

NATIONAL TRANSPORTATION SAFETY BOARD  
WASHINGTON, D.C.

AI-4  
R-242

ISSUED: January 19, 1979

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Forwarded to:

Honorable H. L. Fisher  
Chairman  
Metropolitan Transportation Authority  
1700 Broadway  
New York, New York 10019

SAFETY RECOMMENDATION(S)

R-79-1 and 2

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On December 12, 1978, a New York City Transit Authority (NYCTA) eight-car subway train designated as the 4:06 p.m. "CC" departed southward from Bedford Park Station on time. After making a station stop at 59th Street, the train continued southward to a point approximately 1,000 feet beyond the station where the sixth and seventh cars derailed at 4:38 p.m. The derailed cars struck a concrete and steel wall, tearing out the side of the seventh car. Twenty-two persons were injured as a result of the accident.

The Safety Board's continuing investigation of this accident revealed that both wheels of the leading pair of wheels of the trailing truck of the sixth car were broken. The wheels were cracked through the rim and the plate, and into the hub. All of the wheels of the trailing truck appeared to have been damaged by excessive heat.

A handbrake mounted on the trailing end of the sixth car outside of the operator's cab applies the brakes on the trailing truck only. The cast-iron brake shoes on this truck also showed evidence of exposure to above normal heat. Inspection of other cars in the NYCTA's Concourse Yard revealed that the wheels on the handbrake ends of three cars showed evidence of overheating. The wheels could have been overheated if the cars were operated while the handbrakes were applied to some extent.

The handbrake on each of these cars was a peacock lever and ratchet type that was not equipped with an indicator to show when the brake was applied or released. If a partial brake is applied, greater tension must be applied to the brake mechanism before the release lever, when pulled, will fully release the brakes. If a car were operated with a partial brake applied, the drag of brake shoes against the wheels would cause the shoes and wheels to heat, increasing the pressure on the brake shoe. Because of this behavior the wheel temperature would increase to a very high temperature.

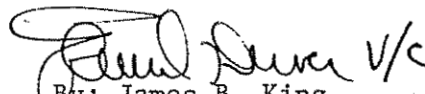
(2)

The Safety Board is concerned that other NYCTA rapid transit cars may have been operated with applied handbrakes and may have wheels that have been exposed to above normal heating. Therefore, the National Transportation Safety Board recommends that the Metropolitan Transportation Authority, with its oversight responsibility, require the New York City Transit Authority to:

Immediately inspect all NYCTA rapid transit cars to determine if their wheels have been subjected to above normal heat and remove from service any wheel that shows evidence of thermal damage.  
(Class I, Urgent Action)(R-79-1)

Immediately equip handbrakes on NYCTA rapid transit cars with a positive indicator so that an operator can determine if the brake is applied or fully released. (Class I, Urgent Action)(R-79-2)

KING, Chairman, DRIVER, Vice Chairman, McADAMS and HOGUE, Members, concurred in the above recommendation.

  
By: James B. King  
for Chairman