

# Wayside Cracked Wheel Detection System



## Key Features

The Wayside Cracked Wheel Detection System includes the following key features:

- Four inspection stations per rail, each mounted on a set of travelling robotics, with one ultrasonic test head per station (for a total of eight test heads)
- Ultrasound couplant delivery system
- Computer with real-time data collection

*Provides real-time assessment of wheel flaws.*



Section of flange-bearing track

## Ground-breaking milestone in wheel inspection technology

The Nordco Wayside Cracked Wheel Detection System represents a milestone in the railroad industry. Responding to the safety and economic concerns related to broken wheels, the American Association of Railroads (AAR) initiated a research program with the Transportation Technology Center (TTCI) for detecting cracks in railroad freight car wheels using ultrasonic methods. Developed in partnership with TTCI, and first installed at a key Union Pacific yard in Nebraska, the Wayside Cracked Wheel Detection System is the first wayside wheel inspection system that directly mitigates the risks and costs associated with internal wheel defects. This exciting new system has been featured in:

- History Channel's *Modern Marvels* program
- *Fast Company* magazine

## Real-time assessment of wheel flaws

The Wayside Cracked Wheel Detection System consists of four inspection stations per rail, with one ultrasonic test head per station (for a total of eight test heads).

As the car passes over the inspection stations on flange-bearing track, the system sprays couplant onto the lower surface of the rail wheel using a fine mist. The inspection probes assess the integrity of the wheels as they pass through the inspection stations at speeds up to 5 mph (8 km/h). Each inspection station inspects one wheel in a four-wheel sequence, so that the workload is spread and equalized over the entire system, minimizing the risk for individual inspection station failure.

The system then provides real-time assessment and reporting of flaw types, flaw sizes, and flaw locations that appear in and across the tread and rim of the wheel.



Use your smartphone to scan this code for more information.

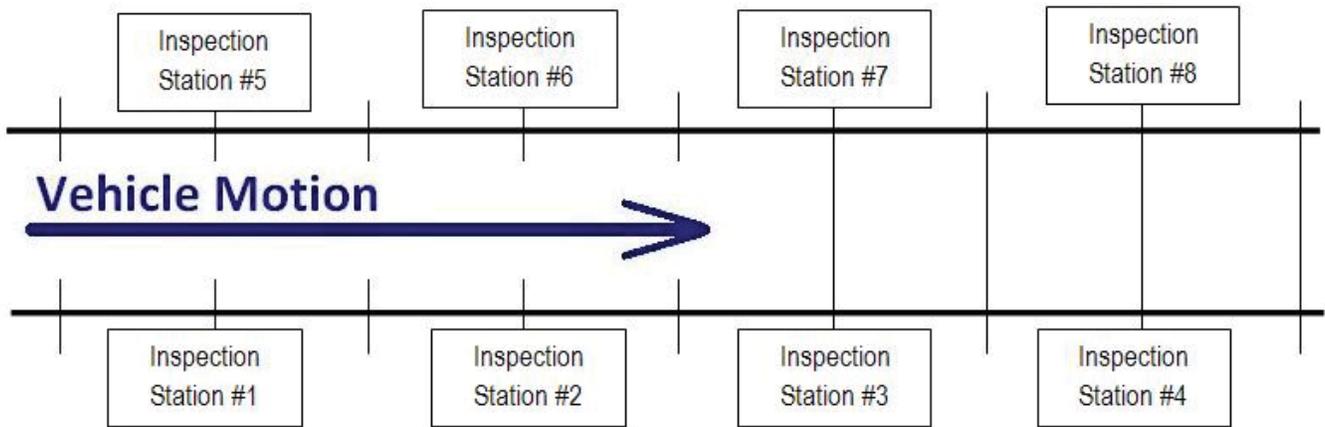


Illustration of Wayside Cracked Wheel Detection System Inspection Stations - Four per Rail



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