

## 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)

<b>7.</b>	Repeat the PN.		
<b>8.</b>	Give 'Call attention' signal.		
		<b>9.</b>	Acknowledge the 'Call attention' signal.
<b>10.</b>	Give 'Is line clear' signal by pressing PB1 and keep PB 2 also pressed for 5 seconds on the last beat		
		<b>11.</b>	<p>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.</p> <p>The Galvanometer needle shows a flick indicating that the handle at the other station has been turned. Release PB1 and PB 2.</p>
<b>12.</b>	<p>(i) While 'Y' is giving the prolonged beat, turn the block handle to 'Train Going To' position.</p> <p>(ii) Take 'OFF' Last Stop Signal.</p> <p>(iii) On the train entering the block Section, the Last Stop Signal goes to 'ON' position.</p> <p>(iv) 'Train On Line' indication appears automatically and the buzzer / bell starts operating.</p> <p>(iv) Replace Last Stop Signal lever /slide /knob</p>		
		<b>13.</b>	'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.	<p>(i) Take 'OFF' reception signals.</p> <p>(ii) When the train passes home signal the home signal returns to 'ON' position.</p> <p>(iii) As the last vehicle passes the Last Vehicle Track circuit, the buzzer/bell starts operating.</p> <p>(iv) Replace SM's control slide/lever/knob for home signal. Buzzer/bell stops.</p> <p><b>Note:</b>  <i>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.</i></p>
		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.	<p>(a) Turn Switch S-2.</p> <p>(b) Take 'OFF' the reception signals.</p> <p>(c) Train passes home signal, which returns to 'ON' and counter registers next number.</p> <p>(d) As the last vehicle passes the LVT, the buzzer starts operating.</p> <p>(e) Replace SM's Control slide / lever / knob of home signal to normal</p> <p>(f) Buzzer stops.</p> <p>(g) Normalize S 2 switch.</p>		
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.**