



Title: Boiler Shop Senior Trainee

Type of Employment: 2 year Fixed Term Contract

Start Date: 3rd August 2015

Hours of Work: 40 hrs per week

Salary: £17,000 - £19,000 (depending on experience)

Personal Mentor: Boilersmith

Based at: Boiler Shop – Ropley Works

Background:

CanPac – Engineering a Future from the Past is a project in partnership with the Heritage Lottery Fund (HLF) to strip down, repair and return to service an Oliver Bullied designed steam engine by the name of *Canadian Pacific* and two coaches also designed by Bullied.

Job Purpose:

Working with the Boilersmith, who is under the direction of the Mid Hants Railway (MHR) Boiler Shop Foreman to strip down, repair, overhaul and rebuild the boiler of steam engine *Canadian Pacific*. The team will assess the work required; the materials needed and create a plan for the repair, overhaul and reassembly of the boiler ready to be returned to its frames such that *Canadian Pacific* is available for operational use from January 2018. The plan will be endorsed by the MHR Boiler Foreman.

Key Responsibilities and Accountabilities:

The key responsibilities and accountabilities show below are for the team responsible for the overhaul of *Canadian Pacific's* boiler. The Boiler Shop Senior Trainee will assist the Boilersmith whilst advancing and developing their own skills and learning.

1. To inspect all removed components and assess for re-use, repair or replacement.
2. All components removed shall be marked for later identification and stored in an appropriate environment.
3. Remove the firebox tube plate and replace new.
4. Remove front smokebox tubeplate and replace new.
5. Remove and replace defective or broken firebox stays.
6. Identify firebox stays unlikely to withstand extensive further service and replace.
7. Assist the external contractor to carry out a Non Destructive Test (NDT) survey on areas of firebox to determine plate renewal where required and replace with new plate and stays.
8. Support Special service contract surveyor in carrying out full internal and external examination to determine defects not sustainable for a further ten-year period.
9. Carry out any additional plating repairs at this time.
10. Renew diaphragm plates and flexible stays on thermic siphons, NDT survey on siphons.
11. Replace all firebox crown stays.
12. Re-Tube boiler with 124 small tubes and 40 superheater flue tubes all new.
13. Replace all foundation ring rivets and caulk seams.
14. Renew regulator valve body, overhaul valve and linkage and refit to boiler.
15. Replace defective and wasted mounting studs and face up all flanges not already carried out.
16. Fully overhaul all boiler mountings and replace any defective parts.
17. Refit all overhauled boiler fittings, washout plugs, mud hole doors, fusible plugs.
18. Refit new construction smokebox, door and ring and rivet to boiler.
19. Cold water Hydraulic test of completed boiler under special service contract.

20. Refit complete fire grate assembly and overhaul rocking gear, renew as required.
21. Overhaul superheater header and carry out hydraulic test, refit to boiler.
22. Service superheater elements, pressure test and refit to boiler.
23. Carry out Pt II working examination off the frame and without insulation.
24. The strip down to be comprehensively documented by photograph and where appropriate by video. The purpose being to create an historical record but more significantly to aid the reassembly. The post holder must be prepared to be photo'd and video'd with images being placed on the website and elsewhere.
25. It is the desire that the finished boiler will be an accurate restoration as would have been out-shopped from Eastleigh works some 60 years ago. It is important therefore that time is taken to understand how each component is put together and the skills and specialist tools that may have been used. Recordings will be made for display on our social media interfaces so that interested parties may engage in this exciting phase of the project.
26. Care must be taken at all stages of the work to ensure early identification of any materials that are exposed which could pose a hazard to health. NB Initial inspection has not identified any areas of concern but never the less vigilance must be exercised.
27. At all stages of the process every effort must be made to engage and include both skilled and unskilled volunteers in the programme.
28. A minimum of two open days will be held to engage with the wider community of interested parties. The post holder will be involved in these Open Days and will be expected to engage with the visitors on these occasions.
29. Monitor and report on activities and upload material to the website / social media and engage with project followers through Twitter.

PERSON PROFILE

Personality: Self-driven, conscientious person with a positive outlook, having a clear focus on high quality and be sympathetic to the value and significance of this heritage artefact. A natural forward planner who can critically assess mechanical components, someone who is reliable and tolerant being able to work with the team and engage with volunteers and members of the public. Well presented as the team will be the representative of the Mid Hants Railway. Able to get on with others, be a team-player and fully safety aware.

Specific Job Skills: The job holder will have served a recognised apprenticeship or formal learning period and be looking to improve their skills and knowledge base. Some experience as a mechanical fitter able to demonstrate their capability to safely work under minimal supervision and qualified to use gas cutting and welding equipment. The **Apprentice Supervisor** will provide support and interface with training and education suppliers.

Literacy, Numeracy and Computer Skills: Must be a competent writer of technical reports and able to communicate technical information to readers at levels. Must be able to use MS Office, particularly Excel and Word and be competent in the use of the Internet and Email.

Personal Gains: The post holder will be encouraged to produce a work portfolio describing some of the activities undertaken during the placement. They will receive both formal certified and informal one to one training. This will be tailored to the individual depending on any skills gaps and identified improvement opportunities. At the end of the placement a Skills Matrix Certificate will be awarded to assist the post holder in seeking future employment in the Heritage sector or elsewhere. The post holder will have had a period of working in a heritage environment on a flagship project working with highly skilled and respected engineers; this whilst advancing and developing their own skills and learning should create a firm foundation for their future chosen career.

The post holder will have a rare opportunity to learn skills from a highly experienced but aging workforce in a unique environment. This placement gives the trainee the opportunity to acquire irreplaceable skills thus enabling them to preserve this heritage for future generations.

Application: Applications in writing, with CV to:

Derek Simmonds

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Mid Hants Railway, Alresford Station, Alresford, Hants SO24 9JG