

**FRONZ / ONTRACK
APPROVED CODE OF PRACTISE
FOR
HERITAGE NETWORK OPERATORS**

Mechanical Schedule B3.3.3.01 BOILER SERVICE SCHEDULE

Issue	Prepared (P), Reviewed (R), Amended (A)	Approved by	Effective Date
1	P McCallum (P)	Heritage Technical Committee	27 June 2006
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Reference Material

Source	Description	Date	
Steam Inc	COP 4 – Boilers; Issue 2	21/08/1998	
NZ Railways	Boiler Operation And Maintenance; Issue 3	1/5/47	
		Issue 4	31/3/67
NZ Railways	Code 18 - Fusible Plugs; Issue 4	31/3/67	

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Amendment History

Version	Section	Amendment
2	D Service	Deleted "cold water"

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Introduction

This schedule sets out the minimum service requirements for locomotive boilers based on typical use for Network Heritage Operators.

Operators are to add additional service items specific to their own boilers or practices.

A Service (Daily)

- (a) Fusible plugs and bushes shall be inspected prior to putting a boiler into steam, and they shall be replaced as soon as any sign of leakage or deterioration is detected. ^{2,4}
- (b) All coal burning locomotives must be carefully examined before going into service to ensure the spark arrester and ashpans are in good order and that there are no defects likely to permit the emission of sparks. ⁴
- (c) Ashpans shall be cleaned at every available opportunity, and damp ashes or coal must not be permitted to accumulate against any portion of a boiler. ²
- (d) The water level gauges shall be tested before each days operation, whenever a new crew member takes over charge of the boiler and frequently in operation. ²
- (e) On locomotives equipped with the TIA blowdown device, the device shall be operated at least every two hours for a duration of at least 1 minute.

On locomotives not equipped with the TIA blowdown device, the manual blowdown shall be operated for up to five minutes daily.

- (f) If the boiler is operated intermittently the operator shall have a regime in place for storing the boiler out of service so as to minimise corrosion. ²

B Service (As Required)

- (a) Operators must have a regime in place to ensure that locomotive boilers are maintained in clean internal condition through the practices of regular washing out and the application of appropriate feed water treatment. Records should be kept of test results, water treatment given and washouts. ^{2,4}
- (b) Operators should examine tubes and flues regularly for build up of carbon and arrange for these to be swept before any build up affects the steaming of the locomotive.

C Service (Annual)

Each operational boiler shall be inspected annually by an approved Boiler Inspector.

Prior to the annual inspection :-

- (a) All boiler plugs are to be removed, inspected, replaced if necessary, and the boiler thoroughly washed out;
- (b) The firebox and smokebox of the boiler are to be cleaned out thoroughly;
- (c) Fusible plugs (and bushes where necessary) shall be removed and examined
- (d) The spark arrester (where fitted) will be removed;
- (e) Any other components will be removed as required by the Inspector.

In association with the annual boiler inspection, at least one safety valve shall be removed and stripped for thorough evaluation. The location of the valve so removed shall be recorded in the boiler records.

D Service (10 Yearly)

Unless otherwise instructed by the regulatory authority, the cladding shall be removed from each operational boiler at intervals not exceeding ten years. The boiler shall be inspected by the regulatory authority and a hydro test undertaken. The hydro test shall be to a pressure of 133% of normal maximum working pressure for the boiler.

Following a satisfactory hydro test prior to placing a boiler in service, or as directed by the inspector, the boiler shall be steam tested to maximum working pressure, plus 10 psi (70 kPa). When undertaking this test, the safety valves must initially be set "light" and the setting progressively increased as the pressure rises.