KLIEMAN, LYONS, SCHINDLER & GROSS

A PARTNERSHIP INCLUDING PROFESSIONAL CORPORATIONS

COUNSELLORS AT LAW

21 CUSTOM HOUSE STREET

BOSTON, MASSACHUSETTS 02110

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OF COUNSEL
RIKKI J. KLIEMAN
ROMEO R. ADAMS

JOSEPH I. SCHINDLER
(1952-1999)

JAMES E. LYONS
(1921-1993)

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
NO: 7002 0460 0001 9849 2255

FORD MOTOR COMPANY
RECEIVED
CLAIMS
APR 14 2004
OFFICE OF
GENERAL COUNSEL

April 9, 2004

Ford Motor Company
One American Road
Dearborn, MI 48121

Re: Claimants: [redacted]
VIN: 1FMZU34E3WZ[redacted]
Type: 1998 Ford Explorer
Date of Accident: June 29, 2003

Dear Sirs and Mesdames:

This letter is written pursuant to the requirements of Massachusetts General Laws, Chapter 106, Section 2-314, et seq. and Chapter 93A, Section 2.

This office has been retained to represent [redacted], of Mashpee, Massachusetts in connection with their action against Ford Motor Company for breach of implied warranties and violation of the Massachusetts Consumer Protection Statute arising out of a motor vehicle accident involving the above referenced Ford Explorer Sport Utility Vehicle which occurred on June 29, 2003 and which resulted in serious personal injuries and other consequential damages.

The motor vehicle accident in question involved a collision in which the 1998 Ford Explorer Sport Utility Vehicle owned and operated by [redacted] was struck from behind and burst into flames. As a consequence, [redacted] received very serious injuries including burns over more than sixty percent of his body caused by the fire. Mr. [redacted] injuries required extensive medical treatment including treatment in the Intensive Care Burn Unit of Massachusetts General Hospital where he was hospitalized for more than three months and where he underwent numerous surgeries and skin graft procedures. To date, Mr. [redacted] medical expenses alone exceed 1.5 million dollars.

Violation of Massachusetts General Laws, Chapter 106, Section 2-314

Defective Design

Massachusetts General Laws, Chapter 106, Section 2-314 provides that a manufacturer or seller of goods impliedly warrants that such goods shall be merchantable. Merchantability, as defined in Subsection 2(c) of Section 2-314, requires that such goods shall be fit for the ordinary purposes for which such goods are used.

The 1998 Ford Explorer Sport Utility Vehicle described above was defective and was not reasonably suitable for the ordinary uses for which goods of that kind and description are sold. Furthermore, the defect existed at the time the vehicle was manufactured and sold and was the proximate cause of our clients' injuries.

Based upon our review and analysis, when the above referenced 1998 Ford Explorer Sport Utility Vehicle was impacted from behind the rear axle housing and/or rear suspension of the 1998 Ford Explorer was pushed forward into the rear of the fuel tank causing the rear fuel tank to fail above the tank seam. Inspection of the vehicle revealed that there is a metal shield covering the bottom of the fuel tank but that there was no shield covering the rear of the fuel tank which would have prevented suspension components from contacting the rear of the fuel tank and compromising the tank.

Ford Motor Company has performed rear impact crash testing with speeds of up to 55 m.p.h. on prototype vehicles comparable to the 1998 Ford Explorer Sport Utility Vehicle involved in this motor vehicle accident. During these tests, rear suspension components were noted to have contacted the rear of the fuel tank and compromised the fuel tank. Thus, the failure of the fuel tank of the 1998 Ford Explorer Sport Utility Vehicle involved in this motor vehicle accident and resulting fire was foreseeable.

Ford uses a polymer shield to cover the rear of the fuel tank on vehicles comparable to the 1998 Ford Explorer Sport Utility Vehicle involved in this motor vehicle accident and installs shields over sections of the rear axle assembly on other comparable vehicles to prevent the fuel tank from being compromised by the rear axle assembly in a rear-end collision. Thus, a cost effective and safer alternative design was available and the failure of the fuel tank of the 1998 Ford

Explorer Sport Utility Vehicle involved in this motor vehicle accident was preventable.

The failure to provide a shield to cover the rear of the fuel tank of the 1998 Ford Explorer Sport Utility Vehicle involved in this motor vehicle accident to protect the fuel tank from being compromised by the rear axle assembly in a rear-end collision, which was both foreseeable and preventable, constitutes a breach of the implied warranty of merchantability and is a violation of Massachusetts General Laws, Chapter 106, Section 2-314.

Failure to Warn

Furthermore, under Massachusetts law, a failure to provide an adequate warning constitutes a breach of the implied warranty of merchantability. For the reasons stated above, Ford Motor Company was fully informed of the defective nature of the design of the fuel tank of the 1998 Ford Explorer Sport Utility Vehicle involved in this motor vehicle accident and aware of all risks associated with the product at issue. These risks were reasonably foreseeable at the time of sale and in fact had been discovered by Ford Motor Company by way of testing prior to sale and by way of the failure of fuel tanks in like or comparable vehicles after the sale. The failure of Ford Motor Company to warn Allen Bagg and other customers of the risks and dangers presented by this defective design constitutes a breach of the implied warranty of merchantability and a violation of Massachusetts General Laws, Chapter 106, Section 2-314.

Under Massachusetts law, Ford Motor Company also had a continuing duty to warn where it knew or reasonably should have known of the risks and dangers presented by this defective design. The users of such vehicles are readily identifiable and Ford Motor Company had the means of effectively communicating such a warning. The failure of Ford Motor Company to warn Allen Bagg and other customers of the risks and dangers presented by this defective design constitutes a breach of its continuing duty to warn and a breach of the implied warranty of merchantability and is a violation of Massachusetts General Laws, Chapter 106, Section 2-314.

Violation of Massachusetts General Laws, Chapter 93A, Section 2

Under Massachusetts law, a breach of an implied warranty of merchantability constitutes an unfair and deceptive act pursuant to Massachusetts General Laws, Chapter 93A, Section 2, the Massachusetts

Consumer Protection Statute and may subject Ford Motor Company to an award of double or treble damages plus attorneys fees in addition to any award for its breach of implied warranty of merchantability.

For the reasons stated above, Ford Motor Company's failure to provide a shield to cover the rear of the fuel tank of the 1998 Ford Explorer Sport Utility Vehicle involved in this motor vehicle accident to protect the fuel tank from being compromised by the rear axle assembly in a rear-end collision which was both foreseeable and preventable constitutes an unfair and deceptive act within the meaning of Section 2 and a violation of Massachusetts General Laws, Chapter 93A.

Furthermore, Ford Motor Company's failure to warn where it knew or reasonably should have known that the rear suspension components of the 1998 Ford Explorer Sports Utility Vehicle involved in this motor vehicle accident were likely to contact the rear of the fuel tank in a rear impact crash causing it to fail and result in a fire constitutes an unfair and deceptive act within the meaning of Section 2 and a violation of Massachusetts General Laws, Chapter 93A.

Accordingly, and pursuant to the requirements of Massachusetts General Laws, Chapter 93A, demand is hereby made for the payment of the sum of 15 million dollars. If payment, or an acceptable offer in compromise as that term is defined by Chapter 93A, is not received within thirty (30) days from the date of this letter, we have been instructed to commence suit against you in order to enforce all of our clients' rights and remedies.

Very truly yours,

Stephen J. Lyons

SJL/pjk

cc: CT Corporation, Resident Agent (Certified Mail, Return Receipt Requested No: 7002 2030 0000 1703 3000)

Commonwealth of Massachusetts

SUFFOLK, ss.

SUPERIOR COURT DEPARTMENT
OF THE TRIAL COURT
CIVIL ACTION

No. 05-2344

Allen E. Bagg and Stephanie Bagg , Plaintiff(s)

v.

Ford Motor Company, A Delaware Corporation and
~~Daniel Valente~~ , Defendant(s)

SUMMONS

To the above-named Defendant: FORD MOTOR COMPANY

You are hereby summoned and required to serve upon Stephen J. Lyons, KLIEMAN, LYONS, SCHINDLER & GROSS, 21 Custom House Street, Boston, MA 02110 plaintiff's attorney, whose address is _____, an answer to the complaint which is herewith served upon you, within 20 days after service of this summons upon you, exclusive of the day of service. If you fail to do so, judgment by default will be taken against you for the relief demanded in the complaint. You are also required to file your answer to the complaint in the office of the Clerk of this court at Boston either before service upon plaintiff's attorney or within a reasonable time thereafter.

Unless otherwise provided by Rule 13(a), your answer must state as a counterclaim any claim which you may have against the plaintiff which arises out of the transaction or occurrence that is the subject matter of the plaintiff's claim or you will thereafter be barred from making such claim in any other action.

Witness, S[redacted], Esquire, at Boston, the 13th day of June, in the year of our Lord two thousand five.

Barbara J. Rouse

Michael Joseph Donovan
Clerk/Magistrate

A true copy, Attest:

6/16/05 19 Deputy Sheriff, Suffolk County

NOTES.

1. This summons is issued pursuant to Rule 4 of the Massachusetts Rules of Civil Procedure.
2. When more than one defendant is involved, the names of all defendants should appear in the caption. If a separate summons is used for each defendant, each should be addressed to the particular defendant.
3. TO PLAINTIFF'S ATTORNEY: PLEASE CIRCLE TYPE OF ACTION INVOLVED

(1) TORT — (2) MOTOR VEHICLE TORT — (3) CONTRACT — (4) EQUITABLE RELIEF — (5) OTHER

FORM CIV.P. 1 3rd Rev.

NOTICE TO DEFENDANT — You need not appear personally in court to answer the complaint, but if you claim to have a defense, either you or your attorney must serve a copy of your written answer within 20 days as specified herein and also file the original in the Clerk's Office.

CIVIL ACTION COVER SHEET	DOCKET NO.(S) 05-2344 - F	Trial Court of Massachusetts Superior Court Department County: SUFFOLK

PLAINTIFF(S)	DEFENDANT(S)
ALLEN E. BAGG and STEPHANIE BAGG	FORD MOTOR COMPANY, A Delaware Corporation, and DANIEL VALENTE
ATTORNEY, FIRM NAME, ADDRESS AND TELEPHONE Stehen J. Lyons, KLIEMAN, LYONS, SCHINDLER & GROSS, 21 Custom House Street, Boston, MA 02110 617.443.1000 Board of Bar Overseers number: 309840	ATTORNEY (if known) UNKNOWN

Origin code and track designation

Place an x in one box only:

- [x] 1. F01 Original Complaint
- [ ] 2. F02 Removal to Sup.Ct. C.231,s.104 (Before trial) (F)
- [ ] 3. F03 Retransfer to Sup.Ct. C.231,s.102C (X)
- [ ] 4. F04 District Court Appeal c.231, s. 97 &104 (After trial) (X)
- [ ] 5. F05 Reactivated after rescript; relief from judgment/Order (Mass.R.Civ.P. 60) (X)
- [ ] 6. E10 Summary Process Appeal (X)

TYPE OF ACTION AND TRACK DESIGNATION (See reverse side)

CODE NO.	TYPE OF ACTION (specify)	TRACK	IS THIS A JURY CASE?
B05	Product Liability	(A)	(x) Yes ( ) No

The following is a full, itemized and detailed statement of the facts on which plaintiff relies to determine money damages. For this form, disregard double or treble damage claims; indicate single damages only.

TORT CLAIMS

(Attach additional sheets as necessary)

A.	Documented medical expenses to date:	
1.	Total hospital expenses (to date)	$ 2,169,986
2.	Total Doctor expenses	$
3.	Total chiropractic expenses	$
4.	Total physical therapy expenses	$
5.	Total other expenses (describe)	$
	Subtotal	$ 2,169,986
B.	Documented lost wages and compensation to date (to date)	$ 204,000
C.	Documented property damages to date	$ 16,500
D.	Reasonably anticipated future medical and hospital expenses to be determined	$ unknown
E.	Reasonably anticipated lost wages to be determined	$ unknown
F.	Other documented items of damages (describe)	$ unknown
G.	Brief description of plaintiff's injury, including nature and extent of injury (describe)	

Plaintiff suffered burns over 60 percent of his body and the amputation of his left leg.

$ N/A

TOTAL $ 2,390,486

CONTRACT CLAIMS

(Attach additional sheets as necessary)

Provide a detailed description of claim(s):

There are no contract claims.

N/A

TOTAL $.

PLEASE IDENTIFY, BY CASE NUMBER, NAME AND COUNTY, ANY RELATED ACTION PENDING IN THE SUPERIOR COURT DEPARTMENT None.

"I hereby certify that I have complied with the requirements of Rule 5 of the Supreme Judicial Court Uniform Rules on Dispute Resolution (SJC Rule 1:18) requiring that I provide my clients with information about court-connected dispute resolution services and discuss with them the advantages and disadvantages of the various methods."

Signature of Attorney of Record Stephen Lyons DATE: 6.9.05

AOTC-6 mtc005-11/99
A.O.S.C. 1-2000

COMMONWEALTH OF MASSACHUSETTS

SUFFOLK, SS.

SUPERIOR COURT DEPARTMENT
OF THE TRIAL COURT
CIVIL ACTION NO:
05-2344

ALLEN E. BAGG
and
STEPHANIE BAGG,

Plaintiffs

v.

FORD MOTOR COMPANY,
a Delaware Corporation, and
DANIEL VALENTE,

Defendants

COMPLAINT

Preliminary Statement

1. In this action, the Plaintiffs, Allen E. Bagg and Stephanie Bagg, seek damages and other relief for injuries sustained by them as a direct and proximate result of negligence, breach of warranties, and other wrongful actions of the Defendants, Ford Motor Company and Daniel Valente, arising from the fiery explosion of a Ford sport utility vehicle when it was struck in the rear end by another vehicle.

Parties

2. Plaintiff, Allen E. Bagg ("Allen Bagg"), is a Massachusetts resident living in Mashpee, Barnstable County.

3. Plaintiff, Stephanie Bagg ("Stephanie Bagg"), is a Massachusetts resident living in Mashpee, Barnstable County and is the spouse of Allen Bagg.

4. Defendant, Ford Motor Company ("Ford"), is a corporation organized under the laws of the State of Delaware with its principal place of business on The American Road, Dearborn, Michigan 48121. At all times relevant, Ford was doing business in the Commonwealth of Massachusetts. Ford has designated its Resident Agent in the Commonwealth of Massachusetts as CT Corporation, 101 Federal Street, Boston, Suffolk County, Massachusetts 02110.

5. Defendant, Daniel Valente ("Valente"), is a Massachusetts resident living at 131 Winchester Street, Brookline, Norfolk County, Massachusetts. At all times relevant to this Complaint, Valente was a resident of Norfolk County.

Jurisdiction And Venue

6. Pursuant to Massachusetts General Laws Chapter 212, §4 and 223A, §§ 1, 2 and 3, this Court has original jurisdiction over this civil action and personal jurisdiction over all parties to this action, in that all parties are domiciled in or maintain a principal place of business in the Commonwealth of Massachusetts.

7. This Court has personal jurisdiction over all Defendants pursuant to M.G.L. c. 223A §3 because each of them has undertaken acts or conduct within the Commonwealth of Massachusetts that directly relate to the causes of action herein.

8. This Court has personal jurisdiction over Defendant, Ford Motor Company, pursuant to M.G.L. 223A §3(a)-(d), which provides this Court with jurisdiction over actions against foreign corporations. Defendant, Ford Motor Company, is a foreign corporation transacting business in Massachusetts which also contracts to supply

services or things in Massachusetts and which has caused tortious injury in Massachusetts by an act or omission outside the Commonwealth while regularly doing or soliciting business; engaging in a persistent course of conduct; and, deriving substantial revenues from goods used or consumed or services rendered in Massachusetts.

9. Venue in this Court is appropriate pursuant to Massachusetts General Laws, Chapter 223, § 1, which permits a transitory action to be brought in the county where one of the parties lives or has a usual place of business.

10. The Defendant, Ford Motor Company, does business within the Commonwealth of Massachusetts and within Suffolk County and has designated as its resident agent, pursuant to M.G.L. c. 227 §5, CT Corporation with a principal place of business also located in Suffolk County.

Allegations

The 1998 Ford Explorer Sport Utility Vehicle

11. At all times relevant, Ford was in the business of designing, testing, manufacturing, inspecting, distributing, maintaining, warning and instructing users on safe use and maintenance of Ford vehicles, and in the business of selling vehicles to members of the general public.

12. Ford manufactured and distributed for sale a model 1998 Ford Explorer Sport Utility Vehicle ("the 1998 Model").

13. The 1998 Model included a metal shield covering the bottom of the fuel tank but no shield covering the rear of the fuel tank.

14. The 1998 Model rear edge of the fuel tank is approximately 3.5 inches from the forward section of the left rear axle housing.

15. Ford performed rear impact crash testing with speeds up to 55 miles per hour on prototype 1997 Ford pickups, and knew as a result of those tests that the rear suspension components contacted the rear of the fuel tank and compromised the fuel tank.

16. As a result of the testing described in the preceding paragraph, Ford installed a polymer shield to cover the rear of the fuel tank on 1997 Ford F150 pickups to protect the fuel tank from being compromised by the rear axle assembly in a rear end collision.

17. Ford's installation of a shield covering the rear of the fuel tank in the 1998 Model would have prevented suspension components from contacting and compromising the fuel tank.

18. Despite Ford's knowledge that the absence of a safety shield protecting the rear of the fuel tank created a great risk of causing catastrophic damage in the event of a rear end collision, Ford never installed a shield to cover the rear of the fuel tank in the 1998 Model.

19. Prior to June 29, 2003, in the ordinary course of its business, Ford designed, engineered, manufactured, distributed, and sold the 1998 Model, including a 1998 Ford Explorer Sport Utility Vehicle ("the Ford SUV"), which is the subject matter of this action, by placing the 1998 Model and the Ford SUV in the stream of commerce for

sale to the general public as ultimate consumers. The Ford SUV had a vehicle identification number of 1FMZU34E3WZB07157.

Allen Bagg's Purchase of the Ford Sport Utility Vehicle

20. On or about February 19, 2000, Plaintiff Allen Bagg purchased the Ford SUV from an automobile dealer in Lakeville, Massachusetts.

21. As of June 29, 2003, the Ford SUV had passed a yearly safety inspection as indicated by the Registry of Motor Vehicles.

22. The Ford SUV was not substantially modified prior to or on June 29, 2003.

The Ford Sport Utility Vehicle Explosion

23. On June 29, 2003, while Allen Bagg was driving the Ford SUV proceeding west in the westbound lane of Route 28 (also known as Falmouth Road) in Cotuit, Massachusetts, the Ford SUV was struck in the rear end by a 2003 Audi A4 automobile carelessly operated by Defendant Daniel Valente. The Ford SUV exploded on impact and burst into flames.

24. The Ford SUV explosion occurred when the impact of the Audi caused the Ford SUV rear axle housing to be forced into the rear panel of the Ford SUV fuel tank. As a result of the forward propulsion, the rear axle housing produced a geometrical impression of its outer shell into the tank, which caused several splits to the tank that led to excessive fuel spillage.

25. The severe and sudden metal contact within the Ford SUV caused the fuel spillage to burst into flames. The Ford SUV was completely burned out as a direct result of the rupture to the fuel tank.

Bagg's Personal Injuries

26. When the Ford SUV exploded, Allen Bagg received serious injuries, including a pelvic fracture and crushed left leg and horrendous burns over more than sixty percent of his body including serious burns to his arms, hands and legs caused by the fire. Bagg was airlifted to Massachusetts General Hospital with severe burns, contusions to his lungs, a complex open fracture of his left lower extremity and pelvic fractures.

27. Bagg's injuries required extensive medical treatment including treatment in the Intensive Care Burn Unit of Massachusetts General Hospital where he was hospitalized for more than three months. He was tracheotomized and artificially ventilated. His fractures required open reduction and the placement of multiple screws and metallic plates. His hospital course was complicated by severe pneumonia and renal failure with infection of his tibial fracture for which he required numerous surgeries and skin graft procedures.

28. Bagg was discharged from Massachusetts General Hospital to Spaulding Rehabilitation Hospital in October of 2003 with multiple open wounds on his legs and feet and from the donor sites of his skin grafts with surgical drains in place. Over the following months, these multiple open wounds caused great pain and suffering and required multiple treatments including the debridement of desiccated tissue. However, his mutilated and severely burned leg remained swollen and painful.

29. Over the following months, Bagg required numerous out-patient surgical procedures at Massachusetts General Hospital to treat his burns and orthopedic injuries as well as extensive and painful physical therapy at Spaulding Rehabilitation Hospital to regain the partial use of his arm and legs.

30. On March 23, 2004, Bagg underwent a below knee amputation of his left leg as well as multiple skin grafts for the treatment of his burns all of which are directly related to injuries received by Bagg in the motor vehicle accident. Since that time, Bagg has struggled to regain the use of his limbs and has received extensive therapy to help him adjust physically to the loss of his left leg. To date, Allen Bagg's medical expenses alone exceed 2.1 million dollars.

Bagg's Disability and Other Consequential Damages

31. At all times relevant to this Complaint, Bagg was employed by the Massachusetts Steamship Authority in Woods Hole, Massachusetts as a pilot. Prior to the accident, Bagg had been so employed for 8 years.

32. As a direct result of the personal injuries sustained by Bagg, he was and continues to be totally disabled from his employment and has sustained additional incidental and consequential damages.

COUNT I
Negligence
(Allen E. Bagg v. Ford Motor Company)

33. Plaintiffs repeat and incorporate by reference herein the allegations set forth in Paragraphs 1 through 32 of this Complaint.

34. Ford, in its careless and negligent acts and/or omissions, breached its duty of care to Plaintiffs.

35. Ford carelessly and negligently designed, manufactured, distributed, and sold the 1998 Model and the Ford SUV in that there was inadequate protection for the fuel tank in a reasonably foreseeable accident.

36. Ford carelessly and negligently failed to give adequate warnings to purchasers and users of the 1998 Model and the Ford SUV, including Allen Bagg, about the unreasonably dangerous and defective condition of the 1998 Model and the Ford SUV and the dangerous propensity of the vehicle to catch fire as a result of fuel tank rupture during a reasonably foreseeable collision resulting in unnecessary and severe injury to persons using the 1998 Model.

37. Ford carelessly and negligently put into the stream of commerce the unreasonably dangerous and defective 1998 Model and the Ford SUV.

38. Ford was careless and negligent in designing the 1998 Model so that the structure of the rear axle housing presented a threatening surface to the fuel tank; in inadequately packaging the fuel tank to prevent contact with surrounding components in the event of a reasonably foreseeable collision; and/or in failing to provide adequate shielding for the fuel tank to prevent contact with surrounding components during a reasonably foreseeable collision creating an unreasonably dangerous propensity for puncture of the fuel tank.

39. As a direct and proximate result of the negligence of Ford, Allen Bagg has sustained severe and permanent personal injuries and disfigurement, suffered great pain of body and anguish of mind and other emotional distress, was caused to undergo

numerous painful and disfiguring surgical procedures which would have been unnecessary, suffered a significant reduction in his life expectancy and the diminution of his earning capacity and has suffered other incidental and consequential damages.

COUNT II
Strict Liability
(Allen E. Bagg v. Ford Motor Company)

40. Plaintiffs repeat and incorporate by reference herein the allegations set forth in Paragraphs 1 through 39 of this Complaint.

41. At the time that the Ford SUV left the control of Ford, and at the time that Allen Bagg suffered extensive burns and other damage on June 29, 2003, the Ford SUV was in a defective condition and unreasonably dangerous when put to a reasonably anticipated use. The 1998 Model (of which the Ford SUV was one) was unreasonably dangerous to Allen Bagg and other consumers or users by reason of the defects and design, manufacture, and assembly of the 1998 Model, including, but not limited to, its propensity to catch fire during a reasonably foreseeable collision due to lack of adequate protection for the fuel tank, and the failure to warn or give adequate warnings to Allen Bagg and other consumers or users of the defective nature of the 1998 Model.

42. The 1998 Model, and the Ford SUV owned by Allen Bagg, was in a defective condition unreasonably dangerous in that the structure of the rear axle housing presented a threatening surface to the fuel tank; the fuel tank was not adequately packaged to prevent contact with surrounding components in the event of a reasonably foreseeable collision; and/or the fuel tank was not adequately shielded to

prevent contact with surrounding components during a reasonably foreseeable collision creating an unreasonably dangerous propensity for puncture of the fuel tank.

43. The Ford SUV was expected to reach and did reach the hands of its owner, Allen Bagg, without substantial change in the condition in which it was designed, manufactured, distributed and sold and was being used in a manner intended by Ford and was in substantially the same condition on June 29, 2003 as when it left Ford's control.

44. Ford knew that the 1998 Model, and the Ford SUV owned by Allen Bagg, would be used without inspection for defects and represented that it could be safely used and would be fit for the ordinary purposes for which it was purchased.

45. Allen Bagg was not aware of any defect in the Ford SUV at any time prior to the vehicle's explosion on June 29, 2003. The defects in the Ford SUV that resulted in the vehicle's explosion would not have been detectable by Allen Bagg.

46. The acts and/or omissions of Ford showed a complete indifference to or conscious disregard for Allen Bagg and other users of the 1998 Model.

47. As a direct and proximate result of the defective Ford SUV, Allen Bagg has sustained severe and permanent personal injuries and disfigurement, suffered great pain of body and anguish of mind and other emotional distress, was caused to undergo numerous painful and disfiguring surgical procedures which would have been unnecessary, suffered a significant reduction in his life expectancy and the diminution of his earning capacity and has suffered other incidental and consequential damages.

COUNT III
Breach Of Warranty
(Allen E. Bagg v. Ford Motor Company)

48. Plaintiffs repeat and incorporate by reference herein the allegations set forth in Paragraphs 1 through 47 of this Complaint.

49. At all times relevant, Ford expressly and impliedly warranted and advertised to the general public that the 1998 Model was safe and stable in handling, crashworthiness, and fireworthiness, and further warranted that the 1998 Model would reasonably protect occupants during an accident.

50. Allen Bagg justifiably and reasonably relied upon Ford's warranties and advertising and had reason to believe that the vehicle was safe when operated as advertised and warranted.

51. Ford's warranties were breached because the 1998 Model, and the Ford SUV owned by Allen Bagg, was not fit for the use for which it was intended due to insufficient warnings, lack of instructions and misleading advertising to the customer regarding controllability, stability, crashworthiness, and fireworthiness.

52. As a direct and proximate result of Ford's breaches of warranties, Allen Bagg has sustained severe and permanent personal injuries and disfigurement, suffered great pain of body and anguish of mind and other emotional distress, was caused to undergo numerous painful and disfiguring surgical procedures which would have been unnecessary, suffered a significant reduction in his life expectancy and the diminution of his earning capacity and has suffered other incidental and consequential damages.

COUNT IV
Breach Of Warranty Of Merchantability
(Allen E. Bagg v. Ford Motor Company)

53. Plaintiffs repeat and incorporate by reference herein the allegations set forth in Paragraphs 1 through 52 of this Complaint.

54. Ford had a legal duty pursuant to Massachusetts General Laws, Chapter 106, Section 2-314 to warrant that the 1998 Model and the Ford SUV were merchantable and that the vehicles were fit for the ordinary purposes for which such vehicles were used. The 1998 Model and the Ford SUV were defective and not reasonably suitable for the ordinary uses for which goods of that kind and description were sold. Furthermore, the defects existed at the time the vehicles were manufactured and sold.

55. Ford's failure to provide a shield to cover the rear of the fuel tanks in the 1998 Model and the Ford SUV to protect the fuel tank from being compromised by the rear axle assembly in a rear-end collision, which was both foreseeable and preventable, constitutes a violation of M.G.L. c. 106 §2-314.

56. As a direct and proximate result of Ford's breaches of warranties, Allen Bagg has sustained severe and permanent personal injuries and disfigurement, suffered great pain of body and anguish of mind and other emotional distress, was caused to undergo numerous painful and disfiguring surgical procedures which would have been unnecessary, suffered a significant reduction in his life expectancy and the diminution of his earning capacity and has suffered other incidental and consequential damages.

COUNT V
Failure To Warn
(Allen E. Bagg v. Ford Motor Company)

57. Plaintiffs repeat and incorporate by reference herein the allegations set forth in Paragraphs 1 through 56 of this Complaint.

58. At all times relevant, Ford had an ongoing duty to provide information, instructions and warnings regarding the handling and control characteristics and problems of the 1998 Model to ensure that users would use the vehicle safely – or not use it at all – and would understand the operating characteristics of the 1998 Model.

59. Allen Bagg was not made aware of any such instruction, warning, or recommendation at any time prior to June 29, 2003 by Ford.

60. As a direct result of Ford's failure to warn, Allen Bagg has sustained severe and permanent personal injuries and disfigurement, suffered great pain of body and anguish of mind and other emotional distress, was caused to undergo numerous painful and disfiguring surgical procedures which would have been unnecessary, suffered a significant reduction in his life expectancy and the diminution of his earning capacity and has suffered other incidental and consequential damages.

COUNT VI
Loss Of Consortium
(Stephanie Bagg v. Ford Motor Company)

61. Plaintiffs repeat and incorporate by reference herein the allegations set forth in Paragraphs 1 through 60 of this Complaint.

62. As a direct and proximate result of Ford's wrongful conduct, Plaintiff Stephanie Bagg has suffered and will continue to suffer in the future the loss of care, comfort, services, support, companionship, society, and consortium of Plaintiff Allen

Bagg as a kind and loving spouse; and has suffered great pain of body, anguish of mind and severe emotional distress and other incidental and consequential damages.

COUNT VII
Negligent Infliction Of Emotional Distress
(Allen E. Bagg v. Ford Motor Company)

63. Plaintiffs repeat and incorporate by reference herein the allegations set forth in Paragraphs 1 through 62 of this Complaint.

64. As a direct and proximate result of Ford's wrongful conduct, Plaintiff, Allen Bagg, has suffered extreme emotional distress.

65. In so acting with respect to Plaintiff, Allen Bagg, Ford knew or should have known that severe emotional distress was the likely result of such conduct.

66. The emotional distress suffered by Plaintiff, Allen Bagg, was severe and of such a nature that no reasonable person could be expected to endure it.

COUNT VIII
Negligent Infliction Of Emotional Distress
(Stephanie Bagg v. Ford Motor Company)

67. Plaintiffs repeat and incorporate by reference herein the allegations set forth in Paragraphs 1 through 66 of this Complaint.

68. As a direct and proximate result of Ford's wrongful conduct, Plaintiff, Stephanie Bagg, has suffered extreme emotional distress.

69. In so acting with respect to Plaintiff, Stephanie Bagg, Ford knew or should have known that severe emotional distress was the likely result of such conduct.

70. The emotional distress suffered by Plaintiff, Stephanie Bagg, was severe and of such a nature that no reasonable person could be expected to endure it.

COUNT IX
Violation Of Massachusetts General Law Chapter 93A
(Allen E. Bagg v. Ford Motor Company)

71. Plaintiffs repeat and incorporate by reference herein the allegations set forth in Paragraphs 1 through 70 of this Complaint.

72. Pursuant to Massachusetts law, a breach of implied warranty of merchantability constitutes an unfair and deceptive act as set forth in Massachusetts General Laws, Chapter 93A, Section 2 ("the Massachusetts Consumer Protection Statute").

73. Ford is a business entity defined by M.G.L. c. 93A and at all times relevant has been engaged in trade or commerce within the Commonwealth of Massachusetts.

74. The acts of Ford were performed willfully and knowingly.

75. As a result of the herein described unfair or deceptive acts or practices, Plaintiff, Allen E. Bagg, has suffered and continues to suffer substantial injury and loss and incurred additional incidental and consequential damages. Accordingly, Plaintiff's damages should be trebled with interest awarded, and he is also entitled to an award of attorney's fees and costs.

COUNT X
Violation Of Massachusetts General Law Chapter 93A
(Stephanie Bagg v. Ford Motor Company)

76. Plaintiffs repeat and incorporate by reference herein the allegations set forth in Paragraphs 1 through 75 of this Complaint.

77. Pursuant to Massachusetts law, a breach of implied warranty of merchantability constitutes an unfair and deceptive act as set forth in Massachusetts

General Laws, Chapter 93A, Section 2 ("the Massachusetts Consumer Protection Statute").

78. Ford is a business entity defined by M.G.L. c. 93A and at all times relevant has been engaged in trade or commerce within the Commonwealth of Massachusetts.

79. The acts of Ford were performed willfully and knowingly.

80. As a result of the herein described unfair or deceptive acts or practices, Plaintiff, Stephanie Bagg, has suffered and continues to suffer substantial injury and loss and incurred additional incidental and consequential damages. Accordingly, Plaintiff's damages should be trebled with interest awarded, and she is also entitled to an award of attorney's fees and costs.

COUNT XI
Negligence
(Allen E. Bagg v. Daniel Valente)

81. Plaintiffs repeat and incorporate by reference herein the allegations set forth in Paragraphs 1 through 80 of this Complaint.

82. Defendant Daniel Valente owed a duty of care to Plaintiff Allen Bragg.

83. Defendant Daniel Valente negligently breached his duty of care to Plaintiff Allen Bragg.

84. As a direct and proximate result of the negligence of Valente, Allen Bagg has sustained severe and permanent personal injuries and disfigurement, suffered great pain of body and anguish of mind and other emotional distress, was caused to undergo numerous painful and disfiguring surgical procedures which would have been unnecessary, suffered a significant reduction in his life expectancy and the diminution of his earning capacity and has suffered other incidental and consequential damages.

COUNT XII
Loss Of Consortium
(Stephanie Bagg v. Daniel Valente)

85. Plaintiffs repeat and incorporate by reference herein the allegations set forth in Paragraphs 1 through 84 of this Complaint.

86. As a direct and proximate result of the actions of Defendant Daniel Valente, Plaintiff Stephanie Bagg has suffered and will continue to suffer in the future the loss of care, comfort, services, support, companionship, society, and consortium of Plaintiff Allen Bagg as a kind and loving spouse; and has suffered great pain of body, anguish of mind and severe emotional distress and other incidental and consequential damages.

COUNT XIII
Negligent Infliction Of Emotional Distress
(Allen E. Bagg v. Daniel Valente)

87. Plaintiffs repeat and incorporate by reference herein the allegations set forth in Paragraphs 1 through 86 of this Complaint.

88. As a direct and proximate result of the actions of Defendant Daniel Valente, Plaintiff, Allen Bagg, has suffered extreme emotional distress.

89. In so acting with respect to Plaintiff, Allen Bagg, Valente knew or should have known that severe emotional distress was the likely result of such conduct.

90. The emotional distress suffered by Plaintiff, Allen Bagg, was severe and of such a nature that no reasonable person could be expected to endure it.

COUNT XIV
Negligent Infliction Of Emotional Distress
(Stephanie Bagg v. Daniel Valente)

91. Plaintiffs repeat and incorporate by reference herein the allegations set forth in Paragraphs 1 through 90 of this Complaint.

92. As a direct and proximate result of the Defendant, Daniel Valente's, wrongful conduct, Plaintiff, Stephanie Bagg, has suffered extreme emotional distress.

93. In so acting with respect to Plaintiff, Stephanie Bagg, Defendant, Daniel Valente, knew or should have known that severe emotional distress was the likely result of such conduct.

94. The emotional distress suffered by Plaintiff, Stephanie Bagg, was severe and of such a nature that no reasonable person could be expected to endure it.

Relief Sought

WHEREFORE, the Plaintiffs pray as follows:

1. That the Court determine the amount of actual damages sustained by the Plaintiff, Allen Bagg, as a result of the negligence of Defendant Ford Motor Company and enter judgment against it as to Count I of the Complaint, together with interest and costs;

2. That the Court determine the amount of actual damages sustained by the Plaintiff, Allen Bagg, as a result of the strict liability of Defendant Ford Motor Company and enter judgment against it as to Count II of the Complaint, together with interest and costs;

3. That the Court determine the amount of actual damages sustained by the Plaintiff, Allen Bagg, as a result of the breach of warranty of Defendant Ford Motor

Company and enter judgment against it as to Count III of the Complaint, together with interest and costs;

4. That the Court determine the amount of actual damages sustained by the Plaintiff, Allen Bagg, as a result of the breach of warranty of merchantability of Defendant Ford Motor Company and enter judgment against it as to Count IV of the Complaint, together with interest and costs;

5. That the Court determine the amount of actual damages sustained by the Plaintiff, Allen Bagg, as a result of the failure to warn by Defendant Ford Motor Company and enter judgment against it as to Count V of the Complaint, together with interest and costs;

6. That the Court determine the amount of actual damages sustained by the Plaintiff, Stephanie Bagg, for loss of consortium as a result of the actions of Defendant Ford Motor Company and enter judgment against it as to Count VI of the Complaint, together with interest and costs;

7. That the Court determine the amount of actual damages sustained by the Plaintiff, Allen Bagg, as a result of the infliction of emotional distress by Defendant Ford Motor Company and enter judgment against it as to Count VII of the Complaint, together with interest and costs;

8. That the Court determine the amount of actual damages sustained by the Plaintiff, Stephanie Bagg, as a result of the infliction of emotional distress by Defendant Ford Motor Company and enter judgment against it as to Count VIII of the Complaint, together with interest and costs;

9. That the Court determine the amount of actual damages sustained by the Plaintiff, Allen Bagg, as a result of the violation of Massachusetts General Law Chapter 93A by Defendant Ford Motor Company and enter judgment against it as to Count IX of the Complaint, together with interest and costs;

10. That the Court determine the amount of actual damages sustained by the Plaintiff, Stephanie Bagg, as a result of the violation of Massachusetts General Law Chapter 93A by Defendant Ford Motor Company and enter judgment against it as to Count X of the Complaint, together with interest and costs;

11. That the Court determine the amount of actual damages sustained by the Plaintiff, Allen Bagg, as a result of the negligence of Defendant Daniel Valente and enter judgment against him as to Count XI of the Complaint, together with interest and costs;

12. That the Court determine the amount of actual damages sustained by the Plaintiff, Stephanie Bagg, for loss of consortium as a result of the actions of Defendant Daniel Valente and enter judgment against him as to Count XII of the Complaint, together with interest and costs;

13. That the Court determine the amount of actual damages sustained by the Plaintiff, Allen Bagg, as a result of the infliction of emotional distress by Defendant Daniel Valente and enter judgment against him as to Count XIII of the Complaint, together with interest and costs;

14. That the Court determine the amount of actual damages sustained by the Plaintiff, Stephanie Bagg, as a result of the infliction of emotional distress by Defendant

Daniel Valente and enter judgment against him as to Count XIV of the Complaint, together with interest and costs;

15. That the amount of the Plaintiffs' actual damages be trebled;

16. That the Court award attorneys fees to the Plaintiffs;

17. That the Court award Plaintiffs punitive damages; and,

18. That the Court grant such other relief as it deems reasonable and proper.

Jury Demand

Plaintiffs demand a trial by jury on all issues so triable.

Respectfully submitted;

THE PLAINTIFFS

By their attorneys:

Stephen J. Lyons, Esquire
(BBO NO: 309840)
KLIEMAN, LYONS, SCHINDLER
& GROSS
21 Custom House Street
Boston, MA 02110
Telephone: 617.443.1000

Camille F. Sarrouf, Esquire
(BBO No: 442440)
Anthony Tarricone, Esquire
(BBO No: 492480)
SARROUF, TARRICONE & FLEMMING
95 Commercial Wharf
Boston, MA 02210
Telephone: 617.227.5800

Dated: June 2, 2005

CT CORPORATION
A WoltersKluwer Company

Service of Process Transmittal

08/23/2006
Log Number 511419271

528459

TO: Chris Dzbanski
Ford Motor Company
Three Parklane Blvd., Ste.1400 West
Dearborn, MI, 48126-

RE: **Process Served in Massachusetts**

FOR: Ford Motor Company (Domestic State: DE)

ENCLOSED ARE COPIES OF LEGAL PROCESS RECEIVED BY THE STATUTORY AGENT OF THE ABOVE COMPANY AS FOLLOWS:

TITLE OF ACTION:	Noreen Marsters and John Marsters, Pltfs. vs. Ford Motor Company, Dft.
DOCUMENT(S) SERVED:	Summons, Cover Sheet, Complaint, Order
COURT/AGENCY:	Superior Court, CT Case # 2006-2687
NATURE OF ACTION:	Personal Injury - Vehicle Collision - June 29, 2003
ON WHOM PROCESS WAS SERVED:	C T Corporation System, Boston, MA
DATE AND HOUR OF SERVICE:	By Process Server on 08/23/2006 at 14:00
APPEARANCE OR ANSWER DUE:	Within 20 Days
ATTORNEY(S) / SENDER(S):	David P. McCormack Sugarman and Sugarman, P.C. One Beacon Street Boston, MA, 02108 617-542-1000
ACTION ITEMS:	SOP Papers with Transmittal, via Fed Ex 2 Day, 790536901139 Image SOP - Page(s): 9 Email Notification, Chris Dzbanski CDZBANSK@FORD.COM
SIGNED: **PER:** **ADDRESS:** **TELEPHONE:**	C T Corporation System Dahrlena Mitchell 101 Federal Street Boston, MA, 02110 617-757-6404

Commonwealth of Massachusetts

SUFFOLK, ss.

SUPERIOR COURT DEPARTMENT
OF THE TRIAL COURT
CIVIL ACTION

No. 2006-2687

Noreen Marsters and John Marsters, Plaintiff(s)

v.

Ford Motor Company, Defendant(s)

SUMMONS

To the above-named Defendant: Ford Motor Company

You are hereby summoned and required to serve upon Robert W. Casby, Esq., Sugarman and Sugarman, P.C. plaintiff's attorney, whose address is One Beacon Street, Boston MA 02108, an answer to the complaint which is herewith served upon you, within 20 days after service of this summons upon you, exclusive of the day of service. If you fail to do so, judgment by default will be taken against you for the relief demanded in the complaint. You are also required to file your answer to the complaint in the office of the Clerk of this court at Boston either before service upon plaintiff's attorney or within a reasonable time thereafter.

Unless otherwise provided by Rule 13(a), your answer must state as a counterclaim any claim which you may have against the plaintiff which arises out of the transaction or occurrence that is the subject matter of the plaintiff's claim or you will thereafter be barred from making such claim in any other action.

Witness, Barbara J. Rouse, Esquire, at Boston, the 22nd day of August, in the year of our Lord two thousand six.

Michael Joseph Donovan

Clerk/Magistrate

8/22/06 John Costa

NOTES.

1. This summons is issued pursuant to Rule 4 of the Massachusetts Rules of Civil Procedure.
2. When more than one defendant is involved, the names of all defendants should appear in the caption. If a separate summons is used for each defendant, each should be addressed to the particular defendant.
3. TO PLAINTIFF'S ATTORNEY: PLEASE CIRCLE TYPE OF ACTION INVOLVED

(1) TORT — (2) MOTOR VEHICLE TORT — (3) CONTRACT — (4) EQUITABLE RELIEF — (5) OTHER

FORM CIV.P. 1 3rd Rev.

NOTICE TO DEFENDANT — You need not appear personally in court to answer the complaint, but if you claim to have a defense, either you or your attorney must serve a copy of your written answer within 20 days as specified herein and also file the original in the Clerk's Office.

PROOF OF SERVICE OF PROCESS

I hereby certify and return that on _____, 200___, I served a copy of the within summons, together with a copy of the complaint in this action, upon the within-named defendant, in the following manner (See Mass. R. Civ. P. 4 (d) (1-5):

_____

_____

_____

Dated: _____, 200____. _____

N.B. TO PROCESS SERVER:–
PLEASE PLACE **DATE** YOU MAKE SERVICE ON DEFENDANT IN THIS BOX **ON THE ORIGINAL AND ON COPY SERVED ON DEFENDANT.**

, 200 .

Commonwealth of Massachusetts

SUFFOLK, ss. SUPERIOR COURT DEPARTMENT
OF THE TRIAL COURT
CIVIL ACTION
No. **2006- 2687**

Noreen Marsters and John Marsters, Plff(s).

v.

Ford Motor Company, Deft(s).

SUMMONS
(Mass. R. Civ. P. 4)
(AFFIX FILING STAMP HERE)

CIVIL ACTION COVER SHEET

DOCKET NO.(S)

Trial Court of Massachusetts
Superior Court Department
County: Suffolk

PLAINTIFF(S)
Noreen Marsters and John Marsters

DEFENDANT(S)
Ford Motor Company

ATTORNEY, FIRM NAME, ADDRESS AND TELEPHONE
W. Thomas Smith, BBO 470380, Robert W. Casby BBO 07710, David P. McCormack BBO 659006, Sugarman & Sugarman PC One Beacon St, Boston MA 02108 617-542-1000
Board of Bar Overseers number

ATTORNEY (if known)
James Campbell, Campbell. Campbell, Edwards and Conroy, One Constitution Plaza, Boston

Origin code and track designation

Place an x in one box only:

- [x] 1. F01 Original Complaint
- [ ] 2. F02 Removal to Sup.Ct. C.231,s.104 (Before trial) (F)
- [ ] 3. F03 Retransfer to Sup.Ct. C.231,s.102C (X)
- [ ] 4. F04 District Court Appeal c.231, s. 97 &104 (After trial) (X)
- [ ] 5. F05 Reactivated after rescript; relief from judgment/Order (Mass.R.Civ.P. 60) (X)
- [ ] 6. E10 Summary Process Appeal (X)

TYPE OF ACTION AND TRACK DESIGNATION (See reverse side)

CODE NO.	TYPE OF ACTION (specify)	TRACK	IS THIS A JURY CASE?
B05	Products Liability	(A)	([x]) Yes ([ ]) No

The following is a full, itemized and detailed statement of the facts on which plaintiff relies to determine money damages. For this form, disregard double or treble damage claims; indicate single damages only.

TORT CLAIMS

(Attach additional sheets as necessary)

Documented medical expenses to date:

1.	Total hospital expenses	$ 84,126.83+
2.	Total Doctor expenses	$ 37,933.50 +
3.	Total chiropractic expenses	$
4.	Total physical therapy expenses	$
5.	Total other expenses (describe) Ambulance	$ 7,868.47+
	Subtotal	$ 129,928.80+
	Documented lost wages and compensation to date	$ ~~70,000+~~
	Documented property damages to date	$
	Reasonably anticipated future medical and hospital expenses	$
	Reasonably anticipated lost wages	$
	Other documented items of damages (describe)	$

Brief description of plaintiff's injury, including nature and extent of injury (describe)

$ 0.00

TOTAL $ ~~199,928.80+~~

CONTRACT CLAIMS

(Attach additional sheets as necessary)

Provide a detailed description of claim(s):

As a result of the defendant's negligence, the plaintiff, Noreen Marsters, was rendered paraplegic and sustained other severe injuries.

TOTAL $.

PLEASE IDENTIFY, BY CASE NUMBER, NAME AND COUNTY, ANY RELATED ACTION PENDING IN THE SUPERIOR COURT DEPARTMENT

"I hereby certify that I have complied with the requirements of Rule 5 of the Supreme Judicial Court Uniform Rules on Dispute Resolution (SJC Rule 1:18) requiring that I provide my clients with information about court-connected dispute resolution services and discuss with them the advantages and disadvantages of the various methods."

Signature of Attorney of Record _____ DATE: 6/26/06

CJ-S mfc005-11/99
S.C. 1-2000

COMMONWEALTH OF MASSACHUSETTS

SUFFOLK, SS.

SUPERIOR COURT
DEPARTMENT OF
THE TRIAL COURT

NOREEN MARSTERS AND JOHN MARSTERS,

Plaintiffs,

v.

FORD MOTOR COMPANY,

Defendant.

NO.

COMPLAINT

Parties

1. The plaintiff, Noreen Marsters, resides at 177 Old Barnstable Road, Town of Mashpee, County of Barnstable, Commonwealth of Massachusetts.

2. The plaintiff, John Marsters, resides at 177 Old Barnstable Road, Town of Mashpee, County of Barnstable, Commonwealth of Massachusetts and was at all material times and is the husband of the plaintiff, Noreen Marsters.

3. The defendant, Ford Motor Company, is a foreign corporation duly registered under the laws of the state of Delaware with a business address of The American Road, City of Dearborn, State of Michigan, was at all material times registered to do business and engaged in the transaction of business within the Commonwealth of Massachusetts. The defendant has designated and appointed CT Corporation System, 101 Federal Street, City of Boston, County of Suffolk, Commonwealth of Massachusetts as its registered agent.

Facts

4. On or about June 29, 2003, the plaintiff, Noreen Marsters, was a passenger in a 1998 Ford Explorer that was struck by a motor vehicle operated and controlled by Daniel Valente on a public way in Cotuit, County of Barnstable, Commonwealth of Massachusetts.

5. The above-mentioned Ford Explorer was designed, manufactured, distributed, sold, supplied and/or conveyed by defendant Ford Motor Company.

6. The defendant, Ford Motor Company, was and is a merchant with respect to the vehicle, such as the above-mentioned Ford Explorer.

7. The defendant, Ford Motor Company, was careless and negligent in the design, manufacture, distribution, sale, supply and/or conveyance of the above-mentioned Ford Explorer.

8. The defendant, Ford Motor Company, impliedly warranted that the above-mentioned Ford Explorer would be of merchantable quality and that it was fit for any ordinary or reasonable purpose contemplated for its use.

9. The plaintiff's injuries resulting from the accident as aforesaid were caused by the carelessness and negligence of the defendant, Ford Motor Company, its servants, agents, or employees.

10. The plaintiff's injuries resulting from the accident as aforesaid were caused by the dangerous and defective condition of the above-mentioned Ford Explorer and by the breaches of warranty by defendant, Ford Motor Company.

11. Due notice has been given to the defendant, Ford Motor Company, of any and all breaches of warranty.

12. The breaches of implied warranties of the defendant, Ford Motor

Company, as aforesaid constitute unfair and deceptive acts or practices by the defendant in violation of Massachusetts General Laws, Chapter 93A.

13. The acts or practices of the defendant, Ford Motor Company, were willful and knowing violations of General Laws, Chapter 93A.

14. Plaintiff made demand upon the defendant, Ford Motor Company, pursuant to Massachusetts General Laws, Chapter 93A on May 26, 2006.

15. The defendant, Ford Motor Company, failed to make any written tender of settlement and said refusal to grant relief upon demand was made in bad faith with knowledge or reason to know that the defendant's breaches of implied warranties were unfair and deceptive acts or practices.

16. As a result of the injuries sustained in the accident described above, the plaintiff, Noreen Marsters, was caused to suffer great pain of body and anguish of mind, her earning capacity has been and will be impaired for a long period of time and she has expended and will continue to expend large sums of money for medical care and attendance.

17. As a result of the personal injuries sustained by the plaintiff, Noreen Marsters, the plaintiff, John Marsters, has had his marital relationship with his wife interfered with, whereby he suffered loss of his wife's society, affection, companionship and consortium.

CAUSES OF ACTION
(Each Cause of Action Specifically Incorporates by Reference All of Those Paragraphs Previously Set Forth)

First Cause of Action

This is an action by the plaintiff, Noreen Marsters, against the defendant, Ford Motor Company, for negligence resulting in personal injuries.

Second Cause of Action

This is an action by the plaintiff, Noreen Marsters, against the defendant, Ford Motor Company, for breach of implied warranty of merchantability resulting in personal injuries.

Third Cause of Action

This is an action by the plaintiff, Noreen Marsters, against the defendant, Ford Motor Company, for damages pursuant to Massachusetts General Laws, Chapter 93A for unfair or deceptive acts and practices arising out of the defendant's breach of implied warranty of merchantability resulting in personal injuries.

Fourth Cause of Action

This is an action by the plaintiff, Noreen Marsters, against the defendant, Ford Motor Company, for double or treble damages pursuant to Massachusetts General Laws, Chapter 93A, Section 9.

Fifth Cause of Action

This is an action by the plaintiff, John Marsters, against the defendant, Ford Motor Company, for negligence resulting in loss of consortium.

Sixth Cause of Action

This is an action by the plaintiff, John Marsters, against the defendant, Ford Motor Company, for breach of implied warranty of merchantability resulting in loss of consortium.

Seventh Cause of Action

This is an action by the plaintiff, John Marsters, against the defendant, Ford Motor Company, for damages pursuant to Massachusetts General Laws, Chapter 93A for unfair or deceptive acts and practices arising out of the defendant's breach of implied

warranty of merchantability resulting in loss of consortium.

Eighth Cause of Action

This is an action by the plaintiff, John Marsters, against the defendant, Ford Motor Company, for double or treble damages pursuant to Massachusetts General Laws, Chapter 93A, Section 9.

DEMANDS FOR RELIEF

A. The plaintiff, Noreen Marsters, demands judgment against the defendant, Ford Motor Company, in the amount of her damages, with interest and costs, as to the First and Second Causes of Action, in the amount of her damages, with interest, costs, and attorneys' fees as to the Third Cause of Action, and for double or treble damages, with interest, costs, and attorneys' fees, as to the Fourth Cause of Action.

B. The plaintiff, John Marsters, demands judgment against the defendant, Ford Motor Company, in the amount of his damages, with interest and costs, as to the Fifth and Sixth Causes of Action, in the amount of his damages, with interest, costs, and attorneys' fees as to the Seventh Cause of Action, and for double or treble damages, with interest, costs, and attorneys' fees, as to the Eighth Cause of Action.

JURY CLAIM

The plaintiffs claim a trial by jury.

By their Attorneys,

SUGARMAN AND SUGARMAN, P.C.

W. Thomas Smith - BBO# 470380
Robert W. Casby - BBO# 077110
David P. McCormack - BBO# 659006
One Beacon Street
Boston, Massachusetts 02108
617-542-1000

Commonwealth of Massachusetts
County of Suffolk
The Superior Court

CIVIL DOCKET# **SUCV2006-02687-H**

RE: **Marsters et al v Ford Motor Company**

TO:David P McCormack, Esquire , EWC, DPM
Sugarman & Sugarman
1 Beacon Street
Boston, MA 02108

TRACKING ORDER - A TRACK

You are hereby notified that this case is on the average (A) track as per Superior Court Standing Order 1-88. The order requires that the various stages of litigation described below must be completed not later than the deadlines indicated.

STAGES OF LITIGATION	DEADLINE
Service of process made and return filed with the Court	09/24/2006
Response to the complaint filed (also see MRCP 12)	11/23/2006
All motions under MRCP 12, 19, and 20 filed	11/23/2006
All motions under MRCP 15 filed	09/19/2007
All discovery requests and depositions completed	08/14/2008
All motions under MRCP 56 served and heard	10/13/2008
Final pre-trial conference held and firm trial date set	02/10/2009
Case disposed	06/25/2009

The final pre-trial deadline is **not the scheduled date of the conference**. You will be notified of that date at a later time.
Counsel for plaintiff must serve this tracking order on defendant before the deadline for filing return of service.

This case is assigned to session **H** sitting **in CtRm 1015, 3 Pemberton Square, Boston, Suffolk Superior Court.**

Dated: 06/27/2006

Michael Joseph Donovan
Clerk of the Courts
BY: Nancy E. Goldrick
Assistant Clerk

Location: CtRm 1015, 3 Pemberton Square, Boston
Telephone: 617-788-8147

Disabled individuals who need handicap accommodations should contact the Administrative of the Superior Court at (617) 788-8130

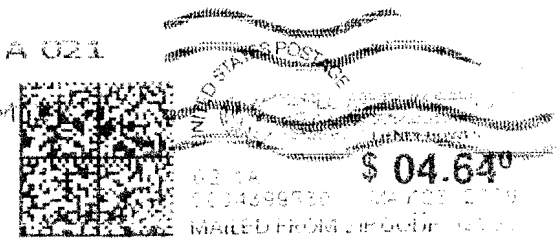
Check website for status of case: http://ma-trialcourts.org/tcic
cvdtraca_2.wpd 2935030 inidoc01 cicechri

ONE BEACON STREET
13TH FLOOR
BOSTON, MA 02108-3106

CERTIFIED MAIL

7160 3901 9849 3224 0349

BOSTON MA 021
MAY 2006 PM



RETURN RECEIPT REQUESTED

Ford Motor Company
President
One American Road
Dearborn, MI 48121

46126+2701

Commonwealth of Massachusetts
Motor Vehicle Crash Police Report

Date of Crash	Time of Crash	City/Town	Number Vehicles	Number Injured	Speed Limit	
06/29/2003	0309 24HR	COTUIT	2	3	40	Lat. Lon.

State Police ☐ Local Police ☒ MBTA Police ☐ Other:

AT INTERSECTION: < **LOCATION** > **NOT AT INTERSECTION:**

Route# Direction Name of Roadway/Street — At — Route# Direction Name of Intersecting Roadway/Street — Also at Intersection with — Route# Direction Name of Intersecting Roadway/Street

Route# Direction Address # Name of Roadway/Street: 4418 FALMOUTH RD RTE 28

Feet N S E W of Mile Marker or Exit Number

40 Feet ☒ S E W of Route# 28 Intersecting Roadway/Street: ANCHOR LN

100 Feet N ☒ E W of Landmark: SANTUIT GAS STATION

Please Select One of the Following: ☒ Vehicle 1 2 #Occupants ☐ Hit/Run ☐ Moped

03-865-AC

Vehicle 1

License # [redacted] St MA DOB/Age [redacted] Reg # [redacted] Reg Type PC Reg State MA

Sex M [redacted] Lic. Restrictions 1 CDL Endorsement [redacted] Veh Year 1998 Veh Make FORD Veh Config. 2

Name (Last First Middle): [redacted]

Address: [redacted]

City MASHPEE State MA Zip [redacted]

Insurance Company HANOVER INS

Vehicle Travel Direction: ☒ S E W Responding to Emergency? 2

Citation # (If Issued)

Viol. 1: Ch/Sec/Sub / Viol. 2: Ch/Sec/Sub /

Viol. 3: Ch/Sec/Sub / Viol. 4: Ch/Sec/Sub /

Owner [redacted]

Address [redacted]

City MASHPEE State MA Zip [redacted]

Vehicle Action Prior to Crash 1

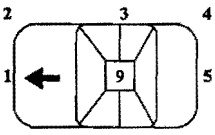
Event Sequence [redacted]

Most Harmful Event 45

Driver Contributing Code [redacted]

Underride/Override 3 Towed 1

Damaged Area Code: (Circle Up to Three)



0 None
10 Undercarriage
(11) Totaled
97 Other
99 Unknown

Please fill out for operator and all occupants involved

Name (Last First Middle) / Address	DOB/Age	Sex	26 Seat Pos.	27 Safety System	28 Airbag Status	29 Airbag Switch	30 Eject Code	31 Trap Code	32 Injury Status	33 Transp. Code	Medical Facility
Operator / See Above	---------	---	---	1	99	99	2	2	2	2	MASS GENERAL
[redacted] / [redacted] MASHPEE, MA [redacted]	08/25/1971	F	3	0	99	99	1	0	2	2	

Vehicle 2

Please Select One of the Following: ☒ Vehicle 2 1 #Occupants ☐ Non-Motorist Type [redacted] Action [redacted] Location [redacted] Condition [redacted] ☐ Hit/Run ☐ Moped

License # [redacted] St MA DOB/Age [redacted] Reg Type PC Reg State MA

Sex M Lic. Class [redacted] Endorsement [redacted] Year 2003 Veh Make AUDI Veh Config. 1

Name (Last First Middle): [redacted]

Address: [redacted]

City COTUIT State MA Zip [redacted]

Insurance Company SAFETY

Vehicle Travel Direction: ☒ S E W Responding to Emergency? 2

Citation # (If Issued) [redacted]

Viol. 1: Ch/Sec/Sub [redacted] Viol. 2: Ch/Sec/S [redacted]

Viol. 3: Ch/Sec/Su [redacted] iol. 4: Ch/Sec/S [redacted]

Owner [redacted]

Address [redacted]

City COTUIT State MA Zip [redacted]

Vehicle Action Prior to Crash 1

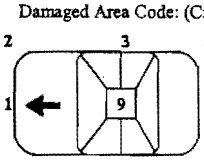
Event Sequence [redacted]

Most Harmful Event 45

Driver Contributing Code 10 2

erride/Override 3 Towed 1

Damaged Area Code: (Circle Up to Three)



0 None
10 Undercarriage
(11) Totaled
97 Other
99 Unknown

Please fill out for operator/non-motorist and all occupants involved

Name (Last First Middle) / Address	DOB/Age	Sex	26 Seat Pos.	27 Safety System	28 Airbag Status	29 Airbag Switch	30 Eject Code	31 Trap Code	32 Injury Status	33 Transp. Code	Medical Facility
Operator/Non-Motorist / See Above	---------	---	---	1	99	99	0	0	3	2	FALMOUTH HOSPITAL

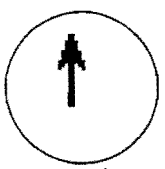
→ = Direction [1] = Vehicle 1 [2] = Vehicle 2 ☺ = Pedestrian

Crash Diagram: ie: → [1] → [2] → ☺

SEE RECONSTRUCTION REPORT

If Crash Did Not Occur on a Public Way:

- ☐ Off-Street Parking Lot
- ☐ Garage
- ☐ Mall/Shopping Center
- ☐ Other Private Way



North

Crash Narrative:

SEE SUPPLEMENTAL NARRATIVE FOR REPORT #03-865-AC

Witnesses:

Name (Last,First,Middle)	Address	Phone #	Statement
[redacted]	[redacted]		

Property Damage:

Owner (Last,First,Middle)	Address	Phone #	34 Type	Description of Damaged Property

Truck and Bus Information: Registration # _____ (From Vehicle Section)

Carrier Name _____ Carrier Issuing Authority Code [35]

Address _____ City _____ St _____ Zip _____

US DOT #: _____ State Number _____ Issuing State _____ ICC #: _____ Interstate [36]

Cargo Body Type Code [37] Gross Vehicle Weight [38]

Trailer Reg #: _____ Reg Type _____ Reg State _____ Reg Year _____ Trailer Length [39]

Hazmat Information:

Placard [40] Material 1 digit # [41] Material Name _____ Material 4 digit # _____ Release code [42]

PTL. BRIAN D MORRISON — 205 — Barnstable Police Department — 06/29/2003

Police Officer Name (Please Print) | Signature | ID/Badge # | Department | Precinct/Barracks | Date

Printed on	Barnstable Police Department	Page Number
09/08/2005	**Operator Information Sheet** 03-865-AC	1 of 1

General

Accident Date	Time	Reporting Officer
06/29/2003	0309	PTL. BRIAN D MORRISON

Location	City	State	ZIP
SANTUIT CITGO	COTUIT	MA	02635

Operator

OPERATOR

Last Name	First	Middle	Suffix	Veh/Unit	
[redacted]	[redacted]	M	JR	1	☒ Injured ☐ Fatality

Number	Street	Suffix	Apt	City	State	ZIP
[redacted]	[redacted]			MASHPEE	MA	[redacted]

DOB	Home Phone	Work Phone	License State/Number
[redacted]	[redacted]		MA [redacted]

Insurance Company	Policy Number
HANOVER INS	

OWNER

Last Name	First	Middle	Suffix	Home Phone	Work Phone
[redacted]	[redacted]N	M	JR	[redacted]	

Number	Street	Suffix	Apt	City	State	ZIP
[redacted]	[redacted]			MASHPEE	MA	[redacted]

VEH

Year	Make	Model	VIN	
1998	FORD	FORD EXPLORER		

Registration State/Number	Towed By	Towed To
MA [redacted]	AAA DAVIS TOWING	AAA DAVIS TOWING

Operator

OPERATOR

Last Name	First	Middle	Suffix	Veh/Unit	
[redacted]	[redacted]	B		2	☒ Injured ☐ Fatality

Number	Street	Suffix	Apt	City	State	ZIP
[redacted]	[redacted]	[redacted]		COTUIT	MA	[redacted]

DOB	Home Phone	Work Phone	License State/Number
[redacted]	[redacted]		MA [redacted]

Insurance Company	Policy Number
SAFETY	

OWNER

Last Name	First	Middle	Suffix	Home Phone	Work Phone
[redacted]	[redacted]	B		[redacted]	

Number	Street	Suffix	Apt	City	State	ZIP
[redacted]	[redacted]	RUN		COTUIT	MA	[redacted]

VEH

Year	Make	Model	VIN	
2003	AUDI			

Registration State/Number	Towed By	Towed To
MA [redacted]	AAA DAVIS TOWING	AAA DAVIS TOWING

STATEMENTS:

OPERATOR #1: N/A (Due to medical condition, and subject being air lifted to Mass General Hospital in Boston.)

OPERATOR #2, Mr. [redacted]: "I was traveling north on Falmouth Road / Route 28 in Marstons Mills. I had just left my friend Michael Merlesena's house, and was heading home to #72 Bob White Circle in Marstons Mills. Upon coming over a hill on Route 28, and just after Anchor Lane I noticed an SUV type MV in the roadway. The MV seemed to be stopped, sitting still in the same travel lane as I was traveling in. I was traveling at a speed of about 45 mph to 50 mph, and I attempted to stop by applying my brakes. But I quickly realized that there was no time to stop, so I then tried to swerve around the stopped MV. I unfortunately did not make it and slammed into the rear end of the SUV. The contact sent my car into a spin and the other off the roadway. Both cars immediatly burst into flames, and I was able to get my seatbelt off, and get myself out of my car. I then went over to see if the operator of the other MV was alright. At this time I noticed a white female lying in the middle of the roadway, I then dragged her to the other side of the road to get her away from the burning MV. I then ran to a couple of buildings and houses looking for help and to have someone call 911. When I could not raise anyone I then ran just through the woods to my residence at #72 Bob White Circle where I called 911 and was advised that Rescue and Police were already on scene. I then had my parents who had woken up apparently from the noise give me a ride back to the accident where I was then evaluated by Rescue and questioned by the Police. "One thing I remember about the accident is that just before the accident, while the other car was sitting still it looked like the driver side door was open as if the driver and operator were going to switch."

PHOTOS: Photos were taken by B.C. I. Officer WIlliam "Bill" Jacques

WRECKERS: Both MVs were severely damaged and towed by Davis Towing.

[redacted]

GIST: MV #1 traveling north on Falmouth Road towards Mashpee, was struck in the rear end by MV #2. The impact of both MVs caused them both to explode on impact, causing both to burst into flames as well. The collision forced MV #1 to spin out of control onto the northbound shoulder of Falmouth Road into some bushes and a tree. The female was ejected from the MV into the middle of Route 28. The male party of MV #1 (the SUV,) was trapped on the driver side. MV #2 was forced into a spin as well and came to rest on the center line of Falmouth Road across both lanes. OP #2, Mr. [redacted] was able to get out of his burning vehicle and apparently went for help, before returning to the scene. I arrived to find some bystanders who had helped both the female and male parties away from the burning MVs. Fire, Rescue, and back up Officers arrived quickly thereafter to assist at the scene. See Report#03-1892-AR for more details.

On Sunday 06/29/2003 at 0309 hrs., this Officer was dispatched to Falmouth Road/Route 28, just before the intersection with Newtown Road for an MVA with injuries. Upon approaching the MVA scene I could see two huge fires on either side of the roadway. As I came closer to the scene I could see that there were two MVs on fire on either side of the roadway. One MV was off of the northbound shoulder into a small wooded area fully engulfed in flames. The second MV also fully engulfed with flames was across both travel lanes of Route 28. I immediately notified Dispatch to have the Fire and Rescue Teams expodite their arrival. I also radioed for assistance with traffic. Once I was on scene I noticed a female party on the southbound shoulder of the roadway. She was being attended to by a bystander who had come upon the accident. I was then informed that there was a male party across the street in a parking lot being attended to by a male and female party who had jumped out of a limousine to assist. After checking on the female I went over to check on the male party. Both parties were severely injured. At this time I was informed that both male and female were in the same MV, and that another male subject had run from the other MV. At this time I started moving all the bystanders behind my cruiser to a safe area with the exception of the three people who were helping with the injured parties. At this time both MVs began to explode and debris was being thrown through the air in all directions.

Shortly after my arrival a Fire and Rescue Team arrived on scene and began to administer aid to the injured parties, as well as extinguish the fires. Also on scene at this time was Sgt. Twomey, Ptl. D. Palmer, Ptl. Scott Wright, and off duty Ptl. Kevin Donovan who all work together to help render aid, and direct traffic around this accident. Also arriving on scene a short time after was C.O.M.M. Fire. They began to extinguish the other car fire and render aid to the female party. The Cotuit Fire Team, and the C.O.M.M Fire Team both extinguished the cars quickly and were able to stabilize both victims. At this time the male victim identified as a Mr. Allen Bagg of Mashpee was taken via Cotuit Rescue to Fire Headquarters, Mashpee where upon he was medically air lifted to Mass General Hospital in Boston. [redacted] The female victim identified as a Ms. Noreen Marsters of Mashpee was taken by C.O.M.M. Fire to Cape Cod Hospital where she was later air lifted to Mass General Hospital. After the victims were taken to the hospital this Officer called for the Accident Reconstruction Team and for photos. Ptl. Parkka, and Sgt. McGuire arrived shortly after being called as we as had B.C.I Officer Bill Jacques who took photos of the accident scene.

The operator of the second MV by this time had made his way back to the accident scene. I noticed that he too had suffered some injuries and directed him to a Cotuit Rescue personnel. I also asked if he was the only person in his MV, he stated many times that yes he was the only person in the car. [redacted] The operator later identified as a Mr. Daniel Valente was then taken to Falmouth Hospital by Mashpee Fire and Rescue. By this time Ptl. Wright and Sgt. Twomey had begun taking

I then went to Falmouth Hospital to check on the well being of Mr. [redacted] He was in stable condition at Falmouth Hospital [redacted] I explained to Mr. [redacted] about what the witnesses had stated, and updated him on the condition of the other two parties of which I knew at the time. I then asked Mr. [redacted] how the accident occurred. Mr. [redacted] again stated he was traveling north on Falmouth Road towards Marstons Mill, coming from his friend Michael's house in Osterville. "I was doing about 40 mph to 45 mph when I came over the hill before you reach Anchor Lane. As I came over the hill I noticed that there was an SUV type MV stopped in the road in my travel lane north. I attempted to apply the brakes but by this time it was too late, I then tried to swerve but was not able to in time and struck the rear end of the other car. It all happened so fast, but I remember seeing that the driver's side door may have been ajar, like they were

Ref: 03-865-AC NARRATIVE FOR PTL. DANIEL J PARKKA
Entered: 11/17/2003 @ 1349 Entry ID: 157
Modified: 11/17/2003 @ 1542 Modified ID: 771

On 11/11/03 at approximately 12:30 p.m., this Officer arrived at Mr. [redacted] residence to obtain a statement from him regarding the collision. While at the residence, Mr. [redacted] attorney, Mr. Stephen Lyons, was present.

STATEMENT OF MR. [redacted]: Indicated he was traveling west on Route 28 at a speed of approximately 40-45 m.p.h. As he was traveling along, his vehicle was struck from behind by the 2003 Audi. Mr. [redacted] remembers looking over his right shoulder at the onset of the collision and observing the entire rear end of the vehicle crumpling forward. The sense of fire was immediately felt at the time of the collision.

The vehicle then violently moved about until it came to rest. At that point, he remembers having to pull himself from the vehicle as a result of the fire. He moved over towards the passenger door and crawled out at that porthole. Several persons arrived to where he was located on the ground and pulled him to a safe haven from the burning vehicle. He remembers a Limousine traveling on the roadway at the time of the collision.

This Officer left his residence shortly thereafter.

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Collision Reconstruction Report

Case Number: **03-865-AC** Printed on 07/10/20

RECONSTRUCTIONIST INFORMATION

Name:	Daniel James Parkka	Rank:	Reconstructionist
Department:	Barnstable Police Department	Troop/Div:	Traffic

PRIMARY POLICE INVESTIGATOR INFORMATION

Name:	Brian Morrison	Rank:	Officer
Department:	Barnstable Police Department	Phone:	508-775-0387

COLLISION INFORMATION

Date:	06/29/2003	Time:	0309 Hours
Location:	Intersection of Route 28 ~ Falmouth Road and Area of Anchor Lane		
City/Town:	Cotuit	County:	Barnstable
State/Prov.:	MA.	Type:	Personal Injury
Photos Taken:	Yes	By Whom:	Barnstable County Sheriff's Department
Road Cond'n:	See Report	Road Surface:	Bituminous Asphalt/Concrete
Weather:	See Report	Speed Limit:	45
Alc. Related:	Yes		

COLLIDING ITEMS INFORMATION

Item #1: Automobile
Desc. #1: 1998 Ford Explorer // MA: 8852SP // 1FMZU34E3WZ[redacted]

Item #2: Automobile
Desc. #2: 2003 Audi A4 Stationwagon // MA: 9767ZK // WAUVC68E43A[redacted]

Approximately 0315 Hours on 06/29/03, this officer was requested to the scene of a motor vehicle collision which occurred on Route 28 in the area of Anchor Lane. On arrival, conversation was held with Officer Brian Morrison being the preliminary investigating officer. Officer Morrison disclosed the details to the collision.

Reference Point

To compile measurements for this report, this analyst utilized a position 19.2 feet from utility pole 622 and 98.08 feet from utility pole 333/265 as a primary reference point. A point tangent to the northern side of utility pole 333/265 was utilized as the secondary reference point to which all measurements were recorded radially with the use of a Sokkia total station.

Atmospheric Conditions

The atmospheric conditions listed with the National Weather Service, which were recorded at the Hyannis Municipal Airport (KHYA 41-40N 70-16W), were clear indicating less than 1/10th cloud coverage, with no precipitation and a 10-mile visibility. The temperature at 0300 hours was 64 degrees Fahrenheit (17.8 deg C) with winds from the west/southwest at 7 mi/hr. The barometric pressure measured 30.15 in. Hg (1020 hPa). Dewpoint registered at 61 degrees Fahrenheit (16.1 deg C) being the temperature to which the air must be cooled for water vapor to condense. Relative humidity was listed at 87%. In the six hours preceding the collision, no trace of precipitation was noted. It does not appear the weather at the time of the collision was a contributing factor. At the time of this officer's arrival, the above conditions were present.

Ambient Lighting

The moon's position at 0309 hours was negative 11.9 degrees to the horizon with the azimuth bearing negative 37.7 degrees from true north. The moon's virtual reality was zero percent in its given position at the time of the collision. Given the position of the moon relative to the terrain, its virtual reality, weather, and the vehicles involved in this collision, ambient lighting to the scene was not produced by the moon.

Luminary Lighting

Luminary lighting was present due to the placement of utility pole 333/264. This pole was affixed with a common mercury vapor streetlight, which extended out past the roadway edge into the eastbound travel lane. The pole was located along the eastbound shoulder, 51 feet to the east of the impact area.

Roadway Geometry

Route 28 in the area of the collision is composed of bituminous asphalt/concrete. The surface was dry with no general construction in the area pertaining to the roadway. The roadway was clear of any and/or all debris excluding that, which was produced by the collision, as viewed by this officer and as specified in the initial police report prepared by Officer Morrison.

Route 28 travels east to west for clarity of this report and contains two lanes of travel. These lanes are in the order of 12 feet in width and separated by a split-yellow, reflectorized centerline with intermittent,

raised, reflectorized, amber pavement markers depicting a passing zone. Both shoulders are lined with single white reflectorized foglines, which delineate the edge of the travel lanes. All delineators were clean and highly visible. The paved east and westbound shoulders extend for approximately 4.5 to 5 feet from the white foglines to the edge of natural earthen material. The roadway commences a descent, 950 feet to the east of the collision area for eastbound traffic.

Traffic Regulator(s)

A sign depicting a speed limit of 50 mi/hr regulates vehicular traffic proceeding west on Route 28. This sign is clean, highly visible to westbound traffic and was consistent with the Manual on Uniform Traffic Control Devices (MUTCD) as a regulatory notice. The sign is located 8 tenths of a mile from the impact area and is situated along the westbound shoulder.

A secondary sign is located within the collision area depicting a speed limit of 45 mi/hr regulates vehicular traffic proceeding west on Route 28. This sign is clean, highly visible to westbound traffic from the crest of the roadway being 950 feet to the east. The sign was consistent with the MUTCD as a regulatory notice. Though the sign is within the collision area, traffic proceeding west would be required to decelerate from the previous posting of 50 mi/hr to 45 mi/hr prior to entering the new speed zone.

On-scene Investigation

On examination of the scene, the 1998 Ford Explorer was located and listed as MV #1 in the primary report. This vehicle was facing in an northeast direction while situated on the property of # 4462 and to the north of a hedge, lining the property from the roadway. The vehicle had sustained an initial rear impact as a result of being struck by the Audi A4. The principal direction of force was 180 degrees off the vehicle's fixed coordinate system being the physical property imparted to the vehicle during the impulse as a result of being involved in the collision. The vehicle was completely burned out as a result of a rupture to the fuel tank. This damage will be expanded-on within this report forthcoming. A secondary impact was noted to the roof section over the front occupant seating area between pillar posts 'A' & 'B' as a result of making contact with a tree at the base of the driveway to # 4462. The principal direction of force was approximately zero degrees of the '*z* axis'. At the time of the investigation, the operator and his passenger had been removed from the scene by Cotuit and Centerville Rescue personnel. It was reported, both occupants had been ejected from the vehicle after the initial impact. As evident to the damage associated with the tree, both occupants were also ejected prior to the vehicle striking the tree.

The 2003 Audi A4 bearing Massachusetts registration 97692K was located and listed as MV #2 in the primary report. This vehicle was facing in a southerly direction while situated within the eastbound travel lane. The vehicle had sustained an initial frontal impact as a result of making contact the Ford Explorer. The principal direction of force was approximately zero degrees off the vehicle's fixed coordinate system. The vehicle had sustained a secondary lateral impact as a result of striking a tree along the eastbound shoulder of the roadway. The principal direction of force was approximately 143 degrees off the vehicle's fixed coordinate system. This vehicle also was burned out with only the exterior rear quarters and hatch not inflamed. The operator of the vehicle had been removed from the scene of rescue personnel.

A deep singular gouge was located in the westbound lane, adjacent to several other scratch and scuffmarks. This mark also showed a directional evolution parallel to the travellane. Gouge marks are scars in, or on the roadway surface caused by metal portions of the vehicle making contact with the road and penetrating the surface. These marks are usually caused by metal portions of the vehicle that are

violently forced downward during the collision impulse. While still connected to a section of the vehicle, parts fractured or jarred loose make contact with the roadway under pressure. These particular marks in this collision were developed by one of the leafs making up the left rear leaf spring assembly of the Ford Explorer. This leaf spring assembly measured 21.5 inches from the vehicle's center '*x-axis*'. Further description of the leaf spring contact will be forthcoming within this report.

Leading from the gouge in a westerly direction, a secondary gouge approximately 5 feet in length was evident distinguishing the post-impact movement of the Ford Explorer after the point of maximum engagement. This gouge was also produced by the edge of the leaf spring at an angular displacement to the vehicle. Proceeding in a westerly direction and containing a slight radial path to the north, several lengthy scratch marks (≈ 52 feet) are evident. These marks show a trajectory of the Ford from the initial contact to the vehicle to the point of rest within the property of # 4462.

One specific scuffmark in the westbound lane was located to the north of the initial gouge in the pavement at the time of the maximum engagement. This mark was produced by the Audi's right front tire as a result of the vehicle being overlapped to the Ford at the time of the collision. The mark contained the same groove characteristics of the tires mounted on the Audi. When the leaf spring lowers to the pavement, the right front tire of the Audi located to the north of the gouge, develops a deceleration on the pavement. This mark also has a directional indicated to the southwest being the direction to which the Audi moves during post impact trajectory. A scuffmark to the south of the gouge was produced by the Ford's left rear tire being adjacent to the suspension system. This mark extended in the direction to which the Ford was propelled during post-impact movement.

At the edge of the westbound lane, several furrows were located within the soft shoulder of the roadway. These furrows lead to the edge of the driveway to # 4462. At that point, the drive shaft of the Ford was located embedded under the pavement and extended out at the edge. The directional force of the drive shaft under the pavement was evident as proceeding in a westerly direction at the time of the embedding.

On the paved driveway apron, several gouge and scuffmarks were evident consistent in nature with the commencement of a rollover in the direction of the tree aligning the west side of the drive. The marks extended across the driveway to approximately the middle point.

The tree aligning the driveway showed signs of a heavy contact to the east side of its circumference. The damage at the maximum height was extreme compared to the damage at the base. The damage extended to a height of 6 feet from its base. At this height, small bluish paint chips were located consistent with small amounts found attached to the burned Ford. The damage to the tree also showed signs of a clockwise rotation along its trunk. To the west of the tree and aligning the roadway, a hedge was located showing signs of damage to the eastern end, abutting the edge of the tree. This damage to the hedge is consistent with the rotation of the Ford around the tree in a clockwise rotation after the contact was made.

Also leading from the initial contact point within the westbound lane, numerous scuffmarks were located leading to the eastbound shoulder and in the direction the Audi moved during post-impact. These marks showed signs of rotation and furrowing along the soft eastbound shoulder of the roadway to the point of the secondary collision at the base of the tree lining the eastbound travellane. This tree was split at the base and uprooted. The diameter of the tree was 14.8 inches as measured at the contact point.

A singular radial furrow was located to the west of the tree and along the shoulder. This furrow contained the characteristics of the radial geometry of the Audi's left rear tire and wheel assembly. From this scuffmark, several rotational scuffmarks were located back in the eastbound lane; west of the impact point with the tree. These scuffmarks lead to the Audi's point of rest.

Kinematics Analysis

Utilizing a Vericom VC2000 Accelerometer, a dynamic friction coefficient of 0.833 μ, being the resisting force to motion between two surfaces at their interface, was achieved for the road surface of Route 28 in the area of the collision. The testing was performed in the direction the Ford & Audi were preceding prior to impact. During the first test, a distance of 46 feet was covered during a full lockup in a time frame of 1.89 seconds. The initial speed for the test was 34.5 mi/hr decelerating to a complete stop.

A secondary test was performed in the same manner resulting in a dynamic friction coefficient of 0.841 μ. A distance of 49 feet was covered during a full lockup in a time frame of 1.9 seconds. The initial speed for the test was 35.1 mi/hr. With both test results being within 5% μ (0.96 percent), the lower value of 0.833 μ is utilized.

To determine a velocity/time/distance associated with the vehicle(s) at the time of collision, various algebraic calculations were executed, which derive from accepted and prudent engineering principles and testing performed by individuals specializing in the field of motor vehicle reconstruction.

The utilization of kinetic energy, damage, and a linear momentum analysis comparison all resulted in speed calculations of 77 to 86 mi/hr at impact for the Audi A4. The variables required for the analysis are listed and shown in conjunctive reports accompanying this narrative. The analysis results for the Audi are based on a pre-assigned speeds of zero, 40 and 45 mi/hr assigned to the Ford Explorer as indicated by parties involved; whether being an operator or witness. Calculations involving the Ford's post impact movement energy loss also contributed to the results.

The operator of the Audi indicated to Officer Morrison, the Ford appeared to be stopped in the westbound travellane, driver's door ajar, with the occupants possibly changing positions. If the Ford was at a stand still within the westbound lane, the Audi would need to be traveling approximately 90 mi/hr as calculated to produce the post-impact movements of both vehicles and account for the total energy dissipated and the damage procured by both vehicles. Appling speeds of 40 and 45 mi/hr as specified by independent witnesses, the Audi's speed is reduced to 77 to 86 mi/hr as aforementioned.

Mr. [redacted] indicated to Officer Morrison; he ([redacted] was traveling 45-50 mi/hr and had come over a crest in the roadway (950 ft from impact). He then observed the Ford stopped in the lane and attempted to stop but was not able to in time. The crest in the roadway referred to by Mr. [redacted] is 950 feet to the east of the collision. From that point, the roadway is flat and straight up to the collision area. If traveling at a speed of 45 mi/hr, Mr. [redacted] will require 301.1 to 569.2 feet to stop the vehicle, which includes a perception/reaction time interval of 2 to 3.5 seconds over a normal braking deceleration of 0.2 to 0.4*f*. This deceleration does not indicate heavy extreme braking, which would only increase the ability of Mr. [redacted] to stop in a shorter distance.

If traveling at a speed of 50 mi/hr, Mr. Valente will require 355.4 to 674.2 feet to stop including a perception/reaction time of 2 to 3.5 seconds over a normal braking deceleration of 0.2 to 0.4*f*. This

deceleration does not indicate heavy extreme braking, which would only increase the ability of Mr. Valente to stop in a shorter distance.

If the Ford was at a stop as indicated by Mr. [redacted], and he had just crested the hill and observed the Ford, Mr. [redacted] would need to be traveling at a greater speed then 88.6 mi/hr (with a perception/reaction of 2 seconds) to indicate that he did not have sufficient time or distance to avoid a collision. This would also coincide with the energy dissipated as aforementioned without accounting for the energy loss due to the damage to which the Ford acquired. Given his statements, Mr. [redacted] acknowledges he had observed the Ford stopped with possibly the driver's door ajar as if the occupants were changing places. If he was able to observe these indications, then the question arises as to why he could not stop while traveling 45-50 mi/hr given the sight distance of 950 feet from the crest; unless he was inattentive to the Ford and was traveling at an extremely high speed which coincides with the kinematics of the collision had the Ford been stopped and or moving.

This officer received a statement from the following person:

[redacted]

Vehicle Examination

A further inspection of both vehicles was conducted at the Davis Towing facility while the vehicle were situated within an outdoors secured storage. BCI Cazeault photographed both vehicles during examination.

On examination of the Ford, the vehicle was completely burned out as aforementioned exclusive of the contact damage sustained as a result of the collision. The vehicle had passed a yearly safety inspection as indicated by the registry of motor vehicles. The inspection sticker affixed to the windshield would have contained the numerical data of 022816390, which indicated an expiration date of April 2004 if it had not been destroyed as a result of the fire.

The primary contact between the Ford and the Audi was evident to the rear of the Ford along the driver's side. The damage indicated an overlap of approximately 60 inches by the Audi. This was determined as a result of the lateral extended damage across the back commencing 10 inches from the vehicle's center *'x-axis'* as shown in photographs. The depth of the damage finalized in the area of the vehicle's 'C' post. This would indicate a depth of approximately 3.5 to 4 feet. As a result, the rear axle and suspension system sustained severe damage resulting in the rear axle housing being forced into the rear panel of the fuel tank. As a result of this forward propulsion, the rear axle housing produced a geometrical impression of its outer shell into the tank. Several splits to the tank were evident in this area of the impression resulting in excessive fuel spillage.

The leaf spring assembly on the driver's side of the Ford was bent around resulting in the assembly breaking away from its securement point on the vehicle. The mainframe rail on the left side was several kinked at this juncture. This resulted in the second leaf of the assembly lowering to the pavement during maximum engagement and gouging into the pavement. The end of the leaf measured 2 inches across which was the same measurement taken across the gouge in the westbound lane of Route 28. The lower left corner also contained inline striations which bored the medal down from its original thickness. When the leaf spring was removed from the vehicle and returned to the collision area by this officer, the butt-end of the leaf fit perfectly within the gouge in the westbound lane. This contact between the two materials was photographed by BCI Cazeault. With the result of the fuel spillage, it is the opinion of this officer; the contact between the leaf and the pavement developed sparks igniting the fuel.

On examination of the Ford's occupant compartment between pillar posts 'A' & 'B', the roof section was collapsed completely to the middle hump and directly over the front seats; expanding the seats down in a flat manner parallel to the floor boards. If both occupants were to remain in the vehicle as a result of wearing seatbelts, they would have been entrapped within the vehicle and presumably expiring from the fire.

The aforementioned damage to the roof section was the result of the Ford rolling over onto the passenger's side after tripping in the area of the driveway to residence of # 4462. The impact with the tree was at the 'B' post; 64 inches aft of the front axle. As the Ford proceeded in towards the tree on the passenger's side, it rolled slightly greater then 90 degrees (100-120°) causing the driver's side to develop a greater crushing environment then the passenger's side. The vehicle's roof damage contained the geometrical shape of the tree due to its resistance to the force applied by the vehicle. Tripping the vehicle onto the passenger's side is also consistent with the 6-foot height of damage noted to the tree.

Within the vehicle, a pair of men's shoes was located melted to the floorboard, forward of the driver's position. On the passenger's side, Ms. Marsters' purse, was found melted to the carpeting directly below the front passenger's seating position.

As a result of statements received from the operator of the Audi indicating the Ford was stopped in the roadway, the transmission of the Ford was inspected by a certified mechanic at Davis Towing. When viewed by this officer and BCI Cazeault, the actual linkage lever was encased in melted plastic and other materials, which kept the linkage from moving. When the materials were removed, the linkage could be moved through each gear with no more then its designed resistance. As a result, the shift linkage to the transmission housing was found in 'drive'. This would indicate to this officer, the transmission was in 'drive' at the time of the collision.

Seven recalls from NHTSA pertains to the Ford Explorer. These recalls accompany this report and are not a contributing factor of this motor vehicle collision as they relate to the mechanisms of the collision itself. These recalls pertain to Firestone Wilderness tires, daytime running lights, vehicle speed control, anti theft controller, fuel system lines/piping/fitting, and hood latch. The Ford Explorer involved in this collision contained four Cooper Discoverer H/T P255/70R16 tires which were in good condition exclusive of the damage received and contained 12 to 13/32nd of tread.

The right rear brake bulb of the Ford contained brake and marker filaments. The brake filament showed no signs of elongation and or fracture to the naked eye rendering the status of the filament to be inconclusive. The marker filament showed signs of elongation to the naked eye. This elongation is consistent with the filament being incandescent at the time of the collision. The glass encasement was broken and missing from the base.

The right front marker light of the Ford was located and examined. The filament showed no signs of elongation and or fracture to the naked eye rendering the status of the bulb to be inconclusive. The glass encasement was broken and missing from the base.

The left front marker light of the Ford was located and examined. The filament showed no signs of elongation and or fracture to the naked eye rendering the status of the bulb to be inconclusive. The glass encasement was broken and missing from the base.

The left front headlight bulb of the Ford was located and examined. The bulb contained high and low filaments which both showed no signs of elongation and or fracture to the naked eye rendering the status of the filaments to be inconclusive. The glass encasement was broken and missing from the base.

The right front headlight bulb of the Ford was located and examined. The bulb contained high and low filaments. The low beam filament showed a slight sign of elongation to the naked eye. This elongation is consistent with the filament being incandescent at the time of the collision. Deposits of a foreign matter were also fused to the filament coil. The glass encasement was broken and missing from the base.

On examination of the Audi, the vehicle was completely burned out as aforementioned exclusive of the contact damage sustained as a result of the collision. The vehicle had passed a yearly safety inspection as indicated by the registry of motor vehicles. The inspection sticker would have been affixed to the windshield and contained the numerical data of 019893277, which indicated an expiration date of December 2003 if it had not been destroyed as a result of the fire.

The primary contact between the Ford and the Audi was evident to the front of the Audi along the passenger's side. The damage indicated an overlap of approximately 60 inches to the Ford as aforementioned. The depth of the damage to the Audi was well over the length of its original front overhang being 36 inches (3 feet) and back to the windshield base measuring 46 inches (3.83 feet) as per manufactured specifications.

A secondary contact point was evident to the passenger's side 'A' pillar post. The damage contained the geometrical shape of the tree due to its resistance to the force applied by the vehicle. The total width of damage measured approximately 18 inches and was located 60 inches forward of the rear axle. The maximum damage depth measured 17 inches. There were no known recalls from NHTSA regarding the 2003 Audi A4.

Four 'Continental Sportcontact II' 235/45R17 tires were mounted on the vehicle. The remaining two rear tires were in good conditions, which were not melted and contained 6 to 7/32nd of tread. The tread pattern of these tires matched distinctive characteristics of marks located a point of maximum engagement as aforementioned.

The right front halogen headlight filaments of the Audi was located and examined. The filament showed obvious signs of elongation to the naked eye. This elongation is consistent with the filament being incandescent at the time of the collision. The glass encasement was intact.

The left front halogen headlight filaments of the Audi was located and examined. The filament showed no signs of elongation and or fracture to the naked eye rendering the status of the filament to be inconclusive. The glass encasement was intact.

The right brake & marker light filaments of the Audi showed slight indications of elongation to the naked eye. These elongations are consistent with the filaments being incandescent at the time of the collision. The glass encasement was intact. The backup filament and turn signal filament within the same housing showed no signs of elongation and or fracture to the naked eye rendering the status of the filaments to be inconclusive.

The left brake & marker light filaments of the Audi showed a slight indication of elongation to the naked eye. These elongations are consistent with the filaments being incandescent at the time of the collision. The glass encasement was intact. The backup filament and turn signal filament within the same housing showed no signs of elongation and or fracture to the naked eye rendering the status of the filaments to be inconclusive.

Conclusion

This report is based on all material received prior to this document's date. It is subject to change upon any further findings and/or the accumulation of any further evidence or documentary. The following conclusion is the opinion of this officer, which is based on the findings, inferences and conclusions of my review, kinematics analysis and/or study of the collision. The culpability for the collision lies with the initiating actions imposed by Mr. [redacted] being the operator of the Audi A4. These actions resulted in the subsequent collision due to Mr. [redacted] inattentiveness to the traffic proceeding directly forward of his vehicle and in the same direction, excessive speed, and the positioning of his vehicle within the roadway while traveling in a westerly direction.

The Ford Explorer being operated by Mr. [redacted] and containing Ms. [redacted] as the right front passenger, was proceeding west in the westbound lane of Route 28 while in the area of Anchor Lane. The Ford's estimated speed of 40-45 mi/hr was determined by [redacted] during their movement east on Route 28 after entering the route from Anchor Lane.

After the Ford had passed their position, the Audi immerged from the crest of the hill located approximately 850 feet to the east of Anchor Lane. The Audi's speed was estimated as being 100 mi/hr [redacted] After the Audi had passed their position, [redacted] observed an explosion in his rear view mirror. [redacted]

It is the opinion of this officer, Mr. [redacted] was traveling at a minimum speed range of 77 to 86 mi/hr at the time of the collision after having applied the braking mechanism. A sign depicting a speed limit of 50 mi/hr regulates vehicular traffic proceeding west on Route 28. This sign was clean, highly visible to westbound traffic and located 8 tenths of a mile from the impact area while situated along the westbound shoulder. The aforementioned speed calculation does not include the energy loss during the initial collision resulting in the damage to the Ford's rear, roof or the Audi's front-end. Nor does the calculation incorporation the rotation of the Ford around the tree prior to ceasing movement. As a result, the minimum speed range of 77 to 86 mi/hr is in fact a lower speed then what the vehicle was originally traveling at the time of the collision.

A secondary sign was located within the collision area depicting a speed limit of 45 mi/hr regulating vehicular traffic proceeding west on Route 28. This sign was clean and highly visible to westbound traffic from the crest of the roadway and 950 feet to the east. Though the sign was within the collision

area, Mr. [redacted] would have been required to decelerate from the previous posting of 50 mi/hr to 45 mi/hr prior to entering the new speed zone.

Mr. [redacted]s Audi struck the rear of Mr. [redacted] Ford at a high rate of speed at an offset which would have been consistent with the statements made b[redacted] who indicated the Audi was slightly within their lane. During the initial impact, and as a result of the damage sustained to the rear of the Ford, the left rear leaf spring snapped from its forward support and struck the pavement causing a severe gouge. The rear axle housing was pushed forward into the fuel tank of the Ford with the result of the fuel tank rupturing causing excessive fuel loss. It is the opinion of this officer, the combination of fuel spillage and the contact between the leaf spring and other metal contact, ignited the fuel causing each vehicle to burn.

After the initial contact, the Ford proceeded into a clockwise rotation to the soft shoulder of the roadway. The vehicle then crossed the driveway to # 4462. At this point, the Ford flipped onto the passenger's side at an angle equivalent to approximately 100 to 120°. Both occupants and/or at least the passenger (Ms. [redacted]) were ejected from the vehicle. During the rollover phase, the Ford struck the tree located at the western edge of the driveway resulting in a crushing of the roof between pillars 'A' & 'B'. The damage extended down to the middle hump of the occupant compartment compressing both front seating positions.

During the contact with the tree, the Ford commenced a clockwise rotation around the base of the tree to the northern side of the roadway hedge. At that point, the vehicle disengaged from the tree and rolled back onto its wheels to a point of rest where it burned extensively.

The Audi had acquired a counterclockwise rotation from maximum engagement and proceeded across the eastbound lane. The vehicle entered the soft shoulder and proceeded passenger's side leading into a pine tree at the edge of the eastbound lane. Contact between the tree and the passenger's side 'A' pillar post occurred resulting in the tree snapping at the base with the uprooting of the trunk. The vehicle continued through the tree breakage and continued in a counterclockwise rotation. The vehicle reentered the eastbound lane and came to a halt.

If Mr. [redacted] was traveling the posted speed limit of 50 mph and had observed the Ford after cresting the hill, Mr. [redacted]e would have been able to continue at a reasonable speed of 45-50 mph and would not have made contact with the Ford. The Ford was traveling west in the westbound lane at an estimated speed of 40-45 mph by witnesses, coinciding by the kinematics of the collision.

Daniel James Parkka
Actar 760 / Collision Reconstructionist
Barnstable Police Department

CASE NUMBER: 03-865-AC

Item # 2: 2003 Audi A4 // MA Reg: 9769ZK // VIN: WAUVC68E43A[redacted]

* * PERCENTAGE OF ACCEPTABILITY * *

$$\% = \frac{(L\mu - S\mu) \times 100}{S\mu}$$

$L\mu$ = The Largest Drag Factor recorded.
$S\mu$ = The Smallest Drag Factor recorded.

$$\% = \frac{(0.8410 - 0.8330) \times 100}{0.8330}$$

$$\% = \frac{0.0080 \times 100}{0.8330}$$

$$\% = \frac{0.8000}{0.8330}$$

$$\% = 0.9603$$

INPUTS:	
The Largest Drag Factor recorded is:	0.8410
The Smallest Drag Factor recorded is:	0.8330

RESULTS:	
The Percentage of Acceptability is:	0.9603

File Name :	03-865B.SLM	Date :	7/3/2003
Project Name :	[redacted]	File Number :	03-865-AC
Desc :	2 Vehicle Collision		

Slam Project Report

	Vehicle 1	Vehicle 2
	AUDI	TREE
Vehicle Description	2003 A4 Wagon	Pine Tree

Licensed to :	Daniel James Parkka
Organization :	Barnstable Reconstruction
Serial Number :	SW110-153-144-114073

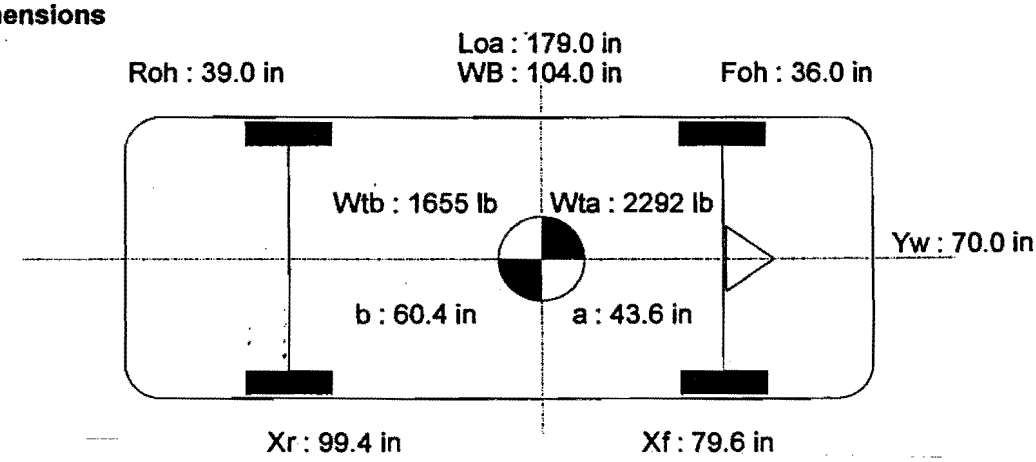
Weight and Car Data

File Name :	03-865B.SLM	Date :	7/3/2003
Project Name :	[redacted]	File Number :	03-865-AC
Desc :	2 Vehicle Collision		

VEHICLE 1 **AUDI**

Default Type	Intermediate
Collision Surface	Right
Weight	3947 lb
Radius of Gyration squared	2757 in2

Vehicle Dimensions



VEHICLE 2 **TREE**

Default Type	Tree/Pole
Collision Surface	Front
Weight	9999999 lb
Radius of Gyration squared	9999999 in2

Vehicle Dimensions

Diameter : 14.8 in

Licensed to :	Daniel James Parkka
Organization :	Barnstable Reconstruction
Serial Number :	SW110-153-144-114073

Damage Data

File Name :	03-865B.SLM	Date :	7/3/2003
Project Name :	[redacted]	File Number :	03-865-AC
Desc :	2 Vehicle Collision		

DAMAGE DATA		AUDI	TREE
Profile		Standard	Standard
Damage Width, L		18.0 in	0.0 in
Profile Offset, D		-0.3 in	0.0 in
Damage Offset, LR		-9.3 in	0.0 in
Pdof		143.0 deg	0.0 deg
Force Location		Crush Centroid	Crush Centroid
	Xp	-0.7 in	7.4 in
	Yp	27.5 in	0.0 in
Stiffness, A		95.7 lb/in	9999999 lb/in
Stiffness, B		77.7 lb/in2	9999999 lb/in2
Number of Coefficients		3	0

Damage Dimensions	C	L
1	17.0 in	0.0 in
2	15.0 in	9.0 in
3	13.0 in	18.0 in

Licensed to :	Daniel James Parkka
Organization :	Barnstable Reconstruction
Serial Number :	SW110-153-144-114073

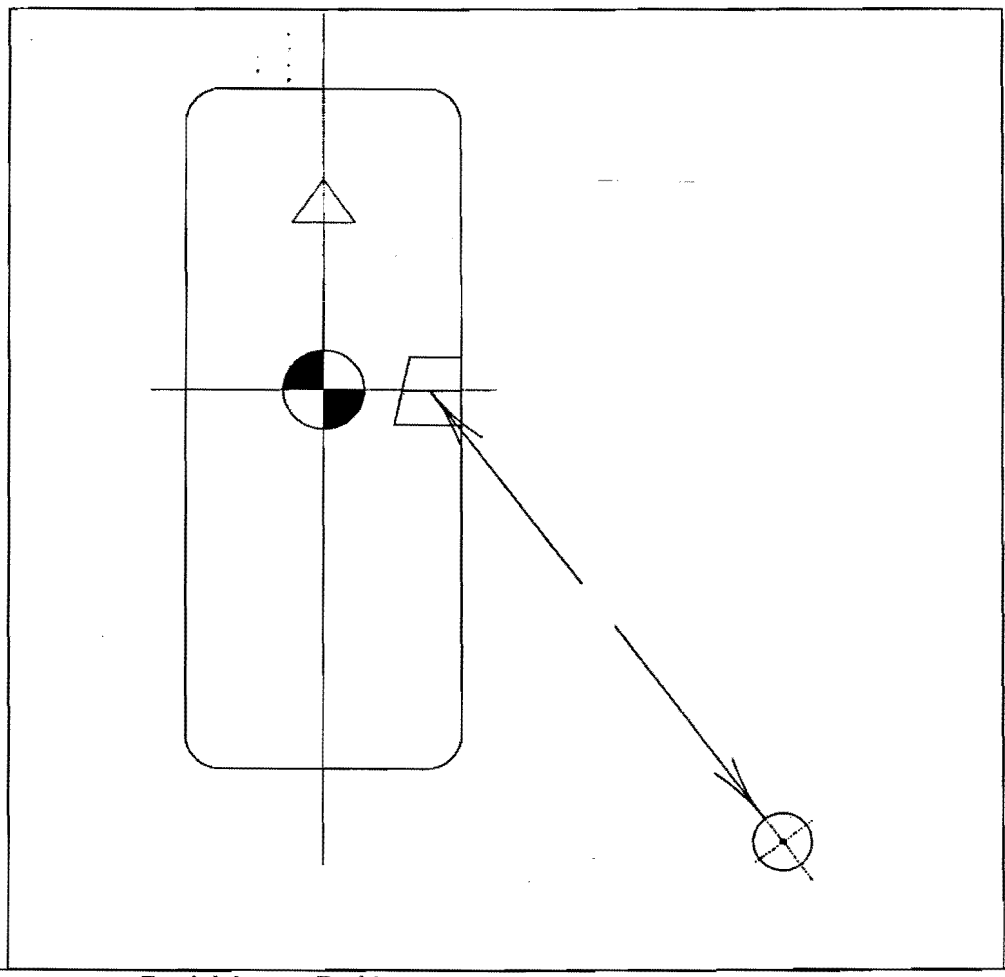
Damage Results

File Name :	03-865B.SLM	Date :	7/3/2003
Project Name :	[redacted]	File Number :	03-865-AC
Desc :	2 Vehicle Collision		

DAMAGE RESULTS	AUDI	TREE
Delta V	14.2 mph +/- 5.0 mph	0.0 mph +/- 0.0 mph
EBS	14.2 mph +/- 5.0 mph	0.0 mph +/- 0.0 mph
Force	37722 lb +/- 9411 lb	0 lb +/- 0 lb
Delta Omega	-1.94 rad/sec +/- 0.74 rad/sec	0.00 rad/sec +/- 0.00 rad/sec
Moment Arm	-21.5 in +/- 3.0 in	0.0 in +/- 0.0 in
Magnification Factor	2.00 +/- 0.70	0.00 +/- 0.00
Mass Ratio	0.86 +/- 0.03	1.00 +/- 0.00
Damage Energy	30862 ft-lb +/- 21710 ft-lb	0 ft-lb +/- 0 ft-lb

COMMON RESULTS

Impulse, IMP	2546.6 lb-sec +/- 897.1 lb-sec
Collision Time, Dt	0.135 sec +/- 0.058 sec
Total Energy, Et	30862 ft-lb +/- 21710 ft-lb
Closing Speed, Vd	16.5 mph +/- 5.9 mph



Licensed to :	Daniel James Parkka
Organization :	Barnstable Reconstruction
Serial Number :	SW110-153-144-114073

Project Warnings

File Name :	03-865B.SLM	Date :	7/3/2003
Project Name :	[redacted]	File Number :	03-865-AC
Desc :	2 Vehicle Collision		

Current Warning Flag Settings

Vehicle Warnings **AUDI** **TREE**

No vehicle warnings were noted

Project Warnings

No Project warnings were noted

Confidence levels

A Stiffness Value	10.0 %
B Stiffness Value	10.0 %
Pdof Error	10.0 deg
Distance Error	10.0 %
Lockup Sensitivity	0.1
Separation Heading Error	5.0 deg
Approach Heading Error	5.0 deg

KINETIC ENERGY ~ AUDI

EVENT 1 OF 7 ~ POST IMPACT WITH TREE ~ DECEL: 1.00

WEIGHT = 3947 LB
f (DRAG) = .83

RATE (D) = 26.726 F/S/S
RATE (D) = 18.2222 M/H/S

DISTANCE = 21.14 FT

K ENERGY = 69254.85

VELOCITY = 33.6151 F/S
SPEED = 22.9193 M/H

EVENT 2 OF 7 ~ POST IMPACT WITH TREE ~ DECEL: 1.00 ~ MU: .83 & .5

WEIGHT = 3947 LB
f (DRAG) = .665

RATE (D) = 21.413 F/S/S
RATE (D) = 14.5997 M/H/S

DISTANCE = 20.55 FT

K ENERGY = 53938.71

VELOCITY = 29.666 F/S
SPEED = 20.2268 M/H

EVENT 3 OF 7 ~ POST IMPACT WITH TREE ~ DECEL: 1.00 ~ MU: .5

WEIGHT = 3947 LB
f (DRAG) = .5

RATE (D) = 16.1 F/S/S
RATE (D) = 10.9772 M/H/S

DISTANCE = 10.94 FT

K ENERGY = 21590.09

VELOCITY = 18.7688 F/S
SPEED = 12.7969 M/H

EVENT 4 OF 7 ~ ENERGY ASSOCIATED WITH TREE IMPACT

WEIGHT = 3947 LB

K ENERGY = 30862

VELOCITY = 22.4399 F/S
SPEED = 15.2999 M/H

EVENT 5 OF 7 ~ PRE IMPACT WITH TREE ~ DECEL: 1.00 ~ MU: .5

WEIGHT = 3947 LB
f (DRAG) = .5

RATE (D) = 16.1 F/S/S
RATE (D) = 10.9772 M/H/S

DISTANCE = 40.68 FT

K ENERGY = 80281.98

VELOCITY = 36.1924 F/S
SPEED = 24.6767 M/H

EVENT 6 OF 7 ~ PRE IMPACT WITH TREE ~ DECEL: 1.00 ~ MU: .83

WEIGHT = 3947 LB
f (DRAG) = .83

RATE (D) = 26.726 F/S/S
RATE (D) = 18.2222 M/H/S

DISTANCE = 73.86 FT

K ENERGY = 241966.1

VELOCITY = 62.8328 F/S
SPEED = 42.8405 M/H

EVENT 7 OF 7 ~ PRE IMPACT WITH TREE ~ DECEL: .58 ~ MU: .83

WEIGHT = 3947 LB
f (DRAG) = .4814

RATE (D) = 15.501 F/S/S
RATE (D) = 10.5689 M/H/S

DISTANCE = 54.53 FT

K ENERGY = 103611.7

VELOCITY = 41.1162 F/S
SPEED = 28.0338 M/H

CRITICAL VEHICLE ~ AUDI

KE-TOTAL = 601505.4
WEIGHT = 3947

VELOCITY = 99.067 F/S
SPEED = 67.5457 M/H

KINETIC ENERGY ~ FORD

EVENT 1 OF 2 ~ POST IMPACT WITH AUDI ~ DECEL: 1.00 ~ MU: .83 & .5

WEIGHT = 4451 LB
f (DRAG) = .665

RATE (D) = 21.413 F/S/S
RATE (D) = 14.5997 M/H/S

DISTANCE = 78.31 FT

K ENERGY = 231790.9

VELOCITY = 57.9111 F/S
SPEED = 39.4849 M/H

EVENT 2 OF 2 ~ POST IMPACT WITH AUDI ~ DECEL: 1.00

WEIGHT = 4451 LB
f (DRAG) = .83

RATE (D) = 26.726 F/S/S
RATE (D) = 18.2222 M/H/S

DISTANCE = 68.51 FT

K ENERGY = 253098.5

VELOCITY = 60.5144 F/S
SPEED = 41.2598 M/H

CRITICAL VEHICLE ~ FORD

KE-TOTAL = 484889.5
WEIGHT = 4451

VELOCITY = 83.7597 F/S
SPEED = 57.1089 M/H

LINEAR MOMENTUM – 40 MPH

AUDI 3

WEIGHT = 3947

ANGLE 1 = 0 DEG
ANGLE 3 = 0 DEG

POST-IMPACT DATA

K-ENERGY = 600691.7

MOMENTUM = 390753 #F/S
MOMENTUM = 266422.5 #M/H

VELOCITY = 99 F/S
SPEED = 67.5 M/H

PRINCIPAL DIRECTION OF FORCE
PDOF(A1) = 0 DEGREES

CHANGE OF K-ENERGY
DELTA KE = 49024.97

CHANGE OF MOMENTUM (IMPULSE)
MOMENTUM = 111631.1 #F/S
MOMENTUM = 76112.11 #M/H

CHANGE OF SPEED
VELOCITY = 28.2825 F/S
SPEED = 19.2835 M/H

IMPACT: AUDI 1

K-ENERGY = 992930.3

MOMENTUM = 502384.1 #F/S
MOMENTUM = 342534.6 #M/H

VELOCITY = 127.2825 F/S
SPEED = 86.7835 M/H

INTERCEPT (PRE-IMPACT)

MOMENTUM = 763509.4 #F/S
MOMENTUM = 520574.6 #M/H

FORD 4

WEIGHT = 4451

ANGLE 2 = 0 DEG
ANGLE 4 = 0 DEG

POST-IMPACT DATA

K-ENERGY = 484737.7

MOMENTUM = 372756.4 #F/S
MOMENTUM = 254152.1 #M/H

VELOCITY = 83.7466 F/S
SPEED = 57.1 M/H

PRINCIPAL DIRECTION OF FORCE
PDOF(A2) = 180 DEGREES

CHANGE OF K-ENERGY
DELTA KE = 43473.71

CHANGE OF MOMENTUM (IMPULSE)
MOMENTUM = 111631.1 #F/S
MOMENTUM = 76112.09 #M/H

CHANGE OF SPEED
VELOCITY = 25.08 F/S
SPEED = 17.1 M/H

IMPACT: FORD 2

K-ENERGY = 237878.2

MOMENTUM = 261125.3 #F/S
MOMENTUM = 178040 #M/H

VELOCITY = 58.6666 F/S
SPEED = 40 M/H

SEPARATION (POST IMPACT)

MOMENTUM = 763509.4 #F/S
MOMENTUM = 520574.6 #M/H

KINETIC ENERGY (MOTION)
ENERGY(M)= 1.47697E+07 IN*LB
ENERGY(M)= 1.302515E+07 IN*LB
ENERGY(M)= 1230808 FT*LB

ACTUAL SHARED ENERGY (DAMAGE)
ENERGY(A)= 1744548 IN*LB
ENERGY(A)= 145379 FT*LB

INTERCEPT (CLOSURE)
ANGLE (I)= 0 DEGREES

VELOCITY = 68.6158 F/S
SPEED = 46.7835 M/H

COEFFICIENT OF RESTITUTION
CoR _(Emr/Emd) = .2223

KINETIC ENERGY (MOTION)

ENERGY(M)= 1085429 FT*LB

MAXIMUM ENERGY (DAMAGE)
ENERGY(M)= 1835241 IN*LB
ENERGY(M)= 152936.7 FT*LB

SEPARATION
ANGLE (S)= 0 DEGREES

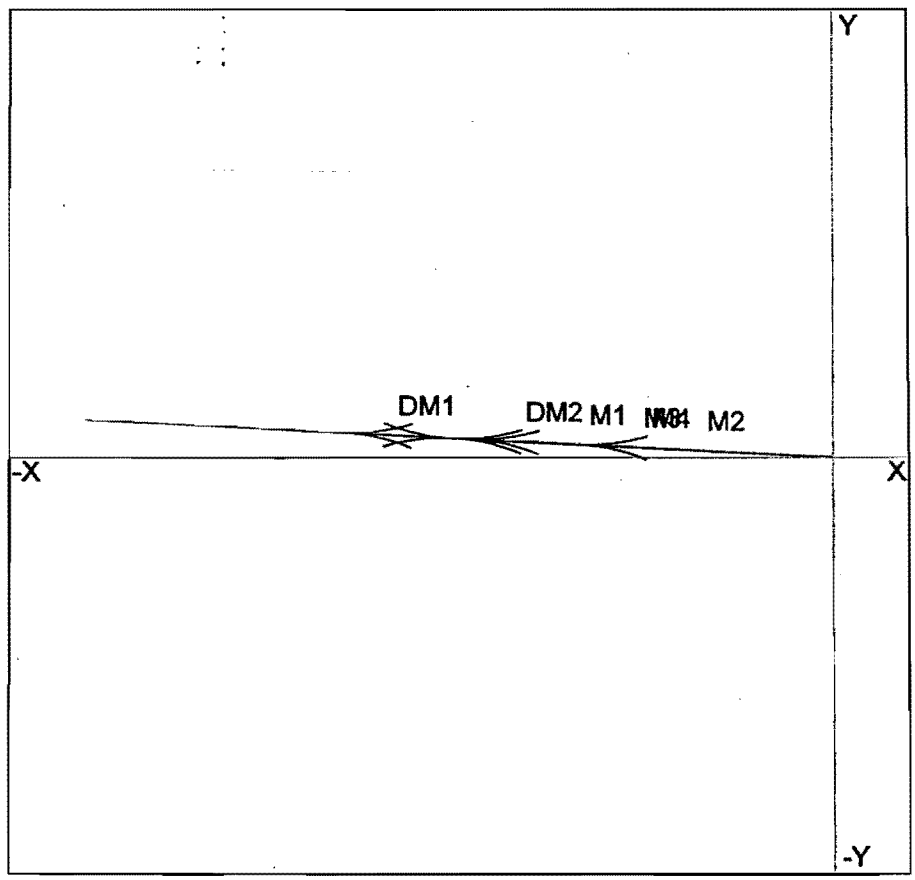
VELOCITY = 15.2533 F/S
SPEED = 10.4 M/H

COEFFICIENT OF RESTITUTION
CoR (Ss/Sc) = .2223

Linear Momentum

File Name :	03-865.ALM	Date :	7/7/2003
Project Name :		File Number :	
Desc :			

DATA			
Vehicle	Audi	Ford	
Weight	3947	4451	lb
Entry Angle	177.0	177.0	deg
Departure Angle	177.0	177.0	deg
Departure Speed	67.5	57.1	mph
RESULTS			
Entry Speed	86.8	40.0	mph
Speed Change	19.3	17.1	mph
Global Force Angle	357.0	177.0	deg
PDOF	0.0	-180.0	deg



Licensed to :	Daniel James Parkka
Organization :	Barnstable Reconstruction
Serial Number :	LM101-148-144-119081

LINEAR MOMENTUM – 45 MPH

AUDI 3

WEIGHT = 3947

ANGLE 1 = 0 DEG
ANGLE 3 = 0 DEG

POST-IMPACT DATA

K-ENERGY = 600691.7

MOMENTUM = 390753 #F/S
MOMENTUM = 266422.5 #M/H

VELOCITY = 99 F/S
SPEED = 67.5 M/H

PRINCIPAL DIRECTION OF FORCE
PDOF(A1) = 0 DEGREES

CHANGE OF K-ENERGY
DELTA KE = 24546.87

CHANGE OF MOMENTUM (IMPULSE)
MOMENTUM = 78990.44 #F/S
MOMENTUM = 53857.12 #M/H

CHANGE OF SPEED
VELOCITY = 20.0127 F/S
SPEED = 13.645 M/H

IMPACT: AUDI 1

K-ENERGY = 868097.4

MOMENTUM = 469743.4 #F/S
MOMENTUM = 320279.6 #M/H

VELOCITY = 119.0127 F/S
SPEED = 81.145 M/H

INTERCEPT (PRE-IMPACT)

MOMENTUM = 763509.4 #F/S
MOMENTUM = 520574.6 #M/H

FORD 4

WEIGHT = 4451

ANGLE 2 = 0 DEG
ANGLE 4 = 0 DEG

POST-IMPACT DATA

K-ENERGY = 484737.7

MOMENTUM = 372756.4 #F/S
MOMENTUM = 254152.1 #M/H

VELOCITY = 83.7466 F/S
SPEED = 57.1 M/H

PRINCIPAL DIRECTION OF FORCE
PDOF(A2) = 180 DEGREES

CHANGE OF K-ENERGY
DELTA KE = 21767.34

CHANGE OF MOMENTUM (IMPULSE)
MOMENTUM = 78990.41 #F/S
MOMENTUM = 53857.1 #M/H

CHANGE OF SPEED
VELOCITY = 17.7466 F/S
SPEED = 12.1 M/H

IMPACT: FORD 2

K-ENERGY = 301064.5

MOMENTUM = 293766 #F/S
MOMENTUM = 200295 #M/H

VELOCITY = 66 F/S
SPEED = 45 M/H

SEPARATION (POST IMPACT)

MOMENTUM = 763509.4 #F/S
MOMENTUM = 520574.6 #M/H

KINETIC ENERGY (MOTION)
ENERGY(M)= 1.402994E+07 IN*LB
ENERGY(M)= 1.302515E+07 IN*LB
ENERGY(M)= 1169162 FT*LB

ACTUAL SHARED ENERGY (DAMAGE)
ENERGY(A)= 1004790 IN*LB
ENERGY(A)= 83732.5 FT*LB

INTERCEPT (CLOSURE)
ANGLE (I)= 0 DEGREES

VELOCITY = 53.0127 F/S
SPEED = 36.145 M/H

COEFFICIENT OF RESTITUTION
CoR _(Emr/Emd) = .2877

KINETIC ENERGY (MOTION)

ENERGY(M)= 1085429 FT*LB

MAXIMUM ENERGY (DAMAGE)
ENERGY(M)= 1095482 IN*LB
ENERGY(M)= 91290.2 FT*LB

SEPARATION
ANGLE (S)= 0 DEGREES

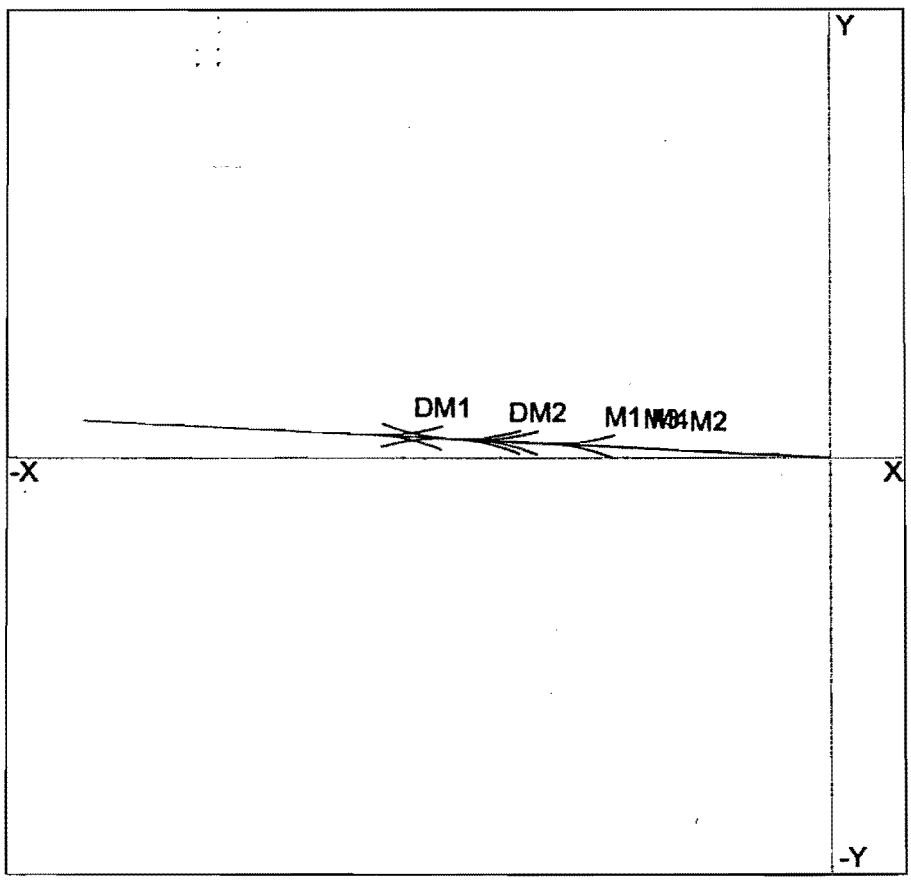
VELOCITY = 15.2533 F/S
SPEED = 10.4 M/H

COEFFICIENT OF RESTITUTION
CoR (Ss/Sc) = .2877

Linear Momentum

File Name :	03-865.ALM	Date :	7/7/2003
Project Name :		File Number :	
Desc :			

DATA			
Vehicle	Audi	Ford	
Weight	3947	4451	lb
Entry Angle	177.0	177.0	deg
Departure Angle	177.0	177.0	deg
Departure Speed	67.5	57.1	mph
RESULTS			
Entry Speed	81.1	45.0	mph
Speed Change	13.6	12.1	mph
Global Force Angle	357.0	177.0	deg
PDOF	0.0	-180.0	deg



Licensed to :	Daniel James Parkka
Organization :	Barnstable Reconstruction
Serial Number :	LM101-148-144-119081

Equation Worksheet

File Name :	03-865-A.AEQ	Date :	7/9/2003
Project Name :	[redacted]	File Number :	03-865-AC
Desc :	TWO VEHICLE COLLISION		

Equation # 90 - Total D from P/R Time, Speeds & Drag f

$$Dt = 1.467 So\ tr + \frac{Sf^2 - So^2}{30\ f}$$

$$(458.6)_{ft} = 1.467(50.0)_{mph}(3.00)_{sec} + \frac{(0.0)^2_{mph} - (50.0)^2_{mph}}{30\ (-0.35)_{g's}}$$

Dt = Total Distance in ft
So = Initial speed in mph
tr = P/R Time in sec
Sf = Final speed in mph
f = Accel factor (inc slope & braking eff)

Table of Equation 90 - Total D from P/R Time, Speeds & Drag f

P/R Time, tr sec

Acc Factor, f g's	2.00	2.50	3.00	3.50
-0.20	564.2	600.9	637.5	674.2
-0.22	526.2	562.9	599.6	636.2
-0.24	494.6	531.3	567.9	604.6
-0.26	467.8	504.5	541.2	577.8
-0.28	444.9	481.6	518.2	554.9
-0.30	425.0	461.7	498.4	535.0
-0.32	407.6	444.3	481.0	517.6
-0.34	392.3	428.9	465.6	502.3
-0.36	378.6	415.3	452.0	488.6
-0.38	366.4	403.1	439.8	476.4
-0.40	355.4	392.1	428.8	465.4

Fixed Variables : Initial Speed, So = 50 mph Final Speed, Sf = 0.0 mph

Equation Worksheet

File Name :	03-865-A AEQ	Date :	7/9/2003
Project Name :	[redacted]	File Number :	03-865-AC
Desc :	TWO VEHICLE COLLISION		

Equation # 90 - Total D from P/R Time, Speeds & Drag f

$$Dt = 1.467 So\ tr + \frac{Sf^2 - So^2}{30\ f}$$

$$(458.6)_{ft} = 1.467(50.0)_{mph}(3.00)_{sec} + \frac{(0.0)^2_{mph} - (50.0)^2_{mph}}{30\ (-0.35)_{g's}}$$

Dt = Total Distance in ft
So = Initial speed in mph
tr = P/R Time in sec
Sf = Final speed in mph
f = Accel factor (inc slope & braking eff)

Table of Equation 90 - Total D from P/R Time, Speeds & Drag f

P/R Time, tr sec

Acc Factor, f g's	2.00	2.50	3.00	3.50
-0.20	470.2	503.2	536.2	569.2
-0.22	439.5	472.5	505.5	538.5
-0.24	413.8	446.8	479.8	512.8
-0.26	392.2	425.2	458.2	491.2
-0.28	373.6	406.6	439.6	472.6
-0.30	357.5	390.5	423.5	456.5
-0.32	343.4	376.4	409.4	442.4
-0.34	330.9	363.9	396.9	429.9
-0.36	319.9	352.9	385.9	418.9
-0.38	310.0	343.0	376.0	409.0
-0.40	301.1	334.1	367.1	400.1

Fixed Variables : Initial Speed, So = 45 mph Final Speed, Sf = 0.0 mph

Equation Worksheet

File Name :	UNTITLED.AEQ	Date :	7/9/2003
Project Name :	[redacted]	File Number :	03-865-AC
Desc :	TWO VEHICLE COLLISION		

Equation # 95 - Start Speed from Total D, Final Speed, P/R T & f

$$So = 21.95ftr + \sqrt{(21.95ftr)^2 + Sf^2 - 30\,fDt}$$

$$(79.3) = 21.95(-0.35)(3.00) + \sqrt{(21.95(-0.35)(3.00))^2 + 1.467(0.0)^2 - 30\,(-0.35)(950.0)}$$

mph g's sec mph ft

So = Initial speed in mph
f = Accel factor (inc slope & braking eff)
tr = P/R Time in sec
Sf = Final speed in mph
Dt = Total Distance in ft

Table of Equation 95 - Start Speed from Total D, Final Speed, P/R T & f

P/R Time, tr sec

Acc Factor, f g's	2.00	2.50	3.00	3.50
-0.20	67.1	65.2	63.4	61.6
-0.22	70.0	67.9	65.9	64.0
-0.24	72.8	70.5	68.3	66.2
-0.26	75.3	72.9	70.6	68.3
-0.28	77.8	75.2	72.7	70.3
-0.30	80.1	77.4	74.7	72.2
-0.32	82.4	79.4	76.6	73.9
-0.34	84.5	81.4	78.5	75.6
-0.36	86.6	83.3	80.2	77.2
-0.38	88.6	85.2	81.9	78.8

Fixed Variables : Final Speed, Sf = 0.0 mph Total Distance, Dt = 950.0 ft

VINassist(R)
(C) by NICB 1991
VIN - WAUVC68E43A[redacted]

DIGIT	DESCRIPTION	MEANING
W	Country of Origin	GERMANY
AU	Manufacturer	AUDI AUDI GERMANY PASSENGER CA
V	Series	A6 AVANT QUAT./A4 AVANT QUAT.-4D
C	Engine	1.8L 4 CYL 180HP(TT) 170HP(A4)
6	Restraint System	DR/PASS FRONT+SD+SD CRTN AIR BAG
8E	Model	A4
4	Check Digit	CHECK DIGIT VALID
3	Year	2003
A	Assembly Plant	INGOLSTADT, GERMANY
144145	Sequence Number	IN RANGE

VIN indicates a 2003 AUDI GERMANY PASSENGER CAR A4

VIN Passed Test

EXPERT AUTOSTATS
Ver. 4.3w

DANIEL J. PARKKA
PARKKA COLLISION CONSULTANTS

WEST BARNSTABLE MA 02668

07-02-2003

2003 AUDI A4 AVANT QUATTRO (L4) 4DR WAGON

CURB WEIGHT:	3406 lbs.	1545 kg.
Curb Weight Distribution -	Front: 58 %	Rear: 42 %
Gross Vehicle Weight Rating:	4927 lbs.	2235 kg.
Number of Tires on Vehicle:	4	
Drive Wheels:	All Wheel Drive	

HORIZONTAL DIMENSIONS

	Inches	Feet	Meters
Total Length	179	14.92	4.55
Wheelbase:	104	8.67	2.64
Front Bumper to Front Axle	36	3.00	0.91
Front Bumper to Front of Front Well	21	1.75	0.53
Front Bumper to Front of Hood	6	0.50	0.15
Front Bumper to Base of Windshield	46	3.83	1.17
Front Bumper to Top of Windshield	75	6.25	1.90
Rear Bumper to Rear Axle	39	3.25	0.99
Rear Bumper to Rear of Rear Well	24	2.00	0.61
Rear Bumper to Rear of Trunk	4	0.33	0.10
Rear Bumper to Base of Rear Window	8	0.67	0.20

WIDTH DIMENSIONS

Maximum Width	70	5.83	1.78
Front Track	59	4.92	1.50
Rear Track	58	4.83	1.47

VERTICAL DIMENSIONS

	Inches	Feet	Meters
Height	56	4.67	1.42
Ground to:			
Front Bumper (Top)	20	1.67	0.51
Headlight - center	24	2.00	0.61
Hood - top front	28	2.33	0.71
Base of windshield	36	3.00	0.91
Rear Bumper - top	22	1.83	0.56
Trunk - top rear	38	3.17	0.97
Base of rear window	39	3.25	0.99

Reg. To: PARKKA COLLISION CONSULTANTS S/N:03R-930714AA03302

2003 AUDI A4 AVANT QUATTRO (L4) 4DR WAGON

INTERIOR DIMENSIONS

	Inches	Feet	Meters
Front Seat Shoulder Width	55	4.58	1.40
Front Seat to Headliner	38	3.17	0.97
Front Leg - seatback to floor (max)	41	3.42	1.04
Rear Seat Shoulder Width	53	4.42	1.35
Rear Seat to Headliner	37	3.08	0.94
Rear Leg - seatback to floor (min)	33	2.75	0.84

Seatbelts: 3pt - front and rear
Airbags: FRONT SEAT AIRBAGS + SIDE AIRBAGS

STEERING DATA

Turning Circle (Diameter)	432	36.00	10.97
Steering Ratio:	__.__:1		
Wheel Radius:	12	1.00	0.30
Tire Size (OEM):	P205/65R15		

ACCELERATION & BRAKING INFORMATION

Brake Type: ALL DISC
ABS System: ALL WHEEL ABS

Braking, 60 mph -> 0 (Hard pedal, no skid, dry pavement):
d = 116 ft t = 2.6 sec. a =-33.3 ft/sec/sec G-force = -1.03

ACCELERATION:

0->30 mph	t = 2.2 sec.	a = 20.0 ft/sec/sec	G-force = 0.62
0->60 mph	t = 7.0 sec.	a = 12.6 ft/sec/sec	G-force = 0.39
45->65 mph	t = 3.8 sec.	a = 7.7 ft/sec/sec	G-force = 0.24

Transmission Type: 5spd MANUAL

NOTES:

Federal Bumper Standard Requirements = 2.5 MPH
This vehicles Rated Bumper Strength: 2.5 mph

N.S.D.C. = 2003 - 2003

Reg. To: PARKKA COLLISION CONSULTANTS S/N:03R-930714AA03302

2003 AUDI A4 AVANT QUATTRO (L4) 4DR WAGON

OTHER INFORMATION

TIP-OVER STABILITY RATIO = 1.33 STABLE
NHTSA Star Rating (calculated) ****

CENTER OF GRAVITY (No Load):

Inches behind front axle	=	43.68
Inches in front of rear axle	=	60.32
Inches from side of vehicle	=	35.00
Inches from ground	=	22.09
Inches from front corner	=	87.03
Inches from rear corner	=	105.31
Inches from front bumper	=	79.68
Inches from rear bumper	=	99.32

MOMENTS OF INERTIA APPROXIMATIONS (No Load):

YAW MOMENT OF INERTIA	=	2302.18	lb-ft-sec^2
PITCH MOMENT OF INERTIA	=	2222.94	lb-ft-sec^2
ROLL MOMENT OF INERTIA	=	463.08	lb-ft-sec^2

FRONT PROFILE INFORMATION

ANGLE FRONT BUMPER TO HOOD FRONT	=	53.1	deg
ANGLE FRONT OF HOOD TO WINDSHIELD BASE	=	11.3	deg
ANGLE FRONT OF HOOD TO WINDSHIELD TOP	=	20.6	deg
ANGLE OF WINDSHIELD	=	31.8	deg
ANGLE OF STEERING TIRES AT MAX TURN	=	27.6	deg

FIRST APPROXIMATION CRUSH FACTORS:

Speed Equivalent (mph) of Kinetic Energy (KE) used in causing crush or indentation may be evaluated using the following formula, the appropriate Crush Factor (CF), and Maximum Indentation Depth (MID), in feet:

V(mph) = Sqr root of (30 * CF * MID)

KE Equivalent Speed (Front/Rear/Side) = 21 CF

Bullet vehicle IMPACT SPEED estimation based on TARGET VEHICLE damage ONLY = 27 CF
(Tested for Rear/Side Impact only)

These CF values are based upon analysis of NHTSA Barrier Crash data, and from over 1000 vehicle accidents where independant evaluation of speed was possible. (These are NOT 'A', 'B', 'C', or 'G' values)

The Rear Impact data with more than 2-3 inches of crush damage should be looked at carefully, since some vehicles have very weak trunk & fender strength. Therefore, on some cars, esp. GM, your estimate from the rear crush data may be high by as much as 4-5 mph (on a crush of 18 inches).

Reg. To: PARKKA COLLISION CONSULTANTS S/N:03R-930714AA03302

VINassist(R)
(C) by NICB 1991
VIN - 1FMZU34E3WZ[redacted]

DIGIT	DESCRIPTION	MEANING
1	Country of Origin	UNITED STATES
F	Manufacturer	FORD FORD
M	Vehicle Type	MULTI PURPOSE VEHICLE
Z	Gross Vehicle Weight	5,001-6,000(2GN AB)/55,001 & OV
U34	Series	EXPLORER XL 4X4 4-DOOR
E	Engine	4.0L EFI-SOHC V-6/8.3L CB.3 CUMM
3	Check Digit	CHECK DIGIT VALID
W	Year	1998
Z	Assembly Plant	ST. LOUIS: HAZELWOOD, MO
B07157	Sequence Number	IN RANGE

VIN indicates a 1998 FORD EXPLORER XL 4X4 4-DOOR

VIN Passed Test

EXPERT AUTOSTATS
Ver. 4.3w

DANIEL J. PARKKA
PARKKA COLLISION CONSULTANTS

WEST BARNSTABLE MA 02668

07-03-2003

1998 FORD EXPLORER 4DR 4X4 UTILITY

CURB WEIGHT:	4146 lbs.	1881 kg.
Curb Weight Distribution -	Front: 54 %	Rear: 46 %
Gross Vehicle Weight Rating:	4700 lbs.	2132 kg.
Number of Tires on Vehicle:	4	
Drive Wheels:	4 Wheel Drive	

HORIZONTAL DIMENSIONS

	Inches	Feet	Meters
Total Length	189	15.75	4.80
Wheelbase:	112	9.33	2.84
Front Bumper to Front Axle	35	2.92	0.89
Front Bumper to Front of Front Well	17	1.42	0.43
Front Bumper to Front of Hood	7	0.58	0.18
Front Bumper to Base of Windshield	53	4.42	1.35
Front Bumper to Top of Windshield	74	6.17	1.88
Rear Bumper to Rear Axle	42	3.50	1.07
Rear Bumper to Rear of Rear Well	26	2.17	0.66
Rear Bumper to Rear of Trunk	5	0.42	0.13
Rear Bumper to Base of Rear Window	6	0.50	0.15

WIDTH DIMENSIONS

Maximum Width	70	5.83	1.78
Front Track	59	4.92	1.50
Rear Track	59	4.92	1.50

VERTICAL DIMENSIONS

	Inches	Feet	Meters
Height	67	5.58	1.70
Ground to:			
Front Bumper (Top)	27	2.25	0.69
Headlight - center	34	2.83	0.86
Hood - top front	40	3.33	1.02
Base of windshield	48	4.00	1.22
Rear Bumper - top	24	2.00	0.61
Trunk - top rear	39	3.25	0.99
Base of rear window	45	3.75	1.14

Reg. To: PARKKA COLLISION CONSULTANTS S/N:03R-930714AA03302

1998 FORD EXPLORER 4DR 4X4 UTILITY

INTERIOR DIMENSIONS

	Inches	Feet	Meters
Front Seat Shoulder Width	56	4.67	1.42
Front Seat to Headliner	40	3.33	1.02
Front Leg - seatback to floor (max)	42	3.50	1.07
Rear Seat Shoulder Width	58	4.83	1.47
Rear Seat to Headliner	39	3.25	0.99
Rear Leg - seatback to floor (min)	37	3.08	0.94

Seatbelts: 3pt - front and rear
Airbags: FRONT SEAT AIRBAGS

STEERING DATA

Turning Circle (Diameter)	420	35.00	10.67
Steering Ratio:	17.00:1		
Wheel Radius:	13	1.08	0.33
Tire Size (OEM):	P225/70R15		

ACCELERATION & BRAKING INFORMATION

Brake Type: ALL DISC
ABS System: ABS

Braking, 60 mph -> 0 (Hard pedal, no skid, dry pavement):
d = 129 ft t = 2.9 sec. a =-30.0 ft/sec/sec G-force = -0.93

ACCELERATION:

0->30 mph	t = 3.0 sec.	a = 14.7 ft/sec/sec	G-force = 0.46
0->60 mph	t = 8.2 sec.	a = 10.7 ft/sec/sec	G-force = 0.33
45->65 mph	t = 6.4 sec.	a = 4.6 ft/sec/sec	G-force = 0.14

Transmission Type: 5spd MANUAL

NOTES:

Federal Bumper Standard Requirements = NO REQUIREMENT

N.S.D.C. = 1998 - 2001

Reg. To: PARKKA COLLISION CONSULTANTS S/N:03R-930714AA03302

1998 FORD EXPLORER 4DR 4X4 UTILITY

OTHER INFORMATION

TIP-OVER STABILITY RATIO = 1.10 REASONABLY STABLE
NHTSA Star Rating (calculated) **

CENTER OF GRAVITY (No Load):

Inches behind front axle	=	51.52
Inches in front of rear axle	=	60.48
Inches from side of vehicle	=	35.00
Inches from ground	=	26.73
Inches from front corner	=	93.33
Inches from rear corner	=	108.29
Inches from front bumper	=	86.52
Inches from rear bumper	=	102.48

MOMENTS OF INERTIA APPROXIMATIONS (No Load):

YAW MOMENT OF INERTIA	=	2927.38	lb-ft-sec^2
PITCH MOMENT OF INERTIA	=	2986.52	lb-ft-sec^2
ROLL MOMENT OF INERTIA	=	677.12	lb-ft-sec^2

FRONT PROFILE INFORMATION

ANGLE FRONT BUMPER TO HOOD FRONT	=	61.7	deg
ANGLE FRONT OF HOOD TO WINDSHIELD BASE	=	9.9	deg
ANGLE FRONT OF HOOD TO WINDSHIELD TOP	=	20.5	deg
ANGLE OF WINDSHIELD	=	39.0	deg
ANGLE OF STEERING TIRES AT MAX TURN	=	30.6	deg

FIRST APPROXIMATION CRUSH FACTORS:

Speed Equivalent (mph) of Kinetic Energy (KE) used in causing crush or indentation may be evaluated using the following formula, the appropriate Crush Factor (CF), and Maximum Indentation Depth (MID), in feet:

V(mph) = Sqr root of (30 * CF * MID)

KE Equivalent Speed (Front/Rear/Side) = 21 CF

Bullet vehicle IMPACT SPEED estimation based on TARGET VEHICLE damage ONLY = 27 CF
(Tested for Rear/Side Impact only)

These CF values are based upon analysis of NHTSA Barrier Crash data, and from over 1000 vehicle accidents where independant evaluation of speed was possible. (These are NOT 'A', 'B', 'C', or 'G' values)

The Rear Impact data with more than 2-3 inches of crush damage should be looked at carefully, since some vehicles have very weak trunk & fender strength. Therefore, on some cars, esp. GM, your estimate from the rear crush data may be high by as much as 4-5 mph (on a crush of 18 inches).

Reg. To: PARKKA COLLISION CONSULTANTS S/N:03R-930714AA03302

Year: **1998** Make: **FORD** Model: **EXPLORER**

NHSTA Campaign #: **00T005000** FMVSS #:

Involves: **14400000** units manufactured FROM: TO:

Component: **TIRES:TREAD/BELT**

TIRE DESCRIPTION: FIRESTONE WILDERNESS AT, SIZE P235/75R15, PRODUCED AT THE DECATUR ILLINOIS TIRE PLANT AND ALL FIRESTONE RADIAL ATX AND RADIAL ATX II TIRES, SIZE P235/75R15. OPERATION OF THESE TIRES AT LOW INFLATION PRESSURES, HIGH SPEED, AND IN HOT WEATHER, CAN CONTRIBUTE TO SEPARATION OF THE TIRE TREAD. IF THE TREAD SEPARATES FROM THE TIRE, THE DRIVER CAN LOSE CONTROL OF THE VEHICLE, POSSIBLY RESULTING IN A CRASH CAUSING INJURY OR DEATH. THE REPLACEMENT/REIMBURSEMENT PROGRAM FOR THIS CAMPAIGN EXPIRED ON AUGUST 29, 2001. HOWEVER, CUSTOMERS SHOULD CONTACT FIRESTONE CUSTOMER SERVICE AT 1-800-465-1904 FOR POSSIBLE ASSISTANCE.

Year: **1998** Make: **FORD** Model: **EXPLORER**

NHSTA Campaign #: **00V168000** FMVSS #: **108**

Involves: **20637** units manufactured FROM: TO:

Component: **EXTERIOR LIGHTING**

VEHICLE DESCRIPTION: MINI VANS, LIGHT PICKUP TRUCKS, AND SPORT UTILITY VEHICLES. OFF LEASE CANADIAN VEHICLES EQUIPPED WITH DAYTIME RUNNING LIGHTS WHICH MEET CANADIAN REQUIREMENTS AND NOT THE PHOTOMETRIC REQUIREMENTS OF FMVSS 108, "LAMPS, REFLECTIVE DEVICES, AND ASSOCIATED EQUIPMENT." ACCORDING TO FORD, THE VEHICLES WERE IMPORTED INTO THE U.S. ERRONEOUSLY. THE LIGHT GIVEN OFF FROM THE DAYTIME RUNNING LIGHTS IS BRIGHTER THAN ALLOWED BY U.S. STANDARDS. DEALERS WILL BE ADVISED TO DEACTIVATE THE RUNNING LIGHT FUNCTION AND TO COMPLETE ANY OUTSTANDING SAFETY RECALLS ON THESE VEHICLES.

Year: **1998** Make: **FORD** Model: **EXPLORER**

NHSTA Campaign #: **00V422000** FMVSS #:

Involves: **220000** units manufactured FROM: **19960529** TO: **19981020**

Component: **VEHICLE SPEED CONTROL**

VEHICLE DESCRIPTION: SPORT UTILITY VEHICLES EQUIPPED WITH 4.0L SOHC ENGINES AND STILL RETAIN THE ORIGINAL THROTTLE BODY (PART NUMBERS 97JF-9E926AB OR 97JF-9E926-AC). SOME OF THE ORIGINAL THROTTLE BODIES INSTALLED ALLOWED A GAP BETWEEN THE PLATE AND BORE TO BE BUILT TOO NARROW. THIS REDUCED CLEARANCE ALLOWED THE ENGINE DEPOSITS NORMALLY PRESENT IN THE THROTTLE BODY TO CONTACT OR BRIDGE THE GAP. IF THE ENGINE DEPOSITS BRIDGED THE GAP BETWEEN THE THROTTLE PLATE AND BORE AND THEN HARDENED, ON THE INITIAL APPLICATION OF THE ACCELERATOR PEDAL AFTER THE ENGINE HAS COOLED, THE OPERATOR WOULD NEED TO APPLY ADDITIONAL FORCE TO THE ACCELERATOR PEDAL TO BREAK THE BRIDGE. THIS COULD RESULT IN ENGINE SURGE WHEN THE ACCELERATOR PEDAL BREAKS FREE. DEALERS WILL REPLACE THE ORIGINAL THROTTLE BODIES.

Year: **1998** Make: **FORD** Model: **EXPLORER**

NHSTA Campaign #: **01X001000** FMVSS #:

Involves: **13000000** units manufactured FROM: TO:

Component: **TIRES:TREAD/BELT**

THIS IS NOT A SAFETY RECALL IN ACCORDANCE WITH THE SAFETY ACT. HOWEVER, IT IS DEEMED A SAFETY IMPROVEMENT CAMPAIGN BY THE AGENCY. EQUIPMENT DESCRIPTION:

FORD IS REPLACING ALL FIRESTONE WILDERNESS AT 15, 16, AND 17 INCH TIRES MOUNTED ON FORD TRUCKS AND SUVS. FORD REPORTS TREAD SEPARATION CAN OCCUR DUE TO A COMBINATION OF THE SENSITIVITY OF THE TIRE DESIGN TO STRESS, AGING, AND MANUFACTURING DIFFERENCES BETWEEN PLANTS. FORD IS REPLACING THESE TIRES TO PREVENT POSSIBLE PREMATURE TIRE FAILURE. VEHICLE DESCRIPTION: THE VEHICLES LISTED BELOW MAY HAVE BEEN ORIGINALLY EQUIPPED WITH FIRESTONE WILDERNESS AT TIRES OR MAY HAVE HAD WILDERNESS AT TIRES INSTALLED DURING THE FIRESTONE RECALL LAUNCHED IN AUGUST 2000. CERTAIN 1991 THROUGHT 2002 FORD EXPLORER CERTAIN 2001 THROUGHT 2002 EXPLORER SPORT, AND SPORT TRAC CERTAIN 1997 THROUGH 2002 MERCURY MOUNTAINEER CERTAIN 1991 THROUGH 2001 RANGER CERTAIN 1999 THROUGH 2001 EXPEDITION CERTAIN 1991 THROUGH 1994, AND 1997 MODEL YEAR F-SERIES CERTAIN 1991 THROUGH 1994 BRONCO NOTE: BOTH ORIGINAL EQUIPMENT AND REPLACEMENT TIRES ARE AFFECTED. SHOULD THE TREAD SEPARATE AT HIGHWAY SPEEDS, A VEHICLE CRASH COULD OCCUR, POSSIBLY RESULTING IN PERSONAL INJURY OR DEATH. THE REPLACEMENT/REIMBURSEMENT PROGRAM FOR THIS CAMPAIGN EXPIRED ON MARCH 31, 2002. HOWEVER, CUSTOMERS CAN CONTACT FORD AT 800-462-8782 FOR POSSIBLE ASSISTANCE.

Year: **1998** Make: **FORD** Model: **EXPLORER**

NHSTA Campaign #: **97V215000** FMVSS #: **114**

Involves: **1100** units manufactured FROM: **19970805** TO: **19970827**

Component: **ELECTRICAL SYSTEM:IGNITION:ANTI-THEFT CONTROLLER**

VEHICLE DESCRIPTION: MULTI-PURPOSE PASSENGER VEHICLES, EDDIE BAUER AND LIMITED EDITIONS. THE KEY-IN-IGNITION/DOOR OPEN WARNING CHIME MAY NOT FUNCTION WHEN THE DOOR IS OPENED. THIS DOES NOT FULLY COMPLY WITH FMVSS NO. 114, "THEFT PROTECTION." THE STANDARD SPECIFIED THAT A WARNING TO THE DRIVER SHALL BE ACTUATED WHENEVER THE KEY HAS BEEN LEFT IN THE LOCKING SYSTEM AND THE DRIVER'S DOOR IS OPENED. DEALERS WILL INSTALL A JUMPER WIRE TO PROVIDE THE NECESSARY GROUND CIRCUIT IN THESE VEHICLES.

Year: **1998** Make: **FORD** Model: **EXPLORER**

NHSTA Campaign #: **98V060000** FMVSS #:

Involves: **320000** units manufactured FROM: **19960801** TO: **19980201**

Component: **FUEL SYSTEM, GASOLINE:DELIVERY:HOSES, LINES/PIPING, AND FITTINGS**

VEHICLE DESCRIPTION: MULTI-PURPOSE PASSENGER VEHICLES EQUIPPED WITH 4.0L SINGLE OVERHEAD CAM ENGINES. THE ENGINE FUEL LINES CAN BE DAMAGED IF THE VEHICLE IS JUMP STARTED AND THE GROUND CABLE IS ATTACHED TO THE FUEL LINE BRACKET THAT IS LOCATED NEAR THE BATTERY. SINCE THE BRACKET IS NOT GROUNDED, THE STAINLESS STEEL FUEL LINE BRAID COULD ACT AS A GROUND POTENTIALLY OVERHEATING THE PTFE INNER LINER OF THE FUEL LINE RESULTING IN DAMAGE TO THE FUEL LINE. THE FUEL LINES CAN LEAK, AND IN THE PRESENCE OF AN IGNITION SOURCE, A FIRE COULD POTENTIALLY RESULT. DEALERS WILL INSTALL A WARNING LABEL ON THE FUEL LINE BRACKET ADVISING OWNERS NOT TO USE IT FOR A JUMP START GROUND. ALSO A REVISED BOLT WILL BE INSTALLED IN THE ALTERNATOR BRACKET TO PROVIDE A CONVENIENT JUMP START GROUND LOCATION.

Year: **1998** Make: **FORD** Model: **EXPLORER**

NHSTA Campaign #: **99V062001** FMVSS #:

Involves: **898739** units manufactured FROM: **19960529** TO: **19990304**

Component: **VEHICLE SPEED CONTROL**

VEHICLE DESCRIPTION: CERTAIN 1997-1999 RHD EXPLORER EQUIPPED WITH 4.0L OHV/SOHC ENGINES AND CRUISE CONTROL BUILT FROM MAY 29, 1996 THROUGH MARCH 4, 1999; 1998-1999 EXPLORER/MOUNTAINEERS EQUIPPED WITH 4.0L OHV/SOHC OR 5.0L ENGINES OR 1998-1999 RANGERS EQUIPPED WITH 2.5L, 3.0L FFV/EFI OR 4.0L ENGINES AND CRUISE CONTROL BUILT FROM JANUARY 5, 1998 THROUGH MARCH 4, 1999; 1998-1999 MUSTANGS EQUIPPED WITH 3.8L, 4.6L 2-VALVE OR 4-VALVE ENGINES AND CRUISE CONTROL BUILT FROM MARCH 2, 1998 THROUGH MARCH 4, 1999; 1999 F250/F350/F450/F550 (OVER 8,500 LBS.) TRUCKS EQUIPPED WITH 5.4L OR 6.8L ENGINES AND CRUISE CONTROL BUILT FROM MARCH 2, 1998 THROUGH MARCH 4, 1999; AND 1999 F-53 STRIPPED CHASSIS EQUIPPED WITH 5.4L OR 6.8L ENGINES AND CRUISE CONTROL BUILT FROM MARCH 2, 1998 THROUGH MARCH 4, 1999. A CRUISE CONTROL CABLE CAN INTERFERE WITH THE SPEED CONTROL SERVO PULLEY AND NOT ALLOW THE THROTTLE TO RETURN TO IDLE WHEN DISENGAGING THE CRUISE CONTROL. IF THE CRUISE CONTROL IS USED AND THIS CONDITION IS PRESENT, A STUCK THROTTLE COULD RESULT, WHICH COULD POTENTIALLY RESULT IN A CRASH. DEALERS WILL REPLACE THE CRUISE CONTROL CABLES. AT THE PRESENT TIME, THE REPLACEMENT CABLES ARE NOT AVAILABLE. CUSTOMERS ARE BEING ADVISED NOT TO USE THE CRUISE CONTROL SYSTEM UNTIL A REPLACEMENT CAN BE MADE.

Year: **1998** Make: **FORD** Model: **EXPLORER**

NHSTA Campaign #: **99V164000** FMVSS #:

Involves: **854288** units manufactured FROM: **19970425** TO: **19990517**

Component: **LATCHES/LOCKS/LINKAGES:HOOD:LATCH**

VEHICLE DESCRIPTION: SPORT UTILITY VEHICLES. THE SECONDARY HOOD LATCH MAY CORRODE AT THE LATCH PIVOT AND STICK IN THE OPEN POSITION. IF THIS OCCURS AND THE PRIMARY HOOD LATCH IS EITHER NOT ENGAGED OR IS RELEASED, A HOOD FLY-UP COULD OCCUR. DEALERS WILL INSTALL A SECONDARY HOOD LATCH WITH COMPONENTS THAT ARE COATED PRIOR TO ASSEMBLY FOR IMPROVED LATCH PIVOT CORROSION PROTECTION.

********** END OF REPORT **********

Daniel James Parkka
Parkka Collision Consultants

Daniel James Parkka

SUNBEAR III Report

Report generated
July 8, 2003

Case Number : 03-865-AC

Set Date — Event Date : Sunday - June 29, 2003 - Day #180 of the year

In 2003, Daylight Saving Time starts April 6 - ends October 26

Set Time — Event Time : 3:09:00 A.M. Eastern Daylight Time (7:09 A.M. June 29, 2003 U.T.C.)

Set Location — Event Longitude : -70.443467
Event Latitude : +41.640567

Cotuit, MA
02635

Magnetic Declination = -15.72°

	SUN POSITION	MOON POSITION
Angle from Vertical :	107.1°	101.9°
Angle from Horizontal :	-17.1°	-11.9°
Bearing from True North :	+34.4°	+37.7°
Bearing from Magnetic North :	+50.1°	+53.5°

Sun rises at : 05:09 Sets at : 20:20
Civil twilight starts at : 04:37 Ends at : 20:52
Nautical twilight starts at : 03:53 Ends at : 21:36
Astronomical twilight starts at : 03:01 Ends at : 22:28

Moon rises at : 3:12 A.M.
Sets at : 6:54 P.M.
Portion Moon Illuminated : 0 %

Daniel James Parkka

SUNBEAR III
Interval Report

Report generated on
July 8, 2003

Interval Start Time : 3:00:00 A.M.
Interval Start Date : June 29, 2003

for Longitude: -70.443467
Latitude : +41.640567

Number of Intervals : 15
Size of each Interval : 1 minute

		SUN		MOON		
Date	Time	Vertical Angle	Bearing	Vertical Angle	Bearing	% Illumination
6/29/2003	3:00	108.0	48.2	102.8	51.7	0%
	3:01	107.9	48.4	102.7	51.9	0%
	3:02	107.8	48.6	102.6	52.1	0%
	3:03	107.7	48.8	102.5	52.3	0%
	3:04	107.6	49.0	102.4	52.5	0%
6/29/2003	3:05	107.5	49.2	102.3	52.7	0%
	3:06	107.4	49.5	102.2	52.9	0%
	3:07	107.3	49.7	102.1	53.1	0%
	3:08	107.2	49.9	102.0	53.3	0%
	3:09	107.1	50.1	101.9	53.5	0%
6/29/2003	3:10	107.0	50.3	101.7	53.7	0%
	3:11	106.9	50.5	101.6	53.8	0%
	3:12	106.7	50.7	101.5	54.0	0%
	3:13	106.6	50.9	101.4	54.2	0%
	3:14	106.5	51.2	101.3	54.4	0%
6/29/2003	3:15	106.4	51.4	101.2	54.6	0%

Content-type: text/html

Virtual Reality Phase of the Moon

2003 June 29, 0 hrs ET

Current Weather Conditions:
Hyannis, Barnstable Municipal-Boardman Airport, MA, United States

(KHYA) 41-40-19N 070-16-11W 22M

Conditions at Jun 29, 2003 - 07:56 AM EDT
2003.06.29 1156 UTC

Wind Calm
Visibility 10 mile(s)
Sky conditions clear
Temperature 68.0 F (20.0 C)
Dew Point 64.0 F (17.8 C)
Relative Humidity 87%
Pressure (altimeter) 30.18 in. Hg (1022 hPa)
Pressure tendency 0.02 inches (0.8 hPa) higher than three hours ago
ob KHYA 291156Z 00000KT 10SM CLR 20/18 A3018 RMK AO2 SLP221 T02000178 10200 20172 53008

Maximum and Minimum Temperatures

Maximum Temperature F (C)	Minimum Temperature F (C)	
68.0 (20.0)	63.0 (17.2)	In the 6 hours preceding Jun 29, 2003 - 07:56 AM EDT / 2003.06.29 1156 UTC
77.0 (25.0)	61.0 (16.1)	In the 24 hours preceding Jun 29, 2003 - 12:56 AM EDT / 2003.06.29 0456 UTC

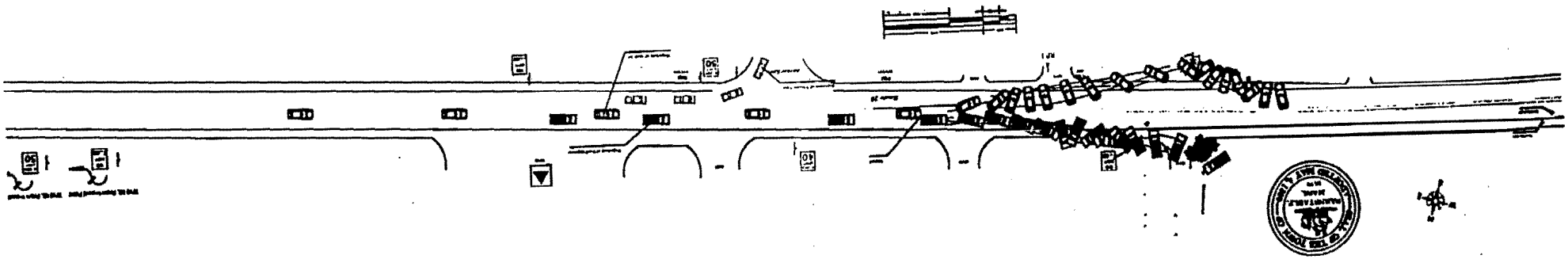
24 Hour Summary

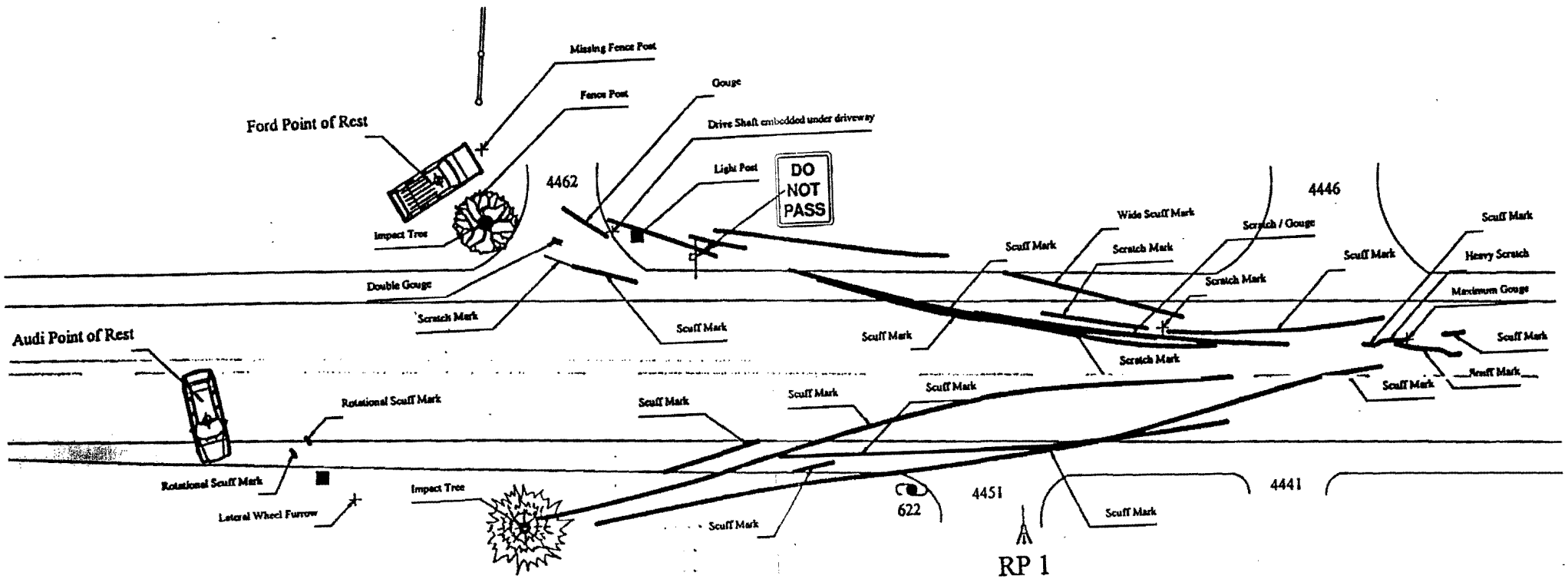
	Time EDT (UTC)	Temperature F (C)	Dew Point F (C)	Pressure Inches (hPa)	Wind MPH	Weather
Latest	8 AM (12) Jun 29	68.0 (20.0)	64.0 (17.8)	30.18 (1022)	Calm	
	7 AM (11) Jun 29	66.0 (18.9)	63.0 (17.2)	30.16 (1021)	Calm	
	6 AM (10) Jun 29	64.9 (18.3)	62.1 (16.7)	30.16 (1021)	WSW 5	
	5 AM (9) Jun 29	64.9 (18.3)	63.0 (17.2)	30.16 (1021)	SW 8	
	4 AM (8) Jun 29	64.0 (17.8)	61.0 (16.1)	30.15 (1020)	WSW 6	
	3 AM (7) Jun 29	64.0 (17.8)	61.0 (16.1)	30.15 (1020)	WSW 7	
	2 AM (6) Jun 29	63.0 (17.2)	60.1 (15.6)	30.14 (1020)	WSW 5	
	1 AM (5) Jun 29	63.0 (17.2)	60.1 (15.6)	30.14 (1020)	WSW 5	
	Midnight (4) Jun 29	63.0 (17.2)	60.1 (15.6)	30.14 (1020)	WSW 7	
	11 PM (3) Jun 28	64.9 (18.3)	61.0 (16.1)	30.13 (1020)	WSW 7	
	10 PM (2) Jun 28	66.9 (19.4)	63.0 (17.2)	30.12 (1019)	WSW 8	
	9 PM (1) Jun 28	69.1 (20.6)	63.0 (17.2)	30.12 (1019)	WSW 8	
	8 PM (0) Jun 28	71.1 (21.7)	61.0 (16.1)	30.1 (1019)	WSW 7	
	7 PM (23) Jun 28	72.0 (22.2)	61.0 (16.1)	30.09 (1018)	SSW 6	
	6 PM (22) Jun 28	75.0 (23.9)	62.1 (16.7)	30.07 (1018)	S 6	
	5 PM (21) Jun 28	75.9 (24.4)	60.1 (15.6)	30.06 (1017)	Calm	

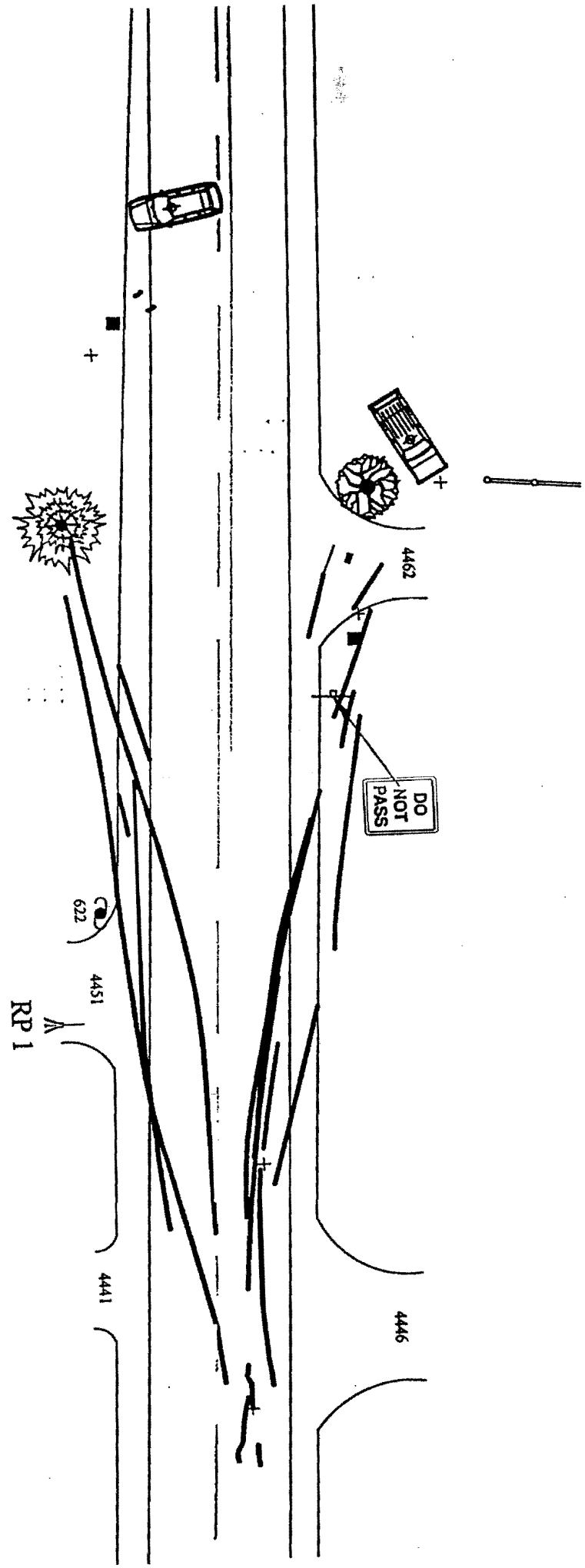
	Time EDT (UTC)	Temperature F(C)	Dew Point F(C)	Pressure Inches(hPa)	Wind (MPH)	Weather
	4 PM (20) Jun 28	75.0 (23.9)	60.1 (15.6)	30.06 (1017)	Calm	
	3 PM (19) Jun 28	75.0 (23.9)	59.0 (15.0)	30.05 (1017)	NNE 9	
	2 PM (18) Jun 28	77.0 (25.0)	61.0 (16.1)	30.03 (1016)	NNE 12	
	1 PM (17) Jun 28	72.0 (22.2)	61.0 (16.1)	30.02 (1016)	N 10	
	Noon (16) Jun 28	72.0 (22.2)	61.0 (16.1)	30.01 (1016)	N 12	
	11 AM (15) Jun 28	71.1 (21.7)	61.0 (16.1)	30 (1015)	N 12	
	10 AM (14) Jun 28	69.1 (20.6)	61.0 (16.1)	29.99 (1015)	N 13	
Oldest	9 AM (13) Jun 28	69.1 (20.6)	60.1 (15.6)	29.98 (1015)	N 14	

The information presented here is taken from products produced by the U.S. National Weather Service and other national and international agencies

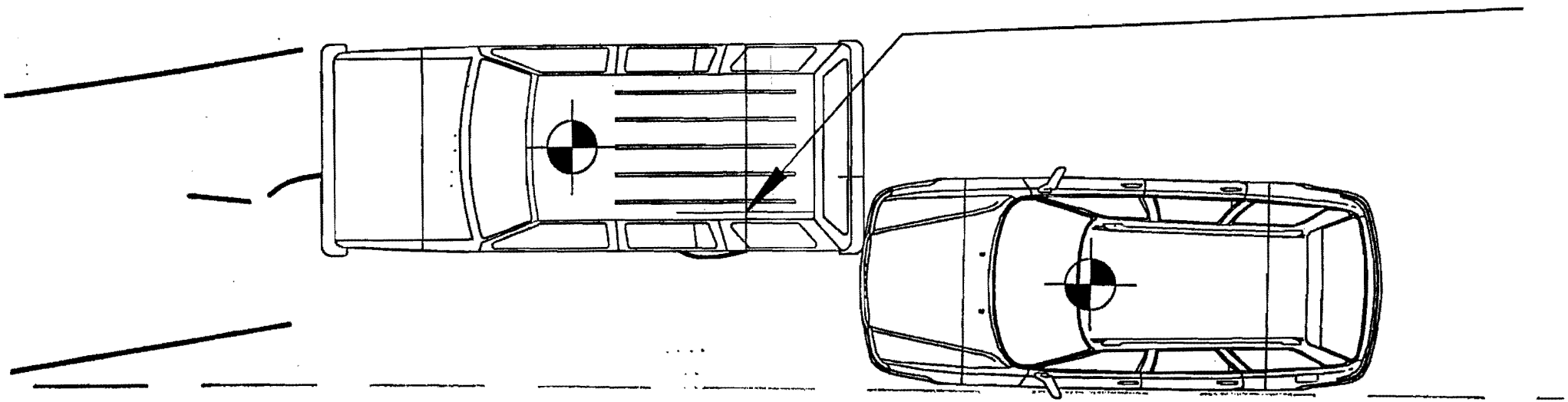
US Dept of Commerce
National Oceanic and Atmospheric Adminstration
National Weather Service
1325 East West Highway
Silver Spring, MD 20910
Page Author: Internet Services Group

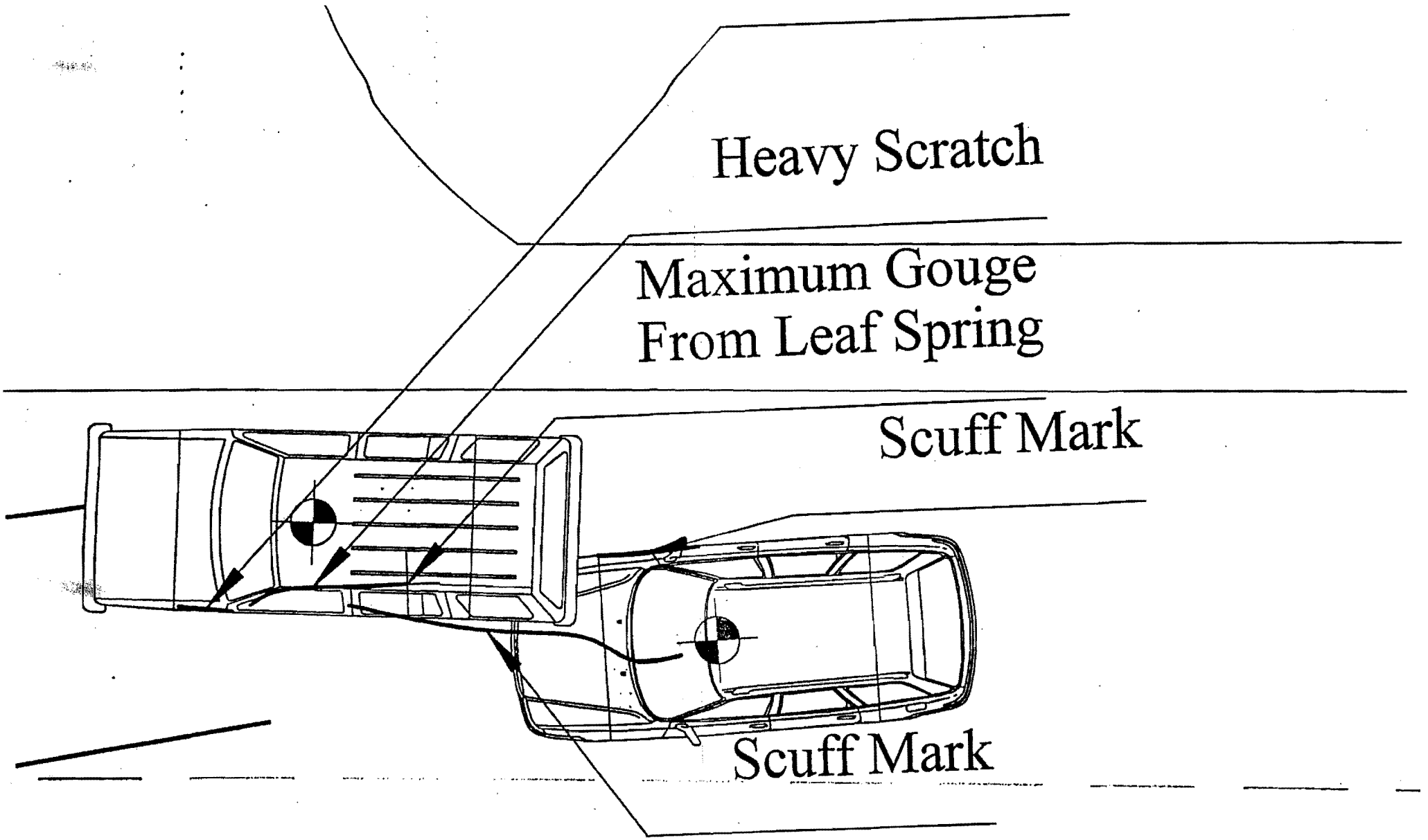


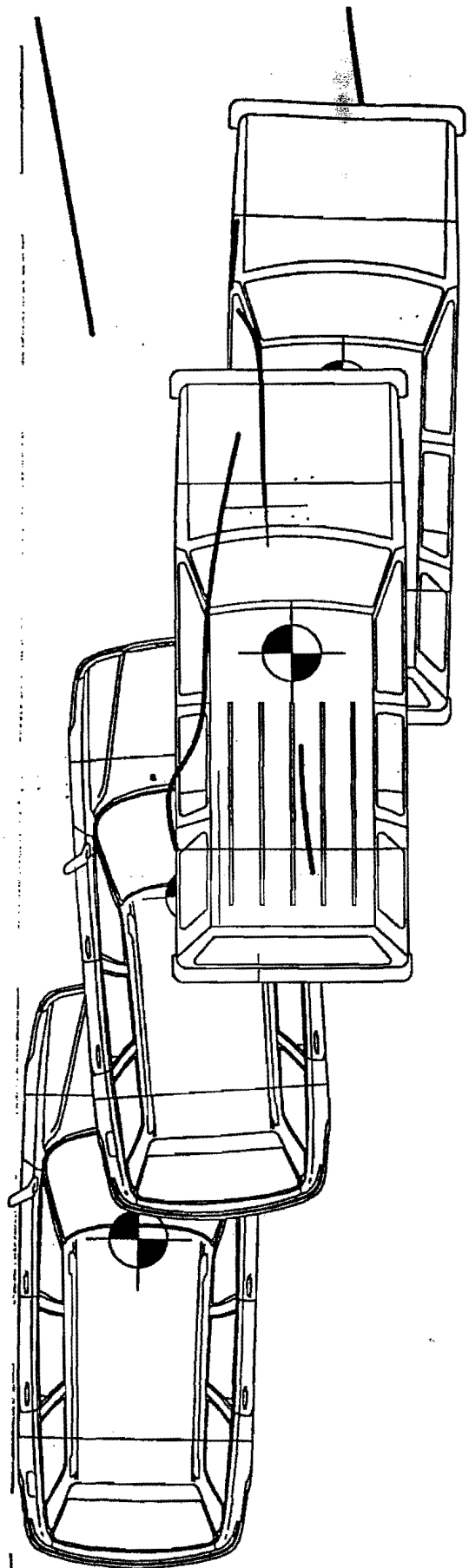


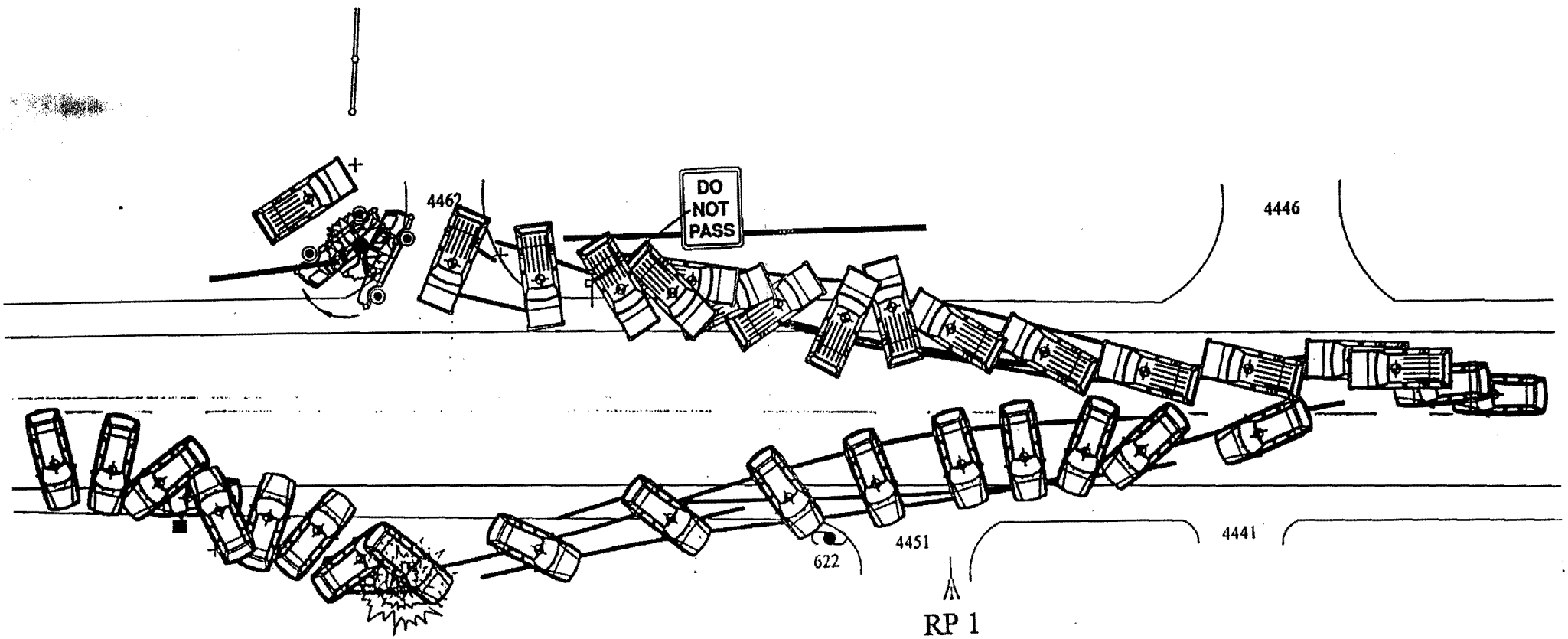

4462
DO NOT PASS
622
4451
RP 1
4441
4446

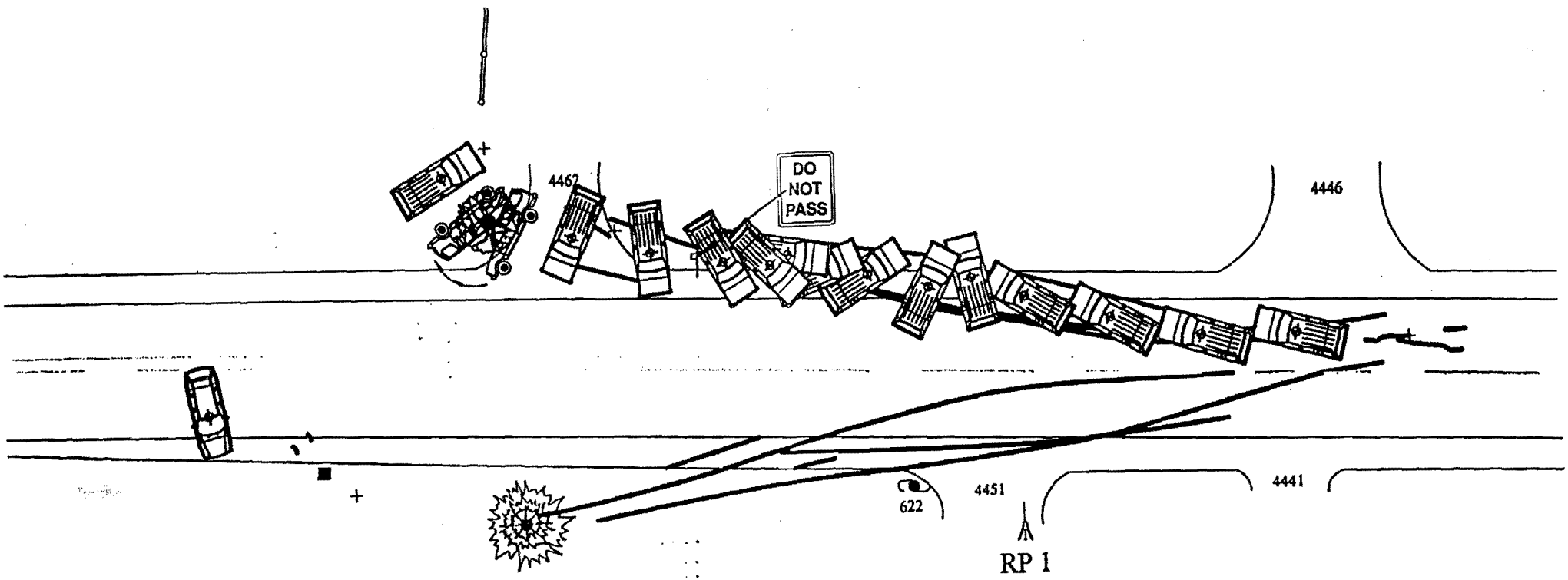
Leaf Spring Position

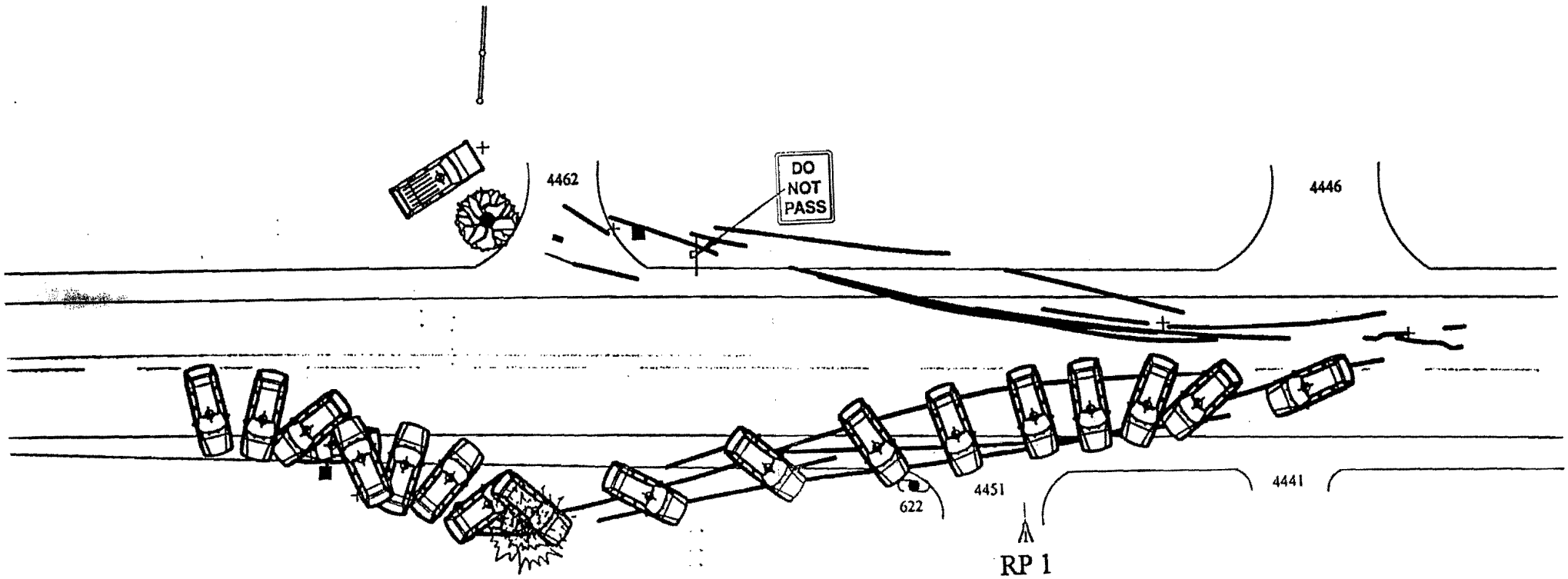


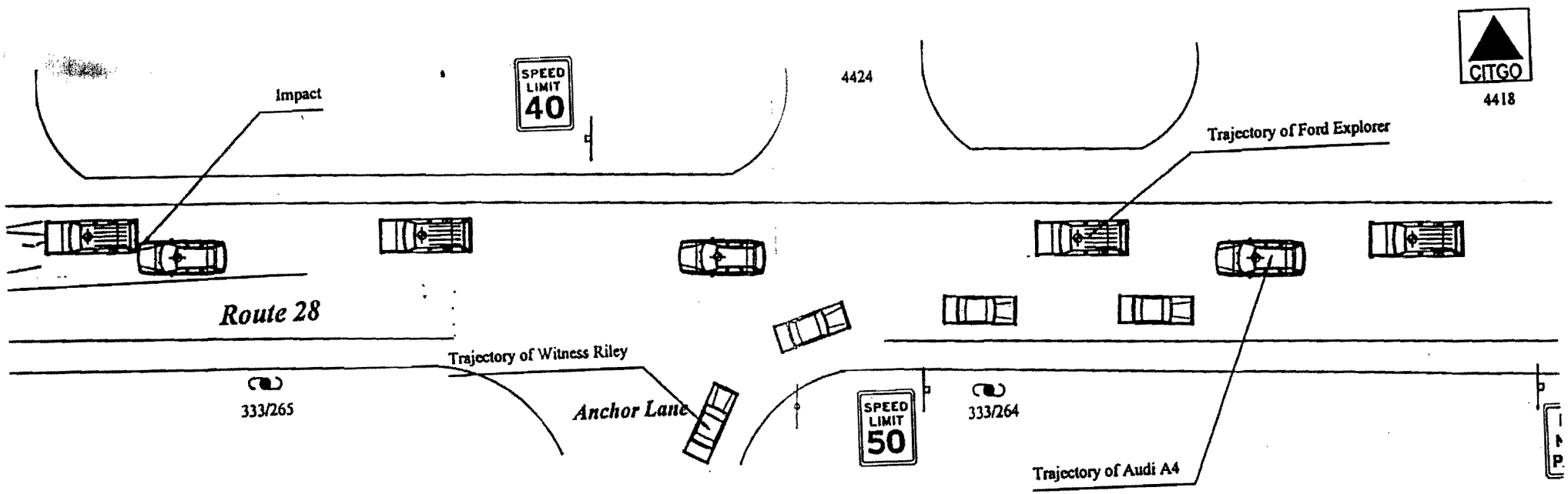

Heavy Scratch
Maximum Gouge
From Leaf Spring
Scuff Mark
Scuff Mark










Impact
SPEED LIMIT 40
4424
CITGO
4418
Trajectory of Ford Explorer
Route 28
Trajectory of Witness Riley
333/265
Anchor Lane
SPEED LIMIT 50
333/264
Trajectory of Audi A4

PE10-031 000102LC

PE10-031 000103LC

PE10-031 000104LC

PE10-031 000105LC

PE10-031 000106LC


PE10-031 000107LC


PE10-031 000108LC

PE10-031 000109LC

PE10-031 000110LC


PE10-031 000111LC


PE10-031 000112LC


PE10-031 000113LC

PE10-031 000114LC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PE10-031 000139LC

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PE10-031 000141LC


PE10-031 000142LC

PE10-031 000143 C

PE10-031 000144LC

PE10-031 000145LC


PE10-031 000146LC

PE10-031-000147LC

PE10-031 000148LC

PE10-031-000149EC

PE10031 000150LC

PE10-031 000151LC

PE10-031 000152LC

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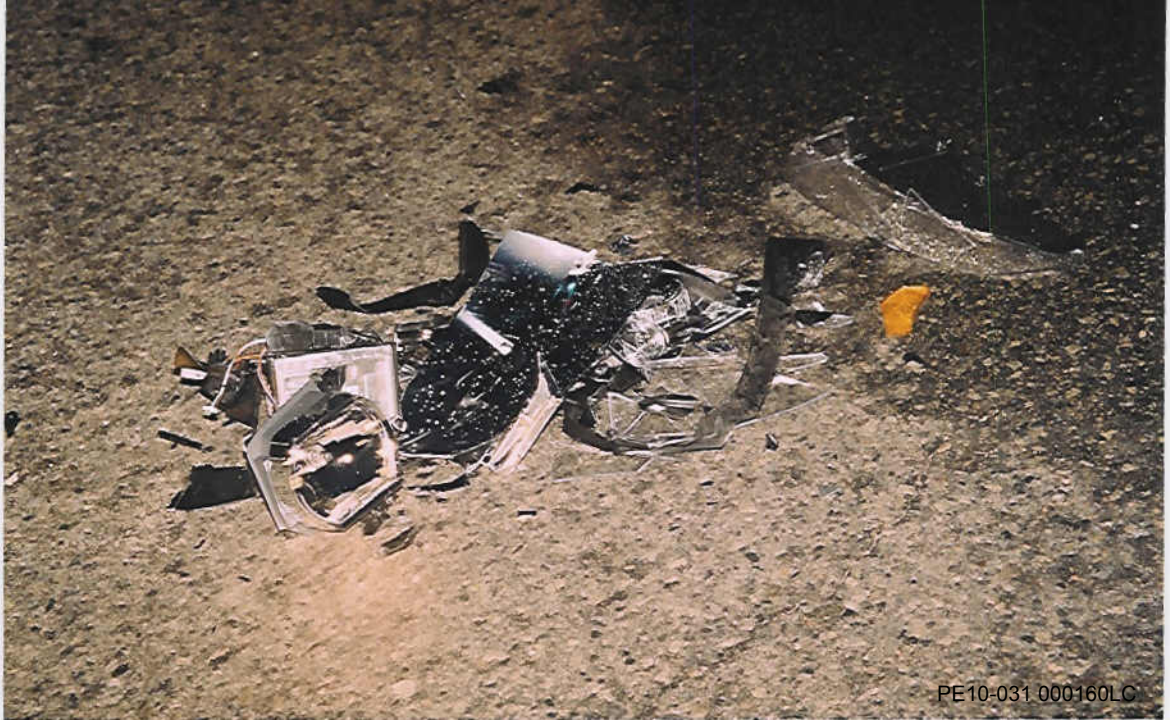
PE10-031 000157LC

PE10-031 000158LC

PE10-031 000159LC



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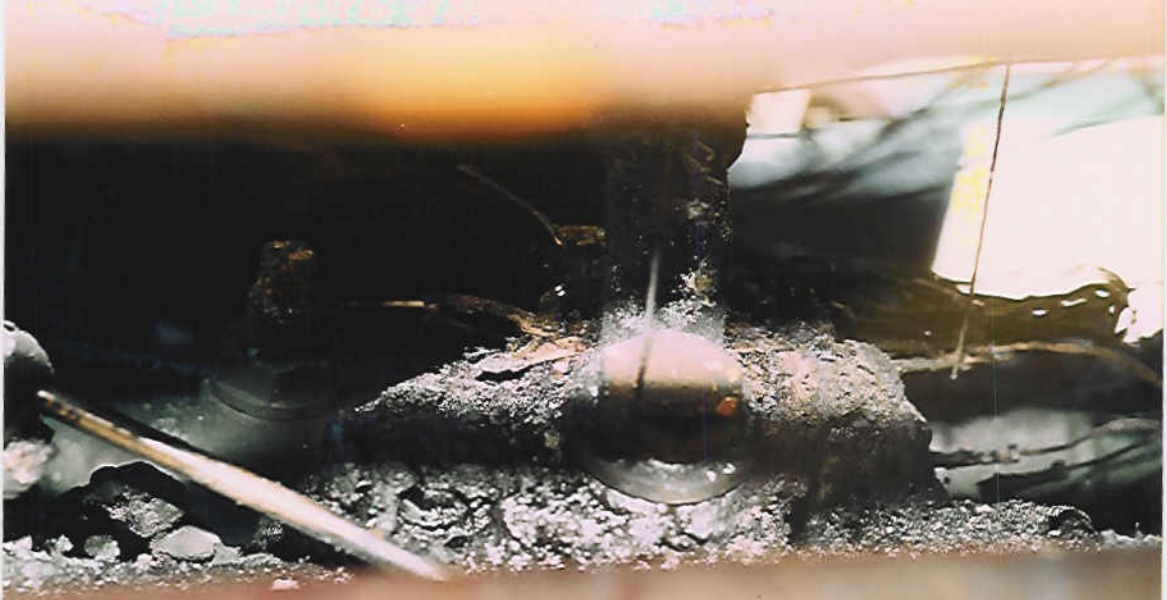

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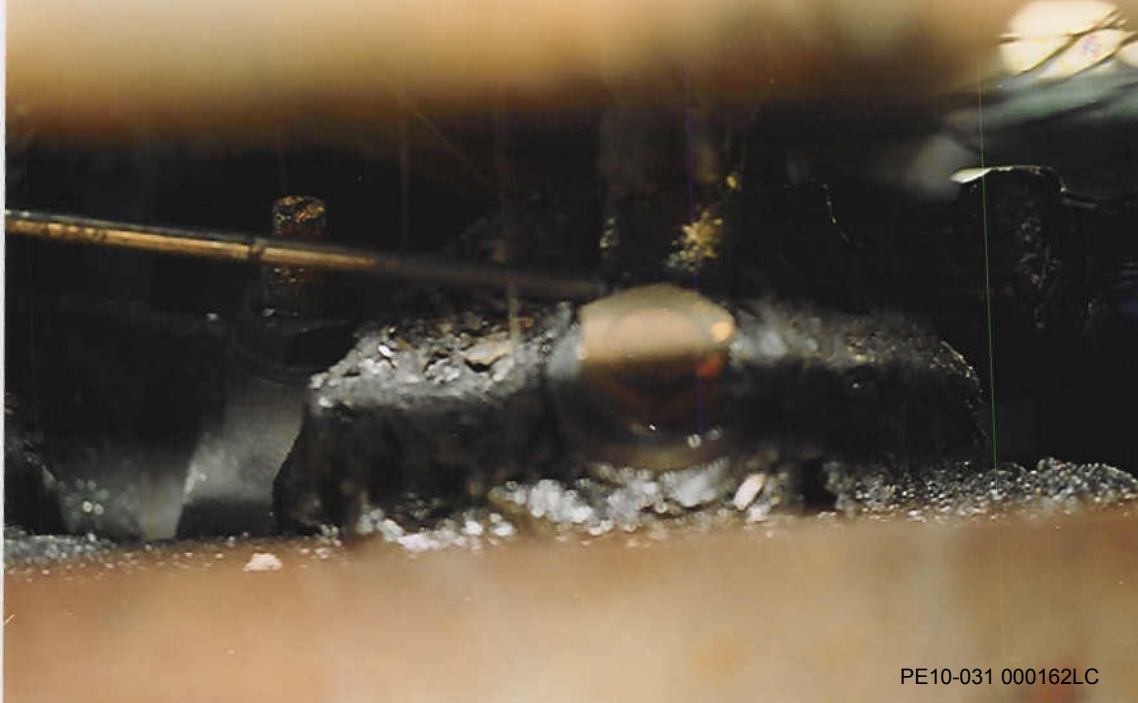
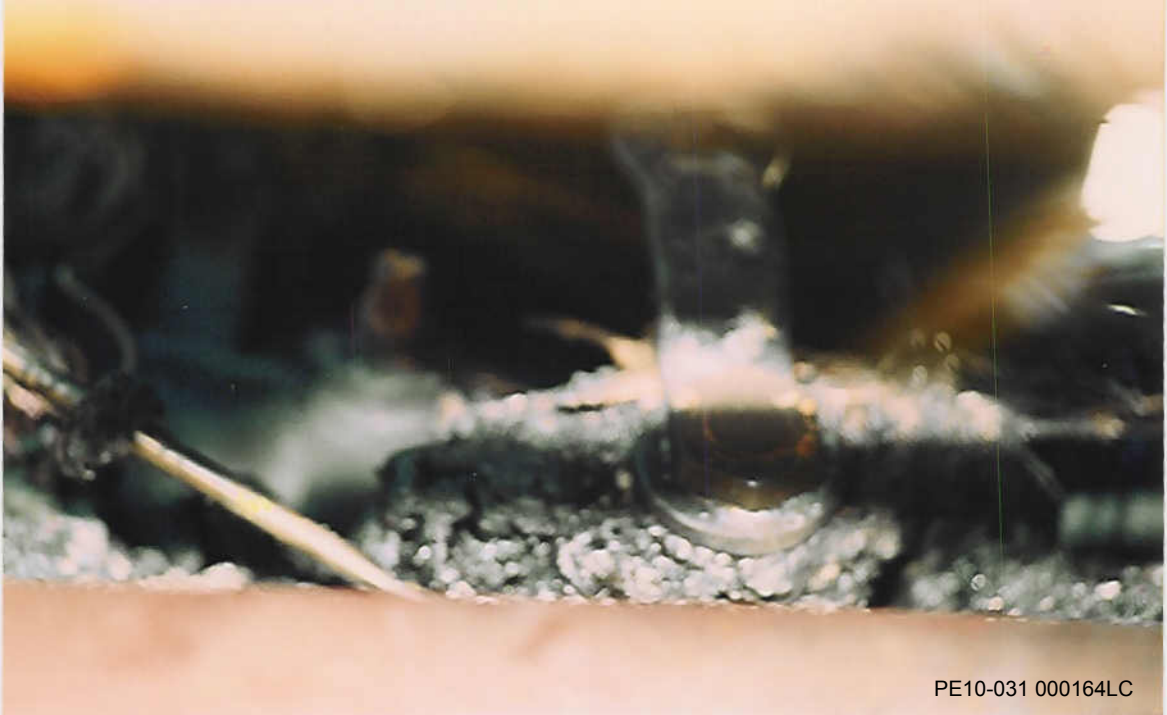


PE10-031 000162LC

PE10-031 000163LC



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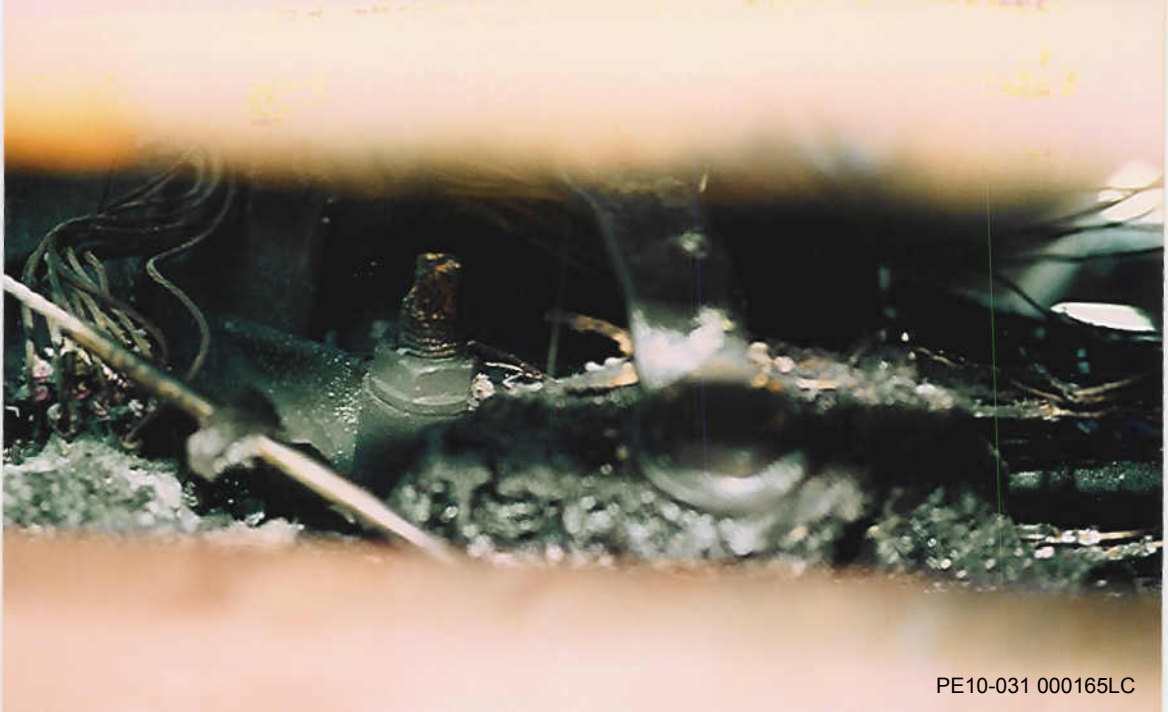

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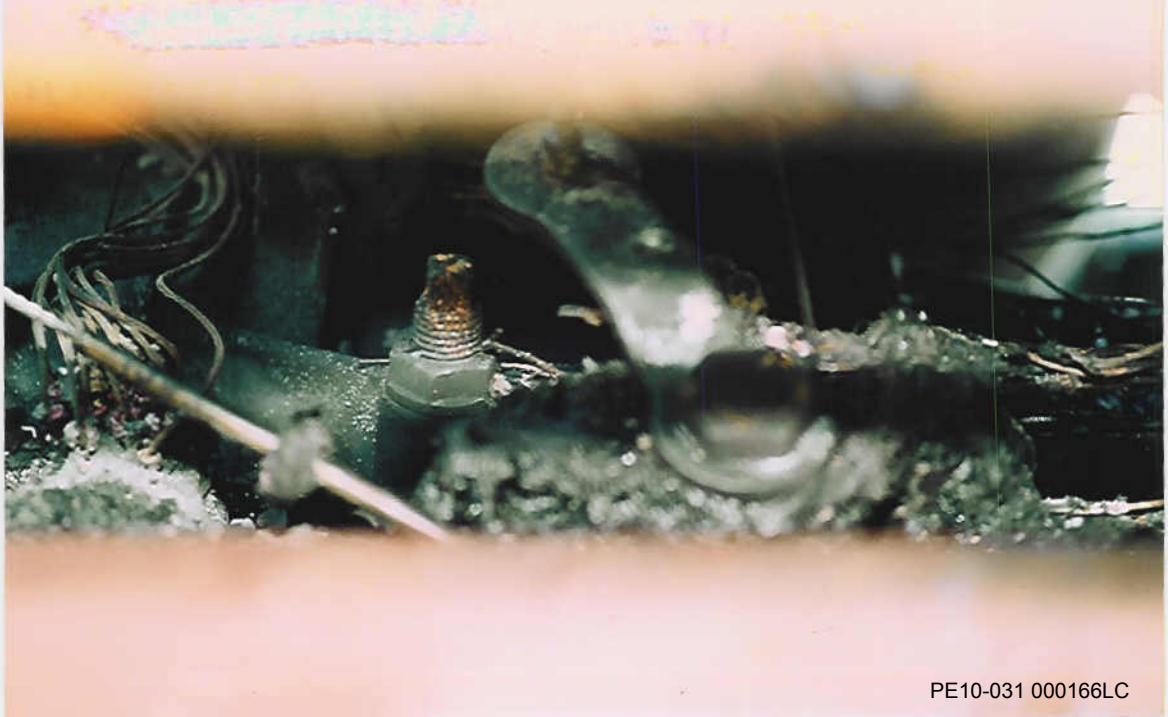

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PE10-031 000168LC

PE10-031 000169LC

PE10-031-000170LC

PE10-031.000171LC

PE10-031 000172LC

PE10-031 000173LC

PE10-031 000174LC

PE10-031 000175LC


PE10-031 000176LC

PE10-031 000177LC

PE10-031 000178LC


PE10-031 000179LC


PE10-031 000180LC

PE10-031 000181LC

PE10-031 000182LC


PE10-031 000183LC

PE10-031 000184LC

PE10-031 000185LC

PE10-031 000186LC

PE10-031 000187LC

PE10-031 000188LC

PE10-031 000189LC

PE10-031 000190LC

PE10-031 000191LC

PE10-031 000192LC

PE10-031 000193LC

PE10-031 000194LC

PE10-031 000195LC


PE10-031 000196LC


CAPE COD TOURS 362-1117
PE10-031 000197LC

PE10-031 000198LC

PE10-031 000199LC


PE10-031 000200LC

E10-031 003201 C

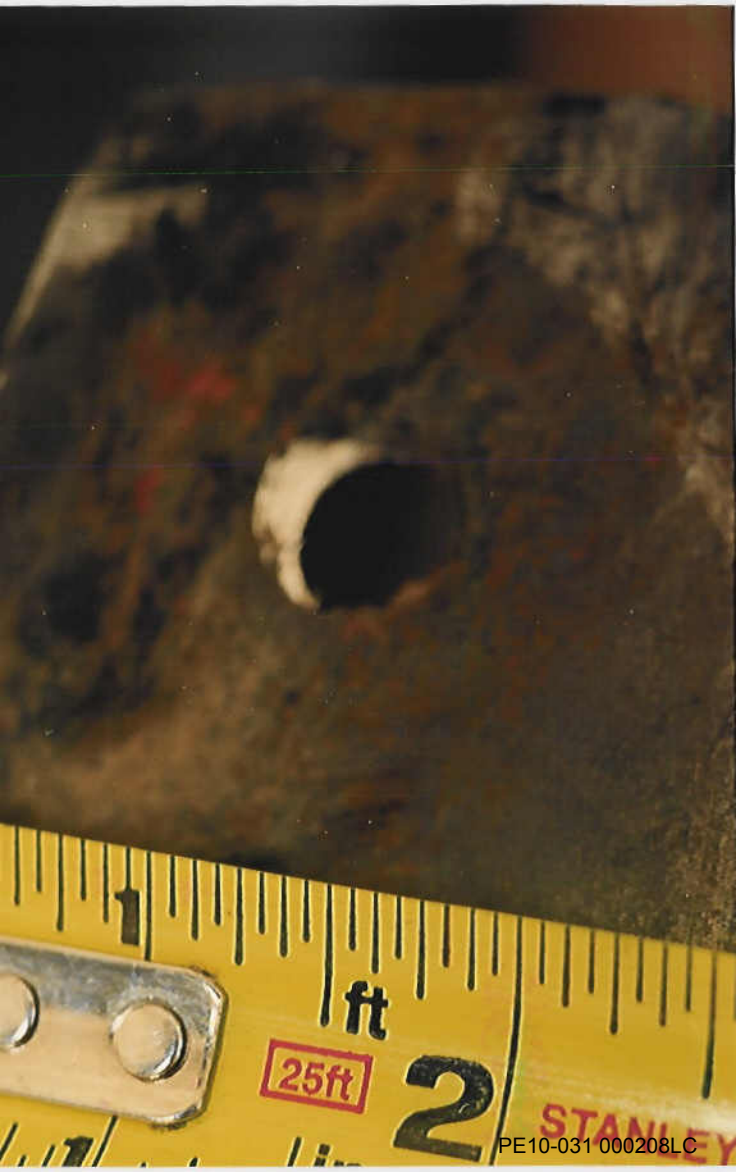
PE10-031 000203LC

PE10-031 000204LC

PE10-031 000205LC

PE10-031 000206LC

PE10-031 000207LC



PE10-031 000208LC

PE10-031 000209LC


PE10-031 000210LC

PE10-031 000213LC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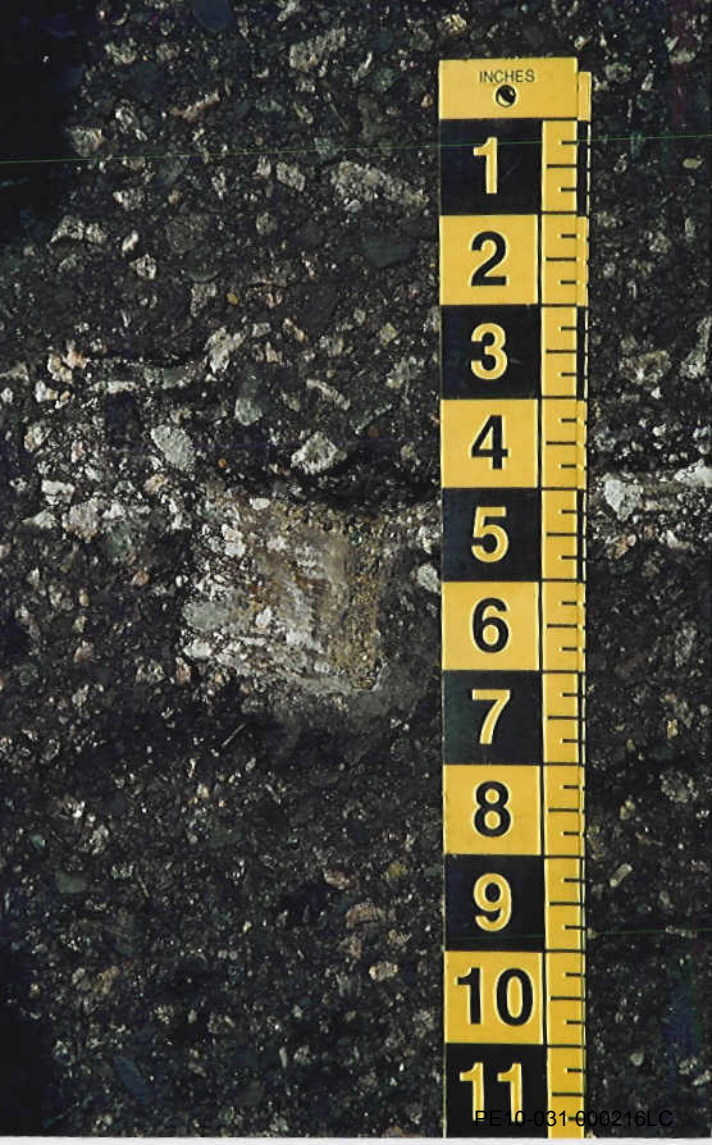

PE10-031 000218LC

PE10-031-000219LC

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PE10-031 000225LC

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PE10-031 000227LC

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PE10 031 000230LC

PE10-031 000231LC

PE10-031 000232LC

PE10-031 000233LC

PE10-031 000234LC

PE10-031 000235LC

PE10-031 000236LC

PE10-031 000237LC

PE10-031 000238LC

PE10-031 000239LC

PE10-031 000240LC

PE10-031 000241LC

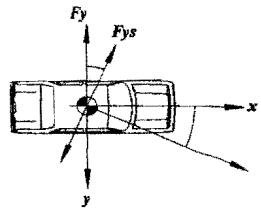
PE10-031000242LC

PE10-031 000243LC

PARKKA COLLISION CONSULTANTS

ACCIDENT RECONSTRUCTION & CAUSE ANALYSIS

74 Old Toll Road, West Barnstable, MA 02668 Tel/Fax: 508.362.7705 parkka@gis.net



COPY

January 27, 2004

Jerry G. Wallingford, P.E.
Verifact Corporation
Senior Forensic Engineer
11220 W. FM 1604 N.
San Antonio, Texas 78250

Re: 1998 Ford Explorer Fuel Tank // Our Case 030629

Dear Mr. Wallingford,

In reference to the above captioned matter, I conducted a thorough inspection of both the Ford Explorer and the Audi A4 on June 30, 2003 while both vehicles were situated within a secured compound. During the inspection of the Ford, the fuel tank was observed exposed and separated from its shield. A radial, horizontal impression was evident below the midsection seam. This impression was identical to the radial shape of the rear axle housing. The rear axle housing was free to move forward towards the tank as a result of a complete separation from the vehicle on the left side because of the damage sustained to the left leaf spring. The aft section of the tank also contained two indentations just above the midsection seam. These indentations appear to be on the same plain and contained perforations (tears) as evident within digital photographs taken by myself. To help aid you in locating them, I have enclosed a photograph in three different size formats. Each size will require separate coordinate measurements along its frame to locate the points of interest respectively.

First Perforation

- The 8x12 photograph has been labeled 'MVC-005s'. To graphically locate the perforation, measure across 8.6 cm (86 mm) from the left edge of the photograph and 8.7 cm (87 mm) down from the top.

- The 8x10 photograph has been labeled 'MVC-005t'. To graphically locate the perforation, measure across 8.2 cm (82 mm) from the left edge of the photograph and 8.8 cm (88 mm) down from the top. Do not include the white border on the 8x10 photograph during your measurement.

- The 4x6 photograph has been labeled 'MVC-005u'. To graphically locate the perforation, measure across 5.4 cm (54 mm) from the left edge of the photograph and 4.4 cm (44 mm) down from the top.

Second Perforation

- The 8x12 photograph has been labeled 'MVC-005s'. To graphically locate the second perforation, measure across 23.7 cm (237 mm) from the left edge of the photograph and 6.7 cm (67 mm) down from the top.

- The 8x10 photograph has been labeled 'MVC-005t'. To graphically locate the second perforation, measure across 20.1 cm (201 mm) from the left edge of the photograph and 7.4 cm (74 mm) down from the top. Do not include the white border on the 8x10 photograph during your measurement.

- The 4x6 photograph has been labeled 'MVC-005u'. To graphically locate the second perforation, measure across 11.8 cm (118 mm) from the left edge of the photograph and 3.5 cm (35 mm) down from the top.

- This perforation is also evident in an 8x12 photograph labeled 'MVC-006s'. To graphically locate the second perforation in this photograph, measre across 4.8 cm (48 mm) from the left edge and 16.9 cm (169 mm) down from the top.

It was clearly evident to me; an external object made contact with the fuel tank during the collision and compromised its integrity. As a result, the fuel in the tank was not contained and leaked from the vehicle. During the removal of the Ford from the scene of the collision, fire personnel and myself observed fuel draining from the perforations as the front of the Ford was elevated during the hoisting of the vehicle onto a flatbed wrecker. The fire department personnel delayed the removal of the vehicle until the remaining fuel within the tank was drained through the perforations into a separate container.

Respectfully yours,

Daniel James Parkka
Actar 760 / Collision Reconstructionist
Parkka Collision Consultants

VERIFACT
CORPORATION

ACCIDENT AND FAILURE ANALYSIS

11220 W. FM 1604 N. • SAN ANTONIO, TEXAS • 78254
FAX 210.523.5694 • mailbox@verifactcorp.com
210.523.5696

March 4, 2004

Mr. Stephen J. Lyons
Klieman, Lyons, Schindler & Gross
21 Custom House Street
Boston, Massachusetts 02110

Re: [redacted], et al

Dear Mr. Lyons:

Pursuant to your request, we have performed a review and preliminary analysis for your office concerning an accident that occurred on June 29, 2003 involving a 1998 Ford Explorer and a 2003 Audi. The accident occurred on Falmouth Road in Cotuit, Massachusetts. The purpose of this letter is to inform you of our preliminary findings to date.

The following items were supplied by your office:

- A copy of a Commonwealth of Massachusetts Motor Vehicle Crash Police Report as completed by Patrolman Brian Morrison, Badge Number 205, of the Barnstable Police Department dated June 29, 2003.
- Two hundred and six (206) color laser copies of photographs of the accident scene, accident site and subject vehicles.
- A VHS videotape of the accident scene.

- A copy of an Collision Reconstruction Report prepared by Officer Daniel Parkka of the Barnstable Police Department.
- Miscellaneous vehicle information and data pertaining to the subject 1998 Ford 4 X 4 Explorer.
- Nine (9) 8" by 12" color photographs of the subject 1998 Ford Explorer.

The following were supplied by Daniel Parkka of Parkka Collision Consultants:

- A 3.5 inch disk containing six (6) color photographs of the subject 1998 Ford Explorer
- A CD containing one hundred seventeen (117) digital color photographs of the subject 1998 Ford Explorer, subject 2003 Audi and accident scene.
- A CD containing a copy of the accident reconstruction report of officer Daniel Parkka of the Barnstable Police Department, a copy of scaled accident scenario diagram in Turbo Cad and AutoCAD format.
- A CD containing the Turbo CAD Program
- A CD containing twenty five (25) digital color photographs of the subject 1998 Ford Explorer, subject 2003 Audi, and an aerial photograph of the accident site.
- Six (6) each 8" by 12" color copies of D. Parkka's digital photographs of the subject 1998 Ford Explorer.
- Seven (7) each 6" by 8" color laser copies of photographs of the subject 1998 Ford Explorer.
- Six (6) each 36" by 44" copies of scaled accident scenario diagrams

- One (1) each 32 ½" by 34" color laser copy of the aerial photograph of the accident site
- A letter from Daniel Parkka dated January 27, 2004, concerning damage to the fuel tank on the subject 1998 Ford Explorer.
- One (1) 8" by 10" digital color photograph labeled MVC-005t and two (2) 8" by 12" digital color photographs labeled MVC-005s and MVC-006s, and one 4" by 6" color photograph labeled MVC-005u of the fuel tank on the subject 1998 Ford Explorer.

On November 11, 2003 Verifact Corporation personnel inspected and documented the subject 2003 Audi A4 Station Wagon. The vehicle license was Massachusetts's [redacted]. The vehicle was equipped with a 1.8 liter 4 cylinder engine, power steering, power brakes, manual transmission and all wheel drive power train. The vehicle had sustained frontal impact damage and damage to the right front door. The vehicle has also sustained fire damage. Photographs were taken to record the condition of the vehicle. Also on November 11, 2003 Verifact Corporation personnel interviewed [redacted], and officer Daniel Parkka.

On January 7, 2004 Verifact Corporation personnel inspected and documented an exemplar 1998 Ford 4X4 Explorer. The vehicle was equipped with a 4.0-liter V-6 fuel injected engine, automatic transmission, power steering, power brakes, and air conditioning. The vehicle was identified by VIN 1FMZU34E2WU[redacted]. Photographs and measurements were taken to document the condition of the vehicle.

Based on our review and analysis of the above material our preliminary findings are as follows:

1) The subject 2003 Audi A4 impacted the left rear of the subject 1998 Ford Explorer.

2) Daniel Parkka states in a letter dated January 27, 2004 the rear axle housing on the subject 1998 Ford Explorer was free to move forward toward the fuel tank because of the damage to the left leaf spring. Analysis of his photographs show the left side of the rear axle is not attached to the subject Ford Explorer.

3) In the Collision Reconstruction Report #03-865-AC, dated July 10, 2003, Daniel Parkka states the rear axle housing was pushed forward into the rear of the fuel tank of the subject 1998 Ford Explorer and that an impression of the rear axle housing was made in the fuel tank. He states in his January 27, 2003 letter that he found two impressions in the rear of the fuel tank above the tank seam. Within each of these impressions he found tears in the fuel tank. Based on photographic analysis it is most probable that the rear axle and/or rear suspension of the 1998 Ford Explorer impacted the rear of the fuel tank. There is deformation to the rear of the fuel tank that is consistent with the shape of the rear axle.

4) Daniel Parkka noted fuel coming from the perforations in the rear of the fuel tank of the subject 1998 Ford Explorer as the vehicle was being lifted in the front by a tow truck. Parkka indicates the location of these perforations in his photographs.

5) It appears that there is a metal shield on the bottom of the fuel tank on the subject 1998 Ford Explorer. Inspection of the exemplar 1998 Ford Explorer revealed that there is a metal shield covering the bottom of the fuel tank. No shield was found covering the rear of the fuel tank on the exemplar Explorer.

6) Inspection of the exemplar 1998 Ford Explorer 4 x 4 revealed that the distance from the forward section of the left rear axle housing to the rear of the fuel tank is approximately 3.5 inches.

7) Distances between various suspension components and the fuel tank on the exemplar 1998 Ford Explorer varied from 1.1 inches to 14.6 inches.

8) Ford has performed rear impact crash testing with speeds up to 55 mph on prototype 1997 Ford pickups for the PN96 program. During these tests rear suspension components contacted the rear of the fuel tank and compromised the fuel tank.

9) Ford uses a polymer shield to cover the rear of the fuel tank on 1997 Ford F150 pickups to protect the fuel tank from being compromised by the rear axle assembly in a rear end collision.

10) Ford installs shields over sections of the rear axle assembly on 2003 Ford Crown Victoria Police Interceptors (CVPI) to protect the fuel tank from being compromised by the rear axle assembly in a rear end collision.

If there are any questions, please do not hesitate to contact me.

Sincerely,

VERIFACT CORPORATION

Jerry G. Wallingford, P.E.

enclosures

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