

• What's the ANSWER? •

STOP SIGNALS IN C.T.C.

"In C.T.C. territory, when a train encounters a Stop aspect on an absolute signal which cannot be cleared due to a failure, what operating rule applies, i.e., what action is necessary to authorize the train to proceed?"



Absolute signal in C.T.C. territory on the Southern Pacific

Rules 509, 519, 520 and 521 And Clearance Form "F"

By A. L. ESSMAN
Chief Signal Engineer
Chicago, Burlington & Quincy
Chicago

BURLINGTON rules require that:

Rule 519—"When a train is stopped by a Stop signal it must stay until authorized to proceed."

Rule 520—"When a Stop signal does not clear and it is possible to communicate with the train dispatcher and the train dispatcher knows that there is no opposing train in the block, instructions may be issued to proceed under authority of Clearance Form F." Clearance Form F merely gives authority to proceed in accordance with Rule 509.

Rule 521—"When a train or engine is authorized to pass a Stop signal, which fails to clear, with Clearance Form F, trainman or engineman must examine the switch points and

observe them until leading truck of engine or car has passed the signal 50 feet."

Special Instructions and Rule 663 (A)

By J. P. KAYSEN
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Milwaukee, Wis.

ON the Milwaukee, the following instructions govern in the case of a failure of an absolute signal in C.T.C. territory:

"(g) When the governing signal displays a Stop indication and the operator knows that the interlocked switches are in proper position and there are no opposing or conflicting train or engine movements involved, he will authorize the train or engine to proceed in the following form:

"You may proceed at restricted speed to the next signal.

"If the operator does not positive-

To Be Answered In a Later Issue

(1) When cutting out frequencies from carrier telephone circuits for speech-plus-duplex telegraph, from what cycle ranges of the carrier channels should the frequencies be taken? Why? Please explain.

(2) Where freight yards are located in or near residential areas, what steps have you taken in the design, installation and operation of loudspeaker systems to avoid disturbance of the public and resultant complaints?

(3) When installing road-train communication on Diesel-electric locomotives, do you install complete transmitting and receiving equipment on each "A" unit, or only on one unit with plug-in arrangements on the other, to transfer the equipment back and forth? Why?

(4) How have you minimized breakage of bare signal and communication pole-line wires at insulator points?

(5) How do you cut the brilliancy of signal lamps at night? Have you found green to be more blinding at night to engine-men than yellow? Explain please.

(6) Do you double bond shunt-fouling signal circuits? If so, what arrangement do you use, and what are the advantages of the practice on your road?

(7) In automatic block signal territory, what are the advantages of continuous signal lighting, with reference to the information provided thereby to men on track motor cars?

If you have a question you would like to have answered, or, if you would like to answer any of the above questions, your comments will be welcomed. Address: "What's the Answer?" Department, Railway Signaling and Communications, 79 West Monroe Street, Chicago 3, Ill.

ly know that there are no opposing or conflicting train or engine movements involved or that the interlocked switches are in proper position, he will issue authority to proceed in the following form:

"You may proceed under protection of a flagman to the first signal that displays a Proceed indication.

"These instructions must be repeated by the conductor or engineer to insure correct understanding. See Rule 663 (A)."

Rule 663 (A) referred to reads as follows:

"At interlockings where distances make it impracticable for signalman to examine routes and give hand signals, trainman must be governed by instructions from signalman, examining route and operating switches by hand as required before proceeding".

Special Instruction

By A. M. GILBERT
Assistant Signal Engineer
New York Central System
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IN C.T.C. territory or any territory where the movement of trains is governed by block signals, trainmen

are governed by a special instruction in the time-table which is as follows:

"When signal indicates Stop (Rule 292) at other than remote control switch, trainmen must notify signalman at control station at once and be governed by his instructions. If authorized to proceed under Stop indication, movement must then be made at Restricted speed."

Verbal O.K. or Under Flag

By C. M. BISHOP
Signal Engineer
Chicago, Rock Island & Pacific
Chicago

WHEN this condition exists, the conductor of the train must communicate with the train dispatcher on control operation if means of communication is available and, upon verbal advise in the words "There is no opposing train in the block", the train may then proceed at low speed to the next Clear, Approach-Medium or Approach signal. If there is a lack of communication, the train may proceed under flag protection to the next Clear, Approach-Medium or Approach signal. Only under this condition do we permit a train to move against an absolute signal in C.T.C. territory.

U/G SIGNAL CABLES IN STREETS

"Where signal cables are located underground in streets and alleys in urban areas, how are the routes and presence of the cables marked, to prevent employees of public utility companies from digging into these cables?"

Furnish Utilities With Installation Plan

By S. B. HIGGINBOTTOM
Signal Engineer
Long Island, Jamaica, N. Y.

IT is our practice to indicate the location of underground signal cables by providing cable markers, placed in the ground so that the top of the markers are level with the ground line. The cable markers are made of Elastite or reinforced concrete, 3½ in. by 4 in. by 20 in. long, with a suitable plate showing the direction, etc., of the cable run mounted on the top.

Locations where cable is installed off railroad property is the exception, but we see no reason why the practice mentioned above would not be applicable for installations in streets, etc. As an additional precaution, a copy of the installation plan should be furnished to the public utility companies for information.

Use Steel Pipe

By E. A. BURGIN
General Signal Inspector
Chesapeake & Ohio
Huntington, W. Va.

AT highway crossing signal or gate installations, it is often advantageous to install underground cable in steel pipe. The pipe protects the cable from damage which might otherwise result from digging operations performed by non-railroad employees, and makes it unnecessary to mark the route of the cable in any special manner.

In many cases, the steel pipe can be jacked under the street or roadway without disturbing the surface and without interfering with highway traffic. Underground cable in steel pipe can be easily replaced and if the pipe is large enough, additional cables can be installed at little expense.

CHECKING SIGNAL BONDS

"In the maintenance of track circuits, what is the best way you have found to check drive-in plug-type rail-head signal bonds for tightness, broken strands, etc.?"

Motor Car and Walking

By J. W. COLE
Signal & Electrical Supervisor
Southern, Macon, Ga.

BROKEN strands can be detected by riding a motor car very slowly, and looking at each individual bond, while there is only one way, as I see it, to check the tightness, and that is to walk the track and check each bond. You can usually tell from observation if it has become loose.

Walk the Circuit

By C. W. DOD
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IT is necessary to walk the the track circuit in order to properly inspect drive-in plug-type rail-head signal bonds. Broken bond strands can be detected by visual inspection. A good method for ascertaining whether the bond is tight is to use a long, heavy screw driver as a pry between each bond terminal and the rail.

High-resistance connections between the bond terminal and the rail can be located, in many instances, by bridging an ordinary low-resistance telephone receiver across the rail ends of the joints. A faint click in the receiver is an indication of a leak of current in the bond connection. A convenient test set can be made for this purpose by arranging two prods on the end of an old broom handle, and connecting a piece of lamp cord from the prods to the receiver, which can be held against the ear with a head piece. By making the above tests each spring and fall, signal failures due to broken bond wires, etc., were reduced more than 50 per cent on one division of this railroad.

With Ammeter

By JOHN O'CONNOR
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THE best way to check this type of bond is with an ammeter, using the milliamper scale. First, find out