Customer Service Committee

Overhead Contact System (OCS) Height and Stagger Gauge

Operations Department
Rail Operations Division
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Height and Stagger Gauge: What Does It Do?

- Collects height and stagger data, automatically, for the Overhead Contact System (OCS) contact wire
- Takes measurements, automatically, utilizing a pulse produced by the rotation of the wheels via an optical sensor
- Logs data collected, automatically, into a database
Height and Stagger Gauge: Why Do We Need It?

- Improve Preventive Maintenance Inspections
  - Currently a technician walks the alignment (45 miles) stopping at every Overhead Contact System (OCS) support structure to take measurements
  - Automation with proposed equipment would allow track measurements for each line to be completed in one (1) to two (2) nights
  - Overall inspection for all lines would be six (6) days vs. current 45 days (all days are approximate)

- Allow Overhead Contact System (OCS) to be maintained within the proper design parameters

- Minimize wear of light rail vehicle (LRV) Pantograph
- Minimize wear of contact wire

- The present equipment, an older technology ultrasonic unit, has reached its end of useful life
Height and Stagger Gauge: What Alternatives Do We Have?

- Continue:
  - Using manpower to walk the alignment for measurements
  - Utilizing current data acquisition gauge, at end of life cycle
  - Collecting data at a rate of 20-40 days
Height and Stagger Gauge: Features

- Automated Data Acquisition for Charting and Graphing
- Computer Interface and Support Structure Input (OCS Poles)
- Laser Utilized for Data Acquisition of Height and Stagger
- GPS for Location of Anomalies and Camera for pinpoint locating
Height and Stagger Gauge: Features continued...

- Data Collection and Display with Maps to Show Linear Locations
- Vehicle mounted driving inspection and data collection