

British Railways track circuit fault locator consists of a transistor oscillator and a transistor detector.

the rails or on tie ends, and a fault is detected by a change in amplitude and apparent change of note (due to the two-tone signal). At waist height and adjusted gain control resolution is within nine inches and at rail height, about one inch.

At complicated track work (switches, frogs, etc.), the rail members are struck with a hammer and the one causing the most uneven note in the receiver is likely to be faulty.

AC Track Circuits

Where ac track circuits are employed in interlockings, what do you employ to prevent the release of approach or time locking by the momentary dropping of ac track relays due to power interruptions or deliberate opening of ac disconnect switches?

N-Band in POSR Circuit

J. E. HILLIG, Engineer Communications and Signals, Reading, Philadelphia, Pa.

A relay, known as the power-off stick relay, is connected across the ac power source in series with a normal or stop position band or lever repeater relay on each signal lever used in the interlocking, and is stuck up over its own front contact (Figure 1).

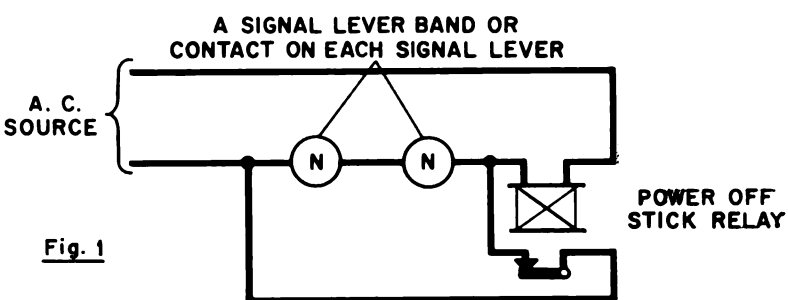


Fig. 1

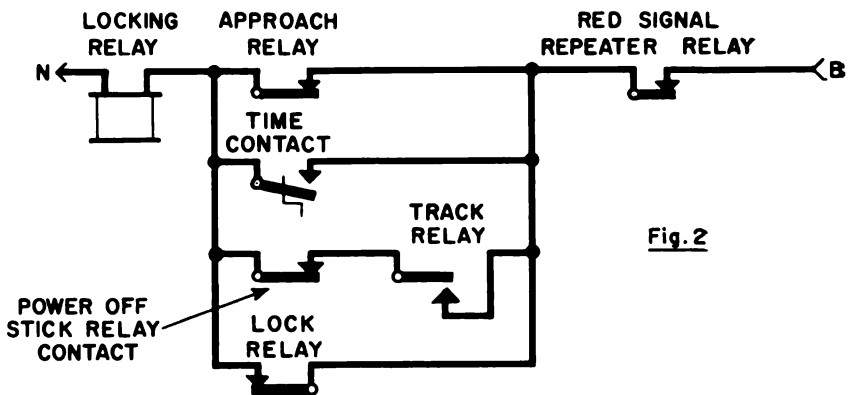


Fig. 2

Hillig: Power-off stick relay is used in lock circuit.

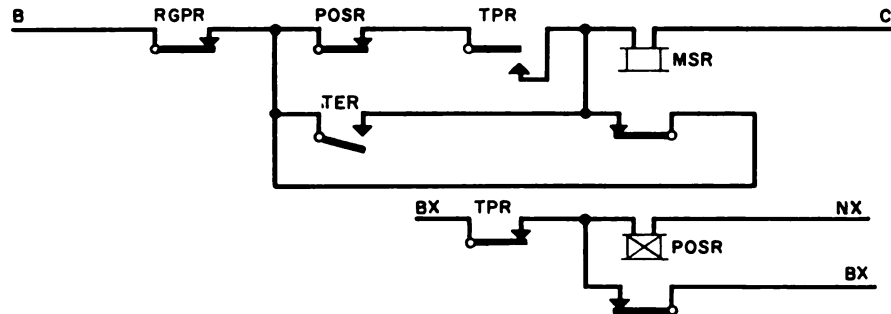
A front contact of the power-off stick relay is connected in series with the track relay contact used for releasing the locking relay (Figure 2). When an interruption of the ac obtains, the power-off stick relay is released, the opening of its front contact

opens the track relay releasing circuit, preventing the release of the locking relay by the track relay contacts. To restore the power of the stick relay to its normal or energized position after the ac power has been restored, it is required that all signal

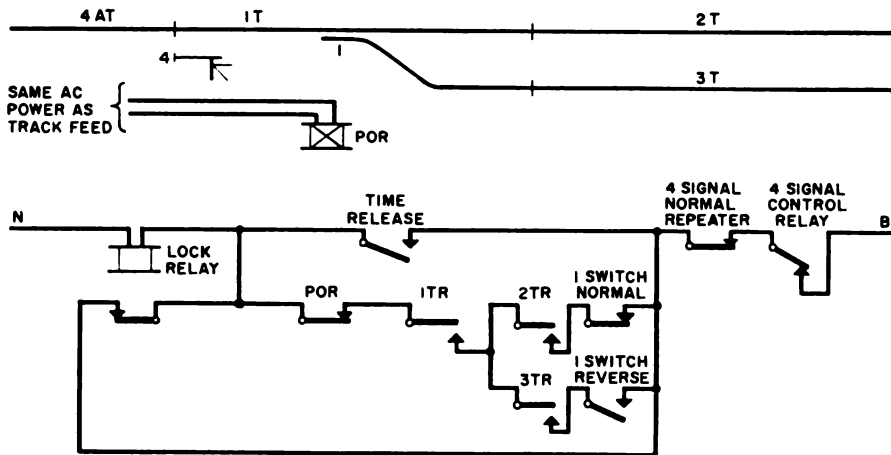
levers must be returned to their normal or stop position to energize the power-off stick relay. This requirement insures that the required time to release the locking relay had elapsed,

if signal had been cleared for an approaching train, by preventing the power off stick relay from picking up and closing its front contact before the track relay picked up.

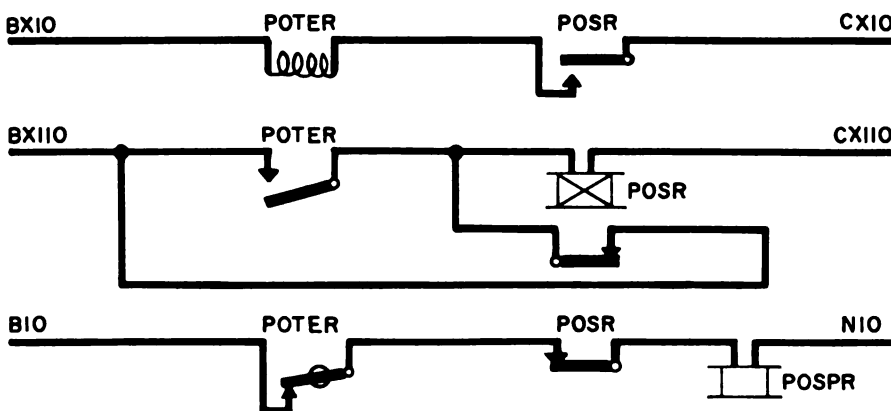
contact in the reset circuit of the time locking relay. This prevents the time locking relay from picking up when track circuits are down due to a power outage. In some instances a front contact of the POSPR is placed in the switch machine lock relay circuit.



Nolder: Power-off stick relay prevents improper release.



Barnes: Power-off relay is used in lock circuit.



Green: Time element relay is used.

Use Time Element Relay

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At interlockings where ac track circuits are employed a circuit similar to that shown is used.

A power outage drops the POSR

and POSPR. Restoration of power picks up the POSPR after the time of the POTER has run. The setting of the POTER is adjusted to be equal to or greater than the longest approach or time locking time in the interlocking.

A front contact of the POSPR is placed in series with the OS track

Use Power-Off Stick Relay

H. R. NOLDER, Circuit Engineer, Norfolk & Western, Roanoke, Va.

Improper release of approach or time locking due to power flips or interruptions is prevented by the use of a power-off stick relay as shown in the accompanying sketch.

Use POR in Lock Circuit

P. L. BARNES, Signal Foreman, Fort Madison, Iowa.

The circuit shown can be used to prevent the release of approach or time locking by the dropping of ac track relays due to power interruptions. An ac relay is energized by the same source of power used for the track circuits and a front contact of this ac repeater relay is placed in series with the track relay contacts used to release the locking. When the power interruption causes the track relays to drop the repeater relay also releases and prevents the release of the locking.

Can You Answer These Questions?

- What use are you making of aluminum rail bonds and aluminum track wire? Please describe them and explain your experience with them?
- What use are you making of video pairs? Please explain the nature of the use and your experience with them?
- Do you check transistors? Why or why not? If you do check them, how often and what type of equipment, tests and procedures do you follow? Please explain, using circuit sketches if desirable.

Please send us your answers to these questions. We pay for all answers when they are published. Answers will be published anonymously if requested. Write Editor, Railway Signaling and Communications, 30 Church St., New York 7, N. Y. Also please send us questions for this department.