

In the course of an evening, author Bob Repetto was able to install additional battery-powered emergency lights on his action-packed MTH accessory, featuring authentic lighting effects and sounds, plus an animated truck, garage door, and figure. Photo by Jim Forbes

HOW TO ADD LIGHTS to an animated fire truck

A ONE-EVENING PROJECT THAT ENHANCES THE TRUCK ON AN MTH OPERATING FIREHOUSE

story and photos by Bob Repetto

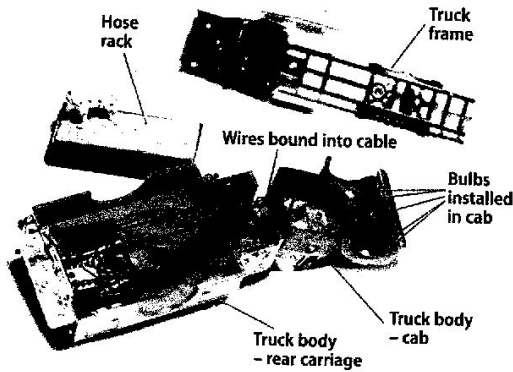
An MTH operating firehouse is arguably one of the most entertaining modern accessories you can add to a toy train layout. Beyond the impressive architecture of this 15 x 16-inch two-story structure, you'll see an animated fireman sliding down the pole and blinking lights that indicate the opening of the parking bay door from which a fire truck emerges. Even better, all of this action is set to appropriate sounds and sirens.

There's no doubt the firehouse is a crowd pleaser, but there's one key feature that's clearly missing from the sequence – the fire truck lacks working lights. After giving this omission some thought, I devised a way to add battery-powered flashing emergency lights that automatically turn on or off as the truck exits from or returns to the bay. Within the course of an evening, I was able to tackle this project using inexpensive commercial electronic parts.

PARTS LIST

- **Miniatronics (miniatronics.com)** or similar micro bulbs or blinking 3mm LEDs in various colors. Pre-wired emergency flasher sets (lights, circuit board, on/off switch, and battery holder) are also available from other toy train vendors. Also note that, unlike micro bulbs, blinking LEDs do not require a flasher circuit.
- **MTH Electric Trains (mthtrains.com)** RailKing no. 30-9136 or similar operating firehouse
- **RadioShack (radioshack.com)** no. 270-398 Double "AAA" battery holder
- **RadioShack** no. 275-017 SPDT switch with 3/4-inch roller lever

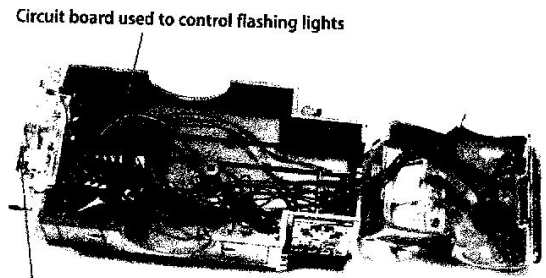
1. Disassemble truck, prep body



Start by lifting the fire truck from the slot found on the accessory base. Use a small Phillips-head screwdriver to remove the three screws from the underside of the truck. Detach the frame from the truck body. Next, determine what color and size micro-bulbs or LEDs to add and where to place them. I mounted five bulbs on the front of the truck - one clear light in each headlight, one clear light on the outside of each headlight, and a single red light on the hood.

Use a pin vise to drill holes just slightly larger than the selected bulbs. Secure the bulbs using white glue, wax, or an adhesive that dries clear. I twisted individual wires into a single cable before routing them from the cab to the rear carriage area. You might also need to modify or remove some portion of the plastic cab to accommodate this cable run.

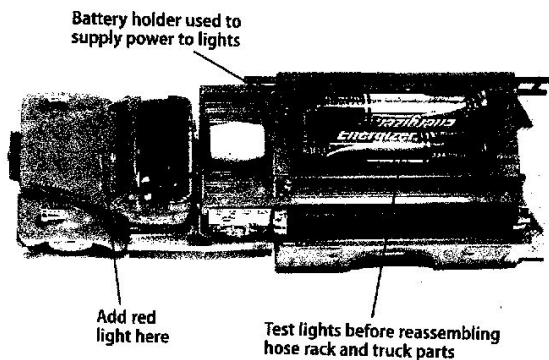
2. Install flasher circuit and lever switch



Before making any connections, you'll want to read the installation and wiring instructions supplied with the flasher circuit board. Using the wiring scheme for your specific circuit board, substitute a Radio Shack no. 275-017 lever switch where the wiring scheme calls for a typical on/off switch. By using the substitute switch, the emergency lights will automatically turn on as the truck leaves the firehouse and then turn off when it returns to the parking bay.

When wiring the switch, solder leads to post no. 1, common (c) and post no. 2, normally closed (nc). Finally, glue the switch to the bottom of the rear bumper so that the top edge of the switch is flush with the rear of the step and the lever protrudes beyond the truck.

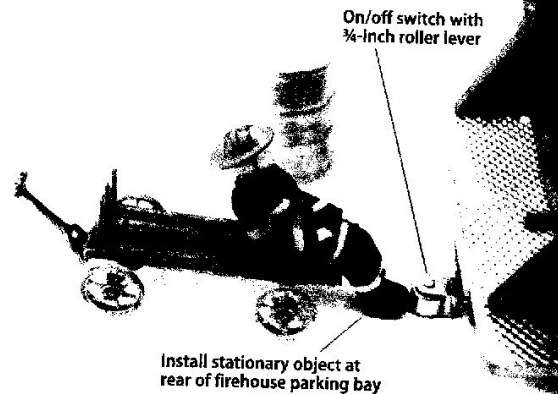
3. Add a battery holder



Power for the low-voltage lights comes from two AAA batteries. To avoid disassembling the truck to change dead batteries, I replaced the hose rack in the rear carriage with a Radio Shack no. 270-398 battery holder. Drill a hole through the carriage area to accommodate the battery holder wires that connect to the on/off switch and the flasher circuit.

Add fresh batteries to the holder and test the circuit. The lights should start flashing and then go off when you depress the lever switch. Now reassemble the truck, including the hose rack that covers the battery holder. As you attach the frame to the truck body, be careful to avoid pinching any of the delicate wires from the lights.

4. Complete the switch installation



After reassembling the truck, place it into the slot on the base of the firehouse. Now back the truck into the parking bay. Position the truck at the rear of the parking bay, and then install a stationary object in such a way that it contacts the lever switch and turns the lights off.

To determine the location of this stationary object, place a 2-inch-square piece of double-sided carpet tape at the back of the parking bay. Place the object (a metal barrel, a figure, a block of wood) on the tape so it rests against the lever solidly enough to turn off the lights. Test various locations until you find the ideal position. Mark the spot, remove the tape, and glue the object in place. **CTD**