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EASTERN RAILWAY



Block Working Manual

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Correction Slip up to No. 6

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Kolkata
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Register of Addenda and Corrigenda issued subsequent to the
Publication of this book

Correction Slip

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CHAPTER-I

PRELIMINARY

- 1.01. Issue of Block working Manual** – This book of rules and regulations for working trains on Single and Double Line by Electrical block Instruments on the Absolute Block System shall be issued to all staff responsible for train passing duties and to such other staff as directed by the Chief Operations Manager.
- 1.02. Study of Manual** – This Manual shall be studied by the staff in conjunction with General and Subsidiary Rules Book for which it is a companion volume. Nothing in this volume will modify or supersede provisions of General and Subsidiary Rules.
- 1.03. Addenda and Corrigenda** – All alterations or corrections that may, from time to time, be notified shall be recorded on the pages provided for this purpose and pasted at appropriate place in the Manual.
- 1.04. System of working** – The systems of working on different sections of Eastern Railway are indicated in the working Time Tables of different divisions.
- 1.05. Object of Electrical Block Instrument** – The object of governing the movement of trains by Electrical Block Instruments is to provide at all times a visual indication of the state of the Block sections to which they refer and to guard against two trains being admitted into a Block section at the same time. Where the trains are worked on Absolute Block System.
- 1.06. Fixed Hand and Fog Signals** – Signalling trains by Electrical Block Instruments do not in any way do away with the use of Fixed, Hand or Fog signals, whenever and wherever such signals may be required. The use of such signals is governed by GR's and SR's from 3.09. to 3.75.
- 1.07. Double Line Methods** –
- (a) Method of Block working employed on Double Lines is of the type of Control with block Instruments located at Block Station.
 - (b) The method of Block Instrument control on Double Line is employed by Interlocking Block Instrument with final departure signals.
 - (c) The Block Instrument used for the above method is of three position Lock and Block Instrument.
- (Instruments described in paragraphs 2.02 to 2.09 of Chapter II)
- 1.08. Block Instruments with Lock** – These instruments in addition to giving visual indications of the state of the Block sections to which they refer are provided with locking arrangement which ensure that "Line Clear" is only granted after operations prescribed for clearing the block section have been done by station in advance.

1.09. Single Line Methods :

(a) Where electrical Block Instruments are used the clearing of Last Stop Signal is controlled by the "train going to" indication on the Block Instrument.

(b) For the method of working as per a (I) in instruments in use are :

- (1) Block Instruments with Token/Tablet and
- (2) Block Instruments without Token.

The method of operating each type of instruments is described in Chapter IV & VIII.

1.10. Station Master – 'Station Master', means the person on duty who is for the time being responsible for the working of the traffic within Station Limits and includes any person who is for the time being in dependent charge of the working signals and responsible for the working of train under the system working in force and duly appointed and authorized by the Railway administration in this regard.

1.11. Use of Instruments – Block Instruments shall be operated only by the Station Master on duty as defined in GR-1.02 (53) and shall be used exclusively for the purpose of signalling trains strictly in accordance with the rules and regulation laid down. Every train in its progress from the Block station to another shall be signalled on the Block Instruments.

1.12. Instruction of Staff – Instruments in actual use for train working shall on no account be used for the purpose of educating or instructing the staff.

1.13. Certificate of Competency :

- i) No person should be permitted to operate a Block Instrument unless he has satisfactorily passed the prescribed examination and holds a duly authorized certificate of competency. This certificate shall be valid for a period of 3 years. Principal/Zonal Railway Training Institute shall issue the necessary certificate of Block competency to the staff concerned undergoing training after the Initial, Promotional and Refresher Course.

Where, however, for any reason staff are not sent for Refresher Course within the period of 3 years, the validity of the Competency Certificate issued by the Principal, Zonal Railway Institute Centre may be extended locally for a period of one year only after jointly re-examining the staff by TI(M) / Station Manager and Section Engineer (Signal) concerned. After extension of the validity has been certified by the TI(M) / Station Manager and Section Engineer (Signal) it shall be countersigned by the Sr. Divisional Safety Officer / Divisional Safety Officer or an Asstt. Operations Manager duly authorized on this behalf.

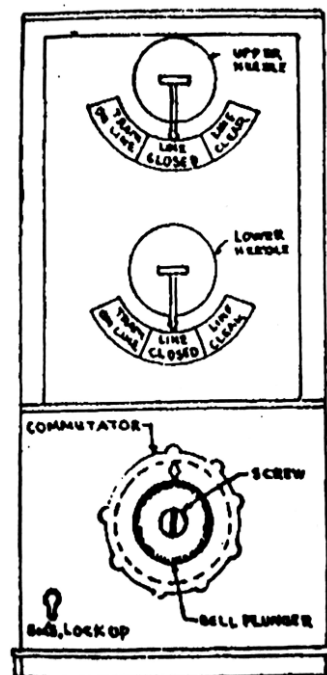
- ii) The TI(M) / Station Manager and Section Engineer (Signal) must also have valid competency certificate from Sr. DSTE / DSTE / Principal, Zonal Railway Training Institute for Block competency for the purpose of discharging their duty under Rule 1.13(i).

- 1.14. Working of Block Instruments** – Block Instruments shall be worked steadily and deliberately. The Bell plunger shall be pressed in to the extent with slight pause between each stroke, otherwise the signals on the bells will be indistinct or lost.
- 1.15. Extra care during repairs to line wires** – When the Station Master on duty has been advised by the person in charge of a Telecommunication Department working party that they intend to work at the station or in a Block section, he shall advise the Station Master at the other end of the Block section concerned and both Station Masters shall work with extra care and vigilance until advised that the working party have completed their task. Whichever Station Master receives the latter advice shall be responsible for informing the Station Master at the other end of the Block Section.
- 1.16. Admittance into cabins** – The admittance of unauthorized persons into cabins (whether railway servants or otherwise) is strictly prohibited. No railway servant shall enter any Cabin except when required to do so in connection with his regular (official) duty.
- 1.17. Stations** – Station means any place on a line of railway at which traffic is dealt with or at which an authority to proceed is given under the system of working.

CHAPTER II

DOUBLE LINE ELECTRICAL BLOCK INSTRUMENTS – DESCRIPTION AND METHOD OF OPERATION

- 2.01. Type of Instruments** – Double Line Block Instruments in use on Eastern Railway are of three position Lock & Block type.
- 2.02. Description of Instruments** – The various parts of the Block Instruments, as marked in the Diagram below and their functions are described below :-



From the illustration it will be seen that the instrument is provided with :-

- (a) Two needles, an upper and a lower indicating 'Train on Line' 'Line Closed' and 'Line Clear' on segments coloured red, white and green respectively.
- (b) A Commutator
- (c) A Bell Plunger
- (d) A Block Bell

2.03 Needle indications – The needle indications are :-

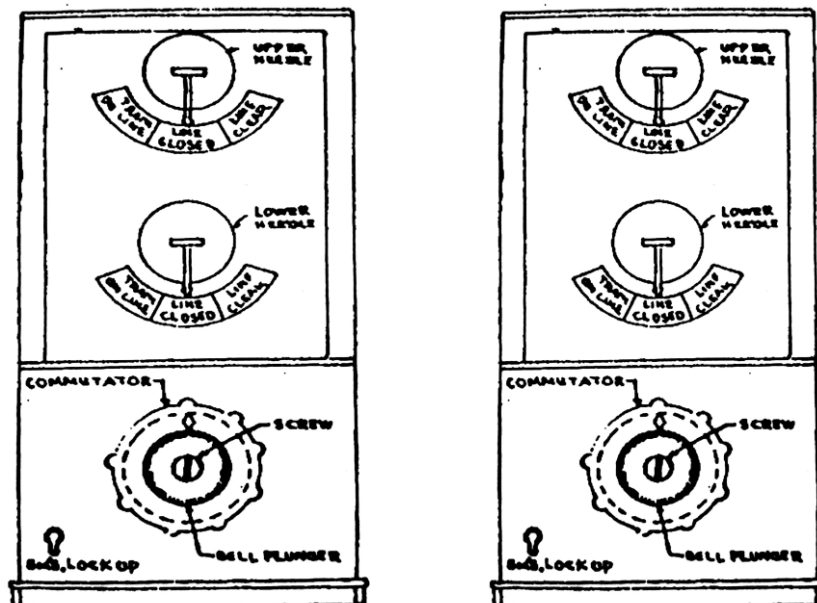
- (i) Line Closed (needle vertical, on white segment)
- (ii) Line Clear (needle deflected right, on green segment)
- (iii) Train on line (needle deflected left, on red segment)

The "Line Closed" indication is that shown when there is no train in the Block Section and "Permission" has not been given for any train to enter it.

The "Line Clear" indication is that shown when permission has been given or received for a train to enter the Block section.

The "Train on Line" indication is that shown when the Block section is occupied by a train.

- 2.04. The Upper Needle** – The indications of this needle refer to trains leaving the station and give a visual indication of the condition of the Block section in advance. It is electrically controlled by the Station Master at the Block station immediately in advance and its indication can only be altered by him. The indications of the upper needle corresponds with those of the lower needle of the corresponding instrument at the station in advance.
- 2.05. The Lower Needle** – The indications of this needle refer to trains approaching a station and give a visual indication of the condition of the Block section in rear. It is worked entirely by the Station Master of the station at which the instrument is located. The indications of the lower needle correspond with those of the upper needle of the corresponding instrument at the station in rear.
- 2.06. Relation of the needle indications to Block sections** – Two Block Instruments are provided at each station, the Up instrument for signalling trains to and from the next Block section in the Up direction and the Down instrument for trains to and from the next Block section in the Down direction. The lower needles indicate the condition of the Block sections for trains approaching from either direction and the upper needles the condition of the Block sections for trains proceeding from the station in either direction.



2.07. The Commutator – The turning of the Commutator operates the lower needle of the Block Instrument to which it is fitted and the upper needle of the Block Instrument at the cabin immediately in rear.

(a) The Commutator (like the needles) has three positions –

- (i) Normal position : when the lower needle of the Block Instrument indicates “Line Closed” and the pointer on the face of the Commutator is vertical (Segment-white).
- (ii) Line Clear position : when the lower needle of the Block Instrument points to “Line Clear” and the pointer on the face of the Commutator is deflected to the right (Segment-Green).
- (iii) Train on Line position : when the lower needle of the Block Instrument indicates “Train on Line” and the pointer on the face of the commutator is deflected to the left. (Segment-Red).

(b) The Commutator is locked in the “Train on Line” position only if the “Line Clear” indication has been previously given.

It remains locked until the train clearing the station operates a treadle or a track circuit or an Axle Counter and the reception/last stop signal has been placed to “On”.

If, however, the Commutator is turned direct from its normal (Line Closed) position to “Train on Line” it does not become locked.

(c) The commutator shall be turned immediately the Bell Code (GR-14.05) has been signalled and before releasing the Bell Plunger. The Bell Code shall always be given before turning the Commutator.

2.08. The Bell Plunger – The plunger is placed in the centre of the Commutator and when depressed gives one beat on the bell of the corresponding instrument at the other end of the Block section. The Bell Plunger shall only be employed for signalling trains on the prescribed Code of Bell signals.

2.09. Block Bells – These bells are provided to give an audible signal by means of the prescribed Code of Bell signals. (GR-14.05)

2.10. Method of governing the movement of trains from Block station to Block station. – In the case of each train, after the “Call Attention” beat has been given and acknowledged by station in advance, before any other operation on Token or Block Instrument is made, the names of stations working together shall be exchanged on the telephone, as an assurance that the correct stations are in communication.

The following is the sequence of operations for signalling train at either A, B or C class stations –

Taking three stations X, Y and Z and a train travelling from X to Z and proceeding on its journey the Block sections being clear and the Block Instruments showing “Line Closed”, then –

Station X	Station Y	Station Z
(1) Sends “Attention Signal” to Y (one stroke/beat).	(2) Acknowledges “Attention Signal” to X (one stroke / beat).	
(3) Attends telephone.	(4) Attends telephone.	
(5) Gives name of station on telephone.	(6) Gives name of station on telephone.	
(7) Asks Line Clear for the train on telephone giving the number and description of the train with the Private Numbers.	(8) Gives Line Clear on telephone repeating the number and description of the train supported by a Private Numbers.	
Note :- Exchange of Private Numbers while seeking and granting Line Clear should not be adopted in case of suburban and quadruple line sections.		
(9) Sends “Attention Signal” to Y.	(10) Acknowledges “Attention Signal” to X.	
(11) Sends “Is Line Clear” signal to Y according to the description beat prescribed in the bell code (Two beats).	(12) Acknowledges “Is Line Clear” signal by an exact repetition and on the last beat of the signal turns the commutator of its Block Instrument to the right indicating “Line Clear” (Two beats).	

Station X	Station Y	Station Z
(13) Immediately after receipt of the last beat of acknowledgement and on seeing that the upper needle of its instrument now points to "Line Clear" takes off departure signal for the train.		
(14) Sends "Attention Signal" to Y after departure of the train.	(15) Acknowledges "Attention Signal" to X.	
(16) Sends "Train entering section" signal to Y. (Three beats).	(17) Acknowledges "Train entering section" signal by an exact repetition and on the last beat of the signal turns the commutator of the Block Instrument to the left (Three beats).	
(18) Returns the departure signals to "ON" after the train has passed the last stop signal.	(19) Sends "Attention Signal" to Z.	(20) Acknowledges "Attention Signal" to Y.
	(21) Attends telephone.	(22) Attends telephone.
	(23) Gives name of station on telephone.	(24) Gives name of station on telephone.
	(25) Asks line clear for the train on telephone giving the number and description of the train with the Private Numbers.	(26) Gives Line Clear on telephone repeating the number and description of the train supported by a Private Numbers.
<p>Note:- Exchange of Private Numbers while seeking and granting Line Clear should not be adopted in case of suburban and quadruple line sections.</p>		

Station X	Station Y	Station Z
	(27) Sends "Attention Signal" to Z.	(28) A c k n o w l e d g e s "Attention Signal" to Y.
	(29) Sends "Is Line Clear" signal to Z according to the description beat prescribed in the bell code.	(30) Acknowledges "Is Line Clear" signal by an exact repetition and on the last beat of the signal turns the commutator of its Block Instrument to the right indicating "Line Clear" (two beats).
	(31) Immediately after receipt of the last beat of acknowledgement and on seeing that the upper needle of its instrument now points to "Line Clear" takes off departure signals for the train.	
	(32) Sends "Attention Signal" to Z after departure of the train.	(33) A c k n o w l e d g e s "Attention Signal" to Y.
	(34) Sends "Train entering section" signal to Z.	(35) Acknowledges "Train Entering Section" signal by an exact repetition and on the last beat of the signal turns the commutator of its Block Instrument to the left.
	(36) Returns the departure signals to "ON" after the train has passed the last stop signal.	
	(37) On the train clearing the rear block section, sends "Attention signal" to X.	
(38) A c k n o w l e d g e s "Attention Signal" to Y.	(39) Sends "Train out of section" (Four beats) signal to X and on the last beat of the signal turns the commutator of its Block Instrument to normal "Line Closed".	

Station X	Station Y	Station Z
(40) Acknowledges "Train out of section" signal to Y by an exact repetition (Four beats).		
		(41) Returns the departure signals to "ON" after the train has passed the last stop signal.
		(42) On the train clearing the rear block section, sends "Attention signal" to Y.
	(43) Acknowledges "Attention Signal" to Z.	
		(44) Sends "Train out of section" signal to Y and on the last beat of the signal turns the commutator of its Block Instrument to normal "Line Closed" position.
	(45) Acknowledges "Train out of section" signal to Z by an exact repetition.	

CHAPTER III

RULES AND REGULATIONS FOR DOUBLE LINE WORKING

I – General

3.01. Code of Bell Signals – The following code of Signals shall be used for Double Line Block Working and each signal shall be given slowly and distinctly.

Ref. No.	Indication	Code	How Signalled	How Acknowledged
1.	Call Attention and/or Attend Telephone.	0	One stroke or beat	One stroke
2.	Is Line Clear or Line Clear Enquiry.	00	Two	Two
3.	Train Entering Section.	000	Three	Three
4.	(a) Train out of section. (b) Obstruction removed.	} 0000	Four	Four
5.	(a) Cancel Last Signal. (b) Signal given in error.	} 00000	Five	Five
6.	(a) Obstruction Danger Signal (General). (b) Stop and Examine Train. (c) Train passed without Tail Lamp or Tail Board. (d) Train divided. (e) Vehicles running away on the Block Section. (f) Vehicles running away on right line.	000000 000000-0 000000-00 000000-000 000000-0000 000000-00000	Six Six <i>pause</i> one Six <i>pause</i> two Six <i>pause</i> three Six <i>pause</i> four Six <i>pause</i> five	Six Six <i>pause</i> one Six <i>pause</i> two Six <i>pause</i> three Six <i>pause</i> four Six <i>pause</i> five
7.	Testing Signal	0000000000000000	Sixteen	Sixteen

3.02. Acknowledgement of Signals –

- (a) Each signal received shall be acknowledged by sending the authorized beats in acknowledgement.
- (b) No signal shall be acknowledged until it is understood.
- (c) Transmission of a signal shall not be deemed to be completed until it is acknowledged.
- (d) Should the station to which a signal is sent fails to reply, the signal shall be repeated at intervals of not less than 20 seconds until the reply is received. After this process has been repeated five times without any response, other means of communication should be resorted to.

3.03. Method for use of Bell Codes –

(1) "Call Attention"

- (a) This signal shall be sent and acknowledged before sending any other signal.
- (b) The "Call Attention" signal is not required to precede the "Train Entering Section" Signal (three beats)

"Obstruction Danger" signal is six beats on double line. As soon as a Station Master receives this signal he will take action as per Sub-paragraphs 6(a) and (b) of rule 3.3 of the BWM. This signal will be acknowledged by giving six beats. The Station Master receiving the "Obstruction Danger" signal shall acknowledge it by an exact repetition provided he succeeds in stopping the train.

(2) "Is Line Clear" or "Line Clear Inquiry" – This signal denotes that permission of despatch a train is required and shall not be sent until and unless the "Train Out of Section" signal has been received for the preceding train and the "LINE CLOSED" indication has appeared on the Block Instrument. Should the station in advance not be in a position to accept the train he shall answer the "Is Line Clear" inquiry by following method prescribed for refusing line clear.

- (i) Under normal condition, when Line Clear cannot be granted for want of accommodation at the station from which Line Clear is being asked, refusal shall be communicated by stating the fact on block telephone and by giving Bell Code.
- (ii) When due to some obstruction, it becomes not possible to grant line clear by the station from which it is asked refusal shall be communicated by giving "Obstruction Danger" signal (six beats) without turning the commutator of the Block instrument to "Train On Line" position.

- (3) **“Train Entering Section”** – This signal shall be sent to the Block Station in advance as soon as the train has passed the Last Stop signal.

Note : In cases, where, due to any reason, there is delay in conveying the “Train Entering Section” signal by beats on Block Instruments or acknowledgement, thereof, the time of the train, entering the section should also be repeated on the block telephone and an entry made to this effect in the “Remarks” column of the “Train Signal Register”.

- (4) **“Train Out of Section Signal”** – This signal is sent when the train has arrived complete and when the conditions under which line clear may be given as per GR 8.02, 8.03 & 8.04 have been complied with.
- (5) **“Cancel Last Signal” or “Signal given in error”** – This signal (with five beats) shall be sent when it is required to cancel the previous signal. Private Numbers shall be exchanged in each case when this signal is given and the circumstances that necessitated the cancellation of the signal as well as the Private Numbers shall be recorded in the “Train Signal Register”.
- (6) (a) **“Obstruction Danger”** – This signal is sent when it is necessary in consequence of any obstruction or other cause to refuse “Line Clear” or to stop an approaching train at the Block station in rear.

The procedure to be followed in each case is as described below :-

- I. When refusing “Line Clear” this signal shall be sent without turning the needle to “Train On Line”. The fact that “Line Clear” was asked and refused, shall be recorded in the Train Signal Registers at both stations together with a remark as to the circumstances.
- II. When it is required to stop an approaching train at the Block station in rear for which “Line Clear” has already been given -
 - (i) The Station Master who requires the train to be stopped at the station in rear shall immediately place all signals at his station pertaining to the line on which the train is approaching in the “ON” position or keep them in that position if they have not been taken “OFF”. He shall then give the “Obstruction Danger” signal and turn the commutator of his Block Instrument to indicate “Train on Line” (obstruction).
 - (ii) The Station Master of the Block Station receiving the “Obstruction Danger” signal shall put all signals to the “ON” position and employ every other means available to stop the train after which he shall acknowledge the signal.
 - (III) Should he not succeed in stopping the train he shall, instead of acknowledging the signal, at once send the “Train Entering Section” signal in reply and advise the station ahead by telephone.

- (iv) Should he succeed in stopping the train, he shall at once acknowledge it and advise the Station Master who sent the "Obstruction Danger" signal by telephone. On no account shall the train be allowed to proceed until the "Obstruction Removed" signal has been received (four beats).
- (v) On being advised that the train has been stopped at the Block station in rear, the Station Master who sent the "Obstruction Danger" signal, shall, after he has satisfied himself that the obstruction has been removed and has received information about track being clear and safe from competent official of the engineering department, send the "Obstruction Removed" signal, and
 - (A) At stations where the Block Instruments and signals are locked, follow the procedure laid down in the case of treadle failure.
 - (B) At other stations, turn the Commutator to "Line Closed" and follow the procedure laid down for passing trains.
 - (C) When it is required to stop an approaching train at the Block station in rear, for which "Line Clear" has not been given –

The Station Master sending the "Obstruction Danger" signal shall turn the Commutator of his Block Instrument to "Train on Line" and shall on no account signal "Line Clear" for any train in that direction until he is satisfied that the obstruction has been removed and has given the "Obstruction Removed" signal.

(6) (b) *Stop and examine train –*

(i) This signal is sent to the Block station in advance when anything unusual is observed on a train passing a station, such as –

- Signals of alarm by a Passenger,
- Goods falling off from an open wagon,
- Vehicle on fire,
- Hot axle-box,
- A carriage door opening outwards,
- A goods wagon door open and not fastened or secured,
- Steel consignments loaded in unsafe condition, or
- Any other dangerous condition likely to foul or obstruct the railway line or lines.

(ii) Station Masters and their staff shall observe the condition of vehicles on trains passing their stations. In the event of any defect or irregularity as referred to in sub-paragraph (i) above, being detected, immediately steps shall be taken to stop the train by showing danger signals. If the train cannot be stopped, the Station Master shall at once send "Stop and Examine Train" signal (000000-0) Six pause one to the Station Master of the Block station in advance and advise him by telephone why the signal was sent, under exchange of Private Numbers.

(iii) The Station Master sending the signal shall, if he considers it advisable, stop a train coming in the opposite direction, with a view to ascertaining whether, any injury to a passenger or damage to the train has been caused by the train for which the signal was sent.

(iv) The Station Master receiving the signal shall acknowledge it immediately and ascertain if the Station Master giving the message considers that the adjacent line or lines is/are likely to be fouled. In case the fouling of adjacent line/lines is/are considered likely, the Station Master receiving the message shall use all available means to stop the train in question and also any train proceeding by adjacent lines likely to be fouled. Till such time as the affected train which was likely to foul the adjacent line or lines, arrives complete at the station where the message was received by the Station Masters at either end of the block section, shall not allow any train by such adjacent line(s) in either direction. When the affected train has been stopped, it shall be carefully examined and dealt with as occasion may require.

(v) If, after examination of the train the reason for the signal is not apparent or there is a likelihood of a passenger having fallen down or some goods or materials having fouled or obstructed the railway lines, trains may be permitted to enter the section by the same or adjacent lines after advising the Loco Pilot of the circumstances and warning them through a Caution Order to proceed at a speed not exceeding 15 Kmph to the next Block station and to keep a sharp look-out for any possible obstruction. Issuing of Caution Order shall be discontinued only when it has been ascertained that the concerned block sections are free from obstructions.

(vi) If, however, the Station Master sending the signal notices, signals of alarm by a passenger in the passing train or goods falling off an open wagon or any other dangerous condition likely to have fouled or obstructed the railway line or lines of the section in rear also he shall, after taking action as per sub-paragraph (ii) above, use all means available to stop trains, if any, proceeding in the opposite direction toward the Block Station in rear by adjacent lines and send immediately "Obstruction Danger" signal to the Station Master of the Block station in rear to stop trains. If, any approaching train in the same direction either by the same line or adjacent lines. He shall then advise him by telephone why the signal was sent, under exchange of Private Numbers. Thereafter, trains may be permitted to enter the section by the same or adjacent lines after advising the Loco Pilot of the circumstances and warning them through a Caution Order in accordance with the procedure as mentioned in Sub-paragraph (v) above.

- (6) (c) *Train passed without Tail-lamp or Tail-board"* – This signal shall be sent to the Block station in advance should a train pass without a Tail-lamp which must be burning by night. The "Train out of Section" signal shall not be sent to the Block Station in rear, until advice has been received from the station in advance, that the train is complete.

(i) If after sending the signal the Station Master has reason to believe that a portion of the train is missing he shall immediately put or keep all Up and Down signals in the "ON" position. He shall use all means available to stop the first train running in the opposite direction the Loco Pilot of which shall be given a Caution Order containing instructions to keep a sharp look out for an obstruction on either line.

(ii) When the train has been stopped, the Station Master shall satisfy himself whether it is completed or not and shall advise the Station Master in rear accordingly. If the train is found to be complete and conditions under which "Train Out of Section" signal can be given, are prevailing. He shall signal "Train Out of Section". Before allowing the train to proceed he shall see that the last vehicle is indicated in one of the following ways prescribed in General Rule 4.16.

By day a tail lamp/tail board or red flag.

By night as well as in thick foggy or tempestuous weather during day a tail lamp or hand signal lamp showing red.

(iii) If the train is found to be incomplete, the "Train out of Section" signal shall be withheld. Normal working shall not be resumed until both Station Masters have satisfied themselves that the Block Sections concerned are clear.

(iv) Should the signal be received too late to stop the train the signal shall be forwarded immediately to the Block station ahead.

(6) (d) *"Train Divided"* – This signal (six pause three) is sent to the station in advance in case a train is seen to be running through a station in two or more parts.

(i) The Station Master receiving the signal shall after acknowledging it turn the commutator of his Block Instrument to "Train on Line" and take steps to stop the first part of the train. When the first portion of the train has been stopped and the Station Master is satisfied that it is divided he shall follow the procedure laid down in Subsidiary Rule 6.03.

(ii) When the remainder of the train has been brought into the station ahead and Guard of the same has certified in writing that no portion of the train is now in the section, it shall be coupled up to the first portion and the "Train out of section" (four beats-0000) signal given to the Block Station in rear, provided the conditions under which line clear may be given, have been complied with.

(iii) This signal shall also be sent to the station in advance should a train become divided when starting from a Block station and the Loco Pilot run on with the first portion leaving the rear portion stationary.

- (6) (e) *"Vehicles running away on wrong line"* – This signal (000000-0000) six pause four shall be sent when a train, portion of a train or a vehicle be proceeding on a wrong line. The Station Master sending the signal shall immediately put all his signals in the "ON" position and shall issue a Caution Order to the Loco Pilot of the first train going in the same direction (on the right line) mentioning the circumstances and instructing him to proceed cautiously.
- (i) The Station Master receiving the signal shall immediately endeavour to stop the runaway vehicles by diverting them into a siding. Where no siding is available or where this course would result in a serious accident, he shall cross the vehicles over to the right line, provided the Block Section on that line is clear.
- (ii) Station Master receiving the signal should also transmit the same to the station in advance. He should also take action for stopping the runaway vehicle.
- (iii) Should there be a train travelling towards the runaway vehicles on the same line all available measures shall be taken to stop the train.
- (6) (f) *"Vehicles running away on right time"* – This signal (000000-00000) six pause five shall be sent when a portion of a train or a vehicle is running away on the right line or when a train has entered a Block Section without authority. The Station Master sending the signal shall keep all signals in the "ON" position and use all measures available to stop any train entering the Block Sections between the Block Stations concerned whether on the line occupied by the runaway vehicles or on any other line in the occupied Block Section.
- (i) The Station Master receiving this signal shall also put or keep all signals in the "ON" position. Should the section which the runaway vehicles have entered, be already occupied by a train on the same line, the signals taken off shall be kept "OFF" until the train has passed them. The Station Master shall also use every means available to stop any train following the runaway vehicles or proceeding in the opposite direction.
- (ii) If the signal is received too late to take the action mentioned in the preceding clause the Station Master shall repeat it to the next station towards which the runaway vehicles are proceeding and should also take action for stopping the runaway vehicle.
- (7) **"Testing Signal"** – This signal is used by the Block Maintenance Staff to ascertain whether the Block Instruments etc. are in order and if shall be promptly repeated by Station Masters.
- (8) The Lock and Block instrument should be treated as defective and its working should be suspended under any of the following conditions –
- (i) The Last Stop Signal is not restored to 'ON' position automatically by the passage of the train.

(ii) If it is found possible to take off the last Stop Signal without obtaining the "Line Clear" indication on the instrument.

(iii) If the Block Instrument Commutator could be turned from 'TOL' to 'Line Clear' position without the arrival of the train.

(iv) When the Block Instrument shows erratic movements of the indicators or is defective in any other way.

3.04. Failure of Electrical Block and Speaking Instruments. – In the event of failure of the Block and Speaking Instruments trains shall be signalled in accordance with rules laid down below -

(a) *Should the Block Instrument fail* – The block Bell shall only be used for sending the "Call Attention" signal. All signals in connection with the passing of a train shall be given by telephone. The "Line Clear Advice" obtained on phone or by any other means of communication shall be confirmed by an exchange of Private Numbers.

(b) *Should the Block Bell fail* - The Block Instruments shall be put out of use and the Station Master shall inform the Controller who will advise the station concerned to attend the telephone and trains shall be passed as prescribed in paragraph (a).

(c) *Should the Direct telephone communication also fail* –

(i) Should the direct telephone communication also fail all messages for passing trains shall be transmitted through Control telephone and Line Clear will be obtained and given through Control phone after exchange of Private Numbers.

(ii) The Station Master asking Line Clear from the Station Master at the other end of the Block Section will indicate the departure time from this station of the last two preceding trains, Similarly, the Station Master who will grant Line Clear, shall give to the Station Master asking Line Clear, the arrival time at his station of the last two preceding trains.

(iii) Thereafter, Line Clear shall be asked and given after due exchange of Private Numbers.

(iv) Section Controller should ensure that the Station Master at either end shall, before asking and granting "Line Clear" repeat the arrival and departure timings of the last two preceding trains. He should also check correctness of the particulars to ensure that correct stations are contacted and record on his control chart the Private Numbers exchanged between the stations concerned. The Station Masters concerned shall, however, be entirely responsible for safety of trains.

(d) *Should all means of communication fail* – All messages for passing trains shall be transmitted through the VHF sets, if provided, and trains shall be passed as prescribed in paragraph (c).

Note – VHF should also be taken as an available means of communications for train passing work which is detailed in Appendix – B of this Manual.

3.05. Rules and Regulations for working of trains during total interruption of Communications on double line section –

1. In the event of total interruption of communications occurring between two stations on a double line section i.e. when "Line Clear" cannot be obtained by anyone of the following means stated in order of preference viz.

- (a) Block Instruments; Track circuits or Axle Counters;
- (b) Telephones attached to the Block Instruments;
- (c) Stations to Stations fixed Telephones wherever available;
- (d) Fixed Telephones such as Railway Auto Phones, BSNL Phones under special instructions. (i.e. "Line Clear" shall be obtained with identification number separately for each train as detailed in Appendix – "A" of BWM).
- (e) Control Telephone;
- (f) V.H.F. sets under special instructions, but not as sole means of communication on sections where Passenger trains run.

Provided further that –

- (A) The order of preference, as mentioned above, should not be violated under any circumstances. Any violation should be treated with utmost severity for taking up the defaulters.
- (B) In case of failure of all other means of communication, leaving VHF as the only alternative, it can be used for line clear only under special instructions specifying the circumstances, duration and manner in which VHF will be used till restoration of any one of the other means of communication.

The use of VHF sets for prolonged duration will be permitted only in presence of supervisory staff in terms of the following instructions –

- i. In a single line station, in case of any defect in block instrument whereby paper line clear ticket has to be introduced, SSE/JE (S&T) should reach the station immediately, within one hour of occurrence of such failure.
- ii. In case the failure is not rectified within three hours, the Sectional TI or any other nearby supervisory Station Master should go to the station for assisting the staff there and to ensure that all rules are meticulously adhered to and appropriate authority for each and every train issued, taking care that there are no mistake.
- iii. In such incidents, Section Controller should also ensure that no crossing or precedence is arranged at a station where such failure is continuing.
- iv. Similar precaution to be taken during introduction of single line working in double line sections.
- v. In case of failure of block instruments in double line section, similar action should be taken for rectifying the failure in three hours. Section Controller should not allow precedence at such stations till the Instruments are put right.
- vi. Further, in case the senior supervisors mentioned above do not reach the station where such failure occurred within the stipulated period and if there is mishap, they should be held equally responsible for the same. In case, the non-attendance is due to orders of the Superiors, the Superiors even of officers level should be held accountable.

This procedure should be introduced immediately. The speed restriction of 30 Kmph wherever being imposed on this account should be discontinued.

A speed restriction of 30 kmph be imposed additionally if working train on PLC exceeds duration of 24 hrs. of PLC working introduction. (Authority : Rly. Board's Letter No. 2005/Safety (A&R) / 19/16 dated : 16/10/2007)

- (C) VHF sets can, however, be used as the only means of communication, under separate special instruction, for specific sidings / sections where only freight trains are running.
- (D) In all cases where line clear is obtained / granted by a means of communication other than Block Instrument / Track Circuit / Axle Counter or telephone attached to Block Instrument, the system of calling station name, followed by establishing identity of the Station Master on duty by either cross checking by Private Numbers given for line clear to preceding three trains, or identification number sheet should be prescribed.
- (E) Further, wherever Global System of Mobile Radio has been / is being provided, the use of VHF sets for the purpose of line clear should not be permitted.

The following procedure shall be adopted for train passing.

2. Before any train is allowed to enter a block section in advance, it shall be brought to a stop and the Loco Pilot and the Guard of the train shall be advised of the circumstances by the Station Master on duty.
3. The Station Master shall give an authority for working of trains during total interruption of communication on double line section to the Loco Pilot of each train on Form T/C 602 which shall include :-
 - (a) An Authority for working of trains during Total Interruption of Communication on Double line Section on Form T/C 602.
 - (b) A caution order restricting the speed to 25 kilometres per hour over the straight and to 10 kilometres per hour when approaching or passing any portion of the line where the view ahead is not clear due to curve, obstruction, rain, fog or any other cause.
 - (c) An authority to pass the last Stop signal in the 'On' position.
4. In the event of a Loco Pilot approaching or passing any portion of the line where the view ahead is not clear, a railway employee with hand signals must be sent in advance to guide the further movement of the train. A sharp look out ahead should be kept and the engine whistle freely used.
5. No train shall be allowed to enter the block section until there is a clear interval of 30 minutes between the train about to leave and the train which has immediately preceded.
6. Fixed signals with the exception of the Last Stop signal may be "taken off" for the reception and departure of trains. The First Stop signal shall, however, be "taken off" only after the train has been brought to a stand outside it.
7. A tunnel should be entered only after it has been ascertained that it is clear. If there is any doubt on this point, the train should be piloted by a railway employee equipped with hand signals and detonators.
8. The Guard shall keep a sharp look out in the rear and be prepared to exhibit a hand danger signal to prevent the approach of a train from the rear and to protect it if necessary.
9. When a train stopped in the block section the Guard shall immediately exhibit a hand danger signal towards the rear and check up that the tail board or the tail

light is correctly exhibited. If the stoppage is on account of accident, failure, obstruction or other exceptional cause and the train cannot proceed, the Loco Pilot shall sound the prescribed code of whistle to apprise the Guard of the fact, where upon the Guard shall protect the train by placing one detonator at 250 metres from the train on the way out and two detonators, 10 metres apart, at 500 metres from the train, irrespective of the gauge. When a train is detained outside signals and if the detention exceeds or is likely to exceed 10 minutes it shall also be protected accordingly. In the absence of the Guard, the duty of protecting the train shall devolve on the Loco Pilot.

10. No train shall be backed. In exceptional circumstances when it may be unavoidable to back a train, the train shall be backed only after providing protection by placing one detonator of 250 metres and two detonators, 10 metres apart, at 500 metres in rear of the point up to which the train is to be backed.
11. Before entering a tunnel, the head lights, side and tail lights and other lights (where provided) shall also be lit.
12. When approaching the station ahead, the Loco Pilot must bring his train to a stop outside the first Stop signal and sound continuous whistle (or any other code prescribed by special instructions), if no one from the station turns up within 10 minutes the train shall be protected as per para 9 above and the Loco Pilot may send his Assistant Loco Pilot immediately thereafter, to the station or the cabin to inform the Station Master or Cabin man of the fact that the train is waiting at the signal for its admission into the station. In the absence of the Assistant Loco Pilot, the Guard, after protecting the train, shall give this information.
13. The Loco Pilots of all trains shall make over the "Authority for working of trains during total interruption of communication" on Double Line Section on Form T/C 602 to the Station Master of the station at the other end of the affected section. These shall be kept by the Station Master in his safe custody for inspection by the Transportation Inspector of the section, who shall prepare a report on the working of trains and shall forward the same along with his report to the Divisional Railway Manager within 7 days of resumption of communications.
14. A record of all trains passed over the block section on "Authority for working of trains during total interruption of communication" on Double Line Section on Form T/C 602 during the course of total interruption of communications, shall be maintained on the Train Signal Registers at both the stations concerned.
15. Trains must continue to work on this system until any one of the means of communications, mentioned in rule (1) above is restored by the competent authority.
16. As soon as any one of the means of communications has been restored, the Station Master must send a message to the Station Master at the other end of the section on the "Message on Restoration" on T/I 602 form.
17. "Line Clear" shall not be obtained or given by means of communications restored until both the stations are satisfied that all trains and engines etc. dispatched from their stations have arrived complete at the other station. When the trains referred to in paragraph (16) above arrive complete at the stations, after "restoration of communication", their No. and their arrival time will be communicated to the other Station Master concerned under exchange of Private Numbers. There after an intimation about this shall be given to Section Controller also, on controlled sections, if communication with the Section Controller has also got

restored and normal working resumed. If however, communication with Section Controller has not got restored along with restoration communications between two stations. The Section Controller shall be advised of the position immediately on restoration of communication with him.

3.06. Reporting of Failures –

- (a) All failures of Electrical Block and Electrical Speaking Instruments or any Electrical Signalling Apparatus shall be reported to the following persons by message –

Divisional Railway Manager;

Divisional /Assistant signal and Tele-communication Engineer;

SSE (S&T) or his assistant;

Transportation Inspector (Movement).

- (b) The Station Master shall record details of all failures in the Block Failure Register maintained at his station.
- (c) When a failure has been rectified, the SSE (S&T) or his authorized representative shall certify to that effect in the column provided in the Block Failure Register.

3.07. Obstruction of the Block section – No obstruction of the Block Section shall be allowed to take place under any circumstances without the permission of the Station Master controlling the section having been first obtained.

3.08. Thick, foggy or tempestuous weather – Drawing of a train, waiting for an “Authority to Proceed”, up to a Starter in an advanced position or up to an Advanced Starter is totally prohibited under the following conditions:

- (i) In thick, foggy or tempestuous weather impairing visibility even if track circuits or Axle Counters indicate the presence of the train in the advanced position, and
- (ii) At night when track circuits and Axle Counter have failed to indicate the presence of the train in the advanced position.

3.09. Train Signal Register –

- (a) The exact time at which all signals are sent or received and also Private Numbers when used shall be entered, immediately after being acknowledged in the Train Signal Register by the Station Master on duty.
- (b) The entries shall be in ink and no erasures shall be made in any circumstances. If an incorrect entry is made, a line shall be drawn lightly through it and the correction made above it and initialed so that the original entry may be clearly seen.
- (c) The Train Signal Register is on no account to be taken out of the Block Cabin. It shall be examined and signed daily by the Station Master. The only exception to this rule is when an accident has occurred under which circumstances the register may be removed for safe custody by the Station Master or by an Inspector after a new register has been brought into use.

- (d) The Train signal Register shall also be scrutinized by the Transportation Inspector (Movement), who shall place his initials against such portions of the register as he has examined.

3.10. Station Masters changing duty.–

- (a) The Station Master who makes any entry for a train shall continue on duty until all the entries affecting that train are completed. By this it shall be understood that the man who gives permission for the train to enter the Block Section shall remain on duty till the train has arrived and the "Train out of Section" signal has been given and acknowledged. The man who receives permission for the train to enter the Block Section shall remain on duty till the "Train out of Section" signal has been received and acknowledged.
- (b) In the case of a train working in the Block section and in exceptional circumstances like accidents engine failure, OHE failures when abnormal delay to the train is apprehended sub-rule (a) need not be observed, but the fact shall be recorded in the remarks column of the Train Signal Register by the Station Master going off duty who shall be responsible for seeing that the entry is initiated by the Station Master coming on duty.
- (c) A line shall be drawn across the Train Signal Register whenever a Station Master changes duty and the Station Master going off duty shall sign his name legibly and enter the time above the line. The Station Master coming on duty shall sign his name below the line.

3.11. Custody of keys of points. – At stations where there is no locking between the points and signals the keys of points which connect with a running line shall be kept in the custody of the Station Master or some Railway servant appointed in this behalf and the Station Master shall not give permission for a train to approach or leave unless he has satisfied himself that the point connecting with the line on which the train is to be received or dispatched are correctly set.

II – "A" CLASS STATIONS

3.12. Conditions under which line clear may be given – (GR 8.02). The line shall not be considered clear, and line clear shall not be given unless –

- (a) The whole of the last preceding train has arrived complete;
- (b) All signals have been put back to "on" behind the said train;
- (c) The line on which it is intended to receive the incoming train is clear up to the Starter; and
- (d) All points have been correctly set and all facing points have been locked for the admission of the train on the said line.

3.13. Obstruction when train is approaching – (GR 8.05) – When line clear has been given, no obstruction shall be permitted outside the Home signal, or on the line on which it is intended to admit the train, up to the Starter pertaining to the line on which the train is to be received.

- 3.14.** At 'A' Class stations on the Double line where Advanced Starters are not provided and except where special instructions are issued to the contrary, if "Line Clear" has been given to the station in rear when the Block section in advance is obstructed, all signals shall be kept at danger and the train must be brought to a stop at the Home signal, then only it shall be taken off to allow the train to draw up to the Starter. Should however, the Block Section in advance be cleared before the train for which "Line Clear" has been given has arrived at the Home Signal/Signals may be taken off in the usual manner.
- 3.15. Refusing "Line Clear"** – If a station receives the "Is Line Clear" signal and is not in a position to accept the train, the "Is Line Clear" Signal shall be answered as per procedures prescribed in sub-paragraphs (I) & (ii) of paragraph. 3.03(2). The time that the "Obstruction Danger" signal is sent and received shall be entered in the Train Signal Register at both stations.
- 3.16. "Train Entering Section"** – The "Train Entering Section" signal shall be sent as soon as the train or a part of the train passes the last Stop signal.
- 3.17. "Train on Line" –**
- (a) This indication on the lock Instrument is preceded by the prescribed Bell code signal of four beats and shall be sent in acknowledgement of the Train Entering Section signal received from the station in rear.
 - (b) If the Station Master finds his Block Instrument still showing "Train on Line" after the lapse of the full running time of the train plus five minutes he shall take steps to ascertain from the Station Master in advance the cause of the delay in giving the "Train out of Section" signal. Failing any response from the Station Master in advance the matter shall be reported immediately to the Controller.
- 3.18. "Train out of Section"** – The "Train out of section" signal shall not be sent until –
- (i) The train has passed the Starter or there is a line which is clear up to the starter, the facing points of which have been correctly set and locked;
 - (ii) The Station Master has satisfied himself that the whole train has arrived complete; and
 - (iii) All signals protecting the rear of the train have been put back to "ON".
- 3.19. Obstruction in rear of Starter when Block section is clear – G.R. 8.06 (2) –**
- (a) If when the Block section in rear is clear, it becomes necessary to obstruct the line outside the Home signal or between the Home and the Starter the line shall be blocked back.
 - (b) The following is the method to be followed for blocking back – if "Line Clear" has not been given for a train to approach, the Station Master of the station wanting to "Block Back", shall telephone to the next station in rear as follows :-

 "I am blocking section back for shunting purposes. Private Numbers
"
- The Station Master receiving this advice shall acknowledge it as follows –
- "I note the section is to be blocked back for shunting purposes. Private Numbers....."

The Station Master at the shunting station shall then turn the needle of his Block Instrument to "Train On Line".

As soon as the Block section is cleared, the station blocking back shall advise the station in rear as follows –

"Shunting has been completed. Block section is clear. Private Numbers
....."

The Station Master in rear shall reply as follows –

"I note shunting has been completed and Block Section is clear. Private Numbers....."

The Station Master at the station blocking back shall then turn the needle of his Block Instrument to "Line Closed" position.

- (c) The time at which each of the above mentioned messages are exchanged shall be entered in the Train Signal Registers at both stations separately for each message.

3.20. Obstruction outside last Stop signal when Block Section is clear – [G. R.8.06 (3)] – If when the Block section in advance is clear, it becomes necessary to obstruct the line outside the last Stop signal –

- (a) either a shunting arm (which may for this purpose be provided on the post of the last Stop signal) shall be taken off or a written permission to shunt on (Form T/806) be given to the Loco Pilot; and
- (b) the line shall be blocked forward.

3.21. Blocking Forward – The following is the method of blocking forward

- (a) The Station Master shall telephone to the next station in advance as follows –

"I am blocking section forward for shunting purposes Private Numbers
....."

The Station Master receiving this advice shall acknowledge it as follows –

"I note that you are blocking section forward for shunting purposes. Private Numbers....." and shall then turn the needle of the Block Instrument to "Train on Line" position.

- (b) If the section is occupied by a train proceeding to the next station shunting may be performed without blocking forward, but should the section be cleared while shunting is still in progress the section shall be blocked forward as above.
- (c) As soon as shunting has been completed and the Block section is cleared the station performing shunting shall telephone to the station in advance as follows-

Shunting has been completed. Remove Block;

Private Numbers....."

The Station Master in advance shall reply as follows –

"Block removed. Private Numbers" and shall turn the needle of his Block Instrument to "Line Closed" position.

- (d) The times at which each of the above mentioned messages are exchanged shall be entered in the Train signal Registers at both stations separately for each message.

3.22. The last stop signal is interlocked electrically with the Block Instruments and an electric lock is provided inside the Block Instrument on Commutator. The operation of the last stop signal and Block Instrument Commutator are described below :-

- (a) *Control on the Last Stop Signal* –
 - (i) The last stop signal shall be so controlled that it cannot be taken "off" until the Block Station in advance is signalled "Line Clear" on the Block Instrument.
 - (ii) The lever/switch button is free and the signal can be put back to "on" any time.
- (b) *Lock on the Block Instrument* – The Block Instrument Commutator is locked when turned to indicate "Train On Line" after the passage of train over treadle/track circuit/axle counter placed in advance of Last Stop Signal and the signal goes back to "ON" position for which "Line Clear" has previously been signalled. The commutator remains locked in that position until –
 - (i) The train has operated a treadle/track circuit/axle counter placed in advance of Home Signal at receiving station.
 - (ii) The Home Signal Lever has been put back to "Normal" position.
 - (iii) The whole of the train has cleared the first facing point fully.

3.23. Release Plungers – These are only provided at stations having back shunt dead end siding. In the Station Master's Office, there are two Release Plungers and two Bells (one Plunger and one Bell referring to the Up line and the other Plunger and Bell referring to the Down line). Each plunger works a counter which records the number of times the Plunger has been operated. In the Signal cabin are located two Bells and two sets of press Buttons, each set consisting of two buttons one marked "Release" and the other Bell one set of Press Buttons and one Bell refer to the Up line and the other see an bell to the Down line.

3.24. Use of Release Plungers- The circumstances under which the release the Block Instrument Commutator may be effected by means of the Release Plungers are as under :-

- (a) When a train has been shunted for precedence to enable a following train to pass and consequently the Treadle/Track Circuit in advance of the last Stop Signal has not been operated.
- (b) When a train has proceeded and the Treadle Track circuit failed to operate.

Note : Failure of the treadle will be indicated by –

- (i) the sound resulting on operation of the treadle being not audible, and

- (ii) the commutator of the Block Instrument getting locked in the "Train on Line" position.

3.25. Method of operating Release Plungers – When a train has been shunted or a Treadle/Track circuit has failed the person operating the Block Instrument presses the button marked "Bell" (Up or Down as the case may be) to call the Station Master's attention. The Station Master having satisfied himself by personal inspection that the line is clear for a following train, signals protecting the rear are in "On" position and points are correctly set presses the corresponding Release Plunger to its full extent and holds it for about ten seconds. This action rings the bell in the cabin and the person operating the Block Instruments shall immediately press the button marked "Release" at the same time turning the Block Instrument Commutator to "Line Closed" the combined action having released the Block Instrument.

3.26. Record of operations –

- (a) A record shall be maintained by the Station Master every time the Release Plungers are used. This record shall include–
 - (i) The number of the train in serial number which did not operate the Treadle/Track circuit in consequence of being shunted or through failure of the Treadle/Track circuit.
 - (ii) time used.
 - (iii) The number appearing on the counter after the operation of the Release Plunger.
 - (iv) Brief remarks as to the circumstances which necessitate the operation of the Release Plunger.
 - (v) Signature of the Station Master.

This record shall be entered in a book especially set apart for the purpose.

- (b) The person operating the Block Instruments in the cabin will likewise record the operation by making a remark in the Remarks Column of the Train Signal Register as follows –

"Release Plunger" operated by S. M. at..... hours..... minutes.

Reasons for operating the Plunger should also be clearly recorded.

These records must be inspected by the Transportation Inspectors, during the course of inspections.

3.27. Failure of Treadles/Track circuit- At stations where Release Plunger are not provided the following shall be the procedure –

- (a) The Station Master on finding that his Treadle/Track circuit has failed shall inform the station in rear of the fact by telephone and exchange Private Numbers with him. The Station Master in rear shall ask for the obtain "Line Clear" for the next train on the block bell after previously obtaining a Private Numbers from the station in advance. The Private Numbers shall be recorded in the Train Signal Registers against the train in question at both stations.
- (b) The Station Master in rear shall then issue (Form T/369-3b) to the Loco Pilot of the train as an authority to pass the Stop Signal in the "On" position

III – “B” CLASS STATIONS

3.28. Conditions under which line clear may be given- [(G. R. 8.03 (i))] – The line shall not be considered clear, and Line Clear shall not be given unless,

- (a) the whole of the last preceding train has arrived complete;
- (b) all necessary signals have been put back to 'on' behind the said train; and
- (c) the line is clear –
 - (i) at stations equipped with two aspect signalling up to the Home signal or
 - (ii) at stations equipped with multiple-aspect signalling or modified lower quadrant signalling –
Up to the outermost facing points or the Block Section Limit Board (if any).

3.29. Obstruction when train is approaching- (G.R. 8.05) – When Line Clear has been given, there shall be no obstruction of the line outside the Home signal but shunting between the Home signal and the last Stop signal of the station may go on continuously, provided the necessary signals are kept at “On”.

Note : When Line Clear has been given for a train, no obstruction of the line between the Home signal and the last Stop signal of the stations shall be permitted under the provisions of paragraph 3.29 above in thick, foggy or tempestuous weather, impairing visibility.

3.30. Refusing “Line Clear” – If a station receives the “Is Line Clear” signal and is not in a position to accept the train, the “Is Line Clear” signal shall be answered by sending the refusing line clear signal (six beats) without putting the Block Instrument needle to “Train on Line”. The time that the refusing line clear signal is sent and received shall be entered in the Train signal register.

3.31. “Train Entering Section” – the “Train Entering Section” signal shall be sent to the station in advance as soon as the train passes the last Stop signal.

3.32. “Train on Line” –

- (a) This indication on the Block Instrument is preceded by the prescribed Bell Code signal and shall be sent in acknowledgement of the “Train Entering Section” signal received from the station in rear.
- (b) If the Station Master finds his Block Instrument still showing “Train On Line” after the lapse of the full running time of the train plus ten minutes for passenger train and 20 minutes for Goods trains he shall take steps to ascertain from the Station Master in advance the cause of the delay in giving the “Train out of Section” signal. If there is no response from the Station Master in advance the matter shall be reported immediately to the Controller. Station Master will also ensure that no train is allowed to enter the section which is not clear. He will also ask Station Master in advance if he has initiated action as per GR and SR 6.04 for a train being over due.

3.33. “Train out of Section” – The “Train out of Section” signal shall not be sent until –

- (1) the train has passed the Home signal or any other signal where block section terminates.
- (2) the Station Master has satisfied himself that the train has arrived complete;

- (3) all signals have been put back to "On" behind the said train.

3.34. Obstruction outside Home signal when Block section is clear. – (G.R. 8.06)

- (a) If, when the Block section in rear is clear, it becomes necessary to obstruct the line outside the Home signal, the line shall be blocked back.
- (b) The following is the method of blocking back – If "Line Clear" has not been given for a train to approach the Station Master of the station performing shunting shall telephone to the next station in rear as follows-

"I am blocking section back for shunting purposes

Private Numbers.....".

The station Master receiving this advice will acknowledge it as follows –

"I note the section is to be blocked back for shunting purposes.

Private Numbers.....".

The Station Master performing shunting shall then turn the needle of his Block Instrument to "Train on Line".

As soon as the Block Section is cleared the station Master performing shunting shall advise the station in rear as follows –

"Shunting has been completed. Block section is clear.

Private Numbers....."

The Station Master in rear shall reply as follows –

"I note shunting has been completed and Block section is clear.

Private Numbers....."

The Station Master at station at which shunting was being performed shall then turn the needle of his Block Instrument to "Line Closed" position.

- (c) The times that the above messages, signals and Private Numbers are sent shall be entered in the "Train Signal Registers" at both stations separately, immediately after sending the message, signal or Private Numbers as the case may be.

3.35. Obstruction beyond the Last Stop signal when Block section is clear. – [G.R. 8.06 (3), 8.15] If when the Block section in advance is clear, it becomes necessary to obstruct the line outside the last Stop signal –

- (a) either a shunting arm (which may for his purpose be provided on the post of last stop signal) shall be taken "off" or a written permission to shunt on Form T/806 shall be given to the Loco Pilot and the block instrument of the section concerned should be put on "Train On Line" position.
- (b) the line shall be blocked forward.

3.36. Blocking Forward – The following is the method of blocking forward –

- (a) The Station Master shall telephone to the station in advance as follows-

"I am blocking section forward for shunting purposes.

Private Numbers....."

The station Master receiving this advice shall acknowledge it as follows-

"I note you are blocking section forward for shunting purposes.

Private Numbers....." and shall then turn the needle of the Block Instrument to "Train on Line".

- (b) If the section is occupied by a train proceeding to the next station shunting may be performed without blocking forward but should the section be cleared while shunting is still in progress the section shall be blocked forward as above. This should not be done if there is a falling gradient from the block section towards the station.

- (c) As soon as shunting has been completed and the Block section is cleared the shunting station shall telephone to the station in advance as follows –

"Shunting has been completed. Remove Block. Private Numbers....."

The Station Master in advance shall reply as follows –

"Block removed. Private Numbers....."

and shall turn the needle of his Block Instrument to "Line Closed".

- (d) The times that the above messages, signals and Private Numbers are sent shall be entered in the Train signal Registers at both stations separately immediately after sending the message, signal or Private Numbers as the case may be.

Additional rules and regulations applying to stations at which the Block Instruments and signals are interlocked.

3.37. At such stations Electric locks are provided on the last Stop signal lever and on the Block Instrument Commutator. The operation of the locks is described below –

- (a) *Lock on the last Stop signal –*

- (i) The last Stop signal lever is locked in the normal or "On" position and the signal cannot be taken "Off" until the Block Station in advance has given "Line Clear" on the Block Instrument following prescribed procedure –
- (ii) The lever is free in the reverse or "Off" position and the signal can be put back to "On" at any time.
- (iii) The signal once it has been "taken off" and put back to "On" cannot be "taken off" again for the same "Line Clear" nor can it be "taken Off" for a subsequent "Line Clear" unless "Train On Line" indication has been signalled previously by the station in advance.

- (b) *Lock on the Block Instrument –* The signal, once it has been "taken Off" and put back to "On" should not be "taken off" again for the same "Line Clear" nor should it be "taken Off" again for a subsequent "Line Clear" unless the Block Station in advance turns his Commutator cautiously to "Line Closed" and then gives a fresh "Line Clear" or grants a "Line Clear" after a "Train On Line" has been signalled previously.

3.38 Failure of Treadles/Track circuit –

- (a) The Station Master on finding that Treadles has failed shall inform the station in rear of the fact by telephone and exchange Private Numbers with him. The Station Master in rear shall ask for/and obtain "Line Clear" for the next train on the Block Bells after obtaining a Private Numbers from the station in advance. The Private Numbers shall be recorded in the Train Signal Registers against the entries of train in question at both stations.
- (b) The Station Master in rear shall then issue Form T/369(3b) to the Loco Pilots of the train as an authority to pass the last Stop signal in the "On" position.

IV – "C" CLASS STATIONS

3.39. Conditions of granting Line Clear – (GR 8.04) – The line shall not be considered clear and line clear shall not be given, unless –

- (a) the whole of the last preceding train has passed complete at least 400 metres beyond the Home signal and is continuing its journey; and
- (b) all signals taken "off" for the preceding train have been put back to "on" behind the said train.

3.40. Refusing "Line Clear". – If a station receives the "Is Line Clear" signal and is not in a position to accept the train, the "Is Line Clear" signal shall be answered as per procedures prescribed in sub paras (i) & (ii) of Para 3.03(2). The time that the "Obstruction Danger" signal is sent and received shall be entered in the Train Signal Register.

3.41. "Train Entering Section" – The "Train Entering Section" signal shall be sent as soon as the train passes the last Stop signal of the station.

3.42. Train on Line. –

- (a) This indication on the Block Instrument is preceded by the prescribed Bell Code signal (three beats) and shall be sent in acknowledgement of the "Train Entering Section" signal received from the station in rear. The Station Master receiving the train on line signal will also turn his Commutator to "Train On Line" position.
- (b) If the Station Master finds his Block Instrument still showing "Train on Line" after the lapse of the full running time of the train plus five minutes he shall take steps to ascertain from the Station Master in advance the cause of the delay in giving the "Train Out of Section" signal. Failing any response from the Station Master in advance, the matter shall be reported immediately to the Controller. Action as per GR/SR 6.04 shall also be taken.

3.43. "Train Out of Section".- The "Train Out of Section" signal shall not be sent until –

- (i) The whole of the last preceding train has passed complete at least (400 metres) beyond the Home signal and is continuing its journey; and
- (ii) All signals taken off for the said train have been put back to 'on' behind it.

3.44. Blocking Back and Blocking Forward – Blocking back and blocking forward are never necessary at “C” class station. At such stations action as details below shall be taken by the Station Master when the stations in advance and rear are either “A” or “B” class and desire to block back or block forward for shunting purpose –

(a) In the case of the station in advance desiring to block back he shall telephone to the “C” class station in rear as follows –

“I am blocking section back for shunting purposes.
Private Numbers.....” and the “C” class station receiving this advice shall acknowledge it as follows.

“I note the section is to be blocked back for shunting purposes.
Private Numbers.....”

The Station Master at the shunting station shall then turn the needle of the Block Instrument to “Train On Line”.

As soon as the Block Section is cleared the shunting station shall advise the “C” class station in rear as follows –

“Shunting has been completed. Block section is clear.
Private Numbers.....”

The “C” class station in rear shall reply as follows –

“I note shunting has been completed and block section is clear.
Private Numbers.....”

The Station Master at the shunting station shall then turn the needle of the Block Instrument to “Line Closed” position.

The times that the above message, signals and Private Numbers are sent shall be entered in the Train Signal Registers at both stations, separately and immediately after each operation.

(b) In the case of the station in rear desiring to block forward he shall telephone to the “C” class station in advance as follows –

“I am blocking section forward for shunting purposes.
Private Numbers.....”

The “C” class station receiving this advice shall acknowledge it as follows –

“I note you are blocking section forward for shunting purposes.
Private Numbers.....”

and shall then turn the needle of the Block Instrument to “Train On Line” position .

As soon as shunting has been completed and the Block Section is cleared the shunting station shall advise the “C” class station in advance as follows –

“Shunting has been completed. Remove Block.
Private Numbers.....”

The "C" class station in advance shall reply as follows-

"Block removed. Private Numbers....." and shall turn the needle of his Block Instrument to "Line Closed" position.

The times that the above messages, signals and Private Numbers are sent shall be entered in the Train Signal Registers at both station separately and immediately after each operation.

3.45. Additional rules and regulations applying to stations at which the Block Instrument and Signals are interlocked.

At such stations electric locks are provided on the last Stop signal lever and on the Block Instrument Commutator. The operation of the locks is described below –

(a) Lock on the last Stop signal –

- (i) The last Stop signal lever is locked in the normal or "On" position, and the signal cannot be taken "off" until the Block station in advance has signalled "Line Clear" on the Block Instrument.
- (ii) The lever is free in the reverse or "off" position and the signal can be put to "ON" at any time.
- (iii) The signal once it has been taken "off" and put back to "ON" should not be taken "off" again for the same "Line Clear", nor should it be taken "off" again for a subsequent "Line clear" unless the block Station in advance turns his Commutator cautiously to "Line closed" and then gives a fresh "Line Clear" or grants a "Line Clear" after a "Train on line" has been signalled previously.

- (b) Lock on the Block Instrument –** The Block Instrument Commutator is locked when turned to indicate "Train on Line" provided that "Line Clear" has previously been signalled. The Commutator remains locked until the train for which "Line Clear" and "Train On Line" were signalled has operated a Treadle placed in advance of the Home signal and the Home signal lever has been returned to the normal or "ON" position.

3.46. Failure of Treadles/Track circuit –

- (a) The Station Master on finding that his Treadle has failed shall inform the station in rear of the fact by telephone and exchange Private Numbers with him. The station Master in rear shall ask for and obtain "Line Clear" for the next train on the Block bells after previously obtaining a Private Numbers from the station in advance. The Private Numbers shall be recorded in the Train Signal Registers against the train in question at both stations.
- (b) The Station Master in rear shall then issue form T/369(3b) to the Loco Pilot of the train in question as an authority to pass the last stop signal in the "on" position.

3.47. (A) Rules and regulations for single line working on a double line section when one line is obstructed. –

1. Whenever an accident to a train or track or other obstruction precludes the use of one of the lines on a double line section, the traffic may temporarily be worked over single line under one of the following systems –
 - (a) By obtaining "Line Clear" on electric speaking instruments.
 - (b) By the installation of single line Block instruments and Shunting Limit Board demarcating the block section in the wrong direction, if the affected line is likely to remain out of use for a substantial period.
2. When it is desired to introduce temporary single line working on double line, on electric speaking instruments, the Station Master at one end of the affected section shall on receipt of reliable information in writing that one line is clear, take steps to introduce temporary single line working on that line in consultation with the Section Controller and the Station Master of the station at the other end of the section.
3. If there is reason to suspect that the line over which temporary single line working is to be introduced, is also fouled or damaged, temporary single line working must not be introduced until a responsible engineering official of the rank not less than that of an Inspector has inspected that section and certified that the road is safe for the passage of trains.
4. Single line working shall be introduced between the nearest stations provided with cross-over between Up and Down lines on either side of the obstruction. If there is an Intermediate Block Hut between the above two stations, the same shall be treated as closed and the Commutator of the Block Instrument at such Block Huts shall be kept locked in "Train On Line" position throughout the period single line working is in force. The Commutator shall be locked also in that position with SM's key, wherever possible. In cases where it is not possible to keep the commutators in "Train On Line" position, as in Daido Instruments the Block Instruments shall be put out of use and Caution Indicator hung on the handle of the Block Instruments. The signals at such Block Huts shall be kept in the "ON" position throughout and these shall be passed by the Loco Pilots on a written authority in the prescribed form issued by the Station Master of the adjoining block station in operation.
5. All trains will be worked in accordance with the rules for the use of electric speaking instruments on single line and "Line Clear" shall be obtained on the telephone attached to Block Instrument or Control Telephone or VHF set.
6. At all stations on the portion of the section on which single line working has been introduced, the Commutators of the Block Instruments pertaining to both obstructed and un-obstructed lines shall be kept in "Train On Line" position throughout the period single line working is in force. The Commutators shall be locked also in that position with SM's

- key, wherever possible. In cases where it is not possible to keep the Commutators in "Train On Line" position as, in Daido Instruments, the Block Instruments shall be put out of the use and Caution Indicator hung on the handle of the Block Instruments. At these stations, if the train is running on the wrong line, all fixed signals shall be kept in the "ON" position.
7. After ascertaining that one of the lines is clear for passage of traffic, the Station Master proposing single line working shall issue a message containing the following information under exchange of Private Numbers to the Station Master of the other end of the affected section.
 - (a) cause of introduction of single line working;
 - (b) the line in which single line working is proposed;
 - (c) source of information that the said line is clear;
 - (d) place of obstruction;
 - (e) restriction of speed, if any, on the line;
 - (f) names of intermediate stations, if any, which would be out of use.
 - (g) assurance that the trap points, if any, have been spiked or clamped and padlocked;
 - (h) assurance that if the train is running on the right line, the last Stop signal shall be kept in the "ON" position. In case the train is running on the wrong line, all fixed signals shall be kept in the 'on' position; and
 - (i) the number and timings of the last train which arrived or left the block station issuing the message.
 8. On receipt of acknowledgement from the Station Master, confirmed by a Private Numbers single line working may be introduced, "Line Clear" will be obtained on telephone attached to Block Instruments or Control Telephone or VHF set or any two way communication system set, and trains run on Paper Line Clear Ticket. In accordance with the instructions contained in the GR book and BWM.
 9. Loco Pilot of each train shall be handed over an Authority for Temporary Single Line Working on Double Line Section indicating :-
 - (i) the line on which the train or light engine is to run;
 - (ii) the kilometrages between which the obstruction exists;
 - (iii) any restriction of speed which may have been imposed by way and works staff; and
 - (iv) an assurance to the effect that any trap points on the line in question have been spiked or clamped;

- (v) authority to pass the last Stop signal in the 'On' position. In case the last Stop signal is the Starter, in addition to the written authority, he shall also be shown hand signals at the foot of this signal.
10. An endorsement will also be made in the Caution Order given to the Loco Pilot of the first train to inform all Gateman and Trackman on the way about the introduction of temporary single line working and specifying the road on which the train will run. This information shall be conveyed through the Loco Pilot of a subsequent train also, if necessary.
 11. The speed of the first train passing over the temporary single line, will be restricted to 25 kilometers per hour. Subsequent trains may run at their booked speed, subject to observance of other speed restrictions imposed by Way and Works staff.
 12. When a train is stopped between stations on account of accident, failure, obstruction or other exceptional cause and the Loco Pilot finds that it cannot proceed, it shall be protected as per G.R. 6.03.
 13. In the case of a train proceeding on the right line :
 - (a) The last Stop signal of the station in rear of the affected section may be passed in the "ON" position on a written authority issued by Station Master in the prescribed form T/D 602. In case the last Stop signal is the starter, in addition to the written authority hand signal shall also be shown at the foot of this signal.
 - (b) The approach Stop signals if any of the station in advance of the affected section, may be taken off.
 14. In the case of train proceeding on the wrong line :-
 - (a) The train shall be piloted out of the station on a written authority issued by the Station Master after all the facing points have been correctly set and locked and trailing points correctly set & locked over which the trains will pass.
 - (b) On approaching the next station the Loco Pilot shall bring his train to a stop opposite the first Stop signal pertaining to the right line or at the last Stop signal pertaining to the Wrong line (on which he is running), whichever he comes across first.
 - (c) The Station Master of the station in advance shall depute railway servant in uniform at the foot of the signal (whichever the train would encounter first) who shall stop the train on hand danger signal and thereafter pilot it into the station on a written authority issued by the Station Master .
 - (d) If the Loco Pilot finds that no railway servant in uniform has been deputed at the foot of the signal to pilot the train into the station, G.R. 4.44 shall be observed.
 15. All the cross-over points in the facing direction over which the train shall proceed, while temporary single line working is in force, shall be clamped and pad locked.

16. **Resumption of normal working –**

- (a) On receipt of a written certificate from a responsible Engineering Official that the obstructed track is free and safe for passage of trains, the Station Master will issue a message to the other station or stations, as the case may be, under exchange of Private Numbers and decide in consultation with Section Controller, the train after passage of which the normal working has to be introduced unless the conditions of this rule is complied with the abnormal work will continue, no intervention is allowed.
 - (b) When Double Line working is introduced the Block Instruments and all fixed signals, including those of Intermediate Block Huts which were treated as closed, shall be brought into use immediately and entry shall also be made in the Train Signal Register Books of all stations concerned showing the time double line working was suspended, time single line work was introduced and the time normal working was resumed. The Loco Pilot of the first train entering the section after normal working is resumed shall inform all Gatemen and Trackmen on the way about the resumption of normal working.
17. All the records in connection with the temporary single line working shall be retained at the station and the Transportation Inspector of the section must scrutinize them and submit his report to the Divisional Railway Manager within seven days of the resumption of normal working.

3.47.(B) Single Line Working on Double Line during total Interruption of Communication

The following rules must, in addition to the rules prescribed in "rules and regulations for working of trains during total interruption of communications on single line" be observed by the staff.

- 1. Whenever an accident to a train or track or other obstruction, precludes the use of one line on a double line section during total interruption of communications, single line working shall be introduced only after a responsible official of the engineering department, not less than Inspector in rank has certified that the other line on which single line working is to be introduced is free and safe for passage of trains. Such an engineering official shall give the certificate only to the Station Master of the station at that end of the affected section for which the unobstructed line shall be the right line for despatching trains. On receipt of this certificate, the Station Master will follow the rules prescribed for opening of communications.
- 2. Loco Pilots of trains, including light engine, shall be given a caution order on which, shall be stated clearly –
 - (a) The line on which the train is to run;
 - (b) Kilometreage where the obstruction exists;

- (c) Any restriction of the speed which may be imposed by way and works staff;
 - (d) An assurance to the effect that any trap point on the line in question have been spiked and clamped.
- 3. All the cross-over points in the facing direction over which the train shall proceed, while temporary single line working is in force, shall be clamped and padlocked.
- 4. In the case of a train proceeding on the right line :
 - (a) The last Stop signal of the station in rear of the affected section may be passed in the "ON" position on a written authority issued by the Station Master in the prescribed form. In case the last Stop signal is the starter, in addition to the written authority, hand signals shall also be shown at the foot of this signal.
 - (b) The approach Stop signals, if any, of the station in advance of the affected section may be taken off.
- 5. In the case of a train proceeding on the wrong line :
 - (a) The train shall be piloted out of the station on a written authority issued by the Station Master after all the facing points have been correctly set and locked and trailing points correctly set over which the train will pass.
 - (b) On reaching the next station, the Loco Pilot shall bring his train to a stop opposite the first Stop signal pertaining to the right line or at the last Stop signal pertaining to the wrong line (on which his train is running), whichever he comes across first.
 - (c) The Station Master of the station in advance shall depute a railway servant in uniform at the foot of the signal (whichever the train would encounter first) who shall stop the train on hand danger signal and thereafter pilot it into the station on a written authority issued by the Station Master.
- 6. It will be the responsibility of the person in charge of the first engine or self propelled vehicle or other vehicle, sent under "Authority to proceed without Line Clear" in form T/D 602. to inform all the Gatemen and Trackmen en-route about the introduction of temporary single line working as also the line on which it is proposed to run the train.

This information shall be conveyed through the Loco Pilot of a subsequent train also, if necessary.

7. Resumption of normal working –

- (a) If after the introduction of single line working, communications are restored between the two affected stations, the trains will continue to run under special rules until action is taken in accordance with the instructions contained in these rules for the cancellation of the procedure. There after trains will be run in

accordance with the instructions for the movement of traffic during temporary introduction of single line working on double line.

- (b) If, however, before communications are restored, the other line is released for the passage of traffic, trains shall be worked in accordance with the instructions for running of trains on double line section during total interruption of communications.

Note – (i) In cases when single line working is introduced first on a double line section and then total failure of communications occurs, single line working would be introduced first as per instructions contained in 3.47(A) above and subsequently during total failure of communications, the rules contained in Chapter VII of the Block Working Manual would be followed.

- (ii) In cases when total failure of communications occurs on a double line section and then during this total failure, single line working has to be introduced, the rules contained in BWM 3.05 would be observed so long there is total failure of communications only. When single line working has to be introduced subsequently, rules contained in BWM 3.47(B) would be observed and trains passed in accordance with instruction incorporated in Chapter VII of the Block Working Manual.

3.48 Working of trains in cases of obstruction on sections where there are Triple or Quadruple lines. –

- (a) When owing to an obstruction or for any other cause it becomes necessary to use a line solely for trains to travel in the wrong direction all concerned shall be advised and trains shall proceed on the authority of a Caution Order, "Line Clear" being obtained by Telephone. The signals pertaining to the normal working of the line shall be put out of use and trains shall be admitted on hand signals which shall be displayed at positions where the Home and Warner (or Outer and Warner) signals would be situated. In the event of a Block Hut intervening Line Clear shall be obtained through the Control as laid down in paragraph 3.04 (C).

All points whether facing or trailing at the station and Block Hut intervening shall be properly locked, clamped or spiked for the line on which trains will proceed.

- (b) The Authority for Temporary Single Line working on Double Line on form T/D 602 shall clearly state –
 - (i) that it constitutes the authority for an Up/Down train to proceed in the wrong direction on the Down/Up line. The Private Numbers confirming the "Line Clear" received for the train shall be entered on the form.
 - (ii) any restriction of speed which the Permanent Way Staff might have imposed.
- (c) First train will run with 25 KMPH and second and subsequent train will run with booked speed.

3.49. Failure of Electrical Speaking Instruments –

The Block Instruments having been put out of use.

- (a) Should the direct telephone also fail, this shall be done through the Controller.
- (b) Should communication with the Controller also fail trains shall be passed on (Forms T/C 602) as laid down in Chapter VII of this Manual.
- (c) First train will run 25 kmph and second and subsequent train will run with booked speed.

3.50. Persons to be advised. –

- (a) The persons to be advised in case of obstruction on a section are –
 - (i) The Controller.
 - (ii) The Controlling Station Master.
 - (iii) The Transportation Inspector (Movement).

- (b) The Station Master sending this advice shall do so by the quickest means possible and mention what action has been taken by him.

The Divisional Railway Manager shall also be furnished with full particulars immediately through the Controller.

If Control working is suspended, full particulars shall be communicated to the persons concerned.

- (c) Each Divisional Railway manager shall appoint Controlling Station Masters and detail their lengths. The jurisdiction of each controlling Station Master shall be notified to the staff on the division.

3.51 Regulating Traffic when single line working is introduced –

The Controller shall be responsible for regulating traffic while Single Line Working is in force.

3.52. Warning Labour Gang. –

Whenever an accident on the Double Line involves the necessity of Single Line working, the person sent to rouse the Labour gangs shall be instructed to warn them of the line on which trains will run.

3.53. Line Clear Forms at Double Line stations –

- (a) Station Masters at all Double Line stations shall keep in their offices ready for emergencies one complete set of abnormal working books and forms.
- (b) Transportation Inspectors (Movement) shall see that these books and forms are ready for use when they inspect stations.

3.54. Whenever a Block Instrument is opened by the Inspector/Maintainer of signal department for the purpose of maintenance it should be done only in the “line closed” position of the instrument.

A register is to be maintained and Cabinmaster/SM and the staff of signal department shall sign mentioning date and time of opening. The Cabinmaster/SM in charge of the Cabin/Station shall immediately advise the station in rear duly exchanging Private

Numbers that the Block Instrument, has been taken on maintenance. During the period the Block Instrument is under such maintenance, "Line clear" will not be signalled on the Block Instruments and trains to be passed according to rules for failure of Block Instrument according to Chapter III of BWM.

On completion of Inspection/maintenance the instrument shall again be closed, padlocked and sealed in "Line closed" position and the Cabinmaster/SM and the signalling staff will both sign the register in acknowledgement that the Block Instrument has been sealed and padlocked. Time the block instrument is made available will be recorded in the register.

The Cabinmaster/SM in charge of the Cabin/Station shall not however resume normal working on the Block Instrument unless Private Numbers has been exchanged with the Cabinmaster/SM of the block station in rear in information that no train is in the block section or the last train leaving the rear station on Private Numbers has cleared the section.

3.55. Special instructions for working of trains on Absolute Block System through continuous track circuit control and associated indications.

- (a) At stations in double line territory where block instruments at cabins are not provided the movement of trains on Absolute Block System shall be controlled through continuous track circuit and inter-slotting or track circuiting only with associated indications at the concerning cabins.
- (b) In sections where movements of the trains are controlled by this method the whole of the section on the pertaining line in the direction a train is to move normally continuous track circuit between last stop signal of the station in rear to the first stop signal and an adequate distance beyond it of the station receiving the train with illuminated indications, to be provided at both the cabins on either end of the track circuit to indicate whether the respective section is clear or occupied. In addition to joint control over the track by the two block cabins at either end of the block section by means of continuous Track Circuit inter-slotting may also be provided if considered necessary.

No train shall however be allowed to enter into the continuous track circuited block section unless Private Numbers has been exchanged between the cabins at either end of the section before the concerning signals of the respective cabins are taken off.

- (c) In the event of total interruption of communication between the block cabins and the block station at either end of track circuit controlling the block section trains shall be worked as per following.
 - (i) When from the track indication it appears that the section from last stop signal to the first stop signal and overlap in the direction of the train is clear trains will be worked as per chapter III paragraph 3.05 of Block Working Manual.
 - (ii) when track indication shows occupied though 15 minutes have passed after the preceding train entered no train shall be allowed to enter the section.

A messenger shall be sent to block station in advance with written messages – one for "line clear enquiry" and one for "line clear reply". The forms of the messages are given below :-

EASTERN RAILWAY

.....

**Line Clear Inquiry and Reply Message Book in the event of
Failure/Suspension/Non-provision of Block Instruments
Train Despatching Station**

Line Clear Inquiry

A. { Date Mode of communication.....
From Station Master.....(Name of SM) of(Station)
Train No.....Up/Dn.
Line Clear asked at.....hrs. and reply received from.....station at.....hrs.
Last Train No.....Up/Dn left.....station at..... hrs.
and arrived at.....station at.....hrs.
Private Number received(in figure and words).....

Train Entering Section

B.* { Train No.....Up/Dn left at.....hrs.
Train entering section report given tostation and acknowledged at.....hrs.

Train Out of Section

C* { Train No.....Up/Dn arrived at.....station
at.....hrs.
Train Out of Section report received from.....station and acknowledge at.....hrs.

Line Clear Cancellation

D* { Line Clear Cancelled at.....hrs. Reasons for cancellation.....
Private number exchanged given.....received.....

Signature of Station Master

*Strikeout whichever is not applicable.

*Separate Books to be maintained for each block section.

EASTERN RAILWAY

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Form No. T/B 1425

Sr.No.....

**Line Clear Inquiry and Reply Message Book in the event of
Failure/Suspension/Non-provision of Block Instruments**

Train Receiving Station

Line Clear Inquiry

- A. { Date Mode of communication.....
- From Station Master.....(Name of SM) of Station
To Station Master (Name of SM) of..... Station
Train No.....Up/Dn.
- Line Clear asked by.....station athrs and reply given at.....hrs.
- Last Train No.....Up/Dn left.....station at..... hrs.
and arrived at.....station at.....hrs.
- Private Number given (in figure and words).....

Train Entering Section

- B. * { Train No.....Up/Dn left at.....station athrs.
- Train entering section report received fromstation and acknowledged
at.....hrs.

Train Out of Section

- C.* { Train No.....Up/Dn arrived at.....hrs.
- Train Out of Section report given to.....station and acknowledged at.....hrs.

Line Clear Cancellation

- D* { Line Clear Cancelled at.....hrs. Reasons for
cancellation.....

Private number exchanged

given.....Received.....

Signature of Station Master

*Strikeout whichever is not applicable.

*Separate Books to be maintained for each block section.

EASTERN RAILWAY

Form No. T/C-1425

Sr. No.....

**PAPER LINE CLEAR TICKET
(Loco Pilot/Record)**

Up

Number of Train.....Up(Description).....

Date..... Time.....hours.....minutes

From Station Master.....

To The Loco Pilot of Train No.....Up.

The line is clear and you are authorized to proceed toStation.

Last train No.....cleared section atstation.

Private No.(in words).....(in figures).....

AUTHORITY TO PASS SIGNAL AT ON POSITION

*You are authorized to pass Last Stop Signal in danger, when the signal is interlocked with Block instrument.

Signature of Station Master

Station Master Stamp

**Strike out whichever is not applicable.*

EASTERN RAILWAY

Form No. T/D-1425

Sr. No.....

**PAPER LINE CLEAR TICKET
(Loco Pilot/Record)**

Down

Number of Train.....Dn (Description).....

Date..... Time.....hours.....minutes

From Station Master

To The Loco Pilot of Train No.....Dn.

The line is clear and you are authorized to proceed toStation.

Last train No.....cleared section atstation.

Private No.(in words).....(in figures).....

AUTHORITY TO PASS SIGNAL AT ON POSITION

*You are authorized to pass Last Stop Signal in danger, when the signal is interlocked with Block Instrument.

Signature of Station Master

Station Master Stamp

**Strike out whichever is not applicable.*

- (d) On receipt of the line clear through the reply message duly signed by the Cabinmaster/SM of the station in advance, the train will be started on the authority T/C-1425 or T/D-1425 for the last Stop signal recording thereon the Private Numbers received in confirmation of the Line Clear.
- (e) In the event of total interruption of communication when single line working is in force between the two block cabins trains between these two cabins will be worked on line clear obtained by sending a messenger in the manner indicated in paragraph (c) above and as per procedure laid down in rule 3.47(A) of Block Working Manual.

- (f) In case of stations provided with inter-slotting arrangement in addition to the continuous track circuit the last stop signal of the station despatching the train shall be taken off after receiving the slot for the last stop signal from block cabin at the other end of the section in advance confirmed by exchange of Private Numbers for allowing the train to enter into the block section leading to the station in advance.

Such slots for the last stop signal of the rear station shall not be released by the station in advance unless the line concerned is clear not only up to the first stop signal but up to an adequate distance beyond it which shall not be less than 120 metres.

- (g) Illuminated indications for the track circuit and the block sections will be provided separately to indicate clearance or occupancy of the same.

Chapter – III A

DOUBLE LINE BLOCK WORKING WITH AXLE COUNTER BLOCK

PART – I

GENERAL

This Chapter of Block Working Manual is for 'Block Panel' with 'Block proving by Axle counter'. These rules must be studied in conjunction with the General and Subsidiary Rules and the Block Working Manual.

3A.01. Block Panel.

A Block Panel means a Panel associated with Axle counter equipment to control the movements of trains on double line Block section.

3A.02. Knowledge of Rules.

Every railway servant working in Block Panel must be conversant with the rules relating to the Block Working.

3A.03. Access to and operation of equipment.

- (1) No unauthorized person shall be permitted to have access to or operate Signals, Points, Block Panel and electrical communication instruments or any other appliance connected with the working of the railway.
- (2) No unauthorized person (whether railway servant or otherwise) shall enter any block/signal cabin except when requires to do so in connection with the regular duties. All concerned supervisory staff will monitor strict compliance of these instructions through regular and surprise checks.
- (3) The authorized persons for the purpose are SM or any other person authorised by the competent Railway authority.

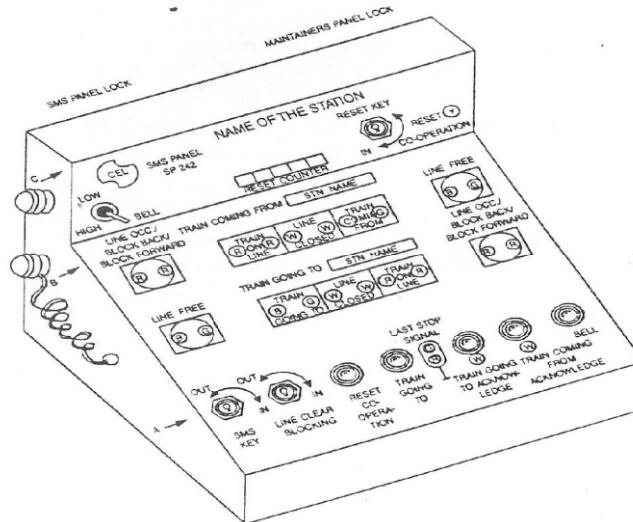
PART – II

DESCRIPTION OF THE BLCOK PANEL

3A.04. Block Panel.

The running of every train shall in its direction from one block station to another on double line be regulated by means of a block panel with associated axle counter and other equipments.

3A.05. Block Panel Diagram.



3A.06. Description of Block Panel.

The Block panel consists of push buttons, keys indications, counters, block bell, block telephone and buzzer etc. mounted on a frame. The Block panel can be divided into three portions viz. A, B & C for the purpose of its explanation.

Portion – “A” It has three rows

Upper row – it houses various indications pertaining to 'Train Going To' direction.

Middle row – it houses various push buttons SM's key and LCB key.

Lower row – it houses LSS, TGT, ACK and TCF, ACK indications.

Portion “B” – It houses various indications pertaining to 'Train Coming From' direction.

Portion “C” – It houses Reset Counter, Reset key and Reset co-operation indication.

The description of the various parts / portions is as given below :

3A.07. Push Buttons.

- (i) **TGT push button** – 'Train Going To' Push button is located in the portion – 'A' of block panel and is to be pressed along with 'BELL' push button to obtain line clear, to send a train into the block section.
- (ii) **'TGT ACK'** – 'Train Going To acknowledgement push button is located in the portion 'A' of Block panel and is to be pressed for acknowledgement of line occupied axle counter failed or line free axle counter restored in the 'Train Going To' direction.
- (iii) **'TCF ACK'** – Train coming from acknowledgement push button is located in the portion 'A' of Block panel and is to be pressed for acknowledgement of line occupied / axle counter failed or line free / axle counter restored in the 'Train Coming From' direction.
- (iv) **'BELL' push button** – It is located in the portion 'A' of Block panel and when it is pressed a bell beat is heard in the single stroke bell, at the other end of the block section.

The Bell Push button shall be used to –

- (a) transmit the prescribed code of Bell signals.
- (b) get 'Line Clear' when pressed along with 'TGT' push button
- (c) Cancel the 'Line Clear' by the train receiving station which is already obtained by the train dispatching station, when operated along with 'LCB key' out.
- (v) **'RSB' Push button** – Reset push button, when it is intended to reset the axle counter by the receiving end SM.

3A.08. Keys.

- (i) **SM'S KEY:** SM's control key for block panel is a two position key. It is located in the portion 'A' of Block panel. This key is provided to enable Station Master to have control on the Block panel.

SM's key should normally remain in the personal custody of SM. It should be inserted and turned whenever any operation on the Block panel is to be done. When this key is 'out' only the under mentioned operations are possible –

- (a) **Exchange of Bell Code Signal.**
 - (b) Acknowledgement of buzzers of Train entering / clearing / axle counter failure/restored by pressing TGT ACK/TCF ACK push buttons.
- (ii) **LCB Key:** Line clear blocking canceling key is a two position key normally kept inserted and turned. It is located in the portion 'A' of Block panel. It is to be taken 'out' by receiving end Station Master in the following cases only.
 - (a) In case of emergency for withdrawing the facility of obtaining Line Clear available with sending SM.
 - (b) if the sending end SM has already taken "Line Clear" to send a train, this can be cancelled by taking out this key and simultaneously pressing the Bell push button with SM's key 'IN' provided the train for which permission has been achieved has not entered the Block Section.
 - (c) The LSS of sending station will also be replaced to 'ON' automatically if already taken 'OFF' for sending the train in the section.

Note: This facility is to be used only in an emergency and adequate safeguards are to be provided in the Station Working Rules for recording this action, so that this facility is not misused.

- (iii) **RSK KEY** - This reset key is located in the portion 'C' of the Block panel. It is a non-locking key and when at receiving station this key is inserted turned and pushed in, it reset the axle counter provided to prove the clearance of the block section.
- (iv) This key, therefore, has to be used with great caution, be sure that the Block section is clear of all obstructions.

3A.09. Indications –

Separate indicators are available on the Block panel for TCF and TGT directions.

(i) **TCF Direction:** (In the portion 'B' of Block panel)

- (a) **'Line Closed'** - Indication appears as 'Yellow' light on the panel when there is no train; in the Block section and when the section has not been blocked.
- (b) **'Train coming From'** – Indication appears as a 'Green light on the panel at the receiving station, when TGT and BELL push buttons are pressed simultaneously at sending station and the condition of granting line clear at receiving station have been compiled with.
- (c) **'Train on Line'** - Indication appears as a 'Red light on the panel, when the block section is occupied by a train or any other rail vehicle like motor trolley etc. after 'line clear' has been obtained on the block panel.
- (d) **'Line Free'** - A-'Green light' to indicate that the block section is clear of trains or vehicles.
- (e) **'Line occupied/Block forward/Block Back'** – A red light indication to indicate line occupied / Block forward / Block back on the panel when the block section is occupied by a train, either through a signaled move or when the line is 'blocked back', 'blocked forward'.

(ii) **TGT Direction :**

In the Upper row of portion 'A' of the Block panel.

- (a) **"Line Closed"** - Indication appears as 'Yellow' light on the panel, when there is no train in the block section and when the section has not been blocked.
 - (b) **"Train Going to"** - Indication appears as a 'Green' light on the panel at the sending station, when TGT and BELL push buttons are pressed simultaneously at sending station and conditions for "granting line clear" for the train at receiving station been complied with.
 - (c) **"Train on Line"** – Indication appears as 'Red' light on the panel when the block section is occupied by a train or any other rail vehicle like motor trolley etc. after line clear has been obtained on the Block panel.
 - (d) **"Line Free"** – A Green light to indicate that block section is clear of train or vehicle.
 - (e) **"Line occupied/Block forward/Block Back"** – A 'Red light indication to indicate line occupied/Block forward/Block back on the panel when block section is occupied by a train either through a signaled move or when the line is 'blocked back', 'blocked forward'.
- (iii) **"LSS indication"** – (In the lower row of portion 'A' of the Block Panel).

- (a) A 'Red' lamp indication to indicate.
 - (i) 'ON' aspect of last stop signal.
 - (ii) When train passes, the LSS in 'OFF' position and the same replaced to 'ON' position.
- (b) A 'Green' lamp indication to indicate that the Last Stop Signal has been cleared for the train to enter the block section.
 - (iv) **Acknowledgement indications:** (In the lower row of portion 'A' of the Block panel)
 - (a) **TGT ACK indication** – A 'Yellow' lamp to draw the attention of the Station Master at the train sending end, when the buzzer sounds, in the event of Block section being occupied or when the train arrives.
 - (b) **TCF ACK indication** – A 'Yellow' lamp to draw the attention of the Station Master at the train receiving end when the buzzer sounds, in the event of Block section being occupied or when the train arrives.
 - (v) **Reset Co-operation Indication** – (In the portion 'C' of the Block panel).

A 'Yellow' lamp indication for 'Reset Co-operation' to indicate that co-operation has been extended by the sending for resetting the axle counter.

3A.10. Counter (In the portion 'C' of the Block Panel).

'Axle Counter Reset' – Counter for registering the number of attempts made to reset the axle counter.

3A.11. Buzzer :

When a train occupies/clears a block section or axle counter fails/restores to normal, a buzzer sounds. The Station Master can make the buzzer silence pressing TGT ACK or TCF ACK Push buttons, based on the event of proceeding the sounding of the buzzer. Along with this buzzer 'Yellow' indication also appears, above the TGT ACK or TCF ACK push buttons, which guides SM as to which button is to be pressed.

3A.12. Block Bell :

This is a single stroke bell and is operated by pressing the BELL push button provided on the panel at either end of the block section, this gives audible signal at the other station.

3A.13. Block telephone :

This provides speech communication between the Station Masters at the two ends of the block section.

3A.14. Locks:

Two locks have been provided in the rear of the Block panel as under:

- (a) Signal maintainer's lock
- (b) SM's lock

Unless both these locks are unlocked, the block panel from the rear cannot be opened for maintenance purposes.

3A.15. Block Working:

- (i) Trains are worked on the Absolute Block System. Block working is by means of Block panel, Axle counters and associated equipments. The movements of trains in the block section are controlled by a Block Panel provided with operating buttons, keys and indications.
- (ii) Each Block section is provided with two Block panels, one at either end of the block section; serving for both the lines of the double line section. All operations like obtaining Line Clear, canceling Line Clear, etc. are done on these panels.
- (iii) The occupancy or otherwise of the entire block section is proved by provision of Axle counters. It is not possible to either obtain Line Clear or close the block section unless the entire section is clear of trains. The Line Clear is obtained by the sending end SM and the Block section gets closed automatically with the complete arrival of the train at the receiving station.

3A.16. Principle of Operation:

Electrical control is provided on relevant Last Stop signal to ensure that:

- (i) The Last Stop signal at sending station cannot be taken 'OFF' until the sending station SM has pressed the 'TGT' & 'BELL' Push buttons and all the conditions for granting of Line Clear are available at the receiving station. The latter is automatically checked by axle counter and associated equipment installed on either side of the Block Section.
- (ii) (a) The Last Stop signal lever (in the case of lever frames) is free in the reverse position so that it can be put back to normal position when desired.
(b) Where a switch/push button has been provided for operating the Last Stop signal it is possible to replace this signal to 'ON' position with the help of signaling circuits provided at the station.
- (iii) If the receiving station is not in a position to accept a train or an emergency has occurred after Line clear has been taken by the sending station, the circuits permit the receiving station to put back to 'ON' the Last Stop signal at the sending station provided the train has not left the station in rear.
- (iv) The principle of 'One Line Clear for one Train' and 'One signal for one Train' has been followed in the circuit so that if the Last Stop signal of the sending station goes back to 'ON' by the departure of a train from the sending station the same cannot be re-cleared unless fresh Line Clear is obtained after the previous train has arrived complete at the receiving station.

PART – II

OPERATING PROCEDURES

3A.17. Method of Obtaining Line Clear.

Following is the sequence of operations for obtaining Line Clear to send the train from station in rear to station in advance.

Taking two stations 'X' and 'Y' and a train awaiting for traveling from 'X' to 'Y', the block section being clear and the Line Closed. Yellow indication being displayed in 'TRAIN GOING TO' part of the portion 'A' of the Block panel at 'X' station & 'TRAIN COMING FROM' part of the portion 'B' of the Block panel at 'Y' station.

'X' Station (Sending)		'Y' Station (Receiving)	
1	Insert SM's key and turn, press bell push button to send "Call Attention attend Telephone" signal to station 'Y'.	2	Bell signal is acknowledged by pressing Bell push button. Attends Telephones.
3	Receiving acknowledgement signals. Attend telephone and calls out his station name	4	Calls out his station name.
5	Asks consent giving number and description of the train.	6	Gives consent by repeating the number and description of the train, provided it can be accepted. This should be confirmed by giving a Private Number after ensuring that the 'LCB' key is in the block panel and in the 'turned' position.
7	Obtaining 'Line Clear by pressing 'TGT' push button along with the 'BELL' push button and keeps them pressed.	8	Block panel displays 'Train Coming From' green indication. 'Line Closed' Yellow indication disappears.
9	Block panel displays 'Train Going To' green indication. 'Line Closed' Yellow indication disappears. Release buttons.		
10	'Take Off' the departure signals to send the train into the block section, LSS green lamp indication appears in portion 'A' of the Block panel.		
11	As soon as the train occupies track just ahead of the Last Stop signals, the LSS automatically goes back to its 'ON' position LSS 'Red' lamp indication appears in portion 'A' of block panel and 'Train on Line' Red indication appears automatically and a buzzer also sounds. 'Line Occupied; red indication appears and 'Line Free' green indication disappears. SM presses 'TGT ACK' to silence the buzzer.	12	Train On Line red indication appears automatically on the panel buzzer sounds continuously. 'Line Occupied' red indication appears and 'Line Free' green indication disappears. SM presses 'TCF ACK' to silence the buzzer.

'X' Station (Sending)		'Y' Station (Receiving)	
		13	Takes off reception signals. As soon as the train passes the Home signals, the signal goes back to 'ON' automatically. A buzzer sounds continuously after the train has completely passed the block overlap ahead of the Home signal.
		14	Block Panel displays 'Line Closed' Yellow indication and 'Train On Line' red indication disappears.
		15	SM presses 'TCF ACK' to silence the buzzer.
16	Block panel displays 'Line Closed' yellow indication & 'Train On Line' red indication disappears and buzzer sounds which is silenced by pressing 'TGT ACK' push button by SM.	17	The Home signal lever and its SM's control slide, where provided, are put back to normal position.
		18	Gives 'Train out of section' signal after satisfying himself that the train has arrived complete or passed with the tail lamp/tail board on the last vehicle.
19	Acknowledges Train out of section signals.		

3A.18. Refusal to the 'Is Line Clear' signal & sending of the obstruction Danger signal.

- (1) If the Line being blocked by the presence of a train in the section, or by shunting or for any other reason, the block station in advance is unable to accept, "is Line Clear" signal, such station must refuse that on telephone communication and also take out LCB key from the portion 'A' of the Block Panel.
- (2) If the block station in advance does not give consent to accept the train, the train must be stopped at the station in rear and should not be allowed to leave, until a fresh consent has been given and accorded by the block station in advance.

3A.19. The Train Entering Section Signal:

- (1) On departure of train across a block station and occupying the track circuit just in advance of LSS. A buzzer will sound at both, train sending as well as train receiving station. This should be acknowledged by pressing the respective acknowledgement buttons i.e. 'TGT ACK' button by train sending SM and 'TCF ACK' push button by train receiving station.
- (2) Then so acknowledged, the section shall be considered to be blocked for any other train.

3A.20. 'Train out of section' or 'Obstruction removed' signals.

When the section is cleared after the arrival of the train or by removal of the cause of blocking the block section, which shall be detected by axle counter device, buzzer will start at both train receiving and train sending stations. This should be acknowledged by pressing the respective acknowledgement buttons, i.e. TCF ACK button by train receiving SM and TGT ACK button by train sending SM.

3A.21. The Obstruction Danger signal.

- (1) This signal is a 'Danger' signal' and shall be operated in any case of danger when it is necessary to stop a train or to attract the immediate attention of the SM of the next station.
- (2) It must always be promptly acknowledged and immediate steps must be taken to stop any train entering the block section.
- (3) If a 'Line Clear' has been obtained, the station receiving the obstruction danger signal must cancel the 'Line Clear' so obtained.
- (4) The 'Obstruction Danger' signal should be recorded as a danger signal and it should be used only in case of danger or sudden emergency. When it is necessary to stop train for which line clear has already been given, the station transmitting this signal, i.e. train receiving station shall take out LCB key and press 'BELL push button simultaneously. This should be done with SM's key in 'IN' position. The receiving station SM must record the reasons for this in TSR and exchange Private Number with station in rear.

3A.22. Procedure for Resetting of the Axle counter when failed.

After a train has been received at the receiving end station or when no train has entered into the block section or after any block forward or block back operation is completed, if the 'Line occupied' indication still persists, then receiving station SM and sending station SM shall adopt the following procedure for resetting the axle counter:

- (i) Verify, that the block section is clear of vehicles, by any one of the following means:
 - (a) Observing the procedure laid down in G&SR, the complete arrival of a train to the station in advance will be ascertained by the Station Master at the receiving station by sending the complete arrival register to the Guard of the train who will certify by signaling in the complete arrival register with time but if the train was running with L.V. without brake van/with L.V. No. the Station Master himself will verify the Last Vehicle No. personally.
 - (b) By checking up from the train signals register, the details of the last train passed through that block section and finding out from the SM of the station in advance or from the controller that the last train that has passed, has arrived complete.

- (ii) After the above verification, exchange Private Numbers with the receiving end cabin in token of such verification.
- (iii) The axle counter is to be reset by receiving station. The receiving station SM after satisfying that no vehicle is left behind in the Block section, advises the full facts to the sending station SM and requests him to co-operate in resetting the axle counter.
- (iv) The sending station SM presses the 'RSB' push button provided on his block panel.
- (v) On getting a yellow 'Reset Co-operation' indication the receiving station SM inserts turns, and presses the RSK key on the panel for resetting the axle counter.
- (vi) The reset counter increases by one number. On release of pressure on the RSK key; 'Line Occupied' Red indication disappears on the Block panels at both the ends.
- (vii) This increment of counter should be recorded in the train register along with exchange of Private No. for every reset of axle counter done manually. The receiving end SM should then extract the RSK key and keep it in safe custody. At the receiving end a counter register to be maintained at the station for each resetting of the axle counter.

Note: In case the SMs are unable to check the complete arrival of the train by any one of the means listed in para (1) above. Then before following the resetting procedure for resetting the axle counter, the first train should be sent on "Authority to proceed without line clear" (for Up trains on form No. T/C 1425 and for Down trains on form No. T/D 1425) with a Caution Order informing the Loco Pilot to look out for any obstruction and restricting the speed to 15 KMPH in day time with clear visibility and 8 KMPH at night time and when the visibility is poor during day time. After this train has completely arrived at the receiving end station, the axle counter should then be reset by following the procedure as indicated above.

3A.23. To Cancel Line Clear.

- (A) When a line clear has been obtained and afterwards found that the train for which line clear already obtained has to be detained owing to any reason, the following procedures must be adopted:
 - (i) if LSS is not taken off, SM should not clear the LSS.
 - (ii) If LSS is already taken off, it must be put back to 'ON' and SM should inform the Loco Pilot of the train for which the LSS was taken off, regarding canceling the line clear obtained for the said train.

For canceling the 'Line Clear' the following procedures must be adopted:

"X" Station (Sending)		"Y" Station (Receiving)	
1	Block Panel indicates 'Train Going To' green indication.	1	Block panel indicates 'Train Coming From' green indication.
2	Gives 'Call Attention/Attend Telephone Signals.	3	Acknowledges Call Attention Telephone Signal.
4	Attends Telephone	4	Attends Telephone.

5	Inform that the train for which line clear has been obtained is being detained and the line clear is to be cancelled. In support of this he gives a Private Number	6	Acknowledges and gives consent by giving a Private Number. Also takes out the LCB key and simultaneously presses Bell push button with SM's key 'IN'
7	'Train Going To' green indication disappears & 'Line Closed' yellow indication appears on the Block panel.	8	'Train Coming From' green indication disappears & 'Line Closed' Yellow indication, appears on the Block panel.
		9	LCB key is inserted and turned.

Note: Next train can now be sent following the regular procedure as per para 3A.17

- (B) Where Line Clear has been obtained and the train has also been dispatched into the Block Section and it is afterwards found that the train has to return back to the station from which it was started the following procedure must be adopted.

"X" Station (Sending)		"Y" Station (Receiving)	
1	Block Panel indicates 'Train On Line' red indication.	1	Block Panel indicates 'Train On Line' red indication.
2	Gives 'Call Attention/Attend Telephone signal.	3	Acknowledges 'Call attention / Attend Telephone signal.
4	Attend Telephone.	4	Attend Telephone.
5	Inform that the train which left the station has returned back to this station. Complete, supported by his Private Number.	6	Acknowledges by giving Private Number.
7	'Train On Line' red indication still persists (as in 1 above.)	7	'Train On Line' red indication. Still persists (as in 1 above.)
8	'Line Free' green indication appears on the Block Panel.	8	'Line Free' green indication appears on the Block Panel.

Note: The following train shall be worked on 'Paper Line Clear'. After the arrival of the said train at the station in advance, 'Train On Line' indication disappears and 'Line Closed' Yellow indication appears at both the stations and further trains will be worked in the normal way.

- (C) When station in advance wished to cancel the 'Line Clear, he must (except in case of emergency when the Obstruction Danger; signal is to be used) informs the station in rear on the telephone and when the station in rear agrees. The cancellation must be done as described in para 3A.23 (A).

3A.23. NOTE : WHENEVER ANY OF THE ABOVE OPERATIONS IS TO BE DONE BY THE SM/CABIN MASTER, HE SHALL NOT DO SO WITHOUT THE PERMISSION OF HIS STATION MASTER AND SECTION CONTROLLER ON DUTY.

3A.24. Loco Pilot's Authority to Proceed.

- (i) On the Double Line sections, the Loco Pilot shall not take his train into a block station unless the Last Stop signal pertaining to him has been taken 'OFF' as laid down in GR. 14.08.

(ii) **When the 'Block Panel' is in working condition & LSS has failed.**

If the Block Panel is in normal working condition but there is only failure of Last Stop signal, Line Clear working shall continue to be done on the Block Panel itself and a written authority on the Form T 369(3b) with an endorsement thereon, by the Station Master that the Line Clear has been obtained on Block Panel along with the Private Number received from the Block station in advance, shall constitute the Loco Pilot's Authority to proceed.

(iii) **In case of failure of Block Panel -**

If there is failure of Block Panel and Line Clear cannot be obtained on it, then line clear should be obtained using identification sheet through electrical communication as laid down in SR 14.13

3A.25. Block Forward.

- (a) The Station Master who intends to block forward the Line shall advise the Station Master of the station in advance on Block telephone by supporting a Private Number and ask permission to 'Block forward' who will acknowledge the message and grant permission supported by a Private Number. The SM in advance will 'take out' LCB key and keep it in safe custody. Loco Pilot shall be given shunting Authority in Form T/806 for entering the block section for shunting. On completion of shunting, the Station Master shall inform the Station Master of the station in advance of the completion of shunting supported by a Private Number which shall be acknowledged by the SM of the station in advance by a Private Number.

On completion of the shunting the Station Master of the station in advance should restore the LCB key of the panel.

- (b) All the entries in the TSR will be made in 'RED' ink. Reasons for Block Forwarded has to be recorded against the entry in the remarks column.

Shunting being performed at the Station 'X'			
"X" Station		"Y" Station	
1	Block Panel indicates 'Line Closed' Yellow indication	1	Block Panel indicates 'Line Closed' Yellow indication.
2	Inserts the SM's key and turns and gives 'Call attention' signal	3	Inserts the SM's key turns and acknowledges the 'Call attention' signal.
4	Attends Telephone.	4	Attends Telephone.
5	Informs intention to do shunting in the Block section and give Private Number.	6	Acknowledges and removes the LCB key and keeps it in his personal custody.

7	Prepares T/806 and sends it to the Loco Pilot. When the movement takes place into the Block section, the buzzer sounds, which is silenced by pressing 'TGT ACK' push button. The Line occupied red indication appears.	8	The buzzer sounds, which is silenced by pressing 'TCF ACK' push button. The 'Line Occupied' red indication appears.
9	When the shunting is completed and the train has cleared the block section the buzzer sounds which is silenced by pressing the 'TGT ACK' push button	10	The buzzer sounds, which is silenced by pressing the 'TCF ACK' push button.
11	'Line Occupied' red indication disappears and 'Line Free' yellow indication appears.	11	'Line Occupied' red indication disappears and 'Line Free' yellow indication appears.
12	Gives 'Call Attention' signal and attends telephone.	13	Acknowledges 'Call Attention' signal & attends telephone.
14	Informs that shunting is completed supported by a Private Number.	15	Acknowledges supported by a Private Number and restore the LCB key.

3A.26. Block Back:

- (a) The Station Master who intends to Block Back the line shall ask the Station Master of the station in rear on the telephone for permission to 'Block Back' who will acknowledge the message and grant permission supported by a Private Number. The LCB key shall be 'taken out' by the SM who intends to perform shunting and shall be kept in personal custody of SM. The SM will then issue the necessary memo to the Loco Pilot on the prescribed shunting Order Form No. T/806 authorized to him to perform shunting in the Block Section.
- (b) On completion of the shunting the LCB key shall be restored to the Block Panel. Then the SM shall inform the Station Master of the station in rear, of the completion of shunting supported by a Private Number which shall be acknowledged by the Station Master of the station in rear by a Private Number.
- (c) All the entries in the TSR will be made in 'RED' ink. Reasons for Block Back must be recorded against the entry in Remarks Column.
- (d) The following operations are to be done on the Block Panel for 'Block Back. (Shunting being performed at station 'X' towards 'Y' on the wrong line).

"X" Station		"Y" Station	
1	Block Panel indicates 'Line Closed' Yellow indication.	1	Block panel indicates 'Line Closed' yellow indication.
2	Inserts the SM's key and turns and gives 'Call Attention' signal.	3	Inserts SM's key and turns and acknowledges 'Call Attention' signal.
4	Attends telephone.	4	Attends telephone.
5	Informs intention to perform shunting in block section on wrong line.	6	Acknowledges & gives consent by giving a Private Number.

7	Takes out the LCB key and keeps it in his personal custody. Issues T/806 to the Loco Pilot for performing shunting into the Block section.		
8	When the movement takes place in the block section, the buzzer sounds which is silenced by pressing 'TCF ACK' push button. 'Line occupied' red indication appears.	9	The buzzer sounds which is silenced by pressing 'TGT ACK' push button 'Line Occupied' Red indication appears.
10	When the shunting train has cleared the block section, the buzzer sounds which is silenced by pressing 'TCF ACK' push button. 'Line occupied' red indication disappears and 'Line Free' green indication appears.	11	The buzzer sounds which is silenced by pressing 'TGT ACK' push button 'Line Occupied' Red indication disappears and 'Line Free' Green indication appears.
12	Restores the LCB key and gives 'Call attention' attend telephone signal.	13	Acknowledges and attends telephone.
14	Informs that shunting is completed supported by a Private Number.	15	Acknowledges supported by a Private Number.

PART – IV BLOCK FAILURE

3A.27 Block failures.

The block failures can be categorized into the following –

- (A) Failure of Block panel.
- (B) Failure of last Stop signal.

(A) Failure of the Block Panel:

The Block Panels must be considered to be defective for Up and/or Down trains, as the case may be in the following cases:

- (i) When no indication of any sort at all appears on the block panel.
- (ii) When none of the indications viz. "Train coming from/Train going to", appears on the block panels except 'Line Free' or "Line Occupied" panels except "Line Free" or "Line Occupied"
- (iii) when no train has entered in the block section but the Block Panel show "line Occupied" red indication and this indication persist even after resetting has been tried as per para 3A.22.
- (iv) When "TRAIN GOING TO" or "TRAIN COMING FROM" indication does not appear by appropriate action, though condition for asking "LINE CLEAR" and granting permission to approach are available.

- (v) When "TRAIN ON LINE" indication does not appear on the entry of train into Block section at either of the station.
- (vi) When a train has arrived at the receiving station but the block panel still shows "TRAIN ON LINE" Red indication and/or also shows "Line Occupied: Red indication and these indications persist even after resetting has been tried as per para 3A.22.
- (vii) Total failure of communication during which trains shall be worked as per extant rules in force on the railway.
- (viii) Any damage is seen or reported to block equipments i.e. Block Panel, Axle Counter, Track Devices, Axle counter equipment and Block multiplexer equipment etc.
- (ix) When Last Stop signal cannot be kept at 'ON' during its suspension / disconnection
- (x) When Last Stop signal of the station does not go back to 'ON' position on the entry of a train into the Block section.
- (xi) When the Bell Code signals are received indistinctly.

Note: (i) In all the above cases, the Block panel must be treated as defected block working suspended and trains must be dealt with by taking Line Clear on the Electric communication Equipments provided and by following provisions of GR 14.13 & SR.

(ii) In respect of the failure indicated in the terms No. A (vii) of the para above, trains must be dealt with under the extant rules as outlined in GR 14.13 & SR.

(iii) In respect of failures indicated in the item Nos. (v), (ix) & (x) of the para (A) above, all efforts must be made to keep the LSS in the 'ON' position. If it is not possible, then a competent railway servant should be deputed with Red Hand Signal to take his position at the foot of the LSS to warn Loco Pilots of the approaching trains. In addition, all trains in the relevant directions should be stopped at the Home signal and after ensuring that they have come to stop, the Home signal should be cleared to caution aspect only. The Starter should not be taken off and the train should be dispatched by issue of relevant authority to pass the Starter and the LSS. Caution Order should also be issued to the Loco Pilots about the defect of the LSS.

(iv) The Block Panel should not be restored for normal working until it is tested by a competent signaling staff and certified fit by him for use.

(B) Failure of Last Stop Signal.

The Last Stop signal must be considered to have failed for Up or Down direction as the case may be in the following cases –

- (i) The Last Stop signal cannot be taken 'OFF' even though Line Clear has been obtained.

- (ii) The Last Stop signal can be cleared without getting 'Line Clear'.
- (iii) The Last Stop signal does not restore on 'ON' position after the train enters the Block section.

In all the cases indicated paras (A) and (B) above failures should be informed to S&T staff immediately.

Note: In respect of the cases indicted in paras (B) (ii) & (iii) above, the precautions indicated in Note No. (iii) & (iv) under para 3A.27 (A) dealing with failures of the Block panels should strictly be adhered to.

3A.28. Suspension of Block Working.

Block working must be suspended and trains dealt with in accordance with the extant instructions in the following cases.

(A) Suspension of Block Panel.

The Block Panel shall be considered inoperative and should be suspended in the following cases –

- (i) When material lorries, motor trolleys, tie-tamping machines and rail motor / tower wagon (4-wheeler) has to run in the section, these shall be worked on authority of Caution Order.
- (ii) Abnormal movement i.e. Single Line Working on Double Line or mid-section accidents etc.
- (iii) Block Back / Block Forward with the respective direction only.
- (iv) When un-signaled reception has been restored at the receiving station.
- (v) When any part of the Block Equipment is to be opened for repairs which shall be done only under duly accepted disconnection notice. Block Panel working shall only be resumed by a Railway servant authorized as per extant rules on the Railway.

(B) Suspension of Last Stop Signal.

The Stop signal shall be considered inoperative and deemed to have suspended in the following cases –

- (i) When the Last Stop signal has been undertaken for repairs by S&T staff.
- (ii) During the 'Block Forward' only.
- (iii) During the single line working on double line section due to some emergency like; mid-section accident or otherwise.
- (iv) When the material lorries/trolleys, tie-tampering machines or tower wagon has to run in the section.

Note: In respect of the cases listed in para (A) & (B) above, as soon as the causes of block working is removed normal working can be restored by SM.

3A.29 Working of trains when there is failure of Block Panels.

Whenever the Block Panels fail, Line Clear should be obtained on the electric communication equipment and by following provisions of GR 14.13.

If block working can be carried on the Block Panel but the LSS cannot be taken off, then Line Clear should be obtained on the Block Panels but Caution Order should be issued as an Authority for entering the Block section.

3A.30 Working of Lorries and Motor Trolleys.

All light vehicles and heavy material trollies will work with block back or block forward.

- (2) Please insert the following para after item No. 1 (B) (vi) and 2(B)(vi) of A/C 2 of BWM (Reprinted 2004) dated 26-10-2006.

A speed restriction of 30 kmph. be imposed additionally, if working train on PLC exceeds duration of 24 hrs. of PLC working introduction.

(Authority: Railway Board's letter No. 2005/Safety(A&R)/19/16 dated 16-10-2007.)

CHAPTER - IV

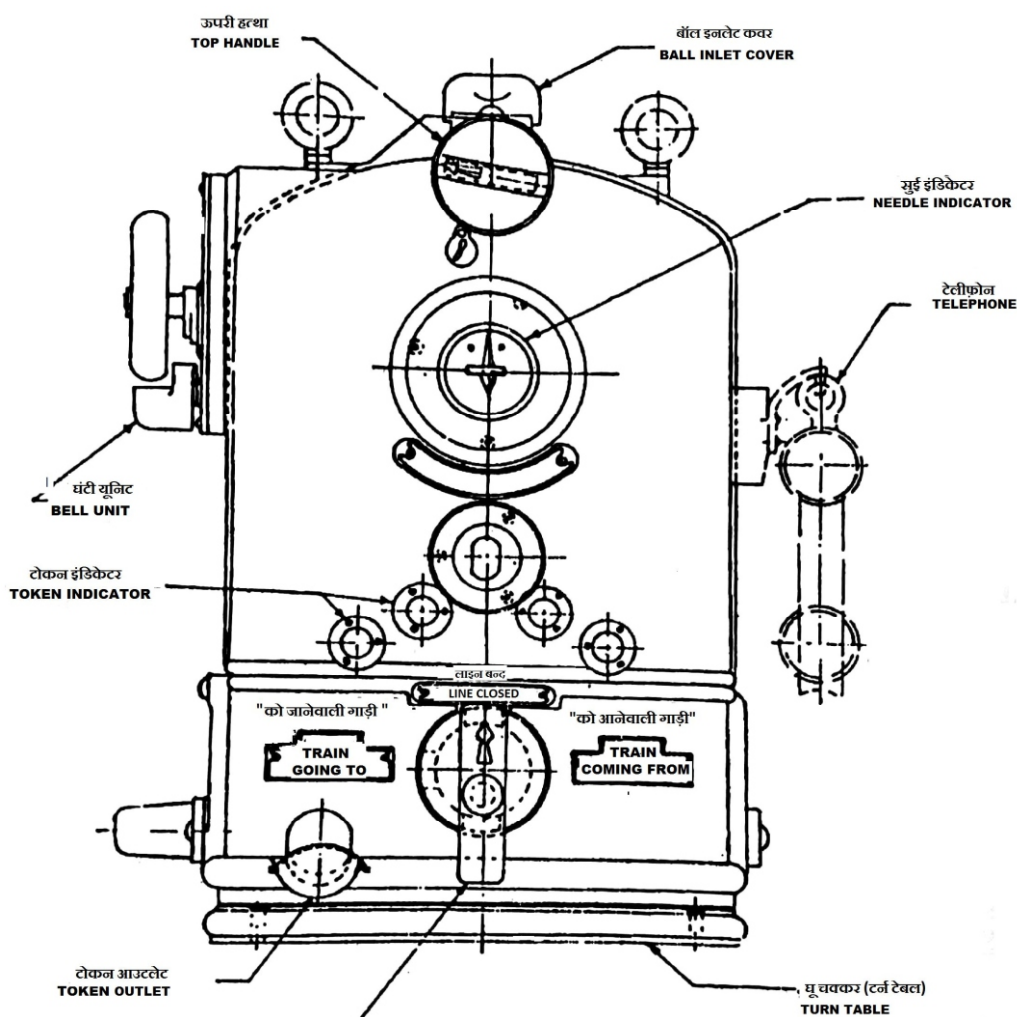
SINGLE LINE ELECTRICAL BLOCK INSTRUMENTS DESCRIPTION AND METHOD OF OPERATING

4.01 Types of Instruments – The following types of Electrical Block Instruments are in use on the Eastern Railway where Single Line working is in force-

- (a) Neale's Token Instrument (Old/converted type)
- (b) Neale's Token Instrument (New type)
- (c) Tablet Instrument
- (d) Tokenless Instrument
 - (i) Handle type – (Daido & Kyosan)
 - (ii) Push Button type.

Note :- Tokenless Instruments have been dealt in Chapter VIII of BWM.

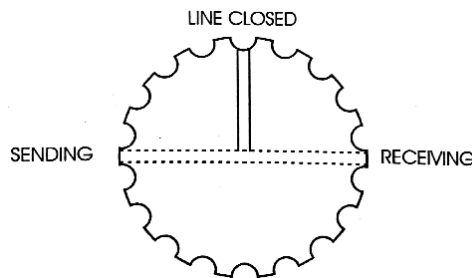
4.02. Description of Instruments - In the following pages will be found a description of each of the above types of instruments together with instructions for their operation.



4.03. Neale's Token Instrument (Old type) – This instrument is illustrated and is provided with the following.

- (a) an Operating Handle.
- (b) A Bell Plunger
- (c) A Block Bell
- (d) A Current Indicator (Galvanometer)
- (e) Drawer
- (f) Lock on Drawer
- (g) A token Delivery Aperture
- (h) A Mechanical Key Lock
- (i) A glass window for observing when Tokens are running short.

4.04. The Operating Handle is circular disc with a pointer engraved on it as shown below :-



(a) The Pointer indicates the three positions of the Operating Handle –

- (i) Line Closed which is the normal position of the handle and indicates that no Token has been extracted at either end of the Block section which is therefore clear of trains.
- (ii) Receiving position TCF which indicates that Line Clear has been given for a train to approach and that a Token has been extracted at the other end of the Block section, and
- (iii) Sending position (TGT) which indicates that line clear has been received to despatch a train and a Token has been extracted from the instrument.

(b) The Operating Handle cannot be turned without the permission of the Station Master at the other end of the Block section who has electrical control over it.

4.05. Bell Plunger – The Bell Plunger is placed in the centre of the Operating Handle and when depressed rings the bell of the corresponding Block Instrument at the other end of the Block section. It shall only be employed for signalling trains by means of the prescribed code of Bell signals. Each depression of the Bell Plunger causes one beat on the bell of the corresponding Block Instrument at the other end of the section.

- 4.06. Block Bells** – These bells are provided to convey the prescribed Code of Bell signals.
- 4.07. Current Indicator or Galvanometer** – The Galvanometer is provided with a needle the movement of which indicates the passage of an electrical current received or sent and also the operation of the corresponding Block Instrument at the other end of the section.
- 4.08. Drawer** – This provides the means for inserting a Token into the instrument and is so formed that only the correct Token can be inserted.
- 4.09. Lock on Drawer** – This lock where provided to enable the Drawer to be locked by the Station Master when he leaves the office or cabin. The keys shall always remain in the possession of the Station Master on duty.
- 4.10. Token Delivery Aperture** – This is the opening at the bottom of the instrument through which tokens are obtained.
- 4.11. Mechanical Key Lock** – The Mechanical Key lock is an attachment to the Token instrument added where required for the purpose of providing an interlock between the Token Instrument and the Starter signal of the section which it controls. It may also be used for other purposes such as the control of outlying points. The key can only be removed from the lock after the Token has been extracted from the instrument and the removal of the key locks the operating Handle in the sending position.
- 4.12. Glass Window** – This provides a means whereby the station Master can observe whether the Tokens are falling short.
- 4.13. Description of Tokens-**
- (a) The Tokens used in this instrument are of the ball type with grooves cut into them, these grooves being of a different pattern for adjoining Block section.
- (b) Each Token has engraved on it the Code initials of the two stations at either end of the Block section to which it applies. Every Token also bears a distinctive number.
- 4.14. Method of signalling trains from Block station to Block station with Neale's Token Instrument (Old type)** – Before any operation on Token or Block Instrument is made the name of Stations working together shall be exchanged on the telephone one with the others, as an assurance that the correct stations are in communication.

Taking two adjacent station X and Y and supposing that a train is to proceed from X to Y and the Operating Handles of the Token Instruments at both stations are normal, the following is the sequence of operations for signalling the train.

Station X	Station Y
(1) Sends "Attention" signal to Y (giving name of station on the telephone).	(2) Acknowledges "Attention" signal to X (giving name of station on the telephone).
(3) Attends Telephone.	(4) Attends Telephone.
(5) Asks Y for a Private Numbers for the train.	

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| <p>(7) Sends Y "Attention" signal.</p> <p>(9) Sends "Is Line Clear" signal inquiry to Y, keeping the Bell plunger pressed in for a count of five on the last stroke.</p> <p>(11) Turns the Operating Handle to the "Sending" position on receipt of the last beat of Y's acknowledgement signal. This will release a Token from the instrument, which he shall intimate to Y by giving the "Attention" signal (one beat).</p> <p>(12) Sends "Attention" signal to Y on departure of the train with the token.</p> <p>(14) Sends "Train entering Section" signal to Y.</p> <p>(19) Acknowledges "Attention" signal to Y.</p> <p>(21) On the last beat of Y's "Train out of Section" signal turns the Operating Handle of his instrument to the "Line Closed" position and acknowledges "Train out of section" signal to Y.</p> | <p>(6) Y gives a Private Numbers to X.</p> <p>(8) Acknowledges "Attention" signal to X.</p> <p>(10) On the last beat of X's "Is Line Clear" signal turns the operating Handle of his instrument to the 'Receiving' position and acknowledge the "Is Line Clear" signal to X keeping the Bell Plunger pressed in for a count of five on the last stroke.</p> <p>(13) Acknowledges "Attention" signal to X.</p> <p>(15) Acknowledges "Train entering Section" signal to X.</p> <p>(16) Obtains the Token from the Loco Pilot on arrival of the train and places it in the instrument.</p> <p>(17) Turns the Operating Handle of the instrument to the "Line Closed" position.</p> <p>(18) Sends "Attention" signal to X.</p> <p>(20) Sends "Train out of Section" signal to X keeping the Bell plunger pressed in for a count of five on the last stroke.</p> |
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4.15. Neale's Token Instrument (New Type) – the following is an illustration of this type of instrument.



- (a) The operating Handle indicates "Coming From" and "Going To" in place of "Receiving" and "Sending".
- (b) When there is no Token in the instrument the Operating Handle can only be moved to the "Coming From" position.
- (c) The Token is inserted by placing it in a drum at the top of the instrument and drum must be revolved to allow the Token to drop into the Token Chamber.
- (d) Four small circular glass windows are provided in place of the rectangular window in the old instrument for observing whether Tokens are running short.
- (e) A shutter is provided which gives two indications-
 - (i) A green Disc with a white cross to indicate that there are one or more Tokens in the instrument, and
 - (ii) A red disc with word "Empty" on it to indicate that there is no Token in the instrument.
- (f) the Tokens instead of having grooves of different patterns for adjoining Block sections have holes of different shapes.
- (g) The difference in the operation of the two instruments is that with the old type the Station Master giving the "Line Clear" for a train to approach is the first to restore his operating Handle to normal while with the new type the reverse is the case.

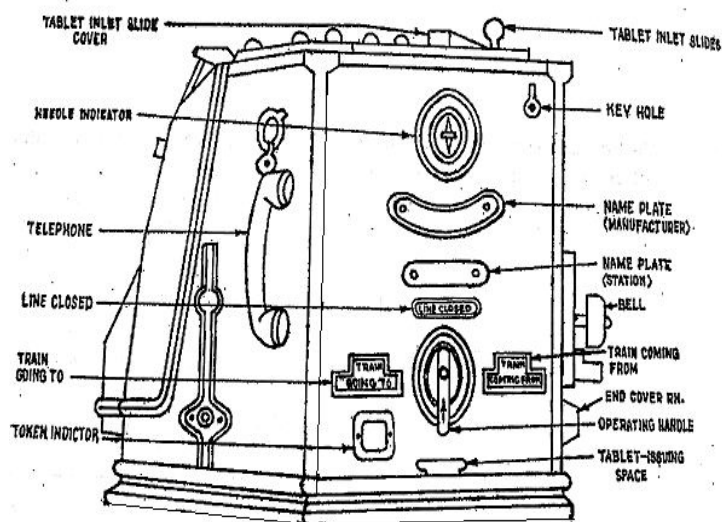
4.16. Method of signalling trains from Block station to Block station with Neale's Token Instrument (New Type) –

Before any operation on Token or Block Instruments is made the names of the stations working together shall be exchanged on the telephone one with the other as an assurance that the correct stations are in communication.

The method of signalling trains from Block station to Block station is exactly similar to that laid down for the Neale's Token Instrument (Old Type) until the operation of sending Train out of Section signal is arrived at when the procedure differs slightly as below.

Station X	Station Y
	(17) Sends "Attention" signal to X (giving name of station on the telephone).
(18) Acknowledges "Attention" signal to Y (giving name of station on the telephone).	
	(19) Sends "Train out of Section" signal to X keeping the Bell Plunger pressed in for a count of five on the last stroke.
(20) On the last beat of Y's "Train out of Section" signal turns the Operating Handle of his instrument to "Line Closed".	
(21) Acknowledges "Train out of Section" signal to Y keeping the Bell Plunger pressed in for a count of five on the last stroke.	
	(22) Turns his Operating Handle to "Line Closed" on the last beat of X's acknowledgement signal.

4.17. Neale's tablet instrument. – The following is an illustration of this type of instrument.



This instrument differs from the Neale's token (new type) instrument in the following respects. –

- (a) a flat tablet is used in this instrument as a token instead of a ball. The tablet is a metal disc and is engraved with the code initials of the stations at each end of the block sections to which it applies. The Tablets are provided with different grooves so that they cannot be put in to the instruments other than those to which they relate. The Tablets are numbered serially.
- (b) the tablet is issued from a drawer instead of an aperture ;

- (c) a small rectangular shutter is provided to show whether there are tablets in the instrument or not. If there are less than five tablets, these will not be seen.

4.18. Whenever a single line Block Instrument is opened by the Inspector/Maintainer of signal department for the purpose of maintenance – it shall be done only in the “Line Closed” position of the instrument.

A register is to be maintained and Cabinmaster/SM and the staff of signal department shall sign mentioning date and time of opening. The Cabinmaster/SM in charge of the cabin/station shall immediately advise the station in rear duly exchanging Private Numbers that the Block instrument has been taken on maintenance. During the period the Block Instrument is under such maintenance “Line Clear” will not be signalled on the Block Instrument and trains to be passed according to rules for failure of Block Instrument according to Chapter II of BWM.

On completion of Inspection/maintenance the instrument shall again be closed padlocked and sealed in “Line Closed” position and the Cabinmaster/SM and the signalling staff will both sign the register in acknowledgement that the Block Instrument has been sealed and padlocked.

The Cabinmaster/SM in charge of the cabin/Station shall not however resume normal working on the block instrument unless Private Numbers has been exchanged with Cabinmaster/SM of the block station in rear in confirmation that no train is in the block section or the last train leaving the rear station on Private Numbers has cleared the section.

CHAPTER - V

RULES AND REGULATIONS FOR SINGLE LINE WORKING BY MEANS OF ELECTRICAL BLOCK INSTRUMENT

5.01. Class of stations. – All single line stations on the Eastern Railway are 'B' class.

5.02. Conditions under which line clear may be given – [G.R. 8.03(2)] – at a Class 'B' station on single line, the line shall not be considered clear and Line Clear shall not be given, unless –

- (a) the whole of the last preceding train has arrived complete.
- (b) all necessary signals have been put back to 'on' behind the said train; and
- (c) the line is clear –
 - (i) at stations equipped with two aspect signalling – Up to the Shunting Limit Board or Advanced Starter (if any) at that end of the station nearest to the expected train;
or
upto the Home signal if there is no Shunting Limit Board or Advanced Starter;
or
upto the outermost facing points if there is no Shunting Limit Board or Advanced Starter or Home signal.
 - (ii) at stations equipped with multiple-aspect signalling or modified lower quadrant signalling –

Upto the Shunting Limit Board or Advanced Starter (if any) at that end of the station nearest to the expected train;
or
upto the outermost facing points if there is no Shunting Limit Board or Advanced Starter.

Note.- At a class 'B' single line station, this rule does not forbid direct reception of a train from one side, when Line Clear has been given to the Block station on the other side provided the distance between the outer signal and outermost facing points in two aspect signalling, and between the Home signal and outermost facing points in multiple aspect signalling, or modified lower quadrant signalling is not less than the sum-total of the adequate distance prescribed in Rule 8.01 in regard to conditions for granting Line Clear and Rule 3.40 in regard to condition for taking "off" Home signal for the admission of train even where shunting Limit Boards or Advanced Starters have not been provided as prescribed in sub-rule (1) of Rule 3.32.

5.03. (I) Obstruction in the face of an approaching train equipped with two aspect signals – (G.R. 8.09) the line outside the Home signal in the direction of a train for which Line Clear has been given shall only be obstructed when a Shunting Board or an Advanced Starter is provided in accordance with General Rule 3.32(1) and under special instructions which take into consideration the speed, weight and brake power of train, the gradients, the position of the Outer signal and the distance from which that signal can be seen by the Loco Pilot of an approaching train.

5.03 (II) Obstruction in the face of an approaching train at stations provided with manually operated multiple-aspect or modified Lower quadrant signal – (G.R. 8.09) – The line outside the outer most facing points in the direction of a train for which Line Clear has been given, shall only be obstructed when a shunting board or an Advanced Starter is provided and under special instructions which takes into consideration the speed, weight and brake power of trains, the gradients, the position of the first stop signal and the distance at which that signal can be seen by the Loco Pilot of an approaching train.

5.04 (I) Obstruction within station section equipped with two aspect signals. – (G.R.8.10) – If necessary signals are kept "on" shunting may be carried on either –

- (a) between Shunting Boards or Advanced Starters subject to the provisions of General Rule 8.09; or
- (b) between the Home signals, if there are no Shunting Boards or Advanced starters; or
- (c) between the outermost facing points, if there are no Home signals or Advanced Starters or Shunting Boards.

Provided that when signals have been taken "Off" for an incoming train on to a line which is not isolated in accordance with General Rules 4.11 (I), no shunting movement shall be carried on towards points over which the incoming train will pass.

Note : When line clear has been given for a train, Shunting shall not be carried out under the provisions of Rules 5.04 (a) (b) and (c) above in thick, foggy or tempestuous weather impairing visibility.

5.04 (II) Obstruction within station section at a station equipped with manually operated multiple aspect signals.– (G. R. 8.10(I) – If the necessary signals are kept "on" shunting may be carried on either –

- (a) between Shunting Board or Advanced Starter subject to the provisions of Rule 8.09;
- (b) between the outermost facing points, if there are no Shunting Boards or Advanced Starters.

Provided that when signals have been taken "off" for an incoming train on to a line which is not isolated in accordance with G. R. 4.11(I) no shunting movement shall be carried on towards points over which the incoming train will pass.

Note : No obstruction shall be permitted within the Station Section when line clear has been given for a train in thick, foggy or tempestuous weather impairing visibility.

5.05. (I) Obstruction outside Station Section at a Class 'B' single line station equipped with two aspect signals. (G. R. 8.11) – The line between the station section and the outer signal shall not be obstructed unless a railway servant specially appointed in this behalf by the Station Master is in charge of the operations, and unless –

- (a) the Block section into which the shunting is to take place is clear of an approaching train; or
- (b) if an approaching train has arrived at the Outer signal, the Station Master has personally satisfied himself that the train has been brought to a dead stand at that signal.

Provided that the line shall not be obstructed under clause (b) in thick, foggy or tempestuous weather impairing visibility, or in any case unless authorized by special instructions.

5.05. (II) Obstruction outside station section at a Class "B" Single line station equipped with manually operated multiple aspect signals (G.R. 8.12) – The line outside the station section upto the first stop signal shall not be obstructed unless a Railway servant specially appointed in this behalf by the Station Master is in charge of the operations, and unless the block section into which the shunting is to take place is clear of an approaching train.

5.06. Obstruction outside the first stop signal at a class "B" station on single line (G.R. 8.13) – The line outside the first stop signal shall not be obstructed unless the line has been blocked back.

5.07. Blocking Back – The following is the method of blocking back –

If "Line Clear" has not been given for a train to approach, the station Master of the shunting station shall telephone to the next station concerned as follows-

"I am blocking section back for shunting purposes.
Private Numbers....."

The Station Master receiving this advice shall acknowledge it as follows –

"I note the section is to be blocked back for shunting purposes.
Private Numbers....."

As soon as the Block section is cleared the shunting station shall telephone as follows :-

"Shunting has been completed. Block section is clear.
Private Numbers....."

The station Master receiving this message shall reply as follows :-

" I note shunting has been completed and Block section is clear.
Private Numbers....."

5.08. Use of Token Instruments –

- (a) The station Master on duty is the sole person authorized to take a Token from or place one in the instrument. No Token shall be taken from the instrument unless a Private Numbers has been obtained. The Station Master is responsible for seeing that the Token is correctly placed in the pouch before it is handed over to a Loco Pilot.

- (b) If there is any reason to suspect that the line is in contact which is indicated by the irregular ringing of the bell, or by the irregular movement of the Galvanometer needle, the Station Master shall immediately suspend Token Working and introduce paper Line Clear Working advising the Divisional Railway Manager. The Controller, Transportation Inspector (Movement) and the Signal Inspector of the occurrence.
- (c) This action shall also be taken if there is any reason for thinking that the instrument at the other end of the block section is being worked by an unauthorized person or that the man at the end is not working the instrument properly.

5.09. Code of Bell Signals – The following Code of signals shall be used for single line Block Working.

Ref. No.	Indication	Code	How Signalled	How Acknowledged
1.	Call Attention and/or Attend Telephone.	0	One stroke or beat	One stroke or beat
2.	Is Line Clear or Line Clear Enquiry.	00	Two	Two and sending
3	Train Entering Section.	000	Three	Three and sending Train on line
4.	(a) Train out of section. (b) Obstruction removed.	} 0000	Four	Four
5.	(a) Cancel Last Signal. (b) Signal given in error.	} 00000	Five	Five
6.	(a) Obstruction Danger Signal (General). (b) Stop and Examine Train. (c) Train passed without Tail Lamp or Tail Board. (d) Train divided. (e) Vehicles running away on the Block Section. (f) Vehicles running away on right line.	000000 000000-0 000000-00 000000-000 000000-0000 000000-00000	Six Six pause one Six pause two Six pause three Six pause four Six pause five	Six Six pause one Six pause two Six pause three Six pause four Six pause five
	Testing Signal	0000000000000000	Sixteen	Sixteen

5.10. Acknowledgement of Signals –

- (a) Each signal received shall be acknowledged by sending the authorized beats in acknowledgement.
- (b) No signal shall be acknowledged until it is clearly understood.
- (c) A signal shall not be deemed to be complete until it is acknowledged.
- (d) Should the station to which a signal is sent fails to reply, the signal shall be repeated at intervals of not less than 20 seconds until the reply is received.

5.11. Explanation and application of Bell Codes –

- (1) **“Call Attention”**- This signal shall be sent and acknowledged before sending any other signal.

The only exception to this rule, is when “Obstruction Danger” signal (six beats) is being sent. In such cases the “Attention” signal shall not precede the “Obstruction Danger” signal and the Station Master receiving the “Obstruction Danger” signal shall immediately acknowledge it by an exact repetition.

- (2) **“Is Line Clear” or “Line Clear inquiry”** – This signal is sent when permission to withdraw a Token is required. It shall not be sent unless the “Train out of Section” signal has been received and acknowledged for the last preceding train. The beats describe the class of train for which Line Clear is required.
- (3) **Train entering Section** – (a) This signal is sent when a train enters the Block section and shall not be sent until the train has passed the last Stop Signal.

Note: In cases, where, due to any reason, there is delay in conveying the “Train entering Section” signal by beats on block instruments or acknowledgement thereof, the time of the train entering the section should also be repeated on the block telephone and an entry made to this effect in the “Remarks” column of the Train Signal Register.

- (4) **“Train out of Section”** –
 - (a) This signal is sent when the whole train has arrived complete and the conditions under which Line Clear may be given, have been complied with.
 - (b) **“Obstruction removed”** – This signal is sent after the “Obstruction Danger” signal when the obstruction has been removed.

(5) **“Cancel Last Signal” or “Signal given in Error”** – This signal is sent when it is required to cancel the previous signal or when the previous signal has to be altered. When used to cancel a “Line Clear” signal (given or received) it shall be confirmed by the exchange of Private Numbers and a record of Private Numbers shall be made in the Train Signal Registers at both station with a brief statement of the reasons for cancellation.

(6) **“Obstruction Danger”** –

(a) This signal is sent when it is necessary in consequence of any obstruction or other cause for an approaching train (for which “Line Clear” has already been sent) to be stopped at the Block station in rear. The Station Master sending the “Obstruction Danger” signal shall immediately place all approach signals to the “ON” position. The station Master receiving the “Obstruction Danger” signal shall immediately place all signals to the “ON” position and take all possible measures to stop the train leaving his station. On no account shall the train be allowed to proceed until the “Obstruction Removed” signal has been received from the station which sent the “Obstruction Danger” signal and a new “Line Clear” has been obtained.

(b) **“Stop and examine Train”** –

(i) This signal is sent to the Block station in advance when anything unusual is observed on a train passing a station such as –

- I. Signals of alarm by a passenger
- II. Goods falling off an open wagon
- III. Vehicle on fire
- IV. Hot axle-box
- V. A carriage door opening outward
- VI. A goods wagon door open and not fastened or secured or
- VII. Any other dangerous condition likely to foul or obstruct the railway line or lines.

(ii) Station Master and their staff shall observe the condition of vehicles on train passing their stations. In the event of any defect or irregularity, as referred to in subparagraph (I) above, being detected, immediate steps shall be taken to stop the train by showing danger signals. If the train cannot be stopped, the Station Master shall at once send “Stop and Examine Train” signal to the Station Master of the Block station in advance and advise him by telephone why the signal was sent under exchange of Private Numbers.

(iii) The Station Master sending the signal shall if he considers it advisable stop a train coming in the opposite direction with a view to ascertaining whether any injury to a passenger or damage to the train has been caused by the train for which the signal was sent.

(iv) The Station Master receiving the signal shall acknowledge it immediately and ascertain if the Station Master giving the message considers that the adjacent line or lines is/are likely to be fouled. In

case the fouling of adjacent line/lines is considered likely, the station Master receiving the message shall use all available means to stop the train in question and also any train proceeding by adjacent lines likely to be fouled. Till such time as the affected train which was likely to foul adjacent line or lines arrives complete at the station where the message was received, the Station Master, at either end of the block section shall not allow any train by such adjacent lines in either direction. When the affected train has been stopped it shall be carefully examined and dealt with as the occasion may require.

- (iv) If after examination of the train the reason for the signal is not apparent or there is a likelihood of a passenger having fallen down or some goods or materials having fouled or obstructed the railway lines, trains may be permitted to enter the section by the same or adjacent lines after advising the Loco Pilots of the circumstances and warning them through a Caution Order (Form T/409) to proceed cautiously to the next Block station and to keep a sharp look out for any possible obstruction. Issuing of Caution Order shall be discontinued only when it has been ascertained that the concerned block sections are free from obstructions.
- (v) If however, the Station Master sending the signal notices signals of alarm by a passenger in the passing train or goods falling off and open wagon or any other dangerous condition likely to have fouled or obstructed the railway line or lines of the section in rear also he shall after taking action as per sub-paragraph (ii) above, use all means available to stop trains, if any, proceeding in the opposite direction towards the Block station in rear by adjacent line and send immediately "Obstruction Danger" Signal to the Station Master of the Block station in rear to stop trains, if any, approaching in the same direction either by the same line or adjacent line. He shall then advise him by telephone why the signal was sent, under exchange of Private Numbers. Thereafter trains may be permitted to enter the section by the same or adjacent lines after advising the Loco Pilots of the circumstances and warning them through a Caution Order (Form T/409) in accordance with the procedure as mentioned in Sub-paragraph (v) above.
- (c) **"Train passed without Tail Lamp or Tail Board"** – This signal is sent to the station in advance should a train pass without a Tail-lamp on the last vehicle, which shall be burning by night and the "Train out of Section" signal shall not be sent to the block station in rear and the Token delivered by the train shall not be inserted in the instrument but shall be kept in the custody of the Station Mater until he has heard from the station in advance that the train has been stopped and found to be complete.

If the station in advance reports that the train is incomplete, the Block section in rear shall be considered obstructed and the Station Master shall take immediate steps to clear the section.

- (d) **"Train Divided"** – This signal is sent if a train parts when leaving a station or if it passes a station in two or more parts. The Station Master receiving

the "Train Divided" signal shall take off signals to admit the first portion of the train into the station where it shall be brought to a stand. After ascertaining the number of vehicles that have arrived on the train the Station Master shall advise the station in rear. The "Train out of Section" signal shall not be sent until the Station Master has satisfied himself that no portion of the train has been left in the Block section.

- (e) **"Vehicles running away"** – This signal is sent if a vehicle or portion of a train has escaped and is running away or if a train enters the Block section without a Line Clear authority.
 - (i) The Station Master receiving this signal shall keep all signals in the "ON" position but if there is a train in the same Block section running in front of and same direction as the runaway vehicles, the signals shall be taken off to allow the train into the station where it should be stopped.
 - (ii) The facing points shall then be reversed to protect the train standing at the station and all possible measures taken to stop the runaway vehicles.
 - (iii) If the signal is received too late to take the action mentioned above the Station Master shall repeat the signal to the next station towards which the runaway vehicles are proceeding.
- (7) **"Testing Signal"** – This signal is used by the Block Maintenance staff to ascertain whether the Block Instruments, etc. are in order and it shall be promptly repeated by Station Master.

5.12. Obtaining token –

- (a) In the case of a stopping train the "Is Line Clear" Signal shall not be sent until the "Train Entering Section" signal has been received.
- (b) In the case of a train booked to run through the "Is Line Clear" signal may be sent before the "Train Entering Section" signal is received but not earlier than five minutes before the train in question is booked to leave the station in rear.

5.13. Delivery of token –

- (a) The Station Master is responsible for seeing that the proper Token for the section into which a train is proceeding is given to the Loco Pilot.
- (b) When an incoming Token is received, the Station Master on duty shall examine it and satisfy himself that it is the correct Token for the particular Block section and shall enter the number of the Token in the Train Signalling Register before inserting it in the instrument.
- (c) Under no circumstances shall a Token be handed over to the Loco Pilot unless it has been obtained from the instrument in accordance with the rules laid down.

- (d) The Station Master shall be responsible for seeing that every member of his staff through whose hands Tokens may have to pass, is acquainted with the distinguishing features of the Tokens of the adjoining sections.

5.14. Canceling Line Clear. –

- (a) If, after "Line Clear" has been received and a token/tablet has been extracted, it becomes necessary to cancel the "Line Clear", the Token shall be replaced in the instrument and the Operating Handle returned to its normal position in accordance with the sequence of operations laid down for signalling trains.
- (b) Whenever a Token/tablet is returned to the instrument from which it was extracted, Private Numbers shall be exchanged and a record made in the Train Signal Registers at both stations with a brief remark as to the circumstances of the case.
- (c) If a Token/tablet has to be returned to the instrument from which it has been extracted owing to the return of the Train, as in the case of a Divisional Material Train the Station Master shall, after having returned the Token send the "Train out of Section" signal and then proceed to turn the Operating Handle to its normal position in accordance with the sequence of operations laid down for signaling trains.

5.15. Refusing Line Clear –

When a Station Master is asked for a Private Numbers for a train but desires precedence to be given to a more important train to proceed from his station he shall state the fact and a record of the transaction shall be entered in the Train Signal Registers at both stations.

5.16. Authority to proceed –

- (a) No train shall enter a Block section from a station where Electrical Block ball/token/tablet Instruments are in use without a Token/tablet being in possession of the Loco Pilot, except in the case of failure of the token/tablet Instrument or in case of an engine or a train proceeding to assist a disabled train in which case the Loco Pilot shall be given a written authority.
- (b) The Loco Pilot shall satisfy himself that the Token/tablet handed to him applies to the section he is about to enter. He shall keep the Token/tablet in his possession until he reaches the end of the section when he shall make it over in the authorized manner except in the following circumstances –
 - (i) When a train disabled and a portion of the train is left in the section in charge of the Guard, the Loco Pilot before proceeding shall hand over the Token/tablet to the Guard and obtain from him receipt for it.
 - (ii) When a train parting occurs and a portion of the train is left in the section, the Loco Pilot shall not deliver the Token on arrival at the station but retain it in his possession until he has brought-in the rear portion of his train.
- (c) Whenever it may be necessary to give a Loco Pilot any special instructions respecting the road or any other circumstances demanding caution, the Token/tablet shall be supplemented by a Caution Order on Form T/409.

5.17. Wrong Token/Tablet delivered to Loco Pilot –

When an incorrect Token/Tablet is delivered to a Loco Pilot he shall carefully note the number and then return it to the issuing Station Master who shall grant a receipt for it. The Loco Pilot shall report the case in writing at the end of the trip.

5.18. Exchange of Tokens by Non-stopping trains –

- (a) The outgoing Token shall be made over to the Loco Pilot by means of a loop at the Line Clear post. The Loco Pilot shall deliver the incoming Token by carefully dropping the loop (with Pouch and Token) on the station platform or in the Token net where provided. At night a torch

light shall be displayed at the Line Clear post and at the place where the incoming Token is to be dropped.

- (b) Should a Loco Pilot over carry a Token to a station beyond the section to which it applies he shall hand it over to the Station Master on duty on arrival of his train at that station and obtain a receipt for the same.

5.19. Exchange of tokens by stopping trains –

- (a) The Loco Pilot shall deliver the loop with Pouch and Token to the station group-D staff waiting to receive it on the platform or on that side of the line where he can remain with safety. At night the station group-D staff shall be provided with a lighted torch. If Loco Pilot finds that there is no station group-D staff waiting to receive the incoming Token he shall keep it in his possession until it is sent for.
- (b) the outgoing Token shall be handed over to the Loco Pilot by a group-D staff.
- (c) When a train is worked by more than one engine or two or more light engines are coupled together, the token shall be carried by the Loco Pilot of the leading engine.

5.20. Transferring Tokens – When a Station Master observes that Tokens are nearly exhausted at his station he shall advise the Block Signal Inspector of the section by message as follows –

“Tokens short on the Up/Down side.....”

The Block signal Inspector (supervisory) of the section shall at once arrange for the transfer of Tokens.

- (a) When removing tokens from an instrument the member of the Signalling staff who is authorized to carry out this duty shall show the Tokens removed to the Station Master and make the following entry in the Token Register which shall be signed by the Station Master on duty.

No. of Tokens.....

For section

Time removed

Position of Operating Handle

Date

.....
Signature of Station Master

- (b) The member of the Signalling staff shall then proceed to the next station. Show the Tokens to the Station Master on duty before inserting them into the instrument and make the following entry in the Token Register which shall be signed by the Station Master –

No. of Tokens.....

For section

Time inserted

Position of Operating Handle

Date.....

.....
Signature of Station Master

- (c) The member of the Signalling staff shall keep a record in the Token Register of the individual numbers of the Token transferred.

5.21. Interruption of Token working –

- (a) When a Token/Tablet is lost or damaged or when through any defect both instruments remain locked, the following procedure shall be carried out –

The Station Master at the station where the instrument is defective shall-

- (i) after having given the intimation to the Station Master at the other end of section and obtained his acknowledgement, immediately suspend Token/Tablet working and introduce paper Line Clear working. On sections where Traffic Control is in operation the Controller shall also be advised.
- (ii) record the failure and time in the Train Signal Register.
- (b) The Station Master receiving advice that Token/Tablet working is suspended shall acknowledge the message by repeating it and make a record in his Train Signal Register.
- (c) When the failure has been rectified it shall be recorded in the Train Signal Register and the entry signed by the Station Master and the member of the Signalling staff who rectified the failure.

- (d) Token/Tablet working shall not be resumed while there is a train in the Block Section.
- (e) Before resuming Token/Tablet working the Station Master at the stations where the instrument was defective shall intimate regarding resumption of normal working to the Station Master at the other end of the section and obtain his acknowledgement.
- (f) After Token working has been resumed the Station Master shall -
 - (i) Intimate signal Inspector (Supervisory) Signal Inspector & the Signal & Interlocking Maintainer (Electrical) of the section (Omitting the person) who rectified the failure.

Record the time Token working was resumed in his Train Signal Register.

- (g) The Station Master receiving advice that Token working has been resumed shall acknowledge the message by repeating it and make a record in his Train Signal Register.
- (h) If a lost Token is found after a failure message has been sent, but before the arrival of the Signalling staff and even if trains have been passed meanwhile on Paper Line Clears, the instruments shall be restored by the Station Master personally, who shall provided that the Block Section is clear, advise the Station Master at the other end of the section as follows :-
 "No.....Token No.....found. Propose to restore Token Instrument."
- (i) The Station Master receiving the advice shall reply as follows -
 "No.....Your No.....Restore your instrument and let me restore mine.

Both station Masters shall then proceed to place their instruments in the normal position carrying out the regular sequence of operations and the Station Master who reported the failure shall advise the Signalling staff as follows -

Lost Token found.

and send a copy of the message by train to the Divisional Railway Manager.

- (j) If a lost Token is found after the instruments have been restored by the Signalling staff it shall be put in paper cover and kept in the station safe until it can be put into the instrument by the Signalling Inspector to whom the following message shall be sent.
 "Token No.....found."
- (k) If a lost token is found at a station to which it does not belong it shall be put into a stout cover and dispatched to the Divisional Railway Manager of the section to which it refers.

5.22 I. Failure of Electrical Block and Electrical Speaking Instruments – In the event of failure of the Token/Tablet instruments train shall be passed on Paper Line Clear which may be obtained –

(a) by the direct telephone

(b) through the Controller in the event of failure of telephone.

(c) by V.H.F. set.

5.22 II. Reporting of Failures.

(a) All failures of Electrical Block and Electrical speaking Instruments or any electrical signalling apparatus shall be reported to the following persons by message –

Divisional Railway Manager

Assistant Signal and Tele-communication Engineer

SSE (S&T) (Supervisory) or SSE/JE (S&T) of the section

Transportation Inspector (Movement)

(b) The Station Master shall record details of all failures in the Block Failure Register maintained at his station.

(c) When a failure has been rectified, the Signal Inspector or his authorized representative shall certify to that effect in the column provided in the Block Failure Register.

5.23. (i) Should the direct telephone communication also fail all messages for passing trains shall be transmitted through Control telephone.

(ii) The Station Master asking line clear from the Station Master at the other end of the block section, will indicate the times of arrival at or departure from his station of the last two trains. Similarly the Station Master, who is granting "Line Clear", will give to the Station Master asking permission the times of arrival at or departure from his station of the last two preceding trains.

(iii) Thereafter line clear shall be asked and given under exchange of Private Numbers.

(iv) Section Controller should ensure that the Station Master at either end shall, before asking and granting "Line Clear" repeat the arrival and departure timings of the last two preceding trains. He should also check correctness of the particulars to ensure that correct stations are contacted and record on his control chart the Private Numbers exchanged between the stations concerned. The Station Masters concerned shall however be entirely responsible for safety of trains.

Note : On A.C. electrified sections due to poor audibility of direct speech between two stations on control telephone system the "Line Clear" messages shall not be conveyed direct between the stations but will instead be exchanged

through the Controller on duty. A record of Private Numbers shall be kept by the stations and the Controller.

5.24. Train Signal Register –

- (a) The exact time at which all signals are sent or received and also Private Numbers when used shall be entered immediately after being acknowledged in the Train Signal Register by the Station Master on duty.
- (b) The entries shall be in ink and no eraser shall be made in any circumstances. If an incorrect entry is made, a line shall be drawn lightly through it and the correction made above it and initialed so that the original entry may be clearly seen.
- (c) The Train Signal Register is on no account to be taken out of the Block Cabin. It shall be examined and signed daily by the Station Master. The only exception to this rule is when an accident has occurred under which circumstances the register may be removed for safe custody by the Station Master or by an Inspector after a new register has been brought into use.
- (d) The number of every Token extracted from and inserted into the instrument shall be entered in the Train Signal Register.
- (e) The Train Signal Register shall also be scrutinized by the Transportation Inspector (Movement), who shall place his initials against such portions of the register as he has examined.

5.25. Station Masters changing duty –

- (a) The Station Master who makes any entry for a train shall continue on duty until the entries affecting that train are completed. By this it shall be understood that the man who gives permission for the train to enter the Block Section shall remain on duty till the train has arrived and the "Train Out of Section" signal has been given and acknowledged. The man who receives permission for the train to enter the Block Section shall remain on duty till the "Train Out of Section" signal has been received and acknowledged.
- (b) In the case of train working in the Block Section and in exceptional circumstances like accidents, engine failures, OHE failures etc. where abnormal delay of the train is apprehended, Sub-rule (a) need not be observed, but the fact shall be recorded in the remarks column of the Train Signal Register by the Station Master going off duty, who shall be responsible for seeing that the entry is initialed by the Station Master coming on duty.
- (c) A line shall be drawn across the Train Signal Register whenever Station Master changes duty and the Station Master going off duty shall sign his name legibly and enter the time above the line. The Station Master coming on duty shall sign his name below the line.

CHAPTER - VI

RULES FOR SINGLE LINE WORKING BY MEANS OF ELECTRICAL SPEAKING INSTRUMENTS

6.01. Preliminary –

The rules in this Chapter apply at stations on the Single Line where the normal method of passing trains is by means of Electrical Speaking Instruments and also at stations where the Electric Block Instruments have failed.

6.02. Authority to proceed –

- (a) The authority to proceed shall be a Paper Line Clear Ticket, no engine or train shall leave a station unless the Loco Pilot has in his possession a Line Clear Ticket written on the authorized form and applicable to the Block Section which the train is about to enter.
- (b) Sub-rule (a) does not apply
 - (i) when an engine or train enters a Block Section to assist a disabled train, and
 - (ii) when there is a Total Interruption of Communication
- (c) When it is necessary to give a Loco Pilot any special instructions respecting the road, or any other circumstances demanding cautious driving, the paper Line Clear Ticket shall be supplemented by a Caution Order on Form T/409.

6.03. Line Clear Enquiry Message Books –

Line Clear Inquiry Message Book contain 50 pages, progressively numbered.

6.04. Line Clear Enquiry Message (Outward/Inward) –

- (a) The form in use for obtaining line clear is "Line Clear Enquiry Message (Outward/Inward)", T/A 1425 or T/B 1425.

6.05. Conditional Line Clear Ticket –

- (a) Conditional Line Clear Ticket for up in Form T/G 602 is a form in red font with a water arrow mark in the middle facing upward. The Station Master will sign the form only after mentioning the time the last train left and endorsing the Private Numbers in support of "Line Clear". He also shall mention the particulars of last three trains left and particulars of three trains to follow. For Loco Pilots, as special instruction it is mentioned there in that when following a train keep sharp look out at speed not exceeding 25 KMPH when view ahead is clear and 10 KMPH or less when view is impaired due to any reason.
- (b) The Conditional Line Clear Ticket shall not be signed by the Station Master or renewed from the book until the train, on the arrival of which its issue is contingent, has arrived complete and shall only be used on sections where

Conditional Line Clear Working is authorized by approved special instructions and during failure of telephonic or other electrically operated means of communication and trains have to be worked according to the rules as laid down in Chapter VII.

- (c) Conditional Line Clear Ticket for Dn in Form T/H 602 is same form as described in 6.05 (a) except only water colour arrow heading downward.

6.06. The contents of Line Clear Inquiry Message of Inquiry Forms –

In both Up and Down Line Clear Inquiry Message Forms are used for recording the messages that pass between the two stations concerned, namely –

- A. – Line Clear Enquiry.
- B. – Reply received to Line Clear Enquiry from station.
- C. – Out report dispatched to station.
- D. – In report received from station.

6.07. Messages not to be recorded in wrong way – Messages dispatched to and received from one station shall not on any account be entered wrongly. According to the sequences all the entries shall be made.

6.08. Cancelling Line Clear – When a “Line Clear” is cancelled, all the entries relating to it shall be remarked “Cancelled” and the foils preserved.

6.09. Describing trains in messages. – In Inquiries for “Line Clear” and in replies to them the train shall be distinctly described thus “No. 1 Up Mail” or “No. 101 Up Goods or No. 102 Down goods” as the case may be. A separate inquiry and reply message shall be sent for each train and on no account shall a Line Clear message received for one train be used for another train.

6.10. Persons authorized to obtain and give “Line Clear” – No one except the Station Master on duty is permitted to give or ask for “Line Clear”.

6.11. Numbering of messages. –

- (a) Every message dispatched from a station shall be numbered consecutively to stations on either side from midnight to midnight commencing with No. 1 to each station.

- (b) When a message is in reply to another, each station's consecutive number shall be quoted at the beginning of the message, thus –

“No.....Your No.....”

- (c) When the message bears reference to a former message in the same direction the number of that message shall also be quoted at the beginning, as in the case of a Line Clear Message being cancelled, thus –

“No.....Your No.....and my No.....”

6.12. Inquiry for "Line Clear" or Line Clear Inquiry Message – This message is dispatched from a station asking the station in advance if the line is clear for a train which is either waiting or expected to arrive.

6.13. Procedure in sending inquiry Message – This message shall be written by the Station Master in his Line Clear Inquiry Message (Inward/Outward) Book in space "A" and communicated as soon as it has been written out. The time of dispatch being entered on it together with the detail of the Last Train which passed over the section.

6.14. When Line Clear Inquiry Message should be sent –

(a) When the Station Master on duty receives the Train Entering Section advice or is informed that a train is approaching his station, he shall apply for Line Clear to the next station in advance.

(b) In cases where owing to the run between stations being short there would not be sufficient time to ask for and receive "Line Clear" under the provisions of the foregoing paragraph without causing delay to trains, the Line Clear Inquiry message shall be dispatched to the station in advance immediately Line Clear is given to the station in rear.

(c) At terminal station and where trains have long halls, the Inquiry Message shall not be sent more than 15 minutes before a train is due to leave.

6.15. Replies to Inquiries –On receiving an inquiry as to whether the Line is Clear, the Station Master shall give a reply in accordance with the prevailing conditions and prescribed rules.

6.16. Train Entering section –

(a) This message shall be dispatched on the departure of a train from a station and shall be recorded in space "C" of the Line Clear Inquiry Message (Inward/Outward) Book.

(b) The Station Master receiving the "Train Entering Section" messages shall enter it in space "C" of the Line Clear Inquiry Message (Inward/Outward) Book.

6.17. Train Out of Section –

(a) This message shall be dispatched when a train has arrived complete and the conditions under which "Line Clear" for another train in the same direction can be given, have been complied with. This message shall be recorded in space "D" of T/A 1425.

(b) The Station Master receiving the TOs advice shall record it in space "D" of T/B -1425 form.

6.18. (I) Obstruction outside the Outer signal – The line outside the outer signal shall not be obstructed unless the line has been blocked back.

(II) Blocking Back – The following is the method of blocking back -

If Line Clear has not been given for a train to approach the Station Master of the shunting station shall communicate by means of electrical speaking instruments to the next station concerned as follows –

"I am blocking section back for shunting purpose.
Private Numbers....."

The Station Master receiving this advice shall acknowledge it as follows –

"I note the section is to be blocked back for shunting purposes.
Private Numbers....."

As soon as the Block Section is cleared the shunting station shall communicate by means of electrical speaking Instruments as follows –

"Shunting has been completed Block section is clear.
Private Numbers....."

The Station Master receiving this message shall reply as follows –

"I note shunting has been completed and Block Section is clear.
Private Numbers....."

6.19. Writing and signing Trains Messages –

- (a) All Inquiry and Line Clear messages shall be written in black ink or using a dot pen and signed in full by the Station Master.
- (b) Every messages relating to the passage of trains shall first be written in the Line Clear Inquiry Message Book as prescribed and then communicated word for word. Such messages shall be written immediately before these are required to be communicated and not in advance.

6.20. Writing signing and dating Paper Line Clear Tickets –

- (a) All written matter on Paper Line Clear Tickets shall be entered with the greatest care every word and number including the Station Master signature being carefully and distinctly written. The date shall be clearly written in numerals thus "9.2.79" and not thus "9th February 1979." The name of issuing and destination stations shall be written in full and in addition the code initials of both the issuing station and the destination station shall be inserted in block letters in the spaces provided for the purpose.
- (b) **Signing and dating the Authority to proceed** – In all cases the date and time of receipt of the Line Clear Inquiry Message shall be entered on the Paper Line Clear Ticket and Station Master shall be careful to see that this is done before signing the Paper Line Clear Ticket. And then it shall be handed over to Loco Pilot.
- (c) Station Masters shall be held responsible for the accuracy of the Paper Line clear Ticket and no alteration or correction shall be permitted on a Paper Line Clear Ticket whether initialed or not.
- (d) A Paper Line Clear Ticket without the signature of the Station Master and the date is to be treated as incomplete and shall not be accepted as an Authority to Proceed. Loco Pilots shall satisfy themselves that the Paper Line Clear Ticket is complete in every detail i.e. –
 - (i) that the date and time of receipt are noted thereon.
 - (ii) That it applies to his train, and
 - (iii) That the Private Numbers is entered both in figures and words.

In the event of any of these details being omitted or incorrectly entered the Loco Pilot shall not proceed until the Station Master gives him a correct Line Clear Ticket. He should, if requested by the Station Master state in what way it is incorrect.

- (e) All incorrect Paper Line Clear Ticket shall be retained by the Loco Pilot and not surrendered by him to anyone except the Running Shed Foreman to whom he shall report the matter. The Running Shed Foreman/Traction Loco Controller shall in turn submit a report to the Divisional Railway Manager enclosing the incorrect Paper Line Clear Ticket.
- (f) A Paper Line Clear Ticket which is required to be cancelled in order to give precedence to another train is not to be treated as incorrect but shall be surrendered by the Loco Pilot/Motorman to the Station Master on request.

6.21. Private Numbers –

- (a) Every Line Clear message shall be allotted a Private Numbers by the Station Master giving “Line Clear”.
- (b) The Private Numbers shall form part of the Line Clear Inquiry message and shall be communicated as the last words in it. It shall be entered on the Paper Line Clear Ticket both in figures and words thus – P.N. 24 – twenty-four.
- (c) When Private Numbers are given by means of telephone in order to avoid error or confusion the number should be given and acknowledged in three different ways e.g. “Thirty six”, “Three-six” and “Chhatis”.
- (d) A Private Numbers allotted to a “Line Clear” subsequently cancelled shall not be re-allotted. A fresh number shall be given to each “Line Clear” whether cancelled or not.

6.22. Private Numbers Sheet –

- (a) The Station Master shall be provided with sheets of numbers printed in groups of five. One sheet only shall be in use at a time for both Up and Down trains (Main as well as Branch lines) and for all purposes for which Private Numbers are used . Private Numbers shall be allotted in the order in which they are printed on the sheet and each Private Numbers as it is allotted shall be scored out by a line drawn diagonally across it, the occasion for which is used being entered against it thus –

Private No.	Stn. Transmitted to	Purpose for which utilized	
16 2 72	BRP MGT BRP	17 Up L/C 14 Dn. L/C 151 Up L/C	} Used.
22 92			} Unused at the end of day.
13 82 69 44 35			

- (b) Any numbers of a group of five which have not been allotted up to mid night shall be scored through vertically the next days date being written at the head of the next group of five as shown above.

6.23. The Same Private Numbers appearing consecutively. Should it occur from any cause (such as a misprint or the changing from one group to another that a Private Numbers is the same as the last one issued the issuing station shall cancel this number in his sheet, and the remark "Same as Last Private Numbers" sign it and issue the next different number. Should the message have been completed before the duplication of numbers is discovered it shall be cancelled and entirely rewritten with a fresh and different Private Numbers.

6.24. Custody of Private Numbers Sheet – Private Numbers sheets in stock shall be kept under lock and key by the Station Master who shall issue one sheet at a time as required and see that an adequate supply is always on hand. The sheet in use shall also be kept under lock and key by the Station Master on duty, who shall be responsible for seeing that no other person is allowed to see or have access to it and when he goes off duty shall hand it over to his relief. Each sheet as it becomes exhausted shall be sent in a sealed envelop to the Divisional Railway Manager.

6.25. Delivery of Paper Line Clear Ticket Form –

- (a) The Station Master shall be responsible for seeing that the proper Paper Line Clear Ticket for the proper direction into which the train is proceeding is given to the Loco Pilot.
- (b) The Station Master shall be responsible for seeing that every member of his staff through whose hands Paper Line Clear Ticket Form may have to pass is acquainted with difference between Up and Down Paper Line Clear Ticket Form and that they know which is the Up and which is the Down direction.
- (c) When a train stops at a station the Paper Line Clear Ticket shall be handed to the Loco Pilot by one of the Group-D staff appointed by the Station Master to do so where conditional Line Clear working is authorized. If a train is detained to cross another train the Station Master shall not issue the Paper Line Clear Ticket until the whole of the other train has arrived clear of the points and particulars of its arrival have been entered on the Paper Line Clear Ticket.
- (d) In the case of a non-stopping train, the Paper Line Clear Ticket Form shall be delivered to the Loco Pilot at the outermost facing points by means of a Loop. At night a lighted torch shall be displayed, so that the Loop can be seen by the Loco Pilot.

6.26. Disposal of Paper Line Clear Ticket Forms –

- (a) The Loco Pilot shall hand over all Paper Line Clear Ticket Forms to the Running Shed Foreman at the end of the run.
- (b) The Running Shed Foreman shall in turn send them to the Divisional Railway Manager's Office where they shall be checked before being destroyed.

6.27. Disposal of used Paper Line Clear Ticket Books – Used Paper Line Clear Ticket Books shall be retained at stations intact for six months and then be disposed of in accordance with instructions issued from time to time.

CHAPTER - VII

RULES AND REGULATIONS FOR WORKING OF TRAINS DURING TOTAL INTERRUPTION OF COMMUNICATIONS ON SINGLE LINE

7.01. Rules for Working of Trains on the Single Line in the event of Total Interruption of Communications. – The following procedure shall be adopted for train passing in the event of total interruption of communications occurring between two block stations i.e. when “Line Clear” cannot be obtained by one of the following means stated in order of preference viz.

- (a) Block Instruments; Track circuits or Axle Counters;
- (b) Telephones attached to the Block Instruments;
- (c) Stations to Stations fixed Telephones wherever available;
- (d) Fixed Telephones such as Railway Auto Phones, BSNL Phones under Special instructions. (i.e. “Line Clear” shall be obtained with identification number separately for each train as detailed in Appendix – “A” of BWM.
- (e) Control Telephone;
- (f) V.H.F. sets under special instructions, but not as sole means of communication on sections where Passenger trains run.

Provided further that –

- (A) The order of preference, as mentioned above, should not be violated under any circumstances. Any violation should be treated with utmost severity for taking up the defaulters.
- (B) In case of failure of all other means of communication, leaving VHF as the only alternative, it can be used for line clear only under special instructions specifying the circumstances, duration and manner in which VHF will be used till restoration of any one of the other means of communication.

The use of VHF sets for prolonged duration will be permitted only in presence of supervisory staff in terms of the following instructions –

- i. In a single line station, in case of any defect in block instrument whereby paper line clear ticket has to be introduced, SSE/JE (S&T) should reach the station immediately, within one hour of occurrence of such failure.
- ii. In case the failure is not rectified within three hours, the Sectional TI or any other nearby supervisory Station Master should go to the station for assisting the staff there and to ensure that all rules are meticulously adhered to and appropriate authority for each and every train issued, taking care that there are no mistake.

- iii. In such incidents, Section Controller should also ensure that no crossing or precedence is arranged at a station where such failure is continuing.
- iv. Similar precaution to be taken during introduction of single line working in double line sections.
- v. In case of failure of block instruments in double line section, similar action should be taken for rectifying the failure in three hours. Section Controller should not allow precedence at such stations till the instruments are put right.
- vi. Further, in case the senior supervisors mentioned above do not reach station where such failure occurred within the stipulated period and if there is mishap, they should be held equally responsible for the same.

In case, the non-attendance is due to orders of the Superiors, the Superiors even of officers level should be held accountable.

This procedure should be introduced immediately. The speed restriction of 30 Kmph, however, being imposed on this account should be discontinued.

A speed restriction of 30 kmph be imposed additionally if working train on PLC exceeds duration of 24 hrs. of PLC working introduction. (Authority : Ply. Board's Letter No. 2005/Safety (A&R) /19/16. dated :16/01/2007)

- (C) VHF sets can, however, be used as the only means of communication, under separate special instruction, for specific sidings / sections where only freight trains are running.
- (D) ***In all cases where line clear is obtained / granted by a means of communication other than Block Instrument / Track Circuit / Axle Counter or telephone attached to Block Instrument, the system of calling station name, followed by establishing identity of the Station Master on duty by either cross checking by Private Numbers given for line clear to preceding three trains, or Identification Number Sheet should be prescribed.***
- (E) Further, wherever Global System of Mobile Radio has been / is being provided, the use of VHF sets for the purpose of line clear should not be permitted.

The instructions laid down in the succeeding paragraphs, shall be followed for working trains between block stations.

Note: These instructions shall also be followed whenever during total interruption of communications, an accident to a train or track or other obstruction precludes the use of the one of the lines on a double line section or whenever total interruption of communications occurs during single line working on a double line section.

7.02. The Station Master who has a train to despatch through the affected block section shall open communications by establishing contact with the Station Master of the block station at the other end of the affected block section by sending an engine or self propelled vehicle or any other vehicle, enumerated below, in the order of preference laid down.

- (i) Light engine;

- (ii) Train engine after it is detached from the train by the Loco Pilot on instructions from the Station Master on duty;
- (iii) Motor trolley/Tower wagon duly accompanied by a Guard or by a Station Master other than the Station Master on duty;
- (iv) Trolley/Cycle Trolley/Moped trolley duly accompanied by a Guard or by a Station Master other than the Station Master on duty;
- (v) Diesel Car/Rail Motor Car/EMU/MEMU/DMU Rake after ensuring that all passengers have detrained.

7.03. Before the light engine / train engine / Motor Trolley / Tower wagon / Trolley / Cycle Trolley / Moped trolley / Diesel car / Rail motor car / EMU / MEMU / DMU rake is sent into the affected block section to open communications, the Loco Pilot/Motorman/Guard/Station Master being sent to do so shall be advised by the Station Master on duty of the circumstances in which and the purpose for which he is being sent. The Station Master on duty shall also satisfy himself that the Loco Pilot/Motorman/Guard/Station Master being sent to open communications, thoroughly understands the rules for working of trains during total failure of communications on the single line. If the Loco Pilot/Motorman/Guard/Station Master who is being sent to open communications, is not conversant with the Rules for working of trains during total failure of communications on single line, the Station Master on duty shall explain these rules to such staff. The Station Master on duty shall also obtain the signature of the Loco Pilot/Motorman/Guard/Station Master on Authority for Opening of Communication during Total Interruption of Communication on Single Line Section (Form T/B 602) in token of such staff having fully understood the circumstances in which and the purpose for which he is being sent and the Rules for Working of Trains during total failure of communications on single line.

7.04. (1) Before despatching the light engine/train engine/Motor trolley/Tower Wagon/Trolley/Cycle Trolley/Moped Trolley/Diesel Car/Rail Motor car/EMU/MEMU/DMU rake the Station Master on duty shall hand over Authority for Opening of Communication during Total Interruption of Communication on Single Line Section to the Loco Pilot/Motorman/Guard/Station Master who is being sent to open communications, which includes –

- (i) An “Authority to Proceed without Line Clear”.
- (a) A Caution Order, specifying the speed upto which the engine or self propelled vehicle or other vehicle referred to in para 2 may run to the affected block section.
- (b) An Authority to pass the last stop signal in the “On” position in case there is a last Stop Signal at the station.
- (c) A Line Clear Enquiry message addressed to the Station Master of the block station at the other end of the affected block section asking for “Line Clear” for the train waiting to be despatched to his station.
- (d) A conditional “Line Clear” message to the Station Master of the block station at the other end of the affected block section permitting him-
- (e) To return the Light Engine/Train Engine, either light or attached to a train waiting to be despatched from his station, or attached with another engine; or

- (f) To return Tower Wagon/Diesel Car/Rail Motor Car/EMU Rake running by itself; or
- (g) To return Motor Trolley/Cycle Trolley/Moped Trolley either running by itself or loaded in a train waiting to be despatched from this station.

7.04. (2) The Line Clear Enquiry message asking Line Clear for the trains to be despatched through the affected block section, and the Conditional Line Clear message for the return journey or the engine or self propelled vehicle or other vehicle referred to in para 2, as the case may be, shall be written out on Form T/B 602.

N.B. : The particulars of engine either running light or attached to a train or attached to another engine/Tower Wagon/Diesel Car/Rail Motor Car/EMU Rake/Motor Trolley or Trolley or Cycle Trolley or Moped Trolley running by itself or loaded in a train, as may be applicable, shall be correctly filled in while preparing the message.

7.04. (3) The Loco Pilot/Motorman/Guard/Station Master going to open communications shall on receipt of "Authority for opening communication during total interruption of communication on single line section" and sign on its original and carbon copy in token of his having understood its contents. In case the Loco Pilot is illiterate, the contents shall be explained to him by the Station Master on duty, in the presence of the Guard concerned if any.

7.04. (4) In case a light engine or an engine and brake van is to be despatched to proceed to the next block station and then continue its journey onward after arrival at the next station and is not meant for opening communications, the Loco Pilot of engine or the engine and brake van, shall be given with the "Authority for opening communication during total interruption of communication" and the items "Line Clear Enquiry Message and Conditional Line Clear Message" shall be struck out in form. Such engines or engine and brake van shall be issued only the "Authority to Proceed Without Line Clear", the Caution Order and the Authority to Pass the Last Stop Signal in the 'On' position, referred to in para 4.1 (i), (ii) and (iii) where necessary. Should it be necessary to dispatch another light engine or another engine and brake van in the same direction, an interval of at least 30 minutes shall be allowed to elapse before it is despatched.

7.04. (5) The Last Stop Signal shall not be taken 'OFF', while permitting an engine or self propelled vehicle or other vehicle to proceed to the next station on "Authority for opening communication during total interruption of communication on single line section".

7.05. After an engine or self propelled vehicle or other vehicle is despatched to the next station to open communications with Line Clear Enquiry Message and a Conditional Line Clear Message to the next station for the return journey of the engine or self propelled vehicle or other vehicle no other train or engine or self propelled vehicle or other vehicle shall be allowed to leave the station and proceed in the same direction until the engine or self propelled vehicle or other vehicle sent to open communications returns. This does not, however, prevent and engineering officials going into the section on his push trolley for his work on section on which push trolleys do not run on Line Clear.

7.06. (a) The engine or self propelled vehicle or other vehicle proceeding on "Authority for opening communication during total interruption of communication on single

line section" shall switch on the Flasher light wherever provided and shall proceed at a speed not exceeding 15 kilometres per hour by day and when the view is clear and 10 kilometres per hour during night or when the view is obstructed, making free use of engine whistle or horn of the self propelled vehicle, where provided. In thick, foggy or tempestuous weather or in dust storm etc. when visibility is impaired, the engine or self propelled vehicle or other vehicle proceeding on "Authority to Proceed Without Line Clear" shall proceed at walking pace only making repeated use of the engine whistle or horn of self propelled vehicle, where provided, preceded at an adequate distance by two men on foot, one displaying a red light and the other carrying fog signals ready for immediate use. Normally one of these men will be provided by the Station Master from his Group-D staff and the other from the crew of the engine or the person whose Motor Trolley/Trolley/Cycle Trolley/Moped Trolley is being used. In case of single manned self propelled vehicle, both these men shall be provided by the Station Master. The Station Master on duty shall explain to both of them their duties, in the presence of the Loco Pilot / Motorman / Guard / Station Master incharge of the self propelled vehicle or other vehicle being sent to the next station and satisfy himself that they understand the same.

- (b) Both by day and night a tunnel must not be entered until the Loco Pilot/Motorman/Guard/Station Master has ascertained that it is clear. should there be any doubt on this point, the engine or other vehicle etc. should be piloted by a railway servant equipped with hand signal and detonators. Before entering the tunnel the head lights, side and tail lights and other lights (where provided) shall also be lit.
 - (c) No obstruction on the line beyond the outermost facing points shall be allowed until the return of the engine/Tower Wagon/Diesel Car/Rail Motor Car/EMU Rake/Motor Trolley/Cycle Trolley/ Moped Trolley.
- 7.07.** In the event of an engine/self propelled vehicle/other vehicle, proceeding on "Authority for opening communication during total interruption of communication on single line section" meeting in the mid-section, an engine self propelled vehicle/other vehicle sent from the other end, the Loco Pilots/Motormen/Guards/Station Masters, as the case may be, shall taking into consideration the importance of the train for which they are proceeding to get Line Clear, the distance from the nearest station, gradients to be encountered, the presence of catch siding etc. decide to which of the two stations, the engines/self propelled vehicles/vehicles should proceed. Before proceeding, the engines or self propelled vehicles shall, if possible, be coupled up. If the engines/self propelled vehicles cannot be coupled up they should run at a safe speed and adequate distance apart. In the case of Motor Trolley/Push Trolley/Cycle Trolley/Moped Trolley, meeting an engine and Brake Van/Diesel Car/Rail Motor Car/EMU Rake, the Motor Trolley/Push Trolley/Cycle Trolley/Moped Trolley shall, if possible, be loaded in the Brake Van/Diesel Car/Rail Motor Car/EMU Rake.
- 7.08.** On sighting the station to which the engine/self propelled vehicle/other vehicle running by itself or with another similar unit coupled together or separately, to which it is/they are proceeding, the leading engine/self propelled vehicle/other vehicle shall stop out side (i.e. in rear of) the first Stop signal of the station. The engine or self propelled vehicle or other vehicle following the leading engine/self propelled vehicle/other vehicle, shall stop at a safe distance behind the leading engine/self propelled vehicle/other vehicle. The Station Master shall be advised of the stoppage out side the first stop signal either by using the engine whistle/horn of the self propelled vehicle, if provided, or by sending a man if necessary. They shall not enter

the station till permitted by the Station Master to do so either by taking 'Off' the relevant signals or otherwise.

- 7.09.** When the engine or engines/self propelled vehicle or self propelled vehicles/other vehicle or vehicles have been admitted into the station, the "Authority for opening communication during total interruption of communication on single line section" T/B 602 with the Line Clear Enquiry Message and the Conditional Line Clear Message giving the Line Clear for the return journey shall be delivered to the Station Master on duty who shall keep this document in his safe custody and also post the Line Clear Enquiry Message and the Conditional Line Clear Message in his Line Clear Books. On the Authority of the Conditional Line Clear Message for the return journey the Station Master on duty shall make out a Conditional Line clear Ticket T/G 602 (UP) or T/H 602 (DN) and hand over it to the Loco Pilot/Motorman/Guard/Station Master to return to the block station from where he came with his engine (either light or attached to a train or another engine or a self propelled vehicle if one is waiting to proceed in that direction)/self propelled vehicle/other vehicles.
- 7.10.** In case of the engine or self propelled vehicle or other vehicle returning to the station from which he was sent without reaching the next station the "Authority for opening communication during total interruption of communication on single line section" shall be taken back by the Station Master on duty of the station from which this was issued and cancelled. The original entries shall also be cancelled.
- 7.11.** Station Master on duty before dispatching the engine either light or attached to a train/self propelled vehicle/other vehicle, on the return journey shall hand over to the Loco Pilot/Motorman/Guard/Station Master, 'Conditional Line Clear Reply Message' for the 'Line Clear Enquiry Message', giving Line Clear for the train waiting at the other station, thereby authorizing the Station Master at that station to start the train waiting there on complete arrival of the engine, either light or attached to a train/self propelled vehicle/other vehicle at his end.
- 7.12.** The Conditional Line Clear Reply Message in Form T/F 602 shall be worded as follows:-
Message No
Your Message No on arrival of * Train Engine with/without
train/self propelled vehicle/other vehicle No at yours line
will be clear and kept clear for following train/s:-.....
*
(i) Train No Private No. (in words)(in figures)
(ii) Train No Private No. (in words)(in figures)
(iii) Train No Private No. (in words)(in figures)
(iv) Train No Private No. (in words)(in figures)

* *Strike out whichever is not applicable.*

* The particulars of engine either returning light or attached to a train or *attached to another Engine/Tower Wagon/Diesel Car/Rail Motor Car/EMU Rake/Motor Trolley or Trolley/Cycle Trolley or Moped Trolley* running by itself or loaded in a train as may be applicable shall be correctly filled in while preparing the message.

- 7.13.** On the return journey, engine either light or attached to a Train/Diesel Car/Rail Motor Car/EMU Rake/Train loaded with Motor Trolley/Push Trolley/Cycle Trolley/Moped Trolley may run at booked speed observing speed limits in the Working Time Table and other relevant rules. The Motor Trolley/Push Trolley/Cycle Trolley/Moped Trolley returning by itself may run at their normal speed observing the rules governing their running on Line Clear.
- 7.14.** On reaching the station, the engine either light or attached to a train/Self-propelled vehicle/other vehicle shall again stop outside (i.e. in rear of) the first Stop Signal of the station and thereafter be guided by the instructions from the Station Master, who may arrange to receive it by taking 'Off' the relevant signals or otherwise.
- 7.15.** On arrival at the station the "Conditional Line Clear Reply Message" shall be handed over to the Station Master who shall record in the Line Clear Message Book and on its authority issue a Conditional Line Clear Ticket for the waiting train.
- 7.16.** If there be an even flow of trains in both directions, Enquiry and Conditional Line Clear Messages for each succeeding train may be sent through the Guard of the preceding train.
- 7.17.** The arrival and departure time of all trains, engines, trollies etc. which are passed under the above rules must be carefully recorded in the Line Clear Enquiry and Reply Books, and also in the counterfoil of the "Authority to Proceed Without Line Clear" and in the Train Signal Register.
- 7.18.** If the Station Master at one end of the interrupted section has more than one train to dispatch in the same direction before another train is normally expected from the opposite direction, he shall, in such cases, send the available engine of a train to obtain "Line Clear" not only for that train but also for the following trains which may be waiting or expected at his station. In the Line Clear Enquiry Message, it shall be stated that these latter trains will be despatched after the first train at intervals of 30 minutes. After the Loco Pilot returns with the Line Clear for the required number of trains to the station at which he had left the train, the Station Master shall dispatch the first train on the authority of the Line Clear for the trains and shall also endorse on that Line Clear that a particular train (giving its number and description in full) shall follow at a specified interval. The Station Master shall give similar information to the Guard also in writing. The Loco Pilots of the second and subsequent following trains shall be given a caution order restricting the speed to 25 kilometres per hour over the straight line when the view ahead is clear and to 10 kilometres per hour when approaching or passing any portion of the line where the view ahead is not clear due to curve, obstruction, rain, fog or any other cause.

When dispatching the second and subsequent trains, the particulars of the last preceding train along with its time of departure will be endorsed on the Line Clear as also the particulars of the train which would follow. The Line Clear for the last train of the series should be endorsed with the particulars of the proceeding train together with its time of departure.

While adopting this procedure, the Guard and the Loco Pilot should be instructed to keep a sharp look out and be prepared to stop short of any obstruction.

- 7.19.** When a train is stopped in the block section the Guard shall immediately exhibit a hand danger signal towards the rear and check up that the tail board/ lamp or the tail light is correctly exhibited. If the stoppage is on account of accident, failure obstructions or other exceptional cause and the train cannot proceed, the Loco

Pilot shall sound the prescribed code of whistle to apprise the Guard of the fact, where upon the Guard shall protect the train by placing one detonator at 250 metres from the train on the way out and 2 detonators, 10 metres apart, at 500 metres from the train, irrespective of the gauge, When a train is detained outside signals and if the detention exceeds or is likely to exceed 10 minutes it shall also be protected accordingly. In the absence of the Guard the duty of protecting the train shall devolve on the Loco Pilot.

- 7.20.** When trains follow one another no train shall be backed. In exceptional circumstances when it may be unavoidable to back a train, the train shall be backed only after providing protection by placing one detonator at 250 metres and two detonators, 10 metres apart, at 500 metres from the point up to which the train is to be backed.
- 7.21.** Trains must continue to work on this system until anyone of the means of communications, mentioned in rule (1) is restored by the competent authority.
- 7.22.** As soon as anyone of the means of communications has been restored, the Station Master must send a message to the Station Master at the other end of the section on the form T/I 602 ;

From Station Master_____ To Station Master_____

Date_____Time_____ hours_____minutes

Message No._____ Train (No. and description)_____arrived complete at_____ hours_____minutes. Last train (No. and description)_____ dispatched to your station at_____ hours_____minutes. Cancel the Conditional Line Clear Working of trains/ Present method of working of trains. Line Clear must be obtained by means of _____ Acknowledge. Private No. (in words) _____ (in figures)_____.

Signature of Station Master

On receipt of the above message, the Station Master at the other end of the section must acknowledge in the following form :-

ACKNOWLEDGEMENT

From Station Master_____ To Station Master_____

Message No._____. Your Message No._____. Understand that train (Number and description)_____ which was the last train to leave my station has arrived complete at station at_____ hours_____minutes/not arrived. Conditional Line Clear Working of trains is being/will be cancelled immediately after

the complete arrival of train number_____. Line Clear for the next train will be obtained by means of_____.

Private No. (in words) _____ (in figures)_____.

- 7.23.** Line Clear shall not be obtained or given by means of communication restored, until both the Station Masters are satisfied that all trains and engines etc. despatched from their stations have arrived complete at the other station. Even if the communication is restored immediately after the departure of the light engine/self propelled vehicle/any other vehicle referred to in rule 2, sent under "Authority for opening communication during total interruption of communication on single line section" normal working should not be resumed until the light engine/self propelled vehicle/any other vehicle reaches the next station and both the Station Masters are satisfied under exchange of Private Numbers that no light engine/self propelled vehicle/any other vehicle is on the section. Thereafter an intimation about this shall be given to Section Controller also on controlled sections, if communication with Section Controller has also got restored and normal working resumed. If, however, communication with Section Controller has not got restored along with restoration of communication between two stations, the Section Controller shall be advised of the position immediately on restoration of communication with him.
- 7.24.** On the section where total interruption of communication occurs, the Transportation Inspector of the section, must scrutinize the train passing records of the station and submit his report to the Divisional Railway Manager within 7 days of the resumption of communication.

CHAPTER-VIII

RULES FOR WORKING OF TRAINS ON SINGLE LINE BY MEANS OF TOKENLESS BLOCK INSTRUMENT, HANDLE TYPE AND PUSH BUTTON TYPE

8.01. The following are the Rules for working of trains on the single line by means of Tokenless Block Instrument approved as a means of granting or obtaining Line Clear (GR 14.01)

Preliminary :-

- (i) The Object of the Train passing system by Electric Tokenless Instrument is to eliminate the delay in the exchange of token balls through the Token Instrument and to ensure movement of only one train at time in the Block Section.
- (ii) Station, where tokenless train passing system is in operation are furnished with two instruments one for each adjoining section. Telephone communication is provided with each Instrument.⁹⁹
- (iii) At stations where tokenless train passing system is in operation, authority to proceed from one Block station to other will be on signal Indication (taking off the last stop departure signal) only in terms of GR 14.08 (b)(iv)
- (iv) Passing of trains on this system does not in any way dispense with the use of fixed, Hand or Fog signals, whenever and wherever such signals may be required, to protect trains from obstructions on the line, nor does it change in any way the rules in force in regard to such signals. Provisions of chapter III of the G & SR Book shall apply fully.
- (v) Loco Pilots must act strictly in accordance with the General Rules, subsidiary Rules and any other regulations for the time being in force for the observance of signals.
- (vi) Trains will be started on the Guard's signal after the correct departure signals have been taken "OFF" or after the Station Master's permission has been obtained.
- (vii) Rules (v) above applies also to guards with such variations as follow from the different nature of their duties.

8.02. Types of Instruments –

The following types of Instruments are in use in Eastern railway –

- (A) Daido's/Kyosan's handle type instrument or of similar type.
- (B) Push button type tokenless instrument of Podanur or similar type.

8.03. Arrangement of Instrument –

- (1) Two Instruments will be used as a pair to cover a Block Section being connected by two line wires. For example, if A and B are two Block Station either end of the Block Section, one instrument will be at Station A and the other at Station B. Telephonic Communication is provided in conjunction with the Block Instrument.
- (2) The Block Instruments may be provided at the Station Building or in the cabin at either end of the Block Section and be operated by Station Master or Cabinmaster. Accordingly, in regard to operation at the Block Instrument, the use of word "SM" hereinafter means SM or Cabinmaster as the case may be, except where otherwise specified.

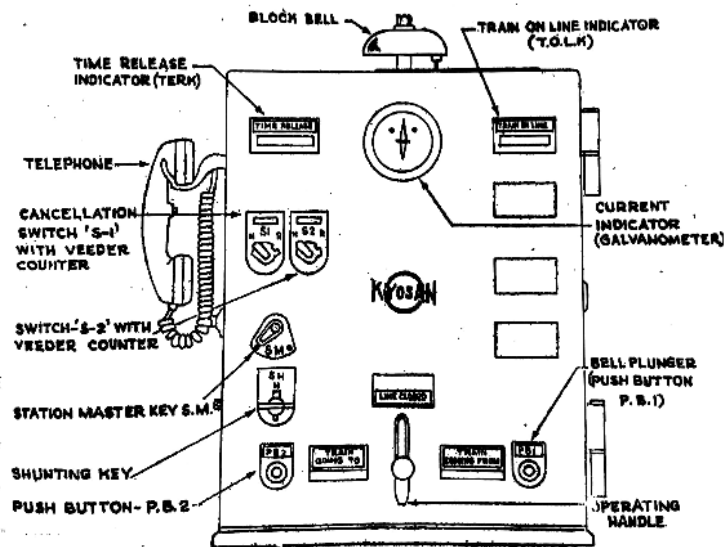
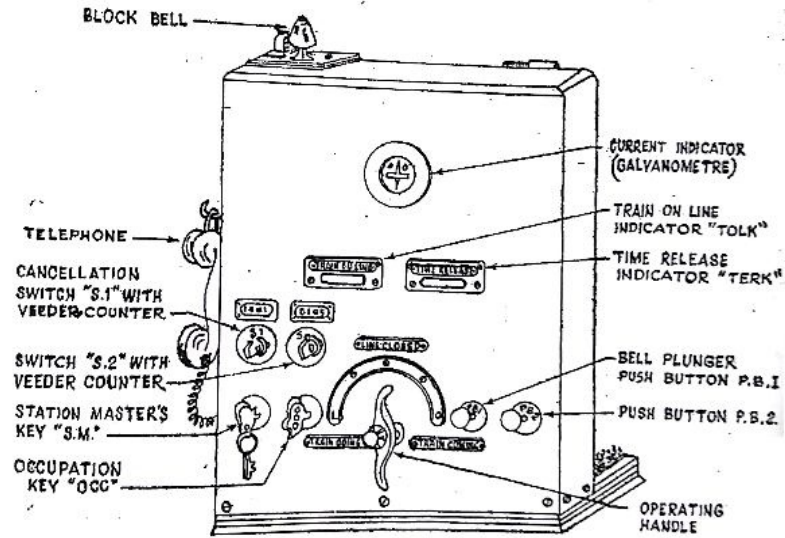
Part - A

8.04. Description of Instruments – The sketches below illustrate the Daido's/Kyoson's type of instruments. The description of their components and the working thereof are as under –

- (a) An operating handle.
- (b) Bell Plunger (push button PBI)
- (c) Push Button (PB2)
- (d) A Block Bell
- (e) A cancellation switch (S1) with veeder counter.
- (f) A switch (S2) with veeder counter
- (g) The Station Master's Key (S. M)
- (h) An occupation Key (OCC)
- (i) A Buzzer (BZ1)
- (j) A Buzzer (BZ2)
- (k) Train on Line Indicator (TOLK)
- (l) Time Release Indicator (TERK)
- (m) Current Indicator (Galvanometer).
- (n) Telephone.

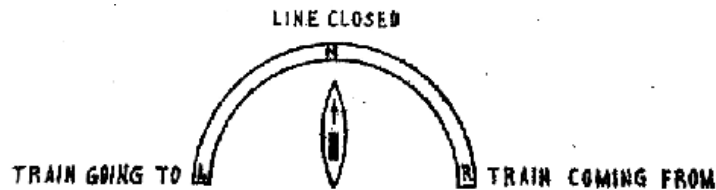
Diagram showing the Instruments

DAIDO



THE DIADO/KYOSAN'S TOKENLESS BLOCK INSTRUMENT

- (a) **The Operating Handle** – This has three position as under (A pointer is engraved on the handle to indicate to which of the positions that handle has been turned)-



- (i) "Line Closed" (or "N") is the normal position with the handle vertical and the arrow pointing upwards. This position indicates that no "Line Clear" has been given or received on the instrument for a train to enter the block sections.
- (ii) The "Train Coming From" (or "R") is the position with the handle horizontal and the arrow pointing to the right and indicates that "Line Clear" has been given to the station at the other end of the block section for a train to enter the block section and approach the station from that end.
- (iii) The "Train Going To" (or "L") is the position with the handle horizontal and the arrow pointing to the left and indicates that "Line Clear" has been received from the station at the other end of the block section for a train to be despatched into the block section towards the station at the other end.

Note: The operating handle is normally locked in the vertical or Line closed position. It is released to be turned to the "Train Coming From" or "Train Going To" position when such release is electrically permitted by the Station Master at the other end of the block section. The handle when turned to either of the positions (TGT or TCF) will remain locked in that position until its release is again electrically permitted by the station at the other end.

- (b) **Bell Plunger** – The bell plunger or push button (PBI) when pressed rings the bell of the corresponding block instrument at the other end of the block section. It shall only be employed for signalling trains by means of the prescribed code of bell signals. Each time the bell plunger is pressed the bell of the corresponding block instrument at the other station will give one beat.

N.B. : The use of the bell plunger is also necessary for enabling the release of operating handle of the instrument of the station at the other end. For this purpose the bell plunger has to be operated or kept pressed along with push button (PB2).

- (c) **Push Button (PB2)** – The operation of push button (PB2) shall always be made after the bell plunger (PBI) has been operated and kept pressed. Keeping (PBI) and (PB2) jointly pressed in this manner will release the operating handle of the instrument at the other end and enable it to be turned to the "Train Going To" or "Train Coming From" position or from any of these positions to the "Line Closed" position.

- (d) **A Block Bell** – The block bell responds to signals given through the pressing of the relevant bell plunger by the stations at the other end of the block sections and serves to convey information through the prescribed Code of bell signals.
- (e) **A Cancellation switch (S1) with Veeder Counter** – This is a switch attached to a number counter and is required to be operated for cancellation of “Line Clear” by the Despatching Station before the Train enters the Block Section. The number counter attached to switch (S1) registers the next higher number for each operation of switch (S1)
- (f) **A switch (S2) with Veeder Counter** – This is a switch attached to a number counter and is required to be operated by the Despatching Station for closing the Block Section after the train returns back to the despatching station from the Block Section and is received under proper Reception Signal. The number counter attached to switch (S2) registers the next higher number for each operation of switch (S2).
- (g) **The Station Master’s Key (“SM”)** – This key when not in use in the instrument shall always remain in the possession of the person in charge of block working. The key when taken out of the instrument makes the instrument inoperative and thus prevents unauthorized manipulation of the Instrument when the person in charge of block working leaves the office or cabin. The bell code signals sent by the Station at the other end will however be audible and the Telephone may be used for communication.
- (h) **An occupation Key (“OCC”)** – This key when handed over to the Loco Pilot authorizes him to shunt beyond the advanced Starter up to the point for which shunting order has been given to him. The key can be taken out or put in only when the Operating Handle is in the “LINE CLOSED” position “N” and S.M’s key inserted. The removal of the “OCC Key” locks the Operating Handle in the “LINE CLOSED” position. The SM’s key can be taken out after removal of “OCC Key” but has to be inserted back before the “OCC Key” is replaced in the instrument.
- (i) **A Buzzer (BZ1)** – The Buzzer (BZ1) provides audible indication at both Stations when the train enters the Block Section and stops only when the Receiving Station acknowledges the “Train Entering Section” signal.
- (j) **A Buzzer (BZ2)** – The Buzzer (BZ2) provides audible indication at the Receiving Station when the whole of the Train passes within the Home signal and it stops either when the S.M’s Home Signal Control Slide and Home signal lever is put back to normal or the Operating Handle is turned back from the “TRAIN COMING FROM” position (R) to “LINE CLOSED” position (N).
- (k) **Train on Line Indicator (TOLK)** – This is a visual indication at both stations in addition to audible indication and automatically appears when the train enters the Block Section. This indication disappears in the process of turning Operating Handle from (L) to (N) or (R) to (N)
- (l) **Time Release Indicator (TERK)** – This visual indication appears at the Despatching Station after a predetermined time to 2 to 3 minutes, when the cancellation switch (S1) is operated for cancelling “Line Clear”.
- (m) **Current Indicator (Galvanometer)** – The Galvanometer is provided with a Needle the movement of which indicates the passage of an electric current received or sent and also the operation of corresponding Block Instrument at the other end

of the section. This indicates the flow of current whenever the push button (PBI) is pressed.

- (n) **Telephone** – The Telephone is provided for communication between the two stations. The normal means of communication on the Telephone will be established by lifting the hand set preceded by “Call Attention” signal having been given previously.

Note : The description and function of other Types of Tokenless Block Instruments are practically same.

8.05. Method of Signalling Trains from Block Station to Block Station with Daido's/Kyosan's Tokenless Block Instruments – In the case of each train, after “Call Attention” Signal has been sent before any other operation on Tokenless Block Instrument is made, the names of Stations working together shall be exchanged on the telephone, one with the other, as an assurance that the correct stations are in communication.

Taking two adjacent stations X and Y and supposing that a train is to proceed from X to Y Block Section being clear, the Operating Handles of the Tokenless Block Instruments and all concerned signals and signals lever at both stations are normal, the following is the sequence of operation for signalling the train –

Station X	Station Y
1. Inserts S. M's Key and turns.	
2. Presses the bell plunger or Push Button (PBI) and sends “Call Attention” signal to Y.	
	3. Receives “Call Attention” signal.
	4. Inserts (“SM's”) Key and turns.
	5. Acknowledges the “Call Attention” Signal to X by pressing the Bell Plunger or Push Button (PBI).
6. Attends telephone.	
	7. Attends telephone.
8. Gives name of Station on telephone.	
	9. Gives name of Station on telephone
10. Asks “Line Clear” for the train on telephone giving the number and description of the train duly recording, the transaction in Train Signal Register.	
	11. Accepts “Line Clear Enquiry” on telephone repeating the number and description of the train duly recording the transaction in Train Signal Register supported by a Private Numbers.
12. Sends “Call Attention” Signal to Y.	
	13. Acknowledges the “Call Attention” Signal to X by pressing the Bell Plunger or Push Button (PBI).
14. Sends “Is Line Clear” signal to Y through Bell Plunger or Push Button (PBI) keeping the same pressed on the last beat and also presses Push	

Button (PB2) conjointly with (PB1) until the station X operates his Handle.	
	15. On the last beat of X's "Is Line Clear" signal, turn the operating handle of his Instrument to "TRAIN COMING FROM" position (R) and acknowledges the "Is Line Clear" signal to X keeping the Bell Plunger or Push Button (PB1) pressed on the last beat and also presses Push Button (PB2) conjointly with (PB1) until the station X operates his Handle.
16. Turns the Operating Handle to the "TRAIN GOING TO" position (L) on the receipt of the last beat of Y's acknowledgement signal and acknowledges line clear by giving "Call Attention" Signal (one beat).	
17. (a) Takes "OFF" the last stop signal. (b) Train enters Block section. (c) Last Stop signal returns to 'ON' position. (d) "Train on Line" indication appears automatically and Buzzer (BZ1), starts operating. (e) Replaces Last Stop Signal lever.	
	18. "Train On Line" Indication appears automatically and Buzzer (BZ1) starts operating.
19. Sends "Call Attention" Signal to Y.	
	20. Acknowledges "Call Attention" signal to X.
21. Sends "Train Entering Section" signal to Y.	
	22. Acknowledges "Train Entering Section" signal to X and keeps (PB1) pressed on the last beat till Buzzer (BZ1) stops. Note – In cases, where, due to any reason, there is delay in conveying the Train Entering Section signal by beats on block instruments or acknowledgement thereof the time of the Train Entering the section should also be repeated on the block telephone and an entry made to this effect in the Remarks column of the Train Signal Register.
23. Buzzer (BZ1) stops.	
	24. (a) Takes OFF the reception signals. (b) Train enters the station. (c) Buzzer (BZ2) starts operating. (d) Reception signal replaced to 'ON' position automatically.

	(e) Puts back levers of reception signals to normal position. (f) Buzzer (BZ2) stops when SM's Home slide or Home Signal lever is put back to normal if the Instrument remains in SM's office but will continue to ring when the same is in cabin.
	25. Sends "Call Attention" signal to X.
26. Acknowledges "Call Attention" signal to Y.	
	27. Sends "Train Out of Section" signal to X keeping Bell Plunger of Push Button (PB1) pressed on the last beat and also presses Push Button (PB1) conjointly with (PB2) until the station X operates the Handle.
28. On the last beat of Y's "Train Out of Section" signal turns the operating Handle of his instrument to "LINE CLOSED" position (N) and acknowledges "Train Out of Section" signal to Y, keeping Bell Plunger or Push Button (PB1) pressed on the last beat and presses Push Button (PB2) conjointly with (PB1) until Station Y operates his handle.	
	29. Buzzer (BZ2) stops when the instrument is fitted in Cabin.

Note – Same procedure is repeated when sending a train from station Y to station X.

8.06. Cancelling "Line Clear" – How to cancel a "Line Clear" before train enters the Block section? Before proceeding to cancel the "Line Clear" obtained the Station Master at the Station at which the Operating handle of the Instrument is in "TRAIN GOING TO" position (L) shall personally ensure that the last stop signal has been properly put back to 'ON' position and the Station Master's slide for the last stop signal concerned is put back to normal and that they remain so until the cancellation procedure is completed.

Station X	Station Y
Operating Handle at "TRAIN GOING TO" position (L) and concerned signals and signal levers normal.	Operating Handle at "TRAIN COMING FROM " position (R) and all concerned signals and signal levers normal.
1. Calls the attention of station Y and takes his consent on telephone with Private Numbers duly recording in Train Signal Register.	
	2. Gives consent on telephone to station X with Private Numbers duly recorded in Train Signal Register.

3. (a) Turns cancellation switch (S1) from normal to cancellation position. (b) Veeder counter registers next higher number. This is duly recorded in Train Signal Register. (c) Wait for 2 minutes. (d) Time Release indicator operates.	
4. Sends "Call Attention" signal to Y.	
	5. Acknowledges "Call Attention" signal to X.
6. Sends "Train Out of Section" signal to Y keeping Bell Plunger or Push Button (PB1) pressed on the last beat and also presses Push Button (PB2) conjointly with (PB1) until the Station Y operates the Handle.	
	7. On the last beat of X's "Train Out of Section" Signal turns the Operating Handle of his instrument to "LINE CLOSED" position (N) and acknowledges "Train Out of Section" Signal to X keeping Bell Plunger or Push Button and also presses (PB2) conjointly with (PB1) until the station X operates his Handle.
8. Restores cancellation switch (S1) to normal and turns the Operating Handle To "LINE CLOSED" position (N) on Receipt of the last beat of Y's acknowledgement signal.	

8.07. Normalizing of Tokenless Block Instrument after the Train returns back to the Despatching Station from the Block Section and is received under proper reception Signals –

Station X	Station Y
Operating Handle at "TRAIN GOING TO" position (L) and all concerned signals and signal levers normal.	Operating Handle at "TRAIN COMING FROM " position (R) and all concerned signals and signal levers normal.
1. Calls the attention of station Y and takes his consent on telephone, with Private Numbers, duly recorded in Train Signal Register.	
	2. Gives consent on telephone to station X with exchange of Private Numbers, duly recorded in Train Signal Register.
3. (a) Turns the concerned switch (S2) from normal position to operated position. (b) Veeder-counter registers next higher number. This is duly recorded in the Train Signal Register.	

(c) Takes 'OFF' the Reception signals. (d) Train enters the Station. (e) Buzzer (BZ2) starts operating. (f) Reception signals replaced to 'ON' Position automatically. (g) Puts back levers of Reception signals to normal position. (h) Buzzer (BZ2) stops when SM's Home Slide is put back to normal if the Instrument remains in SM's Office, but will continue to ring when the same is in the Cabin.	
4. Sends "Call Attention" signal to Y.	
	5. Acknowledges "Call Attention" signal to X.
6. Sends "Train Out of Section" signal to Y keeping Bell Plunger or Push Button (PB1) pressed on the last beat and also presses Push Button (PB2) conjointly with (PB2) until the Station Y operates his Handle.	
	7. On the last beat of X's "Train Out of Section" signal turns the operating Handle of his Instrument to "LINE CLOSED" position (N) and acknowledges "Train Out of Section" signal to X keeping Bell Plunger or Push Button (PB1) pressed on the last beat and also presses (PB2) until the station X operates his Handle.
8. Restores switch (S2) to normal and turns the Operating Handle to "Line Closed" position (N) on the last beat of Y's acknowledgement of signal.	
9. Buzzer (BZ2) stops with the instrument in Cabins.	

8.08. Shunting between last Stop Signal and Opposing First Stop Signal –

Station X	Station Y
Operating Handle at "LINE CLOSED" Position (N) and all concerned signals and signal levers normal.	Operating Handle at "LINE CLOSED" Position (N) and all concerned signals and signal levers normal.
1. Calls the attention of station 'Y' and Obtains his consent on telephone, duly recording the Private Numbers.	
	2. Gives consent on telephone to station 'X' confirming by Private Numbers.

3. Inserts S. M.'s Key and turns.	
4. (a) Takes out the Occupation Key "OCC" of the concerned section Instrument. Takes out S. M's Key. (b) Hands over Occupation key to the Loco Pilot. (c) Loco Pilot completes shunting and returns The Occupation Key to S.M. (d) Inserts S.M's key and the Occupation key is put back in the instrument.	
5. Informs the Station Master at 'Y' on telephone confirming by Exchange of Private Numbers.	
	6. Acknowledges on telephone. Records through Exchange of Private Numbers.

8.09. Additional Equipments provided at the Block station at which tokenless Instruments are located

(a)(I) Lock on the last stop signal –

- (I) The Last Stop Signal lever is locked on the normal or 'ON' position by means of an Electric Lever Lock, in addition to Electric Signal Reverser fitted on the Signal for the automatic replacement to 'ON' position after the train has operated the track circuit of 2 rail length slightly ahead of the Last Stop Signal and the signal cannot be taken 'OFF' until the Operating Handle has been turned to "TRAIN GOING TO" position (L).
- (II) The lever is free in the reverse or "OFF" position and the signal can be put back to "ON" and taken "OFF" again at any time so long the train has not operated the Track Circuit ahead of the Last Stop Signal.
- (III) Once the Last Stop Signal is replaced to "ON" position by the operating of Track Circuits ahead of the Last Stop Signal, by the passage of a train neither the signal can be taken "OFF" again on the same "Line Clear" nor the Last Stop signal lever can be pulled from normal to reverse position until the train has cleared the Block Section and the Instrument has been put back to "LINE CLOSED" position (N) and again turned to "TRAIN GOING TO" position (L).

(b) Control on Reception Signals –

- (I) Reception signals are controlled by Reversers and/are automatically replaced to 'ON' by the operation of the Track Circuit ahead of the Home Signals by the passage of the train. These signals cannot be taken off unless the Operating Handle is in "TRAIN COMING FROM" position or in normal position.

- (II) Operation of switch (S2) is essential for taken off the reception signals with Operating Handle in "TRAIN GOING TO" position and closing the line when a train returns back to the despatching station.
- (III) The Reception Signals, however, may be taken off (provided it has not failed due to some other reason), in case the Tokenless Block Instrument has failed or is locked either in the "NORMAL" or "TRAIN COMING FROM" position.

8.10. Certificate of Competency –

- i) No person should be permitted to operate a Block Instrument unless he has satisfactorily passed the prescribed examination and holds a duly authorized certificate of competency. This certificate shall be valid for a period of 3 years. Principal/Zonal Training Centre shall issue the necessary certificate of Block competency to the staff concerned undergoing training after the Initial/ promotional and Refresher Course.

Where, however, for any reason staff are not sent for Refresher Course within the period of 3 years, the validity of the Competency Certificate issued by the Principal, Zonal Training Centre may be extended locally for a period of one year only after jointly re-examining the staff by TI(M) / Station Manager and Section Engineer (Signal) concerned. After extension of the validity has been certified by the TI(M) / Station Manager and Section Engineer (Signal) it shall be countersigned by the Sr. Divisional Safety Officer / Divisional Safety Officer or an Asstt. Operations Manager duly authorized on his behalf. Refresher course must be made mandatory and any staff overdue refresher course must not be permitted to perform duty i.e. when any staff becomes overdue for Refresher Training should be taken off duty until such time as he completes the training. (Board's letter No. 2000/Safety(A&R)/19/40 dt. 19-12-2000)

- ii) The TI(M) / Station Manager and Section Engineer (Signal) must also have valid competency certificate from Sr. DSTE / DSTE / Principal, Zonal Training Centre for Block competency for the purpose of discharging their duty under Rule 1.14(i).

8.11. The Tokenless Instruments and bells must be used exclusively for the purpose shown in these regulations. They must only be used by the Station Master on duty, except where otherwise ordered. For Bell Codes, see GR 14.05.

8.12. The Station Master on duty will be responsible to see that no unauthorized person manipulates the Tokenless Instruments.

8.13. Working of Motor Trolleys and Material Trolleys – When any of these trolleys has to run into the Block section the Station Master of the station from which the trolley has to leave, will advise the Station Master at the other end by a message and obtain his acknowledgment supported by a Private Numbers. Copies of these messages will be made over to the trolley holder as his authority to proceed into the block section. On arrival at the other end the trolley holder will deliver the copies of the messages to the Station Master and will give an endorsement on the copies of the message carried by him that the trolley has arrived complete and signed with date and time in the message. The copies of these messages must be retained by the Station Master at the receiving end and pasted in the Station diary. "Out" and "IN" reports of the trolley will also be given by separate messages by the Station Masters concerned. The trolley holder will also be given a Form T/369(3b) at the station from which the trolley is

leaving as the last stop signal of the station cannot be taken off. At the receiving station the trolley will be admitted with a Pilot Memo as the Reception Signals cannot be taken off.

Records must be maintained in the train signal register books at both the stations in red ink recording the time "Line Clear" was asked for and the time received with Private Numbers and also the time the trolley left and arrived at the other end.

To cancel line clear for Motor/Material trolleys messages will be exchanged between the Station Masters and records maintained in the Train Registers in red ink. Private Numbers will be exchanged with the exchange of messages.

- 8.14. Working of Ballast and Material Trains** – If a Ballast or Material train is required to come back to the station from where it started, the "Line Clear" will be obtained according to the procedure detailed above. The train will be despatched on signals as usual when the TOL indication will appear.

When the train returns the reception signals will be taken off using cancellation switch (S2) and the procedure for closing the line will be as for normalizing of block instrument when train returns to the despatching block station.

- 8.15. Failure of Tokenless Instruments** – The Tokenless instruments must be suspended in the following circumstances. In case of failure under paragraph I below the Block Maintainer of the section who is authorized to attend to the same should be called. In the case of failures under Paragraph II below, the working of the Block Instrument must not be resumed until the instruments have been examined by a person holding the special permit.

Paragraph I.

- (a) If code signals on the Bell are not received distinctly or fail altogether.
- (b) When telephone connection between the two stations fails.
- (c) If the last stop signal fails to go to "ON" position as the train passes the signal.
- (d) If the Block Instrument or its battery counter is found unlocked or the seal is found broken in the absence of an authorized representative of the Signal Branch.
- (e) If the last vehicle or track circuit fails to operate after the passage of the train and the Home Signal is thrown back to normal.
- (f) If the TOL indication fails to appear on the instrument after the train has entered the Block Section ahead.
- (g) If the station cannot take off the last Stop Signal after Line Clear has been obtained from the station ahead i.e. when the Last Stop Signal is out of order or suspended.

Paragraph II. –

- (a) When due to transmission failure Block, handle becomes locked.

- (b) If a train arrives at a station without "Line Clear" having been given for it. In this case the irregularity must be reported as accident unless the Loco Pilot has come under conditions of total interruption under the stipulated procedure.
- (c) If the last stop signal can be taken off without line clear having been obtained.
- (d) If at the receiving station the Train arrival (audible) indication appears when a train is in the Block Section.
- (e) If the "Line Clear" cannot be properly cancelled although the proper manipulation has been done.
- (f) If there is reason to believe that there is contact between the Block and any other circuit.

Note : Before initiating operation of the operating handle of the Tokenless Block Instrument to any desired position the Station Master/Cabinmaster must ensure that all the relevant Station Master Control slide/Signal Levers as well as the arm of Last Stop Signal corresponding to the line on which the movement is intended, have been placed to normal/on position. Failure to comply will render the Tokenless Block Instrument inoperative.

8.16. (a) When the communication on telephone fails or through any defect both the Block Instruments remain locked or the instruments cannot be made to work according to the method described in Rule II the following procedure shall be carried out.

- (i) After having advised the Station Master at the other end of the section by phone or over the control phone where provided and obtained his acknowledgement Tokenless Block working will be suspended and paper line clear working introduced.
- (ii) the failure and time will be recorded in the Train Signal Register.
- (iii) The S.I.M.(E), SSE/JE (S&T) & TI(M) of the section concerned and ASTE, DSTE, Sr.DSO/DSO of the Division will be advised by message as follows.

Tokenless working withstation
Suspended. Cause.....train working on
paper line clear.

In the above message, the Station Masters must, as far as possible, state definitely the apparent cause of failure.

- (b) The Station Master receiving advice that Tokenless block working is suspended shall acknowledge the message by repeating it and making a record in the Train Signal Register.
- (c) When the failure has been rectified, it shall be recorded in the Train Signal Register and the entry signed jointly by the Station Master and the member of Block Signalling staff who rectified the failure.
- (d) Tokenless working must not be resumed while there is a train in the Block Section.

- (e) Before resuming Tokenless working the Station Master at the station where the instrument was defective, shall advise the Station Master at the other end of the section by message or over control phone, where provided and obtain his acknowledgement.
- (f) The Station Master receiving advice that Tokenless working has been resumed shall acknowledge the message by repeating it and made a record in his Train Signal Register.
- (g) When the Tokenless instruments are brought into use again the advice issued must be cancelled by message by the Station Master who issued the message reporting the failure.

8.17. Train parting and portion of train left on line – When for any reason a portion of train is left in mid-section or the Loco Pilot has come with his train incomplete GR. 6.08 & 6.09 must be rigidly observed by the Guard & Loco Pilot. In absence of a Token or Line Clear ticket the Guard, before giving his written permission to the Loco Pilot to proceed with light engine or the vehicles, must protect his train first.

The Cabin SM / Cabinmaster / Cabinman of the cabin will immediately report to the Station Master on duty that the train has arrived incomplete and the Station Master on duty will not give the "Train out of section" report to the station in rear till the complete arrival of the train even though the Buzzer will ring continuously, on arrival of the light engine or the first portion of the train.

8.18. Failure of last stop Signal –

- (a) When the tokenless block instrument are functioning normally but the last stop signal cannot be taken off despite "Line Clear" having been obtained the SM / Cabinmaster / Cabinman will intimate this fact to the ASM on duty if the instrument is in the cabin and request the latter to issue T/369(3b) for train in question duly confirming his assurance that he has obtained line clear by exchange of Private Numbers. The Station Master on duty on receipt of the advice shall issue T/369(3b) with the following endorsement –

"Line clear has been obtained for your train. Private Numbers received from.....cabin....."

Suitable record of this transaction should be kept in the Train Signal Register in the Cabin and in the Log Register of the Station Master on duty.

In case the instrument is in the Station Master's office the Station Master on duty will issue the T/369(3b) after exchange Private Numbers with the cabinman controlling the Last Stop Signal for the said train.

When the block instrument also fails, Paper Line Clear working will be introduced as mentioned in Paragraph above.

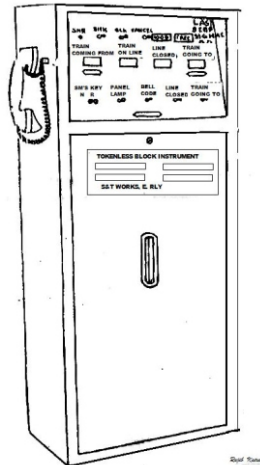
Part B

PUSH BUTTON TYPE

- 8.19. (1) Arrangement of Push Button Type Tokenless Block Instruments** – Two Instruments will be used as a pair to cover a Block section being connected by two lines wires, For example, if A and B are two Block stations either end of the Block section, one instrument will be at Station A and the other at Station B. Telephonic communication is provided in conjunction with the Block Instruments.
- (2) This Block Instrument may be provided at the Station Building or in the cabin at either end of the Block Section and be operated by Station Master or Cabin-master. Accordingly, in regard to operations of the Block Instrument the use of worked S. M. hereinafter means S. M. or Cabinmaster as the case may be except where otherwise specified.

8.20. (1) Description of Push Button Type Tokenless Block Instrument. –

A sketch of the instrument is given below :-



6D-2.1 TOKENLESS BLOCK INSTRUMENT PUSH BUTTON TYPE (SINGLE LINE) (IRS TYPE)

- (2) The instrument consists essentially of two parts
- (i) A relay Cabinet housing all Relays; and
 - (ii) A dash board called 'Control Panel' containing Push Buttons, Indicators Bell, Telephone etc. These two are manufactured as a compact unit with Control Panel coming on top of the Relay Cabinet. The overall height render the indicators at the eye-level and the buttons within comfortable reach of a man of normal height.

Control Panel

The Relay Case and Control Panel are mounted on the same frame.

DESCRIPTION OF PUSH BUTTONS, INDICATORS ETC.

1. Push Buttons –

- (i) Bell Code Button; Colour: Black, Code: BCB. This is the most often used button. This is used to call the other Station Master's attention and for exchange of code signals.

When used in conjunction with other buttons it transmits relevant coded currents. When pressed alone, it transmits isolated positive pulse.

Whenever pressed alone or in conjunction with any other button, lights up the relevant indicators.

- (ii) "Train Going to" Button; Colour : Green, Code : TGB, to be pushed along with BCB for setting the instrument to TGT, TCF code is transmitted on line and TGT code is received from lines if conditions permit.

- (iii) "Line Closed" Button; Colour : White, Code : LCB. To be pushed along with BCB for closing the section or cancelling "Line Clear" Line closed code is transmitted and received provided conditions permit.

- (iv) "Cancel" Button, Colour : Red, Code : Cancel

To be pushed along with BCB for cancelling a 'Line Clear'. The action advances the associated counter by one.

If the train has pushed back the cancelling action may be immediately done if the train had not left the station at all, it can be done only after the FREE indicator is lit which signifies the lapse of prescribed time interval.

- (v) "Panel Lamp" Button; Colour : Yellow, Code : Panel lamp. The indicator excepting TOL and FREE are lit when this is pressed. This is to be pressed only when the condition of the instrument is to be verified. Using BCB for this purpose alone will unnecessarily transmit a pulse on the line and call the other Station Master Lighting up of Indicators only when required minimizes the drain on the power source.

- (vi) "Shunt Key" Button; Colour : Blue, Code : SHK

To be pressed when it is required to remove the key from the Shunt Heppers instrument.

- (vii) "Catch / Slip Siding Control Key" Button; colour : Blue, Code : SCK

To be pressed when it is required to remove the key from the Siding Heppers instrument.

2. Panel Indicator –

- (i) "Train coming from" (green) indicates when lit that the instrument is in TCF condition i.e. it has granted 'Line Clear'.
- (ii) "Line Closed" (White) indicates when lit that the section has been closed.

- (iii) "Train Going To" (Green) indicates when lit that the instrument is in TGT condition i.e. it has obtained 'Line Clear'.
- (iv) "Last stop Signal" indications : When lit RED indication means the Last stop Signal is 'ON' and Green one means that the signals 'OFF'.
- (v) "S. N. R." Indicator : This is an aid to the Station Master to verify of all his relevant controls/levers etc. are normal, first and Last Stop Signals are at 'ON' etc.

All these above indications are lit only when the BCB or Panel Lamp button is pressed. They are normally off.

- (vi) Train on Line (Red) indicates that the train has entered the block section on Line Clear Remains lit till the section is closed.
- (vii) "FREE" indicator (Green) indicates that the prescribed time interval has lapsed and the cancellation of 'Line Clear' can commence when the train has not left the Station and 'Line clear' has to be cancelled.

Both the above indicators (vi) & (vii) are lit on establishment of their respective conditions without the requirement that BCB or Panel Lamp button should have been pressed.

Station Master's Key (Code : SMK)

This is used by the Station Master to lock up his instrument to prevent its manipulation by any other person. When the instrument is locked by the Station Master, it is not possible to set the instrument to TGT or initiate 'Line Closed' or send bell code while it is still possible for the instrument to transmit and receive code transmit TGT code receive TCF code or 'Line Closed' Code answer Back with 'Line Closed' code and only receive bell code. Thus the NON Co-operative feature is not destroyed by locking up of the instrument. But communication between stations is possible with the Key OUT.

Single Stroke Bell

This bell operate every time bell code is received to call the attention of the Station Master or as code signal.

Alarm Bell

This bell rings intermittently at the receiving station when TOL code is received and continuously when the train arrives at the station.

Telephone

This is provided on the left side of the instrument A push button on it has to be pressed while speaking. This is electrically isolated from both local and line circuits.

3. The following equipments in addition will be provided at the block stations at which instruments will be located.

- (i) A track circuit of 2 rail lengths ahead of the last Stop Signal to put back the signal to 'ON' position when the train enters this track circuit. The last stop signal

is put back to 'ON' position and the 'Train on Line' indication will come up & Alarm bell will sound at the receiving station of Block Section.

- (ii) Electrical Signal reverser or equivalent electrical circuits on the Last Stop Signal of the despatching station is provided in order to enable the signal to return automatically to 'ON' position when the train enters the Block Section.

Once the Last Stop Signal is replaced to 'ON' position it cannot be taken 'OFF' unless a fresh line clear is obtained. The S.M. will ensure that the last stop signal has gone back to 'ON' position. SM's slide where provided should also be returned to normal.

- (iii) A lever lock or other equivalent arrangement to interlock the last Stop Signal with the Line Clear indication of the Block Instrument.
- (iv) 2 Track circuits of two rail lengths each in advance of the Home signal. The function of the track circuits is to restore the Home Signal to ON position and sound the Alarm Bell at the receiving station when the train has passed within the Home signal. The sounding of the Alarm Bell will announce the arrival of the train.

8.21. (1) Certificate of Competency –

- i) No person should be permitted to operate a Block Instrument unless he has satisfactorily passed the prescribed examination and holds a duly authorized certificate of competency. This certificate shall be valid for a period of 3 years. Principal/Zonal Training Centre shall issue the necessary certificate of Block competency to the staff concerned undergoing training after the Initial promotional and Refresher Course.

Where, however, for any reason staff are not sent for Refresher Course within the period of 3 years, the validity of the Competency Certificate issued by the Principal, Zonal Training Centre may be extended locally for a period one year only after jointly re-examining the staff by TI(M) / Station Manager and Section Engineer (Signal) concerned. After extension of the validity has been certified by the TI(M) / Station Manager and Section Engineer (Signal) it shall be countersigned by the Sr. Divisional Safety Officer / Divisional Safety Officer or an Asstt. Operations Manager duly authorized on this behalf.

- ii) The TI(M) / Station Manager and Section Engineer (Signal) must also have valid competency certificate from Sr. DSTE / DSTE / Principal, Zonal Training Centre for Block competency for the purpose of discharging their duty under Rule 1.14(i).

- (2)** The Station Master on duty will be responsible to see that no unauthorized person manipulates the Tokenless Block Instruments.

- (3)** The Tokenless Block Instruments and bells must be used exclusively for the purpose shown in this regulations. They must only be used by the Station Master on duty, except where otherwise ordered. For Bell Codes, see GR 14.5.

8.22. (1) Method of working the Push Button Type Instrument.

To send a train from Station A to Station B

Station A	Station B
Block Instrument in "Line Closed" condition and all concerned signals and signal levers are normal.	Block Instrument in "Line Closed" condition and all concerned signals and signal levers are normal.
(1) Inserts the Station Master's Key and Turns.	
(2) Presses Panel Lamp button to verify if SNR shows white light, last stop signal indication shows red and "Line Closed" indication appears.	
(3) Sends "Call Attention" Signal to Station B through Bell Code button and attends telephone.	
	(4) Acknowledges "Call Attention" signal and attends telephone.
(5) Gives the name of station on telephone.	
	(6) Gives the name of the station on telephone.
(7) Asks "Line Clear" for the train on telephone giving the number and description of the train confirmed by a Private Numbers.	
	(8) Accepts "Line Clear" enquiry or telephone repeating the number and description of the train confirmed by a Private Numbers.
(9) Sends "Is line Clear" signal to Station B on bell code through Bell Code Button.	
	(10) Acknowledges the "Is Line Clear" Signal to Station – A
(11) Operates the "Train Going To" button along with the "Bell Code" button.	
	(12) Block Instrument displays "Train Coming From" indication.
(13) Block Instrument displays "Train Going To" indication. Release buttons.	
(14) (a) Takes off the last Stop Signal. (b) Train enters Block section. (c) Last stop signal returns to "ON" automatically. (d) "Train on Line" indication appears automatically.	

(e) Last Stop Signal Lever and Station Master's slide are returned to normal.	
	(15) "Train on Line" indication appears automatically and intermittent audible warning sounds.
	(16) (a) Inserts Station Masters key and turns. (b) Acknowledges audible Warning by Pressing the "Bell Code" button. (c) Audible Warning stops.
	(17) (a) Takes "OFF" the reception signals. (b) Train enters the station. (c) First Stop signal replaced to 'ON' Position. (d) Audible warning sounds. (e) First Stop Signal lever (and Home Signal lever or Station Master's Slide Controlling Home Signal, if required) returned to normal. (f) Audible warning stops.
	(18) The "Line Closed" button along with the "Bell Code" button is operated, after visually checking that the complete train has arrived and that all signals are at "ON".
(19) Block Instrument set to "Line Closed" condition.	
	(20) Block Instrument sets to "Line Closed" Condition. Releases buttons.

Note : When it is necessary to stop train at the station in rear the procedure laid down in paragraph 8.26(d) should be followed.

(2) To cancel the "Train going to" condition before a train enters the block section.

Station A	Station B
Block Instrument displays "Train Going to" indication and Last Stop signal at 'ON'.	Block Instrument displays "Train coming from" indication and First Stop signal at 'ON'.
(1) Replaces last stop signal lever and Station Master's slide to normal if the signal had been taken 'OFF'.	

(2) (a) Inserts Station Master's Key and turns. (b) Operates the "Cancellation" button switch along with the "Bell code" Button. (c) Counter registers next higher number.	
(3) Calls attention through "Bell Code" button and attends on telephone.	
	(4) (a) Attends and inserts Station Master's Key and turns. (b) Acknowledges "Call attention" and attends on telephone.
(5) Gives the name of the station and advises on telephone intention to cancel "Train Going To" condition, confirmed by a Private Numbers.	
	(6) Gives the name of the station and acknowledges intention to cancel "Train Going To" condition confirmed by a Private Numbers.
	(7) Replaces reception Signal lever and Station Master's slide to normal, if the signals had been taken 'OFF'.
(8) Time release "Free" indication appears 1½ minute after the cancellation button/switch is operated.	
(9) Calls attention and operates the "Line Closed" button along with the "Bell Code" button after checking that all relevant signals are at "ON".	
	(10) Acknowledges and co-operates the normalizing of the instruments by pressing the "Line Closed" button along with the "Bell Push button".
	(11) Block Instrument Set to "Line Closed" condition, releases buttons.
(12) Block Instrument set to "Line Closed" condition, releases buttons.	

- (3)** To set the Block instruments to "Line Closed" when a train pushes back to the despatching station.

Station A	Station B
Block Instrument displays "Train Going to" and "Train on Line" indications.	Block Instrument displays "Train coming from" and "Train on Line" indications.
(1) Inserts Station Master's key and turns.	
(2) Gives the name of the station and advises intention to push back the train. Confirmed by a Private Numbers.	
	(3) Gives the name of the station acknowledges intention to push back the train confirmed by a Private Numbers and replaces reception signal lever and Station Master's slide to normal, if the signals had been taken "OFF".
(4) (a) Takes "OFF" the Reception Signals. (b) Train returns to the station. (c) First Stop signal replaced to "ON" position. (d) Audible warning sounds. (e) First stop signal lever (and Home signal lever or Station Master's slide controlling Home signal, if required) returned to normal. (f) Audible warning stops.	
(5) (a) Operates the "Cancellation" button switch for pushing back along with the "Bell Code" button. (b) Counter Registers next higher number.	
(6) (a) Verifies complete arrival of train usually or through automatic device where provided and that all relevant signals are at "ON". (b) Calls attention and operates the "Line Closed" button along with the "Bell Push" button. (c) Acknowledges and co-operates the normalizing of the instrument by pressing the "Line Closed" button along with the "Bell Code" button.	

	(7) Block Instrument set to "Line Closed" condition. Release buttons.
(8) Block Instrument set to "Line Closed" Condition. Release buttons.	

(4) To shunt between the last stop signal and opposing first stop signal.

Station A	Station B
Block Instrument in "Line Closed" condition and Outer and Home of Distant and Home Signals, as the case may be and Last stop signal at "ON".	Block Instrument in "Line Closed" condition.
1. Inserts Station Master's key and turns, operates HK button and BCB button and removes shunt key from the shunt Hepper Instrument.	
2. Hands over the shunting Key to the Loco Pilot.	
3. (a) After completion of Shunting Loco Pilot returns the shunting key to Station Master. (b) Shunting key is replaced in the instrument.	

Note : If Station 'B' fails to establish "Train Going To" condition when station 'A' has extracted the shunting key Station 'B' should verify position from Station 'A' who should advise Station 'B' as soon as shunting is completed. The extraction of shunting key makes both the instruments inoperative. For extraction of shunt key, SM presses panel lamp definitely not in TCF. He then presses his SHK and extracts the key from the heppers after inserting his key in the instrument. After shunting is over he inserts the key inside the heppers and his key in the instrument. After shunting is over he inserts the key inside the heppers and his key in the instrument and turns the former completely to the right.

Shunting can be carried out with 'Train Coming From' indication within Station Section (or even up to the outer) if GR's 8.10(1) and 8.11 along with their SR's are rigidly complied with. Under these circumstances no shunting key can be extracted from the instrument and shunting order has to be issued to the Loco Pilot.

(5) To shunt between the Last Stop Signal and opposing First Stop Signal behind a departing train with the instruments in "Train Going To" condition.

Station A	Station B
Block instrument in "Train Going To" condition and Outer and Home or Distant and Home Signals, as the case may be and Last Stop Signal at "ON".	Block Instrument in "Train coming from" and "Train on Line" condition.
1. Inserts Station Master's key and turns, operates shunting key button and BCB button and extracts key from the shunt Hepper Instrument.	
2. (a) Take out the shunting key. (b) Hands over the shunting key to the Loco Pilot.	
Case (1) If shunting is completed before the train clears Block section.	
3. (a) After completion of Shunting, Loco Pilot returns the shunting key to Station Master. (b) Shunting key is replaced in the instrument	
	4. After usual reception of the train, Block Instrument set to "Line Closed" condition.
Case (2) If train clears section before shunting is completed when Station 'B' fails to establish "Line Closed" condition as Station 'A' has extracted the shunting key, Station 'B' should verify position from Station 'A'.	
3. (a) After completion of Shunting, Loco Pilot returns the shunting key to Station Master. (b) Shunting key is replaced in the instrument	
4. (a) Advises on telephone about completion of shunting.	
	5. (a) Acknowledges on telephone completion of shunting. (b) Sets instruments to "Line Closed" condition.

(6) Operation of Slip and Catch Siding while sending a train from Station 'A' to Station 'B'.

Station 'A' is assumed to be provided with a slip siding protected by Last Stop Signal and Station 'B' with Catch siding protected by First Stop Signal.

Station A	Station B
Block instrument displays "Train Going To" indication.	Block Instrument in "Train coming from" indication.
1. Inserts Station Master's key and turns. (a) Takes out the slip siding key. (b) Transmits the slip siding key to the siding point either electrically/ manually. (c) Slip siding point is set.	
2. (a) Takes off the Last Stop Signal. (b) Train enters Block section. (c) Last Stop Signal returns to 'ON' automatically. (d) "Train on Line" indication appears automatically. (e) Last Stop signal Lever and Station Master's Control are returned to normal.	
	3. (a) "Train on Line" indication appears automatically and audible warning sound.
	4. (a) Inserts Station Master's Key and turns. (b) Acknowledges audible warning By pressing the "Bell Code" button. (c) Audible warning stops.
	5. Call Attention through "Bell Code" button and attends on telephone.
6. Acknowledges "Call Attention" through "Bell Code" button and attends on telephone.	
	7. Calls for description of train on telephone.

8. Gives description of train on telephone.	
	9. Acknowledges description of the train.
10. (a) Slip Siding point is set to normal. (b) Siding Key is transmitted back to Station Master either electrically or Manually. (c) Inserts Station Master's key and turns. (d) Siding key is replaced in the instrument.	
	11. (a) Takes out catch siding key. (b) Transmits the catch siding key to siding point either electrically or manually.
	12. (a) Train comes to a stop at the First Stop signal. (b) Catch Siding point is set.
	13. (a) First Stop Signal is taken "OFF". (b) Train enters the Station. (c) First Stop Signal replaced to "ON" position. (d) Audible warning sounds. (e) First Stop Signal Lever (and heme un Home Signal Lever or Station Master's slide controlling signal if required) returned to normal. (f) Audible warning stops. (g) Catch siding point set to normal.
	14.(a) Siding key must be backed to Station Master either manually or electrically. (b) Inserts Station Master's key and turns. (c) Siding key is replaced in the instrument.

	15. The "Line Closed" button along with the "Bell Code" button is operated after visually checking that the complete train has arrived and that all signals are at "ON".
16. Block instrument set to "Line Closed" condition.	
	17. Block Instrument set to "Line Closed" condition. Releases buttons.

8.23. (1) Working of Motor Trolleys and Material Trolleys –

When any of these trolleys has to enter the Block Section the Station Master of the Station from which the trolley has to leave will advise the Station Master at the other end by a message and obtain his acknowledgement supported by a Private Numbers. Copies of these messages with the Private Numbers will be made over to trolley holder as his authority to proceed into the Block Section. On arrival at the other end the trolley holder will deliver the copies of the messages to the Station Masters and will give an endorsement on the copies of the message carried by him that the trolley has arrived complete and sign with date and time on the message. The copies of the message must be retained by the Station Master at the receiving Station and pasted in the Station Diary. 'OUT' and 'IN' reports of the trolley will also be given by separate messages by the Station Master concerned.

At the receiving station, the trolley shall be admitted by taking off the reception signals.

Records must be maintained in the Train Signal Register book at both the Stations recording the time Line Clear was asked for and the time received with Private Numbers and also the time the trolley left and arrived at the other end. To cancel line clear for a trolley messages will be exchanged between the Station Masters and records maintained in the Train Signal Registers. Private Numbers will be exchanged after the exchange of cancelling signal beats.

- (2) **Working of Ballast and material trains –** If a Ballast or material train is required to come back to the Station from where it started the line clear will be obtained according to the procedure detailed in paragraph 8.22 (3). The train will be despatched on signals as usual and the TOL indication will appear.

For the train to return to the Station the procedure will be as explained in paragraph 8.22(3).

8.24. Failure of Tokenless Block Instrument :

1. (a) In the following circumstances as mentioned in paragraphs below the Tokenless Block Instrument must be suspended and the Station Master will take over the line clear work and make all entries for the section so

suspended, in a separate Train Register kept in his office for the purpose. "Line Clear" should be obtained by the Station Master on duty by means of electric speaking instrument and paper line clear tickets issued.

- (b) In the case of failures coming under list X below the SIME of the section should be called who is authorized to attend to the same. In the case of failures coming under his XX the SI or ASI of the section should also attend at the earliest moment check and certify about the correctness of the working even if the SIME of the Section had attended and rectified the failure before the arrival of the SI or ASI.

List of Failure X.

- 2. (a) If code signals on the bell are not received distinctly or fail altogether.
- (b) When telephone connection between the two Stations fails.
- (c) If the Block Instrument or its battery box is found unlocked or the seal is found broken in the absence of an authorized representative of the signal branch.
- (d) If the last vehicle Treadle or Track circuit fails to operate after the passage of the train after the Home signal is thrown back to normal.
- (e) the last stop signal fails to go to "ON" position as the train passes the signal.
- (f) If the "TOL" indication fails to appear on the instrument after the train has entered the block section ahead.
- (g) If the Shunting Key is locked or lost.
- (h) If the LC indication at the sending Station disappears and the TGT indication at the sending Station does not appear after the Station Master on duty at the sending station has pressed the BCB and TGB button.

8.25. List of failures X – X.

- (a) If a train arrives at a Station without the TCF and TOL indications appearing in the Block Instrument at that station pertaining to the block section. (in this case, the irregularity must be reported as an accident, unless the Loco Pilot has come under conditions of total interruption).
- (b) If at the receiving of sending Station Line Clear indication appears when a train is in the block-section.
- (c) If at the receiving Station the "Train arrival" (audible) indication appears when a train is in the block section.
- (d) If the Line Clear cannot be cancelled although proper manipulation of cancellation operations has been done.
- (e) If there is reason to believe that there is contact between the block and any other circuit.
- (f) If there is reason to suspect any other abnormality not mentioned above.

Note – (i) SM should never try to pull the last Stop Signal unless he gets “TGT” indication after proper manipulation of the Instrument. If the TGT indication fails to appear after proper manipulation of the instrument, he should not pull the Last Stop Signal. He should suspend the instrument.

(ii) If the Line Closed indication does not appear and TCF disappears after operation of BCB and LC buttons after arrival of train, before suspending the Tokenless instrument, it must be ensured by exchange of Private Numbers that the shunting key was inside the instrument at that time at the other station.

(iii) If TGT indication does not appear of the LC indication disappears after operation of TCT button and BCB for obtaining "Line Clear", before suspending the Tokenless Instrument it must be ensured by exchange of Private Numbers that the Shunting key was in the instrument at that time at the other station.

8.26. Procedure for working when Block Telephone fails or the Block Instrument is defective.

(a) When the communication on telephone fails or through any defect both the Block Instruments remain locked or the instrument cannot be made to work according to the method described in para 8.22 the following procedure shall be carried out –

- (i) After having advised the Station Master at the other end of the section over the control phone, where provided and his acknowledgement obtained. Tokenless Block working will be suspended and Paper Line Clear Working introduced.

(ii) The failure and time of suspension of the instrument will be recorded in the Train Signal Register and SI-24.

(iii) The Station Master at the other end of two Block sections the SIM(E), SSE/JE, ASTE & DSTE of the section concerned DOS (T), Sr. DSO/DSO and TI(M) concerned will be advised by message as follows :

Tokenless Block working with

Station _____ Suspended at hrs. on _____

Date Cause :

Trains will work on Paper Line Clear.

(b) The Station Master receiving advice that Tokenless Block working is suspended, shall acknowledge the message by repeating it and shall record it in his Train Signal Register.

(c) When the failure has been rectified the same should be recorded in SI-24 with details of cause of failure and signed by Block maintenance staff. Tokenless Block working should not be resumed before such recording are completed.

(d) Tokenless Block working shall not be resumed while there is a train in the Block section.

(e) Before resuming Tokenless Block working the Station Master of the Station where the instrument was defective, shall advise the Station Master at the other end of the section by message or over control and obtain his acknowledgement. After being satisfied that the Tokenless Instruments have

been brought into proper working order the Station Master shall resume the normal Tokenless Block working after recording the time of rectification and cause of the failure in SI-24 which should also be signed by the Block maintenance staff attending the failure. Time of failure and resumption should also be noted in the Train Signal Register along with the Private Number exchanged between the Block Stations connected by this instrument.

- (f) When the Tokenless Block Instruments are brought into use again the advice issued as per para 8.25(a) above must be cancelled by message by the Station Master who issued the message reporting the failure.

8.27. Train parting and portion of train left on line : When for any reason a portion of train is left in mid-section or the Loco Pilot has come with his train incomplete, G&SR-6.09 must be rigidly observed by the Guard and Loco Pilot. In absence of a Token or line clear ticket the Guard, before giving his written permission to the Loco Pilot to proceed with light engine or with vehicles must protect, his train first.

The Cabinman of the cabin will immediately report to the Station Master on duty that the train has arrived incomplete and the Station Master on duty will not give the "Train Out of Section" report to the station in rear till the complete arrival of the train even though the Buzzer may ring continuously on arrival of the light engine or the first portion of the train and will not stop until the SMs slide is put back or the line is closed.

8.28. Method of working in the event of :

(a) **Failure of Last Stop Signal –**

- (i) The last stop signal may fail due to failure of the instrument i.e. the instrument failing to go to TGT condition. In that case Tokenless working should be suspended and Paper Line Clear introduced. The time of suspension and resumption should be recorded in Train Signal Register. Under such circumstances T/369(3b) has to be issued for the Last Stop Signal for despatching a trains.
- (ii) When the tokenless block instruments are functioning normally but the last stop signal cannot be taken off despite line clear having been obtained, the Cabinmaster will inform this fact to the SM on duty and request the latter to issue T/369(3b) for the train in question by an exchange of Private Numbers. The SM on duty on receipt of the advice shall issue T/369(3b) with the following endorsement.

Line clear has been obtained for your train. Private Numbers received

From.....cabin is

Suitable record of this transaction should be kept in the Train Signal Register in the Cabin and in the Log Register of the SM on duty.

- (b) **Shunting key getting locked :** If the shunting key gets locked inside the instrument shunting cannot be performed by extracting the key from the instrument and handing it over the Loco Pilot. Under such circumstances shunting order has to be issued to the Guard and Loco Pilot for shunting. Tokenless working has to be suspended by exchange of Private Numbers with the Station Master at the other end of the section in addition to the procedure laid down in paragraph 8.24. After the shunting is over tokenless working will be resumed again by exchange of Private Numbers with the Station Master at

the other end of the section and following the procedure laid down in paragraph 8.26. The time of suspension and resumption of instrument must be recorded in Train Signal Register.

- (c) **Shunting key being lost :** In the event of shunting key being lost the instruments become inoperative. In that case tokenless working should be suspended by exchanging Private Numbers with the Station Master at the other end of the section and following the procedure laid down in paragraph 8.27 and maintenance staff informed. The time of suspension and resumption should be recorded in Train Signal Register.

Note : In cases (b) and (c) above, when shunting order is issued to Guard and Loco Pilot for performing shunting, remarks should be given in the Shunting order that the Shunting key is lost or locked in the instrument, as the case may be.

- (d) Whenever any unusual circumstances, such as no room for reception of a train, unsafe condition of track/signal, vehicles rolled down etc. warrants that trains should be stopped at the station in rear. The Shunting Key should at once be taken out from the Shunt Heppers Instrument by the Station Master and kept in his safe custody. He will then advise the Station Master at the station in rear of the fact under exchange of Private Numbers. In such case the Station Master at the other end of the block section can not get "Line Clear" without his active co-operation. When the position will again permit for reception he should put the "Shunting Key" back in the Heppers and advise the Station Master of the Station in rear of the fact under exchange of Private Numbers. For despatching a train, he has to put back the "Shunting Key" in the Heppers and obtain line clear as usual.

8.29. Recording of the number shown on the digital counter – The number exhibited by the counter should be recorded in the Train Signal Register at the time of exchange of duties.

8.30. The Station Master in charge shall ensure that the numbers are correctly recorded in the counter-register maintained for the purpose separately.

8.31. Whenever a Tokenless Block Instrument is opened the Inspector Maintainer of the Signal department for the purpose of maintenance it shall be done only in the "Line Closed" Position of the instrument.

A register to be maintained and Cabinmaster/SM and the staff of Signal department shall sign mentioning the date and time of opening The Cabinmaster/SM in-charge of the Cabin/Station shall immediately advise the station on the other end of the Block section duly exchanging Private Numbers in confirmation that the Block Instrument has been taken for maintenance. During the period the lock Instrument is under maintenance Line clear will not be signaled on the Block Instrument and train to be passed according to rules for failure of Block Instrument.

On completion of Inspection/Maintenance the Instrument shall again be closed, locked and sealed in "Line Closed" position and the Cabinmaster/SM and the Signalling staff will both sign the register in acknowledgement that the Block Instrument has been sealed and locked.

The Cabinmaster/SM in-charge of the Cabin/Station shall not however, resume normal working on the Block Instrument unless Private Numbers has been exchanged with the Cabinmaster/SM of the Block station on the other end of the Block section in confirmation that no train is in the Block section, the last train leaving the other station on Private Numbers has cleared the section.

Chapter - VIII PART – C

RULES FOR WORKING OF TRAINS ON SINGLE LINE BY MEANS OF TOKENLESS BLOCK INSTRUMENT WORKING WITH BLOCK PROVING AXLE COUNTER

GENERAL

1. Forward

The working of Block Panel using block proving by axle counter for Single Line must be read in conjunction with G&SR of Eastern Railways (Revised and Reschedule 2003) and Block Working Manual – Single Line. Notwithstanding the explanations given hereunder for Block Panel working provisions of G&SR are inviolable.

2. Brief description of Block Panel & its features.

The Block Panel means Panel associated with Axle counter and other equipment which controls, commands, indicates and provides the information for the operation of trains in a block section. The block panel operated axle counter block system for Single Line Section checks the movement of train “in” and “out” of the block section by means of axle counter. The system checks the complete arrival of train at the receiving station automatically. System uses the concept of “Train Going To” (TGT) from sending end for taking line clear. The “Train Coming From” (TCF) comes automatically if all the conditions required to grant line clear are available at the receiving end. The “Train On Line” (TOL) and “Line Closed”(LC) condition are displayed on the block panel automatically. Block panels are of two types. (1) Panel at the station without evaluator (Drg. No. RDSO/S32010/002/011) and (2) Panel at the station where evaluator is also housed (Drg. No. RDSO/S32010/003/011). These two panels differ regarding provision of reset key, counter & reset co-operation button on panel. Their availability on panels is given hereunder.

Key/Button/Counter	Available	
	Panel Drg. No. RDSO/S32010/002/011	Panel Drg. No. RDSO/S32010/003/011
Reset Key	No	Yes
Reset Counter	No	Yes
Reset Co-operation Button	Yes	No

3. Principle of working

- (i) The trains are worked on absolute block system of working.
- (ii) The block section is provided with axle counter to verify the occupation and clearance of block section.
- (iii) It shall not be possible to take Last Stop Signal to ‘OFF’ unless the line clear has been obtained.
- (iv) It shall not be possible to take Line Clear unless the line is clear of trains running in the same direction, not only upto the first Stop signal at the block station at which such Line Clear is given, but also for an Adequate distance beyond it,

and is clear of trains running in the direction towards the block station to which such Line Clear is given.

- (v) The last stop signal replaces to ON aspect on the entry of train into block section. This will cause TOL indication to appear on block panel of stations indicating the entry of train in the block section. Last stop signal is replaced to ON with the entry of train in block section is maintained in that position till a fresh line clear is obtained on Block Panel.
- (vi) Block section is automatically closed on complete arrival of train at the receiving station.
- (vii) A co-operative control is provided on the block panel to cancel the Line Clear already taken.
- (viii) A co-operative control for resetting of axle counter is provided.

4. Description of Block Panel.

The Drg. Nos. RDSO/S32010/002/011 and RDSO/ S32010/003/011 represent the block panels at two adjacent stations 'A' & 'B' which govern the movements of train in block section between 'A' & 'B'. A set of two block panel and their associated equipment as shown in the diagram will be used as a pair, one at station 'A' and the other at station 'B'. Telephone communication is also provided in conjunction with block panels.

Followings are the various parts of the Block panel and their functions.

(i) Push Buttons (non- locking type)

Push buttons	Functions
BELL	To transmit BELL codes to station at other end of Block Section.
	To take Line Clear, when pressed along with TRAIN GO button.
	To cancel Line Clear when pressed along with CANCEL button.
	To extend co-operation for cancellation to other station, when pressed with RESET button.
TRAIN GOING TO	Station Master of sending station operates it along with bell button. This sets sending block panel to 'Train Going To' condition and receiving station block panel to 'Train Coming From' condition Green TGT indicates this condition on block panel.
CANCEL	It is operated along with 'Bell' button to enable cancellation of 'Line Clear' condition, if the train has not entered the block section or after the train has pushed back to the station. Station Master at train receiving station does cancellation operation.
ACKN	It is operated to acknowledge the section occupied on section free condition. It silences the SECTION OCCUPIED/FREE buzzer
AXLE COUNTER RESET CO-OP	It is operated to extend co-operation from a station where evaluator of axle counter has not been provided for resetting of Axle Counter.
CANCEL CO-OP	It is operated by train sending station for extending cancel co-operation to train receiving station.
SHUNT BUTTON	It is operated to extract shunt key.

(ii) Keys :

Keys	Functions
SM's KEY	The key when out prevent following operations. a)Transmission of BELL code. b)Transmission of Line Clear inquiry code. c) Resetting of Axle counter. d)Release of shunt key.
AXLE COUNTER RESET KEY	Axle Counter reset key where provided/when pressed resets the axle counter provided reset cooperation is available from other station.
MAINTAINER BACK COVER LOCK KEY	A lock is provided at the back of block panel for maintenance purpose.
SM'S BACK COVER LOCK	For double lock arrangement a lock on the back of block panel is provided which can be operated by key kept in the custody of Station Master.
SHUNT KEY	This key is provided to perform shunting operations.
CATCH/SLIP SIDING	This key on demand is provided to perform CATCH/SLIP SIDING operations.

(iii) Indicators :

Indicators	Functions
LINE CLOSED	Its shape is Round/rectangular and is provided with white/yellow LEDs. When lit indicates that section is free from vehicle & line Clear has not been granted/received.
TRAIN COMING FROM GREEN [TCF] FLASHING GREEN RED	Its shape is arrow head pointing downwards for incoming traffic at station and a rectangular indication named TCF is provided with Green/Red LEDs. When green light is "steady" it indicates that the train coming from condition. When Green light is flashing it indicates (a) line Clear has been withdrawn before the entry of train in Block Section or (b) Section has cleared after the arrival of train, but associated Signals & their controls have not been put to normal at stations. This indicator changes to Red on entry of train in block section and indicates 'Train On Line' condition.
TRAIN GOING TO GREEN [TGT] FLASHING GREEN RED	Its shape is arrowhead pointing upward for outgoing traffic from station and a rectangular indication named TGT. It is provided with Green/Red LED's. When Green light is "steady", it indicates that the train going to condition. When green light is flashing it indicates that line clear has been withdrawn before the entry of train in block section or train has cleared the block section but associate signals and their controls have not been normalized at stations.

	This indicator changes to Red on entry of train in block section and indicates 'Train On Line' condition.
LAST STOP SIGNAL RED GREEN	Its shape is circular monogram or signal 'Red' indication means Last stop signal is at ON and Green indication means Last Stop Signal is at OFF.
RESET CO-OPERATION YELLOW	Its shape is circular and is placed near reset key. When it indicates that co-operation has been received from block panel where reset co-operation button has been provided.
LINE FREE (GREEN) LINE OCCUPIED (RED)	Its shape is circular/rectangular and is placed above ACKN button. It is provided with Green/Red indication Green indicates line is clear of vehicles and Red indicates line is occupied after line clear or Block Back.
SNKE (Local) YELLOW	Its shape is circular. When lit yellow it indicates LSS. First stop signal & controls on signal are normal.
SNKE (Other End) YELLOW	Its shape is circular. When lit yellow it indicates LSS, FSS, Controls are normal and TCF indication is not available at station on other end of block section.
SM KEY (IN) GREEN	Lit indicates SM key is IN and turned.
SHK-IN/OUT GREEN/RED	It has 2 colours. When lit Green indicates Shunting Key has not been taken out and when lit RED indicates Shunting Key has been extracted.
TRAIN ACKNOWLEDGEMENT IN/OUT YELLOW	Lit at the time of train entry into and exit from the block section. It remains lit until acknowledged.
CO-OPERATION TIMER	It starts flashing when cancellation process starts and flashes for 120 seconds.

(iv) Counters

Counters	Functions
CANCEL	It keeps record of cancellation of 'line clear' when train has not entered block section or train has been done 'push back' Operation.
RESET	Reset Counter is provided on block panel at the station where Axle Counter Reset key is provided. It keeps record of number of successful resets of Axle Counter.

(v) Indicators

Buzzers	Functions
BLOCK	It gives signal as per BELL CODE sent by operator at Station at other end of block section.
SECTION	Its audible signal informs SM that Train has either occupied or cleared the Block Section.

<p>5. Method of signalling trains from block station to another block station.</p> <p>(i) Sequence of operations for sending a train.</p> <p>Block Panel Operators at sending and receiving stations will go through following chain of events listed here under for sending & receiving a train.</p>	
Sending Station	Receiving Station
1. Ensures a) Line Closed indicator is lit & SNKE indicators, local and far end are lit.	
2. SM key IN is lit.	
3. Sends 'Attend Telephone' signal by pressing BELL.	Acknowledges by pressing BELL and attends telephone.
4. Attends telephone, advises about the intended movement of the train and asks for LINE CLEAR for train to go from his station with his private number.	5. After (exchanging) information regarding train movement, ensures : a) Line closed indicator, SNKE (local) indicator are lit and then convey verbal line clear supported by private number.
6. Presses BELL & TRAIN GOING TO button and keeps both buttons pressed till 'TRAIN GOING TO' Green indication appears.	7. 'LINE CLOSED' indication disappears & 'TRAIN COMING FROM' Green indication appears.
8. 'LINE CLOSED' indication disappears. 'TRAIN GOING TO' Green indication appears on the panel. Releases BELL & TRAIN GOING TO button.	
9. Takes off Last Stop signal. Train enters the Block Section. LINE FREE indicator turns to RED. SECTION buzzer starts ringing & 'TRAIN GOING TO' indication turns 'Red' on the panel.	9. SECTION buzzer starts ringing & 'TRAIN COMING FROM' indication turns 'Red' on the panel, LINE FREE indicator turns to RED.
Last Stop signal replaces to 'ON'.	
10. Acknowledges the buzzer by pressing ACKN button. Puts back the Last Stop signal.	10. Acknowledges the buzzer by pressing ACKN button.
	11. Clears the reception signal at his station for receiving the train. Train passes the Home Signal.

	<p>Home signal is replaced to ON.</p> <p>Train clears the Block Section. SECTION buzzer starts ringing.</p> <p>Acknowledge the buzzer by pressing ACKN button.</p>
<p>12. LINE FREE indicator turns to GREEN.</p> <p>SECTION buzzer starts ringing.</p> <p>TRAIN GOING TO indication turns to flashing GREEN.</p> <p>Acknowledges the buzzer by pressing ACKN button.</p>	
<p>13. Train Going To Indication disappears 'LINE CLOSED' indication appears.</p>	<p>13. Replaces all controls pertaining to reception of train to Normal.</p> <p>SNKE (Local) indication appears.</p> <p>TRAIN COMING FROM indication disappears.</p> <p>'LINE CLOSED' indication appears.</p>

(ii) To Cancel "Line Clear" before a train enters the Block Section :

When line clear has been obtained and afterwards, it is found that the train for which line clear already obtained has to be detained owing to any reason, the following procedure must be adopted.

Only train receiving station can cancel "Line Clear" with cooperation from train sending station.

Sending Station	Receiving Station
<p>Block Panel displays "TRAIN GOING TO" indication.</p> <p>Train sending station ensures that cancellation of line clear conditions are available. Exchange private number.</p>	<p>Block Panel displays "TRAIN COMING FROM" indication.</p> <p>Receiving station ensures that cancellation of line clear conditions are available. Exchange private number.</p>
<p>1.(i) If L.S.S. is taken "OFF" SM Should not clear the L.S.S. and will keep it at "ON" only.</p>	
<p>(ii) If L.S.S. is already taken "OFF" it must be put back to 'ON' and SM's slide of concern L.S.S. should also be normal. SM should inform the Loco Pilot / Motorman of the train for which L.S.S. was taken "OFF" regarding cancellation of the line clear for following procedure must be adopted.</p>	

1. Press "cancel cooperation" Button	
2. "TRAIN GOING TO" indication turns FLASHING GREEN. Puts back the Last Stop signal controls to Normal if taken OFF & observes SNKE is lit.	<p>2. After verifying the Cancel Co-operation cancellation indication is available on his block panel Presses & Releases BELL and CANCEL buttons simultaneously and then releases.</p> <p>'TRAIN COMING FROM' indication turns to flashing GREEN. After signals at both stations are at NORMAL i.e. SNKE(local) and SNKE (other end) is lit TIMER indicator appears flashing.</p>
	<p>3. CANCEL indicator continues Flashing for 120 seconds. On expiry of 120 seconds, TRAIN COMING FROM indication and TIMER indication disappears.</p> <p>'LINE CLOSED' indication appears.</p>
4. Train Going To indication disappears. Line Closed' indication appears.	

(iii) To close the block when a train returns to the starting station (Push back operation)

After a train has been pushed back at the sending station, the sending station advises the receiving station regarding this under exchange of private number. The receiving station can close the section by pressing BELL & CANCEL button after taking cancel cooperation from other end.

Sending Station	Receiving Station
<p>1. Train clears the Block Section. Section buzzer starts ringing.</p> <p>'TRAIN GOING TO' indication turns FLASHING GREEN.</p> <p>Acknowledges the buzzer by pressing ACKN button.</p> <p>Ensures SNKE(local) indicator is lit.</p> <p>Advises receiving station operator to close the block, on telephone after prescribed BELL code.</p> <p>Presses cancel cooperation button.</p>	<p>2. Train clears the Block Section, Section buzzer starts ringing.</p> <p>'TRAIN COMING FROM' indication turns to FLASHING GREEN.</p> <p>Acknowledges the buzzer by pressing ACKN button.</p> <p>On request from sending station on telephone after prescribed BELL code for closing of block.</p> <p>Ensures SNKE indication is lit.</p> <p>Presses BELL & CANCEL buttons simultaneously and releases buttons.</p> <p>TIMER indicator appears flashing & continues flashing for 120 seconds.</p> <p>On expiry of 120 seconds, TRAIN COMING FROM' indication and TIMER indication disappears.</p>

	'LINE CLOSED' indication appears.
3. TRAIN GOING TO indication disappears. 'LINE CLOSED' indication appears.	

(iv) Block Back

The Shunt Key is the authority for the Loco Pilot to shunt from Starter upto the opposing First Stop Signal of concerned block section. This key authorizes the Loco Pilot to pass Advance Starter at 'ON' during shunting. Precautions regarding correct setting & locking of the route and showing of "Proceed" signal as per General Rules 3.70/G&SR shall be observed. Whenever shunt key is to be handed over to Loco Pilot for shunting, it shall be kept in a suitable pouch to avoid damage during handing The shunt key shall be handled very carefully both by the Station Master and the Loco Pilot, as damage to the Shunt Key will lead to failure of the Block System.

The Shunt Key can be extracted only when Block Panel is displaying LINE CLOSED or TGT condition. It cannot be extracted if block panel is displaying TCF condition. The SM who intends to extract shunting key shall inform Station Master at other end on telephone for permission to shunt, who will acknowledge the message & grant permission supported by a private number.

(v) Shunt key's extraction in "line closed" condition.

Operations for extraction of shunt key under "line closed" condition are as under :

Station intend carrying out shunting	Other end Station
1. Station Master will press, "shunt key button" on block panel and extract shunt key.	
2. On entry of train in Block Section. SECTION buzzer starts ringing & LINE CLOSED indication disappears. LINE FREE indication turns to RED. Acknowledges the buzzer by pressing ACKN button.	3. On entry of train in Block Section, SECTION buzzer starts ringing & LINE CLOSED indication disappears. LINE FREE indicator turns to RED. Acknowledges the buzzer by pressing ACKN button.
4. On Clearing of Block Section. Section buzzer starts ringing & LINE CLOSED indication appears. LINE FREE indication turns to GREEN. Acknowledges the buzzer by pressing ACKN button. Exchanges private number.	5. On Clearing of Block Section. Section buzzer starts ringing & LINE CLOSED indication appears. LINE FREE indication turns to GREEN. Acknowledges the buzzer by pressing ACKN button. Exchanges private number.

(vi) Shunt key extraction in “Train Going To” condition.

Whenever it is necessary to extract the shunt key with the “Train Going To” condition, indication on block panel it shall be done only after ‘Train On Line’ condition has been established under exchange of private number.

(a) Shunting is completed before the train clears Block section.

Shunting train enters a block section with shunting key and returns back to station while another train is still in the block section. Station Master inserts shunting key back in block panel and the block section clears automatically when other train clears the section. Clearing time of section by train and private number shall be recorded in a train register.

(b) Train clears section before shunting is completed.

When the train proceeding on regular line clear has cleared the block section and shunting train is still in the section, both end the block panels will continue to show “Train On Line” condition. When the shunting train clears the block section, the block section will automatically normalize.

The Station Master receives back the shunting key and inserts the shunting key back in the block panel system and normalizes. Normal train movements are then possible.

(vii) In case of train parting, part clearance of train from receiving station & clearance of balance portion from sending station.

Block will normalize automatically as soon as block section is clear of all vehicles provided front part of train has been received on signal at the receiving station. In case train has been received other than clearing the nominated signal, the cancellation action will be required.

6. Resetting of Axle Counter.

After a train has been received at receiving station or after a Block Back operation or when no train has entered into Block Section and LINE FREE indicator displays RED, then the following procedure shall be adopted to reset the Axle counter. Re-setting operation of axle counter is co-operative and Station Master having reset cooperation button on its block panel shall extend cooperation.

(i) Verify the “Block Section is clear of any vehicles”

(a) Observing the procedure laid down in GR 4.17 & relevant SR's thereto.

(b) By checking the train register, the details of last train passed through that Block Section and finding out from station in advance or from controller, that the last train that has passed has arrived complete. The SM should exchange private number with the SM/Controller or from whom the complete arrival has been confirmed.

(ii) Resetting Procedure

After the verification of Block section clear of Vehicles, follow the procedure given below for resetting of Axle Counter.

Station Provided with Reset Key	Station provided with Reset Button
1. Inserts & turns SM key, Gives Call attention/attend telephone Signal.	2. Acknowledges call attention/attend telephone signal.
3. Attends telephone.	4. Attends telephones
5. Informs the SM that the Axle Counter has failed after arrival of train.	6. Acknowledges.
7. Informs the SM that complete arrival of last train that passed from sending station to receiving station has been verified and intimate his intention to normalize the Axle Counter & communicates his private number.	8. Acknowledges & gives a private number.
9. Requests for co-operation to normalise the Axle Counter.	10. Acknowledges & presses RESET button.
11. On 'Reset cooperation' indication lit, Inserts RESET key. Turns & presses for short duration & releases. Advises sending station SM to release RESET button.	12. Releases the buttons.
13. LINE FREE indication turns GREEN from RED. SECTION buzzer starts ringing TRAIN GOING TO/TRAIN COMING FROM indication disappears. 'LINE CLOSED' indication appears. Acknowledges the buzzer by pressing ACKN button. The reset Counter increments. The number is entered in train registered as well as in Counter register kept at the station with details of private numbers.	14. LINE FREE indication turns GREEN from RED. SECTION buzzer starts ringing. TRAIN GOING TO/TRAIN COMING FROM indication disappears. 'LINE CLOSED' indication appears. Acknowledges the buzzer by pressing ACKN button.

7. Failure of the Block panel and Last Stop Signal.

(a) Failure of Block Panel

The block panels must be considered as defective in the following cases:

- (i) When no indication is available on the Block Panel.
- (ii) When none of the indications viz. 'Train Coming From'/Train Going To' appears on the Block Panel except 'Line Free'.
- (iii) When no train has entered into the Block Section but the Block Panel shows 'Line Occupied' Red indication and this indication persists even after Resetting has been tried as per para 6 above.
- (iv) When 'TRAIN GOING TO' or 'TRAIN COMING FROM' indications do not appear by appropriate action though condition for asking 'LINE CLEAR' and granting permission to approach are available.
- (v) 'TRAIN GOING TO' or 'TRAIN COMING FROM' indicator does not turn to RED to give 'TRAIN ON LINE' on the entry of train into Block Section at either of the station.
- (vi) When a train has arrived at the receiving station but the Block Panel still show 'TRAIN ON LINE' RED indication and persists even after Resetting has been tried as per para 6 above.
- (vii) When a train has arrived at the receiving station but the Block Panel shows FLASHING GREEN/GREEN indication even after ensuring SNKE indicator & LCB key IN at both the station.
- (viii) Total failure of communication during which train shall be worked as per extent rules in force on the Railway.
- (ix) Any damage is seen or reported to block equipment i.e. Block Panel, Axle Counter Track Devices, Axle counter equipment and block multiplexer equipment etc.
- (x) When Last Stop Signal cannot be kept at 'ON' during its suppression / disconnection.
- (xi) When Last stop Signal of the station does not go back to 'ON' position on the entry of a train into the Block Section.
- (xii) When the Bell Code signals are received indistinctly or are not received.

Note :

- (i) In all the above cases, the Block Panel must be treated as defective for block working and trains must be dealt with by taking Line Clear on Electrical communication equipment provided and by following provisions of GR 14.13.
- (ii) In respect of the failure indicated in the item number (viii) of above para trains must be dealt with under the extend rules as outlined in SR 6.02.
- (iii) In respect of the failures indicated in the item nos. (v), (ix) & (x) of the para (a) above, all efforts must be made to keep LSS in the 'ON' position. If it is not possible, then a competent railway servant should be deputed with red Hand Signal to take his position at the foot of the LSS to warn Loco Pilot/Motorman of the approaching trains. In addition, all trains in the relevant directions should be stopped at Home signal and after ensuring that they have come to stop, the Home signal should be cleared to caution aspect only. The starters should not be taken off and the trains should be despatched by issue of relevant paper authority to pass the starters and the LSS at ON. Caution Order should also issued to the Loco Pilot/Motorman about the defect of the LSS.
- (iv) The Block Panel should not be restored for normal working until a competent signalling staff has tested & certified fit.**
- (v) In all the cases indicated in paras 7(a) above failures should be informed to S&T staff immediately.**

(b) Failure Last Stop Signal.

The Last Stop Signal must be considered to have failed in the following cases :

- (i) The Last Stop Signal cannot be taken 'OFF' even though Line Clear has been obtained.
- (ii) The Last Stop Signal can be cleared without getting Line Clear.
- (iii) The Last Stop Signal does not restore to 'ON' position after the train enters the Block Section.

Note :-

- 1) In all the cases indicated in para 7(b) above failures should be informed to S&T staff immediately.
- 2) In respect of the cases indicated in paras (b)(i) & (iii) above the precautions indicated in Note No.(iii) and (iv) under the para 7(a) dealing with failure of the Block panels should be strictly adhered to.

8. Suspension of Block Working/Last Stop Signal.

(a) Suspension of Block Working.

Block Working must be suspended and trains dealt with in accordance with the extent instructions in the following cases :

- i) When material lorries, Motor Trolleys, Tie-tamping machines and rail tower wagon (4 wheeler) has to run in the section, these shall work on PLC.
- ii) An Accident in mid-section.
- iii) When any part of the Block Equipment is to be opened for repairs, which shall be done only, under duly accepted disconnection notice. Block Panel working shall only be resumed by a Railway servant authorized as per extant rules in force on the Eastern Railway.

Note : As soon as the cause of suspension of Block Working is removed, normal working can be restored by SM.

(b) Suspension of Last Stop Signal.

The Last stop signal shall be considered in cooperative and deemed to have been suspended in the following cases :

- i) When the Last Stop Signal has been undertaken for repairs by S&T staff.
- ii) During the 'BLOCK BACK'.
- iii) Mid-Section accident.
- iv) When the material lorries/trolleys, tie-tamping machines or tower wagon has to run in the section.

Note :

- i) As soon as the cause of suspension of LSS is removed, normal working can be restored by SM.

9. Working of trains when there is failure of Block Panel / Last Stop Signal.

a) Failure of Block Panel.

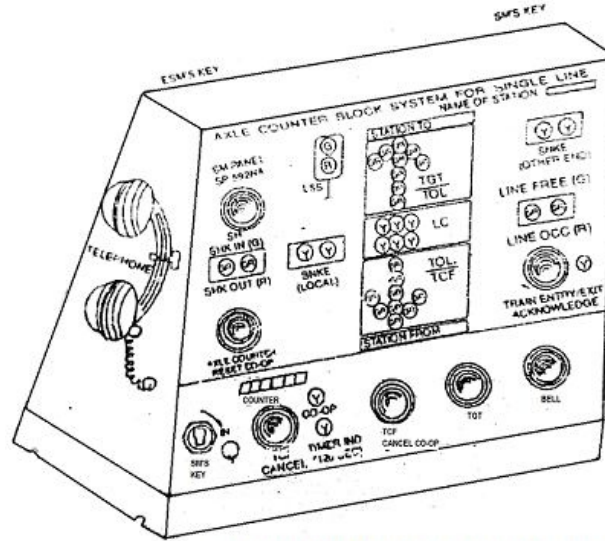
Whenever the Block Panels fail, Line Clear should be obtained on electrical communication equipment provided and by following provisions of GR 14.13 and SR there under.

b) Failure of Last Stop Signal and Block Panel is working.

Register, in Red Ink, the time of exchanging Private Numbers and Private Numbers exchanged before and after shunting operations. The station at which shunting is to be performed shall give a written authority to the Loco Pilot/Motorman for doing shunting as well as passing the Starter. Advanced Starter at 'ON' up to the Opposing First Stop Signal.

AXLE COUNTER BLOCK SYSTEM FOR SINGLE LINE

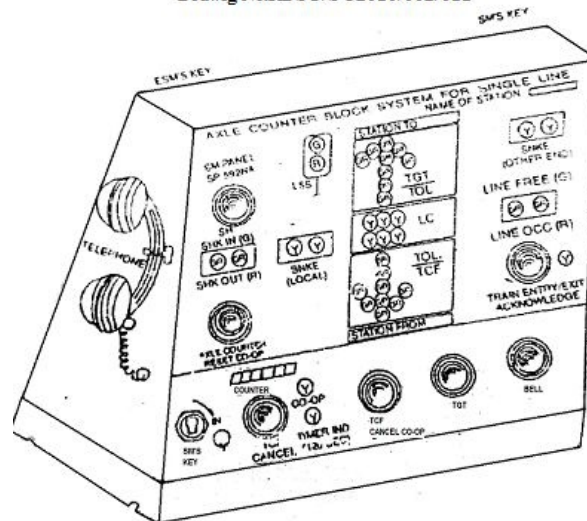
SM'S PANEL WITH EVALUTOR
Drawing No.RDSO/S-32010/002/011



STATION WITHOUT AXLE COUNTER RESET KEY

3. TGT, TCF, TOL AND LC INDICATIONS ARE OF ALPHA NUMERIC TYPE DISPLAY.
2. THE TELEPHONE BRACKET SHALL BE MOUNTABLE ON EITHER SIDE OF PANEL
1. SM'S LOCK & ESM'S LOCK SHALL BE PROVIDED SEPARATELY AT REAR OF PANEL

SM'S PANEL WITHOUT EVALUTOR
Drawig No.RDSO/S-32010/002/011



STATION WITH AXLE COUNTER RESET KEY

3. TGT, TCF, TOL AND LC INDICATIONS ARE OF ALPHA NUMERIC TYPE DISPLAY.
2. THE TELEPHONE BRACKET SHALL BE MOUNTABLE ON EITHER SIDE OF PANEL
1. SM'S LOCK & ESM'S LOCK SHALL BE PROVIDED SEPARATELY AT REAR OF PANEL

APPENDIX A

RULES FOR THE USE AND WORKING OF V.H.F SETS

(1) Rules for the use working of Wireless Sets (VHF) during Total Failure of Communications (TFC).

- (i) In the event of Line Communication system e.g. Block Instrument, Telephone etc. being found defective/not working Wireless sets should be used as a means of communication for train passing work. The Station Master will "switch on" the 'Main Switch' of the wireless set after waiting for at least one minute for this set to worm up may be deleted and the line should start "initiating Station Master will check". After waiting for at least one minute for this set to work up may be deleted and the line should start the initiating Station Master will check with the Station Master at the other end, the train number of three trains with their timings and Private Numbers which were passed immediately before the interruption of the communication, with a view to ensure that the correct stations are in communication. He will continue to transit his identity by pressing Pressel Switch of the HMT (telephone receiver).

The Station Master at the other end as soon as he finds the Line Communication System inoperative will also "switch on" the Wireless Sets and establish the communication system. The system will remain in "switched on" condition till the line communication circuits are restored.

- (ii) All the train passing messages will be passed on this Wireless Communication System during this period. Permission To Approach shall be obtained with Identification Number separately for each train and all the train passing messages shall include identity of the Station Master, train number and Private Numbers etc.
- (iii) This is a simplex system and only one Station Master will be in a position to talk at a time. All messages will end with the term OVER and the Pressel Switch should be immediately released so that the Station Master at the other end may come on line.
- (iv) The frequency bands and channels to be utilized under such circumstances are –
- (a) Channel 5 : 160.550 MHZ
 - (b) Channel 6 : 159.600 MHZ
 - (c) Channel 7 : 151.400 MHZ

System of working for taking Line Clear during Total Failure of Communications (TFC) :

From the consideration of safety, 3 frequencies are allotted for taking Line Clear on VHF sets and programmed as channel 5, 6 and 7 in 25W simplex VHF sets provided to the stations. In cases of TFC channel 5 must be used for first

section, channel 6 for second adjoining section and channel 7 for third adjoining section, channel 5 for fourth adjoining section, channel 6 for fifth adjoining section and so on. Station Master should revert operation back to channel 2 after TFC is over.

- (2) Rules on use of Identification Number for obtaining Permission to Approach and its maintenance & issue.

(Specimen sheet in annexure)

- (i) Two such sheets for each adjoining Block section will form the normal complement of each Block station from the date of opening. Each sheet is divided into two parts and in each part there are two columns of combinations of letters and figures. The columns in the left-half of the sheet are numbered (1) and (2) and those in the right half (2) and (1) respectively the columns bearing the same numbers are identical.
- (ii) The two parts of each sheet before issue will be separated, the left half of the sheet being sent to the station at one end of a Block section and the right-half to the station at the other end of the same Block section. Before issue the **Sr. DOM / Sr. DOM(G)/ DOM(G)** will write the names of the two stations over the two columns in each half the name of one station being written at the head of each columns bearing No (1) and the name of the other station at the head of each of the columns bearing No (2). Each half before being sent out will be signed and dated by the **Sr. DOM / Sr. DOM(G)/ DOM(G)** and will be placed in a sealed envelop addressed to the Station Master of the Station for which intended endorsing thereon its number and the section to which the Identification Number sheet applies.
- (iii) The **Sr. DOM / Sr. DOM(G)/ DOM(G)** will issue to each station on his division two Identification Number sheets for each adjoining block Section, each in a separate sealed envelope. One Identification Number sheet will not be used for more than one period of interruption. As soon as any of the other means of communications is restored to working order the identification number sheet that is being used during that interruption must be at once returned by both the stations to the Sr. DSO/Divisional Safety Officer and the latter will replace it by fresh sheet in a sealed cover.

Note : The **Sr. DOM / Sr. DOM(G)/ DOM(G)** will issue five Identification Number Sheets, each in a separate sealed envelope to those stations where VHF sets are used in quick succession and there is not much time left for the station staff to send back the used Identification Number Sheets and get new sheets for subsequent use.

- (iv) Example –

- 1. Stations at either end are Kalyani and Madanpur. The **Sr. DOM / Sr. DOM(G)/ DOM(G)** will prepare two Identification Number sheets for the section. At the head of column marked (1) he will enter the name of Kalyani and at the head of column marked (2) he will enter the name Madanpur. Both halves of each sheet will be signed by the **Sr. DOM /**

Sr. DOM(G)/ DOM(G) and dated. Each sheet will be separated into its two parts and each part put into a separate sealed envelop on which the following endorsement will be made:

"Identification Number sheet for Kalyani-Madanpur section Cover No....."

The covers containing each half of the first sheet will be numbered 1, and the cover containing each half of the second sheet will be numbered 2 and the two envelopes numbered 1 and 2 containing the right halves will be sent to Madanpur and the two numbered 1 and 2 containing the left halves to Kalyani.

2. During total interruption of communications if circumstances warrant the use of VHF sets between Madanpur and Kalyani should Madanpur desires to despatch an Up train to Kalyani he will call up Kalyani on telephone and will advise him that he is opening his sealed envelop no. 1 and instruct Kalyani to do the same. Kalyani when he as done so will call up Madanpur and ask him for his first Identification letter and figure on the list taken out of the sealed envelop. Madanpur will read out the first letter and figure shown in the column headed Madanpur Kalyani will check it with his list to see that it is correct and if so advise Madanpur as soon as he is ready to receive Is Line clear signal but Kalyani must not then read out his own identification letter and figure. Madanpur will immediately send the Is Line Clear signal for the train he wishes to despatch without either of the Station Master leaving the telephone. The enquiry message will end with the aforesaid Identification letter and figure. Kalyani will then, provided the section is clear give Permission to Approach to Madanpur over the telephone and at the end of the Line Clear message in addition to the Private Numbers he will give the first Identification Number (letter and figure) on his sheet in the column headed Kalyani which must be checked by Madanpur with his list and if found to be correct Madanpur will enter it on the Line clear Ticket in addition to the Private Numbers and will then despatch the train the subsequent Identification Numbers will be used serially for subsequent trains.

Each Station Master must enter immediately in the column provided for the purpose the number and date of the train against each Identification Number used.

3. For subsequent trains in either direction each station asking for "Permission to Approach" will give the other station Identification Number in the order instanced in sub-paragraph 2 above and obtain in his turn the corresponding Identification Number along with the "Permission to Approach" from the Station Master at the other end. In this way each Station Master can satisfy himself on each occasion that the "Permission to Approach" has been asked for by and received from the correct station when "Permission to Approach" has been obtained by means of Identification numbers through the VHF sets an entry to this effect must be made in the Train Signal Register and at the top of the Line Clear Ticket at the time of issue as required by GR 14.13(2)

- (v) When an interruption occurs and train messages are worked on the VHF sets by means of Identification Numbers, the **Sr. DOM / Sr. DOM(G)/ DOM(G)** must be promptly advised so that he can arrange to send out fresh Identification Number sheets without delay to replace those used.
- (vi) It must be clearly understood that the sealed envelope in which an Identification Number sheet is enclosed must on no account be opened till the Identification Number sheet is actually required for use. Once an Identification Number sheet is taken out of its envelope and use for an interruption the same sheet and any other sheet brought into use after the former has been exhausted will be used during the continuance of that particular interruption only, but on no account may a sheet which has been partly used be used for a subsequent interruption. As each sheet is exhausted it must be sent to the **Sr. DOM / Sr. DOM(G)/ DOM(G)** and any partly used sheet shall also be similarly returned as soon as the interruption is over and normal working resumed.
- (vii) the **Sr. DOM / Sr. DOM(G)/ DOM(G)** on receiving the used or partly used Identification Number sheet will arrange checking the same with its corresponding half for the section and then destroy it.
- (viii) The Station Master on duty is personally responsible for the Safe custody of the covers containing the Identification Number sheets and the same must be kept under lock and key. When an Identification number sheet has been once opened he must keep it in his own possession or under lock and key and make it over to his reliever only until the interruption is over so that no misuse may be made of the subsequent numbers of the sheet.

EASTERN RAILWAY
Identification Number Sheet

No.....

No.

No. and date of		No. and date of	
Left half	train for which	Right half	train for which
Used		used	
1	2	2	1
X 40	F 85	F 85	X 40
H 21	M 7	M 7	H 21
C 3	A 15	A 15	C 3
D 9	X 36	X 36	D 9
F 16	R 82	R 82	F 16
G 14	G 99	G 99	G 14
A 26	S 50	S 50	A 26
L 90	Q 55	Q 55	L 90
M 28	T 4	T 4	M 28
Q 51	Z 49	Z 49	Q 51
..... Sr. DOM / Sr. DOM(G)/ DOM(G)	Sr.DOM /Sr. DOM(G)/DOM(G)	
Date.....		Date.....	
Names of stations at each end of the block section to be entered at the top of columns (1) & (2) by the Divisional Safety Officer before issue.			

APPENDIX B

Specimen of the forms used in connection with Train Working

Sl. No.	Description	No.	Font Colour
1.	Signal & Telecommunication / Reconnection Notice.	S&T(T/351)	Black
2.	Advance Authority to Pass Defective Signals	T/369(1)	Blue
3.	Authority to Pass Signals in "ON" or Defective Position	T/369(3b)	Blue
4.	Caution Order	T/409	Green
5.	'NIL' Caution Order	T/A 409	Green
6.	Reminder Caution Order	T/B 409	Green
7.	Train Examination Advise/Report	T/431	Black
8.	Authority to Receive a Train on an Obstructed Line	T/509	Blue
9.	Authority to Start from a Non Signalled Line	T/511	Blue
10.	Authority to Start from a Line with Common Starter Signal	T/512	Blue
11.	Authority to Proceed for Relief engine/ train into an Occupied Block Section	T/A 602	Red
12.	Authority for Opening Communication During Total Interruption of Communication on Single Line Section	T/B 602	Red
13.	Authority for Working of Trains During Total Interruption of Communication on Double Line Section	T/C 602	Red
14.	Authority for Temporary Single Line working on Double Line Section	T/D 602	Red
15.	Line Clear Enquiry Message asking Line Clear for Despatch of Trains during Total Failure of Communication on Single Line Section	T/E 602	Red
16.	Conditional Line Clear Message	T/F 602	Red
17.	Conditional Line Clear Ticket (Up)	T/G 602	Red
18.	Conditional Line Clear Ticket (Down)	T/H 602	Red
19.	Message on Restoration	T/I 602	Black
20.	Written Permission by Guard to Loco Pilot to Proceed to next Station from Mid Section	T/609	Blue
21.	Shunting Order	T/806	Blue
22.	Authority to Pass Automatic / Semi Automatic / Manually Operated / Gate Signals	T/A 912	Blue

23.	Authority to Proceed without Line Clear on Automatic Block Signalling Territory	T/B 912	Red
24.	Authority to Proceed for Relief Engine / Train into an Automatic Block Signalling Section	T/C 912	Red
25.	Authority to Proceed on Automatic Block System during prolong failure of signals	T/D 912	Red
26.	Train Intact Arrival Register	T/1410	Black
27.	<i>Line Clear Inquiry and Reply Message Book in the event of Failure/Suspension/ Non-provision of Block instruments</i> Train Despatching Station	T/A 1425	Black
	<i>Line Clear Inquiry and Reply Message Book in the event of Failure/Suspension/ Non-provision of Block Instruments</i> Train Receiving Station	T/B 1425	
28.	Paper line Clear Ticket (Up)	T/C 1425	Blue
29.	Paper line Clear Ticket (Down)	T/D 1425	Blue
30.	Trolley/Lorry/OHE Ladder Trolley Notice	T/1518	Black
31.	Motor Trolley Permit	T/1525	Blue
32.	Train Signal Register	ER/OP/T28	Black
33.	Cabin Log Register	R.B. No./OP/CI	Black
34.	Line Admission Book	T 460/OP/T113	Black
35.	Private Numbers Sheet	----	Black
36.	Brake Power Certificate	Mec. V/5.	Black
37.	Out of course stoppage order	ER/OP/T-2-OP/S-2	Black

S&T (T/351) Sr. No. _____ EASTERN RAILWAY	S&T (T/351) Sr. No. _____ EASTERN RAILWAY	S&T (T/351) Sr. No. _____ EASTERN RAILWAY
Signal and Telecommunication Deptt. ACKNOWLEDGEMENT OF DISCONNECTION/RECONNECTION NOTICE No. _____ Division _____ To _____ The Station Master on Duty at _____ Station/Cabin. For disconnecting the following gears :- <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <u>RED</u> _____ on _____ _____ at _____ hours _____ minutes to attend failure for maintenance. (Expected duration of disconnection) _____ SI/MSM/ESM </div> <div style="text-align: center;"> <u>GREEN</u> _____ on _____ _____ at _____ hours _____ minutes to attend failure for maintenance. (Expected duration of disconnection) _____ SI/MSM/ESM </div> </div> Notice about disconnection received. On _____ 20 ____ at _____ hours _____ minute _____ Signature of Station Master ** Disconnection allowed/ not allowed on _____ 20 ____ at _____ hrs. _____ Signature of Station Master Disconnection will be allowed at _____ hrs. _____ minutes _____ on _____ 20 ____ _____ Signature of Station Master Reconnected on _____ 20 ____ at _____ hours. _____ SSE(S&T)/SM/MSM Notice about reconnection received on at....hrs..... Mts. _____ Signature of Station Master * Fill in the details of the gear/s to be disconnected. ** Reasons for not allowing disconnection to be recorded.	Signal and Telecommunication Deptt. RECONNECTION NOTICE No. _____ Notice for reconnecting signalling gear. No. _____ Division _____ To _____ The Station Master on duty at Station _____. Please note that the disconnected gear/s referred to in notice no. _____ has/have been reconnected. On Date _____ at _____ hours _____ minutes. _____ Signature _____ Designation Date _____ 20 ____ Time _____ hours.	Signal and Telecommunication Deptt. DISCONNECTION NOTICE No. _____ Notice to Transportation Staff for disconnecting signalling gear. No. _____ Division _____ To _____ The Station Master on duty at Station _____. Please note that the following gears will be disconnected on _____ at _____ hours _____ minutes for _____ hours _____ minutes to attend failure for maintenance. * _____ Signature _____ Designation Date _____ 20 ____ Time _____ hours. ** Fill in details of the gears to be disconnected. _____ _____

* Colour of pair-lines mentioned alongside of the lines.

Operating Forms of Block Working Manual

Form No. T/369(1)

Sr. No. _____

EASTERN RAILWAY

ADVANCE AUTHORITY TO PASS DEFECTIVE SIGNALS

AT STATION _____
(Record/Loco Pilot)

Station _____ Date _____ 20 ____

To
The Loco Pilot of Train No. _____ Up/Down

As per advice of Station Master, _____
Station _____ *Up/Down
_____ Signal/s * is/are out of order at Station. On being
hand signaled at the foot of the defective signal(s), you are, therefore,
authorized that you shall pass the defective signal(s) at a restricted speed not
exceeding 15 kilometres per hour.

Signature of Loco Pilot

Date _____ 20 ____

* Strike out whichever is not applicable.

Signature of Station Master

Station Master's Stamp

Form No. T/369(3b)

Sr. No. _____

EASTERN RAILWAY

AUTHORITY TO PASS SIGNALS IN 'ON' OR DEFECTIVE POSITION

(Record/Loco Pilot)

Station _____

Date _____ 20

Time _____ 20

To

The Loco Pilot of Train No. _____ (Up/Down)

Description and No. of Signals [_____]

[_____]

AT STATION _____

[_____]

is/are OUT OF ORDER

[_____]

You are hereby authorized to pass the defective Outer/Home/Inner Home/ Routing/Starter/Intermediate Starter/Advanced Starter/IBS Signal/s at 'ON' position at a speed not EXCEEDING 15 KMPH.

* The train will be admitted on line no. (in words) _____ and (figures) _____

** In case of failure of Advanced Starter Signal /Last Stop Signal – Line Clear has been obtained on Electrical Communication Instrument from _____ station. Private no. received (in figures) _____ (in words) _____

Signature of Loco Pilot

Signature of Station Master

Station Master's Stamp

Date _____ 20

Date _____ 20

* In case of Routing/Inner Home/Home Signal is defective

** in case of failure of Advanced Starter/Last Stop Signal on Double Line Territory.

INSTRUCTIONS

Strike out whichever is not applicable

Loco Pilot proceeding on this authority must observe instructions mentioned at the back of this form.

[P.T.O.]

IMPORTANT INSTRUCTIONS

- (1) For approach signal Loco Pilot is authorized to pass the defective signal at 'ON' on the Authority delivered through a competent railway servant at the foot of the defective signal.
- (2) For Starter Signal, The Loco Pilot to pass such signal on the Authority handed over at the station and in addition thereto, a competent railway servant shall show hand signals to departing train in accordance with the instructions of Station Master.
- (3) In case of defective Advanced Starter Signal, hand signals may be dispensed with and Loco Pilot to pass such signal by a written authority handed over at the station. Except in case of an Advanced Starter Signal protects any points, hand signals shall not be dispensed with.

Form No. T/409

Sr. No. _____

EASTERN RAILWAY**Caution Order
(Record/Loco Pilot/Guard)**

Station _____

Date _____ 20 ____

To

The Loco Pilot of train No. _____ (Description) _____

You are hereby instructed to exercise the following speed restrictions observing engineering indicators, hand signals of flagman and banner flag exhibited as necessary :-

_____ (in figures) _____ (in words)

Sr. No.	Stations Between		Kilometrage		Speed Kmph	Cause/Remarks
	From	To	From	To		
1						
2						
3						
4						
5						
6						
7						
8						

Time _____

Signature of Station Master

Station Master Stamp

Signature of Loco Pilot _____ Date _____ 20 ____

Signature of Guard _____ Date _____ 20 ____

Form No. T/A 409

Sr. No. _____

EASTERN RAILWAY
(Record/Loco Pilot/Guard)

Station _____

Date _____ 20 ____

To

The Loco Pilot of Train No. _____ (Description) _____

CAUTION ORDER
NIL

Up to _____ (Name of next Noticed Station/Station)

Signature of Station Master

Station Master Stamp

Signature of Loco Pilot _____ Date _____ 20 ____ Time _____

Signature of Guard _____ Date _____ 20 ____ Time _____

Form No. T/B 409

Sr. No. _____

EASTERN RAILWAY
REMINDER CAUTION ORDER
 (Record/Loco Pilot)

Station _____

Date _____

To

The Loco Pilot of Train No. _____ (Description) _____

You are hereby instructed to exercise the following speed restrictions observing engineering indicators, hand signals of flagman and banner flag exhibited as necessary :-

_____ (in figures) _____ (in words)

Sr. No.	STATION BETWEEN		KILOMETRAGE		Speed Kmph	Cause/Remarks
	From	To	From	To		
1						
2						
3						
4						

Time _____

Signature of Station Master

Station Master Stamp

Signature of Loco Pilot _____ Date _____ Time _____

Signature of Guard _____ Date _____ Time _____

Form No. T/509
Sr. No. _____

EASTERN RAILWAY
AUTHORITY TO RECEIVE A TRAIN ON AN OBSTRUCTED LINE
(Record/Loco Pilot)

Station _____ Date _____ 20____ Time _____

To
The Loco Pilot of Train No. _____ (Description) _____ (Up/Down)

You are authorized to pass * Up/Down * Outer/Home/Routing Signals in 'ON' position cautiously not exceeding 15 Kmph speed being piloted by the bearer of this Authority and you should bring your train to a stand at the facing points leading to Line No. (in words) _____ (in figures) _____ until Hand Signaled forward as you are being received on an obstructed line.

Signature of Station Master

Station Master's Stamp

Signature of Loco Pilot _____ Date _____ 20____

** Strike out whichever is not applicable*

Form No. T/511
Sr. No. _____

EASTERN RAILWAY
AUTHORITY TO START FROM A NON-SIGNALLED LINE
(Record/Loco Pilot)

Station _____

Date _____ 20 ____

Time _____

To _____

The Loco Pilot of Train No. _____ (Up/Down).

You are authorized to pass * Starter/Advanced Starter in the "ON" position and leave the Yard cautiously duly piloted out up to last set of points of non-signalled line by the competent Railway servant at a speed not exceeding 15 Kmph over the points as your train is started from non-signalled Line No. _____.

Token or Line Clear Ticket No. _____.

Private No. received (in words) _____ (in figures) _____.

Signature of Station Master

Station Master's Stamp

Signature of Loco Pilot _____ Date _____

* Strike out whichever is not applicable

Form No. T/512
Sr. No. _____

EASTERN RAILWAY

AUTHORITY TO START FROM A LINE WITH COMMON STARTER SIGNAL

(Record/Loco Pilot)

Station _____ Date _____ Time _____

To
The Loco Pilot of Train No. _____ Description _____
Up/Down

You are authorized to start from Line No. (in words) _____ (in figures) _____ on the starter signal being taken off. Line No. _____ is one of the number of lines governed by the same starter signal.

Line Clear is obtained on * Block Instrument / _____ phone from _____ station.

Private No. received (in words) _____ (in figures) _____

* Token or Line Clear Ticket No. _____.

Signature of Station Master/Yard Master

Station Master/Yard Master Stamp

Signature of Loco Pilot _____ Date _____

* In case of tangible authority or paper line clear ticket, strike out whichever is not applicable.

UP/DOWN

Form No. T/A 602

EASTERN RAILWAY
AUTHORITY TO PROCEED FOR RELIEF ENGINE/TRAIN INTO AN OCCUPIED BLOCK SECTION
 (Loco Pilot/Guard/Record)

Station _____

Date _____ 20 ____

To : Loco Pilot of Relief Engine / Train No. _____

BLOCK TICKET TO PROCEED WITHOUT LINE CLEAR

- 1) You are hereby authorized to proceed cautiously without Line Clear from station _____ up to Km _____ on UP/DOWN Line with your Relief Engine/Train.
- 2) You shall bring your Engine / Train to a stop at Km _____ and there after be guided by the instructions from the Competent Authority at the site.
- 3) This order is given due to obstruction on _____ line between _____ station and _____ station at Km No. _____.
- 4) You shall clear the section at station _____.

AUTHORITY TO PASS SIGNALS IN 'ON' POSITION

1. You are authorized to pass the Signal / Signals No. & description _____ in 'ON' position, speed not exceeding 15 KMPH observing hand signals at the foot of the signal post/s, if it protects points.

CAUTION ORDER

1. You are permitted to run your Relief Engine / Train upto Km _____ between station _____ and _____ station with the speed of :-
 15 KMPH in day and when view ahead is clear.
 10 KMPH in night or when view ahead is not clear.
2. You are expressly warned to observe every caution while approaching level crossing gate/s situated between block section and whistle frequently. Caution Orders in force in the Block Section are as under :-

Sr. No.	STATION BETWEEN		KILOMETRAGE		Speed Kmph	Cause/Remarks
	From	To	From	To		
1.						
2.						
3.						
4.						

I have understood the contents of this.

Signature of Loco Pilot_____
Signature of Guard_____
Signature of Station Master

Station Master's Stamp

Time ____ Hours ____ Minutes.

INSTRUCTIONS

1. Loco Pilot proceeding on this authority must observe instructions mentioned at the back of this form.
2. Loco Pilot will stop short of km (obstruction) shown above and thereafter he will obey the signals of employee / supervisor present at site.

IMPORTANT INSTRUCTIONS

Loco Pilot proceeding on this authority must observe the following instruction:-

- | (1) Speed must not exceed | Single Line | Double Line |
|---|--|--|
| (a) Day | 15 KMPH | 15 KMPH |
| (b) Night or when view is obstructed | 10KMPH | 10 KMPH |
| (c) In thick, foggy or tempestuous weather or in dust storm | Walking pace preceded by two men on foot with Red light and Fog Signals. | Walking pace preceded by one man on foot with Red light and Fog Signals. |
2. Both by day and night, a tunnel must not be entered until the Loco Pilot has ascertained that it is clear. Should there be any doubt on this point, the train should be piloted by a Railway employee equipped with hand signals and detonators.
 3. During night if Electric Head Light is not in working order, the Train or the Light Engine must be preceded at an adequate distance by a Railway Servant carrying Detonators and exhibiting Red Light ahead to stop any other approaching train. The precautions must be taken in case of self propelled vehicle/other vehicle also.
 4. A sharp look out must be kept at all times and the Loco Pilot must be prepared to stop clear and short of any obstruction which may exist or crop up on the track.
 5. When approaching the station ahead, Loco Pilot must stop his train engine / light engine / trolley / tower wagon / diesel rail car / self-propelled vehicle / other vehicle out side First Stop Signal and sound continuously whistle or by sounding the horn of self-propelled vehicle, if provided, as per special instructions. If no one turns up from the station within 10 minutes, Assistant Loco Pilot / Guard shall be immediately sent to the station to inform Station Master of the arrival of the train / light engine / self-propelled vehicle / other vehicle or make contact Station Master through Signal Post Telephone, if provided or by other means of communications if provided.

UP/DOWN

Form No. T/B 602

EASTERN RAILWAY**AUTHORITY FOR OPENING COMMUNICATION DURING TOTAL INTERRUPTION OF
COMMUNICATION ON SINGLE LINE SECTION**

(Loco Pilot/Record)

Station _____

Date _____ 20 ____

To: Loco Pilot of Engine / Self Propelled Vehicle. _____

AUTHORITY TO PROCEED WITHOUT LINE CLEAR

- 1) You are hereby authorized to proceed cautiously without Line Clear from station _____ to station _____ with your Engine/Self Propelled Vehicle.
- 2) You shall bring your Engine/Vehicle to a stand out side the first stop signal of the next block station there after be guided by the instructions from the Station Master of that station.
- 3) Train No _____ was Last Train over the section. It left/arrived* here at _____ hours ____ minutes.
- 4) This authority is given due to :-
 - a) Total interruption of communication with station _____ from ____ hours of date ____20__.
 - b) _____.

AUTHORITY TO PASS SIGNALS IN 'ON' POSITION

1. You are authorized to pass the Signal/s No. & description _____ in 'ON' position, speed Not exceeding 15 KMPH observing hand signals at the foot of the signal post/s, if it protects points.

CAUTION ORDER

1. You are permitted to run your Engine/Self Propelled Vehicle between Station _____ to _____ station with the speed of :-15 KMPH in day and 10 KMPH in night or when view ahead is not clear.
2. You are expressly warned to observe every caution while approaching level crossing gate/s situated between block section and whistle frequently.
3. In addition following caution orders are in force in block section:-

Sr. No.	STATION BETWEEN		KILOMETRAGE		Speed Kmph	Cause/Remarks
	From	To	From	To		
1.						
2.						
3.						
4.						

LINE CLEAR ENQUIRY MESSAGE

To, The Station Master _____.

Message No _____. On return of _____, will line be clear and kept clear for train No. _____ waiting to proceed?

CONDITIONAL LINE CLEAR MESSAGE

To, The Station Master _____.

Message No. On arrival of _____ at yours, line will be clear and kept clear for _____ Train Engine to return with/without attached to a Train or Another Engine or Self Propelled Vehicle/Trolley etc. (Complete Particulars)

Private Number (in words) _____ (in figures). I have understood the contents of this.

Signature of Loco Pilot_____
Signature of Guard_____
Signature of Station Master

Station Master's Stamp

Time ____ Hours ____ Minutes.

INSTRUCTIONS

1. * Strike out whichever is not applicable.
2. Loco Pilot proceeding on this Authority must observe instructions mentioned at the back of this form.

IMPORTANT INSTRUCTIONS

Loco Pilot proceeding on this authority must observe the following instructions:-

- | | |
|---|---|
| (1) Speed must not exceed | Single Line |
| (a) Day | 15 KMPH |
| (b) Night or when view is obstructed | 10 KMPH |
| (c) In thick, foggy or tempestuous weather or dust storm. | Men on foot with Red light and Fog Signals. |
-
2. Both by day and night, a tunnel must not be entered until the Loco Pilot has ascertained that it is clear. Should there be any doubt on this point, the train should be piloted by a Railway Employee equipped with Hand Signals and Detonators.
 3. During night if Engine is not fitted with the Electric Head Light or if Electric Head Light is not in working order, the Train or the Light Engine must be preceded at an adequate distance by a Railway Servant carrying Detonators and exhibiting Red Light ahead to stop any other approaching train. The precautions must be taken in case of self-propelled vehicle/other vehicle also.
 4. A sharp look out must be kept at all times and the Loco Pilot must be prepared to stop clear and short of any obstruction which may exist or crop up on the road.
 5. When approaching the station ahead, Loco Pilot must stop his train engine / light engine / trolley / tower wagon / diesel rail car / self-propelled vehicle / other vehicle out side First Stop Signal and sound continuously whistle or by sounding the horn of self-propelled vehicle, if provided, as per special instructions. If no one turns up from the station within 10 minutes, Assistant Loco Pilot / Station Master / Guard shall be immediately sent to the station to inform Station Master of the arrival of the train / light engine / self-propelled vehicle / other vehicle or make contact Station Master through Signal Post Telephone, if provided or by other means of communications if provided.

UP/DOWN

Form No. T/C 602

Sr. No. _____

EASTERN RAILWAY
AUTHORITY FOR WORKING OF TRAINS DURING TOTAL INTERRUPTION OF
COMMUNICATION ON DOUBLE LINE SECTION

(Loco Pilot/Record)

Station _____

Date _____ 20 ____

To: Loco Pilot of Train No. _____

AUTHORITY TO PROCEED WITHOUT LINE CLEAR

- 1) You are hereby authorized to proceed cautiously without Line Clear. From station _____ to station _____ with your Train/Self Propelled Vehicle No. _____
- 2) You shall bring your Train to a stand out side the first stop signal pertaining to right line/last stop signal pertaining to wrong line whichever comes across first of the next Block Station there after be guided by the instructions from the Station Master of that station.
- 3) Train No _____ was Last Train over the section. It left/arrived * here at _____ hours _____ minutes.
- 4) Circumstances under which this order is given:-
 - a) Total interruption of communication with station from ____ hours ____ minutes of date ____.
 - b)

AUTHORITY TO PASS SIGNALS IN 'ON' POSITION

You are authorized to pass the Signal/Signals No. & description _____ in 'ON' position, speed not exceeding 15 KMPH observing hand signals at the foot of the signal post/s, if it protects points.

CAUTION ORDER

1. You are permitted to run your Train between Station _____ & _____ station with the speed of :- 25 KMPH in day and when view ahead is clear
10 KMPH in night or when view ahead is not clear.
- 2 You are expressly warned to observe every caution while approaching level crossing gate/s situated between block section and whistle frequently.

Sr. No.	STATION BETWEEN		KILOMETRAGE		Speed Kmph	Cause/Remarks
	From	To	From	To		
1.						
2.						
3.						
4.						

I have understood the contents of this.

Signature of Loco Pilot

Signature of Guard

Signature of Station Master

Station Master's Stamp

Time ____ Hours ____ Minutes.

INSTRUCTIONS

1. * Strike out whichever is not applicable.
2. Loco Pilot proceeding on this authority must observe instructions mentioned at the back of this form.

IMPORTANT INSTRUCTIONS

Loco Pilot proceeding on this authority must observe the following instructions :-

- | | |
|---|--|
| (1) Speed must not exceed | Double Line |
| (a) Day | 25 KMPH |
| (b) Night or when view is obstructed | 10 KMPH |
| (c) In thick, foggy or tempestuous weather or dust storm. | Walking pace preceded by two men on foot with Red light and Fog Signals. |
-
2. Both by day and night, a tunnel must not be entered until the Loco Pilot has ascertained that it is clear. Should, there be any doubt on this point, the train should be piloted by a Railway Employee equipped with Hand Signals and Detonators.
 3. During night if Engine is not fitted with the Electric Head Light or if Electric Head Light is not in working order, the Train or the Light Engine must be preceded at an adequate distance by a Railway Servant carrying Detonators and exhibiting Red Light ahead to stop any other approaching train. The precautions must be taken in case of self-propelled vehicle/other vehicle also.
 4. A sharp look out must be kept at all times and the Loco Pilot must be prepared to stop clear and short of any obstruction which may exist or crop up on the road.
 5. When approaching the station ahead, Loco Pilot must stop his train engine / light engine / trolley / tower wagon / diesel rail car / self-propelled vehicle / other vehicle out side First Stop Signal pertaining to right line / last stop signal pertaining to wrong line whichever comes across first and sound continuously whistle or by sounding the horn of self-propelled vehicle. If provided, as per special instructions. If no one turns up from the station within 10 minutes, Assistant Loco Pilot / Guard shall be immediately sent to the station to inform Station Master of the arrival of the train / light engine / self-propelled vehicle / other vehicle or make contact Station Master through Signal Post Telephone, if provided or by other means of communications if provided.

EASTERN RAILWAY

Up/Down

AUTHORITY FOR TEMPORARY SINGLE LINE WORKING ON DOUBLE LINE

(Loco Pilot/Guard/Record)

Station _____

Date _____ 20 ____

To

The Loco Pilot of Train No. _____ (Description)

LINE CLEAR TICKET

The line is clear and you are authorized to proceed on Up/Down Line up to station _____

Private No. (in words) _____ (in figures) _____.

AUTHORITY TO PASS SIGNALS IN 'ON' POSITION

* Description & No. of signal _____ Applicable to Starter, Intermediate Starter, Advanced Starter or Last Stop Signal. Observe hand signal/s at the foot of the signal, if it protects points.

** You are authorized to pass the signals of those stations which have been closed temporarily for single line working. Station/s _____.

You have to also inform the Gatemen and Trackmen enroute for introduction of single line working.

CAUTION ORDER

- i. Your train is going on Right line/Wrong line. The obstruction exists at Km. _____.
- ii. Speed of the first train should be restricted to 25 kmph & speed of subsequent train should be sectional speed during temporary single line working subject to observance of other speed restriction in force for all trains.
- iii. You are expressly warned to observe 'Neutral Section' (only in Electrified section) if your train is going on wrong line. There are no Trap Points on the line in question/Trap points have been clamped/spiked.
- iv. Following are the Caution Orders in force in Block Section:-

Sr. No.	STATION BETWEEN		KILOMETRAGE		Speed Kmph	Cause/Remarks
	From	To	From	To		
1.						
2.						
3.						
4.						

I have understood the contents of this.

Signature of Loco Pilot

Signature of Station Master

Station Master's Stamp

* Strike out whichever is not applicable.

Time _____ Hours _____ Minutes

** For intermediate block stations.

UP /DOWN

Form No. T/E 602

Sr. No. _____

EASTERN RAILWAY

**LINE CLEAR INQUIRY MESSAGE ASKING LINE CLEAR FOR DESPATCH OF TRAINS
DURING TOTAL COMMUNICATION ON SINGLE LINE SECTION**

(Loco Pilot/Record)

Station _____

Date _____

Time _____ hours _____ minutes.

From Station Master _____

To Station Master _____

Message No. _____. On return of * Train Engine with/without train /
self propelled vehicle / other vehicle number _____ will line be
clear and kept clear for following train/s :-

1. _____
2. _____
3. _____
4. _____

Waiting to proceed to yours.

Signature of Station Master

Station Master's Stamp

* Strike out whichever is not applicable.

* UP/DOWN

Form No. T/F 602

Sr. No. _____

EASTERN RAILWAY

CONDITIONAL LINE CLEAR MESSAGE

(Loco Pilot/Record)

Date _____ 20__

Time _____ hours _____ minutes.

Station _____

From Station Master _____

To Station Master _____

Message No. _____

Your Message No. _____. On arrival of * Train Engine with/without train / self propelled vehicle / other vehicle number _____ at yours line will be clear and kept clear for following train/s :-

1. Train No. _____ Private No. (in words) _____ (in figures) _____

2. Train No. _____ Private No. (in words) _____ (in figures) _____

3. Train No. _____ Private No. (in words) _____ (in figures) _____

4. Train No. _____ Private No. (in words) _____ (in figures) _____

Signature of Station Master

Station Master's Stamp

* Strike out whichever is not applicable.

UP

Form No. T/G 602

Sr. No. _____

EASTERN RAILWAY
CONDITIONAL LINE CLEAR TICKET
(Loco Pilot/Record)

Station _____

Date _____ 20 ____

Time _____ hours _____ minutes.

From Station Master _____

To

The Loco Pilot of Train No. _____ UP (Description) _____

The line is clear and you are authorized to proceed to _____ Station.

* Last train left this station at _____ hours _____ minutes.

You are hereby authorized to follow and proceed to _____ station.

Private No. (in words) _____ (in figures) _____.

Particulars of trains left		Particulars of trains to follow	
Train No.	Time	Train No.	Time
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Signature of Station Master

Station Master's Stamp

Special Instructions

When following a Train keep sharp look out at speed not exceeding 25 Kmph when view is clear and 10 Kmph or less when view is impaired due to any reason.

* Strike out in case of second and subsequent trains during uneven flow.

** Strike out in the case of first train during uneven flow and for all trains during even flow.

DOWN

Form No. T/H 602
Sr. No. _____

EASTERN RAILWAY
CONDITIONAL LINE CLEAR TICKET
(Loco Pilot/Record)

Station _____

Date _____ 20__

Time _____ hours _____ minutes.

From Station Master _____

To

The Loco Pilot of Train No. _____ DOWN Description _____

The line is clear and you are authorized to proceed to _____ Station.

* Last train left this station at _____ hours _____ minutes.

You are hereby authorized to follow and proceed to _____ station.

Private No. (in words) _____ (in figures) _____.

Particulars of trains left

Particulars of trains to follow

Train No.

Time

Train No.

Time

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Signature of Station Master

Station Master's Stamp

Special Instructions

When following a Train keep sharp look out at speed not exceeding 25 Kmph when view is clear and 10 Kmph or less when view is impaired due to any reason.

* Strike out in case of second and subsequent trains during uneven flow.

** Strike out in the case of first train during uneven flow and for all trains during even flow.

EASTERN RAILWAY

MESSAGE ON RESTORATION BY ANY ONE OF THE MEANS OF COMMUNICATION

From Station Master _____ To Station Master _____
Date _____ 20 _____ Time _____ hours _____ minutes.

No. _____ Train (No. & Description) _____ arrived complete at
_____ hours _____ minutes. Last Train (No. & Description) _____
dispatched to your station at _____ hours _____ minutes. Cancel the
Conditional Line Clear working of Trains / present method of working the trains. Line
Clear must be obtained by means of _____.

Acknowledge

Private Number (in words) _____ (in figures) _____.

Signature of Station Master

Station Master's Stamp

ACKNOWLEDGEMENT

From Station Master _____ To Station Master _____
Date _____ 20 _____ Time _____ hours _____ minutes.

Message No. _____.

Your Message No. _____ understand that Train No.
_____ Description _____ which was the last Train to leave my
station has arrived complete at your station. Train No. _____ which left your
station has arrived complete at my station/not arrived at _____ hours _____
minutes. Conditional Line Clear Working of trains / present system of train working is
being / will be cancelled immediately after the complete arrival of train no. Line
Clear for the next train will be obtained by means of _____.

Private Number (in words) _____ (in figures) _____.

Signature of Station Master

Station Master's Stamp

EASTERN RAILWAY**Written permission given by the Guard to Loco Pilot when the Engine or portion of a train is allowed to proceed to the next station from mid section**

(Loco Pilot/record)

To, The Loco Pilot of Train (No. and description) _____.

You are authorized to uncouple and proceed at _____ hours _____ minutes to _____ station with *the Engine of your Train / the front portion of your train consisting of _____ vehicles with last vehicle No. _____

You shall deliver the report of occurrence to the Station Master on duty and, if required to do so by the Station Master, you shall return to *your disabled train / take the rear portion of your train which is at KM _____ on this Authority after being permitted by the Station Master.

I certify that I have received the tangible authority to proceed** _____ and will retain it, until the section is cleared of my train. Also certified that portion of Train left in Mid Section is secured and protected as per rules.

Signature of Loco Pilot

Date _____

Time _____

Signature of Guard

Date _____

Time _____

Loco Pilot of _____, you are hereby permitted and authorized to enter into the Block Section to clear the disabled / rear portion of your train.

Signature of Station Master

Station Master's Stamp

* Score out whichever is not applicable

** Enter particulars of the Authority to Proceed.

EASTERN RAILWAY**SHUNTING ORDER**

(Loco Pilot/Guard/Yard Master/Shunting Jamadar/Shunting Master/Record)

Station _____

Date _____ 20 ____

Time _____ hours _____ minutes.

To

The Loco Pilot of Train No. _____ *UP/DOWN.

Please comply with the following order promptly without any type of delay :-

1. _____

2. _____

3. _____

4. _____

* You are authorized to pass _____ signal in the 'ON' position and proceed * up to/beyond ** _____ signal.

***Section between _____ Station and _____ station is * blocked back/ blocked forward.

* For this purpose and Token/Tablet/Line Clear Ticket No. _____ * SH/OCE Key is hereby issued to you from _____ hours _____ minutes to _____ hours _____ minutes.

Signature of Station Master

Station Master's Stamp

Signature of Loco Pilot _____ Date _____ Time _____ hours _____ minutes.

Signature of Guard _____ Date _____ Time _____ hours _____ minutes.

* Strike out whichever is not applicable

** Enter KM or Signal No.

*** Applies when Line is Blocked back/Blocked forward.

EASTERN RAILWAY**AUTHORITY TO PASS AUTOMATIC/SEMI-AUTOMATIC/MANUALLY OPERATED/GATE STOP SIGNALS****(Loco Pilot/Record)**

Station _____

Date _____ 20____

Time _____ hours _____ minutes.

To

The Loco Pilot/Motorman of train No. _____ UP/DOWN.

- a) Automatic signaling has failed and you are, hereby authorized to pass all Automatic signals between _____ station and _____ station. In addition, you are also authorized to pass Semi Automatic / manually operated / gate stop signals on being hand signaled past such signals by a railway servant in uniform. The hand signals being displayed at the foot of signal except as provided for in clause 'b'.
- b) When running in wrong direction (i) you must ascertain that points of outlying sidings, where provided, are correctly set and locked and/or the level crossing gates Nos. _____ are locked and (ii) hand signals are displayed by the railway servant in uniform at the points, level crossing gates before passing them.

**Here indicate distinguishing }
Number of all signals to be }
thus passed. }**

Signature of Station Master

Station Master's Stamp

I have understood the contents of this authority.

Signature of Guard _____ Date _____ Time _____ hours _____ minutes.

Signature of Loco Pilot _____ Date _____ Time _____ hours _____ minutes.

EASTERN RAILWAY**AUTHORITY TO PROCEED WITHOUT LINE CLEAR ON AUTOMATIC
BLOCK SIGNALLING TERRITORIES****(Loco Pilot/Record)**

Station _____

Date _____ 20____

Time _____ hours _____ minutes.

To The Motorman/Loco Pilot of Engine/Train/Unit No. _____ Up/Down.

You are hereby authorized to proceed cautiously without line clear from _____ station to _____ station with or without your train on Up/Down * Line.

You shall bring your Train/Engine/Unit No. _____ to stand outside First Stop Signal/Last Stop Signal pertaining to wrong line * of the station and thereafter be guided by the instructions from the Station Master of _____ station.

Train No. _____ was the last train over the section. It left/arrived * here at _____ hours _____ minutes.

CIRCUMSTANCES UNDER WHICH THIS AUTHORITY IS GIVEN

- (A) Failure of signals and communication.
- (B) Blocking of line/obstruction on line at KM _____ between _____ station and _____ station and failure of means of communication.
- (C)

AUTHORITY TO PASS SIGNALS IN 'ON' POSITION

You are authorized to pass the Intervening Automatic Signal Nos. _____ at 'ON' / Semi Automatic Signal, Manually Operated Signal Nos. _____ on being hand signaled by a railway employee and the Gate Stop Signals in 'ON' position cautiously up to the level crossing.

CAUTION ORDER

1. You are permitted to run your Engine/Train/Unit No. from _____ station to _____ station with the speed not exceeding 25 Kmph over the straight with clear view and 10 Kmph when view ahead is impaired due to tunnel, curve, obstruction, rain, fog or any other cause.

Signature of Station Master

Station Master's Stamp

I have understood the contents of this authority.

Signature of Guard _____ Date _____ Time _____ hours _____ minutes.

Signature of Loco Pilot _____ Date _____ Time _____ hours _____ minutes.

* Strike out whichever is not applicable.

Loco Pilot proceeding on this authority must observe instructions mentioned at the back of this form.

IMPORTANT INSTRUCTIONS

Motorman / Loco Pilot proceeding on this authority must observe the following precautions :-

1. Speed must not exceed 25 KMPH over the straight with clear view and 10 KMPH when approaching or passing any portion of the line where the view ahead is not clear due to curve, obstruction, rain, fog or any other cause subject to the observance of speed restriction imposed and speed over facing points restricted to 15 KMPH.
2. Both by day or night a tunnel must not be entered until the Loco Pilot has ascertained that it is clear. Should there be any doubt on this point, the train should be piloted by a Railway Employee equipped with lighted hand signals and detonators.
3. A sharp look out must be kept at all times and Loco Pilot must be prepared to stop clear and short of any obstruction which may exist or crop up on the road. Engine whistle must be freely used.
4. When approaching the nominated station ahead, the Loco Pilot must bring his train engine to stand outside the First Stop Signal / Last Stop Signal pertaining to wrong line and sound one long whistle and act to the instructions of the Station Master.
5. The form should be handed over to the Station Master of the nominated station at the end of the authorized journey for record.

EASTERN RAILWAY**AUTHORITY TO PROCEED FOR RELIEF ENGINE / TRAIN INTO AN AUTOMATIC
BLOCK SIGNALLING SECTION****(Loco Pilot/Record)**

Station _____

Date _____ 20 ____

Time _____ hours _____ minutes.

To**The Motorman/Loco Pilot of Engine/Train _____ Up/Down.**

You are hereby authorized to proceed cautiously without line clear from _____ station to up to Km _____ with your Relief Engine / Train * on Up/Down * Line.

You shall bring your Relief Train/Engine to a stand at km _____ and there after be guided by the instructions from the Competent Authority at site.

This order is given due to obstruction on **UP/DOWN** * line at Km _____. But communication is available between _____ station and _____ station.

Train No. _____ was the last train over the section.

Train No. _____ was the last train over the section. It left/arrived * here at _____ hours _____ minutes.

CAUTION ORDER

You are permitted to run your Relief Engine / Train from _____ station to km _____ with the speed not exceeding 15 Kmph over the straight with clear view and 10 Kmph when view ahead is impaired due to tunnel, curve, obstruction, rain, fog or any other cause.

Signature of Station Master

Station Master's Stamp

I have understood the contents of this authority.

Signature of Guard _____ Date _____ Time _____ hours _____ minutes.

Signature of Loco Pilot _____ Date _____ Time _____ hours _____ minutes.

* Strike out whichever is not applicable.

Loco Pilot proceeding on this authority must observe instructions mentioned at the back of this form.

IMPORTANT INSTRUCTIONS

Motorman / Loco Pilot proceeding on this authority must observe the following precautions :-

1. Speed must not exceed 25 KMPH over the straight line with clear view and 10 KMPH when approaching or passing any portion of the line where the view ahead is not clear due to curve, obstruction, rain, fog or any other cause subject to the observance of speed restriction imposed and speed over facing points restricted to 15 KMPH.
2. Both by day or night a tunnel must not be entered until the Loco Pilot has ascertained that it is clear. Should there be any doubt on this point, the train should be piloted by a Railway Employee equipped with lighted hand signals and detonators.
3. A sharp look out must be kept at all times and Loco Pilot must be prepared to stop clear and short of any obstruction which may exist or crop up on the road. Engine whistle must be freely used.
4. When approaching the nominated point ahead, the Loco Pilot must bring his train / engine to stand and sound one long whistle and act to the instructions of the competent authority.
5. The form should be handed over to the Station Master of the nominated station at the end of the authorized journey for record.

EASTERN RAILWAY
AUTHORITY TO PROCEED ON AUTOMATIC BLOCK SYSTEM DURING PROLONGED
FAILURE OF SIGNALS
(Loco Pilot/Record)

Station _____

Date _____ 20 ____

Time _____ hours _____ minutes.

To

The Motorman/Loco Pilot * of EMU/Engine/Train * No. _____ Description
 _____ Up/Down.

All signals between _____ station and _____ station have failed. Line
 Clear has been received from _____ station under his Private No. (in words)
 _____ (in figures) _____.

You are, hereby, authorized to proceed cautiously from _____ station to _____
 station on Up/Down * line at a speed not exceeding 25 Kmph.

You are also authorized to pass departure signals, Gate signals and other intervening
 signals at 'ON' on this authority observing all precautions at the level crossing gates.

You shall stop outside the first stop signals at _____ station and thereafter
 be guided by the instructions of the Station Master of that station.

Signature of Station Master

Station Master's Stamp

I have understood the contents of this authority.

Signature of Guard _____ Date _____ Time _____ hours _____ minutes.

Signature of Loco Pilot _____ Date _____ Time _____ hours _____ minutes.

* Strike out whichever is not applicable.

EASTERN RAILWAY

Sr. No. _____

Station _____

TRAIN INTACT ARRIVAL REGISTER

SR. NO.	DATE	TRAIN NO	Time of Arrival		Guard's signature in token that his train has arrived complete and is standing clear of all fouling marks
			Hour	Minutes	
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Signature of Station Master

Station Master's Stamp

...
EASTERN RAILWAY
.....

**Line Clear Inquiry and Reply Message Book in the event
Failure/Suspension/Non-provision of Block Instruments**

Train Despatching Station

Line Clear Inquiry

- A. {
1. Date Mode of communication.....
 2. From Station Master.....(Name of SM) of(Station)
 3. Train No.....Up/Dn.
 4. Line Clear asked at.....hrs. reply received from.....station at.....hrs.
 5. Last Train No.....Up/Dn left.....station at..... hrs.
and arrived at.....station at.....hrs.
 6. Private Number received(in figure and words).....

Train Entering Section

- B.* {
7. Train No.....Up/Dn left at.....hrs.
 8. Train entering section report given tostation and acknowledged at.....hrs.

Train Out of Section

- C* {
9. Train No.....Up/Dn arrived at.....station at.....hrs.
 10. Train Out of Section report received from.....station and acknowledge at.....hrs.

Line Clear Cancellation

- D* {
11. Line Clear Cancelled at.....hrs. Reasons for cancellation.....
 12. Private number exchanged given.....received.....

Signature of Station Master

*Strikeout whichever is not applicable.

*Separate Books to be maintained for each block section.

EASTERN RAILWAY

.....

Line Clear Inquiry and Reply Message Book in the event of Failure/Suspension/Non-provision of Block Instruments

Train Receiving Station

Line Clear Inquiry

- A. {
1. Date Mode of communication.....
 2. From Station Master.....(Name of SM) of Station
To Station Master (Name of SM) of..... Station
 3. Train No.....Up/Dn.
 4. Line Clear asked by.....station at ...hrs.and reply given at.....hrs.
 5. Last Train No.....Up/Dn left.....station at..... hrs.
and arrived at.....station at.....hrs.
 6. Private Number given (in figure and words).....

Train Entering Section

- B. * {
7. Train No.....Up/Dn left at.....station athrs.
 8. Train entering section report received fromstation and acknowledged at.....hrs.

Train Out of Section

- C. * {
9. Train No.....Up/Dn.arrived at.....hrs.
 10. Train Out of Section report given to.....station and acknowledged at.....hrs.

Line Clear Cancellation

- D* {
11. Line Clear Cancelled at.....hrs. Reasons for cancellation.....
 12. Private number exchanged given.....Received.....

Signature of Station Master

*Strikeout whichever is not applicable.

*Separate Books to be maintained for each block section.

EASTERN RAILWAY

Form No. T/Q425

Sr. No.....

PAPER LINE CLEAR TICKET

(Loco Pilot/Record)

Up

Number of Train.....Up(Description).....

Date..... Time.....hours.....minutes

From Station Master.....

To The Loco Pilot of Train No.....Up.

The line is clear and you are authorized to proceed toStation.

Last train No.....cleared section atstation.

Private No.(in words).....n.figures).....

AUTHORITY TO PASS SIGNAL AT ON POSITION

*You are authorized to pass Last Stop Signal in danger, when the signal is interlocked with Block

Signature of Station Master

Station Master's Stamp

*Strike out whichever is not applicable.

EASTERN RAILWAY

Form No. T/D1425

Sr. No.....

PAPER LINE CLEAR TICKET

(Loco Pilot/Record)

Down

Number of Train.....	Dn (Description).....
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
17	17
18	18
19	19
20	20
21	21
22	22
23	23
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82	82
83	83
84	84
85	85
86	86
87	87
88	88
89	89
90	90
91	91
92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

Date..... Time.....hours.....minutes

From **Station Master**

To The Loco Pilot of Train No.....Dn.

The line is clear and you are authorized to proceed toStation.

Last train No.....cleared section atstation.

Private No.(in words).....(in figures).....

AUTHORITY TO PASS SIGNAL AT ON POSITION

*You are authorized to pass Last Stop Signal in danger, when the signal is interlocked with Block 11

Signature of Station Master

Station Master's Stamp

*Strike out whichever is not applicable.

**E. RLY.
Brake Power Certificate**

Train No. _____ Date _____ Vacuum ready at _____

Engine No. _____ Attached at _____ Load _____

Brake power { On arr. Active _____ Tr/piped _____
Rolling
On dep. Active _____ Tr/piped _____
Rolling

Amount of Vac. Maintained by small ejector. { (a) Engine gauge on arr. _____ cms.
on dep. _____ "
(b) rear Bk. Van gauge
on arr. _____ "
on dep. _____ "

Loco Pilot's Signature

Guard's Signature

TXR's Signature, Station

N.B. – Loco Pilot's complaint to be recorded in reverse

(P.T.O.)

Loco Pilot's complaint, if any.

Date _____

Time _____

Loco Pilot's Signature

Action taken by TXR.....

Loco Pilot advised at.....
Time.....Date.....

Loco Pilot's signature
Station

Signature of Train Examiner,

<p style="text-align: center;">ER/OP/T-2-OP/S-2</p> <p style="text-align: center;">EASTERN RAILWAY</p> <p style="text-align: center;">OPERATING DEPARTMENT</p> <p style="text-align: center;">Out of Course Stoppage Order</p> <p>No. _____</p> <p>Received from the Station Master _____ an out of Course Stoppage.</p> <p>Order for No. _____ train to stop at _____ _____</p> <p>for _____</p> <p>Signature of Guard _____</p> <p>" Loco Pilot _____</p> <p>Telegram No. _____ sent at _____ hours</p> <p>_____ station _____ 20 _____</p>	<p style="text-align: center;">ER/OP/T-2-OP/S-2</p> <p style="text-align: center;">EASTERN RAILWAY</p> <p style="text-align: center;">OPERATING DEPARTMENT</p> <p style="text-align: center;">Out of Course Stoppage Order</p> <p>No. _____</p> <p>The Guard of No _____ train to please stop Out of Course at _____ for _____ _____</p> <p>Station Master</p> <p><div style="border: 1px solid black; width: 100px; height: 30px; display: inline-block;"></div> Station</p> <p>_____ 20 _____</p> <p style="text-align: center;">(For Guard to be sent in Div. Head quarters)</p>	<p style="text-align: center;">ER/OP/T-2-OP/S-2</p> <p style="text-align: center;">EASTERN RAILWAY</p> <p style="text-align: center;">OPERATING DEPARTMENT</p> <p style="text-align: center;">Out of Course Stoppage Order</p> <p>No. _____</p> <p>The Loco Pilot of No _____ train to please stop Out of Course at _____</p> <p>_____</p> <p>for _____</p> <p>Station Master</p> <p><div style="border: 1px solid black; width: 100px; height: 30px; display: inline-block;"></div> Station</p> <p>_____ 20 _____</p> <p style="text-align: center;">(For Loco Pilot)</p>
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