

Trolley Electronics

#1. -How are the electronics set up on our > current fleet? Just what is in the engine bay of the bus and what is mounted underneath? I imagine there's a fairly significant number of batteries for the auxiliary power unit...

The batteries are in trays along the left and right sides of the buses, the ones that have grilles in them.

#2. -What did they do in the various TRIPP programs? I know there were some changes to improve cooling and to try and keep stuff dry but are we talking about major redesign/replacement of electronics or just putting splash shields and fans on things?

The first TRIP program dealt with the lack of protective shields on the resistors and electronics. A hole was cut in the inside rear cap of some buses as the electronics were overheating in the summer. There were a few things that were not electrical related, and in TRIP II there were more of these, including the air-assisted steering retrofit.

The electronics could not be altered or reprogrammed. This is one of the major complaints of the Westinghouse controllers and why they rightly should be pitched into the trash bin with the buses. There was an attempt to relocate the whole package to a box behind the drivers' seat on one bus (2749?) but this didn't last long and wasn't repeated.

The motors at one point were removed and a whole bunch of things done to them in order to address a serious problem with the "dynamic braking" in which instead of slowing down, the bus actually sped up without brake control. It was proposed that the air brakes were reworked to operate independently of the dynamic and they always function. I'm not sure the dynamic problem was ever really identified or fixed, for that matter, only that I have not heard of cases where operators complained the dynamics failed in such a manner for a few years. I had a list of just what was done in each, if I can find it, I'll post it.

#3. -I've heard our current buses are programed to limit their acceleration significantly compared to what they are capable of. Is this true? And if so, what was the motivation behind this?

This is why trolley buses have controllers in the first place. The buses are capable of really remarkable acceleration rates, but four-point harnesses would have to be installed at each seat position if they were to be allowed to run at their full potential. Stress on the drive line is another consideration. Too much torque on a loaded bus can twist the drive shaft off.

One other factor is current draw - the buses are capable of a 400A current draw,

but they are almost never allowed to pull that much. This is why two trolleys are not supposed to follow each other too closely up steep hills such as Granville north of Broadway, 12th, etc.

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