

NRS-260

Rail Flaw Detection Vehicle



Key Features

The NRS-260 Rail Flaw Inspection vehicles includes the following key features:

- Proprietary wheel probe design, including a tracer wheel and XL9-11 wheel probes
- Dual-rail inspection
- Digital ultrasonic rail inspection system instrumentation with 32 channels of ultrasonic processing; 48-channel option available
- Enhanced side-looking transducers for vertical split head (VSH) detection
- Enhanced gage corner defect detection
- On-board Run-on-Run technology
- Patented enhanced pattern recognition and defect classification
- Forced operator acknowledgement of all anomalies
- Fully integrated Windows operating system with redundant data collection and storage
- GPS tagging of car movement and defect location, to the thousandth of a mile
- Handles testing speeds up to 35 MPH under optimal rail conditions

Additional Advantages

- Full-size vehicle for greater operator comfort
- Optional vision system, rail profile system, and essential geometry features available



Digital signal processing

The NRS-260 rail flaw inspection vehicles feature 32-channel digital signal processing, allowing real-time sequential data processing, improved signal-to-noise ratios, and higher testing speeds with fewer false positive test results. The System 48 option is available, which includes a sweeper wheel and tracer wheel enhancements.

Wheel probe technology

The NRS vehicles use Nordco's exclusive XL9-11 wheel probe technology designed specifically to perform ultrasound testing on rail, including eleven inspection transducers:

- One zero-degree crystal for both **web coverage** and **base detection**
- One 45-degree forward-facing crystal and one 45-degree rear-facing crystal for **full rail web coverage**
- Three 70-degree forward-facing crystals (field, center, and gage) and three 70-degree rear-facing crystals, (field, center, and gage) for **full head coverage**
- One side-looking field crystal and one side-looking gage crystal for **longitudinal cross-rail coverage**

Pattern recognition and defect analysis

The NRS vehicles are fully automated and digital, incorporating the following key features:

- **Pattern recognition defect classification** - incorporates artificial intelligence to recognize common rail conditions, as well as recognize and classify defects. It is an adaptive learning system that adds new defects to the library as they are analyzed, allowing the system to recognize new defects automatically.
- **On-board Run-on-Run** - a comparative analytical tool that compares prior test results to current test results for the same portion of the rail. The system alerts the operator of a match to a prior indication and allows for real-time comparison and the opportunity to identify any changes in the rail's health.

Optional Equipment (NRS-260 Only)

Category	Option Type	Description
Processing Channels	System 48	Makes 48 channels available for processing data. System 48 option allows inclusion of a sweeper wheel and tracer wheel enhancements (additional cost).
Rail Imaging	Vision System	Mounted cameras underneath the car, allowing operator to see an image of the rail.
	Rail Profile System	Measures rail height.
Geometry	Essential Geometry System	Performs essential track geometry, including gauge testing, cross-level testing, and elevation testing.

Product Specifications

Category	Specification	Value
General	Weight	NRS-195: 19,500 lbs. NRS-260: 26,000 - 29,000 lbs. (configuration dependent)
	Length	NRS-195: 28'; NRS-260: 31"
	Width	8'6"
	Height	12"
	Hyrail Gear	14" wheels
Capacities	Water	NRS-195: 150 gallons; NRS-260: 200 gallons
	Fuel	NRS-195: 40 gallons (minimum); NRS-260: 100 gallons
	Crew	NRS-195: 3 to 5; NRS-260: 3 to 4
Engine	Power	NRS-195: 10 kW generator, 2.4 kW alternator NRS-260: 12 to 15 kW generator, 3.2 kW alternator
	Type	NRS-195: Ford 6.7L Diesel; NRS-260: Cummins 6.7L Diesel
	Power	NRS-195: 400 HP @ 2,800 RPM; NRS-260: 240 HP @ 2,300 RPM
	Torque	NRS-195: 800 lb-ft @ 1,200 RPM; NRS-260: 560 lb-ft @ 1,600 RPM



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