

# PowerRail

## PowerRail's Partnership in Locomotive Remanufacturing and Engine Emission Upgrades

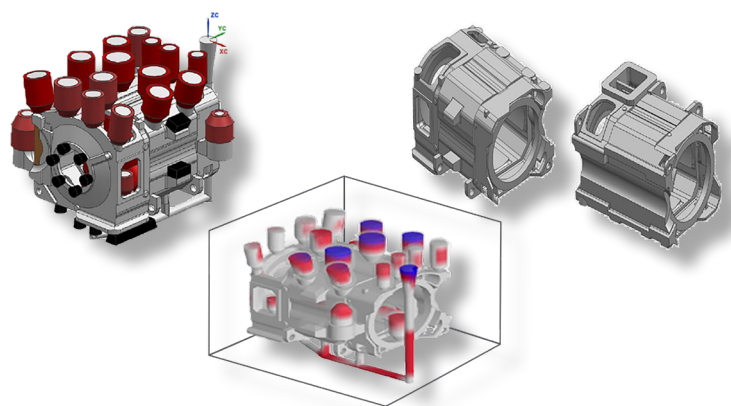
When one of PowerRail's customers recently embarked on an ambitious remanufacture project for their EMD GP40PH locomotives, they knew they needed a partner capable of matching their vision.

The project, centred around upgrading the engine emissions to meet modern standards, while also resetting the locomotive's lifecycle, was no small feat. Fortunately, PowerRail was more than ready for the challenge.

At the heart of the upgrade was the conversion of the locomotive's D77 traction motors to the advanced D78BTR style. Traction motors are the powerhouse behind the movement of a locomotive, and PowerRail understood that extending their lifecycle was critical to the success of the remanufacture. By resetting the lifecycle of these motors to match that of the trucks and the entire locomotive, PowerRail would help ensure the rebuilt locomotives could meet decades of future service.



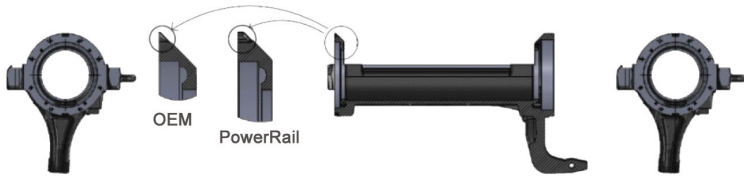
Advanced Axle Mounting Style



PowerRail's new cast frames for increased resistance to shock and vibration

The work was done at PowerRail's AAR-certified motor facility, where the BTR conversion process is carried out with expert precision. This particular conversion involved extensive traction motor rebuilding, incorporating new cast frames and PE housing for increased shock and vibration resistance – an upgrade that is crucial for railroads operating in demanding environments. PowerRail's use of specialised machining and welding processes further enhanced the stator frames and magnetic section, delivering greater stability and longevity for the traction motors.

In addition to the motor rebuild, PowerRail supplied matching converted wheelsets, which featured new axles, and a newly designed enhanced BTR housing. With 80% more thickness compared to the original design, the conversion to the BTR style also eliminates the brass support bearings and wick assemblies. Other benefits include tapered roller support bearings, which are sealed, eliminating wick lubricators and the addition of oil. In addition, the tapered roller support bearings only require a visual inspection of the seals



*PowerRail's U-Tube offers 80% more thickness over the OEM*

every 90 days, vs. sleeve-type bearings which require inspection and oil addition every 45 days, drastically improving reliability and reducing maintenance costs and downtime.

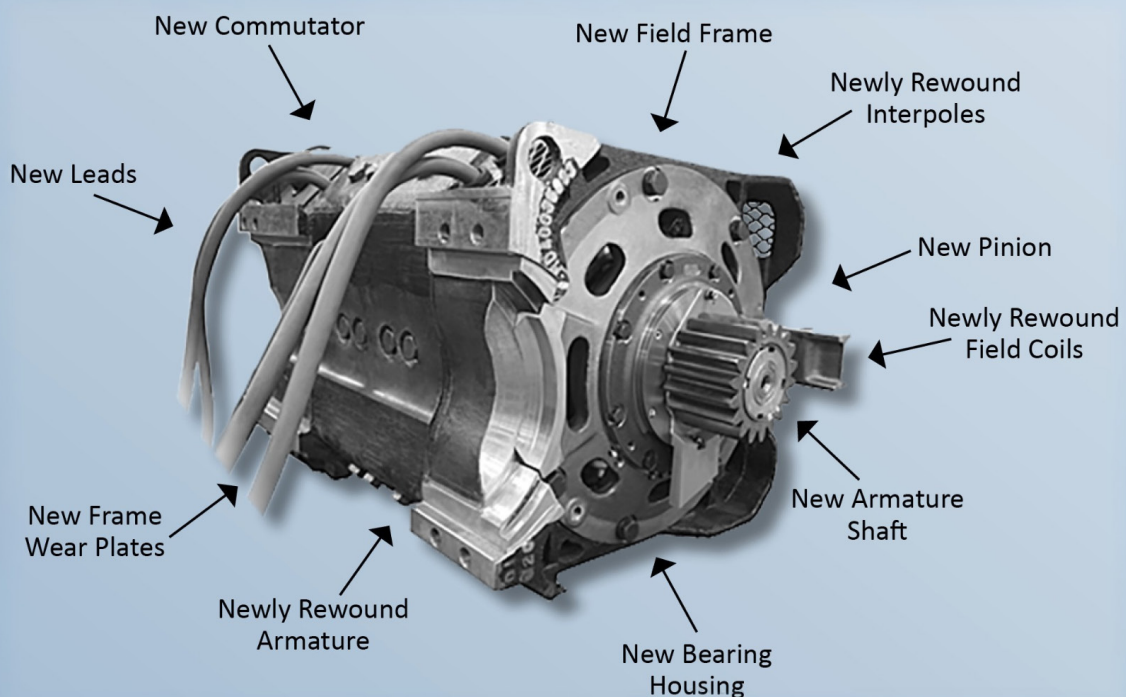
But PowerRail's value does not stop there. PowerRail offers its customers the flexibility to acquire these traction motor conversions either as an outright sale or by converting the customer's core motors – allowing for both cost efficiency and sustainability. Furthermore, for customers seeking a more extensive overhaul, PowerRail now offers the (re)New D78/D87 Traction Motor. This premium traction motor provides customers with a like new motor, equipped with new rewind armatures, shafts, pinions, commutators and new rewind inter poles and field coils, resetting the life of the motor with a more cost-effective price tag than buying new.

Thanks to PowerRail's expertise and cutting-edge solutions, the customer's EMD GP40PH locomotives are not only remanufactured but also significantly enhanced, resetting the standard for locomotive overhauls and power conversions. PowerRail has proven itself as not just a vendor, but a true partner in extending the life and performance of the customer's fleet.

Through this collaboration, PowerRail continues to set the bar in remanufacturing, solidifying its position as a leader in innovative, long-lasting traction motor solutions for the rail industry.

**For more information contact PowerRail**

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*PowerRail's (re)New Traction Motor*

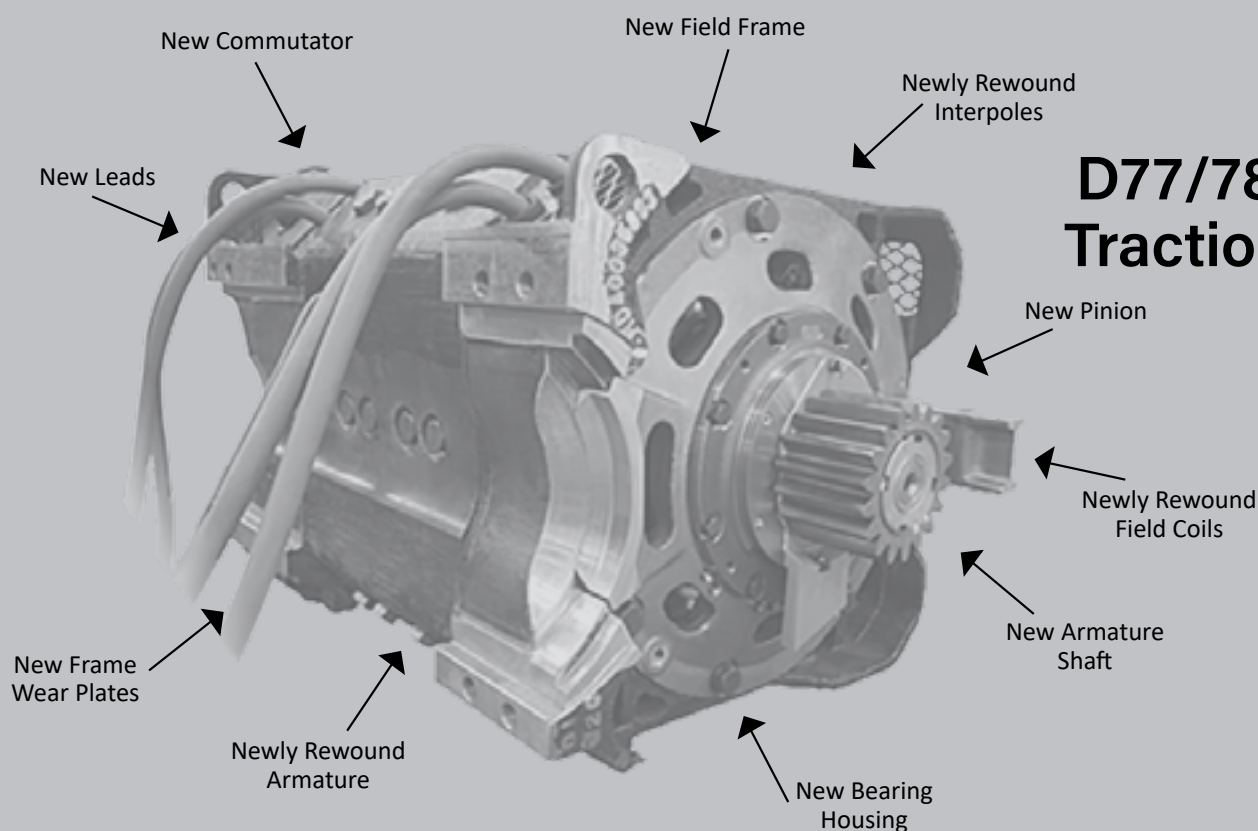


# POWERRAIL

CREATIVE INNOVATIONS...CONTINUING TRADITION

**Your Trusted Partner for Locomotive Overhauls  
and Power Conversions**

## Traction Motor BTR Conversions



## D77/78 (re) New Traction Motors



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