

Atlantic Coast Line Railroad Company

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**RULES**

GOVERNING THE USE  
OF  
INTERLOCKING SIGNALS,  
MANUAL BLOCK,  
AUTOMATIC BLOCK,  
AND  
STAFF BLOCK  
SYSTEMS.

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TAKING EFFECT DECEMBER 1st. 1911

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and superseding all previous Rules and Instructions  
inconsistent therewith.

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Jackson & Bell Co., Printers  
Wilmington, N. C.

## BLOCK SIGNAL RULES

For Trains Moving in the Same Direction Only.

### DEFINITIONS.

**BLOCK.**—A length of track of defined limits, the use of which by trains is controlled by block signals.

**BLOCK STATION.**—A place from which block signals are operated.

**FIXED SIGNAL.**—A signal of fixed location, indicating a condition affecting the movement of a train.

**BLOCK SIGNAL.**—A fixed signal controlling the use of a block.

**HOME BLOCK SIGNAL.**—A fixed signal at the entrance of a block to control trains in entering and using said block.

**DISTANT BLOCK SIGNAL.**—A fixed signal used in connection with a home (and advance) block signal to regulate the approach thereto.

**ADVANCE BLOCK SIGNAL.**—A fixed signal used in connection with a home block signal to sub-divide the block in advance.

**BLOCK SYSTEM.**—A series of consecutive blocks.

**MANUAL BLOCK SYSTEM.**—A block system in which the signals are operated manually.

**AUTOMATIC BLOCK SYSTEM.**—A block system in which the signals are operated by electric, pneumatic or other agency actuated by a train, or by certain conditions affecting the use of a block.

*Staff Block System.*—A block system in which the staff instruments are operated manually, and so connected as to require the co-operation of the signalmen at both ends of the block to release a staff.

**NOTE.**—Positive stop signals are equipped with square end blades. Automatic (permissive) signals are equipped with pointed end blades.

## MANUAL BLOCK SYSTEM.

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A series of consecutive blocks, controlled by block signals operated manually, upon information by telegraph, telephone or other means of communication.

### REQUISITES OF INSTALLATION.

1. Signals of prescribed form, the indications given by not more than two positions; and, in addition, at night by lights of prescribed color.
2. The apparatus so constructed that the failure of any part directly controlling a signal will cause it to display the normal indication.
3. Signals, if practicable, either over or upon the right of and adjoining the track upon which trains are governed by them. For less than three tracks signals for trains in each direction may be on the same signal mast.
4. Semaphore arms that govern, displayed to the right of the signal mast as seen from an approaching train.
5. The normal indication of Home Block Signals—Stop.

## ADJUNCTS.

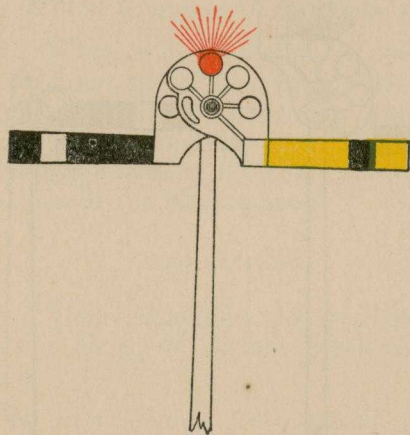
The following may be used:

(a) Distant Block Signals interlocked with Home Block Signals; normal indication—Caution.

(b) Advance Block Signals interlocked with Distant Block Signals, if used; normal indication—Stop.

## BLOCK AND TRAIN ORDER SIGNAL

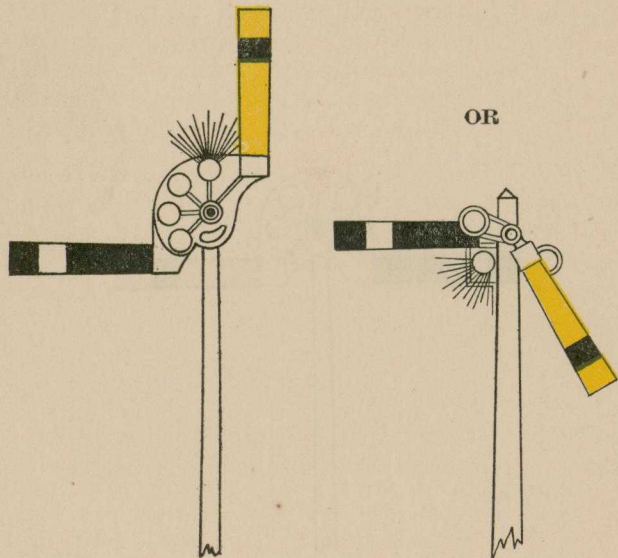
Name:—Stop Signal.



Arm extended horizontally or red light. Indication: STOP, until authorized to proceed.

## BLOCK AND TRAIN ORDER SIGNAL

Name:—Clear Signal.



Arm vertical upward, or white light,

or

Arm inclined 60 degrees downward or white light. Indication: PROCEED.

## RULES.

302. Block signals control the use of the Blocks, but, unless otherwise provided, do not supersede the superiority of trains nor dispense with the use or the observance of other signals whenever and wherever they may be required.

303. When a block station is open at an irregular hour, trains must be notified by train order or by special instructions, and special precautions must be taken to call the attention of trains approaching the block station to the indications of the block signals.

## SIGNALMEN.

311. The normal indication of Home Block Signals is Stop; of Distant Block Signals is Caution.

312. Signals must be operated carefully and with a uniform movement. If a signal fails to work properly its operation must be discontinued and the signal secured so as to display the normal indication until repaired.

313. Signalmen must observe, as far as practicable, whether the indications of the signals correspond with the positions of the levers.

314. Signalmen must not make nor permit any unauthorized repairs, alterations or additions to the apparatus.

315. A block record must be kept at each block station.

316. The prescribed communicating code is as follows:

- 1—Display Stop-signal.
- 13—I understand.
- 17—Display Stop-signal. Train following.
- 2—Block clear.
- 3—Block wanted for train other than passenger.
- 36—Block wanted for passenger train.
- 4—Train other than passenger has entered block.
- 46—Passenger train has entered block.
- 5—Block is not clear of train other than passenger.
- 56—Block is not clear of passenger train.
- 7—Train following.
- 8—Opening block station. Answer by record of trains in the extended block.
- 9—Closing block station. Answer by 13.

318 (B) To admit a train to a block, the signalman must examine the block record, and, if the block is not occupied by a passenger train, give "3 for ———," or "36 for ———," to the next block station in advance. The signalman receiving this signal, if the block is clear, must reply "2 for ———." If the block is not clear he must reply "5 of ———," or

"56 of ———." The signalman at the entrance of the block must then display the proper signal indication.

A train must not be admitted to a block which is occupied by a passenger train, except as provided in Rule 332 or by train order.

A train may be permitted to follow a train other than a passenger train into a block with Caution Card, Form B.

319. When a train enters a block the signalman must give "4 ———" or "46 ———" and the time, to the next block station in advance, and when the train has passed the home block signal and the signalman has seen the markers he must display the stop signal, and when the rear of the train has passed 300 feet beyond the home block signal he must give the record of the train to the next block station in the rear.

This information must be entered on the block records.

321. Signalmen must observe all passing trains and note whether they are complete and in order, and the markers properly displayed.

322. Should a train pass a block station with any indication of conditions endangering the train, or a train on another track, the signalman must immediately notify the signalman at the next block station in advance, and each must display Stop-signals to all trains that may be affected, and must not permit any

train to proceed until it is known that its track is not obstructed.

323. Should a train pass a block station without markers, the signalman must notify the signalman at the next block station in each direction, and must not report that train clear of the block until he has ascertained that the train is complete.

324. Should a train pass a block station in two or more parts, the signalman must stop all trains running in the same direction and notify the signalman at the next block station in advance. A signalman having received this notice must stop any train running in the opposite direction. The Stop-signal must not be displayed to the Engineman of the divided train if the train can be admitted to the block in advance under block signal rules, but the Train-parted signal must be given. Should a train in either direction be stopped, it may be permitted to proceed when it is known that its track is not obstructed.

325. A signalman informed of any obstruction in a block must immediately notify the signalman at the other end of the block and each must display Stop-signals to all trains that may be affected and must not permit any train to proceed until it is known that its track is not obstructed.

326. When a train takes a siding *at a block station* the signalman must know that it is

clear of the block before giving "2" or displaying a Clear-signal for that block.

The signalman must obtain control of the block before permitting a train on a siding *at a block station* to re-enter the block. See rule 365 (a).

327. To permit a train to cross-over or return, unless otherwise provided, the Signalman must examine the block record, and if all the blocks affected are clear of approaching trains he must arrange with the signalman at the next block station in each direction to protect the movement, and when the proper signals have been displayed permission may be given. Until the block is clear no train must be admitted in the direction of the cross-over switches except under a Caution-signal or with a Caution Card (Form B.) All cross-over movements must be entered on the block records.

328. When, as provided in Rule 364, coupled trains have been separated, the signalman must regard each portion as an independent train.

329. If necessary to stop a train for which a Clear or Caution Home (or advance) Block Signal has been displayed and accepted, the signalman must give hand signals in addition to displaying the Stop-signal.

330. A signalman having orders for a train must display the block signal at "Stop." He



may permit trains so stopped to proceed under block signal rules after complying with Rules for Movement by Train Orders.

331 (B). If, from the failure of block signal apparatus, the block signal cannot be changed from the normal indication, a signalman having information from the signalman at the next block station in advance that the block is clear, may admit a train to the block by the use of a Clearance Card (Form C); or if the block is occupied by a train, other than \* \* \* \* a passenger train, he may admit a following train by the use of a Caution Card (Form B).

332. If, from any cause, a signalman be unable to communicate with the next block station in advance, he must stop every train approaching in that direction. Should no cause for detaining the train be known, it may then be permitted to proceed with a Caution Card (Form D), provided ten minutes have elapsed since the passage of the last preceding train.

333. Signalmen must have the proper appliances for hand signaling ready for immediate use. Hand signals must not be used when the proper indication can be displayed by the block signals, except as provided in Rule 329, 342 or 375. When hand signals are necessary they must be given from such a point and in such a way that there can be no misunderstanding on the part of enginemen or

trainmen as to the signals, or as to the train or engine for which they are given.

334. Signalmen will be held responsible for the care of the block station, lamps and supplies; and of the signal apparatus unless provided for otherwise.

335. Lights within block stations must be so placed that they cannot be seen from approaching trains.

336. Lights must be used upon all block signals from sunset to sunrise and whenever the signal indications cannot be clearly seen without them.

337. If a train over runs a Stop-signal, the fact must be reported to the Superintendent.

338. If a Stop-signal is disregarded, the fact must be reported to the next block station in advance and then to the Superintendent.

339. To open a block station the signalman must give 8 to the next block station in each direction and record the trains that are in the extended block. He must then display the normal signal indication and notify the next block station in each direction that the block station is open.

When trains, which were in the extended block when the block station was opened and which had passed his block station before it was opened, clear the block in advance he must repeat the record to the block station in the rear.

340. A block station must not be closed except upon authority of the Train Dispatcher.

341. A block station must not be closed until the block in each direction is clear of all trains.

To close a block station, the signalman must give 9 to the next block station in each direction, and when he receives 13 enter it on his block record, with the time it is received from each block station.

The block signals must then be cleared, all lights extinguished and the block wires arranged to work through the closed block station.

342. When a block station is open at an irregular hour, signalman must use hand signals, in addition to block signals, to give the required indications until all trains have passed which have not been notified by train order or by special instructions that the block station is open. Signalmen must take special precaution to call the attention of trains approaching the block station to the indications of the block signals.

343. Signalmen must not permit unauthorized persons to enter the block station.

#### ENGINEMEN AND TRAINMEN.

361. Block signals for a track apply only to trains running with the current of traffic on that track.

362. Trains must not pass a Stop-signal without receiving a Caution Card (Form B or D), a Clearance Card (Form C) or a Train Order authorizing them to do so.

363. An engineman holding a Caution Card (Form D) must deliver it to the signalman at the next block station and personally obtain from him permission to proceed.

364. Unless directed by special instructions, when two or more trains have been coupled and so run past any block station, they must be uncoupled only at a block station and the signalman notified.

365 (a) When a train takes a siding at a block station, it must not again enter the block without the permission of the signalman.

If the engineman is unable to note the signal indications, the signalman must issue card, Form B or E.

365 (b) When a train takes a siding between block stations to be passed by a following train, it may, if the way is clear, follow in ten minutes under caution to the next block station.

366. Unless otherwise provided when it is necessary for a train to cross-over, the conductor before crossing or returning, must notify the signalman and obtain permission to do so.

367. Enginemen and trainmen must not proceed on hand signals as against block signals.

368. The engineman of a train which has parted must sound the whistle signal for Train-parted on approaching a block station.

369. An engineman receiving a Train-parted signal from a signalman must answer by the whistle signal for Train-parted.

370. When a parted train has been recoupled the signalman must be notified.

371. If there is an obstruction between block stations notice must be given to the nearest block signalman.

372. If a train is held by a block signal  
\* \* \* \* the conductor must ascertain the cause.

373. Conductors must report to the Superintendent any unusual detention at block stations.

374. A block station must not be considered as closed, except as provided on time-table or by special instructions.

375. When a block station is open at an irregular hour, the required block indications will be given by hand signals, in addition to block signals, until all trains have passed which have not received a train order or special instructions that the block station is open.

Form (B)

## ATLANTIC COAST LINE RAILROAD COMPANY.

### CAUTION CARD.

Block Station.....M.....191.....

To Engineman train No....., on.....track.

Block is not clear. You may proceed with caution, expecting to find track obstructed.

-----Signalman.

Engineman receiving this card properly filled out and signed by the signalman, may proceed with the train under control prepared to stop short of any obstruction in the block.

Form (C).

## ATLANTIC COAST LINE RAILROAD COMPANY.

### CLEARANCE CARD.

Block Station ..... M ..... 191 .....

To Engineman train No. .... on ..... track.

Block is clear, signal cannot be cleared; proceed.

..... Signalman.

This card must be used only in case of failure of block signal apparatus, and when block has been duly reported clear by the signalman at the block station in advance. The engineman receiving this card properly filled out and signed by the signalman, may proceed.

Form (D).

## ATLANTIC COAST LINE RAILROAD COMPANY.

### CAUTION CARD.

Block Station ..... M ..... 191 .....

To Engineman train No. .... on ..... track.

Means of communication have failed. You may proceed with caution, expecting to find track obstructed.

..... Signalman.

Engineman receiving this card properly filled out and signed by the signalman may proceed with the train under control, prepared to stop short of any obstruction in the block.

Form (E).

## ATLANTIC COAST LINE RAILROAD COMPANY.

## CLEARANCE CARD.

Block Station, ..... 191. .... M.

To Engineman:

Train No. .... Block is clear.

..... Signalman.

Engineman receiving this card properly filled out by the signalman, may proceed.

## AUTOMATIC BLOCK SYSTEM.

## AUTOMATIC BLOCK SYSTEM.

A series of consecutive blocks controlled by Block Signals operated by electric, pneumatic or other agency, actuated by a train or by certain conditions affecting the use of a block.

## REQUISITES OF INSTALLATION.

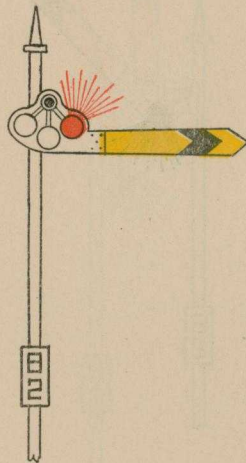
1. Signals of prescribed form, the indications given by not more than three positions; and, in addition, at night by lights of prescribed color.
2. The apparatus so constructed that the failure of any part controlling the Home Block Signal will cause it to indicate STOP.
3. Signals, if practicable, either over or upon the right of and adjoining the track upon which trains are governed by them. For less than three tracks, signals for trains in each direction may be on the same signal mast.
4. Semaphore arms that govern, displayed to the right of the signal mast as seen from an approaching train.
5. Switches in the main track so connected with the block signals that the Home Block Signal in the direction of approaching trains

will indicate STOP when the switch is not set for the main track.

6. Signal connections and operating mechanism so arranged that a Home Block Signal will indicate STOP after the head of a train shall have passed it.

## AUTOMATIC SIGNAL

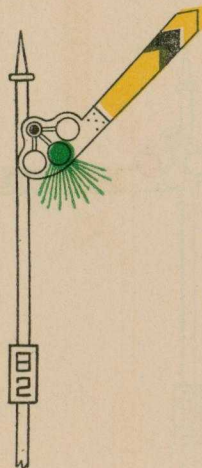
Name:—Stop Signal.



Arm extended horizontally or red light. Indication: STOP, then proceed—Rule 504.

## AUTOMATIC SIGNAL

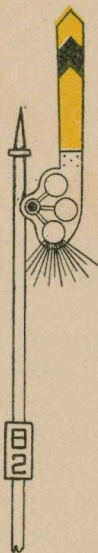
Name:—Caution Signal.



Arm inclined upward 45 degrees or green light.  
 Indication: PROCEED. Approach next signal prepared to stop.

## AUTOMATIC SIGNAL

Name:—Clear Signal.



Arm vertical upward, or white light. Indication: PROCEED.

## RULES.

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502. Block Signals control the use of the blocks, but, unless otherwise provided, do not supersede the superiority of trains; nor dispense with the use or observance of other signals whenever and wherever they may be required.

503. Block Signals for a track apply only to trains running with the current of traffic on that track.

504. When a train is stopped by a block signal, it may proceed when the signal is cleared. If not immediately cleared, it may proceed—

(A) On single track, preceded by a flagman to the next CLEAR signal;

(B) On double track at once with caution, *to the next Signal in advance.*

506 (a) When a train is stopped by a block signal the engineman will fill out form 544 and leave at the next open telegraph office at which the train stops.

When form 544 is left at a telegraph office the operator will immediately wire the Superintendent the information contained on the card, and will forward the card to the Signal Engineer by first train mail.



507. Lights must be used upon all block signals from sunset to sunrise, and whenever the signal indications cannot be clearly seen without them.

#### SPECIAL INSTRUCTIONS.

1. The normal indication of all automatic block signals is CLEAR.
2. Automatic block signals are designated by numbers, even numbers North and East and odd numbers South and West.
3. On double track both ends of main track cross-overs control the automatic block signals in both directions. Unless both ends of such cross-overs are set for the main track,\* the signals in each direction will be held at STOP.
4. In order to avoid setting main track signals at STOP, cars or engines must not be allowed to stand on side track between the fouling blocks and switches.
5. Enginemen must not allow either fire-box or front-end cinders to be dropped on the tracks that are governed by Automatic Block Signals.

NOTE.—Trainmen are reminded that although the Caution Signal indicates the position of the Home Signal, the Home Signal may assume the STOP position after the Caution Signal has given the PROCEED indication, while the train is between the Home and Caution Signal; therefore they must be prepared to stop if the Home Signal indicates STOP.

## INTERLOCKING RULES.

#### DEFINITIONS.

INTERLOCKING.—An arrangement of switch, lock and signal appliances so interconnected that their movements must succeed each other in a predetermined order.

INTERLOCKING PLANT.—An assemblage of switch, lock and signal appliances, interlocked.

INTERLOCKING STATION.—A place from which an interlocking plant is operated.

FIXED SIGNAL.—A signal of fixed location indicating a condition affecting the movement of a train.

INTERLOCKING SIGNALS.—The fixed Signals of an interlocking plant.

HOME SIGNAL.—A fixed signal at the point at which trains are required to stop when the route is not clear.

DISTANT SIGNAL.—A fixed signal used in connection with a home (and advance) signal to regulate the approach thereto.

ADVANCE SIGNAL.—A fixed signal used in connection with the home signal, to facilitate the movements within an interlocking plant.

DWARF SIGNAL.—A low fixed signal.

## REQUISITES OF INSTALLATION.

1. Signals of prescribed form, the indications given by not more than three positions; and, in addition, at night by lights of prescribed color.

2. The apparatus so constructed that the failure of any part directly controlling a signal will cause it to display the normal indication.

3. Signals, if practicable, either over or upon the right of and adjoining the track to which they refer.

4. Semaphore arms that govern, displayed to the right of the signal mast as seen from an approaching train.

5. The normal indication of Home Signals—Stop.

6. The interlocking of signals with switches, locks, railroad crossings, or drawbridges, so that a Clear-signal cannot be displayed unless the route to be used is clear and Stop-signals displayed for all conflicting routes.

14. The established order of interlocking such that: A Clear or Caution Home Signal cannot be displayed until derails or diverting switches, if any, in conflicting routes are in their normal position, and the switches for the required route are set and locked. The display of a Clear or Caution Home Signal shall lock all switches and locks in the route as far as the point to which signal gives per-

mission to proceed, locking all opposing or conflicting signals. The display of a Clear Home Signal shall release the corresponding Distant Signal.

Where Distant Signals are used, the display of a Clear Distant Signal shall lock the Home (and Advance) Signal in the clear position.

15. Interlocking and Block Signals, interconnected, where both are operated from the same station.

## ADJUNCTS.

The following may be used:

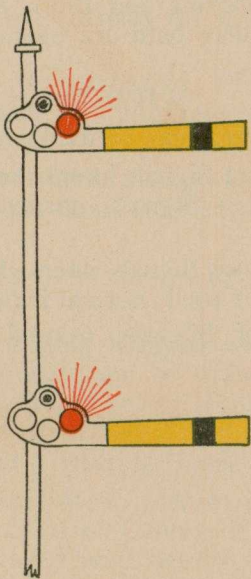
(A) Distant Signals interlocked with Home (and Advance) Signals; normal indication—Caution.

(B) Advance Signals interlocked with Distant Signals, if used; normal indication—Stop.

(C) Dwarf Signals; normal indication—Stop.

## INTERLOCKED HOME SIGNAL—Two Arm

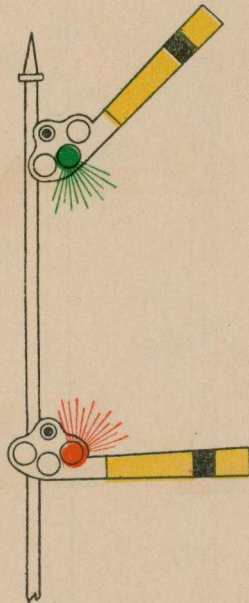
Name:—Stop Signal.



Arms extended horizontally or red lights. Indication: STOP, until authorized to proceed.

## INTERLOCKED HOME SIGNAL—Two Arm

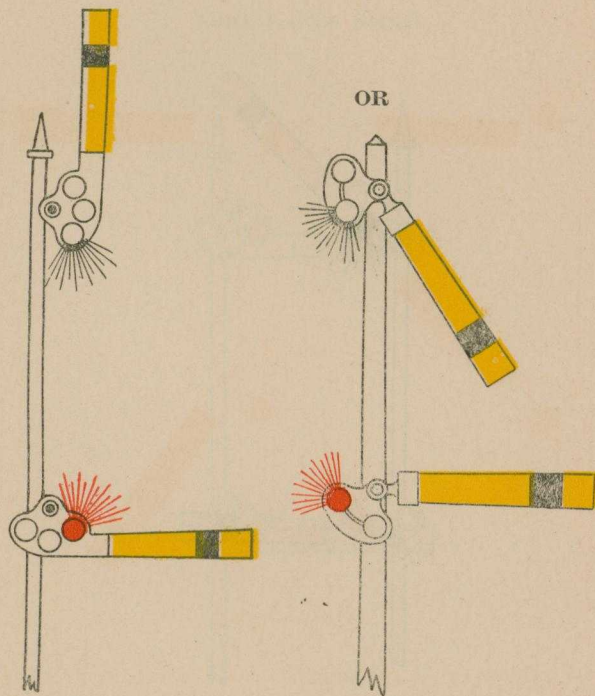
Name:—Caution Signal.



Upper arm inclined upward 45 degrees or green light; lower arm extended horizontally or red light. Indication: PROCEED. Approach next signal prepared to stop.

## INTERLOCKED HOME SIGNAL—Two Arm

Name:—Clear Signal.



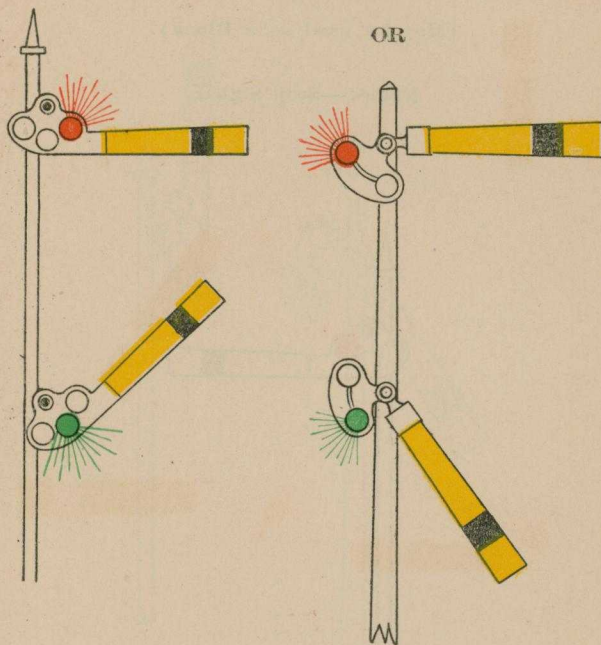
Upper arm vertical, upward, or white light;  
lower arm extended horizontally or red light.

or

Upper arm inclined 60 degrees downward or  
white light; lower arm extended horizontally or  
red light. Indication: PROCEED.

## INTERLOCKED HOME SIGNAL—Two Arm

Name:—Caution Signal.



Lower arm inclined upward 45 degrees or green  
light; upper arm extended horizontally or red  
light.

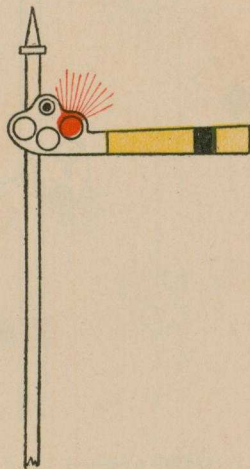
or

Lower arm inclined 60 degrees downward or  
green light; upper arm extended horizontally or  
red light. Indication: PROCEED, at low speed.  
(Diverging Route).

## INTERLOCKED HOME SIGNAL—One Arm

(May be used as a Block).

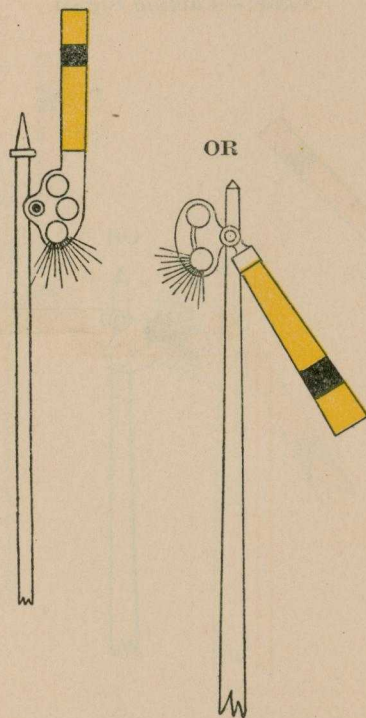
Name:—Stop Signal.



Arm extended horizontally or red light. Indication: STOP, until authorized to proceed.

## INTERLOCKED HOME SIGNAL—One Arm

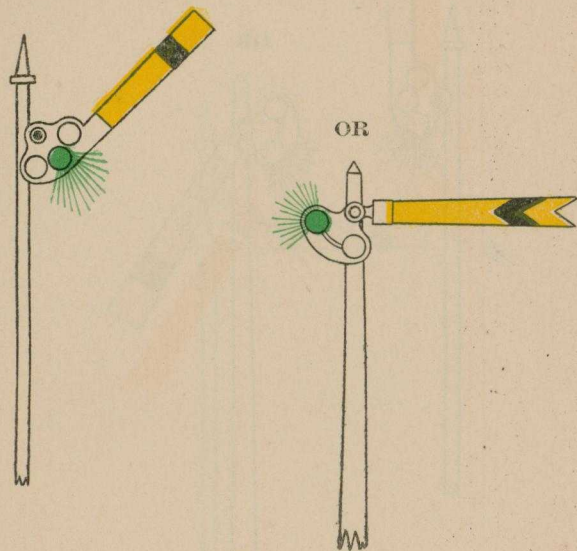
Name:—Clear Signal.



Arm vertical upward or white light,  
or  
Arm inclined 60 degrees downward or white  
light. Indication: PROCEED.

## INTERLOCKED DISTANT SIGNAL

Name:—Caution Signal.

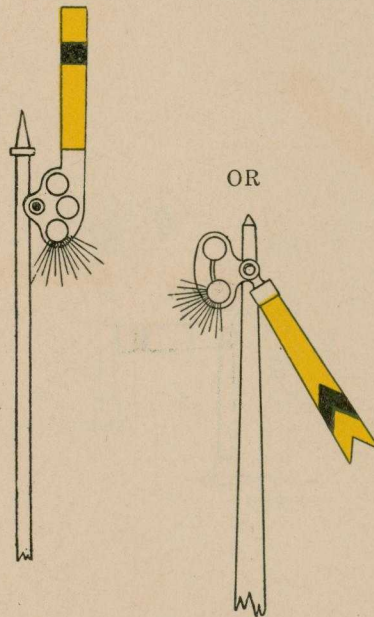


Arm inclined upward 45 degrees or green light.  
or

Dovetail arm extended horizontally or green light. Indication: PROCEED. Approach Home, Advance or Block Signal prepared to stop.

## INTERLOCKED DISTANT SIGNAL

Name:—Clear Signal.

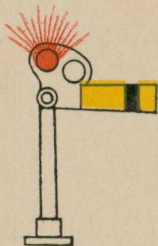


Arm vertical upward or white light.  
or

Dovetail arm inclined 60 degrees downward or white light. Indication: PROCEED.

## INTERLOCKED DWARF SIGNAL

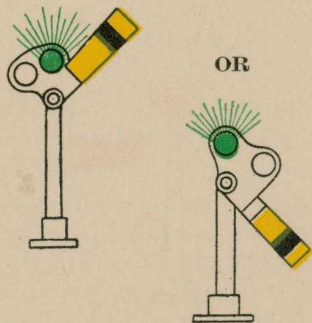
Name:—Stop Signal.



Arm extended horizontally or red light. Indication: STOP, until authorized to proceed.

## INTERLOCKED DWARF SIGNAL

Name:—Caution Signal.



Arm inclined upward 45 degrees or green light,  
or  
Arm inclined 60 degrees downward or green light. Indication: PROCEED, at low speed.

## **RULES.**

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602. Interlocking signals, unless otherwise provided, do not supersede the superiority of trains; nor dispense with the use or the observance of other signals whenever and wherever they may be required.

### **SIGNALMEN.**

611. The normal indication of Home Signals is Stop.

612. Levers, or other operating appliances, must be used only by those charged with that duty and as directed by the rules.

613. Signal levers must be kept in the position displaying the normal indication, except when signals are to be cleared for an immediate train or engine movement.

614. When the route is clear the signals must be cleared sufficiently in advance of approaching trains to avoid delay.

615. Signals must be restored so as to display the normal indication as soon as the train or engine for which they were cleared has passed 300 feet.

616. If necessary to change any route for which the signals have been cleared for an approaching train or engine, switches must not



be changed or signals cleared for any conflicting route until the train or engine, for which the signals were first cleared, has stopped.

617. A switch or facing point lock must not be moved when any portion of a train or an engine is standing on, or closely approaching, the switch or detector bar.

618. Levers must be operated carefully and with a uniform movement. If any irregularity, indicating disarranged connections, is detected in their working, the signals must be restored so as to display the normal indication and the connections examined.

619. During cold weather the levers must be moved as often as may be necessary to keep connections from freezing.

620. If a signal fails to work properly its operation must be discontinued and until repaired the signal secured so as to display the normal indication.

621. Signalmen must observe, as far as practicable, whether the indications of the signals correspond with the positions of the levers.

622. Signalmen must not make nor permit any unauthorized repairs, alterations or additions to the plant.

623. If there is a derailment or if a switch is run through, or if any damage occurs to the track or interlocking plant, the signals must be restored so as to display the normal indication, and no train or switching movement permitted

until all parts of the interlocking plant and track liable to consequent injury have been examined and are known to be in a safe condition.

624. If necessary to disconnect a switch from the interlocking apparatus the switch must be securely fastened.

625. During storms or while snow is drifting special care must be used in operating switches. If the force whose duty it is to keep the switches clear is not on hand promptly when required, the fact must be reported to the Superintendent.

626. When switches or signals are undergoing repairs, signals must not be displayed for any movements which may be affected by such repairs, until it has been ascertained from the repairmen that the switches are properly set for such movements.

627. Signalmen must observe all passing trains and note whether they are complete and in order; should there be any indication of conditions endangering the train, or any other train, the signalman must take such measures for the protection of trains as may be practicable.

628. If a signalman has information that an approaching train has parted he must, if possible, stop trains or engines on conflicting routes, clear the route for the parted train, and give the Train-parted signal to the engineman.

629. Signalmen must have the proper appliances for hand signaling ready for immediate use. Hand signals must not be used when the proper indication can be displayed by the interlocking signals. When hand signals are necessary they must be given from such a point and in such a way that there can be no misunderstanding on the part of enginemen or trainmen as to the signals, or as to the train or engine for which they are given.

630. If necessary to discontinue the use of any interlocking signal, hand signals must be used and the Superintendent notified.

631. Signalmen will be held responsible for the care of the interlocking station, lamps and supplies; and of the interlocking plant, unless provided for otherwise.

632. Lights within interlocking stations must be so placed that they cannot be seen from approaching trains.

633. Lights must be used upon all interlocking signals from sunset to sunrise, and whenever the signal indications cannot be clearly seen without them.

634. If a train or engine over runs a Stop-signal, the fact must be reported to the Superintendent.

635. Signalmen must not permit unauthorized persons to enter the interlocking station.

#### ENGINEMEN AND TRAINMEN.

661. Trains or engines must be run to but not beyond a signal indicating stop, except as provided in Rule 663.

662. If a clear or caution signal, after being accepted, is changed to a stop signal before it is reached, the stop must be made at once. Such occurrence must be reported to the Superintendent.

663. Enginemen and trainmen must not proceed on hand signals as against interlocking signals until they are fully informed of the situation and know that they are protected. Trainmen must not give proceed hand signals which conflict with interlocking signals.

664. The engineman of a train which has parted must sound the whistle signal for Train-parted on approaching an interlocking plant.

665. An engineman receiving a Train-parted signal from a signalman must answer by the whistle signal for Train-parted.

666. When a parted train has been recoupled the signalman must be notified.

667. Sand must not be used over movable parts of an interlocking plant.

668. Conductors (or enginemen of yard engines) must report to the Superintendent any unusual detention at interlocking plants

668 (a) Cinders must not be dumped within the limits of an interlocking plant.

669. Trains or engines stopped by the signalman in making a movement through an interlocking plant, must not move in either direction until they have received the proper signal from him.

## ELECTRIC STAFF BLOCK SYSTEM RULES.

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1. The staff block system consists of staff instruments erected in block stations at each end of the block, electrically connected; the instruments are in charge of signalmen and one instrument cannot be operated without the knowledge and co-operation of the signalman in charge of the other.

2. When a staff has been withdrawn from an instrument another staff cannot be withdrawn from either instrument until the staff already withdrawn is replaced in the same instrument, or in the one at the other end of the block.

3. A staff may be divided into five sections, and may be used complete or in sections for the movement of trains as provided for in rules 7 and 8.

4. A staff or a section of a staff in possession of engineman is authority for the train to proceed against opposing trains to the next block station.

5. Should the staff instruments fail, or a staff or a section of a staff be lost, the instruments controlling the block become inoperative.

## SIGNALMEN.

7. To move a train from A to B, the block being clear, the manipulation is as follows:

The signalman at A presses bell key (3 taps); the signalman at B acknowledges receipt (2 taps) on his bell and then holds it closed, thereby deflecting the indicating needle at A to the right. This informs A that B has furnished A current, and he proceeds to remove the staff by turning the preliminary spindle handle to the right as far as it will go, and then permits it to automatically return to its normal position. This unlocks the instrument, and indicates the fact by displaying a white instead of a red indicator at the top of the instrument.

The signalman will now move the end staff up the vertical slot into engagement with the outer guard (located underneath the indicator), the guard having been first turned to the right position, revolve the latter through half of a turn, using the staff as a handle, and finally withdraw the staff through the opening.

In making the half turn of the guard, the staff indicating needle at A will show "Staff Out" instead of "Staff In". Immediately on withdrawing the staff the signalman at A will press his bell key (1 tap) which indicates to the signalman at B, by moving his needle from "Staff In" to "Staff Out", that the operation

is completed. The staff is then inserted in the ring staff pouch and placed in the staff crane deliverer to be caught by the engineman of the train about to enter the block.

On arrival of train at B, the engineman must deliver the staff to the signalman or drop it into the staff catcher. The signalman, having seen that the train is complete by observing the markers and that it is clear of the block, places the staff in the opening of his instrument (having first turned the guard to place), moves it into engagement with the guard and revolves the latter through one-half turn, using the staff as a handle, and allows it to roll down the spiral. He then presses his bell key (4 taps) notifying A that the train is out of the staff block; this operation also moves the staff indicating needle at A from "Staff Out" to "Staff In."

The signalman at A presses his bell key (2 taps) and by so doing moves the staff indicating needle at B from "Staff Out" to "Staff In."

8. When more than one train is to be moved in the same direction the Dispatcher will instruct signalman the number of sections into which the staff is to be divided and a section will be delivered to the engineman of each train. These sections must be delivered to the signalman at the other end of the block in the same manner as the complete staff, as outlined in Rule 7, and the signalman must see that the sections of the staff are properly

assembled and tightened to avoid becoming loosened in the instrument.

9. A staff or section of a staff received from a train, must not be delivered to another train until the entire staff has been placed in the instrument and withdrawn in strict accordance with Rule 7.

10. When necessary Dispatcher will instruct signalman as to the preference to be given to opposing trains.

11. Signalman must not deliver a staff or section of a staff to any person except the engineman of the train which is to enter the block.

12. In case of failure of staff block system all concerned must be notified and train movement will be directed by Dispatcher. When instruments have been repaired Dispatcher must ascertain that the block is clear before issuing orders substituting the staff block system.

#### ENGINEMEN AND TRAINMEN.

13. A train will not pass into the block until the signals indicate "Caution" or "Clear" and will not then proceed until a staff or section of a staff is in possession of the engineman.

14. The delivery of the staff to the engineman will be by hand of the block signalman, or by staff crane deliverer.

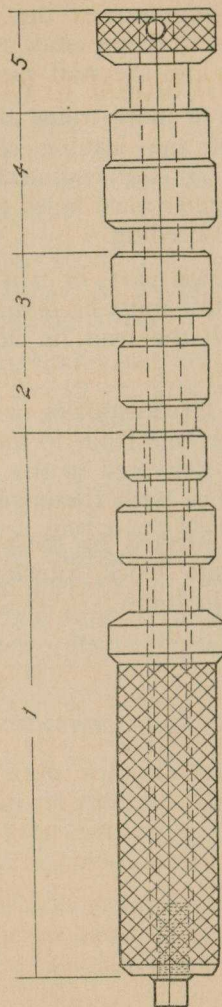
15. Upon passing out of the block, the engineman must deliver the staff to the signalman or drop it into the staff catcher.

16. When two or more trains are coupled, the engineman of the leading engine will handle the staff, but the engineman of the other engine or engines must know that he has the staff before proceeding.

17. In case a train parts or it is necessary to "Double", the staff must be retained by the engineman until all the train is clear of the block.

18. Under no circumstances will a staff be transferred from one train to another. It must invariably be delivered to the signalman strictly in accordance with these instructions.

19. Except as affected by these rules, all manual and automatic block, interlocking and train rules remain in force.



Staff

## INSTRUCTIONS TO SIGNAL REPAIRMEN.

1. They will report to and receive their instructions from the Supervisor of Signals.
2. They will be held responsible for the care and maintenance of all signals and other apparatus assigned to them.
3. They will send to Signal Engineer failure report cards as soon as repairs have been made, and will report all failures whether covered by card or not.
4. They will, in case of accident, make immediate inspection of switches, signals, crossing bells, etc., and report by wire condition of same to Supervisor of Signals, Signal Engineer and Superintendent.
5. They will co-operate with employes of this and all other departments.
6. They will, on finding or hearing of an automatic signal which fails to go to danger, make immediate inspection, fasten the signal to danger and leave it in that position until repaired, sending special report at once to Supervisor of Signals and Signal Engineer.
7. They will not give hand signals except to stop trains in emergency.

8. They will, when switches or signals are out of service, notify Superintendent as soon as repairs are completed.

9. They will, during sleet and snow storms, co-operate with Roadway Department forces to keep plants working.

10. They will not install new signals, nor change the location or form of existing signals, without the authority of the Signal Engineer.

11. No apparatus shall be cut out of service without the authority of the Signal Engineer or Supervisor of Signals, and then only after bulletin has been posted, except to promote safety; in such cases Superintendent and Supervisor of Signals must be immediately notified and apparatus put in service again as soon as repairs have been completed.

12. Where the condition of switches or tracks do not admit of proper operation or maintenance of the interlocking plant, the fact must be reported to the Superintendent and Supervisor of Signals.

13. When any part of an interlocking plant is to be repaired, a thorough understanding must be had with the signalman, to secure the safe movement of trains and engines during repairs. The signalman must be notified when the repairs are completed.

14. If necessary to disconnect any switch, it must be securely fastened before any train or engine is permitted to pass over it.

## INSTRUCTIONS TO TRACK FOREMEN WITHIN INTERLOCKING AND AU- TOMATIC BLOCK LIMITS.

1. They will be held responsible for the proper care and maintenance of all track details in connection with successful operation of interlocking, automatic block and other signal apparatus.

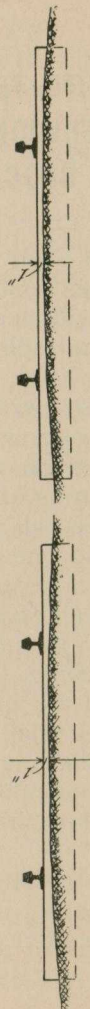
2. They will not permit grass, weeds or other vegetation to grow under pipe lines, around other apparatus, nor allow refuse to collect within the limits of interlocking plants.

3. They will keep all interlocked switches in perfect grade and line, switch timbers well tamped and points in proper place.

4. They will, in all cases, notify Signal Repairman when they intend to do track work within the interlocking limits which would affect adjustment of the apparatus.

5. They will see that proper drainage is maintained at interlocking plants, that ballast is kept clear of cross connections, and dirt kept at least 9 inches below the bottom of pipes in main pipe line.

6. Where track circuits are employed they will see that track ballast is graded to conform to sketch shown on next page, and so maintained.



7. They must give notice to Signal Repairman at least one day in advance where rails, switches or ties which support switch boxes or track instruments are to be changed, or road-bed raised at a point where the wires for track run to signal apparatus.

8. They must be careful in tamping ties and spiking rails and angle bars not to injure any bond wires or track connecting wires, and must see that no spikes are placed, or bolts or point wedges allowed to become loose that are likely to make improper connection of circuits at switches. When wires are broken, a temporary connection must be made and the Signal Repairman notified at once.

9. They must be particular to see that all insulated joints are tamped frequently and solidly; that all bolts are kept tight in these joints and when wood or fibre plates and filler end pieces are worn out that they are promptly renewed. A supply of plates, bolts, fibre angle plates and end pieces must be kept on hand.

10. Uninsulated track gauges and hand cars must not be used where electric track circuits are employed.

E. BORDEN,  
Gen'l Supt. Trans.

APPROVED :

W. N. ROYALL,  
General Manager.



