

## CHAPTER VIII

### INTERMEDIATE BLOCK POST

#### 8.1 Description:-GR. 1.02 (31&32)

- i) “Intermediate Block Post” means a class ‘C’ Station on a double line, remotely controlled from the block station in rear.
- ii) “Intermediate Block Signalling” means an arrangement of signalling on double line in which a long block section is split into two portions by providing an intermediate Block Post.
- iii) The complement of signals at an “Intermediate Block Post” is DISTANT and HOME- IN MULTIPLE ASPECT SIGNALLING TERRITORY.
- iv) The Distant signal shall have two aspects “CAUTION” and “PROCEED” and ‘P’ marker plate will be fixed on it.
- v) The Home signal at an Intermediate Block Post shall be provided with ‘IB’ marker and signal post telephone and called as “INTERMEDIATE BLOCK STOP SIGNAL”.
- vi) The Home signal shall have two aspects “STOP” and PROCCED’.
- vii) The Home signal is remotely controlled from the Block Station in rear.
- viii) The track shall be track circuited or provided with Axle Counters between the LSS of the station in rear and at least 400 metres beyond the Intermediate Block Stop Signal (Home).
- ix) This track circuit / Axle Counter shall be connected to a track indicator available at the Block Station in rear, where the LSS is being operated.
- x) The track indicator would show ‘WHITE’, when the Track is clear upto 400 mtrs beyond the IBS signal and ‘RED’, when Track is occupied or when the Track circuit/ Axle Counter is failed.
- xi) LSS shall not be taken”OFF” unless the track indicator shows WHITE.
- xii) The entry of trains into the block section Y-Z is controlled by the Intermediate Block Stop Signal which shall be interlocked with the block instruments at Station ‘X’ and ‘Z’.
- xiii) The Intermediate Block Stop Signal shall not be taken “OFF” for a train unless Line Clear has been obtained at the block station ‘X’ from the block station in advance ‘Z’ through the block instrument.

## **8.2 WORKING OF TRAINS:**

- i) A train shall not be started from the block station in rear (X) unless the track indicator at station 'X' shows "WHITE". For the first train line clear also has to be obtained through the block instrument from the Station Master at Station 'Z'. Individual Private Number shall be obtained from the Station Master in advance for the block section between Station in rear & IBP and IBP & Station in advance.
- ii) Both the IBS signal and the LSS shall be taken "OFF" to despatch the said first train.
- iii) As soon as the train passes the LSS, the track indicator shows "RED" and continues to show "RED" until the entire train passes 400 meters beyond the Intermediate Block Stop signal. A buzzer would sound when the train passes the LSS and the Station Master on duty at other end shall press the button to stop the buzzer.
- iv) The second train from the block station in rear 'X' shall not be started by taking "OFF" the LSS unless the track indicator shows "WHITE".
- v) The Intermediate Block Stop signal shall not be taken "OFF" for the second train unless the block section beyond the Intermediate Block Stop Signal is clear of trains and Line Clear has been obtained through the block instrument from the station 'Z'.
- vi) Similarly subsequent trains shall be started one behind the other as stated above.
- vii) Not more than two trains shall be available between the block stations 'X' and 'Z' at any given point of time.

## **8.3 FAILURE OF INTERMEDIATE BLOCK STOP SIGNAL:**

When an Intermediate Block Stop Signal is at "ON" the Loco Pilot shall stop his train in rear of it and contact the SM in rear through the telephone provided on the signal post. If the Intermediate Block Stop signal is at "ON" on account of the occupation of the proceeding train in the block section Y-Z the SM shall intimate the same to the Loco Pilot and specify the time at which the Loco Pilot shall contact the SM once again at the specified time if the signal continues to be at "ON".

- i) In the event of the Intermediate Block Stop signal becomes defective and the Line Clear has been obtained through block instrument, the SM shall authorize the Loco Pilot to pass it at "ON" duly giving a message supported by a Private Number obtained for Line Clear from the SM of the station in advance.

**FORMAT –I**

Station:

Date:

From:  
SM-X

To:  
The Loco Pilot of Train( No.and Description)  
.....at IBS Signal

The Intermediate Block Stop Signal could not be taken “OFF”. However Line Clear has been obtained through the Block instrument. You are authorized to pass the Intermediate Block Stop Signal at “ON” and treat this message as the authority to proceed and enter block section after ensuring the closure of LC if any, Proceed at normal speed.

Private Number:

In figures:.....

In words:.....

The Loco Pilot shall record this message with the Private Number in his rough Journal book. He shall then exchange signals with the Guard and proceeds to the block station in advance (Z) at normal speed.

ii) In the event of the Intermediate Block Stop signal being at “ON” on account of the failure of the block instrument and when Line Clear has been obtained through Block Telephone the SM shall issue a message through Signal Post Telephone to the Loco Pilot as follows :

**FORMAT – II**

Station:.....

Date: .....

From:  
SM-X

To:  
The Loco Pilot of Train (No. and Description)  
.....at IBS Signal

The Intermediate Block Stop Signal could not be taken “OFF” due to the failure of the block instrument. Line Clear has been obtained through the block telephone. You are authorized to pass the Intermediate Block Stop Signal at “ON”. Treat this message as the authority to proceed and enter the block section after ensuring the closure of LC if any, proceed at normal speed.

Private Number:

In figures:.....

In words:.....

- iii) In the event of the Intermediate Block Stop signal being at “ON” account of the failure of the block instrument and when Line Clear is obtained through the Control telephone/VHF sets. The SM shall issue a message through Signal Post Telephone to the Loco Pilot as follows:

|   |   |
|---|---|
| <b><u>FORMAT-III</u></b>  |   |
| Station: Date:  |   |
| From:   | To:   |
| SM-X  | The Loco Pilot of Train (No. and Description)<br>..... at IBS Signal. |
| <p>The Intermediate Block Stop Signal could not be taken “OFF” due to the failure of the block instrument. Line Clear has been obtained through the Control Telephone/VHF sets. You are authorized to pass the Intermediate Block Stop Signal at “ON” and treat this as the authority to proceed and enter the block section after ensuring the closure of LC if any, (Proceed at a speed not exceeding 25 kmph when view ahead is clear and 10 kmph when view ahead is not clear when ID number is not used. When <b>ID numbers are used</b> no speed shall be imposed- <i>Proceed at normal speed</i>).</p> |   |
| Private Number:   |   |
| In figures:   |   |
| In words: ( Read the message as applicable)   |   |

- iv) In the event of the Intermediate Block Stop Signal being at “ON” on account of total interruption of communication between Stations ‘X’ and ‘Z’ the SM issue a message through Signal Post Telephone to the Loco Pilot as Follows:

|   |   |
|---|---|
| <b><u>FORMAT-IV</u></b>   |   |
| Station: Date:  |   |
| From:   | To:   |
| SM-X  | The Loco Pilot of Train (No. and Description)<br>..... at IBS Signal. |
| <p>Line Clear could not be obtained for your train due to total failure of communications. You are hereby authorized to pass the Intermediate Block Stop Signal at “ON” after ensuring the closure of LC if any, and proceed cautiously to station “Z” and be prepared to stop short of any obstruction. The speed shall not exceed 15 kmph during day clear weather and 8 kmph during night and weather not clear.</p> |   |
| Private Number:   |   |
| In figures:   |   |
| In words:   |   |

- v) In the event of the Intermediate Block Stop signal being at 'ON' on the Loco Pilot shall proceed cautiously and make use of his engine whistle freely and frequently.

*Note: Whenever the SM gives a message to the Loco Pilot of a Train at the Intermediate Block Stop signal an entry shall be made in the Train Signal Register, in red ink.*

- vi) The SM in rear station 'X' on becoming aware of the failure of the Intermediate Block Stop Signal due to the failure of the signal itself, the block instrument, track circuit, Axle Counter etc, shall treat the entire section between 'X' and 'Z' as one block section and before dispatching a train shall issue a Partial Interruption Certificate as an authority to proceed along with the form T/369(3b) to pass the Intermediate Block Stop Signal at 'ON' without a stop. Before issuing the form T/369(3b) Private Number shall be exchanged with the Gateman of LC if any for closure of the level crossing.

#### **8.3.01 FAILURE OF SIGNAL POST TELEPHONE:**

- 1) If the Loco Pilot is unable to contact the SM of the station in rear since Signal Post Telephone is out of order, after waiting for 5 minutes, the Loco Pilot shall pass the Intermediate Block Stop Signal at "ON" and proceed at a cautious speed not exceeding 15 kmph when view ahead is clear and not exceeding 8 kmph when view ahead is not clear.
- 2) The same cautions driving shall be exercised till he reaches the first Stop signal of the station in advance, even if the FSS is 'OFF' and be prepared to stop short of any obstruction.
- 3) The Loco Pilot shall report the matter to the Station Master of the station in advance, who in turn shall advise the Station Master in rear.

#### **8.4.0 FAILURE OF LAST STOP SIGNAL:**

When the LSS alone becomes defectives despite the track indicator shows White Form T/369-(3b) shall be given to the Loco Pilot of the train with the following endorsement in it, as the authority to proceed.

#### **ENDORSEMENT**

Last Stop signal could not be taken "OFF", however the Axle Counter/track circuit indicator shows clear. You are authorized to pass the LSS at "ON" and treat this as the authority to proceed and enter the block

section and proceed up to the IBS signal.

PN obtained from SM in advance:

In figures:

In words:

#### **8.5.0 CLOSING OF INTERMEDIATE BLOCK POST:**

##### **THE INTERMEDIATE BLOCK POST SHALL BE TREATED AS CLOSED DURING THE FOLLOWING OCCASIONS:**

1. During the failure of the block instrument on either side.
2. During the failure of the track/Axle counter.
3. During the failure of the Intermediate Block Stop Signal.
4. During the failure of the Distant at IBP in the "OFF" aspect.
5. During single line working on double line.
6. During total interruption of communications.
7. During the failure of the Track Indicator.

*Note:-When the IBP is closed on account of the failure of Track Indicator, a Caution Order shall be issued to the Loco Pilot of the first train restricting the speed to 15 kmph during day clear weather and 10 kmph during night or day weather not clear, till the entire train clears the adequate distance (400 m) beyond the Intermediate Block Stop Signal.*

*If the Loco Pilot finds any abnormality he shall stop at once and report it immediately to the SM at the station in rear either through the Portable telephone/ RE phone or SPT. For the purpose of reporting the Loco Pilot shall seek the assistance of the Section Traction Power Controller also.*

#### **8.6.0 PROCEDURES:**

1. A numbered message confirmed by Private Numbers shall be exchanged between the SM in rear (X) and the SM in advance (Z) for closing of IBP.
2. The concerned dial of the block instrument shall be kept in the TOL position whenever possible.
3. The entire line between the LSS of the station in rear (X) and the adequate distance beyond the station in advance (Z) shall be treated as one block section.
4. The LSS and the IBS signal shall be suspended.
5. Line clear shall be obtained through the electric speaking instruments namely the block telephone/VHF sets in the order of priority.

6. When Line Clear is obtained through control telephone/VHF sets ID Number Sheets shall be used if supplied.
7. Partial Interruption Certificate shall be issued as the authority to proceed for the entire section X –Z along with the form T/369-(3b) to pass the IBS signal at “ON” without a stop at the signal after ensuring the LC if any is closed against road traffic.
8. At station “Z” the train shall be received on signals.
9. On complete arrival of the train, the SM shall give a Private Number to the SM in rear (X).
10. Trains shall be continued to work in the above said procedure until normal work is restored.
11. On restoration of normal working a numbered message supported by Private Number shall be exchanged between the SMs of the stations in rear (X) and in advance (Z).

#### **8.7.0 BACKING OF TRAINS:**

1. A board shall be fixed not less than 400 metres in advance of IBS signal facing against the direction of traffic, to read “No Backing without Permission”
2. Backing a train after passing an IBS signal is prohibited except in emergency.
3. To back a train up to the above mentioned board the protection shall be arranged first by placing the detonators one at 250 meters and two at 500 meters from the point up to which the train has to be backed.
4. If backing has to be done beyond the above said board, the following procedures shall be strictly adhered to.
  - a) The Loco Pilot and Guard shall consult each other before doing so and protect the train in rear. Before backing the train, the Guard shall obtain the permission from the section controller through the portable (RE) telephone, when the train is standing for away from the IBS.
  - b) Section controller shall grant his permission to the Guard by giving a message to this effect supporting by a PN, after getting the consent of the SM in rear of IBP.
  - c) The SM in rear shall give a PN to the section controller as an assurance that he will not permit any other train to enter X-Y Rear section.

- d) If a subsequent train has already been permitted to approach IBS signal, SM in rear shall not give his consent to back the train.
- e) If the train to be backed is nearer to the IBS signal, Guard can take the permission directly from the SM in rear through the SPT of IBS signal instead of routing through the controller.
- f) In case a subsequent train has already entered the block section X-Y the same shall be brought back to the station first and the concerned train subsequently.
- g) If any difficulty is experienced in contacting the controller or the SM in rear, the Guard shall send the Diesel Assistant/ Assistant Loco Pilot to the nearest SM with a message containing the intention to back the train. The SM who gets the message shall in turn will give a message permitting the Loco Pilot and Guard to back the train after consulting the SM at the other end. The message must have the Station stamp.
- h) While backing the train the rules pertaining to engine pushing on double line as per S.R. 4.12 (i) (b) (2) and S.R. 4.12 (i) (b) (3) (ii) shall be adhered.

#### **8.8 DURING TOTAL FAILURE OF COMMUNICATIONS:**

1. The procedure given under SR 6.02 (iii) shall be adhered to.
2. In addition to this,  
The IBS signal shall be treated as out of use.  
The LSS of the station in rear shall be suspended.  
The entire section between 'X' and 'Z' shall be treated as ONE block section.  
The Form T/369-(3b) shall be issued for passing the IBS signal at "ON".

#### **8.9 SHUNTING:**

##### **BLOCK FORWARD:**

##### **(A) BLOCK FORWARD -X-YREAR SECTION (UPTO IBS SIGNAL)**

1. The X-Y Rear section shall be clear and free from obstruction.
2. The SM at station 'X' shall inform the SM of station in advance 'Z' about his intention to block forward and get his consent.

3. Necessary entries shall be made in red ink in the Train Signal Registers at the stations 'X' and 'Z'.
4. The following endorsement shall be made on form T/806- 'Shunt up to IBS signal No.....'
5. Wherever Shunt key is provided for block instrument, the shunt key shall be extracted and given along with the form T/806 which authorizes the Loco Pilot to pass the LSS at station 'X' at "ON" and shunt into the X-Y rear section.

**(B) BLOCK FORWARD X-Y & Y-Z ADVANCE SECTION (BEYOND IBS SIGNAL)**

1. The same procedure for Block forward on Double line shall be followed as per BWM Chapter-VI Para 6.16.
2. The entire section 'X' to 'Z' shall be treated as one Block section.
3. The Loco Pilot shall shunt up to the FSS of the station 'Z'.
4. The operating handle of the block instrument at "Z" shall be turned to TOL position.
5. Shunt key, if any, shall be extracted and given along with Form T/806.
6. A remark authorizing the Loco Pilot to pass the IBS signal at 'ON' shall be made in the Form T/806.
7. On return to the starting station 'X' the operating handle shall be restored to Line Closed and Shunt key shall be inserted.

**(C) BLOCK BACK**

1. The same procedure for Block back on Double line shall be followed as per BWM Chapter-VI Para-6.16.
2. The entire section (X-Z) shall be treated as one block section.
3. The Loco Pilot shall shunt up to LSS of the station 'X' or FSS of the adjacent line of the station 'X' whichever comes first.
4. T/806 shall bear a remark, authorizing the Loco Pilot to pass the IBS signal at "ON" while returning.

**8.10 WORKING OF MOTOR TROLLEY(S):**

**(a) MOTOR TROLLEY:**

In addition to PLCT form T/369-(3b) shall be issued to the official in charge of the Motor Trolley to pass the IBS at 'ON'.

The entire section (X-Z) is treated as one block section for this purpose.

**(b) MOTOR TROLLEY / TROLLEYS FOLLOWING A TRAIN:**

1. Motor trolley/ trolleys, shall not be allowed to follow a train, unless Line Clear has been obtained for the train.
2. The authority for each motor trolley is a written memo (with PN), with permission to pass the IBS signal at “ON”.
3. Only after the arrival of all the motor trolleys, which have entered into the section, subsequent train can be started.
4. The motor trolley / trolleys, are permitted to follow a train only during day clear weather, and when train is fully vacuum / airbrakes.

**(c) MOTOR TROLLEY/ TROLLEYS FOLLOWING A MOTOR TROLLEY :**

The first Motor trolley shall be worked as train on PIC after suspending the block working and subsequent motor trolley / trolleys shall follow the Motor Trolley during day or night in clearweather.

**(d) PLACEMENT OF MOTOR TROLLEY IN THE MID-SECTION:**

1. The entire section (X-Y and Y-Z) shall be treated as one blocksection.
2. The procedure laid down in BWM Chapter-VII Para-7.4, shall be adhered to.
3. Necessary remarks shall be made in Form T/A 1525 authorizing the Loco Pilot to pass the IBS signal at ‘ON’ if necessary.

**8.11 WORKING OF LORRY/OHE LADDER TROLLEY:**

1. The entire section (X-Y and Y-Z) shall be treated as one block section and the procedure laid down in SR. 15.24 (xxii) and SR. 17.08 (vi) shall be adhered to.
2. Partial Interruption Certificate along with form T/369-(3b) shall be issued to the Loco Pilot to pass the IBS signal at ‘ON’ and proceed up to the Station in advance.

### **8.12 WORKING OF TROLLEY:**

The work in conjunction with from T/1518.

The entire section (X-Y and Y-Z) shall be treated as one block section and the procedure laid down in SR.15.24 (viii) (a) shall be adhered to.

1. Un-insulated Trolley/Trolleys shall not be allowed to work.
2. The procedure laid down in SR.15.24 (x) (a) shall be adhered to.

### **8.13 SINGLE LINE WORKING ON DOUBLE LINE:**

1. The IBS signal shall be treated as out of use, and the entire section (X-Y and Y-Z) shall be treated as one block section.
2. For trains running on the right direction, form T/D 602 along with T/369-(3b) shall also be issued to pass the IBS signal at 'ON'.
3. The Rules and regulations laid down in SR. 6.02 (iv) shall be adhered to.

### **8.14 OCCASIONS UNDER WHICH A SEPARATE AUTHORITY TO PASS IBS SIGNAL AT 'ON'SHALL BE ISSUED:**

1. When a train is started on authority to proceed without line clear.
2. During Total Failure of communications.
3. Whenever train / Motor Trolley/ Lorry /OHE Leader Trolley / Trolley etc. is started on PIC.
4. When a train is started on T/D 602, in the right direction, during single line working on double line.

### **8.15 MAINTENANCE OF TRAIN SIGNAL REGISTER:-**

A single Train Signal Register (TSR) in the prescribed format shall be maintained at either end of those block sections where IBS are located between them. (CM No.9 dated 31.07.2019)

### **8.16 RESETTING OF AXLE COUNTER:**

If the axle counter indication (Track Indicator) displays 'RED' light even when the axle counter section is clear of trains / vehicles and the connected track indications show no illuminated indication, the axle counters can be reset by the Station Masters with the co- operation of the Station Master at the other end to restore normal working. The axle counter can be reset by Station Master's using the reset button and release (Line Verification) button only after ensuring that the portion of

block section is clear of train/vehicle by verify the entries in train signal register. The reset button is provided at the station controlling the block section. Release button (Line verification Box) is provided at the station in advance.

The reset buttons with counters and release buttons (Line verification Box) are provided in a separate sealed box in Station Master's office. When the pair of Reset/Release buttons are pressed simultaneously the resetting process starts and a light is exhibited in the Station Master's office where the reset button is pressed. After resetting is over, the light gets extinguished and next higher number is registered on the digital counter. The buttons should be kept pressed till such time the light gets extinguished.

#### **8.17 INDICATIONS:**

- a) K1: Appears at sending station when a train passes IBS at danger.
- b) K2: Appears at sending station when a train passes LSS and LSS levers / switches still in reverse.
- c) K3: Appears at sending station when a train passes IBS and IBS lever/ switch is still in reverse.
- d) K4: Appears at sending station when IB Signal or Distant becomes no light.  
(All indication is **white /Yellow** in colour and accompanied with Buzzer).

#### **8.18 BUTTONS:**

PB1: Pressed at sending station for resetting when a train passes IBS at danger after getting co-operation indication from advance Station.

PB2: Pressed at sending station for resetting when axle counter fails even after a train clears after getting co-operation. Indication from advance Station.

PB3: Pressed at receiving station after receiving the train and after normalizing the Block Instrument and after ensuring the section is clear for co-operation to sending station for both PB1 & PB2 cancellations.

## 8.19 CANCELLATION:

- I) when a Train passes IBS at 'ON':
- K1 indication with Buzzer appear at sending station. Buzzer is stopped by pressing a push button.
  - The receiving station receives the above train and after ensuring the complete arrival of the said train normalizes the Block Handle and after exchanging necessary information presses PB3.
  - The sending station upon seeing the co-operation indication on panel presses PB1 and the system gets normalized.
- II) When Axle Counter Fails:
- Axle Counter shows 'OCC' on panel at sending station even after train clears the section between LSS and IB Signal (including OV).
  - The sending station informs receiving station.
  - The receiving station receives the above train and after ensuring the complete arrival of the said train normalizes the Block Instrument and after exchanging necessary information presses PB3.
  - The sending station upon receiving the co-operation indication on panel presses PB3 and the system gets normalised.

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