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F. Other Standard-Setting Organizations

1. Federal Agencies
 - a. GSA Final Rule (Fed. Std. No. 515/26: requirements for fuel tanks & tank filler pipes in automotive vehicles in the Federal fleet), 31 FR 9628, 7/15/66
 - b. Department of Defense, Military Specification: Tanks, Fuel, Engine -- General Requirements For, 8/6/71
 - c. FHWA, Bureau of Motor Carrier Safety, 1970 Analysis of Accident Reports, 3/72
 - d. FHWA, Bureau of Motor Carrier Safety, Final Rule (certification of fuel tanks in commercial vehicles), 37 FR 28752, 12/29/72
 - e. FHWA, Bureau of Motor Carrier Safety, Docket Closing Not. (i.e., termination of rulemaking) (plastic fuel tank requirements for commercial vehicles), 38 FR 12133, 5/9/73
2. Independent (Nongovernmental) Standards
 - a. Underwriters Laboratories, Standard for Safety: Automotive Fuel Tanks, UL 395, 3rd ed., 5/73
 - b. NASCAR Vehicle Standards & Specifications, rev. 1/1/74
 - c. Am. Gas Ass'n, Reqs for Natural Gas Vehicle (CNG) Conversion Kits, No. 1-85, 8/20/85
 - d. NFPA Std. 52, CNG Vehicular Fuel Systems (1989 ed.), pp. 52-7 to 52-12
 - e. NFPA Std. 58, Storage & Handling of LPG (1989 ed.), pp. 58-38 to 58-43, 58-77 to 58-78
 - f. SAE, Passenger Car & Light Truck Fuel Containment, SAE J1664, 1/94
 - g. SAE, Fuel Systems, Truck and Truck Tractors, SAE J703, 6/95
 - h. SAE, Fixed Rigid Barrier Collision Tests, SAE J850, 11/88

3. Foreign Standards
 - a. Canadian Government Specifications Board, Standard for Fuel Tanks & Tank Filler-Pipes for Automotive Vehicles, Automotive Vehicle Safety Code No. 97-GP-25, First Draft, 6/68
 - b. Canadian Government Specifications Board, Standard for Fuel Tanks, Fuel Tank Filler Pipes, & Fuel Tank Connections - Passenger Cars, Standard No. 97-GP-301, 5/68
 - c. Japan Diet, Article 15 (Fuel Systems)
 - d. Japanese Ministry of Transport, Technical Standard for Fuel Leakage in Collisions (11-4-5)
 - e. ECE Regulation No. 34 (Prevention of Fire Risks)
 - f. ECE Regulation No. 58 (Rear Underrun Protection)
 - g. J. Liu, NHTSA, Comparison of U.S. & Foreign Fuel System Safety Requirements (draft), 10/92

G. Congressional Materials

1. Statement of Arjay Miller, President, Ford Motor Co., in Hearings Before the Subcomm. on Exec. Reorg. of the Senate Comm. on Governmental Operations, Federal Role in Traffic Safety, 7/13/65
2. Statement of M. Nahum & A. Siegel, UCLA, in Hearings Before the Senate Commerce Comm., 4/25/68
3. Testimony of Dr. William Haddon, Jr., M.D., President, Insurance Institute for Highway Safety, in Hearings Before the Subcomm. on Commerce & Finance of the House Comm. on Interstate & Foreign Commerce, Amendments to the National Traffic & Motor Vehicle Safety Act of 1966, 5/29/73; (including Summary of Results: 1973 Moderate Speed Front-Into-Rear Crash Tests, & subsequent correspondence received for the record)
4. Statement of Sen. Montoya Introducing S. 2900 (bill to require NHTSA to accelerate upgrades to the fuel system integrity requirements), Cong. Rec. S477, 1/28/74

H. National Transportation Safety Board

1. Highway Accident Report: Schoolbus/Automobile Collision and Fire, Near Reston, Virginia, February 29, 1972, NTSB-HR-72-2, 4/12/72
2. Comments on Loading & 30-Minute Spillage Period for Schoolbuses with GVWR>10,000#, 7/2/75 (item located at E16m)
3. Comments on Non-Metallic Fuel Tanks, 2/2/82 (item located at E20r)
4. T.J. Feaheny, Available Technology to Reduce Automotive Fuel Fed Tragedies, and Supplement, 8/2/88
5. T.J. Feaheny, Petition for Reconsideration, NTSB Report No. NTSB/HAR-89/01, 6/22/89
6. Highway Accident Report: Pickup Truck/Chruch Activity Bus Head-On Collision and Fire Near Carrollton, Kentucky, May 14, 1988, 3/28/89
7. Comments on Bus Fuel System Integrity, 7/11/89 (item located at E24m)

I. Center for Auto Safety Defect Investigation Requests

1. Petition to amend and upgrade FMVSS 301 (limit fuel spillage), 7/3/72
2. Letter supplementing 7/3/72 petition with selected attachments, 10/3/72
3. 1971-73 Ford Pinto/Chevrolet Vega fuel tanks with selected attachments, 4/9/74
4. 1970-74 Chrysler mid and full-size vehicles fuel tanks with selected attachments, 11/21/75; NHTSA response, 12/10/75; Letter supplementing 11/21/75 petition, 12/17/75; Letter supplementing 11/21/75 petition (includes information regarding ODI investigation #C4-59 involving 1970-72 Volkswagens with Bosch fuel injectors), 1/27/76; NHTSA response, 3/26/76
5. Letter to NHTSA on Ford Pinto gas tanks and *Mother Jones* article with selected attachments, 8/23/77; NHTSA response, 10/12/77
6. Comments on NHTSA's five year plan for motor vehicle safety and fuel economy rulemaking, 6/13/78
7. Letter to NHTSA regarding attorney correspondence, 8/24/78; NHTSA response, 9/1/78; 1970-77 Ford Maverick/Mercury Bobcat fuel integrity and supplement to 8/24/78 letter, 9/26/78; NHTSA response, 10/24/78
8. Cadillac fuel injection defect, 2/19/81; NHTSA response, 3/2/81
9. 1975-80 AMC Pacers gas tank rusting/corrosion and fuel leakage, 12/9/82

10. GM X-cars gas pedal/dashboard area fires, 2/4/83
11. Chrysler K Cars carburetor/engine compartment fires, 6/10/83; NHTSA response, 8/8/83; Letter supplementing 6/10/83 petition, 9/20/84; Letter supplementing 6/10/83 petition and 9/20/84 letter, 10/22/84; NHTSA response, 11/2/84
12. 1983 GM A-Cars with 2.5 liter L4 engines (EFI), 7/20/84; NHTSA response, 11/5/84; Letter supplementing 7/20/84 letter, 11/6/84; NHTSA response, 12/7/84
13. 1984 Ford Escort with attachment, 11/16/84; NHTSA response, 12/13/84; Letter to NHTSA reporting additional fires in 1984-86 Ford Escort/Ford EXP/Mercury Lynx, 6/21/86; NHTSA response, 3/16/87; CAS reply, 3/27/87; NHTSA reply, 4/13/87
14. 1985 GM vehicles with 2.8 liter V6 engine (MFI), 2/26/85; 1985 Pontiac Fiero information supplementing 2/26/85 letter, 7/2/86
15. Pre-1982 Chevrolet Camaro/Pontiac Firebird cracking of the fuel filler neck, 3/21/85; 1975-81 Chevrolet Camaro/Pontiac Firebird, 6/13/85; NHTSA response, 11/27/85
16. Letter to NHTSA regarding public notification of Recall 85V-042 (1985 Chevrolet Cavaliers for engine fires), 5/14/85; NHTSA response, 6/5/85
17. 1985 Coachman Mini-Motor Homes, 7/9/85; NHTSA response, 8/20/85
18. Letter to NHTSA regarding public notification of compliance test failure of 1985 Subaru XT Coupe, 12/16/85; NHTSA response, 12/27/85
19. 1985 Buick Skyhawk (GM J-Cars) engine fires, 2/3/86
20. 1983 Buick Park Avenue (GM C-Cars) engine fires, 5/23/86
21. School buses equipped with 1984 GMC chassis and 1984 Carpenter body, 7/21/86
22. 1984-86 Ford E-350 dual gas tank vans and cutaway chassis modified for use as ambulances, 1/5/87; Letter to NHTSA with further fire reports, 4/8/87; NHTSA response, 4/29/87; 1983-87 Ford E-350 ambulances petition, 5/10/88 and press release, 5/16/88; NHTSA response to 5/10/88 petition with attachment, 11/16/88; CAS further petition, 7/1/88; NHTSA response, 8/18/88
23. 1986 Ford Rangers/Bronco II with fuel-injected 2.9 liter engines, 1/29/87; Additional information submitted concerning 1987 F-150 and 1986-87 Ford Taurus/Mercury Sable, 4/15/87
24. 1984 Pontiac Fieros, 7/17/87; NHTSA response, 8/18/87
25. 1980-88 Ford full-size, rear-wheel-drive vehicles, 12/10/88; NHTSA response, 12/22/88
26. 1983-88 Ford F-series pickup trucks and cutaway chassis with dual fuel tanks, 1/24/89; NHTSA response with attachment, 8/1/89
27. 1986-87 Ford Tempo/Mercury Topaz Omission From Recall 87V-139, 9/11/90 and 2/26/91
28. Letter to NHTSA on 1990 Pontiac Grand Prix Turbo and *Brake and Front End* article with attachment, 4/3/91
29. 1985 Coachman Motorhomes gasoline leaks onto exhaust pipe with attachments, 4/1/92
30. Letter to NHTSA regarding rupture of Chrysler minivan fuel tanks from road debris with attachments, 12/2/94; NHTSA response, 12/22/94

J. Technical Materials

1. General Design/System Approach

- a. S. Robertson, G. Walhout, Aviation Safety Eng. & Research, Crashworthy Fuel System Design, Automobile Competition Committee for the US, FIA, 5/66
- b. Fairchild Hiller, Feasibility Study of New York State Safety Car Program, Final Report, NTIS PB 173 313, 8/66
- c. S. Robertson, New Look at Fuel System Design Criteria, SAE Paper No. 660794, 10th Stapp Car Crash Conf., 11/66
- d. Fairchild Hiller, Investigation of Motor Vehicle Performance Standards for Fuel Tank Protection: Phase I Final Report NTIS PB 177 690, 9/67
- e. F. Malschaert, State of the Art of Safety in Design--Continental Practice, Paper No. 12, Proc. Inst. Mech. Engrs. 1968-69, Vol. 183, Pt. 3A, 7/68 (excerpt)
- f. American Machine & Foundry Company, Final Report, Phase I, Experimental Safety Car Study, HS 800 092, 8/68
- g. D. Severy et al., Vehicle Design for Passenger Protection from High-Speed Rear-End Collisions, SAE Paper No. 680774, 1968

- h. Fairchild Hiller, Fuel Tank Protection HS 800 227, 6/69 Missing pages 8-2 to end
 - i. A. Siegel, A. Nahum, State-of-the-Art Vehicle Postcollision Considerations, SAE Paper No. 700435, 5/70
 - j. L. Locati, State-of-the-Art Vehicle Post-Crash Considerations, SAE Paper No. 700436, 5/70
 - k. N. Johnson, Dynamic Science, An Assessment of Automotive Fuel System Fire Hazards: Summary Report, HS 800 623, 12/71
 - l. N. Johnson, Dynamic Science, An Assessment of Automotive Fuel System Fire Hazards, HS 800 624, 12/71
 - m. D. Burland, NHTSA, Occupant Protection in Rear Impact ESV, 6/74
 - n. G.H. Alexander, NHTSA, An Evaluation of The U.S. Family Sedan ESV Project HS 322-3-621, 10/74
 - o. C. Chan et al., University of California Berkeley, Design of a Fire Proof Vehicle, NTIS PB 246 740, 7/75
 - p. T. Okamoto et al., Nissan Motor Co., Ltd., Rear-End Crash Characteristics & Fuel System Safety, SAE Paper No. 770815, 9/77
 - q. W. Fan, E. Jettner, NHTSA, Light Vehicle Occupant Protection--Top & Rear Structures & Interiors, SAE Paper No. 820244, 1982
2. Crash Test/Compliance Test Analysis
- a. D. Severy et al., Collision Performance, LM Safety Car, SAE Paper No. 670458, 5/67
 - b. A. Brayman, Cornell Aeronautical Lab., Impact Intrusion Characteristics of Fuel Systems, HS 800 296, 4/70
 - c. IIHS, A Film About . . . Cars That Crash & Burn (brochure describing film), 5/74
 - d. H. Scheuerman, R. Young, FAA, National Aviation Facilities Experimentation Center, Automotive Rear End Collision Tests, HS 801 163, 9/74
 - e. GM, Evaluating Fuel-System Crashworthiness, Automotive Engineering, 4/77
 - f. NHTSA, FMVSS 301 Crash Test Vehicles, 1981
 - g. NHTSA, Summary of FMVSS 301 Compliance Test Results, 1968 to 1992 (10,000#, GVWR Vehicles), 12/92
 - h. NHTSA, memorandum summarizing six baseline vehicle crash tests conducted by Calspan, 10/15/93
 - i. A.K. Prasad, NHTSA Vehicle Research & Test Center, Investigating Fuel Leaks in Frontal Collisions, A Survey of Crashed Test Vehicles 6/12/97
3. Failure Mode Analysis/Accident Investigation
- a. S. Robinson, Observations on Fire in Automobile Accidents, Cornell Aeronautical Lab., Report No. VJ-1823-R14, 2/65
 - b. L. Locati, E. Franchini, Fiat, Car Crash-Fire Investigation, ATA (Giornale ed Atti dell Assoc. Tecn. dell Automobile), 9/66
 - c. J. Collins, J. Morris, Highway Collision Analysis, Fire Damage, pp. 206-12, 1967
 - d. University of Rochester, Research Accident Investigation Case No. 51-53, NTIS PB 190 326, 5/69
 - e. D. Severy et al., Postcrash Fire Studies Show Need for Rear-Seat Fire Wall & Rupture-Proof Fuel Tank, 77 SAE Journal 18-24, 7/69
 - f. R. Vaughan, New South Wales (Australia) Dept. of Motor Transport, Fire in Road Accidents, 1/70
 - g. D. Severy et al., Automotive Collision Fires, SAE Paper No. 741180, 18th Stapp Car Crash Conf., 12/74
 - h. J. Habberstad, J. Collins, Investigation of Collision-Related Vehicle Fires, in Highway Collision Reconstruction, ASME, pp. 1-14, 1980
4. Statistical Analysis
- a. B. Campbell, J. Kihlberg, Automobile Fire in Connection With an Accident, ACIR Bulletin No.6, 2/64
 - b. J. Garrett, A. Stern, Study of Volkswagen Accidents in the United States, J. Safety Res. 115-126, 9/69
 - c. J. Moore, D. Negri, New York State Department of Motor Vehicles, Fire as a Factor in Motor Vehicle Accidents in New York State, March & September 1968, 9/69
 - d. J. Austin, F. Wagner, A Statistical Study of Post-Crash Phenomena in Automobile Accidents, Proc. 18th Conf. Am. Ass'n of Automotive Medicine 89-103, 1974
 - e. P. Cooley, U. of Michigan, HSRI, Fire In Motor Vehicle Accidents, UM-HSRI-SA-74-3, 4/74

- f. E. Trisko, R.R. Nathan Assos., Results of the 1973 National Survey of Motor Vehicle Fires, Fire Journal 3/75
 - g. Letters from W. Scott, National Center for Statistics & Analysis, Pinto Fires, 8/77 & 9/77
 - h. A. Malliaris, Impact-Induced Car Fires--A Comprehensive Investigation, 23 Accident Analysis & Prevention 257-273, 1991
 - i. S. Partyka, NHTSA, Fires and Burns in Towed Light Passenger Vehicle Crashes, 7/21/92; Origin of Fire in Towed Light Vehicle Crashes (draft), 10/92
 - j. NHTSA, 1991 NASS Data: Fatal Crashes Involving Light Vehicle Fires (Portions withheld.)
 - k. J. Tessmer, NHTSA, Analysis of Fires in Passenger Cars, Light Trucks, & Vans, HS 808 208, 12/94
 - l. J. Hall, Jr., National Fire Protection Ass n, U.S. Vehicle Fire Trends & Patterns Through 1994, (excerpted) 4/97
5. Ignition Sources
- a. C. Gatlin, N. Johnson, Dynamic Science, Prevention of Electrical Systems Ignition of Automotive Crash Fire, HS 800 392, 3/70
 - b. N. Johnson, S. Sanderson, Ultrasystems, Spilled Fuel Ignition Sources & Countermeasures, HS 801 722, 9/75
 - c. Ultrasystems, Spilled Fuel Ignition Sources & Countermeasures: Summary Report, HS 801 744, 9/75
6. Tank Location
- a. K. Arima et al., Toyota Motor Co., Ltd., Rear Body Construction of Sub-Compacts & Fuel System Integrity in Rear End Collisions, SAE Paper No. 770171, 3/77
7. Tank Environment
- a. B. Bloch, Ford Pinto Hazards, Chevrolet Vega & Chevette Hazards, & the Need to Upgrade FMVSS 301, 8/78
 - b. Hare, Wynn, Newell, & Newton, Analysis of the Hazard of the Pinto Fuel System, 10/78
8. Shutoff Valves/Inertia Switches
- a. Inertia Switch, Ltd., Comments to Doc. 70-20, Not. 1, 4/71 & 3/72
 - b. J. Forbat, Inertia Switches Limited, Vibration Tests on Inertial Switch 3566, 5/71
 - c. Inertia Switch, Ltd., Automobile Safety, Security, Servicing Features
 - d. E. DeVita, Iniezioni a Rischio (The Risks of Fuel Injection), Quattroruote, 3/92
9. Fuel Lines
- a. W. Gabella, W. Young, U.S. Army Agency for Aviation Safety, Summary of U.S. Army Crashworthy Fuel Systems Accident Experience, 1970-1973, System Safety Newsletter, Vol. 2, No. 3, pp. 4-5, 1973
 - b. Letter from E. Horkey, Horkey & Associates, re: Automobile Fires from Failure of Flexible Hoses Ahead of the Carburetor, 5/82
10. Fuel Tank - General or Metal
- a. Which Way For the Fuel Tank? Modern Plastics, Vol. 43, 6/66
 - b. G. Putnam, Explosion Proof Fuel Tanks, Fleet Owner, 12/67
 - c. W. McDonald, New Energy-Absorbing Materials for Crash-Resistant Fuel Tanks, SAE Paper No. 680210, 4/68
 - d. J. Ridenour et al. A Study of Automobile Fuel Tanks, General Motors Corp. Automotive Safety Seminar Paper No. 32, 7/68
 - e. Safom Proposal: M. Yancey, R. Headrick, Firestone Coated Fabrics Co., Motor Vehicle Tanks: Federal Motor Vehicle Safety Standard No. 301, Report No. 1878, 3/68 (item located at E7L)
 - f. Safety Tank Designed for the Family Car, 43 Machine Design, p. 8, 10/71
 - g. United States Steel, Automotive Industry Marketing, The No-Emission Safety Fuel Tank, 7/72
 - h. Montecatini Edison S.p.A., Informazioni Tecniche: FLUOBRENE ; N. Rainaldi, Montecatini Edison S.p.A., Advance Report on Halon 2402, 5/69; Letter from D. Black, Alfa Romeo, re: Autodelta Tank Details, 7/73
 - i. D. Allen, Alsafte Proposal, 1976
 - j. C. Chiti, S. Garbarino, Alfa Romeo, Automotive Fuel Fed Fire--A Preventative Approach, SAE Paper

No. 770170, 3/77

- k. Explosafe Anti-Explosion Fuel Tank System Information, 1975-78; How Thin Foil Can Prevent an Inferno, Chicago Tribune, 8/23/78; Excess-Explo EPM Inc. Press Release, 12/12/97

11. Plastic Fuel Tank

- a. Phillips Petroleum Co., Technical Information on Marlex High Density Polyethylene for Fuel Tank Applications, 1968 (item located at E7n)
- b. A. Dyer, Phillips Petroleum Co., Polyethylene Fuel Tanks, Fire Journal, 11/68 (item located at E7n)
- c. R. Martinovich et al, Phillips Petroleum Co., A Study of the Permeation Characteristics of Blow Moulded High Density Polyethylene Automotive Fuel Tanks, 5/68 (item located at E7n)
- d. Phillips Petroleum Co., Super Tanks Through Marlex Resins: A Look at the Un-Metal Passenger Car Fuel Tank, 1968
- e. How Safe Are Plastics Fuel Tanks? Modern Plastics, Vol. 47, 1/70
- f. H. Hablitzel, The Plastic Fuel Tank for the VW Passat, SAE Paper No. 740289, 3/74 (item located at E23f)
- g. The Fuel Tank of the Future--Like Tomorrow, Not 10 Years From Now, Modern Plastics, Vol. 54, 4/77
- h. N. Bondy, NCSA, The Incidence of Fire in Plastic Fuel Tank Vehicles, in HS 806 335, 4/81
- i. W. Becker et al., Testing the Fire Behaviour of Plastic Fuel Tanks, Fire Prevention Science Technology, No. 21, 5/3/89 (item located at E20e)
- j. NHTSA, NCSA Technical Reports, The Incidence of Fire in Fatal Crash Involved Vehicles Equipped With Steel or Plastic Fuel Tanks ; The Incidence of Fire in Crash-Involved Vehicles Equipped With Steel or Plastic Fuel Tanks: State Data Analysis, 8/90

12. Patents

- a. Listing by Subject of Major Fuel System Integrity Patents; Fuel Tank Bladders & Liners, Fire Prevention & Filled , Location & Installation, Structural Integrity & Impact Resistance, Inertial or Rollover-Responsive Switches & Fuel Line Valves, Hoses & Sleeves, Caps, Necks, Fittings, Devices
- b. Chronological listing of patents with abstract

13. Injury Analysis

- a. B. King et al., Motor Vehicle Accidents & Burns: An Epidemiological Study of Motor Vehicle Fires & Their Victims, Proc. 16th Conf. Am. Ass n of Automotive Medicine 34-43, 1972
- b. D. Severy et al., Mechanisms of Injury From Crash Fires, Proc. 19th Conf. Am. Ass n of Automotive Medicine 312-331, 1975
- c. S. Pegg, T. Mayze, Burn Injuries Associated With Road Trauma, Aust. & N.Z. J. of Surgery 593-96, 12/80

14. Regulatory Programs & Effectiveness

- a. National Commission on Fire Prevention & Control, America Burning, 1973
- b. National Fire Protection Ass n, Transportation Fire Hazards, (excerpted) 4/73
- c. U. Seiffert, A. Ensslen, VW AG, Possible Effects of FMVSS 301 on Motor Vehicle Development & Design, SAE Paper No. 770172, 3/77
- d. Center for the Environment & Man, Final Design & Implementation Plan for Evaluating the Effectiveness of FMVSS 301: Fuel System Integrity, HS 802 347, 5/77
- e. J. Flora, Jr., J. O Day, U. of Michigan HSRI, Estimate of the Effect of FMVSS 301--Fuel System Integrity, Accident Analysis & Prevention 117-132, 1981
- f. D. Reinfurt, Highway Safety Research Center, Statistical Evaluation of the Effectiveness of FMVSS 301: Fuel System Integrity, (Appendices Omitted) HS 805 969, 6/81
- g. J. Flora, Jr., J. O Day, U. of Michigan HSRI, Evaluation of FMVSS 301--Fuel System Integrity--Using Police Accident Data, (Appendices Omitted) HS 806 362, 3/82
- h. D. Reinfurt, U. of N. Carolina HSRC, Statistical Evaluation of the Effectiveness of the 1976 Version of FMVSS 301: Fuel System Integrity, (Appendices Omitted) HS 806 365, 11/82
- i. G. Parsons, NHTSA, Evaluation of Federal Motor Vehicle Safety Standard 301-75, Fuel System Integrity: Passenger Cars, (Appendices Omitted) HS 806 335, 1/83
- j. Automobile Fires in Traffic Crashes, UMTRI Research Review, May/June 1983

- k. C. Warner et al., Collision Safety Engineering, Perspective on Automobile Crash Fires, SAE Paper No. 850092, 1985
 - l. G. Parsons, NHTSA, Motor Vehicle Fires in Traffic Crashes & the Effects of the Fuel System Integrity Standard, HS 807 675, 11/90
15. Alternate Fuels
- a. E. Enserink, Dynamic Science, Dual-Fuel Motor Vehicle Safety Impact Testing, HS 800 622, 11/71 (excerpt)
 - b. J. Cowan, Jr., Crown Coach, Design & Production of a Methanol-Fueled School Bus, SAE Paper No. 902223, 11/90 (item located at E26a)

K. Manufacturer Internal Documents

1. AMC / Chrysler

- a. R. T. Stebelton, Chrysler, Conventional Cab Frame Mounted Fuel Tank -- Concept Study, 7/22/66
- b. H. L. Hanson, Twelfth Stapp Car Crash Conference -- Summary of Events, AMC Auto Safety Office (discusses UCLA Fuel Tank Crash Tests), 10/28/68
- c. H. R. Turtle to R. A. Petersen, Fuel Tank Integrity -- 20 and 30 MPH Fixed Barrier Rear Crashes Per Docket 70-20; Not. No. 1, 2/11/71
- d. J. A. Seidl to A. R. Ebi, 7410 Fuel Tank Location, 2/15/71

2. Ford Materials

- a. F. Capalbo, Ford, Intra Company Crash Test List, 6/10/68
- b. A. Mancini, Ford, Fuel Tank Proposals (30 MPH Safety Std.) 2/9/71
- c. Ford Product Review Meeting, Fuel System Integrity Program -- Financial Review, 4/22/71
- d. J. A. Capolongo, T. J. Feaheny, Corporate Fuel System Integrity Objectives, 4/26/71
- e. E. Grush, C. Saunby, Ford, Fatalities Associated With Crash Induced Fuel Leakage & Fires, (Ford Cost Benefit Analysis) 1972
- f. Fuel Systems, Design Analysis of 1975 Corvette Bladder Type Fuel Tank, 12/11/74
- g. T.J. Feaheny, Letter to NHTSA Administrator Steed with Draft Chapter of Book on Fuel Systems Policy Development at Ford, 8/26/87
- h. Collision & Non-Collision Fire Potential Campaign Prevention Report, 3/4/88
- i. Memorandum re: getting rid of plastic fuel line connectors, 5/15/86
- j. Fuel Line Check Valves, 2/29/88
- k. 1986-87 Car/Light Truck Fuel Line Disconnect Issues, 8/21/87

3. General Motors

- a. Design Direction 8-A (DD-8-A), Internal Fuel Tank Integrity of 30-MPH Fixed Front Barrier, 30-MPH Side and 30-MPH Rear Moving Barriers for 1971 Model Year, 8/69
- b. James E. Steger to Frank W. Allen, Summarizing Development of 30-30-30 DD-8-A, 2/14/72
- c. James Steger, Detailed Chronology of Development of GM Fuel System Integrity Standards or Objectives Through 1972, 2/15/72
- d. R. Elwell et al., Abstract of (Thou Shall Not Die By Fire) Presentation to GM VP for Engineering Frank Winchell, 3/72
- e. Correspondence between GM & DOT Authenticating & Publicly Releasing Items c. & d. above, 3/93-6/93
- f. E. Ivey, GM, Value Analysis of Auto Fuel Fed Fire Related Fatalities, (GM Cost Benefit Analysis) 6/29/73
- g. General Technical Committee, Rear Moving Barrier & Car to Car Impact Testing, Meeting Materials, 4/16/79
- h. Fuel System Coordination Meeting, Agenda & Materials, 7/10/79
- i. History of Car to Car Impact Testing, 2/78-5/80
- j. Corporate Product Performance Objectives 8A-1-82 (CPPO-8A-1-82), 50-MPH Side & 50-MPH Rear Car-to-Car Crash, Approved 3/82 & Revised 2/91
- k. J.H. Harlow, GM, Memorandum re: Nylon Lines and Anti-syphon Provisions with related documents, 1/21/88

1. J. Pierce, GM Motorsports Technology Group, Fuel System Regulations by Various Racing Organizations, 12/21/94

L. NHTSA Investigations

1. IR/PE/EA Fuel Tank Investigations
 - a. Index of IR/PE/EA Investigations, 1972-1999
 - b. Closing Resumes
2. NCIs (FMVSS 301 testing) 1992-98
 - a. Index of NCI s (1991-1998)
 - b. Closing Resumes

M. Recalls

N. Bibliography