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Managing track in cold weather

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1 Scope

This module of NR/L2/TRK/001 covers:

a) precautions to be taken prior to the start of the cold weather period;

b) limitations on work to be undertaken during cold weather (for on-track machine work and other maintenance works).

2 Definitions

See Glossary (NR/L2/TRK/001/mod01).

3 Precautions to be taken prior to the start of cold weather

3.1 Adjustment switch gaps and overlaps

Check adjustment switch gaps. Reset if gaps are to large.

3.2 Ball and Claw setting

As part of normal supervisor inspection, check that in cold weather the Ball is towards the crossing.

3.3 Expansion joints

Where expansion joints are too wide, plan rail adjusting for completion before the onset of colder weather to minimise the risk of fishbolt and fishplate failure.

3.4 High stress free temperature (SFT)

Re-stress any sections of track where the the SFT is above 30C before the onset of cold weather.

3.5 Insulated joints

Maintain/replace insulated joints to resist rail tensile forces in colder weather.

3.6 Monitoring alignment

Monitor alignment against fixed references, where there is a history of lateral movement.

NOTE: movement is likely when the rail temperature is below 0°C, or where the track radius is below 600m or where the cant is 100mm or more.

When inward movement of a curve occurs there will be a reduction in SFT. Restore the alignment and, if necessary (see NR/L2/TRK/001/mod03), re-stress the CWR before the onset of hot weather.

If structural, OLE and/or passing clearances are compromised, take immediate action to restore the original alignment.

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3.7 Ballast in four foot around point operating equipment and stretcher bars

Maintain the level of ballast in the four foot, in bays containing point operating equipment and stretcher bars, at a level 100mm below bearer top.

NOTE This is to to keep ballast clear of signalling equipment and prevent points operation problems due to freezing resulting from a build up of snow.

4 Work limitations during cold weather

4.1 On track machines (OTM)

4.1.1 Minimum temperatures

Do not operate OTMs if the rail temperature is below the values in Table 1.

Table 1 - Minimum rail temperatures for operating on track machines (OTM)

	Tampers: plain line and S&C	Stoneblowers: plain line	Stoneblowers: S&C
Cant <90mm	-7°C	-4°C	0°C
Cant ≥90mm	-7°C	0°C	0°C
Cant deficiency >150mm	0°C	0°C	0°C
Radius <600m	0°C	0°C	0°C
Within 90m of any adjustment switch (see note)	0°C	0°C	0°C

Note:
Unless site-specific mitigation is agreed in advance with the RAM[T]

4.1.2 Other considerations

a) At rail temperatures between 0°C and +4°C, consider and review the risks associated with tamping wet or previously frozen ballast.

b) Make a note on TEF3071 if sites are treated between 0°C and -7°C. Monitor track quality following the work and review next track geometry recording information.

c) Stop work if problems are encountered with encoder wheels (whatever the temperature). Work should be halted until the site can be measured accurately.

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4.2 Non-OTM work

Do not carry out work which may reduce the stability of track if the rail temperature is below the values in Table 2.

Table 2 - Minimum rail temperatures for non-OTM work

Location	Temperature
Cant ≥90mm (stressed curves)	0°C
Cant >150mm	0°C
Radius <600m	0°C
Within 90m of any adjustment switch (see note)	0°C
All other locations	-7°C

Note:
Unless site-specific mitigation is agreed in advance with the RAM[T]

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