



SECTION 9
INFRASTRUCTURE
MAINTENANCE VEHICLES
OPERATIONS

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1.0	18/10/11	For publication
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Summary of changes from previous version

Section	Summary of change

INTRODUCTION

Infrastructure maintenance vehicles when operating on rail are used to carry out work on or about the infrastructure.

Infrastructure maintenance vehicles approved to operate on the CRN are listed in **General Instruction Pages Section 11, INFRASTRUCTURE MAINTENANCE VEHICLE DATA**.

Infrastructure maintenance vehicles must be operated in accordance with the CRN *Network Rule CNWT 316 Track Vehicles*.

TYPES OF INFRASTRUCTURE MAINTENANCE VEHICLES

There is a wide variety of types of infrastructure maintenance vehicles. Some vehicles are restricted in operation to certain areas, such as in worksites only and/or, outside the electrified area. These restrictions are identified by exception in **General Instruction Pages Section 11, Infrastructure Maintenance Vehicle Data**.

Types of infrastructure maintenance vehicles are:

On-track infrastructure repair vehicles

On-track vehicles include tampers, ballast regulators, overhead wiring vehicles, rail grinders, tracklayers, ballast cleaners, etc.

These are specialised vehicles that are usually rail bound. However, some vehicles can be removed from the track by the use of special take-offs or portable turnouts.

Road/rail vehicles

A *road/rail vehicle* is a rubber tyred road vehicle fitted with retractable rail wheels. These vehicles can be readily placed on or removed from track at suitable locations.

Flat top trolleys and trailers

Trolleys are small non-powered vehicles used for conveying tools and equipment along the track. They can be easily removed from the track. A trolley must not be towed or pushed by other vehicles. Hand trolleys must be fitted with a failsafe braking system.

A trailer is similar to a trolley but is fitted with a tow bar for connecting to another vehicle.

Quadracycles and trikes

Quadracycles and trikes are not permitted on the CRN.

EMERGENCY EQUIPMENT

Infrastructure maintenance vehicles must carry the minimum following emergency equipment:

- Working two-way radio communication,
- *Track Occupancy Authority* forms (CNRF 002)
- *Condition Affecting the Network* forms (CNRF 004)
- Two red and one green flag
- at least 12 non-expired detonators in a lockable container
- Two multicoloured hand lamps or torches
- Three (3) approved track-circuit shorting clips.

Qualified workers operating infrastructure maintenance vehicles must carry the minimum following emergency equipment:

- Watch
- SL key
- One pad of *Track Occupancy Authority* (CNRF 002) forms
- One pad of *Special Proceed Authority* (CNRF 005) forms

SPEED OF INFRASTRUCTURE MAINTENANCE VEHICLES

The maximum permissible speed for on-track infrastructure vehicles is listed in **General Instruction Pages Section 11, Infrastructure Maintenance Vehicle Data**.

Trailers not attached to a motorised vehicle, and trolleys must travel at walking pace under the supervision of a person or persons.

Some road/rail vehicles have speed restrictions when traversing track fitted with check rails, guard rails and level crossings. Refer to the notes in **General Instruction Pages Section 12, Road-Rail and Trolley-Trailer Vehicle Data**.

Hand operated trolleys and trailers must be fitted with a failsafe braking system that will automatically stop the vehicle if the operator releases a hold of the vehicle.

LIGHTS

When infrastructure maintenance vehicles are on track, an orange flashing light or hazard lights must be switched on such that they operate when conditions change, such as:

- the vehicle brakes are applied
- the horn (whistle) is operated
- the vehicle reverses,
- or as otherwise required for safety.

Refer CRN Network Rule **CNWT 316 Track Vehicles**.

Trolleys and trailers need not display any lights during daylight. When operating at night, in heavy fog, or in tunnels, suitable front and rear lights (e.g. hand lamps) must be displayed in accordance with **CNTR 406 Using train lights**.

TRANSFER OF INFRASTRUCTURE MAINTENANCE VEHICLES

Vehicles marshalled in a locomotive hauled *train consist*

Some infrastructure maintenance vehicles are fitted with automatic couplers and automatic air brakes which will allow them to be coupled to a train and transferred within a train consist. Such vehicles are identified with **Note T2** in the **General Instruction Pages Section 11, Infrastructure Maintenance Vehicle Data**.

When an infrastructure maintenance vehicle is marshalled within a train consist, the draw capacity for the vehicle must not exceed that listed in the **General Instruction Pages Section 11 Infrastructure Maintenance Vehicle Data**.

The automatic air brake must be connected throughout the train including the infrastructure maintenance vehicle. The infrastructure maintenance vehicle must be inspected as a part of the train consist.

If an infrastructure maintenance vehicle is not fitted with an external handbrake or spring parking brake and is marshalled as the last vehicle in the train consist, an operator must travel in the vehicle at all times. Some infrastructure maintenance vehicles are fitted with a spring parking brake and therefore do not require an operator on board.



WARNING

When infrastructure maintenance vehicles that are not approved to operate track circuits are attached to the rear of a train consist, the train must be operated under block working.

Infrastructure maintenance vehicles coupled together

Some infrastructure maintenance vehicles can be coupled together and be operated as a single unit or train. In this case, the operator in the leading vehicle must have full control of the air brakes for all vehicles in the train consist.

INFRASTRUCTURE MAINTENANCE VEHICLES OPERATING TRACK CIRCUITS

Some vehicles have been tested for operation of track circuits, and are approved to operate under track signals, and not under block working. These vehicles are identified with **Note T3** in the TOC **General Instruction Pages Section 11, Infrastructure Maintenance Vehicle Data**.

However, these vehicles must operate under block working when on *“infrequently used lines, loops or refuges”*

“Infrequently used lines, loops or refuges” refers to a track circuited line, loop or refuge that has had less than six trains (each approximately equivalent to an 8 car passenger set in length) or 5000 tonnes traverse it, at or near line speed, in a 24 hour period.

INFRASTRUCTURE MAINTENANCE VEHICLES RESTRICTED TO OPERATION WITHIN WORKSITES

There a number of infrastructure maintenance vehicles that are restricted to operation only within protected worksites. These vehicles are identified with **Note T14** in the TOC **General Instruction Pages Sections 11 and 12, Infrastructure Maintenance Vehicle Data and Road-Rail and Trolley-Trailer Vehicle Data**, respectively.

No other vehicles will be permitted to pass these vehicles on any adjacent lines until these vehicles have come to a stand and are confirmed to be clear of the adjacent line by the Protection Supervisor.

These infrastructure maintenance vehicles are not to travel on rail between worksites.

INFRASTRUCTURE MAINTENANCE VEHICLES OPERATING SAFETY

To meet CRN operating safety requirements, infrastructure maintenance vehicles identified with **Note T18**, in Section 11 of this manual, shall operate in travel mode with a driver safety system incorporating two (2) independent safety features. See **Note T18** in Sections 11 and 12 and CRN Standard CRN RS 013, for details.

ROAD-RAIL INFRASTRUCTURE MAINTENANCE VEHICLE RAIL CERTIFICATION

All ROAD-RAIL infrastructure maintenance vehicles and Trolley/Trailer vehicles must be Rail Certified and carry a Rail Certification Sticker in order for them to operate on the CRN.

Vehicles shall have their ownership, technical details, rail certification and approval recorded on the CRN Infrastructure Maintenance Vehicle Register or be covered by an appropriate TOC waiver before being permitted to operate on the CRN.

The vehicle register will be available on a public accessible website for viewing the approval status of each certified vehicle.

Refer to CRN Standard CRN RS 006 for road-rail vehicle minimum operating requirements.

Refer to CRN Standard CRN RS 016 for road-rail vehicle certification and re-certification requirements.