



Hotbox detector scanners have separate foundations. Long bolts provide for ease in adjusting scanner elevation. Wood blocks protect against dragging equipment.

The Riceboro installation has two sets of infrared scanners, one set for each direction. Also included are four transducers, two recorders, an alarm computer, engine eliminator, wheel count and transfer switch equipment. Future installations will have only one set of scanners, one recorder, three transducers and one alarm computer.

Seaboard Air Line Has Talking Hotbox Detector

Hotbox detector installation on the Seaboard Air Line at Riceboro, Ga., utilizes wayside radio to broadcast a recorded voice message giving the location of hotboxes detected on a passing train. Simultaneously the message is transmitted over wire line to the dispatcher at Savannah.

Seaboard Air Line has installed what is probably the world's first talking hotbox detector. The installation is at Riceboro, Ga., 33 miles south of Savannah, on the SAL's single-track

mainline to Jacksonville, Fla. In addition to a VHF wayside radio station, the Riceboro installation has two Servo Corporation basic hotbox detector systems with the addition of an

alarm computer, engine eliminator, wheel count and transfer switch apparatus.

How this hotbox detector system operates is explained by J. R. DePriest, Superintendent Communications and Signals, inventor of the "voice" portion of the operation. "As the engine passes the scanners in either direction the following information is broadcast by radio:

"Seaboard Railroad, Riceboro, Ga. "This broadcast will be repeated until a few seconds after the rear of the train has passed the scanner location

if no hotbox is detected. This signifies that the installation is operative and is scanning the train. If a hotbox is detected 345 axles from the rear of the train on the right side, after the entire train has passed the scanners, the following will be broadcast:

"Seaboard Railroad, Riceboro, Ga. First hotbox left side three-four-five." "If no additional hotboxes are detected in the train, that message will be repeated for approximately three minutes. If a second, third or fourth hotbox is detected the message would contain, in addition to information on

the first hotbox:

'Seaboard Railroad, Riceboro, Ga. Second hotbox right side three-zero-two. Seaboard Railroad, Riceboro, Ga. Third hotbox left side two-eight-eight. Seaboard Railroad, Riceboro, Ga. Fourth hotbox left side one-nine-zero.'

"In the above examples I have, of course, assigned locations to the hotboxes. The automatically composed message will contain information as to the exact locations of the hotbox in the train. In addition to the voice broadcast information a red indicator light at the scanner location is lighted

when a hotbox is detected. This is a visual check for the crew in the caboose in the event radio reception containing hotbox information was not accomplished.

"In addition to radio broadcast of hotbox information, this voice information is also put into the dispatcher's telephone circuit, so that the dispatcher receives by telephone information that the equipment is scanning the train and any information developed concerning abnormal journal conditions in the train. The initial station identifying information is repeated only one time on the dispatcher's circuit. Information concerning location of hotboxes in the train is repeated on the dispatcher's circuit until the dispatcher removes this transmission from his circuit by means of selector apparatus," Mr. DePriest said.

Information concerning hotboxes in the train is stored in the computer for transmission after the entire train has passed the scanner location. The information is automatically composed and translated into voice form through computers and multi-channel audio tape reproducers.

While the Riceboro installation has two Servo hotbox detectors, future installations will use only one basic Servo system (scanners, transducers and recorder) with three transducers and one alarm computer, the output of which will operate the translator equipment to store the appropriate information and translate it to voice form.

Seaboard is planning to provide a white light alongside the scanner red light at the site, which will be illuminated whenever the detector is scanning a train. Thus the train crew will have a visual indication that the detector is functioning properly. As soon as a hotbox is detected, the white light will be extinguished and the red light will be illuminated.

All SAL freight trains are radio-equipped, and when the dispatcher receives word of a hotbox from this "talking" detector, he checks via radio with the train crew to ascertain if they have received the message. In traffic control territory, if he can't contact the crew via radio, he will then stop the train at a controlled signal.

Servo Corporation, manufacturer of the hotbox detectors, has purchased rights for the manufacture and sale of the radio-relay (or "voice" portion) of the Riceboro installation. Seaboard installed nine hotbox detectors at nine locations last year, and plans to install detectors at 22 locations this year. ●