KiwiRail

Passenger Vehicle Operations Manual

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1. Passenger Restrictions

1.1 Introduction

KiwiRail Ltd has inter-operability agreements with:

- Transdev Wellington
- Dunedin Railways
- Auckland One Rail

Who in addition to KiwiRail, operate passenger services on the KiwiRail Network.

This section contains passenger train operating instructions for the working of passenger services.

Personnel authorised to work on passenger services must also be familiar with instructions affecting the running of their train that are found in:

- KiwiRail Rail Operating Rules, Rules Procedures and Manuals
- KiwiRail Rail Operating Code and relevant Supplements

IMPORTANT

For Train Failures in tunnels, refer to Emergency Procedures Manual, 14. Tunnel Related Emergencies.

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2. Carriage Services

IMPORTANT
To be read in conjunction with instruction 5.5 Unscheduled Passenger Train Routes.

Lines not Authorised for Passenger Trains overrule vehicle class running rights.

2.1 Running Rights

2.1.1 AK, AKC, AKF, AKL, AKP, AKS, and AKV Class Carriages

May run on the following lines:

- NIMT
- NAL (between Westfield and Newmarket only)
- Auckland – Newmarket Line
- PNGL (between Palmerston North and Wairoa only)
- Wairarapa Line
- MNL
- MSL
- Bluff Branch
- Midland Line
- SNL (between Stillwater and Westport only)

2.1.2 All Other A Class Carriages

A Class carriages have running rights on all lines except:

- Johnsonville Line
- Taieri Gorge Railway, and
- all Industrial Sidings.

2.1.3 S, SE, SR, SRC, SRG, SRV, SW, SWG and SWS Class Carriages

May run on the following lines:

- All lines North Island (except Johnsonville Line)
- MNL
- MSL
- Midland Line (S Carriages - between Rolleston and Arthur's Pass)
- Midland Line (SE, SR, SRC, SRG, SRV, SW, SWG and SWS Class Carriages - between Rolleston and Springfield only)

Prohibited:

- All Industrial Sidings
- Taieri Gorge Railway

2.2 Empty Passenger Services

When carriage trains are running empty, and fitted with air bags suspension, a suitably qualified RSAS Engineer or operation person able to monitor air bag suspension systems must accompany the train.

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No one is required to accompany the train if all carriages have coil spring bogies.

2.3 Specific Certification Requirements and On the Job Training

2.3.1 On Board Services (Passengers)

All personnel required to perform on board passenger train duties will receive instructions that includes classroom studies and the practical use of equipment. Mastery must be demonstrated in the core modules before undertaking specialised training in the particular service(s) that may be required.

2.3.2 Passenger Train Inspection

The passenger train inspection requirements are detailed in **ROC Section 5.3 - 5.3 Passenger Trains**

2.4 Passenger Bogie Classification

Rail Vehicle Class	Bogie Spring Type
AK, AKC, AKF, AKP, AKS SR, SRC, SRG, SRV SE, SEG, SES	Air (P11 or S-ride)
A, AKL, AKV, AG S, SW, SWG, SWS	Coil Spring (X28020)

2.5 Air Spring Bogie Carriages on Freight Services

- A suitably qualified RSAS Engineer or operational person able to monitor air bag suspension systems will be in charge with radio link to the Locomotive Engineer
- A minimum of two (2) braked vehicles trailing, maximum trailing tonnage 600 tonne
- The carriages will travel with the brakes on both bogies cut-out, but with the triple valve cut-in to ensure the supply reservoirs continue to be charged from the brake pipe. This is essential to maintain airbag pressure
- Cut-out procedure (whole carriage):
  - Cut-out both bogie brake cylinder isolation cocks (end 1 and 2)
  - Cut-out both park brake isolation cocks (end 1 and 2)
- Before movement
  - Manually release the park brakes on each wheelset by pulling all the bogie release cables
  - Charge up the brake pipe and apply / release brakes at the locomotive. Confirm that the brakes and park brakes do not apply on the cars

2.6 Coil Spring Bogie Carriages and Vans on Freight Trains

- Must run with brakes cut out (BCO) – brakes cut out at triple valve
  - Except AG176 which is single piped and has direct release brakes
- Maximum speed 80 km/h
- Train Manager not required (carriages not fitted with air bags)
- A minimum of two (2) braked vehicles trailing, maximum trailing tonnage 600 tonne

2.7 AK Class Carriages on a Special AK Passenger Train

(Applies to all AK class vehicles and variants)

- AK cars and AKV to be connected and powered up
- Locomotive can use either graduated or direct release brakes, no other direct release braked vehicles to be part of the consist

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- BP and MR to be connected
- Maximum speed 80 km/h
- Train Manager to be in charge with radio link to the Locomotive Engineer.

2.8 Passenger Trains Comprising AK, AKC, AKP, AKF and AKS Carriages

AK, AKC, AKP, AKF and AKS carriages are fitted with a train management system (TMS) which monitors on-board equipment and sounds an alarm when faults occur. When an alarm sounds the Train Manager will use the TMS to identify the fault.

Safety-critical alarms are also transmitted from the carriages to the locomotive using a standard jumper cable as used to connect locomotives operating in multiple and the locomotive alarm bell sounds to alert the Locomotive Engineer.

All AK class trains used in commercial service must run with an AKL, AKS or AKV on each end. This is for protection against collision and to enable the 27-pin jumper cable to be connected to the locomotive in both directions for the Locomotive Engineer to receive the TMS Alarms / Faults through to the cab via the Tranzlog alarm.

2.8.1 Jumper Cables

Passenger trains comprising AK and AKC carriages with passengers aboard must run with a jumper cable connected between AKL, AKS or AKV and the locomotive.

The standard jumper cable carried on locomotives must be used with the following exceptions:

- The short jumper cables carried on DX variant locomotives are not to be used as they are too short
- Must not be coupled to EF locomotives as the jumper cable is not compatible

2.8.2 Alarms / Faults

The locomotive alarm bell will sound for approx. 15 seconds and then stop if one of the following faults occurs when the train is moving:

- An air bag has deflated on an AK, AKC, AKP, AKF or AKS bogie
- A door is open, or a step is extended, a smoke alarm activated or emergency brake activated (Train Safe Alarms)
- A park brake is applied

If at any time the alarm bell sounds, or the Train Manager advises of an airbag fault, the Locomotive Engineer must immediately slow the train to 25 km/h and prepare to stop. If there is no advice from the Train Manager while the train reduces speed the Locomotive Engineer must stop as soon as it is safe to do so.

The train may only resume normal speed after a visual inspection confirms that the airbags are inflated, doors are closed, steps are retracted, and park brakes are released.

2.8.3 Reduced Speed

In the event that an airbag has deflated the train may proceed at no more than 25 km/h to a safe place where passengers can disembark, or the defective carriage can be removed from the consist.

If a jumper is damaged en route, or it is necessary for any non-passenger locomotive like an EF locomotive to rescue a service comprising AK and AKC carriages, the service may operate at normal speed provided the Train Manager first confirms that the train closed light (Train Safe) is illuminated at the door control panels (park brakes are off and air bags inflated) and they are positioned to continuously monitor the TMS.

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The Train Manager must alert the driver of any safety critical alarms while there is no jumper in place. If continuous monitoring is not possible, then the service is limited to no more than 55 km/h.

2.9 Passenger Trains comprising SR, SRC, SRV, SRG Carriages

SR class carriages are fitted with a train management system (TMS) which monitors on-board equipment and communicates with a TMS equipped locomotive. When an alarm sounds, the Train Manager and Locomotive Engineer will use the TMS to identify the fault.

TMS data is transmitted from the carriages to the locomotive using a TMS jumper cable.

2.9.1 Jumper Cables

Passenger trains comprising SR class carriages with passengers aboard have a jumper cable connected between SR or SRG and the locomotive.

NOTE
SRV have a driver's cab

If a failure of a jumper cable occurs then refer Code Supplement CS4.16, 23. Faults

2.9.2 Alarms / Faults

The TMS alarm will sound if one of the following faults occurs when the train is moving:

- An air bag has deflated on a bogie
- A door is open, or a step is extended
- A park brake is applied
- A smoke alarm is activated

If at any time the TMS alarm or the Train Manager indicates an airbag fault, the Locomotive Engineer must immediately slow the train to 25 km/h and prepare to stop. If there is no advice from the Train Manager while the train reduces speed the Locomotive Engineer must stop as soon as it is safe to do so.

The train may only resume normal speed after a visual inspection confirms that the airbags are inflated, doors are closed, steps are retracted, and park brakes are released.

2.9.3 Reduced Speed

In the event that an airbag has deflated, the train may proceed at no more than 25 km/h to a safe place where passengers can disembark, or the defective carriage can be removed from the consist.

If a jumper is damaged en route, or it is necessary for any non-passenger locomotive to rescue a service with air spring bogie carriages, the service may operate at normal speed provided the Train Manager first confirms that doors, steps, and park brakes are safe and a suitably qualified person is situated in the SRV / SRG cab to monitor the TMS and provide door release.

The Train Manager must alert the driver of any safety critical alarms while there is no jumper in place. If continuous monitoring is not possible, then the service is limited to no more than 55 km/h.

2.9.4 Te Huia Train Configuration

The configuration of the Te Huia train will be:

- SRV as an end carriage,

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- 2 x SR carriages, and
- SRC at the other end

Any additional SR carriages must be placed in the middle of the consist.

There must be either an SRV or SRC carriages on each end of the consist.

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3. Maximum Passenger Loadings

3.1 Suburban Multiple Unit Trains

The maximum number of passengers are:

Operating Company	Car Set Value	Number of Passengers
Transdev	2	377
Auckland One Rail	3	592

3.2 Wellington Metro – Carriage Services

The maximum numbers of standing passengers are:

Carriage Class	Maximum number of standing passengers
A Class Carriages	25 standing
S, SW, and SE Carriages	21 standing

3.3 SR Carriage Services

The maximum number of passengers are:

Carriage Class	Maximum number of passengers
SR	50 seated
SRC	21 seated
SRV, SRG	38 seated

3.4 KiwiRail Great Journeys Services and Excursion Trains

The maximum number of passengers permitted to ride in AK class carriages are:

Carriage Class	Maximum number of passengers
AK	63 seated, 9 standing
AKC	10 seated, 30 standing (servery queue), 4 crew
AKV (Observation deck)	20 standing
AKL (Luggage van)	A ‘no-ride’ vehicle. No passengers or staff to be carried
AKS (galley car) AKF (galley car)	2 staff seated, 8 staff working / standing
AKP	56 seated, 16 standing

3.4.1 Excursion Trains – Heritage Carriages

Heritage carriages – 10 standing passengers per carriage

Also refer to **Passenger Vehicle Operations Manual, 7.8 Heritage Carriages**.

3.5 Passenger Loading Limit Exceeded

When the number of passengers offering on KiwiRail Great Journeys, Wairarapa Services, or excursion trains exceeds the limit, the maximum load may be exceeded provided the maximum speed of the train is reduced to freight train speed for the line concerned. The Train Manager must advise the Locomotive Engineer and the Train Controller that the passenger limit has been exceeded.

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4. Electric Multiple Unit (EMU) Services

4.1 Running Rights Wellington

EMU trains of FP and FT class (Matangi) may run on electrified lines between:

- Wellington and Waikanae
- Wellington and Upper Hutt
- Wellington and Melling
- Wellington and Johnsonville

4.2 Running Rights Auckland

Electric multiple unit trains of AM class may run on electrified lines:

- between Pukekohe and Auckland (both routes)
- between Newmarket and Swanson
- on the Onehunga Branch
- on the Manukau Branch

4.3 FP and FT Class Restrictions

Wellington Electrified Network – EMU train power restrictions:

	1 Unit (2 Car)	2 Unit (4 Car)	3 Unit (6 Car)	4 Unit (8 Car)
Wellington – Upper Hutt	Yes	Yes	Yes	Restricted (2)
Petone – Melling	Yes	Yes	Yes	Restricted (2)
Wellington – Waikanae	Yes	Yes	Yes	Restricted (1)
Wellington – Johnsonville	Yes	Yes	Yes (3)	No

Special Restrictions – Wellington Electrified Network 8 Car EMU restrictions (see table above)

1. **Wellington – Waikanae:**

a. Two 8-car trains must not run at the same time if either the Pukerua Bay sub-station or Paekākāriki sub-station is not operational.

2. **Wellington – Upper Hutt and Melling:**

a. Three 8-car trains must not be scheduled to run in the Woburn to Upper Hutt section at the same time.

3. **Johnsonville Line:**

a. Only 2 pantographs per train can be raised at any time on the Johnsonville line.

Any variation to the above restrictions must be authorised by bulletin on the authority of a Traction Engineering Representative.

4.3.1 Speed

For test purposes only, FP and FT Class (Matangi) Electric Multiple Units may run at speeds up to 100 km/h between Wellington and Upper Hutt under the following conditions:

- Only permitted where 90 km/h is the permitted speed

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- Speeds exceeding the normal line speed must be conducted clear of road and pedestrian crossings and station platforms

4.3.2 Recovery

- During recovery situations, at least 50% of the power cars must be operational
- Not to couple with S, SE, or SW carriages, due to S series carriage concertina interference with Matangi couplers

4.3.3 Overhead Traction Power Overloading

It is possible during disruptions that due to an unusually high number of EMUs (bunching) in any given section, that some traction sub-stations will not cope with the high loadings and may trip out.

Should this occur, Traction Control will convey the details of the area affected to the Train Controller

When clearance to run services has been received, the Train Controller must identify the location of EMUs in the affected section and individually stagger the movements of services until they are clear of the section.

This instruction will remain in place until Traction Control confirms with the Train Controller that normal operations can resume.

4.3.4 General

Passengers must not be conveyed on locomotive hauled EMU outside their normal operating area without the authority of the Depot Manager, Passenger Vehicle Depot, Transdev Wellington.

4 Unit (8 Car) Matangi sets may operate in multiple within the north yard, west yard, and EMU depot areas, and for put and take movements to the Wellington station platforms

4.3.5 Johnsonville Line

All passenger stock except FP / FT Matangi Electric Multiple Unit carriages are prohibited from running between Wellington and Johnsonville.

4.4 AM Class Restrictions

4.4.1 Speeds

AM Class rolling stock may travel at maximum posted line speed, up to a maximum of 110 km/h and must obey all permanent speed restrictions as listed in the local network instructions, and temporary speed restrictions as specified in the applicable KiwiRail Speed Restriction advice.

AM Class vehicles with deflated or isolated airbag(s) will be automatically restricted to 80 km/h.

AM Class EMU movements on the Wiri North EMU Exchange and West EMU Exchange are authorised to travel up to 50 km/h except that such movements must not exceed 40 km/h between 1818 Signal and 1856B Points. **TO10 Network Line Speeds, 4.4 Lines other than Main and Branch Lines** is modified accordingly.

When specific test requires speeds up to and including 121 km/h, a special bulletin will be issued authorising the test.

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5. General

5.1 Wagons on Passenger Trains

Freight wagons must not run on passenger trains unless authorised by both the GGM Operations and GGM Rolling Stock and a special bulletin issued.

5.2 Maximum Number of Vehicles on Passenger Trains

Trains conveying passengers must not consist of more than 20 vehicles (excluding the locomotive).

5.2.1 Through Otira Tunnel

Special combinations of maximum numbers of vehicles and locomotives apply. These are given with other Otira Tunnel instructions in **L6.1 Local Network Instructions.**

5.3 Passenger Vehicles on Trains / Shunts

Vehicles conveying passengers must not travel on these trains unless authorised by both the GGM Operations and GGM Rolling Stock and a special bulletin issued. When authorising the travel the Group General Managers will consider hazardous freight, stacked and less than full freight containers, unenclosed loads / containers on the train as well as other mechanical issues. The Locomotive Engineer must be specifically advised to allow for train handling techniques to be adapted for passengers.

- For A series vehicles the tonnage behind the leading passenger vehicles (either conveying passengers or empty) must not exceed 600 tonnes. The passenger vehicles should be placed as close as possible to the rear of the train
- S series vehicles (either conveying passengers or empty) must be placed at the rear of the train

5.4 Passenger Trains Running without AG Van as Last Vehicle

Passenger trains may run with a passenger car instead of AG as the last vehicle.

The air brake must be in operation throughout the train. The exception is when provisions of **TO02 Train Brakes 7.1 Unbraked or Unpiped Rail Vehicles** apply. The last vehicle must have an effective park brake and be fitted with built in tail lamps or brackets to carry tail lamps.

If taillight brackets are not fitted to passenger cars the taillight must be secured to the rear of the train by other means.

5.5 Unscheduled Passenger Train Routes

IMPORTANT

Local Network Instructions and **Instruction 2.1 Running Rights** must be cross-referenced for route-specific restrictions.

5.5.1 Lines Authorised for Passenger Trains

Unscheduled passenger services may operate on the lines detailed below.

North Island	South Island
NAL: Newmarket to Swanson	MNL

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NIMT	Midland
Newmarket Branch	**MSL:** Addington to Rolleston Oamaru to Wingatui
Manukau Branch ++	Port Chalmers Branch
Onehunga Branch ++	Taieri Branch
Wairarapa Line: Wellington to Masterton	
Johnsonville Line ** ++	
Melling Branch ++	

** Only EMU rolling stock is permitted.

++ Heritage vehicles are not permitted.

5.5.2 Lines Authorised for Passenger Trains – Subject to Inspection 7 Working Days

A track inspection is required a maximum of 7 working days before the day of service, the Infrastructure Manager must be contacted not less than 20 working days in advance. They must conduct a review of existing faults that need to be rectified or mitigated and ensure a track inspection is completed 7 days before the train enters the area.

The exception with this category is no material impediments to granting permission to run.

North Island	South Island
Mission Bush Branch	**MSL:** Lyttelton to Addington Rolleston to Oamaru Wingatui to Invercargill
ECMT	
Kinleith Branch	
Mt Maunganui Branch	
MNPL: Marton to Whareroa	
PNGL: Palmerston Nth to Napier	

Adverse Weather Warning

If these have occurred since the last track inspection, the line must be inspected before the excursion train departs on that line, regardless of any prior inspections.

The Train Controller must be advised of the inspection results before the train departs from the starting station.

5.5.3 Lines Authorised for Passenger Trains – Subject to Inspections 48 Hours

Track Inspections occurring a maximum of 48 hours before the day of service, the Infrastructure Manager must be contacted not less than 40 working days in advance. They must conduct a review of existing faults that need to be rectified, or mitigations applied and ensure a track inspection is completed 48 hours before the train enters the area.

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NOTE
Lines included in this section may in future, be reclassified into 5.5.4 (Freight Train Only Lines). Rail Operators should assume there may be material impediments to granting permission to run.

North Island	South Island
Wairarapa Line: Masterton to Woodville	
MNPL: Whareroa to Moturoa	
Wanganui Freight Branch	
Napier Freight Branch	

Adverse Weather Warning

If these have occurred since the last track inspection, the line must be inspected before the excursion train departs on that line, regardless of any prior inspections.

The Train Controller must be advised of the inspection results before the train departs from the starting station.

5.5.4 Freight Train Only Lines

The following lines are not authorised for passenger trains:

North Island	South Island
NAL: Swanson to Otiria	Rapahoe Branch
PNGL: Napier to Wairoa	Ohai Line
Gracefield Branch	Hornby Branch
Rotowaro Branch	Stillwater to Ngakawau Line
Hautapu Branch	Hokitika Line
Waitoa Branch	Bluff Branch
Murupara Branch	All Industrial Sidings
Kapuni Branch	
Castlecliff Branch	
All Industrial Sidings	

5.5.5 Special Authorisation to Operate on Freight Only Lines

Only KiwiRail may request a variation or special exemption to run on these lines. The Chief Infrastructure Officer must approve these requests.

A detailed risk assessment relating to infrastructure conditions and any unique geographical consideration must be completed as part of the request.

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6. AG Luggage Vans – Generator Instructions

6.1 Generators (Inside AG Van)

6.1.1 To Start

1. Check emergency Stop buttons have not been depressed.
2. Turn switch to Run and leave in this position.
3. Once fans have started, turn on circuit breaker (large one next to start panel).

6.1.2 To Stop

1. Turn main circuit breaker Off
2. Move the start switch to Off

6.1.3 Faults

If the motor shuts down check warning lights:

- Low oil - Check oil level in sump and add oil if necessary
- Low water - If engine temperature light is illuminated add water. Allow engine to cool before removing radiator cap to refill

6.2 Main Power Failure on Train

If this occurs check:

- Circuit breaker on generator control panel is On
- Emergency resetting service in van is Off
- Generator is running
- All warning lights are Off. Check on the engine control panel for possible cause
- Make sure the generator is set up for generator supply. Shore supply will not allow the unit to run unless connected to electricity
- Between cars check cable is correctly coupled. Do not attempt to recouple or uncouple unless the main generator circuit breaker has been turned off as there is 100 amps running through these cables

6.3 Shore Power Supply Instructions

6.3.1 Connecting to Train

1. The AG Van must be lined up with the shore supply connection point
2. The train must be secured, and the locomotive detached
3. Check to make sure that all carriage air conditioning units have been turned off. Failure to do so will overload and trip the shore power supply. But if this occurs the power supply circuit breaker can be reset
4. Turn the generator set off
5. Turn the generator / shore supply selector switch on the generator set to shore supply
6. Switch the circuit breaker on the generator control panel On
7. Connect the power cable (kept in the generator compartment of the AG Van)
8. Switch the power supply On at the supply box on the platform
9. Check to see if the bottle coolers and refrigerators are working. The lights will be on if they are working

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6.3.2 Disconnecting from Train

1. Switch off power supply at power box on platform
2. Disconnect power cable and store in generator compartment
3. Switch circuit breaker on generator control panel Off
4. Turn the generator / shore supply selector switch to generator
5. Start generator set and run for one minute
6. Switch main circuit breaker On
7. Check that the bottle cooler and food chiller are working
8. Leave the generator running for departure of service. Air conditioning units must not be turned on until the generator is operating correctly

6.3.3 All Faults Must be Recorded on a Loco 54 Repair Form

If units fail to start or circuit breakers fail to hold, there may be a fault or the connections may be incorrect. Retrace your steps. If a problem still exists, contact a Rolling Stock Representative.

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7. Heritage Services

7.1 Introduction

KiwiRail has Rail Access Agreements with the following Rail Operators:

- DBM Contracting
- Diesel Traction Group
- Feilding & District Steam Rail Society
- Gisborne City Vintage Railway
- Glenbrook Vintage Railway
- Main Line Steam
- Pahiatua Railway Society
- Steam Incorporated
- Dunedin Railways

In addition to these instructions, Rail Personnel authorised to work on passenger services must also be familiar with instructions affecting the running of their train, which are contained in the following:

- KiwiRail Rail Operating Rules, Rules Procedures and Manuals
- KiwiRail Rail Operating Code and relevant Supplements.
- Heritage Operating Manual.

IMPORTANT

For train safety in a tunnel, refer to Emergency Procedures Manual, 14. Tunnel Related Emergencies.

7.2 General Instructions

Heritage trains can be either steam or diesel excursions.

All passenger cars and vans are prohibited from running through or past structures without ensuring adequate clearances.

Where passenger cars are coupled and inter-car access systems are incompatible, no thoroughfare is allowed between the different passenger cars.

The following requirements must be followed:

- handrails, gangways, footplates, etc., must not be connected between the two types of vehicles
- end doors of each vehicle must be secured to prevent thoroughfare
- appropriate signs installed.

7.3 Load Schedules

Load schedules of passenger trains hauled by heritage locomotives must not exceed historical working timetable load schedules for the locomotive class in use.

7.4 Maximum Number of Vehicles on Passenger Trains

Trains conveying passengers must not exceed 20 vehicles (excluding locomotives).

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7.4.1 Otira Tunnel

Special combinations of maximum numbers of vehicles and locomotives apply, in addition to Otira Tunnel information in **L6.1 Local Network Instructions**.

7.5 Authorised Heritage Rolling Stock

KiwiRail maintains a register of heritage operator vehicles authorised to run on the National Rail System. Vehicles must be inspected at regular intervals to maintain the current registry status.

A vehicle with an expired registration must not be permitted to run on the National Rail System until the registration has been renewed.

7.5.1 Authorised Rolling Stock

Heritage Operator	Rail vehicle number	Maximum vehicle speed	Annual inspection due #
Mainline Steam Heritage Trust	AO31, AO48	80	28 Apr 27
	AO100	80	21 Jan 27
	AO215, AO123, ASO136	80	17 Mar 27
	UC323, FM3010	70	28 Apr 27
	JB1236	80	25 Jun 27
Pahiatua Railcar Society	RM31 @	80	08 Oct 26
Diesel Traction Group	DI1102 @	80	22 Aug 27
Steam Incorporated	S3177	80	15 Jan 27
	DA1410 @	80	01 May 27
	AL1917, A1989, AA1769, A1902	70	01 May 27
	A1975, A1962, AG239	70	02 Sep 27
	AA1757	70	16 May 27
	A1953	70	03 Oct 26
	AA1783	70	24 Oct 26
	DA1431 @	80	16 May 27
	DC4375 @	80	06 Aug 27
	AB608	70	05 Dec 26
	S3184, S3200, S3211	80	13 Oct 26
	AG90	80	08 Oct 26
	S3207	80	22 Jul 27
	AS1868	70	22 Jul 27
Glenbrook Vintage Railway	DBR1254 @	80	18 Mar 27
	WW644	55	28 Nov 26
	AA1134**, AA1494**, AA1258**, AA1233**, AL1991, A1948, A1926	70	04 Aug 27
	AG49	100	17 Mar 27
	DC4818 @	100	07 Oct 26
	UC686	55	04 Apr 27

Dunedin Railways Vehicles

Rail vehicle number	Maximum vehicle speed	Annual inspection due $
DJ1240 @	70	16 Dec 26
DJ1227 @	70	02 Dec 26
DJ1222 @	70	05 Dec 26
XPC630	70	20 Dec 26
AO77	70	24 Oct 26

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Rail vehicle number	Maximum vehicle speed	Annual inspection due $
XPC643	70	11 Dec 26
ADR152	70	10 Sep 27
A2325	70	13 Aug 27
A2277	70	11 Sep 26
ADR181	70	12 Nov 26
A2079	70	26 Nov 26
ZL462*	70	13 Jan 27
DJ1209 @ %	70	15 Oct 26
A2218	70	04 Dec 26
A1729	70	13 Nov 26
A2095	70	17 Oct 26
AG118	70	06 Nov 26
US90	70	27 Oct 26

Symbol	Meaning
#	Annual inspection due dates may be extended for a period of 1 month from the date shown if required as per APIS 11 – Instruction 3.4
$	Annual inspection due dates may be extended for a period of 4 month from the date shown if required as per Dunedin Railway Limited Safety Case
##	Locomotive speeds are detailed in **7.6 Locomotive Speed**
*	On T14B bogies
**	Wooden Carriage with additional restrictions as shown in **7.8 Heritage Carriages**
^	Must not run as lead locomotive on the NRS – not fitted with radio or event recorder
@	Fire Suppressed Locomotive
%	Must not be used on excursions to Oamaru

KiwiRail Network Access and Control will obtain running authority for heritage vehicles from Infrastructure and Track Engineering Asset Managers. Bulletins authorising running of heritage trains cover running authority and any restrictions.

7.5.2 Locomotive and Vehicle Running Rights

Bulletins authorising the running of heritage trains will cover any additional running authority and restrictions.

Registered vehicles of the following classes have running rights:

- AB, JA, WW, WA, WAB (when the only steam locomotive on the train)
- A, AA, AL, AS carriages
- EA7582, FM, RB, UC, UR and URK wagons
- DI locomotive

On the controlled network on all lines except:

- Johnsonville Line
- Melling Branch
- Onehunga Branch
- All Industrial Sidings

Authority from the KiwiRail Professional Head Interoperability is required before any movement on the controlled network for:

- KA locomotives, or

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- more than one steam locomotive on the train

KiwiRail Network Access and Control will obtain running authority for heritage vehicles from Professional Head Interoperability. Bulletins authorising the running of heritage trains cover running authority and any restrictions.

7.6 Locomotive Speed

Steam Locomotive	Funnel end leading	Tender / Bunker leading
J and K	80**	25[&]
AB	70	25[&]
WA	40	40
WAB	70	40
WW	55	55
F[#]	50	45
Diesel Locomotive	**Short Hood**	**Long hood**
DE	Refer to L7 Local Network Instructions for details	
DJ	70[@]	70[@]
DA, DI	80	80
DC	80[@@]	80[@@]

** When hauling 80 or 100 km/h capable carriages.

[@] Except DJ1229, which is authorised to run at 80 km/h.

[@@]Except DC4818, which is authorised to run at 100 km/h.

NOTE
The speed shown in the table above for diesel locomotives running long hood leading is the maximum permissible speed for each locomotive class. Operators must risk assess this practise and document internally the maximum speed for each locomotive class that they operate.

NOTE
If the consist of the train includes tanker / coal service wagons, the speed must be limited to 70 km/h.

The speed of all other excursions must not exceed 70 km/h unless otherwise authorised by bulletin.

When not in steam and travelling on freight trains, the maximum speed for the locomotive must not exceed 55 km/h (funnel end leading).

[&] May travel up to 40 km/h tender leading, provided a curve assessment of the intended route has been completed and approved by Network Access Planning.

If lower speed sections are too numerous or are operationally challenging to administer, the 40 km/h exception will not be granted.

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If granted, the exemption must be notified on the information bulletin for the excursion and specify any sections of restricted 25 km/h speed.

NOTE
25 km/h speed has been obtained from the 1947 Working Timetable (WWT) Rule 137 – Engines Running Tender First.

7.6.1 F Class Locomotives

When operating alone or with less than the equivalent of 2 bogie vehicles attached, it must be operated in accordance with the provisions of the following **TS11 Mobile Track Maintenance Vehicles** clauses:

- protection at switch lock sidings
- effect in track circuited area
- travelling in automatic signalling areas
- speed.

7.6.2 Level Crossings

In accordance with **GR04 Level Crossings**, the Operator must advise the Train Controller when an 'F' class locomotive is to operate independently or with less than the equivalent of two bogie vehicles attached.

This is because the light axle load of the 'F' class locomotive does not comply with **NRSS 6 Engineering Interoperability Standards 6.5 Operation of Signalling Systems.**

7.6.3 Coupling of AB / F / WAB / WA Class Locomotives

A loaded bogie wagon must be used as a runner between the 2 locomotives.

Loco Class	Restriction when lead locomotive in a train.	Restriction when a trailing locomotive in train.	Reason
AB	None	Must be separated from other locomotives by a runner, except when coupled behind J, JA #, JB and KA class locomotives.	Extended cowcatcher at the locomotive's No.1 end (funnel end).
F WAB W	Must be separated from other locomotives by a runner.	Must be separated from other locomotives by a runner, except when coupled behind J, JA #, JB and KA class locomotives.	Extended cowcatcher at both ends of the locomotive.

except JA1250 – rear cowcatcher fitted

7.7 Operation of Steam Locomotives

Steam locomotives must not be left unattended on the main line or crossing loop.

In electrified areas, they must not:

- operate in conjunction with EF locomotives on the same train
- stop with the smokestack underneath insulators or structures
- bunker on an electrified road
- be watered on an electrified road except when filling at rail level
- be left unattended on an electrified road

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7.7.1 In Tunnels

Steam locomotives while proceeding through all tunnels enroute must be driven in a manner to avoid damage to the 'Hippalon' sheeting material (used to deflect water away from rails).

Emissions from the smokestack can easily damage this material should power be applied directly under the linings.

7.8 Heritage Carriages

The speed of trains conveying heritage carriages must not exceed 70 km/h (or less if the line speed is lower).

This speed must be further reduced to 40 km/h when trains conveying passengers in any wooden panelled open platform cars (list below) are:

- traversing a public level crossings
- crossing / passing a freight train.

Wooden panel open platform cars:

Organisation	Code
Main Line Steam	AA1013
Glenbrook Vintage Railway	AA1134, 1233, 1258, 1494
Steam Incorporated	AA1030, 1071, 1073, 1265, 1267
Dunedin Railways	XPC425, 412, 563, 438, 372, 398, 440, 543, 466, 547, 479, 521

The Train Controller must inform the Operators of both the excursion train and freight train of the intended crossing / passing so the speed of the moving train can be reduced accordingly. This instruction must be included on the information bulletin.

In multi-line areas, stopping either the excursion train or the freight train will be necessary for the moving train to pass at this reduced speed in accordance with the following procedure:

1. Operators of freight trains must call the Train Controller before entering an area where an excursion train is travelling to establish the progress of the excursion train.
2. In accordance with **Train Control and Signal Box Manual, 3.2 Forward Planning** and **3.3 Prompt Dispatch of Trains**, the Train Controller must:
   a. plot the crossing / passing of the freight and excursion trains
   b. tell both Operators which train is to stop, and the stopping location
   c. tell both Operators which train is to travel at 40 km/h.
3. If the Train Controller cannot establish communication with either Operator, the Train Controller must stop both trains at the nearest controlled signals until communication is established.

NOTE

These further reduced restrictions do not apply to excursion trains:

- made up entirely of steel panelled carriages
- conveying only empty wooden panelled carriages
- crossing / passing passenger trains or other excursion trains.

To ensure that problems do not arise through heavy loads causing excessive underframe deflections, the National Federation of Railway Preservation Societies have been advised that heritage carriages must not be loaded with more than 10 passengers over and above the rated seating capacity.

If any train is loaded more than this number, the Guard must advise the Operator and the Train Controller accordingly, and the train's speed must be reduced to freight train speed for the line concerned.

Registered empty heritage rolling stock, carriages or bogie support wagons may run attached to the rear of express freight, freight, or shunting services provided the train speed does not exceed 70 km/h.

Four-wheel support wagons may be conveyed at the rear of freight trains or shunting services only, provided they have a current Certificate of Fitness and are authorised by bulletin.

7.9 Tank Wagons

Service tank wagon bogie types and speeds are detailed below.

UC wagons fitted with Davies and Lloyd bogies can run at 70 km/h except where other restrictions apply (Figure 1).

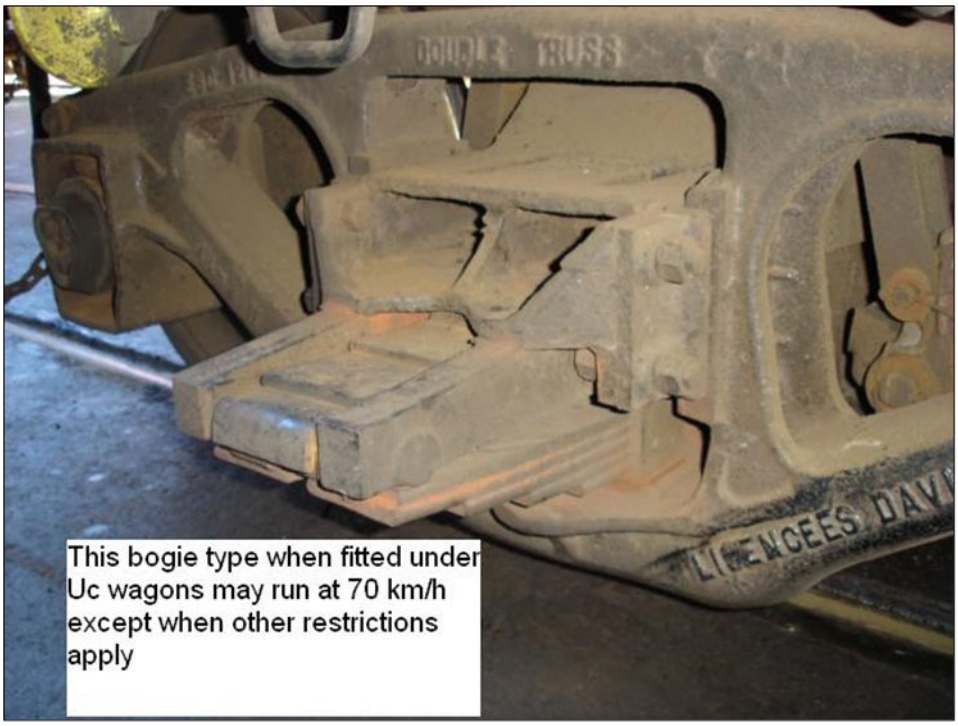

Figure 1: Davies and Lloyd Bogies

UC wagons fitted with bogie types 26463 and 27396:

- are restricted to 55 km/h (Figure 2), and
- with dampers are permitted to run at 70 km/h except where other restrictions apply (Figure 3).

UC wagons not fitted with baffles are only permitted to run on trains when either fully loaded or empty.

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Figure 2: Bogie Type 26463

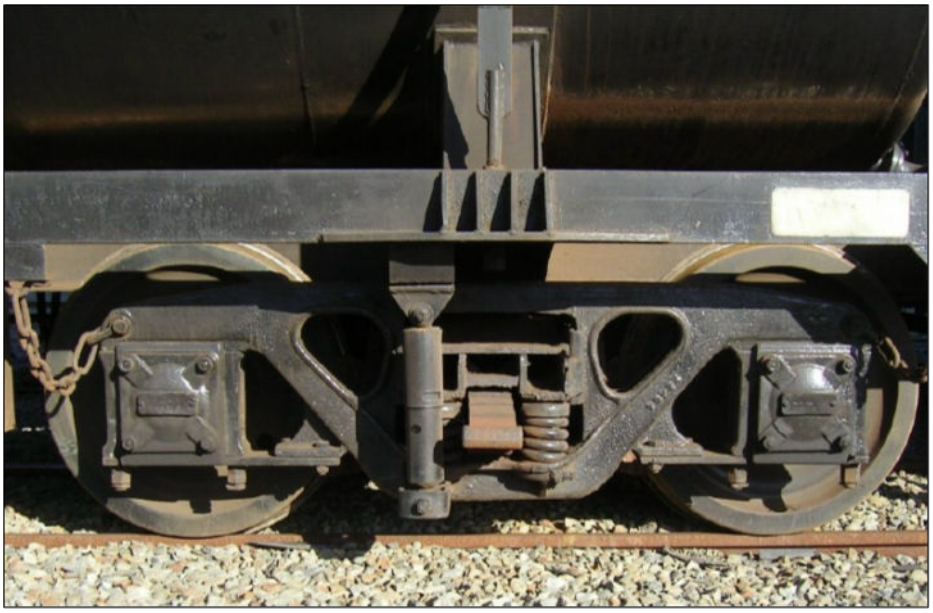

Figure 3: Bogie Type 27396

7.10 Excursion Specials Running Ahead of Time

Excursion specials may depart ahead of time and run earlier to their destination after consultation by the organisers with the Train Controller.

7.11 Locomotive Crewing

Steam locomotives will be crewed by KiwiRail Operators with the appropriate qualifications for operating steam locomotives. KiwiRail will manage ongoing competency-based assessments for the Rail Personnel.

In addition, an owner's representative of the Heritage Operator may travel in the locomotive cab.

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Dunedin Railways employ their own locomotive crew for specific routes as agreed with KiwiRail. Details are contained in **LNI L7 Main South Line and Branches**.

7.12 Assisting Locomotives

Where there is an assisting locomotive, the crew of both locomotives must have a clear understanding of signals / communications for applying and shutting off power.

When a Track Warrant or Operating Instruction is issued, the Operator must advise the assisting Operator of the number and particulars of the Track Warrant or Operating Instruction.

7.13 Steam Locomotives Towed in Light Steam

Owners' representatives of Heritage Operators holding appropriate qualifications for steam boilers will attend boiler-related duties when steam locomotives are towed in light steam.

They must also hold qualifications for other geographical network features (i.e., electrical awareness / tunnel gas awareness / local site inductions) for where the locomotive is detached from a train.

7.14 Photo Stops

Train Controller authority must be obtained for all photo stops with the following procedure:

- Guard must contact the Train Controller before or soon after departure from the commencing station to discuss photo-stop arrangements
- Train Controller may grant authority provided the proposed photo stop does not impact the timekeeping of other train movements / crew hours or maintenance activities
- Guard or Operator must confirm arrangements with the Train Controller immediately before entering the section where the photo stop will occur

IMPORTANT

Passenger trains are prohibited from setting back over level crossings or encroaching on track circuits that activate automatic warning devices during photo stops.

7.15 General

Excursion specials are chartered to the organiser(s) on a cost-per-train basis, who will be responsible for the issue and collection of tickets.

7.16 Cab Passes

For trains operating under a Heritage Operator's Licence, cab passes will be issued by the train Guard.

7.17 Heritage Operating Manual (HOM)

The **Heritage Operating Manual** covers specific instructions for Heritage Rail Personnel undertaking shunting, TXO and Guards duties on Heritage Trains.

Instructions include:

- crew rostering standards
- fitness for operating duty standards
- cab pass procedure
- trip planning
- operating demarcations

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- train inspections on vintage rolling stock
- heritage train preparation
- train management, roles, and responsibilities
- right of way process
- onboard safety announcements
- emergencies.

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