DATA

THORACIC TRAUMA INDEX (P)	119.8
THORACIC TRAUMA INDEX (R)	NOT APPLICABLE
HEAD INJURY CRITERION	300.4
T1	55.125
T2	84.375

```
**********************************************************
*    TEST NUMBER : 871102 MVMA   1136 NHTSA              *
*    BASELINE VEHICLE WITH PADDING-1985  FORD  LTD       *
*    EEVC TEST PROCEDURE                                 *
*    EUROSID DUMMY                                       *
**********************************************************
```

MAXIMUM ACCELERATION (G s)

UPPER RIB(P)	49.78
UPPER RIB(R)	46.42
MIDDLE RIB(P)	39.83
MIDDLE RIB(R)	NOT MEASURED
LOWER RIB(P)	59.83
LOWER RIB(R)	NOT MEASURED
UPPER SPINE(P)	34.01
UPPER SPINE(R)	34.50
LOWER SPINE(P)	41.47
LOWER SPINE(R)	NOT MEASURED
HEAD Y-DIRECTION	68.53
HEAD RESULTANT	76.02
PELVIS Y-DIRECTION	48.51

MAXIMUM DEFLECTIONS (INCHES)

UPPER RIB	0.71
MIDDLE RIB	0.99
LOWER RIB	1.13

MAXIMUM V*C CALCULATION

UPPER RIB	0.06
MIDDLE RIB	0.13
LOWER RIB	0.23

MISC. DATA

THORACIC TRAUMA INDEX (P)	50.7
THORACIC TRAUMA INDEX (R)	NOT APPLICABLE
HEAD INJURY CRITERION	117.8
T1	54.750
T2	76.500

****

* TEST NUMBER : 871109 MVMA 1137 NHTSA *
* BASELINE VEHICLE WITH PADDING-1985 FORD LTD *
* EEVC TEST PROCEDURE *
* EUROSID DUMMY *

****

MAXIMUM ACCELERATION (G s)

UPPER RIB(P)	64.10
UPPER RIB(R)	60.61
MIDDLE RIB(P)	34.37
MIDDLE RIB(R)	NOT MEASURED
LOWER RIB(P)	64.63
LOWER RIB(R)	NOT MEASURED
UPPER SPINE(P)	43.74
UPPER SPINE(R)	44.44
LOWER SPINE(P)	44.78
LOWER SPINE(R)	NOT MEASURED
HEAD Y-DIRECTION	51.70
HEAD RESULTANT	63.63
PELVIS Y-DIRECTION	60.22

MAXIMUM DEFLECTIONS (INCHES)

UPPER RIB	0.70
MIDDLE RIB	1.02
LOWER RIB	1.22

MAXIMUM V*C CALCULATION

UPPER RIB	0.06
MIDDLE RIB	0.13
LOWER RIB	0.27

MISC. DATA

THORACIC TRAUMA INDEX (P)	54.8
THORACIC TRAUMA INDEX (R)	NOT APPLICABLE
HEAD INJURY CRITERION	110.6
T1	55.750
T2	79.125

****

* TEST NUMBER : 871008 MMA 1134 NHTSA *
* MODIFIED VEHICLE NO PADDING-1985 FORD LTD *
* EEVC TEST PROCEDURE *
* EUROSID DUMMY *

****

MAXIMUM ACCELERATION (G s)

UPPER RIB(P)	112.83
UPPER RIB(R)	108.47
MIDDLE RIB(P)	104.90
MIDDLE RIB(R)	NOT MEASURED
LOWER RIB(P)	108.13
LOWER RIB(R)	NOT MEASURED
UPPER SPINE(P)	46.81
UPPER SPINE(R)	48.73
LOWER SPINE(P)	70.94
LOWER SPINE(R)	NOT MEASURED
HEAD Y-DIRECTION	77.92
HEAD RESULTANT	83.74
PELVIS Y-DIRECTION	93.90

MAXIMUM DEFLECTIONS (INCHES)

UPPER RIB	1.15
MIDDLE RIB	1.04
LOWER RIB	1.06

MAXIMUM V*C CALCULATION

UPPER RIB	0.27
MIDDLE RIB	0.21
LOWER RIB	0.22

MISC. DATA

THORACIC TRAUMA INDEX (P)	91.9
THORACIC TRAUMA INDEX (R)	NOT APPLICABLE
HEAD INJURY CRITERION	234.5
T1	59.250
T2	67.125

```
**********************************************************
*    TEST NUMBER : 871130 MVMA   1140 NHTSA              *
*    MODIFIED VEHICLE WITHOUT PADDING-1985 FORD  LTD     *
*    EEVC TEST PROCEDURE                                 *
*    EUROSID DUMMY                                       *
**********************************************************
```

MAXIMUM ACCELERATION (G s)

UPPER RIB(P)	127.42
UPPER RIB(R)	126.00
MIDDLE RIB(P)	138.57
MIDDLE RIB(R)	NOT MEASURED
LOWER RIB(P)	138.41
LOWER RIB(R)	NOT MEASURED
UPPER SPINE(P)	66.75
UPPER SPINE(R)	66.32
LOWER SPINE(P)	91.32
LOWER SPINE(R)	NOT MEASURED
HEAD Y-DIRECTION	68.35
HEAD RESULTANT	78.90
PELVIS Y-DIRECTION	91.55

MAXIMUM DEFLECTIONS (INCHES)

UPPER RIB	1.40
MIDDLE RIB	1.18
LOWER RIB	1.20

MAXIMUM V*C CALCULATION

UPPER RIB	0.45
MIDDLE RIB	0.36
LOWER RIB	0.34

MISC. DATA

THORACIC TRAUMA INDEX (P)		114.9
THORACIC TRAUMA INDEX (R)		NOT APPLICABLE
HEAD INJURY CRITERION		131.1
	T1	55.675
	T2	70.375

```
**********************************************************
*    TEST NUMBER : 871116 MVMA   1139 NHTSA              *
*    MODIFIED VEHICLE WITH PADDING-1985  FORD  LTD       *
*    EEVC TEST PROCEDURE                                 *
*    EUROSID DUMMY                                       *
**********************************************************
```

MAXIMUM ACCELERATION (G s)

UPPER RIB(P)	43.33
UPPER RIB(R)	44.37
MIDDLE RIB(P)	60.07
MIDDLE RIB(R)	NOT MEASURED
LOWER RIB(P)	92.48
LOWER RIB(R)	NOT MEASURED
UPPER SPINE(P)	34.22
UPPER SPINE(R)	33.99
LOWER SPINE(P)	37.97
LOWER SPINE(R)	NOT MEASURED
HEAD Y-DIRECTION	12.79
HEAD RESULTANT	28.17
PELVIS Y-DIRECTION	48.94

MAXIMUM DEFLECTIONS (INCHES)

UPPER RIB	0.96
MIDDLE RIB	1.04
LOWER RIB	1.19

MAXIMUM V*C CALCULATION

UPPER RIB	0.08
MIDDLE RIB	0.17
LOWER RIB	0.21

MISC. DATA

THORACIC TRAUMA INDEX (P)	65.20
THORACIC TRAUMA INDEX (R)	NOT APPLICABLE
HEAD INJURY CRITERION	48.80
T1	53.50
T2	61.75

```
**********************************************************
*    TEST NUMBER : 871203 MVMA   1141 NHTSA              *
*    MODIFIED VEHICLE WITH PADDING-1985  FORD  LTD       *
*    EEVC TEST PROCEDURE                                 *
*    EUROSID DUMMY                                       *
**********************************************************
```

MAXIMUM ACCELERATION (G s)

UPPER RIB(P)	40.51
UPPER RIB(R)	38.61
MIDDLE RIB(P)	65.48
MIDDLE RIB(R)	NOT MEASURED
LOWER RIB(P)	74.94
LOWER RIB(R)	NOT MEASURED
UPPER SPINE(P)	32.80
UPPER SPINE(R)	33.01
LOWER SPINE(P)	37.56
LOWER SPINE(R)	NOT MEASURED
HEAD Y-DIRECTION	11.42
HEAD RESULTANT	26.07
PELVIS Y-DIRECTION	48.80

MAXIMUM DEFLECTIONS (INCHES)

UPPER RIB	0.92
MIDDLE RIB	0.97
LOWER RIB	1.13

MAXIMUM V*C CALCULATION

UPPER RIB	0.11
MIDDLE RIB	0.18
LOWER RIB	0.22

MISC. DATA

THORACIC TRAUMA INDEX (P)	56.3
THORACIC TRAUMA INDEX (R)	NOT APPLICABLE
HEAD INJURY CRITERION	29.5
T1	56.875
T2	84.625

```
**********************************************************
*    TEST NUMBER :  850829 MVMA   849 NHTSA             *
*    BASELINE VEHICLE NO PADDING-1985  FORD  LTD        *
*    NHTSA TEST PROCEDURE                               *
*    SID DUMMY SEATED NEXT TO DOOR                      *
**********************************************************
```

MAXIMUM ACCELERATION (G s)

UPPER RIB(P)	90.00
UPPER RIB(R)	NOT MEASURED
MIDDLE RIB(P)	NOT MEASURED
MIDDLE RIB(R)	NOT MEASURED
LOWER RIB(P)	99.00
LOWER RIB(R)	NOT MEASURED
UPPER SPINE(P)	106.00
UPPER SPINE(R)	NOT MEASURED
LOWER SPINE(P)	106.00
LOWER SPINE(R)	NOT MEASURED
HEAD Y-DIRECTION	NOT MEASURED
HEAD RESULTANT	NOT MEASURED
PELVIS Y-DIRECTION	149.00

MAXIMUM DEFLECTIONS (INCHES)

UPPER RIB	NOT MEASURED
MIDDLE RIB	NOT MEASURED
LOWER RIB	NOT MEASURED

MAXIMUM V*C CALCULATION

UPPER RIB	NOT APPLICABLE
MIDDLE RIB	NOT APPLICABLE
LOWER RIB	NOT APPLICABLE

MISC. DATA

THORACIC TRAUMA INDEX (P)	102.0
THORACIC TRAUMA INDEX (R)	NOT APPLICABLE
HEAD INJURY CRITERION	NOT APPLICABLE
T1	NOT APPLICABLE
T2	NOT APPLICABLE

****
* TEST NUMBER : 850603 MVMA 850 NHTSA *
* BASELINE VEHICLE NO PADDING-1985 FORD LTD *
* NHTSA TEST PROCEDURE *
* SID DUMMY SEATED NEXT TO DOOR *
****

MAXIMUM ACCELERATION (G s)

UPPER RIB(P)	96.00
UPPER RIB(R)	NOT MEASURED
MIDDLE RIB(P)	NOT MEASURED
MIDDLE RIB(R)	NOT MEASURED
LOWER RIB(P)	109.00
LOWER RIB(R)	NOT MEASURED
UPPER SPINE(P)	106.00
UPPER SPINE(R)	NOT MEASURED
LOWER SPINE(P)	106.00
LOWER SPINE(R)	NOT MEASURED
HEAD Y-DIRECTION	NOT MEASURED
HEAD RESULTANT	NOT MEASURED
PELVIS Y-DIRECTION	138.00

MAXIMUM DEFLECTIONS (INCHES)

UPPER RIB	NOT MEASURED
MIDDLE RIB	NOT MEASURED
LOWER RIB	NOT MEASURED

MAXIMUM V*C CALCULATION

UPPER RIB	NOT APPLICABLE
MIDDLE RIB	NOT APPLICABLE
LOWER RIB	NOT APPLICABLE

MISC. DATA

THORACIC TRAUMA INDEX (P)	107.0
THORACIC TRAUMA INDEX (R)	NOT APPLICABLE
HEAD INJURY CRITERION	NOT APPLICABLE
T1	NOT APPLICABLE
T2	NOT APPLICABLE

```
*****************************************************
*    TEST NUMBER :  850607 MVMA   851 NHTSA         *
*    BASELINE VEHICLE NO PADDING-1985  FORD  LTD    *
*    NHTSA TEST PROCEDURE                           *
*    SID DUMMY SEATED 6 INCHES FROM DOOR            *
*****************************************************
```

MAXIMUM ACCELERATION (G s)

UPPER RIB(P)	68.00
UPPER RIB(R)	NOT MEASURED
MIDDLE RIB(P)	NOT MEASURED
MIDDLE RIB(R)	NOT MEASURED
LOWER RIB(P)	70.00
LOWER RIB(R)	NOT MEASURED
UPPER SPINE(P)	64.00
UPPER SPINE(R)	NOT MEASURED
LOWER SPINE(P)	99.00
LOWER SPINE(R)	NOT MEASURED
HEAD Y-DIRECTION	NOT MEASURED
HEAD RESULTANT	NOT MEASURED
PELVIS Y-DIRECTION	154.00

MAXIMUM DEFLECTIONS (INCHES)

UPPER RIB	NOT MEASURED
MIDDLE RIB	NOT MEASURED
LOWER RIB	NOT MEASURED

MAXIMUM V*C CALCULATION

UPPER RIB	NOT APPLICABLE
MIDDLE RIB	NOT APPLICABLE
LOWER RIB	NOT APPLICABLE

MISC. DATA

THORACIC TRAUMA INDEX (P)	84.5
THORACIC TRAUMA INDEX (R)	NOT APPLICABLE
HEAD INJURY CRITERION	NOT APPLICABLE
T1	NOT APPLICABLE
T2	NOT APPLICABLE

```
**********************************************************
*    TEST NUMBER :  850617 MVMA   852 NHTSA              *
*    BASELINE VEHICLE NO PADDING-1985  FORD  LTD         *
*    NHTSA TEST PROCEDURE                                *
*    SID DUMMY SEATED 6 INCHES FROM DOOR                 *
**********************************************************
```

MAXIMUM ACCELERATION (G s)

UPPER RIB(P)	50.00
UPPER RIB(R)	NOT MEASURED
MIDDLE RIB(P)	NOT MEASURED
MIDDLE RIB(R)	NOT MEASURED
LOWER RIB(P)	74.00
LOWER RIB(R)	NOT MEASURED
UPPER SPINE(P)	80.00
UPPER SPINE(R)	NOT MEASURED
LOWER SPINE(P)	123.00
LOWER SPINE(R)	NOT MEASURED
HEAD Y-DIRECTION	NOT MEASURED
HEAD RESULTANT	NOT MEASURED
PELVIS Y-DIRECTION	144.00

MAXIMUM DEFLECTIONS (INCHES)

UPPER RIB	NOT MEASURED
MIDDLE RIB	NOT MEASURED
LOWER RIB	NOT MEASURED

MAXIMUM V*C CALCULATION

UPPER RIB	NOT APPLICABLE
MIDDLE RIB	NOT APPLICABLE
LOWER RIB	NOT APPLICABLE

MISC. DATA

THORACIC TRAUMA INDEX (P)	98.5
THORACIC TRAUMA INDEX (R)	NOT APPLICABLE
HEAD INJURY CRITERION	NOT APPLICABLE
T1	NOT APPLICABLE
T2	NOT APPLICABLE

```
**********************************************************
*   TEST NUMBER :  850626 MVMA   853 NHTSA               *
*   BASELINE VEHICLE WITH PADDING-1985  FORD  LTD        *
*   NHTSA TEST PROCEDURE                                 *
*   SID DUMMY SEATED NEXT TO DOOR                        *
**********************************************************
```

MAXIMUM ACCELERATION (G s)

UPPER RIB(P)	42.00
MIDDLE RIB(P)	NOT MEASURED
MIDDLE RIB(R)	NOT MEASURED
LOWER RIB(P)	38.00
LOWER RIB(R)	NOT MEASURED
UPPER SPINE(P)	51.00
UPPER SPINE(R)	NOT MEASURED
LOWER SPINE(P)	63.00
LOWER SPINE(R)	NOT MEASURED
HEAD Y-DIRECTION	NOT MEASURED
HEAD RESULTANT	NOT MEASURED
PELVIS Y-DIRECTION	51.00

MAXIMUM DEFLECTIONS (INCHES)

UPPER RIB	NOT MEASURED
MIDDLE RIB	NOT MEASURED
LOWER RIB	NOT MEASURED

MAXIMUM V*C CALCULATION

UPPER RIB	NOT APPLICABLE
MIDDLE RIB	NOT APPLICABLE
LOWER RIB	NOT APPLICABLE

MISC. DATA

THORACIC TRAUMA INDEX (P)	52.0
THORACIC TRAUMA INDEX (R)	NOT APPLICABLE
HEAD INJURY CRITERION	NOT APPLICABLE
T1	NOT APPLICABLE
T2	NOT APPLICABLE

```
**********************************************************
*    TEST NUMBER :  850716 MVMA   869 NHTSA             *
*    BASELINE VEHICLE WITH PADDING-1985  FORD  LTD      *
*    NHTSA TEST PROCEDURE                               *
*    SID DUMMY SEATED NEXT TO DOOR                      *
**********************************************************
```

MAXIMUM ACCELERATION (G s)

UPPER RIB(P)	49.00
UPPER RIB(R)	NOT MEASURED
MIDDLE RIB(P)	NOT MEASURED
MIDDLE RIB(R)	NOT MEASURED
LOWER RIB(P)	49.00
LOWER RIB(R)	NOT MEASURED
UPPER SPINE(P)	60.00
UPPER SPINE(R)	NOT MEASURED
LOWER SPINE(P)	71.00
LOWER SPINE(R)	NOT MEASURED
HEAD Y-DIRECTION	NOT MEASURED
HEAD RESULTANT	NOT MEASURED
PELVIS Y-DIRECTION	59.00

MAXIMUM DEFLECTIONS (INCHES)

UPPER RIB	NOT MEASURED
MIDDLE RIB	NOT MEASURED
LOWER RIB	NOT MEASURED

MAXIMUM V*C CALCULATION

UPPER RIB	NOT APPLICABLE
MIDDLE RIB	NOT APPLICABLE
LOWER RIB	NOT APPLICABLE

MISC. DATA

THORACIC TRAUMA INDEX (P)	60.0
THORACIC TRAUMA INDEX (R)	NOT APPLICABLE
HEAD INJURY CRITERION	NOT APPLICABLE
T1	NOT APPLICABLE
T2	NOT APPLICABLE

```
**********************************************************
*    TEST NUMBER :  850703 MVMA   854 NHTSA             *
*    BASELINE VEHICLE WITH PADDING-1985  FORD  LTD      *
*    NHTSA TEST PROCEDURE                               *
*    SID DUMMY SEATED 6 INCHES FROM DOOR                *
**********************************************************
```

MAXIMUM ACCELERATION (G s)

UPPER RIB(P)	61.00
UPPER RIB(R)	NOT MEASURED
MIDDLE RIB(P)	NOT MEASURED
MIDDLE RIB(R)	NOT MEASURED
LOWER RIB(P)	44.00
LOWER RIB(R)	NOT MEASURED
UPPER SPINE(P)	53.00
UPPER SPINE(R)	NOT MEASURED
LOWER SPINE(P)	63.00
LOWER SPINE(R)	NOT MEASURED
HEAD Y-DIRECTION	NOT MEASURED
HEAD RESULTANT	NOT MEASURED
PELVIS Y-DIRECTION	54.00

MAXIMUM DEFLECTIONS (INCHES)

UPPER RIB	NOT MEASURED
MIDDLE RIB	NOT MEASURED
LOWER RIB	NOT MEASURED

MAXIMUM V*C CALCULATION

UPPER RIB	NOT APPLICABLE
MIDDLE RIB	NOT APPLICABLE
LOWER RIB	NOT APPLICABLE

MISC. DATA

THORACIC TRAUMA INDEX (P)	62.0
THORACIC TRAUMA INDEX (R)	NOT APPLICABLE
HEAD INJURY CRITERION	NOT APPLICABLE
T1	NOT APPLICABLE
T2	NOT APPLICABLE

```
**********************************************************
*    TEST NUMBER :  850715 MVMA   868 NHTSA              *
*    BASELINE VEHICLE WITH PADDING-1985  FORD  LTD       *
*    NHTSA TEST PROCEDURE                                *
*    SID DUMMY SEATED 6 INCHES FROM DOOR                 *
**********************************************************
```

MAXIMUM ACCELERATION (G s)

UPPER RIB(P)	55.00
UPPER RIB(R)	NOT MEASURED
MIDDLE RIB(P)	NOT MEASURED
MIDDLE RIB(R)	NOT MEASURED
LOWER RIB(P)	43.00
LOWER RIB(R)	NOT MEASURED
UPPER SPINE(P)	51.00
UPPER SPINE(R)	NOT MEASURED
LOWER SPINE(P)	63.00
LOWER SPINE(R)	NOT MEASURED
HEAD Y-DIRECTION	NOT MEASURED
HEAD RESULTANT	NOT MEASURED
PELVIS Y-DIRECTION	51.00

MAXIMUM DEFLECTIONS (INCHES)

UPPER RIB	NOT MEASURED
MIDDLE RIB	NOT MEASURED
LOWER RIB	NOT MEASURED

MAXIMUM V*C CALCULATION

UPPER RIB	NOT APPLICABLE
MIDDLE RIB	NOT APPLICABLE
LOWER RIB	NOT APPLICABLE

MISC. DATA

THORACIC TRAUMA INDEX (P)	59.0
THORACIC TRAUMA INDEX (R)	NOT APPLICABLE
HEAD INJURY CRITERION	NOT APPLICABLE
T1	NOT APPLICABLE
T2	NOT APPLICABLE

```
**********************************************************
*    TEST NUMBER :  851007 MVMA    885 NHTSA             *
*    MODIFIED VEHICLE NO PADDING-1985  FORD  LTD         *
*    NHTSA TEST PROCEDURE                                *
*    SID DUMMY SEATED NEXT TO DOOR                       *
**********************************************************
```

MAXIMUM ACCELERATION (G s)

UPPER RIB(P)	63.00
UPPER RIB(R)	NOT MEASURED
MIDDLE RIB(P)	NOT MEASURED
MIDDLE RIB(R)	NOT MEASURED
LOWER RIB(P)	49.00
LOWER RIB(R)	NOT MEASURED
UPPER SPINE(P)	61.00
UPPER SPINE(R)	NOT MEASURED
LOWER SPINE(P)	93.00
LOWER SPINE(R)	NOT MEASURED
HEAD Y-DIRECTION	NOT MEASURED
HEAD RESULTANT	NOT MEASURED
PELVIS Y-DIRECTION	91.00

MAXIMUM DEFLECTIONS (INCHES)

UPPER RIB	NOT MEASURED
MIDDLE RIB	NOT MEASURED
LOWER RIB	NOT MEASURED

MAXIMUM V*C CALCULATION

UPPER RIB	NOT APPLICABLE
MIDDLE RIB	NOT APPLICABLE
LOWER RIB	NOT APPLICABLE

MISC. DATA

THORACIC TRAUMA INDEX (P)	78.0
THORACIC TRAUMA INDEX (R)	NOT APPLICABLE
HEAD INJURY CRITERION	NOT APPLICABLE
T1	NOT APPLICABLE
T2	NOT APPLICABLE

```
**********************************************************
*    TEST NUMBER :  851018 MVMA    866 NHTSA             *
*    MODIFIED VEHICLE NO PADDING-1985  FORD  LTD         *
*    NHTSA TEST PROCEDURE                                *
*    SID DUMMY SEATED NEXT TO DOOR                       *
**********************************************************
```

MAXIMUM ACCELERATION (G s)

UPPER RIB(P)	55.00
UPPER RIB(R)	NOT MEASURED
MIDDLE RIB(P)	NOT MEASURED
MIDDLE RIB(R)	NOT MEASURED
LOWER RIB(P)	59.00
LOWER RIB(R)	NOT MEASURED
UPPER SPINE(P)	62.00
UPPER SPINE(R)	NOT MEASURED
LOWER SPINE(P)	95.00
LOWER SPINE(R)	NOT MEASURED
HEAD Y-DIRECTION	NOT MEASURED
HEAD RESULTANT	NOT MEASURED
PELVIS Y-DIRECTION	93.00

MAXIMUM DEFLECTIONS (INCHES)

UPPER RIB	NOT MEASURED
MIDDLE RIB	NOT MEASURED
LOWER RIB	NOT MEASURED

MAXIMUM V*C CALCULATION

UPPER RIB	NOT APPLICABLE
MIDDLE RIB	NOT APPLICABLE
LOWER RIB	NOT APPLICABLE

MISC. DATA

THORACIC TRAUMA INDEX (P)	77.0
THORACIC TRAUMA INDEX (R)	NOT APPLICABLE
HEAD INJURY CRITERION	NOT APPLICABLE
T1	NOT APPLICABLE
T2	NOT APPLICABLE

```
**********************************************************
*    TEST NUMBER :  850806 MVMA    870 NHTSA             *
*    MODIFIED VEHICLE WITHOUT PADDING-1985  FORD  LTD    *
*    NHTSA TEST PROCEDURE                                *
*    SID DUMMY SEATED 6 INCHES FROM DOOR                 *
**********************************************************
```

MAXIMUM ACCELERATION (G s)

UPPER RIB(P)	54.00
UPPER RIB(R)	NOT MEASURED
MIDDLE RIB(P)	NOT MEASURED
MIDDLE RIB(R)	NOT MEASURED
LOWER RIB(P)	60.00
LOWER RIB(R)	NOT MEASURED
UPPER SPINE(P)	66.00
UPPER SPINE(R)	NOT MEASURED
LOWER SPINE(P)	100.00
LOWER SPINE(R)	NOT MEASURED
HEAD Y-DIRECTION	NOT MEASURED
HEAD RESULTANT	NOT MEASURED
PELVIS Y-DIRECTION	115.00

MAXIMUM DEFLECTIONS (INCHES)

UPPER RIB	NOT MEASURED
MIDDLE RIB	NOT MEASURED
LOWER RIB	NOT MEASURED

MAXIMUM V*C CALCULATION

UPPER RIB	NOT APPLICABLE
MIDDLE RIB	NOT APPLICABLE
LOWER RIB	NOT APPLICABLE

MISC. DATA

THORACIC TRAUMA INDEX (P)	60.0
THORACIC TRAUMA INDEX (R)	NOT APPLICABLE
HEAD INJURY CRITERION	NOT APPLICABLE
T1	NOT APPLICABLE
T2	NOT APPLICABLE

```
**********************************************************
*    TEST NUMBER :  850830 MVMA    882 NHTSA             *
*    MODIFIED VEHICLE WITHOUT PADDING-1985  FORD  LTD    *
*    NHTSA TEST PROCEDURE                                *
*    SID DUMMY SEATED 6 INCHES FROM DOOR                 *
**********************************************************
```

MAXIMUM ACCELERATION (G s)

UPPER RIB(P)	53.00
UPPER RIB(R)	NOT MEASURED
MIDDLE RIB(P)	NOT MEASURED
MIDDLE RIB(R)	NOT MEASURED
LOWER RIB(P)	58.00
LOWER RIB(R)	NOT MEASURED
UPPER SPINE(P)	72.00
UPPER SPINE(R)	NOT MEASURED
LOWER SPINE(P)	116.00
LOWER SPINE(R)	NOT MEASURED
HEAD Y-DIRECTION	NOT MEASURED
HEAD RESULTANT	NOT MEASURED
PELVIS Y-DIRECTION	139.00

MAXIMUM DEFLECTIONS (INCHES)

UPPER RIB	NOT MEASURED
MIDDLE RIB	NOT MEASURED
LOWER RIB	NOT MEASURED

MAXIMUM V*C CALCULATION

UPPER RIB	NOT APPLICABLE
MIDDLE RIB	NOT APPLICABLE
LOWER RIB	NOT APPLICABLE

MISC. DATA

THORACIC TRAUMA INDEX (P)	87.0
THORACIC TRAUMA INDEX (R)	NOT APPLICABLE
HEAD INJURY CRITERION	NOT APPLICABLE
T1	NOT APPLICABLE
T2	NOT APPLICABLE

```
**********************************************************
*    TEST NUMBER :  850808 MVMA    880 NHTSA             *
*    MODIFIED VEHICLE WITH PADDING-1985  FORD  LTD       *
*    NHTSA TEST PROCEDURE                                *
*    SID DUMMY SEATED NEXT TO DOOR                       *
**********************************************************
```

MAXIMUM ACCELERATION (G s)

UPPER RIB(P)	48.00
UPPER RIB(R)	NOT MEASURED
MIDDLE RIB(P)	NOT MEASURED
MIDDLE RIB(R)	NOT MEASURED
LOWER RIB(P)	43.00
LOWER RIB(R)	NOT MEASURED
UPPER SPINE(P)	47.00
UPPER SPINE(R)	NOT MEASURED
LOWER SPINE(P)	56.00
LOWER SPINE(R)	NOT MEASURED
HEAD Y-DIRECTION	NOT MEASURED
HEAD RESULTANT	NOT MEASURED
PELVIS Y-DIRECTION	44.00

MAXIMUM DEFLECTIONS (INCHES)

UPPER RIB	NOT MEASURED
MIDDLE RIB	NOT MEASURED
LOWER RIB	NOT MEASURED

MAXIMUM V*C CALCULATION

UPPER RIB	NOT APPLICABLE
MIDDLE RIB	NOT APPLICABLE
LOWER RIB	NOT APPLICABLE

MISC. DATA

THORACIC TRAUMA INDEX (P)	52.0
THORACIC TRAUMA INDEX (R)	NOT APPLICABLE
HEAD INJURY CRITERION	NOT APPLICABLE
T1	NOT APPLICABLE
T2	NOT APPLICABLE

```
**********************************************************
*    TEST NUMBER :  850819 MVMA    881 NHTSA             *
*    MODIFIED VEHICLE WITH PADDING-1985  FORD  LTD       *
*    NHTSA TEST PROCEDURE                                *
*    SID DUMMY SEATED NEXT TO DOOR                       *
**********************************************************
```

MAXIMUM ACCELERATION (G s)

UPPER RIB(P)	49.00
UPPER RIB(R)	NOT MEASURED
MIDDLE RIB(P)	NOT MEASURED
MIDDLE RIB(R)	NOT MEASURED
LOWER RIB(P)	46.00
LOWER RIB(R)	NOT MEASURED
UPPER SPINE(P)	49.00
UPPER SPINE(R)	NOT MEASURED
LOWER SPINE(P)	59.00
LOWER SPINE(R)	NOT MEASURED
HEAD Y-DIRECTION	NOT MEASURED
HEAD RESULTANT	NOT MEASURED
PELVIS Y-DIRECTION	48.00

MAXIMUM DEFLECTIONS (INCHES)

UPPER RIB	NOT MEASURED
MIDDLE RIB	NOT MEASURED
LOWER RIB	NOT MEASURED

MAXIMUM V*C CALCULATION

UPPER RIB	NOT APPLICABLE
MIDDLE RIB	NOT APPLICABLE
LOWER RIB	NOT APPLICABLE

MISC. DATA

THORACIC TRAUMA INDEX (P)	54.0
THORACIC TRAUMA INDEX (R)	NOT APPLICABLE
HEAD INJURY CRITERION	NOT APPLICABLE
T1	NOT APPLICABLE
T2	NOT APPLICABLE

```
**********************************************************
*    TEST NUMBER :  850904 MVMA    883 NHTSA             *
*    MODIFIED VEHICLE WITH PADDING-1985  FORD  LTD       *
*    NHTSA TEST PROCEDURE                                *
*    SID DUMMY SEATED 6 INCHES FROM DOOR                 *
**********************************************************
```

MAXIMUM ACCELERATION (G s)

UPPER RIB(P)	48.00
UPPER RIB(R)	NOT MEASURED
MIDDLE RIB(P)	NOT MEASURED
MIDDLE RIB(R)	NOT MEASURED
LOWER RIB(P)	40.00
LOWER RIB(R)	NOT MEASURED
UPPER SPINE(P)	48.00
UPPER SPINE(R)	NOT MEASURED
LOWER SPINE(P)	62.00
LOWER SPINE(R)	NOT MEASURED
HEAD Y-DIRECTION	NOT MEASURED
HEAD RESULTANT	NOT MEASURED
PELVIS Y-DIRECTION	38.00

MAXIMUM DEFLECTIONS (INCHES)

UPPER RIB	NOT MEASURED
MIDDLE RIB	NOT MEASURED
LOWER RIB	NOT MEASURED

MAXIMUM V*C CALCULATION

UPPER RIB	NOT APPLICABLE
MIDDLE RIB	NOT APPLICABLE
LOWER RIB	NOT APPLICABLE

MISC. DATA

THORACIC TRAUMA INDEX (P)	55.0
THORACIC TRAUMA INDEX (R)	NOT APPLICABLE
HEAD INJURY CRITERION	NOT APPLICABLE
T1	NOT APPLICABLE
T2	NOT APPLICABLE

```
**********************************************************
*    TEST NUMBER :  851002 MVMA    884 NHTSA             *
*    MODIFIED VEHICLE WITH PADDING-1985  FORD  LTD       *
*    NHTSA TEST PROCEDURE                                *
*    SID DUMMY SEATED 6 INCHES FROM DOOR                 *
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MAXIMUM ACCELERATION (G s)

UPPER RIB(P)	46.00
UPPER RIB(R)	NOT MEASURED
MIDDLE RIB(P)	NOT MEASURED
MIDDLE RIB(R)	NOT MEASURED
LOWER RIB(P)	46.00
LOWER RIB(R)	NOT MEASURED
UPPER SPINE(P)	53.00
UPPER SPINE(R)	NOT MEASURED
LOWER SPINE(P)	62.00
LOWER SPINE(R)	NOT MEASURED
HEAD Y-DIRECTION	NOT MEASURED
HEAD RESULTANT	NOT MEASURED
PELVIS Y-DIRECTION	42.00

MAXIMUM DEFLECTIONS (INCHES)

UPPER RIB	NOT MEASURED
MIDDLE RIB	NOT MEASURED
LOWER RIB	NOT MEASURED

MAXIMUM V*C CALCULATION

UPPER RIB	NOT APPLICABLE
MIDDLE RIB	NOT APPLICABLE
LOWER RIB	NOT APPLICABLE

MISC. DATA

THORACIC TRAUMA INDEX (P)	54.0
THORACIC TRAUMA INDEX (R)	NOT APPLICABLE
HEAD INJURY CRITERION	NOT APPLICABLE
T1	NOT APPLICABLE
T2	NOT APPLICABLE