

ICF COACH MAINTENANCE

Presented by-

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Maintenance:-

The methods of inspection, replacement or repair of components / assemblies, usage of the quality of material / specifications of materials and keeping the tolerances / dimensions is called maintenance.

Why maintenance is required:-

Maintenance is required on any equipment to keep it in good working condition with safety, security and reliability so that it shall not fail during the course of work.

Types of Maintenance:-

(I) Preventive maintenance:

- It is a method of carrying out inspection, repairs/replacements of components/assemblies before the failure of equipment.
- In Indian Railways the following preventive maintenance methods are followed:
 - Trip Schedule, “A” Schedule, “B” Schedule, “IOH/ROH” and “POH”

(II) Breakdown maintenance:-

- It is a method of carrying out inspection, repairs/replacements of components /assemblies after the failure of equipment.
- In Indian Railways the following breakdown maintenance methods are followed:
 - Sick line attention,
 - Attention of derailments and other accidents.
- Both preventive and breakdown maintenances are followed on Indian Railways.

various maintenance practices on coaching stock-

- **Primary maintenance**
- **Secondary maintenance**
- **Terminal maintenance**
- **R&D**

Primary maintenance:-

At primary maintenance depot all the primary maintenance schedule like trip schedule examination that is examination after every trip, schedule “A” or monthly examination, schedule “B” or quarterly examination and IOH (Intermediate over Hauling) will be done on the coaches in which they are running.

Secondary maintenance:-

- Secondary maintenance will be done on rakes which are terminated after a run more than 3500 KM at the other ends which are nominated for this purpose.
- At secondary maintenance depots on termination the rake is to be brought to pit line attend all the items of trip schedule, mandatory, like external washing, internal cleaning, watering, provision of missing amenity fitting etc.
- Fresh BPC is to be issued up to primary maintenance depot.

• **Trip Schedule-**

- This is a schedule, which is to be carried out every round trip.
- The rakes/coaches of all trains should be given a trip schedule as prescribed by the CME of the railway.
- This examination may be given at the primary maintenance depot or the secondary maintenance depot.

Terminal maintenance:-

- With in the validity of BPC whenever a train is terminated, like change in train number etc.,the train has to be given certain attention as per RPC IV rules.
- This attention is called Terminal maintenance. All the terminating trains shall be examined at stations for safe to run examination,internal cleaning and watering to be attended.
- If the train is moved to yard and stabled for more than 2 Hrs BPC is to be endorsed with brake power check otherwise with air continuity.

R & D:-

- R&D means receiving and dispatch. All the primary maintained rakes and passenger through trains shall be conducted rolling in examination, examination on terminating /and pass through.
- The R&D staff shall take up position on both sides of the line short of the platform on which the terminating train/pass through train is to be received and watch the condition of running gear, flat places on tyres , axle box, broken springs, defective brake gear etc.
- The R&D staff should also check, the rakes after coming to halt, gear wise and ensure that no rejectable defects are there.
- The R&D staff should also be dispatch the originating trains on platform by issuing BPC after the levels of air pressures are ensured on the engine and brake.

The different schedules that are carried on the primarily maintained coaching stock are:

a)	Trip Schedule	:	At the end of each trip
b)	'A' Schedule	:	1 month \pm 3 days
c)	'B' Schedule	:	3 months \pm 7 days
d)	'IOH' Schedule	:	9 months + 30 days 12 months + 30 days (After 24 months for newly built)
e)	POH	:	18 months (24 months for newly built) 42 Month (ATR/ARME)

- **Attention Should Be Given In Trip Schedule-**

- The coaches should be washed / cleaned from outside and inside.

- The following items of work should be attended during the trip schedule examination.

1. Under frames, bogie frames, axle boxes, axle guards, springs etc
2. All moving parts to be lubricated.
3. Oil in dashpot should be checked for leakage. Add/replenish with specified grade if the oil level is below 60 mm.
4. Oil in side bearer to be checked for leakage. Add/replenish with specified grade if the oil level is low.
5. Wheel profile and thickness should be visually examined and gauged in case they appear to be near condemning limits.
6. Alarm chain apparatus to be tested.
7. Brake power to be checked and adjusted so that the piston stroke is within the specified limit
8. Check all the amenity fittings for its proper fitment and working.

'A' SCHEDULE

Different activities to be carried out in 'A' Schedule-

'A' Schedule is required to be given every month at the nominated primary maintenance depots with the normal primary maintenance time.

- The following items of work should be attended:
 1. All items of trip schedule.
 2. Intensive cleaning of coaches.
 3. Intensive cleaning of lavatory pans and commode with Vim or equivalent.
 4. Painting of commode chutes from inside with black anti-corrosive paint after scraping and thorough cleaning.
 5. Painting of commode chute from outside after cleaning.
 6. Thorough flushing of tanks.
 7. Checking of water pipes, flush pipes, flushing cocks, push cocks etc, for ease of operation and free flow of water.
 8. Thorough disinfection of all compartments.
 9. Thorough cleaning of chimneys of dining cars, buffet cars, tourist cars and inspection carriages by wire brushes.
 10. Thorough inspection of train pipe, hose pipes including their Fittings, and air Brake system.

11. Testing of BC, DV and train pipe joints with Air Compressure.
12. Cleaning, greasing and testing of alarm chain apparatus under Pressure
13. Cleaning of Dirt collector.
14. Examination and replacement where necessary of brake gear pins, split pins, safety loops/brackets and their securing devices.
15. Examination for wear and replacement where necessary of brake hanger pins, brake blocks and brake heads.
16. Thorough inspection and repairs of draw gear.
17. Thorough inspection and repairs of buffers.
18. Checking and replenishing of oil in side bearers and dashpots.
19. Thorough check and repairs of SLR doors for easy and smooth operation and correct alignment of all wearing parts, loose screws etc.

'B' SCHEDULE

- **Different activities to be carried out in 'B' schedule-**

The following works are to be carried out in 'B' schedule:

- **All items of 'A' Schedule.**
 1. Painting of lavatory from inside.
 2. **Thorough inspection and repair of brake gear components.**
 3. **Examination overhauling and testing of PEASD & PEAV.**
 4. Testing and repairs of roof, especially the one laid with over and underlays of rubberoid sheet before monsoon begins.
 5. Thorough checking of trough floor, turn under etc., from underneath for corrosion.
 6. **Touching up of painted/printed portion, if faded or soiled.**
 7. Measuring And Recording of heel profile.

'IOH' Schedule

All coaches which are working in rake link and earning more than 2 lakhs kms per annum shall be given IOH after 09 months of the date of last POH.

- ❖ Similarly, over due POH vehicles should be given intermediate lifting examination before they are allowed to run on line, to ensure fitness for service for a period not exceeding three months.
- ❖ During this lifting schedule, bogies/under frame members and body including trough floors of integral type coaches should be thoroughly examined and Bogie replaced After Repaire From Workshop.
- ❖ The bogie frames should be particularly checked to detect damage, cracks or deformation and necessary repairs carried out.
- ❖ Oil in the side bearers should be replenished after lifting.
- ❖ The date of intermediate lifting should then be stenciled in the appropriate place in schedule chart on the end panel.
- ❖ Buffer Height , Dim.A and B should be adjusted.
- ❖ Air Brake system should be checked and tested.

THANK YOU