

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ISSUED: September 24, 1976

Forwarded to:

Honorable John W. Snow
Administrator
National Highway Traffic Safety
Administration
400 Seventh Street, S. W.
Washington, D. C. 20590

SAFETY RECOMMENDATION(S)

H-76-28

About 1 a.m. on December 4, 1975, a 1975 Peterbilt tank truck and a 1970 Peerless full trailer (tank), owned by Union Oil Company of California, went out of control on the Alaskan Way Viaduct in Seattle, Washington, as the driver attempted to negotiate a curve on the traffic-polished concrete roadway at 52 mph and during a rainstorm. The combination vehicle jackknifed and the trailer struck a viaduct support column. The trailer's tank ruptured and its cargo of gasoline spilled. Fire ensued, spread along the viaduct, and spilled to the ground below, where it ignited 4 railroad freight cars, 30 motor vehicles, and adjacent buildings. The accident caused property damage estimated at \$750,000. Two firemen were injured while fighting the fire.^{1/}

The tank truck was equipped with air brakes which incorporated the Federal Motor Vehicle Safety Standard Number 121 (FMVSS-121) antilock brake requirements and the full trailer was equipped with a conventional airbrake system. The units were connected by a tow-bar, the required safety cables, the necessary airbrake, and electrical connections. The combined vehicle and cargo weighed about 79,815 pounds.

The FMVSS-121 antilock brakes on the truck were more effective than those on the trailer. The dissimilarity of the truck and trailer brake equipment caused the truck to decelerate faster than the trailer. The truck wheels did not lock, whereas the trailer wheels did. The difference in deceleration rates caused the out-of-alignment trailer to push the rear of the truck, rotating the truck counterclockwise into an aggravated jackknife configuration, so that the truckdriver could not regain vehicle control.

^{1/}For more detailed information on this accident, read "Highway Accident Report -- Union Oil Company of California, Tank Truck and Full Trailer Overturn and Fire, Seattle, Washington, December 4, 1975." NTSB-HAR-76-7.

National Highway Traffic Safety Administration tests of FMVSS-121 antilock brake systems have been limited. Tests were not extended to include the type of combination vehicle involved in the Seattle, Washington, accident, nor to all of the possible combinations of vehicles and brake systems that currently are operated on the Nation's highways.

Therefore, the National Transportation Safety Board recommends that the National Highway Traffic Safety Administration:

Test and resolve the apparent problem of operating any vehicle combination over the full-speed range and road and weather conditions encountered in normal operations if one of the units is equipped with a Federal Motor Vehicle Safety Standard No. 121 (FMVSS-121) antilock brake system and the other unit is not. (H-76-28) (Class II, Priority Followup)

TODD, Chairman, BAILEY, Vice Chairman, McADAMS, HOGUE, and HALEY, Members, concurred in the above recommendations.

*Kay Bailey, Acting Chmn
for*

By: Webster B. Todd, Jr.
Chairman

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