PART – ‘II’
CHAPTER 1
WORKING OF TRAINS UNDER AUTOMATIC BLOCK SYSTEM ON SINGLE LINE

1.01 GENERAL INSTRUCTIONS:-

(i) These instructions are supplementary to Chapter IX of the General and Subsidiary Rules 1976 edition and other relevant General and Subsidiary Rules applying to Automatic Block System except where otherwise provided for.

(ii) The equipment relating to the Automatic Block System on Single line is provided in the control Panel for operating points and signals at the respective stations.

(iii) **AUTHORITY TO PROCEED:-**

The ‘OFF’ aspect of the Last Stop Signal constitutes the ‘Authority to Proceed’ for trains to enter the Block Section.

1.02 DESCRIPTION OF PANEL AND FUNCTIONS:

(i) The **Control Panel** provided at the stations on the section has the following :-

   a) Block Indicator Arrow to indicate the Direction of Traffic established
   b) Bell Buttons to call the adjacent Block station(s)
   c) Approach Acknowledgement Button(s)
   d) Approach Buzzer(s)
   e) Route Setting Buttons
   f) Power Acknowledgement Buttons
   g) Signal and Point operation Knobs
   h) Block Knobs at Controlling Stations with locking provision,
   i) Block buttons at Controlled Stations
   j) Last Stop Signal Indicators
   k) Block Telephone(s)
   l) Station Master’s Panel Key
   m) Shunt Keys for Up and Down directions separately
   n) LC gate control knob wherever provided
   o) Main filament fuse indication
   p) Acknowledgement button for main filament fusing

(ii) The ‘Direction of Traffic’ over a Block Section is established by the Station Master of the Controlling station by operating the **Block Knob** to the required position. The Station at the other end of the Block Section is called the ‘Controlled Station’ with respect to that Block Section. Block Knobs are provided at the Control Panel of the controlling station. The Block Knob coloured ‘Green’, has two positions viz. ‘Up’ and ‘Down’. The Knob should be turned to ‘Up’ position for establishing the ‘Direction of Traffic’ towards the Controlling Station and to ‘DN’ position for establishing the ‘Direction of Traffic’ away from the Controlling Station.

(iii) **A Block button** is provided at controlled station on the Control Panel to provide co-operative feature, to change the Direction of Traffic.

(iv) **Block Indicator arrows** are provided at either end of the Panel to indicate the ‘Direction of Traffic’ established over the concerned Block Section. The arrow is illuminated ‘White’ when the Block Section is clear of trains and ‘Red’ when the Block Section is occupied. In the event of failure of track Circuit also, the Block Arrow will be lit ‘Red’. The indications pertaining to a Block Section change simultaneously at the Controlling and the Controlled stations. The Indications of the block Indicator arrow and the Last Stop Signal indicator for the appropriate direction shall be observed for permitting train movements.

(v) **Bell Buttons** provided on the Panel are used to call attention of the Station Master of the adjacent Station. The prescribed code of Bell Signals applicable to Single Line Block Instruments, except the codes for call Attention / Attend Telephone is dispensed with. However, all the emergency bell code may be made use of, whenever
required in an emergency.

(vi) **The approach Buzzer** starts sounding at the receiving Station as soon as the train has passed the Last Stop Signal of the station in rear. The Station Master on duty at the receiving station is to press the concerned approach Acknowledgement Button to stop the Buzzer. If a following train has entered the Block Section, before the previous train has cleared it, the Approach Buzzer will sound only after the previous train has cleared the Block Section. For every train, when approach buzzer sounds, the Station Master shall press the approach acknowledgement button by which the buzzer stops.

(vii) **The Last Stop Signal Indicators** provided at the respective ends of the Panel, display a ‘White’ light when the ‘Direction of Traffic’ is established away from the station over the concerned Block Section and the conditions for taking ‘OFF’ of the Last Stop Signal are complied with. The conditions include the clearance of the track between the Last Stop Signal of the station and the next Automatic / Semi-Automatic Stop Signal and an adequate distance of not less than 180m beyond it. As soon as a train passes the Last Stop Signal, the white light indication on the LSS indicator changes to ‘Red’ and will remain ‘Red’ till the train has completely passed the next Automatic / Semi-Automatic Stop Signal in advance and an adequate distance of not less than 180m beyond it. When the ‘Direction of Traffic’ is established towards the station over a Block Section, the Last Stop Signal Indicator pertaining to the Block Section will not be lit. The Indications of the block Indicator arrow and the Last Stop Signal indicator for the appropriate direction shall be observed for permitting train movements.

(viii) **Block Telephone** provided at the appropriate end of the Panel is used to communicate with the Station Master of the adjacent Block station for the purpose of granting / obtaining Line Clear and for conveying any other information or messages regarding train working. In the case of failure of the Block Telephone, the Station-to-Station fixed Telephone provided near the Panel, BSNL phone / Railway Auto phone / Control phone / VHF set shall be the alternate means of communication.

(ix) **SHUNT KEY:-**

Separate Shunt Keys for ‘UP’ and ‘DN’ directions are provided. The name of the section to which the Shunt key pertains is marked on the key. The key pertaining to the concerned section only should be issued to the Loco Pilot. The Loco Pilot shall ensure that the Key issued to him pertains to the correct Block Section on which he is permitted to perform shunting.

**Note:** ‘Block Section’ in these Rules refers to that portion of the running line between the Last Stop Signal of a station and up to an adequate distance of not less than 180m beyond the Home Signal of the Block Station in advance.

1.03 **TRAIN WORKING**

(i) Trains shall be run only after the ‘Direction of traffic’ is established in consultation with the Section Controller. Before establishing the direction of traffic, Line Clear has to be obtained. Line clear shall neither be given nor obtained unless the Block section is clear of trains not only up to the First Stop Signal but also for an adequate distance beyond it.

(ii) (a) For changing the ‘Direction of Traffic’ the SM at the controlling station has to operate the Block Knob to the “UP” or “DOWN” position according to the requirement and the SM at the controlled station has to press the Block Button at his end. Only then ‘Direction of Traffic’ will get altered.

(b) Any change in the programme of train movements may be done only after mutual consultation between the Station Masters at either end of the Block Section and in consultation with Controller. After granting Line Clear for a train and after establishing the direction of traffic, if the ‘Direction of Traffic’ is required to be altered due to any reason, the Controlling Station may do so only after prior information to controlled station and after cancelling Line Clear already granted and obtaining fresh Line Clear from the Controlled Station.

(iii) A separate Train Signal Register for each Block Section shall be maintained at all Block Stations. Whenever Line Clear is asked for / granted for establishing the ‘Direction of Traffic’, an entry to that effect may be made in the TSR with PNs and timings.

(iv) In addition, the following particulars should be promptly entered in the appropriate Train Signal Register:

<table>
<thead>
<tr>
<th>Train coming from......... (page)</th>
<th>Train going to......... (page)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Date</td>
<td>a) Date</td>
</tr>
<tr>
<td>b) Number and Description of the Train</td>
<td>b) Number and Description of the Train</td>
</tr>
<tr>
<td>c) Time, Permission asked for</td>
<td>c) Time, Permission asked for</td>
</tr>
<tr>
<td>d) Time, Permission granted</td>
<td>d) Time, Permission obtained</td>
</tr>
<tr>
<td>e) PN (in words and figures)</td>
<td>e) PN (in words and figures)</td>
</tr>
<tr>
<td>f) Time, Approach Buzzer sounded</td>
<td>f) Time of departure of the train</td>
</tr>
</tbody>
</table>
g) Time of arrival of train
h) Signature of Station Master
i) Remarks

NOTE:

a) Entries relating to cancellation of Permission shall be made in red ink in the Train Signal Register against the entry for the train.

b) Any other relevant entry as required by the Station Working Rules and other instructions in force should also be promptly recorded in the Train Signal Register.

c) During suspension of normal working, all entries in the Train Signal Register should be made in Red ink.

1.04. METHOD OF SIGNALLING A TRAIN FROM ONE BLOCK STATION TO ANOTHER BLOCK STATION: (From Station ‘X’ to Station ‘Y’ when Direction of Traffic is already established from station ‘Y’ to Station ‘X’)

<table>
<thead>
<tr>
<th>Stati on ‘X’ (Cont r ol i ng Sta ti on)</th>
<th>Station ‘Y’ (Controlled Station)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Give Call Attention</td>
<td></td>
</tr>
<tr>
<td>(2) Acknowledge and attend Block Phone, call out Station name.</td>
<td></td>
</tr>
<tr>
<td>(3) Attend Block Telephone</td>
<td></td>
</tr>
<tr>
<td>Call out Station Name</td>
<td></td>
</tr>
<tr>
<td>(4) If the block section is clear of trains and Block arrow shows white, ask ‘Line Clear’ for establishing “Direction of traffic” from ‘X’ to ‘Y’ stating the need to change the DOT.</td>
<td>(5) If block section is clear of trains and Block Indicator Arrow shows white, give Private Number for changing the Direction of traffic.</td>
</tr>
<tr>
<td>(6) Repeat the Private Number received, operate the Block Knob and ensure that the required ‘Direction of Traffic’ is established with the appropriate Block Indicator Arrow displaying ‘White’.</td>
<td>(7) Press the Block Button till the required ‘Direction of Traffic’ is established and the appropriate Block Indicator Arrow shows ‘white’.</td>
</tr>
<tr>
<td>(8) Advise the number and Description of the train</td>
<td>(9) Give a Private Number, repeating the number and description of the train.</td>
</tr>
</tbody>
</table>

NOT E: Change of ‘Direction of Traffic’ will be
<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(10)</td>
<td>Ensure that the Last Stop Signal Indicator displays 'White' light. Take 'OFF' the Last Stop Signal. When the train passes the Last Stop Signal, it assumes 'ON' aspect and the Last Stop Signal Indicator changes to 'Red'. Block Indicator Arrow changes to 'Red'.</td>
<td></td>
</tr>
<tr>
<td>(11)</td>
<td>Approach Buzzer sounds, press the concerned Approach Acknowledgement Button to stop the Buzzer and confirm Block Indicator Arrow shows Red.</td>
<td></td>
</tr>
<tr>
<td>(12)</td>
<td>Restore the Last Stop Signal Knob to the Normal position.</td>
<td></td>
</tr>
<tr>
<td>(13)</td>
<td>Arrange for the reception of the train.</td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** Permission for each of the following train shall be asked for from the SM at the other end of the Block Section only when the Last Stop Signal Indicator shows 'White' light, even though Block Arrow shows 'Red' by occupation of train. The SM at the receiving end shall give a Private Number for each train in token of the permission given.
1.05 FAILURE OF NORMAL WORKING:

(i) CONTROL PANEL FAILURE

Control Panel working shall be considered to have failed and normal working suspended in the following circumstances:

a) The illumination on the Block Indicator Arrow fails to appear when the Block Knob is turned at the controlling station and Block Button is pressed at the controlled station with:
   i) The Block Section remaining clear.
   ii) The Last Stop Signal Knobs at both Stations in their normal position and
   iii) The shunt keys pertaining to the Block Section at both the Stations secured properly.

b) The Block Indicator Arrow fails to turn red when a train enters the Block Section at either of the stations.

c) The Block Indicator Arrow lights up contrary to the position of the Block Knob or when it fails to light up conforming to the position of the Block Knob or when there is no illumination in both the arrows.

d) It is known that the direction shown by the Block Indicator Arrow on the panel at one end of the Block Section is contrary to the direction shown by the Block Indicator Arrow on the panel at the other end of the Block Section.

e) The Block Indicator Arrow and/or the Last Stop Signal Indicator display ‘Red’ without a train in the Block Section.

f) The illumination on the Last Stop Signal indicator of the sending Station fails to turn ‘Red’ when the train enters the Block Section.

g) The illumination on the Last Stop Signal Indicator of the sending Station remains ‘Red’ even after the train has cleared the first Signalling Section and the overlap.

h) The Last Stop Signal Indicator displays either ‘Red’ or ‘White’ with the Block Indicator Arrow towards the Station remaining lit.

i) The Last Stop Signal fails to return to ‘ON’ when the concerned Knob is restored to normal.

j) The Last Stop Signal fails to return to ‘ON’ as a train passes it.

NOTE: In regard to cases in items (i) and (j) as soon as the Station Master becomes aware of this defect, he shall take immediate action to put the Last Stop Signal out of use, advise the block Station in rear, the Last Stopping Station and the Notice Station to issue caution order to Loco Pilots of all trains entering the Block Section notifying them about the defective Last Stop Signal and arrange to receive the trains from the Home signal on Form T/369-3(b), at the stations wherever the Starter is the Last Stop Signal. However, caution order need not be issued nor trains dealt on form T/369-(3b) at such stations, where the Advanced Starter is the Last Stop Signal.

k) The Last Stop Signal can be cleared before establishing the appropriate ‘Direction of Traffic’.

l) The ‘Direction of Traffic’ cannot be changed even though the Block Knob is turned at the Controlling station and block button is pressed at controlled station.

NOTE: ‘Direction of Traffic’ cannot be changed if the shunt key is not properly secured in the Electrical Key Instrument.

m) It becomes known that the installation is defective in anyway other than those mentioned above.

(ii) PROCEDURE FOR WORKING TRAINS DURING CONTROL PANEL FAILURE:

1. Whenever normal working is suspended on account of Panel Failure, messages shall be exchanged on the Block Telephone or other means of communication referred in SR 6.02 (ii) and Line Clear Ticket T/C 1425 (or) T/D 1425 as the case may be issued to the Loco Pilot as “Authority to Proceed”. It shall be ensured that only one train is allowed into the Block Section at one and the same time as in case of Absolute Block System during panel
failure/suspension.

2. When the failure is on account of Red illumination of the Block Indicator Arrow/Last Stop Signal Indicator even when the Block Section is clear of trains, Caution Order shall also be issued for the first train entering the Block Section specifying the speed at which the train shall run as given in sub-rules (a), (b) & (c) of Para-2. The purpose for which the caution order is issued should be specified in the caution order. The Loco Pilot of the first train entering the Block Section during this failure shall be advised to observe the following special precautions:

   a) Speed shall not exceed 15 kmph during day when visibility is clear.
   b) Speed shall not exceed 10 kmph when visibility is not good and during night.

c) In thick or foggy or tempestuous weather, Loco Pilots must move the train only at walking speed, whistling repeatedly, preceded at an adequate distance by two men on foot, one displaying Red light and the other carrying detonators ready for immediate use.

   d) During night, if the engine is not fitted with electric Head light or if the electric Head light is not working order, the train or the light engine must be preceded at an adequate distance by Railway servant carrying detonators and exhibiting a Red hand signal ahead; and

   e) A sharp look out must be kept at all times and the Loco Pilot must be prepared to stop short of any obstruction.

   f) The Station Master in rear shall also issue caution order to the Loco Pilots of all trains entering the Block Section in the circumstances specified in items (i) & (j) under Para 1.05 (i).

(iii) SUSPENSION OF NORMAL WORKING

   a) The Station Master’s key is lost or mislaid or becomes defective.

      NOTE: In case, the key is recovered subsequently and is found to be in good condition, Station Master may resume normal working.

   b) A train leaves/arrives at a station without the ‘Direction of Traffic’ having been established for the train and without proper Authority.

      NOTE: This occurrence must be reported as an accident under Class ‘G’.

   c) A train is required to enter a Block Section, which is obstructed on account of an accident or any other reason. Such train shall be started on the authority of T/A602.

      NOTE: On the obstruction being removed, the Station Masters themselves shall resume normal working.

   d) Whenever an Engineering Material Train is to be allowed into the Block Section under Line Block.

      NOTE: After the Line Block is over and after the clearance of all trains allowed in the Block Section, the Station Masters themselves can resume normal working.

   e) ‘During suspension of normal working due to the above mentioned clauses train messages shall be exchanged on the Block Telephone or other means of communication referred in SR 6.02 (ii) and Line Clear Ticket T/C 1425 (or) T/D 1425 as the case may be issued to the Loco Pilot as “Authority to Proceed” except in cases where any other authority is prescribed. Whenever trains are started on Line Clear Ticket, it shall be ensured that only one train is allowed in to the Block Section at one and the same time as in case of Absolute Block System.

   f) During suspension of normal working when ‘Written Authority to proceed’ is issued, the Loco Pilots shall pass the ‘Automatic Stop signals/Semi-Automatic Stop signals protecting the Level Crossings in the ‘On’ position. The Loco Pilot shall ensure that the LCs are closed and locked against road traffic and hand signal is shown by the Gateman at the LC gate before passing them. The Loco Pilot shall be issued with a memo in the following format, along with the ‘Authority to Proceed’.

SOUTHERN RAILWAY

AUTHORITY FOR PASSING THE AUTOMATIC STOP SIGNALS/SEMI-AUTOMATIC STOP SIGNALS PROTECTING THE LEVEL CROSSINGS IN THE ‘ON’ POSITION
To

The Loco Pilot of Train (Number and description) .........................

You are hereby authorized to pass all Automatic Stop Signals/Semi-Automatic Stop signals protecting the level crossing Gates at ‘ON’ and proceed to ................. Station in advance, duly observing the Hand Signals from the Gateman at the level crossings, if any, in the Block Section subject to other speed restrictions in force.

Signature of the Loco Pilot

Signature of the Station Master

NOTE: i) The memo should be prepared in duplicate by carbon process and the original issued to the Loco Pilot, after obtaining his signature in full on the record foil.

   ii) The Station Master shall ensure that all the relevant points over which the train will pass are correctly set, facing points clamped and padlocked, the level crossings if any within the station limits which are under his control are closed and locked against road traffic, before issuing the memo to the Loco Pilot. Distinguishing number of signals to be passed at ‘ON’ shall be mentioned.

   iii) At Stations where the Starter is the Last Stop Signal, a Competent Railway Servant shall be posted to display Proceed hand signal at the foot of the signal.

(g) When the Station Master cannot clear the Last Stop Signal after the ‘Direction of Traffic’ has been established correctly and there is white indication on the Last Stop Signal indicator, the Last Stop Signal shall be considered as defective.

(h) The Last Stop Signal shall also be considered as defective if it goes back to ‘ON’ before the train enters the Block section and without the Signal Knob being normalized by the Station Master with ‘Direction of Traffic’ remaining unaltered and the Last Stop Signal indicator showing white.

(i) In the circumstances mentioned in above Paras (h) and (i) before arranging despatch of a train, the Station Master shall personally examine the Block Indicator Arrow and make sure that the correct ‘DOT’ has been established and that there is white indication on the Last Stop Signal Indicator and also ascertain from the Station Master at the other end of the Block Section that the ‘Direction of Traffic’ established remains unaltered and corresponds to that at his Station. After ensuring that the conditions mentioned above are fulfilled, the Station Master shall prepare by carbon process, an authority in the form given below and handover the original copy to the Loco Pilot of the train required to be despatched obtaining his signature in full on the record foil. This authorizes the Loco Pilot to enter the Block Section with his train, passing the concerned Last Stop Signal at ‘ON’. The Private Number received from the Station Master at the other end of the Block section, for the train, must be recorded on this authority before handing it over to the Loco Pilot.

SOUTHERN RAILWAY

AUTHORITY GIVEN TO THE LOCO PILOT DURING FAILURE OF LSS

To

The Loco Pilot of Train (Number and description) .........................

This is to certify that the correct ‘Direction of Traffic’ has been established between my Station and .............. Station. The Signalling Section up to the Automatic / Semi-Automatic Stop Signal protecting the Level crossing Gate Number ........ in advance is clear. You are authorized to proceed up to the Home Signal of ........... Station, duly observing the aspects of Automatic / Semi-Automatic Stop Signals protecting the Level crossing Gates enroute, passing the UP / DOWN Last Stop Signal Number ........ at my Station in the ‘ON’ position. Private Number received from ........ station is .......(In figure)
1.06. RESTORATION OF FAILURES:

(i) In the case of items (i), (j), (k) and (l) of Para 1.05(i) of Part-II, normal working must not be resumed until the installation has been tested and restored by the concerned S&T Official not below the rank of JE (Signal).

(ii) In all cases except items (i), (j), (k) and (l) under Para 1.05(i) and items (a), (b), (c) and (d) under Para 1.05(iii) the ESM/JE/SE/Signal concerned is authorized to restore normal working.

(iii) Before resuming normal working, the Station Masters of the Controlled and Controlling Stations must satisfy themselves that the Block Section is clear and the Block Indicator Arrows show White. When normal working is resumed, the Station Master of the Controlling Station must advise the Station Master of the Controlled Station with a copy to the controller and JE/SE/SSE (Sig.) of the Section of the resumption of normal working. A copy of the message must be sent to the Divisional Railway Manager/T.

1.07 RECORD OF FAILURES

(i) Any failure of normal working shall be advised to the concerned S&T Official of the section for immediate rectification.

(ii) A record of the failure shall be maintained in the TSR and the Signal, Block Failure and Inspection Book.

1.08 SHUNTING

(i) For Shunting beyond the Last Stop Signal up to the Automatic / Semi Automatic Gate Stop Signal in advance / Home signal of the Block Station in advance, the "Direction of Traffic" shall be established so as to be towards the Block Station in advance.

(ii) In addition to establishing the "Direction of Traffic ", the Station Master of the station at which Shunting is performed, shall advise the Station Master of the Station in advance about his intention to perform shunting in the Block Section specifying the name of the section on which Shunting is to be done and obtain a Private Number from him before commencement of Shunting. Entries shall be in Red Ink in the Train Signal Registers at both the Stations.

(iii) Every Station is provided with Shunt Key pertaining to the concerned Block Section. The Shunt key can be removed from the Electrical Key Instrument only when the "Direction of Traffic " is established away from the station so as to be towards the Block Station in advance and the concerned Signalling Section ahead of the Last Stop Signal is free. The Shunt Key when removed prevents the "Direction of Traffic" from being altered and the concerned Last Stop Signal from being cleared.

(iv) The Shunt Key of the concerned Block Section along with the written permission in the following format is the authority given to the Loco Pilot for passing the Last Stop Signal at "ON" and Shunt up to the next Automatic / Semi Automatic Gate stop Signal in advance the Home Signal of the Station in advance as the case may be.

SOUTHERN RAILWAY

SHUNTING ORDER FOR SHUNTING BEYOND THE LAST STOP SIGNAL

Station :
Date :

To

The Loco Pilot of Train (No. & Description) ......................... ...................... ...

This shunting order along with the Shunt key authorizes you to pass the UP/DOWN* Last Stop Signal Number
1.09. WORKING OF TROLLEY / MOTOR TROLLEY;

(i) Only trolleys which are insulated are allowed to work in the Automatic Single Line territory.

(ii) Motor trolleys are prohibited from working on sections worked under Automatic Block system vide SR.15.25(x)(a).

(iii) Trolleys when worked as trains shall only be worked on the authority of Line Clear Ticket.

(iv) When trolleys are worked on caution order protection, ’Trolley on line’ cap shall be placed on LSS knob and when trolleys are worked on Line clear protection, ’Line Block’ cap shall be placed on LSS knob.

1.10 TESTING AND MAINTENANCE OF THE CONTROL PANEL:

S & T Officials not below the rank of ESM are permitted to open the panel, for maintenance and attend to failures except in case of items (i), (j) & (k) of para 1.05 (i), duly following the procedure prescribed under relevant GR and the SRs there under.

1.11 PROCEDURES FOR WORKING TRAINS WHEN ALL THE MEANS OF COMMUNICATION SUCH AS BLOCK TELEPHONE, STATION TO STATION FIXED TELEPHONE, BSNL OR RAILWAY AUTO PHONE, CONTROL TELEPHONE AND VHF SET HAVE FAILED BUT THE CONTROL PANEL IS IN WORKING ORDER.

(i) Communications shall be established between stations situated on either side of the affected section as per SR. 6.02 (ii)(2). However, Trolley / Motor Trolleys / Moped Trolley shall not be utilized for establishing communication, the engine / vehicle used for establishing communication may be sent only when the block arrow is lit white. An Authority for opening communication during Total Interruption communication on single line section in the prescribed Form T/B 602 should be issued to the Loco Pilot of the engine / vehicle.

(ii) The Loco Pilot of the engine / vehicle shall observe the speed restrictions and instructions contained in Form T/B 602.

(iii) The Station Master at the receiving end shall receive the engine / vehicle on signals or through other means according to the situation prevailing.

(iv) The Loco Pilot / person-in-charge shall hand over the ‘Authority for opening communication during Total Interruption on single line section’ in the prescribed Form T/B 602 to the Station Master at the receiving end, who shall record the message in ‘Red’ ink in the Train Signal Register.
(v) The engine / vehicle shall be returned with or without a train as necessary (with Form T/G 602 or T/H 602).

(vi) The engine / vehicle shall proceed duly observing the signals enroute in the signalled direction.

(vii) After the engine / vehicle sent to establish communication has cleared the section as indicated by the Block Indicator Arrow. Subsequent trains may be dealt under SR. 6.02 (ii).

(viii) Except Last Stop Signal all despatch and reception signals shall be taken ‘OFF’ at the respective stations once conditions for taking ‘OFF’ the same are fulfilled. If the Last Stop Signal and / or the Last Stop Signal Indicator also fail, the Station Master shall ensure that the Block Section is clear as indicated by the ‘White’ illumination on the appropriate Block Indicator Arrow and issue Form T/369 –(3b) as authority to pass the signal at ‘ON’.

(ix) The Loco Pilot shall call the attention of the Station Master, if he finds the reception signal at ‘ON’ sounding the engine whistle and in case there is no response by sending the Assistant Loco Pilot / Guard to the station. Thereafter, Station Master shall arrange for dealing the train on signal or by other means on the appropriate road.

(x) When trains are to be run under provision of SR 6.02 (ii), Loco Pilots shall be advised duly issuing manuscript memo that the Semi-Automatic Gate Stop signal enroute shall be obeyed or passed only after adhering the extant instructions.

(xi) Failure messages must be sent to the TCM / ESM / JE/SE/SSE (Sig.)JE/SE/ SSE(Tele.) and normal working under Automatic Block System on single line may be restored after exchanging of messages with Private Numbers by both the Station Masters, duly ensuring that all trains which have cleared at either end. The Controller shall also be advised if control working is restored.

(xii) Entries for all trains dealt with during failure of all telephone communications and the messages exchanged between the SMs shall be made in ‘Red ink’ in the respective Train Signal Registers. All documents shall be preserved and handed over to the Transportation Inspector. Transportation Inspector of the Section shall scrutinize them and submit his report to the DRM / Traffic within 7 days of resumption of the normal working (SR 6.02 (ii) (23).

1.12 PROCEDURE FOR WORKING TRAINS DURING TOTAL INTERRUPTION OF COMMUNICATION

The procedure under 6.02 (ii) shall be adopted when the Block Telephone, Inter Station Telephone, BSNL phones / Railway Auto phones / Control Telephone / VHF set and panel have failed. On such occasions the SM shall not send an engine for opening communication unless all the trains which are approaching his station and for which line clear has been given have arrived complete at his station.

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CHAPTER -2
WORKING OF TRAINS UNDER AUTOMATIC BLOCK SYSTEM ON DOUBLE LINE

2.01 General Instructions:

i) These instructions are supplementary to Chapter IX of the General and Subsidiary Rules 1976 edition and other relevant General and Subsidiary Rules applying to Automatic Block System except where otherwise provided for.

ii) The equipment relating to the Automatic Block System on Double line is provided in the control panel for operating points and signals at the respective stations.

2.02 Authority to proceed

The 'OFF' aspect of Semi-Automatic stop Signal or Manual stop Signal controlling entry into the Block Section constitutes the 'Authority to proceed' for trains to enter the block section.

2.03 Description and working of Route setting type Interlocking Control Panel

(i) The Route setting type interlocking Control Panel provided at the Stations on the Automatic Double Line section shall have the following features: -

a) Bell Push Buttons
b) Approach Buzzers
c) Approach Acknowledgement Buttons.
d) Route setting buttons
e) Power Acknowledgement buttons
f) Signal and point operation knobs
g) King Knobs
h) Panel telephone
i) Station Master’s key
j) Route Cancellation Buttons
k) Main filament fuse acknowledgement button
l) Filament fusing buzzer
m) Gate control knob if LC gate available
n) Power failure buzzer

(ii) **Bell Push button:** - It is used to call attention of the adjacent station. While starting the train, the Station Master shall call the adjacent Station Master and inform him about the particulars of train number and description.

(iii) **The approach Buzzer:** - It starts sounding at the receiving station as soon as the train has passed the Semi-Automatic stop Signal / Manual stop Signal (controlled by the station in rear) or as may be specified in SWR. The Station Master on duty at the receiving station shall press the concerned approach acknowledgement button to stop the buzzer. If a following train has entered the block section, before the previous train has cleared it, the approach buzzer will sound only after the previous train has cleared the block section.

(iv) **Approach Acknowledgement Buttons:** - The approach Buzzer starts sounding at the receiving Station as soon as the train has passed the Semi Automatic / Manual Stop signal (LSS) or as may be specified in SWR. The Station Master on duty at the receiving station has to press the concerned Approach Acknowledgement Button to stop the Buzzer. If a following train has entered the block section, before the previous train has cleared it, the Approach Buzzer will sound only after the previous train has cleared the Block section.

(v) **Panel telephone:** - It is provided at the appropriate end of the panel and is used to communicate with the Station Master of the adjacent block station. In the case of failure of Panel telephone, Inter cabin / station Group telephone/ the Railway Auto phone / BSNL / Control telephone / Very High Frequency set shall be used as alternative means of communication.

(vi) **King knob:** - It is provided at stations (where necessary) to control the Semi-Automatic stop Signal...
controlling reception and despatch of trains, which can be made to function either as Manual or Automatic. It has two positions i.e. ‘Normal’ and ‘Reverse’. When the king knob is in the ‘Normal’ position, the concerned Semi-Automatic Stop Signal works as a Manual Stop signal and when the king knob is in the ‘Reverse’ position, the same works as an Automatic Stop signal. The Semi-Automatic Stop Signal protecting a point acts as an Automatic Stop Signal with the ‘A’ marker lit when the point is set to the ‘Normal’ position. When the point is set to ‘reverse’ position, the Semi-Automatic Stop Signal shall function as a Manual Stop Signal with the ‘A’ marker light extinguished. Separate king knobs shall be provided for each direction.

(vii) The functioning of Route setting buttons, Signal and Point operation knobs, Route Cancellation Buttons and Station Master’s key are the same as found in any other RRI panel.

2.04 Authorized means of communications:

The following are the authorized means of communications used for the purpose of working trains in Double Line Automatic Sections:

(i) Panel telephone
(ii) Inter cabin/Station Group telephone
(iii) Station to station fixed telephone
(iv) Fixed telephones such as Railway Auto phones and BSNL phone.
(v) Control telephone
(vi) VHF sets.

Note: - When all the above said means of communications have failed, Total Interruption of communications is said to prevail.

2.05 Train working:

(i) Before starting a train, the Station Master on duty shall consult the Section Controller and obtain his permission to start. Then he shall call the Station Master of the block station in advance and advise him the train number and description. The Station Master at the other end shall acknowledge the same by communicating a Private Number in token of his readiness to receive the train.

(ii) Train Signal Register shall be maintained at all block stations. The following entries shall be made in the Train Signal Register:

<table>
<thead>
<tr>
<th>Train coming from .......... (page)</th>
<th>Train going to ............ (page)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Date</td>
<td>a) Date</td>
</tr>
<tr>
<td>b) Number and Description of the Train</td>
<td>b) Number and Description of the Train</td>
</tr>
<tr>
<td>c) Time, Permission asked for</td>
<td>c) Time, Permission asked for</td>
</tr>
<tr>
<td>d) Time, Permission granted</td>
<td>d) Time, Permission obtained</td>
</tr>
<tr>
<td>e) PN (in words and figures)</td>
<td>e) PN (in words and figures)</td>
</tr>
<tr>
<td>f) Time, Approach Buzzer sounded</td>
<td>f) Time of departure of the train</td>
</tr>
<tr>
<td>g) Time of arrival of train</td>
<td>g) Signature of Station Master</td>
</tr>
<tr>
<td>h) Signature of Station Master</td>
<td>h) Remarks</td>
</tr>
<tr>
<td>i) Remarks</td>
<td>.....</td>
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</tbody>
</table>

Note:

(a) Entries relating to cancellation of Permission shall be made in red ink in the Train Signal Register against the entry for the train.

(b) Any other relevant entry as required by the Station Working Rules and other instructions in force should also be promptly recorded in the Train Signal Register.

(c) During suspension of normal working, all entries in the Train Signal Register should be made in red ink.

2.06 Failure or suspension of Normal working

Automatic Block working is considered failed / suspended on the following occasions:

(i) Failure of all signals likely to last for some time and cause serious delay when means of communications are available:

The trains shall be worked as per the provisions of S. R. 9.12 (i).
(ii) Failure of all signals likely to last for sometime and cause serious delay when no means of communications are available:-
   The trains shall be worked as per the provisions of S.R. 9.12 (ii)

(iii) Temporary Single line working on Double line:-
   The trains shall be worked as per the provisions of S.R. 9.12 (iii) Part I.

(iv) Despatch of a Relief engine/train to assist a crippled train:-
   The trains shall be worked as per the provision of S.R. 9.12(v).

2.07 Restoration of Failures: -
   (i) In case of failures referred in Para 2.06 of this manual, normal working shall not be resumed until the
       Signals or Communications or both have been certified to be in order by the concerned Signal and
       Telecommunication official.
   (ii) In the case of obstruction on track, a responsible Engineering/ Electrical official not below the rank of JE
       shall certify that the track is safe for passage of trains.
   (iii) A record of the failure of normal working and also other failures shall be maintained in the Signal, Block
       failure and Inspection book.
   (iv) In case of failure as stated in rule (iv) of 2.06, the normal working shall be resumed by the station Masters
       themselves, when the cause for the failure/suspension is removed.

2.08 Shunting

(i) For shunting beyond departure Stop signal (Manual stop signal/Semi-automatic stop Signal) at a station
   and upto the next Automatic stop Signal.
   (a) When it becomes necessary to make shunt moves into the first signalling section, the Station Master
       shall advise the Station Master at the other end of the block section about the shunting and get his
       consent which shall be supported by a Private Number.
   (b) The SM shall ensure that the first Automatic Block Signalling section is clear by observing the
       indication on the panel and shall then authorize the movement by taking ‘OFF’ of shunt signals if any / Semi-Automatic/Manual Stop signal and also issue a written memo in the prescribed format to
       the Loco Pilot.
   (c) The SM shall authorize the Loco Pilot to shunt upto the next Automatic/Semi-Automatic Stop signal
       indicating the signal number or the place upto which he shall shunt in the memo within the first
       Automatic Block Signalling section.
   (d) During shunting, Line Block caps have to be provided on the signal knobs, protecting the section.

(ii) For shunting into the block section in advance beyond the first Automatic Block Signalling section.
   (a) When it becomes necessary to make shunt moves into the block section in advance beyond the first
       Automatic Signalling section, the SM shall inform the Controller and get his permission for blocking
       the section between the two block stations by exchanging Private Numbers.
   (b) The Station Master shall advise the Station Master at the other end of the block section about the
       shunting and get his consent which shall be supported by a Private Number.
   (c) Both the SMs shall ensure that the concerned block section shall be clear of trains.
   (d) The SM shall then authorize the Loco Pilot to perform shunting beyond the departure stop signal of
       his station by issue of a written memo in the prescribed format.
   (e) The individual number(s) of the Automatic/Semi-Automatic Stop signals which have to be passed
       while performing shunting shall be mentioned in the memo. The time by which the Loco Pilot shall
       clear the block section may also be mentioned in the memo.
   (f) Shunt Signal/Semi-Automatic/Manual Stop signal may be taken off. Otherwise, the SM shall ensure
       the correct setting and clamping / padlocking of points on the route of dispatch before the issue of the
       written memo.
   (g) In the case of Semi-Automatic Gate Stop signal, the Loco Pilot shall ensure that the gate is closed
       against road traffic before passing the same.
   (h) For return movement into the station, shunt signal if any may be taken off or movements shall be
       controlled by hand signals.
   (i) On completion of shunting, Loco Pilot shall hand over the written memo to the SM who shall cancel
       the same with time and return it to the Loco Pilot.
   (j) Entries regarding the shunting shall be made in red ink in the TSR.
   (k) During the period of shunting, Line block caps have to be provided on the signal knobs, protecting the
(iii) **For shunting into the block section in rear – Movement against the Direction of Traffic**

- (a) Station Master shall ensure that the entire block section is clear of trains.
- (b) The SM shall inform the Controller and get his permission for blocking the section by exchanging Private Numbers.
- (c) Station Master shall then advise the Station Master in rear about the shunting and get his consent, which shall be supported by a Private Number. The SM shall inform the Gateman about the shunt movement when communication is available.
- (d) The Station Master shall also give a Private Number to the Station Master of the block station in rear as an assurance that all the trains which have entered the block section have arrived complete at the station.
- (e) The Station Master of the block station in rear shall place Line Block caps on the relevant signal knobs controlling entry into the concerned block section.
- (f) The Station Master shall then authorize the Loco Pilot to shunt into the block section in rear by issue of a written memo in the prescribed format.
- (g) The place upto which shunting is required to be done may be indicated in the memo in terms of the signal number or other means. The time at which the section has to be cleared may also be mentioned in the memo.
- (h) The Loco Pilot shall be responsible to ensure that the level crossing gates if any are closed against road traffic before passing the same.
- (i) For the return shunt movement into the station, shunt signals if any shall be taken off or the movement shall be controlled by hand signals.
- (j) On completion of shunting, the Loco Pilot shall hand over the written memo to the SM who shall cancel the same with time and return it to the Loco Pilot.
- (k) Entries regarding the shunting shall be made in red ink in the TSR.

(iv) **The written memo referred in sub-rule (i) of Para 2.08 shall be in the following format:**

```
From                      To
SM______                  Loco Pilot / Loco Pilot (Shunting) of T.No____
```

You are authorized to perform shunting towards_____ station upto the next Automatic / Semi-Automatic Stop signal No.------ / Specified location within the first Automatic Signalling section. On return, you shall bring your train to a stop at Signal No. ------/ location, and thereafter you will be guided by the taking ‘OFF’ Shunt signal or hand signals.

Date:                       Signature of the SM
Signature of the Loco Pilot / Loco Pilot (Shunting)

(v) **The written memo referred in sub-rule (ii) & (iii) of Para 2.08 shall be in the following format:**

```
From                      To
SM______                  Loco Pilot / Loco Pilot (Shunting) of T.No____
```

You are authorized to perform shunting towards_____ station upto the Automatic / Semi-Automatic Stop signal No.------ / Specified location. You are authorized to pass intervening Automatic/Semi-Automatic Gate Stop signal Nos ........ duly observing that the gates are closed against road traffic. On return, you shall bring your train to a stop at Signal No.------ / location -----, and thereafter you will be guided by the taking ‘OFF’ of Shunt signal or hand signals.

Date:                       Signature of the SM
Signature of the Loco Pilot / Loco Pilot (Shunting)
2.09 Working of Trolley / Motor trolley / Ladder trolley

i) Only trollies, which are insulated, are allowed to work in the Automatic Double line territory duly suspending the Automatic block working.

ii) Motor trollies are prohibited from working on sections worked under Automatic Block system in terms of S.R. 15.25 (x) (a)

iii) Trolleys shall be worked on the authority of a 'written memo' prepared in duplicate in the format given below:-

<table>
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<tr>
<th>Station</th>
<th>Date</th>
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From
Station Master ______

To
Official-in-charge of the Trolley/Lorry No_____

The Automatic Block working between ______ station and _____ station is suspended. This authority permits your trolley Number ______ to enter the block section towards _____ station in the Up/Down line.

You shall clear the block section ______ station at _____ hours _____ mts. Private Number ______.

Signature of the OIC

Signature of the Station Master

(iv) On arrival of trolley / lorry at the station, the Station Master shall give a Private Number to the Station Master at the other end for the complete arrival of the trolley / lorry and resume normal working.

(v) Both end Station Masters shall make entry in red ink in the Train Signal Register.

(vi) Procedure for working OHE Ladder trolley in suburban Automatic Block Double line shall be followed as per provision in S.R.17.08 (iv).

(vii) Procedure for working OHE Ladder trolley in Non-suburban Automatic Block Double line shall be followed as per provision in S.R.17.08

(viii) Automatic Block Double Line working shall be suspended and the Station Master shall issue the following 'written authority' as prescribed below.

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<th>Station</th>
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From
Station Master ______

To
Official-in-charge of the OHE Ladder Trolley No_____

The Automatic Block working between ______ station and _____ station is suspended. This authority permits your OHE Ladder trolley Number ______ to enter the block section towards _____ station on Up/Down line. You shall clear the block section ______ station at _____ hours _____ mts. Private Number ______.

Signature of the OIC

Signature of the Station Master.

(ix) On arrival of OHE Ladder trolley at the station, the Station Master shall give a Private Number to the Station Master at the other end for the complete arrival of the OHE Ladder trolley and resume normal working.
(x) Both end Station Masters shall make entry in red ink in the Train Signal Register.
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<tr>
<th>Correction memo No.</th>
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<th>Para No(s) corrected</th>
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<th>Correction slip No.</th>
<th>Page No.</th>
<th>Para No(s) corrected</th>
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## List of corrections issued

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