

Executive Summary

About 3:36 p.m., eastern daylight time, on April 11, 2003, in the Borough of Glen Rock, Pennsylvania, a 1995 Ford dump truck owned and operated by Blossom Valley Farms, Inc., was traveling southbound on Church Street, a two-lane, two-way residential street with a steep downgrade, when the driver found that he was unable to stop the truck. The truck struck four passenger cars, which were stopped at the intersection of Church and Main Streets, and pushed them into the intersection. One of the vehicles struck three pedestrians (a 9-year-old boy, a 7-year-old boy, and a 7-year-old girl), who were on the sidewalk on the west side of Church Street. The truck continued across the intersection, through a gas station parking lot, and over a set of railroad tracks before coming to rest about 300 feet south of the intersection. As a result of the collision, the driver and an 11-year-old occupant of one of the passenger cars received fatal injuries, and the three pedestrians who were struck received minor-to-serious injuries. The six remaining passenger car occupants and the truck driver were not injured.

The National Transportation Safety Board determines that the probable cause of this accident was the lack of oversight by Blossom Valley Farms, Inc., which resulted in an untrained driver improperly operating an overloaded, air brake-equipped vehicle with inadequately maintained brakes. Contributing to the accident was the misdiagnosis of the truck's underlying brake problems by mechanics involved with the truck's maintenance; also contributing was a lack of readily available and accurate information about automatic slack adjusters and inadequate warnings about the safety problems caused by manually adjusting them.

During the investigation, the Safety Board identified the following major safety issues:

- Maintaining air brakes equipped with automatic slack adjusters,
- Knowledge and skills needed to drive air brake-equipped vehicles, and
- Motor carrier oversight.

As a result of this accident investigation, the Safety Board makes recommendations to the Federal Motor Carrier Safety Administration, the 50 States and the District of Columbia, the Commercial Vehicle Safety Alliance, manufacturers and marketers of automatic slack adjusters, manufacturers of vehicles equipped with air brakes, the National Institute for Automotive Service Excellence (ASE), and publishers of ASE certification test study guides.

Conclusions

Findings

1. Although the highway's design included a steep grade, it was appropriately signed and, therefore, was not a factor in the accident; also, the emergency response was effective and appropriate.
2. Based on the truck driver's statements about pumping the brakes, postaccident examination of the brakes, and results from computer simulations, the accident truck did not have sufficient braking capability to stop before the initial impact with the stopped cars.
3. Although it cannot be determined if drugs or fatigue impaired the driver's performance, he most likely could not have stopped the truck before the accident occurred.
4. At the time of the accident, the automatic slack adjusters for all four of the accident truck's brakes were capable of working properly; however, the quick-connect clevises and clevis pins for both rear brakes were worn to the extent that they prevented the automatic slack adjusters from properly adjusting the brakes, thereby reducing the capability of the rear brakes.
5. The drivers and mechanics who manually adjusted the automatic slack adjusters on the trucks involved in the Glen Rock and El Cerrito accidents did not look for underlying problems with the adjusters or related foundation brake components; consequently, they misdiagnosed the brake problems, probably because they were not properly educated on the function and care of automatic slack adjusters and how they relate to foundation brake systems.
6. The warnings in existing materials available to owners, drivers, mechanics, and inspectors of air-braked vehicles equipped with automatic slack adjusters have not been successful in communicating the inherent dangers of manually adjusting automatic slack adjusters to correct out-of-adjustment brakes.
7. The Glen Rock accident driver lacked the knowledge and skills required to safely drive an air brake-equipped vehicle; as a result, he did not select a lower gear before proceeding down the hill and he pumped the brakes, which depleted the available brake air pressure.
8. More than 500,000 vehicles equipped with air brakes may be operated by drivers who, like the Glen Rock truck driver, have no air brake training and thus may not be able to operate their vehicles safely.

9. Blossom Valley Farms, Inc., did not exercise proper oversight of its drivers, vehicles, or operation, as evidenced by its sending an untrained truck driver in an overloaded vehicle with out-of-adjustment brakes on a route over a weight-restricted street; the carrier also failed to implement a scheduled vehicle maintenance program and to fulfill drug and alcohol testing and record-keeping requirements.
10. The Federal Motor Carrier Safety Administration's efforts to educate motor carriers about their responsibilities under Federal safety regulations have not reached all small, private, unrated carriers.
11. The Federal Motor Carrier Safety Administration's Inspection Selection System does not always give an accurate and timely picture of a carrier's safety posture, thereby reducing its effectiveness as a screening mechanism.

Probable Cause

The National Transportation Safety Board determines that the probable cause of this accident was the lack of oversight by Blossom Valley Farms, Inc., which resulted in an untrained driver improperly operating an overloaded, air brake-equipped vehicle with inadequately maintained brakes. Contributing to the accident was the misdiagnosis of the truck's underlying brake problems by mechanics involved with the truck's maintenance; also contributing was a lack of readily available and accurate information about automatic slack adjusters and inadequate warnings about the safety problems caused by manually adjusting them.

Recommendations

As a result of its investigation, the National Transportation Safety Board makes the following safety recommendations:

To the Federal Motor Carrier Safety Administration:

Work with the Commercial Vehicle Safety Alliance to develop and add to the North American Standard Inspection training materials a module that emphasizes that manually adjusting automatic slack adjusters is dangerous and should not be done, except during installation or in an emergency to move the vehicle to a repair facility, because manual adjustment of this brake component (1) fails to address the true reason why the brakes are not maintaining adjustment, giving the operator a false sense of security about the effectiveness of the brakes, which are likely to go out of adjustment again soon, and (2) causes abnormal wear to the internal adjusting mechanism for most automatic slack adjusters, which may lead to failure of this brake component. (H-06-1)

Require drivers of commercial vehicles that weigh less than 26,000 pounds and are equipped with air brakes to undergo training and testing to demonstrate proficiency in the inspection and operation of air-braked vehicles; the training should emphasize that manually adjusting automatic slack adjusters is dangerous and should not be done, except during installation or in an emergency to move the vehicle to a repair facility. (H-06-2)

To the District of Columbia and the 50 States:

When you incorporate the information on automatic slack adjusters from the new American Association of Motor Vehicle Administrators model *Commercial Driver License Manual* into your Commercial Driver's License manual, include a statement that the manual adjustment of automatic slack adjusters is dangerous because it gives the vehicle operator a false sense of security about the effectiveness of the braking system. (H-06-3)

Adopt an air brake endorsement for drivers' licenses that would require training and testing of drivers who drive air brake-equipped vehicles to ensure their proficiency in the operation of air-braked vehicles; the training should emphasize that manually adjusting automatic slack adjusters is dangerous and should not be done, except during installation or in an emergency to move the vehicle to a repair facility. (H-06-4)