



## Adjustment of Clock-Work Time Releases

*"How should the time setting of clock-work time releases at interlocking plants be adjusted?"*

Time Setting Depends on Speed of Trains

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**B**ELOW is quoted a portion of our instructions covering approach locking and setting of time releases and which outlines very clearly our practice in this matter:

"(1) The basis for setting time releases shall be the time required for a train to move the distance between the distant signal and the signal locked, plus 1,500 ft., at a speed of 30 m.p.h. (44 ft. per sec.)

"(2) Where time locking only is used for high and restricted speed routes, the same rules shall apply, assuming the distances the same as though approach locking were in service.

"(3) Time releases for dwarf and other slow-speed signals (no high or restricted-speed movements being involved) shall be set for a minimum of 20 sec."

Formulae Given for Computing Time Setting of Any Type of Release

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**R**ULES for setting of time releases on the Pennsylvania are not peculiar to the clockwork type but apply to all types. Time releases are necessitated by approach locking or time locking. Approach locking is effective from the time an approaching train has reached a point from which the engineman may have observed the first signal that will give him an "approach" (or "approach-restricting") indication to the home signal and continues effective until the engine of such train has passed the home signal.

In general, the approach locking circuit extends from the home signal to a point not less than 1,500 ft. beyond the furthest distant signal, except in automatic territory, where the approach circuit extends to the next signal beyond the furthest distant signal, unless the track circuit between these two signals is

TO BE ANSWERED IN A SUBSEQUENT ISSUE

(1) *Do you consider it practicable to proceed with the plans and ordering of material, including interlocking machine, to be used for the installation of a large all-electric interlocking plant, involving underground cable in duct line, before the track layout is definitely decided?*

(2) *To what extent has rear-end flagging been eliminated or modified in automatic signal territory?*

(3) *What general instructions are available concerning the maintenance of automatic signals?*

(4) *What material do you use to block up the space around wires where they come in through entrance holes in relay or mechanism cases?*

(5) *What action is expected of a motorist who upon reaching a highway-railway grade crossing finds the automatic signals displaying a warning? Are such protective devices in the nature of "stop-and-proceed" signals, or do they require that the driver wait until the train has cleared the crossing?*

(6) *What track circuit adjustments should be made before the arrival of winter so that failures will not occur?*

cut for other purposes at a point 1,500 ft. or more beyond that distant signal.

Theoretically the release should be set for the time necessary for a train that may have observed a clear distant signal to reach the home signal and stop, or, in case the engineman failed to observe any change of the "clear" distant signal to a more restrictive indication, to pass the home signal if unable to stop. If this time is based on the maximum speed permissible in the territory involved, it will be too short for a train moving at slightly less than maximum permissible speed. Also, if based on a slow speed, it will be unnecessarily long. A critical speed at which a train can doubtless stop after coming in sight of the

