Government of India
Ministry of Railways
Railway Board

No. 2009/m(Safety) 7/2/Checklist.Inspection **Sept 9/ 2009**

The Chief Mechanical Engineers
All Indian Railways

SUB: CHECK-LISTS FOR OPEN LINE INSPECTIONS

Ref.: Railway Board's letter no. 99/AM(M)/Inspections dated 16.08.1999

Vide above referred letter, the importance of periodic and surprise inspections of front-line work-stations like Diesel Sheds and C&W Depots was emphasized. Also, a detailed check-list of items to be inspected was circulated to all CMEs to be circulated to all Mechanical department officers and supervisors.

The above check-lists have been revised and are being circulated as Rev.1.

It may be ensured that the Officers and Supervisors make use of these check-lists and invariably inspect the various items listed therein. For wide dissemination of the check-lists amongst the various personnel, the same are also being posted at the following link on the Indian Railways website:

http://www.indianrailways.gov.in/deptts/MECH-ENGG/cir_index.htm

7/9/09
(SANJIV HANDA)
ADVISOR (Mech. Engg.)
Railway Board

MECHANICAL DEPARTMENT

MINIMUM QUOTA OF INSPECTIONS PER MONTH

DIESEL LOCO SHEDS

Type of Inspection	JA	SS	JS	Supervisors DF/EF
Super check of Diesel Locos	4	4	6	8

OPERATIONAL ASPECTS

S.No.	Type of Inspection	JA	SS	JS	Supervisors	
					LF	SLI/LI
1	Footplate	3	5	8	--	12
2	Crew Booking (Day/Night)	1/1	2/1	2/1	4/4	2/2
3	Running Room	1	1	1	1	1
4	Ambush Check	1	1	1	--	2
5	Safety Seminar	Qtly	Qtly	Qtly	1	--
6	Dsl. Installation	1	1	1	2	1
7	ART	Qtly	Qtly	Qtly	1	--
8	Monitoring of Drivers and Asstts.	Each Driver and Asstt. Is assigned to a SLI/LI. They must be covered once in three months				
9	140t Crane	Qtly	Mly	Mly	Bi Mly	--

COACHING MAINTENANCE

S.No.	Type of Inspection	JA	SS	JS	SUPERVISORS
	Rake Inspection/Month (undergear and Passenger Amenities				
1	Washing Line	2	3	4	10
2	Platform	2	3	4	10
3	Running	1	1	2	02
4	Sick Line Inspection	1	2	2	02
5	Major	1	1	1	Once every month in the nominated beat
6	Medium	1 B.Mly.	1 B.Mly.	1	-do-
7	Minor	1 4.Mly	1		-do-
8	Br. Power Checks	1	2	4	04
9	Qly. Jt. Inspection of Infrastructural facility of Coaching Maintenance Depot, Examination Yard and Sick Lines with Engineering and Electrical Officer	1	1	1	1 (mly)
10	Night Inspections.	1	2	2	2

FREIGHT OPERATION

S.NO	.TYPE OF INSPECTION	JA	SS	JS	Supervisors
1	Sick Line	1	2	2	2
2	Yard	2	2	3	3
3	ROH Depot	1	1	1	1
4	Night Inspection	1	1	1	2
5	Super Check of Goods Rake	1	2	4	4
6	SIG/Jt. Inspection	1	1	1	--
7	Office Inspection	1	1	1	1
8	Br. Power Checks(Goods Trains)	2	2	4	4
9	Qualities of GDR Check	1	1	2	4

DIESEL SHEDS

IMPORTANT ITEMS OF INSPECTION BY HQRs OFFICERS

1. Quality of failure investigations, trend of failure and preventive actions being taken/to be taken.
2. Super checking of at least one locomotive on the standard format.
3. Check of repair books and action taken/being taken on the repairs booked by the drivers.
4. Corrective/punitive action taken in case of failures on account of maintenance lapses
5. Inspection of out going locomotives in respect of:
   - Quality of schedule attention
   - Out of course repairs
6. Items of any special drives based on failure analysis
7. Record keeping of various repairs
8. Attention to and monitoring of high LOC locomotive and locomotives with high SFC
9. Availability of spares, time taken for inspection of material.
10. Unit exchange items
11. COS, Purchase and DLW items
12. Shop manufactured items.

13. Summer drives /Monsoon drives and other special drives, if in progress

14. General house keeping of sheds

15. Washing, cleaning and radiator blowing of locomotives

16. Holding of locos and ineffective percentage

17. Progress of schedules and out turn locos overdue schedules.

18. Availability of de-mineralised water

19. Availability of lubricants

20. Tests of water and oil samples in laboratory and availability of chemicals

21. Check the fuel installation as per checklist of the RCDs

22. Record keeping of laboratory tests and action taken on them

- Spectrograph results and action taken
- Chloride level maintained
- Sulphur content of HSD

23. Machinery & Plant , Whiting Jacks etc.

24. Condition of building, pathway and drainage system and other assets.

25. Trend of expenditure and economy measures

26. Review of training of maintenance and running staff including training facilities Effective utilization of simulators.

27. Checks carried out by ACMT on fuelling installations.

28. Consumption of 'A' Category items.

29. Checking of load box records

- Conditon of load box
- Record keeping
- Display of permissible spectrum of valves of outgoing loco
- Valves of HP of heavy schedule locos

30. Check of locos received after POH/Rehabilitation in last 3 months.

31. Review of overall performance of shed vis-à-vis Action Plan Target

32. Vacancy and attendance position, administrative action taken for long unauthorized absentees.

33. Block and crankshaft failure reports and analysis.

34. Shed statistics pertaining to GTKM, SFC, LOC, Engine Kms, Punctuality, equipment failures and outage.

35. Review of MPR as per benchmarking norms and maintenance cost per loco.

36. Progress of Works, RSP and M&P proposals

37. Present holding, holding capacity and future expansion plans.

38. Training facilities available in the shed. Condition of Training School and Hostel.

39. Diesel Shed Store – Receipt and Inspection Ward – Procedure for sampling and inspection, storage of rubber components, oil etc. Rejection Ward – Status of rejection cases.

SUPERCHECK OF OUTGOING LOCOS ON MAINTENANCE ATTENTION GIVEN IN THE SHED

Drivers' repair book should be checked for remarks by drivers and PTIs till the last schedule before starting the super checking of the locomotive by both Mech. and Electrical side.

MECHANICAL

Engine in Shut-Down Condition

1. RADIATOR ROOM

- Move radiator fan blades with hand clock wise and anti-clock wise to detect any backlash.
- Move radiator fan blades up and down with jerk to check the condition of radiator fan bearing
- Check RTM blower taper sleeve lock nut tightness
- Check the condition of 'V' belts

- Check the leakage from the expansion tank bottom plate
- Check the clamping of water pipe on top of RTM blower
- Check the ECC base for any copper dust
- Check the condition of water cross over pipe of radiator and its protection.

2. EXPRESSOR ROOM

- Check condition of the bubble collector holding clamp welding
- Check LWS charging time – it should not be ore than 10 seconds.

3. ENGINE ROOM

- Cleanliness
- Check oil level in PG Governor
- Check provision of LO dip stick gauge in proper tube
- Ensure that proper FO orifice test has been done
- Check provision of grommet in high pressure tubes.

4. UNDER CARRIAGE

- Check adequate level of suspension bearing oil and its filling cap
- Check adequate level of cardium compound in gear case and its cover
- Check correct fitment of felt wick carrier screw and its sealing
- Check tightness of gear case bolt
- Check if the rollers on the equalizing beam are free
- Check for brake cylinder piston travel- should not be more than 6”

Engine in Running Condition

5. **NOSE COMPARTMENT/CAB**

- Check for air leakage from copper pipe joint in nose compartment
- Check for LO leakage from the OPS supply in nose compartments in hydraulic governor loco.
- Check control air pressure for 70 PSI setting after draining reservoir
- Air brake testing-check the following air testing parameters:
  - Vacuum on dummy 56 cm
  - Vacuum on 5/16” disc 53 cm.

6. **ENGINE ROOM**

- Is the engine running
- Stop crank case exhauster motor on 8^{th} notch and check the following leakages:

- Leakage from crankcase covers
- Leakage from head covers
- Leakage from governor to block base joint
- Leakage from cam gear cover
- Leakage from vibration damper block base joint
- Leakage from after cooler housing base joint
- Leakage from expansion doors and expansion dummies.
- Switch on crank case exhauster motor and check the engine for any unusual sound also look for the colour of the exhaust from C motor.

7. EXPRESSOR ROOM

- Check the leakages of IC from joints
- Check leakages of IC from pump face joint, water pump block face joint, main header blocks face joints
- Check water leakages from, the victaulic/dresser gaskets on the water outlet header.
- Check the sign of leakage of water from way of the vent pipes in expressor room.
- Press expressor tripping valve spindle by hand – it should not depress.
- Check oil level of expressor
- Check vibration of horizontal shaft.

8. RADIATOR COMPARTMENT

- Check condition of radiator compartment floor for leakage of IC or water from victaulic and dresser joints.

9. UNDER CARRIAGE

- Ensure working of ADC and MR drain cocks
- Check for any leakage of air from valves and brake pipes

A. ELECTRICAL
Engine in Shut-Down Condition

10. ENGINE CAB:

- Check cleanliness and condition of finger tips of CK1 and CK2 contractors
- Conduct dry run test in hydraulic locos for checking the rack setting
- Visually inspect the condition of FCP & VSE.

11. GENERATOR ROOM

- Check condition of FS tips
- Check Oil level in Hydraulic Governor
- Check for tapping of amphenol plug of TG Gov. Loco if it is not a threaded type design
- Open the cover and check the cummutator condition, film formation etc.

12. ENGINE ROOM:

- Check for connection and layout of tacho generator wiring

13. EXPRESSOR ROOM:

- Check fuel pump carbon brush and condition of commutator

14. RADIATOR ROOM

- Check for wiring of RCC for proper clamping

15. UNDER CARRIAGE

- Check for layout of axle generator wiring and its clamping
- Ensure that the cables are not rubbing
- Ensure that the covers are intact and properly secured.

Engine in Running Condition

16. ENGINE CAB

- Check for operation of ECC and other circuit breakers like FP Circuit breakers, Cr. Case Exhauster Motor circuit breakers.
- Check for correct operation of ARR. Reverser, Power contractors.
- Check for air leakages from pneumatic pipelines to reverser RXT and power contractor magnet valves.
- Measure the IR value from power to earth
- Check the operation of the following emergency switches:
- Motor cut out switch, Radiator Fan emergency switch, PCS, SF, LVS & PT.

OPERATIONAL ASPECTS

1. Availability in the locos of Safety Accessories such as:

- Walkie-Talkie sets
- Fire extinguishers
- Flasher lights
- Speedometers in working order
- Working of Dynamic brake
- Loco Coupling Clamps

2. Performance of Crew

Each driver has to be graded in 'A' 'B' or 'C' Category as per the evaluation system given below:

Code	SUBJECT	MARKING SYSTEM FOR EVALUATION UNDER GRADES					
		A		B		C	
		Max.	Min	Max	Min	Max	Min
1	Road Knowledge	10	10	10	10	10	10
2	Signal Location Knowledge	10	10	10	10	10	10
3	Loco Driving Techniques	10	10	10	09	10	07
4	Safety of Train	10	10	10	09	10	07
5	Abnormal Working rules	10	10	10	09	10	07
6	Knowledge of Loco	10	08	10	09	10	07
7	Knowledge of C&W	10	08	10	09	10	07
8	Control over the Asstt. Driver	10	08	10	06	10	05
9	Safety equipment etc.	10	08	10	06	10	05
10	Personal Habits	10	08	10	06	10	05
	Total	100	90 & above	100	80 & above	100	70 & above

3. Visibility of Signals

- Any obstruction impairing visibility of signal, permanent or temporary.
- Illumination of signals and focusing

4. Gates

- Alertness of gateman and their presence with hand signals
- Illuminatin of side lamps of manned level crossing gates
- Closure of gates and taking off signals in time

5. Safety

- Brake power of the train
- Availability of pressure/vacuum gauge on brake van of the train
- Availability of wooden wedges(one pair) on loco
- Availability of spare vac. hose and air pipe

- Working of loco hand brake
- Availability of Live detonator signals with the Driver
- Working of Audio Visual indication in Air brake locos

6. Foot Plate Inspection Reporting

- A proforma for the foot plate inspection report is given separately.

7. Ambush Checks

- Blowing of horn by the crew on U/L board while approaching unmanned and manned level crossing
- Observance of speed limits by the driver if some engg. restriction is imposed.
- Condition of level crossing as regards road across the track and caution boards for road users
- Proper equipment on the gates
- Safety chains, use of fog signals and NVT of the gateman.
- Displaying of hand signal by the gateman to an approaching train
- Timely closing and opening of gates

8. Railway Diesel Installations(RCDs)

- Performance of Flow Meter
- Electric fuel pump & Dsl pump
- Availability of fire extinguishers, sand and water buckets
- Changing of filters of filter housing
- Condition of decanting pipe and fuelling pipe
- Disposal of spilled HSD oil
- Accountal of HSD Oil
- Effectiveness of Water finding Paste-check on water and later see if the tank bottom has any water.
- Shortages in fuel and write off action.
- Demurrage to tank wagons

CREW BOOKING POINTS

S.No.	ITEM	WHAT TO LOOK FOR
1	Breath Analyser Machine	In Working order or not
2	On Duty Register	Crew fills up the columns such as Signatures possessioin of 2 pairs spectacles, Road learning and result of Breath Analyser test and signature of Booking Clerk or Incharge
3	Off Duty Register	Engine No. Train No. name of staff and off duty time
4	Signal & Track Defective Register	Each Driver records all signal defects/poor visibility and track riding or has put a NIL statement
5	Driver's Notice Book	Each Driver has acknowledged the notices by putting his signature against his name.
6	Caution Register	Each Driver has signed the Register against his name in support of his noting down cautions in force
7	Green Notice Book	The drivers sign the notice book against their names
8	Speed Restriction Board	Name of stations clearly written, properly illuminated from back, and speed restrictions in force as per caution register indicated with indicators
9	Staff authorized to wear Spectacles	Authorised staff possess two pairs of spectacles each and accordingly filled the column of on duty book.
10	List of staff undergoing punishment	Staff undergoing punishment is not working in higher grade
11	Learning Road Register	Staff has been given Road Learning before booking him to work over section.
12	Due sight test/NVT list of staff	No staff is working on footplate running overdue sight test. NVT
13	List of Break Down staff with local address	The list is available, so that in emergency staff can be called.
14	Message book	Messages are relayed/received correctly putting time and private no.
15	Booking Books	The booking is done on in turn basis and after availaing of proper rest
16	Safety Posters and Slogans	Safety posters and slogans are properly displayed in Driver's lobby
17	First Aid Box	Properly sealed and locked. First aid medicines are available in the Box. Date of issue of medicines. Availability of list of staff trained in giving first aid
18	Stretcher	Stretcher is kept in clean and good condition.

10. Other Records at Crew Booking Position

- Staff overdue courses viz. Technical and Safety Refresher Courses
- Simulator training
- Long absence cases
- Periodic Medical Examination overdue register
- Staff Grievance Register
- Supply of running staff personal stores viz. uniforms, torch, cells, duster, soaps etc.
- Functioning of CMS at the lobby
- Booking of crew as per crew link
- Utilisation of medically decategorised staff
- Record of KM's earned by Loco Pilots/ACP for the purpose of pro,otion
- System of CTR collection and dispatch to statistical branch and compilation of GTKMs

11. Running Rooms

A. Maintenance

- Repairs to roofs, doors, windows, toilets and bathrooms wherever necessary
- Provision of adequate water supply and provision of showers in bathroom
- Regular whitewashing of buildings
- Provision and repairs of drains and regular cleaning of drains
- Provision of adequate lights and fans and repairs thereof.
- Provision of adequate beds and furniture and repairs thereof
- Modernisation of kitchen and lavatory
- Regular cleaning by sweepers

B. Beds and Linens

- Provision of rubberized coir mattress and pillows
- Provision of two beds per room/cubicle
- Provision of nylon mosquito nets
- Provision of adequate linens and washing thereof

C. Facilities and amenities

- Provision of cooler for drinking water
- Provision of Water Purifier
- Provision of desert cooler to suit climatic condition
- Provision of exhaust fans in kitchen
- Provision of cooking gas wherever pending
- Provision of newspaper and magazines

- Introduction of TV as a trial measures
- Provision of good quality utensils

D. Miscellaneous

- Provision of dustbin near kitchen and provision of litter bins in rooms
- Provision of curtains and doormats
- Provision of fencing wherever needed and maintenance of gardens. Tree plantation during rainy season
- Beautification with plants in pots(leaf variety)

FOOT PLATE INSPECTIONS

Name of the Officer/Inspector_____Date_____

Train NO._____Load_____Section_____

Weather_____Visibility_____

Driver_____Guard_____

B. LOCOMOTIVE

1. No._____Tyhpe_____Home Shed_____schedule repair particulars:

Last Schedule: POH/3 yrly./yrly./Hyrly/Qtrly/Monthly/Fortnightly/Trip Date_____

2. Booster Pressure on 8th notch_____MR Pressure_____

BP/Vacuum_____

3. Lub. Oil pressure_____Fuel Oil Pressure_____

4. Load Meter (i) available/not available – short hood/long hood
(ii) working/not working

5. Flasher Light (i) available/not available – short hood/long hood
(ii) working/not working

6. Airflow Indicator: (i) available/not available – short hood/long hood
(ii) working/not working

7. Speedometer (a) Mechanical (i) available/non-available – short hood/long hood

(ii) with/without speed recorder
(iii) working/not working
(b) Electrical : available/non-available – short hood/long hood

8. Audio Visual Alarm: Working/not working – available/non available

9. Head light focussing: Correct/incorrect

10. Classification lights Working/not working

11. Cab light Sufficient/insufficient Gauge light_____

12. Corridor light Sufficient/insufficient, Marker Light_____

13. Look out glass ----------

14. Fire Extinguisher (a) Nos._____(b)___Type_____

(c) Capacity_____

(d) Date last test_____

(e)Overdue testing: Yes/No

16. Sanders: Working/not working: Wipers: Working/not working

17. Vacuum gauges in the control stands and other two master gauges on the top of the control stand showing identical reading Yes/No

18. Whether all repairs booked by the drivers in the Repair Book were attended to by this diesel shed: Yes/No

19. Are transitions taking place at correct speed

20. Is the transition jerky?

21. Condition of Cab:

- Are panel doors tightly fitted or are they chattering ?
- Roof light, Cab lights
- Operate the wipers and see their working

22. How is the engine exhaust

23. Is the engine hunting
- In idle

- In higher notches

24. Cooling water temperature:
    - Is it generally below 80 degree Centigrade

25. Is the fuel oil pressure generally between 3 to 3.5 kg or is it dropping in higher notches

26. Riding of the loco – rough or smooth particularly at higher speeds.

B. CREW

1. Hours of rest taken before signing on:

Bio Data of Driver:
Name_____

HQ/Base_____

PME: Date Last attended_____

Next due date_____

Bio Data of Asstt.
Name_____

HQ/Base_____

PME: Date last attended_____

Next Due Date_____

3. REFRSHER COURSE

Date last attended_____

Next due Date_____

REFRSHER COURSE

Date last attended_____

Next due Date_____

4. SAFETY COURSE

Date last attended_____

Next due Date_____

SAFETY COURSE

Date last attended_____

Next due Date_____

5. EQUIPMENT/BOOKS

♦ Two Red Flags	Available/Not Available
♦ One Green Flag	Available/Not Available
♦ Tri-colour Hand Signal Lamp	Available/Not Available
♦ Detonators	Nos……Date of Mfr…….
♦ Fusie Signal	Nos……Date of Mfr…….
♦ Fusie Signal Stick	Available/Not Available
♦ Tool Box	Available/Not Available
♦ Spare Transition Coupling	Available/Not Available

♦ Spare two hose pipes in case of vac. train	Available/Not Available
♦ Spare safety clamp for Transition coupling	Available/Not Available
♦ One spare Head light bulb (a) First Aid Box (b) If available, condition of items	Available/Not Available Good/Not Good
♦ Working time table	Available/Not Available
♦ Rule Books – GR	Available/Not Available
♦ SR	Available/Not Available
♦ Bio Data Book	Available/Not Available
♦ Trouble Shooting Book	Available/Not Available

- Station to Station Running Time:___(Mail/Express and Passenger trains)_____

- Walkie – Talkie Set : Available/Not available/Working/not working.

- If spectacles worn by the driver :

(a) Are the spectacles properly fitted (otherwise one of his hands will be busy in proper positioning of the spectacles only through out the run of the train)?
: Yes/No

(b) Spare Spectacles : Available/not available: proper fit.

© If available, does it have his name inscribed on it? : Yes/No

C. CREW PERFORMANCE

1. Calling out of signals by (a) Driver : Satisfactory /Unsatisfactory

(b)Assistant : Satisfactory/Unsatisfactory

2. Acceleration : Smooth/Jerky

3. Deceleration : Smooth/Jerky

4. Observation of speed restriction : Correctly done or not.

5. Application of dynamic brake : Properly/Improperly/Not applied.

6. Exchange of Signals with ASMs/ Cabinmen/ Gatemen and the working guard : Done/Not done

7. If doubleline,exchange of signals with Crew &
Guard of crossing train : Done/Not done

8. While the train is negotiating a curve and while passing through stations:
(a) Did the driver/DDA look back at the train : Yes/No

(b) Did they also exchange signal with guard simultaneously?: Yes/No

9. Does the driver whistle at W/L board : Yes/No

10.Does the driver whistle while approaching a station platform : Yes/No
where the train has its schedule stoppage.

11. Does the driver whistle while passing through a station and
Approaching Level Crossing gates ? : Yes/No

12. Does the driver/Asst get down from the cab to take round of
The loco, examine its under-gear visually, and take corrective
action required, if any, at stations where the train has its
schedule stoppage or signals where he stopped out of course: Yes/No

13. Did the driver/Assistant drain out the MR when the train was
Having schedule or out of course stoppage as mentioned above ? Yes/No

14. Did the driver go through, the caution order serially and check
The actual location ? :
Yes/No

15. Did the driver keep the caution order on his control stand ? : Yes/No

16. BPC: (i) Did the driver have Brake Power Certificate? : Yes/No
(ii) Details
(a) BPC No.
(b) Whether signed by the Guard ? : Yes/No
(c) Date & Place of issue : Yes/No

17. Did the driver check the brake power of the train, when it entered
The 1st block section ? : Yes/No

18. Driver's awareness of rules, trouble shooting etc. :

19. Driver’s safety consciousness & knowledge of safety rules :

20. Driver’s alertness :

21. Driver’s engineman ship

22. Did the driver observe precautions as per extant rules while Working the train in dense foggy weather, it any ?

23. Did the driver know how to use fire extinguisher ?

24. Any item, on which driver was counselled

D. ADHERENCE TO TIMINGS

1. Station Timings :

Station Sch.Arr. Sch.Dep. Act.Arr. Act.Dep

2. Divisional Caution Orders :

Notice Station _____Date_____

Caution order:

Typed / Hand written / 1" Copy / Carbon Copy / Legible / Illegible

Station Km Speed Restriction Loss of Time

Any lurch felt at Km._____

3.Caution Order Issued en-route, if any:

Section Km. Speed Restriction Loss of time

4. Engineering work with banner flag

i) Prior information given to driver : Yes/No

ii) Distance of exhibiting banner flag : Adequate/Not adequate

E. TRACK ASPECT

1. Permanent Speed Restriction

- Distance of Caution Board/TP/TG board displayed: Correct/Incorrect.
- If incorrect, location particulars :_____

2. i) At night, Caution Board : Lighted/Not lighted

ii) Speed limits on the Caution Board, TP and TG written with fluorescent paint for better visibility in the night ? : Yes/No

3. i) Any lurch experienced : Yes/No

ii) If yes, location particulars :_____

Section Km. Speed Restriction Loss of time

E. SIGNALLING ASPECTS

1. Drooping signals:
Station Distance/Outer Warner Home Starter Advance Starter

2. At night, signals not lit:
Station Distance/Outer Warner Home Starter Advance Starter

3. Obstruction of Signal Visibility by tree branches:
Station Distance/Outer Warner Home Starter Advance Starter

4. Obstruction of Signal Visible by structure:
Station Distance/Outer Warner Home Starter Advance Starter

5. Visibility impaired by station lights/other lights:
Station Distance/Outer Warner Home Starter Advance Starter

G. OPERATION

1. Main Line free but passed through loop line at Station _____
2. Goods train on Main Line and Mail/Express train passed through loop line Station _____
3. Signal lowered on approach : Station _____
4. Late exchange of signal by guard at Stations: _____
5. Detention for loading at station :_____
    - Exchange of signals by ASMs/Cabinmen/LC Gatemen : Yes/No
    - If not exchanged , Station/Cabin/Level Xing Gate No._____
6. Late handing over of memo for OP/T-27 for defective signals at

   Stations : _____

7. Were the ASMs, Cabinmen, LC Gatemen, Gangemate or Patrolman alert while exchanging signals ? : Yes/No

- If not, Stations/Cabin/L.C. Gatges:_____

8. Did ASM observed the rules of foggy weather conditions, if applicable :

- If yes, name of the Stations:_____
- If not, name of the Station:_____

H. COMMERCIAL ASPECTS

1. Was the work finished at station halts in time ? : Yes/No

1. If no, extra time taken for loading/Unloading:

Stations	**Extra Time Taken**

2. Any ACP? If so, location and other details of CAP :

1. OTHER ITEMS

1. Whether Rolling-in Examination of the coaching train at nominated points done by TXR staff or not ?

2. Any other information/suggestion crew would like to give regarding safety in train running :

3. **ANY OTHER ITEMS OF IMPORTANCE** :

Note: After recording all these aspects in a rough diary, please segregate the irregularities/deficiencies and list them separately to the pointed attention of the concerned supervisor, officer or department.

ARTs and ARMEs

1. **Condition of Rolling Stock :**

- Whether due/overdue POH
- Present condition
- Brake gear and brake system continuity
- General cleanliness

2. **Hydraulic re-railing equipment** :

- Running of power pack under load and no load conditions pressure setting.
- Whether consumables and other spares are available in sufficient numbers and action taken for procurement.
- Availability & condition of hydraulic oil.
- Condition of wire ropes

3. **Generators – fixed or portable:**

- Check running, conditions of brushes and availability of spares.

4. **Lighting equipment**:

- Check all lighting stands, reflectors, conditions of cables, switches.

5. Petromax :

Check proper burning/lighting, spare mantles, pins, pumping equipment.

6.S&T equipment:

- Whether public address system is in working condition.
- VHF sets for proper working.
- Walkie talkie sets for working, condition of dry cells.
- Field telephones for proper working and condition of cables.

7. Fire fighting equipment :

Refilling dates, general condition.

8. Detonators – availability and replacement due time.

9. Compressor:

Check for working and availability of spares.

10. Gas cutting equipment:

Condition of torches availability of acetylene and oxygen cylinder. There should be at least 4/8 cylinders and 4 torches.

11. Availability and adequacy of other tools like jacks, hard wood packing camera, kitchenware, first aid equipment.

12. Cold cutting equipment:

Check working, availability of spares disc spark plug and maintenance tools, ask for demonstration and see if staff are conversant with its use.

13. **Cranes:**

- Working of main and auxiliary cranes.
- Propping beam and its hydraulic piston jacks and its seals for leakage
- Hydraulic and hand brakes for operation
- All wire ropes and slings.
- Whether all maintenance schedules have been carried out on line.
- Condition of all brakes.
- Condition of coal and adequacy.

14.**140T cranes**

Check whether the "special safety precautions for operation of 140 T cranes" are prominently displayed in the driver's cab both in English and vernacular. Refer Board's letter No.99/M(M&P)/7/8 dated Aug 11, 1999.

Availability of consumables for the crane

Availability of at least two sets of well trained operating staff

Inspection of ARME and Auxiliary Van

1.Condition of Rolling stock :

- Due/overdue POH
- Due/overdue maintenance schedule
- Mechanical condition (Brake gear, wheel, etc)
- Cleanliness.

2. **Cold cutting equipment (HRD):**

- Whether in working order, physical trial to be done
- Availability of spares (disc. Spark plug) and tools.
- Availability of cutogen and DA and O2 cylinder
- Working to be checked by physical trial.

3. Generator :

Whether in working order (actual trial to be done by starting it).
Availability of petrol/diesel
Condition of brushes, and
Availability of spares

4. Lighting equipment:

- Check availability of lamps, reflectors, stands, cable, switch board
- Trial to be done to check working.

5. Availability of drinking water and eatables:

- Check availability of water, date on which water was filled.
- Check availability of milk, biscuits, coffee, tea leaf and their expiry dates.
- Availability of proper plates, cups and saucer.

6. Check availability and functioning of jacks, digging equipment, tools, petromax, fire extinguisher, stove, kettle etc. to scale.

7. Check availability of Accident Manual G&SR.

8. Check availability of Red and green banners, detonators, torch, cell, transition coupling, tent etc.

COACHING DEPOT

PIT EXAMINATION AND CLEANLINESS

1. Adequacy of pit examination time for various rakes.
2. Availability of berthing slots.
3. Infrastructure availability and adequacies, of the following;

    - Approach road
    - Cleanliness
    - Pathways for material movement.
    - Lighting
    - Pit Light for night examination
    - Welding connections
    - Availability of compressor and exhausters and
    - Adequate pipelines for pressure and vacuum testings.
    - Mechanised cleaning with High pressure jet cleaning machines etc. through professional agencies.

4. System of cleaning of rakes and concept of model rakes.
   Does the system ensure that all coaches are covered once in a month?

5. Quality of repairs.

    - Detailed Air Brake Testing procedures

6. Compliance of instructions for fitment of brakegear & suspension items.
7. Coach holding Vs Actual requirement.
8. Availability of water and watering facilities.
9. Drainage : adequacy of
10. Quality of Terminal examination/attention in stabling lines/platforms under RPC
11. Adherence to the activities listed in Trip/A/B Schedules
12. Redressal of passenger complaints
13. Effectiveness of Part C Radient control measures.

PERFORMANCE INDICES

14. Review indices, identify areas of weakness (strength to be advised to universalize good practices), decide action to be taken
15. Ineffective coaching stock.
16. Average repair time, placement/withdrawal time
17. Stock detained for long periods
18. Cases of punctuality loss

19. Coach failures analysis, reporting system and follow up. Detachments primary rakes.
20. Schedules done/arisings/overdue (including POH)

SICK LINE RELATED ITEMS

21. Adequacies of infrastructural facilities for IOH
22. Quality of repairs during IOH
23. Adequacy of lifting facilities
24. Attention to welding practices particularly earthing
25. Air pressure, testing of stock after repairs in sick line.
26. Road access and availability of material handling equipment.
27. Review of supply/requirement of wheels & overhauled bogies from shops.

TRAIN DUTY ON PLATFORMS

28. Availability of watering facilities.
29. System of rolling in examination of passing through trains.
(Availability of powerful lights for rolling in examination on wither side on All platforms)
30. System/adequacy of trouble-shooting of passing through trains and monitoring of the same.
31. Does TXR record correct levels of Vac/Air pressure on loco and SLR ?Does he conduct checks for passenger Alarm Device ? Do the fitters have proper tools, lights, etc. ? Are Ac coaches pre-cooled ?
32. Mobile jet cleaning machines. (Are they in working order? Are spares available ?)
33. Pad locking of terminating trains.
34. Drainage/cleanliness of platform line.

- Clean Train Station activities and the performance levels
- Adequacy of fire fighting and other safety equipments/implants.

MATERIALS

35. House keeping.
36. Compliance of stores imprest schedule.
37. Important item out of stock / in short supply. Check consumption of all consumables per annum. Is it adequate to cover the cleaning requirements throughout the years.
38. Non moving items/correctness of imprest sanction
39. scrap return
40. Proper storing of rubber item
41. Supply of items against thefts.

FINANCE

42. High value item analysis
43. Review on acceptance of workshop debit.

ESTABLISHMENT

44. Vacancies
45. Staff grievances
46. HOD/Sick cases
47. Causality/absentees. Are attendance registers properly kept and checked in time ? Action taken on frequent and OR long absentees.

TRAINING NEEDS

48. Facilities for training and adequacy thereof
49. Overdue refresher courses, orientation courses and special courses and monitoring thereof.
50. Knowledge of staff /supervisors, system of up-grading their knowledge
51. Monitoring of performances of trial items.
52. Quality review of POH of coaches.
53. House keeping in general – Are old files disposed off? Are the files kept properly in a readily retrievable condition ?

FREIGHT

I. ROH RELATED ITEMS

1. System for identification of repairs and ensuring the completeness thereof.
2. Availability of unit exchange spares mainly trolleys, springs and wheels.
3. Availability of must –change items: system monitoring audit checks.
4. Attention to welding practices, particularly of earthing
5. Availability & use of gauges.
6. Quality of repairs and attention to schedule items

II. SICK LINE RELATED ITEMS

7. Adequacy of lifting facilities
8. Attention to welding practices particularly earthing
9. Vacuum cylinder overhauling
10. Air pressure/vacuum testing of stock after repairs in sick line.
11. NTXR rejection and analysis thereof.
12. Road access and availability of material handling equipment

III. MANGEMENT INFORMATION SYSTEM

13. Analysis of failures.
14. Analysis of average examination time
15. Compliance of imprest items and availability of critical materials like brake blocks, brake block keys, brake gear pins, etc. Analysis of non -moving items
16. Trend of expenditure – unit cost and inventory
17. Identification of training needs and training
18. 100% implementation of safety related modifications
19. Use of bulb cotters in place of split cotters
20. Ultrasonic testing of axles. Please make surprise check of an axle already cleared.
21. Provision of spare templates for worn out wheel profile for tyre-turning of wheels
22. Analysis of freight trains

- Examined in loaded/empty condition
- Running with invalid BPCs
- Coming for intensive exam. With open doors.

IV. INTENSIVE EXAMINATION OF VACUUM BRAKE TRAINS

Ensuring 100% rolling-in-examination for loose brake gears/skidded wheels/hot box before intensive examination. Is BOX feeling done after train comes to a halt.

BRAKE GEAR AND WHEELS

1. Complete inspection of running gear fittings
2. Correct fitment of Bk Gear pins, split pins & bulb cotters
3. Trapping and gauging of wheels
4. Check wheels free from defects as per IRCA rule book
5. Hand brake to check for working.
6. Check empty load box in correct handle position & connection.

SAFETY FITTINGS

7. Checking of safety brackets, safety loops and safety fittings
8. Checking correct and sound fitment of AR/VR holding straps

BOGIE FRAMES AND SPRING GEARS

9. Check for cracks on horn gaps
10. Replace cracked/broken springs
11. Repair cracks/welding failures of SSB/DSB
12. Check spring cambers for over loading
13. Bridle bar fitment.

BRAKE POWER

14. Check for adequate pressure/vacuum level
15. Ensure proper adjustment of piston stroke
16. Leakage rate should be within prescribed limit.
17. Check for proper mating of brake block on wheel treads
18. Check, correctness of 'A' dimension clearance of SAB regulator and ensure proper working.
19. Ensure brake block thickness above 20 mm.
20. Ensure minimum of 95% brake power and six out of eight wagons in front and rear to be operative.
21. Fitment of quick coupling / Adopter 'B' in brake van to be ensured.

MISCELLANEOUS

22. Check buffer heights.
23. Check proper security of doors (covered wagons)
24. Check proper packing/lashing and securing of consignment
25. Inspection of draw and buffing gears
26. Ensure proper locking of CBC/proper tightening of screw couplings

V. INTENSIVE EXAMINATION OF AIR BRAKE TRAINS

Ensuring 100% rolling-in-examination for loose brake gears/skidded wheels/hot box before intensive examination.

BRAKE GEAR AND WHEELS

1. Complete inspection of running gear fittings
2. Brake rigging pins & safety brackets in proper working condition
3. Tapping and gauging of wheels to be ensured.
4. Wheels to be checked and should be free from defects as per IRCA rule book.
5. Hand brakes of wagons to be fully released.
6. Operating handle of empty load box in correct position

BRAKE POWER

1. Check brake pipe pressure and ensure :

	No. of wagons	**Engine**	**Brake. Van.**
a)	Upto 56 Wagons	5.0 kg / Cm2	4.8 Kg/ Cm2
b)	Above 56 Wagons	5.0 Kg/Cm2	4.7 Kg/Cm2

2. Ensure leakage rate within prescribed limit.
3. Proper adjustment of piston stroke. Ensure within specified limit after brake application.
4. Proper mating of brake block on wheel treads.
5. Proper working and correct ‘A’ dimension clearance of SAB Regulators.
6. Ensure minimum percentage of operative cylinders as peer specified limits.
7. Ensure continuity of brake pipe connection and conduct continuity test.
8. Ensure working of guards’ emergency brake valve and proper fitment and working of quick coupling.
9. Ensure brake cylinder piston fully inside and brake blocks having clearance from wheels, after release of brakes.

MISCELLANEOUS

1. Ensure all angle cocks (except at rear end of train) are kept open
2. Ensure Isolating cock of DVs to be in open position
3. Ensure BP & FP coupling at rear end of train is placed on support
4. Ensure CBCs are properly locked and operating handles properly secured.
5. Ensure proper closing of doors.

ADDITIONAL ITEMS FOR BOBR/BOBR’N’ WAGONS

1. Load sensing Device (LSD) to be checked for proper working

2. Ensure clearance between operating value and spring buffer (LSD) within specified limits.
3. Bolts and nuts of LSD to be properly tack Welded.

VI. SUPER CHECKING OF EXAMINED LOADS IN YARDS

BRAKE GEAR

1.Correct size of fitment of bk. Gear pins, split pins & bulb cotters
2. Correct sitting of brake blocks, brake shoe key & bulb cotters.
3. Hand brake working
4. Empty load box in correct handle position & connection

SAFETY FITTINGS

5. Availability of sound safety brackets/loops
6. Correct and sound fitment of AR/VR holding strap

BOGIE FRAMES AND SPRING GEARS

7. Cracks on horn gaps
8. Bridle bar fitment
9. Spring breakages/cracks
10. Welding failures in SSB/DSB
11. Overloading of wagon.

BRAKE POWER

12. Check of pressure/vacuum level
13. Proper adjustment of piston stroke
14. Leakage rate within prescribed limit
15. Proper mating of brake block on wheel treads
16. Proper working and correct ‘A’ dimension clearance of SAB regulators
17. Brake blocks thickness to be above 20 mm.
18. Six out of eight wagons to be operative in front and rear of load
19. Fitment of quick coupling/Adopter ‘B’ in the brake van
20. Ensure a minimum of 85% brake power for end-to-end running and 100% brake power for close-circuit running of Air Brake rakes.

VII. GUARD AND DRIVER CHECK(EXAMINATION)

21. Knowledge of Guard and Drivers of items to be checked.
22. Quality of check being done by Guard/Driver
23. Check for correct method of continuity test being done by Guard & Driver

24. Endorsement of GDR check on BPC by Guard/Driver