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**CHINESE GOVERNMENT RAILWAYS**  
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# **RULES AND REGULATIONS**

**PROMULGATED**

**BY**

**THE MINISTRY OF COMMUNICATIONS**

**ON THE SIXTH DAY OF THE ELEVENTH MONTH  
OF THE ELEVENTH YEAR OF THE REPUBLIC OF CHINA**

No.....

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**FIRST EDITION**

**CHINESE GOVERNMENT RAILWAYS**

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**RULES AND REGULATIONS**

**FOR THE**

**GUIDANCE OF OFFICERS AND MEN**

**IN THE**

**SERVICE OF THE CHINESE**

**GOVERNMENT RAILWAYS**

# GENERAL REGULATION

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THE  
SAFETY OF  
THE PUBLIC IN ALL  
CIRCUMSTANCES MUST BE THE  
CHIEF CARE OF THE  
SERVANTS OF THE  
RAILWAY

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# PART I

DEFINITIONS OF TERMS.

GENERAL REGULATIONS

DUTIES AND RESPONSIBILITIES

OF

STATION STAFF, TRAIN STAFF

AND

ENGINE STAFF

IN REGARD TO

THE SAFE WORKING OF TRAINS

## CHAPTER I

### DEFINITIONS OF TERMS

---

**1.**—In these Regulations unless Definitions. otherwise specially stated:—

(I) “Main Line” means the Line ordinarily used for Trains running through, and between Stations.

(II) “Train” means one or more engines or motors with or without vehicles attached.

(III) “Passenger Train” means a train intended solely or mainly for the carrying of passengers or other coaching traffic.

(IV) “Goods Train” means a train intended solely or mainly for the carrying of general merchandise, minerals, materials or livestock.

(V) “Mixed Train” means a train intended for the carrying of both passengers and goods, or of passengers, animals and goods, and must be dealt with as a “Passenger Train”.

(VI) “Service Train” means a train intended for the carrying of stone, material or fuel, picked up or put down either between Stations or in Station Yards.

(VII) “Ordinary Train” means a train, whether passenger, goods, or mixed, which is entered in the Working Time-Tables.

[Reg. 1]

(VIII) "Special Train" means any train which is not an ordinary Train.

(IX) "Guard" is the person in charge of a train, and includes a Brakeman and any other Railway Servant who for the time being may be performing the duties of a Guard.

(X) "Engine Driver" means the person in charge, for the time being, of a working locomotive engine.

(XI) "Signalman" means the person in charge of the Signal-box.

(XII) "Station" means any place at which authority is given for the working of trains.

(XIII) "Station Limits" include all traffic lines and premises within the fixed signals, or, if there be no fixed signals, all traffic lines and premises within the outside points, or, if there be no signals, and no points, all traffic lines and premises within 500 metres of the Station.

(XIV) "Station Master" means the person on duty, who is, for the time being, responsible for the working of traffic within Station Limits, and in these Regulations includes an Assistant Station Master, a Clerk-in-Charge and any other person appointed to take charge of a Station.

(XV) "Permanent Way Inspector" means the Railway Servant in charge of the maintenance work in a Permanent

[Reg. 1]

Way Section.

(XVI) "Section Foreman" means the Railway Servant in charge of the maintenance work in a portion of the section, of which a "Permanent Way Inspector" is in charge.

(XVII) "Ganger" means the Railway Servant in charge of a gang of Plate-layers or other workmen employed on the Permanent Way.

(XVIII) "Authorized Officer" means the person who is duly empowered by General or Special Order of the Railway Administration, either by name or by office, to issue Instructions.

*NOTE: Such order shall not empower an Authorized Officer to depute the power conferred upon him thereby to any other person.*

(XIX) "Special Instructions" mean instructions issued from time to time by the Authorized Officer in respect to particular cases, or special circumstances.

(XX) "Pilot Engine" is an engine, which runs in advance of a special train, or over any part of double tracked line in front of another train to pilot that train.

(XXI) "Shunting Engine" is an engine other than a train engine, which is employed in marshalling and shunting trains or vehicles in Station Yards.

[Reg. 1]

(XXII) "Assisting Engine" is an engine, which, because a train is too heavy to be hauled by one engine up a gradient, or on a level, is used to assist the Train Engine.

(XXIII) "Relief Engine" is an engine sent out to relieve another engine which has broken down, has been derailed, or has been detained by an accident, or to bring in vehicles which, on account of any accident, are outside Station Limits.

(XXIV) "Train Engine" is an engine, which works a train over some section of a Railway outside Station Limits.

(XXV) "Light Engine" is an engine running outside Station Limits without vehicles attached.

(XXVI) "Attached Engine" is an engine other than a train engine, assisting engine, or relief engine, attached to a train running outside Station Limits for any purpose whatever.

(XXVII) "During Foggy Weather, or Falling Snow or Dust Storm" means when the Fog, Snow or Dust Storm is such that Signals cannot be distinctly seen from a distance 100 metres away.

(XXVIII) The term "Car" relates to Passenger Stock, "Wagon" relates to Goods Stock, and "Vehicle" relates to either or both, Passenger Stock, or Goods Stock.

[Reg. 1]



## CHAPTER II

### DUTIES AND RESPONSIBILITIES OF STATION STAFF

---

**2.**—(a) Every Station Master or  
 Responsibility of  
 Station Master  
 or person in  
 charge of  
 Station.

person in charge of a Station is answerable for the security and protection of the offices and buildings, and of the Railway's property. He is responsible for the faithful and efficient discharge of the duties devolving upon all the Railway's Servants employed at the Station or within its limits, and such Servants are subject to his authority and direction in the working of the Line. He is also responsible for the general working of the Station being carried out in strict accordance with the Rules and Regulations, and must, as far as practicable give personal attention to the shunting of trains and all other operations which, in any way, affect the safety of the Line.

(b) He must also see that every Servant under him, connected with the working of the Line, is in possession of a copy of these Rules and Regulations and that the Working Time-Table, Appendices, and other Notices having reference to the working of the Line are properly distributed.

**3.**—Every exertion must be made  
 Station  
 Duties.

for the expeditious despatch of the Station Duties, and for insuring the punctuality of trains.

[Reg. 2-3]

**4.**—Every Station Master or Signalman before taking charge of a Station or Signal Box must satisfy himself that all the Electrical Instruments, Signals, Points, etc., are in good working order, and when relieving another Station Master or Signalman must ascertain from him whether there are any special circumstances requiring attention; whether the trains which are due to cross, or pass have done so, and if not, what are the exceptions; and what trains, if any, are in the Sections on either side of his Station, or are Signalled. He must also ascertain whether there is any other matter, the knowledge of which is necessary to enable him to properly discharge his duty. The Station Master or Signalman relieved must give full information on these points before leaving duty, so that the duties of the Station may be conducted in an efficient manner, and any inconvenience arising from the change of men avoided. Each Station Master or Signalman must enter in his "Duty Book" the time of his arrival on duty and the time of his leaving, and place his signature thereto. Station Masters and Signalmen must change duty only at the appointed hours.

**5.**—The Station Master must satisfy himself that the Signalmen at his Station or under his  
 Supervision of Signalmen.  
 [Reg. 4-5]

control, are thoroughly acquainted with their duties, and see that they perform them in a proper manner, by night as well as by day, and, in order to maintain a proper supervision over the men in this respect, he must frequently visit the Signal Boxes.

**6.**—(a) The greatest care must be exercised in the cleaning, trimming and lighting of Signal Lamps, and Station Master will be held responsible for his work being efficiently performed. The Lamps must be lighted and extinguished in accordance with Regulations 63 and 74.

(b) Oil lamps of Fixed Signals must not be trimmed at the Signal posts, but must be taken to the Station Lamp-room, or Signal Box each morning, and trimmed and cleaned there.

(c) Station Masters and others having Signals under their care must frequently inspect the Fixed Signal Lamps and satisfy themselves that they are in good order, and that the glasses (in front and back of Lamp) spectacles, and reflectors, are well cleaned.

**7.**— When an accident, or obstruction of any kind occurs on any part of the line, it must be immediately reported by  
[Reg. 6-7]

the most expeditious means, to the next Station or Signal Box on each side of the place where the accident or obstruction has occurred, to the Heads of Departments connected with the working of the Line ; to the Locomotive Station where the Breakdown Vans for the district are kept ; to the District Engineer and Section Engineer ; to the Traffic Inspectors ; to the Permanent Way Inspector in charge of the Section ; and where necessary to the Telegraph Inspector, and Signal Fitters. It must also be reported by telegraph to those Stations where the starting of other trains is liable to be affected by the delay caused by the obstruction.

### CHAPTER III

#### DUTIES AND RESPONSIBILITIES OF GUARDS AND BRAKESMEN

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**8.**—(a) When trains are within Station Limits, the Guards and other Servants on the trains are under the orders of the Station Master or person in charge.

(b) When there are two or more Guards with a train, the Subordinate Guard or Guards as well as other Servants on the train, must obey the orders of the Head Guard.

[Reg. 7-8]

**9.**—Each train is under the control of the Head Guard, who must give the Engine Driver any instructions that may be necessary as to the working of the train.

**10.**—When a Guard is riding in a train other than that he is appointed to work, he must, if so instructed by an Inspector, Station Master, or other person in charge, and his hours of duty will not be exceeded, render any assistance in the working of the train, by which he travels, and obey any instructions received from the Guard in charge of such train; and when there is on the train a Brake Van, in which no Guard is riding, he must, when so instructed, ride in such van and act as a subordinate Guard.

*NOTE: In addition to the above Regulations, attention is drawn to other Regulations concerning the duties of Guards and Brakemen in this Book particularly those given under Part V, Chapter X*

## CHAPTER IV

### DUTIES AND RESPONSIBILITIES OF DRIVERS AND FIREMEN

**11.**—Under no circumstances, not even inside a Locomotive Yard, must an engine be

Driving of  
Engines

[Reg. 9-11]

driven or moved by any one not duly authorized by the Locomotive Superintendent or his Representative.

**12.**—Drivers and Firemen are under Driver to carry out the instructions of Station Master. the control of Locomotive Superintendent or his Representative but, after an engine has left the Locomotive Yard, it is under the control of the Traffic Department, and Drivers must carry out the orders of the Station Master or his Representative in regard to the working or moving of traffic.

**13.**—(a) No Driver shall take an Engine entering or crossing Main Line. engine upon or across the Main Line without the permission of the person in charge of the Points.

(b) An engine proceeding from Locomotive to Traffic Lines must stop dead at the outer Locomotive Points, and await the arrival of the Shunter, who will in person conduct it to the Traffic Lines except when otherwise specially provided.

(c) Similarly, an engine proceeding from Traffic to Locomotive Lines, must be personally conducted by a Shunter to the Outer Traffic Points except when otherwise specially provided.

**14.**—The train is under the control Head Guard to instruct Driver of Train. of the Head Guard, who will be responsible for personally giving the Driver any  
[Reg. 12-14]

instructions that may be necessary in connection with the working of the train.

**15.**—Firemen are subordinate to Drivers and must carry out their instructions.

*NOTE* :—*In addition to the above Regulations, attention is drawn to other Regulations concerning the duties of Drivers and Firemen, especially to those given under Part V, Chapter XI.*







PART II

S I G N A L S

## CHAPTER I

### GENERAL REGULATIONS

---

**16.**—Every Railway Officer, what-  
Signals to be ever his rank may be, must  
obeyed. obey and see that all others  
concerned obey Signals.

**17.**—(a) The Engine Driver and  
To observe and Fireman must pay immediate  
obey Signals. attention to, and obey all  
Signals, whether the cause of the Signal  
being shown is known to them or not.  
To be vigilant The Engine driver must not,  
and cautious. however, trust entirely to  
Signals, but must be vigilant and  
cautious.

(b) The Absence of a Signal at a  
place where a Signal is ordinarily shown,  
or a Signal imperfectly exhibited, or the  
exhibition of a White Light at a place  
where a Red or Green Light or an Orange  
Light ought to be seen, must be  
considered as a Danger Signal, and treated  
accordingly and the fact reported to the  
Station Master at the nearest Station.

## CHAPTER II

### OPTICAL SIGNALS

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#### I. FIXED SIGNALS

**18.**—Fixed Signals consist of Dis-  
Fixed Signals. tant, Home, Starting, Siding,  
and Shunting Signals.  
[Reg. 16-18]

**19.**—(a) The normal position of Fixed Signals is Danger.

Normal position  
of Fixed Signals.

(b) No Fixed Signal shall be used, unless it is Constructed to show "Danger" in case of any failure in its connections.

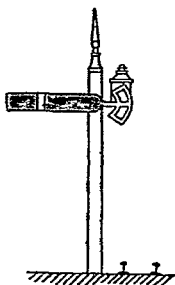
**20.**—The Semaphore Signals are constructed with Arms for Day Signals, and Lamps for Night.

Semaphore  
Arms and  
Lamps.

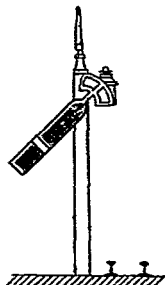
### Home Signals

**21.**—Home Signals are Semaphore Signals so constructed as to indicate the following :

(a) "Danger" Signal is shown in the day time by the Arm being in the Horizontal position thus: and by the exhibition of a Red light at night.



(b) "All right" Signal is shown in the day time by the Arm being lowered to an angle of at least 45° thus: and by the exhibition of a Green light at night.



[Reg. 19-21]

**22.**—Home Signals are fixed at Stations and Junctions and are so placed as to indicate by their Positions the Lines to which they apply.

**23.**—No train must pass a Home Signal at Danger, or foul the Crossings or Points to which it applies, except as prescribed in Regulation 73.

**24.**—The Home Signal must not be put to "Danger" until the whole of the train has passed over the points protected by it or connected therewith, when it must immediately be put to "Danger".

**25.**—(a) If a second Home Signal known as the "*Outer Home Signal*" is provided, it shall be placed at least 500 metres outside the Home Signal.

(b) The Regulations applicable to "Home" Signals apply to "Outer Home" Signals.

### Distant Signals

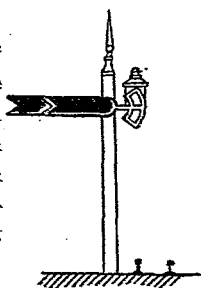
**26.**—(a) A Distant Signal is always related to a Home Signal. The minimum distance between a Distant Signal and the Home Signal must be such as to admit a train running at the permissible maximum speed being brought to a dead stop before reaching the Home Signal.

(b) In the exceptional case of Lines not worked under the Absolute Block system, such distance is to be increased in order to suit the particular conditions of the Lines concerned.

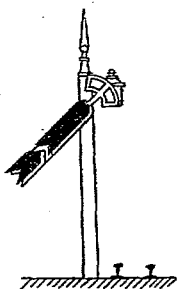
[Reg. 22-26]

**27.**—The Distant Signal is a Semaphore Signal so constructed as to indicate the following :

(a) “Danger”  
Signal is shown in the day time by the Arm (fishtailed) being in the Horizontal position thus: and by the exhibition of an orange light at night.



(b) “All right”  
Signal is shown in the day time by the Arm being lowered to an angle of at least  $45^\circ$  thus: and by the exhibition of a Green light at night.



**28.**—(a) Distant Signals must be placed at “Danger” immediately they are passed by a train, and also whenever any obstruction, or danger exists upon the Line they are intended to protect.

(b) When an Engine Driver finds a Distant Signal at Danger, he must reduce speed and proceed cautiously toward the Home Signal, being prepared to stop, if necessary.

[Reg. 27-28]

**29.**—Whenever the Distant Signal is at Danger, the Danger Signal must also be exhibited at the Home Signal, except when a train has passed the Distant Signal at Danger, in which case the Home Signal only must be lowered to allow the train to pass.

### Starting Signals

**30.**—(a) Starting Signals being Semaphore Signals are of the same form and show the same Positions and Lights for “Danger” and “All Right” as Home Signals, and control the entrance of trains into the Section ahead, (if, in addition, the driver is in possession of the Tablet, Staff or Link, where provided), and must not be passed, when at Danger, except as follows :

- A.—Where there are Shunting Arms (See Regulation 31).
- B.—When Signal is defective, (See Regulation 73).
- C.—Where the Points of Sidings or Crossover roads are so near to a Starting Signal as to render it necessary for the Signal to be passed for shunting purposes, and a Shunting Arm is not provided, Engine Drivers may, for the purpose of performing shunting operations, pass the Starting Signal when at Danger upon  
[Reg. 29-30]

being directed to do so by the Signalman, either verbally, or by a Green Hand Signal, which must be held steadily in the hand, but they must not proceed on their journey until the Starting Signal has been lowered, and the Staff, Tablet or Link, as the case may be, is in their possession.

(b) The Starting Signal must be put to Danger immediately a train has gone forward into the Section in advance i. e. as soon as the Brake-van has passed the Signal.

### Shunting Signals

**31. Semaphore.** Where these Signals are fixed as Lower Arms upon the Starting Signal posts, the lowering of the Shunting Arm authorizes the Engine Driver to pass the Starting Signal when at Danger for Shunting purposes only, but no train must go forward on its journey until the Starting Signal is lowered (and the correct Staff Tablet or Link for the Section where provided is in the possession of the Driver)

**32. (a) Disc or Dwarf.** Where Disc or Dwarf Signals are used to regulate the passage of trains between Sidings and Running Lines, or between one Running Line and another, or in shunting operations in Sidings,

[Reg. 30-32]

the Danger Signal is shown in the day time by a Red Disc, or Short Arm horizontal and at night by a Red Light.

(b) The "All Right" Signal is shown in the daytime by the Disc being turned off, or Short Arm lowered and at night by a Green Light.

(c) When a Disc Signal is at "Danger" no Driver shall take his train past such Signal on the Line to which the Signal applies.

### Siding Signals

**33.**—(a) Siding Signals may be either Discs or Semaphore Signals.

(b) When the exit from Sidings is controlled by Disc or Semaphore Signals, no attempt must be made to take a train from such Sidings until the Signal is turned off or lowered and an Engine Driver whilst waiting for such signal to be turned off or lowered must not allow his engine to stand foul of any other Line.

(c) When a signal applies to more than one Siding and more than one Engine is in the Sidings at the same time, no Engine Driver must move towards the Signal until he has been instructed to do so by the Station Master or other person in charge.

### Junction and Station Signals

**34.**—At Junctions there must be separate semaphore Signals applying to  
[Reg. 32-34]



each line. At Stations where there is more than one Running line or direct entrance to a Goods Yard, there may be separate semaphore Signals applying to each line.

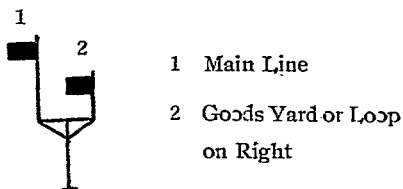
The Signal bracket for the Main Line shall be on the Main Signal post higher than the Branch, Through Loop, or Goods Yard Signal bracket.

The Main Line Signal will always be the highest.

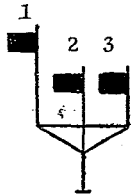
When there are Through Loop or Goods Yard Signals on the Right Hand side of Main Line Signal, the Signal arm on the extreme right of the Main Line Signal applies to the Through Loop Line or the Goods Yard Line on the extreme right, the next Signal to the next line.

When there are Through Loop or Goods Yard Signals on the Left Hand Side of the Main Line Signal, the Signal Arm on the extreme left of the Main Line Signal applies to the Through Loop Line or the Goods Yard Line on the extreme left, the next Signal to the next line.

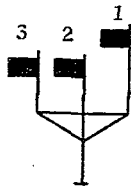
The following diagrams are given as an illustration :—



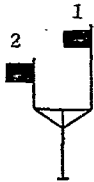
[Reg. 34]



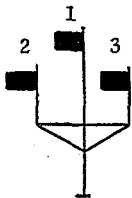
- 1 Main Line
- 2 Loop or Goods Yard on Right
- 3 Loop or Goods Yard on Right



- 1 Main Line
- 2 Loop or Goods Yard on Left
- 3 Loop or Goods Yard on Left



- 1 Main Line
- 2 Goods Yard or Loop on Left



- 1 Main Line
- 2 Loop or Goods Yard on Left
- 3 Loop or Goods Yard on Right

### Examination and Testing of Fixed Signals

**35.**—(a) The Station Master must see that his Fixed Signals are examined and tested frequently, and that they show properly.

[Reg. 34-35]

(b) The coloured glasses of Signal Arms and the glasses of the Lamp Case must be kept scrupulously clean.

(c) Care must be taken in putting a Signal to "All Right" or to "Danger," it is not sufficient merely to move the lever, but the Signal itself must at the same time be watched, so as to ascertain that it obeys the Lever and clears properly or goes fully to Danger, as the case may be.

(d) If a Signal is not visible from the Signal Cabin an Indicator connecting the Signal and the Cabin must be provided in order to assure the Signalman that the Signal is working properly.

(e) Care must be taken that the Signal Wires are kept properly adjusted by means of the regulating screws or links, so as to compensate for the expansion and contraction caused by variations of temperature.

(f) Distant and Outer Home Signals must be put to Danger immediately a train has passed them, but the Home Signal, must not be put to Danger; until the whole of the Train has passed over the Facing Points connected therewith.

[Reg. 35]

(g) Every case of a Signal working imperfectly, or a Lamp being out or burning badly, must be immediately reported to the immediate Superior Officer.

### Back Light of Fixed Signals

**36.**—(a) The Back Lights of Fixed Signals show a White Light to the Station Master or Signaller, when at “ Danger ”, and a Blue Light when at “ All Right ”.

(b) When Signals are put to “ All Right ” and the White Back Light is only partially obscured, the Signal wires require adjustment.

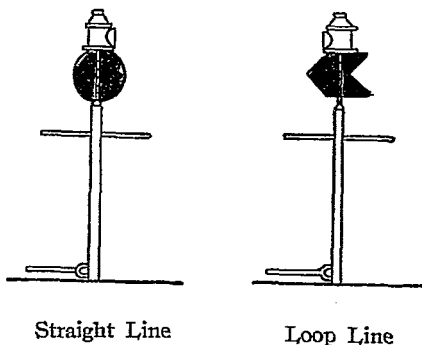
(c) When the Signal Levers are put to Danger, and the White Back Light is only partially shown, or cannot be seen, either the Signal has not gone to the Danger position, or the Signal lamp is out, and steps must immediately be taken to ascertain what is wrong, and have it rectified.

## II. POINT INDICATORS

**37.**—(a) Where deemed necessary Point Indicators are provided to show for which the Points are set, and are so constructed as to be easily distinguished from Fixed or Permanent Signals.

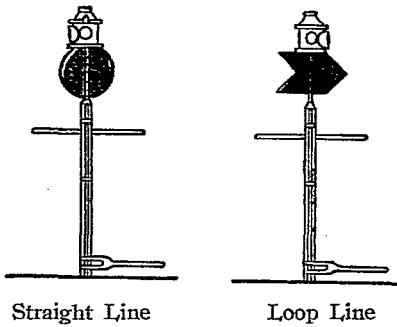
[Reg. 35-37]

(b) Point Indicators consist of a Disc painted Green, forming a right angle with a Purple Fish-tailed Board. The whole structure turns on a pole, as the Switch Points change position. The Disc when forming a right angle with the Track, and the Fish-tailed Board being parallel with it during the day, and a Green Light showing at night, indicates to the Driver when entering the Station that the Points are set for the Main Line. The Disc being parallel with the Track and the Fish-tailed Board forming a right angle during the day, and a Purple Light showing at night, indicates that the Points are set for the Loop Line.



Inward

[Reg. 37]



Straight Line

Loop Line

Outward

(c) Point Indicators are used to indicate to the Station Staff the position of Points and to indicate to the Train Staff which track their train must enter.

**III. HAND SIGNALS**

**38.**—(a) These Signals will be made with Flags by day, and with Lamps by Night or in a Tunnel, and during Foggy Weather, Falling Snow or Dust Storm, a Red Light or a Red Flag indicates “Danger” and, except as shown below, must be used only when it is necessary to stop a train.

Hand Signals.

(b) In the absence of a Red Light, any Light waved violently denotes “Danger”.

(c) The purposes for which a Green Hand Signal is used are as follows :-

[Reg. 37-38]

- 1.—Move forward, in shunting. Reg. 40 (away from the person giving the Signal) Green Light or Flag waved slowly up and down.
- 2.—Move back, in shunting. Reg. 40 (or towards the person giving the signal) Green Light or Flag waved slowly from side to side across body.
- 3.—Guard's Signal to Engine Driver to start, and to indicate that he has rejoined the train. Regs. 66 and 102. Green Light or Green Flag held steadily in the hand above the head by the Guard.
- 4.—To indicate to Engine Driver of Goods train after starting that his train is complete. Reg. 102. Green Light or Green Flag held steadily in hand by Guard from his Van. This Signal must be exhibited until Brake-van has passed over the Points leading to Main Line.
- 5.—To indicate to Engine Driver that train is divided. Reg. 118. Green Light or Flag waved slowly from side to side by Station Master, or Signalman, or by Guard from Brake-van.

[Reg. 38]

- 5.—To authorize Engine Driver to pass Starting Signal at Danger for Shunting purposes.  
Reg. 30. Green Light or Flag held steadily in the hand by Station Master, or Signalman.
- 7.—To indicate to Engine Driver during Foggy Weather or Falling Snow or Dust Storm that the Fixed Signal is at "All Right".  
Regs. 125 and 179. Green Light held steadily in the hand by Fog-Signalman.
- 8.—To reduce to a maximum speed of. 20 kilometers per hour for Permanent-Way operations.  
Regs. 189, 225, and 230. Green Light or Flag waved slowly from side to side by Platelayer.
- 9.—To give an "All Right" Signal to Engine Driver, when Fixed Signal is disconnected or out of order.  
Reg. 13. Green Light or Flag held steadily by hand Signalman at the Signal, or by Station Master at the Station for an Engine Driver to proceed to the Station.

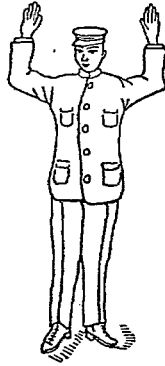
[Reg. 38]



- 10.—To indicate to Green Light or Flag Engine Driver that Section is clear, but Station or Junction is blocked. held steadily by Station Master or Signaller, after bringing train to a stand, and giving verbal warning. Rule 5, Appendix 1.

### In the Absence of Flags

**39.**—(a) Both arms raised above the head denotes "Danger" Signal. thus :

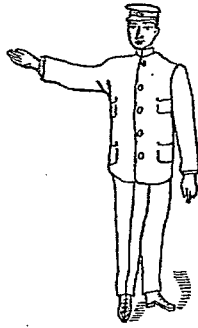


(b) One arm raised above the head denotes "Caution" Signal. thus :

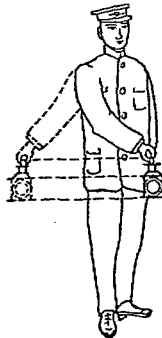
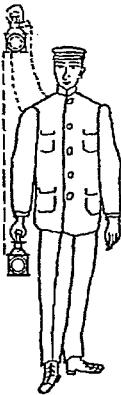


[Reg. 38-39]

(c) One arm  
 "All Right" held in a  
 Signal. horizontal  
 position denotes "All  
 Right", thus :



**40.**—In shunting operations by  
 night, or when necessary  
 during foggy weather, fall-  
 ing snow or dust storm, a Green Light  
 waved slowly up and down means  
 "Move Forward"—go away from the  
 person giving the Signal. A Green Light  
 waved slowly from side to side across the  
 body means "Move Back"—come  
 towards the person giving the Signal.



[Reg. 39-40]

**41.**—Hand Lamps and Flags, when used as Signals, except where they are employed for the purpose of marking the actual point of obstruction must always be held in the hand, and not placed upon, or stuck into the ground, or fixed elsewhere.

## CHAPTER III ACOUSTIC SIGNALS

### I. Shunting Horns

- 42.**—1. Move forward in One blast on shunting. (away shunting horn. from the person giving the Signal).
2. Move back in Two blasts on shunting, (to- shunting horn. wards the person giving the Signal)
3. Stop Signal. Three short blasts on shunting horn.
4. Fase couplings. Four short blasts on shunting horn.

### II. Detonating Signals

**43.**—(a) Engine Drivers, Guards, Station Masters, Signalmen, Gatekeepers, and Gangers must be provided with Detonators, which they must always have ready for use when on duty; and every person in charge of a Station must keep a supply of these Signals in a suitable place, easy of access at all times.

[Reg. 41-43]

(b) All the persons above named will be held responsible for keeping up the proper supply of Detonators.

**44.**—(a) In clear weather, if an Engine explodes one or more Detonators, the Engine Driver must immediately reduce speed and bring his train under such control as to enable him to stop his train at once, if he sees any Danger Signal or Obstruction before him; but if after proceeding for a distance of at least two kilometres from the place where Detonators were exploded, he does not see any Danger Signal or Obstruction, he may then resume normal speed, while still continuing to watch for any Signal or Obstruction.

(b) During foggy weather, falling snow or dust storm, when an Engine explodes one or more Detonators, the Engine Driver must stop his train at once and look for any Hand Signal and, if no Signal is shown to him, he may proceed slowly and cautiously until he has moved forward a distance of at least two kilometres, when he may resume his normal speed, as stated in clause (a).

**45.**—(a) Detonating Signals must only be used in case of obstruction, or during Foggy Weather, Falling Snow, [Reg. 43-45]

How Engine Driver to act on explosion of Detonator in clear weather.

How Engine Driver to act on explosion of Detonator during foggy weather, falling snow or dust storm.

When Detonators to be used.

or Dust Storm. A supply of not fewer than 12 Detonators must be kept at each Station, and at least 6 by each Ganger.

(b) Detonators must be carefully handled, as they are liable to explode if roughly treated.

To be carefully handled.

(c) They must be kept in dry places, and must not be left in contact with brick walls.

To be kept dry.

(d) All Detonators must be examined, and one of the oldest tested at intervals of not more than six months to insure that they are in good condition. Should any show signs of rust on the outside of the case, or have defective clips, or appear unsatisfactory in any way, they must be withdrawn and returned to the Stores Department.

Detonators to be examined and tested.

(e) The year of manufacture is shown on the Detonators, and they must not be kept after they are five years old.

(f) Detonators must be issued in the order in which they are received from the Stores Department, those which have been the longest on hand being always used first to avoid an accumulation of old stock.

To be used in order supplied.

(g) Should any Detonator fail to explode, when a train passed over it, the circumstances must be promptly reported to the

Failure to be Reported.

[Reg. 45]

immediate Superior Officers, and the defective Detonator forwarded to him for examination.

### III. Engine Whistles

**46.**—(a) The Driver must never start an engine without first sounding the whistle.

Use of whistle.

(b) When a train is approaching or leaving a Station and there is another train standing on the next adjoining Line or shunting operations are going on, the Engine Driver must, on approaching and whilst passing, sound the engine whistle.

(c) The whistle must also be sounded to caution Plate-layers and others on or near the Line on which a train is running, and on entering a Tunnel to warn all men at work inside.

Whistle to warn men, and on entering and passing through tunnels.

(d) The whistle must also be sounded, when approaching a curve around which a distinct view cannot be obtained for any considerable distance.

(e) Whistle Posts, painted white, are placed at certain parts of the Line, where it passes through cuttings, and Drivers must sound the engine whistle when approaching these.

Whistle Posts.

[Reg. 46]



(f) Drivers must sound the engine whistle when within 500 metres of long Bridges, and again before entering the Bridge, to warn any person who may be on the Bridge. A sharp look-out must be kept when approaching bridges.

Whistle to be sounded approaching Bridges.

(g) Drivers must sound the engine whistle when approaching level crossings, and must keep a sharp look-out to see that the Crossing is clear.

**47.**—When approaching a Junction the Engine Driver will sound one blast of engine whistle if he intends to proceed by the first track from the left, two blasts if he intends to proceed by the second track from the left, and so on if Signals are at Danger ; if the proper signals have already been lowered for him to proceed, he need not sound the engine whistle.

[Reg. 46-47]

## CHAPTER · IV

### TRAIN INDICATORS

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**48.—(a)** The Driver is responsible that, for the information of Station Masters, Signalmen and others, a Headlight is displayed on the front of each engine by night.

Engines to carry Head Lamps.

**(b)** If Search Lights are used as Headlights, they must be dimmed when the train passes the Distant, or the Outer Home Signal, and while standing in, or passing through Stations, and must not be again brightened until after passing out of Station Limits.

Engine Search Lights.

**(c)** Shunting Engine working in Station Yards and Sidings will display a White Headlight in both the front and the rear by night.

Shunting Engine Head and Tail Lights.

**49.—(a)** Every train travelling on the Line must have a Tail Lamp properly cleaned and trimmed, attached to the last vehicle, by day as well as by night. The Lamp need not be lighted in the daytime, except during foggy weather, falling snow or dust storm, or where otherwise provided, but its presence in the rear of each passing train will furnish

Tail Lamp to indicate last vehicle.

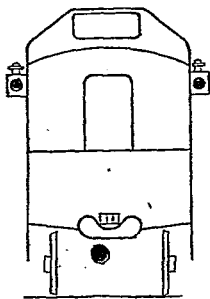
[Reg. 48-49]



evidence to the Station Master that no portion of the train has become detached.

(b) A Red Disc may be attached to the last vehicle in the day time, instead of a Tail Lamp, but after dusk and during foggy weather, falling snow or dust storm a Red Tail Lamp properly burning must be used.

**50.**—(a) After sunset, and during foggy weather, falling Snow, or Dust Storm, every engine must carry the necessary Head Light, and, when running alone, a Red Tail Light also; every train, while on any Running Line, must carry a Red Tail Light on the last vehicle, and two Red Side Lights.



(b) The Guard, if there be only one, or that Rear Guard, if there be more than one, must see that the Tail and side Lamps are kept properly burning when necessary.

Guards to see that Tail and Side Lamps are burning.

[Reg: 49-50]

(c) Should a vehicle be attached to, or detached from the rear of a train at an Intermediate Station, the Guard will be responsible for seeing that the Tail Lamp is in its proper place on the last vehicle before continuing the journey.

**51.**—(a) Engines when on any Running Line without vehicles must carry a Tail Lamp in the rear both by day and by night.

(b) Engines assisting trains in the rear must carry a Tail Lamp.

(c) Engines drawing trains must not carry any Tail Lamp in the rear.

(d) In the case of two or more engines running coupled together without vehicles, the last engine only must carry a Tail Lamp.

**52.**—A printed or written notice of Special Trains must be given when practicable, but when such trains are to run at short notice and the issue of a printed or written notice is impossible, the train must be telegraphed in advance from the starting point to the necessary Stations. On Single Lines, the Station Staff must at all times be prepared for Extra trains.



# PART III

WORKING

OF

POINTS AND SIGNALS

---

FIXING, REMOVING OR REPAIRING

OF

POINTS, SIGNALS

AND

APPARATUS

FOR

WORKING POINTS AND SIGNALS

---

WORKING

OF

LEVEL CROSSINGS

## CHAPTER I

### WORKING OF POINTS AND SIGNALS

---

**53.**—The Station Master must see that the Points, Signals, Interlocking, Electric and other apparatus are kept in perfect working order, and are thoroughly cleaned and oiled ; and he must immediately report to the person in charge of repairs, any case in which the Points, Signals, or Interlocking arrangements are out of repair, or are not working smoothly, the Station Master must, when necessary telegraph the circumstances to the proper Authorities.

Points, Signals, Interlocking and other apparatus to be examined and reported when defective.

**54.**—When, from the passage of a train or other cause, any Point, Crossing, or Check Rail is damaged or strained, or the Rails themselves are split or strained necessitating all trains be stopped, or allowed to pass over slowly until the damage is repaired, such circumstances must be reported immediately to the Station Master and by him by telegraph to the proper Authorities.

Damage to Points, Rails, and Crossings to be reported.

**55.**—Should any impediment or obstruction exist upon the Line within the sight or knowledge of the Station Master or Signaller, he must place or

Signals to be exhibited in case of obstruction.

[Reg. 53-55]

keep the necessary Fixed Signals at "Danger", and take any other steps to prevent any train approaching the obstruction, until such impediment or obstruction has been removed and the Line has been made perfectly clear and safe.

**56.**—(a) When a train is approaching Facing Points, the Signalman must see that the lever which governs them is close home to the frame, and properly locked, and remains so, until the whole of the train has passed. He must also, from observation, when practicable, assure himself that the Points, have obeyed the lever, and are in the proper position.

(b) Hand-manned Points must in all cases be securely fastened and held for the passage of any trains or vehicles.

(c) When a train has to pass over Facing and Trailing Points, the Station Master or Signalman must satisfy himself that they are properly set, and remain so, until the whole of the train has passed.

(d) The Station Master will be similarly responsible that all Safety Points and Catch Sidings, when it is not necessary that they should be opened, are closed and secured against the Line which they are intended to protect.

[Reg. 55-56]

(e) Points not frequently used must be occasionally tested by the Station Master, so that he may satisfy himself that they work well and that no part is damaged.

(f) Keys and other loose parts of all Point Locks must be labelled and numbered, and must be kept by the Station Master, but may be kept by the No. 1 Pointsman where employed.

**57.**—Every Pointsman must, while on duty, have with him Flags and Lamps for Hand Signals.

**58.**—Should there be any obstruction on the Line within the sight or knowledge of any Pointsman, he must show a “ Danger ” Signal, and must continue to show such Signal to any train approaching in the direction of the obstruction, until the obstruction has been removed, and the Line made clear and safe, and must as soon as practicable take steps to report the obstruction to one of his Superior Officers.

**59.**—If any Pointsman should observe anything wrong or unusual in a passing train, he must report the circumstance to his Superior Officer, and, if the occurrence is of such a nature as to involve danger to the train, or to the

Duties of Pointsman observing anything wrong with train.

[Reg. 56-59]

public, he must immediately show a "Danger" Signal to the Guard and Driver.

**60.**—No Pointsman, while on duty, shall leave the Points under his charge.  
 Pointsman not to leave Points.

**61.**—No unauthorized person must be allowed to work the Signals or Points, or the Train Signalling Instruments, or Bells.  
 Signals, etc., not to be worked by unauthorized persons.

**62.**—(a) Each Station Master and Signalman must keep his Signal Box strictly private and not allow any persons other than the Authorized Officers and Servants of the Railway to enter it.  
 Signal Boxes to be kept Private.

(b) Signal Boxes and Instrument and other appliances therein, must be kept in proper order and perfectly clean.  
 Signal Boxes to be kept clean.

**63.**—(a) The Signal Lamps must be lighted as soon as it commences to be dusk, and always during foggy weather, falling snow or dust storm.  
 Lighting Signal Lamps.

(b) On Main Line Sections which are open all night, the Signal Lamps must not, unless instructions are issued to the contrary, be extinguished until broad daylight.  
 Extinguishing Signal Lamps.

[Reg. 59-63]



(c) At Branch Line Stations which are closed during the night, the Signal Lamps unless instructions are issued to the contrary, must be extinguished after the Station has been closed, and if the Station has to be opened in the morning before day-light, they must be relighted in sufficient time for the passage of the first train.

**64.**—When a Signal other than a Distant Signal has been lowered for the passage of a train, it must not (except in case of accident or obstruction, or as provided for in Regulation 73) be again placed at “Danger”, until the last vehicle of the train has passed it, or the train has been brought to a stand, nor, in the case of a Junction, until the last vehicle of the train has passed it, and is clear of the Junction Points.

### Signalling in Connection with Train Shunting

**65.**—Distant, Home, outer Home, and Starting Signals apply only to trains travelling in the proper direction on the Running Lines, and must not be used for any other purpose. Trains shunting  
[Reg. 63-65]

from one Running Line to another, or shunting into, or out of Sidings connected with Running Line must, unless Fixed Signals are provided for the purpose of signalling such operations, be signalled, either verbally, or by Hand Lamp or Flags, as occasion may require. Fixed Signals should be kept at "Danger" for the protection of the trains thus engaged.

### Detention at Signals

**66.**—(a) When a train has been brought to a stand owing to a signal being at "Danger", the Driver must sound the engine whistle, and, if still detained, the Guard or the Fireman must go to the Station or Signal Box and remind the Station Master or the Signaller of the position of the train, and remain there until the Station Master or the Signaller can give permission for it to go forward. In no case must a train stand more than five minutes at a Signal, before the man goes to the Station or the Signal Box.

(b) When a train or vehicles have passed a Home Signal and are waiting to be crossed to another Line, or to be let into a Siding, or when a train or vehicles have been shunted from a Siding on to a Running Line and are waiting to be

[Reg. 65-66]

crossed to another Line, the Guard, Shunter, or Fireman must, when the train or vehicles come to a stand, proceed immediately to the Station Master's Office, or Signal Box, and remind the Station or the Signaller of the position of the train or vehicles, and remain in the Station Master's office or Signal Box until the Station Master or the Signaller can give permission for them to proceed, or to be shunted clear of the Running Lines.

(c) If there are two Guards on a train, the duty of going to the Station, or Signal-Box must be performed by the Guard who is nearest to the Station, or Signal Box.

(d) In the case of Light Engines, the duty of going to the Station, or Signal Box must be performed by the Fireman.

Light Engines  
Fireman to go  
to the Station  
or Signal-Box.

(e) Sufficient time must be allowed for the Guard, Shunter, or Fireman to rejoin the train before the Signal is lowered, and the Engine Driver must not, when the

Time to be  
allowed for  
man to rejoin  
his Van or  
Engine before  
the Signal is  
lowered.

Signal is lowered, go forward until he has received a Hand Signal from the Guard or Shunter to intimate that he has rejoined the train. By day the Hand Signal will be given by the exhibition of a Green Flag, and by night a Green Light will be held steadily above the head.

[Reg. 66]

(f) If the Station or Signal Box is ahead of the Signal, it will not be necessary before the Signal is lowered to wait until the man has returned to the train, but the Driver when the Signal is lowered must proceed slowly to the Station or Signal Box to enable him to rejoin the train.

## CHAPTER II

### FIXING, REMOVING, OR REPAIRING POINTS AND SIGNALS OR APPARATUS FOR WORKING POINTS AND SIGNALS

---

**67.**—(a) No Points or Crossings shall be put in without the written permission of the Engineer in charge of the District or Section.

Written permission required to put in Points and Crossings.

(b) No Points shall be inserted outside Station Limits or in any Line used by Traffic in a Station Yard without permission from the Engineer who, after approval, will inform the Traffic Manager and the Locomotive Superintendent. After the Points have been put in and until such time as they have been handed over to a duly Authorized Traffic Officer, the Engineering Department shall be responsible for taking the necessary precautions for the safe working of Traffic over such Points, which must be set, locked and spiked for the Running Line.

[Reg. 66-67]

(c) When a set of Points has been inserted in a Line not yet open for Traffic, the Traffic Department must be advised, and the Points set for the Line already in use must be locked, and spiked, and placed in charge of a member of the Engineering Department, until they are formally handed over to the Traffic Department.

**68.**—(a) When the work of interlocking at a Station has to be put in hand, the Engineer will inform the Traffic Manager, the Foreman in charge of the work will personally advise the Station Master that he is about to commence work. The Foreman must be provided with a written order signed by the Engineer.

Regulations for the Erection of interlocking installations.

(b) The Station Master will assist the Foreman as far as possible by sending his men with keys to unlock any locked Points, when this can be done without danger to traffic to enable the Fitters to fit and adjust Facing Points Locks, and other fittings and connections.

(c) To test the working of the interlocking as soon as a set of Points or a new Signal is coupled up to the interlocked lever frame, the Station Master will, when requested by the Foreman in charge of the Interlocking work, cause his Signaller to work the Points, or  
[Reg. 67-68]

Signals from the interlocked frame.

(d) All Points which were locked by key before the Interlocking work was commenced, must continue to be so locked, and the keys retained by the Traffic Staff as before, until the Interlocking is passed and brought into use by or on the authority of the Engineer.

(e) The Engineering Staff will render all assistance possible in instructing the Traffic staff to work the interlocked levers, but as soon as the work has been passed and formally made over to the Traffic Staff, all the Engineering staff will be withdrawn.

(f) The following procedure must be followed in taking over new Interlocked Stations :—

(I) All the Points must remain spiked until they are brought into use, which must be done during day-light.

(II) The Engineering Department shall have a competent member of its staff with a Traffic Inspector to be deputed by the Traffic Manager to remove the spikes under the Traffic Inspector's orders, and on this being done, the responsibility of the Engineering Department terminates, and the responsibility of the Station Master begins. In case of Points run over by passenger trains or new Interlocked Signals, the Traffic Inspector is

[Reg. 68]

not to leave the Station until he has personally seen the first train safely passed, and he will be jointly responsible with the Station Master for its safe passage.

(g) The Traffic Inspector, after a careful examination in the presence of the Station Master concerned, will see that all Traffic requirements have been complied with, and that everything is in working order. He will then give the Engineering Department a receipt in the following form :—

Received from.....of.....	
District, the undernoted works in good order at.....Station, and I understand the working of them	
Name.....	
Date.....	Rank .....

(h) After instructing the Staff as to the working of the Points and Signals and seeing that they clearly understand their use, the Traffic Inspector will hand them over to the Station Master, obtaining from him a certificate in the same form as he has previously given to the Engineering Department.

[Reg. 68]

**69.**—Before the erection or removal of Signals, or the prosecution of other work in connection with Points or Signals which may interfere with the safe working of the Line, the Foreman who has charge of the work must, unless the work has been previously arranged for between the Engineering and the Traffic Departments, and the necessary notice issued by the Traffic Manager, communicate with the Traffic Inspector, who will notify the Locomotive Department and make any special arrangements that may be necessary in connection with the working of the traffic during the time such alterations or repair are being effected.

**70.**—(a) When the work involves the disarrangement of the Interlocking Apparatus, or the disconnection of Signals, Points, Facing Points Bars or Locks, Fouling Bars, Detectors, or Level Crossing Gates, the Foreman, before the work is commenced must give the Station Master an exact description of the nature of the work, and the Station Master must enter in the "Train Register Book" the words "Locking Disarranged" with the number of the levers which will be interfered  
[Reg. 69-70]



with; both the Station Master and the Foreman must sign their names, and the time must be recorded.

(*l*) When the work involves the disarrangement of the Interlocking, or when it is necessary to disconnect a Facing Point, Facing Point Bar or Lock the Foreman before the work is commenced must disconnect and fix at "Danger" the Signals applicable to the Lines affected.

(*c*) A Hand-signalman to work under the instructions of the Station Master must be provided, and act in accordance with Regulation 73.

(*d*) Before interfering with the locking connections the Foreman must satisfy himself that the Hand-signalman is at his post.

(*e*) During the time the Points are disconnected, the Station Master must on each occasion when he requires to pass a train over the Points, communicate with the Hand-signalman and receive his assurance that all Points concerned are in their proper position and secured.

(*f*) When carrying out repairs to Level Crossing Gates involving the disconnection of the Interlocking, the Foreman  
[Reg. 70]

must disconnect and fix at "Danger" the Signals, and a Hand-signalman must be provided to attend to the working of the Gates and the protection of the Crossing.

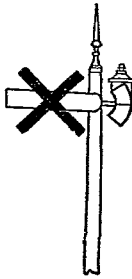
(g) When the work is completed, the Station Master, after receiving an assurance from the Foreman that all is right, must test the Locking, and, if found to be correct, then enter in the "Train Register Book" the words "Locking Restored," and both the Station Master and the Foreman must sign their names under the words, a note of the time being also inserted.

(h) When the Interlocking of any Signal or Point is being repaired, altered or cleaned by the Signal-fitter, the Signal-fitter (except for testing purposes, and then only with the permission of the Station Master) must not move any lever, but must ask the Station Master to move it for him, nor must the Station Master move any lever connected with any Point or Signal at which the Signal-fitter is at work without first obtaining his permission.

**71.—(a)** No new Signal must be put into use, nor any alterations made in the position or use of any existing Signal,  
 Authority respecting new and altered Signals.  
 [Reg. 70-71]

without the authority of the Traffic Manager.

- (b) Semaphore, or Dwarf Signals not in use are distinguished by two pieces of wood nailed over each other in the form of a cross (see below).



Semaphore signal  
not in use

- (c) Disc Signals not in use will not be fitted with Disc or Lamps.

### CHAPTER III

#### DEFECTIVE SIGNALS, POINTS, ETC.

- 72.**—(a) Every Driver, Guard, and other Railway Servants employed on a running train who may observe any Defective Signal, or any obstruction or neglect in the working of any Signal shall report the fact to the Station Master at the next Station at which the train arrives.

[Reg. 71-72]

(b) Every Railway Servant not employed on a running train who may observe any Defective Signal, or any obstruction or neglect in the working of any Signal shall report the fact to the Station Master or other Railway Servant in charge of the Signal.

**73.**—(a) When a Home Signal, Defective Home, or Starting Signal. or Starting Signal becomes defective, or is not working efficiently, a competent person must be placed at such Signal with Hand Signals and Detonators, and act under the instructions of the Station Master. The Distant Signal or Outer Home Signal applicable to the Lines affected must be kept at Danger by being disconnected from the levers by which it is worked, and must remain in that position until the defect has been made good, and all is again in working order. If the Defective Signal can be placed at “Danger” it must be kept at “Danger” until again in working order.

(b) When a Defective Distant Signal or Defective Outer Home Signal cannot be placed at “Danger”, a competent person must be stationed just outside it with Hand Signals and Detonators, and there repeat the Signal exhibited at the Home Signal to the Driver of every approaching train, until the Defective  
[Reg. 72-73]

Signal has been repaired and is again working properly:

(c) Should the Interlocking of a Leverframe, or any Facing Point Bolt or Bar be out of order, one competent man or more, as may be necessary, provided with Hand Signals and Detectors, must be appointed to act under the Instructions of the Station Master in charge of the Station or the Signalman in charge of the Signal Box, and the Distant Signals or Outer Home Signals applicable to the Lines affected must be kept at "Danger" by being disconnected from the Levers as above directed.

(d) The Hand-signalman must ascertain from the Station Master or the Signalman in charge of the Signal Box what train he is to bring forward, and, if the train which is to be brought forward, is approaching Facing Points, he must, before signalling it forward, inform the Station Master, or the Signalman in charge of the Signal Box the position of such Points, and satisfy himself that they are set and secured in position for the Line on which the Station Master, or Signalman in charge of the Signal Box intends the train should run.

(e) If the train which is to be brought forward is approaching Trailing

[Reg. 73]

Points, the Hand-signalman must satisfy himself that the Points are in the proper position for the train to pass.

(f) The Hand-signalman must, when signalling a train forward, stand near to the Signal for which he is acting, in order that his Signal may not be mistaken by an Engine Driver on any other line, and should it be necessary to stop, or reduce the speed of an approaching train, the Hand-Signalman must exhibit a Red Hand Signal to the Engine Driver, until the train has been stopped or the speed sufficiently reduced, and then, if permission can be given for the train to proceed, he must exhibit a Green "All Right" Signal held steadily in the hand.

(g) Hand-signalmen must work under the instructions of the Station Master or Signalman only, who must take care that they are properly instructed as to their duties, and understand what they have to do.

(h) Where practicable, the Station Master must select proper men from his own Staff for the purpose, but where this cannot be done must apply to the nearest Ganger for Platelayers competent to act as Flagmen.

(i) When a Tunnel intervenes, or during foggy weather, falling snow, or dust storm, when the Distant Signal, or

[Reg. 73]

the Outer Home Signal cannot be seen, the man at the Distant Signal, or Outer Home Signal must continue to exhibit a Hand Signal, and keep three Detonators, ten metres apart, on one rail of the Line to which the Signal applies, and one or more men must be stationed between the Home Signal, and the Defective Signal to repeat by Hand Signal the Signal exhibited at the Home Signal until the Distant Signal, or Outer Home Signal has been repaired, and is again in working order.

(j) While the Distant Signal, or Outer Home Signal is defective, it must, whenever possible, be kept at "Danger", and if this can be done, a man need not be appointed at it except when a Tunnel intervenes or during foggy weather, falling snow, or dust storm, when the Distant Signal, or Outer Home Signal, cannot be clearly seen from the Home Signal.

(k) The Station Master at the  
 When Distant, or Home  
 Signal cannot be placed at  
 "Danger". Station in the rear must, when practicable, be advised if the Distant, or Home Signal cannot be placed at "Danger", and he must stop all trains proceeding in the direction of the Defective Signal, and advise the Engine Drivers of the circumstance.

[Reg. 73]

(1) When any Fixed Signal is out of order, but the Interlocking of the Point and Signal Levers is in proper order, the Station Master, to enable him to obtain the security of the Interlocking, must use the lever applicable to such Signal as if the Signal was in work, and the counter-balance weight, when necessary, must be disconnected by the Signal-fitter from the lever to admit of this being done.

## CHAPTER IV

### WORKING OF LEVEL CROSSINGS

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**74.**—(a) The Lamps on Level Crossing Gates, when lighted, must show a Red light in each direction along the line when the Gates are secured across the Line. The Lamps must be lighted as soon as it commences to be dusk, and during foggy weather, falling snow, or dust storm.

(b) In sections which are open all night the Lamps must not be extinguished until broad day-light.

(c) When the Lamps are extinguished during the night they must, if necessary, be relighted for the passage of any train that may be run before daylight in the morning.

[Reg. 73-74]



**75.**—(a) When it is necessary for the Line to be crossed at a place where Gates are not controlled from a Station or Signal Cabin, the Gatekeeper, before opening the Gates, must satisfy himself that no train is near; he must then place his Fixed Signals (where provided) at “ Danger ” to stop all coming trains, and such Signals must remain at “ Danger ” until the line is clear, when he must close the Gates across the roadway and then take off the Signals.

Gates not to be opened if train be near.

Crossing Gate Signals.

(b) Where Lever Crossing Gates are not protected by Special Fixed Signals, Gate-keepers must carefully watch the Line and any of the Fixed Signals of the Station that are in view. Gates must not be opened when any train is in sight, or is known to be approaching, even if the Fixed Signals of the Station are at “ Danger ” for the train.

(c) When the Fixed Signals are in the “ All Right ” position, the Gates must be kept locked across the roadway until the train has passed, and the Signals have been put to “ Danger ”

**76.**—Except at Level Crossings where the Gates on both sides of the Line are opened simultaneously, the Gate towards which any road vehicles, or animals are

Opposite Gate to be first opened.

[Reg. 75-76]

approaching must not be opened until the opposite Gate has first been opened, so as to allow them to cross over without stopping upon the Line.

**77.**—(a) Each Gate-keeper will be provided with a Hand Signal Lamp and Flags, and when using them, must stand so that the Driver of the approaching train can distinctly see his Signal.

(b) If the Gates are properly secured across the roadway, and all is safe for trains to pass, the Signal to the Driver of approaching train will be a Green Light, or Green Flag, held steadily above the head. He must take particular notice of each train as it approaches and passes, and, if he sees anything wrong, he must show a " Danger " Signal to the Engine-Driver and Guard, and, if necessary, exhibit his " Danger " Signal and place three Detonators on the rail against any following trains.

(c) In the event of any obstruction at the Gates the Gate-keeper must exhibit a Red Light or Red Flag held steadily above his head.

(d) At Level Crossings where there are no Gates and there is a Level Crossing-keeper, he will exhibit a Green Flag by day and a Green Light held steadily in the hand by night to indicate to Drivers that the Crossing is clear.

[Reg. 76-77]

**78.**—At Level Crossings where Fixed Signals are provided, the Gate-keeper must test their working both by day and by night. Gate-keepers and others in charge of Gates, Signals, or Points must give notice to the Permanent Way Inspector of the Section, the Section Foreman, Ganger, or other person in charge of repairs, immediately any repairs are required thereto; if any part becomes defective or broken, or should any Gate not close properly and fasten itself on the instant of its being shut, they must immediately ask the nearest Section Foreman to have the same put right, and the matter must be reported to the nearest Station Master.

**79.**—At Crossings where Warning Bells are supplied the special instructions regarding the sending and acknowledging of the authorized code of Signals must be strictly complied with.



PART IV

LOADING OF TRAINS

## CHAPTER I

### WORKING OF TRAINS

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**80.**—Except as shown below,  
 Engine not to push train.      no engine must push a  
    train upon any Running  
 Line, but must draw it.

*Exceptions :*

(a) When within Station Limits, or where specially authorized by the Traffic Manager, at night two Brake-van Side Lights to be reversed and Tail Lamp to be removed.

(b) Under special Regulations, when assisting up inclines—Train engines to carry Head Light, Assisting engine or engines in rear, one White Head-light, and one White Light over right buffer.

(c) In the case of an engine being disabled, a following engine may push the train slowly to the next Station.

(d) When the Line is blocked, and trains are being worked to or from the point of obstruction on both sides.

(e) Service trains when working in a Section, unless instructions are given to the contrary—at night two Brake-van Side Lights to be reversed and Tail Lamp to be removed.

(f) When required to assist in starting a train from a Station—Train engine to carry Head Light; Assisting

[Reg. 80]

engine or engines in rear, one White Head Light and one white Light on right buffer.

(g) When from unavoidable circumstances, trains are pushed outside Station Limits, the speed must not exceed 20 kilometres per hour; the leading vehicle must, if possible, be a Brake-van, and must show similar Lamps to those usually carried in front of engines of such trains, and the Guard must invariably ride in the leading vehicle, and if this is not a Brake-van, the Guard must see that some one rides in the nearest Brake-van to operate the brakes, if required.

**81.**—Engines working trains whenever possible must be run Engine first, but under exceptional circumstances when this is impossible and Engine has to run Tender first, the speed of train must not exceed 40 kilometres per hour.

*NOTE :—This does not apply when two engines are coupled together and the leading engine is running Engine first.*

**82.**—Without the special authority of the Traffic Manager, no Brake-vans. trains must be run on any Running Line beyond the Station Limits, unless, there is a Brake-van in the rear.

**83.**—Yard Masters, Guards and Chains, etc., to be secured. Shunters Must take care that no flat, bolster wagon, or other  
[Reg. 80-83]

vehicle provided with chains, or other appliances is allowed to leave a Station or Siding without the chains and appliances being first carefully examined and made perfectly secure and safe, and Guards will be held responsible for seeing that they remain so during the journey.

**84.**—(a) No wagon shall be so loaded as to exceed the maximum gauge, or the maximum weight marked as its load.

Wagon not to exceed maximum load and dimensions.

(b) The weight should be equally distributed over the floor of the wagon.

**85.**—(a) The Guard in charge of a train unless this duty is by special instructions imposed on some other Railway

Duties of Station Master and Guards.

Servant, must carefully examine the loading of any wagon which may be attached to the train at a Station or Siding and, should any wagon become unsafe from the shifting or derangement of the load, he must, on the arrival of the train at the next Station, at once have the load readjusted, or the wagon removed from the train.

(b) When any unusually large or heavy casting, shaft, or boiler is tendered for conveyance, Station Masters must at once communicate with the Traffic Manager, or his Representative, in order that the proper wagon may be provided, and arrangements made for its loading and safe conveyance.

[Reg. 84-85]



**86.**—(a) Long pieces of iron, round timber, or other articles of unusual length, must not be dispatched from Stations or Sidings, unless securely

Conveyance of articles of unusual length or weight by Goods trains.

bound to the wagon with ropes, chains, or iron bands, care being taken that the loads are not too tightly bound to admit of the wagon going easily around curves.

(b) In using pairs of wagons, the load must be evenly distributed on both wagons; weighty goods must be so loaded as to bear evenly on the springs.

(c) When timber, girders, machinery, etc., are loaded by senders, the loading must be supervised by a Railway Servant, and its security tested by the Station Master, who is held responsible for the perfect and secure loading of all traffic leaving his Station. When the Station is not in possession of suitable wagon and fastenings, the Station Master must refuse to receive such consignments, unless the sender agrees that it shall await the arrival of wagons.

(d) When low sided or flat wagons without bolsters are used for rails, angle or bar iron, etc., the contents must be so placed as not to interlock with articles loaded in the wagons on the either side.

(e) Dummy wagons must be used when the load of a wagon projects beyond the couplings; these dummy wagons must

[Reg. 86]

be of the same height as the loaded wagons, and may be partly loaded. If half the load projects over each end, two dummy wagons will become necessary.

(f) When timber or other articles exceeding two wagons in length have to be loaded on three wagons, the center wagon must not carry any part of the load, but must be left clear and free to move sideways while running around curves.

(g) The Station Master at all starting, changing and water stations, to prevent accidents on bridges, must in conjunction with the Guard specially inspect all wagons loaded with long timber, girders, machinery, rails, etc. Should any wagon be found to be loosely loaded or loaded beyond running dimensions, the contents must be resecured before the train starts; or the wagon must be cut off. Each case of bad loading must be reported to the Traffic Manager.

(h) At Stations where wagons are loaded by the Porters of any of the Railway Departments, except the Traffic, the loaded wagons must be carefully examined by the Traffic Department before despatch.

(i) The Locomotive Department when specially called upon must always advise as to the proper loading of any special traffic that requires the advice of an Expert.

[Reg. 86].

(j) The loading of rails projecting over one end only of a low sided wagon is objectionable, and Station Masters are authorized to refuse wagons so loaded by other Departments. If a wagon of this kind is loaded with rails, half should project over one end and half over the other end.

(k) On construction trains, Guards will be held responsible that a plank or some protection is placed against the sides of wagons before labourers or others commence to unload rails, sleepers, or any material, so as to prevent damage to the brake gear and other fittings.

(l) Wagons loaded with engines, boilers, long timber, rails, exceptionally heavy machinery, or any other articles exceptionally heavy or lengthy, and oil tank wagons whether empty or loaded, must only be conveyed by slow goods trains, unless specially authorized by the Traffic Manager.

(m) In loading engines, motor cars and machines, care must be taken to see that the running wheels are properly secured by chains or ropes, as well as by scotches. Driving or flying wheels must also be thoroughly secured by ropes.

**87.**—(a) No Railway Servant shall commence any loading or other operation by which any line of rails in use, for Traffic purposes may be obstructed.  
 Loading and other operation obstructing Line.  
 [Reg. 86-87]

fouled or obstructed without obtaining the previous sanction of the Station Master, who must see that all necessary steps are taken for the protection of traffic while such operations are being carried on.

(b) In all cases coming under this Regulation, the permission of the Station Master must first be obtained in writing.

(c) Any traffic required to be loaded or any work required to be performed which would obstruct the line outside Station Limits must be the subject of special arrangement.

**88.**—(a) Before removing any Travelling Cranes the person in charge of it must see that the Jib is properly lowered and secured, and so fixed that it will pass under the gauge. When the Crane has to be conveyed by train, it must, when practicable, be so placed that the Jib points towards the rear of the train.

(b) Travelling Cranes must, when practicable, be forwarded only by slow Goods Trains. The Station Master or person in charge, and the Head Guard of the train, before a Crane is attached to the train, must take care that all the fastenings supplied for securing the Jib are in good condition and secured in their proper position, and that, if the Jib projects beyond the wagon, the necessary dummy wagons are provided. The Engine

[Reg. 87-88]

Driver, before starting, must be informed by the Head Guard that the Crane is being forwarded by the train, and at each stopping place on the journey, the Guard must satisfy himself that the fastenings are secure. Car and Wagon Examiners must also inspect the fastenings in addition to the usual examination of the wheels, etc. If any defect exists in any of the fastenings, the Crane must not be attached to a train, and, if travelling, it must be detached for the fastenings to be made good.

**89.—(a)** No engine in steam, the property of a private owner, must be allowed to enter upon any Running Line except by the special permission of the Traffic Manager.

Engines of Private Owners.

**(b)** Before any private engine, or privately owned wagon is accepted for conveyance on its own wheels, it must be examined by the Locomotive Department, and the train by which it is to travel must be specially arranged. Guards and others concerned must satisfy themselves, through the Station Master, that this has been done before allowing the engine or wagon to travel.

Conveyance of Private engine or wagons on own wheels.

**90.—(a)** To facilitate the working of traffic, two Goods Trains, in clear weather (and where specially authorized by [Reg. 89-90]

Goods Trains coupled together.

the Traffic Manager) may be coupled together, the engine of the second train being coupled to the engine of the first train and the two trains worked forward as one train.

(*b*) The Tail and Side Lamps at the rear of the first train must be removed as soon as the trains are coupled together, and must not be replaced, unless the trains are again divided, which must not be done, until the coupled trains have been brought to a stand at a Station.

(*c*) Coupled trains must not be sent to any Station or Siding, unless it is known that they can be dealt with there.

(*d*) The Guard of each train must ride in the Brake-van at the rear of his own train.

(*e*) During foggy weather, falling snow or dust storm, trains must not be coupled together, but must be worked separately.

## CHAPTER II

### LOADING OF TRAINS

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**91.**—Special instructions for the Train Loads. determination of Train Loads which can be hauled by engines of various types at different speeds and on different Sections of the Line are given in Appendix V.

[Reg. 90-91]

**92.**—(a) The Station Master must leave it to the discretion of the Driver to determine what load the engine can take; but every instance of refusal by a Driver to take the load prescribed by special instructions must be reported by the Station Master to his immediate Superior Officer.

(b) When Driver is unable, for any reason, to take on a full load, he must give a written statement to that effect to the Station Master of the Station where the vehicles are refused. The Station Master must send the Driver's statement to the Traffic Manager. The Guard must note the occurrence in his Journal or Time Bill.

### CHAPTER III

#### BRAKING OF TRAINS

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**93.**—Special instructions for the Braking of Trains are given in Appendix VI.

### CHAPTER IV

#### THE LOADING, UNLOADING AND CONVEYANCE BY GOODS TRAINS OF EXPLOSIVES AND OTHER DANGEROUS GOODS

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**94.**—The following code of instructions must be observed by Guards and others with respect to the conveyance of Explosives. [Reg. 92-94]

wagons containing Explosives and other Dangerous Goods.

(1) While the loading, unloading, or conveyance of Explosives or other Dangerous Goods is going on, each person engaged in such loading, unloading, or conveyance must observe all necessary precautions for the prevention of accident by fire or explosion; must not allow any unauthorized person to have access to such goods; must abstain from smoking or any act whatever which tends to cause fire or explosion, and is not reasonably necessary for the loading, unloading, or conveyance; and must prevent any other person from committing any such act. Further, he must not have upon him any matches.

(2) Inflammable Liquids, Oily Rags, Oily Waste, and similar goods, must be loaded in separate covered wagons which must be kept as far away as practicable from others containing goods, and such wagons must not be placed within or near to the Railway Godowns, or any other buildings.

(3) In loading and unloading any Explosive, the casks and packages containing the same as far as practicable must be passed from hand to hand, and not rolled upon the ground, and in no case must any such casks or packages be rolled, unless clean hides, cloths or

[Reg. 94]



taraulins have been previously laid down on the platform over which the same are to be rolled. Casks or packages containing Explosives must not be thrown or dropped, but must be carefully deposited and stored.

(4) Gunpowder Vans must in every case be sealed, and locked when sent loaded with Gunpowder, and the key forwarded to the Receiving Station, in charge of the Head Guard.

(5) Distinctive labels are provided and on no account must wagons containing Explosives or other Dangerous Goods, except when in metallic cases or cylinders, be allowed to travel, unless one of these labels is securely affixed on each side of the wagon, in order that the Guards and Traffic Staff may be aware of the contents.

(6) (a) Whenever wagons containing Explosives, Inflammable Liquids, or other Dangerous Goods have to be forwarded by train, the special attention of the Head Guard in charge of the train must be called to the wagons by the Station Master, or other duly authorized person, and the Head Guard will be held responsible for the proper observance of these instructions while the goods are being conveyed on the train, and until they are delivered into the safe custody of the Station Staff at their destination.

(b) The Guard will be held responsible for informing the Driver when

[Reg. 94]

Explosives or other Dangerous goods are on his train. Shunters or Brakesmen will be held responsible for informing Driver when wagons containing such goods have to be shunted.

(7) The wagons must be placed as far as practicable from the engine, and no fire must be allowed in the Guards' Brake-vans, when any wagon containing such goods are attached to the train, and not more than five wagons containing Explosives must be conveyed by any one train at any one time.

(8) Wagons containing oil or other traffic of inflammable nature must not be put on the train near to wagons containing Gunpowder or other Explosives.

(9) At every Station at which a train stops, the Guard in charge must make a special examination of the wagons containing any description of Explosives or other Dangerous Goods, and must especially examine the axle boxes, and if the axles show the least sign of heating, the wagon must be detached, and the attention of the Station Master be specially directed to it. (*Special care must be taken not to bring any light in close proximity to wagons containing Explosives or Inflammable Goods.*)

In the event of it being necessary to detach, as unfit to travel, any such wagons at any point short of its

[Reg. 94]

destination, the Guard must advise the Station Master of the Station or Siding where the wagon is detached, in order that the Traffic Manager, Traffic Inspectors, Locomotive Inspectors, and all concerned may be telegraphically advised to take special precautions in dealing with the defective wagon.

(10) Gunpowder must not be sent in small lots requiring trans-shipment, except it be packed in metallic cylinders contained in wooden cases and, when Gunpowder requiring trans-shipment arrives at a Junction, the trans-shipment must be effected as speedily as possible.

(11) Before detaching at the end of the journey, or at Exchange Sidings, wagons containing any description of Explosives or Dangerous Goods, the Head Guard in charge of the train must call the special attention of the Station Master, or other duly authorized person, and obtain his instructions as to the disposal of the wagons.

(12) At the Receiving Station, the wagons containing any description of Explosives and Dangerous Goods must be immediately separated from other vehicles, and at both the Sending and Receiving Stations must not be allowed to come within any of the Railway Sheds or Godowns.

[Reg. 94]

(13) Gunpowder and Explosives in small lots must only be accepted for conveyance when packed in metallic cases inside wooden boxes. The Railway provides a special metallic case for the conveyance of Explosives in the prescribed cases, in small lots, and such cases must be used on every occasion.

(14) Explosives in lots too large for such special metallic cases must be conveyed in a special Powder Van.

*NOTES :— Explosives and other dangerous goods except where special instructions are issued by the traffic manager to the contrary, must not be carried by trains conveying passengers.*

*Loose shunting of wagons containing explosives is strictly prohibited.*



PART V

GENERAL REGULATIONS

FOR

THE RUNNING OF TRAINS

## CHAPTER I

### UNIFORM TIME TO BE KEPT BY GUARDS AND AT ALL STATIONS

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**95.**—(a) China Coast Time which is adopted throughout all the Chinese Government Railways will be sent to the principal Stations daily by telegraph in accordance with the special instructions on the subject.

(b) Station Masters and Telegraph Clerks-in-Charge will be held responsible for keeping their clocks properly regulated, and must, if necessary, at once report any defects in their working, in order that steps may be taken for their immediate repair.

(c) Each Guard, before starting on his journey must satisfy himself that his watch is correct with the clock at the Station from which he starts and must again compare it with, and if necessary regulate it by the Clock at the station where his journey ends before commencing his return journey.

## CHAPTER II

### SPACING OF TRAINS

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**96.**—Two trains must never be allowed to be in a Section at one and the same time, except in the case of failure of engine, or disablement of train or other such causes  
[Reg. 95-96]

when assistance requires to be sent. In such cases, special arrangements will be made by the responsible Authority.

The Electric Tablet or Electric Staff instruments are specially designed to assist Railway Officials in insuring that this principle is strictly adhered to.

On Lines which are not yet equipped with the Electric Train Tablet or Electric Train Instruments for train working, the principle of one train only at a time in a Section will still apply. (See Appendix VII.)

For Rules and Instructions for the working of the Electric Train Tablet or Electric Train Staff systems, See Appendix I.

On Double Lines, Lock and Block system instruments are to be used. For Rules and Instructions for the working of the Lock and Block system, See Appendix II.

### CHAPTER III

#### EXAMINATION OF TRAINS AND VEHICLES

**97.**—(a) At every Station at Examination of train. which a Car and Wagon Examiner is employed, the Station Master, before starting any train, must satisfy himself that the examination of the train has been completed by such Examiner, and that the train is all right and fit to proceed.

[Reg. 96-97]



(b) The Station Master, before starting any train must see that any vehicle attached thereto, which is pronounced by a Car and Wagon Examiner to be unfit, is removed.

Removal of vehicles pronounced to be unfit.

(c) Should complaint be made of the running of any vehicle, the Guard must report the fact to the Station Master, or first Car and Wagon Examiner, and enter the particulars in his journal or Time Bill, giving the number and class of vehicle.

Defective vehicles.

(d) If there is no Car and Wagon Examiner at the Station, the Station Master must see that steps are taken to remedy any defect in such vehicle, for instance, by supplying oil or grease to the axle boxes, if required, but if the Guard or the Station Master has reason to apprehend danger from any such vehicle before it can be inspected by a Car and Wagon Examiner, the Guard shall consult the Driver, and if, after such consultation, he considers it necessary, he shall have the vehicle detached from the train.

**98.**—(a) Car and Wagon Examiners before going under vehicles, must take the necessary steps to prevent the vehicles from being moved whilst the examination or other work is being performed.

Vehicles not to be moved whilst Car and Wagon Examiners underneath.

[Reg. 97-98]

(b) In the event of a Car and Wagon Examiner finding it necessary to put a "Not to Go" label on a vehicle in a train which is marshalled and ready for starting, he must advise the Guard or Shunter what has been done, when arrangements must be made for the vehicle to be detached.

(c) No repairs are to be made to vehicles standing on Traffic Lines unless the sanction of the Station Master has been obtained in writing. When the sanction of the Station Master has been obtained for the closing of the Line, the Car and Wagon Repairer must place a Red Flag by day and Red Lamp by night upon the vehicle to be repaired, or if this is not the end vehicle then Red Flag or Red Lamp must be placed upon the end vehicle. If the track is a through one and not a dead end track, then a Red Flag by day or a Red Lamp by night must be placed upon the last vehicle at each end of the track, so that Traffic Shunters will be able to see the "Danger" Signal, and not shunt vehicles into the track. The employees of the Locomotive Department in charge of the work at the time will be held responsible for any accident that may happen, should vehicles be shunted into the track not protected by the Red Flags, or Red Lamps, although the Station Master may have given orders for the track to be closed.

[Reg. 98]

(d) When it is necessary to gauge the wheels of running-trains, a man with a Red Flag or Red Lamp must be stationed at each end of the train in order to give warning to Shunters and others that the vehicles must not be moved.

**99.**—(a) Should a hot axle box be discovered en route, the train must, in all cases, and whatever the circumstances, be *stopped*.

(b) The Guard must then call upon the Driver to examine the hot axle box, and, if the Driver considers it safe for the vehicle to proceed, the Guard must get the Driver to sign to this effect, when the train can proceed.

(c) It may not be necessary to detach the vehicle at the next Station, but, in any case, extra care must be taken not to exceed the authorized speed, and the vehicle must be kept under continual observation by the Guard and the Driver for the remainder of the journey.

(d) Guards and Station Masters are strictly enjoined never to throw water on an axle box when running hot.

(e) Drivers on being called to examine a hot axle will at once remove the cover and examine the packing and put in new waste, where necessary. If it should be found that it would be unsafe to run the vehicle further, it must be

[Reg. 98-99]

immediately detached, and the nearest Changing Station be advised by telegraph, but whenever practicable and safe, vehicles should be run to the nearest Examination Station.

**100.**—(a) No vehicle which has been off the Line shall be allowed to run between Stations, until it has been examined and passed by a Car and Wagon Examiner.

Vehicles which have been off the Line.

(b) When a vehicle attached to a train has been derailed outside Station Limits, and is again placed on the rails, the Driver may, if he considers it safe to do so, take the vehicle slowly to the next Station.

**101.**—(a) When a vehicle is not fit to travel, it must be labelled by the Car and Wagon Examiner with a Red “Not-to-go” Label, and must not be allowed to travel.

Vehicles stopped for repairs.

(b) When a vehicle requires repairs, but is fit to travel, it must be labelled with Green Labels lettered “For Repairs”, and, when empty, be taken to the place indicated on the Labels.

(c) If a vehicle is safe to carry a return load, it may be re-loaded to the Destination indicated on the labels or to a place near thereto, in which case the Railway’s Car and Wagon Examiner at the

[Reg. 100-101]

Reloading Station must use Green Labels endorsed "May be loaded Home"

(d) Any unauthorized person removing the Labels will render himself liable to a heavy penalty.

## CHAPTER IV

### STARTING OF TRAINS

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**102.**—(a) No passenger Train must be started from a Station before the time stated in the Time-Table.

(b) The Signal for starting a train must be given by the Guard blowing his Horn or Whistle and showing a Hand Signal after obtaining an intimation from the Station Master or person in charge that all is right for the train to proceed. A Green Flag should be used in the daytime as the Signal to start, and a Lamp showing a Green Light held steadily above the head used at night.

(c) When there are two or more Guards, the Signal to the Engine Driver to start must be repeated by the Guard nearest the engine after he has exchanged Signals with the Guard or Guards in the rear, who must first have received intimation from the Station Master or person in charge that all is right for the train to proceed.

[Reg. 101-102]

(*d*) The intimation from the Station Master, or person in charge that all is right for the train to proceed must be given by blowing a whistle and exhibiting a Green Flag by day, and when the Signal is given by a Hand Lamp, it must be a Green Light held steadily above the head.

(*e*) Should a train be stopped by an accident or from any other exceptional cause, the Engine Driver must not again start, until he has exchanged Hand Signals with the Guard, or in the case of more than one Guard, not until he has received a Signal from the Guard nearest the engine, who must first exchange Hand Signals with the Guard in the rear.

(*f*) Goods trains may be run before the time specified in the Time-Table, provided the next Station can be reached without causing delay to following or crossing trains of more importance.

**103.**—The Station Masters at Terminal Stations must take care that the Brake-testing has been performed before departure, and likewise the Station Master at any Station where the engine or any vehicle has been detached must see that the Brake-testing has been performed before the train resumes its journey.

(See Appendix IV for Rules for working the Westinghouse Automatic Brake).

[Reg. 102-103]

Testing of  
Automatic  
Air Brake.

**104.**—When, after a Signal has been lowered or taken off for a train to leave a Station or Siding, it is necessary for the Signal to be replaced at Danger before the train starts, the Station Master or Signalman, when practicable, before he allows any obstruction of the Line to which the Signal applies, must satisfy himself that the Engine Driver is aware of the Signals having been reversed. This, however, will not relieve the Engine Driver of the responsibility of satisfying himself by personal observation, before starting, that the proper Signal is off for him to proceed.

## CHAPTER V

### TRAINS PASSING OR STOPPING AT JUNCTIONS AND STATIONS

**105.**—(a) On receipt of the “Train entering Section” Signal. “Train Entering Section” Signal from the next Station on either side, the Station Master must depute one of his Staff to warn the Pointsman by ringing a bell, striking a gong, or blowing a horn as the case may be.

(b) On the train coming in sight, warning must be repeated and be given in accordance with Regulations as regards Signals.

(c) The Station Master or Signalman must see that all movements of vehicles on the Lines over which the  
[Reg. 104-105]

incoming trains are to run are stopped before the Fixed Signals are lowered for an approaching train.

**106.**—No passenger train must be stopped at a Station where it is not timed to call for the purpose of taking up or setting down passengers without the special authority of the Traffic Manager.

**107.**—In the case of a passenger train booked to call only when required to take up Passengers, the Station Master, or person in charge must exhibit a Red Flag or Red Light from the Station platform to intimate to the Engine Driver that his train is required to stop.

**108.**—(a) Should a passenger train in stopping at a Station overrun or stop short of the platform, the Engine Driver must not move the train back or draw it forward, until he receives instructions from the Guard in charge to do so, Station Masters, Guards, and others must at once take steps to prevent passengers leaving the cars that are not at the platform, and as soon as the Guard in charge has satisfied himself all doors are closed, and that no passengers are entering or leaving the Train, he must instruct the Engine Driver to put back or draw up to

[Reg. 106-108]



the platform, as may be required. The Engine Driver must sound his whistle before moving his train.

(b) In the event of the whole of the train running past the platform, the Guard must not give instructions to the Driver to set the train back without the authority of the Station Master.

**109.**—At Terminal Stations and other places where there are Dead-end Bays, after sunset and during foggy weather, falling snow, or dust storm, a Red Light must be placed on the bufferstops of arrival Lines, so as to be plainly visible to the Engine Driver of an incoming train. In the event of there being any vehicle standing near the bufferstops, a Red Light must be shown on such vehicle.

**110.**—If, when two or more trains approach a Junction at the same time or nearly the same time, the Station Master or Signaller should have lowered or taken off the Signals for a train which should have been kept back for the passage of another, he must not attempt to alter the order of the trains by reversing the Signals, but must place them all at Danger, and so keep them until the trains have been brought to a stand, when precedence can be given to the proper train.

[Reg. 108-110]

## CHAPTER VI

### SHUNTING OF TRAINS FOR OTHERS TO PASS

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**111.**—(a) Station Masters and  
Signalman must continually  
ascertain how the Ordinary  
and Special trains in their  
respective districts are running.

Information as  
to running of  
trains.

(b) Passenger Trains must, as a  
rule, take precedence of all  
other trains.

Passenger  
Trains to take  
precedence.

(c) Goods Trains must be shunted  
out of the way of Passenger  
Trains, and Mixed or 4th  
class, Goods, and Service  
Trains must also be shunted out of the  
way of Express or Fast Trains at Stations  
where there are Loops and Fixed Signals  
in sufficient time to prevent the Express  
or Fast Passenger Train respectively  
being delayed by the Signals either at the  
Station where the train is being shunted,  
or at the Station in the rear.

Shunting of  
trains for other  
to pass.

**112.**—When the last vehicle of a  
train does not pass the Sta-  
tion before it has been shunt-  
ed into a Siding, or when  
a train has been brought to  
a stand within the Home

When last  
vehicle of train  
does not pass  
Station before  
it has been  
shunted into  
a Siding.

Signal, and it is necessary to give the  
“Train Out of Section” Signal before the  
train passes the Station, the Station Master

[Reg. 111-112]

before giving such Signal must ascertain from the Guard or Shunter in charge of the train that the whole of the train with Tail Lamp attached has arrived, and the Guard or Shunter will be held responsible for giving this information to the Station Master, the Fireman being similarly responsible in the case of a Light Engine.

**113.**—When, in any circumstances, a train has to go outside the Home Signal or Outer Home Signal during shunting operations, the Staff or Tablet or Link for the

Train being shunted to have "Staff" if required to go outside Home Signal or Outer Home Signal.

Section about to be occupied must be in the hands of the Driver, before shunting operations commence.

**114.**—(a) When a train is shunted from one Running Line to another, or into a Siding after sunset, or during foggy weather, falling snow, or dust storm for a following train to pass, the Guard must remove, reverse, or obscure the Side Lights and remove the Tail Lamp. The Engine Driver in case of a Light Engine must remove the Tail Lamp.

Side Lights of trains shunted to allow another to pass.

(b) Before the train re-crosses to its proper Running Line, the Guard of a train must replace the Tail and Side Lights, and the Engine Driver of a Light Engine must replace the Tail Lamp.

[Reg. 113-114]

**CHAPTER VII**  
**TRAINS STOPPED BY ACCIDENT,  
 FAILURE, OBSTRUCTION OR  
 OTHER EXCEPTIONAL CAUSE**

**115.**—(a) When a train is stopped between Stations by accident, failure, or obstruction or other exceptional cause (unless it has come inside the Home Signal), the Guard, if there be only one, or the second Guard, if there be more than one must immediately go back at least one kilometre, (unless he arrives at Signal Box within that distance) plainly exhibiting his Hand Danger Signal to stop any following train, and, in addition to his Hand Signals, he must take Detonators (to be used by day as well as by night), which must be placed upon the Line on which the stoppage has happened as follows :—

3 Detonators, ten metres apart, not less than one kilometre from his train, and must also continue to exhibit his Hand Danger Signal to stop any coming train until he is recalled.

(b) The Engine Driver must at once show a Danger Signal to the front, and, if there is no second Guard on the train, must proceed to protect the train in front in the manner prescribed in clause (a), either by going himself, or by sending his Fireman or some other qualified person.

[Reg. 115]

(c) If the Guard arrives at a Signal Box within or about one kilometre from his train, he must give the Signaller written instructions to keep his Signals at Danger to protect the Line which is obstructed. He must then return to his train or take such other steps as may be necessary to deal with the obstruction. The Detonators must not be taken up or the written instructions be cancelled until intimation has been received that the obstruction has been removed.

(d) Should the distance of not less than one kilometre fall within a tunnel, or in any other position where, owing to the formation of the Line, the Engine Driver of an approaching train would be unable to obtain a good and distant view of the Hand Danger Signal, then the Signal must be exhibited and Detonators must be placed at such distances over and above the prescribed distance of not less than one kilometre, as may be necessary to insure the Engine Driver obtaining a good and distant view of such Hand Danger Signals.

(e) In order as quickly as possible to insure the safety of the Line, as well as to obtain assistance and to regulate the working of the traffic, the Guard in charge of the train after protecting his train by detonators as directed above must send the second Guard, if there be more than one Guard, or the Fireman, if there be not more than one Guard, who must

[Reg. 115.]

proceed as quickly as possible with the Train Staff or Tablet or Link (on Single Line), to the nearest Station or Signal Box, and advise the Station Master or the Signaller of the nature and cause of the accident or obstruction. The Head Guard must always remain with his train to protect it, and, if assistance is asked for, must not allow the engine or any portion of his train to be moved, until such assistance arrives.

(f) The application should be written by the Guard and signed by both the Driver and the Guard. In the case of a Driver who cannot read or write, the memorandum must be explained to the Driver by the Guard, and the latter should certify on the memorandum that this has been done.

(g) This does not prohibit a Driver, when necessary, sending a telegram to his Locomotive Officer, reporting the nature of a breakdown or other serious occurrence.

(h) Any Station Master receiving any such report must, as soon as possible, arrange for all necessary assistance to be sent to the train, and in order that approaching trains may be stopped, if necessary, must immediately report the circumstances by telegraph or telephone, or if the telegraph or telephone are not in

[Reg. 115]

order or if there be none, then by the next expeditious means available, to the next Station on the other side of the place at which the obstruction occurred, unless he has received information that such a report has already been made.

(i) Whenever the services of a Breakdown Gang are required, an urgent telegram should be sent to the nearest Locomotive Depot and the Locomotive Superintendent.

(j) The Fireman or Second Guard must personally hand the Staff or Tablet or Link to the Driver, (on Single Line), and ride on the Assisting Engine, or Breakdown Van Train, and point out to the Engine Driver the position of the disabled train. The Assisting Engine or Breakdown Van Train must run at reduced speed, sound the whistle frequently and great caution must be observed by all concerned. The Engine Driver of the disabled train must not allow his engine to be moved until the Assisting Engine or the Breakdown Van Train arrives, unless, the Fireman has returned and, (on Single Line), handed the Staff or Tablet or Link back to the Engine Driver.

**116.**—(a) When a train comes to a stand between Stations, and the Driver finds he cannot proceed, he must give four sharp distinct whistles. The Guard on hearing the  
 [Reg. 115-116]

Driver's Signal on the whistle will alight, and to show that he understands the Signal, if at night, will give an answering Signal to his Driver by moving his Hand Lamp up and down vertically, showing a Red Light, which must be understood to mean "I am aware that you have failed, and I am now going back to protect my train". The Guard will continue to wave his light until the Driver sound his whistle again, which is to denote that he has seen and understands the Guard's Signal. The Guard will also reverse one of the Brake-van Side Lamps as an additional sign to the Driver that he understands the situation. If the engine failure happens during the day, the Guard will wave the Red Flag to the Driver, and, on the signal being acknowledged, will secure the Flag on the Lamp Bracket.

(b) After reversing the said Lamp, or giving the Red Flag, as the case may be, the Guard will, with all speed, proceed back to protect his train. This protection is only necessary in case of an actual breakdown.

(c) When the Driver of the train finds he is in a position to proceed, he must give three sharp whistles to recall the Guard, and before restarting the Guard and Driver must exchange Signals as provided per Regulation 102 (e).

[Reg. 116]



(d) Except as stated above, the Guard must not return to his train until recalled by the Engine Driver sounding the whistle of his engine, and, when recalled, he must not return to his train before reaching the prescribed distance, and placing on the rail three Detonators ten metres apart. The train must stop at the next Station, and the Guard must inform the Station Master what has occurred, so that the Driver of the next train which enters the section from either end can be advised by the Station Master of the Detonators having been left on the Line.

(e) A telegram must be at once sent out to all concerned by the Station Master to whom the Guard makes such report.

(f) If any light engine should, while on the Line outside Station Limits, be unable to proceed, the Engine Driver must see that the precautions prescribed by Regulation 115 are taken for the protection of the Engine, both in front and rear, employing the Fireman or some other competent person to assist him.

**117.**—(a) Should an accident occur to a train accompanied by only one Guard, and the Engine Driver run forward without being aware of the  
 Line obstructed and Engine Driver not aware of accident.  
 [Reg. 116-117]

accident, the Guard, if he can obtain the services of a competent person must send him forward to protect the front of the divided section, and himself go back as directed in Regulation 115.

(b) In the event of no competent person being at hand, the Guard must first go forward as quickly as possible, exhibiting his Hand Danger Signal, and place Detonators upon the Line on which his train was running as per Regulation 115.

(c) Should the Guard in going forward arrive at a Station, he need not go the prescribed distance, but must inform the Station Master of the circumstances, instruct him to keep the necessary Signals at Danger, to protect the obstruction and return and protect the rear of his train as prescribed in Regulation 115.

Guard need not go prescribed distance if he arrive at a Station.

(d) In the case of the train being accidentally divided, the Guard in charge of the rear portion must place a Red Flag by day or a Red Light by night on the leading vehicle of the rear portion of the divided train.

**118.**—(a) The Engine Driver, on seeing a Green Signal waved slowly from side to side by a Station Master or Signaller, must understand that his train is divided and exercise  
 Train Divided. [Reg. 117-118]

great caution by looking out for the second portion, and must keep the portion attached to his engine in motion, if possible, until the rear portion has been brought to a stand, so as to avoid the collision between the two portions, and unless he has reason to believe the Line is not clear ahead the Engine Driver must not stop the portion attached to his engine until he is satisfied that the rear portion has been stopped, or is running slowly. He must, however, observe and obey any Signals that may be exhibited against him.

(b) As soon as the rear portion of the train has been brought to a stand, the Guard in charge of the train must protect that portion in accordance with Regulation 115, both in front and rear.

(c) After a train has become accidentally divided, and both portions have been brought to a stand within sight of each

Driver not to set back without permission of the Guard.

other, the front portion may be set back to the rear portion, provided the two portions can be re-coupled; but, before moving, the Engine Driver must send his Fireman to the Guard who is protecting the rear portion, and obtain his authority to set back.

**119.**—(a) When a train, stopped between Stations, has to be divided in consequence of an accident or the inability of the engine to take the whole train forward, the Guard in

Train, or portion of, left on Running Line from accident or failure of Engine.

[Reg.. 118-119]

charge of the train must, before uncoupling, put down or screw on the brakes, and must, if necessary, otherwise carefully secure the rear portion of the train to insure its remaining stationary.

(b) If the engine is incapable of proceeding with vehicles, the Guard shall give permission to the Engine Driver to uncouple and proceed to the next Station.

(c) When the Guard has taken action under clause (b) of this Regulation, he must immediately take steps to protect the rear portion of his train in accordance with Regulation 115.

(d) At night, or during foggy weather, falling snow or dust storm, as soon as engine, whether with or without vehicles, is drawn forward, the Guard must see that a Red Light is shown on the front vehicle of the rear portion of the train for single Line and White Light for double Line.

(e) When the front portion of the train is taken forward, the Fireman, or, if there are two Guards with the train, the second Guard, if it is practicable and safe to do so, must ride upon the last vehicle of the front portion of the train, until it reaches the next Crossing Station, but no Tail-Lamp or Tail-Board shall be placed on it.

(f) When the engine is to be brought back, the Guard in charge of the  
[Reg. 119]

train, until the arrival of the engine, must continue to take the precautions prescribed in Regulation 115 for the protection of the portion of the train left on the Line both in the front and in the rear.

(g) When a Driver finds it necessary to divide his train owing to inability of the engine to draw the full train, or to detach his engine from a train and run to the next Station for water or for any other purpose, he must give the Guard a written notice of his intention before leaving the train, and on arrival at the Station he must immediately report his arrival to the Station Master, telling him where the train has been left, and whether he will return, or if another engine must be sent out, the Driver must not leave the Station without advising the Station Master, and obtaining his written permission to return to the train and on Single Lines must retain the Staff or Tablet or Link.

(h) The Station Master must not give "Train out of Section" Signal to the Station in the rear until he has satisfied himself that the whole of the train with Tail Lamp attached has arrived.

**120.**—(a) In the event of any failure of, or accident to, some part of a train, failure of, or accident to some part of a train, it will generally be found desirable to bring the train to a stand as quickly  
[Reg. 119-120]

as possible, but whether this course can be taken with safety, and how the stoppage can best be effected, depends on the nature of the mishap to the train, the weight and speed of the train, the gradients, curves, and other conditions applying to the Line, particularly as regards the position of Points and Crossings. In all cases, when the whole of the train remains upon the rails, it must be brought to a stand as quickly as possible.

(b) If the engine be defective, the sooner the train can be stopped the better. If any of the vehicles be off the rails, the brakes in the rear must be instantly applied, in order that, by keeping the couplings tight, the disabled vehicles may be kept up and out of the way of the vehicles behind, until the force of the latter is exhausted, it being desirable that the front portion of the train should be brought slowly to a stand. The application of the front brakes might result in further damage, and great care must be exercised in their application. In all cases the application of brakes behind a disabled vehicle, or the application by a Guard of the automatic brake at the rear of the train, will be attended with advantage, and rear Guards of trains fitted with the automatic brake must apply it, as well as the hand-brake.

[Reg. 120]

(c) In the event of the rear Guard not promptly applying the hand brakes, when the Engine Driver whistles for them, the Engine Driver, if his train is fitted with the automatic brake, must apply the same gradually, and with judgement and care.

(d) Should any part of a train on which the automatic brake is not in operation become detached, when in motion, care must be taken not to stop the front of the train before the rear portion has been stopped, and the Rear Guard must promptly apply his hand-brake to prevent a collision with the front portion.

(e) In all cases, Engine Drivers and Guards must act according to the best of their judgement and ability in the circumstances in which they are placed.

**121.**—(a) Should any vehicle in a train be on fire, the train must be stopped, and, if not protected by Home or Outer Home Signals, the Guard must protect it in compliance with Regulation 115.

(b) Should a fire be discovered in a running train, the Driver must at once come to a stand unless as provided in clause (c), and the vehicles in the rear of the one on fire must be detached; the burning vehicle

[Reg. 120-121]

or vehicles must next be drawn forward a distance of at least fifty metres, uncoupled and left properly secured, the front portion of the train must then be moved forward to a safe distance, so as to prevent the possibility of other vehicles igniting. Every effort must be made to extinguish the fire, and to save the contents of the vehicle.

(c) Should it be known that water is procurable within a short distance from where the fire is discovered, and it is considered safe to run the vehicles on to such place, this may be done. But the Guard and the Driver of the train must exercise their discretion in such cases, no such attempt must be made under any circumstances, unless the portion of the train in the rear of the burning vehicles is first detached.

(d) In the case of fire occurring on a passenger train, the safety of passengers must be first attended to. Should a Post Office Van be on fire, every effort must be made to save the Government Mails.

(e) When a train or portion of a train is stopped between Stations on account of a fire, it must be protected in accordance with Regulation 115.

(f) Drivers and Guards noticing fires on bridges along the Line, or on seeing any part of the woodwork on fire must inform the nearest Permanent Way Ganger or Station Master of the occurrence,  
[Reg. 121]



and a telegraphic report of all such cases must be at once sent by the Guard to the Traffic Inspector and the Section or District Engineer.

## CHAPTER VIII

### SIGNALLING DURING FOGGY WEATHER FALLING SNOW OR DUST STORM

**122.**—(a) During Foggy Weather, Station Masters responsible for employing Fog-signalmen. Falling Snow or Dust Storm, it is the duty of the Station Master or other appointed person to see that Fog-signalmen are placed at all the Distant and Home Signals, and, where Platelayers are employed for the purpose, arrangements will be made beforehand with the Permanent Way Inspector as to who are to act as Fog-signalmen at the various posts. The Foreman, Ganger, or Leading Man must not be assigned to a fixed post, but must be left free to examine his road as directed by Regulation 233. He may, however, when no other competent man is available, be employed to call the Fog-signalmen, to visit them at their posts and distribute Detonators and food in accordance with Regulations 127 and 128.

(b) A list of the names and addresses of the Fog-signalmen showing the post to which each man is appointed must be kept exhibited in a conspicuous position in the Station Master's Office.

[Reg. 122]

**123.**—When a fog, snow storm, or dust storm occurs during the day, the men appointed to act as Fog-signalmen must at once report themselves to the Station Master and take his instructions.

**124.**—(a) When it is necessary to employ Fog-signalmen during the night, or outside the working hours, the Station Master or Signalman must arrange to have the men called, and sent to their respective posts. If the Fog-signalmen become aware, from their own observation, or from information given to them, that their services are required during the night, or at any other time when off duty, they must at once report themselves to the Station Master without waiting to be called; but this will not relieve the Station Master or Signalman from the responsibility of sending for the Fog-signalmen when necessary. If the Fog-signalmen on the way to the Station to report himself for Fog-signalling duty has to pass the Signal to which he is appointed, he must, if the Signal is at Danger, place three Detonators, ten metres apart, on one rail of the Line for which he is fog-signalling, and then proceed to the Station, getting back to his post as promptly as possible. For this purpose he must keep a few Detonators in his possession.

[Reg. 123-124]

(b) When the fog has sufficiently cleared, or the snow storm or dust storm has ceased, each Fog-signalman must place three Detonators, ten metres apart, on one rail of the Line for which he is fog-signalling, and then go to the Station Master at the Station in connection with which he is employed, and take his instructions as to whether his services are any longer required for fog-signalling duties.

(c) In case Detonators are not on hand, a man must be sent out with Hand Signals to the same position as that at which Detonators would be placed, and a telegram must be sent to the nearest Stations on both sides instructing the Station Masters to warn Drivers to look out for Hand Signals instead of Detonators, and a copy of such telegram is to be handed to each Driver and explained to him.

**125.**—(a) Each Fog-signalman must, before proceeding to his post, be supplied with 10 Detonators, or more if necessary, a Hand Signal Lamp trimmed and lighted, a Red and a Green Flag. If fog-signalling for a Distant Signal, or Outer Home Signal, he must place himself outside the Signal in connection with which he works, and as far from it as is consistent with his keeping it well in sight.

[Reg. 124-125]

Whenever a train has passed him in the direction of the Station from which the Signal is worked, and so long as the Signal exhibits the Danger Signal, he must place and keep three Detonators fixed, ten metres apart, on one rail of the Line for which the Signal is at Danger, and, unless instructions are issued to the contrary, exhibit a Red Hand Signal to the Engine Driver and Guard of an approaching train.

Details of  
Duties.

When the Signal is lowered or taken off, he must remove two of the Detonators from the rail, and exhibit to the Engine Driver and Guard a Green Hand Signal, which must be held steadily in the hand. All the Detonators must also be removed from the rail when the Fog-signalman is satisfied that a train is approaching from the opposite direction. In such case no Hand Signal is to be given to the Engine Driver, and the three Detonators must be replaced immediately after the passage of the train. If he becomes aware of any obstruction on the Line in the immediate neighbourhood of the Signal for which he is signalling, either from a train not having gone forward, or from any other cause, he must leave the Detonators on the rail and go back along the Line, showing a Red Light with his Hand Lamp, at least 200 metres to protect such obstruction, and must there place on the rail of the Line for which he is fog-signalling, three Detonators, ten metres apart, and return to within sight of the

[Reg. 125]

Distant Signal, or Outer Home signal. When he is satisfied that the obstruction has been removed, he must take up the more distant Detonators and return to his post.

*NOTE:—For instructions to be observed by a Driver after the explosion of Detonators, see Regulation 44.*

(b) The Fog-signalman must see that the Distant Signal, or Outer Home Signal which has been lowered or taken off for a train to pass is placed at Danger after the passage of such train. If, after a reasonable time has elapsed, the Signal is not placed at Danger, the Fog-signalman must go back to protect the train as above directed (*clause a*) and then proceed to the Station, and inform the Station Master of the circumstances. The same precautions must be taken in the event of a Signal Light going out, and the Fog-signalmen not being able to relight it. Fog-signalmen, when taking duty at a post and finding the Signal in the "All Right" Position must satisfy themselves that the Signal is working properly.

(c) When a Fog-signalman is employed in connection with the Home Signal, or Starting Signal, he must place three Detonators, ten metres apart, on one rail of the Line for which the Signal is at Danger, exhibit a Red Hand Signal to the Engine Driver of an approaching train, and carry out any instructions he may receive from the Station Master on duty.

[Reg. 125]

(d) The Fog-signalman must see that the Home Signal, or Starting Signal which has been lowered or taken off for a train to pass is placed at Danger after the passage of such train; if, however, the signal is not placed at Danger, the Fog-signalman in addition to putting down three Detonators, must at once communicate with the Station Master.

(e) After having fixed the Detonators on the rail, the Fog-signalman must stand in the best position (having regard to his own safety) between the Detonators and the fixed Signal or Obstruction for which he is signalling for effectively giving the Hand Signals to the Engine Driver and Guard, and so exhibit the Hand Signals that they may be seen by the Driver after the engine has exploded the Detonators.

(f) When the Fixed Signal for which he is Fog-signalling cannot be seen by the Fog-signalman, he must, unless he can satisfy himself to the contrary, assume that it is at Danger.

(g) In case of accident, failure, or obstruction, Guards and Engine Drivers must act strictly in accordance with the prescribed Regulations, and must not depend upon Fog-signalmen for the protection of their trains.

[Reg. 125]

**126.**—(a) A sufficient supply of  
 Detonators, Hand Lamps and  
 Hand Lamp and Flags to be  
 Kept at Stations and Signal  
 Boxes. Detonators, Hand Lamps and  
 Flags for the use of the Fog-  
 signalmen must be kept at the  
 Stations and in the Signal  
 Boxes in connection with

which the men are employed. If the  
 number of Detonators first supplied to the  
 men is likely to soon become exhausted,  
 they must communicate with the nearest  
 Station or Signal Box and obtain a  
 further supply.

(b) Should the Fog-signalman  
 have to leave his post for the purpose of  
 obtaining an additional supply of Deto-  
 nators, he must leave three Detonators on  
 the rail.

**127.**—(a) Station Masters (when  
 Relief-men. the Traffic Staff is employed)  
 or Permanent Way Inspectors  
 or Gangers (when Platelayers are em-  
 ployed) must arrange for Relief-men,  
 should the fog, snow storm, or dust storm  
 continue.

(b) Arrangements must be made  
 Food for Fog- by the Station Masters for  
 signalmen. furnishing the Fog-signalmen  
 with needful food.

**128.**—The Station Master or per-  
 Station Master son in charge must satisfy  
 or person in himself that the Fog-signal-  
 charge to satisfy men have duly proceeded to  
 himself that their respective posts when  
 Fog-signalmen it is necessary for them to  
 are at their do so; and where the Fog-  
 posts. signalmen are numerous, a  
 Supply of Detonators. [Reg. 126-128]

competent man must be appointed to visit them at their posts, and see that they are properly performing their duties, and furnish them with a further supply of Detonators and food if required.

**129.**—During the prevalence of severe frosts or falls of snow, the Station Master must see that the Signals and Points are frequently worked, when the Sections are clear and no

Signals to be frequently worked and Apparatus examined during severe frost or falls of snow.

train has been signalled, in order to prevent the frost or snow impeding their free working. Fog-signalmen also must see that nothing interferes with the true working of the Arms or Discs, and Lamps of the Signals for which they are fog-signalling, that the Signal Arms, Lamp Glasses and Spectacles are kept clear from snow, and that the wires work freely over the pulleys. The Fog-signalmen must at once report to the Station Master any defect in the Signals or impediment in their proper working. If no Fog-signalman is employed, the Ganger of the Permanent Way must provide for this duty being performed while the snow or frost, or its affects continue.

**130.**—The preceding Regulations of this Chapter must not in any way weaken the vigilance of Drivers and do not release them from the obligation of doing all that is necessary to observe the indication of Fixed Signals

Responsibility of Drivers.

[Reg. 129-130]



exactly as if there were no Fog-signalmen. Drivers are particularly reminded that if they pass the Distant Signal at Danger they must control the speed of their trains in accordance with distance between the Distant and the Home Signal (See Regulation 26*a*) in order to be able to stop at the Home Signal at Danger.

**131.**—(*a*) During a Dust Storm  
 Train to run at reduced speed during Dust Storm. the speed of a train must not exceed 30 kilometres an hour, and the speed must be reduced to 10 kilometres an hour when dust is observed lying over the rails.

(*b*) Great caution must be exercised by Drivers and Guards of trains approaching Bridges during Dust Storm.

(*c*) When weather conditions are bad and Drivers have not a clear view ahead, trains must only be run at reduced speed and Drivers must be prepared to stop at any point on the Line.

(*d*) During bad storms Goods trains should, whenever possible, be cancelled, and special attention must be given to the working of passenger trains.

(*e*) On Lines particularly affected by heavy Dust Storms, the Traffic Manager will issue special instructions to regulate Train Working during such periods.

[Reg. 131]

## CHAPTER IX

### RUNNING OF SERVICE TRAINS

**132.**—(a) No Service Train shall be run on any Line without the permission of the Authorized Officer.

Permission required for running of Service Train on Line.

(b) No Service Train must be allowed to run over the Line unless in charge of an experienced Guard, who must have been passed as fully competent by Traffic Manager, and he will be responsible for the safe working of the train.

Service Train to be in charge of Guard.

(c) A Brake-van must be attached to each Service Train at the rear of the train, and, if available, one next to the engine, with the proper equipment. If the engine is pushing the train, a Brake-van must be the first vehicle in the running direction, and the speed must not exceed twenty kilometres per hour.

**133.**—(a) Should a Service Train have to discharge or take up materials on any Running Line between two Stations, the Guard of such train, before entering the Section,

Service Train discharging or taking up materials on Running Line between two Stations.

must inform the Station Master in charge of the Station of the fact, and of the probable time the work will occupy, so that the Station Master may give any instructions that may be necessary as to the shunting of the Service Train for other trains.

[Reg. 132-133]

(b) No Service Train shall be stopped between Stations to take up or put down materials unless the permission of the Station Master of the Station next before the place of stopping has been obtained before the departure of the Train from that Station, and the Guard or other person in charge of the train has, if practicable, arranged with the Station Master of each Station as to the place and time at which the next train is to be passed.

(c) No Service Train shall be allowed to pass along the Main Line at night or during Foggy, Snowy or tempestuous Weather, except under special circumstances and with the permission of the Authorized Officer, and the speed of the train shall not exceed twenty kilometres an hour.

**134.**—(a) The Guard or other person in charge of a Service Train, before giving the Starting Signal, must warn the labourers working with the train and riding in the open wagons to sit down.

(b) Before a Service Train starts, the Driver must give two clear distinct whistles at an interval of half a minute, as a warning to the men that the train is about to move. They should also be cautioned not to jump out of the wagons before the train has come to a stand still.

[Reg. 133-134]

**135.**—(a) A Service Train may, in accordance with special instructions, be pushed by an engine, either when running on the Line or when being taken back into the Station from which it was started. In no case is an engine to push out a train at all without the written order of the Authorized Officer.

Service Train pushed by an engine.

(b) When permission has been obtained under this Regulation for pushing back a train, the Station Master must give such instructions to the Guard or other person in charge of the train, as he may consider necessary, and must also communicate with the Station Master of the other Station concerned.

(c) Station Masters must not permit any infringement of orders by Guards or Drivers of Service Trains, and the Station Masters must make arrangements where the Service Train is to cross the next train due.

**136.**—When a Service Train is intended to run through from one Station to another without stopping, it must be treated as a Special Train.

Service Train running through.

**137.**—When Service Wagons are left on a Siding outside Station Limits, the Guard or other person in charge of the train must see that the wagons are properly

Securing of wagons left outside Station Limits.

[Reg. 135-137]

secured in accordance with such directions as may be issued by the Authorized Officer, and that Scotch Blocks, where provided, are fastened.

**138.**—The Guard or other person in charge of a Service Train must see that the train is kept clear of all other trains.

Service Train to be kept clear of other trains.

**139.**—Every person employed on the Permanent Way or any Works shall be bound, on the requisition of the Guard or other person in charge of a Service Train, to assist him in the safe working of the train.

Persons employed on Permanent Way or Works to assist.

**140.**—(a) The Guard or person in charge of a Service Train on any part of the Main Line outside Station Limits shall be responsible that the Line is cleared and the Station Master advised not less than ten minutes before a train is due to enter the Section from either end.

Service Trains on Main Line, when to be removed.

(b) Immediately on the arrival of a Service Train, whether at its Station of destination or not, the Guard must personally report its arrival to the Station Master and sign the "Train Register" Book.

(c) All service wagons shall be jointly examined by Car and Wagon Examiner and Permanent Way Inspector before and after service on works (under

[Reg. 138-140]

mutual arrangement with the Engineering Department).

## CHAPTER X.

### REGULATIONS FOR GUARDS AND BRAKESMEN

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**141.**—(a) Every Guard must be in attendance at the Station from which he is to start half-an-hour before the time appointed for the departure of his train, or at such other time as may be specially fixed.

(b) Guards must not exchange trains or duties with each other except by special permission.

(c) A refusal to go out with a train will render a Guard liable to immediate dismissal.

(d) Guards absenting themselves in consequence of sickness must in all cases send a Medical Certificate from one of the Railway Medical Officers, and give the earliest possible intimation of their inability to attend duty.

**142.**—(a) The Guard of a train must ride in the Brake-van, and not in any other part of the train or upon the engine, except when required to do so in the execution of his duty. He must not allow any unauthorized person to ride in a Brake-van or Baggage Compartment.

[Reg. 141-142]

(b) When there are two Guards, or one Guard and a Brakesman with a train, the Head Guard will ride in the rear Van and the Second Guard or Brakesman in the front Van.

**143.**—Every Guard, before starting  
 Guards to ex- with his train, must visit the  
 amine notices. Guards' Room and examine  
 the Posters and Notices to see whether  
 there is anything requiring his special  
 attention on those parts of the Line over  
 which he has to work, and he must not  
 go off duty until his train has been signed  
 for by the Relieving Guard, and he has  
 ascertained the time at which he is again  
 required to be on duty.

**144.**—Every Guard must have  
 Articles a with him his watch, whistle,  
 Guard to have and Carriage Key, and take in  
 with him. his Van a Red and a Green  
 Flag, not fewer than twelve Detonators,  
 a Hand Signal Lamp (which must be  
 lighted after sunset and during Foggy  
 Weather, Falling Snow or Dust Storm),  
 a Rule Book, Working Time-Table and  
 Appendices and such other articles as may  
 be ordered by the Traffic Manager.

**145.**—At the end of the journey,  
 Train Journals the Guard in charge must  
 or Time Bills. deliver to the Station Master,  
 or forward direct to the Traffic Manager,  
 or other official as may be ordered, a  
 Journal or Time Bill containing the time  
 of the running of his train, noting therein  
 [Reg. 142-145]

every circumstance of an unusual kind, any detention that may have taken place on the journey, and any error as to parcels, baggage, or goods. In the event of any occurrence having taken place which might have involved in any respect the safety of the Train or Line, he must, in addition to the notes in his Journal or Time Bill, make a special report thereof.

**146.**—The Guard in charge of a *Duties of Guard.* passenger train must satisfy himself, before starting, that the train is correctly labelled, and provided with the necessary lamps, that the vehicles are properly coupled, and that the automatic brake is in working order.

**147.**—Should any Guard observe any irregularity in the work-  
Guards to report any irregularity in working of Signals, etc. ing of Signals, or any ob-  
structions on the Lines, or any defect in the Signals, Works, Permanent Way or Telegraph Lines, he must report the same to the Station Master of the first Station at which the train stops, but if the circumstances be of a serious character he must stop the train at the first Station and report to the Station Master, who must see that all necessary precautions are taken for the protection of the traffic, and at the end of the journey, the Guard must also report the case in his Journal or Time Bill.

**148.**—When a train is stopped for waiting the lowering of a  
Detention at Signals. Signal, or for permission to  
[Reg. 146-148]



be crossed to another Line, or to be placed in a Siding, Regulation 66 is to be observed.

**149.**—Should a Passenger Train be stopped by Signals on a Single Line to cross another train at a Station where it is not booked to call, the Engine Driver must not, on the Signal being lowered or the Staff or Tablet or Link being handed to him, proceed without receiving an "All Right" Signal from the Guard.

**150.**—The first duty of the Rear Guard on arrival at a Station is to see that his Brake-van is clear of the fouling post, he must then screw on his Brake, and keep it on until the train is about to start. Guards must be careful never to start their trains until the hand brakes are taken off.

**151.**—(a) Should vehicles be attached to or detached from the rear of a train at an intermediate Station, the Guard, if there be only one, or the Rear Guard, if there be more than one, must see that the Tail and Side Lamps are in their proper positions on the train before continuing the journey.

(b) Guards are personally responsible for trimming their Lamps, and should carry with them the means for doing so.

[Reg. 149-151]

(c) The Guard must see that the automatic brake, and other couplings between the vehicles are properly adjusted after shunting is performed, and test the brake before again starting his train.

**152.**—(a) The Guard in charge of a Goods Train must satisfy himself before starting and during the journey, that the wagons composing the train are properly loaded, marshalled, coupled and sheeted, that they are in good working order, that the train is in a state of efficiency for travelling, and that it has the proper Tail and Side Lamps attached to it. All irregularities must be reported in his Journal or Time Bill.

(b) Before a train leaves a Siding, or other place, the doors of wagons must be carefully examined to see that they are properly secured by the fastenings provided for the purpose.

(c) The Guard must not attach any vehicle which he may think is unsafe to travel,

**153.**—When a Guard receives delivery at a Junction of vehicles in a damaged condition, he must draw the attention of the Station Master, or person in charge, or the number taker, to the [Reg. 151-153].

circumstance, so that it may be noted. He must also note the circumstance in his Journal or Time Bill.

**154.**—Guards must not take on Wagons loaded with goods liable to be set on fire. open wagons loaded with goods liable to be set on fire by sparks or hot cinders, unless they are properly sheeted. Such wagons must be placed as far as possible from the engine.

**155.**—Every Goods Guard who has used a Van with a stove in it before leaving duty must take care that the fire in the stove is entirely extinguished, unless the Van has to be sent out again immediately, in which case a small fire may be allowed to remain, all necessary precautions being taken to avoid damage arising therefrom.

**156.**—Goods Guards must not leave their trains until they have been delivered over to the Station Master, Shunter, or Relief Guard.

**157.**—The Guard must see that the train is marshalled in accordance with instructions, and that wagons attached on the journey are placed in the proper position. In the event of any departure from the authorized arrangements, he must advise the Station Master or person in charge of the Station, and record the circumstances in his Journal, or Time Bill.

[Reg. 154-157]

**158.**—(a) Guards must see that  
 Doors to be closed. the doors of cars are properly closed and fastened, and, in case of any unusual stoppage, must request the passengers to keep their seats, except when necessary to alight.

(b) When it is necessary for the  
 Side Doors. side doors of covered wagons used for the carrying of passengers to be left open, they must be securely fastened back under the personal supervision of the Station Master.

**159.**—(a) Guards of trains must  
 Guards of trains to keep a good look-out. carefully watch the running of their trains when approaching Junctions and Stations, and take any action that may be necessary. They must also keep a good look-out on the other parts of the journey when not engaged with other necessary duties. If the train is fitted with the automatic brake, the Guard must, in case of emergency, apply it slowly and carefully in order to stop the train, but, if the train is not fitted with the automatic brake, he must apply his hand-brake sharply, and release it suddenly. This operation repeated several times should, from the check it occasions, attract the notice of the Engine Driver, to whom the necessary Danger Signal must be exhibited.

[Reg. 158-159]

(b) In the case of trains not fitted with automatic brake, the Guard must always apply his hand-brake as soon as he becomes aware the Engine Driver is applying his.

(c) Guards and others who have occasion to lean over or to walk along the foot-boards of vehicles are warned that there may be some places at which the bridges or other structures are near enough to the Line to endanger their safety.

(d) When an Engine Driver requires the special assistance of the hand-brakes, he must give three or more short sharp whistles or sound the brake whistle (when a special whistle is supplied for that purpose), and the Guard or Guards must immediately apply the hand-brakes. Drivers are warned not to depend on Guards or Brakesmen for assistance in pulling up trains.

**160.**—In travelling down steep inclines, Guards of trains not fitted with the automatic brake must, in order to steady the trains and assist the Engine Driver, apply the rear hand-brake, care being taken not to skid the wheels. Guards must apply their brake when a train is approaching at too great a speed a Station at which it is timed to stop.

[Reg. 159-160]

**161.**—When a passenger train over-runs or stops short of a platform. Station platform, Regulation 108 is to be observed.

## CHAPTER XI REGULATIONS FOR DRIVERS AND FIREMEN

**162.**—The Engine Driver and Fireman must be with their engine at such time previous to the starting of the train as the Locomotive Superintendent may require, and they must satisfy themselves that their engine is in proper order.

**163.**—Except with the permission of the Locomotive Superintendent who is the only officer authorized to issue Engine Passes, no person other than the Driver and the Firemen shall ride on the Engine or the Tender.

**164.**—The Engine Driver must have with him on his engine or tender a complete set of Lamps, Discs, not fewer than twelve Detonators, Red and Green Flags, a Fire Bucket, and such tools as may be ordered by the Locomotive Superintendent.

**165.**—(a) Fireman must obey the orders of the Driver in all particulars, and shall be responsible jointly with the Driver.

[Reg. 161-165]

Driver for the proper observance of these Rules and Regulations.

(b) Drivers are responsible for the proper coupling of the engine to its train. The Fireman must uncouple the engine for all purposes except shunting.

**166.**—(a) No engine must be allowed to be in motion on any Running Line unless both the Engine Driver and Firemen are upon it.

Engine not to be in motion on Running Line without Driver and Firemen being upon it.

(b) In case the Driver becomes incapacitated on the journey, the No. 1 Fireman should take charge of the engine to the next Changing Station or until relieved. He must proceed with the greatest caution, and will be held responsible for observing all the Regulations applicable to Drivers while he is in charge of the engine.

(c) If he feels incompetent, he must telegraph for a Driver to the nearest Locomotive Running Shed.

**167.**—The Driver and Firemen, when on duty must not leave their engine unless it is absolutely necessary for them to do so, nor, except as directed in the Regulations, without a man being left in charge of it. When it is necessary to leave the engine to oil or couple up to the train, one man must always be left in charge, unless the engine is in a Siding and out of gear with the Hand-Brakes hard on.

[Reg. 165-167]

**168.**—The Engine Driver and Firemen, before commencing duty, must ascertain from the notices posted for their guidance, if there be anything requiring their special attention on those parts of the Line over which they have to work.

**169.**—The Engine Driver and Firemen must take care that the coal on the tender is not stacked too high, and that the coal boxes, fire-irons, and tools which are carried on the tender are so placed that they will not fall off when the engine is in motion.

**170.**—(a) The Driver must afford such assistance with his engine as may be required for the formation, arrangement, and despatch of the train.

(b) Except in special circumstances at Stations where shunting engine are provided, train engines will not be required to assist in the formation of, and arrangement of trains.

**171.**—(a) The Driver must place his engine in front of the train not less than fifteen minutes before the time of starting.

(b) Drivers must not enter into any disputes with Station Masters or the Station Staff, or in any way interfere with them in the discharge of their duties.

[Reg. 168-171]



**172.**—If the engine Driver is not thoroughly acquainted with any portion of the Line over which he has to run, he must obtain the services of a competent Pilot Driver.

**173.**—The Engine Driver must keep a good look-out all the time the engine is in motion, and sound the whistle when necessary. The Fireman must also keep a good look-out, when he is not necessarily otherwise engaged.

**174.**—After the station work is completed, Engine Drivers must not move their trains forward towards the Starting Signal controlling the starting of trains from a platform before it is lowered, except when they are specially ordered to do so by the Station Master or person in charge.

**175.**—No engine must enter upon, set back from, or cross any Running Line without the permission of the person in charge of the Points and Signals, and then not until the proper Signals have been exhibited.

**176.**—Engine Driver before starting, must see that the proper Engine Destination Boards, or Discs (where provided) and Lamps are exhibited in good order.

[Reg. 172-176]

and are in good order, and that the Lamps are lighted and kept burning when necessary.

**177.**—The Engine Driver and Firemen must carefully observe all Signals, and when, from fog or falling snow or dust storm, or from any other cause, the Fixed Signals are not visible as soon as usual, the speed must be reduced, and every possible precaution used, especially in approaching Junctions, and Stations so that they may be able to stop the train short of such Signals, should they be against them or of any obstruction on the Line.

During Foggy Weather, Falling Snow or Dust Storm speed to be reduced, if Fixed Signals not visible.

**178.**—(a) When a train is about to leave a Station or Goods Siding, the Signal to start given by the Guard merely indicates that the Station duty or the collection of tickets is completed, and, before starting the train, the Engine Driver must satisfy himself that the Line is clear, either by observation or by exhibition of the necessary Signals, where provided. When starting, the Driver on Single Line must also be in possession of the necessary Staff or Tablet or Link. The Firemen must look back to see that the whole of the train is following in a safe and proper manner, and to receive any Signal from the Station Master or Guard that may be necessary.

[Reg. 177-178]

(b) The Engine Driver and Firemen must frequently, during the journey, look back and see that the whole of the train is following in a safe and proper manner.

**179.**—During Foggy Weather, Falling Snow or Dust Storm, the Engine Driver must keep a sharp look-out for the Fog-signalman, who will, if the Signals are off, show him a Green Hand Signal held steadily in the hand. When the fog is so dense that the Fixed Signals cannot be seen by the Engine Driver on approaching or passing them, he must, unless he sees the Fog-signalman's Green Hand Signal, assume that the Fixed Signal is at Danger, and act accordingly.

**180.**—(a) The Engine Driver must regulate the running of his engine as accurately as practicable according to the working Time-Table, so as to avoid extreme speed or loss of time. The speed of all trains when entering Stations terminating in dead-ends must not exceed eight kilometres per hour.

(b) No Driver of a train shall make up, between any two Stations, more time than is allowed by special instructions.

(c) Drivers when making up time must, on no account, exceed the speed allowed in the Locomotive Speed-Table.

[Reg. 178-180]

(d) At any Station on the Line, when a Driver finds that his engine, through any defect, is likely to loss time on the road, he must inform the Station Master and Guard how much time, in his opinion, will be lost in running to the next Station.

(e) The Station Master must then decide whether to start the train, or to give precedence to a more important train.

(f) Special Trains not timed must be run as nearly as practicable at the same rates of speed as corresponding trains, and the speed of Special Trains must not exceed that of such corresponding trains, unless under specific instructions from the Traffic Manager.

(g) Engine Drivers of trains, when running through Junctions to or from Lines diverging from the straight road, must so reduce their speed as to insure a steady passage for the whole train through the Junction Points and Crossings.

(h) Where special rates of speed are to be observed in running over certain Junctions and other portions of the Line, they will be found in the Notices or Appendices.

**181.**—(a) The Engine Driver and Firemen must pay immediate attention to and obey all Signals, whether the cause of the

[Reg. 180-181]

Signal being shown is known to them or not. The Engine Driver must not, however, trust entirely to Signals, but must be vigilant and cautious. He must also obey the instructions of the Officers in charge of Stations.

(b) The Engine Driver and Firemen are reminded that, according to Reg. 17 the absence of a Signal from a place where a Signal is ordinarily shown, or the imperfect showing of Signal, or the exhibition of a White light at a place where a Red, Green, or Orange light ought to be seen must be regarded as a " Danger " Signal.

**182.**—The means to be adopted by Guards to attract Engine Drivers' attention and by Engine Drivers to attract Guards' attention in case of necessity is prescribed in Regulation 159.

**183.**—(a) As far as practicable, the Engine Driver must have his Fireman disengaged, when approaching or passing a Junction, or Station so that he may also keep a good look-out for Signals.

(b) When approaching a Junction, the Engine Driver must give the required notice by whistle, if the Signals are at Danger, if the Junction whistles.

[Reg. 181-183]

proper Signals are lowered for him to proceed, he need not give the Junction whistles.

**184.**—When two or more light engines have to pass at the same time through a Block Section, they must be coupled together before entering such Section. The Continuous Brake Pipes, where provided, must also be coupled, and the engines must not be uncoupled except at a Block Station where there is a Station Master on duty.

**185.**—(a) When two engines are employed to draw a train, they must, unless otherwise specially ordered, be placed together. The Driver and Fireman of the leading engine will be in charge of the train, and be responsible for the observance of Signals and the working of the Automatic Brake, the Driver of the second engine must watch for, and take his Signals from the Driver of the leading engine, but the Driver of the second engine is not relieved from the due observance of all Signals regulating the safe working of the Line, and in case of need he must apply the Automatic Brake.

(b) Special care must be used in starting or stopping a train drawn by two engines, to prevent damage to or the breaking of the couplers.

[Reg. 184-185]

(c) When a train is drawn by two engines, on Single Line, the Staff must be shown to the Driver of the leading engine, and handed to, and carried by the Driver of the second engine.

**186.**—(a) The Driver must start and stop his train carefully and without a jerk.

(b) In stopping his train, the Driver must pay particular attention to the state of the weather and the condition of the rails as well as to the length and weight of the train, and these circumstances must have due consideration in determining when to shut off steam, and to apply the brake.

**187.**—(a) The Engine Driver must carefully approach all Stations at which his train is required to stop, and must not stop short of, or over-run the platform; he must also exercise care in passing Stations where he is not required to stop. (See Reg. 108).

**188.**—Engine Drivers must not throw out hot water, fire, or cinders when passing through a Tunnel or over long Bridges.

**189.**—A Green Flag or a Green Light waved slowly from side to side by Platelayers indicates that trains must reduce

[Reg. 185-189]

speed to 20 kilometres per hour, or such other speed as may be prescribed over the portion of Line protected by such Green Signal.

**190.**—When a Driver brings his engine to a stand in obedience to Signals, he must take care that the engine does not stand foul of the Points or Crossings of any other Running Line.

**191.**—(a) Drivers are personally responsible for seeing that the Water Column Hose and Chains are fastened after taking water and before leaving the Station, so that the Cranes may not by any means swing foul of the Running Lines. If this cannot be done, they must report the same on their Trip Tickets as well as verbally to the Station Master.

(b) Drivers detained at a Station for water beyond the booked time must report the matter to the Station Master as well as to his Immediate Superior Officer.

(c) Whenever a deficiency of water arises at any Station through any cause, it is the duty of the Station Master to at once advise the Locomotive Officer in charge of the district so that measures may be taken to prevent delays to trains. He must also advise the nearest Watering Station on either side to warn Drivers that water cannot be obtained at his Station.

[Reg. 190-191]



**192.**—Engine Drivers and Firemen

Smoke from engines. must so arrange their fires as to avoid any unnecessary emission of smoke from their engines whilst standing at or passing Stations.

**193.**—(a) Should an Engine Driver

Engine Driver to report any irregularity in working of Signals. ver observe any irregularity in the working of Signals, or should he see any obstruction on the Line, or any defect in the Signals, Works, Permanent Way, or Telegraph Lines, he must report the same at the first Station at which the train stops, but if the circumstance be of a serious character, he must stop the train as soon as practicable or in any case at the first Station, and give information.

(b) The person to whom such report is first made must see that all necessary precautions are taken for the protection of the traffic.

(c) The Engine Driver must, if necessary, also stop before reaching the Station to give information to Platelayers or other Servants of the Railway.

(d) The Engine Driver must also, if he observes anything wrong on the Line opposite to that on which his train is running, sound his whistle and exhibit a "Danger" Signal to any train he may meet, he must also, when practicable,  
[Reg. 192-193]

place three Detonators on the opposite Line.

(e) At the end of his journey the Engine Driver must report the circumstance to his Superior Officer.

(f) Whenever the Driver of a Train obscured by steam or smoke. train observes a train obscured by steam or smoke on the Line opposite to that on which his own train is running, or on a Siding, he must sound the engine whistle, and must approach the obscured train cautiously to enable him to stop his own train, if necessary.

**194.**—When a train is stopped waiting for the lowering of a Signal, or for permission to be proceed to another Line, or to be placed in a Siding, Regulation 66 is to be observed.

**195.**—Should a passenger train be stopped by Signals to cross another train at a Station Platform where it is not booked to call, the Engine Driver must not, on the Signal being lowered, or the Staff or Tablet or Link being handed to him, proceed without receiving an "All Right" Signal from the Guard (See Regulation 149).

**196.**—(a) When one or more engines are employed to assist a train in rear, they must not, unless authorized by the [Reg. 193-196]

Assistant Engine not to leave train except at Station.

Traffic Manager, leave the train except at a Staff Station where there is a Station Master on duty.

(b) When the Driver of the Engine in front has received the engine Guard's Signal of start, and he has satisfied himself that the necessary Fixed Signal has been lowered, and he is in possession of the Staff or Tablet or Link, as the case may be, he must call the attention of the Driver in the rear of the train by giving three short whistles, which must be acknowledged by repetition from the rear engine, and until these whistles have been given and acknowledged, neither the train engine nor the assisting engine must move forward.

Starting of trains with one engine in front and one in rear of train.

(c) Engines assisting trains to start must not go beyond Station Limits, and the Signalmen and all concerned must first be informed of the work being done.

## CHAPTER XII

### SHUNTING OF TRAINS AND VEHICLES

**197.**—(a) Station Masters or Signalmen must exercise great care in shunting engines, cars, and wagons. They must see that the Points are not moved until they have obtained a Signal from the Guard or Shunter, or from the Engine Driver or Fireman in the case of a Light Engine,  
[Reg. 196-197]

Shunting of vehicles.

that the last vehicle or the light engine, as the case may be, is clear of the Points.

(b) After shunting operations, of any description, the Station Master or Signaller must see, or have intimation from the Guard or Driver (or if a Shunter has been employed, then from him), that the cars or other vehicles have been left secure in the Sidings, and that the Running Lines are clear before lowering the Signals to allow any train to pass. In the case of a Light Engine, the Driver must send his Fireman to advise the Station Master or Signaller that the Running Lines are clear.

(c) When it is necessary to shunt vehicles on any Running Line, the Guard or Shunter must satisfy himself that, in the shunting operations, none of the vehicles have become detached, and are left upon any Running Line.

**198.**—Station Masters must see that the scotch Blocks provided on Sidings leading to the Main Line are kept always locked across the Line; they must not be open except for the shunting in or out of vehicles. Guards, Shunters and others must exercise great care in the securing of vehicles in Sidings to prevent them from moving and fouling other Lines, or being blown out, or otherwise escaping on to a Running Line.

[Reg. 197-198]

**199.**—When, in any circumstances, on a single line a train has to go outside the Home Signal, or Outer Home Signal during shunting operations, the Staff or Tablet or Link for the Section about to be occupied must be in the hands of the Driver before shunting operations commence.

Train being shunted to have Staff if required to go outside Home Signal or Outer Home Signal.

**200.**—(a) In the case of a train, or vehicles having to be shunted from a Siding on to a Running Line, or from one Running Line to another Running Line and having to stand there, or when vehicles are detached from a train and left on any Running Line prior to being shunted into Sidings, or when it is necessary for a train or any vehicle to be placed outside the Home Signal, the Station Master must be at once informed of the fact in order that he may keep the Signals at Danger for the protection of the Line, and take the authorized steps for securing safety in one or both directions as may be required. At night and during foggy weather, falling snow, or dust storm, in addition, a Red Light must be shown at the rear of the vehicles or, where necessary, at both front and rear, until they are safely placed in the Sidings. When vehicles have been detached, care must be taken that they are properly secured so as to prevent their moving.

[Reg. 199-200]

(b) It is the duty of the Shunter or person in charge of the shunting to see that the necessary Red Light is shown at the rear, or, where necessary, at both front and rear of vehicles standing on any Running Line, or on vehicles detached from trains, and Station Masters must take care that this is clearly understood by the men concerned. The Station Master must also keep a good look out upon the arrival of trains, and if he sees any vehicles have become detached and are left on any Running Line, he must take the necessary steps to protect them.

(c) Should the shunting extend up to or near an Outer Home Signal, a man must be sent in advance with Detonators, Lamps, or Flags, so as to provide for the thorough protection of the shunting engine.

(d) No engine of any train arriving at a Station where there is no shunting engine, must drop its fire except by order of the Station Master. Train engines if required must place wagons brought by the train into the proper Sidings, and do other requisite shunting at a Station where shunting engines are not provided.

(e) When any shunting has to be done, it must be performed at once by the Engine Driver on the verbal order of the Station

Shunting Orders.

[Reg. 200]

Master, Guard, or Shunters without waiting for a written order, which will be made out afterwards and handed over to the Driver as soon as the shunting is finished, and if it is not made out, the Driver may refuse to proceed till such time as the Station Master gives the shunting certificate, and the Station Master will be responsible for the delay.

(f) All shunting at Road Side Stations where no shunters are stationed must be personally attended to by the Guard under orders of the Station Master, and proper care must be exercised by all the Staff when getting between vehicles during shunting. The Shunting Staff are forbidden to get between vehicles in motion.

(g) It is the duty of the person supervising the shunting to place himself in such a position that he can control both the engine and the shunter (if there be one).

(h) The person supervising the shunting is responsible for the actual shunting, and hand signalling, and for placing the vehicles where desired. The Station Master is responsible for protecting the shunting by Fixed Signals.

(i) If any shunting operation involves the movement of an entire train composed of non-automatic braked stock, or the rear portion of such a train, the Guard must see that the rear brake is

[Reg. 200]

always manned by one of the Train Staff, if available, or if not available, by one of the Station Staff, so that the brake can be applied when necessary. In case of a train composed of automatic braked stock, the automatic brake is not to be used in small (ordinary) shunting operations, when a few vehicles are to be cut off, but where a train is being shunted, the application of the automatic brake is permissible in emergency only.

(j) Vehicle or Engine coupling pipes must not be allowed to hang down in shunting, and no shunting of vehicles coupled by ropes or chains must be permitted.

**201.**—(a) When any car has  
 Detaching Cars from passenger trains. been detached from a train, the Guard must, unless some of the Station Staff are present to take charge of it, see that it is properly secured so as to prevent its moving. If the engine be detached to put off or take on vehicles, or for any other purpose, the Guards must keep their hand-brakes on to prevent the train moving during the time the engine is away from it.

(b) The automatic brake must not  
 Detached cars from passenger trains left on Running Line. be relied upon to secure any car from running away after it has been detached from the engine and the Brake-van.

[Reg. 200-201] ·



**202.**—When a train has been brought to a stand on any Running Line, where the Line is not level, and it is necessary for the engine to be

Attaching and detaching vehicles of trains where Line not level.

detached from the train to attach or detach vehicles, or for any other purpose, the Guard must, before the engine is uncoupled, satisfy himself that the brakes have been put on securely ; and as an additional precaution, he must pin down a sufficient number of brakes, so as to prevent the possibility of the vehicles moving away, taking into consideration the steepness of the gradient, the number of vehicles, their loads, and the state of the weather and rails.

**203.**—No engine whilst engaged in shunting must run in any Station at a speed exceeding ten kilometres per hour.

Speed of shunting engine.

**204.**—During shunting operations an Engine Driver must not move his train, although the Fixed Signal may be lowered, until he has received a Signal to do so from the Station Master, Guard, Shunter or other person in charge.

Shunting operations.

**205.**—(a) The Shunting of vehicles with two engines attached is strictly prohibited. When two engines are attached to one train and shunting operations are required at any Intermediate Station,

Shunting with two engines prohibited.

[Reg. 202-205]

the leading engine must be detached and stand clear while the train engine performs the necessary shunting. When the leading engine is thus in position, the train engine will proceed with the shunting.

(b) In the event of shunting being necessary from the rear portion of the train, the leading engine is to detach and do whatever shunting is necessary. The train engine in this case must be detached, and draw an engine length ahead clear of the train, to avoid buckling the train in case of rough shunting.

(c) Engines must not under any circumstances be run out and left standing on the Main Line to facilitate shunting operations.

(d) As far as possible, when two engines are working a train it should be arranged that there will be no necessity for shunting at any Intermediate Station.

**206.**—(a) Before vehicles are moved in, or shunted into a Siding used for repairing purposes or for loading or unloading traffic, and before vehicles are moved in, or shunted into a Goods Shed, Car Shed, or other Building where vehicles are already standing, Guards, Shunters, and others concerned must take care to warn any of the Railway's Servants or other persons who may

Men to be warned before vehicles are moved in, or shunted into Sidings or Car Sheds and Carts or Other Road Vehicles to be cleared.

(a) Before vehicles are moved in, or shunted into a Siding used for repairing purposes or for loading or unloading traffic, and before vehicles are moved in, or shunted into a Goods Shed, Car Shed, or other Building

[Reg..205-206]

be engaged in, about, or between the vehicles; they must also request any person who may be loading or unloading not to remain in, or near to vehicles which are likely to be moved by shunting operations, and must satisfy themselves that no other vehicle is foul of any of the Lines on which shunting operations are about to be performed.

(b) Care must be taken to see that Shed Doors are open and all is clear before commencing Shunting operations in the Shed Lines, and that all wagon doors are properly secured by the fastening provided for the purpose before being taken into or drawn out of the Shed, or before being moved in or shunted into any Siding, care being also taken that the contents are not left in such a condition as would result in their falling from an open wagon when being moved.

**207.**—(a) Loose or fly shunting of wagons by engines against loaded passenger trains, also loose or fly shunting by engines of vehicles containing passengers, live animals, or explosives is strictly prohibited.

(b) When any vehicle has to be shunted into a Siding, the Guard, or Shunter must ascertain the position of any vehicles in the Siding before commencing to set back,

[Reg. 206-207]

and the Guard or Shunter must signal the Engine Driver so as to prevent the train striking the vehicles in the Siding or the buffer stops with too much force.

(c) The movement of vehicles by means of a pole, or by towing with a rope or chain attached to a locomotive or vehicles moving on an adjacent Line, is prohibited, except in cases where specially authorized by the Traffic Manager.

**208.**—(a) Vehicles must not be fly shunted into Siding, or against other vehicles upon Running Lines, but must remain attached to the engine, so as to prevent their coming into violent contact with other vehicles or fouling other lines, or running away when the line is on a falling gradient, and must not be left standing until the hand brakes have been applied.

(I) Loose, or fly shunting consists in sending a detached vehicle or vehicles “flying” or moving from an engine without the power to control them.

(II) A double shunt, or double fly shunt, consists in sending one vehicle on to say, No. 1 Line, and immediately thereafter another vehicle, or engine, on to No. 2 Line

[Reg. 207-208]

whilst the first is still running.

(III) Fly shunting, and double fly shunting, are strictly prohibited under any circumstances.

(b) Wagons must not be moved unless the doors are properly closed and fastened.

(c) When it is necessary to cut off one or more vehicles, the Guard or Shunter conducting shunting operations must, by displaying Danger Signals, bring the engine with vehicles attached, if any, to a dead stand, and must continue to exhibit such Danger Signals until the Shunter has cut off the vehicle and vehicles, *and returned to a place of safety*, when the Guard or Shunter shall display All Right Signals.

(d) When one or more vehicles have to be coupled up to an engine or to the vehicles attached to an engine, the Guard or Shunter conducting shunting must, by displaying Signals, so regulate the speed of the engine with vehicles attached (if any) that it will be at a dead stand immediately contact occurs.

(e) Vehicles left standing in Sidings must be clear of the Fouling Posts of any adjoining Sidings or Lines, and be properly secured to permit the shunting operations being carried on without risk

[Reg. 208]

of injury to the Staff engaged in conducting them.

**209.**—(a) All Railway Servants performing shunting operations at Sidings must take care that the vehicles are left clear of any Running Line or within the Scotch Blocks, and Station Master are responsible for seeing that the Points are reversed and the Scotch Blocks placed across the rails to protect the Running Line after the operation is completed.

(b) Running Shed Foremen and Car and Wagon Examiners are responsible that vehicles under their charge when standing on Locomotive Sidings, are properly secured.

(c) Permanent Way Inspectors, Gangers, or others are responsible that vehicles under their charge when standing on Sidings outside Station Limits are properly secured.

(d) Guards and Shunters are held responsible for seeing that the trains are clear of the Points, and that Points are in proper position before a Signal is given to the Engine Driver to move, and they must render the Station Master every assistance they can in the shunting operations.

(e) In the case of a light engine unaccompanied by a Guard or Shunter, the Driver must satisfy himself that the Points are in the proper position.

[Reg. 209]

**210.**—(a) Cars must, when practicable, be attached to or detached from Passenger Trains without the trains being moved.

Attaching and detaching cars to and from passenger trains.

(b) Before any car containing passengers is shunted over Points, care must be taken to ascertain that the Points are securely set for the Line on which the car is required to run, and that the Line is clear and properly protected.

(c) When cars are being moved by an engine for the purpose of being attached to a passenger train, the automatic brake pipes, where provided, must be connected, so that the brake may be available during the operation.

(d) Shunters or other authorized persons must, on no account, move cars at Stations, except under the orders of a responsible member of the Station Staff.

Movement of Cars at Stations.

(e) All Porters pushing vehicles by the buffer plate or at the end should be ordered to desist at once. The proper place to push a vehicle is at the side, outside the rails.

(f) Cars must not be hand shunted on to, or across, any Running Line when this can be avoided, and under no circumstances when the "Staff" is Out (on Single Line), or when the Signal "Line Clear" has

Shunting at Stations.

[Reg. 210]

been given on double Line, for an approaching train, and never after dusk (between sunset and sunrise).

(g) The Station Master supervising the Hand Shunting will be held responsible for the observance of these instructions.

### CHAPTER XIII

#### VEHICLES ESCAPING FROM STATIONS

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**211.**—(a) If any vehicle escapes from a Station, the Station Master must take immediate steps to warn the other stations concerned and to prevent, as far as practicable, the occurrence of an accident.

(b) The Station Master must immediately wire to the Station Master in the direction in which the vehicles have gone to be on the lookout, and to take measures to stop the runaway vehicles. In cases when vehicles run down grades and attain high speeds, the Station Master, if such cars do not contain passengers, will be justified in stopping them by taking means to derail them, but care must be taken to do this in such a manner as not to block the Through Line and cause detention to trains.

(c) When possible, it will, as a rule, be better to have the Facing Points  
[Reg. 210-211]



set, so that the vehicles will run into a Clear Line, or otherwise into Catch Sidings and Dead Ends.



# PART VI

SINGLE LINE WORKING

## I. Electric Train Staff or Tablet System

**212.**—It is an established principle that every Single Line must be worked by the Electric Train Staff or Tablet System, the instruction for the working of which are given in Appendix I. For Lines not yet equipped with Electric Train Staff or Tablet System for train working, the principle that there can be only one train in a section at a time will apply. (see Appendix VII).

## II. Working of Points and Signals for the Passing and Crossing of Trains

**213.**—When two trains approach a Station from opposite directions at the same time, the Points must be secured for both in-coming trains for the separate Lines on to which they are to be admitted before either is admitted ; but as soon as each train has cleared its respective Points, they must be set in the out-going direction for the other train.

**214.**—The Danger Signal must always be kept exhibited at all the Fixed Signals at Staff Station, except when it is necessary to lower them for a train to pass, and, before any Signal is lowered, care must be taken to ascertain that the Line on which the train is about to run, is clear, and properly protected, and that all

[Reg. 212-214]

Regulations have been duly complied with.

**215.**—When trains which have to cross each other are approaching a Station in opposite directions the Distant and Home Signals in both directions must be kept at “*Danger*” and when the train which is to be first admitted into the Station has been brought to a stand, the Home Signal applicable to such train may be lowered to allow it to draw forward to the Station and after it has again come to a stand, and the Signaller has seen that the Line on which the other train will arrive is quite clear, the necessary Signals for that train may also be lowered i. e. when the “*Staff*” or “*Tablet*” as the case may be, for the section ahead is not in the hands of Station Master, ready to be handed to the Driver of the approaching train, both the “*Distant*” and “*Home*” Signals must be kept at “*Danger*” until train has come to a stand at “*Home*” Signal. When train has come to a stand at “*Home*” Signal that signal may then be lowered to allow of train drawing forward to Station.

**216.**—(a) Permission must not be given for a train to approach from the opposite end of the Section when there is any obstruction upon the Line and the Line must not be fouled after permission has  
[*Reg. 215-216*]

been given for a train to approach from the opposite end of the Section.

(b) An Engine Driver must not, under any circumstances, foul the Single Line for Shunting purposes, unless he has received the authority of the Station Master to do so.

Driver not to foul Single Line without Station Master's authority.



## PART VII

### DOUBLE LINE WORKING



## I.—Direction of Trains

**217.**—Unless otherwise specified,  
 Direction of Trains. on Double Lines, trains must  
 run on the Left track in the  
 facing direction.

## II.—The Lock and Block System

**218.**—As stated in Reg. 96, it is  
 Lock and Block System. an established principle that  
 all Double Lines are to be  
 worked by the Lock and Block System,  
 the instructions for the working of which  
 are given in Appendix II.



## PART VIII

### PERMANENT WAY AND WORKS

## CHAPTER I

### GENERAL REGULATIONS

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**219.**—Each Permanent Way Inspector shall be responsible for the condition of the Permanent Way and Works in his District, and must promptly report to the Engineer in charge of the District all accidents thereto and defects therein which such Inspector may consider likely to interfere with the safe running of trains.

**220.**—The Section Foreman in charge of gangs of Platelayers will report to the Permanent Way Inspector of the District; there must be a Ganger or Leading Man for each gang of Platelayers or men engaged on the Permanent Way or on other Works affecting the Running Lines, and the District Permanent Way Inspector must take care that every such Foreman, Ganger, or Leading Man or Service Train Guard under his control is provided with a copy of the current Working Time-table, the Appendix thereto where issued, and the weekly or other Notices of the working arrangements, and that each Foreman, Ganger, Leading Man or Service Train Guard, is provided with a copy of these Rules and Regulations.

[Reg, 219-220]

**221.**—Each Permanent Way Inspector must constantly have with him, when on duty, a copy of these Rules and Regulations, and must read and explain, or cause to be read and explained, the Rules and Regulations, so far as they relate to his duties, to every Foreman and Ganger who is employed in his District both at the time he first comes to work under him and at least twice a year afterwards.

**222.**—Permanent Way Inspectors must take care that all Rules and Regulations are observed, and report any departure from them to the Engineer.

**223.**—Quarters are provided for all Platelayers, each hut bearing a number corresponding to the serial number of the gang, all men must live in the hut provided, and the Ganger will be held responsible for the cleanliness and good order of the same.

**224.**—(a) Each Inspector must have a register of the names of all Foremen and Gangers in his District together with the kilometrage and number of the hut in which they live, so that, in case of accident, he may be enabled to call on them immediately to turn out their gangs to assist in any way that may

[Reg. 221-224]

be required. Should any obstruction take place, caused by snow, frost, slips, or other sudden emergency, he must immediately collect the number of men required.

To summon men in emergency.

(b) All Gangers will be supplied with boards bearing the number of the gang which must be exhibited in both directions in such a manner as to be readily seen from a passing train near the place where the gang may be working.

Gangs supplied with number boards.

**225.**—(a) Each gang of Plate-layers or Labourers working on or adjacent to the Running Lines must be supplied by the Inspector for the District with two Red and two Green Flags, two Hand Signal Lamps, and a proper number of Detonators. Each Ganger will be held responsible for having his Signals constantly in proper order and ready for use. The Flags must be used during daylight, the Lamps after sunset and during foggy weather, falling snow, or dust storm, and the Detonators whenever necessary to attract the attention of the Engine Drivers.

Lamps and Signals to be supplied.

(b) The Red Signal indicates Danger, and must be used only when necessary to stop a train.

Meaning of Signals.

(c) The Green Signal moved slowly from side to side by Platelayers  
[Reg. 224-225]

indicates that a train must reduce speed to 20 kilometres per hour or such other speed as may be prescribed by such Green Signal.

**226.**—Persons in charge of Service  
Persons in charge of Service Trains to obey orders of Inspectors, Station Masters, Signalmen. Trains must obey the orders of the Inspectors, Station Masters, and Signalmen, so far as relates to the time of their running on the Line.

**227.**—Service Trains and men employed with such trains and all extra gangs must not work on the Running Lines during Fog, falling snow, or dust storm. Service Trains and men not to work on Running Lines during Fog, falling snow, or dust storm.

except when authorized under special circumstances, and no Service Train, Wagon, or Trolley must be used, if possible to avoid it, except during daylight and when the weather is sufficiently clear for a Signal to be distinctly seen at a distance of one kilometre.

**228.**—(a) Before a rail is taken out on a Single Tracked Line, or relaying operations are commenced, or in case of any slip or failure of the Works, or from any cause the Line is unsafe, two Flagmen appointed for the purpose must go off in both directions each exhibiting a Danger Signal and place three Detonators on the Line ten metres apart at a distance of not less than two kilometres from the obstruction. In

[Reg. 226-228]

a Double Tracked Line, if the obstruction affects only the Up or the Down but not both then it will be only necessary for one Flagman to go back the prescribed distance and exhibit the Danger Signal for the train approaching on the Line obstructed. If both the Up and Down Lines are obstructed then the Danger Signal is to be exhibited by Flagmen in both directions.

(b) The Flagman in going out  
Flagman. to perform the duty must act in accordance with Regulation 254.

(c) Before a rail is taken out, the Platelayers must have, at the spot, a perfect rail in readiness to replace it.

**229.**—(a) In addition to sending  
Additional out a Flagman the prescribed  
Flagman distance, as directed in Regulation 228, the Foreman or Ganger must also station near to the working party a second Flagman, who must place two Detonators on the rail ten metres apart, and exhibit a Danger Signal.

(b) When the Distant Flagman is out of the sight of the Flagman stationed near to the working party, one or more Flagman, as may be necessary, must be stationed intermediately for the purpose of repeating to the Distant Flagman the Signals exhibited by the Home Flagman.

[Reg. 228-229]



**230.**—(a) When repairing, lifting, or sluicing the Line, or when performing any other operation, or during any other time when it is necessary for a train to travel at reduced speed, the Foreman or Ganger must send a man back at least one kilometre in both directions (in the rear only on Double Lines), or as much further as the circumstances of the case render necessary, who must fix a Detonator on one rail of the Line for which he is signalling, and exhibit a Caution Signal by waving a Green Flag or a Green Light slowly from side to side, so as to be plainly visible to the Engine Driver of an approaching train. The Foreman or Ganger must also station at the end of the work, or portion of the Line affected, nearest to approaching trains, a second Flagman who must exhibit a Caution Signal.

(b) The same precautions must be adopted by night as well as by day when it is necessary for trains to travel at reduced speed.

(c) If a man in going back should arrive at a Station, or if the work is near to a Station and within the protection of the Home Signal of such Station, he need not proceed beyond the Station, but he must advise the Station Master in charge of it of the necessity of slackening the speed of any train running in the direction of the

[Reg. 230]

repairs, and, when the Fixed Signals are lowered, he must himself exhibit the Caution Signal by waving a Green Flag or Green Light slowly from side to side, so as to be plainly visible to the Engine Driver of the approaching train, but he need not place a Detonator on the rail, unless it is necessary to do so, to attract the attention of the Engine Driver, as directed in Regulation 225.

**231.**—(a) Any accident to a train, or failure of any part of the works affecting the safety of the Line, must be reported as soon as possible to the nearest Permanent Way Inspector and to the Station Masters on both sides of the point at which the accident or failure has occurred.

(b) To convey intelligence of, or to summon assistance to, any accident or failure, a Platelayer must be sent, as quickly as possible, to the next gang in each direction, from which a Platelayer must in like manner be sent to the next more distant gang until information of the accident has, by this means, reached the nearest Station in each direction and the necessary assistance has been obtained; the Platelayers of each gang proceeding without loss of time to the place at which their services are required.

[Reg. 231]

**232.**—Each Foreman, Ganger, or Leading Man, when examining his length of Line, must have with him a spiking hammer, six Detonators, a Red Flag, a few spikes or screws, a Permanent Way Gauge, and a spanner, and, when passing through a tunnel, must also carry a lighted Hand Signal Lamp.

**233.**—(a) Each Foreman, with two men to carry tools, must walk over his length of Line at least once a day, and tighten up all spikes or screws, and other fastenings that may be loose, and he must examine the Line, Level and Gauge of the road, and the state of the joints, marking, and if necessary, repairing such as are defective.

(b) All Points and Crossings must be carefully examined and, if necessary, adjusted.

(c) Pointsmen, or specially designated men, must oil and keep clean the working parts of Points and Signals, unless the duty is otherwise specially provided for, and the Points must be kept clear of snow, ice, or other obstruction.

(d) They must also take care to maintain proper Scotch Blocks on all Sidings requiring them, and must see that at Level

Articles a Foreman, Ganger, or Leading Man to have when examining road.  
Foreman to walk over his length of Line.  
Points and Crossings to be examined.  
Cleaning of Points and Signals.  
Proper Scotch Blocks to be provided.

[Reg. 232-233]

Crossings, ballast, stones, snow, ice, or Level Crossings other obstructions are not to be kept clear. allowed to accumulate so as to interfere with the running of the trains.

(e) Any obstruction to the proper working of the Signals or Signal Wires must be removed, and broken Signal Wires must be temporarily repaired until the regular Signal Repairer can attend to them.

**234.**—Each Foreman, Ganger, Leading Man and Flagman must report to the Permanent Way Inspector every case in which any Signal is disregarded by any Engine Driver. If any Telegraph Pole is in an unsafe state, or any of the Wires are broken, slack, entangled, or touching each other or any buildings, they must be made safe and the circumstances reported to the Permanent Way Inspector. The Foreman, Ganger, or Leading Man must also see that all grass, boughs of trees, ballast and rubbish are removed from the Telegraph and Signal Wires, and from Point Rods.

**235.**—As special trains or engines have frequently to be run without previous Notice of any kind, it is necessary at all times to be prepared for such extra trains or engines.

[Reg. 233-235]

**236.**—In lifting the Permanent Way, no lift must be greater than 75 millimetres at once, and then it must be effected in a length of at least twenty metres, in such a manner as not to occasion any sudden change of gradient. When both rails have to be lifted, they must be raised equally and, at the same time, great care being taken, where there is a curve, preserve the super elevation of the outer rail.

**237.**—Ballast must not be thrown up within the track rails more than 75 millimetres (three inches) above the rail level, and it must be thrown as much as possible on the outside of each track, or between the two tracks. The rails must be kept clear of gravel, ballast, or any other material.

**238.**—Each Foreman is required in the event of a Flood to examine carefully the action of the water through the culverts and bridges on his length of Line, and should he see any cause to apprehend danger to the works, he must immediately exhibit the proper signals for the trains to proceed cautiously or to stop, as necessity may require, and inform the Permanent Way Inspector thereof; and, until the Inspector arrives, he must take all the precautionary

[Reg. 236-238]

measures necessary for securing the stability of the Line.

**239.**—In the event of any fire occurring upon or near the Line, the men employed on the Line must take immediate measures for putting it out.

**240.**—(a) Foreman or Gangers must see that broken rails, sleepers, or other defective materials are removed from the track with the least possible delay, and that sound materials are substituted.

(b) All cases of broken rails must be specially reported to the Permanent Way Inspector.

(c) Tools, rails, sleepers, pieces of iron or wood, or other implements or materials, must be carefully placed so as to be quite clear of the track, and not within 1.85 metres (six feet) of the rails, and the disused materials must be removed from the Line as soon as practicable.

(d) The following minimum materials shall be kept at every Platelayer's hut :

- 2 Rails
- 2 Pairs of Fishplates
- 20 Fishbolts
- 20 Spikes or Screws
- 6 Sleepers

[Reg. 239-240]

The Ganger will be held responsible for the safe custody of these materials, and any used from the stock must be replaced under orders of the Permanent Way Inspector, who must personally inspect the stocks in his District at least once a month.

(e) All surplus and old materials must be carefully collected and stacked at the Plate-layers' huts and duly checked by the Permanent Way Inspector and entered in the Form provided by the Engineer and subsequently dealt with as directed by that Officer.

Old materials to be carefully collected and stacked.

**241.**—Each Permanent Way Inspector is held responsible for the security of the rails, sleepers, and other Permanent Way materials in his District, and for their being kept clear of both Lines, and properly stacked.

Responsibility for security of rails and other materials.

**242.**—Tools and implements required for the repair of the Line must, when not in use, be kept locked up in the boxes provided, for the security of which each Foreman or Ganger on his own length of Line is responsible.

Security of tools and implements.

**243.**—Each Foreman, Ganger, or Leading Man is responsible for collecting any coupling, chains, hooks, pins, iron or other materials found on the Line, and for

Materials found on line to be collected.

[Reg. 240-243]

having them conveyed to the nearest Station as early as possible.

**244.**—Baggage, Goods, or other articles not referred to in the preceding Regulation found on the Line must immediately be taken to the nearest Station Master, and a report made containing the best information that can be obtained respecting the train from which they may have fallen.

## CHAPTER II

### RUNNING OF TROLLEYS AND LORRIES

**245.**—(a) For the purpose of the following Regulations in this chapter, a vehicle which can be lifted bodily from the Line by four men shall be deemed to be a Trolley, and any similar but heavier vehicle shall be deemed to be a Lorry.

(b) A Trolley shall not, except in cases of emergency, be used for the carrying of Permanent Way or other heavy material, and, when a Trolley is so loaded, it shall be deemed, for the purpose of these Regulations, to be a Lorry.

**246.**—(a) No Lorry or Trolley may be placed on Line, except by a Railway Servant appointed in this behalf by special instruction.

[Reg. 244-246]



(b) Such Railway Servant shall accompany the Lorry or Trolley, and shall be responsible for its proper protection, and for its being used in accordance with special instructions.

**247.**—No Lorry or Trolley shall be attached to a train.  
Attachment to train prohibited.

**248.**—Every Lorry or Trolley when on the Line must show a Red Flag visible in both directions by day, and a Red Light, visible in both directions at night.  
Red Flag or Light to be shown.

**249.**—A Lorry or Trolley when not in use, must be placed clear of the Line, and the wheels must be secured with a chain and padlock.  
Lorries or Tril-lies out of use.

**250.**—(a) Whenever it is proposed to place a Lorry, whether loaded or empty, on the Line, the Line shall, if it is possible to do so without interference with the working of trains, be blocked under the Regulations for working trains.  
Protection of Lorry on the Line.

(b) When the Line has not been so blocked, and a Lorry, whether loaded or empty, is placed on the Line, the Lorry must be protected by a man following and a man preceding the Lorry at a distance of not less than one kilometre, and plainly showing a Hand Danger Signal.

[Reg. 246-250]

(c) The men so following and preceding the Lorry must be furnished with Detonators, and must place three on the Line ten metres apart, immediately the Lorry comes to a stand for the purpose of either loading or unloading, and must continue to show the Hand Danger Signal and keep the Detonators on the Line until a messenger arrives with an order from the Ganger or other person in charge of the operation to withdraw the Signal, and, in any case, should any train be seen approaching, must immediately place the Detonators on the Line, unless they have received orders to withdraw the Danger Signal.

**251.**—(a) The authority to use a Lorry will be in the form of a Lorry Pass, which must be produced whenever required, and no Lorry is to be placed on the Line, unless accompanied by a subordinate so authorized.

(b) No Lorry must be run on the Line, unless it is accompanied by enough men to readily lift it off, and in no case shall this number be fewer than six.

(c) All Lorries must be plainly marked with a number by which they can be identified.  
[Reg. 250-251]

(d) When the Line is to be blocked for the running of a lorry, the Engineering Official in charge of the lorry must receive from the Station Master a written memorandum, for which a signature must be given, stating up to what time the Line can remain blocked, and he is then responsible for clearing the track and informing the Station Master in writing that he has done so within the specified time.

(e) Every lorry must carry two Red Hand Flags and one Green Hand Flag, two ready trimmed Hand Signal Lamps, one ready trimmed Lamp showing Red both ways, a padlock with chain, and 12 Detonators. Proper standards or brackets must be provided for exhibiting Flags and Lamps.

(f) The person in charge of a lorry on the Line under all circumstances be held responsible for its use and for knowing when trains are due; and, as a special precaution against accidents, enquire from the Station Master whether the Line is clear, and whether any train is expected in either direction.

(g) When it is necessary to place a lorry on a Line at night or during foggy or tempestuous weather, the Line must be blocked.

[Reg. 251]

(h) If the outlook becomes obscure owing to a fog, dust storm, or other cause while a lorry is on the track, the lorry must be immediately removed, unless running on a blocked Section.

(i) When a lorry is working between Stations after the line has been blocked, it need not be protected by Danger Signals during the period the block is in force.

**252.**—The Railway Servant in charge of a Trolley shall, before leaving a Station, ascertain the whereabouts of all approaching trains, and when a clear view for an adequate distance in both directions is not obtainable, shall take *such precautions for the protection of his Trolley* as may be prescribed by special instructions.

**253.**—(a) The authority to use a Trolley will be given for the Engineering Department by the Engineer-in-Chief and for the other Departments by the Traffic Manager, in the form of a Trolley Pass, which must be produced when required.

(b) No Trolley shall be placed on the Line, except under the charge of an Officer or person specially authorized to use a Trolley. In cases where a

Inspection-Trolley not to be used except by Authorized Officers.

[Reg. 251-253]

person authorized to use a trolley is unable to trolley with it, the Trolley may be sent over the Line in charge of the Head Trolleyman.

(c) No person unprovided with a Pass shall be allowed to travel on a Trolley unless he is accompanied by a Railway Servant holding a Pass, or by a Head Trolleyman deputed for the purpose by an Authorized Railway Servant.

(d) The person in charge of a Trolley under all circumstances must be held responsible for its use and for knowing when trains are due; and, as a special precaution against accidents from light engines, etc., when passing a Station, must enquire from the Station Master whether the Line is clear, and whether any train is expected in either direction.

(e) No Trolley must be run, unless it is accompanied by enough men to readily lift it off, and in no case shall this number be fewer than four.

(f) All Trollies must be plainly marked with a number by which they can be readily identified.

(g) All Trollies must be fitted with efficient brake gear, and the person in charge will be responsible that the brake is in proper order.

[Reg. 253]

(h) When two Trolleys are running together, or in the same direction, particular care must be taken that they are kept a sufficient distance apart to allow of the rear Trolley being stopped in time if a Trolleyman should slip from the front Trolley, or if the front Trolley should be stopped suddenly from any reason.

(i) Persons using Trolleys must invariably carry with them on the Trolley two Red Hand Flags and one Green Hand Flag, two Hand Signal Lamps, one special Lamp showing Red both ways, and a padlock with chain.

(j) Whether otherwise protected or not, no Trolley shall be placed upon an open Line without a Red Flag by day, or a Red Lamp by night, showing both ways and conspicuously displayed. The Flag shall be placed in a socket and the Lamp so placed that it can be readily seen by approaching trains. Persons in charge of Trolleys are responsible that their lamps are always trimmed and ready for use, and that, when in use, they burn brightly.

(k) The Pass granted will not authorize the holder to have his Trolley and men conveyed in any train unless specified on the Pass, and then only provided that there is

[Reg. 253]

room on the train and that the train is not detained thereby.

### CHAPTER III

#### PROTECTION OF RUNNING LINE

**254.**—(a) Before any trolley, wagon, or other obstruction is placed upon the Line, or in the event of any Service train being obliged to remain stationary on the Line, or to move so slowly as to be in danger of being overtaken, the Danger Signals must be plainly exhibited and three Detonators placed upon the Line ten meters apart at a distance of not less than 2 kilometres from the obstruction in both directions of any coming train (even if no train is expected) by the Foreman or Ganger, or by a competent man appointed by him to do the duty, who must continue to exhibit the Signals and keep the Detonators on the Line until he receives an order from the Foreman or Ganger to withdraw such Signals ; such order, however, must not be given until the obstruction is completely removed.

(b) If the obstruction is caused by a Service Train in possession of a Train Staff or Tablet, Obstruction of Line. it will not be necessary to send out a Flagman to protect it.

(c) Should the distance of not less than two kilometres fall within a Tunnel or close to the Obstruction near a Tunnel.

[Reg. 254]

mouth of a Tunnel nearest to the obstruction, or in any other portion where, owing to the formation of the Line or to some other circumstance, the Engine Driver of an approaching train would be unable to obtain a good and distant view of the Hand Danger Signal, then the Signal must be exhibited, and Detonators must be placed on the Line at the end of the Tunnel farthest from the obstruction, or at such a distance over and above the prescribed distance of not less than two kilometres, as may be necessary, to insure the Engine Driver obtaining a good and distant view of such Signal.

(d) If the person appointed to exhibit the necessary Signals and to place the Detonators on the Line should arrive at a Station before he has reached the prescribed distance, he must request the Station Master in charge of it to keep his Signals at Danger to protect the Line about to be obstructed; it will not be necessary for him to go farther back, but he must remain at the Station, put down three Detonators, and use his Hand Danger Signals; and the Station Master so instructed must not take off his Signals or allow any train to pass his Station in the direction of the obstruction until the Foreman, Ganger, or Leading Man in charge of the work has informed him that the obstruction has been moved, and that the Line is clear

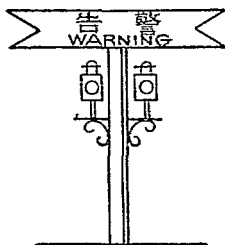
[Reg. 254]



and safe for the passage of trains; the object being that the Station Master and Platelayers shall not show contrary Signals to approaching Engine Drivers.

**255.**—(a) Where the necessity for trains to travel at reduced speed continues for a lengthened period, the Engineer may dispense with the placing of Detonators on the rail and also the exhibition of the Hand Caution Signal; in substitution thereof, a Warning Board, painted Green, and of the following shape, must be fixed not less than one kilometre from the place to be protected, and in such a position as to be clearly seen by Engine Driver, During the night, one Green and one White Light must be placed side by side on the Warning Board, thus :—

Warning  
Boards.



(b) Warning Boards must only be brought into use after due notice has been given in the weekly or other notices indicating the positions of the Boards and the places to which they refer.

[Reg. 255]

(c) The precise position of the work, or place for which the Warning Board is intended, will be indicated by a Flagman on the ground, and Engine Drivers must keep a good look-out for this man and obey any Signals given by him.

(d) During foggy weather, falling snow or dust storm, a Flagman must be sent back, and he must act as prescribed in Regulation 228 (a).

**256.**—The times for effecting repairs which involve the stopping of trains must, as far as practicable, be so selected as to interfere as little as possible with the passage of the traffic. Unless absolutely necessary, a rail must not be displaced, nor must any other work be performed by which an obstruction may be caused to the passage of the trains during fog, falling snow, or darkness.

Times for effecting repairs. Rails not to be displaced during foggy weather or tempestuous weather except absolutely necessary.

## CHAPTER IV

### PROTECTION OF MEN AT WORK

**257.**—(a) When a train is approaching, Platelayers and other men at work on the Permanent Way must not remain on any Running Tracks, nor between them if the space is less than 2.50 metres (eight feet), but must at once move clear of all tracks,

[Reg. 255-257]

unless they can distinctly see that they are in a position of safety, and in no danger from another train approaching them unobserved ; the man must stop in the positions they have taken up until the train has cleared a sufficient distance to enable them to see that no train is approaching on the other tracks before they re-cross the rails.

(b) If circumstances compel Plate-layers or other men to remain between trains passing on adjoining tracks where the space between the tracks is less than 2.50 metres (eight feet), they must lie down.

(c) In Tunnels, or where the approach of a train cannot be observed or heard in time for the men to get out of the way, Flagmen must be appointed by the Ganger to give the necessary warning in both directions.

(d) The men must also desist from work during fog, falling snow, or dust storm or darkness when the Foreman, Ganger, or Leading Man considers that they would not have sufficient warning of the approach of a train, provided such discontinuance of work does not endanger the safety of the trains.

(e) Where of necessity a gang of men is working during a fog, falling snow, or dust storm, or darkness, the Foremen, Ganger, or Leading Man in  
 Warning men at work during fog, falling snow, or dust storm.  
 [Reg. 257]

charge must sent out a man in each direction to warn the gang of the approach of a train, either by shouting or using a fog horn or loud whistle, and, if the occasion require it, the men sent out must place a Detonator on one rail of the track on which the train is approaching.

(f) When men are working singly or in gangs on or near tracks in use for traffic for the purpose of relaying or repairing the Permanent Way of such Lines, the Foreman, Ganger or Leading Man must, in all cases where any danger is likely to arise, provide one or more persons, as may be necessary, to maintain a good look-out and to give warning of any train approaching.

(g) When, from any other exceptional circumstances, the services of a "look-out" man are necessary to give warning of the approach of trains, application must be made to the Foreman, Ganger, or Leading Man for such "look-out" man to be appointed. The "look-out" man or men must be instructed specially for such purposes, and must be provided with all appliances necessary to give effect to such "look-out"

**258.**—When a Service Train has to be moved, whilst men are in the wagons, the Foreman, Ganger, or Leading Man must warn the Men, and the Engine Driver must sound  
[Reg. 257-258]

Whistle to be sounded when Service Train has to be moved whilst men are in wagons.

his whistle before the wagons are moved. The Engine Driver must also sound his whistle before reducing the speed preparatory to stopping.

PART IX

GENERAL REGULATIONS

FOR

STAFF OF ALL DEPARTMENTS

## CHAPTER I

### GENERAL REGULATIONS FOR STAFF OF ALL DEPARTMENTS

**259.**—All persons employed by the Chinese Government Railways shall observe the Rules and Regulations issued by the Ministry of Communications, they must devote themselves exclusively to the service of the Railway, they must reside at whatever places may be appointed, attend at such hours as may be required, pay prompt obedience to all persons placed in authority over them, and conform to all the Rules and Regulations of the Railway.

**260.**—The name and address of each Servant employed in the working of the Railway must be registered at the Station to which he is attached, or at which he is paid and the names and addresses of all persons connected with the Traffic Department (including Fog-signalmen) must be posted in the Station Master's office, so that, if required in cases of emergency, the men may be readily found. Any change of address must be at once notified, in order that the record may be kept perfect.

**261.**—No Servant is allowed to absent himself from duty, to alter his appointed hours of attendance, or to exchange duty with any other Servant without the

[Reg. 259-261]

special permission of his Superior Officer. In case of illness, he must immediately report the circumstance to his Superior Officer.

**262.**—(a) Every Servant receiving uniform must, when on duty, appear in it clean and neat with the number and badge (where supplied) complete; and, if any article provided by the Railway be damaged by improper use, it must be made good by the Servant using it.

(b) Servants are not allowed to appropriate to their own use any article which is the property of the Railway.

**263.**—All Servants must be prompt, civil and obliging. They must afford every proper facility for the business of the Railway to be performed, and be careful to give correct information. When asked for their names or numbers, they must give the same without hesitation.

**264.**—All persons holding situations of trust will be required to find security for their faithful services, the amount and conditions of which will be stated upon appointment.

**265.**—No Servant of the Railway is allowed to solicit gratuities from passengers or other persons.

[Reg. 262-265]



**266.**—No Servant of the Railway is allowed to trade, either directly or indirectly, for himself or others.

Trading  
forbidden.

**267.**—(a) The Railway reserves the right to punish any Servant by immediate dismissal or suspension from duty, for intoxication, insubordination, negligence or misconduct, or for being absent from duty without leave; (b) to fine any Servant for such acts or omissions, the amount being decided by the Authorized Officer in the absence of rules specifying the amount of fine; (c) to withhold the wages of such Servant during the time of suspension or absence from duty from any cause,

Misconduct  
punishable.

**268.**—When a person leaves the Service of the Railway, he must immediately deliver up his uniform, and all other articles belonging to the Railway. Any wages due to any person leaving the service will not be paid until the clothing, book of Rules and Regulations, lamps, flags, tools, detonators, and all other articles which are the property of the Railway which may have been supplied to him and of which he cannot give a satisfactory account shall have been delivered up in accordance with the Regulations of the Railway. If not delivered up, or if any articles be missing, or be damaged by improper use, the cost of

On leaving  
service, uni-  
form, etc., to  
be returned.

[Reg. 266-268]

such articles, or repair of such damages, shall be a debt recoverable from him and may be deducted from any wages which may be due to such Servant.

**269.**—(a) Every Inspector, Station Master, Yard Master, Assistant Station Master, Guard, Signaller, Brakeman, Shunter, Running Shed

Rules and Regulations, Notices, and Working Time-tables to whom supplied.

Foreman, Engine Driver, Fireman, Section Foreman, Ganger, and any other Servant whom the Chief Officers consider should have a copy must be supplied with and have with him when on duty, or in his office, and produce, when required, a copy of these Rules and Regulations.

(b) Every person above referred to must also be supplied with, and have with him, when on duty, a copy of the current working Time-table book, and Appendix thereto, and any Signalling, Permanent-Way, or Special Train Notices, and a copy of each must also be kept in the Station Master's Office, and Guards Quarters, and in each Signal-Box.

*Exceptions:* It is not necessary to supply Firemen who have not been passed to act as Engine-Drivers with the Working Time-Tables or other Notices, but those supplied to an Engine-Driver must be accessible to his Firemen.

[Reg. 269]

(c) Permanent-Way Inspectors, Station Masters and Locomotive Foremen will be held responsible for the men under them to whom a copy of the Rules and Regulation is not supplied being instructed in their duties, and acquainted with all Rules and Regulations that apply to them.

(d) Locomotive Foremen and Station Masters are respectively responsible for a copy of every Notice of Signal and other alterations being supplied, as soon as possible after receipt, to each Engine-Driver and Guard working over the line affected by the Notice, and for his signature for the same being taken in the book or other document provided for the purpose, which must be available for reference when required.

(e) Engine-Drivers and Guards must obtain and carry with them when on duty all necessary Notices as to the running of trains, Signalling, and general working of the Line.

**270.**—If any Servant lose his copy of Rules and Regulations, Appendix, or Time-Table, he must immediately obtain another copy from his Superior Officer.

[Reg. 269-270]

**271.**—Every Servant must assist in carrying out the Rules and Regulations and immediately report to his Superior Officer any infringement thereof, or any occurrence which may come under his notice affecting the safe and proper operation of the traffic.

**272.**—(a) The Servants of the Railway, more especially those engaged in the working of trains and in shunting and other similar operations, must not expose themselves to danger, and all are requested to prevent, as far as they possibly can, such exposure on the part of their fellow-Servants, and to spare no opportunity of warning those who neglect to take proper care and precautions.

(b) Reckless exposure of himself or others to danger on the part of any Servant of the Railway will be treated as an offence against the Railway's Regulations, and punished accordingly.

**273.**—All persons other than a Servant of the Railway in the execution of his duty must be prohibited to be, or walk, upon the Railway, unless provided with written or printed permission to do so signed by a properly Authorized Officer of the Railway.

[Reg. 271-273]

**CHAPTER II**  
**GENERAL REGULATIONS**  
**DUTIES OF STATION**  
**AND TRAIN STAFF**

**274.**—No Station Master must  
 Leave of absence of Station Master. absent himself without per-  
 mission from the Traffic  
 Manager, except from illness, in which  
 case he must inform the Traffic Manager  
 through his Immediate Superior Officer,  
 and take care that some competent and  
 duly qualified person is entrusted with his  
 duties until relief can be provided; he must  
 also submit a Medical Certificate from  
 the Railway Doctor as early as possible.

**275.**—(a) The Station Master  
 Daily Inspection of Station. must daily inspect the  
 Station, and see that the  
 rooms, offices, W. C's, urinals, and plat-  
 forms are kept neat and clean.

(b) He must also take care that  
 Station and Waiting Room Indicators. Station name plates or boards,  
 and waiting room or other  
 indicators, are kept in a clean and satis-  
 factory condition.

**276.**—The Station Master must  
 Office Duties. see that all orders are duly  
 entered and executed, that all books and  
 returns are regularly written up and  
 neatly kept. He must also see that  
 copies of the Goods and Passenger Re-  
 gulations, Lists of Fares and other Notices,  
 are properly exhibited at the Station  
 and Offices.

[Reg. 274-276]

**277.**—The Station Master must report without delay, to his Superior Officer, neglect of duty on the part of any of the Railway Servants under his charge, and forward to him particulars of any complaint made by the public.

**278.**—The Station Master must be careful to see that all stores are prudently and economically used.

**279.**—(a) Station Master must see that car roof lamps are kept clean, and properly burning when required.

(b) The glass of Platform Lamps must be cleaned daily, and Oil Burners taken to the Lamp-room every morning, cleaned and trimmed, and afterwards replaced before being actually required for use.

**280.**—Baggage and parcels must not, where the width of the platform will admit, be left within two metres of the edge of the platform, barrows not in use must be kept back close to the buildings or to the wall or fence at the back of the platform, and, when necessary, so secured as to prevent them from moving. Loading boards when not in use must be kept in a convenient place well away from the edge of the platform, and clear of the space used by passengers.

[Reg. 277-280]

**281.**—(a) Platforms, crossing places, steps of over-bridges and subways between platforms must, when necessary, be strewn with sand, small ballast, or ashes, or otherwise treated so as to avoid any cause of accident to passengers by slipping.

(b) If Station Masters have not sufficient ashes for the purpose, small ballast or sand will be supplied on application to the Permanent Way Inspector for the District.

(c) During falling snow, the platforms and approaches to the Stations must be kept free from snow by being carefully swept as often as necessary.

(d) The Permanent Way Staff must give as much assistance as possible.

**282.**—(a) Each train after finishing its journey and all cars shunted off at Stations as “empties” must be carefully searched, and any articles which may be found therein taken to the Station Master for instruction as to disposal. The doors of all cars left standing in Sidings must be locked.

(b) The windows of all empty compartments must be closed not only while the cars are standing at Stations and

Windows of empty compartments to be closed.

[Reg. 281-282]

Sidings, but also when the trains are running, immediately upon the compartment becoming vacant. The Ventilators to be kept open. ventilators must be kept open.

**283.**—(a) When a train is entering a Station, Porters and other members of the Staff attending on passengers must stand a few metres apart, a short distance from the edge of the platform until the train has stopped, when they must attend to the car opposite to them irrespective of class.

(b) Servants must not jump on to the steps or foot-boards, or run alongside of trains entering Stations.

Not to jump on to steps or footboards of trains.

**284.**—Guards, Travelling Ticket Examiners and Car Attendants must distinctly call out the names of the Stations at which the Passenger or Mixed trains stop during the journey.

Calling out names of Stations.

**285.**—The Station Master must take care that, immediately on the stopping of a passenger train, the name of the Station is called out along the train in a distinct and audible manner, and prompt attention must be given to any indication shown by the passengers of their desire to alight.

[Reg. 283-285]



**286.**—(a) Care should be taken that the outside doors of all cars and other vehicles are fastened before the train leaves the Station, and no door must be opened to allow a passenger to alight from or enter a train before it has come to a stand, or after it has started.

(b) Passengers showing signs of their intention of alight while a train is in motion must be requested to keep their seats till the train is brought to a stand.

(c) The Staff are warned in their own interests to keep clear of the trains. In the event of anyone throwing baggage, tools, etc., on to the platform through the windows, his name and address must be taken, and a report sent to the Traffic Manager.

**287.**—The Servants of the Railway must not take charge of baggage or other articles left at the Station for the convenience of passengers. All such baggage or articles must be deposited in the Baggage Office or other office provided for the storage of passengers' baggage.

**288.**—All unclaimed or lost baggage, money, or other property found in the cars, on the premises of the Railway, or upon the Line, must be immediately delivered to the person in charge of the Station at, or  
[Reg. 286-288]

nearest to, the place where the article has been found, and be dealt with by him in accordance with the instructions of the Railway upon the subject.

**289.**—(a) Guards and other Servants of the Railway are forbidden to carry any description of package, either for themselves, their friends, or the public without proper authority in writing for the free transit thereof, or unless such package be properly booked. Passenger Guards must compare the parcels and baggage with the way-bills or invoices, and note on the latter any defects or discrepancy. All way-bills must be signed by the Guards, who must report full particulars of parcels observed to be in a damaged condition.

(b) Guards must give careful attention to the baggage, parcels, despatches, and other packages entrusted to them. Parcels which have to be put out must be given by the Guard to the person appointed to receive them, who must sign for the baggage and parcels delivered to him. The guard must, in like manner, sign for the baggage and parcels transferred to his care.

(c) On the arrival of a train at a terminus, Guards must not leave until they have delivered over all baggage, parcels and picul goods together

[Reg. 289]

with the way-bills relating thereto, to the persons appointed to take charge of them and care must be taken not to allow any unauthorized person to enter a Brake-van or Baggage Compartment. Should any article be missing, the Guard must immediately report the case to the person in charge of the Station, and enter full particulars in his Journal or Time Bill.

**290.**—No person must be allowed to travel on the Railway, unless provided with a proper ticket or freepass, and no Travelling without pass or ticket forbidden. Officer or Servant of the Railway must be allowed, unless in the execution of the duty, to ride on the Engine, or in the Brake-van, or in any car in which baggage or parcels are conveyed, without written permission from a properly Authorized Officer of the Railway.

**291.**—(a) The Guard must see that no person rides outside a car, and that except in accordance with special instruction, no Passengers and others where to ride. person travels in any compartment or car not intended for the carriage of passengers.

(b) No person other than a Servant of the Railway in the execution of his duty must be allowed to travel in the Guard's compartment of a Goods train, either with a pass or ticket, without special authority from a properly Authorized Officer.

[Reg. 290-291]

**292.**—Guards must assist the Staff at Stations, or Travelling Ticket Examiners in preventing passengers travelling in a superior class, or leaving a train for the purpose of re-booking by the same train to evade payment of the proper fare, and they must also assist the Staff generally in detecting fraudulent travelling.

**293.**—When ladies are travelling alone, the Guards and Travelling Ticket Examiners must pay every attention to their comfort, and, in placing them in the train, they must, if requested, endeavour to select a compartment for them (according to the class of their tickets) in which other ladies are travelling. If ladies wish to change compartments during the journey, the Travelling Ticket Examiners and Guards must enable them to do so.

**294.**—The Racks in the cars are provided for light articles only, and must not be used for heavy articles, which must, if possible, be placed under the seats of the cars when passengers desire to have the baggage with them, or otherwise be loaded in the Guards' Van, or in the proper baggage compartments of the trains. Any infringement of this instruction is attended by risk of injury to passengers, and this must be explained to any passenger objecting to comply with it.

[Reg. 292-294]

**295.**—Letters or parcels must not be thrown from trains as they pass through intermediate Stations, unless specially sanctioned by the Traffic Manager. Where authority has been given for parcels to be thrown off, Guards must, before throwing the parcels from the train, satisfy themselves that the platforms are clear, and Station Masters and other must warn persons who may be about to keep clear of the train.

**296.**—When a deficiency of room occurs in a train while on the journey, the Guard must request the Station Master to telegraph to the next Station where cars are kept to have one or more in readiness to be attached on the arrival of the train, reporting the fact in his Journal or Time Bill. He must also report in his Journal or Time Bill, if he has habitually either an excess or deficiency of room in his train.

**297.**—The Guard must not accept any loaded wagons or any consignment of goods or live stock on his train which is not accompanied by an invoice.

**298.**—(a) Every loaded wagon must be labelled or directed on both sides to its destination.

*NOTE* :—This clause does not apply to special traffic in-train loads for journeys

[Reg. 295-298]

not involving marshalling during, or on completion of, the journey.

(b) When it is necessary for any empty wagons to be labelled or directed to its destination, such wagons must be labelled or directed on both sides.

(c) Station Masters or other persons in charge will be held responsible for seeing that this Regulation is complied with.

**299.**—(a) When wagons of Live-  
 stock are attached to a train,  
 Doors of Live-  
 stock wagons  
 to be fastened. the Guard must see that the  
 fastenings of the doors are  
 all secure. On the journey he must avoid  
 unnecessarily shunting such wagons, and  
 the shunting, when requisite, must be  
 done as gently as possible.

(b) Guard working trains by  
 which Livestock is conveyed,  
 Conveyance of  
 livestock. must carefully examine the  
 animals from time to time, as may be  
 necessary, and satisfy themselves that  
 they are travelling safely, if any are found  
 requiring attention steps must be taken to  
 have them put right as soon as possible,  
 and a note of the circumstances must be  
 made in the Guard's Journal or Time Bill,  
 the numbers of the wagons and sending  
 and receiving Stations being also given.

(c) Loads of Livestock received  
 at Junctions from other Rail-  
 ways must be examined to  
 see that they are in good  
 Loads of Live-  
 stock received  
 at Junctions.  
 [Reg. 298-299]

condition when exchanged, and in case of injury or death, the attention of the Railway Servant of the other Railway must be drawn to the fact at the time.





**APPENDIX I.**

CODE OF TERMS

AND

RULES

FOR

TRAIN SIGNALLING

ON

SINGLE LINES OF RAILWAY

WORKED ON THE ELECTRIC TRAIN

STAFF OR TABLET SYSTEM



**TRAIN SIGNALLING ON SINGLE LINES OF RAILWAY  
WORKED ON THE ELECTRIC TRAIN TABLET  
OR THE ELECTRIC TRAIN STAFF SYSTEM**

**Code of Bell Signals**

See Rules	SIGNAL	Beats on Bell	How to be Given
1	Call attention.....	1 ●	1
	Is Line Clear for Express Passenger Train, or Breakdown Van Train going to clear the Line or Light Engine going to assist disabled Train ?.....	4 ●●●●	4 consecutively
	Is Line Clear for Passenger Special ?	4 ●—●●●	1 pause 3
	Is Line Clear for fast Passenger Train ?	4 ●●●—●	3 pause 1
3 & 4	Is Line Clear for Slow Passenger Train, or Empty Passenger Stock Train ?	5 ●●—●●—●	2 pause 2 pause 1
	Is Line Clear for Cattle, Goods, or Service Train running through ?.....	5 ●—●●●●	1 pause 4
	Is Line Clear for Special Goods Train ?	5 ●●●●●	5 consecutively
3, 4 & 7	Is Line Clear for Light Engine, or Light Engine coupled together, or Engine and Brake-van ?.....	5 ●●—●●●	2 pause 3
3, 4 & 8	Is Line Clear for Service Train or Trolley or Lorry required to stop and work in the Section ?.....	5 ●—●●—●●	1 pause 2 pause 2
3	Warning Signal.....	8 ●●—●●—●●●●	2 pause 2 pause 4
3	Staff out.....	4 ●●—●●	2 pause 2
3	Train Entering Section.....	2 ●●	2 consecutively
5	Section Clear but Junction or Station		

[App. I]

See Rules	SIGNAL	Beats on Bell	How to be Given
	Blocked.....	6 ●—●●●●	1 pause 5
6	Assisting Engine in Rear of Train.....	6 ●●●—●●●	3 pause 3
3, 9 & 12	Train out of Section or Obstruction removed.....	3 ●●●	3 consecutively
12	Obstruction Danger.....	6 ●●●●●●	6 consecutively
13	Release Staff for Shunting.....	7 ●●●●●—●●	5 pause 2
13	Shunting completed Staff replaced .....	7 ●●—●●●●●	2 pause 5
16	Stop and Examine Train.....	7 ●●●●●●●	7 consecutively
17	Cancel " Is Line Clear?" or " Train Entering Section " Signal .....	8 ●●●—●●●●●	3 pause 5
18	Train Passed Without Tail Disc or Lamp.....	9 ●●●●●●●●●	{ 9 consecutively to Station or Box in advance. { 4 pause 5 to Station or Box in rear.
		9 ●●●●—●●●●●	
19	Train Divided.....	10 ●●●●●—●●●●●	5 pause 5
20	Shunt Signal for following train to pass.....	11 ●—●●●●●—●●●●●	1 pause 5 pause 5
21	Vehicles running away.....	12 ●●—●●●●●—●●●●●	2 pause 5 pause 5
24	Testing Indicators and Bells.....	11 ●●●—●●●●●—●●●	3 pause 5 pause 3
31	Transference of Staffs by Line-man.....	12 ●●●●—●●●●—●●●●	4 pause 4 pause 4
25	Time Signal.....	13 ●●●●●●●—●●●●●	8 pause 5

[App. I]

## Rules for Train Signalling on Single Lines of Railway worked on the Electric Train Tablet or Electric Train Staff System

**A.—(a)** The object of the system of  
 Object of Elec-      Electric Train Staff Signal-  
 tric Train            ling is to prevent more than  
 Staff Block           one train being between any  
 System.              two Staff Stations at the same time, and,  
                          when no train is in the Section between  
                          two Staff Stations, to admit of a train  
                          being started from either end. This is  
                          accomplished by every train carrying a  
                          Staff, one Staff only being obtainable from  
                          the Staff Instruments of the same Section  
                          at the same time.

(b) The Signalling of Trains on  
 the Electric Train Staff System does not  
 in any way dispense with the use of Fixed,  
 Hand, or Detonating Signals, whenever  
 and wherever such Signals may be  
 required to protect such obstructions on  
 the Line.

(c) The system under which  
 Electric Train Staff Instruments are to be  
 worked and the mode of indicating de-  
 scriptions of approaching trains, are laid  
 down in the following Code of Rules:—

**B.—(a)** Except as provided in Rules  
 14A, 14B and 22, an Engine  
 Engine Drivers      Driver will render himself  
 not to start          liable to dismissal, if he  
 without Staff       leaves a Staff Station without  
 and proper           the Staff for that Section of  
 Signals being        [App. I, A-B]  
 exhibited.

the Line over which he is about to run, or unless it has been shown to him as required by the following paragraph, and by Rule 5.

(b) When a train has more than one engine in front or when two or more light engines are coupled together, the Staff must be shown to each Engine Driver, and delivered to, and carried by, the Driver of the last engine. In the case of a nonstopping train, the Staff is to be picked up by the Fireman of the last engine, and the Driver is to give one short whistle to indicate that the Staff has been picked up.

(c) After receiving the Staff, the Engine Driver must satisfy himself that it is the correct Staff applicable to the Section he is about to enter, and must not proceed until all the necessary Fixed or other Signals have been exhibited. He must keep the Staff under his own charge (except as explained in Rules 14, 14A and 22) until he reaches the end of Section, when he must give it up to the Station Master or duly authorized person.

(d) Engine Drivers must be extremely careful not to take the Staff beyond the Station at which it ought to be left.

(e) The person in charge of the Staff Working will render himself liable to severe punishment should he contribute to any irregularity in the Staff Working.

[*App. I, B.*]

(f) Each Staff has engraved or marked on it the name of the Staff Station at each end of the Section to which it applies, and the Staffs of adjoining Sections are different in shape or colour. The Staff must be carried in a leather pouch with a cane loop.

(g) The Staff must never be thrown down, but should be caught on the arm by the cane loop by one of the Station Staff.

**C.**—(a) Except as provided in Rule 31, the Station Master or other person in charge of the Staff Working for the time being is the sole person authorized to take a Staff from or place it in the Instrument.

Custody and  
transference  
of Staff.

(b) Except where some other person is specially appointed to carry out the duty, the Station Master is the sole person authorized to receive a Staff from, and deliver it to, the Engine Driver, who, while it is in his charge, must carry it on the hook provided for the purpose. Under no circumstances, except as provided in Rules 14, 14A 18, must a Staff be transferred from one train to another without being passed through the Instrument and dealt with in accordance with these Rules.

(c) When two trains are crossing at a Block Station, the Staff carried by the train which arrives first should be

[*App. I, C.*]

immediately inserted in the Magazine and the "Train Out of Section" Signal sent. A Staff for the other train should then be obtained as quickly as possible, and this Staff is not to be the same as the one just inserted. Traffic Inspectors and others should pay particular attention to this point when inspecting Train Staff Registers.

*NOTE*:—When necessary, in the case of nonstopping trains, two competent men may be employed, one to receive, and the other to deliver the Staff, and they must stand not less than 30 metres apart.

**D.**—The DANGER Signal must always be kept exhibited at all the Fixed Signals at Staff Stations, except when it is necessary to lower them for a train to pass; and before any signal is lowered, care must be taken to ascertain that the Line on which the train is about to run is clear, and that these and other Rules have been duly complied with.

**E.**—When trains, which have to cross each other are approaching a Staff Station in opposite directions, the Signals in both directions must be kept at Danger, and shall only be lowered to one train at a time. When the train which has first been admitted into the Station has been brought to a stand at the Station

[*App. I, D-E*]



Platform, the Signals applicable to the other train may then be lowered to allow it to draw forward to the Station.

**F.**—Two Instruments, a Magneto Generator, a Bell and a Gong are provided at each Block Station. The normal position of these instruments is “Line Closed”. The Instruments, Magneto Generators and Bells must be used exclusively for the purposes shown in the Rules in this Chapter and are only to be worked by the Station Masters or other persons especially appointed for this duty by the Traffic Manager, who is the only Official authorized to depute this duty to any person other than a Station Master. Railway Servants appointed for this duty who allow an unauthorized person to work or in any way tamper with the Instruments, Bells, or fittings will render themselves liable to instant dismissal, also the person who commits the offence.

**G.**—(a) To send a Bell Signal, turn the handle of the Magneto Generator continuously and depress the proper Ringing Key intermittently according to the Signals to be sent. To enable a Staff to be withdrawn, turn the handle of the Magneto Generator continuously and briskly and hold down the proper Ringing Key, which action will continuously deflect the Galvanometer

[*App. I, F-G*]

Needle. Immediately the Galvanometer Needle returns to the upright position, indicating that the Staff is out, release the Ringing Key. The Ringing Key on the left hand side of the Generator operates the Instrument on the left hand side, and the Ringing Key on the right hand side of the Generator operates the Instrument on the right hand side.

(b) The movements of the Instruments and Bells must be made slowly and distinctly, and the pauses between the sets of beats clearly marked.

**1.**—Except where special instruction are issued to the contrary, the CALL ATTENTION SIGNAL, must always be given before any other Signal, and must be acknowledged immediately on receipt.

**2.**—Except where special instructions are issued to the contrary, all Signals must be acknowledged by repeating them, and no Signal must be considered as understood until it has been correctly repeated to the Staff Station from which it was received. When the IS LINE CLEAR? Signal is not acknowledged, it must be given again at short intervals.

**3.**—If a train or engine is at Station A, and requires to go to Station B, the Station Master at Station A must give one ring to call attention. The Station Master at B will

[*App. I, G-3*]

reply by one ring. The Station Master at Station A must then give the proper IS LINE CLEAR? Signal (according to the description of train) for the train; and Station B must, provided the previous train has arrived and there is no obstruction on the Line upon which the approaching train is to run, repeat the Signal back to Station A. When the Station Master at B has given the last beat in repeating the IS LINE CLEAR? Signal, he must keep the Key pressed down, which will deflect the Galvanometer Needle, and Key must be pressed down until the Needle returns to its upright position. The movement of the Electric Needle from its upright position will tell the Station Master at Station A that he can take a Staff out. Station Master at A, immediately after he has withdrawn the Staff, will send the "Staff Out" Signal, and the Station Master at B is not to leave his Instrument until he has received this Signal, which he will acknowledge by repeating the Signal back to Station A. The Staff will then be handed to the Driver and, as soon as the train starts, A will send the "Train Entering Section" Signal, which B will acknowledge by repeating the Signal back to A. As soon as B has acknowledged the "Train Entering Section" Signal, he will immediately send the "Warning Signal" to the Station C in advance to warn C to be on the alert. As soon as the train has arrived at or

[*App. I, 3*]

been shunted at Station B as indicated in Rule 9, the Station Master at that Station must obtain the Staff from the Driver and place it in his Instrument, call the attention of the Station Master at A, and, having obtained it, give the TRAIN OUT OF SECTION Signal on the Bell at Station A, which must be acknowledged by Station A repeating the Signal back to B. The Staff must not be placed in the Instrument until the Station Master has satisfied himself that the train or engine by which it has been brought has arrived or passed through with Tail Lamp complete.

**4.—(a) The IS LINE CLEAR?**

Line Clear or Giving Permission for a train to approach.	Signal must be acknowledged, and permission given for a train to approach in accordance with Rule 3, as under, (unless special instructions are issued to the contrary.
--	---

- (i) At a CROSSING STATION, if the Line on which the approaching train has to run be clear, and the Facing Points are set for that Line.
- (ii) At a TERMINAL STATION, if the Line on which the approaching train has to run be clear, and the Facing Points are set for that Line.
- (iii) At a JUNCTION (other than a Crossing-place), if the Line  
[App. L.]

be clear, and no other train be Signalled on the Staff Instruments or by Fixed or Hand Signals to cross or foul the Line over which the approaching train has to run.

(b) After permission has been given for a train to approach in accordance with Rule 3, no obstruction of the Line on which such train requires to run must be allowed until the train has been brought to a stand at the Station, or has passed into the Section in advance, or the CANCELLING Signal has been received from the Staff Station in the rear.

(c) If the Line be not clear, or if from any other cause the Station Master be not in a position to give permission for the train to approach when the Station Master in the rear forwards the IS LINE CLEAR ? Signal, that Signal must not be acknowledged, but the Obstruction Danger Signal must be sent. When the Station Master to whom the IS LINE CLEAR ? Signal has been sent is prepared to receive the train, he must give the OBSTRUCTION REMOVED SIGNAL, which must be acknowledged, and any train requiring to proceed in either direction must be signalled in accordance with these Rules.

**5.**—(This Signal must only be used as provided in Rules 8 and 14, and where specially authorized by instructions from the Traffic Manager).

Section Clear but Junction or Station blocked (Warning arrangements).

(a) When the Section is clear to the Home Signal and it is necessary for a train to be allowed to approach cautiously in consequence of the Line not being clear, as laid down in Rule 4, the IS LINE CLEAR? Signal must not be acknowledged in accordance with Rule 3, but the SECTION CLEAR BUT JUNCTION OR STATION BLOCKED Signal must be given, and when this Signal has been acknowledged, permission must be given to the Staff Station in the rear for a Staff to be withdrawn. The Station Master receiving this Signal must bring the train to a STAND at the Station, and, when handing the Staff to the Engine Driver, verbally instruct him that the Section is clear to the next Home Signal, but that the Junction or Station ahead is blocked, a Green Flag by day and a Green Light by night, held steadily in the hand, must at the same time be exhibited to the Engine Driver, and the necessary Fixed Signals, if any, be lowered to give permission for the train to proceed. THE TRAIN ENTERING SECTION Signal must then be given and acknowledged in the usual way.

(b) If the train is assisted by an engine in the rear, a Green Flag by day and a Green Light by night, held steadily in the hand, must also be exhibited to the Driver of the engine in the rear of the train.

(c) When some time is likely to elapse before the train for which the IS LINE CLEAR SIGNAL, has been sent will be ready to enter the Section, the SECTION CLEAR BUT STATION OR JUNCTION BLOCKED Signal must not be acknowledged, but, when the train is ready to enter the Section and before it is allowed to do so, the IS LINE CLEAR ? Signal must be again sent in order to give the Station Master at the Staff Station in advance an opportunity of receiving the train under Rule 3, if the circumstances are so altered as to admit of his doing so.

**6.—(a)** After the TRAIN ENTERING SECTION Signal has been given to the Staff Station in advance and acknowledged by the Station Master there for a train that is assisted by an engine in the rear, the ASSISTING ENGINE IN REAR OF TRAIN Signal must be given to the Staff Station in advance, to indicate that an engine is assisting the train in the rear. THE ASSISTING ENGINE IN REAR OF TRAIN Signal must be acknowledged, and a note of the Signal must at once be made in the Train Register Book at the Staff Station in

Assisting  
Engine in rear  
of train.

advance, and the 'TRAIN OUT OF SECTION' Signal must not be given until the assisting engine has arrived.

(b) When the train has engine in the rear, the Staff must be shown to the Engine Driver or Engine Drivers in front of the train, and delivered to, and carried by, the Engine Driver in the rear of the train. Trains must only be assisted by an engine in the rear on those Sections of the Line where special instructions are issued, giving permission for this to be done.

(c) An assisting engine must not in any case leave the train it is assisting except at a Staff Station, unless authorized by the Traffic Manager under special Rules.

**7.—(a)** When two or more engines are coupled together, the first one must be signalled as a Light Engine, and the others, each separately, as Assisting Engines. The Staff must be shown to the leading Engine Driver, or Engine Drivers if there are more than two engines, and must be carried by the Driver of the last engine.

(b) When, in the case of light engines coupled together, it may be necessary to detach one or more of the engines, or to detach one engine from a train worked by two engines in front, on any Running Line, the Driver of each engine requiring to be



detached must, before uncoupling, communicate with the Station Master, so that the Station Master clearly understands what is about to be done, and in what direction the uncoupled engine or engines are required to proceed.

**8.—(a)** When a Service train has to stop in a Staff Section for Permanent-Way purposes, the Station Master must give the prescribed IS LINE CLEAR? Signal, and the Station Master at the Staff Station in advance must, if the Section be clear, as laid down in Rule 5, give permission for the train to approach under the "Warning Arrangement". When a Service train which has been signalled as a Through Service train requires to stop in the Section for Permanent Way purposes, and comes to a stand at a Staff Station to enable the Guard to inform the Station Master that his train is going to stop in the Section in advance (see Regulation 133 in the Book of Rules and Regulations), the Station Master must restore the Staff to the Instrument and give the Cancelling Signal, and, when the Signal has been acknowledged, he must Signal the Train as a SERVICE TRAIN REQUIRING TO STOP IN THE SECTION.

(b) The Engine Driver of a Service train that has to do work on the Line, must, when receiving the Staff,

be also given a Caution Form, upon which the Station Master must enter whether the train has to proceed to the next Station or has to return to the Station at which he obtained the Staff, and at what time it is to be there, in order to clear the Section for the next train.

(c) Should the Guard of the Service train require his train to return to the Staff Station in the rear instead of going through to the Staff Station in advance, he must obtain the permission of the Station Master before the train enters the Section. When the train has arrived back complete and the Line is again clear, the Station Master must restore the Staff to the Instrument and give the Cancelling Signal to the Staff Station in advance.

(d) When a Service train has to return to the Staff Station in the rear, no shunting outside the Home Signal at that end of the Station must be allowed until a man with Hand and Detonating Signals has been sent out to protect such shunting.

(e) When a Service train in possession of the Staff is at work on the Line, it will not be necessary to send out Flagmen to protect it.

**9.**—Unless special instructions are given to the contrary, Train out of Section. trains must be considered out of Section and the TRAIN OUT OF

SECTION Signal given to the Staff Station in the rear as under :—

(i) At a CROSSING STATION, when the last vehicle of the train (with Tail Lamp attached) has cleared the Points and Fouling Post, or the train has been shunted clear of the Running Lines.

(ii) At a TERMINAL STATION, when the last vehicle of the train (with Tail Lamp attached) has passed the Points and Fouling Post, or the train has come to a stand at the Station.

*NOTE* :—When the last vehicle of a train does not enter a Station before it has been shunted into a Siding, or when a train has been brought to a stand within a Home Signal, and it is necessary to give the TRAIN OUT OF SECTION Signal, before the train passes the Station, the Station Master must, before giving such Signal, ascertain from the Guard or Shunter in charge of the train that the whole of the train (with Tail Lamp attached) has arrived, and the Guard or Shunter will be held responsible for giving this information to the Station Master, the Fireman being similarly responsible in the case of a Light Engine.

**10.**—When a train is an unusually long time in a Section, the Station Master at both ends of the Section must take the necessary action with a view to ascertaining the cause and immediately communicate with each other.

**11.—(a)** If one of the trains which Crossing trains have to cross each other at a out of Course. Crossing-place is late, the train which arrived first must be sent on to the next Crossing Station in advance, if it will be advantageous to do so.

(b) The Station Master in charge will be held responsible for deciding whether this shall be done or not, using his discretion according to the circumstances, and the Station Master at the Staff Station in advance must be informed of the course decided upon.

**12.—(a)** Should it be necessary, Obstruction in consequence of obstruction Danger Signal. or other cause, to prevent the approach of a train from the Staff Station *in the rear*, the OBSTRUCTION DANGER Signal must be forwarded to that Station, whether the IS LINE CLEAR? Signal has been received from that Station or not. The OBSTRUCTION DANGER Signal must also be sent to the Staff Station *in the rear*, when a Station Master observes a train approaching his Station, for which he has not accepted the IS LINE CLEAR? Signal or has not received the TRAIN ENTERING SECTION Signal, and for which he has not received the VEHICLES RUNNING AWAY Signal from the Staff Station in the rear.

(b) The Station Master forwarding the OBSTRUCTION DANGER  
[App. I, 11-12]

Signal must place or maintain his Signals at Danger to protect the obstruction.

(c) If necessary, the Station Master must send the OBSTRUCTION DANGER Signal in both directions, and where there are parallel Running Lines, the requisite steps must be taken to stop trains approaching on any Line that may possibly be obstructed.

(d) The Station Master receiving the OBSTRUCTION DANGER Signal must immediately place or maintain his Signals at Danger, and must not allow any train to proceed towards the Staff Station from which he received the OBSTRUCTION DANGER Signal until he either received the OBSTRUCTION REMOVED Signal and the IS LINE CLEAR? Signal has been accepted by the Station Master in advance, or it becomes necessary to allow a Breakdown Van Train or other train to enter the Section to render assistance. Such Breakdown Van Train or other train going to render assistance must be signalled and dealt with in accordance with Rule 14.

(e) Should a Station Master receiving the OBSTRUCTION DANGER Signal succeed in stopping a train for which the IS LINE CLEAR? Signal has been accepted by the Station Master at Staff Station in advance, he must at once restore the Staff to the Instrument, and advise the Station Master at that Station

[4pp. I, 12]

by giving the CANCELLING Signal, which Signal must be acknowledged.

(f) Should a Station Master receiving the OBSTRUCTION DANGER Signal not be able to stop a train for which the IS LINE CLEAR? Signal has been accepted by the Station Master at the Staff Station in advance, he must, instead of acknowledging the OBSTRUCTION DANGER Signal, at once send the Signal VEHICLES RUNNING AWAY, viz: 12 beats (thus: 2—5—5) and the Station Master receiving the latter Signal must immediately use all the means at his command to stop the approaching train, afterwards acknowledging the Signal.

(g) When the obstruction has been removed and the Main Line or Lines are again clear, the OBSTRUCTION REMOVED Signal must be given to the Station in the rear. Should, however, the Station Master at the Station in the rear be unable to stop a train for which the IS LINE CLEAR? Signal has been accepted, the OBSTRUCTION REMOVED Signal must not be forwarded to the Station in the rear until such train is clear of the Section.

**13.—(a)** No Train must foul the Running Line after permission has been given for a train to approach from the opposite end of the Section.

[App. I, 12-13]

(b) Permission must not be given for a train to approach from the opposite end of the Section when there is any obstruction upon the Running Line.

(c) A train must not be allowed to foul the Running Line outside the Home Signal or Outer Home Signal, unless the Engine Driver is in possession of the Staff for the section so fouled.

(d) To obtain a Staff for Shunting, the Station Master must send the RELEASE STAFF FOR SHUNTING Signal to the next Staff Station, and the Station Master there must, provided he is in a position to accept such Signal, acknowledge it, and give permission for a Staff to be withdrawn.

(e) When the Shunting is completed, and the Running Line is again clear, the Staff must be replaced in the Instrument and the SHUNTING COMPLETED—STAFF REPLACED Signal sent to the next Staff Station.

(f) If a Station Master is not in a position to release a Staff for Shunting purposes owing to his requiring to pass a train into the Section he must reply to the RELEASE STAFF FOR SHUNTING Signal by the OBSTRUCTION DANGER Signal, and, as soon as that Signal has been acknowledged, send the IS LINE CLEAR ? Signal.

[App. I, 13]

**14.**—(a) In the event of an engine becoming disabled between two Staff Stations, the Fireman must take the Staff to the Staff Station from which assistance is most likely to be obtained, and after informing the Station Master and showing him the Staff, must personally hand it over to the Driver of the Engine appointed to proceed to the assistance of the disabled engine, and accompany him to the place where he left his own engine; the Driver of the disabled engine must not allow it to be removed until the assisting engine has arrived.

(b) The Fireman of the disabled engine must not on any account allow the Staff to pass out of his possession until he hands it over to the Driver of the assisting engine, and the Driver of the assisting engine must not allow it to pass out of his possession until the disabled engine with the whole of the train (if any) is removed clear of the Section, except when the Line is obstructed and special arrangements are made for working in accordance with Rule 14A.

(c) Should a Station Master receive information from the Fireman of a disabled train that a second train is required to enter the Section to assist the disabled train, or should it be necessary for the Breakdown Van Train to enter a Section obstructed by accident or

[*App. I, 14*]



otherwise, the second train or the Break-down Van Train, as the case may be, may, after the Engine Driver has been informed of the circumstances, be allowed to enter the Section under the following arrangement, provided the Engine Driver is in possession of the Staff :—

(i) Should the assisting engine or train proceed from the Staff Station in the rear of the obstruction, the Station Master must inform the Station Master at the Staff Station in advance of the circumstances, and give the TRAIN ENTERING SECTION SIGNAL, to the Staff Station in advance, and after it has been acknowledged, allow the second train or engine to proceed for the purpose of removing the obstruction. If the assisting train or engine is to proceed from the Staff Station in advance, the Station Master there must so advise the Staff Station in the rear. The Station Masters at both Staff Stations must note the circumstances in their Train Register Books. If the disabled train is taken through to the Staff Station in advance, the TRAIN OUT OF SECTION Signal must not be given until both trains have arrived, but, if the disabled train returns to the Staff Station in the rear, the Station Master there must, after he has assured himself that the

[App. I, 14]

Section is clear, replace the Staff in the Instrument and give the CANCELLING Signal to the Staff Station in advance.

(ii) The Driver of the assisting engine must run at reduced speed, and, after removing the disabled engine and the whole of the train (if the disabled engine was working a train) to the most convenient end of the Section, must then hand over the Staff to the Station Master or other authorized person.

(iii) The first train passing through the Section after the Line is again clear, must be stopped, and the Engine Driver instructed to proceed cautiously through the Section.

(d) Should the TRAIN OUT OF SECTION Signal have been given for a train which is within the protection of the Signals and requires assistance from the rear, the Station Master at the Staff Station in the rear must be informed of the circumstances, after which the assisting train or engine may be accepted under the SECTION CLEAR BUT JUNCTION OR STATION BLOCKED Signal, the Engine Driver being verbally told by the Station Master in the rear the position of matters at the Station ahead.

**14.—A** (a) Should an accident or obstruction occur and the traffic is likely to be stopped

Derailed or  
disable engine.

[*App. I, 14-14A*]

for a considerable time, special arrangements must be made for working the trains to and from the Staff Station on each side of the point of obstruction. The Staff must be retained to work trains between the point of obstruction and the Staff Station from which the Staff was issued, and, on the other side, the traffic must be conducted by a Pilotman in accordance with the following instructions :—

(b) After arrival of the Break-down Special, all traffic from the Station on the other side of the obstruction and the place of the accident will be worked from and to such Station and the point of obstruction by a Pilotman.

Special working in obstructed section.

(c) The person appointed as Pilotman, after giving the Driver of the disabled engine a written order instructing him not to move his engine until he returns, must go himself to the other end of the Section, and arrange for three or more, as may be necessary, of the printed Forms provided for the purpose of establishing working by Pilotman during obstruction (See specimen Form) to be filled up; one of these must be delivered to the Station Master in charge of the Staff Station where Pilotworking commences, and the second must be retained by the Pilotman and the third must be conveyed by the Pilotman with

[App. I, 14A]

the first train to the Engine Driver in charge of the point of obstruction.

(d) No engine or train must be allowed to enter or leave the Blocked Section, unless accompanied by the Pilotman, or is personally started by the Pilotman, who will be distinguished by a Red Armlet, with the word "Pilotman" in white letters, as illustrated below, worn on the left arm :



(e) The Line on each side of the obstruction must be protected in accordance with Regulation 115 in the Book of Rules and Regulations, and the Guard and Fireman will be held responsible for taking care that this is done until men are appointed specially to perform the duty.

(f) The Fixed Signals prior to entering the last Stations on either side of the Blocked Section will be kept at Danger, until approaching trains have been brought to a stand, and will then be Lowered for the train to cautiously enter the Station.

[*App. I, 14A*]

(g) A man provided with Detonators, Red and Green Flags, or Hand Signal Lamp will be stationed at the Distant Signal, or Outer Home Signal, during the whole of the period the Section is obstructed, and Drivers must keep a good lookout and be prepared to pick up the Pilotman either at the Distant Signal, or Outer Home Signal, or at the Station. The Permanent Way Department must be called upon to supply Flagmen, if necessary.

(h) A Flagman provided with Detonators, Flags, or Hand Signal Lamp, will also be stationed at a distance of 1000 metres on either side of the actual obstruction and must exhibit the Danger Signal to all approaching trains and keep three Detonators ten metres apart on the rail until he observes the Staff is being carried or that, in the case of the portion of the Line under control of the Pilotman is accompanying the train or it is proceeding in accordance with the Pilotman's written order (see Pilotman's ticket).

(i) When the Line is again clear, no Train must be allowed to pass the point where the obstruction existed without the Staff. The Pilotman must accompany the first train carrying the Staff to the most convenient Staff Station.

[*App. I, 14A*]

Special protection of Distant or Outer Home Signal.

Protection of obstruction.

Working of First Train after Line is cleared.

After the Staff has been given up to the Station Master and the Pilotman has withdrawn his arrangements for Pilot-Working, the traffic must again be conducted in accordance with the Rules and Regulations.

(j) In no case of obstruction away from a Staff Station must a Staff be restored to the Instrument at either end of the Section until the Section is clear.

Staff not to be installed until Section is clear.

(k) In the event of a Line becoming obstructed through the failure of a bridge or embankment or other cause when there is no train in the Station, arrangements must, when necessary, be made for a responsible man to be placed in charge at the point of obstruction, and for working by Pilotman to be put into operation between the point of obstruction and the nearest Staff Station on either side, and no Staff is to be withdrawn from the Instrument while the working by Pilotman remains in operation.

Failure of bridge or embankment.

(l) The Line on each side of the obstruction must be protected in accordance with Regulation 115 in the Book of Rules and Regulations by men specially appointed to perform the duty.

(m) When the Line is again clear, both Pilotmen must proceed together to one end of the Section, and, after the Pilot Working Form at that end has been

[App. I, 14A.]

withdrawn; they must accompany the first train through the Section which has been obstructed, and on arrival at the opposite end of the Section ordinary working may be resumed.

**14.—B** (a) When a train or portion of a train is left upon the Single Line from accident, or inability of the engine to take the whole train forward, and it becomes necessary for the Engine to return to the train or the rear portion of the train from the Staff Station in advance, the Engine Driver must retain possession of the Staff until the whole of the train is removed from the Section.

(b) After sunset, or during foggy weather, falling snow, or dust storm, a Red Light must be placed on the front vehicle of the rear portion by the man who divides the train. In the case of the train being accidentally divided, the Guard in charge of the rear portion must place a Red Light on the leading vehicle of the rear portion of the divided train.

(c) Should a failure occur to an engine assisting a train in the rear, or should it become necessary to divide a train assisted in the rear, the Driver of the train engine must send his Fireman to the Driver of the assisting engine, and obtain from him an order in writing authorizing the Driver of the train engine to return from the Staff Station in advance

[App. I, 14B.]

for the remainder of the train. The train engine must then proceed to the Staff Station in advance, and, after disposing of the front portion of the train, the Engine Driver, after informing the Station Master what he is about to do and showing him the written order, must return and remove the rear portion of the train and the disabled engine from the Section.

(d) Should the assisting engine fail and the train proceed owing to the Driver of the train engine not being aware of the failure of the assisting engine, the Fireman of the assisting engine must act as directed in Rule 14, and the disabled engine must not be moved until the relieving engine has arrived.

(e) If the train is assisted by an assisting engine in the rear, the train engine becomes disabled so that it cannot be moved forward, the assisting engine must draw the train back to the Staff Station, but the Train Staff must not be delivered up to the Station Master, but must be retained by the Driver of the assisting engine, who will return to the assistance of the disabled train engine, acting in accordance with the provisions of Rule 14.

(f) On the arrival of a train, or after a train has run through his Station, if the Station Master has reason to believe that a portion of the train is missing, he must not insert the Staff in the instrument nor give the "Train Out of Section"

[*App. I, 14B.*]



Signal, but must immediately take steps to have the missing portion of the train removed from the Section. The Staff is to be locked up in the Cash Safe until the Line is again clear, after which it is to be replaced in the Instrument and the "Train Out of Section" Signal given.

**15.**—(a) To prevent delays, breakdown Van Trains when proceeding to clear the Line must be signalled as Express Passenger Trains.

Breakdown Van Trains and engine replacing or assisting Disabled Engine.

(b) The same course should be adopted in the case of one engine proceeding to take the place of another that has failed, or of an engine with or without a train when sent forward to render assistance in case of failure or accident to preceding trains.

(c) The Engine must carry Express Passenger Train Head Indicators.

**16.**—(a) If a Station Master observe anything unusual in a train during its passage, such as Signals of alarm by a passenger, goods falling off, a vehicle on fire, a hot axle-box, or other mishap, except a Tail Lamp missing or out, or a train divided, for arrangements as to which see Rules 18 and 19, he must give to the Station Master at the Staff Station in advance the STOP AND EXAMINE TRAIN Signal, and the Station Master at the Staff Station in

[App. I, 15-16]

advance must acknowledge such Signal, and immediately exhibit the DANGER Signals to stop the train coming from the Staff Station from which the Signal was received. The train when stopped must be carefully examined and dealt with as occasion may required.

(b) Should the Station Master who received the STOP AND EXAMINE TRAIN Signal be unable to ascertain, after examination of the train, why the Signal was sent, he must, if the next train is travelling in the opposite direction, inform the Engine Driver of that train of the circumstances, and instruct him to proceed cautiously to the next Staff Station. He must also communicate with the Station Master who forwarded the Signal in order that the latter may, if necessary, caution the Engine Driver of the next following train.

(c) The Station Master must also at once telegraph or telephone to the Staff Station in advance the cause of sending the STOP AND EXAMINE TRAIN Signal. Station Master must be careful to notice each train, as it passes, ascertain whether there is any apparent necessity for having it stopped at the next Staff Station for examination.

(d) Should either Station Master have reason to believe, in the case of a vehicle being off the rails or goods falling from the train, that the Permanent Way

[*App. I, 16*]

has been damaged or fouled, he must not allow any train to proceed in the direction of the obstruction until the Line has been examined and he is satisfied that it is safe for the passage of the train.

**17.**—Should it be necessary to  
 Cancellling                   cancel the IS LINE CLEAR?  
 Signal.                       Signal or TRAIN ENTER-  
                                   ING SECTION SIGNAL, the Station  
 Master must restore the Staff to the Instru-  
 ment, and send the CANCELLING Signal  
 to the Staff Station in advance, which  
 signal must be acknowledged; and entry  
 must be made in the Train Register Book  
 recording the fact of the Signal having  
 been cancelled. The Cancellling Signal  
 must not be used unless the IS LINE  
 CLEAR? Signal has been accepted or  
 TRAIN ENTERING SECTION Signal  
 has been acknowledged, and only be used  
 in cases where a train has been signalled  
 to the Staff Station in advance and it  
 is found that such train will not proceed  
 in the usual course.

**18.**—(a) All trains and light  
 Train passed               engines will carry a Tail  
 without Tail               Lamp in the rear, both by  
 Lamp.                       day and by night, to indicate  
 to the Station Master that no vehicle has  
 become detached on the journey, and  
 Station Masters must carefully watch each  
 train as it passes, and satisfy themselves  
 that it is complete before giving the  
 [App. I, 17-18]

TRAIN OUT OF SECTION Signal to the Staff Station in the rear.

(b) If a train should pass with Tail Lamp missing, the Station Master must send the TRAIN PASSES WITHOUT TAIL LAMP Signal to the Staff Station on each side of him, but must not deposit the Staff in the Instrument. The Station Master at the Staff Station in advance must stop the approaching train, and ascertain from the Guard whether his train is complete. If the train is complete, the Station Master must give the TRAIN OUT OF SECTION Signal, and the Station Master at the Staff Station from which the TRAIN PASSED WITHOUT TAIL LAMP Signal was sent must then deposit the Staff in the Instrument and give the TRAIN OUT OF SECTION Signal to the Station in the rear. Should the Station Master become aware, as the train passes into the Section in advance, or on receipt of information from the Staff Station in advance, that a portion of the train has been left behind, steps must be taken to clear the obstruction before any other train is allowed to enter the Station, the first available engine at either end of the Staff Section being detached from its train for the purpose of clearing the Line.

(c) If the engine which is to remove the obstruction starts from that end of the Section where the Staff is out of the Instrument, the Station

[App. I, 18]

Master must hand such Staff to the Engine Driver, and instruct him to proceed cautiously to the vehicle or vehicles which have become detached, and remove them to the most convenient end of the Section.

(d) If, however, the relieving engine is to start from the other end of the Section, then the Staff must (after all arrangements are made) be placed in the Instrument, so that one may be withdrawn at the other end of the Section to enable the relieving engine to proceed to the vehicle or vehicles which have become detached, and remove them to the most convenient end of the Section.

(e) In either case, the Station Master at each end of the Section must communicate with each other and arrive at a clear understanding how the obstruction is to be removed.

(f) The engine sent into the Section to clear the obstruction must be dealt with as laid down in Rule 14.

(g) If a train should pass with a Tail Light out when it should be burning, and the Station Master can plainly see the Lamp, and is satisfied that the train is complete, he must give the TRAIN OUT OF SECTION Signal to the Staff Station in the rear, and the TRAIN PASSED WITHOUT TAIL LAMP Signal (9 consecutive beats) to the Staff Station in advance, and also telegraph or telephone to the Staff Station in advance, stating that

[App. I, 18]

the Lamp is not missing, but out. In such a case it will not be necessary for the Station Master sending or receiving the Signal to stop any train going in the opposite direction, but the Station Master in advance must stop the approaching train and inform the Guard of the circumstances.

**19.**—(a) This Signal must be sent to the Staff Station in advance in the event of a Station Master observing that a train has become divided, and is running in two or more parts. If the train assisted by an Assisting Engine in the rear is running on a falling gradient, or where the Line is level, or between short Sections where the stoppages of the first part would risk a collision with the second part, the Station Master receiving such Signal, if the Line on which the divided train is running be clear ahead for it to run upon and permission has not been given for a train to approach from the opposite direction, must not exhibit the Signals to stop the first portion, but must give the Engine Driver a Green Signal, either by Flag or Hand Lamp as occasion may require, waving the Signal slowly from side to side. The Engine Driver, on seeing the Green Signal waved slowly from side to side, will understand that his train is divided, and must exercise great caution by looking out for the second portion,  
 [App. I, 19]

and, unless he has reason to believe the Line is not clear ahead must not stop the portion attached to his engine until he is satisfied that the rear portion has been stopped, or is running very slowly. He must, however, observe and obey any Signals that may be exhibited against him. If the Line be not clear into the next Section ahead, the Station Master must keep the Signals at DANGER against the next approaching train. As soon as the first portion of the train has passed, the Station Masters sending and receiving the TRAIN DIVIDED Signal must take proper measures for dealing with the second portion, and place Detonators on the rails to attract the attention of the Guard, or of the Assisting Engine Driver, should there be an Assisting Engine in the rear.

(b) If the divided train is running on a rising gradient, and is not assisted by an Assisting Engine in the rear, the Station Master receiving the Signal must exhibit the Danger Signal to stop the train. The first portion of the divided train, when stopped, must be shunted into a Siding or Loop as expeditiously as circumstances will permit, or otherwise dealt with as may be necessary to prevent the second portion coming into collision with it.

(c) No train must be allowed to enter the Section until it has been

[*App. I, 19*]

ascertained that the Line on which it is about to run is not obstructed.

(d) Should a train become divided in starting, and the Engine Driver run forward with the first portion leaving the rear portion stationary, the STOP AND EXAMINE TRAIN Signal must be sent to the Staff Station in advance, and not the TRAIN DIVIDED Signal.

**20.**—This Signal must be used to prevent important trains being delayed by less important trains. When before the TRAIN OUT OF SECTION Signal has been received from the Staff Station in advance for the last train, the Station Master receives a Signal from the Staff Station in the rear for a more important train, the SHUNT Signal must be sent to the Staff Station in advance, and the Station Master there, on receiving this Signal, must take the necessary measures to clear the Line so as to prevent delay to the second train. The Station Masters forwarding and receiving the SHUNT Signal must make a note of it in their Train Register Books.

**21.**—(a) Should any vehicle, train, or portion of a train be running away, the Station Master observing the runaway train or vehicles must advise the Station Master at the next Staff Station towards which the vehicle, train, or portion of train may

[*App. I, 20-21*]



be running by giving the OBSTRUCTION DANGER Signal, and, on receiving the acknowledgement of that Signal, send the Signal, VEHICLES RUNNING AWAY. The Station Master at the Staff Station receiving these Signals must immediately exhibit the Danger Signal to stop any train about to proceed on the same Line and take any other measures that may be necessary, such as turning the runaway train or vehicles onto another Line or into a Siding, as may be most expedient under the circumstances.

(b) Should the Station Master be unable to take such protective measures, he must pass on the OBSTRUCTION DANGER and VEHICLE RUNNING AWAY Signals to the next Staff Station. He must also place Detonators on the rails.

(c) The Station Master receiving these Signals must not allow a train to enter the Section (except as provided for in clause (d) Rule 12), until he is satisfied the Line over which the runaway vehicles have passed is unobstructed ; and a Breakdown Van Train or other train going to render assistance must not be allowed to enter the Section until it has been ascertained that the runaway vehicles are at rest and have been secured. The Breakdown Van Train or other train going to render assistance must be signalled and dealt with in accordance with Rule 14.

[App. I, 21]

(d) Should any Station Master receiving the VEHICLES RUNNING AWAY Signal have already obtained a Staff for a train to proceed to the next Block Station in advance, he must immediately return the Staff to the Instrument and send the CANCEL, LAST SIGNAL, Signal. If the train has already started, and he succeeds in stopping it, he should take the Staff from the Driver and return it as above. If the train is clear of the Points when it is stopped, it should be backed *into the Loop line*.

**22.—(a)** In the event of the failure of the Electric Staff communication between any two Staff Stations, steps must at once be taken to have the difficulty put right by the Lineman; if his services are not immediately available, the working of the traffic over the Section must be arranged for by Pilotman.

(i) Should an Electric Staff be out of the Instrument, it should be restored before unsealing the Staff-Box, but if this can not be done, the Electric Staff must be locked in the Cash Safe, until taken charge of by the Lineman; the Station Master at the order end of the Section must be informed, and the Driver must give a note to the Station Master at the other end of the Station confirming that this has been done.

[*App. I, 21-22*]

(ii) The Station Master at the other end of the Section must not allow any train to leave his Station for the Station at which an Electric Staff cannot be restored to the Instrument, until arrival of written confirmation that the Staff has been safely locked up.

(iii) The Station Master must inform the Engine Driver and Guard in charge of each train of the circumstances, and also send an All Concerned Telegram, and a similar procedure must be adopted when Electric Staff Working is resumed.

(b) Should the Telegraph or Telephone, as well as the Staff Instruments, have failed, and the Station Masters at each end of the Section be unable to communicate with each other, the Station Masters or other responsible Officials at both ends of the Section must arrange for Pilot Working, but no person below the rank of Station Master is allowed to act as Pilotman.

(i) The Traffic Inspector or other responsible Official who undertakes to make the arrangements for working by Pilotman must fill up three of the printed Forms (see specimen Forms) for establishing working by Pilotman during the

[*App. I, 22*]

failure of the apparatus ; one of these he must deliver to the Station Master at the Staff Station at his end of the Section, and the other two must be given to the Pilotman.

(ii) The Pilotman at both ends, when satisfied that the Station Master has received the printed Form duly filled up and that he understands that no train is to be allowed to enter the Section until the Pilotman returns, must proceed as quickly as possible to the other end of the Section until they meet, using the best means at disposal for the purpose, but must not, unless there is a Staff out of the Instrument and in the Pilotman's possession, or unless one can be withdrawn from the Instrument at his end of the Section, use an Engine or any Railway vehicle other than a Trolley.

(iii) When they meet, the Pilotmen must go together to the nearest or more convenient end of the Section. The Pilotman who returns to the Station from which he started must obtain the Form which has been handed to the Station Master there and return it and the other two Forms in his possession to the Station Master or other Official, who filled them up and the latter must at once cancel them by writing the word "Cancelled" across them. The other Pilotman must hand

[*App. I, 22*]

one of his Forms to the Station Master as directed above, see the Staff and Links are locked up and sealed, also that the Electric Tablet or Staff is unobtainable, and act as Pilotman in accordance with the following instructions :

(iv) The Pilotman must inform the Engine Driver and Guard in charge of each train of the circumstances, and when practicable accompany every train and work strictly in accordance with the Working Time-Table.

Working of Trains.

(v) When it is necessary to start two or more trains from one end of the Section under his control before a train has to be started from the other end, he must furnish the Engine Driver in charge of each train not accompanied by himself with one of the printed Pilotman's Tickets (see specimen ticket) properly filled up and signed, must personally start such trains, and himself accompany the last train. The tickets granted in these cases will apply only to the single journey to the other end of the Section, where they must be immediately given up to the Station Master, who must at once cancel them by writing the word "Cancelled" across the face of the ticket, and, after ordinary working has been resumed, they must be forwarded to the Traffic Manager with a report giving full particulars.

Issue of Pilotman's Ticket.

[*App. I, 22*]

(vi) After issuing a Ticket, or starting a train which he does not accompany, the Pilotman must not permit another train to enter Section until the time usually taken by the preceding train to clear the Section has elapsed.

(vii) When admitting a Train into a Section after the intervals of time described above, the Pilotman must, after bringing it to a stand, instruct the Engine Driver to proceed cautiously.

(viii) When a train requires to stop at any Flag Station, or intermediate place at which there are no Fixed Signals, the Pilotman must accompany such train.

*NOTE* :—If there is not a Staff out of the Instrument at the time failure occurs, it will generally be found most expeditious for the Station Master at the opposite end of the Section to that at which the train is waiting to undertake the arrangement of the Pilot-working, as the Pilotman will then only have to go through the Section in one direction to get the necessary Forms signed, namely, in the direction of the Station at which the train is waiting.

(ix) Should the Pilotman give up the working, fresh Forms must be issued, on which the name of the new Pilotman must be inserted. The fresh Forms must

[*App, I, 22*]

be delivered by the new Pilotman and substituted for the old Forms, and the necessary signatures obtained on the fresh Forms. He must at the same time withdraw the old Forms.

(x) The issue of the new Forms must only be done by the person who arranged the Pilot-working, to whom the new Pilotman must afterwards deliver the old Forms.

New Forms to be issued.

(xi) After one Pilotman has been relieved by another, the Pilotman who has been relieved must not ride upon any engine until he resumes duty of Pilotman.

Relieved Pilotman not to ride on engine.

(xii) Should the Station Master be changed during the time the Pilot-working is in operation, the man coming on duty must be made acquainted by the man going off duty with the arrangement in force, and with the person acting as Pilotman. He must, before taking charge, countersign the Form held by the Pilotman.

Station Master, relieved during Pilot-working.

(xiii) When the staff Apparatus is again repaired and ready for use, the Pilotman must withdraw the notice for Pilot-working at one end of the Section, then take the Staff, if there be one out of the instrument, from that end of the Section to the other end of the Section, and, after delivering it to the

Resumption of Electric Staff.

[*App. I, 22*]

Station Master there and withdrawing the notice for Pilot-working, the traffic will be again conducted in accordance with the Rules and Regulations, and all Forms which have been issued for Pilot-working must be collected and sent to the Traffic Manager.

(xiv) If the Staff Apparatus is repaired after the Pilotman with the Pilot-working Forms had left Station at which he was appointed, and, before reaching the opposite end of the Section where the damage occurred, no train must be allowed to pass on to the Section until the Pilotman has arrived.

(xv) Station Masters must not, on any account, take off their Signals to allow any train to pass into any Section that is being worked by Pilotman, except under the Pilotman's instructions, and when he is present.

*NOTE* :—The Pilotman must wear a distinctive badge, which until the regular badge can be obtained must be a Red flag tied round his left arm. The regular badge is a Red Armlet with the word "Pilotman" shown there on in white letters.

**23.**—(a) The time at which all Signals are forwarded and received must be made legibly with a pen in the Train Register Book, and the

Recording time when Signals are forwarded and received.

[*App. I, 23*]



Station Master must immediately initial each entry.

(b) No erasures must be made, and, if an incorrect entry be made, a line must be drawn lightly through it, so that the original entry may be clearly seen, and the correction made above or below it and initialed.

(c) In recording the time Signals are received and forwarded, fractional parts of a minute less than half a minute must not be counted, and the half-minute and fractional parts more than half-a-minute must be reckoned as a minute, thus : 15-1/4 minutes, must be entered as 15 minutes only, and 15-1/2 minutes, as 16 minutes.

(d) The Station Master or Signaller who makes any entry for a train must continue on duty, until all the entries affecting that train are completed. When a Station Master or Signaller is going off duty, he must sign his name in the remarks column opposite the last entry made by him.

(e) The Train Register Book is on no account to be taken out of the Station Master's office or Signal Box.

(f) Train Staff Registers must be regularly examined by the Train Staff Register Book. Traffic Inspectors whenever they are at a Block Station, and they should sign the Register whenever they

[App. I, 23]

examine it. In particular the numbers of the Staffs in the Magazine should be checked with Registers, and any improper use of Staff can be at once detected by this means.

**24.**—(a) This Signal must be used regularly each morning and also immediately after a thunderstorm to ascertain whether the Bells and Instruments are in perfect order, and only when no train has been signalled.

(b) A Staff must also be withdrawn, and replaced by the Station Master at each end of the Section.

**25.**—Station Master receiving this Time Signal. Signal on the Telegraph Instruments (see Regulation 95 in the Book of Rules and Regulations) must communicate the information to the Flag Stations which do not receive it by giving the Time Signal on the Bell. Station Masters must regulate their clocks accordingly.

**26.**—Signals must be tested, as Testing Signals. soon after the Station Masters change duty as the running of the trains will permit, and if the wire require adjusting, the Station Master must see it is put right. Signals must not be tested after the "IS LINE CLEAR?" Signal has been received for a train on the Line to which they refer.

[*App. I, 23-26*]

**27.**—With reference to Rules 12, Parallel Lines. 12A, 16, 18, 19 and 21 where there are Parallel Running Lines, the necessary steps must be taken to stop or caution the trains running on any Line that may possibly be obstructed by what has occurred.

**28.**—Mixed Trains conveying passengers and goods must be signalled and dealt with as Slow Passenger Trains.

**29.**—On arriving at an Outlying Siding the points of which are controlled by the Staff or Tablet, the Engine Driver must hand the Staff or Tablet to the Guard, or man in charge of the Siding to enable the Points to be unlocked; when the necessary shunting has been completed, and the Points have been placed in the proper position for trains to pass upon the Main Line, the Guard or man in charge of the Siding must return the Staff to the Engine Driver, and the latter must not proceed on his journey until he has obtained possession of it.

**30.**—(a) If a Staff should be so Staff Damaged or Lost. damaged that it cannot be deposited in the Instrument, the Lineman must at once be sent for, and on his arrival he must, in the presence of the Station Master or other person in charge, adjust the Instrument so as to admit of the Staff working being carried

[*App. I, 27-30*]

on without the damaged Staff, which must be taken away by the Lineman for repair (see note below in respect to the Train Staff). Until the Lineman arrives and the Instrument has been adjusted, no train must be allowed to travel over the Section affected, except in accordance with the instructions for working by Pilotman (see Rule 22).

*NOTE*.—Should it be necessary to remove a second Staff to put the instrument in phase, the Lineman must take such second Staff, and lock it up until the Damaged Staff is repaired, when they must both be restored to the Instrument where they are most needed.

(d) Should a Staff be damaged after it has been withdrawn and before it has gone forward into the Section in advance, the train for which it has been withdrawn must not be detained for Pilot Working, unless it is necessary to do so to avoid delay, but must be sent away with the Damaged Staff, and the Lineman at once sent for. When a Staff is damaged and cannot be passed through the Instrument, it may be used by the Pilotman to take an Engine or Train to the other end of the Section for the purpose of establishing Pilot Working. He must keep the Staff in his possession in accordance with Rule 22-b (ii).

[*App. I, 30*]

(c) Should a Staff be lost, the Single Line Working must be conducted by Pilotman in accordance with Rule 22 until every possible enquiry and search has been made for the missing Staff, and, when it has been established beyond doubt that it cannot be found, the Lineman must be sent for and the Instrument adjusted by him, so that the ordinary working may be resumed. In the event of the Staff being afterwards found, it must be kept by the Station Master or other person in charge and safely locked away in the Cash Safe, until the Lineman can arrange to return it to the Instrument.

**31.**—(a) On the Staff Sections where a greater number of Transference of Staffs. trains is run in one direction than in the other, causing the Staffs to accumulate at one end of the Section, the Staff must, when necessary, be transferred by the Telegraph Lineman from the Staff Instrument at which the Staffs accumulate to the Instrument at the other end of the Section. Before taking out the Staffs, the Lineman must advise the Station Master at the other end of the Section that he is about to do so by sending the prescribed Signal. The Number of Staffs removed by the Lineman must always be an even number, that is 2, 4, 6 and so on, and must be registered by him in the Staff Register provided for the purpose, and the Station Master must sign the entry and  
 [*App. I, 30-31*]

insert the time at which the transaction takes place ; the Lineman must retain in his possession the whole of the Staffs he has withdrawn until he has placed them in the Instrument at the other end of the Section.

(b) The Station Master at the Staff Station, to which the Staffs are transferred must, after having obtained the Staff from the Engine Driver of the train and placed it in the Instrument, immediately compare the number recorded in the Lineman's Register with the number of Staffs received, and when he has satisfied himself that the number is correct, and that the whole of Staffs has been deposited in the proper Instrument, he must sign the Register, and insert the time at which the transaction takes place.

(c) When an Instrument contains fewer than six staffs, the Telegraph Inspector must be advised in order that the necessary transfer may be made.

(d) The Keys which open the Instruments, must be kept by the Lineman, and he alone must open the same for any necessary purpose. The Instruments are also sealed with lead seals and these must be broken and replaced by the Lineman himself.

(e) The Station Master must summon the Lineman or Telegraph  
[*App. I, 31*]

Inspector by telegram, and send a copy of such telegram to the Traffic Manager and Electrical Engineer, and such wire should state the reason why the Lineman or Telegraph Inspector is required, thus :—

- ( I ) Staff damaged,
- ( II ) Staff lost,
- ( III ) Instrument out of order,
- ( IV ) Equalize Staffs,

as the case may be. The Lineman or Telegraph Inspector will proceed by the first train after receipt of such telegram.

(*f*) The Lineman will fill in the time at which the Instrument is put in proper working order in the Train Staff Register Book.

(*g*) With the exception of the Lineman or Telegraph Inspector, no member of the Staff is allowed to open the Instruments for any purpose whatsoever.

**32.**—When exchanging Train Staffs by hand, Drivers must be careful not to exceed a speed of fifteen kilometres an hour.

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**Electric Train Tablet or Electric Train Staff  
Block System Working of Single Line by  
Pilotman during Obstruction.**

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This Form must be filled up and used whenever it is temporarily necessary, owing to obstruction on a Single Line, to work the traffic by Pilotman.

[*App. I, 31-32*]

.....Station  
 To.....192...  
 The Single Line between.....  
 and.....being obstructed,  
 the traffic between.....  
 and the place of obstruction will be worked  
 by Pilotman in accordance with Rule 14A  
 of the Rules for Train Signalling on Single  
 Lines of Railway worked on the Electric  
 Train Tablet or Electric Train Staff  
 System.

.....will act as  
 Pilotman, and must accompany every  
 train to and from.....  
 Station, and the point of obstruction.

Telegraph signalling of trains must  
 be suspended in the obstructed Section.  
 This order is to remain in force until  
 withdrawn by the Pilotman.

Signed.....

- x Noted by.....  
 (at place of  
 obstruction.) Time.....
- x Noted by.....  
 (Station or Box.) Time.....  
 Noted by.....(Pilotman).

x These signatures must be made  
 on the copy held by the Pilotman, who  
 must also sign all the Forms he distributes.

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Six of these Forms must be kept in  
 a convenient place at each Train Staff  
 [App. I.]



Station, so as to be available at any moment of the night or day.

A copy of these Forms must be delivered to the Station Master in charge of the Staff Station where Pilotman-working commences, the second must be retained by the Pilotman, and the third must be conveyed by the Pilotman to the person in charge of the obstruction. If there is an intermediate Flag Station, the person in charge must be supplied with a copy of the Form.

Station Masters and persons in charge receiving this Form will be held responsible that the Staff concerned at their Stations are immediately made acquainted with the circumstances, and are instructed in their necessary duties.

On the other side of the obstruction, the Line will be worked by Train Staff, as directed in clause 14A.

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### **Working of Single Line by Pilotman during Failure of Apparatus.**

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This Form must be filled up and used whenever it is temporarily necessary, owing to the Electric Train Tablet or Electric Train Staff Apparatus having failed, to work the traffic by Pilotman.

.....Station.  
To.....192...

The Electric Train Tablet, or Electric Train Staff apparatus between .....and.....having

[App. I.]

failed, all traffic between those two places will be worked by Pilotmen in accordance with Rule 22 of the Rules for Train Signalling on Single Lines of Railway worked on the Electric Train Tablet or Electric Train Staff System.

.....will act as Pilotman, and no Train is to be allowed to pass on to the Section, unless he is PRESENT and personally orders the Train to start.

This order is to remain in force until withdrawn by the Pilotman.

(SD).....

x Noted.....  
Station..... Time.....

x Noted by.....\*.....  
Station..... Time.....  
Noted by.....(Pilotman)

x These signatures must only be made on the copy held by the Pilotman.

Six of these Forms must be kept in a convenient place at each Staff Station, so as to be available at any moment of the day or night.

Before Pilotman working is commenced, a copy of this Form must be signed by the person in charge at each Tablet or Staff Station where the Tablet or Staff apparatus has failed, and be kept by the Pilotman, who must see that each of the men signing the Form retains a copy for himself.

[*App. I.*]

Station Masters and other persons in charge receiving this Form will be held responsible that the Staff concerned at their Stations are immediately made acquainted with the circumstances, and are instructed in their necessary duties.

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### PILOTMAN'S TICKET

(Front of ticket)

..... Railway

PILOTMAN'S TICKET.

---

To be used in accordance with Rule 22 of the Rules for Train Signalling on Single Lines of Railway worked on the Electric Train Tablet or Electric Train Staff Block System.

Train No.....

To the Guard and Engine Driver.

You are authorised to proceed from

.....to.....

Pilotman following.

Signature of Pilotman.....

Date.....

(Station Master to see reverse side for instructions)

[App. I.]

(Back of ticket)

This ticket is to be given up by the Engine Driver, immediately on arrival, to the person in charge of the Tablet or Staff Station to which he is authorised to proceed, to be dealt with as the latter may be instructed by the Traffic Manager.

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Instructions to Station Master:—

.....

.....

.....

.....

.....

## APPENDIX II

CODE OF TERMS  
AND  
RULES  
FOR  
TRAIN SIGNALLING  
ON  
DOUBLE LINES OF RAILWAY  
WORKED ON THE  
LOCK AND BLOCK SYSTEM

**NOTE:**—This Appendix will be issued as soon as the Sub-committee on Double Line Signalling shall have recommended the kind of Instrument to be adopted on the Chinese Government Railways.



APPENDIX III

INSTRUCTIONS

FOR

THE PROTECTION

OF

CAR CLEANERS, EXAMINERS,

AND OTHERS

WORKING

ON

PASSENGER OR GOODS STOCK





### APPENDIX III

#### INSTRUCTIONS TO BE OBSERVED FOR THE PROTECTION OF CAR CLEANERS LAMPMEN AND OTHERS WORKING ON PASSENGER STOCK

A.—(1) Before any of the above-named men commence work upon the outside of cars on any Line or Siding, on them, Where an Engine is not attached to the cars. a RED FLAG by day, or a Lamp showing a RED LIGHT by night and during foggy weather, falling snow, or dust storm, must be placed on the end of the last car nearest the direction from which cars might be shunted against those on which the men are at work. If it is possible for cars to be shunted against both ends of the cars on which the men are at work, the above precautions must be taken at both ends.

(2) If the cars are standing on a Line adjoining a Running Line, the RED FLAG or Lamp showing a RED LIGHT must be placed on the side furthest away from the Running Line. When the cars are standing at a platform, the Flag or Lamp must be on the platform side.

(3) Each Cleaner, or Lampman is responsible for seeing that he is protected by a Red Flag or a Lamp showing a RED LIGHT before commencing work, in accordance with the foregoing clauses, but should more than one man or set of men

[App. III.]

be Separately at work on the same cars, or on the same Line or Siding, each man or set of men must be separately protected. Each man working alone, or where more than one man is engaged, the man in charge will be held responsible for carrying out these instructions.

(4) The man in charge of the work, or a man working singly must, before work is commenced, also satisfy himself that no shunting operations are in progress affecting the cars on which work is to be done.

(5) When cars in a Siding adjoining a Running Line, or on a Running Line adjoining another Running Line are being cleaned on the outside planks, steps, or loading boards must not be used on the side of cars next to a Running Line except when authorized by the Traffic Manager or Locomotive Superintendent.

**B.** — Passenger trains or cars must not be moved whilst men are at work on the top of cars. Where an Engine is attached to the cars.

**C.**—(1) Whilst the Red Flag or Red Light is exhibited, the cars so protected must not be moved, nor must others be shunted against them until the Flag or Lamp has been removed, Persons responsible for starting Passenger Trains must be careful to see that no Red Flag or Red Light is exhibited before giving the Signal for the train to start. General Instructions Passenger Stock.

[*App. III.*]

(2) Engine Drivers and Shunters are particularly warned to satisfy themselves when approaching and before coming into contact with cars standing on platform and other Lines or Sidings, and before backing on to or attaching or detaching cars to or from trains at platforms that no Red Flag or Red Light is exhibited.

(3) Shunters and others must keep a good lookout when shunting on Line adjacent to those occupied by cars on which men are at work.

(4) The Lamp or Flag exhibited for the protection of the men must be removed, only after the work has been completed or has been suspended to admit of the cars being moved, and the man, before removing it, must satisfy himself that the men concerned are clear.

(5) Car Cleaners and others must not pass under, over or between the buffers of cars, not between the stop blocks and the nearest car when less than a car length apart. When necessary, men may pass through a Guards Van or THIRD CLASS car, but must take care and fasten the doors after them.

(6) Car Cleaners and others are strictly forbidden to STAND on the Lines between cars or between a car and the stop block, unless they are properly protected in accordance with the above instructions.

[*App. III.*]

(7) The attention of the Staff concerned is specially directed to Regulation 272 in the Book of Rules and Regulations.

INSTRUCTIONS TO BE OBSERVED  
FOR THE PROTECTION OF BRAKE  
FITTERS LIFTERS REPAIRERS  
AND OTHERS WORKING ON  
PASSENGER OR GOODS STOCK

**A.**—In Repairing Shop Sidings, and Sidings Specially Set Apart for the Purpose of Repairing Passenger or Goods Stock where protection is afforded against shunting by means of padlock and key.

(1) The Points leading to the Sidings referred to above must be kept padlocked in such a manner as to protect the men working in the Siding.

(2) Before any duty is commenced on such a Siding, it is the duty of the workman, or where more than one man is engaged, of the man in charge, to examine the Points giving access to the Siding and satisfy himself that they are securely padlocked in such a manner that a shunt cannot be made into the Siding on which they intend to work.

(3) Should the Points be found not properly padlocked so as to afford the necessary protection, the Inspector, Station Master, or other person in charge of the Shunting must be applied to, and the Points padlocked before the work of repairing is commenced.

[App. III.]

(4) Before the Point of such sidings are unlocked for shunting purposes, or to enable vehicles to be placed in or removed from the Sidings, it must be ascertained whether any men are engaged on vehicles placed therein, and the padlock must not be taken off until such men have been warned to place themselves in a position of safety, nor must work be resumed by them until the Points have again been padlocked.

**B.**—(1) Before any work is commenced, it is the duty of the workman, or where more than one man is engaged, of the man in charge, to go to the Inspector, Station Master, Foreman, or other person in charge of the Line or Sidings, and advise him of what work is about to be done and obtain his permission for the work to be carried out.

In Sidings and on Lines other than those referred to above.

(2) A RED FLAG by day or a Lamp showing a RED LIGHT by night and during foggy weather, falling snow, or dust storm must be placed at the end of the last vehicle nearest the direction from which vehicles might be shunted against those on which the men are at work. If it is possible for vehicles be shunted against both ends of the vehicles on which the men are at work, the same precautions must be taken at both ends.

[App. III.]

(3) If the vehicles are standing on a Line adjoining a Running Line, the RED FLAG or Lamp showing a RED LIGHT must be placed on the side furthest away from the Running Line. When the vehicles are standing at a platform, the Flag or Lamp must be on the platform side.

(4) Each man employed on the repairs is responsible for seeing that he is so protected by a RED FLAG or a Lamp showing a RED LIGHT before commencing work, but should more than one man, or set of men, be separately at work on the same Line or Siding, each man, or set of men, must be separately protected.

(5) The wheels of the vehicle to be repaired must be securely scotched, and if other vehicles are standing on the same Line or Siding, one or two brakes must be applied on the vehicles both in front and in rear of the one to be repaired, or the wheels of such vehicles must be scotched.

(6) Before commencing work UNDERNEATH a vehicle attached to an engine, the Engine Driver and Guard, as well as the Inspector, Station Master, or person in charge, must be advised, and instead of the Flag or Lamp being placed as prescribed in Clause B-(2) a man with a Red Hand Signal must stand in the best

[*App. III.*]

possible position and keep a good look-out for the protection of the workmen.

When cars or wagons are being repaired or examined underneath and there is not an engine attached, the instructions in Clauses (1), (2), (3), (4), (5), (7), (8), and (9), must be observed.

(7) The Flag or Lamp exhibited for the protection of workmen must be removed only by the man who fixed it after the work has been completed or has been suspended to admit of the vehicle or vehicles being moved. The person in charge of the traffic operations must be duly advised. Care must be taken to see that all concerned are clear, and all Scotches have been taken away before the Flag or Lamp is removed.

(8) Each man working alone, or where more than one man is engaged, the man in charge, will be held responsible for carrying out those instructions.

(9) Whilst the Red Flag or Red Light is exhibited, the vehicle or vehicles so protected must not be moved, nor must others be shunted against it or them.

**C.**—(1) Where there are Repairing Shop Sidings, or where Sidings are set apart for the purpose, cars and other vehicles must (as far as practicable) be repaired in such Sidings.

(2) Shunters and others must keep a good look-out when shunting on Lines

[*App. III.*]

and Sidings adjacent to those occupied by vehicles on which men are at work, and before commencing such shunting, must warn the men engaged on the vehicles what they are about to do.

(3) Each Department concerned will supply the Red Flags and Lamps of approved pattern for their own Staff.

(4) The attention of the Staff concerned is specially directed to Regulation 272 in the Book of Rules and Regulations.



APPENDIX IV

RULES

FOR

WORKING

THE WESTINGHOUSE

AUTOMATIC BRAKE



**GENERAL RULES FOR WORKING**  
THE  
**WESTINGHOUSE AUTOMATIC BRAKE**

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1.—DESCRIPTION. (a) Compressed air is the power employed to work the Brake, the air being compressed by a small steam pump on the engine. The Brake is automatic; that is, it applies itself in the case of a break-away or failure of any vital part.

(b) All pipes *operating* Brake Blocks are painted Black, and all pipes *not operating* Brake Blocks are painted Red, in order to readily distinguish between braked vehicle and vehicles piped only.

(c) The engine, tender, and each vehicle is fitted with a main pipe, a coupling hose at each end, a triple valve, a small air reservoir, and a cylinder with piston and rod, connected with the Brake levers and blocks. A main reservoir for storing the air necessary for releasing the brake and recharging the small reservoirs is also fixed on the engine.

(d) The pump on the engine forces the compressed air into a large reservoir, thence it passes through the Engine Driver's valve to the main Brake-pipe running throughout the train, so that, whether standing or running, compressed air stands at equal pressure throughout the main pipe from end to end, and in the triple valve and small reservoir on each vehicle,

[App. IV, 1]

but in the main reservoir of the engine, 20 lbs. extra are carried for releasing the Brake. The duplex gauge on the engine indicates the pressure of air in the main Reservoir and in the Train Pipe. The gauge in the guard's compartment shows the air pressure in the Train Pipe.

(e) To apply the Brake, air is allowed to escape from the Brake-pipe which causes the triple valves to move, and allows the air in the small reservoirs to pass into the cylinders, force out the pistons and rods, and press the blocks against the tyres.

(f) To release the blocks from the wheels, air is allowed to pass through the full opening in the Engine Driver's valve from the main reservoir along the train. This gives 20 lbs. extra pressure to move the triple valves to release, re-charges the small reservoirs, and lets the air, which had forced out the pistons, escape into the atmosphere.

## INSTRUCTIONS

**2.—ENGINE DRIVERS.** (a) Engine Drivers must satisfy themselves that the Westinghouse Brake is in proper working order before starting, and at each Station where the engine is changed or where any vehicle is attached or detached, they must see that air of 90 lbs. pressure in Main Reservoir and 70 lbs. in Train Pipe is carried. It must also be tested before passing the Distant Signal of any

[*App. IV, 1-2*]

Terminus or other principal Station, or a Crossing Station at which the train has to stop, and the speed of the train must be reduced by it. Engine Drivers must enter such Stations at such a speed as to enable them to stop the train at the proper place by the application of the ordinary Hand Brake only, and Guards must watch the speed of the trains and assist the Engine Drivers by the use of the Hand Brake when necessary.

(b) Unless the Westinghouse Brake is working properly when thus tried, the Engine Driver must whistle for the Guard's Hand Brake, stop the train, and inform the Guard that the Westinghouse Brake is out of order, and that the Hand Brake must be relied upon for working the train. Special care must then be taken in approaching Stations at which the train has to stop.

(c) Engine Drivers are responsible for the Brake couplings between the engine and the first vehicle of the train being properly connected, and for seeing that the corresponding cocks in the main Brake pipe are open. Immediately before the engine is attached to a train, the air on the engine must be raised to full pressure, and when the engine has been attached to the train (and also whilst standing at Stations) the Driver must keep his handle in the feed position, so that whatever reductions are made by

[*App. IV, 2*]

attaching, or the Guard testing the train, he may be able to release the Brake when he gets the Signal to start.

(d) The Brake must be applied, so as to bring the train to a stand without rebounding or otherwise causing inconvenience to the passengers. For ordinary stops the valve should be opened and again closed gently when the pressure has been reduced by about 5 to 8 lbs.

(e) A reduction of 25 lbs. applies the Brake with full force, but in cases of emergency the valve must be opened so as to let all the air in the Brake Pipe escape.

(f) To release the Brake, the Engine Driver's handle must be put quickly over into the Release position, and kept there until the gauge shows a gradual increase of pressure, when it must be brought back into the feed position, and remain there while the train is running.

(g) In all cases of two or more engines being coupled together, the Brake must be connected, and the Driver of the leading engine must take control of the Brake power. The Driver of the second engine must shut the cock, which is fixed under the Driver's valve thus closing all communication between his main reservoir and train pipe, and this cock must be kept closed. He must take no action in ordinary stoppages, but he must be at all times prepared to apply the Brake in cases of

[App. IV, 2]

emergency. He must put his Brake valve handle to Full Release position and keep the pump working slowly so as to be able to counteract the train pressure after the leading engine is detached.

(h) The Engine Driver, on finding that the Brake has been applied by the Guard, or automatically, must at once assist in stopping the train by putting the handle of the Brake valve into the Neutral position, so as to prevent any escape of air from the main reservoir.

(i) Should an Engine Driver find that his train is being retarded owing to the Brake blocks on all the vehicles not being off, he must stop, and have them properly released.

(j) Should the Engine Driver discover any defect in the working of the Brake which would render it ineffective, he must, as soon as possible, give the Guard notice, and arrange with him as to the use of the Hand Brake in the vans if necessary.

(k) When coupling up to a Train not charged with air, or to one having less pressure than that on Engine, the Brakes of the latter will go on, the higher pressure flowing into the lower having, of course, reduced the pressure in the Train Pipe. No inconvenience will result from this if the Driver has been careful to come up to the Train with maximum pressure in his

[App. IV, 2]

main reservoir. The maximum pressure in the main reservoir *can only* be obtained by placing the handle of the Driver's Brake valve in the Neutral position; the Train Pipe being then shut off, the pressure is increased only in the main reservoir. The Brakes can be taken off by turning handle of Brake valve from Neutral to Charging or Release position, failing which, Brakes can be released by opening valves on Brake cylinders. Drivers should be careful not to leave more than 70 lbs. pressure in a Train when detaching at Watering or Terminal Stations.

**3.—GUARDS.** (a) Just before leaving a Terminus and after the engine has been attached, after attaching or detaching vehicles on the journey, or on another engine being attached, the Guard must ascertain whether the Brake couplings are connected, and the cocks in the Brake pipe are all open throughout the train.

(b) The test must be made by opening the cock in the Brake-pipe of the REAR WESTINGHOUSE VEHICLE, of whatever kind, on the train and reducing the pressure in the gauge in his van by 20 lbs., which will apply the Brakes. If the Brake connections throughout the train and with the engine are perfect, the pressure in the gauge will, on the cock being shut, begin to rise, and the Brakes will be released by the engine. When the

[*App. IV, 3*]



indicator in the rear van shows that the train has been recharged from the engine, the Guard will exhibit a White Signal to the Engine Driver, and continue to do so until it is acknowledged by the latter giving a Signal by hand during the day and by a White Light at night. The white Signal must not be given by the Guard until there is a pressure of at least 40 lbs. indicated in the gauge, and he must record in his Journal or Timebill what the pressure was immediately after the test was made.

*NOTE:—As the gauges on the engine do not, when the test is made, indicate whether the Brake is connected throughout the train or not, it is imperative that the Guard, in making the test, should in all cases see that the pressure in the gauge in rear van, on the cock being shut, RISES A GAIN, as no test can be considered complete unless this is done. It is of the utmost importance that this test be made properly.*

(c) If the Guard, upon making the test, finds that the Brake connection is interrupted, he must take steps to prevent the train starting until search has been made to find out the cause of the interruption. He must first see that all the Westinghouse pipes are properly coupled, and that the cocks are open throughout the train. If, however, the Engine Driver is still unable to release the

[App. IV, 3]

Brakes, the Guard must arrange with the Engine Driver for the train to be worked with the ordinary Hand Brakes only, until the Westinghouse Brake has been put right. The Westinghouse Brake may, after this has been done, be released by means of the release cords.

(d) Guards must see that the cocks in each van, and at the rear of the last vehicle on the train, are shut before the engine is attached, so as to avoid waste of air.

(e) When they have occasion to apply the Brake from their van, they must open the cock and allow the air to escape until the train is brought to a standstill, but they should only use the Brake in cases of emergency. The Guard must use his discretion as to applying the Brake fully or gradually as circumstances may require.

(f) In the cases of a train becoming divided, the Guard in the rear Van must put his Hand Brake hard on, and secure it with the chain or strap, where provided. He must also take any other measure that may be necessary to prevent the rear portion moving.

(g) Guards must unscrew the Hand Brakes clear off before starting, and affix the Brake chain or strap, where provided, to prevent the Hand Brake working on.

[*App. IV, 3*]

(h) The special attention of Guards is called to the first two clauses of the Engine Drivers' instructions as to the use of the Hand Brake.

(i) To prevent any rebound of the vehicles when the train is being brought to a stand, on the Engine Driver releasing the Westinghouse Brake, the Guard must apply his Hand Brake and not release it until the Engine Driver has released the Westinghouse Brake throughout the train.

**4.—CAR AND WAGON EXAMINERS.** (a) Car and Wagon Examiners must see that the Brake connections are perfect, and properly adjusted for the wear of the blocks and wheels; that the Brake cylinders are perfect, and lubricated occasionally with fluid paragon grease by means of syringe; that the couplings and other parts are tight; that the cocks are properly set; and that the Brake comes completely off.

(b) Each Brake Block should be 10 or 13 m.m. ( $3/8$  in. or  $1/2$  in.) clear of the wheel. The Van Brake Blocks require frequently taking up, but should not be too close to the wheels. The plug in the bottom of the van triples should be unscrewed a turn occasionally to let water out. The triple pistons should work freely, and all triples must be examined once a year.

[App. IV, 4]

**5.—GENERAL.** (a) The Guard, before starting, and at places where the engine is changed, or any vehicle is attached or detached, must inform the Engine Driver the number of vehicle there are on the train, and in the event of the Brake not being in operation on the whole of them, upon how many it cannot be applied. In each case the Engine Driver must obtain this information from the Guard before he proceeds on his journey

(b) Before detaching the engine or any vehicle, the Brake must be released throughout the train. The pipes and joints must be kept tight, and serious leaks must be corrected without delay, and the circumstances reported.

(c) The Engine Driver and Guard must report any irregularity in connection with the working of the Brake or defect in its action, or other special circumstances, and the Guard must, in addition, note the particulars in his Journal or Timebill.

(d) When a Brake-pipe has a cock at each end of the vehicle all the cocks should be open when the hose couplings are united except the cock at the rear of the train. These cocks must always be open after connecting the hose couplings, and always closed before separating them. The cocks are open when the handles stand across or away

[*App. IV, 5*]

from the line of pipe, and closed when parallel to or alongside the pipe.

(e) The Brake can be released by opening the Release valves on the pipes leading to the Brake cylinders. This is done by means of the Release cord or wire which is to be found under the body of the vehicles about the centre of the frame. The valves close themselves by the cord or wire being allowed to go free.

(f) A branch-pipe and cock connected with the Triple Valve is fixed under the centre of each vehicle.

When it is necessary to put the Brake out of use on one vehicle only, this cock should be closed. When this is done by the Traffic Staff the Engine Driver must at once be advised and the vehicle examined at the earliest possible opportunity.

(g) The Brake couplings must be uncoupled by hand in the proper way.

(h) No person must be allowed to tamper with any of the cocks in the train, and Shunters, and Others are cautioned that in passing between vehicles they must not stand on the Brake Pipes, or interfere with or injure the couplings.

(i) When vehicles are being moved by an engine for the purpose of being attached to a Passenger train, the Continuous Brake Pipes, where provided,

[App. IV, 5]

must be connected, so that the Brake may be available during the operation.

*NOTE :—In every case where a coupling on a Passenger train is interfered with in any way, even assuming that the Brake pipes have not been disconnected, it will be the Guard's duty to test the Westinghouse Brake before giving the Driver a Signal to start.*

## NO. 6 ET LOCOMOTIVE BRAKE EQUIPMENT

### AUTOMATIC OPERATION

#### Running

When not in use, carry the handles of both brake valves in *Running* position.

#### Service

To apply the brakes in service, move the handle of the automatic brake valve to the *Service* position, making the required brake pipe reduction, then back to *Lap* position which is the one for holding all the brakes applied.

To make a smooth and accurate *two-application passenger stop*, make the first application sufficiently heavy to bring the speed of train down to about 25 kilometres per hour at convenient distance from the stopping point, then release as explained in the following paragraph and re-apply as required to make the desired stop, the final release being made as explained below.

[*App. IV.*]

## Release

With the changes in operating conditions and in train and locomotive equipments during the past few years it has become possible to obtain still better results in general train handling if the method of operating the brakes is also slightly changed to conform with the progress which has been made in other directions. This is especially true with regard to releasing brakes, and the general instructions which follow are intended to apply particularly to trains having modern equipment, that is, large compressor capacity, large main reservoir volume, high excess pressure and operating under present day average conditions. They are not intended to apply rigidly to all individual cases or conditions, specific instructions usually being issued by each road to cover its own recommended practice.

**PASSENGER SERVICE:** In making the first release of a two-application stop the brake valve handle should be moved to *Release* position and then quickly back to *Running* position where it should be allowed to remain for an instant, (1st. to permit the pressure in the equalizing reservoir and brake pipe to equalize and 2nd. to release part of the driver brake cylinder pressure,) then moved to *Lap* position and from there to *Service* position as required. In passenger service the time the handle is in *Release* position

[*App. IV.*]

should be only momentary but the time in *Running* position should be governed by the conditions existing for each particular case, such as the length of train, kind of reduction made, time available, and so on.

In making the final release of a two-application stop, with short trains, release shortly before coming to a standstill by moving the handle to *Release* position and immediately back to *Running* position, and leave it there. With long trains, the brakes should, as a rule, be held applied until the train stops.

The release after an one-application stop should be made in the same manner as the *final* release of a two-application stop.

GOODS SERVICE: Under present conditions it is, as a rule, safest to come to a stop before releasing the brakes on a goods train, especially a long one, rather than attempt to release at low speed. However, if conditions, (for example, a short train, or a train equipped with Type K triple valves) permit of the release while in motion, the brake valve handle should be moved to *Release* position, and held there long enough to move as many of the triple valves to *Release* position as possible without unduly overcharging the head end of the train (the time in *Release* position should be governed by the length of train, amount of reduction made, etc.)

[*App. IV.*]



then return to *Running* position to release the locomotive brakes and complete the recharging of the auxiliary reservoirs. A few seconds after such a release, particularly on long trains, it is necessary to again move the handle to *Release* position and quickly back to *Running* position to "kick off" any brakes at the head end of the train that may have re-applied due to their auxiliary reservoirs having been slightly overcharged.

### **Holding Locomotive Brakes Applied**

If, when releasing as explained above, it is desired to hold the locomotive brakes applied after the other brakes release, move the handle from *Release* back to *Holding* instead of *Running* position, then releasing the locomotive brakes fully by moving the handle to *Running* position and leaving it there, or graduating them off, as circumstances require, by short, successive movements between *Holding* and *Running* positions. A little experience with the ET equipment will enable the Engine Driver to make smooth and accurate stops with much greater ease than was heretofore possible.

### **Emergency**

To apply the brakes in emergency, move the handle of the automatic brake valve quickly to *Emergency* position and leave it there until the train stops and the danger is past.

[*App. IV.*]

## INDEPENDENT OPERATION

When using *the independent brake only*, the handle of the automatic brake valve should be carried in *Running* position. The independent application may be released by moving the independent brake valve handle to *Running* position. The *Release* position is for use only when the automatic brake valve handle is not in *Running* position.

*While handling long trains of vehicles*, in road or switching service, the independent brake should be operated with care, to prevent damage to vehicle and loading, caused by running the slack in or out too hard. In cases of emergency arising while the independent brake is applied, apply the automatic brake instantly. The safety valve will restrict the brake cylinder pressure to the proper maximum.

The brakes on the locomotive and on the train may be alternated in heavy grade service where conditions (such as short, steep grades or where grade is heavy and straight for short distance) require, to prevent overheating of driving wheel tires and to assist the pressure retaining valves in holding the train while the auxiliary reservoirs are being recharged. This is done by keeping the locomotive brakes released by use of the independent brake valve when the train brakes are applied, and applying the locomotive

[App. IV.]

brakes just before the train brakes are released, and then releasing the locomotive brakes after the train brakes are re-applied.

Care and judgment should always be exercised in the use of driver brakes on grades to prevent overheating of tires.

When all brakes are applied automatically to graduate off or entirely release the *locomotive brakes only*, use *Release* position of the independent brake valve.

The red hand of the small gauge will show at all times the pressure in the locomotive brake cylinders, and this hand should be watched in brake manipulation.

*Release position of the Independent Brake Valve will release the locomotive brakes under any and all conditions.*

### GENERAL

The train brakes should invariably be released before detaching the locomotive, holding with hand brakes where necessary. This is especially important on a grade, as there is otherwise no assurance that the vehicle or vehicles, or train so detached will not start when the air brakes leak off, as they may in a short time where there is considerable leakage.

The automatic brakes should never be used to hold a locomotive or a train, while standing even where the locomotive is not detached, for longer than ten

[*App. IV.*]

minutes, and not for such time if the grade is very steep or the condition of the brakes is not good. The safest method is to hold with hand brakes only and keep the auxiliary reservoirs fully charged, so as to guard against a start from brakes leaking off, and to be ready to obtain any part of full braking power immediately on starting.

The independent brake is a very important safety feature in this connection, as it will hold a locomotive with a leaky throttle or quite a heavy train on a fairly steep grade if, as the automatic brakes are released, the slack is prevented from running in or out, (depending on the tendency of the grade) and giving the locomotive a start. To illustrate: the best method to make a stop on a descending grade is to apply the independent brake heavily as the stop is being completed, thus bunching the train solidly, then, when stopped, place and leave the handle of the independent brake valve in *Application* position, then release the automatic brakes and keep them charged. Should the independent brake be unable to prevent the train from starting, the automatic brakes will become sufficiently recharged to make an immediate stop, in such an event enough hand brakes should at once be applied as are necessary to assist the independent brake to hold the train. *Many runaways and some serious*  
[*App. IV.*]

wrecks have resulted through failure to comply with the foregoing instructions.

When leaving the engine, while doing work about it, or when it is standing at a coal chute or water plug, always leave the independent brake valve handle in *Application* position.

After an emergency application of the brakes while running over the road due to any cause other than intended by the operating Engine Driver himself :

(1) *In passenger service* move the brake valve handle to *Emergency* position at once and leave it there until the train stops.

(2) *In Goods service* move the brake valve handle to *Lap* position and let it remain there until the train stops.

*NOTE* :—If such a stop is made on a grade, after the train stops the handle should be moved to *emergency* position and left there to insure the brakes remaining applied until released by the Engine Driver in charge of the train or until hand brake can be set to hold the train, if a stop for any length of time is required.

This is to prevent loss of main reservoir pressure and insure the brakes remaining applied until released by the Engine Driver in charge of the train. After the train stops the cause of the application should be located and remedied before proceeding.

[*App. IV.*]

Where there are two or more locomotives in a train, the instructions already given remain unchanged so far as the leading locomotive, or the locomotive from which the brakes are being operated, is concerned. On all other locomotives in the train, however, the double-heading cock under the automatic brake valve must be closed and the automatic and independent brake valve handles carried in *Running* position.

Before leaving the Engine Shed, the Engine Driver should try the brakes with both brake valves, and see that no serious leaks exist. The pipes between the distributing valve and the brake valves should be absolutely tight.

The safety valve operation and adjustment should invariably be tested at this time, also on arrival at terminal, and any indicated adjustment made, otherwise a necessary emergency application may give too little or too much holding power. (Instructions for testing the Safety Valve are given in Instruction Pamphlet No. 5048 covering terminal test of ET locomotive brakes.)

### DOUBLE HEADING

When there are two or more locomotives in a train, the instructions already given remain unchanged so far as the leading locomotive, or the locomotive from which the brakes are being operated is concerned. On all other locomotives

[*App. IV.*]

in the train, however, the double-heading cock under the automatic brake valve must be closed and the automatic and independent brake valve handles carried in *Running* position. The release pipe is then open to the atmosphere at the automatic brake valve, and the operation of the distributing valve is the same as that described later during automatic brake applications. In double heading, therefore, the application and the release of the distributing valve on each Assisting Engine is similar to that of the triple valves on the train, but in case an Engine Driver on an Assisting Engine finds it necessary to apply or to release his brakes independently of the train, he can do so by using the independent brake valve, without moving the handle of the automatic brake valve.

[*App. IV.*]





APPENDIX V

RULES

FOR

LOADS OF GOODS TRAINS



DETERMINATION OF LOADS FOR  
GOODS TRAINS OF THE  
CHINESE GOVERNMENT RAILWAYS

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To scientifically determine the proper loading of Goods Trains, each element capable of affecting the economical movement of these trains has to be considered as far as they may be determined. We may summarize them as follows:— Drawbar pull of engine, resistance of Goods Wagons of different weights and capacities, grades, curves, condition of the track, temperature, condition of the weather, wind, density of traffic, length of sections of the line, and speed of the trains.

The first aim of a scientific train loading system is to give to the engine the same amount of work for any make up of train, whether heavy or light wagons, loaded or empty, or a mixture of them.

The second aim consists in always loading the engine so that the goods shall be transported as cheaply as possible per kilometric ton, according to the conditions of the weather, the temperature, the condition of the track, etc.

These aims may be attained satisfactorily by means of a scientific but simple method for determination of train load, called the "adjusted loads" method, which may be arranged to suit, as far as possible, the actual conditions.

[*App. V.*]

The first element to be considered will be the drawbar capacity of the engine used for the section under consideration for hauling a Goods Train. This element is naturally influenced by the grades and curves of the section and also by the speed of the trains to be realized. It is equal to the theoretical tractive effort at the rim of the driving wheels minus that of the locomotive lost in moving itself and the tender.

The theoretical tractive effort for speeds above 15 or 20 kilometres per hour depends on the velocity of the pistons and the capacity of the boiler to supply steam at any reasonable velocity. But it may be generally assumed that the boiler capacity is sufficient. Also that the ratio between the weight on drivers to the calculated tractive effort is great enough to eliminate slipping under reasonably good track conditions.

### Tractive Effort

The tractive effort at a speed of 15 kilometres per hour may be calculated by the formula :

$$T = \frac{0.85 P S d^2}{D}$$

P = Steam pressure in kilograms per sq. c.m.

S = Length of stroke in c.m.

d = Diameter of cylinders in c.m.

[*App. V.*]

D = Diameter of driving wheels  
in c.m.

Usually it will not be necessary to calculate the tractive effort at higher speeds as the locomotive will be able to haul at a reasonable speed any train that it can start, provided the boiler capacity is sufficient. If the boiler capacity is not sufficient it becomes the controlling factor, so that a calculation of tractive effort at higher speeds would be useless.

### Engine and Tender Resistance

The resistance to be overcome in moving the locomotive may be computed by assuming a resistance of 12 kilograms per ton of weight on drivers, and using the formula for wagons for engine truck and tender weights. The grade and curve resistance may also be calculated as for wagons. The front end air resistance may be neglected, as it is not of importance except at high speeds.

### Train Resistance

The factors entering into the resistance of a wagon to movement are generally classified under the head of internal or external resistance. The internal resistance includes such factors as journal friction, flange friction, rolling friction, and miscellaneous losses due to concussions oscillation and vibrations that absorb energy. The external resistances include those due to grades, curves and wind.

[*App. V.*]

### Internal Resistance of Goods Trains

The internal resistance of a Goods wagon does not vary in direct ratio with the weight, as an engine can haul more tonnage in wagons of great capacity heavily loaded than in light or empty wagons. The adjusted tonnage method takes this fact into consideration, and allows the loading of each engine with tonnage according to the number of heavy, light, or medium weight wagons comprising the train.

The following Table I shows how the internal resistance per ton varies according to the weight of wagons at different speeds.

The following table shows the Internal resistance in kilogrammes per metric ton of the total weight of Goods Wagons at various speeds, computed by the following formula :—

$$R_i = 0.75 + \frac{53 + 0.62 V}{1.10 W + 1} + \frac{V^2}{5000}$$

in which :—

W = Total weight of the Wagon  
in metric tons.

V = Speeds in kilometres per  
hour.

[App. V.]

TABLE I

Weights, W. in metric tons		10	20	30	40	50	60
Truck	Solio	Speed in kilometres per hour					
	4-axles	2-axles					
10	5	5.70	6.28	6.90	7.55	8.25	8.99
15	7.5	4.15	4.54	5.02	5.51	6.05	6.62
20	10	3.34	3.06	4.04	4.40	4.90	5.39
25	12.5	2.84	3.11	3.44	3.80	4.19	4.63
30	15	2.51	2.74	3.04	3.36	3.72	4.12
40	20	2.08	2.28	2.52	2.80	3.12	3.47
50	25	1.82	2.00	2.22	2.46	2.75	3.08
60	30	1.65	1.80	2.01	2.23	2.50	2.81

[App. V]

The temperature of the atmosphere and the condition of the track affect the internal resistance. When the temperature is low and the track is in bad condition the resistance is greater, and these facts must be taken into consideration.

### External Resistance of Goods Trains

The external resistance of Goods Trains is due to curves, grades, and wind. The gradients increase the resistance of wagons at the rate of one kilogramme per millimetre of grade. The resistance due to curves is about  $750/r$  per ton,  $r$  being the radius of the curve in metres.

The increase of resistance due to wind is variable, and will be taken into consideration by adopting one of the reduced train ratings which will be explained later on.

The external resistance is not affected by the temperature and does not vary except in direct proportion to the tonnage of the train. The number of wagons has a little to do with the resistance due to curves and wind, but its influence on the resistance of the train is too remote to be determined exactly.

The total resistance of a Goods Train, per ton of wagon weight, may be expressed by the following formula :—

[App. V]



$$R = R_1 + G + 750/r$$

in which:—

$R_1$  represents the rolling resistance per ton of wagon, depending upon the weight.

$G$  represents the gradients in millimetres per metre.

$r$  represents the radius of the curve in metres.

### Determination of the Weight of Trains

The weight  $P$  of a train in metric tons which may be moved at a certain speed on a given gradient and curve is found by dividing the tractive effort  $T$  that the engine can sustain by the total resistance per ton of wagon  $R$  as follows:—

$$P = T/R$$

The heavier the grade becomes, the less the difference between the tonnage of heavy wagon and light wagon trains. The resistance due to gradient being the same per ton of heavy or light wagon, it becomes a greater portion of the total resistance when the gradient increases, and the internal resistance varying inversely to the weight of the wagon becomes less in proportion to the total resistance. This shows why the adjustment for difference in wagon weights becomes less as the ruling gradient increases.

[*App. V*]

### Method for Determination of the Tonnage of Trains based on the Load Factor

Having determined the hauling capacity of an engine, or of a class of engines, over a given division, the problem consists in finding the best method of making up the trains so that their tonnage will suit the hauling capacity of the engine.

The "Load Factor" method of tonnage adjustment which is recommended seems to suit the conditions of the Chinese Government Railway where there is a wide variation in weights and capacities of Goods Wagons. It consists in adding a figure called a "Load factor" to the weight in tons of each wagon in a train. This figure will be a constant for any wagon in any train regardless of the weight of the wagon, but will vary on sections and will frequently be different in opposite directions on the same section because of differences in the controlling gradients.

The "Load Factor" is arrived at by first calculating the available tractive effort at the tender drawbar, dividing this figure by the total resistance per ton for one of the heaviest wagons in service and so obtaining the weight of such wagons that can be hauled by the locomotive. The available tractive effort is thus divided by the total resistance per ton of one of

[*App. V*]

the lightest wagons, which will give the weight of such wagons that the locomotive can haul.

$$\frac{T}{R_h} = W_h, \quad \frac{T}{R_l} = W_l$$

Dividing these figures by the tons per wagon in each case gives the number of wagons in each train:  $N_h$  and  $N_l$ .

The load factor is then computed by the following formula:—

$$F = \frac{W_h - W_l}{N_h - N_l}$$

Tables may then be prepared for the various locomotive runs showing the adjusted tonnage to be hauled in each direction for each class of locomotive in service.

It may be found that in the case of some locomotives the boiler capacity is not sufficient to haul the indicated tonnage, and in such case it will be necessary to reduce the tonnage.

It may also be found that the length of the crossing loops may limit the length of trains composed mainly of light wagons.

### **Reduction in Tonnage for Low Temperature or other Adverse Conditions**

After having calculated the ratings for the various locomotives on each section

[App. V]

under favourable conditions, and verifying them by practical tests and comparisons with previous results, it will be advisable to establish reduced ratings for each locomotive to be used in case of cold weather, heavy winds, or other unfavourable condition. Four different ratings have been found desirable, and they may be designated as A, B, C, D, the three latter ratings being fixed at some percentages of rating A, the percentage depending upon the ruling gradients and the differences being less on the heavier gradients because gradient resistance will not be affected by changes in temperature and wind.

### **Instructions for Determination of Loads of Goods Trains**

#### I

All loads are based on metric tons.

#### II

To determine the train load to be hauled by an engine, find first from the rating tables the adjusted tonnage in effect applying to this engine.

Then take the actual weight of each wagon to be moved (tare and load) and add to it the proper load factor in order to obtain the adjusted weight of each wagon.

Finally, add together the adjusted weights of wagons until the total equals the adjusted tonnage rating of the engine.

[*App. V*]

It is to be noted that the load factor of two-axle wagons, to be added to the actual weight of these wagons in order to obtain the adjusted weight of each of them is equal to the half of the factor established for wagons with bogie trucks.

### III

For the determination of the load of a train pushed by an engine or pulled by two or three engines, add together the adjusted tonnage applying to each engine and proceed as shown by the Rule II.

### IV

In determining the load of a train, the Officers of Stations and trains shall consider the brakevan as one of the wagons of the train, adding the load factor to the actual weight of the van and including the weight thus adjusted of the van in the adjusted tonnage of the train as shown by the Rule II.

### V

When dead engines are hauled in a train, the Station and Train Staff shall add four times the load factor to the actual weight of each dead engine and determine the composition of the train so that the sum of engines and wagon weights thus adjusted shall give a total equal to the enforced adjusted tonnage as shown by the Rule II.

### VI

Officers in charge of the formation  
[App. V]

of trains shall place the greatest possible number of heavy or loaded wagons in each train and avoid running any trains composed only of empty wagons except when otherwise instructed.

## VII

All Goods Trains of whatever nature shall be loaded on the adjusted tonnage basis.

## VIII

No reduction in tonnage on account of weather or any other reason may be made without permission of the Superior Officer in charge of the Section under consideration.

## IX

The actual weights of empty or loaded wagons shall not be estimated or assumed when they can be obtained from the wagon stencils or the way-bills.

## X

When the actual weights cannot be determined, they shall be estimated according to the indications of the annexed table for their tare and content. The weight of the content shall be estimated according to the marked capacity of the wagon except in the case of light goods, such as straw, cotton, etc., for which the content shall be supposed to be equal to the half of the marked capacity. In case of wagons of miscellaneous goods, the contents shall be taken as 5 tons.

[*App. V*]

## XI

In converting to tons the actual weight of wagons expressed in kilogrammes, all fractions of tons under 500 kilogrammes shall be neglected, and those equal to or above shall be taken as one ton.





## APPENDIX VI

### BRAKING OF TRAINS

The Traffic Manager and the Locomotive Superintendent will consider the conditions affecting the braking of trains, and put into effect Rules to meet the following requirements:—

1. All trains must be so equipped and operated that, after attaining the authorized maximum speed, they may, if necessary, be brought to a dead stop within a distance of one kilometre.
2. In case of a train parting, the portion of the train detached must be promptly stopped.



APPENDIX VII

RULES

FOR

WORKING SINGLE LINES OF RAILWAY

BY

TRAIN STAFF AND LINK SYSTEM



**APPENDIX VII**  
**RULES FOR WORKING SINGLE**  
**LINES OF RAILWAY BY**  
**TRAIN STAFF AND LINK**

**1.** — A Train Staff, or Link must be carried with each train, and no train must be permitted to leave any Staff Station with a Link, unless the Staff for that portion of the Line over which it is to travel is then at the Station (Except as provided in Rule 20).

**2.** — All Points on a Single Line that become Facing Points to trains running in either direction must either be padlocked or securely held for the safe passage of trains.

**3.**—(a) The Danger Signal must always be kept exhibited at all the Fixed Signals at Staff Stations, except when it is necessary to lower them for a train to pass; and, before any Signal is lowered, care must be taken to ascertain that the Line on which the train is about to run is clear and properly protected.

(b) When trains which have to cross each other are approaching a Station in opposite directions, the Signals in both directions must be kept at Danger, and shall only be lowered to one train at a time. When the train which

[App. VII; 1-3]

has first been admitted into the Station has been brought to a stand at the Station Platform, clear of the Points, the Signals applicable to the other train may then be lowered to allow it to draw forward into the Station.

**4.**—(a) Permission must not be given for a train to approach from the opposite end of the Section when there is any obstruction upon the Line, and the Line must not be fouled after permission has been given for a train to approach from the opposite end of the Section.

Train approaching from opposite end of Section.

(b) An Engine Driver must not, under any circumstances, foul the Single Line for Shunting purposes, unless he has received the authority of the Station Master to do so.

Driver not to foul Single Line without Station Master's authority.

**5.** — No train must shunt for another train to pass except at a Train Staff Station. The Station Masters and Drivers are the sole persons authorized to handle the Train Staff and Link.

Custody of Staff or Link.

**6.** — When a train is ready to start from a Station, and no second train is intended to follow before the Staff will be required for a train in the opposite direction, the Station Master in charge of the

When Staff to be given to Engine Driver.

[App. VII, 4-6]

Staff Working must give the Staff and the whole of the Links to the Engine Driver, who will examine them to see if correct, and, if so, will then place them on the train Staff hook, or in the box, or other receptacle provided on the engine.

**7.—(a)** If other trains are intended to follow in succession before the Staff can be returned, a Link indicating that the Staff is following must be given by the Station Master in charge of the Staff working to the Engine Driver of the first train, the Staff for the Section being shown to him, and afterwards locked up by the Station Master as provided in Rule 11, and so on with any other train except the last, the Staff itself being given to the Engine Driver of the last train as directed in the preceding Rule. *The Station Master who hands the Link to the Engine Driver must satisfy himself that the train has arrived at the other end of the Section with such Link before he allows another train to follow.* After the Staff has been sent away, no other train must, under any circumstances, except as provided in Rule 20, leave the Station to follow in the same direction until the Staff for that Section has been returned.

(b) The Station Master in charge of the Staff Working must consider it his first duty to deal with the Train  
[App. VII, 7]

Staff or Link not to be given to Driver going in one direction until train from other direction has arrived complete. Staff or Link on arrival of the train; and at Crossing-places must satisfy himself that the train running in the one direction has arrived complete and clear of the fouling post, with the Tail Lamp or Disc on the last vehicle, before handing the Staff or Link to the Engine Driver about to travel in the opposite direction.

*NOTE* :—In case of failure of all means of Communication between two Staff Stations, see Rule 22 (*b*) Appendix I for instructions in regard to the procedure to be adopted.

**S.**—No train must be permitted to leave a Station until the Engine Driver has received the proper Staff or Link for that Section of the Line over which he is about to travel, and he must not take the Staff or Link from any other than the Station Master in charge of the Staff Working. After receiving the Staff or Link, he must not start until the proper Signals have been exhibited; and, when with a train, not until a Signal has also been given by the Guard. On arriving at the Station, to which the Staff or Link extends, such Staff or Link must immediately be given to the Station Master in charge of the Staff working.

[*App. VII, §*]



**9.**—(a) An Engine Driver will render himself liable to dis-  
 Penalty for Engine Driver leaving without Staff or Link. missal, if he leave a Staff Station without the Staff or Link for the Section over which he is about to run ; or if he leave with a Link without having first seen the correct Staff, except as provided is Rule 20.

(b) He must be careful not to take the Staff or Link beyond the Staff Station at which it should be left.  
 Not to take Staff or Link beyond proper Staff Station.

(c) The Station Master in charge of the Staff Working will render himself liable to severe punishment should he contribute to any irregularity in the Staff Working.  
 Irregularity in Staff Working.

(d) If the Station Master in charge of the Staff Working receives a wrong Staff, he must return it by the most expeditious means ; but a train or engine must not be used for the purpose, unless the person returning with the wrong Staff is also in possession of the correct Staff.  
 Staff Working.

**10.**—Each Staff has engraved or marked on it the name of the Staff Station at each end of the Section to which, only, it applies. The Staffs and Links for the different Sections are plainly marked, and the Staffs of adjoining Sections are different in shape.

[App. VII, 9-10]

**11.—(a)** The Staff and Links, when not in use must be kept in the box or other receptacle, and properly locked, the key to open the box being in possession of the Station Master in charge of the Staff Working, who will be held strictly responsible.

(b) Unless as provided in Rules 7 and 13 of this Appendix, only one Link must be taken from the Staff box or other receptacle at the same time. The box must be locked after each Link is taken out, and not again opened, except to replace the Staff after showing it to the Driver, until it is necessary to obtain another Link for a following train.

**12.—(a)** Should a Train Staff be lost, the Station Master or persons in charge at both ends of the Section must communicate with each other by telegraph or telephone where available, and make arrangements to work the traffic over the Section to which the Staff belongs by Pilotmen in accordance with the Rules for working by Pilotman (who must be appointed by an order in writing, the Special Form—see page 331 being used for this purpose, the necessary alterations being made with pen and ink) until the Staff has been found, or a relieving Staff has been supplied, Block Telegraph Signalling being maintained.

[*App. VII, 11-12*].

(b) If the missing Staff be found, it must be handed to the Station Master at either end of the Section, to which it applied, who must make arrangements for the ordinary working to be resumed; before the Regular Staff is brought into use, the Relieving Staff must be withdrawn and forwarded to the person, who is responsible for its safe custody.

**13.**—When any train is assisted by a second engine in the front, and such train has to carry the Staff, the first or leading engine must carry a Link, and the second engine the Staff. In cases where the train is to be followed by another train, the second, as well as the leading engine, must carry a Link. When the assisting engine is behind, pushing the train, the train engine must carry a Link, and the assisting engine the Staff, except in cases where the train and assisting engine are traveling over the entire length of the Section, and have to be followed by another train, when the train and assisting engine must each have a Link. When the assisting engine is allowed, by the authority of the Traffic Manager, to return to the Station, from which it started without running through the entire Section, it must always carry the Staff.

**14.**—(a) In the event of an engine, which carries the Staff breaking down between two  
 Engine carrying Staff disabled.  
 [App. VII, 12-14]

Stations, the Fireman must take the Staff to the Staff Station *in the direction, whence assistance can be obtained*, in order that the Staff may be at the Station on arrival of the assistance engine, and the Station Master at the Station to which the Staff is taken, will be held responsible for carrying out all special arrangements necessary during the continuance of the obstruction.

Engine carrying Link disabled. Should the engine that fails be in possession of a Link instead of the Staff, assistance must only come from the Station at which the Staff has been left, and the Station Master at that Station will be held responsible for making any special arrangements that may be necessary, the Guard of the train being held responsible for the proper protection of his train until the arrival of the assistant engine. But if assistance can be more readily obtained at a Station other than that where the Staff is, immediate steps must be taken to have the Staff transferred to the other end of the Section. The Fireman must accompany the assistant engine to the place where he has left his own engine.

(b) When the engine which has failed is carrying a Link, the Fireman must take this Link with him when he goes for assistance, and the Driver of the engine which has failed must not allow it to be moved until the assisting engine has arrived even should the Drivers in the

[*App. VII, 14*]

mean time succeed in repairing the disabled engine.

**15.**—(a) When a train or a portion of a train is left upon the Line from accident or inability of the engine to take the whole forward, the Engine Driver must not, if he is in possession of a Link, return for the vehicles except by written instructions from the Station Master, and the Guard must protect his train in the front and rear, in accordance with Regulation 115 of the Book of Rules and Regulations. If the Engine Driver be in possession of the Staff, he may return for the rear portion of his train without obtaining written authority from the Station Master.

(b) After sunset, or during foggy weather, falling snow or dust storm, before the front portion is drawn forward, a Red Light must be placed on the front vehicle of the rear portion by the man who divides the train. In the case of the train being accidentally divided, the Guard in charge of the rear portion must place a Red Light on the leading vehicle of the rear portion of the divided train.

**16.**—(a) Should an accident occur of such a nature as to block the Line, and the Traffic is likely to be stopped for any considerable time, special arrangements must be made for working the trains to and from the

When Line obstructed.

[*App. VII, 15-16*]

Staff Station on each side of the obstruction. The Train Staff must be retained to work trains between the point of obstruction and the Staff Station from which assistance is rendered, and, on the other side, the traffic must be conducted by a Pilotman to be appointed by an order in writing (See Form).

(b) Block Telegraph Working of trains must be suspended in the obstructed Section and the Single Line of each side of the obstruction must be protected by Hand Signalmen in the usual way.

## TRAIN STAFF AND LINK SYSTEM

### WORKING OF SINGLE LINE BY PILOTMAN DURING OBSTRUCTION

This Form must be filled up and used whenever it is temporarily necessary, owing to obstruction on a Single Line, to work the traffic by Pilotmen.

---

.....Station,

.....19....

The Single Line between.....  
and.....being obstructed, the  
traffic between.....and the  
place of obstruction will be worked by  
Pilotman in accordance with Rule 16 of

[App. VII, 16]

the Special Rules for working Single Lines of Railway by Train Staff and Link.

.....will act as Pilotman, and must accompany every train to and from..... Station, and the point of obstruction.

Telegraph Signalling of trains must be suspended in the obstructed Section.

This order is to remain in force until withdrawn by the Pilotman.

Signed .....

To.....

(x) Note by.....

(at the place of obstruction). Time.....

(x) Noted by.....

(Station or Box). Time.....

(x) Noted by..... (Pilotman).

(x) These signatures must be made on the copy held by the Pilotman, who must also sign all the Forms he distributes.

Six of these Forms must be kept in a convenient place at each Train Staff Station, so as to be available at any moment day or night.

A copy of this Form must be delivered to the Station Master in charge of the Staff Station where Pilot Working commences, and the second must be retained by the Pilotman, and the third

[App. VII, 16]

must be conveyed by the Pilotman to the person in charge of the obstruction. If there is an intermediate Flag Station, the person in charge must be supplied with a copy of the Form.

In the event of a Station Master himself acting as Pilotman, he must address and give a copy of the Form to the person he leaves in charge of his Station.

Station Masters and persons in charge receiving this Form will be held responsible that the Staff concerned at their stations are immediately made acquainted with the circumstances, and are instructed in their necessary duties.

On the other side of the obstruction the Line will be worked by Train Staff, *no Links being used.*

**17.**—When the Line is again clear, no train must be allowed to pass the point where the obstruction existed without the Staff. The Pilotman must accompany the first train carrying the Staff to the Staff Station, and, after the Pilotman has withdrawn his arrangements for Pilot Working, the Traffic must be again conducted according to the Train Staff Rules.

**18.**—(a) When a service train has to work on the Line, the Staff must be given to the Engine Driver in charge of it. This

Service train at work on Line.

[*App. VII, 17-18*]



will close the Line while the Service train is at work. The Service train must proceed afterwards to one of the Staff Stations to open the Line before the ordinary traffic can be resumed. But if a Service train is required to run over a Section of Single Line from one Staff Station to the other without stopping to work on the way, it may then travel with staff or Link as required. Under no circumstances must the Service train stop to do work on the Line, unless in possession of the Train Staff.

(b) The Engine Driver of a Service train that has to do work on the Line must be informed, when receiving the Staff, to which end of the Section it is to be taken, and at what time it is to be there, in order to clear the Line for the next train.

(c) When a Service train working in the Section has to be returned to the Staff Station in the rear, no shunting outside the Home Signal or Outer Home Signal at that end of the Station must be allowed.

(d) When a Service train in possession of the Staff is at work on the Line, it will not be necessary to send Flagmen to protect it.

**19.**—When Special Trains or Engines have to run, it will be necessary for all concerned to be at all times prepared to arrange the Train Staff Working.

[*App. VII, 18-19*]

## Procedure for Temporary Suspension of Train Staff

**20.**—(a) To prevent serious de-  
 “Line Clear” lays, Traffic Inspectors and  
 Telegram. Station Masters may suspend  
 the Train Staff and Link System tempor-  
 arily when they are satisfied that it is safe  
 to do so, and authorize the movement of  
 trains on “Line Clear” Telegram wiring  
 both ends of the Section accordingly, but  
 a “Line Clear” Telegram must not be  
 accepted more than fifteen minutes before  
 the train, to which it applies, is due  
 to leave.

On the receipt of this Wire, the  
 Station Master who has a train to send on  
 will, after satisfying himself that the  
 Section is clear, wire to the Station Master  
 at the other end of the Train Staff Section  
 as follows :—

“No. .... (last) train left  
 here at.....hours  
 and No. .... (last)  
 train arrived here at.....hours.  
 Lock up Train Staff and give me Line  
 Clear for No. ....train from  
 .....Station to.....  
 Station.”

(b) The Station Master at the  
 other end of the Section who holds the  
 Train Staff, after satisfying himself that  
 all trains sent forward with Links have

[App. VII, .20]

reached the Station in advance, will then lock up the Train Staff and Links, if any, in the box provided for the purpose, and reply.

“ No..... (last) train arrived here at.....hours and No..... (last) train left here at .....hours. Staff locked up. Line is clear from.....Station to.....Station for No..... train ”.

(c) For safety, all telegrams must be confirmed as follows :—

Station Master “ A ” to Station Master “ B ”

“ Confirm your Telegram No. ....for train ..... from..... to ..... ”

Station Master “ B ” to Station Master “ A ”

“ My Line Clear Telegram No. ....is hereby confirmed for train ..... from ..... to..... ”.

(d) The telegram stating that the Train Staff has been locked up must be handed to the Driver as his authority to proceed without the Train Staff, and Links on hand at the Station, which asked for “ Line Clear ” must at the same time be returned to the Station at which the Staff has been locked up.

[*App. VII, 20*]

**21.**—The Train Staff must not on any account be released until the train travelling on "Line Clear" Telegram has reached the Station and is clear of the Points.

**22.**—Line Clear Forms now have been supplied to all Stations, and, when being used, the Station Master must fill them in properly and get the Guard and Driver of train to sign them, the Guard to send his portion in to the Traffic Manager. If the Forms are not properly filled in, the Train Hands must not accept them. Traffic Inspectors are to personally examine the counterfoils, which they will initial with date of inspection, and report, if anything be found wrong.

**23.**—Should it be necessary to work more than one train on "Line Clear" Telegram, the Station Master in possession of the Staff after giving the "Train Out of Section" Signal when the last train carrying the "Line Clear" Telegram has arrived complete must, before the Train Staff or Link is handed to the Driver of a train proceeding to the Station which asked for "Line Clear" and prior to the exchanging of the usual Signals, send a telegram. "Train No .....has arrived complete, Staff and Link Working resumed".

[*App. VII, 21-23*]

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to

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