At approximately 7:35pm, Capital District Transportation Authority (CDTA) bus # 2004 was traveling eastbound on Corning Hill Road when the bus operator felt his brakes drag. The operator stopped and secured the bus at the bottom of Corning Hill Road and South Pearl Street. He safely evacuated 20 passengers and pushed the emergency alarm then called dispatch. The operator walked around the bus and noticed a very small flame inside the front right wheel, the operator grabbed the onboard fire extinguisher and extinguished the flame. The bus operator and passengers claimed no injuries. The Bethlehem Police Department and Selkirk Fire Department responded to the scene. The bus was towed to the Albany Division and secured.

The environment did not play a role in this incident.

Bus #2004 is a 1997 Orion 6 transit type bus with a seating capacity for thirty-two passengers. Preventive Maintenance Inspections (PMI's) are conducted every 6,000 miles in accordance with the System Safety Program Plan and the manufacturer’s recommended service intervals. The most recent PMI was completed on December 20, 2006 and the bus had traveled 4,499 miles at the time of the accident. There were no safety sensitive defects noted in the last sixty days prior to the accident that were considered causative to the accident.

A post fire inspection was performed on February 6, 2006 with the PTSB Staff in conjunction with CDTA maintenance staff. The inspection found the most probable cause of the wheel fire was the failure of the electronic control module (ECM) which is part of the air dryer unit. Upon further inspection the maintenance staff removed and disassembled the foot pedal air valve and found moisture within the interior of the valve. During the daily operation of the bus and extreme cold weather water or ice may have made its way to the foot valve and froze or lodged when the front brakes were applied which caused the front brakes to drag and heat to build up on the brake components causing a wheel fire. To maintain a dry environment within the air brake system the bus is equipped with an air dryer and a release drain valve to remove moisture and containments from the system. The air dryer was replaced during a PMI on December 20, 2006 because of problems with the previous air dryer.
In response, CDTA Director of Maintenance followed up with the manufacturer of the air dryer, Graham-White, and found that they are aware of a problem with premature failure of the ECM units. As of May 2007 Graham-White has identified the failure mode on the ECM’s. Graham-White has replaced all ECM units which were previously installed and found defective. CDTA is currently purchasing new model ECM’s for their future needs.

Additionally, the PTSB staff found a large quantity of water in the wet tank due to the poor positioning of the moisture drain valve on the wet tank. The connection to the tank is attached approximately one inch from the bottom drain on the wet tank and is connected by tubing to the manual release drain value which sits about six to eight inches higher, on the backside of the rear bumper. The drain valve is positioned too high to completely drain the moisture out of the wet tank allowing it to accumulate at the bottom of the wet tank. The wet tanks are drained daily.

In response, CDTA has issued a campaign to reposition the moisture drain valve on the wet tank to the lowest point, to allow for more effective purging of the tank during fueling operations and normal preventive maintenance inspections. CDTA has completed Forty one of the ninety nine Orion 6 buses that have this type of drain. The campaign will be completed before fall of 2007.

The bus operator was hired by CDTA on August 21, 2006 and completed the standard “New Bus Operator Training Program”. A review of the driver’s New York State Department of Motor Vehicle’s records showed no violations or suspensions. New York State Vehicle & Traffic Law, Article 19-A records were complete and up-to-date. The bus operator had no previous accidents with the company. A post accident drug and alcohol test was not administered to the bus driver due to the nature of the incident.

In an interview with the bus operator, he stated the fire occurred while going down Corning Hill Road. He felt the front brakes drag. The operator said he smelled something burning like rubber. He proceeded to pull the bus over at the bottom of Corning Hill Road and South Pearl Street. He said he evacuated 20 passengers and pushed the emergency alarm then notified dispatch. He stated after he shut the bus down he noticed a small flame coming from the right front side wheel rim.

The Public Transportation Safety Board staff finds that the most probable cause of the fire was a defective Electric Control Module (ECM) in the air dryer.

Contributing to the cause was water and ice build up forming in the air lines and on the brake components.

CDTA reviewed the accident and found the bus fire to be non-preventable.
Based on the actions taken by CDTA in this case, the Public Transportation Safety Board staff makes no further recommendations.

INVESTIGATOR: M. F. Gluskin

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CHIEF, ACCIDENT INVESTIGATION SECTION  DATE

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DIRECTOR, PCSB, NYSDOT  DATE