

# THE MAINTENANCE OF PERMANENT WAY

Annexure-2/6 PARA 237(5)

## PROFORMA FOR INSPECTION OF POINTS AND CROSSINGS

Station \_\_\_\_\_

Point No. \_\_\_\_\_

Location \_\_\_\_\_

Type of rail \_\_\_\_\_

Date of laying \_\_\_\_\_

Date of laying reconditioned crossing : \_\_\_\_\_

1<sup>st</sup> 2<sup>nd</sup> 3<sup>rd</sup> 4<sup>th</sup>

Date of laying reconditioned switch :

LH : 1<sup>st</sup> 2<sup>nd</sup> 3<sup>rd</sup> 4<sup>th</sup>

RH: 1<sup>st</sup> 2<sup>nd</sup> 3<sup>rd</sup> 4<sup>th</sup>

Type of sleeper/assembly \_\_\_\_\_

Angle of crossing \_\_\_\_\_

Nominal gauge of turnout \_\_\_\_\_

Left hand or right hand \_\_\_\_\_

Laid on straight or on curve of radius \_\_\_\_\_

Similar/contrary flexure \_\_\_\_\_

Particulars	Details of Insp- ection	Action taken with date and sign	Details of Insp- ection	Action taken with date and sign
1	2	3	4	5
<b>I. General -</b> 1. Condition of sleepers: 2. Condition of ballast and drainage.				

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<p>3. Availability of:</p> <p>a) Ballast in shoulders and cribs.</p> <p>b) Clean ballast cushion</p> <p><b>II. Switch assembly and lead portion</b></p> <p>4. Condition of tongue rails:</p> <p>a) Whether chipped or cracked over 200 mm length within 1000 mm from ATS. LH: RH:</p> <p>b) Whether twisted or bent. LH : RH: (causing gap of 5mm or more at toe) (For joint check with signal staff)</p> <p>c) Whether knife edge LH: RH:</p> <p>d) Vertical wear</p> <p>Right Hand</p> <p>i) At point with 13 mm head width (<b>as per Annexure 2/6/1</b>)</p> <p>ii) At point where tongue rail and stock rail level is same (<b>as per Annexure 2/6/1</b>)</p> <p>Left Hand</p> <p>i) At point with 13 mm head width (<b>as per Annexure 2/6/1</b>)</p>				

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<p>ii) At point where tongue rail and stock rail level is same <b>(as per Annexure 2/6/1)</b></p> <p>e) Lateral wear - (to be measured at 13 mm to 15 mm below top of stock rail) <b>(as per Ann.2/6/1)</b></p> <p style="padding-left: 40px;">Right Hand</p> <p>i) At point with 13 mm head width <b>(as per Annexure 2/6/1)</b></p> <p>ii) At point where tongue rail and stock rail level is same <b>(as per Annexure 2/6/1)</b></p> <p style="padding-left: 40px;">Left Hand</p> <p>i) At point with 13 mm head width <b>(as per Annexure 2/6/1)</b></p> <p>ii) At point where tongue rail and stock rail level is same <b>(as per Annexure 2/6/1)</b></p> <p>Vertical and lateral wear may be measured starting at point 'Q' (13 mm head width) and at a point where the tongue and stock rails are at same level <b>( as per Annexure 2/6/1)</b></p> <p>5. Condition of stock rail.</p> <p>a) Right hand :</p> <p>i) Vertical wear</p> <p>ii) Lateral wear (to be measured at 13 mm to 15mm below of stock rail) <b>(as per Annexure 2/6/1)</b></p>				



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1	2	3	4	5																					
<p>b) Left hand :</p> <p>i) Vertical wear</p> <p>ii) Lateral wear (to be measured at 13 mm to 15 mm below of stock rail) (as per <b>Annexure 2/6/1</b>)</p> <p>6. Condition of fittings of switches</p> <p>7. Gauge and cross level in switch and lead portion.</p> <p>a) At 450mm ahead of toe of switch.</p> <p>b) At ATS between the two stock rails:</p> <p>c) At 150 mm behind toe of switch (only gauge) :</p> <p>i) For straight road:</p> <p>ii) For turnout:</p> <p>d) At heel of switch.</p> <p>i) For straight road:</p> <p>ii) For turnout:</p> <p>e) At 3m interval in lead portion <b>(see note on next page)</b></p> <table><tr><td>Station</td><td>Set for main line</td><td>Set for turnout</td></tr><tr><td>Gauge:</td><td>X- : level</td><td>Gauge: X- : level</td></tr><tr><td>0.</td><td>ATS Heel</td><td>ATS Heel</td></tr><tr><td>1.</td><td></td><td></td></tr><tr><td>2.</td><td></td><td></td></tr><tr><td>3.</td><td></td><td></td></tr><tr><td>4.</td><td></td><td></td></tr></table>	Station	Set for main line	Set for turnout	Gauge:	X- : level	Gauge: X- : level	0.	ATS Heel	ATS Heel	1.			2.			3.			4.						
Station	Set for main line	Set for turnout																							
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1	2	3	4	5
<p>5.</p> <p>6.</p> <p>7.</p> <p>8.</p> <p>9.</p> <p>10</p> <p>11.</p> <p>12.</p> <p><b>Note:</b> The gauge and cross level in lead portion should be recorded at the stations where versine measurements are being recorded as per <b>col. 12(a) or Col.12(b)</b></p> <p>8. Divergence at heel block</p> <p>    a) Right hand</p> <p>    b) Left hand</p> <p>9. Throw of switch</p> <p>    a) Right hand</p> <p>    b) Left hand</p> <p>10. Creep at toe of switch</p> <p>11. Packing conditions under the switch assembly.</p> <p>12. Versine in switch and lead portion.</p> <p>    a) Versines of curved stock rail and lead rails upto end of lead curve (<b>see note on next page</b>):</p> <p>        Station      Versines in mm</p> <p>0. (Heel/ATS)</p>				

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1	2	3	4	5
1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12.  b. Versines of curved tongue rail and lead rails upto end of lead curve <b>(see notes            below):</b> Station      Versines in mm (Heel/ATS) 0. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12.				
<b>Note:</b> Versines to be recorded at 3 m interval on 6m chord length commencing from heel of switch for straight switch & from ATS for curved switches.				



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1	2	3	4	5
<p>13. Housing of stock and tongue rails :</p> <p>LH: RH:</p>				
<p>14. Seating of tongue rails on slide chairs :</p> <p>LH: RH:</p>				
<p>15. Straightness of straight stock rail : (measured on 10m chord)</p>				
<p>16. Straightness of straight tongue rail : (measured on 10m chord)</p>				
<p>17. Distance between gauge faces of stock rails at JOH:</p>				
<p>18. Distance between web to web of tongue rails at respective stretcher bar locations:</p> <p>a) Leading stretcher bar b) 1st following stretcher bar c) 11nd following stretcher bar</p>				
<p>19. Gap between top edge of stretcher bar and bottom of rail foot at :</p> <p>a) Leading stretcher bar b) 1st following stretcher bar</p>				

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<p>c) Ind following stretcher bar</p> <p>20. Clearance at JOH: i) When set for main line a) On Open tongue rail side b) On Closed tongue rail side</p> <p>ii) When set for turnout side a) On Open tongue rail side b) On Closed tongue rail side</p> <p>Note: To be recorded only if spring setting device has been provided at or near JOH.</p> <p><b>III. Crossing Assembly</b></p> <p>21. Condition of crossing a) Sign of propogation of crack (if any) in crossing assembly:</p> <p>b) Burring on top surface at nose:</p> <p>22. Type of crossing</p> <p>23. Wear of crossing A. Built-up/Heat-treated welded crossing (wear to be measured with straight edge at 100 mm from ANC):</p> <p>i) On left wing rail: ii) On nose: iii) On right wing rail</p> <p>B. CMS crossing (wear to be measured with straight edge):</p>				



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<p>i) On left wing rail: (opposite ANC)</p> <p>ii) On nose: (At 100 mm from ANC)</p> <p>Actual wear for 52 kg section: measured wear -2.0mm</p> <p>Actual wear for 60 kg section measured wear - 2.5 mm</p> <p>iii) On right wing rail: (Opposite ANC)</p> <p>C. Heat-treated welded crossing</p> <p>i) Weld texture on top surface:</p> <p>ii) Whether any flow of metal is there in weld portion:</p> <p>iii) Any indication of separation of weld metal from parent metal.</p> <p>24. Clearance of wing rail opposite nose of crossing and upto 450 mm towards heel end.</p> <p>a) Right</p> <p>b) Left</p> <p>25. Gauge and cross level at crossings:</p> <p>a) 1m ahead of ANC</p> <p>i) On straight road</p> <p>ii) On turnout</p> <p>b) 150 mm behind ANC</p> <p>i) On straight road</p> <p>ii) On turnout</p> <p>c) 1m behind ANC</p> <p>i) On straight road</p> <p>ii) On turnout</p>				

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Particulars	Details of Insp- ection	Action taken with date & Sign.	Details of Insp- ection	Action taken with date & Sign.
1	2	3	4	5
<p>26. Condition of check rail fitting eg. bearing plates, keys, blocks, bolts and elastic fastenings:</p> <p>27. Clearance of check rails:</p> <p>a) Opposite ANC:</p> <p>Left:</p> <p>Right:</p> <p>b) At following locations with respect to centre of check rails.</p> <p>i) 500 mm ahead towards toe of crossing:</p> <p>Left:</p> <p>Right:</p> <p>ii) 500 mm behind heel of crossing</p> <p>Left :</p> <p>Right:</p> <p>c) At the flared end towards heel:</p> <p>Left:</p> <p>Right:</p> <p>d) At the flared end towards toe:</p> <p>Left:</p> <p>Right:</p> <p><b>IV Turn in curve:</b></p> <p>28. Versines to be measured at 3m interval on 6m chord. (From heel end of crossing to end of turn in curve)</p> <p>Station      Versines in mm</p> <p>0.</p> <p>1.</p> <p>2.</p>				



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1	2	3	4	5
3.				
4.				
5.				
6.				
7.				
8.				
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10.				
11.				
12.				
29. Super elevation				
30. Ballast: Availability of : i) 150 mm additional ballast shoulder width on out side of turn in curve. ii) Clean ballast cushion.				
<b>V. General</b>				
31. Any other special feature /defects.				
32. Signature of the inspecting official with date				

**NOTE :** (1) Necessary additional entries may be made against relevant columns of switch, crossing and lead assemblies in case of diamond crossing, diamond single slip/double slips.

(2) Locations where the gauge and cross levels are to be checked should be painted on the web of the rail.



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Annexure-2/6/1

PARTICULARS OF TONGUE RAILS SHOWING LOCATION AND HEAD THICKNESS AT LEVEL POINT OF STOCK AND TONGUE RAIL

S. No.	Description of switches	Drg. No. of of tongue rails	Location of 13 mm head from ATS mm	Location of JOH from ATS mm	Location of level point of stock & tongue rail from ATS mm	Head thickness of tongue rail at level point mm
1.	6400 mm c/s on w/s BG 52 kg TA-20197	TA-20197/1	464	3005	1503	31.6
2.	6400mm c/s on s/s BG 52kg TA-20836	TA-20197/1	464	3005	1503	31.6
3.	6400mm c/s on PSC BG 52kg RT-4866	RT-4866/2	476.5	3023	1512	31.6
4.	6400mm c/s on PSC BG 60 kg RT-4966	RT-4966/1	476.5	3229	2348	48.25
5.	7135 mm c/s on w/s BG 60 kg RT-3011	RT-3011/1	1046	3900	2836	50.54
6.	7730 mm c/s on w/s BG 52 kg TA-20172	TA-20172/1	814	4669	2335	30.50
7.	7730 mm c/s on s/s BG 52 kg TA-20832	TA-20832/1	814	4669	2335	30.50
8.	10125mm c/s on w/s BG 60 kg RT-2581	RT-2581/1	1682	5840	4247	43.40
9.	10125 mm c/s on PSC BG 60 kg RT-4219	RT-4325/1	1682	5836	4244	43.40
10.	10125mm c/s on PSC BG 52kg RT-4733	RT-4733/1	1682	5540	4029	40.34