

signal during the latter part of November, putting the mechanism in the best possible condition as to cleanliness, lubrication and adjustment, and leaving the cases closed during the succeeding winter months, unless there seems to be a necessity for opening them. This method is entirely practicable with our top-of-mast semaphore signals. It may not be possible with other types.

The proper ventilation of mechanism cases is an important factor in combating frost troubles. Where the interior of the mechanism case shows evidence of dampness, additional ventilation is desirable and will often eliminate the accumulation of frost.

Felt Applied Over Commutator Will Help

By R. D. ASHLEY

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THE best method I have found for preventing frost trouble on the commutators of motors is to put a piece of felt completely around the commutator. The method of fastening the felt will depend upon the type of motor. Holes should be cut in the felt to permit free action of the motor brushes. For this purpose it is necessary to use a good grade of felt, with a fairly hard finish, so that there will be no lint to work loose and become lodged under the motor brushes.

For signal mechanisms, the use of a container partly filled with glycerin is very effective in preventing frost trouble, the degree of effectiveness depending upon the size of the mechanism housing and upon how nearly the housing is air tight.

For contact fingers on switch mechanisms and circuit controllers, the application of a slight amount of non-freezing oil is beneficial. However, this is not a sure preventive and in my experience, I have not found any sure method of preventing frost trouble in switch mechanisms or circuit controllers.

C. H. Brown, signal wireman, Chicago, Burlington & Quincy, Ottumwa, Iowa, recommends glycerin as a frost preventive: "I have tried several remedies to prevent frosty commutators and circuit controllers and the best thing I have found is to place a small container of glycerin as close to the commutator as possible. Two ounces of glycerin should be sufficient."

Further Comments on Detector Locking Releases

"When detector locking prevents operation of an interlocked power switch, owing to some circuit interruption or track circuit trouble, is it safe to permit of using any kind of an emergency release to nullify the detector locking?"

Believes That a Release Is Necessary at a Large and Busy Terminal Interlocker

By R. A. SHEETS

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AFTER reading the replies to the above question as published on page 32 of the January issue, it seemed that the preponderance of opinion was against the use of such a release. Yet in each answer, remedies were suggested which in themselves con-

stituted an emergency release. "Have the maintainer operate the switch by hand" is recommended although this requires the leverman to plug some protective apparatus and in addition to yell at the repairman and in return to be yelled at by the repairman with all the attendant arm swinging and possibility of delays to traffic, not to mention the possibility of accidents. When I contemplate handling a busy terminal plant in the rush hour under such conditions, I am convinced of the effectiveness of the old method of laying a brick on the "Z" relay and to look upon it as a mark of progress somewhat ahead of its time.

Candidly, are we in error in recognizing that detector locking is essentially, like anything electrical, subject to failure (either because of operating or maintenance reasons) and, therefore, some means which has proved safe and expeditious is needed for handling failures in an orderly manner. In brief, is it not just as logical to provide a proper means for release from detector locking as it is to do so with approach or route locking? And should we not in such cases surround the operation of such a release with the same operating requirements and place the full responsibility upon one man, the leverman, who has been properly instructed and is competent for the tasks assigned to him. On the above assumption, we have installed release circuits for detector locking on the following basis:

(1) A release apparatus properly housed in a cabinet, accessible only by destroying a seal to fix the responsibility, each circuit or group of circuit releases is under a separate seal, and a proper report must be made of each emergency operation.

(2) So located as to require a proper interval of time to elapse after being operated before the switches or signals can be operated.

(3) So arranged that when the release switch is thrown to release the detector locking of a switch or derail, it is necessary, after the switch or derail lever is operated, to restore the release switch to normal position before any signal either dwarf or high can be displayed in the proceed position over such detector circuit. This insures that two individual operations of the release switch must be made for each change of route.

(5) Requiring that the leverman who operates such a release switch shall see and know that the detector circuit is not occupied and that no train is on the plant side of a protective signal when the release is operated (except in emergency in case of wrecks or tie-ups, when full advantage of the release facility may be secured with full understanding between the leverman and those in charge of the emergency movements).

(6) Requiring that the leverman and the signalman co-operate over the telephone when conditions are such that the leverman cannot actually see the track section that is in trouble (which is sometimes the case in storms or in certain terminal plants), the signalmen meanwhile protecting train movements over the functions which have been operated subsequent to the act of releasing.

(7) Requiring that signalmen make every effort to repair the track circuit immediately or have repairs made and then again seal up the release apparatus.