NEW ZEALAND GOVERNMENT RAILWAYS

RULES

AND

REGULATIONS

TO BE OBSERVED BY

ALL EMPLOYEES WHO AE CONNECTED WITH THE RUNNING OF TRAINS

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Amendment		Inserted By		Checked by Controlling Officer	
No.	Date	Initials	Date	Initials	Date

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RULES

GENERAL RULES

1. The first and most important duty of every employee is to provide for the safety of the public and other employees.

2. Definitions -In this book the following terms shall, unless inconsistent with the context, have the meanings set against them respectively:
(a) **Officer Controlling Train-running**: The District Traffic Manager or officer authorised by him to control train-running in areas specified in the working timetables or train advices.
(b) **Officer in Charge:** The Stationmaster or other employee who is in charge for the time being of the station, siding, or other place.
(c) **Signalman:** Any employee authorised to signal trains and for the time being in charge of the signalling of trains at a station. A Centralised Traffic Control Panel Operator is the Signalman for each interlocked station in his area while it is under his control.
(d) **Main Line:** The principal line of any railway
(e) **Crossing Loop:** A loop line directly connected to the main line and provided for crossing trains.
(f) **Sidings:** All lines other than main lines and crossing loops.
(g) **Signal box**: Any place where signal levers are fixed; or, where no signal levers are provided, the place where the safe-working appliances are located.
(h) **Station Limits:** In Single Line areas with fixed signals station limits include all lines within the Home signals, or Outer Home or Arrival Signals. Where fixed signals are not provided, station limits include all lines within the first facing points met approaching the station on the main line from either direction unless otherwise defined by notice boards.
In Double line areas Station limits include all lines within the Home signals and also the line from the Outer Home signal and up to the Advanced Starting signal.
(i) **Open Section:** A section of line operated strictly in accordance with the working timetable and train advices, and where tablet working or automatic signalling is not provided.
(j) **Train:** A locomotive, or 1ocomotives coupled with or without vehicles attached, or a railcar, or electric multiple-unit, or any other self- propelled rolling stock duly authorised to run as a train.
(k) **R.R. Trains**: Trains scheduled in the working timetables or train advices as R.R. trains are run only on the special authority of the Officer Controlling Train-running, and are special trains.
(l) **Motive Power Unit**: A locomotive, railcar or electric multiple unit.
(m) **Locomotive-Whistle:** Includes any audible warning device installed on motive power units.
(n) **Telephone:** Includes any device, e.g., radio, which permits two-way verbal communication between two distant points.
(o) **Handsignalman:** An employee who is appointed to hand signal trains in place of fixed signals.
(p) **Pilotman:** The employee appointed for Pilot Working in accordance with Rule 86, Automatic Signalling Regulation 28 or Tablet Regulation 33,
(q) **Pilot:** An employee who ensures the safety of a train or other movement by guiding the driver.
(r) **Single Line:** Where a main line between two stations is for use by both Up and Down trains, this will be known as "Single Line",
(s) **Double Lines**: Where there are two main lines between two stations and one is for Up trains only and the other for Down trains only, these will be known as "Double Lines"

3. (a) **Persons Who Must Have Instruction Books** - All persons specified hereunder must be supplied with, and have with them when on duty, and produce when required, a copy of this book, also a current copy of the working timetable for the district, and any special instructions relating to the work on which they are employed:

All members of the permanent staff of the Traffic Branch and the Mechanical Branch (Running) (provided that the Head of the Branch or the District Officer may except any members who will not require the rule book or timetable in the course of their duties).

All employees engaged on works affecting the permanent way (employees not connected with the running of trains or not in charge of works excepted).

All employees in any way connected with the train services or safety appliances in connection with the running of trains (employees working exclusively in workshops excepted).

All employees authorised to operate trolleys, velocipedes, mobile track . equipment or track maintenance machines.

All other employees whom the Head of the Branch considers should be supplied.

(b) Employees referred to in clause (a) who have not been supplied with a copy of the pule book, working timetable, and special instructions, or who have lost them, must immediately obtain copies from their superior officers.

4. (a) **Knowledge of Rules** -Every employee who has been supplied with this book must make himself thoroughly acquainted with, and will be held responsible for a knowledge of, and compliance with, the whole of the rules and regulations contained herein which relate to the duties of the position for the time being occupied by him, and also with all speciai instructions relating to such duties as may from time to time be issued. Every employee who may at any time be called 'upon to undertake the signalling, movement, or protection of trains must have a sufficient knowledge of the rules and regulations inany way relating to the safety factor to enable him to do what is necessary at all times without reference to this book.

(b) All Controlling Officers are responsible for seeing that each employee under their charge specified in Rule 3 (a) is supplied with a rule book, working timetable, and special instructions, and understands them.

(c) Examinations of employees to test their acquaintance with the rules, regulations, and instructions with which they are supplied must be held at least once a year as arranged by the Head of the Branch.

5. Circumstances Not provided For – In the event of circumstances occurring which are not provided for in the instructions issued by the Department, employees must be guided by their own pridence and judgement, always bearing in mind that safety is of the first importance in thedischarge of duty.

SPECIAL PRECAUTIONS FOR SAFE OPERATIONS

6. (a) Staff to Watch for Defects on Trains - Officers in Charge, Signalmen, and other employees in a position to do so must take particular notice of each train as it passes, and if they see anything wrong, such as signals of alarm by passengers, goods falling off, vehicles on fire, or other indication of the probability of danger, they must exhibit a Danger signal and endeavour to attract the attention of the Enginedriver or Guard. If unable to attract attention they must take the most suitable action possible in the interests of safety.

(b) **Action when Line Damaged or Obstructed** -If any employee should have reason to believe that the line is damaged, or is obstructed or likely to be obstructed, he must take immediate steps to prevent any train from proceeding in the direction of the damaged or obstructed line until the line has been examined and is clear and safe for the passage of trains.

(c) **Reporting Adverse Conditions** -Train crews and other staff encountering heavy fog, falling snow, unusual rainfall, high winds or any other circumstances likely to affect the safety of operations are to inform the Train Control Operator or, where appropriate, the Officer in Charge or Signalman, at the earliest opportunity.

Where possible, Train Control Operators, Officers in Charge or Signalmen are to arrange for train crews about to enter the area to be informed of the adverse conditions.

(d) **Care When Using Radio Communication** -When radios are used as a means of verbal communication correct radio procedures as detailed in the Special Instruction of each Branch, must be followed. Messages must be acted upon only by those for whom they are intended after correct identification of sender and receiver.

7. Official Time – New Zealand standard time will be observed on all lines. Clocks and watches must be regulated

accordingly.

Correct time will be maintained at al train control offices. Officers in Charge must check station, office, or depot time by reference to the Train Control Opratotas soon as possible after commencing duty each day, or between 5.0 a.m. and 7.0 a.m. daily, if continuously attended.

Every employee connected with train movement and every Ganger, Leading Hand in charge of works, or any employee who may be required to operate track maintenance machines or mobile track equipment or trolley or velocipede on the main line, must provide himself with a reliable watch and keep it regulated to correct time.

COLOUR AND INDICATIONS OF SIGNALS

8. Colour and Indications of Signals -

Colour	Indication
Red	DANGER - STOP
Green moved	CAUTION - MOVE SLOWLY
Green Steady	CLEAR - PROCEED
Yellow	CAUTION - MOVE SLOWLY (as explained in the respective rules and regulations)
Purple	Points Indicator. (*see* Rule 50).

HAND SIGNALS

9. (a) Method of Giving Hand Signals - Hand signals will be made with flags or with the arms by day, and with lamps by night.
(b) Hand lamps and flags when used as signals must be held in the hand, except when they are used for the purpose of marking the actual point of an obstruction.

(c) Employees when signalling must face the locomotive, and the signals must be given from such a position and in such a way that there cannot be any misunderstanding as to the purpose of the hand signal or the train, locomotive, or shunt for which the hand signal is intended. When it is necessary for a Signalman to give a hand signal from a signal box, this must be done by flag or lamp, and the hand signal must be exhibited outside the signal box.

During shunting operations, when conditions of working do not permit of the employee continuously facing the Enginedriver while giving a signal, the employee must satisfy himself that the signal given can be readily seen by one of the locomotive crew.

(d) When exhibiting hand signals for the starting of a train or for calling-on a train past a signal, flags or lamps must be used, except in exceptional circumstances.

(e) **Fixed Signals to be Used** -Hand signals must not be used where the proper signal can be exhibited by means of fixed signal.

(f) Care must be taken to ensure that persons required to give hand signals are competent and fully equipped to do so.

(g) **Glasses in Hand Lamps** - The coloured glasses in hand signal lamps must be fixed so that when the front is turned away from the person holding the lamp the red glass in on the right-hand side and the green glass on the left-hand side.

(h) **Custody of Equipment** -Flags and hand signal lamps must be kept where they will not be available to unauthorised persons.

10. Hand signals will be used to give the following indications:
(See Figs 1 to 20 on page 11 for illustrations)

Signal By Day	Signal By Night	Indication of Signal
(a) A Red Flag (See Fig. 1)	A Red Light (see fig 13)	Danger - Stop
(b) A Green Flag held steadily (see Fig 2)	A Green Light held steadily (see fig 14)	Clear - Proceed
(c) A Green Flag moved slowly up and down (see Fig 3)	A Green Light moved slowly up and down (see fig 15)	Caution - Move slowly
(d) A green Flag moved slowly from side to sid across the body (used at stations at which there are no fixed signals for the indication) (See Fig 4) (used at stations at which there are no fixed signals for the indication) (See Fig 4)	A Green Light moved slowly from side to side across the body (used at sations at which there are no fixed signals for the indication) (See Fig 16)	Stop at Station - i.e. come on slowly and stop at station or enter the crossing loop or siding. When it is necessary for a train to enter the loop or siding and for the Handsignalman to proceed to the points to set the road, the hand signal must be given from the main line points.
(e) A Green Flag moved slowly from side to side across the body (used at stations at which there are no fixed signals for the indication) (See Fig 4)	A Green Light moved slowly from side to side across the body (used at sations at which there are no fixed signals for the indication) (See Fig 16)	Points are properly set for train to proceed from loop or siding to main line; when it is necessary for a train to enter the loop or siding and for the Handsignalman to proceed to the points to set the road, the hand signal must be given from the main line points.
(f) One arm held in a horizontal position (See Fig 6)	A white light held steadily above the level of the head (see fig 19)	Signal of Officer in Charge to Guard that train is authorised to proceed.
(g) Guard blowing his whistle and showing a Green Flag held steadily above the level of the head (see fig 5)	Guard blowing his whistle and showing a Green Light held steadily above the level of the head (see fig20)	Guard's signal to Engine-driver to start train.
(h) Green Flag held steadily above the level of the head (see fig 5)	Green Light held steadily above the level of the head (see fig20)	To indicate to locomotive crew when starting that Guard has joined the train (to be acknowledged by a short pop on the locomotive whistle)
(i) A Green Flag moved slowly from side to side across the body (see fig 4)	A Green Light moved slowly from side to side across the body (see fig 16)	Guard's signal to Engine-driver to stop at station
AIR-BRAKE TEST SIGNALS		
(j) Both hands brought smartly together above the head (see fig 11)	A steady Red light, followed by a steady White light, then another steady Red light	Apply Brakes for airbrake test
(k) Both hands held together above the head, and then parted	A steady white light, followed by a steady red light, then	Release brakes for air brake test.

outwards until level with the shoulders (see fig 12)	another steady white light.	
SHUNTING HAND SIGNALS		
(l) Both arms raised above the level of the head, or any unusual signal (see fig 8)	A red light waved quickly or any light waved in an unusual manner	Danger - Emergency Stop
(m) (i) Both arms extended sideways horizontally from the shoulders, (see fig 19), or (ii) One arm raised above the level of the head with fingers outstretched (to be used when shunter has only one hand free)	A steady Red light (see fig 13)	Stop
(n) One arm and hand moved in small circles and indicating the direction in which the hunt is to travel	A Green light moved slowly from side to side across the body (see fig 16)	Come slowly towards the signal
(o) One arm and hand moved in small circles and indicating the direction in which the hunt is to travel	A White light moved slowly from side to side across the body (see fig 18)	Come towards the signal
(p) One arm and hand moved in small circles and indicating the direction in which the hunt is to travel	A green light moved slowly up and down (see fig 15)	Go slowly away from the signal
(q) One arm and hand moved in small circles and indicating the direction in which the hunt is to travel	A white light moved slowly up and down (see fig 17)	Go away from the signal
(r) Hands brought together as in a clapping movement	A gree light moved very slowly from side to side in a small arc	"Ease Up" - Come slowly towards the signal bringing the buffers together
(s) Elbow held at shoulder height and hand and forearm moved smartly towards and away from the head	A white light moved rapidly from side to side in a small arc	Kicking movement* - Come quickly towards the signal being prepared to stop promptly.
(t) Forearms crossed in front of the chest with the hands open (see fig 15)	A green light moved slowly up and down (see fig 15)	"Pull out and stop short. Go away from the signal being prepared to stop short.

* See also Rule 125 *re* kicking and slipping movements.

11. In the absence of flags, -
(a) Both arms raised above the level of the head denotes "Danger - Stop". See Fig 8 on page11.

(b) One arm repeatedly raised above the head and dropped palm downwards denoted "Caution - Move Slowly". See Fig 7 on Page11.

(c) One arm held in a horizontal position denotes "Clear - Proceed". See Fig 6 on page11.

In the absence of a red light, -

(d) Any light waved violently denotes "Danger - Stop".

DAY HAND SIGNALS

Fig. 1
Danger - Stop
See Rules 10(a) & 15(a)

Fig. 2
Clear - Proceed
See Rules 10(b) & 15(f)

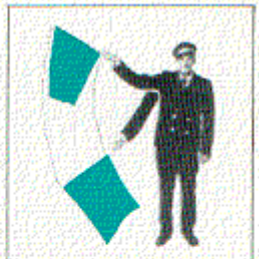


Fig. 3
Caution - Move Slowly
See Rules 10(c) & 15(b)

Fig. 4
See Rules 10(d) & (e)

Fig. 5
See Rules 10(g) & (h)

Fig. 6
Clear - Proceed
See Rules 10(f), 11(c) & 15(f)

Fig. 7
Caution - Move Slowly
See Rule 11(b)

Fig. 8
Danger - Stop
See Rules 10(l) & 11(a)

Fig. 9
Stop
See Rule 10(m)

Fig. 10
See Rule 10(t)

Fig. 11
Apply Brakes
See Rule 10(j)

Fig. 12
Release Brakes
See Rule 10(k)

Air Brake Testing Signals

NIGHT HAND SIGNALS

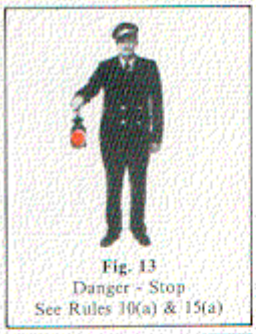


Fig. 13
Danger - Stop
See Rules 10(a) & 15(a)

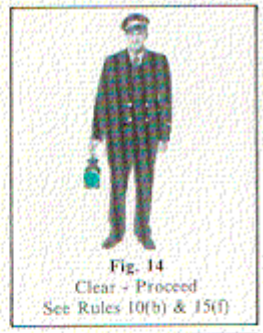


Fig. 14
Clear - Proceed
See Rules 10(b) & 15(f)

Fig. 15
See Rules 10(c), (p), (t) & 15(b)

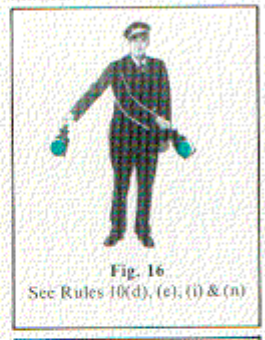


Fig. 16
See Rules 10(d), (e), (i) & (n)

Fig. 17
See Rule 10(q)

Fig. 18
See Rule 10(o)

Fig. 19
See Rule 10(f)

Fig. 20
See Rules 10(g) & (h)

LOCOMOTIVE-WHISTLE SIGNALS

12. The following are Locomotive–whistle Signals.

Number and Description of Whistles to be Sounded	Indication of Signal
(a) Three short (repeated).	Apply brakes.
(b) One long, two short, one long .	Train parted while runnIng.
(c) Two long, two short.	Intimation from Enginedriver of leading locomotive to Enginedriver of locomotive assisting in rear of train to shut off power . (Signal to be used when an unusual stop is to be made.)
(d) One long, to be sounded 300 metres from and again immediately before entering a tunnel .	Warning signal to men working in tunnel.
(e) One long	Approaching stations, signal boxes, sidings, Public level crossings, or workmen on or near the track, or while passing another train which is stationary or shunting at a station on an adjacent line; also, when re- quired, where Whistle Boards are erected.
(f) One short	Going forward.
(g) Two short	Setting back.
(h) Two Long	Branch train approaching junction from either direction.
(i) One long, one short, one long	Intimation from Enginedriver of banking locomotive to the Enginedriver of the train locomotive that the banking locomotive key is on the banking locomotive.
(j) One short, one long, one short	Guard required at the locomotive. Where necessary, the Guard must provide protec tion in accordance with Rule 74 before proceeding to the locomotive. (After sounding this signal, Engine- driver must not proceed unless he receives a "Clear -Proceed" signal from the Guard.)
(k) Four long	Intimation by Enginedriver to member protecting in rear to return to train.
(l) Four short.	Intimation by Enginedriver to Officer in Charge of a station that his train is being dou ble-banked.
(m) Twelve short, sounded for periods of 30 sec onds, repeated if necessary	Outbreak of fire in vehicle or on railway premises.

(n) Local codes additional to the above will be found in the working timetables or in the S and I Circulars.

(o) **Locomotive Whistle for Level Crossings** - When trains are approaching any public level crossing Enginedrivers must sound the locomotive whistle at such a distance back from the crossing as will give ample warning of the approach of the trains Enginedrivers must also make use of the whistle during shunting operations at public level crossings

When two trains approach any public level crossing at or about the same time each Enginedriver must sound the locomotive whistle continuously until his train has reached the crossing.

The sound of the whistle should be distinct, with intensity, duration, or repetition, proportionate to the distance at which the warning is required to be heard, and the circumstances under which it is used

(p) **Locomotive Whistle to Warn Track Staff** - Enginedrivers of special trains run at short notice, or of trains running in advance of timetable time, or of trains running late, when traversing country where the view is restricted, must sound the locomotive whistle at frequent intervals in order to warn the track staff

(q) **Whistle Boards** - Whistle Boards are erected in selected localities where a special warning of the approach of trains is necessary or where for a particular reason it is nccessary that the train whistle be sounded. The erection of Whistle Boards will be notified by working timetable or train advice

Except where instructions provide otherwise, Enginedrivers of all trains must sound the whistle when approaching or passikg Whistle Boards.

DETONATOR SIGNALS

13. (a) Supply, Issue, and Testing of Detonators -Any Guard, Signalman, Enginedriver, Gate-man, Bridge-keeper, and Crossing-keeper , and any Ganger, Leading Hand, or other person in charge of work in connection with the line, must be provided with a supply of detonators, which he must have ready for use when on duty; and every person in charge of a station must keep a supply of detonators in a suitable place, known and easy of access at all times to every person connected with the station.

All persons above named will be held responsible for maintaining the proper supply of detonators.

Employees in charge of Material Trolleys, Track Maintenance Machines, Mobile Track Equipment, or Trolleys, must see that the machines are not used unless equipped with a supply of detonators.

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

(c) Detonators must be withdrawn from stock and returned to the officer who supplied them when they are three years old or when showing any signs of rust on the outside of the case.

(d) Detonators must be carefully handled as they are liable to explode if roughly treated. It is necessary to keep them well protected from damp and in the containers supplied for the purpose.

(e) In order to ensure that detonators are in good condition employees must test one detonator from their stocks at intervals of not more than six months.

While the test is being made care must be taken to ensure that no person is exposed to injury from flying fragments.

(f) If a detonator should fail to explode when a train passes over it the circumstances must be promptly reported to the officer from whom the detonator was obtained, and the defective detonator forwarded to him for examination.

(g) Employees in charge of trolleys or velocipedes must replace detonators which they remove from the rails for the passage of the machines, and they must renew any detonators which have been accidentally exploded.

14. (a) **Use and Placing of Detonators** -Where the use of detonators is prescribed by any rule, regulation, or instruction, they must be used both by day and by night.

The detonators must be placed in pairs (one on each rail and directly opposite each other so that they will be exploded simultaneously), label upwards, as nearly as possible in the centre of the rail, with the clasps bent round the upper flange of the rail.

(b) **Caution Signal** - When a train explodes either one or two pairs of detonators the Enginedriver must immediately cut off power, reduce speed, and bring his train under such control as will enable him to stop at once if required, and then proceed cautiously to the defective place, or until he receives a further signal for his guidance.

(c) **Danger Signal** - When a train explodes a group of three or more pairs of detonators the Enginedriver must immediately stop the train, which must remain stationary until he has ascertained the nature of the obstruction, when he must act as the circumstances of the case may require.

TRACK WORKERS' SIGNALS

15. The signals to be used when necessary by employees engaged in work on the line are as follows:

Signal by Day	Signal by Night	Indication of Signal
(a) A Red Disc (See A Fig. 60 on page 90) or a Red Flag; or, in the absence of a Red Disc or Red Flag, both arms raised above the level of the head(See Fig. 8 on page 11) (Detonators must also be placed in accordance with Rule 228)	A Red Light; or, in the absence of a Red Light, any light moved violently (Detonators must also be placed in accordance with Rule 228)	Danger -Stop.
(b) A Green Flag A moved slowly up and down (See Fig. 3 on page 11)	A Green Light moved slowly up and down (See Fig. 15 on page 11)	Caution -Reduce speed to 10 km/h. In absence of a Green FIag by day or a Green Light by night a Danger signal must be used.
(c) Two detonators on each rail 10 metres apart	Two detonators on each rail 10 metres apart	Caution -Reduce speed and be prepared to stop if required.
(d) Temporary Outer Speed Board (Indicated thereon is the maximum speed to be run - see Rule 229)	Temporary Outer Speed Board facing side painted yellow with reflectorised border. Maximum speed to be run indicated thereon by black numerals shadowed in yellow reflecting material. Reverse side painted white with reflectorised border.	Caution -Be prepared to reduce speed as indicated by Board.
(e) Temporary Inner Diamond-shaped Speed Board (Lettered "C" at the commencement and "T" at the termin ation of the speed-restricted area. Used in conjunc tion with all Tem porary Outer *Speed Boards* – see Rule 229)	Temporary Inner Diamond-shaped Speed Board (Lettered "C" at the commencement and " T" at the termination of the speed-restricted area. Used in conjunc tion with all Temporary Outer Speed Boards) NOTE-A *reflectorised plate is used on the "C" face of some Inner Speed Boards and this may show as a rectangular shape by night*	When first Inner Board ("C") is reached speed must not exceed that indicated on the Outel Board. Normal speed may be resumed aftel the last vehicle has cleared the second Inner Board *("T").*
(f) A steady Green Flag (see Fig. 2 on page 11); or,in the absence of a Green Flag, one arm held hori zontally across the line (See Fig. 6 on page 11)	A steady Green Light (See Fig. 14 on page 11)	Clear - Proceed

SIGNALS DISPLAYED BY TRAINS

16. Trains must display the following signals by day and by night; except when the circumstances require it, detachable tail and side lamps need not be lighted in the daytime:

(a) **Tail Lamp:** To show Red to the rear when lighted, displayed at the rear of the last vehicle; provided for the purpose of indicating to the staff that the train is complete:

(i) A train must not be considered to have passed or arrived complete until the employees concerned have satisfied themselves that the vehicle displaying the tail lamp is attached to the train;

(ii) The tail lamp must be placed on the lower bracket on the left-hand side in the direction in which the train is travelling except that when flashing tail lamps are used a lamp must be placed on the lower bracket on each side;

(iii) When a **shunting train** is authorised to run without a guard's van attached at the rear a Red flag may replace the tail lamp by day;

(iv) When a **locomotive is assisting** in the rear, the tail lamp must be displayed at the back of the locomotive. The vehicle in front of the assisting locomotive must not display a tail lamp, except when instructions to the contrary are issued by the District Traffic Manager , or when a banking locomotive key is in use;

(v) **A locomotive running "light"** must display a tail lamp. When two or more locomotives which are coupled are running "light" the tail lamp must be displayed by the rear locomotive. In the case of electric or diesel locomotives running "light" the tail lamp must be illuminated both by day and by night;

(vi) Locomotives drawing trains must not display tail lamps.

(b) **Side Lamps:** To show White forward and Red to the rear when lighted; provided for the purpose of indicating to the Enginedriver that his train is complete:

(i) When a guard's van is the rear vehicle a side lamp on each side must be placed on the higher brackets;

(ii) When a vehicle not fitted with higher brackets is attached in the rear and portable brackets are not available, or when a locomotive is attached in the rear, the side lamps must be displayed on the rearmost vehicle fitted with brackets for side lamps;

(iii) Locomotives must not display side lamps.

(iv) Side lamps are not required on trains equipped with flashing tail lamps.

(c) **Built in Tail Lamps:** Trains (including railcars, and electric multiple units) which are fitted with built-in tail lamps will not display side lamps. Before commencing each run, whether by day or by night, the guard must satisfy himself that three tail lamps on the rear of the rear vehicle are illuminated.

(d) **Head Lamp:** To show a White light forward displayed at the (ront of the train:

(i) Head lamps must be lighted by day and by night on all trains travelling on the main line and on all locomotives, railcars and multiple-units when moving between platforms, yards and depots. By day the main head lamp must be on "Full",

(ii) Head lamps must be dimmed when trains are standing at a station and when upproaching stations at which they are timed to stop, provided that the train is entering the station on a signal which indiates thalt the line ahead is unoccupied;

(iii) Head lamps on locomotives employed exclusively on shunting must be on "Dim" by day. After sunset or during fog or falling snow such locomotives must display a White light at each end.

17. Checking that Trains Arrive Complete -Officers in Charge, Signal-men, and Guards of trains must ascertain that each train is complete upon arrival at stations.

18. Train Signals to be Identified - Employees along the line must observe the last vehicle of trains and identify the train signals exhibited thereon.

19. Train without Tail Lamp- Employees observing a train pass or arrive without a tail lamp must at once communicate with the Train Control Operator or the station or signal box at each end of the section over which the train has passed. Immediate steps must be taken to prevent trains passing in either direction until it has been ascertained that the train without a tail lamp is complete.

20. (a) Responsibility for Train Signals- Officers in Charge and Guards of trains are responsible for seeing that the proper signals are displayed by trains; Guards must also ensure that the lamps are in good order and that they are properly placed on the train in accordance with Rule 16.

(b) In the case of a locomotive running "light" or of two or more locomotives which are coupled running "light" each Enginedriver must see that the proper train signals are exhibited.

FIXED SIGNALS - GENERAL

22. (a) **Types of Fixed Signals** -Fixed signals, as distinct from hand signals. are located in permanent positions. Three types of fixed signals are in use -semaphore signals, colour-light signals; and disc signals as shown in the diagrams on pages 19, 25 and 144 to 150.

(b) **Semaphore Signals** - The indications of semaphore signals are displayed by means of arms by day and by coloured lights worked in conjunction with the arms by night. The semaphore arms are painted red (except in the case of Distant signals which are painted yellow) and are on the left-hand side of the post as seen by the Ertginedriver of an ap proaching train.

(c) **Colour-Light Signals** - The indications of colour-light signals are displayed by means of coloured lights both by day and by night.

(d) **Disc Signals** -The indications of disc signals are described in Rules 46 and 47, and by diagrams on page 34.

23. (a) **Description of Signalling Systems** - Fixed signals are either two- position or three-position signals.

Two-position signals are not automatic. All semaphore signals are two- position signals. They indicate the route authorised but not the permissible speed. Some two-position signals are colour-light signals.

Three-position signals are automatic and are always colour-light signals. They indicate the permissible speed and also give advance information about the next signal ahead. The indications of automatic signals are controlled by the presence of trains, but some automatic signals are also manually controlled subject to the overriding automatic control.

(b) **Classes of Fixed Signals** - Fixed signals are further classified according to use, as follows:

Distant signals	(Two-position semaphore or colour-light signals)
Outer Home signals Home signals Starting signals Advanced Starting signals Directing signals Shuntmg signals	(May be either two-position or three-position signals)
Departure signals Approach signals Arrival signals Intermediate signals	(Three-position colour-light signals, as described in the Automatic Intermediate sigpals Signalling Regulations)

(c) **Normal Position of Two-position Signals** - The normal position of two-position fixed signals is at "Stop"; exceptions are Distant signals, for which the normal position is at "Caution", and certain signals at switch-out stations, which are left at “Proceed” when the stations are switched out.

(d) Two-position signals are displayed as shown in the diagram on page 19.

(e) Three position clour-lightsignals are displayed as shown in the diagrams on pages 144 to 150.

(f) **Applicability of Signals** – Fixed signals apply only to trains travelling in the proper direction and must not be used for any other purpose.

24. New or Altered Signals - New signals must not be brought into use. or any alteration made in the position or use of any existing signals, without the concurrence of the District Traffic Manager.

25. Signals Not in Use - Semaphore signals not in use are distinguished by two pieces of wood fastened to the arm in the form of a cross, as shown in Fig. 12 on page 19.

Shunting signals when not in use will not be fitted with discs or lamps. Colour-light signals when not in use will have the light units covered.

26. Automatic Signalling - For regulations applicable to Automatic Signalling, see pages 137 to 187.

27. (a) Indications of Two-position Signals - Where two-position semaphore or colour-light signals (Distant signals and Shunting signals excepted) are in use two indications are displayed, namely -

(i) Danger -Stop.

(ii) Clear -Proceed.

(b) The semaphore arm works in the lower left-hand quadrant.

(c) The arm placed horizontally, or a Red light, indicates "Danger -Stop".

(d) The arm inclined at an angle of 45° in the lower left-hand quadrant, or a Green light, indicates "Clear - Proceed".

(e) **Co-acting Signals** - In cases where, owing to intervening objects, signals cannot readily be seen, Co-acting arms or colour-light units are provided. Both arms or lights, as the case may be, must be read as one signal, and in the event of the indications exhibited by Co-acting signals being in conflict, both must be considered to be at "Stop".

(f) For description of Distant signals, see Rule 31.

28. (a) Diverging Lines in Two-position Signalling Areas - In cases where lines diverge from the main line and two-position signals are used the signals will be so arranged as to indicate by their relative positions the lines to which t~y apply.

(b) Where more arms than one are fixed on the same side of a two-position signal-post they indicate the routes for which the points are set, except -

Where Co-acting signals are provided. (See Rule 27 (e).)

Where a Distant signal arm is on the same post as.another fixed signal (See Rule 31 (e).)

(c) Where necessary S. and I. Circulars are distributed showing the position and use of fixed signals at stations.

29. Back Lights - The back lights of two-position semaphore signals and Mechanical Shunting signals show a White light to the Signalman when at "Stop" (or "Caution" in the case of Distant signals).

30. Repeaters - Where a two-position semaphore signal is so placed as to be out of sight of the Signalman who operates it, an electrical repeater will be provided in the signal box.

DISTANT SIGNALS

31. (a) Description - Semaphore Distant signals have a fish-tailed arm which is painted yellow.

(b) "Caution" Indication - The arm set horizontally, or a Yellow light indicates "Caution -Proceed prepared to stop at the next signal in advance should the latter be at "Stop".

It must be distinctly understood that if the Distant signal is placed below another fixed signal it does not give permission for the train to proceed when the upper signal is at "Stop".

(c) "Clear -Proceed" Indication - The arm inclined at an angle of 45° in the lower left-hand quadrant, or a Green light, indicates "Clear -Proceed".

(d) The Distant signal must not be placed at "Clear -Proceed" unless the next signal in advance is also at "Proceed".

(e) On Post with Another Signal - Where it is found necessary to place a semaphore Distant signal on the post of another fixed signal the Distant signal will be the lower arm on the post.

HOME AND OUTER HOME SIGNALS

32. (a) A Home signal is provided where necessary to authorise entry to a station or junction.

An Outer Home signal is a fixed signal located outside a Home signal and between the Home signal and the Distant signal where provided.

(b) Passing Signal at "Stop" - Trains must not pass at Home or Outer Home signal at "Stop" except under such circumstances as are provided for in the rules. (See indexed references on pages 272 and 273.)

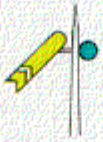
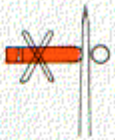
Train Entering Occupied Road - When the line upon which a train is to proceed is occupied and it is necessary for the train to be brought within the Home or Outer Home signal, the train must be stopped at the signal protecting the occupied portion of the track. After the Enginedriver has been verbally instructed by the Signalman (or by the Shunter, when authorised by the Signalman), the train may pass the Home or Outer Home signal at "Stop". The Signalman or Shunter must ride on the locomotive to the point to which the train is required to proceed, or give the Enginedriver clearly to understand how far the train is to proceed.

Where Low-speed Signal Provided - When the Home signal or Outer Home signal is equipped to display a Low-speed signal (see Automatic Signalling Regulation 2(b), the Low-speed signal may be used to authorise a train to enter an occupied road.

33. (a) Clearing Signal for Train Timed to Stop - When a train is timed to stop at a station the Home Signal or Outer Home signal must not be placed at "Proceed" unless the line ahead on which the train is to be admitted is safe and clear within station limits or up to the next fixed signal in advance applicable to the train. A train scheduled to stop at a station "when required" shall be treated as a train timed to stop at the station.

TWO-POSITION SIGNALS

DISTANT SIGNAL

SEMAPHORE	COLOUR-LIGHT	SEMAPHORE	COLOUR-LIGHT	SIGNAL OUT OF USE
				
Fig. 10	Fig. 10a	Fig. 11	Fig. 11a	Fig. 12
Indication: Proceed prepared to stop at the next signal in advance should the latter be at "Stop".		Indication: Clear—Proceed.		Indication: Signal not in use.

HOME SIGNAL, STARTING SIGNAL OR DIRECTING SIGNAL

SEMAPHORE	COLOUR-LIGHT	SEMAPHORE	COLOUR-LIGHT	SEMAPHORE	COLOUR-LIGHT

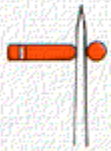
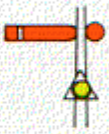

				

Fig. 13	Fig. 13a	Fig. 14	Fig. 14a	Fig. 15	Fig. 15a
Indication: Stop.		Indication: Clear—Proceed.		Indication: Proceed at Low speed prepared to find track occupied and ready to stop clear of any obstruction.	

SEMAPHORE	COLOUR-LIGHT	SEMAPHORE	COLOUR-LIGHT	SEMAPHORE	COLOUR-LIGHT

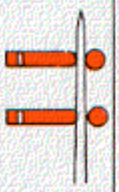
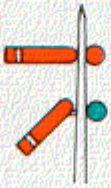
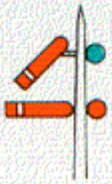

				

Fig. 16	Fig. 16a	Fig. 17	Fig. 17a	Fig. 18	Fig. 18a
Indication: Stop.		Indication: Clear—Proceed: points are set for diverging route.		Indication: Clear—Proceed: points are set for direct route.	

27

(b) Clearing Signal for Train Not Timed to Stop - When a train is not timed to stop at a station the Home signal and the Outer Home signal must not (except as provided in Rule 34) be placed at "Proceed" unless the section ahead is clear for the train to proceed, and the Starting signal, the Advanced Starting signal, or Departure signal, where providect. for the like direction is also at "Proceed". **This will not apply to three-position Home or Outer Home signals.** (See also Tablet Regulation 3 (c).) A train running as directed by Train Control is scheduled as not timed to stop.

In the case of trains not timed to stop at stations where Starting and/or Departure signals are not provided, a Clear hand signal must be given from the platform in addition to placing the Home signal at "Proceed". This will not apply to stations where automatic signalling is in operation.

34. Bringing Train Within Home Signal - When for any reason it is necessary to bring within the Home or Outer Home signal a train which is not timed to stop at a station, the Home signal, and Outer Home signal where provided, must be kept at "Stop" until the train has been brought to a stand or almost so. The Signalman may then place the Home signal and Outer Home signal, where provided, at "Proceed" for the train to draw ahead, provided that-

(i) Where Starting signals are provided-

The Starting signal, the Advanced Starting signal, or Departure signal, where provided, is at "Stop" and the line is clear to the next fixed signal in advance applicable to the train.

Any train so stopped or almost stopped at the Home or Outer Home signal must, after the signal has been placed at "Proceed" move slowly towards the next fixed signal in advance applicable to it but must not pass it until it is placed at "Proceed". If the signal box is between the Home and Starting signals the Engine-driver must be prepared to stop at the signal box.

(ii) Where Starting signals are not provided - The line is clear within station limits.

Any train so stopped or almost stopped at the Home or Outer Home

signal must, after the signal has been placed at "Proceed", draw cautiously into the station towards the signal box.

This rule will not apply to three-position Home or Outer Home signals.

35. (a) Train Timed to Stop "If Required" - When a train is scheduled to stop at a station "when required" and there is no necessity for it to stop, the train may proceed without stopping on receipt of verbal advice or a Clear hand signal from the Guard and also (if at an attended station) a Clear hand signal from the Officer in Charge.

In automatic signalling areas, when a train is scheduled to stop at a station only when required to set down passengers, and there is no necessity for it to stop, the train may proceed without stopping on receipt of verbal advice or a Clear hand signal from the Guard.

(b) Goods train Proceeding Without Stopping - A goods train scheduled to stop at a station may proceed without stopping upon receipt of a Clear hand signal from the Officer in Charge and verbal advice or a Clear hand signal from the Guard of the train.

36. (a) Train Detained at Home Signal - When a train is stopped at a Home or Outer Home signal the Enginedriver must sound the whistle immediately; if permission is not then given for the train to proceed the Guard must protect the rear of the train in accordance with Rule 74. The Locomotive Assistant or, in the case of a railcar, the Guard, must communicate with the signal box and advise the Signalman that the train is standing at the Home or Outer Home signal.

(b) Unless special circumstances make it desirable it will not be necessary to protect the rear of the train where automatic signalling is in operation or the Enginedriver is in possession of a train tablet: Provided, however, that during fog or fallings~ow, where automatic signalling is in operation, the Guard must unless otherwise directed by the Train Control Operator protect the rear of the train immediately the train is stopped.

A train in Open section detained at a Home or Outer Home signal controlling entry to an Automatic Signalling territory must always be protected in accordance with Clause (a) hereof unless otherwise directed by the Train Control Operator.

(c) The Signalman must allow sufficient time for the Guard or Locomotive Assistant to rejoin the train before setting the signal at "Proceed", and the Enginedriver must not start the train until he has received verbal advice or other proper signal from the Guard.

37. (a) Train Standing Foul Inside Station Limits - When a train or vehicles have passed a Home signal or have been shunted from a siding and are detained on the main line or on any other line normally used for train movements, the Guard, Shunter, or Locomotive Assistant must proceed to or telephone the signal box and remind the Signalman of the position of the train or vehicles. The Guard, Shunter, or Locomotive Assistant before communicating with the Signalman, must satisfy himself that the line from which the train or vehicles have been shunted is clear .

(b) The duty of communicating with the Signalman must be performed as under:

(i) In the case of a light locomotive by the Locomotive Assistant;

(ii) In the case of a train by the Guard or Locomotive Assistant, as the Guard in charge of the train may direct.

(iii) In the case of a train or vehicles in the charge of a Shunter, by the Shunter.

38. Signalling Conflicting Trains into Station - When trains which have to cross each other are approaching a station from opposite directions or from converging lines, and the signals have been placed at "Proceed" for one train, the Signalman must not place the signals at "Proceed" for the other train until the first train has come to a stand and the iine on which the other train is to arrive is clear.

This does not apply to stations on double lines where the approaching trains cannot foul each other, or to stations which have been interlocked and arranged so that two trains can be brought in at the same time.

39. Altering Order of Trains at Junction - When two or more trains approach a junction at nearly the same time, and the Signalman has placed the signal at "Proceed" 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 all the signals at "Stop", and so keep them until all trains have been brought to a stand, when precedence can be given to the proper train.

40. Arrival Signals - Fixed signals controlling the entrance to an Attended or Unattended Crossing Station in a single-line automatic signalling area are termed “Arrival” signals as described in automatic signalling regulations in connection with the operation of “Arrival” signals. (“Attended Crossing Stations” and “Unattended Crossing Stations” in single-line automatic signalling areas are defined in Automatic Signalling Regulation 18.)

STARTING AND ADVANCED STARTING SIGNALS

42. (a) A Starting signal is a fixed signal controlling, where an advanced Starting signal is not provided, the entrance of trains to the section ahead.

An Advanced Starting signal is a fixed signal, in advance of a Starting signal, controlling the entrance of trains to the section ahead.

(b) **Passing Signals at Stop** - Starting signals and Advanced Starting signals, where provided, must not be passed at "Stop" except in such circumstances as may be authorised by the rules (see indexed references on pages 272 and 273).

Use of Signals When Shunting - Where a Starting signal must be passed for station work, and a Shunting signal is not provided, a train may, for the purpose of performing such work, pass the signal at "Stop" when authorised to do so by the Signalman either verbally or by hand signal. Where Shunting signals are provided they should be used for such shunting movements. Where Shunting signals are not provided the Starting signal should be used for shunting purposes where possible.

NOTE- *Where specified in* S *and I. Circular Memoranda, Three-position Power Shunting signals (Rule* 46) *will be used also as Starting signals.*

43. Train Detained at Starting Signal - In an instance of detention at a Starting signal or Advanced Starting signal, the Enginedriver, if he is not aware of the cause of the detention, must sound the locomotive whistle immediately; if the train is still delayed the Guard or Enginedriver must ascertain the reason for the delay and, if necessary , protect the train.

Sufficient time must be allowed for the Guard or Locomotive Assistant to rejoin the train before the signal is placed at "Proceed", and the Enginedriver must not move his train forward until he has received verbal advice or other proper signal from the Guard.

44. Departure Signals - Fixed signals controlling the entrance to single line block sections in an automatic signalling area are described as "Departure" signals. (See Automatic Signalling Regulation 19 in connection with the operation of Departure signals. A block section in a single-Iine automatic signalling area is defined in Automatic Signalling Regulation 18.)

DIRECTING SIGNALS

45. Directing signals are used in station yards for the purpose of directing trains to the various platforms, sidings, or positions to which the signals apply, and for protecting those lines to which they refer. Directing signals must not be passed at "Stop" except in such circumstances as may be authorised by the rules. (See indexed references on pages 272 and 273.)

46. (a) Shunting signals are used to control the passage of trains and shunting movements within station limits.

They may be of the following types;

	See Figure	
	No.	Page
MECHANICAL SIGNALS –		
(i) Two-position disc signals	25-30	25
POWER SIGNALS		25
(ii) Two-position colour-light ground shunt signals	31, 33	25
(iii) Three-position colour-light ground shunt signals	32, 34, 35	19
(iv) Yellow light low-speed signals on a fixed signal post	15, 15a, 79-82, 87-90	144 146

(b) **On Starting Signal Posts** - Where a Shunting signal is placed upon a Starting signal post the Caution indication of the Shunting signal authorises a train to pass the Starting signal when at "Stop" for station work only, but a train must not go forward on itsjourney until the Starting signal (and Advanced Starting signal, where provided) is placed at "Proceed".

Use of Disc When Starting Train - Where no Starting signal is provided and a two- position Mechanical Disc Shunting signal can be used when starting a train it must be so used, anda hand signal in accordance with Rule 10(e) must be given from the signal box.

NOTE- *Where specified in S. and I. Circular Memoranda, Three-position Power Shunting signals will be used also as Starting signals.*

(c) **Shunting Signals to be Used** - When the exit from or entrance to a section ofline is controlled by Shunting signals, a train or shunt must not be moved to or from such line until the proper fixed signal is exhibited; a train or shunt, while waiting for such signal, must not be permitted to stand foul of any other line.

(d) **Automatic Running Signals to be Used for Shunting** - When Shunting signals are not provided in automatic signalling areas the Stop and Stay and Departure signals must be used for shunting movements.

47. (a) Mechanical Shunting Signals: Meaning of Indications of - When Mechanical Shunting signals are at "Stop" they indicate only that the line is not clear , or that trains must be stopped.

(b) When Mechanical Shunting signals are at "Caution" they indicate only that points are set in the proper position, but not necessarily that the line is clear . Employees engaged in the movements authorised by such signals must not (unless they have been advised otherwise) assume that the line is clear ahead of the signals, and must be prepared to stop clear of any obstruction.

48. (a) Power Shunting Signals: Meaning of Indications of - When Power Shunting signals are at "Stop" they indicate only that the line is not clear, or that trains must be stopped.

(b) When Power Shunting signals are at "Caution -Low Speed" they indicate only that the points are set in the proper position, but not necessarily that the line is clear . Employees engaged in the movements authorised by such signals must not (unless they have been advised otherwise) assume that the line is clear ahead of the signals, and must be prepared to stop clear of any obstruction.

(c) When Power Shunting signals are at "Clear -Low Speed" they indicate that the points are correctly set up to the next fixed signal, which is at "Proceed"; also that the line is clear.

CATCH POINTS, SAFETY POINTS, AND SWITCH-LOCKED POINTS

49. (a) Catch Points - Catch points are placed on the main line to intercept runaway vehicles.

(b) **Safety Points** - Safety points are placed on crossing loops and sidings to prevent vehicles entering on or fouling the main line.

(c) **Normal Setting** - Catch points must be set for the runaway siding and safety points for the backshunt when not in actual use for passing traffic.

(d) **Switch-Iocked Points** - Turnouts within station limits may be fitted with electric switch-Iocks which secure the points. The electrical release of such switch-Iocked points will be given by the Signalman or as described in S. and I. Circular Memoranda.

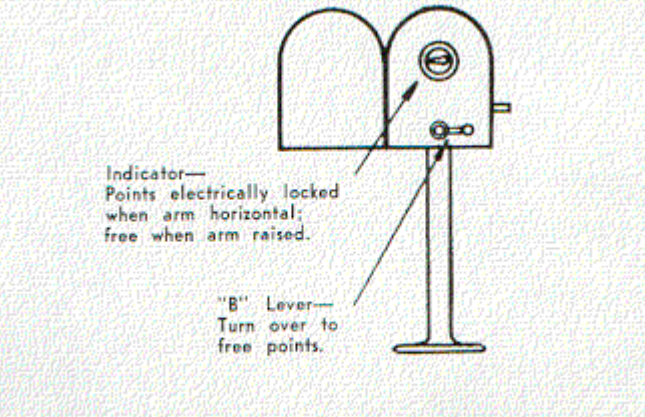
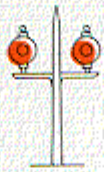
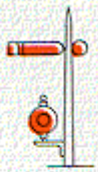
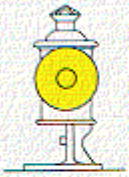
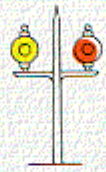


FIG. 50 — STATION YARD SWITCH-LOCK

Sidings between stations on single and double lines may be switch-locked. The method of working such switch-locked sidings is described in Automatic Signalling Regulations 16 and 24.

MECHANICAL SHUNTING SIGNALS TWO-POSITION DISC SIGNALS			Meaning	Name
 Fig. 25	 Fig. 26	 Fig. 27	(Red Disc by day, or Red Light by night)— Stop— Track is occupied, or for some other reason it is required that the train should be stopped.	Stop signal.
 Fig. 28	 Fig. 29	 Fig. 30	(Yellow Disc by day, or Yellow Light by night)— Proceed at low speed, prepared to stop. *See* Rules 46 and 47— Points are in the proper position but track is occupied, or suitable for low speed only	Caution, Low-speed signal.
POWER SHUNTING SIGNALS				
Two-position Colour-Light Ground Signal	Three-position Colour-Light Ground Signal			
 Fig. 31	 Fig. 32		Stop— Track is occupied, or for some other reason it is required that the train should be stopped.	Stop signal.
 Fig. 33	 Fig. 34		Proceed at low speed, prepared to stop. *See* Rules 46 and 48— Points are in the proper position but track is occupied, or suitable for low speed only.	Caution, Low-speed signal.
	 Fig. 35		Proceed at low speed. *See* Rules 46 and 48— Points are correctly set and track is clear but suitable for low speed only, and signal next in advance is at "Caution" or "Clear".	Clear, Low-speed signal.

POINTS INDICATORS (See Rule 50)

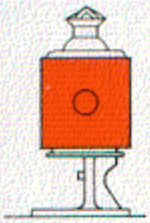


Fig. 41

Indication:
By day—
Red Target
By night—
Red Light
Points are in derailing position.

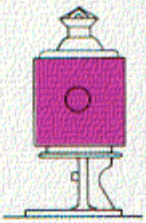


Fig. 42

Indication:
By day—
Purple Target
By night—
Purple Light
Points are set for running position.

ARROW AND COLOUR-LIGHT INDICATORS (See Rule 51)

Single or Double Arrow Indicator

Fig. 43

Fig. 44

Arrow illuminated indicates setting of points for shunting movements controlled by hand signals from the Shunter.

Colour-Light Points Indicator

Fig. 45

Indication:
Stop.

Fig. 46

Indication:
Proceed on receipt of hand signal from shunter.

Fig. 47

Diagram showing Arrow Indicator not illuminated and Points Indicator at "Stop". (Shunting prohibited over points at junction of interlocked and non-interlocked areas.)

Fig. 48

Diagram showing Arrow Indicator indicating setting of points and Points Indicator showing Yellow light. (Shunting movements over points may proceed on hand signal from Shunter.)

Fig. 49

Diagram showing route set for movement from non-interlocked area to interlocked area. (Arrow indicator extinguished and Points Indicator at "Stop".)

TRAP POINTS AND TRAP POINTS INDICATORS

50. (a) Trap points are derailing switches provided for the protection of the main line or crossing loop. Except where instructions provide otherwise they must stand in the derailing position when not in actual use for passing traffic.

(b) A Points Indicator exhibiting a Red square target by day and a Red light by night when the points are in the deIailing position, and a Purple square target "y day and a Purple light by night when the points are reversed, is connected to and works with Trap points. (See Figs. 41 and 42 on page 26).

Where movements over Trap points are authorised by Power Shunting or colour-light signals Trap Points Indicators are not provided.

(c) Indicators referred to in the foregoing are provided solely for the purpose of indicating which way points lie, and the Enginedriver or Locomotive Assistant must observe the indication of Indicators before a train or locomotive passes over the points. Where the movement is not controlled by a fixed signal a signal from the Signalman or Shunter must first be received; the Shunter must not give the signal until he has received the authority of the Signalman.

Note -*Only at interlocked statios and at such other station as are specified in train advices or working timetables will Points Indicatros be fitted with lamps to give an indication by night.*

ARROW AND COLOUR-LIGHT INDICATORS

51. (a) An illuminated Arrow Indicator (single, or with double arrow as per Figs. 41 and 44 on page 26) and a Two-position Colour-light Indicator (as per Figs. 45 and 46 on page 26) are provided at the facing and trailing ends respectively of points which are the termination of the interlocking in station yards.

(b) When an Arrow Indicator exhibits a White arrow light in the facing direction or the related Colour-light Indicator exhibits a Yellow light in the trailing direction, the interlocked points are locked in the correct position and all movements over them must be controlled by a hand signalfrom the Shunter. When it is required to enter the interlocked area the movements will be controlled by fixed signals, the light in the Arrow Indicator will be extinguished, and the Colour-Light Indicator will display a "Stop" indication. (See Figs. 47 and 49 on page 26.)

(c) Where necessary an illuminated Arrow Indicator (single or with double arrow) is used without the associated Two-position Colour-Light Indicator, to indicate the position of facing points. All movements past such indicators must be controlled by a hand signal from the Shunter.

52. Unusual, Irregular, or Absence of Signals - Unusual or irregular signals, or the hand waved violently, denote Danger and the necessity for stopping immediately. The absence of a signal at a place and time where and when a signal is ordinarily shown, or a signal imperfectly exhibited, or the exhibition of a White light at a place where a Green, Yellow, Purple or Red light should be seen must be regarded as a Danger signal.

53. Obedience to Signals - Obedience must be given to all signals unless compliance therewith is likely to lead to danger or in the case of fixed proceed signals it is obvious that the route has been incorrectly set.

54. Prevention of Danger - **Proper Signals to be Given** - It is the duty of every employee to prevent danger by exhibiting the proper signals in the proper manner, and if the employee responsible for the exhibition of the signals cannot perform this duty any other employee in the vicinity must exhibit the signals.

55. Staff to be Prepared for Trains at all Times - Employees engaged on any duty connected with the line must be prepared for the running of trains at any time during the day or night and without prior advice, and the rules and regulations respecting signalling must be observed whether or not trains are expected.

56. (a) **Fouling of Lines Within Station Limits** - Lines within station limits or outside Home signals over which shunting or other movements are controlled by a Signalman must not be fouled or obstructed without the permission of the Signalman and unless protection has been provided by the exhibition of the proper signals in accordance with the rules. Every movement on those lines must be authorised by the Signalman. The Member in Charge of shunting movements and the Signalman must come to a complete understanding of what movements are to take place before the movements are commenced. Where fixed signals are not provided hand signals must be used or verbal or written instructions given.

Signalling Train When No Fixed Signals - Trains may enter attended stations not equipped with fixed signals only after receiving a hand signal as provided in Rule 10 (b) or (d) as may be appropriate. If the signal is not exhibited the Enginedriver must stop the train outside the station limits and sound the locomotive whistle. If the train is still detained he must send the Locomotive Assistant to ascertain the reason for the delay and the Guard must protect the rear of the train as provided in Rule 74.

(b) **Conditions Necessary Before Clear Signal Given** - A Clear signal must not be given unless the Signalman knows positively, either from his own observation or from signals given by the Guard. Shunter, Enginedriver , Locomotive Assistant, or other authorised employee, that the line is clear of all obstructions and safe for the movement signalled; also that the signals covering all fouling points are at "Stop" and, where stations are worked under special instructions that the instructions have been complied with.

(c) **Shunting Outside Station Limits on Open Section** - In Open Section areas shunting or other movement which would cause an obstruction outside the station limits must not be permitted. except by instructions of the Officer in Charge. and in all instances the operations *must* be completed 15 minutes before an incoming train is due. In instances where the Officer in Charge authorises shunting or other movements outside the station limits he *must* satisfy himself there is no risk involved. and, when necessary. he must arrange for protection by hand signals and detonators.

(d) **Shunting Outside Station Limits Under Tablet** - Where the electric train tablet system is in operation and it is necessary to obstruct the line outside the station limits the line must be blocked to the next signal box before such obstruction is permitted, except as provided in Tablet Regulation 9.

(e) **Shunting Outside Station Limits Under Automatic Signalling** - Where single-line automatic signalling is in operation shunting or other movements outside fouling-point boards may be carried out only in accordance with Automatic Signalling Regulation 26.

(f) **Protection of Obstructions Near Signals** - When it is necessary for the permanent way and works staff to obstruct the line, this may be done under the protection specified in the rules without the permissio,l of the Signalman, but when it is necessary to provide protection near fixed signals which are operated from a signal box the Signalman must be advised, so that he may arrange that there will be no confusion with the fixed signals.

57. (a) **Precautions When Trains Closely Following** - When a train is permitted to closely follow another train and it is necessary, after the first train has been started, that it be stopped, the first train must not be stopped until the Enginedriver of the second train has been advised of what is about to be done.

(b) **Each Train Must Get Separate Signal** - When a signal is set at "Clear" or "Caution" for a train to proceed and a second train is to follow closely, the second train must not pass the signal until it has been repJaced at "Stop" and again set at .'Clear" or "Caution" for such train to proceed.

(c) **Safety of Trains Following One Another** - When one train is closely following another train the second train must maintain an interval sufficient to ensure that it will not collide with the first train.

58. Traffic Staff to Control Shunting -Except when C'therwise specially authorised, all shunting must be done under the direction of an employee of the Traffic Branch, and Enginedrivers when shunting must not move their locomotive until they receive the proper signal.

59. (a) **Enginedriver to Identify Signal** - When a signal is placed at "Proceed" the Enginedriver must satisfy himself that it refers to his train and the line it is on, and must understand the movement thereby authorised.

(b) **One Signal Applying to Several Sidings** - When a signal applies to the exit from more than one siding and more than one locomotive or train is in the sidings at the same time, a locomotive or train must not approach the signal until verbal instructions have been received by the Enginedriver from the Shunter or other employee in charge.

60. Signalman May Authorise Passing of Signals at "Stop" - Any signal, except a Departure signal, may be passed at "Stop" on receipt of verbal or written instructions from, or the exhibition of proper hand signals by, the Signalman. The Signalman must not give such verbal or written instructions or hand signal when a fixed signal can propely be used for the movement. *(Re* Departure signals, see Automatic Signalling Regulation 19).

61. (a) **Signalman to Replace Signal Levers to Normal** - When a train or shunt has passed a fixed signal at "Proceed" the Signalman must immediately replace the lever controlling the signal to the normal position unless the interlocking arrangements necessitate otherwise or special instructions have been issued.

If a train is brought to a stand with its rear portion outside a Home or Outer Home signal the signal must be placed at "Stop" immediately.

(b) **Replacing Signals to "Stop" Before Acted Upon** -When a signal has been placed at "Proceed" for a train or shunt it must not be replaced to "Stop" before being acted upon except to prevent danger or when otherwise absolutely necessary. When a signal is replaced to "Stop" in such circumstances the Signalman must not change the route nor give a signalfor a conflicting movement until he has satisfied himself that the signal originally given will not be acted upon.

62. Unauthorised Operation of Signals - Signals must not be operated by unauthorised persons except in case of danger.

An employee placed in charge of signals must not delegate his duties to another.

63. (a) **Lighting of Signal Lamps** - Except where long-burning lamps are provided, signal lamps must be lighted as soon as it commences to be dusk and during fog or falling snow, and, unless instructions are issued to the contrary, must not be extinguished until daylight.

At places which are closed during the night, signal lamps (other than long- burning) must, unless instructions are issued to the contrary, be extinguished after the signal box has been closed, and, if the box has to be opened before daylight, they must be relighted in sufficient time for the passage of the first train.

Unless instructions are issued to the contrary, signal lamps at all switch- out tablet stations in areas where trains are run after sunset must be kept lighted.

(b) At stations where there are more fixed signals than one showing in the same direction, the lamps of all such signals must be kept lighted during the whole of the time it is necessary to keep anyone of them lighted in order that an Enginedriver may, by its relative position, select the signal which applies to him as accurately during the night as he can when the whole of the signals are visible during the day.

64. Running Direction on Double Lines - On double lines, trains must run on the left-hand line in the direction in which they are travelling except as otherwise authorised by Rule 76 (Train divided), Rule 78 (Train disabled), Rule 80 (Wrong Line order), Rules 85 to 95 (Pilot Working) or by the Officer Controlling Train Running.

TRAINS RUNNING WITHOUT BEING SIGNALLED IN OPEN SECTION AREAS

65. (a) When it is provided in the working timetable or train advice tha.t any specified train running in an Open Section area will not be signalled at certain specified stations, the lights of fixed signals at the stations concerned must be extinguished for the passage of the train, and the Enginedriver may -

(i) Pass fixed signals at the specified stations, unless there is a fixed-signal light or Danger hand signal against him.

(ii) Pass the specified stations which are not equipped with fixed signals, unless there is a Danger hand sigml against him.

Provided that any such train may not pass a signalling station within 15 minutes of the due time of any other train without aClear hand signal.

(b) **Officer in Charge to Certify Line Secure** - The Officer in Charge at each station at which signalling is suspended for any train must certify by T.R. telegram to the OfficerControlling Train-running, after the departure of the last signalled train that -

(i) The main line points have been examined personally and are locked in their normal position;

(ii) The keys are secured in their appointed ,place;

(iii) Everytthing is safe for the passage of trains through the station. Certificate to this effect must be given by the code word "Security" followed by the number of the train or trains to be run without being signalled (e.g., "Security No.439" or "Security No.439 and No.412" as the case may be).

Atter having dispatched a "Security" telegram in respect of any train or trains authorised to run without being signalled at his station, the Officer in Charge shall not again operate the main line points or permit any fouling of, or obstruction on, the main line within station limits without first obtaining advice from the Officer Controlling Train-running that the train or trains authorised to run without being signalled have arrived at their destination or at such intermediate station as shall be decided upon, or unless the obstruction is protected.

(c) **Authority to Dispatch Trains** - A train authorised to run without being signalled at certain specified stations must not be dispatched from the last station at whioh the train is signalled (or from such other station as may be arranged by the Officer Controlling Train-running to cover special circumstances) until the Officer in Charge at that station has been authorised by the Officer Controtling Train-running to dispatch the train.

Authority to dispatch the train will be oonveyed by telegraphic train advice to the Officer in Charge giving the number of the tmin and the names of the stations at which the train will not be signalled (e.g., "Dispatch 'No.439 which will not be signalled at Omakau").

The Enginedriver of the train must be supplied with a copy of the train advice.

The authority to dispatch the train must not be given unless the appropriate "Security" telegrams have been duJy received by the Officer Controlling Train-running. Provided, however, that if the Officer Controlling Train-rnning does not receive the required messages he may authonse the train to proceed, after the Enginedriver has been instructed to examine the points before passing over them at the station in respect of which the "Security" telegram was not received, and to take such other measures as may be necessary in the circumstances.

(d) Speed Over Facing Points - Enginedrivers of trains scheduled to run without being signalled must reduce the speed of their trains to 15 kilometres per hour while passing over facing points at stations through which the trains are authorised to pass without being signalled and must be alert for signals when approaching stations and signal boxes.

(e) Stopping a Non-signalled Train - If it should become necessary to stop a train scheduled to run without being signalled, hand signals must be exhibited, in addition to the fixed signals, where provided; in addition, two

detonators, 10 metres apart, must be placed on each rail at a sufficient distance from the signal to warn the Enginedriver to be on the alert for a signal indication. At night, fixed-signal lamps must be lighted.

(f) Trains Shunting at Stations at Which Signalling is Suspended - When a train which is authorised to run without being signalled at certain stations carries out movements which involve the operation of the main line points at any of the stations concerned, the Guard of the train (or in the case of a light locomotive, the Enginedriver) must, after such movement is completed and the main line points have been restored to the normal position and locked, the keys have been replaced in their appointed place, and everything is again safe for the passage of trains through the station, certify accordingly to the Officer Con trolling Train-running. The certificate must be given by T .R, telegram from the station concerned (or from such other place as may be arranged by the Officer Controlling Train-running) using the code word 'Security' , followed by the name of the station, the Guard's signature and the train number (e.g., "Security Omakau "."" Guard No, 439"),

(g) Fifteen-minute Interval Between Trains - When a signalled train is followed by a train for which signalling is suspended at certain stations, the Signalmen at the stations concerned, must when necessary, remain on duty for not less than 15 minutes after the departure of the last signalled train to maintain the required interval of 15 minutes between trains. (For instructions re suspension of tablet working and signalling in tablet areas, see Tablet Regulation 20.)

SIGNALLING DURING ADVERSE WEATHER CONDITIONS

66. (a) **Night Signals to be Used by Day When Necessary** - When, owing to fog, falling snow, or other cause, the various signals for use by night give better indications by day than the usual day signals, the night signals must be used.

(b) **Stationing of Handsignalmen During Poor Visibility** - When weather

conditions affect visibility and signals cannot be clearly seen, Officers in Charge or Signalmen must arrange for Handsignalmen to be placed as may be necessary. Where appointed, Handsignalmen must see that nothing interferes with the correct working of signals and points for which they are responsible and must also place three pairs of detonators 10 metres apart on the line to which the signals apply.

(c) Stopping Train When Handsignalmen Not On Duty - To stop a train when Handsignalmen are not on duty a Signalman must keep the fixed signals at "Stop" and in addition, must place or arrange to have placed three pairs of detonators, 10 metres apart, on the line to which the signals apply.

67. Precautions to Prevent Signals and Points Freezing - During the prevalence of severe frosts or falls of snow, signals and points must be worked frequently by Signalmen when sections are clear and trains have not been signalled, in order to prevent the frost or snow impeding the free working of the signals and points.

68 (a) Caution When Signals Obscured -When signals cannot be read ily seen, Enginedrivers and all others concerned must be particularly alert, and trains must move under such control as will enable them to stop before passing a signal the indication of which is not known.

(b) **Accident, Failure, or Obstruction -**In cases of accident, failure, or obstruction **-** Guards, Enginedrivers, and others must act immediately and strictly in accordance with the prescribed rules and regulations, and must not depend upon Handsignalmen for protection.

TRAIN STOPPED BY ACCIDENT. FAILURE. OR OBSTRUCTION ON LINE

Advices of Accidents and Meaaures for clearing Line

73. When an accident or obstruction of any kind occurs on any part of the line -

(a) Measures must be taken immediately to ensure safety.

(b) Train Staff to Confer - An Enginedriver, after taking such steps as may be necessary for the safety of his locomotive, must immediately communicate with the Guard of the train and come to an understanding as to the direction from which relief is to be obtained and the measures to be adopted to meet the position. The Train Control Operator must be communicated with at the earliest opportunity.

(c) Prompt Advice to be Given - Particulars must be promptly reported in a full, clear, and concise form by the most expeditious means available, to the next station or signal box on each side of the place where the accident occurred, to the Officer Controlling Train-running, to the District Engineer, Inspector Permanent Way, Locomotive Supervisor, and to those stations where the starting or crossing of other trains is liable to be affected by the delay. The advice should also state what assistance is available or being arranged for, what additional assistance tools, appliances, and rolling stock are required, and the approximate delay to trains. If the facilities of the Department cannot be used for prompt communication employees must obtain the use of any other facilities which may be available .

(d) Mis. 39 Undertaking That Train will not be moved - When the nature of a breakdown renders it necessary for a relief train to enter the section the Enginedriver of the disabled train must complete a Mis. 39 form (see specimen on page 47), which must be endorsed by the Guard of the train, undertaking that the train will not be moved until assistance arrives. Unless otherwise provided the member appointed to go for assistance must show the Mis. 39 undertaking to the Officer in Charge at the station from which assistance is to be obtained and hand it to the Enginedriver of the relief train.

The requirement for the Mis. 39 to be taken to the station from which assistance is to be obtained may be waived by the Officer Controlling Train-running, provided the particulars shown on the Mis. 39 undertaking and the precise location of the disabled train, are obtained from a member of the crew of the disabled train. The Officer Controlling Train Running will then issue a train advice informing all concerned of the circumstances and that telegraphed Mis. 39 has been received. The train advice will authorise a relief locomotive to enter the section, run to a pre-arranged and clearly defined point a safe distance from the disabled train, and thence proceed, piloted by a member of the crew of the disabled train.

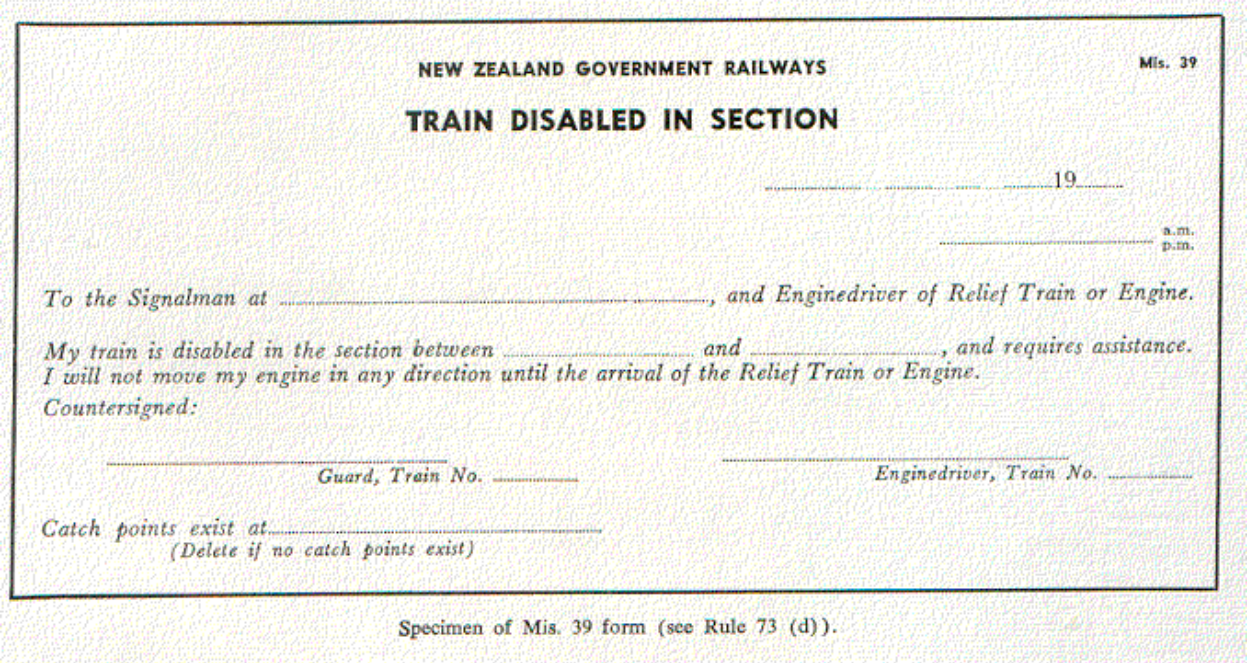
(e) Responsibility for Clearing Line - The Ganger or senior member of the Way and Works Branch will take charge of the operations for clearing the line.

(f) In the absence of the Ganger or senior member the senior member of the Traffic Branch who is at the obstruction will be responsible for taking immediate steps to communicate with the nearest Way and Works Branch member, and to commence clearing the line, if practicable. Pend- ing his arrival, and in the absence of a Traffic member, the senior Mechanical Branch member must act similarly.

(g) The lifting and replacing on the line of all rolling stock must be done to the satisfaction of the senior Mechanical Branch member at the obstruction.

(h) Ascertaining Cause of Accident - Particular care must be taken by all employees to note any facts which appear to explain the cause of the accident, such as the state of the permanent way, condition and position of the rolling stock, time of accident, speed of train, distribution of load, etc., and the attention of the responsible member at the obstruction must be called to any facts which may be observed.

(i) Warning Staff Affected of Unusual Movements - When it is intended to arrange for a train to run on the wrong line or for other unusual movement to take place, all employees working in the vicinity and likely to be affected must be informed.



NEW ZEALAND GOVERNMENT RAILWAYS Mis. 39

TRAIN DISABLED IN SECTION

....., 19.....

..... a.m. p.m.

To the Signalman at ....., and Enginedriver of Relief Train or Engine.

My train is disabled in the section between ..... and ....., and requires assistance.
I will not move my engine in any direction until the arrival of the Relief Train or Engine.
Countersigned:

..... *Guard, Train No. .....*

..... *Enginedriver, Train No. .....*

Catch points exist at.....
(Delete if no catch points exist)

Specimen of Mis. 39 form (see Rule 73 (d)).

ACCIDENT, FAILURE, OR OBSTRUCTION

74. (a) **When Protection to be Provided** – A stationary train not effectively protected by fixed signals must be protected inaccordance with the following instructions:

System of Block Working	Circumstances	Protection to be Provided
(i) Open Section	When the train is stopped because of an accident, stalling, obstructed line, loss of power, or any other circumstance which necessitates a stop of abnormal duration.	The train must be pro tected in the rear, but when it is running with. out specific instructions as to the crossing of other trains, or a relief train is being obtained from the station in advance, or an engine returning as provided in Rule 75, protection must be provided in both front and rear.
(ii) Tablet Working	If the Enginedriver is not in possession of a tablet or if he should part with the tablet for the purpose of sending for assistance	The train must be protected in both front and rear.
(iii) Automatic Signalling	**Another Line Endangered** - Where there are two or more lines and an accident causes an opposite or adjacent line to be fouled, ob-structed, or nearly obstructed	Steps must be taken as quickly as possible to protect the other lines affected. (See Rules 83 and 84.)
	Wheels Not Contacting Rails -If sand, ballast, or other substance should be on the line in sufficient quantity to prevent the	In single-line areas the train must at once be protected in both front and rear. In double-line areas the train must at once be

(iii) **Automatic Signaling** - *Continued*	wheels of the train making metal lic contact with the rails, or if the train should be partially or wholly derailed so that there is a possibility of it failing to operate the track circuit arid keep signals at "Stop"	protected in the rear, and if a relief train is being obtained from the station in advance the front of the train must also be protected as provided in Rule 78.
	Fog or Falling Snow – When, during fog or falling snow the train is stopped by an acci ent, stalling, obstructed line, loss of power, or any other circumstance which necessitates a stop of abnormal duration	In single-line and in double-line areas the train must be protected in the rear, but when a relief train is being ob- tained from the station in advance, or a loco motive is returning as provided in Rule 75, protection must be pro vided in both front and rear.
	Section Entered Without Authority of Departure Signal -When a train which has entered a block section after passing a Departure signal at "Stop" is stopped by an accident, stalling, obstructed line, loss of power, or any other circumstance which necessitates a stop of abnormal dura- tion Relief Locomotive to Approach -When a train is disabled alld a relief locomotive or train is to enter "the section for the purpose of rendering assistance	The train must be protected in both front and rear.
	Relief Locomotive to Approach -When a train is disabled and a relief locomotive or train is to enter the section for the purpose of rendering assistance	The member of the train crew, when going for assistance, must place two detonators, 10 metres apart, on each, rail at a distance of about 200 metres from the train to warn the Enginedriver of the relief locomotive or train of the position of the disabled train.
(iv) Unusual Circumstances – Notwithstanding the foregoing if special circumstances shouls arise at any time which necessitate the protection of a train, protection must be provided.		

(See also Rule 36 re protection of trains stopped at Home signals.)

(b) **Responsibility for Providing Protection** - Protection at the front of a train must be provided by the Locomotive Assistant, and at the rear by the Guard if there is only one or by the Assistant Guard if there is more than one.

If here is no Guard the Enginedriver must send his Locomotive Assistant to the rear and a Surfaceman or other competant person to the front to protect the train.

If there is a Guard but no Locomotive Assistant, the Guard must proceed to the rear and send a Surfaceman or other competent person to the front to protect the train. If no such competent person is available, the Enginedriver himself must protect the front of the train and adjacent lines.

The Enginedriver must not leave the train unless he cannot otherwise protect it. If a train which is running with only one member on it should be derailed, the member must arrange for the immediate protection of any obstructed line or lines in accordance with clause (a) hereof.

(c) **Method of Protecting Trains** - Protection must be provided in the following manner:

The person providing protection must go back (or forward as the case may be), plainly exhibiting a Danger hand signal, and place detonators on each rail as under:

One at 200 metres from the train;
One at 400 metres from the train;
One at 600 metres from the train; One at 800 metres from the train;

One at 1,000 metres from the train;
Three, 10 metres apart at not less than 1,200 metres from the train, **where the Enginedriveers of approaching trains will be able to obtain a good and distant view of the hand signal.**

He must continue to "exhibit the Danger hand signal and maintain the three detonators at a distance of not less than 1,200 metres from the train, to stop approaching trains, whether or not such trains are expected.

(d) **Fixed Signal Intervening** - If a fixed signal (except a Distant signal) controlling the entrance of trains into the obstructed section should intervene between the stationary train and the point at which the Danger signal would be placed in accordance with Clauses (c), (e) and (1) hereof, the person providing protection must place three detonators on each rail opposite the signal, instruct the Signalman to keep his signals at "Stop" to protect the line which is obstructed, and then return to the train or take such other steps as may be necessary in connection with the obstruction. The detonators must not be taken up until advise has been received that the obstruction has been removed.

If the intervening signal is a three position automatic and is not controlled by a signalman (e.g. an "Intermediate" signal) except as provided in Rule 36 (b) the person providing protection need not proceed beyond such signal if it is at "Stop", but must place three detonators on each rail at the signal, and there exhibit the Danger hand signal.

(e) **When Near Gradient** - If the train should be on or near the foot of a gradient, then, on the high side of the gradient, detonators must be placed on each rail and the hand signal exhibited as under, instead of as provided in clause (c) hereof:

One at 200 metres from the train;
One at 400 metres from the train;
One at 600 metres from the train;
One at 800 metres from the train;
One at 1,000 metres from the train;
One at 1,200 metres from the train;
Three, 10 metres apart, at not less than 1,500 metres from the train, **where the Enginedrivers of approaching trains will be able to obtain a lood and distant view of the hand signal.**

The person providing protection must continue to exhibit the Danger hand signal and maintain the three detonators at a distance of not less than 1,500 metres from the train to stop approaching trains, whether or not such trains are expected.

(f) **When Near Tunnel** - If the distance of 1,200 or 1,500 metres referred to in clauses (c) and (e) should end in or just beyond a tunnel, the Danger hand signal must be exhibited and the three detonators placed at a greater distance from the train, whenever possible at least 400 metres beyond the tunnel, where Enginedrivers of approaching trains will be able to obtain a clear view of the hand signal.

Before entering a tunnel when proceeding to the prescribed distance the person providing protection must place three detonators, 10 metres apart, on each rail at the entrance to the tunnel.

(g) **If Another Train Approaches** - If a second train arrives before the obstruction is removed the Guard of the second train must protect his train as directed in the preceding clauses. The Guard of the first train, having assured himself that the Guard of the second train has gone with thi necessary signals for the protection of the second train, may then rejoin his own train. If other trains arrive the same precautions must be taken, the Guard of the last train bern, the protector of all the trains.

(h) **Guard Returning to Train** - Except as provided in clauses (d) and (g) hereof, the Guard when protecting in the rear must not return to his train until recalled by the Enginedriver giving four long whistles or otherwise communicating with him, and when recalled he must leave two of the three most distant detonators, taking up the others on his way.

(i) **When Other Lines are, or may be Fouled** - Where there are two or more lines and an accident causes more than one to befouled, orifa train is stopped and owing to the length of the train or other conditions the train crew is unaware of the cause of the stoppage but another line may be fouled, the necessary steps must be taken as quickly as possible to protect all the lines that may be obstructed.

(j) **First Train to Travel Cautiously** - The first train to pass through a section after it has been cleared of an obstruction must be stopped and the Enginedriver advised of the circumstances and instructed to travel cautiously through the section.

Train Divided on Single or Double Line: Protection or Rear Portion

75. When a train is divided on a single or double line owing to an accident or the inability of the locomotive to take the whole of the train forward, and the locomotive has to take forward a portion of the train and return for the remainder, the following procedure must be adopted:

(a) The Enginedriver and Guard must come to an understanding as to the measures to be adopted.

Guard's Dutles - The Guard must secure the rear portion of the train and provide protection in the rear if required by Rule 74.

(b) Locomotive Assistant's Duties - The Locomotive Assistant, after ensurin, that the rear portion has been secured, must uncouple the portion that is to be taken forward, and hand signal the Enginedriver to move this portion forward approximately 200 metres.

When a train is divided after or near sunset or during fo, or fallinl snow the Locomotive Assistant must place a Red lighton the front vehicle of the rear portion of the train before the locomotive moves forward with the front portion.

The Locomotive Assistant must place two detonators 10 metres apart, on each rail at a distance of about 200 metres from the front vehicle of the rear portion to warn the Enginedriver, when returning, of the position of the remainder of the train.

He must advise the Enginedriver the class and number of the rear vehicle on the front portion and must accompany this portion.

He may ride upon the locomotive provided that all the vehicles are brake-connected, all are properly coupled, and the air brake is operative throughout the portion of the train; if these conditions do not apply he must ride upon the rear vehicle or the nearest vehicle thereto that is suitable.

Enginedriver's Duty - Upon arrival at the first signal box the Enginedriver must satisfy himself that the front portion is complete.

(c) If Two Guards - When two Guards are employed with the train the Guard must take the necessary measures to secure and protect the rear portion, and the Assisting Guard must undertake the duties prescribed for the Locomotive Assistant in clause (b) hereof except that, provided that all the vehicles are brake-connected, all are properly coupled, and the air brake is operative throughout the portion of the train, he will not accompany the front portion, but will remain with the rear portion and carry out any additional instructions given by the Guard.

(d) Display of Tail Lamp - A tail lamp must not be carried on the locomotive or last vehicle of the front portion of the train before reaching the first signal box, where the Enginedriver must stop and inform the Signalman of the circumstances. If the locomotive or front portion of the train has to pass into the next block section, a tail lamp or lamps must then be placed in the rear in accordance with Rule 16.

Train Divided on Double Line: Locomotive Returning for Second Portion

76. (a) **Locomotive to Return on Wrong Line** - When a train is divided on a double line and the front portion has been taken forward to be left at the station next in advance, the locomotive must return on the wrong line to the rear portion of the train.

(b) **Locomotive Going Beyond Next Station** - When the front portion of the train cannot be left at the station next in advance it must be taken to another station in advance. Any intermediate station whir,h is switched Out must be switched In, and any station which is about to be switched Out must remain switched In, the Signalman in each instance being advised of the circumstances.

When the front portion of the train has been left at such other station in advance the locomotive must return on the proper line to the intermediate station in front of the rear porton at which there is a crossover road, cross on to the wrong line, and return to the rear portion.

(c) **Signalman's Permission Required** - The locomotive returning for the rear portion of the train or taking the rear portion to the station where the front portion has been left must not pass any station which is switched In without the permission of the Signalman.

Train Divided: Both Portions in Sight

77. When a train has been divided owing to an accident and both portions have been brought to a stand within sight of each other. and a signal box does not intervene, the front portion may be signalled back to the rear portion, provided the two portions can be safely coupled. If there is a locomotive assisting in the rear of the train the permission of the Enginedriver of that locomotive must be obtained.

Train Disabled on Double Line: Assistance Obtainable from Station in Advance

78. When a train is disabled on a double line the Train Control Operator must be advised of the circumstances as soon as possible. Ifit is necessary for a relief locomotive to come to the assistance of the disabled train and to run on the wrong line from the station in advance:

(a) **Sending for Assistance** - A member of the train crew must be handed a Mis. 39 undertaking and sent to pilot the relief locomotive to the disabled train. If the station next in advance of the disabled train is switched Out the member going for assistance must arrange for it to be switched In.

(b) **Safeguarding Approach of Relief Locomotive** -The member of the train crew, when going forward to the station in advance, must place two detonators, 10 metres apart, on each rail at a distance of about 200 metres from the front of the train, to warn the Enginedriver of the relief locomotive of the position of the disabled train. He must notify the Signalman of the circumstances, and pilot the relief locomotive to the disabled train, advising the Enginedriver where and under what circumstances the disabled train is situated.

After or near sunset or during fog or falling snow the Enginedriver of the disabled train must place a Red light on the front of the disabled train before the member proceeds for assistance. .

(c) **Disabled Train Not to be Moved -After the member has gone for assistance the Enginedriver of the disabled train must not allow his train to be moved until the relief locomotive arrives, unless satisfactory arrangements have been made previously to prevent the relief locomotive from travelling on the wrong line from the station in advance, and the member has returned to the disabled train.**

Train Stalled or Disabled on a Double Line and Assistance Obtainable from Rear to Push Train Through the Section.

79. When a train is stalled or disabled on a double line the Train Control Operator must be advised of the circumstances as soon as possible. If it is necessary for a relief locomotive or a train to push the train through the section to the station in advance, a member of the train crew must proceed to the \elief locomotive or train and pilot it cautiously and at reduced speed to the disabled train, when, after the permission of the Guard and the Enginedriver of the disabled train has been obtained, it may be pushed to the place beyond which the train no longer requires assistance, or where a relief locomotive may be attached in the front.

Mis 52

NZR

Wrong - line Order

No.....

..... 19 ....

Authorising Train No. ..... to return to this station on the wrong line, due to

.....

.....

Signalman.

New Zealand Railways Mis 52

Automatic Signalling — Wrong-line Order

No. .....

.....

..... 19 ...

To Enginedriver of Train No. ..... Date: ..... 19 .....

I hereby authorise Train No. ..... to return on the wrong line to ..... Station.*

.....

Signalman.

Catch points exist at .....
(Delete if no catch points exist)

Countersigned:

Enginedriver ..... Guard ..... Following Train No. .....

*NOTE: This does not authorise the passing of fixed signals at "Stop".

Specimen of Mis. 52 form (see Rule 80).

Authority for Train to Return on Wrong Line to Station in Rear

80. (a) **Mis, 52 Wrong Line Order to be Obtained** - If, in the case of accident or other emergency. it is necessary for a train or portion of a train to return on the wrong line to the station in the rear, the Train Control Operator must be advised of the circumstances as soon as possible. A member of the train crew must, unless otherwise directed by the Officer Controlling Train-running as provided in Automatic Signalling Regulation 4(a), proceed to the station in the rear, and must obtain the Signalmans permission in writing on a Mis. 52 form (see specimen on page 38) for the train or portion of the train to return on the wrong line to his station. The Enginedriver must not move the train or portion of a train in the wrong direction until he has received the written permission, and the Signalman must not give the permission until he has protected that portion of the line which is about to be obstructed.

(b) **Station to be Switched In** - If the next station in the rear is switched Out the member going for assistance must arrange for it to be switched In.

(c) **Two or More Trains Returning on Wrong Line** - If it becomes necessary for two or more trains to return on the wrong line one Mis. 52 form must serve for all such trains. When being taken forward the form must be endorsed by the Guard and Enginedriver of each train required to return on the wrong line, being finally delivered to) the Enginedriver of the train which will be the last to be dealt with and to whom the form is addressed.

(d) **Protecting Rearward Movement** - The Signalman must see that the necessary protection of the line is maintained until the last train has been dealt with and he has collected the Mis. 52 form and cancelled it.

81. Trains to Move Cautiously - When moving in the wrong direction a train must proceed cautiously, the Enginedriver having such control of the train as to be able to stop it short of any obstruction. He must also make frequent use of the locomotive whistle.

82. Points to be Secured - A train authorised to move in the wrong direction must not pass over catch points unless they are being held or have been sccured in the proper position for the passage of the train.

When authorising trains to move in the wrong direction Signalmen must remind Enginedrivers of the existence of catch points *en route.*

Opposite Line or Both Lines Obstructed

83. (a) **Action to Protect Opposite Line** - If in a doublc-line area a train stops as a result of accident, brakes applying, or other cause, unless the Enginedriver can see immediately that the opposite line is clear of obstruction he must at once take action to warn trains approaching on the opposite line.

If an opposite line is found to be obstructed or nearly obstructed by the disabled train the Guard must then take the necessary measures to protect the train in accordance with Rule 74. The Enginedriver must also continue to assure protection at the front and, if he has not already done so proceed with the locomotive (if it can be moved) not less than 1 200 metres from the disabled train and there leave the Locomotive Assistant with detonators and hand signals to protect the opposite line in accordance with Rule.74.

The Enginedriver must then continuewith his locomotlve to the nearest signal box or telephone and inform the Signalman.of the obstruction in order that a train running on the oppositline, may be stopped until the obstruction has been removed and the line is and safe.

Stopping Approaching Trains - The Enginedriver must stop any train that may be approaching on the opposite line by sounding the Apply Brakes whistle and exhibiting a Danger hand signal. After sunset or during fog or falling snow or when passing through a tunnel a Red light must be shown in a forward direction from the front of the locomotive.

(b) **Locomotive Unable to go Forward** - If the locomotive is disabled, or should there be any delay in detaching it, the **Locomotive Assistant must at once go forward** and protect the opposite line in accordance with Rule 74.

(c) **Enginedriver's Duty When no Guard Present** - If an accident should occur to a locomotive or a train without a Guard, causing the obstruction of both lines, the Enginedriver, if the accident is such as to prevent the locomotive or train from moving, must immediately send the Locomotive Assistant forward to stop trains approaching on the opposite line, and, after placing a Red flag or Red light on the front of his locomotive, must himself go back or send some other competent person so that the obstruction is protected in both directions.

The Enginedriver must provide for the protection of both lines as quickly as possible.

84. Train Parted Leaving Line Obstructed - If both lines are obstructed without the knowledge of the Enginedriver and the train locomotiye has gone forward, the Guard must immediately send a competent person forward to protect the opposite line in accordance with Rules 74 and 83. If a competent person is not available the Guard must himself first go forward as quickly as possible and place detonators upon the opposite line, in accordance with Rule 74, and then return and protect the rear of the train.

WORKING DOUBLE-LINE TRAFFIC OVER A SINGLE LINE: PILOT WORKING

85. When it is necessary to work the traffic of a double line in both directions over a single line, unless otherwise authorised by the Officer Controlling Train-running, pilot working must be instituted. Pilot working sections should be kept as short as possible, and switch-out stations provided witll a crossover road should, when practicable, be switched in for this purpose.

The institution of pilot working will be authorised by train advice.

Method of Instituting Pilot Working

86. (a) **Preparation of Mis. 33 forms** - The Officer in Charge who is instituting pilot working must prepare a sufficient number of Mis. 33 pilot-working forms (see specimen on page 43) for delivery to all employees concerned in the single-line working in accordance with the following:

(i) The Officer in Charge must retain one form, hand one form to the Signalman, and deliver the remainder of the forms to the Pilotman;

(ii) The Pilotman must deliver one form each to the Officer in Charge and the Signalman at any intermediate station which may be open and at the station at the other end of the section or , when there is an obstruction in the section, to the Officer in Charge at the point of obstruction;

(iii) Each employee who receives a pilot-working form must sign both his own form and the form held by the Pilotman;

(iv) The Pilotman must sign all forms;

(v) Except as provided in (vi) hereof signatures must not be obtained by telegraph; there must be a personal delivery of the forms by the Pilotman;

(vi) When the signals at a station are controlled from another locality, and the Officer Controlling Train Running so directs, particulars of the Signalman's copy of the: pilot-working form may be telegraphed to the Signalman by the member responsible for delivering it. The particulars must be entered on a Mis. 33 pilot-working form by the Signalman and repeated back to the member sending them. The Pilotman will then enter the Signalmans name on his own copy. The particulars must be telegraphed from the station at which the signals concerned are located.

Trains may then be allowed to pass over the single line, but only by the permission and under the control of the Pilotman.

Pilotman's Authority - The Pilotman must not authorise any train to depart without the concurrence of the Officer in Charge, Signalman, Guard, and, when communications permit, Train Control Operator.

(b) **Pilotman's First Journey** - In instituting pilot working the first journey must, unless otherwise authorised by the Officer Controlling Train-running, be made by rail or alongside the railway where the Pilot-man has a good view of the line. When a train is available travelling in the right direction for the line that is open, the Pilotman, with the forms, may travel by it.

After the Pilotman has commenced his first journey in instituting pilot working, under no circumstances must a train be allowed to run over the unobstructed line in either direction until the Pilotman's copy of the pilot-working form has been signed by the Signalman at each end of the single-line section and at any intermediate signal box.

(c) **Advising all Concerned re Pilot Working** - On his way to commence pilot working the Pilotman must verbally inform the employees in charge of level crossings, Surfacemen, and any other men at work on the line, that pilot working is about to be commenced and which line will be used.

The Signalman at each end of the single-line section must know the man appointed as Pilotman. The Pilotman must show himself to Handsignalmen when on duty and, except where pilot working arrange- ments are instituted in accordance with Rule 86 (a) (vi), to the Signalman at each signal box.

Officers in Charge at stations where pilot working is in operation will be held responsible for seeing that all concerned at their stations are immediately advised of the arrangements in force and are instructed in the necessary duties; when possible, they must also keep the Officer Controlling Train-running fully advised of the position.

(d) **Pilotman's Badge** -The Pilol:man must wear round his left arm above the elbow, a distinctive badge, which is a Red armlet with "Pilot man" in White letters upon it. If the badge cannot be obtained the Pllotman must wear a red flag tied round his left arm, above the elbow.

(e) **Stations Opened During Pilot Working** - Should an intermediate signal box or station be opened after pilot working has commenced the Pilotman must, as soon as practicable, advise the Officer in Charge at such place that pilot working is in operation. He must also deliver pilot-working forms, signed by the Officer in Charge for the time being at the station at which pilot working was originally instituted, and by himself, to the Officer in Charge and the Signalman concerned.

Relieving Staff Concerned in Pilot Working

87. (a) **Relieving Pilotman** - When it is necessary to relieve a Pilotman new forms on which the name of the new Pilotman has been inserted must be delivered by the employee appointed to relieve the Pilotman and substituted for the old forms, and the necessary signatures obtained on the new forms in the presence of the Pilotman. The new forms must be issued by the Officer in Charge for the time being at the station at which pilot working was originally instituted, to whom the new Pilotman must after- wards deliver the old forms. The man appointed originally as Pilqtman must continue to act as such until the man appointed to relieve him has obtained the signatures of all concerned on the new forms and has collected and cancelled the old forms.

After one Pilotman has been relieved by another the Pilotman who has been relieved must not ride with an Enginedriver unless he resumes duty as Pilotman.

(b) **Relieving Officer in Charge or Signalman** - If the Officer in Charge or the Signalman should be changed during the time pilot working is in operation the employee coming on duty must be made acquainted by the employee going off duty with the arrangements in force, and with the man acting as Pilotman; he must, before taking charge of the station or signal box, countersign both the form which was held by the employee going off duty and the form held by the Pilotman. Where pilot working arrangements were instituted in accordance with Rule 86 (a) (vi) the Signalman must advise the Pilotman by telephone particulars of the change of Signalman and the Pilot-working forms must be amended accordingly.

Dispatch of Trains by Pilotman

88. (a) **Pilotman Personally to Dispatch Trains** - A train must not enter upon any portion of the single line without the Pilotrnan being present and riding with the leading Enginedriver, unless two or more trains are required to follow in the same direction, in which instance the Pilotman must furnish the Enginedriver of each train not accompanied by himself with a Mis. 29 pilot ticket (see specimen on page 42) properly filled in and signed. The Pilotman must personally authorise all trains to start, and must himself travel with the leading Enginedriver of the last train.

The pilot ticket will apply only to a single journey to the other end of the single-line section where it must be immediately delivered to the Officer in Charge, who must at once cancel the ticket by writing the word "Cancelled" across the face of it.

The Pilotman must not authorise any train to depart without the concurrence of the Officer in Charge, Signalman, Guard, and, when com- munications permit, Train Control Operator.

Mis. 29

N.Z.R.

Pilotman's Ticket

No. .....

.....

..... *19*....

Train No. .....

From .....

To .....

Preceding Train No. .....

**has arrived at* .....

**left at* ..... *a.m.* *p.m.*

.....

Pilotman.

**Delete words not required.*

NEW ZEALAND RAILWAYS

Mis. 29

Pilot Working - Pilotman's Ticket

.....

(For use in double-line automatic signalling areas and in tablet areas)

No. .....

..... *19*.....

To Enginedriver of Train No. ..... *Date:*..... *19*.....

Train No. ..... *is hereby authorised to proceed from* .....

to ....., *Pilotman following.*

**has arrived at* .....

The preceding train (No. .....*)*

**left at* ..... *a.m.* *p.m.*

.....

Pilotman.

**Delete words not required.*

NOTE: This does not authorise the passing of fixed signals at "Stop".

Specimen of Mis. 29 form (see Rule 88).

NEW ZEALAND RAILWAYS Mis. 33

Instituting Pilot Working

(For use in double-line automatic signalling areas and in tablet areas)

....., 19.....

..... a.m.
..... p.m.

To .....

at .....

The *.....

.....

.....

all traffic will pass between ..... and ..... in the charge of ..... , who will act as Pilotman.

A locomotive or train must not be allowed to leave ..... for .....

or ..... for .....

unless the Pilotman is present and gives permission.

This order must remain in force until cancelled by the Officer in Charge for the time being at the station where pilot working was instituted.

.....
Officer in Charge.

Catch points exist at .....
(Delete if no catch points exist)

Noted by † ..... at .... a.m. p.m.

Noted by † ..... at .... a.m. p.m.

Noted by † ..... at .... a.m. p.m.

Noted by † ..... at .... a.m. p.m.

Noted by † ..... at .... a.m. p.m.

Noted by † ..... at .... a.m. p.m.

Noted by † ..... at .... a.m. p.m.

Noted by † ..... at .... a.m. p.m.

Noted by † ..... Pilotman. ..... a.m. p.m.

---

*Here insert "Line being blocked at ..... or between ..... and ....." or "Tablet for the section between ..... and ..... having been lost" or "Communication having failed", or as case may be.

†These signatures must be made on the copy held by the Pilotman.

Specimen of Mis. 33 form (see Rule 86).

(b) **Train to be Clear Before Next is Started** - Where communication by telegraph or telephone exists the arrival of each train unaccompanied by the Pilotman must be telegraphed to the Pilotman by the Officer in Charge at the other end of the section, and (except as provided in clause (d) hereof, or by special authority of the Officer Controlling Train-running), the Pilotman must not dispatch another train until he has received the telegram stating that the preceding train has arrived.

(c) **Interval Between Trains When no Communication** - Where com munication by telegraph or telephone does not exist and the Pilotman can- not otherwise satisfy himself that the section is clear, a train must not be allowed to follow another train until the ordinary running time of the section has elapsed (except as provided in clause (d) hereof or by special authority of the Officer Controlling Train-running) and the Engine driver has been advised of the nature and departure time of the preced ing train.

Working Intermediate Sidings - Where communication does not exist intermediate sidings must be worked only by trains accompanied by the Pilotman.

(d) **Use of Automatic Signals** - Where automatic signalling is in opera- tion trains running in the right direction may enter upon the single line on the Pilotman 's authority (with the concurrence of the Officer in Charge and the Signalman) **when the signal shows that the section ahead is clear,** and the running of trains through the section will be governed by the signals. The signals controlling entry to the single- line section must not be placed at "Proceed " unless authorised by the Pilotman.

Signals **applicable to the obstructed line** will not apply to trains on the single line.

Additional Precautions

89. (a) **Warning Enginedrivers** - Whilst pilot working is in operation the Officer in Charge at each end of the single line section must stop each train and tell the Enginedriver that pilot working is in operation and the section over which it is operating.

(b) **Protecting Obstructed Line** - The Officer in Charge at each end of the obstructed section must place three detonators, 10 metres apart on each rail, and a Red flag by day, or a Red light by night, at the end of the obstructed line, a short distance inside the point where single-line working commences.

(c) Any fixed signal controlling entry to the obstructed line must be kept at "Stop" during single-line working.

(d) **Signals Approaching Single-line Section** - Where possible single-line working should be confined to a section at tbe terminal points of which there are fixed signals with a crossover road. In the event of a crossover road not protected by fixed signals being used for single;.line working, a competent man with the necessary hand signals and detonators muSt be placed at least 800 metres. beyond the crossover road to signal in place of a Distant signal, and another man (similarly equipped) at the cross- over road to signal in place of a Home signal.

Should the distance of 800metres fall within a tunnel or in any other position where the Enginedriver of an approaching train would be unable to obtain a good and distant view of the hand signal, or if the crossover road is situated on or near the foot of a gradient, the detonators must be placed on the rails and the signal exhibited at a distance of 1,200 metres from the crossover road, or at such distance over 1,200 metres as may be necessary to ensure the Enginedriver obtaining a clear view of the signal.

The man who acts as the Distant signal must stop any approaching train and inform the Enginedriver that the train must proceed slowly towards the man acting as the Home signal, who will exhibit a Clear or Danger hand signal, as authorised by the Pilotman, to any train entering the single-line section.

(e) **Signals Leaving Single-line Section** - A Handsignalman, if necessary, must be stationed at the crossover road for the purpose of signalling any train crossing from the single line on to the proper line, and must exhibit a Danger hand signal to stop any train approaching on the single line until he receives instructions from the Signalman to allow the train to draw forward, when he must exhibit a Clear hand signal.

The Handsignalman must see that the points are secured in the proper position for the passage of each train.

(f) **Fouling of Crossover** - The crossover roads at the ends of a single line must not be fouled, except with the concurrence of the Signalman and Pilotman.

(g) **Recording of Messages** - All telegraph or telephone messages sent or received in connection with the single-line working must be written on the usual telegraph forms; telephone messages must be repeated back by the person receiving them.

90. Pilot Working During Poor Visibility - When weather conditions affect visibility and signals cannot be clearly seen, the Officers in Charge at both ends of the single-line section, in conjunction with the Pilotman, must arrange for the placing of Handsignalmen as may be necessary. Handsignalmen must also place detonator signals.

91. (a) **Precautions When Running on Wrong Line** - Enginedrivers of trains running in the wrong direction must be cautious and must make frequent use of the locomotive whistle, particularly approaching level crossings. After or near sunset or during fog or falling snow or when passing through a tunnel, a Red light in addition to the head lamp must be shown in a forward direction from the front of the train.

When a train is running on the wrong line the Enginedriver must reduce speed to 10 km/h over level crossings knowing that the road traffic is not aware of the unusual conditions and that warning devices, where provided, will not be in operation.

(b) **Security of Points** - Points which become facing points to trains running over the single line must be so secured that trains may pass safely over them, and Pilotmen must satisfy themselves that Engincdrivers are aware of the location of such points. Enginedrivers must not pass the points until they have assured themselves that the points are correctly set; or, where a man is employed at the points, until they have rcceivod a Clear hand signal from him.

Transfer of Traffic when Both Lines Blocked

92. When both lines are blocked the obstruction must be fully protected on both sideg. When it becomes neccessary to work trains up to the obstruction on both sides a competent member must be placed in charge of traffic working at the obstruction, and the Officer in Charge at the station on each side of the obstruction, where there is a crossover road must arrange for pilot working to be instituted between the crossover road and tho obstruction.

When one line is cleared arrangements must be made for the cancella tion of pilot working up to the obstruction, and for the institution of pilot working between the crossover roads on each side of the obstruction; Both Pilotmen must proceed with the first train over the line which has been cleared, and the person who is appointed Pilotman for the cleared line must withdraw all the pilot-working forms previously in use at the same time as he delivers the new forms.

Train Disabled when Single-line Working In Force

93. (a) When a train accompanied by a Pilotman is disabled the Guard, Enginedriver. and Pilotman must confer and make arrangements for procuring assistance without delay.

(b) When a train unaccompanied by a Pilotman is disabled the Guard must communicate with the Pllotman as soon as possible.

(c) In each instance the necessary protection must be provided immediately and be maintained until the whole of the train has been removed from the section.

Method of Cancelling Pilot Working

94. When the member of the Way and Works Branch who is in charge of work at the obstruction advises that the line is again clear and safe for traffic, the Officer in Charge for the time being at the station at which pilot working was originally instituted, provided there are no trains on the section which had been obstructed, must cancel pilot working by telegraphic advice to the Pilotman and to each employee who received a pilot-working form.

Each employee receiving the telegraphic advice must at once acknowledge receipt, by telegraph when necessary.

Upon receipt of all acknowledgements the Officer in Charge must advise the Officer Controlling Train Running that pilot working has been cancelled. A train advice must then be issued authorising normal running to be resumed.

The Pilotman, if required to return to his home station after pilot working has been cancelled, must not (except in the case of a light locomotive) travel on the locomotive of the train.

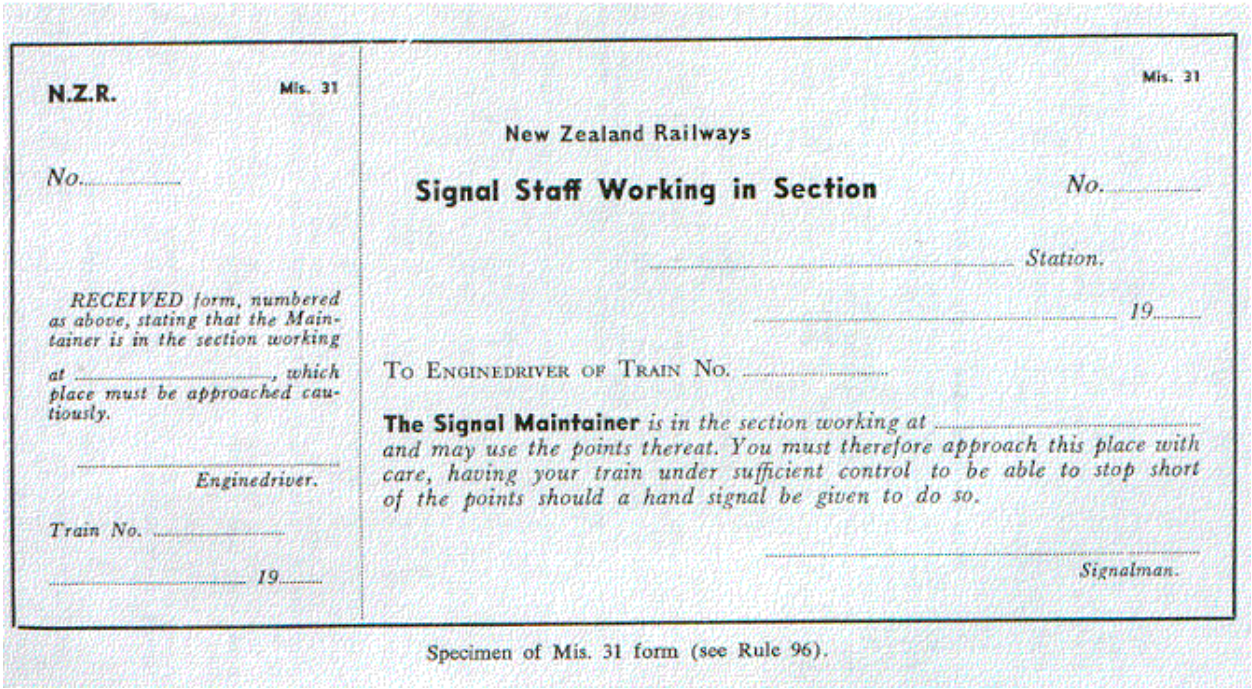
Upon receipt of the cancellation telegram each pilot-working form must be cancelled and returned to the Officer in Charge who issued it. The Officer in Charge at the other end of the section must collect all cancelled pilot-working forms held at his station and return them by the Pilotman or by value letter.

When making his last trip under single-line conditions the Pilotman must, when possible, advise all the employees concerned along the line that double-line working is being restored.

All forms which have been issued for the single-line working and copies of all tele~raph or telephone messages exchanged, together with reports on the subject, must be forwarded to the District Traffic Manager.

Pilot Working on Single Lines

95. The procedure for instituting pilot working on single lines must be in accordance with the regulations for working singlelines by tablet or automatic signalling, as the case may be.



N.Z.R. Mis. 31

No.....

RECEIVED form, numbered as above, stating that the Maintainer is in the section working at ....., which place must be approached cautiously.

.....
Enginedriver.

Train No. .....

..... *19*.....

Mis. 31

New Zealand Railways

Signal Staff Working in Section *No.*.....

..... *Station.*

..... *19*.....

To Enginedriver of Train No. .....

The Signal Maintainer *is in the section working at* ..... *and may use the points thereat. You must therefore approach this place with care, having your train under sufficient control to be able to stop short of the points should a hand signal be given to do so.*

.....
Signalman.

Specimen of Mis. 31 form (see Rule 96).

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

96. Work Involving Safety of Line - 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 employee of the Way and Works Branch (hereinafter referred to as the Maintainer) who has charge of the work must (unless the work has been notified by train advice) communicate with the Officer Controlling Train-running or Officer in Charge at the station, as the case may be, who must make any special arrangements that may be necessary during the time such alterations or repairs are being effected.

Mis. 31 Form: Maintainer Working in Section - Where there is not an Officer in Charge or special arrangements have not been made by train advice the Maintainer, before entering a section to attend to interlocking or signals at any unstaffed siding, must note his intention in the train register at the station which he passes on entering the section, stating exactly the sidings at which he intends to work. In emergency he may telephone the station and arrange for the entry to be made in the train register. The Officer in Charge must initial this entry and immediately advise the Officer in Charge at the other end of the section, who must enter particulars in his train register and acknowledge the message. During the time the Maintainer is in the section the Enginedriver of each train which will pass through the section must be supplied with a Mis. 31 form (see specimen on page 46) so that the train will approach the sidings with the utmost caution, and be prepared to stop at once, or to act on any hand signal that may be given by the Maintainer.

Servicing of Unattended Sidings - At an unattended siding the facing- point bolt must not be withdrawn nor the facing points altered to lie for the siding unless the Maintainer or his assistant is in charge of the levers. Special care must be taken at places where, owing to the nature of the country, approaching trains cannot be seen at a considerable distance.

97. (a) **Advice of Disconnection of Interlocking** - If the work should involve the disarrangement or disconnection of any interlocking apparatus (mechanical or electrical) the Maintainer must, before the work is commenced, give the Signalman an exact description of the work, and the Signalman must enter in the train register the words "Locking disarranged", with the numbers of the levers which will be interfered with; both must sign the entry, and the time must be recorded. Particulars of the entry must be carried forward in the train register by the Signalman from page to page and from day to day until the "Locking restored" entry is entered as in paragraph (g).

(b) **Handsignalman to be Appointed** - A Handsignalman must be appointed to work under the instructions of the Signalman, and to act in accordance with Rule 98.

(c) **Signals to be at "Stop"** - Before disarranging or disconnecting the interlocking the Maintainer must sec;ure at "Stop" the fixed signals applicable to the line affected and satisfy himself that the Handsignalman is at his post.

(d) **Working Traffic During Repairs** - During the time the interocking is disarranged or disconnected the Signalman, on each occasion when he requires to pass a train over the points, must communicate with the Handsignalman and Maintainer and receive their assurance that all the points are in the proper position and secured.

(e) **Pointsmen Working under Handsignalmen** - When, owing to a number of points being disconnected from the signal box, it is necessary to appoint a Pointsman at each set of points or to attend to a number ofpoints, the Signalman must instruct each man as to the duties he has to perform. When a train is required to pass over points which are being attended by

Pointsmen the Handsignalman must inform the men accordingly and take care that they properly secure the points for the line on which the train is to pass. The position of the points must not be ,altered again until the Handsignalman has advised the Pointsmen that the train movement has been completed.

(f) **Disconnection of Crossing Alarms** - If for any reason the alarms or barriers at a level crossing are disconnected, the Maintainer must secure at "Stop" any fixed signals applicable to the crossing and make suitable arrangements for the hand signalling of rail and road traffic as necessary.

(g) **Advice of Completion of Work** - When the work is completed the Signalman, after receiving an assurance from the Maintainer that all is right and that the locking has been tested and is correct, must enter in the train register the words "Locking restored'; both must sign the entry, and the time must be recorded.

(h) **Moving of Levers During Repairs** - When the interlocking of any signal or points is being repaired, altered, or cleaned by the Maintainer, he must not (except for testing purposes, and then only with the permission of the Signalman) move any lever, but must ask the Signalman to move it for him. The Signalman must not move any lever connected with any points or signal at which the Maintainer is at work without first obtaining his permission, and the Signalman must attach a notice to the signal levers to remind him of this necessity.

DEFECTIVE SIGNALS, POINTS, ETC,

98. (a) **Maintainer to be Advised** - In the event of the failure or irregular working of any signal, or interlocked or frame lever operated points, the Signal Maintainer for the area must be promptly advised by the most expeditious means available.

(b) **Defective Signal Which Can Be Placed at "Stop"** - When a fixed signal is defective but can be placed at "Stop", it must be secured in that position and a competent Handsignalman appointed, as required by the Signalman.

When a train or shunting service is required to proceed past the signal, the Signalman must authorise the Handsignalman to exhibit a Clear or Caution hand signal at the defective signal to the Enginedriver, and this will be his authority to pass the signal at "Stop".

When a colour light signal has failed and a "Proceed" indication cannot be obtained the signalman, before authorising a train or shunting movement to pass the signal at "Stop", must place the lever controlling the signal in the proceed position. When the train or shunting movement has passed the signal the lever must be returned to the normal position.

(c) **Defective Signal Which Cannot be Placed at "Stop"** - When a fixed signal becomes defective and cannot be secured at "Stop" the light of the signal must be extinguished or obscured and a competent Handsignalman appointed.

The Handsignalman must place three detonators, 10 metres apart, on each rail at the defective signal. He must also proceed sufficient distance from the defective signal to stop any approaching train before it reaches the signal and there place two detonators, 10 metres apart, on each rail and exhibit his Danger hand signal. He must keep the detonators on the rails and the hand signal exhibited until instructed by the Signalman to remove them in order to permit a train to proceed.

When the Signalman authorises a train to proceed the Handsignalman must remove the detonators and exhibit a Clear or Caution hand signal at the defective signal as authority for the train to proceed.

(d) **Defective Distant or "Stop and Proceed" Signal** - When a defective Distant signal cannot be placed at "Caution" or a Stop and Proceed signal at "Caution" or "Stop", the light of the signal must be extinguished or obscured and a Handsignalman appointed, who, unless he has received instructions to the contrary from the Signalman, must stop any approaching train before it reaches the signal, inform the Enginedriver of the circumstances, and then allow the train to proceed.

(e) **Warning of Approaching Trains** -The Signalman at the signal box in the rear must be advised of defective signals which cannot be placed in the normal position, and he must advise Enginedrivers of all trains proceeding in the direction of the defective signals of the circumstances.

(f) A Distant Signal which relates to a defective Home or Outer Home signal must be kept at "Caution".

(g) **When Interlocking Defective** - When interlocking apparatus or points, bolts, or bars are out of order a Handsignalman must be appointed and the signals applicable to the lines affected must be kept at "Stop". Facing points, except when required to be otherwise set for the passing of traffic, must be set so that a train cannot cross the path of another train.

(h) **Selection and Appointment of Handsignalman** - Only employees who hold a current Traffic Branch qualification for "Emergency Working Procedures" may be appointed as Handsignalmen. Current lists of local employees qualified to work as Handsignalmen must be exhibited in all signal boxes and other suitable locations as directed by the District Traffic Manager .

Before a Handsignalman commences duty the Signalman must ensure that the Handsignalman:

(1) Holds a current Traffic Branch qualification for "Emergency Working Procedures".

(2) Is fully equipped with lamps, flags, detonators and any other equipment he will require.

(3) Fully understands what he is required to do. When necessary one or more employees must be appointed for the purpose of repeating (by hand signals, or otherwise as directed) messages between the Signalman and any Handsignalman.

(i) **Duties of Handsignalmen** - Handsignalmen must work under the instructions of the Signalman only, and must advise the Signalman when his instructions have been carried out. They must communicate with the Signalman as often as and by whatever means the Signalman directs.

The Handsignalman must not allow any train to pass until directed by the Signalman. He must always ascertain from the Signalman which train he is to signal forward. If that train is to pass over points he must inform the Signalman of the identity and setting of such points and satisfy him that they are set and secured for the line on which the train is to run, before the Signalman instructs him to signal the train forward.

(j) **Isolating Motor Points** - When the train is required to pass over motor-operated points the Signalman (except where local instructions provide for the acceptance of panel indications as proof of the setting and security of points) must arrange for the electric power to be cut off (isolated) from the points motor and for the points to be hand operated to the required position before authorising the Handsignalman to signal the train forward. The points must remain isolated while trains are passing over them.

CONTROL OF TRAIN-RUNNING AND ISSUE OF TRAIN ADVICES

99. (a) **Officers Authorised to Control Train-running** - All alterations to the ordinary train services shall be made only by the District Traffic Manager in charge of each District, or, in his name, by duly authorised Officers whose names are shown in the working timetable instructions.

(b) The authority and responsibility of the District Traffic Manager in the matter of controlling train-running may be delegated in certain portions of the District to other Officers. In such cases train advices must be issued in the names of the Officers specified. The names of the Officers and the limits of their train-running jurisdiction will be specified in the working timetable instructions.

(c) When circumstances arise which call for special or unusual action requiring a departure from a rule or regulation, duly authorised Officers may authorise such a departure by the issue of a train advice which must incorporate any instructions necessary to ensure safe working.

(d) **Altering Crossing Places or Running Order** - Alterations in the crossings of trains or in the running order of trains must only be made –

(i) In Open Section areas and in Automatic Signalling areas when Automatic Signalling is suspended in accordance with Automatic Signalling Regulation 32, and in tablet areas when trains are running without tablet under the provisions of Tablet Regulation 20	By Train Advice.
(ii) Where the electric train tablet system is in operation	As provided in Tablet operation Regulation 26.
(iii) Where single-line automatic signalling is in operation	As provided in Auto- operation matic Signalling Regulation 34.
(iv) Where double-line automatic signalling is in operation	As provided in Automatic Signalling Regulation 17.

100. (a) **Train Advice to be Issued When Practicable** - A printed or written train advice authorising special trains or altered running of trains must be given, when practicable, to all concerned in the running of the trains; when such trains have to be run at short notice and the issue of a printed or written advice is impracticable, the train advice must be telegraphed or telephoned.

Staff to Expect Trains at All Times - As, however, it may be necessary in special circumstances to run special trains or alter the running of trains without all concerned being advised, employees must at all times be prepared for extra trains or for the altered running of trains.

(b) **Speed Restriction Train Advices** - Train advices notifying particulars of speed restrictions will be issued by the Officer Controlling Train-running immediately he becomes aware of the necessity for speed restrictions.

(c) **Telegraphed Train Advices** - Where a train advice is telegraphed or telephoned, Officers in Charge must see that the number of copies taken is sufficient to enable all concerned to be supplied; also that the train advices are clearly written, and all copies distinct, so that they may be easily read by those to whom they are delivered, A train advice supplied to staff must be an exact copy, word for word, including signature, of the instruction of the Officer Controlling Train-running.

(d) All telegraphed train advices must be repeated or acknowledged, as may be directed by the Officer Controlling Train-running, except that if a telegraphed train advice is received too late for the addressee to act upon the instructions contained in it, the telegram must not be repeated or acknowledged in the ordinary way, but a reply must be sent at once explaining the position and asking for further instructions.

Only the addressee (or his duly authorised officer) may acknowledge or repeat telegraphed train advices.

101. Block of Line Train Advices - When necessary any portion of line may be temporary closed to traffic by the issue of a "Block of Line" train advice. A portion of line so blocked is, for the period stated in the train advice, absolutely closed to all trains, locomotives, or vehicles, except such as may be specifically authorised by the train advise to enter or be within the blocked section during that period, but trolleys and velocipedes may be operated normally.

When a train advice imposing a block of line states that at the termination of the block of line a certain employee (named) will certify that the line is clear and safe for traffic, the necessary advice must be given personally to the Train Control Operator or Officer Controlling Train-running by telephone or telegram by the employee nominated, and the block of line must be deemed to remain in operation until this clearance is given.

When anything which interferes or is likely to interfere with the safety of the line or the safe working of trains is undertaken during any period of block ofline, protection must be provided in accordance with Rule 228 unless specific authority to the contrary is given by the Officer Controlling Train-running.

102 (a) **Responsibility to Ensure that Staff Receive Train Advices** - Officers in Charge at stations and Members in Charge of locomotive depots and staff connected with the running of trains must make arrangements to ensure that all the staff concerned will receive train advices in sufficient time to enable them to comply with the instructions contained therein.

(b) **Train Advice Board** - A copy of all current train advices must be exhibited in a conspicuous place known to the staff at each station and locomotive depot.

(c) **Train Advice Book** - At stations and locomotive depots where there is more than one employee on the staff, a copy of each train advice must also be pasted in the train-advice book, and the signature of each employee in any way concerned must be obtained therein or on a Mis. 3 (train-advice envelope), which must be afterwards pasted in the train-advice book.

103. (a) **Supply of Train Advices to Enginedrivers and Locomotive Assistants** - At a station where a Locomotive Supervisor or Assistant Locomotive Supervisor is located, such member will be held responsible for ensuring that Enginedrivers are supplied with a copy of all train advices which may in any way concern them.

This will not, however, relieve the Officer in Charge at the station of his responsibility for satisfying himself before dispatching trains that the Enginedrivers have been advised on the running of all special trains or train alterations affecting any portion of the line over which their trains are to run.

(b) Enginedrivers must hand all train advices and speciarinstructions affecting the running of their trains to their Locomotive Assistants who must peruse and ensure they understand them.

(c) **Officers in Charge to see Trainmen have Train Advices** - The Officer in Charge at a station from which trains are originally dispatched or where trains stand for a portion of the day, or at a station dividing two train-running sections, is responsible for seeing that Guards and Enginedrivers have received train advices affecting their trains before authorising the trains to depart.

(d) **Guards and Enginedrivers Checking Train Advices** - Guards and Enginedrivers, before commencing a journey or resuming a journey after having remained at a station for a portion of the day, must ascertain whether there are any train advices for them.

Before a journey is commenced the Guard of a train must confer with the Enginedriver and they must satisfy themselves that they have received the same train advices.

Checking Train Crossings - In Open Section areas, and in single-line automatic signalling areas not worked under the Centralised Traffic Control system, they must also check all crossings to be made on the journey.

(e) **Checking Train Advices and Crossings when Changing Over** - When a Guard hands over a train to another Guard he must hand over all unfulfilled crossing orders that he has received and he must satisfy himself that the Guard taking over has received all train advices and special instructions affecting the running of the train.

When an Enginedriver hands over a train to another Enginedriver, he must hand over all unfulfilled crossing orders and satisfy himself that the Enginedriver taking over is in possession of all train advices and special instructions affecting the running of the train.

(f) **Receipts for Train Advices** - When copies of train advices are supplied as provided in this rule a receipt must be taken.

104. (a) **Alterations Affecting Trains en route** - When alterations affecting a train are made after it has commenced its run the Officer Controlling Train-running must arrange for stations concerned to advise the Guard and Enginedriver affected.

(b) **CheckIng Train Advices at Junctions** - Officers in Charge at junction stations must satisfy themselves that the Guard and the Enginedriver of each train to or from the branch have received all train advices affecting the running of the train.

If special circumstances warrant a departure from the foregoing instruction, or if the junction stations is an unstaffed station, the District Traffic Manager will issue local instructions regarding the checking of train advices affecting all trains to or from the branch.

(c) **Checking Train Advices at Sub-terminal Stations** - When a train advice does not affect the whole of the district and is issued only to the staff on the portion of the line concerned, the Officers in Charge at the stations from and to which any special or altered ordinary train runs must satisfy themselves that the Guard and Enginedriver of each train starting from or passing through the stations and entering upon that portion of the line over which the special or altered ordinary train is running have received a copy of the train advice.

(d) **Train Terminating at Unattended Station** - When a special or altered ordinary train terminates its run at an unattended station the Officer in Charge at the station next beyond such station must satisfy himself that Guards and Enginedrivers of all trains starting from or passing his station have received a copy of the advice of the running of the special or altered ordinary train.

(e) **Trains Crossing at Unattended Station** - When the crossing of a special train is arranged for, or the crossing of an ordinary train is altered to an unattended station, the Officers in Charge at the stations on both sides of such station must satisfy themselves that the Guards and Engine- drivers of the trains making the crossing have received a copy of the train advice.

105. Train Advices for Way and Works Staff - At stations at which a Traffic Branch employee is in charge Leading Hands of works staff, Gangers, and (when specially arranged) Surfacemen must be supplied by the Officer in Charge with a copy of all train advices affecting them; if any such employee is not in attendance a copy of the train advice must be enclosed in a Mis. 3 envelope and placed in his correspondence box and the receipt obtained later.

Where such employees are located at stations at which there is not a Traffic Branch employee in charge, or at switch-out stations, train advices (telegraphed train advices excepted) will be forwarded direct by the Officer Controlling Train-running and entered on a Guard's Mis. 4 waybill. The Guard must place the train advices in the correspondence boxes.

On receipt of telegraphed train advices Officers in Charge (including Officers in Charge at switch-out stations) must prepare extra copies for distribution as above or as otherwise directed.

Correspondence boxes must be examined each day before work is commenced.

106. Train Advices for Train Examiners - Officers in Charge at train- examining stations where Car and Wagon Inspectors' offices are not located must supply Train Examiners with train advices affecting them.

107. Train Advices for Electrical and Signal Staff - Officers in charge at stations where staff responsible for signals, electric power, communications, or overhead traction equipment are located, must supply such staff with train advices affecting them.

108. (a) **Delivery of Train Advices by Guards** - All train advices for warded by train must be entered on Guard's Mis. 4 waybill, and the Guard must check the waybill with the addressed envelopes and give a receipt for them.

(b) The Guard must obtain receipts, in ink or indelible pencil, from the persons to whom train advices are addressed, and must hand the completed Mis. 4 waybill to the Officer in Charge named at the foot thereof, who will check the signatures and telegraph the issuing Officer as directed by note at foot of waybill whether all have signed for the train advices.

At stations where the day is divided into shifts the signature of the officer temporarily in charge may be accepted and he must endorse the waybill "In absence of Stationmaster", or as the case may be.

(c) A Guard receiving train advices for delivery at stations beyond his run must personally hand them to the oonnecting Guard or to the Officer in Charge at the station at which he terminates his run, obtaining receipts for same.

(d) If a Guard cannot obtain a receipt from the person to whom a train advice is addressed, and if the delivery of the train advice is not otherwise provided for, the receipt of the nearest Officer in Charge must be obtained. The Officer in Charge must arrange for prompt delivery of the train advice or, if unable to do so and the circumstances warrant, must telegraph the Officer Controlling Train-running.

(e) When train advices are thrown off passing trains, or are placed in correspondence boxes or in station letter boxes when stations are closed, Guards must mark the Mis. 4 waybill "Thrown off", "Put in Ganger's box", or as the case may be, and sign same. The Officer telegraphing particulars of receipts on Mis. 4 waybill must specify each such case.

The person to whom the train advice is addressed must, after receipt of same, telegraph his acknowledgment to the Officer Controlling Train- running. This does not apply to Leading Hands of works staff, Gangers, or Surfacemen.

109. Work Train Crews to Acknowledge Train Advices - The Guard of a work train must telegraph the Officer Controlling Train-running when he and the Enginedriver have signed for train advices.

In the case of telegraphed train advices, both the Enginedriver and the Guard of a work train must telegraph acknowledgments.

110. (a) **Signing Train Advice Book** - Staff coming on duty must at once sign the train-advice book.

(b) **Receipts When Handing Over Station** - When an employee takes charge of a station during his ordinary daily shift he must at once initial the office copy of all unfulfilled crossing orders; the outgoing man must inform the Incoming man concerning any such orders, and must satisfy himself that the orders are duly initialled.

(c) When handing over a station, either temporarily or permanently, the outgoing man will in all cases be held responsible for supplying to the incoming man copies of all train advices in operation at the time; receipts must be obtained and forwarded to the Officer Controlling Train-running.

111. Local Instructions - When the instructions contained in Rules 99 to 110 do not cover all local requirements, District Traffic Managers will issue additional instructions to meet each case.

In the foregoing instructions the term "train advices" shall include all instructions in connection with the running of trains, whether written, printed, or telegraphed; the term "telegraphed" shall include telephoned.

INSTRUCTIONS FOR THE'MOVEMENT OF TRAINS UNDER THE TRAIN-CONTROL SYSTEM

112. (a) **Authority of Train Control Operator** - Where the train-control system is in operation all trains and the movement of rolling stock are under the direction of the Train Control Operator.

Local instructions in regard to the operation of the train-control system will be issued by the District Traffic Manager from time to time.

(b) **Staff to Co-operate with Operator** - Officers in Charge, Enginedrivers, Guards, and all other employees connected with the running of trains must co-operate with the Train Control Operator in obtaining the best results in the matter of train operation, and they must give ready response to any directions issued by the Operator. The responsibileofficers at stations must keep in close touch with the running and loading of trains in order that they may promptly advise the Operator of the)'osition pertaining and so enable him to take action as circumstances may require.

(c) **Train Control Telephone** - The Train Control Operator will be constantly in touch with stations by means of a selector telephone which must be used only for the purpose of conveying information regarding train operation between the Operator and Officers in Charge, trainmen, or other employees, and must not be used for communications between stations.

All communications must be concise and as brief as possible. Listening-in on the train control telephone is strictly forbidden. Immediate attention must be given to telephone calls from the Train Control Operator.

An employee desiring to call the Train Control Operator will lift the telephone receiver, and, if the line is not already engaged, will give the station name and await the Operator's reply. The Operator will repeat the station name and say "speak". When the communication is completed the person at the station will repeat the station name, say "finished", and when the Operator replies by repeating these words the telephone receiver must be replaced.

In an emergency any employee may interrupt a conversation by giving the station name or other identification and saying "urgent".

(d) **Trainmen Using Telephone** - Trainmen may communicate direct with the Train Control Operator when circumstances warrant, and the station staff must allow them every facility for doing so.

(e) **Failure of Communication** - When communication with the Train Control Operator fails Officers in Charge must arrange to advance trains as expeditiously as possible in conformity with the rules and regulations, and must endeavour to communicate with the Operator by the most expeditious means available.

(f) **Operator to be Advi.sed Train Times** - Officers in Charge at stations in the controlled area, or the employee deputed to attend to the duty, must advise the Train Control Operator promptly of the times of arrival and departure of all stopping trains and the times of passing of trains which are not timed to stop.

Guards of trains which are to shunt at unattended stations or sidings must advise the operator the expected time of departure of their trains. If the expected shunt does not take place the operator must be advised before train is allowed to depart. .

(g) **Authority to Dispatch Trains** - Trains from lines which are not controlled by a Train Control Operator m.ust not be dispatched into a controlled area without his permission being first obtained.

Trains, other than passenger or mixed trains, must not be dispatched from stations without the authority of the Operator. Passenger and mixed trains may be dispatched on schedule time unless the Operator directs otherwise.

Advising Operator When Train Delayed - Immediately it is known that a train cannot be dispatched on time the Officer in Charge at the station must advise the Operator of the reason for the delay and the probable time at which the train will be ready foldispatch. Should it become apparent later that further detention is likely the Operator must be promptly advised.

The advice of the Operator must be sought in connection with any question of train movement, immediate or prospective, and the earliest opportunity should be taken to ascertain from the Operator the intended movement of approaching trains, so that all concerned may be in readiness to expedite the movement.

The Guard of a train shunting at an unattended station must inform the Operator when it is apparent that the train is likely to be subjected to undue detention or to cause delay to other trains.

If a train is unduly delayed by the fixed signal indications at an unattended station or intermediate point the Guard, or Locomotive Assistant in the case of a light locomotive must communicate with the Train Control Operator.

(h) **Advising Operator *re* Composition and Work of Trains** - Officers in Charge at starting stations, and at stations at which trains from other districts or lines which are not controlled by a Train Control Operator enter the controlled area, must telephone the following information to the Operator prior to dispatching a train into the controlled area:

Passenger trains-

Number and class of locomotive or railcar.
Name of Enginedriver.
Name of Guard.
Number of vehicles (passenger cars and other vehicles separately) on , train, and particulars of any to be attached or detached *en rout*e.

Mixed and goods trains-

Number and class of locomotive.
Name qf Enginedriver.
Name of Guard.
Number of vehicles on train and gross tonnage, with details ofl livestock, perishable, and other urgent traffic; particulars of tonnage to be detached *en route*; also, when required, number of packages and total weight of roadside goods for discharge at stations in the controlled area.

Officers in Charge at intermediate stations, before the arrival of goods or mixed trains, must advise the Operator particulars of work to be performed -i.e., number of packages and the destination of roadside goods; number of wagons and gross tonnage to be lifted, together with the names of destination stations; livestock, perishable, and other urgent traffic must be specified.

(i) **Advising Operator *re* Breakdowns, etc**. - Particulars of breakdowns, derailments, defective locomotives, trains parted or divided, and failures or mishaps of any description must be promptly telephoned to the Train Control Operator, who, in conjunction with the Officers in Charge at the stations concerned, will make the necessary arrangements for working traffic.

(j) **"Work of Trains" Instructions** - The Instructions affecting the control of rolling stock and work of trains issued by District Traffic Managers must not be varied without the consent of the Train Control Operator.

(k) **Train Control Areas** - Sections operated under the train-control system are specified in the working timetables.

(l) **Staff Leaving Station Unattended** - Officers in Charge at stations in a controlled area must not leave their stations unattended without the permission of the Train Control Operator.

CONTROL AND WORKING OF STATIONS AND WORKING OF TRAINS

113. (a) **Responsibilities of Officer in Charge** - The Officer in Charge at a station is responsible for the security and protection of the office and station buildings, and of the Department's property therein.

(b) He is responsible for the faithful and efficient discharge of the duties of all staff under his charge, either permanently or temporanly employed at the station or while within its limits, and such employees are subject to his authority and direction in the working of the line.

(c) He is responsible for the general work 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 and dispatch of trains and all other operations which affect the safety of the line.

(d) He must pay particular attention to any special instructions for working that portion of the line on which he is engaged.

114. Signalman's Duties When Taking Over Signal Box - A Signalman, before taking charge of a signal box, must satisfy himself that the electri- cal instruments, signals, points, and gear are in good working order. When relieving another Signalman he must ascertain from the man he relieves whether there are any special circumstances or instructions requiring attention; whether the trains which are due to pass have done so, and, if not, what are the exceptions; whether any trains are in the section or are signalled; whether any special trains are advised; and must also obtain information on all other matters necessary to enable him to properly discharge his duty. The Signalman being relieved must give full information on these points before leaving.

Matters requiring special attention or defects in the gear, signals, levers, or points must be noted in the train register and initialled by each Signalman.

Signalmen must change duty only at the appointed hours.

115. Signalman's Duties in Working and Care of Signals - A Signalman must assure himself by observation of the signals or by other apparatus provided that signals are showing their proper indications. He must frequently test the working of all mechanical signals, and when moving any signal lever he must ensure that the signal goes fully to the "Stop", "Caution", or "Proceed" position corresponding with the position of the lever. To compensate for expansion or contraction of signal wires owing to temperature changes Signalmen must adjust the tension of the wires by means of the apparatus provided.

Where provision is made for locking platform signal levers they must be kept locked when not in use.

Interlocked points must be frequently tested by the Signalman to satisfy himself that they work correctly and are in good working order.

Levers controlling points or signals must be so operated that the catch will fit firmly down in ,the notch after each movement of the levers.

116. (a) **Privacy and Cleanliness of Signal Boxes** - A Signalman must keep his signal box strictly private and not allow persons other than employees authorised to do so to enter it or to interfere with the levers or other appliances.

(b) The signal box, instruments, and other apparatus must be kept clean and in proper order.

117. Irregular Working of Signals - Any irregular working of a signal, or the failure of a signal to operate properly, must be reported immediately by the employee observing the irregularity, to the Train Control Operator or Officer Controlling Train-running.

Signalmen or other employees must not operate any signal or apparatus except in the authorised manner, and must not interfere with any apparatus or instrument.

118. Absence from Signal Box - A Signalman must not leave the immediate vicinity of his signal box for any purpose unless a11 the signals are in their normal position, and he must where practicable, inform the Signalman on each side of him of the probable duration of his absence.

119. (a) **Recording Information in Train Registers** - The times at which a1 trains arrive and depart and the times at which a11 signals are sent and received must be recorded in ink in the train register, "Speak on Telephone" signals excepted.

If an incorrect entry is made a line must be drawn lightly through it and the correction made above it so that the original entry may be clearly seen.

When recording the times at which signals are sent and received, 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 counted as a minute: thus, 15 1/4 minutes must be entered as 15 minutes, and 15 1/2 minutes as 16 minutes..

(b) When pilot working or line clear working is in operation the entries in the train register must be made in red ink.

(c) Anything unusual in connection with the working of signals or the running of trains, and particulars of alterations to the signal box clock, must be noted in the margin of the train register .

(d) A Signalman must enter in the train register the time he takes up duty immediately after his arrivai, and he must enter the time he ceases duty immediately after his last train entry, signing his name in each instance.

120. Care and Inspection of Signal Lamps - The greatest care must be exercised in the cleaning, trimming, and lighting of signal lamps, and Officers in Charge, as well as Signalmen, wil1 be held responsible for this work being efficiently performed. Oil-burning lamps must not be trimmed at the signal posts, but must be brought to the lamp room and cleaned and trimmed there, and not replaced until required to be lighted.

Officer in Charge to Note Condition - Officers in Charge having fixed signals under their care must frequently inspect the lamps and satisfy themselves that they are in good order, and that all glasses and reflectors are clean.

Any spare signal lamps at stations must be kept clean and ready for use.

121. (a) **Locking or Securing of Points** - Points on a main line or crossing loop not worked from a signal box must be locked with an approved type of lock and key when not in use for passing traffic. When they are not worked by frame levers such points. when facing, must be held or locked for the passage of trains and must not be wedged or propped open. Except where instructions provide otherwise, interlocked points must be kept in the normal position when not in use.

(b) Facing points set from any straight road through turnouts must be locked or firmly held when train locomotives which are attached to their trains are passing over them. It is not necessary to hold reversible spring type points levers.

(c) **Locking of Stop Blocks** - All stop blocks must be kept locked across the rail, except when it is necessary that they be open for shunting purposes or where otherwise specially authorised by the District Traffic Manager.

122. (a) **Use and Custody of Woods Points Keys** - Woods points keys, when not in use, must be kept in the place appointed for their safe custody.

(b) Before using a Woods points key to operate signal levers a Signalman must satisfy himself that all other points keys are in their appointed place or , when any key is in use, that the points to which it applies are correctly set and secured for the passage of trains.

(c) When a Woods points key has been removed from its appointed place the Officer in Charge must see that it is replaced immediately it is no longer required.

(d) **Shunting When Staff Off Duty** - Where shunting is required to be performed when the staff is not on duty, and special locked boxes are provided, the Officer in Charge, before going off duty, must place the necessary Woods points key or keys in the box. The Guard of the train required to shunt must obtain the points key from the box and replace it after the shunting movement has been completed.

(e) In the case of tablet stations which are switched out, the instructions contained in Tablet Regulation 39 will apply.

123. (a) **Vehicles Standing at Stations** - Except where authorised, vehicles must not remain on the main line or crossing loop but must be placed in a siding clear of movements on adjoining lines and the brakes pinned down.

Where stop blocks are provided, vehicles must be placed within them and the stop blocks properly secured.

(b) **Vehicles in Siding on Grade** - In a siding on a gradient vehicles must be placed close to the stop block or trap points at the lower end of the siding; in automatic signalling area~ the vehicles must be clear of the fouling track circuits.

124. (a) **Securing Train Before Locomotive Detached - As air brakes are liable to release owing to leakage of air they must not be relied upon to secure a train or any portion of a train when the train locomotive is detached.**

The employee detaching a train locomotive or front portion of a train must first apply sufficient hand brakes to hold the train or rear portion stationary in the event of the air brakes becoming released. The Guard must apply the van hand brake immediately on arrival at places where the locomotive or front portion of the train is to be detached.

(b) Before a train locomotive, either with or without vehicles attached, is detached from a train the Enginedriver must apply the air brakes on the train by making a reduction of at least 75 kPa in brakepipe pressure. The member detaching the locomotive must ensure that the air brakes are applied on the train before closing the air brake coupling cocks at the point of detachment.

125. (a) **Care in Shunting** - Every possible care must be exercised when shunting to minimise risk of accident to staff and to guard against collisions, derailments, or other mishaps.

(b) **Kicking or Slipping** - The kicking or slipping of vehicles may be performed only by employees experienced in shunting, and adequate steps must be taken to prevent collisions between vehicles or the fouling of other lines.

Over Level Crossings - The kicking or slipping of vehicles on or across level crossings is prohibited except in instances of absolute necessity. When such movements are made extreme care must be exercised; when the crossing is not protected by a Crossing-keeper or by a special warning device, vehicles passing over the roadway must be piloted bya man on foot and their speed must not exceed six kilometres per hour.

(See Rule 234 *re* restrictions regarding shunting vehicles containing flammable liquids and vehicles containing explosives.)

(c) The kicking or slipping of vehicles containing passengers or of vehicles against vehicles containing passengers is prohibited.

(d) The kicking or slipping of vehicles containing livestock or of vehicles against vehicles containing livestock is permitted only when the vehicles shunted are under such control that there is no risk of injury to the animals.

(e) Before slip shunting is undertaken the Enginedriver must be informed.

(f) Shunting into Sidings on Grades - The number of vehicles which may be moved in one shunt into a siding on a rising gradient must not be greater than the number the locomotive can push into the siding when moving at a reasonable speed.

(g) **Shunting Vehicles Containing Passengers** -Vehicles containing passengers must not be run through goods sheds or past the loading races of stock yards.

(h) **Securing Stock-yard Doors** - Doors and flaps of stock-yard ramps must be kept fastened back when not actually in use.

(i) **Fastening Wagon Doors** - Before any wagon is moved its doors must be secured with all fastenings.

(j) **Piloting:** When any movement is being piloted the pilot must ensure the movement can be safely performed and signal the driver according to the circumstances. The pilot must be on or near the leading vehicle and ensure the route is clear, points are correctly set and that his signals can be received by the driver.

126. (a) **Derailments or Damage to Line** - When an employee has reason to believe that the line is damaged or is unsafe for traffic, or when derailments of any kind occur, the circumstances must be reported at once to the nearest Officer in Charge, who must immediately notify the Inspector Permanent Way or Ganger.

(b) Until the line is reported (verbally, by telegram, or in writing) by the Officer in Charge at the obstructed place as being safe, trains must not pass over the affected section except under the direction of a responsible member of the Way and Works Branch.

(c) **Damage to Interlocking** - When derailments occur at interlocked points or when interlocked points have been run through. or when any damage or defect has been caused to interlocking gear. the Signal Maintainer must be advised immediately.

(d) **Reports *re* Derailments or Damage** - A full report regarding damage to interlocking. signalling gear. and points, and of derailment of or damage to vehicles, must be promptly made by each employee concerned to his immediate superior officer. Reports regarding derailments or shunting accidents must be accompanied by a sketch indicating the direction of the movement and the position of trains or vehicles concerned. Reports of Traffic Branch staff must state whether damaged vehicles are being detained for inspection.

127. Use of Horses - When a horse is used on the railway a man must in all cases remain with it.

128. Train in the Charge of Guard - A train is in the charge of the Guard, who is equally responsible with the Enginedriver for its safe running, and the Enginedriver and Assisting Guards must obey his instructions as to the working of the train.

129. Guard's Knowledge of Line - A member who is placed in charge of a train as Guard must be well acquainted with the line over which he has to travel and with the special instructions for working that portion of the line.

130. (a) **Guard to Ensure Train Safe to Run** - A Guard in charge ofa train must satisfy himself before starting and during the journey that the train is properly marshalled, coupled, and complete with lamps and signals; that wagons are properly loaded, lashed, and sheeted; that the brakes are in good working order; that carriage gates and gangways and wagon doors are in place and secured, and that the train is in a proper condition for travelling. He must also carefully examine the loading of any vehicle he may attach on the journey. If any vehicle is unsafe through improper loading, or has become unsafe through the shifting of the load or any other cause, he must arrange to have the load adjusted or the vehicle removed from the train.

(b) **Guards Shunting at Unattended Stations** - At places where an employee is not on duty, Guards who shunt their trains must see that all vehicles remaining at such places are placed within stop blocks or safety points and are properly secured; also that stop blocks are locked across the rail, safety points locked against the main line, and all main line points set for the main line and locked immediately shunting is finished.

131. Guard's Duty *en route* - Guards must carefully observe the running of their trains when approaching junctions and stations at which they are timed to stop, and be prepared to take any action that may be necessary. They must also keep a good lookout on other parts of the journey when not engaged with other necessary duties.

132. (a) **Stopping Train in Case of Accident** - In the event of any failure of, or accident to, a part of a train, it will generally be found desirable to bring the train to a stand as quickly as possible, but in this respect Enginedrivers and Guards must use their best judgment and ability in the circumstances in which they are placed.

(b) If a vehicle becomes derailed on a train on which the automatic air brake is not in operation, the brakes in the rear of the vehicle must be immediately applied in order to keep the couplings tight until the train is brought slowly to a stand. The brakes in front of the derailed vehicle must be applied with great care.

An Enginedriver who observes a derailed vehicle on a train must whistle for brakes.

133. (a) **Trainmen to Report Irregularities, Defects and Obstructions** - If an employee observes any irregularity or defect in the working or exhibiting of signals (fixed or hand), or anything that could affect safe working of the line, he must report the same to the Train Control Operator or Officer Controlling Train-running as soon as possible. If the circumstances are of a serious nature they must be reported immediately. If necessary train crew must stop their train, protect the obstruction, and advise track staff or other employees who may be concerned.

(b) **Action When Opposite Line Endangered** - If an Enginedriver observes anything which may endanger the safety of a train running on the opposite line he must stop any train which may be approaching on the line by sounding the Apply Brakes whistle signal and exhibiting a Danger hand signal. After or near sunset or during fog or falling snow or when passing through a tunnel a Red light must be shown in a forward direction from the front of the train. The Enginedriver must also place three detonators, 10 metres apart, on each rail of the opposite line at least 1,200 metres from the point of danger.

(c) At the end of the journey the Enginedriver and Guard must render written reports on the circumstances.

134. (a) **Signals in Connection with Starting of Trains** - An Enginedriver must not start his train until he has received verbal advice or other proper signal from the Guard. The Guard before giving such signal or advice must obtain permission to leave from the Officer in Charge either verbally or by a signal in accordance with Rule 10.

(b) Where there are no fixed signals controlling the departure of trains, and points are operated from a signal box, the Officer in Charge, before giving the Guard permission to start the train, must satisfy himself that the points are correctly set. In this case the Guard's advice or signal to the Enginedriver will be an indication to the latter that the points are correctly set. When in a position to do so the Enginedriver must keep a lookout to see that the points are correctly set before passing over them.

(c) At unattended stations the Guard must satisfy himself that all is right to proceed before giving the advice or signal.

(d) The Enginedriver, on receiving the Guard's advice or signal, must sound the locomotive whistle before starting.

(e) Where there are fixed signals controlling the departure of trains the Enginedriver must satisfy himself that the correct signals are at "Proceed" and that the line before him is clear before starting.

(f) **Signal that Guard has Joined Train** -The Guard must also advise the Enginedriver either verbally or by proper signal when he has joined the train. The Enginedriver must acknowledge this either verbally or with a short pop of the locomotive whistle.

The Guard must exhibit the signal from the side upon which the locomotive crew will have the better view of the signal.

In the case of railcars and multiple-unit trains the signal that the Guard has joined the train is not required.

(g) **Train Checked or Stopped at Signal** - When a train has been checked or stopped at a signal the Enginedriver must sound a short whistle immediately the signal is set at "Proceed". If the train is stopped within station limits it must not start until the Enginedriver receives advice or other signal from the Guard.

135. (a) **Two or More Locomotives on Train** - Special care must be used when starting and stopping a train worked by two or more locomotives to prevent the braking of couplings. The Enginedriver of the leading locomotive is responsible for the working of the automatic air brake.

Observance of Signals and Instructions - The Enginedriver of any assisting locomotive must watch for and act upon signals given by the Enginedriver of the leading locomotive, and must also observe all signals

.affecting the safety of the line and working of the train, and in cases of need must also apply the air brake.

The Enginedriver of an assisting locomotive must be shown any instructions in connection with the passing of fixed signals at "Stop".

Applying Power - When there is a locomotive assisting in the front of a train the leading locomotive must have the train moving or the couplings stretched before power is applied to the second locomotive.

When there is a locomotive assisting in the rear, power must be applied to that locomotive when the train is started so that the weight of the locomotive . in the rear is not taken by the train draw gear. At the same time care must be taken to ensure that the rear locomotive does not suddenly bunch the train as this may cause damage to, or derailment of vehicles.

(b) **Locomotive at Rear to Repeat Starting Whistle** - The Enginedriver of any locomotive assisting a train in the rear must repeat the starting whistle, and the Enginedriver of the leading locomotive must not start the train until he has received such acknowledgement.

(c) **Coupling and Uncoupling of Rear Locomotive** - Any locomotive assisting a train in the rear must be coupled to the train before starting; when any such locomotive will be detached from the train at a place at which the train will stop, the air brake must be coupled between the train and the rear locomotive.

Assisting locomotives must be uncoupled from a train only at an authorised place, and, in the case of a locomotive assisting in the front of a train, only when the train has been brought to a stand.

To avoid the necessity for stopping a train to detach a locomotive assisting in the rear which is running under banking locomotive key, the air brake must not be coupled to the banking locomotive, which must be coupled by centre coupling only. Except when special gear is fitted to the banking locomotive for lifting the coupling hook, the Guard will uncouple the banking locomotive and signal the Enginedriver of the leading locomotive that the banking locomotive has been detached.

137. Locomotives and Railcars Running in Reverse - Except in an emergency or during normal shunting movements in station yards, locomotives which have direct cab vision in one direction only, must face in the direction of travel when operating as single units. When practicable, railcars or locomotives operating in multiple must be driven from the cab of the leading unit which must face in the direction of travel.

138. (a) **Propelling of Vehicles on Main Line** - Except as shown below, a locomotive must not push a train or vehicle upon the main line, but must draw it. After or near sunset or during fog or falling snow or when passing through a tunnel, the Guard, Shunter, or other employee in charge of the pushing movement must see that lights are exhibited on the train as prescribed in each case: Exceptions-

(i) When within station limits;

(ii) Where-specially authorised by Officer Controlling Train-running : A White light to be displayed on front of leading vehicle;

(iii) Under special instructions when assisting up gradients: Train locomotive to display the ordinary headlight;

(iv) When a train is stalled and has to set back: Red light to be displayed on front of leading vehicle;

(v) When a locomotive is disabled and a following locomotive is pushing it to the next siding or crossover road: The leading locomotive to display the ordinary headlight;

(vi) When the line is blocked, and trains are being worked to the point of obstruction on both sides: Red light to be displayed on front of leading vehicle;

(vii) Work trains working between a siding and point of loading or discharge : White light to be displayed on front of leading vehicle;

(viii) When required to assist in starting a train from a station: Train locomotive to display the ordinary headlight;

(ix) When required by officers of the Department travelling in an inspection carriage by special train: White light to be displayed on front of le!lding vehicle.

Fifteen kilometres per hour When Propelling - When vehicles are being pushed by a locomotive in the rear, in accordance with clauses (ii), (iv), (v), (vi), (vii), and (ix) hereof, the speed must not exceed 15 km/h.

(b) **Precautions When Propelling** - The Officer in Charge at the station at which arrangements are made to push a train, and the Guard and Enginedriverof the train, must satisfy themselves that sufficient precautions are taken to prevent vehicles breaking away when descending gradients.

(c) The Guard must ride on the leading vehicle, if possible, or if this is not possible, on a suitable vehicle nearest thereto. He must keep a sharp lookout, being prepared to apply the brake and give verbal instructions or hand signals to the Enginedriver, who must be altert for such instructions or signals and be prepared to act thereon. The Enginedriver must sound the whislte freely when entering cuttings where his view of the line ahead is obstructed, and when approaching level crossings.

139. Runners or Coupling Bars Between Locomotives - When two locomotives cannot be coupled together owing to cow-catchers, a coupling bar must be used when available.

In the absence of a coupling bar, or where local instructions prohibit locomotives being coupled together, any of the following vehicles may be used as runners; a bogie brake-van, or R, Rb, U, Ub, Ur, Z, or Zp wagon, but on a goods train a steel L, La, Lc, M, or Mc Jwagon, or a Q wagon with steel underframe and equipped with Westinghouse brake, may, if necessary, be used, preference being given to a well- loaded wagon.

140. Dead Locomotives on Trains - Dead locomotives should be coupled to train locomotives. However, where local instructions prohibit two locomotives being coupled together they must be coupled as close together as permitted by such instructions.

141. Trains Stopping on Bridges or in Tunnels - A train conveying passengers must not be stopped with the carriages standing on any bridge which is not completely decked and provided with footpaths on both sides of the line; the train must be stopped with the carriages short of the bridge if it cannot cross before coming to a stand.

When carriages containing passengers are stopped in a tunnel every endeavour must be made to move the carriages clear of the tunnel as quickly as possible.

142. Train Overrunning or Stopping Short of Platform - When a train conveying passengers overruns or stops short of the platform at an attended station it must not be moved until the Guard has conferred with the Officer in Charge. If the train is to be moved staff concerned must first ensure that passengers will not attempt to leave the carriages whilst the train is in motion. The Guard will then give the necessary instructions to the Enginedriver to move the train. At unattended stations the Guard must advise passengers when the train will be moved, before instructing the Enginedriver .

The Enginedriver must sound the whistle before moving the train.

When a train overruns a platform in an automatic signalling area it may be set back only in accordance with Automatic Signalling Regulation 4 (b).

143. Guard's Duties in Case of Accident - In all instances of accident or detention to a train the Guard must at once endeavour to secure the safety and comfort of passengers, and if he leaves his train for the purpose of protecting it, he must assure himself that it is securely braked, and that the brakes are left in the charge of some competent person. It is the duty of the Guard to explain to the passengers the cause of detention, and, if there is no danger, to advise them accordingly.

144. Guard May Command Assistance - In case of necessity the Guard may at any time command the assistance of any employee.

145. Protection of Trains Losing Time on Open Section - In Open Section areas, when a train is losing time and encroaches within fifteen minutes of a following train which may overtake it, the Guard of the first train must place two detonators on each line to warn the Engine-driver of the following train that the train ahead is losing time.

146. Fires on Trains - If a vehicle on a train is on fire, the train crew must use their judgment as to the best course to pursue, taking into consideration the proximity of water tanks and fire-fighting appliances, the nature of the goods in the vehicle, and the dange(to adjacent bridges and vehicles.

For special instructions in reference to the conveyance of explosives and inflammable liquids, see Rules 234-239.

148. Apply Brakes Whistle to be Obeyed - When the Enginedriver whistles for brakes the Guard must immediately apply them, whether or not he understands the Enginedriver's reason for giving the signal.

149. Train Parting Whilst in Motion - If a portion of a train on which the automatic air brake is not in operation becomes detached when the train is in motion, judgment must be exercised; the front portion should not be stopped, provided the line ahead is clear, until the rear portion is running slowly or has stopped.

If approaching a station or signal box the Enginedriver must sound the Train Parted whistle signal, and observe and obey signals that may be exhibited for his guidance.

The Guard must use every endeavour to stop the detached portion promptly.

The Signalman must not stop the front portion when the line is clear for it to proceed beyond the signals, but must use his best judgment to prevent a collision between the two parts of the divided train, if necessary diverting either portion into a siding.

150. (a) **Controlling Trains on Steep Gradients** - If it is found necessary to reduce the speed of a train to ensure control when running down a steep gradient the Enginedriver must reduce speed before the gradient commences; if the train is too heavy for the ordinary brake power, sufficient hand brakes must be applied, the train being brought to a stand, if necessary, at the top of the gradient for that purpose.

(b) Trains on which the automatic air brake is not in operation should not be stopped on steep gradients; if, however, a train is stopped, the Guard must apply hand brakes sufficient to hold it.

If a train on which the automatic air brake is not in operation is moving slowly when ascending a steep gradient the Guard must remain at the van hand brake to apply it if necessary.

(c) **Detaching Train Locomotive on Gradient** - Should it be necessary to detach locomotive or front portion of a train on a gradient the employee uncoupling the train must first apply sufficient hand brakes to hold the train or remaining portion stationary, and the locomotive must draw away gradually under signals from the Guard or Assisting Guard.

151. Stations on Gradients - When the approach to a station is on a falling gradient and special safeguards are necessary local instructions will be issued.

152. Trains Which are Not Permitted to Run Ahead Of Time - Trains scheduled to convey passengers must not be dispatched ahead of time. Trains must not run ahead of time in the following areas:

(i) In Open Section areas.

(ii) In Single Line Automatic Signalling areas when Automatic Signalling is suspended in accordance with Automatic Signalling Regulation 32.

(iii) iIn Tablet areas when running without tablet in accordance with tablet Regulation 20.

(iv) In any area where specifically prohibited by Working Timetable.

153. Trains Which are Permitted to Run Ahead Of Time - In areas where tablet working or automatic signalling is operation trains may (except in localities where specifically prohibited by Working Tinretable) run ahead of time as follows:

(i) When authorised in the working timetable or train advice, or by the Train Control Operator, trains not scheduled to convey passengers may leave stations as soon as ready and run to destination ahead of time.

(ii) When Train Control is not in operation trains not scheduled to convey passengers may, if station work is finished, leave stations up to 15 minutes ahead of scheduled time and may run to destination up to 15 minutes ahead of time.

(iii) Trains scheduled to convey passengers may (except as provided in Rule 152) run up to 3 minutes ahead of time.

The authority to run ahead of time does not authorise trains to run past scheduled crossing places! where the observance of scheduled crossings is required by Automatic Signalling Regulation 34.

154. (a) **Speed Limit Of Trains** - Enginedrivers must not exceed the maximum rates of speed shown in the speed schedules in working time- tables. Lost time should be made up where possible provided the maximum authorised speed is not exceeded.

(b) The speed of a train scheduled to convey passengers and consisting of more than 20 bogie vehicles (excluding locomotive) or of any train to which a four-wheeled vehicle is attached must not exceed the speed allowed for a goods train.

The speed of express goods trains must also be regulated in accordance with braking power shown on the Mis 15 form (see specimen on page 64) prepared by the guard who must hand a copy to the enginedriver.

(c) **Permanent Speed Boards** - Permanent speed boards are erected to indicate the exceptions to authorised maximum rates of speed as shown in the working timetables.

The boards are erected at or about the beginning and the end of the speed-restricted area where Enginedrivers of approaching trains will be able to obtain a good and distant view of the boards.

NEW ZEALAND RAILWAYS

Mis. 15

BRAKING POWER OF EXPRESS GOODS TRAINS

Station: .....

Date: ..... **19**.....

To Enginedriver of Train No: .....

"A" Train Information

Number of vehicles .....

Crossing total .....

Ordinary tonnage of train ....."A" TONNES

Vehicles with inoperative brakes

Number ..... Position in train.....

"B" Braking tonnage information:

(Including only vehicles with OPERATIVE brakes)

The vehicle classes printed below **MUST** include all of those mentioned in the Working Timetable under heading Express Goods Trains (page .... North Island, page ..... South Island).

(i) Number of C, Dd, Rp Udk, Uk, Uka, Ukb, Ukx, Un, Urc, Us, Usf, Usk, Uss, Za, Zm, Zp wagons .....

multiplied by 40 equals ..... tonnes

(ii) Number of other bogie vehicles .....

multiplied by 30 equals .....tonnes

(iii) Number of 4 wheeled vehicles .....

multiplied by 15 equals .....tonnes

Total ..... "B" TONNES

Instructions to Enginedriver

(Guard to strike out whichever two of the three clauses below do not apply)

(i) SINCE "A" TONNAGE IS GREATER THAN "B", **MAXIMUM SPEED IS 65 km/h.**

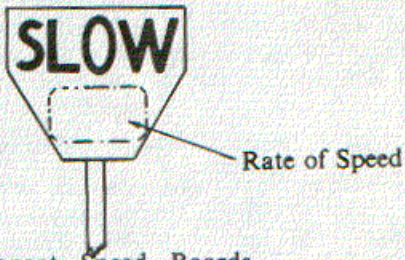
(ii) SINCE "B" TONNAGE IS GREATER THAN "A", **MAXIMUM SPEED IS THAT FOR LOCALITY.**

(iii) TRAIN MADE UP SOLELY OF VEHICLES LISTED IN "B" (i) ABOVE (AND GUARDS VAN), **MAXIMUM SPEED IS THAT FOR LOCALITY.**

.....

Guard

DIAGRAM OF PERMANENT SPEED BOARD
(See Rule 154)



Permanent Speed Boards are painted white with black lettering and numerals.

Minimum side clearance to be 2.30 metres from centre line of track.

Fig. 55

DIAGRAMS OF CURVE BOARDS AND CURVE WARNING BOARDS
(See Rule 154)

Curve Warning Board

Erected thus when there is no curve board conveniently situated.

Fig. 56

Curve Board

Fig. 57

Curve Board (Upper)
Curve Warning Board (Lower)
Erected thus when there is a curve board conveniently situated.

Fig. 58

Curve Boards are rectangular and have a white background. They are erected near the entrance to the curve to which they refer.

Curve Warning Boards are shaped as above and have a yellow background. They are erected generally at least 200 metres from the entrance to the curve to which they refer.

Numerals are black in each case.

Minimum side clearance of Curve Boards and Curve Warning Boards to be 2.30 metres from centre line of track.

Where practicable the boards are erected on the Enginedriver's side of the line.

The speed of a train must be reduced before it reaches the board, and the indicated rate of speed over the speed-restricted area must not be exceeded until the last vehicle is clear of the board at the other end of the area.

(For diagram of Permanent Speed Board, see page 65.)

(d) **Curve Boards** - Curve boards showing the maximum speed in kllometres per hour at whlch trams may travel on the curve are erected near the entrance of some curves. These boards are erected where the maximum authorised speed for the curve is less than the maximum authorised speed for the particular portion of the line on which the curve is located.

Where practicable the boards are erected on the Enginedriver's side of the line.

In cases where the maximum authorised speed of a train exceeds that shown for a curve, the speed of the train must be so regulated that no portion travels round the curve at a speed higher than that shown on the curve board.

(e) **Curve Warning Boards** - Curve warning boards are erected to indicate a reduction in speed of more than 15 km/h on a curve ahead.

Where practicable curve warning boards are erected at least 200 metres from the entrance of the curve to which they apply. These curve warning boards are exhibited either as a separate board or are placed below the curve board of the preceding curve. They show in kilometres per hour the speed for the curve to which they apply.

(For diagrams of Curve and Curve Warning Boards, see page 65.)

(f) **Speed through Crossovers and Turnouts** - The speed of trains run- ning through junctions and crossover roads, or to or from lines diverging from the straight road, must be so regulated as to ensure a steady passage for the whole of the train through the points and crossings.

156. (a) **Guard's Vans on Trains** - A train must not run on the main line beyond station limits without a guard's van unless authorised by the District Traffic Manager.

(b) On trains not coupled throughout with the automatic air brake the last vehicle must be a guard's van unless otherwise authonsed by the District 'Traffic Manager .

(c) On trains coupled throughout with the automatic air brake, the last vehicle should be a guard's van, except where otherwise desirable in connection with the working of the traffic.

(d) On trains conveying passengers the passenger vehicles must be placed next to the Guard's van, unless otherwise authorised by the District Traffic Manager.

157. (a) **Couplings and Side Chains** - Except where automatic couplers are in use vehicles on trains must be coupled by side chains and centre couplings, with bridles placed over draw hooks. Side chains must be coupled hook to hook.

(b) Side chains in front of the locomotive and at the rear of the last vehicle must be hooked up.

(c) During shunting operations coupling of vehicles by side chains only is prohibited except where centre couplings cannot be used.

158. (a) **Officers in Charge to see Trains Safe to Run** - Officers in Charge at starting stations and at stations wherc trains are shunted must see that trains are properly arranged and coupled and in proper condition for safe running. Before trains start tec Officer in Charge must closely observe each vehicle to ensure that doors, bond chains, gates, and gangways are in place and secured, and that the neccssary train signals are in place. Vehiclcs must be closely watched as the trains leave the stations.

(b) Officers in Charge at intermediate stations must observe that the proper train signals are carried, and as far as possible observe the condition of trains and remedy any defects that may be noticed.

(c) **Train Examiners' Duty** - When Train Examiners are on duty they are responsible for the examination of each train to ensure that it is in a proper condition for safe running. and the Officer in Charge, be!ore starting a train. must obtain an assurance from the Train Examiner that the examination has been completed and the train is ready to depart.

159. (a) **Employees' Fitness to Perform Train Duty** - Employees booked for train duty must attend in a fit condition to perform such duty.

(b) Whenever an employee is booked for train duty. either at the commencement of or during a shift. the Officer in Charge at the station or locomotive depot at which the employee takes up such duty must satisfy himself that the employee is fit to carry out his duties.

(c) No employee shall be allowed to take up or continue train duty if –

(i) He shows any sign of illness which is likely to render him unfit to carry out his duties;
(ii) He shows any effects whatsoever of having consumed alcoholic liquor;
(iii) It is known that he has recently consumed alcoholic liquor; or
(iv) It is known that he has in his possession (otherwise than for conveyance or delivery by the Department in the ordinary course of business) any alcoholic liquor.

(d) The Officer in Charge must report immediately to his Controlling Officer (or if the Controlling Officer is not on duty to the Officer Control ling Train-running in the area) for dircctions whenever it has been necessary for him to prohibit. in accordance with this rule, an employee from taking up or continuing duty.

160. Train Entering Loop or Siding - A train taking a crossing loop or siding to allow other trains to pass. unless otherwise instructed. must enter from the nearer end; if this cannot be done the train may draw ahead and back in lindcr proper protection.

161. Sidetracked Trains to be Drawn in Clear - Sidetracked trains must be drawn in clear of the fouling point so that there is no risk of collision with passing trains.

In Tablet areas and in Single Line Automatic Signalling areas fouling boards to indicate the fouling points between the Main Line and Crossing Loop are positioned as shown in Fig. 129 on page 165.

When any portion of a train is standing foul of another line the Officer in Charge, Guard. and Signalman will be held responsible for the protection of the obstructed line.

162. Train Stopped Near Points or Crossings - When a train is brought to a stand at or near points or crossings the Enginedriver must not allow the locomotive to stand foul of another line, and must not move the train until he is satisfied that the points are in the proper position and that all is safe for the train to be moved.

163. (a) **Officer in Charge Not to Dispatch Outgoing Train Until In-coming Trains Arrive** - In Open Section areas, in tablet areas when trains are running in accordance with Tablet Regulation 20, and in single-line automatic signalling areas not worked under the centralised traffic control system, the Officer in Charge at a station at which an incoming train is timed to arrive and terminate its run from the direction in which an outgoing train is due to depart must see that all trains due to arrive have actually arrived before the outgoing train is starled When the station is unattended the Guard of the outgoing train will be responsible for this duty.

(b) In Open Section areas, in tablet areas when trains are running in accordance with Tablet Regulation 20, and in single-line automatic signal ling areas not worked under the centralised traffic control system, the Officer in Charge at a station at which double-line working terminates and single-line working commences must see that all the trains due from the single line have arrived before dispatching a train from the double line to the single line.

(c) The Officer in Charge at a station where tablet working or automatic signalling terminates and Open Section working commences must see that all trains due to arrive from the Open Section area have actually arrived before dispatching a train into the Open Section area.

164. (a) **Trains Doing Work for Other Branches** - When a work train or a goods train carrying out work on behalf of the Way and Works Branch is required to work on the main line between stations a train advice must be issued in connection with the operation.

(b) **Unusual Shunts at Intermediate Places** - When a goods train running in an area in which train control is not in operation has to work at an intermediate station or siding for an unusual length of time, the Guard of the train, before entering the section, must inform the Signalman of the work to be done and the probable time it will occupy, so that instructions may be given whereby delay to other trains will be avoided. The Signalman must advise the Signalman at the next station in advance of the arrangements made.

165. Identification of Sidetracked Trains - In Open Section areas and in single-line automatic signalling areas not worked under the centralised traffic control system, when a work train or other untimed train running clear of all other trains enters an unattended station to allow two trains (timed to cross at the station) to pass, the Guard of the work train or untimed train must inform the Guards and Enginedrivers of the timed trains as to the nature of his train, and may, when necessary, stop any non-stopping train for this purpose.

166. (a) **Untimed Trains to Keep Clear of Other Trains** - In Open Section areas a special or work train running without specific instructions as to the crossing of other trains, must be sidetracked clear of any other train at least 15 minutes before the train is due; if, however, it is doubtful whether the train can be sidetracked to clear other trains the proper steps for protection must be taken in accordance with Rule 74.

(b) When tablet working or double-line automatic signalling is in opera tion a work train or other train running without specific instructions as to the crossing of other trains must be clear of a section at least five minutes before the time that any other train is due to enter thereon.

167. Running and Signalling of Work Trains - Although a work train is under the direction of the Member in Charge of the work the Guard and Enginedriver are responsible for its safe running.

168. (a) **Interval Between Trains on Open Section** - In Open Section areas a train must not be allowed to follow another train on the same line within 15 minutes except by authority of the District Traffic Manager. During fog or falling snow, or when a fast train is following a slow train at a short interval, the Officer in Charge at a station must stop the second train a'nd fully inform the Enginedriver of the position.

(b) **Trains Setting Back on Open Section** - In Open Section areas trains scheduled to run from one station to **another must not set back unless authorised by Train Advice.**

169. (a) **Crossing Trains at Unattended Stations on Open Section** - When trains timed to cross at an unattended station in an Open Section area arrive there simultaneously both trains must be brought to a stand outside the station limits. The Guard of the train that is scheduled to arrive there first or that is otherwise instructed to take the loop must then bring his train into the crossing loop or siding and, when it is in clear, signal the other train to come on.

When one train arrives before the other the first train to arrive must, except when otherwise provided, take the crossing loop or siding, the Guard of the train afterwards signalling the second train to come on.

(b) When a train is sidetracked at an unattended station in an Open Section area to allow a following train to pass, the Guard of the first train must signal the second train to come on.

(c) The Guard of a train which enters the crossing loop or siding at an unattended station in an Open Section area is responsible for unlocking and reversing the main line points for his train to enter or leave the loop. As each movement is completed he must immediately restore the points to normal and lock them.

170. (a) **Trains Not Scheduled to Stop Must Not Stop** - Trains not scheduled to stop at a station must not be stopped for traffic at the station except by authority of the District Traffic Manager, or in exceptional circumstances, which must be reported.

(b) **Ticket Inspectors May Stop Trains** - Ticket Inspectors may authorise trains to stop at stations where the trains are not scheduled to stop when the circumstances in connection with the performance of their duties warrant.

Should a Locomotive Assistant become incapacitated the Enginedriver must take the train to the next station in advance, where the Guard must report the circumstances to the Officer Controlling Train-running who will instruct regarding the working of the train.

Should an Enginedriver or Locomotive Assistant become incapacitated at a station the Officer in Charge must report the circumstances to the Officer Controlling Train-running who will instruct regarding the working of the train.

171. (a) **Only Bogie Vehicles to Run on Fast Trains** - Only bogie vehicles must be run on trains scheduled as express or passenger trains, except by authority of the District Traffic Manager.

(b) **Maximum Number of Vehicles on Trains** - The maximum number of vehicles which may be taken on one train is equal to 100 four-wheeled vehicles (bogie wagons being counted as two), except in accordance with the working timetables.

172. Vehicles Fitted With Stoves - The employee in charge of a vehicle fitted with a stove is responsible for the condition of the fire and for seeing that the fire is extinguished when no longer required.

173. Enginedriver's Duties and Responsibilities - An Enginedriver is responsible for the safety of his motive power unit and is equally responsible with the Guard for the safe working of the train. He must be sufficiently familiar with the track over which he is required to work to ensure that he can maintain full control if his train at all times and have a thorough knowledge of any special instructions and signals controlling the movement of trains over that track.

174. Locomotive Assistant's Duties - An Enginedriver is responsible for seeing that the duties of his Locomotive Assistant are properly performed. The Locomotive Assistant must act under the direction of the Enginedriver of a train and promptly obey his instructions.

175. Enginedriver in Charge When no Guard - When a light locomotive is unaccompanied by a Guard the Enginedriver is responsible for sidetracking where necessary for trains to pass, and for seeing that the duties prescribed for the Guard are carried out.

176. (a) **Motive power units to be moved only by authorised staff** - Locomotives, railcars and electric multiple units may be driven only by Enginedrivers authorised to do so except that:

(i) A locomotive may be driven by a locomotive assistant but only when instructed by and in the presence of an enginedriver.

(ii) Locomotives, railcars and electric multiple units may be moved within depot limits, but not elsewhere, by other employees certified by the Chief Mechanical Engineer as competent to do so.

(b) **Locomotive Crew Memben Incapacitated** - If an Enginedriver should become incapacitated while on a train locomotive between stations so that he is unable to perform his duties the Locomotive Assistant, upon noticing the Enginedriver's condition, must stop the train clear of bridges and tunnels and sound the whistle signal for, or verbally request the Guard to come to the locomotive. If the Locomotive Assistant is qualified as an Enginedriver for the particular type of locomotive concerned he must take the train to the next station in advance with the Guard or other responsible employee, if available, in attendance in the cab of the locomotive. Upon arrival at the next station the Guard must report the matter to the Officer Controlling Train-running who will confer with the nearest Locomotive Supervisor concerning the working of the train during the remainder of the journey. If the Locomotive Assistant is not qualified as an Enginedriver he must remain with the locomotive whilst the Guard telephones the circumstances to the Officer Controlling Train-running.

Should a Locomotive Assistant become incapacitated the Enginedriver must take the train to the next station in advance, where the Guard must report the circuimstances to the Officer Controlling Train-running who will instruct regarding the working of the train.

Should an Enginedriver or Locomotive Assistant become incapacitated at a station the Officer Controlling Train-running who will instruct regarding the working of the train.

177. Coupling Locomotive to Train – The Locomotive Assistant i. responsible for properly coupling the locomotive to a train at the starting station and at station. where the locomotive is uncoupled for locomotive purposes, If there is no Locomotive Assistant the Engine-driver must satisfy himself that the coupling up between the locomotive and the train ha. been correctly performed.

178. Full Locomotive Crew to he in Attendance - Except where in- structed otherwise a locomotive must not be in motion unless the authorised crew is in attendance.

179. Leaving Motive Power Units Unattended - A locomotive of any type a multiple-unit train, a railcar, or a shunting tractor must not be left unattended outside depot points except in cases of absolute necessity, or where authorised by special instruction, and then only after all pre-cautions as required in the related rules and instructions have been taken by the driver.

181. (a) **Locomotive Crew to Keep a Good Lookout** - While a locomotive or train is in motion the Enginedriver must keep a good lookout. the Locomotive Assistant must do likewise, and must assist the Engine-driver in watching for signal. when near a station or signal box. Both member. must keep a good lookout and not allow any duty to occupy their attention when approaching and passing level crossings and fixed signal. or other locomotive. or train. on adjoining lines .

(b) **Calling and Repeating or Signal Indications** - The indication of all signals affecting the running of the locomotive muat be called snd repeated between the Enginedriver and the Locomotive Assistant.

The Locomotive Assistant must carefully note and call the indication of all signals which the Enginedriver cannot clearly see.

(c) **Locomotive Crew to Look Back and be Vigilant and Cautious** - The Enginedriver and the Locomotive Assistant must both look back frequently to note the safety of the train. especially immediately after leaving a station or passing a station, level crossing, or any person upon or alongside the line, and must be prepared to act upon signal. shown by such person. They must not, however, depend entirely upon such signals, but must at all times be vigilant and cautious.

182. Care in Starting and Stopping Trains - Enginedrivers .must sta.rt and stop their trains carefully and without a jerk. When stopping a train consideration must be given to the state of the weather, the condition of the rails, and the length and weight of the train, in determining when to shut off power and when to apply the brakes.

Enginedrivers must exercise caution when approaching stations, crossing places, and junctions; trains not equipped with the automatic air brake must be run at such speed as will enable them to be stopped with the locomotive brakes before entering station limits and at the proper stopping places without the aid of the Guard's hand brake.

183. Precautions if Train Seen Stopped on Opposite Line - If an Enginedriver observes a train or locomotive at a stand on the line opposite to that on which he is travelling, and is unable to satisfy himself that the line on which he is travelling is clear and safe, he must sound the whistle and approach very cautiously being prepared to stop, if necessary, clear of any obstruction.

184. (a) **Steam Heating of Trains** - A thorough test of the steam-heating apparatus on all vehicles required for outgoing trains must be made by Mechanical Branch staff in the station yard at least once a week. On trains on which steam heating will be used from starting stations or during the journey an additional test must be made by the Train Examiner in order to ensure that the steam is not leaking and is properly circulating throughout the train.

(b) The standard pressure of 275 kPa must be maintained when steam heating is in use.

(c) **Guard to Adjust Temperature** - Guards must observe the tempera- ture when passing through carriages and regulate it as may be necessary. They must report defects to the nearest Train Examiner.

(d) **Steam-heating and Air-brake Coupling Hoses** - Before disconnecting steam-heating coupling hoses both cocks applicable to the hoses about to be disconnected must be closed. The handles are at right angles to head-stocks when open and parallel to headstocks when closed. Steam-heating (and air-brake) coupling hoses must be parted before the centre coupling is broken. When hoses are not in use they must be securely joined to the dummy couplings. Dummy couplings, when not in use, must be hung on the cleats provided.

(e) When shunting vehicles which are fitted with steam-heating coupling hoses, care must be taken to prevent damage, particularly by locomotive cowcatchers. If necessary another vehicle must be placed between the locomotive and any such vehicles.

(f) **Vehicles Not Fitted With Steam Pipes** - When vehicles which are not fitted with steam pipes are attached to a train which is steam heated they must be placed in a position on the train which will not interfere with the steam heating.

185. (a) **Examination of Derailed or Defective Vehicles** - Vehicles which have been derailed or have been shunted on to two roads at the same time without being derailed. have come into violent collision with other vehicles or stationary objects, have been otherwise damaged, or have been running "hot", must not be placed in traffic until they have been inspected and certified as being safe to travel by a Car and Wagon Inspector or employee authorised by him.

The member in charge of the shunting movement must immediately mark or label the vehicle involved "Not to Run" on each side and advise the Officer in Charge of the yard, particulars of the derailment or damage.

An Officer in Charge receiving advice regarding any such vehicle must immediately notify (by telephone, if necessary) the Car and Wagon Inspector or Train Examiner concerned.

(b) When vehicles have been derailed between stations they must be examined by train-examining staff before being authorised to go forward. If train-examining staff are not immediately available the Enginedriver must make a careful examination of the running parts, and if the vehicles are found to be safe to travel they may be taken to the nearest station or siding and left there for examination by the train-examining staff.

(c) Train-examining staff must advise Officers in Charge of any defects discovered in vehicles, stating whether the defects render it necessary to detain the vehicles for repairs.

When a vehicle labelled "Not to Run" has been examined and certified as safe to run, the member carrying out the examination shall remove the marks and labels and advise the Officer in Charge of the station or yard that the vehicle may be returned to service.

(d) **Defective Vehicles must not be Loaded** - Vehicles labelled "For Repairs" or "Not to Run" must not be loaded, but must be attended to by the train-examining staff, or forwarded, under waybill, to a repair depot if so directed by the train-examining staff.

(e) The Officer in Charge at a station is responsible for ensuring that a ..Not to Run" label has been attached to each side of a vehicle which has been damaged or derailed, and which is detained at the station pending an examination or repairs.

(f) When a vehicle which has been derailed or damaged is left at an unattended station the Guard must attach a "N ot to Run" label on each side of the vehicle and advise the Officer in Charge at the next station, who must advise the Officer in Charge at the station on the other side of the unattended station.

(g) **Guards to be Advised *re* Defective Vehicles** - If a Ganger or Surfaceman at an unattended station finds a vehicle which has been damaged, or derailed and to which "Not to Run" labels have not been attached, he must attach such labels as provided herein and advise the Train Control Operator or arrange for the Guard of the first train to notify the Officer in Charge at the next station.

The Officer in Charge at the nearest station on each side of the unattended station must advise Guards of trains which work that station that the damaged or derailed vehicle must not be lifted until it has been attended to by the train-examining staff.

(h) **Derailments and Information Required** - When a derailment occurs on a running train the vehicles immediately preceding and following the derailed vehicle or vehicles must also be held until released by the District Mechanical Engineer, after the cause of the derailment has been established. No repairs to any of the vehicles may be carried out until authorised by the District Mechanical Engineer.

Attention of staff is also drawn to Rule 73 (h).

(i) **Staff to Draw Attention to Damage, etc**.- When the derailment of a vehicle or damage to equipment occurs the employees concerned must immediately direct each other's attention to particulars thereof.

A Guard or Shunter must call the attention of the Englnedriver to a derailment or to the breakage of draw gear or running-gear (side chains, air- brake hoses, ctc.) as soon as possible so that he may note particulars.

(j) **Running of Vehicles with Broken Side Chains** - When the side chains of vehicles are broken on a train on which the air brake is in operation throughout, the vehicles, if loaded, may run to destinations or, if empty, to the nearest examining station, provided they are otherwise in good running order. The vehicles must be attached to the rear of the guard's van at the next convenient station and the running restricted as far as possible to trains running during daylight.

(k) **Protection of Vehicle Repair Staff** - When an employee is required to work on a vehicle in a siding, where he could be endangered by the entry of another vehicle into the siding, he must provide protection against any such possible entry before commencing work.

Protection must be provided at each entrance to the siding and must consist of:

(i) Points set and locked to prevent entry into the siding concerned, together with a red flag on the points lever; or

(ii) A stop block locked across the rail with a red flag prominently displayed adjacent to it; or

(iii) The display of a "Stop" signal as described hereunder and the use of a derailing shoe to ensure that if the "Stop" signal is overrun the vehicle being protected will not be struck.

The "Stop" signal shall consist of a disc painted as shown in Fig. 59 (see page 73) and shall be erected between the rails at each entrance to the siding.

The derailing shoe must be placed on one of the rails closely behind the "Stop" signal.

When it is necessary for the "Stop" signal to be exhibited after sunset or during fog or falling snow a Red light directed towards the points must be displayed on the disc.

(I) Protection must be removed as soon as it is no longer required. It may be removed only by the person who provided it or with his permission, but he must first ensur(' that it is. not required by others.

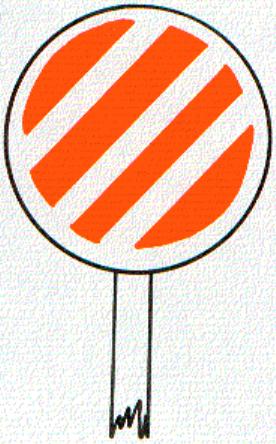


FIG. 59 — VEHICLE REPAIR WORKERS' "STOP" SIGNAL.

186. Safety While Working Mobile Equipment - When there is a possibility of any line being fouled either by mobile equipment or by material being handled the employee in charge of the work must ensure that protection is provided in accordance with the rules. When working at a station the permission of the Officer in Charge and the Signalman must be obtained and their complete agreement asto the protection to be provided must be reached before the work is commenced.

187. (a) **Working of Rail Mounted Cranes** - A rail mounted crane must be worked by a qualified craned river and in strict accordance with the instructions applying to the crane. Under no circumstances whatever may any of the precautions for safe working be omitted.

(b) **Safety While Working Rail Mounted Cranes** - When a crane is working and there is a possibility of any line being fouled, either by the crane or by the material being handled the employee in charge of the work must ensure that protection is provided in accordance with the rules. When working at a station the permission of the Officer in Charge and the Signalman must be obtained and their complete agreement as to the protection to be provided must be reached before the work is commenced.

When rail mounted cranes are moved or operated under their own power, they fall within the definition of Mobile Track Equipment and the provisions of Rule 213 apply.

(c) **Precautions When Moving Rail Mounted Cranes** - Before moving a rail mounted crane (other than at a work site) the employee in charge of it must see that the jib is properly lowered and secured and is so fixed that it is within the loading gauge. The movable weight box must be run up as close to the centre of the crane as possible and properly secured. When the crane has to be conveyed by train it must, when practicable and unless otherwise authorised, be so placed that the jib will point to the rear of the train.

188. Instructions *re* Forwarding Cranes and Inspection *en Route* - Unless authorised by working timetable instruction, cranes which are suitable for travelling on trains must not be attached to express or passenger trains but should, when practicabl~, be attached to goods trains. Before a crane is attached to a train the Crane- driver or, in his absence, the Officer in Charge, the Guard of the train, or other employee responsible for the safe running of the crane, must take care that all loose gear is secured, that all movable parts are in their proper position for travelling, and that the attachments supplied for securing the movable parts are in good condition and firmly fastened.

Before starting, the Guard must inform the Enginedriver that the crane is being forwarded by the train. The Crane-driver or, in his absence, the Guard, must at each stopping place on the journey satisfy himself that the fastenings are secure. Train Examiners must also inspect the fastenings when making the usual examination of the train.

If any defects in the fastenings are detected the crane must not be attached to the train.

If defects are detected in transit the crane must not be allowed to proceed until the defects have been remedied.

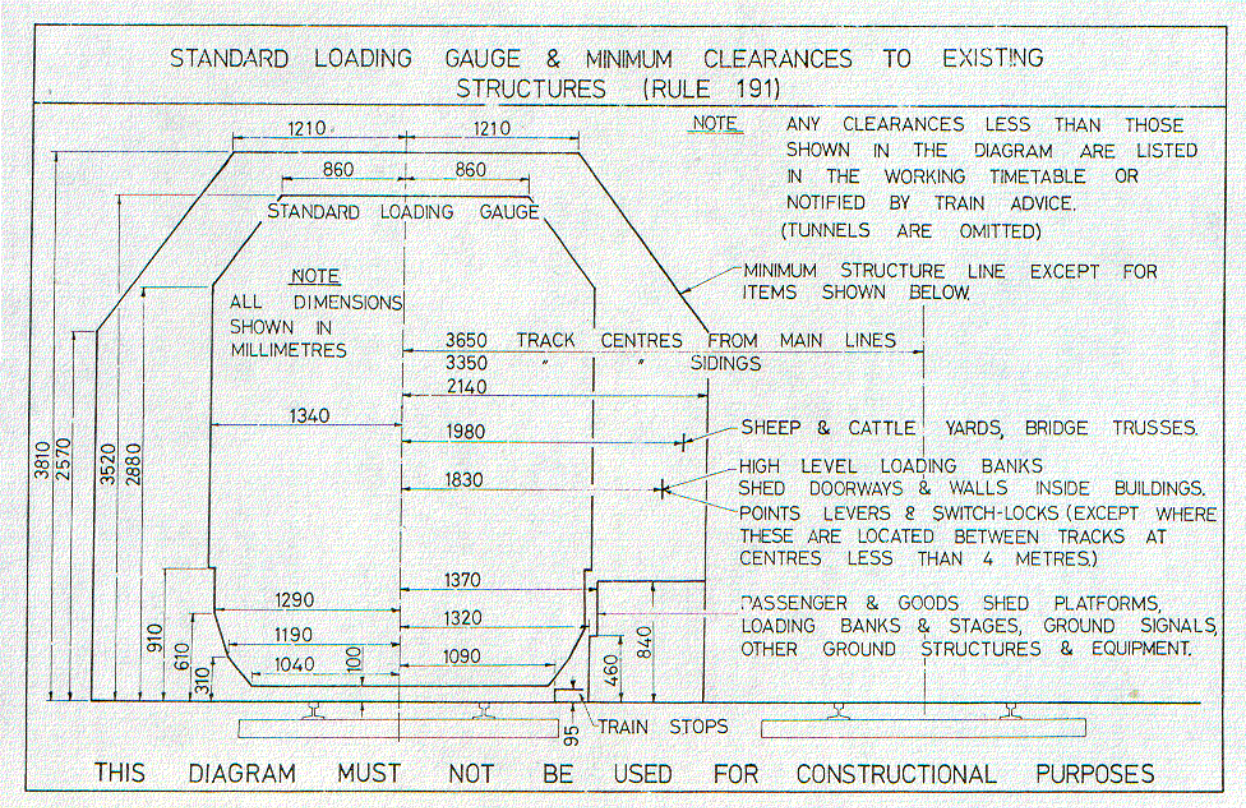
189. Privately Owned or Operated Rolling Stock - A locomotive or vehicle the property of a private owner must not be allowed to enter upon the main line or crossing loop except by permission of the District Traffic Manager. No person other than a duly authorised Railway employee shall be permitted to operate any locomotive or vehicle upon the main line or crossing loop except with the prior permission of the District Traffic Manager.

190. Vehicles RunnIng on Unauthorised Lines - A locomotive or vehicle belonging to the Department must not run on any unauthorised line.

191. (a) **Minimum Operating Clearances** - A diagram showing minimum operating clearances is printed on page 99. Special instructions will be issued to notify staff of any structures or appliances which have less than the clearance shown on this diagram.

Material must not be stacked within 3 metres of the centre line of any main line or crossing loop, nor within 2.30 metres of the centre line of any siding.

(b) A Ganger in charge of a length is responsible for seeing that the minimum operating clearances as shown on the diagram are not encroached upon. The Inspector Permanent Way must be immediately notified of encroachments. If necessary in the interests of safety a Ganger is empowered to remove any encroachments forthwith. Other staff must report any encroachments which may come under their notice.



192. (a) **Trespass on Railway Land** - Care must be exercised to prevent public or private rights of way being established over railway property, and railway land being occupied without proper authority.

(b) Private crossings are not intended for public traffic, and instances of improper use must be reported.

(c) Persons found trespassing on railway property must be requested to leave; if such persons persist in trespassing their names and addresses must be obtained and a full report made of the circumstances.

193. Register of Employees' Addresses - The name and address of each employee who may be required in an emergency must be registered by his Controlling Officer and kept in a place easy of access; any change of address must be at once notified by the employee to his Controlling Officer.

WORKING OF LEVEL CROSSINGS AND COMBINED ROAD AND RAILWAY BRIDGES

194. Automatic Warning Devices at Level Crossings - When approaching level crossings at which warning devices are installed Enginedrivers and Guards of trains must, when practicable, observe whether such devices are working.

Officers in Charge must observe the working of warning devices in the vicinity of their stations.

Failure of Warning Devices - Employees who become aware of the failure of warning devices must at once advise the nearest Officer in Charge or the Train Coo1trol Operator. who must in turn Immediately advise the Signal Maintainer. Ifmmediate arrangements must be made for road traffic to be hand signalled at the crossing or for the speed of trains to be restricted to 10 km/h over the crossing while the warning devices are out of operation.

195. Signals for Bridge- and Crossing- keepers - Crossing-keepers and Bridge-keepers must see that they are provided with day and night signals and detoilators, which must be kept in order.

196. Attending Signal Lamps - Where fixed signals are provided at level crossings and at combined road and railway bridges Crossing-keepers or Bridge-keepers, as the case may be must see that the signal lamps are lighted and extinguished when necessary.

197. Employee's Position When Signalling - Crossing-keepers and Bridge- keepers when signalling a train must stand in such a position as to be readily seen by the Enginedriver of the approaching train, and must have in their possession flags or a hand signal lamp to enable them to exhibit any signals that may be necessary.

198. (a) **Control of Road Traffic at Level Crossings** - Road traffic may be allowed to cross the line without signal from the Crossing-keeper, provided the line is clear for its passage.

(b) When the line is required to be clear for the passage of a train over a level crossing. road traffic must be stopped by the exhibition of any of the following :

By day-

(i) A sign bearing the word "Stop"'; or (ii) A Red flag; or
(iii) A hand warning signal given by holding up the hand; or, By night -
(iv) A sign bearing the word "Stop"; or
(v) A Red light either by itself or together with the Stop sign.

(c) The Stop sign referred to is provided at any level crossing where a Crossing-keeper is pcrffianently located, anJ must be used at the crossing and exhibited at or near the centre of the roadway or at such other place from which the Crossing-keeper can best control road traffic.

(d) A Crossing-keeper using the Stop sign must ensure that it presents an unobstructed Stop indication to road traffic approaching from either direction, and that the sign cannot confuse or mislead the Enginedriver of an approaching train.

(e) When any employee other than a Crossing-keeper is protecting a level crossing during shunting or other movements arid requires to stop road traffic, he must do so by day by exhibiting a warning signal -i.e., the holding up of the hand; by night he must exhibit a Red light by means of a hand signal lamp.

In each instance the signal must be given definitely so that its application to approaching road traffic is unmistakable.

(f) **Gates or Bars at Crossings** - Where gates or bars are provided across public roads, instructions for their working will be issued.

199. When Trains Approaching on Both Lines - When two trains are approaching a level crossing from opposite directions the Crossing-keeper must stop all road traffic until both trains have passed.

200. Trains to be Signalled Only in Event of Danger - A Crossing-keeper or Bridge-keeper must not give a hand signal to the Enginedriver of an approaching train when the line is clear. He must take notice of each train as it

approaches and passes, and if he sees anything wrong must exhibit a Danger signal to the Enginedriver and the Guard; if it becomes necessary to stop a following train or a train coming in the opposite direction, he must exhibit a Danger signal and place three detonators, 10 metres apart, on each rail.

201. Obstruction Near Crossing or Bridge - Where there is an obstruction at or near a level crossing or bridge the Crossing-keeper or Bridge-keeper must exhibit the necessary Danger signals.

202. Opening Gates - Where gates are provided at a level crossing, road traffic must not be permitted to encroach upon the crossing until both gates are open.

203. Defects to be Safeguarded and Reported - When any fixed signal, or gate or bar, is defective the employee in charge is responsible for ensuring safety, and he must report the defect immediately.

204. Trespass to be Prevented - Crossing-keepers and Bridge-keepers must prevent trespassing on the railway; any instance of trespass must be reported immediately to their Controlling Officers.

M. 146

Serial No. .....

NEW ZEALAND RAILWAYS

TROLLEY DRIVER'S LICENCE
(Not transferable)

The bearer, ...
(Occupation) (Name in full)
whose signature appears below, is licensed to drive a trolley or velocipede of the following type(s)
(Strike out type not applicable)
1. Hand-operated trolley or velocipede.
2. Motor-trolley or velocipede.

Date of Issue: *Date of Expiry:*

.....
District or Resident Engineer

Signature of Licensee: .....
(To be signed in ink)

THIS LICENCE IS NOT VALID UNLESS SIGNED BY THE LICENSEE

M. 147

NEW ZEALAND RAILWAYS

TROLLEY PERMIT

The bearer, ..., is hereby authorised to use a trolley or velocipede between
..... and ..... on ..... for the purpose of .....
(Date)

.....

subject to the following conditions:

(1) That the person authorised herein accepts personal responsibility for the control and safe custody of the trolley or velocipede.

(2) That an agreement indemnifying the Department against any claim arising out of the use of the trolley or velocipede is completed, in respect of each journey undertaken, by the person authorised herein, and by each other person conveyed on the vehicle.

(3) That the person authorised herein undertakes to obtain from Train Control Operators or Officers in Charge full information regarding the running of trains and presence of other trolleys in accordance with Rule 209 (a), (c) and (e).

(4) That the person authorised herein provides, at his own cost, any petrol required for the journeys made.

.....
District or Resident Engineer.

I agree to the above conditions.

.....*(Signature).* ....
(Location) (Date)

.....*(Date)*

THIS PERSON IS NOT VALID UNLESS SIGNED BY THE PERSON AUTHORISED HEREIN

M. 148

NEW ZEALAND RAILWAYS

TROLLEY USER'S INDEMNITY

I, ..., of ....., in consideration of permission to travel by trolley or velocipede from ..... to ..... on ..... do hereby agree that I will travel at my sole
(Date)
risk and expense in all things and that I will hold Her Majesty the Queen, the Minister of Railways, the Government of New Zealand and any employee or agent of the Crown free of all liability in the event of any loss of or damage to my property or any other property whatsoever arising out of or attributable to me travelling as aforesaid.

Signed at ..... this ..... day of .....19.....

.....

Witness to signature

.....

Specimen of Trolley Driver's Licence, Trolley Permit, and Trolley User's Indemnity
(see Rules 206 and 207)

TROLLEYS AND VELOCIPEDES

205. Definition of "Trolley" - The term "trolley" in the following rules includes any velocipede or trolley (except a material trolley-see Rules 211-213 inclusive) either hand-operated or motor, which can readily be removed from the line by not more than two persons, and is used for the conveyance of staff and tools.

206. (a) **Trolley Driver's Licence** - No person shall be permitted to run a trolley unless he has been authorised by a District or Resident Engineer so to do, and is the holder of a current trolley driver's licence. (See specimen on page 78.)

(b) **Employees Authorised to Run Trolleys** - District and Resident Engineers may authorise the running of a trolley by any employee in the Way and Works Branch and by any employee in another branch who has been nominated by his District Controlling Officer: Provided that no employee shall be authorised to run a trolley unless and until he has been examined and certified as competent to do so in accordance with the rules, regulations, and instructions governing its use.

(c) **Issue of Licence** - Upon authorising an employee to run a trolley the District or Resident Engineer shall forthwith issue to the employee a trolley driver's licence.

(d) **Licence to be Shown on Demand** - Trolley drivers' licences shall be renewable when required and must be exhibited on demand to any Ganger, Inspector, Stationmaster, or other person in authority.

207. (a) **Purposes for Which Trolley May be Used** - Except as provided in clause (c) of this rule, a trolley must not be used for other than departmental purposes unless prior written authority has been obtained by the employee in charge of the trolley from the District or Resident Engineer in charge of the area where the employee is located.

(b) **Trolley Permits** - The written authority referred to in clause (a) of this rule shall be in the form of a trolley permit (see specimen on page 78) which must be exhibited on demand, to any Ganger, Inspector, Stationmaster, or other person in authority.

(c) **Use in Emergency** - In the case of extreme urgency, such as serious illness, Train Control Operators may authorise the use of a trolley, by a licensed trolley driver only, for other than departmental purposes. When Train Control is not in operation, this authority may be given by the nearest Stationmaster.

208. (a) **Colour, Lights, and Equipment of Trolleys** - Trolleys must be painted Red and have Red reflecting material of an approved type affixed at front and rear.

(b) Each trolley must be equipped with two Red and two Green flags and a supply of detonators.

(c) When a trolley is in use by night, which shall be deemed to extend from half an hour after sunset until half an hour before sunrise, or during fog or falling snow, or in a tunnel or when, for any reason, visibility is poor, it must carry a white light showing forward and a Red light showing to the rear in addition to Red reflecting material or an approved type on each end of the vehicle.

(d) When a trolley is sidetracked during the hours of darkness for a train to pass it, the Red light must be extinguished and the Red reflecting material covered.

Information about Train and Trolley Movements

209. (a) **Inquiries** - (i) Every trolley driver who proposes to drive a trolley on the main line must personally obtain from the Train Control Operator full information both as to the running of all trains and the presence of all other trolleys which may affect the safety of his trolley. This information must be obtained before proceeding on his journey and where the journey is of considerable duration at times which should be agreed with the Train Control Operator. Where for any reason no such arrangement has been made the trolley driver must call at reasonable intervals.

Information regarding internal movements within station limits must be obtained from the Officer in Charge or the Signalman as the case may be. Where main line running within station limits is involved the Officer in Charge or Signalman must first confer with the Train Control Operator.

When Train Control is not in operation information about main line running whether between stations or within station limits must be obtained from the Officer in Charge or Signalman at the nearest station.

(ii) Where for some reason the trolley driver is not an employee with adequate local knowledge, a second employee who is travelling on the trolley and is the holder of a trolley driver's licence may be appointed to be responsible for all the duties of the driver except for the operation of the trolley itself.

(iii) Where two or more trolleys are travelling together the driver of the leading trolley shall obtain the information and make decisions to move. He must give clear information to the Train Control Operator regarding the number of vehicles moving and give the full information he receives to all other trolley drivers involved and advise them of his decision.;

(iv) When trolleys are moving in connection with protection of track equipment required under Rule 228, one trolley driver may obtain information and make decisions to move on behalf o(both protection trolleys. Alternatively, the employee in charge of the work may assume control of the trolley movements and obtain the information and make the decisions to move.

In either case the ipquirer shall give clear information on the number of trolleys involved and the movements to be made. Trolley drivers who have not made the inquiry must be informed of all the pertinent facts and of the decisions made.

If for any reason the driver of a trolley who has not made the inquiries does not receive the full information or is not told ciearly of the decision made, he shall make his own inquiries.

(v) Where it is not practicable for a trolley to be parked near a telephone, the driver may drive it towards the nearest telephone as long as he has an adequate view in both directions. When the view in both directions is not adequate he must remove the trolley and walk to the nearest telephone.

(vi) If a trolley should arrive at a hand-signalman protecting Track Equipment or other obstruction the trolley driver must also obtain from the hand-signalman all relevant information about the equipment or obstruction before proceeding into the protected area.

(b) **Full Information to be Given and Movements to be Recorded** - When an inquiry is made the Train Control Operator or, where appropriate, the Officer in Charge or Signalman concerned must ensure that the inquirer is given full and accurate information, as up to date as can be obtained at the time. When possible, Train Control Operators are to check estimated times by reference to stations concerned and, where appropriate, Officers in Charge and Signalmen are to confer with neighbouring stations regarding train and trolley movements. Train movements are not to be forecast for unreasonably long periods. Where a journey is expected to be of considerable duration the Train Control Operator or, where appropriate, the Officer in Charge or Signalman and the trolley driver should agree when the next inquiry is to be made.

The movements of all trolleys are to be recorded by Train Control Operators on the Train Control diagram and, where appropriate, by Officers in Charge or Signalmen in the train register.

(c) **Decision to move** - The responsibility for deciding whether or not to proceed rests solely with the driver of the trolley, and he must inform the Train Control Operator or, where appropriate, the Officer in Charge or Signalman what he has decided. However, in deciding whether or how far to proceed, the trolley driver must ensure that he will be able to remove his trolley from the line in adequate time to avoid an accident.

If the trolley driver decides to proceed but is delayed for any reason or is delayed during his journey, he must again check with the Train Control Operator or, where appropriate, the Officer in Charge or Signalman, before moving,

(d) **Safeguarding Position when Circumstances Alter** - If circumstances alter after a Train Control Operator or, where appropriate, the Officer in Charge or Signalman has given information regarding the running of trains to a trolley user, and the Train Control Operator, Officer in Charge or Signalman has reason to believe that as a result of such alteration there is a risk of collision between a train which is due to be despatched and the trolley, the train

must not be permitted to proceed until the Train Control Operator or, where appropriate, the Officer in Charge or Signalman has satisfied himself that the risk of collision no longer exists.

(e) **Parking of Trolleys** - When not in use a trolley must be parked well clear of the track and must be placed so that it cannot become foul. When not under the supervision of the employee in charge of it, the trolley must be secured with a chain and padlock or parked in a locked shed. Trolleys must be parked in such a way that the red reflecting light cannot be interpreted as a danger signal by crews of passing trains.

210. Trolley Operation - (a) The driver is responsible for the safe operation of the trolley and must operate it in accordance with these rules and the instructions set out in the Trolley Drivers handbook issued by the Chief Civil Engineer .

(b) **Care to be Exercised** - Any employee travelling on a trolley must exercise caution and take all reasonable care to protect himself and the trolley from injury or damage byaccident.

TRACK EQUIPMENT

211. MATERIAL TROLLEYS –

(a) **Definition** - A material trolley is one which is not mechanically driven and cannot readily be removed from the line by one man on his own. It includes overhead inspection trolleys.

(b) **Insulation** - A material trolley must be insulated if it is used in an automatic signalling or other track circuited area.

(c) **Movement Within Station Limits** –

(i) *At Attended Stations* -Before any material trolley is placed on a track within station limits at an attended station the employee for the time being in charge of the trolley or work must personally obtain permission from the Officer in Charge and all movements must be piloted by or be under the instructions of a member of the Traffic Branch.

(ii) *AI Unattended Stations* -Likewise at unattended stations permission must be personally obtained by the employee in charge from the C. T .C. Panel Operator, the Train Control Operator, or the Officer Controlling Train-running before a material trolley is placed on the main line or crossing loop.

(iii) *Within a Centralised Traffic Control Area* -If the station is within a Centralised Traffic Control area, whether it is an attended station or not, permission must be personally obtained from the C. T.C. Panel Operator before a material trolley is placed on the main line or crossing loop.

(d) **Movements Outside Station Limits** - When a material trolley is required to move or operate outside station limits in:

(i) *A Tablet Area With a Tablet* -A material trolley will have use of the line to the exclusion of all trains.

(ii) *A Tablet Area Without a Tablet. or in Open Section. or in Automtlic Signalling Areas* -A material trolley must operate clear of all trains. . The employee for the time being in charge of the trolley must personally obtain information regarding the movement of trains from the Train Control Operator. Where Train Control is not in operation this information must be obtained personally by the employee for the time being in charge from the Officer in Charge of the nearest station. When moving empty, or loaded so lightly that it is readily removable from the line by two mean it may be moved as a trolley in accordance with Rule 209.

The nature of the load must be clearly explained to the Train Control Operator or where applicable to the Officer in Charge.

(e) **Protection** - When any material trolley loaded in such a manner that it cannot be readily removed from the line by two men, is used on the main line or a crossing loop, it must be protected in accordance with Rule 228 except in the following circumstances:

(i) When operating in a tablet area with a tablet;
(ii) When being piloted at an attended station bya member of the Traffic Branch.
(iii) When authorised by the Officer Controlling Train-running to operate without protection.

(f) **Parking** -When removed from the track a material trolley must be parked well clear of the track and must be placed so that it cannot become foul. If the material trolley is to be left unattended it must be adequately secured and locked.

(g) **Equipment** - Each material trolley must be equipped with two Red and two Green flags and a supply of detonators.

When a material trolley is in use by night, which shall be deemed to extend from half an hour after sunset until half an hour before sunrise, or during fog or falling snow, or in a tunnel or when for any reason visibility is poor, it must carry a white light showing forward and a Red light showing to the rear.

The Red light must not be visible when a material trolley is side tracked for a train to pass it.

(h) **Employees Authorised to Have Charge** - A material trolley may be operated only by a responsible employee of the Way and Works Branch or the Electric Traction Section of the Mechanical Branch. A\ second employee must accompany the trolley.

(i) **Responsibility for Safety** -The employee for the tIme being in charge of the work or equipment is responsible for the safety of operation of any material trolley and for maintaining protection.

212. TRACK MAINTENANCE MACHINES –

(a) **Definition** - Track Maintenance Machines, examples of which are ballast tampers, ballast regulators, and track liners are all fitted with devices for being set off the track. They may be operated singly or as a machine group.

While working or moving in a restricted work area as defined by a train advice, track maintenance machines are operated under this rule.

When travelling beyond this work area they are classified as Mobile Track Equipment and must be operated in accordance with Rule 213.

(b) **Effect in Track Circuited Areas** - Track Maintenance Machines are insulated and do not operate track circuits. They are not prot~cted by automatic signalling, they will not operate crossing alarms and they are not detected on signal panels.

(c) **Movements Within Station Limits** –

(i) *Authority by Train Advice.* A train advice must have been issued before any Track Maintenance Machine works on the main line or a crossing loop.

(ii) *At Attended Stations* - At an attended station the employee for the time being in charge of the work orequipment must personally obtain permission from the Officer in Charge before any Track Maintenance Machine is set on the track within station limits. All movements must be piloted by or be-under the instructions of a member of the Traffic Branch.

(iii) *At Unattended Stations* - At unattended stations permission must be personally obtained by the employee for the time being in charge from the C. T .C. Panel Operator, the Train Control Operator, or the Officer Controlling Train-running.

(iv) *Within a Centralised Traffic Control Area* - If the station is within a Centralised Traffic Control area, whether it is an attended station or not, permission must be personally obtained from the C. T.C. Panel Operator.

(v) *Signals* - In all cases signal must be obeyed.

(d) **Movement Outside Station Limits** –

(i) *Authority By Train Advice* - A train advice must have been issued and the employee for the time being in charge of the work or equipment must personally advise the Train Control Operator before any Track Maintenance Machine is moved or operated on the main line outside station limits.

Where Train Control is not in operation this advice must be given to the Officer in Charge of the nearest station.

(ii) *Line to be Cleared before Train Due* - Except when telephone communication is operating as provided in (iii) below. Track Maintenance Machines must be moved clear of the main line at least 15 minutes before a train is expected.

(iii) *Telephone Communication* -When telephone communication is operating between the employee for the time being in charge of the work or equipment and the men providing protection, any Track Maintenance Machine must be moved clear of the Main line and protection removed:

At least five minutes before the time any express or railcar is expected as advised by the Train Control Operator, or In sufficient time to avoid delay to any other class of train. Note: Telephone can include two-way radio in accordance with Rule 2.

(iv) *Signals* - In all cases signals must be obeyed.

(e) **Movement Over Level Crossings** - The speed of Track Maintenance Machines when moving over level crossings must not exceed 10 km/h.

When a Track Maintenance Machine is approaching any level crossing the driver must sound the horn orother warning device on the Machine at such a distance back from the crossing as will give ample warning of the approach of the Track Maintenance Machine. The sounding of the warning device must be distinct, and of sufficient duration or repetition to enable the . warning to be heard in the circumstances under which it is used.

Where there are crossing alarms at the crossing these must be operated manually, where possible, before the Track Maintenance Machine is permitted to pass over the level crossing. If the crossing alarms cannot be operated manually an employee must be appointed to signal Track Maintenance Machines and road traffic over the crossing (Rule 198 (e) refers).

(f) **Fouling Other Tracks** - Where a Track Maintenance Machine may encroach on the clearances of another track, both the occupied and fouled tracks must be protected.

(g) **Protection** - When any Track Maintenance Machine is being moved or operated on a main line or crossing loop, it must be protected in accordance with Rule 228 except in the following circumstances:

(i) When in a tablet area with a tablet;
(ii) When being piloted at an attended station bya member of the Traffic Branch;
(iii) When authorised by the Officer Controlling Train-running to move or operate without protection.

(h) Parking - When removed from the track, a Track Maintenance Machine must be parked well clear of the track and must be placed so that it cannot become foul. If the machine is to be left unattended it must be adequately secured and locked.

(i) **Equipment** - Each Track Maintenance Machine must be equipped with two Red and two Green flags and a supply of detonators.

When a Track Maintenance Machine is in use by night, which shall be deemed to extend from half an hour after sunset until half an hour before sunrise, or during fog or falling snow, or in a tunnel, or when for any reason visibility is poor, it must carry a White light showing forward and a Red light showing to the rear.

When a Track Maintenance Machine is sidetracked for a train to pass it, head and taillights must be extinguished.

(j) **Manning** - When moving or operating within the restricted area defined in the train advice a Track Maintenance Machine shall be accompanied by at least two men one of whom shall be certified by the Chief Mechanical Engineer as having an adequate knowledge of the Rules and Regulations. If such a certified employee is not available a member certified in Enginedriver's duties must accompany the employee for the time being in

charge. When two or more Track Maintenance Machines are working together as a Machine Group each machine shall be accompanied by at least one man. Only the employee for the time being in charge of the Machine Group need be certified by the Chief Mechanical Engineer as having an adequate knowledge of the Rules and Regulations.

(k) **Responsibility for Safety** - The employee for the time beingin charge of the work or equipment is responsible for the safe running of any Track Maintenance Machine or Machines and for maintaining protection. He shall have been certified by the Chief Mechanical Engineer as havinganadequate knowledge of the Rules and Regulations. If such a certified employee is not available a member certified in Enginedriver's duties must accompany the employee for the time being in charge and shall be responsible for the safe running of the Track Maintenance Machine.

213. MOBILE TRACK EQUIPMENT –

(a) **Definition** - Mobile Track Equipment is not removed from the line for the passage of trains. It includes:

(i) Heavy inspection vehicles, track recording cars, Way and Works Branch rail tractors, flanged wheeled motor vehicles, weedspray units and self propelled cranes, all of which are not fitted with devices for setting them off the track.

(ii) Track Maintenance Machines moving outside their restricted work area as defined by train advice.

All such equipment may be operated singly or as a machine group in conjunction with other equipment or wagons. When moving as a machine group in ac.cordance with (ii) above, Track Maintenance Machines must be coupled together.

(b) **Effect in Track Circuited Area** - Mobile Track Equipment mayor may not be insulated but even when it is not insulated it is not to be relied on to operate track circuits. It is therefore to be treated as not operating track circuits in which case it must not be presumed that it will be protected by automatic signalling or operate crossing alarms or be detected on signal panels.

(c) **Movement within Station Limits** –

(i) *At Attended Stations* -At an attended station the employee for the time being in charge of the work or equipment must personally obtain permission from the Officer in Charge before any Mobile Track Equipment is placed on the track, or moved or operated within station limits. All movements must be piloted by or be under the instructions of a member of the Traffic Branch.

(ii) *At Unattended Stations* -At unattended stations permission must be personally obtained by the employee for the time being in charge from the C. T.C. Panel Operator, Train Control Operator, or the Officer Controlling Train-running.

(iii) *Within a Centralised Trafficc Control Area* - If the station is within a Centralised Traffic Control area, whether it is an attended station or not, permission must be personally obtained from the C. T .C. Panel Operator .

(iv) *Signals* -In all cases signals must be obeyed.

(d) **Movement Outside Station Limits** –

(i) *Authority b.v Train Advice* - A train advice must have been issued and the employee for the time being in charge of the work or equipment must personally advise the Train Control Operator before any Mobile Track Equipment is moved or operated on the main line outside station limits.

When Train Control is not in operation this advice must be given to the Officer in Charge of the nearest station.

Mobile Track Equipment scheduled to pass through stations will be signalled as a train.

(ii) *In a Tablet Area With a Tablel*- Mobile Track Equipment will have use of the line to the exclusion of all trains.

(iii) *In a Tablet Area Without a TableJ or in an Open Section or in an Automatic Signalling Area* -The train advice authorising Mobile Track Equipment to move or operate will make provision for the safety of any following or opposing trains.

(iv) *Signals* - In all cases signals must be obeyed.

(e) **Movement Over Level Crossings** - The speed of Mobile Track Equipment when moving over level crossings must not exceed 10 *km/h.*

When Mobile Track Equipment is approaching any level crossing the driver must sound the horn or other warning device on the Equipment at such a distance back from the crossing as will give ample warning of the approach of the Mobile Track Equipment. The sounding of the warning device must be distinct and of sufficient duration or repetition to enable the warning to be heard in the circumstances under which it is used.

Where there are no crossing alarms at the crossing an employee must be appointed to signal the Mobile Track Equipment and road traffic over the crossing (Rule 198 (e) refers) unless it is clearly seen that there is no road traffic in the vicinity of the crossing.

Where there are crossing alarms at the crossing these must be operated manually, where possible, before the Mobile Track Equipment is permitted to pass over the level crossing. If the crossing alarms cannot be operated manually an employee must be appointed to signal the Mobile Track Equipment and road traffic over the crossing (Rule 198 (e) refers).

(f) **Fouling Other Tracks** - When Mobile Track Equipipent may encroach on the clearance of another track while working both the occupied and fouled tracks must be protected.

(g) **Protection** in accordance with Rule 228 is not required under this rule except when Mobile Track Equipment (e.g., a self-propelled crane) is working at an unattended station on the-main line or crossing loop.

(h) **Parking** - If Mobile Track Equipment is to be left unattended it must be adequately secured and locked.

(i) **Equipment** - When Mobile Track Equipment is in use by night, which shall be deemed to extend from half an hour after sunset until half an hour before sunrise, or during fog or falling snow, or in a tunnel or when for any reason visibility is poor, it must carry a White light showing forward and a Red light showing to the rear.

When Mobile Track Equipment is sidetracked for a train to pass it, the head and taillights must be extinguished.

0) **Manning** -

(i) *Minimum Staffing*- Mobile Track Equipment must be manned by at least two men. When two or more Mobile Track Equipment Machines are working together as a Machine Group each machine must be manned by at least one man.

(ii) *Outside Station Limits Without a Block o.f Line* - One of the men must be certified in Enginedriver's duties.

(iii) *Outside Station Limits With a Block o.f Line* - One of the men must either be certified in Enginedriver's duties or be certified by the Chief Mechanical Engineer as having an adequate knowledge of the Rules and Regulations.

(iv) *Within Station Limits* -On the main line or crossing loop or in a signalled area one of the men must be a member certified by the Chief Mechanical Engineer as having an adequate knowledge of the Rules and Regulations. Elsewhere one of the men must be a responsible employee of the Way and Works Branch.

(k) **Responsibility for Safety** - When a member certified in Enginedriver's duties is present he shall be responsible for the safe running of the Mobile Track Equipment.

At other times the employee for the time being in charge of the work or equipment is responsible for the safe running of any Mobile Track Equipment and for maintaining protection. He must be certified by the Chief Mechanical Engineer as having an adequate knowledge of the Rules and Regulations.

217. Duties and Responsibilities of Ganger - For the purposes of maintenance the permanent way is divided into specified lengths, each in the charge of a Ganger .

Excepting only such works or structures as are placed under the charge and care of some other person by special instructions issued by the District Engineer or Resident Engineer, the permanent way, formation, bridges, culverts, drains, roads, approaches, fences, gates, water services, and generally all work connected with the track and road

bed are under the charge and care of Gangers, who are responsible for maintaining them in proper order, subject to the directions of the Inspector Permanent Way of the District.

218. Daily Inspection of Line - Unless special instructions to the contrary are issued by the District Engineer or Resident Engineer, each length must be carefully inspected each week-day from Monday to Friday inclusive, on foot or by trolley, by the Inspecting Gangers who are responsible to the Ganger for inspecting specific portions of the length. In gangs where there is no Inspecting Ganger the inspection must be done by the Ganger or by one or more trustworthy and experienced men of his gang, whom he may specially appoint to do this duty. Where the inspection is not done by the Ganger, he must satisfy himself that the inspection is properly done and report any instance of neglect.

The Ganger in charge of a gang where the daily inspection is done by Inspecting Gangers, must personally inspect the whole of his length once in each 3 months. Other Gangers must inspect the whole of their lengths once in each week.

Unless special instructions are issued, lengths are not to be regularly inspected on Saturdays and Sundays.

219. (a) **Inspection in Times of Possible Danger** - When there is any likelihood of damage to or obstruction of the line as a result of storm, floods or earthquakes, or from any other cause, Gangers and Inspecting Gangers , must arrange for such inspections as they consider necessary, and must take such steps as may be required to safeguard the passage of trains; other Way and Works staff must take any action they may consider necessary to meet exceptional circumstances.

(b) **Safety of Trains in High Winds** - During high winds, when wind may be reaching gale force, Gangers and Inspecting Gangers must take such steps as may be required to safeguard the passage of trains. If wind gusts of 120 km/h or over are experienced they are to report to the Train Control Operator or, where appropriate, the Officer in Charge or Signalman, giving the locality, direction of wind in relation to the track, and estimated maximum gust speed then await further instructions. Train crews and other employees are also to report when they experience similar conditions.

Train Control Operators or, where appropriate, Officers in Charge or Signalmen, must immediately advise the District Engineer who will direct the action to be taken regarding train movements.

220. Safeguarding of Main Line - Gangers, Inspecting Gangers, and men specially appointed to carry out the daily inspection must see that all main line points, except such as are interlocked, are fitted with locks, and that where sidings lead to the main line, stop blocks, trap points, or safety points with locks in working order, are provided.

221. Ganger's Responsibility at Unattended Stations - At unattended stations Gangers, Inspecting Gangers, and men specially appointed to carry out the daily inspection are responsible for seeing that main line points, stop blocks, and safety points are kept locked, and must report when they are left unlocked. They must also see that vehicles standing on a siding are properly spragged or have their brakes pinned down, that on a siding on a gradient all vehicles stand close to the stop block or trap points at the lower end on the siding, and that, in automatic signalling areas, vehicles stand clear of fouling track circuits.

222. Security of Hand Lever Operated Main Line Points - Unless specially authorised all main line points which are not interlocked or worked by frame levers must be fitted with levers arranged to lock only for the main line**.**

223. Packing of Sleepers at Interlocked Points - At interlocked points the packing of sleepers must be done only in the presence of the Signal Maintainer. When such work is necessary the Ganger must communicate with the Maintainer so that he may be present.

224. Workmen to Stand Clear of Train - Workmen must stand clear of the line when an approaching train is 400 metres distant and be prepared to give any signal that may be necessary.

225. Workmen to Warn Train Following Too Closely - Workmen who observe a train following another train too closely must give the Enginedriver of the following train a Danger or Caution signal as may be considered necessary.

226. (a) **Rails Not to be Removed in Fog** - During fog or falling snow, rails must not be displaced or other work performed which will interfere with the safe passage of trains.

(b) **Line Repairs to be Done Clear of Trains** - Repairs which involve the blocking of the line must, as far as practicable, be timed to suit the regular traffic and advised specials; except in cases of accident or absolute necessity all repairs must be effected and the line made clear and safe 15 minutes before a train is due.

227. **Gangs to Have Signalling Equipment Ready** - Each gang of workmen must be in possession of the necessary discs, flags, lamps, and detonators for the purpose of exhibiting signals. Each Ganger or Leading Hand is responsible for having such discs, etc., in proper order and ready for use, and for maintaining the supply of detonators

228. METHOD OF PROTECTING OBSTRUCTION ON LINE-

Anything which interferes or is likely to interfere with the safe working of trains is an obstruction, such interference may be either or a planned or accidental nature. In the absence of protection as otherwise provided in the rules, an obstruction must be protected in accordance with the following instructions:

(a) **Protection Arranged Before Line is Obstructed** - Protection MUST be provided before any work which may obstruct the line is started. This protection must be provided at a point not less than 1200 metres from the proposed obstruction and on each side of it by fixing a Danger signal as provided in Rule 15 (a), and placing three detonators on each rail 10 metres apart and a little in advance of the signal to stop approaching trains whether or not such trains are expected.

(b) **Protection for Accidental Obstruction** -

(i) *Establishing Protection* - When an obstruction occurs and protection is not already provided the employee in charge must immediately arrange for a competent employee to go along the track in each direction, each man plainly exhibiting a Danger hand signal, and place detonators on each rail as under:

One at 200 metres from the obstruction;
One at. 400 metres from the obstruction;
One at 600 metres from the obstruction;
One at 800 metres from the obstruction;
One at 1,000 metres from the obstruction.
At 1,200 metres he must place protection in accordance with sub clause (ii) hereof.

Should a train approach while an employee is establishing protection he must immediately place 3 detonators on each rail 10 metres apart and exhibit a Danger signal in accordance with Rule 15 (a).

If an employee establishing protection comes to a tunnel before reaching the point at which he should fiX the Danger signal he must place 3 detonators 10 metres apart on each rail at the entrance to the tunnel before proceeding.

(ii) *Type of Protection - On* arrival at a point not less than 1,200 metres from the obstruction each employee must fix a Danger signal as provided in Rule 15 (a) and place three detonators on each rail, 10 metres apart, and a little in advance of the signal to stop approaching trains, whether or not such trains are expected.

(iii) *Obstruction to be Reported Promptly - When* any accidental obstruction has occurred the employee in charge, must immediately advise the Officer Controlling Train-running full particulars stating the probable

duration of the period during which trains cannot run. This must be done as soon as he has arranged for the placing of the Danger signal and detonators.

(c) **Variations to Location of Danger Signa**l - When special circumstances apply, the distance of 1,200 metres from the obstruction for the location of the Danger signal must be varied as follows to provide for safe protection of the obstruction.

(i) *Obstruction on Gradien t- If* an obstruction should be on or near the foot of a gradient then the Danger signal on the higher side of the obstruction must be fixed at a point not less than 1,500 metres from the obstruction. If the obstruction is accidental the intermediate detonators placed when establishing the protection shall continue to be placed at 200 metres intervals up to the point at which the Danger signal is located.

(ii) *Obstruction Near Tunnel* - If the point at which the Danger signal is to be established should fall in or just beyond a tunnel the Danger signal and three pairs of detonators must be placed at a greater distance from the obstruction and whenever possible at least 400 metres beyond the tunnel where Enginedrivers of approaching trains will be able to obtain a clear view of the signal.

(iii) *Danger Signal Placed to Ensure Good and Distant View* -If the point at which the Danger signal is to be exhibited is obscured from the view of the Enginedriver the Danger signal must be placed at a greater distance from the obstruction where the Engiriedriver will have a good and distant view of the signal.

(iv) *Obstruction Near Fixed Signal* - If fixed signals controlling the entrance of trains into the obstructed section should intervene between the obstruction and the point at which the Danger signal would be placed in accordance with Clauses a and b (ii) hereof, the employee in addition to providing the protection must also communicate with the Signalman and arrange for the signals to be held at "Stop" to prevent any confusion. The employee must advise the Signalman when the line is clear and safe for traffic.

If a manned signal box, from where the fixed signals are controlled intervenes, the employee must place the Danger signal and three detonators opposite the signal box and instruct the Signalman to keep the fixed signal at "Stop"; the Signalman must maintain the fixed signals in that position until he is advised by the employee that the line is clear and safe for traffic.

(d) **Attendance at Protection**-

(i) *Continuous attendance not required* - Except as provided in (ii) and (iii) hereof the Danger signal need not be continuously attended if the employee in charge is satisfied that it is not liable to be disturbed.

(ii) *When not in possession of red disc or red flag* - When the employee who is to establish protection is not in possession of a red disc or red flag he must remain at the place where the three pairs of detonators are placed on the rails and must maintain the detonators and exhibit a Danger hand signal as otherwise provided in Rule 15 (a) until the fixed Danger signal is exhibited.

(iii) *Track Maintenance Machines -An* employee must be in attendance at the Danger signal protecting Track Maintenance Machines unless otherwise authorised by the Officer Controlling Train-running.

(e) **Protection to be Maintained Until Line Clear** - The Danger signal and three pairs of detonators associated with them must be maintained until the line is clear and safe for traffic, and must not be removed until the necessary instructions are given by the employee in charge at the obstruction. The intermediate detonators for accidental obstructions may be removed once the Danger signal and three pairs of detonators are established.

(f) **Reporting Progress of Work** - When the line is obstructed and the running of trains is interfered with the employee in charge at the obstruction must from time to time report progress to the Officer Controlling Train-running or nearest Officer in Charge. In the case of accidental obstructions he should also report progress to the District Engineer or Resident Engineer. As soon as he is able to do so he must advise these Officers the time at which train services may be reinstated and the conditions under which trains may run.

229. (a) **Caution Signals For Reduction of Speed** - When for any reason it is necessary to temporarily reduce the speed of trains the employee in charge of permanent-way or works staff at the defective place must arrange for the exhibition of Caution signals in accordance with the following:

Temporary Speed Boards-

(i) *Outer Speed Boar d- On* a single line on each side of the defective place; on a double line on the side from which trains will approach;

In each instance the Board or Boards must be at least 1,200 metres from the inner speed board.

(ii) *Inner Speed Board - On* each side of the defective place and 50 metres therefrom.

(iii) *Miniature Inner Speed Board - On* each side of the defective place and 50 metres therefrom. Miniature Inner Speed Boards will be used on double-line areas opposite the Inner Speed Boards and will be erected between the two lines on the right-hand side of the line in the direction of travel.

Where practicable Caution signals will be exhibited on the Enginedriver's side of the line.

(For diagrams of Temporary Speed Boards, see page 90.)

(b) **Temporary Speed Boards on Gradient** - If the defective place should be on or near the foot of a gradient then, on the higher side of such place, the Outer Speed Board must be exhibited at a distance of 1,500 metres from the Inner Speed Board, to ensure that Enginedrivers of approaching trains will be able to reduce speed before reaching the Inner Speed Board.

(c) **Temporary Speed Boards Near Signal or Tunnel** - If the distance at which an Outer Speed Board is to be erected in accordance with clauses (a) and (b) hereof should end in the immediate vicinity of a signal box and fixed signals controlling the entrance of trains into the affected section, or in a tunnel, the Board must be exhibited beyond the fixed signals or tunnel where the Enginedrivers or approaching trains will be able to obtain a clear view of it.

(d) **Advising Staff of Temporary Restrictions Imposed** - When it is found necessary to temporarily reduce the speed of trains the employee in charge at the defective place must immediately-

(i) Arrange for the placing of Caution signals as directed in the preceding clauses;

(ii) Arrange for the appointment of Handsignalmen who, until the speed restriction has been notified by train advice, must maintain two detonators on each rail,

10 metres apart, and a little in advance of the Outer Speed Boards, and control the speed of trains by exhibiting Caution hand signals;

(iii) Advise particulars of the restriction to the nearest Officer in Charge;

(iv) Advise particulars to the Inspector Permanent Way, or Foreman ofWorks, who must advise the District Engineer.

(e) An Officer in Charge notified of a speed restriction in accordance with clause (d) must immediatcly-

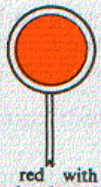
(i) Notify the Officer in Charge at the other end of the section and arrange that until the restriction is notified by train advice the Engincdrivers and Guards of all trains which will pass over thc defective place will be advised particulars;

(ii) Advise the Officer Controlling Train-running of the restriction and of the action taken.

(f) **Signals to be Displayed until ormal Speed Restored** -Caution signals must be maintained until normal speeds may be resumed, and must not be removed until the necessary instructions are given by the employee in charge of the work.

DIAGRAMS OF TRACK WORKERS' RED DISC "STOP" SIGNAL AND TRACK WORKERS' "CAUTION" SIGNALS FOR REDUCTION IN SPEED

TRACK WORKERS' DISC "STOP" SIGNAL



Painted red with a white border. (*See* Rules 15 and 228.)

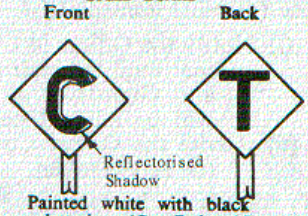
Fig. 60

TEMPORARY OUTER SPEED BOARD

Facing side painted yellow with reflectorised border. Black lettering and numerals shadowed in yellow reflecting material. (See Rules 15 and 229)

Fig. 61

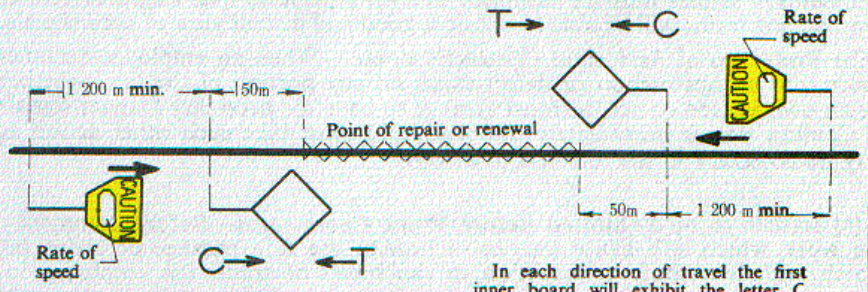
TEMPORARY INNER SPEED BOARD



Painted white with black lettering. (*See* Rules 15 and 229.)

Fig. 62

TRACK ARRANGEMENTS SINGLE LINE

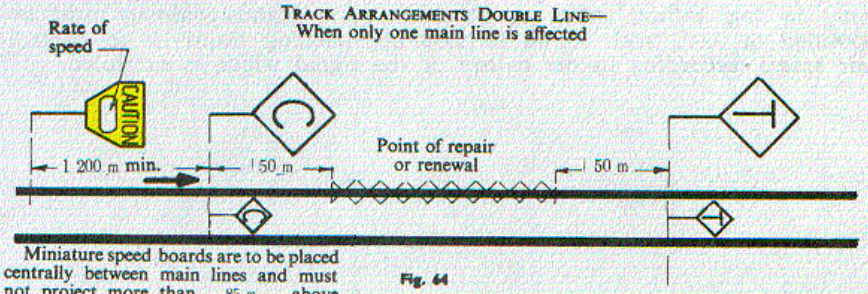


Minimum side clearance for standard size boards to be 2.15 m from centre line of track.

In each direction of travel the first inner board will exhibit the letter C and the second inner board the letter T.

Fig. 63

TRACK ARRANGEMENTS DOUBLE LINE— When only one main line is affected



Miniature speed boards are to be placed centrally between main lines and must not project more than .85 m above rail level.

Fig. 64

TRACK ARRANGEMENTS DOUBLE LINE— When up and down main lines are affected

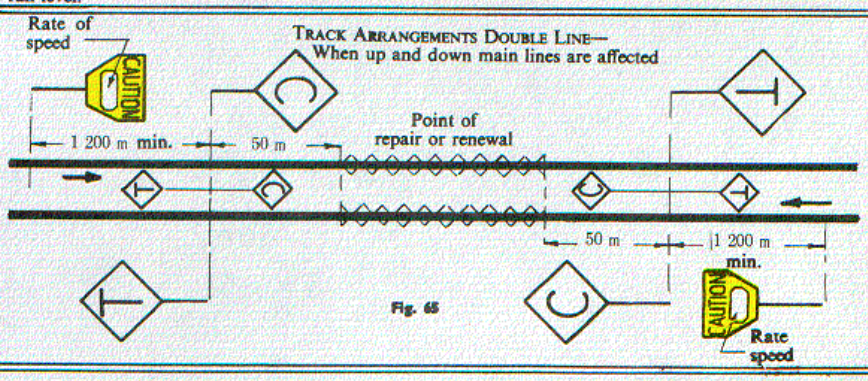


Fig. 65

111

230. (a) **Placing of Signals to Ensure Good and Distant View** - Danger signals and Caution signals must be exhibited in such a position that Enginedrivers of approaching trains will be able to obtain a good and distant view of such signals.

(b) **Protection of Accidental Obstruction, etc.** - When an employee bccomes aware that an obstruction or defcct exists on any portion of the line, whether on his own section or not, he must arrange to have the necessary Danger signals or Caution signals immediately exhibited, and must take such other action as may be necessary in the interests of safety.

(c) **Signals to be Exhibited Before Work Commences** - Before commenc- ing work which will cause an obstruction to the safe passage of trains or which wilr necessitate a reduction In the speed of trains the employee in charge of the work must arrange for the placing of the necessary Danger signals or Caution signals and detonators.

(d) **Handsignalman to be Appointed ir Signals Obscured** - When Danger signals or Caution signals are not clearly visible to Enginedrivers, owing to fog, falling snow, or other cause, a Handsignalman must be appointed at each such signa1 to stop approaching trains or to control their speed, according to the nature of the signal which is exhibited.

231. (a) **Track Work Affecting Signaling** - When relaying or other work would interfere with track circuits or interlocking the employee in charge must, before work is commenced, make suitable arrangements with the Signal and Electrical Inspector.

(b) **Broken Rail or Rail Bond in Electrified Area** - All rails in an electrified area are bonded and great care must be exercised by Gangers and others working on the track to prevent breakages in or disconnection of the bonds; the nearest Officer in Charge must be immediately advised of any broken rail or broken or loose bonds, and he must immediately advise the Electric Traction Inspector.

In electrified areas, before relaying or other work which would interfere with the rail bonds is commenced, the employee in charge of the work must make arrangements with the Electric Traction Inspector for the rebonding of the joints.

(c) **Precautions Near Underground Cables** - Before any work is under- taken in the vicinity of signalling, communications, or power cables which run underground, employees must satisfy themselves that the work is clear of such cables.

(d) **Impection in Tunnels in Electrified Areas** - In an electrified area an inspection of a tunnel roof must not be made nor an inspection wagon used in a tunnel while the overhead equipment is alive. When an inspection is to be made the arrangements for making the overhead equipment dead must be notified by train advice.

232. Disregard of Signals -Employees concerned must report any in stances of signals under their charge being disregarded by Enginedrivers.

ELECTRIC TRACTION - OVERHEAD EQUIPMENT

233. (a) **Definitions** - This rule sets down the requirements relating to electric traction overhead equipment.

"Overhead" refers to the catenary and contact wire and associated equipment.

"Authorised Member" means any member of the Mechanical Branch authorised to carry out work associated with overhead equipment or electric motive power.

(b) **Danger of Contact With Overhead** - Employees are warned of the danger of coming in contact with live overhead equipment which could cause injury or death by shock or burns.

(c) **Employees Working Near Overhead** - Unless approved precautions are taken or Authorised Members are in charge, work must not be done directly above live overhead equipment, or otherwise within 1.5 metres of such wires. This applies particularly to employees working on the roofs of vehicles or buildings, on verandahs, or on or under overbridges or overhead structures.

No person other than an Authorised Member is permitted to be on the roof of a vehicle directly under live overhead equipment.

Locomotive crews are specially warned of the danger of mounting upper parts of locomotives when in an electrified area.

(d) **Danger from Articles Touching Overhead** - Employees are further warned of the danger of allowing any article they are holding to touch live overhead equipment. This applies particularly to employees engaged on plumbing work or building repairs near live overhead equipment.

Employees must warn anyone seen to be in danger, such as persons load- ing or unloading vehicles, or oil company employees using dipsticks under live overhead.

Metal or metal reinforced tape, or material such as rope or wire must not be used where it is likely to fall or be blown across live overhead equipment. Ladders must be used with extreme care in the vicinity of live overhead equipment; wire reinforced or metal ladders must not be used.

No part of a crane or similar machine, or its load, may approach live overhead equipment closer than 4 metres unless the live parts have been pointed out to the operator by an Authorised Member, when an approach to 1.5 metre, may be permissible.

Care must be taken when using a hose to see that the stream of water does not contact live overhead equipment.

(e) **Interference With Electrical Equipment** - Only Authorised Members are permitted to work on; electrical.equipment, attempt to remove fore!gn bodies such as rope or stnng from live wires, remove any conductor which has fallen, or remove or touch anything which is touching a fallen con- ductor. Unauthorised persons must not interfere with electrical equipment.

(f) **Reporting Damage to Overhead** - An employee observing any part of the overhead equipment disconnected, broken, or hanging loose, or exces- sive flashing in any place, should immediately advise the Electric Traction Inspector or a member of his staff. If circumstances appear to warrant such action, the employee must stop any approaching trainand, as quickly as possible, inform the Train Control Operator or nearest Officer in Charge.

Trains to be Kept Clear of Damaged Overhead - If an Enginedriver should observe or have reason to believe that any portion of the overhead equipment has become disarranged or has fallen on or is hanging near the line, he must stop the train clear of the disarranged equipment until he has ascertained that the train can proceed with safety. If there is reason to believe that an adjoining line is obstructed or unsafe, any train approach- ing on that line must be stopped; if necessary the obstruction must. be protected immediately. Care must be taken to prevent any person commg into contact with the disarranged equipment. The Enginedriver must also ensure that the Train Control Operator or nearest Officer in Charge is immediately advised.

Damaged Pantograph - If any employee should observe that a panto- graph is damaged or is foul of the overhead line he must, if possible, stop the train and advise the Enginedriver. The Train Control Operator or nearest Officer in Charge must be notified immediately and trains must not be permitted to pass over the line until permission to do so has been received from an Authorised Member.

If a pantograph has become entangled in the overhead equipment no attempt is to be made to clear it except by an Authorised Member.

If a pantograph has been so damaged that it cannot be lowered com- pletely by the control valve and the locomotive or electric multiple-unit is still standing under the overhead wire, it must not be moved until an Authorised Member has ascertained that there is sufficient clearance.

In every instance where a pantograph is damaged or overruns a termination an Authorised Member must be called immediately to inspect the overhead equipment.

(g) **Authorised Member to Effect Repairs and Give Clearance** - When an accident or derailment damages overhead equipment any work which may involve disarrangement of or contact with the overhead equipment must not be commenced until the arrival of an Authorised Member.

When in consequence of an accident any portion of the overhead equip- ment has been made dead, normal traffic operations must not be resumed after the equipment has again been made alive until the Authorised Mem- ber has given a clearance to the Train Control Operator.

Train Control to be Advised When Overhead Becomes Dead – When a section of overhead equipment becomes dead for a period greater than five minutes the Train Control Operator or nearest Officer in Charge must be advised. When an Authorised Member is required to investigate a failure he must advise the Train Control Operator or Officer in Charge of the probable period during which trains cannot run and make progress reports until completion.

CONVEYANCE OF EXPLOSIVES AND INFLAMMABLE GOODS IN TANK WAGONS

The Dangerous Goods dealt with in this section are divided as follows:

Group I -Explosives.

Group 2- Highly inflammable liquids (e.g., petrol, kerosine, etc., as defined in Classes I and II of Dangerous Goods in the Traffic Code) and compressed gases in tank wagons.

Group 3- Inflammable liquids (e.g. diesel fuel, boiler and furnace fuel, lubricating oil, etc.,) and hot bitumen in tank wagons.

234. (a) **Trains on Which to be Conveyed** - Vehicles containing explosives and tank wagons used for the conveyance of inflammable goods in Group 2 may be run on goods trains only; they must not be run on express goods or passenger trains.

Tank wagons used for the conveyance of inflammable liquids in Group 3 may be run on goods or express goods trains only; they must not be run on passenger trains.

(b) **Shunting Restrictions** - The kicking or slipping of tank wagons or of vehicles containing explosives, or of vehicles against tank wagons or vehicles containing explosives, or against any rake of vehicles containing vehicles loaded with explosives, is prohibited.

When vehicles containing explosives or tank wagons used for the conveyance of goods in Group 2 are being shunted, at least one vehicle must be between the locomotive and any such vehicle.

(c) **Wagons Not to Stand Near Overbridges, Live Fires, etc.** - Tank wagons used for the conveyance of highly inflammable liquids or gas (Group 2), whether full or empty, or wagons containing explosives, must not stand under or within 15 m of overbridges or of any live fire, engine ashpit, or place where ashpans have been emptied, Whenever possible locomotives on parallel lines must not stand opposite or near such vehicles.

Whether full or empty, tank wagons marked with a diamond-shaped danger sign must be viewed as a possible source of danger.

(d) **Filling and Emptying Tank Wagons** - During the filling of tank wagons, locomotives or naked lights must not be brought within 15 m of the wagons.

During the emptying of such wagons locomotives must not be brought to a stand or naked lights used within 15 m of the wagons.

(e) **Tank Wagons Standing in Tunnels** - If a tank wagon has to stand for any length of time in a tunnel special care must be taken to guard against explosion or fire. The tank wagon must be moved out of the tunnel as soon as possible.

Conveyance of Group 1 - Explosives

235. (a) (a) **Identification of Wagons** - On each side of a wagon contain ing explosives there must be displayed in conspicuous lettering the word "EXPLOSIVES", and on no account must any vehicle containing explo- sives be allowed to travel unless it is so marked and also labelled with a "Dangerous Goods" card.

(b) **Location of Vehicles on Trains** - A vehicle containing explosives must not be run on a train next to an overhanging load or with all three wagon lengths of any locomotive on the train or of any guard's van, tank wagon, gas holder, vehicle conveying equipment operated by an internal conbustion engine, tank wagon conveying hot bitumen, or ofany other vehicle containing explosives. It must not be run on a train within three wagon-lengths of the last vehicle unless authorised by the Officer Controlling Train-running.

(c) **Train Crew to be Advised** - When a vehicle containing explosives is attached to a train the Guard must be advised accordingly by the Officer in Charge. The Guard must inform the Enginedriver and any Guard or Enginedriver with whom a change-over may be effected *en route.*

(d) **Inspection During Journey** - At every station at which a train stops for sufficient time the Guard in charge of the train must make a special examination of wagons containing explosives and must particularly examine axle boxes for signs of overheating. If overheating is apparent or sus- pected the Train Examiner or Enginedriver must be informed immediately.

(e) **Officer in Charge to be Advised** - At a terminal station or at any station *en route* at which a vehicle containing explosives is detached the Guard must inform the Officer in Charge that the vehicle has been left within station limits.

(f) **Protection of Vehicle in Siding** – When from any cause a wagon con- taining explosives remains on hand at any station overnight or on a Sunday it must be placed in a siding where it is not likely to be disturbed and a Danger signal must be exhibited at the points or stop block at the entrance to the siding. The points leading to the siding ml\St so far as is possible be kept locked so that no other vehicles can be shunted against the wagon containing explosives, and ihe stop blocks, where provided, must be secured across the rail.

Conveyance of Group 2 - Highly Inflammable Liquids and Gases

236. (a) **Identification of Wagons** - Tank wagons used for the con- veyance of Dangerous Goods in Group 2 must display on each side a sign in the form of a diamond measuring 450 mm by 450 mm with regulation wording in Ied letters on a white or silver background. No tank wagon containing Group 2 highly inflammable goods shall be allowed to run unless so labelled.

(b) **Location of Vehicles on Trains** - Such wagons must not be run on a train next to an overhanging load or within three wagon-lengths of any locomotive on the train, guard's van, passenger vehicle, vehicle conveying equipment operated by an internal combustion engine, tank wugon conveying hot bitumen, or vehicle containing explosives, They must not be run on a train within three wagon-lengths of the last vehicle unless authorised by the Officer Controlling Train-running.

(c) Defective Tank Wagon - If such a tank wagon should be damaged or leaking or is without covers or with caps not closed, or if an axle box on a tank wagon shows a tendency to become unduly heated, the wagon must be isolated as soon as possible and placed under guard and the defect reported to the nearest responsible officer. The assistance of the nearest Car and Wagon Inspector or his staff must be obtained before allowing the wagon to be moved. When practicable the nearest Official of the company owning the tank wagon should be communicated with and his expert assistance or advice obtained.

Conveyance of Group 3 Diesel, Locomotive Fuel Oil and Hot Bitumen

237. (a) **Identification of Wagons** - Tank wagons used for the convey- ance of diesel or locomotive fuel will be marked on the side of the tank with the type of liquid carried.

Tank wagons used to convey hot bitumen do not carry any special identification sign but can be recognised by the prominent funnels at each end of the wagon.

(b) **Location of Vehicles on Trains** - Subject to the provisions of Rules 235 (b) and 236 (b), tank wagons used for the conveyance of Group 3 dangerous goods may be run in any position on a train except next to an overhanging load, but must not be used to separate from locomotive or van, tank wagons used for the conveyance of highly inflammable liquids or gas (Group 2) .

238. Interference With Tank Wagon Fittings - Fittings, valves, covers, or caps of tank wagons or gasholders must not be interfered with by employ ees except in instances of absolute necessity.

239. (a) **Precantions During Repairs or Adjmtments to Damaged Tank Wagon** - If it should become necessary to effect repairs or to adjust caps, valves, etc., or should a leakage of liquid or vapour be suspected, a lamp other than an electric torch or safety lamp must not be used in the near vivinity of the tank wagon; a person having in his possession a llghted hand signal lamp, an open flame, or lighted cigarette, cigar, or pipe must not be allowed within 15 metres of the wagon.

When practicable locomotives or cranes must not be brought near to a leaking tank wagon.

(b) Employees are warned of the grave risk of an explosion or fire attached to tbe careless handling of lights or fires where there is a leakage of liquid or vapour from a defective tank wagon.

The degree of safety in connection with the me of hand lamps will depend largely upon the quantity of liquid or vapour present, the direcetion of the wind, and the possibility of keeping the lamps on as high a level as possible and on the windward side of die defective wagon.

If ignited a trail of petrol on the ground or a rich concentratoin of vapour in tbe air, such as may arise from a wrecked tank wagon, will carry fire to the source of supply from distances up to 150 metres.

(c) When practicable, the work. of handling a damaged tank wagon should be carried out during daylight.

(d) Inflammable liquid from a damaged tank wagon must not be drained into sewers or open streams, but mto a depression or trench away from the track..

(e) All persons not engaged on repair work must k.eep at a safe distance from a leaking tank wagon.

WESTINGHOUSE AUTOMATIC AIR BRAKE

240. Air Brake to be in Operation - When all vehicles on a train are equipped with the complete air brake or brake pipe only, the air brake must be in operation throughout the train, except as otherwise provided in the following rules or when special instructions are issued by the District Traffic Manager.

241. Coupling and Uncoupling Vehicles - When coupling vehicles equipped with the air brake, the coupling cock at each end of the brake pipe must be opened after the coupling hoses are coupled; when parting the vehicles the cocks must be closed before the hoses are uncoupled; in the case of a train the cock at each extreme end thereof must be closed. When opening cocks the handle must be pushed hard against the stop on the side of the cock, as the brake does not operate in a satisfactory manner if the cocks are not fully opened.

Coupling hoses must be uncoupled by hand and must not be pulled apart.

Coupling hoses must be attached to the dummy couplings immediately they are uncoupled.

Coupling hoses on all vehicles not attached to trains must be uncoupled and attached to dummy couplings, unless it is known that the vehIcles will not be separated before being again attached to a train.

Dummy couplings must be hung on the fitting provided for the purpose when not required to be attached to coupling hoses.

WESTINGHOUSE AIR BRAKE COUPLING COCK.

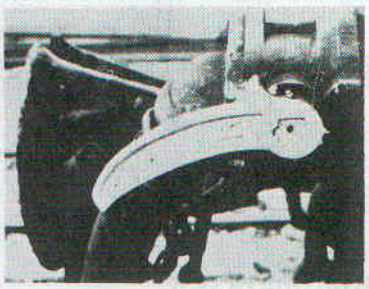


FIG. 69—OPEN.

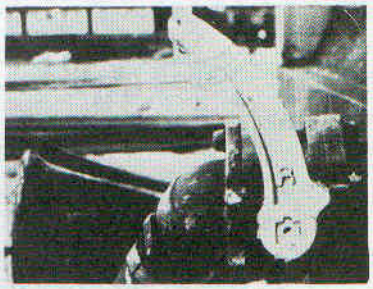


FIG. 70—CLOSED.

242. Location of Cut-out Cocks - Every vehicle is fitted with a cut-out cock so that the brake may be put out of operation if required.

The normal position of the cock handle is vertical. To cut-out the brake the handle is turned to the horizontal position as shown by the dotted lines in Fig. 72 on page 96.

Cocks are arranged as in Figs. 71 and 72.

Older vehicles have equipment as shown in Fig. 72 while most new vehicles are fitted with the equipment shown in Fig. 71.

DIAGRAMS SHOWING LOCATION OF CUT-OUT COCK ON CARS, VANS AND WAGONS.

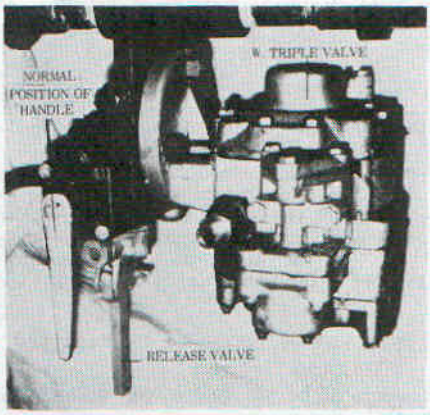


FIG. 71 NEW STYLE CUT-OUT COCK

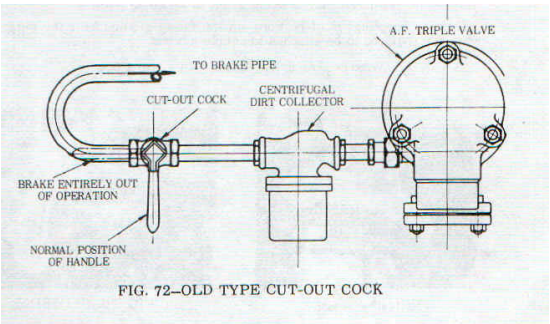


FIG. 72—OLD TYPE CUT-OUT COCK

243. Brake Connection Between Locomotive and Train - The Engine- driver is responsible for the brake connection between tlle locomotive and the train and must satisfy himself before starting that the coupling hose on the locomotive is properly coupled to that of the first vehicle and that the corresponding cocks in tlle brake pipe are open.

244. Protection of Air Brake Equipment - The lashing ropes of tarpaulins or of loads on wagons must not be secured to any part of the air-brake system. Guards in charge of trains must satisfy themselves before starting that this instruction has been complied with. Every precaution must be taken to preve.nt the possibility of anything which may interfere with the effective workmg of the air brake coming in contact with brake cocks or pipes.

Employees must prevent any person from interfering with the air-brake apparatus.

Employees must not stand on air-brake pipes, coupling hoses, or dummy couplmg chains.

245. Removal of Dust From Brake Pipe - Before vehicles which are equipped with the brake pipe only and which have been in use by the Way and Works Branch, Ministry of Works, or other party are attached to vehicles equipped with the complete air brake, the brake pipes on the fonner vehicles must be blown through with air from the locomotive! Guards of work trains will be held responsible for seeing that this is done.

246. Stopping Detached Vehicles With Air Brake - Employees must not use the air brake for stopping vehicles detached from a locomotive except in emergency.

247. Avoidance of Recoil When Stopping - When stopping a passenger train the air brake must be operated in such a manner as to prevent a recoil and discomfort to passengers.

248. (a) **Securing Train Before Locomotive Detached - As air brakes are liable to release owing to leakage of air they must not be relied upon to secure a train or any portion of a train when the train locomotive is detached.**

The employee detaching a train locomotive or front portion of a train must first apply sufficient hand brakes to hold the train or rear portion stationary in the event of the air brakes becoming released. The Guard must apply the van hand brake immediately on arrival at places where the locomotive or front portion of the train is to be detached.

(b) Before a train locomotive, either with or without vehicles, is detached from a train the Enginedriver must apply the air-brakes on th etrain by making a reduction of at least 75 kPa in brake pipe pressure. The member detaching the locomotive must ensure that the air brakes are applied on the train before closing the air brake coupling cocks at the point of detachment.

249. Stopping Trains In Emergency - If, in an emergency, a Guard should have occasion to stop a train he must open the brake cock ir, either the van or a carriage and leave it open until ho is satisfied that the cock may safely be closed.

An emergency application of the air brake must not be made except in an actual emergency.

An Enginedriver becoming aware that the air brakes have been applied from the van or a carriage (or automatically) must at once assist in stopping the train.

Enginedriven and Guards must report an instancea of the emergency brake being applied from a van or carnage.

Guards must not allow any article to be hung on the handle of a brake cock in any van or carriage.

250. Runners Between Locomotives - Vehicles used as runners between locomotives must be equipped with the air brake, which must be in working order.

251. Running of Unpiped or Defective Vehicles - Any vehicle which is not equipped with the brake pipe, or any vehicle on which the brake pipe is out of use, must not be attached to a train without the authority of the District Mechanical Engineer who will direct where it is to be placed in the train. The authority will be obtained by the Officer Controlling Train-running who will then issue a train advice.

Wherever possible brake-pipe pressure must be ooupled through to the rear coupling cock of the last vehicle on a train.

252. Running of Unbraked Vehicles - Vehicles which are equipped with the brake pipe only must be distributed throughout a train, and not more than three such vehicles may be placed together on a train.

Trains in which four wheeled vehicles are included must not be dispatched from an original starting station when the number of vehicles which are equipped with the brake pipe only or which have the air brake inoperative, exceeds 1 in 10 of the total number of vehicles on the train.

Express goods trains must not be dispatched from an original starting station when the number of vehicles which have the air brake inoperative exceeds that shown below:

Number of Vehicles on Train	**Allowance Inoperative Brakes**
Up to 8	NIL
9 – 16	1
17 – 24	2
25 – 35	3
36 or more	4

If the number of unbraked vehicles exceeds the above limits during the journey Rule 264 will apply to the operation of the train.

253. When Brake Test Required - The air brake on a train must be tested in the fol1owing circumstances :

(i) When the train has been made up at the original starting station and the train locomotive is attached.

(ii) When the train locomotive is changed or when an assisting locomotive with air brake coupled is added or detached.

(iii) When a vehicle or vehicles are added or detached.

(iv) When any coupling hoses have been uncoupled for any purposes.

(v) If the Enginedriver of the train conaidera that the air brake is not functioning satisfactorily.

Air-brake tests must be carried out in accordance with rules 254 or 255 as may be applicable. (For diagrams of testing signals, see page 11.)

The Enginedriver must charge the alr-brake system as soon as the locomotive is coupled to the train so that the brake test may be carried out promptly.

Advices of Result of Test and Inoperative Brakes - The member making the test must advise the result of the test to the Officer in Charge, who must not authorise the train to proceed until he has been so advised. When the test is made by a Train Examiner he must also advise the Guard of the train. At an original starting station the member

making the test must advise the Enginedriver the result of the test and the number of vehicles on the train which are equipped with the brake pipe only, or have the air brake inoperative. At an intennediate station at which vehicles have been acdded to the train, or when vehicles have been added to a train at an original starting sta.tion after the brake test has beencompleted the Enginedriver must be advised the result of the test of the additional vehicles and whether any of these are equipped with the brake pipe only, or have tho air brake inoperative.

Train Not to Start Until Test Completed - Where a test of the air brakes is required (see sub-clauses (i)-(v) above) the Guard in charge of a train must not give the signal to start the train unless he has personally conducted the required test, or has been advised by a Train Examiner that the test has been carried out. The Enginedriver must not proceed with the train until he has been advised the information referred to in the preceding paragraph of this rule with regard to the condition of the brakes. He must inform the Guard whether he will require any assistance, by the use of hand brakes, to control the train.

Testing Brakes on Railcars - Before taking any railcar into service and when the composition of a railcar train is changed in service the driver shall be responsible for carrying out the appropriate brake tests in accordance with the testing procedure incorporated in the *Operaling Inslruclions for Railcars.On* request by the Driver, Guards shall assist during the testing of railcar brakes by observing the application and release of brakes.

254. Original-Starting-Station (or Terminal) Test - The following procedure must be observed in carrying out the terminal brake test at an original starting station: When the air-brake system is fully charged the member making the test must verbally request the Enginedriver to apply the brakes. Starting at the vehicle next to the locomotive he must pass along the train to the rear, seeing on his way that all hoses are coupled and cocks fully open and that the air brakes have applied on each vehicle. On reaching the rearmost brake-connected vehicle he must signal or verbally request the Enginedriver to "Release Brakes". If a van is attached he must inspect the air-pressure gauge and see that the standard pressure is restored (see Rule 256). He must again examine each vehicle, on the opposite side if practicable, seeing that all brakes are properly released.

If an uncoupled hose, a coupling cock not opened, or any other fault should be found, it must be rectified and the test repeated until the air brake on the train functions satisfactorily.

If a vehicle or vehicles are added to the train after the brake test has been completed the brakes on the added vehicles must be inspected and tested by a Train Examiner if one is available, otherwise by the Guard. The member making the test must request the Enginedriver to apply the air brakes and must then examine each of the added vehicles seeing that all hoses are coupled, cocks fully open, and air brakes applied. He must then signal or verablly request the Enginedriver to "Release Brakes" and must again examine each vehicle, on the opposite side if practicable, seeing that all brakes are properly released. The intermediate-station test for the whol6 train must then be carried out when the train is coupled ready to proceed.

255. Intermediate-station Test - The following procedure must be observed in carrying out the brake test at a station or place where a locomotive or a vehicle, or vehicles, are added to or detached from the train, or where coupling hoses have been uncoupled for any purpose:

The member making the test must stand alongside the rearmost brake-connected vehicle of the train, signal or verbally request the Enginedriver to" Apply Brakes" and "Release Brakes" and satisfy himself that the rearmost air brakes apply and release promptly in response to the testing signals. If a van is attached he must inspect the air-pressure gauge and see that the standard pressure is restored (see Rule 256).

If a vehicle or vehicles are added to the train at the intermediate-station the brakes on the added vehicles must be inspected and tested by a Train Examiner, if one is available, otherwise by the Guard. The member making the test must request the Enginedriver to apply the air brakes and must then examine each of the additional vehicles seeing that all hoses are coupled, cocks fully open and air brakes applied. He must then signal or verbally request the Enginedriver to "Release Brakes" and must again examine each vehicle, on the opposite side of practicable, seeing that all brakes are properly released. When the train is coupled ready to proceed the Intermediate- station test for the whole of the train must be carried out in accordance with the second paragraph of this rule.

The starting signal given by the Guard at an intermediate-station is an indication to the Enginedriver that the air brake on the rearmost brake-connected vehicle is in working order.

256. Gauge in Van to be Inspected - After the air brakes on a train have been released during a brake test the member making.the test must ascertain, by referring to the pressure gauge in the van, whether the brake pipe has charged to the standard brake-pipe pressure for locomotive-hauled trains (550 kPa). Where the rearmost vehicle is not fitted with a pressure gauge the following procedure must be observed:

(i) Where supplied, test apparatus, comprising a dummy coupling and a pressure gauge, must be connected to the brake pipe of the rearmost vehicle for checking the pressure in the brake pipe.

(ii) Where test apparatus is not supplied, the member making the test must satisfy himself that the rearmost air brakes apply and release promptly in response to the testing signals to the Enginedriver.

The member making the test must advise the Engiedriver of any undue variation in the operation of the pressure gauge when the test is made, and the Guard must inform the Enginedriver of any undue variation in the indications of the gauge in the van noticed during the journey.

257. Inspectors to Make Tests - Locomotive Inspectors and Brake Inspectors must from time to time test the application and release of air brakes throughout trains.

Traffic Officers and Trainmen must afford facilities to the Inspectors when they are carrying out these tests.

258. Method of Cutting Out Defective Air Brakes - If owing to a defect in the air-brake apparatus, on any vehicle the brakes should fail to release or will not remain released, and there is no time to rectify the defect, the air brake on the vehicle must be put out of operation by placing the handle of the cock in the branch pipe in a horizontal position in line with the branch pipe. (See diagram on page 120.) The release valve on the vehicle must then be fully opened and secured in that position.

The cutting-out of the triple valve on any vehicle does not affect the brake pipe. It is not, therefore, necessary to interfere with the coupling cocks, which must be left open to enable the compressed air to pass to the rear of the train. The Guard must advise the Enginedriver that the air brake has been cut out on the

vehicle and must also report the circumstances to a Train Examiner, enter particulars on the back of his running-sheet and attach a Loco 58 Defective Wagon Card, to the vehicle.

259. Cuting Out Brakes on Passenger Trains - A passenger train must not be dispatcbed from an onginal starting station with the air brake on any vebicle cut-out or in a defective condition witbout tbe autbority of tbe District Mechanical Engineer whicb shall be obtained by the Officer Controlling Train Running who will then issue a train advice.

260. (a) **Replacing Burst or Defective Coupling Hose** - A burst coupling hose on a train must be replaced, provided the train is in a safe position.

If air is fed into the brake pipe to enable a burst bose to be located the Enginedriver must ensure that adequate pressure is maintained in the main reservoir to keep the locomotive brakes fully applied.

When a coupling hose s. replaced tbe air brakes must be tested before the train proceeds. Wben necessary tbe Locomotive Assistant must relay testing signals or convey messages to enable tbe test to be made.

The replacing of coupling boses during a train journey must be carried out by the Guard or Locomotive Assistant, as circumstances may require; at stations where Train Examiners are on duty they must effect replace ments.

(b) When it is not possibl. to replace a burst bose the coupling cock on the brake pipe immediately in front of it must be closed and the Enginedriver signalled to release the brakes. All tbe air brakes in the rear of the burst hose must be released by pulling the wires attached to th. release-valve bandIes, whereby the compressed air wIll be completely discharged from the brake apparatus.

After the Guard has informed the Enginedriver of the number of air brakes thus put out of action and how many are in working order, the train must proceed cautiously to the nearest place where the burst hose can be replaced

(c) **Burst Main-reservoir Hose** - If a main-reservoir hose should burst between locomotives or coaches wbich are coupled for multiple-unit work- ing the Enginedriver must prevent further loss of air pressure by at once closing the coupling cock on each side of the burst hose; when duplicate hoses are provided the Enginedriver must couple them before the train proceeds; when duplicate hoses are not provided, be must replace the burst hose before the train proceeds.

161. Train Parting - If a train sbould break into two or more scctions the Guard must apply a number of hand brake. sufficient to secure the disconnected section or sections. After ascertaining that the Eng;nedriver is aware of the position the Guard must close the coupling cock at the rear end of tbe first section and signal "Release Brakes" to the Engine- driver The first and second sections of the train must then be coupled, the coupling hoses coupled, and the air brake on the second section also released by the Enginedriver, care being first taken to see that the coupling cock at the rear end of the second section has been closed before the cock at the rear end of the first section is opened. When the Enginedriver has released the air brakes on the second section the same method must be employed with reference to the third section, and so on. When the train is coupled the air brake must be examIned and tested and all hand brakes released.

262. Brakes not Releasing Properly - If so Enginedriver should find that the speed of his train is being retarded owing to some of the air brakes not being released, and cannot release them from the locomotive, he must stop (under fixed-signal protection, if practicable) and have the brakes released property.

263. Loss of Main-reservoir Pressure - If the correct main-reservoir pressure cannot be maintained on gradients the Enginedriver must stop the train immediately and arrange for the application of a number of hand brakes sufficient to ensure control of the train; the hand brakes must be maintained until the main-reservoir pressure is reslored.

264. Air Brake Out of Operation on Train - If the air brake on a locomotive or vehicle should fail on a journey the Enginedriver must communicate with the Guard and, if the defect cannot be rectified at once and it is necessary to put the air brake out of action on the whole or part of the train, the train must proceed cautiously if the Engine-driver considers it safe to do so, the speed being so regulated as to enable the Enginedriver and the Guard to have full control of the train by the use of hand brakes. If the circumstances should warrant it the load must be reduced. In all such instances the Guard must be on the alert and assist in controlling the train by the use of hand brakes.

265. Spare Coupling Hoses - Guards must see that the required spare coupling hoses are carried in the van.

266. If it should be necessary to replace a defective coupling hose on a train the van or locomotive stock of coupling hoses must be replenished at the next station at which a Train Examiner is located and the defective hose handed to the Train Examiner. If a Train Examiner is not located at a station on the journey the Guard must hand the defective hose to the nearest Stationmaster, who will forward it under waybill to the nearest Train Examiner .

Care must be taken to see that a defective coupling hose is not placed in the van or locomotive with the spare coupling hoses.

267. Irregularities and Failures to be Reported - Enginedrivers and Guards must report all instances of irregularity or other special circum- stances in connection with the working of air brakes, stating the nature of the failure, the number of the locomotive working the train, the number of the train, and the points it was running between; also, when possible, the number and class of the vehicle on which the fault developed and the air pressure, and the position of the vehicle on the train.

The Train Examiner at the first examining station must also be advised.

268. (a) **Testing of Brakes on Engines, etc., in Depots** - Before taking any locomotive. multiple-unit, or railcar into service, an Enginedriver must satisfy himself, by tests and examination, that the air and band brakes are in good working order.

Hand brakes must be released before any such vehicle is moved.

(b) **Testing of Air Brakes In Service** -The air brakes on a train drawn by an electric locomotive, diesel-electric locomotive, or on a multiple-unit train, when in service, must be tested in accordance with the following:

Before any brake test is carried out the Enginedriver must ensure that the correct main reservoir pressure for the type of locomotive concerned, or for the electric multiple-unit, has been reached and is indicated by the red needle on the duplex gauge, also that the standard brake-pipe pressure (550 kPa in the case of locomotive-hauled trains and 500 kPa in the case of electric multiple-units) is shown by the black needle on the gauge. He must also ensure that only one driver's automatic brake valve isolating cock is open on the train:

(i) **Electric and Diesel-electric Locomotives** - In the case of an electric or diesel-electric locomotive, the original-starting-station and intermediate-station tests must be made in accordance with Rules 253-256;

(ii) **Multiple-Units** - In the case of electric multiple-unit rolling stock, brake tests must be carried out in accordance with the proce- dure laid down in the Handbook of Instructions Relating to Electrified Services.

269. (a) **"Dead Man" Safety Apparatus** - The "Dead Man" safety feature, which may be operated by a foot treadle or incorporated in the master controller, must be tested in accordance with the appropriate instruc tions whenever a driving compartment is brought into use.

(b) **"Dead Man" Control Defective** - A vehicle on which the "Dead Man" handle (or treadle) is defective or inoperative must not be taken into service; if already in service, however, and the defect cannot be rectified, the Enginedriver must instruct another Enginedriver or Locomotive Assistant (if available) or the Guard to travel with him in the compart- ment in which the defective apparatus is located.

The vehicle must be withdrawn from service at the first opportunity.

(c) The Train Control Operator and the Locomotive Supervisor must be advised immediately of the circumstances when the running of a train will be affected by a defective air brake or "Dead Man" safety feature.