

RAIL CORRUGATION MEASUREMENT SYSTEM

Complements your track geometry measurement program

The running surface of the rail contains irregularities of wavelength from a few inches to hundreds of feet. The term “rail corrugation” generally refers to irregularities of short wave length, while track geometry profile variations refer to irregularities of longer wavelength.

Track geometry systems typically do not measure rail corrugation. A separate measurement system for corrugation is needed.

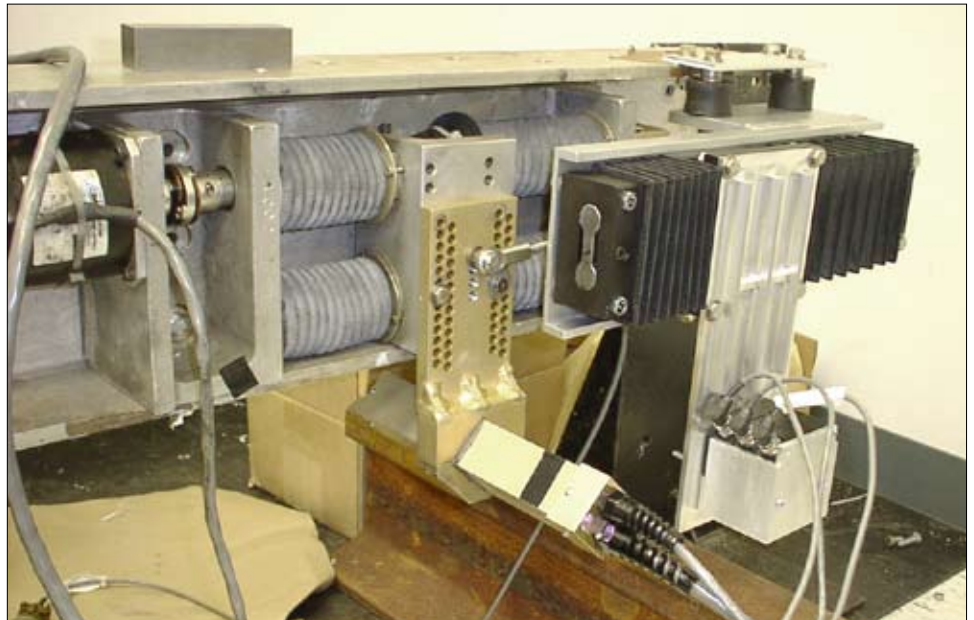
ENSCO's Rail Corrugation Measurement System Enables the User to:

- Perform continuous measurements over the running surfaces of the rails
- Cover the wavelengths of interest from an inch to several feet
- Determine locations with excessive corrugation
- Filters out normal surface deviations and flags only true exceptions that must be corrected

ENSCO's corrugation system utilizes a chord offset measurement principle. For each rail, three laser displacement sensors are mounted on a short beam. The vertical height of the beam from the rail is essentially fixed. The lateral position of the beam will be controlled by an electro-mechanical servo system that keeps the sensors aligned over the centerline of the rail top. The servo system receives its position reference from a gage measurement system located next to the corrugation sensors.

Choose From Two System Designs

Depending on the range of wavelength and output requirements, ENSCO builds two types of corrugation systems. Both designs use multiple laser distance sensors mounted on a short beam. One design uses sym-



Gage (gold finish, with two cables) and corrugation (aluminum finish, with three cables) sensors set up for laboratory testing.

metrically positioned sensors to collect a symmetrical mid-chord-offset (MCO) of the rail surface. The second design, manufactured jointly with Plasser American Corporation, uses asymmetrically placed sensors to measure an asymmetrical chord of the rail surface.

Features

- Proven design
- The only automated high-speed system that measures true corrugation
- Measures at speeds up to 200 km/hr
- Determines a dominant corrugation wavelength
- Detects location with corrugation above the limits
- Space-curve reconstruction algorithm performed for each rail
- Corrugation information report is



Gage and corrugation sensors of the two sets is visible on the far end of the sensor beam (black finish). System installed on Indian Railway High-speed Track Recording Car

saved to hard drive or communicated via Internet or local network

- Runs on its own dedicated computer, operating at considerably faster sample rates than typical track geometry computers