



TruckView



TRIMBLE TRUCKVIEW SYSTEM

TRUCK (BOGIE) INSPECTION

Trimble® TruckView® is an automatic truck (bogie) inspection system that inspects truck (bogie) components at mainline operational speeds.

Trimble TruckView system uses high-speed and high-definition imaging to provide high resolution images of every truck (bogie) for inspection and measurement. Every truck (bogie) is viewed from at least two angles, top and bottom, to provide a complete and reliable assessment of condition. TruckView inspects many features of trucks (bogies) including fasteners, side frame condition, bearings and related components, friction wedges, springs, and more.

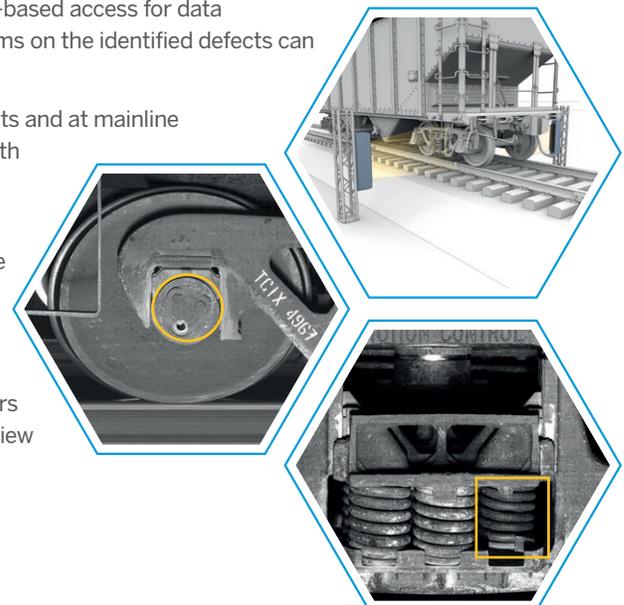
Acquired images are processed by a set of image processing algorithms to assess the truck (bogie) components' condition and to report measurements and defects. The TruckView imaging system and processing algorithms are designed to operate in all ambient light and weather conditions.

Processed data and images from the Trimble TruckView system are integrated into the Trimble CMMS™ (Condition Monitoring Management System) software to provide web-based access for data visualization, alarm management, and data analytics. Automated alarms on the identified defects can be used to facilitate condition based maintenance workflows.

TruckView's rugged design enables operation in harsh rail environments and at mainline operational speeds. The system is designed for continual operation with minimum manual maintenance.

The system's scanner boxes are installed on specifically designed aluminum truss towers, that are mounted on foundations on each side of the track. The TruckView is installed at a safe distance from the center of the track. System installation does not require any major track modifications or extended closures.

The Trimble TruckView system detects faults and can identify indicators that may lead to safety incidents. Automating inspections with TruckView helps mitigate incidents and improves safety.





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INSPECTIONS & MEASUREMENTS

Trimble TruckView system inspections and measurements include:

- ▶ Wedge height.
- ▶ Individual and average wedge rise.
- ▶ Alarm generation for excessive high wedges.
- ▶ Bolster height.
- ▶ Spring nest height.
- ▶ Spring spacing.
- ▶ Spring inspection to detect broken/missing/solid springs.
- ▶ Missing bearing cap and cap bolts detection.
- ▶ Bearing adapter inspection (missing or significant misalignment).
- ▶ Missing wear plate detection.
- ▶ Missing axle keep and axle keep nut detection.
- ▶ Truck (bogie) type recognition.
- ▶ Missing R-clip and clevis pin detection.
- ▶ VTA valve inspection.
- ▶ Hopper door inspection (failed hinge, open doors).
- ▶ Side frame inspection (optional).
- ▶ Sliding wheel detection (optional).
- ▶ Broken earth strap detection.

Depending on the rolling stock types and requirements, the system's inspection and measurement outputs may require optimization or customization.

Trimble TruckView system provides a full image of the exterior truck (bogie) area.

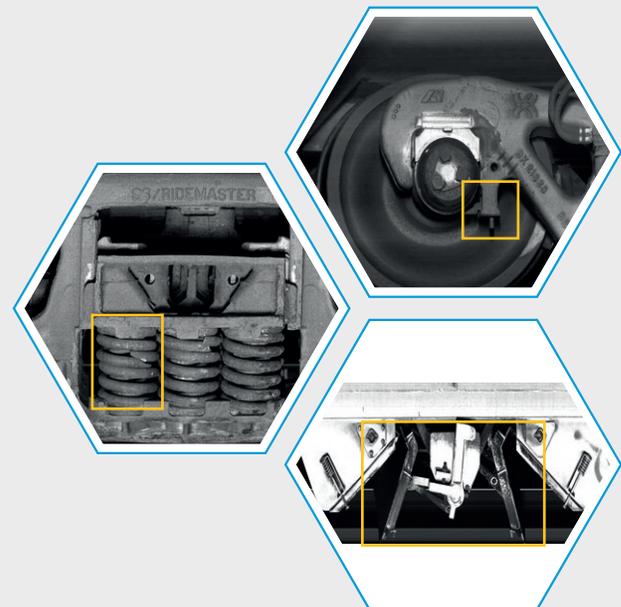
FEATURES

System Features

- ▶ Bi-directional system.
- ▶ Inspection and measurement at mainline operational speeds.
- ▶ Operates in extreme environments.
- ▶ Installed off track on tower or pole (concrete or steel base) with no track interference.
- ▶ Easy maintenance.
- ▶ Automatic defect reporting.

Software Features

- ▶ Digital image acquisition/processing.
- ▶ AEI (RFID) integration.
- ▶ Automatic reporting.
- ▶ Web-based database/visualization (with Trimble CMMS™ (Condition Monitoring Management System) or TrainWatch™ software).
- ▶ Remote monitoring/control.



Specifications subject to change without notice.