CHAPTER III

SIGNALS

A. General Provisions

3.01. General use of signals––
The signals prescribed in these rules shall be used for controlling the movement of trains in all cases in which exceptions are not allowed by approved special instructions.

3.02. Kinds of signals––
The signals to be used for controlling the movement of trains shall be -

(a) fixed signals,
(b) hand signals,
(c) detonating signals and
(d) flare signals.

3.03. Use of night signals by day ––
The signals prescribed in these rules for use by night shall also be used by day in tunnels and in thick, foggy or tempestuous weather impairing visibility.

3.04. Placing of signals and signal arms; painting of signal arms ––

(1) Fixed signals shall be clearly visible to the Loco Pilots of trains approaching them and shall be placed immediately to the left of or above the line to which they refer unless otherwise authorized by special instructions.

(2) In the case of semaphore signals, signal arms shall be placed on left hand side of the post as seen by the Loco Pilot of any approaching train to which they refer.

(3) (a) Except as provided for in clauses (b) and (c), signal arms shall be painted the same colour as the light exhibited in the 'on' position with a white bar on the side facing trains to which they refer and white with a black bar on the other side. Such bars shall be parallel with the end of the arms.

(b) In the case of a yellow arm, a black bar shall take the place of the white bar on the side facing trains.

(c) Calling-on arms shall be painted white with a red-bar on the side facing trains to which they refer and white with a black bar on the other side.

B. Description of Fixed Signals

3.05. Use of fixed Signals ––

(1) Except under approved special instructions, all Railways shall be equipped with fixed signals as prescribed in these rules.

(2) The aspects of a semaphore signal shall be displayed by the position of the arm by day and by a light or lights by night.

Note:- In the illustrations given in this Chapter, which are not drawn to scale, the day aspect of the semaphore signals is shown by the position of the arm and the night aspect is shown by the light or lights to the right of the signal concerned.

(3) The aspects of a colour light and position light signal both by day and night shall be the same and shall be displayed by fixed light or lights.

(4) The arm of a semaphore signal shall work in -
(a) the lower quadrant in two-aspect signalling and
(b) the upper quadrant in manually operated multiple-aspect signaling.

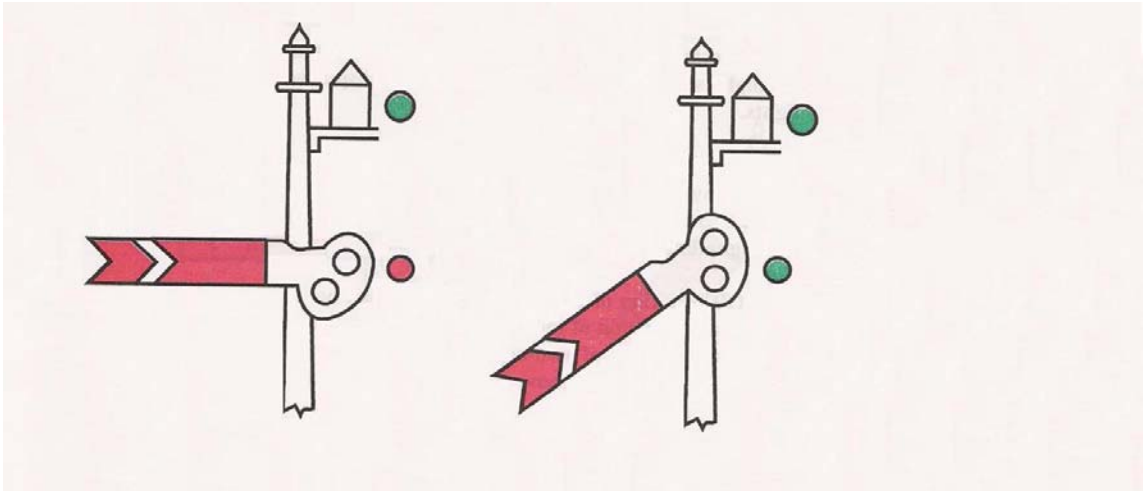
(5) The 'off' position of a semaphore signal shall be displayed by day by the inclined position of the arm from 45^0 to 60^0 below the horizontal in case of two-aspect lower quadrant signals, and 45^0 or 90^0 above the horizontal in case of multiple-aspect upper quadrant signals.

S.R.3.05. The approved special instructions required by G.R. 3.05 (1) shall be embodied in the SWR.

3.06. Description of Warner signals and their indications ––

(1) A semaphore Warner signal has a fish-tailed arm.
(2) A Warner signal is intended to warn a Loco Pilot -
(a) of the condition of the block section ahead or
(b) that he is approaching a Stop signal.
(3) A Warner signal may be placed either-
(a) on a post by itself with a fixed green light 1.5 to 2 metres above it by night or
(b) on the same post below the first Stop signal or the last Stop signal.
(4) When placed in accordance with clause (b) of sub-rule (3), the variable light of the Stop signal shall take the place of the fixed green light of the Warner signal and the mechanical arrangement shall be such that the Warner signal cannot be taken 'off' while the Stop signal above it is 'on'.
(5) The aspects and indications of a semaphore Warner signal are shown below:

(a) Semaphore Warner signal in Two-Aspect Signalling Territory – on a post by itself

‘On’ position	‘Off’ position
	

ASPECT:

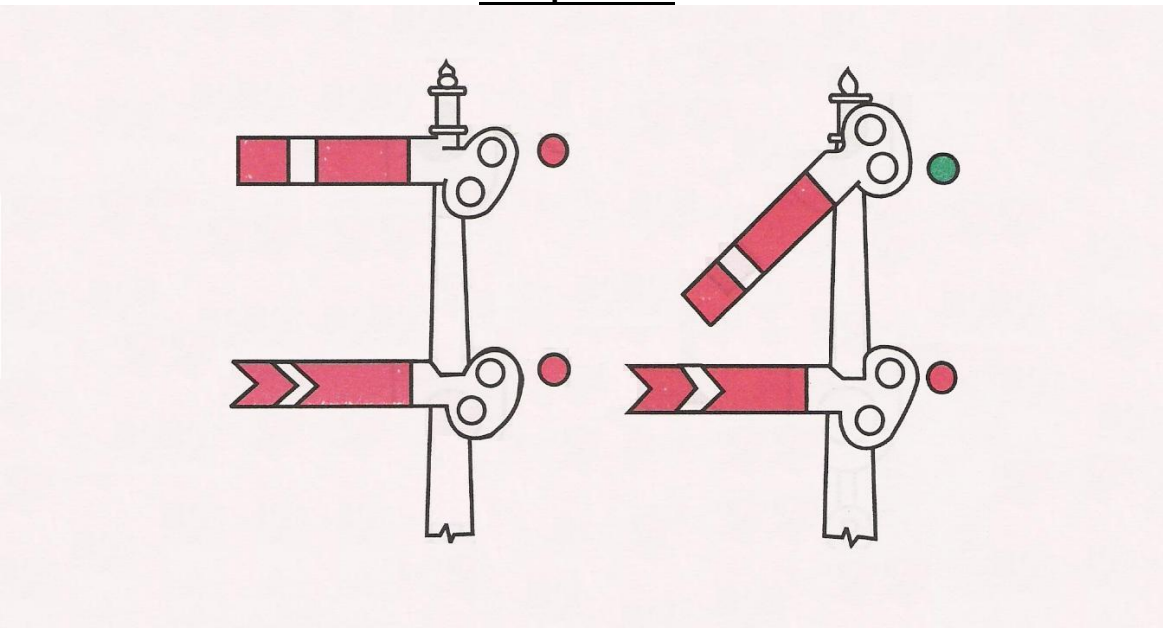
Proceed with caution	**Proceed**

INDICATION:

Proceed with caution and be prepared to stop at the next Stop signal	**Proceed**

(b) Semaphore Warner signal in Two-Aspect Signaling Territory — below a Stop signal

'On' position



ASPECT:

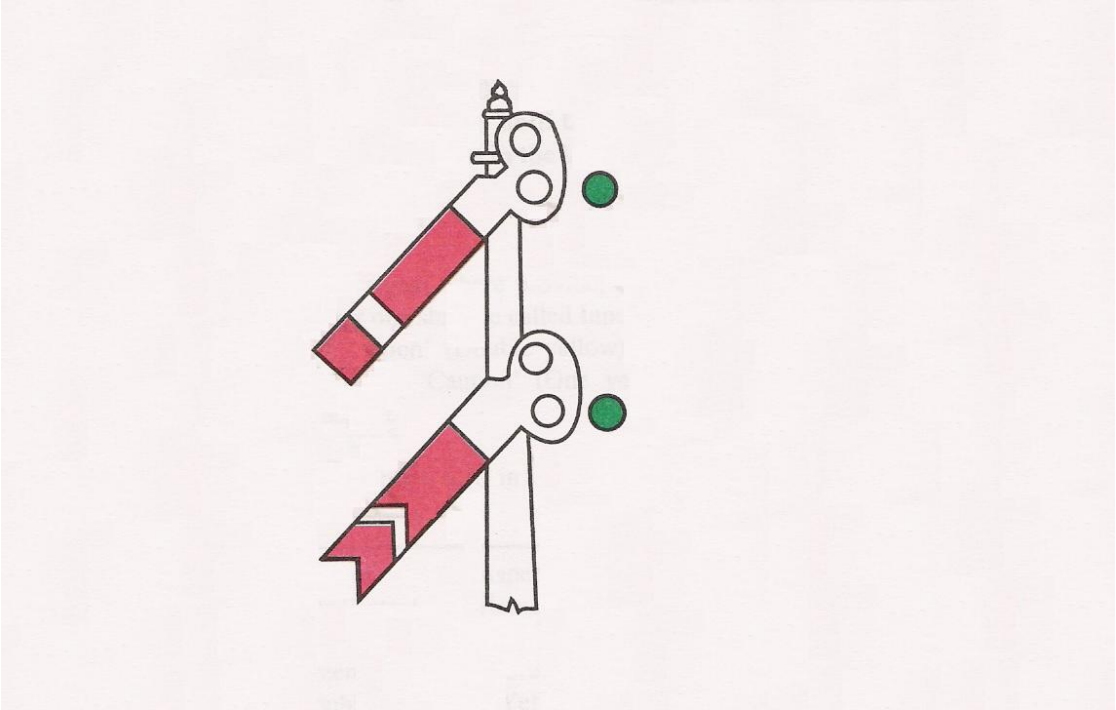
Stop	Proceed with Caution

INDICATION:

Stop dead	Proceed with caution and be prepared to stop at the next Stop signal.

Semaphore Warner signal in Two-Aspect Signaling Territory — below a Stop signal

'Off position'



ASPECT:

Proceed

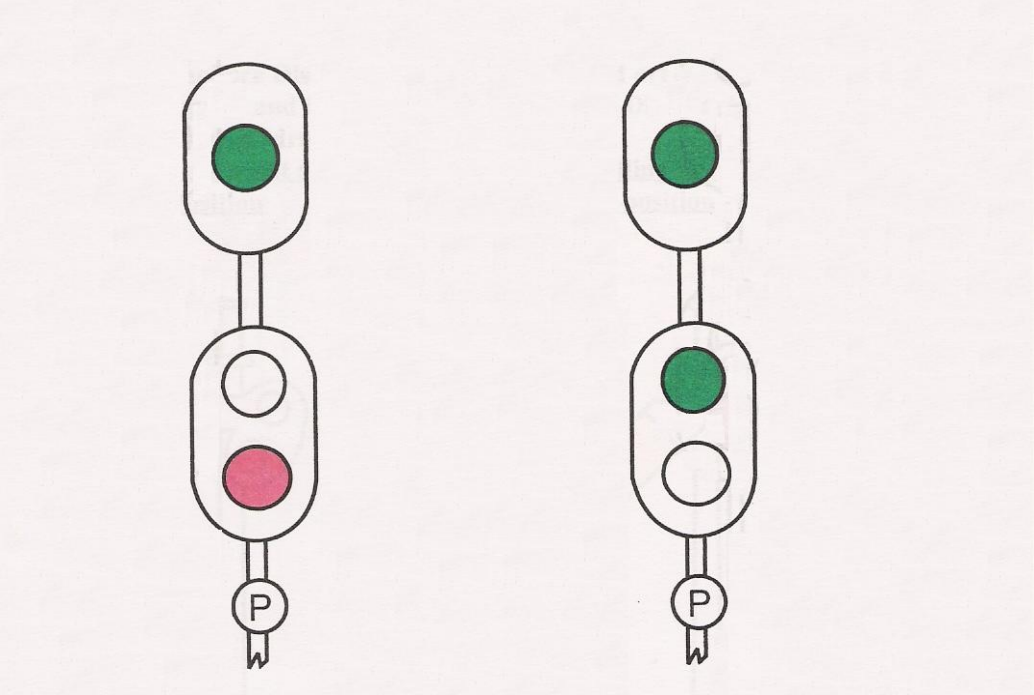
INDICATION:

Proceed

(6) The aspects and indications of a colour light Warner signal are shown below:

(a) <u>Colour light Warner signal in Two — Aspect Signalling Territory — on a post by itself</u>

<u>'On' Position</u> **<u>'Off' Position</u>**



ASPECT:

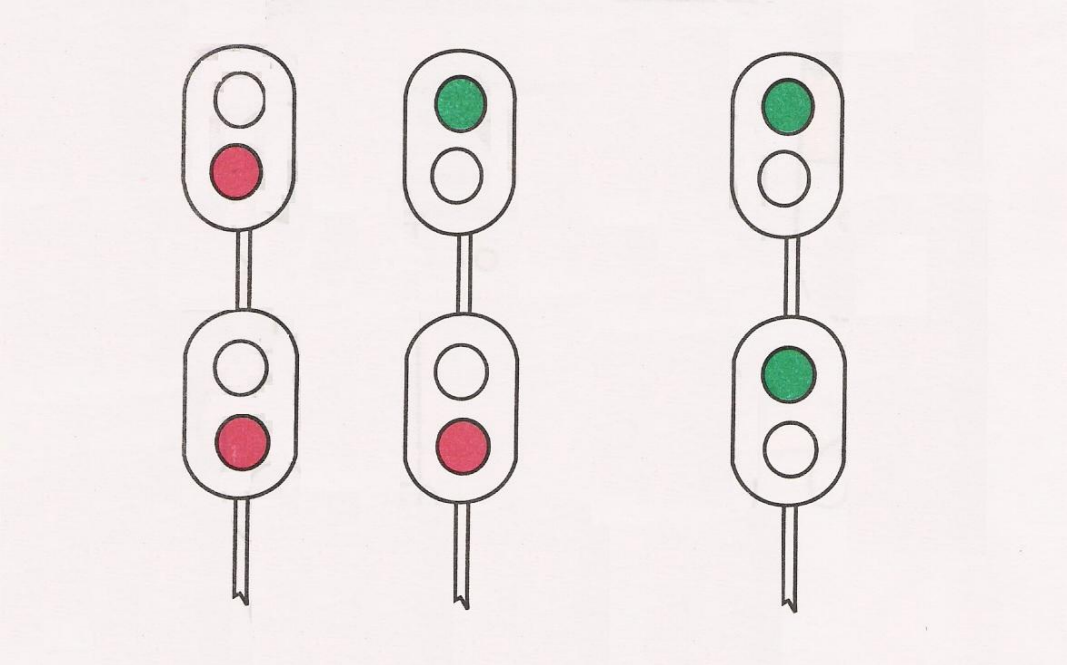
Proceed with caution **Proceed**

INDICATION:

Proceed with caution and be prepared to stop at the next Stop signal **Proceed**

(b) Colour Light Warner signal in Two—Aspect Signalling Territory—below a Stop signal

'On' position **Off' position**



ASPECT:

Stop	Proceed with caution	Proceed

INDICATION:

Stop dead	Proceed with caution and be prepared to stop at the next Stop signal	Proceed

(7) A Warner signal with a fixed green light above it by night, on a post by itself, shall be located at an adequate distance in rear of the Stop signal, the aspect of which it pre-warns:

Provided that when such a Warner signal applies to a gate Stop signal it shall not display the 'Proceed aspect unless there is adequate distance between the gate Stop signal and the first Stop signal of the station ahead. The adequate distance in such a case shall never be less than 1200 meters.

(8) Where special circumstances justify the use of an unworked Warner, it shall be secured in the 'On' position and not be coupled or duplicated for directing purposes.

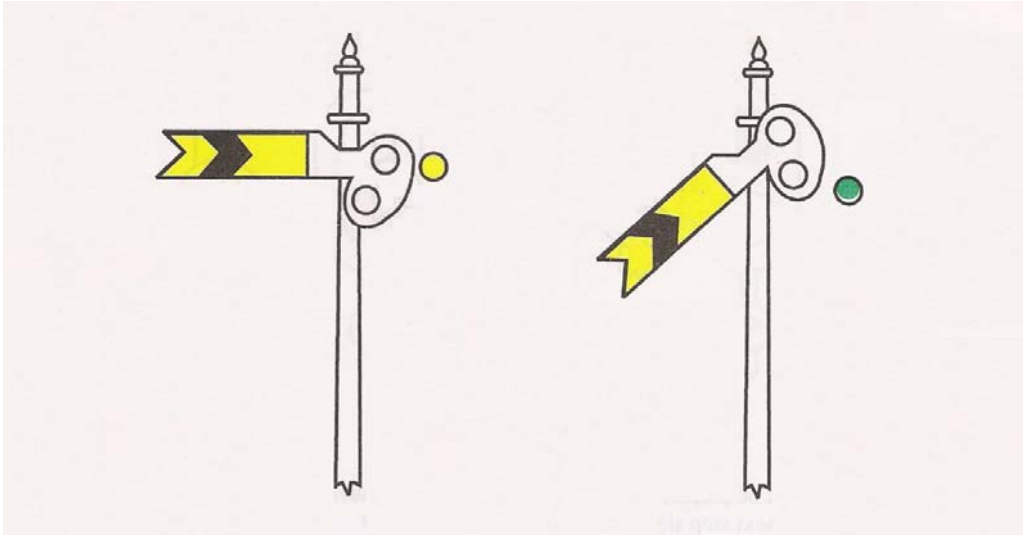
3.07. Description of Distant signals and their indications—

(1) A semaphore Distant signal has a fish-tailed arm.

(2) The aspects and indications of a semaphore Distant signal working in the lower quadrant are shown below:-

Semaphore Distant signal in Two-Aspect Signalling Territory

'On' position	**'Off' position**



ASPECT:

Caution	**Proceed**

INDICATION:

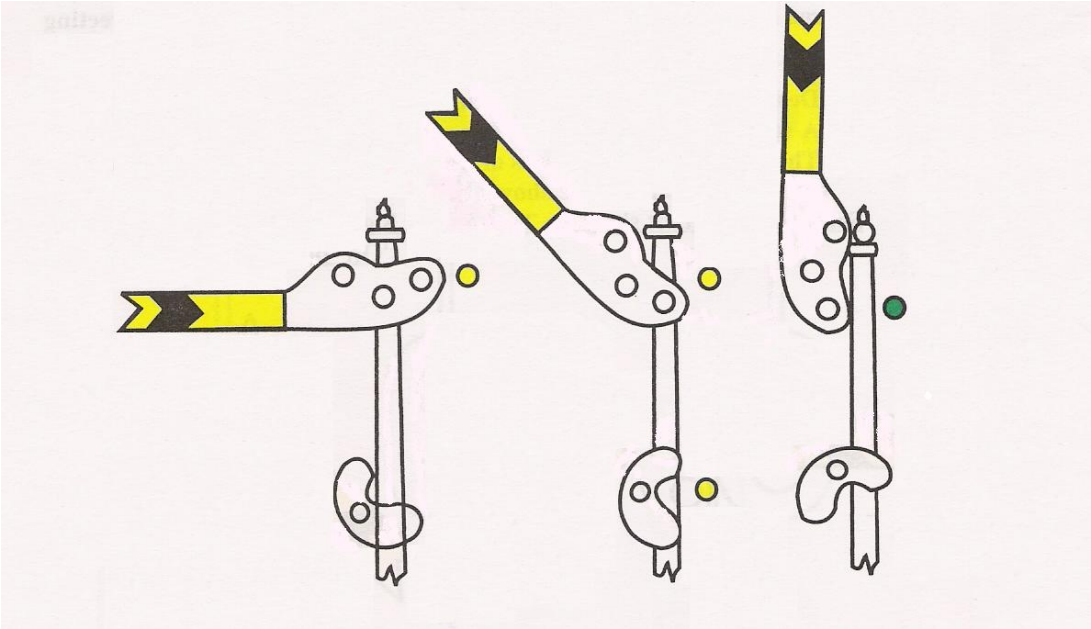
Proceed and be prepared to stop at the next Stop signal	**Proceed**

Note: **This signal shall be provided only in Modified Lower Quadrant signaling.**

(3) The aspects and indications of a semaphore Distant signal working in the upper quadrant are shown below:-

Semaphore Distant signal in Multiple-Aspect Signalling Territory

'On position' **'Off position'**



ASPECT:

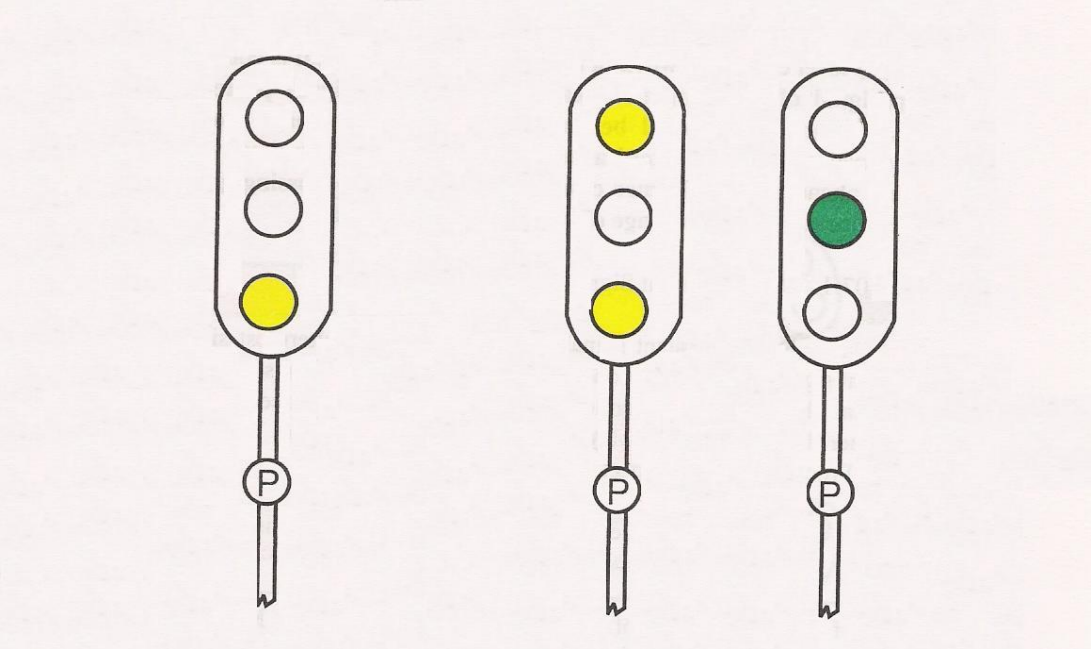
	Caution	Attention	Proceed
INDICATION:			
	Proceed and be prepared to stop at the next Stop signal	**Proceed and be prepared to pass next signal at such restricted speed as may be prescribed by special instructions**	**Proceed**

Note: **The distance between the two yellow lights shall be 1.5 meters, when this signal displays 'Attention' aspect at night.**

(4) The aspects and indications of a colour light Distant signal are shown below:-

Colour light Distant signal in Multiple-Aspect Signalling Territory

'On' position **'Off' position**



ASPECT:

Caution	Attention	Proceed

INDICATION:

Proceed and be prepared to stop at the next Stop signal	Proceed and be prepared to pass next signal at such restricted speed as may be prescribed by special instructions	Proceed

(5) A Distant signal shall be located at an adequate distance in rear of the Stop signal, the aspect of which it pre-warns.

(6) Where necessary more than one Distant signal may be provided. In such a case, the outermost signal to be located at an adequate distance from the first Stop signal shall be called the Distant signal and the other called the Inner Distant signal, with the Distant signal capable of displaying 'Attention' or 'Proceed' aspect only.

(7) Under approved special instructions, a colour light Distant signal may be combined with the last Stop signal of a station in rear or with a Stop signal protecting a level crossing. When a colour Distant signal is combined with the last Stop signal of the staion in rear or with a Stop signal protecting a level crossing, arrangement shall be such that the signal shall not display a less restrictive aspect than the 'Stop' aspect till Line Clear has been obtained from the station ahead in the former case and until the level crossing gates have been closed and locked for the passage of trains in the latter case.

S.R. 3.07.1. At certain stations in the multiple-aspect signaling territory under approved special instructions, the Distant signals, where necessary, may be converted into colour light Distant signals, even though all the other signals at the station are semaphore signals. In such cases, provision of colour light Distant signals in semaphore signaling territory should be clearly indicated in the Station Working Rules and also in the Working Time Table for the passenger train services.

2. In accordance with S.R.3.07.1., two Distant signals (Distant and Inner Distant) have been provided in some multiple aspect signalling sections. The Distant signal is generally placed at a distance of 2 KMs from the First Stop Signal eliminating warning board.

The indications of the aspects of these signals are as under:-

S. No.	Distant signal	Inner Distant signal	Home signal	Main Line Starter	Loop line starter	Advanced starter	Indication to Loco Pilot
1.	Double Yellow	Yellow	Red	-	-	-	Stop dead at Home.
2.	Green	Double Yellow	Yellow	Red	-	-	Stop dead at Main line Starter
3.	Green	Green	Green	Green	-	Green	To run through
4.	Double yellow	Double yellow	Yellow with route indicator	-	Red	-	Stop dead at loop line starter
5.	Double yellow	Double yellow	Yellow with route indicator	-	yellow	Green	To run through via loop line

Note: The two yellow lights of a signal constitute the 'attention' aspect and signifies 'proceed, preparing to pass the next stop signal at restrtricted speed'. Restricted speed indicates the speed which is well under control of the Loco Pilot/Motorman considering the local condition, brake power of the train etc., so that it can be stopped at the next signal if required. The speed as such to be adjusted by the Loco Pilot / Motorman himself. However, where inner Distant signal is provided, the Loco Pilots of trains with maximum permissible speed not exceeding 110 KMPH, on noticing the 'attention' aspect of Distant signal may start regulating the speed suitably, if required only after reading it in conjunction with the aspect of inner Distant signal.

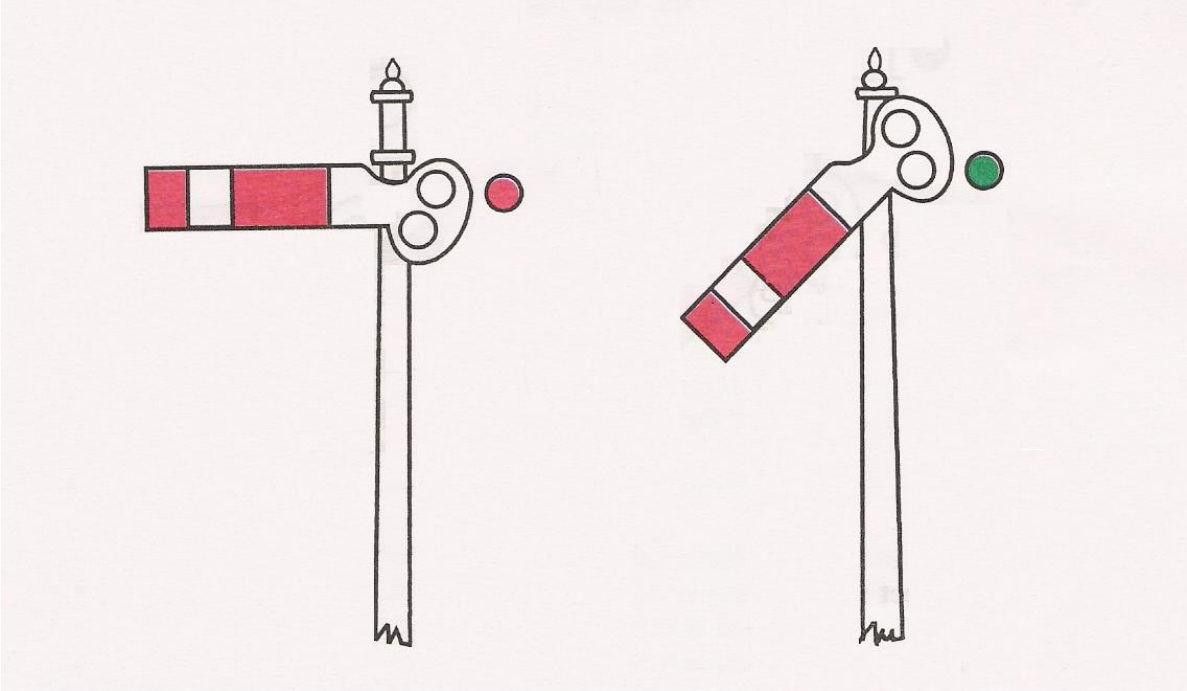
3.08. Descrilption of Stop signals and their indications –

(1) A semaphore Stop signal has a squre ended arm

(2) The aspects and the indications of a semaphore Stop signal working in the lower quadrant are shown below:-

Semaphore Stop signal in Two-Aspect Signaling Territory

'On' position **'Off'position**



ASPECT:

Stop **Proceed**

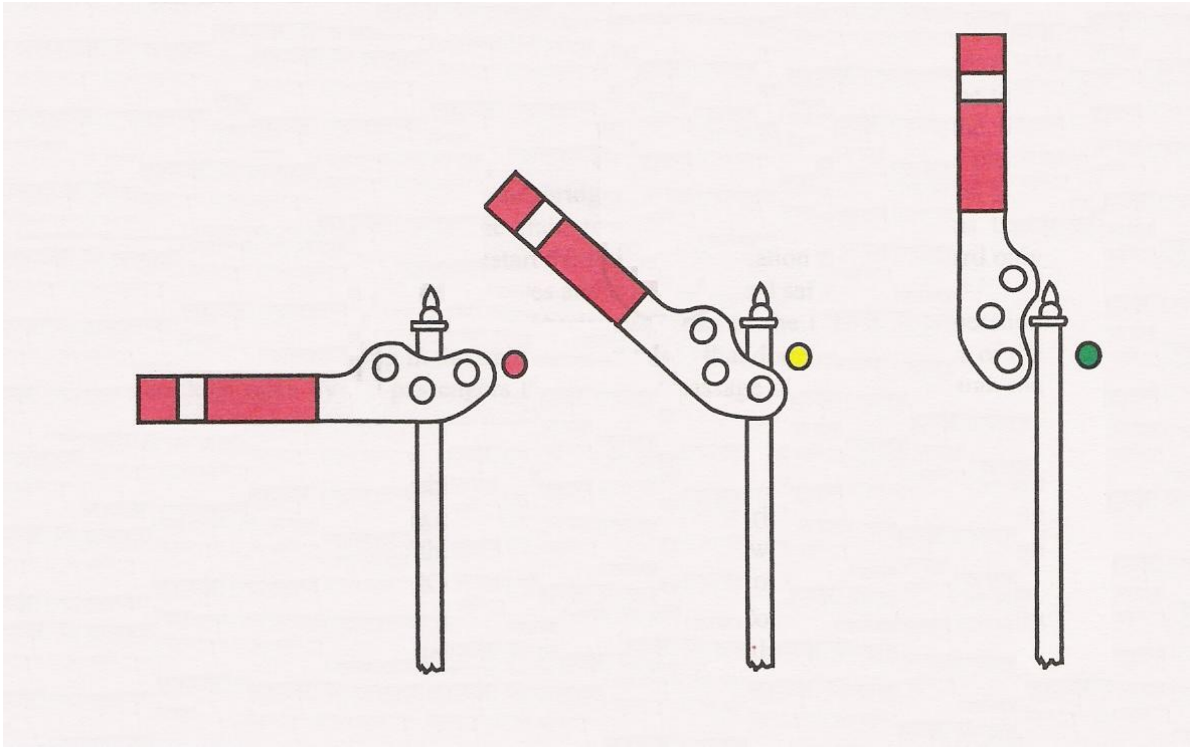
INDICATION:

Stop dead **Proceed**

(3) The aspects and indications of a semaphore Stop signal working in the upper quadrant are shown below:-

Semaphore Stop signal in Multiple-Aspect Signalling Territory

'On' position **'Off' position**



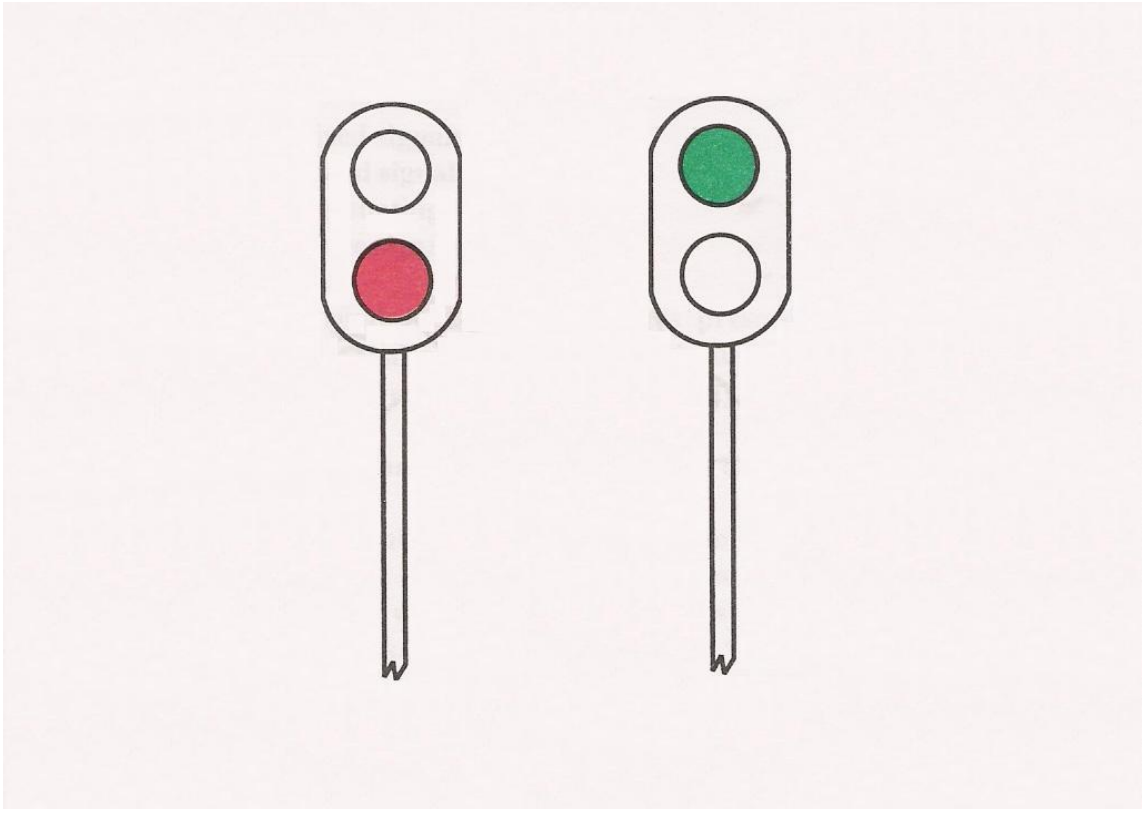
ASPECT:

	Stop	Caution	Proceed
INDICATION:	**Stop dead**	**Proceed and be prepared to stop at the next Stop signal**	**Proceed**

(4) The aspects and indications of a colour light Stop signal are shown below:-

(a) <u>Colour light Stop signal in Two-Aspect Signaling territory</u>

'On' position **'Off' position**



ASPECT:

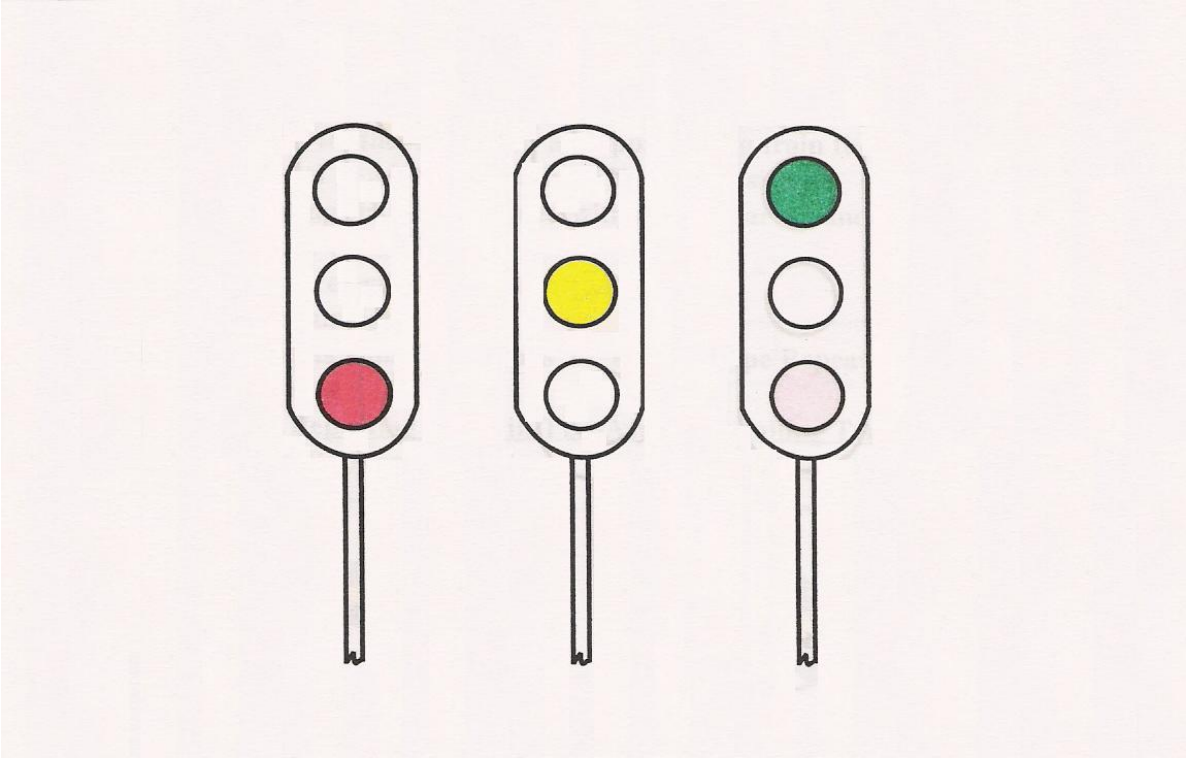
Stop **Proceed**

INDICATION:

Stop dead **Proceed**

(b) Colour light Stop signal in Multiple Three Aspect Signalling Territory

'On' position **'Off' position**



ASPECT:

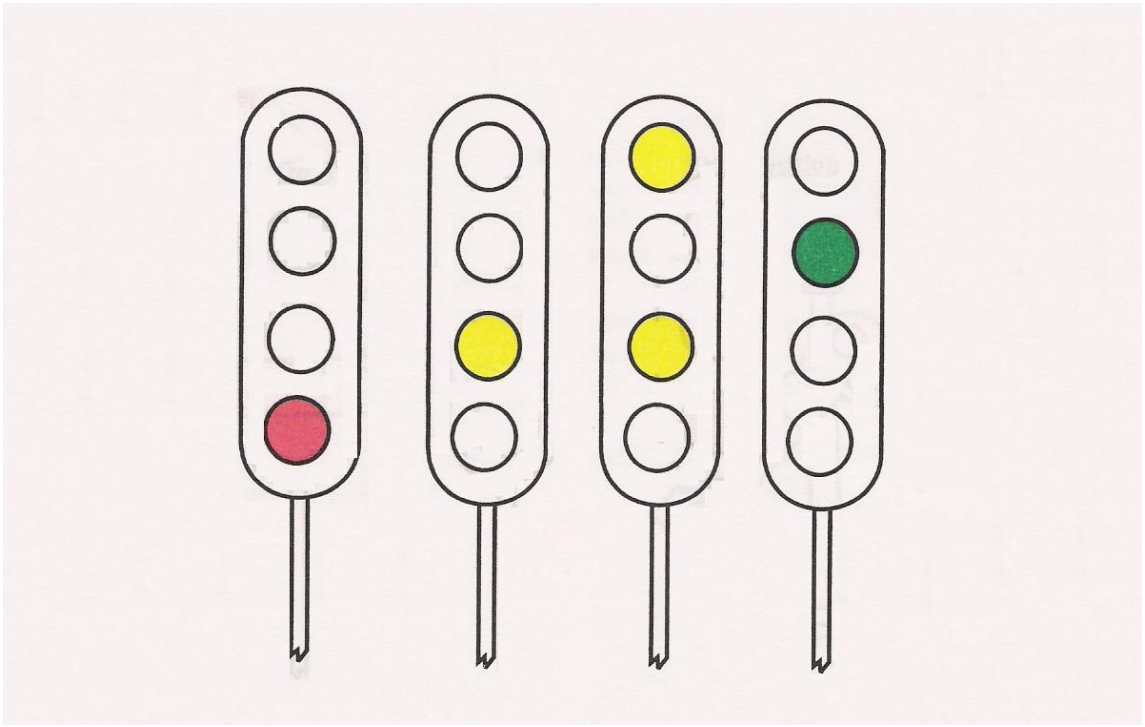
Stop	Caution	Proceed

INDICATION:

Stop dead	Proceed and be prepared to stop at the next Stop signal	Proceed

(c) Colour light Stop signal in Multiple Four Aspect Signalling Territory

'On' position **'Off' position**



ASPECT:

Stop	Caution	Attention	Proceed
INDICATION:			
Stop dead	**Proceed and be prepared to stop at the next Stop signal**	**Proceed and be prepared to pass next at such restricted speed as may be prescribed by special instructions**	**Proceed**

S.R. 3.08.1. The following diagrams illustrate the meanings as indicated by the various combinations of aspects of the Distant and the home signals at stations equipped with semaphore multiple aspect single arm Home signal and multiple aspect colour light signals.

2. The following diagrams illustrate the meanings as indicated by the various combinations of aspects of the Distant and the home signals at stations equipped with semaphore multiple aspecst bracketed Home signals and multiple aspect colour light signals.

3.09. Kinds of fixed Stop signals for approaching trains––

(1) The Stop signals which control the movement of trains approaching a station are of three kinds, namely- Outer, Home and Routing signals.

(2) The Outer signal, where provided, is the first Stop signal of a station and is located at an adequate distance outside the point up to which the line may be obstructed after Line Clear has been granted to or obtained by the station in rear.

(3) The Home signal is the first Stop signal of a station at which an Outer signal is not provided and the second Stop signal of a station at which an Outer signal is provided. It shall be located outside all connections on the line to which it refers.

(4) The Routing signal is a signal used to indicate to a Loco Pilot which of the two or more diverging routes is set for him, when the Home signal is, in consequence of its position, inconvenient for this purpose.

3.10. Kinds of fixed Stop signals for departing trains––

(1) The Stop signals which control the movement of trains leaving a station are of two kinds, namely-Starter and Advanced Starter.

(2) When a train leaving a station is guided by only one starting signal, it is the last Stop signal of the station and is called the Starter.

(3) When a train leaving a station is guided by more than one Starter signal, the outermost starting signal is the last Stop signal of the station and is called the Advanced Starter.

(4) The Starter, where only one such signal is provided or the Advanced Starter, shall be fixed at the limit beyond which no train may pass, unless the Loco Pilot is given the authority to proceed required under the system of working and shall be placed outside all connections on the line to which it refers except where otherwise allowed by approved special instructions. Shunting operations beyond this limit shall be carried out only in accordance with special instructions.

(5) Where an Advanced Starter is provided, the Starter referring to any line shall be placed so as to protect the first facing points or fouling mark of the connections to another running line.

S.R. 3.10.1. At stations provided with Advanced Starter and Starter/Starters, the Advanced Starter shall be taken 'off' first and then the Starter/Starters.

2. An interlocked gate signal provided on a running line and detecting the points shall also be considered as a starting signal for the purpose of this rule.

3.11. Intermediate Block Stop signal––

Intermediate Block Stop signal is the Home signal provided at an Intermediate Block Post.

3.12. Kinds of Fixed Stop signals in Automatic Block territories ---

(1) Stop signals in Automatic Block territory shall be colour light signals and may be of the following kinds-

(a) an Automatic Stop signal which is not dependent upon manual operation but is controlled automatically by the passage of a train into, through and out of the automatic block signalling section;

(b) a Semi-Automatic Stop signal which is capable of being operated either as an Automatic Stop signal or as a Manual Stop signal, as required;

(i) when a Semi-Automatic Stop signal works as an Automatic Stop signal, it assumes 'on' and 'off' aspects automatically according to the conditions of the automatic block signalling sections ahead;

(ii) when a Semi-Automatic Stop signal works as a Manual Stop signal, it assumes 'on' aspect automatically on the occupation of the automatic block signalling section ahead, but assumes 'off' aspect when operated manually, provided the relevant automatic block signalling sections ahead are clear;

iii) when a Semi-Automatic Stop signal works as an Automatic Stop signal, the 'A' marker provided under the signal is illuminated. When the 'A' marker is extinguished, the signal shall be deemed to work as a Manual Stop signal and

(c) a Manual Stop signal operated manually and which cannot work as an Automatic or a Semi-Automatic Stop signal.

(2) Colour light signals in Automatic Block territory shall be three-aspect or four-aspect.

S.R. 3.12.1. Semi-Automatic/Manual signal levers are provided with normal locks designed to prevent full movement of the lever back to its normal position and release of the locking, unless the train has had sufficient time to come to a stand at the signal or has passed the signal and had cleared the points on the route and the signal is displaying a red indication. In case of emergency the lever can be put back to three quarter position, which will cause the signal to display 'on' aspect.

2. King levers are provided at certain cabins which when reversed, lock the levers of all running Semi-Automatic signals in the reverse position and enable the signals to function as Automatic signals.

3. Whenever any manual Stop signal (including Semi-Automatic signal with extinguished 'A' marker) of reporting station fails, the Station Master shall authorize the Loco Pilot to pass such signal at 'ON' by issuing T/369(3b). When LSS (on double line) is to be passed at 'ON', in addition to T/369(3b), Caution Order restricting the speed to 10 Kmph when view is clear and 8 Kmph when view is not clear up to next Automatic Stop signal, shall be issued.

3.13. Calling-on signals––

(1) A Calling-on signal is a subsidiary signal which has no independent aspect in the 'on' position and shall be-

(a) a short square ended semaphore arm or

(b) a miniature colour light provided with a 'C' marker.

(2) A Calling-on signal, where provided, shall be fixed below a Stop signal governing the approach of a train. Under approved special instructions, a Calling-on signal may be provided below any other Stop signal except the last Stop signal.

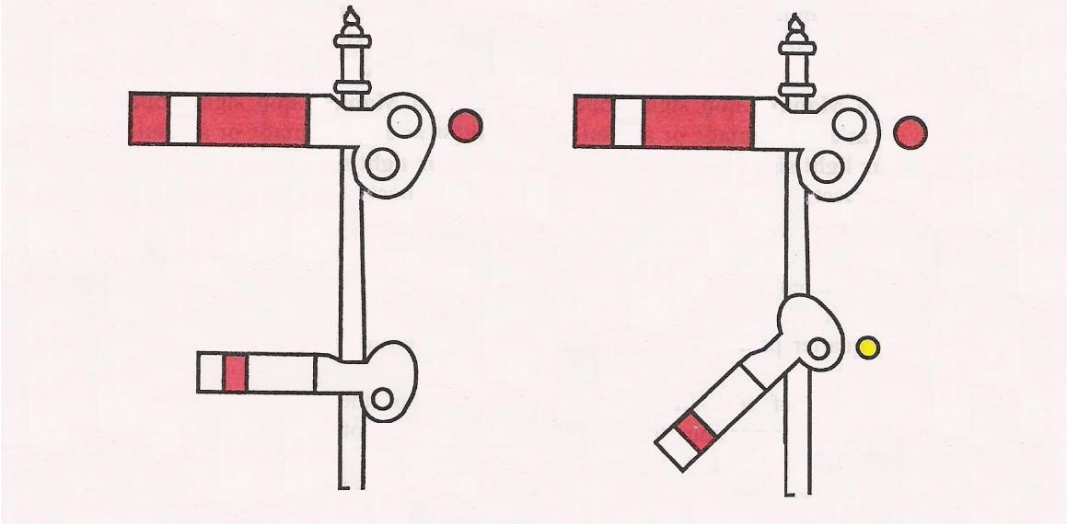
(3) A Calling-on signal, when taken 'off', calls on the Loco Pilot of a train to draw ahead with caution, after the train has been brought to a stop even though the Stop signal above it is at 'on' and indicates to the Loco Pilot that he should be prepared to stop short of any obstruction.

(4) A Calling-on signal shall show no light in the 'on' position.

(5) The aspects and indications of a semaphore Calling-on signal are shown below:-

(a) <u>Miniature Semaphore Arm type Calling-on signal in Two-Aspect Signalling Territory</u>

'On' position **'Off' position**



ASPECT:

Proceed slow

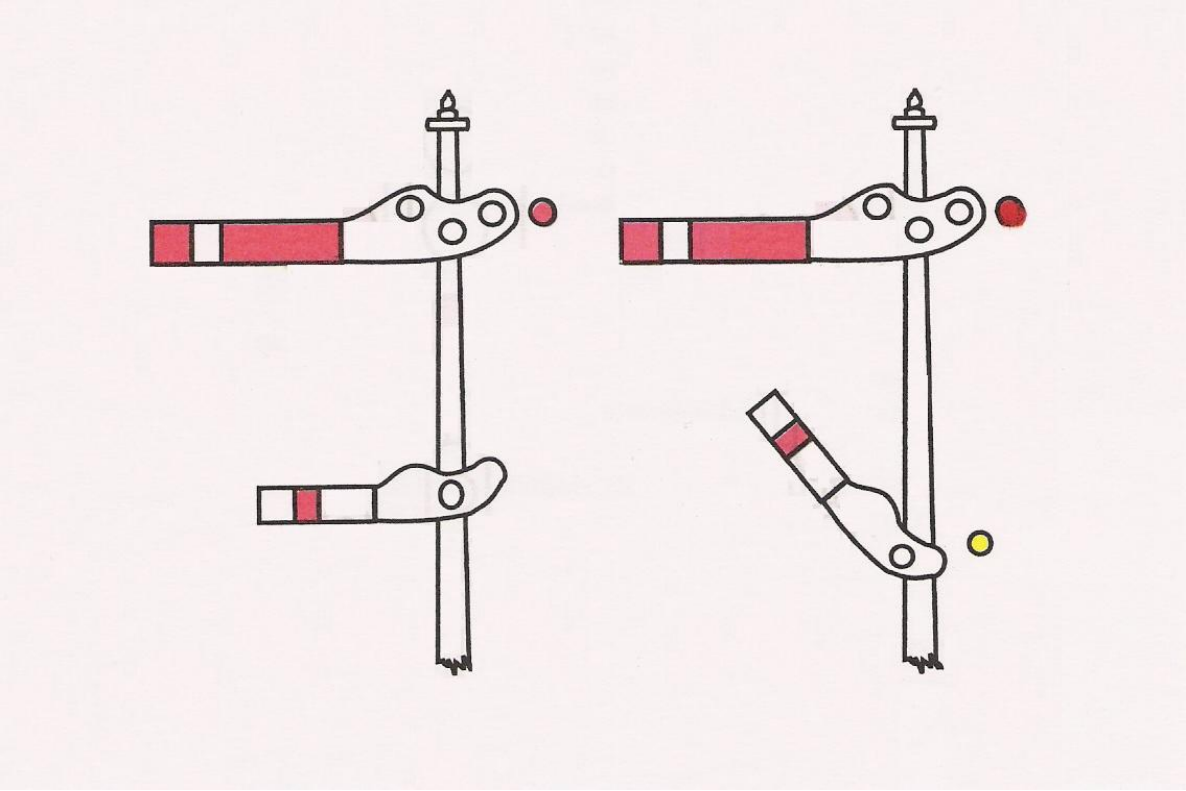
INDICATION:

Loco Pilot shall obey the aspsect of the Stop signal

Stop and then draw ahead with caution and be prepared to stop short of any obstruction

(b) Miniature Semaphore Arm type Calling-on signal in Multiple-Aspect Signalling Territory

‘On’ position **‘Off’ position**



ASPECT:

Proceed slow

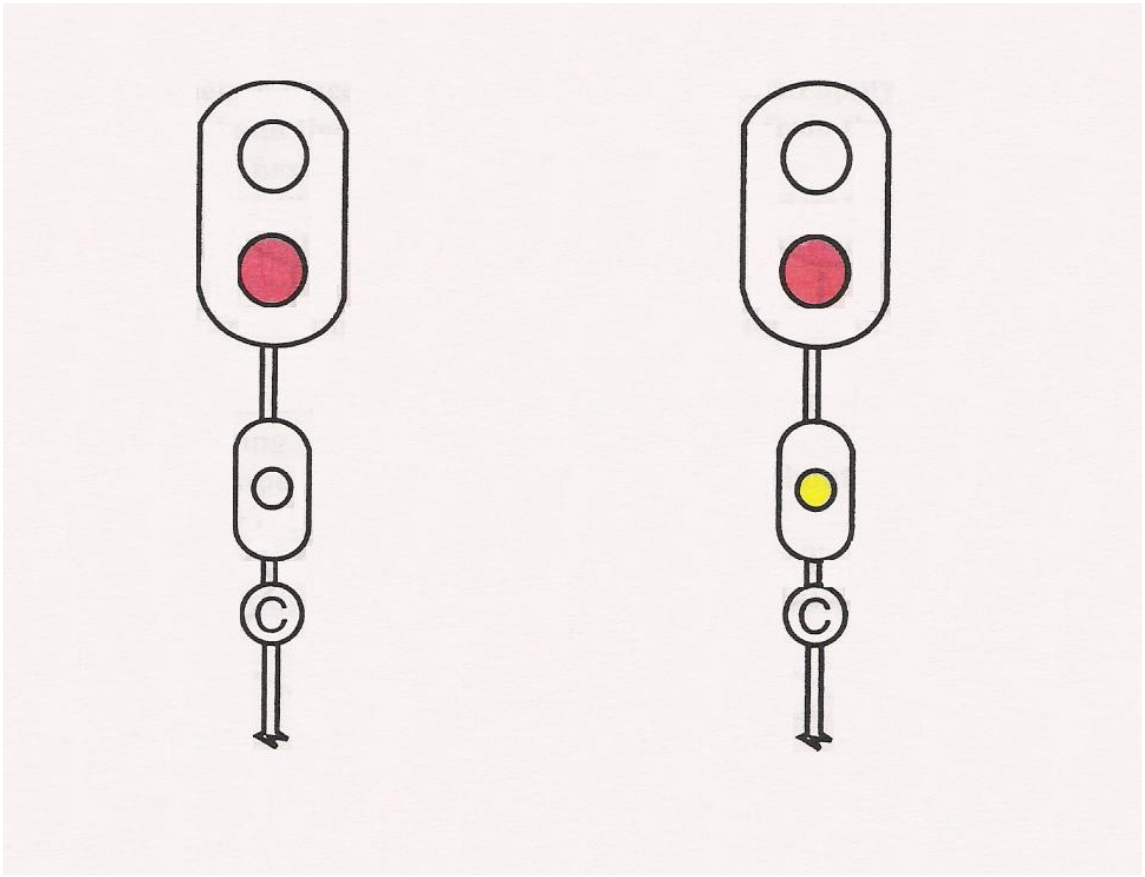
INDICATION:

Loco Pilot shall obey the aspsect of the Stop signal

Stop and then draw ahead with caution and be prepared to stop short of any obstruction

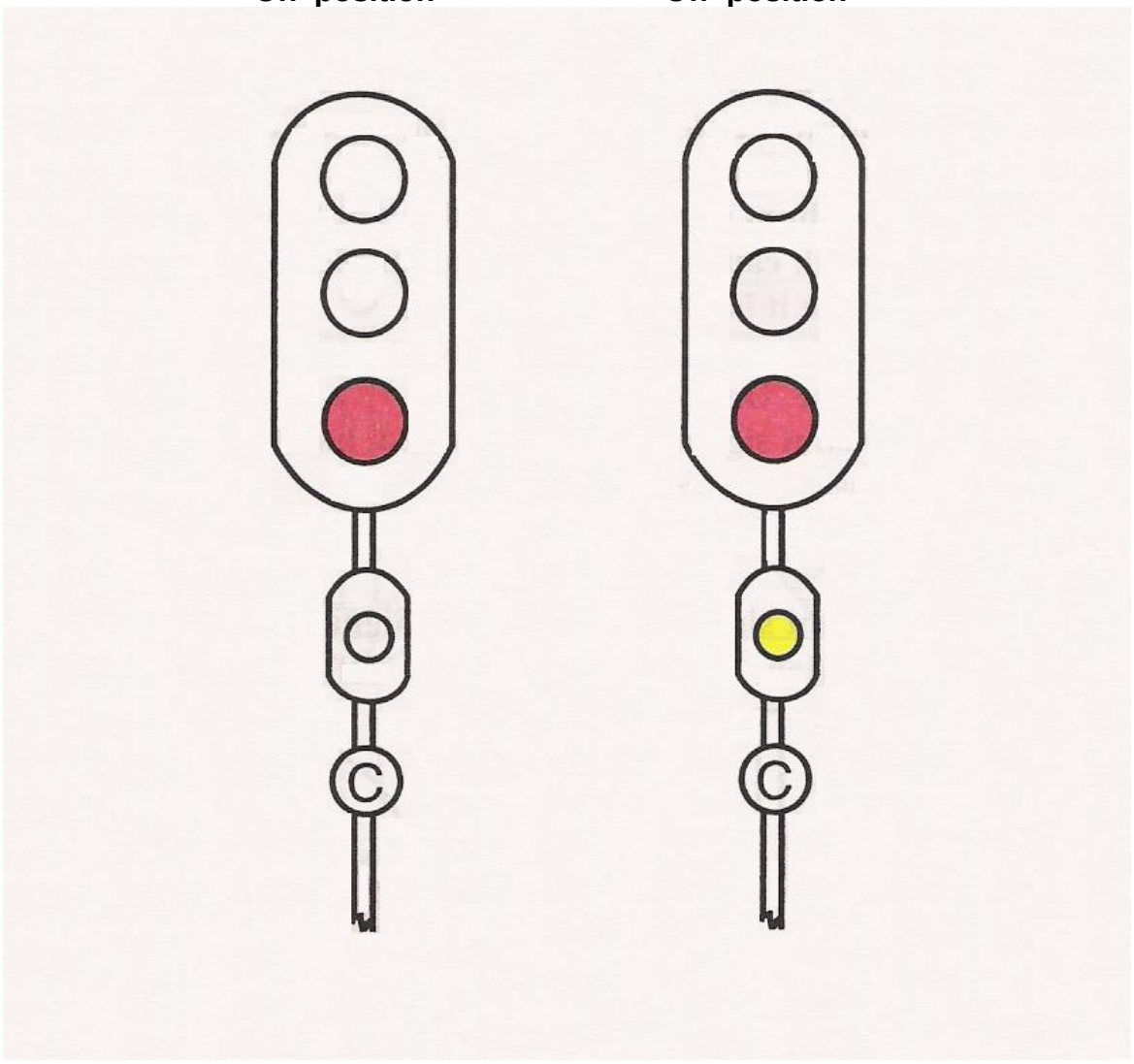
(6) The aspects and indications of a colour light type Calling-on signal are shown below:-

(a) <u>Colout light type Calling-on signal in Two-Aspect Signalling Territory</u>

'On' position	**'Off' position**
	
	ASPECT:
	Proceed slow
	INDICATION:
Loco Pilot shall obey the aspsect of the Stop signal	**Stop and then draw ahead with caution and be prepared to stop short of any obstruction**

(b) <u>Colour light type Calling-on signal in Multiple-Aspecst Signalling Territory</u>

'On' position **'Off' position**



ASPECT:

Proceed slow

INDICATION:

Loco Pilot shall obey the aspsect of the Stop signal

Stop and then draw ahead with caution and be prepared to stop short of any obstruction

3.14. Shunt signals—

(1) (a) A Shunt signal is a subsidiary signal and shall be either-

(i) a white disc with a red bar across it or

(ii) a position light signal.

(b) Under special instructions, a Shunt signal may be a miniature semaphore arm.

(2) Shunt signals control shunting movements.

(3) A Shunt signal may be placed on a post by itself or below a Stop signal other than the first Stop signal of a station.

(4) More than one Shunt signal may be placed on the same post and when so placed the topmost Shunt signal shall apply to the extreme left hand line and the second Shunt signal from the top shall apply to the next line from the left and so on.

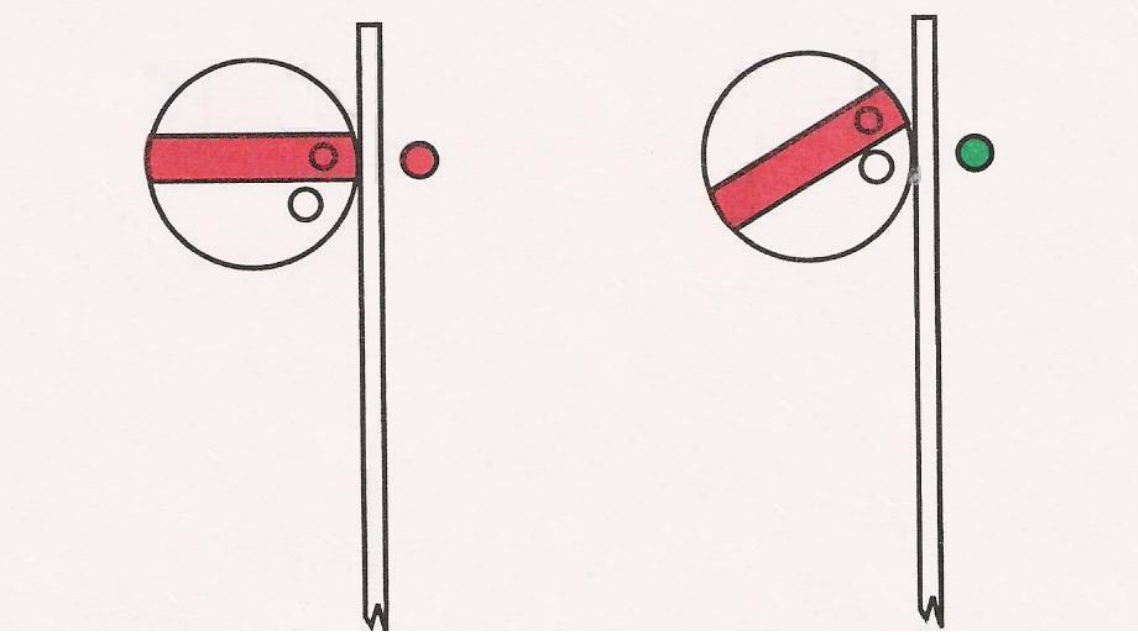
(5) When a Shunt signal is taken 'off', it authorises the Loco Pilot to draw ahead with caution for shunting purposes although Stop signal, if any, above it is at 'on'.

(6) When a Shunt signal is placed below a Stop signal, it shall show no light in the 'on' position.

(7) In case Shunt signals are not provided, hand signals may be used for shunting.

(8) The aspects and indications of a disc type Shunt signal are shown below:-

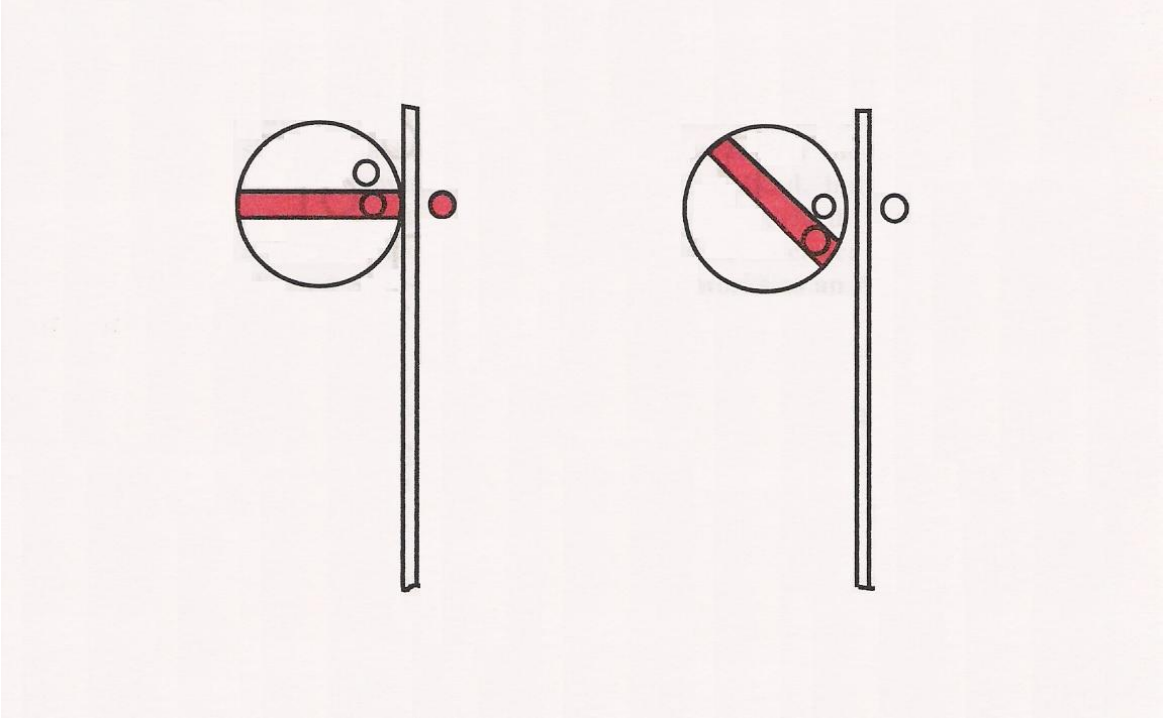
i. <u>Disc type Shunt signal in Two-Aspect Signalling Territory</u>



ASPECT	
Stop	**Proceed slow**
INDICATION:	
Stop dead	**Proceed with caution for shunting**

ii. Disc type Shunt signal in Multiple-Aspect Signalling Territory

'On' position **'Off' position**



ASPECT:

Stop **Proceed slow**

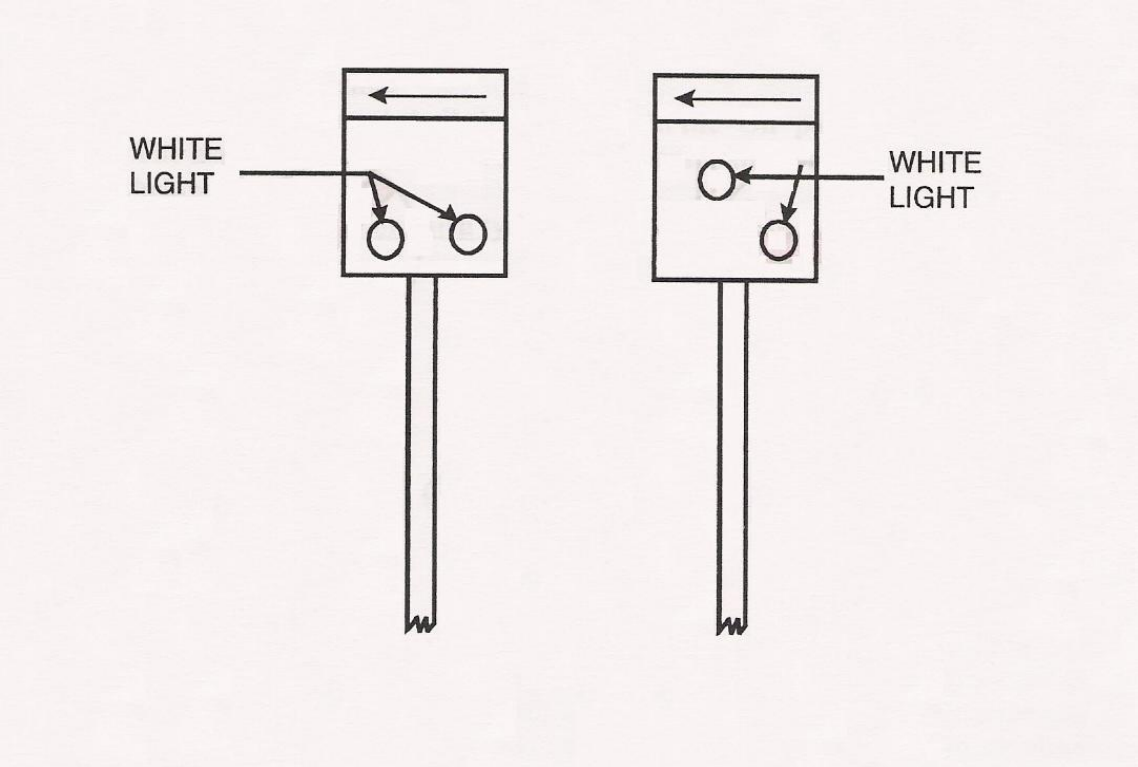
INDICATION:

Stop dead **Proceed with caution for shunting**

(9) The aspects and indications of a position light type shunt signal are shown below:-

Position light type Shunt signal in Two-Aspect or Multiple-Aspect Signalling Territory

'On' position **'Off' position**



ASPECT:

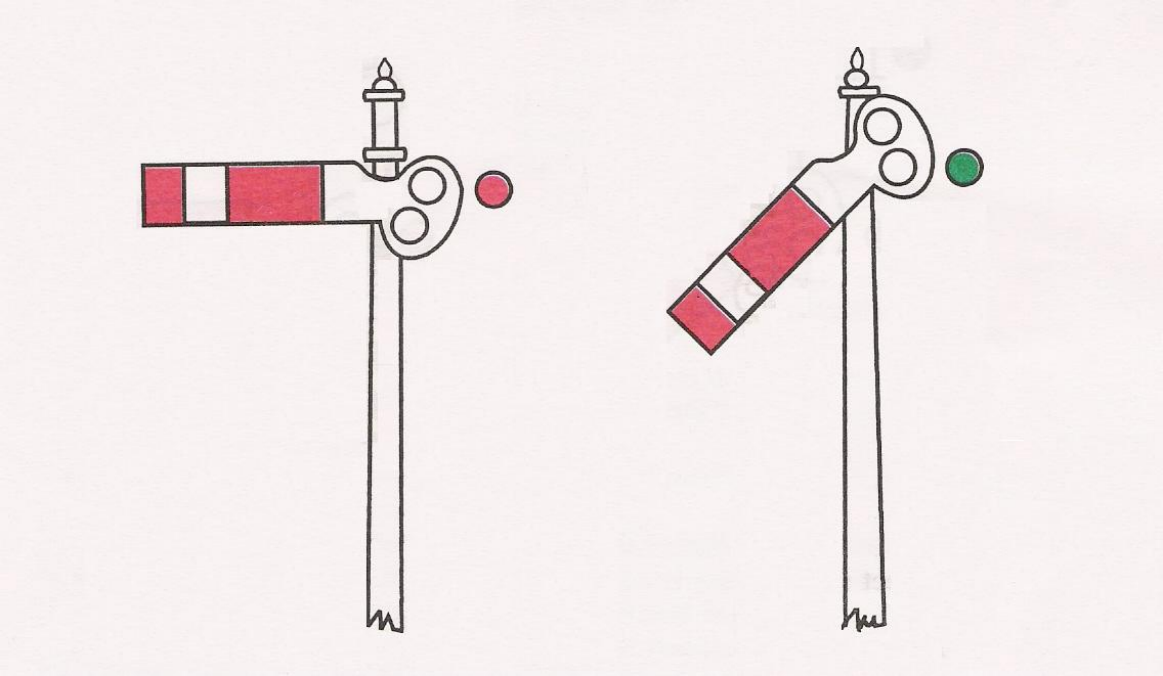
Stop **Proceed slow**

INDICATION:

Stop dead **Proceed with caution for shunting**

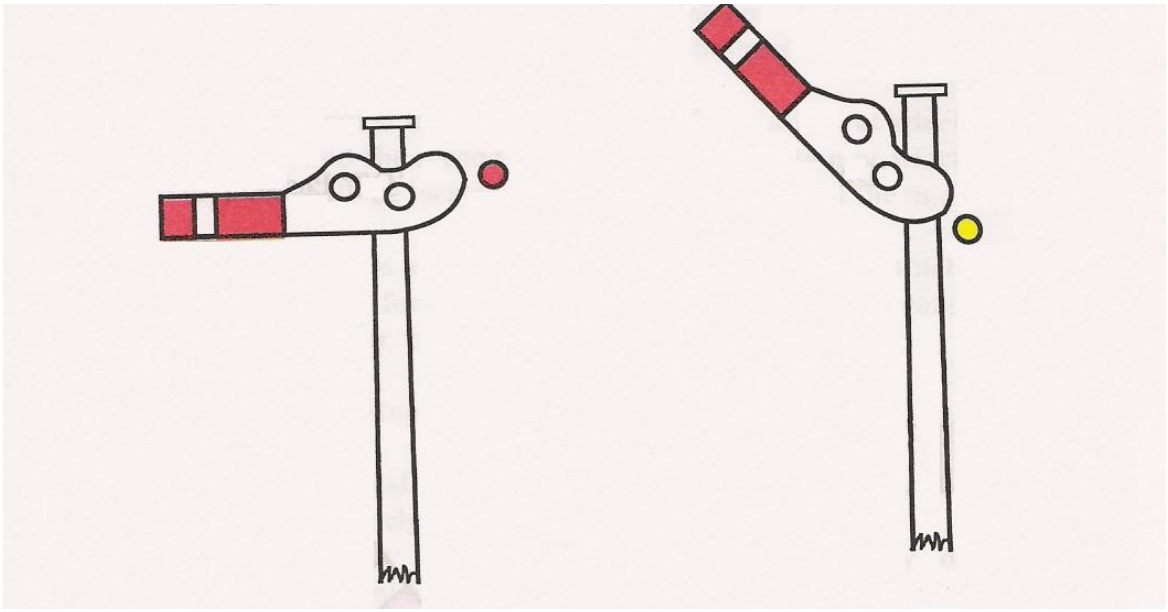
(10) The aspects and indications of a semaphore arm type shunt signal are shown below:-

(a) <u>Miniature Semaphore Arm type Shunt signal in Two-Aspect Signalling Territory</u>

'On' position	**'Off' position**
	
ASPECT:	
Stop	**Proceed slow**
INDICATION:	
Stop dead	**Proceed with caution for shunting**

(b) Miniature Semaphore Arm type Shunt signal in Multiple-Aspect Signalling Territory

'On' position **'Off' position**



ASPECT:

Stop **Proceed slow**

INDICATION:

Stop dead **Proceed with caution for shunting**

S.R. 3.14.1. In case the Shunt signal, including a Shunt signal placed below a Stop signal is defective, the Loco Pilot shall be authorized by a written authority in form No.T/369 (3b) to pass such signal at 'on' position. In addition to the written authority, a Proceed hand signal shall also be exhibited at the foot of the defective Shunt signal, after ensuring the locking of points.

2. Gate Stop signals protecting level crossings inside station limits shall be taken 'off' for shunt movement past them.

3. Shunting permitted indicators are provided at certain stations

3.1. Shunting permitted indicators are not signals but appliances, which work in conjunction with Stop signals and are provided for shunting movement in either direction in the non-interlocked portion of yard after being isolated from the interlocked portion. It shows in both the directions, by day, a black disc with a yellow cross painted on it and by night, a yellow cross light or both by day and by night a yellow cross light when shunting is permitted.

3.2. The person operating the ground lever of a 'shunting permitted indicator' for performing shunting shall, before returning the lever to normal, personally ensure that the fouling marks of the concerned points are clear.

3.3. When the 'Shunting Permitted Indicator' is defective, the Statilon Master shall arrange to issue to the Loco Pilot T/369 (3b) and Proceed hand signals to be shown at the defective 'Shunting Permitted Indicator', after ensuring the locking of points.

3.4. Detailed instructions regarding the working of the 'shunting permitted indicator' shall be incorporated in the Staion Working Rules.

4. The 'point indicators', where provided, shall also be observed during shunting operations.

3.15. Co-acting signals—

(1) Co-acting signals are duplicate signals fixed below ordinary signals and are provided where, in consequence of the height of the signal post or of there being an over-bridge or other obstacle, the main arm or light is not in view of the Loco Pilot during the whole time that he is approaching it.

(2) Co-acting signals shall be fitted at such height that either the main arm or light or the co-acting arm or light, is always visible.

3.16. Repeating signals—

(1) A signal placed in rear of a fixed signal for the purpose of repeating to the Loco Pilot of an approaching train the aspects of the fixed signal in advance is called a Repeating signal.

(2) A Repeating signal shall be provided with an 'R' marker and shall be of__

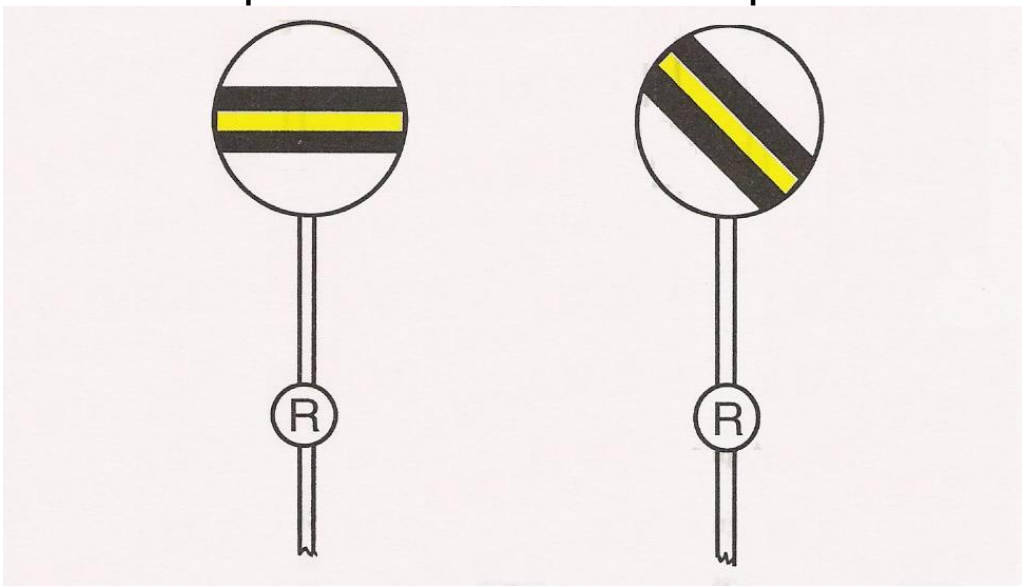
(a) banner type or

(b) a square ended semaphore arm or

(c) a colour light signal.

(3) The aspects and indications of a banner type Repeating signal are shown below:-

Banner type Repeating signal in Two-Aspect Signalling Territory

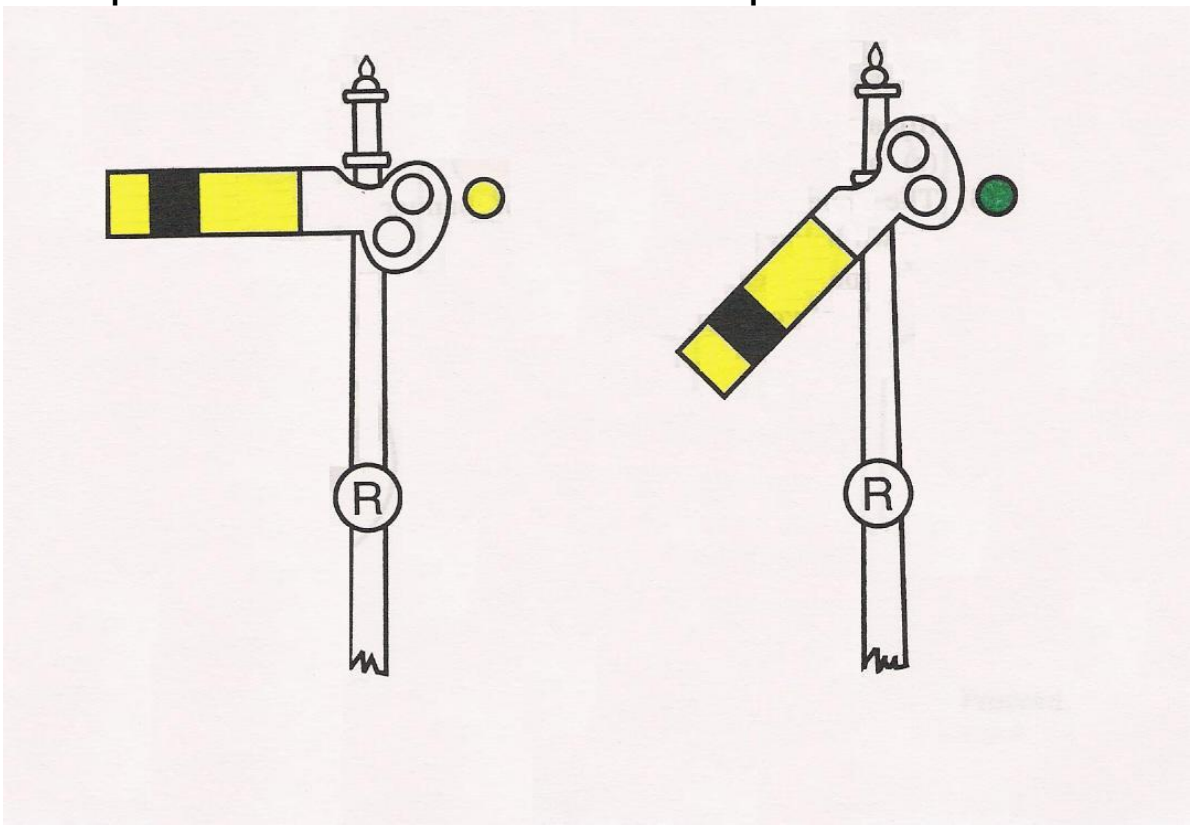
'On' position	'Off' position
	

ASPECT:	Signal 'On'	Signal 'Off'
INDICATION:		
	Signal which it repeats is at 'on'	Signal which it repeats is 'off'

(4) The aspects and indications of a semaphore arm type Repeating Signal are shown below:-

Semaphore Arm type Repeating signal in Two-Aspect Signalling Territory

'On' position **'Off' position**



ASPECT:

Signal 'On' **Signal 'Off'**

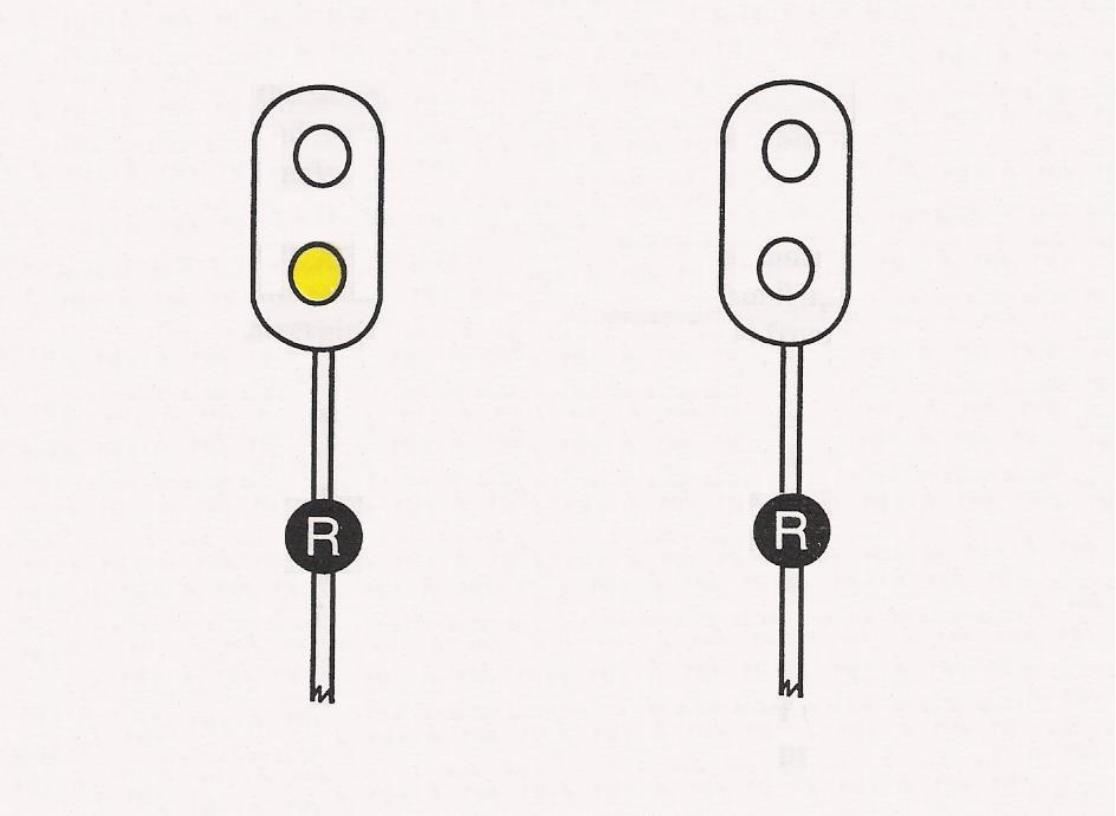
INDICATION:

Signal which it repeats is at 'on' **Signal which it repeats is 'off'**

(5) The aspects and indications of a colour light type Repeating signal are shown below:-

Colour light type Repeating signal

'On' position **'Off' position**



ASPECT:

Signal 'On' **Signal 'Off'**

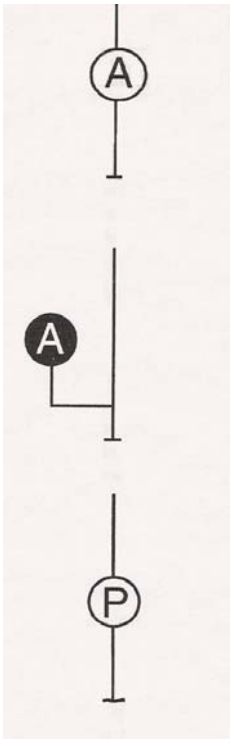
INDICATION:

Signal which it repeats is at 'on' **Signal which it repeats is 'off'**

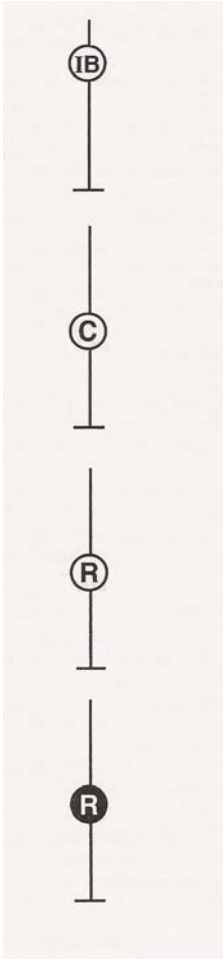
S.R. 3.16.1. When a Stop signal located in two-aspect signaling territory cannot be seen from a proper distance, repeating signal shall be provided at an adequate distance in rear of it.
2. A Repeating signal shall not be treated as a Stop signal. It can be passed in the 'on' position with caution preparing to stop at the Stop signal ahead.
3. A banner type repeating signal shall not be lit at night.
4. If a Loco Pilot notices the repeating signal in any way defective, he shall advise, in writing, the Station Master of the next stopping station.

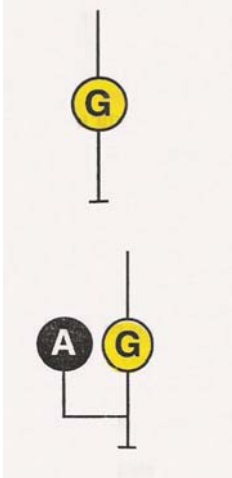
3.17. Distinguishing markers and signs for signals—

(1) Where necessary, signal shall be distinguished by prescribed markers, such markers, shall be fixed on the signal post, below the signals as under—

APPEARANCE	PROVIDED ON	DESCRIPTION
	Automatic Stop signal	Letter 'A' in black on white circular disc.
	Semi-Automatic Stop signal	White illuminated letter 'A' against black back ground when working as an Automatic signal and letter 'A' extinguished when working as a Manual Stop signal
	Colour light	Letter 'P' in black on white Distant or circular disc Warner signal on a post by itself

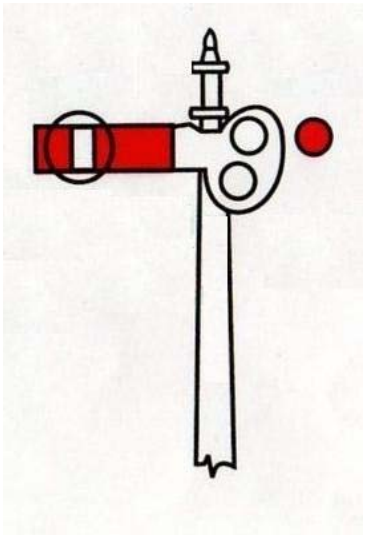
Note: Where a colour light Distant signal is combined with a last Stop signal as provided for under sub-rule (7) of Rule 3.07, the marker shall be dispensed with.

	Intermediate Block Stop Signal	Letter 'IB' in black on white circular disc
	Calling-on Signal	Letter 'C' in black on whikte circular disc
	Repeating Signal in Semaphore Signalling Territory	Letter 'R' in black on white circular disc
	Repeating signal in colour light signaling territory	White illuminated letter 'R' against black back ground

	Gate Stop Signal	Letter 'G' in black on yellow circular disc
	Gate stop signal in Automatic Block Territory	Letter 'G' in black on yellow circular disc and white illuminated letter 'A' against black back ground

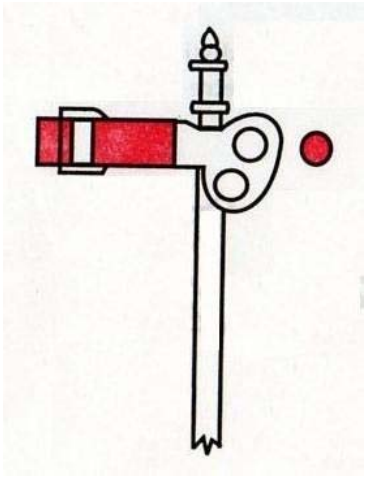
Note: Letter 'A' shall be lit only when the gates are closed and locked against road traffic.

(2) Where necessary, signal arms shall be distinguished by prescsribed signs as under:-



Approach Stop Signal for goods Running lines Only

One black ring on semaphore arm



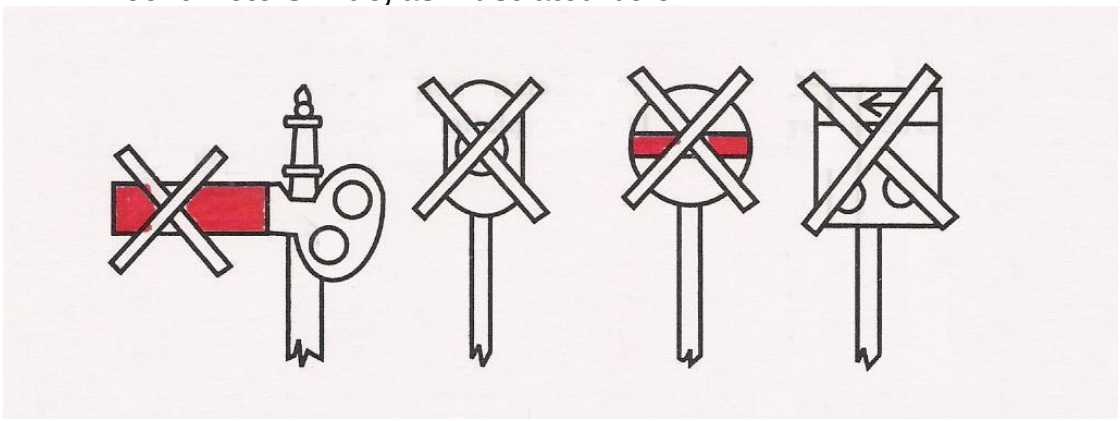
Approach Stop Signal for Dock Platform

Letter 'D' in black on semaphore arm

(3) Other distinguishing markers or signs may be used with the approval of the Railway Board.

3.18. Signals out of use—

(1) When a fixed signal is not in use, it shall be distinguished by two crossed bars, each bar being not less than one metre long and 10 centimeters wide, as illustrated below:-



(2) A semaphore or disc signal when not in use shall be kept fixed in the 'On' position.

(3) Signals not in use shall not be lit.

3.19. Placing of stop signals at diverging junction—

Unless otherwise permitted by approved special instructions where two or more lines diverge, the signals shall be fixed on a bracket post or approved type of route indicator shall be provided instead of separate signals.

Provided that for speeds upto 75 Kilometres an hour with manually operated multiple-aspect signals, only single arm home signal may be provided instead of separate signals on a bracket post or a route indicator, the facing points must be provided with point indicators.

S.R. 3.19.1. Route indicators are treated as Stop signals.

2. If the route indicator on a reception signal is not in working order, the relevant signal shall also be treated as defective.

3. If the Loco Pilot of a train leaving a station finds the route indicator on a starter displaying an incorrect route, he shall treat the Starter to be at 'on'.

4. It shall be possible to receive or despatch trains on to the same line via alternative routes to facilitate simultaneous movements in major yards.

3.20. Placing of Stop signals at converging junctions—

Unless otherwise permitted by approved special instructions, where two or more lines converge, signals shall be placed on separate posts. Where the number of signals is considerable, these may be provided on a bracket post or a signal bridge or gantry.

3.21. Signals on bracket post or signal bridge or gantry—

Where signals are placed on a bracket post or signal bridge or a gantry, these shall be-

(a) so grouped that the respective signals are easily distinguishable for each running line and are placed as nearly as possible over the running lines to which they refer,

(b) so placed that the signal referring to the main line is higher than the signal or signals referring to the other running line or lines and

(c) so arranged that the extreme left hand signal refers to the extreme left hand line and the second signal from the left refers to the next line from the left and so on.

3.22. Placing of more than one signal on the same post—

(1) Not more than one signal referring to trains moving in the same direction, whether on the same line or on separate lines, shall be placed on the same post, except-

(a) as prescribed in these rules for Calling-on, Shunt, Co-acting and Warner signals or

(b) under approved special instsructions.

(2) Where under approved special instructions more than one signal is placed on the same post, the top most signal shall apply to the extreme left hand diverging line and the second signal from the top shall apply to the next line from the left and so on.

Provided that in exceptional cases where two Home signals are placed on the same post, under approved special instructions, the top signal shall apply to the main line and the lower signal shall apply to the other lines.

3.23. Electric repeater—

The arm and light of any fixed signal which cannot be seen from the place from which the signal is worked shall be repeated to such place by means of an efficient electric repeater.

S.R. 3.23.1. Provision of repeaters

There are four kinds of repeaters in use.

1.1. Signal arm repeaters.

1.2. Signal light repeaters.

1.3. Miniature light repeaters for colour light signals.

1.4. Light emitting diode type repeaters.

SIGNAL ARM REPEATERS:-

This consists of a dial with an indicator. The Indicator usually takes the form of a miniature semaphore arm. The indicator is arranged to assume one of the three positions i.e., 'on', 'off' or 'wrong' under the following conditions:-

1.1.1. 'on' when the signal arm is at 'on'.

1.1.2. 'off' when the signal arm is at 'off'.

1.1.3. 'wrong' when the signal is either drooping or not fully 'off' or when the indicator is defective. When the indicators points to 'wrong', the Station Master shall test the signal by arranging to pull over the signal lever concerned and putting it back smartly. This would correct the indicator, if there is no defect in the signal. Even after this test, if the indicator points to 'wrong', the repeater shall be treated as defective.

Note: Cabin wire adjusters where provided, may be used for adjusting the signal wires when the indicator points to 'wrong'.

SIGNAL LIGHT REPEATERS:-

The signal light repeaters consist of –

1.2.1. A dial with a visual indicator which shows 'in' when the signal lamp is burning and 'out' when the signal lamp is not burning.

1.2.2. An alarm bell for the purpose of audibly indicating, when the signal lamp is not burning and

1.2.3. A bell switch provided in conjunction with the bell. It has two positions, one marked 'day' and the other 'night'. The switch shall be kept in the 'night' position during night and the 'day' position during day.

The alarm bell shall be tested every day. Immediately before the signal lamp is lit, the bell switch shall be turned from 'day' to 'night'. If the bell rings, the repeater shall be considered to be in order and if it does not ring, the repeater shall be treated as defective.

MINIATURE LIGHT REPEATER FOR COLOUR LIGHT SIGNALS:-

1.3 Miniature light repeaters are provided in the cabin in colour light signaling territory to repeat the aspect displayed by each signal. The repeat indications of Distant and Stop signals take the form of colour light.

LIGHT EMITTING DIODE TYPE REPEATERS (LED):-

1.4.1. A 'red' miniature light lit by LED when the signal arm is at 'on' or not fully 'off' or drooping and a miniature 'green' light lit by LED when the signal arm is fully 'off' indicate the positions of the signal arm which they repeat respectively both by day and by night.

1.4.2. A miniature white light lit by LED indicates that the signal lamp is burning and no light indicates that the signal lamp is extinguished or put out.

2. Responsibility of Station Master regarding failure and restoration of repeater:-

2.1. At stations, where signal arm with back light or arm and light repeaters are provided, the Station Master shall satisfy himself by observing the arm and back light or the indications of the repeaters — the arm repeaters by day and the arm and light repeaters by night, that the signal is working properly. Whenever the arm repeater or the light repeater or its audible indication in the semaphore signaling territory is not in working order, the relevant fixed signal need not be treated as defective, if it is possible for the Station Master to observe personally the position of the signal arm by day or the back-light by night by proceeding to a convenient place outside his office from where it can be seen. If it is not possible for the Station Master to personally ensure that the arm is in the correct position by day or back-light is visible by night, by proceeding to a convenient place outside his office, he shall, at stations provided with cabins at either end of the yard ascertained from the Switchman / Cabinman / Leverman of the cabin concerned that the arm or back-light is visible to him and exchange private numbers.

2.2. The defect shall be reported to the officials concerned after making necessary entries to this effect in the S&T failure register. The procedure (refered to in para 2.1), however, will not be applicable in the case of departure signals, which should be considered as defective, if the repeater is not in working order.

2.3. In case it is not possible for the Station Master to ensure the visibility of the arm or back light by any of the methods as stipulated under para 2.1 above, the relevant signal shall be treated as defective and not taken 'off' for any train and action taken in accordance with rules 3.68 to 3.72 and the subsidiary rules thereunder until it is rectified by the authorized official of the S&T department.

2.4. Whenever the miniature light repeater in the colour light signaling territory is found to be defective and the signal light aspect is not visible from the station / cabin, the signal which it repeats shall be treated as defective and not taken 'off' for any train and action taken in accordance with Rule 3.68 to 3.72 and the Subsididary Rules thereunder until it is rectified by the authorized official of the S&T department.

3.24. Back-Lights—

(1) Every semaphore or disc signal, the light of which cannot be seen from the place from which the signal is worked shall be provided with a back-light to indicate whether the signal light is burning or not.

(2) Back-lights of signal shall show a small white light when 'on' and no light at all in any other position.

(3) Any fixed light used in conjunction with a semaphore signal shall show a back-light.

(4) Back-lights may not be provided when alternative arrangements are made at the place from which the signal is worked to indicate whether signal lights burning or not.

S.R. 3.24. The Station Master shall not grant Line Clear for a train to approach unless the back-lights of the relevant signals are clearly visible, wherever the 'on' position of reception signals is not proved in the black instrument.

C. Equipment of Signals

3.25. Obligatilon to provide fixed signals at stations—

Fixed signals prescribed in this sub-chapter shall be provided at every station except –

(a) At stations between which trains are worked on the One Train Only System.

(b) At stations whichever exempted from the provision of signals under approved special instructions

3.26. Commisioning of fixed signals—

Fixed signals shall not be brought into use until they have been passed by the Commissioner of Railway Safety as being sufficient to secure the safe working of trains.

S.R. 3.26.1. When a signal is newly erected or shifted, it shall be jointly inspected by a 'Sighting Committee' consisting of Transportation, Signal and Loco Inspectors, before it is brought into use. The Sighting Committee shall satisfy itself that the signal is correctly placed and focused for day and night indications, before certifying it as fit for use. They shall fill in and sign the report in the prescribed form provided for the purpose. A caution order shall be issued for a period of 10 (TEN) days after the signal has been brought into use, in order to draw the attention of the Loco Pilots to the change effected.

2. All signals on a section shall be jointly inspected by the Transportation, Signal and Loco Inspectors atleast once in quarter and joint reports pertaining thereto shall be submitted to the DSTE, DSO and DME.

3.27. Minimum equipment of fixed signals at stations provided with manually operated multiple-aspect signaling—

The minimum equipment of fixed signals to be provided for each direction shall be as follows:-

(a) At class 'B' stations: a Distant, a Home and a Starter and

(b) At class 'C' stations: a Distant and a Home.

3.28. Minimum equipment of fixed signals at stations provided with modified lower quadrant signaling—

Modified lower quadrant signaling may be introduced only where it is expressely sanctioned by a special order of the Railway Board. The minimum equipment of fixed signals to be provided for each direction shall be as follows:-

(a) At class 'B' stations: a Distant, a Home, a Warner below the main Home and a Starter and

(b) At class 'C' stations: a Distant and a Home.

S.R.3.28. Modified lower quadrant signaling is not provided on this railway.

3.29. Minimum equipment of fixed signals at other stations provided with two-aspect signaling—

The minimum equipment of fixed signals to be provided for each direction shall be as follows:-

(a) At class 'A' stations:	**A Warner, a Home and a Starter.**
(b) At class 'B' stations—	
on a single line –	**an Outer and a Home.**
on a double line-	**an Outer, a Home and a Starter and**
	both on a single and a double line, a Warner shall be provided in accordance with Rule 3.06, if trains run through at a speed exceeding 50 kilometers an hour without stopping and
(c) At class 'C' stations-	**a Warner and a Home.**

3.30. Additional fixed signals at stations generally—
In addition to the minimum equipment of signals prescribed in Rules 3.27, 3.28, 3.29 and 3.32, such other fixed signals shall be provided at every station as may be necessary for the safe working of trains.

3.31. Signals at class 'D' station—
At a class 'D' station, a train may be stopped in such a manner as may be authorized by special instructions.

3.32. Provision of an Advanced Starter, Shunting Limit Board or Block Section Limit Board—

(1) On a single line class 'B' station worked on the Absolure Block System, if the obstructing of the line outside the Home signal or the outermost facing points in the direction of an approaching train is permitted under special instructions under Rule 8.09, a Shunting Limit Board or an Advanced Starter shall be placed at such shunting distance from the Home signal or the outermost facing points as local condictions may require, provided the distance between the Shunting Limit Board (bearing the words 'Shunting Limit' on the side which faces the station and fitted with a lamp showing a white light in both directions to mark its position by night) or the Advanced Starter and the opposing first Stop signal is never less than 400 meters in the two-aspect signaling territory and 180 meters in the multiple-aspect or modified lower quadrant signaling territory. The location of such board or Advanced Starter shall mark the limit upto which the shunting may be permitted.

(2) On a double line Class 'B' station worked on Absolute Block System equipped with multiple-aspect or modified lower quadrant signaling and where there are no points or the outer most points at the approaching end are trailing, a Block Section Limit Board (bearing the words 'Block Section Limit' on the side which faces the station and fitted with a lamp showing white light in both directions to mark its position by night) shall be provided. It shall be placed at a distance of not less than 180 meters in advance of the Home signal and shall protect the fouling mark of the outermost trailing points if any. The location of such board shall mark the limit of the block section at such stations.

3.33. Exceptions to Rules 3.27, 3.28, 3.29 and 3.32—
Not withstanding any thing contained in Rules 3.27, 3.28, 3.29 and 3.32—

(a) If the station has only one connection of the main line, the station shall be worked in accordance with approved special instructions.

(b) On any section, where the traffic is light and speeds slow, one Stop signal only in each direction may be provided at each station; such signal shall be located at an adequate distance outside the outermost facing points of the station and trains worked in accordance with approved special instructions and

(c) On any Railway having very light traffic, all signals may be dispensed with and trains worked under approved special instructions.

Provided that at stations with manually operated multiple-aspect signals, where the speed of trains through a station does not exceed 50 kilometers an hour, a Distant signal and a Home signal only may be provided in each direction, under approved special instructions.

S.R. 3.33. The approved spcial instructions shall be embodied in the Station Working Rules.

3.34. Fixed signals at level crossings –

(1) Unless exempted under approved special instructions, every level crossing gate which closes across the line at a level crossing shall, except when interlocked with station signals, be provided with signals fixed at an adequate distance from the level crossing showing Stop aspects in both Up and Down directions when the gates are open for the passage of road traffic.

(2) Except where otherwise prohibited under special instructions, a 'G' marker shall be provided on a gate Stop signal.

S.R.3.34.1. Every gate Stop signal in non-automatic signaling territory except those controlling the entry into a Railway-cum-road bridge or where there is a bridge between the gate signal and the gate, shall be provided with a 'G' marker in accordance with Rule 3.17(1).

Note: For passing a gate Stop signal at 'on', see Rule 3.73.

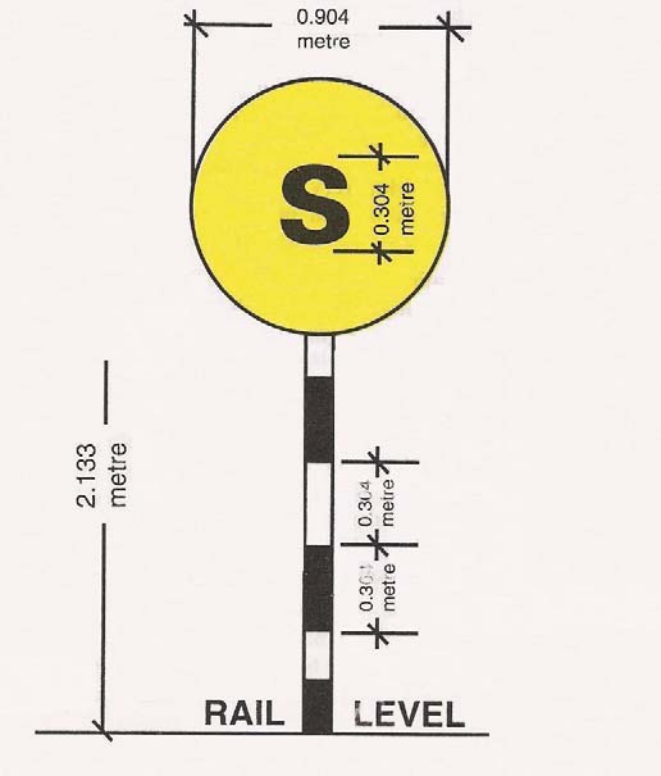
2. When a level crossing located in rear of a Home signal at a station equipped with manually operated multiple-aspect signals, is required to be protected by a gate signal, a Stop signal to function as a Gate-cum-Distant signal may be provided.

3.35. Protection and working of points of outlying siding—

Where there are points in the main line at a place which is not a block station, provision for the protection of such points by signals or otherwise and for working them, shall be made in order to secure the safe working of trains, as laid down under approved special instructions.

S.R. 3.35.1. Detailed instructions regarding the working of points, signals and interlocking insulations and the procedure for working trains into and out of outlying sidings shall be embodied in the Station Working Rules of the stations controlling the Outlying siding.

2.An 'S' marker indicator should be provided for indicating to the Loco Pilot the position of facing points at the outlying siding.



D. Working of Signals and Points.

3.36. Fixed signals generally—

(1) Every fixed signal shall be so constructed that, in case of failure of any part of its connections, it shall remain at or return to its most restrictive aspect.

(2) A signal which has been taken 'off' for the passage of a train shall not be placed to 'on' until the whole of the train which it controls has passed it, except—

(a) in case of emergency or

(b) where arrangement is provided to restore the signal to 'on' automatically, the control operating the signal shall not be restored to its normal position till the whole of the train has passed it.

(3) No fixed signal within station limits shall be taken 'off' without the permission of the Station Master and in the case of a signal outside the station limits without the permission of such person as may for the time being be in independent charge of the working of such signal.

S.R. 3.36.1. Taking 'off' the approach Stop signals can be delayed to ensure busy level crossing gates, if any, are closed only for 10 minutes before the arrival of the train, to avoid complaints from road users.

2. The staff responsible for working the signal at a station shall see that the signal arm obeys the lever actuating it. The Station Master shall also assure himself, in all cases either personally or by means of the repeater, where provided, that the concerned signals, governing the movement of a train, are taken 'off ' for the train correctly and that, such signals are put back to 'on' immediately after the train has completely passed the signal. However, the position of the points shall not be changed, until the whole train has either come to a stop at the station or run through the station, except where sectional route release facility is provided.

3.1. At interlocked stations with two cabins, one on either side, where signal reversers are provided and the taking 'off' of the reception and despatch signals controlled by means of control slides in the Station Master's office and slot lever control in the cabin, the Staion Master shall daily, during day time, when no train is due to arrive or leave the station, test the working of the reception signals in one direction for one line as for a stopping train. For example, at a station with two running roads the signals shall be tested as under-

3.1.1. The Station Master shall arrange for the taking 'off' of the Up reception signals for road No.1. He shall then put back his control slide and personally see whether the reception signals have gone back to 'on ' position. The Station Master shall again arrange for the taking 'off' of the Up reception signals for road No. 1 and instruct the Switchman / Cabinman / Leverman in the concerned cabin to put back the cabin slot lever to normal and personally see whether the reception signals have gone back to 'on' position.

3.1.2. The Station Master shall similarly test on the second day, the Down reception signals for road No. 1 and on the third day, the Up reception signals for road No. 2. On the fourth day, the Down reception signals for road No. 2 and so on, every day repeating the procedure laid down in para 3.1.1. above.

3.2. The Station Master shall immediately after each test, record the results of the test in the Station Diary. If the signals do not go back to 'on' position when the Station Master's control slide or cabin slot is restored to its normal position, the signal shall be treated as defective and immediate action taken as laid down in the General Rules 3.68 and 3.69 and Subsidiary Rules there under.

3.3. This procedure of testing the reception signals shall also be adhered to at stations provided with a central cabin with Station Master's control slides in the Station Master's office. At stations where Cabin Assistant Station Masters are in-charge of cabins, the Station Masters of such stations shall similarly test the working of the reception signals daily and record the results of the tests in the Station Diary maintained in the cabin.

3.4. Inspecting Officials shall, whenever they inspect the stations, check the Station Diary and ensure that these rules (Paras 3.1, 3.2 and 3.3) are being carried out scrupulously.

4. Under special instructions, certain goods yards are declared as 'terminal yards' for the purpose of reception and despatch of goods trains and regulating goods yard shunting. At such terminal yards, stop boards are provided on each goods reception line and adequate distance for reception is reckoned, with the condonation of the CRS from the Stop Board to the fouling mark at the trailing end, unless the Stop Board is fixed at the fouling mark, when the adequate distance is reckoned as zero. Speed of incoming goods trains inside the station section is restricted to 15 KMPH and requisite speed restriction boards should be exhibited below the respective goods Home signals. The Station Working Rules of such 'terminal yards' will clearly specify the procedure to be followed for reception and despatch of goods trains and regulation of shunting movements. The trailing points on the line, on which the incoming goods train is being received should be set and locked against the line, so that a conflicting reception or shunting movement is not permitted. The Station Working Rules should clearly specify the staff, who should ensure this.

5.1. Signal once taken 'off' for the passage of a train must not be replaced to 'on' in the ordinary course. The emergency referred to in G. R. 3.36. (2) (a) shall be deemed to exist when an accident is to be averted.
5.2. If in an emergency, a reception signal has to be placed to 'on' position before the arrival of the train to which it refers, no points shall be altered until the train has come to a stand except to prevent an accident.
5.3. In case Starters and Advanced starters are taken 'off' for departing trains and required to be put back for the purpose of precedence or crossing, the following precautions must be taken prior to replacing the Starter / Advanced starter signal to 'on'.
5.3.1. The Loco Pilot of the train for which the signal has been taken 'off' should be advised by a written memo to the effect that he should not start and that his signal will be replaced to 'on'. His written acknowledgement should be obtained on the office copy of the memo.
5.3.2. On single line section, when a tangible authority has been delivered to the Loco Pilot, the same should be withdrawn from him.
6. *Certificate of competency – Cabinman / Leverman*
Every Cabinaman / Leverman shall be tested after completion of initial / refresher training course and be issued with a certificate of competency by the in charge of the training centre in the form No. T.336 before he is put to work independently. The certificate of competency will be valid for a period of 3 years from the date of issue.

3.37. Normal aspect of signal—

(1) Unless otherwise authorised under approved special instructions, fixed signals, except automatic signals, shall always show their most restrictive aspect in their normal position.

(2) The normal aspect of an Automatic Stop signal is 'Proceed'. Where, however, the signal ahead is manually operated, the aspect normally displayed may be 'Caution' or 'Attention'.

S R. 3.37.1. Loco Pilots shall bring their trains to halt at stations where stoppages are scheduled in the Working Time Table, even though signals governing departure from the stations are 'off'.
2. If stopping of a run-through train at a station on the Automatic Block Section is necessary for any reason, two detonators 10 metres apart shall be placed at a distance of 180 metres from the end of station platform towards the approaching train and hand signal displayed from the platform.
3. No approach lighted signals are provided on this railway.

3.38. Points affecting movement of train—

(1) The Station Master shall not give permission to take signals 'off' for a train until-

(a) all facing points over which the train will pass are correctly set and locked.

(b) all trailing points over which the train will pass are correctly set and

(c) the line over which the train is to pass is clear and free from obstructions.

(2)When a running line is blocked by a stabled load, wagon, vehicle or by a train which is to cross or give precedence to another train or immediately after the arrival of a train at the station the points in rear on double line sections and at either end on single line sections should be immediately set against the blocked line except when shunting or any other movement is required to be done immediately in that direction on that line.

S.R.3.38.1 The trailing points shall be correctly set or where the interlocking installation requires it, also locked.

2. During crossing of trains at key locked stations interlocked to standard-I and key locked modified non-interlocked stations, the setting of the outermost trailing points against the line on which the first train is to be received, does not constitute an obstruction for the purpose of this rule.

3.1. At an interlocked station, a train may be allowed to run through a loop line with 1 in 81/2 turnout, provided the points are correctely set and the signal taken 'off' and at a non-interlocked station, in addition to this precacution , the train shall be brought to a halt at the Outer signal and then the signals taken 'off'. The Loco Pilot shall not exceed a speed limit of 10 kmph when running through a loop line at interlocked as well as non-interlocked stations. When a run through train passes over a loop line, the authority to proceed shall be handed over to the Loco Pilot opposite to the station building.

3.2. In no circumstance a train is to be allowed to run through an interlocked or a non-interlocked station over a goods loop with 1 in 81/2 turnout. If it is necessary to pass a non-stopping train over a goods loop with 1 in 81/2 turnout it shall, first, be brought to a stand on that line and then signals, if any taken 'off' and the authority to proceed handed over to the Loco Pilot. At a non-interlocked station the train shall, in addition, be brought to a halt at the Outer signal and then the signals taken 'off' for its admission.

3.3. Warning Boards have been provided at all 1 in 81/2 turnouts for warning the Loco Pilots to restrict the speed to 10 kmph.

4.1. At non-interlocked stations, bolts and cotters shall be provided for each switch rail at all points and giving access to running lines. One padlock shall be provided for each such set of points.

4.2. The DEN is responsible for the provisions of bolts, cotters and padlocks and/or clamps and padlocks for the points, when renewals and repairs are being carried out until the points are formally handed over to traffic.

4.3. The DSTE is responsible for the provision of padlocks and/ or clamps at stations when disconnection of the interlocking gear is taken up for the purpose of renewals, repairs etc.

5.1. Lever collars are provided for the lever frames at stations. These lever collars shall be placed on the handle of the signal levers to provent the catch handle being released and to give a visual warning to the operator.

5.2. Lever collars bearing the words "line blocked" are intended for fixing on the handles of the levers, working points and signals are fixing on the relevant lever of line on which a train or vehicle is left standing or otherwise obstructed. These lever collars shall also be used when a train stops at a station to cross and/or to give precedence to another train or trains. The lever collars shall be removed only when the line has been cleared.

5.3. Lever collars or slide pins are provided for the Station Master's control instruments. They shall be used on the releveant slide control or the Station Master's key control in the same manner and for the same purpose for which the lever collars are used on the handle of the levers in the cabins.

5.4. Detail instructions regarding the use of lever collars or slide pins shall be incorporated in the Station Working Rules of all stations.

5.5. A board shall be provided in the cabins and at stations indicating the cabin lever numbers and the Station Master's slide control numbers in respect of each running line on which the lever collars and slide collars/pins are required to be placed, whenever the running line/lines is/are occupied. This board shall be provided by the S&T department.

6. If all the lines at a station happens to be blocked, when line clear has been granted to a train, the point should be set for the line occupied by a stabled load or a goods train in that order so that, in case of mishap, the chances of casualities are minimized. In case, all the lines at a station are occupied by passenger trains, points should be set for a loop line, to negotiate which, the speed of the incoming train would be reduced, which in turn

would minimize the consequences/ casualities. While doing so, points may be set for a loop line occupied by a train, if any, whose engine is facing the direction of approach of the incoming train rather than for the loop occupied by a train where a passenger coach, will, in the case of a collision, receive the impact. These precautions shall be taken in addition to the observance of other precautions like use of lever collars etc.

7.1. Motor-Operated Points—

Wherever the points are operated by motor, the normal and reverse position of the motor-operated points are repeated in the cabins. The 'N' and 'R' indications provided in the cabins correspond to the normal and reverse position of the points. The indicators in the cabin would be lit up only when the relevant lever/switch/button is operated. After operation of every point, the 'N' and 'R' are indications must be checked by the Station Master on duty to see that the points are in working order.

7.2. Provision of Emergency Crank Handles—

Where points are operated by point motor, emergency crank handles required for the operation of point machine during failure of points are provided. The emergency crank handle should be secured in a glass fronted wooden box/case and sealed in the Cabin along with the keys of the pad lock of point machine by the S&T staff . The station staff concerned should be trained properly in the use of the emergency crank handles.

7.3. Failure of Motor Operated Points—

If the Station Master on duty does not get the correct indications after every operation of motor operated points, the points must be inspected by him to see if there is any obstruction in the points and if any obstruction is found it must be carefully removed and once again the points operated from the cabin. If after verification of the points, the points cannot still be set from the cabin, this should be treated as failure of the points. The Station Master on duty shall thereafter break the seal of the wooden box/case and utilize the relevant padlock key and the emergency crank handle for operating the points manually as follows—

7.3.1. The padlock of the points machine should be unlocked and removed.

7.3.2. The emergency crank handle should be inserted in the point machine and rotated to set and lock the points to the required position in the presence of the Station Master on duty. Care should be taken to continue the rotation of the emergency crank handle till it comes to a stop to ensure that the points are correctly set and locked. However before inserting the emergency crank handle in the point machine, it must be ensured that the relevant point lever is in the required position.

7.3.3. The Station Master on duty shall personally be responsible to ensure the correct setting of points. He must also ensure that the points are clamped, padlocked and the lever collars are put on the releveant point/levers and must retain the keys of the padlocks in his personal custody before authorizing any movement over the affected points. The reception/dispatch of trains shall be arranged in accordance with the rules.

7.3.4. At stations where crank handles provided to operate the point machines manually or interlocked with the signals, authority to pass the signal governing the movment over the points, which are set by crank handle need not be issued if the signal can be taken 'off' and proper 'N' or 'R' indication, showing that the points have been properly set and locked in the normal or reverse position, is available in the cabin. The points should, however, be clamped and padlocked by the staff deputed to set them by means of crank handle, before the crank handle is restored back to the electricial lock and the relevant signals are taken 'off'.

7.3.5. In case of manual operation of defective motor operated points by crank handles, for passage of traffic, the trains may be received on signals provided—

7.3.5.1. A transportation staff not lower in rank than that of an Assistant Station Master is deputed to operate the defective motor operated points which is to be clamped and padlocked.
7.3.5.2. Private Number is exchanged between the transportation staff at the points and the Assistant Station Master / Switchman taking 'off' the signals to ensure the position of the points and safe custody of the crank handle with the former and
7.3.5.3. correct setting of the defective points, has been proved in the electrical circuit after manual operation
7.3.6. The use of emergency crank handle be continued till such time the points are rectified by the S&T staff.
7.3.7. Whenever the emergency crank handle is used, an entry to this effect should be made in the emergency crank handle register specially maintained for this purpose and the station diary, duly advising the concerned Signal Inspector/ESM for rectification.
7.4. Handing over Emergency Crank Handle of motor operated points to S&T staff for maintainance work etc—
If the emergency crank handle is required by the S&T staff for maintainence work or the purpose of testing, disconnection and reconnection notices should be issued in accordance with procedure laid down. Whenever the emergency crank handle is handed over to the S&T staff, an entry should be made in the emergency crank handle register showing the points on which the emergency crank handle is required to be used. The lever collars should, at the same time, be put on the relevant levers. During the time, the emergency crank handle is in use, the reception/despatch of trains should be arranged in accordance with the rules.
7.5. Mechanically operated points with 'N' and 'R' indication in the Cabin/Station—
At certain stations 'N' and 'R' indications are also provided for the mechanically operated points. At these stations the Station Master on duty should check up the indications in the cabin/station after the operation of the points to ensure that they are in working order. If the correct indication is not displayed after the operation of points, the points must be inspected by the Staion Master on duty to check up if there is any obstruction in the points. Any obstruction found must be removed and the points once again set and locked and the signals taken'off' for reception / despatch of trains even after the correct setting and locking of the points, if the 'N' and 'R' indications fail to respond, this should be treated as a case of signal failure and the trains dealt in accordance with the provisions of rules.

3.39. Locking of facing points—

Facing points, when neither interlocked nor key locked, shall be locked for the passage of a train either by a clamp or by a through bolt, with a padlock. It is not sufficient to lock the lever working the points.

3.40. Conditions for taking 'off' Home signal—

(1) When a train approaching a Home signal otherwise than at a terminal station, the signal shall not be taken 'off' until the train has first been brought to a stand outside it, unless-

a) on a double line, the line is clear for an adequate distance beyond the Starter or

b) on a single line, line is clear for an adequate distance beyond the trailing points or under approved special instructions for an adequate distance beyond the place at which the train is required to come to a stand.

(2) Where a train has first been brought to a stand outside the Home signal, the signal may be taken 'off', if-

(a) on a double line, the line is clear up to the Starter or

(b) on a single line, the line is clear up to the trailing points or under approved special instructions up to the place at which the train is required to come to a stand.

(3) Except under approved special instructions, the adequate distance referred to in sub-rule (1) shall never be less than-

(a) 180 metres at stations equipped with two-aspect lower quadrant or two-aspect colour light signals or

(b)120 metres in the case of stations provided with multiple-aspect signals or modified lower quadrant signals.

(4) Where a sand hump of approved design or under approved special instructions a derailing switch, has been provided for the line on which a train is to be received, they shall be deemed to be efficient substitutes for the adequate distance referred to in sub-rule (3).

S.R.3.40.1. The adequate distance for taking 'off' signals shall be specified in the Station Working Rules of the stations concerned and when the approval of the CRS has been obtained in terms of Rule 3.40 (1) (b) and (4), this shall also be indicated in the Station Working Rules.

2. Whenever a stopping train is to be received on to a line at the end of which 'sand hump/buffer stop' is available, points can be set either to 'sand hump/buffer stop' or to main line. When it is set to main line, the block section in advance should be clear of trains.

3.41. Conditions for taking 'off' Outer signal—

(1) When a train is approaching the Outer signal otherwise than at a terminal station, the signal shall not be taken 'off' until the train has first been brought to a stand outside the signal, unless the line on which the train is to be received in the station is clear.

(a) in the case of a double line, up to the Starter signal and

(b) in the case of a single line, for an adequate distance beyond the first facing points.

(2) Where the train has first been brought to a stand outside the Outer signal, the signal shall not be taken 'off' unless the line is clear up to the first facing points or upto the Home signal at a station where there are no facing points.

S.R. 3.41. The Outer signal shall not be taken 'off; until the Home signal has been taken 'off'. The Outer signal shall normally be put back to 'on' before the Home signal. If the Loco Pilot finds the Outer signal in 'off position, when the relevant Home signal is 'on' or drooping, he shall treat both the Home and the Outer signals as defective and stop his train.

3.42. Conditions for taking 'off' last Stop signal or Intermediate Block Stop signal—

The last Stop signal or Intermediate Block Stop signal shall not be taken 'off' for a train unless Line Clear has been obtained from the block station in advance.

3.43. Conditions for taking 'off' Warner signal—

A Warner signal shall not be taken 'off' for a train that is booked to stop or for a train that has to be stopped out of course.

3.44. Conditions for taking 'off' gate Stop signal—

A gate Stop signal shall not be taken 'off' until the concerned level crossing or crossings is or are free from obstruction and the gates of such level crossing or crossings are closed and locked against road traffic. Where a gate Stop signal is interlocked with station signals, it shall be worked in accordance with special instructions.

3.45. Conditions for taking 'off' Calling-on signal—

A Calling-on signal shall not be taken 'off' until the train has been brought to a stand at the Stop signal below which the Calling-on signal is provided.

3.46. Use of fixed signals for shunting—

(1) The Outer, Home and the last Stop signal of a station shall not be taken off for shunting purposes.

(2) At stations where Advanced Starters are provided, Starters may be taken off for shunting purposes, except where the interlocking interferes with this practice, in which case hand signals shall be used where Shunt signals are not provided.

3.47. Taking 'off' signals for more than one train at a time—

When two or more trains are approaching simultaneously from any direction, the signals for one train only shall be taken 'off', other necessary signals being kept at 'on', until the train for which the signals have been taken 'off' has come to a stand at the station, or has cleared the station and the signals so taken 'off' for the said train have been put back to 'on' except where under special instructions, the interlocking or the layout of the yard renders a contrary procedure safe.

3.48. Stoppage of trains out of course at stations provided with two aspect signaling—

When a train which is booked to run through has to be stopped out of course at a station equipped with two aspect signals, it shall not be received until-

(a) at stations provided with working Warners but not provided with Starters, the working Warner is kept at 'on',

(b) at stations provided with Starters but not provided with working Warners, the relevant Starter is kept at 'on',

(c) at stations provided with both working Warners and Starters , both the signals are kept at 'on' and

(d) at stations provided with neither a working Warner nor a Starter, the first Stop signal is kept at 'on' and the train brought to a stand outside it.

S.R. 3.48. Whenever any train is required to be stopped at a station out of course in multiple aspect signalling territory, the train shall be received by keeping the Starter at ‘on’ and taking ‘off’ the relevant reception signals pertaining to the line nominated for reception. If there is no Starter, initially the First Stop Signal should be kept at ‘on’ position. The Station Master should ensure that the train has come to a stop. Then only he should take ‘off’ the First Stop Signal.

3.49. Care and lighting of signal lamps—

(1) The Station Master shall see that lamps of fixed signals, indicators and boards such as Shunting Limit Board, Block Section Limit Board and Stop Board at his station are lighted at sunset and are not put out until after sunrise or at such earlier or later time as may be prescribed by special instructions.

(2) Sub-rule (1) shall not apply to-

(a) approach light signals,

(b) colour light and position light signals which shall be kept lit throughout the day and night and

(c) the sections where no train is scheduled to run at night.

(3) The Station Master shall ensure that the lamps of fixed signals, indicators and boards such as Shunting Limit Board, Block Section Limit Board and Stop Board, when lit, are burning brightly and that the lenses of lamps and spectacle glasses are properly cleaned and back-lights clearly visible.

(4) Whenever night signals are used, the Station Master shall not grant Line Clear unless he has ensured, either personally or in the manner prescribed under special instructions, that the lamps of fixed signals at his station which are not approach lighted and which apply to the train are burning. If signal lights cannot be kept burning he shall, before giving Line Clear, initiate action in accordance with the procedure prescribed in Rules 3.68 to 3.72.

(5) Before lighting a semaphore signal or indicator lamp, the railway servant deputed for lighting it, shall inspect the lenses and spectacle glasses. In case he finds the red roundel broken, cracked or missing, he shall not light the lamp and shall report the fact immediately to the Station Master who shall treat the signal as defective.

(6) Every railway servant in charge of signals shall see that the greatest care is taken in the focusing, cleaning and trimming of signal lamps.

S.R. 3.49.1. Whenever power fails and colour light signals become blank, the Staion Master shall not grant Line Clear unless he has initiated action in accordance with the procedure prescribed in G. R. 3.68 and 3.69.

S.R. 3.49.2. The Railway servant who lights the signals shall inspect roundels for cracks or breakages and if any defect is noticed, immediately report the matter to the Staion Master on duty who will enter the report in the Station Dairy. Such signals shall be treated as defective during the period they are required to be kept burning and action shall be taken in accordance with the procedure prescribed in G.R.3.68 to 3.72 and Subsidiary Rules there under provided further that if there is any crack or breakage in the red roundel, the signal shall not be allowed to remain lit and a railway servant shall be deputed to show Stop hand signal to the approaching trains from the foot of the signal.

3.After the lighting up time of signals, if there is any heavy storm, particularly hail storm or cyclone, the Station Master shall depute a competent railway servant to inspect the signals and note the condition of the roundels. If any roundel is found broken, cracked or missing the signal shall be treated as defective and action taken in accordance with G.R.3.68 to 3.72 and Subsidiary Rules there under.

4.1.Before giving Line Clear for a train, the Station Master shall ensure that the arms of the reception signals pertaining to the train are at 'on' and at night, the signal lamps are lighted and back-light is visible or the repeater provided for the purpose confirms the same. If any reception signal arm is not at 'on' and at night the signal lamp is not lighted, the Station Master shall place the signal arm to 'on' or light the signal lamp and until this has been ensured Line Clear shall not be given for a train.

4.2.The Station Master shall comply with Para 3.1 by personally observing the signal arm by day and the back-light by night. If it is not possible to see the signal arm or back-light owing to thick, foggy or tempestuous weather impairing visibility or for any other reason, he shall proceed to a convenient place outside his office from where it can be seen.

4.3.In case of signals with electric repeaters, the arm repeater by day and both the arm and the light repeaters by night shall be observed. In the colour light signaling territory, the Station Master shall observe the aspect of the signal as indicated by the miniature light repeater provided.

4.4.At stations provided with block instruments and Station Master's slide control in the same office, the Station Master shall comply with Para 4.1 by ensuring that the slide pertaining to the signal is in normal position by day and night and the back-light is visible by night or if the back-light is not visible, by exchanging Prive Numbers with the Cabinman/Leverman.

4.5.In case, it is not possible for the Station Master to ensure the visibility of the arm or back-light, he shall before giving Line Clear initiate action for receiving the train in accordance with the procedure laid down in G.R.3.68 to 3.72 and the subsidiary rules there under [See G.R.3.49 (4)].

4.6.The time at which the lamps of fixed signals, indicators and boards, such as Shunting Limit Board, Block Section Limit Board and Stop Board at the station are to be lighted and put out shall be prescribed in the Station Working Rules.

5.Maintenance of signal lamps:-

The following instructions regarding the cleaning, lighting and maintenance of signal lamps are to be adhered.

5.1. Founts:

5.1.1. All founts must be taken to the station lamp room every day in the forenoon on the trays provided for the purpose, for cleaning and refilling. Founts must not be cleaned and refilled at the signals.

5.1.2. Cleaned and refilled founts must be taken out to the signals from the station lamp room after 16 hours. The founts must be available for inspection by Station Master and inspecting officials of Operating and S & T departments during the day.

5.1.3. Lamp cases must be thoroughly cleaned and all soot and dirt removed from the interior, especially from the top, every day.

5.1.4. Founts must not be emptied daily but only refilled to make up the quantity used the previous night . Founts must not be filled full or otherwise the lamps will catch fire. Founts must be filled not higher than the bottom of the burner collar and afterwards wiped clean.

5.1.5. A fount when filled to its normal height contains 10 fl.oz (1/5 pint) and the standard S & T burner will burn about 3.5 hours per fl.oz. Hence, the quantity of oil required is approximately 1.5 pints per 100 burning hours and supply to stations must be regulated accordingly.

5.1.6. Filler caps must be kept in place to prevent dirt or water getting into the oil. Leaky founts and lost filler caps must be promptly reported to the Signal Inspectors for replacements.

5.1.7.During the first week of every month, all founts must be emptied and drained and thoroughly cleaned to remove sediment and water. Oil drained from founts must never be used again in founts, but may be used for general cleaning purposes.

5.2. Burners:
Burners must be thoroughly cleaned and air vents opened every day with brushes provided for the purpose and not with any other metal implement. Burners gummed with oil, soot or incrustations will be periodically withdrawn for chemical cleaning by S & T staff. Broken and defective burners must be reported promptly to Signal Inspector for replacement.
5.3. Wicks:
Wicks must be carefully trimmed every day. When trimming wicks, the charred portion must be broken off with the fingers or cut off with scissors or trimmers and the wick left clean and even. Wicks too short to reach the bottom of the fount or clogged with dirt or gummy oil must be periodically renewed by S & T staff. New wicks should be perfectly clean and dry and must be saturated in oil before using.
5.4. Lighting of Lamps
Founts must be lighted with the matches provided for this purpose and not with piece of oil waste. The wick when lighted must be adjusted until it burns steadily without smoking. Too high a flame will smoke but too low a flame will cause the flame to be out of focus with the lense and give a defective light. It will also be the cause for the failure of light repeaters wherever provided at the station or cabin. Special care must be taken during monsoon to keep water away from oil and wicks, lamp doors and tops must be kept closed, except when cleaning, lighting or extinguishing. Lamps defective or in need of repairs must be reported to the Signal Inspector. The inner and outer surfaces of the lenses of the signal lamp shall be cleaned daily.
5.5. General:
5.5.1. The Operating staff are responsible for cleaning, lighting of signals, point indicator lamps and founts.
5.5.2. The Station Masters are responsible for explaining these instructions to their staff and for periodically inspecting to see that they are properly and regularly carried out.
5.5.3. Traffic Inspectors must inspect the station lamp rooms periodically to see that these instructions are carried out by station staff concerned.
5.5.4. Each Signal Inspector must examine all the signals and point indicator lamps on his monthly inspections to see that the lamps and founts are in good order and are being kept clean. Lamps and founts found defective must be replaced promptly. Cases of excessive damage to lamps or neglect in cleaning should be reported to DSTE and DSO. All signal lamps should be over-hauled once in a year and the date of over-hauled should be marked on each lamp.

3.50. Traps, slip sidings and catch sidings—

The Station Master shall take steps to ensure that the points of all traps, slip sidings and catch sidings and other points are set against the line which they are intended to isolate, except when it is not necessary that they should be open for the purpose of isolation.

S.R.3.50.1. Traps on siding (which may be Scotch Block, Derail, Derailing Switch or Trap Switch) are intended to derail vehicles, which escape from the sidings. Except when required to be taken away from the line or reversed for the passage of trains or vehicles, the Traps shall normally be kept as under :-
1.1. Scotch Blocks and Derails shall be kept locked in position on the rail.
1.2. Deraling switches shall be kept locked in the open position and
1.3. Trap switches shall be set against the running line and locked in that position. The staff in possession of the keys of the traps shall be held responsible for carrying out these instructions.
2. Trap indicators are used to indicate the position of derailing switches or derails, protecting the siding or running line. They show a red target by day and a red light by

night in both the directions, when the derailing switch is open or the derail is on the rail and the knife edge of the disc by day and a green light in both directions by night when the deraling switch is closed or derail is off the rail. Points leading to a short dead-end and used solely for the purpose of trapping the running line or sidings shall be treated as deraling switches.

3.1. Slip-sidings are intended to prevent vehicles at stations from escaping on to the main line. **On no account shall slip sidings be used for shunting purposes. Stabling of vehicles on slip siding is prohibited.**

3.2. Catch sidings/kopcke sidings are intended to catch vehicles which have escaped from the adjacent station or trains or parted portions of train coming out of control from the adjacent block section. On no account shall vehicle be shunted/stabled on the catch/kopcke sidings.

Note:- Kopcke sidings are catch sidings of another design and serve the same purpose.

3.3. Except when expressly opened for the passage of trains in the facing direction, the points of the slip sidings and the catch/kopcke sidings shall be kept set for these sidings normally and the keys of such points, if any, shall be kept in the safe custody of the Station Master. The rules incorporated in the Station Working Rules with regard to the operation of these points shall be strictly observed.

3.51 POINTS –

(1) All points shall normally be set for the straight except when otherwise authorized by special instructions.

(2) The Railway servant concerned with the operation of points and signals shall not, while on duty, leave the place of operation of points or signals which are under his charge except under special instructions.

(3) No Railway servant shall interfere with any points, signals or their fittings, signal wires or any interlocking or block gear for the purpose of effecting repairs or for any other purpose, except with the previous permission of the Station Master.

S.R.3.51.1. Any Railway servant on duty in a non-block cabin who has received instructions for the admission or dispatch of a train shall continue to be on duty till the arrival or depature of the train. If there is any unusual delay for arrival or depature of the train, the Station Master shall arrange to relieve the Railway servant and ensure that the reliever understands his duties.

2.1. If at any time during his hours of duty, the Station Master in-charge of a signal cabin where block instruments are placed finds it necessary in order to comply with safety rulels, to leave the cabin temporarily, he shall specially depute a responsible Railway servant to remain in the cabin or close and lock up the cabin.

2.2. Whenever, in an emergency, points, signals or any other safety appliances have to be left unattended, they shall be secured in their position by the means provided.

2.2. Pointsmen in cabin or staff-in-charge of points or signals shall not leave their posts, unless they are relieved.

3.1. At certain stations, point indicators are provided. They are not signals but are applilances fitted to and working with points to indicate by day or by night the position in which the points are set. All the Point indicators shall show a white target by day or a white light by night in both directions when the points are set for the straight and no target by day and a green light by night in both directions when the points are set for the turnout.

3.2. At non-interlocked stations and stations provided with rudimentary interlocking, the Station Master and Loco Pilot shall satisfy themselves by the indications of the Point indicator that the points have been correctly set.

3.3.1. At interlocked stations in Multiple-Aspect Signalling territory, provided with a single arm Home signal, the Station Master and the Loco Pilot of an incoming train, should observe the point indicator to make certain that a Home signal has been taken 'off' only for the route on which the train is to be received.

3.3.2. At other interlocked stations, the Station Master need not observe the point indicator to satisfy himself that the points are correctly set during the reception of trains if bracketed Home signals have been provided and during dispatch of trains, if Starter signals have been provided.

3.4. When signal becomes defective (interlocked and non-interlocked stations), the Station Master shall personally make sure that the points are correctly set, clamped and locked. The Loco Pilot and also the Station Master shall observe the Point indicator, wherever available.

4. No work necessitating interference with points, lock bars, detectors, signals or other interlocking gear which are likely to effect the safety of trains or traffic shall be commenced except with the consent of the Station Master.

5. A signal maintainer whether Block, Electrical or Mechanical shall be in possession of a certificate of competency declaring that he understands all the relevant rules and instructions pertaining to his duties and is competent to under-take the work which may necessitate interference with points, lock bars, detectors, signals etc., and independently may also undertake such work except interference with locking arrangements in an interlocked frame. This certificate of competency shall be issued by the Principal / STTC / MLY after successful completion of Initial course / Refresher course, which is valid for a period of four years. As a temporary measure, DSTE/ASTE of the Division can extend the validity of Competency certificate for one year. However, only one such extension is permissible.

6. The Signal Inspector or the person incharge of the work shall before taking in hand any work in connection with a lever frame, points, signals, lock bars or detectors etc., involving disconnection or removal of interlocking gear of any kind, advise the Station Master in writing in Form S&T (T/351) (Disconnection Notice) and obtain the signature of the Station Master on the copy of 'Acknowledgement of disconnection/reconnection notice'. In the case of joint works involving Engineering department, a special mention may be made in the form S&T (T/351) as "Joint-work with Engineering department". The Station Master's signature on the acknowledgement copy is the authority for the signal branch to commence the work. Where cabins are under the control of Station Master, he must advise the cabin staff giving the particulars of the point which is disconnected, under the exchange of Private Numbers. After the work is completed, the person incharge of the work shall jointly test with the Station Master such signals, points, lock bar, gears etc., and then fill up the second part of the form S&T (T/351) (Reconnection Notice) and obtain the signature of the Station Master on the copy of 'Acknowledgement of the disconnection/reconnection notice'. The signature of the person incharge of the work on the reconnection notice is the authority for the Station Master to resume normal working.

7.1. In the interval between disconnection and reconnection, if it is necessary to pass the trains or perform shunting movements, the Station Master on duty shall advice the Signal Inspector or the person incharge of the works by a memo stating in which position the points are to be set. The Station Master or other authorized staff on his behalf with the permission of the Signal Inspector or the person incharge of the work, shall arrange to set and and clamp the points in the desired position for the safe passage of the trains. The relevant signals shall be placed at 'on' by the staff of S&T branch. In the case of joint works, permission of the PWI or his authorized staff also has to be obtained in

advance by the S&T branch. Shunting moves are to be avoided as far as possible. If the disconnection of points is made at one end of the cross over, the points at the both ends of the cross-over should be treated as having been disconnected and should be clamped and padlocked by the Station Master and trains passed over the same by piloting. It should be ensursed that the other end of the cross-over shall also be set, clamped and padlocked for isolation of the train, which passes on the straight road. The other end should be set and clamped for the cross-over movement, if the movement is over the cross-over.

7.2 It shall be the duty of the Station Master or any authorised person on his behalf to ensure that the points are set and clamped for the correct route. He will then put the padlock on the clamp to prevent any interference therewith until the completion of the train or the shunting movement, as the case may be. Cotter bolting wherever available is also permissible with padlocking.

7.3. The cotter, bolt or clamp should be removed by the Station Master or the authorized person after the completion of the train or shunting movement and then the Signal Inspector or the person incharge of the work can resume work on the gear.

7.4 On completion of the Engineering work, a certificate to the effect that the Engineering works have been completed and track is safe for the passage of the train shall be given by the Engineering official to the Signal Inspector/Maintainer, incharge of the work with a copy to the Station Master. Only after the receipt of this certificate, reconnection notice shall be issued by the S&T staff.

8.Except under special instructions issued by the DRM, wherever the points or signals or interlocking gears are disconnected in terms of S.R. 3.51.6 the concerned points/interlocking gear shall be treated as out of order. The relevant signals shall be placed at “on” by the staff of the S&T branch.

9.1.Whenever it is necessary for Signal Inspector or a duly certified competent Signal Maintainer to carry out tests of signal appliances of any description, he shall make an entry in the station diary or cabin diary stating the particulars of work to be done and the time required. The Station Master shall countersign this entry and add any remark he may consider necessary regarding the movement in the yard etc., before the work is taken on hand.

9.2. After the Inspecting Official has given such notice, the Station Master shall advise the cabin staff and get their acknowledgements by obtaining a Private Number for carrying out the test and record the Private Number in the diary. No move which would lead to the end of the yard where testing is in progress shall then be carriedout, without first obtaining the permission of the Station Master. This permission shall not be given by the Station Master until the official carrying out the test has been advised and his acknowledgement obtained in writing and all testing relating to the line on which the movement is to take place has been stopped. Such permission shall be conveyed by communication of a Private Number.

9.3 The Loco shed shall be advised that engine movements towards the Traffic Yard shall not be allowed without the permission of the Station Master. A banner flag preceded by a Stop hand signal shall also be provided at the exit from the Loco Yard under the orders of the official carryingout the test, in the absence of a fixed signal controlling such exit.

E. Hand Signals

3.52 Exhibition of hand signals—

(1) All hand signals shall be exhibited by day, by showing a flag or hand and by night by showing a light as prescribed in these rules.

(2) During day a flag or flags shall normally be used as hand signals. Hands shall be used in emergencies only, when flags are not available.

(3) During night a hand signal shall normally be given by showing a red or green light. A white light waved violently shall be used as a Stop signal only, when the red light is not available.

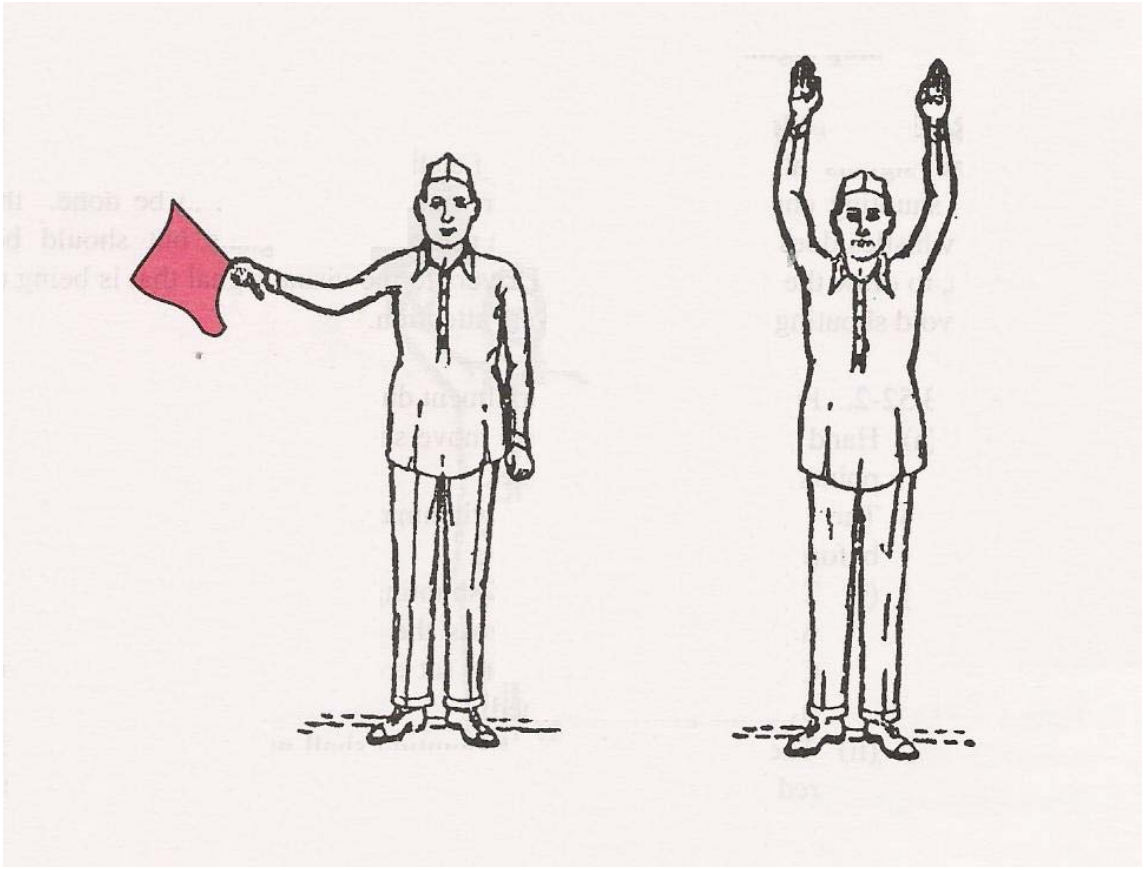
S.R. 3.52. The arrangement of red and green slides in the hand signal lamps shall be uniform. Holding the lamp with the front facing away the green slide should be on the left hand side and the red slide on the right hand side. Every Railway servant using a hand signal lamp shall see that the slides are on the correct sides. The Railway servant using the hand signal lamp shall verify everyday just before coming on duty that all the glasses are intact.

3.53. Stop hand signal—

Indication: Stop dead

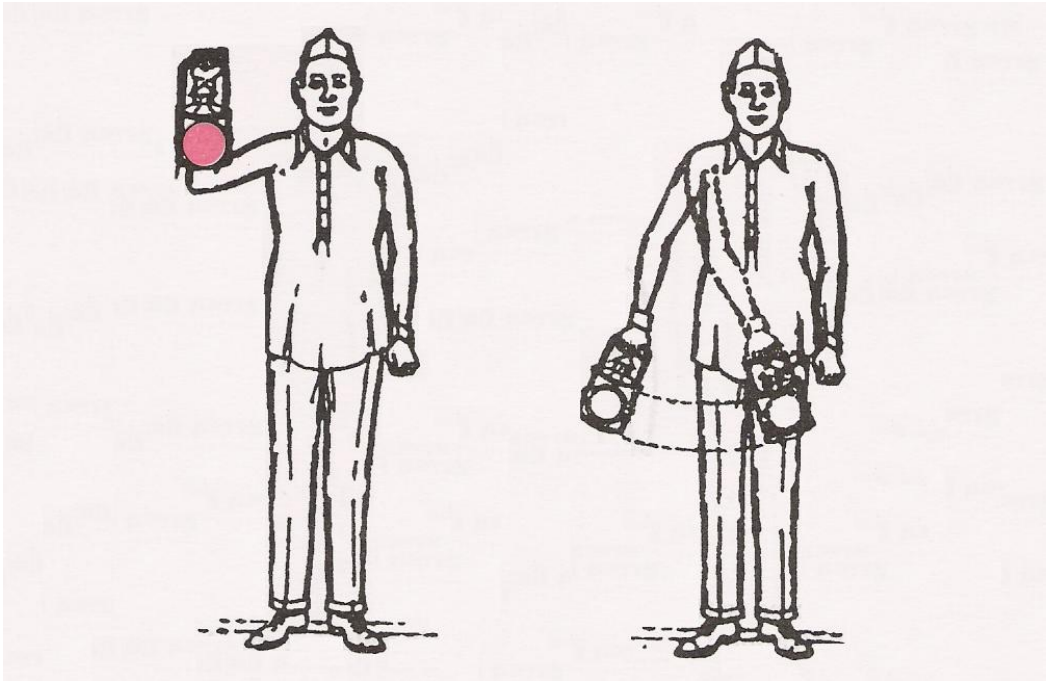
How given by day:

By showing a red flag or by raising both arms with hands above the head as illustrated below:-



How given by night:

By showing a red light or by violently waving a white light horizontally across the body of the person showing the signal as illustrated below:-

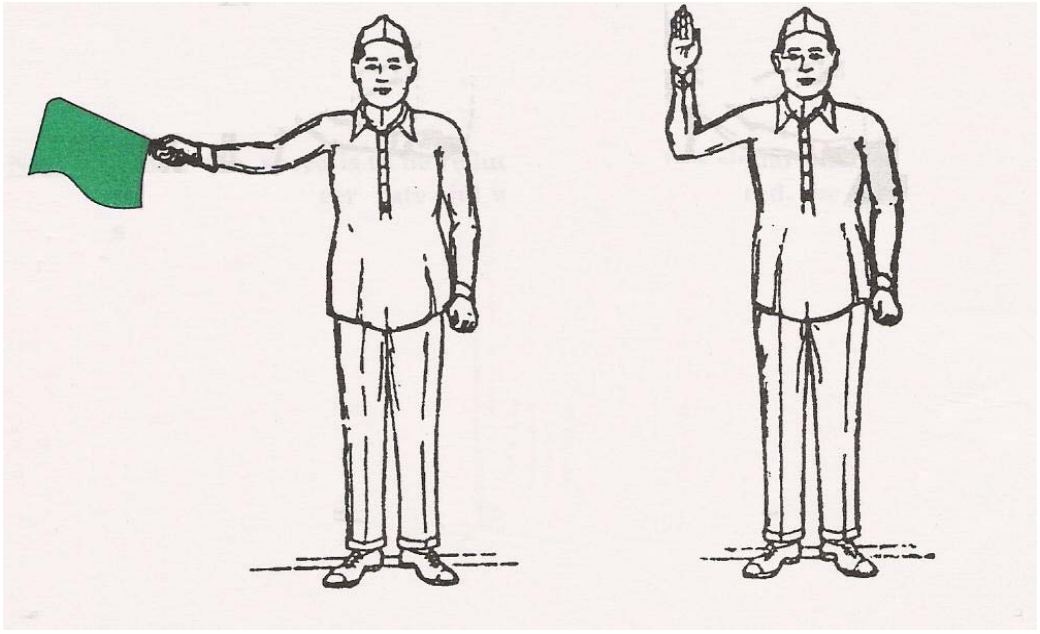


3.54. Proceed hand signal—

Indication **Proceed**

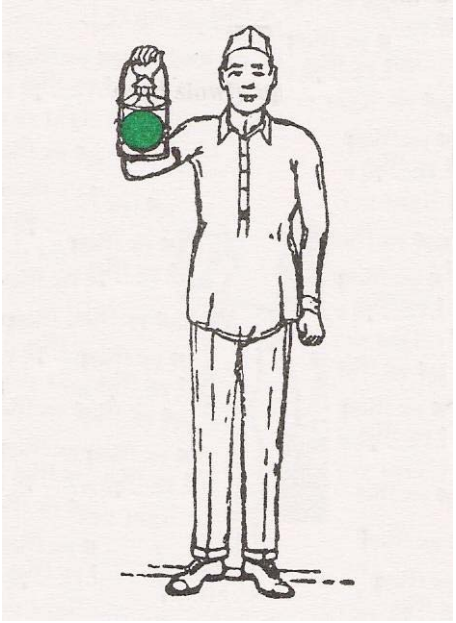
How given by day

By holding a green flag or by holding one arm steadily as illustrated below:



How given by night

By holding a green light steadily as illustrated below:

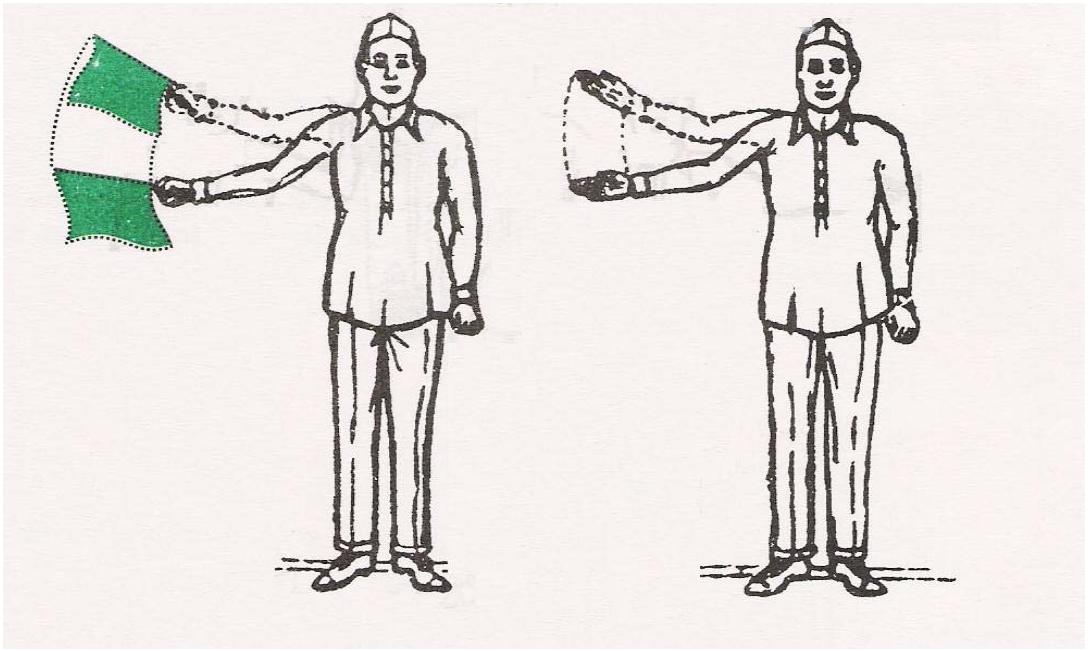


3.55. Proceed with caution hand signal—

Indication — **Proceed slowly reducing speed further if the signal is given at a progressively slower rate.**

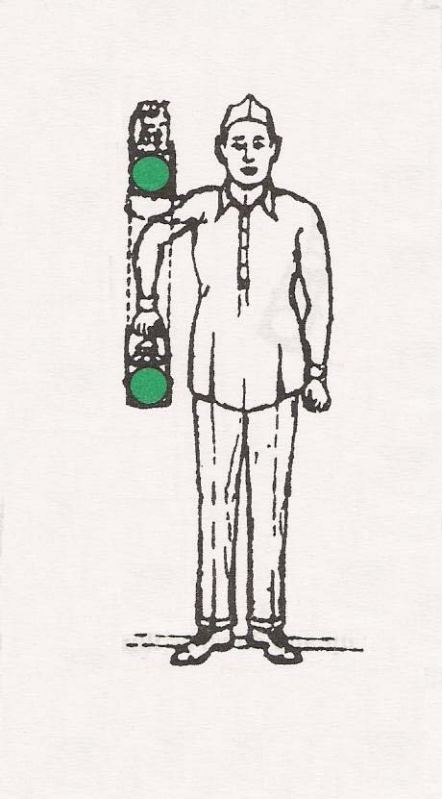
How given by day

By waving a green flag vertically up and down or by waving one arm in a similar manner as illustrated below:



How given by night

By waving a green light vertically up and down as illustrated below:



Note: When the speed is to be reduced further, this signal shall be given at a slower and slower rate and when a stop is desired, the Stop hand signal shall be shown

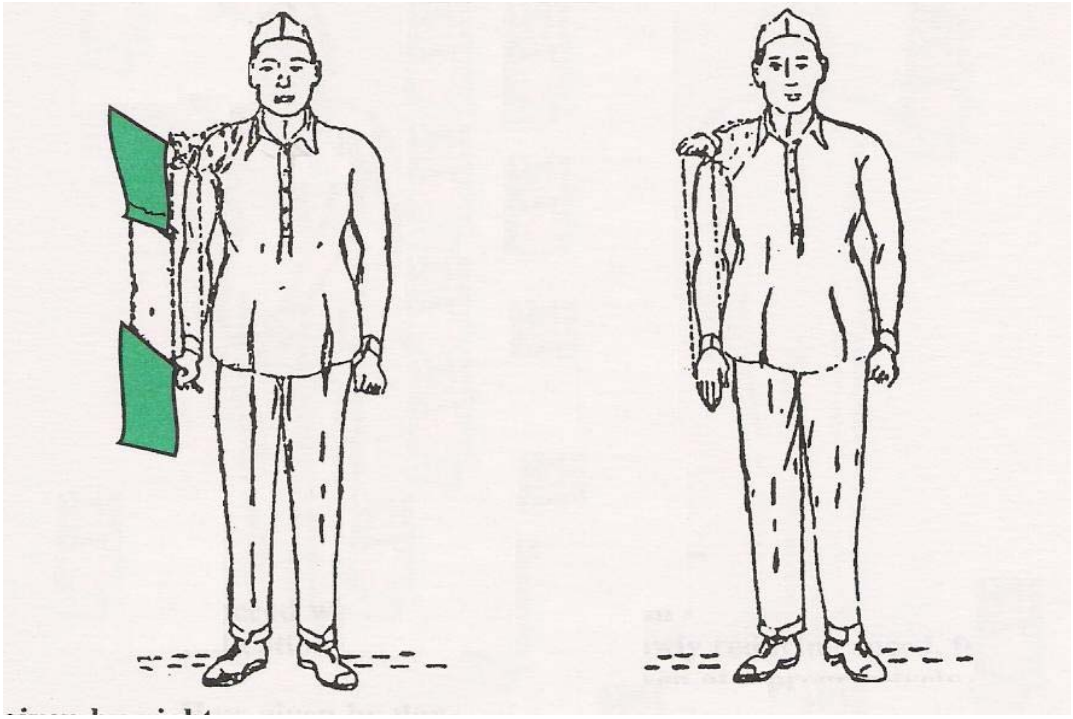
3.56. Hand signals for shunting—

The following hand signals shall be used in shunting operations in addition to the Stop hand signal:-

(a) Indication: **Move away from the person signaling**

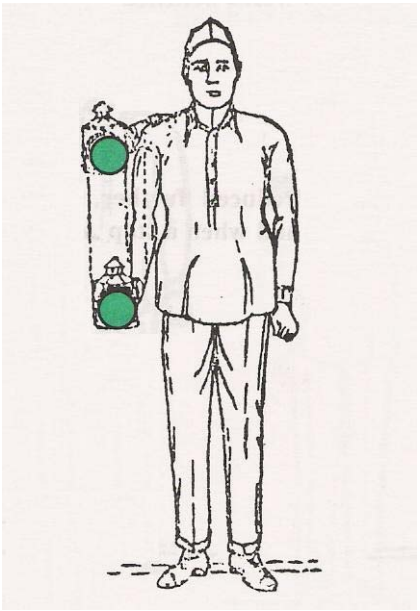
How given by day:

By a green flag or one arm moved slowly up and down as illustrated below:



How given by night:

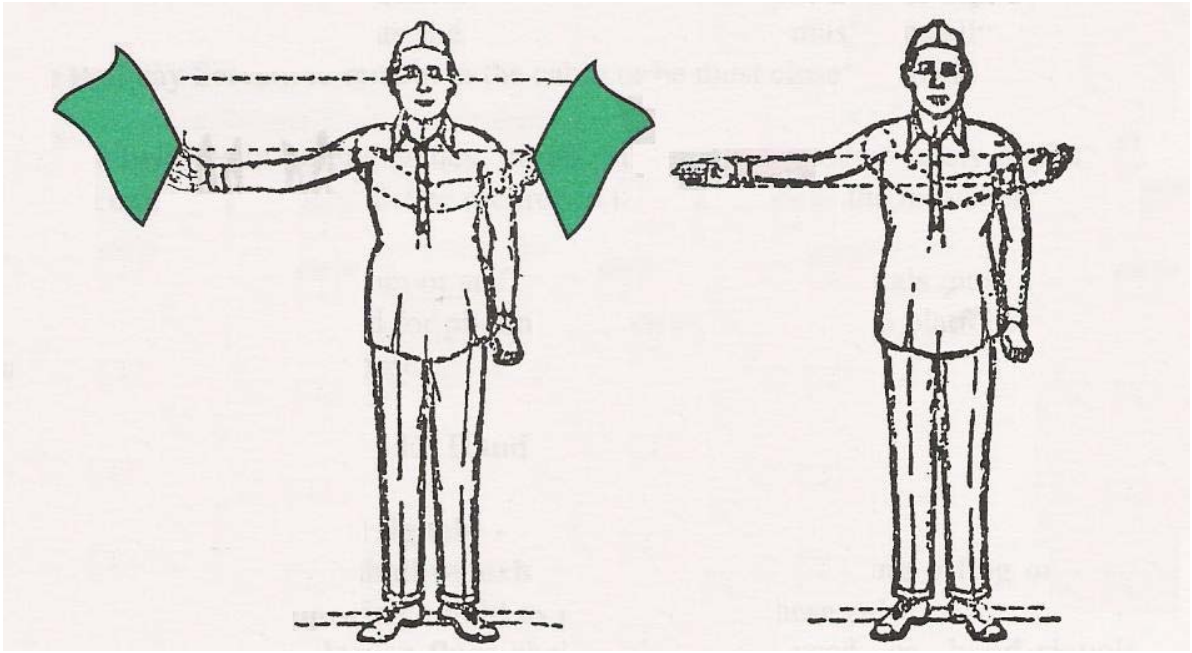
By a green light moved slowly up and down as illustrated below:



(b) Indication: **Move towards the person signaling**

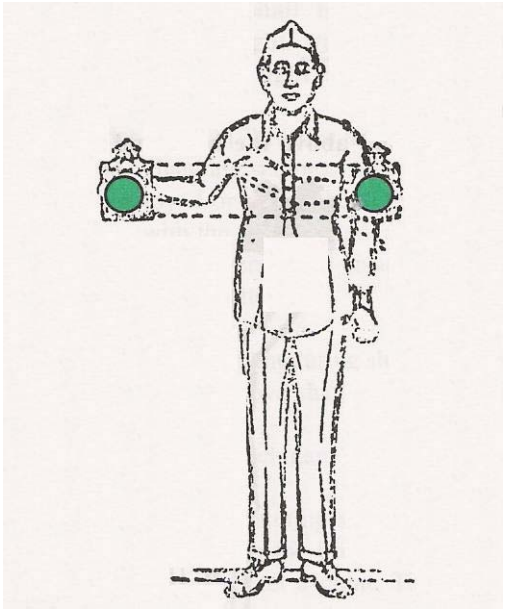
How given by day:

By a green flag or one arm moved from side to side across the body as illustrated below:



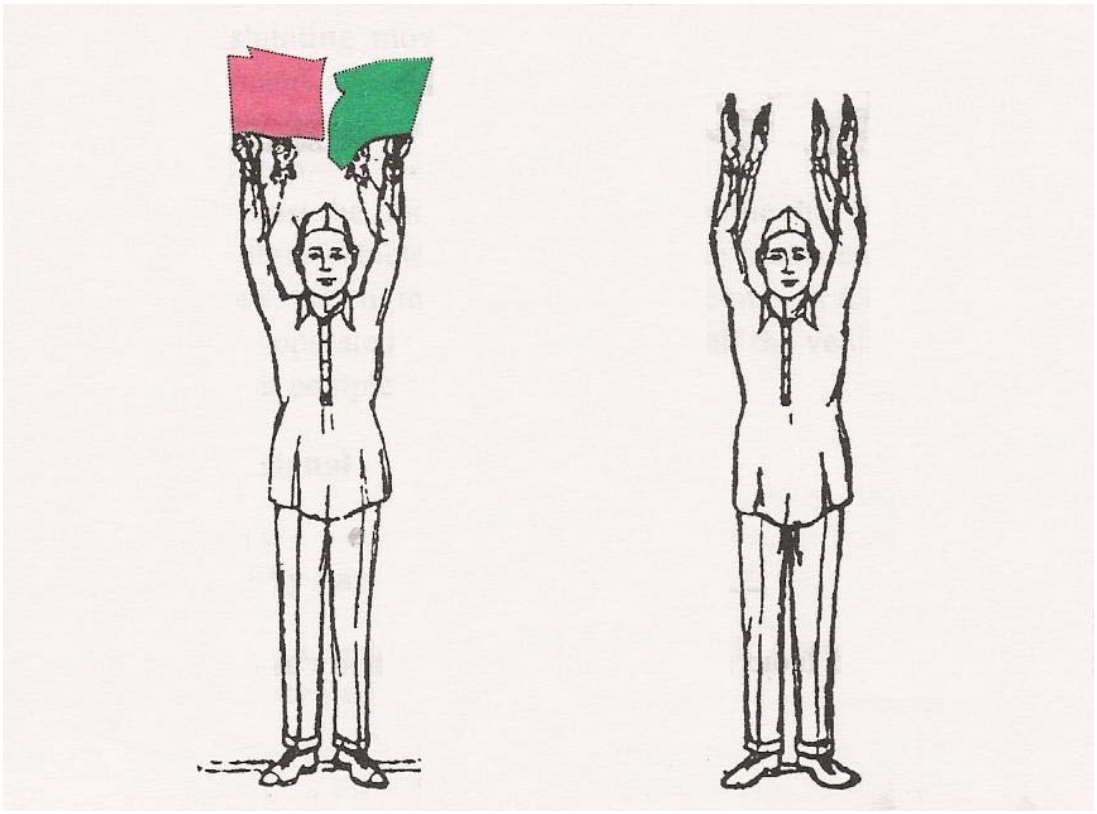
How given by night

By a green light moved from side to side across the body as illustrated below:



Note: **The hand signals for 'Move away from the person signalling' , and 'Move towards the person signalling' shall be displayed slower and slower, until the Stop hand signal is given, if it is desired to stop.**

(c) Indication: **Move slowly for coupling**

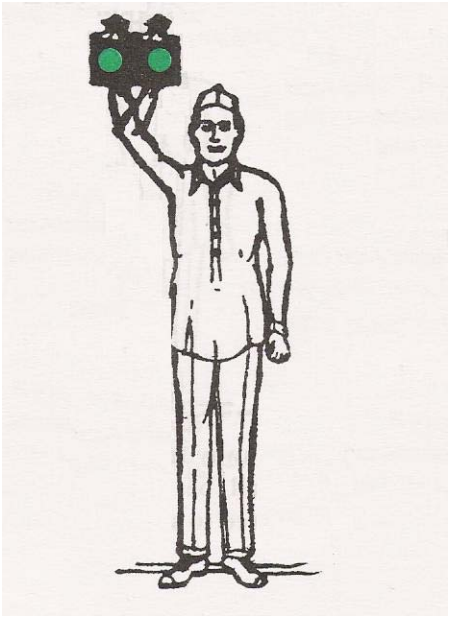


How given by day:

By a green and a red flag held above the head or both hands raised over the head and moved towards and away from each other as illustrated below:

How given by night:

By a green light held above the head and moved by twisting the wrist as illustrated below:



3.57 Banner flags—

A banner flag is a temporary fixed dangerous signal consisting of a red cloth supported at each end on a post and stretched across the line to which it refers.

S.R. 3.57. Banner flags shall not be less than 150 centimeters long and 45 centimeters wide. They shall be stretched across the track on poles not less than 1.5 meters high at an adequate distance from the spot, which they are intended to protect.

3.58. Knowledge and possession of hand signals—

(1) Every Railway servant connected with the movement of trains, shunting operations, maintenance of insulation and works of any nature affecting safety of trains shall have--

(a) A correct knowledge of hand signals and

(b) The requisite hand signals with him while on duty and keep them in good working order and ready for immediate use.

(2) Every Railway servant shall see that the staff under him concerned with use of hand signals are adequately supplied with all necessary equipment for hand signaling and have a correct knowledge of their use.

(3) A red flag and a green flag by day or a lamp, which is capable of showing red, green and white lights by night shall constitute the requisite equipment for hand signaling.

(4) Every Station Master shall see that his station is adequately supplied with all necessary equipments for hand signalling.

F. Detonating Signals

3.59 Description of detonating signals—

Detonating signals, otherwise known as detonators or fog signals, are appliances which are fixed on the rails and when an engine or vehicle passes over them, they explode with a loud report so as to attract the attention of the Loco Pilot.

3.60 Method of using Detonators—

(1) A detonator when required to be used shall be placed on the rail with a label or brand facing upwards and shall be fixed to the rail by bending the clasps around the head of the rail.

(2) In the case of a mixed gauge, detonators shall be placed on the common rail or on one rail of each gauge.

3.61 Placing of detonators in thick, foggy or tempestuous weather impairing visibility—

(1) In thick, foggy or tempestuous weather impairing visibility, whenever it is necessary to indicate to the Loco Pilot of an approaching train, the location of a signal, two detonators shall be placed on the line, by a Railway servant appointed by the Station Master in this behalf, about 10 meters apart, and atleast 270 meters outside the signal or signals concerned.

(2) (a) The Station Master may comply with the provisions of sub-rule (1) at his discretion but shall always do so when visibility conditions from any cause prevent him from seeing a prescribed visibility test object from a distance of not less than 180 meters or a lesser distance if expressly sanctioned by the Railway Board.

(b) The Visibility Test Object may be—

(i) a post erected for the purpose and lighted at night or

(ii) the arm by day and the light or the back light by night of a fixed semaphore signal specified by special instructions or

(iii) the light of a fixed colour light signal both by day and night specified by special instructions.

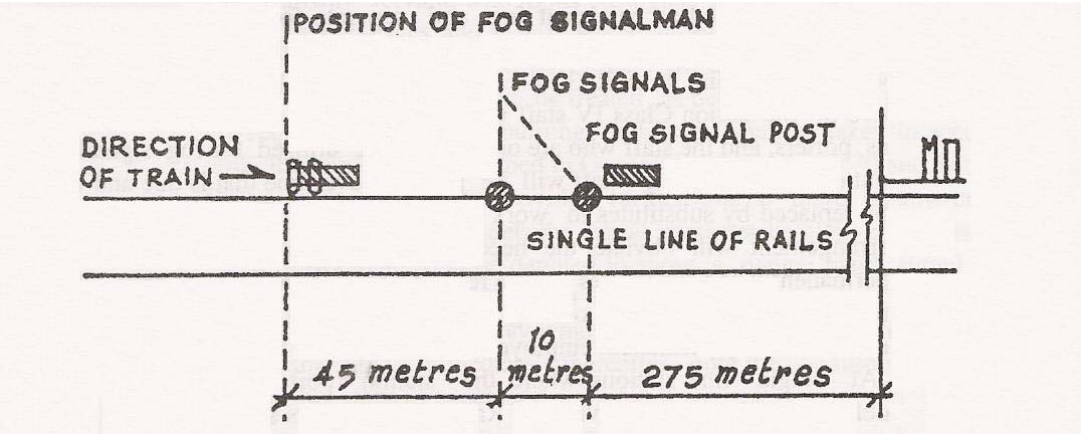
S.R. 3.61.1. The visibility test object (VTO) shall be specified in Station Working Rules.

2. Visibility Test Post (VTP) shall be provided at all stations, except Station Working Rules earmarked a particular signal or the light or the back light of a signal to serve as Visibility Test Object (VTO). For stations situated in localities where fog or dust storms or heavy rains are generally prevalent, such posts shall be provided separately.

3. Vsibility Test Post (VTP) shall be a post consisting of steel trough sleeper or wooden sleeper painted alternately black and yellow and illuminated during night. Having been fixed vertically in the ground not less than 180 meters (exact distance may be fixed to suite local conditions) from the centre of the Station Master's office at each end of the station. The fog signal post will consist of steel trough sleepers or wooden sleepers painted alternately black and white and fixed vertically in the ground.

4.1. In thick, foggy or tempestuous weather or dust-storms impairing visibility when station signals cannot be seen, the Station Master shall personally ensure that the station signals are lit and then send two trained men to act as detonator (fog) Signal men, one in either direction, to the fog signal posts which are erected at all stations 270 meters in rear of (i.e., outside) the outermost signal.
4.2. The Station Master before granting Line Clear should advise the Station Master in rear/Notice Station in rear, to caution the loco pilot about the poor visibility and the loco pilot should keep a sharp look out and suitably reduce the speed of the train and be prepared to stop at the First Stop Signal (FSS).
5. Each of these men shall be provided with 24 detonating (fog) signals or such lesser number as may be prescribed under special instructions. The fog signal man shall place two detonators on the centre of the head of the rail with the label or brand upwards which shall be securely fastened to the rail by bending the clasps round the upper flanges of the rail about ten meters apart from each other, which on explosion under the wheels of an engine, will warn the Loco Pilot of his proximity to the Outer, Warner or Distant of the station as the case may be.
6. After the passage of each train, over the detonating (fog) signals, which have been so placed on the rails, the fog signal man shall immediately replace them by two fresh detonators.
7. When a Railway servant has placed one or more detonators on the line, he shall withdraw beyond the safety radius of 45 meters from the detonators before they are exploded by an approaching engine or train. He shall be responsible for warning as far as circumstances permit, any person in the vicinity will stand beyond the safety radius. Staff in observing the safety radius of 45 meters shall place themselves as far as possible in rear of the locomotive, train or wagon passing over the detonators.
8. The fox signal man shall see that the Outer / Warner / Distant signal which has been taken off for a train to pass is replaced to danger / caution after the passage of the train. If after 5 minutes the signal has not returned to danger / caution, the fog signal man shall leave two detonators on the rail and inform the Cabinman concerned or if there is no cabin, the Assistant Station Master.
9. The position of the fog signal post, the fog signals and the fog signal man are shown in the diagram below:-

POSITION OF FOG SIGNALMAN



10. Each of the trained men sent out with detonating (fog) signals shall carry a lighted hand signal lamp. If the fog signal man is aware of any obstruction on the line, he shall show a Stop hand signal in accordance with Rule 3.53, in the direction in which a train is expected or approaching. On single line sections, for trains leaving a station, the fog signal man deputed to place detonators shall show to the Loco Pilot a proceed hand signal (PHS) in accordance with Rule 3.54.

11. As soon as it is necessary for the Station Master on duty to take action under S.R. 3.61.4, he will immediately call on duty, two of the station group 'D' staff who are off duty. The Station Master on duty, may either use the two men called from off duty or two of the men already on duty for the purpose of seeing, that signals are lit and for sending two men trained in fog signalling duties to either end of the station limits or he may utilize two trained gangmen detailed for the purpose by the PWI but in any event, the trained men sent out to the fog signal post shall be regular employees of the Railway and not substitutes.
12. A procedure in S.R.3.61.11 refers to the action to be taken by the Station Master on duty in an emergency. DRM will notify the names of stations at which fog prevails persistently. At each such station, four of the station group 'D' staff (or if this number is not available, it may be made up by one or a minimum of two gangmen for station being deputed by the PWI) shall be posted and detailed to act as fog signal men. All four men shall be fully trained in fog signalling duties and shall be regular employees of the Railway and not substitutes. These four men will be on intermittent duty, one on duty at each end of the station and two resting at the station, each performing three hours on duty and three hous off duty. No man is to be on duty as a fog signal man continuously for more than three hours at a stretch. Four employees detailed as fog signalmen will be replaced by the appointment of two or more group 'D' staff at the station and by one or two temporary men in the engineering gang from which the permanent men have been withdrawn.
12.1. At a double line station, if the fog appears for about seven days in a month, it should be treated as persistent fog and separate fog signal men should be appointed. If the fog is less than seven days in a month, the Station Master will act according to S.R. 3.61.11, i.e., he will immediately call out two of the Station group 'D' staff, who are off duty to work at the station as porters and the staff who are on duty will be utilized for fog signalling duties. The off duty staff will not be paid any overtime and will be replaced by Substitutes to work during their normal turn of duty. This arrangement will obviate the necessity of detaining fog signal man permanently and substitutes will be required for permanent staff only. When they are actually utilized for fog signalling duty, it should however, be noted that only permanent employees will be utilized on fog signalling duty.
12.2. At single line stations, where the station porters are required for delivering tokens also, the DRM should examine both the duration of fog and number of days in a month on which it appears and taking the overall work into consideration, determine whether special fog signalmen are required or not. If fog appears only on one or two days in a month and for short duration, it would obviously not be necessary to have separate fog signal men and the procedure stated in sub paragraph 12.1. above should be followed.
13. On branch lines or sections, on which the traffic is light, instead of a fog signal man remaining continuously on duty at each fog signal post, a fog signal man may be sent out to place detonating (fog) signals for each individual train. This preocedure may only be adopted under special instructions. In such cases, Line clear shall not be given for a train unless the fog signal man has been sent out atleast 30 minutes before the train is due to leave a station in rear.
14. A Station Master shall ensure that fresh supplies of detonators are sent to the men in replacement of those used.
15. A "Station Detonator Register" in the prescribed Form, (see Appendix VII) shall be maintained at each station and shall show the names of fog signal men on duty, periods of duty, the stock of detonators, the number of detonators sent out with each fog signal man, the number of each train under which detonators have been exploded and the number of unused detonators and used cases (including those which have failed to explode) returned each time by fog signal men to the Station Master.

16. The Station Master will obtain in the “Station Detonator Register”, the signature or thumb impression of all men deputed and / or proposed to his station as Detonator (fog) signal men as an acknowledgement that they understand the rules relating to the fog signalling of trains.
Instructions for detonator (fog) signalmen are contained in Appendix VII.
17. In thick, foggy or tempestuous weather or in dust-storm impairing visibility, the PWI or Permanent way gangmate shall promptly arrange for regular Gangmen to be deputed to place detonators on the rails 270 meters in rear of (i.e., outside) the outermost signal in each directilon when cautious driving is necessary due to repairs of the line or other works being in progress vide Rule 15.09.

3.62 Placing of detonators in case of obstruction—

(1) Whenever in consequence of an obstruction of a line, it is necessary for a Railway servant to stop approaching trains, he shall proceed plainly showing his Stop hand signal to a point 400 meters from the obstruction and place on the line one detonator and then proceed to a point 800 meters from the obstruction and place on the line three detonators, about 10 meters apart at such place;

Provided that on the broad gauge, the first detonator shall be placed at 600 meters and three detonators at 1200 meters from the obstruction about 10 meters from each other.

(2) If the said Railway servant is recalled before the obstruction is removed, he shall leave down three detonators and on his way back, pick up the intermediate detonator.

3.63 Replacement of detonators on the line—

Every Railway servant placing detonators on the line, shall see that they are when necessary, replaced immediately after a train has passed over them.

3.64 Knowledge and possession of detonators—

(a) All Station Masters, Guards, Loco Pilots, Gangmates, Gatemen and all other Railway servants on whom this duty is laid by the Railway Administration, shall keep a stock of detonators.

(b) The Railway Administration shall be responsible for the supply, renewal, periodical testing and safe custody of such detonators and for ensuring that their use is properly understood.

(2) Every Railway servant concerned with the use of detonators shall have a correct knowledge of their use and keep them ready for immediate use.

(3) Every Railway servant shall see that the Railway servants in his charge concerned with the use of detonators have a correct knowledge of their use.

S. R. 3.64.1 Stock of detonators

1.1. A case containing 10 detonators shall form part of the equipment, when on duty, of every Guard, of every Loco Pilot on the footplate, of every Gangmate, of every Gatemen, of every Bridge Guard, of every Cutting Guard, of every Patrolman and of every push trolly, motor trolly and lorry and 8 detonators for every Keyman.

1.2. The DRM shall prescribe the number of detonators which shall be kept in stock at station and the minimum number below which the stock shall not be allowed to fall.

1.3. The DRM shall prescribe the number of detonators which shall be kept in stock in each PWI's office and Running Sheds respectively and also the minimum number below which the stock shall not be allowed to fall.

1.4. Station Masters, Chief Crew Controllers (CCC) and PWIs are responsible for ensuring that the stock of detonators is never allowed to fall below the minimum.

2. Supply of Detonators.

2.1. Station Masters will supply detonators to Guards headquartered at their stations and to Gatemen working under their control.

2.2. PWIs shall supply detonators to Gangmates, Keymen, Gatemen (not covered in 2.1 above), Bridge Guards, Cutting Guards and Patrolmen.

2.3. CCC will supply detonators to Loco Pilots.

2.4. The users of push trolly, cycle / moped trolly, motor trolly, lorries shall arrange for the supply of detonators either direct from the DRM or through the Station Masters, PWIs or CCCs of their headquarter station, as may be convenient.

3. Storage of detonators.

3.1. Detonators shall be carefully handled as they are liable to explode if roughly handled.

3.2. Detonators shall be kept in tin cases specially supplied and they shall be stored in dry places and not left in contact with the brick walls, damp wood, chloride of lime or other disinfectants nor exposed to dampness or steam or other vapours.

3.3. The month and year of manufacture is shown on the label outside each case and is also stamped on each detonator. Detonators shall be used in the order of the dates stamped on them, those of the oldest date being always used first. To facilitate ready withdrawal in this sequence they should be stored also accordingly.

4. Use of detonators.

4.1. For use, a detonator shall be placed on the centre of the head of the rail with the label or brand of the detonator upwards and shall be securely fastened to the rail by bending the clasps attached with the detonators, round the upper flange of the rail.

4.2. Station Masters, CCCs and PWIs are responsible for ensuring that the detonators in possession of the Railway servants under them are tested as prescribed under the rules and that the staff know how and when to use them. For Gatemen within station limits, this responsibility will lie with the Station Master or Traffic Inspector of the section. Such staff as are expected to use the detonators should be tested once in three months by the Inspecting Officials and Senior Subordinates in regard to their knowledge of use of detonators.

4.3. Each Station Master, CCC and PWI will maintain a register of receipts, use and testing of detonators in respect of Railway staff to whom the detonators were issued by him.

5. Testing of Detonators.

5.1. At stations, Loco Sheds, etc., where stocks of detonating signals are kept for issue to Guards, Loco Pilots, Fog signalmen or other Railway servants, Station Masters, the CCC or other Railway persons in charge of such stock shall test at least one detonator from each tin case issued to the staff. The deficiency in each of these cases should be made up by a detonator or detonators from another tin case from which one detonator has been tested.

SIGNALS

5.2. Traffic Inspectors, Station Masters, CCCs and PWIs are responsible to ensure that the detonators in possession of Railway servants within their jurisdiction are tested once in 12 months.
5.3. The normal life of detonators is 7 years. The life of the detonators can be extended to 10 yeas on an yearly basis subject to the condition that two detonators from each lot of over 7 years old ones are tested for the explosive contents and the results being found satisfactory. Such time extended detonators can be used on all sections after satisfactory testing. In case the results are not satisfactory, they should be destroyed. In any case no detonator would be kept in use after 10 years.
5.4. Detonators bearing any sign of rust on the surface or appearing unsatisfactory in any way or those failing to explode during tests or in actual working shall be promptly returned to the issuing officer for replacement.
5.5. While testing detonators from a tin case, the one which is the oldest as regards the date of manufacture should be used.
5.6. Detonators shall be tested under an empty wagon moving at 8 to 11 KMPH. The empty wagon shall be propelled by electric locomotive. Tests shall not be carried out by an official lower in rank than a Traffic Inspector, PWI, Loco Inspector and CCC. Station Masters at Guard's headquarters station are, however, authorized to test detonators in their charge or issued by them. Care shall be taken to ensure that the test is not conducted in a crowded locality or near a level crossing where splinters from detonators may cause injury.
5.7. Excepting the crew of the locomotive employed in the test, no person shall be allowed to remain within a radius of 45 metres of the detonator which is being tested. The engine crew shall also keep themselves well within the cab while passing over the detonator. The official in-charge of the testing operation shall before commencement of the operation, be responsible for posting sufficient men to ensure that no person encroaches upon the 45 metres safety radius until the test is completed.
5.8. The staff shall, while observing the safety radius of 45 metres laid down in Para 5.7 above, place themselves as far as possible in rear of the locomotive or train or wagon passing over the detonators as it has been found in practice that splinters from detonators, seldom fly in a direction towards the rear of the wheel which explodes them.
5.9. A record of the number of detonators tested as also the results of test shall be maintained in a special register kept for the purpose at the place of testing.
5.10. After the test is completed, results of the tests shall be communicated to the issuing officer of the detonators, by the official conducting the test.
5.11 The staff in possession of the detonators shall not make any improper use of them.
6. Disposal of shelf-life completed detonators**.**
After completion of shelf-life, detonators shall be destroyed by one of the following methods:
1) By soaking them in light mineral oil for 48 hrs and then throwing them one by one into fire with due precautions.
2) By burning them in incinerator.
3) By detonating them under wagon during shunting operations.
4) By throwing them in deep sea.
The destruction of time-barred detonators should be done in the presence of Traffic Inspector / Station Master / PWI who should ensure that every care is taken to see that splinters of detonators do not cause any injury to life and property. They should not be buried or thrown in places from where they could be recovered.

G. Flare Signals

3.65 Description of flare signals—

A flare signal, which includes a fusee, emits a bright red flame when lighted and is used for warning the Loco Pilot of an approaching train of any obstruction.

S. R. 3.65. The fusee is about 228.6mm long and 21.83mm in diameter and weighs about 226 to 255 grams. The body is made up of paper tubing with nail 3mm diameter, fixed at one end of the tubing to be inserted to an upright staff. A fusee is an illuminating signal which emits a red flame about 101.6 mm in diameter and burns for about 7 minutes.

3.66 Use of flare signals—

When it becomes necessary to protect an obstruction in a block section, a flare signal may be used, as prescribed by special instructions, while the Railway servant proceeds to place detonators.

S.R. 3.66. A fusee is to be lit to give timely warning to the Loco Pilot of an approaching train of any obstruction, such as a derailed train obstructing the adjacent line or lines, a wash away, floods, land slide etc., when the Loco Pilot, Guard or Patrolman does not have adequate time to run forward and place detonators to protect the obstruction in the normal manner, as prescribed in G.R. 6.03 and the Subsidiary Rules there under. Besides fusees, detonators should also be placed on the lines as prescribed in the rules. The Loco Pilot of an approaching train on observing the bright red flame shall control the speed of his train and be prepared to stop short of any obstruction. The use of fusee can also be resorted to during daylight hours including dull or inclement or foggy weather, if it is felt that there is a possibility of focusing the attention of the Loco Pilot of the approaching trains more quickly by igniting the fusee than by showing a red flag. It is, however, made clear that fusees are not very effective in sunshine. It is particularly emphasized to use the fusees on sections having one or more parallel lines, whether of the same or different gauge, where the adjacent line is fouled.

3.67 Knowledge and possession of flare signals—

(1) (a) All concerned Railway servants on whom this duty is laid by the Railway Administration shall keep a stock of flare signals.

(b) The Railway Administration shall be responsible for the supply, renewal, periodical testing and safe custody of such flare signals and for ensuring that their use is properly understood.

(c) The Railway Administration shall supply every Guard, Loco Pilot and Patrolman working on the double or multiple line, ghat, suburban or Automatic Block territories with one fusee.

(d) The Railway Administration shall supply (i) every Gateman working on double or multiple line, ghat, suburban or Automatic Block territories with three fusees and (ii) every Gateman working on single line section with one fusee.

(2) Every Railway servant concerned with the use of flare signals shall have a correct knowledge of their use and keep them ready for immediate use.

(3) Every Railway servant shall see that the Railway servants in his charge concerned with the use of flare signals have a correct knowledge of their use.

S. R. 3.67.1.1. Fusees shall be supplied as personal stores to staff working on Ghat sections / Suburban sections / Automatic block sections (Single and Double Line) / Double line sections / Twin Single line sections / Multiple line sections of same or different Gauges and wherever tracks run parallel as per the following scale to the respective categories.

1.1.1. Loco Pilots, Guards, Track Machine Operators, Tower Wagon Drivers and Patrolmen – one Fusee each.

1.1.2. Gatemen - Three Fusees as part of the Gate equipment.

1.2. DRM shall prescribe the number of fusees which shall be kept in stock at station, running sheds, goods yards, PWI's offices and Traction repair depots / Track Machine Foreman office and specify the minimum number below which the stock shall not be allowed to fall.

1.3. Station Masters, CCC, PWIs and Track Machine Foremen are responsible to ensure that the stock of fusees is never allowed to fall below the minimum.

1.4. Station Masters shall supply one fusee in a tin case to Guards headquartered at their Stations. CCC shall supply one fusee in tin case to Loco pilots and PWIs shall supply one fusee in a tin case to Patrolmen and three fusees to Gatemen. Track Machine Foremen shall supply one fusee each to Track Machine Operators and Traction Foremen of Traction repair depots shall supply one fusee each to Tower Wagon Drivers.

Note:- Each fusee shall have a protective tin plate cap at the ends. The fusees with the protective caps and striker shall be kept in a sealed alkathene bag to avoid ingress of moisture and consequent deterioration when not in use.

2. Mode of lighting fusees - A quick and intelligent survey shall be made to select a site in the vicinity of the obstruction for fixing the fusees so that the signal flame could be clearly seen by the Loco Pilot of the approaching train from as great a distance as possible.The fusee can be very conveniently lighted in heavy rain provided the striker is not made damp before it is rubbed against match composition. If possible the fusee shall be lit under a cover e.g., an umbrella, but once having lit, it could be exposed head down to the rain. Directions for lighting the fusee are indicated on the printed label pasted on each fusee, which read as under —

2.1. Expose friction composition and scratch surface of cap by pulling up tape.

2.2. Hold fusee near base and rub / scratch surface or strike hard against the head of fusee.

2.3. If flame is not immediately visible pause before striking again.

2.4. Always point fusee away from face and body while igniting and while burning.

2.5. After igniting hold 5 seconds but not more than 10 seconds before dropping or fixing in position. After lighting the fusee as described above, it should be fixed to the staff, at an inclination with the head down and the staff fixed at a suitable position clear of any obstruction.

3. Storage –

3.1. The fusees shall be kept away from the fire.

3.2. The fusees shall not be stored in damp atmosphere after removing them from their wrapping.

3.3. They shall be stored in bulk in the boxes supplied for the purpose and kept securely. The issuing official shall count and keep a record of the number of fusees received and issued on each occasion, with full particulars.

3.4. The date and the year of manufacture of fusees shall be stenciled on every fusee as well as on the package.
3.5. When in the possession of Railway staff concerned for use in emergencies, care should be taken to protect them from moisture as the igniting and burning composition of the fusee are both hygroscopic and they deteriorate rapidly in moist weather conditions
4. Periodical test and replacements –
A representative fusee from the batches manufactured during a particular year should be tested annually during May at every station where they are stored in bulk and certificate issued to CSO / CE through proper channel. If the fusee is lighted without any difficulty and burns to its full length with a bright signal red flame for a duration of 5 to 7 minutes, the test should be considered successful. When the fusee fails to give the above results, two more fusees from the stock manufactured in the same year should be tested to determine their efficacy.
In case the tests are not successful, the whole stock of the particular year from the station where the test was carried out should be replaced. TrafficInspectors, CCCs and PWIs are responsible to ensure that the fusees are tested as required.
5. Life of fusees –
The normal life of a fusee is 7 years. Although this period has been given for general guidance, the fusees may be tried out in the manner prescribed even after the seventh year to see if they are serviceable and if found serviceable, may be used. They should be scrapped and destroyed, if found unserviceable, in accordance with para 6 below.
6. Destruction of fusees—
The unserviceable fusees should be collected at one area and destroyed by burning them over a coal fire taking care that not more than 3 fusees are put in the fire at one time, the tin caps at either end shall be removed before the fusee is burnt. The fire should be lit in a pit about 2 feet below ground.
7. Defective fusees—
Fusees which are over-aged (more than 7 years from the date of manufacture) or those failing to light or damaged in any way, shall be promptly replaced.

H. Defective fixed Signals and Points

3.68. Duties of Station Master generally when a signal is defective—

(1) As soon as a Station Master becomes aware that any signal has become defective or has ceased to work properly, he shall

(a) immediately arrange to place the signal at 'on' if it is not already in that position;

(b) depute competent Railway servants with such hand signals and detonators as may be required to give signals at the foot of the defective signal until he is satisfied that such signal has been put into proper working order;

(c) take action in accordance with Rules 3.69 and 3.70 as may be required for movement of trains past the defective signals and

(d) report the occurrence to the Railway servant responsible for the upkeep of the signals and if the section is controlled, the Controller also.

(2) When the Station Master receives information of any defect in a signal not pertaining to his station from the Loco Pilot or the Guard or any other Railway servant, he shall immediately inform the Station Master concerned of the fact and keep the Controller advised, where the section is controlled.

(3) In case of signals becoming defective at stations situated on Centralised Traffic Control territories, the Centralised Traffic Control Operator on becoming aware of such defects, shall take action in accordance with special instructions.

S. R. 3.68.1. Defective signals shall be lighted as usual. However, if the arm of the signal cannot be kept in the 'on' position, the light of the signal shall be kept extinguished.

2. As soon as the Station Master becomes aware that any signalling gear/block instrument at his station governing the movement of trains has become defective, irrespective of whether a Signal Maintainer is available round the clock or not, he shall immediately report such defect with complete particulars either in writing, personally or through control phone to the ESM and the Signal Inspector. A copy of the failure shall also be endorsed to the Signal Inspector in-charge, Traffic Inspector, DSTE, DSO, SCOR and other authorities as may be specified. He shall also make an entry in the S & T failure register. Only the written report from the Station Master shall be treated as the authority for the person attending to the defect to undertake this work.

3. Before, however, the work of attending to the reported defect is undertaken, the Signal Inspector or the ESM must issue a Disconnection Notice, where necessary and obtain the acknowledgement of the Station Master and take such other precautions as may be necessary in terms of G.R. 3.51 and 15.08 and the SRs there under, to ensure that while the reported defect is being attended to, no movement can take place over the affected portion without taking the precautions made in SR. 3.51.1, 2 and 3.

4. After the defect has been put right, Signal Maintainer issues Reconnection Notice, whereupon the Station Master should satisfy himself, if necessary by a demonstration. Thereafter, the Station Master and the person attending to the fault shall jointly issue a rectification message.

5. If at an interlocked station, a signal which detects points is defective, all the points detected by such a signal shall be treated as non-interlocked. The Station Master on duty shall be responsible for satisfying himself by personal inspection that such points are correctly set, clamped and padlocked before authorising movement of any train over them. He should not delegate this responsibility to any other member of the staff.

6. A blank signal under complete power off situation is to be treated as defective signal and instructions contained in G.R. 3.68, 3.69 and 3.70 should also be made applicable to the blank signal.

Note: See SR 3.49.1 and 2.

7. As soon as the Station Master becomes aware that the Stop signal (Reception/ Departure) got stuck up in 'off' position, he shall immediately do everything to put it back to 'on' position . When he fails to put it back to 'on' position, he shall report to SI / ESM, Station Master of rear station and Section Controller and an entry shall be made in the S&T failure register.

8. The Station Master shall take action as per the rules laid down in SR 3.69 and SR 3.70 as the case may be.

3.69 Duties of Station Master when an approach Stop signal is defective—

(1) In the event of an Outer or a Home or a Routing signal becoming defective, the Station Master shall advise the station in rear and the nominated station in rear, save in case where a signal post telephone or a Calling-on signal is provided on the defective signal, in order that the Loco Pilots of approaching trains may be warned of the defective signal and issued a written authority to pass such signal on receipt of Proceed hand signal at the foot of the defective signal.

(2) The Station Master in rear as referred to in sub-rule (1), on receiving the advice of the defective signal, shall immediately acknowledge it and advise the Station Master of the station where the signal has become defective, of the number of the first train which will be notified of the defective signal and again on receipt of the advice that the defective signal has been put into proper working order, shall advise the number of the train so notified last.

(3) The Station Master of the station where, the signal has become defective shall, before authorising a train to pass the defective signal, ensure that the conditions for taking 'off' that signal have been fulfilled. He shall then authorise the Loco Pilot to pass the defective signal at 'on' in one of the following manners.

***(a) When the Loco Pilot of an approaching train has been advised of the defective signal at station in rear*-- by deputing a competent Railway servant in uniform under clause (b) of sub-rule (1) of Rule 3.68, to exhibit Proceed hand signal at the foot of the defective signal to the approaching train. In such cases, the Station Master shall not give Line Clear to the station in rear unless the conditions for taking 'off' the signal which has become defective, have been complied with or**

(b) *When the Loco Pilot of an approaching train has not been advised of the defective signal at a station in rear*-- by having a written authority, authorising the Loco Pilot to pass the defective signal at 'on', delivered at the foot of the defective signal through a competent Railway servant or

(c) by taking 'off' the Calling-on signal where provided or

(d) by authorising the Loco Pilot to pass the defective signal at 'on' over the signal post telephone where provided, in accordance with special instructions.

(4) When the Home signal becomes defective, the Outer shall also be deemed to be out of order and the procedure prescribed in sub-rules (1), (2) and (3) shall be followed.

S. R 3.69.1. The procedure laid down in the Station Working Rules for reception of trains should, rigidly, be complied with even during failure of signals, if interlocking permits.

2.1. The station in rear or the nominated station in rear shall on being advised of a defective signal, notify the Loco Pilots by issuing T/369(1).

The description of the signal such as first loop Home, second loop Home, main Home etc., should be clearly indicated.

2.2. If T/369(1) is not issued by the station in rear, the train shall be brought to a stop in rear of the defective signal. A written authority T.369 (3b) should, then, be delivered to the Loco Pilot to pass the defective signal at 'on' in accordance with G.R.3.69(3b). The Loco Pilot should proceed at a speed not exceeding 15 kmph, only after observing the PHS exhibited at the foot of the defective signal by a competent Railway servant in uniform.

3. In the two aspect signalling territory, the Loco Pilot of a train, when notified of a defective Home signal by the station in rear, or the nominated station in rear may pass the Outer signal taken 'off' in conjunction with one of the Home signals in working order, at a restricted speed of 15 kmph.

4. When the Outer signal is defective, the Railway servant deputed at the foot of the Outer signal shall not deliver the written authority for passing the signal at 'on' or exhibit the PHS to the Loco Pilot, unless the relevant Home signal has been taken 'off' correctly. If the correct Home signal is not taken 'off', he should exhibit a Stop hand signal to the approaching train and stop the train at the Outer signal.

5. Resetting button for axle counters:

5.1.Once the *axle counter* has failed and is showing fault condition and when the train is being received on loop line, the *axle counter* shall be reset only after ensuring that the monitored portion is vacant.

5.2.The reset device should be operated by a key which should be kept locked in a separate box in Station Master's office.

5.3.Whenever it becomes necessary to operate the reset device, it should be done by the Station Master on duty along with one operating / S&T staff.

6. As soon as Station Master becomes aware that the reception Stop signal got stuck up in 'off' position, he shall immediately do everything to put it back to 'on' position. When he fails to put it back to 'on' position, he shall report to SI / ESM, Station Master of rear station and Section Controller and an entry shall be made in the S&T failure register.

7. The light of the signal shall be extinguished, if necessary by pasting paper on the glass of the signal or putting a cross .

8. Station Master shall depute a competent railway servant in uniform to show Stop hand signal at the foot of the signal that stuck up in 'off' position.

Note: The Stop signal stuck up in 'off' position shall be treated as to be at 'on' position because of:

(a) The light of the signal is extinguished or

(b) Paper is pasted / cross is put on glass of the signal and

(c) Stop (red) hand signal shall be exhibited at the foot of the signal.

9. Before granting Line Clear, conditions for granting Line Clear and conditions for taking 'off' signal that stuck up in 'off' position should be fulfilled.

10. For receiving the train, relevant points must be set, clamped and padlocked.

11. The Station Master of rear station shall give PLCT (T/C.1425 (up) / T/D. 1425 (dn) and T/369(1) for passing Stop signal of the station in advance, which stuck up in 'off' position.

12. The Loco Pilot shall stop at the signal and pass it duly observing the Proceed hand signal shown at the foot of the signal.

13. The competent railway servant shall continue to show Stop hand signal at the foot of the signal till the signal is brought back to 'on' position

3.70. Duties of Station Master when a departure Stop signal is defective—

(1) In the event of a Starter becoming defective, the Station Master may authorise the Loco Pilot to pass such signal by a written authority, which shall be handed over to the Loco Pilot at the station where the defective signal is located and in addition

thereto, a competent Railway servant shall show hand signals to the departing train in accordance with the instructions of the Station Master or by taking 'off' the Calling-on signal, if provided under sub-rule (2) of Rule 3.13, after the train has been brought to a stand at the defective signal.

(2) In the event of an Advanced Starter becoming defective, hand signals may be dispensed with and the Station Master may authorise the Loco Pilot to pass such signal by a written authority, which shall be handed over to the Loco Pilot at the station, where the defective signal is located:

Provided that in exceptional circumstances where, under approved special instruction, an Advanced Starter protects any points, hand signals shall not be dispensed with.

(3) For the purpose of handing over the written authority mentioned in sub-rules (1) and (2), the train shall be stopped at the station where the defective signal is located. The written authority to pass a defective departure Stop signal shall not be handed over to the Loco Pilot unless all the conditions for taking 'off' such signal have been fulfilled.

(4) Where under approved special instructions a Calling-on signal has been provided below a departure Stop signal, other than the last Stop signal, the Calling-on signal shall not be taken 'off', unless the conditions for taking 'off' the departure Stop signal above it have been fulfilled.

S.R. 3.70.1. If the last Stop signal is also the Outer for the station in advance, the written authority T/369 (3b) shall be issued by the Station Master only after personally satisfying himself that Line Clear has been obtained from the station in advance. The Station Master shall obtain permission of the Station Master at the other end, supported by a Private Number, to the effect that the train may be allowed to proceed to his station although the signal is not taken 'off'.

2. When leaving a station, if a train is brought to a stand after passing, partly or completely, the Starter or Advanced Starter at 'on', the Guard shall inform the Station Master. The Station Master shall after satisfying himself that everything is safe for the train to leave, issue a memo (countersigned by the Guard) to the Loco Pilot authorizing him to restart observing the departure signal ahead and take 'off' the signal which has not been passed; if there is no departure signal ahead, the Station Master shall issue a memo (countersigned by the Guard) to the Loco Pilot authorizing him to restart. The Station Master shall also issue to the Loco Pilot form T/369(3b) for the Starter arranging PHS at the signal or form T/369(3b) for the Advanced Starter, as the case may be, which has been passed partly. The Guard shall then restart the train.

Note:- See S.R. 3.68.5.

3. As soon as the Station Master becomes aware that the departure Stop signal got stuck up in 'off' position, he shall immediately do everything to put it back to 'on' position. When he fails to put it back to 'on' position, he shall report to SI / ESM, Station Master of advance station and Section Controller and an entry shall be made in the S&T failure register.

4. The light of the signal shall be extinguished, if necessary by pasting paper on glass of the signal or putting a cross.

5. Station Master shall depute a competent railway servant in uniform to show Stop hand signal at the foot of the signal that stuck up in 'off' position.

6. As far as possible, train shall be received other than the line for which departure signal got stuck up in 'off' position.
7. For despatching a train from the line where departure signal got stuck up in 'off' position, relevant points must be correctly set, clamped and padlocked.
8. Conditions for taking 'off' departure signal shall be fulfilled. In case of LSS getting stuck up in 'off' position, LC shall be obtained.
9. The Station Master shall issue PLCT and T/369(3b) as necessary.
10. A Competent Railway servant shall show Proceed hand signal if the signal is detecting points.
11. The Competent Railway servant shall continue to show 'Stop (red) hand signal' at the foot of the signal that stuck up in 'off' position, till the signal could be put back to 'on' position.

3.71. Warner or Distant signals defective in the 'off' position—

(1) (a) If a Warner signal on a post by itself or a Distant signal is out of order and cannot be kept in the 'on' position, a Stop hand signal shall be shown at the foot of the signal. At night, the light or lights of the signal shall be extinguished and the train after being brought to a stand, may then be hand-signalled past the signal. Advice of the defective signal shall be given to the Loco Pilot of trains at the station in rear warning them to stop at such signal.

If a Warner signal placed below a Stop signal becomes defective and cannot be kept in the 'on' position, the Stop signal above it shall be treated as defective and by night the light of the Warner signal shall be extinguished.

(2) If the Warner or Distant signal of an Intermediate Block Post is defective and cannot be kept in the 'on' position, the Intermediate Block Stop signal shall also be kept at 'on' and treated as defective and action taken as per Rule 3.75.

3.72. Warner not to be used when Stop signal is defective—

Whenever a Stop signal is defective or ceases to work properly at a station provided with Warners, the Warner applying to the line to which the defective Stop signal applies shall be kept at 'on' until the defective Stop signal is rectified.

3.73. Passing of a gate Stop signal at 'on'—

(1) When a Loco Pilot finds a gate Stop signal at 'on', he shall sound the prescribed code of whistle and bring his train to a stop in rear of the signal.

(2) (a) If the gate Stop signal is provided with a 'G' marker, the Loco Pilot shall wait at the signal for one minute by day and two minutes by night and if the signal is not taken 'off' within this period, he may draw his train ahead cautiously upto the level crossing and

(b) if the Gateman is available and exhibiting hand signals, proceed further past the gate cautiously or

(c) if the Gateman is not available or is available but not exhibiting hand signals, he shall stop short of the level crossing, where he shall then be hand signaled past the gate by the gateman, if there is one or in the absence of a gateman, by one of the members of the engine crew of the train after ascertaining that the gates are closed against the road traffic.

(3) If the Loco Pilot finds, after stopping at the signal, that there is no 'G' marker, he shall proceed further only in accordance with the procedure laid down under special instructions.

S.R.3.73.1. If the Gateman is absent, the train shall be hand-signaled past the gate by one of the crew members of the train after ensuring that the gates are closed and locked against road traffic. Thereafter, the gate shall be re-opened for road traffic.

2. When the Gateman is not found at the gate, the Loco Pilot of the first train will stop out of course at the next station and report the absence of the Gateman to the Station Master.

3. When a level crossing is located between the Home signal and the Distant signal at a station equipped with manually operated multiple aspect signals, the gate-cum-Distant signal shall be located at a distance of not less than 180 metres in rear of the gate. This signal shall be provided with a 'G' marker. A gate Distant signal shall also be located at an adequate distance in rear of the gate-cum-Distant signal.

3.74. Absence of a fixed signal or a signal without a light—

(1) (a) If there is no fixed signal at a place where a fixed signal is ordinarily shown or

(b) if the light of a signal is not burning when it should or

(c) if a white light is shown in place of a colour light or

(d) if the aspect of signal is misleading or imperfectly shown or

(e) if more than one aspect is displayed, the Loco Pilot shall act as if the signal was showing its most restrictive aspect:

Provided that during night, if in the case of a semaphore Stop signal for approaching trains only, the Loco Pilot finds the signal light is extinguished, he shall bring his train to a stop at such signal. If he finds that the day aspect of such signal is clearly visible and is satisfied that the signal is in the 'off' position, he shall proceed past it up to the station cautiously at a restricted speed obeying all intermediate Stop signals, if any, relating to him and report the matter to the Station Master for necessary action.

(2) At stations equipped with a colour light signal provided with a 'P' marker, the Loco Pilot shall bring his train to a stand if it does not show any light or shows an imperfect aspect and having satisfied himself that the signal is provided with a 'P' marker, shall proceed preparing to stop at the next Stop signal and shall be guided further by its aspect.

S.R.3.74 When a Loco Pilot comes across a signal which is flickering/bobbing, he should consider that signal to be showing the most restrictive aspect and bring his train to a stop short of it. If the signal assumes a steady aspect and remains steady for 60 seconds, he should take further action according to the steady aspect shown. If, however, the signal continues to flicker/bob and does not assume a steady aspect for 60 seconds, he should treat the signal as defective and take further action accordingly. If

the signal shows more than one aspect simultaneously, it should also be treated as defective in case of a manual Stop signal. However, in case of an automatic signal showing more than one aspect simultaneously, the most restrictive aspect should be obeyed.

3.75. Passing of Intermediate Block Stop signal at 'on'—

(1) When a Loco Pilot finds an Intermediate Block Stop signal at 'on', he shall stop his train in rear of the signal and contact the Station Master of the block station in rear on the telephone, if provided on the signal post.

(2) The Station Master shall authorise the Loco Pilot to pass the Intermediate Block Stop signal, if defective, as prescribed by special instructions.

(3) If the telephone is not provided or is out of order, the Loco Pilot after waiting for 5 minutes at the signal shall pass it at 'on' and proceed cautiously and be prepared to stop short of any obstruction, at a speed not exceeding 15 kilometres an hour if he has a good view of the line ahead, otherwise at a speed not exceeding 8 kilometres an hour and report the failure to the Station Master at the block station ahead.

(4) The Station Master of the block station working the Intermediate Block Stop signal on becoming aware that such a signal is defective shall, before despatching a train, treat the entire section up to the block station immediately ahead of the Intermediate Block Post as one block section and issue a written authority to the Loco Pilot to pass the defective Intermediate Block Stop signal at 'on', without stopping at the signal, in accordance with the procedure prescribed by special instructions.

S.R.3.75.1. The Loco Pilot of a train shall not pass an Intermediate Block Stop signal that refers to him when it is at 'on' or defective unless-

1.1. he is authorised to do so by a written authority (T/369(3b) by the Staion Master of the station in rear at the time of leaving that station or

1.2. he is authorised by the Station Master of the block station in rear on the telephone provided on the signal post.

2. When the Station Master of the block station immediately in rear of an IB Post is aware that the IB signal is defective, he shall, before despatching a train, obtain Line Clear from the block station in advance and then issue to the Loco Pilot, the PLCT (T/C.1425 (up) / T.D.1425 (dn) as authority to proceed and a written authority T/369(3b) to pass the IBS signal at 'on'.

3. The Station Master of the block station in advance shall not grant Line Clear until the block section in rear is clear of an approaching train.

4.When a Loco Pilot finds an IBS at 'on', he shall stop his train in rear of it and contact the Station Master of the station in rear on the telephone provided on the signal post. The Station Master shall authorise the Loco Pilot to pass the IB signal by giving the Loco Pilot a Private Number to pass the signal at 'on', after ensuring that Line Clear has been obtained for the train from the station in advance. The Private Number shall be the same Private Number obtained from the station ahead for Line Clear. The Loco Pilot shall record this Private Number in the Loco Pilot's memo book.

If the telephone is out of order, the Loco Pilot shall, after waiting for 5 (five) minutes at the signal, pass it in the 'on' position and proceed cautiously at a speed not exceeding 15 KMPH when the view ahead is clear and at a speed not exceeding 8 KMPH when the

view ahead is not clear, up to the FSS of the station ahead even if it is at 'off' and be prepared to stop short of any obstruction. The Loco Pilot must report the failure to the Station Master at the block station ahead.

5. If the block instruments provided at the stations on either side of an IB post or the LSS of the station in rear of the IB post, or the *track circuiting* or the *axle counters* beyond the LSS fails, the IBS shall be deemed to be defective and the procedure laid down in para 2 shall be adhered to.

6. The detailed procedure to be followed in the event of failure of 'axle counters' and the IB signal shall be incorporated in the Station Working Rules of the station concerned.

6.1. Backing a train, after clearing an IBS, is normally prohibited.

6.2. If backing is to be done in an emergency, the Loco Pilot or Guard must talk to the controlling Station Master through the telephone and get his specific approval. The Loco Pilot and Guard must also confirm the step of backing between themselves.

6.3. The controlling Station Master must not permit backing if a subsequent train has been permitted to enter the IB section from his end.

6.4. While backing, the Guard must travel in the brake-van (last vehicle of the train) keeping a sharp look out and ready to display a danger signal to the Loco Pilot if the backing is to be stopped.

6.5. The speed shall not exceed 25 KMPH under clear sighting conditions and 8 KMPH when visibility is poor.

6.6. If the IB post telephone is out of order, the Guard should walk back to the block station in rear to get the Station Master's approval for the backing.

7. The Loco Pilot/Motorman of MEMU /EMU is permitted to leave the engine to speak to Station Master of the rear station through IB signal post telephone when IB signal is at 'on' after taking the following precautions:

7.1. Apply auto brakes from leading motor coach and physically ensure that train brakes are applied.

7.2 Advise Guard on Walkie-talkie to place wooden wedges under the wheels according to the direction of falling gradient to avoid rolling down and get confirmation from the Guard.

7.3 Extract brake isolation valve(BIV) key, reverser (MPJ) key and BL key

7.4. The Guard should not leave cab and he should be allowed to apply brakes if required. When Loco Pilot/Motorman returns to cab after speaking to the Station Master of rear station through IB signal post telephone, he shall insert BL key, BIV key and MPJ key and inform Guard on walkie-talkie to remove wooden wedges and after getting confirmation about removal of wooden wedges, will release auto brakes.

3.76. Intimation to officials when defects remedied—

As soon as a defective signal has been put into good working order, the Station Master shall intimate the fact to the officials who were advised of its being defective.

3.77. Defective or damaged points etc—

(1) Whenever points, crossings or guard rails are defective or damaged, the Railway servant in charge of operation of points shall protect them and immediately arrange to report the circumstances to the Station Master.

(2) The Station Master, on becoming aware of such defective or damaged points etc., shall -

(a) immediately arrange to have the defect rectified by the Railway servant responsible for their maintenance,

(b) arrange to ensure the safe passage of trains and

(c) keep the signal or signals concerned at 'on' until the defect is rectified.

S.R. 3.77.1. The Railway servant noticing any damage to points shall immediately attract the attention of the Station Master by waving a Stop hand signal and also show Stop hand signal towards any approaching train. He shall not leave the points unless necessary precautions have been taken by the Station Master for any movement over such points.

2. Whenever a train trails through wrongly set points, the Loco Pilot shall, immediately bring his train to a stand, consult the Guard and the Station Master and then proceed onward only if he is satisfied that the train can pass safely over the points without any accident. Under no circumstances should a train be backed over the trailed through points.

3.78. Duties of engine crew in respect of signals—

(1) (a) The Loco Pilot shall pay immediate attention to and obey every signal whether the cause of the signal being shown is known to him or not.

(b) He shall not, however, trust entirely to signals, but always be vigilant and cautious.

(2) (i) When his engine explodes a detonator or when he notices a flare signal burning, he shall immediately bring his train to a stop and be guided by the signals that he may receive or if no hand signal or other signals are at once visible to him,

(ii) In thick, foggy or tempestuous weather impairing visibility when his engine explodes 2 detonators within a distance of 10 metres apart , the Loco Pilot will control his train immediately and will follow the aspect of the fixed signal ahead within a distance of 270 metres.

(iii) When Loco Pilot explodes 3 detonators within a distance of 40 meters, he should control his train and move cautiously to stop short of any obstruction and be guided by the signal that he may receive and/or if no hand signal or other hand signals are at once visible to him he will follow the procedure as given in para v, vi and vii.

(iv) If it is day and he has a clear view of the line ahead, proceed very cautiously at such speed as will enable him to stop short of any obstruction.

(v) If it is day and the view of the line is not clear or if it is night or if the visibility is impaired on any account, proceed very cautiously on hand signals given by a member of the engine crew or the Guard who shall walk ahead of the train for this purpose.

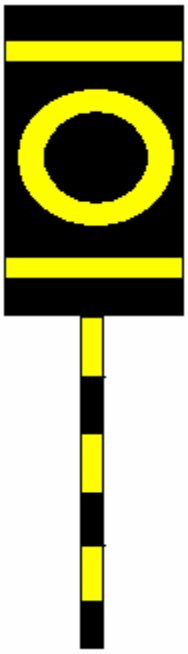
(vi) After proceeding 1.5 kilometres from the place where the explosion occurred or where flare signal was burning, if he does not explode any more detonators or sees no other signals, he may then resume authorised speed and

(vii) report the incident to the next station or cabin.

(3) If in consequence of fog or storm or for any other reason, the view of the signals is obstructed, the Loco Pilots shall take every possible precaution, so as to have the train well under control.

(4) A Loco Pilot shall acquaint himself with the system of working, location of signals and other local conditions affecting the running of trains on a section or sections of the Railway over which he is to work and if he is not so acquainted with any portion of the Railway over which he is to work, obtain the services of a qualified Railway servant who is conversant with it to assist him.

S R 3.78.1. Signal warning boards in rear of FSS of station and gate Stop signal is provided at a minimum distance of 1400 metres, normally on the left side of the line to which it refers. However, the board is not required to be provided in rear of the Stop signal where second Distant signal is provided. The object of providing this Warning Board is to give the Loco Pilot adequate pre-warning that he is approaching a Stop signal. The warning board shall have a circle painted in yellow in between two horizontal yellow bands against black back ground as per the diagram given below:



The Loco Pilot shall clearly understand that if no signal indication is available from the Warning Board he should control the speed of the train as if the Stop signal ahead is at 'on' so that he can stop short of the Stop signal, should it be at 'on' position. On getting the indication of the Stop signal either by itself or through the Distant or Warner signal, he shall act in accordance with the indication of the signals.

2.1. Every Loco Pilot should be given three trips for familiarising himself with the section(s) on which he is rostered for duty.

2.2. If a Loco Pilot has not operated on a section for over 3 months, he should be given road learning trips as per the schedule given below.

Duration of absence	*Number of trips*
3 to 6 months	1
6 months to 2 years	2
Over 2 years	3 (as for new entrants)

Any additional trip/s considered necessary should be provided with the approval of the controlling branch officers of the Division.

2.3. The scales of trips provided at para 2.1 above would apply to all systems of working.

2.4. On Hill and Ghat sections, the Loco Pilot shall operate minimum of 6 (six) trips for learning road purposes.

2.5. Additional trips for road learning may be prescribed for special conditions of working like Automatic block territory, important junctions/stations etc., by DRM if considered necessary.

3.79. Duties of Loco Pilot in respect of Calling-on signal—

The Loco Pilot of a train shall be guided always by the indication of the Stop signal below which the Calling-on signal is fixed. If this Stop signal is at 'on', he shall bring his train to a stop. If he finds that the Calling-on signal is taken 'off', he shall, after bringing his train to a stop, draw ahead with caution and be prepared to stop short of any obstruction.

SR. 3.79. Maximum speed of the train moving ahead, on Calling - on signal being taken 'off', shall be 30 kmph.

3.80. Duties of Loco Pilot when an approach Stop signal is 'on' or defective—

(1) The Loco Pilot of a train shall not pass an Outer, a Home or a Routing signal that refers to him, when it is 'on' or defective, unless-

(a) he has, at a previous station, received notice in writing specifying that the signal is out of order and unless he also receives a Proceed hand signal from a Railway servant in uniform at the foot of such signal or

(b) after coming to a stand, he is either given a written authority by the Station Master to proceed past such signal or is authorised by a Calling-on signal in the 'off' position or is authorised by the Station Master over the signal post telephone in accordance with special instructions.

(2) The Loco Pilot of a train while passing an Outer, a Home or a Routing signal, when it is 'on' or defective, shall ensure that the speed of his train does not exceed 15 kilometers an hour.

3.81 Duties of Loco Pilot when a departure Stop signal is 'on' or defective—

(1) The Loco Pilot of a train shall not pass a departure Stop signal that refers to him, when it is 'on' or defective, unless his train has been brought to a stop at the station where the defective signal is situated and he is authorised to do so —

(a) by a written permission from the Station Master, in addition, in the case of a Starter or Advanced Starter protecting points, he shall not pass such signals, when 'on' or defective, unless he also receives a proceed hand signal from a duly authorized member of the station staff posted at the signal, or

(b) by taking 'off' the Calling-on signal, if provided under approved special instructions, vide sub-rule (2) of Rule 3.13.

(2) In the case of a last Stop signal, he shall not pass such signal, when 'on' or defective, unless he is also in possession of a proper authority to proceed under the system of working.

3.82. Permission before entering on or crossing a running line—
No Loco Pilot shall take his engine on or across any running line until he has obtained the permission of the Station Master and has satisfied himself that all the correct signals have been shown.
S.R.3.82. The permission of the Station Master shall be conveyed by taking 'off' of the relevant fixed signals or in the absence of fixed signals by hand signals exhibited by the authorised staff.

3.83. Assistance of the engine crew regarding signals—

(1) The Loco Pilot or Assistant Loco Pilot, as the case may be, shall identify each signal affecting the movement of the train as soon as it becomes visible. They shall call out the aspects of the signals to each other.

(2) The Assistant Loco Pilot shall, when not otherwise engaged, assist the Loco Pilot in exchanging signals as required.

(3) The Provisions of sub-rules (1) and (2) shall, in no way, absolve the Loco Pilot of his responsibility in respect of observance of and compliance with the signals.

3.84. Duties of Loco Pilots as to signals when two or more engines are attached to a train—
When two or more engines are attached to a train, the Loco Pilot of the leading engine shall be responsible for the observance of and compliance with the signals and the Loco Pilot or Loco Pilots of other engine or engines shall watch for and take signals from the Loco Pilot of the leading engine, except in cases where special instructions are issued to the contrary.
S.R. 3.84.1. Whenever trains are double-headed, the Loco Pilot of the leading engine shall invariably sound his whistle and the rear engine Loco Pilot after acknowledging, start his engine and then the leading engine Loco Pilot start his engine.
2. The Loco Pilot of the leading engine shall be in charge of the train, and will observe that the correct signals are taken 'off' for his train and receive the authority to proceed, starting permit and Caution Orders when issued. The second Loco Pilot should, however, satisfy himself that everything is in order and correct signals are given. The leading Loco Pilot should satisfy himself that the other Loco Pilot had noted the Caution Orders.
3.1. When a second leading engine is employed to pull a train (and not a banking engine pushing it), the Loco Pilot of the leading engine shall be held responsible for the working of the automatic vacuum/air brake. The Loco Pilot of the second engine shall, however, in case of emergency assist in stopping or reducing the speed of the train by applying the automatic vacuum/air brake or hand brake as may be required, but he shall not maintain or re-create vacuum.
3.2. When additional engine (s) are employed to push a train, the Loco Pilots of these engines shall not interfere with the working of the vacuum/air brake which shall be under the control of the leading engine Loco Pilot as laid down in clause 3.1 above, except in cases of a run back, when the Loco Pilot of the rearmost assisting engine automatically becomes the leading Loco Pilot.

3.3. The Loco Pilots of all additional engines shall, at all times, keep the handle or the vacuum ejector in the running position and the small ejectors shall be closed.

Note:- In the case of goods trains, the small ejector may be opened if required to maintain the prescribed vacuum when this cannot be maintained by the train engine alone but in the circumstances the large ejector shall be put in 'off' position.

3.85. Reporting of defects in signals—

(1) Should a Loco Pilot or a Guard observe that a signal is rendered imperfectly visible by branches of trees or by any other cause, or that a signal light is partially obscured or not burning brightly enough to give a clear aspect, he shall report the matter to the Station Master at the next station at which the train stops.

(2) When such a report is made by a Loco Pilot or a Guard, the Station Master shall take immediate steps to advise the Station Master concerned who shall get it rectified.