

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, DLW/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, IRIEEN, Nasik.

Director, IRISSET, Secunderabad.

Director, IRIMEE, Jamalpur.

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

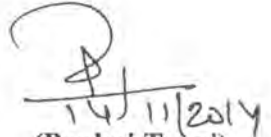
Director General, National Academy of Indian Railways, Vadodara.

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.


14/11/2014
(Pankaj Tyagi)
Director Civil Engg.(P),
Railway Board.

No. 2013/CE-II/CS/2

New Delhi, dt. 14.11.2014.

Copy to : CRB, ME, ML, MS, MM, MT, FC, Secretary.

AM(CE), AM(W), AM(Budget), AM(Elect.), AM(Fin.), AM(Sig.), AM(Plg.), AM(MS), AM(Mech.), AM(PU.), AM(Tele.), AM(Traffic), Adv(Vig.), Adv(L&A), Adv.(Bridges), Adv(Safety).

EDCE(P), EDTK(M), EDTK(MC), EDTK(P), EDCE(G), EDCE(B&S)-I, EDCE(B&S)-II, ED(L&A)-I, ED(L&A)-II, ED(L&A)-III, ED(Works), EDW(Plg.), ED/Infra./Civil, ED/PSU, ED/Proj.M, OSD(ME), EDV(E), EDF(X)-II.

DTK(MC), DTK(M), DTK(P), DCE(B&S), DCE(B&S)II, DCE(G), Dir.(Works) I & II, Dir. Works(Plg.), Dir.(L&A), DVE-I & DVE-II, Dir./TMS, Dir.(PSU), Dir.(WCS), Dir./Safety-IV, IPWE(I).

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 (2^0) 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 (1.25^0) 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 on 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

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

- (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) (l) of Indian Railways Permanent Way Manual shall be replaced with the following:

Para 1007(1)(l) - 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.