

# LIONEL SERVICE MANUAL

## NO. 145 AUTOMATIC GATEMAN

No. 145 Automatic Gateman, first produced in 1950, is operated by a solenoid-and-plunger mechanism which is usually activated by the weight of a train passing over a track contactor. When the solenoid is energized the plunger moves a pivoted gear segment upon which is mounted the figure of the gateman and which meshes with a plastic pinion gear fixed on the bottom of the door. Movement of the gear segment simultaneously opens the door of the shack and moves the figure of the gateman out of the shack. The return movement of the mechanism is accomplished by a coil spring stretched between the gear segment and the base of the shack.

The shack is illuminated by means of a steadily burning 14-volt bayonet base lamp which is fitted in a spring-mounted socket on top of the shack. Electrical connections to the gateman are made through clips which are reached by lifting off the roof of the shack. The wires can be introduced into the shack either through the three holes in the rear wall or through the holes in the ceiling and bottom of the shack.

The diagram below illustrates the mechanism and the electrical circuit of the Automatic Gateman as well as the electrical connections needed for its operation.

### SERVICE NOTES

Sluggish operation of the Gateman mechanism may be caused by any of the following: improper tension of the return spring, excessive friction between the gear segment and metal base of the shack, sticky plunger or distorted coil spool.

To eliminate excessive friction apply a light coat of lubricant to the bottom surface of the base where it bears against the upturned fingers of the moving gear segment. Adjust the tension of the return coil spring either by stretching the spring slightly to enable the door to open more easily or by taking off a few turns to increase the return force. After a long period of operation the plunger and the hole in the coil spool may become dirty and sticky and should be cleaned off. If the coil spool has been overheated it may become distorted. Occasionally the coil will return to normal after it has been allowed to cool off. If the distortion is permanent, however, the coil assembly should be replaced.

In cases where the figure of the gateman rubs against the base Washer RCS-40 may be inserted as a spacer between the gear segment and the figure mounting stud.

Wiring Diagram of No. 145 Automatic Gateman

