



DARPAAN



(JULY – SEPTEMBER 2019)

International Level Crossing
Awareness Day



ILCAD OBSERVED OVER NFR



Published by:

Safety Department, Head Quarters, Maligaon
Northeast Frontier Railway

समय से कहीं ज्यादा कीमती है आपका जीवन
कभी भी बंद समपार फाटक के नीचे से पार करने की
कोशिश न करें और अपना जीवन जोखिम में न डालें



रेल की स्पीड भिन्न होती है उससे अधिक तेजी है और आपके अनुमान से पहले समपार फाटक पर पहुंच सकती है

रेलवे लाईन हमेशा अकेले रेलवे कॉर्सा से ही
पार करें, कहीं और से नहीं।

रेलवे कॉर्सा के निकट खाने पर लगे सूचना/
चेतावनी बोर्डों पर ध्यान दें।

लॉक ब्रेकर से पहले अपने साइल को पीना
कर दें।

बेरिचर खुलने पर ही रेलवे ट्रेक पार करें।

रेलवे अधिनियम 1989 की धारा 160 के अनुसार भौकानुर्त रूप से मानवसहित

समपार को पार करना एक दंडनीय अपराध है।

खाने-समपार फाटक पार करते समय / रेलवे लाईन पर फेंक फेंक एवं मोबाइल फोन का इस्तेमाल न करें।

At the manned level crossing.....



Electrical Hazard Awareness

ELECTRICAL HAZARD

Electrical hazard safety means

any potential or actual threat to the wellbeing of people, machinery, or environment

Why know about it?

Electrical hazards like live wires and live circuits can lead to:

- Injury or death
- Fire or property damage

If you come across a person receiving an electric shock:

- If possible, disconnect the electrical supply (switch)
- Assess the situation - never put yourself at risk
- Take precautions to protect yourself and anyone else in the vicinity
- Apply the first aid principles (e.g. DR ABCD)
- Assess the injuries and move the casualty to a safe area if required

What are the levels of effect of current?

- Administer first aid if trained
- Seek urgent medical attention

Can you protect yourself from electricity?

- Don't wear metal objects
- Turn power off
- Wear appropriate clothing
- Don't touch live parts
- Don't install or repair electrical equipment
- Use qualified personnel
- Clean and dry hands and plugs before use
- Use PPE

What are other safety measures?

- Heed warning signs
- Use the right equipment
- Study the operation manual
- Take care of extension leads
- Use only approved extension lamps
- Don't pull on leads
- Use the proper fuses and occur to cables



Electrical hazards exist in almost every workplace.

- Common causes of electrocution are:
- striking contact with overhead wires
- undertaking maintenance on live equipment
- working with damaged electrical equipment, such as extension leads, plugs and sockets
- using equipment affected by rain or water ingress

Do you want to be a victim?

You could be the victim if you:

- Don't follow proper procedures around electricity
- Use electrical equipment improperly
- Use faulty electrical equipment



AC current (mA)	Effect on human body
1	Slight tingling sensation
2-9	Small shock
10-34	Muscles contract causing you to freeze
25-74	Respiratory muscles can become paralysed; pain; wet burns often visible
75-300	Usually fatal; ventricular fibrillation; entry & exit wounds visible
>300	Death almost certain; if survive will have badly burnt organs and probably require amputations



- Regular safety inspections
- are a part of YOUR job.
- Electrical equipment should be checked each time before use for defects
- If not tagged or the tag is out of date then report it and place it out of service

www.doshit.com

INDIAN SAFETY ASSOCIATION

Electricity is essential but, improperly used, it can be DEADLY!

To STAY ALIVE, you have to STAY ALERT!



YOUR VIGILANCE CAN PREVENT A

DISASTER



Any unclaimed or suspicious looking objects, luggage, packets or persons moving suspiciously noticed, please inform RPF, GRP and police personnel AT ONCE !



We seek your Active Co-operation in helping us to make your train journey safe and secure. Please do not carry and do not let your co-passengers to carry inflammable objects in the Train.

One more initiative for your safe and secure journey
Please dial Security Helpline 182 for immediate security assistance

Visit us at <https://www.facebook.com/IRRailway> & follow us at [@IRRailway](https://twitter.com/IRRailway)



NORTHEAST FRONTIER RAILWAY
Your Safety - Our Concern

the past history and pre-monsoon inspections and register of vulnerable locations should be brought up-to-date.

- v) Arrangement should be made with the concerned Metrological Centre for receipt of bad weather warnings. The permanent Way Inspector on receipt of weather / cyclone warning should arrange to advice monsoon patrolmen / watchmen and Gang Mates to be extra vigilant.
- vi) Zonal Railways may issue instructions in the form of joint circular to suit the local requirements about weather warning and action to be taken by different officials.
- vii) As per para 1001(3) of IRPWM, in the event of abnormal rainfall or storm during day or night, the Mate should, on his own initiative organize patrolling over the length affected, independently of other patrolling, if any being done. As per Chapter-1 "Part-B" - it is the duty of permanent Way Officials / Men that trees in proximity to the likely to foul the track during a storm should be felled (Para 125 of IRPWM).
- viii) Drainage of track is very vital for its satisfactory behavior. The drainage in station yards, most of which are track circuited, is of paramount importance not only from track maintenance point of view but also from safety and operation points of views, Para 240 & 279 of IRPWM clearly stipulates about proper drainage in station yards and track circuited areas.
- ix) ADEN / DEN should inspect sections during monsoon by footplate, motor trolley etc.
- x) Sr.DENs/DEN/AEN should also inspect locations affected by excessive flow of rain water to get first hand information on the causes and suggesting solutions to prevent such occurrence in future.

Railway shall ensure strict compliance and confirm the action taken on the above provisions contained in IRPWM.

Sd/-
(Vipul Kumar)
Executive Director Civil Engg.(P)
Railway Board

You will find.

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One Caveat :

We have tried to give all information as accurately as possible. However, readers are advised to go through the original circular/instructions also.

Notes

SECTION - I

Letter issued from Railway Board/HQ

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)**

No:- 2016/CE-II/safety/Precaution

New Delhi, Dated: 16/05/2017

Principal Chief Engineers,
All Zonal Railways

Sub: Monsoon Precautions.

Monsoon is about to set in most parts of the country. Railways must have made arrangements in regards to necessary precautions as prescribed in Chapter VII- Part-'B'- "Pre-monsoon Precautionary measures" of IRPWM which inter-alia include patrolling of track and vulnerable bridges, availability of reserve materials for restoration, relief girders and other necessary equipment, Inspection of Railway Affecting works & Weather warning and action to be taken. Some of the activities related to subject are mentioned below:

- i) All catch water drains and side drains must be cleared of silt, vegetation and other obstructions to ensure free flow and quick drainage of storm water.
- ii) Water shall not be allowed to stagnate on the track. For this purpose, cross drains should be provided at regular intervals. In yards, cross drains and longitudinal drains should be cleared/ provided to proper grades.
- iii) In hilly areas, where there is incidence of falling boulders, a survey should be carried out to locate loose boulders. Such loose boulders should be dropped in a systematic manner.
- iv) Vulnerable locations/ kilometrages should be reviewed jointly by the Assistant Engineers and Divisional Engineers on the basis of

SECTION - II

No: T/308/80/S/Pt-IV
Director /Safety -IV
Railway Board, New Delhi.

Date-11.06.2019.

Sub: Observing of " International Level Crossing Awareness Day- (ILCAD) " 2019.

Ref: Director/Safety-IV's letter No: 2013/safety (A&R) /ILCAD Dated 07.05.2019

Northeast Frontier Railway observed "International Level Crossing Awareness Day" on 6.6.2019.

Action taken on the occasion as per Railway Board's guide lines is furnished below :-

Item no.	Action to be taken as per Railway Board's guide lines	Action taken by N.F. Railway
1	Advertisements in leading local and vernacular news papers.	Advertisements, News for observing International Level Crossing Awareness Day was published in leading local news papers in English, Bengali, Assamese, and Hindi. (Copies enclosed.)
2	Broadcast on local News Channel (Cable), Radio, FM & in Cinema Halls.	Scrolling messages were displayed in local Cable TV Channels to enhance awareness amongst the Road users, so as to avoid accidents at level crossings.
3	Distributing Hand Bills, Compact disc (CD), Pamphlets etc at level crossings	Safety posters, safety leaflets and stickers were distributed to road /vehicles users at level crossings, School Students and

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)**

No.2012/Safety(A&R)/19/1

New Delhi, Dated 04.12.2018

**The General Manager
All Indian Railways including
Konkan Railway Corporation**

Sub: Securing of vehicles/loads/trains/locomotives at stations and in block section.

There have been few recent incidences of rolling down of loads/ vehicles resulting in accidents. The matter has been considered in Board's office. Precautions to be taken for stabling loads/trains and securing of vehicles/loads/trains/locomotives at stations as well as securing of trains stranded in block section are consolidated and reiterated below :-

- Action by Station Master/Traffic Staff when vehicles/load/train is to be stabled at Station:-
 - The vehicles/load/train be chained and padlocked using atleast two chains, one at either end;
 - Atleast four sprags/wooden wedges be used, two each below the outermost pair of wheels at either end;
 - Hand brakes of atleast 6 wagons from either end must be fully tightened. In case coaching vehicles are stabled, Guard's hand brakes in SLR(s) must be applied. The hand brakes must be operated under the personal supervision of the Guard, and in the absence of Guard, by SM/ASM on duty;
 - The vehicles of stabled load/train should be coupled together. In case the stabled load has to be split for any reason, each such split part should be treated as a separate load for the purpose of securing;
 - The points must be set, clamped and padlocked against the blocked line and towards dead end or trap point (if available). Scotch

blocks must be used, if available;

(f) Stop Collars must be placed on relevant signal and point buttons/slides/levers etc.;

(g) Remarks should be made in TSR and/or SM diary in Red ink to the effect that 'Line No. ___ is blocked and all precautions for securing the load have been taken' as prescribed above;

(h) After any load/train/loco is stabled, the station master must inform the section controller supported by private number that all laid down precautions for stabling and securing the load/train/loco have been taken.

2. Additional precautions to be taken while stabling vehicles/load/train at a station with gradient of 1 in 400 or steeper may have been prescribed under approved special instructions (by CRS) and mentioned in SWR of respective station. These should be followed scrupulously. In addition, following precautions must also be observed over and above those prescribed under approved special instructions:-

(a) Before vehicles are uncoupled, the hand brakes should be applied, sprags/wooden wedges/skids, should also be used to prevent vehicles from rolling down;

(b) As far as possible, the vehicles/load/train should be stabled on a line which is isolated from other lines, particularly running lines.

3. Action by Loco Pilot/Assistant Loco Pilot before leaving the loco in case load/train is stabled with locomotive attached or light engine(s) is/are shut down or stabled:-

(a) Application of both SA-9 and A-9 brakes;

(b) Application of hand brake and parking brake;

(c) Secure the loco with wooden wedges provided on the loco;

4. (a) Loco Pilot while on duty should not leave loco unmanned. In case he is required to leave the locomotive unmanned, he should do so only after receiving written authority from the Station Master/Yard Master and ensuring 3 (a), (b) & (c) above;

(b) Before leaving the station/yard, the Loco Pilot and Guard should jointly record in a register to be maintained with Station Master that the load & loco has been secured as prescribed above.

5. Action to be taken by Loco Pilot/Assistant Loco Pilot and Guard when the train is stalled in block section due to accident, failure, obstruction or any other reasons:-

(a) Loco Pilot/Assistant Loco Pilot and Guard should protect the train as per provisions of G&SRs 6.03;

(b) The train should be secured by applying loco brakes (SA-9, A-9 & hand brake) and hand brakes of atleast six wagons at either end of the train. The hand brake should be operated by Assistant Loco Pilot from leading end and by the Guard from the rear end. In case the train is being worked without Guard, the duties of the Guard shall devolve on the Assistant Loco Pilot. In case of coaching trains, the Guard should apply hand brakes of the SLR in addition to the application of loco brakes by the Loco Pilot.

6. Station Staff, Guard, Crew and Section Controller should be aware of gradients at Stations/Yards/Sidings and block sections.

7. Frequent counseling in this regard should be done by concerned Supervisors.

8. The Railways must ensure availability of adequate number of sprags & chains of approved design at stations and wooden wedges on locos.

Sd/-
(Vipul Kumar)
Executive Director Civil Engg.(P)
Railway Board

Item no.	Action to be taken as per Railway Board's guide lines	Action taken by N.F. Railway
	<p>authorities to:-</p> <p>i) Test the knowledge of motor vehicle drivers about the provision of section 131 of MV Act, 1988 before issuing them driving license</p> <p>ii) Address the issue of valid registration of vehicles plying in rural areas and availability of driving licenses of tractor drivers.</p>	the public/ driver of the motor vehicles for section 131 of MV Act and its violation thereof.
11	Check the availability of gate Mitras by Guards/ drivers. List of crossings with Gate Mitra should be made available at the crew lobby.	No Un-manned level crossing exists in NF Railway as such there are no Gate Mitras posted.

DA - Photographs.

Sd/-
(Jai Prakash)
Dy Chief Safety Officer/Engg

Item no.	Action to be taken as per Railway Board's guide lines	Action taken by N.F. Railway
		villagers of nearby areas. Public awareness campaign to educate road users through posters, were displayed at stations, bus stands, Petrol pumps etc. Public announcements at different locations, such as petrol pumps, bus stands and market areas were done with safety slogans in local languages.
4	Launching of SMS campaign to warn the risk at level crossing like "Life is more precious than time. STOP, LOOK-OUT for trains Before crossing UNMANNED level crossings".	Bulk SMSs were sent to the non railway persons living in areas nearby Railway Level crossings of N. F. Railway to warn/educate regarding the risk at Level crossing with slogan as "Life is more precious than time. STOP, LOOK-OUT FOR TRAINS BEFORE CROSSING Level Crossings"
5	Interaction with Press regarding the issue of Level Crossing with special emphasis on the level crossing accidents in recent years . The potential hazard of wearing EAR PHONES while passing through Level Crossing be discussed.	The potential hazard of wearing EAR-PHONES while passing through level crossings were discussed with the students of schools and colleges and with common people at large. TV media and Print media actively participated in the campaign.
6	Deploying of Railway Scouts & Guides, Railway	Nukkad-Nataks (Street play) were organized at level

Item no.	Action to be taken as per Railway Board's guide lines	Action taken by N.F. Railway
	Cultural Team, Railway Civil Defence, Railway Sports organization to host Safety drive at Level Crossing, hosting cultural evenings, nukkad-natak, village fairs, Gram Panchayat-Sabha, organize demonstration of level crossing accident scenario, organize sports tournament, walkathon (run competition) with the motto of "safety at Level crossing".	crossings, for mass safety awareness by deploying railway Scouts and Guides, Railway cultural teams and involving local artists. Local villagers along with Sarpanchs were also counseled by the team of officers and staff. Walkathon and bike rally with banners were organized to spread awareness regarding safety on level crossing gates. Mock drills were organized by Safety team of N.F.Rly HQ at Level Crossing gates which was telecast by TV Channels, such as News Live, Dy 365, DDK, Pratidin Times and News-18. The same was also published in local Daily News Papers of Hindi, Assamese, Bengali, and English.
7	In consultation with local administration and NGOs to make this campaign reach to schools and colleges level.	Local Authorities, School students and Scouts and Guides had actively participated at various levels in slogan writing and other activities related to safety at level crossings.
8	Arranging special checks/drives at level crossings in consultation with RTO, local Police and RPF.	Special checks/ drives regarding safety rules and precautions while passing through level crossings were conducted with the help of Local Administration at different

Item no.	Action to be taken as per Railway Board's guide lines	Action taken by N.F. Railway
		locations. Local police, RPF and railway staff were engaged for ambush checks at level crossing gates.
9	Provision of section 131 of Motor Vehicle Act, 1988 should be given wide publicity to inform and educate road users. Railway should undertake extensive "Ambush check" jointly with state Authorities to curb the incidences of violation of provision of Section 131 of MV Act 1988 and section 161 of IR Act 1989 by the road users at UMLCs. Inhabitants of local villages particularly the youth must be sensitized to the risk.	No Un manned level Crossings exists in N.F.Railway . During Mock drill was witnessed by Local people - (i) One person was arrested due to willfully obstructing Railway servant (on duty Gate Man) during discharge of his duties. People were made aware about the provision of section 131 of MV Act and regarding its violation. (ii) One person forcefully entered inside gate while it was closed for passing of trains. He was stopped to enter but did not stop and started arguing. He was tested and found in intoxicated condition. Later he was pushed back to clear the gate by RPF personals.
10	Meetings should be conducted with civil authorities and it should be impressed upon civil	Civil Authorities actively participated in the campaign. Meetings were conducted with local authorities to impress upon

- D) USE OF EMERGENCY LIGHTING BOX.
- E) USE OF FIRE EXTINGUISHER.
- 7. DURING ON RUN SURPRISE CHECKS TO BE CONDUCTED THAT ON DUTY GUARDS NOT TAKING ALCOHOL/SEDATIVES ETC.
- 8. PROPER CARE SHOULD BE TAKEN FOR PREPARING OF GDR WHEN REQUIRED.
- 9. ENSURE TIMELY COMMUNICATING OF CLEARING OF SPEED RESTRICTION ZONES AND LOOP LINES WITH LP/ALP

Sd/-
PCSO NFR





SECTION - III

N.F.RAILWAY

NO. T/308/50/S-2/2019 (.)

22.05.2019

DRM / KIR, APDJ, RNY, LMG & TSK

SUB:- SAFETY DRIVE FOR MONITORING WORKING OF GUARDS BOTH GOODS AND MAIL/PAS SENDER(SAFETY DRIVE : S-2)

A. COMPREHENSIVE AND INTENSIVE SAFETY DRIVE SHOULD BE LAUNCHED FOR A PERIOD OF 15 DAYS WITH EFFECT FROM 24/05/2019 TO 07/06.2019 INVOLVING OFFICERS AND INSPECTORS (.) DURING THE DRIVE SPECIAL EMPHASIS SHOULD BE GIVEN TO THE FOLLOWING ASPECTS:-

1. CHECK STATUS OF PRESSURE GAUGE IN GOODS BRAKE VAN AND AVAILABILITY OF PRESSURE GAUGE AND ADAPTOR WITH GUARD.
2. CHECK AVAILABILITY OF SAFETY EQUIPMENTS IN BRAKE VAN/SLR INCLUDING STRETCHER & ARM BAND.
3. ENSURE EXCHANGE OF ALL RIGHT SIGNALS WITH CREW BEFORE STARTING OF TRAIN AND AT CURVATURES.
4. ENSURE EXCHANGE OF SIGNALS BY GUARD WITH STATION STAFF, GATEMAN DURING THROUGH PASS.
5. ENSURE WHETHER GUARD IS ATTENDING TIMELY FOR TAKING OVER CHARGE OF TRAIN AS PER G&SR.
6. CHECK PRACTICAL KNOWLEDGE OF GUARD REGARDING-
 - A) USE OF HAND BRAKES BY GUARD WHEN REQUIRED.
 - B) WHETHER HAND BRAKES ARE IN WORKING CONDITION OR NOT.
 - C) USE OF PORTABLE CONTROL PHONE.

SECTION - IV

भारत सरकार (GOVERNMENT OF INDIA)
रेल मंत्रालय (MINISTRY OF RAILWAYS)
रेलवे बोर्ड (RAILWAY BOARD)

No. 2018/CE-II/CS/I

New Delhi, dated 08.02.2019

The General Managers (Engg.)- CR, ER, ECR, ECoR, NR, NCR, NER, NFR, NWR, SR, SCR, SER, SECR, SWR, WR, WCR and Metro Railway/Kolkata.

The General Manager (Const.), N.F.Railway, Guwahati.

The General Manager/CORE/Allahabad.

The CAO/Const. All Indian Railways.

FA & CAO, All Indian Railways.

The General Managers (Engg.) - ICF/Chennai, RCF/Kapurthla, DLW/Varanasi, CLW/Chittranjan, Rail Wheel Factory /Yelahanka, Bangalore & DMW/Patiala.

The Director General (Track), RDSO/Alambagh, Lucknow.

Chief Commissioner of Railway Safety, Lucknow.

Managing Director, IRCON, New Delhi.

Managing Director, RITES, New Delhi.

Managing Director, DMRC, Metro Bhawan, Barakhamba lane, New Delhi.

Managing Director, CONCOR, New Delhi.

Managing Director, RVNL, August Kranti Bhawan, Bhikaji Cama Place, New Delhi.

Managing Director, DFCCIL, Pragati Maidan, Metro Station, New Delhi.

Managing Director, PIPAVAV Railway Corp. Ltd., 14th Floor, B-Wing, Statesman House 148, Barakhamba Road, Connaught Place New Delhi Central Delhi

Managing Director, MRVC, Church Gate station Building 2nd Floor, Mumbai - 400020.

Managing Director, RLDA, IRCON Office Compound, Next to Safdarjang Rly. station, Motibagh-I, New Delhi.

Managing Director, Konkan Railway Corporation Ltd, Belapur Bhawan, Sector-11, CBD Belapur, Mumbai. Pin - 400614.

Director, IRICEN, Pune.

Director, IRIEEN, Nasik.

Director, IRISSET, Secunderabad.

Director, IRIMEE, Jamalpur.

Director, IRITM, Vill. Kanausi, Hardoi, Manik Nagar, Lucknow.

Director General, Railway Staff College, Vadodara.

Genl. Secretaries, AIRF, NFIR, IRPOF, FROA, AIRPFA, DAI (Railways) Rail Bhawan, New Delhi.

Sub: Correction Slip No. 149 to the Indian Railways Permanent Way Manual.

Ministry of Railways (Railway Board) has decided that correction/addition as indicated in the enclosed Correction Slip No.149 dated 08.02.2019, to relevant para of the IRPWM, be made.

Receipt of this letter may please be acknowledged.

(Pradeep Nagar)
Director Civil Engg.(P)
Railway Board

N.F.RAILWAY

NO. T/308/50/S-3/2019 (.)

05.06.2019

DRM / KIR, APDJ, RNY, LMG & TSK

SUB:- Railway Board's SAFETY DRIVE (SD-3) for Safe Train Operation.

Ref:- RB letter no.2019/Safety-I/3/1/dt 28.05.19

As directed by Railway Board all DRMs are directed to launch Safety Drive for a Period of 30 Days w.e.f 08/06/2019 to 07/07/2019 involving Officers and Supervisors of Engineering, Operating, Safety, S&T, Mechanical, Electrical Deptt (.) During the drive following should be covered:-

- (i) All Stations of the division (excluding D class) should be checked and All Station staff counselled regarding:
 - a. Strict adherence to GR and SR in Train working by Station staff in Granting/Obtaining line clear, setting of points and operation of signals.
 - b. Proper procedure is followed by station staff for setting, clamping & padlocking of points during failure of Block Instruments, communication, points and crossings or signals, single line working on Double line.
 - c. Proper procedure is followed for securing of vehicles at station for Drop loads etc.
 - d. Proper caution is issued by SM to LP/ALP/Guard from the Originating stations up to next notice station.
 - e. Ensure availability of All safety items at Station as per SWR and they are in working order.
 - f. Ensure that Station staffs watch through passing trains from both sides of stations for any wheel burn, flat tyres, scrabbling of rails, hot axle, hanging part, abnormal sound etc and exchange all right signal with Crew and Guard.
 - g. Ensure that train passing staff with overdue PME refresher are not booked for Duty.

- h. Ensure Breath analyser test to check that staff are not in intoxicated during duty.
- i. Ensure proper disconnection ate taken for attending/Maintaining S&T gears.
- j. Proper implementation of Monsoon patrolling.
- (ii) All Level Crossings of the division should be checked and Gateman counselled regarding -
- a. Private numbers with station master are exchanged Strictly as laid down procedure in GWI.
- b. Ensure that gateman watch through passing trains for any wheel burn, flat tyres, scrabbling of rails, hot axle, hanging part, abnormal sound etc and exchange all right signal with Guard.
- c. Proper procedure as laid down in GWI if followed by gateman during abnormal working/Unusual etc.
- d. Ensure availability of All safety items at Gates as per GWI and they are in working order.
- e. Ensure that gateman with overdue PME refresher are not booked for Duty.
- f. Ensure Breath analyser test to check that gateman are not in intoxicated during duty.
- (iii) All coaching depots sick lines, pit lines, Goods Examination yards and diesel Shed of the division should be checked for proper attention to Coaches, wagons and locomotives during maintenance. It must be ensured that under no circumstances staff should resort to short cut methods during Repair/Maintenance/Work Execution.
- (iv) Foot plating of All the Sections of the Division by Officers and Supervisors, Special emphasis be given to alertness of Station staff, Guard, Track condition, Signals visibility, Monsoon Patrolling etc.

Sd/-
(M.K.Agrawal)
PCSO/NFR

SECTION - IV

Amendment Slip No. 36 to G&SR Book, 2004 edition, N.F.Railway Dated 27.05.2019

Add the following as SR 4.42/8 at page No. 146 to G&SR Book, 2004 edition N.F.Railway:-

SR 4.42/8: When a train passes through loop line at a station, immediately after clearance of the loop line cross over points, Guard of the train must relay to the Loco Pilot of the train through Walkie-Talkie the position about clearance of loop line cross over points to enable Loco Pilot to pick up the sectional speed.


No. T/104/O/R/Pl.III(G&SR)


(Ravinder Goyal)
Pr.Chief Operations Manager
N.F.Railway, Maligaon
Dated: 27/05/2019

Copy forwarded to :-

- i) All DRMs – KIR , APDJ , LMG , RNY & TSK for information & compliance please .
- ii) All Sr.DOM/DOMs , Sr.DSO/DSOs, Sr.DENs, Sr.DSTEs/KIR,APDJ,RNY,LMG,TSK for n/a and compliance please .
- iii) Secy to PCOM for kind information to PCOM/MLG.
- iv) All PHODs – Pr.CE , PCME , PCSTE , PCEE , PCSO , PCCM , PCPO , PCSC , CE/CON , FA&CAO for kind information please.
- v) All HODS –CFTM , CTPM , CTE , CMPE , CRSE , CBE , CSE , CGE for information please .
- vi) Dy.COM/Goods, Dy.COM/Chg, Dy.COM/PL and Dy.COM/CON/MLG for information please .
- vii) Principals – ZRTI/APDJ , STI/NBQ, MDTC/RNY for necessary action please
- viii) GM/Hindi for translation of the above A/Slip into Hindi version for publication in the Gazette notification and to incorporate the A/Slip No.25 to the Hindi G&SR , 2008 edition.

No. T/104/O/R/Pl.III(G&SR)


for Pr. Chief Operations Manager
N.F.Railway , Maligaon -
Dated : 27/05/2019 .

607(1) Maintenance Limits for Alignment and Unevenness parameters –Track shall be categorized under following three categories for planning and maintenance of alignment and unevenness, based on TRC results:

- (i) Track requiring planned maintenance
- (ii) Track requiring need based maintenance
- (iii) Track requiring urgent maintenance

Planned Maintenance Limit (PML) - These tolerances provide track maintainer a guidance to plan through maintenance of track in a complete block section. These limits, if exceeded, require that track geometry condition be analyzed and considered for planned maintenance operations. Planned Maintenance Limits are based on SD values of Unevenness and Alignment, as these parameters affect Ride quality.

Need Based Maintenance Limit (NBML)—These limits are for applying timely correction before the defect size grows to the level of 'Urgent Maintenance Limit (UML)', requiring traffic slow down. Allowable time for attention to defects exceeding the NBML would depend upon the magnitude of the defect and various factors affecting track geometry deterioration such as sectional speed, axle load, traffic volume, etc.

Urgent Maintenance Limits (UML)—These are laid in terms of acceleration limits on comfort consideration. The permitted speed should be slowed down and restored only after attending the track, wherever acceleration peaks exceed Urgent Maintenance Limits (UML).

607 (2) Various Limits for Alignment and Unevenness are stipulated as below:

(a) Planned Maintenance Limits(PML) – SD values:

Parameter	Speed up to 100 Kmph	Speed above 100 kmph and up to 110 kmph	Speed above 110 kmph and up to 130 kmph	Speed above 130 kmph and up to 160 kmph
UN-1	5.0 mm	3.8 mm	3.3 mm	2.9 mm
UN-2	-	5.4 mm	5.1 mm	4.4 mm
AL-1	3.3 mm	2.5 mm	2.5 mm	1.9 mm
AL-2	-	4.1 mm	3.5 mm	2.5 mm

Note : Peak based limits are not stipulated for unevenness and alignment for planned maintenance as planned maintenance is to be carried out by track machines based on standard deviation values.

INDIAN RAILWAYS PERMANENT WAY MANUAL

CORRECTION SLIP NO. 149 DATED 08-02-2019

1. Existing Para 316(2) shall be replaced with the following:

(2) As a good practice, the laying standards of track geometry (as shown on the next page) during primary renewals should be achieved (Track laid with new materials). Track geometry will be recorded three months after the speed is raised to normal – (see on page 122)

2(a) For BG and MG, to be measured in floating condition:

Gauge	Sleeper to Sleeper variation	2 mm
Expansion gap	Over average gap worked out by recording 20 successive gaps	± 2mm
Joints	Low joints not permitted	
	High joints not more than	± 2mm
	Squareness of joints on straight	± 10mm
Spacing of sleepers	With respect to theoretical spacing	± 20mm
Cross level	To be recorded on every 4 th sleeper	± 3mm
Alignment	On straight on 10m Chord	± 2mm
	Variation over theoretical versines on curves of radius more than 600 m (On 20 m chord)	5 mm
	Variation over theoretical versines on curves of radius less than 600 m (On 20 m chord)	10 mm
Longitudinal level	Variation with reference to approved longitudinal sections	50 mm

2 (b) Standard Deviation and Peak based limits for unevenness and alignment for BG as measured by TRC, shall be as under:

(i) SD Based

SN	Parameter	Speed up to 100 Kmph	Speed above 100 kmph and up to 160 kmph
1.	UN-1	2.0 mm	1.4 mm
2.	UN-2	-	1.9 mm
3.	AL-1	1.4 mm	1.1 mm
4.	AL-2	-	1.3 mm

(ii) Peak based

SN	Parameter	Speed up to 100 Kmph	Speed above 100kmph and up to 160 kmph
1.	UN-1	6.0 mm	4.0 mm
2.	UN-2	-	6.0 mm
3.	AL-1	4.0 mm	3.0 mm
4.	AL-2	-	4.0 mm

Note: (i) Refer Para 604(3) for chord lengths relevant for UN1, UN2, AL1 and AL2.

(ii) The limits for alignment are variation from the design versine for curves.

2. Existing Chapter VI - TRACK RECORDING, ANALYSIS AND MONITORING shall be replaced with the following:

Chapter VI

TRACK RECORDING, ANALYSIS AND MONITORING

601. Introduction - Inspection by foot, trolleys, locomotives, and rear vehicles enable the Permanent Way staff to carry out assessment of the quality of track. These inspections, though important, are qualitative and enable assessment based on individual experience. Objective assessment of track is done by track recording cars, Oscillograph cars and Oscillation Monitoring System.

602. Track Recording Equipment - Following track recording equipments are in use on Indian Railways at present:

- (1) Track Recording Cars.
- (2) Oscillograph Car.
- (3) Oscillation Monitoring System

603. Track Recording Car - Two types of track recording cars are currently in use in Indian Railways, one with contact type gauge sensors and other with contactless laser based sensors. Both types of TRCs are based on inertial principle of track measurements and it is possible to have discrete values of track geometry parameters on selected sampling interval, under loaded condition. (See Para 604(4)).

604. Measurement by Track Recording Cars -

(1) Both types of TRCs as mentioned under para 603 have the ability to measure Track geometry parameters on two user selectable chords in the range of 2 to 20 meter. One chord is termed as short chord while the other is termed as long chord denoted by suffix 1 & 2 respectively (See Para 604 (3)). Contact type sensors are fixed on measuring frame mounted on the axles of rear bogie of TRC. LASER based contactless sensors are mounted on a sensor beam welded on the rear bogie of the Coach

(2) Parameters Measured

- Unevenness of Left & Right Rail (on two user selectable chords)
- Alignment of Left & Right Rail (on two user selectable chords)
- Twist (calculated on two user selectable bases)
- Variation of gauge (on 50 meter moving average) and/or variation of gauge over nominal gauge
- Vertical and lateral accelerations on coach floor above bogie pivot
- Curve details
- Speed of Recording

(3) Short and Long chords for track parameters are as under:

SN	Parameter	Short Chord / Base	Long Chord/Base
1	Unevenness	9.0 Metre (UN-1)	18.0 Metre (UN-2)
2	Alignment	9.0 Metre (AL-1)	15.0 Metre (AL-2)
3	Twist	3.0 Metre (TW-1)	15.0 Metre (TW-2)

(4) **Inertial Principle Used in TRCs** - TRC measures lateral and vertical accelerations with the help of accelerometers placed at coach floor/bogie frame. The acceleration values obtained are integrated twice to get loci of the location of accelerometers. The relative displacements between rail and accelerometer locations are obtained from displacement transducers (LVDT)/ LASER based contactless sensors. The loci of accelerometers are combined with relative displacement obtained from sensors to derive the vertical and lateral profile of the rail. These measurements are further corrected for roll and yaw motion of coach using gyroscopes.

605. Reporting of TRC results - Details required to be reported in exception reports being generated by TRC for each block of 200 Metre and for each kilometer:

(a) Details for every block of 200 Meter

- Standard Deviation value of Unevenness of Left & Right Rail on two user selectable chords
- Standard Deviation value of Alignment of Left & Right Rail on two user selectable chords
- Average speed for 200 metre block
- Parameter Index for Unevenness (UI), Alignment (AI)
- Track Quality Index (TQI)
- Maintenance Instructions corresponding to Unevenness and Alignment over PML and NBML
- Vertical and Lateral Ride Index
- Average gauge of block over nominal gauge (1676 mm)

(b) Results reported for whole Kilometer

- Number of peaks above Need Based Maintenance Limits (Para 607 (2)(b)) on long chord and short chord
- 10 highest peak values of each parameter with location on long and short chord as obtained from measured worst peaks in each 50 m block of a kilometer.
- 10 highest peak values of vertical and lateral accelerations exceeding Urgent Maintenance Limits (Para 607 (2)) with location
- Vertical and lateral accelerations with location taken from the one measured worst peak in each 50 m block
- TQI and Average Speed
- Vertical and Lateral Ride Index

606. Frequency of Track recording - Track geometry monitoring of Metre Gauge routes is not being done by track recording car. Broad Gauge routes should be monitored by TRC as per the following frequencies (except for the routes where track recording has been dispensed with):-

i) Routes with speeds above 130 kmph	- Once in 2 months
ii) Routes with existing speeds above 110 kmph and upto 130 kmph.	- Once in 3 months
iii) Routes with existing speeds above 100 kmph and upto 110 kmph.	- Once in 4 months
iv) Routes with existing speeds up to 100 kmph	- Once in 6 months

Special attention should be paid by the maintenance units to the places where magnitude of irregularities is high and where the defect locations are reappearing in successive recording runs.

611. Oscillograph Car :

(1) Brief Description of the Car-The main equipment in this car is an accelerometer. The acceleration is recorded in the form of digital data recording. Thus, the vertical and lateral accelerations on any part of the vehicle where the accelerometer is installed can be recorded. In track monitoring runs, accelerations at the vehicle floor level are recorded by keeping the accelerometer as close to the bogie pivot as possible.

(2) Details of recording- The following parameters are recorded in the oscillograph car runs-

- a. Vertical acceleration
- b. Lateral acceleration.

(3) Frequency of Recording - Oscillograph cars are used to monitor riding quality of track as distinct from actual track geometry recorded by Track Recording Cars. Recording is done at Maximum sanctioned speed of the section. The frequency of recording shall be as under:

- (i) On routes having speed above 110 kmph and up to 130 kmph – once in 6 months
- (ii) On routes having speed above 130 kmph and up to 160 kmph – once in 4 months

612. Analysis of Oscillograph Car data and interpretation of results –

(1) Data obtained from the oscillograph car is analyzed for vertical and lateral acceleration.

(2) Vertical and lateral accelerations above the threshold values are separately counted. Threshold value of acceleration may be taken as follows:-

- (i) Loco Cab floor- Threshold value of acceleration in vertical mode is taken as 0.20 g for all locos (Diesel and Electric).

Threshold value of acceleration in lateral mode is taken as 0.20g for diesel and electric locos with double stage suspension.

In case of locos with single stage suspension, threshold value may be taken as 0.30g both for lateral and vertical acceleration.

- (ii) Passenger Coach Floor -Threshold value of acceleration for both vertical and lateral modes shall be taken as 0.15g.

- (iii) Analysis is done km wise and results are given under the following heads, on the basis of the peaks counted above threshold values for a particular locomotive:

- Station Yards
- Other than Station Yards (Isolated locations)
- Active continuous stretches
- Speed grouping table is also prepared.

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(b) Need Based Maintenance Limits (NBML) :

(i) SD and peak based values:

Speeds upto 100 kmph

Parameter	SD Value (mm)	Peak Value (mm)
UN-1	6.8	20
UN-2	-	-
AL-1	4.9	15
AL-2	-	-

Speeds above 100 kmph and upto 110 kmph

Parameter	SD Value (mm)	Peak Value (mm)
UN-1	5.5	17
UN-2	7.5	23
AL-1	3.9	12
AL-2	6.7	20

Speeds above 110 kmph and upto 130 kmph

Parameter	SD Value (mm)	Peak Value (mm)
UN-1	4.9	15
UN-2	7.4	22
AL-1	3.6	11
AL-2	5.3	16

Speed above 130 kmph and upto 160 kmph

Parameter	SD Value (mm)	Peak Value (mm)
UN-1	4.4	13
UN-2	6.6	20
AL-1	3.6	11
AL-2	4.9	15

Note: Limits for alignment are variation from average versine for curves. Instructions regarding maintenance/realignment of curves stipulated under Para 421 shall remain applicable.

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(c) Urgent Maintenance Limits:

Speed Band	Lateral and vertical acceleration peak
Upto 100 kmph	0.30g
Speed above 100 kmph and upto 110 kmph	0.30g
Speed above 110 kmph and upto 130 kmph	0.25g
Speed above 130kmph and upto 160 kmph	0.20g

Note: The permitted speed should be reduced to a suitable lower speed level keeping in view the aforesaid criteria.

607(3) Gauge and Twist: Limits of the Twist and Gauge for guidance of Engineering officials for planning the need based maintenance on the suitability (riding quality for passenger comfort) are as under:

(a) Gauge variations: The limits for tight and slack gauge should be followed as indicated in Para 224(2)(e)(v) as a good practice.

(b) Twist:

- On straight and curve track, other than on transitions –Generally within 2mm/metre and upto 3.5mm/metre on isolated locations**.
- On transitions of curves - Local defects should not exceed 1mm/metre and upto 2.1 mm per metre on isolated locations**.

** 'Isolated locations' shall not exceed 10 per km.

Note: Twist to be measured on a base chord of 3.5 m.

607(4) The stability of train against derailment depends upon on several factors such as track geometry, vehicle characteristics & state of their maintenance and speed of the particular vehicle at relevant point of time etc. Rail wheel interaction is thus, a complex phenomenon and therefore, safety tolerance for track alone cannot be prescribed in isolation. Accordingly, safety tolerances for maintenance of track have not been prescribed on Indian Railways. Each derailment case, therefore, needs careful examination of all available evidences, in respect of track, rolling stock, speed and other factors considered relevant, to arrive at the cause. The provisions and tolerances mentioned in Para 607 (2) and 607(3) and elsewhere in this manual are with a view to maintain track geometry for good riding comfort.

607(5) Following track parameters for guidance of field officials are stipulated for maintenance of track where speeds are low such as worksites, yard lines, etc:

Speed Band (in kmph)	Peak value of UN in mm at 3.6 m chord	Peak value of Twist in mm at 3.6 m chord	Permissible Gauge range
45	22	22	-10 to +27 mm
30	24	25	-10 to +27 mm
15	33	30	-12 to +27 mm

608. Arrangements for running track recording car –Monthly program for running of TRCs on various zonal railways are issued by RDSO, well in advance. On receipt of program from RDSO, Zonal railways will arrange for suitable power, crew, consumables, and path to ensure that the Track Recording Car has an uninterrupted run. ADENs & SSEs headquartered at originating/halting stations will coordinate for proper placement, watering, charging and other assistance to RDSO Special.

Following officials should accompany the TRC run :

For Group 'A' Route

Zonal Railway headquarter- A SAG/JAG Officer nominated by PCE/CTE
Division- Sectional Sr. DEN/DEN, ADEN and SSE

Other than Group 'A' routes

Railway- An officer from the Track Cell not below SS/JA Grade
Division- Sectional Sr. DEN/DEN, ADEN and SSE

Sectional Sr. DEN/DEN shall ensure proper liaison in the Control office for suitable path and monitoring of the special.

609. Actual running of Track Recording Car –Maximum recording speed of contact sensor based TRC is 100 Kmph and of LASER contact less sensors based TRC is 160 Kmph. Measurement of Track parameter recording is independent of speed above a minimum speed of 20 Kmph. However, zonal railway officials should ensure that the Track Recording Cars are run at the maximum speed of Section/TRC. The recording done below minimum speeds of 20 Kmph is taken as "Non-recorded". The track recording car specials must have a through run over the section between two major stations and run on through lines at all stations. Recording should be done during day light hours. Before start of any run, it should be ensured that calibration of the system has been done satisfactorily. The printout of TRC results being printed after completion of each kilometer should be taken by the P. Way staff after day's run for record for taking maintenance action.

610. Action to be taken on Track Recording Results –Spots/blocks requiring attention as per parameter limits, and acceleration peak limits set as UML under para 607(2)& 607(3) should be noted by the ADEN and SSE accompanying the car and requisite attention should be given to these spots/blocks. Track Recording results should be analyzed in the Divisional Office. A comparison of the records of each section shall be made with the previous run. Analysis shall be done for identifying the locations needing attention for onward transmission to concerned maintenance units.

भारत सरकार (GOVERNMENT OF INDIA)
रेल मंत्रालय (MINISTRY OF RAILWAYS)
रेलवे बोर्ड (RAILWAY BOARD)

No. 2013/CE-II/CS/2

New Delhi, dt. 14.11.2014.

The General Managers (Engg.)-CR, ER, ECR, ECoR, NR, NCR, NER, NFR, NWR, SR, SCR, SER, SECR, SWR, WR, WCR and Metro Railway/Kolkata.

The General Manager (Const.), N.F.Railway, Guwahati.

The CAO/Const. All Indian Railways.

FA & CAO, All Indian Railways.

The General Managers (Engg.) – ICF/Chennai, RCF/Kapurthla, DI.W/Varanasi, CLW/Chittranjan, W&AP/Yelahanka, Bangalore & DMW/Patiala.

The Director General (Track), RDSO/Alambagh, Lucknow.

Chief Commissioner of Railway Safety, Lucknow.

Managing Director, IRCON, New Delhi.

Managing Director, RITES, New Delhi.

Managing Director, DMRC, Metro Bhawan, Barakhamba lane, New Delhi.

Managing Director, CONCOR, New Delhi.

Managing Director, RVNL, August Kranti Bhawan, Bhikaji Cama Place, New Delhi.

Managing Director, DFCCIL, Pragati Maidan, Metro station, New Delhi.

Managing Director, PIPAVAV Railway Corp. Ltd., 1st Floor Jeeven Tara Building, Gate No.4, Parliament Street, New Delhi.

Managing Director, MRVC, Church Gate station Building 2nd Floor, Mumbai – 400020.

Managing Director, RLDA, IRCON Office Compound, Next to Safdarjang Rly. station, Motibagh-I, New Delhi.

Managing Director, Konkan Railway Corporation Ltd, Belapur Bhawan, Sector-11, CBD

Belapur, Mumbai. Pin - 400614.

Director, IRICEN, Pune-411001.

Director, IRIEN, Nasik.

Director, IRISSET, Secunderabad.

Director, IRIMEE, Jamalpur.

Director, IRITM, Vill. Kanausi, Hardoi, Manik Nagar, Lucknow.

Director General, National Academy of Indian Railways, Vadodara.

Genl. Secretaries, AIRF, NFIR, IRPOF, FROA, AIRPFA, DAI (Railways) Rail Bhawan, New Delhi.

Sub: Advance Correction Slip No.136 to the Indian Railways Permanent Way Manual.

Ministry of Railways (Railway Board) has decided that correction/addition as indicated in the enclosed Advance Correction Slip No.136 dated 14.11.2014, to relevant para of the IRPWM, be made.

Receipt of this letter may please be acknowledged.


(Pankaj Tyagi)
Director Civil Engg.(P),
Railway Board.

Typical Statement prepared in connection with an Oscillograph run are given below (Statement 'A' to 'C') –

STATEMENT 'A'

Oscillograph Results (Para 612)

Total length of Section : 232 Kms.

Length recorded : 185 Kms.

Date of recording : 22nd March 2018

Section : BBQ—KZJ.

Loco No.....

Type of Loco.....

Station Yards (Peaks above Threshold values)

S I No.	Name of Yard and Location	Speed in Km. p. h.	Vertical acceleration	Lateral acceleration	Remarks
1	SRUR FP-2	100	..	0.26	
2	MCI TP-1 TP-2	100 100	0.22 0.22	..	
3	PPZ FP-1 FP-2	100 105	0.20 -0.20	
4	BGSF 324/10-11	110	..	0.22	
5	OPL 343/5-6	100	0.26	..	
6	HSP TP-1	100	0.20	..	


18/11/2019

STATEMENT ' B '

Date of recording : 22nd March 2018

Section : BPQ—KZJ (Km 367-Km. 135)

Loco No.

Length recorded: 185 Km.

Type of Loco.

Total length: 232 Km.

Oscillograph Results in Places other than Station Yards

Isolated Locations (Peaks above Threshold value)

S I. No.	Location	Speed in K.m. p. h.	Vertical acceleration	Lateral acceleration	Remarks
1	146/1-2 ...	100	..	0.28	Curve.
2	148/15-16	110	..	0.28	Br.
3	149/7-8 ...	110	0.28	..	Br.
4	149/7-8 ...	110	0.35	..	
5	151/8-9 ...	110	..	0.24	Curve
6	151/8-9 ...	110	..	0.32	
7	151/11-12...	105	..	0.24	
8	160/7-8 ...	110	..	0.22	
9	164/9-10 ...	110	0.24	..	
10	168/1-2 ...	100	and so on.	0.30	

STATEMENT ' C '

Date of recording : 22nd March 2018

Section : BPQ—KZJ (Km. 135-Km. 367)

Loco No.

Length recorded : 185Km.

Type of Loco.

Total length : 232Km.

OSCILLOGRAPH RESULTS

Active Continuous Stretches

Sl. No.	Kms.		Distance in Km.	Speed in Km.p.h.	Active in mode	Total No of peaks above 0.20'g.	Maximum value	No. of peaks between 0.20g. 0.35g.	No. of peaks above 0.25g.	Remarks
	From	To								
						Nil				

Note – If there are on an average more than 10 peaks above the threshold value per km., the length may be included in this statement.

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613. Use of Oscillograph Car recordings -

(1) Threshold values of acceleration are given in Para 612(2). Track should be attended to at all such locations where peaks above threshold values are reported so as to ensure good riding.

(2) Efforts should be made not only to check the extent of defect but also to find out whether it is occurring in an active patch (defined as per Statement A, B and C of Oscillograph Results (para 612); as it may lead to excessive oscillations.

614. Oscillation monitoring System-

(1) General- OMS equipments are used for Oscillation monitoring by using a portable accelerometer and transducers converting the oscillations to electrical signals which can be recorded electronically and processed on PC.

(2) Operation- OMS equipment is kept in the cabin of locomotive or on the coach floor, as close to the bogie pivots as possible. It is preferable that same coach and the same vehicular position are used in successive runs. The accelerations are transferred to electronic recorder and are readable on the LCD display on real time basis. The stored data can be transferred to TMS Computer for maintenance planning.

This equipment measures the track performance by measurement of vehicles response in terms of vertical and lateral accelerations. The real time output of the equipment is in the form of value of peaks exceeding the limiting value, their location and Ride index. These values are available for both vertical and lateral accelerations.

(3) Frequency of Recording-

A) Broad Gauge-

Speed above 100 Km/h- Once every month
Others- Once in two months

B) Meter Gauge-

Speed above 75 Km/h-Once every month
Others-Once in two months

(4) Recording of Defects- To assess the track quality, vertical and lateral acceleration peaks exceeding the values as below, are to be considered.

Broad Gauge :

Routes above 110 Km/h on A & B routes- Greater than 0.15 g.

Other routes up to 110 km/h- Greater than 0.2 g.

Meter Gauge : Greater than 0.2 g.

(5) Classification of Track Quality- Following criteria is to be used (average total number of peaks per km) to classify a continuous section for track quality (SSE/ Pway's jurisdiction/ Subdivision/ division) :

	Very Good	Good	Average
Speed above 110 km/h	Less than 1.0	1-2	Greater than 2
Others	Less than 1.5	1.5-3.0	Greater than 3

The above criteria are for only judging the quality of track.

(6) Action shall be taken in accordance to Para 607 (2) for attention to track.

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9. Existing Para 804 of Indian Railways Permanent Way Manual shall be replaced with the following:

Para 804. Works which obstruct the line:

(1) **Precautions before commencing operations which would obstruct the line** - No person employed on the way, works or bridges shall change or turn a rail, disconnect points or signals or commence any other operation which would obstruct the line without obtaining the written permission of the Station Master who shall ensure that all necessary signals have been placed at 'ON'. In addition, the employee mentioned above shall also ensure that the necessary stop signals like banner flags and detonators and hand signal flags have also been placed/exhibited at the prescribed locations as per **Para 806**.

Provided further that in emergent cases the persons undertaking such operations shall first bring the train to stop as stipulated in Para 812 and advise the driver of the train about the need to stop the train through a written memo. The railway servant shall simultaneously arrange to send a message to the Station Master for the need to block the track as per para 810 and obtain written confirmation of the same. The work which may lead to obstruction to the track shall however be done only during the traffic block, the written confirmation for which shall be obtained from the concerned Station Master. On completion of the work again the authorized railway servant shall advise the driver through a written memo to proceed at the prescribed speed.

(2) **Works requiring complete block protection** - The following category of works will necessarily require completed block protection:

- (i) Category of works where track is required to be occupied:
 - (a) Working of on-track machines
 - (b) Working of material trains or girder specials
 - (c) Working of dip-lorries
 - (d) Working of motor trollies
 - (e) Working of push trolley in heavily graded sections.
 - (f) Working of push trolley in sections where visibility is obstructed
 - (g) Push trolley in long tunnels.
- (ii) Works where discontinuity in track is created or such conditions are created which may result in discontinuity or obstruction to running track:
 - (a) Through rail renewal
 - (b) Casual replacement of rail
 - (c) Replacement of SEJs or replacement of buffer rails with SEJs
 - (d) Insertion or replacement of glued joints
 - (e) Temporary/Permanent repairs of rail fractures
 - (f) Temporary/Permanent repairs of rail to buckling
 - (g) Replacement of switch/crossing or any part of turnouts
 - (h) De-stressing of LWRs
 - (i) in- situ welding of rails
 - (j) End cropping and welding
 - (k) Through renewal of bridge sleeper
 - (l) Replacement of girders with slabs

INDIAN RAILWAYS PERMANENT WAY MANUAL
ADVANCE CORRECTION SLIP No. 136 dated 14.11.2014

1. The existing Para 237(8) (b) of Indian Railways Permanent Way Manual shall be replaced with the following:

Para 237(8)(b) – If gauge of track adjoining the points and crossings is maintained wider/tighter than the gauge on the points and crossings, the gauge on the adjoining track should be brought gradually to same gauge as in the points and crossings as a good maintenance practice.

2. The existing Para 279 of Indian Railways Permanent Way Manual shall be replaced as under:

Para 279. Provision and maintenance of signalling fixtures in track:

(1) Provision of signalling fixtures in track:

- (a) No signal fixtures / installation which interfere with maintenance of track should be provided on track unless the approval for same is available from Track Directorate of RDSO or Railway Board.
- (b) S&T Department shall provide adequate number of personnel for opening of signal rod, gears etc. to facilitate mechanized track maintenance.

(2) Precautions to be taken while working in Track Circuited Area:

- (a) The Permanent Way Inspector should instruct the staff not to place across or touching two rails in the track, any tool or metal object which may cause short circuiting.
- (b) All gauges, levels, trolleys and Lorries used in the track circuited length should be insulated.
- (c) Steel or C.I. pipes used for carrying water /gas under the track should be run sufficiently below the rails to prevent any short circuiting.
- (d) While carrying out the track maintenance, care should be taken to see that no damage of track circuit fittings like rail bonding wires, lead wires to rails, boot leg, jumper wires etc., takes place.
- (e) Use of steel tapes should be avoided in track circuited section.
- (f) Pulling back of rails should be done in track circuited areas in the presence of S&T staff, where signaling connections are involved.
- (g) Proper drainage should be ensured so as to avoid flooding of track, during rains, particularly in yards, where watering of coaches is done and in water columns and ashpits. It would be desirable to provide washable concrete aprons on platform lines at originating stations, in track circuited areas.
- (h) Ballast must be kept clean throughout the track circuited section and care should be taken to see that minimum ballast resistance per kilometer of track should not be less than 2 ohms per km in station yard and 4 ohms per km in the block section as per Signal Engineering Manual Para 17.28. Wherever, PSC sleepers are used, availability of insulated liners upto a minimum level of 97% shall be ensured.

3. The existing Para 406(2) (a) of Indian Railways Permanent Way Manual shall be replaced with the following :

- (2) Cant Deficiency- Maximum value of cant deficiency-
 (a) On routes with track maintained 100 mm.
 to C&M-I, Vol-I standard for
 nominated rolling stock with
 permission of Principal Chief Engineer.

4. The existing para 421 of Indian Railways Permanent Way Manual shall be replaced by the following:-

Para 421. Criteria for realignment of a curve –

(1) When as a result of inspection by trolley or locomotive or by carriage or as a result of Track Recording carried out, the running on a curve is found to be unsatisfactory the curve should be realigned.

(2) The running over a curve depends not only on the difference between the actual versine and the designed versine but also on the station to station variation of the actual versine values. This is because, it is the station to station variation of versine which determines the rate of change of lateral acceleration, on which depends the riding comfort.

Service limit for station to station versine variation for 3 speed group viz, Below 140 kmph and upto 110 kmph, Below 110 kmph and upto 50 kmph and below 50 kmph, should be considered as tabulated below:

S. No.	Speed on curve	Limits of station to station variation of versine (mm).
1	Below 140 kmph and upto 110 kmph	10 mm (15 mm for speed of 110 kmph) or 20% of average versine on circular portion, whichever is more.
2	Below 110 kmph and upto 50 kmph	20 mm or 20% of average versine on circular portion, whichever is more.
3	Below 50 kmph	40 mm or 20% of average versine on circular portion, whichever is more.

In case exceedence of the above limit is observed during inspection, local adjustment may be resorted to in cases where the variation of versine between adjacent stations is only at few locations, at the earliest possible. If more than 20% stations are having versine variations above the limits prescribed, complete realignment of curve should be planned within a month.

5. The existing Para 427(2) of Indian Railways Permanent Way Manual shall be replaced with the following:

Para 427(2): Track mounted automatic Gauge Face Lubricators should be provided on curves of radius 875m (2⁰) and sharper on broad gauge and of radius 300 m and less on meter gauge to reduce rail gauge face wear.

On routes where rail grinding is in practice, Track mounted automatic Gauge Face Lubricators should be provided on curves of radius 1400m (1.25⁰) and sharper on Broad Gauge. While deciding the location of lubricators, following should be considered:-

- (a) It is located on tangent track at the beginning of transition curve where wheel flanging is just beginning to occur. On single lines, the lubricator shall be located in the direction of heaviest traffic.
 (b) Lubricators should be located away from switches, crossings and other areas where discontinuity in LWR track may exist.

6. The existing Para 502(1) of Indian Railways Permanent Way Manual shall be replaced with the following:

Para 502(1)- Alumino Thermic Welding of rails may be carried out in accordance with the detailed procedure laid down in the 'Manual for Fusion Welding of Rails by Alumino Thermit Process'. A thermit weld done in-situ shall be joggled fish-plated with two clamps and supported on wooden blocks till tested as good by USFD.

7. The existing Para 708(1) of Indian Railways Permanent Way Manual shall be modified by incorporating a note below para as under:

Note:- The maintenance tolerances given in different Para of IRPWM are for mainline track only on consideration of comfort and not for yard lines and other lines having low speed potentials.

8. The Annexure-7/2 Part-B of Para 708 (1) of Indian Railways Permanent Way Manual shall be replaced by following:

ANNEXURE-7/2 Contd... PARA 708 (1)

**PART - B
Track Measurements**

Station No.	Distance apart in metres	Gauge slack or tight from the exact (mm.)	Cross Level (mm.) Under no load condition	Marks sleepers or rail top	Grinding or rubbing marks on rails
1	2	3	4	5	6

Examination of alignment for perceptible kinds of track distortion in the vicinity of the point of derailment	Subsidence of track	Versine in mm.		Remarks regarding length of transition, degree of curve and specified superelevation general alignment etc.	Longitudinal level to be recorded in the case of M. G. and N. G. in case of sags and curves
		On 20 M. or 10 M. chord depending on practice prevalent on the Railway for flat curves more than 600 M. radius	On 10 M. or such shorter Chords as considered necessary for sharp curves (less than 600 M. radius on B. G. and M. G.)		
7	8	9	10	11	12

SECTION - VII

HONOURABLE MENTION

GM SAFETY AWARD FOR THE MONTH OF APRIL-2019

SN	Name	Designation	Citation
1.		Pawan Kumar Sah Tech-III/C&W KIR	On 15.04.19 while doing rolling in examination detected "Inner and outer coil spring missing in rear trolley RHS of wagon no. 33018522864 WR/BCN HL of train No- Dn NCB FG. He immediately informed on duty SSE/C&W/KIR. The said wagon was checked and found unsafe for run and marked sick and detached. Due to his alertness a probable mishap was averted.
2		Kakan Sarkar LP/Goods APDJ at NJP	On 02.04.19, while working Dn BCNHL Empty Stock and approaching Dn Home signal of New Coochbehar, he noticed smoke coming out from the pantry car of train No-12502 Up which started from NCB. He immediately showed Red hand signal to the LP & ALP of the said train. 12502 Up immediately stopped and fire was extinguished by using fire extinguisher. Due to his alertness a probable mishap was averted.
3		Amardip Kumar ALP/APDJ at NJP	On 02.04.19, while working Dn BCNHL Empty Stock and approaching Dn Home signal of New Coochbehar, he noticed smoke coming out from the pantry car of train No-12502 Up which started from NCB. He immediately showed Red hand signal to the LP & ALP of the said train. 12502 Up immediately stopped and fire was extinguished by using fire extinguisher. Due to his alertness a probable mishap was averted.
4		Kuldeep Sharma JE/C&W NBQ	On 14.04.2019, while supervising the rolling in – rolling out examination at NBQ station noticed smoke coming out and hanging parts in coach no. NF/GSCN 01249 of train No 15601 up. He immediately checked and found that both trolley were in brake binding condition and brake beam pin of coach no.13027/NFFCWAL was deficient. He released brake binding and brake beam rectified. Due to his alertness a probable mishap was averted.

- (m) Removal of rail from track for any purpose
- (n) Renewal of sleeper on important and major bridges.
- (o) Changing of guard rails on important and major bridges.

Note: (1) Some of the works listed above may also necessitate mandatory imposition of speed restrictions.

(2) The list of works indicated above is indicative only and other works may also be required to be done under block protection based on site specific conditions as decided by P. Way officials.

10. The existing Para 824 of Indian Railways Permanent Way Manual-2004 shall be replaced with the following:

Para 824. Warning signal- Descriptions - The signals to be used to warn the incoming train of an obstruction shall be a red flashing hand signal lamp at night or red flag during day as per Para 3.65 of General Rules.

11. The existing Para 825 of Indian Railways Permanent Way Manual shall be replaced with the following:

Para 825. Use of warning signals – When it becomes necessary to protect an obstruction in a Block section, a warning signal may be used, as prescribed under Para 3.66 of GR, while the railway servant proceeds to place detonators. A warning signal is to be shown to give timely warning to a driver of approaching train of any obstruction such as derailed train obstructing adjacent lines, breaches, wash away, floods, landslides etc., when the railway servant does not have adequate time to do the protection in the normal manner with the detonators as envisaged under rules. The knowledge and possession of warning signals shall be ensured by every railway servant concerned with the use of warning signals as stipulated in Para 3.67 of GR.

12. The existing Para 910(y) of Indian Railways Permanent Way Manual shall be replaced with the following:

Para 910(y) - Gatemen working on double line/ multiple lines, ghats, suburban and automatic block territories shall be provided with three warning signals as prescribed in Para 824. Gatemen working on single line sections shall be supplied with one warning signal.

13. The existing Para 1007(1) (i) of Indian Railways Permanent Way Manual shall be replaced with the following:

Para 1007(1)(i) - Three warning signals as prescribed in para 824 on double/ multiple lines, ghats, suburban and automatic block territories and one warning signal on single line sections.

SECTION - VI

LESSON TO BE LEARNT

1. Accident ID No. 20190405001

Brief of Accident - While 12504 Dn (AGTL-BNC) Humsafar Express Loco No.13547+13129 (MU) Loco WDP4, Load=19, (Shed - KGP), was run between CBZ-KKGT, front trolley two wheels of leading loco no.13547 got derailed and dragging 100mtrs.

Accident Inquiry conducted by JAG Grade Officers

Cause of Accident :- Derailment took place due to defect in locomotive in Primary and secondary suspension system and major parameters found more than condemnation limit.

Staff held responsible: -

Primary	-	SSE/D/KGP
Secondary	-	i) Diesel Technician Gr.I , ii) Diesel Technician Gr.III

Remarks/Recommendation :-

The primary cause was found that various track parameters noted during joint observation found within permissible limits as per existent of provisions in IRPWM and also from locomotive parameters it is seen that the suspension system is dead or non-functional i.e. both primary and secondary suspension system and the load distribution which is carried by the springs is not equal at all which keeps on varying and frequently changing during movement. In this case the curve was LHS in the direction of the train movement, the springs of front trolley (SH) having its LHS springs more deflected than RHS, The RHS springs being OFF Loaded, thus the moment under dynamic condition the R value on outside front axle became near zero it climbed and derailed outside leading to the derailment secondary suspension system too being non functional added the same.

After examination of all the evidences, relevant records and examination of all the witnesses, it has come to the conclusion that the derail-

ment took place due to defects in locomotives in primary and secondary suspension system and major parameters found more than condemnation limit.

2. Accident ID No. 20190505002

Brief of Accident - While Dn BCNHL Empty Stock was on run between NJP- RNI section, 1 Wagon No.SCR-BCNHL-33091220521 (Positioned 10th from Brake Van) got derailed by front trolley both pair of wheel, at KM-4/1-2 blocking Down main line only, Up line free & no injury & no casualty to Train Crew.

Accident Inquiry conducted by JAG Grade Officers

Cause of Accident: - Derailment occurred due to over speeding of train.

Staff held responsible:	- Primary -	i) LP/G/NJP ii) ALP/NJP
	- Secondary -	- NIL

B/W: i) CYM/BG Goomty/NJP

ii) Sr.Pass. Guard/NJP wkg as DYC/NJP

iii) Sr.Goods Guard/NJP





Cost of Damage: - Engg=12,00,000/-, Mech-13200/- Total Rs.12,13,200/-

Remarks/Recommendation :-

i) The practice for run of freight train from NJP with invalid BPC should be stop at once. All the rake should be made over for examination as per Operating Manual para 2249(B)(1)(iii).

ii) LP/ALP and Guard should be counseled for more vigilant during run and ensure safe running of their train.

iii) C&W Supervisor and staff should be counseled for visual checks during creation of Air pressure and highlight the matter for any deficiency/irregularity in Rolling stock.

9		Rupiyoti Saikia LP/Msi/RPAN	On 07.05.2019 while working train No.15614 DN at 21.31 hrs he suddenly noticed an elephant running on the track ahead of the train. He applied emergency brakes and managed to stop the train just near the elephant and the loco of the train just touched the elephant at KM 326/5-4 between GOM-BGND and the elephant safely ran away from the track. Due to his alertness and timely action he saved the elephant as well as a probable mishap was averted.
10		Md. Muglay Azam ALP/RPAN	On 07.05.2019 while working train No.15614 DN at 21.31 hrs he suddenly noticed an elephant running on the track ahead of the train. He applied emergency brakes and managed to stop the train just near the elephant and the loco of the train just touched the elephant at KM 326/5-4 between GOM-BGND and the elephant safely ran away from the track. Due to his alertness and timely action he saved the elephant as well as a probable mishap was averted.
11		Prasanta Ghosh LP/G/LMG	On 02.05.2019, while working by 15612DN at 05.25 hrs he noticed a herd of elephant (about 10 Nos.) crossing the railway track at KM 180/6 between PKB - LKG. He immediately applied the emergency brake and managed to control the train just near the herd of elephant. Due to his alertness and timely action he saved the elephants as well as a probable mishap was averted.
12		G. K. Srivastava ALP/LMG	On 02.05.2019, while working by 15612DN at 05.25 hrs he noticed a herd of elephant (about 10 Nos.) crossing the railway track at KM 180/6 between PKB - LKG. He immediately applied the emergency brake and managed to control the train just near the herd of elephant. Due to his alertness and timely action he saved the elephants as well as a probable mishap was averted.


In recognition of the meritorious service and for preventing probable accidents, certificates with cash awards of Rs. 3000/- each were awarded by General Manager, N.F. Railway.

5		Bakul Chandra Daimary Tech-I/C&W NBQ	On 14.04.2019, while supervising the rolling in - rolling out examination at NBQ station noticed smoke coming out and hanging parts in coach no. NF/GSCN 01249 of train No 15601 up. He immediately checked and found that both trolley were in brake binding condition and brake beam pin of coach no.13027/NFFCWAL was deficient. He released brake binding and brake beam rectified. Due to his alertness a probable mishap was averted.
6		Jadu Nath Sarkar Tech-I/C&W NBQ	On 14.04.2019, while supervising the rolling in - rolling out examination at NBQ station noticed smoke coming out and hanging parts in coach no. NF/GSCN 01249 of train No 15601 up. He immediately checked and found that both trolley were in brake binding condition and brake beam pin of coach no.13027/NFFCWAL was deficient. He released brake binding and brake beam rectified. Due to his alertness a probable mishap was averted.
7		Subhan Ch. Baruah Sr.Tech/C&W /MXN	On 15.04.2019, while performing rolling in - rolling out examination at MXN station detected Number 8 axle box wing broken and primary spring was in hanging condition of coach No.8827 NF/GSCN of 15934 Up (Amritsar Exp). He immediately informed on duty SM and finally the coach was detached. Due to his alertness a probable mishap was averted.
8		Silu Das Tech-I/C&W MXN	On 15.04.2019, while performing rolling in - rolling out examination at MXN station detected Number 8 axle box wing broken and primary spring was in hanging condition of coach No.8827 NF/GSCN of 15934 Up (Amritsar Exp). He immediately informed on duty SM and finally the coach was detached. Due to his alertness a probable mishap was averted.

In recognition of the meritorious service and for preventing probable accidents, certificates with cash awards of Rs. 3000/- each were awarded by General Manager, N.F. Railway.

GM SAFETY AWARD FOR THE MONTH OF MAY-2019

SN	Name	Designation	Citation
1.		Birendra Kumar Shivam Helper/C&W NJP	On 04.05.2019 at 18.08 hrs during rolling out examination he detected "Rear Trolley RHS Snubber Coil broken in wagon No. 64251810955 BLC (8 th from T/Engine) of train No. UP ICDA Container. He immediately informed to on duty SSE/C&W/NJP. After checking the said wagon was found unsafe to run and marked sick. Due to his alertness a probable mishap was averted.
2		Mukesh Kumar SM/KDPR	On 11.05.2019 at about 14.25 hrs during passing of Up LMG Ballast he observed abnormal sound in 8 th wagon from brake van. He immediately informed to on duty SM/KWE and section controller/KIR. During check found 02 nos. Stud Bolt (out of 03) missing in front trolley off side of wagon No.22602 ER/BCN. C&W staff attended and repair the same. Due to his alertness a probable mishap was averted.
3		Vijay Kumar Rai TMTR/1BG/NJP	On 21.05.2019 during performing patrolling duty between NJP-RNI he detected derailed wagon No. BCNHL at KM 3/7-8 between NJP-RNI in Dn line at 01.54 hrs. He immediately showed Red Hand signal to the Guard of the train and also informed to SM/West cabin/NJP by gate phone and also SSE/P-Way/NJP. Due to his alertness a probable mishap was averted.
4		Baleshwar Sahani TMTR/1BG/NJP	On 21.05.2019 during performing patrolling duty between NJP-RNI he detected derailed wagon No. BCNHL at KM 3/7-8 between NJP-RNI in Dn line at 01.54 hrs. He immediately showed Red Hand signal to the Guard of the train and also informed to SM/West cabin/NJP by gate phone and SSE/P-Way/NJP. Due to his alertness a probable mishap was averted.

5		Ashoke Kumar Murmu LP/APDJ	On 22.05.2019 while working y train No-75742 Dn some miscreants pelted stones at the DPC of his train at KM 58/4-5 and the front looking glass of DPC No 13025 was broken and he got severe injury. He then reduced the train speed and cleared the section by driving the train slowly to next station (DMZ). In spite of his injury in face and continuous bleeding he cleared the section. Due to his sincerity and devotion to duty he saved the detention and probable unusual occurrence with the passenger.
6		Nitai Sarkar SM/MJE	On 14.05.2019 while performing train passing duty he detected Hot Axle in wagon No.BCN-63768 of Dn BCN Empty stock and immediately informed Crew & Guard and controlled the train. On checking, the said wagon was found unfit to move. TXR staff attended and affected wagon was detached at MJE station. Due to his alertness a probable mishap was averted.
7		Tribhuban Narzary LP/G/NBQ	On 18.05.2019, while working train No-55803 Up at 18.05 hrs he noticed a herd of Elephant (about 13 - 15 nos) crossing the railway track at KM 45/1-6 between PNVT-GLPT section. He immediately applied the emergency brake and controlled his train just ahead of Elephant herd. After a while the elephants cleared the track. Due to his alertness & sincerity he saved the elephants as well as a probable mishap was averted.
8		Rakesh Kumar-V ALP/NBQ	On 18.05.2019, while working train No-55803 Up at 18.05 hrs he noticed a herd of Elephant (about 13 - 15 nos) crossing the railway track at KM 45/1-6 between PNVT-GLPT section. He immediately applied the emergency brake and controlled his train just ahead of Elephant herd. After a while the elephants cleared the track. Due to his alertness & sincerity he saved the elephants as well as a probable mishap was averted.

- xi) ब्रेक की जाँच-परख करें।
Do brake feel test.
- xii) ब्रेक पावर की जाँच करें।
Do brake power test.
- xiii) अधिक गति एवं अति आत्मविश्वास से बचें।
Avoid over speed and over confidence.
- xiv) एल.आर. की सही जानकारी रखें।
Have proper LR.
- xv) सिगनल को पार करने तक ध्यान दें।
Observe the signal till you pass it.
- xvi) वी.सी.डी. को कभी अलग न करें।
Never isolate VCD.
- xvii) वाकी टॉकी पर सिगनल को नहीं मानें। स्वयं देखें, खासकर कोहरे या गोलाई, जहाँ दृश्यता बाधित हो आदि में सतर्क रहें।
Do not believe on walkie talkie told signals. Specially be alert in fog or curve where visibility is restricted. You may be misguided.
- xviii) हाथ के इशारे से, स्टेशन के नाम के साथ कॉल आउट करें।
Call out of signal with station name and aspect with hand gesture.
- xix) अपने सिगनल को पहचानें। भ्रम होने पर रुकें। तीर का निशान देखें।
Know your signal. If any suspense STOP & confirm by arrow head.
- xx) ट्रैक के दाईं ओर लगे सिगनल, ट्रैक से दूर या ऊँचे सिगनल, कर्व में लगे सिगनल पहचानें।
Observe critical location signals which are far from track or on RHS or in curve.

SECTION - VIII

KNOWLEDGE QUIZ

1. The effective substitute for the adequate distance is
 - a) Sand Hump of approved Design.
 - b) Trap Point
 - c) Snag Dead end
2. With a view to test the readiness and quick turn out of the ARME & ART it is desirable to have periodical Mock drills once in months.
 - a) 2
 - b) 3
 - c) 6
3. The train on which hot axle is noticed/suspected shall be received on line.
 - a) Loop
 - b) Main
 - c) Siding line
4. If any unmanned L.C.Gate involved in more than accidents in three consecutive year, it should be manned immediately
 - a) Four
 - b) Two
 - c) Three
5. If there are 18 sleepers in a rail length of 13 Metres, the sleeper density is
 - a) M+4
 - b) M+3
 - c) M+5
6. Adequate distance for block overlap in Multiple Aspect Signaling is metres.
 - a) 400
 - b) 180
 - c) 120
7. During temporary single line working on the double line the speed

of the first train shall be.....

- a) 15 KMPH b) 20 KMPH
- c) 25 KMPH
8. Guard of Mail/Express train must be on duty minutes, those of Mixed/Goods train minutes before the booked departure time of the train.
- a) 45, 30 b) 30, 45
- c) 45, 40
9. Driver to run at a speed not exceeding Kmph up to the next station when flat tyre is detected enroute.
- a) 30 b) 25
- c) 15
10. The Authority to be issued for sending a relief train into an occupied block section is
- a) T/B 602 b) T/A 602
- c) T/D 602

Check how well you have performed -

1	2	3	4	5	6	7	8	9	10
a	b	b	c	c	b	c	b	a	b

If you have answered:

No. of correct answers	Your Safety Grade is
10	A
7-9	B
5-6	C
LESS THAN 5	<i>Plan Your Trip To ZRTI</i>

SECTION - IX

(HINTS TO AVOID SIGNAL PASSING AT DANGER)

SPAD बचाएँ - AVOID SPAD

- i) पर्याप्त आराम करें।
Take proper rest.
- ii) सतर्क एवं सावधान रहें।
Be alert and careful.
- iii) गन्तव्य स्थान पर गाड़ी रोकने के बाद ही अपना सामान बाँधें।
Pack your luggage after stopping the train at destination only.
- iv) निजी समस्याओं को साथ लेकर न चलें।
Do not carry personal problem.
- v) गाड़ी चलाते समय गपशप न करें।
Do not gossip while driving.
- vi) साइन ऑन एवं साइन ऑफ से पहले बी.ए. जाँच कर लें।
Do BA test before Sign 'ON' & 'OFF'.
- vii) मोबाइल स्विच ऑफ रखें एवं केवल आपातकाल में ही उपयोग करें।
Keep mobile switched 'OFF' & use in emergency.
- viii) चलती गाड़ी में मोबाइल से बात नहीं करें। किसी भी घटना के बाद आपकी कॉल डिटेल भी निकाली जाएगी।
Do not use mobile on run. Your call details will also be analyzed after any incident.
- ix) शराब, मादक द्रव्य व उत्प्रेरक चीजों का सेवन न करें।
Do not take alcohol sedative, narcotics or stimulant drug.
- x) वैध व सही से बी.पी.सी. की जाँच करें।
Check for valid & proper BPC.



Some scientists decided to do the following experiments on a dog.

For the first experiment, they cut one of the dog's legs off, then they told the dog to walk. The dog got up and walked, so they they learned that a dog could walk with just three legs.

For the second experiment, they cut off a second leg from the dog, then they told the dog once more to walk. The dog was still able to walk with only two legs.

For the third experiment, they cut off yet another leg from the dog and once more they told the dog to walk. However, the dog wasn't able to walk with only one leg.

As a result of these three experiments, the scientists wrote in their final report that the dog had lost it's hearing after having three legs cut off.



A very drunk man comes out of the bar and sees another very drunk man.

He looks up in the sky and says, "Is that the sun or the moon?"

The other drunk man answers, "I don't know. I'm a stranger here myself."



Son: Daddy ,I have a small doubt.

Dad: Pl ask my dear.

Son:Prahalad became great by not listening to his father. And Rama became great by listening to his father. Please advise whether I should listen to you or not.

Dad: My dear son, we are in Kaliyuga. Good for both of us to listen to your Mother to have a normal life

SECTION - X

LAUGHING CORNER



Once there were three turtles. One day they decided to go on a picnic. When they got there, they realized they had forgotten the soda. The youngest turtle said he would go home and get it if they wouldn't eat the sandwiches until he got back. A week went by, then a month, finally a year, when the two turtles said,"oh, come on, let's eat the sandwiches." Suddenly the little turtle popped up from behind a rock and said, "If you do, I won't go!"



There is a California dude going through a desert. He's wearing shorts, sunglasses, a towel and listening to music on his walkman. He's having a good time. Suddenly he sees a caravan approaching. He stops the Arabs and ask them cheerfully: "Hey dudes how far is the sea?" They look at each other and say: "Two thousand miles!" And he says: "Wow what a cool beach!!!"



A man receives a phone call from his doctor.

The doctor says, "I have some good news and some bad news."

The man says, "OK, give me the good news first."

The doctor says, "The good news is, you have 24 hours to live."

The man replies, "Oh no! If that's the good news, then what's the bad news?"

The doctor says, "The bad news is, I forgot to call you yesterday."