

PHILADELPHIA TRANSPORTATION COMPANY
SUBWAY-ELEVATED LINES

RULES AND INSTRUCTIONS
FOR
YARDMEN



No. _____

1944

This book is the property of
Philadelphia Transportation Co.

TELEPHONE NUMBERS FOR EMERGENCY CALLS

Surface Lines

Emergency Dispatcher

Bell Phone	PENnypacker	6100
Keystone Phone	Broad	5201
Company Phone		21

Subway-Elevated Lines*

Market-Frankford

Train Dispatcher

Bell Phone	ALLegheny	4540
Company Phone		49

Broad-Ridge-Camden

Train Dispatcher

Bell Phone	WAVerly	0772
Company Phone		59

Darby, Media & Chester Division

Folsom, Pa.

Bell Phone	Ridley Park	4512
Keystone Phone	Prospect Park	2487
Keystone Phone via Mitten Bldg. Ex.	Broad	5201 Ext 2748

*All other than emergency calls to Train Dispatchers of Subway Elevated Lines shall be made as follows:

Market-Frankford

Company Phone 4711

Broad-Ridge-Camden

Company Phone 5733

PREFACE

Standard rules of conduct and procedure are necessary for the safe and efficient carrying out of any undertaking requiring the common effort of a large number of people.

The following rules have been adopted after careful consideration of the present day requirements of our operations. They have been set up briefly here as an aid to providing a better and safer service to the public.

If the meaning of any rule is not clear to you, do not hesitate to discuss the matter with your foreman, superintendent or department head, who will explain it to you.

Employes who do not comply with the rules of the Company will be subject to disciplinary action or discharge from the Company's service.

**SUBWAY-ELEVATED LINES
RULES AND INSTRUCTIONS
FOR
YARDMEN**

CONTENTS

<i>Section</i>	<i>Symbol</i>
Company General Rules.....	
Subway-Elevated General Rules.....	G
Rules for Yardmen.....	T
Block Signal Rules.....	S
Rules Governing Car Movements in Yards, Carhouses and Shops.....	Y
General Instructions	XG
Instructions for Yardmen.....	XT

GENERAL RULES

GENERAL RULES

1. Acceptance of Employment

The acceptance of service with the Company as an employe is regarded as an assurance of the employe's willingness to obey its rules, to render faithful service and to be loyal to its interests. Employes must not engage in any outside business or occupation which will in any way interfere with duties required by the Company.

2. Knowledge of Rules

All employes must comply with the general rules and the rules of the department to which they are assigned. Ignorance of the rules will not be accepted as an excuse for non-observance of rules or neglect of duty.

Whenever a situation arises which is not covered by rules and no higher authority is present to whom to refer, the employe will use his best judgment in determining the safest and wisest course to follow. In cases of unusual complications or accident hazards, he will telephone immediately to the proper authority, as designated in the different departments.

3. Insubordination

Refusing work or disregarding rules, or orders from proper authority, shall be considered as insubordination.

4. Conduct Toward Public

Employees must remember that they are engaged in a public service in which they are called upon to exercise patience and self-control. Employees must treat passengers and the public with courtesy and consideration. Should complaint be made because of the enforcement of Company rules, employees shall suggest to the patron that appeal be made directly to the Public Relations Department of the Company. Badge or block number must be given promptly upon request.

5. General Department

Actions of an uncivil, immoral or indecent nature, or the use of boisterous, profane or vulgar language are prohibited both on vehicles and on other Company property.

6. Intoxicants or Harmful Drugs

Employees must not indulge in the use of, nor be under the influence of intoxicating liquor or harmful drugs while on duty or when reporting for duty, including the second half of swing runs. Possession of or the carrying of intoxicating liquor or harmful drugs while on Company property is prohibited.

Employees under the influence of intoxicants or harmful drugs while off duty are barred from Company property.

7. Gambling

Gambling while on duty or while upon Company property is prohibited.

8. Soliciting

Soliciting, collecting money from or circulating petitions among employes on duty or upon Company property is not permitted unless specifically authorized by the Company.

9. Cleanliness

Employes shall not commit acts which cause unclean or unsanitary conditions. Lockers must be kept free of any material of an inflammable nature.

10. Change of Address

Any change made in an employe's address shall be reported promptly to the proper authority. A "Change of Address" form is provided for this purpose.

11. Employes' Free Transportation

Employes will be held strictly responsible for the proper use of their free transportation cards in accordance with the rules governing their use, as printed thereon. Employes who are entitled to wear badges for the purpose of free transportation must wear them conspicuously during the entire time they are riding upon Company's vehicles.

The loss of transportation pass, badge or identification check must be reported promptly to the proper authority.

When riding on cars or buses as passengers, employes must refrain from holding conversation with other employes on duty and must not interfere with the proper handling of passengers in any way. In case of accident, employe passengers shall assist the operators of vehicles in all possible ways.

12. Company Business

Employees must not give any information or sign ANY papers concerning accidents involving the Company unless such requests are made by a properly identified representative of the Company. Requests for information concerning such accidents made by outside persons shall be referred to PTC General Offices, 1405 Locust Street.

There is no objection, however, upon inquiry, to a brief explanation of the cause of a service interruption.

13. Accident Prevention

The safety of persons must be given preference over every other consideration.

All employees are required to exercise constant care to prevent injury to persons and in all cases of doubt they must pursue the safest course.

14. Injuries to Employees

All injuries occurring in course of employment, however slight, to employees of the Company must receive first aid attention, must be reported immediately and an "Employee Injury Report" made out. Witnesses shall be obtained whenever possible.

15. Fire Prevention

Employees must take every precaution against endangering Company property through fires and shall be governed by any rules and instructions issued concerning fire prevention.

16. Lost Articles

Articles found on vehicles or upon other Company property must be suitably tagged and promptly turned in. If an article is found by a passenger and turned over to an employe, name and address of the finder must be taken and noted on the Lost & Found tag. If the passenger refuses to release the article, effort shall be made to obtain his name and address and a written report submitted to the Superintendent.

17. Use of Telephones

Company telephones are intended for business purposes and their use for personal calls shall be restricted to necessity calls. Telephones must be released immediately upon request in emergencies.

18. Reporting for Work, Missing or late, Absent Without Leave

Employes, unless excused, must report for work at the times and according to the schedules set up in the departments where they are employed.

An unexcused employe who fails to report at his regular starting time, but who reports before the finishing time of his regular day's work, will be classified as late or missing.

An unexcused employe who fails to report before the finishing time of his regular day's work shall be classified as absent without leave.

The finishing time for extra men, for the purpose of establishing whether he is missed or absent without leave, shall be 8 hours following the time of his regular report.

19. Sickness

(a) Notice of sickness must be given by the employe to the proper authority prior to reporting time on the first day of his absence due to sickness. Such notification may be given by telephone if the employe is confined to his home. Verification of physical condition may be made by a Company medical representative.

(b) A medical certificate stating the nature of the sickness and certifying that the employe is fit for duty must be produced, if required by the Company's representative, before the employe may return to work. The certificate may be obtained from a family physician or from the Company's Medical Department. The Company may, at its discretion, conduct a medical examination of the employe following a sick report. The opinion of its Medical Department shall be the final judgment as to the fitness of an employe to return to work.

(c) Total sick leave that will be granted to an employe during his service with the company will be sixty days for the first six months of service, sixty days for the second six months of service, and sixty days for each year of service thereafter. Sick leave granted to an employe will be cumulative.

(d) Feigning illness or presentation of a false medical certificate in order to avoid reporting for duty will be considered as a failure to report for work and will be treated accordingly.

20. Court Work

Employees shall notify the proper authority of the receipt of notices summoning them to court, jury duty, or coroner's inquest.

21. Meetings on Company Property

Meetings on Company property, either of employees or others, are not permitted unless specifically authorized by the Company.

22. Responsibility for Company Property

Any Company property loaned to or in the possession of an employe must be properly cared for by the employe, and must be surrendered at the request of a Company representative. Property lost or unduly damaged must be paid for by the employe.

23. Unauthorized Use of Company Property

Employees must not use or operate Company vehicles, equipment, tools or other property except as required in performance of assigned duties unless authorized by proper authority.

24. Revisions to Equipment

Employees must not make any revisions or additions to equipment unless directed by an authorized employe.

25. Advertisements

No advertisements, cards, posters or signs of any kind will be permitted either on the inside or the outside of the Company's vehicles, stations, terminals, buildings or other

structures owned or operated by the Company except those placed by authorized representatives of the Company or of the contracting advertising company.

Company notices and authorized advertising cards must not be disturbed or mutilated.

26. General Safety Rules

- (a) Employes must not use defective ladders, machinery or tools. Defective equipment shall be reported immediately to the proper authority.
- (b) Safety devices shall not be removed from machinery or made ineffective.
- (c) Personal protective equipment furnished employes by the Company, such as goggles, respirators, etc., shall be worn when employe is exposed to the hazards for which such equipment is provided.
- (d) The use of metal case flashlights and metal key-chains is prohibited.
- (e) Good housekeeping shall be practiced to insure cleanliness, orderliness and the elimination of accident hazards.
- (f) Horseplay such as throwing missiles, goosing, pushing, tripping is prohibited at all times.

SUBWAY-ELEVATED LINES

General Rules

SUBWAY-ELEVATED LINES

General Rules

G1. Constant Alertness

Employes shall not permit unnecessary conversation, reading, lounging, or any action or condition of mind to divert their attention from the safe and efficient performance of duty.

G2. Telephone Reports

Accidents, disturbances which may lead to accidents, arrest cases involving persons on trains or Company property, or other incidents which require the assistance of supervisors, ambulance, police or fire company, must be reported by telephone immediately to the Train Dispatcher. The location and nature of the trouble must be repeated back to the reporting employe by the Train Dispatcher to avoid any misunderstanding.

G3. Injured Persons

Employes must make every effort to secure names and addresses of persons injured, and shall always give whatever relief or assistance circumstances permit. In cases where the injured person is clear of the train, he shall be removed carefully to a suitable place, and after the arrival of an authorized employe or police officer to take charge, the train may proceed. In no instance shall an injured person or body be left unattended, except for brief period necessary to secure aid.

G4. Witnesses

Employes must make every effort to secure witnesses in cases of accidents, disturbances

and arrest cases involving persons on Company property. Employees shall familiarize themselves with "Instructions on Securing Witnesses."

G5. Accident Report

Employees involved in or witnessing accidents, disturbances and arrest cases involving persons on Company property must submit a report upon the regulation accident report form, following instructions on the reverse side of the form.

Employees involved in accidents must not make any attempt to conceal or to misrepresent the facts of an accident.

G6. Fires

- (a) Employees must familiarize themselves with "Instructions on Use of Fire Extinguishers and Turning in Fire Alarms."
- (b) In case of fire that cannot be controlled by extinguishers, or available water or sand, and city fire equipment is needed, employe must notify Train Dispatcher immediately, or turn in alarm at nearest fire alarm box and direct firemen to location of fire.
- (c) Employees must notify the Train Dispatcher of all fires and a written report on the proper form must be submitted to the Superintendent.

G7. Unsafe Conditions

- (a) Employees encountering broken rail,

dislocated wires or third rail, or other unusual condition that may interfere with safe operation of trains or the safety of persons, shall remain at the location and stop the first train. If the condition is such that it is safe for the train to proceed at slow speed, employe shall advise the motorman of the nature of the trouble and request that same be reported to Train Dispatcher at the next station. Employe shall continue to flag all trains until he is relieved by an authorized employe.

If the condition is such that it is unsafe for train to proceed, employe shall remain at the location and stop the first train, and request motorman to stay at the location until ordered to proceed by an authorized employe. Employe shall then go to the nearest telephone and report the exact condition to the Train Dispatcher, and request further orders.

- (b) Employes noticing any unusual conditions on a passing train shall notify the Train Dispatcher immediately.

G8. Dangerous Wires and Third Rail

Employes are not required to endanger their own safety by attempting to repair or remove dislocated wires or third rail. Employes encountering such conditions shall proceed in accordance with Rule G7.

Never assume that a wire or third rail is dead. If a person is in contact with a live wire, endeavor to break the connection by pulling or pushing the wire away from the body, using a dry piece of lumber or rope,

shoe paddle, etc. If a person is in contact with the third rail, Train Dispatcher shall be notified to have power cut off.

G9. Whistle Signals (Train)

- (a) • One short blast:
Request to conductor for starting signal. Signal to towerman: — First two trains over emergency cross-over clear of switch.
- (b) • • Two short blasts:
Acknowledge hand signal to proceed; also warning of intention to start train.
- (c) • • • Three short blasts:
Distress signal, supervisor or trouble man wanted on train.
- (d) • • • • Four short blasts:
Signal to towerman to clear signal, or for a route other than the one lined up.
- (e) • • • • • Succession of short blasts:
An alarm for persons on the track, or notice to clear danger ahead.
- (f) — One long blast:
Warning at short radius curves, entering or leaving portals, or for persons on the track.
- (g) — • • One long and two short:
Acknowledge hand signal to stop.
- (h) — • • • One long and three short:
Signal to conductor to turn on body lights.

- (i) • • — Two short and one long:
Signal for conductor to return when protecting rear of train.
- (j) — — — Three long blasts
Preparatory to a reverse move.
- (k) Whistle signals shall be distinct, with the intensity proportionate to the distance the signal is to be conveyed.
- (l) Unnecessary use of the whistle is prohibited.

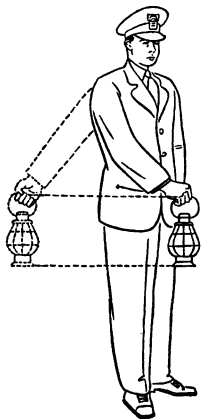
G10. Whistle Signals (Tower)

- (a) ————— A continuous blast:
Indicates danger, all trains within interlocking limits must stop.
- (b) • • Two short blasts:
To call attention of motorman that a signal has been cleared for a train to proceed. This does not authorize a train to proceed past a Stop signal.
- (c) • • • • • Five short blasts:
Call for Signal Repairman.

G11. Hand Signals (Hand, Flag or Lantern)

- (a) Employes whose duties may require them to give signals must provide themselves with the proper appliances, and shall keep them in good order and ready for immediate use.
- (b) When hand signals are necessary, they shall be given from such a point and in such a way that there can be no mis-

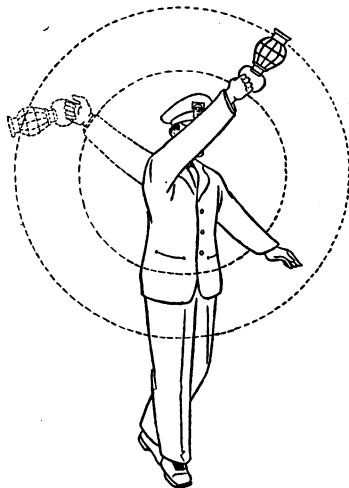
HAND SIGNALS (HAND, FLAG, OR LANTERN)



**Fig. 1
STOP**



**Fig. 2
PROCEED**



**Fig. 3
PROCEED PAST A BLOCK
SIGNAL INDICATING STOP**



understanding on the part of motormen as to the meaning of the signals, or as to the train for which they are intended.

(c) Signals may be given by hand, flag, lantern or flashlight as follows:

(1) Swung across track horizontally:
STOP

Figure: 1

(2) Raised and lowered vertically:
PROCEED

Figure: 2

(3) Swung in a circle at arm's length:
PROCEED past a block signal indicating Stop

Figure: 3

The speed of these movements shall be proportionate to the manner in which the signal is to be observed.

(d) Any violent movement or any object waved by any one on or near track must be observed as a STOP signal.

(e) A red or white light on or near the track must always be observed as a STOP signal.

(f) A hand signal to Stop must be acknowledged by one long and two short blasts of the whistle.

A hand signal to Proceed must be acknowledged by two short blasts of the whistle.

(g) If a motorman disregards a Stop signal the occurrence must be reported immediately in writing to the Superintendent.

G12. Working under Trains

When it is necessary to work under a train or car, except in carhouse or shop, employes shall display red flags by day or red lanterns by night or in the subway, at one or both ends of the train or car. These signals shall be removed only by the employe who displayed them, after he has made certain that no person is working under train or car.

Trains or cars thus protected shall not be moved, nor shall other trains or cars be coupled to them. In yards, other trains or cars must not be placed on the same track so as to intercept the view of the signals, unless authorized by the persons working under train or car.

When it is necessary to work under a train on the line, and flags or lanterns are not available, employe must protect himself by securing controller or reverse handle from motor-man of train, and retaining handle until it is safe to move train.

G13. Safety Rules for Employes on Tracks

- (a) Employes must not walk on tracks, except when absolutely necessary but shall use footwalks wherever possible.
- (b) When it is necessary to walk on the tracks, employes must consider all tracks as operating tracks, and be on the alert for trains operating in either direction at all times.
- (c) Employees shall walk facing direction from which trains in regular operation will approach.
- (d) At first indication of an approaching train, employes must place tools and

material in a clear position, and get off the track.

A warning whistle signal must be acknowledged by the proper hand signal when employe is in the clear. See Rules G9(e), (f), G11(c).

- (e) Before crossing any tracks, employes must STOP and look for trains approaching in either direction. Employes shall not cross tracks unless they have plenty of time to walk slowly, and must not take chances that would make a mis-step serious.
- (f) Employes shall not step on head of a rail when crossing tracks, but shall step over it.
- (g) When standing beside tracks, employes must be sure that they have allowed sufficient room for car, and third rail shoes which extend beyond carbody on Market-Frankford Line, to clear body, clothing or any object they may have in their hands.
- (h) Coats must be kept buttoned up so that they cannot catch on any part of a moving car. Loose clothing is dangerous.
- (i) Checker boards indicate limits at certain locations where there is not sufficient clearance for a person to stand between car and wall.
- (j) Employes must not stand between trains traveling in opposite directions at any point on the Market-Elevated structure, nor on center girder between stations on the Frankford-Elevated.
- (k) Employes must exercise care when working on or around third rail, par-

ticularly when handling metal or current-conducting tools and equipment.

- (1) Employes must not step in track behind stopped trains, particularly those arriving at stations, due to the possibility of train being reversed to place doors properly for opening in case of over-running platform.

G14. Protecting Workmen in Track Area

- (a) When men are engaged in work on or about tracks, they must be confined to a zone the limits of which shall be designated by yellow and green signals, as follows: Yellow flag, or yellow lantern to be placed, when possible, at least 250 feet in advance of workmen and in direction of approaching trains; green flag or green lantern to be placed at a point beyond workmen where it is safe to resume speed.

Yellow and green lanterns shall be used in the subway and on the elevated, Delaware River Bridge and in the yards at night and in foggy weather. Yellow and green flags shall be used on the elevated, Delaware River Bridge and in the yards in daylight during clear weather.

- (b) Employes must not hang lanterns upon block signals.
- (c) When watchman gives warning of an approaching train, employes must place tools and material in a clear position and get off track promptly.
- (d) When approaching zone as designated in paragraph (a), motorman must give

warning by use of whistle signal, and during the time he is operating in zone, speed of train must be reduced and motorman must be prepared to stop at any time; normal speed must not be resumed before passing green flag or lantern. If workmen fail to move to a point of safety or to remove their white or red lanterns and conceal them, motorman must bring train to a full stop and ascertain cause. If found to be carelessness on the part of workmen, the fact shall be reported by the motorman in writing to his Superintendent. In case of motorman's disregarding this rule, foreman or workmen shall report the fact to the proper authority.

- (e) When a train is stopped by flagman in a zone where trackmen are working, train shall not proceed except on verbal orders by flagman, and then only at slow speed to end of zone.
- (f) Trackwalkers, inspectors, or other employes whose duties require their presence on Subway-Elevated Lines, and small gangs engaged in minor repairs, the nature of which does not require a reduction in speed, shall protect themselves by use of hand signals.
- (g) Motormen observing employes in the subway at any time, or on the elevated or Delaware River Bridge at night without the protection of a light, shall immediately report the matter to the Train Dispatcher.

G15. Slow Speed Orders

In the event that it may be necessary to reduce the speed of trains in a section for any reason, flags or lanterns shall be displayed at each end of the slow-speed section, in accordance with paragraph G14(a) and shall be observed as described in paragraph G14(d).

SUBWAY-ELEVATED LINES

Rules for Yardmen

SUBWAY-ELEVATED LINES

Rules for Yardmen

T101. Company Bulletin Boards and Notices

Company Bulletin Boards must be examined daily and all posted notices shall be read and understood.

T102. Reading on Duty

Yardmotormen shall neither read nor permit their attention to be diverted from the operation of the train or car.

T103. Personal Responsibility

Yardmen's duties shall include responsibility for:

- (a) The safe, prompt and efficient execution of all work assigned to them.
- (b) Proper observance of "Rules Governing Car Movements in Yards, Carhouses and Shops."
- (c) The prompt reporting to Train Dispatcher of any condition that may interfere with the operation of trains, or the safety of persons.

Yardmotormen's duties shall include in addition responsibility for:

- (d) Safe and efficient operation of trains and cars.
- (e) Complete knowledge of Block Signal Rules.
- (f) Proper observance of block, flag, lantern and hand signals, and operating signs.

T104. Panel Boards

Yardmen must bear in mind that all switches in Panel Board are connected to third rail and are DANGEROUS.

Under no circumstances shall a blown fuse be replaced with one of a different capacity than that marked on the panel board. Fuse pullers shall be used to replace fuses.

A supply of the various fuses is carried on the inside of the panel board, in receptacles on which is marked the capacity of the fuses.

All blown fuses must be placed in receptacles which are provided inside of panel boards.

T105. Unauthorized Operator

Trains or cars must not be operated by unauthorized or unqualified persons.

T106. Making up Cars or Trains

Yardmen shall make up and inspect cars or trains in accordance with instructions.

T107. Moving Trains from Terminal Platforms

Yardmotormen must not proceed from terminal platforms until all doors have been closed, and proper signal has been received.

T108. Station Stops

- (a) Yardmotormen must stop front of train at proper station stop marker in accordance with length of train. Yardmotormen must assure themselves at all times as to the number of cars in the train, in order that proper station stops may be made.

- (b) Should train stop short, or over-run station, and yardmotorman is not certain that all doors are on the platform, he must use foot switch to prevent opening of doors until train is moved to proper position on platform. If reverse movement is necessary, yardmotorman must give three long blasts of whistle before backing train. See Rule G9(j).

T109. Trespassing on Tracks

- (a) Unauthorized persons are not permitted on footwalks or tracks.

All persons found on footwalks or track areas and in yard areas, not recognized as Subway-Elevated Department employes, must be requested to show a Track Area permit. Failing to show such permit, they must be requested to leave property immediately.

Occurrence must be reported at once to the Train Dispatcher, giving name and employer of trespasser, if obtainable.

- (b) When unauthorized persons are walking on footwalks, tracks or in yard areas, yardmen shall make every effort possible to protect them from injury. Confused persons, and those under influence of intoxicants and unable to take care of themselves shall be turned over to a stationman, porter, supervisor or other authorized person. Yardmen must submit written reports of all such incidents to the Superintendent.
- (c) A hand lantern for emergency use is located near the center of all station

platforms, which may be placed at the edge of platform by passengers, cashiers or other persons to flag trains when unauthorized persons are in the track, or in other emergencies. Yardmotor-men shall stop train immediately when such a signal is displayed, and shall telephone Train Dispatcher for instructions.

T110. Reporting for Duty

- (a) Regular and extra yardmen assigned to runs shall report for duty at proper location not less than ten minutes before schedule time and shall notify depot dispatcher.
- (b) Extra yardmen not assigned to runs shall report to the depot dispatcher at time and location specified on reporting list for extra men. After having made their report, extra men must not absent themselves from reporting location without permission of the depot dispatcher.

T111. Returning from Sick Leave

Yardmen returning from sick leave shall report to the depot dispatcher before 12:30 P.M. on the day preceding their return to work, except that a return-to-duty report will be accepted on the day preceding their regular day off, for return to work on the day following regular day off. Yardmen must not report "off" and "on" on the same transportation day. Yardmen returning from sick leave who report themselves available for work after 12:30 P.M. may be assigned work if extra work is available.

See also General Rule No. 19.

SUBWAY-ELEVATED LINES







Block Signal Rules

SUBWAY-ELEVATED LINES

Block Signal Rules

S1. Definitions

- (a) **Automatic Block System:** A series of consecutive blocks governed by block signals, actuated by a train, or by certain conditions affecting the use of a block.
- (b) **Block:** A length of track of defined limits, the use of which by trains is governed by block signals.
- (c) **Block Signal:** A fixed signal at the entrance of a block to govern trains entering and using that block.
- (d) **Fixed Signal:** A signal of fixed location.
- (e) **Semaphore Signal:** A block signal in which the day indications are given by the position of a semaphore arm or arms, the night indications by the color of a light or lights.
- (f) **Light Signal:** A block signal in which the indications are given by the color or position of a light, or lights, or both.
- (g) **Interlocking:** An arrangement of switch and signal appliances so interconnected as to prevent conflicting signal indications and to insure the proper position of the track layout, thus protecting train movements in the section controlled by the interlocking. It may be operated manually or automatically.
- (h) **Interlocking Signal:** A block signal controlled by an interlocking.

- (i) **Automatic Signal:** A block signal controlled automatically.
- (j) **Route Signal:** An interlocking signal which indicates the route which is set up, and the condition of the track. 
- (k) **Dwarf Signal:** A low signal used to govern a train running against the normal direction of traffic. 
- (l) **Call-on Signal:** A signal displayed in conjunction with a block signal, used to govern the entrance to a block that is occupied by a train, or to permit an abnormal train movement. 
- (m) **Speed Control Signal:** A block signal normally indicating STOP, which clears after a predetermined time has been consumed by the approaching train, provided other conditions affecting the use of the block are favorable.
- (n) **Signal Repeater:** A signal placed on a curve to the left of the track opposite a block signal, to make it possible for motormen to determine at a greater distance the aspect displayed by the block signal. 
- (o) **Automatic Train Stop:** A device located at a block signal to automatically apply the brakes of a train attempting to pass the signal when it is indicating STOP. 
- (p) **Aspect:** The appearance of a signal conveying an indication, as received from the direction of an approaching train. 
- (q) **Indication:** The information conveyed by the aspect of a signal.

S2. Signal Aspects and Indications

Single Arm Semaphores:

- (a) Name: CAUTION
Aspect: Single arm at angle — Green light
Indication: Proceed preparing to stop at next signal
Figure: 2a
- (b) Name: STOP
Aspect: Single arm horizontal — Red light
Indication: Stop. Rules S3(g), S5, S7
Figures: 3a, 4a

Dwarf Signal:

- (c) Name: SLOW SPEED
Aspect: Single arm at angle — Yellow light
Indication: Proceed at slow speed, prepared to stop short of train in block, broken rail or other obstruction. Rule S3(h)
Figure: 5a
- (d) Name: STOP
Aspect: Single arm horizontal — Red light
Indication: Stop. Rules S3(g), S7
Figure: 4e

Two-Arm Semaphores:

- (e) Name: CLEAR
Aspect: Two arms—both arms at angle —both Green lights
Indication: Proceed
Figure: 1a
- (f) Name: CAUTION
Aspect: Two arms—top arm at angle —Green light

bottom arm horizontal—Yellow light
Indication: Proceed preparing to stop
at next signal
Figure: 2b

- (g) Name: STOP
Aspect: Two arms—top arm horizontal
—Red light
bottom arm horizontal—Yellow light
Indication: Stop. Rules S3(g), S5, S7
Figures: 3b, 4b

Light Signals:

- (h) Name: CLEAR
Aspect: Green light
Indication: Proceed
Figure: 1b
- (i) Name: CAUTION
Aspect: Yellow light
Indication: Proceed preparing to stop
at next signal
Figure: 2c
- (j) Name: STOP
Aspect: Red light
Indication: Stop. Rules S3(g), S5, S7
Figures: 3c, 4c, 4d
- (k) Call-on Signals:
On Broad-Ridge-Camden Division, a
call-on signal will always be displayed
below two red lights. See Rule S3(e)
On Market-Frankford Division, it may
be displayed below one or two red
lights. See Rule S3(e)
Aspect: No light
Indication: Indication of block signal
governs
- (l) Name: CALL-ON
Aspect: Yellow light

CLEAR SIGNALS



Fig. 1a

Name: CLEAR

Indication: Proceed



Fig. 1b

CAUTION SIGNALS

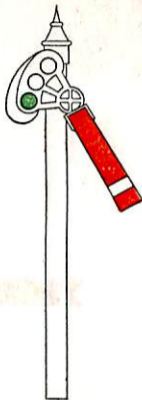


Fig. 2a

Name: CAUTION

Indication: Proceed preparing to Stop
at next Signal

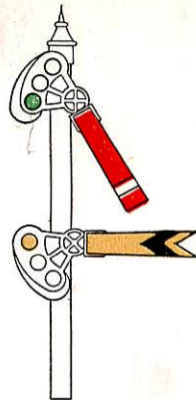


Fig. 2b

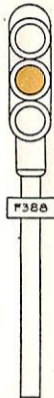


Fig. 2c

AUTOMATIC SIGNALS AT STOP

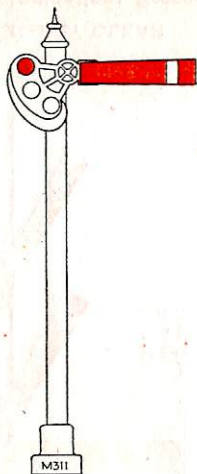


Fig. 3a

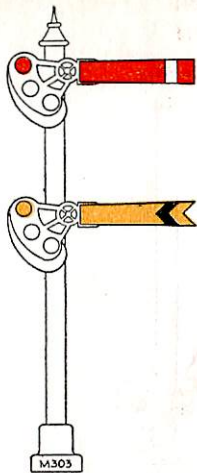


Fig. 3b

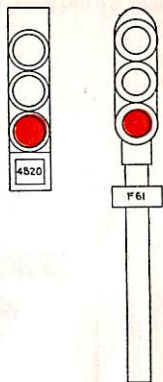


Fig. 3c

Name: STOP
Indication; Stop—Rules S3 (g), S5

INTERLOCKING SIGNALS AT STOP

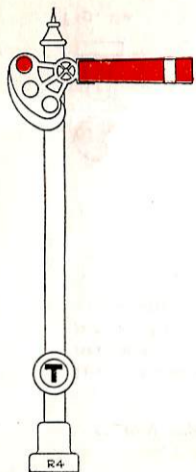


Fig. 4a

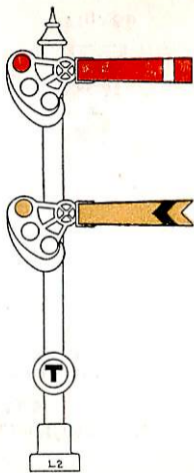


Fig. 4b

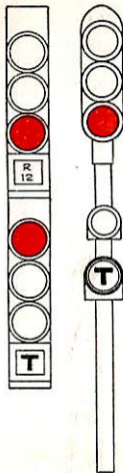


Fig. 4c

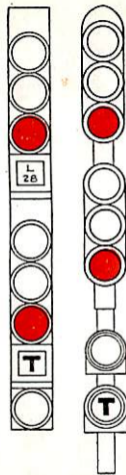


Fig. 4d



Fig. 4e



Fig. 4f

Name: STOP

Indication: Stop—Rules S3 (g), S7

SLOW SPEED SIGNALS

SLOW SPEED and CALL-ON SIGNALS

Indication: Proceed at slow speed, prepared to stop short of train in block, broken rail or other obstruction. Rule S3 (h).



Fig. 5a



Fig. 5b

Name: SLOW SPEED

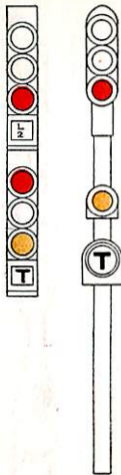


Fig. 6a

Name: CALL-ON

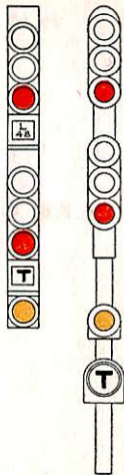


Fig. 6b

INTERLOCKING ROUTE SIGNALS

CLEAR SIGNALS



CAUTION SIGNALS



Fig. 7a

Fig. 7b

Fig. 7c

Fig. 7d

RIGHT-HAND ROUTE

LEFT-HAND ROUTE

RIGHT-HAND ROUTE

LEFT-HAND ROUTE

Indication: Proceed at slow speed, prepared to stop short of train in block, broken rail or other obstruction. See Rules S3(h), S6(d)

Figures: 6a, 6b

Dwarf Signals:

(m) Name: SLOW SPEED

Aspect: Yellow light

Indication: Proceed at slow speed, prepared to stop short of train in block, broken rail or other obstruction. See Rules S3(h), S6(d)

Figure: 5b

(n) Name: STOP

Aspect: Red light

Indication: Stop. See Rules S3(g), S7
Figure: 4f

S3. General Signal Rules

(a) Block signals govern the movement of trains with respect to their rights to proceed into a block. No block shall be entered unless the proper signal for so doing is displayed, except as may be otherwise specified in Rules S3(g), S5 or S7.

(b) Motormen must be governed only by block signals facing the train immediately to the right of the track on which train is operating, with the exception of signal repeaters. Para. S1(n).

(c) Motormen must bring trains to a full stop at a block signal of any type when the signal indicates STOP.

(d) Motormen must observe a block signal as a STOP signal under the following conditions:

- (1) When the signal indicates STOP.
 - (2) When lights that should normally be burning in a light signal are out, except as in Rules S3(e), (f).
 - (3) When the signal is imperfectly displayed except as in Rules S3(e), (f).
 - (4) Absence of a signal in a place where one is usually displayed.
- (e) A Call-on Signal displayed below Red lights that are out, but should be burning, must be observed as a Call-on signal.
- (f) When lights are not burning in a semaphore signal, the position of the semaphore arm shall govern. Motormen must approach such signals slowly in order to make certain as to the position of the arm.
- (g) After a train has stopped at a STOP signal, it may proceed under the following conditions:
- (1) When the signal indicates PROCEED.
 - (2) When the motorman has made certain that the proper hand signal to proceed past a block signal, Rule G11(c), has been given by an authorized employe and that it is safe to proceed.
 - (3) As specified in Rules S5, S7.
- (h) When it becomes necessary to pass a signal indicating STOP, or when accepting a Call-on or Dwarf signal, train shall proceed at slow speed, prepared to

stop short of train in block, broken rail or other obstruction.

If the next signal indicates PROCEED, train may resume normal speed after rear of train has passed the Proceed signal. Above rule may be modified by special Train Orders, or by an authorized employe.

- (i) When it becomes necessary to pass a signal indicating STOP, except when authorized by Train Dispatcher or by proper hand signal, the fact must be reported to the Train Dispatcher at the next station, giving number of signal and nature of trouble.
- (j) A train having passed beyond the limits of a block must not back into the block except by orders from the Train Dispatcher, or other authorized employe, and then only when the reverse movement is protected by a flagman.
- (k) In order not to overload power sections, motorman must not proceed into an occupied block if preceding train is in his view, except in case of a disabled train, after complying with Rule S5 or S7, or by orders of the Train Dispatcher, or other authorized employe.

S4. Automatic Block Signals

- (a) General Signal Rules, S3(a) to (k), apply to automatic block signals.
- (b) Automatic block signal aspects and indications are given in Para. S2.

S5. Automatic Block Signals Displaying Stop

- (a) Motormen must bring trains to a full

stop at automatic block signals displaying STOP, and must not proceed except as specified in Rule S3 (g), or under following conditions:

- (b) If the signal continues to indicate STOP, the conductor or motorman must release the automatic train stop by operating lever or push button in the white release box (where provided), located on or near signal case. Should automatic train stop arm fail to drop down and stay down when operating lever or push button, or at locations where operating levers or push buttons are not provided, the stop arm must be forced down by foot pressure. If the arm fails to remain down, it must be fastened by the hook provided. After motorman has made certain that the train stop arm is in full down position, he may proceed past Stop signal in accordance with Rule S3 (h).

S6. Interlocking Signals

- (a) Block signals designated by the letter "T" and Dwarf signals are interlocking signals.
- (b) General Signal Rules, S3(a) to (k), apply to interlocking signals.
- (c) In addition to the signal aspects and indications in Para. S2, interlocking signals may display the following aspects:

Route Signals display two aspects, as shown in Para. S2, at one signal location. The top aspect governs the right-hand route. The second from the top

aspect governs one or more left-hand routes, in the normal direction of traffic.

Figures: 4d, 7a, 7b, 7c, 7d.

- (d) When accepting a Dwarf signal, or a Call-on indication or hand signal at a route signal, motorman shall check that switches are set for proper route.
- (e) When a train has accepted an interlocking signal, it must proceed into the block until entire train has passed the signal governing the reverse move, so that the route may properly be set up before operating in the opposite direction.
- (f) In the event that a train is stopped by the automatic train stop at an interlocking signal, motorman must not proceed except by orders of the Train Dispatcher or other authorized employe. See also Rule T19 or Y9.

S7. Interlocking Signals Displaying Stop

- (a) Motormen must bring trains to a full stop at interlocking signals displaying STOP, and must not proceed except as specified in Rule S3(g) or under following conditions:
- (b) When the signal is controlled from a normally attended tower, motormen must telephone Train Dispatcher for instructions. When instructed by Train Dispatcher or other authorized employe to Proceed, automatic train stop arm must be forced down by foot pressure. If the arm fails to remain down, it must be fastened by the hook provided. Mo-

torman shall then proceed past Stop signal in accordance with Rule S7(d).

(c) When the signal is controlled from a normally unattended tower, motorman must first make certain that there is no person operating the tower. If tower is not within range of vision of motorman, he must telephone Train Dispatcher for instructions. If there is an operator in control of the tower, motorman must govern his operation as in Rule S7(b). If there is no operator in control of the tower, motorman must force automatic train stop arm down by foot pressure, and FASTEN WITH HOOK provided. Motorman may then proceed past Stop signal in accordance with Rule S7(d).

(d) When it is necessary to pass an interlocking signal at STOP as in Rule S7(b) or (c), motorman must operate train at slow speed, prepared to stop short of train in block, broken rail or other obstruction, and must bring train to FULL STOP within 10 feet of each switch and automatic train stop in the block. Motorman must then alight from train and make certain that switch or train stop is in the proper position, and that it is safe to proceed, and may then proceed at slow speed until entire train has passed over switches and until rear of train has passed next Proceed signal.

(e) In the 8th St. Subway, interlocking signals that govern movements over switches are equipped with emergency release switches which are located in

boxes marked "E.R." in advance of the signal, and provided with telephones connected to the signal tower.

In case signal fails to clear for train to proceed, motorman shall communicate with towerman by telephone. Upon instructions from towerman, motorman must observe position of switches and presence of any other trains standing or moving in his vicinity. Motorman shall then report this information by telephone to towerman and if so instructed by towerman, motorman shall move the emergency release switch to the right as far as possible and then release it.

During this procedure, motorman must keep telephone open and stand by to give further information to towerman if required and shall report to the towerman when signal indicates PROCEED. He shall then be governed by signal indication.

If motorman has received cab starting light signal when signal at end of platform indicates STOP, he shall proceed to the signal, call towerman by telephone and follow instructions from towerman.

IN NO CASE SHALL MOTORMAN OPERATE THE EMERGENCY RELEASE SWITCH EXCEPT BY SPECIFIC INSTRUCTIONS FROM THE TOWERMAN.

SUBWAY-ELEVATED LINES

**Rules Governing Car Movements
in Yards, Carhouses and Shops**

SUBWAY-ELEVATED LINES

Rules Governing Car Movements in Yards, Carhouses and Shops

Y1. Safe Operation

- (a) When moving trains or cars from yard, carhouse or shop, or when any change in train make-up has been made, motorman must immediately test brakes by making a pneumatic application while train or car is drifting.
- (b) When changing ends motorman must make a pneumatic service brake application before leaving cab, and shall release brakes at the end from which train or car will be operated.
- (c) Motormen must not stop by reversing motors, except in case of emergency.
- (d) Motormen must not permit trains or cars to drift with reverse lever in center or removed from controller.
- (e) Movement of trains or cars about yard, carhouse or shop without sufficient air supply is not permitted except when otherwise directed by an authorized employe.
- (f) When placing train or car in yard, carhouse or shop, motorman must test brakes by making a pneumatic application a sufficient distance in advance of his destination to avoid accident.

Y2. Speed in Yard Limits

Motormen must not use more than series position on controller in making train or car movements in yard limits, except when it is absolutely necessary on account of long gaps

in third rail, or when testing cars on protected track. Motorman must make certain that the track is clear and switches properly set for the desired movement.

Y3. Movements in Yards

- (a) Market-Frankford Division: Motormen on trains or cars must not pass over switches, and trains or cars leaving yard must not pass fouling points until switch indicators and signals (where provided) indicate that the desired route is set up, and motorman has received proper hand signal from switchman, when he is on duty.

The fouling point on carhouse, shop and yard storage tracks is indicated by the track number marker.

- (b) Fern Rock Yard: Motorman on trains or cars leaving carhouse, shop or storage tracks in yards must not pass fouling points until switch indicators and signals (where provided) indicate that the desired route is set up, and motorman has received permission from towerman at Fern Rock. Motorman shall communicate with towerman by means of loud speaker or telephone, and motorman and towerman shall repeat back all messages concerning movements of trains or cars.

The fouling point on carhouse, shop and yard storage tracks is indicated by loud speaker or white post.

- (c) When placing trains or cars in yard, motorman must make certain that rear of train or car is clear of fouling point.

Y4. Movements in Carhouse and Shop

- (a) Before entering or leaving carhouse or shop, motorman must bring train or car to a full stop and shall make certain that brakes are in proper condition, and that carhouse or shop doors are fully open.
- (b) When placing train or car in carhouse or shop, motorman must make an emergency brake application before leaving cab.
- (c) Trains or cars in carhouse, shop, or on dummy tracks must not be started, coupled to nor the brakes applied, until motorman has received permission from an authorized shop employe, and has made certain that no person is working beneath or about it. He shall then sound two short blasts of the whistle as warning of his intention to start.
- (d) Before closing main or panel board switches, or placing pole on 3rd rail shoes, employe must make certain that switches or shoes are not blocked with red tags, and that no person is working on car.

Y5. Backing of Train

The backing of a train or car is not permitted except for a few feet necessary for uncoupling cars, or as in Rule Y6.

Y6. Disabled Train

If it becomes necessary to operate train in yard, carhouse, or shop from any car other

than the first, or to operate a car in reverse, motorman must place a responsible employe at the front of first car in the direction of movement to keep a sharp lookout for signals or objects on the track in order to prevent accidents, and to be prepared to give motorman signal to stop, or in cases of emergency to stop train or car by use of conductor's emergency valve.

Y7. Coupling of Cars

- (a) When coupling cars, motorman must operate from end where coupling is to be made, and must exercise special care to avoid injury to employes and damage to equipment.
- (b) Employes must check that couplers are lined up properly to avoid damage to equipment. Employes in the track area must not step between cars while they are in motion.

Y8. Hand Brakes

- (a) Employes must set a sufficient number of hand brakes to hold train or car safely when it is left standing on a grade.
- (b) Hand brakes must not be released until brake pipe is fully charged and air brakes re-applied.

Y9. Train Stopped by Train Stop Valve

In the event that a train is stopped by opening of train stop valve for any cause whatever, motorman must inspect train to make certain that there is no obstruction or person on track under train before proceeding.

SUBWAY-ELEVATED LINES

Rules for Yardmen

INDEX

<i>Section</i>	<i>Symbol</i>
Company General Rules.....	
Subway-Elevated General Rules.....	G
Yardmen Rules.....	T
Block Signal Rules.....	S
Car Movements in Yards, Carhouses and Shops.....	Y

A

Rule No.

Absent without leave.....	18
Acceptance of employment.....	1
Accident	
Prevention.....	13
Reports.....	G2, G5
Accidents	
Information concerning.....	12
Injured persons.....	G3
Injuries to employes.....	14
Witnesses.....	G4
Adding and cutting.....	Y7
Address, change of.....	10
Advertisements.....	25
Alertness, constant.....	G1
Arrest cases.....	G2, G4, G5
Articles, lost.....	16
Aspects and indications.....	S2
Automatic Block Signals... See block signals	

B

Backing trains.....	Y5, Y6, S3(j)
Badges, for free transportation.....	11
Block Signal	
Aspects.....	S2
Automatic block signals.....	S4

Rule No.

Automatic block signals at Stop	S3, S5
Automatic train stop	S5, S6 (f), S7
Call-on signals	S3 (e) (h), S6 (d)
Definitions	S1
Dwarf signals	S3 (h), S6 (d)
General signal rules	S3
Indications	S2
Interlocking signals	S6
Interlocking signals at Stop	S3, S7
Knowledge of rules	T103 (e)
Observance of	T103 (f)
Route signals	S6 (c)
Stop signals	S3, S5, S7
Train Stop	S5, S6 (f), S7
Brakes	
Hand	Y8
Testing	Y1 (a) (f)
Bulletin boards	T101
Business	
Company	12
Outside	1

C

Carhouse, movements in	Y1, Y4
Cars	
Coupling	Y7
Making up	T106
Change of address	10
Changing ends	Y1 (b)
Cleanliness	9, 26 (e)
Collecting money on property	8
Company	
Bulletin Boards	T101
Business	12
Company Property	
Meetings on	21
Responsibility for	22

Unauthorized use of	23
Conduct	
General department	5
Toward Public	4
Constant alertness	G1
Conversation, unnecessary	G1
Coupling cars	Y7
Court Work	20

Dangerous	D	
Conditions	G7	
Wire and third rail.....	G8	
Definitions, block signal.....	S1	
Department, general	5	
Disabled train	Y6	
Disregarding rules or orders.....	3	
Disturbances	G2, G4, G5	
Drugs, intoxicants and	6	

Employment	E	
Acceptance of	1	
Outside	1	

	F	
Failure to report	18	
Fire prevention	15	
Fires	G6	
Flag signals	G11, T103(f)	
Flagging train	T109(c)	
Foot switch, motorman's.....	T108(b)	
Fouling points	Y3	
Free transportation, employes.....	11	
Fuses	T104	

	G	
Gambling	7	
Grade, train stopped on.....	Y8	

H	<i>Rule No.</i>
Hand brakes	Y8
Hand lantern, station platform.....	T109
Hand signals (Hand, Flag or Lantern)	
	G11, T103(f)

I	
Indications, block signal.....	S2
Information	
Concerning accidents	12
Injured persons	G3
Injuries to employes.....	14
Inspection, train	T106
Insubordination	3
Interlocking signals.....	See Block Signals
Intoxicants and drugs	5

K	
Knowledge of rules	2

L	
Lantern	
Hand—station platform	T109
Signals	G11, T103(f)
Lockers, cleanliness	8
Lost articles	16
Loud speakers	Y3(b)

M	
Main switch	Y4(d)
Making up cars and trains.....	T106
Markers	
Station stop	T108
Track number	Y3
Meetings on Company property	21
Missing	18
Motorman's foot switch.....	T108(b)
Movements	
In carhouse and shop.....	Y4

In yards	Y3
Moving trains from terminal platforms	T107

N

Notices	25, T101
Not covered by rules	2

O

Obedience to rules	1
Operating signs	T103 (f)
Operation	
Of train	T103 (d)
Safe	Y1
Operator, unauthorized	T105
Orders, slow speed	G15

P

Panel boards	T104, Y4 (d)
Permit, track area	T109
Personal responsibility	T103
Persons, safety of	13, T103 (c)
Petitions	8
Pole, placing	Y4 (d)
Prevention	
Accident	13
Fire	15
Property, Company	
Meetings on	21
Responsibility for	22
Unauthorized use of	23
Protecting workmen in track area	G14
Public, conduct toward	18

R

Rail, broken	G7
Reading on duty	G1, T102
Refusing work	3
Regulation of speed	Y2

Reporting	<i>Rule No.</i>
for duty	T110
for work	18
Reports to Dispatcher (telephone)	
Accidents, disturbances, arrest cases...	G2
Fires	G6
Passing block signal at Stop.....	S3 (i)
Trespassers on tracks.....	T109 (a)
Unsafe conditions	G7, T103 (c)
Reports, written	
Accidents, disturbances, arrest cases...	G5
Employe injury	14
Failure of workmen to clear track.	G14 (d)
Fires	G6
Trespassers on tracks	T109 (b)
Responsibility	
Company property	22
Personal	T103
Returning from sick leave	T111
Reverse lever on center.....	Y1 (d)
Reverse movements	Y5, Y6, S3 (j)
Reversing motors	Y1 (c)
Revisions to equipment	24
Rules	
Block signal, knowledge of.....	T103 (e)
Disregarding	3
General safety	26
Knowledge of	2
Safety, for employes on track....	G13, G14

S

Safe operation	T103 (d), Y1
Safety	
Constant alertness	G1
In starting	T107, Y4 (c)
Of persons	13, T103 (c)
Safety rules	
Carhouse and shop	Y4

	<i>Rule No.</i>
Employees in track	G13, G14
General	26
Working under trains	G12
Shop, movements in	Y1, Y4
Sickness	19
Sick leave, returning from	T111
Signal, starting	T107, Y4(c)
Signals	
Block	See Block Signals
Block, knowledge of rules	T103(e)
Flag, hand or lantern	G11, T103(f)
Stop ...	G10(a), G11(c) (d) (e), S3, S5, S7
Whistle—Tower	G10
Whistle—Train	G9
Signs, operating	T103(f)
Slow speed orders	G15
Soliciting	8
Speed, in yard limits	Y2
Starting, safety in	T107, Y4(c)
Station stops	T108
Stop signals	G10(a), G11(c) (d) (e), S3, S5, S7
Switches, panel board	Y4(d)

T

Telephone	
Numbers for emergency calls. Frontispiece	
Reports to Dispatcher	G2
Telephones, use of	17
Third rail	G7, G8, G13(k)
Track	
Area permit	T109
Area, protecting workmen in	G14
Tracks	
Safety rules for employes on	G13, G14
Trespassing on	T109
Train	
Disabled	Y6

Rule No.

OperationT103(d)

Stopped by train stop valve....Y9, S6(f)

Stopped on grade.....Y8

Trains

BackingY5, Y6, S3(j)

Making upT106

Train Stop

AutomaticS5, S7

Valve, train stopped by.....Y9, S6(f)

Transportation, employes free.....11

Trespassing on tracks.....T109

U

Unauthorized

OperatorT105

Use of Company property23

Unnecessary conversationG1

Unsafe conditionsG7

Use of

Company property23

Telephones17

W

Whistle signals

TowerG10

TrainG9

Wires, dangerousG8

WitnessesG4

Work

AssignedT103(a)

Court20

Refusing3

Reporting for18

Working under trains.....G12

Y

Yard

Limits, speedY2

Movements inY1, Y3

Yardmotormen's personal responsibility T103

SUBWAY-ELEVATED LINES

General Instructions

XG1

TELEPHONES

Employees must familiarize themselves with the locations of telephones.

Employees telephoning the Train Dispatcher relative to train delays, power interruptions, or other emergencies shall dial:

Market-Frankford Division

Company Phone 49

Broad-Ridge-Camden Division

Company Phone 59

All other calls to the Dispatcher:

Market-Frankford Division

Company Phone 4711

Broad-Ridge-Camden Division

Company Phone 5733

Bell Phones

69th & Market Sts.

General Office

Transportation

Division

Electrical Division

Rolling Stock & Shops

Division

ALLegheny 4540

Boulevard 0363

Frankford & Bridge

Transportation Office

JEFferson 1623

Broad & Grange—Administration Bldg.

Transportation Office

WAVerly 0772

11th & Grange—Fern Rock Shop

Rolling Stock & Shops

Division

WAVerly 6650

5 N. Front St.

Way-Buildings Division

MARket 2412

Location of Telephones

Market-Frankford Division

Telephones are located at "A" cashier booths and at all signal towers.

Broad-Ridge-Camden Division

Telephones are located at "A" cashier booths, and near the center of island platforms at express stations. At emergency crossovers, telephones are located in advance of the crossover, in the normal direction of traffic.

Telephones connected directly to the Train Dispatcher are located at the extreme end of all platforms, in the direction of traffic.

XG2 INSTRUCTIONS ON USE OF FIRE EXTINGUISHERS AND TURNING IN FIRE ALARMS

Location of Fire Extinguishers

Cars

A small hand-pump type extinguisher is carried in each car, encased in a red box with glass cover. In case of fire, break glass and remove extinguisher.

Signal Towers, Transformer Rooms, Etc.

Small hand-pump type extinguishers are located in signal towers, transformer rooms, remote control rooms, compressor rooms, pump rooms and escalator rooms.

Market St. Elevated Stations—63rd—32nd Sts.

Large chemical type extinguishers are located in the waiting rooms.*

Market St. Subway Stations—24th—2nd Sts. and Frankford Elevated Stations

Small hand-pump type extinguishers are located in all "A" cashier booths.

Broad-Ridge-Camden Stations

Small hand-pump type extinguishers are located in all "A" cashier booths.

Large chemical type extinguishers are located on outside of booths at local stations, and in telephone rooms under stairs on island platforms.

* See Note on next page.

Operation of Fire Extinguishers

Small hand-pump type is primarily for use on electrical fires, but can be used effectively on all types of small fires.

To operate, turn handle and work like a pump, directing stream at base of fire.

Large chemical type must not be directed on electrical equipment, except in cases where it is certain that power has been cut off.

Extinguisher shall be carried to fire by means of top handle. To operate, grasp hose, turn bottom up, and direct stream at base of fire.

**Note:* Special non-freezing chemical extinguishers are provided in Market St. Elevated waiting rooms. After turning bottom up, bump extinguisher on floor to start pressure.

Additional Fire Fighting Equipment

Sand Pails and Water Barrels

Sand pails and water barrels are located at cable vaults in Market St. Subway.

Water barrels are also located on Market St. Elevated at 24th, 29th, 63rd Sts. and Millbourne.

Sand may be used to extinguish small fires, and may be used on electrical fires.

Water must never be used on electrical equipment fires, except in cases where it is certain that power has been cut off.

Terminal and Shops

Special fire-fighting equipment is available at these locations, and designated employes are especially instructed in the use of this equipment.

Replacing Extinguishers

Fire extinguishers, sand and water buckets shall be returned to the location from which they were originally taken, and the Train Dispatcher notified, giving type and location of equipment, location and cause of fire and description of damage. A written report must be submitted to the Superintendent, giving all details.

Electrical Fires

When fires occur in electrical equipment, power must be cut off if practicable.

Fires on Trains

When fire occurs on a train, and it is possible to do so, train shall proceed to a station and the passengers shall be discharged.

Location of Fire Alarm Boxes

Fire alarm box locations are marked by orange stripes.

Market St. Subway Stations—19th to 2nd Sts.

Fire alarm boxes are located at center of all station platforms.

Employee turning in alarm if not needed to fight fire, shall remain at box to direct firemen to location of fire.

Market St. Subway Track Area

LOCATIONS	FIRE CO. ENTERS
Surface-Subway Track	
21st St. E.B.	19th St. E.B.
17th St. E.B.	19th St. E.B.
21st St. W.B.	19th St. W.B.
17th St. W.B.	19th St. W.B.
Filbert St.	13th & Market W.B.
S. Penn Sq.	13th & Market W.B.

Fire alarm boxes in the track area are indicated by blue lights. Employee turning in alarm, if not needed to fight fire, shall remain at box to direct firemen to location of fire.

Broad-Ridge-Camden Subway Stations

Fire alarm boxes are located at the center of all station platforms, and on mezzanines at Olney Ave. and Broadway.

Employee turning in alarm if not needed to fight fire, shall remain at box to direct firemen to location of fire.

Broad St. Subway—Emergency Exits

Fire alarm boxes in the track area are indicated by blue lights. Fire alarm boxes are located at all emergency exits on Northbound track between Snyder Ave. and Olney Ave.; also at all emergency exits on Southbound track between Columbia Ave. and Lombard St.

Fire Company will enter subway at emergency exit from which alarm was sent. Employee turning in alarm, if not needed to fight fire, shall open emergency exit and direct firemen to location of fire.

Operation of Fire Alarm Boxes

To turn in fire alarm, follow directions on box.

General directions:

BREAK GLASS

OPEN DOOR

PULL INSIDE LEVER DOWN

Terminal and Shops

Employees located at Terminals and Shops shall familiarize themselves with the location and operation of fire alarm boxes at these locations.

XG3 EMERGENCY EXITS

Location

Emergency exits are indicated by illuminated EXIT signs.

Broad St. Subway

Emergency exits are located approximately midway between stations. Between Olney Ave. and Lombard-South, exits are provided on both East and West sides of subway. Between Lombard-South and Snyder, exits are provided on East side of subway only.

Ridge Ave. Subway

Emergency exits are located approximately midway between stations, on one side of subway only.

Camden Subway

An emergency exit is located on Westbound track, between City Hall Station and Portal.

Operation

To open emergency exit, push lever to either left or right and raise grating. Do not leave an open emergency exit unguarded.

Emergency Ladders

Ladders are provided at all emergency exits, to be used to permit passengers to alight from trains between stations in cases of emergency. The ladders are equipped with hooks for attachment to sills of center doors of cars.

Emergency Flood Lights

Six emergency flood lights complete with Presto-Lite tanks, reflectors, lighters, and

keys are housed in a red metal box marked "Emergency Flood Lights" located on the south wall of the Market Street Subway approximately 50 feet west of 13th Street Station.

These lights are to be used for emergency purposes only, and must not be replaced in the box until the gas supply is checked by an authorized employe.

**INSTRUCTIONS
ON SECURING WITNESSES**

The regulation witness cards shall be used if available in securing the names and addresses of the injured and of persons who were upon the train or in the immediate vicinity and who should have been in position to have seen all or part at least of the accident. The time to secure witnesses is immediately after the occurrence.

It is not unusual for people to disclaim knowledge of an accident when their names are requested by employes. However, the names of such people shall be obtained if possible.

It is preferable that witnesses shall themselves sign the cards. Business cards which contain name and address are equally satisfactory.

When police officers are present it will be sufficient to obtain their numbers and district numbers. It is customary for police officers to secure their own list of witnesses.

Care should be taken at the time to so mark the card of the injured as to avoid its becoming confused with those of the witnesses. Employes shall similarly mark the cards of persons accompanying the injured.

Employes must not allow any question of responsibility for the occurrence of an accident to influence them in obtaining witnesses. These are matters which can only be determined after an investigation of all the facts.

All witness cards or other papers signed by the injured or witnesses shall be attached to and turned in with the regular accident report.

When approaching witnesses for their names and addresses, employes shall conduct themselves in a civil manner, making their request courteously and explaining briefly the reason therefore. Nothing will be gained by argument or angry discussion.

If train is involved in the accident the crew must be prompt to start their train in order that service may not be interrupted for a longer time than is necessary, after the task of caring for injured persons and obtaining witnesses has been completed.

INSTRUCTIONS FOR OPERATION

Subway-Elevated Cars

Market-Frankford Division

Section 1

Description of Equipment

INSTRUCTIONS FOR OPERATION

Subway-Elevated Cars Market-Frankford Division

Section 1

Description of Equipment

Each Subway-Elevated car is a separate and complete unit equipped with motors and control equipment and taking power from the third rail through third-rail shoes. The cars are equipped with operating controls at each end of the car and may be operated in either direction, singly or in trains of two or more cars. When cars are operated in trains, the multiple-unit control equipment permits the motorman in the front operating cab to control the motors and air brakes of all cars in the train, and the conductor from his position near the center of the train may open and close all doors, control the lights, signal the motorman and apply the brakes on the train in case of emergency. This is accomplished by means of electrical circuits in the train-line cable, which extends from front to rear of the train and by means of air-brake pipes that are continuous throughout the train.

The control equipment, except as noted, is located in the operating cabs at each end of the car.

MOTOR AND BRAKE CONTROLS

Market St. Cars:

XM1. Master Controller

The master controller selects the speed and direction of motion of the car motors. The single control handle has four operating positions forward: (1) SWITCHING IN SERIES, (2) FULL SERIES, (3) SWITCHING IN PARALLEL, (4) FULL PARALLEL and two positions reverse: (1) SWITCHING IN SERIES and (2) FULL SERIES. The handle is spring-returned to the OFF position.

XM2. Control Switch

The control switch when ON permits energizing of the motor control circuits by the master controller in the operating cab. In all other cabs, control switches must be OFF.

XM3. Reset Switch

The spring-return reset switch when operated resets all open circuit breakers on the train.

XM4. Brake Valve

The brake valve controls the action of the air brakes, either pneumatically or electrically. The seven positions of the brake valve-handle are: RELEASE, ELECTRIC LAP, ELECTRIC SERVICE, PNEUMATIC LAP, INTERMEDIATE PNEUMATIC SERVICE, FULL PNEUMATIC SERVICE and EMERGENCY.

(Note: Some cars are equipped with brake valves with an additional Intermediate Pneumatic Service position.)

XM5. Brake Valve Cut-Out Cock

The brake valve cut-out cock is located below the brake valve, and is normally OPEN.

XM6. Electric Brake Snap Switch

The electric brake snap switch has two positions, ON and OFF. When ON, it permits electric control of the air brakes by the brake valve.

XM7. Air Gage

The BLACK pointer on the air gage indicates brake pipe pressure, normally 80 lbs. when the brake system is fully charged.

The RED pointer indicates main reservoir pressure and ranges between 95 lbs. and 110 lbs.

XM8. Hand Brake

A hand brake is located at each end of the car on outside platform. Either hand brake sets brakes on both trucks. It is set by turning the brake wheel in a clockwise direction and engaging pawl in the ratchet wheel with the foot. The wheel may then be released. Sufficient pressure must be applied to hold car.

The brake is released by applying pressure to the brake wheel in a clockwise direction to permit pawl to be disengaged, and then releasing the wheel.

MOTOR AND BRAKE CONTROLS

Frankford Cars:

XM9. Master Controller

The master controller selects the speed and direction of motion of the car motors. The main controller handle has three operating positions: (1) SWITCHING, (2) SERIES and (3) PARALLEL. Direction of motion is controlled by the reverse handle which has three positions: FORWARD, OFF and REVERSE. The main handle is equipped with an emergency feature—that is, the handle must be held down against spring pressure at all times except when the reverse handle is in the OFF position. If the main handle is released when the reverse handle is in the FORWARD or REVERSE position, the power will be shut off and an emergency brake application will be made. If the main handle is in an operating position when pressure is released, it will be mechanically locked in the UP position, and cannot be restored to normal until the handle is placed in OFF position.

XM10. Control Cut-Out Switch

On the right side of master controller are three push button switches. The top button is the control cut-out switch. It is a two-position switch, and when pushed IN, the motor control circuits may be energized by the master controller.

XM11. Reset Switch

The reset switch is the middle button on the side of master controller. It is a spring-return push button and when pushed IN resets all overload relays on the train.

XM12. Notching Switch

The notching switch is the bottom button on side of master controller. It is a spring-return push button, and is pushed IN when it is necessary to accelerate a train after it has been stopped on a grade, in a curve or under other conditions. Notching button must be held IN for two seconds and released successively until the train starts.

XM13. Brake Valve

The brake valve controls the action of the air brakes both pneumatically and electrically. The six positions of the brake valve handle are: RELEASE, ELECTRIC HOLDING, HANDLE OFF, PNEUMATIC LAP, SERVICE and EMERGENCY.

XM14. Three Point Switch

The three-point switch plug, secured to the brake valve handle, is inserted in the three-point switch to permit electric control of the air brakes by the brake valve.

XM15. Air Gage

The BLACK pointer on the air gage indicates equalizing reservoir (brake pipe) pressure, normally 70 lbs. when the brake system is fully charged.

The RED pointer indicates main reservoir pressure and ranges between 85 lbs. and 100 lbs.

XM16. Hand Brake

A hand brake is located at each end of the car on outside platform. Either hand brake sets brakes on both trucks. It is set by

pumping the brake handle and engaging pawl in the ratchet wheel with the foot. When sufficient pressure has been applied to hold car, the handle is restored to its normal position.

The brake is released by applying pressure to the handle to permit pawl to be disengaged from ratchet wheel, and returning handle to its normal position.

Market St. and Frankford Cars:

XM17. Conductor's Emergency Valve

Conductor's emergency valves are located overhead in each cab, and are used to stop the train in an emergency. When valve handle is pulled an emergency application of the brakes is made and the motorman cannot release the brakes until the emergency valve has been closed.

XM18. Train Stop Valve

A train stop valve is located on each side of trailer truck at No. 2 end of car. In the event that a train attempts to pass a block signal indicating STOP, the handle of the train stop valve on the side of the truck comes in contact with the train stop arm on the signal mechanism, opening the train stop valve and applying the brakes. Before brakes can be released, the train stop valve or train stop valve cut-out valve must be closed.

XM19. Train Stop Valve Cut-Out Valve

The train stop valve cut-out valve is controlled by pull-rods located under the car body, indicated by white marks painted on

both sides of car. Valve is CLOSED by pulling handle OUT and OPENED by pushing handle IN. Normally, the valve must be OPEN, except when train stop valves are open. Procedure to be followed when train stop valve has been opened for any cause is described in Section 4, "Emergency Repairs."

XM20. Whistle Valve and Cut-Out Cock

The whistle valve is operated to sound the whistle. A cut-out cock is provided in the whistle pipe to cut out a defective whistle valve.

XM21. Marker Lights

Trains are provided with four marker lights on each end which must be adjusted as follows:

Rear end: Four RED markers.

Front end: Bottom markers—WHITE.

Top markers—adjusted in accordance with destination of train as designated on posted notice.

Market St. Cars:

Marker lights are controlled by two snap switches lettered "Marker," one on left side of cab over master controller, and one overhead on vestibule partition. The switch overhead has four positions: OFF—RED—OFF—WHITE and regulates top and bottom marker lights ON and OFF and the color of the bottom markers either RED or WHITE. The marker switch over the controller has four positions: WHITE—RED—GREEN—RED and selects the color of the top marker lights either RED, WHITE or GREEN.

Frankford Cars:

Marker lights are controlled ON and OFF by means of the motorman's signal light switch, which is operated by means of a handle at right side of cab. The handle has two positions: UP and DOWN. Switches in both front and rear motorman's cabs must be UP; all other switches DOWN. The color of the bottom marker lights is selected by the position of the master controller reverse handle—FORWARD or REVERSE position—WHITE markers—OFF position—RED markers. The color of the top markers is controlled RED, WHITE or GREEN by levers overhead in cab.

XM22. Train Number Signs

Illuminated train number signs are provided on the front of cabs. Signs are adjusted by rotating knobs until proper numbers are displayed.

XM23. Headlight Switch

Market St. Cars:

The headlight snap switch is located overhead on vestibule partition opposite cab, and is lettered "Headlight."

Frankford Cars:

The headlight snap switch is located overhead in cab.

When headlight is lighted, cab light is out.

XM24. Car Body Light Control Switch

Market St. Cars:

The car body light snap switch is located overhead in cab and is lettered BL.

Frankford Cars:

The car body light snap switch is located on left side of cab.

Car body light switches must be ON in all cabs where door drum switches are set in OPERATE position in order to control lights from either operating cab.

Market St. and Frankford Cars:

Emergency lights, located over each door, are lighted automatically when third rail power is off, provided car body light switch is on.

XM25. Cab Heater Switch

Market St. Cars:

Cab heater switch is located at lower right side of cab. Button at top of switch is pushed IN to turn heater ON and button on front pushed IN to turn heater OFF. When cab is broken down, cab door pushes button on front of switch IN, turning heater OFF.

Frankford Cars:

Cab heater is controlled by snap switch at left side of cab.

MULTIPLE UNIT DOOR CONTROL EQUIPMENT

Market St. and Frankford Cars:

XM26. Door Control Toggle Switches

When conductor is standing in operating position in cab, facing outward from cab, No. 1 TOP switch controls all doors on all cars to the LEFT. No. 2 BOTTOM switch controls all doors on all cars to the RIGHT.

Toggle switches are UP for door opening position and DOWN for door closing position.

Positions are designated on switch box cover.

XM27. Buzzer Button

Buzzer button, mounted in switch box below door control toggle switches sounds buzzers in operating cabs and is used for signaling between conductor and motorman.

XM28. Door Drum Switch

Door drum switch is located overhead in each cab. There are three positions of the switch: OFF, OPERATE and THRU. The switch cannot be set or moved without first inserting switch key and unlocking switch. Switch must be locked before key can be removed.

Door drum switches at front and rear of train must be in OFF position; switches in cab from which doors are to be operated must be in OPERATE position, and all other switches must be in THRU position.

Only ONE door drum switch must be set in OPERATE position on the same side of train, except in case of trouble.

DOOR DRUM SWITCHES MUST NOT BE CHANGED WHILE DOORS ARE OPEN NOR WHILE TRAIN IS IN MOTION ON THE LINE.

XM29. Conductor's Red Pilot Light

A red pilot light is attached to car body outside of car at center door. When lighted, it indicates that one or more doors on car are open one inch or more.

XM30. Motorman's Signal Light

The motorman's signal light is enclosed in a tubular case attached to left side of cab.

When lighted, it indicates that all doors on train are closed.

XM31. Motorman's Signal Light Switch

Market St. Cars:

The motorman's signal light snap switch is attached to the left side of cab over master controller, and is lettered "Motorman." The switch has four positions: OFF—ON—OFF—REAR. Switch in rear motorman's cab must be set REAR; switch in front motorman's cab ON, and all other signal light switches OFF.

Frankford Cars:

The motorman's signal light switch is controlled by a handle at right side of cab. The handle has two positions: UP and DOWN. Switches in both front and rear motorman's cabs must be UP; all other switches DOWN.

Master controller reverse handle must be in FORWARD or REVERSE position before motorman's signal light will indicate.

XM32. Motorman's Foot Switch

The motorman's foot switch is located on the floor of cab, below brake valve. When train stops short or over-runs station platform and motorman is not certain that all doors are on platform, he must keep foot switch depressed by foot pressure which prevents opening of doors, or if doors are open, they will close, and buzzer will sound in all operating cabs.

XM33. Center Door Key Switch

Center door key switches are located in side of car at each center door and may be operated by means of drum switch key from either inside or outside of car to open or close center door.

Normally, doors opened by means of key switch may be closed by the regular door toggle switches.

XM34. Stationman's Door Closing Buttons

End doors may be closed individually by a push button switch located in the side of car body on outside of car at each end door.

XM35. Emergency Door Valves

An emergency door valve, located in a glass covered box inside of car near each center door, is to be used to stop train in case of emergency. When glass is broken and valve handle is pushed UP, brakes will be applied and center door next to valve will open after a time interval. To close center door, and before brakes can be released, the valve handle must be pulled DOWN.

XM36. End Door Cut-Out Valve

Market St. Cars are equipped with a cut-out valve located over master controller. When valve handle is turned over master controller valve is open, and end doors will operate normally. In front and rear cabs, and in conductor's operating cab, valve handle must be turned to the left to close valve, so that end doors on both sides of car will not open.

XM37. Panel Board

The panel board is located at the No. 1 end (motor truck end) of cars, in the vestibule across from cab in the Market St. cars, and in rear partition of cab in Frankford cars. On the panel board are mounted the switches and fuses for the various circuits, including motor control, electric brake, air compressor, door control, lights, heaters, etc. Except in the event of equipment defects, it is not necessary for trainmen to manipulate any panel board equipment.

XM38. Destination Signs

Destination signs, located on each side of car adjacent to center doors, are adjusted by means of a crank handle which is inserted in sign and rotated until the proper destination is displayed.

XM39. Heating and Ventilation

Car body heat is controlled manually by switches in the panel board, and automatically by a thermostat located inside of car.

Cab heaters are controlled by switches located in the cabs. See XM25.

Ventilators in roof are opened or closed individually by means of a ventilator hook.

XM40. Windshield Wiper

A manually-operated windshield wiper is attached to front cab window, and is operated by means of a handle on inside of cab.

XM41. Automatic Car Couplers

Cars couplers are of the interlocking type, which effect a coupling automatically by means of a locking device when couplers are engaged. The train line air pipe connections between the cars are also completed automatically by butting together two rubber bushing under pressure.

Uncoupling is accomplished by unlocking the locking device either by means of the manual uncoupling levers on top of coupler heads, or by means of compressed air controlled by the Uncoupling Valve.

XM42. Train Line Cut-Out Valves

Cut-out valves are located at both ends of cars to close train-line air pipes.

Market St. Cars:

Train-line cut-out valves are controlled manually by means of pull-rods on both sides of cars at each end. Valves are closed by pulling handle OUT, and opened by pushing handle IN.

Train-line cut-out valves must be OPEN between cars.

In addition, couplers on Market St. cars are equipped with check valves which open automatically when cars are coupled, permitting passage of air between cars. When cars are uncoupled, the check valves close automatically, preventing escape of air.

Frankford Cars:

Train-line cut-out valves are controlled either manually by means of a handle lo-

cated underneath car body under cab, or by means of compressed air controlled by Uncoupling Valve.

Train-line cut-out valves must be OPEN between cars, and CLOSED at front and rear of train.

XM43. Uncoupling Valves

Market St. Cars:

Uncoupling valves are located underneath the car body under each cab. To uncouple cars, valve handle is inserted in valve and turned as far as possible, unlocking couplers. When couplers are unlocked, as indicated by position of manual uncoupling levers, uncoupling valve handle may be restored to normal position.

Frankford Cars:

Uncoupling valves are located underneath car body under each cab, and also in motor-men's cabs on left side.

Coupling

After cars are coupled, valve handle is inserted in valve and turned TOWARD coupler head as far as possible. This movement OPENS train-line cut-out valves on both cars at coupled end, permitting passage of air between cars. When train-line cut-out valves are fully open as indicated by position of handles under cabs, uncoupling handle may be restored to normal position.

Uncoupling

To unlock couplers, the valve handle is inserted in valve and turned AWAY from coupler head as far as possible. This move-

ment CLOSES train-line cut-out valves on both cars at coupled end, and also unlocks couplers. When couplers are unlocked, as indicated by position of manual uncoupling levers, uncoupling valve handle may be restored to normal position.

XM44. Manual Uncoupling

To uncouple cars manually, the manual uncoupling levers on top of both coupler heads are moved as far as possible.

Frankford Cars:

Train-line cut-out valves must be closed manually before uncoupling manually.

XM45. Train-Line Jumpers

A *Train-Line Jumper* consists of two plugs containing a number of electrical terminals connected by a short length of flexible cable.

Train-Line Receptacles are provided at each end of cars, on both sides. Train-line jumpers are inserted in the receptacles to complete the control circuits between adjacent cars. Jumpers may be placed on either side of cars.

Market St. Cars are equipped with two train-line receptacles at each end on both sides, and require two train-line jumpers between adjacent cars. The outside jumper connects the electric brake cable, and the inside jumper connects the motor control cable. Jumpers are interchangeable, but care must be exercised that jumpers are connected between the proper receptacles, and **NOT CROSSED**.

Frankford Cars require only one jumper between adjacent cars.

INSTRUCTIONS FOR OPERATION

Subway-Elevated Cars

Market-Frankford Division

Section 3

Instructions for Yardmen

INSTRUCTIONS FOR OPERATION

Subway-Elevated Cars Market-Frankford Division

Section 3

Instructions for Yardmen

XM201. Yardmen's Procedure Making Up Cars and Trains

When making up cars and trains for service, yardman shall:

- (a) Set motorman's signal light switches.
- (b) Set door drum switches.
- (c) Set headlight switches.
- (d) Set car body light switches and check that car body lights can be controlled ON and OFF from conductor's operating cabs.
- (e) Adjust markers or marker switches.
- (f) Adjust train number signs.
- (g) *Market St. Cars:* Set end door valves.
- (h) Unlock cab windows and make-up operating cabs and check that all other cab windows and all cab doors are locked.
- (i) Adjust destinations signs.
- (j) Hook up safety chains.
- (k) Adjust heating and ventilation in accordance with yardmaster's instructions.
- (l) Close all necessary switches in panel boards.
- (m) Close train-line doors and safety doors.

XM202. Yardmen's Ground Inspection Making Up Cars and Trains

When making up cars and trains for service, yardman shall walk along each side of train and make certain that:

- (a) Cars are properly coupled.
- (b) Jumpers are properly placed between cars.
- (c) Pantagraph gates are securely fastened.
- (d) Train-line cut-out valves are open between cars.
- (e) *Frankford Cars*: Train-line cut-out valves are closed at front and rear of train.
- (f) Drain cocks on air reservoirs are CLOSED.
- (g) Train stop valves are properly set and that train stop cut-out valve pull rods are IN.
- (h) *Frankford Cars*: Combined cut-out valves are OPEN.

XM203. Yardmen's Inspection—Placing Cars and Trains in Service— Brake Test

Before placing cars and trains in service, yardman shall test brakes as follows:

- (a) Place brake valve handle in motorman's cab at front of train in RELEASE position.
- (b) Make certain that compressor switches in panel boards are closed.
- (c) Proceed to motorman's cab at rear of train and when RED pointer indicates 70 lbs. or more, open conductor's emergency valve and CHECK THAT BRAKES APPLY.

Close emergency valve and CHECK THAT BRAKES RELEASE. Failure of brakes to apply and release indicates that a train-line cut-out valve may be closed.

(d) Return to motorman's cab at front of train and check that air brake system is fully charged as indicated on air gage.

(e) *Market St. Cars:* Make a 20 lb. reduction in brake-pipe pressure before removing brake valve handle.

Frankford Cars: Make a 20 lb. reduction in brake-pipe pressure. Place brake valve handle in PNEUMATIC LAP position and make certain that the discharge of air from brake-pipe stops. Continued discharge indicates that another brake valve may be in RELEASE position.

XM204. Yardmen's Inspection—Placing Cars and Trains in Service—Door Operation Test

Before placing cars and trains in service, yardmen shall test door operation as follows:

(a) Depress foot switch in motorman's cab at front of train and check that buzzer sounds.

(b) In conductor's operating cab, press buzzer button, hold IN and move door control toggle switch UP, and check that doors do NOT open. Move toggle switch DOWN and release buzzer button. Move both door control toggle switches UP and check that all conductor's red pilot lights are lighted. Repeat check in opposite operating cab.

DO NOT PRESS BUZZER BUTTON WHILE DOORS ARE OPEN.

(c) Proceed to rear of train and check that all doors are opened properly.

(d) Proceed to front of train and check that all doors in front section are open properly.

(e) Return to conductor's operating cabs, close doors, and check that red pilot lights are out on all cars.

(f) Return to motorman's cab at front of train and check that motorman's signal light is lighted.

**XM205. Yardmotormen's Inspection—
Placing Cars and Trains in
Service**

Market St. Cars:

When first entering cab to operate, place controller handle on master controller, place brake valve handle in RELEASE position, and make certain that:

(a) Air-brake system is fully charged as indicated on air gage—BLACK pointer 80 lbs., RED pointer 95-110 lbs.

(b) Electric brake switch is ON (except as otherwise directed).

(c) Whistle cut-out cock is OPEN.

(d) Control switch is ON.

(e) Reset switch arcs when it is operated.

(f) Signal light switch is ON.

(g) Door drum switch is OFF.

(h) Market light switches are set properly.

(i) Correct train number is displayed.

(j) Headlight switch is set properly.

XM206. Yardmotormen's Inspection— Placing Cars and Trains in Service

Frankford Cars:

When first entering cab to operate, place reverse handle on master controller, place brake valve handle in RELEASE position and make certain that:

- (a) Air-brake system is fully charged as indicated on air gage—BLACK pointer 70 lbs., RED pointer 85-100 lbs.
- (b) Three-point switch plug is IN (except as otherwise directed).
- (c) Whistle cut-out cock is OPEN.
- (d) Control cut-out switch button is IN.
- (e) Signal light switch handle is UP.
- (f) Door drum switch is OFF.
- (g) Top markers are set properly.
- (h) Correct train number is displayed.
- (i) Headlight switch is set properly.

XM207. Starting Train

Market St. Cars:

When proper starting signal has been received—Rule T107—and brakes have been released, move controller handle to forward SWITCHING IN SERIES position momentarily, then advance to FULL SERIES or FULL PARALLEL position, depending upon the speed required. See Rule Y2.

To cut off the power, the controller handle must be returned to the full OFF position.

Frankford Cars:

Hold down main controller handle and place reverse handle in FORWARD position.

When proper starting signal has been received—Rule T107—and brakes have been released, move controller handle to SWITCHING position momentarily, then advance to SERIES or PARALLEL position, depending upon the speed required. See Rule Y2.

To cut off the power, the controller handle must be returned to the full OFF position.

The main controller handle must be held down at all times except when reverse handle is in the OFF position.

It should be noted that SWITCHING positions on both Market St. and Frankford cars are not running positions. These positions should be used only momentarily when starting, or when moving the train a short distance, to avoid waste of power and damage to equipment.

XM208. Backing Train

Backing train is not permitted (Rule Y5) except as provided in Rule Y6. In such case, train is reversed as follows:

Market St. Cars: Move controller handle to reverse SWITCHING IN SERIES position.

Frankford Cars: Hold down main controller handle, place reverse handle in REVERSE position, and move main controller handle to SWITCHING position.

When reverse movement has been completed, reverse handle must be moved immediately to OFF or FORWARD position.

XM209. Stopping Train— Service Application

Market St. Cars—Electric Service Brake Application

Electric brake snap switch must be ON. Place the brake valve handle in ELECTRIC SERVICE position. When the brakes have been applied sufficiently to make the stop desired, move the brake valve to ELECTRIC LAP position. As the train approaches the desired stopping point, move handle to RELEASE position momentarily and then back to ELECTRIC LAP, to gradually reduce brake pressure and give a smooth stop. When train comes to a full stop, place handle in RELEASE position, unless train is on a grade, in which case re-apply brakes to prevent drifting.

Market St. Cars—Pneumatic Service Brake Application

Place brake valve handle in FULL PNEUMATIC SERVICE position. When the brakes have been applied sufficiently to make the stop desired, move handle to PNEUMATIC LAP position. Reduce brake pressure gradually as train approaches stopping point by moving handle to RELEASE and back to PNEUMATIC LAP positions. When train comes to a full stop, place handle in RELEASE position, unless a pneumatic service application is necessary to prevent drifting.

Frankford Cars—Electric Service Brake Application

Three-point switch plug must be IN. Place the brake valve handle in SERVICE

position. When the brakes have been applied sufficiently to make the stop desired, move handle to ELECTRIC HOLDING position. As the train approaches the desired stopping point, move handle to RELEASE position momentarily and then back to ELECTRIC HOLDING, to gradually reduce brake pressure and give a smooth stop. When train comes to a full stop, place handle in RELEASE POSITION, unless train is on a grade, in which case re-apply brakes to prevent drifting.

Frankford Cars—Pneumatic Service Brake Application

Three-point switch plug must be OUT.

Since the same SERVICE position is used for electric and pneumatic control of the brakes, a pneumatic service application is made in the same manner as an electric service application, except that brake handle is returned to PNEUMATIC LAP position instead of ELECTRIC HOLDING.

Should electric brake fail on one or more cars when making an electric service brake application, a pneumatic application will automatically be made without any further action on the part of the motorman.

XM210. Stopping Train— Emergency Application

Market St. and Frankford Cars:

In case of an emergency to prevent collision with any object or to save life, move the brake valve handle quickly to EMERGENCY position, and allow it to remain there until the train comes to a full stop, or the danger

is past. The handle may then be placed in RELEASE position.

Emergency position is also used when it is necessary for a motorman to alight from a train that is stopped on a grade.

Emergency application of brakes may also be made on Frankford Elevated cars by releasing main controller handle, except when reverse handle is in the OFF position.

Market St. Cars:

In addition to emergency brake application, controller handle may be placed momentarily on first point SWITCHING position in reverse direction to assist in making an emergency stop.

XM211. Brake Test

When moving trains or cars from yard, carhouse or shop, or when any change in train make-up has been made, yardmotor-man must immediately test brakes as follows:

When proper starting signal has been received, and brakes have been released, move controller handle to SWITCHING position. When train has gained sufficient momentum to drift, move controller handle to OFF position, and make a pneumatic service application of the brakes. Failure of train to start on first point, or failure to drift freely, indicates hand brakes set, or air brakes not releasing properly. In such cases, follow procedure outlined in Section 4 "Emergency Repairs." Should brakes fail to hold train when brakes application has been made, train may be stopped by reversing motors on first point momentarily. See Rule Y1(a).

XM212. Operating Signs for Guidance of Motormen

For the guidance of motormen, the following operating signs are provided at various points:

“S”—Operate on SERIES.

“P”—Operate on PARALLEL.

“O”—Shut power OFF.

“B”—Apply brakes.

“W”—Sound whistle.

Where a number accompanies the “P” or Parallel sign, it indicates the length of train to which it refers.

XM213. Yardmotorman's Procedure— Changing Ends

Before Changing Ends:

(a) Make a 20-lb. reduction in brake-pipe pressure. See Rule Y1(b).

(b) *Market St. Cars:* Set signal light switch REAR.

(c) Set all markers RED.

(d) Drop seat bracket.

(e) Lock cab window and door.

After Changing Ends:

If operating from this cab for the first time, make complete inspection as in XM205 or XM206; otherwise as follows:

(f) Release brakes.

(g) *Market St. Cars:* Set signal light switch ON.

(h) Set markers according to destination.

**XM214. Yardmotorman's Procedure—Cars
Added to Front of Train**

Before Leaving Cab:

(a) Make a 20-lb. reduction in brake-pipe pressure.

(b) *Market St. Cars:* Set signal light switch OFF.

Frankford Cars: Set signal light switch DOWN.

(c) Set door drum switch THRU.

(d) *Market St. Cars:* Set top marker light switch OFF.

(e) Turn headlight switch.

(f) *Market St. Cars:* Open end door valve.

(g) Turn cab heater OFF.

(h) Lock cab window, break down cab and lock cab door.

After Changing to Cab at Front of Train:

Make complete inspection as in XM205 or XM206.

**XM215. Yardmotorman's Procedure—Cars
Cut from Front of Train**

Before Leaving Cab:

(a) Make a 20-lb. reduction in brake-pipe pressure.

(b) Drop seat bracket.

After Changing to Cab at Front of Train:

Make complete inspection as in XM205 or XM206.

**XM216. Yardmen's Procedure—Changing
Location of Conductor's
Operating Cabs**

DOOR DRUM SWITCHES MUST NOT BE CHANGED WHILE DOORS ARE OPEN, NOR WHILE TRAIN IS IN MOTION ON THE LINE.

Before Changing Cabs:

- (a) Set car body light switch ON.
- (b) Set door drum switch THRU.
- (c) *Market St. Cars:* OPEN end door valve.
- (d) Turn cab heater OFF.
- (e) Lock cab window, break down cab and lock cab door.

After Changing Cabs:

- (f) Make up cab and unlock cab window.
- (g) *Market St. Cars:* Close end door valve in operating cab.
- (h) Check that door toggle switches are DOWN (door closing position) and set door drum switch to OPERATE.
- (i) Set car body light switch OFF, unless lights are required.
- (j) Check door operation.

**XM217. Yardmen's Procedure—Making
Up Rear End**

When it is necessary for Yardmen to make up rear end after cars have been cut from rear of train:

Market St. Cars:

- (a) Hook up train-line door safety chains and close train-line safety doors.
- (b) Make up cab.
- (c) Set door drum switch OFF.
- (d) Set both marker light switches RED.
- (e) Set signal light switch REAR.
- (f) Close end door valve.
- (g) Adjust train number sign.
- (h) Lock cab door.
- (i) Turn headlight switch.

Frankford Cars:

- (a) Hook up train-line door safety chains and close train-line safety doors.
- (b) Make up cab.
- (c) Set door drum switch OFF.
- (d) Set marker lights RED.
- (e) Set signal light switch handles UP.
- (f) Adjust train number sign.
- (g) Turn headlight switch.
- (h) Lock cab door.

XM218. Buzzer Signals

- One short— STOP.
- - Two short— PROCEED
- - - Three short—BACK UP

XM219. Coupling Cars

(a) When coupling cars, motorman must operate from end where coupling is to be made.

(b) Cars to be coupled must come to a FULL STOP about twelve feet apart, and then advance slowly under absolute control to the point of coupling.

(c) At the point of coupling, cars must be stopped far enough apart to permit couplers to be lined up so that they will engage properly. DO NOT STEP BETWEEN CARS WHILE THEY ARE IN MOTION.

(d) When couplers have been lined up properly, step back from between cars and give motorman signal to engage couplers by means of proper hand signal to proceed. (Rule G11).

(e) When couplers are engaged, make certain that couplers are locked as indicated by position of manual uncoupling levers, and that there is no escape of air from couplers.

(f) *Market St. Cars:* Make certain that train-line cut-out valve pull rods are IN.

Frankford Cars: Open train-line cut-out valves by means of uncoupling valve handle, and make certain that cut-out valves are fully OPEN, as indicated by position of cut-out valve handles underneath cabs.

(g) Inspect train-line jumper plugs, check that terminals are not defective nor fouled with grease, insert plugs in train-line receptacles and make certain that plug is properly locked by receptacle cover.

(h) Fasten pantagraph gates securely and hook up safety chains.

(i) Give proper proceed signal when required.

(j) Motorman must make a 20-lb. reduction in brake-pipe pressure before removing brake valve handle.

XM220. Uncoupling Cars

(a) Unfasten pantagraph gates and unhook safety chains.

(b) Disconnect train-line jumpers. When uncoupling cars at platform, jumpers must not be removed until doors are closed on section being cut.

(c) Unlock couplers by means of uncoupling valve, and make certain that couplers are unlocked as indicated by position of manual uncoupling levers.

(d) Give motorman signal to move off.

(e) When uncoupling Market St. cars in the yard when cars are not to be moved immediately, it is necessary to close train-line cut-out valves by pulling rods OUT.