

The Department of Transportation and General Motors Corporation Settlement Agreement Fire Safety Research (Item B) - Reports and Files

The following reports and files pertaining to Fire Safety Research have been downloaded from the D.O.T. Public Docket for this agreement (NHTSA-1998-3588 / 3585).

Report Listing:

Project B.1: Analysis of Motor Vehicle Accident Data

1. Lavelle, Joseph P., Kononen, Douglas W., and Nelander, James R., “**Field Data Improvements for Fire Safety Research,**” (August 1998) Docket # NHTSA-1998-3588-29, General Motors Corporation, ESV Paper Number 98-S6-W-45.
2. Griffin, Lindsay I., “**An Assessment of the Reliability and Validity of the Information on Vehicle Fires Contained in the Fatal Accident Reporting System (FARS),**” (November 1997) Docket # NHTSA-98-3588-40, Texas Transportation Institute.
3. Griffin, Lindsay I., and Flowers, Robert J., “**An Evaluation of Fatal and Incapacitating Injuries to Drivers of Passenger Vehicles that Experienced Post-Crash Fires in North Carolina (1991-1996),**” (April 2001) Docket # NHTSA-98-3588-145, Texas Transportation Institute.
4. Griffin, Lindsay I., “**Comparisons of Crash-Involved Passenger Vehicles [Containing One or More Fatally-Injured Occupants] that Did or Did Not Experience Fires (FARS 1994-1996),**” (April 2001) Docket # NHTSA-98-3588-165, Texas Transportation Institute.
5. Griffin, Lindsay I., Davies, Becky T., and Flowers, Robert J., “**Studying Passenger Vehicle Fires with Existing Databases,**” (January 2002) Docket # NHTSA-98-3588-169, Texas Transportation Institute.
6. Davies, Becky T., and Griffin, Lindsay I., “**A Clinical Evaluation of the Death Investigations for 206 Decedents Who Died in Passenger Vehicles that Experienced Post-Crash Fires,**” (January 2002) Docket # NHTSA-98-3588-170, Texas Transportation Institute.
7. Ray, Rose and Lau, Edmund, “**Identification and Evaluation of Sources of Statistical Data on Collision and Non-Collision Fires in Passenger Vehicles,**” (November 1996) Docket # Unknown, Failure Analysis Associates.

Project B.2: Case Studies of Motor Vehicle Fires

1. Scheibe, Robert R., Shields, Leland E., and Angelos, Timothy E., “**Field Investigation of Motor Vehicle Collision-Fires,**” (1999) Docket # NHTSA-1998-3588-70, Washington State Transportation Center, SAE Paper Number 1999-01-0088.

2. Shields, Leland E., Scheibe, Robert R., and Angelos, Timothy E., “**Motor-Vehicle Collision-Fire Analysis Methods and Results,**” (November 1998) Docket # NHTSA-1998-3588-77, Washington State Transportation Center.
3. Shields, Leland E., “**Case Studies of Motor Vehicle Collision Fires,**” (April 21, 1998) Docket # NHTSA-1998-3588-98, SAE (Society of Automotive Engineers) Government/Industry Meeting, Washington, DC.
4. Shields, Leland E., Scheibe, Robert R., Angelos, Timothy E., and Mann, Robert, “**Case Studies of Motor Vehicle Fires,**” (January 2001) Docket # NHTSA-1998-3588-164, Washington State Transportation Center.

Project B.3: Fire Initiation and Propagation Tests

1. Jenson, Jack L., and Santrock, Jeffrey, “**Evaluation of Motor Vehicle Fire Initiation- and Propagation, Vehicle Crash and Fire Propagation Test Program,**” (May 1998) Docket # NHTSA-1998-3588-38, General Motors Corporation, ESV Paper Number 98-S4-O-04.
2. Jenson, Jack L., and Santrock, Jeffrey, “**Evaluation of Motor Vehicle Fire Initiation and Propagation Part 1: Vehicle Crash and Fire Propagation Test Program,**” (July 1997) Docket # Unknown, General Motors Corporation.
3. Jenson, Jack L., and Santrock, Jeffrey, “**Evaluation of Motor Vehicle Fire Initiation and Propagation Part 2: Crash Tests on a Passenger Van,**” (September 1998) Docket # NHTSA-1998-3588-30, General Motors Corporation.
4. Santrock, Jeffrey, “**Evaluation of Motor Vehicle Fire Initiation and Propagation Part 3: Propagation of an Engine Compartment Fire in a 1996 Van Passenger,**” (August 2001) Docket # NHTSA-1998-3588-119, General Motors Corporation.
5. Santrock, Jeffrey, “**Evaluation of Motor Vehicle Fire Initiation and Propagation Part 4: Propagation of an Underbody Gasoline Pool Fire in a 1996 Passenger Van,**” (January 2002) Docket # NHTSA-1998-3588-143, General Motors Corporation.
6. Jenson, Jack L., and Santrock, Jeffrey, “**Evaluation of Motor Vehicle Fire Initiation and Propagation Part 5: Crash Tests on a Rear Wheel Drive Passenger Car,**” (September 2001) Docket # NHTSA-1998-3588-131, General Motors Corporation.
7. Jenson, Jack L., and Santrock, Jeffrey, “**Evaluation of Motor Vehicle Fire Initiation and Propagation 6: Propagation of an Underbody Gasoline Pool Fire in a 1997 Rear Wheel Drive Passenger Car,**” (June 2002) Docket # NHTSA-1998-3588-158, General Motors Corporation.
8. Santrock, Jeffrey, “**Evaluation of Motor Vehicle Fire Initiation and Propagation Part 7: Propagation of an Engine Compartment Fire in a 1997 Rear Wheel Drive Passenger Car,**” (August 2002) Docket # NHTSA-1998-3588-178, General Motors Corporation.
9. Jenson, Jack L., and Santrock, Jeffrey, “**Evaluation of Motor Vehicle Fire Initiation and Propagation Part 8: Crash Tests on a Sport-Utility-Vehicle,**” (January 2002) Docket # NHTSA-1998-3588-139, General Motors Corporation.

10. Santrock, Jeffrey, **“Evaluation of Motor Vehicle Fire Initiation and Propagation Part 9: Propagation of a Rear-Underbody Gasoline Pool Fire in a 1998 Sport Utility Vehicle,”** (May 2002) Docket # NHTSA-1998-3588-188, General Motors Corporation.
11. Santrock, Jeffrey, **“Evaluation of Motor Vehicle Fire Initiation and Propagation Part 10: Propagation of a Mid-Underbody Gasoline Pool Fire in a 1998 Sport Utility Vehicle,”** (May 2002) Docket # NHTSA-1998-3588-189, General Motors Corporation.
12. Jenson, Jack L., and Santrock, Jeffrey, **“Evaluation of Motor Vehicle Fire Initiation and Propagation Part 11: Crash Tests on a Front-Wheel Drive Passenger Vehicle,”** (August 2002) Docket # NHTSA-1998-3588-179, General Motors Corporation.
13. “Crash Test Videos of 13 Tests,” General Motors Corporation
14. Ohlemiller, T.J., **“An Overview of Fire Test Research Results on Certain Automotive Components,”** (December 2001) Docket # NHTSA-1998-3585-542, National Institute of Standards and Technology. - Also applies to B.4 and B.10

Project B.4: Evaluation of Potential Fire Intervention Materials and Technologies

1. Hamins, Anthony, **“Evaluation of Intumescent Body Panel Coatings in Simulated Post-Accident Vehicle Fires”** (August 1998) Docket # NHTSA-1998-3588-24, National Institute of Standards and Technology.
2. Hamins, Anthony, **“Evaluation of Active Suppression in Simulated Post-Collision Vehicle Fires”** (November 2000) Docket # NHTSA-1998-3588-132, National Institute of Standards and Technology.
3. Ohlemiller, T. J., **“An Overview of Fire Test Results On Certain Automotive Components,”** (December 2001) Docket # NHTSA-1998-3585-542, National Institute of Standards and Technology. - Also applies to B.3 and B.10

Project B.5: Development of Crash Test Protocols

1. **“Information About the Five Rear-Impact Crash Test Films Can Be Obtained From Heidi L. Coleman, NHTSA - Office of Chief Counsel (202) 366-1834,”** Docket # NHTSA-1998-3588-52.
2. Eichbrecht, Paul T., **“Crash Test Protocol Development for Fuel System Integrity Assessment,”** (December 1999) Docket # NHTSA-1998-3588-72, General Motors Corporation.
3. CD ROM containing raw crash data for five rear-impact research crash tests conducted by GM under this project was submitted to NHTSA on April 1, 1999.

Project B.6: Analyses of Failure Modes and Effects for Alternatively Fueled Vehicles

1. **“Failure Modes and Effects Analysis of Compressed Natural Gas Fuel Systems for Cars and Trucks,”** (August 1998) Docket # NHTSA-1998-3588-28, Exponent/Failure Analysis Associates.

Project B.7: Development of Criteria and Methodologies for In-Service Inspections of Gaseous Fuel Pressure Vessels

1. **“Development of Inspection Technology for NGV Fuel Tanks,”** (September 1997) Docket # NHTSA-1998-3588-13, Exponent/Failure Analysis Associates.
2. **“Development of Inspection Technology for NGV Fuel Tanks - Revision,”** (September 1998) Docket # NHTSA-1998-3588-57, Exponent/Failure Analysis Associates.

Project B.8: Search of Scientific Literature

1. Wichman, Indrek S., **“A Review of the Literature of Material Flammability, Combustion and Toxicity Related to Transportation,”** (January 2002) Docket # NHTSA-1998-3588-142, Michigan State University.

Project B.9: Inspection of Aging Vehicles and Testing of Components

1. Miller, Michael A., Brown, Robert D., Page, Richard A., and Orvis A. Leigh, **“Inspection of Aging Vehicles and Testing of Components,”** (September 2001) Docket # NHTSA-1998-3588-177, Southwest Research Institute.

Project B.10: Study of Flammability of Materials

1. Ohlemiller, Thomas J., and Shields, John R., **“Burning Behavior of Selected Automotive Parts from a Minivan,”** (September 1998) Docket # NHTSA-1998-3588-26, National Institute of Standards and Technology.
2. Abu-Isa, Ismat A., Cummings, David R., and LaDue, Douglas E., **“Thermal Properties and Flammability Behavior of Automotive Polymers,”** (May 1998) Docket # NHTSA-1998-3588-62, General Motors Corporation, ESV Paper Number 98-54-P-17.
3. Abu-Isa, Ismat A., **“Thermal Properties of Automotive Polymers II – Thermal Conductivity of Parts Selected From A Dodge Caravan,”** (March 1999) Docket # NHTSA-1998-3588-39, General Motors Corporation.
4. Abu-Isa, Ismat A., and Jodeh, Shehdeh, **“Thermal Properties of Automotive Polymers III – Thermal Characteristics And Flammability of Fire Retardant Polymers,”** (March 1999) Docket # NHTSA-1998-3588-84, General Motors Corporation.
5. Abu-Isa, Ismat A., Jodeh, Shehdeh, and LaDue, Douglas E., **“Thermal Properties of Automotive Polymers IV – Thermal Gravimetric Analysis and Differential Scanning**

- Calorimetry of Selected Parts from a Chevrolet Camaro,”** (April 2001) Docket # NHTSA-1998-3588-104, Delphi Central R&D.
6. Abu-Isa, Ismat A., and Jodeh, Shehdeh, **“Thermal Properties of Automotive Polymers V – Flammability Test for Fire Retardant Polymers,”** (September 2001) Docket # NHTSA-1998-3588-130, Delphi Central R&D.
 7. Tewarson, Archibald, **“A Study of the Flammability of Plastics in Vehicle Components and Parts,”** (October 1997) Docket # NHTSA-1998-3588-1, Factory Mutual Research.
 8. Tewarson, Archibald, **“Characterization of the Ignition Behavior of Polymers Commonly Used In the Automotive Industry,”** (December 1999) Docket # NHTSA-1998-3588-71, Factory Mutual Research, Sixth International Symposium on Fire Safety Science, July 5-9, 1999.
 9. Ohlemiller, Thomas J., and Shields, John R., **“Burning Behavior of Selected Automotive Parts from a Sports Coupe,”** (April 2001) Docket # NHTSA-1998-3588-138, National Institute of Standards and Technology.
 10. Santrock, Jeffrey, Tewarson, Archibald, and Wu, Peter, **“Flammability Testing of Automotive Heating Ventilation and Air Conditioning Modules Made from Polymers Containing Flame Retardant Chemicals,”** (August 2002) Docket # NHTSA-1998-3588-180, General Motors Corporation.
 11. Santrock, Jeffrey, **“Identification of the Base Polymers in Selected Components and Parts from a 1997 Chevrolet Camaro by Pyrolysis / Gas Chromatography / Mass Spectroscopy,”** (August 2002) Docket # NHTSA-1998-3588-181, General Motors Corporation.
 12. Santrock, Jeffrey, **“Identification of the Base Polymers in Selected Components and Parts from a 1997 Ford Explorer by Pyrolysis / Gas Chromatography / Mass Spectroscopy and Attenuated Total Reflectance / Fourier Transform Infrared Spectroscopy,”** (August 2002) Docket # NHTSA-1998-3588-182, General Motors Corporation.
 13. Santrock, Jeffrey, **“Determination of Mol-% Ethylene in Propylene / Ethylene Copolymer Samples by Pyrolysis / Gas Chromatography / Mass Spectroscopy Analysis,”** (August 2002) Docket # NHTSA-1998-3588-183, General Motors Corporation.
 14. Ohlemiller, T. J., **“An Overview of Fire Test Results On Certain Automotive Components,”** (December 2001) Docket # NHTSA-1998-3585-542, National Institute of Standards and Technology. - Also applies to B.3 and B.4
 15. Silvus, H. S., and White, Robert E., **“Inductances of Automotive Electromagnetic Devices,”** (March 2002) Docket # NHTSA-1998-3585-544, Southwest Research Institute, SAE Paper #2002-01-0143.

B.11: Study of Component Influence on Vehicle Fires

1. Heydinger, Gary J., Andreatta, Dale A., and Bixel, Ronald A., **“ORVR Vapor Canister Testing and Evaluation,”** (March 2000) Docket # NHTSA-1998-3588-86, S.E.A. Inc.
2. Heydinger, Gary J., Andreatta, Dale A., and Bixel, Ronald A., **“ORVR Vapor Canister Testing and Evaluation - Revision,”** (November 2000) Docket # NHTSA-1998-3588-91, S.E.A. Inc.
3. Andreatta, Dale A., Heydinger, Gary J., Bixel, Ronald A., Park, Joonhong, and Jorgensen, Scott W., **“Evaluation of the Ignition Hazard Posed by Onboard Refueling Vapor Recovery Canisters,”** (August 2002) Docket # NHTSA-1998-3588-176, SAE Paper Number 2001-01-0731.

Project B.12: Development of NASS Electronic Imaging System

This project was canceled under the settlement agreement between GM and DOT.

Project B.13: Development of Technical Information for Dissemination to First Responders

There has been no reported progress on this item.

Project B.14: Demonstration of Enhanced Fire Safety Technology

1. Santrock, Jeffrey, “Part 1: Full Scale Vehicle Fire Tests of a Control Vehicle and a Test Vehicle Containing an HVAC Module Made from Polymers Containing Flame Retardant Chemicals,” (June 2002) Docket # # NHTSA-1998-3588-190, General Motors Corporation..

Project B.15: Theoretical and Experimental Study of Thermal Barriers Separating Automobile Engine and Passenger Compartments

1. Ierardi, James A., Pehrson, Ricjard D., and Barnett, Jonathan R., **“Applications of the Finite Volume Radiation Model to Predict Fire Behavior in Occupied Spaces,”** (March 1999) Docket # NHTSA-1998-3588-36, Worcester Polytechnic Institute.
2. Wichman, Indrek S., Beck, James V., Oladipo, A. Bukola, McMasters, Robert L., and Little, Erica, **“Theoretical and Experimental Study of Thermal Barriers Separating Automobile Engine and Passenger Compartments,”** (April 2001) Docket # NHTSA-1998-3588-105, Michigan