Ref:	NR/L2/TRK/001/Mod20
Issue:	2
Date:	04 December 2021
Compliance date:	05 March 2022

NR/L2/TRK/001

Module 20

Plain Line Pattern Recognition Management

This document is the property of Network Rail. It shall not be reproduced in whole or part nor disclosed to a third party without the written permission of Network Rail.
© Copyright 2021 Network Rail.

Uncontrolled copy once printed from its electronic source.

Published and Issued by Network Rail, 2nd Floor, One Eversholt Street, London, NW1 2DN.

Copyright Network Rail
Provided by S&P Global under license with Network Rail
No reproduction or networking permitted without license from S&P Global

Licensee=Intertrain (UK) Ltd/1121227010, User=Taylor, Garry
Not for Resale, 09/05/2022 02:06:17 MDT

Ref:	NR/L2/TRK/001/Mod20
Issue:	2
Date:	04 December 2021
Compliance date:	05 March 2022

Reference Documentation

NR/L3/TRK/1015	Management of Basic Visual Inspection
NR/L3/TRK/003	Index of Track Engineering Forms
NR/L3/TRK/003/TEF3225	OmniVision BVI Report
NR/L3/TRK/003/TEF3226	OmniVision Asset Management Report
NR/L3/TRK/003/TEF3227	OmniVision Ballast Report
NR/L3/TRK/003/TEF3228	Introduction of PLPR inspection
NR/L3/TRK/003/TEF3229	Contingency measures following PLPR recording error - record of decisions taken
NR/L3/TRK/002/A01	Basic Visual Inspection

Copyright Network Rail
Provided by S&P Global under license with Network Rail
No reproduction or networking permitted without license from S&P Global

Licensee=Intertrain (UK) Ltd/1121227010, User=Taylor, Garry
Not for Resale, 09/05/2022 02:06:17 MDT

Ref:	NR/L2/TRK/001/Mod20
Issue:	2
Date:	04 December 2021
Compliance date:	05 March 2022

Contents

1 Scope **4**
2 Roles and Responsibilities **4**
3 Definitions **4**
4 TEFs used **5**
5 PLPR live inspection process **6**
5.1 On Train Technician responsibilities 6
5.2 Data processing 6
5.3 Analysis of data outside of 48-hour time scale 6
5.4 Candidate classified as defect 6
5.5 Candidate classified as undecided 7
5.6 Candidate classified as rejected 7
5.7 Candidate classified as unsure 7
6 PLPR Inspection affected by poor image quality **7**
7 Action required for PLPR Defects **7**
7.1 Immediate Action Defects 7
7.2 PLPR Action Tables 7
8 Live PLPR Inspection **19**
8.1 TEF3225 Report 19
8.2 TEF3226 Report 19
8.3 TEF3227 Report 19
8.4 PLPR Patrol Coverage 21
8.5 Patrol work order completion 22
9 Retention **22**
9.1 Validated Processed Information 22
9.2 Raw PLPR train data 22

--`,,`,,`,`,,`,,,,,,`,`,,`,,,`,,`,,`,,`,,,`---

Copyright Network Rail
Provided by S&P Global under license with Network Rail
No reproduction or networking permitted without license from S&P Global

Licensee=Intertrain (UK) Ltd/1121227010, User=Taylor, Garry
Not for Resale, 09/05/2022 02:06:17 MDT

Ref:	NR/L2/TRK/001/Mod20
Issue:	2
Date:	04 December 2021
Compliance date:	05 March 2022

1 Scope

This module of NR/L2/TRK/001 specifies the management of Plain Line Pattern Recognition (PLPR):

a) live inspection process;

b) candidate classification; and

c) action required for defects.

This applies to all persons involved in the acquisition, processing, distribution and management of PLPR defect reports.

2 Roles and Responsibilities

Asset Information Services (AIS) Responsible for gathering and processing PLPR data.

Delivery Manager (DM): Responsible for management of the On Train Technicians, and Examination Inspectors.

Examination Inspector (EI): Remotely-based Track Inspector, competent in identifying faults from the PLPR systems.

On Train Technician (OTT): Person responsible for the operation of the PLPR systems on the train.

3 Definitions

Failed or partially failed patrol: If any one of the following PLPR system inputs are not available for the extent or partial extent of the patrol.

- Image software system; or
- Real Time Positioning System.

Or the geometry system did not produce:

- dip angles; or
- curvature data.

In scope rail clamps: Clamps recognised by the PLPR system.

NOTE 1: *These are Robel, Fassetta, G Clamp.*

In scope fastenings: Fastenings recognised by the PLPR system.

NOTE 2*: These are Pandrol Fastclip, e-clip and PR401.*

Off Train Processing System (OTPS): System used to process and combine all the data streams for EI Inspection.

Patrol: Inspection of a uniquely identified section of track

PLPR candidate: Item that is identified by the PLPR system and presented to the EI.

PLPR defect: A validated candidate which has been classified and prioritised.

Copyright Network Rail
Provided by S&P Global under license with Network Rail
No reproduction or networking permitted without license from S&P Global

Licensee=Intertrain (UK) Ltd/1121227010, User=Taylor, Garry
Not for Resale, 09/05/2022 02:06:17 MDT

Ref:	NR/L2/TRK/001/Mod20
Issue:	2
Date:	04 December 2021
Compliance date:	05 March 2022

Real Time Positioning System (RTPS): Data positioning system.

Raw data: Unprocessed PLPR data.

Recording run: A PLPR recording run undertaken by an Infrastructure Monitoring Train.

NOTE 3: *There may be one or more recording runs undertaken during a recording shift.*

Route Operations Control (ROC): Route based central operational control centre.

4 TEFs used

TEF3225: A TEF produced from PLPR titled 'BVI Report' that contains the highest priority items requiring action as defined in this standard.

TEF3226: A TEF produced from PLPR titled 'Asset Management Report' that contains items that require action as defined in this standard.

TEF3227: A TEF produced from PLPR titled 'Ballast Report' that contains measurements of ballast.

TEF3228: A TEF titled 'Introduction of PLPR inspection' that contains items for consideration in the event of a missed or partially missed PLPR.

TEF3229: A TEF titled 'Contingency measures following PLPR recording error - record of decisions taken' in the event of a missed or partially missed PLPR patrol.

Copyright Network Rail
Provided by S&P Global under license with Network Rail
No reproduction or networking permitted without license from S&P Global

Licensee=Intertrain (UK) Ltd/1121227010, User=Taylor, Garry
Not for Resale, 09/05/2022 02:06:17 MDT

Ref:	NR/L2/TRK/001/Mod20
Issue:	2
Date:	04 December 2021
Compliance date:	05 March 2022

5 PLPR live inspection process

5.1 On Train Technician responsibilities

The OTT shall transfer the raw data at the end of every shift to the EI.

The OTT shall notify the nominated EI and DM, via the Train Information Log, any recording failures of the recording run.

5.2 Data processing

The EI shall:

a) within 24 hours of the completion of the recording run transfer the data into the OTPS;

b) within 48 hours of transfer of the data into OTPS:

1) inspect the PLPR output by patrol;

2) prioritise live patrols first in OTPS;

3) check the patrol is not a missed or partially missed patrol;

4) analyse, as a minimum, 5 yards either side of a confirmed defect for any visible component failure and where present, identify any contributing factors to the cause of the issue;

5) categorise candidate as:

I. defect;

II. undecided;

III. rejected; or

IV. unsure;

6) confirm the review is complete by creating TEF3225, TEF3226 and TEF3227; and

7) distribute to the responsible Track Maintenance Engineer (TME) and Section Manager [Track] (SM[T]).

5.3 Analysis of data outside of 48-hour time scale

If a situation occurs where the PLPR analysis is expected to exceed the 48-hour time scale, the DM shall inform the responsible TME and SM[T] within the initial 48 hours.

NOTE: *This is to ascertain the priority of the section of patrol yet to be analysed and agree a revised delivery time for the distribution of the TEFs.*

5.4 Candidate classified as defect

The EI shall assign a priority to the confirmed defect, adding commentary and corresponding fault code.

Defects due within 4 weeks (M0-M1) shall be reported on TEF3225.

Copyright Network Rail
Provided by S&P Global under license with Network Rail
No reproduction or networking permitted without license from S&P Global

Licensee=Intertrain (UK) Ltd/1121227010, User=Taylor, Garry
Not for Resale, 09/05/2022 02:06:17 MDT

Ref:	NR/L2/TRK/001/Mod20
Issue:	2
Date:	04 December 2021
Compliance date:	05 March 2022

Defects 13 weeks and greater (M3-M24) shall be reported on TEF3226.

5.5 Candidate classified as undecided

Where the EI can see a defect but is unable to determine a priority, or when dip angles greater than 10 Mrads with no other visible component failure are observed, the EI shall annotate as 'undecided'. This shall be reported on TEF3226.

5.6 Candidate classified as rejected

A rejected candidate is where the EI establishes that there are no defects within the candidate boundary area.

The candidate shall not be reported.

5.7 Candidate classified as unsure

Where the EI is unable to clearly validate if a candidate is a defect or not, the candidate shall be marked up as 'unsure' and no priority shall be assigned.

Candidates marked 'unsure' shall be reported on TEF3225 for validation by SM[T].

6 PLPR Inspection affected by poor image quality

Where analysis of a patrol is compromised, the EI shall provide the SM[T] for the affected site with:

a) compromised section extent (from start to end, Engineer's Line Reference (ELR), Track ID (TID), mileage and yards);

b) causal effect for the issue; and

c) the extent of any inspections carried out (if any).

The actions carried out by the SM[T] shall be recorded on a TEF3229.

7 Action required for PLPR Defects

7.1 Immediate Action Defects

EI shall, when reporting Immediate action defects, report the incident using ELR, TID and mileage and yards.

NOTE: *If GPS coordinates are available these should also be reported.*

Immediate action defects identified by the EI shall be reported to the ROC which controls the area of the defect within 15 minutes of validation.

The EI shall clarify that they are not present at the site of the defect, confirm when the patrol was undertaken by the PLPR system and that the defect may have been previously reported.

7.2 PLPR Action Tables

The EI shall apply priorities to defects identified from a PLPR inspection in accordance with Table 1 - Table 12.

The SM[T] shall carry out the actions, and within the priority timescales, identified in Table 1 - Table 12.

Copyright Network Rail
Provided by S&P Global under license with Network Rail
No reproduction or networking permitted without license from S&P Global

Licensee=Intertrain (UK) Ltd/1121227010, User=Taylor, Garry
Not for Resale, 09/05/2022 02:06:17 MDT

Ref:	NR/L2/TRK/001/Mod20
Issue:	2
Date:	04 December 2021
Compliance date:	05 March 2022

Where ‘Report to ROC’ is mandated in Table 1 - Table 12 the EI shall report the defect immediately to the ROC which controls the area of the defect and the SM[T] shall action in line with Table 1 - Table 12 within 36 hours of receiving the report from the ROC.

--`,`,,,`,,`,,`,,,,`,```,,`,,-`-`,,`,,`,`,,`---

Copyright Network Rail
Provided by S&P Global under license with Network Rail
No reproduction or networking permitted without license from S&P Global

Licensee=Intertrain (UK) Ltd/1121227010, User=Taylor, Garry
Not for Resale, 09/05/2022 02:06:17 MDT

Ref:	NR/L2/TRK/001/Mod20
Issue:	2
Date:	04 December 2021
Compliance date:	05 March 2022

Table 1 – Rails

Parameter	Limit	Track category				Section Manager actions
		Cat. 1A	Cat. 1/2	Cat. 3/4	Cat. 5/6	
		Priority or action required				
Section A: Rail lubricators (if presented)						
All	Rail lubricator requires attention	M3	M3	M3	M3	Review information on TEF 3226, confirm priority and plan work.
	Excessive grease flow covering fastenings	M3	M3	M3	M3	
Section B: Visible rail defects (not associated with other component failures)						
All	All	Undecided				Review and inspect as required.
Section C: Cracked/broken rail						
All	Broken or cracked rail	Report to ROC				Action as required
Section D: Welds on sleepers (if detected)						
All	Welds on sleepers	Undecided				Review at next SM[T] inspection as per NR/L2/TRK/001.

Copyright Network Rail
Provided by S&P Global under license with Network Rail
No reproduction or networking permitted without license from S&P Global

Licensee=Intertrain (UK) Ltd/1121227010, User=Taylor, Garry
Not for Resale, 09/05/2022 02:06:17 MDT

Ref:	NR/L2/TRK/001/Mod20
Issue:	2
Date:	04 December 2021
Compliance date:	05 March 2022

Table 2 – Sleepers

Parameter	Limit	Track category				Section Manager actions
		Cat. 1A	Cat. 1/2	Cat. 3/4	Cat. 5/6	
		Priority or action required				
Section A: Ineffective sleepers in any 60ft of track						
Number of Ineffective sleepers (each group separated by at least 2 sound sleepers)	2	M1	M3	M6	N/A	Review information on TEF 3225 or TEF 3226, confirm priority and plan work. Action as required
	3	M0	M1	M3	M12	
	4	Report to ROC	M0	M1	M6	
	5			M0	M3	
	6				M3	
	7 or more				M1	
Section B: Ineffective sleepers at joint or weld						
Ineffective sleeper at a joint or weld	1	M0	M1	M1	M3	Review information on TEF 3225 or TEF 3226 confirm priority and plan work. Action as required
	2	Report to ROC	M0	M0	M3	
	3				M1	
Section C: Maximum number of consecutive ineffective sleepers not at a joint or a weld						
Consecutive ineffective sleepers	2	M1	M1	M1	M3	Review information on TEF 3225 or TEF 3226 confirm priority and plan work. Action as required
	3	M0	M0	M0	M1	
	4 or more	Report to ROC			M0	
Section D: Incorrectly spaced sleepers in any 60ft of track						
Plain line, insulated block joint (IBJ) or weld	Any	Undecided				Review at next SM[T] inspection as per NR/L2/TRK/001.
Section E: Wooden and timber sleepers						
Baseplate shuffle	2 baseplates	M1	M1	M1	M3	Review information on
	more than 2	M0	M0	M1	M1	

Copyright Network Rail
Provided by S&P Global under license with Network Rail
No reproduction or networking permitted without license from S&P Global

Licensee=Intertrain (UK) Ltd/1121227010, User=Taylor, Garry
Not for Resale, 09/05/2022 02:06:17 MDT

Ref:	NR/L2/TRK/001/Mod20
Issue:	2
Date:	04 December 2021
Compliance date:	05 March 2022

Indentation	2 baseplates	M3	M3	M6	M12	TEF 3225 or TEF 3226 confirm priority and plan work.
	more than 2	M1	M1	M1	M1	

--`,`,,,`,,`,`,,`,`,,,,`,`,```,`,,`-`-`,,`,,`,`,,`---

Copyright Network Rail
Provided by S&P Global under license with Network Rail
No reproduction or networking permitted without license from S&P Global

Licensee=Intertrain (UK) Ltd/1121227010, User=Taylor, Garry
Not for Resale, 09/05/2022 02:06:17 MDT

Ref:	NR/L2/TRK/001/Mod20
Issue:	2
Date:	04 December 2021
Compliance date:	05 March 2022

Table 3 – Rail fastenings

Parameter	Limit	Track category				Section Manager actions
		Cat. 1A	Cat. 1/2	Cat. 3/4	Cat. 5/6	
		Assign priority or action				
Section A: Maximum number of missing or ineffective fastenings in any 60ft of track (not consecutive)						
Flatbottom	Up to 8	M3	M6	M12	M24	Review information on TEF 3225 or TEF 3226 confirm priority and plan work.
	9 to 12	M1	M3	M6	M12	
	More than 12	M0	M0	M1	M1	
Section B: Maximum number of consecutive rail seats with missing or ineffective fastenings						
Each group separated by a minimum of 2 fully fastened sleepers	2	M1	M1	M3	M3	Review information on TEF 3225 or TEF 3226 confirm priority and plan work.
	3*	M0	M0	M1	M1	
	4 to 6	M0	M0	M0	M0	
	More than 6	Report to ROC				Action as required
Section C: Baseplates & chairs						
Broken baseplates/chair/ housing	Up to 8	M3	M6	M12	M24	Review information on TEF 3225 or TEF 3226 confirm priority and plan work.
	9 to 12	M1	M3	M6	M12	
	More than 12	M0	M0	M1	M1	
	At IBJ or weld (1 side)	M1	M3	M6	M6	
	At IBJ or weld (both sides)	M0	M0	M1	M1	

* 3 or more consecutive rail seats with fastenings missing/ineffective on both sides of the rail shall be 'Reported to ROC' for all track categories.

***NOTE**: In line with NR/L3/TRK/002/A01, clips that have been replaced will be identified by a yellow cross on the sleeper.*

Copyright Network Rail
Provided by S&P Global under license with Network Rail
No reproduction or networking permitted without license from S&P Global

Licensee=Intertrain (UK) Ltd/1121227010, User=Taylor, Garry
Not for Resale, 09/05/2022 02:06:17 MDT

Ref:	NR/L2/TRK/001/Mod20
Issue:	2
Date:	04 December 2021
Compliance date:	05 March 2022

Table 4 – Pads and insulators

Parameter	Limit	Track category				Section Manager actions
		Cat. 1A	Cat. 1/2	Cat. 3/4	Cat. 5/6	
		Assign priority or action				
Section A: Pads and insulators (not on steel sleepers) in any 60ft of track						
Missing or ineffective.	5 to 12	M3	M6	M12	M24	Review information on TEF 3225 or TEF 3226 confirm priority and plan work.
	13 to 24	M1	M3	M6	M6	
	Over 24	M1	M1	M3	M3	
Consecutive sleepers	6 or more	M1	M1	M1	M3	
Section B: Pads and/or insulators on steel sleepers						
Missing or ineffective	1 or more	M1	M1	M1	M1	Review information on TEF 3225 confirm priority and plan work.

--`,,`,,`,`,,`,,,,`,`,,`,,`,,,-`-`,,`,,`,`,,`---

Copyright Network Rail
Provided by S&P Global under license with Network Rail
No reproduction or networking permitted without license from S&P Global

Licensee=Intertrain (UK) Ltd/1121227010, User=Taylor, Garry
Not for Resale, 09/05/2022 02:06:17 MDT

Ref:	NR/L2/TRK/001/Mod20
Issue:	2
Date:	04 December 2021
Compliance date:	05 March 2022

Table 5 – Ballast

Parameter	Limit	Track category				Section Manager actions
		Cat. 1A	Cat. 1/2	Cat. 3/4	Cat. 5/6	
		Assign priority or action				
Section A: Excess ballast						
Timber sleepers or bearers radius <800m	Rail foot and fastenings buried	M1	M1	M1	M1	Refer to TEF 3227. Regulate/clear ballast and inspect fastenings.†
Other sleeper types and locations	Rail foot and fastenings buried	M3	M3	M6	M12	Refer to TEF 3227. Regulate/clear ballast and inspect fastenings.†
Section B: Clogged and/or polluted ballast						
Associated with potential geometry issue	3 consecutive beds	M1	M3	M9	M12	Review information on TEF 3225 or TEF 3226, confirm priority and plan work.
Section C: Slurried beds						
1 site	Consecutive beds <5m	M1	M3	M3	M6	Review information on TEF 3225 or TEF 3226, confirm priority and plan work.
	Consecutive beds >5m	M1	M1	M1	M3	
2 sites	Consecutive beds between 6m & 18m apart	M1	M1	M3	M6	
3 sites	Consecutive beds between 6m & 18m apart	M1	M1	M1	M3	
Any	Associated with potential geometry issue	M0	M1	M1	M1	
Associated with an IBJ or Weld	Joint is dipped, worn or loose and present with >10Mrad Dip	M0	M0	M1	M3	
***NOTE** † See Table B.8 in NR/L2/TRK/001 Module 19*						

Copyright Network Rail
Provided by S&P Global under license with Network Rail
No reproduction or networking permitted without license from S&P Global

Licensee=Intertrain (UK) Ltd/1121227010, User=Taylor, Garry
Not for Resale, 09/05/2022 02:06:17 MDT

Ref:	NR/L2/TRK/001/Mod20
Issue:	2
Date:	04 December 2021
Compliance date:	05 March 2022

Table 6 – Unsecured rail and scrap

Parameter	Limit	Track category				Section Manager actions
		Cat. 1A	Cat. 1/2	Cat. 3/4	Cat. 5/6	
		Assign priority or action				
Section A: Unsecured rail						
Scrap rail in the 4 foot or close to running rail	3m or less	Report to ROC				Action as required
	3m to 9m	M0	M0	M1	M1	Review information on TEF 3225 confirm priority and plan work.
Section B: Scrap						
Any scrap likely to cause damage to passage of trains	Any	Report to ROC				Action as required .
Any scrap unlikely to cause damage to passage of trains but requires removing	Any	Undecided	Undecided	Undecided	Undecided	Review information on TEF 3225 and action as required.

Table 7 – Fixed assets (items affixed to the track within the four foot)

Parameter	Limit	Track category				Section Manager actions
		Cat. 1A	Cat. 1/2	Cat. 3/4	Cat. 5/6	
		Assign priority or action				
Any fixed assets that are loose, damaged or broken	All	Report to ROC				Action as required .

Copyright Network Rail
Provided by S&P Global under license with Network Rail
No reproduction or networking permitted without license from S&P Global

Licensee=Intertrain (UK) Ltd/1121227010, User=Taylor, Garry
Not for Resale, 09/05/2022 02:06:17 MDT

Ref:	NR/L2/TRK/001/Mod20
Issue:	2
Date:	04 December 2021
Compliance date:	05 March 2022

Table 8 – Level crossings

Parameter	Limit	Track category				Section Manager actions
		Cat. 1A	Cat. 1/2	Cat. 3/4	Cat. 5/6	
		Assign priority or action				
Any observed defect which is likely to render the level crossing unsafe	All	Report to ROC				Action as required

Table 9 – Rail clamps

Parameter	Limit	Track category				Section Manager actions
		Cat. 1A	Cat. 1/2	Cat. 3/4	Cat. 5/6	
		Assign priority or action				
Rail clamps	Ineffective rail clamps	M0	M0	M0	M0	Review information on TEF 3225 and action in line with prescribed timescale.

Copyright Network Rail
Provided by S&P Global under license with Network Rail
No reproduction or networking permitted without license from S&P Global

Licensee=Intertrain (UK) Ltd/1121227010, User=Taylor, Garry
Not for Resale, 09/05/2022 02:06:17 MDT

Ref:	NR/L2/TRK/001/Mod20
Issue:	2
Date:	04 December 2021
Compliance date:	05 March 2022

Table 10 – Insulated rail joints

Parameter	Limit	Track Category				Section Manager actions
		Cat. 1A	Cat. 1/2	Cat. 3/4	Cat. 5/6	
		Assign priority or action				
Section A: Insulated block joints						
Rail ends	Battered or crippled	M1	M1	M3	M6	Review information on TEF 3225 or TEF 3226, confirm priority and plan work.
	Lipped	M1	M1	M3	M6	
Insulators and end posts	Worn or damaged	M1	M3	M3	M6	
	Broken or missing	M0	M0	M1	M1	
Section B: Bolts/nuts						
Broken or missing	Any	Report to ROC				Action as required
Loose* or damaged	up to 2	M0	M0	M1	M1	Review information on TEF 3225 , confirm priority and plan work.
	more than 2	Report to ROC				Action as required
Incorrect bolts**	up to 2	M1	M1	M3	M6	Review information on TEF 3225 or TEF 3226 , confirm priority and plan work.
	more than 2	M0	M0	M1	M3	

NOTE:

** Bolts/Nuts visibly loose using the PLPR system.*
*** Incorrect bolts visible from the PLPR system.*

Copyright Network Rail
Provided by S&P Global under license with Network Rail
No reproduction or networking permitted without license from S&P Global

Licensee=Intertrain (UK) Ltd/1121227010, User=Taylor, Garry
Not for Resale, 09/05/2022 02:06:17 MDT

Ref:	NR/L2/TRK/001/Mod20
Issue:	2
Date:	04 December 2021
Compliance date:	05 March 2022

Table 11 – Longitudinal timbers

Parameter	Limit	Track category				Section Manager actions
		Cat. 1A	Cat. 1/2	Cat. 3/4	Cat. 5/6	
		Assign priority or action				
Section A: Tie rods and holding down bar straps						
Loose, damaged or broken	Any	M0	M0	M0	M0	Review information on TEF 3225 , confirm priority and plan work.
Section B: Wedges (lateral packing)						
Loose or missing	Any	M0	M0	M0	M0	Review information on TEF 3225 , confirm priority and plan work.

Table 12 – Adjustment switches

Parameter	Limit	Track category				Section Manager actions
		Cat. 1A	Cat. 1/2	Cat. 3/4	Cat. 5/6	
		Assign priority or action				
Adjustment Switches	Whole width of the rail foot no longer supported by baseplate (Figure 1)	M0	M0	M1	M1	Review information on TEF 3225 confirm priority and plan work.

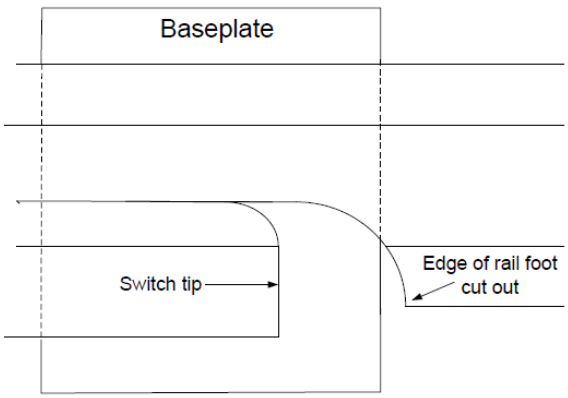


Figure 1 – Rail foot not fully supported at the end of the machining

Copyright Network Rail
Provided by S&P Global under license with Network Rail
No reproduction or networking permitted without license from S&P Global

Licensee=Intertrain (UK) Ltd/1121227010, User=Taylor, Garry
Not for Resale, 09/05/2022 02:06:17 MDT

Ref:	NR/L2/TRK/001/Mod20
Issue:	2
Date:	04 December 2021
Compliance date:	05 March 2022

8 Live PLPR Inspection

8.1 TEF3225 Report

The SM[T] shall review TEF3225 within 72 hours of receipt. This review shall:

a) confirm priority of defect

b) plan work in line with Table 1 - Table 12;

c) assess the 'unsure' candidates and allocate a priority if required; and

d) confirm EI commentary.

SM[T] shall input any remedial works required into the Ellipse work bank and check that any existing work items in the work bank associated with the inspection are correctly prioritised.

***NOTE**: If the SM[T] has any concerns about the patrol, they should contact the EI/DM.*

8.2 TEF3226 Report

The SM[T] shall review TEF3226 report to:

a) confirm priority of defect

b) plan work in line with Table 1 - Table 12;

c) assess the 'undecided' defects and allocate a priority if required; and

d) confirm EI commentary

8.3 TEF3227 Report

The SM[T] shall review TEF3227 and for areas identified within the patrol as fastenings obscured by ballast or severe ballast shortages, the SM[T] shall load into Ellipse the work required to clear the obscured fastenings.

Copyright Network Rail
Provided by S&P Global under license with Network Rail
No reproduction or networking permitted without license from S&P Global

Licensee=Intertrain (UK) Ltd/1121227010, User=Taylor, Garry
Not for Resale, 09/05/2022 02:06:17 MDT

Ref:	NR/L2/TRK/001/Mod20
Issue:	2
Date:	04 December 2021
Compliance date:	05 March 2022

Table 13 – What the PLPR system identifies and the associated TEF

Defects	Trigger used for inspection		Reported on TEF		
	Patten recognition	Geometry Feed	3225	3226	3227
Low Ballast Shoulder	**x**		**x**	**x**	**x**
Ballast Obscuring Fastenings	**x**		**x**	**x**	**x**
Missing, Broken or Misaligned in scope fastenings	**x**		**x**	**x**	
Visibly ineffective in scope temporary rail clamps	**x**		**x**		
Missing/misaligned base plates	**x**	**x**	**x**	**x**	
Visible broken rails and broken welds		**x**	**x**		
Clogged, slurried or polluted ballast beds		**x**	**x**	**x**	
Ineffective sleepers		**x**	**x**	**x**	
Insulated Block Joints (IBJ)		**x**	**x**	**x**	
Visible Railhead defects		**x**	**x**	**x**	

NOTE: *areas of concern reported on TEF3227 are identified and classified by the Patten recognition software only. See NR/L3/TRK/1015/02.*

Copyright Network Rail
Provided by S&P Global under license with Network Rail
No reproduction or networking permitted without license from S&P Global

Licensee=Intertrain (UK) Ltd/1121227010, User=Taylor, Garry
Not for Resale, 09/05/2022 02:06:17 MDT

Ref:	NR/L2/TRK/001/Mod20
Issue:	2
Date:	04 December 2021
Compliance date:	05 March 2022

8.4 PLPR Patrol Coverage

For live patrols the SM[T] shall monitor TEF3225 or TEF3227 for failed or partially failed patrols and shall act in accordance with Table 14.

The Patrol Coverage Tool (PCT) has been developed to give visibility of these failed or partially failed patrols.

Table 14 – SM[T] actions for live patrol section omitted from PLPR inspection

Days without PLPR coverage	Actions
Over 28 days (4 weeks)	• SM[T] shall review the TEF3228 associated to the patrol and action any additional inspections as required. • SM[T] shall record any actions taken on TEF3229 .
Over 56 days (8 weeks)	• SM[T] shall review the TEF3228 associated to the patrol and action any additional inspections as required. • SM[T] shall record any actions taken on TEF3229. • SM[T] shall produce a risk assessment with the necessary mitigations required if the week 12 patrol fails • Risk assessment and mitigations shall be approved by the TME prior to week 10.
Over 84 days (12 weeks)	• SM[T] shall implement contingency plan within one week.

AIS shall monitor PLPR coverage and shall act in accordance with Table 15.

Table 15 – Data Collection actions for live patrol section omitted from PLPR inspection

Days without PLPR coverage	Actions
Over 28 days (4 weeks)	No Actions
Over 56 days (8 weeks)	• EI shall inform ROC responsible for the area including the reasons for the omitted mileage/yardage. • PLPR Planning & Logistics Manager shall record the omitted mileage/yardage within the week 12 recording.
Over 84 days (12 weeks)	• EI shall inform the ROC responsible for the area including the reasons for the omitted mileage/yardage.

Copyright Network Rail
Provided by S&P Global under license with Network Rail
No reproduction or networking permitted without license from S&P Global

Licensee=Intertrain (UK) Ltd/1121227010, User=Taylor, Garry
Not for Resale, 09/05/2022 02:06:17 MDT

8.5 Patrol work order completion

On completion of a successful PLPR patrol i.e. no omitted yardage, the SM[T] shall sign the patrol work order as complete.

In situations where sections of the patrol have not been completed, and TEF3228 shows additional patrols or work is required, the inspection work order shall be closed after the associated work arising forms have been raised and recorded on TEF3229.

9 Retention

9.1 Validated Processed Information

All PLPR processed information shall be retained in accordance with NR/L3/TRK/003.

9.2 Raw PLPR train data

PLPR data sent from the PLPR trains shall be retained for a minimum of 72 hours after processing.

***NOTE**: Senior Delivery Manager to consider extending this time scale where major issues have occurred for example broken rails, consulting with the relevant TME within the 72 hour period.*

Copyright Network Rail
Provided by S&P Global under license with Network Rail
No reproduction or networking permitted without license from S&P Global

Licensee=Intertrain (UK) Ltd/1121227010, User=Taylor, Garry
Not for Resale, 09/05/2022 02:06:17 MDT