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Technical Note

TN 103 : 2014

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Subject: Change of standard numbering from ESR 0001 – A3 to T HR RS 00813 ST

This Technical Note is to advise the change to the standard numbering for ESR 0001 – A3 *Minimum Operating Standards for Rolling Stock – Locomotive Hauled Passenger Vehicle Information Pack*.

This standard was previously numbered ESR 0001 – A3, and it has now been updated with a revised numbering of T HR RS 00813 ST.

The content of this standard remains unchanged.

The change to numbering is to ensure alignment with the remaining sections of the *Minimum Operating Standards for Rolling Stock*.

Authorisation

Signature	Technical content prepared by	Checked and approved by	Interdisciplinary coordination checked by	Authorised for release
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Engineering Standard
Rolling Stock

ESR 0001-A3

RSU APPENDIX A3 - LOCOMOTIVE HAULED PASSENGER VEHICLE INFORMATION PACK

Version 1.1

Issued November 2010

Reconfirmed 06 April 2020

Owner:	Chief Engineer Rolling Stock		
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Engineering Standard

Document control

Revision	Date	Summary of change
1.0	June 2010	Document reformatted and renumbered ESR 001-A3
1.1 Draft	November 2011	Issued

Summary of changes from previous version

Summary of change	Section
Request for wheel spacing data added	2.2
Draft 1.1	
Chapter headings reformatted	

Contents

1 Part A Owner/Operator information

1.1 Passenger vehicle owner

Vehicle owner _____

Contact name _____

Address _____

_____

Phone number _____

Fax number _____

E-mail address _____

1.2 Passenger vehicle operator

Vehicle operator if different from owner _____

Contact name _____

Address _____

_____

Phone number _____

Fax number _____

E-mail address _____

1.3 Declaration

I declare that the information submitted in this information pack,

(Please tick) Parts A, B and C ☐

Part D ☐

is correct to the best of my knowledge and has been obtained in accordance with the requirements stated in the RailCorp Minimum Operating Standards for Rolling Stock.

Company name _____

Contact name _____

Contact signature _____

Date _____

2 Part B Locomotive hauled passenger vehicle information

2.1 Locomotive hauled passenger vehicle description

Vehicle type _____

Vehicle code _____

Previous code/s (if any) _____

Vehicle number range _____

Brief description of vehicle _____

_____

Vehicle manufacturer _____

Year of manufacture _____

Seating capacity _____

Number of berths _____

2.2 Locomotive hauled passenger vehicle dimensions

* Overall length over coupler pulling faces (mm) _____

* Overall length over headstocks (mm) _____

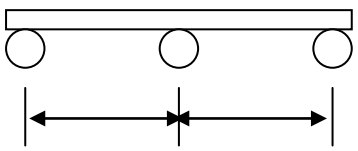
* Overall width (mm) _____

* Overall height (mm) _____

Number of axles _____

Vehicle bogie pivot centres (mm) _____

For three axle bogies:



Show position of bogie pivot point

Axle 1 2 3

* Bogie wheelbase (mm) axle 1 to axle 2 _____

* Bogie wheelbase (mm) axle 2 to axle 3 _____

Please provide the dimensions against the diagram relating to your vehicle:

For cars with three axle bogies:

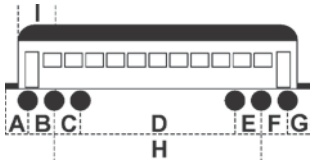


Figure 1

A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	I (mm)	J (mm)

Table 1

For cars with two axle bogies:

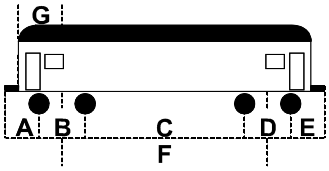


Figure 2

A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	I (mm)	J (mm)

Table 2

Please provide a copy of the passenger vehicle diagram or general arrangement showing key and controlling dimensions.

2.3 Vehicle design mass

Vehicle design tare mass at rail (tonne) _____

Vehicle design fully loaded mass at rail (tonne) _____

Vehicle fully loaded centre of gravity height above rail C of G (mm) _____

2.4 Rolling stock outline

Which rolling stock outline, with reference to ESR 0001 – 100, Section 2 (RSU 110), does the freight vehicle conform to?

RailCorp narrow non-electric (similar to ROA Diagram 18.1, Plate A) ✎

RailCorp narrow square ✎

RailCorp intersystem (similar to ROA Diagram 18.3, Plate C) ✎

Other – provide details _____

_____

2.5 Operating conditions

What is the maximum desired operating speed (km/h) _____

What is the maximum desired cant deficiency? (mm) _____

What is the maximum speed with deflated air springs (where applicable)? (km/h) _____

2.6 Bogies

Bogie manufacturer _____

Year of manufacture _____

Bogie code _____

Bogie mass _____

What is the bogie type? (tick the appropriate box)

- Air spring secondary
- Bolster swing links
- Helical steel springs secondary
- Helical steel springs primary
- Rubber suspension unit primary
- Axlebox pedestal primary
- Swing arm pivot bush primary
- Other (please explain) _____

_____

Axle bearing type _____

Axle bearing size _____

2.7 Wheels

Wheel nominal new diameter (mm) _____

Wheel condemn diameter (mm) _____

Wheel rim width (mm) _____

Wheel material grade (eg. AAR A, B, C) _____

Wheel type (eg S-plate, etc.) _____

Wheel tread profile (new) _____

2.8 Side bearers

Side bearer centres (mm) from vehicle longitudinal centreline _____

For vehicles with gapped sidebearers

Side bearer clearance (mm) _____

For vehicles with constant contact sidebearers

Side bearer unit manufacturer _____

Manufacturer's designation _____

Side bearer unit preload (kN) _____

Side bearer centres (mm) _____

Sidebearer friction material _____

Sidebearer friction coefficient (with steel) _____

2.9 Centre bearings

Centre bearing liner material (if applicable) Manganese ✎

Non metallic ✎

Manufacturer's designation _____

Coefficient of friction (with steel) _____

Centre bearing nominal diameter (mm) _____

Bolster centre casting depth for engagement (mm) _____

2.10 Drawgear/underframe

The vehicle is fitted with automatic couplers Yes ✎ No ✎

What is the underframe/drawgear capacity (MN) _____

2.11 Brakes

Manufacturer _____

Brake system type Relayed ✎ Non relayed ✎

Type of triple valve/distributor _____

EP brake system fitted Yes ✎ No ✎

Type of load compensation equipment _____

Main reservoir pipe fitted Yes ✎ No ✎

Type of brake blocks/disc pads _____

Brake rigging	Conventional ✎	Bogie mounted ✎
Type of parking brake/handbrake	_____	
The parking brake operates on	_____	axles

2.12 Toilets

The vehicle fitted with				
Holding tanks and decanting facilities	Yes	✎	No	✎
Waste processing facilities	Yes	✎	No	✎
Other	_____			

2.13 Body

Has the vehicle a wooden body?	Yes	✎	No	✎
Is collision protection fitted	Yes	✎	No	✎
AEI tags are fitted	Yes	✎	No	✎
Reflective delineators are fitted	Yes	✎	No	✎
Marker lights are fitted	Yes	✎	No	✎
Vehicle code and numbers clearly marked	Yes	✎	No	✎

3 Part C Locomotive hauled passenger vehicle static test result information

3.1 Static rolling stock outline test

The Vehicle has been tested in accordance with ESR 0001 – 200, Section 19 (RSU 281), with the following result:

Vehicle fully complies Yes ✎ No ✎

If not, describe infringement _____

_____

3.2 Measured vehicle mass

Measured vehicle tare mass at rail (tonne) _____

Calculated max passenger load mass (tonne) _____

Measured individual axle loads for empty vehicle:

Axle Number	Axle load (tonnes)
Axle 1	
Axle 2	
Axle 3	
Axle 4	
Axle 5	
Axle 6	

Table 3

3.3 P2 force

Maximum unsprung mass per wheel (kg) _____

Calculated P2 force (on Class 1 track) per wheel (kg) in accordance with ESR 0001 – 100, Section 3 (RSU 120)

_____

3.4 Static vehicle twist test

The vehicle has been tested in accordance with ESR 0001 – 200, Section 21 (RSU 283), with the following results:

Maximum % wheel unloading _____

For vehicles with air springs:

Maximum % wheel unloading with air springs deflated: _____

Maximum % wheel unloading with air springs inflated: _____

Maximum centre bearing lift (mm) (where applicable) _____

3.5 Static vehicle/bogie swing test

The vehicle has been tested in accordance with ESR 0001 – 200, Section 22 (RSU 284,) with the following result:

Vehicle fully complies Yes ✎ No ✎

If not, describe infringement _____

_____

3.6 Static vehicle/vehicle swing test

The vehicle has been tested in accordance with ESR 0001 – 200, Section 23 (RSU 285), with the following result:

Vehicle fully complies Yes ✎ No ✎

If not, describe infringement _____

_____

3.7 Static brake test

The vehicle has been tested in accordance with ESR 0001 – 200, Section 24 (RSU 286) and ESR 0001 – 500, Section 6 (RSU 541), with the following result:

(Net brake percentages using actual measured brake block loads)

Net air brake percentage when fully loaded _____

Net air brake percentage at tare _____

Net parking brake/handbrake percentage when fully loaded _____

3.8 Electrical safety inspection

The vehicle has been inspected in accordance with ESR 0001 – 200, Section 31 (RSU 294), with the following result:

Warning signs have been fitted Yes No

4 Part D Locomotive hauled passenger vehicle dynamic test result information

4.1 Brake performance test

Parking brake will hold vehicle on a 1 in 30 grade Yes ✎ No ✎

4.2 Ride performance test

The vehicle has been tested in accordance with ESR 0001 – 200, Section 26 (RSU 288) and ESR 0001 – 500, Section 7 (RSU 542) with the following results:

Mean peak lateral acceleration (g) _____ at 110 % of design speed

Peak lateral acceleration (g) _____ at 110 % of design speed

Mean peak vertical acceleration (g) _____ at 110 % of design speed

Peak vertical acceleration (g) _____ at 110 % of design speed

Vertical ride index _____ at design speed

Lateral ride index _____ at design speed

4.3 Kinematic rolling stock outline test

Maximum measured body roll angle and lateral suspension displacement, measured relative to rail, for the vehicle operating over a track curve site with 145% of the maximum design cant deficiency (degrees and mm):

_____

Maximum measured body roll angle and lateral suspension displacement, measured relative to rail, with the vehicle stationary on a simulated superelevation of 160 mm (degrees & mm) _____

4.4 Environmental tests (where applicable)

The vehicle has been tested in accordance with ESR 0001 – 200, Section 29 (RSU 292), where appropriate.

Please provide results of type testing for environmental performance, when available, to demonstrate compliance with the environmental standards set by RailCorp and the DECC.

Use the standard reporting form for noise test results (in ESR 0001 – N (RSU Appendix N).