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RAILINFRASTRUCTURE CORPORATION

Discipline
Rolling Stock Engineering Standard

Category
Maintenance

Title
BALLAST WAGON MAINTENANCE POLICY

Reference Number
RSS 0010

Version
1.1

Date of Issue
July 2004

Status
Approved



Copy No:

(Controlled copies are numbered in red)

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About This Standard

The maintenance policy applied to RSA's rolling stock was inherited from the SRA with the vesting of the rolling stock in 1996. This is specified in RSS 0011.

In 1999, a Technical Maintenance Plan was developed for ballast wagons. This Wagon Maintenance Policy is based on the Technical Maintenance Plan for ballast wagons, but with reference to TRS Standards and Safe Working Units revised to new RIC RSS Standards.

Version History

Version 1.0

Draft 1 numbered RSS 0016

Draft 2 renumbered as RSS 0010

Draft 3 revised and Ballast Wagon inserted into the title

First issued January 2004

Version 1.1 July 2004

Side bearer clearances amended from "17 – 31 mm" to "19 – 29 mm +/- 2 mm".
Instruction added to clear away all ballast and rubbish from bogie frames and end platform areas.

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1 Scope

This standard covers the inspection and maintenance requirements for Rail Infrastructure Corporation wagon fleet.

2 Maintenance & Inspection Policy

Applicable Vehicles	Inspection Schedule	Interval/ Trigger	Schedule Latitude	Approved Maintainer	Approved Standards
RIC Ballast Wagon Fleet	General Train Inspection	Pre Trip	nil	In service by train crew	RSS 0013
Codes NDFF NHBF	R1 Routine Inspection	6 months (counter reset by each R# Inspection)	+ 0/ - 26	TOU Chullora RFS Chullora Bathurst Rail Fabrication Centre Goulburn Rolling Stock & Fabrication Centre	RSS 0012 RSS 0030 RSS 0032 RSS 0040 RSS 0050 RSS 0060 RSS 0064 RSS 0066 RSS 0071
	R2 Routine Inspection	3 years after each R3 Inspection (counter reset by each R3 Inspection)	+ 0/ - 51	Bathurst Rail Fabrication Centre Goulburn Rolling Stock & Fabrication Centre RFS Chullora	RSS 0012 RSS 0030 RSS 0032 RSS 0020 RSS 0022 RSS 0040 RSS 0041 RSS 0043 RSS 0050 RSS 0051 RSS 0060 RSS 0061 RSS 0064 RSS 0066 RSS 0071

Applicable Vehicles	Inspection Schedule	Interval/ Trigger	Schedule Latitude	Approved Maintainer	Approved Standards
RIC Ballast Wagon Fleet Codes NDFF NHBF	R3 Routine Inspection	3 years after each R2 Inspection (counter reset by each R2 Inspection)	+ 0/ - 51	Bathurst Rail Fabrication Centre Goulburn Rolling Stock & Fabrication Centre RFS Chullora	RSS 0012 RSS 0030 RSS 0032 RSS 0020 RSS 0022 RSS 0040 RSS 0041 RSS 0043 RSS 0050 RSS 0051 RSS 0060 RSS 0061 RSS 0063 RSS 0064 RSS 0065 RSS 0066 RSS 0071

Table 1

3 Safety Inspections

Wagons shall be inspected prior to each trip or as otherwise scheduled according to the requirements of Table 2.

Standard	RSS Number
Full Train Inspection (FX1)	RSS 0017
General Train Inspection (FX2)	RSS 0018
Roll-by Inspection	

Table 2

4 Routine Inspections

4.1 R1 Inspection Schedule

Maintenance Preparatory Action

Task ID	Task Description	Applicable Standards
1	<ol style="list-style-type: none"> 1. Report to Yard Controller and sign register book. 2. Obtain safeworking and operational instructions from Yard Controller. 3. Attach red flag to both wagon ends at each end of rake. 4. Release air from all pneumatic systems. 5. Observe all OH&S requirements and work site specific procedures. 6. Clear away all ballast and rubbish from bogie frames and end platform areas. 	

Additions to Scope of Work

2	<ol style="list-style-type: none"> 1. Review vehicle history and defect report. 2. Add outstanding defects to schedule scope. 	RSS 0021
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Body

3	Examine steps, data plates and "Overhead Wire" warning notices for damage or degradation. Repair or replace as required.	No standard
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Wheels

4	Examine all wheels for fatigue cracks. Respond according to severity classification of defect.	RSS 0030
5	Examine wheel flange and tread for chips or gouges. Respond according to severity classification of defect.	RSS 0030
6	Examine wheel flange and tread for thermal cracks. Respond according to severity classification of defect.	RSS 0030
7	Examine wheel profile. For arrissed, steep, high or thin flanges. Respond according to severity classification of defect.	RSS 0030
8	Check wheel tread for evidence of spalling. Respond according to severity classification of defect.	RSS 0030
9	Examine the wheel tread for evidence of scaling or wheel flats. Respond according to the severity classification.	RSS 0030
10	Examine the wheel tread for evidence of wheel flats. Respond according to the severity classification.	RSS 0030

R1 Inspection Schedule (continued)

Bogies

11	Examine bogie sideframe for damage. Repair/replace as required.	RSS 0040
12	Examine axle box for evidence of grease leakage. Replenish grease and ticket for repair if required.	RSS 0032 RSS 0040
13	Check axle box bearing grease date colour code. Grease bearings if due.	RSS 0032
14	Examine horn stay for security. Replace any loose bolts, nuts and spring washers.	RSS 0040
15	Examine friction wedges for wear. Change bogie if friction wedge condemning limit has been reached.	RSS 0040

Couplers

16	Examine all draft gear and coupler carriers for loose bolts. Replace all loose bolts with new bolts, nuts and spring washers or Huck Bolts.	RSS 0050
17	Examine coupler knuckle and pin for excessive wear. Replace as required.	RSS 0050

Air Couplings

18	Examine MR and BP coupling hoses for signs of cracking, degradation or excessive wear at end connections. Replace as required.	RSS 0060 RSS 0064 RSS 0066
19	Examine air brake coupling hose dummy coupler chain for security of attachment. Repair/replace as required.	No standard

Hopper Doors – Manually Operated

20	Grease door operating screws. Refill grease in grease cup. If wagon is empty, fully open and close doors to confirm ease of operation. Ticket for workshop repair if operation is unsatisfactory.	No standard
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Braking System – Brake Cylinders/Slack Adjuster

21	Grease brake cylinder.	RSS 0060
22	Check operation of in-line slack adjuster. Grease if grease nipple fitted. Replace if excessively worn or failed (NDFF and NHBF).	RSS 0060

R1 Inspection Schedule (continued)

Braking System – Rigging

23	Examine all brake block for wear. Replace brake block if less than 20mm thick at the thinnest point.	No standard
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Air Supply – Hopper Doors

24	Examine door air line filter and strainer for dirt or degradation. Clean/replace strainer and/or replace filter as required.	RSS 0071
25	(NDFF only) Drain door air system mist separators.	RSS 0071
26	(NDFF only). Examine all pipework and hoses in the door air system for leaks. Repair/replace as required.	RSS 0071
27	(NDFF only). Conduct Function test of air doors. Repair/replace/adjust/grease all defective items.	RSS 0071

Post Maintenance Functional Check

28	Conduct Full Train Inspection. Brake Holding Test time assuming a 28 wagon rake of wagons.	RSS 0012
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Reinstatement Actions

29	<ol style="list-style-type: none"> 1. Certify vehicle for release. 2. Arrange for dispatch of vehicle. 3. Record all maintenance actions. 4. Forward all components for repair/reclamation. 	No standard
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Work Completion

30	<ol style="list-style-type: none"> 1. Remove red flags. 2. Advise Yard Controller of work completion and any outstanding faults. 3. Sign off register book. 	No standard
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4.2 R2 Inspection Schedule

Maintenance Preparatory Action

Task ID	Task Description	Applicable Standards
1	<ol style="list-style-type: none"> 1. Report to Yard Controller and sign register book. 2. Obtain safeworking and operational instructions from Yard Controller. 3. Attach red flag to both wagon ends at each end of rake. 4. Release air from all pneumatic systems. 5. Observe all OH&S requirements and work site specific procedures. 6. Clear away all ballast and rubbish from bogie frames and end platform areas. 	

Additions to Scope of Work

2	<ol style="list-style-type: none"> 1. Review vehicle history and defect report. 2. Add outstanding defects to schedule scope. 	RSS 0021
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Body

3	Examine car shell and underframe for evidence of fatigue cracking of structural welds, and evidence of overstressed structural components. Repair as required.	No standard
4	Examine hand brake assembly mounting for security. Repair as required.	No standard
5	Examine access steps for tread weld fractures and impact damage. Repair as required.	RSS 0020
6	Examine external grab rails for security. Repair as required.	RSS 0020
7	Examine all grab rails and guard rails for damage. Repair/replace as required.	RSS 0020
8	(NDFP only) Examine work platform floor for security of welds and chequer plate for corrosion. Repair or replace as required.	No standard
9	(NDFP only) Examine work platform guard rails for weld fatigue and corrosion. Repair as required.	No standard
10	Examine wagon data plates for damage/degradation. Replace as required.	No standard
11	Repaint all white areas on steps, grab rails, coupler release levers, brake release lever/chains, hand brake lever and pawl, hopper door hand wheels, grade control valve, air brake coupling hose dummy couplers and all other crew operating equipment.	No standard
12	Examine "Overhead Wire" warning notices for damage or degradation. Repair or replace as required.	No standard
13	Examine waybill clip for degradation, loss of spring tension, damage or loss of security. Repair/replace as required.	No standard

R2 Inspection Schedule (continued)

Underframe

14	Examine headstock and solebar welds for signs of fracturing. Repair as required.	No standard
15	Examine draft gear pocket welds for evidence of fractures. Repair as required.	RSS 0051

Decals

16	Signwrite all decals and signage relating to operators equipment.	No standard
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Wheels

17	Examine all wheels for fatigue cracks. Respond according to severity classification of defect.	RSS 0030
18	Examine wheel flange and tread for chips or gouges. Respond according to severity classification of defect.	RSS 0030
19	Examine wheel flange and tread for thermal cracks. Respond according to severity classification of defect.	RSS 0030
20	Examine wheel profile. For arrissed, steep, high or thin flanges. Respond according to severity classification of defect.	RSS 0030
21	Check wheel tread for evidence of spalling. Respond according to severity classification of defect.	RSS 0030
22	Examine the wheel tread for evidence of scaling. Respond according to the severity classification.	RSS 0030
23	Examine wheel for evidence of hollow tread greater than 3mm. Card for wheel turn as required.	RSS 0030
24	Examine the wheel tread for evidence of wheel flats. Respond according to the severity classification.	RSS 0030

Bogies

25	Examine the bogie side frame for evidence of cracking paying particular attention to the pedestal. Conduct a dye penetrant test on all suspected cracks. Replace bogie if required.	RSS 0040
26	Examine bogie sideframe for damage. Repair/replace as required.	RSS 0040
27	Examine axle box for evidence of grease leakage. Replenish grease and ticket for repair if required.	RSS 0032, RSS 0040
28	Check axle box bearing grease date colour code. Grease bearings if due.	RSS 0032
29	Examine bogie for any broken suspension springs. Replace as required.	RSS 0043.
30	Check the bogie side bearer clearance is between 10 mm to 14 mm when measured on straight and level track. Where measurements can not be taken on straight and level track check that the combined side bearer clearance is between 19 mm and 29 mm +/- 2 mm. Repack or replace the side bearer wear pad as required.	RSS 0040

R2 Inspection Schedule (Bogies continued)

31	Examine the king pin for excessive wear or fractures. Replace as required.	No standard
32	Examine horn stay for security. Replace any loose bolts, nuts and spring washers.	RSS 0040
33	Check king casting and queen casting liner for wear against gauge. Repair/replace as required.	RSS 0040 RSS 0041
34	Examine king casting and queen casting liner for weld fractures. Repair as required.	RSS 0041
35	Examine friction wedges and pockets for wear. Change bogie if friction wedge is within 1 mm of the condemning limit or friction wedge height is within 10 mm of condemning limit.	RSS 0040 RSS 0041

Couplers

36	Examine coupler knuckle, head and shank for fractures. Replace as required.	RSS 0050 RSS 0051
37	Examine yoke casting for fractures. Replace as required.	RSS 0050
38	(Concertina type draft gear only) Examine draft gear assembly for evidence of seizure. Change yoke and draft gear assembly if required. Replace with current design draft gear.	RSS 0050
39	Examine all draft gear and coupler carriers for loose bolts. Replace all loose bolts with new bolts, nuts and spring washers.	RSS 0050
40	Examine coupler knuckle and pin for excessive wear. Replace as required.	RSS 0050
41	Replace murray keys.	RSS 0050
42	Examine draft gear for slack indicating internal wear. Replace draw gear if required.	RSS 0050
43	Examine coupler yoke followers for wear. Replace as required.	RSS 0051
44	Examine draft gear pocket and assembly for evidence of excessive wear. If evident, remove draft gear/coupler assembly, gauge worn pocket surfaces and examine yoke pin and bush for excessive wear. Replace as required.	RSS 0050
45	Examine coupler knuckle return spring. Replace if excessively worn or broken.	RSS 0050 no reject criteria
46	Examine coupler release bar, linkages, mounting brackets for excessive wear, damage or loose mounting bolts. Repair/replace as required.	RSS 0050 no reject criteria
47	Examine knuckle locking/release mechanism (lock, lifter, knuckle and anti-creep ledge) for excess wear. Replace coupler as required.	RSS 0050 no reject criteria
48	Examine coupler, draft gear, draft gear pocket and carrier plates for detached wear plates, wear plates with weld fractures or wear plates with excessive wear. Repair or replace as required.	RSS 0050
49	Examine draft gear pocket, draft gear, coupler and carrier plates for wear plates worn below condemning limit. Replace worn wear plates as required.	RSS 0050

R2 Inspection Schedule (continued)

Air Couplings

50	Examine MR and BP coupling hoses for signs of cracking, degradation or excessive wear at end connections. Replace as required.	RSS 0060 RSS 0064 RSS 0066
51	Examine air brake coupling hose dummy coupler chain for security of attachment. Repair/replace as required.	No standard

Hopper Doors – Manually Operated

52	Grease door operating screws. Refill grease in grease cup. If wagon is empty, fully open and close doors to confirm ease of operation. Ticket for workshop repair if operation is unsatisfactory.	No standard
53	Examine rubber boot of door operating mechanism for evidence of degradation or damage. Replace if required.	No standard
54	Check free play between door operating hand wheel and shaft square drive. Build up square on shaft and refit a new hand wheel if required.	No standard

Hopper Doors – Air Operated

55	(NDFF only) Examine door operating mechanism plates, link pins and lynch pins for evidence of excessive wear. Replace as required.	Drgs 110-311 & 110-320 no reject criteria
56	(NDFF only) Examine hopper door indicator lug and ensure present and not damaged Replace/repair as required.	No standard

Braking System - Valves

57	Check last overhaul date on triple valve. If 13 or more years have elapsed since last overhaul, or no date can be found, replace triple valve with overhauled unit.	RSS 0060
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Braking System – Air Reservoirs

58	Inspect all air reservoirs.	RSS 0022
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Braking System – Brake Cylinders/Slack Adjuster

59	Grease brake cylinder.	RSS 0060
60	Check operation of in-line slack adjuster. Grease if grease nipple fitted. Replace if excessively worn or failed.	RSS 0060

R2 Inspection Schedule (continued)

Braking System - Handbrake

61	Examine hand brake spider wheel or spindle for damage. Repair/replace as required.	RSS 0060
62	Check free play between handbrake spider wheel and shaft. Build up square on shaft and refit new spider wheel if required.	No standard

Braking System - Piping

63	Change brake line air filter paper element.	RSS 0060 no reject criteria
64	Clean brake air line dirt collector.	RSS 0060no reject criteria

Braking System – Rigging

65	Examine for bent connecting rod (side pull rod) between slack adjuster and dead lever. Replace as required.	No standard
66	Examine all brake rigging for missing pins and cotters. Replace as required.	No standard
67	Examine bogie safety loop bolt/pin for security. Replace as required.	No standard
68	Examine all brake block for wear. Replace brake block if less than 20mm thick at the thinnest point.	No standard

Air Supply – Hopper Doors

69	Examine door air line filter and strainer for dirt or degradation. Clean/replace strainer and/or replace filter as required.	RSS 0071
70	(NDFF only) Drain door air system mist separators.	RSS 0071
71	(NDFF only). Examine all pipework and hoses in the door air system for leaks. Repair/replace as required.	RSS 0071
72	(NDFF only). Conduct Function test of air doors. Repair/replace/adjust/grease all defective items.	RSS 0071

Post Maintenance Functional Check

73	Conduct single car air test.	RSS 0061
74	Conduct Full Train Inspection.	RSS 0012

R2 Inspection Schedule (continued)

Reinstatement Actions

75	<ol style="list-style-type: none">1. Certify vehicle for release.2. Arrange for dispatch of vehicle.3. Record all maintenance actions.4. Forward all components for repair/reclamation.	No standard
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Work Completion

76	<ol style="list-style-type: none">1. Remove red flags.2. Advise Yard Controller of work completion and any outstanding faults.3. Sign off register book.	No standard
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4.3 R3 Inspection Schedule

Maintenance Preparatory Action

Task ID	Task Description	Applicable Standards
1	1. Report to Yard Controller and sign register book. 2. Obtain safeworking and operational instructions from Yard Controller. 3. Attach red flag to both wagon ends at each end of rake. 4. Release air from all pneumatic systems. 5. Observe all OH&S requirements and work site specific procedures. 6. Clear away all ballast and rubbish from bogie frames and end platform areas.	No standard

Additions to Scope of Work

2	1. Review vehicle history and defect report. 2. Add outstanding defects to schedule scope.	RSS 0021
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Body

3	Examine car shell and underframe for evidence of fatigue cracking of structural welds, and evidence of overstressed structural components. Repair as required.	No standard
4	Examine hand brake assembly mounting for security. Repair as required.	No standard
5	Examine all underframe air pipe saddles for security of attachment. Repair/replace as required.	No standard
6	Examine an underframe air brake and pneumatic equipment support bracket welds for fractures. Repair as required.	No standard
7	Examine access steps for tread weld fractures and impact damage. Repair as required.	RSS 0020
8	Examine access step mounting for security. Repair as required.	RSS 0020
9	Examine external grab rails for security. Repair as required.	RSS 0020
10	Examine all grab rails and guard rails for damage. Repair/replace as required.	RSS 0020
11	(NDFF only) Examine work platform floor for security of welds and chequer plate for corrosion. Repair or replace as required.	No standard
12	(NDFF only) Examine work platform guard rails for weld fatigue and corrosion. Repair as required.	No standard
13	Examine wagon data plates for damage/degradation. Replace as required.	No standard
14	Repaint all white areas on steps, grab rails, coupler release levers, brake release lever/chains, hand brake lever and pawl, hopper door hand wheels, grade control valve, air brake coupling hose dummy couplers and all other crew operating equipment.	No standard
15	Examine "Overhead Wire" warning notices for damage or degradation. Repair or replace as required.	No standard
16	Examine waybill clip for degradation, loss of spring tension, damage or loss of security. Repair/replace as required.	No standard

Shell

17	Examine ballast hopper and hopper welds for evidence of excessive erosion/corrosion. Repair as required.	No standard
18	(Non NDFW wagons) Examine air brake release chain support tube deflector strip for weld fractures/loss of integrity. Repair/replace as required.	No standard

Underframe

19	Examine headstock and solebar welds for signs of fracturing. Repair as required.	No standard
20	Examine draft gear pocket welds for indication of possible fractures. Where fractures are indicated, remove coupler and draft gear and test for cracks. Repair as required.	RSS 0051

Access Covers

21	Examine access covers for loose or failed fasteners. Replace as required.	No standard
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Decals

22	Signwrite all decals and signage relating to operators equipment.	No standard
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Wheels

23	Examine all wheels for fatigue cracks. Respond according to severity classification of defect.	RSS 0030
24	Examine wheel flange and tread for chips or gouges. Respond according to severity classification of defect.	RSS 0030
25	Examine wheel flange and tread for thermal cracks. Respond according to severity classification of defect.	RSS 0030
26	Examine wheel profile. For arrissed, steep, high or thin flanges .Respond according to severity classification of defect.	RSS 0030
27	Check wheel tread for evidence of spalling. Respond according to severity classification of defect.	RSS 0030
28	Examine the wheel tread for evidence of scaling. Respond according to the severity classification.	RSS 0030
29	Examine wheel for evidence of hollow tread greater than 3mm. Card for wheel turn as required.	RSS 0030
30	Examine the wheel tread for evidence of wheel flats. Respond according to the severity classification.	RSS 0030

R3 Inspection Schedule (continued)

Bogies

31	Examine the bogie side frame for evidence of cracking paying particular attention to the pedestal. Conduct a dye penetrant test on all suspected cracks. Replace bogie if required.	RSS 0040
32	Examine bogie sideframe for damage. Repair/replace as required.	RSS 0040
33	Examine axle box for evidence of grease leakage. Replenish grease and ticket for repair if required.	RSS 0032, RSS 0040
34	Check axle box bearing grease date colour code. Grease bearings if due.	RSS 0032
35	Examine bogie for any broken suspension springs. Replace as required.	RSS 0043
36	Check the bogie side bearer clearance is between 10 mm to 14 mm when measured on straight and level track. Where measurements can not be taken on straight and level track check that the combined side bearer clearance is between 19 mm and 29 mm +/- 2 mm. Repack or replace the side bearer wear pad as required.	RSS 0040
37	Examine the king pin for excessive wear or fractures. Replace as required.	No standard
38	Examine horn stay for security. Replace any loose bolts, nuts and spring washers.	RSS 0040
39	Check king casting and queen casting liner for wear against gauge. Repair/replace as required.	RSS 0040 RSS 0041
40	Examine king casting and queen casting liner for weld fractures. Repair as required.	RSS 0041
41	Examine friction wedges and pockets for wear. Change bogie if friction wedge is within 1 mm of the condemning limit or friction wedge height is within 10 mm of condemning limit.	RSS 0040
42	Examine axle box wear surfaces. Discard axle box housing if wear limits are exceeded.	RSS 0040 RSS 0032

R3 Inspection Schedule (continued)

Couplers

43	Examine coupler knuckle, head and shank for fractures. Replace as required.	RSS 0050 RSS 0051
44	Examine yoke casting for fractures. Replace as required.	RSS 0050
45	(Concertina type draft gear only) Examine draft gear assembly for evidence of seizure. Change yoke and draft gear assembly if required. Replace with current design draft gear.	RSS 0050
46	Examine all draft gear and coupler carriers for loose bolts. Replace all loose bolts with new bolts, nuts and spring washers or Huck bolts.	RSS 0050
47	Examine coupler knuckle and pin for excessive wear. Replace as required.	RSS 0050
48	Replace murray key.	RSS 0050
49	Examine draft gear for slack indicating internal wear. Replace draw gear if required.	RSS 0050
50	Examine coupler yoke followers for wear. Replace as required.	RSS 0051
51	Examine draft gear pocket and assembly for evidence of excessive wear. If evident, remove draft gear/coupler assembly, gauge worn pocket surfaces and examine yoke pin and bush for excessive wear. Replace as required.	RSS 0050
52	Examine coupler knuckle return spring. Replace if excessively worn or broken.	RSS 0050 no reject criteria
53	Examine coupler release bar, linkages, mounting brackets for excessive wear, damage or loose mounting bolts. Repair/replace as required.	RSS 0050 no reject criteria
54	Examine knuckle locking/release mechanism (lock, lifter, knuckle and anti-creep ledge) for excess wear. Replace coupler as required.	RSS 0050 no reject criteria
55	Examine coupler, draft gear, draft gear pocket and carrier plates for detached wear plates, wear plates with weld fractures or wear plates with excessive wear. Repair or replace as required.	RSS 0050
56	Examine draft gear pocket, draft gear, coupler and carrier plates for wear plates worn below condemning limit. Replace worn wear plates as required.	RSS 0050

Air Couplings

57	Examine MR and BP coupling hoses for signs of cracking, degradation or excessive wear at end connections. Replace as required.	RSS 0060 RSS 0064 RSS 0066
58	Examine air brake coupling hose dummy coupler chain for security of attachment. Repair/replace as required.	No standard

R3 Inspection Schedule (continued)

Hopper Doors – Manually Operated

59	Examine hopper door operating mechanism including hand wheel, drive shaft and trunnion block for excessive wear, degradation, corrosion, damage or stiff operation. Repair/replace as required.	No standard
60	Grease door operating screws. Refill grease in grease cup. If wagon is empty, fully open and close doors to confirm ease of operation. Ticket for workshop repair if operation is unsatisfactory.	No standard
61	Examine rubber boot of door operating mechanism for evidence of degradation or damage. Replace if required.	No standard
62	Check free play between door operating hand wheel and shaft square drive. Build up square on shaft and refit a new hand wheel if required.	No standard
63	Examine hopper door for evidence of excessive abrasion/corrosion. Repair/replace as required.	No standard
64	Examine hopper doors for evidence of weld fractures. Repair/replace as required.	No standard

Hopper Doors – Air Operated

65	(NDFF only) Examine door operating mechanism plates, link pins and lynch pins for evidence of excessive wear. Replace as required.	Drg 110-311 & 110-320 no reject criteria
66	(NDFF only) Examine hopper door indicator Jug and ensure present and not damaged Replace/repair as required.	No standard

Braking System - Valves

67	Check last overhaul date on triple valve. If 13 or more years have elapsed since last overhaul, or no date can be found, replace triple valve with overhauled unit.	RSS 0060
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Braking System – Air Reservoirs

68	Inspect all air reservoirs.	RSS 0022
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Braking System – Brake Cylinders/Slack Adjuster

69	Grease brake cylinder.	RSS 0060
70	Check operation of in-line slack adjuster. Grease if grease nipple fitted. Replace if excessively worn or failed (NDFF and NHBF).	RSS 0060

R3 Inspection Schedule (continued)

Braking System - Handbrake

71	Examine hand brake spider wheel or spindle for damage. Repair/replace as required.	RSS 0060
72	Check free play between handbrake spider wheel and shaft. Build up square on shaft and refit new spider wheel if required.	No standard

Braking System - Piping

73	(NDFF and NHBF only). Change brake line air filter paper element.	RSS 0060 no reject criteria
74	Clean brake air line dirt collector.	RSS 0060 no reject criteria

Braking System – Rigging

75	Examine brake rigging for missing pins and cotters. Replace as required.	RSS 0063
76	Examine all brake and handbrake rigging pins and bushes on both the bogie and the wagon for excessive wear. Replace as required.	No standard
77	Examine for bent connecting rod (side pull rod) between slack adjuster and dead lever. Replace as required.	No standard
78	Examine all brake block for wear. Replace brake block if less than 20mm thick at the thinnest point.	No standard
79	Examine bogie safety loop bolt/pin for security. Replace as required.	No standard

Air Supply – Hopper Doors

80	Examine door air line filter and strainer for dirt or degradation. Clean/replace strainer and/or replace filter as required.	RSS 0071
81	(NDFF only) Drain door air system mist separators.	RSS 0071
82	(NDFF only). Examine all pipework and hoses in the door air system for leaks. Repair/replace as required.	RSS 0071
83	(NDFF only). Conduct Function test of air doors. Repair/replace/adjust/grease all defective items.	RSS 0071
84	(NDFF on1y). Examine door airline pipe and hose fastenings for security. Resecure as required.	RSS 0071

R3 Inspection Schedule (continued)

Post Maintenance Functional Check

85	Conduct single car air test.	RSS 0061
86	Conduct Full Train Inspection.	RSS 0012

Reinstatement Actions

87	<ol style="list-style-type: none">1. Certify vehicle for release.2. Arrange for dispatch of vehicle.3. Record all maintenance actions.4. Forward all components for repair/reclamation.	No standard
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Work Completion

88	<ol style="list-style-type: none">1. Remove red flags.2. Advise Yard Controller of work completion and any outstanding faults.3. Sign off register book.	No standard
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4.4 Bogie Change Inspection Schedule

Task ID	Task Description	Applicable Standards
1	Check the total bogie side bearer clearance is between 19 mm and 29 mm +/- 2 mm. Repack or replace the side bearer wear pad as required.	No standard
2	Examine king pin for excessive wear or fractures. Replace as required.	No standard
3	Check king casting and queen casting liner for wear against gauge. Repair/replace as required.	RSS 0023
4	Check king casting and queen casting liner for weld fractures. Repair as required.	RSS 0023
5	Examine bogie safety loop bolt/pin for security. Replace as required.	RSS 0063

4.5 Coupler Change Inspection Schedule

Task ID	Task Description	Applicable Standards
1	Examine the yoke pin and bush for excessive wear. Replace as required.	No standard

5 Reporting

The following reporting forms are to be completed and sent to the Train Operations Unit:

5.1 R1 Inspection:

- NDFP Door Test Report Sheet
- Wagon Release Data Sheet

5.2 R2 Inspection:

- R2 Assessment Sheet
- R Inspection Report Sheet
- Three Piece Bogie DI Report Sheet
- Out of Course Repair Report Sheet
- Wagon Release Data Sheet
- NDFP Door Test Report Sheet
- Freight Vehicle Single Car Air Test Report Sheet

5.3 R3 Inspection:

- R3 Assessment Sheet
- R Inspection Report Sheet
- Three Piece Bogie DI Report Sheet
- Out of Course Repair Report Sheet
- Wagon Release Data Sheet
- NDFP Door Test Report Sheet
- Freight Vehicle Single Car Air Test Report Sheet

The following forms are to be completed if required:

- Scheduled Maintenance & Component Change Out Sheet

6 Reference Documents

6.1 RIC Standards

RSS 0001	Minimum Operating Standards for Rolling Stock
RSS 0011	Wagon Maintenance Policy (1996)
RSS 0012	Full train Inspection
RSS 0013	General Train Inspection
RSS 0020	Examination of Steps & handrails
RSS 0021	Carding of Freight Vehicles
RSS 0022	Inspection of Unfired "Exempt" Pressure Vessels
RSS 0023	Securing of Centre Bearings
RSS 0030	Wheel Manual
RSS 0031	Wheel & Axle Reference Manual
RSS 0032	Bearing reference Manual
RSS 0040	Inspection of Freight Bogies
RSS 0041	DI Maintenance of Bogies
RSS 0043	Coil Spring Groups
RSS 0050	Inspection of Drawgear
RSS 0051	Welding Reclamation & Repair of Drawgear
RSS 0060	Air Brake Maintenance
RSS 0061	Single Car Air Test
RSS 0063	Security of Brakegear
RSS 0064	Brake Pipework Sealant Compounds
RSS 0066	Air Brake Hoses
RSS 0071	NDFE Type Ballast Wagons Door Maintenance & Test Procedure