

CHAPTER VII

EXAMINATION AND CARE OF STOCK

7001. Cleaning of passenger carriages (a) The cleaning and washing of carriages is normally done at train examining stations.

- (b) At stations where no train examining staff is provided, it shall be the duty of official specifically nominated by the Divisional Railway Manager to examine, at least once daily, the passenger vehicles in the yard and see that they are swept and dusted, that wash-basins and commodes are cleaned, that all fittings are intact and in working order and that doors, windows and shutters are closed.
- (c) SE/C&W are responsible to see that all coaching vehicles attached to trains from their respective stations, are properly cleaned. In the event of any vehicle being attached from a station where no JE/C&W is posted, it shall be the duty of the nominated staff to see that the carriages have been properly cleaned.
- (d) Special cleaning service staff provided at important junction stations should attend to all stopping trains in their uniforms and clean all compartments of all the carriages. Train duty JE/C&W must ensure that all carriages receive proper attention. At station where there is no JE/C&W, the staff nominated for the purpose shall be responsible to see to this work.
- (e) At all train starting stations, the JE/SE (C&W) on train duty shall be responsible to ensure that carriages are fit for occupation in all respects.

7002. (a) Protection of train examining staff when examining a train :- The train examining staff, while examining a train, must protect themselves by red flags in the day time and red lights at night. These signals may only be removed by the train examining staff themselves and their removal will indicate that the examination of the train is complete. The JE/SE (C&W) will then report the condition of the train to the Station Master.

- (b) Wherever conditions render such a course possible, Divisional Railway Managers shall issue standing instructions (to be also included in Station Working Rules) for points to be clamped & locked against a line which is occupied by a train under going examination by staff of the carriage and wagon department. This rule has particular references to Goods Yards where points are worked independently.
- (c) The clamping and locking of points shall be done by the Yard staff, and when sending out intimation to the JE/SE C&W concerned, the fact that this has been done shall be stated on the relevant foil of this form, and the key (or keys) shall be made over to the JE/SE(C&W) who shall retain it (or them) till the examination is completed.
- (d) At train originating stations where box wagons are examined by the train examining staff, the JE/SE C&W on duty should personally ensure that the empty/loaded lever are correctly set according to whether the wagon is empty or loaded.
- (e) Protection of Platform lines where passenger trains are attended during train passing:-
 - (i) As soon as a train arrives at a platform one red warning board shall be placed on the platform by the side of the locomotive as well as the Guards.
 - (ii) These boards shall indicate that the C&W staff is on work on the particular train. These boards shall be removed only after the C&W staff has completed the work.
 - (iii) The time of placement and removal of these boards shall be recorded in a register maintained for this purpose/Reasons for delayed removal shall be specifically recorded.

- (iv) Both the boards should be placed in such a position that these are clearly visible to the Guard and Driver of the train.

7003. MAINTENANCE PATTERN FOR COACHING TRAINS:- (A) With the object to achieve greater emphasis on reliability and quality of attention given to coaches during Primary maintenance to enable longer runs revised maintenance pattern has been introduced.

(B) **MANDATORY CONDITIONS TO BE FULFILLED FOR ROUND TRIP PRIMARY MAINTENANCE ON COACHING TRAINS :-** The following mandatory conditions should be fulfilled prior to introduction of round trip/Kilometers based PRIMARY maintenance pattern on any passenger carrying train on Indian railways:

PRIMARY END:

1. The attention during primary maintenance should be made more intensive with special emphasis on the following aspects:
 - (i) The brake gearing should be properly adjusted including the slack adjuster 'A' dimension and 'E' dimension & the brake cylinder stroke to ensure 100% brake power;
 - (ii) Brake blocks should be changed as bogie sets;
 - (iii) Dash-pot oil level must be checked and maintained;
 - (iv) All missing passenger amenity fittings must be replaced and the rake must be turned out as 'Zero-Missing-Fitting' rake;
 - (v) Intensive cleaning of coach toilets; and
 - (vi) No coach should run overdue schedule.
2. Clear maintenance time of 6 hours on the pit as per train schedule. Any exception to be jointly decided by COM/CME of the Railways.
3. Provision of proper washing cum maintenance pit line facility with adequate testing equipment and High pressure water cleaning arrangement.
4. Adequate gang strength with proper supervision,

THE OTHER END:

1. Whenever the lie-over is more than 2 hours at the platform or the rake is stabled in the yard, the rake should be locked and positive security should be provided.
2. Amenity and cleaning attention is carried out best on the washing lines where complete infrastructure by way of men material & machines are available. Watering and drainage facilities are also available on these washing lines. Ideally the rakes should, as far as possible be taken for cleaning and watering to washing lines. In the event of this being not feasible, such rakes can be returned from platform/yards. However, the minimum infrastructure to be provided at the platforms from where trains are returned without secondary maintenance should be as under:-

- (i) One storage room for essential safety and passenger amenity item.
 - (ii) Road transportation facility for ferrying material from the main depot to the platform.
 - (iii) Adequate number of mobile high pressure jet cleaning machines or high pressure water pipe line running around the platform/yard line.
 - (iv) Washable apron on the platform lines with covered drains to facilitate movement of maintenance staff.
 - (v) Walkie-Talkie/mobile telephones for quick and easy communication.
 - (vi) Standard watering hydrants.
- Flood light at the platform ends for rolling-in examination at night and 110 V. Inspection lights along the side of the track for night examination of the under gear.

3. The decision regarding whether such trains may be shunted for working on pit line or may be attended at platform itself has to be taken carefully after weighing these factors by the mechanical and Traffic HODs on the Zonal Railway on case to case basis.

The status of implementation of revised pattern of coaching trains should be reviewed every year in the month of June by Mechanical and Operating branches at Divisional level and any discrepancies should be removed.

(C) Chart Showing Maintenance Pattern of Coaching Trains:-

Sl. No	Category of train	Preventive maintenance schedules at pit line	Under gear examination and brake system maintenance at pit line.	Internal cleaning, passenger amenity attention and watering	External cleaning on nominated line with proper facilities.	Enroute/ Terminating Examination.	Brake system check prior to start at platform at the other end.
1.	Mail/Exp. One way run > 2500 Kms	At primary end	At both the ends	At both the ends.	At both the ends.	Enroute After every 250 to 350 Kms of run. at locations to be decided by railway for each train. Terminating Exam Terminating Stn.	Complete air/Vacuum check with fresh BPC.

2.	Mail/Exp. One way run < 2500 Kms but round trip. Run > 2500 Kms.	At primary end	At both the ends	At both the ends	At both the ends.	-do-	Complete air/Vacuum check with fresh BPC.
3 (a)	Mail/Exp. One way run upto 2500 Kms.	At primary end	Only at Primary end	At both the ends	At Primary end	-do-	Only continuity check if stabled at platform otherwise, brake power check with endorse ment on original BPC
3 (b)	Shuttles/ Interconne cted Mail/ Exp. Round trip run upto 2500 Kms.	At Primary end	To be done after 2500 Kms. Or 4 days whichever is earlier only at Primary end.	At Primary end and each terminal or as decided by the CME to ensure proper cleanliness.	At Primary end once a day for shuttles.	Enroute After every 250 to 350 Kms of run, at locations to be decided by railway for each train. Terminating Exam Each Terminat- ing Station.	Only continuity check if stabled at platform otherwise, brake power check with endorse ment on original BPC

4.	Passenger trains with Toilets including interconnected passenger trains/ Shuttles.	At Primary end	To be done after 2500 Kms. Or 4 days whichever is earlier only at Primary end.	At every terminal or as decided by the CME to ensure proper cleanliness.	At Primary end.	Enroute After every 250 to 350 Kms of run, at locations to be decided by railway for each train. Terminating Exam Once a day at nominated termination Station.	Only continuity check if stabled at platform otherwise, brake power check with endorsement on original BPC
5.	Passenger trains without toilets.	At Primary end	To be done after 2500 Kms. Or 7 days whichever is earlier only at Primary end.	Once a day.	At Primary end	Once a day at primary or a nominated terminal	Only continuity check if stabled at platform otherwise, brake power check with endorsement on original BPC.

- Internal cleaning, passenger amenity attention and watering may be done at platform line or nominated stabling line provided stipulated facilities are available at such line.
- In case the rake stabled in yard for more than 6 hours positive safety arrangement should be made for the rake and in case the security is considered inadequate, the rakes should be taken to pit line for attention to under gear as given under column(4) above.

7004. EXAMINATION OF HIGH OFFICIAL'S CARRIAGES - (a) Before any carriages which are to be used by any high official are dispatched from their headquarters station, they must be inspected by the SE (C&W) who shall be held personally responsible for their conditions.

(b) If these carriages are to be handed over unoccupied to a foreign line, they must be examined by the SE (C&W) of the station at which they are handed over in order to ensure that all the fittings are intact and the carriages are perfectly clean.

7005. Examination of military and special trains. - These must be examined before starting as well as after arrival. The JE/SE (C&W) of the starting station or of the nearest train examining station must, on receiving a request from the Station Master of the starting station, prepare a list of deficiencies and damages in quadruplicate. One copy of this is to be given to the Guard-in-charge and another to the Officer-in-charge of the Military train or to the person who ordered the special, as the case may be. Similar examination must be carried out at the terminal station and the deficiencies

or damages compared with those entered in the original list. If any new deficiencies or damages are found, these shall be listed separately by the JE/SE (C&W) and countersigned by the Station Master. The cost of these additional deficiencies and damages shall be assessed according to the schedule of charges given in Appendix 'D' of the Rules and Rates for the Carriage of Government Traffic and recovered on the spot from the Officer Commanding of the Military train or the person who ordered the special as the case may be.

7006. Care of stabled carriages - (a) JE/SE(C&W) are responsible to ensure that doors, windows, and water tank covers of unoccupied carriages are closed and the train lighting staff must ensure that the lights and fans of such stock are switched off.

- (b) JE/SE(C&W) are responsible to see that the shutters and windows of all carriages on their arrival at terminating station or after maintenance attention has been given to them, are fastened from inside and their doors locked. At stations where no train examining staff is provided, it shall be the duty of the nominated staff to see that this is done. R.P.F. staff must keep a regular watch on all stock stabled in the Yard.

7007. Examination of fruit vans :- Fruit vans and other wagons allotted for conveyance of fruit should be examined before the commencement of the fruit season and any defects attended to.

7008. Cleaning of vehicles used for conveying animals :- (a) Every horse-box or vehicle used for the conveyance of animals must be cleaned and disinfected as follows after use :-

- (i) The floor, walls and manger must be scraped and swept and the sweeping burnt or mixed with quick-lime.
 - (ii) This is to be followed by a thorough scrubbing with hot water and brush, rinsing with disinfecting solution and finally washing with lime water. After the lime wash has dried up, it is to be brushed away carefully.
- (b) The cleaning and disinfections of horse-boxes, cattle-wagons etc. shall be the responsibility of JE/SE(C&W) at train examining stations and of nominated staff at other stations.
- (c) At stations where trains halt for a considerable period, JE/SE (C&W) must see that horse-boxes are cleaned out through the trap doors and that the roof tanks are filled with clean water.
- (d) Station Masters must allow civil veterinary officials to inspect vehicles used for the conveyance of live-stock.

7009. Leaky Wagons:- (a) Leaky wagons should not be loaded with goods damageable by water. If goods that can be loaded without risk in a leaky wagon are not available, the wagon must be worked empty to the nearest train-examining station for repairs, and a suitable remark endorsed against the entry of the wagon in the relevant vehicle guidance.

- (b) In case goods not damageable by water are available for loading into a leaky wagon, the wagon should be loaded and dispatched to its destination in the normal way, but the vehicle guidance of the train by which the wagon is dispatched must bear a remark to the effect that the wagon must be sent for repairs on being unloaded.

7010. 'Damaged' labels :- (a) When coaching vehicles are damaged, 'damaged' labels must be pasted on the special label plates provided at the left hand ends of both the sole-bars in addition to stencil on Vehicle. Small 'damaged' labels must be pasted near the places from which parts are missing.

(b) When goods vehicles are damaged, labels must be pasted on the left hand center panels of both sides in addition to stencil on its body. In the case of goods stock booked to shops, 'damaged' labels must also be pasted on sole-bars as in the case of passengers stock.

(c) Station Masters, Yard Masters, Guards, Goods Clerks and Train Clerks must carefully examine the labels affixed to rolling stock and follow the instructions as to loading and running recorded on these labels/stencils.

(d) To remove 'damaged' labels, they must be washed off and stencils removed.

7011. Periodical Overhaul :- (a) It shall consist of lifting, thorough examination of all parts of a wagon and its gear, and the execution of such repairs as may be necessary to enable the wagon to run for the full period until the next periodical overhaul with full painting and lettering. The date of return for periodical overhaul shall neither be less than 2 years nor more than 4 ½ years from the date of the last periodical overhaul.

(b) "Return" - All wagons are stencilled with the word "Return" followed by the month and year. It indicates that the wagon is required by the owning railway during the month of the year stencilled on the sides of the wagon for periodical overhaul (P.O.H) in order to keep it fit for moving and in good condition.

(c) "Due Overhaul" The wagon becomes due overhaul during the month of the year indicated by date of return.

(d) "Overdue overhaul" or 'Time-expired'. The wagon becomes overdue or time-expired after the expiry of the last date of the month of the year shown in the "Return" date.

(e) **Disposal of due overhaul and Overdue overhaul wagons.** The following instructions should be observed:-

(i) Local - If load is available these must be loaded to or in the direction of workshops. If no load available, these must be sent empty to workshops.

(ii) Foreign - If load is available, due overhaul wagons should preferably be loaded to or in the direction of the owning railway. Time-expired wagons when loaded, subject to the exemptions as shown in sub-para (f) below are not accepted in interchange. Non-observance of this restriction involves transshipment at the point of interchange or else where.

(f) The month and year in which the owning railway requires a wagon to be returned to it for periodical examination are stencilled in 102 mm (4") letters on the side panel. Thus, if a wagon is stencilled 'Return 10/02' it becomes due overhaul on 1.11.2002 and should be returned by the end of October 2002 to its parent railway.

- (g) **Fruit vans and Parcel Van** :- No fruit van/parcel van overdue periodical overhaul is allowed to run by mail/express train. These should be sent to shops as per "Return" marked on the coach.

BOX Wagons

7012. 1. (a) There are following types of couplers fitted in BOX wagons.

- (i) The Centre buffer couplers having a knuckle not fitted with screw couplings are called straight centre buffer couplers".

- (ii) Centre buffer couplers fitted with Transition coupling, are called "Transition centre couplers.

- (iii) BOX stock fitted with conventional screw coupling.

- (b) The Mechanical Department is responsible for effective coupling. All the components of coupling gear should be maintained in proper working order. Removal of knuckle etc. for shunting purposes is not permitted and attention to be paid to the following :-

- (i) Unlocking lever is not damaged.

- (ii) Operating handle of transition screw coupling is secured by rivetting.

- (iii) Knuckle pin is secured by welding washer.

- (iv) Clevis pin with head is secured by rivetting.

2. The shunting staff is responsible to ensure that :-

- (i) The knuckle is in open position while coupling wagons, having centre buffer couplers.

- (ii) For checking coupling/operating mechanism in fully locked position.

Note :- When the coupler operating mechanism is operated to open the knuckle fully, the handle released and the knuckle is slowly closed, the lock drops freely and the mechanism returns to fully loaded position. In case of any defect, the matter may be reported to JE/SE (C&W) at TXR station.

3. The following instructions are therefore given for guidance of yard shunting staff for avoiding damages to centre buffer coupler and its transition gear. They are responsible to ensure :

- (i) The transition coupling should be unscrewed on the stabling line and not when the load moves over the hump.

- (ii) The long shackle should be lifted off the draw bar hook of the opposite wagon.

- (iii) After lifting the long shackle, it is necessary to ensure that the clevis is rotated out of the coupler body.

- (iv) The long shackle should be fixed to the hook provided. The transition gear gets damaged in position and makes it difficult to open out for further use. It becomes necessary to replace it to couple the wagon with a conventional wagon. All these lead to delay in forming trains and affect the efficiency and smooth working of the marshalling yard.

4. Roller bearing Axle boxes - These wagons are designed to take Axle boxes fitted with double row of cylindrical roller bearing suitable for 130 MM journal.

During run when the roller bearing of the axle box fails, the wheel set is seized causing skidding resulting in unusual sound and sparks between the wheel and the track. After breakage of roller/ring, the axle box is shifted from its seat which causes breakage of locking studs and thus damaging the face plate. In such cases, the wagons must be got detached by Guard/Station Master in order to avoid serious accidents. The carelessness at this stage will result in breakage of axle after few kilometres.

5. Suspension Arrangements : The laminated bearing springs have been provided which are designed to give a reverse chamber of 4 MM under full-gross load.

- (i) Bearing spring failures on loaded BOX wagons :-

During run whenever any Guard/Station Master notices any failure on road side station, he should inform the crew and with his assistance, the broken bearing spring may be secured with a clamp suitably designed for this purpose, so that the train may run at a restricted speed of 40 KMPH upto next TXR station or other suitable station where such wagons can be conveniently detached for the spring changing and broken spring can be changed on the train.

- (ii) The clamping of the broken bearing spring shall be carried out by the train crew with the assistance of station staff.

- (iii) Such clamping should be done only in case of bearing spring failure on top plate near the eye on BOX wagons only.

- (iv) The clamping must be secured so as to prevent shifting of the spring from its seat.

- (v) The safety clamp should only be used on loaded wagons and not on empty wagons and the speed of such trains must be restricted to 40 KMPH. The train crew are already provided with tools for tightening the bolts and nuts.

6. **Brake Gear.**- The brake rigging arrangement in BOX, BOI and BCX wagons has the following features :-

- (i) Clasp type brake rigging in the bogies.
- (ii) Empty/Loaded box to give two different leverage ratios for empty and loaded wagons.
- (iii) Brake regulator for automatic adjustment of predetermined slack between brake blocks and the wheels.

7. **How to prevent jamming of brakes :-**

In order to prevent jamming of brakes, the following steps should be taken by yard staff at non-TXR station :-

- (i) Both the vacuum and hand brakes on loaded wagon should be fully released before commencement of unloading.
- (ii) SAB empty/load box is provided in the brake rigging and fitted on either side of the wagon. Ensure that empty/load operating handle is set in the empty position when the wagon is either empty or partially loaded upto gross load not exceeding 42.5 tonnes and in the loaded position when the weight of the wagon exceeds 42.5 tonnes.
- (iii) It should also be ensured that operating handle is set in the empty position before commencing the unloading of the wagon and hand brake is in fully released position in the formation of a train.

For the convenience of operating staff, the sign plate is printed yellow to indicate empty position and black to indicate loaded position to which the operating handle is to be set.

8. If inspite of the above instructions the brakes do not get released, the following steps should be taken JE/SE (C&W) :-

- (i) Try to rotate brake regulator barrel by hand or with spanner on the hexagon flats or with a tommy bar in slots provided at the end. Do not tamper or use excessive force.
- (ii) If this fails then apply and release brakes fully two or three times either with vacuum or hand brakes. When using the hand brake, make sure of full application and full force. If jamming is not severe, this will make brake regulator operate automatically and release the brakes.
- (iii) If this also fails then it means that the brakes are severely jammed and also jamming of the brake regulator. In this case, knock out brake shaft crank pin but not the pins securing the brake regulator. Rotate brake regulator barrel until full rod pin holes align and the pin can be replaced easily.

Always replace the pin which has been withdrawn to release the brakes with its washer and split pin.

9. **Routine Overhaul.-** BOX, BCX, BRH wagons should be given routine overhaul after every 18 months at selected major sick lines/wagon depots nominated for the purpose where proper facilities are provided.
