

# What's the Answer?

## Spring Switches

*What special signal arrangements and aspects do you install at spring switches equipped with automatic facing-point locks, to provide protection in case the lock plunger is in "overthrow?" Please furnish sketch if practicable.*

### No Facing Points Locks

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The Central region of the Canadian National does not consider it necessary to use facing-point locks with spring switches.

### Two Methods

By V. J. DOUGHERTY  
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On the question of "overtravel" protection at facing-point lock spring switch installations, there exists two schools of thought. Some roads favor the incorporation of the overtravel protection in the normal switch repeater circuit. Under this scheme of operation, signal controls for all signals governing over the spring switch are broken through the normal switch repeater. In some installations a reverse switch repeater is provided to permit switch to be lined by hand for a trailing move with full signal protection in the event of overtravel of the lock plunger. This scheme has the disadvantage of causing train delays on moves over the switch normal, when the overtravel is a factor on the side of safety. However, it does serve as an inducement for close and frequent checking of plunger travel by the maintainer.

The second school of thought favors separate overtravel protec-

tion, in which signal circuits governing over switch normal check only the normal switch repeater, which is unaffected by overtravel of the locking plunger. Signal or signals governing trailing move through the spring switch are checked through the overtravel contact or a repeater thereof. This scheme has the advantage of permitting normal operation of signals governing movements over the switch in its locked position in the event of overtravel. Its main disadvantage lies in the fact that a reverse switch repeater is not available without use of an independent switch circuit controller. The reverse switch repeater in many installations is highly essential in the overall scheme; so that the ideal solution would seem to be a facing-point lock movement incorporating the three features of normal switch indication, reverse switch indication and overtravel indication.

In this discussion the term "trailing move" is used to designate a move in which switch points are deflected by the wheels of the train rather than in the normal sense of trailing moves, in the interest of simplification.

### SP Practice

By H. B. GARRETT  
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Practice on the Southern Pacific is to equip signals governing movement over the facing-point switch with a triangular number plate displaying the letter "P." The application of this number plate is shown in the drawing. Upon a train encountering a stop signal governing movement in a facing direction over the spring switch, our transportation department Rule 306 requires: "When a signal with triangular plate protecting a spring switch displays stop indication,

except when the switch is lined by hand for the movement, member of crew must open and close spring switch by hand, removing any obstruction."

Usually, by operating the switch by hand, the mechanism is returned to normal position and under such conditions the signal will change to a proceed aspect. If the signal does not change to display proceed aspect, applicable rule governing movement by stop signals would then apply.

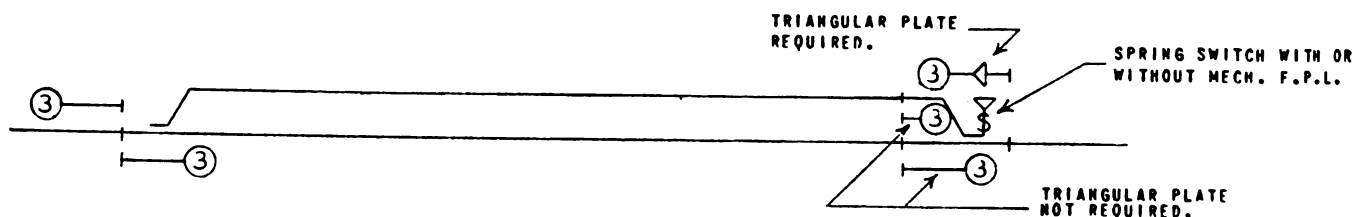
### Mechanical Lock

By V. O. SMELTZER  
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Mechanical facing-point locks are used on the ends of some single-track sidings equipped with spring switches where a highway crossing is in close proximity to the switch. The additional protection of a mechanical facing-point lock is desirable at such locations where there is a possibility of the switch stand being knocked down in the event of a highway accident at the crossing.

No special signal aspects are used at these locations. The facing-point signal at the end of siding is placed near the switch point, and the opposing signal at the clearance point. Spring switches installed after October 1, 1950 are provided with an additional signal governing movements from siding to main track. Where a mechanical facing-point lock is provided, the signal circuits are so arranged that all protecting signals at the spring switch will display STOP in case the lock plunger is in the "overthrow" position.

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Southern Pacific practice for locating signals governing movements over a spring switch at end of siding