NRC·CNRC

INSTRUMENTED WHEELSETS

Proven in North American freight and metro rail environments, the National Research Council of Canada (NRC) Instrumented Wheelsets (IWS) provide unmatched accuracy, reliability and durability. The NRC IWS can be operated and also deliver critical information without the need for 3rd party data analysis contracts, providing performance-based track monitoring that identifies safe-limit exceptions according to the Association of American Railroads (AAR) and the Federal Railroad Administration (FRA) standards, or custom limits.

The NRC has been a leading designer and developer of Instrumented Wheelsets (IWS) in North America for over 25 years. The IWS system is based on proven technology that has been implemented in over 800 instrumented wheelsets worldwide, and on both passenger and freight rolling stock.

The NRC's proven IWS technology provides direct, real-time measurements of the dynamic vertical, lateral and longitudinal forces that occur at the wheel-rail interface, as well as the lateral contact position between the wheel and the rail.

DIRECT WHEEL/RAIL FORCE MEASUREMENTS

During train operation, heavy loads combined with the dynamic forces that occur at the wheel / rail interface can lead to deterioration of both track and rolling stock. Wheel/rail contact anomalies can lead to increased maintenance costs and reduced service life. In situations where poor track quality or damaged wheels exist, excessive forces can cause derailments, buckles, breaks, rail rollovers, and other safety concerns.

In all cases, knowing and managing wheel/rail forces is a critical factor in reducing safety risks, lowering maintenance costs, and maximizing service life.

NRC ADVANTAGE

- FIELD-PROVEN INSTRUMENTATION: Precise gauge placement and full bridge configuration for superior signal-to-noise ratio and temperature compensation.
- REAL-TIME DATA PROCESSING: Ability to view wheel/rail forces in real-time, allowing online and timely decisions to be made during field testing. Immediately identify the location of peak loads on the rail.
- NRC IWS ANALYTICAL SOFTWARE: Offers post-processing of large IWS data files, and outputs a summary of AAR, FRA or user-customized exception limits with accurate GPS positioning.
- PLUG AND PLAY: Wheelsets are installed into the existing truck, and connected to your existing data acquisition system to enable immediate use and data streaming.
- SELF-ZEROING: No need to lift wheelsets off the ground to zero them before testing.
- OPTICAL DATA-TRANSMISSION: Contact-free transmission of digital data.

- ONSITE TRAINING AND TECHNICAL SUPPORT: The NRC offers worldwide support to ensure our clients maximize the benefits of their NRC IWS.

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