



## AUSTRALIAN RAIL TRACK CORPORATION LTD

Discipline: Engineering (Track & Civil)

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# Using Temporary Take Offs

## ETW-03-01

### Applicability

ARTC Network Wide	✓
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### Document Status

Version	Date Reviewed	Prepared by	Reviewed by	Endorsed	Approved
1.1	14 Jun 13	Standards	Stakeholders	Manager Standards	General Manager Technical Standards & Environment

### Amendment Record

Version	Date Reviewed	Clause	Description of Amendment
1.0	28 Feb 11		Supports type approval for temporary take offs. Includes updates following Risk & Safety Committee conditional approval.
1.1	14 Jun 13	1.2; 1.5 & 2.0	Updated to prohibit the use of temporary take offs within the track circuit or predictor activation zone for a level crossing. References to withdrawn/superseded documents updated and references to CRN removed.

### Document Distribution List

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# Contents

1	Introduction .....	3
1.1	Purpose .....	3
1.2	Scope .....	3
1.3	Work Instruction Owner .....	3
1.4	Responsibilities .....	3
1.5	Reference Documents .....	3
1.6	Definitions .....	3
2	Mobilisation and Pre-work activities .....	4
3	Set-up .....	4
3.1	Stage 1 .....	4
3.2	Stage 2 .....	5
3.3	Stage 3 .....	5
3.4	Stage 4 .....	5
3.5	Stage 5 .....	5
4	Daily Use Steps .....	6
4.1	Entry to Temporary Siding .....	6
4.2	Entry to Running line .....	6
5	Handing Back the Main/Running line .....	6
6	Photo and Geometry Drawing .....	7

# 1 Introduction

## 1.1 Purpose

The purpose of this Work Instruction is to outline how the temporary/portable take offs are to be safely assembled, used and disassembled.

## 1.2 Scope

This Work Instruction covers the use of temporary take offs across ARTC. It is intended for use by rail bound track machines like tampers and regulators, etc. Axle load limit is a maximum 17 tonnes and a maximum speed of 5 km/h when traversing temporary take off.

Not to be used for freight vehicles, locomotives or large track machines like rail grinders or tracklaying machines (Ponies or SMD 80, etc).

The temporary take offs must not be used within the track circuit or predictor activation zone for a level crossing.

## 1.3 Work Instruction Owner

The Manager Standards is the Work Instruction Owner and is the initial point of contact for all queries relating to this work instruction.

## 1.4 Responsibilities

The Site Supervisor is responsible for the implementation of this work instruction.

The Project or Delivery Manager is responsible for managing the process.

The Protection Officer is to manage all Safeworking aspects associated with this work instruction.

## 1.5 Reference Documents

The following documents support this work instruction:

- Track geometry - ARTC T&C Code of Practice, Section 5
- For temporary sidings in NSW/QLD - ETD-00-06 'Light Duty' Maintenance Siding Specification
- Work Method Statement - TRA-056 Installing and Using Temporary Take Offs
- Thompsons-Byron Jackson portable take off Capacity Review Report – Janus Track & Civil

## 1.6 Definitions

The following terms and acronyms are used within this document:

Term or acronym	Description
Derail/scotch block	Device that mechanically or by locking over a rail restrains a low speed rail vehicle. In this Work Instruction, will prevent rail vehicle running off temporary track and towards the mainline.
Temporary take off	Also known as temporary turnout or portable turnout. A temporary take off is completely different to a normal turnout as it enables the track vehicles to climb over the rails in the mainline without having to affect them in any way.
Site Supervisor	A person with the competency to certify track is acceptable for rail traffic after works have been completed with competency equivalent

Term or acronym	Description
	to TLIB 9909A (Examine track infrastructure).
Protection Officer	The Qualified Worker responsible for protection under the applicable Network rules (also known as the Safeworker in Charge).

## 2 Mobilisation and Pre-work activities

- Site selection must ensure that the temporary siding or spur line falls away from the mainline with a minimum grade of 1 in 200 and be capable of accommodating a fully operational derail or lockable scotch block past the clearance point from the mainline on the cess side and have an area where a derailed machine can be directed without hitting any objects. The site where the equipment will be placed under the mainline needs to be free of welds and have correct sleeper spacing.
- Upon arrival on site confirm that all essential staff, machinery and plant are available and undertake a Pre Work Brief including where required a review of relevant Work Method Statements (WMS).
- The Protection Officer must advise the Network Controller of the type of work being performed and the implementation of the appropriate worksite protection for undertaking the work - before any work is commenced. This must include confirmation with the Network Controller that the temporary take off will be in operation and therefore no other rail traffic can enter the section until the top rails have been removed.
- Check that all the temporary turnout components are on site.

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Note: The temporary take offs must not be used within the track circuit or predictor activation zone for a level crossing.

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## 3 Set-up

### 3.1 Stage 1

- Measure and mark up the main line of the start point for the temporary take off to be located.
- Mark up the following locations for the sleeper bays to be cleared of the ballast for the holding brackets/frames.
  - Sleeper bay 2, 4, 6, 8 & 9 from the start point, both sides under the rail.
  - Sleeper bay number 12, 16, 20 & 24 from the start point, outside rail only.
- Place a ballast ramp on the small area identified for the locations that the sleeper panel's start and the temporary take off finishes.
- Level off the area identified for the locations that the sleeper panels start and down to the end.
- Place the 6 holding block frames on the foot of the rail, and secure them in place by tightening the attached bolts.
- Place the 18 holding brackets in the cleared holes under the rails, in preparation for the temporary take off to be place on top of the concrete sleepers.
- Using the hiab crane/front end loader, etc to place the 1<sup>st</sup> ramped sections (up rail & down rail) of the points in place aligning with the pre-markings, once in place secure the section onto the block frames, ensure the locking pins are in place and secured using the locking pin. The pins are not to be hit into place, if they are not able to be pushed into place the holes in the frame & blocks need to be re-centred.

- Now that the 1<sup>st</sup> section is in place and secure, place the 2<sup>nd</sup> section 4ft and outer side section cress side, in place using the hiab crane/front end loader, etc aligning it up with the first section, and connect the holding brackets to the frame, ensure that all the frames are in the correct position and tighten up the lock nuts to secure the frame.
- Now that the 2<sup>nd</sup> section is in place and secure, place the 3<sup>rd</sup> and final section in place, making note that the clearance from the inside edge to the running face and outside edge is 60mm.
- A final check that all bolts and lock nuts are in place is required.

### 3.2 Stage 2

- Now that the underframe is in place, the top running rails can be put in place on top, these sections have sliding hinges to interlock the temporary take off, to stop the take off moving during using.
- The sections can now be placed in position starting from the first two sections after the front ramped sections already secured in place on the main line.
- The next sections are the rail that cross over the main running rail, and the outer side rail, these again interlock and are held in place with a holding pin.
- The final section of the top running rail is the ramp off section into the siding panels, this section also interlocks with the under frame and is secured in place using the locking pins.

### 3.3 Stage 3

- The preassembled 13 metre concrete/timber/steel sleeper panels are to be laid out in place and secured using fish plates, bolts and washers.
- Secure baseplates to the holes in the webs of the sleeper panels using bolts. Recommended support spacing is 1300mm to 1350mm.
- If take off is installed on the concrete-sleepered track, manually pack ballast where the baseplates occur near the track centre in the 4ft.
- If take off is installed on the timber-sleepered track, place plain 500mm square loose plates under the baseplates.
- The stop block at the siding end is to be secured to the panel, and also attached a visual stop sign.
- The derail is to be attached to the temporary track beyond the clearance point, on the cress/field side rail.

A super elevation board is to be used to ensure that track is suitable for operation at 5 km/h e.g. no excessive long or short twists are evident in the panels and temporary take off.

### 3.4 Stage 4

- Once all the above stages are completed, a person with competency for certifying track as fit for use, must undertake a detailed inspection on the temporary take off & siding prior to it being used, if any defects are found they are to be repaired prior to it being used.

### 3.5 Stage 5

- Now that all the above set up stages are complete, the top running rails can be removed, this will allow for the running of rail traffic, over the under frame, and placed clear of the running line.
- The site supervisor is to recheck that all holding blocks are still secured to the rail; also the holding brackets are still secured to the rail and under frame.

## 4 Daily Use Steps

### 4.1 Entry to Temporary Siding

- The resurfacing/track machines arrive back to the temporary take off location, stopping clear of the location that the ramp top rail section is to be placed.
- The ramp rail top sections can be placed over the main running rail and locked and secured in place. The pins are not to be hit into place, if they are not able to be pushed into place the holes in the frame & blocks need to be re-centred.
- The resurfacing/track machines are now able to be notified to move into the temporary siding at a speed no greater than 5 km/h.
- Once the resurfacing/track machines are in clear onto the temporary siding the top running rails can be removed, and placed clear of the running line.
- The derail is to be locked beyond the clearance point so that track machines can not access the mainline.
- Once the resurfacing/track machines have been cleared of the temporary take off section and the derail is in place, the worksite protection officer is to notify network control that all resurfacing/track machines are locked away and clear of the running line and fulfil the work on track authority when all the work is completed.
- The site supervisor is to recheck that all holding blocks are still secured to the rail; also the holding brackets are still secured to the rail and under frame.

### 4.2 Entry to Running line

- Upon arrival on site confirm that all essential staff, machinery & plant are available and undertake a Pre Work Brief including where required a review of relevant Safe Work Method Statements ( SWMS )
- Implement the appropriate worksite protection for undertaking the work.
- Once the possession/worksite protection is in place, the top running rail sections can be put in place over the under frame, and secured using the holding pins and bolts.
- Check that the entire temporary take off under frame is still in the correct position and secured.
- The derail can now be removed, allowing the resurfacing/track machines to access the main / running line.
- The resurfacing machines are now able to be notified to move from the temporary siding and proceed onto the main / running line at a speed no greater than 5 km/h.
- Once the resurfacing/track machines have cleared the temporary take off section the top running rails can be removed, and placed clear of the running line.
- The Site Supervisor is to recheck that all holding blocks are still secured to the rail; also the holding brackets are still secured to the rail and under frame.
- The Protection Officer in charge is to notify network control that the temporary turnout rails are clear of the main / running lines.

## 5 Handing Back the Main/Running line

The Protection Officer must ensure that the all components of the temporary take off and siding panels are clear before leaving the site daily, and the derail is in place prior to handing back the track to the Network Controller and completing the safeworking arrangements so that rail traffic can resume.

## 6 Photo and Geometry Drawing



Figure 1 – Photo of Temporary Take Off Installed Ready for Use



Figure 2 – Drawing Showing Geometry of Temporary Take Off

