Motor Vehicle Fire Research Institute
Awarded Contracts

Title: Survey of the State-Of-The-Art in Fuel System Fire Safety - Phase 3
Expanding the Vehicle Fuel System Inspection Database

Contractor: Biokinetics and Associates Ltd.

Purpose:

The primary purpose of this project is to expand the database of vehicle inspections previously reported. The goal is to complete a database of vehicle that is representative of the largest volume of the current vehicle fleet. In collaboration with Friedman Research, this database may be used to assess the performance of various fire safety technologies in field crash data.

In order to improve the chances of success, it will be necessary to choose vehicles which have large sales. In addition it will be desirable to increase the sample size by including "cousin" vehicles (different brands but based on the same vehicle platform and presumably having the same fuel system improvements introduced at the same time. It is thought that NHTSA maintains a data base of "cousins" which shows these similar vehicles and also shows when various models have major redesigns.

Biokinetics is asked to identify all of the fuel system (and other) improvements from their Phase-2 work. They would then go through parts lists and service manuals and identify the year of initial introduction of that improvement. They would then identify other vehicles (even unrelated models) that introduced that change at about the same size.

Some specific transitions and design features which should be examined include:

1. Carburetors to fuel injection systems
2. Metal to plastic fuel tanks
3. Fuel tank location and shape
4. Crash initiated turn off of the fuel pump, and associated method for shut-off
5. Check valves in the fuel filler pipe
6. Battery disconnects
7. Battery location
8. Any of the other fuel system improvements identified by Biokinetics.

Once vehicles are grouped into technology categories, these design groupings will be analyzed by Friedman Research using State accident data.