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THE PENNSYLVANIA RAILROAD

BOOK OF RULES

INSPECTED
Date MAR 5 1954
R. C. HIRST

THE PENNSYLVANIA RAILROAD

RULES

FOR CONDUCTING TRANSPORTATION

EFFECTIVE SEPTEMBER 30, 1951

THE PENNSYLVANIA RAILROAD

The rules herein set forth govern the railroads operated by the Pennsylvania Railroad and must be observed by all employes whose duties are in any way affected thereby. They supersede all previous rules and instructions inconsistent therewith.

Special instructions may be issued by proper authority.

H. L. NANCARROW,
General Manager, Eastern Region.

W. W. PATCHELL,
General Manager, Central Region.

J. B. JONES,
General Manager, Western Region.

C. I. CLUGH,
Works Manager.

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GENERAL NOTICE

Safety is of the first importance in the discharge of duty.

Obedience to the rules is essential to safety.

To enter or remain in the service is an assurance of willingness to obey the rules.

The service demands the faithful, intelligent and courteous discharge of duty.

To obtain promotion, ability must be shown for greater responsibility.

A. Employes whose duties are prescribed by these rules must provide themselves with a copy.

Employes whose duties are in any way affected by the time-table must have a copy of the current time-table with them while on duty.

In special instructions, general orders, general notices and all other instructions for conducting transportation, references to rules by number shall be restricted to rules contained in the Book of Rules, unless otherwise stated.

B. Employes must be conversant with and obey the rules and special instructions. If in doubt as to their meaning they must apply to proper authority for an explanation.

C. Employes must pass the required examinations.

Employes whose duties require them to be familiar with the Book of Rules and time-table, must pass a satisfactory examination within six months after entering service and be re-examined at least once every three years or at more frequent intervals where required by law, or by proper authority.

When reporting for examination they must present their copy of the Book of Rules for checking.

D. Persons employed in any service on trains are subject to the rules and special instructions.

E. Employes must devote themselves exclusively to the company's service while on duty, render every assistance in their power in carrying out the rules and special instructions, and report to the proper official any violation thereof.

F. Accidents, failure in the supply of water, fuel or electric power, defects in track, bridges, signals, catenary and transmission lines, or any unusual conditions which may affect the movement of trains must be promptly reported by wire to the superintendent.

G. The use of intoxicants or narcotics by employes available for or while on duty is prohibited and is sufficient cause for dismissal.

H. The use of tobacco by employes on duty in or about passenger stations, or on passenger cars, is prohibited.

Smoking in engine rooms of diesel engines is prohibited. Smoking in operating cabs of diesel engines enroute is permitted.

J. Employes on duty must wear the prescribed badge and uniform and be neat in appearance.

K. To avoid annoyance to the public, employes and others authorized to transact business at stations and on or about trains must be courteous, orderly and quiet.

L. In case of danger to the Company's property employes must unite to protect it.

M. Employes must exercise care to avoid injury to themselves and others.

N. Employes while on duty connected with trains on any division are under the authority and must conform to the orders of the officers of that division in the same manner as though on duty on their home division.

O. Unauthorized persons must not be permitted upon engines and trains.

P. Employes must not divulge to any person other than the shipper, consignee or duly authorized public officer, any information concerning shipments of freight, which information might be used to the disadvantage of the patrons of the railroad.

Q. Employes whose legal hours of service are restricted by law must take action through the proper officer to avoid excess periods of service.

The hours of service law requires that no conductor, trainman, engineman, fireman, or driver of track car shall be permitted to be continuously on duty for more than 16 consecutive hours, nor permitted to be on duty more than 16 hours in the aggregate in any 24-hour period, except in case of casualty, unavoidable accident or Act of God. After being on duty 16 consecutive hours, such employe must not be required or permitted to again resume duty without having been off duty 10 consecutive hours, and, after being on duty 16 hours in the aggregate in any 24-hour period, must not be required or permitted to again go on duty without having at least 8 consecutive hours off duty.

Any such employe who may be ordered to report for duty before his legal rest period has expired must report the fact to the superintendent before going on duty.

Unless otherwise provided on the time-table, any such employe when he has been on duty for 12 hours, consecutively or in the aggregate, must notify the superintendent as to the time when his hours on duty will amount to 14 hours.

The time of employes performing more than one period of service within a 24-hour period will be considered consecutive unless given a complete release for a definite time of at least two consecutive hours off duty between any two periods of service.

For the purpose of determining hours of service under the law, an employe will be considered as being "on duty" from the time he is ordered to report and so reports until he is completely released from duty for a definite period of at least 2 consecutive hours.

Should such employes be on duty in excess of 16 hours in a 24-hour period, the conductor, engineman or driver of track car must submit a special detailed report of delays encountered, to the superintendent.

R. In event of injuries to persons occurring on the railroad, first aid and medical care must be provided.

Personal injuries to employes must be reported immediately to the head of department and, if medical service was rendered, the name of the attending physician included.

A report of injuries to passengers, railroad employes, or other persons employed on trains, containing such information as available, must be made immediately to superintendent, followed promptly by a full report on

form C. T. 75-A. If medical service is rendered, name of attending physician must be stated in first report, when practical.

Emergency calls for surgeons will have preference over other business, except train orders and power emergency calls.

Employes injured on Company property or while on Company business will be treated by the nearest physician named on the time-table special instructions. If hospital attention is necessary, they should be sent, if practicable, to one of the hospitals named on the time-table special instructions. The extent of the medical and hospital expense for which the Company will be responsible will be determined by proper official.

Other than employes injured on Company property will receive first attention by the medical examiner or Company surgeon, without cost; at points where it is impossible to obtain their services, the Company will be responsible for the cost of reasonable surgical attention by an outside surgeon for the first services rendered. Subsequent attention will be determined by direction of proper official.

S. Switch keys will be furnished only to such employes as may be directed by the superintendent. Employes entrusted with switch keys must sign receipt for them.

DEFINITIONS

Block

BLOCK—A length of track of defined limits, the use of which by trains is governed by block signals, block-limit signals, cab signals or cab signals and block signals.

Block Signal Systems

AUTOMATIC BLOCK SIGNAL SYSTEM—A block signal system wherein the use of each block is governed by an automatic block signal, cab signal, or both.

MANUAL BLOCK SIGNAL SYSTEM—A block signal system wherein the use of each block is governed by block signals controlled manually or by block-limit signals or both upon information by telephone or other means of communication.

Bridge Movable (Draw)

MOVABLE BRIDGE—That section of a structure bridging a navigable waterway so designed that it may be displaced to permit passage of traffic on the waterway.

Division

DIVISION—That portion of a railroad assigned to the supervision of a superintendent.

Engines

ENGINE—A unit propelled by any form of energy and used in train or yard service.

YARD ENGINE—An engine assigned to yard service.

Interlocking

INTERLOCKING—An arrangement of signals and signal appliances so interconnected that their movements must succeed each other in proper sequence and for which interlocking rules are in effect. It may be operated manually or automatically.

INTERLOCKING LIMITS—The tracks between the extreme or outer opposing home signals of an interlocking.

Pilot

PILOT—An employe assigned to a train when the engineman, conductor or both are not fully acquainted with the physical characteristics or rules of the railroad, or portion of the railroad, over which the train is to be moved.

Route

ROUTE—The course or way which is, or is to be, traveled.

CONFLICTING ROUTES—Two or more routes, opposing, converging or intersecting, over which movements cannot be made simultaneously without possibility of collision.

Signals

Aspect—The appearance of a fixed signal conveying an indication as viewed from the direction of an approaching train; the appearance of a cab signal conveying an indication as viewed by an observer in the cab.

Block Signal—A fixed signal, or hand signal in the absence of a fixed signal, at the entrance of a block to govern trains and engines in entering and using that block.

Block-Limit Signal—A fixed signal indicating the limit of a block the use of which by trains is prescribed by manual block signal system rules.

Cab Signal—A signal located in engineman's compartment or cab indicating a condition affecting the movement of a train and used in conjunction with interlocking signals and in conjunction with or in lieu of block signals.

Distant Signal—A fixed signal used in connection with one or more signals to govern the approach thereto.

Fixed Signal—A signal of fixed location indicating a condition affecting the movement of a train or engine.

Home Signal—A fixed signal at the entrance of a route or block to govern trains and engines in entering and using that route or block.

Indication—The information conveyed by the aspect of a signal.

Interlocking Signals—The fixed signals of an interlocking.

Speeds

Medium Speed—Not exceeding one-half the speed authorized for passenger trains but not exceeding 30 miles per hour.

Reduced Speed—Prepared to stop short of train or obstruction.

Slow Speed—Not exceeding 15 miles per hour.

Restricted Speed—Not exceeding 15 miles per hour prepared to stop short of train, obstruction or switch not properly lined and to look out for broken rail.

Stations

Block Station—A place at which manual block signals are displayed.

Block-Limit Station—A place at which a block-limit signal is displayed.

Interlocking Station—A place from which an interlocking is operated.

Station—A place designated on the time-table by name.

Time-Table

Time-Table—The authority for the movement of regular trains subject to the rules. It contains classified schedules with special instructions relating to the movement of trains.

Schedule—That part of a time-table which prescribes class, direction, number and movement of a regular train.

Tracks

Main Track—A designated track upon which trains are operated by time-table, train order or both or the use of which is governed by block signals.

Secondary Track—A designated track upon which trains and engines may be operated without time-table authority, train orders or block signals.

Siding—A track auxiliary to a main track or a secondary track for meeting or passing trains.

Single Track—A main track upon which trains are operated in both directions.

Two or More Tracks—Two or more main tracks upon any of which the current of traffic may be in either specified direction.

Current of Traffic—The movement of trains on a main track in one direction specified by the rules.

Yard—A system of tracks within defined limits provided for the making up of trains, storing of cars and other purposes, over which movements not authorized by time-table or by train order may be made, subject to prescribed signals and rules, or special instructions.

Track Car

Track Car—A hand car or a self-propelled car or truck which may be manually moved to or from the track.

Trains

Train—An engine or more than one engine coupled, with or without cars, displaying markers.

Extra Train—A train not authorized by a time-table schedule. It must be designated as—

Extra—For any extra train except passenger train extra or work train extra;

Passenger Extra—for passenger train extra;

Work Extra—for work train extra.

Regular Train—A train authorized by a time-table schedule.

Superior Train—A train having precedence over another train.

Train of Superior Right—A train given precedence by train order.

Train of Superior Class—A train given precedence by time-table.

Train of Superior Direction—A train given precedence in the direction specified by time-table as between opposing trains of the same class.

NOTE—Rules with prefix "S" are for single track territory; those with prefix "D" are for two or more track territory. Rules without a prefix are for single and two or more track territory.

STANDARD TIME

1. United States Eastern Standard Time or United States Central Standard Time, as specified on time-tables, is the standard and will be transmitted daily to all designated points at 12.00 noon and 12.00 midnight Eastern Time and at 11.00 A. M. and 11.00 P. M. Central Time, at which time clocks must be adjusted to show correct time.

2. Conductors, enginemen, drivers of track cars and other designated employes must use reliable watches.

3. Conductors, enginemen, drivers of track cars and other designated employes before starting on each daily run or trip, must compare their watches with a clock designated by time-table as a standard clock and adjust them to show correct time.

Conductors, enginemen, drivers of track cars and other designated employes not having access to a standard clock, must compare their watches daily with those of conductors or enginemen who have standard time or secure correct time from operator at nearest block station and adjust watches to show correct time.

TIME-TABLES

4. Each time-table from the moment it takes effect supersedes the preceding time-table and its schedules take effect on any division at the leaving time at their initial stations on such division. When a schedule of the preceding time-table corresponds in number, class, day of leaving, direction and initial and terminal stations with a schedule of the new time-table, a train authorized by the preceding time-table will retain its train orders and assume the schedule of the corresponding number of the new time-table.

Schedules on each division date from their initial stations on such division.

Not more than one schedule of the same number and day shall be in effect on any division.

5. Not more than two times are given for a train at any station; where one is given unless otherwise indicated, it is the leaving time; where two, they are the arriving and leaving times.

The time applies at the switch where an opposing train clears; where there is no switch it applies at the station.

Schedule meeting or passing stations are indicated by figures in full-faced type.

Both the arriving and leaving time of a train are in full-faced type when both are meeting or passing times or when one or more trains are to meet or pass it between those times.

Where there are one or more trains to meet or pass a train between two times, or more than one train to meet a train at any station, attention is called to it by a symbol—Ⓐ, Ⓑ, Ⓒ, etc.

When trains are to be met or passed at a siding extending between two adjoining stations, the time at each end of the siding will be shown in full-faced type.

Signals

7. Employes whose duties may require them to give signals must provide themselves with the proper appliances and keep them in good order and ready for immediate use.

8. Flags of the prescribed color must be used by day and lights of the prescribed color by night.

9. Day signals must be displayed from sunrise to sunset but when day signals cannot be plainly seen, night signals must be used in addition.

Night signals must be displayed from sunset to sunrise.

10. Color Signals

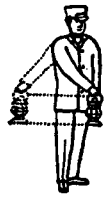
COLOR	INDICATION
(a) Red.	Stop.
(b) Yellow.	Proceed at Reduced speed and for other uses prescribed by the rules.
(c) Green.	Proceed and for other uses prescribed by the rules.
(d) Green and white.	Flag stop. See Rule 28.
(e) Blue.	See Rule 26.
(f) Purple.	Stop.
(g) White.	As prescribed by rules.
(h) Flashing yellow.	Proceed prepared to stop at next signal.

11. A train finding a fusee burning red on or near its track must stop and extinguish the fusee and then proceed at Reduced speed.

12. Hand, Flag and Lamp Signals

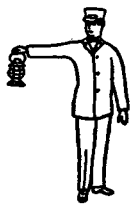
Note—The hand or a flag moved the same as the lamp, as illustrated in the following diagrams, gives the same indication except that in the observance of Rule 12a the hand or flag movement may be above the shoulder.

12a.



STOP.
Swung across the track.

12b.

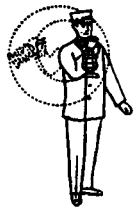


REDUCE SPEED.
Held horizontally at arm's length.

12c.

PROCEED.
Raised and lowered vertically.

12d.



BACK.
Swung vertically in a circle at half arm's length across the track.

12f.

APPLY AIR BRAKES.
Swung horizontally above the head, when standing.

12g.

RELEASE AIR BRAKES.
Held at arm's length above the head, when standing.

12h. Any object waved violently by any one on or near the track is a signal to stop.

13. When a train has one engine, signals to the engineman must be given according to the way the engine is headed. When a train has more than one engine and they are headed in opposite directions, no movement will be made until the conductor has an understanding with his crew.

14. Engine Whistle Signals

Note—The signals prescribed are illustrated by "0" for short sounds; "—" for longer sounds. The sound of the whistle should be distinct with intensity and duration proportionate to the distance signal is to be conveyed.

SOUND	INDICATION
(a) o	Apply brakes. Stop.
(b) — —	Release brakes. Proceed.
(c) — o o o	Flagman protect rear of train.
(ca) — o o o — **(Repeat)**	Flagman protect adjacent track.†
(d) — — — —	(Single or two main tracks) Flagman may return from west or south.*
(da) — — — —	(Three or more main tracks) Flagman for passenger track may return from west or south.*
(db) — — — — o	(Three or more main tracks) Flagman for freight track may return from west or south.*
(dc) — — — — o o	(Three or more main tracks) Flagman for ———— track may return from west or south.*
(e) — — — — —	(Single or two main tracks) Flagman may return from east or north.*
(ea) — — — — —	(Three or more main tracks) Flagman for passenger track may return from east or north.*
(eb) — — — — — o	(Three or more main tracks) Flagman for freight track may return from east or north.*
(ec) — — — — — o o	(Three or more main tracks) Flagman for ———— track may return from east or north.*
(g) o o	Answer to any signal not otherwise provided for.
(h) o o o	When standing, back. Answer to 12 d and 16 (c). When running, answer to 16 (d).
(j) o o o o	Call for signals.

† As prescribed by Rule 102.
* As prescribed by Rule 99.

(l) — — o —	Approaching public crossings at grade, to be prolonged or repeated until crossing is reached, unless otherwise provided; also when view is obscured by weather and other conditions, approaching interlockings, stations, yards or other points where men may be at work.
(m) ————	Approaching railroad crossings at grade and non-stop stations where mail is caught or delivered.
(o) o —	Inspect train for train line leak, brakes sticking and for dragging equipment.
(p) Succession of short sounds.	Alarm for persons or live stock on the track.
(q) — o	When running against the current of traffic: (1) Approaching stations, curves or other points where view may be obscured. (2) Approaching passenger or freight trains and when passing freight trains. (3) Preceding the signals prescribed by (d), (e), and (da) to (ec) inclusive, flagman for train against the current of traffic on that track may return.*
(r) — — o	To call attention of operator in last block station before reaching point where stop is to be made for such purpose as may be outlined by time-table special instructions.

* As prescribed by Rule 99.

15. Torpedoes

The explosion of two torpedoes is a signal to proceed at Reduced speed. The explosion of one torpedo will indicate the same as two but the use of two is required.

Torpedoes must not be placed at stations, public crossings or where persons are liable to be injured by them.

16. Communicating Signals

Note—The signals prescribed are illustrated by "0" for short sounds; "—" for longer sounds.

SOUND	INDICATION
(a) o o	When standing—start.
(b) o o	When running—stop at once.
(c) o o o	When standing—back.
(d) o o o	When running—stop at next passenger station.
(e) o o o o	When standing—apply or release air brakes.
(f) o o o o	When running—reduce speed.
(g) o o o o o	When standing—recall flagman.
(h) o o o o o	When running—increase speed.
(j) o o o o o o	When running — increase train heat.
(l) ————,	When running—brakes sticking; look back for hand signals.
(m) — o	M.U. train — motor wheels are spinning.

Train Signals

17. The headlight will be displayed to the front of every train by night and when passing through tunnels.

It must be dimmed:

(a) While passing through yards;

(b) Approaching stations at which stops are to be made or where trains are receiving or discharging passengers;

(c) Approaching train order signals, meeting points and when stopped;

(d) On two or more tracks when approaching a train in the opposite direction;

(e) Approaching fixed signals when the view of the signal is improved thereby.

When a train is equipped with an oscillating white light on front of train, the oscillating white light will be turned on from sunset to sunrise and when day signals cannot

be plainly seen approaching public crossings at grade; non-interlocked railroad crossings at grade; also when view is obscured approaching points where men may be at work.

18. Yard engines will display the headlight to the front and rear by night. When not provided with a headlight at the rear, a white light must be displayed.

19. The following signals will be displayed, one on each side of the rear of every train, as markers, to indicate the rear of the train:

By day, on cars not equipped with fixed electric marker lamps, marker lamps not lighted; on engines and cars equipped with fixed electric marker lamps, marker lamps lighted as at night.

By night, on engines and cars, marker lamps lighted showing red to the rear except in manual block signal system territory when clear of main track, marker lamps lighted showing yellow to the rear.

A train not equipped to display the markers prescribed by Rule 19, will display on rear of train, by day, a red flag; by night, a red light except in manual block signal system territory when clear of main track, a white light.

When cars are pushed by an engine (except when shifting or making up trains in yards) a white light must be displayed on the front of the leading car by night.

When an engine is running backward without cars or at the front of a train pulling cars, a white light must be displayed by night on the rear of the tender if not equipped with a headlight.

25. Each car on a passenger train must be connected with the engine by a communicating signal appliance.

26. A blue signal displayed at one or both ends of an engine, car or train indicates that workmen are under or about it; when thus protected it must not be coupled to or moved. Each class of workmen will display the blue signals and the same workmen are alone authorized to remove them. Other equipment must not be placed on the same track so as to intercept the view of the blue signals without first notifying the workmen.

When emergency repair work is to be done under or about cars in a train and a blue signal is not available, the engineman and fireman will be notified and protection must be given those engaged in making the repairs.

When a blue signal is placed at one or both ends of an engine or cars to which an engine is attached, the engineman and fireman must be notified; they must also be notified when the blue signal is removed.

Use of Signals

27. A signal imperfectly displayed or the absence of a signal at a place where a signal is usually shown, must be regarded as the most restrictive indication that can be given by that signal, except that when the day indication is plainly seen or when sufficient lights in a position light signal are displayed to determine the indication of the signal, it will govern.

Engine and train crews using a switch where the switchlight is imperfectly displayed or absent must correct or replace the light if practicable.

A signal imperfectly displayed or the absence of a signal at a place where a signal is usually shown, must be promptly reported to the superintendent.

Note—Reflectors illuminated by head lights may be substituted for marker lamps on block signals and for switch lamps.

28. A green and white signal will be used to stop a train only at the flag stations indicated on its schedule.

At stations where trains are scheduled to stop on signal to receive passengers, and flag stop signals are not in use, conductors and enginemen of such trains must assure themselves there are no passengers to board train before passing station.

29. When a signal, except a fixed signal, is given to stop a train, it must be acknowledged as prescribed by Rule 14(g) or 14(h) unless otherwise provided.

30. The engine bell must be rung when an engine is about to move, when running through tunnels, while approaching and passing public crossings at grade and when passing a train standing on an adjacent track.

32. The unnecessary use of either the whistle or the bell is prohibited.

33. Watchmen stationed at public crossings at grade must use stop signals when necessary to stop trains. They will use prescribed signals to stop highway traffic.

Switch tenders will use a yellow flag by day and a yellow light by night to give signals.

34. Immediately upon seeing a fixed signal all members of engine and train crew must, when practicable, communicate to each other by its name the indication of each signal affecting the movement of their train or engine.

35. The following signals will be used by flagmen:
Day signals—A red flag, torpedoes and fusees.
Night signals—A red light, torpedoes and fusees.

38. A yellow Advance Speed-limit sign equipped to display a yellow light by night, will be placed to the right of the track, indicating the approach to a portion of track on which a temporary speed restriction has been placed by train order or general order. It will be located at braking distance from the portion of the track upon which the speed is restricted.

A yellow Speed-limit sign equipped to display a yellow light by night, placed to the right of the track, will indicate the beginning of the speed restriction.

A green Resume-speed sign equipped to display a green light by night, placed to the right of the track, will indicate the end of the restricted territory. Trains must not resume normal speed until rear of train has passed the Resume-speed sign.

Advance Speed-limit, Speed-limit, and Resume-speed signs will be placed with and against current of traffic.

When a speed restriction has been placed on a track and Advance Speed-limit, Speed-limit, and Resume-speed signs cannot be installed immediately, the train order making the speed restriction effective must so state, and under such circumstances train will approach the portion of the track upon which the speed restriction applies at the specified speed, and must not resume normal speed until rear of train has passed the restricted area.

NOTE—Yellow flags and lights in lieu of Advance Speed-limit, Speed-limit signs and green flags and lights in lieu of Resume-speed signs may be used when such signs are not immediately available.

Superiority of Trains

***S*-71.** A train is superior to another train by right, class or direction.

Right is conferred by train order; class and direction by time-table.

Right is superior to class or direction.

Direction is superior as between trains of the same class.

***D*-71.** A train is superior to another train by right or class.

Right is conferred by train order; class by time-table.

Right is superior to class.

***S*-72.** Trains in the direction specified by the time-table are superior to trains of the same class in the opposite direction.

73. Extra trains are inferior to regular trains.

General Orders

75. General orders will be issued by authority and over the signature of the superintendent. General orders must be numbered consecutively, the number being prefixed by the number of the time-table. Each general order will contain a sub-heading indicating in what general order zone or zones the order applies.

New rules, annulments and changes in rules approved for system practice, will be made effective by general orders on sticker coupons which the employes must insert in their copy of Book or Rules.

Conductors and enginemen, when reporting for duty, must examine the bulletin boards to see that they are familiar with all effective general orders pertaining to any portion of the general order zones on which they are qualified. They must insert a sticker copy of all general orders in their time-tables, after which they, as well as trainmen and firemen, must sign the employes' register in the presence of a designated employe who must personally witness the signature of each employe.

Train and engine crews after having been off duty one hour or more, must re-register.

Conductors and enginemen reporting for duty at a place where there is no designated employe on duty, or where no general orders are posted, or where the general orders posted do not cover the territory over which they are assigned to run, must report to the operator and receive instructions by train order covering the general orders not in their possession, but which are effective in that territory.

Before starting on a trip or tour of duty, the conductor and engineman, except when reporting for duty at bulletin board locations specified by special instructions, must know that the other is qualified and that he has inserted in his time-table the necessary general orders for such trip or tour of duty; also the conductor must know with respect to the trainmen, and the engineman with respect to the fireman, that they have seen and are familiar with such general orders.

Conductors and enginemen ordered to run over any portion of a division or foreign railroad over which they are not qualified must inform the superintendent of the division or foreign railroad that they are not qualified.

The general order zones on which conductors and enginemen are qualified must be shown in the space provided therefor on their time-tables.

Each qualified conductor and engineman, whether or not serving in that capacity, must have with him while on duty the time-tables of the divisions on which he is qualified in part or whole showing the general order zones in which he is qualified and containing the necessary general orders pertaining thereto.

At points where there is no designated employe on duty to witness signatures, conductor or engineman must witness the signatures of all members of his crew.

Observation of Trains for Defects

76. Conductors and enginemen must know that cars and engines are in safe condition for movement over routes prescribed for their train.

Side and trap doors of passenger cars must be closed except as otherwise provided, doors and drop bottoms of freight cars must be closed and fastened, and top covers of cars must be secured in place as required.

Dead engines, locomotive cranes and equipment of like character and cars with open lading of excess dimensions must not be moved in trains without permission of the superintendent except when authorized by proper and specific instructions.

When a coach with end gates is next to the engine in a train, the gate next to the engine must be in position.

A passenger train with vestibule car on rear must not be permitted to leave a terminal without having rear of train protected by safety gates or chains in proper position.

Engine and train crews as frequently as opportunity permits must observe engines and cars in their train, moving and standing, to detect any conditions that might interfere with the safe movement of trains.

An indicator light displaying illuminated letter E located on or adjacent to a distant signal, indicates that the dragging equipment detector has been actuated and train must stop as soon as safe handling will permit. After each actuation of a dragging equipment detector, the train

crew must examine the entire train and advise the signalman when this has been done before proceeding.

When a car or engine is found to be in a condition that might interfere with the safe movement of trains, the conductor or engineman must report the condition at once to the superintendent for instructions.

When train or engine crews rerail cars or engines they must inspect them for bent axles and other defects and, in addition, arrange for inspection by inspectors at the first opportunity.

Where wheels are overheated due to brakes sticking and after releasing and cutting out the brake, a thorough examination of the overheated wheels must be made and if any cracks are found in flange, tread, plate or hub, car must be set out of the train.

Defective parts of equipment must, when possible, be loaded on engines or cars from which removed, otherwise they must be placed a safe distance from track. Superintendent must be notified as to disposition.

77. So far as practicable and other duties permit, employes will observe passing trains for defects and should there be any indication of conditions endangering the train they must take necessary measures for its protection.

Train and engine crews on moving trains will be on the lookout for signals when passing other trains and while passing stations, highway crossings where watchmen are on duty and points where trackmen and other employes are working and when practicable exchange hand signals with them.

A train must be stopped when it is observed with any of the following defects or other indications of conditions endangering the train:

Hot Journal
Sliding Wheels
Broken Wheels
Defective Truck
Dragging Brake Connection
Lading Shifted over Side or End of Car
Swinging Car Door

Movement of Track Cars

80. Track cars will run as track car extras, in charge of drivers, governed by rules and special instructions applying to track cars and by the same rules and special instructions as apply to trains other than passenger trains, except as otherwise herein provided. Track car extras will be designated by the last four numerals of track car

numbers. Rules 17 and 19 will not apply, but a white light to the front and a red light to the rear of each track car must be displayed by night, and while passing through tunnels.

Track car extras must sound warning signals upon approach to each highway crossing at grade, and stop short of the crossing if it is not clear for the movement to be made by the track car extra over it.

On tracks governed by Block Signal System Rules, track car extras will run without train orders by verbal permission of the signalmen in charge of the portions of the track to be used. Signalmen must not permit track car extras to enter and proceed on track of no assigned direction nor enter a track of assigned direction and proceed against the current of traffic unless so authorized by the superintendent, and then only when the portion of the track to be used is clear of opposing trains and track car extras, and signals governing opposing movements display Stop and their levers are blocked by standard blocking devices.

On tracks governed by Manual Block Signal System Rules track car extras must not enter a block at a block station without permission of the signalman in addition to block signal indication, nor at any other location without first ascertaining the condition of the block. In the application of Rule 317, opposing movements of track car extras within the limits of a block may be permitted, under Permissive-block signal, by the signalman when authorized by the superintendent, when the movements are restricted to separate portions of the block. A track car extra may follow a passenger train in the same block under Permissive-block signal by permission of the signalman who shall notify the track car extra it is following a passenger train.

On tracks governed by Automatic Block Signal System Rules, Rules 513 to 518 inclusive do not apply to track car extras. In the application of Rule 506 a following track car extra may be permitted by the signalman to enter the track occupied by other track car extras between adjacent block stations or interlockings when notified by the signalman to look out for the other track car extras occupying the track without block signal protection. Opposing movements of track car extras on a track between adjacent block stations or interlockings may be permitted at Restricted speed, by the signalman when authorized by the superintendent, when the movements are restricted to separate portions of the track between adjacent block stations or interlockings.

On tracks governed by Interlocking Rules, Rule 637 will apply to track car extras.

Track cars will not operate spring switches.

Signalmen will not admit a one-man track car to a block which is occupied by an approaching train, nor permit any train to enter a block which is occupied by a one-man track car without instructions from the superintendent.

Unless otherwise provided, Rules and special instructions applying to movement of track cars will apply to burro cranes or cars of similar type or construction.

Burro cranes will be designated as Burro crane extra, and other cars in a like manner.

When detector cars are testing rail they will be governed by the same rules and instructions as apply to track cars. In manual block signal system territory, Rule 316 will apply to following movements, except track car extras may follow detector car extras in the block under Permissive-block signal when notified by the signalman to look out for the detector car extra ahead.

Movement of Trains

82. Time-table schedules, unless fulfilled, are in effect for twelve hours after their time at each station.

Regular trains more than twelve hours behind either their scheduled arriving or leaving time at any station lose both right and schedule, and can thereafter proceed only as authorized by train order.

***S*-83.** A train must not leave its initial station on any division nor a junction nor pass from one of two or more tracks to single track, until it has been ascertained whether all trains due which are superior have arrived or left.

Note—The manner in which information as to the arrival or departure of trains due will be furnished, will be indicated by special instructions on the time-table.

***D*-83.** A train must not leave its initial station on any division nor a junction until it has been ascertained whether all superior trains due have left.

Note—The manner in which information as to the departure of trains due will be furnished, will be indicated by special instructions on the time-table.

84. A train must not start unless a proper indication to proceed has been received by the engineman. The communicating signal will be used to start a passenger train.

When communicating signal is inoperative and cannot be put in working condition without detention, train may proceed after conductor and engineman have an understanding as to how train is to be operated.

85. Regular trains may pass other trains and extra trains may pass and run ahead of extra trains.

86. Unless otherwise provided, an inferior train must be clear at the time a superior train in the same direction is due to leave the next station in the rear where time is shown.

***S*-87.** An inferior train must keep out of the way of opposing superior trains and failing to clear the main track by the time required by rule must be protected as prescribed by Rule 99.

Extra trains must clear the time of opposing regular trains not less than five minutes unless otherwise provided and will be governed by train orders with respect to opposing extra trains.

***S*-88.** At meeting points between extra trains the train in the inferior time-table direction must take the siding unless otherwise provided. The train must pull into the siding when practicable; if necessary to back in, it must first be protected as prescribed by Rule 99 unless otherwise provided.

***S*-89.** At meeting points the inferior train must take the siding and clear the time of the superior train not less than five minutes, except at schedule meeting points between trains of the same class, where the inferior train must clear the main track before the leaving time of the superior train.

The superior train must stop at schedule meeting points with trains of the same class unless switch is properly lined and track clear. The inferior train must pull into the siding when practicable; if necessary to back in, it must first be protected as prescribed by Rule 99 unless otherwise provided.

92. A train must not leave a station in advance of its schedule leaving time.

NOTE—Where Rule 261 is in effect, or on two or more tracks where Rule 251 is in effect, a train may run in advance of its schedule time, except at a station where it is scheduled to receive traffic.

***S*-93.** Within yard limits, movements not authorized by time-table schedule or train order may be made on the main track by proper signal indication or permission of the operator without protecting against extra trains or engines.

Within yard limits, regular and extra trains are not required to provide protection, except against regular trains.

Extra trains and engines must move within yard limits prepared to stop short of other yard movements, trains and obstructions unless the main track is known to be clear.

Yard engines will not display markers except when passing block stations.

NOTE—Where block signal system rules are in effect "known to be clear" includes when track is known to be clear by signal indication.

NOTE—Yard limits will be indicated by yard limit boards.

NOTE—Yard engines will display a red light to the rear at night.

***D*-93.** On portions of the railroad and within designated limits so specified on the time-table, the main track may be used with the current of traffic by proper signal indication or permission of the operator without protecting against following movements on the same track. Within these limits, trains and engines must move at Reduced speed, unless the track ahead upon which the movement is to be made, is known to be clear.

NOTE—Where block signal system rules are in effect "known to be clear" includes when track is known to be clear by signal indication.

94. A train or engine must not proceed on a signal displayed for a preceding movement; however a train overtaking another train which is stalled or requires assistance or a train called upon in emergency, in the absence of other instructions, will render such assistance as may be necessary after having a proper understanding with the train involved and with the operator if the movement is to be made past a block station.

When a train is coupled to or assisting a train ahead it will be considered part of the train to which coupled so far as observing fixed signals is concerned.

Unless otherwise directed when two or more trains have been coupled and so move past any block station, they must be separated only at a block station and the operator notified.

95. Regular trains must be designated by both schedule and engine number. They will be identified by engine number.

***S*-96.** A train must be informed by train order as to the number of the engine on an opposing regular train; however if the engine number is not received by train order, the identification will be made by a personal conference between the conductors and enginemen of trains involved.

A train will obtain from the operator the number of the engine on a superior regular train in the same direction it is moving.

***S*-97.** Unless otherwise provided, extra trains must not be run without train orders.

***D*-97.** Extra trains may be run without train orders.

NOTE—Signal indication or permission of the signalman will be authority for a train to run as an extra. When a train is to run as a Passenger Extra it will be notified by signalman unless otherwise specified on time-table.

98. Trains must approach the end of two or more tracks, junctions, railroad crossings at grade, and movable bridges, prepared to stop unless the switches are properly lined, signals indicate proceed, and track is clear. Where required by law, trains must stop.

At a movable bridge, before a Clearance Card (Form C) or train order is issued with signal in stop position, or a hand signal is given to a train having received such train order, for a movement over a movable bridge, the signalman or bridge tender must personally examine or have knowledge from an authorized maintainer or M. W. representative that the movable bridge is in place, with rails lining up properly, locked and safe for train movements and where smashboards are used that they are secured in vertical position. Train must then not exceed a speed of four miles per hour over movable bridge with any part of train.

When movable bridges are not a part of an interlocking, they will be listed on the station page of the time-table and, when necessary, instructions governing movement over such movable bridge will be indicated by time-table special instructions.

99. When a train stops under circumstances in which it may be overtaken by another train, the flagman must go back immediately with flagman's signals a sufficient distance to insure full protection, placing two torpedoes, and when necessary, in addition, displaying lighted fusees.

When recalled and safety to the train will permit, he may return.

When conditions require, he will leave the torpedoes and a lighted fusee.

The front of the train must be protected in the same way when necessary by the fireman.

When a train is moving under circumstances in which it may be overtaken by another train, the flagman must take such action as may be necessary to insure full protection. By night, or by day when the view is obscured, lighted fusees must be dropped off at proper intervals.

When day signals cannot be plainly seen, owing to

weather or other conditions, night signals must also be used.

Conductors and enginemen are responsible for the protection of their trains.

When a pusher engine is assisting a train, coupled behind the cabin car, and the flagman that protects the rear end of the train is riding in the cabin car, the requirements as to the use of fusees should be met by dropping them off between the cabin car and pusher engine on the track the train is using, and not between that track and an adjacent track.

NOTE—When trains are operating under automatic block signal system rules, the requirements of Rule 99, in so far as protecting against following trains is concerned, will have been complied with when full protection is afforded against trains moving at Restricted speed.

101. Trains must be fully protected against any known condition not covered by the rules which may interfere with their safe passage.

Any work on or adjacent to a track which may create a condition interfering with the safe movement of trains at maximum authorized speed or the use of derricks or other equipment which may foul adjacent tracks, must not be attempted without permission of the operator. The operator must secure authority from the superintendent before giving such permission. When such permission is obtained protection against trains in both directions must be provided before the track is obstructed, and trains approaching the obstruction must be notified by train order.

Engine whistles must not be used to recall flagmen in such cases; understanding must be had by the conductor and flagman as to which tracks no longer need be protected.

102. When a train is disabled or stopped suddenly by an emergency application of the air brakes or other causes, adjacent tracks as well as tracks of other railroads that are liable to be obstructed must be protected at once in both directions until it is ascertained they are safe and clear for the movement of trains.

In single or two track territory, when a train is equipped with an oscillating red light on either engine or rear car and a sudden or severe application of the brakes takes place or an equipment failure occurs which may obstruct adjacent tracks, the oscillating light or lights shall be turned on immediately.

Trains approaching from either direction must stop and must not proceed until it is ascertained that it is safe to do so.

103. When cars are pushed by an engine and the conditions require, a trainman must take a conspicuous position on the leading car; under such circumstances if signals from the trainmen cannot be received by the engine crew, the movement must be stopped immediately unless a brake valve and an alarm whistle on the leading car are being used.

When a train is shifting over a public crossing at grade not protected by a watchman, gates or automatic highway crossing signals, a member of the crew must protect the crossing in advance of each movement over the crossing.

Cars left on tracks adjacent to a public crossing at grade must be placed as far from the crossing as conditions will permit.

Before cars are moved on tracks where loading or unloading is done, trainmen must see that persons working about the cars are warned, and that transfer boards, if used, are removed.

Flying switches (or swinging of cars) should be avoided if possible. Such movements must not be made with cars containing live stock, explosives, inflammables, acid, chlorine gas or poison gas, nor with cars occupied by persons except employes on duty, nor to tracks occupied by such cars, nor to short tracks leading to trestles or buildings. Cars occupied by passengers and cars placed on tracks occupied by such cars, must be handled by engines with air brakes in service.

104. Conductors and flagmen are responsible for the position of switches used by them and their trainmen except where switch tenders are stationed. Switches must be properly lined after having been used.

Employes throwing hand switches must examine the switch points and know they fit the rail properly and where a derail is in service, they must know it is in proper position before and after operating it.

A switch must not be left open for a following train or engine unless in charge of a trainman of that train or engine.

When practicable, the engineman must see that the switches nearest the engine are properly lined.

A train or engine must not foul a track until switches connected with the movement are properly lined. While a train or engine is waiting to cross from one track to another and during the approach or passage of a train or engine on tracks involved, all switches connected with the movement must be secured in the normal position. Switches must not be restored to normal position until

a movement is completed or clear of the main track involved.

Where trains or engines are required to be reported clear of main track, such report must not be made until switch has been secured in its normal position.

Trains and engines must approach switches where switch tenders are stationed prepared to stop clear of any switch or route unless signal to proceed is received from the switch tender.

A switch tender must not set a switch to divert an approaching train until he is assured of its identity and that its speed does not exceed 15 miles per hour.

A spring switch is marked by disc with white background and black letters SS. Switch lamp will display green light in both directions when switch is in normal position and red light in both directions when switch is in reverse position or not properly lined.

When trailing movement through spring switch (in springing position) is stopped before movement is completed, slack must not be taken or reverse movement made until switch has been reversed by hand.

After passing with proper authority a Stop-signal, Rule 292; a Stop-and-proceed signal, Rule 291; a Caution signal, Rule 285-A, or a yellow distant switch indicator protecting a spring switch; movement shall not be made over the switch until it has been operated by hand to the proper position and switch points have been examined by a member of the crew, unless a green light is displayed on the switch lamp.

The switch, if operated by hand, must be restored to normal position after movement is completed.

Sand must not be used nor water allowed to run over a spring switch.

105. Unless otherwise provided, trains using a siding must proceed at Reduced speed.

A siding of an assigned direction must not be used in the reverse direction unless authorized by the employe in charge, or in an emergency under flag protection.

Unless otherwise provided, trains and engines using a secondary track must proceed at Reduced speed unless the track upon which the movement is to be made is seen or known to be clear and switches properly lined.

A secondary track upon which trains and engines are operated in both directions must not be used without permission of the employe in charge of such track. A secondary track of assigned direction must not be used in the reverse direction unless authorized by the employe in charge, or in an emergency under flag protection.

Unless otherwise provided, trains and engines using a secondary track or a siding will not protect against following movements on such tracks.

106. Both the conductor and the engineman are responsible for the safety of the train and the observance of the rules, and under conditions not provided for by the rules, must take every precaution for protection.

They shall require assistance from the trainmen and fireman in all things requisite for the safe and prompt movement of their train.

107. Trains must not pass between a passenger train receiving or discharging traffic at a station and the platform at which the traffic is being received or discharged.

Unless otherwise provided, the conductor and engineman of a passenger train receiving or discharging traffic across tracks between their train and station platform, must see that the traffic is protected against trains running on such tracks. When the passenger train is a regular train making schedule stops on its assigned track, or when it is known that other trains have been notified of the stopping of the train at the stations where protection would otherwise be required, protection against other trains is not required.

108. In case of doubt or uncertainty the safe course must be taken.

109. Messages or orders restricting the movement of trains or concerning the condition of tracks, bridges or signals must be in writing.

Mile post numbers shall not be used in train orders, general orders or instructions relating to train operation unless the mileage figures on the station page of the time-table conform with the mile post locations on the right-of-way of the portion of the railroad involved.

When mile post numbers are used in train orders, general orders or instructions, they shall conform to numbered mile posts in the direction shown on Station page of Time-Table.

***D*-151.** Where two main tracks are in service, trains must keep to the right unless otherwise provided.

Where three or more main tracks are in service they shall be designated by numbers and their use indicated by special instructions.

Unless otherwise provided, trains operated against the current of traffic must be run with train orders and at speed specified on the time-table and as further provided by Rule 98.

152. When a train crosses over to or obstructs another track, unless otherwise provided, it must first be protected as prescribed by Rule 99.

153. When a train carrying mail is diverted from its regular track so that mail cannot be caught from crane or delivered with safety, the train must stop to receive or deliver the mail, and the trainmen give the necessary assistance in the handling of mail.

Movement by Train Orders

201. For movements not provided for by time-table, train orders will be issued by authority and over the signature of the superintendent and only contain information or instructions essential to such movements.

They must be brief and clear; in the prescribed forms when applicable; and without erasure, alteration or interlineation.

Figures in train orders must not be surrounded by brackets, circles nor other characters.

Except where Rule 261 is in effect, train orders will be issued to cover the meeting of regular trains at scheduled meeting points.

Where switch numbers are used, only switches of sidings will be numbered, No. 1 being the most eastward or northward switch, with the numbers increasing towards the westward or southward.

When switch numbers are used in train orders, the word "Switch . . ." will precede the name of the station.

202. Each train order must be given in the same words to all employes or trains addressed.

203. Train orders must be numbered consecutively each day, beginning at midnight.

Train orders used for slow orders or similar instruction shall be in effect only a sufficient length of time to prepare general order unless the length of time the restriction will be in effect is known and it would be impracticable to provide a general order.

During the time such train orders are used, they should be re-issued each day, as soon as practicable after 12.01 A. M.

204. Train orders must be addressed to those who are to execute them naming the place at which each is to receive his copy. Those for a train must be addressed to the conductor and engineman and also to any one who acts as its pilot. A copy for each employe addressed and for the engineman of each helping engine must be supplied by the operator.

Orders addressed to operators restricting the movement of trains must be respected by conductors and enginemen the same as if addressed to them.

Enginemen must show train orders to firemen and when practicable to forward trainmen. Conductors must show train orders when practicable to trainmen.

The engineman of each engine taken on at a point where no train orders are delivered to the train, must be advised by the conductor or train engineman of all train orders, previously received, affecting the train in the territory covered by the additional engine.

NOTE—When so indicated by special instructions on time-table, a copy of the train order for the engineman of each helping engine pushing the train need not be supplied.

205. Each train order must be written in full in a book provided for the purpose at the office of the superintendent and with it recorded the time and the signals which show when and from what offices the order was repeated and the responses transmitted and the train dispatcher's initials. These records must be made at once and never from memory or memoranda.

206. In train orders regular trains will be designated by schedule and engine number as "No 10 Eng 798." Extra trains will be designated by engine number and direction, as "Extra 798 'east' or 'west' ", for steam, electric or diesel engines; "M U extra 798 'east' or 'west' ", for multiple unit engines; "R C extra 798 'east' or 'west' ", for rail motor car; and "T C extra 7981 'east' or 'west' ", for Track Car. For the movement of an engine of another company the initials as well as the engine number will be used.

Even hours as "10 00 a m" must not be used in stating time in train orders.

In transmitting train orders by telegraph or telephone, time will be stated in figures and duplicated in words.

In transmitting train orders by telephone, the names of stations must be plainly pronounced and then spelled, letter by letter, thus: Aurora, A-u-r-o-r-a; all numerals in the body of an order must first be plainly pronounced and then spelled, thus: 1-0-5, o-n-e n-a-u-g-h-t f-i-v-e.

The letters duplicating names of stations and numerals will not be written in the order book nor upon train orders, except time, which must be duplicated in words.

When train orders are transmitted by telegraph, the train dispatcher must underscore each word and figure in the body of the order at the time it is repeated. When transmitted by telephone, he must write the order as he transmits it and underscore as prescribed above.

When engine numbers are used in the address of train orders they must be specified as follows:

C & E Eng for steam, electric or diesel engines.
C & E M U Eng for multiple unit engines.
C & E R C Eng for rail motor car.

Train orders issued to track cars must be addressed to Driver T C.

When two or more engines are coupled and a designation is made by engine number, the number of the leading engine will be used in train orders.

207. To transmit a train order, the signal "19" followed by the direction must be given to each office addressed, the number of copies being stated if more or less than three—thus, "19, east, copy 2."

***S*-208.** A train order to be sent to two or more offices must be transmitted simultaneously to as many of them as practicable. When not sent simultaneously to all, the order must be sent first to the superior train.

The several addresses must be in the order of superiority of trains, each office taking its proper address, and when practicable must include the operator at the meeting or waiting point.

A train order must not be sent to a superior train at the meeting or waiting point if it can be avoided. When an order is so sent, the fact will be stated in the order and special precautions must be taken to insure safety.

***D*-208.** A train order to be sent to two or more offices must be transmitted simultaneously to as many of them as practicable. When not sent simultaneously to all, the order must be sent first to the superior train.

The several addresses must be in the order of superiority of trains, each office taking its proper address.

209. Operators receiving train orders must write or typewrite them in manifold during transmission. When typewritten, capital letters must be used. If the requisite number of copies cannot be made at one writing, they must make others from the original copy and repeat to the train dispatcher from the new copies each time additional copies are made. They must retain a copy of each train order. The time, and "complete" and the signature of the operator must be in his handwriting.

211. When a "19" train order has been transmitted, unless otherwise directed, operators must repeat it at once from the manifold copy in the succession in which the several offices have been addressed. Each operator

receiving the order should observe whether the others repeat correctly. When the order has been repeated correctly by an operator, the response "complete," and the time, with initials of the superintendent, will be given by the train dispatcher. The operator receiving this response will then write on each copy the word "complete," the time and his last name in full and must then effect delivery of the order to the persons addressed.

When a "19" train order restricting the superiority of a train is issued for it at the point where such superiority is restricted, the train must be stopped before delivery of the order.

213. "Complete" must not be given to a train order for delivery to an inferior train until the order has been repeated by the operator who receives the order for the superior train.

214. When a train order has been repeated and before "complete" has been given, the order must be treated as a holding order for the train addressed but must not be otherwise acted on until "complete" has been given.

If the means of communication fails before an office has repeated an order, the order at that office is of no effect and must be there treated as if it had not been sent.

216. For train orders delivered by the train dispatcher the requirements as to the record and delivery are the same as at other offices.

217. To effect delivery of a train order by telephone to a train, the operator must give to the conductor, engineman or other employe addressed, the complete train order including his own last name, except that he will not give the "time complete" until the employe receiving the order has repeated it to the operator correctly. The employe so receiving the order must sign it as "Received by ————", and then deliver a copy to each person addressed.

The operator will show on his office copy of the train order the name of the person to whom delivered by telephone and the time.

Train orders received by telephone, after being fulfilled, must be retained and turned in with time cards at end of trip or day to be forwarded to the division operator or other designated officer.

219. An operator must not complete a train order for a train which has passed beyond his jurisdiction.

220. Train orders once in effect continue so until fulfilled, superseded or annulled. Any part of an order specifying a particular movement may be either superseded or annulled.

Orders held by, or issued for, or any part of an order relating to, a regular train become void when such train loses both right and schedule as prescribed by Rules 4 and 82, or its schedule is annulled.

When a conductor or engineman or both are relieved before the completion of a trip, all train orders and instructions held must be delivered to the relieving conductor or engineman. Such orders or instructions must be compared by the conductor and engineman before proceeding.

221. Unless otherwise provided, a fixed signal must be used at each train order office which shall indicate Stop when there is an operator on duty, except when changed to Proceed to allow a train to pass after receiving train orders or for which there are no orders. A train must not pass the signal while Stop is indicated.

When an order is to be delivered to a train at a train order office, the fixed signal must be displayed at Stop for the track and in the direction of the approaching train and a Train-order signal must be displayed in the place provided for the purpose.

The operator must not clear these signals for an approaching train unless he knows that the train is not the one to which orders are addressed.

This combination of signals must be acknowledged by the engineman by two short sounds of the engine whistle.

In delivering orders without stopping a train, the operator, after the signal has been acknowledged, must leave the Train-order signal displayed until the orders have been delivered, place the fixed signal at its proper position and effect delivery of the orders together with a message (Form C.T. 1250) showing orders delivered. The engineman's copies of the orders and the message will be handed on the engine, and the conductor's copies on the train.

When the Train-order signal is displayed, the speed of the train must be reduced sufficiently to enable the operator to deliver the order. If delivery is not effected on the engine the train must be stopped.

When train orders are issued that restrict the superiority of train addressed at the point where they are to be delivered to the train, the fixed signal at that point must remain at Stop until the orders are delivered.

Before a train order is issued to hold trains the fixed signal at the point at which the trains are held must be displayed at Stop for the track and in the direction of the approaching train and the operating lever blocked by the standard blocking device.

When a slow order to be delivered to a train covers a portion of track close to the train order office, the operator must stop the train before delivering the order.

222. Operators must promptly record the time of arrival and time of departure of all trains and the engine number of regular trains and report to the superintendent such information as directed.

223. The following signals and abbreviations may be used:

Initials for signatures of the superintendent.

Such office and other signals as are arranged by the superintendent.

C & E —for conductor and engineman.
No —for number.
Eng —for steam, electric or diesel engine.
M U Eng—for multiple unit engine.
R C Eng—for rail motor car.
T C —For track car.
Psgr —for passenger.
Frt —for freight.
Mins —for minutes.
Jct —for junction.
Dispr —for dispatcher.
Opr —for operator.
19 —to clear the line for train orders, and for operators to ask for train orders.

The usual abbreviations for the names of the months and authorized abbreviations for stations.

Forms of Train Orders

NOTE—Forms with prefix "S" are for single track territory, those with prefix "D" are for two or more track territory. Forms without a prefix are for single and two or more track territory. The words and figures in italics in the forms are examples indicating the manner in which the train orders are to be filled out.

Combining Forms of Train Orders

In combining forms of train orders the following is example of combination which may properly be used:

Form G and S-A

Eng 99 run extra *A* to *F extra 99 west* meet *extra 98 east* at *D*

The train in the superior time-table direction will be the first named train in the meet order.

S-A

Fixing Meeting Points for Opposing Trains

(1) *No 1 Eng 981* meet *No 2 Eng 982* at *B.*
No 5 Eng 983 meet *extra 984 east* at *B.*
Psgr extra 652 north meet *extra 231 south* at *B.*

(2) *No 2 Eng 982 and No 4 Eng 984* meet *No 1 Eng 981 and No 3 Eng 986* at *C and extra 95 west* at *D* (and so on).
No 1 Eng 981 meet *No 2 Eng 982* at *B No 4 Eng 984* at *C* and *extra 95 east* at *D.*

Trains receiving these orders will run with respect to each other to the designated points and there meet in the manner prescribed by the rules.

B

Directing A Train to Run Ahead of Another Train

(1) *Extra 594 east* run ahead of *No 6 Eng 595 M* to *B.*

The first named train will run ahead of the second named train between the designated points.

S-C

Giving Right Over Opposing Train

(1) *No 1 Eng 981* has right over *No 2 Eng 982 G* to *X.*

If the second named train reaches the point last named before the other arrives, it may proceed, keeping clear of opposing train as required by the rules.

---

(2) *Extra 37 east* has right over *No 3 Eng 981 F* to *A.*

The regular train must not go beyond the point last named until the extra train has arrived unless directed by train order to do so.

These orders give right to the train first named over the other train between the points named. If the trains meet at either of the designated points, the first named

train must take the siding unless the order otherwise prescribes.

E

Time Orders

(1) *No 1 Eng 981* run *50 fifty mins* late *A* to *G*.

This makes the schedule time of the train named, between the stations designated, as much later as stated in the order, and any other train receiving the order is required to run with respect to this later time as before required to run with respect to the regular schedule time. The time in the order should be such as can be easily added to the schedule time.

---

(2) *No 1 Eng 981* run *50 fifty mins* late *A* to *G* and *20 twenty mins* late *G* to *K*, etc.

This makes the schedule time of the train named, between the stations designated, as much later as stated in the order, and any other train receiving the order is required to run with respect to this later time as before required to run with respect to the regular schedule time. The time in the order should be such as can be easily added to the schedule time.

---

(3) *No 1 Eng 981 and No 3 Eng 982 wait*

at *N* until *9 59 nine fifty nine a m*
at *P* until *10 30 ten thirty a m*
at R until *10 55 ten fifty five a m*, etc.

The train or trains named must not pass the designated points before the times given. Other trains receiving the order are required to run with respect to the time specified at the designated points or any intermediate station where schedule time is earlier than the time specified in the order as before required to run with respect to the schedule time of the train or trains named.

S-E

(1) *No 1 Eng 981* wait at *H until 9 59 nine fifty nine a m* for *No 2 Eng 982*.

The train first named must not pass the designated point before the time given unless the other train has arrived. The train last named is required to run with respect to the time specified at the designated point or any intermediate station where schedule time is earlier than the time specified in the order as before required to run with respect to the schedule time of the train first named.

G

Extra Trains

(1) *Eng 99* run *extra A* to *F*.

---

(2) *Eng 99* run *Psgr extra A* to *F*.

---

(3) *Eng 99* run *extra A* to *F* and return to *C*.

The extra must go to F before returning to C.

---

(4) After *No 1 Eng 981* arrives

Eng 99 run *extra A* to *F*.

These orders give the extra no right to occupy the main track between the switches of a siding at the station last named.

When it is desired that the extra continue beyond the entrance switch to the siding at the station last named, the specific point must be designated in the train order.

S-H

Work Extra

(1) *Eng 292* works extra *6 45 six forty five a m* until *5 45 five forty five p m* between *D* and *E*.

The work extra, whether standing or moving, protects itself against extra trains within the working limits in both directions as prescribed by the rules. The time of regular trains must be cleared.

This may be changed by adding:

(2) *Not protecting against eastward extra trains.*

The work extra will protect only against westward extra trains. The time of regular trains must be cleared.

---

(3) *Not protecting against extra trains.*

Protection against extra trains is not required. The time of regular trains must be cleared.

When a work extra has been instructed by order to not protect against extra trains, and afterward it is desired to have it clear or protect the track for a designated extra, an order may be given in the following form:

(4a) *Work extra 292 clears extra 76 east between D and E after 2 10 two ten p m.*

(4b) *Work extra 292 protects against extra 76 east between D and E after 2 10 two ten p m.*

Extra 76 east must not enter the working limits before 2.10 p m and will then run expecting to find the work

extra clear of the main track or protecting itself as the order may require.

To enable a work extra to work upon the time of a regular train, the following form will be used:

(5) *Work extra 292 protects against No 55 Eng 981 between D and E.*

The work extra may work upon the time of the train or trains mentioned in the order and must protect itself against such train or trains. The regular train or trains receiving the order will run expecting to find the work extra protecting itself.

When a work extra is to be given exclusive right over all trains, the following form will be used:

(6) *Work extra 292 has right over all trains between D and E 7 15 seven fifteen p m until 1 15 one fifteen a m.*

This gives the work extra the exclusive right between the points designated between the times named.

The working limits should be as short as practicable, to be changed as the progress of the work may require.

Work extras must give way to all trains as promptly as practicable.

Whenever extra trains are run over working limits, they must be given a copy of the order sent to the work extra. Should the working order instruct a work extra to not protect against extra trains in one or both directions, extra trains must protect against the work extra; if the order indicates that the work extra is protecting itself against other trains, they will run expecting to find the work extra protecting itself.

NOTE—Form S-H should not be used in automatic block signal system territory.

When used in manual block signal system territory, absolute block protection must be provided.

J

HOLDING ORDER

(1) Hold *No 2 Eng 592.*
(2) Hold *all trains.*
(3) Hold ——— *ward trains.*
(4) Hold *all trains clear of No 1 track between A* and *B.*
(5) Hold *all* ——— *ward trains clear of* ——— *track between A and B.*

When a train has been so held it must not proceed

until the order to hold is annulled or an order given to the operator in the form *No 2 Eng 592 may go.*

These orders will be addressed to the operator and acknowledged in the usual manner except that the response "complete" must not be given by the dispatcher until the operator has placed the fixed signal at Stop for the track and in the direction of the approaching train at the point at which the train is to be held.

K

ANNULLING A SCHEDULE

(1) *No 1* due to leave *A Feb 29th* is annulled *A* to *Z.*

The schedule annulled becomes void between the points designated and cannot be restored.

Form K will not be combined with other forms of train orders.

L

ANNULLING AN ORDER

(1) Order *No 10* is annulled.

If an order which is to be annulled has not been delivered to a train, the annulling order will be addressed to the operator who will destroy all copies of the order annulled but his own, and write on that:

Annulled by Order No———————.

An order which has been annulled must not be reissued under its original number.

S-M

ANNULLING PART OF AN ORDER

(1) That part of *Order No 10* reading *No 1 Eng 694 meet No 2 Eng 784* at *S* is annulled.

Form *S*-M will be used only when that part of the order not annulled is clear in its wording.

S-P

SUPERSEDING AN ORDER OR A PART OF AN ORDER

This order will be given by adding to prescribed forms the words "instead of———————."

(1) *No 1 Eng 521* meet *No 2 Eng 784* at *C* instead of *B.*

An order which has been superseded must not be reissued under its original number.

When a train is directed by train order to take siding

for another train, such instructions apply only at the point designated in that order and do not apply to the superseding order unless so specified.

R

Providing for a Movement Against the Established Direction of Traffic

(Rules 261, 262, 263 and 264 in effect)

(1) *Extra 514 west* return *east* on *No 1 track* from *C* to *B*.

For use when train operating in direction for which traffic has been established, is to return against the established direction of traffic to block or interlocking station in the rear.

Under these orders the designated train must use the track specified between the stations or points named.

A train must not be moved against the established direction of traffic until holding orders have been issued and the track on which it is to run has been cleared of opposing trains.

Note—Manual block signal system rules do not apply.

(2a) *No 59 Eng 3752* remain where you are standing on *No 2 track 1 mile east of signal 690* until *extra 4745 east* arrives.

For use when train, operating in direction for which traffic has been established, stops disabled between two block or interlocking stations and helping engine is to be moved against the established direction of traffic to assist disabled train.

(2b) *Extra 4745 east* pass home signal in Stop position on *No 1 track at B* and proceed *east on No 2 track* to a point *1 mile east of signal 690* where *No 59 Eng 3752* is disabled.

For use when an engine is to move against the established direction of traffic to assist disabled train standing between block or interlocking stations.

Under these orders the designated train must use the track specified between the stations or points named.

Before delivering these orders at a point where the interlocking signal is also the block signal, the signalman must know that the switches are properly lined for the route indicated in the order and all signals governing movements over routes that conflict with the route to be used, display their most restrictive indication.

Note—Manual block signal system rules do not apply and Clearance Card (Form C) cannot be used.

D-R

Providing for a Movement Against the Current of Traffic

(1) *No 1 Eng 461* has right over opposing trains on *No 2 track C* to *F*.

(2) After *No 4 Eng 981* arrives *No 1 Eng 461* has right over opposing trains on *No 2 track C* to *F*.

A train must not be moved against the current of traffic until holding orders have been issued and the track on which it is to run has been cleared of opposing trains.

Under these orders the designated train must use the track specified between the stations named.

T

Providing for a Movement in an Occupied Block

(1) Block occupied *No 8 Eng 4772* proceed on No —— track under stop block signal at *A* following trains ahead in the block.

Before delivering these orders at a point where the interlocking signal is also the block signal, the signalman must know that the switches are properly lined for the route indicated in the order and all signals governing movements over routes that conflict with the route to be used, display their most restrictive indication.

Trains addressed, receiving this order, will proceed as directed, prepared to stop short of a train or obstruction, but not exceeding 15 miles per hour.

Note—Example (1) for use only in emergency.

---

(2) *Extra 2854* on *No 1 track* at *B* with ——— fouling *No 2 track No 8 Eng 4772* proceed under stop block signal at *A* approaching point of obstruction prepared to stop and do not pass unless hand signal to proceed is received.

Before delivering these orders at a point where the interlocking signal is also the block signal, the signalman must know that the switches are properly lined for the route indicated in the order and all signals governing movements over routes that conflict with the route to be used, display their most restrictive indication.

Trains addressed, receiving this order, will, unless otherwise instructed, proceed at authorized speed, except that they must approach point of obstruction prepared to stop and stop clear of obstruction unless hand signal to proceed is received.

Note—Example (2) for passenger trains operating under manual block signal system rules when track is fouled by operation of equipment on adjacent track.

Examples (1) and (2) of Form T must not be combined and Form T must not be combined with other forms of train orders.

U

PROVIDING FOR SUBSTITUTION OF MANUAL BLOCK SIGNAL SYSTEM RULES FOR AUTOMATIC BLOCK SIGNAL SYSTEM RULES IN EXTENDED EMERGENCIES

Requisites: All lights in fixed signals out of service under the following orders, will be extinguished.

(1) Between *A* and *F* automatic block signal system on No 2 track out of service manual block signal system rules in effect except rule (*)
Block indications will be given by hand signals.

(2) Between *A* and *D* automatic block signal system and cab signals on No 1 track out of service manual block signal system rules in effect except rule (*)
Block indications will be given by hand signals.

(*) NOTE—Insert Rule 316 or 317 which will not apply.

Trains receiving these orders will approach interlocking home signals and non-interlocked facing point switches prepared to stop.

S-V

SPEED ORDERS

(1) Do not exceed a speed of ——— miles per hour between ——— and ——— account of (*) ———.

(*) NOTE—State reason for speed restrictions, also when speed-limit signs cannot be installed immediately, add: speed-limit signs not in service.

Train addressed receiving this order will not exceed speed shown between points designated.

D-V

SPEED ORDERS

(1) Do not exceed a speed of ——— miles per hour on No ——— track between ——— and ——— account of (*) ———.

(*) NOTE—State reason for speed restrictions, also when speed-limit signs cannot be installed immediately, add: speed-limit signs not in service.

Trains addressed receiving this order will not exceed speed shown between points designated.

SIGNAL RULES

NOTE—Rules with prefix "S" are for single track territory; those with prefix "D" are for two or more track territory. Rules without a prefix are for single and two or more track territory.

MOVEMENT OF TRAINS IN THE SAME DIRECTION BY BLOCK SIGNALS

251. On portions of the railroad and on designated tracks so specified on the time-table, trains will run with reference to other trains in the same direction by block signals whose indications will supersede the superiority of trains.

253. The superintendent must be advised in advance, of any known condition that will delay the train or prevent it from making usual speed.

254. Except as affected by Rule 251 all Rules for Conducting Transportation remain in force.

OPPOSING AND FOLLOWING MOVEMENT OF TRAINS BY BLOCK SIGNALS

261. On portions of the railroad and on designated tracks so specified on the time-table, trains will be governed by block signals whose indications will supersede the superiority of trains for both opposing and following movements on the same track.

NOTE—Approved requisites for signal system, to provide control of trains by signal indication in lieu of time-table authority and train orders, must be observed.

262. A train for which the direction of traffic has been established must not move in the opposite direction without proper interlocking or manual block signal indication or train order.

263. The superintendent must be advised in advance of any known condition that will delay the train or prevent it from making usual speed.

264. Except as affected by Rule 261 all Rules for Conducting Transportation remain in force.

Fixed Signals

Rules 280 to 294 Inclusive

Aspects shall be shown by the position of semaphore blades, color of lights, position of lights, flashing of lights, or any combination thereof. They may be qualified by marker plate, number plate, letter plate, marker light, shape and color of semaphore blades or any combination thereof.

The signal aspects illustrated by the figures in Rules 280 to 294 inclusive are typical and must not be used with other than the names and indications prescribed by the rules. Aspects not in conformity with the typical aspects must not be used unless shown on the time-table together with special instructions to cover.

Position light signals whose most restrictive indication is more favorable than Stop are numbered either on the signal mast or in a location adjacent thereto as seen from approaching trains.

In the illustrations of typical aspects, Rules 280 to 294, inclusive:

R —Red
Y —Yellow
G —Green
FY—Flashing Yellow

280

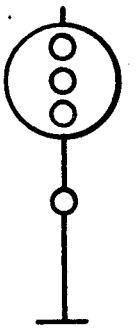


FIG. A

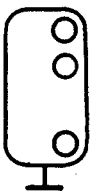


FIG. A1

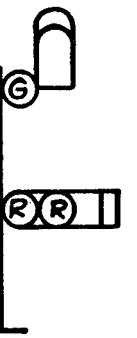


FIG. B

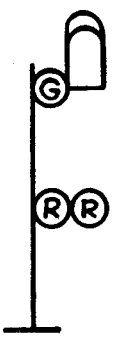


FIG. C

INDICATION—Proceed; manual block clear.

NAME: Clear-block.

281

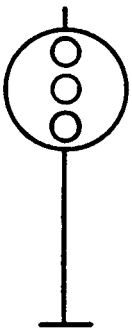


FIG. A

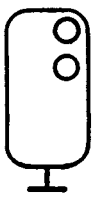


FIG. A1

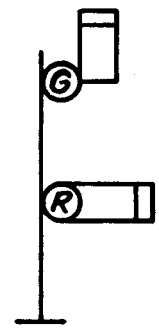


FIG. B

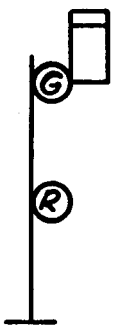


FIG. C

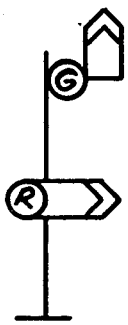


FIG. D

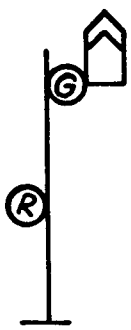


FIG. E

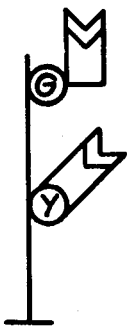


FIG. F

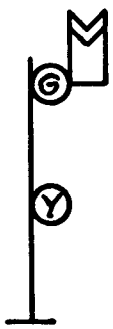


FIG. G

INDICATION—Proceed.

NAME: Clear.

282

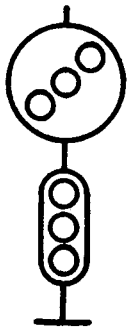


FIG. A

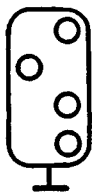


FIG. A1

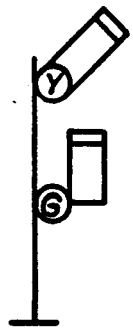


FIG. B

FIG. C

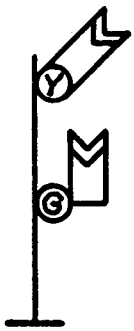


FIG. D

INDICATION—Proceed approaching next signal at Medium speed.

NAME: Approach-medium.

NOTE—Trains may proceed approaching next signal at not exceeding 45 miles per hour at signals displaying a yellow triangle outlined in black.

283

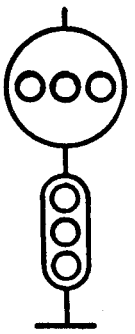


FIG. A

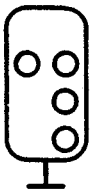


FIG. A1

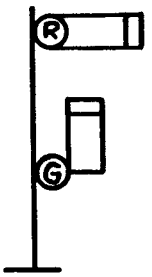


FIG. B

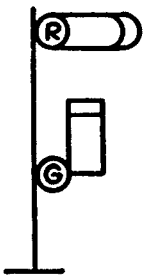


FIG. C

INDICATION—Proceed; Medium speed within interlocking limits.

NAME: Medium-clear.

NOTE—Trains may proceed at not exceeding 45 miles per hour within interlocking limits, at signals displaying a yellow triangle outlined in black.

284

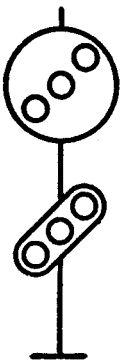


FIG. A

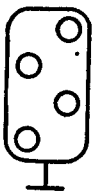


FIG. A1

INDICATION—Proceed approaching next signal at Slow speed. Train exceeding Medium speed must at once reduce to that speed.

NAME: Approach—slow.

285

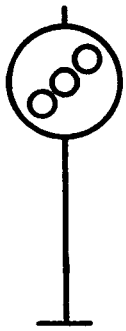


FIG. A

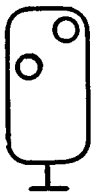


FIG. A1

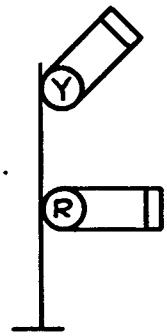


FIG. B

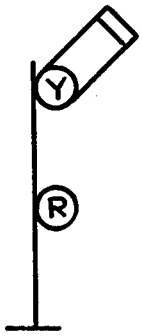


FIG. C

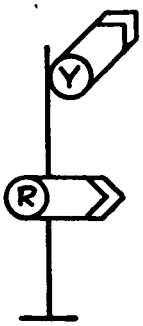


FIG. D

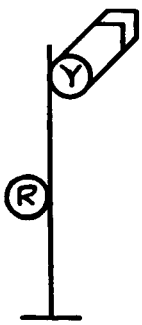


FIG. E

INDICATION—Proceed prepared to stop at next signal. Train exceeding Medium speed must at once reduce to that speed.

NAME: Approach.

285 A

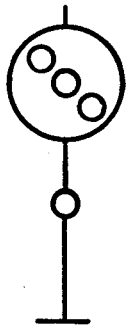


FIG. A

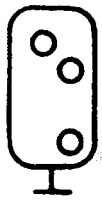


FIG. A1

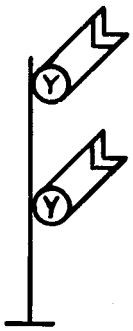


FIG. B

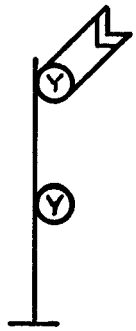


FIG. C

INDICATION—Train exceeding Medium speed must at once reduce to that speed. Where a facing switch is connected with the signal, approach that switch prepared to stop. Approach next signal prepared to stop.

NAME: Caution.

287

FIG. A

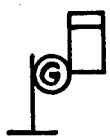


FIG. B

FIG. C

INDICATION—Proceed; Slow speed within interlocking limits.

NAME: Slow-clear.

288

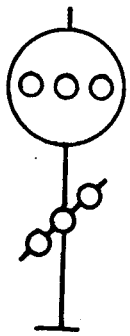


FIG. A

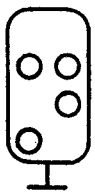


FIG. A1

FIG. B

FIG. C

INDICATION—Proceed prepared to stop at next signal. Slow speed within interlocking limits.

NAME: Slow-approach.

289

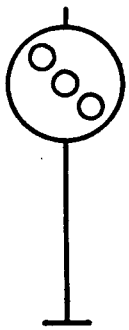


FIG. A

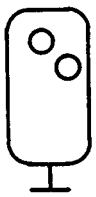


FIG. A1

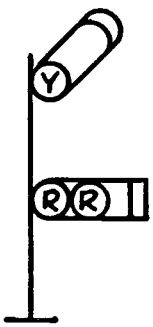


FIG. B

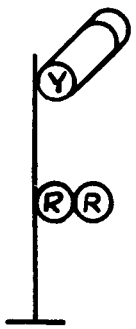


FIG. C

INDICATION—Block occupied; for passenger trains, stop; for trains other than passenger trains, proceed prepared to stop short of a train or obstruction, but not exceeding 15 miles per hour.

NAME: Permissive-block.

290

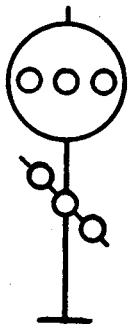


FIG. A

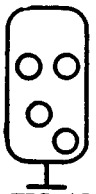


FIG. A1

FIG. B

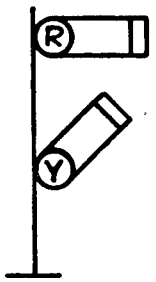


FIG. C

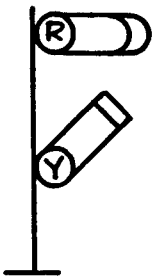


FIG. D

FIG. E

FIG. F

INDICATION—Proceed at Restricted speed.

NAME: Restricting.

291

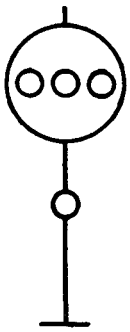


FIG. A

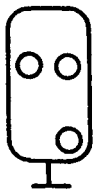


FIG. A1

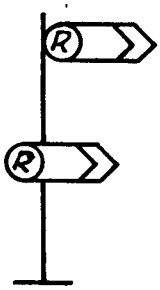


FIG. B

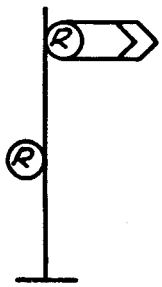


FIG. C

INDICATION—Stop; then proceed at Restricted speed.

NAME: Stop-and-proceed.

NOTE—Freight trains of 90 or more cars or having tonnage of 80 per cent or more of the prescribed engine rating may proceed at Restricted speed without stopping at signals displaying a yellow disc on which is shown the letter "G" in black.

The engineman must be notified as to tonnage and number of cars in train before leaving terminals and when consist is changed enroute.

292

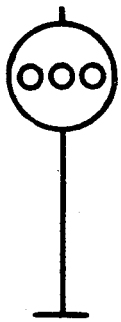


FIG. A

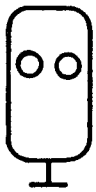


FIG. A1

FIG. B

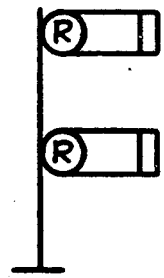


FIG. C

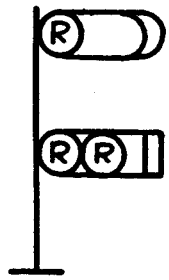


FIG. D

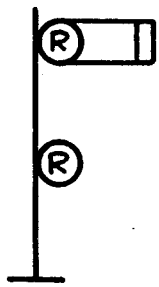


FIG. E

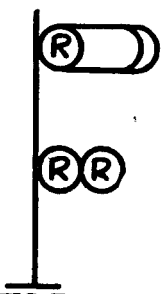


FIG. F

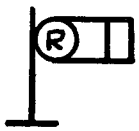


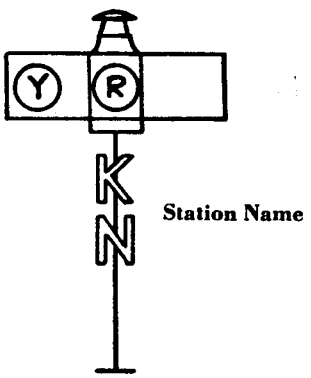
FIG. G

FIG. H

INDICATION—Stop.

NAME: Stop-signal.

293



Station Name

FIG. A

NOTE—Yellow light to be placed next to track governed.

INDICATION—Limit of the block.

NAME: Block-limit.

293 A

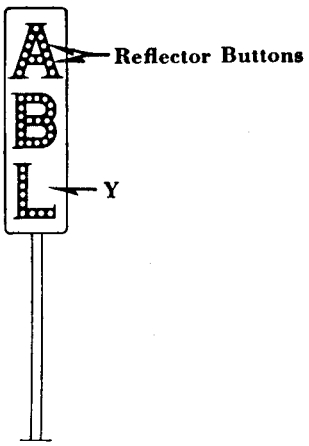


FIG. A

INDICATION—Proceed prepared to stop at next Block-limit signal. Train exceeding Medium speed must at once reduce to that speed.

NAME: Approach block-limit.

NOTE—Will not apply to trains authorized to pass the Block-limit station as though Clear-block signal were displayed.

294

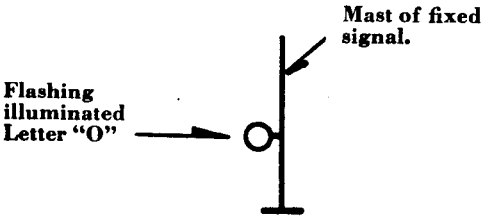


FIG. A

NOTE—To apply to trains governed by fixed signal with which connected.

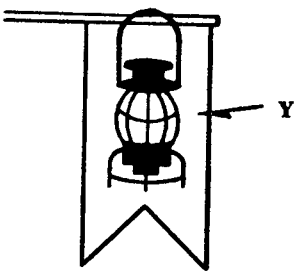


FIG. B

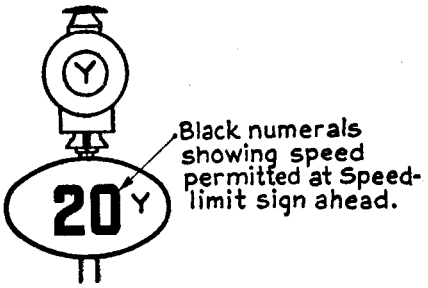
INDICATION—Orders.

NAME: Train-order.

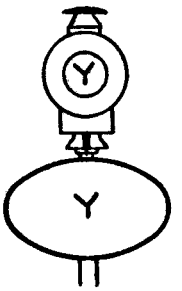
NOTE—By day the yellow lamp is not displayed.

When displayed in the direction of an approaching train or trains, must not be passed by any such train on any track except as provided in Rule 221.

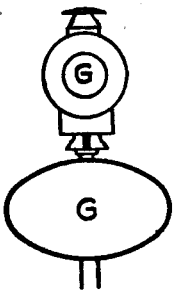
SPEED SIGNS
See Rule 38



Advance Speed-limit sign



Speed-limit sign



Resume-speed sign

Cab Signals

NOTE—Rules 295 to 298 inclusive will not be effective except by special instructions.

295. Cab signal aspects, indications and names correspond to those shown for fixed signals by Rules 281, 282, 285 and 290.

296. Cab signal indications do not supersede fixed signal indications except when cab signal changes to a more restrictive or a more favorable indication after passing a fixed signal.

297. Cab signals will not indicate conditions ahead when engine is:

(a) Moving against current of traffic. (Unless track is equipped for cab signal operation against current of traffic).
(b) Pushing cars.
(c) Not equipped with cab signal apparatus for backward running and is running backwards.

298. Should cab signal and fixed signal indications conflict, the more restrictive indication will govern.

NOTE—When one of the following cab signals and the fixed signal shown opposite it are displayed at the time a train or engine passes the fixed signal, it does not constitute a conflict:

Cab Signal	*Fixed Signal*
Rule 282, Fig. A.	Rule 282 with yellow triangle
Rule 282, Fig. A.	Rule 283 with or without yellow triangle
Rule 285, Fig. A.	Rule 284
Rule 290, Fig. B.	Rule 287
Rule 290, Fig. B.	Rule 288
Rule 290, Fig. B.	Rule 291
Rule 290, Fig. B.	Rule 292

Manual Block Signal System

NOTE—Rules 305 to 373 inclusive will not be effective except by special instructions.

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

At a block-limit station trains will be governed in their use of the block by instructions of the signalman in charge of the block-limit station as indicated on the time-table.

306. When a block station is open at an irregular hour, trains must be notified by train order.

307. When a block station is open at an irregular hour, signalmen 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 that the block station is open.

***D*-308.** When a train is turned out against the current of traffic, manual block signal system rules must be observed; Rule 316 or 317 to apply as may be designated by special instructions. Block stations named on time-table indicate limits of manual block, except as otherwise provided in Rule 310.

310. When a train is authorized by train order to run against the current of traffic to an interlocking—remote controlled, the portion of the main track between that interlocking and the first block station in the rear will constitute a block for that train.

Signalmen

311. Signals must be kept in the position displaying the most restrictive indication except when displayed for an immediate movement.

312. Appliances must be operated carefully and only by those charged with that duty. If any irregularity affecting their operation is detected the signals must be displayed to give their most restrictive indication until repairs are made.

314. Any defects in the appliances must be promptly reported to the superintendent.

315. A block record must be maintained for each block station and block-limit station.

316. (For absolute block for following and opposing movements on the same track.)

Before admitting a train to a block, the signalman in charge of the block station or block-limit station at the entrance of the block must know that the block is clear of all trains and that no other train has been given permission or a signal to enter the block. Signals governing opposing movements, where provided, must display Stop-signal. The signalman will then display a Clear-block

signal for the train to be admitted to the block. The signalman in charge of a block-limit station may give a train at that block-limit station verbal permission to enter one block. The signalman, when authorized by the superintendent, will issue Clearance Card (Form K) to a train to pass one or more block-limit stations as though Clear-block signal were displayed.

A train must not be admitted to a block unless it is clear except as provided in Rules 327, 333 or by train order.

317. (For absolute block for opposing movements and permissive block for following movements on the same track.)

Before admitting a train to a block under Clear-block signal, the signalman in charge of the block station or block-limit station at the entrance of the block must know that the block is clear of all trains and that no other train has been given permission or a signal to enter the block. Signals governing opposing movements, where provided, must display Stop-signal. The signalman will then display a Clear-block signal for the train to be admitted to the block. The signalman in charge of a block-limit station may give a train at that block-limit station verbal permission to enter one block. The signalman, when authorized by the superintendent, will issue Clearance Card (Form K) to a train to pass one or more block-limit stations as though Clear-block signal were displayed.

Before admitting a train other than a passenger train to a block, the signalman in charge of the block station or block-limit station at the entrance of the block must know that the block is clear of opposing trains and passenger trains, and that no opposing train or no passenger train has been given permission or a signal to enter the block. Signals governing opposing movements, where provided, must display Stop-signal, and Stop-signals to passenger trains must be displayed. If the block is clear of opposing trains and passenger trains, the signalman in charge of the block station may permit a train other than a passenger train to follow a train other than a passenger train into the block by displaying a Permissive-block signal for the train to be admitted to the block. The signalman in charge of a block-limit station may give a train at that block-limit station verbal permission to enter one block. The signalman, when authorized by the superintendent, will issue Clearance Card (Form K) to a train not governed by Clear-block signal to pass one or more block-limit stations as though Permissive-block signal were displayed.

Except as provided in Rules S-318, 327, 333 or by train order, a train must not be admitted to a block which is occupied by an opposing train or by a passenger train, and a passenger train must not be admitted to a block which is occupied by any train.

S-318. Within yard limits, opposing movements of engines with or without cars against other engines with or without cars, or against other than passenger trains, and opposing movements of trains other than passenger trains against engines with or without cars, may be permitted, under Permissive-block signal, by the signalman.

319. When a train enters a block, the signalman must give the train and engine number and time to the next block station in advance. When a train clears a block, 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. So far as practicable, 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.

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 clears the main track, the signalman must know that it is clear of the block before reporting the block clear or displaying a Clear-block signal for that block.

Clearance Card (Form K) is annulled when a train clears the main track and reports clear of the block.

The signalman must obtain control of the block before permitting a train to re-enter the block.

327. To permit a train to enter a block or foul the main track or to cross from one main track to another.

the signalman must first obtain control of the block to be used. He may accept information from the conductor or engineman of train to be admitted regarding the movement of other trains and must then apply the rules to the portion of the block to be used.

Before permitting a passenger train to cross from one main track to another, the signalman must know that all blocks to be used are clear of approaching trains and that block protection for the crossover movement has been provided.

Unless so directed by the superintendent, the signalman must not give permission to a train or engine to enter a block at a hand-operated switch or crossover or foul the main track on which another train is moving or has been authorized to move, in the direction of such switch or crossover from the next block station or interlocking.

When permission has been given by the signalman to a train or engine to enter a block at a hand-operated switch or crossover, the signalman in charge of the block stations or interlockings between which the block is located must know that the movement is being protected before permitting another train to move between such block stations or interlockings and the switch or crossover where such movement is being made.

All crossover movements must be entered on the block records.

The signalman may permit a train to enter a block behind a train a sufficient distance to clear main track switch in order to proceed in the opposite direction.

328. When coupled trains are separated, the signalman must regard each portion as an independent train.

329. When necessary to stop a train for which other than a Stop-signal has been displayed and accepted, the signalman must give hand signals in addition to displaying the Stop-signal.

330. A signalman having train orders for a train, must display the home signal at Stop and in addition the Train-order signal. He may permit trains to proceed under block signal system rules after complying with rules for movement by train orders.

331. If from the failure of block signal apparatus the block signal cannot be changed from its most restrictive indication, a signalman may admit a train to a block by use of Clearance Card (Form C) as thereon provided.

333. When a signalman is unable to communicate with the next block station in advance, he must stop all trains approaching in that direction. Should no cause for detaining a train be known, it may then be permitted to proceed by train order.

334. Hand signals must not be used when the proper indication can be displayed by the block signals except as prescribed by Rule 307 or 329.

335. Block signals for a track apply only to trains moving with the current of traffic on that track. Signalmen will use hand signals for blocking trains moving against the current of traffic.

339. If a Stop-signal is disregarded, the fact must be reported to the next block station or interlocking station in advance and then to the superintendent.

340. To open a block station, the signalman must first obtain from the signalman in charge of the next block station or block-limit stations in each direction the records of trains that are in the extended block or blocks over which the signalman is taking charge and enter them upon his block record.

When trains which were in the extended block or blocks when the block station was opened and which had passed his block station before it was opened, clear the block in advance the signalman must so advise the signalman in charge of the block station or block-limit station in the rear.

Unless otherwise directed, trains must not be admitted to a block in the direction of a closed block station after the time specified for it to be opened until it is known that such block station is open.

341. A block station must not be closed except upon authority of the superintendent.

342. A block station must not be closed until the block in each direction is clear of trains moving under a block signal indication that would not be proper for the extended block.

To close a block station, the signalman must advise the signalman in charge of the block station or block-limit station in each direction that his block station is being closed and give the record of trains in the extended block. The block signals must then be secured in clear position, all lights in signals extinguished, reflector lights obscured and block wires arranged to work through the closed block station.

361. Block signals for a track apply only to trains moving with the current of traffic on that track. Hand signals will be used for blocking trains moving against the current of traffic.

Unless otherwise provided, a train approaching a block station on a track for which there is no fixed block signal must stop and ascertain from the signalman the condition of the block ahead unless a signal to proceed is given by the signalman with a green or yellow flag by day or a green or yellow light by night.

Unless otherwise provided, trains must stop at block-limit stations and the conductor or engineman must communicate with the signalman in charge as to the condition of the next block. After clearing a block at a block-limit station the conductor, engineman or member of their crew when authorized by the conductor or engineman, must report clear unless otherwise provided.

NOTE—Green flag or lamp signal indicates Clear-block (Rule 280). Yellow flag or lamp signal indicates Permissive-block (Rule 289). Absence of signal indicates Stop-signal (Rule 292).

362. A train must stop clear of a block signal indicating Stop. A train must not pass a Stop-signal except when authorized by Clearance Card (Form C), or by train order.

A passenger train must not pass a Permissive-block signal.

363. Trains must not proceed on hand signals as against block signals.

365. When a train clears the main track, the conductor, engineman or member of their crew when authorized by the conductor or engineman, must report clear unless the switch involved is operated by the signalman.

A train must not enter a block or foul the main track or cross from one main track to another without proper block signals or permission of the signalman. Where Rule 261 applies and the switch or crossover is not equipped with electric locks, the train must not enter the block without a train order authorizing it to do so.

A train having passed beyond the limits of a block must not back into that block without permission of the signalman.

If information concerning the block is received by the conductor, he must personally give it to the engineman.

Clearance Card (Form K) is annulled when train clears the main track and is reported clear of the block.

Inferior trains in clearing superior trains as required by the rules must in addition clear the block for regular passenger trains.

366. Trains in an extended block at the time specified for an intermediate closed block station to be opened, must identify their train to the signalman before accepting a signal to proceed at that station.

A train authorized by Clearance Card (Form K) to pass a block-limit station at which a block station is opened before its arrival must stop and be identified before accepting a signal to proceed at the open block station, as the Clearance Card (Form K) is thereby annulled.

A train must not cross over between block stations and proceed from that point on another track with the current of traffic without permission of the signalman, nor proceed against the current of traffic without a train order authorizing it to do so and permission of the signalman.

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

371. When a train is stopped by a home or block signal, the conductor or engineman must immediately ascertain the cause.

373. A block station must not be considered as closed except as provided for by time-table or train order.

AUTOMATIC BLOCK SIGNAL SYSTEM

NOTE—Rules 501 to 518 inclusive will not be effective except by special instructions.

501. Block signals, cab signals or both govern the use of the blocks but unless otherwise provided, do not supersede the superiority of trains nor dispense with the use and the observance of other signals whenever and wherever they may be required.

Interlocking home signals governing the use of routes leading to a block will in addition govern the use of the block in direction for which traffic has been established for a train to the next block signal.

NOTE—Cab signals will not be used without block signals except as provided by special instructions.

502. A train or engine must not enter a block at a hand-operated switch or crossover nor foul the main track without permission of the signalman, and where Rule 261 applies and such switch or crossover is not equipped with electric locks, without a train order authorizing it to do so.

The train or engine receiving such permission will proceed at Restricted speed.

503. A train having passed beyond the limits of a block must not re-enter that block without a train order authorizing it to do so. While shifting at an interlocking, movements may be made beyond the home signal by permission of signalman and under flag protection.

Signalman must not give permission for such movements when a train has been authorized to move from the next block station or interlocking, in the direction of the point where the movement beyond the home signal is to be made.

When permission has been given for a movement beyond the home signal, the signalman at that point and the signalman in charge of the next block station or interlocking must know that it has been made before admitting another train to a block either at or between their stations to move in the direction of the point where such movement is being made.

504. Unless so directed by the superintendent, the signalman must not give permission to a train or engine to enter a block at a hand-operated switch or crossover or foul the main track on which another train is moving or has been authorized to move, in the direction of such switch or crossover from the next block station or interlocking.

When permission has been given by the signalman to a train or engine to enter a block at a hand operated switch or crossover, the signalman in charge of the block stations or interlockings between which the block is located must know that the movement has been made before permitting another train to move between such block stations or interlockings and the switch or crossover where such movement is being made.

NOTE—The movement has been made when the train or engine has moved so that any portion of it occupies the main track.

505. When a train or engine clears the main track at a hand-operated switch or crossover and the switches have been restored to normal position, it must be reported clear to the signalman by the conductor, engineman, or member of their crew when authorized by the conductor or engineman.

NOTE—When such switches have been restored to normal position thereby clearing signals affecting the block even though the train or engine has not been reported clear of the block, it must not again enter that block except as provided in Rule 502.

506. Equipment of a type which may not operate signals or shunt track circuits must not be operated in automatic block signal system territory without authority of the superintendent and permission of each signalman in charge of the portion of the track over which the movement is to be made. Other trains must not be permitted to enter the track occupied by such equipment between a block station or interlocking and the next block station or interlocking in advance unless notified by train order to look out for the equipment which is occupying the main track without signal protection.

When the condition of the track is such that track circuits may not shunt properly, not more than one train will be permitted between a block station or interlocking and the next block station or interlocking between which the affected track is located unless notified by train order to look out for the other trains ocupying the main track without signal protection.

***D*-508.** Except where Rule 261 is in effect, when a train is turned against the current of traffic, manual block signal system rules must be observed, Rule 316 or 317 to apply as may be designated by special instructions.

Block stations named on the time-table indicate the limits of the manual blocks, except as otherwise provided in Rule 310.

509. A train or engine must stop clear of a block signal indicating Stop. A train or engine must not pass a Stop-signal except when authorized by Clearance Card (Form C), train order, or special instructions. When a train or engine is stopped by a Stop-and-proceed signal, it may then proceed at Restricted speed.

510. Both switches of a crossover must be open before a train or engine starts to make a crossover movement, and the movement must be completed before either switch is restored to normal position.

511. When moving from main track to other tracks, switch must remain open until train or engine is clear, and when moving from other tracks to main track, switch must be opened before main track is fouled.

512. Excessive use of sand at any point is prohibited and its use must be restricted to actual necessity.

513. When the cab signal indication changes from Restricting to a more favorable indication after passing a fixed signal or on entering a block at a hand-operated switch, speed must not be increased until train has run its length.

514. When cab signal indication changes to Restricting, a train or engine must reduce speed at once to not exceeding Restricted speed.

515. The movement of a train by an engine not equipped with cab signal apparatus, or by an engine equipped with cab signal apparatus but not in operative condition for direction of movement is prohibited, except by permission of the signalman when authorized by the superintendent, and then only as provided by Rule 516.

Authority to signalman to permit movement of a train by an engine not equipped with cab signal apparatus, or with cab signal apparatus not in operative condition, shall be given only:

(a) As provided on time-table.

(b) For a detoured train of a foreign railroad.

(c) For a train of home division when no engine equipped with cab signals in operative condition is available because of unusual or emergency conditions.

(d) For a train, the engine of which has a cab signal failure, after leaving engine terminal.

(e) For a train from a foreign division, the engine of which is continued through.

516. When the cab signal apparatus of a train fails or when cab signal and fixed signal indications conflict at two fixed signal locations in succession, thereby indicating a probable defect in the cab signal apparatus, the train will proceed governed by fixed signal indications but not exceeding 40 miles per hour, to the next point of communication where report must be made to the signalman.

The movement of a train, the engine of which is not equipped with cab signal apparatus, or equipped with cab signal apparatus not in operative condition, shall be made at not exceeding 40 miles per hour governed by fixed signal indications unless instructed by signalman to proceed and keep clear of occupied blocks. When so instructed the train may proceed at authorized speed, governed by fixed signal indications but not exceeding 75 miles per hour, and must not pass Stop-and-proceed or Restricting signals unless permitted by signalman when authorized by the superintendent.

Signalman must not give permission to trains to pass stop-and-proceed or restricting signals to enter occupied blocks, except in emergencies and then only when authorized by the superintendent.

When it is known that the cab signal apparatus of an engine has failed, it shall be considered in non-operative condition for the remainder of that portion of the railroad over which it operates until cut off for repairs and tests.

When trains are authorized to operate under absolute block or without cab signals, record must be maintained on block and train sheet.

517. When there is a failure in the cab signal apparatus, engineman will cut out the warning whistle if it continues sounding after he has acknowledged.

If the cab signal warning whistle fails to sound when cab signal changes to a more restrictive indication, it constitutes a failure and must be reported the same as when cab signal and fixed signal indications conflict.

518. If the cab signal warning whistle sounds longer than six seconds, the fireman or if there is no fireman the trainman nearest the operating compartment of the engine, will go to the engineman immediately.

INTERLOCKING RULES

605. Interlocking signals govern the use of the routes of an interlocking, and as to movements within interlocking limits that are protected by home signals and distant signals, their indications supersede the superiority of trains, and engine and train crews are relieved from observing Rule 99 and Rule 152. Movements against the current of traffic beyond home signal limits must not be made except under flag protection.

606. Emergency Signals—Whistle or Horn.

NOTE—The signals prescribed are illustrated by "0" for the short sounds; "—" for the longer sounds.

SOUND	INDICATION
(a) ————	All movements within interlocking limits—stop immediately.
(b) o o	Resume normal movement after receiving the proper signal or permission of signalman.
(c) o o o	Whistle or horn test.
(d) o o o o	Call signal maintainer.
(e) o o o o o	Call electric traction employe.
(f) o o o o o o	Call trackmen.

SIGNALMEN

611. Unless otherwise provided, signals must be kept in the position displaying the most restrictive indication except when displayed for an immediate movement.

612. Appliances must be operated carefully and only by those charged with that duty. If any irregularity affecting their operation is detected the signals must be displayed to give their most restrictive indication until repairs have been made.

613. When the route is set the signals must be operated sufficiently in advance of approaching trains to avoid delay.

615. When necessary to change any route for which the signals have been cleared for an approaching train or engine, interlocking appliances 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 or until Rule 661 has been complied with.

616. The lever operating an interlocking appliance must not be moved when any portion of a train or engine is standing on or closely approaching such interlocking appliance.

617. Operating levers must be blocked with standard blocking devices to indicate that the operation of the lever is restricted when a track or an interlocking appliance is undergoing repairs or when a track is obstructed.

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

622. Any defects in the interlocking must be promptly reported to the superintendent and the signal maintainer.

623. If there is a derailment or if any damage occurs to the track or interlocking, the signals must be restored so as to display their most restrictive indication, and no movement permitted until all parts of the interlocking and track liable to consequent damage have been examined and are known to be in safe condition.

624. When necessary to disconnect interlocking appliances, all the appliances affected must be properly secured in the required position and the levers blocked with standard blocking devices.

625. When interlocking appliances are undergoing repairs, Stop-signal must be displayed for any movement which may be affected by such repairs until it has been ascertained from the signal maintainer that the interlocking appliances are properly lined for such movement.

629. If an interlocking signal cannot be changed from Stop-signal, and should no cause for detaining a train be known, the signalman will authorize it to pass such Stop-signal by the use of Clearance Card (Form C) as thereon provided. Before issuing such card the signalman must know that the switches are properly lined and signals governing routes that conflict with the one indicated on the card display their most restrictive indication.

637. Equipment of a type which may not shunt track circuits must not be operated within interlocking limits except upon permission of the signalman who must also be advised when the movement has been made. Signalman before permitting such movement must secure all affected switch levers with standard blocking devices.

639. If a Stop-signal is disregarded, the fact must be reported to the next block station or interlocking station in advance and then to the superintendent.

ENGINE AND TRAIN CREWS

661. A train or engine delayed between distant signal displaying aspects covered by Rules 281, 282, 283, 284, or 287 and home signal, must approach home signal prepared to stop.

When stop is made under these circumstances, the signalman should be notified when practicable.

663. A train or engine must stop clear of an interlocking signal indicating Stop. A train or engine must not pass a Stop-signal except when authorized by Clearance Card (Form C) or train order. The signalman may authorize a conductor or engineman to fill out Clearance Card (Form C).

667. Sand must not be used nor water allowed to run over movable parts of an interlocking. Excessive use of sand at any point is prohibited.

669. A train or engine stopped by the signalman in making a movement through an interlocking, must not move in either direction until it has received the proper signal or permission from him.

670. A reverse movement within the limits of an interlocking or a forward movement after making a reverse movement, must not be made without the proper interlocking signal indication or permission of the signalman.

FORMS OF BLANKS

FOR

SINGLE AND TWO OR MORE

TRACKS

STANDARD TRAIN ORDER BLANK FOR 19 ORDER

The mode of filling the blank is indicated by small type (in parentheses).

FORM 19 — FORM 19

THE PENNSYLVANIA RAILROAD

TRAIN ORDER No.....(11)

SUPERINTENDENT'S OFFICE (January 17), 19

To .....

.....

At

Made (complete) Time (11 31 P) M Operator (Smith)

SPECIFICATIONS FOR TRAIN ORDER FORM AND BOOKS FOR OPERATORS FOR 19 ORDERS

Form as shown. Blank space for order 4⅜ inches with ruled lines, three to an inch. One inch for heading, order number and date, 1¼ inches for address and location, and ⅝ inch for signature. The mode of filling the blank is indicated by small type.

Form 6¾ x 7¼ inches. Book 6¾ x 7¼ inches, 200 leaves, gummed binding at top, manila cover on face and stiff back.

Paper opaque, yellow, sized and of such thickness as to admit of making nine good manifold copies at one writing; to be used with carbon paper 6¾ x 7¼ inches and a stiff tin, same size, corners rounded.

FORM C — FORM C

THE PENNSYLVANIA RAILROAD

CLEARANCE CARD

.....Station, ...M., ...19.....

Train..... Engine..... on.....track.

(For extra train show direction)

Signal cannot be cleared:

1. (FOR BLOCK SIGNAL)—Proceed into the block as though.....signal were displayed.
2. (FOR INTERLOCKING SIGNAL)—Proceed from.....track to.....track, as though Restricting signal were displayed.
3. (FOR STOP-SIGNAL, NON-INTERLOCKED)—Proceed from.....track to.....track, as though Restricting signal were displayed.
4. (FOR STOP-SIGNAL, REFERRED TO IN RULE 509)—Proceed at....., as though Stop-and-proceed signal were displayed.

.....Signalman.

This card will be used to authorize a train or engine to pass a Stop-signal only in case of signal failure or when signal cannot be displayed for an engine returning to its train.

Train addressed receiving this card may proceed as directed by the numbered paragraphs that are properly filled out.

Signalman when issuing this card will be governed as follows:

Fill out paragraph 1 when signal is a manual block system signal, non-interlocked.

Fill out paragraph 2 when signal is an interlocking signal and not a manual block system signal.

Fill out paragraphs 1 and 2 when signal is an interlocking signal and is also a manual block system signal, for movement through the interlocking and into the block.

Fill out paragraph 3 when signal is a home signal, non-interlocked, in manual block signal system territory.

Fill out paragraph 4 when signal is a Stop-signal as referred to in Rule 509.

Paragraph 1 will be used only when block is clear, or is clear of opposing trains but is occupied by a train which may be followed by train addressed in the same block.

Paragraph 4 will be used only when track is clear of opposing trains to the next block station or interlocking and clear of trains in the same direction to the next block signal.

(To be printed on pink paper 6" x 5".)

FORM K FORM K

THE PENNSYLVANIA RAILROAD
CLEARANCE CARD

.....Block Station.....M., ...19...

Train .....Engine .....
(For extra train show direction)

Proceed at .....

As though.....block signal were displayed.
Do not report clear at.....

.....
Signalman.

The signalman may issue this card only when authorized by the superintendent. Before issuing it, the signalman must have proper understanding with other signalmen, if any, having authority over blocks mentioned, and must know that blocks mentioned above are clear of opposing trains, and clear of trains that may not be followed in the same block by the train addressed.

Train receiving this card properly filled out and signed, or authorized by the signalman to fill it out, may proceed as directed above.

When delivered by telephone, the signalman will show on his office copy the name of the person to whom delivered.

(To be printed on green paper, size 5¼" x 4½".)

(For use in connection with Rule S-83 except where Rule 261 is in effect)

C.T. 1246

THE PENNSYLVANIA RAILROAD
CLEARANCE MESSAGE

.....19....

To.....

All trains due up to.....M.

have been represented except.....

.....Operator.

(To be printed on white paper, 5¼ x 3¼")

(For use in connection with Rule 221a)

C.T. 1250

THE PENNSYLVANIA RAILROAD
MESSAGE FORM TO ACCOMPANY TRAIN ORDERS

_____ 19__

_____ At _____

You should receive _____ orders

Orders numbers _____

_____
Operator

(To be printed on white paper, 5¼ x 3¼")

MICELLANEOUS RULES

GENERAL

EXAMINATIONS

Sight and Color Sense

400C-5. Employes whose vision requires the use of glasses will be examined or re-examined only while wearing the proper glasses. Those whose duties require them to distinguish the position or color of signals and whose vision requires the use of glasses will not be examined or re-examined unless they have with them at the time of such examination or re-examination the proper number of pairs of glasses as prescribed in these instructions.

Employes promoted or transferred to positions requiring ability to observe or know the color of signals must pass a satisfactory examination at the time of promotion or transfer.

Glasses and Goggles

400C-7. Employes who require the use of glasses and whose duties require them to distinguish the position or color of signals must have with them the proper glasses while on duty and in the performance of their duties such glasses must be worn. Proper glasses for employes whose duties require them to distinguish position or color of signals are:

For reading only, one pair of glasses (any type), but if of the nose glass variety, they must be attached to the person by proper guard;

For distant vision, two pairs of spectacles;

For both distant vision and reading, two pairs of distant vision spectacles and one pair of reading glasses or two pairs of bi-focal spectacles.

Goggles with corrective lenses will be regarded the same as spectacles and must be of the rigid type frame.

The use of spectacles with colored glass by employes whose duties require them to distinguish the position or color of signals is prohibited.

INTERRUPTIONS—TRAINS

Advising Passengers

400F-1. When passenger train service is interrupted or when unusual or serious delay occurs, passengers on trains must be fully informed as to probable delay or rerouting of trains and be given every assistance possible in making emergency arrangements for completion of trip. They must be given such opportunity as may be practicable for transmitting telegrams and where dining car service is not available, special arrangements must be made for meal service. Station masters and

station agents must be fully advised concerning interruptions, probable delay and rerouting of trains, and they must see that passengers at stations are fully informed and assist them in making emergency arrangements for reaching destination.

Reporting Detentions

400F-2. Form C.T. 726—Report of detentions of 5 minutes or more, must be used in accordance with instructions printed thereon, on all through passenger trains that regularly require more than one conductor between the initial and final terminals of the train.

Fires

Forest and Grass

400L-1. Employes must use every precaution to prevent forest and grass fires. The Superintendent must be notified promptly when such fires are observed on or near Company property or are likely to affect Company property.

Burning waste, hot cinders or other inflammable material must not be thrown or dropped from engines, and ash pans must not, except in emergency, be cleaned at other than designated points; if cleaned at other than designated points, hot cinders and live coals must be extinguished before proceeding.

Burning waste from journal boxes must be extinguished immediately.

Employes must understand that lighted stoves and heaters in cars must be given the same care and attention as any other light or fire. Ashes from heaters should not be dumped on platforms or other woodwork nor in yards in close proximity to where a supply of oil or gasoline is kept.

Extinguishing—Diesel Engines

400L-2. The carbon-dioxide fire fighting equipment on all diesel engines shall be used for all fires occurring on or about the engine. Carbon-dioxide (CO_2) will not harm any of the apparatus and is safe to use on live electrical equipment. Water should never be used on live electrical equipment, but may be used on dead electrical equipment and other apparatus as a last resort and then preferably with fog nozzles.

Fire departments assisting in extinguishing fires on diesel engines shall be informed of these instructions.

Promptly report fire and use of extinguisher equipment on Form MP-62-DE.

To operate carbon-dioxide system on diesel road engines open a pull box and pull handle hard; next throw lever of valve at hose rack to be used up and

over to the left (counter-clockwise). Pull boxes are located inside units near hose connections and outside at sill near each end of unit. Take hose discharge horn as close as possible to fire. Hose racks are located near doors and ends of units.

Direct horn at base of flames, squeeze horn control valve to release carbon-dioxide gas as necessary to dissipate heat and extinguish fire.

Operation No. 1 will discharge two (2) of the four (4) cylinders in the diesel unit; to obtain gas from other cylinders, pull additional handles until obtained.

To obtain gas from cylinders in adjoining unit, lever of valve above door in end of adjoining unit must be thrown up and over to left (counter-clockwise); then operate pull boxes in this unit as heretofore described.

After any fire has been extinguished, turn all valve levers (clockwise) to closed position; bleed hose line of gas by squeezing valve at horn.

(Note)—Class BP-60T and BH-50 diesel engines have no valves between units. In some diesel road engines the main electrical cabinet is connected to carbon-dioxide system. In case of fire in these cabinets, operate pull boxes as heretofore described and throw valve lever at cabinet to left.

Dry powder extinguishers, two of which are provided on each diesel engine unit, shall be used primarily for fires on outside, but may be used inside if fire is not extinguished by carbon-dioxide system. To operate dry powder extinguisher, remove extinguisher from holder; remove ring pin from lever and push lever down hard; direct nozzle at base of flames squeezing nozzle handle and releasing extinguishing agent on fire.

Each shifting engine carries two 20-pound carbon-dioxide (CO_2) portable fire extinguishers—one located in the engineman's cab, and the other under the engine hood on the fireman's side with the location indicated by the words "Fire extinguisher," in white letters, on the outside of the adjacent hood door.

Operation of portable carbon-dioxide extinguishers: Remove extinguisher from bracket by grasp-

ing carrying handle provided at top of cylinder with palm of the hand above the operating lever, and carry to point where it is to be used.

Remove operating lever locking pin and grasp discharge horn.

Release carbon-dioxide by squeezing operating lever.

Direct horn discharge of carbon-dioxide snow at base of nearest part of fire. Progressively extinguish fire by slowly playing discharge from horn over burning area. Continue discharging snow on burned areas after fire is extinguished to prevent flare-ups. In case of spreading oil fires on floor or ground, slowly advance as the flame is extinguished while slowly moving discharge horn from side to side. Be sure all flame is out in the area covered before advancing.

Stop discharge of carbon-dioxide by releasing hand pressure on operating lever.

Duties and Responsibilities

Conductors

400N-1. Conductors report to and receive their instructions from the train master or his designated representative. They must obey the instructions of station masters, station agents, yard masters, operators and signalmen, within their jurisdiction, and from officers of other departments on matters pertaining to those departments.

Conductors have general charge of the trains to which assigned and all persons employed thereon are subject to their instructions. They are responsible for the prompt movement, safety and care of their respective trains and the passengers and commodities carried, for the vigilance and conduct of the men employed thereon and for the prompt reporting to the superintendent of conditions that interfere with the prompt and safe movement of trains.

Conductors of freight trains must not permit any person, except division staff officers, their assistants and trainmen in discharge of their duty, to enter cars, handle freight or ride upon the train, without proper authority.

Trainmen

400N-3. Trainmen report to and receive their instructions from the train master or his designated representative. They must obey the instructions of their conductor and of others with proper authority, and from officers of other departments on matters pertaining to those departments.

They are responsible for the display of train signals, the proper protection of trains, the handling of switches, the coupling and uncoupling of cars and engines, the manipulation of brakes and for assisting the conductor or engineman in all things requisite for the prompt and safe movement of their train.

When assigned as ticket collector they must assist the conductor in the collection of transportation.

When assigned as train baggageman they must receive, take care of and correctly deliver baggage, mail, express, etc., placed in their charge.

Enginemen

400N-5. Enginemen report to and receive their instructions from the road foreman of engines or his designated representative. They must obey the instructions of the train master or his designated representative. They must obey the instructions of station masters, station agents, yard masters, operators and signalmen, within their jurisdiction, and the conductor in charge of their train as to general management of their train, unless by so doing they endanger the safety of the train or require violation of the rules. They must comply with the instructions from officers of other departments on matters pertaining to those departments. Within enginehouse territory they will comply with the instructions of the enginehouse foreman or his representative.

They must not leave the engine during a trip except in case of necessity.

They must exercise discertion, care and vigilance in moving the engine in their charge, with or without cars attached, to prevent damage to property and injuries to persons and to avoid collisions and derailments.

When acting as pilots, they will operate the engine of train to which assigned, unless otherwise instructed.

They must not permit any person except division staff officers, their assistants and trainmen in discharge of their duty, to ride on the engine without proper authority.

Firemen

400N-7. Firemen report to and receive their instructions from the road foreman of engines or his designated representative. They must obey the instructions of their engineman and of others with proper authority.

They are responsible for maintaining the prescribed pressure of steam in boiler of engine to which assigned and for assisting the engineman in all things requisite for the safe and prompt movement of their train.

Drivers of Track Cars

400N-9. Drivers of track cars must obey the instructions of yard masters, operators and signalmen, within their jurisdiction, and of others with proper authority.

Yard Masters

400N-11. Yard masters report to and receive their instructions from the train master or his designated representative. Within assigned districts and as directed, they have charge of yards, of employes, movement of trains and engines and distribution and movement of cars therein, except on main, secondary tracks or sidings, unless otherwise specified.

Assistant yard masters in the districts assigned them are governed by these instructions.

Switch Tenders

400N-13. Switch tenders report to and receive their instructions from the train master or his designated representative. They must obey the instructions of station masters, yard masters, train dispatchers, train directors, operators and signalmen, within their jurisdiction.

Station Masters

400N-15. Station masters report to and receive their instructions from the train master or from such officer as the superintendent may designate. They are in charge of the passenger stations where located and, unless other wise provided, of the persons employed therein.

Station masters are responsible for the preservation of order in and about their stations, the care of patrons, the expeditious handling of baggage, mail and express, the publication and announcements of information for use of passengers with respect to location of trains, time of their arrival and departure, the making up of trains and their dispatching at the times advertised, the reporting for duty at appointed times of passenger trainmen in presentable uniforms and equipped with necessary signals and other appliances, and for the performance of duty by employes under their direction.

Assistant station masters in the districts assigned them are governed by these instructions.

Station Agents

400N-17. Station agents report to and receive their instructions from the supervising agent, or from such officer as the superintendent may designate. They must comply with instructions from officers of other departments on matters pertaining to those departments.

They have charge of the Company's books and papers and of the buildings, tracks (except main, secondary tracks, and sidings) and grounds at their stations and, unless otherwise provided, of persons employed at them. They are responsible for the preservation of order in and about their station; the prompt handling, safety and care of passengers, baggage, mail, express and freight; the prompt loading, unloading and forwarding of cars; the

sale of tickets and the collection of charges for services rendered by the railroad; the keeping of accounts and records and the making of reports and remittances in connection therewith; the vigilance and conduct of employes in their charge; and for the prompt reporting of all matters that may affect the interest of the Company.

At stations equipped with track fences they are responsible for keeping gates closed and locked when not in use.

Assistant station agents, in the districts assigned them, are governed by these instructions.

Train Dispatchers

400N-19. Train dispatchers report to and receive their instructions from the superintendent or from such officer as he may designate. They must be familiar with the physical characteristics of the portion of the division in their charge. They are responsible for issuing train orders in the name of the superintendent, transmitting and recording train orders as prescribed by the rules; for issuing such other instructions as are required for the safe and efficient movement of trains; for maintaining the prescribed record of train movements; for having available, when relieved, a written memorandum of all train orders then in effect and other information relative to existing conditions the relieving dispatcher should know and for being assured that they are understood. They must also be conversant with the requirements of the current issue of C. T. 405, Special Instructions Governing Operation of Signals and Interlockings, in so far as their duties are concerned.

Operators—Signalmen

400N-21. Operators and signalmen report to and receive their instructions from the division operator, unless otherwise provided.

They must obey the instructions of the train dispatcher and train director.

They are responsible for the care of the block or interlocking station, lamps and supplies, the delivery of train orders and messages to the persons addressed, for arranging the use of blocks, tracks, interlockings, switches and signals and prompt movement of trains in accordance with the rules, train orders and special instructions.

They must maintain the prescribed record of train movements and when practicable, observe passing trains for defects and proper display of markers.

They must not absent themselves from duty until relieved and must notify the train dispatcher promptly should their relief fail to report at the prescribed time.

They must not permit visitors or other unauthorized persons to enter and loiter in their offices.

They must report the weather as required, and in case of sudden change, storm or fog, promptly advise the train dispatcher.

When required, they will operate hand-operated switches, crossing gates, movable bridges and other devices as may be designated.

They must be conversant with the requirements of the current issue of C. T. 405, Special Instructions Governing Operation of Signals and Interlockings, in so far as their duties are concerned.

In electrified territory they will operate power control boards and such other devices as directed by the power director.

Train directors, their assistants and levermen, in the duties assigned them, are governed by these instructions.

Crossing Watchmen

400N-23. Crossing watchmen report to and receive their instructions from the division engineer, unless otherwise provided. They must obey the instructions of the supervisor-track and foreman-track.

They must not absent themselves from duty until relieved.

They must provide themselves with proper appliances and keep them in good order and ready for immediate use.

The signal appliances for each watchman will be—

A standard stop sign.
A red lamp approved as standard for the purpose.
A red flag.
A white lamp.
Fusees.
A whistle.
Standard gate lamps for crossing gates, where used.

They must be on the lookout at all times for movements in either direction on the tracks across the highway, and must not depend upon the schedules of trains nor upon warning appliances for warning of the approach of trains.

While on duty, they must not sleep nor assume an attitude of sleeping or inattention, nor must they read anything except as required in line of duty.

They must not engage in unnecessary conversation nor permit visitors or unauthorized persons to enter or loiter about cabins or towers.

They must not use intoxicants nor narcotics while available for, or while on duty.

At crossings not protected by gates, they must station themselves in the middle of the highway near the

track before each movement is made on a track across the highway and remain there until it is safe for vehicles and pedestrians to cross the track. While so stationed, they must display:

By day: A stop sign, in upright position, with the flat side visible to persons approaching on the highway.

By night, and when day signals cannot be plainly seen: A red light towards the highway in both directions, swung across the direction of highway traffic.

A red light must not be displayed in the direction of movements on the tracks, except when necessary to stop such movements.

Where there are two or more tracks, when practicable, they will take a position near the track opposite from the one on which the movement is being made, where they can best protect the public from trains or engines approaching on other tracks.

When it is safe for vehicles or pedestrians to cross the track, crossing watchmen will so indicate by saying "all right" and beckoning to cross.

Where gates are in use, they must be lowered on both sides of the track before each movement is made on a track across the highway and kept lowered until it is safe for vehicles and pedestrians to cross the track. Except when gates have been lowered, they must be kept in vertical position and the operating handles blocked with holding devices. At night and when day signals cannot be plainly seen, lighted gate lamps showing red toward the highway must be attached to the gate arms.

Where normally the gates are kept in lowered position, they must not be raised except when it is safe for vehicles and pedestrians to cross the tracks.

When gates are out of order, the crossing must be protected in the manner prescribed by these instructions for crossings not protected by gates.

They must be especially careful and cooperate with the train crew in the safe movement of pedestrians or vehicles over the track when a train is shifting over a crossing or when a train has stopped and has been cut so as to avoid blocking crossing.

They shall be responsible to see that proper permission is secured to protect the movement of heavy machinery, implements or buildings across tracks at highway crossings.

They must promptly report all accidents involving personal injury and must endeavor to obtain the name and address of the person or persons injured and of as many witnesses as possible. They will also obtain the license numbers of vehicles involved. They must obtain the same information, as far as possible, in regard to persons driving recklessly or carelessly over the crossing.

They must promptly report all accidents, defects in track, bridges, signals, or any unusual conditions in the vicinity of the crossing, which may affect train movements, and where practicable they will take such action as may be necessary to afford full protection to the movements involved. When the crossing is obstructed or unsafe for train movements, they must use a red flag by day; a red light by night and when day signals cannot be plainly seen, and when necessary, in addition, display lighted fusees to stop movements on the tracks obstructed or unsafe.

They must observe passing trains for defects, and should there be any indication of conditions endangering the train, they must take necessary measures for its protection; where practicable, hand signals will be exchanged with train and engine crews. They must comply with Rule 77.

They must report to supervisor-track any infractions of highway regulations by highway users that may affect the safety of trains or highway movements over the crossing.

They must keep their cabins, towers and surroundings clean, and keep foot-walks at crossing and the flangeways between the rails and crossing planks or flangeway guard rails clear of snow, ice and other obstructions, doing this work at such times as will not interfere with the proper protection of the crossing.

Maintenance of Equipment Employes

400N-25. The general outline of duties and responsibilities of certain Maintenance of Equipment Employes is prescribed in current instructions No. 201.

Maintenance of Way Employes

400N-27. The general outline of duties and responsibilities of certain Maintenance of Way Employes is prescribed in current issue of C. E. 81.

Injuries

Discharging Mail, etc., from Moving Trains

400R-4. Mail matter or other articles must not be discharged from moving trains on station platforms or at any other locations where personal injury is liable to result.

Train Signals

Search and Flood Lights

4019-A. Search or flood lights located under platform of business cars and electrically illuminated signs, may be displayed on rear of trains.

Use of Signals

Switch Lamps—End of Two Main Tracks

4037-A. At the end of two main tracks where switch is not interlocked nor spring switch is in service, when the switch is set for trains to move in normal direction, switch lamp will display white disc (green light at night). When the switch is set against train movement in normal direction, switch lamp will display red disc (red light at night).

The normal position of switches will be designated in special instruction on the time-table.

Fouling Points

4037-B. Sign displaying letters FP, or a yellow stripe about 10 inches wide painted on the inside and outside of head, web and base of both rails in a track indicates the fouling point of main track of the track on which it is located.

Track Troughs

4040-A. Track troughs in service will be marked:

At entrance—By day: White target.
By night: Lunar white light.
At exit —By day: Yellow target.
By night: Yellow light.
At middle —Same as at entrance. (When used)
Out of service—By day and night, all yellow targets and yellow lights.

Enginemen must be notified when track troughs are out of service.

Care must be used to prevent unnecessary overflow of tank.

When passing over track troughs, the use of poker or scraper and the shaking of grates is prohibited.

Tank Cars

4041-A. Sign reading "Stop—Tank Car Connected," indicates tank cars are connected for loading or unloading and must not be coupled to or moved; also that other cars must not be placed on same track so as to obstruct view of sign without first notifying the person who placed the sign.

Observation of Trains for Defects

Over Heated Bearings—Diesel Engines

4076-D. When diesel engine develops an overheated axle bearing or motor axle suspension bearing enroute,

diesel engine will be operated with caution not exceeding a speed of 30 miles per hour to the next terminal where diesel engine will be cut off and another engine substituted.

Any diesel engine reported having an overheated axle bearing or motor suspension bearing or found overheated on inspection, must not be dispatched.

Failure Dead Man—Diesel Engines

4076-F. In event the "Dead Man" safety control device on a road diesel engine fails, seal may be broken and device cut out after which train will proceed only when both members of the engine crew are in the operating cab. As soon thereafter as will not cause delay to the train, diesel teletype message (Form M.P. 414), also a message reporting the occurrence to the superintendent, must be sent.

Flat Spots on Wheels—Diesel Engines

4076-G. When flat spots on wheels of a diesel engine develop enroute speed must be reduced to not exceeding 40 miles per hour and if in the judgment of the engineman it is necessary, a stop for inspection must be made at the nearest terminal or other point where inspectors are available.

As soon as practicable after flat spots develop or it is known a stop for inspection will be made, the superintendent must be notified.

Hot Box Indicators

4076-H. Cars equipped with "Twinplex" smoke and odor hot box indicators will release a strong penetrating odor and a volume of dense white smoke when bearings become overheated. When either of these indications is observed, the train must be stopped, and a prompt report made to the superintendent.

If the car is set off enroute, report should state that car is equipped with a "Twinplex" indicator.

Movement of Trains

Ascertaining Cause for Delay

4102-A. When a train is stopped or delayed from any cause including Stop-signal Rule 292, the conductor, engineman, or member of their crew, when authorized by the conductor or engineman must, as soon as the safety of their train will permit, ascertain the cause and, when practicable, communicate with the nearest block or interlocking station.

Backward Movements—Trains Carrying Passengers

4103-A. When cars or trains occupied by passengers are being backed or pushed by an engine, the passengers,

except occupants of business cars, must be prohibited from riding on the front platform of the leading car.

Automatic Highway Crossing Protection

4103-B. Where automatic highway crossing protection is in service with or against the current of traffic, it will not relieve enginemen from complying with Rules 14(1) and 30.

Automatic highway crossing protection at grade crossings indicates the approach of a train on main and secondary tracks only, except as provided on time-table.

It operates when trains approach crossings with or against the current of traffic, except that it will not indicate approach of a train against the current of traffic at locations listed on the time-table.

When trains are operated against the current of traffic and automatic highway crossing protection does not indicate the approach of a train, trains must approach such crossings prepared to stop short of an obstruction, and also comply with Rules 14(1) and 30.

Employes should observe the operation of automatic highway crossing protection and report promptly to the superintendent any failures to operate properly.

A yellow stripe about 10 inches wide painted on inside and outside of head, web and base of both rails in a track indicates the limits of track circuits.

At locations shown on time-table a sign reading CC in black letters on white background indicates the point beyond which engines and cars will operate automatic highway crossing protection.

At locations shown on time-table, apparatus is provided to manually interrupt the operation of the automatic highway crossing protection. At such locations where the apparatus is operated manually, no movement may be made over the crossing until protection is provided as prescribed by Rule 103, or the automatic operation of this protection has been reestablished.

At locations shown on the time-table, apparatus is provided to automatically interrupt the operation of the automatic highway crossing protection. At such locations all movements approaching at slow speed, shifting movements, and approaching movement resumed after having stopped, must be prepared to stop before passing over the crossing unless automatic protection is operating. If the automatic highway protection is not operating, the

movement must not be made over the crossing until protection has been provided as prescribed by Rule 103.

Electric light indicators are in service on or adjacent to instrument cases at highway crossings where automatic highway crossing protection is provided.

Indicator light will be displayed while power is normal, when train is operating the automatic highway crossing protection. Absence of indicator light indicates normal source of power has failed and that protection will be entirely dependent upon battery.

If indicator light is not displayed as train approaches crossing, prompt report must be made to superintendent.

When a train or shifting movement passes entirely over a highway crossing provided with automatic highway crossing protection, it must not move in opposite direction over the crossing until automatic protection is provided or as prescribed by Rule 103.

To avoid unnecessary operation of automatic highway crossing protection, switches must not be left open, unlocked nor cars left standing longer than necessary within operating limits of such protection.

When shifting movements are made in the vicinity of a highway crossing provided with automatic flashing light signals or bells, or when a train is stopped, thereby operating the crossing signals or bells unnecessarily, every effort must be made by trainmen to avoid delay to highway traffic. When it is known that no trains or engines are approaching on other tracks and it is safe for vehicles or pedestrians to cross at crossings protected by other than automatic gates, the trainman will say "all right" and beckon to cross.

At crossings provided with automatic crossing gates, occupancy of the operating limits of such protection must be kept at a minimum unless means are provided to raise the gates.

Trains approaching highway crossings on sidings, yard or other tracks adjacent to tracks where highway crossings are provided with automatic highway crossing protection will approach crossing prepared to stop, sounding the warning as prescribed by Rules 14(1) and 30.

Obstructing Crossings at Highways

4103-C. When a train is delayed and obstructs a public highway crossing, action as may be necessary must be taken to avoid excessive delay to highway traffic.

Obstructing Crossings at Stations

4103-D. At stations not provided with overhead or undergrade crossings, trains other than passenger trains making station stops, must not obstruct crossings used by passengers or for handling mail, baggage or express.

Protection for Heavy Machinery, Implements or Buildings at Crossings

4103-E. To provide against possible accident to railroad property, and insure the safe passage of heavy machinery, implements or buildings at highway grade crossings, special provision should be made to protect such movement over the tracks.

Station agents and foremen-track should keep closely in touch with such matters and give the supervisor-track advance information to enable him to make proper arrangements with the owners or those in charge of the equipment or buildings to insure that full protection is afforded while tracks are being crossed.

Passenger Train Operation

Folding Steps, Side and Trap Doors

4154-B. A passenger car equipped with folding steps, side and trap doors must not be permitted to leave a terminal or originating point with side or trap door missing, and if either becomes defective it must be closed and secured until car reaches destination.

Side and trap doors on passenger cars in service or moving deadhead on trains must be kept closed except that on trains making frequent stops doors on platform side may be left open between stations, except when practicable they must be closed approaching and passing through tunnels, over bridges and trestles. Side and trap doors must be closed before arriving at stations with high platforms. When opened or closed side and trap doors must be latched securely.

Only employes in the discharge of their duties may open side and trap doors, and at stations the doors may be opened only on platform side. Rail employes who in the performance of their duties open side and trap doors on Pullman cars must also close same.

Folding steps which operate in conjunction with vestibule trap doors on passenger cars are not within the established clearance limits, unless in fully closed position or fully open position. Vestibule traps of cars equipped with folding steps must not be opened or closed while cars are in motion.

Employes must be on the alert at all times, particularly at stations, to take necessary action in event passengers attempt to board or leave moving trains.

End Gates, Chains, Bars

4154-C. End gates, chains or bars must be in proper position at front of first and at rear of last passenger car in passenger trains, except when necessary to provide access to an adjoining attended baggage car or apartment and when rear car has an observation end not so equipped.

When passenger cars on passenger trains are separated for any reason both openings must be protected with end gates, chains or bars or by members of the train, Pullman or dining car crews.

Contagious or Infectious Diseases

4154-D. Passengers with known cases of contagious or infectious diseases must not be transported without authority of the superintendent.

Dogs and Other Animals

4154-E. Train service employes whose duties involve them in handling dogs and other animals in passenger trains, must provide themselves with a current copy of General Notice No. 220-A and supplements thereto (issued by Superintendents Passenger Transportation) "Instructions Governing Carrying of Dogs and Other Animals in Passenger Trains" and be governed thereby.

Lost Articles

4154-F. All lost articles found on Company's property must be delivered immediately to baggage agent at the station or to ticket agent where there is no baggage agent. When lost articles are found on trains they must be delivered to baggage agent at terminal station of train crew or to such other person as may be designated to receive lost articles. The baggage agent at the terminal station will be notified of finding of articles and delivery to custodian so that inquiries may be directed to proper office.

Articles found in Pullman cars must be turned over to the Pullman employes (conductor if one is on duty) in charge of car in which the articles are found, or deposited at the proper Pullman office in accordance with instructions issued by the Pullman Company. Information as to finding of such articles should also be given to the proper railroad representative at terminal in order that persons making inquiry may be directed to the Pullman office having custody of such articles.

Receipts will be furnished by the designated employe to persons delivering lost artieles.

Railroad Service Mail

4154-G. Employes whose duties involve them in the handling of Railroad Service Mail must provide themselves with a current copy of General Notice No. 243-A and supplements thereto, (issued by Superintendents Passenger Transportation) "Regulations Governing Railroad Service Mail" and be governed thereby.

Steam in Steam Line of Trains

4154-H. Steam must be kept in the steam line of trains:

On trains carrying twin-unit and lightweight diners, also on trains carrying Pullman-parlor-restaurant-lounge cars, or other cars, where steam is necessary for commissarial purposes.

Between the hours of 6.00 A.M. and 10.00 A.M. on trains carrying Pullman sleeping cars, during Daylight Saving Time hours of service to be advanced one hour.

On trains carrying full RPO or RPO apartment cars, when such cars operate over more than one division.

On trains with steam jet air-conditioned cars, or cars carrying live fish.

On all trains, when the outside temperature necessitates heating, in which case the following special heating instructions apply:

Deadhead trains, heat in rear car for train crew.

Deadhead trains, heat in one Pullman car for Pullman personnel.

Heat in mail cars for Mail Clerks.

When cars requiring steam for the operation of air conditioning apparatus, steam tables, commissarial facilities or other similar special features are operated in passenger trains, the conductor must notify the engineman so that the necessary steam pressure in the steam line may be provided.

Passenger Car Lighting

4154-J. Every effort shall be made to conserve electrical energy, and to avoid, at night, unnecessary disturbance to sleeping passengers.

Daylight Burning. While the train is passing through tunnels or standing in dark stations, the lamps on the car platforms and at least one body circuit must be turned on. Elsewhere, on dark days, sufficient lamps should be turned on to assure adequate light for reading. At all other times, all lights must be turned off.

Night Burning. The time of turning lamps on shall be governed by the amount of outside light and will vary with the season of the year and the cloudiness of the day. The train crew should exercise judgment as to the proper time.

On overnight trains, lighting will be reduced between the hours of 11.00 P.M. and 6.30 A.M. in all coaches, except that where trains make a station stop shortly before or after 11 P.M. the lighting will be reduced immediately after ticket lift from that station is completed.

In cases where passengers board or leave coaches at intermediate stations between 11.00 P.M. and 6.30 A.M., a minimum amount of overhead lighting should be used to avoid unnecessary disturbance to sleeping passengers.

On coaches occupied by special parties, lighting should be regulated in accordance with desires of the person in charge.

When reducing lighting in overnight coaches not equipped with floor lights, the light in passageway at front end of car should be dimmed and light in rear passageway left at normal brilliancy.

Full lighting in cars on overnight trains should not be used between the hours of 11.00 P.M. and 6.30 A.M., except when unusual circumstances necessitate such action.

When passengers in a coach request that lighting be reduced earlier than 11.00 P.M. and other passengers will not be discommoded, it may be so arranged.

Lights in Pullman cars will be manipulated by Pullman employes.

Lights in dining cars will be manipulated by Dining Car employes.

Locking Cars

4154-K. Except when necessary to provide a passageway to other cars in which passengers are being handled, the end door of the baggage compartment of an unattended combined car or of a car which contains mail, express, or baggage must be kept locked.

Fireman Leaving Cab of Multiple Unit Diesel Engine

4154-M. Confirming oral instructions now in effect, the "National Diesel Agreement" dated August 13, 1943, between certain railroads, including the Pennsylvania, and the Brotherhood of Locomotive Firemen and Enginemen provides that "on multiple-unit Diesel-electric engines in high-speed, streamlined, or main line through passenger trains, a fireman (helper) shall be in the cab at all times when the train is in motion."

Therefore, in the event of an emergency requiring the fireman to leave the cab of multiple-unit Diesel-electric engines in such service, the train should be stopped.

Freight Train Operation

Machinery of Rotating or Swinging Type

4155-A. Machinery of rotary or swinging type such as cranes, derricks, steam shovels, etc., whether loaded on

cars or moving on own wheels, must not be moved in revenue trains unless form CT-310 covering the specific movement is attached, one to each side of the car on which it is loaded or one to each side of the machine when moving on own wheels, and form CT-310-A is attached to the billing.

When such shipments are set off for repairs that may affect the requirements of the A.A.R. Loading Rules, they must not again be moved except upon authority of the superintendent, and not until proper inspection has been made and billing endorsed by agent or yard master "Re-inspected at.....and loaded as per A.A.R. Loading Rules." Conductors when setting off such shipments for repairs must notify the proper officer that it is rotary type machinery.

In all movements of such rotary or swinging type machinery on own wheels in revenue trains the boom end must trail, except that when necessary the superintendent may authorize movement with boom end forward, in which event the authority will include any additional speed restrictions that may be required.

When cranes are shipped on their own wheels, all coal must be removed from the coal bunkers, and all water removed from the boilers and reservoirs. When boom is removed the light end of crane should trail. Where trucks are secured to body with keyed or nutted center pin, key or nut should be removed from pin on trailing end. All locking pins and hold-downs must be in secured position.

When pivoted machinery, equipped with swinging booms of which a part may swing or extend outward, is moved from one service point to another in work trains, boom anchors and cables must be in place and locking devices fastened. When such equipment is moved during the progress of work on or about main tracks, stops must be in use to prevent fouling adjacent tracks, and crane operator must be in cab.

Boom must be securely anchored, with center lock in place, and crane operator must be in cab while train movements are being made on adjacent tracks.

The movement of each car carrying complete large calibre guns (such as railway gun mounts) must be governed by instructions of the superintendent.

Cars or Equipment of Excessive Weight or Dimensions

4155-B. When routing instructions include any specific restrictions, speed limit, use of certain tracks passing designated points or other specified precautions, agents, yard masters, or others responsible must notify the train dispatcher, also furnish Form C. T.-2 (illustrated in the following) to conductor and engineman having such cars in their train. If a restriction is also on a division over which interdivisional crews operate, the train dispatcher of the originating division, after having been notified by the conductor, will arrange to notify the dispatchers of the connecting divisions.

C.T.-2

THE PENNSYLVANIA RAILROAD

Restricted Train Run Movement

When manifest shows speed limit, use of certain tracks passing designated points or special precautions on account of weight or excessive dimensions in accordance with General Notice No. 207-A, Item 13, Page 5, *Conductors must* notify train dispatchers accordingly. If a restriction is also on a division over which inter-divisional crews operate, the train dispatcher of the originating division, after having been notified by the conductor, will arrange to notify the train dispatchers of the connecting division.

Conductor and Engineman.....Station or Yard.....

Train.....Engine.....Date.....

Initial and numbers of cars or other equipment.....

Restrictions on your train run.....

.....

.....

.....

.....

(Name and Title)

NOTE—To be filled out in triplicate, one copy to be given conductor, one to engineman, and one for file in yard office from which train was dispatched.

Transportation of Livestock

4155-C. Whenever the temperature reaches 70 degrees above zero or over, hogs must be drenched or sprayed enroute at points designated on time-table. Water should not be thrown direct on hogs. A notation must be made on billing showing points and time at which hogs were drenched or sprayed.

Connecting divisions must be advised in advance and conductors must advise the superintendent, as soon as practicable after leaving terminals, of all cars of live stock on short time, i.e., shipments nearing expiration of 28 or 36-hour time limit.

Placing of shipments of live stock at destinations that are non-agency stations, or at agency stations where agents are not on duty, must be regulated by instructions of the superintendent.

Picking Up Cars at Non-Agency Stations

4155-D. Conductors picking up cars at non-agency stations must examine drain-pipes, hatch-plugs and ventilators, record conditions, and make report by wire to superintendent covering any defects which they cannot correct.

Scheduled Refrigerator Car Service

4155-E. Scheduled Refrigerator Car Service means insulated car service established or operated by carriers on fixed days of the week from specified points to specified points for the handling of "Less than Carload" shipments of perishable freight, transported over a specific route which interested carriers have authorized. Conductors must wire proper officials when it is evident that scheduled cars will be inadequate and extra cars will be needed for the remainder of the schedule.

Caretakers Accompanying Perishable Freight

4155-F. Caretakers will have exclusive charge of heaters, if any, installed in cars, the fires therein, the ventilators and other openings. Caretakers must ride in cabin car while train is in motion. When caretakers abandon shipment at any point short of destination, they must remove heaters. In the event shipment is abandoned without heaters being removed, agent, yard master or conductor will see that fires are extinguished and make proper record on the waybill.

Caretakers must not be allowed to examine waybill for any cars not in their charge.

Adjusting Ventilators

4155-G. Each conductor or other employe delegated to adjust ventilators of cars under ventilation must, when first taking cars, ascertain and record the position of all vents and every time any change in position thereof is made, a separate record must be maintained.

Test Weight Cars

4155-I. A test weight car is a car used for testing railway track scales.

A compartment test weight car is a car built of structural shapes and plates, used for the transportation of test weights in small units.

Test weight cars should be handled at rear of train just ahead of cabin car.

Non-truck, 4-wheel type cars must not be placed between pusher engine and other cars in yard or road movements.

Test weight cars of the non-truck, 4-wheel type must not be moved at speeds greater than 25 miles per hour when "weight" compartment is empty, nor more than 30 miles per hour when "weight" compartment is loaded to capacity. Scale inspectors or other employes issuing shipping instructions for test weight cars of the 4-wheel type will indicate in such instructions whether or not the "weight" compartment is empty and also the correct speed to which the movement is restricted. Agents, yard masters and car inspectors must see that Form C. T. 212 is endorsed to show such speed restrictions and that the superintendent is notified.

Test weight cars should be promptly handled at destination by yard engines upon request of scale inspector to yard master. At locations where yard engines are not employed, arrangements will be made for road trains to handle cars at the track scales upon request of scale inspector to the train master or his representative. Yard engines and road trains assigned to assist scale inspector will handle cars in making tests of track scales as instructed by the scale inspector. Test weight cars must be handled carefully to avoid impact at speeds greater than 2 miles per hour. Brakes on cars with roller bearings uncoupled from other equipment in motion must be manned and carefully operated to prevent excessive speed, and must be firmly set when movement is stopped. When handling such cars, conductors must know that enginemen have been so advised.

Movement of Engines and Cars Over Scales

4155-J. The movement of engines or similar equipment over the weigh rails is prohibited except upon authority of the supervisor of scales and weighing. The unnecessary passing of cars over the weigh rails is prohibited. Weighed cars which have passed beyond the dead rail switch must not be returned over the weigh rails. Dead rail switches, and the relieving gear of scales so equipped, should be set for the dead track, except when cars are being weighed.

Cars should not be stopped on the scale by impact or obstruction on the rail. When a car which has been stopped for weighing or other purpose is moved from the scale, impact must not occur at a speed greater than 2 miles per hour. Under no circumstances should a car wheel be passed over any obstruction placed on the rail.

Cars on the weigh rails must not be moved by cars or engines on the dead rails or on an adjacent track, or vice versa. Cars must not be moved over the scale with one truck on the weigh rails and the other truck on the dead rails.

Speed of engines and non-weigh cuts of cars over the scale or dead rails should not exceed 8 miles per hour.

Engines and cars shall be so handled over the scales as to prevent oil, water, hot cinders, sand or lading of cars to drop upon the platform or scale parts. The slipping of engine drivers on the scale or dead rail is injurious to the structure, and only enough sand to provide the necessary traction should be applied.

Runaround tracks must be used for the passage of engines and cars not to be weighed.

Track scales with relieving gear must be equipped with signals at each end. At track scales where semaphore signals are in service, indications will be as follows:

Diagonal—Yellow light at night—scale is set to weigh, and engines must not be run over it.

Vertical—Green light at night—engines may run over the scale.

Where light signals are in use, indications will be:

No light—Scale is set to weigh and engines must not be run over it.

One green light—engines may run over the scale.

A relieving gear must not be operated when a load is on the weigh rails.

No equipment shall be allowed to stand on the dead rails, nor on the weigh rails, except while being weighed.

Weighing Cars

4155-K. Single cars must be uncoupled at both ends while they are being weighed. In the case of twin and tandem loads, the cars shall remain coupled, and such coupled cars may be weighed in one draft (or cut) if the scale is of sufficient length, or in more than one draft (or cut) if the approach rails are level with the weigh rails.

Heavily loaded or long wheelbase cars should not be weighed on a track scale of the 46-foot type. When it is necessary to weigh a long car on other types of track scales not long enough to accommodate the entire car,

each truck of the car will be spotted in turn approximately at the center of the scale.

Car Seals

4155-L. When a car contains freight for several stations, the agent at the station at which freight is unloaded or the conductor of the train must reseal the car.

Form C. T. 815, C. T. 815A or C. T. 815B must be used by destination agents for recording impressions on seals and the condition of fastenings on side and end doors, covering all loaded cars received. The record must be distinct and accurate, so that in the case of a claim it may be used as evidence. When a loaded car arrives at destination with imperfect seals or without seals, the agent must check the lading before delivery to the consignee or when unloaded by consignee.

Form C. T. 143 must be prepared in duplicate by conductors to report the record of and condition of seals on cars delivered or received, where it is impracticable for the agent to obtain this record. The original must be delivered to the jurisdiction agent and a copy retained by the conductor. This report must be distinct and accurate and properly filed so as to be available as evidence in the case of a claim.

Conductors and trainmen must examine seals at intervals while cars are in their charge. When there is evidence of seals on cars having been tampered with, an examination of the contents of such cars should be made before they are sealed, and a report by wire immediately made to the superintendent stating all facts. Form C. T. 865 must be prepared and left with the yard master or other employe designated by the superintendent at the end of the run.

Four-Wheel Cabin Cars

4155-M. Four-wheel cabin cars must not be permitted to stand in an automatic block unless the block is occupied by other cars or engine. Such cabin cars must not be permitted to stand alone between the signals of a block station or interlocking without permission of signalman.

Freight and Passenger Train Operation

Brakes on Cars Left Standing

4156-A. A sufficient number of hand brakes must be applied on cars or cuts of cars left standing on any track to make them secure. When necessary and practicable, car wheels must be blocked.

Guards or Attendants Accompanying Shipments

4156-B. Conductors of trains handling military equipment, circus equipment or other shipments accompanied by guards or attendants must notify person in charge that

guards or attendants are not permitted on top of cars or high lading account of close overhead clearance.

Conductors must carefully examine waybills for live stock or other shipments to see that persons who accompany them are entitled to be carried. If the names of the attendants are not shown on the waybill they should be secured from proper authority and shown thereon. When attendants desert shipments enroute or for any cause fail to accompany same to destination, place, date and time of such occurrence must be noted on the waybill.

Cars Consigned to Order

4156-D. Yard masters must not authorize, and conductors must not place on industrial, private or outlying station tracks, including non-agency points, cars consigned to "Order" except on instructions of superintendent or station agent under whose jurisdiction track is located.

Operation in Tunnels or Confined Locations—Diesel Engines

4156-E. When diesel engines are stopped while operating in tunnels or confined locations, engines and steam heat generators on all diesel engine units must be shut down unless it is known that diesel engine will proceed within five minutes.

Engines and steam heat generators on diesel engine units shall not be allowed to run for extended periods of time in buildings or shops unless proper ventilation is provided.

Slipping or Sliding of Driving Wheels—Diesel Road Engines

4156-G. All diesel road engines are equipped with a wheel-slip warning device (light or buzzer or both), which indicates slipping or sliding of the wheels of one or more driving axles of the engine.

If the warning indication is only momentary, no reduction in throttle position is necessary, but if the wheel-slip indications repeat rapidly, the throttle position must be reduced until the warning device ceases to register. The throttle may then be opened again to the desired position.

If the warning indication is steady, and continues even when the current supply to the traction motors is reduced, it may be due to a locked driving axle caused by a broken pinion or axle gear, a frozen armature shaft due to failure of an armature shaft bearing, or other causes. In this case the train must be brought to a stop and examination made to determine whether all engine

wheels are able to rotate. If any wheels are locked the unit must be set off.

No wheel-slip or slide indication will be received from a traction motor that has been cut out. Consequently, when operating with a traction motor cut out, frequent checks should be made to ascertain that its associate axle is not locked.

Equipment Restrictions—Passenger Trains

Cars Prohibited Between Heavier Steel Cars

4158-A. The following classes of P. R. R. and Long Island Railroad passenger cars must not be hauled between heavier steel cars or between heavier steel cars and the engine:

Coaches	Combined Passenger and Baggage	Passenger—Baggage and Mail
P-54 MP-54 MP-54c	PB-54 MPB-54 MPB-54b MPB-54c	MPBM-54 MBM-62

Note—For purpose of identification, P.R.R. suburban cars of MP-54 and MBM-62 types are shorter than the through service cars and are not equipped with buffer diaphragms.

Long Island Railroad suburban cars of P-54 type are shorter than the through service cars, but are equipped with buffer diaphragms and may be identified by means of the description on board located in toilet.

Reading Company passenger train equipment cars, all types, must not be handled between heavier steel cars or between heavier steel cars and the engine.

Passenger Car Buffer Plates

4158-C. Passenger train cars having continuous buffer plates must not be coupled to freight cars having coupler release levers with a center projecting arm.

Equipment Restrictions—Freight and Passenger Trains

Cars Seventy or More Feet in Length

4160-A. Cars having a stenciled length of load space of seventy feet or more, or passenger-carrying cars of P-70 length or greater, must not be coupled to cabin cars of the 2-axle type. Such long cars, when equipped with swivel type couplers, may be coupled to cabin cars having 4-wheel trucks.

Note—All passenger cars are equipped with swivel type couplers. A long freight car equipped with swivel type coupler may be identified by looking underneath the car for a vertical swivel pin near the end of the coupler shank.

Dead or Disabled Engines

4160-B. Dead engines of a design having two or three pairs of drivers and no trucks, may be moved only at speeds not exceeding 20 miles per hour. Dead engines of a design having four pairs of drivers and no trucks shall be restricted to speeds not exceeding 25 miles per hour.

Two or more such dead engines in the same train shall be separated by one or more cars.

A dead freight or passenger engine with engine truck removed must not be handled in freight trains, but may be hauled in a work train at a speed not exceeding 15 miles per hour, to the nearest terminal where repairs can be made.

A freight or passenger engine with the engine truck removed, may be moved under steam or in a work train at a speed not exceeding 15 miles per hour to the nearest terminal where the repairs can be made.

All engines equipped with side rods must have them applied when hauled dead in trains. Suitable washers of wooden blocks clamped together with bolts must be used on main rod bearings when necessary to keep the side rods in place.

All engines and tenders hauled dead in trains must have the air brakes cut in and operative.

The presence of an attendant (furnished by the consignor or consignee), whose duties are those of caretaker, does not relieve the train crew or inspectors of any responsibility in connection with the movement of the engine or detached tender. The same attention and inspection must be given as is required for any other equipment in the train.

Engines shall be equipped with hand brakes or accompanied by a car equipped with hand brakes. Otherwise the attendant must carry with him chains or suitable blocking for the purpose of securing engine and tender while standing alone.

When necessary to clear the main track, engines with any main or side rods disconnected may be moved to a terminal at not exceeding the following speeds:

Class of Engines	Miles per Hour
Cl Ils Ilsa Jl Jla N2sa	8
All others	15

If engines with any main or side rods disconnected while on the main track, have interference between crossheads or guide and front crank pin, on account of front wheels getting out of register, engineman must notify the Superintendent and receive instructions for further movement.

When it is necessary to move a light engine with any main or side rods disconnected, from a terminal to another point, the master mechanic or road foreman of engines will notify the Superintendent the speed permitted before the engine is dispatched and the latter will then issue the necessary instructions.

When detached tenders are moved in train pusher engine or engines shall not be used.

Tenders must be equipped with brake pipe line. Tenders with inoperative air brakes, must be placed back of cars having operative brakes, as specified in Instruction 4, third paragraph of the 99-C-1, Brake and Train Air Signal Instructions.

Not more than two tenders should be moved on the rear of any train.

Any road or shifting diesel engine hauled "dead" in train must not be placed more than 10 cars away from the hauling engine. Each unit of the engine must be counted as a car. When more than one engine is hauled "dead" in the same train the engines must be separated by one or more cars equipped with operative air brakes but the units comprising a road passenger or road freight engine need not be so separated. The units of a road shifting engine must be separated by one or more cars with operative air brakes. A new diesel engine, road or shifting, must not be moved at a speed greater than 30 miles per hour for at least the first 100 miles, after which the speed may be increased but not to exceed the maximum designed speed of the lowest rated diesel engine in the train. This speed limit will also apply to diesel engines of foreign road ownership moving on Pennsylvania Railroad unless accompanied by messenger, in which case speed will be governed by messenger's instructions.

Cover exhaust stacks and close louvres to exclude dirt and water.

When necessary to tow a diesel engine designed for road service, the reverser drum must be locked in neutral position. All isolation switches must be placed in "start" position. If necessary to keep power units idling, the fuel pumps and control switches must be in closed position.

When diesel engines enroute develop any defect in any portion of the electrical wiring or electrical apparatus

which requires shutting down the Diesel engine generator set or sets involved, the unit affected should be closely watched during further train movement for evidence of any fire starting. Should this occur, fire must be extinguished and unit set off at the first convenient location.

Roller Bearing Journals

4160-C. Engines and cars equipped with roller bearing journals must not be operated through water, except in emergency when authorized by the superintendent and then, only as specified below:

Steam and electric engines and cars, other than MU cars and rail motor cars, may be run through water when its depth does not exceed 7 inches (measured from top of rail) at a speed not exceeding 2 miles per hour.

MU cars, rail motor cars and diesel engines may be run through water when its depth does not exceed 2 inches (measured from top of rail), at a speed not exceeding 2 miles per hour.

Articulated Trucks—Diesel Engines

4160-D. Diesel engines Class BP-60T and BH-50 are equipped with articulated trucks and must not be moved over humps.

Engines with Drop or Retractable Couplers

4160-E. Engines equipped with drop or retractable couplers when operating in road service must have the front coupler in drop or retracted position.

Car Movement Restrictions

4160-F. The following restrictions must be observed with reference to physical condition of foreign railroad cars received for movement over our lines:

Passenger equipment cars of all-wood construction must not be operated in passenger, mail or express trains nor accepted from foreign railroads for movement in such trains.

Cars having steel underframe with wood superstructure or having steel underframe with composite superstructure and wood sheathing must not be used for transporting passengers.

Baggage or kitchen cars with steel underframe and wood superstructure assigned in troop movement, may be moved in troop trains or exclusive express trains to any point on line except when required to operate through East and North River Tunnels, New York Division.

Passenger refrigerator cars with steel underframe and wood or composite superstructure, without lights or heating stoves, will be accepted for movement through East and North River Tunnels, New York Division.

Passenger equipment cars with trucks having wood side and end members, with or without plates bolted thereto, must not be operated in passenger, mail, express or troop trains nor accepted from foreign railroads for movement in such trains.

Cabin cars, other than all-steel construction equipped with four-wheel trucks, must not be moved in passenger, mail or express trains.

Cars with cast iron wheels must not be operated in passenger trains. Mail, express or troop trains having such cars must be operated at freight train speed.

Cars offered for movement in violation of clearances or any of these physical restrictions must not be accepted for movement over our lines.

Rail Motor Cars

4160-G. When rail motor cars are used as trailers or are being towed, they must be placed only at rear of train. If moved in passenger train, the train must not consist of more than 15 cars. If moved in freight train, the train must not consist of more than 35 cars.

Rail motor cars are passenger carrying cars and must not be used to handle freight cars.

Clearance

Operation of Engines Where Adjacent Tracks Must Be Clear

4163-A. When an engine of a class that must not be operated between specified points unless adjacent tracks are clear (as indicated on the time-table), is to move over such portions of the railroad, the master mechanic must advise the train dispatcher the class of engine and the restriction involved. If the restriction applies also on a division over which inter-divisional crews operate, the train dispatcher of the originating division, after having been so notified, will arrange to notify the train dispatchers of the connecting divisions.

Use of Telephone—Trainphone

Contact by Telephone

4164-A. A member of the crew of a train to be met or passed by another train or trains, must be placed within hearing distance of a telephone.

Location and Operation

4164-B. Telephones connected with block stations are generally located in telephone boxes at automatic block signals, home signals, remote controlled interlockings, main track switches and elsewhere to suit local conditions. Telephones in stations, yard offices, coaling stations, water

stations, and other buildings are also available for communication with block stations.

Detailed instructions for operation of telephone shall be posted in each telephone box.

Telephone boxes shall be closed when telephone is not in use except when a call is expected on a telephone in a telephone box equipped with a door-operated cut-out switch. Where manual cut-out switches are provided they shall be used to disconnect telephone when not in use.

Telephone boxes at outlying points in the electrified territory may be equipped with three-way switches with telephone lines connected with:

1. Power Director.
2. Telephone Switch-board.
3. Block and Interlocking Station on each side of telephone.

When necessary to clear any line to get the Power Director, the words "Power Emergency" will be used; all other persons using line at that time must yield the line at once.

Defects in telephone boxes and telephone equipment contained therein, and absence of blank forms specified to be maintained in telephone boxes shall be reported promptly to the block operator in charge.

Trainphone equipped territory will be indicated on the time-table. Block stations equipped with trainphone will be shown on Station page of time-table.

Trainphone consists of hand set telephones, loud speakers, control panels and associated apparatus installed on engines, cabin cars and in block stations for telephone communication between units so equipped.

The trainphone system has two talking channels—"High" and "Low", indicated by "H" and "L" respectively on the control panel.

The "H" channel is to be used normally for talking end-to-end of train and between trains; the "L" channel to be used for talking between trains and block stations.

In an emergency either channel may be used for calling and talking to any other trainphone unit. In case either channel is out of service, the other channel should be used.

The control panel consists of a push-to-talk hand set, switch marked "ON" and "OFF", with pilot lamp that remains lighted when set is in service, volume control

buttons for hand set and loud speaker, noise suppressor buttons for each channel, ("H" and "L"), selector lever marked "S" for channel selection (below the case), calling lever "C" for sending calling signals (also below the case).

To turn trainphone "ON" and "OFF", operate switch on control panel. Should pilot lamp fail to light when in the "ON" position, a talking test should be made with another trainphone unit to determine whether or not the system is serviceable, as lamp may be burned out.

Selector lever "S" is the channel selector and is pushed left to "H" or right to "L" to select the channel desired for transmission or reception on the hand set, and no conversation goes out unless this is operated. The hand set must be off the hook switch and the "S" lever pushed fully to the right or left position to select the desired channel which automatically locks on channel selected for conversation on hand set and returns to normal when hand set is hung up. (When selector lever is connected to either channel, do not try to throw it to other channel until first pressing down hook switch to release lever.)

Calling lever "C" is to be used only in emergency. To send the Emergency code call, keep selector lever "S" in normal position and push calling lever "C" from "L" to "H" twice which will send the call code over both channels.

To talk—Remove hand set from hook; move selector lever "S" to "L" or "H" to connect hand set to proper channel for talking; hold hand set to ear and mouth as with regular telephone; hold down firmly the push-to-talk button and talk.

After talking, immediately release the talk button for reception, as no conversation can be heard from the other party as long as the push-to-talk button is pressed down.

While talking on one channel the loud speaker is on the other channel and any conversation coming in on it is heard.

In calling—(Example)—Say "Engine (or cabin car) 6789 east (or west) calling Lewis on Low"; repeat at intervals of not less than five seconds until answered. In all cases a call from a train or from a block station must indicate what train or station is calling and what train or station is being called.

In answering—(Example)—Say "Lewis answering engine (or cabin car) 6789 east (or west)." In all cases the answer from train or block station must indicate what train or station is answering and what train or station is being answered.

First send "Emergency" code call, and then say "emergency" and make announcement in usual manner for any condition on track or train which might endanger the safety of a train, person, or structure along the right-of-way.

First send "Emergency" code call, and then broadcast the emergency message to each channel separately, as may be required.

When "Emergency" code call is heard, persons using trainphone will stop conversation immediately and listen for emergency call. Party called will answer at once.

Hand set and loud speaker volume controls should be set just high enough for good reception, but not too loud to cause distortion or annoyance.

Crews, particularly on engines, should endeavor to talk in a normal manner and not attempt to raise voice above engine noises, as this serves to distort conversation.

There is no adjustment of output volume that can be made by the user.

A setting of 2 or 3 on panel usually would be satisfactory for volume on both the hand set and loud speaker.

Noise suppressor controls on the "H" and "L" channels are for the purpose of adjusting receivers to the best operating position to eliminate noise. When necessary to adjust the noise suppressor, pick up hand set, push "S" lever to either "L" or "H" position as may be the case and starting from No. 1 position on the dial turn noise suppressor clockwise until noise in hand set disappears. Do not turn beyond that point. The normal setting for the noise suppressor is about "2" and rarely beyond "3."

Engine crews shall make a departure test between the engine and test sets located at terminals, checking calling signals and talking both ways on both channels.

After a freight engine with trainphone is attached to a train with a trainphone-equipped cabin car, an end-to-end test shall be made to check the signaling and talking both ways on both channels.

Engine and cabin cars equipped with trainphones must have the apparatus in service at all times between initial and final terminals. When operating outside trainphone territory, it will be used for communicating end-to-end of train and with other trainphone equipped engines and cabin cars or trainphone equipped stations when provided, in emergencies.

On all trainphone equipped engines on passenger and freight trains in inter-divisional service, where engine crews are changed, engineman must advise the relieving engineman the condition of the trainphone.

The trainphone must be used by operators—signalmen, train and engine crews to report promptly any irregular or unsafe conditions observed on trains or along right-of-way that will benefit train operation, improve safety or prevent accidents.

It is important that all trainphone calls be answered promptly, as seconds count, especially on moving trains where accidents or train delays may be avoided by such action.

Trainphone is to be used in train operations as follows:

A—When an engine or cabin car is equipped with trainphone, it may be used in connection with delays, defects on engine or train, and other matters relating to the operation of the train.

B—When both the engine and cabin car of a train are equipped with trainphone, it may also be used:

To advise engineman when flagman has returned to train.

For information in connection with testing brakes.

Regarding action to be taken when defects on train are noted and for other purposes of assistance in expediting the movement of the train.

C—It may be used for telephone communications incidental to Manual Block Signal System operations within the limits specified on the time-table as "in service."

For the signalman in charge of a block-limit station to give a train approaching that block-limit station verbal permission to enter one block.

Permitting a train moving under a Permissive-block signal to proceed through the remainder of the block as though Clear-block signal were displayed, when the signalman knows that the portion of the block to be occupied by the train is clear.

Reporting clear of blocks at block-limit stations.

Reporting clear of main track.

Permitting train to enter a block or foul a main track, or cross from one main track to another.

D—A train approaching a block-limit station must not be given a more favorable block indication to pass that block-limit station than the indication under which it is operating.

E—A train being governed by a Clear-block signal must not be given permission to pass a block-limit station as though Permissive-block signal were displayed without stopping the train.

F—Should the delivery of Clearance Card (Form K) or written instructions, including train orders, be required, the train addressed must be stopped before effecting delivery by trainphone.

G—When a train with more than one engine on the front of train has one engine equipped with trainphone, the engineman of the engine so equipped will, as soon as practicable, inform the engineman of other engines on front of train of communications received regarding movement of the train.

All failures of trainphone units in engines and cabin cars and instances of inability to communicate with another trainphone unit, occurring on each trip, shall be reported at end of trip by the engineman on form M.P. 62 for steam engines and M.P. 62-D for diesel engines, and filed at the enginehouse at end of trip, and by the conductor on form M.P. 327 to be attached at control panel of trainphone unit in cabin car.

If trainphone fails enroute, occurrence must be reported to the superintendent from the next point of communication where report can be made without delay to train.

Operators-signalmen must report promptly to superintendent all failures of the trainphone system to function properly as well as instances of inability to contact equipped engines or cabin cars.

Employes using telephones or trainphones in connection with train movements must satisfy themselves that they are in communication with the proper persons and must not consider conversation finished until the persons taking part are assured that they have heard all of the conversation and that it is understood.

Persons using telephones or trainphones must yield the line or trainphone channel promptly for train movements.

In the absence of railroad telephone and trainphone service, other means of communication will be used to avoid delay.

When used for block operations, transmitting train orders or making any arrangement pertaining to the movement of their trains, the conductor, engineman or driver TC must personally receive all orders on the telephone or trainphone and make all verbal arrangements pertaining to the movement of his train, but neither is relieved of any responsibility as prescribed by Rule 106.

They must identify themselves to the signalman by giving their name, occupation, identification and location of train, engine, track car or other equipment involved.

Operators-signalmen must identify themselves by name, occupation and station.

Verbal arrangements and instructions in regard to movement of trains, engines, track cars or other equipment, being clear of, or desiring to occupy certain tracks, etc., and in securing permission to work on or adjacent to a track as referred to in Rule 101 must be repeated by the employe receiving them.

Public Address System on Passenger Trains

4164-C. Public address system on passenger trains will be used for the following:

Advice on unusual delays encountered, such as wrecks, etc.—given by a member of train crew.

Announcements by dining car steward as to meal service or such other announcements as may directly pertain to the service in the dining car.

Announcements by passenger representative or train crew to page passengers for delivery of telegrams or messages received enroute and such other emergencies as paging trains for doctors, nurses, etc.

Broadcasting of selected radio programs, election returns, world series ball games—handled by lounge car attendant.

NOTE—Not to be used in over-night coaches and sleeping cars, between the hours of 11.00 P.M. and 6.30 A.M., except in emergencies, to avoid annoyance to passengers.

Inflammable Gases and Explosives

Cars Utilizing Compressed Inflammable Gases

4165-A. Cars utilizing acetylene, butane, propane or other compressed inflammable gas for cooking, lighting, or other purposes, must not be accepted for movement unless the pintsch or acetylene gases have been drained from the permanent containers on cars so equipped, or unless the portable containers with other types of gases have been removed.

Gasoline Stoves and Gasoline in Troop Trains

4165-B. In order to safeguard the movement, employes involved must see that Army instructions and regulations in connection with the installation and handling of gasoline stoves and gasoline are properly carried out.

Operation of troop trains through East and North River Tunnels, New York Division, is prohibited unless:

Gasoline is removed from ranges before cars are dispatched through these tunnels. This should be done by removing burner units from the range and pouring the gasoline out through the filling holes. The reserve gasoline supply in the safety filling cans also must be drained. Gasoline must be drained into standard gasoline drums which must be provided at designated points to receive gasoline and such drums removed promptly from railroad property.

Transfer of gasoline into drums should be made at least 25 feet from buildings, cars, engines, yard switch lamps or other open flame lights and fires.

Smoking and the use of oil lamps or other open flame lights in vicinity is prohibited.

Conductors must know that these instructions have been complied with before cars are allowed to proceed through the tunnels.

Explosives and Other Dangerous Articles

4165-C. Employes whose duties involve them in the transportation of explosives and other dangerous articles must provide themselves with a current copy of General Notice No. 225-B and supplements thereto (issued by Superintendents Freight Transportation) "Regulations for the Transportation of Explosives and Other Dangerous Articles" and be governed thereby.

Oil Dripping—Diesel Engines

4165-D. Diesel engines with fuel oil dripping or otherwise leaking must not be dispatched nor leave a station or refueling station where repairs can be made.

Diesel engines must not be stopped over burning fusees, burning switch heaters or other open flame lights or fires unless it cannot be avoided.

Cars with Lighted Heaters

4165-E. In loading cars which contain lighted heaters,

and in placing such cars in trains, the standard instructions relative to the loading and handling of explosive, inflammable and dangerous articles must be strictly observed. Explosives, fireworks, inflammable liquids (red label), and inflammable gases (red label) must not be loaded in cars containing heaters.

Cab Signals

Cab Signal Flips

4298-A. When cab signal indication "flips" (indication changes to more restrictive momentarily), engineman, as soon thereafter as will not cause delay to the train, will file a message reporting the occurrences to the superintendent in the following manner:

Cab signal flipped on No..... track (state indication) to (state indication) at signal bridge or mile post..... (state number) and ....., state whether they were acknowledged.

The engineman must also report the occurrences on form M.P. 62, M.P. 62-E, M.P. 62-DE, M.P. 217 or other prescribed form for reporting engine defects, on arrival at engine terminal.

Cab and Fixed Signal Indications Conflict

4298-B. When cab signal and fixed signal indications conflict, the engineman, in addition to being governed by Rules 298 and 516, will file a message to the superintendent as soon thereafter as will not cause delay to the train, giving locations and track on which conflictions occurred.

If cab signal displays a more favorable indication than the fixed signal, the engineman, in addition to being governed by Rules 298 and 516, will report to superintendent from next point of communication and also verbally advise the enginehouse foreman or his representative on arrival at engine terminal so that the engine may be withheld from service and equipment will not be disturbed.

The engineman must also report the above occurrences on form M.P. 62, M.P. 62-E, M.P. 62-DE, M.P. 217 or other prescribed form for reporting engine defects, on arrival at engine terminal.

Departure Tests

4515-B. A test of cab signal apparatus on each engine shall be made over test circuits on departure of engine from its initial terminal and, if cab signal apparatus is cut out between initial terminal and equipped territory, immediately prior to entering equipped territory, to determine if such apparatus is in service and functioning properly. If such departure test is made by an employe other than the engineman, the engineman shall be informed of the results of such tests, and a record kept thereof. In conformity with these instructions the following practices will be observed:

Testing sections in addition to those at terminals located as specified on timetable.

Departure test of cab signals on engines equipped for forward and backward running will be made from both ends.

When two or more engines are coupled and it becomes necessary enroute to operate one of the engines from an end from which departure test of cab signals has not been made, the cab signal of that engine must be considered as non-operative.

When two or more electric engines are coupled in multiple at their initial terminals, departure test will be made from front end of leading engine and rear end of trailing engine. All cab signals and warning whistles should be in operation while enroute. This does not apply to engines coupled behind leading engine enroute.

When two or more diesel units are coupled in multiple at their initial terminal, departure test will be made on leading unit only, except where cab signals on the trailing unit are required in turn-around service and no departure test circuit is available at the opposite end of the run, in which case both units shall be tested.

When test circuits are not available where engine crews go on duty at initial terminal of engine, departure test will be made by engine crew or hostler who delivers engine to road crew.

Form M.P. 61 stating "cab signal tested properly" must be made out by engineman or hostler making the test, and show engine number, train number, point at which test was made, date, signature, and title of person making the test, and delivered to road engineman when taking charge of engine.

Road engineman shall have possession of this record and

personally note that apparatus is energized and that the warning whistle will sound by making an operation of the acknowledging switch, before entering cab signal territory.

The above record must accompany engine throughout interdivisional runs. In the absence of Form M.P. 61, the signed work report, M.P. 62, M.P. 62-E, M.P. 62-DE, M.P. 217 or 494-C (H&M), of the relieved engineman will indicate to the relieving engineman that cab signal test was made in accordance with the instructions.

In an emergency, when cab signal departure tests can not be made due to failure of test circuits, Form M.P. 61 may be used, when authorized by the superintendent and signed by the enginehouse foreman, or his representative, provided the daily inbound operating test indicated that the cab signals were functioning properly after last trip, or that defects, if any, which existed have been corrected and proper record made thereof.

Departure test will be valid for movement of engine in directions for which tested, between the initial and final terminal of the engine. Should cab signal apparatus be cut out between initial terminal of the engine and entrance of equipped territory, test shall be made immediately prior to entering such territory.