

# StL-SF has 16 hotbox detectors in service

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The Frisco has 16 hot box detectors in service and 2 in the process of installation at this time. Nine of these detectors are bi-directional, the rest are one direction only. Seventeen are on single track CTC territory, one is on single track ABS territory. Eight are in close approach to yards, the remaining are on line of road.

Most of our detectors are extended to the readout locations via carrier over CTC code lines. The longest extension is about 150 miles. Our installations consist of seven GE on GE carrier, one Servo on GRS carrier, two Servo on US&S carrier and seven GRS on GRS carrier. In addition, one installation utilizes figure 8 cable between the scanner location and the field printed readout location. An "H" indicator, automatically controlled, is associated with this one direction scanner. One other location is also equipped with an "H" indicator controlled by the dispatcher. A step in the CTC code is used for this control.

The readout locations are primarily in 24 hour attended car inspector foremen's offices at our major terminals. These locations are equipped with recorder charts. Two readout locations are in telegraph offices. These two locations are equipped with both a recorder chart and a printed readout with alarm.

Our present instructions are to stop a train passing a Servo or GE installation if a friction or solid bearing shows a differential of 8 mm. A

roller-bearing car is stopped on 15 mm differential. On the GRS hub scanner, we stop a train on 10 mm deflection, not differential.

When a hot journal is indicated, the dispatcher is immediately contacted and he takes action to stop the train at the nearest control point. This isn't too satisfactory since control points are not always conveniently located with respect to the scanner location. Perhaps a better arrangement would be a combination of automatic "H" indicators, flashing beacons and train-to-way-side radio, providing all trains are radio equipped.

The selection of a hotbox detector location is determined through the joint efforts of the mechanical, transportation and C&S departments. Our mechanical department has prepared a system map showing by direction the locations where cars have been set out with defective journals or where journals have failed. This chart represents records for the past five years. Using this chart, selection is made taking in to consideration grade, curvature, accessibility, signaling and train operation.

## PERFORMANCE IN 1965

During the year 1965, a total of 788 journals were discovered which required attention. Of this total, 505 were detected by our hotbox detectors and set out in terminals. On line of road, 252 cars were set out with defective journals. In addition 31 journal failures occurred. Our records on those set out on line of road and those with journal failures do not reflect which were discovered by detectors, nor do we have records of false indications. To

# C & S MEETINGS

properly evaluate our hotbox detector performance, it will be necessary that a better system of records is established.

## OVERTIME CALLS

During 1965, overtime calls due to defective hotbox detectors amounted to 385 hours. Complete records were not available detailing

maintenance hours required during regular working hours. Suffice it to say, several hours were consumed. Hotbox detector equipment is certainly not trouble free and it does require considerable attention. To this end, it is recommended that the suppliers concern themselves with better quality control of their products, better and more complete

maintenance manuals including complete parts references and design of equipment for ease and simplicity in alignment and maintenance.

Our plans for this year contemplate the installation of six additional detectors, moving six further out from our terminals and converting these six to bi-directional scanners. In addition a close look will be taken toward centralization of readouts at Springfield, Mo. We believe there are many benefits to be derived by centralized readout.

RS&C