SOUTH CENTRAL RAILWAY

BLOCK WORKING MANUALS

- **PART-A - SINGLE LINE - TOKEN BWMS (T)**
- **PART-B -SINGLE LINE -TOKEN LESS BWMS (TL)**
- **PART-C – DOUBLE LINE BWMD**
- **ANNEXURE – PAPER LINE CLEAR TICKETS**

(UPDATED UPTO AS 5)

2008

(for official use only)

PREFACE

The Block Working Manuals pertaining to single line / token, token less and double line incorporating the procedures and practices to be followed for working of trains were last published in 1978. With phasing out of some token/token less block instruments and changes in certain rules updating of these Manuals has become necessary. This has now been done by bringing out the Block Working Manuals – singleline- token / token less and double line.

The three Block Working Manuals are kept in one book itself. Every Railway servant supplied with Block Working Manuals must make himself thoroughly acquainted with the rules enumerated therein and he will be responsible for knowledge of and compliance with all the rules concerning his working.

These Manuals are to be read in conjunction with the General and Subsidiary Rules and nothing herein shall be treated as modifying or amending the General and Subsidiary Rules.

Amendment to the Block Working Manuals will be issued in the form of page replacement and it is the responsibility of the staff to whom these Manuals are supplied to keep them up-to-date. It is hoped that the procedures and practices envisaged in these Manuals will help the staff in carrying out their duties efficiently and safely.

Secunderabad, **(H.G.SHARMA)**
Date : 24-12-2005 **CHIEF OPERATIONS MANAGER**

RECORD OF AMENDMENT SLIPS AND ITS RELATED PAGE REPLACEMENTS / INSERTIONS

A.S. No.& Date	Item No.	Chapter No.	Rule No.	Page No. replaced	Page No. inserted	Initials & Designation of Inspecting Official	Remarks
A S 3 27.12.2010	1	BWMS(T)	8.9(a) & l				amended
	2	BWMS(TL)	8.9(a) & l				amended
	3	BWMS(D)	8.9(a) & l				amended
A S 4 21.10.2013	1	BWMS(TL)	1.1				amended
	2	BWMS(TL)	1.4				amended
	3	BWMS(TL)	3.5				amended
	4	BWMS(TL)	3.7.6				amended
	5	BWMS(TL)	8.1(D)				amended
	6	BWMS(TL)	F-6 & F-7				Add
	7	BWMS(D)	1.1				amended
	8	BWMS(D)	Add fig 9				Add
	9	BWMS(D	Add as Annexure-1				Add
A S 5 17.06.2019	1	BWMD	1.1				amended
	2	BWMD	Add fig 10				Add
	3	BWMD	Add in Annexure-I				Add
	4	BWMD	Replace				Replaced

Note : In case the replaced pages are less than the existing pages, such of those remaining existing pages shall be treated as deleted

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BLOCK WORKING MANUAL

PART-A - SINGLE LINE - TOKEN

BWMS (T)

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I N D E X

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CHAPTER I

Description of Token Block Instruments

Note: (i) *The term 'Station Master' wherever used in this Manual, also applies to Assistant Station Master, Cabin Assistant Station Master, and any other competent staff who may, for the time being, be in charge of Block Working.*

(ii) *For the purpose of explaining the instructions in this Manual, 'W', 'X', 'Y' and 'Z' have been taken as consecutive block stations.*

1.1. Provision of token block instruments :

a) The types of token block instruments in use on the single line sections of this railway are :

i) Neale's Ball token instrument.

ii) Neale's Tablet token instrument.

b) The sections of the line provided with these token block instruments are notified in the Working Time Table.

1.2. Description of Neale's Ball token instrument:

(See Figure No.1 at the end of this Chapter)

a)	Token receiver cover	The token receiver cover should be lifted for inserting the token into the instrument.
b)	Token receiver handle.	This should be turned for a token to fall into the instrument
c)	Galvanometer	This indicates the flow of current from one instrument to another
d)	Telephone	This is provided in conjunction with the instrument for communication with the station at the other end of the block section

e)	Plunger	This is used for transmission of 'Bell Code' signals and operation of 'Operating Handle'.
f)	Operating Handle	This can be set to 'Line Closed' or 'TGT' or 'TCF' positions. It can be turned to any one of these
		positions, when a prolonged beat is received from the station at the other end of the block section
g)	Token Exit	A Token comes out through this exit when the 'Operating Handle' is turned to the 'TGT' position.
h)	Token Windows	This indicates the availability of tokens in the instrument.
j)	Bell	This responds to Bell Code signals given by the station at the other end of the block section. At stations provided with more than one instrument, different bells or gongs with distinct sound are provided to identify the individual instrument
k)	'E' type lock with key in 'Train Going To' position	This is provided where the Last Stop Signal is controlled mechanically through the block instruments. The key can be released only when the block handle is in 'Train Going To' position and is used for controlling the Last Stop Signal lever. This key can also be used for controlling the slip siding points.

l)	'E' type lock with key in 'Train Coming From 'Position.	This key can be released only when the Operating Handle is in the 'Train Coming From' position and is used for controlling the catch siding points.
m)	SM's key	When the key is taken out, it locks the instrument in the last operated position and only incoming beats can be heard. This key should be kept in the personal custody of the Station Master when it is not required for operating the instrument.

Note:- *The number of the token and the code initials of the two block stations at each end of the block section to which the token applies are engraved on each token. Tokens are provided with grooves of a different pattern for different sections. Ball tokens are provided in 4 different classes viz., A, B, C and D for different block sections*.

1.3. Description of Neale's Tablet token instrument:

(See Figure No.2 at the end of this Chapter)

The instrument is similar to Neale's Ball token instrument except for the following differences: -

a) Token slide with handle:

A token slide is provided at the top of the instrument instead of a Token Receiver cover. A tablet token is inserted into the instrument by pulling out the slide, placing the tablet token in the recess and pushing back the slide.

b) The Neale's Tablet token instruments are provided with Tablet windows instead of token indicators.

Note:- The number of the token and the code initials of the two block stations at each end of the block section to which the token applies are engraved on each token. Tablet Tokens are placed in different pattern of recess and pushed back the slide. Tablet tokens are provided in four different classes viz., A, B, C & D for different block sections.

1.4. Indoor Apparatus:

The control on the Last Stop Signal may be: -

a) For Neale's Ball and Tablet token block Instruments.

i) By using a mechanical control key extracted from the instrument adjunct , on receipt of Line Clear to release the Last Stop Signal.

or

ii) By electrical control on reverser being released when 'Operating Handle' is turned to 'TGT' position.

or

iii) By electrical lever lock on route lever for despatch being released when 'Operating Handle' is turned to 'TGT' position.

1.5. Outdoor Apparatus:

An electric signal reverser is provided in most of the cases for controlling the Last Stop Signal.

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CHAPTER II

SYSTEMS OF WORKING, BLOCK COMPETENCY CERTIFICATE, PRECEDENCE OF TRAINS, ACKNOWLEDGEMENT OF SIGNALS AND TRAIN SIGNAL REGISTER

2.1. Systems of working (G.R. 7.01):

The systems normally used on this Railway are:-

a) The Automatic Block System : As specified under SR 7.01.

b) The Absolute Block System :- On all other sections.

2.2. Block Competency Certificate (G.R.14.04) :

a) The Principal of the Zonal Railway Training Institute/ Moula- Ali is responsible for the proper Initial/Refresher training of the staff in the rules connected with Block working. After the staff are declared successful in the examination held for this purpose, he shall grant the necessary competency certificate in respect of all the block instruments. Such certificates shall be valid only for a period of three years from the date of their issue. The certificate should be issued by the Principal of the ZRTI/ MLY under his signature for those who attend the Initial / Refresher course.

b) Principal , STTC / MLY is authorised to issue the BCC to the Signal Maintainers who are required to maintain and test the block instruments. The certificate should be issued after successful completion of Initial / Refresher course which is valid for a period of four years.

As a temporary measure, DSTE / ADSTE of the divisions can extend the validity of BCC for one year. However, only one such extension is permissible.

c) If the staff, working for a year or more at stations where they are not required to operate the block instruments, are transferred to a station where they are required to operate the block instruments, they shall not be allowed to operate the block instruments even though they are in possession of valid Block Competency Certificate. They should be tested locally by the Traffic Inspector concerned and an endorsement be made by the Sr. Divisional Operations Manager / Divisional Operational Manager of the division on the Block Competency Certificate before they are put to operate block instruments.

d) The BCC shall be kept in the personal custody of the staff while on duty and produced for inspection on demand by the Inspecting Officials

2.3 Bell Code (G.R. 14.05):

For the signalling of trains, the prescribed code of bell signals as detailed below, shall be used and a copy thereof shall be exhibited at each block station near the place of operation of the block working equipment –

	Indication	**Code**	**How signalled**	**How acknowledged**
	Call attention or attend telephone.	0	One stroke or beat	One stroke Or beat
	Is Line Clear or Line Clear enquiry.	00	Two	Two
	Train entering block section.	000	Three	Three
	(a) Train out of block section (b) Obstruction removed.	0000	Four	Four
	(a)Cancel last signal (b)Signal given in error.	00000	Five	Five
	(a) Obstruction danger signal (General).	000000	Six	Six
	(b)Stop and examine train.	000000-0	Six pause one	Six pause one
	(c) Train passed without tail lamp or tail board.	000000-00	Six pause two	Six pause two
	(d) Train divided.	000000-000	Six pause three	Six pause three
	(e) Vehicles running away into the block section on Single line.	000000-0000	Six pause four	Six pause four
	Testing.	000000000 0000000	Sixteen	Sixteen

Note: *i) `0' indicates a stroke or a beat and '_____' indicates a pause.*

ii) *Each signal shall be given slowly and distinctly.*

iii) ** Item (3) and (4) are not required to be given wherever continuous track circuiting is in use.*

2.4. Precedence of trains:

a) On controlled sections, trains shall be worked strictly in accordance with the orders of the Controller.

b) On non-controlled sections or in the event of breakdown of control, the trains shall be given precedence over each other in the following order.

1st Relief trains or light engines proceeding to accident spot. 2nd Postal specials.

3rd Mail and Express trains. 4th Troop trains.

5th Passenger trains, including Rail Cars.

6th Specials engaged by public.

7th Inspection trains, whether working on time table or not and light engines when not going to an accident spot.

8th Mixed trains.

9th Parcel trains.

10th Relief trains returning from accident spot (If with injured passengers higher priority shall be given)

11th Fast through goods trains.

12th Work trains/Road goods trains and Empty passenger trains.

13th Material trains

c) Owing to the irregular running of trains, if two or more trains are ready to start from the same end of a block section, preference shall be given to the trains standing higher in the table of precedence. If both trains have the same order of precedence, preference shall be given to the one having the greater distance to run.

d) In order to avoid excessive detention to trains of lesser importance

i) A Mail or Express train running less than ten minutes late may be detained upto a total of ten minutes in order to save a delay of thirty minutes or more to a passenger train or forty five minutes to a goods train.

ii) A passenger train running less than ten minutes late may be detained upto a total of ten minutes in order to avoid a delay of thirty minutes or more to a goods train.

2.5. Acknowledgement of Signals (G.R. 14.06):

a) Each signal received shall be acknowledged by sending its authorised 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) If the station to which a signal is sent does not reply, the signal shall be repeated at intervals of not less than twenty seconds until reply is received.

e) In no circumstances may unauthorised bell signals be exchanged on the instruments.

Note: *As a precaution against unauthorised manipulation of block instrument, great care shall be taken not to acknowledge any but the correct authorised signals. Strange or indistinct bell signals, sometimes received due to disturbances by lightning, contact of wires, or other irregularity, shall on no account be acknowledged or responded to on the instrument. No attempt shall be made to operate the instrument which is affected by one or other of the causes mentioned above.*

2.6. Train Signal Register (G.R.14.07) [TSR (T.14)]:

a) A Train Signal Register shall be kept by the Station Master or under his order in conjunction with each Block Instrument.

b) All signals received or sent on the electrical block instrument and the timings of receipt and despatch shall be entered therein immediately after acknowledgement, by the person operating the Block Instrument.

c) The timings entered in the register shall be the actual timings except that any fraction of a minute shall be counted as one.

d) The person who keeps the register for the time being shall be responsible for all entries made therein and for correct filling in each column thereof.

e) The time of relief and handing over the Block Instruments shall be recorded by the outgoing Station Master in the Train Signal Register along with the last number registered in the counters and signed by both the Station Masters (Relieved and Reliever).

Note:

i) *The Station Master taking over charge shall test the block instrument and make a record of the result then and there in the Train Signal Register.*

ii) *a) On single line token sections, wherever despatch signals are not provided and the 'TGT' position of the Block Instrument is interlocked with 'Proceed' aspect of Main.*

Home signal in the Multiple Aspect signalling Territory, the Main Home signal lever should be pulled without turning the 'operating handle' to 'TGT' position and if the signal can be taken off to 'proceed' , the block working shall be suspended, advising all concerned accordingly.

b) In the Lower Quadrant signalling territory, wherever departure signals are not provided and the 'TGT' position of the Block Instrument is interlocked with 'OFF' aspect of Warner signal, the Warner signal lever should be pulled without turning the 'operating handle' to TGT position and if the signal can be taken off, the block working shall be suspended, advising all concerned accordingly.

iii) *In the case of Neale's Token Instruments, the Station Master shall try to turn the 'operating handle' to the 'TGT' and 'TCF' positions without the co-operation of the Station Master at the other end. If the handle cannot be turned to these positions the instrument shall be considered to be in order.*

iv) *In the case of block instruments provided with Galvanometers, the Station Master shall also satisfy himself that the deflection in the Galvanometer is correct.*

v) *If the test conditions detailed above are not satisfied, the block instrument should be considered as defective and the token working suspended. If a token can be extracted during such test without the co-operation of the Station Master at the other end, the token working shall be suspended and all concerned shall be advised. The token so extracted, shall be secured safely and handed over to the Signal Inspector or any Authorized Official.*

f) All the entries in the Train Signal Register shall be made in ink.

g) No erasures or overwriting shall be made in the Train Signal Register. If any entry is found to be incorrect, a line shall be drawn through it, so that it may be read at any time and the correct entry made above it and initialled.

h) A line shall be drawn, in red ink, below the entry for the last train of the date.

i) Entries shall be made in **red ink** in the following circumstances:

i) Material trains entering the block section.

ii) Motor trollies, lorries and trollies entering the block section on line clear.

iii) Testing signals are exchanged.

iv) Block working is interrupted.

v) Trollies movements, as mentioned in SR 15.26.2.1 and lorries movements, as mentioned in SR 15.27.6.1.

vi) Notice of obstruction of lines (Line block) received from the Engineering Branch.

vii) Any other special occurrence in connection with block working.

viii) Whenever a running line at a station is blocked by stabled vehicle / trains.

2.7. Inspection of Train Signal Register:

a) The Train Signal Register in use shall be checked and signed by the Station Master in charge of the Station daily and his signature in the remarks column (at the end of the entries for the previous day) will be considered as a certificate and all trains have been duly and correctly entered in their regular course and sequence and that he has taken note of the irregularities of any description recorded in the Train Signal Register and also those observed by him in the course of his check.

b) The Train Signal Register shall also be examined and signed by the Traffic Inspector and Signal Inspector of the section whenever they visit the station and inspect the block room in the course of their duties.

c) Irregularities, if any, shall be noted in the Train Signal Register and brought to the notice of officials concerned.

d) The Train Signal Register in use shall not be removed from the Cabin or the room, in which block instruments are placed without the orders of the DRM.

2.8. Preservation of Train Signal Register:

The Train Signal Register shall be retained at stations for one year after the half year in which it is completed and after that it shall be treated as old record and disposed off as such.

Note: *Books required in connection with pending enquiries or cases, shall however,* ***on no account****, be treated as old records and disposed off before the conclusion of such enquiry or case without obtaining specific orders from the official who issued the original orders for retention.*

2.9. Station Masters handing over /taking over charge :

a) The Station Master who makes an entry for a train in the Train Signal Register shall continue to be on duty till all entries pertaining to that train are completed. By this it is meant that the Station Master who asks for 'Line Clear' for a train to enter a block section shall remain on duty till the 'train out of block section' signal is received and acknowledged. The Station Master who gives 'Line Clear' for a train to enter a block section, shall remain on duty till the train has arrived and the 'train out of block section' signal is given and acknowledged.

b) A line shall be drawn across the Train Signal Register whenever Station Masters change duty. The Station Master who is going off duty shall sign and enter the time above the line and the Station Master coming on duty shall sign and enter the time below the line.

c) In the case of a train working in the block section, clause (a) need not be observed but the entry in the Train Signal Register so far made shall be initialled by both the Station Masters. An entry, as under, shall be made immediately below the entry for the train and above the line {see Clause (b)}

"Block section is still occupied by train(number and description) ..... working on line."

Both the Station Masters shall sign this entry as required in clause (b) above. An entry to this effect shall also be made in the Station Diary and initialled by both the Station Masters.

d) The procedure detailed in clause (c) above shall also be applicable in cases of accidents, engine failures, etc., when there is a likelihood of trains getting abnormally delayed and it is not possible for the same person/persons to continue to remain on duty to complete all the transactions for a train for which he/they had granted/obtained 'Line Clear'.

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CHAPTER III

METHOD OF WORKING BLOCK INSTRUMENTS

3.1. Access to and operation of equipment (G.R. 5.08):

No unauthorised person shall be permitted to have access to or operate signals, points, electrical block instruments and electrical communication instruments or any other appliances connected with working of the railway.

3.2. Signalling of a train from one block station to another block station:

Taking 'X' and 'Y' as two consecutive Block Stations, the sequential procedure for despatching a train, cancelling Line Clear etc., are detailed below. **Before asking for Line Clear on controlled sections, the Station Master shall obtain the permission of the Controller.**

A) Token block instruments – Despatching a train.

Sending Station 'X'		**Receiving Station 'Y'**	
1.	Insert SM's Key and turn.		
2.	Give 'Call attention' signal		
		3.	Insert SM's Key and turn.
		4.	Acknowledge. Attend telephone and give out station name.
5.	On receipt of acknowledgement, attend telephone. Give out station name.		
6.	After ensuring correct station has responded, ask for 'Is line clear for ------- train'		
		7.	Ensure correctness of station to which 'Line Clear' is required to be given. If line is clear and conditions for granting 'Line Clear' are complied with, inform 'Line is clear' for train and give Private Number---- (Ex..24-two, four).
8.	Repeat the Private Number.		
9.	Give 'Call Attention' signal.		
		10.	Acknowledge.

11.	Give 'Is Line Clear' signal. Prolong the last beat.		
		12.	Turn the Operating handle to 'Train Coming From' position. Acknowledge 'Is Line Clear' signal. Prolong the last beat till the needle of Galvanometer deflects.
13.	Turn the Operating Handle to 'Train Going To' position, a token comes out.		
14.	Give 'Call attention' signal		
		15.	Acknowledge and attend telephone.
16.	Give token number and class.		
		17.	Repeat token number with class.
18.	a) Take 'OFF' Last Stop Signal, if any. b) Hand over token to Driver. c) On train entering the block section put back the Last Stop Signal if any, to 'ON'.		
19.	Send 'Call attention' signal.		
		20.	Acknowledge.
21.	Give 'Train entering block section' signal.		
		22.	Acknowledge, attend telephone and note departure time.
23.	Attend telephone and give departure time.		
		24.	a) Take 'OFF' reception signals. b) Ensure that train has arrived complete. c) Put back reception signals to 'ON'. d) Obtain the token from the Driver and ensure its correctness. e) Insert the token into block instrument.
		25.	Give 'Call attention' signal, attend telephone and give arrival time.
26.	Acknowledge, attend telephone and note arrival time.		
		27.	Give 'Train out of block section' signal. Prolong the last beat.

28.	Turn the Operating Handle to 'Line closed' position. Acknowledge the 'Train out of block section' signal. Prolong the last beat.		
		29.	Turn the operating handle to 'Line closed' position

Note:- Before turning the Operating handle, it should be ensured that the Galvanometer is deflecting correctly as under: -

i) Both instruments of the block section in 'Line closed' positionIncoming and outgoing beats give clock-wise deflections.

ii) Both instruments of the block section not in the 'Line closed' position and a token is out-Incoming and outgoing beats give anticlockwise deflection.

iii) Each one of the instruments of the block section, not in the "Line closed" position - Outgoing and incoming beats give deflections in the opposite direction.

3.3. (A) To cancel 'Line Clear' before train enters into Block Section (G.R. 14.22).

Sending Station 'X'		**Receiving Station 'Y'**	
1.	Give 'Call attention' signal.		
		2.	Acknowledge. Att end telephone.
3.	On receipt of acknowledgement, attend telephone; ask consent by explaining the circumstances supported by a Private Number.		
		4.	Give consent and repeat the PN.
5.	a) For Neale's Ball token instruments :- Insert token into token receiver and turn token receiver handle . b) For Neale's Tablet token instruments: - Draw out the token slide, keep the tablet token in the space provided and push back the token slide.		

6.	Send 'Cancel last signal'. Prolong the last beat.		
		7.	Turn Operating handle to 'Line closed' position. Acknowledge 'Cancel last signal'. Prolong the last beat.
8.	Turn the Operating handle to 'Line closed' position.		

3.3. (B) Closing of Block Section after pushing back of the train:

Sending station 'X'		Receiving station 'Y'	
1.	Operating handle is in 'TGT' position.		
		2.	Operating handle is in 'TCF' position.
3.	Give 'Call attention'; On acknowledgement, attend telephone and advise about the train pushing back.		
		4.	Attend telephone and note the advice. Put back all relevant signals to 'ON' position.
5.	i) On complete arrival of train, ensure the conditions for closing the block section are complied as per G.R.14.10. ii) Give 'Call attention'. On acknowledgement, give clearance time supported by Private Number.		
		6.	i) Acknowledge 'Call attention' and attend telephone. ii) Repeat PN and note arrival time.
7.	Give 'Train out of block section' signal and prolong last beat.		
		8.	Turn Operating handle to 'Line closed' position. Prolong the last beat.
9.	Turn the Operating handle to 'Line closed' position.		

3.4. Shunting between the Last Stop Signal and opposing First Stop Signal at a class 'B' single line station equipped with two aspect signals- (G.R. 8.11)

a) At a class 'B' station on single line, the line between the Last Stop Signsl and the opposing 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: -

i) The block section into which the shunting is to take place is clear of an approaching train and all relevant signals are at 'ON' position,

or

ii) 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 stop at the signal.

"Provided that the line shall not be obstructed under clause (ii) in thick, foggy or tempestuous weather impairing visibility, or during night or at stations where the Outer signal concerned is not visible from the Station Master's office".

b) T.806 alone shall be given where shunt key is not available. Shunt key, where available, shall be given in addition to T.806.

c) A tail lamp/tail board shall be placed on the rear most vehicle or on the engine if no vehicles are attached on the side facing the station in rear so as to serve as an indication of the complete return of all the vehicles before the 'Cancel last signal' is given.

3.4.1. Shunting between the Last Stop Signal and opposing First Stop Signal at a class 'B' single line station equipped with Multiple aspect signals- (G.R. 8.12)

a) The line outside Last Stop Signal / Shunting Limit Board and upto opposing First Stop Signal shall not be obstructed unless a railway servant specially appointed in this behalf by the Station Master is in charge of operations and also the block section into which shunting is to take place is clear of an approaching train.

b) T.806 alone shall be given where shunt key is not available. Shunt key, where available, shall be given in addition to T.806.

c) A tail lamp/tail board shall be placed on the rear most vehicle or on the engine if no vehicles are attached on the side facing the station in rear so as to serve as an indication of the complete return of all the vehicles before the 'Cancel last signal' is given.

3.4.2. Shunting beyond First Stop Signal on single line in Two Aspect Signal & Multiple Aspect Signal territory:

When 'X' requires shunting a train partly or fully outside the First Stop Signal, he shall obtain 'Line Clear' from 'Y' explaining the reasons which shall also be recorded in the Train Signal Registers at 'X' and 'Y'. This movement shall be treated as train movement. The Station Master shall then issue to the Driver an 'Authority to proceed' applicable to the section and a manuscript memo to return to 'X'. The departure and the reception signals can be taken 'OFF' for this purpose.

3.5. Outlying sidings controlled by the token of the block section (G.R.3.35):

a) Outlying sidings, taking off the running line, are provided on certain block sections. The points taking off the running line to such sidings are provided with locking arrangements, the siding lock being controlled and operated by the 'token' of the block section.

i) On certain sidings, key token exchanger (siding key apparatus) is in use. At these sidings the key token is inserted into the exchanger to release the siding key which shall be used to unlock the siding lock.

ii) On the sections worked with Neale's (ball or tablet) token instrument, where such tokens cannot be directly inserted into the siding locks, a token key exchanger(siding key apparatus) is provided at the siding. The ball or the tablet shall be inserted into the apparatus to release the siding key which shall, in turn be inserted into the siding lock and the lock unlocked for performing shunting into and out of the siding.

b) On busy sections where the regular train services are not to be dislocated by the work inside such siding i.e., where the service has to be maintained even before the shunting train sent into the siding returns to either of the block stations auxiliary token (occupation block) instruments are provided, one instrument at one of the two adjacent block stations and the other at the siding itself. With this arrangement, it is possible after shunting the train into the siding, to set and lock the points for the main line and clear the block section maintaining the main line trains services.

c) Detailed instructions for working the sidings shall be incorporated in the Station Working Rules of the stations concerned.

3.6. Exchange of Private Numbers between Station Master and Cabin/Cabins for reception of trains:

The sequence of action to be followed from the time reception line is nominated till Station Master releases his control on the Home/Routing signal and exchange of Private Numbers is explained below:

a) Duty Station Master :

i) As soon as 'Line Clear' has been granted for a train by the Station Master or CASM (if the block instruments are situated in the cabins), the Station Master shall decide the line on which the train is to be received and satisfy himself that the reception line including the adequate distance is clear and free from obstruction.

ii) He will then advise the CASM/ Cabinman on telephone to both the cabins simultaneously the train number, description, probable time of arrival, whether the train is stopping or running through and the line nominated for its reception.

iii) The CASM / Cabin man in both the cabins shall acknowledge by repeating these particulars.

b) CASM/ Cabinman at the facing end:

i) The CASM / Cabinman, on receipt of the above information from the Station Master, shall set all relevant points at his end correctly for reception of the train on the nominated line and lock all the relevant facing points.

ii) He will then satisfy himself that the nominated reception line is clear and free from obstruction.

iii) He will then give a categorical assurance to the CASM /Cabinman in the Cabin at the trailing end after ensuring that: -

a) The nominated reception line is clear and free from obstruction, clearly indicating the number of that line.

b) All the relevant points at his end have been correctly set for the reception of the train on the said line.

c) All the facing points have been locked; and

d) All level crossing gates are closed and locked against the road traffic and ask him to release his slot on the Home/Routing signal referring to the nominated reception line.

c) CASM /Cabinman at the trailing end:

i) The CASM /Cabinman, on receipt of the categorical assurance from the Cabinman at the facing end shall set all the relevant points at his end correctly for the reception of the train on the nominated line and satisfy himself that the nominated reception line including the adequate distance is clear and free from obstruction.

ii) Get it confirmed that all level crossing gates are closed and locked against the road traffic.

iii) Communicate a Private Number to the CASM /Cabinman at the facing end and then release his slot on the relevant Home/Routing signal.

d) CASM /Cabinman at the facing end:

The CASM / Cabinman, on receipt of Private Number communicated to him by the CASM / Cabinman at the trailing end shall, in turn, communicate Private Number to the Station Master on duty to indicate that everything is completed at both end cabins for reception of the train.

e) Duty Station Master:

The Station Master on duty on receipt of Private Number from the CASM / Cabinman at the facing end shall, if everything is ready for the reception of the train, give a Private Number to the CASM /Cabinman at the facing end and release his control on the relevant Home/Routing signal.

f) CASM /Cabinman at the facing end:

The CASM / Cabinman, after satisfying himself that the relevant slot indicator is showing OFF indication, shall take 'OFF' the reception signals.

g) As the purpose of exchanging of Private Number is to eliminate the chances of a signal being taken 'OFF' for an obstructed line, there is no need for exchange of Private Numbers where **'track circuiting/axle counter'** has been provided and is in working order.

h) At stations where central cabins are provided, the exchange of Private Numbers between the cabin and the Station Master on duty shall take place as prescribed above before the Station Master's control on the signal is released.

3.7. The 'Call attention' signal:

a) The 'Call attention' signal shall be given when it is necessary to direct the attention of the Station Master at the other end of the block section on the block instrument.

b) In order to ascertain that only the correct block station is in contact and to convey the description and number of the train for which 'Line clear' is required, as well as to ascertain whether the block station in advance is in a position to accept the 'Is line clear' signal, the 'Call attention' signal shall be sent to the block station in advance.

c) 'X' shall call Y's attention by giving single beat until Y's attention is obtained. 'Y' shall signify his attention by acknowledging it with one beat.

3.8. The 'Is line clear' signal – when to be sent:

a) The 'Is line clear' signal shall be sent only after it has been ascertained according to the procedure laid down in clause (c) of para 3.7, that the station in advance is able to accept the signal.

b) The 'Is line clear' signal shall not be given until the 'Train out of block section' signal has been received for the last preceding train.

3.9. Precautions before asking 'Line clear':

Before 'X' asks 'Y' for 'Line Clear', he shall examine his Train Signal Register in order to ascertain that—

a) The 'Train out of block section' or 'Obstruction removed' signal has been received and entered in the Train Signal Register for the previous train that has passed over the 'X' – 'Y' block section and also the block section is clear.

b) 'Line Clear' has not been obtained from 'Y' for any other train,

c) 'Line Clear' has not been given to 'Y' for a train in the opposite direction.

d) A Private Number has been obtained for the train, and

e) The Operating handle is in the 'Line closed' position and that the Last Stop Signal control key, if provided, is in the instrument in the case of Neale's ball or tablet instruments.

3.10 'Is line clear' - when to be asked :

At train originating stations 'Is line clear' shall be asked five minutes before the booked departure time of passenger carrying trains and in case of goods trains when the train is formed and ready to start. At intermediate stations, for all stopping trains with a halt of less than five minutes, 'Is line clear' shall be asked when the train is sighted and for all trains booked to pass through that station, seven minutes before the train is due to pass through, from the time the 'Train entering block section' signal is received or immediately after the 'Train entering block section' signal is received, when the running time is less than seven minutes.

3.11. Acceptance of the 'Is line clear' signal and sending of 'Line clear' signal:

a) If, on receipt of an 'Is line clear' signal, the conditions under which 'Line clear' can be given are complied with, the block station in advance shall accept the signal by sending the prescribed signal to indicate 'Line is clear'.

b) Except in case of failure of the block instruments, a train shall not be allowed to leave a block station unless the 'Line clear' signal has been received.

3.12. Precautions before giving 'Line clear':

Before 'Y' gives 'Line clear' to 'X', he shall examine his Train Signal Register in order to ascertain that –

a) The 'Train out of block section' or 'Obstruction removed' signal has been received and entered in his Train Signal Register for the previous train that has passed over the 'X' – 'Y' block section and also that the block section is clear,

b) 'Line clear' has not been given to 'X' for any other train,

c) 'Line clear' has not been obtained from 'X' for a train in the opposite direction,

d) A Private Number has been given for the train; and

e) The Operating handle is in the 'Line closed' position and that the Last Stop Signal control key, if provided, is in the instrument in the case of Neale's ball or tablet instruments.

3.13. Giving 'Line clear':

After observing the precautions laid down in paras 3.11 and 3.12, Y shall give 'Line clear' as detailed in para 3.2(A). If the needle of the galvanometer points to the right in the case of Neale's ball or tablet token block instrument, no attempt shall be made to extract a token.

3.14. Securing of token for delivery:

a) The Station Master shall place the token in the pouch provided for the purpose and keep it in his personal custody until it is delivered to the Driver. The station names engraved on the token shall be visible through the openings.

b) If no pouch is available, the token shall be handed over to the Driver with a memo. Run through trains may be stopped out of course for this purpose.

3.15. Authority to proceed (G.R. 14.08):

a) The Driver shall not take his train from a block station unless he has been given an 'Authority to proceed' on single line, either,

i) by a token for the block section taken from an electrical block instrument,

or

ii) by Paper Line Clear Ticket duly signed by Station Master,

or

iii) by an authority prescribed in S.R. 6.02.

b) Once the train returns to the block station from which it was started and clears the block section, the currency of the token, or Paper Line Clear Ticket or an authority prescribed in S.R. 6.02, with which the Driver entered the block section ceases. If this train is required to enter the block section, a fresh 'Authority to proceed' under the rules shall be delivered to the Driver.

3.16. Delivery of token ('Authority to Proceed') to the Driver:

a) Token is the 'Authority to proceed' for the Driver when the token Block Instruments are in working order. The Station Master shall deliver the token personally to the Driver and if it is not possible for any reason, it may be delivered to the Driver through a competent railway servant. The outgoing token shall be delivered to the Driver only after he surrenders the incoming token.

b) Delivery of token to the Driver of a stopping train:

i) In case of trains booked to stop at stations for more than five minutes, the outgoing token shall be delivered to the Driver just before the train is due to start at the place where the engine usually comes to a stand.

ii) In case of trains booked to stop for five minutes or less, the outgoing token shall be delivered opposite to the Station Master's office.

iii) The outgoing token shall not be delivered to the Driver of a train which has to perform shunting at the station, until the shunting is completed and the train is ready to start.

iv) When more than one train is to be despatched, the Station Master shall not send more than one token at a time through the same person for delivering to the Drivers. The Station Master shall, in such circumstances, specially ensure that the correct token is delivered to the Driver of the correct train.

c) Delivery of token to the Driver of a non-stopping train:

The token shall be delivered to the Driver opposite to the Station Master's office or at the nominated pick-up points. A lighted torch shall be exhibited during night to enable the Driver to pickup the token.

d) Delivery of 'Authority to proceed' when two engines are on train:

If two engines are coupled together or if one engine is in front and another in rear of the train, the 'Authority to proceed' shall be given to the Driver of the leading engine.

e) Driver to examine 'Authority to proceed' - (G.R. 14.09):

i) The Driver shall ensure that the 'Authority to proceed' given to him is the proper authority under the 'system of working' and refers to the block section he is about to enter, and if the said authority is in writing, that it is complete in all respects and duly signed in full in ink.

ii) If the conditions mentioned above are not complied with, the Driver shall not take his train past or start from the station until the mistake or the omission is rectified.

iii) A damaged token shall not be accepted as 'Authority to proceed'. A damaged token is a token which cannot be inserted into or extracted from the Block Instrument or which has the class or the number or the station code initials defaced beyond recognition.

f) Train in block section without 'Authority to proceed' (G.R.6.06):

i) If a Driver enters a block section without an authority to proceed or without a proper authority to proceed, after taking action as stipulated in GR 6.06 (1) and (2), the report of occurrence explaining the circumstances shall be sent to the Station Master of nearest station through the Brakesman or the Assistant Driver.

ii) When the report is sent to the station in rear, the Station Master shall arrange to send a Paper Line Clear Ticket to the Driver of the train to proceed to the next station duly suspending the block working. Proper entries should be recorded in the Train Signal Register.

iii) In case the report is sent to the station in advance, the Station Master shall immediately inform the control and the Station Master at the other end of the block section and send a caution order for the train to come to his station duly suspending the block working. Proper entries should be recorded in the Train Signal Register.

iv) On arrival of the train, the Station Master shall intimate the station at the other end of the block section by a message supported by a Private Number of the complete arrival of the train at his station.

v) Before starting forward with Paper Line Clear Ticket or the Caution order, the Driver should pick up the detonators placed in front for protecting the train.

vi) If the token or the Line Clear Ticket is lost or mislaid on the run , or if the Token cannot be extracted from the Train key Lock or the Token Exchanger Box in a Siding on the block section , the Driver may proceed to the next block station and report the occurrence to the Station Master.

g) Token Territory Indication Boards:

In order to remind Drivers that they are in possession of a token or a written authority when passing from a block section worked by token less block instruments or Double Line Block Instruments to a block section worked by token block instruments 'Token territory' indication boards are provided on the line leading into such block sections.

3.17. 'Train entering block section' signal:

a) On the departure of the train from 'X' the 'Train entering block section' signal shall be sent by 'X' to 'Y', the station in advance and 'Y' shall acknowledge it.

b) When so acknowledged, the block section shall be deemed to be blocked against any other train.

3.18. Surrendering of Token by the Driver at station:

a) The Driver shall drop the incoming token opposite the Station Master's office or at the place specifically nominated for the purpose. The Station Master shall himself pick up or depute a competent railway servant to pick up the incoming token immediately after it is dropped by the Driver.

b) If the incoming token is a naked one, i.e. without a pouch, it shall not be dropped but handed over personally to the Station Master or to a competent railway servant, non- stopping trains being stopped out of course at the station for this purpose.

3.19. Insertion of Token in the Block Instrument:

a) Before the Station Master inserts the incoming token in the block instrument, he shall-

i) satisfy himself that the train has arrived complete,

ii) ensure that all the reception signals taken 'OFF' for the train are put back to 'ON',

iii) ensure that the token is correct in all respects and not damaged in any way, and

iv) Remove dirt, if any, from the token.

b) The Station Master shall then insert the token in the instrument and clear the section as detailed for each instrument.

3.20. Giving the 'Train out of block section' or 'Obstruction removed' signal (G.R. 14.10):

a) On arrival of the train or by the removal of the cause of obstruction, the 'Train out of block section' or 'Obstruction removed' signal shall be given by the block station in advance by giving the prescribed code of bell signals.

b) Before such signal is given, the Station Master shall satisfy himself:

i) that the train has arrived complete or the cause of blocking the section has been removed, and

ii) that the conditions under which 'Line clear' can be given are complied with.

3.21. Token neither to be transferred from one train to another nor wrong token to be handed over:

The token of incoming train shall not, under any circumstances, be handed over to another outgoing train, without closing the block section and obtaining fresh Line Clear.

3.22. Private Number :

a) Two PN sheets shall be supplied to each Station Master. The PN sheets issued shall be numbered by the Traffic Inspector in the order in which they are to be used and shall bear the signature of Traffic Inspector. The PN sheets shall be kept under lock and key in the personal custody of the Station Master on duty to whom they are issued. A page of the PN sheet is given below as a specimen:–

Note: *Train Number is represented as TN.*

Date		**Date**		**Date**		**Date**	
PN	**TN**	**PN**	**TN**	**PN**	**TN**	**PN**	**TN**
25		24		21		18	
32		15		64		29	
29		16		34		57	
37		27		18		21	
23		39		15		42	
12		43		22		18	
31		58		26		35	
10		14		38		42	
14		10		47		66	
56		11		55		48	
18		17		69		74	
44		32		12		83	

b) A Private Number shall be given for each train for which the Station Master grants Line Clear to the Station Master applying for Line Clear. Both Station Masters shall record the Private Number given and received for the train in the Train Signal Register. Numbers shall be allotted to the successive trains in the order in which the numbers are printed in the sheet in use. When a number is allotted to a train, it shall be scored out with a line drawn horizontally through it, the number of the train for which it is issued and the date on which it is issued being entered in the columns provided for the purpose. If a Private Number has been allotted to a train the running of which is subsequently cancelled, the same Private Number shall not be re-allotted to any succeeding train.

c) If the next number to be used is the same as the one last issued, the sender shall cancel the number in his sheet, add the remark 'same as last PN', sign it and issue the next number. If the similar number had already been given before it is detected, the station to which the number has been given shall be advised so that the number can be cancelled and the next number issued. The Station Master receiving the Private number shall be held responsible for seeing that no two consecutive Private Numbers are received from the same station giving Line Clear.

d) No person (except Inspecting Officials) shall be allowed to have access to it. Each sheet, when exhausted, shall be sent in a sealed cover to the Traffic Inspector of the section who shall replace it by another.

e) Only one sheet shall be in use at a time. Care shall be taken to see that adjacent stations are supplied with sheets bearing different numbers. The PN sheets shall not be issued to individuals and shall be issued to a post. Not more than two PN sheets shall be available with staff on duty. PN sheets shall be serially numbered before issue.

f) Traffic Inspector or any other Inspecting Official when visiting stations shall see that PNs are scored out correctly and that the train number and date are entered against each.

g) When a PN sheet in use is lost or mislaid, the Station Master shall utilise, if available, the PN sheet supplied for future use. The Station Master shall also immediately write to the Traffic Inspector for a fresh PN sheet stating the reasons.

h) Used up PN sheets shall be preserved for 6 months after the half year in which they are completed and after that they shall be treated as old records and disposed off.

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CHAPTER IV
CAUTION ORDERS

4.1. Caution order (G.R. 4.09):

a) Whenever, in consequence of the line being under repair or for any other reason, special precautions are necessary, a Caution Order detailing the kilometers between which such precautions are necessary, the reasons for taking such precautions, and the speed at which a train shall travel, shall be handed over to the Driver at the stopping station immediately short of the place where such precautions are necessary, or at such other stations and in such manner, as prescribed under Special Instructions.

b) Sub-rule (1) does not apply in the case of long continued repairs when fixed signals are provided at an adequate distance short of such place and have been notified to the running staff concerned.

c) The Caution Order referred to in sub-rule (1) shall be on white paper with green font and be made out and signed in full.

Provided that as a temporary measure the Caution Order may be on white paper with a green band running diagonally across the form.

Note: *See Appendix I to G&SR for Special Instructions regarding issue of Caution Orders.*

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CHAPTER V
USE OF SPECIAL SIGNALS AND PROCEDURE IN EMERGENCIES

5.1. Refusal of the 'Is line clear' signal and sending of the 'Obstruction danger signal':

a) If, for any reason, the station in advance is unable to accept the 'Is line clear' signal, such station shall refuse it by sending the 'Obstruction danger signal'.

b) If the block station in advance is not in a position to accept 'Is line clear' signal, the train shall be stopped at the station and shall not be allowed to leave it, until 'Is line clear' signal has been given to and accepted by the block station in advance,

c) When 'Y' intimates refusal to accept the train, both 'X' and 'Y' shall enter the words 'Line Clear refused' in the Train Signal Register duly signed, showing the time of receipt of intimation with the reasons there for.

d) When 'Y' sends 'Obstruction removed' signal, both 'X' and 'Y' shall enter the same with time in the Train Signal Register.

5.2. Special use of 'Obstruction danger signal':

a) 'Y' may discover after giving line clear to 'X' that a bridge or some part of the permanent way is damaged or that there is some other train or obstruction on the 'X' – 'Y' block section. Under these circumstances 'Y' shall immediately send to 'X' the 'Obstruction danger signal,' to avoid an accident.

b) On receipt of the 'Obstruction danger signal,' 'X' shall prevent the train from entering 'X' – 'Y' block section. Should he succeed in stopping the train, the Line Clear shall be cancelled.

c) Only after the obstruction has been removed, 'X' or 'Y' may allow this train or any other train to enter the 'X'-'Y' block section.

5.3. Cancel last signal (G.R. 14.22):

a) The 'Cancel last signal' cancels the last signal given from the block station from which it is sent.

b) Where 'Is line clear' signal has been forwarded and it is afterwards found that the train to which it refers has to be detained for shunting or other purposes, or has returned to the block station from which that signal was sent, the ' Cancel last signal' shall be sent to the block station in advance so that the previous signal may be cancelled.

c) On a single line when 'Line clear' has been cancelled, no train shall be allowed to leave in the opposite direction until a message has been received acknowledging such cancellation and stating that the train for which the 'Line clear' has been given shall be detained.

d) The procedure as detailed in Paras 3.3(A)and 3.3(B) shall be followed. After canceling the 'Line clear' Station Master shall enter the reasons for doing so in the remarks column of the Train Signal Register against the entry pertaining to the train.

5.4. 'Signal given in error' signal:

a) Whenever incorrect beats have been given or whenever beats received are not understood, the Station Master detecting the irregularity shall give the 'Signal given in error' signal. After this has been acknowledged, the signal, which ought to have been sent, shall be distinctly repeated.

b) If the error mentioned above is not rectified even after repeating the signal, block working shall be suspended.

5.5. Trains unusually delayed (G.R. 6.04):

a) If a train carrying passengers does not arrive at 'Y' within ten minutes or if a goods train does not arrive at 'Y' within twenty minutes after allowing for its normal running time from 'X', the Station Masters at 'X' and 'Y' shall contact each other immediately and ascertain the cause and

i) Inform the Controller on the controlled sections,

ii) Arrange to send a competent railway servant into the block section to fetch information regarding the whereabouts and condition of the delayed train and the nature of assistance required, if any; and

iii) Take such other action as may be deemed necessary depending on the merits of the case.

b) The Guards /Drivers of trains carrying passengers and goods trains who are provided with VHF sets (Walkie-talkie sets) and portable field telephone, when delayed in the block section for over ten minutes and twenty minutes respectively, shall first try to inform the adjacent Station Master over VHF set, the cause and the probable duration of delay for the train. In case it is not possible to contact the Station Master on VHF set, they shall use the portable field telephone to inform the Controller on the controlled sections, the cause and the probable duration of delay for the train.

c) The Controller on receipt of such advice shall immediately warn the stations where Accident Relief Train & Medical Relief Train are located to arrange to keep them in readiness for moving immediately on receipt of further information. He will also issue preliminary warning to the Chief Crew Controller / Crew Controller and the Station Master concerned to get the Accident Relief Train ready and will also arrange for an engine to be made available immediately for despatching the Medical Relief Train to the site of the accident, if necessary.

d) The action mentioned above shall be taken earlier if the circumstances so warrant.

5.6. 'Stop and examine train' signal:

a) When the Station Master at 'X' observes anything unusual (other than the Tail lamp or Tail board missing) on a train during its passage through his station, such as goods falling off, a vehicle on fire, broken axle or coupling etc., rendering it necessary to stop such trains at the next station, the 'Stop and examine train' signal shall be sent to 'Y', the station in advance intimating the nature of the irregularity observed. The Station Master at 'Y' shall acknowledge this signal by repeating it. He shall examine the train on arrival, stopping run through trains out of course for the purpose and take remedial action. On ensuring that the line is clear, he shall send to the station 'X' the 'Train out of block section' signal, which will be an intimation that all is right.

b) If the Station Master at 'X' observing the unusual occurrence suspects that it would have caused damage or obstruction to the block section in rear, he shall inform the Station Master 'W' in rear, the nature of irregularity. Both the Station Masters should issue caution orders for trains entering the block section until it is confirmed that all is right.

5.7. 'Train passed without tail lamp / flashing tail lamp or tail board' signal (G.R. 4.17):

a) If the Station Master at 'X' observes a train passing his station without a tail lamp/flashing tail lamp or tail board, as the case may be, he should send the 'Train passed without tail lamp / flashing tail lamp or tail board' signal to the station 'Y'. The Station Master at 'X' shall not give the 'Train out of block section' signal to the station in rear, till he receives the complete arrival report of the train from the station 'Y'. If 'X' suspects parting of train he shall also send the 'Train Divided' signal and act in accordance with para 5.8. The Station Master at 'Y' receiving the signal should stop the train even if it is not booked to stop and examine it. If on inspection only the tail board is missing or the tail lamp / flashing tail lamp is extinguished, the same shall be rectified and thereupon the 'train out of block section' signal shall be sent.

b) If the Station Master at 'Y' on examination, finds any portion of the train missing, the occurrence shall be reported as an accident and Station Masters at 'W', 'X' and 'Y' shall take necessary action thereon.

5.8. 'Train divided' signal:

a) If during the passage of a train through the station 'X', it is observed that some portion of the train is missing, 'X' shall not exhibit a stop hand signal but shall endeavor to attract the attention of the Driver or the Guard by shouting and gesticulating or by other means. The station 'X' shall send the 'Train Divided' signal to the station 'W' in rear and 'Train passed without tail lamp/flashing tail lamp or tail board' signal to the station 'Y' in advance. The Station Master at W receiving the 'Train divided' signal shall immediately take action to safeguard vehicles or train on the line especially if the gradient is a falling one. He shall not give 'Line clear' for a following train and if a train is already in the block section, he shall stop it at the First Stop Signal and inform the Driver of the impending danger. If this train can be received and berthed on a line, this can be done before the run away vehicles are sighted and it is safe to do so.

b) If parting has occurred, a relief engine shall be sent only after a lapse of thirty minutes more than the running time of the slowest speed goods train, which has to be calculated from the time of the receipt of the 'Train Divided' signal.

c) After the block section is cleared, the 'Train out of block section' or 'Obstruction removed' signal shall be sent.

5.9. 'Vehicles running away into the Block Section' signal:

a) If an engine or vehicles have escaped and running away into 'X'-'Y' block section, the Station Master at 'X' shall send 'Vehicles running away into the block section' signal to the station 'Y' and no train shall be allowed to enter the block section from either end, until information is received that the engine or vehicles have been brought back to the station 'X'. A relief engine shall be sent, if the engine or vehicles running away have not arrived ever after a lapse of 30 minutes more than the running time of the slowest speed goods train, which has to be calculated from the time of the receipt of the 'Vehicles running away into the block section' signal.

b) **i)** On receipt of the 'Vehicles running away into the block section' signal from station 'X', the Station Master at 'Y' shall acknowledge it by repeating the signal, stop any train about to enter into the 'Y'-'X' block section and take such protective measures as may be considered expedient under the circumstances to prevent an accident.

ii) If his station is on a gradient falling in the direction of the next station towards which the engine or vehicles are running, or if a train is approaching his station from the next station in that direction, whether there is falling gradient or not, he shall do all in his power to stop the run-away vehicles. This shall be done by covering the rails heavily with sand, earth or small broken stones, for as great a distance as possible, before the vehicles come in sight and the points shall be set for a through loop line or dead-end siding to receive the vehicles. In case it is not stopped by the obstruction on the rails, the trailing points of such loop line shall be set and locked to force the vehicle to trail through them. It is preferable to receive the run away vehicles on a loop line for receiving it on a dead-end siding.

iii) If no train is approaching with which the vehicle can collide and the line is not on a falling gradient, the vehicles may be allowed to run through the station but a warning shall be sent promptly to the Station Master at the next station.

iv) If the vehicles contain passengers, it shall not ordinarily be turned out into a dead-end siding, unless for the purpose of avoiding a more serious accident.

v) On controlled sections, the Controller shall also be advised immediately.

vi) If a portion of train or a brake van has run away, the Station Master shall place three detonators on the track to attract the attention of the Guard.

vii) The Station Masters at both ends of the section shall depute competent railway servants to make a search for the vehicle and after it is ascertained that the vehicle has come to a stand and has been secured, send assistance into the section to bring back the vehicle in consultation with each other.

c) When it is known that the line is clear again, the 'Train out of block section' or 'Obstruction removed' signal shall be sent and this will be an intimation that the obstruction has been removed and the block section is clear.

5.10. Precautions when Government or Railway Telecommunication staff require to work on the telecommunication wires:

a) Before the Government or Railway Telecommunication Branch commences work on any line between any two stations, likely to affect train signalling, the Government or Railway Telecommunication official in charge of the work shall give notice to the Station Masters at both ends of the block section in the following form:–

To
SMs X and Y

Telecommunication line party will commence work on wires; section from
……..to ……..on …….. from .....hours.
Acknowledge

… ……(Designation)
…… (Station)
… …… (Date)

b) Both the Station Masters shall immediately acknowledge the notice as in no circumstances may the work be commenced until these acknowledgements have been received. If the notice is from the Government Telecommunication official in charge, the Station Masters shall promptly communicate it to the Signal Inspector and DRM / T and S&T, through Control. If the notice is from the Railway Telecommunication official in charge, the Station Master shall promptly communicate it to the DRM/ T and S&T.

c) On receipt of the above warning, block working need not be suspended, but Station Masters shall be particularly careful to carry out the instructions for suspending block working, if they suspect a contact or notice any defect in the working of block instruments.

d) These precautions shall be observed until notice is received about the completion of the work on the telecommunication wires. The notice of completion of the work shall be communicated to all concerned.

e) A copy of the rules relating to the undertaking of work on the wires shall be supplied to all Engineering Supervisors, General Line Inspectors and Sub-Inspectors of the Government Telecommunication Department. All Sub-Divisional Officers, construction and Supervisory Officials shall take personal action to ensure that these rules are explained to all members of the line staff and satisfy themselves that these rules have been fully understood, and that they will be duly carried out. Similarly, the S&T department will adhere to these rules when the block line wires are under S&T department,

f) The Station Masters shall ordinarily approve of the work being undertaken on line wire unless any important or special is due to travel over the section, when it is essential that the block instruments shall be in proper working order.

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CHAPTER VI

LORRIES, PUSH TROLLIES, CYCLE TROLLIES, MOTOR TROLLIES, RAIL DOLLIES AND RAIL-CUM-ROAD VEHICLE.

6.1. Blocking the line for lorries/ push trollies / cycle trollies / Motor trollies / Rail dollies and Rail–cum-Road Vehicle. (G.R.15.25.)

Refer SR 15.18, 15.25 , 15.26 and 15.27 for detailed procedure of working lorries / push trollies / cycle trollies / motor trollies / Rail dollies and Rail –cum-Road Vehicle**.**

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CHAPTER VII
TESTING OF BLOCK INSTRUMENTS.

7.1. The 'Testing' signal:

The 'Testing' signal shall be used only for the purpose of testing the block instruments.

7.2. Persons authorised to Test:

a) The Block Instruments and apparatus connected with them may only be tested by SI/ESM and other authorised officials of the S&T department. 'Testing' signal shall not be exchanged unless the SI/ESM or other authorised official of the S & T department is at one end of the Block Section and the receipt of the 'testing' signal shall be regarded as an intimation that the SI/ESM or other authorised official of the S&T department is present.

b) Whenever any authorised person who is not competent to test the instrument is present at one end, he may request the Station Master to test the instrument on his behalf. The Station Master shall comply with such request and exchange testing signals with the Station Master at the other end. Both the Station Masters shall make necessary entries in their Train Signal Registers.

7.3. Block Section to be clear during Test:

The instrument and apparatus connected with them shall not be tested after 'Line clear' has been given or obtained for a train.

7.4. Procedure for Testing:

a) The procedure for testing the block instruments at 'X' and 'Y' is as follows:

i) Assuming that the SI/ESM is at 'X', he shall first exchange testing signals with 'Y'.

ii) The SI/ESM shall then give 'Is line clear' signal to 'Y', who shall acknowledge the signal and give 'Line clear'. The SI/ESM shall test the block instrument and the Last Stop Signal control, if any, for correct operation.

b) After testing the block instruments the 'Line clear' shall be cancelled as per para 3.3(A).

c) This operation shall be repeated in the reverse direction by the Station Master at 'Y' commencing with the 'Testing signal'.

d) Whenever the SI/ESM or any other authorised official opens the instrument for restoration of block working after a failure or maintenance work or when fixing a new instrument, he shall test the block instrument as prescribed in Para 7.4(a) (i) & (ii) above.

e) The SI/ESM or any other authorized official shall test the working of the Last Stop Signal, if any, during his maintenance work or after attending failures.

f) After the testing, the Station Master shall ensure that the block instrument and other appliances are restored to normal and are locked, wherever required. Entries in red ink shall be made in the Train Signal Register as follows on the line immediately below the entries for the last train and signed by both the SI/ESM or the other authorised official and the Station Master.

Time.....Instrument opened for.....Exchanged 'Testing' signals with Station Master of.....station. Extracted token number ..... and restored it to the instrument. Sd/- ---------- Authorised official of the S&T department Tested the block instrument and found in order. Sd/- ..... Station Master

7.5. Removal of defective Tokens or provision of New Token:

When a defective token is removed from or a new token is inserted into a block instrument, an entry shall be made in the Train Signal Register showing the class and the number of the token removed or inserted, the reasons therefor and the time at which it is done. These entries shall be made in red ink and signed by the Signal Inspector or any other authorised official and countersigned by the Station Master.

7.6. Replacement of Token Instruments:

a) Whenever a Token block instrument in use at a station is replaced by another of the same type and class, the Station Master shall satisfy himself that all the tokens which were in the old block instrument are transferred to the new one. An entry in red ink shall be made by the Signal Inspector or any other authorised official, in the Train Signal Register, giving the time and date on which the change of instrument has been effected, with the individual number of each token transferred, and signed by him. The entry shall be countersigned by the Station Master with a further remark regarding the test of the instrument made by him and the result of the same.

b) Whenever a block instrument in use at a station is replaced by another of a different class or type already in use on the railway, the red ink entry made by the Signal Inspector or any other authorised official shall specify the number, class and type of the instrument removed or replaced, with the individual numbers of the tokens in each.

7.7. Balancing of tokens in Token Instruments:

a) The Station Master shall record in the remarks column of the Train Signal Register, the total number of tokens relating to each block instrument, after insertion or extraction of a token into or from the block instrument.

b) At 'O' hour daily, the Station Masters at either end of the block section shall check the balance of tokens in their block instruments. The number should tally with the total numbers of tokens provided for the block section.

c) The Station Masters shall advise the concerned Signal Inspector when token balance in the block instrument falls to 'six' and is expected to be exhausted. The S&T official shall proceed by first available means to balance the tokens.

d) An entry in red ink shall be made in the Train Signal Register showing the number of tokens removed or inserted. This entry shall be signed by the Signal Inspector or the authorised official and the Station Master.

e) While balancing, the token should be taken out in the 'Line closed' position.

7.8. Procedure for extracting the 'Last Stop Signal control key' when required by the staff of the S&T Department:

The procedure detailed below shall be followed when the 'Last Stop Signal control key' is required by the S&T staff for testing:

a) An authorised official of the S&T Department shall give a written requisition to the Station Master.

b) On receipt of the requisition, the Station Master shall obtain 'Line clear' in the usual manner.

c) The token shall immediately be inserted back into the block instrument.

d) The control key of the Last Stop Signal shall be given to the S&T official for testing.

e) When the Last Stop Signal control key is returned after testing, the Station Master shall ensure that the Last Stop Signal is at 'ON', the Last Stop Signal lever is in the normal position and insert the control key in the lock of the instrument.

f) The 'Line clear' shall be cancelled in the usual manner.

g) Entries shall be made in red ink by both the Station Masters in the Train Signal Registers regarding the test. This should contain –

i) at the station requiring extraction of the Last Stop Signal control key:-

Date, token number and time control key was extracted as well as the time when the block instrument was normalized.

ii) at the station giving 'Line clear':- the purpose and the time when 'Line clear' was given as well as the time when the block instrument was normalized.

h) All Signal maintainers and Supervising staff of the S&T Department are authorized to test the Last Stop Signal.

7.9. Consent required before interfering with block working equipment (G.R. 14.03):

No railway servant shall interfere with the block working equipment, or their fittings for the purpose of effecting repairs, or for any other purpose, except with the previous consent of the Station Master.

7.10. Block instruments maintenance work by S & T staff:

When the Signal maintainer or Signal Inspector requires to repair/clean a block instrument, which is in use, the following procedure shall be observed.

a) The Signal Inspector / Signal maintainer and the Station Master will both satisfy themselves that there is no train in the section.

b) The Signal maintainer or the Signal Inspector will take over the block instrument from the Station Master and enter the date and time of his having done so in the Train Signal Register. The Station Master will sign the entry. The entry shall be in the following form--

''.....side Block Instrument taken over for cleaning/repairs at .....hours'. sd/..... sd/.....

Station Master SI/ Signal maintainer Meanwhile, trains if any, shall be worked as in the case of failure of Block Instruments, until the Block Instrument is handed over back to the Station Master.

c) When the cleaning or repairs are completed and the instruments locked up, the instrument shows 'Line closed' position, the person who had taken over the Block Instrument for maintenance will hand over the instrument to the Station Master and make the following entry in the Train Signal Register.

'.....side Block Instrument handed over at ..... hours'.

sd/..... sd/.....
Station Master. SI/ Signal maintainer

d) Both at the time of handing over and taking over, the Station Master will advise the Station Master at the other end of the block section of the above fact by telephone and the Station Master at the other end of the block section shall make corresponding entries in his Train Signal Register.

CHAPTER VIII

FAILURE OF TOKEN BLOCK INSTRUMENTS

8.1. Failure of token Block Instrument (G.R. 14.13) :

The token block instrument shall be considered as interrupted and token working suspended in the following circumstances: -

a) 'Call attention' cannot be obtained on the token block instrument.

b) Bell Codes are received indistinctly or failed altogether.

c) The galvanometer fails to move on bell codes being given or received or shows a wrong indication even after the 'Signal given in error' signal is given and acknowledged.

d) The token cannot be taken out even after exchanging proper 'bell codes' and correct operation of the token block instrument.

e) A token can be taken out without exchanging proper 'bell codes' and without correct operation of the Block instrument.

f) A token is broken or damaged in any way during or after extraction

Note: *In case of items (e) & (f), the token shall be kept in the safe custody by the Station Master and handed over to the Signal Inspector or any other authorized official.*

g) There is no token in the instrument at the station from where a train is waiting to start.

Note: *When a train is ready to start from the station at the other end of the Block Section, where all the tokens have accumulated, token working shall be resumed by the Station Masters themselves.*

h) A token received cannot be inserted or jams on inserting into the instrument.

i) There is reason to believe that there is contact between the block wire and any other circuit.

Note: *(a) If a contact exists between the block wire and any other circuit, there is a possibility of irregular beats on the bell. A contact between two block wires would*

cause signals given on one block instrument to be repeated on the neighbouring block instrument.

(b) The telephone connected to the block instrument, for train signalling shall also be considered as having failed and working by means of the telephone should not be resumed until authorised by the Signal Inspector or any other authorised official.

j) The block instrument or its battery counter is found unlocked or the seal is broken.

k) The FSS/LSS Key or LSS control key, which are interlocked with the block instrument at stations equipped with double wire signalling is lost or has become defective.

Note: *a) On recovering back the lost key, the Station Masters themselves shall resume block working if it is in good condition.*
b) The defective key shall be kept in the safe custody of the Station Master and handed over to the Signal Inspector or any other authorised official.

l) A token extracted from the block instrument at a station or delivered to the Driver or dropped by the Driver of a train at a Station cannot be found.

m) A token pertaining to the block section has been over carried to another station.

n) The Driver of a train enters the block section without the token pertaining to the block section or with the token not properly obtained for the train.

o) A train arrives at a station without the token pertaining to the block section or with the token not properly obtained for the train.

Note: *In case of items (m), (n) & (o), this occurrence shall be reported as an accident.*

p) The glass front of the galvanometer is broken.

q) The token indicator or the token window is broken in the case of Neale's ball or tablet token instruments.

r) The operating handle cannot be turned after the correct operations.

s) The operating handle can be turned to any of the positions without a prolonged beat from the station at the other end.

t) If the Station Master's key of the token receiver drum or slide is lost or the lock is out of order.

u) The Last Stop Signal lever/knob can be reversed without the operating handle in the Train Going To position , where the Last Stop Signal is provided with an electric lock interlocked with the block instrument.

v) The Last Stop Signal control key, where provided on the instrument, is lost or has become defective.

Note: *a) On recovering back the lost key, the Station Masters themselves shall resume the token working if it is in good condition.*

b) The defective key shall be kept in the safe custody of the Station Master and handed over to the Signal Inspector or any other authorized official

w) 'Line clear' cannot be cancelled even after the correct operation of the block instrument.

x) A Material train / TTM is required to be taken into the block section on T.462 / T/A.462 and T.465 / T/ A.465 respectively after line block has been imposed.

Note : Block working (with line clear exchange by any means) shall be suspended and the material train etc., started on T.462 or T/A.462. After the traffic block has been removed , the Station Masters themselves shall resume block working in accordance with para 8.9 below.

y) A relief train / relief engine is dispatched on T/A 602 into the obstructed block section.

Note : Block working (with line clear exchange by any means) shall be suspended and the trains, started in accordance with S.R.6.02. On the obstruction being removed , the Station Masters themselves shall resume block working in accordance with para 8.9 below.

z) It is known that the token instrument is defective in any way other than those specified above.

8.2. Loss of Token:

a) When a token is lost, the Station Master shall immediately advise the Signal Inspector. If subsequent to the issue of the advice to the Signal Inspector, the lost token is found, the Station Master should not use it, but keep it in his safe custody and hand it over to the Signal Inspector.

b) The Signal Inspector on receipt of the advice shall proceed by first means to the station. If the token has since been recovered, he shall insert it in the block instrument and restore token working. If the token is not recovered, he shall phase the block instrument, exchange 'Testing' signal with the Station Master at the other end and after satisfying that the block Instruments are in working condition advise the Station Master at either end of the block section of the number of the lost token and to resume token working.

c) Entries should be made in the Train Signal Register at both the stations at either end of the block section regarding the lost token, suspension and restoration of token working by the Signal Inspector. In addition, the Signal Inspector should paste a 'lost token notice' in the following form at both the Stations.

Lost token notice

Token No…… pertaining to the Block Section from…….. Station to ……Station has been lost. If handed over to the Station Master at either end of the Block Section, it shall not be used but kept in the safe custody by the Station Master who shall advise me forthwith.

Date……

……
Signal Inspector

d) The Signal Inspector should advise the Chief Crew Controller/Crew Controller and Train Examiner of the Depots, regarding the lost token to notify the Drivers, not to accept the lost token as authority to proceed.

e) The Lost Token Notice shall remain in force for a period of six months from the date of pasting and the Signal Inspector shall remove it after this period.

f) If the lost token is found after restoration, the Station Master shall keep in safe custody and immediately advise the Signal Inspector. The Station Master shall not hand over this token on

any account to the Loco Pilot of a train as 'Authority to proceed'. The Station Master shall hand over the token to the Signal Inspector and obtain his acknowledgement in the Train Signal Register. The Signal Inspector shall insert the token in the block instrument if it is in good condition and phase the block instrument. He shall, thereafter, advise both the Station Masters, Chief Crew Controller /Crew Controller, Train Examiner and DRM/T and S&T. The Lost Token Notice pasted in the Loco shed shall be removed and the official of the Loco shed shall notify the Loco Pilots accordingly.

g) If the lost token is not found, arrangements shall be made to replace it after a period of six months. A new token should bear the consecutive number next to the highest number in use on the block section. The replacement of the lost token may be done under the orders of the DRM/T and S&T. In case the lost token is found after indenting for a new token, it shall not be inserted in the instrument but shall be broken by the Signal Inspector and returned to the Stores.

Note: *In case the token which was notified as lost has actually been over carried beyond the block section either in the same jurisdiction of the Signal Inspector or beyond his jurisdiction the token should be handed over to the nearest Station Master. The Station Master should keep it in safe custody and advise the Signal Inspector of the section, sending a copy to the Signal Inspector of the section to which the token pertains. The Signal Inspector should take over the token from the Station Master of his jurisdiction and forward it to the Signal Inspector concerned for necessary action.*

8.3. Block Instruments Failure Record:

A record of the failures of Block Instruments/Signals, and other gear connected with working of signals shall be maintained in the S & T Failure Register at the station.

Note : Block instrument failure either at station 'X' or station 'Y' shall be recorded by both Station Masters of X' and 'Y' in their S&T failure registers.

8.4. Reports to be sent:

a) When block working is suspended, the Station Masters at both ends of the block section shall at once make entries in red ink in the Train Signal Register immediately below the entries for the last train, showing the date and time from which block working was suspended and the cause of suspension, if known. Both the

Station Masters shall then advise each other and Signal Inspector/ Signal maintainer by telephone of the suspension and the cause thereof, if known, the cause of the failure being given only by the Station Master who first suspends the block working. A copy of this message shall also be sent to the DRM/T and S&T. The Controller on duty shall be advised on the controlled sections by the Station Masters at X and Y.

b) The Signal maintainer shall also be advised when there is a failure of the Last Stop Signal after 'line clear' has been obtained from the station ahead.

c) Whenever any failure is reported to the Government Telegraph Department, owing to line faults, GTD advised shall be added at the end of the message by the Station Master who first suspends the block working.

(AS-1, dt.01.06.06)/Item No.1/Rule No.8.5(a)/(b)/(d) & (e) (i) are amended)

8.5 Train Signalling during interruption or suspension of Block Working:

a) If 'X' cannot obtain 'Y's attention after calling him for five minutes on the Block Instrument, 'X' shall ask 'Y' in the order of priority through

i) Telephone attached to Block instrument
ii) Station to Station fixed telephones wherever available
iii) Fixed telephone such as Railway auto-phone and BSNL phone
iv) Control telephone and
v) VHF set,

to attend to the Block Instrument.

b) In the event of failure or suspension of Block instrument, Track circuiting or Axle counters, 'Line clear' shall be obtained by any one of the alternative means of communications in the order of priority indicated below:-

(i) Telephone attached to Block Instrument.
(ii) Station to station fixed telephones wherever available.
(iii) Fixed telephone such as Railway auto-phone and BSNL phone.
(iv) Control telephone and
(v) VHF set.

c) If the Station Master at 'X' cannot obtain 'Line Clear' from the Station Master at 'Y' through any one of the above means in the order of priority, the block section shall be considered to be totally interrupted and trains worked in accordance with the rules and regulations for working of traffic during total interruption of communications on single line in accordance with SR 6.02.4.

d) Before actually signalling a train through any one of the alternative means the Station Masters at 'X' and 'Y' shall at once exchange messages in the following proforma and record in TSR in red ink.

Proforma of message from station 'X'

No..... Date and time .....
(Station code/Month/Serial number, eg., BZA/11/21)

Block instrument working is suspended between ..... and ..... Stations. Train signalling shall be done through ***Telephone attached to Block Instrument/ Station to Station fixed telephone /Fixed telephone such as Railway auto-phone and BSNL phone / Control telephone / VHF set .**

*Strike out whichever is not applicable

Signature of the SM

Proforma of message of acknowledgement from station 'Y'

No..... Date and time .....

(Station code/Month/Serial number, eg., BZA/11/21A) Refer your message No.....

Understood Block instrument working is suspended between ..... and ..... Stations. Train signalling shall be done through ***Telephone attached to Block Instrument/ Station to Station fixed telephone/Fixed telephone such as railway auto-phone and BSNL phone / Control telephone / VHF set.**

*Strike out whichever is not applicable

Signature of the SM

e) i) Whenever trains between 'X' and 'Y' are signaled through block telephone or control phone etc., as the case may be, they shall be dealt with in all respects in accordance with the procedure laid down in Annexure of Block Working Manuals except as otherwise specially provided for.

ii) The number, description and the arrival and departure time of each train dealt with between 'X' and 'Y', with the Private Number, shall be recorded in red ink, then and there, in the Train Signal Register.

iii) The Station Master shall record the means of communication through which Line Clear was asked for or given, in T/A.1425 – outward and T/B.1425-inward as the case may be.

iv) The progressive number of the PLCT issued for each train shall be recorded in the Remarks Column of the Train Signal Register against the entry for the train.

8.6. Procedure to be adopted when the 'Train entering block section' signal cannot be given owing to the Block Instrument having failed after the departure of the train or before clearing the block section for the train:

a) If, after the departure of a train the 'Train entering block section' signal or 'Train out of block section' signal for the train cannot be given to the station 'Y' owing to the block instrument having failed, 'X' shall enter the time of departure/arrival in the Train Signal Register in red ink and communicate to 'Y' or 'X' by alternative means of communication and exchange messages as per para (d) of 8.5.above.

b) Whenever token working is suspended before the block section has been cleared on the token instrument for the train which last occupied the block section, the Station Master at 'Y' shall, on arrival of the train, enter the time of arrival in the Train Signal Register in red ink and send the following message by telephone to the Station Master at 'X'.

No. ……. Train (number and description) ……. arrived here complete at ……hrs. Station Master…….

The Station Master at 'X' shall record the time of arrival in his Train Signal Register in red ink and then acknowledge the message as under:

No. ……..

Your number …… Understand the train (number and description) ……. arrived at your station complete at …..hrs.

Station Master……

(AS No.1/Item No.2/Rule No.8.7 is amended)

8.7 Procedure for obtaining/granting Line clear using telephone attached to Block Instrument, Station to Station fixed telephone, Fixed telephone such as Railway auto-phone and BSNL phone as a means of communication between stations 'X' and 'Y':

a) The Station Master at 'X' or 'Y' as the case may be shall intimate the Section Controller and other all concerned officials through a message about the failure of Block instrument etc. The SCOR shall record the failure on his control chart. The SCORs shall acknowledge the block instrument failures while handing/taking over charge.

b) **(AS-2, dt.30.10.06)/Item No.1/Rule No.8.7(b) is amended**

Before actually despatching a train using the Telephone attached to Block Instrument, Station to Station fixed telephone, Fixed telephone such as Railway auto-phone and BSNL telephone, the Station Masters at 'X' and 'Y' shall call out their station name and identify each other with their full name. Then they shall cross check private numbers given for line clear, for the last three preceding trains over the block section along with train numbers and record these particulars in red ink in TSR. Then they shall exchange messages as per Rule No.8.5 (d).

c) The Station Master at 'X' who intends to despatch a train, shall first obtain the permission of SCOR. He shall then call SM at 'Y' through the means of communication recorded in the message under Rule No.8.5 (d) and establish the identity of both SMs on duty. The SM at 'X' shall clearly mention the Train No. **in full (two/three/four digit),** description (Express, Passenger, Goods train), direction (Up/Dn) for which Line clear is required**.**

d) The Station Master at 'Y', after complying with the conditions for granting Line clear shall grant Line clear supported by a Private Number**.**

e) The train number in full, description, direction (UP/DN) and the departure / arrival timings of each train dealt with between 'X' and 'Y' and the Private Number obtained / issued shall be recorded in red ink then and there in the TSR by Station Masters at 'X' and 'Y'.

f) The SMs at 'X' and 'Y' shall record the above details and the means of communication through which the line clear is obtained / granted in the document T/A.1425 (outward) /T/B 1425 (inward), as the case may be.

g) After obtaining line clear from station 'Y', the Station Master at station 'X' shall prepare Paper Line Clear Ticket (T/C 1425 for UP or T/D 1425 for DN) in duplicate and arrange to deliver it to the Loco Pilot of the train duly obtaining the acknowledgement in station copy of PLCT(T/C 1425 or T/D 1425).*(Item No.15 of AS-6 Dt:18.06.24)*

h) The serial numbers of the PLCTs issued to each train shall be recorded in the remarks column of the TSR against the entry for the train.

i) The SMs at 'X' and 'Y' shall communicate the timings of 'Train entering block section' and 'Train out of block section' in full (eg.1410 hrs.) to each other and record the same in TSR in RED INK immediately after the departure/complete arrival of train at the respective stations and inform the SCOR.*(Item No.16 of AS-6 Dt:18.06.24)*.

j) Whenever Line clear is cancelled, the Station Masters at 'X' and 'Y' stations shall record the same in the columns specified in the T/A 1425 & T/B 1425 immediately. .*(Item No.17 of AS-6 Dt:18.06.24)*

k) All trains shall be stopped for issuing PLCT.

(AS No.1/Item No.3/Rule No.8.8 is amended)

8.8 <u>Procedure for obtaining/granting Line clear using Control Telephone as a means of communication between stations</u> <u>'X' and 'Y':</u>

a) The Station Master at 'X' or 'Y' as the case may be shall intimate the Section Controller and other all concerned officials through a message about the failure of Block instrument etc. The SCOR shall record the failure on his control chart. The SCORs shall acknowledge the block instrument failures while handing/taking over charge.

b) The Station Master at 'X' who intends to despatch a train shall first obtain the permission of the SCOR. The SCOR shall call SM 'Y' on control telephone and establish communication between stations 'X' and 'Y' through control telephone.

c) **(AS-2,/Item No.2/Rule No.8.8 (c), (d) and (e) are amended)**
The Station Masters at stations 'X' and 'Y' shall, before obtaining/granting Line clear, call out their station name and identify each other with their full name. Then they shall repeat the arrival and departure timings of the last three preceding trains over the block section to the Section Controller, who shall cross check the correctness of the particulars of both the SMs with his Control Chart. Both SMs shall record these particulars in red ink in TSR.

d) Station Masters at 'X' and 'Y' shall exchange messages in the pro-forma given vide Rule No.8.5(d)

e) The SM at 'X' clearly mention the Train No. **in full,** description (Express/ Passenger/Goods train), direction (Up/Dn) for which Line clear is required**.**

f) The Station Master at 'Y', after complying with the conditions for granting Line clear shall grant Line clear supported by a Private Number**.**

g) The train number in full, description, direction (UP/DN) and the arrival/departure timings of each train dealt with between 'X' and 'Y' and the Private Number obtained / issued shall be recorded in red ink then and there in the TSR by Station Masters at 'X' and 'Y'.

h) The SMs at 'X' and 'Y' shall record the above details and the means of communication through which the line clear is obtained / granted in the document T/A.1425 (outward) /T/B.1425 (inward), as the case may be.

i) After obtaining Line clear from station 'Y', the Station Master at station 'X' shall prepare Paper Line Clear Ticket (T/C.1425 for UP or T/D.1425 for DN) in duplicate and arrange to deliver it to the Loco Pilot of the train after obtaining the acknowledgement in Station copy of PLCT(T/C 1425 or T/D 1425). *.(Item No.18 of AS-6 Dt:18.06.24)*

j) The serial numbers of the PLCTs issued to each train shall be recorded in the remarks column of the TSR against the entry for the train.

k) The SMs at 'X' and 'Y' shall communicate the timings of 'Train entering block section' and 'Train out of block section' **in full (eg.1410 hrs.)** to each other and record the same in TSR in RED INK immediately after the departure/complete arrival of train at the respective stations and also inform the SCOR.

l) Whenever the Line clear is cancelled, the Station Masters at 'X' and 'Y' stations shall record the same in the 'D' column of the T/A.1425 & T/B.1425 immediately and inform the section controller.

m) All trains shall be stopped for issuing PLCT.

n) The Section Controller shall co-ordinate between Station Masters 'X' and 'Y' for fulfilling the transactions mentioned under Rule No. 8.8 (a) to (f) & (k) and record the Private Number issued by Station Master 'Y' to Station Master 'X' in the control chart. Station Masters at 'X' and 'Y' shall record the name of Section Controller on duty in the Remarks column of TSR.

o) The Section Controller shall ensure that the block section is clear of trains as per the chart before line clear is granted by Station Master 'Y'.

(AS No.1/Item No.4/Rule No.8.9 is a new item)

8.9 <u>Procedure for obtaining/granting Line clear using VHF sets as a means of</u> <u>communication between Stations 'X' & 'Y':</u>

(AS No.3/- Freezed channels on 25W VHF sets

a) The Station Masters of X-Y block section shall contact each other on the channel/frequency allotted in their VHF sets as given below for the purpose of obtaining/granting Line clear. These channels/frequencies shall be incorporated in the respective SWRs.

Channel	Frequency	To be used for
5	150.10	f1 for PLC; 1st block section of straight section

6	150.150	F2 for PLC; 2nd block section of straight section
7	159.60	F3 for PLC; 3rd block section of straight section
15	146.20	Fj1 for PLC; 1st section (Jn.Stn-Direction-1)
16	148.050	Fj2 for PLC; 2nd section (Jn.Stn-Direction-1)
17	149.80	Fj3f or PLC; 3rd section (Jn.Stn-Direction-1)
18	149.85	Fj4 for PLC; 1st section (Jn.Stn-Direction-2)
19	151.40	Fj5 for PLC; 2nd section (Jn.Stn-Direction-2)
20	151.45	Fj6 for PLC; 3rd section (Jn.Stn-Direction-2)

b) **(AS-2,/Item No.3/Rule No.8.9 (b) is amended)**
Station Masters at stations 'X' and 'Y' shall call out their station name and identify each other with their full name. Then they shall cross check private numbers given for line clear, for the last three preceding trains along with train numbers on the **freezed channel/frequency and record these particulars in red ink in TSR. Then they shall exchange messages in the proforma given vide Rule No.8.5 (d) above.

c) The SM at 'X' shall clearly mention to SM at 'Y', the Train No. **in full (two / three / four digits),** description (Express, Passenger, Goods train), direction (Up/Dn) for which Line clear is required**.**

d) The Station Master at 'Y', after complying with the conditions for granting Line clear shall grant Line clear supported by a Private Number**.**

e) The train number in full, description, direction (UP/DN) and the arrival / departure timings of each train dealt with between 'X' and 'Y' and the Private Number obtained / issued shall be recorded in red ink then and there in the TSR by Station Masters at 'X' and 'Y'.

f) The SMs at 'X' and 'Y' shall record the above details and the means of communication through which the line clear is obtained / granted in the document T/A.1425 (outward) /T/B 1425 (inward), as the case may be.

g) After obtaining line clear from station 'Y', the Station Master at station 'X' shall prepare Paper Line Clear Ticket (T/C 1425 for UP or T/D 1425 for DN) and arrange to deliver it to the Loco Pilot of the train after obtaining the acknowledgement in T/A 1425.

h) The serial numbers of the PLCTs issued to each train shall be recorded in the remarks column of the TSR against the entry for the train.

i) The SMs at 'X' and 'Y' shall communicate the timings of 'Train entering block section' and 'Train out of block section' **in full (eg.1410 hrs.)** to each other and record the same in TSR and T/A 1425 or T/B 1425 document immediately after the departure/complete arrival at the respective stations.

j) Whenever the line clear is cancelled, the Station Masters at 'X' and 'Y' stations shall record the same in the 'D' column of the T/A 1425 & T/B 1425 immediately.

k) All trains shall be stopped for issuing PLCT.

(AS-2,/Item No.4/Note is added to Rule No.8.9)

Note:

i)VHF sets for prolonged duration of three hours or more should be permitted only in the presence of supervisory staff.

ii) VHF sets should not be used as the sole means of communication where passenger trains run. However VHF sets can be used as the only means of communication with the permission of Authorized Officer for specific sidings / sections where only freight trains run.

iii) Wherever GSMR (Global Signal Mobile Receiver) (Cell phones) has been provided, the use of VHF sets should not be permitted.

(AS No.1/Item No.5/Renumber Rule No8.9 as 8.10 & 8.10 as 8.11)

8.10. Resumption of block working after interruption or suspension:

a) i) When the block working has been suspended under items (g), (k), (v), (x) and (y) of para 8.1, block working may be resumed by the Station Masters themselves on the conditions laid down in the note under each item being fulfilled and in case of items (x) and (y) of para 8.1 after exchanging messages.

ii) When the block working has been suspended under any of the other items except those mentioned in clause (a) above, the block working shall not be resumed by the Station Masters themselves until the instruments have been tested and certified by the Signal Inspector or any other authorised official and the messages exchanged.

iii) In case of failures falling under items (r), (t) and (v) of para 8.1, the DSTE/ADSTE shall also be advised by first available means. The affected block instruments at both the stations shall not be handled by the Station Masters concerned until the instruments have been examined by the DSTE/ADSTE personally. The SIs are not authorised to open the instruments in such cases.

b) Before resuming block working, the Station Masters at 'X' and 'Y' shall satisfy themselves that the Block Section is clear by exchanging messages, giving the time of arrival and departure of the last train at 'X' and 'Y'.

c) When the block working is resumed, the Station Masters at 'X' and 'Y' shall advise each other, Signal Inspector and SCOR.

8.11. Rules and regulations for working of trains during total interruption of communications on single line section:

Refer S.R.6.02.4.

SOUTH CENTRAL RAILWAY

BLOCK WORKING MANUAL

PART-B -SINGLE LINE -TOKENLESS
BWMS (TL)

2008

(for official use only)

RECORD OF AMENDMENT SLIPS AND ITS RELATED PAGE REPLACEMENTS / INSERTIONS

A.S.No.& Date	Item No.	Chapter No.	Rule No.	Page No. replaced	Page No. inserted	Initials & Designation of Inspecting Official	Remarks
A S 3 27.12.2010	1	BWMS(TL)	8.9(a) & l				amended
	3	BWMS(TL)	8.9(a) & l				amended
A S 4 21.10.2013	1	BWMS(TL)	1.1				amended
	2	BWMS(TL)	1.4				amended
	3	BWMS(TL)	3.5				amended
	4	BWMS(TL)	3.7.6				amended
	5	BWMS(TL)	8.1(D)				amended
	6	BWMS(TL)	F-6 & F-7				Added
AS 6 18.06.2024	1	BWMS(TL)	3.5 A(ii)				Inserted
	13	BWMS(TL)	8.1 e				Amended
	14-17	BWMS(TL)	8.7 (b),(g),(i)&(j)				Amended
	18-20	BWMS(TL)	8.8 (i),(k)&(l)				Amended
	21-23	BWMS(TL)	8.9 (g),(i)&(j)				Amended

A.S.No.& Date	Item No.	Chapter No.	Rule No.	Page No. replaced	Page No. inserted	Initials & Designation of Inspecting Official	Remarks

Note : In case the replaced pages are less than the existing pages, such of those remaining existing pages shall be treated as deleted.

I N D E X

Chapter-IV
CAUTION ORDERS

Chapter- V
USE OF SPECIAL SIGNALS AND PROCEDURE IN EMERGENCIES

Chapter- VI
LORRIES, PUSH TROLLIES, CYCLE TROLLIES, MOTOR TROLLIES, RAIL DOLLIES AND RAIL-CUM-ROAD VEHICLES (G.R.15.25)

Chapter-VII
TESTING OF BLOCK INSTRUMENTS.

Chapter - VIII
FAILURE OF BLOCK INSTRUMENTS OR APPARATUS.

CHAPTER I

DESCRIPTION OF BLOCK INSTRUMENTS, INDOOR APPARATUS AND OUTDOOR APPARATUS

Note: ***1.*** *The term' Station Master' wherever used in this Manual, also applies to Assistant Station Master, Cabin Assistant Station Master, Cabin Master / Switchman and any other competent staff, who may, for the time being, be in charge of block working.*

2. *The name of stations as represented by W, X, Y and Z in this Manual and the number, direction and description of trains mentioned shall be read only as examples. In actual working, the proper names of the stations and the number, direction and description of trains shall be used.*

1.1. Provision of Block Instrument:

The following types of Token less Block Instruments are in use on certain Single Line sections of this Railway.

a) Daido Handle Type and

b) Push Button Type: Following types of Push Button type Block Instruments are provided in this Railway.

i. Kyosan make;

ii. Podanur make and

iii. Axle Counter Proven Block Panel: Following types of Axle Counter Proven Block Instruments are provided on this Railway:

a) UFSBI and

b) SSBPAC (D) - Single Line.

The sections of the line provided with these Block Instruments are notified in the Working Time Table for passenger trains.

1.2. Parts and description of Diado Handle Type Token less Block Instrument: *(See Figure No. 3 at the end of this Chapter)*

These instruments are provided at two consecutive block stations 'X' and 'Y' on the single line to control trains passing over both the Up and Down block sections between these stations. These instruments are electrically connected with each other. Each block instrument contains the following parts as shown in figure No.3

a) Push Button - PB 1;

b) Push Button - PB 2;

c) Galvanometer;

d) Single stroke bell or Gong;

e) Block handle;

f) Buzzer 1;

g) Buzzer 2;

h) 'Train On Line' indicator;

i) 'Time Release' indicator;

j) Cancellation switch – S 1 and counter;

k) Cancellation switch – S 2 and counter;

l) Shunt key;

m) Station Master's key;

n) Telephone

o) SNR indicator

The above parts are described in detail in the following paragraphs.

a) Push Button - PB 1:

This is used to transmit Code of Bell signals.

b) Push Button - PB 2:

This is to be pressed along with PB 1 by 'X' to enable 'Y' to turn his Block Handle:–

i) From 'Line closed' to 'Train going to' (normal to left);

ii) From 'Line closed' to 'Train coming from' (normal to right).

iii) From 'Train Going to' to 'Line closed' (left to normal).

iv) From 'Train coming from' to 'Line closed' (right to normal).

c) Galvanometer:

Consists of a needle housed in a case with a glass front; the deflection of the needle indicates the flow of outgoing and incoming line currents.

Note: *There will be no deflection if both the stations press PB 1 simultaneously.*

d) Single stroke Bell or Gong:

The Bell or Gong responds to the signals given by the station at the other end of the block section. At stations where more than one instrument is provided, different Bells or Gongs (with distinct sounds) are fitted to identify the individual instrument whose Bell or Gong rings.

e) Block Handle:

This has three positions.

i. 'Line closed' position with the handle vertical and the arrow pointing upwards. This is the normal position.

ii. The 'Train Coming From' position with the handle horizontal and the arrow pointing to the right. The handle is turned to this position when 'Line clear' is being given to the station in rear for a train

iii. The 'Train Going To' position with the handle horizontal and the arrow pointing to the left. The handle is turned to this position whenever a train has to enter into the relevant block section.

NOTE : The block handle with the plunger shall always be left correctly in the 'Line closed' or 'TGT' or 'TCF' position, as otherwise transmission of bell code and other block operation will not be possible.

The block handle is normally locked in the vertical i.e., 'Line closed' position, with the arrow pointing upwards. It is released to be turned over to 'Train Coming From' or 'Train Going To' position as the case may be, when a prolonged beat

along with necessary bell code is received from the station at the other end. The handle so turned will remain locked in that position until a prolonged beat along with necessary bell code is again received from the station at the other end after the relevant sequence of operation concerning either the train movement or cancellation of 'Line clear' is completed.

f) Buzzer 1:

This provides an audible alarm at both the stations when the train enters the block section. This alarm will cease only when 'Train entering block section' signal is acknowledged by the station receiving the train. At the train despatching station, the buzzer will sound continuously and at the train receiving station intermittently, till acknowledged by the Station Master at the receiving station by pressing the PB I.

g) Buzzer 2:

This provides an audible alarm at the station receiving the train when whole of the train passes within the Home signal. This alarm ceases when the SM's control slide/lever/knob for the Home signal is put back / turned to normal.

h) Train On Line indicator:

Normally this indicator shows white. It is operated automatically when the train enters the block section and then changes over to show 'Train On Line' on red background. This 'Train On Line' indication changes again to white only when the block handle is restored to normal.

i) 'Time Release' Indicator:

This is an indicator, which is displayed when the time element relay is operated after two minutes when the cancellation of 'Line clear' is made before the train entering block section. Normally, this indicator shows 'Locked' on white background. When operated, it changes to
`Free' on a green background,

j) Cancellation switch – S 1:

This switch is operated for cancellation of 'Line clear' obtained, when the train has not left the station. The operation of this switch is recorded progressively on the counter.

k) Cancellation switch – S 2 :

This switch is operated for receiving the train on reception signals in the event of its returning back to the station from where it left. The operation of this switch is recorded progressively on the counter.

Example : Goods train unable to haul and pushing back.

l) Shunt key:

This is the authority given to the Driver of a train when shunting is to be carried out beyond the Advanced starter and up to the opposing First Stop Signal. This key can be removed only when the block handle is in 'Line closed' position and when extracted locks the handle in that position, thus making it impossible to operate the block handle. However, the telephone communication is maintained.

m) Station Master's key:

Extraction of this key prevents unauthorized manipulation of the instrument during the absence of the Station Master. However, this does not prevent receipt of incoming bells and communication on telephone. This key should be kept in the personal custody of the Station Master when it is not required to operate the instrument.

n) Telephone:

A telephone is provided in conjunction with each instrument for communication with the Station Master at the other end of the block section.

o) SNR indicator:

This is an aid to the Station Master to verify if all relevant controls, levers/knobs, signals etc., are normal.

p) <u>Indoor Apparatus:</u>

Electric Lock on LSS:

An electric lock is provided on the Last Stop Signal lever which is released only when' Train Going To' indication is displayed on the block instrument of the concerned block section.

NOTE : The above lever lock is dispensed with in case of single line tokenless block instrument with colour light signals.

q) <u>Outdoor Apparatus:</u>

The Outdoor apparatus is installed as under –

i) First Vehicle Track Circuit:

This is fixed slightly in advance of the Last Stop Signal. As soon as the engine or the first vehicle of a train going from 'X' to 'Y' passes over the First Vehicle Track Circuit, the Last Stop Signal is automatically replaced to 'ON' and the indication 'Train On Line' is displayed automatically on the instruments at stations 'X' and 'Y'. The buzzer at both stations 'X' and 'Y' gives an alarm and continues until the 'Train Entering Block Section' signal is acknowledged by the station 'Y'.

ii) Electrical signal reverser:

This is actuated by the FVT and replaces the Last Stop Signal at 'X' to 'ON' immediately as the engine
or the first vehicle of the train going to 'Y' passes over the First Vehicle Track Circuit.

iii) a Last Vehicle Track Circuit:

This is fixed at an adequate distance inside the First Stop Signal. When the last vehicle of a train passes over the LVT, the buzzer gives alarm at 'Y' and continues to do so until 'Y' replaces the SM's control slide/lever/knob for the Home signal to normal.

1.3. Parts and Description of Kyosan / Podanur make Push button tokenless block instruments:

(See Figure No. 4 for Kyosan make and Figure No. 5 for Podanur make at the end of this Chapter)

These instruments are provided at two consecutive block

stations 'X' and 'Y' on the single line to control trains passing over both the Up and Down block sections between these stations. These instruments are electrically connected with each other. Each block instrument contains the following parts as shown in figure Nos.4 and 5

a) Station Master's key.

b) e Bell Code Push Button.

c) 'Train Going To' Push Button.

d) 'Line closed' Push Button.

e) 'Cancel' Push Button and its counter.

f) ' 'Panel lamp' Push Button.

g) 'Train Going To' indicator.

h) 'Line closed' indicator.

i) 'SHK' push button.

j) 'SCK' push button.

k) 'Train On Line' indicator.

l) 'Train Coming From' indicator.

m) 'Free' indicator.

n) 'Signal Repeater Lamps' for Last Stop Signal

o) 'SNR' indicator (Podanur make only).

p) Telephone.

q) Single stroke bell.

r) Alarm bell.

s) Shunt key 'SHK'.

t) Slip siding key.

u) Catch siding key.

The above parts are described in detail in the following paragraphs.

a) Station Master's key:

This is used by the Station Master to lock the block instrument to prevent its unauthorised operation. When the instrument is locked by the Station Master, it is not possible to set the instrument to 'Train Going To' or initiate 'Line closed' or send bell code, while it is still possible for the instrument to transmit and receive 'Train On Line' code, transmit 'Train Going To' code, receive 'Train Coming From' code or receive bell code, answer back with 'Line closed' code and receive only bell code.

When the SM's key is taken out, shunt key, slip siding key and catch siding key, where provided, cannot be taken out.

b) Bell code push button:

This is used for transmitting bell code signals. In case of bell signal, only 'Bell code' button is pressed. When a code signal is required to be transmitted, in addition to the 'Bell code' button, 'Train Going To, or 'Line closed' button is pressed concurrently. This push button is also used (i) to acknowledge 'Train On Line' code and to stop the 'Train On Line' bell, (ii) along with cancel button to initiate cancellation of the 'Line clear', before the train enters the block section and (iii) also for push back cancellation.

c) 'Train Going To' push button:

This is a push button to be pressed to set the instrument in providing 'Train Going To' condition while despatching a train. It is necessary to keep this push button pressed continuously until the instrument gets 'Train Going To' condition from 'Line closed' condition.

d) 'Line closed' push button:

This is a push button to be pressed to set the instrument in providing 'Line closed' condition after the train has arrived at the receiving station. However, this button is also pressed in case of cancellation.

e) 'Cancel' push button and its Counter:

When 'Train Going To' condition is to be reset to 'Line closed' condition before the train has not entered the block section or when the train is to be pushed back to the sending station instead of proceeding to the next station, this push button switch is pressed.

f) 'Panel lamp' push button:

This push button is provided to turn the panel lights on.
When this is pressed, the indicators , except 'Train On Line' and 'Free' , are lit. This has to be pressed only when the condition of the block instrument is to be verified.

For verifying the condition of the block instrument, only the 'Panel lamp' push button has to be pressed, as pressing the bell code button would unnecessarily attract the attention of the Station Master at the other end.

g) 'Train Going To' indicator:

This shows 'Train Going To' indication on a green-lighted back ground. It is lit when BCB or Panel lamp push button is pressed.

h) 'Line closed' indicator:

This shows 'Line closed' indication on a white-lighted background.

i) 'SHK 'push button:

This push button is pressed along with BCB when shunt key is to be taken out.

j) 'SCK' push button:

Where slip siding or catch siding is provided, this button is pressed to extract the slip siding key or catch siding key.

k) 'Train On Line' indicator:

This shows' Train On Line' indication on a red-lighted background and remains lit till the block instrument is brought to 'Line closed' condition by the Station Master at the receiving end.

l) 'Train Coming From' indicator:

This shows 'Train Coming From' indication on a green-lighted background. It is lit when BCB or panel lamp push button is pressed.

m) 'Free' indicator:

This is a green-coloured lamp to indicate the function of time - release and turns on after 120 seconds upon cancelling operation, before a train has not entered the block section.

n) 'Signal Repeater Lamps' for Last Stop Signal:.

These are provided to indicate the condition of the Last Stop Signal. Green or red lamps repeat 'Proceed' or 'Stop' aspects respectively.

o) 'SNR' indicator:

This is an aid to the Station Master to verify if all relevant controls, levers/ knobs, signals etc., are normal.

p) Telephone:

It is provided in conjunction with the block instrument for communication with the station at the other end of the block section.

q) Single stroke bell:

This bell operates as bell signal is received.

r)Alarm bell:

This alarm bell rings continuously when a train has arrived at the station and intermittently when 'Train On Line' code is received.

s) Shunt key:

This key is provided by the side of the block instrument locked in EKT and is used for shunting operations between the Last Stop Signal and the opposing First Stop Signal. It can be extracted either with the block instrument in 'Line closed' position or the 'Train Going To' position after the train has been despatched. Taking out this key prevents the Station Master at the other end from obtaining 'Line Clear'. Whenever shunting is required to be performed up to the Last Stop Signal, the Station Master shall verify whether the block instrument is in the line closed position and then only extract the shunt key and keep it in his personal custody before authorising the shunt move. The code initials of the block stations at either end are engraved on the shunt key.

t) Slip siding key:

Wherever the Slip siding key is provided at stations equipped with these block instruments, an EKT with a key is provided by the side of the block instrument. The key in the EKT can be released only when the SM's key is turned on the panel with the block instrument set to the 'Train Going To' position. The extraction of the key locks the block instrument, which can be normalized to the 'Line closed' position only when the key is restored to the EKT.

u) Catch siding key:

Wherever the Catch siding key is provided at stations equipped with these block instruments, an EKT with a key is provided by the side of the block instrument. The key in the EKT can be released only when the SM's key is turned on the panel with the block instrument set to the 'Train Coming From' position. The extraction of the key locks the block instrument, which can be normalized to the 'Line closed' position only when the key is restored to the EKT.

Note: In case of block instrument failure, emergency button is to be pressed for extracting 'slip / catch siding key'.

w) Indoor Apparatus:

Electric Lock on Last Stop Signal:

An electric lock is provided on the Last Stop Signal lever which is released only when 'Train Going To' indication is displayed on the block instrument of the concerned block section.

Replacement page No. 11 to BWMS (TL) upto and including AS-4

Note: The above lever lock is dispensed with in case of single line token less block instrument with colour light signal.

x) <u>Outdoor Apparatus:</u>

The Outdoor apparatus is installed as under –

i) First Vehicle Track Circuit:

This is fixed slightly in advance of the Last Stop Signal. As soon as the engine or first vehicle of a train going from 'X' To 'Y' passes over the First Vehicle Track Circuit, the indication 'Train On Line' is displayed automatically on the block instrument at stations 'X' and 'Y'. In addition an audible warning sounds at the receiving station, which is intermittent, until acknowledged by the receiving station.

ii) Electrical signal reverser:

This equipment is provided where semaphore signalling is adopted and is actuated by the First Vehicle Track Circuit and it replaces the Last Stop Signal at 'X' to 'ON' immediately as the engine or the first vehicle of the train going to 'Y' , passes over the First Vehicle Track Circuit.

iii) Last Vehicle Track Circuit:

This is fixed at an adequate distance inside the First Stop Signal. When the last vehicle of the train passes over the Last Vehicle Track Circuit, the buzzer gives alarm at 'Y' and continue to do so until 'Y' replaces the SM's Control slide/lever/knob for the Home signal to normal.

1.4. Parts and Description of Axle Counter proven Block Panel (UFSBI & SSBPAC (D) Single Line):

(See Figure Nos. 6 & 7 at the end of this Chapter)

A set of two block panels and their associated equipment as shown in the diagrams will be used as a pair, one at station 'X' and the other at station 'Y'. Telephone communications is provided in conjunction with block panels.

a) <u>DESCRIPTION OF BLOCK PANEL FOR SINGLE LINE (UFSBI & SSBPAC (D) Single Line</u>:

(I) Keys		
Key	Function	
SM's Key	The key, when out, prevents the following operations.	
	a)	Transmission of BELL code.
	b)	Transmission of LINE CLEAR enquiry request.
	c)	Resetting of Axle Counter.
	d)	Cancellation of Line Clear.
	e)	Release of Shunt Key.

AXLE COUNTER RESET KEY	Axle Counter reset key **where provided**/when pressed resets the axle counter provided reset co- operation 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 RELEASE KEY	Shunt Release Key (normally turned and kept OUT). a) The following operation is possible when IN, To take out SHUNT KEY from electric key transmitter (EKT), that serves as tangible authority for Loco-pilot to shunt beyond Last Stop Signal and up to First Stop Signal. b) The following operations are not possible when IN; (i) To take LINE CLEAR. (ii) Other side station to take LINE CLEAR. (iii) Closing of block. (iv) To take Last Stop Signal to "OFF".
CATCH/SLIP SIDING	This key **where provided** is USED to perform CATCH/ SLIP SIDING operation.
(II) Push buttons (non locking type)	
Push button	Function s
BELL	To transmit BELL codes to station at other end of Block section. To take LINE CLEAR, when pressed along with TRAIN GOING TO 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 TGT condition, and receiving station block panel to TCF condition.
CANCEL	It is operated 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 or section free condition. It silences the 'SECTION OCCUPIED/FREE BUZZER'
LINE CLOSED YELLOW	Circular indication in between the directional arrowhead. To indicate Block Section free from vehicles and LINE CLEAR not granted/received at train Receiving /train sending station respectively.

(II) Push buttons (non locking type) (contd.)	
Push button	Functions
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'.
(III) INDICATORS:	
Indicators	**Functions**
TRAIN COMING FROM [TCF] GREEN RED FLASHING GREEN	In a directional arrowhead pointing downward for incoming traffic towards station. To indicate LINE CLEAR has been obtained, when TRAIN GOING TO Button and BELL button have been pressed at sending station and the conditions for the granting of LINE CLEAR at receiving station have been complied with and a rectangular indication named TCF lights up GREEN. To indicate TRAIN ON LINE on entry of incoming train on LINE CLEAR and a rectangular indication named TOL lights up RED. To indicate: a) Block section clear after arrival of train, but associated Signals and their controls not normal at either station. b) Cancellation of LINE CLEAR before entry of train in Block Section. c) Block section clear after arrival of train, associated signals and their controls at normal at both stations but after unintentional insertion of Shunt Release Key IN, when the train was in section.
TRAIN GOING TO [TGT] GREEN RED	In a directional arrowhead pointing upward for outgoing traffic away from station at train sending station. To indicate LINE CLEAR received when TRAIN GOING TO button and BELL button have been pressed on Block Panel of train sending station and the condition for taking the LINE CLEAR have been complied with at both stations and a rectangular indication named TGT lights up GREEN. To indicate TRAIN ON LINE on entry of outgoing train on LINE CLEAR and a rectangular indication named TOL lights up RED.
FLASHING GREEN	To indicate: a) Block Section clear after arrival of train at other station, but associated signals and their controls not normal at either or both stations i.e. SNK off or Shunt key indication 'RED'. b) LINE CLEAR cancelled before entry of train in block section.

(III) INDICATORS (Contd.)	
Indicators	**Functions**
LAST STOP SIGNAL RED GREEN	Its shape is circular monogram of signal. Red indication means Last Stop Signal is at 'ON'. Green indication means Last Stop Signal is at 'OFF'.
RESET/ CANCELLATION CO- OPERATION YELLOW	Its shape is circular and is placed near reset key. It indicates that co-operation has been received from block panel where reset co-operation button has been provided.
CANCEL FLASHING YELLOW	Circular LED. To indicate progress of LINE CLEAR cancellation timer of 120 seconds. The indication lights up on pressing of CANCEL along With BELL button, when TRAIN COMING FROM is displaying FLASHING GREEN indication.
LINE FREE GREEN	Indicates line is clear of vehicles.
LINE OCCUPIED RED	Indicates line is occupied.
SNKE YELLOW	It is provided near TRAIN GOING TO directional Arrow head. When lit yellow it indicates LSS, First stop signal & controls on signals are at ON/ Normal.
SNOEK YELLOW	It is provided near TRAIN COMING FROM with directional arrowhead. When lit, 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	Indicates SM Key is 'IN' and turned.
SHK-IN/OUT GREEN/RED	When lit Green indicates Shunting Key has not been taken out. 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.
SSBPAC OK indication	Where provided, glows GREEN when SSBPAC (D) is OK otherwise Extinguished.
SSBPAC FAIL indication	Where provided, glows RED when SSBPAC (D) goes into a failure mode otherwise Extinguished.
Communication LINK FAIL indication	Glows steady YELLOW when LINK FAILS otherwise flickering.

	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 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) BUZZERS
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.

vi) BLOCK TELEPHONE: For Speech Communication with SM at other end of Block Section.

vii) SHUNT KEY OF EKT:

An auxiliary EKT is provided with SM's Block Panel to serve as SHUNTING Authority.

The Key of this transmitter is normally `IN' and taken 'OUT' to use as tangible authority given to Driver of a train to perform shunting upto opposing First Stop Signal (FSS).

Released when SHUNT RELEASE KEY of Block Panel is turned to `IN'.

a) <u>Indoor Apparatus:</u>

Electric Lock on Last Stop Signal:

An electric lock is provided on the Last Stop Signal lever which is released only when 'Train Going To' indication is displayed on the block instrument of the concerned block section.

Note: The above lever lock is dispensed with in case of single line tokenless block instrument with colour light signals.

b) <u>Outdoor Apparatus:</u>

i) First Vehicle Track Circuit:

This is fixed slightly in advance of the Last Stop Signal. As soon as the engine or first vehicle of a train going from 'X' to 'Y' passes over this FVT, the indication 'TOL' is displayed automatically on the Block panel at stations 'X' and 'Y'. In addition, an audible warning sounds at the receiving and sending stations, until acknowledged by the receiving and sending stations.

ii) Electrical Signal Reverser:

This equipment is provided where Semaphore Signalling is adopted and is actuated by the First Vehicle Track Circuit and it replaces the Last Stop Signal at 'X' to 'ON' immediately the engine or the first vehicle of the train going to 'Y' passes over the FVT.

iii) Last Vehicle Track Circuit:

This is provided at an adequate distance beyond First Stop Signal. When the last vehicle of the train passes over this LVT, the buzzer gives alarm at 'Y' and continue to do so until 'Y' replaces the SM's Control slide/lever/knob for the First Stop Signal to normal.

c) Resetting of Axle counter:

After complete arrival of the train or after the shunting is completed or when no train entered the block section, if the 'Section occupied' indication (Red) is lit, the Station Masters at both ends of the block section shall arrange for resetting of the Axle Counter. Station Master at 'Evaluator end' Block Panel resets the axle counter with the co-operation of the 'Non evaluator end' of Block panel Station Master. Non-evaluator end Block panel Station Master presses the Axle Counter reset button on his Block panel. Evaluator end Block panel Station Master on receiving the Axle Counter reset co-operation indication, inserts the resetting key, unlocks and presses the resetting button. Before resetting the Axle Counter, it has to be verified that the block section is clear. The following shall be ensured by the Station Masters on both ends of block section.

I. <u>Receiving end Station Master-</u>

i. Get the particulars of the last train despatched by the sending end Station Master supported by Private Number;

ii. Ensure that the last despatched train has arrived complete into his station by verifying the Tail board/ Flashing Tail lamp.

iii. If there is no Tail board/ Flashing Tail lamp, the Station Master on duty shall send "Train passed without tail board/ Flashing tail lamp" signal to concerned station and wait for confirmation about complete arrival of the train supported by Private Number (e.g. presuming a train from 'X' passed through 'Y' without tail board/lamp to Z, then 'Y' sends "Train passed without tail board/ Flashing tail lamp signal to Z).

II. <u>Sending end Station Master-</u>

He shall give the particulars of the last train he has despatched to the receiving station and give Private Number.

CHAPTER II

SYSTEMS OF WORKING, BLOCK COMPETENCY CERTIFICATE, PRECEDENCE OF TRAINS, ACKNOWLEDGEMENT OF SIGNALS AND TRAIN SIGNAL REGISTER.

2.1. Systems of working (G.R. 7.01)

The systems normally used on this Railway are:-

a) The Automatic Block System :- As specified under S.R.7.01.

b) The Absolute Block System :- On all other sections.

2.2. Block Competency Certificate: (G.R.14.04)

a) The Principal of the Zonal Railway Training Institute/Moula- Ali is responsible for the proper Initial/Refresher training of the staff in the rules connected with Block working. After the staff are declared successful in the examination held for this purpose, he shall grant the necessary competency certificate in respect of all the block instruments. Such certificates shall be valid only for a period of three years from the date of their issue. The certificate should be issued by the Principal of the ZRTI/ MLY under his signature for those who attend the Initial/ Refresher course.

b) Principal, STTC / MLY is authorised to issue the Block Competency Certificate to the Signal Maintainers who are required to maintain and test the block instruments. The certificate should be issued after successful completion of Initial / Refresher course which is valid for a period of four years.

As a temporary measure , DSTE / ADSTE of the divisions can extend the validity of BCC for one year. However, only one such extension is permissible.

c) If the staff, working for a year or more at stations where they are not required to operate the Block Instruments, are transferred to a station where they are required to operate the Block Instruments, they shall not be allowed to operate the Block Instruments, even though they are in possession of valid block competency certificate. They should be tested locally by the Traffic inspector concerned and an endorsement made by the Senior Divisional Operations Manager / Divisional Operations Manager of the Division on the Block Competency Certificate before they are put to operate Block Instruments.

d) The BCC shall be kept in the personal custody of the staff while on duty and produced for inspection on demand by the inspecting officials.

2.3. Bell Code (G.R. 14.05)

For the signalling of trains, the prescribed code of bell signals as detailed below, shall be used and a copy thereof shall be exhibited at each block station near the place of operation of the block working equipment –

Ref. No.	Indication	Code	How signalled	How acknowledged
1	Call attention or Attend telephone	0	One stroke or beat	One stroke or beat
2	Is Line Clear or Line Clear enquiry	00	Two	Two
3 *	Train	000	Three	Three
4*	(a)Train out of	0000	Four	Four
	block section (b) Obstruction removed			
5	(a)Cancel (b)Signal given in error	00000	Five	Five
6	(a) Obstruction danger signal (general)	000000	Six	Six
	(b)Stop and examine train	000000-0	Six pause one	Six pause one
	(c)Train passed without tail lamp or tail board	000000-00	Six pause two	Six pause two
	(d)Train divided	000000-000	Six pause three	Six
	(e) Vehicles running away into the block section on single line	000000-0000	Six pause four	Six pause four
7	Testing	0000000000000000	Sixteen	Sixteen

Note: *1) `0' indicates a stroke or a beat and '__' indicates a pause.*

2) *Each signal shall be given slowly and distinctly.*

3) ** Item (3) and (4) are not required to be given wherever Axle counter proving Block Instruments or continuous track circuiting is in use.*

2.4. Acknowledgement of Signals (G.R. 14.06)

a) Each signal received shall be acknowledged by sending its authorised 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) If the station to which a signal is sent does not reply, the signal shall be repeated at intervals of not less than twenty seconds until reply is received.

e) In no circumstances may unauthorised bell signals be exchanged on the instruments.

Note: As a precaution against unauthorised manipulation of block instrument, great care shall be taken not to acknowledge any but the correct authorised signals. Strange or indistinct bell signals, such as may sometimes be received due to disturbances by lightning, contact of wires, or other irregularity, shall on no account be acknowledged or responded to on the instrument. No attempt shall be made to operate the instrument which is affected by one or other of the causes mentioned above.

2.5. Precedence of trains:

a) On controlled sections, trains shall be worked strictly in accordance with the orders of the Controller.

b) On non-controlled sections or in the event of breakdown of control, the trains shall be given precedence over each other in the following order

1st Relief trains or light engines proceeding to the site of an accident. 2nd Postal specials.

3rd Mail and Express trains. 4th Troop trains.

5th Passenger trains, including rail cars.

6th Specials engaged by public.

7th Inspection trains, whether working on time table or not and light engines when not going to an accident spot

8th Mixed trains.

9th Parcel trains.

10th Relief trains returning from the site of accident (If with injured passengers higher priority shall be given.)

11th Fast through goods trains.

12th Work trains/Road goods trains and empty passenger stock trains. 13th Material trains

c) Owing to the irregular running of trains, if two or more trains are ready to start from the same end of a block section, preference shall be given to the trains standing higher in the table of precedence. If both trains have the same order of precedence, preference shall be given to the one having the greater distance to run.

d) In order to avoid excessive detention to trains of lesser importance

i) A Mail or Express train running less than ten minutes late may be detained up to a total of ten minutes in order to save a delay of thirty minutes or more to a passenger train or forty five minutes to a goods train.

ii) A passenger train running less than ten minutes late may be detained up to a total of ten minutes in order to avoid a delay of thirty minutes or more to a goods train.

2.6. Train Signal Register [TSR (T.14)] (G.R.14.07)

a) A Train Signal Register shall be kept by the Station Master or under his order in conjunction with each Block Instrument.

b) All signals received or sent on the electrical Block Instruments and the timings of receipt and despatch shall be entered therein immediately after acknowledgement, by the person operating the Block Instrument.

c) The timings entered in the register shall be the actual timings except that any fraction of a minute shall be counted as one.

d) The person who keeps the register for the time being shall be responsible for all entries made therein and for correct filling in each column thereof.

e) The time of relief and handing over the Block Instruments shall be recorded by the outgoing Station Master in the Train Signal Register along with the last number registered in the counters and signed by both the Station Masters (Relieved and Reliever).

i) The Station Master taking over charge shall test the Block Instrument and make a record of the result then and there in the Train Signal Register.

ii) In the case of Diodo make handle type Token less block instruments; the Station Master shall try to turn the block handle to the TGT and TCF position without the co-operation of the Station Master at the other end. If the handle cannot be so turned to the two positions the instrument should be considered to be in order.

iii) In the case of Kyosan / Podanur make push button Token less block instruments; the Station Master shall, when taking over charge of the block instrument, test the instrument by attempting to take off the Last Stop Signal without obtaining 'Line Clear' to see that the Last Stop Signal is not taken 'OFF'. If Last Stop Signal cannot be taken off, the instrument should be considered to be in order. Where block instruments are housed in the station, the Station Master should ask the Cabin man / Lever man in the cabin, to take off Last Stop Signal and advise.

iv) In the case of instruments provided with Galvanometers, the Station Master shall also satisfy himself that the deflection in the Galvanometer is correct.

v) If the test conditions detailed above are not satisfied, the instrument shall be considered to be defective and block working suspended.

f) All the entries in the Train Signal Register shall be made in ink and signed.

g) No erasures or overwriting shall be made in the Train Signal Register. If any entry is found to be incorect, a line shall be drawn through it, so that it may be read at any time and the correct entry made above it and initialled.

h) A line shall be drawn, in red ink, below the entry for the last train of the date.

i) <u>Entries shall be made in red ink in the following circumstances</u>:

i) Material trains entering the block section

ii) Motor trollies, lorries and trollies entering the block section on line clear.

iii) Testing signals are exchanged.

iv) Block working is interrupted.

v) Trollies movements, as mentioned in SR 15.26.2.1 and lorries movements, as mentioned in SR 15.27.6.1

vi) Notice of obstruction of up/down lines (Line block) received from the engineering branch.

vii) Any other special occurrence in connection with block working.

viii) Whenever a running line at a station is blocked by stabled vehicle/ train.

2.7. Station Masters handing over/ taking over charge:

a) The Station Master who makes an entry for a train in the Train Signal Register shall continue to be on duty till all entries pertaining to that train are completed. By this it is meant that the Station Master who asks for 'Line clear' for a train to enter a block section shall remain on duty till the 'Train out of block section' signal is received and acknowledged and the Station Master who gives 'Line clear' for a train to enter a block section shall remain on duty till the train has arrived and the 'Train out of block section' signal is given and acknowledged.

b) Line shall be drawn across the Train Signal Register whenever Station Masters change duty. The Station Master who is going off duty shall sign and enter the time above the line and the Station Master coming on duty shall sign and enter the time below the line.

c) In the case of a train in the block section, clause (a) need not be observed but the entry in the Train Signal Register so far made shall be initialled by both the Station Masters. An entry, as under, shall be made immediately below the entry for the train and above the line
{see Clause (b)}.

"Block section is still occupied by Train number _____and description_____" .

Both the Station Masters shall sign this entry as required in clause (b) above. An entry to this effect shall also be made in the Station Diary and initialled by both the Station Masters.

d) The procedure detailed in clause (c) above shall also be applicable in cases of accidents, engine failures, O.H.E.failures etc.,when there is a Likelihood of trains getting abnormally delayed and it is not possible for the same person/persons to continue to remain on duty to complete all the transactions for a train for which he/they had granted/obtained 'Line clear'.

2.8. Inspection of Train Signal Register:

a) The Train Signal Register in use shall be checked and signed by the Station Master in charge of the Station daily and his signature in the remarks column (at the end of the entries for the previous day) will be considered as a certificate and all trains have been duly and correctly entered in their regular course and sequence that he has taken note of the irregularities of any description recorded in the Train Signal Register and also those observed by him in the course of his check.

b) The Train Signal Register shall also be examined and signed by the Traffic Inspector / Signal Inspector of the section whenever he visits the station and inspects the block room in the course of his duties.

c) Irregularities, if any, shall be noted in the Train Signal Register and brought to the notice of officials concerned.

d) The Train Signal Register in use shall not be removed from the Cabin or the room, in which block instruments are placed without the orders of the DRM.

2.9. Preservation of Train Signal Register:

a) The Train Signal Register shall be retained at stations for one year after the half year in which it is completed and after that it shall be treated as old record and disposed off as such.

b) Books required in connection with pending enquiries or cases, shall however, on no account, be treated as old records and disposed off before the conclusion of such enquiry or case without obtaining specific orders from the official who issued the original orders for retention.

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CHAPTER III

METHOD OF WORKING BLOCK INSTRUMENTS

3.1. Access to and operation of equipment (G.R. 5.08):

No unauthorised person shall be permitted to have access to operate signals, points, electrical block instruments and electrical communication instruments or any other appliances connected with working of the railway.

3.2. Signalling of a train over the block section - Daido Handle Type Tokenless Block Instrument:

Taking 'X' and 'Y' as two consecutive Block Stations, the sequential procedure for despatching a train, cancelling 'Line clear' etc., is as detailed below**. Before asking for 'Line Clear' on controlled sections, the Station Master shall obtain the permission of the Controller.**

3.2. (A) Despatching a train:

Sending Station 'X'		**Receiving Station 'Y'**	
1.	Ensure that section is clear, Line Closed & SNR indicators are lit & SM's Key in.		
2.	Give 'Call attention' signal		
		3.	Acknowledge. Attend telephone. Give out station name.
4.	On receipt of acknowledgement, attend telephone. Give out station name.		
5.	After ensuring correct station has responded, ask for 'Is line clear' for ----- train		
		6.	After exchanging information regarding train movement, ensure: that conditions for granting 'Line clear' are complied with, 'Line closed' indicator, SNR indicator are lit and then inform 'Line is clear for--- train' supported by PN. e.g., 35 (three five)

7.	Repeat the PN.		
8.	Give 'Call attention' signal.		
		9.	Acknowledge the 'Call attention' signal.
10.	Give 'Is line clear' signal by pressing PB1 and keep PB 2 also pressed for 5 seconds on the last beat		
		11.	While 'X' gives the prolonged beat, turn the block handle to 'Train Coming From' and acknowledge 'Is line clear' signal by pressing PB1 and keep PB 2 also pressed for 5 seconds on the last beat. The Galvanometer needle shows a flick indicating that the handle at the other station has been turned. Release PB1 and PB 2.
12.	**(i)** While 'Y' is giving the prolonged beat, turn the block handle to 'Train Going To' position. **(ii)** Take 'OFF' Last Stop Signal. **(iii)** On the train entering the block Section, the Last Stop Signal goes to 'ON' position. (iv) 'Train On Line' indication appears automatically and the buzzer / bell starts operating. **(iv)** Replace Last Stop Signal lever /slide /knob		
		13.	'Train On Line' indication appears automatically and the buzzer / bell starts operating. Acknowledge by pressing PB1.

14.	Buzzer / bell stops. Give 'Call attention'. On acknowledgement , attend telephone and give departure time.		
		15.	Acknowledge, attend telephone and note departure time.
16.	Give 'Train entering block section' signal		
		17.	Acknowledge
		18.	**(i)** Take 'OFF' reception signals. **(ii)** When the train passes home signal the home signal returns to 'ON' position. **(iii)** As the last vehicle passes the Last Vehicle Track circuit, the buzzer/bell starts operating. **(iv)** Replace SM's control slide/lever/knob for home signal. Buzzer/bell stops. ***Note:*** *Though Home signal may go automatically to 'ON' by passage of the train Home signal lever/knob shall not be normalized, unless the whole of the train has arrived inside the home signal. Failure to adhere to this, will result in block failure and the train arrival buzzer will not sound alarm under such circumstances.*
		19.	After ensuring that the train has arrived complete, give 'Call attention' signal and attend telephone. On acknowledgement, give arrival time.

20.	Acknowledge, attend telephone and note clearance time.		
		21.	Give 'Train out of block section' signal by pressing PB1 and keep PB 2 also pressed on the last beat, provided the conditions laid down in Rule 14.10 are complied with.
22.	Turn block handle to line closed position and acknowledge train out of block section signal by pressing PB1 and keep PB 2 also pressed on the last beat. TOL indication disappears.		
		23.	Turn the block handle to 'Line closed' position; TOL indication disappears.

Note:- *Similar procedure is repeated when despatching a train from station 'Y' to station 'X'.*

3.2 (B) To cancel 'Line Clear' before the train enters the Block Section.

Sending Station 'X'		**Receiving Station 'Y'**	
1.	Block Handle at TGT Position and all relevant signals Levers / knobs and SM's slide for the Last Stop Signal concerned in normal position		
		2.	Block Handle at TCF position and all relevant signals, levers/knobs in normal position.
3.	Give 'Call attention' signal to station 'Y' and take his consent on telephone supported by Private Number.		
		4.	Give consent and repeat the PN.
5.	(a) Turn cancellation switch S-1 for cancellation from Normal to Reverse.		

5.	(b) Wait for about 120 seconds until 'Time Release' Indicator operates to show "Free". (c) Counter registers next higher number.		
6.	Send 'Call attention' signal.		
		7.	Acknowledge 'Call attention' signal.
8.	Restore cancellation switch to normal and send 'Cancel last signal.' While sending 'Cancel last signal' keep PB 1 and PB 2 also pressed for 5 seconds on the last beat. Release buttons PB1 and PB 2 when the Galvanometer needle gives a flick in its deflected position indicating that the Block handle at station 'Y' has been turned		
		9.	Turn block handle to 'Line Closed' position.
		10.	Press PB1 & PB2 for five seconds after the fifth beat. Release PB1 & PB 2 when the Galvanometer needle gives a flick in its deflected position indicating that the block handle at station ' X ' has been turned.
11.	Turn the block handle to 'Line closed' position.		

3.2 (C) Closing of Block Section after pushing back of train:

Sending station 'X'		**Receiving station 'Y'**	
1.	Block handle displays TGT and block instrument in TOL position.		
		2.	Block handle displays TCF and block instrument in TOL position.
3.	Give 'Call attention' signal		
		4.	Acknowledge 'Call attention' signal

5.	**(a)** Turn Switch S-2. **(b)** Take 'OFF' the reception signals. **(c)** Train passes home signal, which returns to 'ON' and counter registers next number. (d) As the last vehicle passes the LVT, the buzzer starts operating. (e) Replace SM's Control slide / lever / knob of home signal to normal (f) Buzzer stops. (g) Normalize S 2 switch.		
6.	Give 'Call attention' and attend telephone. On acknowledgement, give PN and arrival time.		
		7.	Acknowledge, attend telephone, note PN and arrival time.
8.	On complete arrival of the train and provided the conditions laid down in Rule 14.10 are complied with, send 'Train out of block section' signal through PB 1 and keep PB 2 also pressed for 5 seconds on the last beat.		
		9.	Turn block handle to 'Line closed' position.
		10.	Acknowledge 'Train out of block section' signal and press PB 1 & PB 2 for 5 seconds on the last beat.
11.	Turn the block handle to 'Line closed' position.		

3.3 Signalling of a train over the block section - Kyosan / Podanur make push button Tokenless lock Instruments.

Taking 'X' and 'Y' as two consecutive Block Stations, the sequential procedure for despatching a train, cancelling 'Line clear' etc., is as detailed below**. Before asking for 'Line Clear' on controlled sections, the Station Master shall obtain the permission of the Controller.**

3.3. (A) Despatching a train -

Sending station 'X'		Receiving station 'Y'	
1.	Ensure that section is clear, 'Line closed' & SNR indicators are lit and SM's Key is in.		
2.	Give 'Call attention' signal		
		3.	Acknowledge. Attend telephone and give out station name.
4.	On receipt of acknowledgement, attend telephone and give out station name.		
5.	After ensuring correct		
	station has responded, ask for 'Is line clear for_____train'.		
		6.	After exchanging information regarding train movement, ensure that : a) Section is clear, line closed indicator, SNR indicator are lit and then inform 'Line is clear for --- train' supported by PN. e.g, 35 (three five)
7.	Repeat PN, give 'Is line clear signal' and at the end of second beat, press BCB and TGT button.		
		8.	"Line closed" indication disappears and TCF indication appears.
9.	"Line closed" indication disappears, TGT indication appears, and then release the buttons.		
		10.	Acknowledge 'Is line clear' bell code.
11.	Take 'off' Last Stop Signal. Train enters block section. TOL indication is lit to RED, replace Last Stop Signal lever/ slide/ knob to normal.		
		12.	Buzzer starts ringing after TOL

		12.	indication. Acknowledge by pressing the BCB and buzzer stops.
13.	Give 'Call attention' and attend telephone; after acknowledgement give departure time.		
		14.	Acknowledge 'Call attention', attend telephone and note the departure time.
15.	Give 'Train entering block section' signal.		
		16.	Acknowledge the 'Train entering block section' signal'.
		17.	a) Take 'OFF' reception signals b) As train passes Home signal, train arrival buzzer starts ringing. c) Put back Home signal lever / knob to normal after ensuring complete passage of train past the home signal. d) Buzzer stops. e) Ensure the conditions for closing the block sections as per G.R.14.10.
		18.	Give 'Call attention', attend telephone and on acknowledge-ment, give arrival time.
19.	Acknowledge 'Call attention' ; Attend telephone, note clearance time.		
		20.	Give 'Train out of block section' signal and press 'Line Closed' Button along with Bell Code Button on the last beat.
21.	'Line closed' indication appears and TOL indication disappears.		
		22.	'Line closed' indication appears and TOL indication disappears.
23.	Acknowledge 'Train out of block section' signal.		

3.3 (B) To cancel the 'Train Going To' condition before a train enters the block section.

Sending station 'X'		Receiving station 'Y'	
1.	Block instrument set to TGT indication and all relevant signals and signal levers/slides/knobs normal.		
		2.	Block instrument set to TCF indication and all relevant signals and signal levers/slides/knobs normal.
3.	Replace Last Stop Signal lever/ knob and SM's slide to normal if the signal has been taken 'OFF'.		
4.	a) Insert SM's key and turn. b) Operate the 'Cancellation' button/ along with Bell Code Button. c) Counter registers next higher number.		
5.	Time release 'Free' indication appears after 90 seconds		
6.	Give 'Call attention' signal Through BCB and attend telephone.		
		7.	a) Acknowledge 'Call attention' signal and attend telephone. b) Insert SM's key and turn.
8.	Advise intention to cancel 'Line Clear' on telephone and give PN.		
		9.	Give consent and repeat PN.
10.	Give 'Call attention' signal.		
		11.	Acknowledge 'Call attention' signal.
12.	Give 'Cancel last signal' bell, press 'Line closed' button and BCB at the end of the last beat.		

		13.	Co-operate by pressing 'Line closed' button and Bell Code Button till 'Line closed' indication appears
14.	**'**Line closed' indication appears.		
		15.	Acknowledge 'Cancel last signal' bell.

3.3 (C). To set the Block Instruments to 'Line closed' condition after train pushes back to the despatching station.

Sending station 'X'		**Receiving station 'Y'**	
1.	Block Instrument displays TGT and TOL indication.		
		2.	Block instrument displays TCF and TOL indication.
3.	a) Insert SM's key and turn. b) Give 'Call attention' signal through BCB, attend telephone and give information about train pushing back.		
		4.	Insert SM's key, Acknowledge 'Call attention', attend telephone and note information.
5.	a) Take 'OFF' the reception signals. b) Train passes the Home signal, which returns to 'ON'. c) As the last vehicle passes Last Vehicle Track Circuit, audible warning sounds. d) Replace SM's control slide/lever/knob of home signal. e) Audible warning stops.		
6.	Ensure the conditions for closing the block section as per G.R. 14.10.		

7.	a) Operate the b) 'Cancellation' button along with the Bell Code Button. c) Counter registers next higher number. d) Give 'Call attention' signal and attend telephone on acknowledgement.		
		8.	Acknowledge 'Call attention' and attend telephone.
9.	Give PN and arrival time.		
		10.	Repeat PN and note arrival time.
11.	Give 'Train out of block section' signal, press BCB along with 'Line-closed' button at the end of last beat.		
		12.	Press BCB and 'Line closed' button till 'Line closed' indication appears**.**
13.	**'**Line closed' indication appears.		
		14.	Acknowledge 'Train out of block section' signal

3.4. Operation of Slip siding and catch sidings while despatching / receiving a train in Kyosan / Podanur push button type and Diodo handle type token less block instruments.

(Station 'X' is assumed to be provided with slip siding protected by Last Stop Signal Station 'Y' with a catch siding protected by First Stop Signal.)

Sending Station 'X'		**Receiving Station 'Y'**	
Block instrument displays TGT indication.		Block Instrument displays indication.	
1.	Insert SM's key and turn.		
2.	a) Take out the Slip Siding key by pressing the 'SCK' push button b) Transmit the slip siding key to the siding point either electrically or manually. c) Slip siding point is set.		

3.	a) Take '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. Last Stop Signal lever and SMs control slide / knob is returned to normal position including restoring the slip siding point / key to normal.		
		4.	TOL indication appears automatically and audible Warning sounds.
		5.	a) Insert SMs key and turn. b) Acknowledge audible warning by pressing the Bell push button. c) Audible warning stops
6.	Give 'Call attention' signal, attend telephone after acknowledgement is received, give departure time.		
		7.	Acknowledge, attend telephone and note down the departure time.
8.	Give 'Train entering block section' signal		
		9.	Acknowledge 'Train entering block section' signal.
		10.	a) Take out Catch siding key and transmit the key either electrically or manually to the siding point. b) Train comes to a stop at the First Stop Signal. c) Set Catch siding points.
		11.	a) Take 'OFF' the reception signals.

			b) When the train passes the home signal, the home signal returns to 'ON' position. c) As the last vehicle passes the Last Vehicle Track Circuit the audible warning sounds. d) Replace SMs control slide/ knob/lever for home signal e) Audible warning stops. *NOTE: Though the home signal may go automatically to 'ON' by passage of train, home signal lever shall not be put back to normal unless the whole of the last train has arrived inside the last vehicle track circuit. Failure to adhere to this, will result in block failure and train arrival buzzer will not sound alarm under such circumstances.*
		12.	a) Transmit the catch siding key either manually or electrically back to Station Master. b) Set Catch siding points to normal. c) Restore the catch siding key back in its position. d) After visually checking that the complete train has arrived, all signals and signal levers/knobs/slides are to be put back to normal.
		13.	Give 'Call attention' and attend telephone. On acknowledgement, give train arrival time.
14.	Acknowledge 'Call attention', attend telephone and note down clearance time.		

Sending Station 'X'		Receiving Station 'Y'	
		15.	Give 'Train out of block section' signal and press 'Line closed' and Bell code button at the end of the fourth bell beat in case of push button type block instruments and bring the instrument to 'Line closed' position. In case of handle type block instrument, after the fourth bell beat press both PB1 and PB 2 and enable the Station Master at the other end to normalize the block handle to 'Line closed' position.
16.	In case of push button type the instrument will set to 'Line closed' position, acknowledge the train out of block section signal. In case of handle type block instrument turn the handle to 'Line closed' when co-operation is given by Station Master at the other end. Give 'Train out of block section' signal and press both PB1 and PB 2 at the end of the fourth beat and enable the Station Master at the other end to normalize the handle to 'Line closed' position.		
		17.	Set the Block instrument to 'Line Closed' condition.

3.5. Signalling of a train over the block section using Axle Counter proven Block Panel (UFSBI & SSBPAC (D) Single Line):

Taking 'X' and 'Y' as two consecutive Block Stations, the sequential procedure for despatching a train, cancelling 'Line Clear' etc., is as detailed below. Before asking for 'Line Clear' on controlled sections, the Station Master shall obtain the permission of the Controller.

3.5. (A) (i) Despatching a train.

Block panel operators at sending and receiving stations will follow the events listed hereunder for despatching and receiving a train:

	Sending Station 'X'		**Receiving Station 'Y'**
1.	SM ensures LINE CLOSED indication YELLOW, SNK indication YELLOW, SNOEK indication YELLOW, LINE FREE indication GREEN, SHUNT KEY indication GREEN, SM KEY indication GREEN.		
	SM sends 'Call Attention' signal to receiving station by pressing BELL button and hold on block telephone.	2.	Ensure SM KEY indication GREEN SM acknowledges the 'Call Attention' signal by pressing BELL button. Attend telephone.
3.	After ensuring correct station has responded, ask "IS LINE CLEAR FOR ..... TRAIN"	4.	After ensuring, LINE CLOSED indication YELLOW, SNK indication YELLOW, SNOEK indication YELLOW, LINE FREE indication GREEN & SHUNT KEY indication GREEN & Then say "LINE IS CLEAR FOR ..... TRAIN" supported by a PN.
5.	Repeat the PN and SM simultaneously presses BELL & TRAIN GOING TO buttons until 'TRAIN GOING TO' arrowhead indication lights up GREEN. (If aforesaid indicator does not appear after 3 seconds (approx.) of pressing the buttons, SM releases the buttons and rechecks conditions at his station and asks station at other end to recheck the conditions for grant of LINE CLEAR.)	6.	'LINE CLOSED' indicator turns off and 'TRAIN COMING FROM' arrowhead indication lights up GREEN.

Sending Station 'X'		Receiving Station 'Y'	
7.	'LINE CLOSED' indicator turns off. 'TRAIN GOING TO' arrowhead indication lights up GREEN. Releases BELL & TRAIN GOING TO buttons.		
8.	Takes OFF `LSS'. SNK indicator turns 'OFF'. Train enters the Block Section. LSS indication on block panel turns to RED. LINE FREE indicator turns to RED. SECTION buzzer starts ringing &'TRAIN GOING TO' arrowhead indication turns RED. ACKN indicator lights up. Acknowledges the buzzer by pressing ACKN button. ACKN indicator turns off & buzzer is silenced. Puts back the LSS controls to Normal. SNK lights up YELLOW. SNOEK indicator turns 'OFF'.	9.	SNOEK indicator turns 'OFF'. LINE FREE indicator turns to RED. SECTION buzzer starts ringing & 'TRAIN COMING FROM' arrowhead indication turns RED. ACKN indicator lights up. Acknowledges the buzzer by pressing ACKN button. ACKN indicator turns off & buzzer is silenced. SNOEK lights up YELLOW Takes reception signal `OFF' to receive the train. SNK indicator turns 'OFF'. Train passes Home Signal. Home Signal replaces to `ON'. Train clears the Block Section.
11.	SECTION buzzer starts ringing. ACKN indicator lights up. LINE FREE indicator turns to GREEN. `TRAIN GOING TO' arrowhead indication turns to FLASHING GREEN. Acknowledges the buzzer by pressing ACKN button. ACKN indicator turns off & buzzer is silenced.	10.	SECTION buzzer starts ringing. ACKN indicator light up & LINE FREE indicator turns to GREEN. 'TRAIN COMING FROM' arrowhead indication turns to FLASHING GREEN. Acknowledges the buzzer by pressing ACKN button. ACKN indicator turns off & buzzer is silenced.

Sending Station 'X'		Receiving Station 'Y'	
13.	SNOEK lights up yellow. 'TRAIN GOING TO' arrowhead indication turns off. 'LINE CLOSED' indicator lights up.	12.	Replaces all controls pertaining to reception of train to Normal. SNK lights up YELLOW. `TRAIN COMING FROM' arrow head FLASHING GREEN indication turns off. 'LINE CLOSED' Indicator YELLOW lights up.

Note: 1. The procedure for sending a train from station 'Y' to 'X' will be similar to the above.

2. To prevent the other end station from taking Line Clear, the Station Master shall remove the Shunt key from Block panel.

3.5. (A).(ii) Procedure for despatch of trains involving IBS in single line UFSBI (Assuming X-Y as UP direction)

	Station X		Station Y
1	SM ensures LINE CLOSED indication YELLOW, SNK indication YELLOW, SNOEK indication YELLOW, LINE FREE indication GREEN, SMs key shall be turned to IN. SM sends 'Call Attention' signal to receiving station by pressing BELL button and hold on block telephone.		
		2	SMs key shall be turned to IN SM acknowledges by pressing BELL button and attends telephone
3	Establishing Direction of traffic: SM shall ensure both Station controlled IB section and Block controlled IB section for Down direction are free and request the SM/Y for direction setting towards UP supported by PN with intended movement of the train.		
		4	SM shall set the Direction of traffic towards UP as per the request of SM/X supported by a PN for direction setting

	Station X		Station Y
5	SM sets the direction of traffic to UP and asks Line Clear for the train with full description, supported by PN.		
		6	SM shall ensure : LINE CLOSED indication YELLOW, SNK indication YELLOW, SNOEK indication YELLOW, LINE FREE indication GREEN, SHUNT KEY indication GREEN. Exchange information regarding train movement and grants verbal LINE CLEAR supported by two PNs (One for station controlled IB Section and another for Block controlled IB Section)
7	SM presses BELL & TRAIN GOING TO buttons until TRAIN GOING TO arrow head indication lights up GREEN. (If aforesaid indication does not appear after 3 seconds (approx.) of pressing the buttons, SM shall release buttons and recheck conditions of his station and ask station at other end to recheck the conditions for granting Line clear)		
		8	LINE CLOSED indicator turns off and TRAIN COMING FROM arrowhead indication lights up GREEN
9	LINE CLOSED indicator turns off and TRAIN GOING TO arrowhead indication lights up GREEN. Release BELL and TRAIN GOING TO buttons		
10	SM takes the LSS to OFF SNK indicator turns OFF. Train enters the block section; thereby Station controlled IB section line occupation indicator changes to RED. LSS replaces to ON. Put back the LSS controls to Normal. Ensure SNK lights up YELLOW. Give call attention and give train entering Station controlled IB section timings		
		11	Acknowledge call attention and Note down the train entering station controlled IB section timings as given by SM/X. SNOEK lights up YELLOW

	Station X		Station Y
12	SM takes the IB Signal to OFF Train enters the Block controlled IB section. TRAIN GOING TO arrowhead indication turns RED. Block Controlled IB Section line occupation indicator turns RED. ACKN (TGT) indication lights up and buzzer sounds by acknowledging the same, indication turns off and buzzer is silenced. Put back the IB signal control to Normal		
		13	LINE occupied indicator turns to RED. SECTION buzzer starts ringing TRAIN COMING FROM arrowhead indication turns RED. ACKN (TCF) indication lights up Acknowledge the buzzer by resetting ACKN button. ACKN indicator turns OFF and is silenced
14	Give train entering Block controlled IB section timings to Station Y. Station Controlled IB section Indicator turns GREEN.		
		15	Note down the train entering Block Controlled IB section timings as given by SM/X
16	SM can send a second train in to the Station Controlled IB section, with the consent of SM/Y		
		17	SM takes OFF reception signal to receive the train. SNK indicator turns OFF. Train passes Home signal. Home signal replaces to ON. Train clears the Block section. LINE occupied indicator turns to GREEN. SECTION buzzer starts ringing TRAIN COMING FROM arrowhead indication turns to FLASHING GREEN. ACKN (TCF) indication lights up Acknowledge the buzzer by pressing ACKN button. ACKN indicator turns OFF and buzzer is silenced

	Station X		Station Y
18	SECTION buzzer starts ringing. TRAIN GOING TO arrowhead indication turns to FLASHING GREEN. ACKN (TGT) indication lights up. Acknowledge the buzzer by pressing ACKN button. ACKN indicator turns OFF and buzzer is silenced		
		19	SM shall replace the Home signal control to Normal. SNK lights up YELLOW TRAIN COMING FROM Arrowhead Flashing Green Indication turns off. LINE CLOSED indication lights up YELLOW
20	SNOEK lights up YELLOW TRAIN GOING TO Arrowhead Flashing Green indication turns OFF. LINE Closed indicator lights up		

3.5 (B). Refusal to 'LINE CLEAR INQUIRY'

When the SM does not want to grant line clear for any reason block section is blocked by the presence of a train in the section or train parting or shunting or opening of level crossing in mid section or for any other reason, the SHUNT key of EKT shall be taken out and kept in safe custody.

If the block station SM at other end refuses the "IS LINE CLEAR" enquiry signal, no train shall be allowed to leave until a fresh IS LINE CLEAR enquiry signal has been given to block station at other end and accepted.

On removal of obstruction, the Shunt Key of EKT shall be inserted and turned to IN position and the Shunt Release Key should be kept OUT. SM shall immediately inform SM of other end about the fact, so as to enable him to send a fresh IS LINE CLEAR signal.

3.5 (C) Cancellation of 'LINE CLEAR'

In a single line LINE CLEAR has been cancelled, no train shall be allowed to leave in the opposite direction until a message has been received acknowledging such cancellation and stating that the train for which the LC has been obtained is detained. In case another train is to be dispatched from the same direction fresh LINE CLEAR shall be obtained.

3.5 (D) Method of Line Clear Cancellation before the train enters the block section.

	Sending Station 'X'		Receiving Station 'Y'
1.	Puts back LSS to `ON', if already taken `OFF, ensures; SNK indicator YELLOW, SHUNT KEY indicator at GREEN SM KEY indicator GREEN Advises receiving end station SM about cancellation on telephone duly communicating a PN after prescribed BELL code.	2.	Agrees to request, communicates a PN and ensures; SNK indicator YELLOW, SNOEK indicator YELLOW, SHUNT KEY indicator GREEN SM KEY indicator GREEN
3.	Ensures SNOEK indicator YELLOW Presses CANCEL CO-OP button and releases on receipt of BELL code	4.	CO-OP to light up YELLOW Presses BELL & CANCEL button with SM key IN & SHUNT key in 'OUT' CANCEL COUNTER increments by 1 'TRAIN COMING FROM' indicator turns to FLASHING GREEN CANCEL indicator lights up FLASHING YELLOW & Continues flashing for 120 seconds.
5.	'TRAIN GOING TO' indicator turns FLASHING GREEN	6.	On expiry of 120 seconds, TRAIN COMING FROM flashing indicator and CANCEL flashing indicator turns off 'LINE CLOSED' indicator lights up
7.	TRAIN GOING TO indicator turns off. LINE CLOSED indicator lights up		

3.5. (E). To close the block section after pushing back of a train.

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 and CANCEL button after taking cancel co-operation from other end.

Method of Cancellation after Push Back operation.

	Sending Station 'X'		Receiving Station 'Y'
1.	Train clears the Block Section. LINE FREE indicator turns GREEN. SECTION buzzer starts ringing. ACKN indicator lights up. 'TRAIN GOING TO' arrowhead indication turns to FLASHING GREEN. Acknowledges the buzzer by pressing ACKN button. ACKN indicator turns off.	2.	Train clears the Block Section. LINE FREE indicator turns GREEN. SECTION buzzer starts ringing. ACKN indicator lights up. 'TRAIN COMING FROM' arrowhead indication turns to FLASHING GREEN. Acknowledges the buzzer by pressing ACKN button. ACKN indicator turns off.
3.	Advises receiving end station SM about cancellation duly communicating a PN on telephone after prescribed BELL code.	4.	Agrees to request and communicate a PN and ensures SNK indicator YELLOW, SNOEK indicator YELLOW, SHUNT KEY indicator GREEN and Gives consent on telephone after prescribed BELL code.
5.	After verbal consent from other end SM. Ensure SNK indication YELLOW, SNOEK indication YELLOW, SHUNT KEY indication GREEN Presses CANCEL CO-OP button and releases on receipt of BELL code.	6.	CO-OP to light up YELLOW. Presses BELL & CANCEL button with SM key IN. CANCEL COUNTER increments. CANCEL indication lights up FLASHING YELLOW & continues flashing for 120 seconds.

	Sending Station 'X'		Receiving Station 'Y'
8.	TRAIN GOING TO arrowhead indication turns off. LINE CLOSED indication lights up.	7.	On expiry of 120 seconds, TRAIN COMING FROM arrowhead indication and CANCEL indication turns off. 'LINE CLOSED' indication lights up.

3.6. Operation of Slip siding and catch siding while sending/receiving a train:

Slip siding and catch siding control keys are locked in EKT controlled by Block Panel. To operate the slip/catch siding points the key locked in the EKT controlled by Block Panel is removed and inserted in another EKT controlling the slip/catch siding points.

(Station 'X' is assumed to be provided with slip siding protected by Last Stop Signal and station 'Y' with a catch siding protected by First Stop Signal.)

	Sending station 'X'		Receiving station 'Y'
Block Panel displays 'TGT' indication.		Block Panel displays 'TCF' indication.	
1.	Insert SM's key and turn.		
2.	**a)** Take out the Slip Siding key from the block panel EKT by pressing the 'SCK' push button. Red indication appears on the block panel. Key 'in' indication disappears. b) Insert the slip siding key in the panel EKT controlling Slip siding and turn. c) Observe 'free' indication on slip siding point knob on the panel. d) Set the Slip Siding point.		

	Sending station 'X'		Receiving station 'Y'
	a) Take off the Last Stop Signal. b) Train enters block section. c) Last Stop Signal returns to 'ON' automatically. **d)** 'Section occupied' indicator is lit to RED'; 'Section clear' indicator (GREEN) is extinguished. e) Section buzzer starts ringing and TOL indication (RED) is lit. f) Slip siding warning buzzer starts ringing.	4.	Section buzzer starts ringing and TOL indication (RED) is lit. 'Section Occupied' indicator turns to Red'
5.	Acknowledge the section buzzer by pressing ACK button. Turn the LSS switch to normal (if any).		
		6.	Acknowledge the buzzer by pressing ACK button.
7.	**a)** Set slip siding point to normal. Slip siding warning buzzer stops.**{**tc " 13. (a) Set Slip siding point normal."**}** b) Extract slip Siding Key from panel EKT and restore back to Block Panel Slip siding control EKT. Key IN indication yellow appears.		
		8.	a) After train coming to a halt at First Stop Signal, take out the Catch siding key from block panel by pressing the 'SCK' push button. Key 'out' indication (RED) appears on the block panel; Key 'IN' indication (YELLOW) disappears. b) Insert the Catch siding key in the panel EKT and turn. Observe 'free' indication near point knob in case of panel interlocking. c) Set the Catch siding point.

		9.	a) Take off the Home Signal. b) When train passes the home signal, the Home signal returns to 'ON' position. c) The train clears the block section. d) Section buzzer starts ringing. Catch siding warning buzzer e) Ensure that train has arrived complete by the lighting of 'Section clear' indication (GREEN) and extinguishing of 'Section occupied' (RED) indication on the block panel. f) 'Section clear' indication (GREEN) is lit: 'Section occupied' indication (RED) disappears. g) acknowledge the section buzzer by pressing ACK button h) Replace all controls pertaining to reception of train to normal. Ensure SNK indicator is lit.
10.	a) Section buzzer starts ringing. b) 'Section clear' indication (GREEN) is lit; 'Section occupied' indication (RED) disappears. c) Acknowledge the buzzer by pressing ACK button.		

		11.	a) Set Catch siding points to normal. Catch siding warning buzzer stops. b) Extract Catch Siding key from panel EKT and restore back to block panel EKT. c) Check, siding key in (YELLOW) appears on block panel. *Note: Though home signal may go automatically to 'ON' by passage of the train, home signal switch (if any) shall not be put back to normal, unless the whole of the train has arrived inside the LVT. Failure to adhere to this will result in block failure and the train arrival buzzer will not sound alarm under such circumstances.*
12.	'TGT' indication disappears. 'Line closed' indication appears.		
		13.	'TCF' indication disappears. 'Line closed' indication appears.

3.7. Shunting.

3.7.1. Shunting between the Last Stop Signal and opposing First Stop Signal at a Class 'B' single line station equipped with two aspect signals- (G.R. 8.11)

i) At a class 'B' station on single line, the line between the Last Stop Signal and the opposing 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 and all relevant signals are at 'ON' position, 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 stop at the signal.

"Provided that the line shall not be obstructed under clause (b) in thick, foggy or tempestuous weather impairing visibility or during night at stations where the Outer signal concerned is not visible from the Station Master's office".

ii) T/806 shall be given along with shunt key where available.

iii) A tail lamp/tail board shall be placed on the rear most vehicle or on the engine if no vehicles are attached on the side facing the station in rear so as to serve as an indication of the complete return of all the vehicles before the 'Cancel last signal' is given.

3.7.2. Shunting between the Last Stop Signal and opposing First Stop Signal at a class B' single line station equipped with multiple aspect signals- (G.R.8.12)

The line outside Last Stop Signal/Shunting Limit Board and up to First Stop Signal shall not be obstructed unless a railway servant specially appointed in this behalf by the Station Master in charge of operations and also the block section into which shunting is to take place is clear of an approaching train.

3.7.3. Shunting beyond First Stop Signal on single line in Two Aspect Signalling & Multiple Aspect Signalling territories.

When 'X' requires shunting a train partly or fully outside the First Stop Signal, he shall obtain 'Line clear' from 'Y' explaining the reasons which shall also be recorded in the Train Signal Registers at 'X' and 'Y'. The Station Master shall then issue to the Driver an 'Authority to proceed' applicable to the section and manuscript memo to return to 'X'. The departure and the reception signals shall be taken 'OFF' for this purpose.

3.7.4. Shunting between Last Stop Signal and opposing First Stop Signal:(Daido Handle type tokenless block instruments)

Sending station 'X'		**Receiving station 'Y'**	
1.	Block handle in 'Line Closed' position. All relevant signals and signal levers in normal position.		
		2.	Block handle in 'Line closed' position. All relevant signals and signal levers in normal position.
3.	Give 'Call attention' signal to station 'Y' and obtain his consent on telephone.		

		4.	Give consent on telephone.
5.	(a) Insert SM's key and turn. Take out the shunt key of the concerned section from the block instrument. Take out SM's key. (b) Hand over Shunt key to Driver. (c) Driver completes shunting and returns shunt key to Station Master. (d) Insert SM's key and turn, replace 'shunt key' in the instrument and turn. **(e)** Inform the Station Master at'Y' on telephone.		
		6.	Acknowledge.

3.7.5 Shunting between Last Stop Signal and opposing First Stop Signal:(Kyosan / Podanur push button type tokenless block instruments)

	Sending station 'X'		**Receiving station 'Y'**
1.	Ensure that section is clear, 'Line closed' & SNR indicators are lit and SM's Key is in..		
		2.	Ensure that section is clear, 'Line closed' & SNR indicators are lit and SM's Key is in..
3.	Give 'Call attention' signal to station 'Y' and obtain his consent on telephone.		
		4.	Give consent on telephone.
5.	a) Insert SM's key and turn. Take out the shunt key of the concerned section from the block instrument. Take out SM's key. b) Hand over Shunt key to Driver. c) Driver completes shunting and returns shunt key to Station Master.		

5.	d) Insert SM's key and turn, replace 'shunt key' in the instrument and turn. e)Inform the Station Master at 'Y' on telephone		
		6.	Acknowledge.

3.7.6. To shunt between Last Stop Signal and opposing First Stop Signal:

Axle Counter Proven Block Panel. **(**UFSBI & SSBPAC (D) single line)**:**

(The shunt key is normally locked in EKT, controlled by Block Panel. The shunt key can be extracted only when block panel is displaying 'Line closed' condition. Shunt key is the authority for the Driver to shunt between Last Stop Signal and opposing First Stop Signal)

Sending station 'X'		**Receiving station 'Y'**	
Block panel in the 'Line closed condition. All relevant signals in normal position.		Block panel in the 'Line closed' condition. All relevant signals in normal position.	
1.	Insert SM's key and turn.		
2.	Give information to Station Master / 'Y' on telephone.		
		3.	Give consent by giving a PN.
4.	**a)** Press shunt key on block panel and take out shunt key from EKT. **b)** Shunt key 'in' indication (YELLOW) disappears and 'out' indication (RED) appears. **c)** Handover the shunt key to the Loco Pilot. **d)** Take 'OFF' shunt signal, if any.		
5.	On train entering the block section, buzzer starts ringing and 'Line closed' indication (GREEN) disappears. 'Section occupied' indicator (RED) appears. Acknowledge the section buzzer by pressing ACK button.		

		6.	On train entering the block section, section buzzer starts ringing and 'Section clear' indication (GREEN) disappears. 'Section occupied' indicator (RED) appears. Acknowledge the buzzer by pressing ACK button.
7.	i) After completion of shunting, Driver returns the shunt key to the Station Master who shall replace the key. Turn the EKT clock-wise position as far as possible and leave. 'S' key 'IN' indication appears. ii) On clearing the block section, buzzer starts ringing and 'Section clear' indication (GREEN) appears; 'Section occupied' indication (RED) disappears. Acknowledge the buzzer by pressing ACK button. Inform SM/ 'Y' by giving the PN.		
		8.	On clearing the block section, section buzzer starts ringing and 'Section clear' indication (GREEN) appears; 'Section occupied' indication (RED) disappears. Acknowledge the buzzer by pressing ACK button. Acknowledge repeating the PN.

Note:- If station 'Y' fails to establish TGT condition, station/ 'Y' should verify the position of shunt key from station/ 'X' who should advise station/ 'Y' as soon as shunting is completed

3.7.7. Procedure for shunting during failure of Shunt key in all tokenless block instruments.

In the event of Shunt key getting stuck in the block instrument / block panel, inform Station Master at the other end about the shunting to be performed and obtain Private Number from him. Advise Station Master at the other end to extract Shunt key and keep it in his personal custody. An entry shall be made in red ink in the Train Signal Register indicating the shunt movement made without shunt key. Issue T/806 to the Driver for performing shunting. On completion of shunting advise Station Master at the other end supported by a Private Number. On receipt of shunting completed advice, Station Master at 'Y' shall replace the shunt key.

3.8. The 'Call attention' signal:

a) 'Call attention' signal shall be given when it is necessary to attract the attention of Station Master at the other end of the block section on the block instrument.

b) In order to ascertain that only the correct block station is in contact and then convey the description and number of the train for which 'Line clear' is required, as well as to ascertain whether the block station in advance is in a position to accept the 'Is line clear' signal, the 'Call attention' signal shall be sent to the block station in advance.

c) 'X' shall call 'Y's attention by giving single beat until Y's attention is obtained. 'Y' shall signify his attention by acknowledging with one beat.

3.9. Precautions before asking 'Is Line Clear'— Diodo Handle type token less block instrument:

Before 'X' asks 'Y' for 'Line clear', he shall examine his Train Signal Register in order to ascertain —

a) That the 'Train out of block section' or 'Obstruction removed' signal has been received and entered in his Train Signal Register for the previous train that has passed over the 'X' – 'Y' block section and also that the block section is clear.

b) That 'Line clear' has not been obtained from 'Y' for any other train.

c) That 'Line clear' has not been given to 'Y' for a train in the opposite direction.

d) That the Operating handle is in the 'Line closed' position.

e) That a Private Number has been obtained for the train.

f) That the shunt key and switches S 1 and S 2 are in their normal position in the instrument.

3.10. Precautions before giving 'Line Clear' – Diodo Handle type token less block instruments:

Before 'Y' gives 'Line clear' to 'X', he shall examine his Train Signal Register in order to ascertain –

a) That the 'Train out of block section' or 'Obstruction removed' signal has been received and entered in his Train Signal Register for the previous train that has passed over 'X' – 'Y' block section and also that the block section is clear.

b) That 'Line clear' has not been given to 'X' for any other train.

c) That 'Line clear' has not been obtained from 'X' for a train in the opposite direction.

d) That Private Number has been given for the train.

e) That the 'Operating handle' is in the 'Line closed' position.

f) That the 'Shunt key' and switches S 1 and S 2 are in their normal position in the instrument.

3.11. Precautions before obtaining 'Train Going To indication' in Kyosan / Podanur Push button tokenless block instrument:

Before 'X' sets the 'Train Going To' indication on the block instrument, he shall examine his Train Signal Register in order to ascertain:

a) That the 'Train out of block section' or 'Obstruction removed' signal has been received and entered in his Train Signal Register for the previous train that has passed over the 'X' – 'Y' block section and also that the block section is clear.

b) The 'TGT' indication has not been obtained from 'Y' for any other train.

c) The 'SHK' and 'SCK' are in their normal position in the instrument.

d) 'X' should also press the 'Panel lamp' button to verify that the instrument is set to 'Line closed' position. In case of Podanur type block instruments, he should also check up whether the 'SNR indication' is lit when the button is pressed.

3.12. 'Is Line clear' in case of Diodo Handle type block instruments and 'Train Going To' indication in respect of Kyosan / Podanur Push button block instruments – when to be obtained:

At train starting stations, 'Line clear' in case of Handle type block instruments and TGT indication in case of Push button block instruments, shall be obtained on the respective block instrument five minutes before the departure time of the train, if the train is ready to start. At intermediate stations, for all stopping trains, which halt for less than five minutes, the 'Line clear' in case of Handle type block instruments and the TGT indication in case of Push button block instruments shall be obtained when the train is sighted; and for all the trains booked to run through the station, it shall be obtained seven minutes before the train is due to pass through, calculating from the time the 'Line clear'/TOL indication is obtained or immediately after getting the 'Line clear'/TOL indication , in case the running time is less than seven minutes.

3.13. Giving 'Line clear' – Daido Handle type token less block instruments:

After observing the precautions laid down in para 3.7 above, 'Y' shall give 'Line clear' as detailed in para 3.2(A). If the beats for giving 'Line clear' are not received distinctly from 'Y' or if 'X' cannot turn the operating handle to the TGT position, 'X' shall give the 'signal given in error' and get the prescribed beats from 'Y' correctly and distinctly once again.

3.14. Driver's Authority to proceed' (G.R. 14.08):

a) When the instruments show that 'Line clear' or TGT indication as the case may be, has been obtained in accordance with the procedure described above, 'X' can then take 'OFF' the Last Stop Signal which constitutes the Driver's 'Authority to proceed' into the 'X' – 'Y' block section.

b) If the Last Stop Signal for any reason returns to 'ON', the Station Master is responsible for seeing that the Warner signal in the case of Two Aspect signalling is at 'ON' or the Home signal in the case of Multiple Aspect signalling is at 'Caution' in case that signal has been previously taken 'OFF'.

3.15. a) 'Train entering block section' signal:

'X' must send the 'Train entering block section' signal to 'Y' as the train enters the block section. This is in addition to the automatic TOL indication appearing on the block instrument and the audible warning bell.

b) TOL indication and buzzer – Handle type block instruments:

Immediately the train passes the Last Stop Signal at 'X' and enters the 'X' – 'Y' block section, the FVT is operated. This brings about the 'TOL' indication at both the stations and also buzzer sounds automatically at both the stations 'X' and 'Y' until 'Y' acknowledges the 'train entering block section' signal by pressing PB 1.

c) 'TOL' indication and audible warning in Push button tokenless block instruments:

Immediately, the train passes the Last Stop Signal at 'X' and enters the 'X' – 'Y' block section, the FVT is operated. This brings about the 'TOL' indication automatically at both the stations and also audible warning sounds intermittently at the receiving station 'Y', until 'Y' acknowledges the TOL signal by operating 'Bell code push' button

3.16. a) Clearing the section and train arrival buzzer–Diodo Handle type

After the complete train has passed inside LVT at 'Y', the train arrival buzzer will operate. The replacement of SM's control slide for Home signal (or putting back the Home signal lever itself where block cabins are provided) will stop the operation of buzzer. 'Y' will give prolonged beat by pressing both PB 1 and PB 2 buttons which will enable 'X' to turn his block handle to 'Line closed' position. With the prolonged beat of 'X' by pressing of both the PB-1 and PB-2 buttons, 'Y' can turn his block handle to 'Line closed' position.

b) Clearing the section and train arrival buzzer – Kyosan / Podonur Push button block instruments:

After the complete train has passed inside LVT at 'Y', the train arrival buzzer will operate. The replacement of SM's control slide for Home signal (or putting back the Home signal lever itself where

block cabins are provided) will stop the operation of buzzer. After visually checking that the complete train has arrived and that all signals and signal levers are put back to normal the 'Line closed' button along with the 'Bell code push' button is operated and block instrument set to 'Line closed' condition.

3.17. Precautions before giving the 'train out of block section' or 'Obstruction removed' signal (G.R.14.05):

'Y' shall send to 'X' the 'Train out of block section' or 'Obstruction removed' signal, after taking the precautions given under G.R. 14.10.

3.18. Private Numbers:

a) Two Private Number sheets shall be supplied to each Station Master. The PN sheets issued shall be numbered by the Transportation Inspector in the order in which they are to be used and shall bear the signature of Traffic Inspector. The PN sheets shall be kept under lock and key in the personal custody of the Station Master to whom they are issued. A page of the PN sheet is given below as a specimen:–

Note : Train Number is represented as TN.

Date		Date		Date		Date	
PN	**TN**	**PN**	**TN**	**PN**	**TN**	**PN**	**TN**
25		24		21		18	
32		15		64		29	
29		16		34		57	
37		27		18		21	
23		39		15		42	
12		43		22		18	
31		58		26		35	
10		14		38		42	
14		10		47		66	
56		11		55		48	
18		17		69		74	
44		32		12		83	

b) A Private Number shall be given for each train for which the Station Master grants 'Line clear' to the Station Master applying for 'Line clear'. Both Station Masters shall record the Private Number given and received for the train in the Train Signal Register. Numbers shall be allotted to the successive trains in the order in which the numbers are printed in the sheet in use. When a number is allotted to a train, it shall be scored out with a line drawn horizontally through it, the number of the train for which it is issued and the date on which it is issued being entered in the columns provided for the purpose. If

a Private Number has been allotted to a train the running of which is subsequently cancelled, the same Private Number shall not be re-allotted to any succeeding train.

c) If the next number to be used is the same as the one last issued, the sender shall cancel the number in his sheet, add the remark 'same as last PN', sign it and issue the next number. If the similar number had already been given before it is detected, the station to which the number has been given shall be advised so that the number can be cancelled and the next number issued. The Station Master receiving the Private number shall be held responsible for seeing that no two consecutive Private Numbers are received from the same station giving 'Line Clear'.

d) No person (except Traffic Inspector) shall be allowed to have access to it. Each sheet, when exhausted, shall be sent in a sealed cover to the Traffic Inspector of the section who shall replace it by another.

e) Only one sheet shall be in use at a time. Care shall be taken to see that adjacent stations are supplied with books bearing different numbers. The PN sheets shall not be issued to individuals and shall be issued to a post. Not more than two PN sheets shall be available with staff on duty. PN sheets shall be serially numbered before issue.

f) Traffic Inspector when visiting station shall see that Private Numbers are scored out correctly and that the train number and date are entered against each.

g) When a PN sheet in use is lost or mislaid, the Station Master shall utilise, if available, the PN sheet supplied for future use. The Station Master shall also immediately write to the Traffic Inspector for a fresh PN sheet stating the reasons.

h) Used up PN sheets shall be preserved for six months after the half year in which they are completed and after that they shall be treated as old records and disposed off .

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CHAPTER IV
CAUTION ORDERS

4.1. Caution order (G.R. 4.09):

a) Whenever, in consequence of the line being under repair or for any other reason, special precautions are necessary, a Caution Order detailing the kilometers between which such precautions are necessary, the reasons for taking such precautions, and the speed at which a train shall travel, shall be handed over to the Driver at the stopping station immediately short of the place where such precautions are necessary, or at such other stations and in such manner, as prescribed under Special Instructions.

b) Sub-rule (a) does not apply in the case of long continued repairs when fixed signals are provided at an adequate distance short of such place and have been notified to the running staff concerned.

c) The Caution Order referred to in sub-rule (1) shall be on white paper with green font and be made out and signed in full:

Provided that as a temporary measure the Caution Order may be on white paper with a green band running diagonally across the form.

Note: See Appendix I to G&SR for Special Instructions regarding issue *of Caution Orders.*

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CHAPTER V
USE OF SPECIAL SIGNALS AND PROCEDURE IN EMERGENCIES

5.1. Refusal of the 'Is Line clear' signal; sending of the 'Obstruction danger signal'.

a) If for any reason, the station in advance is unable to accept the 'Is Line clear' signal, such station shall refuse it by sending the 'Obstruction danger signal'.

b) If the block station in advance is not in a position to accept 'Is line clear' signal, the train shall be stopped at the station and shall not be allowed to leave it, until 'Is Line clear' signal has been given to and accepted by the block station in advance,

c) When 'Y' intimates refusal to accept the train, both 'X' and 'Y' shall enter the words 'Line clear refused' in the Train Signal Register duly signed, showing the time of receipt of intimation with the reasons therefore.

d) When 'Y' sends 'Obstruction removed' signal, both 'X' and 'Y' shall enter the same with time in the Train Signal Register.

***Note**: In case of Push button token-less block instruments, the Station Master, who is unable to accept 'Is line clear signal', shall remove shunt key/reverse Last Stop Signal/First Stop Signal lever/knob.*

They shall make entirely new entries in their Train Signal Registers when' 'X' again asks ' Y', 'Is line clear'.

5.2. Special use of 'Obstruction danger signal':

a) 'Y' may discover after the 'Train coming from' indication displayed on the block instrument that a bridge or some part of the permanent way is damaged or that there is some other train or obstruction on the 'X' – 'Y' block section. Under the circumstances 'Y' should immediately send to 'X' the 'Obstruction danger signal,' to avoid an accident.

b) On receipt of the 'Obstruction danger signal,' 'X' should, if possible, prevent the train from entering 'X' – 'Y' block section. If he succeeds in stopping the train, the 'Line clear' should be cancelled.

c) Only after the obstruction has been removed, 'X' or 'Y' may allow this train or any other train to enter the 'X'-'Y' block section .

5.3. a) Working of trains required to go beyond the First Stop Signal at a class B station – Diodo Handle type tokenless block instrument (G.R. 8.13):

When 'X' requires to send a train partly or fully outside the Outer signal or Home signal (in case of stations equipped with Multiple Aspect signalling) in the direction of 'Y', he shall obtain 'Line clear' from 'Y' explaining the reason which shall also be recorded in the Train Signal Register at 'X' and 'Y'. The Station Master shall then issue to the Driver a written authority authorising him to proceed outside the Outer signal or the Home signal (in case of stations equipped with Multiple Aspect signalling) and return to 'X' and obtain his acknowledgement. The departure signals can be taken 'off'. When the train returns, the reception signals can be taken 'off' using switch S 2 and following the procedure for closing the line as detailed vide para 3.2(C).

b) Working of trains required to go beyond the First Stop Signal at a class B station – Kyosan / Podanur Push button token less block instrument (G.R. 8.13):

When 'X' requires to send a train partly or fully outside the Outer signal or Home signal (in case of stations equipped with Multiple Aspect signalling) in the direction of 'Y', he shall obtain 'line clear' from 'Y' explaining the reasons which shall also be recorded in the Train Signal Registers at both 'X' and 'Y'. He shall then issue to the Driver a written authority, authorising him to proceed outside the Outer signal or the Home signal(in case of stations equipped with Multiple Aspect signalling) and return to 'X' and obtain his acknowledgement. The departure signals can be taken 'OFF'. When the train returns, the reception signals can be taken 'OFF'. The procedure for setting the block instrument to 'Line closed' condition as detailed vide para 3.3 (c) should be followed.

5.4. 'Cancel last signal' :

a) Diodo Handle type block instrument:

If 'X' has obtained 'Line clear' from 'Y', and finds it necessary for any reason, to cancel the 'Line clear', 'X' must call 'Y's attention. On getting the acknowledgement from 'Y', 'X' must inform 'Y' on the telephone the reasons for cancelling the 'Line clear'. The procedure as detailed vide para 3.2(B) should be followed.

b) Kyosan / Podanur Push button block instrument:

If, after the block instrument at station 'X' displays TGT indication and 'X' finds it necessary for any reason to cancel it, he shall operate the 'Cancel' push button along with the 'Bell code' push button. After 'Call attention' signal through 'Bell code' push button, he shall advise 'Y' his intention on telephone the reasons for cancellation. The procedure as detailed vide para 3.3(B) should be followed.

Note:After cancelling the 'Line clear' as described above, the Station Master shall enter the reasons for doing so in the Train Signal Register.

5.5. 'Signal given in error' signal:

a) When incorrect beats have been given or whenever beats received are not understood, the Station Master detecting this irregularity shall give the 'Signal given in error' signal. After this has been acknowledged, the signal, which ought to have been sent, shall be distinctly repeated.

b) If the error mentioned above is not rectified even after repeating the signal, block working shall be suspended.

5.6. Trains unusually delayed (G.R. 6. 04):

a) If a train carrying passengers does not arrive at 'Y' within ten minutes or if a goods train does not arrive at 'Y' within twenty minutes after allowing for its normal running time from 'X', the Station Masters at 'X' and 'Y' shall contact each other immediately and ascertain the cause and--

i) Inform the Controller on the controlled sections,

ii) Arrange to send a competent railway servant into the block section to get information regarding the whereabouts and condition of the train and the nature of assistance required, if any; and

iii) Take such other action as may be deemed necessary depending on the merits of the case.

b) The Guards /Drivers of trains carrying passengers and goods trains who are provided with VHF sets (Walkie-talkie sets) and portable field telephone, when delayed in the block section for over ten minutes and twenty minutes respectively, shall first try to inform the adjacent Station Master over VHF set, the cause and the probable duration of delay for the train. In case it is not possible to contact the Station Master on VHF set , they shall use the portable field telephone to inform the Controller on the controlled sections, the cause and the probable duration of delay for the train.

c) The Controller on receipt of such advice shall immediately warn the stations where Accident Relief Train & Medical Relief Train are located to keep them in readiness for moving immediately on receipt of further information, if required. He will also issue preliminary warning to the Chief Crew Controller / Crew Controller and the Station Master concerned to get the Accident Relief Train ready and will also arrange for an engine to be made available immediately for despatching the Medical Relief Train to the site of the accident, if necessary.

d) The action mentioned above shall be taken earlier if the circumstances so warrant.

5.7. ' Stop and examine train' signal:

a) When the Station Master at 'X' observes anything unusual (other than the Tail lamp or Tail board missing) on a train during its passage through his station, such as goods falling off, a vehicle on fire, broken axle or hanging coupling etc., rendering it necessary to stop such trains at the next station, the 'Stop and examine train' signal shall be sent to 'Y', the station in advance intimating the nature of the irregularity observed. The Station Master at 'Y' shall acknowledge this signal by repeating it. He shall examine the train on arrival, stopping run through trains out of course for the purpose and take remedial action. On ensuring that the line is clear, he shall send to the station 'X' the 'Train out of the block section' signal, which will be an intimation that all is right.

b) If the Station Master at 'X' observing the unusual occurrence suspects that it would have caused damage or obstruction to the block section in rear, he shall inform the Station Master 'W' in rear, the nature of irregularity. Both the Station Masters should issue caution orders for trains entering the block section until it is confirmed that all is right.

5.8. 'Train passed without tail lamp/ flashing tail lamp or tail board' signal :

a) When 'X' notices a train passing without tail lamp/ flashing tail lamp or tail board, as the case may be, he should send 'Train passed without tail lamp / flashing tail lamp or tail board' signal to 'Y'. 'X' shall not give the 'Train out of block section' signal in case of handle type block instrument or operate the 'Line closed' push button of the rear station block instrument provided the same is equipped with push button block instrument. In case the rear block section is equipped with any other type of block instruments the rules for working such block instruments shall be

adhered to. On confirmation of arrival of the train intact from the station 'Y', station 'X' shall operate the 'Line closed' push button or give 'Train out of block section' signal, as the case may be. If he suspects train parting, he should follow the instructions given in para 5.9 below. 'Y' should stop the train even if it is non-stopping and examine it. If only tail board is missing or tail lamp / flashing tail lamp is extinguished the same should be rectified. Only then the 'Line closed' push button shall be operated in the case of push button block instrument or the 'Train out of block section' signal given in case of handle type block instruments.

b) If 'Y', on examination finds any portion of the train missing, the occurrence shall be reported as an accident and the Station Masters at 'X' and 'Y' shall take necessary action thereon.

5.9. 'Train divided' signal:

a) During the passage of a train through the station 'Y', if it is observed that some portion of the train is missing, 'Y' should not exhibit a Stop hand signal but should endeavor to attract the attention of the Driver or the Guard by shouting and gesticulating or by other means. The station 'Y' should send the 'train divided' signal to the station 'X' in rear and 'Train passed without tail lamp/ flashing tail lamp or tail board' signal to the station 'Z' in advance. The Station Master 'X' receiving the 'Train divided' signal should immediately take action to safeguard vehicles or train on the line, especially, if the gradient is a falling one. He shall not give 'Line clear' for a following train at stations where handle type block instruments are provided. At stations where push button block instruments are in use, he must remove the shunt key to prevent the block instrument being operated at the other end and keep it in his personal custody. If a train is already in the block section, he should stop it at the First Stop Signal and inform the Driver of the impending danger. If this train can be received and berthed on a line, this can be done, before the run away vehicles are sighted and it is safe to do so.

b) If parting has occurred, a relief engine should be sent after a lapse of 30 minutes more than the running time of the slowest speed goods train, which has to be calculated from the time of the receipt of the 'Train divided' signal.

c) After the block section is cleared the 'Train out of block section' or 'Obstruction removed' signal shall be sent.

5.10. 'Vehicles running away into the block section' signal:

a) If an engine or vehicles have escaped and be running away into 'X'-'Y' block section, the Station Master at 'X' shall send 'Vehicles running away into the block section' signal to the station 'Y' and the Station Master shall acknowledge it by repeating it and take positive measures and no train shall be allowed to enter the block section from either end, until information is received that the engine or vehicles have been brought back to the station 'X'. A relief engine should be sent, if the engine or vehicles running away have not arrived even after a lapse of 30 minutes more than the running time of the slowest speed goods train, which has to be calculated from the time of the receipt of the 'Vehicles running away into the block section' signal.

Note: If the vehicles contain passengers, 'X' shall also specifically convey this information to 'Y' on block telephone.

b) On receipt of the 'Vehicles running away into the block section' signal from station 'X', the Station Master at 'Y' shall acknowledge it by repeating the signal, stop any train about to enter into the 'Y'-'X' block section and take such protective measures as may be considered expedient under the circumstances to prevent an accident.

c) If his station is on a gradient falling in the direction of the next station towards which the engine or vehicles are running, or if a train is approaching his station from the next station in that direction, whether there is falling gradient or not, he shall do all in his power to stop the run-away vehicles. This shall be done by covering the rails heavily with sand, earth or small broken stones, for as great a distance as possible, before the vehicles come in sight and the points shall be set for a through loop or dead-end siding to receive the vehicles. In case it is not stopped by the obstruction on the rails, the trailing points of such loop shall be set and locked to force the vehicle to trail through them. It is preferable to receive the run away vehicles on a loop line than receiving them on a deadend siding.

d) If no train is approaching with which the vehicle can collide and the line is not on a falling grade, the vehicles may be allowed to run through the station but a warning shall be sent promptly to the Station Master at the next station.

e) If the vehicles contain passengers or railway servants, it shall not ordinarily be turned out into a dead-end siding, unless for the purpose of avoiding a more serious accident.

f) When the obstruction has been removed and the block section is clear 'Line closed' push button shall be operated for resuming normal working in case of push button block instruments and 'Train out of block section' signal in case of handle type tokenless block instruments.

g) On controlled sections, the Controller shall also be advised immediately.

5.11. Precautions when Government or Railway Telecommunication staff require to work on the telecommunication wires:

a) Before the Government or Railway Telecommunication Branch commences to work on any line wire between any two stations, likely to affect train signalling, the Government or Railway Telecommunication official in charge of the work shall give notice to the Station Masters at both ends of the block section in the following form:–

To
SMs 'X' and 'Y'
Telecommunication line party will commence work on wires section from ……to ……on……from……hours.
Acknowledge.

……(designation)

……(station)

……(date)

b) Both the Station Masters shall immediately acknowledge the notice as in no circumstances may the work be commenced until these acknowledgements have been received. If the notice is from the Government Telecommunication official in charge, the Station Masters shall promptly communicate it to the Signal Inspector and DRM/T and S&T, through Control. If the notice is from the Railway Telecommunication official in charge, the Station Master shall promptly communicate it to the DRM/T and S&T.

c) On receipt of the above warning, block working need not be suspended, but Station Masters shall be particularly careful to carry out the instructions for suspending block working, if they suspect a contact or notice any defect in the working of block instruments.

d) These precautions shall be observed until notice is received about the completion of the work on the telecommunication wires,. The notice of completion of the work shall be communicated to all concerned.

e) A copy of the rules relating to the undertaking of work on the wires shall be supplied to all Engineering supervisors, General Line Inspectors and Sub-Inspectors of the Government Telecommunication Department. All Sub-Divisional Officers, construction and supervisory officials shall take personal action to ensure that these rules are explained to all members of the line staff and satisfy themselves that these rules have been fully understood, and that they will be duly carried out. Similarly, S&T department will adhere to these rules when the block line wires are under S&T department.

f) The Station Masters shall ordinarily approve of the work being undertaken on line wires unless an important train or special is due to travel over the section, when it is essential that the block instruments shall be in proper working order.

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CHAPTER VI

LORRIES, PUSHTROLLIES, CYCLE TROLLIES, MOTOR TROLLIES, RAIL DOLLIES AND RAIL-CUM-ROAD VEHICLE

6.1. Blocking the line for Lorries, Push trollies, Cycle trollies, Motor trollies, Rail dollies and Rail-cum-Road Vehicle

Refer SR. 15.18, 15.25, 15.26 and 15.27 for detailed procedure of working for Lorries, Push trollies, Cycle trollies, Motor trollies, Rail dollies and Rail-cum-Road Vehicle.

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CHAPTER VII
TESTING OF BLOCK INSTRUMENTS.

7.1. The 'Testing' signal:

The 'Testing' signal shall be used for the purpose of testing the block instruments.

7.2. Persons authorised to test:

a) The Instruments and Apparatus connected with them may only be tested by SI/ESM or other authorised officials of the S&T department. 'Testing' signal shall not be exchanged unless the SI/ESM or other authorised official of the S&T department is at one end of the Block Section and the receipt of the 'Testing' signal shall be regarded as an intimation that the SI/ESM or other authorised official of the S&T department is present.

b) Whenever any authorised person who is not competent to test the block instrument is present at one end, he may request the Station Master to test the block instrument on his behalf. The Station Master shall comply with such request and exchange testing signals with the Station Master at the other end. Both the Station Masters shall make the necessary entries in the Train Signal Register.

7.3. Block Section to be clear during test:

The block instrument and apparatus connected with them shall be tested only when the block instrument is displaying 'Line closed' condition.

7.4. Procedure for Testing:

a) The procedure for testing single line tokenless (including ACBPS) block instruments at 'X' and 'Y' is as follows:

i) Assuming that the SI/ESM is at 'X', he shall first exchange testing signals with 'Y'.

ii) The SI/ESM shall act in accordance with the procedure laid down in para 3.2(A) or 3.3(A) as the case may be. Thereupon the SI/ESM shall take 'OFF' the Last Stop Signal at 'X' . Where block instruments are housed in the station, the SI/ESM may ask the Cabinman / Leverman in the cabin to pull the Last Stop Signal lever and advise.

iii) The SI/ESM shall then cancel 'Line clear' in accordance with the procedure laid down in Para 3.2(B) or 3.3(B) as the case may be and again attempt to take 'OFF' Last Stop Signal at 'X' to see that it cannot be taken 'OFF'. Where block instruments are housed at the station, the SI/ESM may ask the Cabinman / Leverman in the cabin to take 'OFF' Last Stop Signal and advise.

iv) This operation shall be repeated in the reverse direction, the Station Master at 'Y' commencing with the 'Testing' signal.

b) Whenever the SI/ESM or any other authorised person opens the block instrument such as for restoration of block working after a failure or for maintenance work or when fixing a new instrument, he shall test the block instrument as prescribed in Para (a) above.

c) The SI/ESM shall test the working of the Last Stop Signal during his maintenance work or while attending failures.

d) After the 'Testing signals' are exchanged, the Station Master shall ensure that the block instrument and other appliances are restored to normal and locked and sealed, whenever required. Entries in red ink shall be made in the Train Signal Register as follows on the line immediately below the entries for last train and signed by both the SI/ESM or the other authorised official and the Station Master. The time given shall be the time when the 'Testing' signals were completed.

Time..... Block Instrument opened for .....Exchanged 'Testing' signals with Station Master.....station. Last Stop Signal is taken 'off ' and restored to normal'.

Sd/- _____

Authorised official of the S&T department

Tested the Block Instruments and found them in order.

Sd/-_____(SM)

CHAPTER VIII

FAILURE OF BLOCK INSTRUMENTS OR APPARATUS.

8.1. Failure of Tokenless block instruments:

The block instrument shall be considered to be interrupted and their working suspended in the following circumstances:

a) Diodo Handle type and Kyosan / Podanur push button tokenless block instruments.

i) When attention cannot be obtained directly on the block instrument.

ii) When signals on the bell are received indistinctly or fail altogether.

iii) If the Last Stop Signal fails to return to 'ON' position as a train passes it.

iv) If the train arrival buzzer does not sound the alarm even after the complete passage of the train inside the Home signal over the LVT. (this may be due to failure of the LVT)

Note: *Though Home signal may go automatically to 'on' by passage of the train, Home signal lever shall not be put back to normal position unless the whole of the train has arrived inside the Home signal. Failure to adhere to this will result in block failure and the train arrival buzzer will not sound alarm under such circumstances.*

v) When there is reason to believe that there is contact between the block wire and any other circuit.

Note: ***(i)*** *If a contact exists between the block wire and any other circuit, there is a possibility of irregular beats on the bell. A contact between two block wires would cause signals given on one instrument to be repeated on the neighbouring instrument.*

(ii) *The telephone connected with the block instrument for train signalling, also shall be considered as having failed and working by means of the telephone would not be resumed until authorised by the Signal Inspector or any other authorised person.*

vi) If the block instrument or its battery counter is found unlocked or seal missing.

vii) When TOL buzzer fails to give the alarm for any reason at the receiving station, even after display of TOL indication on the block instruments.

Note: (i) If a following train in the same direction working on PLCT actuates the TAR bell, block working may be resumed by Station Master.

(ii) If there is no following train but there is a train to proceed in the opposite direction the same will be dispatched on PLCT. The Station Master at the other end should use S 2 switch in the case of Diodo Handle type block instrument and operate the 'Cancellation' button / switch along with 'Bell code' push button in the case of Kyosan / Podanur push button type tokenless block instruments, as in the case of a train pushing back and receive the train on proper signals after which block working may be resumed without waiting for S&T staff.

viii) When a material train etc., is required to be taken into a block section after traffic block has been imposed in accordance with S.R. 15.06.

Note: Block working (with line clear exchange by any means) shall be suspended and the material train etc., started on T/462 or T/A462.After the traffic block has been removed, the Station Masters themselves shall resume block working in accordance with para 8.10 below.

ix) When a train is required to enter a block section which is obstructed by an accident or any other reason.

Note: Block working (with line clear exchange by any means) shall be suspended and trains started in accordance with S.R.6.02. On the obstruction being removed, the Station Masters themselves shall resume block working in accordance with para 8.10 below.

x) If it is known that the block instrument is defective in any way not specified above.

b) Diado Handle type tokenless block instruments – other failures:

i) If the galvanometer needle fails to move, when bell signals are given or received.

ii) If the TOL indication fails to appear on the block instrument after the train has entered the block section.

iii) If the Last Stop Signal cannot be taken 'OFF' when the block handle is turned to the TGT position;

iv) If the Last Stop Signal can be taken 'OFF' when the block handle is not turned to the TGT position;

v) When the train arrives at a station without 'Line clear' having been given for it;

Note: This occurrence must be reported as an accident.

vi) Whenever the block handle is not free to be turned from one of the positions even after the correct sequence of operations;

vii) If the block handle can be turned from TOL to 'Line closed' position before complete arrival of the train;

viii) If the block handle can be turned to any of the three positions without a prolonged beat from the station at the other end;

ix) If 'Line clear' when obtained cannot be cancelled even though proper procedure has been followed;

c) Kyosan/Podanur Push button Tokenless block instrument – other failures:

i) If the 'TGT' indication is not displayed on the block instrument when operated or 'TOL' indication is not displayed on the block instrument after the train has entered the block section;

ii) If the Last Stop Signal cannot be taken 'OFF' when the block instrument displays 'TGT' indication;

iii) If the Last Stop Signal can be Taken 'OFF' without displaying 'TGT' indication on the block instrument;

Note: This test shall be made when Station Masters take charge of the block instrument and the entry made in the Train Signal Register.

iv) When a train arrives at a station and the block instrument is not displaying TOL indication;

Note: In this case, irregularities shall be reported as an accident.

v) If the 'Line closed' indication can be displayed on the block instrument before complete arrival of the train;

vi) If the 'TGT' indication cannot be cancelled even though proper procedure has been followed;

vii) If the 'TGT' indication can be cancelled without the co-operation of the Station Master as required in the procedure 3.3(B) at the other end of the block section;

d) Failure of Axle Counter Proven Block Panel (UFSBI & SSBPAC (D) single line) and Last stop signal.

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 end 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 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 extant 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, after a Line Clear cancellation, CANCEL indicator does not light up FLASHING YELLOW or lights up steady YELLOW after appropriate actions or;

xi) When SSBPAC (D) Fail indication appears;

xii) When Communication Link Fail indication becomes steady yellow;

xiii) When Last Stop Signal cannot be kept at 'ON' during its suppression/disconnection;

xiv) When Last Stop Signal of the station does not go back to 'ON' position on the entry of a train into the Block Section;

xv) When the Bell Code signals are received indistinctly or are not received and

xvi) If it is known that the block panel is defective in any way not specified above.

Note: Whenever, a difficulty is faced to set the Block Panel to TGT or 'Line Closed', the Station Master shall verify from other end Station Master about the availability of SNK , SHK (IN), SCK (IN) indicators before treating the Block Panel as failed.

e. Failure of Last Stop Signal:

In the following cases of failure of LSS, Block instrument shall not be suspended.

1. Where block instrument is interlocked with LSS and LSS cannot be taken off even though Line Clear has been obtained on block instrument
2. Where block instrument is interlocked with IBS, direction of traffic has been established and line clear has been obtained on block instrument, but LSS cannot be taken OFF despite the track circuiting provided beyond the LSS and the axle counters provided at either end of block section are in working condition.

In both the cases above, the Last stop signal shall be treated as defective and PLCT (T/C or T/D 1425) shall be issued to Loco pilot as authority to proceed duly mentioning that Line clear was obtained through Block instrument.

Where IBS is working, it can be taken OFF.

Note: when Line clear is obtained on block instrument, filling T/A 1425 and T/B 1425 shall be dispensed with.

Failure of IBS:

During all cases of IBS failure, Block instrument shall be suspended.*(Item No.13 of AS-6 Dt:18.06.24)*

NOTE: Failure advice: In case of Block panel or Last stop signal failure the Station Master on duty shall promptly advise the concerned Electrical Signal Maintainer and the Signal Supervisor and issue failure memo for the rectification of the failure.

8.2. Alternative means of communication:

a) In the event of failure or suspension of block instrument, Track circuiting or Axle counters, 'Line clear' shall be obtained by any one of the alternative means of communications in the order of priority indicated below:

(i) Telephone attached to Block Instrument;
(ii) Station to station fixed telephone wherever available;
(iii) Fixed telephone such as Railway auto-phone and BSNL phone;
(iv) Control telephone and
(v) VHF set.

b) If all the above means of communications fail, the block section should be considered totally interrupted and trains shall be worked in accordance with the procedure laid down in S.R.6.02.4.

c) All failures shall be reported promptly to all concerned.

8.3. Block instrument failures record:

A record of block instrument failures shall be maintained in the Signal and Block Inspection and Failures Register at the station

Note: Block instrument failure either at station 'X' or station 'Y' shall be recorded by both Station Masters of 'X' and 'Y' in their S&T failure registers.

8.4. Reports to be sent:

a) When block working is suspended, the Station Masters at both ends of the block section shall at once make entries in red ink, in the Train Signal Register, immediately below the entries for the last train, showing the date and time from which block working has been suspended and the cause of suspension if known. Both the Station Masters shall then advise each other by telephone of the suspension of block working and the causes thereof, if known, and also advise the ESM, SI and DRM/T and S&T.

b) The ESM and the MSM shall also be advised, when there is a failure of the Last Stop Signal after 'Line clear' has been obtained from the station ahead.

8.5. Train signalling during interruption or suspension of block working:

a) If 'X' cannot obtain 'Y's attention after calling him for five minutes on the Block Instrument, 'X' shall ask 'Y' through i) Telephone attached to Block instrument,
ii) Station to Station fixed telephone wherever available, iii) Fixed telephone such as Railway auto-phone and BSNL phone, iv) Control telephone and v) VHF set, to attend to the Block Instrument. (AS-1, dt.01.06.06)

b) In the event of failure or suspension of Block instrument, Line Clear shall be obtained through one of the alternative means of communications in the order of priority indicated in para 8.2 (a).

c) If the Station Master at X cannot obtain 'Line Clear' from the Station Master at 'Y' through any one of the above means in the order of priority, the block section shall be considered to be totally interrupted and trains worked in accordance with the rules and regulations for working of traffic during total interruption of communications on single line in accordance with SR 6.02.4.

d) Before actually signalling a train through any one of the alternative means the Station Masters at 'X' and 'Y' shall at once exchange messages in the following proforma and record in the TSR in red ink. (AS-1, dt.01.06.06)

Proforma of message from station 'X'

No…… Date and time……..
(Station code/Month/Serial number, eg., BZA/11/21)
Block instrument working is suspended between _____and _____Stations.
Train signalling shall be done through ***Telephone attached to Block Instrument/ Station to Station fixed telephone/Fixed telephone such as Railway auto-phone and BSNL phone / Control telephone / VHF set .**

*Strike out whichever is not applicable

Signature of the SM

Proforma of message of acknowledgement from station 'Y'

No…… Date and time……...
(Station code/Month/Serial number, eg., BZA/11/21A)
Refer your message No……..
Understood Block instrument working is suspended between ……..and…….. Stations. Train signalling shall be done through ***Telephone attached to Block Instrument/ Station to Station fixed telephone/Fixed telephone such as Railway auto-phone and BSNL phone / Control telephone / VHF set.**

*Strike out whichever is not applicable

Signature of the SM

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e) The number, description and the arrival and departure time of each train dealt with between 'X' and 'Y', with the Private Number, shall be recorded, in red ink, then and there, in the Train Signal Register.

f) The Station Master shall record the means of communication through which 'Line Clear' was asked for or given in T/A. 1425 - outward/T/B.1425 - inward as the case may be.

g) The progressive number of the PLCT issued for each train shall be recorded in the Remarks Column of the Train Signal Register against the entry for the train.

8.6. Procedure to be adopted when the 'Train entering block section' signal cannot be given owing to the Block Instrument having failed after the departure of the train or before clearing the block section for the train:

If, after the departure of a train the 'Train entering block section' signal or "Train out of block section" signal for the train cannot be given to the station 'Y' owing to the block instrument having failed, 'X' shall enter the time of departure/arrival in the Train Signal Register in red ink and communicate to 'Y' or 'X' by alternative means of communication and exchange messages as per para (d) of Rule 8.5 above

(AS-1/Item No.3/Rule No.8.7 is amended)

8.7. Procedure for obtaining/granting Line clear-using telephone attached to Block Instrument, Station to Station fixed telephone, Fixed telephone such as Railway auto-phone and BSNL phone as a means of communication between stations 'X' and 'Y':

a) The Station Master at 'X' or 'Y' as the case may be shall intimate the Section Controller and other all concerned officials through a message about the failure of Block instrument etc. The SCOR shall record the failure on his control chart. The SCORs shall acknowledge the block instrument failures while handing/taking over charge.

b) Before actually despatching a train using the Telephone attached to Block Instrument, Station to Station fixed telephone, Fixed telephone such as Railway auto-phone and BSNL phone / VHF set , the Station Masters at 'X' and 'Y' shall call out their station name and identify each other with their full name. Then they shall cross check private numbers given for line clear, for the last three preceding trains over the block section along with train numbers and their clearances duly circling the PNs with RED INK in TSR. After which, the Station Masters shall obtain/grant Line clear through established means of communication duly filling all the particulars in the Line clear enquiry and Reply Forms T/A 1425 and T/B 1425 respectively.

c) The Station Master at 'X' who intends to despatch a train, shall first obtain the permission of SCOR. He shall then call SM at 'Y' through the means of communication recorded in the message under Rule No.8.5 (d) and establish the identity of both SMs on duty. The SM at 'X' clearly mention the Train No. in full (two/three/four digit), description (Express/ Passenger/ Goods train), direction (Up/Dn) for which Line clear is required.

d) The Station Master at 'Y', after complying with the conditions for granting Line clear shall grant Line clear supported by a Private Number**.**

e) The train number in full, description, direction (UP/DN) and the departure / arrival timings of each train dealt with between 'X' and 'Y' and the Private Number obtained / issued shall be recorded in red ink then and there in the TSR by Station Masters at 'X' and 'Y'.

f) The SMs at 'X' and 'Y' shall record the above details and the means of communication through which the line clear is obtained / granted in the document T/A .1425 (outward) /T/B 1425 (inward), as the case may be.

g) After obtaining line clear from station 'Y', the Station Master at station 'X' shall prepare Paper Line Clear Ticket (T/C 1425 for UP or T/D 1425 for DN) in duplicate and arrange to deliver it to the Loco Pilot of the train after obtaining the acknowledgement in station copy of P L C T (T/C 1425 or T/D 1425).*(Item no. 15 of AS-6 Dt: 18.06.2024)*

h) The progressive numbers of the PLCTs issued to each train shall be recorded in the remarks column of the TSR against the entry for the train.

i) The SMs at 'X' and 'Y' shall communicate the timings of 'Train entering block section' and 'Train out of block section' **in full (eg.1410 hrs.)** to each other and record the same in TSR in RED INK immediately after the departure/complete arrival of train at the respective stations and inform the SCOR. *(Item no. 16 of AS-6 Dt: 18.06.2024)*

j) Whenever Line clear is cancelled, the Station Masters at 'X' and 'Y' stations shall record the same in the columns specified in T/A 1425 & T/B 1425 immediately. *(Item no. 17 of AS-6 Dt: 18.06.2024)*

k) All trains shall be stopped for issuing PLCT.
(AS No.1/Item No.4/Rule No.8.8 is amended)

8.8. <u>Procedure for obtaining/granting Line clear using ontrol Telephone as a means of communication between stations 'X' and 'Y':</u>

a) The Station Master at 'X' or 'Y' as the case may be shall intimate the Section Controller and other all concerned officials through a message about the failure of Block instrument etc. The SCOR shall record the failure on his control chart. The SCORs shall acknowledge the block instrument failures while handing/taking over charge.

b) The Station Master at 'X' who intends to despatch a train shall first obtain the permission of SCOR. The SCOR shall call SM 'Y' on control telephone and establish communication between stations 'X' and 'Y' through control telephone.

c) **(AS No.2/Item No.2/Rule No.8.8 (c), (d) and (e) are amended)**

The Station Masters at stations 'X' and 'Y' shall, before obtaining/granting Line clear, call out their station name and identify each other with their full name. Then they shall repeat the arrival and departure timings of the last three preceding trains over the block section to the Section Controller, who shall cross check the correctness of the particulars of both the SMs with his Control Chart. Both SMs shall record these particulars in red ink in TSR.

d) Station Masters at 'X' and 'Y' shall exchange messages in the pro-forma given vide Rule No.8.5 (d). (AS-2, dt.30.10.06)

e) The SM at 'X' clearly mention the Train No. **in full,** description (Express/ Passenger/Goods train), direction (Up/Dn) for which Line clear is required**.** (AS-2, dt.30.06.06)

f) The Station Master at 'Y', after complying with the conditions for granting Line clear shall grant Line clear supported by a Private Number**.**

g) The train number in full, description, direction (UP/DN) and the arrival/departure timings of each train dealt with between 'X' and 'Y' and the Private Number obtained / issued shall be recorded in red ink then and there in the TSR by Station Masters at 'X' and 'Y'.

h) The SMs at 'X' and 'Y' shall record the above details and the means of communication through which the line clear is obtained / granted in the document T/A .1425 (outward) /T/B 1425 (inward), as the case may be.

i) After obtaining Line clear from station 'Y', the Station Master at station 'X' shall prepare Paper Line Clear Ticket (T/C 1425 for UP or T/D 1425 for DN) in duplicate and arrange to deliver it to the Loco Pilot of the train after obtaining the acknowledgement in station copy of PLCT (T/C 1425 or T/D 1425). *(Item no. 18 of AS-6 Dt: 18.06.2024)*

j) The serial numbers of the PLCTs issued to each train shall be recorded in the remarks column of the TSR against the entry for the train.

k) The SMs at 'X' and 'Y' shall communicate the timings of 'Train entering block section' and 'Train out of block section' **in full (eg.1410 hrs.)** to each other and record the same in TSR in RED INK immediately after the departure/complete arrival of train at the respective stations and also inform the SCOR. *(Item no. 19 of AS-6 Dt: 18.06.2024)*

l) Whenever the Line clear is cancelled, the Station Masters at 'X' and 'Y' stations shall record the same in the columns specified in T/A 1425 & T/B 1425 immediately. *(Item no. 20 of AS-6 Dt: 18.06.2024)*

m) All trains shall be stopped for issuing PLCT.

n) The Section Controller shall co-ordinate between Station Masters 'X' and 'Y' for fulfilling the transactions mentioned under Rule No. 8.8 (a) to (f) & (k) and record the Private Number issued by Station Master 'Y' to Station Master 'X' in the control chart. Station Masters at 'X' and 'Y' shall record the name of Section Controller on duty in the Remarks column of TSR.

o) The Section Controller shall ensure that the block section is clear of trains as per the chart before line clear is granted by Station Master 'Y'.

8.9. Procedure for obtaining/granting line clear using VHF sets as a means of communication between Stations 'X' and 'Y':

(AS No.3/ -Freezed channels on 25W VHF sets

a) The Station Masters of X-Y block section shall contact each other on the channel/frequency allotted in their VHF sets as given below for the purpose of obtaining/granting Line clear. These channels/frequencies shall be incorporated in the respective SWRs.

Channel	Frequency	To be used for
5	150.10	f1 for PLCT; 1st block section of straight section
6	150.150	F2 for PLCT; 2nd block section of straight section
7	159.60	F3 for PLCT; 3rd block section of straight section
15	146.20	fj1 for PLCT; 1st section (Jn. Stn.-Direction-1)
16	148.050	Fj2 for PLCT; 2nd section (Jn. Stn.-Direction-1)
17	149.80	Fj3 for PLCT; 3rd section (Jn. Stn.-Direction- 2)
18	149.85	Fj4 for PLCT; 1st section (Jn. Stn.-Direction- 2)
19	151.40	Fj5 for PLCT; 2nd section (Jn. Stn.-Direction-2)
20	151.45	Fj6 for PLCT; 3rd section (Jn. Stn.-Direction- 2)

(AS-2,/Item No.3/Rule No.8.9 (b) is amended)

b) Station Masters at 'X' and 'Y' shall call out their station name and identify each other with their full name. Then they shall cross check private numbers given for line clear, for the last three preceding trains along with train numbers on the **freezed channel/frequency and record these particulars in red ink in TSR. Then they shall exchange messages in the proforma given vide Rule No.8.5 (d) above.

c) The SM at 'X' shall clearly mention to SM at 'Y', the Train No. **in full (two / three / four digits),** description (Express, Passenger, Goods train), direction (Up/Dn) for which Line clear is required**.**

d) The Station Master at 'Y', after complying with the conditions for granting Line clear shall grant Line clear supported by a Private Number**.**

e) The train number in full, description, direction (UP/DN) and the arrival/departure timings of each train dealt with between 'X' and 'Y' and the Private Number obtained/issued shall be recorded in red ink then and there in the TSR by Station Masters at 'X' and 'Y'.

f) The SMs at 'X' and 'Y' shall record the above details and the means of communication through which the line clear is obtained / granted in the document T/A.1425 (outward) / T/B.1425 (inward), as the case may be.

g) After obtaining line clear from station 'Y', the Station Master at station 'X' shall prepare Paper Line Clear Ticket (T/C 1425 for UP or T/D 1425 for DN) in duplicate and arrange to deliver it to the Loco Pilot of the train after obtaining the acknowledgement in station copy of PLCT(T/C 1425 or T/D 1425). *(Item no. 21 of AS-6 Dt: 18.06.2024)*

h) The serial number of the PLCT issued to each train shall be recorded in the remarks column of the TSR against the entry for the train.

i) The SMs at 'X' and 'Y' shall communicate the timings of 'Train entering block section' and 'Train out of block section' **in full (eg.14 10 hrs.)** to each other and record the same in TSR in RED INK immediately after the departure/complete arrival at the respective stations and also SCOR. *(Item no. 22 of AS-6 Dt: 18.06.2024)*

j) Whenever the line clear is cancelled, the Station Masters at 'X' and 'Y' stations shall record the same in columns specified in T/A 1425 & T/B 1425 immediately. *(Item no. 23 of AS-6 Dt: 18.06.2024)*

k) All trains shall be stopped for issuing PLCT.

Note:

i) VHF sets for prolonged duration of three hours or more should be permitted only in the presence of supervisory staff.

ii) VHF sets should not be used as the sole means of communication where passenger trains run. However VHF sets can be used as the only means of communication with the permission of Authorized Officer for specific sidings / sections where only freight trains run.

iii) Wherever GSMR (Global Signal Mobile Receiver) (Cell phone) has been provided, the use of VHF sets should not be permitted.

(AS No.1/Item No.6/Renumber Rule No.8.9 as 8.10 and 8.10 as 8.11)

8.10. Instructions for working trains during total interruption of communications:

Refer S.R.6.02.4.

8.11. Resumption of block working after interruption or suspension:

a) When block working has been suspended under items (vii), (viii) and (ix) of Rule 8.1(d) above, block working shall be resumed in these cases by the Station Masters themselves on the conditions laid down in the note under each item being fulfilled and after exchanging messages in accordance with para (d) below.

b) When block working has been suspended under any of the other items (i.e., those not included in clause (a) above) block working shall not be resumed by the Station Masters themselves, even if the block instrument or communication is restored until the block instruments have been tested and certified by the ESM / SI and the messages have been exchanged in accordance with para (c) below.

c) Before resuming block working, 'X' and 'Y' shall satisfy themselves that the block section is clear by exchanging messages by telephone giving the time of arrival and departure of the last train at stations 'X' and 'Y'.

d) When block working is resumed at 'X' and 'Y' shall advise each other, the ESM and SI by telephone of the resumption. A copy of this message shall be sent to DRM/T and S&T by cover and the SCOR on duty advised on the controlled sections by the Station Masters of stations 'X' and 'Y'.

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SOUTH CENTRAL RAILWAY

BLOCK WORKING MANUAL

PART-C – DOUBLE LINE

BWMD

2008

(for official use only)

RECORD OF AMENDMENTSLIPS AND ITS RELATED PAGE REPLACEMENTS / INSERTIONS

A.S.No.& Date	Item No.	Chapter No.	Rule No.	Page No. replaced	Page No. inserted	Initials & Designation of Inspecting Official	Remarks
A S 3 27.12.2010	1	BWMS(D)	8.9(a) & l				amended
A S 4 21.10.2013	7	BWMS(D)	1.1				amended
	8	BWMS(D)	Add fig 9				Add
	9	BWMS(D	Add as Annexure-1				Add
A S 5 17.06.2019	1	BWMD	1.1				amended
	2	BWMD	Add fig 10				Add
	3	BWMD	Add in Annexure-I				Add
	4	BWMD	Replace				Replaced
AS 6 18.06.2024	2	BWMD	8.1				Amended
	3-6	BWMD	8.7(b),(g),(i) & (j)				Amended
	7-9	BWMD	8.8(i),(k) & (l)				Amended
	10-12	BWMD	8.9(g),(i) & (j)				Amended

Note : In case the replaced pages are less than the existing pages , such of those remaining existing pages shall be treated as deleted.

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CHAPTER I

DESCRIPTION BLOCK INSTRUMENTS, INDOOR APPARATUS AND OUTDOOR APPARATUS.

Note:

i) The term' Station Master' wherever used in this Manual, also applies to Assistant Station Master, Cabin Assistant Station Master, Cabin Master / Switchman and any other competent staff who may, for the time being, be in charge of block working.

ii) *The name of stations as represented by W,X,Y and Z in this Manual and the number, direction and description of trains mentioned shall be read only as examples. In actual working the proper names of the stations and the number, direction and description of trains shall be used.*

(AS-5, dt.17.06.19/Item No.1/Rule 1.1 is amended)

1.1. Provision of Block Instrument:

The following types of **Block** instruments are in use on the double line sections of this Railway.

A) S.G.E. type Lock and Block instrument;

B) SSBPAC(D) – Double Line Block instrument and

C) UFSBI - Double Line Block instrument.

For detailed instructions of SSBPAC(D) – Double Line and UFSBI - Double Line, refer Annexure -1 at the end of Chapter 8.

The sections of the line provided with these Block instruments are notified in the Working Time Table.

1.2. Parts of Block Instrument:

(See Figure No. 7 at the end of this Chapter)

SGE type Lock and Block Instrument.

a) A 'Train Going To' dial or TGT dial with indicator having three positions.

b) A 'Train Coming From' dial or TCF dial with indicator having three positions.

c) An operating handle.

d) A bell plunger.

e) A single stroke bell.

f) A telephone.

1.3. Description of the Block instrument:

a) The 'Train Going To dial':

The indications of this dial refer to trains leaving the station and the dial serves as a visual indicator of the conditions of the block section in advance. These indications are electrically controlled by the Station Master at the block station immediately in advance and the indications can be altered only by him .The indications of the ' Train going to' dial correspond with those of the 'Train coming from' dial of the corresponding instrument at the station in advance. There are three indications viz;

(i) 'Line closed' indication appears when there is no train in the block section and permission has not been given for any train to enter it. The needle remains vertical on the white segment of the dial.

(ii) 'Line clear' indication appears when permission has been obtained for a train to enter the block section. The needle remains deflected to the right on the green segment of the dial.

(iii) 'Train On Line' indication appears when the block section is occupied by a train or other obstruction and the needle remains deflected to the left on the red segment of the dial.

(b) The ' Train Coming From dial':

The indications of this dial refer to trains approaching a station and the dial serves as a visual indicator of the conditions 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 TCF dial at a station correspond with those of the TGT dial of the corresponding instrument at the station in the rear. These indications are the same as those described against the TGT dial.

(c) The Operating Handle:

The 'Operating Handle' has three positions viz., 'Train On Line', 'Line closed' and 'Line clear'. The normal or middle position is 'Line closed' with the arrow painted on the operating handle in vertical position. When turned to the right, it assumes the 'Line clear' position and when turned to left, it assumes the 'Train On Line' position.

When the operating handle at 'Y' is turned to the 'Line clear' position, the TCF dial at 'Y' and TGT dial at 'X' will indicate 'Line clear'. Simultaneously the lock on the Last Stop Signal at 'X' will be released.

When the operating handle is turned to the left or 'Train On Line' position, the TCF dial at 'Y' and the TGT dial at 'X' will indicate 'Train On Line'.

The operating handle is free to be turned from 'Line closed' to either 'Line clear' or Train On Line' and also from 'Line clear' to 'Line closed' position. However, when turned to the 'Train On Line' from 'Line Clear' position, the handle gets locked in this position until the train has arrived inside the Last Vehicle Track Circuit and Home signal has been put back to 'ON'.

(d) Bell plunger:

The bell plunger is used to give bell signals to the station at the other end of the block section. Each time the plunger is pressed the bell or gong of the corresponding instrument at the other end of the block section will give a single beat. The bell plunger in its normal position locks the 'Operating Handle' in any of its three positions. The plunger should, therefore, be pressed before the handle is turned.

(e) Bell:

The bell is intended to receive bell signals from 'Y', the station at the other end of the block section. Each time the bell plunger is pressed at the other station, the bell will respond once.

(f) Telephone:

A telephone is provided along with each instrument for communication with the station at the other end of the block section.

1.4. Indoor Apparatus:

a) Electric Lock on the Last Stop Signal:

An electric lock locks the Last Stop Signal in the normal position and is released only when 'Line clear' has been obtained from the block station in advance.

(b) Last Stop Signal lever (Shunt) key:

A mechanical key, if provided for the Last Stop Signal lever, locks the lever in the normal position, and when extracted ,the key is used for shunt movements past the Last Stop Signal. The station code and the line, 'UP' or 'DOWN' to which it applies are inscribed on the respective keys.

Note: *Where there is no provision of mechanical key lock for the Last Stop Signal lever, the Last Stop Signal has to be passed for shunting purposes on a written authority in the prescribed form T.806. The key should be extracted for shunting purposes when the instrument shows TOL indication and the instrument should be normalized only after the shunt key is restored.*

1.5. Home signal contacts:

a) The electrical contacts on the Home signal are provided for the release of the lock on the 'Operating handle' after the arrival of the train.

b) The Home signal which has been operated for the reception of a train, should be put back to normal only after the train has passed the Last Vehicle Track Circuit. The replacement of the Home signal to normal together with the operation of the LVT releases the lock on the 'Operating handle'.

Note: *The Home signal lever/knob/button should be reversed/operated for the reception of a train even if the signal has failed.*

1.6. Outdoor Apparatus:

a) First Vehicle Track Circuit:

This is fixed slightly in advance of the Last Stop Signal. As soon as the engine or first vehicle of a train travelling away from the station passes over the First Vehicle Track Circuit, the Last Stop Signal is replaced to 'ON' automatically.

b) Electric signal reverser on Last Stop Signal:

This is controlled by the First Vehicle Track Circuit and replaces the Last Stop Signal, at the station from which the train starts, to 'ON' immediately the engine or first vehicle of the train starting from the station passes over the First Vehicle Track Circuit.

c) Last Vehicle Track Circuit:

This is fixed at an adequate distance inside the First Stop Signal. When the last vehicle of the train arriving into the station passes over the Last Vehicle Track Circuit, it permits the 'Operating handle' to be restored to normal, i.e., from 'Train On Line' to 'Line closed' position after the Home signal has been replaced to its normal position.

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CHAPTER II

SYSTEMS OF WORKING, BLOCK COMPETENCY CERTIFICATE, CODE OF BELL SIGNALS, PRECEDENCE OF TRAINS, AND TRAIN SIGNAL REGISTER.

2.1. Systems of working (G.R. 7.01).

The systems normally used on this Railway are:-

a) The Automatic Block System : As specified under SR 7.01

b) The Absolute Block System :- On all other sections.

2.2. Block Competency Certificate (G.R.14.04)

a) The Principal of the Zonal Railway Training Institute / Moula-Ali is responsible for the proper Initial/Refresher training of the staff in the rules connected with Block working. After the staff are declared successful in the examination held for this purpose, he shall grant the necessary competency certificate in respect of all the block instruments. Such certificates shall be valid only for a period of three years from the date of their issue. The certificate should be issued by the Principal of the ZRTI/ MLY under his signature for those who attend the Initial / Refresher course.

b) Principal , STTC / MLY is authorised to issue the BCC to the Signal Maintainers who are required to maintain and test the block instruments. The certificate should be issued after successful completion of Initial / Refresher course which is valid for a period of four years.
As a temporary measure , DSTE / ASTE of the divisions can extend the validity of BCC for one year. However, only one such extension is permissible.

c) If the staff, working for a year or more at stations where they are not required to operate the block instruments , are transferred to a station where they are required to operate the block instruments, they shall not be allowed to operate the block instruments even though they are in possession of valid Block Competency Certificates. They should be tested locally by the Traffic Inspector concerned and an endorsement be made by the Sr.Divisional Operations Manager/ Divisional Operations Manager of the division on the Block Competency Certificate before they are put to operate block instruments.

d) The BCC shall be kept in the personal custody of the staff while on duty and produced for inspection on demand by the inspecting officials.

2.3. Bell Code:(G.R. 14.05)

For the signalling of trains, the prescribed code of bell signals as detailed below, shall be used and a copy thereof shall be exhibited in each block station near the place of operation of the block working equipment –

Ref. No	Indication	Code	How signalled	How acknowledged
1	Call attention or attend telephone	0	One stroke Or beat	One stroke or Beat
2	Is Line Clear or Line Clear enquiry	00	Two	Two
3 *	Train entering block section	000	Three	Three
4*	(a) Train out of block 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)	000000	Six	Six
	b) Stop and examine train	000000-0	Six pause one	Six pause one
	c) Train passed without tail lamp or tail board	000000-00	Six pause two	Six pause two
	d) Train divided	000000-000	Six pause three	Six pause three
	e) Vehicles running away into the away into the block section on wrong line	000000-0000	Six pause four	Six pause four
	f) Vehicles running away into the block section on right line	000000-00000	Six pause five	Six pause five
7	Testing	0000000000000000	sixteen	Sixteen

Note : *i) `0' indicates a stroke or a beat and '––' indicates a pause.*

ii) *Each signal shall be given slowly and distinctly.*

iii) ** Item (3) and (4) are not required to be given wherever Axle counter proving Block Instruments or continuous track circuiting is in use.*

2.4. Acknowledgement of Signals :(G.R. 14.06)

a) Each signal received shall be acknowledged by sending its authorised 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) If the station to which a signal is sent does not reply, the signal shall be repeated at intervals of not less than twenty seconds until reply is received.

2.5. Advise of code signals by Cabin Station Master to the Station Master at the station:

At stations where block instruments are placed in cabins , the Station Master on duty shall , whenever the code signals for the following are given or received , immediately advise the Station Master at the station.

a) Stop and examine train.

b) Train passed without tail lamp or tail board.

c) Train divided.

d) Vehicles running away in the wrong direction.

e) Vehicles running away in the right direction.

2.6. Precedence of trains:

a) On controlled sections, trains shall be worked strictly in accordance with the orders of the control.

b) On non-controlled sections or in the event of breakdown of control, the trains shall be given precedence over each other in the following order:

1st - Relief trains or light engines proceeding to the accident spot.

2nd - Postal Specials.

3rd - Mail/Express trains. 4th - Troop trains.

5th - Passenger trains, including Rail cars.

6th - Specials engaged by Public.

7th -Inspection trains, whether working on time table or not and light engines when not going to an accident spot.

8th - Mixed trains.

9th - Parcel trains.

10th – Relief trains returning from accident spot. (If with injured passengers higher priority shall be given)

11th - Fast through goods trains.

12th - Work trains/Road Goods trains/Empty passenger stock trains.

13th - Material trains.

(c) If owing to the irregular running of trains, two or more trains are ready to start from the same end of a block section, preference shall be given to the trains standing higher in the table of precedence. If both trains have the same order of precedence, preference shall be given to the one having the greater distance to run.

(d) In order to avoid excessive detention to trains of lesser importance:

i) A Mail or Express train running less than ten minutes late may be detained up to a total of ten minutes in order to save a delay of thirty minutes or more to a passenger train or forty five minutes to a goods train.

ii) A passenger train running less than ten minutes late may be detained up to a total of ten minutes in order to avoid a delay of thirty minutes or more to a goods train.

2.7. Train Signal Register : (T.15)

a) A Train Signal Register shall be kept by the Station Master or under his order in conjunction with each block instrument.

b) All signals received or sent on the Electrical block instruments and the timings of receipt and despatch shall be entered therein immediately after acknowledgement, by the person operating the Block Instrument.

c) The timings entered in the register shall be the actual timings except that any fraction of a minute shall be counted as one.

d) The person who keeps the register for the time being shall be responsible for all entries made therein and for correct filling in each column thereof.

e) The time of relief and handing over the block instruments shall be recorded by the outgoing Station Master in the Train Signal Register along with the last number registered in the counters and signed by both the Station Masters.(Relieved and Reliever)

Note:

i) *The Station Master taking over charge shall test the block instrument and make a record of the result then and there in the Train Signal Register.*

ii) *In the case of instruments provided with Galvanometers, the Station Master shall also satisfy himself that the deflection in the Galvanometer is correct.*

iii) *The Station Master, after taking over charge of the block instrument, shall test the instrument by attempting to take off the Last Stop Signal without obtaining 'Line Clear'. If Last Stop Signal cannot be taken 'off' , the block instrument shall be considered to be in order.*

f) All the entries in the Train Signal Register shall be made in ink .

g) No erasures or overwriting shall be made in the Train Signal Register. If any entry is found to be incorrect, a line shall be drawn through it, so that it may be read at any time and the correct entry made above it and initialled.

h) A line shall be drawn, in red ink, below the entry for the last train of the date.

i) Entries in red ink –

Entries shall be made in red ink when -

i) The section is blocked forward or blocked back.

ii) Material trains enter the block section.

iii) Motor trollies, lorries and trollies entering the block section on line clear.

iv) Testing signals are exchanged.

v) Block working is interrupted.

vi) Trolley movements, as mentioned in SR 15.26.2.1 and lorry movements, as mentioned in SR 15.27.6.1.

vii) Notice of obstruction of up/down lines (Line block) received from the Engineering branch.

viii) Any other special occurrence in connection with block working.

ix) Whenever a running line at a station is blocked by stabled vehicle / trains.

2.8. Station Masters handing over and taking over of charge of duties:

a) The Station Master who makes an entry for a train in the Train Signal Register shall continue to be on duty till all entries pertaining to that train are complete. By this it is meant that the Station Master who asks 'Line clear' for a train to enter a block section shall remain on duty till the 'Train out of block section' signal is received and acknowledged and the Station Master who gives 'Line clear' for a train to enter a block section shall remain on duty till the train has arrived and the 'Train out of block section' signal is given and acknowledged.

b) A line shall be drawn across the Train Signal Register whenever Station Masters change duty. The Station Master who is going off duty shall sign and enter the time above the line and the Station Master coming on duty shall sign and enter the time below the line.

c) In the case of a train in the block section, clause (a) need not be observed but the entry in the Train Signal Register so far made shall be initialled by both the Station Masters. An entry, as under, shall be made immediately below the entry for the train and above the line (see Clause (b).

"Block section is still occupied by Train No. and description .....".

Both the Station Masters shall sign this entry as required in clause (b) above. An entry to this effect shall also be made in the Station Diary and initialled by both the Station Masters.

d) The procedure detailed in clause (c) above shall also be applicable in cases of accidents, engine failures, O.H.E. failures etc., when there is a likelihood of trains getting abnormally delayed and it is not possible for the same person/persons to continue to remain on duty to complete all the transactions for a train for which he/they had granted/obtained 'Line clear'.

2.9. Inspection of Train Signal Register:

a) The Train Signal Register in use shall be checked and signed by the Station Master incharge of the Station daily and his signature in the remarks column (at the end of the entries for the previous day) will be considered as a certificate and all trains have been duly and correctly entered in their regular course and sequence that he has taken note of the irregularities of any description recorded in the Train Signal Register and also those observed by him in the course of his check.

b) The Train Signal Register shall also be examined and signed by the

Traffic Inspector / Signal Inspector of the section whenever he visits the station and inspects the block room in the course of his duties.

c) Irregularities, if any, shall be noted in the Train Signal Register and brought to the notice of officials concerned.

d) The Train Signal Register in use shall not be removed from the Cabin or the room, in which block instruments are placed without the orders of the DRM.

2.10. Preservation of Train Signal Register:

a) The Train Signal Registers shall be retained at stations for one year after the half year in which it is completed and after that it shall be treated as old records and disposed off as such.

b) Books required in connection with pending enquiries or cases, shall however, on no account, be treated as old records and disposed off before the conclusion of such enquiry or case, without obtaining specific orders from the official who issued the original orders for retention.

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CHAPTER III

METHOD OF WORKING BLOCK INSTRUMENTS

3.1. Access to and operation of equipment (G.R. 5.08):

No unauthorised person shall be permitted to have access to or operate signals, points, electrical block instruments and electrical communication instruments or any other appliances connected with working of the railway.

3.2. Signalling of a train from one Block station to another:

a) The following is an example of how a train is signalled from 'X' to 'Y', on
S.G.E. Lock and Block Instrument. **Before asking for 'Line Clear' for a train on controlled sections, permission of Controller shall be obtained.**

SGE Lock and Block instrument:

3.2. (A) (i) Despatching a train:

	Sending Station 'X'		**Receiving Station 'Y'**
1.	Give 'Call attention' and on getting acknowledgement attend telephone.		
		2.	Acknowledge, attend telephone and give out station name
3.	After ensuring the correctness of the station, from which line clear is required, give No. and description of train for which line clear is required.		
		4.	After ensuring the correctness of the station to which line clear is to be given, repeat the No and description of the train and if the conditions for granting line clear are complied with, give private number for the train.
5.	Repeat the PN.		
6.	Give 'Call attention'		
		7.	Acknowledge
8.	Give 'Is line clear' bell code		
		9.	Acknowledge line clear bell code holding the bell plunger

Sending Station 'X'		Receiving Station 'Y'	
			Pressed during the last beat, turn the operating handle to line clear. This will change the indication of TCF dial at "Y" to 'Line clear'.
10.	At 'X' the indication of the TGT dial is changed to 'Line clear'		
11.	When the TGT dial assumes the line clear position, the lock on the last stop signal will be released. Take off the LSS.		
12.	When the train passes the LSS and operates the first vehicle track circuit, LSS goes back to 'ON'. As soon as the train passes LSS, the LSS lever/knob should be turned to normal		
13.	Give 'Call attention' signal		
		14	Acknowledge.
15.	Give 'Train entering block section' signal		
		16.	Acknowledge the 'Train Entering block Section' signal and keeping the plunger pressed on the last beat, turn the operating handle to TOL position
			i) The TCF dial will then indicate TOL
			ii) The Operating Handle will be locked in the TOL position
17.	The TGT dial at X assumes TOL position.		
18.	Attend telephone and give departure time.		
		19.	Attend telephone and note departure time.
		20.	a) Reverse the Home signal lever/knob for the reception of the train.

Sending Station 'X'		Receiving Station 'Y'	
			(b) After ensuring that the train has arrived complete inside the Last Vehicle Track Circuit, put back the Home signal lever/knob to normal. (c) The restoration of the signal lever/knob and the train clearing the LVT releases the lock on the 'Operating handle'
		21.	Give'Call attention' signal and give arrival time after getting acknowledgement
22.	Acknowledge, attend telephone and note clearance time		
		23.	Give 'Train out of block section' signal. Keeping the Bell plunger pressed on the last beat, turn the operating handle to 'Line closed'. The TCF dial will now change to 'Line closed'
24.	As soon as the TGT dial changes to ' Line Closed" position, give ' Train out of block section' acknowledgement.		

3.2 (A) (ii) To cancel Line Clear before the train enters the block section :

Sending Station 'X'		Receiving Station 'Y'	
1.	Train Going To' dial displays 'Line Clear' indication		
		2.	Train Coming From' dial displays Line Clear' indication
3.	Ensure all the relevant signals are in 'ON' position; Give call attention; on acknowledgement ask consent by explaining the circumstances supported by a Private Number.		

Sending Station 'X'		Receiving Station 'Y'	
		4.	Acknowledge call attention; give consent and repeat the PN; ensure that all relevant signals are in 'ON' position
5.	Give 'Call attention' signal.		
		6.	Acknowledge 'call attention signal
7.	Give 'Cancel last signal'		
		8.	i) Acknowledge 'Cancel last signal'; holding the bell plunger pressed during last beat, turn the operating handle to 'Line Closed' position (ii) TCF dial displays 'Line Closed' indication
9.	TGT dial displays 'Line Closed' indication		

3.2. (A) (iii) Procedure for despatching a train involving IBS :

Sending Station 'X'		Receiving Station 'Y'	
1.	Insert SM's key, ensure Axle Counter section is clear of obstruction by observing Green indication. Give 'Call attention' signal and attend telephone on getting acknowledgement.		
		2.	Insert SM's key, acknowledge and attend telephone
3.	Give description of train for which consent of Station Master 'Y' is required.		
		4.	Repeat the train description and give consent by giving a PN
5.	Repeat the PN		
6.	a) Take 'OFF' Last Stop Signal. b) As the train passes Last Stop Signal, K-2 indication appears along with audible buzzer.		

Sending Station 'X'		Receiving Station 'Y'	
	c) Put back Last Stop Signal lever / knob		
7.	(a) Give 'Call attention' (b) Ask line clear for this train to enter into the IB section		
		8.	a) Acknowledge and note departure time. b) If conditions for granting line clear are fulfilled, give PN.
9.	Repeat PN.		
10.	Give 'Call attention'.		
		11.	Acknowledge.
12.	Give 'Is line clear' signal.		
		13.	Acknowledge and turn the commutator of TCF dial to 'line clear' position
14.	TGT dial displays 'Line Clear' position		
15.	Take 'OFF' IBS and confirm the same through indications.		
16.	As the train passes IB signal, K-3 indication appears along with buzzer.		
17.	Give 'Call attention'		
		18.	Acknowledge.
19.	Give 'Train entering block section' signal, attend telephone and on acknowledgement and give timings. *Note: Now one more train can be sent into Axle Counter section*		
		20.	Acknowledge 'Train entering block section' signal and turn the commutator to TOL position, the buzzer stops

Sending Station 'X'		Receiving Station 'Y'	
		21.	(a) Take 'OFF' reception signals. (b) As the train passes Home Signal, put back the Home signal knob / lever to normal.
		22.	Ensure the conditions for **closing** block section are complied with. Give 'call attention' signal, Attend telephone on acknowledge-ment and give clearance time.
23.	Acknowledge, attend telephone and note clearance time.		
		24.	Give 'Train out of block **section'** signal and turn the commutator to 'Line Closed' position.
25.	Acknowledge 'Train out of block section' signal.		

Note :

i) *Two entries for the same train shall be made, i.e., one forAxle Counter section and the other one for IB section.*

ii) *If both Axle counter and IB sections are clear of obstruction, both the transactions can be recorded at a time, but timings and entries shall be made separately.*

3.2 (B) Exchange of Private Numbers between Station Master and Cabin/Cabins for reception of train:

The sequence of action to be followed from the time reception line is nominated till Station Master releases his control on the Home/Routing signal and exchange of Private Numbers is explained below:

a) Duty Station Master:

i) As soon as 'Line Clear' has been granted for a train by the Station Master or CASM/Switchman/Cabin Master(if the block instruments are situated in the cabins) the Station Master shall decide the line on which the train is to be received and satisfy himself that the reception line including the adequate distance is clear and free from obstruction.

ii) He will then advise the CASM/Switchman/Cabin Master on telephone to both the cabins simultaneously the train number, description, probable time of arrival, whether the train is stopping or running through and the line nominated for its reception.

iii) The CASM/Switchman/Cabin Master in both the cabins shall acknowledge by repeating these particulars.

b) Cabin Assistant Station Master/Switchman/Cabin Master at the facing end:

i) The CASM /Switchman/Cabin Master at the facing end on receipt of the above information from the Station Master shall set and lock, either electrically or otherwise, all relevant points at his end correctly for reception of the train on the nominated line.

ii) He will then satisfy himself that the nominated reception line is clear and free from obstruction.

iii) He will then give a categorical assurance to the CASM /Switchman/Cabin Master in the Cabin at the trailing end after ensuring that: -

a) The nominated reception line is clear and free from obstruction, clearly indicating the number of that line.

b) All the relevant points at his end have been correctly set for the reception of the train on the said line.

c) All the facing points have been locked

d) All level crossing gates are closed and locked against the road traffic and ask him to release his slot on the Home/Routing signal referring to the nominated reception line.

c) Cabin Assistant Station Master / Switchman/Cabin Master at the trailing end:

i) The CASM /Switchman/Cabin Master at the trailing end, on receipt of the categorical assurance from the cabin at the facing end, shall set all the relevant points at his end correctly and lock all the facing points, if any , for the reception of the train on the nominated line and satisfy himself that the nominated reception line including the adequate distance is clear and free from obstruction.

ii) Ensure that all level crossing gates are closed and locked against the road traffic.

iii) Communicate a Private Number to the CASM /Switchman/Cabin Master at the facing end and then release his slot on the relevant Home/Routing signal.

d) Cabin Assistant Station Master /Switchman/Cabin Master at the facing end:

The CASM /Switchman/Cabin Master at the facing end on receipt of PN communicated to him by the CASM /Switchman /Cabin Master at the trailing end shall, in turn, communicate a Private Number to the Station Master on duty to indicate that everything is completed at both end cabins for reception of the train.

e) Duty Station Master:

The Station Master on duty on receipt of Private Number from the CASM /Switchman/Cabin Master at the facing end shall, if everything is ready for the reception of the train, give a Private Number to the CASM /Switchman/Cabin Master at the facing end and release his control on the relevant Home/Routing signal.

f) Cabin Assistant Station Master /Switchman/Cabin Master at the facing end:

The CASM /Switchman/Cabin Master at the facing end, after satisfying himself that the relevant slot indicator is showing 'OFF' indication, shall take 'OFF' the reception signals.

g) A As the purpose of exchanging of Private Number is to eliminate the chances of a signal being taken OFF for an obstructed line, there is no need for exchange of Private Numbers where **'track circuiting/axle counter'** has been provided and is in working order.

h) At a station where only one cabin is provided, the exchange of Private Numbers between the cabin and the Station Master on duty shall take place as prescribed in paras (e) to (f) above, before the SM's control on the signal is released.

3.3. The 'Call attention' signal:

a) The 'Call attention' signal shall be given when it is necessary to direct the attention to the block instruments.

b) In order to ascertain that only the correct block station is in contact and to convey, the description and number of the train for which 'Line Clear' is required, as well as to ascertain whether the block station in advance is in a position to accept the 'Is line clear' signal, the 'Call attention' or 'Attend telephone' signal shall be sent to the block station in advance.

3.4. Precautions before asking 'Is line clear':

Before X asks Y for 'Line Clear', he shall inspect the block instrument connected with Y, the lever frame and the Train Signal Register in order to ascertain —

a) that the 'Line closed' indication is showing in the dial referring to trains going to Y,

b) that the Last Stop Signal applying to trains going to Y is in the 'ON' position; and

c) that all entries relating to the previous train over the down block section from X to Y have been completed.

3.5. The 'Is line clear' signal - when to be sent:

a) The 'Is line clear' signal shall be sent only after it has been ascertained that the station in advance is able to accept the signal.

b) The 'Is line clear' signal shall not be given until the 'Train out of block section' signal has been received for the last preceding train.

c) At train starting stations 'Is line clear' shall be asked five minutes before the booked departure time of the train, if the train is formed and ready to start. At intermediate stations, for all stopping trains with a halt of less than five minutes, 'Is line clear' shall be asked when the train is sighted. In the case of trains booked to run through a station 'Is line clear' shall be asked seven minutes before the train is due to pass through calculating from the time the 'Train entering block section' signal is received or immediately after the 'Train entering block section' signal is received, in case the running time is less than seven minutes.

3.6. Precautions before giving 'Line clear':

Before 'Y' gives 'Line Clear' to 'X', he shall inspect the block instrument connected with X, the lever frame and the Train Signal Register in order to ascertain –

a) that the TCF dial is showing 'Line closed' indication .

b) that the operating handle is in the 'Line closed' position.

c) that the reception signals are in the 'ON' position.

d) that all the entries relating to the previous train over the down block section from 'X' to 'Y' have been completed.

3.7. Acceptance of the 'Is line clear' signal and sending of 'Line clear' signal:

a) If, on receipt of 'Is line clear' signal the conditions under which 'Line clear' can be given are complied with, the block station in advance shall accept the signal by sending the prescribed signal to indicate 'Line clear' on the particular block instrument in use.

b) Except in case of failure of the block instruments, a train shall not be allowed to leave a block station unless the instrument for the block section into which it is about to proceed shows 'Line clear'.

c) After observing the precautions laid down in para 3.6, if 'Y' is ready to receive the train, 'Y' will keep the bell plunger pressed on the last beat and turn the operating handle to 'Line clear' position. He will then release the bell plunger to normal. The action of 'Y' turning the operating handle to 'Line clear' position on the instrument will bring about the following:

i) 'Line clear' will be indicated on the TCF dial of Y's block instrument.

ii) 'Line clear' will be indicated on the TGT dial of X's block instrument, and

iii) Lock on Last Stop Signal of 'X' will be released.

3.8. Driver's authority to proceed:

The Driver shall not take his train from a block station unless he has been given an authority to proceed:

a) By taking 'OFF' the Last Stop Signal, when the instruments show that 'Line clear' has been obtained in accordance with procedure described above. 'X' can take 'OFF' that signal, which constitutes the Driver's authority to proceed into the X–Y' block section;

or

b) by issuing Paper Line Clear Ticket when the block instrument is interrupted or suspended between 'X' and 'Y',

or

c) by issuing authority as referred in S.R. 6.02.

3.9. The 'Train entering block section' signal:

a) On the departure of a train from a block station the 'Train entering block section' signal shall be sent to the block station in advance, and be duly acknowledged.

b) When so acknowledged, the block section shall be deemed to be blocked, against any other train following.

3.10. Change of indications from 'Line clear' to 'Train on line':

a) At 'X', as soon as the train passes the Last Stop Signal and enters 'X ––Y' block section, it actuates the FVT controlling the Last Stop Signal and the signal will go back to 'ON'. It will be possible to clear this signal again only after obtaining a fresh 'Line clear' from 'Y'.

b) 'X' will give the 'Train entering block section' signal only after the Last Stop Signal returns to 'ON' and the train has entered 'X ––Y' block section. 'Y' will acknowledge the signal and while doing so shall press the bell plunger on the last beat and turn the operating handle to the TOL position. This will change the TCF dial at 'Y' and the TGT dial at 'X' to the TOL indication.

3.11. Conditions for closing the block section (G.R. 14.10):

a) When the block section has been cleared by the arrival of the train or by the removal of the cause of blocking, the block section shall be closed by the block station in advance by giving the prescribed bell code signal.

b) Before such signal is given, the Station Master shall satisfy himself:

i) *that the train has arrived complete, or the cause of blocking the section has been removed, and*

ii) that the conditions under which line clear can begiven, are complied with.

c) After the complete train has passed inside the LVT at 'Y', 'Y' will replace the Home signal lever/knob to normal position. The replacement of the signal lever/knob and the operation of the track circuit will release the lock on the operating handle at 'Y'. 'Y' will then give 'Train out of block section' signal and keeping the bell plunger pressed on the last beat, turn the operating handle to 'Line closed' position. The TCF dial at 'Y' and TGT dial at 'X' will then display 'Line closed' position.

3.12. Precautions before giving the 'Train out of block section' or 'Obstruction removed' signal:

a) Before Y gives the 'Train out of block section' or 'Obstruction removed' signal to X, he shall satisfy himself that the train has arrived complete by seeing the tail board by day or tail lamp/ flashing tail lamp by night. He shall also ensure that the Home signal has been replaced to 'ON'.

b) If the above conditions are satisfied, Y will clear the section as detailed in para 3.11.

c) For run through trains, and for other trains ,where the trains come to a stop at a place where the Station Master can conveniently notice the tail lamp / flashing tail lamp / tail board, responsibility for ascertaining that the train has arrived complete will be that of the Station Master.

d) At station or yard where two or more cabins are provided, whenever stopping trains come to a stand, where the Station Master cannot easily see whether the train has arrived complete, this duty will devolve on the Cabinman / Leverman nearest to which the last vehicle stands. In such cases, the Cabinman / Leverman will satisfy himself that the train has arrived complete by seeing the tail lamp/ flashing tail lamp /tail board.

The Guard of the train shall verify that the last vehicle is standing clear of the fouling mark or derailing switch/lock bar where provided and exhibit an 'All right' signal to the Cabinman / Leverman by waving his arm by day and a white light by night. If not, he will exhibit a red flag by day and a red light by night.

After having satisfied himself that the train has arrived complete and after receiving the Guard's signal, the Cabinman/Leverman will inform the Station Master on duty accordingly and give a Private Number to the Station Master and until the Station Master receives the Private Number, he shall not send the 'Train out of block section' signal.

e) At other stations, except those having two or more cabins, the Guard of the train, after verifying that the last vehicle is standing clear of the fouling mark, shall give an 'All right' signal to the Station Master on duty by waving his arm by day and a white light by night.

The Station Master on duty shall send the 'Train out of block section' signal only on seeing the hand signal of the Guard.
In all cases where the train has arrived complete but without a tail lamp/ flashing tail lamp / tail board on the last vehicle, it is the personal responsibility of the Guard to bring the fact to the notice of the Station Master on duty without delay.

f) At stations where due to the physical location of cabins or station building, it is not possible either for the cabin staff or Station Master to observe the tail lamp/tail board or the 'All right' signal of the Guard, the Station Master on duty shall depute a Points man in advance towards the fouling mark who would relay the 'All right' signal displayed by the Guard to the Station Master to operate the 'Train out of block section' signal. At such stations the procedure to be adopted for giving the 'Train out of block section' signal should be incorporated in the Station Working Rules.

g) In the absence of the Guard, these duties will devolve on the Driver or other person in charge of the train

3.13. Private Numbers:

a) Two PN sheets shall be supplied to each Station Master and the sheets issued shall be numbered by the Traffic Inspector in the order in which they are to be used and shall bear the signature of Traffic Inspector. The PN sheets shall be kept under lock and key in the personal custody of the Station Master to whom they are issued. A page of the PN sheet is given below as a specimen:–

Note: *Train Number is represented as TN.*

Date		**Date**		**Date**		**Date**	
PN	**TN**	**PN**	**TN**	**PN**	**TN**	**PN**	**TN**
25		24		21		18	

Date		Date		Date		Date	
32		15		64		29	
29		16		34		57	
37		27		18		21	
23		39		15		42	
12		43		22		18	
31		58		26		35	
10		14		38		42	
14		10		47		66	
56		11		55		48	
18		17		69		74	
44		32		12		83	

b) A Private Number shall be given for each train for which the Station Master grants 'Line Clear' to the Station Master applying for 'Line Clear'. Both Station Masters shall record the Private Numbers given and received for the train in the Train Signal Register. Numbers shall be allotted to the successive trains in the order in which the numbers are printed in the sheet in use. When a number is allotted to a train, it shall be scored out with a line drawn horizontally through it, the number of the train for which it is issued and the date on which it is issued being entered in the columns provided for the purpose. If a Private Number has been allotted to a train the running of which is subsequently cancelled, the same Private Number shall not be re-allotted to any succeeding train.

c) If the next number to be used is the same as the one last issued, the sender shall cancel the number in his sheet, add the remark 'same as last PN', sign it and issue the next number. If the similar number had already been given before it is detected, the station to which the number has been given shall be advised so that the number can be cancelled and the next number issued. The Station Master receiving the Private number shall be held responsible for seeing that no two consecutive Private Numbers are received from the same station giving Line Clear.

d) No person (except Traffic Inspector) shall be allowed to have access to it. Each sheet, when exhausted, shall be sent in a sealed cover to the Traffic Inspector of the section who shall replace it by another.

e) Only one sheet shall be in use at a time. Care shall be taken to see that adjacent stations are supplied with PN sheets bearing different numbers. The PN sheets shall not be issued to individuals and shall be issued to a post. Not more than two PN sheets shall be available with staff on duty. PN sheets shall be serially numbered before issue.

f) Traffic Inspectors when visiting stations shall see that Private Numbers are scored out correctly and that the train number and date are entered against each.

g) When a PN sheet in use is lost or mislaid, the Station Master shall utilise, if available, the PN sheet supplied for future use. The Station Master shall also immediately write to the Traffic Inspector for a fresh PN sheet stating the reasons.

h) Used-up PN sheets shall be preserved for 6 months after the half year in which they are completed and after that they shall be treated as old records and disposed off.

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CHAPTER IV

CAUTION ORDERS

4. Caution order (G.R. 4.09)

a) Whenever, in consequence of the line being under repair or for any other reason, special precautions are necessary, a Caution Order detailing the kilometers between which such precautions are necessary, the reasons for taking such precautions, and the speed at which a train shall travel, shall be handed over to the Driver at the stopping station immediately short of the place where such precautions are necessary, or at such other stations and in such manner, as prescribed under Special Instructions.

b) Sub-rule (a) does not apply in the case of long continued repairs when fixed signals are provided at an adequate distance short of such place and have been notified to the running staff concerned.

c) The Caution Order referred to in sub-rule (a) shall be on white paper with green font and be made out and signed in full.

Provided that as a temporary measure the Caution Order may be on white paper with a green band running diagonally across the form.

Note: See Appendix I to G&SR for Special Instructions regarding issue of Caution Orders.

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CHAPTER V

USE OF SPECIAL SIGNALS AND PROCEDURE IN EMERGENCIES

5. 1. Refusal of the 'Is line clear' signal, and sending of the 'Obstruction danger' signal.

a) If for any reason, the station in advance is unable to accept the 'Is line clear' signal, such station shall refuse it by sending the 'Obstruction danger signal'.

b) If the block station in advance is not in a position to accept 'Is line clear' signal, the train shall be stopped at the station and shall not be allowed to leave it, until 'Is line clear' signal has been given to and accepted by the block station in advance.

c) This signal shall be used by 'Y' if for any reason he is unable to accept the 'Is line clear' signal, from 'X'. When Y refuses 'Line clear' for any train both 'X' and 'Y' shall enter the words 'Line clear refused' on the same line against the train entry, in the Train Signal Register showing the time 'X' asked 'Y' 'Is line clear'. They shall make entirely new entries in their Train Signal Registers when 'X' again asks 'Y' 'Is line clear'.

5.2. Special use of 'Obstruction danger' signal.

a) 'Y' may discover after he has given line clear to 'X' that a bridge or some part of the permanent way is damaged or that there is some other train or obstruction on the 'X – Y' block section. In these circumstances, Y shall immediately send to 'X' the 'Obstruction danger' signal and turn his operating handle commutator from 'Line clear' to TOL position. This will prevent the Last Stop Signal at 'X' from being taken 'OFF' if it has not already been taken 'OFF'.

b) On receipt of 'Obstruction danger' signal, 'X' shall, if possible prevent the train from entering the 'X –– Y' block section. If he succeeds in stopping the train he shall acknowledge 'Y's signal by repeating it and cancel 'Line clear' in accordance with para 5.5(f), (g) and (h).

5.3. Obstruction on double line in the block section in advance (right line)- Block Forward (G.R.1.02(9)).

Shunting or obstruction for any other purpose shall not be permitted in the block section in advance unless it is clear and blocked forward (Exception – refer G.R. 8.06 (3).

Block forward (Rule 1.02.9) means to despatch a message from a block station on double line intimating to the block station immediately in advance the fact that the block section is obstructed or is to be obstructed.

5.3.1. Signalling between 'X' and 'Y' station when 'X' requires to shunt a train into 'X-Y' block section i.e., on the line in advance of the Last Stop Signal in the direction of 'Y'.

Sending Station 'X'		Receiving Station 'Y'	
1.	Give 'Call attention' and on getting acknowledgement attend telephone		
		2.	Acknowledge, 'Call attention' attend telephone.
3.	Intimate the fact		
		4.	If 'Y' is prepared to allow the block section to be obstructed, give Private Number.
5.	Repeat the PN and give timings		
		6.	Note the timings.
7.	Give 'Call attention'.		
		8.	Acknowledge
9	Give 'Is line clear' signal		
		10.	i) Acknowledge 'Is line clear' signal and holding the bell plunger pressed during the last beat, turn the operating handle to 'Train On Line' position. ii) 'Train coming from' dial then indicates TOL position.

Sending Station 'X'		Receiving Station 'Y'	
11.	i) The TGT dial assumes TOL position. ii) Take 'OFF' shunt signal below Last Stop Signal if provided or give LSS lever key (shunt key) to the Driver, and give T/806 with PN to the Driver		
12.	Give ' Train entering block Section' signal and on acknowledgement, give departure time.		
		13.	Acknowledge, attend telephone and note the departure time.
14.	When shunting is completed **i)** ensure that train has arrived complete, ii) recover LSS lever key, if given.		
15.	Give 'Call attention' and on acknowledgement attend telephone. Give clearance time supported by Private Number.		
		16.	Acknowledge, attend telephone, and note the timing, repeat Private Number.
17.	Give 'Call attention'.		
		18.	Acknowledge
19.	Give 'Cancel last signal'.		
		20.	i) Acknowledge and holding the bell plunger pressed during the last beat, turn the operating handle to 'Line closed' position. ii) The TCF dial will now change to 'Line closed' position
21.	The TGT dial changes to 'Line closed' position		

5.4. Obstruction on double line in the block section in rear (wrong line)- Block back (G.R.1.02(8)).

Shunting or obstruction for any other purpose shall not be permitted in block section in rear unless it is clear and is blocked back. When line clear has been given, no obstruction shall be permitted in the block section in rear.

Block back [Rule 1.02 (8)] means to despatch a message from a block station intimating to the block station immediately in rear on a double line or to the next block station on either side on a single line, that the block section is obstructed or is to be obstructed.

5.4.1. Signalling between X and Y stations when X requires to shunt a train into Y-X block section i.e., on the line in rear of the Block Section Limit Board or outer most facing points in Multiple Aspect Signalling Territory.

Sending Station 'X'		Receiving Station 'Y'	
1.	Give 'Call attention' and on getting acknowledgement attend telephone		
		2.	Acknowledge, 'Call attention' attend telephone.
3.	Intimate the fact		
		4.	If 'Y' is prepared to allow the block section to be obstructed, give Private Number.
5.	Repeat the PN and give timings		
		6.	Note the timings.
7.	Give 'Call attention'.		
		8.	Acknowledge
9	i) Give 'Is line clear' signal and holding the bell plunger pressed during the last beat, turn the operating handle to 'Train On Line' ii) 'Train Coming From' dial will then indicate TOL position		
		10.	TGT dial assumes TOL position.

Sending Station 'X'		Receiving Station 'Y'	
11.	Give T/806 with PN to the Driver.		
12.	Give 'Train entering block section signal' and on acknowledgement		
		13.	Acknowledge, attend telephone and note the departure time.
14.	When shunting is completed, ensure that train has arrived complete.		
15.	Give 'Call attention' and on acknowledgement, attend telephone and give clearance time supported by Private Number.		
		16.	Acknowledge, attend Telephone, note the timings and repeat PN.
17.	Give 'Call attention'.		
		18.	Acknowledge
19	i) Give 'Cancel last signal' and holding the plunger pressed during the last beat, turn the operating handle to 'Line closed' position. ii) The TCF dial changes to 'Line closed' position.		
		20.	i) TGT dial changes to 'Line closed' position. ii) Acknowledge 'Cancel last signal'.

5.5 Cancel last signal:

a) The 'Cancel last signal' cancels the last signal given from the block station from which it is sent.

b) Where 'Is line clear' signal has been forwarded and it is afterwards found that the train to which it referred has to be detained for shunting or other purposes at, or has returned to block station from which that signal was sent, the ' Cancelling signal' shall be sent to the block station in advance, so that the previous signal may be cancelled.

c) During single line working on double line when 'Line clear' has been cancelled, no train shall be allowed to leave in the opposite direction until a message has been received acknowledging such cancellation and stating that the train for which 'Line clear' has been given, shall be detained.

d) If after 'X' has obtained 'Line clear' from 'Y', it is necessary for any cause to cancel 'Line clear' before the train has left his station, he shall satisfy himself that all the signal levers/knobs at his station referring to the down block section are in the normal position and shall then give 'Y' the 'Cancelling' signal.

e) Before acknowledging the 'Cancelling' signal, 'Y' shall make certain that all the signal levers/knobs at his station referring to the 'X ––Y' down block section are in the normal position.

f) When 'Y' has acknowledged the 'Cancel last signal' signal by exchanging Private Numbers with 'X', 'Y' shall change the indication to the 'Line closed' position. This will cause the 'Line closed' to be displayed on TCF dial at 'Y' as well as TGT dial at 'X'.

g) When 'X' sees his TGT dial indicator showing 'Line closed', he will acknowledge the 'Cancel last signal' signal.

h) Whenever 'Line clear' has been cancelled, an entry to this effect shall be made in the Train Signal Register giving the reasons for cancellation.

Note: *Whenever the 'Line clear' has been cancelled, one train has to be passed on PLCT. When the train is received on proper signals at receiving station, the block instrument will be released after which normal working may be resumed.*

5.6. Train wrongly described:

If 'Line clear' has been obtained by 'X' from 'Y' for a certain train, and it is afterwards found necessary to pass another train over the block section instead of the train for which 'Is line clear' was originally asked, 'Line clear' shall be cancelled and obtained afresh for the latter. If 'Line clear' has been obtained with incorrect description or number, this shall be cancelled and fresh line clear obtained and the train started thereon. If the mistake is noticed after the departure of the train, this shall immediately be notified over the phone to the station ahead to enable the latter to arrange for correct train reception and handling.

***Note**: The use of special signals described vide paras 5.1 to 5.6 above should be supported by exchange of Private Numbers.*

5.7. Train unusually delayed (G.R. 6.04):

a) If a train carrying passengers does not arrive within ten minutes or if a goods train does not arrive within twenty minutes after allowing for its normal running time from the station in rear, the Station Master at the station in advance shall immediately advise the station in rear and control of this fact. Thereafter on double or multiple lines, the Station Masters at either end of the block section shall immediately stop all trains proceeding into the block section on adjacent line or lines in either direction and warn the Drivers and Guards of such trains by issue of suitable caution orders and shall also ascertain the whereabouts and the condition of the delayed train.

b) The action mentioned above shall be taken earlier should the circumstances so require.

c) Station Master shall arrange to send a railway servant into the block section to fetch information regarding the whereabouts and condition of the train and the nature of the assistance required, if any.

d) On a double line section if there is a tunnel in which the train is delayed, the Station Master shall prevent any train form proceeding on its journey in the opposite direction until he has first ascertained that the 'Line is clear'. If there is no tunnel in the block section, the Station Master shall stop the first train proceeding in the opposite direction and give the Driver a caution order instructing him to proceed cautiously.

e) The Guards /Drivers of trains carrying passengers and goods trains who are provided with VHF sets (Walkie-talkie sets) and portable field telephone, when delayed in the block section for over ten minutes and twenty minutes respectively, shall first try to inform the adjacent Station Master over VHF set, the cause and the probable duration of delay for the train. In case it is not possible to contact the Station Master on VHF set , they shall use the portable field telephone to inform the Controller on the controlled sections, the cause and the probable duration of delay for the train.

f) The Controller on receipt of such advice shall immediately warn the stations where Accident Relief Trains & Medical Relief Trains are located to keep them in readiness for moving immediately on receipt of further information, if required. He will also issue preliminary warning to the Chief Crew Controller/Crew Controller and the Station Master concerned to get the Accident Relief Train ready and will also arrange for an engine to be made available immediately for despatching the Medical Relief Train to the accident spot, if necessary.

5.8. 'Stop and examine train' signal.

If the Station Master at 'X' observes anything unusual (other than the Tail board or Tail lamp/Flashing tail lamp missing) on a train during its passage through his station, such as goods falling off, a vehicle on fire, broken axle or coupling etc., rendering it necessary to stop such trains at the next station, the 'Stop and examine train' signal shall be sent to 'Y' (the station in advance). A telephone message shall also be sent to the station 'Y' and 'W', on either side stating the nature of the irregularity. The Station Master at 'Y' receiving the 'Stop and examine train' signal shall acknowledge it by repeating it and stop trains in both directions on the 'X –– Y' block section until it is ascertained that the section is clear. The Station Master at 'W' (in rear) on receipt of the message shall issue caution order to the Driver of all trains proceeding on the direction of station 'X' until he is intimated that all is right on the block section. When on examination of the train at 'Y', it is ascertained that the train is complete and there is no possibility of the track having been affected on its run the 'Train out of block section' or 'Obstruction removed' signal shall be sent from 'Y' to 'X' and this shall be followed by a telephonic message that all is right. 'X' shall thereon advise 'W' also.

5.9. Train passed without Tail Lamp / Flashing tail lamp or Tail Board (G.R. 4.17)

a) The Station Master shall see that the last vehicle of every train passing through his station is provided with a tail board or tail lamp/Flashing tail lamp or such other device in accordance with the provisions of G.R.4.16.

b) If a train passes the station without such indication to show that it is complete, the Station Master shall-

i) immediately advise the station in advance to stop the train to see that the defect is remedied and to advise whether or not the train is complete.

ii) meanwhile withhold the closing of the block section to ensure that no train is allowed to enter the block section from the station in rear, and

iii) unless the station in advance has advised that the train is complete, neither consider the block section in rear is clear nor close it.

c) Should a train or engine passes his station without a Tail Board or Tail Lamp/ Flashing tail lamp, 'X' shall send the 'Train passed without tail lamp/Flashing tail lamp or tail board' signal to 'Y' and the 'Train divided' signal to 'W', the block station in rear. The 'Train out of block section' signal shall not be given for that train. On receipt of the 'Train passed without tail lamp/Flashing tail lamp or tail board' signal, 'Y' shall acknowledge it by repeating it and stop the approaching train and inform the Guard and the Driver of the intimation he has received. If on inspection it is found that the train is complete and that either the tail lamp is not in its position or that it is extinguished, or that the tail board has fallen off, the defect shall be rectified, the train allowed to proceed, and the 'Train out of block section' or 'Obstruction removed' signal shall be sent to both block sections 'Y-X' and'X-W' which shall be taken as an intimation that all is right. If it is found that any portion of the train is missing, the matter shall be reported as an accident and necessary action taken.

5.10. 'Train divided' signal to block station in rear:

If during the passage of a train through the station 'X', it **a)** is observed that some portion of the train is missing, 'X' should not exhibit a stop hand signal but should endeavor to attract the attention of the Driver or the Guard by shouting and gesticulating or by other means. The station 'X' should send the 'Train divided' signal to the station W in rear and 'Train passed without tail lamp or tail board' signal to the station 'Y' in advance.

b) On double line/twin single line/multiple line sections, 'X' shall also stop all trains proceeding on the unobstructed line in the direction of 'W' and issue to the Driver a Caution Order explaining the occurrence.

c) If it is ascertained that parting has actually occurred on 'WX' block section, and if, after a lapse of 30 minutes more than the running time of the slowest speed goods train, the vehicles have not arrived either at 'W' or 'X', it may be safely assumed that they have come to a stand. A relief engine shall then be sent out (e.g. If the running time of the slowest speed goods train from W to X is 20 minutes, the engine shall not be sent out until 50 minutes after the 'Train divided' signal was given).

d) When it is known that the line is clear, the 'Train out of block section' or 'Obstruction removed' signal shall be sent over 'Y-X' and 'X-W' block sections and this will be an intimation that all is right.

Note: *Whenever Station Master receives 'Train divided signal', he has to take action as per the instructions given in paras 5.9.*

5.11. Vehicles running away in wrong direction (G.R.6.11):

a) If any vehicle escapes from a station, the Station Master shall take immediate steps to warn the other stations or persons concerned, as far as practicable to prevent an accident.

b) If an engine or vehicles have escaped and running away in the wrong direction, 'X' shall give 'Y' the 'Vehicle running away in the Wrong Direction' signal and no train shall be allowed to enter from either side of the Down or Up direction between 'X' and 'Y', until information has been received that the engine or vehicles have been brought to a stand or have arrived at 'Y'. If the engine or vehicles have not arrived after a lapse of 30 minutes more than the running time of the slowest speed goods train, it may safely be assumed that they have come to a stand and a relief engine shall then be sent out (e.g. if the running time of the slowest speed goods train from 'X' to 'Y', to which the vehicles are running, is 20 minutes an engine shall not be sent out until 50 minutes after the 'vehicles running away in the wrong direction' signal was given).

Note*: If the above vehicles contain passengers, 'X' shall also specifically convey this information to 'Y' on the block telephone.*

c) **(i)** On receipt of the 'Vehicles running away in the wrong direction' signal from 'X', 'Y' shall acknowledge by repeating it, stop any train about to proceed to 'X' and take such protective measures as may be considered expedient under the circumstances to prevent an accident. He shall also, if necessary, send the signal to 'Z', the block station in rear. On controlled sections, the Controller shall be advised immediately.

ii) If the station is on a gradient falling in the direction of the next station towards which the engine or vehicles are running, or if a train is approaching the station from the next station, in that direction, whether there is a falling gradient or not, the Station Master shall take necessary action to stop the run- away vehicle. This shall be done by covering the rails heavily with sand, earth or small broken stones, for as great a distance as possible before the vehicle comes in sight, and the points shall be set for a through loop or dead end siding to receive the vehicle. It is preferable to receive a run- away vehicle on a loop line for receiving it on a dead end siding.

iii) If no train is approaching against which the vehicle may collide and the line is not on a falling grade, the vehicle may be allowed to run through the station, but a warning shall be sent promptly to the Station Master at the station ahead who shall act according to these instructions.

iv) In all cases, the Station Master shall take into consideration the circumstances existing at the time and be guided by the state of his yard (i.e., as to whether the sidings are occupied or not), and vary his action accordingly.

v) If the vehicles contain passengers, they shall not ordinarily be turned into a dead end siding, unless for the purpose of avoiding a more serious accident.

vi) If a portion of a train or a brake-van has run away, the Station Master shall place three detonators on the track to attract the attention of the Guard.

vii) The Station Masters at both ends of the section shall depute competent railway servants to make a search for the vehicle and after it is ascertained that the vehicle has come to a stand and has been secured, send assistance into the section to bring back the vehicle in consultation with each other.

d) 'Y' shall not give 'Line clear' to 'Z' (the block station in rear) for a train on the same line and if a train is already on the 'Z – Y' block section, he shall stop it at the First Stop Signal and warn the Driver of the impending danger. If this train can be received and berthed on a line the points of which can be set, so that the run away vehicles will not enter thereon, this shall be done.

e) When it is known that the line is clear again, the 'Train out of block section' or 'Obstruction removed' signal shall be sent and this will be an intimation that the obstruction has been removed and that the 'X – Y' block section is clear.

5.12. Vehicles running away in right direction (G.R. 6.11):

a) If any vehicle escapes from a station, the Station Master shall take immediate steps to warn the other stations or persons concerned, as far as practicable to prevent an accident.

b) If an engine or vehicles have escaped and running away in the right direction, 'X' shall give 'Y' the signal 'Vehicles running away in right direction' and no train shall be allowed to enter from either end of the Down or Up direction between 'X' and 'Y', until intimation is received that the engine or vehicles have been brought to a stand or have arrived at 'Y'. If the engine or vehicles have not arrived after a lapse of 30 minutes more than the running time of the slowest speed goods train, it may be safely assumed that they have come to a stand and a relief engine shall then be sent out (e.g if the running time of the slowest speed goods train to Y, to which the engine or vehicles are running is 20 minutes, the engine shall not be sent out until 50 minutes after the 'vehicles running away in right direction' signal was given).

Note: If the vehicle contains passengers, 'X' shall also specifically convey this information to 'Y' on the block telephone.

c) **(i)** On receipt of the 'Vehicles running away in the right direction' signal from 'X', 'Y' shall acknowledge by repeating it, stop any train about to proceed to 'X' and take such protective measures as may be considered expedient under the circumstances to prevent an accident. He shall also, if necessary, send the signal to 'Z', the block station in advance. On controlled sections, the Controller shall be advised immediately.

ii) If this station is on gradient falling in the direction of the next station towards which the engine or vehicles are running, or if a train is approaching the station from the next station in that direction, whether there is falling gradient or not, the Station Master shall stop the run-away vehicles. This shall be done by covering the rails heavily with sand, earth or small broken stones, for as great a distance as possible, before the vehicles come in sight and the points shall be set for a through loop or dead-end siding to receive the vehicles. It is preferable to receive the run away vehicles on a loop line for receiving it on a dead-end siding.

iii) If no train is approaching against which the vehicle may collide and the line is not on a falling gradient, the vehicles may be allowed to run through the station but a warning shall be sent promptly to the Station Master at the next station who shall act according to these instructions.

iv) In all cases, the Station Master shall take into consideration the circumstances existing at the time and be guided by the state of his yard (i.e., as to whether the sidings are occupied or not) and vary his action accordingly.

v) If the vehicles contain passengers, they shall not ordinarily be turned into a dead-end siding, unless for the purpose of avoiding a more serious accident.

vi) If a portion of train or a brake van has run away, the Station Master shall place three detonators on the track to attract the attention of the Guard.

vii) The Station Masters at both ends of the section shall depute competent railway servants to make a search for the vehicle and after it is ascertained that the vehicle has come to a stand and has been secured, send assistance into the section to bring back the vehicle in consultation with each other.

d) When it is known that the line is clear again, the 'Train out of block section' or 'Obstruction removed' signal shall be sent and this will be an intimation that the obstruction has been removed and the block section is clear.

5.13. Signal given in error:

Whenever, through a mistake, incorrect beats are given, or whenever beats received are not clear or not understood, the Station Master detecting the irregularity shall give the 'Signal given in error' signal. After this has been acknowledged, the signal which ought to have been sent, shall be distinctly repeated.

5.14. Government or Railway Telecommunication branch officials working on line affecting train signalling wires:

a) Before the Government or Railway S & T Branch officials commence to work on any line wire between any two stations, likely to affect train signalling, the Government or S & T official in charge of the work shall give notice to the Station Masters at both ends of the block section in the following form:–

To

SMs 'X' and 'Y'.

Telecommunication line party will commence work on wires section from …… to ……on …… from……hours.

Acknowledge

…… (designation)
…… (station)
…… (date)

b) Both the Station Masters shall immediately acknowledge the notice as in no circumstances may the work be commenced until these acknowledgements have been received. If the notice is from the Government Telecommunication official in charge, the Station Masters shall promptly communicate it to the Signal Inspector and DRM/T and S&T, through Control. If the notice is from S & T official in charge, the Station Master shall promptly communicate it to the DRM/T and &S&T.

c) On receipt of the above warning, block working need not be suspended, but Station Masters shall be particularly careful to carry out the instructions for suspending block working, if they suspect a contact or notice any defect in the working of block instruments.

d) These precautions shall be observed until notice is received about the completion of the work on the telecommunication wires. The notice of completion of the work shall be communicated to all concerned.

e) A copy of these rules relating to the undertaking of work on the wires shall be supplied to all Engineering supervisors, general Line Inspectors and Sub Inspectors of the Government Telecommunication Department. All Sub-Divisional Officers, Construction and Supervisory officials shall take personal action to ensure that these rules are explained to all members of the line staff

and satisfy themselves that these rules have been fully understood, and that they will be duly carried out. Similarly, the S&T department will adhere to these rules when the block line wires are under S&T department.

f) The Station Masters shall ordinarily approve of the work being undertaken on line wires unless an important train or special is due to travel over the section, when it is essential that the block instruments shall be in proper working order.

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CHAPTER VI

BLOCKING THE LINE FOR LORRIES, PUSH TROLLIES, CYCLE TROLLIES, MOTOR TROLLIES, RAIL DOLLIES AND RAIL- CUM-ROAD VEHICLE.

6.1. Material Trains:

Refer GR & SR 4.62 to 4.64 for working of Material trains.

6.2. Lorries, Push Trollies, Cycle Trollies, Motor Trollies, Dollies and Rail-cum-Road vehicle.

Refer SR 15.18, 15.25, 15.26 and 15.27 for detailed procedure of working Lorries, Push Trollies, Cycle Trollies, Motor Trollies, Rail Dollies and Rail-cum-Road vehicle.

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CHAPTER VII
TESTING OF BLOCK INSTRUMENTS

7.1 Persons authorised to test:

The block instruments and apparatus in connection with them may only be tested by ESM/SI/ASTE/DSTE in accordance with the procedure laid down in para 7.3.

7.2 Block Section to be clear during Test:

The block instruments and apparatus in connection with them shall not be tested while the line is blocked for a train to pass over either down or up block section.

7.3 Procedure for testing:

a) The procedure for testing the block instruments at 'X' and 'Y' are as follows:

i) Assuming that the SI/ESM is at 'X', he shall first exchange testing signals with 'Y'.

ii) The SI/ESM shall then give 'Is line clear' signal to 'Y', who shall acknowledge the signal and give 'Line Clear'. Thereupon the SI/ESM shall take 'OFF' the Last Stop Signal at 'X' to see that the electric lock has been released.

iii) The SI/ESM shall then cancel 'Line Clear' and again attempt to take 'OFF' Last Stop Signal at 'X' to see that it is locked.

iv) 'Y' shall then give 'Is line clear' signal to 'X' who shall acknowledge the signal and give 'Line clear'. 'Y' shall then take 'OFF' Last Stop Signal to see that the electric lock has been released.

v) 'Y' shall then cancel 'Line clear' and again attempt to take 'OFF' Last Stop Signal to see that it is locked.

vi) Testing signals shall then be exchanged again between the SI/ESM at 'X' and 'Y' in token of the operation having been completed.

b) Whenever any authorised person who is not competent to test the block instrument is present at one end, he may request the Station Master to test the block instrument on his behalf. The Station Master shall comply with such request and exchange testing signals with Station Master at the other end.

Note:*Whenever under the provisions of clause (b) above, the Station Master himself exchanges the testing signals on behalf of the authorised person, he shall make the necessary entries in the Train Signal Register and get the entry countersigned by the authorised person.*

c) Whenever the SI/ESM or other authorised person opens the instrument such as for restoration of block working after a failure or for maintenance work or when fixing a new instrument, he shall test the block instrument as prescribed in clause (a) above.

Note: *The SI/ESM shall test the working of the Last Stop Signal during his maintenance work or while attending failures.*

d) Whenever 'Testing signals' are exchanged, the Station Master at one end of the block section and the Signal Inspector or other authorised person at the other end, shall write in the Train Signal Register –

Time..... Exchanged 'Testing signals' with Station Master at.....station. Last Stop Signal was taken 'OFF 'and restored to normal.

The entries shall be made in red ink on the line immediately below the entries for the last train and the time given shall be the time when the testing signals were completed.

7.4 Consent required before interfering with block working equipment.(G.R. 14.03).

No railway servant shall interfere with the block working equipment, or their fittings for the purpose of effecting repairs, or for any other purpose, except with the previous consent of the Station Master.

7.5 Block instrument maintenance work by S & T staff.

When the ESM or Signal Inspector wants to clean or repair a block instrument, which is in use, the following procedure shall be observed.

a) The Signal Inspector / ESM and the Station Master will both satisfy themselves that there is no train in the section.

b) The ESM or the Signal Inspector will take over the instrument from the Station Master and enter the date and time of his having done so in the Train Signal Register. The Station Master will sign the entry. The entry shall be in the following form—

"……side block instrument taken over for cleaning/repairs at……hours".

sd/……
sd/……
SM SI/ ESM.

Meanwhile, trains, if any, shall be worked as in the case of failure of block instruments, until the Block Instrument is handed over back to the Station Master.

c) When the cleaning or repairs are completed and the instruments locked up, the instrument shows 'Line closed' position, the person who had taken over the block instrument for maintenance will hand over the instrument to the Station Master and make the following entry in the Train Signal Register.

"……side block instrument handed over at……hours".

sd/…… sd/……
Station Master. SI/ ESM.

d) Both at the time of handing over and taking over, the Station Master will advise the Station Master at the other end of the block section of the fact by telephone and the Station Master at the other end of the block section shall make corresponding entries in his Train Signal Register.

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CHAPTER VIII

FAILURE OF BLOCK INSTRUMENTS OR APPARATUS.

8.1. Failure of Last Stop Signal:

In the following cases of failure of LSS, Block instrument shall not be suspended.

1. Where block instrument is interlocked with LSS and LSS cannot be taken off even though Line Clear has been obtained on block instrument.
2. Where block instrument is interlocked with IBS, and line clear has been obtained on block instrument, but LSS cannot be taken OFF despite the track circuiting provided beyond the LSS and the axle counters provided at either end of block section are in working condition.

   In both the cases above, the Last stop signal shall be treated as defective and PLCT (T/C or T/D 1425) shall be issued to Loco pilot as authority to proceed duly mentioning that Line clear was obtained through Block instrument.

   Where IBS is working, it can be taken OFF.

   Note: when Line clear is obtained on block instrument, filling T/A 1425 and T/B 1425 shall be dispensed with.

Failure of IBS:

During all cases of IBS failure, Block working shall be suspended.

8.2. Failure of the operating handle lock.

If the last vehicle of a train arriving at 'Y' fails to operate the LVT and release the operating handle lock, the following procedure shall be carried out:

i) 'Y' shall satisfy himself that the train for which 'Line clear' has been given , has arrived complete by communicating with 'X' on telephone and ascertaining that there is no train in the section.

ii) Block working shall be suspended and one train should be passed on Paper Line Clear Ticket after which normal working may be resumed.

8.3. Failure of block instrument:

I) The block instrument shall be considered to have failed and block working suspended in the following circumstances:

a) When the indications on the TGT dial at 'X' do not correspond with the indications of the TCF dial at 'Y'.

b) Whenever there is reason to believe that there is contact between the block and any other circuit.

Note:*If an intermittent contact exists between the block and the circuit an irregular movement of the indicator or irregular bell beats or both will be observed. If permanent contact exists there may be a permanent wrong indication or bell beats or both. A contact between block wires might cause signals given on the instrument to be repeated on the neighbouring instrument or change of indications in the instruments.*

c) When a train arrives at a station without 'Line clear'.

Note: *In this case the irregularity shall be reported as an accident unless the Driver is in possession of an authority as per S.R.6.02*

d) If the block instrument or its battery counter is found without seals or locks.

e) Whenever single line working is introduced.

f) When the dial indicator glass is broken.

g) If the Last Stop Signal can be taken 'OFF' with no 'Line clear' indication on the TGT dial.

Note: *This test shall be made when Station Master takes charge of the block instrument and an entry made in the Train Signal Register.*

h) If the operating handle can be restored from TOL to 'Line closed' position before complete arrival of the train.

i) Where the operating handle cannot be turned to TOL or 'Line clear' or to 'Line closed' in the process of granting or cancelling 'Line clear'.

j) Where signals on the bell are not received distinctly or fail altogether.

k) When a train which has entered the block section on 'Line clear' is pushed back for any reason into the station.

l) If it is known that the instrument is defective in any way not specified above.

II) Block instruments failure record:

A record of the failures of block instruments/signals and other gear connected with working of signals shall be maintained in the S&T failure register at the station.

Note : Block instrument failure either at station 'X' or station'Y' shall be recorded by both Station Masters of X' and 'Y' in their S&T failure registers.

8.4. Reports to be sent.

a) When block working is suspended, the Station Masters at both ends of the block section shall at once make entries in red ink in the Train Signal Registers immediately below the entries for the last train, showing the date and time from which block working was suspended and the cause of suspension, if known. Both the Station Masters shall then advise each other by telephone of the suspension of block working and the cause thereof, if known and also advise the Signal Inspector and DRM/T and S&T by telephone.

b) The MSM, ESM and Signal Inspector shall also be advised when there is a failure of the Last Stop Signal after 'Line clear' has been obtained from the station ahead.

8.5. Paper line clear ticket (T/C.1425 –UP or T/D..1425-DOWN):

a) When the Block Instrument is interrupted or suspended between 'X' and 'Y' every train shall be stopped before proceeding over the 'X-Y' Block section, run through trains being stopped out of course and the Station Master shall issue to the Driver a Paper Line Clear Ticket in the prescribed printed form.

b) In case of partial failure of the block instruments ie., If the block instrument is working in UP direction ('X' to 'Y'), the train will be despatched after taking 'Line clear' on the block instrument from 'X' to 'Y' and Last stop signal taken 'OFF'. In the reverse direction ('Y' to 'X') where there is partial failure of the block instrument , the train will be despatched on the authority of Paper Line Clear Ticket.(S.R.14.25)

c) From the time an interruption occurs until the block working on the instruments is resumed, no attempt shall be made to take 'off' the Last Stop Signal for a train entering the interrupted block section.

d) At stations where the Last Stop Signal of 'X' is also the First Stop Signal of 'Y', the Station Master at 'Y' shall treat the signal as defective. The Loco Pilot in possession of PLCT issued by 'X' shall stop at this signal until he is hand signalled past by a competent Railway servant on the written authority in the prescribed form issued to him by the SM at 'Y'.

(AS-1, dt.01.06.06/Item No.1/Rule No.8.6 (a), (b) and (d) are amended)

8.6. Working of trains during failure or suspension of Block Instrument:

a) If 'X' cannot obtain 'Y's attention after calling him for five minutes on the Block Instrument, 'X' shall ask 'Y' through

i) Telephone attached to Block instrument,
ii) Station to Station fixed telephone wherever available,
iii) Fixed telephone such as Railway auto-phone and BSNL phone,
iv) Control telephone and
v) VHF set
to attend to the Block Instrument.

b) In the event of failure or suspension of Block instrument, Track circuiting or Axle counters , 'Line clear' shall be obtained by any one of the alternative means of communications in the order of priority indicated below:-

(i) Telephone attached to Block Instrument
(ii) Station to station fixed telephone wherever available
(iii) Fixed telephone such as Railway auto-phone and BSNL phone
(iv) Control telephone
(v) VHF set

c) If the Station Master at 'X' cannot obtain Line Clear from the Station Master at 'Y' through any one of the above means in the order of priority, the block section shall be considered to be totally interrupted and trains worked in accordance with the rules and regulations for working of traffic during total interruption of communications on double line in accordance with SR 6.02.3.

d) Before actually signalling a train through any one of the alternative means of communications, the Station Masters at 'X' and 'Y' shall at once exchange messages in the following proforma and record in the TSR in red ink.

Proforma of message from station 'X'

No…… Date and time ……..
(Station code/Month/Serial number, eg., BZA/11/21)
Block instrument working is suspended between……and ……..Stations.
Train signalling shall be done through *__Telephone attached to Block Instrum Station to Station fixed telephone/Fixed telephone such as Railway auto-pho and BSNL phones / Control telephone / VHF set .__

*Strike out whichever is not applicable

Signature of the SM

Proforma of message of acknowledgement from station 'Y'

No…… Date and time ……..
(Station code/Month/Serial number, eg., BZA/11/21A)
Refer your message No……..
Understood Block instrument working is suspended between ……..
And…… Stations.
Train signalling shall be done through *__Telephone attached to Block Instrument/ Station to Station fixed telephone/Fixed telephone such as Railway auto-phones and BSNL phones / Control telephone / VHF set.__

*Strike out whichever is not applicable

Signature of the SM

(e) The number, description and the arrival and departure time of each train dealt with between X and Y, with the Private Number, shall be recorded, in red ink, then and there, in the Train Signal Register..

(f) The Station Master shall record the means of communication through which 'Line Clear' was asked for or given in T/A.1425-outward/T/B.1425-inward as the case may be.

(g) The progressive number of the PLCT issued for each train shall be recorded in the remarks column of the Train Signalling Register against the entry for the train.

(h) Procedure to be adopted when the 'Train entering block section' signal cannot be given owing to the Block Instrument having failed after the departure of the train or before clearing the block section for the train:

If, after the departure of a train the 'Train entering block section' signal / 'Train out of block section signal' for the train cannot be given to the station 'Y' or 'X' owing to the block instrument having failed, 'X' shall enter the time of departure/arrival in the Train Signal Register in red ink and communicate to 'Y' or 'X' by alternative means of communication and exchange messages as per para (d) above.

(AS-1/Item No.2/Rule No.8.6.1 is replaced with 8.7)

8.7. Procedure for obtaining/granting Line clear using telephone attached to Block Instrument, Station to Station fixed telephone, Fixed telephone such as Railway auto- phone and BSNL phone as a means of communication between stations 'X' and 'Y':

a) The Station Master at 'X' or 'Y', as the case may be, shall intimate the Section Controller and other all concerned officials through a message about the failure of Block instrument etc. The SCOR shall record the failure on his control chart. The SCORs shall acknowledge the block instrument failures while handing/taking over charge.

(AS-2, dt.30.06.06/Item No.1/Rule No.8.7 (b) is amended)

b) Before actually despatching a train using the Telephone attached to Block Instrument, Station to Station fixed telephone, Fixed telephone such as Railway auto-phone and BSNL phone / Control phone / VHF set , the Station Masters at 'X' and 'Y' shall call out their station name and identify each other with their full name. Then they shall cross check private numbers given for line clear, for the last three preceding trains over the block section along with train numbers and their clearances duly circling the PNs with RED INK in TSR. After which, the station masters shall obtain/grant Line clear through established means of communication duly filling all the particulars in the Line clear inquiry and reply forms T/A 1425 and T/B 1425 respectively.(Item No.3 of AS-6 Dt:18.06.24)

c) The Station Master at 'X' who intends to despatch a train, shall first obtain the permission of SCOR. He shall then call SM at 'Y' through the means of communication recorded in the message under Rule No.8.5 (d) and establish the identity of both SMs on duty. The SM at 'X' clearly mention the Train No. **in full (two/three/four digit),** description (Express, Passenger, Goods train), direction (Up/Dn) for which Line clear is required**.**

d) The Station Master at 'Y', after complying with the conditions for granting Line clear shall grant Line clear supported by a Private Number**.**

e) The train number in full, description, direction (UP/DN) and the departure / arrival timings of each train dealt with between 'X' and 'Y' and the Private Number obtained / issued shall be recorded in red ink then and there in the TSR by Station Masters at 'X' and 'Y'.

f) The SMs at 'X' and 'Y' shall record the above details and the means of communication through which the line clear is obtained / granted in the document T/A .1425 (outward) /T/B.1425 (inward), as the case may be.

g) After obtaining line clear from station 'Y', the Station Master at station 'X' shall prepare Paper Line Clear Ticket (T/C 1425 for UP or T/D 1425 for DN) in duplicate and arrange to deliver it to the Loco Pilot of the train duly obtaining the acknowledgement in Station copy of PLCT (T/C 1425 or T/D 1425)..*(Item No.4 of AS-6 Dt:18.06.24)*

h) The progressive numbers of the PLCTs issued to each train shall be recorded in the remarks column of the TSR against the entry for the train.

i) The SMs at 'X' and 'Y' shall communicate the timings of 'Train entering block section' and 'Train out of block section' in full (eg.1410 hrs.) to each other and record the same in TSR in RED INK immediately after the departure/complete arrival of train at the respective stations and also inform the SCOR..*(Item No.5 of AS-6 Dt:18.06.24)*

j) Whenever Line clear is cancelled, the Station Masters at 'X' and 'Y' stations shall record the same in the 'D' column of the T/A 1425 & T/B 1425 immediately. *(Item No.6 of AS-6 Dt:18.06.24)*

k) All trains shall be stopped for issuing PLCT.

(AS-1/Item No.3/Insert the following as 8.8)

8.8. <u>Procedure for obtaining/granting Line clear using Control Telephone as a means of communication between stations 'X' and 'Y':</u>

a) The Station Master at 'X' or 'Y', as the case may be, shall intimate the Section Controller and other all concerned officials through a message about the failure of Block instrument etc. The SCOR shall record the failure on his control chart. The SCORs shall acknowledge the block instrument failures while handing/taking over charge.

b) The Station Master at 'X' who intends to despatch a train shall first obtain the permission of SCOR. The SCOR shall call SM 'Y' on control telephone and establish communication between stations 'X' and 'Y' through control telephone

c) (AS-2/Item No.2/Rule No.8.8 (c), (d) and (e) are amended))

The Station Masters at stations 'X' and 'Y' shall, before obtaining/granting Line clear, call out their station name and identify each other with their full name. Then they shall repeat the arrival and departure timings of the last three preceding trains over the block section to the Section Controller, who shall cross check the correctness of the particulars of both the SMs with his Control Chart. Both SMs shall record these particulars in red ink in TSR.

d) Station Masters at 'X' and 'Y' shall exchange messages in the pro-forma given vide Rule No.8.5 (d).

e) The SM at 'X' clearly mention the Train No. **in full,** description (Express/ Passenger/Goods train), direction (Up/Dn) for which Line clear is required**.**

f) The Station Master at 'Y', after complying with the conditions for granting Line clear shall grant Line clear supported by a Private Number**.**

g) The train number in full, description, direction (UP/DN) and the arrival/departure timings of each train dealt with between 'X' and 'Y' and the Private Number obtained / issued shall be recorded in red ink then and there in the TSR by Station Masters at 'X' and 'Y'.

h) The SMs at 'X' and 'Y' shall record the above details and the means of communication through which the line clear is obtained / granted in the document T/A .1425 (outward) /T/B.1425 (inward), as the case may be.

i) After obtaining Line clear from station 'Y', the Station Master at station 'X' shall prepare Paper Line Clear Ticket (T/C 1425 for UP or T/D 1425 for DN)in duplicate and arrange to deliver it to the Loco Pilot of the train duly obtaining the acknowledgement in station copy of (T/C 1425 or T/D 1425).*(Item No.7 of AS-6 Dt:18.06.24)*

j) The serial numbers of the PLCTs issued to each train shall be recorded in the remarks column of the TSR against the entry for the train.

k) The SMs at 'X' and 'Y' shall communicate the timings of 'Train entering block section' and 'Train out of block section' in full (eg.1410 hrs.) to each other and record the same in TSR in RED INK immediately after the departure/complete arrival of train at the respective stations and also inform the SCOR.*(Item No.8 of AS-6 Dt:18.06.24)*

l) Whenever the Line clear is cancelled, the Station Masters at 'X' and 'Y' stations shall record the same in the 'D' columns specified in T/A 1425 & T/B 1425 immediately and inform the section controller.*(Item No.9 of AS-6 Dt:18.06.24)*

m) All trains shall be stopped for issuing PLCT.

n) The Section Controller shall co-ordinate between Station Masters 'X' and 'Y' for fulfilling the transactions mentioned under Rule No. 8.8 (a) to (f) & (k) and record the Private Number issued by Station Master 'Y' to Station Master 'X' in the control chart. Station Masters at 'X' and 'Y' shall record the name of Section Controller on duty in the Remarks column of TSR.

o) The Section Controller shall ensure that the block section is clear of trains as per the chart before line clear is granted by Station Master 'Y'.

(AS-1/Item No.4/Rule No.8.9/New item)

8.9. Procedure for obtaining/granting line clear using VHF sets as a means of communication between Stations 'X' and 'Y':

a) The Station Masters of X-Y block section shall contact each other on the *common frequency / channel allotted in their VHF sets and switch over to the **freezed channel/frequency as prescribed in the SWR for the purpose of obtaining/granting Line clear.

Channel	Frequency	To be used for
5	150.10	F1 for PLCT; 1st block section of straight
6	150.150	F2 for PLCT; 2nd block section of straight
7	159.60	F3 for PLCT; 3rd block section of straight
15	146.20	Fj1 for PLCT; 1st section (Jn. Stn.-Direction-1)
16	148.050	Fj2 for PLCT; 2nd section (Jn. Stn.-Direction-1)
17	149.80	Fj3 for PLCT; 3rd section (Jn. Stn.-Direction-2)
18	149.85	Fj4 for PLCT; 1st section (Jn. Stn.-Direction-2)
19	151.40	Fj5 for PLCT; 2nd section (Jn. Stn.-Direction-2)
20	151.45	Fj6 for PLCT; 3rd section (Jn. Stn.-Direction-2)

(AS No.2/Item No.3/Rule No.8.9 (b) is amended)

b) Station Masters at 'X' and 'Y' shall call out their station name and identify each other with their full name. Then they shall cross check private numbers given for line clear, for the last three preceding trains along with train numbers on the **freezed channel/frequency and record these particulars in red ink in TSR. Then they shall exchange messages in the proforma given vide Rule No.8.5 (d) above (AS-2, dt.30.10.06)

c) The SM at 'X' shall clearly mention to SM at 'Y', the Train No. **in full (two / three / four digits),** description (Express, Passenger, Goods train), direction (Up/Dn) for which Line clear is required**.**

d) The Station Master at 'Y', after complying with the conditions for granting Line clear shall grant Line clear supported by a Private Number**.**

e) The train number in full, description, direction (UP/DN) and the arrival/departure timings of each train dealt with between 'X' and 'Y' and the Private Number obtained / issued shall be recorded in red ink then and there in the TSR by Station Masters at 'X' and 'Y'.

f) The SMs at 'X' and 'Y' shall record the above details and the means of communication through which the line clear is obtained / granted in the document T/A.1425 (outward) /T/B.1425 (inward), as the case may be.

g) After obtaining line clear from station 'Y', the Station Master at station 'X' shall prepare Paper Line Clear Ticket (T/C 1425 for UP or T/D 1425 for DN) in duplicate and arrange to deliver it to the Loco Pilot of the train after obtaining the acknowledgement in station copy of PLCT T/C.1425 or T/D 1425).*(Item No.10 of AS-6 Dt:18.06.24)*

h) The serial number of the PLCT issued to each train shall be recorded in the remarks column of the TSR against the entry for the train.

i) The SMs at 'X' and 'Y' shall communicate the timings of 'Train entering block section' and 'Train out of block section' in full (eg.1410 hrs.) to each other and record the same in TSR in RED INK immediately after the departure/complete arrival at the respective stations and also inform the SCOR.*(Item No.11 of AS-6 Dt:18.06.24)*

j) Whenever the line clear is cancelled, the Station Masters at 'X' and 'Y' stations shall record the same in the columns specified of the T/A 1425 & T/B 1425 immediately.*(Item No.12 of AS-6 Dt:18.06.24)*

k) All trains shall be stopped for issuing PLCT.

Note:

i) VHF sets for prolonged duration of three hours or more should be permitted only in the presence of supervisory staff.

ii) VHF sets should not be used as the sole means of communication where passenger trains run. However VHF sets can be used as the only means of communication with the permission of Authorized Officer for specific sidings / sections where only freight trains run.

iii) Wherever GSMR (Global Signal Mobile Receiver) (Cell phone) has been provided, the use of VHF sets should not be permitted.

8.10. Total interruption of communications on double line.

See S.R.6.02.3

8.11. Restoration of working with block instruments.

a) Working with block instrument, which is suspended in accordance with Rule 8.3, shall not be resumed until the instrument has been tested by the Signal Inspector except in the following cases where the Station Masters themselves may resume without such test –

i) When the block instrument is suspended due to the introduction of single line working, block working may be resumed when double line working is restored.

ii) If the Last Stop Signal cannot be taken 'off' even after 'Line clear' has been received and when it is definitely known that the failure is due to uninsulated trolly or material lorry, block working may be resumed after the passage of the first train.

iii) Power failure at stations where signals are lit by electricity, block working may be resumed when power is restored.

b) The Station Masters at both ends of the block section on which block working was suspended shall, in all cases, satisfy themselves that the line between their stations is clear of trains by exchanging messages, giving the time of arrival and departure of the last train at each end of the block section before restoring block working

c) When block working is resumed, the Station Masters at both ends of the block section shall at once make entries, in red ink in the Train Signal Register showing the date and time of resumption, before any further train entries are made in the Train Signal Register and then advise each other under exchange of Private Numbers, by telephone of the resumption of block working and also advise the Signal Inspector and Divisional Railway Manager/T and S&T by telephone.

8.12. Rules and regulations for Temporary Single Line (TSL) working on a double line section when one line is obstructed.

See S.R. 6.02.1

8.13. Rules and regulations for Temporary Single Line (TSL) working on a double line section during total interruption of communications.

See S.R.6.02.2

ANNEXURE

WORKING OF TRAINS

THROUGH

PAPER LINE CLEAR TICKETS

(T/C.1425-UP PLCT & T/D.1425- DOWN PLCT)

ANNEXURE
WORKING OF TRAINS THROUGH PAPER LINE CLEAR TICKETS (T/C.1425-UP PLCT & T/D.1425-DOWN PLCT)

***

ANNEXURE

Replacement Page No.1 to BWMD upto AS-6

WORKING OF TRAINS THROUGH PAPER LINE CLEAR TICKETS (T/C.1425-UP PLCT & T/D.1425-DOWN PLCT

1.1. Use of Line clear inquiry message-(T/A 1425-Outward/T/B 1425 Inward):

a) The Train Signal Register shall always be referred to before any entries are made in Line clear inquiry message (outward) to ensure that the entries in the Train Signal Register are complete and the block section is clear.

b) The Line Clear inquiry message for dispatch -(T/A 1425-Outward) and the Line Clear inquiry message received-(T/B. 1425-Inward) shall be written personally by the Station Masters 'X' and 'Y'. Care shall be taken to ensure that the messages are complete and correct in all respects. If a mistake is made while writing the message, the wrong entry shall be cancelled drawing a line lightly through it, so that it can be read at any time and not by erasure and the correction initialled by the Station Master.

c) Immediately after despatching or receiving each message, the Station Masters at either end shall exchange their initials and enter the initials in the columns 'received from' and 'received by'-(T/A 1425-Outward/T/B 1425-Inward).

d) After recording a message in the Line Clear inquiry message (outward/inward), if interruption occurs, this fact shall be recorded against the last entry in the message.

e) No abbreviation or curtailment of words or train description shall be used in the body of any message -(T/A 1425-Outward/T/B. 1425-Inward) or PLCT (T/C1425 or T/D1425).

f) The direction of train ie., up or down shall also be recorded. The numerical number of train in two / three / four digits shall be spelt out fully.(Ex.FL.10 / 170 / 2718 etc., instead of last digits 18). Similarly the timings 'Out report' and 'In report' shall also be spelt out in four digits. . (Ex.21.35 hrs. and 21.55 hrs. etc., instead of last digits 35 and 55).

g) The 'Station Master stamp' should be affixed on the PLCT. The name of the station to which the Driver is authorised to proceed shall be written in full, confirming to the official spelling of the station's name as given in the Working Time Table.

h) The Driver shall check that the PLCT is correctly and completely filled without any alterations and that the train number and description, date, direction and the name of the 'station to' are correct.

i) When 'Line clear' is obtained through block phone or control phone or VHF set, the Station Master shall write the same in the column ' by means of' in the 'A' portion of outward message - T/A1425.

1.2. Daily serial numbers and Private Numbers:

a) Each 'Line clear inquiry message (Outward)' shall be numbered consecutively from one, commencing from zero hour each day.

b) In 'Reply despatched to Line clear enquiry received to station……', reference to the message number shall be quoted.

c) Every 'Line Clear' sent shall be allotted a Private Number. The Private Number shall be recorded both in figures and words in 'reply despatched' and 'reply received' portions of T/A1425 and T/B.1425 respectively.

1.3. Preservation of T/A1425, T/B1425 ,T/C1425 and T/D.1425.:

The T/A1425, T/B1425, T/C1425 and T/D.1425 shall be preserved at stations for one year after the half year in which they are completed and after that they shall be treated as old records and disposed off as such. T/A1425, T/B1425 , T/C1425 and T/D.1425 required to be retained pending enquiries or cases etc.., shall on no account be treated as old records and disposed off before the conclusion of such enquiry or case without obtaining specific orders from the Official who had issued the original orders for retention.

1.4. Method of sending a train from 'X' to 'Y' using T/A1425, T/B1425 , T/C1425 and T/D.1425:

If 'X' and 'Y' are two consecutive block stations, the method of sending a train from station 'X' to station 'Y' using T/A1425, T/B1425 , T/C1425 and T/D.1425 is as follows:*(Item no.25 of AS-6 Dt:18.06.2024)*

Sending Station 'X'		Receiving Station 'Y'	
1.	SM/X shall fill the name of Station master of Y station with whom communicated and established mode of communication for Line clear in the Line clear inquiry portion of T/A 1425		
		2.	SM/Y shall fill the relevant columns as ensured with SM/X in the Line clear reply portion Of T/B 1425. .
3	SM/X shall Cross check with SM/Y, the last train dealt over the section, its clearance and ask for Line clear with full description of train and record the same in T/A 1425.		
		4	SM/Y shall also fill the relevant columns as communicated with SM/X in T/B 1425. If line is clear, ensure LC gates closure and grant permission supported by a PN, and record the same in T/B 1425.
5.	SM shall record the details of PN and Line clear received time in the T/A 1425.		
6	On the basis of T/A 1425, prepare (T/C.1425 UP) or (T/D.1425 DN) as the case may be in duplicate and arrange to hand over to the Loco pilot duly obtaining signature in the station record copy.		

1.5. Delivery of Paper Line Clear Ticket to the Driver:

a) The Station Master shall deliver the Paper Line Clear Ticket to the Driver personally or through a competent railway servant. The Driver shall acknowledge in column A of T/A1425.

b) The PLCT shall not be handed over to the Driver of a train which has to perform shunting at the station until the shunting is completed and the train is ready to start.

c) **Two engines on one train** – If there are two engines on one train, PLCT shall be delivered to the Driver of the leading engine.

d) In the case of any delay in the receipt of the 'in-report' for a train, the Station Master, who despatched the train shall enquire the reasons for the delay.

1.6. Counter 'Line clear' enquiry during interruption of control phone:

a) When 'Y' receives 'Line clear enquiry' from 'X', if 'Line clear' is required for a more important train waiting at 'Y', 'Y' should send a counter 'Line clear enquiry'.

b) 'Y' should write in red ink in column A of the inward portion of T/B.1425 the words 'Cancelled'. He shall then record the 'Counter Line clear enquiry' in column A of outward portion of T/A1425 (fresh form) and inform 'X'. Station Master at 'X' shall write the words 'Cancelled' in red ink in column A of outward portion of T/A1425. 'X' shall then record in column A of inward portion of T/A.1425 (fresh form) and inform 'Y'.

Note : Refer Chapter II for Precedence of trains.

1.7. Refusal of 'Line clear':

If, owing to obstruction, shunting or any other reason, the Station Master at 'Y' is unable to give the Station Master at 'X' 'Line clear' for a train, he shall refuse 'Line clear' stating reasons for doing so. The refusal of 'Line clear' shall be entered in the Out ward message T/A1425 and Inward message-T/B.1425 at both the stations and fresh form of T/A1425 shall be used when the Station Master at 'X' asks the Station Master at 'Y' 'Is line clear' again when conditions for 'Line clear' are favourable.

1.8. Withdrawal of 'Line clear' in case of emergency:

a) If Station Master 'X' , after obtaining 'Line clear' from 'Y' desires to withdraw 'Line Clear' in case of any emergency , he shall withhold PLCT from sending to the Driver. If PLCT already handed over to the Driver, it shall be collected back, if possible. If the train has already left the station 'X' to 'Y' before the withdrawal of PLCT, the Station Master at 'X' shall immediately warn the Station Master at 'Y' about the train's position.

b) If Station Master 'Y' , after granting 'Line clear' to 'X', desires to withdraw 'Line Clear' in case of any emergency , he shall make all possible efforts to inform station 'X' through any means of communication.

c) If 'X' or 'Y' succeeds in withdrawing 'Line clear' in an emergency the PLCT shall be cancelled following prescribed procedure.

1.9 Applying for 'Line clear' for shunting train outside the First Stop Signal on Single line token territory and Single line tokenless territory:

a) When the Station Master at 'X' requires to shunt a train partly or fully outside the First Stop Signal in the direction of the station 'Y', he shall obtain 'Line clear' from the Station Master at 'Y' as per the procedure laid down in 1 to 3 of 1.4 above.

b) The Station Master shall then issue to the Driver, along with the PLCT, a memo authorising him to shunt outside the First Stop Signal and return to the station and obtain his acknowledgement. The shunting shall not be commenced until this is done. When the shunting is completed and the 'X' – 'Y' block section is again clear, 'X' shall cancel the 'Line clear' and inform 'Y'.

1.10. Cancelling 'Line clear':

a) When, after 'X' has obtained 'Line clear' from 'Y', he finds it necessary, for any cause to cancel 'Line clear', he shall recover the PLCT from the Driver and call 'Y''s attention.

b) If 'Line clear' is cancelled due to the train having been detained, the PLCT shall be cancelled and the Driver's copy of T/C1425 or T/D1425 attached to the record copy.

c) The Station Masters at 'X' and 'Y' shall then make entries in the D column of T/A.1425 / T/B.1425.

*****

FORM No. T/A1425
Sr.No. _____

SOUTH CENTRAL 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

1. Date_____; Mode of communication_____

2. From Station Master _____ (Name of SM) of _____ (station)

To Station Master _____(Name of SM) of _____ (station)

3. Last train No._____ Up/Dn left_____ station at_____hrs. and arrived at _____ station at _____ hrs.

4.Is line clear for _____Train proceeding in____ direction? Asked at ____hrs.

5. Line clear Reply received from_____ station at_____ hrs.

6.Private number received in support of Line clear (in figures and words) _____.

_____

***7.The LC Gates interlocked with failed signals have become non-interlocked and closure ensured through Private Number.**

LC Gate No.	Closure PN

_____

Line Clear Cancellation

***8. Line clear Cancelled at_____ hrs. Reasons for Cancellation_____**

_____

Signature of Station Master

***Strike out whichever is not applicable**
Note: Separate books to be maintained for each block section & for third line.
Sr.No. to be machine numbered.
This memo shall be printed in black.

Form No. T/B 1425
Sr.No. _____

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

****

Train Receiving Station
Line Clear Reply

1. Date _____; Mode of communication _____

2. From Station Master _____ (Name of SM) of _____ (station)
To Station Master _____ (Name of SM) of _____ (station)

3. Last train No. _____ Up/Dn left _____ station at _____ hrs. arrived at _____ station at _____ hrs.

4. Line clear sought for _____ Train Proceeding in _____ direction, asked at _____ hrs.

***5. The LC Gates interlocked with failed signals have become non- interlocked and closure ensured through Private Number.**

LC Gate No.	Closure PN

6. Private number given in support of Line clear (in figures and words) _____
_____ at _____ hrs.

Line Clear Cancellation

***7. Line clear Cancelled at _____ hrs. Reasons for Cancellation _____**
_____

Signature of Station Master

***Strike out whichever is not applicable**

Note: Separate books to be maintained for each block section & for third line.
Sr.No. to be machine numbered.
This memo shall be printed in black.

Form No.T/C 1425
Sr.No._____

South Central Railway
PAPER LINE CLEAR TICKET (UP)
(Loco Pilot Copy / Station Record)

Reason for issuing PLCT _____.

From
Station Master of_____station.

To
The Loco Pilot of_____Train Proceeding in UP direction.

"The Line is clear and you are authorized to proceed to_____Station."

Line clear obtained through *(strike out whichever is not applicable)*

- **Block instrument**
- **Form No. T/A 1425 and PN received in support of line clear (in words and figures)**

_____.

AUTHORITY TO PASS SIGNALS AT ON POSITION

You are authorised to pass the following signals at ON Position, speed not exceeding 15 kmph while passing over points. Observe hand signals at the foot of the defective signal/s, if it protects points.

Signal Description	Signal No.	Point Numbers Set, Clamped and Padlocked	Observe closure of Interlocked LC Gates number
***Starter**			
***Intermediate starter**			
***Advanced starter**			
***IBS**			

**Strike out whichever is not applicable*

Signature of Loco pilot
Date
Time

Signature of Station Master
Station Master Stamp
Date &Time

Note: Sr.No to be machine numbered.
Form shall be in duplicate – one station record and one Loco pilot copy.
This memo shall be printed in blue.

Form No.T/D 1425
Sr.No._____

South Central Railway
PAPER LINE CLEAR TICKET (DOWN)
(Loco Pilot Copy / Station Record)

Reason for issuing PLCT_____.

From
Station Master of_____station.

To
The Loco Pilot of_____Train Proceeding in Down direction."The Line is clear and you are authorized to proceed to_____Station."

Line clear obtained through *(strike out whichever is not applicable)*

- **Block instrument**
- **Form No. T/A 1425 and PN received in support of line clear (in words and figures)**

_____.

AUTHORITY TO PASS SIGNALS AT ON POSITION

You are authorised to pass the following signals at ON Position, speed not exceeding 15 kmph while passing over points. Observe hand signals at the foot of the defective signal/s, if it protects points.

Signal Description	Signal No.	Point Numbers Set, Clamped and Padlocked	Observe closure of Interlocked LC Gates number
***Starter**			
***Intermediate starter**			
***Advanced starter**			
***IBS**			

**Strike out whichever is not applicable*

Signature of Loco pilot
Date
Time

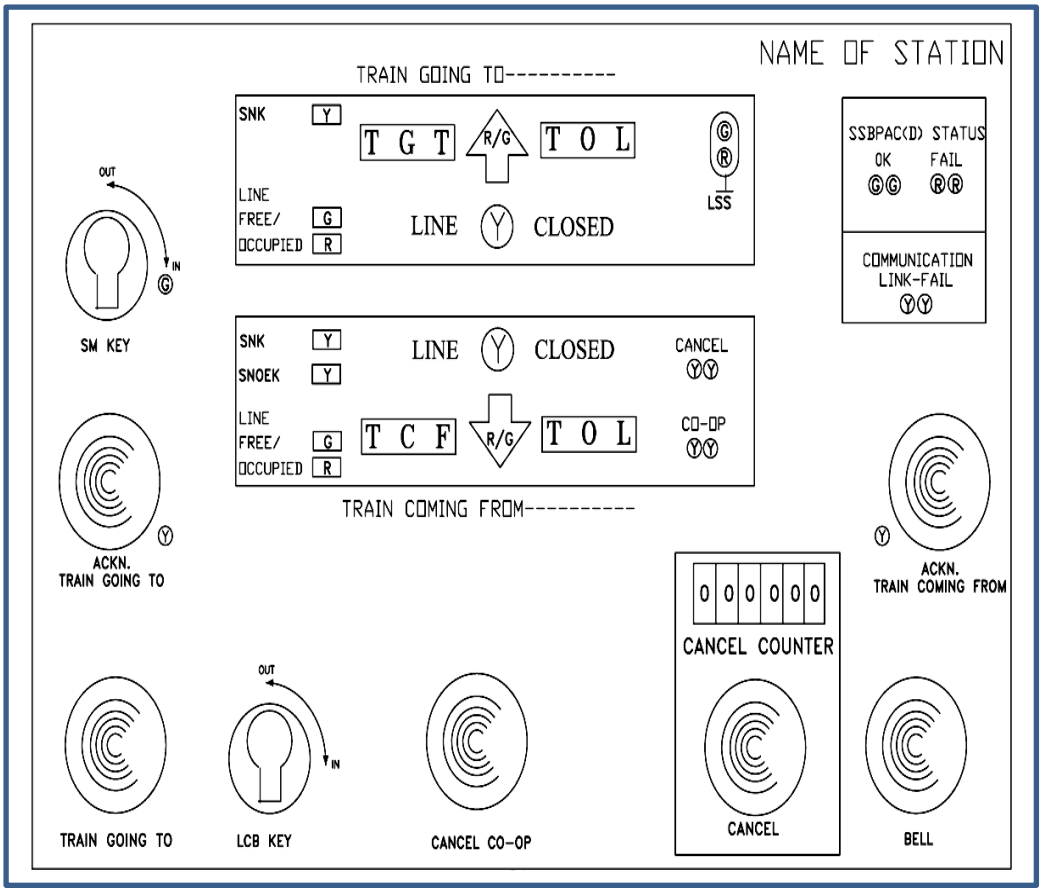
Signature of Station Master
Station Master Stamp
Date &Time

Note: Sr.No to be machine numbered.
Form shall be in duplicate – one station record and one Loco pilot copy.
This memo shall be printed in blue.

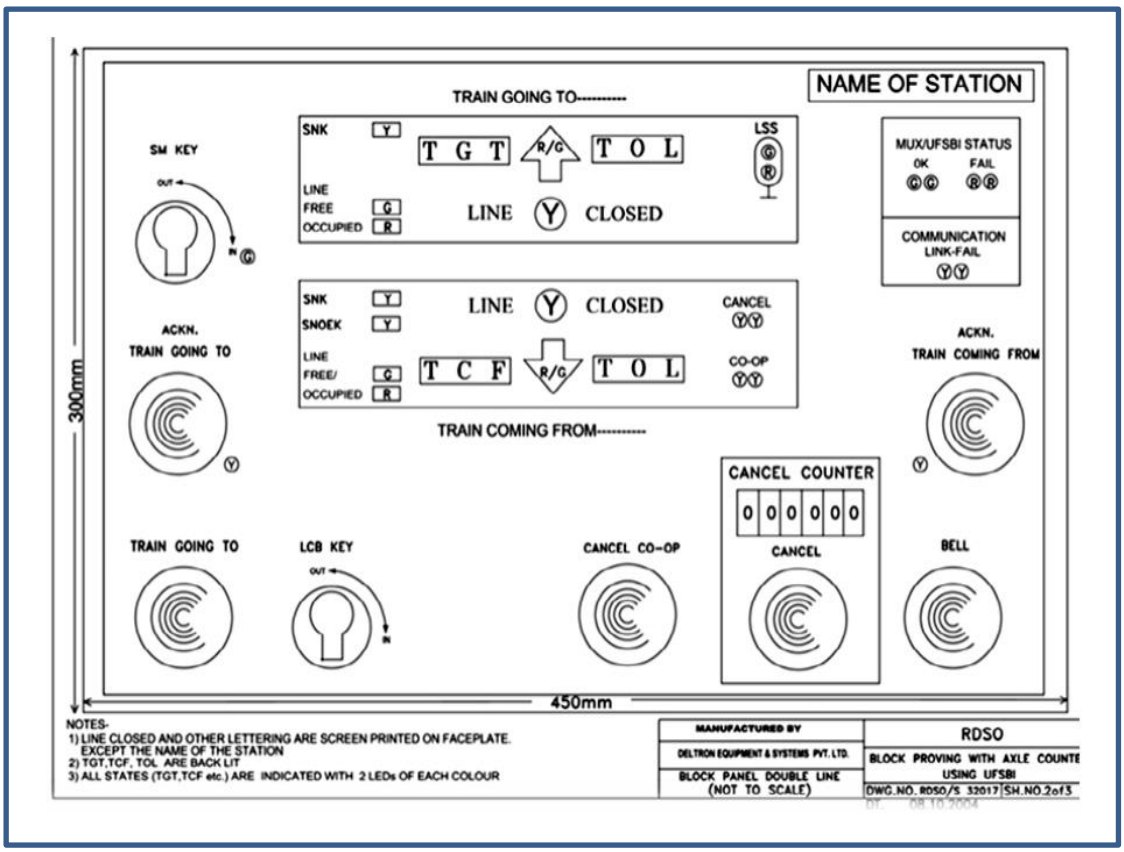
ANNEXURE-I
BLOCK WORKING MANUAL
FOR
SSBPAC (D)/UFSBI
DOUBLE LINE

TABLE OF CONTENTS

1.1 Block Panel of SSBPAC(D)



1.2 Block Panel of SSBPAC(D)



2.0 Description of Block Panel of SSBPAC(D)

2.1 SM's Block panel is provided with following KYS for Following functions

2.1.1	SM Key	SM/ASM's control key. The key when out prevent following operations: a) Transmission of BELL code b) Transmission of IS LINE CLEAR inquiry request c) Cancellation of LINE CLEAR
2.1.2	LCB Key	LINE CLEAR BLOCKING key. It serves the following, when out, To prevent station in rear to take LINE CLEAR. To prevent closing of Block
2.1.3	SM's Back Cover lock key	To open or lock the back cover by SM/ASM/Switchman, when required by signal staff for maintenance or repairs.
2.1.4	Maintainer Back cover lock key	To open of lock the back cover by authorised signal staff, for maintenance or repairs, provided SM's back cover lock key as per cl.7.1.3 is also applied.

2.2 SM'S Block Panel is provided with non-locking PUSH BUTTONS

2.2.1	BELL button (Black in colour)	a) To transmit BELL codes to station at other end of Block section. b) To take LINE CLEAR, when pressed along with TRAIN GOING TO button. To cancel LINE CLEAR, when pressed along with CANCEL button.
2.2.2	TRAIN GOING TO Button(RED in Colour)	To transmit IS LINE CLEAR inquiry to station in advance for taking LINE CLEAR. It is used in conjunction with BELL button at train sending station to light up TRAIN COMING FROM (GREEN) indication on Block Panel of receiving station, which in turn automatically grants LINE CLEAR to light up and TRAIN COING to (GREEN) indication on Block Panel of sending station.
2.2.3	ACKN Button(s) (Black in Colour)	Two such buttons are provided, one each for despatch line and receive line. To silence the SECTION buzzer on occupation or clearance of block section.

2.2.4	Cancel Co-op Button (Green in Colour)	To give co-operation from sending station to cancel the line clear at receiving station.
2.2.5	CANCEL Button (Yellow in Colour)	It is used in conjunction with BELL button at train receiving. Station under following conditions: Train has not entered the block section and Line clear cancellation has to be done. Complete train has been pushed back at train sending station.

2.3 SM's Block Panel is provided with ILLUMINATED INDICATORS

2.3.1	LINE CLOSED Indication	Circular indications (TWO Number) in between the directional arrowhead.
	YELLOW	To indicate Block Section free from vehicles and LINE CLEAR not granted/received at train receiving/ train sending station respectively.
2.3.2	TRAIN COMING FROM indication	In a directional arrowhead pointing downward for incoming traffic towards station at train receiving station.
	GREEN	To indicate LINE CLEAR granted when TRAIN GOING TO Button and BELL button have been pressed at sending station and the conditions for the granting of LINE CLEAR at receiving station have been complied with and a rectangular indication named TCF lights up GREEN.
	RED	To indicate TRAIN ON LINE on entry of incoming train on LINE CLEAR.
	FLASHING GREEN	To indicate: Block section clear after arrival of train, but associated Signals and their controls not normal at either of station or LCB Key is OUT. Cancellation of LINE CLEAR before entry of train in Block Section.

2.3.3	TRAIN GOING TO Indication	In an arrowhead pointing upward for outgoing traffic away from station at train sending station.
	GREEN	To indicate LINE CLEAR received when TRAIN GOING TO button and BELL button have been pressed on Block Panel of train sending station and the condition for taking the LINE CLEAR have ben complied with at both statins and a rectangular indication named TCF lights up GREEN
	RED	To indicate TRAIN ON LINE on entry of outgoing train on LINE CLEAR.
	FLASHING GREEN	To Indicate: a) Block Section clear after arrival of train at other station, but associated signals and their controls not normal at either or both stations or LCB Key is OUT at receiving station. b) LINE CLEAR cancelled before entry of train in block section.
2.3.4	Cancel Co-Op indication YELLOW	Indication to indicate co-operation extended by station at other end for cancellation of line clear by pressing Cancel Co-operation button.
2.3.5	CANCEL Indication	Circular LED
	FLASHING YELLOW	To indicate progress of LINE CLEAR cancellation timer of 120 seconds. The indication lights up on pressing of CANCEL Button along With BELL button, when TRAIN COMING FROM is displaying FLASHING GREEN indication
2.3.6	SNK Indications	Two such indications are provided.
	SNK YELLOW	**a)** SNK (D): Yellow provided near TRAIN GOING TO directional arrowhead to Indicate LAST STOP SIGNAL and its controls at ON/ Normal. **b)** SNK (R): Yellow provided near TRAIN COMING FROM directional arrowhead to Indicate reception signal (s) & its controls at ON/Normal

2.3.7	SNOEK (SNK other end) YELLOW	i) Provided near TRAIN COMING FROM directional arrowhead to Indicate LAST STOP SIGNAL and its controls at station in rear are at ON/ Normal.
2.3.8	Last Stop Signal Circular in monogram of signal, (LSS) Indications	Circular in monogram of signal
	RED	To indicate Last Stop Signal is at 'ON'
	GREEN	To indicate Last Stop Signal is at 'OFF'
2.3.9	LINE **FREE** indication GREEN	**To indicate Block Section is clear of vehicles.**
	LINE OCUUPIED indication RED	To indicate Block Section occupied
2.3.10	**ACKN indication YELLOW**	A Indication near ACKN button. To indicate SECTION buzzer ON status
2.3.11	SM KEY 'IN' indication **GREEN**	Indication near SM KEY To indicate SM key "IN"
2.3.12	**SSBPAC(D)** OK indication	Glows GREEN when SSBPAC(D) is OK otherwise Extinguished.
2.3.13	**SSBPAC(D)** FAIL **indication**	Glows RED when SSBPAC(D) goes into a failure mode otherwise **Extinguished.**
2.3.14	Communication LINK FAIL indication	Glows steady YELLOW when LINK FAILS otherwise flickering

2.4 SM's Block Panel is provided with following Buzzers

2.4.1	BLOCK Buzzer	To register the BELL CODE sent by other end SM
2.4.2	SECTION Buzzer	To register the occupation & clearance of each Block Section

2.5 Cancel Counter

To register the cancellation of Line Clear. It is incremented by one for every cancellation operation done which is a non-resettable type. Cancellation to be done by receiving station & CO-Op by sending station.

2.6 Block Telephone

For Speech Communication with SM at other end of Block Section.

3.0 Operations of Block Panel:

3.1 Method of Signaling Trains from Block Station to Block Station on an UP/DN line in a Double Line section.

a) SM of the station intending to send a train from his station has to obtain verbal consent on block telephone or alternate means from station in advance before taking LINE CLEAR on its Block Panel. Entries of train no. to be made in registers of both stations.

b) Before a request for IS LINE CLEAR is sent to station in advance, SM of sending station shall ensure the following near TRAIN GOING TO arrowhead on its Block Panel;

i) LINE CLOSED indication YELLOW &

ii) LINE FREE indication GREEN &

iii) SNK indication YELLOW.

c) The station in advance while granting his verbal consent shall ensure the following near TRAIN COMING FROM arrowhead on its Block Panel;

i) LINE CLOSED indication YELLOW &

ii) LINE FREE indication GREEN &

iii) **SNK indication YELLOW &**

iv) SNOEK indication YELLOW

Then inserts and turns LCB key.

d) Thereafter SM of sending station presses BELL & TRAIN GOING TO buttons.

e) The arrowhead, TRAIN GOING TO TRAIN COMING FROM lights up green at sending/receiving station respectively.

f) SM of sending station releases BELL & TRAIN GOING TO buttons on getting TRAIN GOING TO green indication.

g) The sending station SM after obtaining LINE CLEAR on its Block Panel can send the train into Block Section by taking the LSS to 'OFF'. On entry of train into section, TRAIN ON LINE lights up RED at both the stations in arrowhead indication. SECTION buzzer sounds at both the stations along with ACKN indication near respective ACKN button. Pressing of ACKN button of concerned line (Despatch/Receive) will turn off the buzzer and ACKN indication.

h) The train is received at receiving station on proper reception signals. On complete arrival of train, TRAIN GOING TO TRAIN COMING FROM arrowhead indication turns to FLASHING GREEN & LINE FREE indication turns to GREEN at both the stations. TRAIN GOING TO TRAIN COMING FROM arrowhead indication continues FLASHING GREEN at sending/receiving station respectively till reception & departure signals and their controls are not at normal or LCB Key is not 'IN'. In case reception & departure signals and their controls are at normal & LCB key is IN, TRAIN GOING TO TRAIN COMING FROM arrowhead indication turns off and LINE CLOSED indication lights up YELLOW.

3.2 Following is the sequence of operations of signalling a train between two stations:

The block section being clear and the 'LINE CLOSED' indication being displayed on Block Panel at both the stations. The action is taken by sending stations SM as under:

	Sending Station		Receiving Station
1	Ensure LINE CLOSED indication YELLOW, SNK indication YELLOW, LINE FREE indication GREEN. Insert SM key & turns to IN. b) Send 'Call Attention' signal to receiving station by pressing BELL button	2	Acknowledges the 'Call Attention' signal by pressing BELL button
3	Sends 'Attend Telephone' signal by pressing BELL button	4	Acknowledges by pressing BELL button and attends telephone
5	Attend telephone and advises station in advance about the intended movement of the train on telephone & ask for LINE CLEAR. Give Number and description of train and ask for Line Clear	6	a) Ensures LINE CLOSED indication YELLOW, SNK indication YELLOW, LINE FREE indicator GREEN & LCB key IN & b) Then say "LINE IS CLEAR FOR TRAIN" supported by a PN

	Sending Station		Receiving Station
7	Repeat the PN and SM simultaneously 8. presses BELL & TRAIN GOING TO buttons until 'TRAIN GOING TO' arrowhead indication lights up GREEN. (If aforesaid indication does not appear after 3 seconds (approx.) of pressing the buttons, SM releases the buttons and rechecks conditions at his station and asks station in advance to recheck the conditions for grant of LINE CLEAR.)	8	'LINE CLOSED' indication turns off and 'TRAIN COMING FROM' arrowhead indication lights up GREEN
9	'LINE CLOSED' indication turns off. 'TRAIN GOING TO' arrowhead indication lights up GREEN. Releases BELL & TRAIN GOING TO buttons		
10	Takes LSS to 'OFF' SNOEK indicator turns 'OFF' Train enters the Block Section. LSS indication on block panel turns to red. LINE OCCUPIED indication lights up RED SECTION buzzer starts ringing & "TRAIN GOING TO' Arrow Head Indication turns RED. ACKN (TGT) indication lights up Acknowledges the buzzer by pressing ACKN (TGT) button. ACKN (TGT) indication turns off and buzzer is silenced Note the train entering the block section timings Puts back the LSS controls to Normal. Ensures SNK lights up YELLOW.	11	SNK indicator turns 'OFF' LINE OCCUPIED indication lights up RED. SECTION buzzer starts ringing & 'TRAIN COMING FROM' Arrow Head Indication turns RED. ACKN (TCF) indication lights up. **Acknowledges the buzzer by pressing ACKN button. ACKN (TCF) indication turns off and buzzer is silenced. Note the train entering the block section timings.** SNOEK lights up YELLOW. Takes reception signal(s) 'OFF' to receive the train. SNK indicator turns 'OFF' Train passes Home Signal. Signal replaces to `ON'. Train clears the Block Section including Block overlap

	Sending Station		Receiving Station
13	SECTION buzzer starts ringing. ACKN 12 (TGT) indication lights up YELLOW. LINE FREE indication turns to GREEN. 'TRAIN GOING TO' indication turns FLASHING GREEN. Acknowledges the buzzer by pressing ACKN (TGT) button. ACKN (TGT) indication turns off and buzzer is silenced Note the train out of block section timings.	12	SECTION buzzer starts ringing. ACKN (TCF) indication lights up YELLOW LINE FREE indication turns from red to GREEN. **'TRAIN COMING FROM' Arrow Head Indication turns from red to FLASHING GREEN.** Ensure the conditions for closing the block section as per GR 14.10. Acknowledges the buzzer by pressing ACKN (TCF) button. ACKN (TCF) indication turns off and buzzer is silenced. Note the train out of block section timings
15	'TRAIN GOING TO' Arrow Head Indication turns off. 'LINE CLOSED' indication lights up	14	Replaces all controls pertaining to reception of train to Normal. SNK lights up YELLOW. **"TRAIN COMING FROM' Arrow Head flashing green Indication turns off.** 'LINE CLOSED' indication yellow lights up

3.3 REFUSAL TO 'LINE CLEAR ENQUIRY'

When the SM does not want to grant line clear for any reason block section is blocked by the presence of a train. in the section or train parting or shunting or opening of level crossing in mid section or for any other reason, the LCB key shall be taken out and kept in safe custody of the SM of the receiving station.

On removal of obstruction, SM of receiving station shall immediately inform SM of sending station in rear about the line free condition and put LCB Key IN, so as to enable him to send a fresh LINE CLEAR ENQUIRY.

3.4 Cancellation of 'LINE CLEAR'

After a sending station has taken LINE CLEAR, in case of cancellation of train or for testing, the receiving station can carry out LINE CLEAR cancellation by pressing BELL & CANCEL button with SM key IN only when the CO-OP button at the sending station is kept pressed. TRAIN GOING TO/TRAIN COMING FROM arrow indication turns to FLASHING GREEN at sending/receiving station respectively.

a) Method of Cancellation due to cancellation of train

	SENDING STATION		RECEIVING STATION
1	Give call attention signal Put back LSS 2. to 'ON', if already taken 'OFF, ensures; SNK indicator YELLOW, Advises receiving end station SM about circumstances for cancellation after prescribed BELL code supported by a PN	2	Acknowledge and attend telephone Agrees to request, ensures; SNK indicator YELLOW, SNOEK indicator YELLOW, and gives consent supported by a PN
3	After verbal consent from other end SM **Presses CANCEL CO-OP button and releases on receipt of BELL code**	4	CO-OP to light up YELLOW **Presses BELL & CANCEL button with SM key IN** **CANCEL COUNTER increments by 1** **'TRAIN COMING FROM' indicator turns from** **green to FLASHING GREEN** **CANCEL indicator lights up FLASHING YELLOW & continues flashing for 120 seconds**
5	'TRAIN GOING TO' indicator turns 6. from green to FLASHING GREEN	6	On expiry of 120 seconds, **TRAIN COMING FROM indicator arrow** and CANCEL indicator turns off **'LINE CLOSED' yellow indicator lights** up.
7	**TRAIN GOING TO arrow indicator turns off** LINE CLOSED yellow indicator lights.		

3.5 Closing of Block after a PUSH BACK operation

After a train has been pushed back at the sending station, the sending station advises the receiving station or telephone. The receiving station can close the section by pressing BELL & CANCEL button after getting cooperation from sending station.

3.6 Method of Push Back operation

	SENDING STATION		RECEIVING STATION
1	Train clears the Block Section. LINE 2 FREE indication turns GREEN. SECTION buzzer starts ringing. ACKN (TGT) indication lights up. 'TRAIN GOING TOY arrowhead indication turns to FLASHING GREEN. Acknowledges the buzzer by pressing ACKN (TGT) button. ACKN (TGT) indication turns off and buzzer is silenced. Ensure SNK indication YELLOW	2	Train clears the Block Section. LINE FREE indication tums GREEN. SECTION buzzer starts ringing. ACKN (TCF) indication lights up. 'TRAIN COMING FROM' arrowhead indication turns from red to FLASHING GREEN. Acknowledges the buzzer by pressing ACKN (TCF) button. ACKN (TCF) indication turns off and buzzer is silenced
3	Requests other end station SM on telephone regarding closure of the block, after prescribed BELL code. **Give PN**	4	On request from sending station SM about closing of block on telephone after prescribed BELL code. Give PN Ensures SNK indication YELLOW
5	Gives co-operation to other end station for cancellation by pressing the cancel co-op button and releases on receiving a bell code	6	Co-operation indication light up yellow. BELL and CANCEL button pressed, Released with SM key & LCB key IN, Cancel counter increments CANCEL indication lights up FLASHING YELLOW and continues flashing for 120 seconds. On expiry of 120 seconds, TRAIN COMING FROM arrowhead flashing green indication & cancel yellow indication turns off. LINE CLOSED indication yellow lights **up**
8	TRAIN GOING TO Arrow Head Indication turns off. LINE CLOSED indication yellow lights **up.**	7	On expiry of 120 seconds, TRAIN COMING FROM arrowhead indication & cancel indication turn off. LINE CLOSED indication lights up

3.7 BLOCK BACK

The SM, who intends to Block Back the line, shall inform the SM of station in rear on telephone for permission to Block Back, who will acknowledge the message and grant permission supported by a private number. SM who intends to block back takes LCB key OUT and keeps in safe custody. The SM will then issue necessary authority (Form T.806 with PN) to driver of train to perform shunting in Block Section.

On completion of shunting, section clear message will be sent to SM of station in rear on telephone about obstruction removed supported by a private number, who in turn will acknowledge the same supported by a private number. Thereafter SM will insert LCB Key and turn to IN position.

All the entries in Train Signal Register (TSR) for this operation should be made in RED ink. The reasons for Block Back shall be recorded in remarks column against each entry.

Method of Push Back operation after clearing the Block Back :

	Station intending BLOCK BACK		Station in rear
1	Block Panel displays; LINE CLOSED - YELLOW LINE FREE-GREEN SNOEK-YELLOW	2	Block Panel displays; LINE CLOSED - YELLOW LINE FREE-GREEN SNK - YELLOW
3	Inserts SM key and turns, Gives call attention by pressing bell button	4	Acknowledges call attention/ attend telephone signal by pressing bell button.
5	Attends telephone	6	Attends telephone.
7	Inform intention to block back for shunting in Block Section	8	Acknowledges and gives consent by private number
9	The LCB is taken out and kept in safe custody. Issue necessary authority (Form T.806) to driver of train to perform shunting in Block Section.		
10	On entry of train in Block Section, SECTION buzzer starts ringing and LINE CLOSED indication turns off. ACKN (TCF) indication lights up. LINE FREE indication goes off and OCCUPIED indication lights up RED. Acknowledges the buzzer by pressing ACKN (TCF) button. ACKN (TCF) indication turns off and buzzer is silenced.	11	On entry of train in Block Section, SECTION buzzer starts ringing and LINE CLOSED indication turns off. ACKN (TGT) indication lights up. LINE FREE indication goes off and LINE OCCUPIED indication lights up RED Acknowledges the buzzer by pressing ACKN (TGT) button. ACKN (TGT) indication turns off

	Station intending BLOCK BACK		Station in rear
12	**On clearing of Block Section.** SECTION buzzer starts ringing and LINE CLOSED indication lights up. ACKN (TCF) indication lights up. LINE OCCUPIED red indication turn off and LINE FREE indication turns to GREEN. Acknowledges the buzzer by pressing ACKN (TCF) button. ACKN yellow indication turns off.	13	On clearing of Block Section. SECTION buzzer starts ringing and LINE CLOSED indication lights up. ACKN (TGT) indication lights up. LINE OCCUPIED red indication turns off and LINE FREE indication turns to GREEN. Acknowledges the buzzer by pressing ACKN button. ACKN indication turns off
14	On completion of shunting, SM verifies the line between opposite STARTER (if any) / Shunt signal or Block section Limit Board/ Stop Board/fouling mark and FIRST STOP SIGNAL, free from any vehicle. Inserts SM key and turns, Gives call attention / attend telephone signal.	15	Acknowledges call attention /attend telephone signal
16	**Attends telephone**	17	**Attends telephone**
18	**Inform shunting is completed supported by a private** number	19	**Acknowledges supported by a private** number
20	Inserts LCB and turn in.		

3.8 BLOCK FORWARD

The SM, who intends to Block forward the line, shall inform the SM of station in advance on Telephone for permission to Block forward, who will acknowledge the message and grant permission supported by a private number. The SM of advance station takes LCB key OUT and keeps in safe custody. The SM of this station will then issue necessary authority (T.806 with PN) to driver of train to perform shunting in Block Section.

On completion of shunting, message will be sent to SM of station in advance on telephone about obstruction removed supported by a private number, who in turn will acknowledge the same supported by a private number. Thereafter SM of advance station will insert LCB key and turn to IN position.

All the entries in Train Signal Register for this operation should be made in RED ink. The reasons for Block forward shall be recorded in remarks column against each entry.

	Station intending BLOCK FORWARD		Station in advance
1	Block Panel displays; LINE CLOSED - YELLOW LINE FREE-GREEN	2	Block Panel displays; LINE CLOSED - YELLOW **LINE FREE GREEN**
3	Inserts SM key and turns IN, Gives call attention / attend telephone signal by pressing bell button.	4	Acknowledges call attention by pressing bell button/attend telephone signal.
5	Attends telephone	6	Attends telephone
7	Inform intention to perform shunting in Block Section	8	Acknowledges and gives consent by private number
10	Issue necessary authority (T.806 with PN) to driver of train to perform shunting in Block Section.	9	The LCB Key is taken out and kept in safe custody.

	Station intending BLOCK BACK		Station in rear
11	On entry of train in Block section, SECTION buzzer starts ringing and LINE CLOSED indication turns off. ACKN (TGT) indication lights up LINE FREE green indication turns off. LINE OCCUPIED indication red lights up. Acknowledges the buzzer by pressing ACKN (TGT) button. ACKN (TGT) indication yellow turns off.	12	On entry of train in Block section, SECTION buzzer starts ringing and LINE CLOSED indication turns off. ACKN indication lights up YELLOW. LINE FREE indication turns to RED. Acknowledges the buzzer by pressing ACKN (TCF) button. ACKN (TCF) indication turns off.
13	On clearing of Block Section. SECTION buzzer starts (TGT) ringing and LINE CLOSED indication lights up yellow. ACKN indication lights up Yellow. LINE FREE indication turns to GREEN. Acknowledges the buzzer by pressing ACKN (TGT) button. ACKN (TGT) indication yellow turns off	14	On clearing of Block Section TCF SECTION buzzer starts ringing and LINE CLOSED indication yellow lights up. ACKN (TCF) indication lights up yellow. LINE FREE indication turns to GREEN. Acknowledges the TCF buzzer by pressing ACKN (TCF) button. ACKN (TCF) indication turns off and buzzer is silenced
15	On completion of shunting, SM verifies the line between STARTER /Shunt signal/Stop Board/fouling mark and LAST STOP SIGNAL, free from any vehicle. Gives call attention to attend telephone by pressing bell button	16	Acknowledges call attention by pressing bell button
18	Attends telephone	17	Attends telephone
20	Inform shunting is completed supported by a private number.	19	Acknowledges supported by a private number
		21	Inserts LCB and turn in

3.9 SHUNTING OF TRAIN

3.9.1 SHUNTING OF TRAIN UP TO LAST STOP SIGNAL

While shunting on dispatch line, the LAST STOP SIGNAL should be kept at ON.

SM Key shall be taken out. The driver of shunting train shall be given shunting order to shunt up to LAST. STOP SIGNAL. On completion of shunting, the line between STARTER/Shunt Signal/Stop Board/fouling mark and LAST STOP SIGNAL should be checked free from any vehicle and only then SM key shall be inserted and turned to IN position.

3.9.2 SHUNTING BEHIND A TRAIN

Shunting behind a train should be performed with a message to station in advance. The station in advance shall take LCB Key out and keep in safe custody.

Shunting shall be performed as per 8.9.1. On completion of shunting, SM of sending station verifies the line between STARTER/Shunt Signal/Stop Board /fouling mark and LAST STOP SIGNAL free from any vehicle. The message regarding completion of shunting shall be sent to station in advance.

SM of station in advance inserts LCB Key and turns to IN position.

4.0 BLOCK FAILURES AND ACTION TO BE TAKEN:

The block failures can be categorized into the following:

4.1 FAILURE of the BLOCK PANEL:

Block panel should be considered defective for Up and /or Down trains, as the case may be. The Block Panel should not be restored for normal working until tested by competent signal staff and certified fit by them for use after the under-mentioned cases except for the case of Communication Link Failure (steady yellow indication). After the Communication Link Failure indication becomes flickering (OK indication) again block panel operation can be restored.

CAUSE OF FAILURE	ACTION TO BE TAKEN
1. When no indication of any sort, at all appears on the block panel or; 2. When the Bell Code signals are received indistinctly or; 3. Any damage is seen or reported to block equipment or; 4. When none of the indications viz. 'TRAIN COMING FROM and TRAIN GOING TO' appears on the block panel except 'LINE FREE' or; 5. When no train has entered into the block section but the 'LINE OCCUPIED' indication lights on RED on both lines and these indication persists even after resetting of the Axle Counters have been tried or; 6. When a train has arrived at the receiving station but the Block Panel still shows 'TRAIN ON LINE' RED indication and persist on both lines or; 7. When BI Fail indication (SSBPAC (D) red) comes or; 8. When Link Fail indication becomes steady yellow. 9. When 'TRAIN GOING TO' or 'TRAIN COMING FROM' Arrow Head Indications do not appear by appropriate action though condition for asking 'LINE CLEAR' and granting permission to approach are available. or; 10. TRAIN GOING TO or TRAIN COMING FROM Arrow Head Indications does not turn to RED to give TRAIN ON LINE indication on the entry of train into Block Section at either of the stations or; 11. When a train has arrived at the receiving station but the Block Panel shows FLASHING GREEN/GREEN indication even after ensuring SNK indication and LCB key IN or;	For case 1-9, Block Panel should be treated as defective block working suspended and trains should be dealt with by taking LINE CLEAR on the electrical communication equipment provided. For cases 10-12, the block panel should be treated as defective for respective line and trains should be dealt with by taking Line Clear on the electrical communication equipment provided. In addition to action taken for cases 1-12, all efforts should be made to keep the LAST STOP SIGNAL at ON position. If it is not possible to keep the LAST STOP SIGNAL at ON position, then a competent Railway servant should be deputed with RED hand signal at the foot of the LAST STOP SIGNAL to warn Loco Pilots of the approaching trains.

CAUSE OF FAILURE	ACTION TO BE TAKEN
12. When, after a cancellation, CANCEL indication does not light up FLASHING YELLOW or STEADY YELLOW after appropriate actions or; 13. When Last Stop Signal cannot be kept at 'ON' during its suspension/disconnection. 14. When Last Stop Signal of the station does not go back to 'ON' position on the entry of a train into the Block Section	In addition, all trains in the relevant direction should be stopped at Home signal and after ensuring that they have come to a stop, the Home signal should be taken off to 'Caution' aspect only. Caution order should also be issued to the Loco Pilot about the defect of LAST STOP SIGNAL. The STARTER signal should not be taken OFF until relevant authority to pass the LAST STOP SIGNAL is issued to the Loco Pilot.
15. Total failure of communication during which train shall be worked as per extant rules in force on the Railway.	In addition to action taken for case 1-14, the trains should be dealt with under the extant rules as outlined in GR 6.02 and SR there under.

4.2.1 Failure of LAST STOP SIGNAL & Action to be taken

S. No.	Cause of failure of the LAST STOP SIGNAL	Action to be taken
1.	When LSS cannot be taken OFF even though Line Clear has been obtained through Block instrument (where there is no IBS).	BLOCK PANEL shall not be suspended. The Last stop signal shall be treated as defective and PLCT (T/C or T/D 1425) shall be issued to Loco pilot as authority to proceed and pass LSS at ON, duly indicating that line clear has been obtained through Block instrument. And inform Signal staff.
2.	When LSS can be cleared without obtaining Line Clear (where there is no IBS).	BLOCK PANEL shall be suspended. The LAST STOP SIGNAL should be considered to have failed and failure shall be informed to signal staff immediately. Action to be taken as mandated against 4.1.14 above.
3.	LSS does not restore to ON position on entry of train into Block section	BLOCK PANEL shall be suspended. The LAST STOP SIGNAL should be considered to have failed and failure shall be informed to signal staff immediately Action to be taken as mandated against 4.1.14 above**.**
4.	In station with IBS, when LSS cannot be taken OFF despite track circuit and axle counters governing the LSS are in working condition, through which SM can ensure that the Block section between LSS and IBS is clear up to adequate distance beyond IBS. (IBS is in working condition)	BLOCK PANEL shall not be suspended. The Last stop signal shall be treated as defective and PLCT (T/C or T/D 1425) shall be issued to Loco pilot to pass LSS at ON, duly indicating that line clear has been obtained through Block instrument. IBS can be taken OFF. And inform Signal staff.

4.2.2. Failure of IBS and action to be taken

Cause of failure of the IBS	Action to be taken
1. When IBS cannot be taken OFF even though Line Clear has been obtained through Block instrument	**BLOCK PANEL shall be suspended. The IB SIGNAL should be considered to have failed and failure shall be informed to signal staff immediately. Action to be taken as mandated against 4.1.14 above.**
2. **When IBS can be cleared without obtaining Line Clear.**	
3. **IBS does not restore to ON position on entry of train into Block section.**	

4.3 Suspension of Block working & Actions to be taken

S. No.	Cause of Suspension	Action to be taken
1.	When material Lorries or Motor trolleys or Tie-tamping machines or Rail Motor/Bus or Rail cum road vehicle or Tower wagon (4 wheeler) has to run in the section.	BLOCK PANEL shall be suspended for respective line and these vehicles shall be worked on relevant authority.
2.	An accident takes place in the mid section.	BLOCK PANEL shall be suspended for both lines, if line adjacent to affected line is reported to have been infringed, till the infringement exists for dispatch line or, LAST STOP SIGNAL shall be treated as INOPERATIVE and FAILED.
3.	When any part of Block Panel is opened or removed for repairs under duly accepted disconnection notice	BLOCK PANEL shall be suspended LAST STOP SIGNAL shall be treated as INOPERATIVE and FAILED.
4.	When Last Stop Signal of the station has been taken by Signal staff for repairs.	LAST STOP SIGNAL shall be treated as INOPERATIVE and FAILED.
5.	During Block Forward.	LAST STOP SIGNAL shall be treated as INOPERATIVE and FAILED

When the cause of suspension of BLOCK PANEL and/or LAST STOP SIGNAL is removed the normal working of BLOCK PANEL and/or LSS as the case may be, shall be restored by SM.

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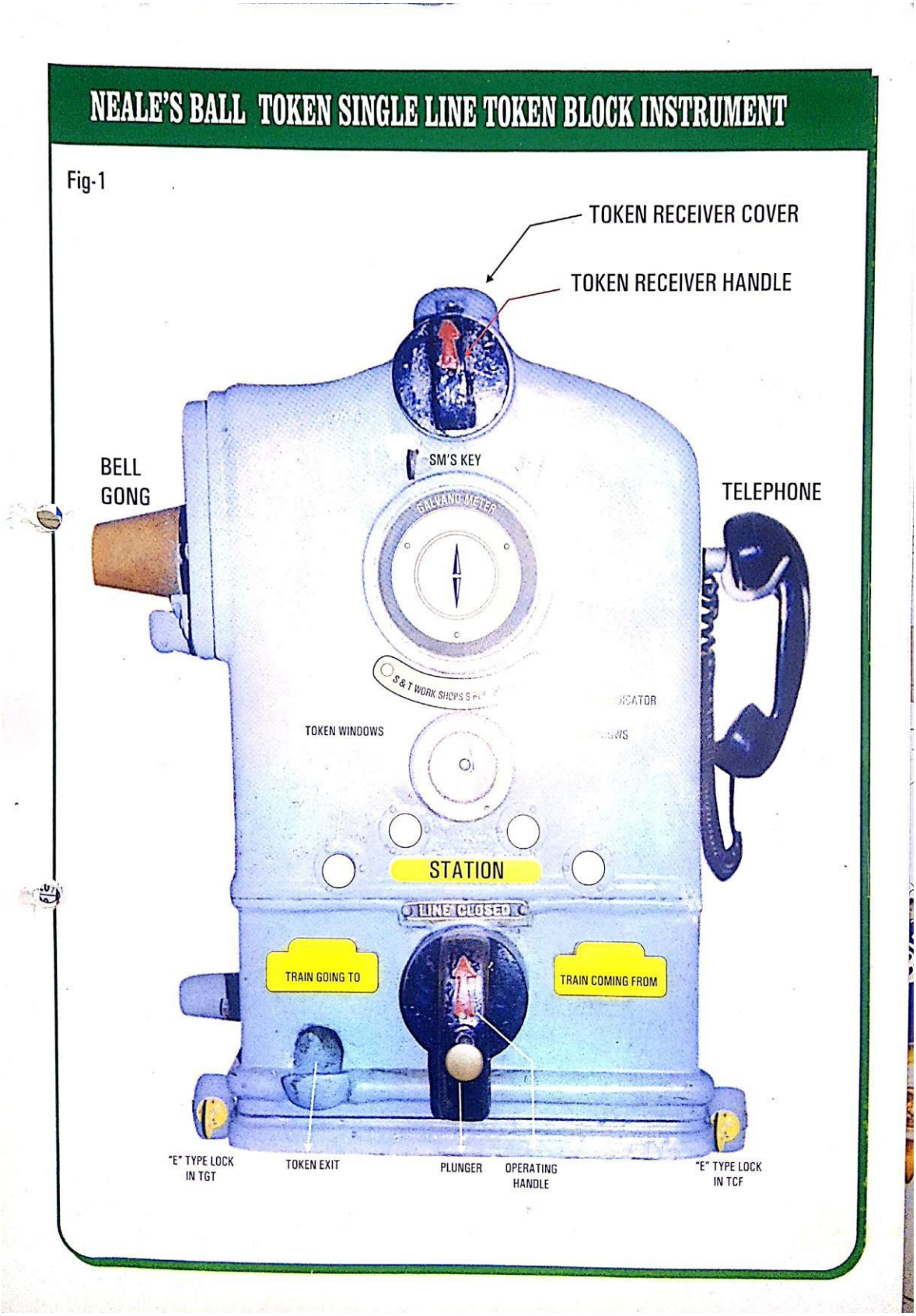
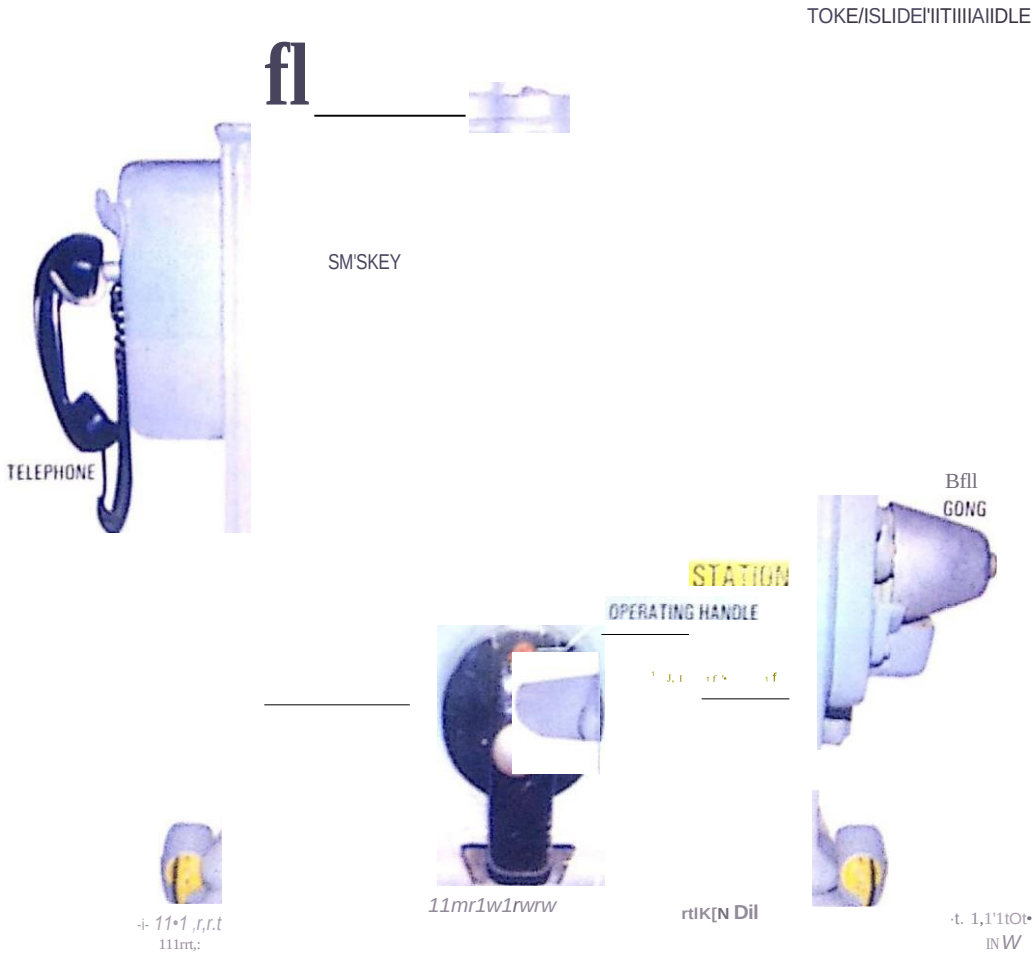
PICTURES OF THE BLOCK INSTRUMENTS WHICH ARE IN USE IN SOUTH CENTRAL RAILWAY



NEALE'S TABLET TOKENSINGLE LINETOKENBLOCKINSTRUMENT

Fig-2



DAIDO HANDLE TYPE SINGLE LINE TOKENLESS BLOCK INSTRUMENT

Fig-3

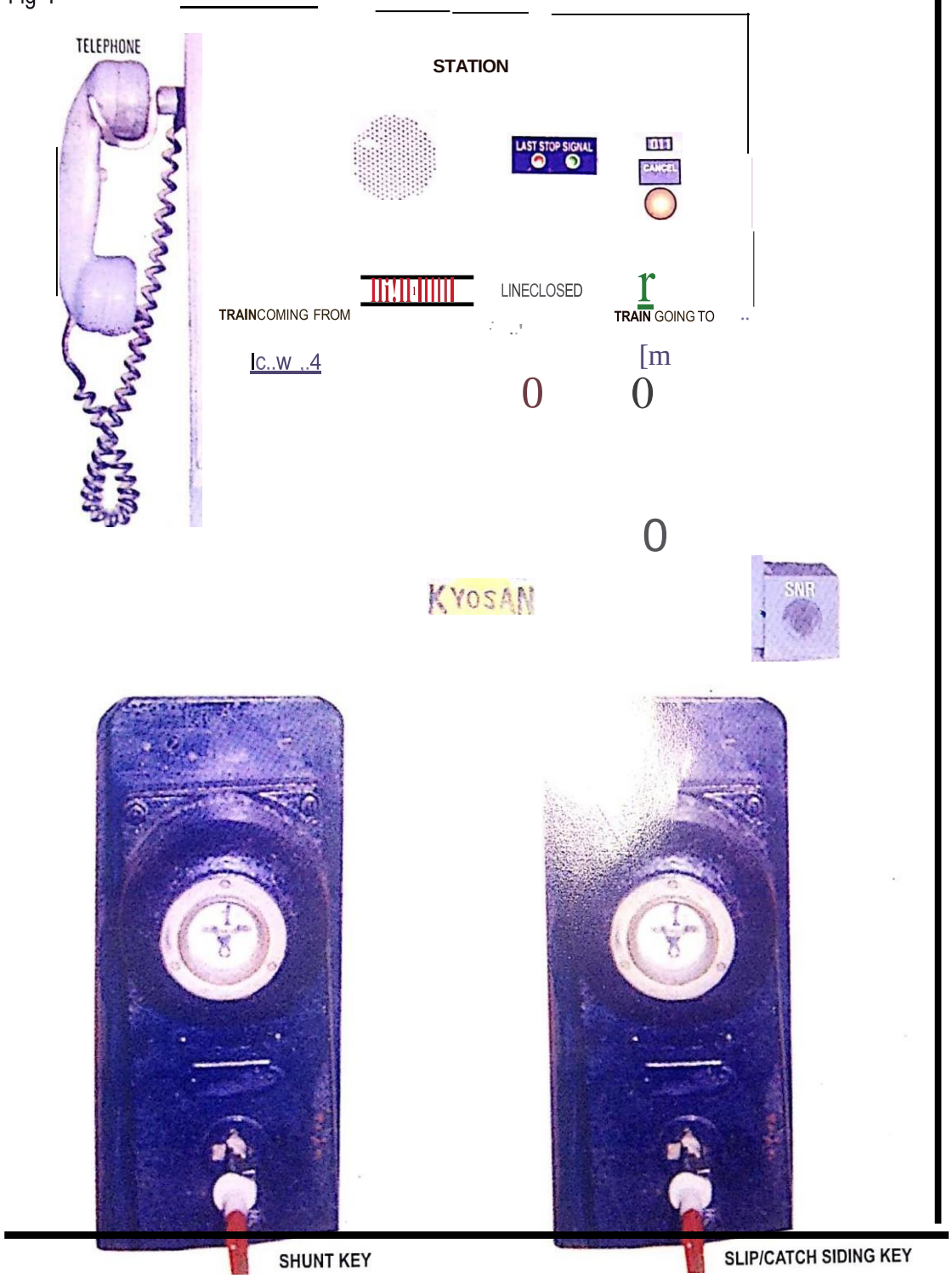
BELL GONG

GALVANO METER

TELEPHONE

KYOSANPUSHBUTTONSINGLE LINETOKENLESS BLOCKINSTRUMENT

Fig-4



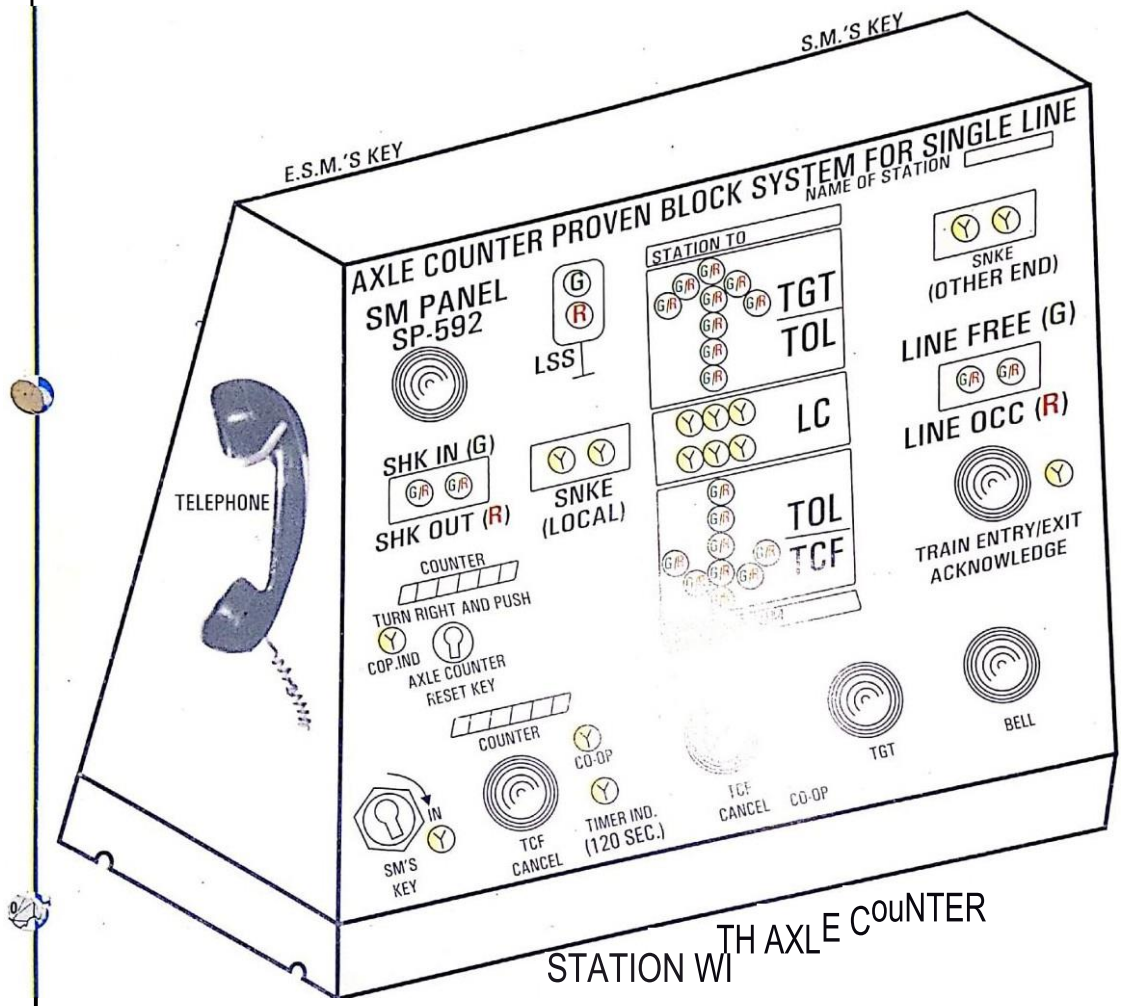
PODANURPUSH BUTTONSINGLE LINETOKENLESS BLOCKINSTRUMENT

Fig-5


SHUNT KEY


SLIP/CATCHSIOIIIGKEY

Fig-6



STATION WITH AXLE COUNTER

RDS0/S-32010/003/011

3. TGT, TCF, TOLAND LC INDICATIONS ARE OF ALPHA NUMERIC TYPE DISPLAY.
2. THE TELEPHONE BRACKET SHALL BE MOUNTABLEON EITHER SIDE OF PANEL.
1. SM'S LOCK AND ESM'SLOCK SHALLBE PROVIDED SEPARATELYAT REAR OF PANEL.

NI BLOCK DOUBLE

S.G.E. TYPE LOCKA LINEBLOCKINSTRUMENT

Fig-

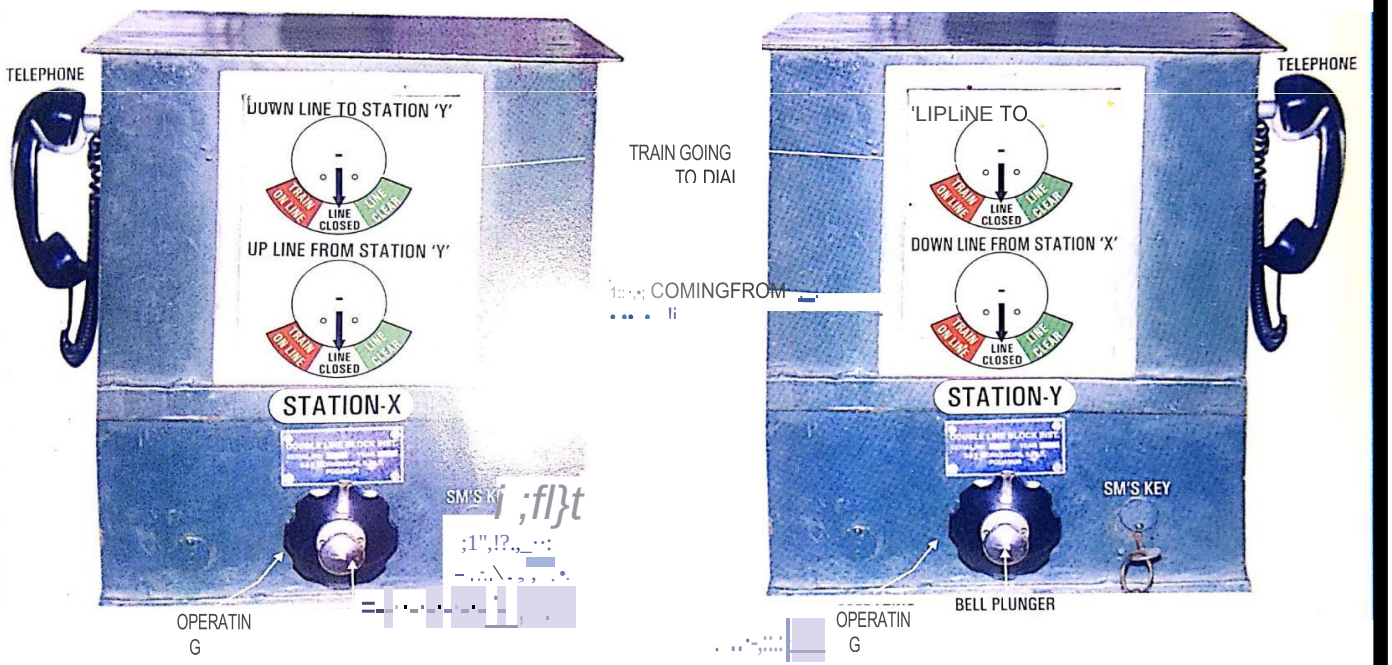


Fig: 6

UNIVERSAL FAILSAFEBLOCKINTERFACE(SINGLE LINE).
(UFSBI).

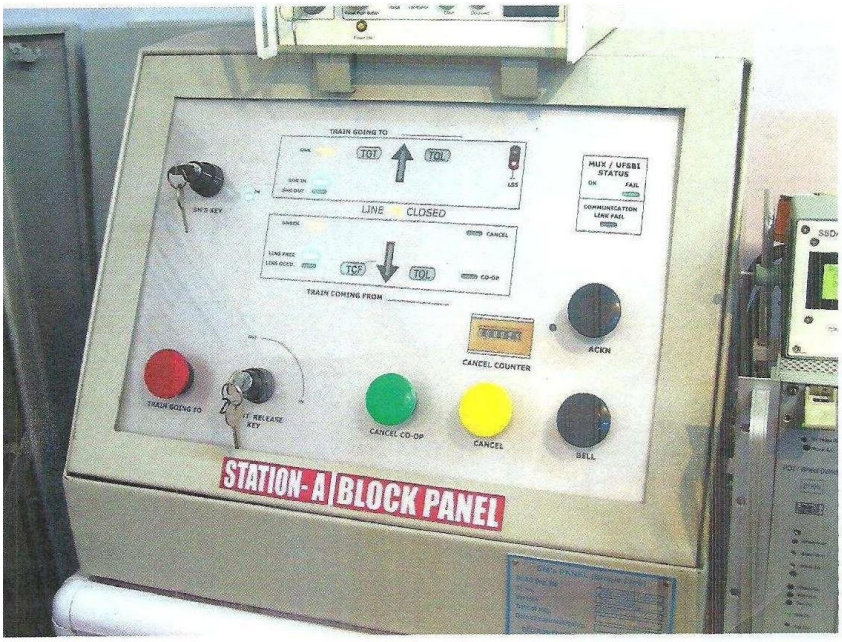


FIG-7

SSBPAC (D) - Single Line

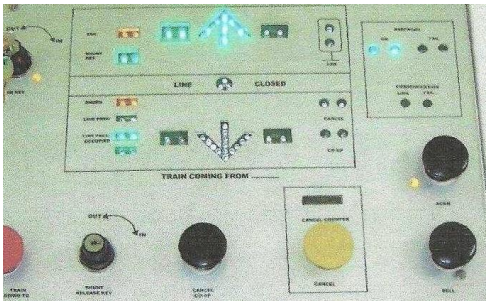


Fig: 9

SSBPAC (D) – Double Line.

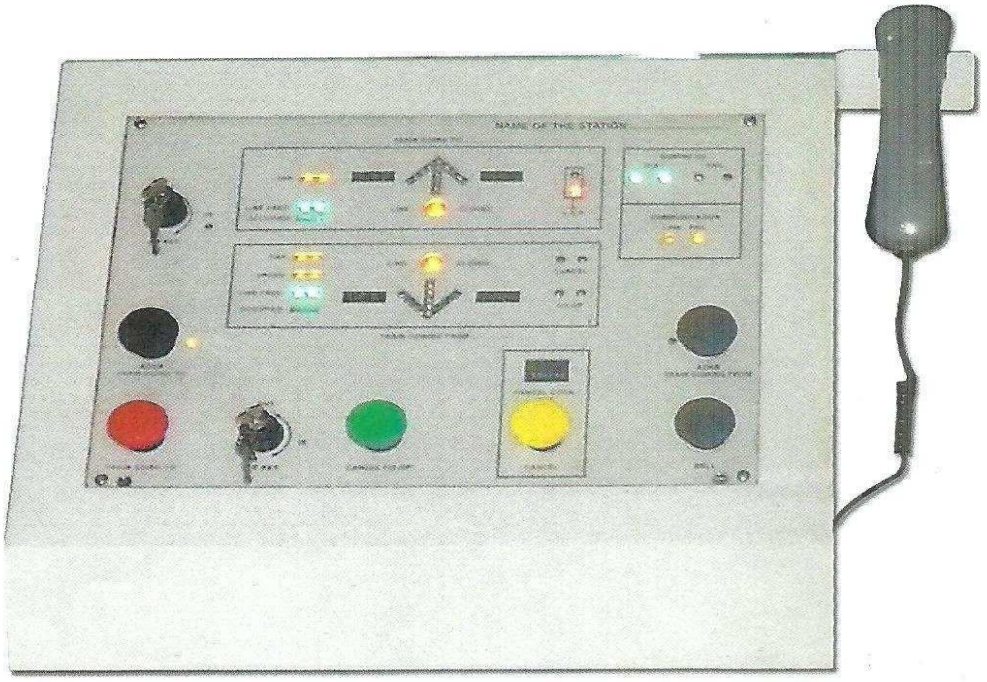
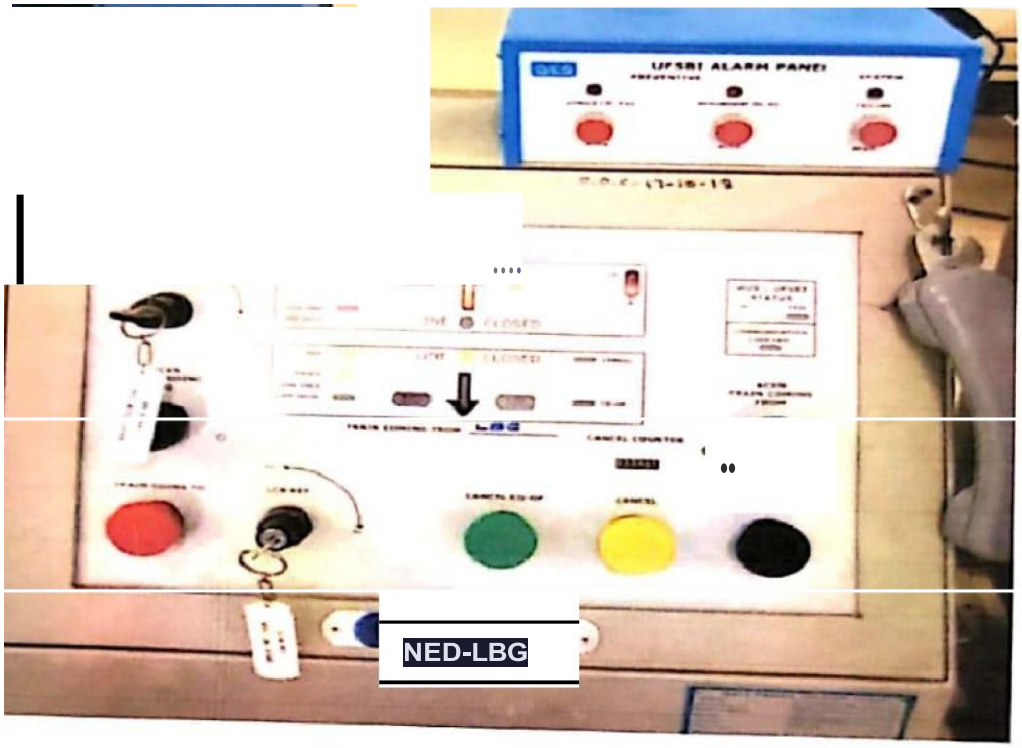


Figure no.10. UFSBI - Double Line



1.2. Block Panel of UFSBI - Double Line (DRAWING)