

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

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(202) 426-8787

ISSUED: March 14, 1976

Forwarded to:Honorable James B. Gregory
Administrator
National Highway Traffic Safety
Administration
400 Seventh Street, S. W.
Washington, D. C. 20590

SAFETY RECOMMENDATION(S)

H-76-7

On November 20, 1975, about 6:45 a.m., a 47-passenger, 1974 AM General bus operated by the Washington Metropolitan Area Transit Authority (METRO) caught fire and burned in the bus/carpool lanes of Interstate 95 (I-95) in Alexandria, Virginia. The bus, carrying about 65 passengers, was traveling about 55 mph when the fire was discovered. A passenger noticed the exterior fire and reported it to the busdriver, who stopped the bus and evacuated the passengers without incident. The driver attempted to extinguish the fire, located at the left rear wheels and wheelwell, with a 5-pound CO₂ fire extinguisher carried on the bus, but the extinguisher was inoperative. Fire extinguishers used by the drivers of following buses were ineffective, because the fire had spread to the interior of the bus and could not be controlled. Fire units from nearby stations, responding to a call, arrived at the fire about 6:55 a.m. By that time, the interior of the bus was fully ablaze and the fire could not be controlled until the combustible materials had been consumed.

Investigation showed that a wheel bearing in the left-rear wheel assembly had failed. This failure raised the operating temperature of the wheel hub beyond the autoignition temperature of the wheel bearing lubricant; fire ensued and rapidly spread to the tires and other components underneath the bus. The fire had entered the bus' interior through the fiberglass-reinforced plastic wheelwell cap above the left rear dual tires, igniting the plywood underside and back surface of the longitudinal seat and the sidewall material directly above the wheelwell. The fire had not penetrated the rest of the bus floor, which was constructed of metal and plywood.

The wheelwell caps were made of fiberglass-reinforced plastic and were formed to fit over the bus wheels, separating the wheels from the bus' interior. The underside of the wheelwell caps, as well as other components under the bus, were coated with a spray-on, combustible polyurethane material to deaden sound.

Another bus wheelwell incident has been brought to the attention of the National Transportation Safety Board. Inquiry into the incident revealed that on July 30, 1975, in Jacksonville, Florida, a tire had blown out on a 1974 Flexible transit bus operated by the Jacksonville Coach Company. Pieces of the tire penetrated the fiberglass-reinforced plastic wheelwell, which caused injury to bus passengers.

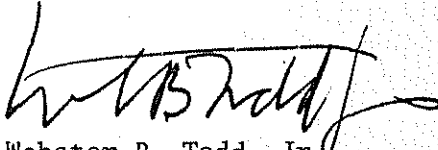
Tire and brake fires are not uncommon and may involve both tires in a set of dual tires; this frequently leads to vehicle loss, as was the case in the November 20, 1975, incident. A tire blowout, a separation of a recapped tire tread, a lockring release, or a foreign object propelled by tire rotation can create loading situations in which the structural integrity of wheelwell components is violated, as illustrated by the July 30, 1975 incident.

To provide more time between the initiation of a tire or wheelwell fire and the complete involvement of the vehicle, wheelwell components should be made of noncombustible materials. This would increase the safety margin for vehicle occupants, provide a greater opportunity to extinguish any fire that begins in the wheel area, and prevent loss of an expensive vehicle. In addition, wheelwell components must be strong enough to resist penetration by typical objects propelled at relatively high velocities.

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

Develop and issue a Federal Motor Vehicle Safety Standard to insure that wheelwell components can withstand fires and resist penetration by objects propelled by wheel rotation.
(Recommendation H-76-7) (Class III, Longer-Term Followup)

TODD, Chairman, McADAMS, THAYER, BURGESS, and HALEY, Members, concurred in the above recommendation.


BY: Webster B. Todd, Jr.
Chairman

THIS RECOMMENDATION IS TO BE RELEASED TO THE PUBLIC ON THE DATE SHOWN ABOVE. NO PUBLIC DISSEMINATION OF THE INFORMATION CONTAINED THEREIN SHOULD BE MADE BEFORE THAT DATE.