

# These "doctors" work at helping sick trains

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By Mark Wilson

"I've been working on the railroad, all the live-long day....."

That is what many tradesmen might be saying every day at Iron Horse Park in Billerica.

Within several buildings sprawled about an industrial complex, the Boston and Maine (B&M) Corporation manages the railroad—from track welding to diesel engine repair, from budliner maintenance to freight dispatching, from the selling of space on freight cars to the training of potential engineers on a locomotive simulator.

Thirty-two locomotives were repaired by the Billerica shop in 1978. Repairs included a new engine for No. 1730, a new generator for No. 1738, while old No. 209 left the shop with a new coat of paint and a rebuilt cylinder.

Traditionally, railroads have played a key role in the economy of America. Coal to paper, potatoes to fertilizers, the rails continue to be important.

However, stiff competition from the

trucking industry has been partially responsible for the railroads' recent years of tough sledding. The railroad must maintain its own roads, while trucks travel byways that are largely federally funded—a distinct advantage.

The massive diesel electric locomotives that come to Billerica for major maintenance or repair have an advantage over the trucks, though.

Gallon for gallon—and the locomotives carry 3600 gallons of No. 2 fuel oil—the railroad is the most economical way to ship vast amounts of freight over land.

It's the job of the B&M headquarters at Billerica to keep both freight and passengers on the track and running on time.

Basic to that smooth operation is a smooth track. "Every five years the fifth rail bed tie is replaced," says Gloria Stone, editor of the B&M Newsletter.

Ballast (gravel) supports the ties and rails. It must be periodically cleaned of sand and clay by sifting, according to

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**SPATTERING SPARKS**—A worker grinds the newly-welded joint of two rails (Mark Wilson photo)

# Trains

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Stone. In addition, the bed is inspected "at least twice a week" by foot or from a truck.

Thirty-nine foot sections of rail arrive at Iron Horse Park for welding into 1053 foot sections. While the rails usually come from a domestic steel company like Bethlehem Steel, the current batch of rails is from England.

Entering a long blue shed on a system of gripping rollers, the rail ends are cut and ground for a clean fit.

Amid loud pops, a high-temperature welding machine guided by a welder joins the rails. The joints glow orange for several minutes after the welding.

Next, the weld is checked for uniformity. A press applies 5000 pounds of pressure per inch to straighten the flowing joint.

Sparks soon fly as another tradesman wields a heavy duty grinder to smooth the welded joint. After a final abrading, iron powder is shaken on the weld and a magnetic field is applied.

Any defects in the weld can then be spotted. A defective weld is cut out and another weld is made.

Outside, the lengths are guided into a string of open cars with racks that can hold 30 of the rails (or nearly six miles).

Meanwhile, the tradesmen in the nearby shop building overhaul a 3,000 horse-power locomotive engine. Eighteen of these mammoth locomotives were added to the line in late 1977.

A blackened engine hood sits next to the locomotive as a worker removes the nuts to the cylinders with an impact wrench, which sets up a deafening roar. Two hundred feet away, a green and white GO car from Toronto receives new wiring and updating.

"A new engine and generators run about \$25,000," notes shop supervisor William Moser. But he also notes that an overhaul saves money over the price of a new locomotive—500,000 dollars.

New engines are expected to perform about 40 years before being overhauled for another 15 years of service on the line.

Moser leads a visitor to a second smaller room. Vats of soapy sludge bubble as engine guts and transmission components get a bath. Soapy mists haze the high ceiling.

In still another section of the shop, workers are operating a large press to literally push the wheels onto the axles.

"These presses develop 75 tons of pressure," says Moser, as two men slip a wheel on. Of course, the wheel is tough to get off the axle, once the wheel is pressed into place.

In the past, when locomotives or cars were in short supply, wheel sets were often the limiting factor in how many engines or cars left the shop in a week.

Wheels worn from thousands of rail miles can be given a new life on huge lathes.

Iron Horse Park wouldn't be complete without blacksmiths. The shop has two, who are kept busy with heavy iron work and the fabrication of parts.

Moser notes that many of the parts needed to repair the trains are obsolete. The blacksmiths are called to make the needed parts.

At present, there are no new blacksmiths in training at the shop, though Moser thinks that training a new blacksmith would be useful should another smith retire.

Away from the shop and across a track containing old blue engines that may see service yet, sits the office and dispatch building.

Much of the paper work that the office handles involves the renting of cars, perhaps for West Virginia coal bound for a power plant in Bow, N.H. In addition, the scheduling of newsprint from Maine or autos from a warehouse or an array of other goods keep the offices busy.

Public relations is important, too.

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**MAIN REPAIR SHOP**--Lighted by skylights, the B & M shop contains heavy metal working tools--lathes, presses, welders--all necessary to maintain locomotives and budliners. (Mark Wilson photo)

## Trains

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"Everything the railroad does bothers people. We do the best we can. We've quieted most of the whistles. We can't slow down the commuter trains," says Stone.

Though the noise may bother some people, it's pure delight for others - the train buffs. One gets the impression that the serious enthusiasts are working for the railroad.

Pictures of favorite locomotives plaster the walls of several rooms as dispatchers throw switches and route trains. A white line that traverses switch-studded board represents the track.

One board handle freight traffic from east to west, another from north to south. The eastern point is Boston while Rot-

terdam Jct, N.Y., is the most western point.

Passenger traffic has priority over freight and is handled by a separate dispatcher on another board. On a separate board, locomotives are located with color tags that represent horsepower; yellow is 3,000 horsepower, purple is 2,000 horsepower, while brown is the smallest engine at 600 horsepower.

"I've been a dispatcher for 30 years. I was the chief at Greenfield, but then B&M moved their headquarters up here," says Raymond J. Parenteau.

It's employees like Parenteau that keep the railroad going, especially when the going gets rough. Keen interest, enthusiasm and hard-won skills of these people seem to spell out the survival of the railroad.