BeenaVision

CouplerView | Pin

Automatic
Coupler Pin Carrier
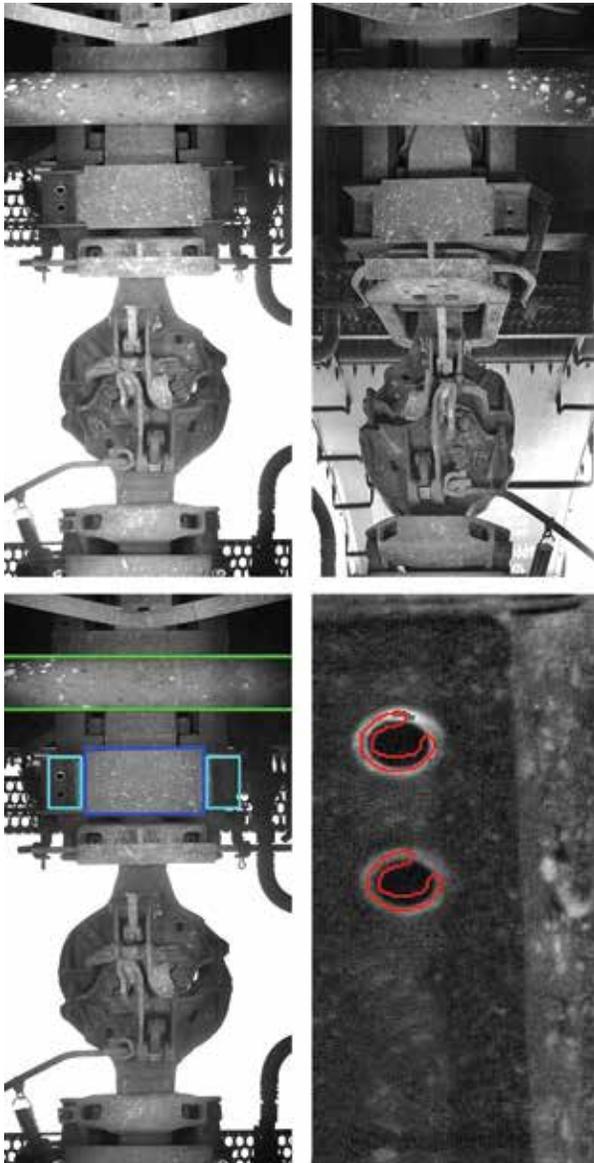Plate Inspection System

CouplerView-Pin is an automatic wayside detection system that is designed to detect defects in the F-type coupler securement mechanism. For F-type couplers, the system inspects the coupler vertical pin carrier plate or pins and the corresponding fasteners.

CouplerView-Pin processing algorithm classifies couplers into E and F types before the plate processing. If an E-type coupler is detected, no processing and reporting is done by this system.

If the coupler securement fails during train operation, there is a high probability that the coupler will "pull out" of the car in a draft situation, and in most cases this will result in the coupler falling between the cars and into the gage of the track. If the train is operating at track speed, this can result in a derailment.

Measurements
> Missing Coupler Pin Plate
> Leaning Coupler Pin Plate
> Damaged, Deformed or Rotated Pin Plate
> Missing Fasteners

Features
> Speeds up to 60mph *(100 km/h)*
> Operating Temperature: -40°C to 55°C
> Automatic Alarm Generation for Coupler Pin Failures
> Installed on Beena Vision Supplied Steel Ties
> No Major Track Structure Modification
> Easy Installation & Maintenance

Software Features
> Remote Monitoring/Control Software
> System Management Software
> Digital Image Acquisition/Processing
> Calibration Software
> Web-based Database/Data Search Software
> Database Interface Software
> Automated Reporting Software
> AEI *(AVI)* Integration

CouplerView-Pin is designed to operate on passing trains at normal track speeds of up to 60 mph. This is a machine vision system which utilizes high speed digital line scan imaging cameras to acquire multiple images of every coupler pin securement for inspection.

CouplerView-Pin systems are installed on steel ties (sleepers) supplied by Beena Vision. Cameras and the illumination system are enclosed in sealed steel boxes mounted on the gauge side of the supplied steel tie. The securement component images are analyzed for possible failure, deformation, and missing fasteners and plates.

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