

Track - Renew Fishplates

Scope

Includes: Renewal of 4 hole fishplates

Excludes: Insulated block joints, glue joints, tight jointed fishplates

Preparation

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

- Wire brush
- Small running on fishbolt spanner
- Large fishbolt spanner
- Bars
- Drift
- Hydraulic nut cracker
- Scraper
- Torque wrench
- Dismantling fluid
- Approved fishplate lubricant
- Lubricant applicator (brush, grease gun, oil can, spray)
- Replacement fishplates, bolts and shims as required
- 1metre straight edge
- Rail adjusting equipment

Work planning considerations:

- Traction requirements
- Correct components available
- Associated work for joint geometry
- Associated work for expansion gap
- Final nut positioning (field face or gauge face) for 3rd rail areas

Method

1. Fit continuity bonds.
2. Where a cracked or broken fishplate is present, assess the joint for potential movement.
3. Remove nuts and washers from the fishbolt (If set use dismantling fluid or nut splitter as applicable).
4. Remove old fishplate (nut side) and any fitted shims
5. Clean fishing surfaces.
6. Check for any visible defect; action as necessary.
7. Apply lubricant to fishing surfaces.
8. Fit correct replacement fishplate.
9. Remove the 2 bolts furthest from the rail ends.

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10. Insert both bolts through new fishplate (on the opposite side from which you have just removed).
11. Remove the 2 bolts nearest to the rail ends.
12. Insert both bolts through new fishplate (on the opposite side from which you have just removed).
13. Remove the remaining old plate.
14. Clean fishing surfaces.
15. Apply lubricant to fishing surfaces.
16. Put correct replacement fishplate on.
17. Lubricate threads of all 4 fishbolts.
18. Fit and run up correct nuts and washers to the 2 bolts nearest to the rail end.
19. Tighten with small running on spanner.
20. Fit and run up correct nuts and washers to the 2 bolts furthest from the rail end.
21. Tighten with small running on spanner.
22. Using the straight edge check the alignment of the joint.
23. Fit shims as required.
24. Torque the nuts to the correct setting starting with the nuts nearest the rail ends and then working away from the rail ends, alternating from one side to the other. Values as detailed in NR/SP/TRK/102 and as detailed below:
 - Black bolts: 475 Nm (350 ft-lb)
 - High-tensile 1 inch: 880 Nm (650 ft-lb)
 - High-tensile 1 ¹/₈ inch: 1020 Nm (750 ft-lb)
25. Apply lubricant to visible bolt thread to protect for future work.
26. Upon completion of the work remove all scrap from site.

References

Supports Ellipse Standard job
- 009085 Track – renew fishplates

If applicable refer to the following associated documents:

- NR/SP/TRK/001 Inspection and Maintenance of Permanent Way
- NR/L3/TRK/002/F04 Track – PL - Fit fishplate shims
- NR/GN/TRK/7001/TWI2C001 How to change fishplates
- Risk Control Sheets:
 - NR/L3/MTC/0002/TK000 Generic Track Risks
 - NR/L3/MTC/0002/TK403 Fishplate – renew, lubricate, fit shims