

S&C Crossing - Inspect

Scope

Includes: Visual Inspection of Cast Crossing & Cast Vees in the track

Excludes: Liquid Penetrant Testing (LPT) & Magnetic Particle Testing (MPT)

Preparation

Tools, equipment and plant items required but not limited to:

- Wire brush
- Soft dust brush
- Inspection mirror
- Torch (for shaded areas and poor light conditions)
- Magnifying glass
- Tape measure
- Rail marking paint
- Copy of minimum action sheets from NR/SP/TRK/054 & NR/SP/TRK/001

Work planning considerations:

- MPT cannot be used on AMS since the material is non-magnetic.

Method

1. Clear any rubbish, debris, ballast, chippings, dust etc from the crossing.
2. Remove any rust flakes/oil/grease that may have built up.
3. Work systematically starting at one end of the casting, the following areas of the crossing shall be inspected for wear and defects:
 - all wheel contact surfaces
 - leg ends, particularly in the upper fillet radii
 - longitudinal changes of section
 - the top of the box end of the vee
 - the base of the flange-way
 - the aprons, particularly the areas adjacent to fish-plates
 - the foot, particularly changes of section at the flare ends and at fastening positions and
 - the flash welds on cast centre and cast vee crossings, particularly the foot tips and the upper fishing surfaces of these welds and the tri-metal weld areas of the leg ends
4. To confirm the presence and extent of suspected surface cracks; refer to NR/SP/TRK/056 Rail Testing – Non Ultrasonic Procedures.

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5. For cracks seen coming from behind a fishplate, the fishplate shall be removed to enable full inspection of the crack.
6. Check the size of any existing marked defect.
7. Any visible rail defects found shall be measured, marked and actioned in accordance with the minimum actions referred to in NR/SP/TRK/054.
8. Check for incorrect components.
9. check condition of any tri-metal joints.
10. Check for any rail end batter.
11. Check for any broken or cracked fishplates.
12. Check for any broken, missing or loose fishbolts.
13. Check for any broken, missing or loose crossing pins/bolts.
14. Check for any missing, worn or ineffective pads.
15. Check for any hogging.
16. Check for any broken, missing or ineffective fastenings and fittings.
17. Check for any voiding
18. Check for any broken, missing or worn baseplates.
19. Check condition of timber bearers and for any indentation/shuffle or voiding.
20. Check for wear, condition and position of any associated check rails.
21. Any defects shall be recorded for actioning in accordance with NR/SP/TRK/001 and NR/WI/TRK/001.
22. Complete and submit - TEF 3031 Cast Crossing Inspection form.

References

Supports Ellipse Standard job

- 009010 S&C Crossing – Inspect

If applicable refer to the following associated documents:

- NR/SP/TRK/001 Inspection and Maintenance of Permanent Way
- NR/WI/TRK/001 Track Inspection Handbook
- NR/SP/TRK/054 Inspection of Cast Crossing & Cast Vees in the track
- NR/SP/TRK/056 Rail Testing – Non Ultrasonic Procedures
- TEF 3031 Cast Crossing Inspection form

- Risk Control Sheets:
- NR/L3/MTC/0002/TK000 Generic Track Risks
- NR/L3/MTC/0002/TK001 Track Patrol – Foot & Mechanical
- NR/L3/MTC/0002/TK002 Track Inspections