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## Museum's trains are no small deal

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William Davidson Jr. did not see the train derail. He heard it.

“An emergency!” he said, with complete earnestness, snapping into action, hurrying to where a John Deere tractor had tumbled off a flatbed car, onto an adjacent track, where it knocked aside an oncoming train.

Usually such an accident would be more than a one-man clean-up job. But these were not actual trains in the full-size living world, but miniature HO-gauge trains endlessly plying the tracks at the Great Train Story, a well-loved display that the Museum of Science and Industry has operated for 71 years in its Hall of Transportation.

As for Davidson, well, there are two crucial things you need to know about him.

First, making sure the MSI's trains run on time — well, at least making sure they run — is his job, one he begins four days a week at 6:30 a.m. when he dons black rubber gloves and wipes the 1,400 feet of track with lint-free rags and denatured alcohol, to remove the dust that would foul the trains' delicate electrical contacts.

“It is important to do it every day,” he said. “When tracks get dust on them you start losing the conductivity and get a lot of arcing.”

When he's finished with that, and fired up the electrical system, the 16 iPods providing ambient train noise and ringing bells and twittering birds, after the 26 trains running at any given time — freights, passenger trains, L trains, Metra commuter trains — start to roll, he retires to his cluttered workshop to fiddle with the various worn-down, burned-out, busted engines and cars that demand constant repair because toy trains are not designed to run 40 hours a week.

“No manufacturer had that in mind when they made these trains,” Davidson said. For instance, inside each motor is a worm gear. Once they were brass. Now they're plastic, and last about a month.

All this is a lot of grueling work, or would be, for someone else. Which brings up the second key point to realize about William Davidson: He loves trains.

“I've always loved trains,” he said. “I find them magical.”

If ever there was a man in his dream job, Davidson is it. A member of the Windy City Model Railroad Club, he got his first toy train at age 2 and yes, he still has the engine and tender. Nor is that all he has. To put Davidson's passion for model trains in perspective: the 79-year-old museum has 200 to 300 toy train cars in its collection. Davidson, 49, has 437 train cars at home. The museum has perhaps 70 engines. Davidson has 77.

The \$3.5 million, 3,400-square-foot diorama has 1,400 feet of track divided into three main lines, tracing the route that containers take after being off-loaded from a ship in the port of Seattle, across the United States, to a detailed rendition of Chicago's Loop.

HO scale trains are built on 1/87, meaning that one inch on the model equals 87 inches in a real train. But the buildings were built on 1/100th scale so the Willis Tower could fit under the wing of the Boeing 727 suspended above it. Few visitors notice the discrepancy, though Davidson once heard a schoolteacher informing students that the iconic Chicago skyscraper is the World Trade Center.

And yes, he corrected the teacher, a devotion to verisimilitude that you would expect in a man who takes a razor blade and scrapes off the tiny plastic hand grips molded on his boxcars so he can install little metal hand grips. At home. In his spare time.

According to the Chicago Office of Tourism, the MSI is the sixth most popular attraction in Chicago, with 1.5 million visitors a year. Given that flow, and the open expanse of the train display, naturally there are issues. Davidson keeps three large amber prescription bottles filled with coins tossed at the trains. People lean over the railing to take pictures and drop their cell phones, cameras and purses.

He digs into a pile of stuff in his workshop and comes up with Ariel — a bendable figure of the Disney mermaid. She's surprisingly heavy. "Feel that, it's like it has lead in it," Davidson said before displaying the pieces of the building she shattered.

People who love trains understand the appeal. But those who don't might find them a mystery. What is it about toy trains?

"In the modeling world, you're imitating real life," he said. "You have different types of rail modelers — some try to run them as realistically as possible, keeping track of where they're going, the loads they're carrying. Some just have fun of watching the trains run, I've always liked the miniaturization, the details, the little towns, the signaling, the grade crossings. I love modeling,"

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