

CHAPTER – IV

WORKING OF TRAINS GENERALLY

A. Timing and Running of Trains

4.01. Standard time - The working of trains between stations shall be regulated by the standard time prescribed by the Government of India, which shall be transmitted daily to all the principal stations of the Railway at 16.00 hours in the manner prescribed.

S.R.4.01/1. The Section Controller on duty at 16.00 hours shall transmit the time signal to the stations in the section controlled by him. In case the duty of the Section Controller changes at 16.00 hrs. the outgoing Section Controller shall transmit the signal. In the non-controlled section, the time shall be relayed by the controlling station on phone.

4.02. Adherence to advertised time - No passenger train or mixed train shall be dispatched from a station before the advertised time.

S.R.4.02/1. Punctuality of trains –

- (a) Every endeavor must be made to make up time at stations when a train is running late. No delay must take place in taking 'Off' the departure signals.
- (b) Loco Pilots must be on the alert and start their trains immediately they have received the Guard's signal and have satisfied themselves that the departure signals have been taken 'Off' and, on the single line, the correct 'Authority to proceed' has been received.
- (c) Trains, if running late, may be allowed to start if the full halt allowed for the train has not elapsed; but no train carrying passengers must start before the departure time shown in the Public Time Table.

4.03. Setting watch - Before a train starts from a terminal or crew-changing station, the Guard shall set his watch by the station clock or the clock at the authorized place of reporting for duty and communicate the time to the Loco Pilot who shall set his watch accordingly.

4.04. Time of attendance for train crew - Every Guard, Loco Pilot or Assistant Loco Pilot shall be in attendance for duty at such place and at such time as may be prescribed by special instructions.

S.R.4.04 /1. Attendance of Guards - Passenger Guards must report for duty at least 30 minutes before the scheduled departure of the train. In the case of goods trains originating from a terminal yard, the Guards shall appear on duty at least 45 minutes before the train is scheduled to leave. At intermediate points where the change of Train Crew/Guard takes place, the time of attendance will be prescribed by the Divisional Railway Manager.

S.R.4.04/2. Attendance of Loco Pilots and Assistant Loco Pilots - Loco Pilots and Assistant Loco Pilots must 'Sign on' at such time in advance of the starting time of their trains, as the Divisional Railway Manager will fix. In the calculation of the time required, the following will be allowed for -

- (a) 30 minutes for examining and taking over engine in shed after 'Signing on' duty.
- (b) Such time as is required for the journey between the shed and the train. This time should be calculated for each separate station, on an average of the actual time required.
- (c) 15 minutes for free shunting time before the departure time of the trains.

They must also remain with their engines on arrival at the shed after finishing a journey for such time as may be prescribed for the purpose of examining their engines, booking repairs, or such other work as may be necessary.

- 4.05. Proper running line - The Loco Pilot shall take his train along the proper running line.
- 4.06. Direction of running -
- (1) On a double line, every train shall run on the left hand line unless otherwise prescribed by special instructions.
 - (2) If there are two or more parallel lines, the direction in which trains are to run on each line shall be prescribed by special instructions.
- 4.07. Supply of Working Time Table and Schedule of Standard Dimensions -
- (1) A copy of the working Time Table for the time being in force shall be supplied to each Station, Guard, Loco Pilot, Inspector of Way or Works and any other railway servant requiring the use of the Working Time Table during the course of his duties.
 - (2) A copy of the Working Time Table shall, on issue, be supplied to the Commissioner of Railway Safety.
 - (3) A copy of the Schedule of Standard Dimensions for the time being in force shall be supplied to each Inspector of Way or Works and Train Examiner.

B. Speed of Trains

- 4.08. Limits of speed generally -
- (1) (a) Every train shall be run on each section of the railway within the limits of speed sanctioned for that section by approved special instructions.
(b) The sectional speed sanctioned and permanent speed restrictions shall be shown in the Working Time Table.
(c) "The Loco Pilot shall observe the sanctioned sectional speed except when either one speedometer in case of electric loco or two speedometers in case of other locomotives are defective. In such cases of defective speedometers both the maximum permissible speed and booked speed of coaching trains shall be reduced by ten percent from the speed otherwise permissible.
 - (2) The Loco Pilot shall -
 - (a) regulate and control the running of the train according to the Working Time Table, so as to avoid either excessive speed or loss of time, and
 - (b) not make up between any two stations more time than is allowed in this behalf in the Working Time Table, and shall also observe all speed restrictions.
 - (3) When it is necessary to indicate to the Loco Pilot where trains are to run at a restricted speed or where trains have to come to a stop due to the line being under repairs or due to any other obstructions action shall be taken as specified in Rule 15.09.

S.R.4.08/1. During Thick, Foggy or Tempestuous weather, the Loco Pilot shall not exceed a speed limit of 30 KMPH when running in Automatic Signalling Territory and 60 KMPH in Absolute Block Section.

S.R 4.08/2. Speed of trains entering dock platform – The speed of trains while entering dock platform lines shall not exceed 10 KMPH.

- 4.09. Caution Order -
- (1) Whenever, in consequence of the line being under repair or for any other reason, special precautions are necessary, a Caution Order detailing the kilometres between which such precautions are necessary, the reasons for taking such precautions, and the speed at which a train shall travel, shall be handed to the Loco Pilot at the stopping station immediately short of the place where such precautions are necessary, or at such other stations and in such manner, as prescribed under special instructions.

- (2) **Sub-rule (1) does not apply in the case of long continued repairs when fixed signals are provided at an adequate distance short of such place and have been notified to the running staff concerned.**
- (3) **The Caution Order referred to in Sub-rule (1) shall be on white paper with green fonts and be made out and signed in full:
As a temporary measure the Caution Order may be issued on the white paper with a green band running diagonally across the form.**

S.R.4.09/1. I. When it is necessary to give a Loco Pilot special instructions in regard to restriction of speed, need for observing caution due to damage, repairs to track, overhead equipment, signalling and interlocking equipment or for any other reason endangering safety, a Caution Order on form T/409 on white paper shall be issued to the Loco Pilot and the Guard by the Station Master on duty. The circumstances are listed below:

- (1) When engineering works or repairs are undertaken inside or outside station limits.

Note: Notwithstanding anything contained in G.R. 4.09/(2), provisions of G.R. 4.09(1) shall apply and caution order for all temporary speed restrictions must be issued. For block section where permanent speed restriction provided, caution order need not be issued by notice station or by station immediately preceding that section.

- (2) When rough running or heavy lurch is reported by the Loco Pilot.
- (3) When any Patrolman does not report within 15 minutes of his scheduled arrival at the station.
- (4) Unsafe condition of bunds of tanks or rivers.
- (5) When water level rises over the danger level marked at bridges.
- (6) When gate signals are reported to be defective.
- (7) When there is doubt or suspicion that a block section may have been affected or obstructed during the passage of an earlier train.
- (8) Trolley or lorry working in section, as required under the rules.
- (9) When a signal is newly erected or resited on the section.
- (10) On a double line section if a passenger train does not arrive within 10 minutes or a goods train within 20 minutes of its normal running time, for train proceeding in opposite direction.
- (11) When overhead equipment is damaged or under taken for repairs.
- (12) When signalling and interlocking equipment is damaged or undertaken for repairs.
- (13) When sending an engine to assist a disabled train in section.
- (14) In connection with temporary single line working on double line section, working of double line when all communications fail, and working under abnormal conditions as required under the rules or considered necessary.
- (15) To authorize working of ballast train in the section.
- (16) When a train engine returns to pickup the rear portion left behind in the Block Section.
- (17) To notify a train engine Loco Pilot when a banking engine will assist.
- (18) When alarm chain apparatus to any coach/compartment is blanked off.
- (19) Any other conditions or circumstance necessitating issue of Caution Orders.

Note- The above is the usual list of contingencies under which a Caution Order is required to be issued but it is not exhaustive.

II. Sending of information -

- (1) Whenever in circumstances detailed above special precautions are necessary, or when any danger to safety of trains is apprehended, the Station Master receiving such information shall immediately inform the Station Master at the other end of the affected block section, and the Section Controller, who will inform to the Power Controller, the Traction Power Controller, The Loco Foreman, other Railway servants concerned and the notice station or stations of such conditions under exchange of Private Numbers.

(2) The Section Controller shall in return inform to the Station Master that all concerned have been advised of such conditions.

III. Procedure for issue of Caution Order –

(1) By the Station Master at either end of the affected Block section -

(i) The Station Master receiving advice about the line being under repairs, or any other eventuality endangering safety of trains, necessitating exercise of caution shall not permit any train running to enter the affected block section either from his station or from the other end unless -

- (a) The Station Master at the other end has acknowledged receipt of such information,
- (b) He has warned the Loco Pilot and the Guard of the danger ahead and its location by the issue of a Caution Order except in case of permanent speed restrictions, which are notified in the Working Time Table,
- (c) He has ensured that Caution Order has been issued by the Notice Station concerned, and
- (d) He has received advice about restoration of normal working.

(ii) The Station Master at the other end of the affected block section shall also take action in accordance with sub-clauses (b) to (d) of the clause (i) above.

(iii) Run through trains shall be stopped out of course for issue of Caution Order till such time it has been ensured that a Caution Order has been issued by the Notice Station concerned.

(2) By the Station Master of Notice Station -

(a) On receipt of advice of the line being under repairs or any other eventuality endangering the safety of trains, necessitating exercise of caution, the Station Master of the Notice Station shall acknowledge the same and shall not allow any train, which has to pass through the affected block section, to leave his station unless he has warned the Loco Pilot and the Guard of the danger and its location through the issue of a Caution Order. He shall also advise the Section Controller about the first train to which the Caution Order has been issued.

(b) The Station Master of a Notice station shall issue 'NIL' Caution Order to the Loco Pilots and the Guards of all trains leaving his station if he has received no intimation of any special precautions to be observed between his station and the next Notice Station of the train, in the direction of movement.

Note: The Loco Pilot shall not start the train and the Guard shall not give signal to start the train from a Notice Station until they have received the Caution Order.

(3) In case of trains originating from stations other than Notice Stations - In case of a train originating from a station which is not a Notice Station, the Station Master shall consult the Section Controller or the Notice Station in rear or the Notice Station in advance (on single line section only) and issue Caution Orders upto the Notice Station in advance. However, when such information cannot be collected by the station due to failure of communications with the Section Controller or the Notice Station in rear or the Notice Station in advance (on single line section only) the train should be started after issuing a Caution Order for restrictions, if any, or a 'NIL' Caution Order upto the block station in advance giving a written advice to the Loco Pilot to stop at the block station in advance and act upon the instructions given there. This procedure will be followed up to the station from which he can obtain particulars of all restrictions upto the Notice Station in advance.

(4) Change of train crew enroute - In case of change of train crew enroute, the Loco Pilot and Guard taking over charge must take over all Caution Orders relating to his train giving acknowledgment to the Loco Pilot and Guard who is being relieved.

- (5) Attaching of assisting/banking engine enroute - In case of an assisting or a banking engine being attached at a station enroute, the responsibility for acquainting himself with restrictions shall lie on the Loco Pilot of such an engine who shall contact the train engine Loco Pilot or the Guard, as the case may be, and get the necessary information.
- (6) During failure of communications - During failure of communications, the Station Master of the station immediately in rear of the affected block section shall issue Caution Order to trains of all descriptions irrespective of whether it is a single line section or a double line section and irrespective of the system of working in force on the section.
- (7) In case of power blocks on electrified sections- In case it becomes necessary to permit movement of vehicles hauled by diesel locomotives on a section under power block for a running line, a Caution Order must be issued as per rules. While asking for the power block, the Traction Power Controller concerned shall invariably mention the duration of the power block, the block stations and the exact kilometreage between which the work is to be done, the nature of work, the speed at which the train shall travel, and other special precautions required to be observed by the Loco Pilot.

Note: In case of other engineering works - In case of works like relaying, deep screening of ballast, string-lining of curves etc., where the work progresses and the location of the speed restrictions consequently change from time to time, the engineering official-in-charge of the work will issue a daily message, when the block is lifted, to the Station Master of the nearest block station (preferably the block station controlling entry into the block section concerned) indicating the kilometreages and speed restrictions to be observed and obtain his acknowledgment. The copy of this restriction message should also be endorsed to the Section Controller, the Loco Foreman, the Power Controller and the Traction Power Controller.

The Station Master immediately on receipt of this advice shall inform the Station Master of the block station immediately in rear of the affected section on double line and the Station Masters on either side on single line and the controller, under exchange of Private Numbers.

- (8) In case of stations where no train is booked to stop -
- (a) A Caution Order shall normally not be issued except in an emergency necessitating imposition of sudden speed restrictions.
 - (b) If any information warranting issue of Caution Order is received by the Station Master of such a station, he shall immediately advise the adjoining block stations for the issue of Caution Order and only after obtaining their acknowledgments in this regard under exchange of Private Numbers, shall acknowledge the message requiring imposition of speed restrictions.
 - (c) On receipt of such information, the Station Master of the adjoining station who receives the information first, shall act as if he had himself received the message for imposition of the restriction.

IV. Description and Preparation of Caution Order -

- (a) Caution Order shall be prepared in the prescribed Form No T/409 on white paper. All forms should be serially numbered and the name of the station issuing it shall be stamped on each foil. It shall be in three foils- one each for the Record, Loco Pilot, and Guard.
In case of trains worked by engine manned by Loco Pilots and Co- Loco Pilots, the Caution Order shall be got noted by the Co-Loco Pilot also. Caution Order should be prepared neatly and legibly in triplicate by carbon process.
“Printing of Caution Order forms should be bilingual i.e. in English and Hindi.
- (b) No entries should be made on the back of the Caution Order. If more than one Caution Order form is used pages should be serially numbered as Page-1, Page-2, Page-3 etc.
- (c) The Caution Order shall specify the kilometreage and the station at which or the Stations between which caution is required to be observed the reasons therefore, and the speed at which the train will travel on the restricted zone. Station codes should not be used. Names of the Stations concerned should be written in full.

- (d) Caution order shall be specifically made out for each train separately except at specified stations and for specified trains for which case it may be typed, cyclostyled or printed, provided that it shall be checked up again at the time of service to ensure that all locations where caution is required to be observed have been incorporated therein. Wherever speed restrictions are required to be observed at two or more locations, the kilometreage of all such locations shall be indicated in geographical order in relation to the direction of movement.
- (e) Caution Order shall always be dated and signed in full.
- (f) In case of any error or overwriting, it shall be cancelled and a fresh Caution Order shall be prepared.

V. Serving of Caution Order -

- (1) The Caution Order shall be delivered to the Loco Pilot and the Guard of a train by the Station Master either personally or through a competent railway servant deputed by him and the signatures of Loco Pilot and Guard obtained on the record foil in token of their having received and understood it. When more than one foil is served, each counter foil will be signed by the Loco Pilot and Guard.
- (2) Where there is more than one engine, the Caution Order shall be given to Loco Pilot of the leading engine and his signature obtained. In case, there is a banking engine/assisting engine or engines in rear/front, a fresh Caution Order should be issued by Station Master where such engines are attached.

VI. Method of notifying/cancellation of special precautions-

- (1) When a competent railway servant finds it necessary to impose any speed restriction or any special precaution on a portion of a line, including OHE, due to repairs or work or for any other reason, he shall-
 - (i) (a) advise in writing the Station Master of the nearest block station (preferably the block station controlling entry into the block section concerned) the exact kilometreage and the station at which or the stations between which the restriction or special precaution is to be observed, its nature and likely duration, the method of protection of the place of restriction together with the location where engineering indicators are to be exhibited etc., and also advise other railway servants concerned as per clause (1) of paragraph II who are required to be notified in this regard, and
 - (b) not commence such operations until written acknowledgment is received from the Station Master.
 - (ii) The Station Master receiving the advice shall not acknowledge it until he has advised the Station Master of the block station at the other end of the block section, if any, to be affected and obtained his acknowledgment under exchange of Private No.
- (2) When the cause of such restriction or special precaution has been removed, the competent railway servant shall advise this fact to the Station Master of the nearest block station under exchange of Private Numbers and other officials concerned who were notified earlier of the imposition of restriction.

VII. Action by the Station Master after cancellation of the speed restriction -

- (1) The Station Master receiving advice regarding the removal of the restriction shall advise the Station Masters at the other end of the block section concerned, and the Section Controller (under exchange the private number who will advise to all concerned about it. After issue of the advice regarding cancellation of the Caution Order, the Station Master should discontinue the issuing of the Caution Order.
- (2) If no train is booked to stop at the station, the advice regarding the removal of restriction shall be sent to one of the adjoining block stations who should take action in accordance with para (1) above.

VIII. Record of Caution Orders -

- (a) At all stations where Caution Orders are issued, the Station Master shall keep an up to date record of all the speed restrictions imposed with the dates of their enforcement and cancellation, authority, nature, etc. in the Caution Order Register and bring forward every Monday at.00 hrs. in geographical order in relation to the direction of movement, the Caution Orders due to be issued. No code names of stations shall be used in these registers. The Notice Stations will maintain such registers separately for each Notice Area.
- (b) Similar record should also be kept in Control Offices, Loco Sheds etc., where information in this regard is received.

Note: (1) When a Station Master is relieved, either for change of duty or otherwise, he will ensure that his reliever is acquainted with all the cautions/speed restrictions that are in force at the time of relief. When a Station Master comes on duty he must record in the station diary the serial numbers of all the Caution Orders in force at that time.

(2) A similar Caution Order Register should be maintained by the Loco Foreman separately, for each section. A separate register should be maintained for obtaining the acknowledgments of Loco Pilots before they are booked out for each trip in token of their having acquainted themselves with the cautions/speed restrictions in force over the section of their run. It will be the responsibility of Loco Pilots to peruse the register and acquaint themselves with all cautions/speed restrictions that are to be observed over the section over which they are booked to run.

IX. Preservation of Caution Orders - Record foils of the Caution Orders shall be preserved for a period of twelve months after issue.

X. List of Notice Stations - Caution Orders will be issued to the Loco Pilots and Guards of all trains at Notice Stations that are nominated by the DRMs for each section under his jurisdiction and notified in the Working Time Table.

4.10. **Limits of speed over facing points -**

- (1) **The speed of trains over non-interlocked facing points shall not exceed 15 kilometres an hour in any circumstances, and the speed over turnouts and crossovers shall not exceed 15 kilometres an hour unless otherwise prescribed by approved special instructions, which may permit a higher speed.**
- (2) **Subject to the provisions of sub-rule (1), a train may run over interlocked facing points at such speed as may be permitted by the standard of interlocking.**

S.R.4.10/1. The Loco Pilot must observe the prescribed speed limits over turn-outs and cross overs and shall not resume normal speed until the entire length of the train has cleared the same and until this has been so indicated to him by the Guard by exchanging an "All Right" signal. In such cases the Guard shall not give all right signal to the Loco Pilot unless the last vehicle of his train has cleared the trailing points.

4.11. **Limits of speed while running through stations -**

- (1) **No train shall run through an interlocked station at a speed exceeding 50 kilometres an hour, or such less speed as may be prescribed by approved special instructions unless the line on which the train is to run has been isolated from all other lines by the setting of points or other approved means, and interlocking is such as to maintain this condition during the passage of the train.**
- (2) **In every case in which trains are permitted to run through on a non-isolated line, all shunting shall be stopped and no vehicle unattached to an engine or not properly secured in accordance with Rule 5.23 may be kept standing on a connected line which is not isolated from the through line.**

- S.R.4.11/1. (a) On the Broad Gauge sections the speed over points must not exceed -
- | | | |
|---|---|---------|
| (i) Non-interlocked points | - | 15KMPH |
| (ii) Interlocked when the train takes a turnout from one line to another with 1 in 12 or 1 in 8½ turn out with curve/symmetrical split switches. | - | 15 KMPH |
| (iii) Motor trolley (Heavy or light) while passing through points and crossings (Irrespective of whether the trolley is running through the straight or a turnout.) | - | 15 KMPH |
| (iv) When a train takes a turn out from one line to another over 1 in 8½ turnout with straight switches or over an emergency crossover having 1 in 8½ turnout with straight switches. | - | 10 KMPH |
- (b) The prescribed limits of speeds over the facing points on the Narrow Gauge sections are given in the Working Time Table.
- (c) Trains running through on the loop line with 1 in 12 turn out or 1 in 8½ turn out equipped with curved/symmetrical split switches -
The Loco Pilot shall not exceed a speed limit of 15 KMPH when running through a loop line at the stations.
- (d) Trains running through on goods loop lines with 1 in 8 ½ turn outs with straight switches -
- In no circumstances is a train allowed to run through an interlocked or non-interlocked station over a goods loop or a loop with 1 in 8½ turn out with straight switches. The train must first be brought to a stand on that line and then signals, if provided, may be taken 'Off' and the 'Authority to proceed' handed over to the Loco Pilot.
 - The Loco Pilot shall not exceed the speed limit of 10 KMPH while entering or leaving such lines of the stations.
- Note: Warning Boards of speed limit have been provided at all 1 in 8 ½ turn outs with straight switches for warning the Loco Pilot to restrict the speed to 10 KMPH. A list of such turnouts will be notified in the Working Time Table.

4.12. Engine pushing -

- No engine or self-propelled vehicle shall push any train outside station limits except in accordance with special instructions and at a speed not exceeding 25 kilometres an hour: Provided that this sub-rule shall not apply to a train the leading vehicle of which is equipped with driving apparatus and which may be operated under approved special instructions: Provided further that this sub-rule shall not apply to an engine assisting in rear of a train, which may be permitted under approved special instructions to run without being coupled to the train; Provided also that no train, which is not equipped with continuous vacuum/air brake, shall be pushed outside station limits except in case of emergency; Provided further that a "Patrol" or "Search-light" special with one or more vehicles in front of the engine may be permitted to run at a maximum speed of 40 kilometres an hour.**
- For movement of trains outside station limits with engine pushing during night or in thick, foggy or tempestuous weather impairing visibility or where otherwise prescribed by special instructions, the leading vehicle of such trains shall be equipped with the prescribed head light and marker lights except in case of emergency.**
- When trains are worked as described in sub-rules (1) and (2), the engine pushing the load when it is the rearmost, or the rearmost vehicle if any, shall carry a tailboard or a tail lamp.**

S.R.4.12/1. Position of engine when moving a train - With the following exceptions no engine must push a train upon any running line, but must draw it.

- (a) When within station limits, or where specially authorized.
- (b) Under special instructions when used as an assisting engine.
- (c) When it is necessary for a train to push back to the station from which it entered the section under the instructions laid down in S.R.4.12/2.
- (d) In the case of a disabled train or accident, a following engine may push the train or vehicles slowly to the next siding or to the first station or cabin at which the engine can be transferred to the front of the train.
- (e) When it is necessary for a train to push back to the site of accident in case of a passenger being thrown out or a person being knocked down by a train, outside the station limits, except that such pushing back should not be done on ghat sections, in automatic block signalling sections and at other places where prohibited by special instructions.
- (f) When the line is obstructed and trains are being worked to the point of obstruction on both sides.
- (g) When required to assist a train in starting.
- (h) When required to do so in connection with Engineering works or material trains, provided the brakevan occupied by the Guard of the train is the leading vehicle.
- (i) When required by the General Manager, Chief Operations Manager, or Chief Engineer travelling on an Inspection Special train.

S.R.4.12/2. Train pushing back from block section -

- (a) No train must be allowed to push back from the block section without a written authority from the Station Master of the station from which it has entered the section.

After an authority to push back has been given, no obstruction of the line beyond the Starting signal in the same direction must be allowed, except at a class "B" station, on the single line, where obstruction may be permitted within the station section in accordance with instructions laid down in Block Working Manual.
- (b) The Guard of a pushing train will travel in the leading vehicle, which is fitted with a vacuum brake/air brake valve or hand brake. If the leading vehicle is not so fitted, the Guard will travel in the nearest vehicle thereto which is so fitted. The speed of a pushing train with the Guard travelling in the leading vehicle must not exceed 25 kms. per hour. If the Guard is not travelling in the leading vehicle, the speed must not exceed 10 kms. per hour.
- (c) The Station Master at a station where the train starts from and pushes back to, must advise the station in advance on the telephone and also the Section Controller on controlled section that the train will push back to the station. He will then obtain Line Clear from the station in advance on the block instrument, and then give the "Train Entering Section" signal in the usual way.
- (d) On return of the train, the Guard will intimate that the whole train has returned complete from the section, and he must sign in the Train Signal Register to that effect, and return the "Authority to push back" to the Station Master who will cancel it. The Station Master will then give 'Cancel Last signal' on the block instrument and endorse the remarks in the Train Signal Register or the Line Clear Enquiry Book 'Train pushed back' against the entry of the train. In the case of single line, the token must be returned to the block instrument, where token instruments are provided or the Line Clear Ticket cancelled.
- (e) When it has been arranged for a train to push back from the section it must always do so, and not go to the station in advance.
- (f) While a train is being pushed back from the section, the Loco Pilot and the Guard shall be vigilant and be prepared to stop short of any obstruction including obstruction at a level crossing. The Loco Pilot shall make frequent use of engine whistle as a warning to the road traffic passing across the level crossing. The Guard shall keep a sharp look-out in front and take measures to stop the train, if circumstances so warrant.

- (g) On the double line, when a train is required to be pushed into a station the train must come to a stand opposite the outermost signal pertaining to the other track and the Loco Pilot shall whistle when, if a line is clear for its reception, it must be piloted into the station.
- (h) On the single line, when a train is required to be pushed back, it must first come to a stand outside the outer most signal and whistle when, if a line is clear, reception signals may be taken 'Off' for its reception. At a Non-interlocked station, the train must, in addition, be piloted from the outermost signal.
- (i) Except in an emergency, material trains may push back during daylight only. If it is necessary to push back at night the speed should be restricted to 10 kms. per hour.

S.R.4.12 /3. Pushing back of trains on single line section where tokenless instruments have been provided - If a train is required to push back to the station from where it started Line Clear shall be obtained according to the procedure detailed in the Block Working Manual. The train will be despatched as usual when the 'TOL' indication will appear.

When the train returns, the reception signals shall be taken 'Off' using cancellation switch and the procedure for closing the line will be as for normalising block instrument when train returns to the despatching block station as given in Block Working Manual.

4.13. Limits of speed with engine tender foremost-

- (1) (a) **A passenger train or a mixed train shall not be drawn outside station limits by a steam engine running tender foremost, except -**
 - (i) **under a written order issued by the authorised officer; or**
 - (ii) **in a case of unavoidable necessity, to be established by the Loco Pilot.**
- (b) **When any such trains is so drawn, the speed shall not exceed 25 kilometers an hour, or such higher speed, not exceeding 40 kilometers an hour, as may be authorised by approved special instructions.**
- (2) **In case of unavoidable necessity, goods trains may run with steam engines tender foremost at a speed not exceeding 25 kilometers an hour or such higher speed, which shall, in no circumstances, exceed 40 kilometers an hour, as may be laid down by special instructions.**
- (3) **When trains have to be worked with steam engines tender foremost as a regular measure under sub-clause (i) of clause (a) of sub-rule (1) and sub-rule (2), the head light and marker light as prescribed in Rule 4.14 shall be provided on the tender.**

C. Equipment of Trains and Train Crew

4.14. Head light, marker lights and Speedo meter -

- (1) **A train shall not be worked at night or in thick, foggy or tempestuous weather impairing visibility or in long tunnels, unless the engine carries an electric head light of an approved design and, in addition, two oil or electric white marker lights.**
- (2) **An engine employed exclusively on shunting at stations and yards shall, at night or during thick, foggy or tempestuous weather impairing visibility, display such head lights as are prescribed by the Railway Administration, and exhibit two red marker lights in front and in rear.**
- (3) **The electric head light on the engine shall be fitted with a switch to dim the light and shall be dimmed -**
 - (a) **when the train remains stationary at a station ;**
 - (b) **when the train is approaching another train which is running in opposite direction on double or multiple track of same or different gauges; and**
 - (c) **on such other occasions as may be prescribed by special instructions.**

- (4) In case the electric head light fails or a train has to be worked with the engine running tender foremost in an emergency, the engine shall display the two oil or electric white marker lights referred to in sub-rule (1) pointing in the direction of movement and the train shall run at a speed prescribed by special instructions.
- (5) In case of defective electric head light of locomotive running in a section provided with reflective type of engineering fixed signal, during night or thick foggy weather impairing visibility, on BG and MG, the Loco Pilot shall work the train cautiously at a speed not exceeding the severest temporary speed restriction imposed in the block section or 40 KMPH which ever is less.
- (6) Coaching Locos should not be turned out from shed if the speedometers / Recorders are in defective condition. In case of speedometer / Recorder becoming defective during run, the train should run at a speed prescribed by special instructions.

S.R.4.14/1. Electric Headlight on Engines -

- (a) Light engines should display the same lights as train engines.
- (b) Suburban electric multiple unit stock must be equipped with an electric headlight and two white marker lights or head code lights of approved design in front.

S.R.4.14 /2. (a) Before leaving the Loco Shed, the Loco Pilot of a train engine/light engine must ensure that he has effective head light and marker lights on his engine as prescribed in G R 4.14 and also flasher lights on both side in proper working condition.

(b) The electric headlight Fitter is responsible for certifying that the electric headlight equipment is in proper working order.

(c) The Loco Pilot must test the electric headlight and satisfy himself that it produces sufficient illumination.

(d) If the electric head light becomes defective on the run during the hours of darkness and / or thick and foggy weather, the Loco Pilot shall light marker lights and work the train cautiously at a speed not exceeding 40 KMPH on B.G & MG. and 15 KMPH on NG subject to maximum permissible speed of the section and other speed restrictions enforce and sound engine whistle frequently. The Loco Pilot shall also inform the Station Master of the next block station in advance of the incidence so that he may inform the Section Controller if any.

S.R.4.14 /3. When a train is approaching a station, the Station Master on duty will see that the engine has a headlight and marker lights. If the engine has neither a headlight nor the marker lights, and the train is running through, the Station Master must advise the station in advance. The Station Master of the other station, on receipt of this information, will stop the train and find out the reason why the prescribed headlight and marker lights are not burning, and instruct the Loco Pilot to switch on the electric headlight and marker lights.

S.R.4.14 /4. Before entering a long tunnel during day, even the Loco Pilot should switch on the electric headlight and electric marker lights.

S.R. 4.14/5. Where trains have to cross at station, the first train to arrive must have its electric head light dimmed. If the dimming switch is out of order the headlight must be extinguished altogether.

S.R. 4.14/6 Working of Speedometer - No Locomotive shall be turned out from the shed with deficient or defective Speedometer. In case, the Speedometer becomes defective enroute, Loco Pilot shall work the train at speed 10% less than the maximum permissible speed by estimating the speed with the help of his watch, kilometer posts and inter-section running time given in the Working Time Table.

4.15. Tail and side lights -

- (1) **At night or in thick, foggy or tempestuous weather impairing visibility, no train shall be worked outside station limits unless it has -**
 - (a) **in the case of an engine with vehicles attached, save in a case to which sub-rule (2) applies, at least one red tail light, and two side lights showing red towards the rear and white towards the engine :**
Provided that, provision of sidelights on goods trains and electric multiple unit trains may be dispensed with under special instructions.
 - (b) **in the case of a single engine without vehicles attached at least one red tail light; and**
 - (c) **in the case of two or more engines coupled together without vehicles attached, at least one red tail light affixed to the rear engine.**
- (2) **A colliery pilot, i.e., a train used for collecting or distributing vehicles in colliery sidings, when working in a block section or in the colliery sidings taking off from a block section, need carry a red tail light only as it enters or leaves the block station, at either end of such block section, provided that special instructions are issued to ensure that no other train is permitted to proceed into the block section until the Guard of the colliery pilot has certified that he has left no vehicle obstructing the block section in which he has been working.**
- (3) **When trains may run in the same direction on parallel lines, the side lights mentioned in clause (a) of sub-rule (1) may be arranged in accordance with special instructions.**
- (4) **When a train has been shunted for a following train to pass, the tail and side lights mentioned in clause (a) of sub-rule (1) shall be dealt with in accordance with special instructions.**
- (5) **Within station limits or in a siding, an engine employed in shunting shall have tail lights in accordance with special instructions.**

S.R.4.15 /1. Tail and Side lights –

- (a) **At night and in thick, foggy and tempestuous weather impairing visibility, one side lamp showing white light to the front and red light to the rear must be placed, unless otherwise exempted under special instructions on each side of the rear brakevan.**
- (b) **At night when a train is shunted for another train to precede it, the side lamp on the side on which the other train will pass it should be reversed so that the white instead of a red light is exhibited to the approaching train. If the side lamp is fixed and provided with a red slide, the slide should be withdrawn until the approaching train has passed. The Loco Pilot of an approaching train, when he observes that the nearest side lamp has not been changed from red to white, must whistle until it is changed, and if this is not done, must stop his train and wait till it is changed.**
- (c) **Provision of side lights on goods trains and electric multiple unit trains may be dispensed with.**

4.16. Tail board or tail lamp -

- (1) **In order to indicate to the staff that a train is complete, the last vehicle shall, except as provided for in sub-rule (2), be distinguished by affixing to the rear of it -**
 - (a) **by day, a tail board of approved design or a red painted tail lamp of approved design which may be unlit, or**
 - (b) **by night, as well as in thick, foggy or tempestuous weather impairing visibility during day, a red tail lamp of approved design displaying either a steady or flashing red light to indicate last vehicle, 'last vehicle check device' and flashing Amber light to exhibit obstruction on track shall be lit, or**

- (c) such other device as may be authorised by special instructions.
- (2) A colliery pilot, i.e. a train used for collecting or distributing vehicles in colliery sidings, when working in a block section or in the colliery sidings taking off from a block section, need carry a tail board or tail lamp, or such other device as may be authorised by special instructions, only as it enters or leaves the block station at either end of such block section, provided that special instructions are issued to ensure that no other train is permitted to proceed into the block section until the Guard of the colliery pilot certifies that he has left no vehicle obstructing the block section in which he has been working.
- (3) In emergencies only, and under special instructions in each case, a red flag may be used in lieu of a tail board or an unlit tail lamp.

S.R.4.16/1. Tail lamps and tail boards –

(a) In an emergency, when a tail board or a red painted tail lamp is not available or when it is desired to make a short trip with a shunting engine, a red flag is permitted during daylight and in clear weather only to indicate that the train is complete.

(b) When an assisting engine is attached in rear of a train, the last vehicle indication must be affixed behind the assisting engine, and replaced behind the last vehicle when the assisting engine is detached. The Guard is responsible for carrying out this rule.

(c) Guards, when working trains on the double line, shall watch the tail boards or lamps or red flag of passing trains on adjacent line and the next station if they are not available on the last vehicle or if during the night the tail lamp is not burning properly.

(d) Running of light engine/engines in block sections -

During Night:-One of the rear panel (marker) light must be lit and covered with red slide over it.

During Day: - A red flag should be affixed at the rear of the locomotive. In case of two locomotives running coupled together, the panel (marker) light covered with red slide/red flag will be on the rear of the rearmost locomotive.

(e) The Guard must carry an oil tail lamp or a LED based flashing tail lamp, which must be attached behind the rearmost vehicle. The Guard must ensure that the tail lamp is lit only on the last vehicle and electric tail lamps of intermediate coaches, if any, are switched off and LED lamps is not kept inside the window of the SLR/Brakevan.

(f) Brake vans and certain other vehicles are fitted with fixed electric tail lamps. These fixed tail lamps must not be used, but a portable tail lamp should be used. Particular care should be exercised that the fixed tail lamp is not lit when vehicles are attached behind such brakevans or other vehicles.

(g) If for any reason a train comes to a stop in a tunnel the Guard of the train should immediately light the tail lamp. This responsibility will devolve upon the Loco Pilot in the case of a light engine.

4.17. Responsibility of Station Master regarding tail board or tail lamp of passing trains-

(1) The Station Master shall see that the last vehicle of every train passing through his station is provided with a tail board or tail lamp or such other device in accordance with the provisions of Rule 4.16.

(2) If a train passes the station without such indication to show that it is complete, the Station Master shall –

(a) immediately advise the station in advance to stop the train to see that the defect is remedied and to advise whether or not the train is complete,

(b) meanwhile withhold the closing of the block section to ensure that no train is allowed to enter the block section from the station in rear, and

(c) unless the station in advance has advised that the train is complete, neither consider the block section in rear as clear nor close it.

(3) Where in a section, a block proving axle counter or continuous track circuiting between block stations and complete track circuiting of station section excluding non-running lines of the receiving station is installed and is functioning and there is a clear indication of clearance of block section as well as complete arrival of the train as per indication given, if a train passes a station without conforming to the provisions of sub-clause (1) above, the Station Master shall still advise the station in advance to stop the train to see that the defect is remedied and he need not withhold closing of block section in rear as prescribed in clause (b) and (c) of sub-rule 2 in such cases.

S.R.4.17/1. Train passed without Tail lamp or tail board -

- (a) If a train passes a station without a tail lamp or tail board being visible to the Station Master, he must at once send the 'Train passed without tail lamp or tail board' signal advice to the station in advance, and also inform the Section Controller.
- (b) The Station Master must not give the 'Train out of section' signal to the station in rear, but must give the 'Train passed without tail lamp or tail board' advice.
- (c) On the double line, the Station Master sending the 'Train passed without tail lamp/board' departure signal, must put signals at 'On' to stop any train from the opposite direction, advise the Guard and the Loco Pilot of the circumstances and issue a Caution Order to proceed cautiously and stop short of any obstruction.
- (d) The Station Master of the station in advance on receiving the 'Train passed without tail lamp/board' signal/advice must -
 - (i) acknowledge it;
 - (ii) place departure signals at 'On' to stop train for which the 'Train passed without tail lamp/board' signal/advice is received;
 - (iii) stop the train proceeding towards the station from which the signal was received, advise the Guard and Loco Pilot of the circumstances and issue a Caution Order instructing them to proceed cautiously and be prepared to stop short of any obstruction ;
 - (iv) ascertain from the Guard of the train for which the 'Train passed without tail lamp/board' signal was received if the train is complete except where a block proving axle counter or track circuit or complete track circuiting of the station yard on either end is provided with block section clear indication the complete arrival of train will be ascertained by the clear indications provided with S.M / Cabin Master.
 - (v) if the train is complete, send the 'Train out of section' signal or the 'in' report to the station in rear;
 - (vi) if the train is incomplete, advise the Section Controller and the Station Master in rear and take action in accordance with GR 6.09;
 - (vii) instruct the Guard to light the tail lamp if it is out; or fix a tail lamp/board or if no tail lamp/board is available, a hand signal lamp displaying red light during the night and in thick or foggy weather' or a red flag by day and in clear weather should be fixed.
- (e) If the Station Master receiving 'Train passed without tail lamp/board signal finds that he cannot stop the train without bringing it to a sudden stand, he should not place the departure signals at 'On' against the approaching train, but must be given the 'Train entering section signal and also the 'Train passed without tail lamp/board' signal to the station in advance.
- (f) Should a train pass with a tail lamp not lit, but the lamp is clearly visible to the Station Master, the Station Master will give the "Train out of section" signal to the Station in rear, and the 'Train passed without tail lamp' signal to the Station in advance, and advise the Station Master in advance on the telephone that the tail lamp is extinguished, when the latter will stop the train, and inform the Guard. In such a case it is not necessary for the Station Master sending or receiving this signal to stop any train going in the opposite direction.

4.18. Means of communication -

- (1) No passenger train or mixed train shall be dispatched from any station, unless every passenger carriage is provided with means by which communication can be made with the Guard or the Loco Pilot.**
- (2) Sub-rule (1) shall not apply to -**
 - (a) passenger or mixed trains in case of complete or partial failure of vacuum ; and**
 - (b) such particular trains as may be exempted under approved special instructions.**
- (3) If a Railway Administration is satisfied that mischievous use of the means of communication referred to in sub-rule (1) is prevalent, it may, notwithstanding anything contained in that sub-rule, direct the disconnection, for the time being, of the means of communication provided in all or any of the passenger carriages in any such train.**

- (4) A goods vehicle in which passengers are carried is not a 'passenger carriage' within the meaning of this rule.**

S.R.4.18 / 1. Control of Vacuum/Air Brake on running trains -

- (a) When two engines are employed to draw a train, the Loco Pilot of the leading engine, unless there are local rules to the contrary, is responsible for the working of the automatic vacuum/air brake. The Loco Pilot of the second engine must however, in case of emergency, assist in stopping or reducing the speed of the train by applying the automatic vacuum/air brake or hand-brake, as may be required, but he must not maintain or re-create vacuum/air pressure.
- (b) When an additional engine/engines are employed to push a train from the rear, the Loco Pilots thereof must not interfere with the working of vacuum/air brake, which shall be under the control of the leading engine Loco Pilot as laid down in (a), except in cases of a run-back, when the rear most assisting engine Loco Pilot automatically becomes the leading Loco Pilot.
- (c) Loco Pilots of all additional engines will, at all times, keep the handle of the vacuum/air brake, in the running position and should not create vacuum/air brake pressure.
- (d) In the event of the Loco Pilot of the engine in rear requiring in an emergency to attract the attention of the leading engine Loco Pilot, he shall give a whistle signal as laid down in General Rule 4.46 and S.R.4.46/1.

Note : In case two engines are pushing a load in an emergency, the leading Loco Pilot in the direction of the motion will be the controlling Loco Pilot.

S.R.4.18 / 2. Alarm signal -

- (a) On observing a drop in the Vacuum Indicator/ Brake Pipe Pressure Indicator, the Loco Pilot must at once bring his train to a stand as quickly as possible and he must, at the same time give two short, one long whistle. This whistle code must be repeated while the train is being brought to a stand and until the Guard shows a red flag by day and a red light by night indicating that he understands the situation.
- (b) If it is noticed that the alarm chain has been applied at a place which will necessitate the train being stopped on a bridge, viaduct, tunnel, cutting, catch points, spring points or another spot considered unsuitable for stopping the train, the Loco Pilot may recreate vacuum/air pressure and work the train on to a safe place to stop, giving one short whistle to advise the Guard that he is doing so.
- (c) When the train comes to a stand, the Guard must immediately show a red hand signal and leave his brake van on the left side of the train, unless the train is standing on a right hand curve, in which case, he will detrain on the right side, and proceed to the carriage from which the communication chain has been pulled.

The Loco Pilot shall also depute his Assistant Loco Pilot to assist the Guard in finding out the bogie from which the communication chain was pulled.

- (d) When the chain is pulled, a red disc projects outside on some carriages or revolves from horizontal to vertical position in others on either side at the end of the carriage where the clappet valve is fitted. The carriage from which the alarm signal is pulled can be ascertained by the position of the red disc, and the compartment by the slackness of the chain inside the compartment.
- (e) When the train comes to a stop the Guard should immediately ascertain by whom the chain has been applied and its cause and, if necessary, attend to the requirements of the passenger who used it. If it is found that the reason for the stoppage of the train will necessitate a halt of more than ten minutes, the train must be protected in accordance with S.R.6.03/1.
- (f) Should it be found that the alarm chain has been mischievously pulled or for an unjustifiable cause, the Guard in-charge if possible will ascertain the name of the person who pulled the chain. His name and address along with those of other occupants must be obtained and the matter reported at the next station of importance where the passenger can be dealt with in accordance with standing instructions issued by the Divisional Railway Manager.
- (g) Before restarting the train, the Guard should also satisfy himself that the correct amount of vacuum/air pressure is available in the train.

- (h) The Guard must record the fact in his journal and, in addition, send a special report to the Divisional Railway Manager with full details of the use of the communications.
- (i) Whenever under clause (3) of G.R.4.18 alarm chain apparatus on any coach/ compartment of passenger carrying train is blanked off on its run or over a particular section, caution order should invariably be issued to the guard and Loco Pilot working that train directing them to exercise greater vigilance while working the train.

S.R.4.18 / 3. Automatic Vacuum Brake/Air Brake Rules for working -

- (a) The competency examination of Loco Pilots and Guards must include questions on the operation of the automatic vacuum/air brake.
- (b) When an assisting engine is attached in rear of the train, the hose pipes/air pressure pipes between the assisting engine and the train must be coupled up and the Loco Pilot of the assisting engine will be jointly responsible with the Guard to see that this is done.
- (c) The automatic vacuum/air brake may be applied from the brakevan in an emergency. The application of the automatic vacuum/air brake must, in such cases, be gradual as there is the risk of the train parting owing to sudden application of the vacuum/air brake from the rear.
- (d) When an automatic vacuum cylinder or air brake cylinder or gear on a vehicle is out of order, the cylinder must be put out of action. This must be done in case of vacuum cylinder by disconnecting the syphon pipes from the release valve and dummied the loose end of the syphon pipes with a wooden plug in case of air brake vehicle by by-passing the particular vehicle.
- (e) If on any goods train, less than three fourth (75%) of the total number of vehicles are equipped with effective automatic vacuum cylinders and in case of air braked train less than 75% of the total number of vehicles are equipped with effective brake cylinders, the train is to be treated as non-automatic or non-air braked and worked in accordance with paragraphs (f) & (g) below.
- (f) In the event of failure of vacuum/air brake, during the journey, the Loco Pilot must take his train cautiously upto the next station, where the defective vehicle or vehicles can be detached or where the defect can be rectified. The Guard must be prepared to assist the Loco Pilot in controlling the load by applying the hand brake in the brakevan.
- (g) The Loco Pilot must exercise great care and maintain effective control of the load. The Guard must always be vigilant and prepared to assist the Loco Pilot by applying hand brakes, if called upon to do so by the Loco Pilot. If the Loco Pilot requires additional brake power, the Guard shall pin down hand brakes or put on hand brakes of as many vehicles as the Loco Pilot may consider necessary.

S.R.4.18 / 4. Whenever shunting is done on a train at an intermediate station where train examining staff are not available, the Loco Pilot and Guard of the train shall jointly examine the vehicles which are attached or detached to see their cylinders are effective to the extent that the percentage of effective cylinders on the entire train does not go below 75% in case of vacuum braked train and air braked train in any case. The Loco Pilot and Guard shall ensure that the prescribed amount of vacuum/air pressure is available in the engine and the brakevan before starting the train. They shall prepare a joint Brake Power Certificate and work the train on it. A copy of joint BPC will be kept with Station Master for record.

S.R.4.18 / 5. The Loco Pilot, after starting the train from the originating station or an intermediate station where shunting has been performed on his train, shall apply the vacuum/air brake to test its efficiency without actually stopping the train.

S.R.4.18 / 6. Minimum air pressure/vacuum in engine and rear brakevan -

- (a) Minimum air pressure in engine and rear brakevan of Passenger and Goods trains at the time of starting a train.

Particulars	On Engine		On rear brakevan	
	FP	BP	FP	BP
(i) On Mail, Express and Passenger train	6 Kg/Cm ²	5 Kg/Cm ²	5.8 Kg/Cm ²	4.8 Kg/Cm ²
(ii) On Goods train Kg/Cm ² with load up to 40 air braked 8 wheeler wagons.	-----	5 Kg/Cm ²	-----	4.8
(iii) On goods trains with more than 40 air braked 8 wheeler wagons.	-----	5 Kg/Cm ²	-----	4.7 Kg/Cm ²

- (b) Standardization of vacuum level in engine and brakevan of passenger and goods trains :-

- (i) Minimum level of vacuum in engine and brakevan:-

Type of Service	Engine	Brakevan	Average
M/E	53	47	50
Passenger	50	44	47
Goods	46	38	42

Whenever a coaching train runs initially on passenger and subsequently on express services, vacuum levels on such rakes will be maintained as those prescribed on M/E trains.

- (ii) Creation of Initial Vacuum on Electric Locomotives - In case of Electric locomotives, at the time of initial creation of vacuum as well as after full application of brakes the vacuum is obtained. Thereafter only one exhauster will run.
- (iii) Vacuum trouble on trains - In case of vacuum trouble in a train, the locomotive should be tested first, followed by the rake, if loco is found normal. The respective guidelines for testing are given below:
- (iv) Testing of locomotive in case of Vacuum trouble - In case the desired vacuum level is not created the identification of problem on diesel and electric locomotives, is to be carried out with the help of following tests:-
- Blockage Test:- With one exhauster on electric loco/diesel loco running at idle, remove vacuum hose pipe on one side of the loco from dummy and raise it upward (to avoid suction of dirt etc.). Normally with hose pipe open, the vacuum should drop to zero but if it is more than 8 cm, it indicates blockage in the system. Repeat the procedure from the other end of the loco.
 - ** Efficiency Test:- Electric/Diesel locomotives be tested to ascertain that on 5/16" dia (8mm) leak hole in 3 mm plate, with single exhauster working at slow speed on electric locomotive and with engine working at idle speed on diesel locomotive, the vacuum level of 53 cm is achieved.

Loco	Vacuum Loco		Dual Brake Loco	
	Dummy	Disc:3mm (8mm hole)	Dummy	Disc.3mm (8mm hole)
Diesel	56	53	58	53
Electric	56	53	58	53

On newly manufactured, rebuilt and POHed locomotives, the difference between the dummy and 8 mm hole disc should not be more than 3cms.

*** Leakage Test:- If the above conditions are achieved, then tests may be carried out to ensure that Maximum leakage rate on diesel/electric locomotives is not more than 7 Cm/min.

The blockage and efficiency tests on diesel and electric locomotives should be carried out not only before turning it out from the shed but also in the yard to rule out loco defects whenever the train is held up for creation of vacuum.

The leakage test on both the locomotives should be carried out in the shed only.

(v) Testing of Train in case of Vacuum Trouble:-

(a) Coaching Train - On passenger carrying train maximum leakage rate should not be more than 5 Cm/Min. on one vehicle and 13 Cm/min. for the full rake as per IRCA Pt. IV Appendix D.Para 2.2 (d).

(b) Freight Train - On goods trains maximum leakage rate should not be more than 5 Cm/min. on one vehicle, as per IRCA Pt.iii, Appendix E Clause E-54.

(vi) Percentage effective brake Power in Coaching & Freight Trains - The percentage effective brake power for different services at originating station as well as enroute are given below:-

Service		Originating (%)	En-route (%)
Coaching	M Express/Pass.	100	90
Freight	CC rake	100	90
Freight	Others	85	75

4.19. Guard's and Loco Pilot's equipment-

(1) **Each Guard and Loco Pilot shall have with him, while on duty with his train, the following equipment -**

- (a) a copy of these rules or such portions thereof as have been supplied to him under Rule 2.01,
- (b) a copy of the Working Time Table, and all correction slips and appendices, if any, in force on that section of the railway over which the train is to run,
- (c) a hand signal lamp or tri-colour dry-cell or dry-fit or lead acid type battery operated hand signal lamp and/or torch,
- (d) a whistle (for Guards only)
- (e) a red flag and a green flag,
- (f) a stock of detonators sufficient to comply with the relevant rules as may be prescribed by special instructions,
- (g) a first aid box (for Guards of passenger carrying train only), and
- (h) such other articles as may be prescribed by the Railway Administration in this behalf.

(2) **If any Guard or Loco Pilot is not in possession of any article mentioned or referred to in sub rule (1), he shall report the fact to his superior who shall make good the deficiency.**

(3) **Each Guard and Loco Pilot shall have with him while on duty with his train, two pairs of such spectacles, as he is required to wear under medical advice.**

Note: Each Guard and Loco Pilot should also be in possession of a watch in addition to the equipment prescribed in sub-rule (1).

S.R.4.19/1. (a) Equipments of Passenger carrying train's Guard: -

- (1) Torch cum hand signal lamp
- (2) 2 red flags and 1 green flag mounted on stick.
- (3) 10 detonators in a case.
- (4) A fusee.
- (5) Extract of Relevant Rules.
- (6) Working Time Table with appendices.
- (7) 1 Whistle.
- (8) Tail lamp painted in red (use in extinguished for day and lit during night/dark hours).
- (9) Rough Journal.

- (10) Guard's Certificate Book.
- (11) Guard's Memo Book.
- (12) 3 Padlocks (02 large and 01 small).
- (13) Chain with a suitable lock for securing briefcase.
- (14) Carriage key.
- (15) ACP resetting key.
- (16) Complaint/Suggestion Book.

(b) Equipments of Goods train's Guard : -

- (1) Torch cum hand signal lamp.
- (2) 2 red flags and 1 green flag mounted on stick.
- (3) 10 detonators in a case.
- (4) A fusee.
- (5) Extract of Relevant Rules.
- (6) Working Time Table with appendices.
- (7) 1 Whistle.
- (8) Tail lamp painted in red (use in extinguished for day and lit during night/dark hours).
- (9) Rough Journal.
- (10) Guard's Memo Book.
- (11) Padlocks (3 nos. – 02 large and 01 small).
- (12) Air Pressure Gauge.
- (13) Chain with a suitable lock for securing briefcase.

Note – (1) Vacuum Gauge will also cease to be an item of equipment of Goods Guard and will be issued to outgoing Guard of vacuum goods train by the concerned lobby and deposited back.

(2) The Incharge of a station where Guards is stationed must check their personal equipment once in a month.

S.R.4.19/2. (a) Brakevan equipments: - Guard of passenger trains must see that their brakevans are provided with the following equipments:-

	<u>Equipments</u>		<u>Nos.</u>	<u>Maintained/Supplied by</u>
(1)	Brakevan side lamps complete	--	2	Already fixed
(2)	Wooden Wedges	--	2	JE/C&W
(3)	Fire extinguishers in good order	--	2	JE/C&W
(4)	Portable field telephone with instructions for use(Electrified and non-electrified section)	--	1 each	JE/Tele
(5)	Emergency lighting equipment	--	1	JE/Elec(G)
(6)	Stretcher	--	1	SM/SS
(7)	First Aid Box	--	1	SM/SS

(b) First Aid Box -

(1) First Aid Box will be provided by the Station Master at the originating station and kept in the cupboard of brakevan. He shall ensure that the medicines and other contents kept in the First Aid Box are not expired dated.

(2) Supply of First Aid Box and refilling of medicines shall be done as per instructions of the DRM on Division.

(3) If the Guard of train uses the First Aid Box during the journey, he will note down the following particulars in his journal: -

- (i) Train number and date,
 - (ii) Name, designation and address of the person to whom first aid was rendered. In the case of passengers, details of tickets held will also be recorded.
 - (iii) Nature of injury, and
 - (iv) Name, designation and address of the person who rendered the first aid.
- (4) The Guard must also enter the relevant particulars on the case card within the box under the appropriate columns.

S.R.4.19/3. Equipment of Loco Pilot: -

- (a) In addition to items given in G.R. 4.19, a Loco Pilot, while incharge of a train engine or a light engine, must also have the following equipment -
- (1) General & subsidiary rules Book and Accident Manual complete and up to date or such portion thereof as relevant to his duties,
 - (2) 10 Detonators in a case,
 - (3) 2 hand signal lamps with red and green slides,
 - (4) 2 red and 1 green flags mounted on sticks,
 - (5) Loco Pilots memo book.
 - (6) Key for resetting ACP valve for air braked coaches.
 - (7) Head light and cab light bulbs(spare),
 - (8) One Flare signal (fusee)
 - (9) Trouble shooting guide (for diesel Loco Pilots only), and Trouble shooting directory for AC Loco Pilots.
 - (10) Portable filed telephone.
- (b) On Diesel Locos, two fire extinguishers and in AC locos two fire extinguishers in each of the two driving cabs must be provided.
In addition to above Mobile Radio set, 4 wooden wedges, one spare hose pipe for vacuum braked trains and one spare feed pipe/brake pipe for air braked trains should also be provided. The Loco Pilot must satisfy himself that necessary tools are provided in the driving cab or engine.

Note: Loco Foreman/Supervisor in-charge of loco shed will check each Loco Pilot's equipment once in a month.

4.20. Manning of engine in motion -

- (1) Except when otherwise provided by special instructions, no engine shall be allowed to be in motion on any running line unless the Loco Pilot as also the Assistant Loco Pilot are upon it.**
- (2) Subject to the provision of sub-rule (3), in no circumstances shall a person other than the Loco Pilot or a Railway servant duly qualified in all respects, drive an engine on any running line.**
- (3) If a Loco Pilot becomes incapacitated while the engine is in motion, the Assistant Loco Pilot, if duly qualified, may work the train to the next station cautiously and where the Assistant Loco Pilot is not duly qualified, he shall bring the train to a stop and send a message to the Station Master of the nearest station to make arrangements for a Loco Pilot to take over the train, and for so doing he may take the assistance of the Guard.**

S.R.4.20/1. Driving a Diesel hauled train:

- (1) Only Loco Pilots who are in possession of Diesel Loco Pilot's competency certificate issued by Sr.DME/DME of the division will be permitted to work the train.
- (2) If a Loco Pilot has not worked on Diesel traction for more than 6 months, he should be accompanied by certified Loco Inspector for Dsl/Traction by Sr DME/DME on footplate in first trip and after examination certificate will be renewed by Sr DME/DME.
- (3) Staff under training for driving Diesel engines, when specially authorized by the Sr DME/DME, may drive such engines under the supervision of certified Inspector/Regular Loco Pilot. While a trainee is driving under these conditions, the Supervising Instructor/ Regular Loco Pilot shall keep a continuous watch over the trainee and keep himself in readiness to take any action that may be required to control the train in an emergency.
- (4) Within Loco shed premises authority to work a loco should be given by AME.
- (5) In case of emergency, in the event of Loco Pilot becoming incapacitated while the engine is in motion, the Asstt. Loco Pilot who is duly qualified (Passed Loco Pilot's promotion Course at ZTC) may work the train to the next station cautiously. If, however, he is not qualified, he must bring the train to stop and send the message to the nearest Station Master to make arrangement for a Loco Pilot to take over the train.

4.21. Driving an electric train.

- (1) In the case of electric trains, the Loco Pilot shall be in the leading driving compartment when the train is in motion or when the train is standing on any running line except as otherwise prescribed in these rules.**
- (2) (a) In the case of a single or multiple unit train, if the driving apparatus in the leading driving compartment becomes defective, the train shall be driven cautiously from the nearest driving compartment which is serviceable; in this event, the Guard shall travel in the leading driving compartment and shall convey the necessary signals to the Loco Pilot; the Guard shall also sound the horn or whistle as necessary and apply the brake in case of emergency and shall be responsible for stopping the train correctly at signals, stations and obstructions.**
(b) In the case of an electric engine, if the leading driving compartment becomes defective, the train shall be driven from the trailing driving compartment by the Assistant Loco Pilot if he is duly qualified to drive; and the Loco Pilot shall remain in the leading driving compartment, and shall be responsible for the correct operation of the train.

S.R.4.21/1. (a) When an engine cannot be driven from its leading cab, the Loco Pilot shall follow the special instructions issued by the Sr. Divisional or Divisional Electrical Engineer (Rolling Stock).

(b) If the driving apparatus in the leading compartment of an electric engine becomes defective, the Loco Pilot shall send the Assistant Loco Pilot to drive the engine from the trailing cab. The Loco Pilot shall be responsible for the correct operation of the train. All operation will be done by exchange of signals between Loco Pilot and Assistant Loco Pilot. The speed of the train shall not exceed 40 kilometres per hour.

(c) At the first opportunity the Loco Pilot shall inform the Traction Loco Controller to arrange for a relief engine.

(d) In the event of the driving apparatus in the leading driving compartment of an EMU train becoming defective, or in the event of it being necessary for the Motorman to drive from another driving compartment for any reason whatsoever the Guard will station himself in the leading driving compartment of the train, sound the horn as necessary and operate the Loco Pilot's brake valve handle for operation of the air brake or the Guard's emergency brake handle for operation of the air brake as required.

It is the duty of the Guard under such circumstances to apply the brake as required and stop at the next station. In the event of the possibility of over running or in the case of emergency, the Motorman must also apply the air brake from the driving compartment he is occupying. The speed shall not exceed 15 kilometres per hour.

S.R.4.21/2. (1) (a) Only certified Loco Pilots and Assistant Loco Pilots for electric rolling stock shall be allowed to drive electric rolling stock on any part of the running lines. They shall not allow any one to enter the driving compartment other than those who are authorised to do so under these rules or who hold a permit signed by the Divisional Electrical Engineer (Rolling stock.) No person shall be allowed to handle any apparatus in the engine or in the driving compartment unless he is in possession of a Loco Pilot's certificate of competency.

(b) If a Loco Pilot has not driven an electric engine or multiple unit for six months, he shall be re-examined after a refresher course and his certificate of competency endorsed before he is allowed to drive again.

(c) When a Loco Pilot has not worked on any section for six months and over, he must not be booked on that section unless he has learnt the road and a competency certificate has been issued in his favour. A record of all competency certificate issued to Loco Pilot shall be maintained in the office of the Divisional Electrical Engineer (Rolling Stock).

(d) However, staff under training for driving electric engines, when specially authorised by the Divisional Electrical Engineer (Rolling Stock), may drive such engines under the supervision of a certified Instructor/regular Loco Pilot. While a trainee is driving under these conditions, the supervising Instructor/regular Loco Pilot shall keep a continuous watch over the trainee and keep himself in readiness to take any action that may be required to control the train in an emergency.

(2) No person shall be allowed to move any electric rolling stock within the limits of the loco shed and stabling sidings unless he has been certified competent to do so by the Assistant Electrical Engineer (Rolling Stock).

(3) In the case of an emergency or in the event of a Loco Pilot becoming incapacitated while the engine is in motion, the Assistant Loco Pilot, if duly qualified, may work the train to the next station cautiously. If, however, the Assistant Loco Pilot is not duly qualified, he must bring the train to a stop and send a message to the nearest Station Master to make arrangements for a Loco Pilot to take over the engine.

4.22. Riding on engine or tender -

- (1) **No person other than the engine crew shall be authorised to ride on the engine or tender of a steam locomotive, except in accordance with special instructions.**
- (2) **Except as may be permitted by special instructions, no person other than the engine crew shall be authorised to enter any driving compartment of a single or multiple unit train or a train propelled by electric, diesel or petrol engine.**
- (3) **No unauthorised person shall manipulate any apparatus contained therein.**

S.R.4.22/1. Riding on Engine - No person other than a Loco Pilot, Assistant Loco Pilot, is permitted to ride on an engine, unless he is in possession of an engine pass, except Guards and shunting staff when performing shunting operations or staff proceeding to the site of an accident, or in an emergency in the discharge of their duties. In the case of a Loco Pilot learning the road, an Engine Pass on the prescribed form should be supplied to him through his Foreman. Officers and Inspectors whose passes are endorsed "Available on Engines" are allowed to ride on the foot plate provided not more than three at any time except in case of emergency or when specially required.

4.23. Brakevans -

- (1) **No train shall be allowed to enter a block section, unless one or more brake vans or hand-braked vehicles are attached to it, except in emergency or as provided for under special instructions.**
- (2) **This rule does not apply to rail cars, light engine or light engines coupled together.**

S.R.4.23/1. The following goods trains may run without goods brake-vans but not without a tail board or tail lamp affixed on the last vehicle -

- (i) Colliery Pilots.
- (ii) Goods pilots which operate between a yard and a siding, which do not have to run over the main line.
- (iii) Goods shuttles on short specified routes, which will be worked by a leading engine for which the prior approval of the Chief Operations Manager will be obtained.

Working of goods trains without brakevan:

- (a) The Sr.DOM/DOM may authorise working of trains without brakevan as the last vehicle only in emergent circumstances to cater for operational exigencies. A goods brakevan must be attached at the first possible opportunity.
- (b) Trains may run without brakevan only in controlled sections.
- (c) Running of trains without brakevan is prohibited during total failure of communications and single line working on double line section.
- (d) No damaged wagon or vehicle should be attached to a train running without brakevan.
- (e) Procedure to be observed for running goods train without brakevan -

- (i) The Guard shall travel on the engine. While running through a station the green hand signal shall be exchanged on station side by the Guard and on the other side by the Assistant Loco Pilot. They shall look back and ensure that the train is following in a safe manner.
 - (ii) The train shall be provided with continuous vacuum/Air pressure from the engine to the rearmost vehicle and with adequate brake power. The train examiner must mention in the brake power certificate the number and description of the last vehicle.
 - (iii) The LV board/Tail lamp shall be fixed by the Guard and he should travel on the engine. For CBC stock the last vehicle Board/Tail Lamp should be clamped to the coupler with the clamp of approved design. In absence of the clamp and tail board/tail lamp on the rearmost vehicle no train is permitted to run without brakevan.
 - (iv) The Guard of the train travelling on the engine should look back frequently while on run.
 - (v) Before starting a train without brakevan the Station Master of the originating station must intimate to the Section Controller on duty the last vehicle number under exchange of private number.
 - (vi) While asking 'Line Clear', the SM/Cabin masters shall specifically mention that the train for which line clear is being asked is running without brakevan.
 - (vii) The Station Master/Cabin In-charge before clearing back the section must verify that the train has passed safely with tail lamp/tail board. In case, the train is stopped at station for precedence, crossing or due to any other reason, SM/Cabin In-charge shall send the 'Train Intact Register' in advance to the Guard who will certify the complete arrival of the train inside the fouling mark with Tail Lamp/Tail Board on the last vehicle after physically verifying the last vehicle
 - (viii) A register should be maintained in control office showing the trains run without brakevan and Sr.DOM/DOM should sign in the register in token of his permission to run the train without brakevan.
 - (ix) The duties of the Guard which can be performed on by his presence in Brakevan like applying hand brakes during parting, exchanging hand signals with the Loco Pilot etc. will not be applicable in this condition.
 - (x) At night or in thick Foggy weather, when visibility is affected. Such a train should stop at each station for verification of the last vehicle number.
- (f) Procedure to be observed in case of vacuum trouble enroute - When a train running without brakevan encounters trouble enroute the following steps which are normal for train operation are required to be taken by the Guard of a train:
- (i) Guard along with Assistant Loco Pilot should check complete train for any hose pipe disconnection or leakage etc. The help of C&W staff or Pointsman should be taken when the vacuum trouble occurs within the station limits.
 - (ii) The Guard should arrange to connect the hose pipe, plug etc. and attend the leakage of hose pipe with the help of Assistant Loco Pilot and start his train after ensuring that the vacuum trouble has been fully attended to and the requisite amount of vacuum is maintain on the locomotives.
 - (iii) The Loco Pilot should regulate the speed of the train depending on the 'Field Test' conducted by him in the first block section.

S.R.4.23/2. Definition of Coaching Stock - The following vehicles are to be considered as Coaching Stock –

Passenger carriages, Postal vans, horse boxes, carriage trucks, motor vans, store vans, restaurant cars, luggage and fruit vans, passengers brakevans, goods vehicles marked 'Coaching vehicles' and any other vehicles that may from time to time to be included in the list of Coaching stock.

S.R.4.23/3. Goods Stock - Definition of Goods stock includes all goods wagons, i.e. all rolling stock other than coaching stock, irrespective of contents whether attached to passenger or goods trains.

S.R.4.23/4. Marshalling of passenger and mixed trains -

- (a) The composition and marshalling of Mail, Express, Passenger and Mixed trains is prescribed by special instructions, issued by COM from time to time.
- (b) On passenger trains, there must be at least one SLR or LR in the rear of the fixed composition of the train. On passenger and mixed trains on short branch lines, one bogie SLR may be attached in the middle of the train to avoid reversing provided not more than 2 bogies are on either side.
- (c) The marshalling arrangements on mixed trains shall ordinarily be - Train engine, goods vehicles, passenger vehicles, SLR/LR, vehicles fitted with vacuum/air brake in good working order and must be connected with vacuum/air brake system of train. However, vehicles loaded with the live stock, explosive, dangerous and inflammable goods should be attached in rear.
- (d) Vehicles fitted with and connected with vacuum/air brake system of train throughout can be attached behind rear SLR.
In Passenger trains - not more than two bogies/four 4-wheelers may be attached behind rear SLR. In addition, one inspection carriage fitted with hand brake may be attached as rear most vehicle.
In mixed train - One Inspection carriage or Power (Generator) car may be attached as rear most vehicle in addition to two bogies/four 4 wheeler behind rear SLR.
- (e) A single 4 wheeler vehicle must not be marshalled between two bogies or between engine and bogie.
- (f) When four wheelers are attached to a passenger train, speed of train should not exceed 75 KMPH subject to local restrictions.
- (g) No goods stock will be attached to a passenger train unless certified by the Train Examiner that it is safe to run on passenger train.
- (h) Trained piped vehicles are not to be attached by Passenger train. However, in case of mixed train they may be attached inside rear brakevan of fully vacuum/air brake train and not behind rear brakevan, provided they do not cause any interference to train lighting connections.
- (i) Train Examiners at all coaching and goods 'Maintenance' and 'Fit to Run' stations shall examine all goods stock attached to Passenger trains, even though the train to which they are attached is not ordinarily examined at that station. At these stations, the examination will be limited to the goods stock only and will be confined to a safe to run examination.
- (j) On such stations where no C&W staff is provided on the terminal stations, the C&W staff at originating station of mixed train will give the certificate for both outward and inward journey of the wagons whether loaded or empty indicating the terminal stations.

S.R.4.23/5. Marshalling of goods train -

- (a) There should be at least one goods brakevan in the rear of the train, except in case of trains mentioned in S.R.4.23/1.
- (b) No load which infringes the standard moving dimensions shall be attached to a train without the sanction of the Chief Operations Manager.
- (c) A single four-wheeler must not be marshalled between 2 bogies but a single four-wheeler may be attached between the engine and a bogie vehicle to avoid delays in shunting en-route.
- (d) A single empty four wheeler wagon must not be marshalled between two loaded wagons on the Ghat section.
- (e) One damaged (or sick) vehicle/wagon, or engine certified fit to run, may under special instructions, be attached in the rear of the rear brakevan of a goods train during daylight hours only. Provisions of S.R.4.29/1 should also be complied with.
- (f) Dead or defective engine -
 - (i) If a dead locomotive is worked without any one of locomotive couplings or connecting rods, it is termed as an unbalance locomotive.

- (ii) Whenever a locomotive working a train fails in the block section, the dead train locomotive may be coupled to the relief engine and the train worked to the next block station, where the dead locomotive should normally be detached. Otherwise the train may be worked double headed with the dead locomotive up to destination.

S.R.4.23/6.

- (i) Attachment of Dead locomotives - The following condition shall be satisfied before attachment of dead locomotive to any train/light engine -
- (a) Certificate for 'Fit to run' is issued by Section Engineer/Loco Inspector/Power Controller for Passenger/Goods train.
 - (b) In addition to freight/passenger train, a dead locomotive can also be attached to Mail/Express trains *including* Super fast train but *excluding* Rajdhani and Shatabdi if the locomotive brakes including proportionate brakes are operational and maximum permissible speed of the locomotive is not less than the booked speed of the train in which it is being attached. Locos with inoperative brakes can be attached subject to the brake power of the train being within the permissible limits. Locomotive with defects in under gear equipment can be attached only in freight trains.
 - (c) Escorting of dead locomotive (Diesel as well as Electric attached to freight and passenger carrying trains is not necessary if the brakes including proportionate are fully operational and the dead locomotive is attached next to the train engine. The dead locomotive will continue to be escorted if attached in the rear of brake van or has defect in under gear equipment.
 - (d) As a final check, the coupled locos should be run for about 500 meters and the Loco Pilot shall check for any abnormal rise in the temperature of the wheels of the dead locomotive and shall also check it at subsequent stops during the journey.
- (ii) Attaching/hauling of dead locomotives by Passenger Trains - In addition to the above, the following precautions should be taken for hauling the dead locomotives -
- (a) Only one dead locomotive (diesel/electric) can be attached.
 - (b) Brake power of the train should be 100% excluding dead locomotive.
 - (c) As far as possible, brake should work on dead locomotive. However, if it is not possible, then in the case of air-braked train, brake pipe and feed pipe of working locomotive shall be connected to brake pipe and feed pipe of trailing stock and dead locomotive will work as piped vehicle.
 - (d) In the case of vacuum braked train, vacuum pipe of locomotive shall be connected with vacuum train pipe of trailing stock and the dead locomotive shall be treated as a piped vehicle. However, pure air/vacuum brake locomotive shall be attached only by air /vacuum brake stock respectively.
- (iii) Attaching/Hauling of dead locomotive by goods trains -
- (a) Movement of maximum three locomotives (2 working +1 dead) with load is permissible subject to observations of all restrictions on operation of double/ triple headed working locomotives in the section provided that brakes in dead locomotives are operational.
 - (b) If a dead locomotive is not coupled with the train engine, the minimum distance between the dead locomotive and the train engine/banking engine (if any) should not be less than the largest span of the bridge on the section where dead locomotive is hauled. However when a dead diesel/electric locomotive is coupled next to the train engine, dead engine should be treated as a piped vehicle and at least ten fully vacuum braked/air braked wagons should be attached in rear of it.
- (iv) A locomotive when it is sent to shops for POH/repairs should normally be sent on its own power. If a locomotive has to be sent dead to shop for repairs by a train, it should be attached to a goods train. An unbalanced engine being sent to shops for repairs, should be hauled by a light engine at a speed not exceeding 15 KM/H.

MARSHALLING CHART

The position of wagons should be as shown in chart below. However such wagons may be attached at a later position.

		<u>In Goods Trains worked by DSL/AC locomotive</u>	<u>In Passenger / mixed trains worked by DSL/AC locomotive</u>
1.	Live stock/loaded Horse box	2 nd from engine	2 nd from engine
2.	Motor vehicles in open and ventilated covered wagon	3 rd from engine	3 rd from engine
3.	Motor vehicles of military specials.	3 rd from engine	Not applicable
4.	Cotton in covered wagon	2 nd from engine	Not applicable
5.	Open wagon loaded with Bhoosa, Hay etc.	2 nd from engine	Not applicable
6.	Damaged (or sick) vehicles/engine certified fit to run.	Behind rear brakevan during day light hours only.	Not applicable
7.	Dead engine	Next to engine or 7 th *	Next to engine**
8.	Crane	Next to engine or 7 th *	With guard wagons & with permission of COM.

* Where double heading is not permitted

** Where double heading is permitted.

4.24. Position of brakevan on train - Unless it be otherwise directed by special instructions, one brakevan shall be attached to the rear of the train, provided that reserved carriages or other vehicles may, under special instructions, be placed in rear of such brake-van.

4.25. Guards -

- (1) Except under special instructions or in an emergency, every running train shall be provided with one or more Guards.
- (2) The Guard of a running train shall travel in his brake-van, except-
 - (a) in an emergency, or
 - (b) under special instructions.
- (3) When a train is worked without a Guard, such of his duties as can be performed by the Loco Pilot shall devolve on him as may be specified by special instruction.

S.R.4.25/1. (1) Guard's Journals -

(a) The Guard's journal on the prescribed form must be filled by the Guard. This form shall be used for train (except suburban and material trains for which separate forms are provided). The cause of each detention to trains must be clearly explained. All irregularities in connection with the working of trains such as absence of signals or improper exhibition of signals, slack working of staff, complaints made by Loco Pilots or the travelling public or accidents must be reported in the journal. Remarks on the following heads must also be passed at the foot of the journal - Time checked with the Controller,

amount of vacuum or air pressure maintained in the brakevan, weather conditions, whether cautious driving observed, condition of the rolling stock and fitting defects in lighting on the train, correctness of the brakevan side lamps and tail lamp and other brakevan equipment. In the case of passenger and special trains, the number of the first aid box, wooden wedges, portable field telephone, emergency train lighting equipment, fire extinguishers, stretcher and such other equipment's (provided as brakevan equipment) must be recorded.

(b) Station Master/ Yard Master must maintain a register on the prescribed form (to be kept in carbon process) in which should be recorded particulars of trains run and journals received. One foil will be retained by the Station Master and the other sent daily to the divisional office with the Guard's journals.

(2) Wagon Way bills (Vehicle guidance):

- (a) Wagon Way bills (vehicle guidance) for all goods, passenger, mail and other trains must be entered up by the staff at the starting station, and handed to the Guard in charge of the train. The wagon way bill at each terminal starting station must be prepared direct from the Trains Clerk's hand book in which the Trains Clerk must record the numbers of each individual vehicle composing the train from the vehicles themselves. The numbers are not to be copied out from one wagon way bill into another. Entries of vehicles attached to a train at intermediate stations must be made by the station staff there. The Guard must obtain the signature of the station staff in the wagon way bill for any vehicle detached from his train.
- (b) The wagon way bill must be carefully and legibly prepared at the starting station.
- (c) Wagon way bills (vehicle guidance) for passenger trains must be sent through to the destination station. It is not necessary to prepare sectional way bills for passenger trains.
- (d) Wagons way bills for through goods trains must be prepared in duplicate, one copy must be made over to the Station Master/ Yard Master of the last terminal station of the division for submission to the Divisional Railway Manager, the original copy to go through as far as the destination station. These through wagon way bills are to be transferred from Guard to Guard. Guards handing over through wagon way bills will obtain acknowledgment in their memo book of having done so; otherwise they will be held responsible if the wagon way bills go astray.
- (e) Before starting, the Guard will be responsible for checking the load on the train with the entries on the wagon way bill of wagon numbers, booking and destination stations, type of vehicle open or covered, four wheeler, bogies or special types, tare weights, weights of contents and gross weights etc.
- (f) On arrival at destination, the Guard of an incoming train will make over the wagon way bill to the Station Master or the Yard Master or other yard staff specially deputed for the purpose, who will sign for the same in the Guard's memo book.
- (g) In calculating the load of goods and mixed trains, Weights less than 5 quintals should be omitted and 5 quintals or more should be counted as one tonne.
- (h) When a bogie carriage (i.e. coaching stock) is attached to a goods train, it should be counted as equivalent to two and half four-wheeler units for the purpose of calculating the vehicle load of the train.

S.R.4.25/2. RUNNING OF TRAIN WITHOUT GUARD: - Running of train without Guard should be done with the specific order of Sr. DOM/DOM in that case such of the duties of the Guard shall be performed by the Loco Pilot. Train without Guard will not run in night, thick, foggy weather and during total failure of communication except in case an emergency such as when a Guard is fallen down or sick or left behind or any mishap necessitating running of train without Guard may be allowed to continue its journey for a short distance up to a station where it can be properly stabled / arrange Guard. Procedure for running of trains without Guard is as under: -

- (i) It should be ensured that the train is provided with continuous vacuum/air pressure from the engine to the rear most vehicles, which may be a brakevan. If the Guard is not provided at the originating station of the train, the TXR shall mention the number and type of the rear most vehicles in the brake power certificate issued for such a train. And if no Guard is provided at any intermediate point, the crew changing station, the Loco Pilot on being informed by the Station Master, shall examine the brake power of the train and ensure that the rear most four pistons are in working order. Before signing the vacuum/brake power certificate the Loco Pilot shall ensure that the required amount of vacuum/air pressure is provided in the brake van. Vacuum / Pressure gauge shall be provided by the originating station.
- (ii) L.V. Board/tail lamp must be made available to the Loco Pilot and the last vehicle indicator shall invariably be fixed at the tail end of the rear most vehicle by the Loco Pilot. The tail lamp is essential in running such a train in the night time.
- (iii) Caution Order shall be issued to the Loco Pilot by the SM with necessary endorsement stating that the train is to run without Guard and section controller shall also be advised of the fact under exchange of private numbers, who will inform the station en route. The Station Master will inform the end cabins, where provided and gatemen of all the level crossing gates enroute provided with telephonic communication accordingly under exchange of private numbers.
- (iv) The fact that the train is running without Guard and also the last vehicle number shall be mentioned in each line clear enquiry and reply message, and with the departure report while working train on Automatic Block System. Line clear enquiry message and reply shall be recorded in the train signal register. A separate private No. shall include the number of the last vehicle of the train and this No. shall be exchanged stating that the train is running without Guard.
- (v) The SM of the block station working the intermediate, block stop signal on becoming aware that the train is running without Guard, shall before dispatching such a train, treat the entire section upto the block station immediately ahead of the intermediate block post as one block section and obtain line clear for the block section between intermediate block stop signal and the block station in advance.
- (vi) Assistant Loco Pilot will keep a continuous look out, while running through a station, towards the rear, and shall acknowledge any danger signal shown by the station staff.
- (vii) When such a train stops at a station the Station Master/Cabin Master/ Cabinman shall ensure that the train has arrived complete and is standing clear of the fouling mark.
- (viii) Extra sets of detonators should be carried by the Loco Pilot who shall be responsible for protection of the train.
- (ix) When such a train is stopped between stations on account of accident, failure, obstruction or other exceptional cause and the Loco Pilot finds that his train cannot proceed further, he shall immediately on single line, protect the train in front and the Asstt. Loco Pilot in the rear. In case of double line, when adjacent line is not blocked, the Loco Pilot shall protect in front and Asstt. Loco Pilot in rear. In case adjacent line is blocked the Loco Pilot shall first protect the adjacent line and then his own line in front and Asst. Loco Pilot in the rear.
- (x) In case of passenger carrying trains, the Loco Pilot shall also be provided with first aid box, portable field telephone and emergency light equipment.
- (xi) In automatic block sections territory, no train shall be allowed to follow until the proceeding train, which has been allowed to run without Guard, has arrived complete at the next block station in advance.

4.26. Couplings - No vehicle that is not fitted with a coupling or couplings of approved pattern shall be attached to any train.

S.R.4.26/1. Coupling of vestibuled stock -

- (a) The vestibule connections of coaches and other stock so equipped are to be carefully coupled together so that there is no gap between the fall plates.
- (b) When a vestibuled coach is the last vehicle on a train or is isolated and the vestibule is not in use, the doors of the unused vestibules must be closed and properly secured.
- (c) The Train Examiner must not allow a train to proceed without satisfying himself that the vestibule connections are properly secured and vestibuled.
- (d) The Guard must not allow a train to proceed without satisfying himself if some defect is reported to him or comes to his notice.

D. Vehicles and Cranes

4.27. Cranes -

- (1) No travelling crane shall be attached to a train until it has been certified by a duly authorised person that it is in proper running order, and with a dummy truck for the jib, if necessary.**
- (2) When a crane is to work on any line provided with electric traction or any line adjacent to it, the procedure and precautions as laid down under special instructions shall also be followed.**

S.R.4.27/1. Cranes, Use of on the Electrified area -

- (a) The cranes shall not be worked adjacent to overhead lines, unless such overhead lines are dead. If the use of steam or hand crane which may foul the overhead equipment, or track lifting is necessary on the electrified area, the Power Controller, Traction Foreman (Overhead Equipment), and Assistant Traction Engineer (Distribution) must be advised and their sanction obtained.
- (b) All movements of the crane jib shall be exercised with great care so as not to foul overhead lines. Wherever possible, the direct blast from the crane chimney to the overhead lines or insulators should be avoided.

S.R.4.27/2. Working and care of cranes -

(1) Cranemen - All Cranemen must be in possession of a competency certificate issued by the competent authority. The Craneman is responsible for the efficiency of the crew working under him, who must be trained men.

(2) Attachment of Cranes-

- (a) Before a travelling crane is allowed to run outside station limits, the jib must be lowered on to its dummy truck, with the jib resting freely on the bolster. The cams beneath the balance weight box or such other contrivance with which the crane is fitted must be brought into use. On hand cranes the balance weight box must be fixed close to the crane-pillar. The grippers and all other fittings must be securely stowed away and fastened to prevent their moving. The weight of the crane must be taken on the springs. The Craneman shall ensure this.
- (b) The craneman is responsible to see that no one other than the crane staff are allowed to travel on the crane and travelling in the crane platform is completely prohibited.

- (c) Where possible all cranes should travel with the jib to the rear, but where this is found impracticable, care must be taken to see that the instructions regarding the securing of the jib have been fully observed. When the jib faces the engine, a speed restriction of 40 kilometres an hour must be observed.
- (d) The Train Examiner will certify in the Guard's Memo Book if the crane is fit to run. Before certifying that the crane is fit to run, he must ascertain from the Craneman that the above rules have been complied with.
- (e) A travelling crane shall ordinarily be hauled by goods train. Not more than two cranes are to be attached to a train. If there is no goods train on the section, it may be attached to mixed train. When attached to a mixed train, the crane must be placed amongst the goods wagons. A crane may only be attached to a passenger train with the Chief Operations Manager's permission.
- (f) When the jib of a travelling crane projects beyond the truck, an additional truck shall be attached to act as a dummy.

Note: Cranes must not be allowed to lift or swing loads on steel or arched bridges without the special permission of the Chief Engineer.

(3) Operation -

- (a) Under no circumstances must a crane be loose shunted or a loose shunt made against a crane.
 - (b) The bearing spring must be relieved of the weight of the crane by the means provided, the outrigger girders must be fully extended to project equally on both sides of the crane and securely packed up and the claws or grippers must clip the rails firmly. On hand cranes the cams beneath the balance weight box may next be thrown out of gear and the balance weight box must be traversed outwards to its full extend and clamped. The rising pulley block on the chain must always be used when lifting loads above half lifting capacity of a hand crane.
 - (c) Two cranes of unequal lifting capacity must not be operated together to lift any one heavy article, unless the lifting capacity of the smaller crane is at least equal to half the weight to be lifted. In such cases the sanction of the Divisional Railway Manager must be obtained.
 - (d) When a crane is liable to foul another line during working, it must be in-charge of responsible official, such as an Inspector. The Station Master at either end of the section must be advised to issue Caution Orders to the Loco Pilots of trains proceeding into the section. The Inspector in-charge of the crane must, when the crane is likely to foul another line, protect that line with banner flags and hand signals in accordance with S.R. 15.09/1. Such banner flags and hand signals may only be removed on his authority when the crane has stopped working and the jib has been placed parallel to the track, clear of the adjacent road.
 - (e) It is desired to work a crane or cranes on a bridge, the permission of the Divisional Engineer must be obtained, who will, if necessary obtain the sanction of the Chief Engineer. The maximum weight to be lifted and the maximum radius and angle at which the jib will work should be given for guidance.
 - (f) Posting of rules-Mounted copies of rules of working cranes are to be displayed on the back of the water tank in the case of steam travelling cranes, and on the back of the balance-weight box in the case of hand travelling cranes.
- (4) Cranes belonging to the engineering or mechanical departments must be worked solely by Certified Cranemen appointed by those departments and the Cranemen are responsible for the proper working of the cranes.

4.28. Loading of vehicles -

- (1) No wagon or truck shall be so loaded as to exceed the maximum gross load on the axle fixed under sub-section (3) of section 53 of the Act, or such less load, if any, as may have been prescribed by the Railway Administration.**
- (2) Except under approved special instructions, no vehicle shall be so loaded as to exceed the maximum moving dimensions prescribed from time to time by the Railway Board.**
- (3) When a load in a truck projects to an unsafe extent beyond the end of truck, an additional truck shall be attached to act as a dummy.**
- (4) The Guard shall, unless this duty is by special instructions imposed on some other railway servant, carefully examine the load of any open truck which may be attached to the train, and if any such load has shifted or requires adjustment, shall have the load made secure or the truck removed from the train.**

S.R.4.28/1. Moving dimensions - Except under approved special instructions, every vehicle and its load must be within the dimensions.

S.R.4.28/2. Projecting load - When it is found necessary, in consequence of the contents projecting beyond the end or ends of a wagon, to attach one or more guard wagons thereto, Guards must be careful to see that they are not separated from the wagon or wagons in which the overhanging load is placed.

S.R.4.28/3. Loads infringing Standard Moving Dimensions - Loads which infringe standard moving dimensions will not be dispatched without the sanction of the Chief Operations Manager, who will, if necessary, obtain the sanction of the Commissioner of Railway Safety through Chief Engineer.

S.R.4.28/4. Explosives and Ammunitions, Wagons containing -

- (a) The maximum number of wagons or powder vans containing military explosives and ammunitions that can be carried by each class of trains is as follows -
 - (i) By goods trains - 5
 - (ii) By passenger trains - 2. As far as possible, powder vans will be used for transport of explosives.
 - (iii) By mixed trains - 4 powder vans or 3 covered wagons.
- (b) All wagons containing ammunition and explosives must be marshalled together and close coupled to one another and also to the adjoining vehicles on either side.
- (c) The total quantity of explosives permitted to be carried in any one wagon shall not exceed the marked capacity of the wagon subject to rules given in Red Tariff.
- (d) Wagons containing ammunition and explosives must be preceded and followed by two guard wagons exclusive of brakevan. One guard wagon should be provided between the locomotive and such wagons if marshalled next to engine. As far as possible, wagons containing explosives or explosive vans on passenger trains will be attached in the rear.
- (e) The above rules regarding guard wagons will also apply to military specials.
- (f) The number of explosive and ammunition wagons to be carried by military special train and their marshalling arrangements will be regulated by rules in the Military Tariff. The maximum load of such a train should be the load that a scheduled locomotive can haul on the various sections.

S.R.4.28/5. Carriage of Petroleum and other inflammable liquids by trains - Petroleum and other inflammable liquids are divided into Class 'A', which are highly inflammable, and Class 'B' which are inflammable. The common types of class 'A' liquids carried on the railway are aviation spirit, benzene, crude oil, petrol (motor spirit), solvent oil, methanol and naphtha. The common types of Class 'B' liquids are diesel oil, furnace oil, jet turbine fuel kerosene and turpentine. Details are given in the Red Tariff.

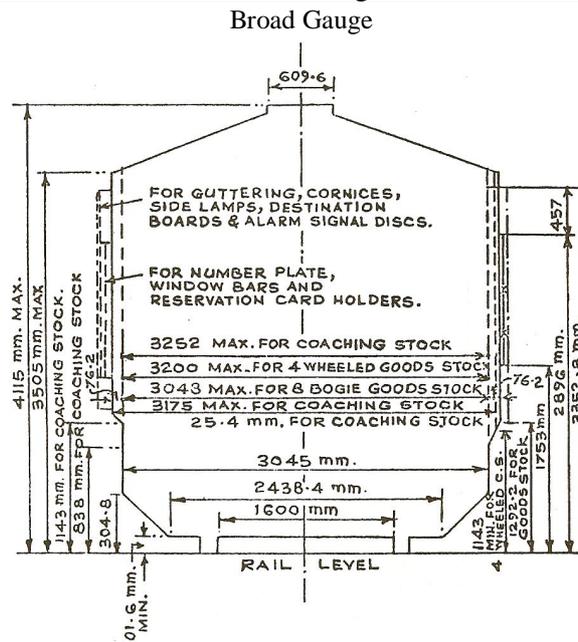
S.R.4.28/6. Carriage of Petroleum and other inflammable liquids by Passenger or Mixed trains -

- (a) The maximum number of tank wagons or vans containing packed petroleum and other inflammable liquids that can be carried by passenger or mixed trains is four.
- (b) Such wagons must be grouped together and close-coupled to one another and also to the adjoining vehicles on either side and must be marshalled as far away as possible from the locomotive.
- (c) Wagons containing Class 'A' liquids must be preceded and followed by two guard wagons exclusive of brakevan. If wagons containing Class 'A' liquids are marshalled next to locomotive, one guard wagon should be provided between locomotive and such wagons. Wagons containing Class 'B' liquids need be separated by one guard wagon in front and one in rear. However, the number of guard wagons in front and in rear will not be less than two when wagons contain gases (Compressed, liquefied or dissolved)
- (d) All empty wagons which had contained either Class 'A' or Class 'B' inflammable liquids should be treated in the same way as wagons actually containing the inflammable liquids and should be separated in front and rear as per item (c) above.

S.R.4.28/7. Carriage of petroleum and other inflammable liquids by goods trains -

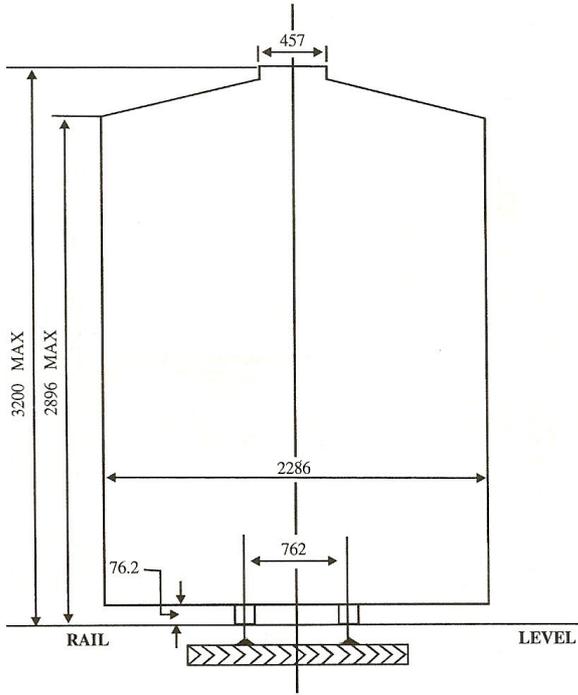
- (a) Tank wagons or other wagons loaded with petroleum or other inflammable liquids Class 'A' or Class 'B' may be carried by goods train or specials as load permits.
- (b) Such wagons must be grouped together and close-coupled to one another and also to the adjoining vehicles on either side and must be marshalled as far away as possible from the locomotive.
- (c) In the case of wagons containing Class 'A' liquids, they must be preceded by one and followed by two guard wagons exclusive of brakevan. Wagons containing Class 'B' liquids need be separated by one guard wagon in front and one in rear. However, the number of guard wagons in front and in rear will not be less than two when the wagons contain gases (compressed, liquefied or dissolved.)
- (d) All empty tank wagons which had contained Class 'A' or Class 'B' inflammable liquids should be treated on par with wagons actually carrying the inflammable liquid.

Maximum & Minimum Dimensions Coaching & Goods Stock Loaded or Empty

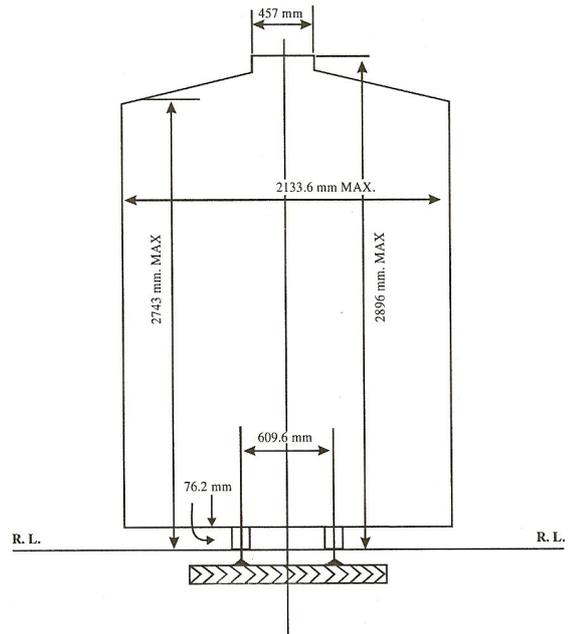


All Dimensions are in mm.

Maximum Moving Dimensions
762 mm Gauge (Narrow)



Maximum Moving Dimensions
609.6 mm Gauge (Narrow)



All Dimensions are in mm.

4.29. Damaged or Defective vehicles -

- (1) **No vehicle which has been derailed shall run between stations, until it has been examined and passed by a competent Train Examiner:**
Provided that in case of a derailment between stations, the Loco Pilot may, if the vehicle has been rerailed and if he considers it safe to do so, take such vehicle to the next station at a slow speed.
- (2) **If a Guard or Station Master has reason to apprehend danger from the condition of any vehicle on a train before it can be inspected by a Train Examiner, the Loco Pilot shall be consulted, and if he so requires the vehicle shall be detached from the train.**

S.R.4.29/1. Movement of disabled vehicle, wagon or damaged engine – Whenever a Loco Foreman or Train Examiner considers it safe to attach a disabled vehicle, wagon or damaged engine behind the rear brakevan, a Station Master on receiving a written advice to this effect, may attach such a vehicle, wagon or engine behind the rear brakevan of goods train or a mixed train. The original advice must be given to the Guard of the train for submission with the journal. If the vehicle, wagon, or damaged engine is detached before reaching its destination, the original advice must be made over to the Station Master, who will give it to the Guard of the train by which the vehicle, wagon or engine is subsequently despatched. Only one such vehicle, wagon or engine can be attached in the rear of goods or mixed train.

S.R.4.29/2. (I) Hot Axle -

- (a) Any railway servant observing a hot axle on a running train must do everything in his power to stop the train and warn the train staff.
- (b) If an axle box of a vehicle or wagon is found running hot at a station, other than a train examining station, the vehicle or wagon must be detached from the train. The vehicle or wagon must not be worked onward except as provided for in sub-para (c).
- (c) If an axle box is observed to be running hot between stations, the train must be brought to a stand immediately and the axle box examined by the Loco Pilot. Who should exercise his discretion with regard to the restricted speed at which it is safe for the vehicle or wagon to travel. On arrival at the first block station with detaching facilities, the vehicle or wagon must be detached from the train.
- (d) Immediately a vehicle is detached from a train at other than a train examining station, the Station Master must advise the Head Train Examiner under whose jurisdiction his station is situated.
- (e) Water must not be poured on a hot box to cool it.
- (f) Before a wagon is attached to a train at a way-side station other than a train examining station, the Loco Pilot must examine the axle boxes to ensure that the wagon is safe to run.

II. The signs of an axle running hot in stages are as follows -

- (a) The box commences to warm up and can only be detected in this stage by feeling with the hand, which should be placed on the side of the box facing the rear.
- (b) There is a strong smell of heated oil and waste, which can be detected at some distance from the vehicle.
- (c) A whistling noise may commence at any time during the process of heating. A box, which is whistling, must be examined.
- (d) The box becomes sufficiently hot to ignite the waste and oil. Flames and smoke can be seen issuing from the box and the metal of the box becomes red hot. In this condition the axle will break within a few Kilometers.

(III) The signs of a roller bearing Hot Boxes are as follows -

- (a) There is splashing of grease around the roller bearing axle box and the wheel/bogie surrounding it.
- (b) There is an emission of smoke from the axle boxes due to burning of grease and is often visible during day time, usually it is also accompanied by a smell of burning grease.
- (c) Unusual metallic sound like whistling or cracking sound is heard on roller bearing hot box. Axle Box cover may also get damaged/missing.
- (d) In some cases, the grease may run so hot as to catch fire and flames can be seen.
- (e) Skidding of wheels and tilting of particular spring usually takes place at the last stage when due to breakage of roller bearing the wheels may get locked. A roller bearing hot box may cause seizure of wheels within a short time leading to derailment.

S.R.4.29/3. (i) Whenever any unsafe condition on a train while passing through the station is noticed, such as hot axle, loose wagon/vehicle undergear hanging etc., the Station Master/Cabin Staff should take immediate steps to stop the train by exhibiting hand danger signal, putting the fixed signals to 'On' and advising the Loco Pilot / Guard on walkie-talkie or by other means available and In case of an electric engine, the Section Controller and Traction Power Controller should be advised to 'Switch Off' the power supply to that section, simultaneously if the measures taken by station staff to stop the train fail to attract the attention of the train crew, the Station Master/CASM/Cabin Master should immediately transmit 'Stop and Examine Train' signal to the station in advance on block instrument, telephone attached to the block instrument or on electric communication instrument.

(ii) The Station Master of station in advance receiving the signal and the message shall immediately acknowledge both and shall use all available means to stop the train in question at the station. Till such time the affected train arrived complete at his station, the Station Master shall not permit any train or trains running on any adjacent line or lines to leave his station towards the station, which sent signal and message.

(iii) The Station Master, on receipt of 'Stop Examine Train' signal, shall where possible receive the train on the main line, if he is unable to do so he shall bring it to a stop out the first stop signal before admitting it into the loop line.

The Station Master, after ensuring that the train has come to a stop outside the first stop signal, shall arrange to advise the Loco Pilot of the train of the reason of the train being so stopped through a member of station staff. The Loco Pilot on being so advised shall examine the train to ascertain if it would be safe to work the train up to the station-negotiating crossover for entry into the loop line. The train, thereafter, may be piloted up to the station after fixed signals have been taken 'Off' and it has been ascertained by the Loco Pilot that it is safe to do so. The Loco Pilot while negotiating the facing points shall observe the speed restriction, which, under no circumstances, shall exceed 10 KMPH.

S.R.4.29/4. Repairs to Vehicle -

- (a) When a vehicle has to be taken out of traffic for repairs, it must be stencilled 'Not to run' on both sides as near the label holder as possible, in the case of goods stock, and on the sole-bars in the case of coaching vehicles. In addition, the prescribed 'Damaged not to Go' labels must be pasted on both sides of a goods vehicle near the label holders, or tacked on to foot boards in the case of a coaching vehicle. If a vehicle is not to be transhipped, the inscription on the same label 'Tranship load' should be deleted.
- (b) When a vehicle or wagon has been marked sick for placement in a sick siding, the Train Examiner will send a written memo giving the number of vehicle, owning railway, time and date marked sick and reasons, and send it to the Station Master/Yard Master or Trains Clerk concerned. A register will be maintained in the Station Master's or Yard Master's office in which particulars of sick vehicles will be maintained and also the date and time at which a vehicle was marked fit for traffic. The Trains Clerk, Shunting Master and Yard Master as they come on duty will examine this register and initial it.
- (c) All wagons marked sick shall be detached in a siding set apart for sick wagons and placed into the sick siding or tranship shed as required, without delay.
- (d) The Train Examiner, the Guard, the Station Master/Yard Master, the Shunting Master and the Trains clerk are jointly responsible to see that no sick vehicle is worked away until certified fit to run. After the repairs are carried out, the stencil marks and labels must be removed.

E. Precautions before Starting Train.

4.30. Loco Pilot and Guard to examine notices before starting -

Every Loco Pilot and Guard before starting with a train shall examine the notices issued for their guidance, and ascertain there from whether there is anything requiring their special attention on that section of the railway over which they have to work

S.R.4.30/1. Notices, Loco Pilots and Guards to acquaint themselves with - Safety literatures are kept in Crew Booking Office, when 'signing on duty' Loco Pilots and Guards must read all instructions pertaining to them in the safety literatures and sign in acknowledgment of having read and understood them. A register is also maintained in which all current speed restrictions are entered and before going out on each trip each Loco Pilot must scrutinize this register and sign it. The Loco Pilots must also acquaint themselves with the instructions contained in the Order Book, maintained in the Engine Turner's office and append their signatures in token of having read and understood them.

4.31. Examination of trains before starting -

- (1) When a train is examined by a Train Examiner at a station, the Station Master shall not give permission to start the train until he has received a report from such examiner to the effect that the train is fit to proceed and has the prescribed brake power.
- (2) At station where no Train Examiner is posted or at way side station while clearing the stabled load, the Guard and the Loco Pilot-
 - (i) shall ensure vacuum or air pressure continuity and adequate brake power by counting operative or non-operative pistons before starting.
 - (ii) Shall ensure by visual examination that there are not loose fittings in the under gear including brake blocks, safety brackets, track area pins, brake gear pins which may endanger the safe running of the train;
 - (iii) Shall check up the validity of the Brake Power Certificate. In case validity period is over, shall work the train up to the next Train Examiner point in the direction of movement and control shall be informed through the SM by making endorsement on joint memo which shall be prepared as specified in clause (iv); and
 - (iv) Shall prepare the memo jointly on plain sheet in triplicate indicating the brake power and deficiency. If any, and shall append their signatures on the same and both of them shall retain a copy of the same. Third copy thereof shall be handed over to the Station Master.
- (3) The Station Master shall not permit the Guard and the Loco Pilot to start the train until he has received a joint memo from both of them to the effect that the train is fit to proceed.

S.R.4.31/1. Protection of carriage and wagon staff - Whenever it is necessary for the carriage and wagon or electrical staff to work underneath or between rolling stock or in any other dangerous position on the train, they must take the following precautions.

- (a) Passenger trains - Before commencing work the Train Examiner must place a red disc by day and a red light by night at each end of the train. Before giving the hand signal for starting, Guard must satisfy himself that the red disc or the red light is removed by the Train Examiner. The red disc or red light must only be removed by or under the personal direction of the Train Examiner.
- (b) Goods trains -
 - (i) The Train Examiner must first protect the train by placing a red banner flag or a red lamp at each end of the train and before commencing work, he must obtain the signature of the Station Master/Yard Master.
 - (ii) The banner flags or the lamps should be placed so as to be clearly visible on both sides and in both directions and may only be removed by the person who put them in position, or under his directions. When the flags or lamps are removed, the time must be noted in the aforesaid form and the signature of the official concerned must again be obtained.
- (c) The instructions for the protection shall apply in respect of all stock standing alone or forming part of a rake on any road or siding.
- (d) In case of air braked trains (coaching/goods) Loco Pilot and Guard, before signing the record copy of brake power certificate, shall carry out pressure continuity test for ensuring continuity of air pressure from locomotive to the last vehicle of train. Air pressure continuity test should be carried out as per procedure laid down in working Time Table. Loco Pilot and Guard should personally check the correct quantity of air pressure in feed pipe/brake pipe gauge to avoid cross connection between feed pipe and brake pipe.

S.R.4.31/2. Starting a train from non-TXR Station - Whenever a train has to be started from a non-TXR Station or a load stabled for more than 24 hrs. (including for traction changing) has to be lifted from a road side station, following action will be taken by the guard and Loco Pilot of the train.

- (a) The guard and Loco Pilot of the train shall examine the load by walking along the length of the train Loco Pilot on one side, guard on the other side and will ensure that there is no loose or missing fitting in the under gear which may endanger safe running of train.
- (b) Station Master should maintain an 'Examination-cum-Brake Power Register' wherein coming train number, composition incoming BPC number, from-to, date percentage of Brake Power, composition of outgoing train, time of arrival of outgoing train engine. Old BPC/manuscript BPC, percentage of Brake Power, faults detected by guard and Loco Pilot departure time, remarks, signature of Station Master, signature of guard should be recorded.
- (c) Loco Pilot will conduct a 'Brake Feel Test' at the earliest to ensure that the train has adequate brake power.
- (d) However, if the incoming train has come with an invalid BPC or if the incoming train has come with a valid BPC, but the rake integrity has been disturbed beyond permissible limits action shall be taken as under:
 - (i) The Loco Pilot will first create at least 46 Cms of vacuum on the engine and 38 Cms. in the brake van.
 - (ii) The guard on seeing, 35 Cms of vacuum in the brake van, shall show 'Red Hand Signal' to the Loco Pilot to destroy the vacuum.
 - (iii) In such cases while checking the load, the guard and Loco Pilot shall jointly ascertain the brake power of the train.
 - (iv) Thereafter, the guard shall prepare a memo in triplicate indicating the number of operative as well as inoperative pistons as also the number of piped vehicles and percentage brake power which shall be signed jointly by the guard and Loco Pilot, in addition to filling in the 'Examination-cum-Brake Power Register', one copy of this certificate will be retained by the Loco Pilot, one copy by the guard and one copy will be given to the Station Master for station record.
- (v) Proforma for joint check by the Loco Pilot and guard -

- | |
|---|
| <ol style="list-style-type: none"> 1. Date 2. Train No. & Description 3. From _____ to _____ 4. Engine No. 5. Engine attached at 6. Total Load 7. (i) Total No. of cylinders .
(ii) Total No. of working cylinders.
(iii) Brake Power _____ per-cent. 8. Vacuum/Air Pressure available in
(i) Engine
(ii) Brake van |
|---|

Signature of Loco Pilot

Signature of Guard

- Note:**
- (i) This certificate is valid up to next TXR examination station where the train will be offered for examination.
 - (ii) In case of invalid B.P.C., or if its integrity of the incoming train with a valid B.P.C. has been disturbed beyond permissible limits, the guard and Loco Pilot shall ascertain the Brake Power of the train and prepare the B.P.C. as per above proforma.

- (e) These instructions will not be applicable for crew changing and for loads having valid BPCs for the outgoing train like Agni, King Rocket etc. rakes with detention less than 24 hrs. at that station. In these cases, only SM will record the particulars in the Register.
- (f) At train originating station or engine changing station where TXR is available, the brake continuity test is to be carried out by TXR otherwise by Loco Pilot and guard. Whenever there is change in train composition by attaching or detaching of Rolling Stock at Roadside stations or a stabled load is started the Loco Pilot and guard should test the brake continuity and prepare joint certificate in 3 foils i.e. one for Loco Pilot, one for guard and one for station record.

4.32. Examination of train by Loco Pilot - The Loco Pilot shall, before the commencement of the journey and after performing any shunting enroute, ensure-

- (a) that his engine is in proper working order,**
- (b) that the coupling between the engine and the train is properly secured, and**
- (c) that the head light and marker lights as prescribed in sub-rule(1) of Rule 4.14 are in good order, and these are kept burning brightly, when required.**

S.R.4.32/1. (a) Precaution before moving an engine: Loco Pilots and Shunters must personally satisfy themselves before moving an engine that nobody is working under it or is in a position to be injured by moving the engine.

(b) A Loco Pilot shall not take his train on to a running line until he has tested all his control, power and brake apparatus and found them in proper prescribed working order and is in possession of the required brake power certificate. He shall, in addition carry out inspections and tests in accordance with special instructions. The brake power of the train shall be tested by the Loco Pilot in the first block section after taking over charge of the engine and after performing shunting enroute.

In case of air braked train also ensure continuity of air pressure in whole train.

4.33. Examination of single and multiple units by Loco Pilot - When coupling single or multiple units or coaches of any such units together, the Loco Pilot shall be responsible for observing that all electrical couplings are properly made. After all couplings have been made, the Loco Pilot while taking over the complete train shall satisfy himself that all control and power apparatus and brakes of the complete train are in proper and prescribed working order.

4.34. Duties of Guard when taking over charge of a trains- The Guard when taking over charge of a train shall satisfy himself, before the train is despatched-

- (a) that the train is properly coupled,**
- (b) that the train is provided with the prescribed brake power,**
- (c) that the train carries tail board or tail lamp and side lamps and that such lamps are lighted and kept burning brightly , when required,**
- (d) that the appliance, if any, for communication between the Guard and the Loco Pilot, is in proper working order, and**
- (e) generally that, as far as he can ascertain, the train is in a state of efficiency for travelling.**

S.R.4.34/1. Duties of Guards - The Guards must, before starting, comply with the following additional instructions:

- (a) Guard's Order Book - Guards' Order Books are maintained at all headquarter stations and Guards, on reporting for duty, are responsible for scrutinizing this book for any fresh orders which may have been received and issued through this medium and append their signatures in token of having understood them.

- (b) Coupling of Trains -
- (i) In case of goods train originating from a station/yard the Guard must see that all the screw couplings of his train are tightly screwed and the vacuum hose piped/air pressure pipes are connected before the train leaves station/yard.
 - (ii) In case of coaching trains this responsibility lies with Train Examiner.
- (c) The Guard must test the hand brake of his brake-van and inspect tail lamp/tail board.
- (d) The Guard shall see that his train is properly marshalled in accordance with instructions in force.
- (e) When taking over charge of a train and before signing the train examiner's Brake Power Certificate, the Guard of a train shall ensure that the train examiner has signed in the Brake Power Certificate form that
- (i) the doors of all carriages and wagons are in proper working order and can be closed and fastened.
 - (ii) Vestibules connection are properly secured that doors, when necessary are locked and bolted.
- (f) If it is noticed enroute that the vacuum/air pressure on the rear brakevan has fallen below the minimum prescribed and the defect cannot be traced, the Loco Pilot will work the train forward to the next train examining station by utilising the available brake power of the train. In such a case the train shall be treated as partially automatic vacuum/air braked and the Loco Pilot and the Guard must exercise great care. If the Loco Pilot is unable to control the load effectively by means of the available brake power, he shall work forward cautiously at a reduced speed with the assistance of hand brakes. In addition, the hand brakes of sufficient number of wagons may be pinned down/screwed to have effective brake power for controlling the train.
- (g) The Guard in-charge of a goods train must see that open wagons are properly sheeted to protect inflammable or perishable goods from sparks or from rain and that heavy loads are securely fastened; that the doors of all wagons are properly secured and every fastening fixed and that all seals are intact.
- (h) The Guard of the train should also examine the setting of the empty/load box when taking over charge of the train and ensure correct setting. When a box wagon is attached or detached at roadside stations, the Guard should ensure the correct setting of the empty/load box.
- (i) The prescribed load is given in the Working Time-Table. Guards are jointly responsible with Station Masters for seeing that shunting operations on their trains are properly carried out.
- (j) Guard of a passenger carrying train must ensure that the doors of the rear luggage van are properly closed and locked. Front SLR will be locked as per instructions issued by DRM time to time.

4.35. Starting of trains -

- (1) A Loco Pilot shall not start his train from a station without the authority to proceed. Before starting the train, he shall satisfy himself that all correct fixed signals and, where necessary, hand signals are given and the line before him is clear of visible obstructions and the Guard has given the signal to start.**
- (2) The Guard shall not give the signal for starting the train unless he has received the permission of the Station Master to start, in the manner prescribed by special instructions.**
- (3) The Guard shall not give the signal for starting unless he has satisfied himself that, except in accordance with special instructions, no person is travelling in any compartment or vehicle not intended for the use of passengers.**
- (4) The Station Master shall see, before he gives the Guard permission to start a train, that all is right for the train to proceed.**

- (5) **The permission of the Station Master referred to in sub-rule (2) may be dispensed with in case of suburban trains on such section of a Railway as may be specified by special instructions.**
- (6) **When permission of the Station Master to start has been dispensed with under sub rule (5) or at a station where no Station Master is posted, the Guard shall see, before giving the starting signal, that all is right for the train to proceed.**

S.R.4.35/1. Starting of trains:

- (a) (i) No train shall be started from a station by the Guard of the train unless the Station Master has permitted the train to leave.
- (ii) The Station Master will give permission to start a train only when the following conditions are fulfilled -
- (1) Line Clear from the Station ahead has been obtained.
 - (2) Correct starting signal has been taken 'Off' or starting permit has been sent to the Loco Pilot.
 - (3) The last stop signal has been correctly taken off on double line or on single line where tokenless block instruments are in use. In addition, on single line, the tangible authority to proceed, where in use, has been sent to the Loco Pilot.
 - (4) In case of starter or Advanced Starter Signal being defective, the provisions of GR3.70 and S.R.3.70/1, 3.70/2, 3.70/3 there under have been complied with.
 - (5) For defective Intermediate Block Home Signal, the Station Master shall in addition, comply with the provision of S.R.3.75/1.
- (b) (i) For passenger trains, the Station Master will give permission to the Guard to start the train either personally or by having the station bell rung according to the prescribed code or giving a green hand signal to the Guard.
- (ii) The Guard of the EMU, DMU or MEMU should authorise the train to start, provided he has satisfied himself that conditions for the train to start are complied with except that the responsibility to see that the correct signal has been taken 'Off' for the train will be that of the Motorman/ Loco Pilot.
- (c) (i) For trains taking 'Off' of the Starter and the Advanced Starter signals on double line or on single line where tokenless block instruments are in use will be considered as the Station Masters permission to start the train. On single line where tangible authority to proceed is in use, the Loco Pilot should be in possession of the same in addition to the taking 'Off' of the Starter and Advanced Starter signals.

Where Starting signals are not provided, the Loco Pilot must also be in possession of a Starting permit.

(ii) When the conditions laid down in (c) (i) are fulfilled, the Loco Pilot of a trains will sound the engine whistle in token of having observed that the correct signal have been taken 'Off' for his train or in the event of defective starter and of Advanced Starter signals that he has in his possession the authority on form T/369(3B) to pass the same at danger, on which the Guard will give his permission to start.

S.R.4.35/2. Guard's duties before starting of trains -

- (i) On receipt of Station Master's permission to start the train and when all work in connection with the train is completed, the Guard will sound his whistle and display a green flag by day or a green light by night to the Loco Pilot to start his train.
- On the electrified suburban section, the code of bell signal to be given by the Guard to the Motormen will be 2 rings for starting and 1 ring for stopping. In the event of the bell circuit becoming defective the train should be started by the Guard by means of hand signals as for other trains.
- (ii) The Guard in-charge of a passenger carrying train must satisfy himself by visual check that passengers have detrained and entrained.

- (iii) On sections of the line where banking engines are employed, the Guard, after giving the starting signal to the Loco Pilot in front, shall immediately repeat the signal to the Loco Pilot in rear.
- (iv) In case of the Loco Pilot having to pass an automatic signal in the 'On' position, the Guard will observe the provisions of G.R.9.07.

S.R.4.35/3. Traveling in Brake vans -

No Railway servant shall, otherwise than in the execution of his duty, ride in a brakevan or in any vehicle in which luggage or parcels are being carried. Railway servants and others whose passes are endorsed as 'Available by Goods train brakevans' may be allowed to travel in goods brakevans.

Train crew/guard, maintenance staff & security staff can travel in B/Van of passenger train in case of emergency only. Not more than three persons excluding guard should be permitted to travel in B/van of passenger train.

The number of persons permitted to travel in the brake van of goods trains in addition to the guard should not exceed five. However in emergent cases exception may be made for security staff, police, repair gangs of S&T/Medical staff etc. with the prior approval of Sr.DOM of the concerned division.

S.R.4.35/4. When a train carrying passengers is due to leave and all work in connection with it is finished, the Station Master shall authorise the station bell to be run. Two beats for starting a down train, three beats for an up train and four beats for a branch line train.

S.R.4.35/5. Precautions - drawing a train ahead: If a train after it has stopped at a station/Yards to be drawn ahead for any reason beyond the starter signal, the Station Master shall advise Guard and Loco Pilot of the train in writing the reason for doing so. A pilotman would invariably be deputed by Station Master for this purpose. The Loco Pilot may then draw his train ahead on receipt of "all right" hand signal from the pilotman only up to the fouling mark. The Starter signal, must not be taken 'Off' for drawing the train ahead.

When a train, part of which has gone beyond the Starter signal after drawing it ahead has to restart, the Station Master after ensuring that Line Clear has been obtained from the Station in advance shall authorise the taking 'Off' of the last stop signal and issue starting permit on prescribed form to the Loco Pilot. The Loco Pilot will not start his train unless he has received such an authority from the Station Master.

4.36. Guard to be in charge of train - After the engine has been attached to a train, and during the journey, the Guard or (if there be more than one Guard) the Head Guard shall be in charge of the train in all matters affecting stopping or movement of the train for traffic purposes. In the case of any self-propelled vehicle, such as a motor coach without a trailer and unaccompanied by a Guard, the duties of the Guard shall devolve on the Loco Pilot.

4.37. Subordination of Guards in station limits - When a train is within station limits, the Guard shall be under the orders of the Station Master.

4.38. Assistant Loco Pilots to obey Loco Pilots - The Assistant Loco Pilot shall obey the lawful orders of their Loco Pilots in all particulars.

4.39. Loco Pilot to obey certain orders - After an engine has been attached to a train and during the journey, the Loco Pilot shall obey -

- (a) the orders of the Guard, in all matters affecting the starting, stopping or movement of the train for traffic purposes, and
- (b) all orders given to him by the Station Master or any railway servant acting under special instructions, so far as safe and proper working of his engine will admit.

F. Duties of Staff Working Trains during Journey

4.40. Loco Pilot and Assistant Loco Pilot to keep a good look out - Every Loco Pilot shall keep a good look out while the train is in motion, and every Assistant Loco Pilot shall also do so when he is not necessarily otherwise engaged.

S.R.4.40/1. Calling out of signal aspects by engine crew - The Assistant Loco Pilot /Diesel Assistant shall assist the Loco Pilot in sighting the signal aspects. He shall call out the aspects displayed by the signals from the place from where the signals can be sighted. The Loco Pilot, after personally verifying the correct aspect of the signal shall repeat the same. This however does not absolve the Loco Pilot of his responsibility contained in G.R. 3.78 and S.Rs there under.

The aspects of the signals shall be called out in various signalling territories as under -

(a) In two aspect lower quadrant signalling territory:

Outer	-	right/against.
Warner	-	right/against.
Main Home/Loop Home	-	right/against.
Starter	-	right/against.
Advanced Starter	-	right/against.

(b) In colour light signalling territories the names of signals should be called out with the colour displayed by the signal:

Distant	-	Green/Double Yellow/Yellow
Home	-	Yellow/Double Yellow/Green/Red

(c) In MAUQ Signalling Territory

Distant	-	right/against/45°
Home	-	right/against/45°
Starter	-	right/against
Advanced Starter	-	right/against

Night indication same as for colour light signalling territory.

4.41. Loco Pilot and Assistant Loco Pilot to look back - The Loco Pilot and the Assistant Loco Pilot shall look back frequently during the journey to see whether the train is following in a safe and proper manner.

S.R.4.41/1. When a train passes a gang working on the line or a manned level crossing gate, the Loco Pilot, Assistant Loco Pilot or Diesel Assistant should look back to ascertain if every thing is all right with the train and if any signal is being exhibited warning them of a danger of an accident.

S.R.4.41/2. In case of animal run over, Loco Pilot will abide by the instructions issued “ Animal run over” in the “Classification of Accidents” of Accident Manual. Whenever animals are run over and the carcass does not foul the track, Loco Pilot and Assistant Loco Pilot should look back to see whether the train is following in safe and proper manner. In case of slightest doubt, the train should be stopped and examined for safe running before starting.

4.42. Exchange of signals between Loco Pilot, Guard and Station staff-

- (1) **The Loco Pilot and the Guard of a train shall exchange signals with each other, at such time and in such manner as may be prescribed by special instructions.**
- (2) **The Loco Pilot and the Guard of a train shall, while running through a station, look out and, except under special instructions, acknowledge the ‘ all right’ signals which the Station Master and such other staff at the station as may be specified by special instructions shall give if the train is proceeding in a safe and proper manner. If the train is not proceeding in a safe and proper manner, the Station Master or the other staff shall exhibit a Stop hand signal, on receipt of which the Guard and the Loco Pilot shall take immediate steps to stop the train.**

S.R. 4.42 / 1 Signals between the Guard and the Loco Pilot -

- (a) The All Right Signals must be exchanged between the Guard and the Loco Pilot as detailed below:
 - (i) When a train starts after stopping at a station.
 - (ii) When a train starts after stopping between stations.
 - (iii) When a train clears a speed-restricted zone.
- (b) If a Loco Pilot does not receive an All Right Signal from the rear brake van, by the Guard, he shall whistle and talk on Walkie-Talkie. If there is no response, he shall stop the train and ascertain the cause.

S.R.4.42/2. Manner of exchange of Signals -

- (a) (i) The All Right Signal to be shown by the Station Master/Cabin Master/ Cabinman/Pointsman by holding a green flag by day and green lamp by night and thick, foggy or tempestuous weather in right hand.
 - (ii) The station staff, while exchanging green hand signal during day should also have red flag furled in left hand, which should be exhibited immediately to attract the attention of the train crew if any unsafe condition on the train is noticed.
- (b) In case of train running through a station, the Station Master shall show an All Right Signal to the train if all is right for the train to continue the journey otherwise he shall show Danger Signal or other prescribed indications. While running through the station, the Loco Pilot and the Guard shall be on the lookout for such signals, which shall be duly acknowledged by the Loco Pilot and Guard. In case of Rajdhani and Shatabdi Express trains, the Guard is exempted. In case the Loco Pilot and the Guard do not receive such signals, they shall exercise extra caution to ensure that all is right for the train to proceed on. Failure on the part of Station Master to display signals shall be reported in Guard's Journal and also to the Station Master on duty at the next stopping station. On Controlled Section the same will be relayed to the Section Controller for taking suitable action by the Station Master receiving the report under exchange of Private Number.
- (c) All Right Signal shall also be exchanged between the cabin staff of Block and Non Block cabins with the Loco Pilot and the Guard of a train, they shall see whether the train is proceeding safe.
- (d) In the event of the view of the passing train being obstructed by another train or by vehicle or any other obstruction, the green hand signal shall as far as possible be shown from a place, from where it can clearly be seen by the Loco Pilot and Guard of the train concerned. When, however, two trains are passing through the station simultaneously, it is not possible for the Station Master to cross over and exchange signals with the train which is running on the other side of the stabled load / train, the Station Master shall depute a competent Railway Servant to show All Right Signal.

The station staff shall take measures to stop the train when any unusual condition endangering safety of the train is noticed.
- (e) At stations, where frequent shunting movements take place or circumstances warrant otherwise, exceptions should be incorporated in the Working Rules of those stations. However the cabin staff who are exempted from exchanging hand signals with train crew should be watchful and show danger signal and take steps to stop the train, if anything dangerous is noticed.
- (f) In case of a train starting from station when Guard's signal can not be seen by the Loco Pilot for any reason, the Station Master shall arrange for the Guard's signal to be repeated to the Loco Pilot.
- (g) While exchanging the All Right Signals with each other the Loco Pilot and the Guard will wave the Green Hand Signal, before the train starts and just by holding Green Hand Signal steadily when the train is in motion.
- (h) The Loco Pilot's All Right Signal shall be given by him from his side and Assistant Loco Pilot will exchange the signal from his side with Guard and station staff by showing a green flag steadily by day and a green lamp steadily by night and during thick, foggy or tempestuous weather.

- (i) When a train, either stopping or non stopping at a station, has passed a station inclusive of a train halt, the Guard shall look back and satisfy himself that no Danger Signal or other indication is given by any of the Station Staff, as warning that there is anything wrong with the train.
- (j) When a train has come to a stand in the block section, the Loco Pilot must not start his train until the Guard has signaled from the brake van to proceed.

S.R.4.42/3. If the Guard fails to exchange All Right Signal the Station Master on duty should immediately advise the Station in advance and give "Stop and Examine" bell signal (Six pause one) through Block Instrument explaining the circumstances for giving this signal under exchange of Private Number. The Section Controller will also be advised.

S.R.4.42/4. The Loco Pilot / Assistant Loco Pilot should whistle and show All Right Signal while running through a Station –

- (i) If the Loco Pilot or Assistant Loco Pilot fails to exchange signal or whistle, the Assistant Station Master on duty should immediately advise the station in advance and give "Stop and Examine" signal (six pause one) explaining the circumstances for giving this signal under exchange of private number. The Section Controller will also be advised.
- (ii) The Station Master in advance on receiving such advice when the train is booked to run through, will put back the departure signal to 'ON' but the departure route must be kept set and locked for the passage of the train. If time permits, three detonators 10 metres apart will be placed immediately beyond the starter signal to draw the attention of the Loco Pilot /Assistant Loco Pilot.
- (iii) In case the Loco Pilot comes to a stop at the Starter Signal, the detonator, if placed, will be removed and the train allowed to proceed after ascertaining from the Loco Pilot, the reasons for non exchange of signal or of not whistling at the last Station. The reason given by the Loco Pilot will be advised to the Section Controller.
- (iv) In case the Loco Pilot fails to stop at the Starter Signal and runs through after exploding detonators and disregarding the departure signals, the Station Staff should try to attract the attention of the Guard. The Guard on receiving Danger Signal from the Station Staff will stop the train. The Station Staff will treat it as an accident under Accident Manual para (H) i.e. Loco Pilot passing signals at danger and take suitable action as laid down in the Accident Manual.
- (v) The Station Staff will at the same time advise the next Station in advance by giving 'train running without proper authority' signal (six pause five) specifically asking the Station in advance to put on both reception and departure signals.
- (vi) The Station in advance will immediately put back all signals to 'ON' and arrange to place three detonators as far away from the Home Signal as possible.

S.R.4.42/5. In the case of an electric engine, the Section Controller should advise the Traction Power Controller the section in which the train is working, the TPC will then arrange to 'switch off' the power supply to that section.

S.R.4.42/6. The Loco Pilot and the Guard of a running train will watch the train, passing on the adjacent line and exchange All Right Signal, if all is right. When any condition is noticed endangering the safety, they will exhibit the danger signal to attract the attention of the Guard and /or Loco Pilot of the train. On seeing a running train on adjacent line the Loco Pilot shall whistle frequently to call the attention of the Guard of adjacent line for exchanging All Right Signal.

4.43. Guard to keep a good lookout - During the journey including halts at stations, every Guard shall keep a good look-out and satisfy himself from time to time that the tail board and brake-van lamps are in position and that all brake-van lamps, where required, are burning brightly, that the train is complete in every respect and is proceeding in a safe and proper manner.

Note - The term “brakevan lamp” includes “tail lamp”.

S.R.4.43/1. When a vehicle is attached to a train behind the rear brakevan, the Guard must keep a good look-out and if it becomes detached, must take steps to stop the train carefully.

S.R.4.43/2. when passing a manned level crossing gate the Guard must look back to see if the Gateman is exhibiting any danger hand signal.

S.R.4.43/3. Whenever a train has been stopped out of course by Station staff by exhibiting a hand danger signal or by any other means, Guard of the train shall not authorise the train to re-start unless he has personally ascertained from the Station Master on duty of the cause of the train being so stopped. The train shall be started only after it has been ascertained that everything is safe for the train to proceed.

4.44. Train held up at first stop signal -

- (1) When a train has, without an apparent cause, been kept standing at the first Stop signal for five minutes, the Loco Pilot shall sound the prescribed code of whistle to warn the Guard, and the Brakesman shall proceed to the cabin or station to warn the Station Master. If there is no Brakesman, the Loco Pilot shall depute Assistant Loco Pilot to proceed to the cabin or station to warn the Station Master. The Brakesman or Assistant Loco Pilot proceeding to the cabin or station shall show a Stop hand signal towards the station. The Guard shall, as soon as the train is stopped at the first Stop signal, check up that the tail board or tail lamp is correctly exhibited and shall maintain a vigilant attitude in rear of the train. After fifteen minutes or such less time as may be prescribed by special instructions, the Guard shall, irrespective of whether the cause is apparent or not, proceed to protect the rear of the train in accordance with instructions laid down in Rule 6.03. If in the meantime the signal is taken ‘Off’, or the Loco Pilot receives the necessary authority to pass the signal in the ‘On’ position, he shall sound the prescribed code of whistle to recall the Guard and exchange hand signal with him before starting the train.**
- (2) In the case of a train not accompanied by a Guard, these duties shall devolve on the Loco Pilot.**

S.R.4.44/1. Whenever the detention to a train at the first stop signal exceeds 15 minutes necessary action to protect the train shall be taken in accordance with G.R. 6.03. Provided further when a train is detained at the first Stop signal of a station having a tunnel in rear, the train shall be protected if the detention is likely to exceed 5 minutes.

4.45. Attracting attention of Loco Pilot –

- (1) If any Guard sees reason to apprehend danger or considers it necessary for any reason to stop the train, he shall use his best endeavors to attract the attention of the Loco Pilot.**
- (2) In the absence of other means of communications with the engine, a Guard desiring to attract the Loco Pilots attention shall apply his hand brake sharply and as suddenly release it, and wherever possible, he shall reverse the side lamps to show red towards the engine.**
- (3) When the attention of the Loco Pilot has been attracted, the necessary hand signals shall be shown.**
- (4) If the train is fitted with continuous brake, the Guard may, in case of emergency, apply such brake gradually to stop the train.**

S.R.4.45/1. Stopping of trains between stations - Whenever a train has to be stopped between stations, the Loco Pilot and Guard must see to the extent feasible, that it is not stopped in an exposed position particularly on tunnels, bridges and high banks Gradient etc.

4.46. Assistance from Guard's hand brake - When the Loco Pilot requires the assistance of Guard's hand brake, he shall sound the prescribed, code of whistle, if necessary repeatedly, or, if a brake whistle is provided, sound such whistle, and shall also use other means of communication, if provided, between the Loco Pilot and the Guard.

S.R.4.46/1. (a) The Guard must promptly apply the hand brakes whenever a non-automatic brake train comes to a stand at a station or between stations on a steep gradient.

(b) Should the Loco Pilot of a train require the assistance of the hand brakes of the brakevans, he will give three short whistles (to be continuously repeated) and the Guard must apply the brakes promptly. Loco Pilots, however, must not rely on assistance from Guard's in controlling their trains when approaching a stopping place, but must call for such assistance as an emergency measure only.

4.47. Application of Guard's hand brake -

- (1) **When the Loco Pilot sounds the prescribed code of whistle or the brake whistle, the Guards shall immediately apply their hand brakes.**
- (2) **When a train is travelling down a steep incline, the Guards shall, if necessary to steady the train, assist the Loco Pilot with their hand brakes.**

4.48. Permission of Guard to detach engine from train - When a train has been brought to a stand outside station limits or any where on a grade, the Loco Pilot shall not detach his engine from the train without the permission of the Guard, who before giving such permission, shall satisfy himself that the van-brakes have been put on securely and take such other measures as may be necessary or prescribed by special instructions:

Provided that detaching of engines from trains in such cases may be prohibited altogether under special instructions wherever considered necessary in the interest of safety.

S.R.4.48/1. The engine of a train carrying passengers must not be detached or the train divided in section except in an emergency, for testing a bridge or for isolating a burning coach or coaches on a train carrying passengers. The following precautions must be taken before the engine is detached or the train divided -

- (a) Hand brakes in the Guard's brakevan at the rear and in the front brakevan, where provided, must be securely screwed on.
- (b) Hand brakes of any goods vehicles on the train must be securely pinned down.
- (c) Hand brakes, if provided, on coaching vehicles must be securely applied.
- (d) The wedges must be securely applied under the furthestmost wheels of the rake in the direction of falling gradient. Vacuum/air pressure must be created to the maximum extent possible, and an attempt made to lightly pull or push the load with the engine in the direction of the falling gradient. Only after it had been ensured that the load is securely restrained against movement, will the vacuum/air pressure, be dropped and concerned angle cock is closed and the engine detached. The interval from the time, the engine is detached to the time it is again attached to the train must not exceed 45 minutes.
- (e) On the ghat sections, locomotives must not be detached from trains between stations.
- (f) When it is necessary to isolate a burning coach and where the precautions as in item (d) above cannot be undertaken in detail, the Guard and the Loco Pilot, of the train will be responsible for using the wedges to the best advantage in order to prevent parts of the train colliding against each other by running away.

4.49. Starting and stopping of train - The Loco Pilot shall start and stop his train carefully and a without jerk.

S.R.4.49/1. Loco Pilots shall not depend on Guards to assist in pulling up trains. They should have their trains fully under control, so as to bring them to a dead stop at Stop Signals in 'On' position, or engineering Stop indicators as necessary. Loco Pilots shall be careful not to overshoot the Stop boards or Starting signals or the spot where a train is required to come to a stand. When working passenger trains they should ensure that the passenger bogies do not overshoot the platform, if possible.

4.50. Sounding of engine whistle -

- (1) **Except under special instructions, the Loco Pilot shall always sound the whistle of the engine according to the prescribed code of whistle -**
- (a) **before putting an engine in motion;**
 - (b) **when entering a tunnel; and**
 - (c) **at such other times and places as may be prescribed by special instructions.**
- (2) **Engine whistle code shall be prescribed under special instructions.**

S.R.4.50/1. Engine Whistle Signals:

- (a) The following are the authroised engine whistle signals, which must be sounded by engine Loco Pilots:

Whistle Code

<u>S.No.</u>	<u>Code of Engine whistle</u>	<u>Indication</u>
1.	0	(a) Before starting - <ul style="list-style-type: none"> (i) Indication to Loco Pilot of assisting / banking engine that the Loco Pilot of leading engine is ready to start. (ii) Acknowledgement by the Loco Pilot of assisting/ banking engine to leading engine. (iii) Engine ready to leave loco yard or after completing locowork. (iv) Engine ready to go to loco yard. (b) On run - <ul style="list-style-type: none"> (i) Assistance of other engine not required. (ii) Acknowledgment of Loco Pilot of assisting/ banking engine that assistance stopped.
2.	0 0	(a) Call for Guard's signal. (b) Signals not exchanged by Guard. (c) Signals not exchanged by station staff.
3.	— 0	(a) Guard to release brakes. (b) Before starting engine or a train from station/mid-section. (c) Main line clear after backing into siding.

4.	0 0 0	(a) Guard to apply brakes. (b) Train is out of control, Guard to assist.
5.	0 0 0 0	(a) Train cannot proceed on account of accident/failures, obstruction or other exceptional cause. (b) Protect train in rear.
6.	— — 0 0	Call for Guard to come to engine.
7.	0 — 0	(a) Token not received. (b) Token missed (c) With wrong 'authority to proceed' (d) Passing Stop signal at 'ON' on proper authority.
8.	—	(a) Before Starting – Vacuum/Pressure recreated on ghat section, remove sprag. (b) Passing an automatic Stop signal. (c) Passing an intermediate block stop signal at 'On' when telephone provided on the signal posts is out of order and the Loco Pilot is thus unable to contact the station in rear. (d) On run - Acknowledgment of Guard's signal.
9.	—————	(a) Approaching level crossing or (continuous) tunnel or area of restricted visibility or curves or cutting or site of accident. (b) Recall railway servant protecting train in rear. (c) Material train ready to leave. (d) Running through a station. (e) Approaching a Stop signal at 'On' (f) Detained at a Stop signal. (g) when in consequence of fog, storm or any other reason the view of signals is obstructed.
10.	— 0 — 0	(a) Train parting. (b) Train arriving incomplete.
11.	0 0 —	(a) Alarm Chain pulled. (b) Insufficient vacuum/air pressure in engine (c) Guard applies vacuum/air brake (d) Intercommunication apparatus used.
12.	— —	Raise pantograph. To be acknowledged by the other engine.

- | | | |
|-----|-------------------------------------|---|
| 13. | — 0 — | Lower pantograph. To be acknowledge by the other engine. |
| 14. | — 0 0 | (a) Signal arm lowered but light extinguished.
(b) Signal arm improperly/ insufficiently taken 'Off'.
(c) Defective signal. |
| 15. | — — — | Fouling mark not cleared. |
| 16. | 0 0 0 0 0 0 0 0 0 0
(Frequently) | (a) Apprehension of danger.
(b) Danger signal to the Loco Pilot of an approaching train whose path is fouled or obstructed for any reason.
(c) While working on a single line section during total failure of communication or when single line working is introduced on a double line section.
(d) Moving in wrong direction on a double line or against the signalled direction in the automatic block signalling territory or against the established direction in the automatic block signalling territory on single line. |

Note - The signals above are illustrated by '0' for a short whistle and '—' for a long whistle.

S.R.4.50/2. In case of failure of horn/whistle of the driving cab of engine at originating station, the engine should be treated as failed and another engine should be provided. If the defect develops enroute, the Loco Pilot should stop at first approaching station and should inform the Station Master about the defect. The Station Master, on getting memo from the Loco Pilot, will advise controller who will arrange relief loco. If the same loco is allowed to work by Traction Loco Controller/Power Controller due to non availability of relief loco, the Loco Pilot will observe a speed restriction of 25 KMPH if view ahead is clear and a speed restriction of 10 KMPH when view ahead is not clear due to any reason. In such cases defective locomotive should be changed at first available opportunity.

4.51. Bell signals between Loco Pilot and Guard - When bell communication is provided between the Loco Pilot and the Guard of the train, bell signal code, as may be prescribed by special instructions, shall be used.

4.52. Throwing out water, fire or cinders - A Loco Pilot or Assistant Loco Pilot shall not throw out water, fire or cinders when passing through a station yard or tunnel, or when on a bridge.

4.53. Hose or water crane - After taking water from a tank or water column, the Loco Pilot shall see that the hose or arm is left clear of the line and, when it is provided with fastenings, properly secured.

4.54. Passengers - Every Guard shall give his best assistance to passengers entraining and detraining.

G. Duties of staff on Arrival

4.55. Shutting off power - In stopping a train, the Loco Pilot shall determine where to shut off power by paying particular attention to the gradient, the state of the weather, the condition of the rails, the brake power and the length and weight of the train.

4.56. Guard to see that train is stopped clear of fouling marks - When a train comes to a stand at a station, the Guard shall see that, wherever possible, the last vehicle of his train has cleared the fouling marks of all points and crossings. If not, he shall inform the Station Master at once and exhibit Stop hand signal to prevent any movement on the fouled line.

S.R.4.56/1. Guard to see train clear of fouling marks -

(a) The Guard of the train shall verify that the train is complete and is standing clear of the fouling marks.

At a station where two or more cabins are provided, when a train comes to a stand, the duty of ascertaining that the train has arrived complete and standing clear of fouling mark will devolve jointly upon Cabin Master/Cabinman of reception end and Guard. At other stations where cabins are not provided this duty devolves with Station Master and Guard.

(b) In all cases where train has not arrived complete, or has not cleared the fouling marks, Guard shall display a hand danger signal to the Station Master or the Cabin staff of the cabin nearer to him. He shall proceed exhibiting a danger signal towards the station or the cabin, to prevent movement on the fouled line.

(c) When the complete arrival of a train inside the fouling marks with tail lamp/tail board on the last vehicle cannot be ascertained by the Station Master/Cabin ASM/Cabin Master/Cabinman either by personal observation or by observing indications for "section clear" provided on panel or with SM / Cabin Master, the Train Intact Register shall be sent by the Station Master/Cabin ASM/Cabin Master to the Guard through a competent railway servant to certify the complete arrival of the train inside the fouling marks with tail lamp/tail board on the last vehicle. In case of poor visibility of obstructed view, Train Intact Register should be sent in advance. The Guard of the train after verifying that the last vehicle stands inside the fouling marks shall append his signature in appropriate column against the entry of his train in the Train Intact Register, which shall have the following columns –

Date	Train No.	Line No.	Time of arrival	Guard's signature in token of the complete arrival of the train inside the fouling marks.
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(d) The Pointsman / Porter shall then exchange 'all-right' signal with the Station Master / Cabin ASM / Cabin Master / Cabinman. The 'Train out of section' signal may be given by the Station Master/Cabin ASM/Cabin Master after he receives the 'all-right' signal from the Pointsman/Porter.

In case the Pointsman/Porter exchanges 'all-right' signal with the Cabinman, the latter shall inform the Station Master about the complete arrival of the train supported by a Private Number on receipt of which the Station Master may give the 'Train out of section' signal.

(e) The Guard of a stopping train shall also see that all visible signals in rear protecting his train have been placed to the 'On' position. At night this can be verified by looking at the back light of the signal in semaphore signaling territory. In the event of a signal bearing in the 'Off' position, the Guard must immediately inform the Station Master or the Cabin Assistant Station Master/Cabin Master/Cabinman and, if necessary, protect his train.

(f) If the fouling marks in the rear are not clear, the Station Master will take immediate steps to draw the train forward and get the fouling marks cleared. The Station Master shall not allow any movement on the adjacent lines, which are infringed until the fouling marks are cleared.

S.R.4.56/2. Guard's duty when two or more trains cross or precede at a station -

(a) At a non-interlocked station when two trains cross, on one precedes another, the Guard of the train arriving first, having personally verified that the complete train has arrived within the fouling marks, must proceed to the facing points leading to the line on which the other train is to be received and personally see that the points are correctly set and locked for that line. The Station Master must not take "Off" any signal for reception of the subsequent train until he has received an all-right signal from the Guard by waving his arm by day or white light by night, from the facing points for the other train, as well as from the Pointsman/Porter sent out to man the outermost facing points.

(b) At modified non-interlocked stations, the Guard is exempted from proceeding to the points to satisfy himself as to their setting, prior to the reception of another train, which is to cross or precede his train.

NOTE: - Provision to ascertain complete arrival of a train shall be dispensed in the normal working, where Panel/RRI/SSI interlocking along with Block proving axle counter are installed.

4.57. Detaching engine - Whenever a train has been brought to a stand, and it is necessary for the engine, with or without vehicles, to be detached from the rest of the train, the Guard shall, before the train is uncoupled, satisfy himself that the van-brakes have been put on securely and take such other measures as may be prescribed by special instructions.

S.R.4.57/1. The Asstt. Loco Pilot is responsible for coupling / uncoupling of the engine -

(a) At engine changing stations/Terminal stations.

(b) At any other station, where station staff is not available and engine is required to be attached/detached.

S.R.4.57/2. Should shunting operations cause any part of a train to be left unattached to either engine or brakevans, the hand brakes must be applied.

4.58. Loco Pilot to see that train is stopped clear of fouling marks - When a train comes to a stand at a station, the Loco Pilot shall see that, wherever possible, his engine is clear of the fouling marks of all points and crossings. If not, he shall take steps to inform the Station Master at once and exhibit Stop hand signal to prevent any movement on the fouled line.

S.R.4.58/1. When the train comes to a stand, if the Loco Pilot finds that his engine is not clear of fouling marks, he must at once sound his whistle and attract the attention of the Station/Cabin staff and take steps to inform the Station Master that the fouling marks are not clear. The Station Master shall get the fouling marks cleared. Till then the Station Master shall not allow any movement on the adjacent lines, which are infringed. The Loco Pilot shall also remain alert to protect the infringement against any movement.

4.59. Moving of train carrying passengers after it has been stopped at a station - When a train carrying passengers has been brought to a stand at a station, whether along side, beyond, or short of the platform, the Loco Pilot shall not move it, except under orders of the Guard or to avert an accident.

S.R.4.59/1. After a train carrying passengers has been brought to a stand, the Loco Pilot may move it only on receiving hand signals from the Guard, who shall not give the signal until he has warned the passengers by whistle and seen that no passengers are getting into or detraining from the train.

4.60. Guard not to leave train till handed over - No Guard shall leave his train until it has been properly handed over in accordance with special instructions.

S.R.4.60/1. (a) No Guard shall leave the station at the end of his run without the S.M's / Lobby Incharge's permission to do so. He shall also see that his train has been signed for by the out going Guard, or by the Trains Clerk. He shall further more have delivered all consignments, Way Bills, dispatches etc. for that station and shall have made over those for station beyond. He shall sign his name on the roster before he leaves the station.

(b) Every Guard shall also have over all journals and documents kept up by him in connection with the running of his train to S.M on duty or other authorized official before leaving the platform at the end of his run, or if a box is provided for the purpose such documents are to be placed therein.

(c) In the event of a train running over two or more divisions the Guard shall submit separate train documents for each division.

4.61. Loco Pilot not to leave engine when on duty - No Loco Pilot shall leave his working locomotive or his self-propelled vehicle when on duty, whether at a station or on a running line, except in case of absolute necessity and after a competent railway servant has been placed in-charge of the locomotive or self-propelled vehicle. In the case of a self-propelled vehicle manned by a Loco Pilot only, a Loco Pilot may leave it when necessary, provided he has locked the cabs and has put the vehicle in low gear with the ignition switch in the off position and has screwed down and locked the hand brake.

S.R.4.61/1. The competent man referred to above in the case of running trains/shunting engine is the Assistant Loco Pilot.

H. Working of Material Trains.

4.62. Working of a material train in a block section - A material train shall be worked only with the permission of the Station Masters on each side and in accordance with special instructions.

S.R.4.62/1. Ordering and Working -

(a) On receipt of advice from the engineering department, the Divisional Operating Manager will order the train by letter to all concerned detailing the sections over which the material train will work, the date on which it will commence working, the stations at which it will stable and the official who will be in-charge of the train.

(b) The engineering department must give adequate notice but not less than three days regarding the working of material trains.

(c) If the working of a material train is suspended for more than a fortnight or the section over which it is to work is altered, a fresh 'all-concerned' letter or telephonic message must be issued.

(d) Each material train must have at least one brakevan in rear, and where available, two brake vans, one in front and the other in rear. Vehicles with active automatic brakes/Air brake should be attached next to the engine and the vacuum/air pressure connected up with the engine.

(e) The Engineering Supervisor in-charge of the material train must ensure that the rake is examined at least once in 15 days in case of Air Brake stock and once in 10 days in case of vacuum brake stock by Carriage & Wagon staff. The Brake Power Certificate issued by C& W Staff should be in possession of the Engineering Supervisor in charge before the material train is allowed to proceed. The responsibility that train is so examined shall devolve on the Engineering Supervisor in charge of the material train.

(f) A material train shall usually work between sunrise and sunset, in urgent cases the Divisional Railway Manager may authorise the working of material train after sunset.

(g) The unloading and loading of material trains will be done under orders of the engineering official in-charge, who will be responsible for leaving the tracks, signal wire transmission, rodding and any other S & T apparatus close to the track clear of obstruction. No unloading will be done while the train is in motion except from specially constructed trucks and under orders of the engineering official in-charge and at a speed not exceeding 10 kilometres per hour.

(h) When a material train is working between stations, the Guard will in consultation with the engineering official in-charge of the material train, depute adequate number of permanent competent engineering staff to protect the train by means of banner flags as follows:

The person or persons deputed for protecting the train will proceed to the rear of the train on the double line, and both in rear and in front on the single line, 600 metres on broad gauge and 400 metres on metre and narrow gauges and will place a banner flag across the track or in the case of cutting or other obstruction, at such other places not less than 600 metres on broad gauge and 400 metres on metre gauges and narrow gauge so that the banner flag is plainly visible to Loco Pilots of approaching trains. The person deputed to protect the train must place two detonators, 10 metres apart near the banner flag. He must shift the banner flag and the detonators when necessary, as the train moves. In station yards banner flags must be placed at either end of the train standing on a line unprotected by signals. If banner flags are not available, man with hand signals should be posted for the protection of a train in emergency.

(i) A material train must not be divided outside station limits.

(j) A material train should work in forward direction only and clear the block section at station ahead. It should not be backed. In case a material train has to work in the block section in the rear, the line must be blocked back and the Loco Pilot must be given an authority on prescribed form for entering the section. At a station where Daido's lock and block instruments are installed, the Loco Pilot shall be given the occupation key for entering the rear block section.

(k) When running between block stations with the engine leading, the speed of a material train must not exceed the prescribed speed for goods trains.

(l) When the engine is pushing the train or is placed in an emergency somewhere in the middle of the train, and the brakevan is leading:-

- (i) the speed must not exceed 25 kilometres per hour on the straight line, and 10 Kilometers per hour over a turn-out;
- (ii) the Guard must travel in the leading brake-van and must exhibit hand signals to the Loco Pilot;
- (iii) the train crew must keep a good look-out especially in the direction in which the train is moving and must be prepared to stop short of any obstruction or level crossing.
- (iv) when approaching turn-outs, the Guard must stop the train and satisfy himself that the points are correctly set and all non-interlocked points are locked and manned.

(m) When the engine is pushing the train and brake-van is not leading:-

- (i) the speed must not exceed 10 kilometers per hour.
- (ii) the Guard must travel in the leading vehicle which is fitted with a vacuum/air brake valve or hand brake. If the leading vehicle is not so fitted, he will travel in the nearest vehicle thereto, so fitted. He must exhibit hand signals to the Loco Pilot.

4.63. Workers on material train - The Guard of a material train shall, before giving the signal to start, see that all the workers are on the train, and warn them to sit down.

S.R.4.63/1. Precautions before Guard starts a material train - Before giving the signal to start, the Guard shall satisfy himself that the engineering official in-charge has been advised that the train is ready to start and to ensure that no men are under the vehicles.

4.64. Protection of material train when stabled -

- (1) **A material train shall not be stabled on a running line at a station, except in unavoidable circumstances.**
- (2) **When a material train is stabled at a station, it shall be protected in the following manner and the Station Master shall ensure that-**
 - (a) **the vehicles of the material train have been properly secured and are not fouling any points or crossings,**
 - (b) **all necessary points have been set against the line on which the material train is stabled and such points have been secured with clamps or bolts and cotters and padlocks, and**
 - (c) **the keys of such padlocks are kept in his personal custody until the material train is ready to leave the siding or line.**
- (3) **The Guard shall not relinquish charge until he has satisfied himself that the material train has been protected as prescribed in this rule.**

S.R.4.64/1. Stabling of Material train -

(a) At an interlocked station, lever collars must be used, Switch/button collars must be placed on the switches/buttons pertaining to the blocked line at a station provided with route relay/panel interlocking.

(b) In loco sheds, the Loco Foreman on duty will be responsible for protection of the load when stable.

(c) Clamps are kept at each Guard's headquarter station and will be supplied to Guards detailed to work material train. Additional supplies may be obtained from the engineering department.

4.65. Working of Track Maintenance Machines - Track laying or on track tamping or maintenance machines shall be worked only with the permission of the Station Master and in accordance with special instructions.

S.R.4.65/1. Rules for Movement and Working of Track Laying and Track Maintenance Machines -

(i) Track laying machine are used for laying/ replacing sleeper/rails. These are mounted on specially modified wagon for the purpose, coupled and run as a train, and propelled by a locomotive. The composition works as a train and is to be treated as single train for all operational purposes.

During thick, foggy or tempestuous weather and total failure of communication, these machines are not permitted to work on line.

(ii) Track Maintenance Machine are single unit self-propelled machine and are used for purpose of track maintenance. There is no need for the purpose of track maintenance. These machines can run as single unit as a train or in convoy according to rules given herein.

(iii) DMTs are not Track Maintenance Machines or Track Relaying Machines and shall be worked only as per GR 4.62.

(iv) No track machine shall work or move in the same block section along with a DMT.

(v) Track laying and Track Maintenance machines shall work only under Traffic Block.

(vi) More than one track-laying machine cannot be permitted to work or run in the same block section.

(vii) A maximum of 5 track maintenance machines can be permitted to work in the same block section.

(viii) When moving alone, Track Maintenance Machine shall display LV board/Tail lamp.

- (ix) For the purpose of through movement from one block station to another block station a maximum of 3 track maintenance machines can be permitted to run in a convoy the following rules will be followed.
- (a) Whenever movement of more than one track maintenance machines required to be done the Station Master of the dispatching station shall be offered a requisition for the same in writing by the SSE/SE/JE (track machine) incharge of the movement, who shall be overall responsible for the safe running of the convoy, indicating the individual machines that are required to move.
 - (b) The first machine will move on proper signals and the other 2 machines will follow on the authority of the Machine Following Permit, which shall be issued by the Station Master of the dispatching station to each of the operators of the machines following the first machine.
 - (c) The machine operators of the machines will endorse on the Permit as token of acknowledgement that they are aware that more than one machine is in convoy and one /two machine is in front and rear as the case may be.
 - (d) These Permits shall be deposited with the Station Master at the receiving Station who will consider the line as closed only after the receipt of the permit.
 - (e) The operator of the first machine shall be given caution order in which shall also be indicated the number of machines following. This will be noted by the operators of the following machines.
 - (f) On sections where motor trolleys are not allowed to work on Motor Trolley Permit running of track maintenance machines on Machine Following Permit will also be prohibited. These sections are already indicated in the Station Working Rules of the station and the Working Time Table of the division.
 - (g) Gatemen at Level Crossing Gates enroute will be specifically advised about the number of machines entering the block section to ensure that the gates remain closed till the convoy has cleared the level crossing gate.
 - (h) Operators of the machines working on Machine Following Permit will exercise extra vigilance at level crossing gates.
 - (i) The machine operators will ensure that the distance between two machines is not less than 120 mts.
 - (j) When moving in convoy the speed of machine shall not exceed 40 kmph.
 - (k) While moving in a convoy, if any machine is required to slow down or stop due to any reason, the machine operator shall ensure that red hand signal is displayed by waving vigorously.
- (x) Attachment of another machine or camp coach/wagon is not permitted when machines are moving in a convoy. Such attachment can only be done if a machine breaks down/fails in the block section, and such movement is done to clear the block section only. When a machine or a camp coach/wagon is required for movement from one block station to another, such movement shall be done on line clear only. The requisition for such movement from the SSE/SE/JE (Track Machine) shall clearly specify that another machine /vehicle is attached with the track machine. This information will be conveyed to the Station Master in advance while taking line clear, and also the control. The last machine /camp coach shall display LV board/tail lamp.
- (xi) While moving from one block station to another block station on a double line section, the movement of track laying and track maintenance machines shall be on the proper line only.

S.R.4.65/2. (a) (i) Each machine shall be in the charge of SSE/SE/JE, herein after called the Operator. Whenever he is not available on the machine the senior most Track Machine Technician having competency certificate, can operate the machine. The complement of staff with each machine with normally be one Operator, one Mechanic and one Khalasi. However, number of Railway staff on each Track Machine should not exceed five. The operator shall be a qualified person, competent to hold the charge of the machine on the main line and also certified to be qualified in the rules and actual driving and working of the unit efficiently.

(ii) In case of MP-2000 Track Maintenance Machine, the complement of staff in each Machine cab, may be operator machine maintenance staff and Section Engineer (P-Way) total Ten staff. Other staff i.e. Gangman etc. When travelling with the machine will travel on the platform of the machine out side. The staff traveling in the Operator's cab will not in any way detract the attention of the operator, except in case of unusual situations.

(b) The 'On Track' Track Maintenance Machine shall work under the direct supervision of an Engineering official, not below the rank of JE, who will be responsible for taking the traffic block and for protection of the lines while the work is in progress. Herein after he will be called Incharge.

S.R.4.65/3. Competency Certificate - The operator of a Machine shall not use / operate the Track Maintenance Machines unless: -

- (a) He is in possession of a valid Track Maintenance Machines competency certificate for driving and Working of the Machine in token of his being competent to operate the machine. The competency certificate will be issued by Dy CE Incharge of Track Machine, which will be valid for 3 years.
- (b) (i) He is fully conversant with the system of working, signalling of the section and has undergone road learning as prescribed for Loco Pilots and has recorded this fact in a competency book kept on the machine. This will be countersigned by SSE/Incharge.
(ii) The operators of the machines responsible for operating /running of the machines shall follow the schedule of initial training / refresher courses in train working rules as prescribed for train Loco Pilots.
(iii) The Track Machine Operator as well as other Track Machine Staff must possess the medical certificate issued by the Railway Medical Officer as per the following classification: -
 1. Track Machine Operator - A 3
 2. Other Track Machine Staff- B 1

S.R.4.65/4. EQUIPMENT - The Operator of the machine will be responsible to ensure that the following equipments complete in all respects and in working condition, are available on each Track Maintenance Machine before the machine is put on a running line: -

- a) Two red and one green HS flag.
- b) Two tri-colour HS Lamps.
- c) Two chains with padlocks.
- d) Two clamps with pad locks.
- e) Ten fog signals.
- f) One Fusee.
- g) A copy of the Working Time Table of the section where the machine is working.
- h) G&SR book with up to date amendment slips.
- i) One 4 cells flasher light.
- j) One petromax lamp.
- k) One portable field telephone
- l) Two banner flags.
- m) One First Aid Box
- n) Skids-Two nos.
- o) One Watch.
- p) LV Board and Flashing Tail Lamp.

NOTE: Each Track Maintenance Machine must be equipped with prescribed Head and Tail-Light, Marker lights and flasher lights as per GR 4.14 to 4.16 and the SR's thereto. While moving in convoy the LV Board/Tail Lamp, should be fixed only on the last machine in the direction of movement.

S.R.4.65/5. Rules for Operation -

- (i) No Track Maintenance Machine shall be brought on a running line from the siding/stabling line without the written permission of the Station Master on duty in the form of shunting order.

- (ii) When the Track Maintenance Machine is required to move from one Block Station to another Block Station, the Operator should run the machine only with the proper authority to proceed.
- (iii) The following procedures shall be observed for working of Track Maintenance Machine between two Block Stations:
- a) The Track Maintenance Machines shall work under line block. The Section Engineer Incharge of all the Track Maintenance Machines shall give the requisition for block in duplicate to Station Master, indicating the number of Track maintenance Machines which will work, the specific location where the machines will work, the duration of block required and whether the machines will proceed to the next station or return back to the starting station after completion of the work. The Station Master shall then contact the control and ascertain the movement of trains before granting line block. Section Engineer incharge will accompany the machines to its work site.
 - b) After ascertaining from control, the duration of block that may be granted, Station Master shall return the original copy of the requisition to the Section Engineer incharge endorsing the duration of the block permitted and other special instructions, if any.
 - c) Single line Section: WORK AND PROCEED: - Station Master will obtain line clear from Station in advance, take off last stop signal, issue special caution order indicating the number of Maintenance Machines permitted to work within the block section which will be signed by all the Operators of Track Maintenance Machines and will be handed over to the Section Engineer incharge along with token if any, Section Engineer incharge shall travel on the last Track Maintenance Machine.
On completion of the Work, machines will be received by taking off reception signals, a Pointsman should display green hand signal at the foot of first stop signal till the last machine enters the Station.
On reaching the station in advance. Section Engineer incharge will hand over the token, if any as well as the special caution order only when the last machine clears the block section. He will also certify that the track is fit for train movement. Then only the SM will close the line.
 - d) Single Line Section: WORK AND RETURN:
 - i) With Token/Tablet instruments: - Station Master will block back the section and issue special caution order indicating the number of Track Maintenance Machines permitted to work within the block section, the stations where they will return etc. which will be signed by all the Operators of Track Maintenance Machines and will be handed over to the Section Engineer incharge alongwith token/tablet in addition to it T/369-3b will also be issued for passing last stop signal at danger. Section Engineer incharge shall travel on the first track maintenance machine.
On completion of the work the machines will be received by taking off reception signals. Pointsman should display green flag/ signals at the foot of first stop signal till the last machine enters the station. Section Engineer incharge shall hand over the token/tablet as well as special caution order to the Station Master on duty only when all track maintenance machines have cleared the block section. He will also issue a certificate to the Station Master that track is fit for train movement. Then only Station Master will cancel the block back and normalise the block instrument.
 - ii) With Token less instrument: - Station Master will block back the Section take off the Shunting Key, issue a Special Caution Order indicating the number of Track Maintenance Machines permitted to work within the Block Section, the Station where they will return etc. which will be signed by all the Operators of Track Maintenance Machines and will be handed over to the Section Engineer Incharge alongwith the Shunting Key. In addition to it, T/369-3b will also be issued for passing the last STOP Signal at danger. Section Engineer (Incharge) shall travel on the first Track Maintenance Machine.

On completion of the work the machines will be received by taking off reception signals. Station Pointsman should display Green Hand Signal at the foot of first of signal till the last machine enters the Station.

Section Engineer In charge shall hand over the Shunting Key as well as the Special Caution Order to Station Master on duty, only when all the Track Maintenance Machines have cleared the Block Section. He will also issue a certificate to the SM that the Track is fit for train movement. Then only Station Master remove the 'Block Back'.

e) Double Line Section -WORK AND PROCEED:

i) Via the right direction: - SM will obtain line clear from station in advance, take off last stop signal issue a special caution order indicating the number of Track Maintenance Machines permitted to work within the Block section which will be signed by all the Operators of Track Maintenance Machines and will be handed over to the Section Engineer Incharge. Section Engineer Incharge shall travel on the last Track Maintenance Machine.

On completion of the work, the machines will be received by taking off reception signals. Station Pointsman should display green flag/signals at the foot of first stop signal till the last machine enters the station.

On reaching the station in advance, Section Engineer incharge will hand over to the SM, the Special caution order only when the last machine clears the block section. He will also certify that the track is fit for train movement. Then only the SM will close the line.

ii) Via Wrong Direction: - Station Master will take the line clear from station in rear on block telephone indicating the number of Track Maintenance Machines which will work from that Station upto the next station prepare Paper line clear ticket issue special caution order clearly indicating the number of track machines to work, the Station to which the machines will go on completion of work, the line on which the machines will work. The paper line clear ticket and the special caution order should be signed by all the operators and then should be handed over to the Section Engineer incharge who shall travel on the last machine.

The machines shall be piloted out of the station on a written authority issued by the SM after all the facing points have been correctly set and locked and trailing points correctly set over which the machines will pass.

On approaching the next station after completion of the work, the operators shall bring, their machines to stop opposite the first stop signal pertaining to the right line or at the last stop signal pertaining to the wrong line (on which they are running) whichever they come across first.

The SM at the other end of the block section shall depute a Railway staff in uniform at the foot of the signal (whichever the machines would encounter first) who shall stop these machines on danger hand signal and thereafter pilot them into the station on a written authority issued by the SM.

If the operators find that no Railway servant in uniform has been deputed at the foot of the signal to pilot the train into the station. GR 4.44 shall be observed.

All the crossover points in the facing direction over which the machines shall proceed shall be clamped and pad locked.

On reaching the station at the other end of the block section. Section Engineer incharge will hand over the paper line clear ticket, special caution order to SM only when the last machine clears the block section. He will also certify that the track is fit for train movement. Then only the SM will close the line and normal train running may be resumed.

(f) Double Line Section - WORK AND RETURN:

(i) Via Right Direction - Station Master will block forward the section, take out the shunting key in case of 'Daido' Double line Block Instrument, issue special caution order indicating the number of track machines permitted to work within the block section, station where they will return etc. which will be signed by all the operators and will be handed

over to the Section Engineer incharge alongwith the shunting key if any. Section Engineer incharge shall travel on the first Track Maintenance Machine. In addition, T/369-3b will also be issued for passing the last stop signal at danger.

On completion of the work, the operators shall bring their machines to stop opposite first stop signal pertaining to the right line or at the last stop signal pertaining to the line on which they are running whichever comes across first.

Station Master shall depute a Railway servant in uniform at the foot of the signal (whichever the machine would encounter first) who shall stop the machines on danger signal and thereafter pilot them into the station on a written authority issued by the Station Master.

If the operators find that no railway servant has been deputed to pilot the train, G.R.4.44 shall be observed.

All the crossover points in the facing direction over which the machines shall proceed shall be clamped and pad locked. On reaching the station, Section Engineer incharge will hand over the special caution order to the SM only when the last machine clears the block section. He will also certify that the track is fit for train movement. Then only the Station Master will close the line and normal working may resume.

ii) Via the wrong direction: - Station Master will block back the section, take out the shunting key in case of 'Daido' double line block instrument, issue special caution order indicating the number of Track Maintenance Machines, Station where they will return etc which will be signed by the operators and then will be handed over to the Section Engineer incharge alongwith the shunting Key if any, Section Engineer incharge will travel on the first track machine.

The machines shall be piloted out of the station on written authority issued the Station Master after all the facing points have been correctly set and locked and trailing points correctly set over which the machines will pass.

On completion of the work the machines will be received by taking off reception signals. Station pointsman should display green hand signal at the foot of first stop signal till the last machine enters the station.

Section Engineer incharge shall hand over the shunting key, if any, as well as the special caution order to the Station Master on duty. Only when all the Track Maintenance Machines have cleared the block section. He will also issue a certificate that the track is fit for train movement, and then only the Station Master will remove the block back.

S.R.4.65/6. Precautions -

i) The Section Engineer incharge of the machine is responsible for the protection of the site of work and also for protection of adjoining track in case of infringement, if any. He shall also be responsible for safety of track after the working of the machine.

ii) The Station Master on either side shall inform all the Level crossings equipped with telephones falling in this block section about the total number of track machines permitted to work in the block section under exchange of Private numbers.

iii) While the track machines are moving in the block section in convoy, it will be the responsibility of the operators of their machines to remain at a minimum distance of 120 mtrs from each other. However, while the working the minimum distance between two machines shall not be less than 50 metres.

iv) In course of working, when required to pass a manned or unmanned gate, each track machine shall stop short of the level crossing and pass only after ensuring the safety of the track machine and the road traffic.

v) The Section Engineer incharge shall always take four efficient flagmen equipped with banner flags, ten detonators, two fusees and red hand flags each, to protect the machines. One flagman shall exhibit banner flag at a distance of 600 mtrs. On either side of the site of work and one flagman showing a stop hand signal at a distance of 1200 metres on either side of the site of work.

vi) Some machines tend to foul the adjacent lines, while working on double line sections or in the yard. BRM may foul the adjacent line when stretching out its blades, if any part of a machine is likely to foul the adjacent line while working, the Section Engineer incharge shall request Station Master in writing to block both the lines, and such work should only be undertaken, if blocking both the lines has been permitted by the control and the Station Master and both the lines have been protected.

vii) In case of CSM/DUO or any other such machine where the operator is not in a position to get a view of front directly, he shall ensure by deployment of his assistants in the front/rear cab that any obstruction/infringement i.e. machine moving ahead of banner flag etc. is communicated to him verbally or by display of Hand Signal etc., so that movement of the machine may be controlled accordingly.

S.R.4.65/7. Protection of track machines when stabled at station -

(i) The running and stabling of the track machines shall be arranged by the Station Master in Consultation with the section controller. In case, the control is not working, the Station Master shall consult the Station Master of the adjoining stations.

(ii) The Track machine shall normally be stabled on a non-running line.

(iii) When the Track machine shall normally be stabled on a running line due to unavoidable circumstances, the mechanical hand brakes shall be applied and machine shall be securely chained to the rails in accordance with GR 5.23 and SRs thereunder. Lever collars shall be used on the concerned signal levers and slide collors/pins on the relevant slides in the office of the Station Master.

(iv) When the machine is stabled, the Operator shall ensure that it is berthed clear of fouling marks and traps and without obstructing the adjacent line. He shall apply the brakes and skids to prevent movement. The concerned points shall be set against the line on which the track machine is stabled and such points shall be secured with clamps or bolts and cotters and pad locks. The keys of such pad locks shall be kept in the personal custody of SM until the machine is ready to leave from siding or running line. The machine operator shall not relinquish charge until he has satisfied himself that the machine has been properly secured and protected as prescribed.

S.R.4.65/8. The Track Machine shall not move into or inside the Traffic Yard without the permission of the Station Master on Shunting order. No shunting of goods/passenger stock shall be permitted on the line where track maintenance machines are stabled nor shunting should be performed with the machines attached.

S.R.4.65/9. Failures and Accidents -

i) Failures in Block sections of the Track Machine will be treated as accident. Accidents involving track machines shall be treated as train accidents under the appropriate class and action should be taken as per the rules in force.

ii) In the case of failure of Track Machine in block section the Section Engineer incharge may decide to push the disabled unit to the nearest station provided the brake power is in good condition.

Otherwise intimation shall be sent to the nearest Station Master through a messenger and to Control through portable telephone asking for a light engine to tow the unit.

iii) In the event of break down, the machine shall be protected as per GR 6.03 and SR thereunder.

S.R.4.65/10. Speed - Maximum permissible speed should be as approved by CRS on points & crossings, the speed shall however, be restricted to 15 KMPH.

I. Private Engines and Vehicles

4.66. Private engines and vehicles - No engine or other vehicle, which are the property of a private owner, shall be allowed to enter upon the railway, except in accordance with special instructions.

S.R.4.66/1.

- (a) Engines belonging to private firms shall not be run with their own wheels over this Railway, unless specially authorised by the Chief Operations Manager.
- (b) Before being attached to a train, must be examined and issued a fit certificate by the nearest Loco Foreman, which will be attached to the Wagon Way Bill and a Assistant Loco Pilot must be on the foot-plate.

