



The 1,800 hp. diesel-electric locomotive in service on the Alton

## Train Control *on the* B. & O. Diesel

THE NEW diesel-electric locomotive, which has been in service on "The Royal Blue," the light-weight streamline train of the Baltimore & Ohio between Washington, D.C., and New York, was equipped for operation over the intermittent-inductive train-stop territory of the B. & O. between Washington and Philadelphia, Pa. This train-stop equipment, as well as the wayside apparatus, was designed and manufactured by the General Railway Signal Company.

More recently, however, this locomotive has been slightly altered in its general appearance and assigned to the "Abraham Lincoln" run, on the Alton territory between Chicago and St. Louis, Mo. The train-stop apparatus has also been rearranged for operation in connection with the National intermittent-magnetic train-stop wayside equipment.

The automatic train-stop apparatus installed on this locomotive comprises the standard G.R.S. Schedule-2

equipment for forward and reverse running, with certain modifications and additions to adapt it to special conditions encountered in the operation of this diesel-electric locomotive. The special feature of the locomotive apparatus is the use of a newly-developed reset contactor which is operated by a clockwork mechanism. This device introduces a delay in the release of the brakes, after an automatic brake application, so that a sufficient time is allowed to insure that the train has been brought to a stop. This operation of the automatic reset contactor obviates the necessity for a member of the crew to dismount from the locomotive to the ground when resetting the equipment. The purpose of this new development is to eliminate the hazard occasioned by enginemen getting out on the ground at embankments or bridges where accidents may be the result.

The contactor may be used with any General Railway Signal Company

intermittent-inductive automatic train-stop equipment, and permits location of the reset device in the cab without violating the specifications and requirements of the I.C.C.

### Operation of Automatic Release

After an automatic brake application has been received, the lever of the reset contactor may be reversed immediately, re-energizing all of the train-stop equipment except the E.P. valve. When the lever is released, the clockwork mechanism begins to operate and after a predetermined time interval, runs down, closing the contact through which the E.P. valve magnet is controlled. During the time that the clockwork mechanism is in operation, the E.P. valve is de-energized, preventing the brake-valve handle from being latched and the brakes from being released. When the E.P. valve is re-energized at the end of the delay time, the brake-valve handle may be latched, and the brakes may be released in the usual manner. The time required for the clockwork mechanism to run down is intended to be of such duration as to insure that the brakes will be kept applied sufficiently long to bring the train to a stop.

### Extensive Tests Made

Representatives of the Bureau of Safety, Interstate Commerce Commission, and the Committee on Automatic Train Control, Association of American Railroads, have recently completed a joint inspection of this Baltimore & Ohio diesel-electric locomotive, and tests were conducted of the intermittent-inductive automatic train-stop device with which this locomotive is equipped; also the operation of the locomotive was observed in regular service. The Committee on Automatic Train Control has prepared a detailed report of this inspection which includes circuit diagrams and explanations of the operation of the new features of the train-stop apparatus.