

S&C - RCF Prevention - Hand Grind

Scope Includes: Hand grinding of S&C to restore profile or for defect and/or RCF removal
Excludes: Vehicle based grinding

Preparation

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

- Geismar MLC Grinding Machine
- Robel Contour Grinding Machine
- Robel Frog & Switch Grinding Machine
- 7 Inch angle grinder
- KV3A Generator
- Magnetic Particle Testing (MPT) Equipment
- Bar Gauge and Templates
- Fire Extinguishers
- Consumables required for the above mentioned machinery
- S&C gauges

Work planning considerations:

- All necessary preparatory works completed, e.g. fettling of S&C
- Location
- Signalling requirements
- Inspect site and assess work required, ensuring extent of works is suitable for hand grinding

Method

1. Clear worksite of all debris and flammable materials
2. All grinding works to be carried out in accordance with NR/SP/TRK/053 Inspection and Repair Procedures to Reduce the Risk of Derailment at Switches
3. Remove all lipping from the crossing, switchblade, stock rails & closure rail.
4. Undertake MPT on ground section to identify crack size and location.
5. Scope work required into manageable area(s) depending on the depth of defect/severity of RCF.
6. Remove cracking with multiple passes of grinding equipment over individual defects/sites as identified above.
7. The Bar Gauge with the correct templates should be used throughout the grinding process to achieve the correct railhead profile.
8. Undertake MPT on ground section to ensure that all cracks have been removed.
9. Repeat steps 5 to 7 on all defects/sites to be treated by hand grinding.

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10. Once all cracks have been removed, undertake final re-profiling works over the whole of the worksite and blend into un-ground section.
11. Where cracks have not been completely removed and the maximum depth of grinding had been undertaken, minimum actions shall be adopted as specified in NR/SP/TRK/001.
12. Check final profile at every sleeper or support location in the worksite using the Bar Gauge.
13. Clear any grinding dust, debris or obstructions from flangeways and baseplates.
14. Where works have been undertaken on a set of switches S053 inspection to be carried out, if working on a crossing undertake an S054 inspection, to ensure that the S&C unit is within the appropriate specification tolerances. Implement any arising minimum actions as required.
15. Where works have been undertaken on a set of switches S&T to undertake FPL examination, making any necessary adjustments.
16. Clear all debris from the worksite.
17. Complete the relevant documentation; TEF/3042, TEF/3029, TEF/3031, FPL forms.

References

Supports Ellipse Standard job

- 009083 S&C - RCF Prevention - Hand Grind

If applicable refer to the following associated documents:

- NR/SP/TRK/001 Inspection and Maintenance of Permanent Way
- NR/SP/TRK0053 Inspection and repair to reduce the risk of derailment at switches
- NR/GN/TRK/7001/TWI4P001 How to decide on whether to grind rails
- NR/L3/TRK/002/J02 Track – Magnetic Particle Testing (MPT)
- TEF 3029 Detailed switch inspection report (053)
- TEF 3031 Cast crossing inspection report (054)
- TEF 3042 Hand grinding record form

- Risk Control Sheets
- NR/L3/MTC/0002/TK000 Generic Track Risks
- NR/L3/MTC/0002/TK203 Grind Rails
- NR/L3/MTC/0002/TK701 Magnetic Particle Testing