

THE STATE OF SOUTH CAROLINA
In the Court of Appeals

APPEAL FROM BAMBERG COUNTY
Court Of Common Pleas

The Honorable Doyet A. Early III, Circuit Court Judge

Case No: 2008-CP-05-235

Laura Riley as the Personal Representative
of the Estate of Benjamin Riley Respondent,

v.

Ford Motor Company Appellant.

RECORD ON APPEAL – VOLUME I

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SC COURT OF APPEALS

INDEX

Orders

Order Approving Settlement, 04/15/2010	1
Stipulation of Dismissal as to Carter, 04/30/2010	4
Form 4 Order, 01/25/2012	5
Additur Order, 01/10/2012	6

Pleadings

Initial Complaint, 11/26/2008	11
Amended Complaint, 09/09/2011	14
Answer to Amended Complaint, 09/19/2011	17

Motions and Supporting Memoranda

The Estate's Motion to Amend, 07/07/2011	24
Petition for Order Approving Settlement, 03/15/2010	29
Ford's Directed Verdict Memorandum, 09/27/2011	34
Ford's Motion and Memorandum for JNOV and Set Off, 10/10/2011	42
The Estate's Initial Motion for New Trial and Memorandum, 10/10/2011	52
Ford's Opposition Memorandum to Motion for New Trial, 11/17/2011	60
The Estate's Supplemental New Trial <i>Nisi Additur</i> Memorandum, 12/16/2011	67
Ford's Supplemental New Trial <i>Nisi Additur</i> Memorandum, 12/20/2011	80

Transcript of Trial Proceedings, September 19-29, 2011

p. 141, l. 18 – p. 142, l. 3	88
p. 164, ll. 18-21	90
p. 193, l. 11 – p. 194, l. 5	91
p. 195, ll. 3-10	93
p. 201, ll. 4-17	94
p. 202, ll. 8-15	95
p. 203, ll. 23-25	96
p. 204, l. 8 – p. 205, line 6	97
p. 210, ll. 16-19	99
p. 229, ll. 10-20	100
p. 230, ll. 12-25	101
p. 241, ll. 3-5, ll. 20 – p. 242, l. 8	102
p. 243, l. 17 – p. 249, l. 13	104
p. 263, l. 10 – p. 264, l. 20	111
p. 265, ll. 7-18	113
p. 283, ll. 15-25	114
p. 295, ll. 1-4	115
p. 298, l. 12 – p. 299, l. 2	116
p. 318, l. 23 – p. 326, l. 4	118
p. 339, ll. 2-15	127
p. 340, l. 7 – p. 342, l. 8	128

p. 388, l. 21 – p. 389, l. 5	131
p. 391, ll. 10-21	133
p. 428, ll. 14-17	134
p. 463, ll. 9-25	135
p. 464, ll. 1-5, 13-15	136
p. 465, ll. 3-9	137
p. 468, l. 20	138
p. 473, ll. 1-22	139
p. 474, ll. 1-2	140
p. 475, l. 23 – p. 476, l. 2	141
p. 486, ll. 2-14	143
p. 491, ll. 3-12	144
p. 495, ll. 19-21	145
p. 585, ll. 10-18	146
p. 600, l. 5 – p. 606, l. 9	147
p. 606, l. 13 – p. 607, l. 9	153
p. 609, l. 9 – p. 612, l. 25	155
p. 614, l. 7 – p. 616, l. 16	159
p. 619, ll. 5-6, 20-25	162
p. 622, ll. 6-24	163
p. 628, l. 1 – p. 631, l. 6	164
p. 636, l. 9 – p. 647, l. 17	168
p. 662, ll. 21-25	180
p. 665, ll. 6-14	181
p. 668, ll. 1-11, 14-21	182
p. 669, l. 12 – p. 671, l. 13	183
p. 672, ll. 18-25	186
p. 674, l. 24 – p. 675, ll. 10, 16-24	187
p. 676, ll. 4-14, 19 – p. 678, l. 21 – p. 683, ll. 12, 15-23	189
p. 685, l. 5 – p. 687, l. 2	197
p. 694, ll. 11-17	200
p. 697, l. 23 – p. 698, l. 3	201
p. 705, l. 4 – p. 706, l. 22	203
p. 708, ll. 15-22	205
p. 710, l. 4 – p. 711, l. 24	206
p. 712, ll. 3-12	208
p. 715, ll. 11-13	209
p. 719, l. 23 – p. 720, l. 3	210
p. 723, ll. 3-19	212
p. 724, ll. 13-23	213
p. 726, ll. 4-11	214
p. 727, l. 1 – p. 731, l. 3	215
p. 760, l. 20 – p. 761, l. 8	220
p. 797, l. 4 – p. 798, l. 17	222
p. 808, l. 7 – p. 811, l. 15	224
p. 837, l. 2 – p. 841, l. 13	228

p. 848, l. 20 – p. 852, l. 15	233
p. 855, l. 7 – p. 868, l. 11	238
p. 869, l. 4 – p. 872, ll. 1, 21 – p. 880, l. 19	252
p. 881, l. 21 – p. 882, l. 8	264
p. 887, l. 3 – p. 888, l. 3, 4-18	266
p. 892, ll. 1-4, 9 – p. 893, ll. 3, 9-11, 15-23 – p. 894, ll. 1, 7-21	268
p. 901, l. 23 – p. 903, l. 25	271
p. 908, l. 7-16	274
p. 910, ll. 3-15	275
p. 911, ll. 1-16, 25 – p. 912, ll. 12-20, 23 – p. 913, l. 10	276
p. 914, ll. 20-25	279
p. 943, l. 6 – p. 944, ll. 7, 16-21	280
p. 967, ll. 14-20	282
p. 982, ll. 20-25	283
p. 984, ll. 3-9	284
p. 985, l. 25 – p. 986, l. 7	285
p. 990, l. 8 – p. 991, l. 14	287
p. 992, l. 4 – p. 993, l. 2	289
p. 995, ll. 10-18	291
p. 999, ll. 3-6	292
p. 1003, ll. 8-14	293
p. 1006, l. 2, p. 1008, l. 5	294
p. 1018, l. 7 – p. 1022, l. 5	297
p. 1025, l. 15 – p. 1026, l. 3	302
p. 1071, l. 21 – p. 1074, l. 4	304
p. 1086, ll. 5-24	308
p. 1202, ll. 2-10	309
p. 1206, ll. 1-7, 20-25	310
p. 1207, ll. 2-5, 8-11, 20 – p. 1208, l. 1	311
p. 1209, l. 2 – p. 1210, l. 17	313
p. 1211, l. 6-10, 12 – p. 1212, l. 1	315
p. 1226, ll. 14-16	317
p. 1227, ll. 7-25	318
p. 1228, ll. 9-11	319
p. 1230, l. 8 – p. 1231, l. 3	320
p. 1233, ll. 1-10	322
p. 1234, ll. 1-6	323
p. 1238, ll. 4-15	324
p. 1240, l. 4 – p. 1241, l. 11	325
p. 1243, l. 5 – p. 1244, l. 17	327
p. 1245, ll. 19-20	329
p. 1246, l. 6	330
p. 1249, l. 4 – p. 1250, l. 7, 8-23	331
p. 1255, ll. 12-22	333
p. 1256, ll. 13-21	334
p. 1258, ll. 9-14	335

p. 1260, ll. 9-17.....	336
p. 1262, ll. 5-9.....	337
p. 1264, ll. 5-7.....	338
p. 1265, ll. 1-5.....	339
p. 1267, ll. 13-15.....	340
p. 1268, l. 1.....	341
p. 1275, ll. 3-17, 23 – p.1276, ll. 2, 9, 17- 25 – p. 1277, l. 3.....	342
p. 1277, l. 4 – p. 1279, l. 8 – p. 1280, l. 1.....	344
p. 1285, ll. 5-10.....	348
p. 1286, ll. 10-22.....	349
p. 1287, ll. 17-25.....	350
p. 1288, l. 10 – p. 1289, l. 25.....	351
p. 1291, ll. 20-22.....	353
p. 1292, ll. 4-16.....	354
p. 1293, ll. 13-15.....	355
p. 1294, ll. 22-23.....	356
p. 1295, ll. 1-16.....	357
p. 1509, l. 4-19.....	358
p. 1516, ll. 1-15.....	359
p. 1634, l. 16 – p. 1635, l. 8.....	360
p. 1636, l. 19 – p. 1637, l. 11.....	362
p. 1648, ll. 4-14.....	364
p. 1775, l. 5 – p. 1777, ll. 4, 7-13.....	365
p. 1866, ll. 6-19.....	368
p. 1915, ll. 9-25.....	369
p. 1922, ll. 1-9.....	370
p. 1923, ll. 2-4.....	371
p. 1928, ll. 4-16.....	372
p. 1929, ll. 11-17.....	373
p. 1940, l. 9 – p. 1941, l. 5.....	374

Hearing Transcript of November 21, 2011 Proceedings

p. 10, l. 5 – p. 11, l. 16.....	376

Other Materials

Verdict Form.....	378

Plaintiff's Trial Exhibits

Exhibit 1.....	379
Exhibit 4.....	396
Exhibit 5.....	400
Exhibit 6.....	407
Exhibit 7.....	410
Exhibit 8.....	415
Exhibit 9.....	419
Exhibit 10.....	426

Exhibit 11.....	438
Exhibit 13.....	442
Exhibit 18.....	449
Exhibit 19.....	452
Exhibit 24.....	460
Exhibit 37.....	461
Exhibit 42.....	470
Exhibit 54.....	474
Exhibit 65.11.....	476
Exhibit 65.12.....	477
Exhibit 78.....	478
Exhibit 80.....	483
Exhibit 82.....	489
Exhibit 83.1.....	490
Exhibit 95.....	491
Exhibit 98.....	492
Exhibit 109.....	497
Exhibit 113.....	498
Exhibit 115.....	500
Exhibit 125.....	551
Exhibit 126.....	847
Exhibit 133.....	1100
Exhibit 139A.....	1101
Exhibit 157.....	1103
Exhibit 157A.....	1268
Exhibit 158.....	1327

Court's Exhibits

Exhibit 5.....	1483
Exhibit 6.....	1484
Exhibit 7.....	1523
Exhibit 14 (Docket 08) - Jury Question.....	1530

STATE OF SOUTH CAROLINA
COUNTY OF BAMBERG

Laura Riley as
Personal Representative of
the Estate of Benjamin Riley,

Plaintiff,

v.

Ford Motor Company and
Andrew Marshall Carter, II,

Defendants.

IN THE COURT OF COMMON PLEAS
IN THE SECOND JUDICIAL CIRCUIT

Case No.: 2008-CP-05-235

ORDER APPROVING SETTLEMENT

FILED
BAMBERG COUNTY
2008 APR 15 AM 10:36
CLERK OF COURT
BAMBERG, SC

This matter comes before the Court on the verified Petition of Laura Riley as Personal Representative of the Estate of Benjamin Riley.

On or about August 29, 2007 at approximately 3:40 p.m. in Bamberg County, Benjamin Riley was involved in an automobile accident when Defendant Andrew Marshall Carter II [Defendant Carter] was driving a 2003 Ford pickup truck south on Secondary Road 389 (Pocketville Road) and Benjamin Riley was driving a 1998 Ford pickup truck east on Secondary Road 23 (Ehrhardt Road) when Defendant Carter pulled off from a stop sign directly into the path of Benjamin Riley's vehicle, causing the two vehicles to collide, and Benjamin Riley's vehicle went off the right side of the road and struck a tree. Benjamin Riley ultimately died from injuries sustained in the automobile accident.

Defendant Carter, by and through the liability insurance carrier, South Carolina Farm Bureau Mutual Insurance Company, under policy number 0201672 issued to Teresa L. Carter and Andrew M. Carter, Sr., has offered to pay the sum of TWENTY FIVE

MAC
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THOUSAND and NO/100 (\$25,000.00) Dollars to your Petitioner for the benefit of the Estate in a full and final settlement of any and all claims which the Estate might have under the aforementioned survival statute, wrongful death statute, or otherwise against Defendant Carter.

Defendant Carter has offered to pay the sum of TWENTY THOUSAND and NO/100 (\$20,000.00) Dollars to your Petitioner for the benefit of the Estate [the Survival Action] in settlement of the claim which the Estate might have against Defendant Carter under the aforementioned survival statute.

In addition, Defendant Carter has offered to pay the further sum of FIVE THOUSAND and NO/100 (\$5,000.00) Dollars to your Petitioner for the benefit of the statutory beneficiaries [the Wrongful Death Action] for a settlement of the claim against Defendant Carter arising out of the wrongful death of the decedent.

The attorney's fees for this settlement are FIVE THOUSAND and NO/100 (\$5,000.00) Dollars. There are no costs and expenses associated with this settlement.

The statutory beneficiaries are Laura Riley (wife), Eleanor Riley Green (daughter), Tonya Riley Armstead (daughter), Lasonya Riley Major (daughter), Adrian Riley, and possibly Bernard Riley Cooper, who has filed a claim with the Probate Court alleging that he is a child of Benjamin Riley. A child's portion of the net proceeds will be escrowed pending a paternity determination. All beneficiaries/potential beneficiaries are over the age of eighteen (18) years.

There are no known claims or liens against the Estate at this time other than the claim mentioned in the preceding paragraph. Regardless, Laura Riley, as Personal

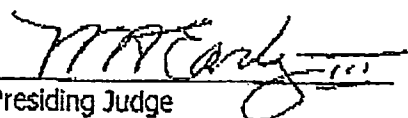
me
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Representative of the Estate of Benjamin Riley, will be solely responsible for paying and satisfying any claims or liens asserted against the Estate, whether said claims or liens are contractual, statutory, or otherwise.

Upon full consideration of this matter, it appears to the Court that the settlement proposals outlined hereinabove and in the Petition are fair and just and in the best interest of the parties. Accordingly, it is

ORDERED, ADJUDGED AND DECREED that the settlement proposals set forth hereinabove and in the Petitioner's Petition are approved, and that upon payment of the amounts set forth therein, the Petitioner, as Personal Representative, is hereby authorized and directed to execute a Covenant Not to Sue and Receipt and Satisfaction that protects Defendant Carter and South Carolina Farm Bureau Mutual Insurance Company against further liability to the Estate of Benjamin Riley for any and all claims, past, present, or future, arising out of or in any way connected with the above described accident and the injuries to and death of Benjamin Riley that occurred on August 29, 2007.

IT IS SO ORDERED.


Presiding Judge
Bamberg County

April 13, 2010
Bamberg, South Carolina

STATE OF SOUTH CAROLINA)
COUNTY OF BAMBERG)

IN THE COURT OF COMMON PLEAS
IN THE SECOND JUDICIAL DISTRICT

Laura Riley, as Personal
Representative of the Estate of
Benjamin Riley,

CIVIL ACTION NO.: 2008-CP-05-235

Plaintiff,

v.

STIPULATION OF DISMISSAL

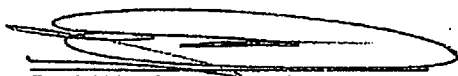
Ford Motor Company and Andrew
Marshall Carter, II,

Defendants.

The above-referenced matter, having been settled between the Plaintiff and Andrew Marshall Carter, II, the undersigned as attorneys for the Plaintiff and Andrew Marshall Carter, II, herein, hereby stipulate that it be dismissed with prejudice and forever ended as to Andrew Marshall Carter, II. This Stipulation of Dismissal shall in no way affect the Plaintiff's action against Ford Motor Company.

PETERS MURDAUGH PARKER ELTZROTH
& DETRICK

BROWN & BREHMER


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Carter, II

Columbia, South Carolina
April 13, 2010

FILED
BAMBERG COUNTY
2010 APR 30 AM 9:27
JAMES L. HENNING
CLERK OF COURT
BAMBERG, SC

STATE OF SOUTH CAROLINA

IN THE COURT OF COMMON PLEAS

COUNTY OF BAMBERG

Case No.: 2008-CP-05-235

Laua Riley, as Personal Representative
of the Estate of Benjamin Riley

Versus

Ford Motor Company

Plaintiffs

Defendant

FILED
BAMBERG COUNTY
2012 JAN 25 PM 3:13
JAMES B. HIERS
CLERK OF COURT
BAMBERG, SC

CHECK ONE:

- ☐ JURY VERDICT. This action came before the court for a trial by jury. The issues have been tried and the verdict has been rendered.
- ☒ DECISION BY COURT. This action came to trial or hearing before the court. The issues have been tried or heard and a decision rendered.
- ☐ ACTION DISMISSED (CHECK REASON): ☐ Rule 12(b), SCRPC; ☐ Rule 41(a), SCRPC (Vol. nonsuit)
☐ Rule 43(k), SCRPC(Settled); ☐ Other - _____
- ☐ ACTION STRICKEN (CHECK REASON): ☐ Rule 40(j), SCRPC; ☐ Bankruptcy; ☐ Binding Arbitration,
Subject to right to restore to confirm, vacate or modify arbitration award; ☐ Other: _____

IT IS ORDERED AND ADJUDGED: ☐ See attached order; ☒ Statement of Judgment by Court

After carefully reviewing all of the evidence before me, the Defendant's Motion for Judgment Notwithstanding the Verdict and/or Setoff is DENIED.

Dated at Bamberg, South Carolina, Date Jan 25, 2012 Judge TPB Earls

This judgment was entered on the _____ Day of _____, 20____, and a copy mailed this _____ Day of _____, 20____, to attorneys of record or to parties as follows:

Attorney(s) for Plaintiff
Ronnie Crosby
Danny Henderson
Matt Creech

Attorney for Defendant
Kenneth Carter
David Marshall

A TRUE COPY

Attest: J. B. Hiers
CLERK OF COURT
BAMBERG COUNTY, SC

SCR Form 4(Rev. 2/96)

Clerk of Court J. B. Hiers

STATE OF SOUTH CAROLINA

COUNTY OF BAMBERG

LAURA RILEY, AS PERSONAL,
REPRESENTATIVE OF THE ESTATE
OF BENJAMIN RILEY

Plaintiff,

v.

FORD MOTOR COMPANY,

Defendant,

IN THE COURT OF COMMON PLEAS
SECOND JUDICIAL CIRCUIT

Civil Action No: 08-CP-05-235

ORDER GRANTING NEW TRIAL
NSI ADDITUR

JAMES E. HERS
CLERK OF COURT
BAMBERG, SC

FILED
BAMBERG COUNTY
2012 JAN 10 PM 4:14

This matter came before the Court on November 21, 2011, on Plaintiff's post-trial motions seeking relief in the form of a new trial absolute, new trial under the thirteenth juror doctrine, or relief under the doctrine of new trial *nsi additur*.

BACKGROUND

This products liability case was tried to verdict before me during a two week period from September 19, 2011 through September 29, 2011. The Plaintiff alleged a design defect for the latch system of a 1998 Ford F-150 pickup truck being operated by the decedent Benjamin Riley at the time of his death. The case was tried under the general theory of "crashworthiness" and the products liability theory advanced by the Plaintiff was for negligence in the design of the latch system at issue. The jury found for the Plaintiff in the amount of \$300,000 actual damages. Despite the fact that the jury found Ford's conduct rose to the level of willful, wanton, and reckless conduct, they nonetheless awarded Zero (\$0.00) Dollars in punitive damages. Throughout the course of the trial, there was neither dispute nor argument about damages in this case. Ford vigorously defended the case from a liability standpoint but did not contest damages.

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TRUE COPY
J.E. HERS
CLERK OF COURT
BAMBERG COUNTY, SC

FINDINGS OF FACT AND CONCLUSIONS OF LAW

The trial court may grant a new trial *nisi additur* or *remittitur* when it finds the verdict is merely inadequate or excessive. *Howard v. Roberson*, 376 S.C. 143, 654 S.E.2d 877 (Ct. App. 2007); (citing, *Green v. Fritz*, 356 S.C. 566, 570, 590 S.E.2d 39, 41 (Ct. App. 2003)). In order to grant a new trial *nisi additur* (or *remittitur*), compelling reasons must be given to justify invading the jury's province in this manner. *Chapman v. Upstate RV & Marine*, 364 S.C. 82, 89, 610 S.E.2d 852, 856 (Ct. App. 2005) (citing *Pelican Bldg. Ctrs. v. Dutton*, 311 S.C. 56, 61, 427 S.E.2d 673, 676 (1993)). While South Carolina case law is largely silent on what precisely constitutes a compelling reason to grant a new trial *nisi additur*, perhaps the most comprehensive analysis of this post-trial process is found in *Proctor v. Dep't of Health & Environmental Control*:

A new trial *nisi* is one in which a new trial will be granted unless the party opposing it complies with a condition set by the court. The grant or denial of new trial motions rests within the discretion of the trial judge, and his decision will not be disturbed on appeal unless his findings are wholly unsupported by the evidence or the conclusions reached are controlled by error of law. The trial court alone has the power to grant a new trial *nisi* when he finds the amount of the verdict to be merely inadequate or excessive. However, compelling reasons must be given to justify invading the jury's province by granting a new trial *nisi* [additur or] remittitur. The consideration for a motion for a new trial *nisi* (additur or remittitur) requires the trial judge to consider the adequacy of the verdict in light of the evidence presented. Great deference is given to the trial judge who heard the evidence and is more familiar with the evidentiary atmosphere at trial, and who thus possesses a better-informed view of the damages than this Court.

368 S.C. 279, 319-21, 628 S.E. 2d 496, 518 (Ct. App. 2006) (internal citations and quotation marks omitted).

With regard to damages, the Plaintiff presented undisputed, uncontroverted evidence of pecuniary loss in the amount of \$226,605.00. (Testimony of Oliver Wood). The elements of damages generally recoverable in a wrongful death action are:

- (1) Pecuniary loss;
- (2) Mental shock and suffering
- (3) Wounded feelings;

DAE
#2

- (4) Grief and sorrow;
- (5) Loss of companionship;
- (6) Deprivation of the use and comfort of the intestate's society, the loss of his experience, knowledge, and judgment in managing the affairs of himself and of his beneficiaries, in addition to the loss of his ability to earn money for the support, maintenance, care, and protection of his wife and children, and for the education and training of the latter.

11 S.C. Jur. Damages § 24; *Mishoe v. Atlantic C.L.R. Co.*, 186 S.C. 402, 416, 197 S.E. 97, 104-105 (1973); *Gamer v. Houck*, 312 S.C. 481, 435 S.E.2d 847 (1993). The evidence at trial showed, and it is uncontested, that the beneficiaries of Sheriff Riley's Estate suffered each of the compensable elements of loss. Of the issue of damages, there was no dispute. Ford conceded as much in its opening statements, stating that Sheriff Riley was a "wonderful man" no less than three times in opening statements. Furthermore, not a single damages witness was questioned by Ford in an effort to contest damages. At the conclusion of these witnesses' testimony Ford, through their attorneys, apologized to the statutory beneficiaries for their loss.

The intangible elements of damages of wrongful death of (2) through (5) listed above, were not only established, but shown to be significant through uncontested, emotionally compelling testimony of Mrs. Laura Riley and three of her adult children, as well as the exhibits supporting damages. It is uncontested that these witnesses suffered grief and sorrow, wounded feelings, and the loss of companionship of the decedent and that in fact, through the time of trial, each continued to suffer the same. This court is compelled to grant *nisi additur* because every element of wrongful death damages was proven by the Plaintiff and the \$300,000 verdict does not reflect the evidence on these issues.

In this case, the award of \$300,000 in damages seems woefully inadequate in light of the evidence and testimony that was elicited during the trial. The evidence at trial showed that Benjamin Riley was a loving father and husband and a central figure not only in the lives of his

family, but also within his church and his community. During the trial of this case the Plaintiff Laura Riley testified, as did three of Sheriff Riley's five adult children. Two children did not participate in the trial or testify. The family's testimony established Riley's support, both moral and economic, of his family, as well as genuine love, affection, esteem, and regard held by the testifying beneficiaries of the Estate for the decedent. The testimony established that throughout their married lives, Riley and his wife were "best friends" and companions. The family's testimony as well as that of non-family members, left no question as to the grief, emotional turmoil, and loss suffered. Their testimony showed that this family of beneficiaries, perhaps more than most wrongful death beneficiaries, suffered great loss under this element of wrongful death damages.

Throughout the trial, Plaintiff presented numerous witnesses who were peers, colleagues, and fellow citizens of Jasper County, the residence of the decedent. These witnesses established Riley's role as a husband, father and community leader, dedicated law enforcement officer, and general pillar of his community. While presiding over this two week trial, it became readily apparent that Sheriff Riley was a pivotal member of both the Ridgeland community as well as his family. He was not merely a member of his community, but rather he was an integral part of the community. For all of the compelling reasons listed above, it is abundantly clear that the verdict in this case was inadequate, in light of the evidence present at trial, and a granting of *nisi additur* is appropriate.

THEREFORE, Plaintiff's Motion for new trial *nisi additur* is hereby GRANTED, and an additional \$600,000 in actual damages is to be paid by the Defendant, bringing the total verdict to \$900,000, or a new trial will be granted.

IT IS SO ORDERED.

(Signature Block on Following Page)

DAE

Doyet A. Early, III
Circuit Court Judge

Bamberg, South Carolina

January 10, 2012

STATE OF SOUTH CAROLINA)

IN THE COURT OF COMMON PLEAS

COUNTY OF BAMBERG)

CIVIL ACTION NO.: 2008-CP-05-235

Laura Riley as the Personal Representative)
of the Estate of Benjamin Riley,)
Plaintiff,)

v.)

Ford Motor Company and Andrew)
Marshall Carter, II,)
Defendants.)

COMPLAINT
(WRONGFUL DEATH AND SURVIVAL
ACTION - PRODUCTS LIABILITY)
(Jury Trial Requested)

FILED
BAMBERG COUNTY
JAN 11 2009
JASPER COUNTY
CLERK OF COURT
HERSCHEL
PH 12:31

The Plaintiff alleges:

1. That she is the duly appointed Personal Representative of the Estate of Benjamin Riley and brings this action on behalf of the Estate of Benjamin Riley and the beneficiaries of the Estate of Benjamin Riley.
2. That on August 29, 2007, Benjamin Riley was the duly elected Sheriff of Jasper County and authorized to possess and operate a 1998 F-150 pickup VIN # 1FTRX18L9WNA70891 owned by the Jasper County Sheriff's Office. (Subject Vehicle)
3. That Andrew Marshall Carter, II (Carter) is a resident and citizen of Bamberg County, South Carolina.
4. That on August 29, 2007, Sheriff Riley was traveling east on S.C. 231 in Bamberg County in the subject vehicle when suddenly and without warning a 2003 Ford Ranger driven by Carter pulled into Sheriff Riley's lane of travel from Pocketville Road. Carter failed to yield the right-of-way to Sheriff Riley.
5. Sheriff Riley attempted to take evasive action to avoid impact with Carter's vehicle. However, the front left of Sheriff Riley's F-150 impacted the right front of Carter's Ford Ranger

causing Sheriff Riley's truck to leave the roadway to the right and strike a tree that was adjacent to the roadway.

6. Upon impact with Carter's vehicle, and prior to impact with the tree, the driver's door on the F-150 opened allowing Sheriff Riley to become ejected from the vehicle. Sheriff Riley died from injuries due to ejection from the vehicle.

7. Prior to his death Sheriff Riley endured conscious pain and suffering. As a result of his death the beneficiaries have endured grief, sorrow, shock, wounded feelings, mental anguish, the loss of support, love and companionship along with other damages.

8. The death of Sheriff Riley was due and proximately caused by the negligent and reckless acts of the defendants as set forth below:

AS TO FORD MOTOR COMPANY

- a. In designing and manufacturing the 1998 F-150 with a defectively designed door latch system that was incapable of keeping the door closed under foreseeable driving conditions.
- b. In failing to install automatic locks in the F-150.
- c. In failing to warn of the dangers associated with a door opening in a reasonably foreseeable accident.
- d. In failing to properly test the door latching system to ensure that doors would remain closed in a reasonably foreseeable accident.
- e. In failing to follow and/or develop design standards for its door latching systems to ensure that the F-150 door remained closed in a reasonably foreseeable accident.
- f. In failing to recall the 1998 F-150.
- g. In any other particular as may be shown by the evidence.

AS TO CARTER

- a. In failing to yield the right-of-way.

9. That prior to manufacture of the subject vehicle Ford Motor Company was aware that the 1998 Ford F-150 was equipped with a defective door latch system, knew that its crash testing demonstrated that doors opened as a result of the defects in the door latching system and was aware of the increased risk of injury and death due to increased risk of ejection through an open door. Ford Motor Company acted with reckless disregard for the safety of its customers in manufacturing and selling the subject vehicle with a defective door latch system.

WHEREFORE, the Plaintiff frays for an award of actual and punitive damages against the defendants, costs and attorneys fees.

PETERS, MURDAUGH, PARKER, ELTZROTH
& DETRICK, P.A.

BY:

Ronnie L. Crosby
Daniel B. Henderson
101 Mulberry Street East
P.O. Box 457
Hampton, SC 29924
(803) 943-2111

ATTORNEYS FOR PLAINTIFF

November 23, 2008
Hampton, South Carolina

STATE OF SOUTH CAROLINA)

IN THE COURT OF COMMON PLEAS

COUNTY OF BAMBERG)

CIVIL ACTION NO.: 2008-CP-05-235

Laura Riley as the Personal Representative)
of the Estate of Benjamin Riley,)
Plaintiff,)

v.)

Ford Motor Company,)

Defendants.)

AMENDED COMPLAINT
(WRONGFUL DEATH AND SURVIVAL
ACTION – PRODUCTS LIABILITY)
(Jury Trial Requested)

The Plaintiff alleges:

1. That she is the duly appointed Personal Representative of the Estate of Benjamin Riley and brings this action on behalf of the Estate of Benjamin Riley and the beneficiaries of the Estate of Benjamin Riley.
2. That on August 29, 2007, Benjamin Riley was the duly elected Sheriff of Jasper County and authorized to possess and operate a 1998 F-150 pickup VIN # 1FTRX18L9WNA70891 owned by the Jasper County Sheriff's Office. (Subject Vehicle)
3. That on August 29, 2007, Sheriff Riley was traveling east on S.C. 231 in Bamberg County in the subject vehicle when suddenly and without warning a 2003 Ford Ranger driven by Andrew Marshall Carter, II pulled into Sheriff Riley's lane of travel from Pocketville Road. Carter failed to yield the right-of-way to Sheriff Riley.
4. Sheriff Riley attempted to take evasive action to avoid impact with Carter's vehicle. However, the front left of Sheriff Riley's F-150 impacted the right front of Carter's Ford Ranger causing Sheriff Riley's truck to leave the roadway to the right and strike a tree that was adjacent to the roadway.

6. Upon impact with Carter's vehicle, and prior to impact with the tree, the driver's door on the F-150 opened allowing Sheriff Riley to become ejected from the vehicle. Sheriff Riley died from injuries due to ejection from the vehicle.

7. Prior to his death Sheriff Riley endured conscious pain and suffering. As a result of his death the beneficiaries have endured grief, sorrow, shock, wounded feelings, mental anguish, the loss of support, love and companionship along with other damages.

8. The death of Sheriff Riley was due and proximately caused by the negligent and reckless acts of the defendant as set forth below:

AS TO FORD MOTOR COMPANY

- a. In designing and manufacturing the 1998 F-150 with a defectively designed door latch system that was incapable of keeping the door closed under foreseeable driving conditions.
- b. In failing to install automatic locks in the F-150.
- c. In failing to warn of the dangers associated with a door opening in a reasonably foreseeable accident.
- d. In failing to properly test the door latching system to ensure that doors would remain closed in a reasonably foreseeable accident.
- e. In failing to follow and/or develop design standards for its door latching systems to ensure that the F-150 door remained closed in a reasonably foreseeable accident.
- f. In failing to recall the 1998 F-150.
- g. In any other particular as may be shown by the evidence.

9. That prior to manufacture of the subject vehicle Ford Motor Company was aware that the 1998 Ford F-150 was equipped with a defective door latch system, knew that its crash testing demonstrated that doors opened as a result of the defects in the door latching system and was aware of the increased risk of injury and death due to increased risk of ejection through an open door. Ford

Motor Company acted with reckless disregard for the safety of its customers in manufacturing and selling the subject vehicle with a defective door latch system.

WHEREFORE, the Plaintiff prays for an award of actual and punitive damages against the defendant, costs and attorneys fees.

PETERS, MURDAUGH, PARKER, ELTZROTH
& DETRICK, P.A.

BY: 

Daniel E. Henderson
Ronnie L. Crosby
690 N. Green Street
P.O. Box 42500
Ridgeland, SC 29936
(843) 726-6131

ATTORNEYS FOR PLAINTIFF

September 9, 2011
Ridgeland, SC

STATE OF SOUTH CAROLINA)

IN THE COURT OF COMMON PLEAS

COUNTY OF BAMBERG)

Civil Action No.: 2008-CP-05-235

Laura Riley as the Personal Representative
of the Estate of Benjamin Riley,

Plaintiff,

v.

Ford Motor Company and Andrew
Marshall Carter, II,

Defendants.

DEFENDANT FORD MOTOR
COMPANY'S ANSWER TO
PLAINTIFF'S AMENDED
COMPLAINT

(Jury Trial Demanded)

FILED
BAMBERG COUNTY
2011 SEP 19 AM 11:54
JAMES B. HERS
CLERK OF COURT
BAMBERG, SC

Defendant Ford Motor Company ("Ford") answers Plaintiff's Amended Complaint as follows. Each and every allegation not hereinafter specifically admitted, qualified, or explained is denied.

FOR A FIRST DEFENSE
TO PLAINTIFF'S NEGLIGENCE CAUSE OF ACTION

1. Ford admits the allegations of Paragraph 1 upon information and belief.
2. Ford admits the allegations of Paragraph 2 upon information and belief.
3. Ford admits the allegations of Paragraph 3 upon information and belief.
4. Ford admits the allegations of Paragraph 4 upon information and belief.
5. Paragraph 5 was omitted from the Amended Complaint.
6. Ford denies the allegations of Paragraph 6. Further responding, Ford admits Sheriff Riley died from injuries sustained in the accident.
7. Answering Paragraph 7, Ford denies the existence of any evidence tending to establish that Sheriff Riley endured conscious pain and suffering after the accident before his death, and therefore denies said allegation. Ford is without knowledge or information sufficient

to form a belief as to the truth of the remaining allegations set forth in Paragraph 7 at this time, and, therefore, denies those allegations.

8. Ford denies the allegations against Ford in Paragraph 8, including all subparts.

9. Ford denies the allegations of Paragraph 9, including the prayer for relief that follows.

FOR A SECOND DEFENSE

10. Ford submits that Plaintiff's Amended Complaint, in whole or in part, fails to state facts sufficient to constitute a cause of action pursuant to Rule 12(b)(6) of the South Carolina Rules of Civil Procedure.

FOR A THIRD DEFENSE

11. Ford submits that, at all times, the subject vehicle was designed, manufactured, and assembled in compliance with all applicable industry and governmental standards and regulations and, therefore, Plaintiff cannot recover against Ford.

FOR A FOURTH DEFENSE

12. Ford submits that, at all times, the subject vehicle was designed, manufactured, and assembled in conformance with the prevailing industry customs and practices and, therefore, Plaintiff cannot recover against Ford.

FOR A FIFTH DEFENSE

13. Ford submits that, at all times, the subject vehicle was designed, manufactured, and assembled in conformance with the state-of-the-art and did not present an unreasonable risk of harm to Plaintiff, Plaintiff's decedent, or other occupants or users of the subject vehicle and, therefore, Plaintiff cannot recover against Ford.

FOR A SIXTH DEFENSE

14. Ford submits that the injuries and damages for which Plaintiff seeks recovery were due to, and proximately caused by, the modification or alteration of the subject vehicle, and, therefore, Plaintiff may not recover against Ford.

FOR A SEVENTH DEFENSE

15. Ford submits that the injuries and damages for which Plaintiff seeks recovery were due to, and proximately caused by, the abuse, misuse, or improper use of the subject vehicle, and therefore, Plaintiff may not recover against Ford.

FOR AN EIGHTH DEFENSE

16. Ford submits that the injuries and damages for which Plaintiff seeks recovery were due to, and proximately caused by, the negligence, recklessness, willfulness, wantonness, and criminal acts of a party or parties other than Ford in the operation, maintenance, repair, or use of the subject vehicle. Plaintiff's claims against Ford, therefore, should be barred or reduced by the amount of such negligence, recklessness, willfulness, or wantonness.

FOR A NINTH DEFENSE

17. Ford submits that the injuries and damages for which Plaintiff seeks recovery were due to, and proximately caused by, the intervening negligence, recklessness, willfulness, wantonness, criminal acts, and fault of a party or parties other than Ford, including but not limited to Defendant Carter. Such intervening negligence, recklessness, willfulness, wantonness, criminal acts, and fault are the sole cause of the injuries and damages for which Plaintiff seeks recovery, and, therefore, Plaintiff may not recover against Ford.

FOR A TENTH DEFENSE

18. Ford would show that the injuries and damages for which Plaintiff seeks recovery were due to, and proximately caused by, the sole negligence, recklessness, willfulness, wantonness, criminal acts, and fault of third parties for whom Ford is not liable. Therefore, the acts or fault of third parties are the real, efficient, direct, and proximate cause of the injuries for which Plaintiff seeks recovery, and, therefore, Plaintiff cannot recover against Ford.

FOR AN ELEVENTH DEFENSE

19. Ford submits that Plaintiff is barred from recovery because Sheriff Riley failed to utilize the safety restraint system provided in the subject vehicle, which is relevant to both proximate causation and the defect alleged by Plaintiff.

FOR A TWELFTH DEFENSE

20. Ford submits that Plaintiff's claims, in whole or in part, are expressly or impliedly preempted by federal law, including, but in no way limited to, the National Traffic and Motor Vehicle Safety Act and the Federal Motor Vehicle Safety Standards, as well as the rule of law established in *Geier v. Am. Honda Motor Co.*, 529 U.S. 861 (2000); *Buckman Co. v. Plaintiffs' Legal Committee*, 531 U.S. 341 (2000); *Jamison v. Ford Motor Co.*, 373 S.C. 248, 644 S.E.2d 755 (Ct. App. 2007), *writ of cert. dismissed*, 385 S.C. 238, 683 S.E.2d 803 (2009); *Priester v. Cromer*, 388 S.C. 425, 697 S.E.2d 567 (2010); and other relevant statutory and common law authority.

FOR A THIRTEENTH DEFENSE

21. Ford submits that it is entitled to a set off or credit for any amount paid to Plaintiff by any third party as compensation for the injuries and damages for which Plaintiff seeks recovery herein.

FOR A FOURTEENTH DEFENSE

22. Ford denies Plaintiff's demand for punitive damages. An award of punitive damages under South Carolina law violates the Fifth, Sixth, and Fourteenth Amendments of the United States Constitution and Article I, Section 3 of the South Carolina Constitution in that:

- (1) The judiciary's ability to correct a punitive damage award only upon a finding of passion, prejudice or caprice is inconsistent with due process guarantees;
- (2) Any award of punitive damages seeking a compensatory function is inconsistent with due process guarantees;
- (3) Any award of punitive damages based upon the wealth of the defendant violates due process guarantees;
- (4) The jury's unfettered power to award punitive damages in any amount it chooses is wholly devoid of meaningful standards and is inconsistent with due process guarantees;
- (5) Even if it could be argued that the standard governing the imposition of punitive damages exists, the standard is void for vagueness;
- (6) Plaintiff's claim for punitive damages violates the equal protection clause of the Fourteenth Amendment of the United States Constitution and Article I, Section 3 of the South Carolina Constitution in that the amount of punitive damages is based upon the wealth of the defendant; and
- (7) Any award of punitive damages for conduct or activity of Ford outside the State of South Carolina or directed to non-parties is inconsistent with the interest of federalism, and violates the governing authority of *State Farm Mut. Auto. Ins. Co. v. Campbell*, 538 U.S. 408 (2003), and *Philip Morris USA v. Williams*, 549 U.S. 346 (2007).

Ford further submits that Plaintiff's claim for punitive damages violates the federal doctrine of separation of powers and Article I, Section 3 of the South Carolina Constitution for the reason that punitive damages are a creation of the judicial branch of government, which invades the province of the legislative branch of government. Ford submits that like provisions of governing foreign state law may likewise violate constitutional guarantees, including those

established under the Constitution of the one of the various States and the United States Constitution.

FOR AN FIFTEENTH DEFENSE

23. Ford submits that Plaintiff's claim for punitive damages fails because (1) Plaintiff failed to plead any ultimate facts to support such a claim as required by Rule 8(a), SCRPC, and instead only asserts legal conclusions, and (2) there is no clear and convincing evidence of willful, wanton, or reckless conduct by Ford at the time the subject vehicle was manufactured, and thus, Plaintiff cannot satisfy the requisite burden of proof pursuant to S.C. Code. Ann. § 15-33-135.

FOR A SIXTEENTH DEFENSE

24. Ford pleads applicability of The Economic Development, Citizens and Small Business Protection Act of 2005, effective July 1, 2005, which amended S.C. Code Ann. §§ 15-38-15 [joint and several liability], 15-7-30 [venue], 15-7-100 [venue], 36-2-803(B) [jurisdiction], and other pertinent statutory sections, and invokes the remedies and procedures provided therein. Specifically, Ford submits it is entitled to a proper apportionment of fault among all named defendants and all other potential tortfeasors, whether they are named as defendants or not.

FOR A SEVENTEENTH DEFENSE

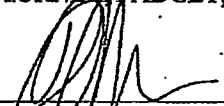
25. Ford has not had an opportunity to conduct a complete investigation or to engage in adequate discovery regarding the circumstances of Plaintiff's allegations. Ford intends to fully explore and investigate the pertinent facts and prevailing circumstances surrounding any reported injury or damage as alleged in the Amended Complaint, and gives notice of its intent to assert any further affirmative defenses that its information gathering process may indicate are supported by fact and law. These defenses may include, but are not limited to, a defense that the

action is barred in whole or in part by any applicable statute, contract, release, covenant, and the doctrine of laches. Ford thus reserves the right to amend this Answer and assert such defenses.

WHEREFORE, having fully answered the Amended Complaint, Ford prays that the Amended Complaint be dismissed, with prejudice, and for such other and further relief as the Court may deem just and proper.

Jury trial demanded.

September 18, 2011

By: 

TURNER, PADGET, GRAHAM & LANEY, P.A.

J. Kenneth Carter, Jr.
David C. Marshall
Post Office Box 1473
Columbia, SC 29202
Phone: (803) 254-2200
Fax: (803) 799-3957

**ATTORNEYS FOR DEFENDANT
FORD MOTOR COMPANY**

STATE OF SOUTH CAROLINA)

COUNTY OF BAMBERG)

LAURA RILEY, AS PERSONAL)
REPRESENTATIVE OF THE ESTATE)
OF BENJAMIN RILEY,)
Plaintiff,)

v.)

FORD MOTOR COMPANY AND)
ANDREW MARSHALL CARTER, II,)
Defendants.)

IN THE COURT OF COMMON PLEAS

CIVIL ACTION NO.: 2008-CP-05-235

FILED
BAMBERG COUNTY
2011 JUL -7 AM 9:14
JAMES B. HIERS
CLERK OF COURT
BAMBERG, SC

**NOTICE OF MOTION and
MOTION TO AMEND COMPLAINT**

TO: J. KENNETH CARTER, JR., ESQUIRE, ATTORNEY FOR DEFENDANT, FORD MOTOR
COMPANY:

YOU WILL PLEASE TAKE NOTICE that the Plaintiffs, by and through their undersigned attorney, will move before the Court on the 10th day hereafter or as soon thereafter as counsel may be heard, for an Order allowing the Plaintiffs to be allowed to amend her complaint so as to remove from the Complaint any allegations of negligence as to Andrew Marshall Carter, II. Mr. Carter was dismissed as a Defendant in April 2010 (copy attached). Copy of the proposed Amended Complaint attached.

PETERS, MURDAUGH, PARKER, ELTZROTH
& DETRICK, P.A.

BY: 

Daniel E. Henderson
Ronnie Crosby
690 North Green Street
Post Office Box 2500
Ridgeland, SC 29936
(843) 726-6131

ATTORNEYS FOR PLAINTIFF

July 6, 2011
Ridgeland, South Carolina

STATE OF SOUTH CAROLINA)
COUNTY OF BAMBERG)

Laura Riley, as Personal
Representative of the Estate of
Benjamin Riley,

Plaintiff,

v.

Ford Motor Company and Andrew
Marshall Carter, II,

Defendants.

IN THE COURT OF COMMON PLEAS
IN THE SECOND JUDICIAL DISTRICT

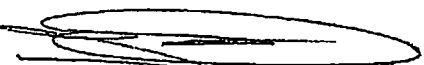
CIVIL ACTION NO.: 2008-CP-05-235

FILED
BAMBERG COUNTY
2011 JUL -7 AM 9:14
JAMES B. HIERS
CLERK OF COURT
BAMBERG, SC

STIPULATION OF DISMISSAL

The above-referenced matter, having been settled between the Plaintiff and Andrew Marshall Carter, II, the undersigned as attorneys for the Plaintiff and Andrew Marshall Carter, II, herein, hereby stipulate that it be dismissed with prejudice and forever ended as to Andrew Marshall Carter, II. This Stipulation of Dismissal shall in no way affect the Plaintiff's action against Ford Motor Company.

PETERS MURDAUGH PARKER ELTZROTH
& DETRICK


Daniel Henderson, Esquire
P. O. Drawer 2500
Ridgeland, SC 29936
843-726-6131
Attorney for the Plaintiff

BROWN & BREHMER


Robert C. Brown, Esquire
1720 Main Street, Suite 201
P. O. Box 7966
Columbia, SC 29202
803-771-6600
Attorneys for the Defendant Andrew Marshall
Carter, II

Columbia, South Carolina
April 13, 2010

FILED
BAMBERG COUNTY
2010 APR 30 AM 9:27
JAMES B. HIERS
CLERK OF COURT
BAMBERG, SC

STATE OF SOUTH CAROLINA)
)
COUNTY OF BAMBERG)

Laura Riley as the Personal Representative)
of the Estate of Benjamin Riley,)
Plaintiff,)
)
v.)
)
Ford Motor Company,)
)
Defendants.)

IN THE COURT OF COMMON PLEAS

CIVIL ACTION NO.: 2008-CP-05-235

AMENDED COMPLAINT
(WRONGFUL DEATH AND SURVIVAL
ACTION - PRODUCTS LIABILITY)
(Jury Trial Requested)

FILED
BAMBERG COUNTY
2011 JUL -7 AM 9:14
JAMES B. HIERS
CLERK OF COURT
BAMBERG, SC

The Plaintiff alleges:

1. That she is the duly appointed Personal Representative of the Estate of Benjamin Riley and brings this action on behalf of the Estate of Benjamin Riley and the beneficiaries of the Estate of Benjamin Riley.

2. That on August 29, 2007, Benjamin Riley was the duly elected Sheriff of Jasper County and authorized to possess and operate a 1998 F-150 pickup VIN # 1FTRX18L9WNA70891 owned by the Jasper County Sheriff's Office. (Subject Vehicle)

3. That on August 29, 2007, Sheriff Riley was traveling east on S.C. 231 in Bamberg County in the subject vehicle when suddenly and without warning a 2003 Ford Ranger driven by Andrew Marshall Carter, II pulled into Sheriff Riley's lane of travel from Pocketville Road. Carter failed to yield the right-of-way to Sheriff Riley.

4. Sheriff Riley attempted to take evasive action to avoid impact with Carter's vehicle. However, the front left of Sheriff Riley's F-150 impacted the right front of Carter's Ford Ranger causing Sheriff Riley's truck to leave the roadway to the right and strike a tree that was adjacent to the roadway.

6. Upon impact with Carter's vehicle, and prior to impact with the tree, the driver's door on the F-150 opened allowing Sheriff Riley to become ejected from the vehicle. Sheriff Riley died from injuries due to ejection from the vehicle.

7. Prior to his death Sheriff Riley endured conscious pain and suffering. As a result of his death the beneficiaries have endured grief, sorrow, shock, wounded feelings, mental anguish, the loss of support, love and companionship along with other damages.

8. The death of Sheriff Riley was due and proximately caused by the negligent and reckless acts of the defendant as set forth below:

AS TO FORD MOTOR COMPANY

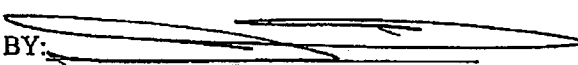
- a. In designing and manufacturing the 1998 F-150 with a defectively designed door latch system that was incapable of keeping the door closed under foreseeable driving conditions.
- b. In failing to install automatic locks in the F-150.
- c. In failing to warn of the dangers associated with a door opening in a reasonably foreseeable accident.
- d. In failing to properly test the door latching system to ensure that doors would remain closed in a reasonably foreseeable accident.
- e. In failing to follow and/or develop design standards for its door latching systems to ensure that the F-150 door remained closed in a reasonably foreseeable accident.
- f. In failing to recall the 1998 F-150.
- g. In any other particular as may be shown by the evidence.

9. That prior to manufacture of the subject vehicle Ford Motor Company was aware that the 1998 Ford F-150 was equipped with a defective door latch system, knew that its crash testing demonstrated that doors opened as a result of the defects in the door latching system and was aware of the increased risk of injury and death due to increased risk of ejection through an open door. Ford

Motor Company acted with reckless disregard for the safety of its customers in manufacturing and selling the subject vehicle with a defective door latch system.

WHEREFORE, the Plaintiff frays for an award of actual and punitive damages against the defendant, costs and attorneys fees.

PETERS, MURDAUGH, PARKER, ELTZROTH
& DETRICK, P.A.

BY: 

Daniel E. Henderson
Ronnie L. Crosby
690 N. Green Street
P.O. Box 42500
Ridgeland, SC 29936
(843) 726-6131

ATTORNEYS FOR PLAINTIFF

July 6, 2011
Ridgeland, SC

STATE OF SOUTH CAROLINA
COUNTY OF BAMBERG

Laura Riley as
Personal Representative of
the Estate of Benjamin Riley,

Plaintiff,

v.

Ford Motor Company and
Andrew Marshall Carter, II,

Defendants.

IN THE COURT OF COMMON PLEAS
IN THE SECOND JUDICIAL CIRCUIT

Case No.: 2008-CP-05-235

**PETITION FOR APPROVAL OF
SETTLEMENT**

FILED
MAR 15 2008
2008 APR 15 AM 10:35
CLERK OF COURT
BAMBERG, SC

To the Honorable Judge of the Court of Common Pleas for Bamberg County, South Carolina:

1. Your Petitioner, Laura Riley, is the Personal Representative of the Estate of Benjamin Riley, having been so appointed by the Probate Court for Bamberg County, South Carolina.

2. On or about August 29, 2007 at approximately 3:40 p.m. in Bamberg County, Benjamin Riley was involved in an automobile accident when Defendant Andrew Marshall Carter, II [Defendant Carter] was driving a 2003 Ford pickup truck south on Secondary Road 389 (Pocketville Road) and Benjamin Riley was driving a 1998 Ford pickup truck east on Secondary Road 23 (Ehrhardt Road) when Defendant Carter pulled off from a stop sign directly into the path of Benjamin Riley's vehicle, causing the two vehicles to collide, and Benjamin Riley's vehicle went off the right side of the road and

struck a tree. Benjamin Riley ultimately died from injuries sustained in the automobile accident.

3. Your Petitioner has a cause of action under the survival statute, S.C. Code Ann. § 15-5-90 (1976, as amended), and a cause of action for wrongful death under S.C. Code Ann. § 15-51-10 (1976, as amended). Your Petitioner has made a claim against Defendant Carter. A products liability claim has also been made against Defendant Ford Motor Company.

4. Defendant Carter, by and through the liability insurance carrier, South Carolina Farm Bureau Mutual Insurance Company, under policy number 0201672 Issued to Teresa L. Carter and Andrew M. Carter, Sr., has offered to pay the sum of TWENTY FIVE THOUSAND and NO/100 (\$25,000.00) Dollars to your Petitioner for the benefit of the Estate in a full and final settlement of any and all claims which the Estate might have under the aforementioned survival statute, wrongful death statute, or otherwise against Defendant Carter.

Defendant Carter has offered to pay the sum of TWENTY THOUSAND and NO/100 (\$20,000.00) Dollars to your Petitioner for the benefit of the Estate [the Survival Action] in settlement of the claim which the Estate might have against Defendant Carter under the aforementioned survival statute.

In addition, Defendant Carter has offered to pay the further sum of FIVE THOUSAND and NO/100 (\$5,000.00) Dollars to your Petitioner for the benefit of the statutory beneficiaries [the Wrongful Death Action] for a settlement of the claim against Defendant Carter arising out of the wrongful death of the decedent.

5. This settlement reflects the liability insurance coverage policy limits for Defendant Carter available to satisfy Petitioner's claims, which limits are tendered herewith.

6. The attorney's fees for this settlement are FIVE THOUSAND and NO/100 (\$5,000.00) Dollars. There are no costs and expenses associated with this settlement.

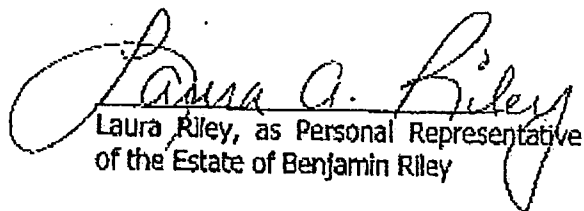
7. The statutory beneficiaries are Laura Riley (wife), Eleanor Riley Green (daughter), Tonya Riley Armstead (daughter), Lasonya Riley Major (daughter), Adrian Riley, and possibly Bernard Riley Cooper, who has filed a claim with the Probate Court alleging that he is a child of Benjamin Riley. A child's portion of the net proceeds will be escrowed pending a paternity determination. All beneficiaries/potential beneficiaries are over the age of eighteen (18) years.

8. There are no known claims or liens against the Estate at this time other than the claim mentioned in the preceding paragraph. Regardless, Laura Riley, as Personal Representative of the Estate of Benjamin Riley, will be solely responsible for paying and satisfying any claims or liens asserted against the Estate, whether said claims or liens are contractual, statutory, or otherwise.

9. Your Petitioner has carefully considered the facts and circumstances involved herein; your Petitioner is aware of the uncertainties of litigation and believes that the offers, under the circumstances, are fair and equitable and should be accepted; therefore, your Petitioner prays that this Court approve said offers and empower your Petitioner as Personal Representative of the Estate of Benjamin Riley and as Personal Representative of the statutory beneficiaries to execute a Covenant Not to Sue and

Receipt and Satisfaction that protects Defendant Carter and South Carolina Farm Bureau Mutual Insurance Company against further liability to the Estate of Benjamin Riley for any and all claims, past, present, or future, arising out of or in any way connected with the above described accident and the injuries to and death of Benjamin Riley that occurred on August 29, 2007.

WHEREFORE, your Petitioner prays that this Court do approve the settlement as hereinabove set forth and authorize and direct your Petitioner to execute a Covenant Not to Sue and Receipt and Satisfaction as noted above.

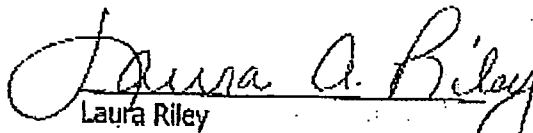

Laura Riley, as Personal Representative
of the Estate of Benjamin Riley

4/13, 2010

STATE OF SOUTH CAROLINA)
COUNTY OF BAMBERG)

VERIFICATION

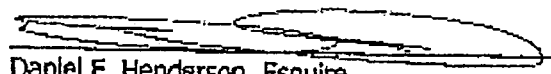
PERSONALLY appeared before me, Laura Riley, who, being duly sworn, deposes and says that she is the petitioner in the foregoing proceedings; that she has read the allegations set forth in the foregoing petition and the same are true and correct to the best of her knowledge, information and belief.


Laura Riley

Sworn to and subscribed before me)
this 13 day of April, 2010.)
 (L.S.))
Notary Public for South Carolina)
My Commission Expires: 12-5-17)

FILED
BAMBERG COUNTY
2010 APR 15 AM 10:36
CLERK OF COURT
BAMBERG, SC

I hereby certify that I as attorney for the Estate Benjamin Riley have considered the proposed settlements set forth hereinabove and do hereby approve such settlements and recommend that they be approved by this Court.


Daniel E. Henderson, Esquire
Peters Murdaugh Parker Elzroth & Detrick

4/13, 2010

STATE OF SOUTH CAROLINA

COUNTY OF BAMBERG

Laura Riley as the Personal Representative
of the Estate of Benjamin Riley,

Plaintiff,

v.

Ford Motor Company and
Andrew Marshall Carter, II,

Defendants.

IN THE COURT OF COMMON PLEAS

Civil Action No.: 2008-CP-05-235

FORD MOTOR COMPANY
MEMORANDUM IN SUPPORT OF
MOTION FOR DIRECTED VERDICT

JAMES O. HARRIS
CLERK OF COURT
BAMBERG, SC

2011 SEP 27 AM 11:23

FILED
BAMBERG COUNTY

Ford submits this memorandum of law in support of its motion for directed verdict at the close of Plaintiff's case. Ford moves for directed verdict on the following grounds:

1. Ford is entitled to directed verdict as a matter of law because Plaintiff failed to present any evidence that Ford was negligent in designing the 1998 F-150. To the contrary, the evidence has established that Ford considered various design options for the 1998 F-150, as well as the failure modes of each, vigorously tested the F-150 for safety, and made a reasonable design decision based on engineering judgment. Plaintiff "may not rely solely on the fact that an accident occurred to prove [her] products liability case under a negligence theory since South Carolina does not follow the doctrine of *res ipsa loquitur*." *Watson v. Ford Motor Co.*, 389 S.C. 434, 452-53, 699 S.E.2d 169, 179 (2010). Because Plaintiff failed to present any evidence that Ford had knowledge of a potential problem with the design of the 1998 F-150 prior to the time of manufacture in October 1997, Ford is entitled to judgment as a matter of law. *Branham v. Ford Motor Co.*, 390 S.C. 203, 227, 701 S.E.2d 5, 17 (2010) ("When assessing liability in a design defect claim against a manufacturer, the judgment and ultimate decision of the manufacturer must be evaluated based on what was known or reasonably attainable at the time of manufacture."); *Madden v. Cox*, 284 S.C. 574, 580, 328 S.E.2d 108, 112 (Ct. App. 1985) ("This

burden may be met by showing that the manufacturer was aware of the danger and failed to take reasonable steps to correct it.”); *5 Star, Inc. v. Ford Motor Co.*, Opinion No. 4862 (S.C. Ct. App. August 10, 2011) (reversing jury verdict for lack of evidence of negligent conduct in design defect case).

2. Ford is entitled to directed verdict because Plaintiff failed to satisfy her burden of proof that the 1998 F-150 is defective and unreasonably dangerous. Plaintiff relies exclusively on the fact that the door opened in the accident as evidence of defect, which does not meet the requirements of South Carolina law. “The mere fact that a product malfunctions does not demonstrate the manufacturer’s negligence or the product’s defectiveness.” *Bragg v. Hi-Ranger, Inc.*, 319 S.C. 531, 543, 462 S.E.2d 321, 328 (Ct. App. 1995); *Sunvillas Homeowners Ass’n v. Square D Co.*, 301 S.C. 330, 333-34, 391 S.E.2d 868, 870 (Ct. App. 1990). Additionally, Plaintiff failed to proffer any evidence that the 1998 F-150 had an unreasonably higher rate of door openings when compared to other vehicles with other door latching or locking designs. To the contrary, Plaintiff’s design defect expert, Mr. Gilberg, admitted that all full size trucks manufactured before 1998 had similar rod designs, and that more than 90% of all cars at the time also utilized rod systems. The evidence is undisputed that Ford complied with industry standards in designing the F-150, and there is no evidence that the truck was defective or unreasonably dangerous based on standards applicable to the time of manufacture.

3. Plaintiff cannot satisfy all of the required elements of her sole cause of action that Ford negligently designed the subject vehicle because the vehicle, at the time of accident, was not in essentially the same condition as it was when it left Ford’s control. Rather, the evidence has established that the driver door – alleged to be defective and causative in causing enhanced injuries to Sheriff Riley – was modified and/or altered from its originally designed condition by repair work performed by the Jasper County maintenance garage. The shop foreman, Mark

Crosby, testified the repair resulted in several clips being broken, which unquestionably affected the strength of the door trim panel and the overall integrity of the door system at issue in this case. Where the only reasonable inference to be drawn from the evidence is that an unforeseeable alteration contributed to cause Plaintiff's injuries, judgment as a matter of law is appropriate as there is no question of fact to submit to the jury. *See, e.g., Jackson v. Bermuda Sands, Inc.*, 383 S.C. 11, 17, 677 S.E.2d 612, 616 (Ct. App. 2009) (dismissing a product liability action as a matter of law, in part, because "a manufacturer may not be held liable for the subsequent mishandling or other superseding act which causes the injury").

4. Ford is entitled to directed verdict because Plaintiff failed to satisfy all of the required elements of her sole cause of action because she failed to present any evidence of an alternative feasible design that is non-defective and reasonably safe for all foreseeable accidents. Rather, Plaintiff's design defect expert, Mr. Gilberg, candidly admitted he cannot and does not opine that the alternative design relied upon by Plaintiff in this case is non-defective and reasonably safe for all foreseeable crashes. Thus, Plaintiff failed to satisfy this essential element of her design defect claim, and Ford is entitled to judgment. *Branham*, 390 S.C. at 225, 701 S.E.2d at 33 (holding a product liability plaintiff must "point to a design flaw in the product and show how his alternative design would have prevented the product from being unreasonably dangerous" considering "the costs, safety and functionality associated with the alternative design").

5. Ford is entitled to judgment as a matter of law on Plaintiff's failure to warn claim based upon the lack of evidence to support such a claim. This is not a warnings case, and Plaintiff has not presented any testimony, from a human factors expert or otherwise, tending to establish that Ford had a duty to warn of any particular danger with the 1998 F-150 (apart from the design at issue), or failed to adequately warn of the same, or that any alleged failure to warn

was the proximate cause of Sheriff Riley's death. All of the evidence in this case has centered around Ford's alleged negligence in *designing* the F-150, as opposed to issuing inadequate warnings concerning the truck's design. A negligence case premised on products liability can be based upon three theories: design defect, manufacturing defect, or failure to warn. Although Plaintiff's Complaint includes a generic failure to warn allegation against Ford, this is solely a design defect case, and Ford is entitled to directed verdict on Plaintiff's failure to warn claim.¹

6. Ford is entitled to judgment as a matter of law on Plaintiff's survival claim because there is no evidence that Riley survived the accident for any period of time or suffered any conscious pain and suffering. A survival action is brought the benefit of the decedent's estate rather than for the family, and is based on the alleged pain and suffering of the decedent before he or she died. *Scott v. Porter*, 340 S.C. 158, 170, 530 S.E.2d 389, 395 (Ct. App. 2000). "Appropriate damages in survival actions include those for medical, surgical, and hospital bills, conscious pain, suffering, and mental distress of the deceased." *Id.* "The test for a survival action in South Carolina is whether the decedent suffered conscious pain and suffering." *Rutland v. South Carolina Department of Transportation*, 390 S.C. 78, 83, 700 S.E.2d 451, 454 (Ct. App. 2010) (citing *Camp v. Petroleum Carrier Corp.*, 204 S.C. 133, 139, 28 S.E.2d 683, 685

¹ See *Lujan v. Tampo Mfg. Co.*, 825 S.W.2d 505, 510 (Tex. App. 1992) (affirming summary judgment because plaintiff's claim that the manufacturer should have warned of the absence of a safety device merely restated plaintiff's design defect claim); *American Motors Corp. v. Ellis*, 403 So.2d 459, 467 (Fla. App. 1981) ("The fallacy of the warning argument in the instant case is that it begs the question. If there were a defect in the fuel system of the 1974 Ambassador that caused the injuries to plaintiffs, AMC is liable, irrespective of any warning; if there were not, there is no liability, irrespective of any failure to warn. Consequently, the warning issue, under these facts, is irrelevant."). Likewise, this claim fails because Plaintiff did not establish that any alleged failure to warn was the proximate cause of Sheriff Riley's death. See *Ellis*, 403 So.2d at 466 ("It is difficult to perceive, given the nature of the defect contended by the plaintiffs, what the specific warning would have been that AMC was under a duty to convey.... It is understandable from the instant record how AMC may have altered the design of the 1974 Ambassador to make it safer against fire resulting from rear impact, but no evidence was adduced below to show how any warning from AMC to the owner prior to December 10, 1976, could have prevented or ameliorated the injuries that occurred on that date to the plaintiffs in this case. Only if we were to engage in the speculation that the owner, properly warned, would not have purchased the car, or would not have allowed it to be driven on interstate highways, could we recognize a causal relationship between breach of a duty to warn and the instant injury"); *Greiner v. Volkswagenwerk AG*, 429 F. Supp. 495, 498 (E.D. Pa. 1977) ("There are no proven facts in this record which would lend the dignity of an inference as opposed to a guess, that Nickel would not have purchased the Volkswagen in the face of a warning.").

(1944). Simply stated, "under South Carolina law, where there is no evidence of conscious pain and suffering in a survival action, the defendant is entitled to a directed verdict." *Stevens v. Allen*, 342 S.C. 47, 52, 536 S.E.2d 633, 655 (2000). The record in this case is void of any evidence of conscious pain and suffering of Sheriff Riley from any of the injuries he sustained in the accident.²

7. Ford is entitled to directed verdict on Plaintiff's claim for punitive damages. Plaintiff's claim for punitive damages fails as a matter of law because there is no clear and convincing evidence of reckless, willful, or wanton conduct by Ford at the time Ford manufactured the 1998 F-150 truck at issue in October of 1997, and thus, Plaintiff cannot satisfy the requisite burden of proof. *See* S.C. Code Ann. § 15-33-135.

"Punitive damages are recoverable in a negligence cause of action [only] when the defendant's conduct rises to the level of a willful, wanton, or malicious violation of the plaintiff's rights." *Scott by McClure v. Fruehauf Corp.*, 302 S.C. 364, 370, 396 S.E.2d 354, 357 (1990). "It is fundamental that punitive or vindictive damages can be awarded only in instances where there is something more than simple negligence or a technical conversion. There must be malice, ill will, a conscious indifference to the rights of others, or a reckless disregard thereof to justify an award of punitive damages." *King v. Allstate Ins. Co.*, 272 S.C. 259, 263, 251 S.E.2d 194, 196 (1979). Additionally, the "design and manufacture decision should be assessed on the evidence available at that time" as opposed to any evidence that may subsequently come to light. *Branham*, 390 S.C. at 230, 701 S.E.2d at 19. *See also Jiminez v. DaimlerChrysler Corp.*, 269

² Plaintiff has previously argued that the survival claim should survive because Sheriff Riley may have suffered pre-impact fear, but such argument is misplaced as the Supreme Court of South Carolina has specifically rejected Plaintiff's same arguments in another recent case. *See Rutland v. South Carolina Department of Transportation*, 390 S.C. 78, 83, 700 S.E.2d 451, 454 (Ct. App. 2010); *Spaugh v. Atlantic Coast Line R. Co.*, 158 S.C. 25, 155 S.E. 145 (1930). Additionally, the case of *Vereen v. Liberty Life Ins. Co.*, 306 S.C.423, 412 S.E.2d 425 (Ct. App. 1991) is easily distinguished because there was evidence of conscious pain and suffering in that case.

F.3d 439, 450 (4th Cir. 2001) (“[p]unitive damages are designed to punish only behavior that was obviously reckless at the time of commission”) (applying South Carolina law).

Regarding the punitive damages inquiry, “the wanton and willful standard is not satisfied where there is a bona fide dispute as to the propriety of the defendant’s actions.” *Ivy v. Ford Motor Co.*, 646 F.3d 769, 776-77 (11th Cir. 2011) (“the mere fact that some expert might develop an after-the-fact opinion that the vehicle is defective is not sufficient to create a genuine issue of material fact as to whether Ford was willful and wanton”). “As a matter of common sense and common experience with respect to the meaning of wanton conduct, merely finding an after-the-fact expert to opine that a product is defective cannot be sufficient to create a jury question on the issue of wantonness – defined as willful conduct based on an actual intention to do harm or wanton conduct that is so reckless or so charged with indifference to the consequences as to be the equivalent in spirit of actual intent – when the product satisfied the government and industry standards extant at the earlier relevant time.” *Id.* Here, the record evidence is undisputed that Ford’s design complied with industry standards and government regulations, and reasonable minds cannot disagree about whether Ford’s conduct in designing the 1998 F-150 rises to the level sufficient to impose punitive damages. Indeed, Plaintiff’s own expert, Mr. Gilberg, admitted Ford tested its vehicles well beyond government requirements to ensure safety, and made a design decision after testing and evaluating the advantages and disadvantages of various designs.

Finally, imposing punitive damages under the facts of this case would render South Carolina’s quasi-criminal punitive damage statute, S.C. Code Ann. § 15-33-135, unconstitutionally vague as applied, and would violate Ford’s right to due process under the 14th Amendment of the United States Constitution. As a matter of due process, vagueness may invalidate a quasi-criminal law for either of two independent reasons. “First, it may fail to

provide the kind of notice that will enable ordinary people to understand what conduct it prohibits; second, it may authorize and even encourage arbitrary and discriminatory enforcement.” *City of Chicago v. Morales*, 527 U.S. 41, 56 (1999); *see also Mattison v. Dallas Carrier Corp.*, 947 F.2d 95, 101 (4th Cir. 1991) (applying South Carolina law) (“The first principle of due process embraces a rule of law which contains standards that can be known in advance, conformed to, and applied rationally.”).

If South Carolina law permits a jury to punish Ford under the circumstances of this case – where reasonable people can and do disagree with Plaintiff’s theory of defect – it is unconstitutional, as applied, under both prongs of the vagueness doctrine. It is unconstitutional under the first prong because Ford had no way to predict which reasonable disagreements would subject it to punishment and which would not, making it impossible for Ford to conform its conduct to comply with the law and avoid punishment. Additionally, it is unconstitutional under the second prong because it authorizes and encourages arbitrary enforcement by persons motivated primarily by personal gain, by their own personal predilections, or by idiosyncratic notions of public policy that may be contrary to public policy set by responsible governmental agencies. For these reasons, Plaintiff’s claim for punitive damages fails.

CONCLUSION

For the reasons set forth herein, Ford submits it is entitled to directed verdict as a matter of law.

[SIGNATURE PAGE FOLLOWS]

TURNER, PADGET, GRAHAM & LANEY, P.A.

9-27, 2011

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**ATTORNEYS FOR DEFENDANT
FORD MOTOR COMPANY**

FILED
STATE OF SOUTH CAROLINA IN THE COURT OF COMMON PLEAS
COUNTY OF BAMBERG 2011 OCT 10 AM 10:18 Civil Action No.: 2008-CP-05-235

JAMES B. HERS
CLERK OF COURT
Laura Riley as the Personal Representative
of the Estate of Benjamin Riley

Plaintiff,

v.

Ford Motor Company and
Andrew Marshall Carter, II,

Defendants.

FORD MOTOR COMPANY'S
MOTION FOR JUDGMENT
NOTWITHSTANDING THE VERDICT
AND/OR SET OFF

Pursuant to Rule 50(b) of the South Carolina Rules of Civil Procedure, Defendant Ford Motor Company ("Ford") hereby moves the Court to set aside the verdict entered in this case on September 29, 2011, and to enter judgment in favor of Ford in accordance with its motions for directed verdict at the close of Plaintiff's case in chief, and renewed at the close of all evidence. Alternatively, Ford moves for a set off from the jury's verdict in accordance with the amount of money received by Plaintiff from the settlement with Andrew Marshall Carter, II ("Carter"). In making this motion, Ford adopts and incorporates herein by reference its arguments orally and in writing at trial in support of its motions for a directed verdict.

I. Ford is entitled to judgment notwithstanding the verdict.

Based on the grounds listed below, the evidence is insufficient to support a verdict for Plaintiff, and the evidence affirmatively demonstrates Ford is entitled to judgment as a matter of law on Plaintiff's sole cause of action for negligent design defect concerning the 1998 F-150 truck:

1. Ford is entitled to judgment as a matter of law because Plaintiff failed to present any evidence that Ford was negligent in designing the 1998 F-150. To the contrary, the evidence established that Ford considered various design options for the PN96 version of the F-150, as

well as the potential failure modes of each; that it vigorously tested the F-150 for safety over and above any testing required by any regulatory agency; that it made reasonable design decisions based on information then available to it; that its design decisions were an exercise of engineering judgment; and that its design decisions were consistent with industry practice. Plaintiff contended, and Ford agrees, that Ford had knowledge of potential failure modes of the door latch systems generally applicable to all vehicles. Plaintiff failed to offer any evidence that Ford was on notice of any actual shortcoming in the system specifically adopted for the PN96 version of the F-150. Plaintiff likewise failed to offer any evidence that the door latch system on the F-150 was in fact unreasonably dangerous or that the F-150 was not crashworthy as compared to other vehicles manufactured by Ford or others up to and including 1998.

Plaintiff "may not rely solely on the fact that an accident occurred to prove [her] products liability case under a negligence theory since South Carolina does not follow the doctrine of *res ipsa loquitur*." *Watson v. Ford Motor Co.*, 389 S.C. 434, 452-53, 699 S.E.2d 169, 179 (2010). Because Plaintiff failed to present any evidence that Ford had knowledge of a potential problem with the design of the 1998 F-150 prior to the time of manufacture in October 1997, Ford is entitled to judgment as a matter of law. *Branham v. Ford Motor Co.*, 390 S.C. 203, 227, 701 S.E.2d 5, 17 (2010) ("When assessing liability in a design defect claim against a manufacturer, the judgment and ultimate decision of the manufacturer must be evaluated based on what was known or reasonably attainable at the time of manufacture."); *Madden v. Cox*, 284 S.C. 574, 580, 328 S.E.2d 108, 112 (Ct. App. 1985) ("This burden may be met by showing that the manufacturer was aware of the danger and failed to take reasonable steps to correct it."); *5 Star, Inc. v. Ford Motor Co.*, Opinion No. 4862 (S.C. Ct. App. August 10, 2011) (reversing jury verdict for lack of evidence of negligent conduct in design defect case).

2. Ford is entitled to judgment as a matter of law because Plaintiff failed to satisfy her burden of proof that the 1998 F-150 is defective and unreasonably dangerous. Plaintiff relies exclusively on the fact that the door opened in the accident as evidence of defect, which does not meet the requirements of South Carolina law. First, the fact that a vehicle door opens in a crash does not mean that the door latch system malfunctioned. As conceded by Plaintiff's designated expert witness Andrew Gilberg, door openings in crashes have been reported on numerous vehicle makes and models. Moreover, even if considered a malfunction, "the mere fact that a product malfunctions does not demonstrate the manufacturer's negligence or the product's defectiveness." *Bragg v. Hi-Ranger, Inc.*, 319 S.C. 531, 543, 462 S.E.2d 321, 328 (Ct. App. 1995); *Sunvillas Homeowners Ass'n v. Square D Co.*, 301 S.C. 330, 333-34, 391 S.E.2d 868, 870 (Ct. App. 1990). Additionally, Plaintiff failed to proffer any evidence that the 1998 F-150 had an unreasonably higher rate of door openings when compared to other vehicles with other door latching or locking designs, or that the 1998 F-150 occupants are injured in crashes at a rate different than occupants of other make and model vehicles. Mr. Gilberg initially contended that the rod linkage on the F-150 rendered it defective because it is allegedly subject to rod "foreshortening" in frontal crashes. Yet, Mr. Gilberg, admitted that all full size trucks manufactured before 1998 had similar rod designs, and that more than 90% of all cars at the time also utilized rod systems. The evidence is undisputed that Ford exceeded industry testing standards in designing the F-150, that its design was consistent with industry practice and standards, and there was no evidence that the truck was defective or unreasonably dangerous based on standards applicable at the time of manufacture.

Plaintiff's theory of defect pursued at trial was premised on Ford's use of a rod linkage for the inside door handle as opposed to cable system. Significantly, however, Plaintiff's defect expert, Mr. Gilberg, ultimately admitted on cross examination that use of a rod linkage does not

render the door latch system defective. He testified that use of a rod linkage is appropriate so long as it is properly implemented. He did not, however, offer any testimony regarding the manner in which Ford implemented the rod system on the PN96 version of the F-150, nor did he offer any testimony regarding alternative means to implement a rod system. He noted that the thickness of the intrusion beam in the 1998 F-150 may have been changed, but he did not offer any testimony as to how this would change the characteristics of the system or if it even applied to the Riley truck. Mr. Gilberg did no testing on an F-150 door to demonstrate its physical characteristics other than to use a demonstration model in which he cut the sheet metal to eliminate any resistance to crushing. Plaintiff simply did not introduce any evidence of the manner in which Ford implemented the rod linkage on the 1998 PN96 F-150, much less that Ford failed to adequately implement the rod linkage. Instead, Plaintiff's case focused solely on Ford's rod versus cable design decision, even though Mr. Gilberg conceded that he did not have any issue with the rod system alone.

3. Plaintiff failed to satisfy all of the required elements of her sole cause of action that Ford negligently designed the subject vehicle because the vehicle, at the time of accident, was not in essentially the same condition as it was when it left Ford's control. Rather, the evidence has established that the driver door – alleged to be defective and causative in causing enhanced injuries to Sheriff Riley – was modified and/or altered from its originally designed condition by repair work performed by the Jasper County maintenance garage. The shop foreman, Mark Crosby, testified the repair resulted in several clips being broken, which unquestionably affected the strength of the door trim panel and the overall integrity of the door system at issue in this case. Where the only reasonable inference to be drawn from the evidence is that an unforeseeable alteration contributed to cause Plaintiff's injuries, judgment as a matter of law is appropriate as there is no question of fact to submit to the jury. See, e.g., *Jackson v.*

Bermuda Sands, Inc., 383 S.C. 11, 17, 677 S.E.2d 612, 616 (Ct. App. 2009) (dismissing a product liability action as a matter of law, in part, because "a manufacturer may not be held liable for the subsequent mishandling or other superseding act which causes the injury").

4. Ford is entitled to judgment as a matter of law because Plaintiff failed to satisfy all of the required elements of her crashworthiness cause of action. The crashworthiness doctrine requires manufacturers to design and manufacture a product that is reasonably safe for reasonably foreseeable crash scenarios, and to establish a crashworthiness claim, a plaintiff must establish the availability of an alternative feasible design that is crashworthy *and* that would have prevented the harm to the plaintiff in the particular crash at issue. The rationale of the crashworthiness doctrine would not be met by having a plaintiff offer evidence of an alternative design that prevents a particular injury in a particular type of crash, but poses a high risk of harm in other foreseeable crash scenarios. Yet, Plaintiff's designated design defect expert, Mr. Gilberg, candidly admitted he cannot and does not opine that the alternative design relied upon by Plaintiff in this case is non-defective and reasonably safe for crashes other than for the specific crash scenario giving rise to this action. Thus, Plaintiff failed to satisfy this essential element of her design defect claim, and Ford is entitled to judgment as a matter of law. *Branham*, 390 S.C. at 225, 701 S.E.2d at 33 (holding a product liability plaintiff must "point to a design flaw in the product and show how his alternative design would have prevented the product from being unreasonably dangerous" considering "the costs, safety and functionality associated with the alternative design").

5. Ford is entitled to judgment as a matter of law on Plaintiff's claim for punitive damages because there was no clear and convincing evidence of reckless, willful, or wanton conduct by Ford at the time Ford manufactured the 1998 F-150 truck at issue in October of 1997,

and thus, Plaintiff failed to satisfy the requisite burden of proof. See S.C. Code Ann. § 15-33-135.

"Punitive damages are recoverable in a negligence cause of action [only] when the defendant's conduct rises to the level of a willful, wanton, or malicious violation of the plaintiff's rights." *Scott by McClure v. Fruehauf Corp.*, 302 S.C. 364, 370, 396 S.E.2d 354, 357 (1990). "It is fundamental that punitive or vindictive damages can be awarded only in instances where there is something more than simple negligence or a technical conversion. There must be malice, ill will, a conscious indifference to the rights of others, or a reckless disregard thereof to justify an award of punitive damages." *King v. Allstate Ins. Co.*, 272 S.C. 259, 263, 251 S.E.2d 194, 196 (1979). Additionally, the "design and manufacture decision should be assessed on the evidence available at that time" as opposed to any evidence that may subsequently come to light. *Branham*, 390 S.C. at 230, 701 S.E.2d at 19. See also *Jiminez v. DaimlerChrysler Corp.*, 269 F.3d 439, 450 (4th Cir. 2001) ("[p]unitive damages are designed to punish only behavior that was obviously reckless at the time of commission") (applying South Carolina law).

Regarding the punitive damages inquiry, "the wanton and willful standard is not satisfied where there is a bona fide dispute as to the propriety of the defendant's actions." *Ivy v. Ford Motor Co.*, 646 F.3d 769, 776-77 (11th Cir. 2011) ("the mere fact that some expert might develop an after-the-fact opinion that the vehicle is defective is not sufficient to create a genuine issue of material fact as to whether Ford was willful and wanton"). "As a matter of common sense and common experience with respect to the meaning of wanton conduct, merely finding an after-the-fact expert to opine that a product is defective cannot be sufficient to create a jury question on the issue of wantonness – defined as willful conduct based on an actual intention to do harm or wanton conduct that is so reckless or so charged with indifference to the consequences as to be the equivalent in spirit of actual intent – when the product satisfied the

government and industry standards extant at the earlier relevant time." *Id.* Here, the record evidence is undisputed that Ford's design complied with industry standards; that during the design and development of the truck Ford conducted safety testing above and beyond government requirements; that Ford considered and addressed safety concerns in accord with prudent engineering practices; that Ford weighed the advantages and disadvantages of various design options; that Ford was not swayed by considerations of cost-savings in adopting safety improvements (for example, Mr. Gilberg testified that Ford elected to use what he believed to be the safer compression rod design over the less expensive tension rod design); that Ford's decision to use a compression rod design was motivated by its concerns about a shortcoming with the cable design on the prior version of the F-150 (i.e., the cable freezing issue); that when confronted with performance concerns, Ford addressed them (for example, Mr. Gilberg testified that when a door came open in a crash test on a prior version of the F-150, Ford changed the design); and thus reasonable minds cannot disagree about whether Ford's conduct in designing the 1998 F-150 rises to the level sufficient to impose punitive damages.

Finally, imposing punitive damages under the facts of this case would render South Carolina's quasi-criminal punitive damage statute, S.C. Code Ann. § 15-33-135, unconstitutionally vague as applied, and would violate Ford's right to due process under the Fourteenth Amendment of the United States Constitution. As a matter of due process, vagueness may invalidate a quasi-criminal law for either of two independent reasons. "First, it may fail to provide the kind of notice that will enable ordinary people to understand what conduct it prohibits; second, it may authorize and even encourage arbitrary and discriminatory enforcement." *City of Chicago v. Morales*, 527 U.S. 41, 56 (1999); *see also Mattison v. Dallas Carrier Corp.*, 947 F.2d 95, 101 (4th Cir. 1991) (applying South Carolina law) ("The first

principle of due process embraces a rule of law which contains standards that can be known in advance, conformed to, and applied rationally.").

If South Carolina law permits a jury to punish Ford under the circumstances of this case – where reasonable people can and do disagree with Plaintiff's theory of defect – it is unconstitutional, as applied, under both prongs of the vagueness doctrine. It is unconstitutional under the first prong because Ford had no way to predict which reasonable disagreements would subject it to punishment and which would not, making it impossible for Ford to conform its conduct to comply with the law and avoid punishment. Additionally, it is unconstitutional under the second prong because it authorizes and encourages arbitrary enforcement by persons motivated primarily by personal gain, by their own personal predilections, or by idiosyncratic notions of public policy that may be contrary to public policy set by responsible governmental agencies. For these reasons, Ford is entitled to judgment as a matter of law on Plaintiff's claim for punitive damages.

In addition to the above-stated grounds, Ford incorporates herein by reference all grounds previously raised in its motions for directed verdict made at trial, and all applicable South Carolina law. Additionally, this motion may be supported by a memorandum of law to be filed at a later date, and any oral argument the Court may permit in support of the instant motion.

II. Alternatively, Ford is entitled to a set off from the jury's verdict.

Should the Court deny Ford's motion for judgment notwithstanding the verdict, Ford moves the Court to apply a set off from the jury's verdict of \$300,000.00 in actual damages. In addition to other death benefits, Plaintiff received a total of \$75,000.00 in insurance proceeds resulting from the death of Sheriff Ben Riley. Of that amount, \$50,000.00 came from Plaintiff's underinsured carrier. The remaining \$25,000.00 came from Carter's liability insurance, and was split between the survival claim and wrongful death claim (\$20,000.00 to survival and \$5,000.00

to wrongful death). Because Plaintiff voluntarily withdrew the survival claim during trial based on the undisputed lack of evidence, Ford is entitled to a set off on the wrongful death claim from the full amount received from Carter's liability insurance, reducing the jury's verdict from \$300,000.00 to \$275,000.00.

The right to set off is based on the equitable power of the court.¹ "The trial court's jurisdiction to set off one judgment against another is equitable in nature and should be exercised when necessary to provide justice between the parties." *Smalls v. South Carolina Dep't of Educ.*, 339 S.C. 208, 219, 528 S.E.2d 682, 688 (Ct. App. 2000). As noted in *Hawkins v. Pathology Assocs. of Greenville, P.A.*, 330 S.C. 92, 498 S.E.2d 395 (Ct. App. 1998):

A non-settling defendant is entitled to credit for the amount paid by another defendant who settles. *Powers v. Temple*, 250 S.C. 149, 156 S.E.2d 759 (1967); *Vaughn v. City of Anderson*, 300 S.C. 55, 386 S.E.2d 297 (Ct. App. 1989). The Supreme Court explained, "the reason for allowing such a credit is to prevent an injured person from obtaining a second recovery of that part of the amount of damages sustained which has already been paid him. Or differently stated, it is almost universally held that there can be only one satisfaction for an injury or wrong."

Id. at 219-20, 528 S.E.2d at 688 (citing *Hawkins*, 330 S.C. at 113, 498 S.E.2d at 406-07).

It is further recognized in South Carolina that where a settlement with one defendant is allocated between survival and wrongful death claims, the law permits the trial court, post-verdict, to reallocate that settlement for purposes of set off. *See, e.g., Welch v. Epstein*, 342 S.C. 279, 536 S.E.2d 408 (Ct. App. 2000) (affirming reallocation of settlement proceeds between survival and wrongful death claims: "the allocation between the survival and wrongful death claims must yield to fairness and justice"). *See also Vortex Sports & Entertainment, Inc. v. Ware*, 378 S.C. 197, 662 S.E.2d 444 (Ct. App. 2008) (upholding application of a set off even

¹ However, South Carolina Code § 15-38-15(E) also codifies a defendant's right to set off. *See* S.C. Code Ann. § 15-38-15(E) (Supp. 2005) ("setoff from any settlement received from any potential tortfeasor prior to the verdict shall be applied in proportion to each defendant's percentage of liability").

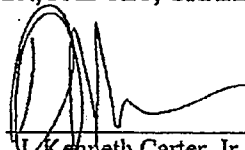
though the plaintiff asserted different causes of action against the defendants, because the term injury "is broad enough to include all damages"). The reasoning and holding of the *Welch* opinion apply equally to the circumstances of this case, where the facts are nearly identical and mandate that Ford be given the full set off from Plaintiff's settlement with Carter. Thus, the jury's verdict on the sole cause of action pursued at trial should be reduced to \$275,000.00.

CONCLUSION

For the reasons set forth herein, and for the reasons stated orally and in writing at trial, Ford submits it is entitled to judgment as a matter of law, or in the alternative, to a set off from the jury's verdict of actual damages.

TURNER, PADGET, GRAHAM & LANEY, P.A.

October 10, 2011

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**ATTORNEYS FOR DEFENDANT
FORD MOTOR COMPANY**

STATE OF SOUTH CAROLINA	)	IN THE COURT OF COMMON PLEAS
	)	
COUNTY OF BAMBERG	)	CIVIL ACTION NO.: 2008-CP-05-235
	)	
LAURA RILEY, AS PERSONAL	)	
REPRESENTATIVE OF THE ESTATE	)	
OF BENJAMIN RILEY,	)	
	)	
Plaintiff,	)	PLAINTIFF'S NOTICE OF MOTION AND
	)	MOTION FOR NEW TRIAL ABSOLUTE,
v.	)	NEW TRIAL <i>NISI</i> <i>ADDITUR</i> , AND FOR
	)	TAXABLE COSTS AS PREVAILING PARTY
FORD MOTOR COMPANY,	)	
	)	
Defendant.	)	

TO: THE HONORABLE D.A. EARLY, III, PRESIDING JUDGE and KENNETH CARTER, ESQUIRE; TRACY WALKER, ESQUIRE; JONATHAN HARMON, ESQUIRE, COUNSEL FOR DEFENDANT FORD MOTOR COMPANY.

The Plaintiff Laura Riley, as Personal Representative of the Estate of Benjamin Riley, respectfully moves the Court for an order granting a new trial pursuant to Rule 59, *South Carolina Rules of Civil Procedure* on the following grounds:

1. The jury verdict is so unduly conservative, shockingly and disproportionately low compared to the damages sustained by Plaintiff and the beneficiaries of the Estate so as to indicate that the jury acted out of passion, caprice, prejudice, and/or other improper considerations.

2. The evidence submitted in this case does not justify the verdict rendered by the jury and the Court should therefore invoke the "thirteenth juror" doctrine and grant a new trial absolute.

3. In the alternative to a new trial absolute, Plaintiff requests a new trial *nisi* additur.

4. Finally, the Plaintiff gives notice of her intention as prevailing party to move for taxable costs, at the appropriate time, pursuant to Rule 54(d), SCRCP.

The undersigned attorney certifies, on information and belief, that consultation with opposing counsel in an effort to attempt a good faith resolution of the matter contained in the within Motion would serve no useful purpose.

Plaintiff further reserves the right to supplement this Motion by further memoranda of law, copies of the trial transcript, etc., depending upon the Court's inclination to determine these and other post-trial motions by oral argument or without oral argument on brief.

Respectfully submitted,

PETERS, MURDAUGH, PARKER, ELTZROTH
& DETRICK, P.A.

BY: _____

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ATTORNEYS FOR PLAINTIFF

October 10, 2011
Hampton, South Carolina

STATE OF SOUTH CAROLINA	)	IN THE COURT OF COMMON PLEAS
	)	
COUNTY OF BAMBERG	)	CIVIL ACTION NO.: 2008-CP-05-235
	)	
LAURA RILEY, AS PERSONAL	)	
REPRESENTATIVE OF THE ESTATE	)	
OF BENJAMIN RILEY,	)	
	)	
Plaintiff,	)	PLAINTIFF'S MEMORANDUM IN SUPPORT
	)	OF MOTION FOR NEW TRIAL ABSOLUTE,
v.	)	NEW TRIAL <i>NISI ADDITUR</i> , AND FOR
	)	TAXABLE COSTS AS PREVAILING PARTY
FORD MOTOR COMPANY.	)	
	)	
Defendant.	)	

TO: THE HONORABLE D.A. EARLY, III, PRESIDING JUDGE and KENNETH CARTER, ESQUIRE; TRACY WALKER, ESQUIRE; JONATHAN HARMON, ESQUIRE, COUNSEL FOR DEFENDANT FORD MOTOR COMPANY.

The Plaintiff Laura Riley, as Personal Representative of the Estate of Benjamin Riley, respectfully submits the following Memorandum In Support of her post-trial Motions pursuant to Rule 59, SCRCP. Following publication of the jury verdict the parties requested, and were granted by the Court, permission to file and serve any post-trial motions within ten (10) days of the verdict. Plaintiff respectfully requests that the Court grant her motion for new trial absolute; in the alternative, for new trial *nisi additur*; and additionally for the imposition of taxable costs pursuant to Rule 54 of the South Carolina Rules of Civil Procedure.

BACKGROUND

This products liability action involved Plaintiff's claim of a design defect for the latch system of a 1998 Ford F-150 pickup truck being operated by the decedent Benjamin Riley at the time of his death. The case was tried under the general theory of

"crashworthiness" and the products liability theory advanced by the Plaintiff was for negligence in the design of the latch system at issue. Throughout the trial of the case, there is no question that Ford Motor Company vigorously denied and defended each and every issue of liability, whether of the Plaintiff's burden of proof of a design defect under a negligence theory, or as to the elements of proof of Plaintiff's products liability claim.

The trial of this case began on September 19, 2011 and concluded by jury verdict on the afternoon of September 29, 2011. Prior to the directed verdict stage of the trial, the Plaintiff withdrew her survival action and thus the jury's consideration was limited to the wrongful death case brought on behalf of the statutory beneficiaries of the decedent pursuant to S.C. Code 15-51-10, *et. seq.* Those statutory beneficiaries are the wife of the decedent, Mrs. Laura Riley, and five adult children of the decedent.

The jury unanimously found for the Plaintiff in the amount of Three Hundred Thousand (\$300,000.00) Dollars in actual damages. Furthermore, the jury found under the clear and convincing evidence standard that Ford's conduct rose to the level of willful, wanton, and reckless conduct, but awarded Zero (\$0.00) Dollars in punitive damages. Throughout the nine day trial, there was neither dispute nor argument about damages in this case.

Despite the vigorous defense of the case from a liability standpoint, damages were not contested by Ford. The Plaintiff presented evidence at trial of each and every element of loss under South Carolina common law. The elements of damages generally recoverable in a wrongful death action are:

- (1) Pecuniary loss;
- (2) mental shock and suffering;

- (3) wounded feelings;
- (4) grief and sorrow,
- (5) loss of companionship,
- (6) deprivation of the use and comfort of the Intestate's society, the loss of his experience, knowledge, and judgment in managing the affairs of himself and of his beneficiaries, in addition to the loss of his ability to earn money for the support, maintenance, care and protection of his wife and children, and for the education and training of the latter.

11 S.C. Jur. Damages § 24; *Mishoe v. Atlantic C.L.R. Co.*, 186 S.C. 402, 416, 197 S.E. 97, 104-105 (1973); *Garner v. Houck*, 312 S.C. 481, 435 S.E.2d 847 (1993). The evidence at trial showed, and it is uncontested, that the beneficiaries of Sheriff Riley's Estate suffered each of the compensable elements of loss. As to the intangible elements of damages of wrongful death, uncontroverted evidence was presented through three of Riley's children, his widow, and numerous friends and colleagues of Riley as to the wounded feelings, grief and sorrow, mental suffering, and loss of the benefit of Riley's experience suffered by the beneficiaries of the Estate. It was stipulated at trial that under S.C. Code Ann. Section 19-1-150, Sheriff Riley's life expectancy was nineteen (19) years.

On the pecuniary damages side, the Plaintiff presented undisputed, uncontroverted evidence of pecuniary loss in the amount of \$226,605.00. (Testimony of Oliver Wood). Thus, the jury only awarded \$73,395.00 above the undisputed pecuniary damages. Extrapolated within the framework of the nineteen year life expectancy, that figure equals only \$3,862.89 per year. Further extrapolated as between the beneficiaries, the jury award equates to approximately \$643.81 per year, per beneficiary. This per annum extrapolation of the damages awarded is directly relevant because during its deliberation, the single question by the jury was whether actual

damages were a "lump sum or per year" figure. (Court's Exhibit No. 8). With the agreement of the parties, the Court instructed the jury that actual damages were to be a lump sum. Thus, based on the jury question, it is evidence that the \$300,000.00 award was considered by the jury to be the lump sum award spread over the course of the decedent's 19 year life expectancy.

Based upon the quantity and quality of the evidence presented at trial of the grief, sorrow, loss, and heartache endured by the Riley family, it is clear that the jury's actual damage award was based upon improper considerations, is unduly conservative, and stands in shocking disproportion to the uncontested, uncontroverted damages suffered by the beneficiaries of the Estate. The only inference to be drawn from disparity between the evidence of damages presented at trial and the shockingly low verdict of the jury is that the jury verdict was improper.

ARGUMENT

- 1. The Jury Verdict Is Unduly Conservative, and Shockingly and Disproportionately Low Compared to the Damages Sustained by the Beneficiaries of the Estate, so as to Indicate that the Jury Acted out of Passion, Caprice, Prejudice, or other Improper Considerations.**

Where a jury verdict is grossly excessive by law so as to shock the conscience of the court and clearly indicate the figure reached was the result of passion, caprice, prejudice, partiality, corruption or some other influence outside the evidence, the trial judge must grant a new trial absolute. *Howard v. Roberson*, 376 S.C. 143, 654 S.E.2d 877 (Ct. App. 2007); *Clark v. South Carolina Dept of Public Safety*, 353 S.C. 291, 578 S.E.2d 16 (Ct. App. 2003); *Stevens v. Allen*, 336 S.C. 439, 520 S.E.2d 625 (Ct. App. 1999)

The jury verdict in this case was grossly inadequate considering the facts and evidence of damages as developed by the Plaintiff and the utter and absolute lack of attack or contesting of the damages suffered. The verdict rendered by the jury could have only been the result of passion, caprice, prejudice or some other improper motive, requiring a new trial. As a result, new trial is required.

2. The Evidence Submitted In this Case Does Not Justify the Verdict Rendered by the Jury and the Court Should Therefore Invoke the "Thirteenth Juror" Doctrine and Grant a New Trial Absolute.

The "thirteenth juror" doctrine is a vehicle by which the trial judge may grant a new trial absolute where the evidence does not justify the verdict. *Howard, supra*. Under the "thirteenth juror" doctrine, the trial judge may find that justice has not prevailed or determine that the verdict is inconsistent and reflects the jury's confusion. *Id.*

Because the verdict in this case is not supported by the evidence, the Court should grant a new trial. Beyond the uncontested pecuniary loss to the Estate of \$226,605.00, as described above, Plaintiff also presented ample evidence of mental suffering, loss of companionship, wounded feelings, and the beneficiaries' loss the experience of Sheriff Riley. The verdict for \$300,000.00 is shockingly low and the verdict is not justified by the evidence presented. The Court should invoke the Thirteenth Juror doctrine and grant a new trial absolute.

3. In the Alternative to a New Trial Absolute, the Court Should Grant a New Trial *Nisi Additur* to Remedy the Grossly Inadequate Verdict.

As an alternative to the granting of a new trial for verdicts which are shockingly disproportionate or completely unsupported by the evidence, the trial court may grant a new trial *nisi additur* when it finds the verdict is merely inadequate. *Howard, supra*. In

this case, the verdict is clearly inadequate considering the facts and evidence presented by the Plaintiff and the utter lack of contesting of these damages.

The Plaintiff therefore respectfully requests that the Court grant a new trial *nisi additur* in the event the Court is not inclined to grant the Plaintiff's post trial motions.

4. **Upon the entry of Final Judgment, the Plaintiff, as the Prevailing Party, is Entitled to an Award of Taxable Costs as Allowed by Rule 54(d), SCRPC.**

Upon the entry of final judgment following post-trial motions, the Plaintiff will submit within ten (10) days of judgment, as allowed by Rule 54, SCRPC, an affidavit and itemized statement of taxable costs allowed by the rule and seeks the payment of said costs.

CONCLUSION

For the reasons set forth above, the Court should grant the Plaintiff a new trial or, in the alternative, a new trial *nisi additur*.

Respectfully submitted,

PETERS, MURDAUGH, PARKER, ELTZROTH
& DETRICK, P.A.

BY: _____

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ATTORNEYS FOR PLAINTIFF

October 10, 2011
Hampton, South Carolina

STATE OF SOUTH CAROLINA

COUNTY OF BAMBERG

Laura Riley as the Personal Representative
of the Estate of Benjamin Riley,

Plaintiff,

v.

Ford Motor Company and
Andrew Marshall Carter, II,

Defendants.

IN THE COURT OF COMMON PLEAS

Civil Action No.: 2008-CP-05-235

FORD MOTOR COMPANY'S
MEMORANDUM IN OPPOSITION TO
PLAINTIFF'S MOTION FOR NEW
TRIAL ABSOLUTE OR NEW TRIAL
NISI ADDITUR

Defendant Ford Motor Company ("Ford"), without waiving any of its arguments that it is entitled to judgment notwithstanding the verdict, hereby submits this memorandum in opposition to Plaintiff's post-trial motion for new trial absolute, or in the alternative, new trial *nisi* additur. For the reasons set forth below, Plaintiff's motion should be denied in its entirety.¹

ARGUMENT

- I. Plaintiff's motion for new trial absolute should be denied because the jury's verdict does not shock the conscious, but instead falls within the range of evidence presented at trial regarding Plaintiff's alleged damages.

The trial court may grant a new trial absolute on the ground that the jury's verdict is excessive or inadequate. *Vinson v. Hartley*, 324 S.C. 389, 404, 477 S.E.2d 715, 723 (Ct. App. 1996); *Rush v. Blanchard*, 310 S.C. 375, 426 S.E.2d 802 (1993). "The jury's determination of damages, however, is entitled to substantial deference." *Id.* The trial court may only grant a new trial absolute "if the amount of the verdict is grossly inadequate or excessive so as to shock the

¹ Plaintiff's motion is limited solely to the amount of actual damages awarded by the jury. Plaintiff does not premise any part of her motion on the jury's finding of reckless conduct of Ford, with no accompanying monetary award for punitive damages. Indeed, such an argument would be improper because the law is clear that there is no right to punitive damages and the jury does not have to award any monetary amount of punitive damages even if it finds the defendant's conduct rises to the requisite level. *See, e.g., Smith v. Wade*, 461 U.S. 30, 52 (1983) ("[A] key feature of punitive damages [is] that they are never awarded as of right, no matter how egregious the defendant's conduct. 'If the plaintiff proves sufficiently serious misconduct on the defendant's part, the question whether to award punitive damages is left to the jury, which may or may not make such an award.'").

conscience of the court and clearly indicates the figure reached was the result of passion, caprice, prejudice, partiality, corruption or some other improper motive." *Dillon v. Frazer*, 383 S.C. 59, 63-64, 678 S.E.2d 251, 253 (2009). "When considering a motion for a new trial based on the inadequacy of the jury's verdict, the trial court must distinguish between awards that are merely unduly conservative and awards that are actuated by passion, caprice, prejudice, or some other improper motive." *Id.* (citing *Elam v. S.C. Dept. of Transp.*, 361 S.C. 9, 602 S.E.2d 772 (2004)).

To warrant a new trial absolute on this basis, the jury's verdict must be so grossly inadequate or excessive "as to clearly indicate the influence of an improper motive on the jury." *Wright v. Craft*, 372 S.C. 1, 35-36, 640 S.E.2d 486, 505 (Ct. App. 2006). When a verdict falls within the range of the evidence, the trial court must not disturb it on the ground of inadequacy or excessiveness. *Id.* (quoting *Satcher v. Berry*, 299 S.C. 381, 385, 385 S.E.2d 41, 43 (Ct. App. 1989)). "The jury's verdict will not be overturned if *any evidence* exists that sustains the factual findings implicit in its decision." *Id.* (quoting *Smalls v. S.C. Dep't of Educ.*, 339 S.C. 208, 215, 528 S.E.2d 682, 686 (Ct. App. 2000)) (emphasis added).

In this wrongful death case, the jury returned a verdict for Plaintiff in the amount of \$300,000.00 in actual damages. Although Ford maintains it is entitled to judgment as a matter of law based upon the insufficiency of evidence regarding the liability issues of the case, the jury's damages award is entirely supported by the evidence presented at trial, consistent with the court's charge, and was not influenced by any improper considerations.

First, the jury's question to the court regarding the calculation of actual damages (per year or lump sum) demonstrates the jury was vitally concerned with the amount of actual damages to award during its deliberations. As the court noted several times throughout the trial, the jury was very attentive to all of the evidence, so the only reasonable conclusion is that the jury based its award of actual damages on proper considerations of the testimony concerning the

loss to the beneficiaries and the pertinent law of South Carolina. There is no indication that the jury based its verdict on passion, caprice, prejudice, partiality, corruption or some other improper motive, and the amount of the verdict does not "shock the conscious" given the facts of the case. Indeed, the very fact the jury asked a question concerning the measure of damages is proof positive the jury intended to, and did, follow the law.

Plaintiff correctly notes that the \$300,000.00 award was considered by the jury to be the lump sum award spread over the course of Sheriff Riley's 19-year life expectancy. In light of Plaintiff's closing argument, it is clear that in asking its question, the jury was giving due consideration to the amount of damages to award, and wanted to ensure that it was awarding only \$300,000.00 in total, and not \$300,000.00 per annum. The evidence supports the amount awarded. Plaintiff offered evidence that Sheriff Riley's beneficiaries would incur approximately \$226,000.00 in economic losses as a result of his death *if Sheriff Riley was re-elected to another term of office*. If the court were to assume the jury awarded that amount, then the total damages award would also include \$74,000.00 in non-pecuniary losses. Such an assumption, however, is unwarranted since the evidence equally demonstrated that the amount of economic loss would be less if Sheriff Riley either did not run for, or did not win, re-election in 2008, and there is no way to divine what the jury concluded in that regard. The law charges the jury with the sole responsibility to determine the amount of actual damages, if any, based upon the evidence, and that is precisely what the jury did in this case.

Further, the evidence was undisputed that all of Sheriff Riley's children were adults, and none relied exclusively on their father for financial support. Two of the five children did not attend trial or testify about their loss, if any. Given the lack of evidence concerning these two beneficiaries, the jury was free to assume they suffered minimal or no loss from Sheriff Riley's

death. Likewise, the jury was free to assign any reasonable amount of monetary value to the non-pecuniary loss of the beneficiaries that was supported by the evidence.

Additionally, as the court instructed, the jury was within its right to consider Sheriff Riley's overall health condition as it pertained to his statutory life expectancy. The evidence presented at trial established Sheriff Riley had a bout with cancer in the years before the accident, and there was no medical testimony concerning his prognosis or possible effect on his life expectancy. The jury was free to assign any weight it deemed proper regarding Sheriff Riley's overall medical condition and how the cancer may have affected his overall life expectancy. In this regard, the jury may have determined Sheriff Riley would not have lived another 19 years given his overall medical condition, and based its damages award on a shorter life expectancy. These considerations must be taken into account when evaluating the jury's damages award and the evidence underlying the same.

Although Plaintiff may disagree with the amount of the jury's verdict, the jury was free to consider all of this evidence and to assign any reasonable amount of monetary value to the non-pecuniary loss of the beneficiaries that was supported by the evidence. See *Wright*, 372 S.C. at 36-37, 640 S.E.2d at 505 (denying new trial where "[t]he verdict is within the range of evidence presented and that evidence sustains the factual findings implicit in the jury's decision."). Plaintiff's argument that a new trial is warranted because the verdict is "unduly conservative" is contrary to South Carolina law which specifically excludes such a concern as a valid basis to grant a new trial. That is, "the trial court must distinguish between awards that are merely unduly conservative and awards that are actuated by passion, caprice, prejudice, or some other improper motive." *Dillon*, 383 S.C. at 63-64, 678 S.E.2d at 253.

Moreover, Plaintiff's argument concerning the "quantity and quality" of evidence of the effect of Sheriff Riley's death is a *non sequitur*. Although Sheriff Riley was a public official,

this was a standard wrongful death case for the benefit of his statutory beneficiaries. However, in making this argument, Plaintiff implies the jury should have taken account of the loss to the various friends, co-workers, and other members of the Jasper County community when determining the amount of damages. Indeed, there was ample evidence presented at trial of Sheriff Riley's dedication to the community and to helping others, but such evidence and testimony was not evidence of the actual recoverable damages, and these witnesses were not beneficiaries of Sheriff Riley's estate. Indeed, it would have been error for the jury to award any damages based on the loss to any non-beneficiary character witnesses, and the jury was free to ignore their testimony in determining the amount of damages to award to Sheriff Riley's statutory beneficiaries.

In sum, the amount of damages awarded by the jury is supported by the evidence and is consistent with the court's charge. There is no indication the jury based its verdict on passion, caprice, prejudice, partiality, corruption or some other improper motive. Because the standard for granting a new trial absolute is whether "*any evidence exists that sustains the factual findings implicit in [the jury's] decision,*" Plaintiff's motion should be denied. *Wright*, 372 S.C. at 35-36, 640 S.E.2d at 505 (emphasis added).

II. Plaintiff's motion for new trial based upon the thirteenth juror doctrine should be denied.

Under the thirteenth juror doctrine, "a trial judge may grant a new trial upon the facts if the judge determines the verdict is contrary to the fair preponderance of the evidence." *McEntire v. Mooregard Exterminating Services, Inc.*, 353 S.C. 629, 633, 578 S.E.2d 746, 748 (Ct. App. 2003) (internal quotation omitted). "The thirteenth juror doctrine is a vehicle by which the trial court may grant a new trial absolute when it finds that the evidence does not justify the verdict. This ruling has also been termed granting a new trial upon the facts." *Folkens v. Hunt*, 300 S.C.

251, 254, 387 S.E.2d 265, 267 (1990) (citing *S.C. Highway Dept. v. Townsend*, 265 S.C. 253, 217 S.E.2d 778 (1975)). "The effect is the same as if the jury failed to reach a verdict." *Id.* The judge, as the thirteenth juror, "hangs" the jury. *Id.* In making a determination under this doctrine, the law charges the trial judge to recognize and appreciate his responsibility, and exercise the discretion vested in him with "fairness and impartiality." *Worrell v. S.C. Power Co.*, 186 S.C. 306, 313-14, 195 S.E. 638, 641 (1938).

Here again, the facts of the case and evidence presented at trial support the jury's verdict regarding the amount of actual damages awarded. For the reasons set forth in the preceding section, Plaintiff's motion for new trial on this basis should likewise be denied.

III. Plaintiff's motion for new trial *nisi* additur should be denied because the amount of the verdict is supported by the evidence of damages, and no compelling reasons exist to invade the province of the jury.

"A trial court may grant a new trial *nisi* additur whenever it finds the amount of the verdict to be merely inadequate." *Todd v. Joyner*, 385 S.C. 509, 517, 685 S.E.2d 613, 618 (Ct. App. 2008), *aff'd*, 385 S.C. 421, 685 S.E.2d 595 (2009). "The consideration of a motion for a new trial *nisi* additur requires the court to consider the adequacy of the verdict in light of the evidence presented." *Waring v. Johnson*, 341 S.C. 248, 257, 533 S.E.2d 906, 911 (Ct. App. 2000). "While the granting of such a motion rests within the sound discretion of the trial court, substantial deference must be afforded to the jury's determination of damages." *Green v. Fritz*, 356 S.C. 566, 570, 590 S.E.2d 39, 41 (Ct. App. 2003).

"Importantly, the trial court is never permitted to second-guess the jury in their fact finding responsibilities unless compelling reasons justify invading the jury's province." *Watson v. Ford Motor Co.*, 389 S.C. 434, 445, 699 S.E.2d 169, 175 (2010). Accordingly, "[c]ompelling reasons must be given to justify invading the jury's province in this manner." *Bailey v. Peacock*, 318 S.C. 13, 14, 455 S.E.2d 690, 691 (1995). "This requirement is imposed to balance the wide

discretion given to a trial judge in ruling on a new trial motion with the substantial deference courts must give to a jury's determination of damages." *Luchock v. Vena*, 391 S.C. 262, 264, 705 S.E.2d 71, 72 (2010).

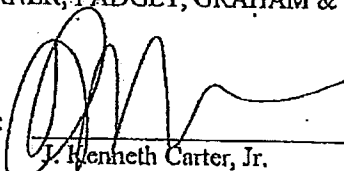
As stated in the preceding sections of this memorandum, the amount of the jury's verdict is entirely supported by the evidence presented at trial and consistent with the court's charge. No compelling reasons exist to invade the jury's province and increase the amount of actual damages awarded. Indeed, Plaintiff has not cited any "compelling reasons" to grant her motion in this regard other than to argue generally that the amount of the verdict is inadequate (as with the first two arguments for new trial absolute), which is wholly insufficient to meet the required standard. Given Plaintiff's inability to articulate any compelling and justifiable reasons to adjust or increase the amount of the jury's verdict, Plaintiff's motion for new trial *nisi* additur should be denied.

CONCLUSION

For the reasons set forth herein, Plaintiff's post-trial motion for new trial absolute, or in the alternative, new trial *nisi* additur, should be denied in its entirety.

TURNER, PADGET, GRAHAM & LANEY, P.A.

November 15 2011

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ATTORNEYS FOR DEFENDANT
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STATE OF SOUTH CAROLINA	)	IN THE COURT OF COMMON PLEAS
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COUNTY OF BAMBERG	)	CIVIL ACTION NO.: 2008-CP-05-235
	)	
LAURA RILEY, AS PERSONAL	)	
REPRESENTATIVE OF THE ESTATE	)	
OF BENJAMIN RILEY,	)	
Plaintiff,	)	Plaintiff's Memorandum of Law Regarding
	)	New Trial <i>Nisi Additur</i>
v.	)	
	)	
FORD MOTOR COMPANY,	)	
Defendants.	)	

Laura Riley, as Personal Representative of the Estate of Benjamin Riley, submits the following Memorandum of Law pursuant to the Court's request of December 9, 2011. Post-trial motions of both parties were heard by the Court in Bamberg on November 21, 2011. Plaintiff's post-trial motion sought relief in the form of a new trial absolute, new trial under the thirteenth juror doctrine, or relief under the doctrine of new trial *nisi additur*. Pursuant to the Court's instructions, this memorandum further addresses issues and concepts under the form of relief of new trial *nisi additur*.

I. Post-Trial Relief – General Standards

Under any theory of post-trial relief, it is well settled that the "decision to grant or deny a motion for a new trial rests within the sound discretion of the trial court, and the trial court's decision will not be disturbed absent an abuse of discretion." *S.C. State Highway Dep't v. Clarkson*, 267 S.C. 121, 126, 226 S.E.2d 696, 697 (1976). "Upon review, a trial judge's order granting or denying a new trial will be upheld unless the order is 'wholly unsupported by the evidence, or the conclusion reached was controlled by an error of law.'" *Norton v. Norfolk S. Ry. Co.*, 350 S.C. 473, 479, 567 S.E.2d 851, 854 (2002); *Folkens v. Hunt*, 300 S.C. 251, 254-55, 387 S.E.2d 265, 267 (1990); *S.C. State Hwy. Dep't v. Clarkson*, 267 S.C. 121, 126, 226 S.E.2d 696,

697 (1976); *Vinson v. Hartley*, 324 S.C. 389, 403, 477 S.E.2d 715, 722 (Ct.App.1996); *Sorin Equip. Co., Inc. v. The Firm, Inc.*, 323 S.C. 359, 364, 474 S.E.2d 819, 822 (Ct.App.1996). An appellate court's "review is limited to consideration of whether evidence exists to support the trial court's order." *Folkens*, 300 S.C. at 255, 387 S.E.2d at 267; *Vinson*, 324 S.C. at 403, 477 S.E.2d at 722. "As long as there is conflicting evidence, this Court has held the trial judge's grant of a new trial will not be disturbed." *Norton*, 350 S.C. at 479, 567 S.E.2d at 854.

The Estate of Riley contends that the jury's award of \$300,000.00 actual damages and \$0.00 punitive damages is inadequate in light of the completely undisputed testimony on damages, the liability evidence presented over the course of the trial, and that the Plaintiff proved liability to a punitive damages standard. Faced with issues of the inadequacy or excessiveness of a jury verdict, a trial court may grant relief in essentially two forms: granting a new trial or granting additur or remittitur.

II. New Trial *Nisi Additur*

In contrast to the granting of a new trial absolute (based upon the shocking nature of a verdict which was founded upon improper motives) and the thirteenth juror doctrine (a veto of the jury's findings by the trial judge), alternatively a trial court may also grant the relief of new trial *nisi additur*. An appellate court may only reverse a trial court's decision regarding a new trial *nisi* if the trial court abused its discretion in deciding a motion for new trial *nisi additur* to the extent an error of law results. *Howard v. Roberson*, 376 S.C. 143, 654 S.E.2d 877 (Ct. App. 2007); (citing, *Green v. Fritz*, 356 S.C. 566, 570, 590 S.E.2d 39, 41 (Ct. App. 2003)).

The trial court may grant a new trial *nisi additur* or *remittitur* when it finds the verdict is merely inadequate or excessive. *Id.* "[T]he trial judge must distinguish between awards that are merely unduly liberal or conservative and awards that are actuated by passion, caprice or

prejudice." *Id.* (citing *Allstate Ins. Co.*, 314 S.C. at 530, 431 S.E.2d at 558). A new trial *nisi* is one in which a new trial will be granted unless the party opposing it complies with conditions set by the court. *Elliott v. Black River Elec. Coop.*, 233 S.C. 233, 104 S.E.2d 357, 372 (1958). "A motion for a new trial *nisi* because of excessiveness of the verdict contemplates not the striking down of the verdict in toto, but remission of part of it and the granting of a new trial in default thereof." *Id.* The trial court essentially gives the party against whom damages are assessed the option, by way of *additur* or *remittitur*, of avoiding a new trial. *Howard v. Roberson*.

Although the granting of a motion for new trial *nisi* *additur* or *remittitur* rests within the sound discretion of the trial court, substantial deference must be afforded to the jury's determination of damages. *Green v. Fritz*, 590 S.E.2d at 41. Compelling reasons must be given to justify invading the jury's province in this manner. *Chapman v. Upstate RV & Marine*, 364 S.C. 82, 89, 610 S.E.2d 852, 856 (Ct. App.2005) (citing *Pelican Bldg. Ctrs. v. Dutton*, 311 S.C. 56, 61, 427 S.E.2d 673, 676 (1993)).

Perhaps the most comprehensive analysis of this post-trial process is found in *Proctor v. Dep't of Health & Envtl. Control*:

A new trial *nisi* is one in which a new trial will be granted unless the party opposing it complies with a condition set by the court. The grant or denial of new trial motions rests within the discretion of the trial judge, and his decision will not be disturbed on appeal unless his findings are wholly unsupported by the evidence or the conclusions reached are controlled by error of law. The trial court alone has the power to grant a new trial *nisi* when he finds the amount of the verdict to be merely inadequate or excessive. However, compelling reasons must be given to justify invading the jury's province by granting a new trial *nisi* [*additur* or] *remittitur*. The consideration for a motion for a new trial *nisi* [*additur* or] *remittitur* requires the trial judge to consider the adequacy of the verdict in light of the evidence presented. Great deference is given to the trial judge who heard the evidence and is more familiar with the evidentiary atmosphere at trial, and who thus possesses a better-informed view of the damages than this Court.

When considering a motion for a new trial based on the inadequacy or excessiveness of the jury's verdict, the trial court must distinguish between awards that are merely unduly liberal or conservative and awards that are actuated by passion, caprice, or prejudice. If the amount of the verdict is grossly inadequate or excessive so as to be the result of passion, caprice, prejudice, or some other influence outside the evidence, the trial judge must grant a new trial absolute.

368 S.C. 279, 319-21, 628 S.E.2d 496, 518 (Ct.App.2006) (internal citations and quotation marks omitted).

III. New Trial Nisi Additur is Appropriate and Should Be Granted

The jury verdict in this matter was for \$300,000.00 actual damages under the sole cause of action presented to the jury for the wrongful death of Sheriff Benjamin Riley. The award of \$300,000.00 is inadequate based upon the evidence of damages presented during the trial of this case. Furthermore, compelling reasons exist which justify the Court's granting of *additur*.

The evidence at trial showed that Benjamin Riley was a loving father and husband and a central figure not only in the lives of his family, but also within his church and his community. During the trial of this case the Plaintiff Laura Riley testified, as did three of Sheriff Riley's five adult children. Two children did not participate in the trial or testify. The family's testimony established Riley's support, both moral and economic, of his family, as well as genuine love, affection, esteem, and regard held by the testifying beneficiaries of the Estate for the decedent. The testimony established that throughout their married lives, Riley and his wife were "best friends" and companions. The family's testimony as well as that of non-family members, left no question as to the grief, emotional turmoil, and loss suffered. Also, throughout the trial, Plaintiff presented numerous witnesses who were peers, colleagues, and fellow citizens of Jasper County, the residence of the decedent. These witnesses established Riley's role as a husband, father and community leader, dedicated law enforcement officer, and general pillar of his community.

Without question, the testimony of Riley's devotion to family, leadership, and character were in full display through the testimony at trial.

Of the issue of damages, there was no dispute. Ford conceded as much in its opening statements:

IT'S A VERY VERY SAD DAY WHENEVER A WIFE LOSES HER HUSBAND, GROWN CHILDREN LOSE THEIR FATHER, OR A VALUED MEMBER OF A DEPARTMENT, A SHERIFF'S DEPARTMENT, LOSES THEIR LEADER. AND NO MATTER HOW IT HAPPENS AND WHOSE FAULT IT IS IT'S A TRAGEDY WHEN IT HAPPENS. NOW NONE OF US IN THIS COURTROOM HERE TODAY PERSONALLY EXPERIENCED WITH THE EXCEPTION OF THE RILEY FAMILY THEIR TRAGEDY BUT AS HUSBANDS, AS WIVES, AS CHILDREN WE ARE SORRY FOR THEIR LOSS. WE'RE SORRY FOR THE LOSS OF A MAN WHO BY ALL ACCOUNTS -- ALL ACCOUNTS WAS A WONDERFUL HUSBAND, A WONDERFUL FATHER, AND A WONDERFUL SHERIFF BUT I THINK AS WE SIT HERE THIS AFTERNOON THERE IS SOMETHING ELSE WE ALL CAN AGREE UPON AS WELL AND THAT'S THIS. IT WOULD NOT BE RIGHT TO HOLD SOMEONE RESPONSIBLE FOR TERMINATING THE LIFE OF ANOTHER VALUED HUMAN BEING IF THEY DIDN'T DO IT. NO MATTER HOW TRAGIC THE LOSS AND NO MATTER HOW WONDERFUL THE PERSON, IT WOULD NOT BE RIGHT, IT WOULD NOT BE JUST, AND IT WOULD NOT BE FAIR TO HOLD SOMEONE, SOME ORGANIZATION OR SOME COMPANY RESPONSIBLE FOR CAUSING THE DEATH OF ANOTHER HUMAN IF THEY DIDN'T DO IT.

Elsewhere in opening statements the Defendant referred to the Decedents as a "wonderful man" no less than three times. To the recollection of the undersigned, not a single damages witness was questioned by Ford in an effort to contest damages. Moreover, at the conclusion of these witnesses' testimony Ford, through their attorneys, apologized to these witnesses for their loss. In fact, the damages testimony offered by the Plaintiff reached the point that upon motion of Ford, multiple damage witnesses offered by the Plaintiff were excluded by the Court based on the purported cumulative nature of the testimony.

The opening statement of Ford quoted above was prescient commentary on the trial and evidence that unfolded during ten days of trial. This case was tried and defendant by Ford only on the issue of liability, which was fiercely contested by the parties. Ultimately, the Plaintiff prevailed on the issue of liability and convinced the jury not only of negligence, but also of willful, knowing conduct by Ford to the extent punitive conduct was found.

Having heard the evidence at trial, viewed the demeanor and affect of the allowed damages witnesses, and sensed the general atmosphere of the trial, it is well within this Court's power to declare that the jury verdict of \$300,000.00 is inadequate. The Court should be compelled to do so because each and every element of wrongful death damages was proved by the Plaintiff and the \$300,000.00 verdict does not reflect the evidence on these issues.

The elements of damages generally recoverable in a wrongful death action are:

- (1) Pecuniary loss;
- (2) mental shock and suffering;
- (3) wounded feelings;
- (4) grief and sorrow,
- (5) loss of companionship,
- (6) deprivation of the use and comfort of the intestate's society, the loss of his experience, knowledge, and judgment in managing the affairs of himself and of his beneficiaries, in addition to the loss of his ability to earn money for the support, maintenance, care and protection of his wife and children, and for the education and training of the latter.

11 S.C. Jur. Damages § 24; *Mishoe v. Atlantic C.L.R. Co.*, 186 S.C. 402, 416, 197 S.E. 97, 104-105 (1973); *Garner v. Houck*, 312 S.C. 481, 435 S.E.2d 847 (1993). The evidence at trial showed, and it was uncontested, that the beneficiaries of Sheriff Riley's Estate suffered each of the compensable elements of loss.

Elements (1) and (6) of a wrongful death cause of action include financial or pecuniary loss to the beneficiaries. Plaintiff's economist, Dr. Oliver Wood, opined a pecuniary loss of \$226,605.00, which was undisputed. The intangible elements of damages of wrongful death of

(2) through (5) were not only established, but shown to be significant through uncontested, emotionally compelling testimony of Mrs. Laura Riley and three of her adult children, as well as the exhibits supporting damages. It is uncontested that these witnesses suffered grief and sorrow, wounded feelings, and the loss of companionship of the decedent and that in fact, through the time of trial, each continued to suffer the same. Testimony concerning the non-monetary part of element six (6), above, was substantial in the trial of this case. Beneficiaries of a wrongful death suit may receive damages for the "loss of [the decedent's] experience, knowledge, and judgment in managing the affairs of [the decedent] and of his beneficiaries." Multiple witnesses testified as to Riley's experience, knowledge, and judgment in his profession, church, and greater community all of which was reflected on the type of husband and father he was. Sheriff Riley led by example. The testimony showed that this family of beneficiaries, perhaps more than most wrongful death beneficiaries, suffered great loss under this element of wrongful death damages.

Although the jury did not award any punitive damages it did find that Ford by its design, manufacture, and placing in the stream of commerce this 1998 F-150 pickup had not only been negligent but also found that Ford's conduct was reckless, warranting the imposition of punitive damages.

While the Court may not see fit to award punitive damages, the fact that the jury found conduct warranting this action should be significant in the consideration of a new trial additur. Simply put, when you combine uncontested damages which were proven without question, and punitive damage liability, the jury's verdict of \$ 300,000.00 is inadequate by any measure.

Sheriff Riley had a life expectancy of nineteen (19) years. Although he had recently fought cancer there was no evidence that his life expectancy was decreased by this disease. With \$226,605.00 of a \$ 300,000.00 verdict being uncontested economic damages, the jury at best

only awarded \$74,000.00 in non-economic damages. The Court heard the testimony, saw the witnesses, and presided over ten days of trial. The Court must reasonably conclude that \$300,000 is an inadequate verdict.

The per-diem method seems to be appropriate in how to consider additional damages. Utilizing \$25,000.00 per year for nineteen (19) years would increase the verdict by \$475,000.00. Utilization of \$75,000 a year would increase the verdict by \$ 1,425,000.00. From a post-trial perspective, the former seems inadequate and the latter possibly too high. Utilizing \$50,000.00 a year for nineteen (19) years would increase the verdict by \$950,000.00. When combined with the \$300,000.00 jury verdict this would render a verdict of \$ 1,250,000.00.

As stated, the woefully inadequacy of the jury verdict in this case cries out for intervention by the Court. The above analysis suggests a method or at least suggests figures derived by using a method. Again, the Court's discretion is paramount and the Plaintiff urges the Court's decision is in keeping with the testimony and evidence which was substantial, uncontroverted, and compelling.

I. South Carolina Precedent Addressing Additur Supports the Grant of Additur in this Case

The lack of contest regarding damages is a central point in South Carolina cases which have addressed the propriety of the court's discretionary powers to grant or deny post-trial motions in terms of either *additur* or *remittitur*. Reference to those South Carolina cases addressing the compelling reasons for the grant of *additur* highlights why this Court, in its broad discretion, should grant *additur* in the Riley matter.

The most recent case addressing the issue of whether a trial judge's grant of *additur* was sustainable was the case of *Luchok v. Vena*, 391 S.C. 262, 705 S.E.2d 71 (Ct. App. 2010). *Luchok* involved a rear-end collision where the verdict was significantly lower than the damages

claimed by the Plaintiff. The plaintiff claimed over \$10,000.00 in medical bills of which \$9,100.00 was from chiropractic care. The jury returned a verdict for \$3,023.90. At trial the Defendant admitted that her negligence caused the accident but disputed whether all of the damages claimed by the Plaintiff were proximately caused by her negligence. In granting *additur*, Judge Manning's Order stated as follows:

During trial, Plaintiff presented evidence that her medical bills alone totaled \$10,071.00, consisting almost entirely of chiropractic treatment. Plaintiff testified at trial that the treatment for her injuries was reasonable and necessary and that she ceased to treat once she felt that she no longer required chiropractic treatment....

Based on the findings of fact as set forth above, the Court concludes and orders:

The charges for chiropractic treatment of Plaintiff's injuries were reasonable and necessary. Despite the Defendant's admittance of liability and medical bills of \$10,071.00, the jury limited the Plaintiff's award to \$3,023.90. This award represents a grossly inadequate judgment rendered by the jury as liability was uncontested and the amount awarded does not approach the amount of medical costs reasonably and necessarily incurred by the Plaintiff.

Id. at 263-264. The Court of Appeals reversed the trial court's decision to grant *additur*. Chief Judge Few's opinion states:

In *Green*,¹ we repeated the long-standing requirement that "a judge must offer compelling reasons for invading the jury's province by granting a motion for *additur*." (citations omitted). We find the judge's order does not comply with the requirement.

¹ *Green v. Fritz*, 356 S.C. 566, 590 S.E.2d 39 (Ct. App. 2003) was a Court of Appeals decision addressing another of Judge Manning's grants of *additur*. The case was factually similar to that of *Luchok* and there the Court reversed because the trial court did not provide a compelling reason in its order and also inappropriately blended some of the thirteenth juror concepts of passion, caprice, and prejudice in support of a new trial *nisi additur*. For purposes of the issues in this brief, *Green v. Fritz* offers little guidance except for the apparent requirement of the finding of compelling reasons.

Luchok at 264. The Court of Appeal's reasoning underpinning its finding of the lack of compelling reasons was stated as follows:

The amount of recoverable damages was hotly contested. The only two points made by defense counsel in her opening statement were to argue that Plaintiff did not prove causation as to the chiropractic treatments and to focus the jury on the question of whether those treatments were reasonable and necessary. Plaintiff was the only witness in her case in chief. She testified she did not need an ambulance, she did not go to the emergency room, and she drove herself home after the accident. She waited until the next day to go to her family doctor. The first time Plaintiff went to the chiropractor was more than three weeks after the accident and she continued going to the chiropractor for seventeen months. On cross-examination, Plaintiff conceded that the chiropractor's bills during those seventeen months included charges for massages she received from a massage therapist who worked for the chiropractor.

We interpret the judge's order to set forth two reasons for invading the jury's province. First, the verdict did not cover all the chiropractic bills. In the face of the sharply conflicting evidence, this is not a compelling reason to grant the motion. *See Green*, 356 S.C. at 571, 590 S.E.2d at 41 ("Where, as here, the evidence of damages is disputed, the mere listing of Green's claimed damages by the trial judge in his order does not constitute compelling reasons for invading the jury's province."). ... Second, the "charges for chiropractic treatment of Plaintiff's injuries were reasonable and necessary." The judge is not entitled to make that determination as a matter of law when the evidence is conflicting. Therefore, there is no compelling reason and the trial judge's improper invasion of the province of the jury amounts to an abuse of discretion.

(emphasis added). *Luchok*. at 264-265.

The contrast between the damages evidence presented in *Luchok* and in the case at bar is stark. *Luchok* was a case tried solely on the basis of the contest and dispute as to the damages claimed by the Plaintiff. In the case at bar, there was no contest of damages. In the words of *Luchok* and *Green*, there was no "sharply conflicting evidence" and in fact NO conflicting

evidence as to damages. Unlike *Luchok* and *Green*, based upon the lack of dispute as to the evidence here, the grant of *additur* is proper.

Review of other cases addressing the grant or denial is instructive and again supports the grant of *additur* here. In *O'Neal v. Bowles*, 314 S.C. 525, 431 S.E.2d 555 (1993) the Supreme Court upheld the trial court's denial of the plaintiff's request for *additur*. O'Neal was involved in a motorcycle accident which caused certain injuries and for which Bowles treated the Plaintiff. Plaintiff asserted a medical malpractice claim against Bowles. In that case "Dr. Bowles [did] not dispute that he severed O'Neal's peroneal nerve during the surgery requiring a second surgery to repair the nerve. The dispute [was] over the amount of damages." *Id.* at 527. At trial there was contested testimony as to the extent of impairment, the relation of lost wages as a result, and the amount of lost earning capacity as a result of the surgery. The Plaintiff claimed more than \$43,000.00 in actual damages and the jury awarded only \$12,500.00. In support of the trial court's discretionary decision to deny the request for *additur*, the Appellate Court relied on the disputed nature of the damages in the case:

The jury in this case could have determined that O'Neal would have lost his job because of the time necessary to heal the fracture and any lost or diminished wages would not have been caused by Dr. Bowles' actions. Furthermore, the jury could have determined that any impairment was the result of the fracture and not the severed nerve. A \$12,500 verdict is not grossly inadequate considering the evidence before the jury. Accordingly, the denial of O'Neal's motion for a new trial *nisi additur* is not an abuse of discretion.

Id. at 557. Again, in this appellate analysis, the damages evidence was THE central issue in dispute in the litigation.

Unlike the decisions above, the case of *Patterson v. Reid*, 318 S.C. 183, 456 S.E.2d 436 (Ct. App.1995) provides an example of a case where the trial court was affirmed as acting within

its broad discretion in granting *additur* despite the fact that damages were contested. In that car accident case the Defendant Reid admitted liability, and the case proceeded to trial on the issue of damages only. The jury awarded the plaintiff actual damages of \$500.54. The trial judge granted a new trial *nisi additur* and awarded damages of \$7,639.40. In addressing post trial motions "the trial judge found the verdict to be merely insufficient based on the evidence." *Id.*

The evidence consisted "of conflicting medical testimony as to the origin and extent of Patterson's injuries." *Id.* at 186. The Court of Appeals summarized the evidence as follows:

[The plaintiff] had been injured in another accident fifteen months prior to this accident. Therefore, the aggravation of a pre-existing condition was at issue. Most of the evidence was documentary, consisting of Patterson's medical records. One of Patterson's physicians noted in a written report that some of her symptoms were psychosomatic. Another physician stated in his notes that Patterson's symptoms were not related to her accident. However, Dr. Josette Johnson, the physician still treating Patterson, testified at trial that she diagnosed Patterson as having fibrositis. She further testified that Patterson's fibrositis was "most probably [the result of] her accident." In addition, Dr. Johnson testified that she did not believe Patterson had psychosomatic problems, but instead expected Patterson's pain to remain constant in the near future. Finally, Patterson testified that her pain increased on a scale of 1 to 10 from a 5, due to her prior accident, to a 10 after the second accident, and was now stable at an 8. In addition to this increase in permanent pain, Patterson incurred medical expenses of \$6,339.40.

Id. On appeal the Defendant argued that the judge's conclusion amounts to an error of law in the granting of the new trial *nisi additur*. The Defendant based these arguments on the trial judge's following comments:

The verdict was inadequate. There's no doubt. That was a verdict where the doctors who had made the prior things never did get the opportunity to say ["I was wrong, I misjudged it."] Of course its hard to get them to say that. Just by putting their reports in, them not there to testify, I don't know what a jury might get out of it. If they're not going to believe one expert, they're not going to believe any of them, and I think it is unfairly too low.

Id. at 186-187. In affirming the trial court's discretionary decision to grant *additur* the Court of Appeals concluded that the trial judge's remarks "were appropriate during the analysis of the evidence, since the consideration of a motion for a new trial *nisi additur* requires the trial judge to consider the adequacy of the verdict in light of the evidence presented. Therefore, no error of law was committed." *Id.* Furthermore, the Court of Appeals found: "ample evidence to support the trial court's finding of an insufficient verdict. Therefore, the grant of *nisi additur* was not an abuse of discretion."

The cases above underscore the broad discretionary power of this Court to order *additur* in the circumstance at hand, where based on the uncontested evidence at trial, the award given by the jury is inadequate.

CONCLUSION

For the reasons stated herein, compelling reasons exist for the Court, acting well within its broad discretion, to grant the Plaintiff's motion for new trial *nisi additur*. Justice requires so in the face of this inadequate, unduly conservative verdict which flies in the face of the uncontested, compelling evidence at trial.

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ATTORNEYS FOR THE PLAINTIFF

December 16, 2011.
Ridgeland, South Carolina

STATE OF SOUTH CAROLINA

COUNTY OF BAMBERG

Laura Riley as the Personal Representative
of the Estate of Benjamin Riley,

Plaintiff,

v.

Ford Motor Company and
Andrew Marshall Carter, II,

Defendants.

FILED IN THE COURT OF COMMON PLEAS

201102020 CIV Action No.: 2008-CP-05-235

**FORD MOTOR COMPANY'S
BRIEF REGARDING REQUIREMENT
OF COMPELLING REASONS FOR
NEW TRIAL *NISI* ADDITUR**

Pursuant to the Court's request, Defendant Ford Motor Company ("Ford"), without waiving any of its arguments that it is entitled to judgment notwithstanding the verdict and that Plaintiff's post-trial motions should be denied, hereby submits the following brief concerning the requirement of compelling reasons for new trial *nisi* additur.

LEGAL ARGUMENT

"A trial court may grant a new trial *nisi* additur whenever it finds the amount of the verdict to be merely inadequate." *Todd v. Joyner*, 385 S.C. 509, 517, 685 S.E.2d 613, 618 (Ct. App. 2008), *aff'd*, 385 S.C. 421, 685 S.E.2d 595 (2009). "The consideration of a motion for a new trial *nisi* additur requires the court to consider the adequacy of the verdict in light of the evidence presented." *Waring v. Johnson*, 341 S.C. 248, 257, 533 S.E.2d 906, 911 (Ct. App. 2000). "While the granting of such a motion rests within the sound discretion of the trial court, substantial deference must be afforded to the jury's determination of damages." *Green v. Fritz*, 356 S.C. 566, 570, 590 S.E.2d 39, 41 (Ct. App. 2003).

"Importantly, the trial court is never permitted to second-guess the jury in their fact finding responsibilities unless compelling reasons justify invading the jury's province." *Watson*

v. *Ford Motor Co.*, 389 S.C. 434, 445, 699 S.E.2d 169, 175 (2010). Accordingly, "[c]ompelling reasons must be given to justify invading the jury's province in this manner." *Bailey v. Peacock*, 318 S.C. 13, 14, 455 S.E.2d 690, 691 (1995). "This requirement is imposed to balance the wide discretion given to a trial judge in ruling on a new trial motion with the substantial deference courts must give to a jury's determination of damages." *Luchok v. Vena*, 391 S.C. 262, 264, 705 S.E.2d 71, 72 (2010).

When determining what represents compelling reasons in accordance with this standard, perhaps the most direct explanation comes from *Gruber v. Santee Frozen Foods, Inc.*, 309 S.C. 13, 419 S.E.2d 795 (Ct. App. 1992). In that case, the court held:

When a party seeks a new trial based upon the amount of the jury verdict, the trial court and appellate courts are guided by certain principles. When the question on appeal is whether the trial judge erred in denying a motion for a new trial *nisi*, a reviewing court will not interfere with the amount of a verdict unless the verdict is either so grossly excessive or inadequate that *it must be deemed the result of the jury's disregard of the facts and the court's instructions*. The order granting a new trial *nisi* additur must contain *compelling reasons in accord with this rule*.

While the evidence of this case could certainly have supported a much larger verdict, we cannot say as a matter of law that the verdict of the jury in this case was grossly inadequate and resulted from the jury's disregard of the facts or the trial judge's instructions.

Id. at 18-19, 419 S.E.2d at 798-99 (emphasis added).

As such, even if the court finds the jury's verdict in this case is inadequate or unduly conservative as Plaintiff argues, it is clear the court must also find that compelling reasons exist to invade the jury's province. The compelling reasons must allow the court to find *as a matter of law* that the jury's verdict was grossly inadequate *and* resulted from the jury's disregard of the facts *and* the trial judge's instructions. *Id.* Despite Plaintiff's arguments, merely finding that the evidence could have supported a larger verdict is not enough to grant additur.

Green v. Fritz is instructive in this regard. In that automobile wreck case, the amount of damages was disputed, and the jury awarded some, but not all, of the damages requested by the plaintiff. The trial court granted an additur on the basis that the verdict was too low. The Court of Appeals held "the mere listing of Green's claimed damages by the trial judge in his order does not constitute compelling reasons for invading the jury's province." *Green*, 356 S.C. at 571, 590 S.E.2d at 41; *see also Luchok*, 391 S.C. at 265, 705 S.E.2d at 73 (reversing an additur and holding a verdict below the full amount of medical bills presented at trial is not a compelling reason to grant additur when there is conflicting evidence concerning the amount of damages).

As set forth below, there are no compelling reasons to justify granting Plaintiff's motion for new trial *nisi* additur, and there is no indication or argument the jury disregarded the facts of the case or the court's instructions in reaching its verdict.¹

First, the amount of damages awarded by the jury is supported by the evidence and is consistent with the court's charge. Plaintiff offered evidence that Sheriff Riley's beneficiaries would incur approximately \$226,000.00 in economic losses as a result of his death *if Sheriff Riley was elected to another term of office*. If the court were to assume the jury awarded that amount of economic damages, then the total damages award would also include \$74,000.00 in non-pecuniary losses. Such an assumption, however, is unwarranted since the evidence also

¹ To the extent Plaintiff's supplemental memorandum suggests the court should grant additur due to the jury's finding against Ford of reckless conduct, with no accompanying monetary award of punitive damages, such an argument fails. As an initial matter, it was not raised in Plaintiff's post-trial motions and was therefore waived. More importantly, however, such an argument fails because the law is clear that there is no right to punitive damages and the jury does not have to award any monetary amount of punitive damages even if it finds the defendant's conduct rises to the requisite level. *See, e.g., Smith v. Wade*, 461 U.S. 30, 52 (1983) ("[A] key feature of punitive damages [is] that they are never awarded as of right, no matter how egregious the defendant's conduct. 'If the plaintiff proves sufficiently serious misconduct on the defendant's part, the question whether to award punitive damages is left to the jury, which may or may not make such an award.'").

established the amount of economic loss would be less if Sheriff Riley did not win re-election in 2008, and there is no way to divine what the jury concluded in that regard.

No matter what scenario the jury may have based its verdict on, the fact remains that a portion of the verdict represents non-economic losses because it exceeds the economic damages model presented at trial. Indeed, it cannot be argued the verdict does not contain a portion for non-economic losses of the statutory beneficiaries, and Plaintiff has not made any such argument. To the contrary, Plaintiff simply argues the amount of non-economic damages awarded by the jury is insufficient, and points to sympathetic and cumulative testimony presented at trial. The jury was free to assign a monetary value based upon the evidence for the non-economic loss of the beneficiaries, which it did, is supported by the evidence, and should be upheld. There is simply no evidence or indication that the verdict amount was based on anything other than the evidence presented at trial.

Second, as the court will recall, the amount of non-economic damages was not disputed at trial. Little or no questions were asked to the statutory beneficiaries by Ford. Thus, the jury heard the best evidence on the matter, in the light most favorable to Plaintiff, and then determined the amount of the verdict based on the evidence presented. In doing so, the jury was free to consider and weigh the testimony as it deemed appropriate, and to evaluate the credibility of each witness. For example, the jury was free to consider the fact that all five of Sheriff Riley's children were adults, and although only three testified at trial, none relied exclusively on their father for financial support. The jury may have also considered the impact of cancer as it related to Sheriff Riley's life expectancy. Additionally, although the jury heard testimony that Sheriff Riley's death impacted his friends, co-workers, and other members of the Jasper County community, consistent with the court's charge, it would have been improper for the jury to have

based its verdict on such evidence, and by the same token, this evidence cannot serve the basis for additur. Accordingly, the jury's verdict is supported by the evidence in this case and there are no compelling reasons to increase the amount of the verdict.

Plaintiff incorrectly argues additur is appropriate simply because the non-economic elements of loss were uncontested, and cites three cases for support; however, such cases and their reasoning offer no support to Plaintiff.² Indeed, there is no requirement that damages must be disputed in order to defeat a motion for new trial *nisi* additur, and Plaintiff has not cited any authority for such a proposition. To the contrary, the cases cited by Plaintiff simply suggest compelling reasons do not exist when the amount of medical treatment is disputed in a personal injury action as unrelated, unreasonable, or unnecessary because the jury makes that ultimate decision based on the evidence. Reason dictates that when there is sharply conflicting evidence of the extent of injury, the jury's verdict should not be disturbed because the jury determines what damages and treatment were proximately caused by the conduct, reasonable, and necessary. By the same coin, when intangible elements of damages (such as mental shock and suffering, wounded feelings, grief and sorrow, loss of companionship, experience, knowledge and judgment) are uncontested – but are the sole elements for which additur is sought – there can be no compelling reasons to invade or increase the jury's verdict because the jury heard all of the testimony, without dispute, and assigned a corresponding monetary amount based upon the evidence.

² *Luchok* is distinguishable because it involved chiropractic treatment and bills following a car accident, which were disputed as unreasonable and unnecessary, foreclosing any "compelling reasons." In *O'Neal*, the court did not analyze any "compelling reasons" because it refused to find the verdict inadequate. Likewise, there was no analysis of "compelling reasons" in *Patterson v. Reid*, 318 S.C. 183, 456 S.E.2d 436 (1995), so it offers no guidance on the precise issue of the court's request for additional briefing.

Third, during deliberations, the jury asked a question regarding the method of calculation of actual damages (per year or lump sum), which demonstrates the jury was vitally concerned with the amount of damages to award. As the court noted several times during trial, the jury was very attentive to all of the evidence, and the only reasonable conclusion is that the jury based its award of actual damages on proper considerations of evidence and testimony, as well as the pertinent law of South Carolina as charged by the court.

Lastly, under South Carolina law, the determination of non-economic damages is particularly within the jury's province. *See, e.g., Kalchthaler v. Workman*, 316 S.C. 499, 503, 450 S.E.2d 621, 623 (1994) (a claim for pain and suffering is one "that peculiarly [falls] within the province of the jury to weigh and determine."). That is, "[w]hile pain and suffering is a very material element of damages on which a recovery may be bottomed, these damages are unliquidated and indeterminate in character. They are not capable of exact measurement, and there is no fixed standard whereby damages for them can be determined. Hence, the amount of damages to be awarded for pain and suffering must be left to the judgment of the jury, subject only to correction by the courts for abuse." *Haskins v. Fairfield Elec. Coop.*, 283 S.C. 229, 236, 321 S.E.2d 185, 190 (Ct. App. 1984), overruled on other grounds by *O'Neal v. Bowles*, 314 S.C. 525, 431 S.E.2d 555 (1993). Because it is solely the non-economic elements of damages that Plaintiff seeks to increase by way of additur, Plaintiff's motion should be denied.

Although not applicable to this case, a motion for new trial *nisi* additur may be appropriate when the amount of the jury's verdict clearly and undeniably fails to include *any* amount of non-economic damages (in addition to the economic damages awarded). *See, e.g., Waring*, 341 S.C. at 260, 533 S.E.2d at 912 (finding additur proper where the jury awarded the plaintiff the exact amount of medical bills presented at trial, but did not award any damages for

pain and suffering); *Williams v. Robertson Gilchrist Company, Inc.*, 301 S.C. 153, 390 S.E.2d 483 (1990) (wrongful death verdict representing only economic damages necessarily excluded "anything for the loss of companionship, loss of emotions, loss of the grief and sorrow and the other intangible elements of damages," and was therefore subject to additur), overruled on other grounds by *O'Neal*, 314 S.C. 525, 431 S.E.2d 555. Since the jury in this case undeniably awarded non-economic damages to Sheriff Riley's beneficiaries, this line of cases offers no support to Plaintiff. Ford notes these cases simply in response to the court's request for additional briefing on examples of compelling reasons.

Although these cases offer insight as to when compelling reasons might exist for granting a new trial *nisi* additur, they also demonstrate why doing so would be inappropriate in this case. The case law makes clear that the jury is the sole decision-maker concerning the intangible elements of damages, which is the only aspect of the verdict that Plaintiff seeks to increase. Here, the jury's verdict is fully supported by the evidence and represents both the economic loss presented at trial as well as the non-economic loss to the statutory beneficiaries. Assuming *arguendo* that the jury awarded the full amount of economic damages presented by Plaintiff, the verdict includes approximately \$74,000.00 of non-pecuniary losses. No matter what damages model the jury based its award on, the verdict undeniably exceeds the economic damages presented at trial and necessarily includes an amount for the non-economic elements of loss presented by Plaintiff, and therefore must be upheld.

Had the jury awarded less than or precisely the amount of economic damages presented at trial, then perhaps additur would be appropriate. However, under the present circumstances and despite Plaintiff's arguments, additur is not appropriate because the verdict includes both economic and non-economic damages. Simply arguing that the verdict amount does not include

enough for the non-economic loss to Sheriff Riley's beneficiaries is not a compelling reason for additur under South Carolina law. *Kalchthaler*, 316 S.C. at 503, 450 S.E.2d at 623. Because there is no indication of abuse by the jury in reaching its verdict, the verdict should be upheld.

CONCLUSION

For the reasons set forth herein, Plaintiff's motion for new trial *nisi* additur should be denied because no compelling reasons exist to justify invading the jury's province regarding the amount of damages awarded.

TURNER, PADGET, GRAHAM & LANEY, P.A.

December 19 2011

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**ATTORNEYS FOR DEFENDANT
FORD MOTOR COMPANY**

1 next time. All right. If you would, please, pay just as
2 much attention as you did to Mr. Crosby.

3 Mr. Harmon, welcome to Bamberg. Please make your
4 opening.

5 MR. HARMON: May it please the court.

6 THE COURT: Yes, sir.

7 MR. HARMON: Mr. Crosby, Mr. Henderson.

8 OPENING STATEMENT

9 MR. HARMON: Good afternoon, ladies and gentlemen of
10 the jury. As you may remember from jury selection my name
11 is John Harmon and along with Tracy Walker and Ken Carter
12 and Megan Gaspar I am pleased to be here today
13 representing Ford. You probably gathered from
14 Mr. Crosby's opening that there is a whole lot of things
15 that we disagree upon, but there is something I want to
16 start off talking to you about that I totally agree with
17 that he suggested and it's very apparent and that is this.
18 It's a very, very sad day whenever a wife loses her
19 husband, grown children lose their father, or a valued
20 member of a department -- a Sheriff's Department -- loses
21 their leader, and no matter how it happens and whose fault
22 it is, it's a tragedy when it happens.

23 Now, none of us in this courtroom here today
24 personally experienced with the exception of the Riley
25 family their tragedy, but as husbands, as wives, as

1 children, we are sorry for their loss. We're sorry for
2 the loss of a man who by all accounts -- all accounts --
3 was a wonderful husband, a wonderful father, and a
4 wonderful sheriff, but I think as we sit here this
5 afternoon there is something else we all can agree upon as
6 well and that's this. It would not be right to hold
7 someone responsible for terminating the life of another
8 valued human being if they didn't do it. No matter how
9 tragic the loss and no matter how wonderful the person, it
10 would not be right, it would not be just, and it would not
11 be fair to hold someone, some organization, or some
12 company responsible for causing the death of another human
13 if they didn't do it.

14 The plaintiff's lawyers in this case have brought
15 very serious allegations against the good men and women at
16 Ford Motor Company. They are claiming that Ford designed
17 intentionally a defective vehicle that they knew if they
18 put out on the road would cause people to die. Now,
19 members of the jury, if that's true then you should hold
20 Ford responsible, but I am going to show you it's not.

21 What I am going to show you, members of the jury, is
22 that the Ford F-150 truck that Sheriff Riley was driving
23 that day was a safe truck with a safe design and a safe
24 door, and that tragically -- and I do mean tragically --
25 Sheriff Riley passed from this life to the next because of

1 evidence is going to show you the only way this can happen
2 is if the door is closed -- let me say it that way --
3 meaning the door is latched here to the striker when it's
4 -- excuse me; this side -- when it slams down it causes
5 the force to go up pushing that if you can imagine it
6 inverted down in that fashion.

7 Our expert will explain to you that the movement of
8 that striker shows that the door was latched when it
9 tripped over and landed on the driver's roof pushing the
10 door and the B-pillar apart and causing it to move like
11 that. The door could not -- that could not have happened
12 if the door was opened and if the door was unlatched --
13 further proof we believe that shows that the door was
14 closed during the rollover.

15 Now, there's other proof and I want to I guess warn
16 you about something because as I said we're not here to
17 disparage the good name of Sheriff Riley. We're not here
18 to -- You're not going to hear anybody from Ford say that
19 Sheriff Riley wasn't a good husband, a good sheriff, a
20 good father to his family, and a good provider because he
21 was, but there is proof and I am saying this to you --
22 we're going to have to show and I am not going to show it
23 now. I am going to give fair warning to Mr. Crosby and
24 his family, but we are going to show some photographs from
25 the coroner that are marks on Sheriff Riley's body that we

1 make sure that you're made comfortable.

2 All right. Mr. Henderson, you may call your first
3 witness.

4 MR. HENDERSON: If Your Honor please, I would call
5 Roy Hughes.

6 ROY G. HUGHES, after being duly sworn, testified
7 as follows:

8 THE WITNESS: My name is Roy G. Hughes; H-U-G-H-E-S.

9 DIRECT EXAMINATION

10 BY MR. HENDERSON:

11 Q Roy, where do you live?

12 A Ridgeland.

13 Q And what is your occupation?

14 A Chief Deputy of Jasper County Sheriff's Office.

15 Q Are you married?

16 A Yes, sir.

17 Q Got some children?

18 A Yes, sir.

19 Q How many children do you have?

20 A Three, sir.

21 Q Any of them home with you or are they all grown?

22 A Yes, sir. I've got one home with me.

23 Q And how long have you been the chief deputy with the
24 Jasper County Sheriff's Department?

25 A Since 1997.

1 Q And who was the sheriff when you took over that
2 position?

3 A Sheriff Ben Riley.

4 Q Had he just been elected sheriff?

5 A Yes, sir.

6 Q All right. Do you have a prior history in law
7 enforcement?

8 A Yes, sir.

9 Q Would you tell the jury what that history is?

10 A I started that law enforcement career in 1980 in the
11 Ridgeland Police Department. From there I worked at the
12 Jasper County Sheriff's Office.

13 Q Okay.

14 A I was a sergeant with the Ridgeland Police Department
15 and a patrol lieutenant with the Jasper County Sheriff's
16 Office.

17 Q And did you know Sheriff Riley before you became his
18 chief deputy in 1997?

19 A Yes, sir.

20 Q How did you know him?

21 A My mother and father owned a small country store. We
22 moved there in 1966 and we lived on the rear of the store.
23 Sheriff Riley was a frequent patron of the store back in
24 the late 60's, early 70's.

25 Q And after y'all -- after you grew up did your law

1 enforcement career paths cross at any time before 1997?

2 A Yes, sir.

3 Q As I said I was a Sergeant of the Ridgeland Police
4 Department. Sheriff Riley was hired a short time after I
5 was on the Ridgeland Police Department. We worked
6 together. Actually, I was his training officer there.

7 Q And during those years when you started working for
8 Sheriff Riley did you get to know Mrs. Laura and his
9 daughters?

10 A Yes, sir.

11 Q How about basically tell the jury what your job
12 responsibilities are as the chief deputy for the Jasper
13 County Sheriff's Department?

14 A I am responsible for the day-to-day operation of the
15 sheriff's office at the direction of the sheriff. That's
16 everything from purchasing to training to -- anything to
17 do with the daily operation of the sheriff's office.

18 Q And in that capacity are you familiar with the
19 records kept by the sheriff's office and the documents
20 that are part of that office -- even documents that might
21 pertain to Sheriff Riley?

22 A Yes, sir.

23 Q And with what degree of frequency or how often did
24 you actually work and interact with Sheriff Riley from the
25 time you began?

1 the office that he was deceased and we wanted to make
2 notification to the family; so we tried to get the
3 officers to make notification to the family.

4 Q What did you and Sam do once y'all left Bamberg?

5 A We came back and came by the family's home.

6 Q And briefly tell the jury where Sheriff Riley's home
7 is in relationship to Ridgeland and Bamberg and that type
8 of thing.

9 A It is in the Point South area of Jasper County which
10 is about 10 to 12 miles north of Ridgeland up on I-95
11 around the 33 mile marker if that tells you any.

12 Q And when you arrived at Sheriff Riley's home were
13 there other members of your staff there?

14 A Yes, sir.

15 Q Who was there?

16 A At the time Lieutenant Jenkins was there. Donald
17 Hipp was there -- detective.

18 Q And you mentioned Lieutenant Jenkins several times.
19 Is he now Sheriff Gregg Jenkins of Jasper County?

20 A Yes, sir, he is.

21 Q And is that the sheriff that you presently serve
22 under?

23 A Yes, sir, it is.

24 Q And Donald Hipp -- what was his position with the
25 sheriff's department at this time?

1 A He was a detective, sir.

2 Q And do you know if he has any personal or family
3 relationship with the sheriff?

4 A Yes, sir. He lives in that area and has family
5 connections with Sheriff Riley.

6 Q Did you go in the Riley home?

7 A Yes, sir.

8 Q If you would, Roy, tell the jurors what you observed
9 about the impact about the news of Sheriff Riley's death
10 had on Mrs. Laura and her family.

11 A One of the toughest things I have ever had to do; a
12 traumatic impact on the family, friends, myself, our
13 department, our officers that were there. It's just --
14 You can't describe how hard that situation was. It is
15 very devastating.

16 Q Did there come a time either that day -- was it -- We
17 understand that Sheriff Riley died in the late
18 afternoon -- mid to late afternoon. Were you able to meet
19 with your staff that day or when were you able to meet
20 with your staff?

21 A No, sir. We met the following day.

22 Q And as far as the operation of the Sheriff's
23 Department who was -- who was in overall charge of the
24 department immediately in light of Sheriff Riley's death?

25 A I was, sir, by statute.

1 Q And just briefly with the department and the running
2 of the sheriff's department, what happened after that as
3 far as the filling of the vacancy?

4 A It was left up -- as I said, I was Acting sheriff by
5 statute. It was left up to the governor to make an
6 appointment of an interim sheriff which he did some three
7 weeks, four weeks later which was someone different than
8 myself. That person served as an interim sheriff until a
9 special election was conducted.

10 Q And that's when the present Sheriff Gregg Jenkins was
11 elected?

12 A Yes, sir.

13 Q Did you attend Sheriff Riley's funeral?

14 A Yes, sir.

15 Q And where was the funeral held?

16 A At the Baptist Center. We call it the Baptist
17 Center, Mount Palmer.

18 Q And was your department and other law enforcement
19 departments there and part of the service along with the
20 Riley family?

21 A Yes, sir.

22 Q Just briefly explain.

23 A It was amazing. I have been to a lot of police
24 funerals in my time. I never actively had to take a part
25 in it such as one as this. Departments from across the

1 country attended the funeral -- sheriffs throughout the
2 state and other states. The numbers were just phenomenal.
3 We had a social hall plus the church. We had a
4 teleconference into the social hall for the actual funeral
5 and the church full. Outside was full. I mean, I say
6 full. It was just -- I couldn't begin to count how many
7 people were there. It was enormous.

8 Q Okay. Let's move a little bit and now I want to talk
9 to you for a minute about this 1998 Ford F-150 vehicle
10 that Sheriff Riley was driving when he died. Are you
11 familiar with that vehicle?

12 A Yes, sir.

13 Q Do you know when or how it came to be owned by Jasper
14 County?

15 A As I recall we bought that vehicle in 1998 if I
16 remember correctly.

17 Q Let me hand you -- May I approach, Your Honor?

18 THE COURT: Hold on. Are you going to show some
19 more?

20 MR. HENDERSON: Yes, sir.

21 What I marked as exhibit 143 and 144, I ask if you
22 can tell me what those are, please.

23 THE WITNESS: This was ---

24 Q Give the number, please.

25 THE COURT: Identify each number.

1 THE WITNESS: 143 -- it says certificate of origin of
2 the vehicle. The second page of that is a bill of sale
3 for the vehicle.

4 Q And when was it purchased by Jasper County?

5 A The bill of sale was dated 7/13/1998.

6 Q All right, sir.

7 A And the third one is an affidavit of the vehicle
8 sale.

9 Q All right.

10 A 144 is a letter addressed from our public works
11 asking for what we call a confidential undercover tag for
12 the vehicle.

13 Q What does that mean?

14 A That means when the tag is -- if you run it through
15 the computer it comes back not on file. It is a
16 confidential tag that we use for undercover police work --
17 mainly narcotics.

18 Q Okay.

19 A That was all regarding the tag was 144.

20 Q And to the best of your knowledge did that vehicle
21 continue to have a confidential tag throughout its use by
22 the department?

23 A To the best of my knowledge, yes, sir.

24 MR. HENDERSON: If, Your Honor, please I would move
25 those two exhibits into evidence.

1 eastbound on Highway 336 east. Just after I passed the
2 intersection of Highway 29 I looked to the left. The deer
3 had ran out hit the county vehicle on the left rear
4 quarter panel of the vehicle while on patrol.

5 Q Thank you. Do you specifically -- I would move this
6 into evidence. I'm sorry. It is already in evidence.

7 Do you specifically remember that incident?

8 A Not specifically, no, sir.

9 Q Do you remember any damage being done to the vehicle?

10 A No, sir, I don't.

11 Q Let's talk a little bit about Ben Riley as an
12 individual, as a family man, and as a law enforcement
13 officer. First off, if you would, describe to the jury
14 your observation of Ben as a husband of Laura and as a
15 father to his children.

16 A He was a good family man, a good christian man. He
17 was always there for his family. There was never any
18 question, of course, that God always came first in his
19 life and then his family.

20 Q And how about as a sheriff?

21 A As a sheriff he was a great sheriff because he was
22 such a good person. He knew that there was more to law
23 enforcement than just putting people in jail. I mean, it
24 was a job that he and I had shared quite often about we're
25 here to help people. Of course, we're here to protect the

1 A Yes, sir.

2 Q A pack of those signs?

3 A Yes, sir.

4 MR. HENDERSON: Your Honor, if we could, in addition
5 to the exhibit if we could mark this as Exhibit 93
6 possibly A?

7 THE COURT: We'll do that when we take a break.

8 (WHEREUPON, Plaintiff's Exhibit Nos. 93 & 93A were
9 admitted into evidence.)

10 Q Roy, the issue in this case is going to be whether or
11 not the day he died -- whether or not Ben Riley had on a
12 seatbelt. Would you tell the members of the jury your
13 experience with Sheriff Riley over the years that you knew
14 him and worked for him?

15 A The sheriff never drove a vehicle without his
16 seatbelt on. Never. He was adamant about it. He was
17 adamant about the use with the department. He didn't do
18 it. There is no way. Any time the sheriff was in that
19 vehicle and it was about to move he was going to have his
20 seatbelt on.

21 Q Did you ever know that to be otherwise?

22 A No, sir.

23 Q Can you in a few short words Roy sum up Ben Riley as
24 a man and as a law enforcement officer based on your
25 experience with him?

1 A As a man he was a phenomenal man and I say that
2 from -- of course, it comes from knowing him a long time
3 and not just as my boss. He was my friend. I've seen him
4 in every aspect of his life. I've seen him in the highs.
5 I've seen him in the lows and he never changed his
6 attitude about how he wanted to help people, how he wanted
7 to be there. Even at points when he was very ill and very
8 sick with his cancer he was -- he always wanted everything
9 right for everybody and he was -- I visited him in the
10 hospital when he had surgery and at home and talked to him
11 on the phone because he was recuperating for months and he
12 never -- I mean, there is no way he could come to the
13 office and every time I talked to him the recurring theme
14 was and especially after he recovered from his cancer was
15 thank God for life.

16 That was his main goal was thanking the good lord for
17 his life and his recovery and he wanted everybody to know
18 that and as a sheriff as I said earlier not only did he
19 believe in law enforcement and believe in enforcing the
20 law which we did to the highest degree possible, but he
21 believed in helping people. Good family man, always
22 provided for his family. Over the years we had both
23 worked part time jobs to do special things. I remember
24 the sheriff had worked countless hours to build his house
25 on part time jobs and you just don't see that in everybody

1 THE COURT: Andrew, get a little closer. Speak into
2 it.

3 Q Now, I want to go back to 2007. If we subtract I
4 take it that you were about 16 years old then?

5 A Yes, sir.

6 Q And when you were 16 what were you doing during that
7 time? Were you going to school?

8 A I was going to school at Bamberg Ehrhardt High.

9 Q And I take it that were you still working on the farm
10 during that time?

11 A Somewhat; whatever I needed to work.

12 Q Did your daddy make you work when you got home from
13 school a little bit?

14 A It all depends.

15 Q And you were in what grade in 2007 if you were 16?

16 A Eleventh.

17 Q Eleventh grade. And did you ultimately graduate from
18 Bamberg Ehrhardt?

19 A Yes, sir.

20 Q And on -- how would you go and come to school -- the
21 route from your house?

22 A I would leave school, come here to 601 and 301 and go
23 like I'm going towards Ehrhardt on 601 where the fork is;
24 then go about not into Ehrhardt but by a white fence and
25 turn to the right and go down a little ways and to the

1 left and then turn on Pocketville.

2 Q Okay. You turned left -- when you turned left you
3 would be on what, Colston road?

4 A Yes, I think so. I don't know the name of the roads.

5 Q Okay. But anyway you get on Pocketville Road and
6 then take a straight shot on Pocketville Road and it would
7 go across the Ehrhardt Road?

8 A Yes, sir.

9 Q And if you keep going it will go across 64?

10 A Yes, sir.

11 Q And if you keep going it turns to dirt?

12 A Dirt road.

13 Q Okay. And y'all live right down there on the left,
14 off that dirt road?

15 A Yes, sir.

16 Q Okay. Is that the path that you would take every day
17 going home from school?

18 A Yes, sir.

19 Q Okay. Rather than take 601 down to Ehrhardt you
20 would go and hit Pocketville Road?

21 A Yes, sir.

22 Q Do you remember going home from school on August 29
23 of 2007?

24 A Yes, sir.

25 Q What time does school get out?

- 1 A Three o'clock; 3:05.
- 2 Q Did you go straight home from school that day?
- 3 A I was headed straight home.
- 4 Q On your way -- did you have a cellphone back in that
- 5 time?
- 6 A I don't remember. I think.
- 7 Q Do you remember whether y'all had any reception?
- 8 A There was no service.
- 9 Q No service. If you had one it wouldn't work during
- 10 that time?
- 11 A There you go.
- 12 Q Now, were you in any particular hurry or anything to
- 13 get home that day?
- 14 A No, sir.
- 15 Q Just a regular day?
- 16 A Regular old day.
- 17 Q Do you recall coming up to the intersection of
- 18 Pocketville Road and Ehrhardt Road?
- 19 A Yes. I remember stopping.
- 20 Q Now, at that intersection is it a crossroads?
- 21 A Yes, sir.
- 22 Q Now, which road has to stop? Ehrhardt Road or
- 23 Pocketville Road?
- 24 A Pocketville.
- 25 Q Okay. Did you come -- When you approached the stop

1 sign did you slow down and stop?

2 A Yes, sir. I remember coming to a complete stop.

3 Q What is the next thing that you remember?

4 A I remember spinning, facing towards G & G.

5 THE COURT: Hold on a second. Speak distinctly for
6 me.

7 THE WITNESS: I said I remember coming to a complete
8 stop and then spinning, then facing G & G Milling's way.

9 Q That means you were -- When you came to a stop you
10 were in Ehrhardt Road?

11 A Yes, sir.

12 Q Do you recall looking for traffic that day?

13 A Yes, sir.

14 Q Did you see anything coming down the road?

15 A I don't remember seeing nothing coming down the road.

16 Q And the next thing you remember is just the sensation
17 of spinning?

18 A Yes, sir.

19 Q Can you put up, Robert, 65.47 I had up yesterday?

20 You say you were in the road facing back towards
21 G & G Milling.

22 MR. CARTER: Your Honor, I am going to object to
23 leading. We've got to the point where the accident
24 happened. I've let the leading go on. I would ask that
25 he ask questions and not lead.

1 THE COURT: Let me just get this out of the way.

2 Mr. Foreman, ladies and gentlemen of the jury, the
3 rules of evidence require a lawyer when he is asking his
4 own witness he has to ask direct questions. When he is on
5 cross examination the lawyers can ask leading questions.
6 That's the rules; so that's the objection. A direct
7 question is: What day is it? Of course, it is Tuesday.
8 A leading question is, It's Tuesday, is it not?

9 Anyway, Mr. Crosby, please use direct questions now
10 that we're getting into back to the accident itself --
11 wreck itself.

12 Q Mr. Carter, I believe you just told the jury that you
13 were facing the direction of G & G Milling?

14 A Yes, sir.

15 Q And can you tell us which one of the vehicles in
16 Exhibit 65.47 is your vehicle?

17 A The black Ranger sitting in the center between the
18 yellow and slash line.

19 Q Is that where your vehicle was stopped at after the
20 accident?

21 A Do what, now?

22 Q Is that where you vehicle stopped at after the
23 accident?

24 A Yes, sir.

25 Q What did you do after the accident?

1 A I got out my truck on the passenger side.

2 Q Okay. And when you got out what is the first thing
3 you saw?

4 A I saw Bryan Bishop and the door right there wide open
5 on that F-150 truck.

6 Q When you saw Mr. Bishop where was he located?

7 A He was coming down from his house.

8 Q Where is his house if we're looking into this
9 photograph?

10 A About half a mile back towards Ehrhardt.

11 THE COURT: Which way is back towards Ehrhardt? Back
12 behind your truck?

13 THE WITNESS: Back behind my truck.

14 Q And G & G Milling would be which way from your truck?

15 A In front.

16 Q The way your truck is facing?

17 A Yes, sir.

18 Q And where in this photograph then looking towards
19 Ehrhardt?

20 A Yes, sir.

21 Q And so -- You saw Mr. Bishop. How far was he from
22 you when you saw him?

23 A Pretty close.

24 Q Did he say anything to you?

25 A He asked me if I was all right.

1 Q And what was -- did y'all have any other
2 conversation?

3 MR. CARTER: Your Honor, I would object to the
4 conversation as hearsay.

5 THE COURT: Well, he asked did he have any other
6 conversation. He hadn't asked what it was yet; so did you
7 or did you not have a conversation with Mr. Bishop?

8 THE WITNESS: I don't remember.

9 Q What was the next thing that you did when Mr. Bishop
10 got up to you?

11 A I don't remember.

12 Q Okay. Did you see anyone else that had been in the
13 other vehicle that was involved in the accident?

14 A I don't remember that.

15 Q Do you recall what type of vehicle it was, the other
16 vehicle?

17 A It was an F-150.

18 Q Did you look at the F-150?

19 A No.

20 Q Did you recall -- Did you ever look at the door on
21 the F-150?

22 MR. CARTER: Your Honor, asked and answered. He said
23 he didn't look at the F-150.

24 THE COURT: Well, he did. You can answer that. You
25 can answer that.

1 THE WITNESS: I did look at the door was open; so,
2 yes, the door was open.

3 Q And when did you first notice that?

4 A Time I got out of the vehicle.

5 Q And let me get you to look at what's marked as
6 Plaintiff's Exhibit 65.11. Can you see this photograph
7 from where you sit?

8 A Yes, sir.

9 Q Does that appear to be condition of the door on the
10 F-150 as you saw it on the date of the accident?

11 A Yes, sir.

12 Q Let me ask you from the time you and Mr. Bishop got
13 to the scene or Mr. Bishop got there and you got out of
14 your vehicle did either of you go over and touch the door
15 on the F-150 at any time?

16 A No.

17 Q Was there anyone else at the scene at that moment
18 when Mr. Bishop arrived other than you and Mr. Bishop?

19 A No.

20 Q Did at any time you ever see while you were at the
21 scene the driver of the F-150?

22 A No.

23 Q Did you ever walk around and do any kind of survey of
24 the scene?

25 A No, I don't remember that.

1 Q Did at some point EMS arrive?

2 A Yes, sir.

3 Q And then what happened with you in regard to any
4 interaction with EMS?

5 A I just stayed in there with them.

6 Q When you say stayed in there what do you mean?

7 A I stayed in there until my mother come to me.

8 Q Stayed in where?

9 A In the ambulance.

10 Q Okay. Mr. Carter, in looking back at this do you
11 accept responsibility for failing to yield the right of
12 way?

13 A Yes.

14 MR. CROSBY: Please answer any questions of these
15 other gentlemen.

16 THE COURT: Mr. Carter?

17 MR. CARTER: Your Honor, may we approach?

18 (Whereupon, a bench conference was held.)

19 MR. CARTER: No questions, Your Honor.

20 THE COURT: Mr. Foreman, ladies and gentlemen, let's
21 take our morning break -- about 10 minutes. Bathroom,
22 stretch your legs. Do I got any smokers? If you need to
23 smoke I'll let you run downstairs with one of the
24 bailiffs. Don't discuss the case with anyone outside.
25 We're going to go until about 12:30.

1 around that bag of feed from standing there could you see
2 inside of the other pickup?

3 A Yes, sir.

4 Q And let's go to 65.12 for me. Can you tell us
5 whether or not this is what you saw when you first arrived
6 to the scene as far as the condition of the F-150?

7 A Yes, sir. That's what I seen.

8 THE COURT: That's what?

9 THE WITNESS: That's what I seen.

10 Q Let me ask you from the time you got there you saw
11 Andy getting out of his pickup; correct?

12 A Yes, sir.

13 Q You actually -- Did you actually see him opening the
14 door and getting out or was he already out?

15 A I can't remember, but I think I seen the door
16 opening.

17 Q Okay. Based on what you saw did it appear that Andy
18 had already been out of his truck?

19 A No, sir. He was getting out when I got there.

20 Q Okay. You looked around. When you pulled up there
21 and pulled off and was walking up to speak to Andy did you
22 see anyone else walking around at the scene at that point
23 in time?

24 A No, sir.

25 Q Were you the first person on the scene other than the

1 two vehicles -- the drivers of the two vehicles involved
2 in the accident?

3 A Yes, sir.

4 Q Did some other folks come up later?

5 A Yes, sir. The next person come from Gene Kirkland's
6 way.

7 Q Okay.

8 A Towards Ehrhardt.

9 Q Did you know who that was?

10 A Maybe -- I can't remember his name.

11 Q Did you ever go and look for the person that was in
12 the F-150 pickup?

13 A Yes, sir. I walked back towards -- Well, where I was
14 about where that bag of feed is and I walked back towards
15 over there and it was like I heard something in the
16 bushes. I mean, he was plain as day. I think he was face
17 down and he would be in front of his truck over there on
18 the right in the grass.

19 Q What did you hear?

20 A Just like a gasping sound.

21 Q Did you ever go over?

22 A Oh, no, sir. I didn't.

23 Q Did other people that -- did -- Were other people
24 arriving?

25 A Yes, sir.

1 Q Did someone else go over?

2 A Yes, sir. That next fellow that got there went over
3 there.

4 Q What did you then do?

5 A I went back to my parents' house and called Andy's
6 mother.

7 Q Is there any question in your mind that what is
8 depicted in Exhibit 65.12 is what you saw when you got to
9 the scene?

10 A Yes. That's how it was.

11 Q And when you say "it," we're talking about the door
12 on the F-150 pickup?

13 A Yes, sir.

14 Q And you saw no one there that could have touched the
15 door?

16 A No, sir.

17 Q You were the first person on the scene?

18 A Yes, sir.

19 MR. CROSBY: Please answer any questions the other
20 counsel may have.

21 THE COURT: Gentlemen? Cross?

22 MR. HARMON: Thank you, Your Honor.

23 CROSS-EXAMINATION

24 BY MR. HARMON:

25 Q I guess officially good afternoon, Mr. Bishop. I got

1 Q Now you said that your primary purpose was to
2 determine speeds?

3 A That's correct.

4 Q And were you able with the information that was
5 available there to come up with the speed estimate to see
6 if the speed was a contributing factor here?

7 A Yes, sir, we were. In this particular collision the
8 impact speeds for the two vehicles -- the F-150 was
9 approximately 37 to 43 miles per hour and the impact speed
10 for the Ranger was 13 to 15 miles per hour. There were
11 tire marks that led up to the collision site from the
12 F-150 and we were able to combine those speeds with the
13 impact speed and determine that the F-150 prior to braking
14 in the sequence was between 46 and 51 miles an hour on the
15 way into the crash.

16 Q When you're looking at the evidence that was at the
17 scene were you able to make a determination as to whether
18 the F-150 made any type of evasive maneuver prior to the
19 collision?

20 A That's correct. The tire marks that I mentioned
21 earlier -- the marks that we added speed from the
22 impact -- were based -- were the brake marks from the
23 F-150 as it moved towards the right on to the shoulder in
24 an attempt to avoid the collision from the Ranger as it
25 came across from its left.

1 answer; so that's sort of gets you all together.

2 Then under our rules the first thing the lawyers can
3 do is they can ask each side, Who are your witnesses? Who
4 is going to testify in the case? Once they identify all
5 of the witnesses they have the right to take a deposition
6 of the witnesses so they'll know what the witnesses are
7 going to say in regards to their involvement in the case.

8 When a deposition is taken it is noticed and they go
9 to either a lawyer's office or the person's place of
10 employment or anywhere. At the deposition would be
11 somebody from the plaintiff's side, somebody from the
12 defendant's side. The person giving the deposition is
13 under oath sworn to tell the truth before a notary public.
14 We have a court reporter present. All of the questions
15 asked by the lawyers is taken down by the court reporter.
16 All of the responses by the deponent is taken down and
17 then it is transcribed into a deposition booklet or
18 transcript which is what this is and they can be used for
19 a number of purposes throughout the trial.

20 The rules allow them to be used for many, many
21 purposes and that's -- I suspect everybody who's testified
22 in this case has given a deposition and you'll be seeing
23 them used for various reasons and various purposes as we
24 go along. I'll give you that explanation to start off
25 with. Then we'll get it out of the way and move along.

1 Q Okay and that is for the F-150?

2 A Yes, sir.

3 Q Has them and they both deployed. How about flipping
4 over to the Ranger?

5 A It's not marked on the Ranger.

6 Q Okay. All right. The next page with regard to the
7 Ford 150 at the top -- the first section on the next page
8 is entitled what?

9 A I'm sorry?

10 Q The first section on the next page.

11 A Seatbelts, I believe it is.

12 Q And this is regarding seatbelts for the F-150. What
13 does it indicate there?

14 A The left front or driver's would be a manual belt and
15 the driver was not belted.

16 Q All right. Manual belt in that it is a three-point
17 belt, pull and click in?

18 A That's correct.

19 Q Would there have been an examination of the belt in
20 order to check it off the checklist?

21 A Yes, sir.

22 Q Okay. And then it says the driver not belted?

23 A Ordinarily we would do -- Let me say this.
24 Ordinarily we do an examination of the belt. In this case
25 the driver was ejected from that vehicle. That's usually

1 a fairly obvious indication that he wasn't wearing the
2 belt.

3 Q Did you do an examination of the belt?

4 A I don't recall and I may not have done it. If there
5 was one done, it may have been done by Lieutenant Dixon.
6 I don't recall having done one, no, sir.

7 Q The report indicates that it was at least checked for
8 the left front, the driver's?

9 A We looked at it to see if it was a manual belt and we
10 put down that he wasn't belted.

11 Q Okay. Did you put down anything about the driver's
12 side seatbelt on the F-150 having any defect or mechanical
13 problem or not being able to operate?

14 A No, sir.

15 THE COURT: What is that noise, please?

16 MR. CREECH: I'm sorry.

17 THE COURT: Mr. Creech, that's two times today. Can
18 y'all make sure all of your phones cut off, please?

19 Q All right. Now, did you have a chance to review your
20 deposition before you came? You knew you were going to
21 testify. We sent you a subpoena.

22 A Yes, sir.

23 Q And you got a subpoena from Mr. Crosby's office?

24 A Yes, sir.

25 Q Okay. Did you have a chance to review your

1 MR. CARTER: Your Honor, objection.

2 MR. CROSBY: I'll withdraw the question.

3 MR. CARTER: It's not claimed in this case.

4 THE COURT: He's withdrawn the question. Sustained.

5 MR. CROSBY: I don't have any other questions.

6 THE COURT: Thank you. You may step down. All
7 right. Gentlemen, none of the stuff he has up here has
8 been put into evidence except exhibit ---

9 MR. CROSBY: Only the photographs.

10 THE COURT: Next witness, Mr. Crosby.

11 MR. CROSBY: The plaintiff would call Kendrick
12 Richardson.

13 MR. CARTER: Before he takes the stand, Your Honor, I
14 got a really quick issue while he sets up.

15 (Whereupon, a bench conference was held.)

16 KENDRICK E. RICHARDSON, after being duly sworn,
17 testified as follows:

18 THE COURT: Give us your full name for the record,
19 please.

20 THE WITNESS: Kendrick E. Richardson.

21 DIRECT EXAMINATION

22 BY MR. CROSBY:

23 Q Good afternoon, Mr. Richardson. Where do you live,
24 sir?

25 A Down in Mount Pleasant, South Carolina near

1 Charleston.

2 Q Where are you originally from?

3 A Grew in up in a little town called Six Mile which is
4 outside of Clemson.

5 Q What is it that you do for a living?

6 A I am a mechanical engineer and I have a practice
7 where we work on situations like this looking at car
8 wrecks and truck wrecks and industrial accidents and
9 different situations from an engineering perspective. We
10 do analysis of how vehicles move, how they come together,
11 and apply laws of physics to do a reconstruction of an
12 accident.

13 Sometimes we look at machinery to see what failed or
14 how it failed or how someone got injured or how it was
15 assembled correctly or incorrectly -- different issues
16 like that.

17 Q What is your educational background?

18 A I have a bachelor of science degree in mechanical
19 engineering from Clemson University; graduated in 1994.
20 No, that's not right. 1987. It's been a long time and
21 then a masters of science also from Clemson and also
22 mechanical engineering and graduated in 1994.

23 Q In addition to your classes in mechanical engineering
24 you talked a second ago about looking at automobile
25 accidents. Do you have some formal training in accident

1 reconstruction?

2 A Sure. I took course work with Northwestern
3 University with the Traffic Institute in accident
4 reconstruction. I have taken vehicle dynamics course work
5 with the Society of Automotive Engineers and the variety
6 ongoing continuing ed courses.

7 Q What kind of things do you do to keep up to date with
8 continuing education?

9 A I do a lot of reading of publications by the Society
10 of Automotive Engineers, do occasionally attend different
11 conferences. There was a regional reconstruction
12 conference held in Charleston a few weeks ago. David Lee
13 who just testified was there that week. I saw him there.
14 We looked at a variety of situations. Actually, did a
15 crash test then and ran cars together with instrumentation
16 in them and looked at speed changes and results and things
17 of that nature.

18 Q Where are you currently employed?

19 A The company name is Engineering Experts, Inc.

20 Q Who owns that Engineering Experts?

21 A I'm majority owner.

22 Q Is that a company that you started on your own?

23 A It is.

24 Q What type of work does your company do?

25 A Accident reconstruction work and we also look at

1 machine design issues sometimes.

2 Q And in a machine design issue what is the kind of
3 things that you look at?

4 A Usually, most of those situations have to do with
5 someone who is injured typically in a manufacturing
6 environment or something like that a lot of times. We
7 start off by looking at where the accident happened.
8 Sometimes cases will revolve around machinery that doesn't
9 produce the output it's supposed to or something like
10 that. Say, it's supposed to produce 1,000 parts an hour
11 and it will only produce 500 or it won't produce parts
12 accurately. Generally, we start with where the problem is
13 begin looking at how the incident occurs. If it is an
14 accident, where somebody was injured, how they got in the
15 position in which they were injured, how they came to be,
16 what codes and standards and regulations are about
17 guarding areas or protecting people in different ways.

18 Q Are those the type of things that you are taught in
19 your course work to become a mechanical engineer?

20 A That's correct.

21 Q And who are some of the clients that work for your
22 company?

23 A Clients who work for?

24 Q Not that work for your company, but that you work for
25 actually.

1 A We typically everything we do is related to
2 litigation. It is related to either a lawsuit or somebody
3 looking at maybe filing a lawsuit.

4 Q Have you done work for me before?

5 A I have.

6 Q Worked for my firm on several occasions?

7 A Yes.

8 Q Who other than people like me have you worked for?

9 A Just lots of different lawyers around the state; both
10 plaintiff and defense lawyers.

11 Q Have you worked for any insurance companies?

12 A I have.

13 Q Worked for any businesses doing either reconstruction
14 or machine-design work?

15 A No. We really only work in the area of where
16 litigation is involved. That's the focus of our business.

17 Q Do you have any idea about how many accidents that
18 you've reconstructed over the years?

19 A The short answer is no, but, I mean, thousands
20 probably as a guess. Yea, I have been doing this for a
21 long time.

22 Q Did you grow up -- Let me ask what work have you done
23 other than engineering experts? Have you had any other
24 jobs after you got out of college other than running your
25 own business.

1 A Yes, I have. I worked for -- During college I worked
2 for GE up in Greenville in their gas-serving plant.
3 Afterwards I worked down in Tampa, Florida doing some
4 technical sales and support work dealing with power supply
5 equipment and power conditioning equipment. I worked for
6 a sports equipment company. I did investigation of
7 accidents for them actually in-house as well as helped
8 design machinery and that sort of thing.

9 I did worked for the Medical University of South
10 Carolina. I ended up using that work as a thesis topic
11 for my master's degree dealing with -- came up with a
12 method to measure the mechanical properties of individual
13 heart cells; so, a variety of things. I've had some
14 patents on a manufacturing process and worked on
15 developing it for a while. It would be a
16 computer-modeling area.

17 Q When did you open Engineering Experts?

18 A I opened the company in I think it is early '95 is
19 when we got the paperwork back from the state and at that
20 time it had a different name. It was -- it's been a long
21 time -- Engineering Design and Analysis and we changed the
22 name about six or eight years ago, but it is still the
23 same company.

24 Q Are you the only engineer in your company?

25 A No. I have a business partner named Martin Schussel,

1 S-C-H-U-S-S-E-L, who also has a master's degree in
2 mechanical engineering and he owns part of the company.
3 We have a gentleman that works for us named Tyler Black.
4 He also has a masters and science degree in mechanical
5 engineering and we have a lady that does graphics and
6 animation and assistant type work also.

7 Q Now, can you tell the jury just generally how you go
8 about reconstructing an accident? How is that done?

9 A Sure. You know, the typical thing you do first is
10 you just try and find out what pieces are out there. It
11 is kind of like a puzzle. You look for evidence. In this
12 instance we had a good bit of information on the accident
13 scene. Both vehicles are around; so we can go look at
14 those. I have a diagram. Is this a good time to show the
15 diagram of the accident scene?

16 Q Before we get into that, if you could just
17 generally --

18 A Okay.

19 Q -- and then we'll get to that. We got to qualify you
20 first.

21 A So, the typical thing we'll do is we'll go out to an
22 accident scene. If there are still marks out there
23 whether it's earth that's been torn up or a tree that's
24 had bark knocked off or tire marks in the road, whatever,
25 we'll measure all of those kind of things, measure the

1 roadway, the layout of the intersection, location of
2 signs. We use a machine called a total station. It is
3 like a box that a surveyor uses; but we use it for taking
4 engineering measurements.

5 We'll make a map of all of those parts. We'll do
6 that on the computer, make a 3D CAD model. Then we'll
7 look at the vehicles and the damage to them and start
8 piecing them back on top of the marks of the scene. There
9 will be gouges a lot of times where vehicles come together
10 and there will be tire marks that a vehicle has to travel
11 over. With the instance of bark knocked off a tree and
12 often times there is bark jammed up in a vehicle somewhere
13 and those line up and just start piecing back together all
14 of the bits of information you have.

15 Q And were you contacted by my office to do that in
16 this case?

17 A Yes. Y'all asked us to do that in this case.

18 Q And have you completed work in this case with regard
19 to the reconstruction of this accident?

20 A Yes.

21 MR. CROSBY: Your Honor, I would offer Mr. Richardson
22 as an expert in the field of mechanical engineering and
23 accident reconstruction.

24 THE COURT: All right. Any voir dire on his
25 qualifications, gentlemen?

1 MR. HARMON: No, Your Honor.

2 THE COURT: He'll be admitted to render opinions in
3 those two fields as an expert in reconstruction and
4 mechanical engineering.

5 MR. CROSBY: I think you've already told the jury
6 about an expert.

7 THE COURT: Did you eat a lot of chicken for lunch,
8 Mr. Crosby?

9 MR. CROSBY: I didn't get any of that. I just wanted
10 to make sure. Sometimes things go right over my head.

11 Do you know about when it was that I first contacted
12 you, Mr. Richardson?

13 THE WITNESS: I will in a minute. Okay. I was at
14 the scene on April 24, 2008; so it is probably within a
15 week or two prior to that.

16 Q Sometime prior to that?

17 A Correct.

18 Q And in this case just so we know what materials had
19 did you go to the scene?

20 A Yes.

21 Q You went there yourself?

22 A Yes.

23 Q Did you take the type of measurements that you talked
24 about earlier?

25 A Correct.

1 going to spin out in their trajectories down the road.

2 Q Without the evasive action by Sheriff Riley, where
3 would the impact between the two vehicles have occurred?

4 A If he was still centered in the lane he would have
5 really T-boned him right in the door.

6 Q And you've got that labeled "First Contact" and you
7 want to look at 64.3? These take a second to pull up.
8 What are we showing at 64.3?

9 A Both of the vehicles are moved forward just a little
10 bit. This shows how the two engage each other. You know,
11 when they first come into contact you get a scratch in the
12 paint. You don't have a dent, but this is the maximum
13 penetration -- the biggest dent they get and how far they
14 penetrate into each other at this location; so this is an
15 instant in time after the prior image.

16 Q Then we'll go right on through 64.4.

17 A Okay. Here we're not showing the Carter vehicle.
18 They've disengaged at this point. We're really just
19 looking at the motion of Sheriff Riley's vehicle as he's
20 coming out of impact and heading down towards these where
21 he gets sideways down in here.

22 Q Now there's been some talk about a tail slap between
23 the Carter vehicle and the Riley vehicle. Did you look at
24 that as well as part of your reconstruction?

25 A Sure.

1 MR. CROSBY: Mr. Carter, do you have the vehicle?
2 The vehicle you had earlier. I just need one of them.

3 We'll make this one the F-150 and this one the
4 Ranger. If you could Mr. Richardson let's look at
5 photographs 65.78 and Robert can you do a side-by-side
6 with 65.79?

7 A Okay. So what we see here is you just got a little
8 bit of damage right here on the back of the F-150. It
9 broke out the glass in the tail light and the plastic in
10 the tail light and dented the quarter panel a little. Of
11 course, this is sheet metal. This isn't the frame. This
12 is just sheet metal in the back.

13 Similar kind of damage on the Ranger. Damage to the
14 right rear tail light cluster and again dented the sheet
15 metal on the back of it as well and that's consistent with
16 when the two vehicles -- when they come together they now
17 rotate and the back ends slap afterwards. This is a
18 fairly trivial contact. You know, if this was the only
19 wreck you had, then there wouldn't be much to it,
20 obviously, but what it does is it helps to stop some of
21 the rotation of both vehicles and kind of slow down the
22 spin a little bit.

23 It doesn't affect how fast you're going along the
24 road because it is just kind of a glancing blow in the
25 back, and, of course, by the time these contact the nose

1 has hit and the tails hit; so the noses have spun away
2 already by the time the tails hit.

3 Q Look at 65.7.

4 A Okay. This is Sheriff Riley's vehicle where it's
5 coming off the pavement now. It's already off the through
6 lane he was on and over on the side road and coming off
7 the pavement and going into the grass and starting to
8 leave these furrows where he's pushing up grass and dirt.

9 Q Is the vehicle -- Sheriff Riley's vehicle -- still on
10 all fours at that point?

11 A About at this time is probably when the left-hand
12 side is starting to get light and about to come off the
13 ground. It is getting sideways and starting to roll up.
14 This is probably really close to where the left-side tires
15 come loose from the ground.

16 Q This is 64.8.

17 A All right. And this is half-way to the four-wheel
18 lift; so he's probably up about 25-degrees right here.
19 The vehicle has gotten sideways and is starting to tilt
20 up. It is coming up about 22, 25 degrees. Yea, that's
21 better; so it's starting to come up in this area.

22 Q If 360 degrees is --

23 A That's all the way around.

24 Q -- one rotation --

25 A Yes.

1 Q -- one overturn of a vehicle, where are we here in
2 the roll? I mean, how would you describe that?

3 A Okay. So that would be about a 16th of a rotation at
4 this point.

5 Q Okay.

6 A So, you know, a quarter is with this passenger side
7 straight down; so this is about a 16th.

8 Q This is 64.9. How about enlarge that.

9 A This is that same area again. Great. Thank you. So
10 here it is up to where the right side tires are coming off
11 the ground. It's been thrown up and now the right side is
12 picking up and the whole truck is getting up in the air.

13 Q And where are we as far as if the last one was at
14 1/16th what would this be?

15 A This would be about an eighth of a roll here or about
16 45 degrees.

17 Q How long does it take the vehicle in time to move
18 across the ground like that?

19 A A fraction of a second. You know, all of this is
20 happening real fast. The vehicle at this point is going
21 about -- at this point he is down to about 22 miles an
22 hour. So he is covering around close to 30 feet in a
23 second.

24 Q Okay. And that's going along the edge of the
25 roadway?

1 A No, there is not. It's a cycle. It's come open and
2 back towards closed -- it doesn't close all the way -- and
3 open again at least once -- at least one full cycle like
4 that.

5 Q Okay. Now you're not offering any opinions about why
6 the door came open in this accident?

7 A No, I'm not.

8 Q Mr. Richardson, have your opinions with regard to the
9 path of travel of the vehicle and the movement across the
10 ground in relationship to the ground, have they all been
11 to a reasonable degree of engineering certainty?

12 A That's correct. Yes.

13 Q Have your opinions with regard to the speed of the
14 vehicles been to a reasonable degree of engineering
15 certainty?

16 A Yes, they are.

17 Q Is your opinion about that the door came open in this
18 accident and the things that we've discussed, have you
19 analyzed that and formed opinions to a reasonable degree
20 of engineering certainty?

21 A Yes, I have.

22 Q Let me ask you something, Mr. Richardson, before I
23 sit down. At any time -- You've been deposed twice in
24 this case?

25 A Correct.

1 Q At any time in either of your depositions have you
2 made a statement or told anyone with regard to this case
3 that the door on the Riley vehicle was wide open on
4 initial impact?

5 A No. You mean the very first time the corners
6 touched?

7 Q Yea.

8 A No, I have never made that statement. I don't have
9 that opinion either.

10 Q Was it your opinion that that is an opportunity for
11 it to have unlatched?

12 A It very well could be an opportunity to unlatch. We
13 know it is unlatched when --

14 MR. HARMON: Excuse me, Your Honor.

15 THE WITNESS: -- Sheriff Riley comes out.

16 MR. HARMON: Excuse me, Your Honor. May we approach?

17 (Whereupon, a bench conference was held.)

18 Q With regard to you, Mr. Richardson, if someone had
19 suggested that you made the statement that the door was
20 wide open at that initial impact before the roll sequence
21 began, would that be an inaccurate statement?

22 A That would be misrepresenting my testimony, yes.
23 That would be inaccurate.

24 Q Mr. Henderson passed me a note and I thought you
25 discussed this early on, but did you determine the speed

1 somebody pulled out and two vehicles came together and
2 they moved after coming together -- moved down the road to
3 final rest. It's not an unusual wreck. It is the kind of
4 thing that we're all potentially exposed to every time we
5 drive.

6 Q In your opinion is this the type of wreck that's
7 foreseeable?

8 A Yes. Sure. If you're designing a vehicle it's
9 foreseeable.

10 Q And I think you may have prepared one chart -- do you
11 have the number there, Danny -- that shows the distance
12 from where Sheriff Riley was thrown from the agreed
13 location. Did you calculate that distance?

14 A I measured it, yes..

15 Q What was that distance?

16 A It is about 85 feet; could be, say, 80 to 85 feet.

17 Q This is exhibit 64.23.

18 A Yea. If we take Sheriff Riley coming out right at
19 the end of the tire marks there and coming all the way to
20 final rest that's 85 feet.

21 Q And what position is the vehicle in at that point?

22 A The driver's side is up. It is coming right to the
23 end of the tire marks. The right-hand side, passenger
24 side is about to leave the ground. We know that Sheriff
25 Riley went further than the vehicle; so he's got to come

1 inspection?

2 A No. We didn't know it was going to be an issue.
3 There aren't many cases where the height of the window
4 becomes an issue; so we didn't look for it then and it
5 really wasn't something that we were aware of it was going
6 to become an issue later.

7 Q Sir, this was a case involving a rollover; right?

8 A Yes.

9 Q And you knew there was an ejection; right?

10 A Yes.

11 Q You knew the two places they could be ejected were
12 the window or the door; right?

13 A No. The ejection is the door because we already
14 looked at the evidence. The door is open. We got the
15 hook marks on it. We got the ground disturbance. We got
16 the dirt on it. Deformation of the door is different from
17 the body of the vehicle. The door is open.

18 Q Sir, you're telling this jury that when you went out
19 there in April during your initial inspection you already
20 concluded that he went out the door?

21 A No. I'm telling you that now, but you're trying to
22 make it like in April when I went out there and I knew it
23 was either the door or window. Frankly, I wasn't looking
24 for ejection portals. Now you're saying it is one of the
25 two, but I don't think it's one of the two. It is the

1 time he said he would call me back to let me know what was
2 going on once they reached the scene.

3 Q And did you subsequently get a call back?

4 A I did.

5 Q And learned that Sheriff Riley had, in fact, died?

6 A Sam Woodward did call me back and informed me that
7 Sheriff Riley had passed away.

8 Q And what, if anything, did you do then?

9 A Shortly after speaking to Sam Woodward I previously
10 left the office. I was headed towards the Riley home, but
11 I received the call from the now Sheriff Gregg Jenkins and
12 he questioned me was I all right and I told him I was; so
13 he said, Pull over. Let me meet with you. And we did and
14 we went to the Riley home together.

15 Q And so -- and Gregg Jenkins is now the sheriff of
16 Jasper County?

17 A He is.

18 Q At the time that Sheriff Riley died he was a
19 lieutenant with the sheriff's department?

20 A He was.

21 Q Y'all met and went to the Riley home?

22 A We did.

23 Q What did you do when you got there?

24 A I knocked on the door. Sheriff Riley's granddaughter
25 answered. She opened the door. I asked her where was her

1 grandmother. She said in the room watching TV and I went
2 into the bedroom where Laura was.

3 Q Did you inform Mrs. Riley of Sheriff Riley's death?

4 A I did.

5 Q Are you -- Do you have -- Obviously, you have a
6 personal relationship with Sheriff Riley. Do you have a
7 family relationship with Sheriff Riley or Mrs. Laura's
8 family?

9 A I do.

10 Q Tell us about that, please.

11 A Sheriff Riley was my uncle. He was my mother's
12 brother.

13 Q So you obviously knew the sheriff and Mrs. Laura and
14 the children?

15 A All my life.

16 Q Okay. Were any -- when you and now-sheriff Jenkins
17 arrived were any of Sheriff Riley's daughters there?

18 A The youngest Adrian.

19 Q Did the other daughters subsequently arrive while you
20 were there?

21 A Yes, shortly thereafter.

22 Q Did other members of the department -- the sheriff's
23 department -- eventually come to the Riley home that
24 evening?

25 A They did.

1 Q Who did?

2 A Everybody.

3 Q Donald, as best you can would you explain to the jury
4 what you observed -- what you observed at the Riley home
5 that evening when Sheriff Riley's wife and daughters
6 learned of his death?

7 A It was horrible. I mean, one of the worst days of my
8 life. Delivering a message such as that one -- I mean,
9 just terrible.

10 Q Did you -- and the funeral was held several days
11 later; is that right?

12 A Yes, sir.

13 Q Now the funeral I don't believe was held at Sheriff
14 Riley's church, was it?

15 A No, it was not.

16 Q Where was it held?

17 A At Mt. Carmel Baptist Church which is located in
18 Ridgeland, South Carolina.

19 Q Would you put up 42.14, please? Is this a photograph
20 of Mt. Carmel?

21 A It is.

22 Q And 42.02. That's another copy of it?

23 A Yes.

24 Q Do you know why Mt. Carmel was chosen as the location
25 of his memorial service rather than Sheriff Riley's

1 Q Were there any out-of-state agencies represented?

2 A Yes, sir.

3 Q 81.3, please. Can you tell us about that?

4 A In that photo all of those people that are standing
5 there are pretty much members of the Jasper County
6 Sheriff's Office. I see the sheriff Jenkins along with
7 plain clothes officer and I see a couple of administrative
8 assistant personnel.

9 Q 81.4.

10 A That's Mrs. Riley along with Harold Riley and I'm not
11 sure if that's Reverend Hampton or not on her left.

12 Q 81.5.

13 A That's Mrs. Riley, Harold Riley who is seated next to
14 her on the left. Chief Hughes of the sheriff's department
15 is giving her the flag.

16 Q Let's talk about Sheriff Riley and his family a
17 little bit. Can you just kind of give -- If you had to
18 describe Ben as a person in a relatively few words,
19 Donald, how would you do it?

20 A Respectful, God-fearing person, loved by many,
21 straightforward. He gave you his word. No disrespect to
22 his son-in-laws, but whenever he needed something outside
23 of the son-in-laws he would call one of his nephews.

24 I pretty much spent a lot of quality time with him
25 and some of his other nephews to help him with feed. He

1 Q Tell -- Please tell this jury -- tell the ladies and
2 gentlemen of the jury what you observed as far as Sheriff
3 Riley's relationship with Mrs. Laura.

4 A Very close relationship. Like I said, he is a person
5 that you just admire. He does everything for his family.
6 He put God first and then came family.

7 Q What type of stuff did the sheriff and Mrs. Laura
8 like to do together?

9 A They go out of town. They travel, loved to go the
10 Florida.

11 Q I'm sorry?

12 A Loved to go to Florida.

13 Q Go to Florida?

14 A Go to church.

15 Q Did you share meals with them -- with the Riley
16 family?

17 A I did. I still do on occasionally every now and
18 then.

19 Q Is Mrs. Laura a pretty good cook?

20 A She is.

21 Q How about the sheriff and his children?

22 A Loved them to death.

23 Q To the best -- Do you have any knowledge of his doing
24 things for his children even after they were up in age and
25 out of the nest, so to speak?

1 A If he had been here today he would still be providing
2 for them as though they were living in his home.

3 Q In fact, did his daughters live relatively close?

4 A Very close-knit, right in the same area.

5 Q Could you walk --

6 A Yes, you can.

7 Q -- to their home or at least as far as the daughter
8 is concerned? Could you walk to all of their homes?

9 A Yes, sir.

10 Q And had they always been like that? Always been a
11 close family?

12 A Always.

13 Q You are, of course, aware that Ben went through a
14 bout with cancer.

15 A Yes, sir.

16 Q Okay. Had he returned to work on a full-time basis
17 after he had had the cancer surgery?

18 A He did.

19 Q And did you see anything about Sheriff Riley's daily
20 activities after he returned to work full time that was
21 different from the old Sheriff Riley before he got sick?

22 A No, sir.

23 Q What was your fondest memory of your Uncle Ben Riley?

24 MR. HARMON: I'm sorry, Your Honor. We're going a
25 little far afield here.

1 THE COURT: I'll let him answer that. Please bear in
2 mind Rule 4, Mr. Henderson.

3 THE WITNESS: He loved to fish. We went fishing one
4 day -- myself and him. The tide was low. We walked out
5 there. It is two rivers that combined. The tide was low.
6 If you ever let tide get up high water started to come in
7 where you're not able to walk back. He was a person that
8 couldn't swim, but loved to fish.

9 We were out there fishing and he realized the tide
10 was coming. He said, Man, this water is mighty high. Oh
11 Lord, what are we going to do? He said, I think I am
12 going to climb that tree and wave my hat, but in the
13 meantime he was gathering everything up to get out of that
14 river because he was afraid of that water, you know. He
15 was wearing a red hat. He said, If I had to I was going
16 to climb that tree and wave this hat until somebody saw
17 us. That was one of the fond memories. We did a lot of
18 things together.

19 Q Did you have the occasion to during your personal and
20 professional career with Ben Riley have the opportunity to
21 be in the same vehicle with him on many occasions?

22 A On many occasions.

23 Q Tell this jury about Sheriff Riley's approach to
24 wearing seatbelts.

25 A Very adamant about it. Normally when Sheriff Riley

1 sits down in the vehicle, closes the door, the first thing
2 I ever known him to do is fasten the seatbelt.

3 MR. HENDERSON: Answer any questions.

4 MR. HARMON: I have no questions. Thank you.

5 THE COURT: Thank you, sir. You may be excused.

6 All right. Mr. Foreman, ladies and gentlemen of the
7 jury, let's take our morning break about 10 minutes. Go
8 back where you went yesterday? Cliff's Seafood place down
9 the street? My buddy Pam's down on Main Street? This is
10 all fried and good stuff. Frye's? Y'all talk about it
11 and let me know when you get back -- or Crosby's fried
12 chicken.

13 (Whereupon, the jury exited the courtroom at 10:52.)

14 THE COURT: All right. Gentlemen, anything for the
15 record before we start back?

16 MR. HENDERSON: Yes, Your Honor, just to make sure
17 that I got them in -- the exhibits I referred to 141, 142,
18 81, 140 I want to make sure I move into evidence with the
19 understanding that we have to redact or to take out the
20 article portion of 81.

21 THE COURT: All right. That's just the hearsay part?

22 MR. HARMON: Yes, sir.

23 THE COURT: Thank you. Let's take a quick break.
24 Before we start back let me see y'all.

25 (Whereupon, a break was taken.)

1 A Yea, we send them out.

2 Q You're familiar with the Ford F-150 vehicle that
3 Sheriff Riley was driving the date of his death?

4 A Yes.

5 Q And had that -- Had that vehicle been part of the
6 fleet of vehicles owned by Jasper County?

7 A Yes, sir.

8 Q To the best of your knowledge had it always been used
9 by the sheriff's department?

10 A To the best of my knowledge, yes.

11 Q Does your office -- does your office keep the records
12 of the repairs to the -- the work, the maintenance work
13 done on the county vehicles?

14 A Yes, sir.

15 Q All right. And have you prior to today had the
16 opportunity to look at and review the maintenance records
17 that we have on this Ford F-150?

18 A Yes, sir.

19 Q All right. Let me hand you what I've marked as
20 Exhibit 145 and ask you if that appears to be a copy of
21 the maintenance records on this vehicle?

22 A Yes, sir.

23 Q All right. And did you with my assistance -- or did
24 you review a summary of those maintenance records that my
25 office prepared?

1 Q Okay. Do you remember Sheriff Riley driving this
2 vehicle?

3 A Yes, I remember seeing him in it a few times, yes.

4 Q You actually did mechanic work at the central garage
5 there in Jasper before you got to be boss man, didn't you?

6 A Well, I was building maintenance supervisor but every
7 once in a while if things were slack and we was in the
8 shop you could help out.

9 Q Did you have an opportunity to interact with Sheriff
10 Riley on his vehicles when he would bring them in for
11 repairs as a deputy and even as the sheriff?

12 A Yes, sir.

13 Q And what attitude he took towards vehicles?

14 A Yes, sir. Every once in a while I would run into him
15 and sometimes if I would be around I have carried him back
16 to his office actually with his vehicle when he was going
17 to have something done to it. As far as his vehicles they
18 were always clean. He liked to keep a good clean vehicle.

19 Q Did the folks in Jasper County that drive the county
20 vehicles have to pay for service?

21 A Pay for services?

22 Q Yea, pay to get a vehicle worked on at the county
23 garage?

24 A No, sir. They don't have to pay, no, sir.

25 Q Is there any reason whatsoever for a county employee

1 break off; so I would put it back to hold it on.

2 Q Does putting a screw in a door panel like that --
3 does that affect the latch mechanism?

4 THE COURT: Don't answer that.

5 MR. WALKER: Objection, calls for an opinion.

6 THE COURT: Sustained.

7 Q Did you have an occasion to interact with Sheriff
8 Riley and his family prior to his death, Dale?

9 A I would see him on occasion. I never really knew
10 much of his family. You know, I met his wife a few times,
11 one of his sisters, but most of the time it was just
12 Sheriff Riley when I'd see him.

13 THE COURT: All right. Turn the lights back on for
14 me.

15 Q Dale, if you would tell the jury what kind of fellow
16 Ben Riley was.

17 MR. WALKER: Note the cumulative objection. Excuse
18 me. Objection, again, Your Honor.

19 THE COURT: I am going to rule under 403 that it's
20 now becoming cumulative. Let's move to another area,
21 Mr. Henderson.

22 MR. HENDERSON: No further questions, Your Honor.
23 Please answer any questions.

24 THE COURT: Mr. Walker?

25 CROSS-EXAMINATION

1 A No, sir.

2 Q Twenty-one, line 12, Mr. Carter.

3 Did the coroner come to the scene?

4 A Yes, sir.

5 Q Page 23, line 1. Excuse me; line 2.

6 When you were at the scene did you observe any signs
7 of life from Sheriff Riley?

8 A No, sir.

9 Q Skipping to line 9.

10 Did you make any observation regarding Mr. Riley's
11 potential seatbelt usage in the accident?

12 A With the seatbelt being fully stowed and it showed we
13 extracted the seatbelt inspecting it and also inspected
14 the buckles of the seatbelt -- both male and female
15 ends -- we saw no signs of stretching on the belt itself
16 and no damage to the buckles of the seatbelt; so we made
17 the determination the safety belt was more than likely not
18 being used. I believe the MAIT team followed up on that
19 more.

20 Q While you were at the scene you said you pulled the
21 webbing out of the retractor?

22 A Yes, sir.

23 Q Who was with you when you did that?

24 A It was one of the other troopers. I don't recall if
25 it was Mr. Folk or Mr. Allen.

(James L. Loschiavo Deposition is read aloud.)

600

1 consideration that is referenced here to one program?

2 A Well, you could imply that, but knowing what Marcus
3 Meredith did at the time I would think that this was a
4 document that was provided for the DEW98.

5 Q Let's look then at Exhibit 10, Mr. Loschiavo. I'll
6 give you a second to look at it.

7 A Yes. I've seen this document before.

8 Q And this is documented a documented a study of the
9 advantages and disadvantages of cables versus rod release
10 mechanisms and one of the memos in it is July 15, 1994?

11 A Yes.

12 Q And that would have been about the same time that the
13 considerations were going on that we've looked at in
14 Exhibit No. 6?

15 A For the DEW98.

16 Q Yes and other programs?

17 A It doesn't have a date on it. We can't draw that
18 conclusion. At least, I can't draw that conclusion, but
19 this document has a date on it. It says 1994.

20 Q So this confirms that Ford Motor Company was studying
21 the issue of rods versus cables; correct?

22 A Yes.

23 Q For use in future programs?

24 A Yes.

25 Q And we'll go down to page 38, line 19.

1 And one thing they note -- and we can look at Exhibit
2 No. 10 on the second page under that portion where it says
3 safety. Do you see that?

4 A Yes.

5 Q And would you agree that under the cable side they
6 have that, Side intrusion, angular, and frontal and
7 rearward impacts cable link can be designed to compensate
8 for all situations?

9 A Yes.

10 Q And above that it says, Cable systems provide
11 confidence in meeting FMVSS206 and FMVSS214 inertia and
12 impact advantage?

13 A Yes.

14 Q And at least when it says inertia and impact
15 advantage you would agree with me that they're talking
16 about this one of the things is the issue of
17 foreshortening of the frontal impact opening of the
18 vehicle door?

19 A That's the second line, yes.

20 Q And on the right side they note that there is an
21 Increased risk of system release in all directions due the
22 rod inertia, permanent rod deformation, or door
23 foreshortening?

24 A Right. That's stating the obvious. All those things
25 can be designed out, of course. We've done rod systems

1 for now. It's 108 years, I think, that Ford has been in
2 existence; so, yes, everything they state there is
3 fundamentally true, but you can minimize the risk of rod
4 foreshortening with intrusion beams and reinforcements.

5 Q And if we look back at Exhibit 6 Mr. Meredith under
6 safety he says the same thing -- that cable systems are
7 more robust to crash, does he not?

8 A Yes, but he doesn't say in there the obvious as well
9 that you can design a rod system to do the same thing.
10 This is strictly about cables. Both documents are true as
11 written.

12 Q Then go to page 41, line 24.

13 A Yes, sir.

14 Q Would you agree with me then in reading Exhibit 6
15 that Mr. Meredith like Mr. Aoube (phonetic spelling) and
16 Mr. Clark in Exhibit 10 that Mr. Meredith seems to be
17 advocating the use of cables?

18 A After I fixed it we all did, yes, sir.

19 Q And he actually recommended that the DEW98 use a
20 cable system?

21 A And, in fact, it did, yes.

22 Q And what does he mean by higher series vehicles?

23 A Lincolns and things of that nature I would assume.

24 Higher series to me means, you know, you've got your LX's
25 and your trim series and higher sound packages -- a

1 Lincoln versus Mercury versus a Ford. Of course, you're
2 making me make assumptions of what Mr. Meredith has
3 stated. I am trying to do my best here.

4 Q I was asking you what you thought.

5 A Well, the high series to me would mean a higher trim
6 series like an LX versus SLX.

7 Q The higher end, more better trim package?

8 A Better trim packages, more sound packages, yes.

9 Q Lincoln versus Ford?

10 A Yes.

11 Q And I think if we actually look on page three of that
12 we can see he -- I think you're right because he says that
13 the high series competitor such as Lexus use cables?

14 A That is what it says.

15 Q So that would be consistent with your understanding
16 that the higher end vehicles he was talking about with
17 that statement that you had read me about during crash?

18 MR. WALKER: I think you read the answer, Mr. Crosby.

19 MR. CROSBY: Oh, I did. I apologize.

20 THE COURT: Start over.

21 MR. WALKER: Start over at line 3?

22 Q So that would be consistent with your understanding
23 that the higher end vehicles -- and then you cut me off.

24 A That's correct. I have no idea what he was talking
25 about with that statement that you had me read about

1 during crash.

2 Q We're going to look at Exhibit 11. Have you had an
3 opportunity to look at Exhibit 11?

4 A Briefly, yes, sir.

5 Q Down at the bottom at the left there that has like a
6 computer file designation and that has Clark?

7 A Yes.

8 Q And we looked at Exhibit 10 earlier and that has
9 Mr. Clark on it as well?

10 A Yes.

11 Q What is the title of Exhibit 11?

12 A VN127 Econoline front door latching system, August 3,
13 1993.

14 Q What is the issue being addressed in this document?

15 A Well, do you want me to read it?

16 Q That would be fine. You can.

17 A Issue, 1997 Econoline may require a new inside door
18 handle. This may present an opportunity to revise the
19 latch actuating system from a cable to a compression rod.
20 Currently truck office does not acknowledge this
21 opportunity, nor will they support funding.

22 Q So the issue that had been raised about changing
23 Econoline which had an inside -- used a cable as a
24 connection between the inside door handle and latch about
25 changing that back to a rod?

1 A Correct.

2 Q And back in '92 the Econoline had a cable as well.
3 Y'all had developed that cable system for use in -- it was
4 being used in the Econoline?

5 A That went into production with the start of the D21
6 latch on the 1992 Econoline, yes.

7 Q About the same time that it was put in the F-150
8 pickup?

9 A Exactly.

10 Q And what was the recommendation made by Mr. Clark?

11 A Hardware engineering recommends that the 1997 program
12 retain the cable latch system for the following reason.
13 Quality performance is confirmed by warranty and NVQH
14 data, and it says, two, open issues which I don't think
15 are attached.

16 Q So at least Mr. Clark -- one of his recommendations
17 was to retain the cable system?

18 A Yes, and, in fact, they did.

19 Q They did in the Econoline?

20 A In the Econoline.

21 Q And on the background there Mr. Clark does make a
22 notation that the March 29 pre-PD. What is PD? Is that
23 product development?

24 A That would be a fair assumption.

25 Q And this is quotes: Reliability review discussion

1 indicated a high BE management want for rods versus cable
2 latch actuation.

3 A Right.

4 Q And BE, is that body engineering?

5 A Body engineering.

6 Q At least as far as this indication at least the folks
7 in management wanted to use rods versus cables.

8 A That's right because the timeframe is 1993 and it was
9 right after the recall and the task force, yes.

10 Q Now we know from looking ---

11 A That's basically what I have been saying all morning;
12 right?

13 Q What we know from looking at Exhibit 6, 11, and 10 at
14 least while management may have had the desire the
15 engineers that were dealing with it as you were in favor
16 of continuing with the cables because they believed you
17 had fixed the problem?

18 A That's a fair statement, yes, for the vehicle -- the
19 Econoline and the DEW vehicle, yes.

20 Q Indeed, Mr. Loschiavo, the Econoline -- the platform
21 folks with the Econoline made the decision to retain the
22 cables in the 1997 model year?

23 A Yes.

24 Q The SN95 or Mustang, retain the cables?

25 A The SN95 went in with cables.

1 Q Well, it retained the cables throughout this time
2 period. It did not change?

3 A Yes and there were no -- yes.

4 Q The Ranger which started with cables continued with
5 the inside cable. It did not change during this time
6 period.

7 A In 1993, correct.

8 Q And from 1993 on until today it still has a cable?

9 A Correct.

10 Q And then we're going to go to page 50, line 3. Are
11 you with me, Tracy?

12 MR. WALKER: Yes, sir.

13 Q And you've had an opportunity to read Exhibit 13
14 which has a header at the top PN96 tension versus
15 compression rod study recommendations.

16 A Correct.

17 Q And you would agree with me from reading this
18 document that this is recommendations being made as a
19 result of the study such as we talked about earlier in
20 these exhibits which were the issue of rods versus cables
21 were being considered?

22 A No. I think it's coming from a different angle;
23 right? I mean, you're talking about wanting to have the
24 PN96 go back to a rod system.

25 Q Correct.

1 system if the crash test performance warranted that?

2 A That's a fair assumption, yes.

3 Q Do you know whether the design was such that it did
4 protect for the cable-actuated latch?

5 A Yes.

6 Q To that extent everything that you see on Exhibit 13
7 is true to the best of your knowledge?

8 A Yes, sir.

9 Q In Exhibit 8 is something called body engineering
10 core curriculum and it's module two from that curriculum
11 entitled side door latching system?

12 A Yes.

13 Q What generally is this type of document,
14 Mr. Loschiavo?

15 A Some of us were getting older and we were thinking
16 about retirement; so Ford Motor Company wanted to capture
17 our history and our understanding; so a gentleman by the
18 name of Dave Seigle put together for our department with
19 the help of all the engineers and myself included I
20 believe it was a two or three day class of how to design
21 sliding doors, hood latches, side door latches, things of
22 that nature and there were various modules. Like
23 Mr. Walker said it's a bigger book; so this is an excerpt
24 -- a part of that taking out to consider when you're
25 designing to think about and consider when you're

1 designing latching systems.

2 Q So, did you have input in putting together that
3 program?

4 A Yes.

5 Q And is that where you were essentially like you say
6 taking your knowledge and trying to put it down for the
7 benefit of the younger engineers coming into the ---

8 A All of us, yes.

9 Q For everybody?

10 A Mr. Seigle and myself, yes, and other engineers that
11 were there, yes.

12 Q And one of the -- under crash performance there one
13 of the key requirements that is noted is that the basic
14 frame work for design practices is that you want to keep
15 doors closed during a crash event and we've talked about
16 that before?

17 A Correct.

18 Q And also as you said before allow a non-impacted door
19 to be opened after a crash?

20 A Correct.

21 Q So the people can get out of the vehicle?

22 A Exactly.

23 Q And then you've got under the factors that may affect
24 the latching system during the crash it talks about under
25 the inertia of the system, the relative movement between

1 the release handles and the latch due to vehicle crash
2 deformation as a consideration that has to be taken into
3 account?

4 A Yes.

5 Q And that's what we've talked about. That's the
6 foreshortening that we talked about?

7 A Correct.

8 Q And then you go into a little more detail further
9 back, but on page three again it talks about the relative
10 movement issue which is what we've been talking about
11 basically in your deposition today; correct?

12 A Correct.

13 Q And that's the foreshortening?

14 A Correct.

15 Q And it talks about under relative movement it says,
16 When a vehicle is subject to a crash there are a number of
17 possible effects to the vehicle. Relative movement
18 consideration for various crash types include, and the
19 first one it has in -- in the front offset crashes;
20 correct?

21 A Correct.

22 Q And it says doors may shorten?

23 A Correct.

24 Q And the inside release handle and latch may be pushed
25 closer together in a longitudinal direction?

1 A Yes. That's what it says.

2 Q And that's where the door is essentially compressed.
3 and it would activate the rod if not properly protected?

4 A If not properly protected, exactly.

5 Q And in there it talks about in frontal offset
6 crashes?

7 A That's what it says, yes.

8 Q Is it fair for me to draw from you that you can as an
9 engineer if you're going to make an effort to verify that
10 if you are installing a door latch system in the vehicle
11 that uses a rod as a connection between the handle and the
12 latch that you as a engineer in order to verify that
13 decision would want to see it tested in the frontal offset
14 condition?

15 A Absolutely.

16 Q And that would be a prerequisite to releasing that
17 system?

18 A Yes. Like I said, every crash test that Ford Motor
19 Company runs is monitored or latch performance. If there
20 is an anomaly or an issue it gets back to the design or
21 release engineer and say this happened. We would dispatch
22 engineers over and come up with a root cause and fix it.

23 Q And at Ford Motor Company it would be improper for
24 you to release a vehicle with the new design where you
25 developed it with a new system such as a rod system where

1 Q And that's an absolute rule as to how things should
2 be done?

3 A That's an absolute rule from 1987 to 2007 when I
4 retired, yes. That was the expectations of myself and I
5 believe the corporation.

6 Q Go to page 62, line 17.

7 Exhibit 7 is a February 7, 1986 memo concerning
8 cable-actuated door latch systems?

9 A Almost two years before I got to the department, yes.

10 Q And when you got to the department -- let's look
11 under the first section there. It reads, No actions are
12 currently in place to adopt a cable system. This is
13 frequently suggested by B and A0. What is B and A0?

14 A Body and assembly office.

15 Q As a replacement for compression and rod systems with
16 the potential weight and reliability improvement, but a
17 cost penalty as cables are more expensive than rods. Did
18 I read that correctly?

19 A You did and its captured what I have been saying that
20 the reliability improvement and warranty reduction and the
21 fact that their assembly costs were less offset the more
22 expensive cables.

23 Q At least their conclusion was that the cables overall
24 are more -- that there was a cost penalty and that means
25 that the cables are more expensive?

1 A From a variable cost that's a true statement, yes.

2 Q And if you look back at Exhibit 6 would you agree
3 with me that on Exhibit 6 Engineer Meredith who is writing
4 this document which would have been we know some time
5 post-1993 he indicates there that the cable systems have
6 from two to three times -- are from two to three times as
7 expensive as a rod system; correct?

8 A Where is that, please?

9 Q At the cost.

10 A Assembly cost -- let me start over.

11 "Assembly cost reduced at the plant" is his first
12 tick mark on there; so that's the offset that I've been
13 talking about.

14 Q And then on?

15 A But these documents are probably at least 10 years
16 apart -- seven versus six. This was done for a late model
17 1998 LS and this was a document done well before I arrived
18 in '87.

19 Q That's right and the general statement in both of
20 them are essentially the same.

21 A Yes, which is true. Like I said, the variable cost
22 of the cable if you look at the two parts side by side you
23 can tell one costs more to manufacture to make than the
24 other, but, like I say, the offset in the assembly because
25 they come in preassembled there is a labor saved at the

1 assembly plant, and, two, the fact that they're pretested
2 because they're preassembled gives you an advantage in
3 warranty and cost; so those two offset the variable cost
4 difference.

5 Q And, also, in Exhibit 10 the document about Mr. Clark
6 and Mr. Aoube if you go to the fifth page ---

7 A Fifth page?

8 Q Fifth page, yes, sir.

9 A That's it.

10 Q Can you read for us what the only disadvantage listed
11 there for cables are?

12 A That is correct. It says higher cost. Once again,
13 that is pro-cable. It doesn't say anything about you've
14 got to protect it from the environment in there either,
15 does it? It doesn't say that it can't get pinched. I
16 mean, it is an incomplete scenario.

17 Q Let's go to page 69, line 22.

18 Mr. Loschiavo, while we were off the record I gave
19 you a couple of documents to look at. Have you had an
20 opportunity to look at Exhibits 2, 3, 5?

21 A Yes, sir.

22 Q And is Exhibit 2 a memorandum that you wrote not long
23 after you came back, moved over to the hardware
24 department?

25 A Yes, sir.

1 department and the roles you played in that department you
2 are generally familiar with the latching systems that were
3 in use on those vehicles at various times. Fair?

4 A Absolutely.

5 Q I want to get timing down. This case involves a 1998
6 F-150 pickup truck. Do you understand that?

7 A Yes, sir.

8 Q And how is the truck designated internally at Ford?
9 Does it have a code?

10 A PN96, I believe.

11 Q When was the PN96 introduced?

12 A The actual date? The model year, I believe, is 1996.
13 I can't give you the date whether it was '95 or '96 that
14 it actually went in production, but typically speaking a
15 vehicle goes in production in the fall -- at least it used
16 to -- goes into the fall. A '96 vehicle would go into the
17 fall of 1995, but not being attached to that program I
18 don't know when the actual what we call the job-one date
19 is.

20 Q And you said it was a new vehicle. What did you mean
21 by that?

22 A Well, it had new doors, had new sheet metal. It was
23 basically an all new truck.

24 Q As compared to the prior version of the F-150?

25 A To, say, the '92 to '95 version, yes.

(James L. Loschiavo Deposition is read aloud.)

622

1 Q Did Ford consider the Town Car one of its high-end
2 luxury-type vehicles?

3 A Yes. It was definitely high series, yes.

4 Q Yet it had a rod?

5 A Yes.

6 Q Is there any difference between testing a prototype
7 vehicle and a production level vehicle at Ford?

8 A Oh, of course.

9 Q Can you explain to the jury what that means?

10 A Well, that means that some of the vehicles that are
11 tested, it is a prototype vehicle. They're cut and weld.
12 They're not all for production tools. They're handmade,
13 hand-formed, things of that nature; so, I mean, some of
14 the earlier ones are called workhorse vehicles which are
15 similar but not necessarily the same.

16 Q Does the vehicle evolve somewhat over the four-year
17 period?

18 A Sure. Absolutely. Absolutely. That's why we talked
19 about earlier and I couldn't give you an answer what SP
20 meant, but there are different levels builds as you go and
21 each one of those levels are tested; so as you go from the
22 workhorse vehicles up to production -- the start of
23 production -- the prototypes and the parts become better
24 and more to production intent.

25 Q Let me ask you this. Why is a cable in view of

1 fixed or not. As a matter of fact, they sent me and ten
2 engineers out to the manufacturing source to straighten it
3 all out.

4 Q And you had it straightened out by the beginning of
5 1993?

6 A Fortunately for me, yes.

7 Q You did?

8 A Yes.

9 Q And so y'all are working in multiple directions to
10 try to ensure, you know, that you had a proper fix for the
11 door-latching system that you ultimately corrected any
12 problems that were there?

13 A On the cables?

14 Q That's correct.

15 A Absolutely, yes.

16 Q And you've seen no documents that document the
17 decision-making process whereby the freeze concern
18 continued to play a part in the decision as to whether to
19 use rods or cables in the PN96?

20 A This one document here, number 13, that to me is
21 saying that they wanted to go back and the only reason
22 they would want to go back and tear up their thing is
23 because in '91, in 1992, or '93 we were having frozen
24 cable problems.

25 Q Well, they were making a whole new vehicle, weren't

1 they?

2 A They were making a whole new vehicle and as that
3 document alludes they had that cable in there with the
4 D21.

5 Q And when you're saying that would be the only reason,
6 you're guessing at that because you were not as we've just
7 established a part of that process?

8 A Guessing? Well, no. I understood that the company
9 was paranoid about whether I fixed the cables or not or
10 they wouldn't have sent me and ten engineers out to the
11 supplier to fix it; so, I mean, okay, it's a guess, but I
12 don't know. I mean, how else would you put it? I mean,
13 what would your rationale be for them doing it?

14 Q Well, Mr. Loschiavo, we don't have to suppose. If
15 you don't have firsthand knowledge of that decision-making
16 process because you were involved in something else, all
17 you have to do is say I wasn't involved which is the
18 truth.

19 A It's not necessarily the truth. I was on the
20 periphery when it came to frozen cables and cable design
21 for frozen cables and frozen cable design. I was
22 consulted from 1992 until 2007 by engineers in the company
23 because they knew of my history. Understand I was in door
24 latches for 20-something years. I was at Ford Motor
25 Company for 36 years; so, you know, people would ask me

1 questions and that's what my interpretation is.

2 Q Yes, sir, and you knew that Mr. Meredith who dealt
3 with exhibit -- who authored Exhibit 6 and we've already
4 read into it at least he felt that the 1992 freezing cable
5 concerns had been corrected in your design changes and
6 that was ---

7 A There is no doubt about it. The people that knew me
8 thought I had fixed the problem, but that was 40, 50
9 people, okay? The other thousand people that worked for
10 Ford Motor Company had said this guy didn't do good on the
11 original F-Series; so we need the proof. Mr. Meredith
12 knows me. Aoube, Clark -- they knew me. I don't know how
13 else to answer it. I don't know what else to say about
14 it.

15 Q You never told anybody that, Hey, you know, you might
16 want to go back to rods because I didn't fix it, did you?

17 A I did not, no.

18 Q Because you thought you had fixed it?

19 A I thought I had fixed it.

20 Q Aoube thought you fixed it?

21 A They did.

22 Q Clark thought you fixed it?

23 A Yes, sir.

24 Q Meredith thought you fixed it?

25 A Yes, sir.

(James L. Loschiavo Deposition is read aloud.)

631.

1 Q So the engineers who were there and around you with
2 knowledge that believe you had made an appropriate fix for
3 the problem?

4 A Which I did.

5 Q And you did?

6 A Right.

7 Q This is Mr. Walker.

8 I just want to clarify one more thing again on the
9 timing. When did you go to work for the Taurus Sable
10 program?

11 A It was in the '96 model year. Boy, I need to put a
12 timeline together for myself.

13 Q Maybe you can refresh from Elkins.

14 A There was a thing that I talked about earlier about
15 lock resourcing where the lock supplier quit and I was in
16 charge of another task force to put new locks in, but I
17 don't know.

18 Q Mr. Loschiavo, you talked about in October of '91
19 Ford became concerned about the issue with the cables in
20 that model of the F-Series?

21 A Correct.

22 Q And you worked with some others to come up with a fix
23 for that issue?

24 A Correct.

25 Q That took a number of months?

1 objection.

2 MR. HARMON: Yes, Your Honor. No objection to 59
3 either.

4 THE COURT: Thank you.

5 MR. HARMON: And you said you wanted to take up
6 witnesses tomorrow -- issues?

7 MR. HENDERSON: If we could.

8 THE COURT: Do we need to be on the record?

9 MR. HENDERSON: No, sir. Your Honor, we feel very
10 strongly that the telling of ---

11 THE COURT: Let's put this on the record just as an
12 abundance of caution. We feel very strongly what?

13 MR. HENDERSON: We feel very strongly, Your Honor,
14 that what the Riley family has suffered is composed of
15 what Sheriff Ben Riley was, the man that he was, the
16 community leader that he was, the just genuinely good
17 person that Ben Riley was prior to his death and we have
18 submitted to Your Honor a memorandum I believe yesterday
19 on this issue. I have taken -- We have taken hard heed to
20 Your Honor's admonition about the number of damage
21 witnesses and I am going to be able to delete four or
22 five, but there are several additional damage witnesses,
23 Your Honor.

24 THE COURT: Tell me who they are and what you're
25 trying to gain through them because, quite frankly,

1 Mr. Henderson, the chief master Sergeant, the
2 brother-in-law -- is he a brother-in-law?

3 MR. HARMON: It was Mr. Hipp. Nephew.

4 THE COURT: Nephew and then ---

5 MR. HARMON: Mr. Hughes.

6 THE COURT: Hughes, the first deputy. Was there any
7 other?

8 MR. HARMON: Your Honor, you indicated two or three.
9 We've had Mr. Hipp. We've had the other ones you
10 mentioned and then there's been other testimony from
11 people who have come in from the G and G Milling, from
12 other individuals, Mr. Woodward; so ---

13 THE COURT: Hold on a second. Let him finish what he
14 is going to say --

15 MR. HARMON: Yes.

16 THE COURT: -- But it seems to me that we've had a
17 -- In fact, I've been doing this a long time and I can't
18 remember a trial that I was either involved in as a lawyer
19 or as a judge where I've heard more glowing testimony and
20 genuine testimony about the person's life and his service
21 to his family and to the community. I mean, it's been --
22 it's been very touching, to be quite frank with you; so
23 tell me what else you want to do other than what you have
24 done.

25 MR. HENDERSON: Your Honor makes my point and we're

1 not trying to belabor this trial. We just feel that we
2 should be allowed to tell the jury the full story of Ben
3 Riley. The pieces we think we're missing is, number one,
4 Dr. Curtis Brantley who was responsible for the naming of
5 an interchange at the intersection of Interstate 95 and
6 Highway 17. Although, Dr. Brantley knew Sheriff Riley in
7 many other capacities, we would limit his testimony to,
8 you know, to surrounding the enacting of that legislation
9 and the presentation of that to the family of Sheriff
10 Riley which was a wonderful ceremony and we would limit
11 there.

12 THE COURT: Curtis Brantley? He is a House of
13 Representatives member?

14 MR. HENDERSON: He is, Your Honor.

15 THE COURT: What else?

16 MR. HENDERSON: Your Honor, we would propose to call
17 Alex Flint who was ---

18 THE COURT: F-L-I-N-T.

19 MR. HENDERSON: Yes, sir -- who was Sheriff Riley's
20 lodge brother for years and years and years.

21 THE COURT: Okay.

22 MR. HENDERSON: I have been able to strike the
23 witnesses -- we had Dr. George Hood we will strike.
24 Mr. Leroy Sneed, we'll strike. I don't know that Sheriff
25 Gregg Jenkins can add anything that hasn't already been

1 testified to. Martin Sauls, Your Honor.

2 THE COURT: Mark who?

3 MR. HENDERSON: Martin Sauls can talk about Ben
4 both -- Mr. Sauls grew up in Jasper County. He is the
5 coroner down there. He was very eloquent in his
6 deposition as to how he and Ben prior to Ben's death were
7 fostering this idea to put together a group of people in
8 the county of both races to try to improve race relations
9 in Jasper county and we have Verna Garvin who is---

10 THE COURT: Verna Garvin?

11 MR. HENDERSON: Verna Garvin, yes, Your Honor.

12 THE COURT: V-E-R-N-A Garvin?

13 MR. HENDERSON: VERNA Garvin, Yes, sir.

14 THE COURT: G-A-R-V-I-N?

15 MR. HENDERSON: That's right, Your Honor, and she is
16 quoted in one of the exhibits -- the article on cancer --
17 that you -- that you did not allow the article into
18 evidence, but she will be very moving on how Sheriff Riley
19 shared his story of surviving cancer and how that inspired
20 others to, you know, to keep up the good fight. Those,
21 Your Honor, and Zeke -- Lastly would will Zeke Dunham who
22 probably was Sheriff Riley's best friend---

23 THE COURT: Zeke?

24 MR. HENDERSON: Who went---

25 THE COURT: Hold on just a second. Zeke? Z-U---

1 MR. HENDERSON: Ezekiel Dunham. I've just got
2 Z-E-K-E. That's all I've ever known him is Zeke, Your
3 Honor. It's spelled Ezekiel.

4 THE COURT: How do you say his last name?

5 MR. HENDERSON: Dunham, D-U-N-H-A-M.

6 THE COURT: That is his best friend will testify...

7 MR. HENDERSON: Took him to live the cancer with he
8 and the family and saw him pull out of it and saw how this
9 family stuck with him during that period of time.

10 THE COURT: All right, well, Mr. Henderson, you're
11 well aware -- I mean, we've all been doing this a long
12 time and in a wrongful death action the case law is very
13 clear that the elements of damages are obviously the
14 economic loss to the family and I assume that through his
15 wife or someone you're going to put in his wages and all.
16 You hadn't gotten to that yet.

17 MR. HENDERSON: Either through Mrs. Laura or
18 through --

19 THE COURT: Dr. Wood.

20 MR. HENDERSON: -- Dr. Wood, yes, sir.

21 THE COURT: Mental shock and suffering, wounded
22 feelings, grief and sorrow, loss of companionship,
23 deprivation of the use and comfort of his society, and the
24 loss of his experience, knowledge, and judgment, loss of
25 ability to earn money for his family, and I just think the

1 type of testimony that you'll be trying to illicit like
2 the lodge brother or the fostering better race relations
3 in Jasper County and a cancer survivor which we've already
4 heard about -- how that can go to loss sustained by this
5 family. It's always been my understanding of the law is
6 it's not necessarily the for the loss of his life but
7 what -- how it's affected his heirs or his beneficiaries,
8 so to speak, and we've gotten a number of witnesses that
9 have gone beyond that and I just think -- particularly
10 Alex Flint, Martin Sauls, and Verna Garvin and Zeke
11 Dunham, number one, is repetitive, and, number two, is
12 redundant -- the same thing -- number three, we -- it's a
13 long, long trial and that's going to add maybe not a whole
14 lot more to it but it is going to add more to it.

15 I probably will rule that we've already -- we've had
16 sufficient evidence to protect you and to be able to prove
17 your case along those lines. I may let you put up
18 Representative Brantley just briefly about the naming of
19 the interchange, but that's sort of -- unless you can give
20 me something different, I mean, as you've cited the
21 language I was trying to use a while ago is the damages
22 recoverable is not one of the value of the human life
23 lost; rather, it's the damages sustained by the
24 beneficiaries from his death which I just read what they
25 were and we all know mental shock and suffering, wounded

1 feelings, grief and sorrow, loss of companionship; so
2 really what you've been putting in about his -- and no
3 question about it, he was tremendous in the community, but
4 probably goes beyond elements of damage in a wrongful
5 death case and I have been pretty -- using my discretion
6 on the side of being respectful to the Riley family to let
7 as much in as I've let in already and I suspect the
8 defense lawyers have done likewise by not objecting once
9 it got to that point, but I think to keep doing
10 redundant-type testimony, the same kind of thing would be
11 violative of Rule 403.

12 I will consider it over the evening but probably will
13 limit it to Mr. Brantley.

14 Mr. Harmon?

15 MR. HARMON: Your Honor, I don't have much to say.
16 We agree as to the other four I think the court has been
17 abundantly -- but you've allowed a lot of evidence in
18 over our objections in some instances relating to---

19 THE COURT: Well, quite honestly, you haven't
20 objected to a whole lot --

21 MR. HARMON: We have not.

22 THE COURT: -- except for some newspaper articles and
23 out of respect to Sheriff Riley and obviously your opening
24 statement was very respectful. There is no question about
25 it. He's was a man --

1 MR. HARMON: Wonderful man.

2 THE COURT: -- we all strive to be like, but in the
3 trial of a case, Mr. Henderson, my law clerk taking notes
4 up here had wrote what a wonderful job those witnesses
5 have done, but I think to continue on with those line of
6 questions would be violative of the Rule 403 and I'll let
7 you use Curtis Brantley narrowly on the exchange. I'll
8 let you respond to that, Mr. Harmon, but I think it am
9 going the cut off at that, respectfully.

10 MR. HARMON: Okay, Your Honor. I take it -- I do
11 have a response to Mr. Brantley. I understand the Court's
12 inclination, but I think you prefer to think about it or
13 do you want me to respond now or to---

14 THE COURT: No, you can go ahead. I mean, you know
15 what he's go going to say.

16 MR. HARMON: I do, Your Honor, and I guess -- again,
17 I think from the beginning of this case and everyone in
18 the courtroom recognizes this was a great man, a wonderful
19 man, but I'm concerned about having a state representative
20 come down and explain something that is clearly not
21 relevant to any category of damages they're going to be
22 seeking for them to talk about a ceremony where they named
23 an interchange after him. I'm concerned it would -- it
24 can cause the jury to make a decision based on things that
25 are not relevant and so, you know, I just don't think that

1 he should be -- and I'm sure -- I have not met Dr. Curtis
2 Brantley, but I'm sure he is wonderful man as well and
3 have wonderful things to say about Sheriff Riley, but I
4 just don't see how that's relevant to what the jury has to
5 decide and it has the danger of causing the jury to say,
6 Gee, this was such a wonderful man. They named the
7 interchange after him. Look at the ceremony. We need to
8 do something for him. That's my concern, particularly
9 when you're talking about a state representative and the
10 jury has heard an abundance of evidence -- unrebutted,
11 unrefuted evidence -- that Sheriff Riley was great in the
12 community, a wonderful christian man, cancer survivor,
13 just the type of person we all would love, but I think
14 we're at the point now -- I think we're past the point
15 where any more testimony along these lines, it's really
16 going to prejudice us in a way that would prevent us
17 from being able to get -- it would prejudice us, Your
18 Honor.

19 THE COURT: Well---

20 MR. HARMON: So, I object to -- I respect the Court's
21 ruling on the first four. We agree with it. We don't
22 think a state representative should come in here to
23 testify about a category of damages that's not relevant.

24 THE COURT: And the Court is cognizant of the
25 prejudicial aspect of even a representative coming in and

1 I temper that or I just know what our Supreme Court -- how
2 they handled it -- everybody in this courtroom knows -- in
3 Branham dealing with Dr. Wood's testimony in that case
4 about going much further than net worth and here I think
5 I've allowed testimony as to his character and so forth
6 that probably goes beyond what is recoverable in a
7 wrongful death case, but by the same time it is being
8 balanced by the loss this family suffered, but to continue
9 on with it, I think I am going to -- allowing evidence
10 that may be considered by our appellate courts as being
11 very prejudicial to the defendant. I've got to be
12 cognizant of that type of review.

13 So, Mr. Henderson, I ask that you talk to Mr. Crosby
14 tonight. Y'all make a decision on Brantley and I -- You
15 may want to withdraw it, but I'll make a decision in the
16 morning. I am not ruling on it yet.

17 MR. HARMON: Thank you, Your Honor.

18 THE COURT: That's just sort of -- I guess what I am
19 saying is I want to give both sides a very fair trial and
20 I think I've let you go -- I've exercised discretion
21 almost to the point where now it's getting in my opinion
22 maybe it's going from being relevant to prejudicial and
23 crossing that line and certainly may be going -- becoming
24 cumulative and unnecessary. I say that with all due
25 respect for everybody in this room. You know that. I am

1 just trying to do what I think is proper under the law.
2 Anything else?

3 MR. HARMON: No, Your Honor.

4 MR. HENDERSON: No, sir.

5 (WHEREUPON, the proceedings were concluded for the
6 day and were reconvened on September 22, 2011 as
7 follows:)

8 THE COURT: Good morning. Everybody have a pleasant
9 evening?

10 MR. HENDERSON: If Your Honor please, there is one
11 thing if we might bring up while we're waiting on the last
12 juror. After talking with the family last night and
13 giving it a lot of conversation what we'd ask the court to
14 do this morning with regard to additional non-family
15 damage witnesses is allow us to call Ezekiel Dunham. We
16 will not call Representative Brantley and Mr. Dunham was
17 probably Sheriff Riley's closest friend and would be able
18 to give more evidence of the loss to the family which is
19 in keeping with the statute than would any of the other
20 witnesses.

21 MR. HARMON: Your Honor, we have the same objection
22 we raised yesterday. This is really cumulative. I
23 appreciate the efforts to pare it down and we had -- and I
24 was going over it last night. The court put everybody on
25 notice before the court trial began of your intention to

1 limit the number of witnesses like this and I think you've
2 gone beyond and above what you expected, frankly, and so
3 we've heard testimony -- you know, very irrelevant
4 testimony -- and now we're going to hear more. I think
5 it's cumulative.

6 THE COURT: Well, I don't say it's very, very
7 irrelevant, but my main concern was cumulative and keeping
8 it in the elements damage for wrongful death.

9 MR. HENDERSON: I will not go where I have already
10 been.

11 THE COURT: Who is your first witness this morning?

12 MR. HENDERSON: Mr. Gilberg.

13 MR. HARMON: He is going to be a long time.

14 MR. HENDERSON: We expect Mr. Gilberg will take the
15 better part of the day.

16 THE COURT: Let me mull over that. It'll give me
17 something to do. Bring the jury in, please.

18 (Whereupon, the jury came into open court at
19 approximately 9:29.)

20 THE COURT: Mr. Foreman, ladies and gentlemen, good
21 morning.

22 You may call your next witness.

23 MR. CROSBY: Your Honor, at this time the plaintiff
24 would call Andrew Gilberg.

25 THE COURT: Mr. Gilberg, come around, please.

1 Q All right, sir, and then, really, your first exposure
2 to door-latch performance came when you were working at
3 VersaTech and Forensic Engineering; correct, sir?

4 A Yes.

5 Q And, essentially, those companies very were similar
6 to the company that you now have of your own; correct?

7 A Yes.

8 Q And what you were doing -- you were getting hired
9 oftentimes by a plaintiff lawyer or maybe an insurance
10 company or maybe someone else to investigate in connection
11 with potential litigation?

12 A Well, originally, it was mostly insurance companies,
13 but, yes, you're correct.

14 Q And you had never assessed the performance of a
15 door-latch system -- how it performs in a crash, for
16 example -- prior to getting involved with that consulting
17 work for insurance companies?

18 A Not until around 1985.

19 Q All right, sir. Thank you. That all the questions I
20 have.

21 THE COURT: All right. Ladies and gentlemen, Mr.
22 Foreman, I will qualify Mr. Gilberg as an expert in the
23 field of mechanical engineering and forensic engineering
24 and he'll be allowed to render opinions in the trial of
25 this case.

1 Q And do you believe that the work that you have done
2 in your forensic investigation in this manner is such that
3 you're in a position this morning to render opinions --
4 give opinions to this jury about your findings?

5 A Yes, sir.

6 Q And before we get into the specifics of it could you
7 just tell the jury generally what it is that you have
8 concluded as a result of your investigation?

9 A I believe that the door in Sheriff Riley's truck was
10 defective. I believe it came open without damage to the
11 latch. That shouldn't have happened.

12 Q And is that opinion to a reasonable degree of
13 engineering certainty --

14 A Yes, sir.

15 Q -- based on your education and experience and
16 knowledge of door latches?

17 A Yes, sir.

18 Q Before we get into your opinions concerning the door
19 latch, I'd like to talk a little bit about the concept of
20 crashworthiness.

21 A Okay.

22 Q Are you familiar with that concept?

23 A I am.

24 Q Can you tell the jury generally what that means with
25 regard to automobile design?

1 A Starting down here, Grateful acknowledgment is hereby
2 made to these pioneers. And then the first name on the
3 next paragraph is Hugh Dehaven and Ford calls him the
4 father of crash injury research in the aircraft field.

5 Q Who is Hugh Dehaven?

6 A Well, in 1952 -- Well, he was the director of Cornell
7 Aeronautical Laboratories, but in 1952 he made a
8 presentation to the Society of Automotive Engineers that
9 really defined crashworthiness as it was then and as it
10 still is today and outlined the principals of
11 crashworthiness. There were four of them.

12 Q And which of these principals of crashworthiness are
13 we going to be talking about here today?

14 A Well, the one that relates to the door is number one.
15 It is, basically, the occupant container should not break
16 open and spill its contents.

17 Q Could you elaborate on that a little more?

18 A Sure. In terms of an automobile it means that the
19 doors shouldn't fly open. Any passage way into the
20 occupant compartment shouldn't come open and allow people
21 to come out.

22 Q What are the other principals of crashworthiness?

23 A Well, the second principal is the one that really is
24 a Mercedes -- credited to Mercedes Benz, but probably was
25 known before that and that is that the outside structure

1 of the vehicle -- in other words, not the occupant
2 compartment but the parts that are added on to it like the
3 engine compartment, trunk area -- they should crush and
4 absorb energy without conforming the place where the
5 fragile items are; namely, the humans. That's the second
6 principal, and then the third and fourth principal have to
7 do with restraint of the occupants inside the passenger
8 compartment.

9 Q I will pass up to you Exhibit No. 19. Do you
10 recognize that document?

11 A Yes, sir, I do.

12 Q Could you just tell us what it is, sir?

13 A It's a report by Ernie Grush titled A Study of Some
14 Rollover Accidents and there is a cover letter on it by
15 John Versace who is my executive engineer.

16 MR. WALKER: Your Honor, I have a relevance
17 objection.

18 THE COURT: Hold on one second. Sir?

19 MR. WALKER: I have a brief relevance objection.

20 Your Honor, this is a document dated 1969. It relates to
21 accidents that occurred and how crashes occurred in the
22 60's when cars were very different.

23 THE COURT: Well, we're here -- foreseeability is one
24 issue; so I deem it relevant. Overruled.

25 Q And whose signature is that on this document?

1 A John Versace, the executive engineer of the safety
2 center.

3 Q Did you know Mr. Versace?

4 A Yes, sir.

5 Q How did you know Mr. Versace?

6 A Well, he hired me twice.

7 Q Did you know any of the other gentlemen listed up at
8 the top of this document?

9 A These men are mostly higher ranking than I was, but I
10 did know several of them. Cog Briggs, the fourth man
11 down, was the director of the safety center. He was John
12 Versace's boss and then I knew several of the others.

13 Q What was the date of this document?

14 A The cover letter is October 20, 1969.

15 Q And if you could just expand the paragraph there and
16 tell the jury what relevance this document has to this
17 case and the issues that we're going to be talking about?

18 A It's really the last sentence there. It says, Risk
19 of ejection is high in rollover accidents and the risk of
20 injury is substantially greater if ejection has occurred.
21 Basically, what that says is it's important to keep the
22 occupants inside the occupant compartment in a rollover if
23 you want to reduce their chances of being hurt.

24 Q And you indicated earlier the author of this paper
25 was E. S. Grush?

1 A Ernie Grush.

2 Q Did you know him?

3 A Yes, I did. I sat 10 feet from him for most of my
4 career at Ford.

5 Q In this paper without going into the details did he
6 analyze the risk of being ejected -- whether or not it was
7 increased with regards to doors coming open in rollovers?

8 A Well, there is a later paper done by Bob Holtman on
9 that subject, but Ernie used the statistics as they
10 existed at the time to look at the risks of ejection.
11 compared with staying in the vehicle. Ernie was a
12 statistical expert or is as far as I know. I haven't seen
13 him in many years.

14 Q I am going to give you what's marked as Exhibit 1,
15 Mr. Gilberg. Do you recognize that document?

16 A Yes, sir.

17 Q Please tell the jury what this document is and what
18 the title of it is and what the date is.

19 A This is a draft report titled, Evaluation of Occupant
20 Ejection Rates and Door Openings of Passenger Cars and
21 it's dated November 6, 1980.

22 Q And who authored this document?

23 A Bob Holtman.

24 Q Is that who you were making reference to earlier?

25 A Yes.

1 Q And did you know him?

2 A I did not as well as Ernie, but he sat a long way
3 away from me.

4 Q Can you highlight the title, enlarge the title?

5 And if we go down to the conclusion paragraph, that
6 first paragraph under conclusions, could you publish that,
7 Mr. Gilberg? Could you read that, sir, into the record?

8 A Yes. Actually, the first sentence is what is really
9 of interest here. It says, The occupant ejection rates
10 with and without door openings shows a passenger car
11 occupant is approximately 20 times more likely to be
12 ejected if a door opens.

13 Q Do you agree with that statement, Mr. Gilberg?

14 A I have all the respect in the world for Ernie and Bob
15 Holtman, and I think they knew their business much better
16 than I would if I were in their jobs; so, yea, I think
17 that's a reliable statement.

18 Q In your work in your research into door openings in
19 automobile accidents, is the risk of ejection -- increased
20 risk of ejection apply to both belted and unbelted
21 occupants?

22 A Yes, definitely. You can have belted occupants
23 ejected if the door comes open.

24 Q Have you seen that in your work?

25 A Many times.

1 A I'm not sure what you mean by good but it's an
2 appropriate standard.

3 Q For automobile design?

4 A Yes.

5 Q With regard to doors?

6 A Yes.

7 Q And can a door-latching system, Mr. Gilberg, in your
8 opinion be designed to meet that standard?

9 A Yes, sir.

10 Q Do you have an opinion based on the work that you've
11 done in this case as to whether the door-latching system
12 in the Riley vehicle met that standard?

13 A I have an opinion.

14 Q What is your opinion, sir?

15 A It didn't meet that standard.

16 Q Now, I want to talk a little bit about the -- You
17 know what? Before we get into some of these technical
18 issues, I'd like to take a minute maybe to cut the lights
19 back on and go over some of the nomenclature in case
20 Mr. Harmon or myself in opening didn't get it right with
21 the jury -- let you go over and show the jury.

22 Start with maybe what you have in front of you.

23 Could you tell the jury what that is in front of you, sir?

24 A These are the parts you don't really see easily when
25 you look at the door. This here in my left hand is called

1 the remote control. It is the part that the inside handle
2 attaches to. The inside handle screws on to the remote
3 control right here and then the remote control screws on
4 the door right here and then this in my right hand is the
5 latch. Yesterday witnesses were referring to this as the
6 latch. No, this is the latch. The rod that connects them
7 is what operates the latch and if you pull the handle on
8 the remote control, it moves the rod towards the latch,
9 and if you could see in here -- I don't know if you could
10 see that. I'll do it again.

11 MR. CROSBY: Your Honor, may he come down?

12 THE COURT: He can step down.

13 MR. CROSBY: Mr. Gilberg, was the witness or
14 Mr. Henderson referring to it as the latch?

15 THE WITNESS: Both of them. Both of them were.
16 Inside the latch there is this black lever I am pointing
17 out here and it pivots on this pin right here. It's
18 called the fort bolt or it's called the ratchet depending
19 on whether you're Ford or GM. When you push this rod --
20 you can see it -- it releases. I'll do that again.

21 Q What causes it to latch, Mr. Gilberg?

22 A Well, when you close the door the fort bolt hits a
23 projection on the car body called the striker and that
24 striker rotates the fort bolt closed.

25 Q Now, the rod that connects it to, is that called --

1 it's been referred to or at least we've heard the term
2 compression rod. What does that mean to be a compression
3 rod?

4 A Well, if the rod pushes, it is a compression rod. If
5 it pulls, it is a tension rod.

6 Q The jury has heard something about cables. Are
7 cables in tension or compression?

8 A Actually in both. The outside of the housing is in
9 compression -- the part that you see, the black part --
10 and then the wire that goes through it in the inside is in
11 tension. That's why you can't push or pull on it and
12 cause it to trigger the latch. You have to actually pull
13 the cable and push the housing to make it trigger the
14 latch.

15 Q And while you're down, Mr. Gilberg, maybe we can turn
16 this door and just orient the jury as to locations of
17 those components. Can you get it where everybody can see
18 it?

19 A This is the latch over here. This is the inside
20 handle here and the remote control is inside and we've cut
21 away part of the arm rest so you can kind of see it. Let
22 me just turn it. You can see inside here the gold thing.

23 Q You're called it a thing. What was that?

24 A Remote control. Remote control. Okay. We've
25 designed this to work like a door that's attached to a car

1 body by putting a striker on the spring here so it'll pull
2 out the latch when I operate the handle; so let me lift
3 the outside handle. See, the striker comes out of the
4 latch.

5 Q Now the striker doesn't have a spring on it or
6 anything?

7 A Not in a car, but so you can see how it works we
8 spring-loaded it to pull it out of the latch and then the
9 same thing happens here. I don't know if you could see
10 what was happening to the rod. We painted the compression
11 rod red. It's this right here. What happens is it moves
12 towards the latch and when I pull the handle -- I will do
13 that again and see if you watch it. It moves towards the
14 latch and releases it. Let me turn this this way just so
15 they can see.

16 Q What happens, Mr. Gilberg, on this particular Ford
17 pickup if the door is locked and you do that?

18 A Well, it doesn't make any difference because Ford has
19 a feature called override locking.

20 Q It's now locked; so it self-unlocks and then it
21 releases the latch. That means you got to be very careful
22 not to activate this rod because it'll not only unlatch
23 the door, it'll unlock it.

24 Q All right. You can go back up. I am going to sit
25 this out of the way for a few minutes. We may bring it

1 back over. If I accidentally say actuator, is that the
2 same as the remote control?

3 A That's fine. That's fine. I just want that
4 distinction made because the latch is the part at the end
5 of the door, not in the middle of the door.

6 Q The latch is in the back of the door. The remote
7 control or the actuator is what the handle attaches to.

8 A Right.

9 Q And the rod is what's in between?

10 A Right.

11 Q I want to talk a little bit about the concept of
12 foreshortening and what that means, Mr. Gilberg, and you
13 may be able to do with what you have in front of you --
14 the assembly units -- and just generally and we'll talk
15 about some history of foreshortening in a few minutes.

16 A Okay.

17 Q If you could.

18 A Well, as it applies to cars it means that if the
19 distance between the actuator or the remote control and
20 the latch closes up for some reason like a crash, the
21 latch releases; so you don't want that to happen. You
22 need to maintain the distance between these two things at
23 all costs.

24 Q Now, is that a new concept?

25 A No, it's not. Actually, it's been around at least

1 before -- it's before my time the design engineers have
2 known about that.

3 Q Mr. Gilberg, I am going to pass up Exhibit No. 18.
4 Do you recognize that document, sir?

5 A I do. It's a patent.

6 Q What is the patent for?

7 A Well, it was filed June 24, 1963 and it's for a
8 latch-actuating means and this particular patent was
9 assigned to General Motors.

10 Q What was the year on that?

11 A It was applied for in '63 and it was granted in
12 August of '65.

13 Q And I think everyone on the jury would be generally
14 familiar with patents. Are patents publicly available
15 records?

16 A Yes. They're publicly available.

17 Q And in this patent does it have some discussion with
18 regard that has relevance to what we're talking about
19 here?

20 A Yes. It talks about this problem with foreshortening
21 the linkage on the car door.

22 Q I am going to publish page two. Go to page two of
23 Exhibit No. 18. Robert, I believe it's --

24 A Third paragraph.

25 Q -- the third paragraph down on the left.

1 Can you publish that on the record, Mr. Gilberg?

2 A Yes, sir. It says, Accordingly, it is the primary
3 object of this invention to provide a latch-actuating
4 means which will accommodate changes in the normal
5 distance between the door latch and an operating means
6 therefore or deformation in the latch-actuating means
7 without the release of the door latch.

8 Q When we're talking about changes in the normal
9 distance between the door latch and the actuating
10 mechanism, what are we talking about?

11 A Right. It's talking about changing the distance
12 between the remote control and the latch.

13 Q Foreshortening?

14 A Yes.

15 Q Now, I want to give you a copy of Exhibit No. 98.

16 Are you familiar with and recognize that document,
17 Mr. Gilberg?

18 A Yes, sir.

19 Q Please tell the jury what that is.

20 A This is another patent similar to that that we just
21 looked at except this one deals with the latch-actuating
22 means being the outside handle and this one -- I picked
23 this one because it was assigned to an engineer for Ford
24 -- an engineer for Ford Motor Company designed it and it
25 was assigned to Ford Motor Company.

1 Q What is it dealing with?

2 A It has to do with the same principal except for the
3 outside handle length; so this was patented in July of
4 '95. The patent was applied for in June of '94.

5 Q And does it have similar language talking about the
6 changes in the distance between the latch and actuator?

7 A Yes.

8 Q And if we look at page four of that document and it's
9 the -- I believe it's the first full paragraph there.

10 A Under background of the invention go to about the
11 second or third sentence there. It says, During operation
12 a vehicle may be subjected to fore, aft, or side forces
13 which may cause the latch to operate. Accordingly, it
14 would be appreciated that it would be highly desirable to
15 have a vehicle door-latching mechanism that can withstand
16 fore, aft, or side forces without operating. Sometimes
17 the point of impact generating the forces is the vehicle
18 door. It is also desirable for the latch to remain locked
19 when side forces are generated at the vehicle door.

20 Q Now when it says activating, what are we talking
21 about? Forces activating.

22 A We're talking about either the handle flying up or
23 the handle moving closer to the latch causing the linkage
24 to release the latch.

25 Q And would the forces be destroying the latch or just

1 simply activating it as you would with the handle?

2 A Well, it just -- it activates it without damaging the
3 latch unless you put a tremendous amount of force on it
4 and then you could destroy the latch.

5 Q I want to get you to look at Exhibit 8.

6 Your Honor, may I pass this over?

7 MR. WALKER: Do you have a date on this one?

8 MR. CROSBY: I don't have the whole module. This is
9 the document that Mr. Loschiavo testified about yesterday.

10 MR. WALKER: Your Honor, I do have an objection to
11 this on relevance as to the date that it was created. I
12 believe it was created in 2003.

13 THE COURT: Well, believe or was? I mean, you used
14 it yesterday with Ford's witness.

15 MR. CROSBY: I did, Your Honor, without him waiving
16 that objection in all candor to the court.

17 THE COURT: Do you know when it was dated?

18 MR. CROSBY: I don't. It came out of a module for
19 Ford Motor Company and what it does is it discuss the same
20 topics that---

21 THE COURT: Well, if you don't know the date on it
22 we're pretty -- I've got guidance from the Supreme Court.
23 If you can't show me the date, I will sustain the
24 objection. When we take a break you can do a proffer on
25 it and we'll see where we stand.

1 MR. CROSBY: Yes, Your Honor. I have some additional
2 information.

3 THE COURT: I am saying at the present time let's
4 move along and when we take our first break then you can
5 proffer outside of the presence of the jury and then I can
6 make a determination on it.

7 Q Based on the information that you have read in this
8 case has it been known to not only to Ford Motor Company
9 but the automotive industry in general about the concepts
10 of latch activation through sheet metal crush in
11 accidents?

12 A Yes, sir. It's common knowledge.

13 Q What are the various ways that the inside handle
14 linkage can activate in a crash?

15 A Well, there are different types of linkage systems.
16 If you're using a rod there are tension rods and there are
17 compression rods. In order to get a tension rod to
18 activate you have to stretch it -- stretch the distance.
19 In order to get a compression rod to activate you have to
20 compress the distance; so those are the common types of
21 linkages that were used years ago.

22 Nowadays that's pretty much out of favor. Cables are
23 more common than rods, but at the time rods were in use it
24 was well known that they were vulnerable for these reasons
25 and there's been testimony of numerous Ford engineers on

1 A It has.

2 Q Now, I want to look at -- Have you reviewed -- Tracy,
3 I marked -- this is a defense exhibit -- crash test 7290
4 as an exhibit.

5 MR. WALKER: No objection.

6 Q Mr. Gilberg, I am going to hand you a report and
7 photographs from crash test 7290.

8 THE COURT: What exhibit number?

9 THE WITNESS: 158, I think. It looks like 158.

10 THE COURT: 158, gentlemen.

11 Q Have you reviewed the crash test with regard to test
12 7290?

13 A Yea. This is 7277, but there are two of those. Both
14 have the same outcome.

15 Q My mistake. My mistake. I wanted to give you 7290.

16 THE COURT: Exhibit number?

17 MR. CROSBY: Exhibit No. 157 and the photographs are
18 exhibit 157A.

19 THE COURT: Any objection?

20 MR. WALKER: No objection.

21 (WHEREUPON, Plaintiff's Exhibit Nos. 157 & 157A were
22 admitted into evidence.)

23 Q Have you reviewed those documents?

24 A Yes, sir.

25 Q If you would, can you relate to the jury the general

1 timeframe that those -- that that crash test was run and
2 the significance of it?

3 A These were tests done in 1989 and their significance
4 is that they both had door failures and they resulted in
5 the change from of the 1992 Ford F-150 from a rod to a
6 cable system.

7 Q Robert, can you run the video from 157, I guess it
8 would be B?

9 THE COURT: Everybody okay on my jury?

10 Q Mr. Gilberg, was this one of the tests Mr. Loschiavo
11 testified about yesterday?

12 A I believe it was.

13 (Whereupon, the video is shown.)

14 Q We keep seeing different camera angles, Mr. Gilberg,
15 but are you familiar with the procedure for documenting
16 crash tests based on your analysis of these crash tests
17 and deposition testimony?

18 A Yes, this is quite typical. There could be dozens of
19 cameras on a crash test. We're looking at the driver's
20 side mostly here. The door we're interested in is on the
21 passenger side.

22 Q We're talking about an offset frontal crash. What is
23 the configuration on this one?

24 A This is an angled barrier; so it spreads the load.
25 It is this door that we're interested in. You can see it

1 come open there. Watch how the top of the door gets
2 squeezed.

3 Q Can you pause right there, Robert? Let it go just a
4 little further. Go ahead. Right there. Stop.

5 Mr. Gilberg, why is the door appearing to push down
6 the handle towards the ground in this frontal crash test?

7 A Well, if you think of the door opening in the side of
8 the cab, it is a fairly big opening. There is nothing to
9 support that opening in the middle once the door comes out
10 of the opening; so and even the door itself is not as
11 stiff as the structure around it; so what's happening is
12 the top of the cowl where the hood and fender meet is
13 moving into the opening where the door should be and it's
14 squeezing the door and there is more squeezing at the top
15 of the door than there is at the bottom because the bottom
16 of the door has the support from the floor, the rocker
17 panel, and the sill of the floor is, you know, preventing
18 that space from being compressed whereas in the middle of
19 the door there is nothing up there but the door itself; so
20 you can see the cowl is leaning inward and it's
21 squeezing the top of the door and that's where the
22 linkages are for the latch mechanism.

23 Q Can you take the pointer there and help us visualize
24 the distance between the top of the window frame and the
25 top of the roof?

1 This is a 90-degree flat barrier. The one that we looked
2 at before was an angled barrier; so the other one puts a
3 different set of stresses on the side of the car. It
4 loads up the side that's closest to the barrier when it
5 hits more than when this one does.

6 Q Is this typical to have a number of camera angles
7 when a crash test is being run?

8 A Yes, sir, it's common. It varies with the demands of
9 the test, you know, what they're looking at, but usually
10 there is always a large number of cameras on the crash.

11 Q Is there a difference between coming unlatched in a
12 crash test and opening in a crash test?

13 A Yes, there is, but it's not routinely noted in the
14 crash reports.

15 Q In your opinion, sir, if a door comes unlatched
16 regardless of whether it pops open is that a failure?

17 A Yes, it is.

18 Q This is an under shot of the vehicle -- how it's
19 performing?

20 A Most of the last half dozen or so have been pictures
21 from below.

22 Q Stop right there, Robert. Keep going. Photograph
23 158A.28.

24 Mr. Gilberg, after looking at that extensive
25 videotape there of the many camera angles are you just

(Andrew N. Gilberg-Direct continued by Mr. Crosby)

-697

1 Q Or in the F-150?

2 A Yes, sir.

3 Q Just generally. Have you ever seen where Ford have
4 documented it like they did in these crash tests?

5 A I've seen some strange documentation, some that
6 doesn't make sense, some that deliberately doesn't
7 document what happens.

8 MR. WALKER: Objection; move to strike.

9 THE COURT: Sustained. Disregard that last
10 statement, ladies and gentlemen.

11 Q Is it fair to say that looking from this crash test
12 that you can't always tell if the door unlatches from the
13 video?

14 A That's fair.

15 Q That you can't always tell from the photographs?

16 A That's fair.

17 Q And we'll talk about some reports later on. Is it
18 important in your mind for a company such as Ford when
19 they're doing crash testing to document what goes on in
20 the reports as well?

21 A Well, I think that's the purpose of the report is to
22 let you know what went wrong, what went right.

23 Q Is it your understanding from listening to
24 Mr. Loschiavo yesterday that these -- the two crash tests
25 we just looked at -- what did they lead to any design

1 changes at Ford Motor Company?

2 A They are the reason that Ford got a cable system in
3 1992 in F-Series pickups.

4 Q And what caused the doors to come open based on your
5 analysis in these crash tests?

6 A Compression of the door -- the same thing that opened
7 the door in Sheriff Riley's vehicle.

8 MR. CROSBY: Your Honor, I'm at a good stopping
9 point.

10 THE COURT: All right. Mr. Foreman, ladies and
11 gentlemen, let's take our morning break. We're going to
12 try to go to about 12:30, quarter 'til one today. Choices
13 today -- I got an additional choice. I got the barbecue
14 place open today. If you want to eat barbecue -- y'all
15 know what's available.

16 Mr. Foreman, let us know when you come back out.

17 Everybody else remain seated. We'll take a short
18 break.

19 Don't deliberate. Discuss the case. Thank you.

20 (Whereupon, the jury exited the courtroom at 11:04.)

21 THE COURT: All right. We'll stand at ease until
22 about 10 minutes so everybody can take a break.

23 Mr. Gilberg, you're right in the middle of your
24 testimony so please don't discuss it while we take a
25 break.

1 Q What is the difference there?

2 A The cable system in the door.

3 MR. CROSBY: Your Honor, may Mr. Gilberg come down?

4 If you would, Mr. Gilberg, would you come down and
5 point out using this 1996 door -- I can probably pick that
6 up some.

7 THE COURT: Mr. Walker, can you find a place where
8 you can see what's going on?

9 Mr. Crosby, you want me to get Mr. Creech to do that
10 for you?

11 MR. CROSBY: May be. This is my bad shoulder that I
12 had surgery on.

13 THE COURT: Can everybody see it on the back row?

14 Q Mr. Gilberg, if you would explain the differences --
15 we saw the photograph with the rod in it in the crash
16 test. What's different about this door?

17 A Well, here is the modification to the remote control
18 so that it operates a cable instead of a rod. This is the
19 cable..

20 Q And so the connection has changed now from a cable
21 between the latch and the remote control has changed from
22 a rod to a cable?

23 A Right.

24 Q What is your understanding of why that was done?

25 MR. WALKER: Object to foundation.

1 Q Were you sitting in here yesterday when Mr. Loschiavo
2 testified?

3 A Yes, sir.

4 Q Did you hear his testimony on that subject?

5 A Yes, sir.

6 Q And did you gain an understanding as to why the rod
7 was replaced with a cable?

8 MR. WALKER: I withdraw my objection. I misheard the
9 question. I apologize.

10 THE COURT: Go ahead.

11 THE WITNESS: Yes, sir. It was changed because of
12 the two crash tests that we looked at 7290 and 7277 that
13 caused the door to come open when they were compressed.

14 Q And how is it that the installation of the cable --
15 Let me ask you this. After the cable was put in did Ford
16 continue to crash test that vehicle with those doors?

17 A Yes.

18 Q Did they have any further door openings in the F-150?

19 A Not for that reason.

20 Q What year models had this cable design?

21 A It came out in '92 and was continued until through
22 '96.

23 Q How is it that the cable -- Can you explain how it is
24 that the cable -- Can you demonstrate---

25 THE COURT: Hold on one second, Mr. Crosby. You got

1 that you can tell?

2 A It does.

3 Q What area is that in?

4 A It's down low, down in this area on the outside.

5 Q Okay.

6 A I don't know if it would be visible.

7 Q You can go back up.

8 Your Honor, while we were on a break just to try to
9 speed things along I set a stack of exhibits in front of
10 Mr. Gilberg if that's all right with the court.

11 THE COURT: Sure.

12 Q Mr. Gilberg, do you have Plaintiff's Exhibit 112 in
13 front of you?

14 A Yea, it's right on top.

15 Q Before I ask you about that, the design that Ford
16 went to in the 1992 to 1996 F-150's, do you have an
17 opinion as to whether that was a good design to prevent
18 unwanted door openings due to foreshortening in the front
19 or side crashes?

20 A It was clearly more crashworthy than the one it
21 replaced. Good is a term that would be hard for me to
22 deal with. I just look at the bad ones.

23 Q Well, since you looked at the bad ones after for the
24 1992 to 1996 Ford pickups with these doors did you
25 investigate any accidents with unwanted door openings with

1 A Yes. It's a means of notifying the system that there
2 is going to be a new requirement or a new feature or
3 something like that.

4 Q There's been some testimony that the PN96 -- the
5 production first started in 1995, November of 1995. Do
6 you have that understanding?

7 A Yes.

8 Q Was there ever a 1996 PN96?

9 A There was supposed to be.

10 Q And was there -- Was that changed -- the name of it
11 changed?

12 A Well, no. The PN96 remained a PN96 and the F-150
13 moniker for the public was always there. It didn't
14 change, but what happened was the -- when the vehicle was
15 introduced it was called a '97.

16 Q If I read that correctly it says, This program
17 direction letter redesignates the '96 and a quarter PN96
18 to a 1997 model year. Job one date remains 11/6/95 as
19 we've talked about. This change will differentiate the
20 carryover F-Series 1996 model year and the PN96 1997 model
21 during their joint production year. PN102 is not affected
22 by this change. All affected activities are authorized
23 and directed to release in accordance with the 1997 model
24 year designation.

25 Did I read that correctly?

1 A Yes.

2 Q And is this indicating that even though the
3 production was starting in '95 that all of the ones made
4 in '96 would still be called a '97?

5 A Right. They were sold side-by-side in '96 as '96 and
6 '97 models.

7 Q And the carryover would that be the vehicles with the
8 1996 door that we just talked about -- the predecessor
9 year?

10 A Yes.

11 Q And they were talking about -- were those sold
12 side-by-side? Could you have a choice in 1996 of buying
13 this new PN96 and also buying the older F-Series?

14 A Yes. If you talked to a dealer they called the older
15 ones the Heritage Series or Heritage version.

16 Q And the PN96 to 1997 model year would have had
17 rods --

18 A Yes.

19 Q -- as that linkage. Is it a fair interpretation then
20 from looking at this document and what you know about what
21 was going on that during the model year '96 and late 1995
22 production years that Ford was manufacturing the Heritage
23 with the cables?

24 A Correct.

25 Q At the same time it was manufacturing the PN96 with

1 rods?

2 A That's right.

3 Q I want to talk just a minute about the crash testing.
4 We looked at some crash testing earlier and what is your
5 understanding of the speeds that Ford was running the
6 offset frontal, for example, crash test with regard to the
7 PN96 development?

8 A Well, the earlier tests were done at 31 miles an hour
9 but then they upped the speed to 37 and a half miles an
10 hour later on.

11 Q I'm talking about developmental vehicles.

12 A Those would be 31.

13 Q And what about the side impact testing?

14 A Twenty-one.

15 Q During the development of the PN96 did they run any
16 offset frontal crashes before production at speeds higher
17 than 31 miles an hour?

18 A Yes, sir.

19 Q I'm talking about before production.

20 A Before production? I didn't hear that. Sorry.

21 Q Before job one. Maybe I should use that term.

22 A I'm not sure exactly what dates they did that, but
23 they did run them at higher speeds.

24 Q When they were testing in the development of the PN96
25 and running tests at 31 miles an hour and 21 miles an hour

1 MR. WALKER: I didn't hear you. I apologize.

2 THE COURT: Restate the question.

3 MR. CROSBY: I said did they ever test above their
4 minimal internal standards in the development of the PN96?

5 MR. WALKER: Your Honor, I would object. If we're
6 going to be talking about general standards, there's not
7 been a standard identified yet that we're talking about.

8 THE COURT: Well, I can't comment on what's been
9 introduced, but I overrule your objection.

10 Q Mr. Gilberg?

11 A Ford tested to the standard levels that were
12 specified within the company and within the federal
13 government, but not beyond that.

14 Q Is that type of testing protocol -- Does that provide
15 for any margin of safety over and above the standard such
16 as a 31-mile an hour impact?

17 A Well, you actually have to test to above the standard
18 in order to make sure that all vehicles comply. That's
19 why the standard is 30 miles an hour. That's why Ford's
20 internal requirement is 31 so that they be sure that due
21 to production variability and things like that that all of
22 the vehicles they built would comply with the standard.

23 Q At any time did they set it up where you tested to
24 failure so you would know what -- be able to determine
25 what the maximum forces the vehicle would withstand

1 Q Go down and show a list of attendees at this meeting.

2 Who is the first one listed there?

3 A That's Edsel Ford, II.

4 Q Do you recognize any of the other names there?

5 A Most all of them. You know, they're all high -- were
6 at one time very high-level management -- vice presidents
7 and the like.

8 Q Are these the people who set the direction and the
9 tone for what is going on at Ford Motor Company?

10 A Absolutely.

11 Q I am going to put up---

12 A You missed one name on that page.

13 Q What name was that?

14 A Right below that it says Harold Poling, Chairman of
15 the Board and Chief Executive Officer presided in the
16 absence of Phillip Benton, Jr.

17 Q So Mr. Poling at that time was the chairman of the
18 board at Ford Motor Company?

19 A Correct.

20 Q And if you could enlarge the fourth paragraph there.

21 I believe that reads, The chairman of the board
22 commented that for the SN95 and all other programs it
23 would be desirable to reduce costs related to items
24 designed to achieve or exceed compliance with regulatory
25 requirement to as low a level as possible to maximize our

1 future pricing flexibility vis-a-vis competition.

2 Did I read that correctly?

3 A Yes.

4 Q Looking at the testing with regard to the PN96 did
5 Ford in the development ever test above what was required
6 to meet regulatory compliance?

7 A Not during the development stages.

8 MR. WALKER: I object to the answer. That doesn't
9 answer the question. Unresponsive.

10 THE COURT: Overruled.

11 Q Was it later -- Have you seen any evidence where it
12 later confirmed that there was the environment at Ford
13 with regard to the testing?

14 MR. WALKER: Objection; leading.

15 THE COURT: Hold on. Restate your questions.

16 Q The comments made by the chairman of the board there
17 and what you've testified to about Ford testing to meet
18 standards and not to failure have you seen documentation
19 at a later date that confirmed that that was indeed the
20 environment at Ford Motor Company?

21 MR. WALKER: I object to the question as to
22 environment.

23 THE COURT: I'll allow it.

24 THE WITNESS: Yes, sir, I've seen that.

25 MR. CROSBY: Your Honor, may I confer with

1 something.

2 (Whereupon, a bench conference was held.)

3 Q Exhibit 42 is a -- the title of it is Blue Talk,
4 Mr. Gilberg?

5 A Yes, sir. Excuse me. Yes, sir.

6 Q What is Blue Talk?

7 A It's an interview of Mr. Perry Jones who was the
8 Chief Technical Officer of Ford Motor Company -- top
9 engineer, number one engineer.

10 Q You answered the question. The chief technical
11 officer is the top engineer at Ford Motor Company?

12 A Yes.

13 Q And when did Mr. Richard Perry Jones -- approximately
14 what time period did he take that post?

15 A I am not really sure. I think it was some time in
16 the mid 90's.

17 Q And this is published in -- I don't know if you can
18 read it. Is it Testing and Technology International,
19 February of 2003?

20 A Correct.

21 Q And does Mr. Jones talk about a lot of changes going
22 on at Ford Motor Company in this interview?

23 A Well, he talks about the need for change.

24 Q And I would like to publish -- Put up the first
25 cover.

1 THE COURT: Turn the lights down.

2 Q Is this Mr. Richard Perry Jones?

3 A Yes, sir.

4 Q Can you highlight just the bold part there?

5 I'll read this: We want to make sure engineers
6 stress test parts not until they crack, but until they
7 fail. There is a paradigm shift for the engineers --
8 testing not to standard but to failure.

9 A Yes.

10 Q Is that what we've been talking about earlier?

11 A It is.

12 Q Okay. Let's go to this in the very last paragraph,
13 Robert. I'll try to read it: RPJ, Richard Perry Jones,
14 will demand more stringent acceptance criteria and test
15 protocols from his development engineers in the future.
16 We want to make sure they stress-test the part not until
17 it cracks, but until it fails. This is a paradigm shift
18 for our engineers -- testing not to standard, but to
19 failure -- a failure that includes field failure data and
20 conditions. If all of our tests were correct we wouldn't
21 have any failures in the field; so the test must be
22 changed to reflect more accurately what is happening in
23 the field.

24 Did I read that correctly?

25 A Yes, sir.

1 you what. We'll look at the video and see if we can get
2 it off the video. Will you put up 54B, please, sir?

3 (Whereupon, the video is shown.)

4 Mr. Gilberg, while he's bringing that up can you look
5 at the test request form and tell the jury what vehicle
6 this is whether it's a prototype or production, what year
7 model?

8 A It is a production level 1997 F-150 PN96.

9 Q That's the vehicle that's already been released for
10 sale. It's finished?

11 A Yes.

12 Q Now is there anything different about this particular
13 crash test than the developmental crash test as far as the
14 type of barrier and speeds?

15 A One difference is that the speed it's tested at is
16 37.5 instead of 31.

17 Q What type of barrier -- the ones we looked at earlier
18 seemed to look like some plywood. They were hitting a
19 stiff barrier?

20 A Right. This is called a deformable barrier. It is
21 honeycomb aluminum mounted to the rigid barrier face; so
22 it crushes and absorbs energy before the vehicle really
23 engages the stiff part of the barrier.

24 Q Can you push back to the beginning and let's get the
25 date off of that? September 11, 1997.

1 Mr. Gilberg, from looking at that video can you make
2 a determination that you can tell this jury as to whether
3 or not any door opened in that crash test?

4 A I don't think so. You can't tell from the video.

5 Q And you had the report right there in front of you
6 just now. Please review the report and tell the jury
7 whether there is any information recorded about whether
8 the door opened.

9 A This is not really a report. It's just a letter to
10 fill the file. It says -- the letter says, Crash test
11 report will not be written.

12 Q Could you just read that -- the entire letter into
13 the file?

14 A Sure.

15 THE COURT: Turn the lights on.

16 THE WITNESS: This is Subject vehicle crash test
17 number 10828D, 1997 F-150, 40 percent deformable barrier
18 left, 37.5 miles per hour. This letter confirms the
19 procedure to be followed regarding documents related to
20 the subject crash test. These are bullet points: One, a
21 crash test report will not be written. Two, the test will
22 be listed in the corporate crash test log with its special
23 purpose identified as experimental crash. Three, this
24 letter and the test authorization will be the only
25 documents appearing in the crash file system maintained by

1 the safety laboratories department.

2 Q And when you said the test authorization -- the
3 second page there -- is that what I am holding up?

4 A That's it.

5 Q Does it identify the vehicle as you said a 1997
6 F-150?

7 A Production level.

8 Q Production level?

9 A Yes.

10 Q So we haven't been able to tell from the video or the
11 report whether or not a door opened in that crash?

12 A Correct.

13 Q Have you also reviewed the stills like we did in some
14 of these other crash tests?

15 A Fortunately we got some, yes.

16 Q Do you recall how many stills were provided?

17 A Not a large number, but...

18 Q Did one of the stills demonstrate the driver's door
19 on that vehicle?

20 A Yes.

21 Q And it's marked as Exhibit 54A.07. Did you review
22 that still?

23 A Yes.

24 Q Were you able to tell from that photograph provided
25 by Ford as to whether the door came open?

1 Can you put that up, Robert -- 5407. 54A.07. I'm
2 sorry.

3 A I'm confident that door is open.

4 MR. WALKER: We would stipulate that that door is
5 open.

6 THE COURT: All right. Stipulate means that nobody
7 disagrees that it is open. That's what a stipulation
8 means.

9 Q Now, Mr. Gilberg, in the protocol that you talked
10 about earlier would you explain to what generally your
11 understanding of Ford Motor Company's protocol is with
12 regard to documenting crash tests after they have been
13 running and while they're being run?

14 A Well, what the crash engineers have testified---

15 THE COURT: Hold on a second.

16 MR. WALKER: I object. Lack of foundation for the
17 protocol at this time.

18 THE COURT: I think -- overruled.

19 THE WITNESS: What the crash engineers have testified
20 to is those photos are taken before anything is disturbed
21 on the vehicle.

22 MR. WALKER: I'm sorry. Did he say crash engineers
23 have testified?

24 THE WITNESS: Yes, sir.

25 Q Mr. Gilberg, have you read testimony from Ford's

1 crash test engineers concerning the protocol that's
2 followed in documenting crash tests?

3 A Yes, I have.

4 MR. WALKER: Your Honor, I object and ask for a
5 sidebar.

6 THE COURT: Very well.

7 (Whereupon, a bench conference was held.)

8 Q Mr. Gilberg, during the 1997 time period did you have
9 a general knowledge about how Ford -- the procedure
10 followed in setting up and documenting crash tests?

11 THE COURT: Answer that yes or no.

12 THE WITNESS: Yes.

13 THE COURT: How do you know that?

14 THE WITNESS: Review of their documents, review of
15 depositions witnesses, testified in many cases.

16 Q Have you also reviewed numerous crash tests?

17 A Very many.

18 Q And if we---

19 THE COURT: I'll allow it. I think it's sufficient
20 foundation.

21 Q Have you seen any information from Ford Motor Company
22 and I believe the gentleman on here including Mr. Stockton
23 who is on Exhibit 55 -- including Mr. Stockton, Mr. R. N.
24 Burns or the fellow up here -- J. F. Killsdon or anybody
25 else at Ford Motor Company that was working in the test

1 department that indicates that that door did not come open
2 in that crash?

3 A No.

4 Q The next exhibit you have there should be
5 Exhibit 125.

6 A Right.

7 Q Please tell the jury what Exhibit 125 is.

8 A This is a report from crash test number 10631.

9 Q And what is the date of the test, if you can
10 ascertain it from that report?

11 A March 17, 1997.

12 Q And have you reviewed this crash test, the report,
13 and the video?

14 A Yes, sir. I've seen this one.

15 THE COURT: I was afraid of something a while ago.
16 My goodness, it came to be true. You know, I don't let
17 people out of my courtroom. One time I kept Chief Justice
18 Littlejohn out and that didn't go over real big. I just
19 noticed somebody stuck their head in back there and I
20 said, Gracious, me, that looks like Federal Judge David
21 Norton. Of course, my bailiff did his job and ran him
22 away, but he's in my office. I went to apologize.

23 MR. CROSBY: Is that the only thing that would make
24 you run that fast?

25 THE COURT: I am not going to answer that.

1 rollover case data; door latch failure case data; seatbelt
2 unlatching bibliography; head injury bibliography;
3 seatbelt bibliography; rollover bibliography; front crash
4 impact bibliography; atlanto occipital dislocation
5 bibliography; cervical spine bibliography; and consent
6 scheduling order.

7 Q Have you also reviewed the depositions of Dr. Michael
8 Caplan, the pathologist in this case?

9 A Yes, I listed that one, yes.

10 Q I'm sorry. And did you list Dr. McNish?

11 A Yes, Thomas McNish.

12 Q And through your review of that case material have
13 you been able to form certain opinions in this case that
14 you hold to a reasonable degree of medical certainty?

15 A Yes, I have.

16 Q Let's start, if we could, by asking you to tell me
17 what your -- what your general understanding is as to how
18 this wreck occurred and how -- and what happened with the
19 vehicles and Sheriff Riley?

20 A The two vehicles were approaching an intersection and
21 they ended up having an impact with Sheriff Riley's front
22 left part of his vehicle and the other individual's front
23 of his car coming at an angle and Sheriff Riley turned his
24 vehicle to get out of the way of the oncoming vehicle and
25 his car skidded, ended up -- it skidded towards the

1. passenger side. It ended up then flipping towards the
2 passenger side and on the three-quarter turn flip the
3 bottom of his vehicle struck a tree and then the vehicle
4 landed on the tires on the ground.

5 At the beginning of the -- at the beginning of the
6 flip with the passenger side going towards that direction
7 towards the passenger side Sheriff Riley was then ejected
8 from the vehicle.

9 Q And do you have an understanding from the testimony
10 as to how far Sheriff Riley's body was thrown from the
11 point of ejection to where it came to final rest?

12 A Yes, I do.

13 Q What is that?

14 A Eighty-five feet.

15 Q If you would pull up 64.19.

16 This is Exhibit 64.19 that was offered during the
17 testimony of Kendrick Richardson. Have you reviewed this
18 document?

19 A Yes, I have.

20 Q Is that in general keeping with your understanding as
21 to how this wreck occurred?

22 A Yes, it is.

23 Q Exhibit 64.23, please.

24 This is also an exhibit by Mr. Richardson's testimony
25 and I believe that shows -- Is that your understanding of

1 vehicle that Sheriff Riley was driving the day he was
2 killed or the day he died?

3 A Yes, I have.

4 Q Based on your understanding of the facts of this case
5 as well as the work that you have done, Dr. Collins, do
6 you have an opinion to a reasonable degree of medical
7 certainty as to when Sheriff Riley sustained the injuries
8 that took his life?

9 MR. CARTER: Your Honor, objection. Foundation.
10 This is beyond the scope of her expertise and
11 non-disclosed.

12 THE COURT: Overruled.

13 THE WITNESS: It's my opinion that Mr. Riley
14 sustained the injuries upon ejection which was in the very
15 beginning of the roll of the car during the first
16 quarter-turn of the roll.

17 Q And can you go -- can you go further as to what, if
18 anything -- to the extent you're able to what, if
19 anything, Sheriff Riley's body encountered?

20 A Yes. Upon ejection he encountered the ground. He
21 also could have encountered -- could have encountered the
22 intermediary target---

23 THE COURT: Hold on.

24 MR. CARTER: I am going to object to -- He could have
25 encountered is not an appropriate opinion from an expert.

(Kimberly A. Collins, MD-Direct by Mr. Henderson)

798

1 THE COURT: All right. Mr. Henderson, ask it do you
2 have an opinion with a reasonable degree of medical
3 certainty whether more likely than not. Then we'll get
4 out of this "could have."

5 Q Dr. Collins, do you have an opinion to a reasonable
6 degree of medical certainty as to what Sheriff Riley
7 struck that more likely than not caused the injuries that
8 resulted in his death?

9 MR. CARTER: Objection, Your Honor. Same objection,
10 same basis, foundation, disclosure, outside of the scope
11 of her expertise.

12 THE COURT: Overruled.

13 THE WITNESS: Upon ejection it is my opinion that he
14 was tumbling. Most ejected individuals will lead with
15 their head in the air and he struck a hard object -- that
16 being the trunk of the fallen-down dead tree or the
17 ground.

18 MR. HENDERSON: Thank you, Dr. Collins. Please
19 answer any questions.

20 THE COURT: Mr. Foreman, ladies and gentlemen, are we
21 okay? You need a bathroom break? Let's take about 10
22 minutes and we'll come right back. We're not going to
23 take long.

24 Everybody else remain seated please. Remain seated,
25 please. Thank you.

1 in the longitudinal or in the ex-direction.

2 Q Can you scroll down just a little bit, Robert, where
3 it talks about side crashes?

4 A Under side crashes it says, Both the door outer panel
5 and the door inner panel will be pushed inboard to varying
6 degrees.

7 Q Now, Mr. Gilberg, we've talked about foreshortening
8 and you've demonstrated with the latch mechanism and
9 remote assembly that's on the podium with you, but have
10 you prepared the model -- the demonstrative model that we
11 talked to with jury about earlier such that you can
12 demonstrate the concept of foreshortening?

13 A Yes..

14 MR. CROSBY: With Your Honor's permission I'd like
15 for Mr. Gilberg to come down and do just that.

16 THE COURT: Ms. Harley, we need some lights.

17 Q If you would just talk about that concept and then
18 demonstrate using your model, please, what's going on with
19 regard to crash.

20 A Well, I have already demonstrated the ways that you
21 want the door to open by using the inside handle or the
22 outside handle. There is one way you don't want it to
23 open and that's when it is crushed in a collision. What I
24 have done to simulate that is I've cut away a section of
25 the door here so that it slides to simulate the crush.

1 Now, if I was strong enough I could do it without cutting
2 the door, but I could only do it one time; so this model
3 is cut so we can repeat it and show it as many times as
4 necessary.

5 When I move this handle forward it going to move this
6 handle towards the latch. Let me show you that. I moved
7 it just about 14 or 15 millimeters which is around
8 five-eighths of an inch and if I turn this around you can
9 see this red handle kind of acts like a pointer here and
10 there is a scale. There is an inch scale here and then
11 this red handle can act like a pointer; so when I move it
12 in you can see just exactly how much crush it takes. Let
13 me do that again. It was right on five-eighths of an
14 inch.

15 Q Mr. Gilberg, are you telling the jury that whenever
16 the door on a PN96 1997- or 1998-model-year vehicle with
17 the rod connection---

18 MR. WALKER: Object to leading, Your Honor.

19 THE COURT: Let him finish the question.

20 Q Are you telling the jury that it takes over---

21 THE COURT: Ask him what are you telling the jury.

22 Q With regard to the amount of crush that it takes to
23 open the door on this 1997, 1998 PN96?

24 A Well, there is some adjustment in this door, but the
25 number that it takes to cause the door to release is

1 somewhere between 12 millimeters and 15 millimeters and
2 that's Ford's measurements; not mine.

3 MR. WALKER: Object; foundation.

4 THE COURT: Go ahead.

5 THE WITNESS: Twenty-five millimeters is an inch --
6 25.4 millimeters. It's around five-eighths of an inch of
7 crush from the hole to the door -- the door in front of
8 the handle that's required to cause the door to open and
9 that may be translates into maybe as much as an inch
10 across the whole door.

11 Q Let's bring the door back around. Are you saying
12 that the 12 to 15 millimeters of movement is between the
13 inside handle and the latch?

14 A Over this -- It is 12 to 15 millimeters over this
15 length and maybe around an inch over the whole length of
16 the door.

17 Q So you're saying if the whole door is compressed for
18 an inch you would expect that to translate 12 to 15
19 millimeters between the inside handle remote and the
20 latch?

21 A Right.

22 Q And is that in simple terms a concept of this
23 foreshortening that we're talking about?

24 A That's what it is about, yes.

25 Q Mr. Gilberg, did you conduct forensic examination of

1 the driver's door on the Riley F-150 to determine if the
2 door crushed such that foreshortening occurred in this
3 accident?

4 A Yes, I did.

5 Q And what was your conclusion with regard to your
6 investigation?

7 A Well, I measured about 11 and a half millimeters of
8 permanent crush between the inside handle and the latch.

9 Q And what was your end conclusion about whether or not
10 foreshortening was involved with regard to the opening of
11 the door in this accident?

12 A I think that's more than enough to demonstrate that
13 the conditions were present to open the door.

14 Q And did you take measurements on the Riley F-150?

15 A Yes, sir. That's what I was alluding to earlier when
16 I was talking about that control reach machine that I
17 worked on at Ford. I used a similar type of machine to
18 measure this door.

19 Q Do you have an opinion, Mr. Gilberg, as to when the
20 door unlatched during this accident sequence?

21 A Yes, sir.

22 Q What is your opinion, sir?

23 A It unlatched in the initial collision -- the
24 collision with the Ranger.

25 Q In the initial collision when they were corner to

1 Q First I will put up Plaintiff's Exhibit 20.6.

2 A This just shows that there's been some interference
3 here between the front edge of the door and the rear edge
4 of the fender, and, incidentally, that's one of the things
5 that can stop the door from flying open immediately in a
6 crash.

7 Q Is this a close-up of that area and this is Exhibit
8 20.39?

9 A Yea. You can see the door has been really forced
10 open and bent along this crease here.

11 Q Is there any buckling of the sheet metal along the
12 door?

13 A Sure. Yea. All in here there's buckling and there's
14 evidence on the inside of the door, too.

15 Q How did the buckling occur? How was that force
16 imparted on the door that would cause it to buckle?

17 A Well, the collision out here forced this whole
18 A-pillar rearward and because there is no support in the
19 middle of the door you get more bending up here than you
20 do down here at the floor or up here at the roof rail.

21 Q Was there evidence within the doorframe itself of the
22 door being pushed rearward?

23 A Yes. Yes.

24 Q Plaintiff's Exhibit 20.87. What are we looking at
25 there, Mr. Gilberg?

1 A This is the lower rear corner of the door. This is
2 the weather strip. Right here is just the very bottom
3 corner of the door. You can see here in this area a place
4 where the door has been forced into the B-pillar and the
5 paint has been abraded and also you can see these buckles
6 here that normally wouldn't be there.

7 Q And what is the B-pillar, Mr. Gilberg?

8 A The B-pillar is the body post that is right behind
9 the door where the striker is where the latch engages the
10 striker.

11 Q I don't know if we did this with, Mr. Richardson.

12 Can you using that model just -- Which one is the
13 A-pillar?

14 A This is called the A-pillar. This is the front edge
15 of the door and the windshield.

16 Q Okay.

17 A And then the B-pillar is the back of the door or
18 the -- actually the door frame, the back of the door
19 frame. It's the part of the body that's not on the door
20 but is the perimeter of the door; so it's this post.

21 Q In the normal operation of a door, does the sheet
22 metal -- the back portion of the door that we're looking
23 at there, does that come in contact or rub against the
24 B-pillar?

25 A No. The only thing that touches is body is this

1 rubber strip. The metal parts don't touch.

2 Q Okay.

3 A And the latch, of course. The latch and striker
4 touch each other, but that's it.

5 Q I'll put up 20.76. What are we looking at there?

6 A This is the B-pillar and it's the front face of the
7 B-pillar. Here is the striker. Here is the vehicle
8 identification information on the sticker and then right
9 here you see abrasions from contact with the rear of the
10 door -- the lower rear corner of the door.

11 Q Robert, can you split screens for me, please, sir?

12 Is there a relationship between the white markings in
13 these two photographs in the B-pillar and the door?

14 A Yes. This here is this abrasion here. There is an
15 abrasion up here and one that's not quite so clear up
16 here. Those could correspond to that.

17 Q When in the accident was that caused, sir?

18 A Immediately when the two cars came together and the
19 crush wave moved down the side of the pickup truck.

20 Q Is that indicative of rearward movement of the door
21 in the crash?

22 A Yes.

23 Q And then what causes the white striations there?

24 A When the door comes out of its opening it moves
25 horizontally so that's why you get horizontal patterns in

1 here; so it's -- first it's jammed up against the B-pillar
2 and then it's pushed out of the opening at some time.

3 Q In this crash do you know exactly when the door was
4 pushed out of that opening? Are you able to tell the jury
5 that?

6 A No, I don't know.

7 Q Are you able to tell the jury when the door was
8 pushed in rearward into the B-pillar?

9 A That was immediately. That was when the crash
10 occurred.

11 Q I will put up Exhibit 20.77. Can you put up 20.77
12 for me?

13 What is Exhibit 20.77 showing of any significance,
14 Mr. Gilberg?

15 A This is the upper two-thirds of the B-pillar and you
16 can see more contact marks up here, more scrape marks,
17 horizontal marks.

18 Q In the ordinary use of the vehicle would those marks
19 be there?

20 A No. You don't get marks in that location unless the
21 door is really shoved all of the way back in its opening.
22 You can get wear marks here, you know, where people come
23 in and out of the vehicle and maybe brush against the
24 doorjamb, but you don't get horizontal marks in here
25 because this is protected somewhat by this flange here.

1 Q And this is Exhibit 21.77.

2 THE COURT: 21.7.

3 Q 21.7.

4 A Just a close-up of those marks right here.

5 Q And when in the accident sequence did that occur?

6 A Well, the contact is from the initial collision, but
7 the scraping and the horizontal direction comes when the
8 door comes open. You can see somewhere towards the end of
9 that scrape the door went down, too, as it came out of the
10 opening.

11 Q Is that consistent in looking at 61.3 -- is that
12 consistent with the way the door was post-crash?

13 A Yes, the door is sagging at the rear.

14 Q All right. I will put up Exhibit 21.11. What are we
15 looking at here, Mr. Gilberg?

16 A This is just the striker base plate here. This is
17 the screw -- the top screw that holds the striker to the
18 body and then there is one down here that you can see a
19 little bit of. What we see here is where the striker sat
20 originally and you can see it's come both sideways and
21 downwards.

22 Q Just to go back to get a perspective -- can you go
23 back to 20.77?

24 A You can actually see the original witness mark from
25 the striker here.

1 and look at it would you be able to feel that dent in the
2 bottom of the door?

3 A Yes, you can feel it.

4 Q Is that where it comes back into contact today if you
5 pushed the door?

6 A Right. Ordinarily, neither of these pieces would be
7 shaped like that. There wouldn't be a bump on the door
8 and there wouldn't be a dent in the sill.

9 Q Do you have an opinion when in the accident sequence
10 that the door and bottom of the B-pillar came together to
11 form that dent?

12 A Well, at some time the door reclosed and that's when
13 that dent was made.

14 Q And I think maybe this is with the door open here.
15 22.83.

16 A There's the dent looking at it from the outside
17 towards the center of the car. Here is where the weather
18 seal goes and up here the scrape marks that we looked at
19 earlier.

20 Q We talked a little bit yesterday -- I asked you about
21 measuring the change in distance between the remote
22 control assembly and the latch. Did you have an
23 opportunity to remove the trim panel so that you could
24 take measurements?

25 A Yes, sir. We did that on May 11.

1 Q And I am going to put up 21.19. From your inspection
2 who are the gentlemen in this photograph? Can you tell
3 me?

4 A That's James Salmon and I'm not sure.

5 Q Was Mr. Caulfield there with you?

6 A Yes, he was there. I'm not sure if that's him or
7 not.

8 Q Why don't you enlarge that? Mr. Gilberg, is that
9 Mr. Caulfield?

10 A Yes, that's him.

11 Q Who were they representing at this inspection?

12 A Ford Motor Company.

13 Q Y'all do that together so that everybody can be there
14 when the trim panel was taken off?

15 A That's right.

16 Q And who actually took the trim panel off?

17 A Most of the mechanical work was done by my assistant
18 Jeremy Buckingham.

19 Q Was everybody given the opportunity to photograph and
20 examine the condition of the vehicle as it was being taken
21 apart?

22 A Photograph it, touch it. You know, they had the
23 option to take it apart if they wanted to. Everybody just
24 prefers to let Jeremy do it because he's a professional.

25 Q And I will put up 21.37. What is this a photograph

1 of, Mr. Gilberg?

2 A This is the remote control for the inside handle of
3 the door before we took it off the door panel -- the
4 inside door panel. This bolt holds the handle on and
5 there is another bolt under here that holds the remote
6 control assembly under the door.

7 Q Was the handle securely affixed to the remote control
8 assembly before it was removed?

9 A Yes.

10 Q Did everyone have an opportunity to check that?

11 A Yes.

12 Q Everyone have an opportunity to work the handle?

13 A Yes.

14 Q That's the same picture. Is this a photograph 21.84
15 after the panel was taken off?

16 A That's right.

17 Q So the handle has been removed here?

18 A The handle is off the remote control. The remote
19 control is still attached to the door.

20 Q Was it necessary to remove the handle as I did in the
21 courtroom to get the panel off?

22 A Yes.

23 Q Did you examine the remote control assembly?

24 A Well, I say if it's necessary you could probably
25 force it off, maybe break the panel.

1 Q That's not what you did?

2 A The correct way to do it would be to take the handle
3 off.

4 Q Did you examine the remote control assembly?

5 A Yes.

6 Q Did you examine the rod to see if it was anything out
7 of the way about it?

8 A Yes.

9 Q Did you also look at the latch?

10 A Yes, we did.

11 Q I'll put up photograph 21.101. Is that looking back
12 inside of the door towards the latch?

13 A Yes. I was taking a picture of the area around the
14 latch and where the rods connect to the latch and also
15 this is the channel that the window runs in and you can
16 see glass particles from the window. This is the outside
17 handle here.

18 Q Is that the part of the window that's down in the
19 door?

20 A Yes.

21 Q Let me get a little closer to the latch. That's
22 21.95. Did the connection between the latch and the rod
23 appear to be in keeping with proper with the way it was
24 designed?

25 A Yea, it's still intact. This is it. This other rod

1 you see here is a lock control.

2 Q Was there anything different about the latching
3 system with regard to the remote control, the rod, and the
4 latch than it was when it would have been released by
5 Ford?

6 A Yea. It was distorted somewhat due to the crush
7 damage to the door.

8 Q Other than the crush damage -- I'm talking about
9 other than accident-related damage did you find anything
10 different about the door-latching system in Sheriff
11 Riley's vehicle other than it would have been when Ford
12 sold it?

13 A No, it was working fine. The latch was working fine.
14 The handles and linkages would release the latch, but the
15 distances had changed.

16 Q Let me ask you about going back to 21.38. You said
17 you took the handle off and y'all checked it and it was
18 tightly affixed to the vehicle?

19 A Yes.

20 Q Was there anything different about the way the handle
21 was attached to the remote control center?

22 A Yes. This bolt here is not the Ford bolt. It is
23 actually probably a hardware-store bolt.

24 Q Did it have the handle affixed appropriately?

25 A It was firmly attached. The threads on that screw

1 MR. WALKER: Your Honor, I object. I understand this
2 is improper pitting.

3 THE COURT: That's sort of like pitting witnesses.
4 If Mr. Crosby wants to use the deposition when they're
5 here he can obviously ask them those questions.
6 Sustained.

7 Q Will you put up 22.76 for me?

8 All right. What's going on here, Mr. Gilberg?

9 A This took place actually a week or two later after
10 the May 11 exam because when I went to do this which was
11 supposedly going to happen May 11 I forgot to bring along
12 this little box here which is the power supply and I
13 couldn't take the measurements. I had everything else,
14 but I forgot that.

15 This here is a Romer digitizing arm. On the end of
16 it there's a little tiny probe that you can touch to any
17 place on the door and it instantly sends back to the
18 computer the location of that point; so I can find where
19 the end of the push rod is and where the lever on the
20 latch is on the accident-damaged door and then do the same
21 thing on an undamaged door and know how much it's changed
22 on the accident vehicle and that's what we did.

23 Q And are the measurements taken by this device -- What
24 -- You call it a Romer?

25 A The brand is Romer, R-O-M-E-R.

1 Q Does this take precise measurements?

2 A Very precise.

3 Q You said it's all fed back into the computer?

4 A Yea. The numbers that are extracted from all the
5 little instruments and transducers in this arm go into
6 this laptop computer and you can generate a picture of
7 what you're measuring. If you measure like a whole series
8 of points around the perimeter of the door you can see
9 that perimeter in a picture that appears on the computer
10 screen.

11 Q Is this a more precise method of measuring than me
12 taking a tape measure?

13 A It is especially when you have three-dimensional
14 measurements to make like you do here. You know, in other
15 words, you're measuring in more than just the horizontal
16 plane or the vertical plane. You're measuring in both
17 planes.

18 THE COURT: Turn the lights on for me.

19 Q It might not work as well since we have this cover
20 here. Can you point out -- Just generally using this tell
21 the jury what you did in measuring this and did you also
22 measure an exemplar door?

23 A Yes.

24 Q The same door that would -- like one of these that
25 would go into Sheriff Riley's truck?

1 A Right.

2 Q Just generally before we get into your actual
3 measurements just show the jury what you would have done.

4 A If you could turn it so that the end faces the jury.
5 Right. You see the three screws that attach the latch
6 here. Those -- the relationship of those screws doesn't
7 change much on the accident vehicle because the latch
8 itself wasn't much damaged; so you could measure the three
9 screws on this and the three on the accident vehicle and
10 overlay them and they would sit right on top of one
11 another. They would be in the exact same place, more or
12 less; so what's what we did to locate one door and compare
13 it to another door.

14 Then the other thing we wanted to know was where the
15 end of this rod was in relationship to these screws; so
16 that would tell us if the rod had moved towards the latch
17 and that's a measure of how close the latch is to being
18 activated and what we found was the end of the rod in the
19 accident vehicle was 11 and a half millimeters closer to
20 this screw down there than it was in the undamaged door.

21 Q And you're saying after the collision this point --
22 the end of this rod is 11 and a half millimeters closer?

23 A That's right. If you remember yesterday we said the
24 number is somewhere between 12 and 15 millimeters to cause
25 the latch to release.

1 Q Just to be clear as it sits right now the end of the
2 rod is 11 and a half millimeters closer to the latch than
3 it would have been prior to this collision?

4 A Right.

5 Q And you said the distance shown in the court
6 documents between 12 and 15-millimeters?

7 MR. WALKER: Object. I'm sorry. I apologize for
8 interrupting.

9 MR. CROSBY: Do you have an objection?

10 THE COURT: Finish the question.

11 Q The question was what is the distance -- Have you
12 read Ford documents concerning the distance of movement it
13 takes to unlatch the latch in a PN96?

14 A Yes.

15 MR. WALKER: I object to foundation.

16 THE COURT: Overruled.

17 Q What have you ascertained from those documents?

18 A Well, some documents quote a number of 15.6
19 millimeters. Some witnesses have said 12 millimeters.

20 MR. WALKER: Object to the hearsay.

21 THE COURT: Hold on. Hold on. You're asking what
22 Ford documents says; so strike that last comment about
23 what other witnesses said. You can't pit one witness
24 against the other. You can call whoever you want to in
25 here to testify.

1 Q Did Mr. Loschiavo talk about that?

2 A Yes, sir.

3 Q Let's just go to a Ford document.

4 You got a copy of Exhibit 37 in your stack?

5 MR. WALKER: I am trying to catch up with you. I
6 have it somewhere.

7 MR. HENDERSON: Here's an extra.

8 Q Have you reviewed Exhibit 37, Mr. Gilberg?

9 A I have.

10 Q And what is Exhibit 37?

11 A It's a number of pages that refer to comparison of
12 rods and cables.

13 Q And what's the date on that document, sir?

14 A The date on the front page is July 25, 1994.

15 Q Can you just highlight the memo on it there? We're
16 going to come back to this in a minute, but I am going to
17 talk about one specific -- if you'll go to the last page
18 of that document. Well, let's first go to the third
19 before the last page and just highlight that and what is
20 the FMEA, Mr. Gilberg?

21 A It is an acronym that represents Failure Effect --
22 Mode and Effects Analysis.

23 Q And what was the -- from reading this paper what was
24 the subject matter that was being analyzed here?

25 A Rods and cables were being compared as a way of

1 actuating the latch.

2 Q With regard to the rod -- under part name can you
3 highlight that? Not highlight. I'm sorry. Make it where
4 we can read it.

5 What does IS stand for?

6 A Inside; so we're talking about the inside release
7 rod.

8 Q And it says from PN96 and UN93?

9 A Right. PN96 is the F-150 and the UN93 is the
10 Expedition.

11 Q Is it talking about the potential failures there in
12 this document?

13 A Right.

14 Q And what is one of the second one down?

15 A For the rod side it says, Door opens in a crash due
16 to door foreshortening.

17 Q Okay. And then I want to go to the last page where
18 the information is summarized and is this where the
19 information is being compared rods versus cables?

20 A Yea, actually it is all the way through there.

21 Q But it has it side-by-side here?

22 A Yea.

23 Q And we were talking about rods using PN96; correct?

24 A Correct.

25 Q Now can you highlight the box to the right of

1 performance? Right there; the first box to the right.

2 Does this have any information about the amount of
3 foreshortening to latch activation in the PN96?

4 A Yes, it does.

5 Q And what does it -- what do they have there?

6 A It says, Withstands no more than 12 millimeters of
7 door foreshortening. Rods have greater inertia than
8 cables.

9 Q And how much did you measure post-crash in this
10 vehicle?

11 A About 11 and a half millimeters.

12 Q Can you talk with the jury and explain the concept of
13 -- Let me ask you this. How is it then if you measured 11
14 and a half millimeters and this says that you need 12
15 millimeters to unlatch the door, how do you have the
16 opinion that you had rod foreshortening here?

17 A Well, that's really the definition of foreshortening
18 when the distance between the handle, remote, and the
19 latch decreases, and that's what we measured.

20 Q Well, you only have 11.58 millimeters. This says it
21 takes 12.

22 A Well, okay, there's two things we need to look at
23 here. One is that all steel structures have a lot of
24 spring in them. You bend them, they spring back. This is
25 a steel rod. If I bend it it starts to take a shape a --

1 permanent bend -- but if I release it some of that bend
2 goes out of it; so the part that you see here that's
3 called the residual deformation or you might think of it
4 as plastic deformation and then the spring-back, that's
5 the elastic deformation and that's the part that the
6 structure recovers from the bend. Whenever you have a car
7 crash there is some spring-back; so what you measure after
8 the crash is less than what was there when the crash took
9 place. That's one consideration.

10 The other consideration is if you look at the remote
11 control there is an adjustment in it. Let me just snap
12 this clip off. You see the end of the rod is threaded and
13 depending on where you put that rod you could have it as
14 far up as there and as far back as there; so there is some
15 variation in the amount of travel it takes to release the
16 latch and it depends on how it was adjusted when it was
17 put together and it also depends on how much variability
18 there is in the door that it's attached to because not
19 every door is exactly the same dimension. There are
20 production variabilities due to weights. The sheet metal
21 is stamped and welded and you have to have that adjustment
22 to accommodate those variations.

23 Q What does the measurement of 11.58 millimeters of
24 change in distance or foreshortening post-crash tell you
25 about what happened with regard to the movement of the

1 remote control assembly towards the latch in this crash?

2 A I think it could be 100 percent confident that that
3 latch reached the trigger point -- the release point --
4 because there's -- you know, even in the old cars that
5 used to be made of mild steel -- heavier steel than they
6 use now, the high-strength steels they use now -- there
7 was at least 15 percent spring-back in a steel structure;
8 so there is more now because steels are higher strength
9 and springier.

10 Q Did you have a little ruler with you?

11 A I did.

12 Q Does it have millimeters on it?

13 A It does.

14 Q I am not sometimes as good as visualizing millimeters
15 as I am in eighths and quarters of inches. Could I --
16 Well, I don't know if I can read it. If the actual
17 distance is as in this document which is 12 millimeters
18 how much additional movement in the crash prior to the
19 spring-back would we need in order to activate the latch?

20 A Less than a half a millimeter.

21 Q Is it .42 millimeters?

22 A Something like that.

23 Q Do I have that enlarged enough so you can talk with
24 the jury about distance?

25 A Sure, if I can hold my hand steady enough. That's

1 one millimeter. So about---

2 Q You're talking about the distance between those two
3 lines?

4 A Between those two lines. About half of that is what
5 we're talking about.

6 Q Is this in centimeters here?

7 A Yes. Yea, this is one centimeter. Ten millimeters
8 make one centimeter.

9 Q So if this document is correct and it takes 12
10 millimeters, then we only need to move a half of one of
11 those spaces?

12 A That's this distance here.

13 Q The additional movement to unlatch this latch?

14 A Yea.

15 Q And you used the number 15 just now. If it's 15 and
16 we subtract 11.58 how much dynamic deformation do we need?

17 A About -- Well---

18 Q It would three point---

19 A About three and a half maybe, something like this.
20 Not much more.

21 Q And you've measured how much on there? Show us where
22 11.58 would be.

23 A About there to there.

24 Q That's as it sits today?

25 A Yes.

1 Q Mr. Gilberg, I am going to put up Exhibit 24. Can
2 you tell the jury what this is?

3 A This is -- basically it is a computer screen that
4 shows the measurements made on the accident vehicle and on
5 the---

6 THE COURT: Turn the lights down for me.

7 Q Can you just do a general overview of what we're
8 looking at?

9 A Okay. The black outline is the outline of Sheriff
10 Riley's driver door. The green outline is the outline of
11 an undamaged exemplar door. The red rod is the rod in
12 Sheriff Riley's truck and measuring it compared to this
13 screw down underneath the latch and then the green one is
14 in the undamaged vehicle and that's how we get this
15 difference here.

16 Q Were those measurements taken with the Romer arm like
17 we talked about earlier?

18 A Yes.

19 Q And what did the comparison tell you?

20 You can maybe just enlarge the whole door area there
21 just a little bit more.

22 A We matched the two doors with these three screws.

23 Q That's the three screws that we talked about on the
24 end of the door?

25 A Yes. So everything else that doesn't exactly fall on

1 top of where it should is bent. The green is an unbent
2 door and the other lines show the accident door.

3 Q How accurate do you feel that your measurements were
4 that you took in this case with regard to the movement of
5 the remote control assembly towards the latch?

6 A They're very accurate. It is to fractions of a
7 millimeter.

8 Q Anything else you want to talk about here?

9 A I don't think so. That pretty well covers it.

10 Q Mr. Gilberg, I think I asked you this question
11 earlier in the case, but do you have an opinion as to
12 whether to a reasonable degree of engineering certainty as
13 to whether a design defect existed in the 1998 F-150 being
14 driven by Sheriff Riley on the date of this accident?

15 A Yes, sir.

16 Q What is your opinion?

17 A It did have a design defect.

18 Q Do you have an opinion to a reasonable degree of
19 engineering certainty, sir, whether that design defect
20 caused the door to unlatch at impact in this accident?

21 A Yes, sir.

22 Q And we're talking about impact with the Carter
23 vehicle?

24 A That's correct, yes.

25 Q And, Mr. Gilberg, do you have an opinion to a

1 reasonable degree of engineering certainty as to whether
2 the design defect that you've talked about in Sheriff
3 Riley's F-150 made that vehicle unreasonably dangerous?

4 A Yes, sir.

5 Q What is your opinion?

6 A I believe it made it unreasonably dangerous.

7 Q At the time this vehicle was manufactured,
8 Mr. Gilberg, was there a better design, an alternative
9 design that was feasible to Ford Motor Company that would
10 have been safer?

11 A There were many alternative designs but Ford was
12 already using one.

13 Q And what was that?

14 A That was the cable release system.

15 Q What other -- and that's what we talked about
16 earlier; correct?

17 A Yes.

18 Q Let's look at exhibit -- if you can get
19 Exhibit No. 3. Do you got Exhibit 3 in front of you,
20 Mr. Gilberg?

21 A Got it.

22 Q Before I ask you about that why in your opinion, sir,
23 to a reasonable degree of engineering certainty, why is it
24 that you believe that Sheriff Riley's F-150 had a design
25 defect?

1 A Well, because a very small amount of longitudinal
2 crush -- end-wise crush -- in the door caused it to come
3 open and engineers have known about that as a potential
4 danger for decades. They had many alternative designs
5 that wouldn't have come open under the same circumstances.

6 Q Mr. Gilberg, are you saying is it your opinion that
7 every vehicle that has a rod in it in the door is
8 defective?

9 A No, sir. No, sir. There are a lot of rod doors out
10 there that don't come open in similar circumstances, but
11 they have various ways of protecting the rods.

12 Q What was the easiest design alternative for Ford
13 Motor Company with regard to the PN96?

14 A Well, remember Ford has a relatively rare feature
15 called override locking; so that's different than other
16 manufacturers. Other manufacturers could, for example,
17 put in automatic locking in their doors and a door that's
18 locked that doesn't have override locking will not come
19 open under these circumstances even if it had a rod.

20 Q Are you saying that even if Sheriff Riley had his
21 door locked that this would have still occurred?

22 A Yes, but if he were in, say, a General Motors truck
23 with automatic locking it wouldn't have occurred because
24 the door would have been locked. The latch would have
25 been locked and the only way for the door to come open is

1 for the latch to be broken; so you would be able to take
2 advantage of the strength that's designed into the latch
3 to meet the federal standards.

4 Q Now you mentioned just now that the cable would be an
5 alternative design here?

6 A The cable would work with Ford's override locking,
7 yes, because you can't push on a cable and cause the latch
8 to release.

9 Q Have you reviewed historical documents from Ford to
10 have an understanding of their knowledge of cables prior
11 to the manufacture of Sheriff Riley's vehicle?

12 A Yes, sir.

13 Q What is Exhibit No. 3?

14 A This is a letter from 1983 that discusses tension
15 versus compression release rods in the door, but it also
16 has a reference to cables.

17 Q Did it have a date on it?

18 A Yea. It's July 11, 1983.

19 Q Will you go to the second page, Robert? I got it
20 right here.

21 And the date there is July 11 of '83 and does this
22 have -- I'm sorry?

23 MR. WALKER: Your Honor, I was simply going to object
24 as cumulative. This is the precise document that was
25 covered with Mr. Loschiavo.

1 THE COURT: Thank you. Overruled.

2 Q Does this document have information pertinent to
3 Ford's knowledge of cables?

4 A It does.

5 Q And, Robert, the second full paragraph, please.

6 Can you read that into the record, Mr. Gilberg?

7 A It says, The cable-actuated system appears to offer
8 some improvements against latch actuation in impact.
9 Previous cursory studies of this method of latch actuation
10 have indicated that there may be a piece cost penalty;
11 maximum 40 cents per door. However, some cost benefits
12 may be derived from the reliability improvements if cable
13 and components can be assembled by the end item supplier.
14 In addition, application of cables will simplify the
15 inside remote assembly and may reduce latch release
16 efforts.

17 Q That was in 1983?

18 A 1983.

19 Q Let's look at Exhibit No. 7, please, sir.

20 A Okay.

21 Q I think this is already in evidence, but do you
22 recognize this document?

23 A I do.

24 Q Does this document contain information about Ford's
25 knowledge of cable use -- using cables as the link between

1 the inside remote and latch in its vehicles?

2 A Yes, sir, it does.

3 Q What is the date of this, sir?

4 A February 7, 1986.

5 Q And what is the subject matter there?

6 A It's cable-actuated door latch systems is the
7 subject.

8 Q Can you go to the first two full paragraphs there?

9 Start with the following is a summary.

10 Could you publish the pertinent information there,
11 Mr. Gilberg?

12 A The following is a summary of the status of
13 cable-actuated door latch systems. You want me to read
14 all the bullet points?

15 Q The first two, please, sir.

16 A NAAO. That's North American Automotive Operations, I
17 believe. No actions currently in place to adopt a cable
18 system. This is frequently suggested by B and AO as a
19 replacement for compression rod systems with a potential
20 weight and reliability improvement but a cost penalty as
21 cables are more expensive than rods.

22 Then the second bullet point is, There were some
23 prior studies done on cable systems in hardware
24 engineering, but these are not available. We believe that
25 results were that the system was feasible but not cost

1 effective.

2 Q Now, this was 1986?

3 A Yes.

4 Q And yesterday we reviewed crash tests I believe 7290
5 and 7277 where some doors came open?

6 A Right.

7 Q And we talked about Ford putting in cables in those
8 vehicles in '92 through '96?

9 A That's correct.

10 Q And did the cable design work well in that door?

11 A It did its job, yes.

12 Q And I next want to get you to look at Exhibit 115,
13 sir. Do you have Exhibit 115?

14 A Still looking.

15 MR. CROSBY: Lucinda, can you give him a copy of 115?

16 THE COURT: Mr. Crosby, what is the exhibit number up
17 there now, please?

18 MR. CROSBY: That is number --

19 THE WITNESS: Seven.

20 MR. CROSBY: -- seven.

21 Let me pass up 115 to you, Mr. Gilberg. What is
22 Exhibit No. 15, Mr. Gilberg?

23 THE WITNESS: It says PN96 program summary.

24 Q What is a program summary, sir?

25 A It basically outlines what the product is supposed to

1 have and what features it's going to have.

2 Q Does that document have a date on it?

3 A December 18, 1991.

4 Q December 18, 1991?

5 A Correct.

6 Q Let me trade copies with you if you don't mind,
7 Mr. Gilberg.

8 A Okay.

9 Q Can you just highlight the top, Robert?

10 The PN96 is the -- Sheriff Riley's vehicle?

11 A It is.

12 Q And this is in '91 when it was being developed or
13 beginning to be developed?

14 A It's actually just beginning to be defined at this
15 point.

16 Q And I want to go back and look at the page 21. Can
17 you go down to the bottom where it says, Body side doors,
18 handles, and latches, the last one?

19 What did the initial program assumptions have for the
20 PN96 with regard to the door-latching system if you can
21 tell from this document, Mr. Gilberg?

22 A The bottom line says it uses carryover from the PN63
23 which would be the Ranger.

24 Q And that's the Ranger pickup?

25 A Yes.

1 Q And what was the latch in the Ranger pickup?

2 A Well, I'm not sure whether they're talking about the
3 Ranger that was current or the one that was coming. I
4 believe it is the one that's coming because I think the
5 PN63 would be---

6 MR. WALKER: Objection, Your Honor.. If he is not
7 sure, he's not sure.

8 THE COURT: No speculation. Just tell us what you
9 know of your own knowledge.

10 THE WITNESS: I can straighten that out with a chart
11 I have.

12 MR. CROSBY: I can ask a different question.

13 THE COURT: He is going to ask a different question.
14 Go ahead.

15 Q Mr. Gilberg, what is a PN63?

16 A It is a Ranger.

17 Q And did the PN63 have a cable system or a rod system?

18 A From '93 on it had a cable system.

19 Q And from '93 on what type of latch did the Ranger
20 have?

21 A It had the D21 latch which is the same that's in the
22 F-150.

23 Q So in these doors -- this door right here, the PN96
24 door, it has a D21?

25 A Yes.

1 Q And Sheriff Riley's vehicle had a D21 latch?

2 A That's right.

3 Q You got Exhibit No. 109 there? I'm sorry. When I
4 came up there I shuffled your exhibits.

5 A 109?

6 Q Here you go, Mr. Gilberg. It is a possibility that
7 we didn't put it in your stack. Have you reviewed
8 Exhibit 109?

9 A Yes, sir, I have seen this.

10 Q What is that document, sir?

11 A It's titled, PN96 Front Door and Tailgate Handles.

12 Q Publish that to the jury.

13 And what is a PDL, sir?

14 A That's a product definition letter -- product---

15 Q What is the purpose of this document?

16 A Product development letter.

17 Q What is the purpose of the document?

18 A It's to define the product, the changes to the
19 product.

20 Q Can you go to the right side and highlight the right
21 side down to the cursive writing?

22 What is the date here?

23 A It's 8/10/92; August 10, '92.

24 Q I don't know that we're looking at the same thing.

25 A Oh, that's March 19, '93.

1 Q Does this contain any information about any changes
2 to the system in the PN96?

3 A It does.

4 Q And what does it say?

5 A Which part? Do you want me to read the whole thing?

6 Q Dealing with the latch, sir.

7 A Okay. Modified PN63 D21 design with provision for
8 door ajar switches, illuminated entry, and tension rod to
9 the inside handle.

10 Q So is that -- understanding that document, is it
11 changing the PN96 to a tension rod; if that's correct?

12 A It sounds like it is going from the cable design
13 which was the original D21 design to a tension rod.

14 Q Now, did the Riley vehicle have a tension rod in it?

15 A No. As far as I know Ford has never used a tension
16 rod in its pickup trucks for many decades.

17 Q Have you seen one of these documents that changes
18 from a tension rod to a compression rod?

19 A No. We've seen some other references to it, but I
20 don't think I've seen the changed order.

21 Q At least as of 3/19/93 it appears that the direction
22 was to put a tension rod in?

23 A Right.

24 Q Do you have Exhibit No. 13 in front of you?

25 A Yes.

1 Q What is Exhibit 13?

2 A It says, PN96 Tension Versus Compression Rod Study
3 Recommendations.

4 Q Have you reviewed that document?

5 A Yes, I have seen this one. These are the other
6 references I was talking about.

7 Q And in general terms what is the subject matter of
8 this document?

9 A It looks at possibility of linkage activation on a
10 tension rod.

11 MR. WALKER: Your Honor, I object to him just
12 generally characterizing it.

13 MR. CROSBY: I'll rephrase the question.

14 MR. WALKER: If there is something you want to show,
15 I'll be glad for you to show it.

16 Q Read the second sentence. What is the title of this
17 document?

18 A PN96 Tension Versus Compression Rod Study
19 Recommendations.

20 Q We saw just now the product direction letter
21 indicated that a tension rod was to go in the PN96;
22 correct?

23 A That's right.

24 Q And here -- What's second sentence say?

25 A Supported by Ford's historic experience with

1 compression rods.

2 Q I'm sorry, Mr. Gilberg. The first sentence.

3 A Revise PN96 program assumptions to compression rods.

4 Q Did the Riley vehicle have a compression rod?

5 A It did.

6 Q Is there a date on this document?

7 A I don't remember seeing one. I don't see any date on
8 it.

9 Q In reviewing the Ford documents have you been able to
10 determine when the program was revised -- the program
11 assumptions were revised to compression rods? A specific
12 date?

13 A No, I don't know.

14 Q What is the last sentence on this document,
15 Mr. Gilberg?

16 A That says, Design protect for cable-actuated latch.
17 Such a system has inherent advantages which would lessen
18 the effects of both deformation and inertia.

19 Q I am going to get you to look at Exhibit 113.

20 A Okay.

21 Q What is Exhibit 113, Mr. Gilberg?

22 A It is a program letter.

23 Q And what is the subject of the program letter?

24 A Side door latch and actuator strategy.

25 Q Can you enlarge the first third down to reference?

1 Beginning from the top all of the way to reference. Okay.

2 And it is dealing with the side door latch and
3 actuator 1997 and beyond?

4 A Right.

5 Q And does this make any reference to the PN96?

6 A It does.

7 Q And does it -- Is the PN96 included in the vehicle
8 lines section?

9 A Yes. You can find it in there somewhere. It is hard
10 to see it in the dark, but there it is -- second line from
11 the bottom.

12 Q Can you enlarge that? Okay. Let's go -- This is the
13 second page of that document. Robert, can you go down to
14 the summary of recommendations? Highlight.

15 Does it talk about the PN96, Mr. Gilberg?

16 A It does.

17 Q And what does it say, sir?

18 A It says, Commonize UN93, which is the Expedition,
19 PN96 and PHN131 which is a heavy duty truck, front rear
20 door inside handle cable systems. Two latches.

21 Q And if you would, Mr. Gilberg, look back over to the
22 first page of this document and tell me -- Well, you can
23 look on this at the top.

24 Robert, go to the top and see what the date of this
25 document is, the top left.

1 Is that 5/17, 1995?

2 A May 17, 1995, yea.

3 Q May 17, 1995. And what is -- What we just read,
4 Mr. Gilberg, was that a change again to the PN96 with
5 regard to the hardware in the door system?

6 A It was.

7 Q And it was applicable to the 1998 model year?

8 A It was.

9 Q What year was Sheriff Riley's pickup?

10 A 1998.

11 Q If we read that correctly did that indicate that
12 Sheriff Riley's truck was to have a cable?

13 A That's right.

14 Q Did it have a cable?

15 A No, it didn't.

16 Q Have you seen any documents that discuss that
17 override or change this product election -- this program
18 letter?

19 A No, I haven't seen any.

20 Q Can we cut the lights back on?

21 Mr. Gilberg, you indicated that a cable would have
22 been a feasible design for Sheriff Riley's truck?

23 A Yes, sir.

24 Q And, in fact, do you know whether the -- If we
25 removed the actuator from the 1996 door that we looked at

1 yesterday do you know whether it would, in fact, have fit
2 in Sheriff Riley's door?

3 A It will bolt on.

4 Q It will bolt right on?

5 A Yes.

6 Q So if we took the screw out of here like that? Are
7 you saying that this would have actually -- the one that
8 goes with the cable would have actually went in Sheriff
9 Riley's truck?

10 A It will.

11 Q Now what would be missing here to do the alternative
12 design to keep the PN96 hardware?

13 A Just the older version of the D21. I mean, you could
14 actually get a cable D21.

15 Q And cable such as we have in this '96 door?

16 A Right. That's a cable, but it's attached to the
17 maxi-latch, the older maxi-latch. You could get a cable
18 version of the D21.

19 Q Do you have Exhibit 126 there in front of you?

20 A Yes, sir.

21 Q What is Exhibit 126?

22 A This is crash test number 10826.

23 Q Can you tell the jury what date it was run on?

24 A The test date was September 10, 1997.

25 Q September 10, 1997?

1 A Yes, sir.

2 Q And was that a crash on a PN96 vehicle?

3 A It was a right-side impact at 33.8 miles an hour of a
4 PN96.

5 Q And that date was September 10, you said?

6 A September 10.

7 Q And when was Sheriff Riley's vehicle manufactured?

8 A His was in October of that same year.

9 Q I will put up Exhibit 21.40. Can you highlight the
10 top corner there?

11 THE COURT: Turn the lights off for me. That's good.

12 THE WITNESS: That is the date of manufacture of
13 Sheriff Riley's truck.

14 Q So it would have been October of '97 -- sometime in
15 October of '97?

16 A Correct.

17 Q And the date of this crash test report was
18 September 10 of '97; correct?

19 A Yes.

20 Q What type of -- It was a PN96. Was there any
21 difference between the vehicle being crashed, tested in
22 crash test 10826 and Sheriff Riley's truck?

23 THE COURT: Turn the lights back on.

24 Q Let me ask you this. Can you look at photo 126A.11?

25 A 126A.11. Yes, there is a difference.

1 A That's right.

2 Q Let's go on down, Robert.

3 Then the PN63 that we were talking about earlier --
4 that's the '93 Ranger that you were talking about?

5 A Right between '92 and '93 the Ranger got the D21
6 latch; so it didn't get the D21 until '93, but it had a
7 cable in '92.

8 Q Mark, Mustang, Windstar, Continental?

9 A Correct. Those were all as new products phased in
10 the D21 latch that got the cable. The only one that
11 didn't get it as a new product was the F-150. I said the
12 F-150 -- Also, the UN93 which is the Expedition which is
13 really -- the front half is the same as the F-150.

14 Q Was there any vehicle that Ford manufactured
15 according to this document that once it went to cables
16 went back to rods other than the PN96?

17 A No.

18 Q Mr. Gilberg, do you hold an opinion to a reasonable
19 degree of engineering certainty that a cable design was
20 feasible for use in the PN96 at the time that Sheriff
21 Riley's vehicle was manufactured?

22 A Yes, sir.

23 Q What is your opinion?

24 A It was feasible.

25 Q Do you hold an opinion as to whether that design

1 would have prevented the door from coming open in this
2 crash?

3 A It would have in this crash, yes, sir.

4 Q Mr. Gilberg, do you have an opinion to a reasonable
5 degree of engineering certainty as to whether that cable
6 design was cost effective -- would have been affordable to
7 Ford Motor Company to put in the 1998 F-150?

8 A I have an opinion, yes.

9 Q What is your opinion?

10 A It was cost effective.

11 Q Were there any obstacles with regard to -- Were there
12 any risks associated to your knowledge with the use of the
13 cable system and risk of safety wise in the 1998 PN96?

14 A No safety risks associated with the cable system.

15 Q Would it have compromised the utility in any manner
16 of the door-latching system in that vehicle?

17 A No, sir. It would have been invisible anyway.

18 Nobody would know --

19 Q The function would have been fine?

20 A -- without taking it apart.

21 Q Can we cut the lights back on?

22 Mr. Gilberg, is this a PN96 door?

23 A It is.

24 Q Is it the same size dimension-wise as Sheriff Riley's
25 door?

1 Q And there is no dispute in the mid 1990's there were
2 Ford vehicles that had cables and Ford vehicles that had
3 rods?

4 A That's -- Yes, that's true.

5 Q You understand that, don't you?

6 A Sure.

7 Q For example, the Lincoln Towncar had a rod?

8 A That's right.

9 Q All right, sir, but as far as pickup trucks go the
10 Chevy pickup trucks all had rods; correct, sir, in that
11 timeframe?

12 A In the mid 90's.

13 Q Yes.

14 A Yes.

15 Q And the Dodge trucks?

16 A As far as I know. I haven't gone through many of
17 those.

18 Q The Toyota trucks?

19 A I'm not sure. Some -- I know there are some
20 reference to Lexus and Toyota in those documents that some
21 of the vehicles had cables. I am not sure which ones.

22 Q So as we sit here you don't dispute that -- I think
23 it's called the T100 -- Toyota had a pickup truck back
24 then that had a rod? You don't dispute that do you?

25 A No, I don't know really.

1 Q And Nissan came up out with a pickup truck in the
2 90's and it had rods?

3 A The ones that I saw in the '90's had rods, yes.

4 Q And a lot of the SUV's back then had rods -- like the
5 Chevy Blazer had rods?

6 A Yes.

7 Q Dodge Durango had rods?

8 A I'll take your word for it. I never looked at one.

9 Q So, in fact, in the mid 90's nearly 90 percent of the
10 cars on the road had rod linkages?

11 A That's probably close to correct. I don't know the
12 exact number myself.

13 Q And some of them were tension rods and some of them
14 were compression rods?

15 A Ford mostly used compression rods. The other
16 manufacturers mostly use tension rods.

17 Q And you've told me before that overall you thought
18 the switch to compression rods was an improvement over
19 tension rods?

20 A It was. That took place around 1970, '71.

21 Q That was an improvement Ford made?

22 A Yes.

23 Q All right. So no doubt there is no suggestion here
24 that the rod design used by Ford in the mid-1990's was in
25 any way unusual if you look at the industry as a whole?

1 The predominant linkage was the rod.

2 A It was good 70's technology.

3 Q Now you have told this jury that you are an expert in
4 forensic engineering, that you have spent the last 20 to
5 25 years looking at door latch systems; correct, sir?

6 A Door failures for about 25 years, yes sir.

7 Q And certainly you understand and I believe you
8 responded yesterday to a question that there is a
9 difference in the door latch engineering world between
10 saying a door unlatched and saying that a door opened?

11 A Yes, sir.

12 Q A door can unlatch. It can move the handle or it can
13 otherwise unlatch through some deformation without the
14 door coming open?

15 A That's right.

16 Q But in this case the door according to you came open
17 on the initial impact?

18 A No. It came unlatched on the initial impact.

19 Q It came unlatched on the initial impact. All right,
20 sir.

21 A The latch came open.

22 Q And you recall I took your deposition?

23 A Twice.

24 Q Twice. Twice. The first time I took it was
25 November 23, 2010. Do you have a copy there?

1 latch designs from various manufacturers?

2 A Well, from those that have experienced unwanted door
3 openings and have been brought to me, yes.

4 Q Well, but you've studied different door latch designs
5 from different manufacturers, yes or no? From all of the
6 major manufacturers?

7 A No, not from all of the major manufacturers and not
8 all of the designs from any specific manufacturer -- just
9 the ones that are involved in ejections and unwanted door
10 openings.

11 Q So you don't take it upon yourself to generally
12 educate yourself as to how -- what door latch designs are
13 available from different manufacturers. You just look at
14 the ones that someone brings you in a lawsuit?

15 A I try to keep tabs on what's out there, but, no, I
16 don't -- you know, I don't study them all.

17 Q All right, sir. You must have looked at hundreds, if
18 not thousands, of different door latch designs?

19 A No. There aren't that many, to be truthful. If you
20 look at the D21 that became the corporate door latch for
21 Ford and for a period of time that was in most of Ford's
22 products.

23 Q Let me ask it a different way. You must have looked
24 at hundreds, if not thousands, of different model doors?

25 A Okay.

1 Q Now, sir, as we sit here can you identify any
2 American-made car or truck manufactured prior to 1998 that
3 you'll agree with me has a well-designed, non-defective
4 door latch system?

5 A I wouldn't be able to do that because that's not what
6 I do. I look at the bad actors, not the ones that are
7 successful.

8 Q All right. So you come into court today and
9 yesterday and you have said that you had the credentials
10 to label the Ford truck and the Ford door latch system
11 defective and you've done that.. You say it's defective?

12 A Yes, sir.

13 Q But you can't identify a single one American-made car
14 or truck manufactured prior to 1998 that you say is not
15 defective?

16 A Well, if I were sponsored to do that, then I suppose
17 I could, but I haven't had that as a job for the last 25
18 years.

19 Q You---

20 A My job has been looking at those that fail.

21 Q I apologize. I didn't mean to interrupt you. Can
22 you identify a single car or truck worldwide manufactured
23 prior to 1998 sold in the ordinary course, put into
24 production that you agree has a well-designed,
25 reasonably-safe door latch system?

1 A As I said I couldn't answer that question. It's not
2 been my job.

3 Q So 25 years of looking at doors you haven't come
4 across one?

5 A Well, if they don't fail, then they don't come to my
6 door; so the ones I see are the bad ones.

7 Q Every one that fails is a bad one?

8 A No, not necessarily. Everything has a mechanical
9 limit. There are some times that limit is exceeded and
10 then there may not be a problem, but in the case of
11 Sheriff Riley's door the latch wasn't broken. It was just
12 tricked into opening.

13 Q All right, sir. We have talked about this 1996 door
14 from Ford with the door latch system. Do you have an
15 opinion that that door latch system and door is well
16 designed and non-defective?

17 A No. No, I don't do that, but I will say that had
18 that latch system been in Sheriff Riley's door it wouldn't
19 have come open in this collision.

20 Q In this one collision?

21 A Yes.

22 Q But you're unwilling to say that the design as a
23 whole is a good design for all reasonably foreseeable
24 crashes?

25 A I am unwilling to say that. That's correct, yea.

1 Q No, but you've testified that cable systems are
2 defective?

3 A Keep in mind that this door right here when it comes
4 equipped with a cable is still also equipped with a rod;
5 so, yes, I could call that door defective for reasons that
6 had to do with the rod and not the cable.

7 Q Is it your testimony here today that cable-actuated
8 systems are impervious to any failure rate?

9 A I didn't say that.

10 Q All right. Every engineering component has failure
11 modes?

12 A That's correct.

13 Q And good engineers -- and you know this -- good
14 engineers look at the failure mode before they put the
15 part out to the public?

16 A Well, they do now. This is a relatively new
17 discipline since 1960's.

18 Q Since the 1960's, but in the 1990's certainly they
19 did, and you've looked at the Ford FMEA. What is FMEA?

20 A Failure Mode and Effects Analysis. It means looking
21 at the ways that a part cannot do its job and trying to
22 estimate what the likelihood of that is and then what the
23 consequence of that is.

24 Q And that's a good thing?

25 A That's a good procedure developed in the space

1 Q And you agree that's a good thing?

2 A If you learn from it, it is a good thing.

3 Q All right, sir. Now, let me ask you and make sure I
4 understand is it your opinion that the use of the rod
5 linkage on the PN96 pickup truck in 1998 renders that
6 truck defective?

7 A No, sir. What renders it defective is that it fails
8 without even stressing the latch.

9 Q And what about the system then made that happen in
10 your view?

11 A It is sensitive to longitudinal crush.

12 Q What is sensitive to longitudinal crush?

13 A The door. If the door is crushed longitudinally as
14 little as one inch you're going to open the door or
15 unlatch the door, I should say.

16 Q So---

17 A Let's be precise here.

18 Q So the rod linkage that we've been hearing about for
19 two days, is it your opinion that that is a good linkage
20 to use?

21 A Good, bad, or indifferent, it is only a problem if it
22 causes the door to open in a reasonably foreseeable
23 accident and causes or enhances an injury and that could
24 have otherwise been prevented.

25 Q Mr. Gilberg, I apologize. I am not communicating

1 well. My question is this. Does this rod linkage on the
2 1998 Ford F-150 pickup truck that is at issue in this
3 case -- do you believe that this rod linkage renders the
4 truck defective and unreasonably dangerous?

5 A It is the whole system that makes it unreasonably
6 dangerous. The rod linkage -- You could build it with or
7 without the rod linkage. As long as the rod linkage were
8 protected in a longitudinal crush situation it wouldn't
9 matter, but in this door it isn't.

10 Q All right, sir. As long as the rod linkage is
11 protected it is okay. You don't have any beef with rods?

12 A No. No, you could use -- As I said there are
13 hundreds of ways this could be done. Rods are just one of
14 them, but there is nothing inherently wrong with rods if
15 you design the system to account for their weaknesses,
16 their vulnerabilities.

17 Q So we could look at Ford documents all day long that
18 mention rods, but that's not really your beef. Your beef
19 is is the system adequately protected?

20 A That's right. Is it going to open up in a reasonably
21 foreseeable accident and cause or enhance an injury.

22 Q And some of those documents, in fact, talk about
23 packaging of the rod, don't they?

24 A Yes.

25 Q Now, do you recognize this part?

1 A Yes.

2 Q What is this?

3 A It's the 214 intrusion beam that is used in the PN96
4 door?

5 THE COURT: Mark it the next number for ID or
6 demonstrative.

7 (Whereupon, the item was marked for demonstrative
8 purposes only.)

9 Q I have put a sticker on here that says Defendant's
10 Exhibit 28 and for now that's just a demonstrative aid.

11 May I approach, Your Honor?

12 No doubt about it this is an intrusion beam from an
13 F-150 pickup truck. I know you didn't take it out, but
14 that's -- you recognize that?

15 A Yes, I do.

16 Q It's welded at both ends; correct, sir?

17 A Spot-welded to the door structure at the ends.

18 Q So you can see where someone ground off the welds to
19 actually pull this out of a door.

20 A That's right.

21 Q Do you know how much this weighs?

22 A No.

23 Q Have you done any compression testing to see how much
24 compression force it takes to squish one of these?

25 A No, but that's not really relevant to what happens in

1 this type of crash because that's -- that beam is located
2 just under the outer skin of the door and it's loaded --
3 the welds are loaded in shear and when the door is
4 compressed it doesn't provide much support for the whole
5 door structure.

6 Q Mr. Gilberg, I am delighted to listen to your
7 answers. I would ask that you listen to my questions.
8 Did you do any testing to determine how much force it
9 takes to compress this beam?

10 A No.

11 MR. WALKER: Your Honor, may I publish this beam to
12 the jury?

13 I don't know if any one of you want to see this. If
14 any of you want to hold it, you're welcome to.

15 THE COURT: Put it right there. You may continue.

16 Q Now you understand, don't you, that in our country we
17 have a regulatory agency -- NHTSA -- the jury has heard a
18 little bit about it -- the National Highway Traffic Safety
19 Administration. What is that agency?

20 A Yes, sir, I understand that, and it's the agency that
21 promulgates regulations having to do with automotive
22 safety and other forms of transportation.

23 Q And NHTSA does studies from time to time about
24 different aspects of automotive safety?

25 A Yes.

1 Q And sometimes they have performance requirements for
2 vehicles and sometimes they have actual design
3 requirements for vehicles; correct?

4 A No, I think they are required to specify performance
5 rather than design requirements.

6 Q Well, you understand that as a result of NHTSA
7 regulations that intrusion beams such as that were
8 required for passenger cars in this country -- not trucks,
9 passenger cars -- starting in the 1970's.

10 A Yes, I am not sure. I am not real familiar with the
11 all of the details of 214, but I do know that it first
12 applied to cars.

13 Q And you understand that by including that intrusion
14 beam in a vehicle one of the things that NHTSA wanted to
15 do was to reduce intrusion; i.e., when you get hit in the
16 side, if you get T-boned in the side it resists something
17 coming into your vehicle?

18 A Yes, sir, and that's exactly what that beam is
19 designed to resist.

20 Q But you also understand that NHTSA has -- in looking
21 at this has said that that also has the benefit of
22 reducing doors coming open?

23 A For whatever reason that's -- that may be correct,
24 for example, for a tension rod systems where intrusion
25 into the door is what caused those to open.

1 Q Yes, sir.

2 A Okay.

3 Q Did you get my to question or do you want me to
4 re-ask it?

5 A Please re-ask it.

6 Q Mr. Gilberg, can you tell me, can you tell the jury
7 whether you can identify a single crash test -- frontal
8 crash test with longitudinal loads whether it's a
9 30-degree offset, 40-degree offset, 30-degree barrier,
10 90 degree -- can you identify a single one of those with
11 the PN96 vehicle with the intrusion beam where you have
12 determined by looking at the photographs and report and
13 video that there was foreshortening of the door causing
14 the door to open?

15 A Well, I don't think you'll find any report that says
16 that on that --

17 Q Okay.

18 A -- particular crash mode.

19 Q And have you determined that that is what happened in
20 any of those crash tests from you personally looking at
21 them?

22 A Yea, it happened in some.

23 Q Which ones?

24 A Well, the one we just looked at.

25 Q 10828?

1 A Yep.

2 Q Okay. Any others?

3 A Well, we have three others like that that don't have
4 reports; so I don't know about those, but I don't have any
5 others.

6 Q Okay. So you can't as we sit here identify them?

7 A Not for frontal crashes; side crashes, yes.

8 Q All right, sir. And I want to ask you, you talked
9 yesterday about -- and this is Defense Exhibit 170, but it
10 was previously identified as a Plaintiff's Exhibit. It
11 is a crash test report for crash test 7277. Do you
12 recognize that?

13 A Yes.

14 Q And the photographs for that -- Let me find one that
15 has the crash test number on it. Yea, 7277.

16 Megan, can you bring up just briefly the start of
17 crash test 7277?

18 This is the 35-mile per hour barrier. Again, this is
19 on one of those old version trucks without the intrusion
20 beam; right, sir?

21 A Probably without the intrusion beam.

22 Q All right. All I want to ask you is this: You told
23 us that by looking at the crash test itself you could not
24 tell whether the door came open or not?

25 A That's right.

1 is -- corresponds to where the opening in the latch hit
2 down on the striker?

3 A Yes.

4 Q So we know when there was that downward force between
5 the latch and the striker that the striker was necessarily
6 inserted into the latch opening?

7 A That's right.

8 Q And one opportunity for that to happen in this case
9 is in the rollover. We know that the truck rolled over
10 and there wasn't a whole lot of contact on the passenger
11 side; correct?

12 A It's not as damaged as the driver's side, if that's
13 what you're saying.

14 Q And then it rolls on over and Mr. Richardson said it
15 was at a slight angle, but then we know it hit down on the
16 top of the truck in the area of the A-pillar and it's -- I
17 understand it's Mr. Richardson's contention that the door
18 was open at that point, but whether it was open or closed
19 there was a force pushing on the A-pillar of the truck?

20 A Yes.

21 Q And if the door was closed at that point that would
22 tend to push the door -- the door is upside down; so it
23 would be pushing the door upward, but relative to how we
24 think of a door in a truck it is pushing down against the
25 striker?

1 vehicles you can get the parts cheaper and if you're only
2 selling a few of a particular model it might cost more?

3 A That's true.

4 Q All right, sir. And what Ford says if you go down to
5 the next one and just blow that up -- The outlook -- not
6 actively pursuing it at that time; right? That's what it
7 says?

8 A Right. Correct.

9 Q But they're looking at -- there are multiple options;
10 right? You have tension rods, compression rods, and
11 cables?

12 A Well, before 1968 Ford did use tension rods.

13 Q Yea, and we talked about that and those are different
14 options that in the late 80's and early 90's remained and
15 were used by different suppliers?

16 A Well, Ford pretty much dropped tension rods in '71.

17 Q Right and you said that was a good thing?

18 A Well, it had a positive influence on Ford's accident
19 record.

20 Q By the way, have you brought with you any statistical
21 studies that show that the doors on the Ford F-150 are
22 more likely that come open in a wreck than the doors on
23 any other vehicle?

24 A I probably got some statistics in here, but I don't
25 think I know of anything like that.

1 A Sure, many different groups under the technical
2 publications area.

3 Q All right, sir. Have you brought -- Do you have any
4 papers where anyone has published an SAE paper that says
5 that the industry should not use rod linkages back in the
6 90's?

7 A I'm not aware of any, but I can't think of any reason
8 why someone would do that. A rod system could be made
9 safe if it were protected against crush.

10 Q All right, sir. Now you can take that down, but,
11 again, the date of this Plaintiff's Exhibit 7 was 1986.
12 Can you bring up Plaintiff's Exhibit 3, please?

13 This one actually I had looked at this date up here,
14 but that's not the date it was created?

15 A No.

16 Q I'm looking over -- if you look at the second page it
17 is actually 1983; so I've gotten these in reverse order.
18 Go to the second page just to show the date. Can you show
19 the second page just at the date at the bottom?

20 So this is 1983 and -- now if you could go back to
21 the first page please.

22 Again, this is a document that was referenced in your
23 testimony and it's talking about tension versus
24 compression inside release; correct, sir?

25 A Correct.

1 Q And tension versus compression again is not just
2 cable as opposed to rod. It could be tension rod as
3 opposed to compression rod?

4 A Well, there is a reference in here to cables, but I
5 think the title there initially refers to rods.

6 Q All right. And then if you could bring up this
7 section. Just highlight it. On numerous occasions Ford
8 has been cited by independent experts and industry leaders
9 in the field of side door-latching system. That's what it
10 says; right?

11 A Yes.

12 Q And, again, talking about General Motors and
13 Chrysler, at that time they had tension rods?

14 A Well, I'm not sure that all General Motors and
15 Chrysler vehicles had tension rods, but the majority of
16 them did.

17 Q Okay. And there is an attachment to this paper --
18 attachment two -- which was exhibit and this -- Can you
19 highlight this: Advantages and disadvantages of tension
20 versus compression door inside release rods.

21 Again, this is referring not at all to cables but to
22 a tension rod versus a compression rod?

23 A Correct.

24 Q You can take that down.

25 Advantages of tension rods. What is the first

1 advantage?

2 A It's cheaper.

3 Q It's cheaper, but Ford didn't use the cheaper, did
4 it?

5 A It used compression rods.

6 Q Which were more expensive?

7 A As compared to tension rods, yes.

8 Q All right, sir. And if we could go to Plaintiff's
9 Exhibit 10, please.

10 This is another analysis internally at Ford. It says
11 it's preliminary about some of the different aspects of
12 cable linkages and rod linkages; correct?

13 A That's right.

14 Q And can you highlight right in that area?

15 Due to flexibility of cable systems placement of the
16 inside remote can be totally independent of the latch,
17 greater advantage to styling. Do you understand when they
18 refer to inside handle remote that means the inside
19 handle?

20 A Well, the mechanism that the handle attaches to, yes.

21 Q I just want to -- Mr. Gilberg, this is Defendant
22 Exhibit 189. I will represent to you that it's a
23 photograph from one of the crash tests that was played
24 last week and I believe it's very similar to the door you
25 showed, but you pointed out that this is a cable; right?

1 Q That's what you've been talking about?

2 A That's right.

3 Q And there is in the section that says verification
4 plan monitor vehicle crash testing; correct, sir?

5 A Yes, it does.

6 Q All right. If we could now go to Plaintiff's
7 Exhibit 12, please. If you could just blow up this top.

8 This document, Plaintiff's Exhibit 12, is talking not
9 about the PN96 truck that Sheriff Riley was driving but
10 the predecessor model -- the '92 to '96 version of the
11 F-series; correct sir?

12 A Let me check. Let me read that. Yes.

13 Q And what that document is all about is documenting,
14 describing a problem they had with the cable linkage
15 system on the '92 F-Series?

16 A Yes. That was the first year that a cable was used
17 in a domestic Ford product.

18 Q And what they found out was when they put it out in
19 the field water could get in and in the cold climates that
20 water could freeze up the cable?

21 A Correct.

22 Q And Ford had to conduct a recall. You're aware of
23 that?

24 A Yes. There was a recall of products that hadn't been
25 moved off the lots at that point.

1 Q And that was the -- the recall itself was at the end
2 of 1991 or early 1992 after the vehicles had actually been
3 sold; right?

4 A I think it was in November or thereabouts.

5 Q Of 1991?

6 A 1991.

7 Q All right, sir. And you told the jury that it takes
8 several years to develop a new vehicle; correct, sir?

9 A Yes.

10 Q So there's no dispute that in 1991 or 1992 Ford was
11 already starting the process of designing the PN96 vehicle
12 that was going to come out three or four years later?

13 A It seems like the paperwork starts -- paper trail
14 starts around '91.

15 Q Okay, sir. And if we go to Plaintiff's Exhibit 37,
16 please -- if you could go to -- Again, this is another one
17 of those papers in 1994 where Ford is looking at different
18 options on using rods versus cables?

19 A Yea. These were engineers from the Econoline group,
20 I believe.

21 Q Yes, sir. And if you could go to page three of that,
22 please. Can you just highlight this bottom section so we
23 can see this handwriting? Can you just do just the bottom
24 section?

25 Under disadvantages of cables someone had typed in

1 higher cost, but one of those engineers had written in
2 cable itself plus water shield overall either way. All
3 right, sir.

4 If we could go to Plaintiff's Exhibit 13, please, and
5 you mentioned several things about this document which --
6 if you can blow this up so we can see the top.

7 PN96 tension versus compression rod study. Again,
8 they're talking about tension rod or a compression rod.
9 "Latest crash data is positive to neutral with respect to
10 compression rod feasibility," correct, sir?

11 A Yes.

12 Q And if we can go to page three of that document,
13 please, sir. Are you able to spin that one? Blow that up
14 so we can see it.

15 Again, Mr. Gilberg, the concern -- This is a
16 FMEA-type document; right? Doors may open due to door
17 foreshortening caused by front impact, correct, sir?

18 A It's not a formal FMEA, but it has some of the
19 elements of it.

20 Q All right. But that's the concern -- doors may open
21 due to foreshortening caused by front impact?

22 A Yes.

23 Q What is the remarks? Results show that all truck
24 data available to date would indicate that foreshortening
25 can be managed in the latch design. Did I read that

1 correctly?

2 A Yes.

3 Q All right, sir. Now there was a document that was
4 shown in opening, but I don't know if you have referenced
5 it. I want to ask you if you know what it is.

6 MR. CROSBY: Plaintiff's Exhibit 121.

7 MR. WALKER: May I approach, Your Honor?

8 THE COURT: You may.

9 Q I just ask you if you're familiar with that document?

10 A I have seen it.

11 Q And that's a document that lists out a lot of crash
12 tests that were performed or were planning to be performed
13 on the PN96 truck and other vehicles?

14 A Yea. It's a -- it looks like a verification plan for
15 testing.

16 Q All right. And reference was made to 1997 PN96102
17 cable delete verification. Do you see that?

18 A Yes.

19 Q You're aware that there are lots of different cables
20 in a truck?

21 A Oh, yea. Ford has been using cables since Model T
22 days to operate the brakes.

23 Q Right and there are other things in the truck that
24 have cables?

25 A Hood release, sometimes fuel door releases. There

1 on.

2 THE COURT: I'm just trying -- I'm not -- Make your
3 objection, Mr. Crosby.

4 MR. CROSBY: Your Honor, my objection would be, one,
5 that it would be pitting witnesses. I don't think that's
6 his job to criticize Mr. Loschiavo and also there is no
7 evidence that Mr. Loschiavo was involved in design of this
8 truck.

9 THE COURT: I'll sustain it.

10 Q Mr. Gilberg, do you know the identity of the
11 engineers at Ford who designed the PN96 door latch system?

12 A Well, there were a number of them. I know some that
13 were involved, but that's all I can say.

14 Q And you acknowledge that they were following a good
15 practice of using a failure mode effects analysis?

16 A Apparently they did use an FMEA, yes.

17 Q And you know that they were testing their designs?

18 A Testing them down to the standards, yes.

19 Q Well, you say down to the standards. I think we
20 agreed on Friday that there were a number of tests that
21 were done that were not required by any standard?

22 A Many times tests are conducted because a standard is
23 coming or proposed and the company wants to know its
24 position relative to approaching requirement in the
25 standard; so that's not unusual. I did that when I worked

1 Q All right, sir. Now, one of the things that
2 contributed to that trim panel coming in like that was
3 when -- How much did this truck way?

4 A You got me:

5 Q Four thousand pounds, maybe? Maybe more?

6 A I would say in that range.

7 Q And you said the entire weight of the truck came down
8 on the mirror and busted off that mirror and pushed that
9 mirror in and we've got a 3-inch mark where it's coming in
10 and pushing on the trim panel; correct, sir?

11 A Yes, there is a mark there that I think came from the
12 mirror.

13 Q And that dislodged the trim panel?

14 A Possibly.

15 Q When you found it, it had been dislodged?

16 A That's right.

17 Q All right, sir.

18 A It could have also been dislodged by the frontal
19 impact.

20 Q Now, when I got here this morning I noticed you were
21 making some measurements with a micrometer. Have you made
22 any measurements of the intrusion beam, anything that
23 affects your opinions this morning?

24 A I didn't make any measurements this morning.

25 Q Okay. I apologize. I thought you were. Now, on the

1 Q You can have them on Mercedes sedans?

2 A I have never seen one, but I suppose it's possible.

3 Q You can have them on Chryslers?

4 A Yes.

5 Q You can have them on Toyotas and Hondas and Mazdas
6 and Hyundais; correct, sir?

7 A Yes.

8 Q And the mere fact that a door comes open in a crash
9 when subjected to crash forces does not mean that the door
10 has a bad design?

11 A No. When the latch is destroyed, it doesn't mean it
12 has a bad design. It just means it was overloaded. The
13 question is how much load can it withstand then becomes
14 important.

15 Q All right, sir. Now, you know that in the 1990's the
16 National Highway Traffic Safety Administration was
17 studying the performance of doors in crashes?

18 A Well, they've done it all along since the 1960's.

19 Q Right. But there was a particular time that they
20 actually published some study papers and one of them they
21 used one of your test mechanisms?

22 A Yes. Actually, they referenced me in two of their
23 reports.

24 Q And in none of those reports did they recommend not
25 using rod linkages?

1 Kenny, we're all set.

2 I am going to swing this just over here in front of
3 the jury. Mr. Gilberg, what you have done is cut this
4 entire section of sheet metal all the way around and
5 attached it to your little push rod; correct, sir?

6 THE WITNESS: That's what my assistant has done, yea.

7 Q And, basically, this whole piece moves freely. It's
8 not attached to the trim panel or any structure of the
9 door, is it, sir?

10 A It's guided to move parallel to the door.

11 Q It's guided to move parallel and the attachments at
12 the front have been taken off?

13 A Are you referring to the hinge? That's where the
14 hinge bolts.

15 Q And, in essence, your model is no different than if I
16 had the handle attached or anything else just going like
17 that, but you have just cut all of this out so -- What's
18 the point of cutting all of this out? I mean, that's not
19 the door. It is modified.

20 A So you can demonstrate the failure mode and do it
21 repeatedly without having to get a new door every time you
22 do it.

23 Q All right. Sheriff Riley's truck, obviously, did not
24 have any of these cuts?

25 A No.

1 Q The intrusion beam was part of what was involved in
2 the crash and it's not involved in your demonstration;
3 correct, sir?

4 A Well, Sheriff Riley's door was also buckled
5 tremendously up there, buckled down here, buckled here.
6 It shows lots of signs of being crushed.

7 Q Another place you cut actually -- you cut all of this
8 back here; right? I'm sorry. Mr. Buckingham cut all of
9 this loose, too?

10 A Right. Both side of the handle.

11 Q So, essentially, it's free-floating and it's guided
12 just to push right on that rod. You're getting one to one
13 push. All you're doing is pushing on the rod?

14 A Well, one to one. That's the point of the scale on
15 the other side.

16 MR. WALKER: All right, sir. That's all the
17 questions I have for you. Thank you.

18 THE COURT: All right. Mr. Crosby, redirect.

19 REDIRECT EXAMINATION

20 BY MR. CROSBY:

21 Q While we have this here, Mr. Gilberg -- if it is okay
22 with Your Honor I'd like to just point out one thing while
23 we got it here.

24 THE COURT: Ask him questions.

25 Q Mr. Gilberg, the purpose of creating Exhibit 5F --

1 Demonstrative Exhibit 5F -- was I think you just said to
2 demonstrate the mechanism of door foreshortening?

3 A Yes.

4 Q What happens?

5 A Correct.

6 Q And when this is pushed back, can you explain how the
7 measurements that we talked about -- the
8 11.5 millimeters -- how this would with be reflected in
9 the crush of the door?

10 A Sure. Basically, it says that the end of this rod
11 instead of being there is like there.

12 Q And that's how it sits today?

13 A Yes.

14 Q And when that rod moves closer if we look at the back
15 of it -- I think we can see in there. Well, yea. We can
16 see it up here. Can you come on the backside now to
17 demonstrate and I'll put my finger -- This is where the
18 rod attaches to the latch where my finger---

19 A Yes. That's kind of hidden by the window channel.

20 Q Take it back forward.

21 A This way?

22 Q Bring it back. So what's happening to the end of the
23 rod relative to the latch?

24 A It's moving closer to the latch.

25 Q And when it moves closer to the latch what does that

1 rear door beams on the response of the structure during
2 dynamic side impact (FMVSS214) scenarios.

3 Q Okay. And that's the side impact; right?

4 A Yes.

5 Q The 214?

6 A Yes.

7 Q What this beam is called -- the 214 beam and what was
8 the conclusion?

9 A Downgauging front door beam replacing vertical door
10 beam made of plannja high strength with a beam of cold
11 rolled steel low strength and removing the third door
12 horizontal beam do not have significant effects on door
13 intrusion, rocker pulses, and their possible influences on
14 occupant performances.

15 Q And then under recommendation?

16 A Based on analytical data we recommend the following:

17 A vertical beam made of cold rolled steel to a beam of
18 plannja, downgauging the horizontal beam from 2.1
19 millimeters to 1.8 millimeters, and down gauging third
20 door horizontal beam.

21 Q Again, what was the date of this document?

22 A This was March 19, 1997.

23 Q And when it's talking about downgauging from
24 2.1 millimeters to 1.8 millimeters, what aspect are we
25 referring to there, Mr. Gilberg?

1 A The thickness of the steel that that beam is stamped
2 out of is to be reduced.

3 Q The thickness of this steel here?

4 A Right.

5 Q In this direction; right?

6 A Right.

7 Q And do you know what I have in my hand?

8 A Yes.

9 Q What's this?

10 A That's a dial caliper.

11 Q And what is a caliper used for, sir?

12 A It's for measuring thicknesses between zero and about
13 6 inches.

14 Q And if I zeroed it out and brought it back just say
15 to area right in here would that be a way to measure this
16 beam?

17 A Yes.

18 Q The thickness?

19 Your Honor, may I approach?

20 Would you read to the jury what my caliper is
21 reading? Publish that, sir.

22 A It's 2.11-millimeters.

23 Q 2.11 millimeters. So the beam that Mr. Walker and
24 Ford brought into the jury was a beam prior to any
25 downgauging; correct?

1 A It would appear that it had the original thickness.

2 Your Honor, may I ask that Mr. Gilberg come down? I
3 want to take a gauge off of one of these other doors here.

4 THE COURT: Identify which one you're going to do.

5 MR. CROSBY: I am going to use the Ford door which I
6 believe to be a 1998 door.

7 THE COURT: What number, please, for demonstrative
8 purposes? I see the number. I thought I did. Maybe I
9 don't.

10 MR. CROSBY: Demonstrative Exhibit 30.

11 How about effectively zeroed back out the caliper?

12 THE WITNESS: Yes.

13 Q I'll try to get in that same area. If you could, can
14 you read what the caliper is saying.

15 THE COURT: Mr. Crosby, I can't hear you.

16 Q If you would, Mr. Gilberg, can you read the caliper?

17 A It is 1.7.

18 Q You can go back up.

19 A Millimeters.

20 Q Again, in case anybody has forgotten, when was the
21 vehicle manufactured 1998 F-150?

22 A 10/97, October '97.

23 Q When was the date of the document proving the
24 downgauging of that beam, sir?

25 A March '97.

1 Q And have you seen any offset frontal crash testing,
2 sir, where it's been fully documented and reported
3 concerning the testing of the performance of this
4 downgauged beam in the PN96?

5 A I've not seen references to it other than this
6 document.

7 Q And in that document does Ford perform an analysis of
8 the effects of the downgauging in that document?

9 A There's like -- it looks like a calculation --
10 computer calculation using finite elements analysis of the
11 beam.

12 Q And what direction as far as the impact was Ford
13 making an analysis?

14 A Well, the beam is designed for intrusion; so they're
15 looking at transverse impacts.

16 Q Does anything on Plaintiff's Exhibit 123 have any
17 type of analysis as far as frontal offset impacts with
18 regard to the performance of this downgauged beam that's
19 in the 1998 F-150?

20 A No. All these plots show wide displacement which is
21 displacement transverse to the vehicle. That means
22 across, left to right. The direction that we're
23 interested in is along the longitudinal direction of the
24 vehicle. That's called the X displacement or the X
25 direction.

1 Q So this beam that the jury got to hold in its hand on
2 Friday according to this document and as according to the
3 measurements assuming that I was correctly using the
4 caliper is not the beam that was in Sheriff Riley's truck?

5 A That's right.

6 Q I want to go and talk about -- just a second about
7 something that was raised on Friday with regard -- Well,
8 let me back up on one. It was raised this morning with
9 regard to your deposition. Mr. Walker brought it back up
10 again today and you've indicated that in your opinion that
11 was not the official transcript.

12 A Yes, sir.

13 Q Could you explain to the jury what typically happens
14 after a deposition?

15 MR. WALKER: Your Honor, I object.

16 THE COURT: Sustained. What -- Ask him what happened
17 in this case.

18 Q Do you have a practice, sir, with regard to your
19 approach to depositions and requests made following your
20 deposition?

21 MR. WALKER: Your Honor, I object.

22 THE COURT: I am going to sustain it because you've
23 stipulated what was said in the deposition was what was
24 said.

25 Q Did you request an opportunity to read and sign your

1 out for occupants not coming in contact and inadvertently
2 opening a door handle in a crash?

3 A Sure. You don't want to put a handle in a location
4 where somebody would grab for it to stabilize themselves
5 in a crash.

6 Q Issues about strength of materials and latches?

7 A Sure. You don't want to make the latch too weak.

8 Q Rear crashes?

9 A Yea. It can be subject to a number of different
10 failure modes.

11 Q And, also, inability to open a door after a crash?

12 A Well, that's a totally different thing that you want
13 the door to be operable, if possible, after an accident so
14 you can get out.

15 Q And would you need to analyze all of those potential
16 failure modes with regard to the entire door-latching
17 system including lock, outside handle, inertial
18 properties -- those types of things in order to endorse --
19 wholesale endorse a door-latching system?

20 A Absolutely. You have to do a complete analysis. If
21 you're going to say this is the safest latch system out
22 there you'd have to compare it to all the others in all
23 those different areas.

24 Q And in this case you were asked to analyze one
25 particular failure mode?

1 A I was asked to identify how it failed and then when
2 we found out how it failed, then we're not pursuing the
3 other areas.

4 Q And there was two potentials in this case that have
5 been put forward. Mr. Walker talked about that.

6 A With respect to?

7 Q How this door came open?

8 A Oh, yea, yea, sure.

9 Q And you have testified in your opinion that it more
10 likely than not came open from door foreshortening from
11 the frontal crash?

12 A Yes.

13 Q And Mr. Walker had you come down and get one of my
14 doors with the loose trim panel and that was the other
15 potential that the trim panel came in and unlatched the
16 door by activating the handle; correct?

17 A Right.

18 Q On Friday I don't think it was clear, but you came
19 down and had the jury stand up and look at that?

20 A Yes.

21 Q And Mr. Walker had you pull on the handle?

22 A Yes.

23 Q Did you tell -- I don't believe it was clearly
24 reflected in the record what occurred when you pulled on
25 the handle.

1 kind of helps us gain an understanding better of maybe
2 positions or locations of component parts of the vehicle
3 as well.

4 Q And did you look at the vehicle in this case?

5 A I did, yes. I looked at it May 27 of 2009.

6 Q Is the type of information that you have relied on in
7 coming to your opinions in this case, is it the type of
8 information and methodology that is generally accepted in
9 your field?

10 A It is, yes, sir.

11 Q The type of information that's relied on by people
12 like Dr. McNish who is performing your role for Ford Motor
13 Company?

14 A Yes.

15 MR. CROSBY: Your Honor, at this time I would offer
16 Mr. Lewis as an expert in the field of biomedical
17 engineering, occupant kinematics, and injury causation.

18 MR. HARMON: No objection, Your Honor.

19 THE COURT: All right. He will be allowed to give
20 opinion testimony in those areas.

21 Q All right. Mr. Lewis, have you reached some
22 conclusions in this case as a result of the work that you
23 have performed?

24 A I have, yes, sir.

25 Q And we're going to get into them specifically, but

1 can you go through them and just summarize what your
2 opinions are and start with maybe the injury causation?

3 A Sure. Well, I'd say the primary opinion that I had,
4 number one, was as y'all already know this is basically a
5 two-crash type of event. The initial crash which is the
6 offset frontal impact it's my opinion that essentially
7 Sheriff Riley did not sustain any injury or, if so, very
8 minor like abrasion or bruises, but nothing that
9 ultimately led to his demise. It is my opinion that the
10 fatal injury that he did sustain to his neck was
11 associated with his ejection and ultimately contact with
12 what I think is a log that y'all probably heard about that
13 was laying on the ground as well as the ground itself.

14 It it's my opinion also that he was ejected out of
15 the door that came open which provided a much larger
16 opening than the actual window opening or the door --
17 Excuse me; the door window opening which was somewhat
18 occluded because had the window -- even though it wasn't
19 all the way up or all the way down there was still some
20 window glass or basically some blockage of the window
21 opening by the fact that the window was not fully down.

22 Q Did you attempt to make a determination as to whether
23 Sheriff Riley was restrained at the time of the initial
24 collision or at the time he was ejected?

25 A I did. Again, as I said basically every case I look

1 at that's one of the other things -- I look at the
2 seatbelts and all to try to determine if somebody was or
3 wasn't wearing their belt. In this particular case I
4 found or had some information that could be consistent
5 with the belt being on, but, then again, it was not what I
6 called diagnostic or to where I would feel comfortable
7 coming here today and telling y'all that I believe in all
8 probability that he had the seatbelt on; so there are some
9 marks or lack of marks in the vehicle and there are some
10 marks on the hardware and possibly some marks on his body,
11 but all those I just couldn't put together enough to where
12 I was comfortable to tell you in all probability that he
13 was wearing it.

14 Q Have you considered whether or not Sheriff Riley
15 suffered any severe or life-threatening injuries in the
16 initial impact with Mr. Carter's vehicle?

17 A I have, yes.

18 Q Have you analyzed that issue such that you're able to
19 give an opinion to a reasonable degree of biomedical
20 engineering that he more likely than not did or did not
21 receive life-threatening injuries as a result of that
22 initial collision?

23 A I have made the determination.

24 Q What is your opinion in that regard?

25 A Again, as I said earlier it is my opinion that he did

1 not sustain any injuries of that and that none of the
2 injuries that did lead to his death were sustained in that
3 crash, nor were they sustained until he was separated from
4 the vehicle.

5 THE COURT: Let's go to one.

6 MR. CROSBY: I didn't know if that meant stop or one
7 more.

8 Q And you said until he was separated from the vehicle.
9 Did you do an analysis to make a determination as to
10 whether Sheriff Riley suffered any life-threatening
11 injuries during the ejection process from the vehicle?

12 A I did, yes.

13 Q And what is your opinion to a reasonable degree of
14 biomedical engineering certainty as to whether he more
15 likely than not suffered injuries as a result of the
16 ejection process?

17 A That he did not. That the actual injuries given the
18 magnitude of the injuries are associated with his actual
19 impact with the ground and or the log or tree that was
20 laying down on the ground there.

21 MR. CROSBY: Your Honor, can you indulge me just a
22 second?

23 Mr. Lewis, do you have a listing of Sheriff Riley's
24 injuries that we can talk about?

25 THE WITNESS: I do. They are pretty well listed in

1 ejected in the vehicle?

2 A Yes, along with some other things.

3 Q Could you generally just tell the jury your
4 understanding of his reconstruction?

5 A Sure. Sheriff Riley was traveling down the road and
6 as we know Mr. Carter came out into the intersection. My
7 understanding is there's a little bit of some rightward
8 turn or swerve trying to avoid, and, ultimately, the two
9 vehicles came into contact with primarily the left frontal
10 of Sheriff Riley's truck. According to Mr. Richardson and
11 I think even the other side's reconstructionist, the
12 delta-v of that is somewhere about 13 miles an hour -- I
13 think maybe 11 on the other side -- but, basically, pretty
14 close to the same as far as the speed change that the
15 truck underwent which also means that his body is
16 undergoing that speed change as well as a result of the
17 crash; so once with the two vehicles have the frontal
18 engagement, then they, basically, kind of come together
19 and have a very minor impact or side slap and then Sheriff
20 Riley's vehicle then begins to yaw or slide sideways on
21 the passenger side until ultimately the tires kind of
22 catch and the vehicle starts to flip or rotate with the
23 passenger side going down and the driver's side coming up;
24 so like we're just flipping the vehicle up and over.

25 Q I got the vehicle right here.

1 THE COURT: -- been asked and answered a number of
2 times. Last time -- Any damage to the phone case?

3 THE WITNESS: No, sir.

4 Q Do you have an opinion whether you would expect to
5 see damage more likely than not to the phone case if he---

6 THE COURT: Sustained. That was the last question.
7 We've been over that.

8 MR. CROSBY: Your Honor, I don't have any further
9 questions.

10 THE COURT: Thank you. You may step down. May he be
11 excused?

12 MR. HARMON: Yes, Your Honor.

13 MR. CROSBY: Thank you.

14 THE COURT: Mr. Crosby, call your next witness.

15 MR. HENDERSON: The plaintiff would call Dr. Oliver.
16 Wood.

17 THE COURT: Dr. Wood, can you come on around? The
18 judge is not supposed to do all of this housekeeping, but
19 I made a promise to this jury; so I'm moving them along.

20 OLIVER G. WOOD, JR., after being duly sworn,
21 testified as follows:

22 THE COURT: State your full name for the record
23 spelling your last.

24 Mr. Foreman, ladies and gentlemen of the jury, the
25 plaintiff and defendant have entered into what we call a

1 MR. HENDERSON: If Your Honor please, I would offer
2 Dr. Wood as an expert in the economic aspects of personal
3 injury and wrongful death -- particularly in this case
4 wrongful death in the financial -- That's all.

5 MR. WALKER: No objection, Your Honor.

6 THE COURT: Dr. Wood will be allowed to give those
7 opinions.

8 Q Dr. Wood, did my law firm ask you to conduct a study
9 on the economic loss to the family of Sheriff Ben Riley as
10 a result of his death back in August of 2007?

11 A Yes.

12 Q All right. And were you provided with certain facts
13 and have you relied on those facts in the formation of
14 doing your calculations and the opinions that you have
15 rendered?

16 A Yes.

17 Q Would -- Can you tell us what facts you relied on or
18 would it be helpful if you have them written out if you
19 would come down?

20 A I do. All right. In this case Sheriff Riley was
21 born on October 1, 1945, passed away on August 29, 2007.
22 At that time he was 61.91 years of age. According to
23 South Carolina Code Section 19-1-150 the average life
24 expectancy for a male that age is an additional 19.06
25 years. That would have carried him to the age 80.97 in

1 the year 2026.72.

2 Mrs. Riley was born on February 10, 1947. At the
3 time of her husband's passing she was 60.55 and her life
4 expectancy according to code section 19-1-150 is an
5 additional 23.27 years to age 83.82. The significance of
6 that is that the economic loss stops at Sheriff Riley's
7 passing and her life expectancy extends beyond that.

8 According to Mrs. Riley Sheriff Riley intended to
9 work until approximately December 31, 2012. According to
10 Mrs. Riley Sheriff Riley had no reason to expect less than
11 a normal life expectancy. As I said, he was employed as
12 the sheriff of Jasper County. His annual salary was
13 62,475. According to his tax return his income in 2003
14 was 48,247; 2004, 50,621; 2005, 63,237; 2006, 59,987. As
15 an employee of Jasper County he was also a contributor to
16 the South Carolina Police Officer's Retirement System and
17 in that position he contributed six and a half percent of
18 his annual income. I assumed that 62,475 is the best
19 measure of Sheriff Riley's before-death earning capacity.

20 Lastly, with respect to family services Mrs. Riley
21 indicated that he performed an average of 10 hours a week
22 of these activities before he passed. This included such
23 things as cooking, washing dishes, laundry, vacuum,
24 general household cleaning, grocery shopping, and lawn and
25 yard care. I value those services at eight dollars per

1 hour.

2 Q And based on the facts that you relied on, Dr. Wood,
3 have you -- have you reached certain opinions that based
4 on reasonable economic certainty as to the past and future
5 economic loss to Sheriff Riley's family as a result of his
6 death?

7 A Yes.

8 Q And do you hold those opinions to a reasonable degree
9 of professional certainty?

10 A Yes.

11 Q Have you prepared charts that you could -- that would
12 be helpful and you illustrate to the jury what your
13 evaluation of the family economic loss is in this case?

14 A Yes. They're on the floor right there.

15 MR. HENDERSON: If Your Honor please, may this
16 witness step down?

17 MR. WALKER: There's been several charts. May I
18 confirm we're working off the same one?

19 THE COURT: Dr. Wood, you got an easel?

20 THE WITNESS: Yes.

21 THE COURT: We've got two or three around here.

22 MR. WALKER: I've got it. Can everyone see those?
23 This first chart looks at the before-trial loss.

24 Q Dr. Woods, it is a little hard to see down here. Can
25 you back that up a little bit? I am not sure that the

1 last juror can see.

2 A The first step is to look at his earning capacity.
3 He earned 62,475 at the time of his passing. For the
4 balance of '07 he would have earned 21,241. I assumed
5 that his salary would not increase over the next three
6 years. It would remain 62,475; so for this year 44,982
7 making a total of \$253,647. From that I have subtracted
8 his contribution to the South Carolina Retirement System,
9 18,487; an estimate of his income taxes, 38,728; and an
10 estimate of how much he would have spent on himself of
11 69,451 -- the reason being because he's passed away that
12 amount of income would not be needed because it went to
13 him. That totals 124,866 -- 666. Subtracting that leaves
14 a net loss in earning capacity to the beneficiaries of
15 128,980.

16 With respect to family services he did about 10 hours
17 a week valued at eight dollars an hour because I think
18 that the minimum amount that you'd have to pay somebody to
19 do chores around your house. That comes to 4,000 a year.
20 Replacing those services would be 16,070. His loss to
21 date to the beneficiaries is 145,050. It is the sum of
22 the loss in earning capacity and the cost of replacing
23 those family services.

24 Chart number two looks at his family service loss. I
25 assume that over this period of time that the replacement

1 cost would never change. It would be \$4,000 a year. It
2 would cost \$60,000. However, our court system requires
3 that if we have to look at these money flows now that are
4 not going to incur until into the future they have to be
5 discounted to present value. Discounted present value of
6 the chores that he would have done and replacing the
7 41,518.

8 Chart number three, Sheriff Riley here in 2011 until
9 the end of his term -- if he had been reelected in 2012
10 would have been 76,342. Subtracting his retirement
11 contribution leaves a net of 71,380, subtracting his
12 income tax is 9786, subtracting personal consumption,
13 21,557 leaves a net loss in earning capacity of 40,037.
14 Replacing the family services 41,518 makes that 81,555.

15 This is the last chart. The loss to date is 145,050,
16 loss in the after-trial period 81,555. It makes a total
17 estimated loss of 228,605.

18 Q Thank you.

19 May I approach the witness, Your Honor?

20 THE COURT: You may.

21 Q If you would please tell me what this is that I'm
22 handing you?

23 A This is 8 1/2 by 11 version of those charts right
24 there.

25 MR. HENDERSON: Your Honor, I'd move this into

1 evidence, please.

2 MR. WALKER: No objection, Your Honor.

3 THE COURT: Without objection.

4 (WHEREUPON, Plaintiff's Exhibit No. 78 was admitted
5 into evidence.)

6 Q Dr. Wood, did your evaluation of the economic loss to
7 Sheriff Riley's family take into account there's been some
8 testimony that he had -- that he did some private security
9 work in the area where he lived? Did your analysis take
10 that into account?

11 A No.

12 Q Did it takes into account the amount of money that
13 was paid for Sheriff Riley's funeral bill?

14 A No.

15 Q Did it take into account the -- any of the
16 non-economic damages suffered by his family, the loss of
17 his love, affection, and guidance and things of that
18 nature?

19 A No.

20 Q Did it take into account the mental shock and
21 suffering that the family has endured or the wounded
22 feelings that they have -- that they have endured?

23 A No.

24 Q Did it take into account any loss of companionship,
25 love, or affection?

1 A No.

2 MR. HENDERSON: If Your Honor please, Dr. Wood had
3 come to court prepared to testify with regard to some of
4 the finances involving Ford Motor Company. In lieu of
5 Dr. Wood testifying to that we have entered into a
6 stipulation with Ford Motor Company that we have given
7 Your Honor that we would now like to have published if
8 Your Honor would consider it.

9 MR. WALKER: Yes, Your Honor, subject to our pretrial
10 objection. This is a stipulation that we agreed to.

11 THE COURT: All right. Ladies and gentlemen, Mr.
12 Foreman, as I said the parties have stipulated which means
13 they agree this fact is not in dispute. Notwithstanding
14 the fact that Dr. Wood is prepared to address Ford's
15 financial condition, in lieu of that although Ford denies
16 that it is liable for any damages the parties stipulate
17 that Ford is able to pay any damage award that you may
18 render that is approved by the court.

19 MR. HENDERSON: Subject to that stipulation, Your
20 Honor, I have no further questions.

21 THE COURT: Any cross examination?

22 MR. WALKER: Your Honor, very briefly.

23 CROSS-EXAMINATION

24 BY MR. WALKER:

25 Q Dr. Wood, you, of course, do understand that the jury

1 date of birth?

2 A October 1, 1945.

3 Q And are you presently employed?

4 A Yes, I am.

5 Q Where do you work?

6 A The Ridgeland pre-K through 12.

7 Q And what do you do with the school?

8 A Cafeteria worker.

9 Q Have you done that type of cafeteria work for some
10 time?

11 A About eight years now.

12 Q And where did you work before that, Laura?

13 A At the Days's Inn in Point South twenty-eight years.

14 Q And where did you live now? The home that you live
15 in now, how long have you lived there?

16 A Right now 42 years.

17 Q And is that a home that you and Ben built?

18 A Yes, we did.

19 Q Do you remember when -- where were you living before
20 you built the home? The jury has seen photographs of it.

21 A We had a mobile home right down below it.

22 Q And tell the jury about building the home. How did
23 that come about?

24 A Well, we decided to get -- we were living on heir's
25 property; so we decided to get our own piece of land and

1 build our own house; so we would build it, you know, piece
2 by piece like.

3 Q Did you build it out of your pocket?

4 A Yes, we did.

5 Q Was there ever a mortgage on that home?

6 A No.

7 Q Now I believe that you and Ben have three children;
8 is that right?

9 A Yes, we do.

10 Q You got one that lives right -- This is Tonya sitting
11 right here?

12 A Yes.

13 Q And you got Lasonya and then Adrian; right?

14 A Yes.

15 Q When were y'all married, Laura?

16 A December 21, 1968.

17 Q And before you married Ben he fathered two other
18 children -- Ms. Eleanor Green and Mr. Bernard Cooper; is
19 that right?

20 A Right.

21 Q Was the -- was your marriage to Ben your first
22 marriage?

23 A Yes.

24 Q Was his marriage to you his first marriage?

25 A Yes.

1 Q And have the two of y'all lived together since
2 December 21, 1968?

3 A (No response.)

4 Q Did I get that wrong? Is that the date of the
5 marriage? 12/1 -- 12/21?

6 A 12/21/68.

7 Q And y'all have lived together since that time?

8 A Yes.

9 Q Who presently lives in the home with you, Laura?

10 A My youngest daughter Adrian, my two grandbabies,
11 Shantavia and Jakayla.

12 Q And has Adrian lived in that home with you her entire
13 life?

14 A Yes, she did.

15 Q Since y'all moved in the home?

16 A Yes.

17 Q Is one of the grandchildren that lives with you
18 Adrian's child?

19 A Yes.

20 Q What is that child's name?

21 A Jakayla.

22 Q And you said Shantavia?

23 A Yes.

24 Q And Shantavia is your grandchild?

25 A Yes.

1 old and we kept her and raised her and, you know, back and
2 forth and when she got up to maybe five to six years old
3 we sent her back to her mother and then she would come
4 back to me and stay like and then like -- she wanted to
5 really stay with me; so she stayed with me and back and
6 forth, but now she's back with her mother to finish up the
7 12th grade.

8 Q Laura, do you remember the day that Ben died?

9 A Yes.

10 Q Did you see him that day? Did you see Ben on the day
11 he died?

12 A Yes, I saw Ben about 10 minutes 'til one.

13 Q Tell the jury about that.

14 A I was in the cafeteria getting -- you know, preparing
15 some lunch for the next day and the backdoor was open; so
16 I looked out and he was standing there and, you know, I
17 was -- I couldn't figure it out so, you know, he begged
18 for me to come there for a minute; so I did. He said, you
19 know, something came up and I am going to have to get, you
20 know, feed today because something came up and I can't do
21 it tomorrow. He said, but -- I said, well, I didn't go to
22 the ATM so I am going to have to give you a check. He
23 said, Okay, I'll wait on it; so I went on and got it and
24 gave it to him. He hesitated a while and when he was
25 pulling off he looked back and he said thank you and went

1 on, you know; so when -- I said, well, I am going on and
2 get some stuff and take it to the house -- bought some
3 cherry-vanilla ice cream because I knew he loved it.

4 I went on to the house and something just -- You
5 know, I just couldn't cook supper that evening. I just
6 sat on the bed and finally I looked out the window about
7 5 o'clock and all the animals were, you know, to the pen
8 looking out at us -- I mean just looking at the house; so
9 Jakayla, my youngest grand, said, Mama, something --
10 something is strange. The animals are all looking at the
11 house and something is wrong, and then there was a knock
12 on the door about five minutes later and so I told
13 Shantavia to get the door and she went and got the door.

14 It was Detective Hipp and Sergeant Jenkins; so I told
15 her to tell them to come on in; so they came in. I was
16 sitting on the bed and they came in and, you know, I felt
17 something was wrong; so then Detective Hipp started to
18 tell me what was wrong and he break down and so then
19 Sergeant Jenkins came and told me that the sheriff had
20 been in an accident and he didn't make it and at the
21 meantime Adrian was in her room. She took off from work
22 that day for some reason and she didn't understand what
23 was what and everything -- everybody was crying in the
24 living room -- my Goddaughter and my grandbaby -- and so
25 she came in and she said, Mama, why are you still sitting

1 Q And, Laura, was it necessary for you to learn all of
2 the details of the wreck or did you not -- did you not --
3 did you not need those?

4 A Well, at the time when the highway patrol called me
5 about a couple of days later he told me he wanted to tell
6 me what happened and everything. My word to him was, Tell
7 Major -- Chief Hughes and when I felt the time is right
8 for me to know then I'll get in touch with Chief Hughes
9 and find out exactly what happened. All I know is he was
10 gone.

11 Q And have you, Laura, subsequently been back to the
12 scene of where Ben died?

13 A Yes, I normally go.

14 Q Pull up 62.11. We see a cross and some flowers?

15 A Yes.

16 Q Is that something that you or your family placed
17 there?

18 A The cross, my son-in-law and my daughter Lasonya put
19 that there and we go and, you know, we put the flowers and
20 everything there.

21 Q Okay. You can take it down.

22 Laura, were you presented anything at the funeral
23 that is special to you?

24 A Yes.

25 Q What was that?

1 A The flag.

2 Q And 83.1, is that you with the flag?

3 A Yes.

4 Q Is that the flag that covered Ben's coffin? Is that
5 the flag that was covering the coffin?

6 A Yes.

7 Q And, Laura, after Ben's death were there -- Did you
8 attend any type of memorial service for highway victims?

9 A Yes, I did.

10 Q And do you remember when that was?

11 A That was April -- April 12, I think it was, 2008.

12 Q Ninety-six, please, 96.1.

13 And this was held in April of 2008?

14 A April. I know it was April 12, 2008.

15 Q Did you and your family attend that memorial?

16 A Yes, we did.

17 Q Laura, I want to go back and talk about yours and
18 Ben's life a little bit in the early years. We know you
19 got married in December of '68. What were you doing then?

20 A (No response.)

21 THE COURT: Ma'am, cut the lights back on.

22 Q Were you working?

23 A Yes, I was working.

24 Q Where were you working?

25 A I was working at the Days Inn.

1 doing work around the house. He like, you know, messing
2 with his animals and whatnot -- just outside at all times,
3 just always something to do.

4 Q How about his animals?

5 A Well, when he was off the days he was off I think
6 stayed out there more than he stayed in the house. He
7 stayed out there, you know, mostly. You would find him
8 out there. You would not find him in the house. You
9 would find him out there all the time, just out there
10 doing something.

11 Q And, Laura, do you still have those animals?

12 A Yes, I do.

13 Q Why do you keep them?

14 A Well, we love them. The kids, you know -- they're
15 attached to them. It is just something that we do.

16 Q You had three other girls there at the house. I
17 don't imagine Ben did a lot of housework, but did he do
18 some? Did he help you around the house?

19 A Yes, like washing the dishes and sweeping the floor.

20 Q He would do that? Is that something that you made
21 him do or something he voluntarily did?

22 A No. He would just do it.

23 Q And would he take care of other minor things around
24 the house?

25 A Yes.

1 death we used to go to the same lodge and different
2 nights, but after his death I just got out of it. I just
3 lost interest.

4 Q Tell the jury a little bit about Ben as a father.
5 Was he -- was he strict? Was he lenient to the girls?
6 I've got -- I'm a father of three and I get accused of all
7 kind of things with mine. Tell the jury about how Ben --
8 how you and Ben raised your daughters.

9 A Well, we weren't very harsh with them, but we were
10 strict and we didn't have no problems too much with the
11 oldest one and the baby one. It just the middle one we
12 had a lot to do to keep her straight. You know, he had to
13 go to the school for her and whatnot; so one day he used
14 to work -- at one point he used to do side work with the
15 hospital when the hospital was in Ridgeland and the ladies
16 there knew him; so they were watching -- Lasonya would
17 skip school at certain times of the day. When it got too
18 hot for the classroom she would walk down to the
19 hospital -- her and another girl -- and look at the
20 stories; so the ladies got tired of that; so one of them
21 called down to the office to Ben and asked him -- told him
22 to come to the back, come to the emergency room area --
23 that she had something to show him.

24 So, when he got there he said Sonya was laid back on
25 the couch with Courtney there looking at stories; so he

1 went and told Sonya to come with him; so she got up and
2 looked back and said, Courtney has got to come, too. He
3 said, well, how Courtney got here? She said, Well, we
4 walked down here from the school. He said, Then Courtney
5 is going to have to walk back, but you're going to ride
6 back because you're going a little bit further than the
7 school because I am going to take you to the house, take
8 care of things, and then bring you back.

9 Q Okay. I assume there was some dealings when he got
10 Sonya home?

11 A Yes, it was.

12 Q Laura, we've talked a lot about Ben's law enforcement
13 career. He was going to have to run for reelection in
14 2008, I believe; is that right?

15 A 2008.

16 Q Okay. Was he going to run for reelection?

17 A Yes, he was.

18 Q Did he want to continue being the sheriff of Jasper
19 County?

20 A Yes.

21 Q Had he already, in fact, bought his campaign
22 material?

23 A Yes.

24 Q And do you still have them?

25 A Yes, I do.

1 A Yes.

2 Q Do you have a copy of what was done up there?

3 May I approach, Your Honor?

4 THE COURT: You may.

5 Q Is this a copy of the concurrent resolution of the
6 South Carolina General Assembly?

7 A Yes.

8 Q And they named the interchange in Ben's name?

9 A Yes.

10 MR. HENDERSON: Your Honor, I don't have a sticker.
11 I'll offer it as an exhibit and we'll put a sticker on it.

12 THE COURT: Any objection?

13 MR. HARMON: Per our earlier objection relating to
14 the what's the law in this case for damages.

15 THE COURT: Overruled.

16 Q Let's talk a little bit, Laura, about where this
17 interchange switch to -- so the jury can understand, this
18 is this -- Do you recognize this as being a map of the low
19 country of South Carolina?

20 A Yes.

21 Q Got Ridgeland here and then Yemassee up here?

22 A Yes.

23 Q And you see -- Where the arrow is pointing, is that
24 the general area where y'all live?

25 A Yes, we do.

1 Q And it's called Point South?

2 A Yes.

3 Q And is that where highway 17 and I95 split off?

4 A Yes.

5 Q And then this is a blow-up of that. You said that
6 you lived on Rosemary Road?

7 A Yes.

8 Q And is this Rosemary Road here?

9 A Yes, it is.

10 Q How do you get there? Do you have to come down 95?

11 A No. You get off on the Frontage Road.

12 Q You get off on the Frontage Road and come back down?

13 A Yes.

14 Q And is that the interchange that is the -- the
15 intersection of highway 17 and interstate 95, is that the
16 interchange that's named in Ben's honor?

17 A Yes.

18 Q 84.10. That's getting off on Highway 17?

19 A Yes, it is.

20 Q And is that the sign right there?

21 A That's it.

22 Q 84.12. And how often do you see that sign, Laura?

23 A Every day.

24 Q And how does that -- Tell us about it. What does
25 that make you feel?

1 A It makes me feel real good.

2 Q And why?

3 A Very proud. Well, he was a man that deserved it. He
4 deserved it.

5 Q And was there -- Was there a ceremony dedicating it?

6 A Yes.

7 Q And where was that ceremony held?

8 A At the St. Paul Baptist Church which is our church.

9 Q 84.2. Is that a photograph that was taken at the
10 dedication?

11 A Yes.

12 Q And, obviously, recognize you. That's Adrian to your
13 right?

14 A Yes.

15 Q And to your left?

16 A Senator Pinckney.

17 Q And was that a public event, Laura?

18 A Yes.

19 Q Laura, do you keep other mementoes of Ben's career in
20 law enforcement?

21 A Yes, I have one special.

22 Q Let me show you and ask you if you can identify
23 Exhibit 80?

24 A Yes.

25 Q And what is this?

1 A It's a badge.

2 Q And do you keep several of Ben's badges?

3 A Yes.

4 Q All the way back to when he was original police
5 officer? You keep those?

6 A Yes.

7 Q Chief Hughes told us about some of the training and
8 all that Ben had done. Was there one that he was
9 particularly proud of?

10 A Yes.

11 Q Which one was that?

12 A That was his training in Quantico, Virginia.

13 Q That would be the FBI National Academy?

14 A Yes.

15 Q And was there sort of like a graduation -- How long
16 -- Tell the jury about how long -- Was he gone from home
17 for a while?

18 A Thirteen weeks.

19 Q Wow. And it was up in Virginia?

20 A Yes.

21 Q And was there a graduation?

22 A Yes.

23 Q Did you and the family attend that graduation?

24 A Yes, we did.

25 Q Do you have any memories of that that you can share

1 A Yes.

2 Q Are they still there?

3 A Yes.

4 Q Let's talk about Ben a little bit in the church. We
5 know he was a member of St. Paul's Baptist and that's in
6 Coosahatchee?

7 A Yes.

8 Q And tell the jury about Ben and his faith and being
9 in the church?

10 A Well, he was -- he was very active in his church. He
11 didn't -- you know, he -- As a matter of fact, he was
12 mostly I would say the backbone of our church because
13 everything mostly was done was done through him, you know,
14 as being the chairman deacon. He -- you know, everything
15 was -- all the letters and everything that was sent out.
16 He was just an active member. He just -- he did just
17 about everything. We really miss him from there.

18 Q Did you hold an office in the church?

19 A I still do. Secretary.

20 Q And did Ben hold an office in the church?

21 A Yes. He was head deacon and he had financial part of
22 the church.

23 Q Let me hand you what we've marked as exhibit 82 and
24 see if you the tell me what that is, please, Laura?

25 A This is a certificate for an ordination when he was

1 ordained as a deacon.

2 Q When was that?

3 A November 1975.

4 Q And he was a deacon continuously since then?

5 A Yes.

6 Q And that was at St. Paul's?

7 A Yes.

8 Q What did you and Ben like to do, Laura?

9 A Well, after working hard during the week time at
10 least once a month or at least every two months we would
11 just take a trip, just go out of town. We didn't go to---

12 Q Do you have a special spot?

13 A Jacksonville, Florida.

14 Q Why Jacksonville?

15 A We just loved it.

16 Q Okay. And that was something that you and Ben did
17 together?

18 A Yes.

19 Q And when is the last time you had gone to
20 Jacksonville before Ben died?

21 A July. It was a weekend in July.

22 Q Before he died in August?

23 A Yes.

24 Q How about other trips did y'all take? Did you take
25 some other types of trips with Ben?

1 Q Did Ben help the other children financially?

2 A Yes.

3 Q Did you know all about -- Did you know every time
4 that he helped them?

5 A No.

6 Q And how did you learn about it?

7 A How did I learn about it?

8 Q I mean, did you learn about the way he had helped
9 some children after Ben died?

10 A After he died.

11 Q Tell about that.

12 A Well, Lasonya would always -- Lasonya told me one
13 day -- we was out there. She said, you know, I miss my
14 daddy. I said why you miss your daddy? She said I miss
15 him; said I love him and I miss him. She said, you know,
16 he was the only one I could go to when I need; said, Mama,
17 I would go out there and when he was out there with those
18 animals and I am out there with him a lot of time I was
19 out there helping him because I getting in his pocket. I
20 mean -- she stayed in it more than the rest, but, you
21 know, but he helped. You know, he helped them. A lot of
22 time I didn't know, but it was all right.

23 Q In addition to his job as sheriff of Jasper County,
24 did Ben do any work on the side to earn extra money?

25 A Yes. He got a security at Point South. He was

1 working there like sometimes two nights a week or if
2 somebody else couldn't come in sometime he would maybe
3 work three.

4 Q Tell the jury about Ben and wearing seatbelts, Laura.

5 A From my knowledge as long as I've been knowing him
6 and riding with him he always had it on. He would strap
7 that seatbelt before he put the car in gear to move it out
8 the yard.

9 Q Did you ever know him not to wear one?

10 A No. No.

11 Q Did you pay for Ben's funeral?

12 A Yes.

13 Q Exhibit 139A. Go to the second page.

14 And what was the total funeral charges?

15 A It was \$10,196.

16 Q Exhibit 139A. Laura, has Ben's death been a
17 financial strain on you?

18 A Yes.

19 Q Did you and he share household expenses and combine
20 your salaries when he was alive?

21 A Yes. Most of it was his.

22 Q Are you a football fan, Laura?

23 A Not really.

24 Q Was Ben a football fan?

25 A Yes.

1 When we came up here last week we didn't have no idea of
2 -- I didn't have no idea of how bad the truck looked. I
3 had never seen it before, but my oldest daughter did and
4 she didn't tell me nothing and the baby daughter -- it has
5 really -- it's bad. It's rough. You know, you can't
6 hardly talk to them. You talk to them and they are so --
7 it seems like they are so distant because they are -- it's
8 a hurtful thing. It is just rough.

9 Q How about on you?

10 A It is rough. It is very rough. It seems like this
11 week and last week I have been living -- reliving
12 August 29.

13 Q What do you miss most?

14 A His companionship.

15 Q Thank you, Laura.

16 MR. HARMON: Mrs. Riley, I just want to tell you I'm
17 sorry for your loss and I have no questions of this
18 witness.

19 THE COURT: Next witness.

20 MR. CREECH: The plaintiff calls Tonya Armstead.

21 THE COURT: All right. Mrs. Armstead.

22 TONYA R. ARMSTEAD, after being duly sworn,
23 testified as follows:

24 THE COURT: If you'll sit down and please give us
25 your full name and spell your last.

1 Q All right. As an adult are you married?

2 A Yes.

3 Q What is your husband's name?

4 A Craig Armstead.

5 Q Is your husband here with us today?

6 A Yes, he's back there.

7 Q Has he been with you all week?

8 A Yes.

9 Q Where do you and your husband live in relation to
10 where you grew up on Rosemary Road?

11 A We live at [REDACTED] Rosemary Road.

12 Q Is it pretty much in the -- Can you see your parents'
13 house from y'all's house?

14 A Yes.

15 Q Have you grown up there and lived there all your
16 life?

17 A Yes.

18 Q Tonya, do you currently work?

19 A No, sir.

20 Q When is the last time you did work?

21 A The last time I worked was two years ago.

22 Q Why aren't you working?

23 A I am currently now on dialysis; so I am disabled.

24 Q Do you have any children with Craig?

25 A No.

1 A Lasonya was there with my mom, but my baby sister had
2 come to get me because she knew that I worked a part-time
3 job; so she had come to get me, but she was unaware that I
4 had left that day and didn't work.

5 Q We've heard your mother's testimony about essentially
6 the effect that she saw on others. Immediately after
7 y'all learned of your father's death how was your mom?
8 What did you observe as far as how she handled it?

9 A I had never seen her like that before.

10 Q When you say, "like that---"

11 A She was in bad shape.

12 Q Does your mom usually hold herself and conduct
13 herself in a pretty strong way?

14 A Yes, she's a pretty well-together woman.

15 Q Did you see some weak moments after that?

16 A Yes, sir.

17 Q The day that followed, obviously y'all had a couple
18 of ceremonies dealing with your father's passing?

19 A Yes.

20 Q Did y'all have a wake?

21 A Yes, sir.

22 Q Did you and your whole family attend that?

23 A Yes, sir.

24 Q Tell me what stands out in your memory about the wake
25 and what you went through with that.

1 Lasonya live side-by-side, but they actually branch her
2 address off to a different name.

3 Q You can see Sonya's house?

4 A Yes.

5 Q In those days that followed were y'all helping one
6 another, propping one another up?

7 A Yes.

8 Q Was your mother having to do that with her girls?

9 A Yes.

10 Q Y'all had to help with your mother?

11 A Yes.

12 Q We've talked about another ceremony and it was the
13 interchange name that you saw your mother talk about
14 earlier. Were you able to attend that?

15 A Yes, sir.

16 Q And do you also see that same interchange sign with
17 your dad's name on it every day?

18 A Yes, sir.

19 Q Does it make you feel the same way as it makes your
20 mother?

21 A Yes.

22 Q And that's proud?

23 A Very proud.

24 Q You obviously as a child have a unique perspective on
25 the relationship between your parents as you grow up.

1 We've heard your mother and how she described it. In
2 looking at that relationship between your parents, how
3 would you describe what your father offered your mother
4 and vice versa?

5 A They were the best of friends.

6 Q What does that mean?

7 A Very close. They did everything together.

8 Q Now when you say they did everything together, we've
9 talked about some hobbies that your dad was into and it
10 seems like a significant amount of time that was spent
11 with those animals. Did you have to put up with those and
12 deal with those with your dad?

13 A No.

14 Q Did your other sisters help a little bit more with
15 the animals?

16 A Yes, they did.

17 Q Who takes care of the animals today?

18 A My husband does, my brother-in-law -- just anyone who
19 my husband can get to help him, but basically my husband.

20 Q How long have you and Mr. Craig been married?

21 A Since '96.

22 Q Did your husband Craig only start helping with those
23 animals after your dad's passing or was he involved before
24 that?

25 A No. He was involved before.

1 Q Now, growing up and having a father in law
2 enforcement, were there times where that was -- affected
3 the amount of time that you saw him?

4 A Yes.

5 Q How so?

6 A Because he was always working.

7 Q Now once he became sheriff you were out of the house,
8 I believe?

9 A Yes.

10 Q Did that sometimes affect the amount of time you got
11 to spend with your father?

12 A No, not really.

13 Q Okay. How has the loss of Sheriff Riley -- how have
14 you seen it affect your mother?

15 A I think she holds back a lot to be strong for us.

16 Q Your mother used the word distant I think in her
17 testimony. Is that kind of the same thing you're saying?

18 A Yes, sir.

19 Q When you say hold back, how do you mean?

20 A She just -- There's a difference.

21 Q Tonya, if you will, you're obviously emotional. I
22 know it's not fun to talk about this stuff. Can you put
23 into words how for you as the oldest daughter your
24 father's passing has affected you?

25 A Just sitting watching my sisters and being concerned

1 about my mom. It's taken a big toll on all of us.

2 Q Tonya, you've been with us, I believe, pretty much
3 the whole time we've been in trial. I want to pass up --
4 this is Plaintiff's Exhibit 33. Do you recognize what's
5 in that bag?

6 A My dad's prescription glasses.

7 THE COURT: Speak up for me, please, ma'am.

8 THE WITNESS: My father's prescription glasses.

9 Q Did your father wear prescription glasses?

10 A Yes.

11 Q Did he wear them routinely and all the time?

12 A All the time, yes.

13 Q In fact, I think we've looked through a number of
14 pictures and kind of documented your mother and father
15 through the years and I think it's fair to say most of
16 those he had on prescription glasses?

17 A Yes, sir.

18 Q Was there a time he didn't wear them?

19 A No, he wore them all the time.

20 Q Here's another -- two bags -- no, excuse me -- one.
21 It's Plaintiff's Exhibit 32.

22 May I approach, Your Honor?

23 THE COURT: You may.

24 Q Do you recognize exhibits 31 and 32?

25 A Yes.

1 87.1, 87.3 - 87.5, 96.1, 96.2, 139A were admitted
2 into evidence.)

3 THE COURT: Mr. Harmon, do you have any objection to
4 doing the motions and then taking the last two short
5 daughters damages witnesses?

6 MR. HARMON: Mr. Walker is going to handle that. We
7 don't have any objection to it subject to the
8 understanding that they're not adding anything substantive
9 other than information on damages.

10 THE COURT: Is that correct?

11 MR. HENDERSON: The only -- The last two witnesses,
12 Your Honor, are the two -- are Adrian and Lasonya.

13 THE COURT: And they will not add anything other than
14 their personal observations concerning the loss of their
15 dad.

16 MR. HENDERSON: That's correct, Your Honor.

17 THE COURT: All right. Let me hear the motions.

18 Mr. Walker?

19 MR. WALKER: Your Honor, thank you.

20 THE COURT: Well, first of all, you okay?

21 THE COURT REPORTER: Yes, sir.

22 THE COURT: Go ahead.

23 MR. HENDERSON: If Your Honor please, prior to making
24 the motions we're going to withdraw our claim for any
25 conscious pain and suffering.

1 MR. WALKER: All right. I will not address that. I
2 appreciate that.

3 Your Honor, Tracy Walker on behalf of Ford. We do
4 have a written memo which I'm happy to submit. It is very
5 short and straightforward and it cites some of the cases;
6 so I am not going to cite the cases in my argument.

7 THE COURT: Please.

8 MR. WALKER: I've got an extra copy.

9 THE COURT: All right. Motion for directed verdict.

10 MR. WALKER: Your Honor, this is a negligence cause
11 of action and we don't believe that the plaintiff has
12 established that Ford's conduct was negligent or that the
13 product was defective. A quick overview of everything
14 that I am going to address: We don't believe that
15 plaintiffs -- they've also made a claim for punitive
16 damages and we don't think that they have met the elements
17 for the punitive damages claim, and finally they've made a
18 failure to warn claim and we don't believe they have made
19 out elements of the failure to warn claim.

20 THE COURT: Okay. How about the failure to warn,
21 Mr. Henderson? I haven't heard any testimony of warning.

22 MR. HENDERSON: There's been none, Your Honor.

23 THE COURT: Sir?

24 MR. HENDERSON: There's been none..

25 THE COURT: So I'll grant directed verdict on if

1 there were any claims as to the design defect being as a
2 result of failure to warn, that's no longer part of the
3 case.

4 MR. WALKER: With regard to the negligence and
5 punitive damages, Your Honor---

6 THE COURT: Let's go with the negligence first.

7 MR. WALKER: Yes, sir. The evidence that has come
8 into the case has been about -- primarily about the
9 door-latch system but also the vehicle as a whole.
10 Mr. Gilberg was the primary liability witness and he
11 described that this door-latch system was subject to a
12 particular failure mode of the door being crushed and the
13 evidence came in from Mr. Loschiavo when his deposition
14 was played that Ford selected the rod linkage for this
15 vehicle for a particular reason because at the time they
16 were making the selection they had had problems with the
17 cable in the prior truck.

18 THE COURT: That was the icing problem --

19 MR. WALKER: Yes, sir.

20 THE COURT: -- and freezing problem?

21 MR. WALKER: And they had to do a recall and that's
22 all in evidence and the evidence was that Ford, indeed,
23 considered the very failure mode that Mr. Gilberg
24 described and there were document after document that said
25 Ford considered it and looked at it and tested it and

1 Mr. Gilberg may disagree with Ford's ultimate decision,
2 but as far as negligence goes the evidence shows that Ford
3 was prudent and tested and, basically, adopted the same
4 linkage system -- a rod linkage that the entire industry
5 was using; so we believe that there was simply no evidence
6 that Ford's conduct was negligent and we also believe that
7 they didn't establish that the product was -- is unsafe.

8 They didn't present any evidence that these doors
9 come open. There was evidence that door openings happen
10 on all vehicles rarely, but there was no evidence that
11 it's a problem with the Ford vehicle in particular and so
12 there was simply no evidence that it is defective, Your
13 Honor, and, Your Honor, there is no evidence and we
14 believe they now have to establish an alternative feasible
15 design.

16 The testimony there was very interesting and I
17 believe we have cited in our brief to what was said. I
18 don't know that we did but Mr. Gilberg said that one
19 alternative would be to put a cable linkage in, but when
20 asked about it -- and I did ask him, I said, Mr. Gilberg,
21 suppose you put the cable in. Does that make that
22 door-latch system reasonably safe and non-defective, and
23 he was unable to answer that. He said I can't say that,
24 and so when Ford sits down to design a truck he can't just
25 design for Sheriff Riley's accident. It has to say, well,

1 there might be rollovers. There might be rear-enders,
2 side impacts. You have to design a product that's
3 reasonably safe for reasonably foreseeable conditions and
4 Mr. Gilberg said he couldn't say if that product that he
5 was a proponent of was reasonably safe; so for all of
6 those reasons, Your Honor, we don't believe that the
7 plaintiff has sustained their negligence case.

8 THE COURT: Well, obviously, Mr. Walker, as we are
9 all aware at this stage of the game I have to be concerned
10 about the existence of the evidence as opposed to the
11 weight of the evidence and I think from Mr. Gilberg's
12 deposition or testimony and when you couple that with the
13 accident reconstructionist and the biomedical expert and
14 the totality of all the testimony that it becomes a
15 question of fact for the jury to determine as to whether
16 or not Ford, in fact, did or did not or was or was not
17 negligent in the design of the latch system and in the
18 overall design of the system and whether or not it was
19 designed so that the door would not come open; i.e.,
20 whether or not it was crashworthy and if, in fact, is the
21 proximate cause of the Sheriff Riley's death.

22 So, at this stage of the game, as I said, I have to
23 be concerned with the existence of the evidence and I find
24 that there is evidence if believed by the jury which could
25 lead to a verdict against Ford. I respectfully deny your

1 motion for directed verdict.

2 MR. WALKER: Yes, sir. Thank you.

3 THE COURT: They've withdrawn survival action; so I
4 guess what's left is your punitive damage motion.

5 MR. WALKER: Yes, sir. Again, we addressed it in our
6 brief and I won't belabor it, but the law, of course, is
7 that they have to show recklessness disregard, a wanton or
8 willful conduct, and the evidence here that came in
9 through the plaintiff's case was that Ford does exercise
10 due care and I appreciate the court's ruling on the
11 negligence claim, but there was certainly evidence from
12 Mr. Gilberg recognizing that Ford does exercise due
13 care -- specifically with regard to the door-latch system
14 that Ford considers different options. Ford tests
15 different options.

16 Mr. Gilberg acknowledged that Ford had been a leader
17 in this. Mr. Gilberg acknowledged that some of those
18 other competitors in the industry were using a tension
19 rod, but he acknowledged that Ford had used a more
20 expensive compression rod which he thought was a better,
21 more crashworthy system; so he acknowledge that Ford was
22 actually a leader in the industry in safety and there was
23 no evidence that Ford in selecting this particular system
24 for this was trying to do it to save money or anything.
25 There was some documents that compared costs. I think at

1 Q And you use Sonya as a nickname?

2 A Yes, sir.

3 Q How old are you?

4 A Thirty-four.

5 Q And where do you live?

6 A In Yemassee, [REDACTED], Yemassee, South
7 Carolina.

8 Q Where is that in relation to where your mama and
9 daddy live?

10 A About two minutes walking distance.

11 Q And you're married to Otis?

12 A Yes, sir.

13 Q And this is your husband back here?

14 A Yes, sir.

15 Q And do you and Otis have any children?

16 A No, sir..

17 Q I believe you're the mother of one child Shantavia;
18 is that right?

19 A Yes, sir.

20 Q And Shantavia does now and has since birth lived with
21 your mother now and mother and father before your father
22 died?

23 A Yes, sir.

24 Q And are you presently employed?

25 A Yes, sir, I am.

1 Q What do you do?

2 A I manage Sunbelt Credit in Beaufort, South Carolina.

3 Q And, Sonya, we've already heard from your mom and
4 your older sister. Tell the jury a little bit about what
5 you remember growing up and how your parents -- your
6 mother and your father -- approached raising the three of
7 y'all.

8 A It was a lot of hard work. I remember a lot of
9 beatings because I was the bad one coming up.

10 Q Your mama said that you might have been the one who
11 gave them a little bit more trouble than the other two?

12 A I did. I always did, but it was just with my mother
13 and my father they just wanted to teach us the right way
14 to do the right things and that's all it was with him and
15 her. They just wanted to -- like any parent they want
16 what's best for their kids. They want you to do the right
17 thing. I was a hard row growing up, but, I mean, I got
18 used to it.

19 Q Looking back on the discipline that you got from your
20 mama and daddy, did you get any that you didn't deserve?

21 A No, sir. Everything that I got I deserved.
22 Everything I got I deserved.

23 Q I didn't either. I didn't either. Sonya, tell the
24 jury about the day that your daddy died.

25 A It was on a Wednesday. I was at work in Port Royal.

1 I was managing Approve Cash Advance at the time and that
2 afternoon when I got off I was coming home on 17 and my
3 husband -- I saw him coming towards -- like coming into
4 Sheldon and he was flagging me; so I stopped. I pulled in
5 into the median and I got out and he -- we were walking
6 toward each other, and he said, Baby, I got some bad news.
7 I looked at him and he was crying. I said, Otis, what is
8 it? He proceeded to tell me that my dad was killed
9 earlier in a wreck.

10 He was telling me to just pull to the side so he can
11 take -- Get one of his cousins to meet me to park the
12 vehicle at his mom's house. I didn't stay around. I
13 didn't stick around for none of that. I remember pulling
14 out in front of an 18 wheeler. It was a log truck. I was
15 just trying to get home to my family -- my mother and my
16 sisters. It was one of the worst days of my life.

17 Q Did your father -- did your father's career in law
18 enforcement as a professional law enforcement officer did
19 it reflect on how he tried to raise and what kind of
20 values he tried to instill in you and your two sisters?

21 A It did. He always stated that, you know, with the
22 position that he held we had to walk the straight and
23 narrow because how can he try to make examples for others
24 and we -- basically me -- was doing the wrong things; so
25 it did.

1 Q Your mom told the story about you playing hooky and
2 going and watching soap operas at the hospital. Do you
3 remember that?

4 A Yes, sir.

5 Q Is that one of those times that you got some of that
6 punishment --

7 A Yes, God.

8 Q -- that you deserved?

9 A Yes, sir.

10 Q Tell the jury a little bit about your mom and dad.
11 What did your mama call your daddy?

12 A Ben.

13 Q And what did your daddy call your mama?

14 A Laura Ann.

15 Q He called her Laura Ann?

16 A Yes, sir.

17 Q Tell the jury about the relationship that you
18 observed that your mother and father had prior to father's
19 death.

20 A They were best friends.

21 Q Did they ever have any fusses?

22 A Not knock-out fusses like horrible fusses. It was
23 like little simple things. It was never nothing to too
24 much brag about.

25 Q Who usually won?

1 A My mama always did.

2 Q Do you remember any particular fuss they had?

3 A (No response.)

4 Q You were telling me the other day about a lottery
5 ticket?

6 A Yea. Mama sent Ben to purchase a lottery ticket.

7 Well, when he got it back to the house she scratched the

8 lottery ticket. It was a winning ticket; so he

9 automatically grabbed the ticket. It became his ticket.

10 He did the foot work in purchasing the ticket so he wanted

11 the money for it, but he still didn't get the money for

12 it. It still went on feed.

13 Q Sonya, was your father a Christian?

14 A Yes, he was.

15 Q And did he attempt to instill Christian beliefs in
16 his children?

17 A Yes, he did.

18 Q And explain to the jury how he did that.

19 A My father always said in everything that he did God
20 was first and family was always second. He just -- he was
21 a firm believer in Christ and everything that he did it
22 revolved around that.

23 Q Were you and your sisters raised in the church in
24 St. Paul?

25 A Yes, sir, we were.

1 A Yes, sir.

2 Q Were they prescription?

3 A Prescription sunglasses.

4 Q Have you had a chance to look at Exhibit 33?

5 A No, sir.

6 Q I ask you if you can recognize that as your father's
7 sunglasses? It is missing one lense.

8 A Yes, sir, that's them.

9 Q Explain to the jury what you were able to observe as
10 a child when your father was fighting cancer. What did
11 you observe about his and your mother's relationship
12 during that hard time?

13 A It -- Well, I can't say it got stronger because they
14 were always real close. My mother -- she hung in there
15 during the hours of surgery and the recovering, the
16 radiation, chemo. She just -- she hung in there just like
17 everybody else did. He lost a lot of weight due to the
18 cancer, but he recovered. He beat it; so, that was a plus
19 in itself.

20 Q Can you tell the jury what you have lost as a result
21 of your father's death?

22 A My friend, a father, a whole lot.

23 Q Did your father even though you were an adult when he
24 died he assist you financially?

25 A He did.

1 Q Okay.

2 A He assisted me when -- I'm sorry. When none of my
3 family members knew he did, he did.

4 Q Let me hand you, Tonya, what I've marked as
5 Exhibit 95 and ask you if you can tell me what it is.

6 Your Honor, can I get a tissue, please?

7 Can you tell what this is?

8 A It's our keepsakes. Jasper County Sheriff Department
9 had it made.

10 Q What is it?

11 A It's a tag. It's a personalized tag for the front of
12 the vehicles in memory of sheriff Ben Riley.

13 Q And you have that on your vehicle?

14 A Every last one of them.

15 Q Any other family member have it on theirs?

16 A All of them.

17 MR. HENDERSON: Your Honor, I'd move Exhibit 95 into
18 evidence.

19 MR. HARMON: No objection.

20 (WHEREUPON, Plaintiff's Exhibit No. 95 was admitted
21 into evidence.)

22 Q And that's on the vehicle that you drive today?

23 A Yes, sir.

24 Q I believe your mother said that maybe you and your
25 husband went and put up a cross at the --

1 A Crossroads.

2 Q -- at the location where your father was killed?

3 A Yes, sir.

4 Q Sonya, can you tell what you have observed that the
5 loss of your father -- how that has impacted and affected
6 the life of your mother?

7 A It's affected her in numerous ways. Just like all of
8 us, she's -- she deals with it better than we do and he
9 left some big shoes for her -- footprints for her to fill
10 and she's doing good. She's doing real good. It's took a
11 financial burden on her, physical, mentally, but she copes
12 with it every day.

13 Q Tell the jury what you miss the most about your
14 daddy.

15 A His smile, his laugh, his smell, his talks.

16 MR. HENDERSON: No further questions.

17 MR. HARMON: No questions.

18 Mrs. Major, I'm sorry about the loss of your father.

19 THE COURT: All right. Thank you.

20 MR. HENDERSON: I would call Adrian Riley, Your
21 Honor.

22 ADRIAN A. RILEY, after being duly sworn,
23 testified as follows:

24 DIRECT EXAMINATION

25

1 BY MR. HENDERSON:

2 Q Adrian, would you tell the jury your full name,
3 please?

4 A It's Adrian Alicia Riley.

5 THE COURT: Speak up for me.

6 Q Are you the baby girl?

7 A I am.

8 Q And I believe your mom said that you and your
9 daughter Kayla live with your mom now?

10 A Yes.

11 Q And you lived with your mom and dad prior to your dad
12 being killed?

13 A Yes.

14 Q And you're not married?

15 A I'm not.

16 Q Where do you work?

17 A Wells Fargo.

18 Q And that's where?

19 A It's in Walterboro.

20 Q Tell the jury what your memories are of being raised
21 by Ben and Laura Riley.

22 A I'm sorry. I can't talk about my father without
23 crying.

24 THE COURT: Miss Riley.

25 (Whereupon, the witness is given a tissue.)

1 THE WITNESS: They were wonderful parents. They
2 raised us to do the right thing. They were very
3 disciplined, loving, and caring. They always made sure we
4 had -- we never went lacking for anything.

5 Q How about your dad's relationship with Kayla?

6 A He loved her. He babysat for me. He was a wonderful
7 grandfather. He did everything with her. He played with
8 her outside. He sat up late night. She would sit up and
9 wait until he get in from work. At 2 o'clock in the
10 morning they would sit on the edge of the bed and eat and
11 talk.

12 Q What have observed in your mother how the loss of her
13 husband, your father -- how has that affected your mother?

14 A It's affected her in a lot of ways, but she's strong.
15 She tries not to show it, but I know. She's hurt. She's
16 very hurt.

17 Q Adrian, you are obviously upset. What do you miss
18 the most about your daddy?

19 A Everything.

20 Q I'm sorry?

21 A Everything.

22 MR. HENDERSON: I don't have anything further.

23 MR. HARMON: Sorry for the loss of your father,

24 Ms. Riley. I have no further questions.

25 THE COURT: Any additional witnesses, Mr. Henderson?

1 what you believe to a reasonable degree of engineering
2 certainty happened during the side slap with Sheriff
3 Riley's body in the door?

4 A Well, sir, in the side slap based upon the
5 calculations that Dr. Germane made as far as the motions
6 of the vehicle and the speeds and accelerations and so
7 forth, the -- Sheriff Riley's body as the truck is -- the
8 side slap moves the truck sideways abruptly; so it's like
9 in this direction. His body obeying that first law of
10 motion tries to stay where it was to start out with; so
11 the truck is effectively just kicked out sideways from
12 under him causing his body to strike the door with
13 anywhere between 150 and 250 pounds of force based upon
14 the accelerations experienced when he strikes that door at
15 the speed that the vehicle was changing -- at the velocity
16 change that it went sideways.

17 So, in my opinion this damage to the door occurred
18 during that side slap to the -- between the two vehicles
19 after the initial crash.

20 Q And with respect to the fracture of the panel do you
21 believe that his body hit down there or do you believe --
22 How do you believe the mechanism caused it to be
23 fractured?

24 A No, sir. I think it was an induced crack as a result
25 of force being applied to this part of the arm rest and

1 Q Let's go -- What is the next mark on Defendant's
2 Exhibit 136D relating to a window ejection under your
3 opinion, sir?

4 A Well, there is another horizontal,
5 discretely-patterned parallel abrasion/crush injury to his
6 skin right here in this area below his ear which is right
7 at the base of the skull on the left side. It's right
8 where that crush mark is -- that horizontal crush mark to
9 the skin is right at the bottom edge of the skull.

10 Q And how do you believe that mark came about?

11 A Sir, in my opinion that mark came about by his head
12 contacting the interior of the car or the truck window
13 frame most likely in the upper area and that it was able
14 to supply greater than the 70 pounds of force that's
15 necessary with direct force being applied to cause tearing
16 of those ligaments. They tear at about 70 pounds.

17 It is similar to why the hangman's knot was placed in
18 that area to cause a tipping of the head and pulling of
19 that area.

20 Q Are there any other marks on this that are
21 consistent? When I say this, I'm referring to Defendant's
22 Exhibit 137D that are in your opinion to a reasonable
23 degree of engineering certainty consistent with Sheriff
24 Riley going out the window?

25 A Yes, sir, and I didn't include them actually in this

1 close. When you go to open a door, you'll pull up on the
2 handle. It'll release the striker. The door always pops
3 out because of the trim. You'll pull up on it. It will
4 pop.

5 Q Fair enough. Then how is the door itself mounted to
6 the vehicle?

7 A The door itself is mounted to the vehicle with two
8 hinges.

9 Q And can you close the door and can you step where I
10 am and point out the hinges?

11 A Here are two hinges here that are mounted to the body
12 panel. These two hinges go over here and mount directly
13 to the door; so there are hinges here, striker and latch
14 back here.

15 Q All right, sir. And we'll get into a little more
16 detail in a little bit. The jury has heard about an
17 intrusion beam and I simply want to know for now can you
18 show where on the door that intrusion beam is? And then I
19 will -- What are you looking at?

20 A Yes, it's mounted on the inside here on the inside of
21 this panel. I am trying to show them where it is. It
22 goes with one flange in right about here and it'll with
23 the other to approximately here. Can you cut away this
24 skin?

25 Q And we have one that we can show.

1 A It is right here.

2 Q All right, sir. If you can put a sticky on there.
3 How are the ends mounted to the door? How is each end of
4 the intrusion beam attached to the structure, if it is?

5 A Each one of the intrusion beams are spot-welded to
6 the end of the door.

7 Q Okay.

8 A Here and here.

9 Q All right. If you would please retake your seat.
10 Generally, Dr. Caulfield, what are the design goals when
11 you're making a door latch system for a motor vehicle?
12 What are you trying to achieve?

13 A If you're making a door latch system fundamentally
14 the reason the vehicle has a door is so that you and I can
15 get in and out of it; so you have to have something that
16 opens and closes; so fundamentally is, you know, ease of
17 operation.

18 Another thing you have to be able to lock it so
19 people don't get in when you're not there; so you have to
20 be able to lock it. Another thing is you have to be able
21 to latch it and the design goal is to get it to stay
22 closed during a crash, although at different levels of
23 crash that may not always happen, but at least keep it
24 closed. You don't want it to open when you're going
25 around a corner, for example.

1 Q And what is the design goal -- No doubt that motor
2 vehicle manufacturers including Ford know that cars and
3 trucks are going to be involved in wrecks; right?

4 A Correct.

5 Q Is there a design goal -- generally recognized design
6 goal in the automotive industry for how vehicles and doors
7 should perform to be crashworthy?

8 A Yes.

9 Q What is that, sir?

10 A That's a number of regulation standards dealing with
11 the strength of the latches, the strength of the strikers,
12 the strength of the system, the strength of the side beam
13 to make all the system interact so it can perform well in
14 the crash.

15 Q What is the over -- is there an overarching goal of
16 doing all those things?

17 A Yea, give the operator crashworthiness protection in
18 a crash.

19 Q And how about coming open? If a door comes open in a
20 crash, does that mean it has violated an industry
21 standard?

22 A No.

23 Q Explain that, please.

24 A Every manufacture that I've seen -- and I've surveyed
25 this -- at one time or another can have a door come open.

1 Just because it comes open doesn't mean it's defective.
2 If it comes open for unusual reasons, something very
3 weak -- let's say if you had this striker and took a side
4 impact on the other side and it ripped out the welds on
5 the other side and the door opened and you look at the
6 welds and they're defective. That's something you do not
7 want to happen; so all of these components are assigned
8 strengths so they coordinate together.

9 So do they come open? Yes. Should they come open?
10 Not in nominal crashes, but I have seen certain types of
11 crashes that can make every door come open.

12 Q All right, sir. Are there certain known ways that
13 doors potentially could come open that engineers think
14 about?

15 A Yes.

16 Q And can you give some examples?

17 A One is I've seen these latches once it's latched up
18 take such a hard operator impact from left to right that
19 it ripped this striker right out of the latch mouth and
20 left the latch wide open with the fork which is the
21 trapping part completely cleared. That's classic latch
22 overload. I've seen them come open where it rips the door
23 off the hinges and leaves it hanging by the latch. That's
24 another way that it can come open. You've asked for all
25 possibilities.

1 Q What is your opinion?

2 A I'd say it's not a defective design.

3 Q Why is that, sir?

4 A There's enough robustness in the door dealing with
5 the side impact being particularly -- two advance
6 advantages to that being and it always was intended that
7 way. It stops impacting objects from the side from coming
8 in and it gives the door very, very strong strength from
9 front to rear of those two pillars. You have one here,
10 don't you, a free standing?

11 Q Yes, sir. Dr. Caulfield, you made reference to an
12 intrusion beam. Is this the component part that you're
13 referring to?

14 A Yes.

15 MR. WALKER: This, Your Honor, has been previously
16 marked as Defendant's Exhibit 28.

17 Let me hand that to you and I have a couple of
18 questions about that, but explain again to the jury, is
19 that -- when you put a sticky on the door model at the
20 back of the jury box that is Defendant's Exhibit 41, you
21 put a sticky on here that says intrusion beam?

22 A Correct.

23 Q Is that the same component?

24 A It has a number of names. It is an intrusion beam.
25 It is also called a 214 beam because that's the standard

1 All right. Mr. Walker or Harmon or Carter, we're at
2 the conclusion of the trial and we'll let you make any --
3 not post-trial, any motions that are necessary at the
4 conclusion of all the evidence.

5 MR. WALKER: Your Honor, we move again for a directed
6 verdict for the same reasons that we move for directed
7 verdict after the close of the plaintiff's case in chief.
8 Ford's defense case focused primarily on -- particularly
9 with the first two witnesses on proximate causation. Our
10 third witness got into issues of the design of the
11 vehicle, but, again, Your Honor, with the two issues of
12 negligence which in a design defect case includes the
13 concept that the product is defective and dangerous and
14 with the issue of punitive damages -- as to the former,
15 Your Honor, we don't think there has been a showing of
16 negligence in that the evidence primarily for the
17 plaintiffs was that Ford considered alternative designs.
18 Ford considered the safety ramifications of its designs.
19 Ford tested its designs and at best the plaintiff
20 evidence -- and it may disagree with Ford's final
21 decision, but Ford's conduct in adopting that design, Your
22 Honor, we don't believe rises to the level of negligence
23 and there was no evidence offered that shows that the Ford
24 product is unreasonably dangerous.

25 The only evidence is that even if you accept the

1 plaintiff's evidence as you must that the door failed in
2 the way that plaintiffs said it did from a door crush,
3 there's no evidence that that is an unreasonably dangerous
4 thing -- that we have evidence of this happening in one
5 occurrence and evidence that doors can fail -- although
6 they're designed to mitigate against that, they can fail
7 on all types of vehicles and this unfortunate incident
8 does not rise to the level of unreasonably dangerousness
9 or negligence.

10 Then on punitive damages, Your Honor, a lot of the
11 same argument because it's the negligence standard, but
12 negligence plus. Your Honor, in reading the instructions
13 noted what the jury has to find and we don't think that
14 there is any evidence here, Your Honor, of any
15 intentional, malicious conduct -- the types of conduct
16 that would rise to the finding of punitive damages.

17 The evidence, in fact, that the Ford employees
18 charged with making these decisions were making them with
19 safety in mind without other factors making -- they
20 weren't making arbitrary decisions. They were making
21 meaningful decisions that were consistent with the
22 industry standard and there is simply no showing that
23 anyone had any intent or recklessness that they thought
24 might cause injury in a real world crash.

25 The evidence showed that Ford was aware that things

1 could happen in the crash test and they had to design
2 against it. If something did go wrong in a crash test
3 they had to fix it and in doing so that they were trying
4 to make the vehicles as safe as they could for the public.

5 THE COURT: Thank you, Mr. walker. I am going to
6 stand on my initial ruling at the conclusion of the
7 plaintiff's case. I just think it's, obviously, a factual
8 dispute and factual issues. You got -- as typical in
9 these types of cases, you got the battle of the experts --
10 one saying one thing and one saying the other and it's
11 obviously a question for the jury on both issues of that
12 of actual and punitive damages. So I respectfully deny
13 the motion.

14 MR. WALKER: Thank you, Your Honor.

15 THE COURT: Thank you.

16 MR. WALKER: Your Honor, I have a question, if it's
17 okay to ask now.

18 THE COURT: Sure. On the record?

19 MR. WALKER: Off the record.

20 THE COURT: Hold on a second. We got anything else
21 we need to put on the record? This lady has got an hour's
22 drive and I need to get her out of here.

23 (Whereupon, an off-the-record discussion was held.)

24 THE COURT: Go ahead. Ask the question.

25 MR. CARTER: One other thing on the record, Your

1 want necessarily initially to be on a jury that would go
2 this long, but having been selected it's apparent to
3 everybody -- the judge, all the lawyers -- you all have
4 been a very good jury and so on behalf of the good women
5 and men at Ford I want to thank you for your service.

6 You may remember at the beginning of the this case I
7 told you one of the first things I said to you all was
8 that this case involved a tragedy -- a tragedy because a
9 very good and honorable man of the community on August 27,
10 2007 passed away. He was killed. And you have seen
11 clearly that Mr. Sheriff Riley was a great man and we've
12 seen the family -- a wonderful family and how his death
13 has affected them. If we were here, members of the jury,
14 to decide whether or not Sheriff Riley was a wonderful
15 man, a valued member of the community, we would have no
16 reason to be here because he was. If we were here simply
17 and solely to decide whether or not the loss of a husband,
18 a grandfather, a father, and a sheriff would be incredibly
19 hurtful, we wouldn't need to be here because it was, but,
20 members of the jury, we're here to determine whether or
21 not Ford caused Sheriff Riley's tragic death, and what the
22 evidence has shown is that Ford's F-150 was a safe truck
23 with a safe design in door and that Sheriff Riley was
24 tragically killed because of some unfortunate unsafe acts
25 that Ford did not cause, didn't want, and could not have

(Jury Charge)

1915

1 thundering and lightning even though it's not raining,
2 that's circumstantial evidence that it has rained. So,
3 that's the two types of evidence. You give them both the
4 same weight, if any, that you think they may deserve.

5 Now, as I told you you are 12 people collectively
6 acting as one judge. You are the judges of the facts in
7 the case and as I predicted when we started you would hear
8 different facts in the case and you have. You've heard
9 from A to Z, basically. You must determine the
10 credibility of the witnesses who have testified in the
11 case. Credibility simply means believability. It become
12 your duty as judges to evaluate the evidence and determine
13 which evidence convinces you of its truth.

14 You know how to do that. You deal with wives. You
15 deal with husbands. You deal with children, employees,
16 employers. You judge people daily on how to tell if
17 someone is telling the truth or what the true facts are;
18 so use your good common sense in judging the credibility
19 of the witnesses who have testified in this case.

20 In judging the believability or credibility of the
21 witnesses you may believe one witness over several,
22 several over one. You can disregard everything a witness
23 says. You can believe everything he says. You can
24 believe a little bit and disregard the other or believe a
25 whole lot and not a little bit. You have the right to

(Jury Charge)

1922

1 take precaution. A manufacturer has a duty to exercise
2 ordinary care to design a vehicle that is reasonably safe
3 in the event of an accident. The manufacturer has a duty
4 to design the product so that it's safe for its intended
5 and reasonably foreseeable use and the intended use of the
6 motor vehicle includes the potential of a collision;
7 therefore, an automobile manufacturer has a duty to design
8 reasonably crashworthy vehicles so that the effects of
9 accidents are minimized.

10 Under South Carolina law fault is imposed upon the
11 crashworthiness doctrine not for defects that cause the
12 collision or not for the reasons that cause the
13 collisions, but for defects that cause injuries after a
14 collision occurs; i.e., the enhanced injury. The
15 defendant will not be liable or responsible unless the
16 negligent design was unreasonably dangerous. In
17 determining whether a design is unreasonably dangerous
18 with respect to its crashworthiness, the intended use of
19 the vehicle, styling, cost to change design, and
20 obviousness of the defect and circumstances of the wreck
21 itself are all relevant factors. While there is no duty
22 to make a vehicle totally crashworthy or accident-proof,
23 the plaintiff cannot assume the risk of dangers from
24 unknown or latent defects which the manufacturer could
25 reasonably have foreseen might cause injury or impact.

(Jury Charge)

1923

1 A manufacturer must use reasonable and due care in
2 the adoption of plan or design for its products. It must
3 design a vehicle so that during a collision the vehicle
4 will secure its occupants from harm. If you find by the
5 greater weight or the preponderance of the evidence that
6 this defendant was negligent in the design of the vehicle
7 in question, the defendant would be responsible for the
8 injuries suffered by the plaintiff because of its
9 negligence design which enhanced the injuries you find
10 that the plaintiff would have received in any event.

11 The burden of proof in regard -- in that regard is
12 upon the plaintiff to establish the extent of the injuries
13 he or she would have received had the vehicle been
14 properly designed. That is to say a plaintiff is not
15 entitled to damages for injuries that he would not have
16 received -- that he would have received in any event.
17 Said in a different way, in cases alleging a design defect
18 the plaintiff must prove by the preponderance or greater
19 weight of the evidence the product manufacturer failed to
20 adopt a reasonable safe design for the product and thereby
21 rendering the product defective and unreasonably
22 dangerous.

23 Unlike a manufacturing defect which affects only one
24 or a certain number of products that deviate from the
25 intended design, a design defect render all products with

(Jury Charge)

1928

1 requirements that I have just read to you and you
2 determine that the plaintiff is entitled to a verdict,
3 obviously, your next step would be to decide what type of
4 monetary compensation the defendant should be required to
5 pay. Under our system of justice in the civil aspect of
6 trials, obviously, that's the only way the plaintiff can
7 be awarded damages by way monetary compensation; so there
8 are two types of damages. We'll talk about actual damages
9 to start off with.

10 Actual damages are designed to compensate the
11 plaintiff for the plaintiff's injuries or loss and to
12 attempt to put the plaintiff as near as possible in the
13 same position that the plaintiff was in before the
14 incident occurred. In other words, actual damages would
15 be the actual losses and expenses which the plaintiff has
16 suffered because of the defendant's negligence.

17 Our legislature has provided in section 15-51-10 and
18 the following sections a specific cause of action for what
19 we call a wrongful death. That's what this action is.
20 It's called a wrongful death action. In a wrongful death
21 action the plaintiff as the personal representative of
22 Sheriff Riley's estate claims that Sheriff Riley
23 wrongfully died as a result of the negligent acts or
24 omissions of the defendant. Whenever the death of a
25 person is proximately caused by the wrongful act or

(Jury Charge)

1929

1 negligence of another and the act or negligence is one
2 which would have entitled the deceased to recover damages
3 if the deceased had not died, the personal representative
4 of the estate of the deceased may bring an action for the
5 wrongful death. The personal representative has a right
6 to recover compensatory or actual damages for the wrongful
7 death.

8 Now, ladies and gentlemen of the jury, it is not
9 necessary to show the monetary or money value of the
10 deceased's life since direct proof of the value of a human
11 life is not possible. What is reasonable compensation for
12 monetary damages is left to you, your sound discretion,
13 and your judgment. Under the statute you can consider a
14 number of things in determining the amount of monetary
15 damages that would be required to be paid if you find the
16 defendant was negligent and the negligence proximately
17 caused the enhanced injuries.

18 The elements of damages in a wrongful death case
19 include the following: Pecuniary loss -- that's's simply
20 the loss of the deceased's ability to earn money in which
21 the plaintiff might logically and reasonably have been
22 expected to share such as money for the care and
23 protection of the deceased's spouse and children, for the
24 education and training of the deceased's children. Where
25 the relationship of husband and wife or parent and child

1 THE COURT: Is the plaintiff ready to receive the
2 verdict?

3 MR. HENDERSON: The plaintiff is ready, Your Honor.

4 THE COURT: Defense?

5 MR. HARMON: Yes, Your Honor.

6 THE COURT: Bring the jury in, please.

7 (Whereupon, the jury came into open court at
8 approximately 3:48.)

9 THE COURT: Mr. Foreman, have y'all reached a
10 decision?

11 THE FOREMAN: Yes, we have, Your Honor.

12 THE COURT: Pass it to the bailiff.

13 You may publish it. You want me to do it?

14 THE CLERK: Yes, sir.

15 THE COURT: All right. This is the case of Laura
16 Riley, PR of the Estate of Benjamin Riley versus Ford
17 Motor Company, verdict form. We, the jury, find as
18 follows: For the plaintiff in the amount of \$300,000
19 actual damages and they -- It is my understanding,
20 Mr. Foreperson, y'all found that Ford's actions were
21 willful, wanton, and reckless. You found yes, but no
22 punitive damages?

23 THE FOREMAN: Yes, Your Honor.

24 THE COURT: No -- zero?

25 THE FOREMAN: Right.

1 THE COURT: All right. Anything for the jury before
2 I release them by the plaintiff?

3 MR. CROSBY: No, Your Honor.

4 THE COURT: By the defendant?

5 MR. HARMON: No, Your Honor.

6 THE COURT: Mr. Crosby -- Foreman Crosby, ladies and
7 gentlemen of the jury, I can't thank you enough. You have
8 paid exceptional attention, great attention -- long trial
9 and I thank you on behalf of everybody. You are an
10 excellent jury. I am going to pay you for tomorrow even
11 though you're not coming and I am doubling your pay like I
12 did last week; so y'all have a wonderful weekend. I thank
13 you and you can go back to your jury room and get the
14 checks and y'all will be excused henceforth. Thank you
15 very much.

16 (Whereupon, the jury exited the courtroom at 3:50.)

17 THE COURT: How do you want to do post-trial motions?
18 Do you want to do them in the morning? Do them now?
19 Plaintiff? I doubt they have any. Do y'all have any?

20 MR. HARMON: I don't think we would have any, Your
21 Honor. I'd like to confer with the client. Could we have
22 10 days? Is that all right?

23 MR. CROSBY: Your Honor, I'm happy to do them now or
24 in the morning at Your Honor's pleasure.

25 THE COURT: Would you like to have 10 days?

1 nine-day trial in the manner which y'all did, all of you.
2 I commend each and every one of you.

3 Who's going to argue it for Ford?

4 MR. CARTER: I will, Your Honor.

5 THE COURT: Mr. Carter, first of all, do you agree
6 with my reading of Howard about the difference between
7 absolute and new trial nisi additur? And if I granted a
8 new trial nisi additur, all I have to do is find that it
9 was unduly inadequate or it was inadequate and then I give
10 you the opportunity of paying the additur or granting a
11 new trial; whereas, if it was a complete new trial
12 absolute, I have to find that it was not only inadequate
13 but it was based on the factors that we've been over,
14 passion, caprice, partiality, et cetera.

15 MR. CARTER: Yes, sir. I think the Howard case
16 explains the difference between new trial absolute and new
17 trial nisi additur. New trial absolute does require a
18 finding that the verdict shocks the conscience and that
19 there's some element of maliciousness or --

20 THE COURT: The words they use is caprice, passion --

21 MR. CARTER: The words they use. Something in addition
22 to just being too much money.

23 THE COURT: Well, you know, we all sat in here for
24 nine days. We all watched that jury. I tried to interact
25 with them a lot.

1 And I think even in good conscience, the Plaintiffs --
2 would be hard pressed for me to find that the verdict was
3 based on anything other than the evidence that was heard
4 in the courtroom, i.e., it was not the result of passion,
5 caprice, prejudice, partiality, corruption or some other
6 improper motive.

7 What gets my attention, though, is the new trial nisi
8 additur because, quite honestly, \$300,000 for this type of
9 case could very well be found to be shockingly
10 inadequate. Shockingly means not shocks me, that it would
11 be inadequate if I find so, because of the stature of the
12 deceased and what he's done in life, what he's contributed
13 to his family.

14 So that's where you need to argue. That's sort of
15 where I'm looking. And I -- understand that I give a lot
16 of deference to the jury's decision as well, you know.

17 MR. CARTER: In the realm of nisi additur, Your Honor,
18 the -- I believe in addition there would need to be stated
19 specific compelling reasons that the -- in order to invade
20 the jury's province that are, compel -- not just finding
21 that the amount is too much or too little. There would
22 have to be specific stated reasons.

23 And none are argued by Plaintiff, Your Honor. None
24 are presented in the brief by the Plaintiff under the
25 nisi. And so, it's difficult for me to respond to them

STATE OF SOUTH CAROLINA
COUNTY OF BAMBERG

LAURA RILEY, AS PERSONAL
REPRESENTATIVE OF THE ESTATE
OF BENJAMIN RILEY,
Plaintiff,

v.

FORD MOTOR COMPANY
Defendant.

IN THE COURT OF COMMON PLEAS
CIVIL ACTION NO.: 2008-CP-05-235

Verdict Form

WE THE JURY, BY UNANIMOUS CONSENT, FIND AS FOLLOWS:

- 1) ☒ For the Plaintiff in the amount of 300,000, actual damages

OR

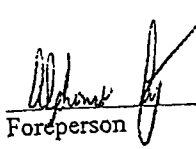
- 2) ☐ For the Defendant Ford Motor Company.

- 3) If you awarded actual damages to the Plaintiff, above, do you find by clear and convincing evidence that Ford Motor Company's actions were willful, wanton, or reckless?

☒ YES ☐ NO

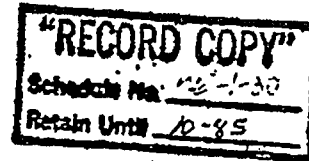
- 4.) If your answer is "yes," do you find that The Estate of Benjamin Riley is entitled to punitive damages?

☐ Yes, in the amount of _____ dollars, punitive damages.


Foreperson



DRAFT



Inter Office

Environmental and
Safety Engineering

November 6, 1980

EVALUATION OF OCCUPANT EJECTION RATES AND
DOOR OPENINGS IN PASSENGER CARS

R. W. Hultman

Introduction

The purpose of this study was to evaluate passenger car door openings and occupant ejection frequencies in towaway accidents. Specific objectives were to relate occupant ejection rate to:

- . whether a door opens or remains closed
- . manufacturer
- . car size (subcompact or larger)
- . primary vehicle damage area

A previous report* presented an evaluation of passenger car door opening rates based on the National Crash Severity Study (NCSS).

Conclusions

The occupant ejection rates with and without door openings, shows a passenger car occupant is approximately 20 times more likely to be ejected if a door opens, than if the doors remain closed. The observed industry-wide occupant ejection rate is 10.6 percent with a door opening versus 0.5 percent when the doors do not open. The combined ejection rate regardless of door opening incidents is 1.0 percent for the industry.

It was found that occupants of Ford's larger passenger cars (full size + intermediate + compact) are approximately 1-1/2 (13.1%/8.4%) times more likely to be ejected if a door opens during an impact as an occupant in a General Motors larger car. These observed differences in occupant ejection rates are statistically significant at the 95 percent confidence level. Ford occupant ejection rates with respect to the other manufacturers larger passenger cars are not

*Hultman, R. W., "Evaluation of Passenger Car Door Opening Rates," ASO Report S-80- , November , 1980.

DAAF 1565

~~significantly different~~. With respect to the subcompact passenger cars, the observed occupant ejection rates, when a door opens, between Ford and the other manufacturers are not statistically significant.

The effect of passenger cars size (larger cars versus subcompacts) on occupant ejection rates are not statistically different. However, the effect of types of impacts show large significant differences in the ejection rates. The "other" damage area, comprised of approximately 2/3 rollover accidents, presents an occupant ejection risk of 17 times greater than a frontal and 4 times greater than a side impact.

Of the occupants ejected when there was an open door, the ejection portal was cited to be "a door" for approximately 75 percent of the cases. When looking at the ejection portal regardless of door opening, "a door" was cited 45 percent of the time.

Based upon a detailed review of 66 NCSS cases, it was concluded that

Discussion

The most appropriate data source available for this evaluation was the National Crash Severity Study (NCSS).* The Phase I NCSS file (15 months from January 1977-March 1978) was used. The NCSS Phase I file contained data on 8,708 case vehicles involved in towaway accidents. The accidents are sampled at different rates depending on the accident severity. The case vehicles are "weighted" (multiplied by the inverse of the sampling rate) to establish a representative sample of towaway case vehicles. This "weighted" sample contains 39,683 case vehicles and 62,439 case vehicle occupants. The data presented on vehicle damage areas and ejection portals are based on the NCSS first 15 months data file.**

Four categories of case vehicle damage areas were considered: front, side, rear, and "other." The "other" category includes damage to undercarriage and/or top. Approximately 2/3 of the "other" category are rollover accidents. The damage areas are defined in terms of the primary impact to the case vehicle as coded in the SAE-J224a Collision Deformation Classification (CDC). The primary impact has the highest severity (e.g., largest velocity change). This damage area is not necessarily always due to the initial impact. The side damage areas include both right and left side impacts.

*The National Crash Severity Study (NCSS) contains data on a scientifically selected sample rate of towaway accidents collected by the National Center for Statistics and Analysis (NCSA) of the National Highway Traffic Safety Administration (NHTSA).

**The NCSS 15 month data are slightly different than the official release of the Phase I NCSS data covering the same time period. The 15 month version was a preliminary release of the Phase I data.

The NCSS file coded three variables directly related to door opening and occupant ejection: (1) door opened; (2) occupant ejection; and (3) ejection portal. The code for an open door is only dependent on a door opening at any time during the crash sequence. The occupant ejections in this report are defined as including complete ejection, partial ejections; partial ejection + entrapment, and unknown degree of ejection.

Results

Occupant Ejection By Door Integrity And Manufacturer

Table 1 summarizes the incidents of occupant ejections with respect to whether a door opened or remained closed by manufacturer for all passenger cars in the NCSS file. The first two columns of the table give occupant ejection/non-ejection in a matrix format for a door opening or remaining closed. The chance of ejection columns are defined thus:

- The chance of an occupant ejection if a door opens during the accident (e.g., Ford, (99/843) 11.7%).
- The chance of an occupant ejection if the doors remain closed during the accident (e.g., Ford, (71/12042) 0.6%).
- The chance of an occupant ejection regardless of a door opening or remaining closed during the accident (e.g., Ford, (170/12855) 1.3%).

The percent of occupant ejections by manufacturer with and without door openings is presented graphically in Figure 1. The overall ejection rate for the industry is 10.6 percent with a door opening and 0.5 percent without a door opening.

Comparing these occupant ejection rates shows the rate with door openings to be approximately 20 times higher than without. These observed occupant ejection rates as a function of door openings are statistically different* at a confidence level of 95 percent.

Occupant Ejection Rates By Door Integrity, Manufacturer, And Passenger Car Size

The effect of vehicle size on occupant ejection rates is presented in Table 2. The data are arranged according to if a door opens or remains closed and the total number of ejections (including those ejections associated with unknown door openings) by manufacturer and vehicle size (full + intermediate + compact versus subcompact). The observed ejection rates are compared in Table 3 to determine if there are statistically significant differences at the 95 percent confidence level between the manufacturers in Table 2.

*Nelson, W. H., "Confidence Intervals for the Ratio of Two Poisson Means and Predictor Intervals for a Poisson Random Variable," General Electric Corporation, Information Sciences Laboratory, Report No. 69-C-118.

The comparative results by manufacturer are presented graphically in Figure 2. The figure shows the chance of occupant ejection in subcompact size passenger cars with and without door openings. The observable occupant ejection rate differences are statistically significant.

The effect of car size on ejection rate if a door opens is presented graphically in Figure 3. Although there are differences in ejection rate between the larger cars and subcompacts, they are not statistically significant. ~~However,~~ there are significant differences in the observed occupant ejection rate when a door opens for the larger cars between Ford/GM and GM/imports. These are the only significant differences between manufacturers.

The overall ejection rates by manufacturer for car size are presented in Figure 4 independent of door openings. The observed occupant ejection rate differences between the larger and subcompact cars are not significant. However again, there are significant differences in ejection rates between manufacturers. The industry-wide occupant ejection rates from the NCSS Phase-I file are 0.9 and 1.3 percent for the larger and subcompact passenger cars respectively.

Occupant Ejection Rates -- Effect of Vehicle Damage Area

The effect of vehicle damage area (i.e., surrogate for impact direction) is presented in Table 4 in the same format as the data in Table 1. The observed differences in occupant ejection rate with and without door openings are statistically significant. These data are presented graphically in Figure 5. The "other" damage area presents approximately 17 (6.8%/0.4%) times the risk of ejecting than a frontal impact and 4 (6.8%/1.7%) times the risk in a side impact. The statistical significant differences in the ejection rates between various impact directions are presented in Table 5. The data in Table 4 are based upon the NCSS fifteen month data.

Occupant Ejection Portal

Table 6 presents data on the ejection portal by vehicle damage area. Also included in the table is a column that shows the ejection portal when a door was coded as being opened. When the door opens, the occupant is more likely to be ejected through it (165/216, 76%) than the other possible portals. However, when not considering a door opening the door as an ejection portal occurs only 45 percent (169/377) of the time. Ejections through windows occurs 50 percent (190/377) of the time.

Effect of NCSS Sampling

The data were reviewed by evaluating the three NCSS sampling rates* (100%, 25%, and 10%) to determine if these samplings could influence the results

*Within each data collection area, accidents are selected for investigation by the following stratified sampling plan. Accidents eligible for investigation are all police-reported accidents within the area in which at least one occupied passenger automobile was towed due to collision damage. A towed passenger car is referred to as a case vehicle. Thus, each eligible accident has at least one case vehicle, and may have more than one. Each eligible accident is assigned to exactly one of three strata: Stratum 1 (100%): at least one case vehicle occupant was hospitalized overnight or was fatally injured; Stratum 2 (25%): not in Stratum 1 and at least one case vehicle occupant was transported from the accident scene to a treatment facility in an emergency vehicle; and Stratum 3 (10%): all other eligible accidents. Each stratum is sampled at the indicated rate: all (100%) of the accidents in Stratum 1, one-fourth (25%) of the accidents in Stratum 2, and one-tenth (10%) of the accidents in Stratum 3 are investigated.

DAAF 1568

of this report that are based on "weighted" data. In all cases the occupant ejection rates were higher for the 100 percent sampled data. One would expect an ejected occupant to have a higher injury severity and thus fall in the 100 percent sampled category.

Table 7 shows the statistically significant differences in occupant ejection rate between Ford and General Motors at each NCSS sample rate based on the data in Table 2. As can be seen from the Table, the statistically significant differences in the observed ejection rates are not always the same when looking at the various levels of the NCSS sampling rates and "weighted" data. These effects occur throughout the various tables.

Review of NCSS Case Files

A random review of 66 NCSS cases was conducted at the MVMA NCSS case file library. All reviewed cases had an ejected occupant and in 2/3 of the cases a door opened. Twenty-one (21) cases involved a Ford product, 26 cases a General Motors, 5 cases a Chrysler, and 14 cases an other manufacturer's product. The MVMA files only contained data on severe accidents found in the NCSS file. Two-thirds (2/3) of the reviewed case vehicles impacted trains/trucks or fixed objects (utility poles/trees or guard rails/bridge abutments). Approximately 1/3 of the case vehicles reviewed were subcompact passenger cars. Other than accident severity, no other unique trait was found. ~~Thus it was concluded based on this review, that there were no unique differences evident between manufacturers that could influence occupant ejection rate differences.~~

R. W. Hultman

R. W. Hultman
Impact Factors Department

Concur:

E. I. Farber

R. B. MacLean

Table - 1

Occupant Ejections — Effect of
Door Openings by ManufacturerNCSS Phase I Data
(Passenger Cars)

					Chance of Ejection If			
Manufacturer			Door Open		Total** Incidents	Door Open	Door Closed	Total** Incidents
			Yes	No				
Ford	Occupant Ejection	Yes	99	71	170	11.7%	0.6%	1.3%
		No	744	11,971	12,715			
	Totals		843	12,042	12,885			
GM	Occupant Ejection	Yes	102	77	179	8.5%	0.4%	0.8%
		No	1,100	21,278	22,378			
	Totals		1,202	21,355	22,557			
Chrysler	Occupant Ejection	Yes	29	25	54	9.8%	0.4%	0.8%
		No	268	6,078	6,346			
	Totals		297	6,103	6,400			
Other	Occupant Ejection	Yes	10	15	25	10.4%	1.0%	1.5%
		No	86	1,526	1,612			
	Totals		96	1,541	1,637			
Total Domestic	Occupant Ejection	Yes	240	188	428	9.8%	0.5%	1.0%
		No	2,198	40,853	43,051			
	Totals		2,438	41,041	43,479			
Imports	Occupant Ejection	Yes	80	41	121	13.6%	0.6%	1.7%
		No	502	6,347	6,849			
	Totals		582	6,388	6,970			
Total Domestic + Imports	Occupant Ejection	Yes	320	229	549	10.6%	0.5%	1.1%
		No	2,700	47,200	49,900			
	Totals		3,020	47,429	50,449			

* s. = ejection rates between the two columns are significantly different at 95% confidence level.

** Does not include unknown door opening incidents, thus totals different from data in Table-2 (the ejection rates for the total incidents are not significantly different between tables 1 and 2 data).

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Table - 2

Occupant Ejections -- Effect of
Passenger Car Size by Manufacturer

NCSS Phase I Data

Car Size	Chance of Ejections		Manufacturer						Total
			Ford	GM	Chry.	Other	Total Domestic	Import	
Full, Intermediate, Compact	If door is open	Ejections	69	80	24	10	183	7	190
		N	528	950	275	64	1,817	38	1,855
		%	13.1	8.4	8.7	15.6	10.1	18.4	10.2
	If door is closed	Ejections	46	66	21	2	135	0	135
		N	8,158	18,045	5,293	858	32,354	704	33,058
		%	0.6	0.4	0.4	0.2	0.4	0.0	0.4
	Totals*	Ejections	130	154	50	18	352	9	361
		N	10,123	22,820	6,463	1,022	40,428	908	41,336
		%	1.3	0.7	0.8	1.8	0.9	1.0	0.9
Subcompact	If door is open	Ejections	30	22	5	0	57	73	130
		N	315	252	22	32	621	544	1,165
		%	9.5	8.7	22.7	0.0	9.2	13.4	11.2
	If door is closed	Ejections	25	11	4	13	53	41	94
		N	3,884	3,310	810	683	8,687	5,684	14,371
		%	0.6	0.3	0.5	1.9	0.6	0.7	0.7
	Totals*	Ejections	56	37	9	14	116	125	241
		N	4,869	4,287	941	812	10,909	7,569	18,478
		%	1.2	0.9	1.0	1.7	1.1	1.7	1.3
Totals (FIC+S/C)	If door is open	Ejections	99	102	29	10	240	80	320
		N	843	1,202	297	96	2,438	582	3,020
		%	11.7	8.5	9.8	10.4	9.8	13.8	10.6
	If door is closed	Ejections	71	77	25	15	188	41	229
		N	12,042	21,355	6,103	1,541	41,041	6,389	47,429
		%	0.6	0.4	0.4	1.0	0.5	0.6	0.5
	Totals*	Ejections	186	191	59	32	468	134	602
		N	14,992	27,107	7,404	1,834	51,337	8,477	59,814
		%	1.2	0.7	0.8	1.7	0.9	1.6	1.0

*Includes unknown door openings.

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Table - 3
Statistically Significant Differences
Between Manufacturers

(Based on Data in Table - 3)

Manufacturers	Full, Intermediate, & Compact			Subcompact			Totals (FIC+S/C)		
	If Door Is Open	If Door Is Closed	Totals	If Door Is Open	If Door Is Closed	Totals	If Door is Open	If Door is Closed	Total
Ford/GM	s.	s.	s.	n.s.	n.s.	n.s.	s.	s.	s.
Ford/Chrysler	n.s.	n.s.	s.	n.s.	n.s.	n.s.	n.s.	n.s.	s.
Ford/Other	n.s.	n.s.	n.s.	-	s.	n.s.	n.s.	n.s.	n.s.
Ford/Imports	n.s.	-	n.s.	n.s.	n.s.	s.	n.s.	n.s.	s.
Ford/Total	n.s.	s.	s.	n.s.	n.s.	n.s.	n.s.	n.s.	s.
GM/Chrysler	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
GM/Other	n.s.	n.s.	s.	-	s.	s.	n.s.	s.	s.
GM/Imports	s.	-	n.s.	n.s.	s.	s.	s.	s.	s.
GM/Total	n.s.	n.s.	s.	n.s.	s.	s.	n.s.	n.s.	s.
Chry/Other	n.s.	n.s.	s.	-	s.	n.s.	n.s.	s.	s.
Chry/Imports	n.s.	-	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	s.
Chry/Total									
Other/Imports	n.s.	-	n.s.	-	s.	n.s.	n.s.	n.s.	n.s.
Other/Total	n.s.	n.s.	s.	-	s.	n.s.	n.s.	s.	s.
Imports/Total	n.s.	-	n.s.	n.s.	n.s.	s.	s.	n.s.	s.

s. = ejection rates between the two manufacturers are significantly different at 95% confidence level.

n.s. = ejection rates between the two manufacturers are not significantly different at 95% confidence level.

Table - 4

Occupant Ejections -- Effect of
Door Openings by Damage Area

NCSS (15 Month Data)

						Chance of Ejection If			
Damage Area			Door Open		Total Incidents	Door Open	Door Closed	Total Incidents	
			Yes	No					
Front	Occupant	Yes	66	63	129	5.3%	0.2%	0.4%	
	Ejection	No	1,186	28,263	29,449				
	Totals		1,252	28,326	29,578				(S.)
Side	Occupant	Yes	156	81	237	12.3%	0.6%	1.7%	
	Ejection	No	1,109	12,492	13,601				
	Totals		1,265	12,573	13,838				(S.)
Rear	Occupant	Yes	6	13	19	7.4%	0.5%	0.7%	
	Ejection	No	75	2,800	2,875				
	Totals		81	2,813	2,894				(S.)
Other	Occupant	Yes	82	73	155	23.6%	3.8%	6.8%	
	Ejection	No	265	1,867	2,132				
	Totals		347	1,940	2,287				(S.)
All Damage Areas Exclud- ing Unknown	Occupant	Yes	310	230	540	10.5%	0.5%	1.1%	
	Ejection	No	2,635	45,422	48,057				
	Totals		2,945	45,652	48,597				(S.)
Unknown	Occupant	Yes	11	2	13	19.3%	0.1%	0.7%	
	Ejection	No	46	1,756	1,802				
	Totals		57	1,758	1,815				(S.)

*s. = ejection rates between the two columns are significantly different at 95% confidence level.

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Table - 5

Statistically Significant Differences
in Ejection Rates Between Damage Areas

(Based on Data in Table - 4)

Damage Areas	If Door Is Open	If Door Is Closed	Totals
Front/Rear	n.s.	s.	s.
Front/Side	s.	s.	s.
Front/Other	s.	s.	s.
Front/All Areas	s.	s.	s.
Rear/Side	n.s.	n.s.	s.
Rear/Other	s.	s.	s.
Rear/All Areas	n.s.	n.s.	n.s.
Side/Other	s.	s.	s.
Side/All Areas	n.s.	n.s.	s.
Other/All Areas	s.	s.	s.

s. = ejection rates between the two damage areas are significantly
different at 95% confidence level.
n.s. = ejection rates between the two damage areas are not significantly
different at 95% confidence level.

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Table - 6
Occupant Ejection Portal
NCSS (15 Month) Data

Ejection Portal	Damage Area						If Door Opened Ejection Portal
	Front	Side	Rear	Other	Unknown	Total	
None (no ejection)	30,104	13,897	2,942	2,178	11,696	60,817	3,584
Open Side Windows	12	26	0	16	14	68	7
Closed Side Windows	5	27	0	8	2	42	8
Unknown if Open Side Window	5	4	0	7	1	17	4
Backlight	2	12	5	3	2	24	10
Windshield	22	7	0	10	0	39	8
						190	37
Door	35	111	1	18	4	169	165
Roof	0	2	0	14	2	18	14
Unknown Portal	55	49	13	86	33	236	108
Unknown if Ejected	155	168	6	99	168	596	201
Totals	30,395	14,303	2,967	2,439	11,922	62,026	4,109

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Table - 7
Influence of NCSS Sampling Rate
on Statistical Differences

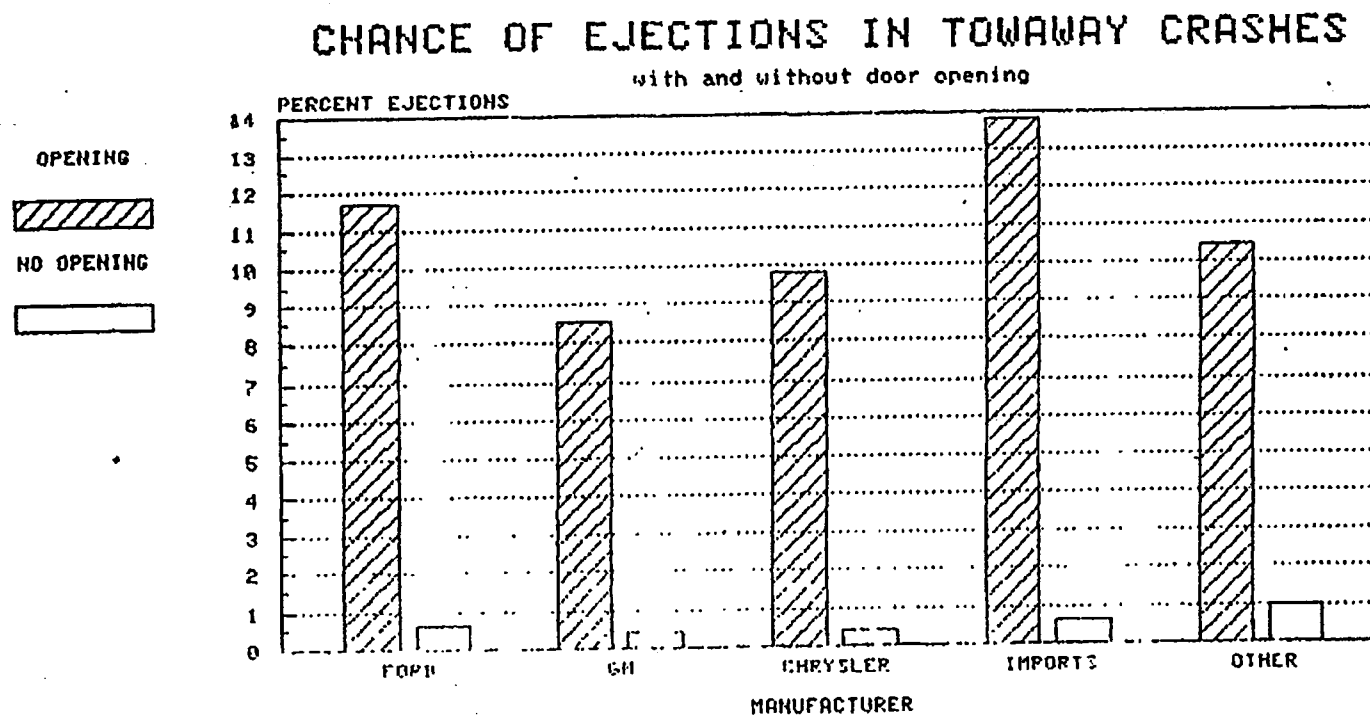
	Ford Versus General Motors								
	Full + Intermediate + Compact			Subcompact			Totals		
	If Door Is Open	If Door Is Closed	Totals	If Door Is Open	If Door Is Closed	Totals	If Door Is Open	If Door Is Closed	Totals
"Weighted" Data	s.	s.	s.	n.s.	n.s.	n.s.	s.	s.	s.
100% NCSS Sample	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	s.
25% NCSS Sample	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
10% NCSS Sample	-	-	-	-	-	-	-	-	-

s. = ejection rates between Ford and GM are significantly different at 95% confidence level.
n.s. = ejection rates between Ford and GM are not significantly different at 95% confidence level.

The row marked "weighted" data are based on the data contained in Table - 2 and Table - 3.

Figure - 1

Percent of Occupant Ejections by Manufacturer
With and Without Door Openings -- All Passenger Cars



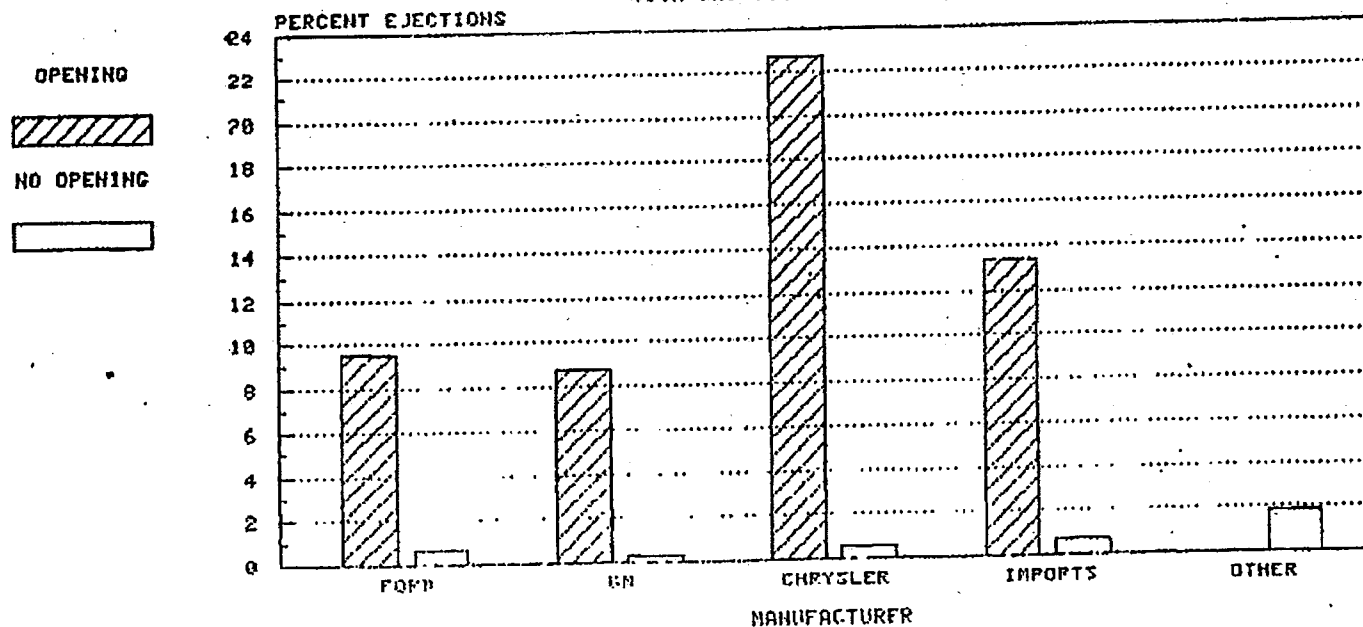
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Figure - 2

Percent of Occupant Ejections by Manufacturer
With and Without Door Openings -- Subcompact Passenger Cars

CHANCE OF EJECTIONS IN TOWAWAY CRASHES

with and without door opening



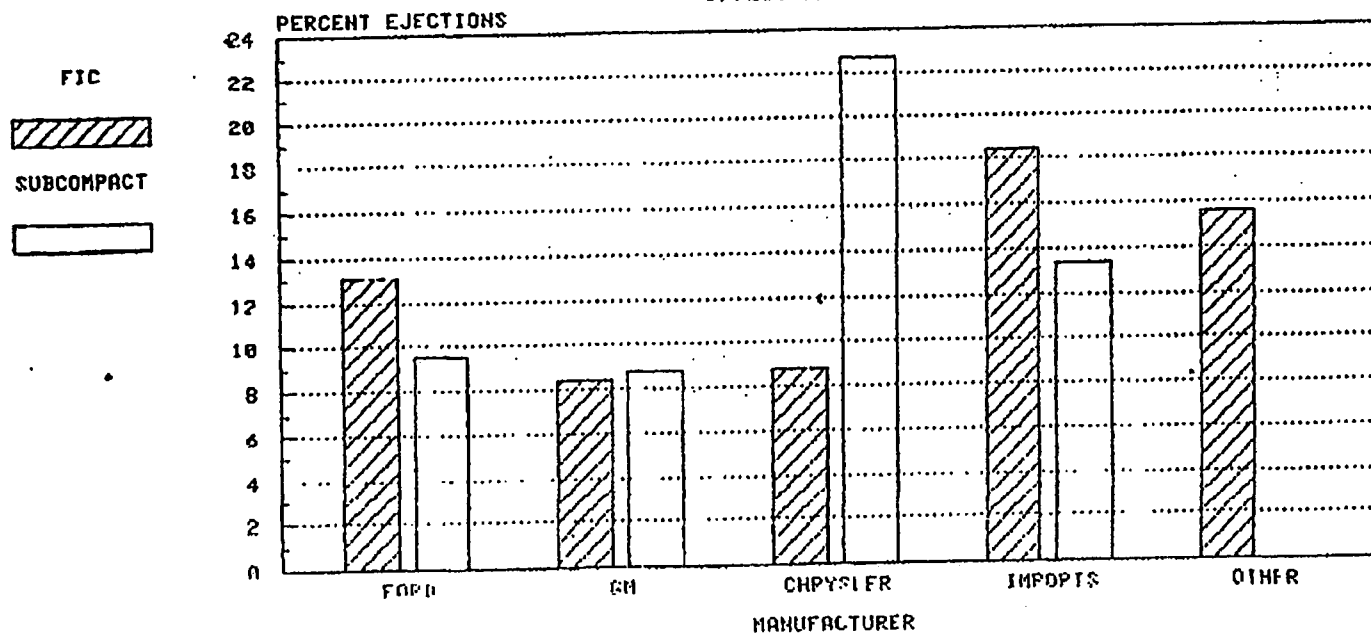
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Figure - 3

Percent of Occupant Ejections
If a Door Opens by Manufacturer and Passenger Car Size

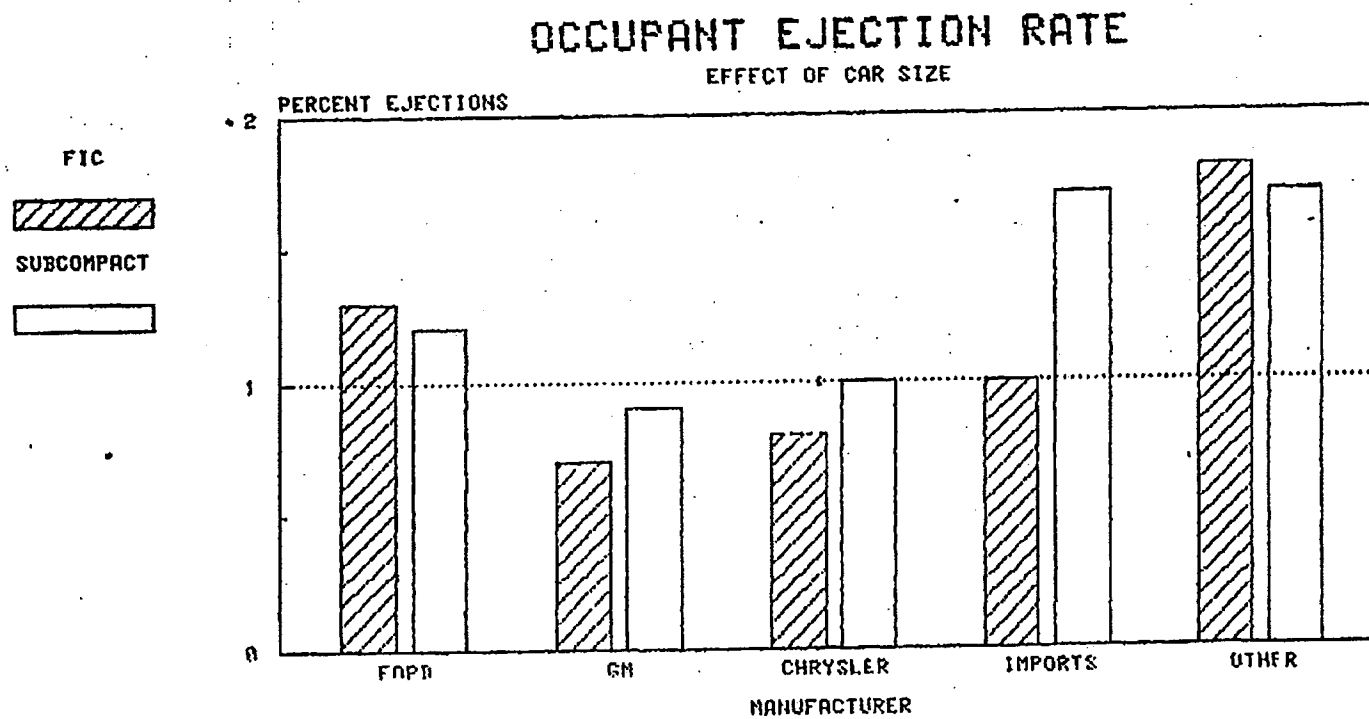
CHANCE OF EJECTIONS IF DOORS OPEN EFFECT OF CAR SIZE



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Figure - 4

Percent Occupant Ejection Rate
by Manufacturer for Subcompact and Larger Cars



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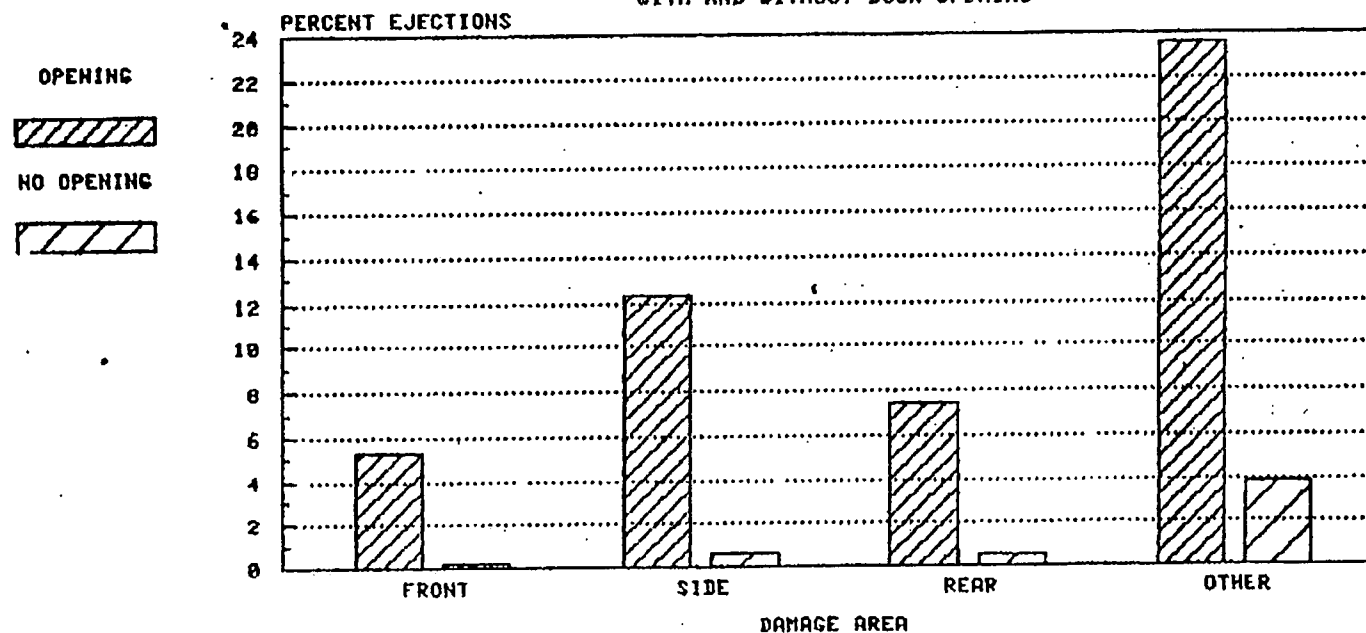
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Figure - 5

Percent Occupant Ejections With and Without
Door Openings by Vehicle Damage Area

PERCENT EJECTIONS IN TOWAWAY CRASHES

WITH AND WITHOUT DOOR OPENING



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LIGHT TRUCK

PROPRIETARY

WORLDWIDE PRODUCT ACCEPTANCE SPECIFICATIONS

SYSTEM: Body

PAGE NO: 01.14-P-1

(Local Market Requirements (LMR), as defined in the Foreword, are identified in italicized print.)

DATE: 1990 Jun 15

HANDLES, LOCKS, LATCHES, AND MECHANISMS

In addition to the requirements listed in this specification the Handles, Locks, Latches, and Mechanisms Sub-system shall comply with all the applicable requirements listed in Body System 01.00.

1. GENERAL

1.1 LATCH INTEGRITY: The components and assemblies covered by this Subsystem shall retain their respective doors in the closed position under all vehicle operating conditions.

1.2 LUBRICANTS: Lubricants used in lock assembly pivots shall meet appropriate Ford Motor Company Engineering Material Specifications.

1.3 SYSTEM FUNCTION: Unlatching the door shall be accomplished by operation of an outside and an inside handle. Unlatching the liftgate shall be accomplished by operation of an outside handle or latch. Tailgates will not require inside handles unless direction is given in the Program Description Document. When either a door or liftgate is unlatched, it shall swing free without latch bind. There shall be sufficient dissimilarity between the inside door handles and other controls to minimize the possibility of inadvertent opening of the door, liftgate, or tailgate. The attachments for handles, levers, buttons or other lock controlling means shall be conveniently placed and shall require no awkward or unnatural motion, and shall not interfere with the occupant's leg. The functional operation must be smooth throughout the entire cycle, with no hang-up or binding at any point.

2.2 EXTERIOR DOOR HANDLE OPENING: Exterior door handle dimensions and section radii shall not be less than the dimensional requirements specified in Figure 1.

EXTERIOR DOOR HANDLE OPENING

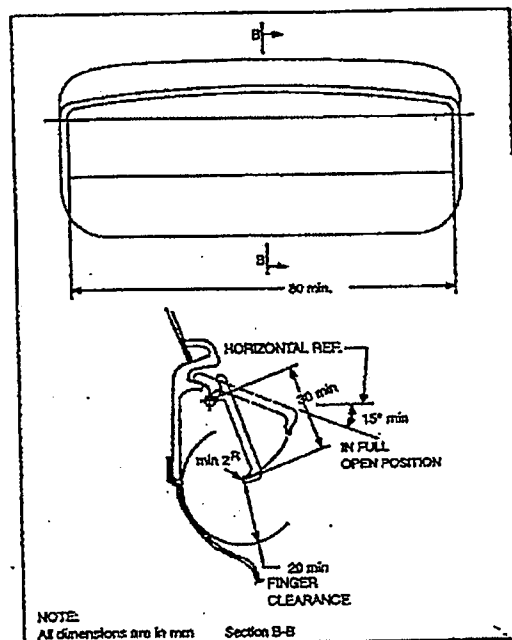


FIGURE 1

2. PACKAGE/DESIGN CRITERIA

2.1 ATTACHMENTS: The exterior door hardware shall conform to the contour of the surface to which it is attached. The interior handles shall be retained firmly against the door trim panels to eliminate gaps and poor appearance problems.

3. APPEARANCE

3.1 SURFACE FINISH: The door latch assembly finish requirements shall be comparable to specifications described in the Engineering Material Specification under Zinc Plate ESF-MIP4-A or equivalent. A protective chromate finish in addition to ESF-MIP4-A shall be specified on all zinc die cast components such as lock cylinders and lock cylinder components.



LIGHT TRUCK

PROPRIETARY

WORLDWIDE PRODUCT ACCEPTANCE SPECIFICATIONS

SYSTEM: Body

PAGE NO: 01.14-P-2

(Local Market Requirements (LMR), as defined in the Foreword, are identified in italicized print.)

DATE: 1995 Oct

4. SERVICE AND ASSEMBLY

4.1 COMPONENT ADJUSTMENT: Subsystem components shall be designed to permit adjustment to compensate for production variations.

4.2 HOOD LATCH: Hood latch shall be a bolt-on assembly and replaceable without removing any major components.

4.3 GLOVE COMPARTMENT LOCK AND LATCH: The glove compartment lock and latch shall be serviceable without removing the glove compartment or any adjacent components except latch covers.

4.4 DOOR/TAILGATE LOCKS AND MECHANISMS:

4.4.1 Exterior door handles shall be replaceable without removing any major components except trim panel.

4.4.2 Luggage compartment lock and/or striker shall have access for adjustment, without the need for special tools.

4.4.3 Door lock strikers should have the provision for adjustment, without the use of special tools.

4.5 EXTERIOR DOOR HANDLES: Door/tailgate/liftgate locks and mechanisms shall be removable without removing any major components except trim/inner panel.

5. PERFORMANCE

5.1 IMPACT COLLISION REQUIREMENTS: All doors, tailgates and liftgates which provide access to the passenger compartment shall be retained in the closed position by their latches and hinges during a frontal barrier impact test conducted in accordance with Engineering Test Procedure ST-14 (Fixed Barrier Collision Tests — Steering Columns — Windshield — Fuel System) with the lock button (if applicable) in the unlocked position.

5.2 DOOR LATCHES:

5.2.1 Locking Provisions: All exterior door latch actuating mechanisms shall incorporate a feature to prevent unlocking of the door without a key when the lock button is in the locked position.

5.2.2 Secondary Latching: Provisions shall be made in door latches for a secondary latching position. The secondary position shall be effective on opening or closing the door. When the secondary latch is engaged, the door shall open at least 9.5 mm.

5.2.3 Structural Integrity:

5.2.3.1 Longitudinal Pull: With the door latch assembly inserted in the striker, minimum longitudinal pull force (car position) of 11.1 kN for the primary latched position and 4.4 kN for the secondary latched position shall be applied without the striker disengaging from the lock.

5.2.3.2 Lateral Pull: With the door latch assembly inserted in the striker to the latched or to the secondary latched position, a minimum lateral pull force (car position) of 8.9 kN for the primary latched position and 4.4 kN for the secondary latched position shall be applied without disengaging the lock from the striker.

5.3 DOOR HANDLES:

5.3.1 Push Button Handle: In the unlatching mode the outside pushbutton shall have a free travel not exceeding 20% of total travel. The outside pushbutton efforts shall be 25-70 N. Outside pushbutton must be adjacent or integral with handle to enable one hand operation.

5.3.2 Lift Out Handle: Effort to operating lift out handle shall be between 53 and 98 N.

5.3.3 Rotating Remote Handle:

5.3.3.1 Stability: There shall be no perceptible relative movement between the door remote handle and attaching stem. The door remote handle assembly deflection during operation shall not exceed 3.175 mm measured at the end of the handle, with a lateral force of 220 N applied.

5.3.3.2 Operating Efforts: Rotating remote control handle effort to release the door primary latch shall be between 27 N and 53 N. Operating remote control to accomplish sliding door primary latching (securing) shall not exceed an effort of 22.4 Nm torque after 24 hours of compressive seal set. (160 N applied on the handle at a distance of 140 mm from the pivot.)

5.3.4 Liftgate Handle: The liftgate inside and outside release handle operating effort shall not exceed 5 Nm to unlatch the liftgate.

5.3.5 Tailgate Handle: Tailgate latch release effort shall not exceed:

— Paddle (movement-vertical pivot axis) pivoting type — 130 N when tested in accordance with BEO Procedure ES1-171 or equivalent.

— Handle (movement-horizontal pivot axis) pull type — 175 N when tested in accordance with BEO Procedure ES3-171 or equivalent.

5.3.6 Pull Paddle Door Handle: Pull paddle type handle effort to release the door primary latch shall be between 22 and 82 N when tested in accordance with BEO Procedure ES1-171 or equivalent.



LIGHT TRUCK

CONFIDENTIAL

WORLDWIDE PRODUCT ACCEPTANCE SPECIFICATIONS

SYSTEM: Body

PAGE NO: 01.14-P-3

(Local Market Requirements (LMR), as defined in the Foreword, are identified in italicized print.)

DATE: 1990 Jun 15

5.3.7 Squeeze Type Handle: Squeeze type handle effort to release the door primary latch shall be between 31 and 67 N.

5.3.8 Handle Stress Requirements: Application of torque (force) or impact load to exterior rotating or lift out handle (pushbutton) shall cause yield or failure of exterior actuating mechanism or input shaft without causing failure to lock or latch assembly.

5.3.9 Handle Effort References: All efforts shall be tested in accordance with Section 3 of the Body General Specification Manual. All seals shall seat with the specified latch engagement efforts (reference Sub-systems 01.03 and 01.07).

5.4 KEY AND LOCK CYLINDER:

5.4.1 Location: Key operated outside locks shall be provided for both front doors and liftgate, when applicable, at or near the handles.

5.4.2 Ease of Operation: Provision shall be included in all key lock cylinder covers to permit one-handed insertion of the key. It shall be possible to insert the key into the lock, turn it, and remove it easily and smoothly, without binding, restriction or raspy feeling.

5.4.3 Two Key Systems: Where separate keys are used for door and ignition they shall be readily identifiable.

5.4.4 Operating Efforts: Key insertion and lock operation efforts and feed shall remain free and smooth up to the first major overhaul. Efforts and operation are to be evaluated by a jury for the as new, hot, cold, and after completion of lock durability test (see 7.4) conditions.

5.4.5 Theft Resistance: All lock cylinders shall be capable of withstanding an "attempted break in" torque of 20 Nm applied with a tool (screwdriver) to the key slot.

5.5 INTERIOR DOOR LOCKS:

5.5.1 Operating Efforts: Interior lock button push-pull effort shall be between 8.9 and 31 N.

5.5.2 Dimensional Characteristics: An inside door locking device shall be provided for manually locking or unlocking the latch assembly in all doors as determined by Program direction.

5.5.2.1 The maximum button height in the unlocked position for manual systems shall be 30 mm above the interior/trim panel. Travel shall be 14 mm plus or minus 3 mm.

5.5.2.2 The maximum power door lock button height in the unlocked position shall be 38 mm above the interior/trim panel. Travel shall be 14 mm plus or minus 3 mm.

5.5.2.3 Acceptability of other locking devices, such as in-board trim panel face mounted controls, shall be determined by jury evaluation.

5.6 POWER DOOR LOCKS:

5.6.1 Mechanical Override: All power lock systems shall permit mechanical overriding of the individual latches using the same means as provided to perform this function in the non-power systems. Mechanical overriding of power lock systems shall also be provided in the event of malfunctions of power lock components.

5.6.2 Battery Supply: Power door lock system operation shall be independent of ignition switch mode or operation and with a fully charged battery, the power door lock control switch for an all-electric system shall lock or unlock all doors on which the system is installed within 1.5 seconds after actuation.

5.6.3 Noise: Power latching or unlatching activation shall be sufficiently audible to signal new (un)lock mode.

5.6.4 Master Control: Power door lock system shall provide at least one vehicle master control (operated by driver). Master control(s) shall remotely latch or unlatch all vehicle power door locks.

5.6.5 Failure Provision: Any malfunction of the power components that operate the door lock release mechanism shall not cause the unintentional unlatching or unlocking of the door.

5.7 HOOD LATCH:

5.7.1 Actuation: Actuation of the primary hood lock cam by its engaging component shall not result in movement of the primary lock cam. Actuation of the hood auxiliary catch hook by its engaging component shall not result in movement of the primary lock cam.

5.7.2 Structural Integrity: The force required to separate a locked hood mechanism from its engagement shall not be less than 5.3 kN. The force required to separate the hood auxiliary catch hook from its engagement shall not be less than 2.2 kN.

Note: Application of these loads to be in direction representative of vehicle installation.

WORLDWIDE CUSTOMER REQUIREMENTS

ENVIRONMENTAL AND SAFETY ENGINEERING

PRODUCED BY FOR
0398



LIGHT TRUCK

CONFIDENTIAL

WORLDWIDE PRODUCT ACCEPTANCE SPECIFICATIONS

SYSTEM: Body

PAGE NO: 01.14-P-4

(Local Market Requirements (LMR), as defined in the Foreword, are identified in italicized print.)

DATE: 1990 JUN 15

6. ENVIRONMENTAL

6.1 CORROSION TEST:

6.1.1 Lock assemblies shall operate within specified efforts after being subjected to a 48-hour salt spray test in accordance with MSD test procedure MH-7 or equivalent.

6.1.2 The outside handle assembly shall operate within specifications after a 96-hour salt spray test in accordance with MSD test procedure MH-7 or equivalent.

6.1.3 Key tumbler assemblies shall operate within specifications after a 96-hour salt spray test in accordance with MSD test procedure MH-7 or equivalent.

6.1.4 The assembly shall remain functional after being subjected to 96-hour salt spray fog test under operating conditions specified in ASTM B-117.

6.2 OPERATING TEMPERATURE:

6.2.1 Hood Lock: The hood lock assembly shall operate without malfunction and be within specified operational efforts after elevation to an ambient temperature of 135° for one-half hour.

6.2.2 Freeze Test — All Latches: The assembly shall operate without malfunction or failure at an ambient temperature of -29°C after one complete freeze cycle. A freeze cycle shall consist of cooling a fully latched lock assembly at -29°C for two hours, then immediately submerging the assembly in water (45°C) for 15 seconds, and replacing the wetted assembly in the cold chamber (-29°C) for an additional four hours. The lock assembly shall be held in an attitude representative of vehicle installation during the freeze cycle.

6.2.3 Vehicle Cold Test: The Door Latch and Lock Freeze Test, ETP L-76-4 or equivalent shall be used as a guide for subjecting the vehicle installed sample to -29°C for 16 hours. The vehicle must be driven through a typical high pressure car wash (rather than the specified simulated spray) immediately prior to entering a previously prepared cold room. The locks shall function at the conclusion of the test.

6.2.4 Power Door Locks: The power door lock latch release mechanisms shall be operable at all ambient temperatures from -29°C to 52°C with a fully charged battery.

6.2.5 Rain-Snow-Dust: The function of the latch assemblies shall not be affected when the vehicles are subjected to adverse weather conditions (rain, snow, sand, and dust).

7. DURABILITY

7.1 VEHICLE DURABILITY: General vehicle durability testing, as required by System 00.00, shall be required. All handles, locks and mechanisms on test shall be checked in accordance with Component Check List Procedure CETP 00.00-R-610. Additionally, power door locks shall be cycled from inside the vehicle a minimum of four times per shift.

7.2 HOOD LATCH: The hood lock assembly shall be capable of withstanding 3,000 latching cycles without malfunction or failure. A cycle shall consist of latching and unlatching the lock assembly.

7.3 DOOR LATCHES: All door latches shall complete 100,000 cycle rig test without failure. One cycle is from door latched to door unlatched to door latched position.

7.4 DOOR LOCKS: All door key and private locks shall complete 80,000 cycle rig test without failure. One cycle being from lock engaged to lock disengaged to lock engaged.

Note: During these tests, normal maintenance procedures shall be applied at intervals equivalent to the service intervals detailed in the program objectives.

7.5 LIFTGATES/TAILGATES: Tailgate and liftgate locks, handles, and mechanism shall remain functional after completing a 10,000 cycle slam test in accordance with MSD Test Procedure MH-10, utilizing an input force of 13.6 Nm.

7.6 POWER DOOR LOCK/MANUAL NIGHT LATCH: The power door lock switch and electrical actuating mechanisms or the manual night latch system shall remain functional after completion of 35,000 cycles, of which 5% shall be conducted at -29°C and 5% shall be conducted at 66°C.



Ranger, F-Series and Econoline
Truck Engineering Department

1992 March 30

E. K. Ranke

cc: K. R. Dabrowski
R. A. Reger
D. H. Smith

Subject: University of Detroit Mercy
R & D Projects - Door Latch
Release System

Enclosed is a potential project for
your consideration. This may be of
interest to Mechanical Engineering
Students.


H. K. Singh
Ext. 37603

DAAG 1691M

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DAAG1691M

0400

VEHICLE DOOR LATCH RELEASE SYSTEM

OBJECTIVE: Develop/Invent a simple linkage (connection) between the inside release door handle and the door latch mechanism which will keep the latch in latched position during high speed frontal impact crash tests.

BACKGROUND

Presently the inside release handle on the vehicle front door is connected to the door latch mechanism through a linkage (rod) or a cable system. The purpose of this research is to develop a new rod type system.

A rod type of connection is simpler and more robust than the cable type mechanism. However, rod type connections may cause the door to unlatch during a high speed frontal impact crash test. This unlatching is caused by the compression loading of the rod during excessive door deformation. Therefore, this new device must compensate for the inertia loading and deformation of the door structure. This research and development project could be divided into two separate phases. Guidelines for these phases are shown below:

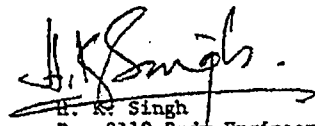
1) ENGINEERING AND DESIGN PHASE

- Prepare a Timing Work Plan for the project.
- Research existing technical information. (SAE papers. Technical Handbooks)
- Some of the concepts for a rod type of mechanisms are shown in the enclosed 'Invention Disclosure'. Your study is not limited to these concepts only.
- Prepare a list of concepts considered (along with sketches).
- Prepare an evaluation matrix and select the top two or three candidates keeping in view of the following and other engineering criteria.
 - Normal Door Operation (Static)
 - 35 MPH Crash With Door Crush
 - 35 MPH Crash Without Door Crush
 - 50 MPH Rear End Crash
 - Roll Over Crashes
 - Door Operation When the Vehicle is 'Upside Down'
 - FMVSS 206 Requirements (Door Locks and Door Retention Components)
- Analyze existing crash test data of a typical vehicle (eg. F-Series Truck at 35 MPH) to arrive at typical inertia loads, crush displacement for the door, time elements of the crush in the crash domain, etc.
- Design various components of the actuation mechanism and show calculations.
- Prepare drawings for prototype parts.
- Prepare a project report for the engineering and design phase including Failure Mode Effect Analysis (FMEA) and Design Verification Plan and Report (DVP&R).

DAAG 1692

2) PROTOTYPE BUILD AND TESTING PHASE

- Prepare a Timing Work Plan for the project.
- Build prototype (cobbled) parts.
- Install prototype parts into a door model and show its function in normal and upside down condition.
- Test the system using Hyge sled test (compliance to FMVSS 206).
- Demonstrate simulated door crush and operation of the latch system in the lab. Take high speed movies.
- Conduct a 35 MPH barrier impact test using one door with new and the other with old design system to verify the new concept ("piggybacking" on some other scheduled test).
- Update FMEA and complete DVP&R.
- Prepare a project report and make an engineering presentation.


H. K. Singh
Rm. 2112 Body Engineering
232-7603
1992 March 25

Attachment: Invention Disclosure - Inertia Loop Rod Actuated Door Latch System
(Inside Release) Dated 03-19-92

DAAG 1693

DAAG1691M/3

DAAG1693

0402



Invention Disclosure

FOR PATENT SECTION USE ONLY	
Attorney	Docket Number

Short Descriptive Title of Invention					
Inertia Loop Rod Actuated Door Latch System (Inside Release)					
Inventor's Name		Inventor's Name		Inventor's Name	
Harkrishan Singh					
Office Mailing Address		Office Mailing Address		Office Mailing Address	
2112 Body Engineering Dearborn, MI.					
Office Phone	Division, Staff or Subsidiary	Office Phone	Division, Staff or Subsidiary	Office Phone	Division, Staff or Subsidiary
32-37603	Body Engineering				
Sketch and Detailed Description - Continue on additional sheets as necessary and attach prints, reports, photos, etc. needed for full and complete understanding of the invention. All attachments must be signed by the inventor(s), dated and witnessed.					
During frontal impact vehicle crash testing, the front doors should not unlatch or swing open. The doors equipped with compression rod actuation type release mechanism have a tendency to unlatch during crash if doors are crushed beyond a certain limit. Unlatching of the doors after the crash is completed is desirable, to permit occupants ease of door openability. A cable actuated release mechanism, which does provide a solution to this problem and is being used on some of the vehicles, is more complex and is sensitive to many variables (temperature, humidity, kinks, stretch, etc.). This invention provides the solution to the problem and yet retains the simplicity and robustness of the rod actuated mechanism. Figure 1 Figure 1 shows a simplified generic latch release system (A Four Bar Mechanism for reference only). During crash the inside door handle system is pushed closer to the door latch system loading the connecting rod into compression mode and thereby actuating the latch to an open position.					
Purpose of Invention					
To eliminate the cable actuated release system which is complex and less reliable.					
What do you consider to be the novel features of the invention? It provides the flexibility of the cable system yet it offers the simplicity (Reliability/Robustness) of the Rod System.					
Itemize all attached prints, reports, memos, photos.					
Sketches Enclosed					
If funds are being spent to develop the invention, identify project or work authorization number.			Date a working model, device or process was or will be completed.		
No			Not Known		
If the invention will be released for production, identify model and year.			If invention is related to government contract, identify contract number.		
Not Known			NIL		
Signature of Witness			Signature of Inventor		Date
3. 14.92			H. Singh		3-13-92
Signature of Inventor			Signature of Inventor		Date

Genl Post

DAAG 1694

DAAG1691M / 4

DAAG1694

0403

Figure 2

Figure 2 describes the inertia loop device. During normal operation, that is, operating the inside door handle thru hand actuation, the inertia loop is ineffective because of the slow motion. During crash environment, the door handle system moves quickly (approximately in 100 milliseconds) and deforms the inertia loop without transferring motion to the latch system. This keeps the door in latched position. After around 140 milliseconds of delay the inertia loop activates the latch in open position to ease post crash door openability. If this automatic door openability is not desired, the inertia loop can be designed for zero spring back condition.

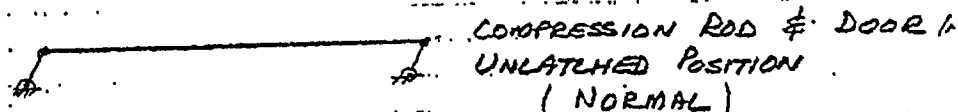
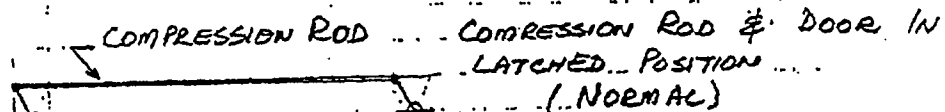
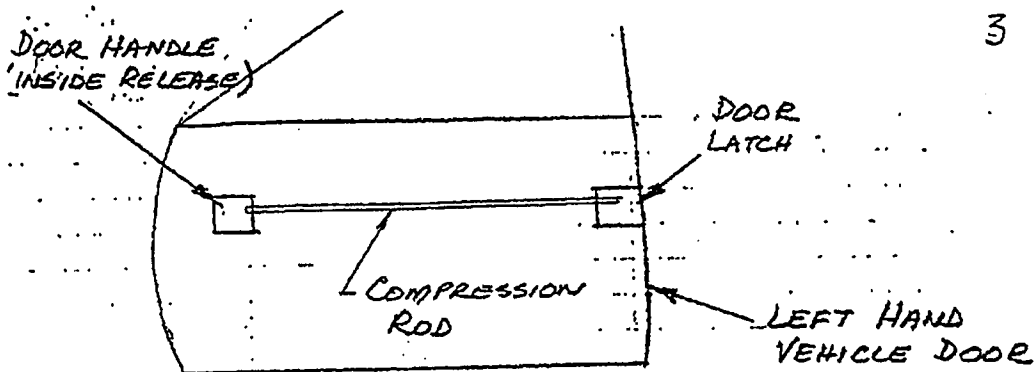
Figure 3

Other variations of this concept are shown in figure 3. However, various combinations are also possible.

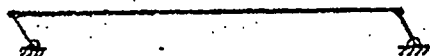
H. J. Ziegler
3-19-92

Frank A. Oli
3-19-92

DAAG 1695



DAAG 1696



PRE-CRASH CONDITION
DOOR LATCH IN LATCHED
POSITION



DURING CRASH INSIDE DOOR
HANDLE MOVES AND
CAUSES COMPRESSION ROD
TO UNLATCH THE DOOR

FIGURE 1

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3/9/92
P. 1 A 11

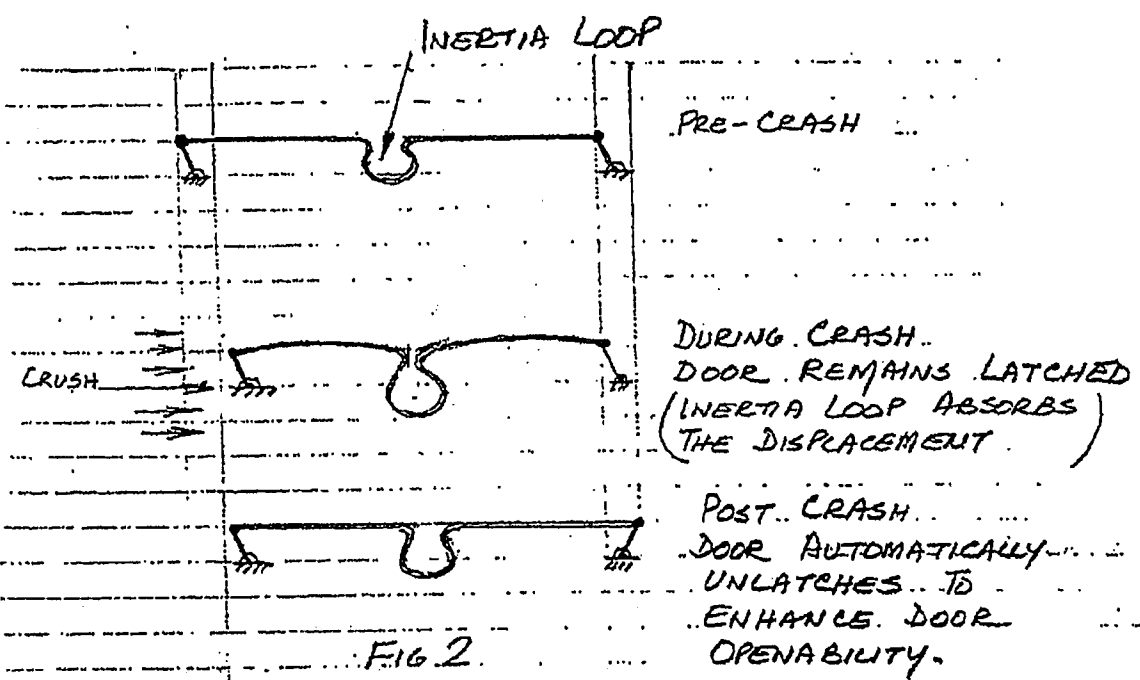


FIG. 2

OTHER VARIATIONS OF INERTIA LOOP (OR COMBINATIONS)

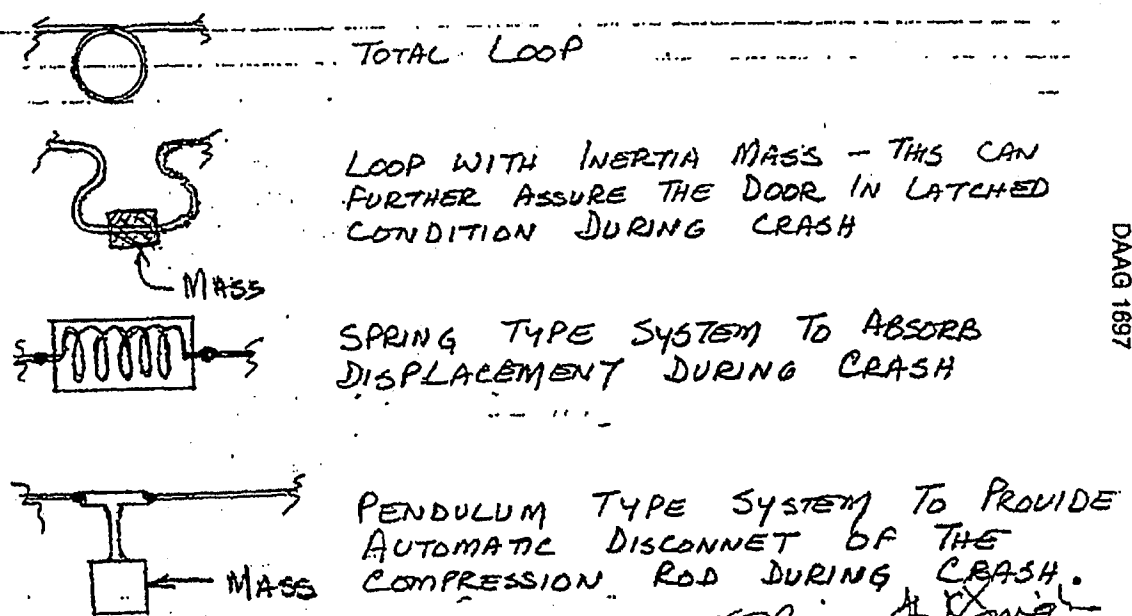


FIGURE 3

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DAAG 1697

DOOR LATCH ACTUATION SYSTEM OPTIONS

Purpose: Are cable actuation systems a viable alternative to rod actuation systems in future programs such as the DEW-98.

Desire Outcome: Cable actuated latch systems are viable alternatives to rod systems.

Discussion:

Packaging: Cable systems require less package space.

- Flexibility of cable allows placement of handle independent of latch.
- Static cable requires minimum clearance due to conduit.
- Rod requires dynamic clearance minimum of 10 mm.
- Cable can be routed between trim and door inner allowing for thin door concepts.

Safety: Cable systems are more robust to crash.

- Light weight cables have an inertia advantage to rods.
- Cable can be designed for minimum deformation during side and angular impacts.

Performance: Cable systems provide better performance to the customer.

- Cable systems have lower efforts.
- Cables are more difficult to release during theft attempt.
- Routing of cable with restraints eliminates costly anti-rattle sleeves on rods.
- Care must be taken in routing of cable to eliminate environmental concerns.
- Cable systems have less R/1000's than rod systems.

Manufacturing: Cable systems are easier for assembly plants to handle.

- Cable systems are tolerant of build variations between latch and handle.
- One end item to assembly plant, reducing cost and reducing operator dependence.
- Reduced complexity in service due to cables.

Cost: Cable systems are from two to three times as expensive as rod systems.

- Assembly cost reduced at plant.
- Component cost of cable system more than rod system.
- Possible use of carryover components higher on cable systems.

Conclusion: The relative importance of styling, quality, performance and cost must be weighed by each new program to determine usage of rods or cables. High series vehicle such as DEW-98 should use cable actuated systems.

Marcus E. Merideth

DOOR LATCH ACTUATION SYSTEMS

IONS, RODS OR CABLES.

CABLE
9.00 PER DOOR - UNPAINTED
EASY TO PACKAGE ANYWHERE. ALLOWS FOR THINNER DOORS.
8.41
1/5 HANDLE CABLE SURVIVES CRASH INTACT.
ONE END ITEM REQUIRING ONE STATION TO ASSEMBLE.
NO SIGNIFICANT DIFFERENCE.
LOWER EFFORTS DUE TO LOW CABLE INERTIA.

FN-10 AND VN-58.

DAAG 0817

0408

Margin Marked

DOOR LATCH ACTUATION SYSTEMS

PURPOSE: SOLIDIFY FUTURE PROGRAM LATCH SYSTEM ACTUATION OP

RECOMMENDATION: THE RELATIVE IMPORTANCE OF STYLING, QUALITY AND COST PROGRAM IN EVALUATING RODS vs. CABLES. BOTH SYSTEMS WEAKNESSES AS OUTLINED BELOW.

ROD	
COST*	4.25 PER DOOR - UNPAINTED
PACKAGING**	HARD TO PACKAGE HIGH AND FORWARD ON DOOR. LIMITS STYLING OPTIONS.
QUALITY (R/1000)* **	2.32
FMVSS	I/S HANDLE ROD CRUSHED DURING CRASH II.
PLANT COMPLEXITY/ LABOR	HIGHER NUMBER OF END ITEMS. MORE STATIONS REQUIRED TO ASSEMBLE.
THEFT	NO SIGNIFICANT DIFFERENCE.
EFFORTS	HIGH EFFORTS DUE TO ROD INERTIA.

* TEMPO/TOPAZ vs VN-58 DATA.

** HIGH SERIES COMPETITORS SUCH AS LEXUS USE CABLES.

*** 92 FREEZING CABLE CONCERNS CORRECTED IN DESIGN AS SHOWN ON SN-95, PN-63, 91 vs. 93 RANGER DATA.

DAAAG 0818

0409

Markus Marketh



"RECORD COPY"	
Schedule No.	7-7-11
Retain Until	1988

Inter Office

Body and Chassis
Engineering

February 7, 1986

Mr. R. J. Marshall

cc: Mr. H. F. Cromwell
Mr. J. F. D'Aprile

From: J. W. Byrne

Subject: Cable Actuated Door Latch Systems

Following is a summary of the status of cable actuated door latch systems.

NAAO

- No actions currently in place to adopt a cable system. This is frequently suggested by B&AO as a replacement for compression rod systems with a potential weight and reliability improvement but a cost penalty, as cables are more expensive than rods.
- There were some prior studies done on cable systems in Hardware Engineering but these are not available. We believe that results were that system was feasible but not cost effective.
- Modular door systems, as per Alpha project, appear to be very good candidates for cable systems because they are more adaptable to handling and loading by robotic systems.

EAO

- A system has been designed and prototyped in England. It is currently on durability testing. The intent is to introduce it in low volume models of the 1988 Sierra and then expand the usage if successful. The cable system is being introduced as a cost savings but also due to the advantages in packaging items in the doors without having to consider clearances for rods.
- The system is about a cost wash on 2 door models and an \$.80 save on 4 door models. EAO is able to achieve cost savings by using a single cable to perform two functions i.e., lock and latch, replacing two separate rods. There is also a 1 1/2 R/100 reliability improvement opportunity.
- The rear door system has lock override which is in violation of FMVSS #206. A separate lock knob control (either cable or rod) would be required for U.S. usage which would eliminate or reduce any savings.

BUT 0233

ASH1 0027

Mr. R. J. Marshall

-2-

February 7, 1986

U.S. Competition

We know of no domestic models that utilize cable systems.

Foreign Competition

The Audi 5000 is the only model that we are aware of currently using cable releases. There were some Japanese cars using rear door cable systems several years ago, but they have reverted designwise to rods.

Overall Assessment

- Possible advantages
 - Improved packaging/styling opportunities
 - Reduced rattles
 - Assembly ease due to advantages in loading and potential for automated assembly
 - Crash performance (unproven)
 - Weight estimated to be .75 lb/vehicle save
 - Reliability estimated to be 1.1/2 R/100 improvement
- Possible disadvantages
 - Cost penalty estimated to be \$.40 per door
 - ~~Corrosion sensitivity which could cause cable binding and high effort or~~ nonfunction

Outlook

While we are not actively pursuing cable release systems for door latch systems at this time, they could have potential for future models if our design philosophy of tension vs. compression were to change. Modular doors/robotic assembly seem to offer the best opportunities for incorporation. The performance of compression rod systems vs. tension and/or cablelike systems should be evaluated including the increased body crush at higher speeds.

Please let me know if you require any additional information.

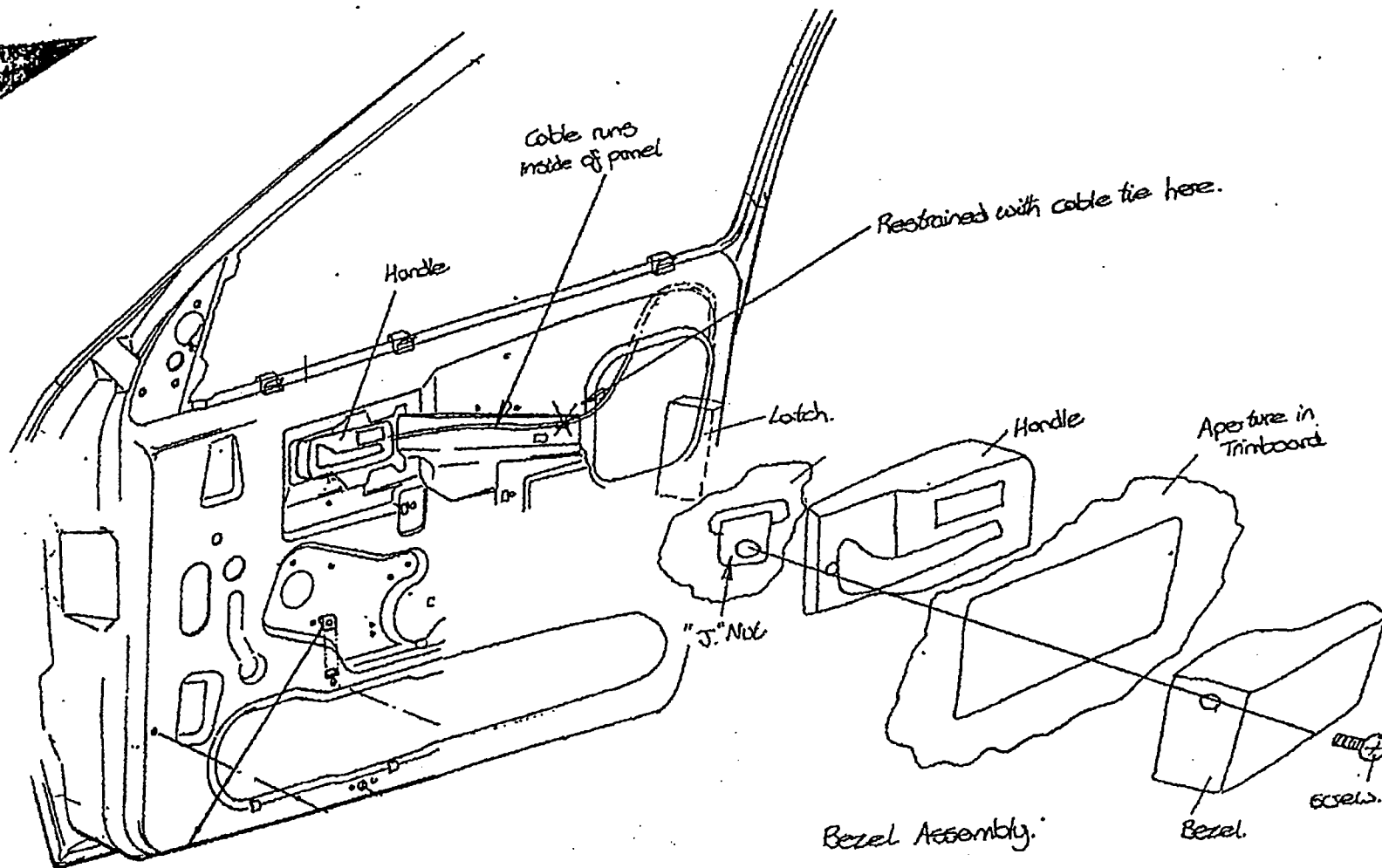

J. W. Byrne

BUT 0234

REA/mls
L0473

ASH1 0028

0411

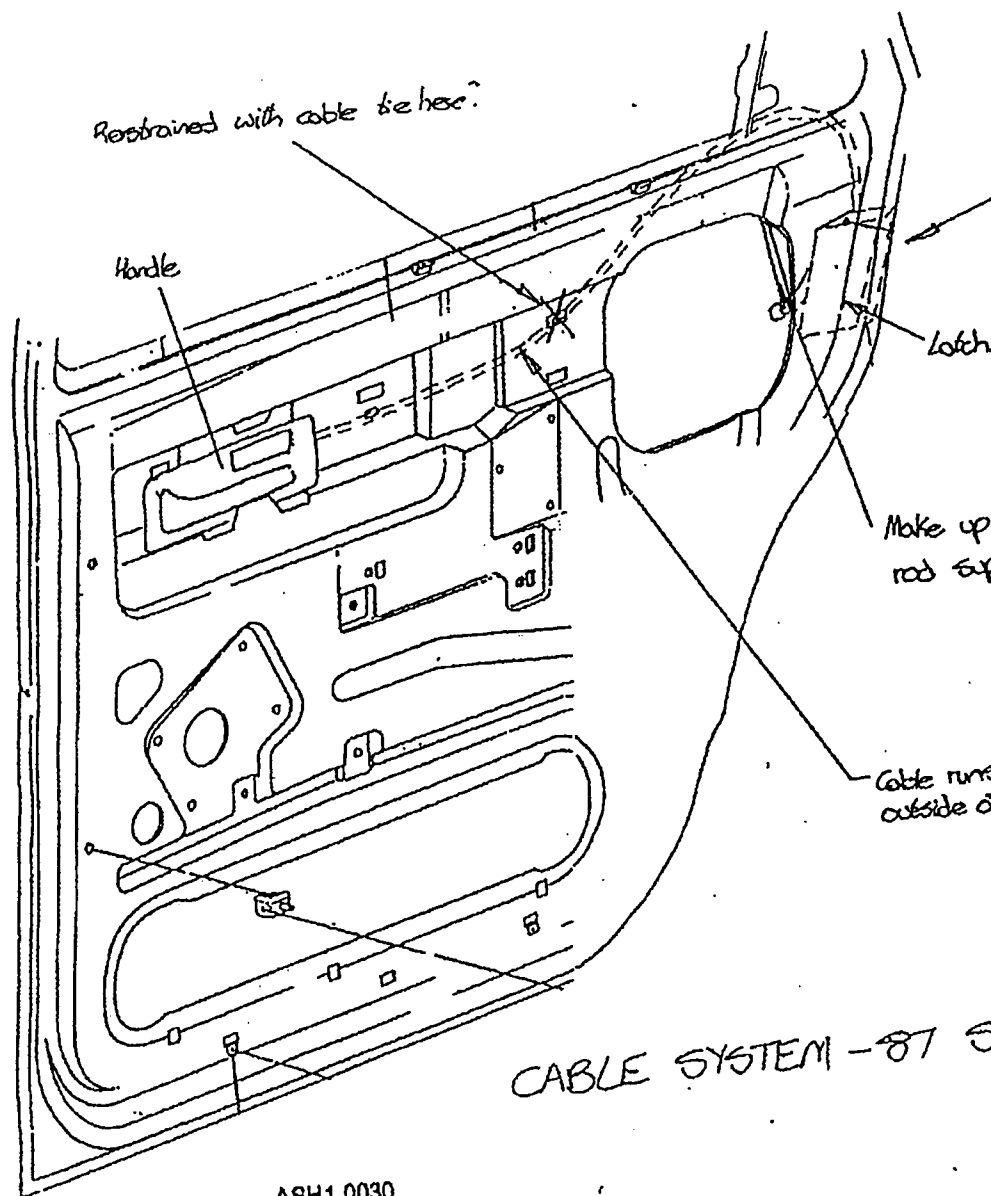


CABLE SYSTEM - 87 SIERRA FRT DOOR.

0412

ASH1 0029

BUT 0235



Rework child safety lock aperture as shown on attached sketch

Make up of handle rod 7mm longer than rod supplied & with dog-leg end as shown.

Cable runs outside of panel.

CABLE LENGTHS

5DR RR	700
5DR WAG.	600

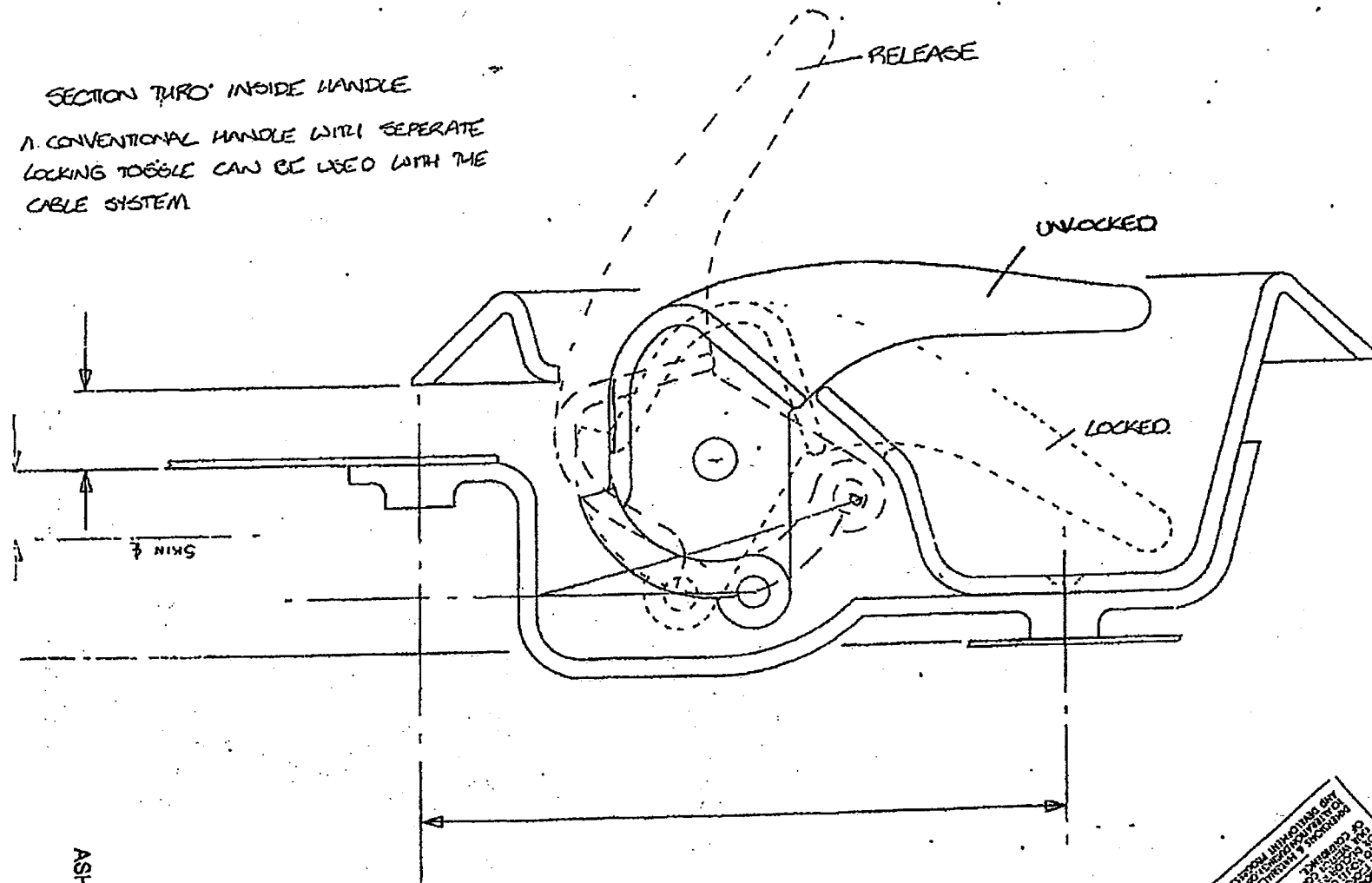
CABLE SYSTEM - 87 SIERRA REAR DOORS
(WAGON & 5DR)

BUT 0236

ASH1 0030

0413

1. CONVENTIONAL HANDLE WITH SEPERATE LOCKING TOGGLE CAN BE USED WITH THE CABLE SYSTEM



BUT 0237

0414

1. **PROPOSED PROJECT:** **RESEARCH AND DEVELOPMENT OF A NEW TYPE OF**
COMBUSTION ENGINE.
 2. **PROPOSED PROJECT:** **RESEARCH AND DEVELOPMENT OF A NEW TYPE OF**
COMBUSTION ENGINE.
 3. **PROPOSED PROJECT:** **RESEARCH AND DEVELOPMENT OF A NEW TYPE OF**
COMBUSTION ENGINE.
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 9. **PROPOSED PROJECT:** **RESEARCH AND DEVELOPMENT OF A NEW TYPE OF**
COMBUSTION ENGINE.
 10. **PROPOSED PROJECT:** **RESEARCH AND DEVELOPMENT OF A NEW TYPE OF**
COMBUSTION ENGINE.

CRASH CONSIDERATIONS AFFECT DESIGN PRACTICES

Safety is a top priority at Ford Motor Company and a necessary component to build customer loyalty and satisfaction.

This section of the course provides participants with an overview of how crash considerations affect the design of mechanisms and mechanism systems.

Crash Performance

The travel of handle assemblies must be checked for compatibility to determine if enough travel is provided to open the latch. An assumption may be made early in the program to use a handle assembly from one vehicle line and a latch assembly from another vehicle line. The engineer must check to see if they are compatible and if the handle has enough available travel to open the latch under all the latch assembly noises, such as sheet metal variation, seal force loading, friction variation due to corrosion, dust and ice, and linkage and lever deformation. A matrix of latch travel and efforts is included in the Supplement of this module.

Two key requirements provide the framework for design practices used by mechanisms engineers for the side door latching system in conjunction with crash performance.

- Keep the doors closed during a crash event.
- Allow non-impacted doors to be opened after a crash.

The following factors may affect latching systems during a crash:

- Strength of materials
 - The latch or striker may break.
 - The latch or striker may deform and become disengaged.
- Integrity of the system
 - Components in the release mechanism chain move due to crash-induced acceleration.
 - Relative movement between release handles and latch due to vehicle-crash deformation.
- Release handle operation
 - Operation is caused by occupant movement.
 - Operation is caused by contact with something outside the vehicle (colliding vehicle, lampposts, trees, ground, pedestrian).

The next section reviews these crash considerations in more detail. This information is important, especially to new engineers, because any issues that relate to safety concerns must be addressed correctly.

Crash Considerations

There are a number of factors that a mechanisms engineer must consider when designing a latch system to withstand a crash. These factors include: inertia, relative movement, inadvertent operation, and door opening.

Inertia

Crash considerations relating to inertia include:

- Latching system components may experience acceleration/deceleration greater than the 30g standard in FMVSS 206.
- Ford Motor Company SDS requirements capture crash test experience in the lateral (X) direction.
- Crash and decelerations for all crash test events shall be determined and understood.

Crash Considerations (Cont'd.)

Relative Movement

When a vehicle is subject to a crash, there are a number of possible effects to the vehicle. Relative movement considerations for various crash types include:

- Front offset crashes
 - Doors may shorten.
 - The inside release handle and the latch may be pushed closer together in the longitudinal (X) direction.
- Rear offset crashes
 - At the rear of the door, the door inner panel may move forward relative to the door outer panel.
 - The latch and the outside door handle may be pushed closer together in the longitudinal (X) direction.
- Side crashes
 - Both the door outer panel and the door inner panel will be pushed inboard to varying degrees.
- Rollover
 - Both sides of the vehicle may contact the ground. Outside door handles that protrude from the body side may be pushed flush with the body side upon ground contact.
 - The outside door handle and the latch may be pushed closer together in the lateral (Y) direction.
- Unbelted occupants
 - The door inner panel may be crushed in the outboard direction by an occupant's body.

Crash Considerations (Cont'd.)

Inadvertent Operation

Inadvertent operation crash considerations include:

- Crash-induced movement of the vehicle occupant may operate the inside release handle or the inside lock controls.
- Vehicle occupants may grasp interior features to steady themselves during a crash.
- Sideswipe collision objects (vehicles, trees, fence posts, pedestrians) may scrape along the exterior door handles from front to rear.
- In sideswipe impacts, rollovers, or side objects (vehicles, trees, or ground) may operate the exterior door handles.
- In rollovers, exterior door handles may scrape along the ground.

Unable to Open Door

When a door is struck in a vehicle crash, the door and the body may become effectively crimped together. Other situations that may prevent doors from being opened after a crash include:

- The door is crushed into the body.
- The door inner panel is caught inboard of the striker.
- Vehicle crush reduces the shut-face gap, resulting in interference between the door and the pillar. Protruding features on the door shut-face and/or body shut-face embed into the opposite surface.
- The handles become disconnected from the latch.
- The latch becomes so deformed that release levers cannot operate the pawl.

FORD MOTOR COMPANY

PRODUCT PLANNING COMMITTEE MEETING

A meeting of the Product Planning Committee of Ford Motor Company was held at 9:25 a.m., EST, on Tuesday, March 5, 1991, in Conference Room A, North American Automotive Operations Building, Dearborn, Michigan. Written notice of the meeting had been given to each of the members of the Committee, and a copy, initialed by the Secretary, is filed with the records of the meeting.

The following members were present:

E. B. Ford II	P. J. Pestillo
A. D. Gilmour	H. A. Poling
E. E. Hagenlocker	M. L. Reichenstein
M. L. Juresek	E. L. Rewey
K. K. Kohrs	L. R. Ross
O. B. Marx III	D. W. Scott
R. E. Maugh	S. A. Sensker
W. D. McKeehan	J. J. Telnack
J. P. McTague	A. J. Trotman
H. A. Nickol	

Member absent:

P. E. Benton, Jr.

Others present:

W. E. Burmeister	J. W. Martin, Jr.
J. E. Englehart	J. H. Ogden
I. M. Inglis	D. L. Rivard
M. D. Jordan	C. J. Roberts
R. O. Kramer	G. C. Smith
C. D. Leuer	E. J. Stedem, Jr.
J. M. MacNee III	W. A. Swift

~~Harold A. Poling, Chairman of the Board and Chief Executive Officer,~~
~~presided in the absence of Philip E. Benton, Jr., Chairman of the Committee,~~
~~and William E. Burmeister, Secretary of the Committee, kept the minutes.~~

STATUS OF MAJOR VEHICLE AND POWERTRAIN PROGRAMS

Mr. I. M. Inglis, Assistant Director, Car Programs Finance, Car Product Development, and Mr. W. A. Swift, Controller, Truck Operations, summarized a paper that set forth the timing, investment, and variable cost status of all of KAAO's major, approved vehicle and powertrain product programs.

Key points raised during the discussion were as follows:

1. The Chairman of the Board stressed that it is unacceptable to plan for deteriorating car profit margins and, accordingly, that it is critical to find ways to improve margins across the board.

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STATUS OF MAJOR VEHICLE AND POWERTRAIN PROGRAMS (Continued)

2. The Chairman of the Board suggested that it would be appropriate to book the existing VMSB cost provisions, given the present favorable status of the program.

NAAO CAR AND LIGHT TRUCK CYCLE PLAN REVIEW
INCLUDING CAFE AND SMALL CAR PROFITABILITY

Mr. G. C. Smith, Director, Strategy and Advanced Planning, Car Product Development, and Mr. R. S. Hines, Manager, Light Truck Business, Cycle Planning, and Special Studies Department, Truck Operations, summarized a paper requesting approval of the 1991 NAAO car and light truck cycle plan. It was noted that this cycle plan would provide the basis for the 1991 NAAO Business Plan and that the proposed plan reduces 1990-1995 facilities and tooling spending by \$6 billion versus the March 1990 cycle plan.

Key points raised during the discussion were as follows:

1. The Vice President - General Manager, Truck Operations, confirmed that Truck Operations continues its work on the previously assigned Ranger profitability study and will make a presentation in June 1991.

2. During discussion of matters related to the plan for "quiet years," the Chairman of the Board stressed that it was critical to solve the workload sustainability issues associated with the cycle plan and diminished resources.

3. The Chairman of the Board stressed that it was important to recognize that the staff's concerns about the cycle plans must also be NAAO's concerns.

4. The Executive Vice President (President, Ford Automotive Group) stressed that the objectives for the flexible fuel vehicle programs must be clearly stated to relate to Ford's overall emissions as well as fuel economy improvement objectives.

5. The Chairman of the Board noted that the fuel economy implications of P74 powertrain alternatives were a major concern.

6. It was indicated that the deferral of the CD4E transmission program would not create problems for Mazda. The Chairman of the Board stressed that for this component, as well as Zeta engines, it was important that sales to Mazda do not involve accounted losses to Ford. He emphasized that all deals with Mazda must be assessed carefully as they are made and that the sale of trucks to Mazda should be viewed as a separate business.

7. The Chairman of the Board commented on the variety of minivans that Ford eventually will be offering worldwide and suggested that the Executive Vice President (President, Ford Automotive Group) should determine the optimum long-term plan. It was indicated that Truck Operations has embarked on a worldwide minivan study and that the results will be presented to the Committee in the near future.

NAAD CAR AND LIGHT TRUCK CYCLE PLAN REVIEW
INCLUDING CAPE AND SMALL CAR PROFITABILITY (Continued)

8. ~~The Chairman of the Board stressed the importance of consistency~~ between data shown at meetings of the Product Planning Committee and what is provided to him and other members of management for discussion with government officials. He asked that a card be prepared that shows for car and truck the CAPE effects of relevant emissions and safety-related actions.

9. It was confirmed that a comprehensive review of small car strategy will be included on the June 1991 Product Planning Committee agenda.

Following discussion, and upon the advice of the Committee, the Office of the Chief Executive approved the proposed NAAD car, truck, and powertrain cycle plans as set forth.

1993-1/2 CONTINENTAL MINOR FRESHENING

Mr. F. Simon, Program Manager, Continental Program, Car Product Development, summarized a paper requesting approval of a minor exterior and interior freshening for the Lincoln Continental in 1993-1/2 to support volume until introduction of the all new F874 in 1995-1/4.

It was indicated that there presently exists a one-month timing risk related to the program's late initiation.

Following discussion, and upon the advice of the Committee, the Office of the Chief Executive approved the proposed program and its objectives and the related tooling and facilities expenditures of \$22.4 million, as set forth.

1993-1/4 3.0L TAURUS FLEXIBLE FUEL PILOT PROGRAM APPROVAL

Mr. R. L. Landgraff, Program Manager, Taurus/Sable Program, Car Product Development, summarized a paper requesting approval of \$73 million of total program expenditures, including \$21.7 million previously approved long-lead funds for the 1993-1/4 3.0L Taurus flexible fuel vehicle pilot program.

Key points raised during the discussion were as follows:

1. The need to control variable costs carefully was stressed, since the financial outcome of the ultimate production program is likely to be closely related to the quality of the execution of the pilot.

2. The Chairman of the Board stressed the importance of carefully monitoring developing competitive risks and doing all that we can to maintain our technical leadership role. It was noted that, in particular, VW should be assumed to continue to be very aggressive from an engineering standpoint.

3. The Executive Vice President (President, Ford Automotive Group) requested that the Vice President - Public Affairs prepare for the Office of the Chief Executive a summary of Ford's public posture on alternative fuel vehicles.

4. The importance of taking all appropriate actions to ensure that there will be no technological "glitches" in the products sold was emphasized.

1993-1/4 3.0L TAURUS FLEXIBLE FUEL PILOT PROGRAM APPROVAL (Continued)

Following discussion, and upon the advice of the Committee, the Office of the Chief Executive ~~concurrent in proceeding with the program, as proposed,~~ and directed that an appropriation request be submitted to the Finance Committee covering total program expenditures.

1994-1/6 AND 1994-2/3 4.9L FFV/EMISSIONS PROGRAMS

Mr. E. H. Hommel, Manager, Powertrain Programs Engineering Department, Truck Operations, summarized a paper recommending the approval of \$37 million of long-lead funds for tooling and facilities in support of the 1994-1/6 and 1994-2/3 4.9L FFV/emissions programs.

Following discussion, and upon the advice of the Committee, the Office of the Chief Executive stressed the importance of achieving all of the program's objectives, concurred in proceeding with the program, and directed that a request for long-lead funding be submitted to the Finance Committee.

1993-1/2 EXPLORER PREMIUM EDITION PROGRAM

Mr. L. K. Shadden, Program Manager, UN46, Truck Operations, summarized a paper requesting program approval and the appropriation of \$16 million for tooling and facilities to create a 1993-1/2 Explorer Premium Edition, with a planned Job #1 date of February 1, 1993.

Key points raised during the discussion were as follows:

1. It was indicated that the addition of full-time 4-wheel drive would be considered when the Explorer product line undergoes a major change.
2. In response to a question, it was stated that the addition of a "Premium Edition" series, rather than an option package for the Eddie Bauer series, was predicated on the expectation that pricing opportunities will protect margins in the longer term. It was noted that nomenclature for the proposed premium edition would be proposed later.
3. The Chairman of the Board challenged Truck Operations to achieve "Premium Edition" margins in excess of those presently being achieved with the Eddie Bauer model.

Following discussion, and upon the advice of the Committee, the Office of the Chief Executive approved the proposed program and the associated funding set forth in the proposal.

1994-1/4 SN95 PROGRAM TARGETS

Mr. W. W. Boddie, Program Manager, SN95 Program, Car Product Development, summarized a paper requesting approval of program targets for the 1994-1/4 SN95 Mustang, recommending the approval of \$100 million in long-lead funds, and proposing proceeding to program approval in the fourth quarter of 1991.

1994-1/4 SN95 PROGRAM TARGETS (Continued)

Key points raised during the discussion were as follows:

1. The Chairman of the Board indicated that it would be less than desirable to introduce this product with no improvement in fuel economy and urged continued study of the application of the 4.6L modular engine at the earliest possible point.
2. Given the undesirability of downtime at Dearborn, it was agreed that the acceleration of Job #1 would continue to be studied.
3. The Chairman of the Board commented negatively on the size of the engineering expenditure and acknowledged that while it had been reduced substantially from earlier reviews, it would have been desirable if it were on the order of magnitude of 30% of tooling and facilities, rather than 40%.
4. The Chairman of the Board commented that for the SN95 and all other programs, it would be desirable to reduce costs related to items designed to achieve or exceed compliance with regulatory requirements to as low a level as possible to maximize our future pricing flexibility vis-a-vis competition.
5. In response to a comment made by the Vice President - Controller that all efforts to improve margins should be pursued, the Chairman of the Board indicated that this should be central to our thinking on all programs -- that we need to start making satisfactory profits on the vehicle programs themselves, not just on parts and financing.
6. The Chairman of the Board congratulated the SN95 team for the progress it has made and challenged them to meet all of the objectives they have set forth for the program.

Following discussion, and upon the advice of the Committee, the Office of the Chief Executive concurred in the program targets set forth and directed that the associated request for long-lead funding be submitted to the Finance Committee and then to the Board of Directors.

5.0L/5.8L ENGINE COMPETITIVENESS AND UPGRADE PLANS

Mr. S. C. Ross, Manager, Compact and Full Size Truck Powertrain Program Planning, Car Product Development, summarized a paper requesting approval of \$25.5 million of facilities and tooling for the 1994 5.8L roller tappet program, \$25 million in long-lead funds for the 5.8L emissions/upgrade program to protect 1995 timing, and an endorsement of proposed 5.0L and 5.8L engine strategies to serve as the basis for forward model decision making.

In response to questions, it was indicated that the proposed program would correct the present shortcomings of the 5.8L engine, but that 5.0L engine concerns would only be eliminated when the engine is replaced with the 4.6L modular V8.

Following discussion, and upon the advice of the Committee, the Office of the Chief Executive endorsed the proposed 5.0L and 5.8L engine strategies set forth and approved the associated funding requests.

1995 EN53/FN36 PROGRAMS DIAMOND POINT <2>

~~Mr. G. K. Haffman, Program Manager, Large Car RWD Programs, Car Product Development,~~ summarized a paper describing the financial and product implications of the 1995 EN53/FN36 Crown Victoria/Grand Marquis and Town Car programs, requesting support of the overall program planned, approving \$25 million of long-lead funding, and approving proceeding with the program to the December 1991 Diamond <4> go-for-one decision point.

Key points raised during the discussion were as follows:

1. The Vice President - Controller emphasized the importance of finding ways to achieve present margin levels with these 1995 products, and it was confirmed that a full cost press is under way on reducing variable costs.
2. The Chairman of the Board called attention to the high engineering expenditures indicated for the programs, noting that, in some cases, they were almost dollar for dollar with tooling and facilities. The Vice President - Car Product Development indicated that between now and this fall, every effort would be made to reduce the levels as much as possible.

Following discussion, and upon the advice of the Committee, the Office of the Chief Executive endorsed proceeding with the 1995 programs outlined, as proposed, and approved \$25 million of long-lead funding.

LONG RANGE ELECTRIC VEHICLE STRATEGY: 1998-2005 OUTLOOK

Mr. J. R. Wallace, Director, Electronic Systems Research Laboratory, Research Staff, summarizing the recommendations of the Long Range Electric Vehicle Strategy Committee and requesting agreement on strategic direction, goals, and recommended actions for the future electric vehicles Ford will produce.

Key points raised during the discussion were as follows:

1. The Vice President - Technical Affairs confirmed that there is a strong customer orientation in the approach being followed in developing viable electric vehicles. In particular, the cost of ownership issue is a major consideration.
2. The electric vehicle team was encouraged to make frequent reports to the Committee, and it was confirmed that this is planned.

Following discussion, and upon the advice of the Committee, the Office of the Chief Executive endorsed the electric vehicle strategy set forth, including the related market, product, technology, and public/governmental relations initiatives planned.

CLEAN AIR ACT PROGRAM STATUS:

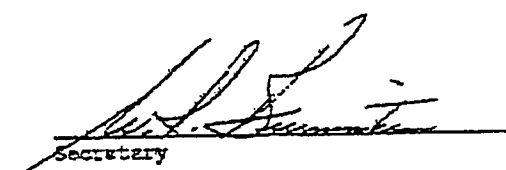
CT20 FINAL STATUS REPORT:

1991 UN65 (NAVAJO) FINAL PROGRAM STATUS

~~The above papers were included in the meeting materials but were not presented.~~

It was confirmed that the results of benchmarking studies related to the Clean Air Act compliance program will be presented to the Committee in October 1991.

There being no further business, the meeting was adjourned.


Secretary

Advantages/Disadvantages of Cable vs Rod Release Mechanisms

CABLES

RODS

Durability

Decreased abuse to system during "snap back".

Higher mass of rods increases "snap back" abuse problems.

High resistance to tension abuse loads.

Increased sensitivity to compression loading in abusive testing.

Design Flexibility/Styling

Due to flexibility of cable systems, placement of the inside remote can be totally independent of the latch; greater advantage to styling.

Rod performance limited by position of latch to inside handle.

Cable system provides greater flexibility to design route between door inner panel and door trim.

Routing of rod between door inner panel and trim is difficult and likely to increase interference potential.

Environment

Design guidelines for routing of cable needs to be followed to avoid problems as a result of environmental conditions.

Rods are less susceptible to environmental conditions.

PRELIMINARY

Function

Cables allow for smoother release efforts. Force at handle is proportional to the force at the latch.

Release efforts increase when rods are designed with offset bends. Designs constrained to systems with straight rod configuration. Furthermore, use of guide clips to prevent significant rod flexing difficult without affecting performance.

Manufacturability

Cable systems are more tolerant of build variations between latch and inside handle locations. No adjustment required.

Rod performance more likely affected by relative position between latch and handle. Potential in plant adjustment required.

Only one item shipped into OEM assembly plant.

Several end items shipped into OEM assembly plant.

Easier assembly at OEM assembly plant.

OEM assembly plant installation. More costly and time consuming. Also greater potential for rod disengagement or misadjustment (operator dependent).

BUT 0216

TKM A...

Noise of Vibration

Cable clips may be required to eliminate rattle. However, cable clips do not affect system performance.

No noise design.

Clips and other costly insulators may be required to eliminate rattle. Their use may affect system performance.

Corrosion build up on rods creates high frequency vibration (noise) during motion through clips.

Packaging

Greater likelihood for carryover usage of cable systems. This carryover potential increases with increased usage of cables.

Due to static nature of conduit, routing position of cable relative to other components not detrimental to its function. Less clearance required.

Minimal carryover usage potential for rods.

Rods are dynamic by nature and require maximum envelopes in which to function, thereby creating clearance concerns.

Recyclability

Due to dissimilar materials recyclability more difficult.

*Item for warranty investigation

Recyclability advantage

Reliability

Safety

Cable systems provide confidence in meeting FMVSS 206 and FMVSS 214. Inertia - Impact advantage.

Side intrusion, angular, frontal and rearward impacts: cable length can be designed to compensate for all situations.

Rods add detrimental weight to inertia requirements; FMVSS 206. Dynamic requirements of FMVSS 214 also adversely affected with use of rod systems.

Increased risk of system release in all directions due to rod inertia, permanent rod deformation or door foreshortening.

Angular Rearward Impact: Compression system reduces risk, Tension system increases latch release risk.

Service

Service requirements less complex.

Service requirements more complex.

Shipping

Cable systems are flexible, making them more durable to handling.

Rods are rigid and susceptible to permanent bending during shipping process to OEM assembly plant, which may result in pre-load or no load conditions.

ASH1 0011

BUT 0217

Security

Design/cable flexibility during unwanted entry (anti-theft) can make system more difficult to release.

Rod rigidity provides greater theft potential.

Complexity, Cost and Weight

Cables not handed for RH and LH doors.

Rods handed, requiring unique RH and LH parts.

Component costs greater on cable systems.

Relative simplicity provides component cost advantage.

*End item system cost is greater but development costs inherently less due to its greater design/packaging/prototype flexibility.
Lower assembly cost.*

OEM end item system cost is lower but development costs greater due to design constraints.

Higher assembly costs.

Weight savings.

Weight penalty.

PRELIMINARY

BUT 0218

ASH1 0012

0428



Inter Office

Body Engineering

July 15, 1994

To: Hardware Engineering Supervisors and Technical Specialist
cc: R. Nash, Jr.
Subject: Rods vs. Cables Study.

Attached is a study under development for rods vs. cables. This study will be used to help determine a Hardware Systems Technology position on the subject.

Please review the information and provide comments. Then return to Bill Clarke (in-tray at Greg Marzolino's desk) by 7/22/94.

Thank you in advance for your support.

Bill Clarke
x74602

Muhammed Ayub
x38015

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BUT 0219

ASH1 0013

Rods vs. Cables
Door Hardware Systems
7/12/94

Main Advantages of Cables

Improved Barrier Performance

Improved Quality

Easier to Install

Robust to Sheetmetal Variation

Greater Packaging Flexibility

Disadvantage of Cables

Higher Cost

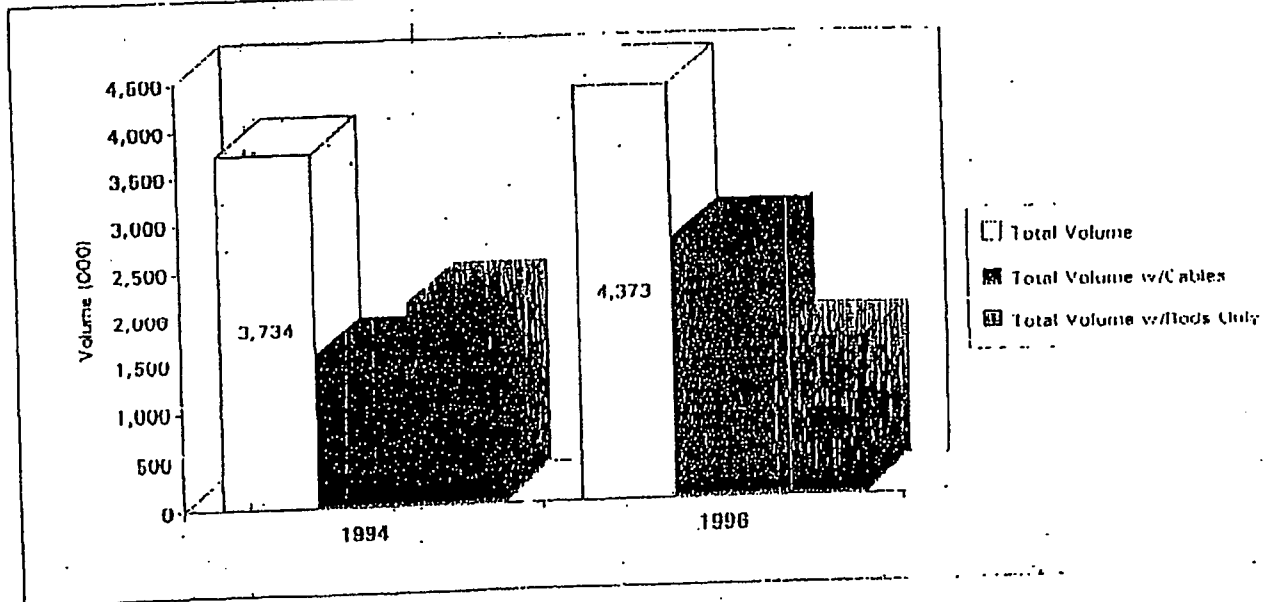
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W. Clarke/M. Ayub
Hardware Systems Technology
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BUT 0220

0430

Rod vs. Cable Latch Systems
 Ford Production Volume Comparison
 North America



Also, Increased Use By Competitors:

Acura Legend
 Lexus GS300 and Coupe
 Mercedes C200
 Toyota 4-Runner (Rear Doors) and Previa (Sliding Door, Liftgate)

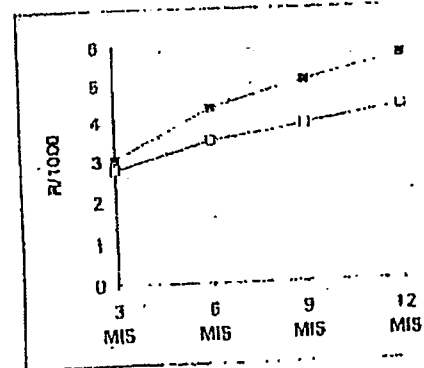
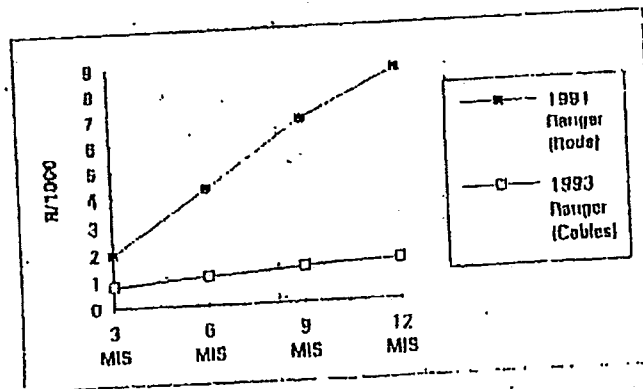
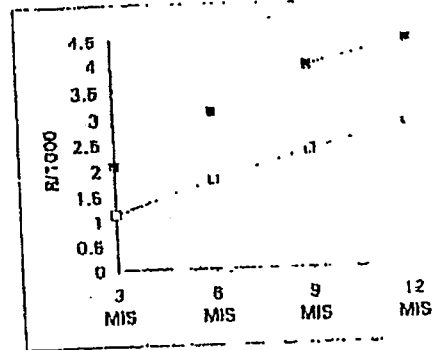
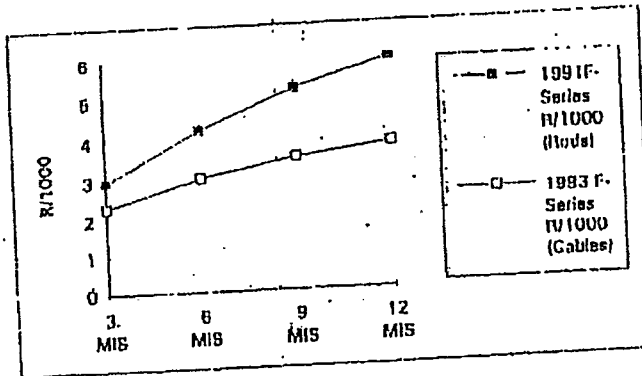
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BUT 0221

0431

Node vs. Cable Latch Systems
Repair Rate Comparison
1991 Vehicles (Nodes) vs. 1993 Vehicles (Cables)

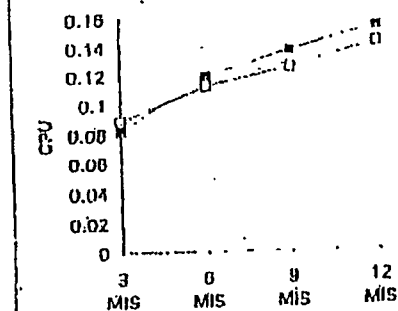
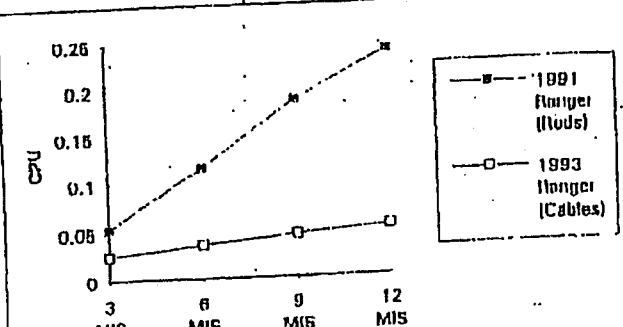
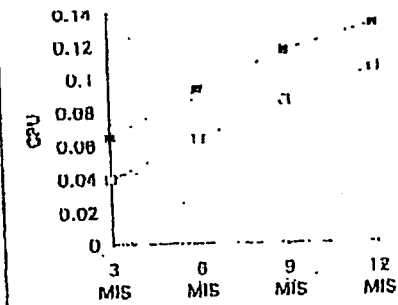
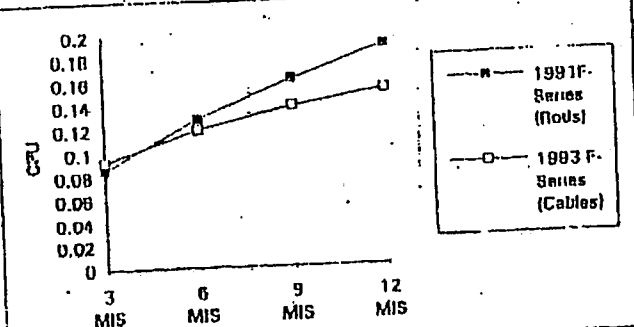


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BUT 0222

1991 Vehiculos (Rods) vs. 1993 Vehiculos (Cables)



ASH1 DD17

Rods vs. Cables
FMEA
7/12/94

Rods

PART NAME	POTENTIAL FAILURE MODE	R R R	D R R	ACTION PLAN	VERIFICATION PLAN	D R R	RPN	
I/S Release Rod (from PN90/UN93)	Cannot open door due to rod disconnect.	8	3	Design rod with "double 90" end.	Life cycle durability testing, pull test.	5	120	A
	Door opens in crash due to door foreshortening.	10	2	Add spring loaded I/S rel. lever to protect max. travel.	Monitor vehicle crash testing, benchmark door foreshortening of Ford products.	5	100	B
	Door opens in crash due to inertia loads.	10	2	Design spring and/or counter balance on R/Contr (and add inertia catch - PN96, UN93) to meet 30g load.	Monitor crash tests	5	100	C
	Rod bent during shipping & handling (riveted to latch I/S release lever).	4	5	Monitor DV testing.	Design review w/BEO & B&A.	5	100	N/A
	Cannot unlatch door due to variance of sheetmetal & mechanism exceeding tolerance.	8	3	Use compensating clip (operator adjusted).	Cut & Weld prototype build, computer kinematic analysis	4	96	D
	Cannot unlatch door due to misadjusted compensating clip.	8	3	Operator training.	Door functioning.	4	96	N/A
	Squeak & rattle of rods.	5	4	Use plastic or wave washers, lean sleeves.	Design reviews and S&R evaluations.	4	80	E
	Cannot unlatch door due to poor rod routing/geometry.	8	3	Computer kinematic analysis.	Cut & weld prototype build; design review	3	72	N/A
	Cannot unlatch door due to bent rod, not enough travel from I/S handle.	8	2	Overtravel stop on handle to prevent excessive load on rod.	Verify stop on R/Contr 3mm after stop on latch.	4	64	F
	Failure to remain latched due to rod length max. plus tolerance accumulation.	9	3	Use compensating clip on rod for length adjustment (w/spring on I/S release lever)	Tolerance stack-up, design review.	2	54	G

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BUT 0224

0434

Rods vs. Cables
FMEA
 12/12/14

Cables

	POTENTIAL FAILURE MODE	D O C U M E N T E D	ACTION PLAN	VERIFICATION PLAN	D O C U M E N T E D	RPN	
I/S Release Cable (per WIH88)	Cannot unlatch via I/S handle due to variance between latch, cable, I/S handle exceeding tolerance.	8	3	Tolerance stack, design reviews.	3	72	D
	Cannot unlatch due to cable-icing.	10	2	Design for water management.	3	60	N/A
	Squeak & rattle of cables.	5	3	Proper clip placement, foam sleeves as req'd.	4	60	E
	Door opens in crash due to door foreshortening.	10	1	Cable is robust to door foreshortening.	4	40	B
	Door opens in crash due to inertia loads.	10	1	Cable has very small inertia.	4	40	C
	Cannot unlatch via I/S handle due to cable free length too long	8	2	Tolerance stack-up on required free length.	2	32	G
	Cable unhooked from latch lever or I/S handle.	8	2	Cycle testing & I/S handle snap-back testing.	2	32	A
	Inner cable breakage.	8	3	Use 1X7 wire strand & zinc die cast ferrules.	1	24	N/A
	Cannot unlatch door due to variance of sheetmetal.	8	1	Cable is robust to sheetmetal variation.	3	24	D
	Cable conduit unhooked from latch or I/S handle.	8	1	Tolerance stack-up on cable/latch & cable/handle interface. Cycle testing and snap-back testing.	2	16	A
	High efforts due to cable corrosion	6	1	Use galvanized laywire and apply nylon jacket.	2	12	N/A
	Cannot unlatch due to cable stretch.	8	1	Use pre-stretched cables, cycle test.	1	8	I

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BUT 0225

ASH1 0019

0435

	Rods	Cables
Financial Variable Cost Investment Labor Save Warranty	Baseline Small - \$10K	<i>Thinking it was wrong</i> \$0.05/door more than rods Small - \$10K \$0.38/door savings (BEO estimate) \$0.44/unit savings (CPU x 4)
Performance Environmental Barrier Performance Anti-theft Squeak & Rattle Handle Efforts	No issues. Withstands no more than 12mm of door foreshortening. Rods have greater inertia than cables. Rods are less robust to theft attempts. Clips & sleeves added to prevent S&N. Higher efforts due to higher inertia compensation.	Requires proper cable routing & water mgt. to prevent moisture build-up Robust to door foreshortening and bending. Cables have less inertia. More robust to future changes in FMVSS requirements. Cables are more robust to theft attempts. Clips added to prevent S&N. Generally, less potential for rattles. Lower efforts than rod system.
Quality N/1000 (12MIS) CPU (3/3B) TGW-Int. Lks. Durability	1991 Weighted Average (F-Series, Ranger, Aerostar, Econoline) 8.39 \$0.25 17 Meets 10 year, 150K mile requirement.	1993 Weighted Average (F-Series, Ranger, Aerostar, Econoline) 3.10 \$0.14 14 Meets 10 year, 150K mile requirement.
Design Robustness Packaging	Sensitive to sheetmetal variations. - More difficult to route requiring 4-5mm min. dynamic clearance & reasonably straight routing. - I/S handle must be nearly horizontal from latch, restricting packaging & ergonomics.	Robust to sheetmetal variations. - Cable routing is easier than rods; cables require min. static clearances & offer more freedom for routing. - Inside handle can be placed anywhere on door to optimize ergonomics and styling.
DFMA Assembly Issues	Rod system is more difficult to install. 2 to 4 end items, 8 to 8 operations - Higher cost, operator dependent.	Cable system is easier to install. 1 end item, 4 to 5 operations - Reduced assembly cost. No operator adjustments.
Vehicles Ford (1994) Ford (1996) Competitors	Tempo/Topaz, DN5, MN12, EN63, FN30, FN9, UN40 Escort/Tracer, Villager MN12, EN63, FN30, UN106, PN96 Escort/Tracer, Villager Most competitors use rods, although cables are beginning to appear on many newer entries.	FN10, SN95, VN68, PN63, WIN88, F-Series/Bronco, Aerostar FN10, SN95, DN101, FN74, CDW27, VN68, PN63, WIN88, F-Series/Bronco, Aerostar Acura Legend, Lexus GS300, Lexus Coupe, Mercedes C280 (front door), Toyota 4Runner (Rear doors) & Toyota Previa (Side door & liftgate).

Robust design study in progress. Scheduled completion date 10/30/94.

BUT 0226

ASH1 0020

Ford Motor Company

Ford Motor Company, Advanced Vehicle Technology,
Room 3061, Dearborn, Michigan 48121

20000 Paranda Bldg. #3.



Date: 1-30-97

Number of pages including cover sheet: 12

To:

Bill GRACEY

Phone: 40321

Fax phone: 78256

CC:

From:

AVT-Hardware Systems
Engineering

D. SCHAFER

Phone: 4192/313

Fax phone: (313)90-3390

REMARKS:

☐ Urgent

☐ For your review

☐ Reply ASAP

☐ Please comment

ALT 0227

ASH1 0021

0437

VN-127 Econoline
Front Door Latch System
August 3, 1993

Issue

1997 Econoline may require a new inside door handle. This may present an opportunity to revise the latch actuating system from a cable to a compression rod. Currently, Truck Office does not acknowledge this opportunity nor will they support funding.

Background

The March 29 Pre-PD Reliability Review discussion indicated a high B.E. Management want for rod vs. cable latch actuation. Truck Office Program Management was not present for this discussion.

Current Status

1. Compression rods appear to be package feasible.
2. Rod System Costs:

	Tooling & Fixtures	Variable Cost	(Over)/Under Current Production
Current Status	\$600K - \$1200K	\$16.00 - \$17.00	\$1.00 - \$2.00
Truck Office	\$141,000	\$18.00	0
Targets			

3. Quality Status:

	Warranty - 1993 MY		NVQ/CNVO
	Frt Dr Components*		2nd Qtr '93
	1 MIS	3 MIS	TGW
Econoline	2.3	4.0	32**
F-Series	4.3	6.8	39
Taurus	3.2	6.1	47
Total Car	1.6	3.2	45
Total Truck	2.9	4.7	45

* Excludes O/S handles, power actuators, lock cylinders.
** Adjusted for misbins (30) and closed issue (23).

Open Issues

1. Door sheetmetal performance.
2. Truck Office affordable targets vs. status.

Recommendation

Hardware Engineering recommends that the 1997 program retain the cable latch system for the following reasons:

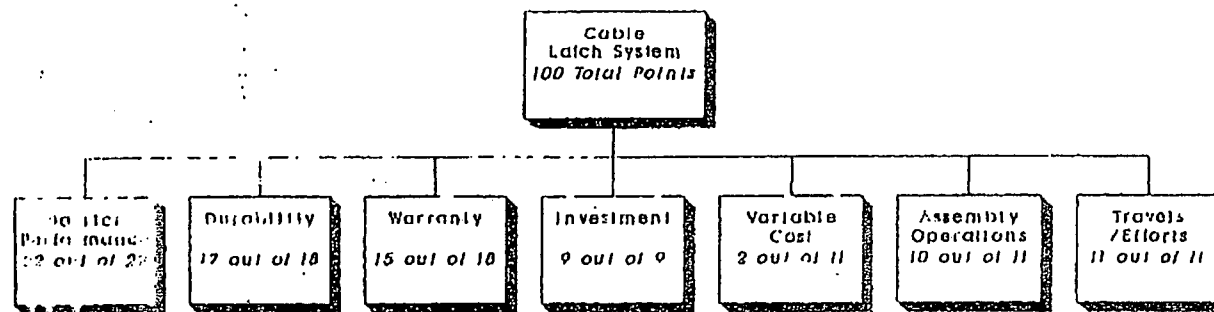
1. Quality performance as confirmed by warranty and NVQ data.
2. Open issues.

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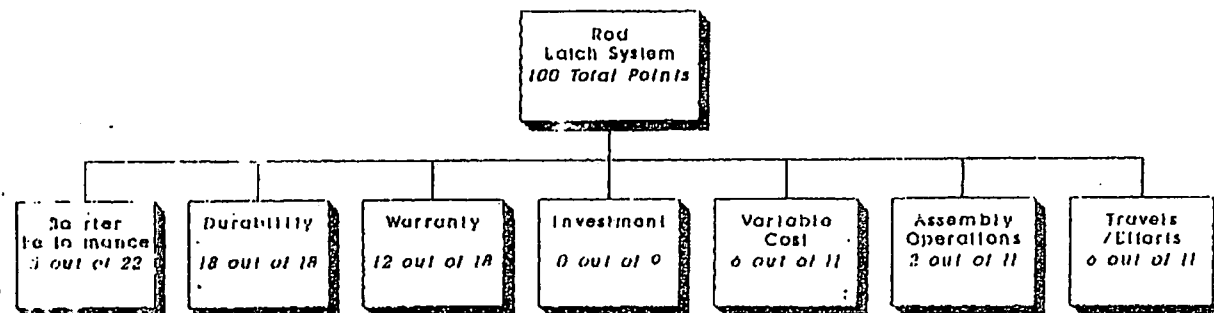


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Front Door Latch System VN-127 Econoline

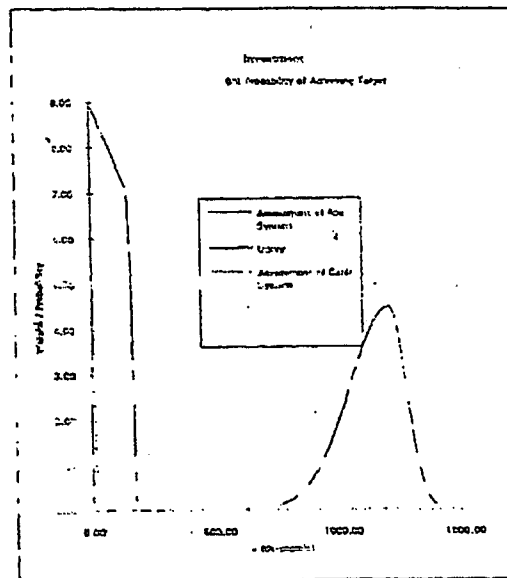
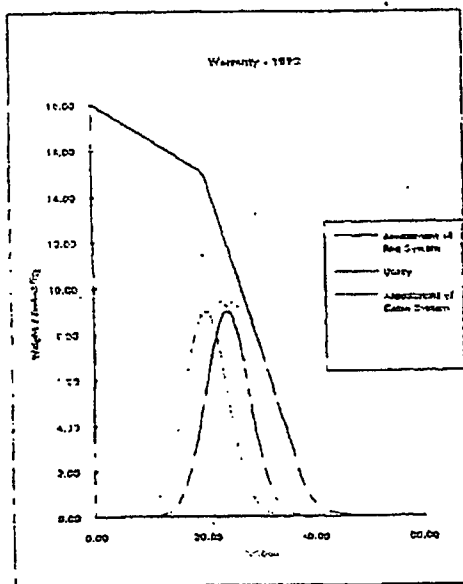
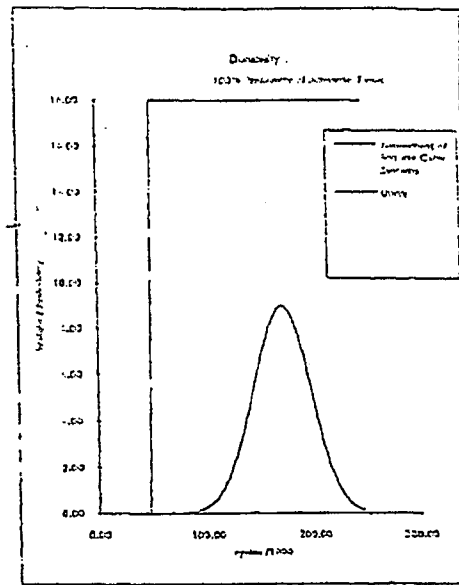
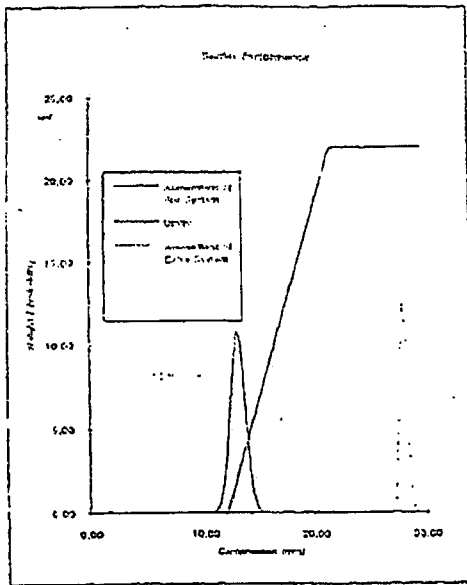


SCORE: 66 points out of 100

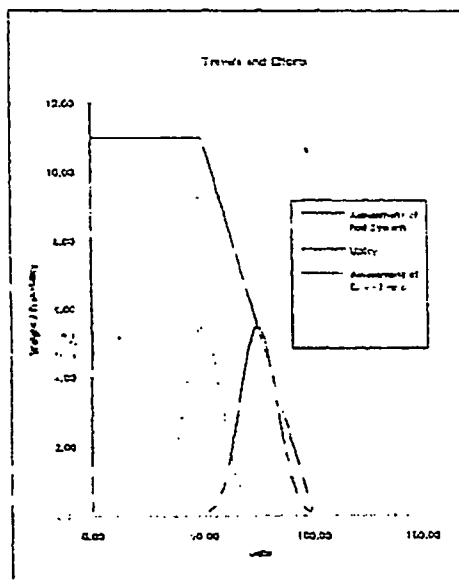
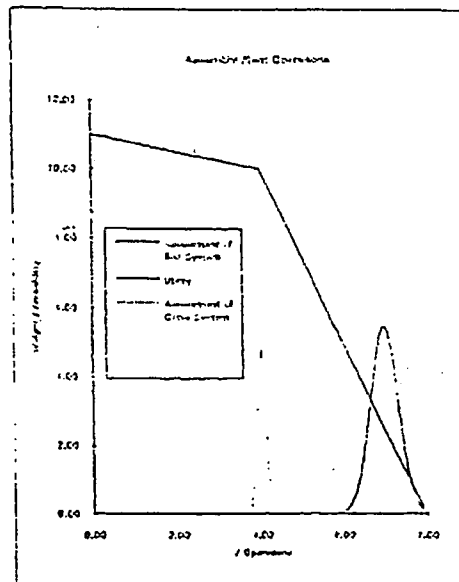
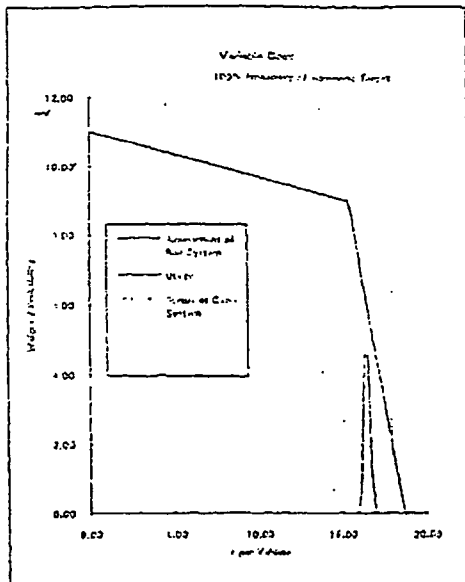


SCORE: 49 Points out of 100

DAAG 0813



DAAG 0814



DAAG 0815

PN96 TENSION VS COMPRESSION ROD STUDY RECOMMENDATIONS

***REVISE PN96 PROGRAM ASSUMPTIONS TO COMPRESSION RODS**

***SUPPORTED BY FORD'S HISTORIC EXPERIENCE WITH COMPRESSION RODS**

***PRESERVES CUSTOMER FEATURES (INSIDE HANDLE LOCKED LATCH OVERRIDE AND FLUSH NITE LOCK BUTTON)**

***LATEST CRASH DATA IS POSITIVE TO NEUTRAL WITH RESPECT TO COMPRESSION ROD FEASIBILITY.**

***RETROFIT PN96 SP LEVEL CRASH VEHICLES WITH COMPRESSION ROD SYSTEM TO DEVELOP AND VERIFY DESIGN.**

***MONITOR CLOSURE AND HARDWARE PERFORMANCE ON PN96 CRASH PROGRAM.**

***DESIGN PROTECT FOR CABLE ACTUATED LATCH (SUCH A SYSTEM HAS INHERENT ADVANTAGES WHICH WOULD LESSEN THE EFFECTS OF BOTH DEFORMATION AND INERTIA)**

TENSION RODS

CONCERN	TEST RESULTS/DATA	REMARKS
DOOR OPENS DUE TO PASSENGER INTRUSION INTO DOOR	DOOR DID NOT OPEN DURING PASSENGER INTRUSION LAB TEST (SEE ATTACHED DATA)	A RANGER DOOR (INCLUDING TRIM PNL), WITH A SHORT LEVER PN96 TENSION ROD SYSTEM WAS USED. ANY TENSION ROD SYSTEM COULD PROBABLY ADDRESS THIS CONCERN
DOOR OPENS DUE TO DOOR/ROD DEFORMATION DURING SIDE IMPACT (STATIC AND DYNAMIC)	SURROGATE DOORS USING TENSION ROD SYSTEMS BECAME UNLATCHED DURING A 214 STATIC TEST. THERE IS NO DATA ON DYNAMIC TESTS	IT IS NOT AN FMVSS REQUIREMENT THAT THE DOORS STAY LATCHED, BUT BODY SAFETY PREFER THAT THEY DO
INSIDE HANDLE OVERRIDE OF LOCKED LATCH DUE TO SIDE IMPACT		ASO'S POSITON IS THAT A TENSION ROD SYSTEM SHOULD NOT HAVE OVERRIDE. OVERRIDE IS A CUSTOMER WANT. NITE LOCK BUTTON WOULD CHANGE FROM FLUSH TO PROUD
INSIDE HANDLE OVERRIDE WITH A TENSION ROD SYSTEM REDUCES ANTI-THEFT RESISTANCE	TENSION ROD (SHORT LEVER) SYSTEM REQUIRES ONLY 45mm (1.8") OF DISPLACEMENT TO UNLATCH	TENSION RODS MAY HAVE TO BE SHIELDED
LATCH STRENGTH UNDER ABUSIVE CONDITIONS	LATCH PASSED 1400N SPEC IS 2000N	THIS WOULD INVOLVE AN EXTENSIVE REDESIGN TO MEET SPEC. 2000N AT LATCH IS 400N (90 lbs) AT HANDLE

RGR6 2323

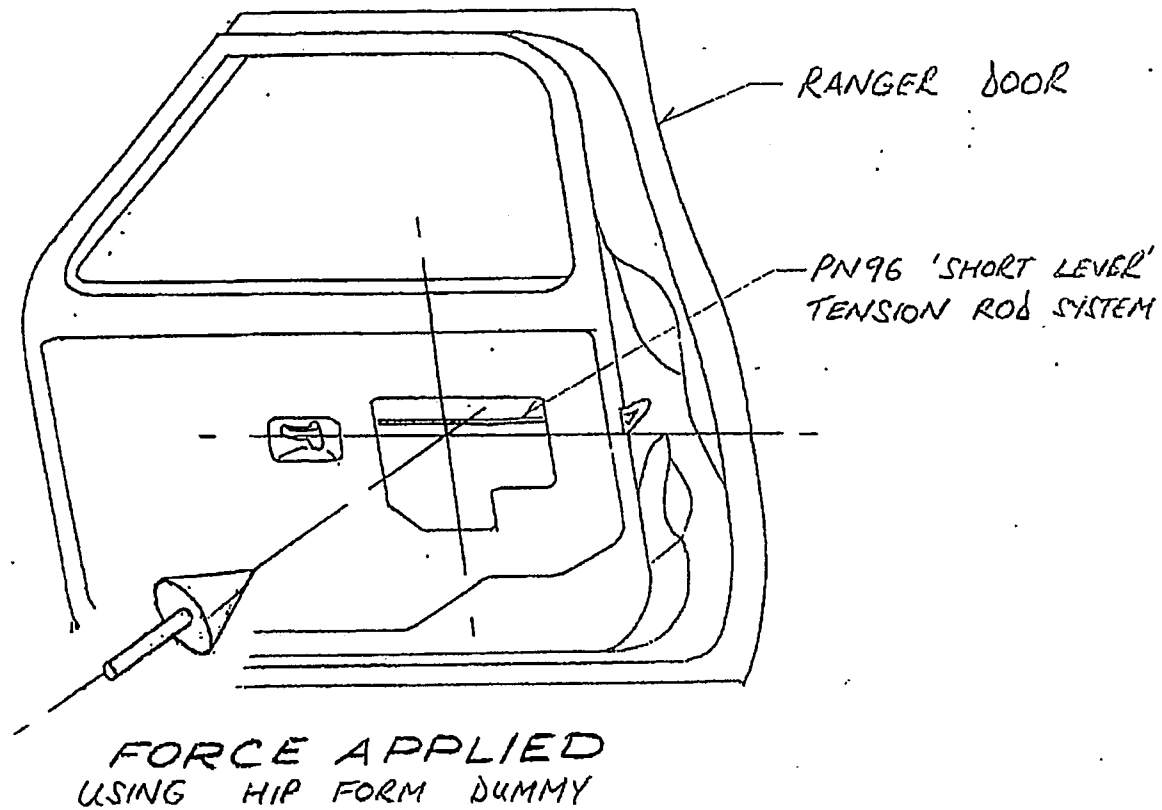
COMPRESSION RODS

CONCERN	TEST RESULTS/DATA	REMARKS
DOORS MAY OPEN DUE TO DOOR FORESHORTENING, CAUSED BY FRONT IMPACT	SEE ATTACHED DATA	RESULTS SHOW THAT ALL TRUCK DATA AVAILABLE TO DATE WOULD INDICATE THAT FORESHORTENING CAN BE MANAGED IN THE LATCH DESIGN
DOORS MAY OPEN DUE TO DOOR FORESHORTENING, CAUSED BY OFFSET REAR IMPACT	SEE ATTACHED DATA	DATA IS INCONCLUSIVE FOR PN96 HOWEVER, A PN105 TRUCK WAS MEASURED (DOORS WERE MISSING) ONE DOOR OPENING WAS 10mm SHORTER THAN THE OTHER
DOORS MAY OPEN DUE TO DOOR FORESHORTENING, CAUSED BY OFFSET FRONT IMPACT	SEE ATTACHED DATA	RESULTS SHOW THAT ALL TRUCK DATA AVAILABLE TO DATE WOULD INDICATE THAT FORESHORTENING CAN BE MANAGED IN THE LATCH DESIGN
DOORS MAY OPEN DUE TO DOOR FORESHORTENING, CAUSED BY ANGULAR FRONT IMPACT	NO DATA AVAILABLE	

RGR6 2324

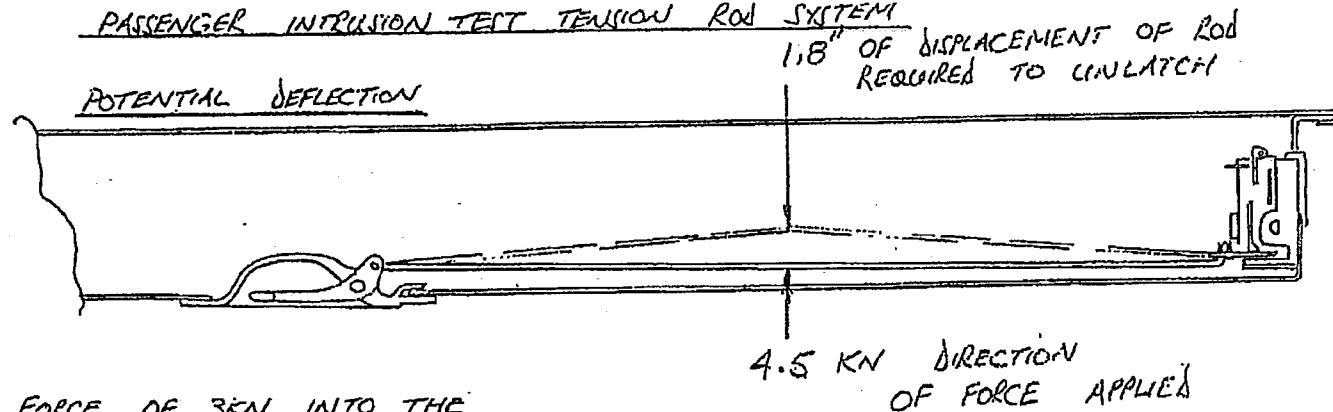
PASSENGER INTRUSION TEST TENSION ROD SYSTEM

* TRIM PANEL WAS USED IN TEST
BUT HAS BEEN OMITTED FROM THIS VIEW

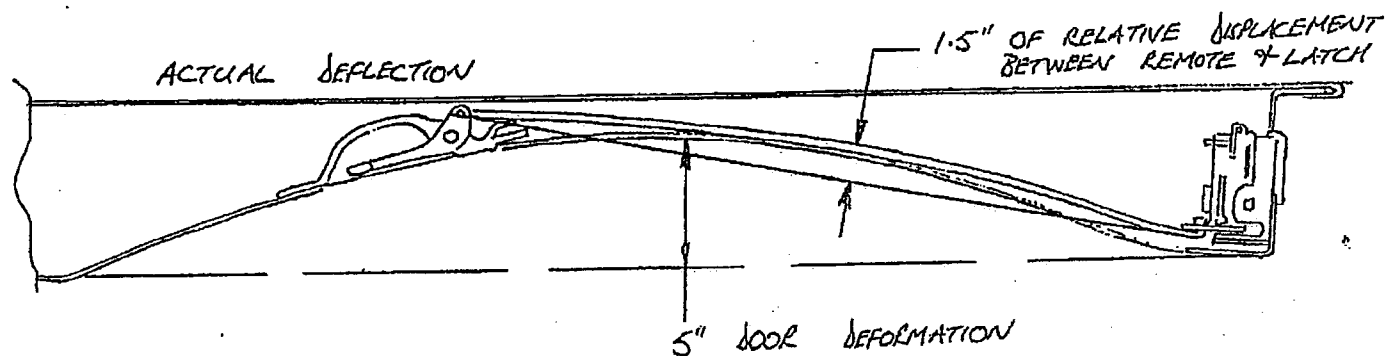


RGR6 2325

PASSENGER INTRUSION TEST TENSION ROD SYSTEM

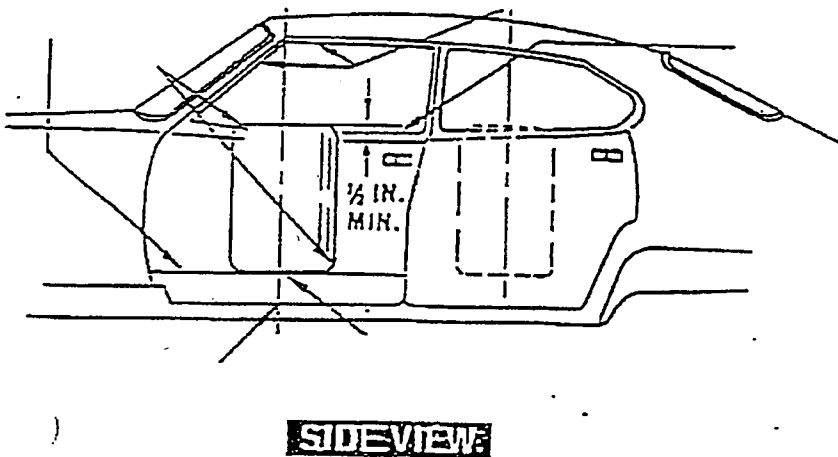
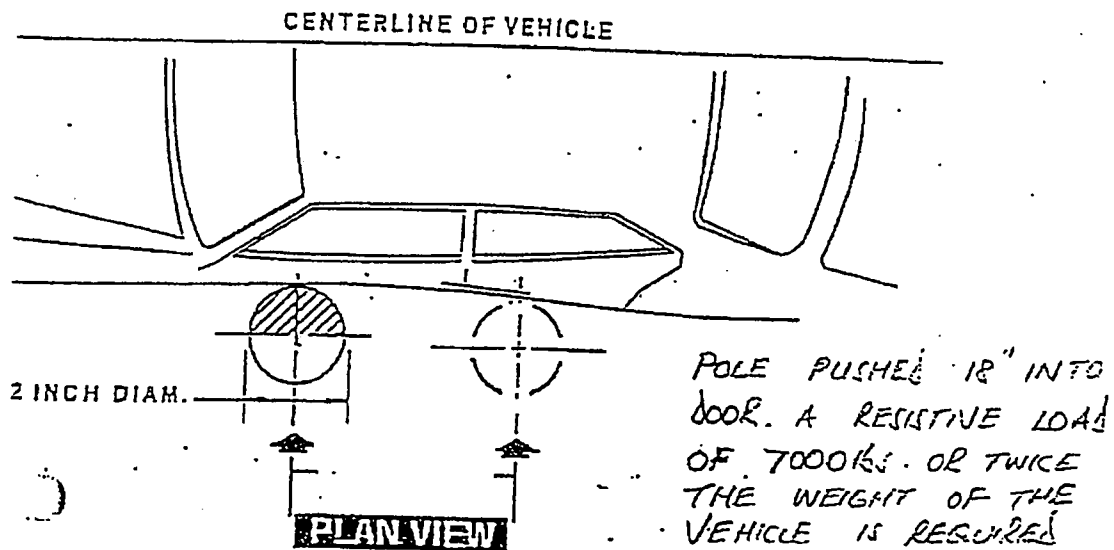


A FORCE OF 3KN INTO THE DOOR IN THE PELVIC AREA APPROXIMATES A 30 MPH SIDE IMPACT BEHIND THE 'B' PILLAR WITH A RESTRAINED OCCUPANT (BASED ON DATA FROM AN ADVANCED SAFETY TEST)



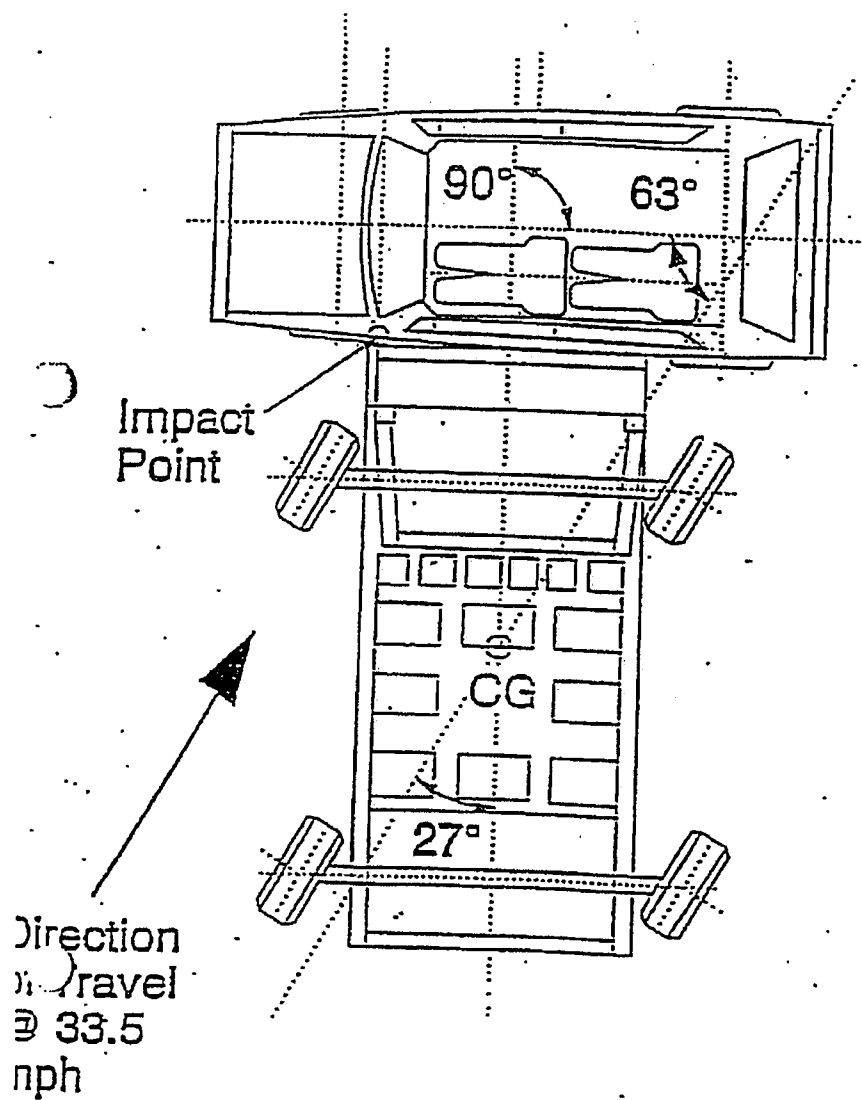
RGR6 2326

STATIC SIDE INTRUSION TEST



RGR6 2327

DYNAMIC SIDE INTRUSION TEST



RGR6 2328

Aug. 31, 1965

B. D. PRIESTMAN
LATCH ACTUATING MEANS
Filed June 24, 1963

3,203,721

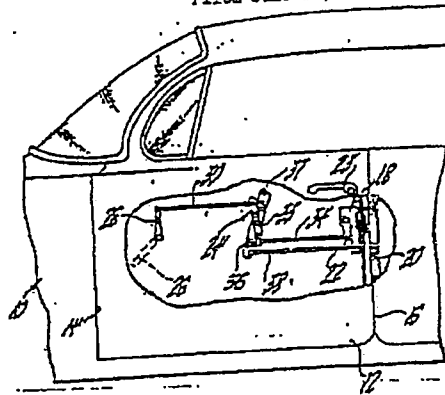


Fig. 1

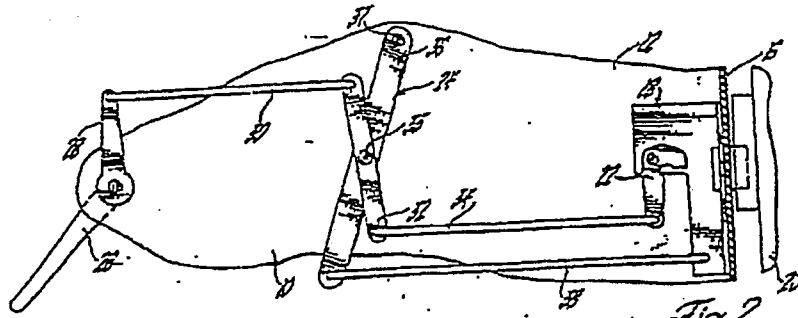


Fig. 2

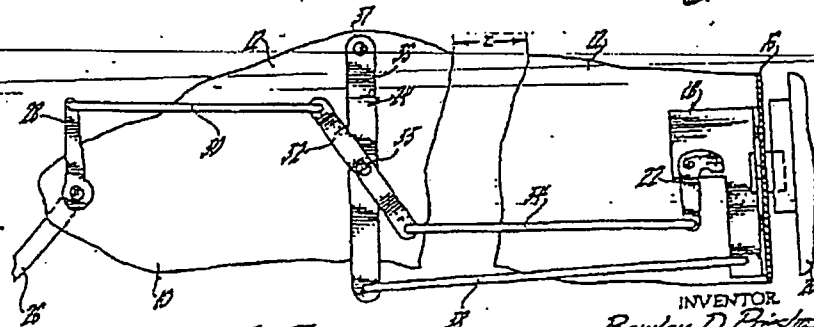


Fig. 3

INVENTOR
Bawley D. Priestman
BY
W. S. Pettigrew
ATTORNEY

United States Patent Office

3,203,721
Patented Aug. 31, 1965

2

1

3,203,721
LATCH ACTUATING MEANS
Bertley D. Friedman, Grosse Pointe, Mich., assignor to
General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 24, 1963, Ser. No. 289,578
5 Claims. (Cl. 292-336.3)

This invention relates to latch actuating means and more particularly to vehicle body door latch actuating means.

It is common to provide shiftable actuating rods for operatively connecting inside remote operating means to release members of vehicle body door latches. In the event of a collision or otherwise, it is possible that deformation of the body may change the normal distance between the operating means and the door latch and force the actuating rod to release the door latch. It is also possible that the actuating rod may become deformed in a manner shortening the end-to-end distance thereof so that the door latch will be released.

Accordingly, it is the primary object of this invention to provide latch-actuating means which will accommodate changes in the normal distance between the door latch and an operating means therefor, or deformation in the latch actuating means, without release of the door latch.

In carrying out the object of the invention there is provided a first shiftable member connected to the remote operating means, a second shiftable member connected to a release member of the door latch, a connecting member connected to the first shiftable member and to the second shiftable member, and means pivotally mounting the connecting member on the body. The mounting means of the connecting member are removable relative to the body upon movement of the door latch and handle in the body to permit movement of the connecting member and the first and the second shiftable members therewith relative to the body independently of any movement of the handle or latch release member.

This and other objects and features of the invention will be readily apparent from the following specification and drawings wherein:

FIGURE 1 is a fragmentary partially broken away elevational view of a vehicle body embodying latch actuating means according to this invention;

FIGURE 2 is an enlarged view of a portion of FIGURE 1 showing the latch actuating means in a normal position; and

FIGURE 3 is a view similar to FIGURE 2 showing the latch actuating means in a position compensating for deformation of the vehicle body.

Referring now particularly to FIGURE 1 of the drawings, a vehicle body 10 includes a door 12 of conventional structure swingably mounted adjacent its forward edge 14 for movement between a closed position, as shown, and an open position, not shown. Door 12 is provided adjacent its rearward edge 16 with a door latch 18 having a bolt adapted to engage a striker mounted on the body pillar 20 to hold the door in closed position. Door latch 18 includes a release member 22 for releasing the bolt to permit movement of door 12 to open position. Reference may be had to U.S. Patent No. 2,796,276 which issued June 18, 1957 to J. D. Leslie for a more complete description of a suitable latch. An outside handle 24 is provided to operate the door latch from outside the body, and latch actuating means 24 according to this invention are provided to operate release member 22 from inside the body.

The latch actuating means 24 includes an inside remote operating handle 26 rotatably mounted on the inner panel of door 12, a crank 28 non-rotatably mounted on

the shaft of the handle, and a first shiftable actuating rod 30 pivotally connected adjacent one end thereof to crank 28 and pivotally connected adjacent the other end thereof to one end of a link member 32. The other end of link 32 is pivotally connected to one end of a second shiftable actuating rod 34, the other end of which is pivotally connected to the latch release member 22.

Link 32 is pivotally mounted at 35 intermediate its ends on an elongated mounting lever 36 which is swingably mounted adjacent its upper end at 37 on the inner panel of door 12. A locating rod 38 is connected adjacent one end thereof to the lower end of lever 36 and connected adjacent the other end thereof to the frame of door latch 18 to hold lever 36 in predetermined relationship with the door latch.

In normal operation, clockwise rotation of handle 26 will shift rod 30 to the right to swing link 32 clockwise about pivot 35 to thereby shift rod 34 to the left and rotate release member 22 clockwise to release the door latch. Conventional handle return spring means, not shown, are provided between the inner panel and handle 26 to return the handle and actuating rods to the normal position of FIGURE 2 upon release of the handle.

In the event of a collision, or otherwise, deformation of the body or door 12 or both may change the normal distance between the door latch 18 and the handle 26. For example, assume latch 18 and handle 26 move apart over the distance "x" in FIGURE 3. The rod 38 moves with the latch to swing lever 36 counterclockwise about the pivot 37 and in turn moves the pivotal axis 35 of link 32 therewith away from handle 26. Since the handle return spring means resists clockwise movement of the handle and movement of rod 30 to the right, link 32 pivots relative to rod 30 as it concurrently swings counterclockwise about pivot 35 such that a longitudinal separation over a distance "z" of the link-connected ends of rods 30 and 34 results. In this manner, compensation for the longitudinal separation of the handle and door latch freely takes place intermediate the handle-connected end of rod 30 and the release member-connected end of rod 34 independently of movement of release member 22.

Should door 10 be deformed longitudinally of the body in a manner moving handle 26 and door latch 18 closer together, rod 38 will move with the door latch and swing lever 36 clockwise about pivot 37 to move the pivotal axis 35 of link 32 to the left. Since handle 26 is located against counterclockwise rotation by conventional stop means or otherwise, link 32 will swing clockwise about the upper connection thereof with rod 30, and will concurrently pivot clockwise about pin 35 such that the link-connected ends of rods 30 and 34 move relative to each other to accommodate the drawing together of the handle and door latch and to prevent movement of release member 22.

In the event that the collision forces act directly upon rods 34 and 38 in a manner shortening the end-to-end distances thereof, lever 36 will swing counterclockwise about pivot 37 and link 32 will swing counterclockwise about pivot 35 to accommodate the shortening of rod 34 and prevent movement of release member 22.

Thus new and improved latch actuating means are provided.

I claim:

1. In a vehicle body including a door latch having a movable release member, latch actuating means, comprising: movable operating means mounted on said body, a first shiftable member connected to said operating means, a second shiftable member connected to said release member, means connecting said first member to said second member for movement of said second member and said release member in response to move-

3
ment of said first member by said operating means, and means mounting said connecting means on said body for movement of said connecting means, said first member and said second member independently of movement of said operating means and said latch release member.

2. In a vehicle body including a door latch having a movable release member, latch actuating means, comprising, movable operating means mounted on said body, a first shiftable member connected to said operating means, a second shiftable member connected to said latch release member, a connecting member interconnecting said first member and said second member, means mounting said connecting member on said body for combined swinging movement and bodily movement relative thereto, said connecting member being swingable in response to movement of said first member by said operating means to move said second member and said latch release member to actuate said door latch, said connecting member being bodily movable for movement of said connecting member, said first member and said second member independently of movement of said operating means and said latch release member.

3. In a vehicle body including a door latch having a movable release member, latch actuating means, comprising, an operating handle movably mounted on said body, a first shiftable member connected to said operating handle, a second shiftable member connected to said latch release member, a connecting member interconnecting said first member and said second member, means movably mounted on said body mounting said connecting member on said body for combined swinging movement and bodily movement of said connecting member relative to said body, said connecting member being swingable in response to movement of said first member by said operating handle to move said second member and said latch release member to actuate said door latch, said mounting means being movable relative to said body upon movement of said operating handle and said door latch relative to each other for movement of said connect-

ing member, said first member and said second member independently of movement of said operating handle and said latch release member.

4. In a vehicle body including a door latch having a movable release member, latch actuating means, comprising, an operating handle movably mounted on said body, a first shiftable member connected adjacent one end thereof to said operating handle, a second shiftable member connected adjacent one end thereof to said latch release member, a mounting member, means mounting said mounting member adjacent one end thereof on said body for swinging movement relative thereto, a link member connected adjacent one end thereof to the other end of said first member and connected adjacent the other end thereof to the other end of said second member, means pivotally mounting said link member intermediate the ends thereof on said mounting member for movement relative thereto and to said body, said link member being movable in response to movement of said operating handle and said first member to move said second member and said latch release member to actuate said door latch, said mounting member being swingable relative to said body upon movement of said door latch and said operating handle relative to each other to move said link member, said first member and said second member relative to said body independently of movement of said operating handle and said latch release member relative to said body.

5. Apparatus as recited in claim 4 and further including means connecting said door latch and said mounting member to move said mounting member relative to said operating handle upon movement of said door latch relative to said operating handle.

References Cited by the Examiner

UNITED STATES PATENTS

2,241,872 5/41 Van Nostr.

M. HENSON WOOD, Jr., Primary Examiner.

40 ALBERT H. KAMPE, Examiner.



Intra Company

ENGINEERING STAFF

October 20, 1969

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ROLLOVER STATISTICS

The attached report summarizes the available data on the risk of injury resulting from accidents in which the vehicle rolls over. In general, there is a small increase in the risk of injury with increasing amounts of roof crush; but it cannot be determined whether the crush is the cause of the injury or merely a co-variate. On the other hand, risk of ejection is high in rollover accidents, and risk of injury is substantially greater if ejection has occurred.

John Versace

John Versace

AER 024172

AERZ 0024172



ENGINEERING STAFF

Automotive Safety
Research Office

September 25, 1969

Intra Company

A STUDY OF SOME ROLLOVER ACCIDENTS
E. S. Grush

PURPOSE

The purpose of this study was to determine how certain parameters relate to rollover accidents.

BACKGROUND

Information concerning occupants and vehicles involved in rollover accidents has been collected to supplement other research conducted by the Automotive Safety Research Office.

CONCLUSIONS

Within the various sample groups employed in this study, the following observations were made.

- Occupants of vehicles involved in rollover accidents tended to be ejected more frequently than occupants of vehicles involved in other types of accidents, regardless of seated position or vehicle type.
- 53% of the occupants ejected in rollovers were ejected through an open door.
- As the number of rolls to which a vehicle was subjected increased from less than one to two or more, the frequency of ejection increased from 6% to 36%.
- For vehicles involved in rollovers, occupants were ejected more frequently from hardtops (25% ejected) than from sedans (15% ejected). This difference was apparent only when the vehicle rolled completely at least once. This difference was most pronounced in ejection through door windows (3.2% ejection in hardtops, .2% ejection in sedans).
- Occupants of vehicles experiencing moderate or severe top damage during rollover were injured more severely than occupants of vehicles sustaining minor top damage about 60% of the time.

AER 024173

AERZ 0024173

The odds are slightly better than 4 to 1 that an ejected occupant was more severely injured than a non-ejected occupant in a rollover accident.

RESULTS

Tables I and II present occupant ejection types as a function of the number of vehicle rolls for automobiles involved in rollovers without collision. These data are shown separately for sedans (Table I) and hardtops (Table II).

The sample from which these results were obtained was extracted from the accident data file maintained by the Automotive Crash Injury Research (ACIR) activity of the Cornell Aeronautical Laboratory. This file consists of primarily rural accidents in which at least one occupant was injured. The sample included all occupants of vehicles manufactured in 1964 or later and involved in principal rollover collisions.

Table III presents the distribution of sample occupants by degree of injury and ejection status for various levels of top damage. Most occupants were least seriously injured if they were not ejected and if their vehicles experienced only minor roof damage. A small but progressive increase in injury was associated with more roof crush when no ejection occurred. There was much more injury, however, when occupants were ejected.

Relative injuriousness is summarized in Table IV, which shows that 61 percent of non-ejected occupants in cars with severe roof crush received worse injuries, on the average, than persons in the least injurious type of accident, that with non-ejection and only minor roof crush. Table IV also shows that regardless of roof crush, 83 to 87 percent of ejected occupants were more seriously injured, on the average, than those in the "non-ejected, minor-roof-damage" group.

Tables III and IV were derived from data in the ACIR data bank up through 1967. The vehicles comprising the sample were all sedans, coupes, hardtops and wagons involved in rollovers without collision in which there were no more than 2 occupants. The occupants studied were drivers, both alone and with right front passenger, and right front occupants.

A recent Cornell Aeronautical Laboratory report, A Study of Volkswagen Accidents In The United States (Garrett and Stern, 1968), contains considerable information concerning rollover accidents. The data used in this study were obtained from the ACIR data file. Following are a number of results generally pertinent to rollovers obtained by the authors.

- A proportion of accidents involving rollover was greater for small cars than for large cars. For example, 45% of Volkswagen accidents involved rollover, while 21% of standard American car accidents involved rollover.
- Impact speed in rollover accidents tended to be greater than impact speed in other types of accidents. For standard American cars, the median impact speed was 51 MPH for rollover accidents and 37 MPH for other types of accidents.

- In rollover accidents, top damage shifted from front to rear and was less severe for lightweight, rear engine cars than for other vehicles.
- Door opening was more frequent for vehicles involved in principal rollover accidents than for vehicles involved in other collisions. 37% of standard American cars experiencing a principal rollover had front doors opened.
- Occupants of vehicles involved in rollovers tended to be ejected more frequently than occupants of vehicles involved in other types of accidents, regardless of seated position or vehicle type. For example, 27% of the occupants of standard American cars involved in rollover accidents were ejected, while 8% of the occupants of vehicles not overturning were ejected.
- For Volkswagens, seat track damage was less common in rollover than in non-rollover accidents.

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Concurred:

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Safety Research

WITHOUT COLLISION BY EJECTION TYPE AND NUMBER OF VEHICLE ROLLS

NUMBER OF OCCUPANTS

EJECTION TYPE	NUMBER OF ROLLS*				TOTAL
	<1	1<2	≥2	NOT REPORTED	
Ejected through					
Door	5	12	18	2	37
Door Window	0	1	0	0	1
Windshield	0	1	3	1	5
Rear Window	1	1	2	0	4
Area Not Reported	0	4	9	2	15
Total Ejected	6	19	32	5	62
Not Ejected	88	146	86	26	346
TOTAL	94	165	118	31	408

PERCENTAGE DISTRIBUTION OF OCCUPANTS

EJECTION TYPE	NUMBER OF ROLLS*				TOTAL
	<1	≥1,<2	≥2	NOT REPORTED	
Ejected through					
Door	5.3	7.3	15.3	6.5	9.1
Door Window	0.0	0.6	0.0	0.0	.2
Windshield	0.0	0.6	2.5	3.2	1.2
Rear Window	1.1	0.6	1.7	0.0	1.0
Area Not Reported	0.0	2.4	7.6	6.5	3.7
Total Ejected	6.4	11.5	27.1	16.1	15.2
Not Ejected	93.6	88.5	72.9	83.9	84.8
TOTAL	100.0	100.0	100.0	100.0	100.0

* <denotes less than
 >denotes greater than
 ≥denotes greater than or equal to

TABLE I

DISTRIBUTION OF OCCUPANTS OF VEHICLES INVOLVED IN ROLLOVER
WITHOUT COLLISION BY EJECTION TYPE AND DEGREE OF INJURY FOR
DIFFERENT DEGREES OF TOP DAMAGE

DEGREE OF INJURY	NUMBER OF OCCUPANTS			PERCENTAGE DISTRIBUTION OF OCCUPANTS			
	EJECTION TYPE			EJECTION TYPE			
	NOT EJECTED	EJECTED	TOTAL	NOT EJECTED	EJECTED	TOTAL	
MINOR TOP DAMAGE	None	97.466	3.014	100	58.1	7.3	48.1
	Minor	40.19	11.05	51	24.0	26.8	24.5
	Moderate	17.08	10.64	27	10.2	24.4	13.0
	Severe	8.04	5.01	13	4.8	12.2	6.2
	Fatal	5.02	12.06	17	3.0	29.3	8.2
TOTAL	167.803	41.197	208	100.0	100.0	100.0	
MODERATE TOP DAMAGE	None	161.296	8.014	169	40.0	5.4	30.7
	Minor	147.267	41.074	188	36.5	27.9	34.2
	Moderate	57.103	24.043	81	14.1	16.3	14.7
	Severe	21.034	25.045	46	5.2	17.0	8.4
	Fatal	17.131	49.089	66	4.2	33.3	12.0
TOTAL	403.732	147	550	100.0	100.0	100.0	
SEVERE TOP DAMAGE	None	79.242	5.015	84	35.6	4.8	25.8
	Minor	92.282	22.067	114	41.4	21.2	35.0
	Moderate	26.077	16.049	42	11.7	15.4	12.9
	Severe	11.033	13.039	24	5.0	12.5	7.4
	Fatal	14.042	48.147	62	6.3	46.2	19.0
TOTAL	222.681	104	326	100.0	100.0	100.0	
TOTAL: ALL TOP DAMAGE	None	337.310	16.015	353	42.6	5.5	32.6
	Minor	279.257	74.067	353	35.2	25.3	32.6
	Moderate	100.092	50.046	150	12.6	17.1	13.8
	Severe	40.037	43.039	83	5.1	14.7	7.7
	Fatal	36.033	109.100	145	4.5	37.3	13.4
TOTAL	792.731	292	1084	100.0	100.0	100.0	

TABLE III

RELATIVE INJURIOUSNESS: PERCENT OF OCCUPANTS SUSTAINING
WORSE INJURIES, ON THE AVERAGE, THAN THOSE IN THE
"NON-EJECTED, MINOR-ROOF-DAMAGE" GROUP

ROOF DAMAGE	NON-EJECTED	EJECTED
Minor	50*	83
Moderate	59	84
Severe	61	87

* The 50 percent associated with the "non-ejected, minor-roof-damage" group indicates that any individual picked at random from this group is as likely to be more seriously (or less seriously) injured as any other individual chosen at random from the same group.

TABLE IV

Technical Note: The values in this table are average rridits (see References 1 and 2), calculated from the frequencies in Table III. Confidence intervals (95 percent) on the average rridits range from ± 2.8 to ± 9.1 percent, generally overlapping the averages of adjacent groups.

REFERENCES

1. Bross, Irwin D. J. and Feldman, Rivkah; Ridit Analysis of Automotive Crash Injuries, Division of Automotive Crash Injury Research, Cornell University Medical College, New York, 1956.
2. Bross, Irwin D. J., "How To Use Ridit Analysis", Biometrics, March, 1958.



Name		
Door acc veh		
Door exemplar		
Access hole acc veh		
Access holes exemplar		
Handle attach sm probe acc veh		
Handle attach sm probe exemplar		
Pushrod (I/S) acc veh		
Pushrod (I/S) exemplar		
Latch screws acc veh		
Latch screws exemplar		
Dimensions		





G. R. Marzolino
Hardware Systems Technology
Department
Body Engineering

1994 July 25

ROUTE & RETURN:

~~M. Ayub~~ *ayub*
W. D. Clarke

Subject: Rods vs. Cables Paper

Glen Christoff has added some comments to your paper.
Please note them. Do we want to make any changes
based on his comments?

Greg Marzolino

CAREER
DEVELOPMENT 

- Mustang, Mark ~~Vitt~~ data
- Cloth sleeve costs
- Comments from GKE,
last RN Review.

DAAG 0839



Inter Office

Body Engineering

July 15, 1994

To: Hardware Engineering Supervisors and Technical Specialist
cc: R. Nash, Jr.
Subject: Rods vs. Cables Study.

Attached is a study under development for rods vs. cables. This study will be used to help determine a Hardware Systems Technology position on the subject.

Please review the information and provide comments, then return to Bill Clarke (in-tray at Greg Marzolino's desk) by 7/22/94.

Thank you in advance for your support.

Bill Clarke
x74602

Muhammed Ayub
x38015

*Overall Good.
Note my comments.*

a:\clarke\cover.wpw

*Bill
94/07/23*

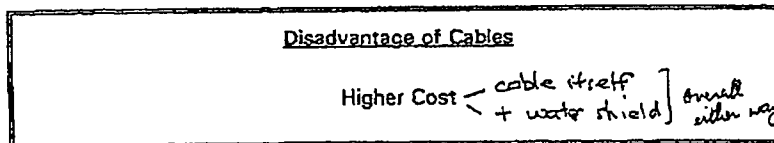
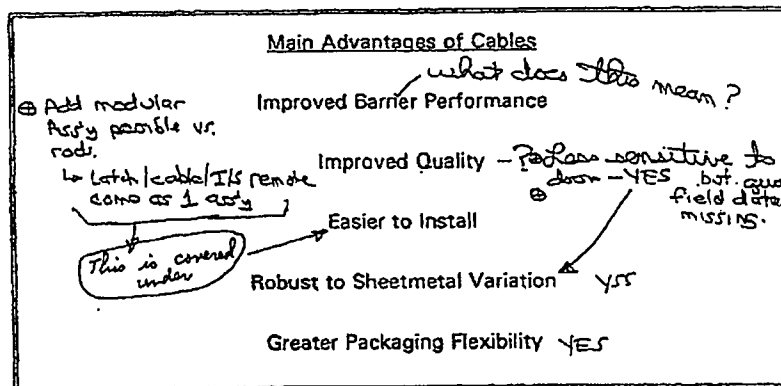
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DAAG0840

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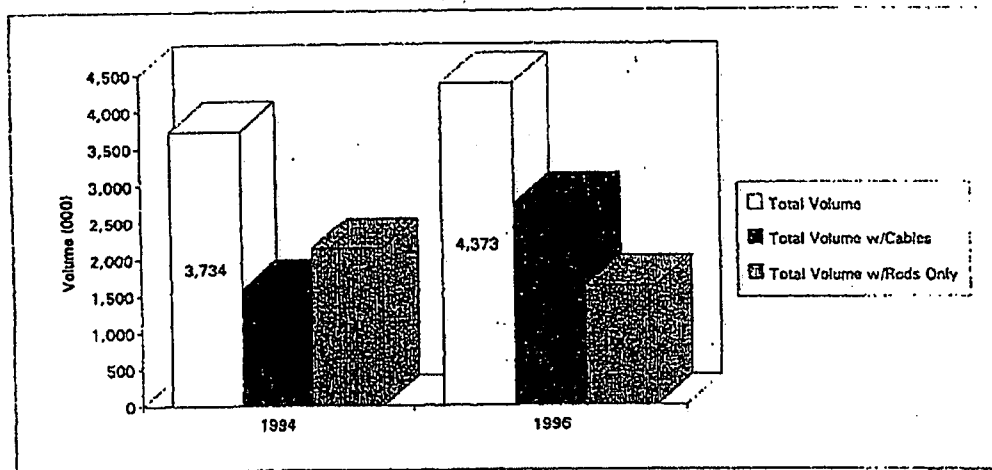
Rods vs. Cables Door Hardware Systems 7/12/94



DAAG 0841

W. Clarke/M. Ayub
 Hardware Systems Technology
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Rod vs. Cable Latch Systems
 Ford Production Volume Comparison
 North America



Also, Increased Use By Competitors:

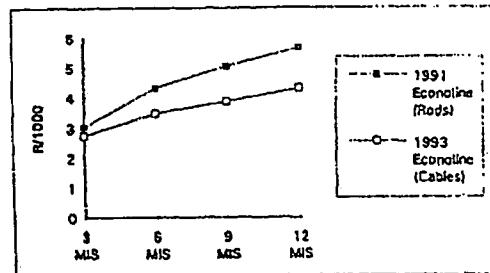
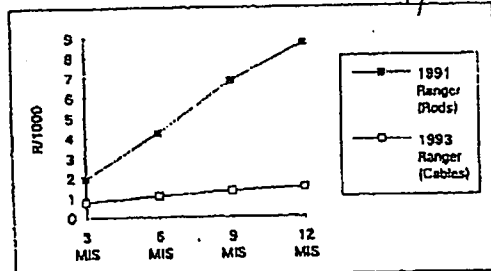
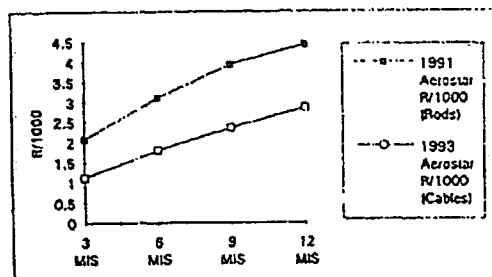
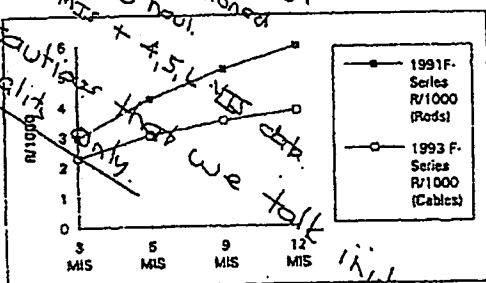
Acura Legend
 Lexus GS300 and Coupe
 Mercedes C280
 Toyota 4-Runner (Rear Doors) and Previa (Sliding Door, Liftgate)

DAAG 0842

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DUS to assembly?
 Durability is questioned
 over the long haul.
 Need 36 MTS + 4.5, 6, 12 MTS
 Be cautious that we talk
 quality only.

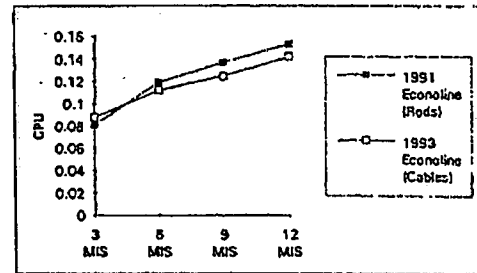
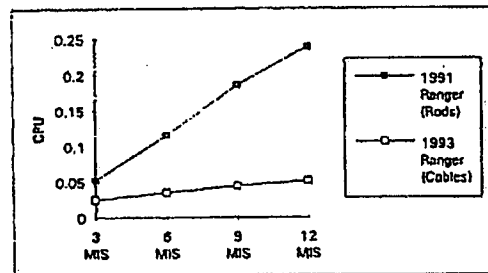
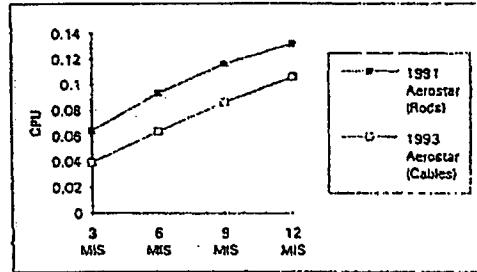
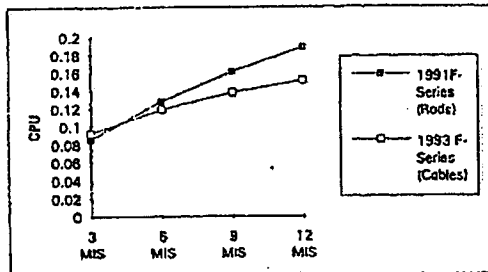
Rod vs. Cable Latch Systems
 Repair Rate Comparison
 1991 Vehicles (Rods) vs. 1993 Vehicles (Cables)



DAAG 0843

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**Rod vs. Cable Latch Systems
Warranty Cost
1991 Vehicles (Rods) vs. 1993 Vehicles (Cables)**



DAAG 0844

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Rods vs. Cables
FMEA
7/12/94

Rods

PART NAME	POTENTIAL FAILURE MODE	S	D	ACTION PLAN	VERIFICATION PLAN	O	RPN	
I/S Release Rod (from PN96/UN93)	Cannot open door due to rod disconnect.	8	3	Design rod with "double 90" end.	Life cycle durability testing, pull test.	5	120	A
	Door opens in crash due to door foreshortening.	10	2	Add spring loaded I/S rel. lever to protect max. pretravel.	Monitor vehicle crash testing, benchmark door foreshortening of Ford products.	5	100	B
	Door opens in crash due to inertia loads.	10	2	Design spring and/or counter balance on R/Contr (and add inertia catch - PN96, UN93) to meet 30g load.	Monitor crash tests	5	100	C
	Rod bent during shipping & handling (riveted to latch I/S release lever).	4	5	Monitor DV testing.	Design review w/BEO & B&A.	5	100	N/A
	Cannot unlatch door due to variance of sheetmetal & mechanism exceeding tolerance.	8	3	Use compensating clip (operator adjusted)	Cut & Weld prototype build, computer kinematic analysis	4	96	D
	Cannot unlatch door due to misadjusted compensating clip.	8	3	Operator training.	Door functioning.	4	96	N/A
	Squeak & rattle of rods.	5	4	Use plastic or wave washers, foam sleeves.	Design reviews and S&R evaluations.	4	80	E
	Cannot unlatch door due to poor rod routing/geometry.	8	3	Computer kinematic analysis.	Cut & weld prototype build; design review	3	72	N/A
	Cannot unlatch door due to bent rod, not enough travel from I/S handle.	8	2	Overtravel stop on handle to prevent excessive load on rod.	Verify stop on R/Contr 3mm after stop on latch.	4	64	F
	Failure to remain latched due to rod length max. plus tolerance accumulation.	9	3	Use compensating clip on rod for length adjustment (twisting on I/S release lever)	Tolerance stack-up, design review.	2	54	G

DAAG 0845

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Rods vs. Cables
FMEA
7/12/94

Cables

	POTENTIAL FAILURE MODE	SEV	OC	ACTION PLAN	VERIFICATION PLAN	DET	RPN	
I/S Release Cable (per WIN88)	Cannot unlatch via I/S handle due to variance between latch, cable, I/S handle including tolerance.	8	3	Tolerance stack, design reviews.	Monitor latch release point through all vehicle builds.	3	72	D
	Cannot unlatch due to cable icing.	10	2	Design for water management.	Monitor vehicle freeze testing for all builds. Monitor ES testing.	3	60	N/A
	Squeak & rattle of cables.	5	3	Proper clip placement, foam sleeves as req'd.	Design reviews and S&R evaluations.	4	60	E
	Door opens in crash due to door foreshortening.	10	1	Cable is robust to door foreshortening.	Monitor vehicle crash testing. benchmark door foreshortening of Ford products.	4	40	B
	Door opens in crash due to inertia loads.	10	1	Cable has very small inertia.	Monitor crash tests	4	40	C
	Cannot unlatch via I/S handle due to cable free length too long.	8	2	Tolerance stack-up on required free length.	Monitor release point for all vehicle builds.	2	32	G
	Cable unhooked from latch lever or I/S handle.	8	2	Cycle testing & I/S handle snap-back testing.	Monitor DV testing & vehicle builds.	2	32	A
	Inner cable breakage.	8	3	Use 1X7 wire strand & zinc die cast ferrules.	Monitor inner cable for strand failure & kinking through DV strength, cycle & snap-back testing.	1	24	N/A
	Cannot unlatch door due to variance of sheetmetal.	8	1	Cable is robust to sheetmetal variation.	Function on test fixture, monitor prototype builds.	3	24	D
	Cable conduit unhooked from latch or I/S handle.	8	1	Tolerance stack-up on cable/latch & cable/handle interface. Cycle testing and snap-back testing.	Monitor conduit hook-up through DV testing.	2	18	A
	High efforts due to cable corrosion.	5	1	Use galvanized laywire and apply nylon jacket.	Corrosion resistance testing.	2	12	N/A
	Cannot unlatch due to cable stretch.	8	1	Use pre-stretched cables, cycle test.	Monitor latch release point during DV testing.	1	8	F

DAAG 0846

W. D. Clarke / M. Ayub
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DAAG0846

DAAG0839 / 8

0468

DAAG 0847

	Rods	Cables
Financial Variable Cost Investment Labor Save Warranty	Baseline Small - \$10K	\$0.85/door more than rods. Small - \$10K \$0.35/door savings (BEO estimate) \$0.44/unit savings (CPU x 4)
Performance Environmental Barrier Performance Anti-theft Squeak & Rattle Handle Efforts	No issues. Withstands no more than 12mm of door foreshortening. Rods have greater inertia than cables. Rods are less robust to theft attempts. Clips & sleeves added to prevent S&R. Higher efforts due to higher inertia compensation.	Requires proper cable routing & water mgt. to prevent moisture build-up. Robust to door foreshortening and bending. Cables have less inertia. More robust to future changes in FMVSS requirements. Cables are more robust to theft attempts. Clips added to prevent S&R. Generally, less potential for rattles. Lower efforts than rod system.
Quality R/1000 (12MIS) CPU (3/36) TGW-Int. Lks. Durability	1991 Weighted Average (F-Series, Ranger, Aerostar, Econoline) 6.39 \$0.25 17 Meets 10 year, 150K mile requirement.	1993 Weighted Average (F-Series, Ranger, Aerostar, Econoline) 3.10 \$0.14 14 Meets 10 year, 150K mile requirement. <i>Do we know this?</i>
Design Robustness Packaging	Sensitive to sheetmetal variations. - More difficult to route requiring 4.6mm min. dynamic clearance & reasonably straight routing. - I/S handle must be nearly horizontal from latch, restricting packaging & ergonomics.	Robust to sheetmetal variations. - Cable routing is easier than rods; cables require min. static clearances & offer more freedom for routing. - Inside handle can be placed anywhere on door to optimize ergonomics and styling.
DFMA Assembly Issues	Rod system is more difficult to install. 2 to 4 end items, 6 to 8 operations - Higher cost, operator dependent.	Cable system is easier to install. 1 end item, 4 to 5 operations - Reduced assembly cost. No operator adjustments.
Vehicles Ford (1994) Ford (1996) Competitors	Tempo/Topaz, DN5, MN12, EN53, FN36, FN9, UN46 Escort/Tracer, Village MN12, EN53, FN35, UN105, PN98 Escort/Tracer, Village Most competitors use rods, although cables are beginning to appear on many newer entries.	FN10, SN95, VN58, PN63, WIN88, F-Series/Bronco, Aerostar FN10, SN95, DN101, FN74, CDW27, VN58, PN53, WIN88, F-Series/Bronco, Aerostar Acura Legend, Lexus GS300, Lexus Coupe, Mercedes C280 (Front doors), Toyota 4-Runner (Rear doors), & Toyota Previa (Side door & Liftgate).

Robust design study in progress. Scheduled completion date 10/30/94.



Richard Parry-Jones could well be the finest vehicle development engineer in the world today, a man obsessed with dragging every element of vehicle development at his large company into the 21st Century as quickly as he can.

His expertise has seen him rise to the heady heights of group vice president, global product development, and chief technical officer of Ford Motor Company, overseeing product development for all Blue Oval-branded vehicles worldwide, as well as handling

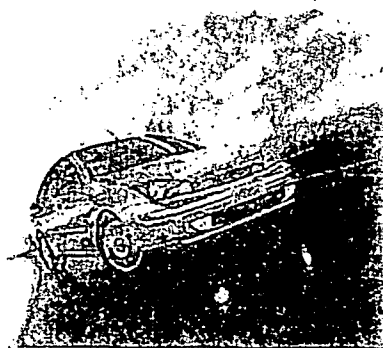
Blue talk

Our exclusive chat with Richard Parry-Jones, group vice president, global product development, and chief technical officer, Ford, reveals how the Blue Oval intends to improve quality via enhanced development programs

by Jim McCraw

16 Testing Technology International February 2003

"If you expend most of your willpower, time and resources, you've got nothing left for the polishing, the fine tuning, the fanatical stuff. You're just trying to solve disasters"



Hilgard Parry-Jones says that US Focus recalls led to a new testing philosophy



The development of the Ford Ka was just one of Parry-Jones' many achievements

design, research, and vehicle technology functions. The bottom line is that Parry-Jones has product development responsibility for all Ford, Lincoln, Mercury, Aston Martin, Jaguar, Land Rover, MIRA, and Volvo products, and for the Premier Performance Division that includes the F1 Research data acquisition and display company, the Ford World Rally Championship effort, and Jaguar's Formula 1 racing program.

In his role, Parry-Jones heads Ford's huge engineering organization, with a technical staff of some 33,000 engineers, scientists, designers, and planners, including about 3,000 development engineers at 10 centers around the world in North and South America, Europe, and Asia. As chief technical officer, he is responsible to the company's board of directors for all technical matters.

In his spare time — if he has any — Parry-Jones also serves as a visiting professor of mechanical and automotive engineering at England's Loughborough University, a position he has held since October 2001.

Parry-Jones says of the current vehicle development process at Ford and its 31 units: "10 years ago, virtually all vehicle development was carried out after the prototype vehicles were built, and it was done with only about a 20 per cent splash of science, with 80 per cent done by the seat of the pants, using experience to try to find problems and then conduct experiments to see whether

the hypothesis was correct or not. Obviously, you spend a lot of money and lose a lot of time when you do that. The second thing is that, no matter how hard you work, you can never achieve the same results. In the end, the difference between a good car and a great car isn't technology; it's willpower. If you expend most of your willpower, time and resources, you've got nothing left over for the polishing, the fine tuning, the TLC, the fanatical stuff. You're just trying to solve disasters."

RPI, as he is known at Ford, contrasts the old ways with the new: "Today, we are using a lot of predictive tools and statistical tools because many vehicle development problems are caused, not by the nominal setup performing in a sub-optimal way, but by the influence of variation and variability creating error states in the customer's experience."

"That problem may be due to the fact that our system is overly sensitive in its behavior to the presence of this variability. You'd like to design a car that's relatively robust when it comes to tire and wheel-force variations during rotation, for example. You'd like to design a car that doesn't have to have the tires and wheels balanced to the nth degree because they go out of balance very quickly and easily. You need the statistical tools to be able to attack these kinds of problems, and combine the statistical tools with analytic tools so you're not just predicting what the

physics outcome will be of a set of characteristics of a subsystem on the vehicle behavior, but will be able to exercise variability at the component level, where it occurs, and understand the transfer functions right the way through to the customer's experience at the vehicle level. You say, 'Gosh, out of all the 20 components that contribute to this error state that you don't want, these three have the biggest influence if they are variable, so how can I change the system behavior by recalibrating the parameters of these 17 parts that desensitize these three parts? Or can I choose a different value for these three parts to give a flatter part of the sensitivity curve? This is a language that didn't exist 10 years ago."

RPI uses pen and paper to plot an error state as input and input on an X-Y axis chart, changing the input and plotting the output, illustrating models based on physics, or a model based on empirical data extracted from prior experience, or a model based on actual hardware experimentation by designing an experiment. He emphasizes that the last method is the costliest in time and money, and will now be done only at the end of the development cycle as verification, not at the beginning.

RPI stresses that with every vehicle program, new and higher targets must be set for every set of vehicle attributes and subattributes, or there is no real progress. "We do multiple regression analysis with

set suitable tools protect population of vehicles, whether we use our own data, or have J19 Power data or whatever. We plot customer satisfaction against some objective engineering metric, such as interior noise, for instance. We can plot customer satisfaction on our axis versus decibel noise measurement on the other axis, car against car, to see where leadership in customer satisfaction lies. We can then directly set interior noise targets against the best, with excellent correlation. This way we don't argue about where the target should be because the customer has told us where it needs to be. We can also set targets where the industry has not gone before."

He then shows us graphically how a huge, complex target such as overall interior noise can be broken down and cascaded into powertrain noise, wind noise, and road noise, further breaking those down to excitation and response, structural and acoustic. Eventually, he says, they obtain a mathematical line of sight from the customer satisfaction level desired, to the sound level produced, to all the values that contribute to the targets for each piece.

Parry-Jones says that these statistical and analytic methods, when married to years of experience and data gathering, lead through computer-aided engineering to the kind of proper micro engineering that results in robust components, systems, and vehicles.

He cautions, though, that following these procedures toward very high levels of customer satisfaction could potentially lead to a whole fleet of vehicles, each with unique parts that work perfectly together, and cost far too much to produce. He describes Ford's process as top-down combined with bottom-up, using the cascading process combined with analysis of the parts bin, leading to a situation where 80 per cent of the parts are very good bin items, and 20 per cent are reworked for the vehicle to reach



European Car of the Year, and of the Ford Sierra two years later. He was named executive engineer for technological research in Europe in 1985, adding responsibility for vehicle concepts a year later.

He was named director of vehicle concepts engineering in the United States in 1988, before taking charge of manufacturing operations at Ford's huge Cologne plant in 1990. Named chief engineer for vehicle engineering in 1991, Parry-Jones was elected fellow of both the Royal Academy of Engineers and the Institution of Mechanical Engineers. In 1995, Loughborough University, England awarded him an honorary doctorate in recognition of his contributions to the industry, and in engineering education and training.

Group vice president for global product development since January 1998, he was appointed chief technical officer in August 2001, and named senior executive of Mazda in November of that year. Before that, he was vice president of the small and medium vehicle center in Europe, developing the Ford Focus, Ka, Fiesta, Puma, Mondeo, Cougar and Galaxy.

Parry-Jones was named "Man of the Year" in 1994 by Autocar in the UK, and in 1997 by Automobile in the US. In 2001 he received the Golden Gear Award for outstanding automotive achievement from the Washington Automotive Press Association, and was made Marketing Statesman of the Year by the Sales and Marketing Executives of Detroit.

Parry-Jones is known around the world, both by his own staff and by the media, as an absolute demon when it comes to driving a car, any car, as fast as it will go, and he is equally comfortable on two wheels or four, with a penchant for very fast Japanese motorcycles, of which he owns three.

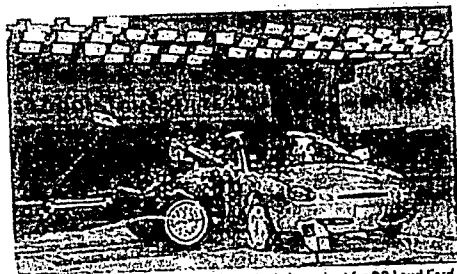
"We want to make sure engineers stress-test parts, not until they crack, but until they fail. This is a paradigm shift for the engineers: testing not to a standard, but to failure"

the quality targets that the customer has, in effect, told Ford he wants.

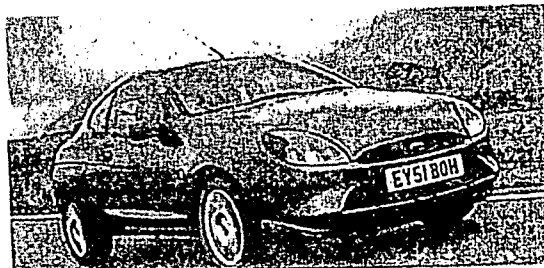
The area that Parry-Jones sees as having moved on to the greatest degree in the past decade or so, is heat and fluid flows. Now, Ford can measure three-dimensional turbulent flow with excellent correlation and predictive accuracy to within a few degrees for every component and system. "Our

heat flow tools and air flow tools are fantastically advanced compared to where they were 10 years ago, where ADAMS models and vehicle dynamics have moved on a bit, but they're not revolutionary. Crash, particularly the kinematic elements of crash, have really moved along."

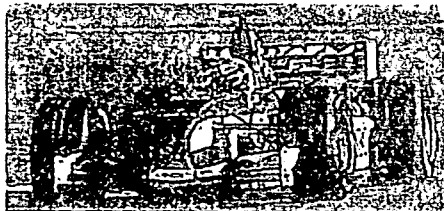
With regard to future vehicle development at Ford, based on the



10,000 and still going: safety is increasingly important for RPJ and Ford



The Puma, another RPJ-developed product, was much heralded at its launch in 1997



Barry Jones is involved with Jaguar F1, backing the project as chief of the

company's announced plan to build fewer and fewer platforms, and fewer and fewer powertrains, with more variants per platform and engine. Barry Jones is cautious about quality. "Customer expectation," he says, "is not static, and external engineering is volatile." He says that new programs, such as hybrid vehicles, zero-emission vehicles, carbon dioxide limitations, and so on, will require acquisition of knowledge and invention of entirely new technologies to understand the new failure modes, the new error states when more stringent requirements are imposed, or new technologies invented in order to meet new requirements.

The thing that's very difficult to estimate is, as you improve efficiency through use of components and process efficiency, what is the effect in workload?

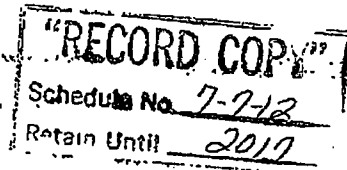
"In some cases the growth in workload is more derivatives, more stringent external requirements, and maintaining a competitive advantage. We have to expend disproportionate amounts of effort to find that last bit of noise, or vibration, or whatever."

For cosmetic derivatives in future products, using fewer platforms and powertrains, RPJ predicts a time saving in each program of six months to a year, but for brand-new products, he sees far smaller opportunities for time and money savings. He says cosmetic derivatives should be able to be completed in 18 months or less. However, he says that broad international programs involving, say, Ford North America, Ford of Europe, Volvo and Mazda, will continue to take about three years because of the sheer complexity of the programs.

Barry Jones is somewhat embarrassed personally by the safety and quality recall campaigns that have been leveled against Ford's best-selling Focus, which had 12 recalls in the US in its first year on the American market. He says the Focus experience resulted in a whole new philosophy of much higher targets and testing for failure and destruction.

"We underestimated when we launched the car in America, the amount of change that would be imposed by a different supplier base. In hindsight, we should have put more resources toward that, and done a more thorough job. Also, environmental conditions are much more severe in North America than they are in Europe."

RPJ will demand more stringent acceptance criteria and test protocols from his development engineers in the future. "We want to make sure they stress test the part, not until it cracks, but until it fails. This is a paradigm shift for the engineers, testing not to a standard, but to failure; failure that includes field failure data and conditions. If all our tests were correct, we wouldn't have any failures in the field, so the test must be changed to reflect more accurately what is happening in the field."



Inter Office

Advanced Vehicle Technology

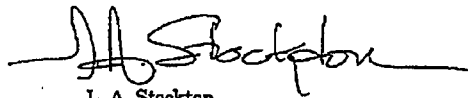
December 8, 1997

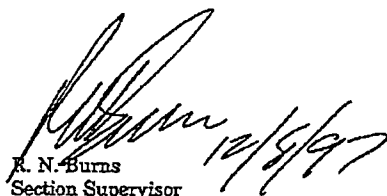
J. F. Kilsdonk
Manager, Safety Laboratories Department

Subject: Vehicle Crash Test No. 10828D (T-A4605)
(1997 F150, 40% Deformable Barrier Left, 37.5 mph)

This letter confirms the procedure to be followed regarding documents relating to the subject crash test.

- A crash test report will not be written.
- The test will be listed in the Corporate Crash Test Log with its Special Purpose identified as an "Experimental Crash".
- This letter and the Test Authorization will be the only documents appearing in the crash file system maintained by the Safety Laboratories Department.


L. A. Stockton
Test Development Engineer


R. N. Burns
Section Supervisor
Operations Engineering Section

CRTS 0010828

0474

TEST AUTHORIZATION				TEST ORDER NUMBER: TA4805			
TO: C. TOMAI CC:				REQUEST DATE: 8/19/97		REQUESTED COMPLETION DATE: 8/20/97	
				REQUEST NUMBER: 12-YR137-4805		PROBLEM NUMBER: n/a	
				REQUESTING ACTIVITY: T-657			
TITLE OF TEST: (speed) (test description) 1997 F150 37.5 40% deformable offset barrier left						PARTS DUE DATE: n/a	
TYPE OF TEST:		VIN # or IDENTIFICATION		VEHICLE MODEL & YEAR:		PROD. OR ENG. LETTER:	
[X] VEHICLE [] BENCH		NA - 301T466		1997 F150		n/a	
[] LABORATORY [] OTHER		1FTDX1866VKA00270		TEST CONDUCTED TO		DISPOSITION OF PARTS:	
ENGINE NO. DISPL CARB:		TRANSMISSION:		CERTIFY CONTROL ITEM		n/a	
		AUTO		COMPLIANCE WITH		PROCUREMENT REQ ?	
TYPE OF FUEL:		CONVERTER:		GOV. REGULATIONS		[] YES [] NO	
none		n/a		Yes		IF YES, GIVE CODE	
CRANKCASE OIL AND CAPACITY (L):		TIRE SIZE AND PLY RATING:		X No		MAIL REPORT TO:	
n/a				REPORT CATEGORIES:			
VEHICLE TEST WEIGHT:		TIRE PRESSURE (psi):		[X] ENGINEERING		BLDG:	
FRONT REAR TOTAL		FRONT REAR		[X] DATA		MAIL DROP:	
503 lbs		35 35		[X] RAW DATA		ADDRESS:	
1. OBJECT OF TEST 2. TEST PROCEDURE 3. ITEMS TO BE TESTED (NAME, NUMBER, QUANTITY)							
1) Conduct: (speed) (year) (vehicle) (level) 37.5 1997 F150 Production (mode) 40% deformable offset barrier left							
2) Velocity At Impact: 37.5 3) Vehicle Year: 1997 Remote Fire Time: Vehicle Line: F150 Positioning procedure: other Vehicle Level: Production							
Additional Contacts: (name) (phone) (pager number) M. Hamilton 07825 MHAM E. Meier 57542 EMEI							
Estimated test cost =							
Test Dev. Engineer L. Stockton 08108 LSTO							
REQUESTING SECT. NO:		WORK ORDER/ WORK TASK:		ISSUED/ REQUESTED BY:		PHONE: APPROVAL: TEST TYPE: RISK: SIGN OFF DATE:	
		YR137		M. Hamilton		07825 n/a n/a n/a	
REQUESTER: DO NOT WRITE BELOW THIS LINE							
WORK STANDARDS NUMBER:				TEST DESCRIPTION:			
MANDATORY OPTIONAL							
TEST ORDER NO:	CATEGORY	RESP. SECTION:	EST. COMP DATE:	PEO	TEST ENG. INITIALS:	UNIT CODE:	TEST ORDER DATE: USER CODE: PROD. CODE:
PERFORMING SECTION	HOURS	MATERIAL COST	COMP. COST	PARTS DUE DATE	EST. START DATE	EST. COMP DATE	STATUS PERCENT COMPLETE
		\$	\$				
TOTAL		\$					





0477

PRELIMINARY
APPRAISAL OF FINANCIAL LOSS
TO THE BENEFICIARIES
OF
SHERIFF BENJAMIN RILEY

Prepared

for

Mr. Daniel E. Henderson
Mr. Ronnie L. Crosby
Attorneys at Law

Prepared

by

Dr. Oliver G. Wood, Jr.

July 24, 2009

PLAINTIFF'S
EXHIBIT

78

PLS EXHIBIT NO. 078-01 / 1

PLS EXHIBIT NO. 078-01



0478

The beneficiaries of Sheriff Benjamin Riley sustained a financial loss because of his death on August 29, 2007. The elements of loss considered in this preliminary report are earning capacity, retirement income, and family services. Each element is appraised for the before- and after-trial periods with the after-trial losses discounted to present value as of an expected trial date of February 1, 2010.

Sheriff Riley was born on October 1, 1945, and was 61.91 years old at the time of death. According to South Carolina Code Section 19-1-150, his life expectancy was an additional 19.06 years to age 80.97 on 2026.72. His wife was born on February 10, 1947, and in accordance with South Carolina Code Section 19-1-150, her life expectancy was an additional 23.27 years to age 83.82 on 2030.93. According to his wife, before he died, Sheriff Riley had no reason to expect less than a normal life expectancy. According to his wife, Sheriff Riley intended to work to approximately December 31, 2012.

FACTS TAKEN INTO CONSIDERATION

At the time of death, Sheriff Riley was employed as the Sheriff of Jasper County, South Carolina. He began this employment in January 1996. At the time of death, Sheriff Riley's annual salary was \$62,475.

According to Sheriff Riley's Income Tax Returns, from 2003 through 2006, his annual income was as follows:

<u>Year</u>	<u>Annual Income</u>
2003	\$48,257
2004	50,621
2005	63,237



2006 59,987

As an employee of Jasper County, Sheriff Riley was a member of the South Carolina Police Officers Retirement System (PORS) and contributed 6½ percent of his annual income to the PORS.

LOSS IN EARNING CAPACITY

For purposes of this report, it is assumed that \$62,475 per year (in 2007 dollars) is the best measure of Sheriff Riley's before-death earning capacity.

The before-trial loss in earning capacity is \$151,813. The before-trial contributions to the PORS are \$9,868. The present value of the after-trial loss in earning capacity is \$169,739. The present value of the after-trial contributions to the PORS is \$11,033. The present value of the after-trial loss in retirement income (from the PORS) is \$69,432.

Earning capacity is reduced to adjust for Federal and state income taxes and estimated personal consumption. The before-trial net loss in earning capacity is \$77,125. The present value of the after-trial net loss in earning capacity is \$121,227.

LOSS IN FAMILY SERVICES

Before he died, Sheriff Riley performed an average of 10 hours per week of family services. He performed numerous family services including cooking, washing dishes, laundry, vacuuming, general household cleaning, grocery shopping, and lawn and yard care.

The loss in family services is appraised on a current basis at \$8 per hour. The before-trial loss in family services is \$9,050. The present value of the after-trial loss in



family services is \$44,469.

TOTAL FINANCIAL LOSS

The present value of the total financial loss is \$251,871. Elements of this loss are contained in Exhibit 1. This report does not contain an evaluation of any loss in dependent health and dental insurance.

William J. Wood Jr.
7/24/09



Exhibit 1

Present Value of Total Financial Loss

	Before-Trial Loss	After-Trial Loss	Total Financial Loss
Earning Capacity	\$151,813	\$169,739	\$321,552
Less: Retirement Contrib. @ 6.5%	(9,858)	(11,033)	(20,901)
Retirement Income (PORS)	0	69,432	69,432
Subtotal	141,945	228,138	370,083
Less:			
Income Taxes	(23,292)	(25,609)	(48,901)
Personal Consumption	(41,529)	(81,302)	(122,831)
Total Deductions	(64,821)	(106,911)	(171,732)
Net Loss in Earning Capacity	77,125	121,227	198,352
Family Services	9,050	44,469	53,519
Total Financial Loss	\$86,175	\$165,696	\$251,871

