

No. 1285: The Tale of “Sir Archie’s” Boiler

Boilers are one of the major items of a locomotive that have a varied career. Looking at West Country and Battle of Britain classes, some locomotives—for example, No. 34002 “Salisbury”—had six different boilers during their working lives, while others—such as No. 34092 “City of Wells” and No. 34102 “Lapford”—ran with only two boiler changes.

Boilers were almost disposable; that is, with a boiler problem involving the structure—e.g., multiple firebox star cracks around stays or fractures in a tubeplate—it was practice to exchange the boiler for an overhauled item or to bring forward an overhaul to encompass a boiler exchange.

No. 34059 “Sir Archibald Sinclair” ran with four different boilers during her 19-year life with the Southern Railway and the Southern Region. Built with boiler No. 1313, the engine entered traffic on 3 April, 1947, and two years later on 29 Jan., 1949, having run 67,288 miles, her boiler was changed for No. 1307 during a general overhaul. This boiler started life with No. 21C153 “Sir Keith Park”, which at the time of her boiler exchange was undergoing her first general overhaul, having run 92,482 miles since entering traffic on 1 Jan., 1947.

On 23 Nov., 1954, No. 34059 was at Eastleigh for another general overhaul, and the boiler was exchanged for boiler No. 1350, from No. 34086 “219 Squadron”. This exchange happened at the time when boiler pressure was reduced from the original 280 lb.sq.in. to 250 lb.sq.in., and the safety valves were reduced to two in number and re-sited from the front ring of the barrel to a position behind the dome.

The current boiler fitted to No. 34059 is boiler No. 1285, originally fitted to No. 21C127 “Taw Valley”. This change of boiler occurred at the engine’s general overhaul on 22 Feb., 1960, when the engine was modified or rebuilt to her present form.

No. 34059’s boiler was more than 60 years old when the initial boiler work at the Bluebell Railway commenced in 2006. The boiler’s last use was in May 1966 when the engine was with-



No. 34059's boiler leaves Sheffield Park on 23 Oct., 2013.



Newly arrived at South Devon Railway, No. 34059's boiler awaits a survey. The boiler behind is from No. 34101 "Hartland".

drawn from traffic and sold to Woodham Brothers at Barry, where her seaside holiday ended after being sold to the Bluebell Railway, reaching Sheffield Park on 29 Oct., 1979.

With major repairs to the firebox, including new foundation channel sections, repairs to the thermic syphons and extensive platework replacement, No. 34059 took her first steps from Sheffield Park on 10 March, 2009, and the loco was officially launched into traffic at Horsted Keynes by The Viscount John Thurso, grandson of Sir Archibald Sinclair, on 24 April, 2009.

Just over two years later, the autumn of 2011 saw the engine withdrawn from traffic, with firebox problems, including star fractures and leaking stays and fractures in the thermic syphons, with the comment from the Rolling Stock Director that “we should have replaced the entire firebox”.

By October 2013, funding was available from a number of sources—including “Keep up the Pressure”, the Bluebell Railway Trust, and the 500+ club—to send the boiler away to LNWR at Crewe for a comprehensive firebox repair, including new syphons, purchased from South Devon Railway (Engineering). Progress with the firebox overhaul at Crewe was slow, and in August 2016 the decision was taken to remove the boiler from Crewe and send it to SDR(E), since an agreement had been reached with SDR(E) to produce five new inner fireboxes for Bulleid boilers at a discount price.

Work continued over the next two years with components including new platework, foundation ring channel, firebox tubeplate, and a pressing of the combustion chamber and throatplate as a single unit, rather than separate sections, which had until then been welded in place in situ. With approval of the boiler inspector and paperwork covering all the welding procedures and magnetic particle detection



Pressing of the combined combustion chamber and throat plate for No. 34059, using the 700-ton press at South Devon Railway, on 27 Sept., 2017



The newly overhauled boiler arrives at Sheffield Park on 9 Aug., 2018.

testing of all the welded seams, the boiler left SDR(E) and arrived back at the Railway on 9 Aug., 2018.

There is a lot of work still to be undertaken on the boiler, with more than 2,200 stays to be purchased and screwed in place, but SDR(E) have pilot-drilled all the stay holes in the platework, saving much time and effort in the workshop.

To complete the overhaul, all the copper pipework on the chassis will need to be removed, cleaned, and annealed; pistons and valves and axleboxes checked; and possible work done on motion items, as well as much cleaning and final repainting. The electrical lighting cables on the engine require complete renewal, and it is hoped that LED lamps will be used to replace the old filament lamps.

It has been a long time since No. 34059 arrived with no tender at Sheffield Park in October 1979, but we look forward to her return to traffic. If you are interested the history of the locomotive and its first overhaul, please visit this the [Bulleid Society website](#).

By John Fry



It is hoped that this loaded test run on 11 March, 2009, will be repeated in the near future.