

Completion Of Heritage Annual Inspection Passenger Cars, Vans and Wagons

This cover sheet is to be completed by the inspector for each Heritage Vehicle inspected. The Heritage Vehicle Provider is to provide a copy to ONTRACK.

Heritage Vehicle number _____ presented for inspection by

(name of organisation) passed its Annual Inspection in
accordance with the requirements of NRSS/11 on ____/____/____ and is fit to run on
(date of inspection)

the National Rail System with the following operational restrictions:¹

This inspection will expire on ____/____/____ *(expiry date)* *(If left blank the inspection will expire in one year. Note that Heritage Vehicles inspected within the date tolerances shown in NRSS/11 retain their inspection anniversary date).*

I am an ***in-house*** / ***independent*** inspector.
(delete one).

Signed by _____ _____
(signature) *(print name of inspector)*

Notes:

¹ List only restrictions that need to be conveyed to those involved in operating the vehicle such as speed restrictions, marshalling or other operational requirements.

Notes

- This form is to be used for all annual inspections or inspections after overhaul.
 - This form is to function as a guide to assist in ensuring that all locomotives are inspected to an acceptable and common standard for operation on the National Rail Network.
 - Some reference to codes and standards may be required to complete this inspection form.
 - All items on this form are to be marked as
 ✓ - Passed; or X - Failed; or NA - Not applicable
- Any items that have failed are to be included on the Inspection Fault Report included at the end of this form.

Crack, Corrosion & Structural Tests

(See B3.1.4.01 - Corrosion, Crack and Structural Inspection)

Axles

Date of Last Test	/	Distance Run Since Test	km
Limits	10 years		50,000 km

Underframe & Body Framing

Date of Last Test	/	Distance Run Since Test	km
Limits	10 years		50,000 km

Buffers

Date of Last Test	/	Distance Run Since Test	km
Limits	10 years		50,000 km

Wheel Readings

Axle	A Side					B Side					Type
	X	Y	V	W	Z	X	Y	V	W	Z	T/S
1											
2											
3											
4											
Limit	40†	6	6*	14	#	40†	6	6*	14	#	

- # See Code for maximum for vehicle. (In general for heritage vehicles Z ≥ 32 for tyres or 38 for solid wheels).
- * For best ride comfort V should not exceed 3 on passenger vehicles.
- † Unless on last turn, tyres should be programmed for turning when X ≥ 24 to avoid wasting material.

Wheel gauge certification expires:- Date / /

Wheel profiles comply with code requirements

Readings Done By:- Name (print): _____

Date: / / Signature: _____

Wheel Defects

	Axle	1	2	3	4
Looseness on axle - Rust discharge, polishing or disturbance of dirt or rust build-up	A				
	B				
Loose tyres (if fitted) - Rust discharge, polishing or disturbance of dirt or rust build-up	A				
	B				
Loose Gibson Rings (if fitted) - Rust discharge, polishing or disturbance of dirt or rust build-up	A				
	B				
Visible cracks on tyres ‡	A				
	B				
Tyre damage - Flats, skids, scaling, spalling or other surface damage ‡	A				
	B				
Overheating of tyres ‡	A				
	B				
Edge rollover of tyres ‡ - Limit – None	A				
	B				

‡ See B3.1.1.01 - Mechanical Code or NRSS-6, Section 8.5 for maximum permissible limits for this damage.

Axles

	Axle	1	2	3	4
Axle damage No gouge between the wheels more than 1mm deep. No signs of rubbing.					
Axle mounted pulley secure on axle No fretting or other signs of movement					

Axleboxes

	Axle	1	2	3	4
Oil level in axleboxes (If used)	A				
	B				
Axlebox drain plug - Securely wired in place (if oil is used)	A				
	B				
Grease / Oil (delete one) leakage from front or back of axlebox	A				
	B				
Axlebox liners secure - No cracks in welds. Bolts secure	A				
	B				
Axlebox liner clearances - Longitudinal – 6 mm max Lateral – 9 mm max (both sides added together)	A				
	B				

	Axle	1	2	3	4
Column liners (where fitted) - Clearances and security	A				
	B				
Sideframe pedestal horn liners (if fitted) - Clearances and security	A				
	B				
Axleboxes - Cracks, damage, loose bolts. (Especially in areas underneath the "wings" on "wing" Axleboxes fitted to X28020 bogies.)	A				
	B				
Primary (axlebox) springs - Leaf springs, broken leaves, loose buckles, fretting, wastage (5% max). Coil springs – broken coils, correct seating	A				
	B				
Coil spring hangers (stirrups) - Excessive wastage, fouling bogie frame	A				
	B				
Axlebox horn keep plates - Security and clearances (See B3.1.1.01 - Mechanical Code for limits)	A				
	B				

Bogies

	Bogie	No 1	No 2
Frames - Cracks, dents, cracked welds, loose rivets, etc in frames, horns and bolsters			
Bogie frame level - Level with track (or axleboxes)			
Upper bolster - Level, correct height (see plans)			
Upper bolster liners - Clearance and security	A1		
	B1		
	A2		
	B2		
Upper bolster guides (end stops) - Thickness and security	A		
	B		
Float blocks - Security, cracks	A		
	B		
Float brackets (on underframe) - Security, cracks	A		
	B		
Float clearances (if applicable) 3 – 6 mm No cross cornering	A		
	B		
Centre casting packing - 6 mm minimum plate thickness. Max of 3 plates. No less than 13 mm of spigot engaged in transom or bolster			
Centre casting (top) secure - Fretting, loose or missing fasteners, cracked liner welds (freight type)			
Centre casting (bottom) secure - Fretting, loose or missing fasteners			

	Bogie	No 1	No 2
Centre casting wear - Fretting, insufficient clearance between centres (bolts hitting bolts or centres), excessive lateral movement			
Bogie centre pins – In place, washer and lynch pin present and secure			
Bolster springs - Laminated springs - broken leaves, loose buckles, corrosion, wear & wastage (no more than 5% of original thickness), correctly seated. Coil springs – broken coils, correct seating	A		
	B		
Hydraulic dampers (if fitted) - Oil leaks, security of mountings, security of dust cover	A		
	B		
Anti-rolling (torsion) bar (if fitted) - Security of mounts, mounts correctly lock wired, excessive wear, cracking or other damage, fitting of dust covers.	A		
	B		
Lubrication of all grease nipples			
Bolster swing links - Cracks, wear in top pivots, wear in bottom pivots, security of fasteners	A1		
	B1		
	A2		
	B2		

	Bogie	No 1	No 2
Bogie – underframe clearance - Cars - 70 mm minimum at tare, 45 mm laden. Wagons - 35 mm minimum at tare, 12 mm laden	A		
	B		
Fouling Bogie is not fouling underframe or any other carriage equipment	Bogie	No 1	No 2
Safety chains Intact. Wear less than 25% of area.	Bogie	No 1	No 2
	A		
	B		


Underframe

Main members (solebars and transoms) - Cracks, corrosion or distortion (see code for limits)		
Truss rods, queen posts, cross beams Corrosion, wastage (especially around battery boxes)	A	B
Camber - Car has correct camber for drawing		
Anti-collision framing - Corrosion, damage	No 1	No 2
Headstocks - Corrosion, damage		
Shearplates - Corrosion (using bar) or other damage		
Sparkguards - Intact, good order, no fire hazard (grease etc)		

Underframe Equipment

		No 1	No 2
Steps - Fastening to underframe, fastenings, splits, rot, antiskid coverings, general safety	A		
	B		
Tanks and battery box brackets - Security, damage, deterioration			
Water, toilet and fuel tanks - Leaks, damage, deterioration			
Belt driven alternator or generator - Mountings secure			

Drawgear

	No 1	No 2
Drawbar Height - 735 to 765 mm rail to centre line of buffer. Record	mm	mm
	No 1	No 2
Buffer pin - Intact, diameter not less than 36 mm, slot protector intact		
Hook bridle - Serviceable and prevents the corresponding hook from lifting.		
Drawhooks - No distortion, cracks, hole \leq 48 mm in any direction.		
Kidney links and transition heads - No distortion, cracks, hole \leq 55 mm.		
Buffer rests - Not worn so as to restrict buffer movement, fastenings secure		
Buffer straightness - Not be bent more than 25 mm from the centreline measured at the buffer face. Wear marks on face not to extend to edge of face.		
Automatic coupler operation (where fitted) - operating lever and locklifter free to move, operating lever undamaged and freely enters locking clip. When coupler is locked locking block easily drops, bottom of locklifter level with indicator chain /operating lever locks properly (operating lever on coupler).		
Automatic Coupler wear - Use gauges 12050054 B1 and 12050054 B2 for head and gauge 12050054/A for knuckle.		
Drawbar sideplay - Not to exceed 50 mm side to side measured at headstock. No appreciable end movement		
Drawbar packing - 3 mm minimum thickness, secured by welding to yoke or bent into  shape (preferable). One plate only if secured by welding.		
Janney yoke - No cracks or other damage. Key retaining bolt secure, wear OK.		
Yoke carrier plate - Fastenings secure		
Draft lugs - Undamaged, securely attached, no debris between underframe and lugs		
Spring packs - No signs of deterioration, no coils broken (spring type), yoke guide pins intact		
Clearance between spring pack and yoke/draft lugs - Max clearance = 2mm		
General - Check drawgear unit for damage or wear		
Sidechains (where fitted) - Hang well clear of rail, intact, wear, cracks		

Body Exterior

				No 1	No 2
Platform railings - General condition and security					
Platform gates - Open/close easily, latch securely in closed and open positions					
Telescopic handrails - Intact, slide freely, no sharp edges. Latch clips work OK					
Exterior handrails - Intact, securely attached to car					
Shunters steps, ladders and hand grabs (where fitted) - Intact, securely attached to car. Ladder covers secure and can be locked.	A				
	B				
Exterior doors -Open/close easily from both sides. Lock securely when closed.					
Inter-car gangways - Damage, cracks, pivot pin secure in apron plate					
Knees holding body to underframe - Security					
Body panels, cladding - Intact, no rot or corrosion					
Framing and structural members condition (if recently examined)					
Window glass type (all windows)	Toughened	Laminated	Poly-carb		
Approved safety glass in good condition (show type)					
Windows - Intact, open/close smoothly, latch securely open / closed					
Liquid Containers (Tanks) - Securely fastened, no cracks in tanks, manhole cover secure, no weepage.					
Tank Supports - Secure, no cracks or corrosion in brackets or welds					
Plant - Secure, guards intact, exhaust intact					
Warning Signs (Electrical hazard etc) - Intact					
Vehicle ID - Clearly displayed on both sides of body or underframe					

Body Interior

		No 1	No 2
Interior doors Open/close easily from both sides. Latch securely in closed position			
Flooring - Smooth, free from cracks, peeling, tears etc that may cause trips			
Seats - Secure to floor, wall			
Seat squabs - Securely fastened to frames			
Seat fittings - Armrests secure, seats turn smoothly, no sharps edges, screw heads etc			
Luggage racks - Secure, intact			
Fire extinguisher (if fitted) - Next service due (date)		/	/
Emergency lighting (if fitted) - To operate for a minimum of 1 hour			
Signage - Intact and secure			
Toilets - Handgrabs secure, general condition			
General safety - No sharp edges that could cause injuries. No loose equipment.			

Special Equipment

Electrical system - low voltage (230/400 volt) – certificate expires	/ /
Electrical system - extra-low voltage (battery) - Inspected according to code	
LPG installation (if fitted) - Condition of cylinder mounts, pipework, ventilation of cylinders, correct operation of valves and protection equipment (flameout)	
LPG cylinders (if fitted) - Test certificate expires (date)	/ /
Catering cars - All equipment secured	
Health certificate (catering cars) - Certificate expires (date)	/ /

Brake Equipment

Last brake service	/
Next service due	/
Triple valve type	
Date overhauled	/
Hoses and Brake Cocks - No significant deterioration. Cocks operate smoothly.	
Air reservoirs and mountings - General condition	
Brake cylinder and mountings - General condition	
Brake rigging - Intact. Split pins, washers and pins correctly fitted.	
- No fouling any part of car (and will not as blocks wear)	
Spreader bars - Condition of pins / bushes on hanger links (max lift of spreaders = 10 mm)	
- Locknuts secure	
Brake shoes - Intact.	
Safety straps - Secure	
Pullrod wear plates - Condition	
Brake piping - Securely attached. No significant wastage.	
Brake isolation cock - Operates correctly	
Brake blocks - Within wear limits. Correctly aligned on wheels (no flanging)	

Air Tests

Initial charging - Charge brake system to 550 kPa. No audible leaks.	
Brake pipe leakage (at 550 kPa) - Max = 15 kPa/1 min (Do not continue if higher)	kPa
Piston travel and rigging (at 150 kPa reduction)- No audible leaks at cylinder	
Travel - See B3.2.1.01 - Air Brake Systems Testing (Section 2.6) for limits	mm
All rigging and levers at correct angles. Will not foul as the blocks wear.	
Handbrake - Applies. (Lever type should not bottom.)	
- No of turns (6 – 8 for auto slack adjuster, 5 – 10 for manual adjuster, 1 – 6 for van)	turns

Pneumatic Automatic Slack Adjuster (when fitted) (Screw adjuster out to test)		
- No audible leaks at 150 kPa reduction		
- Adjuster rotates when brakes release		
SAB Automatic Slack Adjuster (when fitted) (Screw adjuster to test)		
- Adjuster resets travel when brakes operated (Test both ways)		
Minimum Reduction (40 kPa reduction) - Brakes remain applied for 1 min.		
- Nil or only slight air blow at triple exhaust		
Slow Release Test (brakes released from 75 kPa reduction through 0.58 mm choke)		secs
- Time to start release. Max = 25 secs for 1¼" train pipe, 15 secs for 1" train pipe		
- Nil or only slight air blow at triple exhaust after brakes fully released.		
Passenger Emergency Valve Test (brakes charged) - Brakes apply – No 1 valve		
- Brakes apply – No 2 valve		
Release Valve (at 150 kPa reduction)- With cock open, air exhausts and brakes release. Cock closes when released.		
- With train pipe pressure exhausted, cock remains open (auto type only)		
Brake pipe leakage (at 550 kPa) - Max = 15 kPa in 1 min		kPa
Brake Pipe Maintaining and Auxiliary Leakage - Brakes remain applied for 10 minutes at 75 kPa reduction.		

Air Tester Certification Expires

Date: / /

Air Test Done By:-

Name _____

Date / /

Signature _____

Inspection Fault Report

Vehicle ID		Inspection Date	/	/	Page	of
Inspected by - Name		Signature				

Fault Details	Reference		Priority	
Repair Details	Date completed	/	/	
Repaired by -Name		Signature		
Checked by -Name		Signature		

Fault Details	Reference		Priority	
Repair Details	Date completed	/	/	
Repaired by -Name		Signature		
Checked by -Name		Signature		

Fault Details	Reference		Priority	
Repair Details	Date completed	/	/	
Repaired by -Name		Signature		
Checked by -Name		Signature		

Priority

- 1 – Vehicle not to run until repairs made.
- 2 – Repairs to be completed as soon as practical but vehicle may run in the interim.
- 3 – Attention required at next shopping or as noted.

Issue	Prepared (P), Reviewed (R), Amended (A)	Approved by	Effective Date
1	P McCallum (P)	Heritage Technical Committee	27 June 2006
2	P McCallum (A)	Heritage Technical Committee	7 May 2007
2.1	P McCallum (A)	Heritage Technical Committee	22 April 2008

Amendment History

Version	Section	Amendment
2	Page 1	Revised cover page format
	Page 2	Added or revised crack tests in accordance with B3.1.4.01
	Wheel readings	Added gauge certification and code compliance check
	Bogies	Added check on centre pins
	Air test	Added tester certification check.
2.1	Page 1	Amended "restrictions" para and added footnote