

NORTH EASTERN RAILWAY

CE'S P.WAY CIRCULAR NO.44 OF 1965.

(CIRCULAR NO.11 OF 1961 AND 11 OF 1964
SUPERSEDED).

CASE NO.W/61/O/W-7.

PREVENTION AND ADJUSTMENT OF CREEP

Para 638 of Indian Railways, Way & Works Manual I contains instructions regarding counter-action & adjustment of creep. The P.Way staff should study those instructions carefully alongwith the foregoing amplifications and take immediate action for preventing creep. Amplifications to the instructions contained in para 638 of IRWW are given below:

1. Maximum number of jammed joints to be allowed in one series.

The maximum number of jammed joints in a series should not be more than six. Attention is invited to para 638(C) of Indian Railways Way & Works Manual in this connection.

2. Maximum amount of creep that can be allowed.

The creep in excess of 6" shall not be permitted. Instructions contained in para 638(f) of Indian Railways Way & Works Manual prescribe that the creep should be adjusted when it exceeds 6" but it has been noticed that creep in excess of 6" has been allowed at a number of places and no pulling back has been done by PWIs. A review should be made immediately of all sections where creep is more than 6" and arrangements made to pull back the creep forth-with.

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3. Fixation of creep posts and maintenance of creep registers.

As contained in para 638(d)IRWW creep posts are to be fixed at an interval of one kilometre, opposite to the nearest joint to the kilometre stone. Two scrap 41½ lbs. rail pieces shall be planted on cess on either side of the track as creep indicating posts. The top of the posts should be about ½" to 1" above the rail level. A chisel mark square to the joints should be cut on top of the rail points. A string stretched across the chisel marks should pass through the joints when there is no creep. After the creep is adjusted these posts should be correctly placed on the line of the joints and date on which the creep is adjusted should be pointed thus " 6.5.64" on the creep posts. DENS/AENs may please ensure that this is done in all the sections. Separate creep register should be maintained in the proforma enclosed and entry recorded every month by the PWIs. It should be maintained for all types of track irrespective of the type of sleepers. AEN should review this register, every month and issue necessary instructions to PWI for adjustment of creep and taking proper action for arresting the creep by effectively changing the disposition of anchors or increasing the number of creep anchors as the case may be.

(a) Provision of anchors

Whenever wooden sleepers are used with or without M.S. canted bearing plates fair V type of fair T type anchors should be used for arresting creep.

On account of shortage of cast iron in the country the Railway Board have laid down that only 40 per cent of the sleepers should be provided with anti-creep cast iron bearing plates and the rest 60 per cent of the sleepers should have mild steel canted bearing plates on each rail panel. This will mean that on 40'/39' rail with N+3 sleeper density 6 sleepers should be provided with ACB plates and where the density is N+6, 8 sleepers should be provided with ACB plates. If ACB plates are provided in this manner normally there will be no necessity for use of extra anchors. However, if the creep is exceptionally heavy than in addition one or two sleepers in each rail length should either be anchored or provided with anti-creep bearing plates after obtaining Dy:C.E.'s approval.

In case of steel sleepers and C.I. sleepers the two way tapered keys should be driven tight in order to arrest creep. In case of the double line for CST 9 sleepers and the keys should be driven in direction of traffic and on single line, the keys should be driven in opposite direction at every alternate sleepers. The disposition of the keys has been indicated in CE's Drawing No. CE(P)/112/1963 dated 10.12.63.

(b) Number and disposition of creep anchors:

Trunk route and Main Line- ON single line sections for wooden sleepers with or without canted bearing plates 6 sleepers should be box anchored as indicated in figure 1 and 3 of sketch No. 22 /1965 with this much anchoring on the single line normally there should be no occasion for the creep to occur in either direction. But in case exceptionally heavy creep is noticed then 4 additional anchors per rail panel should be provided as indicated in figure 2 and 4 of the sketch No. 22/1965.

In case of double line sections where the creep normally occurs in the direction of travel sixteen anchors per rail panel will be sufficient to arrest creep. Their disposition is indicated in figures 12 and 18 of the sketch both for N+6 and N+3 sleeper density with 40'/39' rails.

Branch Lines- For branch lines 4 sleepers should be box anchored in each rail panel as indicated in figures 5, 7, 9 & 11 of the sketch. If the creep is exceptionally heavy than in case of track laid with N+3 sleeper density and 40'/39' rails 2 sleepers should be box anchored in addition as indicated in figure 6 of the sketch. For exceptionally heavy creep on 30' rails and N+3 sleeper density, one more sleeper should be box anchored as indicated in figure 8 of the sketch. Similarly with N+2 sleeper density and 40'/39' rails in case of exceptionally heavy creep one sleeper should be box anchored in addition as indicated in figure 10 of the sketch.

Loops- In loops two sleepers per rail panel should be box anchored and in case this is not able to arrest the creep one more sleeper can be boxed anchored in addition.

Struts- Struts are still being used in some of the sections to prevent creep. Presence of struts makes it impossible for proper packing of sleepers. The struts should not be allowed to continue in the track. All struts should be removed as soon as possible.

Provision of anchors on the girder bridges:

The existing practice on this railway is not to use any rail anchors on the girder bridges. This practice may continue. However, approaches of major girder bridges should have 8 to 9 sleepers per rail, i.e. all alternate sleepers box anchored upto $\frac{1}{4}$ mile on each side of the abutments. For minor bridges no special anchoring of the approaches is necessary.

Provision of anchors on short welded panels:

In case of track laid with short welded panels on wooden sleepers all alternate sleepers should be box anchored excepting the joint sleepers. In case ACB plates are provided on soft wood sleepers or hard wood sleepers, these should be fixed on alternate sleepers except the joint sleepers. The joint sleepers should be provided only with mild steel canted bearing plates in case of soft wood sleepers, wherever existing. (In future soft sleepers should not be used even on short welded panels. When ACB plates are used on alternate sleepers, no anchors should be provided.

Provision of anchors on long welded rails is absolutely prohibited. All sleepers except the joint sleepers should be provided with ACB plates. In addition to these the first hundred sleepers (whether wooden or metal) on either side of the switch expansion joints, should be box anchored.

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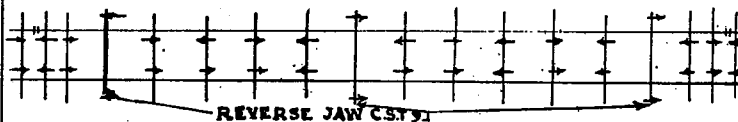
CREEP REGISTER

1. Track Details:-
Rails.....Sleepers.....
2. Location of (a)L.xing.(b)Pts.& Xings.....
(c) Girder Br.No.....Span.....
3. No.of anchors provided per rail

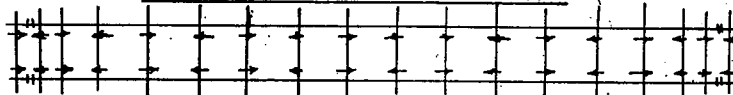
Date	Movement of track*		Date of adjustment of creep	REMARKS
	Left rails	Right rails		
1	2	3	4	5

- * Left and Right rail to be reckoned in the direction of increasing mileage, movement of creep in the direction of increasing mileage to be treated as positive and toward decreasing mileage as negative. Entries to be made in Col.2 accordingly.

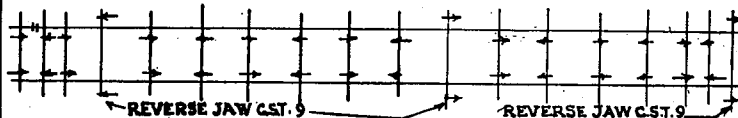
SINGLE LINE WITH N+3 DENSITY ON C.S.T.9 SLEEPER



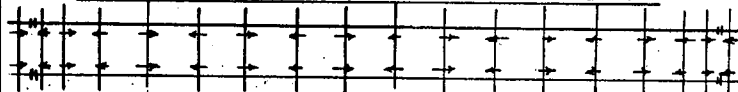
SINGLE LINE WITH N+3 DENSITY ON WOODEN SLEEPER
WITH ANTI-CREEP BEARING PLATE



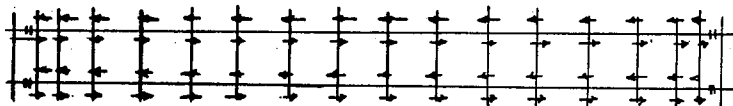
SINGLE LINE WITH N+6 DENSITY ON C.S.T.9 SLEEPER



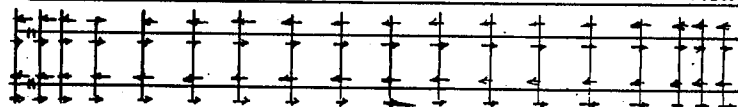
SINGLE LINE WITH N+6 DENSITY ON WOODEN SLEEPER
WITH ANTI-CREEP BEARING PLATE SINGLE KEY



SINGLE & DOUBLE LINE WITH N+3 DENSITY ON STEEL SLEEPER
OR WOODEN SLEEPER WITH ACB PLATE WITH TWO KEYS EACH



SINGLE & DOUBLE LINE WITH N+6 DENSITY ON STEEL SLEEPER OR
ON WOODEN SLEEPER WITH ACB PLATE WITH TWO KEYS EACH



CE⁶ PLAN N° P/7/1963 (SHEET N° 1 OF 2)

