#### 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.

- S.R.3.01 (i) (a) "Aspect of a signal" means the appearance (position of arm or colour of light) of a fixed signal as seen by the Loco Pilot of a train approaching it from the direction (Up or Down) to which it refers.
- (b) "Indication of a signal" means the information or meaning conveyed by the aspect of a signal.
- (c) "In rear of a signal" means any position on that portion of the line leading upto the signal, in the direction to which the signal refers to the line. The Loco Pilot of a train approaching the signal is said to be "in rear of the signal", so long as he has not passed the signal.
- (d) "In advance of a signal" means any position on that portion of the line beyond the signal, as viewed from the direction in which the signal refers to the line. The Loco Pilot of an approaching train is said to be "in advance of the signal", after he has passed the signal. This portion of the line is protected by the signal, if it is a Stop signal.

#### 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.
- S.R. 3.02(i) A fixed signal is said to be at "on" when it displays its most restrictive aspect and at "off" when it displays any prescribed aspect other than its most restrictive aspect

#### 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 GRS Page 15

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.

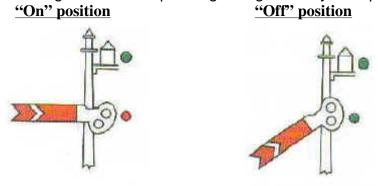
Note: - In the illustrations given in this Chapter, which are not drawn to scale, the day aspect of the semaphore signal is shown by the position of the arm and the night aspect is shown by the light or lights to the right of the signal concerned.

- (3) The aspects of a colour light and position light signal both by day and by 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 signalling.
- (5) The "off" position of a semaphore signal shall be displayed by day by the inclined position of the arm from  $45^{\circ}$  to  $60^{\circ}$  below the horizontal in case of two-aspect lower quadrant *GRS Page 16*

signals, and  $45^0$  or  $90^0$  above the horizontal in case of multiple-aspect upper quadrant signals.

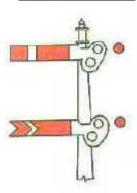
#### 3.06. Description of Warner signals and their indications.

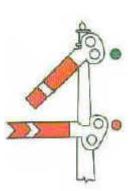
- (1) A semaphore Warner signal has a fish-tailed arm.
- (2) A Warner signal is intended to warn a Loco Pilot-
  - (a) of the condition of the block section ahead, or
  - (b) that he is approaching a Stop signal.
- (3) A Warner signal may be placed either-
  - (a) on a post by itself with a fixed green 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



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

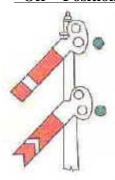
(b) <u>Semaphore Warner signal in Two-Aspect Signalling Territory-below a Stop signal</u>
"On" Position
"Off" Position





ASPECT	Stop	Proceed with caution
INDICATION	I Sion dead	Proceed with caution and be prepared to stop at the next stop signal.

#### "Off" Position



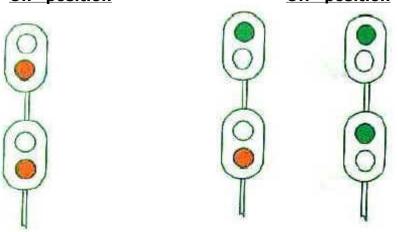
ASPECT	Proceed
INDICATION	Proceed

- (6) The aspects and indications of a colour light Warner signal are shown below: **GRS Page 18**
- (a) Colour light Warner signal in Two-Aspect Signalling Territory-on a post by itself
  "On" Position
  "Off" Position



ASPECT		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	

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Note: - The "Proceed" aspect of a Warner which works in relation to the first Stop signal signifies that the block section ahead is clear.

(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 prewarns:

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

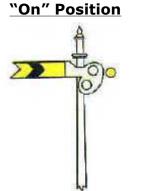
and the First Stop signal of the station ahead. The adequate distance in such a case shall never be less than 1200 metres.

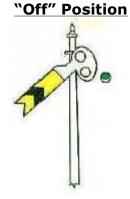
(8) Where special circumstances justify the use of an unworked Warner, it shall be secured in the "On" position and not be coupled or duplicated for directing purposes.

#### 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





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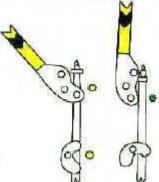
ASPECT	Caution	Proceed
INDICATION	Proceed and be prepared to stop at next stop signal	Proceed

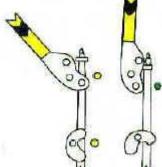
Note. - This signal shall be provided only in Modified Lower Quadrant signalling. N.B. - Modified Lower Quadrant signalling is not in force on Southern Railway.

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

Note: - The distance between the two yellow lights shall be 1.5 metres when this signal displays `Attention' aspect at night.

(4) The aspects and indications of a colour light Distant signal are shown below: GRS Page 21

Colour light Distant signal in Multiple-Aspect Signalling Territory

'On" position	"Off" position
0	
0	
	ĨĨ

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.
- GR.3.07(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 light Distant signal is combined with the last Stop signal of the station in rear or with a Stop signal protecting a level crossing, arrangements 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 *GRS Page 22*

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(i) The Distant Signal referred in GR.3.07(6) shall be fixed at a distance of 2000 Metres in rear of First Stop Signal/Gate Stop Signal.

To identify the Distant Signal and inner Distant Signal `D' and `ID' letter will be prefixed to the number of the signal.

#### 3.08. Description of Stop signals and their indications. -

- (1) A semaphore Stop signal has a Square ended arm.
- (2) The aspects and indications of a semaphore Stop signal working in the lower quadrant are shown below: -

Semaphore Stop signal in Two-Aspect Signalling Territory

# "ON" Position





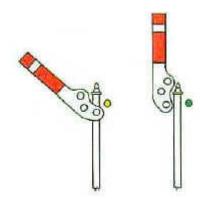
ASPECT	Stop	Proceed
INDICATION	Stop dead	Proceed

(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 next Stop signal	Proceed

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(4) The aspects and indications of a colour light Stop signal are shown below: 
(a) Colour light Stop signal in Two-Aspect Signalling Territory

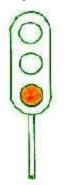
"On" position

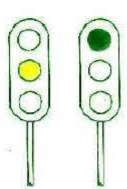
"Off" position



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 next Stop signal	Proceed

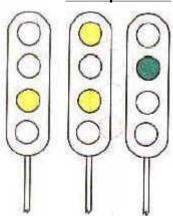
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(c) Colour light Stop signal in Multiple Four-Aspect Signalling Territory

"On" position

"Off" position



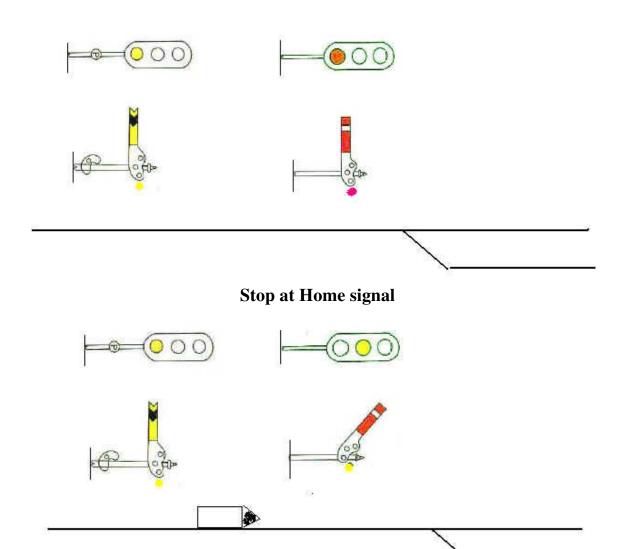


ASPECT	Stop	Caution	Attention	Proceed
INDICATION	Stop dead	Proceed and be prepared to stop at the next stop signal	Proceed and be prepared to pass next signal at such restricted as may be prescribed by special instructions.	Proceed

Note. - The aspects of colour light Stop signals in Two-Aspect and Multiple Three-Aspect Signalling Territory shall be the same as the night aspects of the semaphore Stop signals described above. Colour light Stop signals in Multiple Four-Aspect Signalling Territory are designed to display "Attention" aspect also.

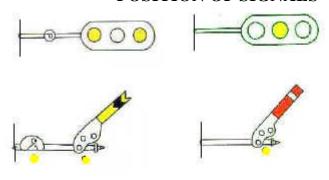
S.R. 3.08(i) The following diagrams illustrate the speed limits indicated by the various combinations of aspects of Distant and Home signals at stations equipped with semaphore or colour light signal.

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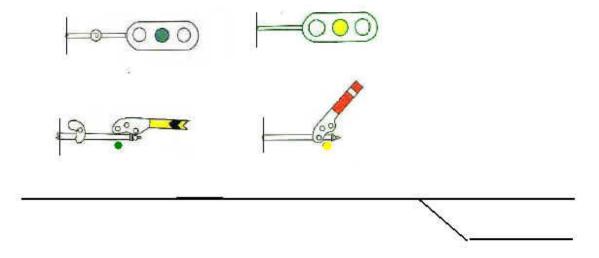


Aspect	Set for	Maximum speed over facing points
Stopped at Home signal out of course and subsequently operates to caution aspect. Be prepared to stop at proper berthing place at the station.	Either Main line or Loop line.	15 KMPH

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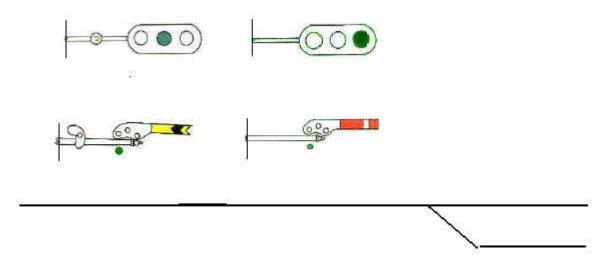
Aspect	Set for	Maximum points	speed	over	facing
Be prepared to stop at the Starter signal, if provided, or at the proper berthing place at the station.	Either Main line or Loop				



Aspect	Set for	Maximum speed over facing points
Be prepared to stop at the Starter signal, if provided, or at the proper berthing place at the station.	Main line only.	50 KMPH.

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Aspect	Set for	Maximum speed over facing points
Run through	Main Line only	Maximum speed permitted.

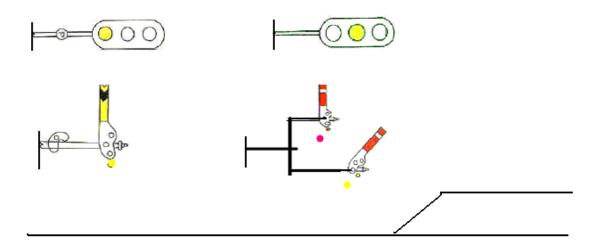


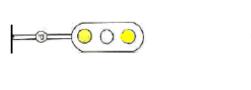
Run

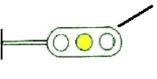
## **Stop at Home**

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Aspect	INCLUDE:	Maximum speed over facing points.
Stopped at Home signal out of course and subsequently Main Line Home Signal operates to caution aspect. Be prepared to stop at the proper berthing place on Main Line.	Main Line	





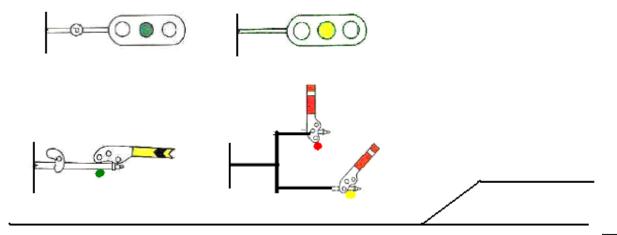




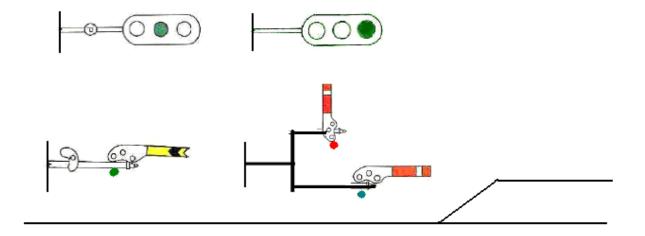
Aspect	Set for	Maximum speed over facing points
Be prepared to stop at the Loop line Starter signal, if provided or at the proper berthing place on Loop line	Loop line	15 KMPH

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## **POSITION OF SIGNALS**



Aspect
Be prep
Main lii
or at the
place on

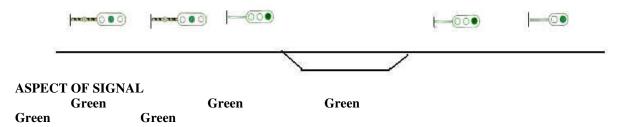


Aspect	Set for	Maximum speed over facing points
Run through	Main line	Maximum speed permitted

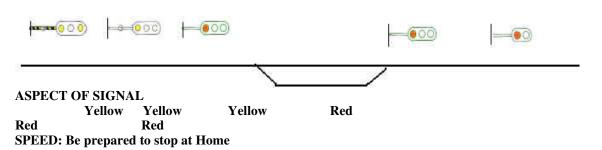
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#### POSITION OF SIGNALS

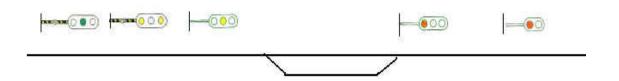
#### **RUN THROUGH**



#### STOP AT HOME SIGNAL



#### RECEPTION ON MAIN LINE



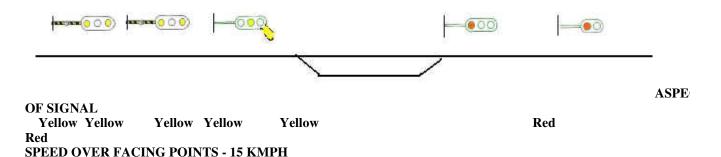
ASPECT OF SIGNAL

Green Yellow Yellow Yellow

Red

Red SPEED OVER FACING POINTS - 50 KMPH

#### RECEPTION ON LOOP LINE



S.R. 3.08(ii) Under no circumstance, shall the speed of a train exceed the maximum permissible speed laid down in the Working Time Table or such reduced speed as may be prescribed by the Engineering Department, even if the combination of signals permit a higher speed.

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#### 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 upto 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 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 *GRS Page 32* 

facing points or fouling mark of the connections to another running line.

S.R. 3.10(i) For the despatch of trains signals shall be taken "off" in the following order, except when they have to be passed at "on"-

At stations with an Advanced Starter and a Starter, the Advanced Starter shall be taken "off" first and then the Starter. At stations with an Advanced Starter and more than one Starter, the Advanced Starter shall be taken "off" first, then the Starter immediately in rear of the Advanced Starter and so on.

S.R.3.10(ii) If, for any reason, the Loco Pilot has to Start his train from beyond the Starter or Advanced Starter, but within station limits, the Station Master after satisfying himself that the line is clear upto the next Stop signal, will take "off" the Starter or Advanced Starter and give a written memo to the Loco Pilot authorizing him to start. In cases where the Starter cannot be taken "off" either due to the track circuit section being occupied by the front portion of the train or due to any other cause, the Station Master shall personally verify that all the points over which the train will pass are correctly set and all the facing points locked and that the points are not damaged in any way before giving the written memo.

SR. 3.10(iii): Loco Pilots of all stopping trains (i.e. other than run through trains) shall be issued with starting permit in Form T.310 in addition to Authority to proceed during crossing (or) precedence at a station where there is no departure signal (or) where there is no separate Starter signal for each line (or) where there is no separate Gate signal for each line interlocked with points.

Whenever starting permit is issued, the Driver's acknowledgement shall be obtained in the duplicate copy except in cases where the outgoing token is authorized to be delivered to the Loco Pilot opposite to the Station Master's office. Loco Pilots are personally responsible for ensuring that they are in possession of the starting permit in all the above cases.

#### 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
  GRS Page 33
- (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 condition 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

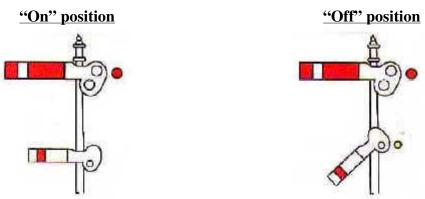
- (c) a Manual Stop signal operated manually and which cannot work as an Automatic or a Semi-Automatic Stop signal.
- (2) Colour light signals in Automatic Block territory shall be three-aspect or four-aspect.

#### 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.

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- (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 eventhough 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) Miniature Semaphore Arm type Calling-on signal in Two-Aspect Signalling Territory



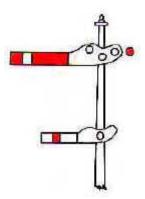
ASPECT	-	Proceed slow
Indication		Stop and then draw ahead with caution and be prepared to stop short of any obstruction

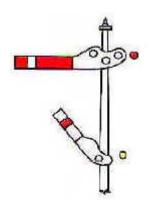
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(b) <u>Miniature Semaphore Arm type Calling-on signal in Multiple Aspect Signalling Territory</u>

"On" Position

"Off" Position

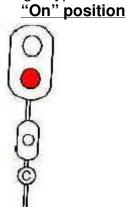


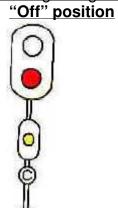


ASPECT	-	Proceed slow
Indication		Stop and then draw ahead with caution and be prepared to stop short of any obstruction

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

(a) Colour light type Calling-on signal in Two-Aspect Signalling Territory





ASPECT	-	Proceed slow
Indication		Stop and then draw ahead with caution and be prepared to stop short of any obstruction

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(b) Colour light type Calling-on signal in Multiple-Aspect Signalling Territory
"On" position
"Off" position





ASPECT	-	Proceed slow
Indication		Stop and then draw ahead with caution and be prepared to stop short of any obstruction

S.R.3.13(i) Whenever a Calling-on signal is taken off to authorize a movement, the interlocked points governed by the signal need not be clamped and padlocked. Clamping and padlocking is, however, necessary when S&T (T/351) has been issued.

#### 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 authorizes the Loco Pilot to draw ahead with caution for shunting purposes although Stop signal, if any, above it is at "on". GRS Page 37
- 3.14(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: -

(a) Disc type Shunt signal in Two-Aspect Signalling Territory

"On" position

"Off" position



Aspect:	Stop	Proceed slow
Indication	Stop dead	Proceed with caution for shunting

(b) 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

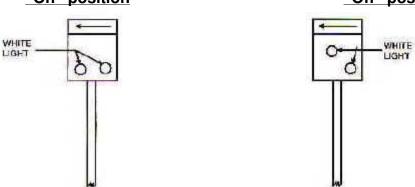
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(9) The aspects and indications of a position light type Shunt signal are shown below:-

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

"On" position

"Off" position

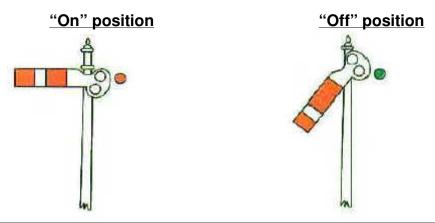


Aspect:	Stop	Proceed slow
Indication	Stop dead	Proceed with caution for shunting

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

(a) Miniature Semaphore Arm type Shunt signal in Two-Aspect Signalling

#### **Territory**



Aspect:	Stop	Proceed slow
Indication	Stop dead	Proceed with caution for shunting

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(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

#### 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 overbridge 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:
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Banner type Repeating signal in Two-Aspect Signalling Territory
"on" Position
"off" Position



ASPECT	Signal "ON"	Signal "OFF"
ASPECT	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



ASPECT	Signal "ON"	Signal "OFF"
ASPECT	Signal which it repeats is at "ON"	Signal which it repeats is "OFF"

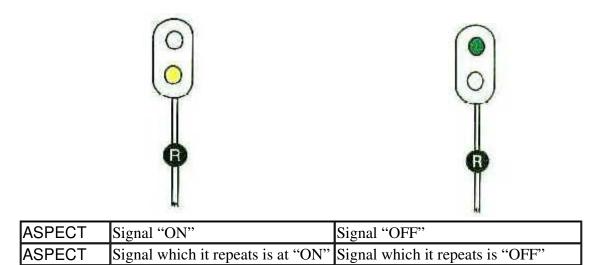
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GR.3.16(5) The aspects and indications of a colour light type Repeating signal are **shown** below:-

Colour light type Repeating Signal

"on" Position

"off" Position



Note.- In case of unwarned signals, Repeating signals shall be provided at a distance sufficient to enable the Loco Pilot to bring the train to a stop at the Stop signal.

S.R.3.16(i) The Banner type repeating signal consists of a Black fringed yellow banner, pivoted in the middle against an illuminated back ground. It has two aspects namely "Caution" (horizontal) position of the banner, indicating "Proceed Cautiously and be prepared to stop at the signal in advance" which is "ON" (Red); and "Clear" (45<sup>0</sup> to 60<sup>0</sup> position of the banner) indicating "Proceed" the signal in advance is "OFF" (yellow or green). It has no danger aspect (stop indication). It is numbered in accordance with the signal it is repeating suffixed by the letter "R".

#### 3.17. Distinguishing markers and signs for signals.-

(1) Where necessary, signals shall be distinguished by prescribed markers. Such markers shall be fixed on the signal post below the signals as under:
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Appearance	Provided on	Description
A	Automatic Stop signal	Letter `A' in black on white circular disc
A	Semi-Automatic Stop signal	White illuminated letter `A' against black background when working as an Automatic Stop signal, and letter `A' extinguished when working as a Manual Stop Signal
P	Colour light Distant or Warner signal on a post by itself.	Letter `P' in black on white circular disc.

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.

<u>Appearance</u>	<u>Provided on</u>	<u>Description</u>
(B)	Intermediate Block Stop signal	Letter `IB' in black on white circular disc.
<b>©</b>	Calling-on signal	Letter `C' in black on white circular disc.
R	Repeating signal in Semaphore signalling territory	Letter `R' in black on which circular disc
- <b>B</b> -	Repeating signal in colour light signalling territory	

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Appearance	Provided on	Description
G	Gate Stop signal	Letter `G' in black on yellow circular disc.
<b>A G</b>	Gate Stop signal in Automatic Block territory	Letter `G' in black on yellow circular disc and white illuminated letter `A' against black background.

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 prescribed signs as under:-

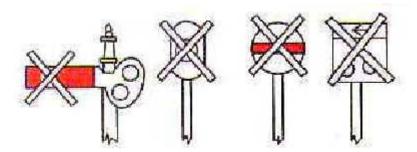
Provided on	<u>Description</u>
Approach Stop signal for Goods running lines only.	
Approach Stop signal for Dock platform	Letter `D' in black on semaphore arm.
	Approach Stop signal for Goods running lines only.  Approach Stop signal for Dock

(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 1 metre long and 10 centimetres 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 junctions.-

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

Provided that for speeds upto 75 Kmph with manually operated multiple aspect signals, only a 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 (i) Route Indicators: Route Indicators work in conjunction with Stop signals and show the route only when the signal is `off'. They are of three types namely, (a) Directional (b) Non-directional type \$ (c) LED Matrix with Directional type route indicator.
- S.R.3.19 (ii) Directional type route indicator indicates a route by a row of white lights ner to the right or to the left depending upon the direction of the route when the signal is off. It shall not by any route when the signal is taken off for the straight line. The signal shall be deemed to have failed he route indication is shown without 'off' aspect on the signal.
  - S.R.3.19 (iii) Non-directional type route indicators may either be-
  - (i) a stencil type where the route is shown by an illuminated stenciled letter or number: or
- (ii) a multi-lamp type where route is shown by the burning of multiple miniature lamps in the form of a letter or number; or
  - (iii) a projector type where a number or letter is projected on an illuminated plate.
- (iv) Signals working in conjunction with non-directional type route indicators shall be deemed to have failed if the route indicators show no route or incorrect route when the signal is "off".
  - S. R 3.19 (iv) LED Matrix with Directional type route indicator
- a) It is a combination of both Directional and Non-Directional type route indicator. It is provided in Multiple Aspect Colour Light Signalling Territory, with more than 3 lines on one or both sides of the main line.
- b) This type of route indicator will not show the road number and route when the signal is taken 'OFF' for the straight line.
- c) When the signal is taken 'OFF' for the turn out, the road number will be displayed in the LED matrix along with the glowing of the Directional type indicator.
- d) The signal shall assume 'ON' aspect if any one of the route indications has failed while receiving the train on turn outs.
  - (i) Directional type indicator or LED matrix glows without 'OFF' aspect of the signal.
  - (ii) Directional type indicator glows without LED matrix glowing or vice versa.

#### (iii) LED matrix shows incorrect road number

#### 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.

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#### 3.21. Signals on bracket post or signal bridge or gantry.-

Where signals are placed on a bracket post or a 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 instructions.
- (2) Where under approved special instructions more than one signal is placed on the same post, the topmost 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 Line

#### 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(i) Electric repeaters are of the following type:

#### (A) Arm repeaters for semaphore signals:

The "ON" and "OFF" aspects of semaphore signals shall be repeated as under: GRS Page 46

1. ON" when the signal arm is "ON", "OFF", when the signal arm is "OFF" and "WRONG" when the signal arm is drooping or when there is defect in the apparatus.

or

2. RED/YELLOW Light lit when the stop/Distant signal arm respectively is "ON" and "Green" light lit when the signal arm is "OFF"

or

3. Where illuminated diagrams are provided, the same indications as described for item 2 above shall be exhibited for the different aspects near the signal as painted on the diagram.

Note:- (a) In the case of item (1) above, when the signal arm indicator displays "WRONG" indication or in the case of items (2) and (3) above, in the absence of both "ON" an "OFF" indications, the Station Master, shall test the signal if worked by wire by pulling the lever over and letting it back smartly so that the signal may get corrected in the absence of any basic defect, so as to enable it to assume "OFF" aspect by a subsequent operation to deal with the train on signals. If the signal is operated electrically, the operating knob or Station Master's slide or Lever should be operated again a few times to see if the signal responds satisfactorily.

(b) If, even after trying several times by pulling the lever over and putting it back smartly, or by operating the knob or Station Master's slide or lever again a few times, the repeater is found not displaying the indication corresponding to the position of the knob/Station Master's slide or lever, the Station Master shall go out and observe personally from a location reasonably close to the station or cabin whether the signal has been correctly taken "OFF" or restored to "ON". If the signal is observed as functioning properly it shall not be treated as defective but the concerned Electrical Signal Maintainer shall be advised to put the repeater right. In case it is not possible to observe the signal personally from a location reasonably close to the station or cabin the signal to which the repeater refers shall be treated as defective

and action taken under GRs and SRs 3.68, 3.69, 3.70 and 3.71 and SR 8.03(ii) (a) until such time the repeater is set right by the Electrical Signal Maintainer".

#### SR.3.23(i)(B) Signal Light repeaters for semaphore signals:-

These repeaters shall be of needle type or luminous type. With needle type repeaters, the indications, shall be "IN" when the signal lamp is burning and "OUT" when the signal lamp is not burning.

With luminous type repeaters, a white/yellow light will be near the signal as painted on the illuminated diagram or near the lever or Station Master's Control Slide operating the signal, as the case may be, when the signal lamp is burning. It will not be lit when the signal lamp is not burning. If the repeater is not in working order, the Station Master shall observe personally the signal light by proceeding to a place from where the same can be seen. (See SR.8.03(ii) (a)).

#### (C) Luminous indications for Colour Light Signals:-

- (i) The "ON" and "OFF" aspects of colour light signals shall be repeated by suitable luminous indications at the place of operation.
- (ii) The signal shall be treated as defective and action taken under GRs and SRs 3.68 to 3.71 and S.R. 8.03(ii)(a) in the following circumstances:-
- (a) When it is not possible to observe the signal personally from a location reasonably close to the station or cabin, or
- (b) When the Station Master has satisfied himself after going out and observing that the signal arm is not functioning properly, the Station Master shall advise the concerned signal maintainer for early rectification duly giving copy of the message to section Signal Inspector and traffic Inspector:
- (iii) When the Signal repeater is rectified, the Station Master shall send a restoration message to all those who had been previously advised of the failure.

#### 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 signals shall show a small white light when "on", and no light at all in any other position.
  - (3) An 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 are burning or not.
- S.R.3.24(i) When the signal light is not burning or when the signal arm is "off" or drooping, the back light will not be visible. The Station Master shall immediately arrange to light the signal lamp or place the signal arm at "ON". The Station Master shall not give Line Clear for a train unless the back

#### C. Equipment of Signals

#### 3.25. Obligation 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, and
- (b) at stations which are exempted from the provision of signals under approved special instructions.

#### 3.26. Commissioning 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.

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a Sighting Committee, before being brought into use. The Sighting Committee shall satisfy themselves that the signal is correctly placed and focussed for day and night indications before certifying it as fit for use.

- S.R. 3.26(ii) The Sighting Committee shall consist of the Traffic Inspector, Loco Inspector and Signal Inspector. Having satisfied themselves that the signal is correctly placed and focussed for day and night indications, they shall fill in and sign the report in the prescribed form provided for this purpose.
- S.R.3.26(iii) Whenever there is a change in the complement of signalling at a station or on a section or whenever signals are newly erected or resited, a Caution Order shall be issued for a period of 10 days after the signal has been brought into use, drawing the attention of Loco Pilots. In addition, Loco Foremen concerned shall take assurance from Loco Pilots deputed to work trains on that particular section that they have been informed of the change in signalling arrangements.

#### Note: Refer S.R. 4.09 (i) (16)

S.R.3.26(iv) The visibility of signals on a section shall be jointly inspected both by day and night by the signal, Transportation and Loco Inspectors at least once in every quarter. Joint reports pertaining to these shall be submitted to the D.S.T.E./D.S.O./D.M.E. concerned.

Note: - Also refer S.R. 4.22

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

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 signalling. -

Modified lower quadrant signalling may be introduced only where it is expressly 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:-

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(a)	latriace B ctatione	A Distant, a Home, a Warner below the Main Home and a Starter, and
(b)	at class `C' stations	A Distant and a Home.

# 3.29. Minimum equipment of fixed signals at other stations provided with two-aspect signalling. -

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	An Outer and a Home.
	on a single line/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 kilometres 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' stations. -

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

S.R.3.31(i) Loco Pilots of trains carrying passengers shall stop their trains at class `D' stations where they are booked to stop within the platform or at the usual stopping place to enable the passengers to detrain and entrain.

S.R.3.31(ii) Station Warning Boards are provided at 1000 metres on Metre Gauge and 1200 metres on Broad Gauge short of flag/halt stations, to indicate to the Loco Pilots working trains during thick or foggy weather about the approach of the flag/halt station.

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# 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 Absolute 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 conditions 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 metres in the two-aspect signalling territory and 180 metres in the multiple-aspect or modified lower quadrant signalling territory. The location of such board or Advanced Starter shall mark the limit upto which 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 signalling and where there are no points or the outermost 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 metres 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.-

Notwithstanding anything 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 traffic is light and speed slow one Stop signal only in each direction may be provided at each station, such signal to be located at an adequate distance outside the outermost facing points of the station and trains worked in accordance with approved special instructions; and

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(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 Kmph., a Distant signal and a Home signal only may be provided in each direction under approved special instructions.

S.R.3.33(i) With regard to Rule 3.33, the approved special 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(i) Gate-cum-Distant signals in multiple aspect signalling shall be provided with `G' markers except in cases specified under S.R.3.34(ii).
  - S.R.3.34(ii) `G' markers shall be dispensed with in the following cases:-
    - (a) gate Stop signals controlling entry of trains into rail-cum-road bridge;
    - (b) when there is a bridge between the gate Stop signal and the gate; and
    - (c) gate Stop signals protecting points.

#### 3.35. Protection and working of points of outlying sidings.-

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(i) Detailed instructions regarding the working of points, signals and interlocking installations at, and the working of trains into and out of the outlying siding and action to be taken when signals fail shall be incorporated in the Station Working Rules of the stations controlling the siding.

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#### **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 "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(i)(a) The staff responsible for working of signals at a Station/Cabin shall see that the signal arm obeys the lever actuating it. The Station Master / Cabin Assistant Station Master / Switchman/ Cabinman shall ensure himself either personally or by means of the repeater where provided in all cases that the concerned signals governing the movement of a train are taken "OFF" for the train and that such signals are put back to "ON" immediately after the train has completely passed the signal.
- (b) At all interlocked stations the Station Master in-charge of the station shall daily, when no trains are expected from any direction, test working of the reception signals in one direction from one line as for stopping train. For example, at a station with two running lines, the signals shall be tested as under-

- (i) The Station Master shall arrange for the taking "Off" of the Up reception signal for Road No. 1. He shall then put back the signal (or the Station Master's control if any) and personally see whether the reception signals have gone back to "ON" position. The Station Master shall again arrange for taking "OFF" of Up reception signals for Road No. 1 and instruct the Cabin Asst. Station Master/Switchman/Cabinman to put back the slot lever (wherever provided) to normal and personally see whether the reception signals have gone back to "ON" position.
- (ii) The Station Master shall test on the second day the down Reception signals for Road No. 1. On the third day, the Up reception signal for Road No. 2. On *GRS Page 53*

the fourth day, the Down reception signals for Road No. 2 and so on every day repeating the procedure laid down in Para (i) above.

#### Note:- This rule will not apply to stations provided with panel and route relay interlocking.

- (iii) The Station Master shall immediately after each test record the results in the station diary. If the signals do not work properly, or if they do not respond properly to the Station Master's control or Cabin slot, the signal shall be treated as defective and action taken as laid down in Rule 3.69 without any delay.
- S.R.3.36(ii)(i) Signals once taken "off" for the passage of a train must not be replaced to `on' in the ordinary course. The emergency referred to in GR 3.36(2) (a) shall be deemed to exist when an accident is to be averted.
- (ii) If in an emergency, a reception signal has to be placed in `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
- (iii) In case Starters and Advanced Starters are taken `off' for departing trains and are required to be put back for purpose of precedence or crossing, the following precautions must be taken prior to replacing the Starter Advanced Starter signal to `on'.
- (a) 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.
- (b) On single line section, where a tangible authority has been delivered to the Loco Pilot, the same should be withdrawn from him.

The written information need not be given to the Loco Pilot in respect of movements in Power Signal and Route4 Relay yards where a time release is provided for the cancellation of the route.

S.R. 3.36(iii) If during reception, a train is stopped near siding points for shunting into or out of the siding, the reception signal which the train (after coming to a stand) has not passed completely shall not be put back to "on" until such time the shunting is over and the train is drawn ahead of the signal completely. At stations where the siding points are controlled by the key locking of the signal lever frame as it is not possible to keep the signal "off" and do such shunting, the train shall first be received and berthed clear of the signal and the signal put back to "on". The train shall then be backed for shunting.

#### 3.37. Normal aspect of signals-

- (1) Unless otherwise authorized 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 *GRS Page 54*

operated, the aspect normally displayed may be 'Caution' or 'Attention'.

- S.R. 3.37(i) Loco Pilots must stop their trains at stations where they are booked to stop irrespective of the indication of the signal immediately in advance.
  - (ii) The Stop signal provided at certain outlying siding taking off the running line are normally

#### 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 etc. 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(i) With regard to Rule 3.38(a), the outermost facing points at non-interlocked stations shall be specially manned for the reception of a train besides being correctly set and locked. If the outermost facing points are not provided with Point Indicators, the Pointsman manning the facing points shall on the signals being taken "off", exhibit a green hand signal to the Loco Pilots of all incoming trains. The Loco Pilot of an incoming train shall not, under any circumstances, pass the outermost facing points even if the signals are taken "off" unless he sees that the facing points are manned and that a green hand signal is exhibited towards him from the points at stations not provided with Point Indicators.
  - S.R. 3.38(ii) With regard to Rule 3.38(b)-
- (a) The trailing points shall be correctly set and when authorized by special instructions or where the interlocking installation requires it, also locked.
  - (b) Setting of points when two trains are to be crossed on single line: -

At non-interlocked stations, and at such interlocked stations on the single line where the lay-out and interlocking permits, in the event of a crossing, the facing points must be set and locked for the respective lines on which each train is to be received, before signals are cleared for either train.

S.R.3.38(iii) Under special instructions, certain goods yards are declared as "terminal yards" for the purposes 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 Commissioner of Railway Safety, from the Stop Board to the fouling mark at the trailing end. Wherever the Stop Boards is fixed at the fouling mark, the adequate distance for taking "off" Goods Home is reckoned as Zero. Speed of incoming trains inside the station section is restricted

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to ten kilometers an hour and requisite speed restriction boards are duly exhibited below the respective goods Home signals.

The Station Working Rules of such "terminal yards" shall 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 a Goods train is to be received should be set and padlocked against the line, so that no conflicting reception or shunting movement is permitted. The Station Working Rules shall clearly specify the staff responsible to ensure this.

S.R.3.38(iv) Except as specifically provided for in this book (G.R.S.) or the Block Working Manual, no train shall be received into or despatched from a station, by means of piloting unless authorised by the Divisional Railway Manager.

Note:- For reception or despatch of a train on or from a non-signalled line see Rules 5.10/5.11.

- S.R.3.38(v)(a) At non-interlocked stations, bolts and cotters shall be provided for each switch-rail at all points on and giving access to running lines. One padlock with keys shall be provided for each set of points.
  - (b) At interlocked stations, bolts and cotters shall be provided for each switch-rail at all points

on and giving access to running lines.

A Padlock and key shall be provided for each set of points locked by Key lock locking in one direction only and also for all non-interlocked points provided with bolts and cotters. Sufficient number of emergency padlocks shall also be provided for interlocked points fitted with locking bolts and cotters so that in the event of a failure or suspension of interlocking, the maximum number of facing points can be padlocked for train and shunt movements at a time. At stations where bolts and cotters with emergency padlocks are not provided for interlocked points, sufficient number of clamps and padlocks shall be supplied for use on maximum number of points for train and shunt movements.

- (c)(1) The Divisional Engineer is responsible for the provision 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.
- (2) The Divisional Signal and Telecommunication Engineer is responsible for the provision of padlocks and/or clamps and padlocks at stations when disconnecting the interlocking gear for purposes of renewals and repairs.
- S.R.3.38 (vi) Working at Non-interlocked station/Yards General. At all non-interlocked station/yards and at stations where non-interlocked working is introduced, the reception and despatch of train shall be based on one of the following procedures:
  - 1. Procedure based on the "Line Label" and "Line Badge" system.
  - 2. Procedure based on reception and despatch order book (Line Assignment book).
- 3. Procedure based on the principle of exchange of Private Number by Station Master with Yard Master/Cabin Assistant Station Master/Location Station Master/Switchman/Shunting Jamedar/Points Man/Bunk Jamedar.

  GRS Page 56
- (i) Procedure based on the `Line Label' and `Line Badge' system (i) the `Line Label' and `Line Badge' system of working otherwise called Station Master's `Line Label' and the points man's `Line Badge' system.
- (ii) Description: (a) The designs of the Station Master's Line labels primarily for use at stations having two reception lines are reproduced in Diagram `A'. The designs of the Station Master's line labels for use of stations having more than two reception lines are reproduced in Diagram `B'.
- (b) The Pointsman's Line Badges are of the same design as the label but are half the size of that of the Station Master's line labels.
- (c) The line labels applying to UP Reception Loop lines have teeth cut on their periphery, while those meant for the Down Reception Loop lines have notches similarly cut. The Pointsman's line badges for UP and Down loop lines are similarly differentiated.
  - (d) Station code initials are printed in the space marked `A' on the designs.
- (e) The line Label is only intended to be a tangible and visual indication to the Pointsman to indicate on which road a particular train is to be received.
- (f) When there is change of duties of the Station Master, the Line Labels shall be handed over by the relieved Station Master to his successor under acknowledgement in a special register maintained for the purpose. Similarly on a Pointsman being relieved of his duties, he shall hand over the Line Badges to the Station Master on duty, who will in turn hand them over to the successor Pointsman, recording the transaction in the Special Register referred to. The Pointsman shall not, on any account directly transfer the Badges to his successor. During a spell of duty, these labels and badges shall remain respectively in the personal custody of the Station Master and the Pointsman.
- (g) Whenever a Line Label or a Line Badge is lost or mislaid, an entry to that effect shall be made in the Station Diary. The Station Master shall immediately report the loss to the Divisional Operations Manager. The latter shall arrange for expeditious replacement of the lost line label or line Badge. During the period of the absence of the label or badge, the Station Master shall give verbal instructions to the Pointsman as to the particular line on which a train is to be received, and obtain his acknowledgement against the entry in Train Signal Register for that train.
  - (iii) Procedure: The Station Master shall advise the Pointsman the full particulars of the train to

be received and also instructions to close and secure the level crossing gates, if any, across the road traffic. The following procedure shall then be followed in the sequence as indicated.

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Sequence	Procedure	By whom to be followed.
i)	The Station Master shall-give verbal instructions to the Pointsman (one for the facing points) in the presence and hearing of each other concerning the number of line nominated for the reception of the train with the given description and from a particular direction and indicate to them whether the train is to be despatched or not.	Station Master.
ii)	The Station Master shall hand over the appropriate Line Label to the Pointsman detailed for duty at the outermost facing points.	Station Master
iii)	The other Pointsman shall proceed to the trailing points set them as instructed by the Station Master and display to the latter a `Proceed' hand signal.	Pointsman at the trailing points
iv)	After satisfying himself that he is in possession of the correct line label, he shall proceed to the outermost facing points, setting the route and locking the points on his way for the line assigned by the Station Master, as per the line label in his possession. Thereafter, he shall arrange to hand over his appropriate line badge either personally or through another railway servant to the Station Master. He shall then man the outermost facing points for the outer signal being lowered and	Pointsman at the outermost facing points.

	exhibit a "Proceed" hand signal to the Station Master.	
v)	On receipt of the appropriate Line Badge from the Pointsman detailed for duty at the facing points and after seeing the hand signals exhibited by the two Pointsmen at the trailing and facing points, the Station Master shall exchange "All Ready" signal, first with the Pointsman at the trailing end and then with the Pointsman at the facing end. Before doing this, the Station Master shall satisfy himself that he is in possession of the correct Line Badge. Where Point Indicators have been provided, he shall satisfy himself, by observing them, that the points have been correctly set.	Station Master.
vi)	After making certain that the nominated reception line is clear and free from obstructions, the Station Master may take off, or authorize the taking `off' of the relevant Home and outer signals, observing the prescribed procedure	Station Master
vii)	If the Outer signal lever is situated near the facing points the Pointsman at the facing points may lower the Outer Signal. After satisfying himself that the Home signal has been fully lowered.	Pointsman at the facing points.
viii)	When the train is ready to start the Station Master shall exchange "All Ready" signal with the Pointsman at the	Station Master.

	trailing end for their correct setting for the despatch of the train. Before exchanging this signal the Station Master shall satisfy himself of the correct setting of the trailing points by observing the Point Indicators, wherever provided. He shall also satisfy himself that the gates of the level crossing, if any, intervening are closed and secured against road traffic, and that the road for the train is clear and free from obstructions. He may, thereafter, authorize the starting of the train under the normal rules appropriate to the station.			
ix)	After the passage of the train the Pointsmen at the facing and trailing ends shall ensure that all the facing points and the trailing points are set in their normal position.	Pointsmen at trailing Points.	facing	and
x)	Pointsmen at the facing and trailing ends shall then come back to the station. The Pointsmen at the facing end shall return to the Station Master the Line Label and the points Keys and get back from the Station Master the Line Badge which had been delivered by him to the Station Master.	Pointsmen at trailing points.	facing	and

Note: - The Pointsman at the trailing end may, if necessary, be authorised by the <u>Station Master</u> to come back to the Station earlier, after correctly setting the trailing points for the despatch of the train.

- iv) Reception and Despatch of Crossing trains at station using Line Label and Line Badges:
- (a) The Station Master shall decide which of the two trains is to be received first into the station and then instruct the two Pointsmen (i.e., the Pointsmen detailed for duty at the facing and trailing ends) suitably in the matter. He shall hand over the appropriate Line Labels to each of the two Pointsmen.
- (b) The points trailing for the train first to arrive shall be set and locked for the line assigned for the reception of the second train in accordance with S.R.3.38(ii)(b)
  - (c) Reception of the two trains shall be arranged under normal rules.
  - 2. Procedure based on Reception and Despatch order Book (Line Assignment Book): -
  - (a) The Station Master Yard Master as soon as Line Clear Permission has been given obtained

shall send the Reception and Despatch order Book to the *GRS Page 59* 

Station Master/Yard Master/Location duty Station Master/Switchman/Shunting Jamedar/Bunk Jamedar/Pointsman in charge at both ends of the yard (and also the shunting Jamedar/Person in-charge of shunting operations) in the following order:

- i) To the person in charge of the trailing end:
- ii) To the person in charge of shunting operations in the yard, if any:
- iii) To the person in charge of facing end i.e., at the end from which the train is expected to arrive.
- (b) The person in charge at the trailing end shall sign the Order Book and return it to the Station Master. The former shall ensure that all points at his end of the yard are correctly set and locked for the reception of the train on the nominated line and that the reception line is clear and free from obstruction at his end of the yard. Thereafter, he shall stand at the outermost trailing points and exhibit a "Proceed" hand signal to the Station Master.
- (c) The person in-charge of shunting operations shall sign and return the book to the Station Master and ensure that all shunting is stopped 10 minutes before the due arrival of the train, or in accordance with the Station Working Rules.
- (d) The Person in-charge of that end of the yard from which the train is expected to arrive, shall ensure that all the points at his end of the yard are correctly set and locked and that the reception road is clear and free from obstructions then sign the Order Book and arrange to send the Order book to the Station Master. Thereafter, he shall take his stand at the outermost facing point and exhibit a "Proceed" hand signal to the Station Master.
- (e) The Station Master/Yard Master/Asst. Yard Master/Shunting Jamedar shall authorize the receptions/despatches of the train under normal rules after making certain that he has in his custody the Order Book duly signed by the Persons in charge at the Trailing end, of shunting operations and at the facing end and that the

Level Crossings have been closed and locked against road traffic as per the procedure laid down in the Station Workings Rules.

- 3. <u>Procedure based on exchange of Private Number between Station Master and Yard Master/Cabin Station Master/Switchman/Shunting Jamedar/Pointsman in-charge of the Cabin/bunk/location:</u>
- i) Station Master/Yard Master as soon as Line clear has been given/obtained shall nominate the line of reception/despatch and call the person in charge of facing and trailing ends over telephone and inform them the train number and description, the line of reception/despatch and probable time of arrival/departure of the train.
- ii) The Person incharge at the facing and trailing ends shall set the concerned points and lock the facing points leading to the nominated line of reception/despatch and confirming that the portion under their jurisdiction is clear and free from obstruction shall exchange Private Number with Station Master/Yard Master.
- iii) All the shunting operation on or across the reception line shall be stopped as per the procedure given in the Station Working Rules.

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- iv) Only after exchanging Private Number with the person incharge of facing and trailing end and duly ensuring conflicting shunting operations are stopped as per the procedure given in the Station Working Rules, the Yard Master/the Person in charge of the yard, shall give his Private Number to the Cabin Station Master, who is in charge of clearing signals, duly releasing the reception/despatch plunger control (wherever provided) for the reception despatch of the train.

NOTE: Detailed instructions as applicable to individual stations, shall be incorporated in the respective Station Working Rules in amplification of the principles enumerated in these rules.

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# LINE LABEL AND LINE BADGE FOR USE AT STATIONS HAVING TWO RECEPTION LINES

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#### **DIAGRAM 'B'**

# LINE LABEL AND LINE BADGE FOR USE AT STATIONS HAVING MORE THAN TWO RECEPTION LINES

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## 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 is 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, the 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 upto the starter, or (b) on a single line, the line is clear upto the trailing points or under approved special instructions upto 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 subrule
  - (1) shall never be less then-
- (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(i) The adequate distance for taking "off" signals shall be specified in the Station Working Rules. Wherever approved special instructions have been obtained, the same shall be indicated in the Station Working Rules.

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- SR.3.40(ii) At interlocked stations with two cabins at either end of the station yard provided with telephone communication between Station Master and the Cabins, the following procedure shall be adopted for the nomination of the line of reception for a train:-
- (1) The Platform Duty Station Master shall nominate the reception line and advise the particulars of the train number, description and its probable time of arrival to the Cabin Assistant Station Master/Switchman/Cabinman in both the cabins.
- (2) The Cabin Assistant Station Master/Switchman/Cabinman at the facing end must set and lock all the relevant facing points and set all the trailing points, if any, at his end correctly for the nominated reception line and give a categorical assurance to the Cabin Assistant Station Master/Switchman/Cabinman at the trailing end that-
- (a) the reception line nominated by the Platform Duty Station Master is clear and-free from obstructions over his jurisdiction

- (b) all the relevant facing points on the nominated reception line have been correctly set and locked; and
  - (c) all the trailing points at his end are correctly set for the nominated reception line.
- (3) The Cabin Assistant Station Master/Switchman/Cabinman at the trailing end on receipt of the above assurance from the facing end cabin, shall correctly set and lock all the facing points, if any, and correctly set all the trailing points at his end for the nominated reception line and after ensuring that the nominated reception line is clear and free from obstructions over his jurisdiction shall communicate a Private Number to his counter-part at the facing end and then release the slot on the concerned Home Signal.
- (4) The Cabin Assistant Station Master/Switchman/Cabinman at the facing end on receipt of the Private Number from his counter-part at the trailing end must communicate a Private Number to the Platform Duty Station Master repeating the nominated reception line in token of his readiness to receive the train.
- (5) Platform Duty Station Master on receipt of the Private number from the Cabin Assistant Station Master/Switchman/Cabinman at the facing end, shall ensure that the nominated reception line under his jurisdiction is clear and free from obstructions and that everything is ready for the reception of the train, shall communicate a Private Number to the facing end Cabin Assistant Station Master/Switchman/Cabinman and then release his control on the concerned Home signal: in token of his readiness to receive the train.
- (6) The Jurisdiction of station yard under each Cabin Assistant Station Master/Switchman/Cabinman and Platform Duty Station Master shall be demarcated and legislated in the Station working rules and they shall be personally responsible to ensure that the reception line nominated is clear and free from obstructions as far as their jurisdiction is concerned. *GRS Page 65*

#### between the stock rail and switch rail before a train is moved in the trailing direction.

#### 3.51. Points.-

- (1) all points shall normally be set for the straight except when otherwise authorised 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 interface 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(i) Points shall not be moved or reversed when the leading wheels of an engine or other vehicles/wagons are so near that the points cannot be fully thrown over before the engine or other vehicles/wagons come on the points. The points shall not be moved until the engine and all the vehicles/wagons have passed completely clear.
- S.R.3.51(ii) The Operating Staff are responsible to keep all the Non-interlocked Points at their stations clean and clear of stones or other obstacles. The parts requiring particular attention are the surface of the switches and chairs which are in contact with each other. They must be cleaned at least once a day with graphite powder as is necessary. The handles of levers operating points and signals must be kept free from rust and rubbed daily with an oiled rag.

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- S.R.3.51(iii) A points man finding any points damaged shall not leave them until they are examined. He shall immediately attract the attention of the Station Master by waving a red flag or lamp or by sending a messenger and shall show a `stop' hand signal towards any train approaching the points.
- S.R.3.51(iv) Whenever a train trails through wrongly set points the Loco Pilot shall on realizing the situation, immediately stop his train. He shall then consult Guard and the Station Master and then restart and proceed onward only if he is satisfied that the train can pass safely over the points without any accident. Backing of trains over points which have been trailed through is prohibited.
- S.R.3.51(v) A railway servant in-charge of a cabin, points or signals shall not leave his post. If it is necessary for him to do so in order to comply with the safety rules he shall specifically depute a responsible railway servant to remain in the cabin or he shall close and lock up the cabin.
- S.R.3.51(vi)(a) To carry out work in connection with the lever frame, points or signals, involving disconnection or removal of inter locking gear of any kind, form S&T(T/351). Shall be used by the signal branch staff. Entries in the form shall be made in ink and no duplicate copies are required. (C M 9 of 20.02.07)
- (b) Before commencing the work, the person in charge of the work shall fill up and sign the disconnection notice and fill up the first part of the block copy and obtain thereon the Station Master's signature. The signature of the Station Master on the first part of the block copy is the authority for the signal branch to commence the work.
- (c) Except under special instructions by the Divisional Railway Manager during the time the work is in progress, all signals (excepting those which control movements over lines which are not only isolated, by the setting of points, from the line affected by the work but are also maintained in the isolated condition by the interlocking during the passage of the train) shall be treated as out of order and placed at "on" by the signal branch staff. Rules 3.68 to 3.72 shall be observed for train movement past the signals which have been placed at "on".

# Note - The above precautions shall also apply in case of disconnection of interlocking gear owing to an accident or other reasons.

(d) After the work is completed, the person in charge of the work shall fill up and sign the reconnection notice and fill up the second part of the block copy and obtain thereon the signature of the Station Master. The signature of the person in-charge of the work on the reconnection notice is the authority for the Station Master to resume normal working.

- S.R.3.51(vii)(a) To carry out ordinary maintenance work, form S&T/MR shall be used.
- (b) In the case of maintenance work at trailing points the person required by the Station Working rules to ensure the correct setting of the points for the reception or dispatch of a train, shall ensure that these points are not only correctly set but are also padlocked or clamped in that position except in cases where the

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correct setting of the points is ensured by the taking "off" of a fixed signal. The Station Master shall also make necessary entries, in red ink, in the Station Diary.

- S.R.3.51(viii)(a) Whenever it is necessary for an Inspector or a duly certified and competent signal maintainer to carry out test of signal appliances of any description he shall make an entry in the station or cabin diary stating the particulars of work to be done and the period during which it is anticipated to complete the test. The Station Master or Cabin Assistant Station Masters or Switchmen shall countersign this entry in token that they have been acquainted with the work to be done and they shall add any remark, they may consider necessary, regarding movement in the yard etc., before the work is taken on hand.
- Master/Switchman where testing is to be carried out, the Cabin Assistant Station Master/Switchman receiving the notice shall advise the Cabin Assistant Station Master/Switchman at the other end of the yard, the platform Station Master and the yard Station Master and get their acknowledgements by obtaining a private number from each in token of their consent to carry out testing and record the private number in the station diary. No move which would lead to the end of the yard where the testing is in progress shall be carried out without the Cabin Assistant Station Master/Switchman at that end being informed and his permission obtained. This permission shall not be given by the Cabin Assistant Station Master/Switchman until the official carrying out the test has been advised and his acknowledgement obtained in writing and all testing relating to roads on which the movement will take place has been stopped. Such permission shall be confirmed by communicating a private number. The Cabin Assistant Station Master/Switchman and the Station Masters shall record the private numbers given and received in the station diaries
- (c) The Loco shed shall be advised that engine movements towards the traffic yard shall not be attempted without the permission of the Station Master. A banner flag preceded by a Stop hand signal shall be arranged to be provided at the exit from the Loco yard under the orders of the official carrying out the test, in the absence of the fixed signal controlling such exit.
- S.R. 3.51(ix) Trailable spring loaded non-interlocked points exist on passenger lines at the trailing end for the purpose of engine run round at certain terminal yards protected by Stop Boards. No movements over these points in the facing direction shall be permitted unless the points are properly set.

# **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 prescribed in these rules.

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- (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(i) The arrangement of red and green slides in 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 and also verify everyday just before coming on duty that all glasses are in good

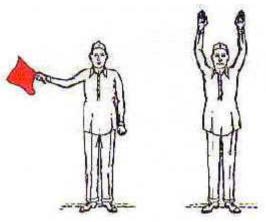
condition.

# 3.53. Stop hand signals.-

Indication Stop dead

How given by day:

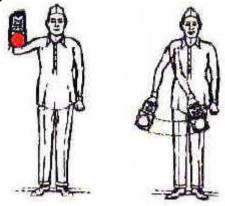
By showing a red flag or by raising both arms with hand above the head as illustrated below:



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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:

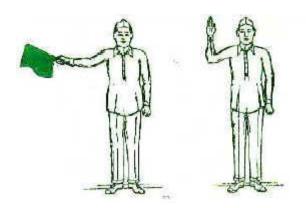


# 3.54 Proceed hand signal.-

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:



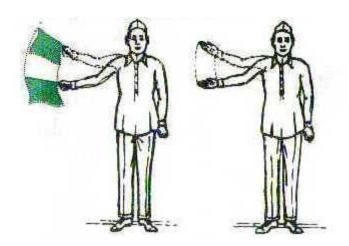
S.R.3.54(i) The "All Ready' signal is a signal indicating that all is ready for the train movement in connection with which it is given. It is given by day, by smartly waving a green flag three times overhead from side to side, pausing and waving it smartly two times, vertically up and down, and by night, by waving a green light in the same manner.

## 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.



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### 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.

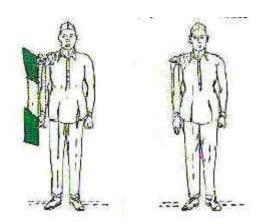
## 3.56 Hand signals for shunting.-

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

(a) Indication: Move away from the person signalling.

How given by day:

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



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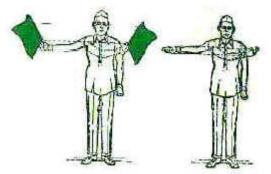
How given by night:

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



(b) Indication: move towards the person signalling *How given by day:* 

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



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How given by night:

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

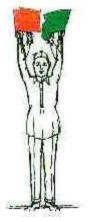


Note- The hand signals for `move away from the person signalling' and `move towards the person signalling' shall be displayed slower and slower, until the stop hand signal is given it it is desired to stop.

(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:





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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 danger 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(i) Banner flags shall be not less than 150 centimetres long and 45 centimetres wide. They shall be stretched across the track on poles not less than 1.5 metres high.
- S.R.3.57(ii) For "works of short duration" inside station limits if the line cannot be isolated, banner flags shall be fixed at an adequate distance from the spot which has to be protected. (C M 9 of 20.02.07)
- S.R.3.57(iii) For "works of short duration" outside station limits, banner flags shall be fixed in accordance withy S.R.15.09(iii).
- S.R.3.57(iv) In the following circumstances, inside and outside station limits, banner flags shall be used, with or without engineering indicators:-
  - (a) When rails are being renewed on the main line or in station yards.
  - (b) When points and crossings are being renewed.
  - (c) When a rail is being laid temporarily.
  - (d) When a longitudinal beam is being renewed on a bridge.
  - (e) When the line is being respaced or new extra sleepers are being inserted.
- (f) When the main line is broken prior to being slewed and connected with a diversion, or when a diversion has to be slewed back to the original alignment.
- (g) To protect a lorry when brought to a stand between stations to load or unload heavy material.

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- (h) To protect a lorry when it remains stationary in the station yard for more than 15 minutes.
- (i) To protect vehicles which are being loaded or unloaded or lifted on traffic lines by the staff of the other branches.
  - (j) To protect a vehicle, when dangerous goods are being loaded into or unloaded from it.
  - (k) To protect vehicles under repair.
  - (l) To protect lorries loaded with heavy materials.
  - (m) To protect traveling cranes.
  - (n) Where points, signals or interlocking are disconnected at an outlying siding.
  - (o) In any other circumstances which warrant such special precautions being taken.

Banner flags shall be fixed at an adequate distance from the object or spot which has to be protected.

S.R.3.57(v) When a diversion is in use for the daily passage of trains and no work endangering the track is in progress on it or in its vicinity, banner flags need not be used in addition to engineering stop indicators. Banner flags shall not be used at night.

# 3.58. Knowledge and possession of hand signals.-

- (1) Every railway servant connected with the movement of trains, shunting operations, maintenance of installations 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 signalling 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 signalling.
- (4) Every Station Master shall see that his station is adequately supplied with all necessary equipment for hand signalling.

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# 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 a vehicle passes over them, they explode with a loud report so as to attract 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 the 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.

- S.R.3.68(vi)(1) As soon as the Station Master becomes aware that any signal at his station governing the movement of trains has been defective, he shall immediately report such defects with complete particulars, either in writing or by telegraph to the Signal Inspector with copy to the respective Signal Maintainer. A copy of the report of failure of signal/signals shall also be endorsed to the Traffic Inspector, Divisional Signal and Telecommunication Engineer, Divisional Safety Officer, Controller and other authorities as may be specified in the Station Working Rules.
- (2) Failure of the signal apparatus shall be recorded in the Signal, Block, Telecommunication Failure and Inspection book. A copy of this book shall be kept in the Station Master's Office. The Station Master on duty is responsible for the correctness of the particulars entered therein.
- (3) Before, however, attending to the reported defect, the Signal Inspector/Signal Maintainer shall issue a Disconnection Memo, where necessary and obtain the acknowledgement of the Station Master and take such other precautions as may be necessary in terms of General Rules 3.51 and 15.08 and Subsidiary Rules there under to ensure that while the reported defect is being attended to, no movement can take place over the affected portion.
- SR.3.68(vi)(4) After the defect has been put right and certified by the person attending to the fault, the Station Master shall satisfy himself, if necessary, by a demonstration by the person attending to the fault. Thereafter, the Station Master and the person attending to the fault shall jointly issue a rectification message.
- S.R.3.68(vii) The competent railway servant deputed to hand signal trains past a defective signal shall return to the station immediately the train has cleared the signal and obtain instructions from the Station Master as to what should be done for subsequent train or trains.

#### 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 a 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 *GRS Page 103*

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.

- GR.3.69(3) The Station Master of the station where the signal has become defective shall, before authorizing a train to pass the defective signal, ensure that the conditions for taking "off" that signal have been fulfilled. He shall then authorize 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 a 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, authorizing 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 authorizing 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(i) In Multiple-aspect territories; the Distant shall be treated as defective in relation to the Home signal which has become defective.
- 3.69(i)Note.- When a Routing signal becomes defective, the Home and Outer signals also shall be deemed to be out of order and treated as defective in relation to the Routing signal which has become defective. The Outer and Home signals shall be  $GRS\ Page\ 104$

#### worked as usual in relation to the other Routing signals which are in proper working order.

S.R.3.69(ii) (a) In regard to Rule 3.68(b) and 3.69(3)(a) as soon as the Station Master becomes aware, that any Stop signal governing the reception of a train has become defective, he shall advise, except in a case where a signal post telephone or Calling-on signal is provided on the defective signal and subject to S.R.3.69(iii), particulars of the same, by telephone to the Station Master of the block station immediately in rear, who shall, after acknowledging the advice, issue the prescribed written authority to all stopping trains at his end and a reminder authority to all trains running through his station wherever practicable. The Station Master of the station where the defective signal is situated shall also include in the above advice the Station Master of the nominated station as applicable, who shall, after acknowledging the advice, issue the prescribed written authority to all trains.

(b) If the provisions of clause (a) above has been complied with the Station Master, before granting Line Clear for a train, ensure that the conditions for taking "off" signal for the reception of the train on the intended line are complied with. The Station Master shall, for the reception of trains from the direction governed by defective signal/signals, post competent railway servant/servants at the signal/signals concerned with detonators as may be required and hand signals and with necessary instructions (regarding train number and description, arrival time, crossing etc.), to hand signal trains past the signal/signals in accordance with S.R.3.69(iii) and S.R.3.69(viii).(a). The Loco Pilot of a train holding the prescribed written authority shall not pass the reception signal/signals concerned even if they are "off" except in accordance with these rules or as provided for in S.R.3.69(iv). If the nominated stations or the station in rear fail to acknowledge the advice see clause (a) above-but issue the prescribed written authority to the Loco Pilot of a train, the train shall only be piloted on the prescribed written authority delivered at the foot of the defective signal.

Note. – The nominated station in rear for the issue of the prescribed written authority shall be the last stopping stations in the order as given in the Working Time Table for different trains. All these stations shall be advised and acknowledgements obtained; for all goods trains as are not specifically exempted and so indicated in the Working Time Table, Light engines. Material trains and Special trains, the station in rear shall be considered as the last stopping station.

S.R.3.69 (iii) If there is more than one Home signal governing the reception of a train in a-particular direction, the provisions of S.R.3.69(ii)(a) shall be complied with only when all the Home signals applicable to that direction become defective. In such case, before giving Line Clear to a train from that direction, the Station Master shall ensure that the conditions for taking "off" signals for the line on which

It is intended to receive the train are complied with. For the reception of a train coming with the prescribed written authority the Station Master shall post a competent railway servant at

the Home signal and also at the Outer signal, if any. *GRS Page 105* 

showing a Stop hand signal towards the Loco Pilot. If everything is ready for the reception of the train, the Station Master shall show a "Proceed" hand signal towards the competent railway servant at the Home signal shall then show a "Proceed" hand signal towards the Loco Pilot of the approaching train. The competent railway servant at the Outer signal shall, after observing the "Proceed" hand signal exhibited at the Home signal also show a "Proceed" hand signal towards the Loco Pilot. The Loco Pilot of an incoming train in possession of the prescribed written authority in respect of any defective approach Stop signal shall not pass such signal unless a "Proceed" hand signal is shown at the foot of each such defective signal (Outer, Home, Routing signal as the case may be).

S.R.3.69(iv) If trains approach with the prescribed written authority after the signals have been rectified, the Station Master shall send a competent railway servant with a written memo (in duplicate) to the Loco Pilot in the following form:-

	Date
	Time
То	
The Loco Pilot of Train (no. and Description)	
Thesignals have since been re-	ctified and will, therefore,
be taken "off". Come into the station observing the	signals as usual.
Station	••••••
Station Master	

S.R.3.69(iv) If trains approach with the prescribed written authority after the signals have been rectified, the Station Master shall send a competent railway servant with a written memo (in duplicate) to the Loco Pilot in the following form:-

The signals shall be taken "off" only after the train has come to a stand at the first Stop signal. The Loco Pilot shall, after stopping the train at the first Stop signal, receive the written memo, retain the original, sign the duplicate and return it to the competent railway servant, restart and enter the station.

The signals shall be taken "off" only after the train has come to a stand at the first Stop signal. The Loco Pilot shall, after stopping the train at the first Stop signal, receive the written memo, retain the original, sign the duplicate and return it to the competent railway servant, restart and enter the station.

S.R.3.69(v) If all the Home signals in a particular direction are not defective (i.e. one or more Home signals are in working order) the Station Master shall not advise any station I n rear about the defective approach Stop signal for the issue of the prescribed written authority. For receiving a train on the line governed by the Home signal which is in working order, the Home and Outer shall be taken "off" as usual. For receiving a train on the line governed by the defective Home signal, the train shall be piloted in accordance with S.R.3.69(vii).

Note.- (1) In the case of a Routing signal becoming defective, the Station Master shall I competent railway servants at the Routing signal, the Home signals and the Outer signal showing a S hand signal towards the Loco Pilot. Thereafter if everything is ready for the reception of the train, Station Master shall show a "Proceed" hand signal towards the competent railway servant at the Routing signal shall then show a "Proceed" hand sig towards the Loco Pilot of the approaching train. The competent railway servants at the Home GRS Page 106

and Outer signals shall, in turn, show "Proceed" hand signals to the Loco Pilot. The Loco Pilot of an incoming train in possession of the prescribed written authority in respect of the defective Routing signal, shall not pass the Outer, Home and Routing signals unless a "Proceed" hand signal is shown at the foot of each such signal.

- (2) At stations where the Home signal is the first Stop signal, a competent railway servant sl be posted at the defective Home signal, showing a Stop hand signal towards the Loco Pilot. Thereafter everything is ready for the reception of the train, the Station Master shall show a "Proceed" hand sig towards the Loco Pilot of the approaching train.
- (3) In the case of defective Routing signal, when the station in rear has not been advised for issue of the prescribed written authority and when a train has to be received on the line governed by defective Routing signal, the train shall be piloted in accordance with S.R. 3.69(vii). For receiving a tron the line governed by the Routing signal which is in working order, the Routing signal, Home a Outer shall be taken "off" as usual.
- S.R.3.69(vi) For the reception of trains when the Home signal is defective at stations wh Centralised Traffic Control is in force, the procedure detailed in S.R.9.06 shall be followed. The is of the prescribed written authority by the Station Master of the station in rear is dispensed wit Centralised Traffic Control territory.
- S.R.3.69(vii) If for any reason, the Station Master has not advised the Block stat immediately in rear or the last stopping station or if he has not received the acknowledgement for advice, he shall arrange to receive the trains concerned by Form T/369 (3b). The Station Mashall, for the reception of trains on the line governed by the defective approach Stop signal, prepared by and send it to the Loco Pilot through a competent railway servant with detonators may be required) and hand signals, with necessary instructions regarding train number description, arrival time, crossing, etc. After the train has come to a stand at the first Stop signal, competent railway servant shall hand over the Form T/369-(3b) to the Loco Pilot who shall keep original and return the duplicate signed to the competent railway servant.
  - S.R.3.69(viii) When the Outer signal is defective and the Home signals are in working ora
- (a) When trains approach with the prescribed written authority issued at a station in rear, Station Master shall post a competent railway servant at the Outer signal showing a Stop hand sig towards the Loco Pilot. The competent railway servant shall show a "Proceed" hand signal towathe Loco Pilot only after seeing that the relevant Home signal is "off".
- (b) When trains approach without the prescribed written authority, the Station Master sl post a competent railway servant at the Outer signal, showing a Stop hand signal towards the L Pilot in a case where no signal post telephone or Calling on signal is provided below the Outer signal. The competent railway servant shall, after the train has stopped at the Outer signal, deliver For T/369-(3b) at the foot of the defective signal only after seeing that the Home signal is "off".
- S.R.3.69(ix) On sections where Push Button Type Tokenless Block Instruments are in use no Line Clear is asked for and obtained, in case of *GRS Page 107*

defective approach Stop signals not provided with Calling-on signal or signal post telephone, Station Master of the block station immediately in rear shall not allow a train to enter the block sect with the prescribed written authority unless the Station Master of the station where the defect approach Stop signal is situated confirms by giving a Private Number that he has complied with conditions for taking "off" of reception signals.

- S.R.3.69(x) Procedure for the reception of the train over the signal post telephone:-
- 1. The Loco Pilot of the train shall bring his train to a halt at the foot of the signal which at "ON".
- 2. If the signal is provided with a signal post telephone connected to the Station receiv his train, the Loco Pilot shall contact the Station Master over the Phone.
  - 3. If the train has been stopped for reasons other than the failure/suspension of the signal

the Station Master shall inform the Loco Pilot the reason for the delay and the probable time which the signal(s) will be cleared. If the signal(s) is (are) not cleared at the time indicated by Station Master, the Loco Pilot shall contact the Station Master once again for information and furt instructions.

4. If the train has been stopped owing to the failure/suspension of the signal(s), the Stat Master shall authorize the Loco Pilot to pass the Signal(s) by issuing a message in the following forma:

From	To
Station Master	The Loco Pilot of Train No. a
description.	
Station	
No.	
Owing to the failure/suspension o	f UP/DOWN reception Signal(s)
(Number and	•
description of the reception signal(s)	you are hereby authorised to pass
UP/DOWN signal(s)	•
(Number and description of the reception	signal(s) at "ON") and enter road Numbe
at a	
restricted speed of 15 KMPH.	
Private Number (in Figures)	(in words).

Note:- If a lesser speed is mentioned in the Station Working Rules, such lesser speed shall be advised.

- 5. The Loco Pilot shall record the message, including the Private Number in his rough journal book. This message is the authority for the Loco Pilot to pass the signal(s) at "ON".
- 6. The Station Master shall record the message in the Train Signal Register below the entry for the train. The Station Master who is authorizing the Loco Pilot on the signal post telephone to pass the reception signal(s) at "ON", is solely and personally responsible to ensure that the reception line is clear and free from any obstruction upto the Starter or the trailing points as the case may be on the intended reception line and also that all the facing points over which the train will pass are correctly set and the facing points are secured with bolt and cotter and padlock or clamp and padlock after personal inspection and the padlock keys are kept under his custody. He is also responsible to ensure that all conflicting signals are kept at 'ON' and no conflicting movement is authorized by him and level crossing, if any, are closed and locked against road traffic and gate keys are under his personal custody. Only after the above conditions have been fulfilled, the Station Master shall authorize the Loco Pilot over the signal post telephone to pass the signal(s) at 'ON'. (C M 9 dated 20.02.07)
- 7. This procedure shall be incorporated in the Station Working Rules of the station clearl *GRS Page 108*

#### 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 authorize Loco Pilot to pass such signal by a written authority which shall be handed over to the Locality Pilot at the station where the defective signal is located and in addition thereto, a compet railway servant shall show hand signals to the departing train in accordance with instructions of the Station Master or by taking "off" the Calling-on signal, if provided unsub-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 dispensed with and the Station Master may authorize the Loco Pilot to pass such signal b

written authority, which shall be handed over to the Loco Pilot at the station, where defective signal is located:

Provided that in exceptional circumstances where under approved special instructio 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 and (2), the trains hall be stopped at the station where the defective signal is located. I written authority to pass a defective departure Stop signal shall not be handed over to 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 provic below a departure Stop signal, other than the last Stop signal, the Calling-on signal shall be taken "off" unless the conditions for taking "off" the departure Stop signal above it has been fulfilled.
- S.R.3.70(i). If the last Stop signal of the station in rear is also the first Stop signal of station in advance and if such a signal becomes defective, the written authority shall be issued by Station Master for whose station the signal acts as the last Stop signal after he has personally satisf himself that all the conditions for taking "off" the last Stop signal have been fulfilled. The Loco P in possession of the above written authority shall proceed upto the last Stop signal, stop and whis The Station Master for whose station the above signal acts as the first Stop signal, after he personally satisfied himself that all the conditions for taking "off" reception signals have been fulfil shall arrange to receive the train into his station by-
- (a) authorizing the Loco Pilot on the signal post telephone, where provided to pass the S signal at "on" in accordance with special instructions: or
- (b) authorizing the Loco Pilot to pass the Stop signal at "on" by taking "off" the Calling signal, where provided; or
- (c ) By delivering the prescribed written authority [T/369-3(b)] at the foot of the defect signal by a competent railway servant. GRS Page 109
- S.R.3.70(ii) In case of failure of Starter/Inter Starter/Advanced Starter, Form T/369-(shall be issued to the Loco Pilot to pass the signal at `ON'. In case of failure or defective Gate sig (s) Shunt signal/shunting permitted indicator, Form T.370 shall be issued to the Loco Pilot to pass signal at `ON'.

Note: In case of failure/suspension of departure signals, Form T/369-(3b) shall be issued to Loco Pilot at the station.

- S.R.3.70(iii) Form T/369-(3b) shall also be used in case of suspension of Outer/Home/Inner Home / Routing / Starter / Intermediate Starter / Advanced Starter/Intermed Block Stop signal. The reason for the suspension of such signals shall also be written on the face the authority.
- S.R.3.70(iv) After passing a Last Stop Signal at "On" on the authority of Form T/369-(either due to failure or suspension, the Loco Pilot shall resume normal speed subject to other sp restrictions in force only after ensuring that the last vehicle of the train has passed over all points connections.
- S. R.3.70(v)(a) A separate authority for passing departure signals at 'ON' need not be gin the following circumstances:
- (a) When authority to proceed for relief engine/train into an occupied block sect (T/A.602) is issued.
- (b) For opening communication during total interruption of communication on single I section (Form T/B 602)
- (c ) For working of trains during total interruption of communication on double line sect (Form T/C 602).

- (d) For temporary single line working on double line (Form T/D 602)
- (e) When stub portion of written permission (T/609) issued by the Station Master to the Li Pilot to enter into the occupied block section.
- (f) When authority to proceed without line clear on Automatic Block signaling territor (Form T/B 912) is issued.
- (g) When authority to proceed on automatic block system during prolonged failure of sign (Form T/D) is issued
- S. R. 3.70(v)(b) A separate authority for passing the Last Stop signal at 'ON', need not be giwhen paper Line Clear Ticket (T/B1425 or T/C1425) is issued.(C M 9 dated 20.02.07)
- S.R.3.70(vi) When the Last Stop Signal alone fails and the Block Instrument / Track Circl Axle Counter is otherwise in good working order in double line and single line Tokenless territor Form T/369-(3b) shall be issued to the Loco Pilot as an authority to proceed to enter the block sect duly making the following endorsement on the Form T/369-(3b).

"Last Stop signal No. ------ could not be taken 'OFF'. However, Line Clear has been obtained through Block Instrument / Track Circuit /Axle Counter from ------ station. You are authorized to pass the Last Stop signal at 'ON' and treat this as an authority to proceed and enter the block section. Private No. received (in figures) ------ in words) ------ (Correction No. 6 dated 06.11.06).

## 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 a cannot be kept in the "ON" position, a Stop hand signal shall be shown at the foot of signal. At night, the light or lights of the signal shall be extinguished and the train, after be first brought to a stand may then be hand-signalled past the signal. Advice of the defect signal shall be given to the Loco Pilots of trains at the station in rear warning them to stop such signal.
- (b) If a Warner signal placed below a Stop signal becomes defective and cannot kept in the "on" position, the stop signal above it shall be treated as defective and by ni the light of the Warner signal shall be extinguished.
- (3) If the Warner or Distant signal of an Intermediate Block Post is defective a cannot be kept in the "on" position,

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the Intermediate Block Stop signal also be kept at "on" and treated as defective and act taken as per Rule 3.75.

Note.- The advice mentioned above shall be given through a Caution Order.

#### 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 provic with Warner, the Warner applying to the line to which the defective Stop signal applies sl 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 prescrit 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 sl wait at the signal for one minute by day and two minutes by night and if the signal is taken 'OFF' within this period, he may draw his train ahead cautiously up to the le crossing and
  - (b) If the Gate man is available and exhibiting hand signal, proceed further past

gate cautiously, or

- (c) If the Gate man is not available, or is available but not exhibiting hand signate shall stop short of the Level Crossing, where he shall then be hand-signalled past gate by the gateman. If there is one of in the absence of a Gateman, by one of the memb of the engine crew of the train after ascertaining that gates are closed against road traffic Memo No. 5)
- (3) If the Loco Pilot finds after stopping at the signal, that there is no "G" marker, shall proceed further only in accordance with the procedure laid down under specinstructions.
- S.R. 3.73 (i) The Loco Pilot shall give on long continuous whistle while coming to a stop at the gate Stop signal with 'G' marker. When he passes the Gate Stop signal at 'ON', he may draw his train ahead cautiously up to the Level Crossing and if the Gateman is available and exhibiting hand signals, proceed further past the gate cautiously and otherwise he shall stop 30 meters short of the Level Crossing. Whenever he is hand signalled past the level crossing by the Guard or one of the members of the engine crew, the Loc Pilot shall stop his train with the last vehicle clearing the Level Crossing by two vehicles length to enable the Guard or engine crew to open the gate for road traffic and then board the train. The Guard and Loco Pilot shall report the occurrence at the next block station. (C. Memo No. 5)
- S.R.3.73(ii) When the Loco Pilot stops at a gate Stop signal without "G" marker at "on" protecting a level crossing inside station limits, he shall give one long continuous whistle and arrange to inform the Station Master through Gateman or Assistant Loco Pilot/Fireman about the gate Stop signal being at "on" had the Station Master himself not initiated action earlier. He shall not pass such signal when it is

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at "on" or defective unless he receives the prescribed written authority from the Station Master an "Proceed" hand signal is shown by the Gateman at the foot of the signal as an assurance that the rc is clear and free from obstruction.

S.R.3.73(iii) When a Loco Pilot of a train finds a gate Stop signal protecting a level cross gate outside station limits without a "G" marker at "on" he shall bring his train to a stop and give long continuous whistle and wait for the Gateman to come over and pilot the train past the le crossing. If the Gateman does not turn up within a reasonable time, the Loco Pilot shall attract attention of the Guard by giving two long and two short whistles. The Guard will come over and a consultation with the Loco Pilot proceed to the level crossing gate to ensure that the gates are clo against road traffic and hand signal the train past the level crossing. The Loco Pilot shall stop his to with the last vehicle clear of the level crossing by two vehicles to enable the Guard to board the trafter opening the level crossing gate for road traffic. The train shall be restarted on the hand signals the Guard.

This occurrence shall be reported at the next block station, run through trains being stop out of course for this purpose.

S.R.3.73(iv) The Loco Pilot shall pass a Gate-cum-Distant signal when it is "ON" defective by following the procedure given in sub clause (i) above when there is "G" marker or s clause (iii) above when there is no "G" marker.

#### 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, o
- (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 a signal is misleading or imperfectly shown, or
- (e) if more than one aspect is displayed, the Loco Pilot shall act as if the signal v showing its most restrictive aspect:

Provided that during night, if in the case of a semaphore Stop signal for approach trains only, the Loco Pilot finds the signal light extinguished, he shall bring his train to a s at such signal. If he finds that the day aspect of such signal is clearly visible and is satisf that the signal is in the "off" position, he shall proceed past it upto the station cautiously  $\varepsilon$  restricted speed obeying all intermediate Stop signal, if any, relating to him, and report matter to the Station Master for necessary action. *GRS Page 112* 

- (2) At stations equipped with a colour light signal provided with a "P" marker, the Lc Pilot shall bring his train to a stand if it does not show any light or shows an imperfect asp and having satisfied himself that the signal is provided with a "P" marker shall proce preparing to stop at the next Stop signal and shall be guided further by its aspect.
- S.R.3.74 (i) When a Loco Pilot comes across a signal which is flickering/bobbing he sho consider that signal to be showing the most restrictive aspect and bring his train to a stop short of it the signal assumes a steady aspect and remains steady for 60 seconds he should take further act according to the steady aspect so shown. If, however, the signal continues to flicker/bob and does assume a steady aspect for 60seconds he should treat the signal as defective and take further act accordingly. If the signal shows more than one aspect simultaneously it should also be treated defective in the case of manual Stop signal.

"However in the case of an Automatic Stop signal showing more than one asr simultaneously, the most restrictive aspect of that signal (i.e. "ON" aspect) shall be obeyed".

Note. – Bobbing indicates appearance and disappearance of different aspects of a signal on off, while flickering means vibrating or unsteady illumination of any one particular aspect.

# 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 train in rear of the signal and contact the Station Master of the block station I n rear on telephone, if provided on the signal post.
- (2) The Station Master shall authorize the Loco Pilot to pass the Intermediate Blo 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 fc minutes at the signal shall pass it at "on" and proceed cautiously and be prepared to s short of any obstruction, at a speed not exceeding 15 kilometres an hour if he has a gc view of the line ahead, otherwise at a speed not exceeding 8 kilometres an hour and rep the failure to the Station Master at the Block station ahead.
- (4) The Station Master of the block station working the Intermediate Block Stop sig on becoming aware that such a signal is defective shall, before despatching a train, treat entire section upto the block station immediately ahead of the *GRS Page 113*

Intermediate Block Post as one block section and issue a written authority to the Loco P to pass the defective Intermediate Block Stop signal at "on", without stopping at the signal accordance with the procedure prescribed by special instructions.

S.R.3.75(i) The written authority specified under G.R 3.75(4) to pass the Intermediate Bl-Stop signal at `ON' shall be in Form T/369-(3b).

S.R.3.75(ii) When the Loco Pilot has to pass an Intermediate Block Stop signal at ON, shall proceed cautiously as laid down in G.R 3.75 (3) and will continue to proceed cautiously until reaches the foot of the next First Stop signal of the station in advance and even if that signal is "OF

the Loco Pilot shall continue to look out for any possible obstruction short of the same and will upon its indication only after he has reached it. The Loco Pilot shall also observe and obey the asp of Gate Stop Signals, if any, between the IBS signal and FSS of the station in advance.

S.R. 3.75 (iii) After stopping and then passing an Intermediate Block Stop signal at 'O the Loco Pilot of the following train hauled by and locomotive shall ensure that a minimum dista of 75 metres or one clear OHE span is maintained between his train and the preceding train or obstruction on the line, In special circumstances like floods, etc., after stoppage, the Loco Pilot of following train may draw his train still closer to the preceding train or the obstruction. (C. Memo N dated 06.11.06).

S.R. 3.75 (iv) The station Master of the block station working the Intermediate block s signal on becoming aware of the failure of the Intermediate Block Stop due to failure of the stop sig itself, the Block instrument, Track Circuit, Axle Counters etc, shall before despatching a train, to the entire section up to the block station immediately ahead of the Intermediate Block Post as block section and issue a Partial Interruption Certificate (PIC) as the authority to proceed along v Form T / 369-(3b) to pass the Intermediate Block Stop Signal at 'ON' without stopping at the signal.

In such cases, the Loco Pilot shall pass the IBS signal at 'ON' at normal speed subjec other speed restriction in force.

#### 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

S.R.3.76(i) The intimation referred to in Rule 3.76 shall be sent to all those who whoriginally advised

of the defect and acknowledged immediately, by telephone. The stations acknowledging the intimat shall state

in the acknowledgement the number and description of the last train to which the prescribed writ authority was

issued by them.

#### 3.77. Defective or damaged points etc. –

- (1) Whenever points, crossings or guard rails are defective or damaged, the raily servant incharge of operation of points shall protect them and immediately arrange to repute circumstances to the Station Master.
- (2) The Station Master, on becoming aware of such defective or damaged points,  $\epsilon$  shall
- (a) immediately arrange to have the defect rectified by the railway servant responsi 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. GRS Page 114

#### 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 cautio (2)(i) When his engine explodes a single detonator or when he notices a flasignal burning, he shall immediately bring his train to a stop and be guided by the sign that he may receive or if no hand signal or other signals are at once visible to him he follow the procedure as given in para (v), (vi) and (vii).

- (2)(i) When his engine explodes a single detonator or when he notices a flare sig burning, he shall immediately bring his train to a stop and be guided by the signals that may receive or if no hand signal or other signals are at once visible to him he will follow procedure as given in pare (v),(vi) and (vii).
- (ii) In thick, foggy or tempestuous weather impairing visibility when his engine explor 2 detonators within a distance of 10 metres apart, the Loco Pilot will control his trimmediately and will follow the aspect of the fixed signal ahead within a distance of 2 metres.
- (iii) When Loco Pilot explodes 3 detonators within a distance of 40 metres he sho control his train and move cautiously to stop short of any obstruction and be guided by signal that he may receive and or if no hand signal or other hand signals are at once visi to him he will follow the procedure as given in para (v), (vi) and (vii) below.
- (iv) If it is day and he has a clear view of the line ahead, proceed very cautiously 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 impaired on any account, proceed very cautiously on hand signals given by a member of 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 where flare signal was burning. If he does not explode any more detonators or sees no ot 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 obstructed, the Loco Pilot shall take every possible precaution, so as to have the train v under control.
- (4) A Loco Pilot shall acquaint himself with the system of working, location of sign and other local conditions affecting the running of trains on a section or sections of railway over which he is to work and if he is not so acquainted with any portion of the railw over which

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he is to work, obtain the services of a qualified railway servant who is conversant with it assist him.

- Note. Whenever a detonator is exploded, it shall be picked up by the Guard (or Loco Pilot in the case of a light engine) and an entry regarding the same shall be made in Combined Train Report.
- S.R.3.78(i)(a):- Every new Loco Pilot/Fireman/Diesel Assistant/Assistant Loco Pilot sho be given three trips (Up and Down direction separately) for learning road, out of which one must by night, to familiarize himself with the section(s) on which he is rostered for duty.
- (b) If the Loco Pilot/First Fireman/Diesel Assistant/Assistant Loco Pilot has not operated c section for over three months, he should be given road learning trips as per the schedule given below

Duration of absence		No. of trips On Ghat section and Automatic territories
(2) 6 months to 2 years	Two trips	Three trips Do. Do.

Any additional trips considered necessary should be provided with the approval of the controlling Branch Officer of the division.

(c) The scale of trips provided as above would apply to all systems of working includ

sections having One Train only System.

- (d) A register should be maintained at the crew booking points. Before a Loco Pilot/F Fireman/Diesel/Assistant/Assistant Loco Pilot takes over, he should certify that his previous trip the section was performed within the last three months/he has received learning Road trip/trips as previous/trip on the section was performed more than three months ago. Also, the base depot sho keep a record of the date of the last trip performed by a Loco Pilot/First Fireman/Die Assistant/Assistant Loco Pilot on different sections and up-date it every first of the month. On basis of these records, shed in-charge should book the Loco Pilot/First Fireman/Die Assistant/Assistant Loco Pilot for learning road on a section where it is required.
- S.R.3.78(ii) In order to ensure that the Guards know the road before they are detailed to w on a section, at least two trips, one by day and one by night shall be the minimum on each section learning the road to be given to them. On difficult sections the Divisional Railway Manager r locally increase the number of trips, if considered necessary. A Guard shall be deemed to be acquainted with any portion of the railway if a period of over 3 months has elapsed since he had worked over that portion and he shall again learn the road as above.
- S.R.3.78(iii) (a) Warning Board for Passenger Trains shall be provided at not less than 1000 m in rear of the First Stop Signal of a station, Intermediate Block Stop signal and Gate S Signal outside station limits. The Passenger Warning Board need not , however, be provided where First Stop Signal / Intermediate Block Stop Signal / Gate Stop signal is preceded by a permiss Warner or Distant signal and distance between them is 1000 m or more.

Self reflecting sheets of approved type or reflectors shall be provided on the Warning Board as approved drawings.

(b) Goods Warning Board shall be provided at a distance of not less than 1400 m in rear of First Stop Signal of a station, Intermediate Block Stop signal and Gate Stop signal outside stat limits in all BG sections.

Self reflecting sheets of approved type or reflectors shall be provided on the Warning Board as approved drawings.

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# Note:- The provision of Warning Board for goods trains shall be dispensed with where In Distant Signal is provided.

- (c) The object of providing these Warning Boards is to give the Loco Pilot adequate warn depending upon the breaking distance. The Loco Pilots shall clearly understand that if no sig indication is available from the Warning Boards as applicable to their train (passenger train or go train as the case may be) they should control the speed of their trains as if the Stop signal ahead i "on" so that they can stop short of the Stop signal, if at "on". If the Loco Pilot subsequently gets indication of the signal after passing the Warning Board by the Stop signal itself coming in sight through the Distant or Warner or Repeating signal as the case may be that the Stop signal ahead "off", he shall suitably increase his speed depending upon the signal indication.
- (iv) Precautions to be taken by the Loco Pilot when view of signals is obstructed. In the foggy or tempestuous weather impairing visibility or when the view of the signals is obstructed, Loco Pilot shall whistle continuously (as per item 9(a) of the unified code of engine whistle) and t every possible precaution including reduction of speed as necessary so as to have the train well un control and be able to stop short of any possible obstruction on the line.

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

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

S.R.3.79 (i) In colour light signalling territories whenever the indication/aspect of a S signal is at "ON" below which a Calling-on-signal, is provided, the Loco Pilot of an approaching to

must draw his trains ahead close upto the foot of the Stop Signal. A board to read "Loco Pilots to 1 up to signal number ........... if the same is at "ON", is provided at site for this purpose.

## 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 t refers to him, when it is "on" or defective, unless.-
- (a) he has, at a previous station, received notice in writing specifying that the signa out of order and unless he *GRS Page 117*

also receives a Proceed hand signal from a railway servant in uniform at the foot of su signal; or

- (b) after coming to a stand, he is either given a written authority by the Station Mas to proceed past such signal or is authorised by a Calling-on signal in the "off" position o authorised by the Station Master over the signal post telephone in accordance with specinstructions.
- (2) The Loco Pilot of a train while passing an Outer, a Home or a Routing sigr when it is "on" or defective, shall ensure that the speed of his train does not exceed kilometres an hour.
- S.R.3.80(i) Whenever the Loco Pilot of an incoming train has passed partly or completel reception signal at danger without proper authority and come to a stop short of the usual berth place, the Guard shall inform the Station Master. The Station Master shall proceed to the spot examine the Brake Blocks of the first few vehicles fitted with Automatic vacuum brake/Air brake find out whether they are hot warn or cold. He shall also measure the distance overshot in terms vehicle or wagon length or rail length in the presence of the Guard and the Loco Pilot. He shall a satisfying himself that everything is safe, issue a "Restarting Memo" in duplicate (countersigned the Guard) to the Loco Pilot authorizing him to restart observing the "oft" aspect of the recept signal ahead and also, if necessary, warning him to proceed cautiously and arrange to take "off" signal ahead which has not been passed. He shall take the signature of the Loco Pilot on the duplic copy of the Restarting Memo. The Guard shall, then restart the train. The Loco Pilot shall then observe the "oft" aspect of the signal ahead and move into the station. If there is no signal ahead, Station Master shall arrange to pilot the train in addition to the issue of the Restarting Memo. Pointsman handing over the Restarting Memo to the Loco Pilot shall travel on the engine and pilot train into the station. The Station Master shall arrange to issue an Accident Message to all concerin accordance with Accident Rules. The Guard shall make entries in the Combined Train Report.
- S.R.3.80(ii) The procedure detailed in S.R.3.80 (i) shall also be followed when the Loco Pilot passes an approach Stop signal at "on" partly or completely due to the signal assuming its most restrictive aspect in the face of an approaching train.

# 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 have the when it is "on" or defective, unless his train has been brought to a stop at the station when 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 Star or Advanced Starter protecting points, he shall not pass such signals, when "ON" defective, unless he also receives a "Proceed" hand signal from a duly authorised member the station staff posted at the signal, or
- (b) by taking "off" the Calling-on signal, if provided under approved special instructio vide sub-rule (2) of Rule 3.13.
  - (2) In the case of last Stop signal, he shall not pass such signal, when "on"

defective, unless he is also in possession of a proper authority to proceed under the syst of working.

S.R.3.81(i)(a) Before the issue of the written permission *vide* GR 3.81 (1)(a) above, Station Master shall personally inspect the points lying on the route of despatch and ensure that the are correctly set and facing points locked.

Note. – In case of motor operated points, both facing and trailing points on the route shall set and locked.

- (b) In the case of a Starter always and in the case of an Advanced Starter interlocked v any slip siding points or cross-overs , he shall post a competent railway servant with a "Proceed" his signal at the foot of the signals.
- (c) The detailed procedure to be adopted whenever slip siding points become defective stations provided with slip sidings shall be incorporated in the Station Working Rules.
- S.R.3.81(ii) When leaving a station, if a train is brought to a stand after passing partly completely, the Starter or Advanced Starter at "ON" without proper authority, the Guard shall inform the Station Master. The Station Master shall measure the distance overshot in terms of rail length vehicle/wagon length in the presence of the Guard. After satisfying himself that everything is safe the train to leave, the Station Master shall issue a "Restarting Memo" (countersigned by the Guard the Loco Pilot authorising him to restart observing the "off" position of the departure Stop sign ahead, if any, which has not been passed. The Guard shall, then, restart the train. In cases where Loco Pilot enters the block section without authority to proceed consequent upon passing the Stater or Advanced Starter at "on" partly or completely, the train shall be backed clear of the block section without suthority of Line Clear Ticket/Partial Interrupt Certificate. Block Instrument Working shall be restored by the competent official of the Sig department. (C M 9 dated 20.02.07)

S.R.3.81. (iii) The procedure detailed in S.R.3.81 (ii) shall also be followed when a Loco P passes a departure Stop signal at "on" partly or completely due to the signal assuming its m restrictive aspect in the face of an approaching train.

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#### 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 obtair the permission of the Station Master and has satisfied himself that all the correct sign have been shown.

S.R.3.82 (i) The Station Master's permission shall be conveyed by the taking "off" of fit signals or, in the absence of Fixed signals by hand signals exhibited by a competent railway servant

#### 3.83. Assistance of the engine crew regarding signals.-

- (1) The Loco Pilot and the Assistant Loco Pilot, as the case may be, shall identify easignal affecting the movement of the train as soon as it becomes visible. They shall call the aspects of the signals to each other.
- (2) The Assistant Loco Pilot shall, when not otherwise engaged, assist the Loco P in exchanging signals as required.
- (3) The provisions of sub-rules (1) and (2) shall, in no way, absolve the Loco Pilothis responsibility in respect of observance of and compliance with the signals.

# 3.84. Duties of Loco Pilot as to signals when two or more engines are attached train.-

When two or more engines are attached to a train, the Loco Pilot of the lead engine shall be responsible for the observance of and compliance with the signals and Loco Pilot or Loco Pilots of other engine or engines shall watch for and take signals from

Loco Pilot of the leading engine, except in cases where special instructions are issued to contrary.

- S.R.3.84 (i) On all Ghat sections, Banking engines are permitted to be attached in the real all ascending trains for giving effective assistance.
- S.R.3.84. (ii) When two engines are employed to work a train, it shall be ensured that engine with the higher grade Loco Pilot is always leading and he shall be held responsible for the s working of the train.
- (iii) Whenever trains are double-headed, the Loco Pilot of the leading engine shall responsible for observing signals and shall invariably start first after sounding his whistle obtaining acknowledgement from the Loco Pilot of the other engine. The Loco Pilot of the regine, after sounding his whistle, shall not open the *GRS Page 120*

regulator until the leading engine has tightened the coupling. In shutting of steam, the Loco Pilot the leading engine shall do so first and then the Loco Pilot of the rear engine.

### 3.85. Reporting of defects in signals.-

- (1) Should a Loco Pilot or a Guard observe that a signal is rendered imperfectly visi by branches of trees or by any other cause, or that a signal light is partially obscured or burning brightly enough to give clear aspect, he shall report the matter to the Station Mas 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 st take immediate steps to advise the Station Master concerned who shall get it rectified. *GRS Page 121*