The Consuta Trust

The advancement of education in the history of steam launches, by preservation, maintenance and exhibition of the steam launch **Consuta**

Consuta Trust Newsletter - Autumn 2021

Dear Trust Supporter,

I hope you've had a good summer, the weather this year was excellent. August was a busy period for us just when most of the covid regulations had been relaxed.

The Steam Boat Association were able to hold their 50th year celebration on Windermere at the beginning of the month. We took our steam launch Arlette north for this event and had some fine sunny boating weather for several days before a rainy weekend. Paul and Anne had their wedding postponed from last year, and was at last held in Cornwall during mid August. Then the Consuta Trust attended the Thames Traditional Boat Festival at Henley, this event was extended to cover four days over the August Bank Holiday weekend. So a very busy month.

The Henley Traditional Boat Festival 2021

SL Cygnet

We had a late invitation to attend the annual Trad event, sadly without Consuta this year but we agreed with the Tamesis Trust to share a pitch and put the 1870 historic Thornycroft steam launch Cygnet on display in our marquee, also have our own launch Arlette on the water for comparisons. Arlette is a similar style and size using an identical period Thornycroft single cylinder steam engine.

We also set up a table by our display selling reprints of early steamboat catalogues, and promoting the Steam Boat Association with some give away SBA Funnel magazines plus leaflets; these soon disappeared.

Our display was popular with visitors, I was pleased by the results which also included donations to The Consuta Trust.

Many thanks to our volunteers for sharing the duty of looking after the stand during the four days and making it so successful.

This Thames event has a lot to offer visitors and participants, so why don't you consider coming along next year. I've included a few photos of the wide variety at the show.


Arlette at the Trad Festival

Amphicar launching on the temp slipway on Fawley Meadow

Steam launch Alytra's first attendance at the Festival

David Howard's Likamobile steam car – though not allowed to run

Martin Steggles' steam launch Sunbeam, dried out from Windermere

It is amphibious but not seen in the water

WHAT???, something different at the Trad

Pendlebury, Alytra and Alaska over the pontoon

Sailing punt running the course

Consuta work

So what is happening now. Instead of putting Consuta into the water for late summer we decided to carry out a steam test of the boiler and its associated new pipework, just to make sure that everything will be good to go when Consuta is finally put back on the water. Obviously there would have to be a few temporary modifications to allow this, such as temporary water pick up arrangements for the boiler injectors.


First light up with wood

Saturday 26th Sept was chosen for this test, we invited supporters to come along to see the activities. Cygnet needed to be moved out of the shed first to make room. Consuta was a hard pull for the old Disco because Consuta's trailer wheels had sunk a couple of inches into the shed floor, the tyres had looked a bit flat but weren't at all.


Waiting for the steam kettle to boil
Note smoke from funnel

Once the boiler was clear of the shed roof we stopped, and erected the funnel, there was no need to go further into the nettles.

The boiler was filled using a hose from the Henley Sales and Charter yard, the slight pressure created by the filling showed up a few minor leaks which were sorted before lighting up. Now who had forgotten to tighten up the pressure gauge pipe connections to the boiler? – Oops!.

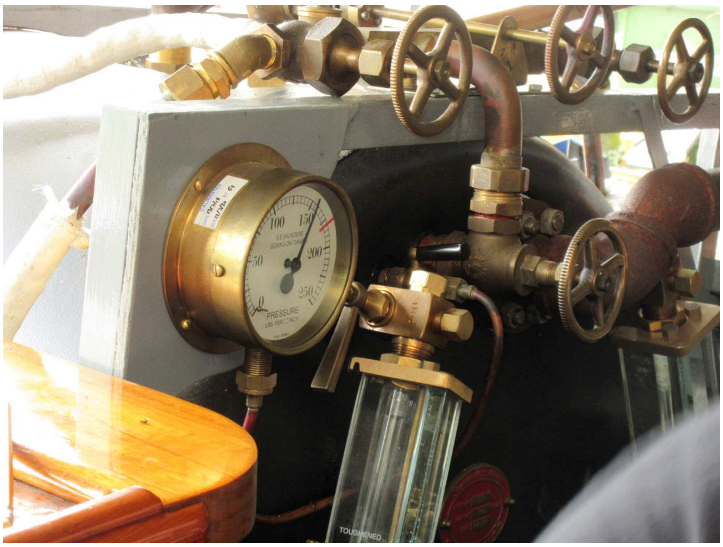
Paul carried out the firing duty and chose to use coal once the wood was burning well. He commented that the fire seemed to be drawing up much better than it had done on the old boiler, also the smoke didn't seem to linger at the top of the funnel as with the old boiler, a major cause of tarnishing the funnel top brass in the past. The new funnel outer was about 1.5 inches smaller in diameter than the old one, this had been decided after some careful measurements of old photos; the inner was also about 2 inches smaller as well. Coal fired loco boilers do need smaller funnel diameters than might be expected to obtain good draughting, so will just have to see how this works out now when the engine is running hard.

Consuta uses two size injectors, one of ½" and ¾" sizes, theses are the ones from the old boiler, but now fitted with shorter pipework. They were tested for satisfactory operation at 100 psi and 160 psi using water hose connections from a bucket. There were no problems at all, I had been slightly concerned that by deciding to fit a ½" steam valve rather than the recommended ¾" size for the bigger injector might have effected its performance. Paul reported no problem, the large injector only needed about half a turn open to work using a smaller than recommended steam valve. Also the water connections from the injector to the boiler were less than the 2ft minimum length as recommended in old injector installation

Consuta pulled part way out of the shed just to clear the funnel

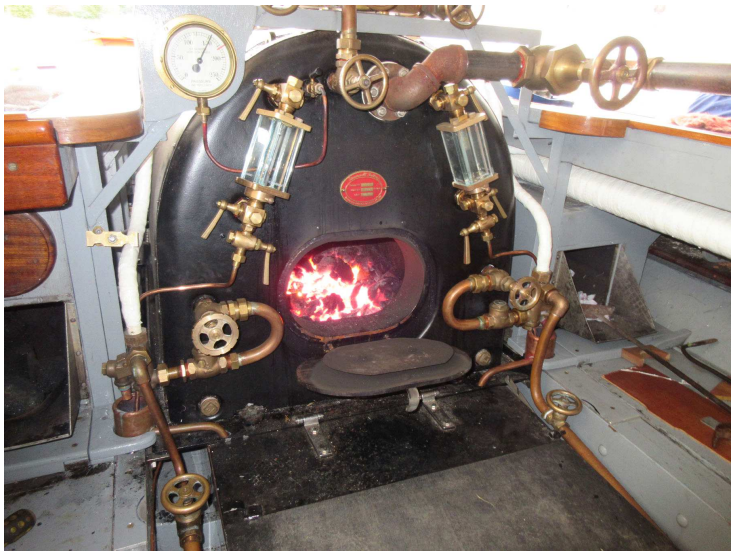
Filling the boiler with water via the hose

Safety valve starting to lift



Pressure gauge reading when the safety started to lift

A lot of steam was blown into the shed during the boiler blow down even though the skin fitting was outside.



Fire looks good at the end of the test

paperwork, again no problem. So we don't need to cross over the copper pipes as on the old boiler.

The only issue was that the newly calibrated pressure gauge only showed 160 psi when the safety valve started to lift. The safety valve is a new one which had been set to 180 psi when purchased, and it is so marked; we are now wondering which one is right? Fortunately this shouldn't be a problem because the trust have a pressure gauge dead weight test set, purchased some time ago. I would put my money on the gauge being correct?

All steam tests were now concluded as satisfactory, so the fire was destroyed. The boiler remained at a high pressure for what seemed a long time, probably because of the improved lagging everywhere, then the boiler was ready to be blown down empty. The new blowdown valve was opened gingerly, Paul immediately reported a problem. There appeared to be a split in the hull skin shut off valve on the blowdown pipework, so some of the hot (dirty) boiler water was going into the bilges. We wondered had this been caused by frost damage, the valve had been reused from the old boiler pipework.

Consuta and Cygnet were very quickly put back into the shed after a very satisfying test day.

Some Consuta Winter work

- Check pressure gauge and safety valve settings.
- New skin fitting valve for the blowdown outlet
- Repair minor steam leak on manifold.
- Some minor cleaning out of the bilges.
- Various new parts to be painted/repainted, varnished or revarnished.
- Clean up most of the hull and polish the brasswork.
- Accurately renew the waterline – we will keep the old level but just have it a bit straighter.
- Finish off the (light) antifoul scraping then apply new antifoul in time for the relaunching.
- See about fitting in the Windermere kettle and the hand bilge pump. Sorry haven't fitted this yet.
- Gauge glass back plates to improve water level sighting.

Some other Consuta work (not essential for operations next year)

- Complete work on the pattern for casting the steam manifold then get this machined up, now we have confirmed the size of injector steam valves to be used. The present manifold is fabricated in DZR brass but needs to be replaced with a bronze alloy casting such as LG2 which doesn't suffer dezincification (ie it doesn't go porous) an alloy used for most bronze style pressure valves.
- Replace the current main engine steam screwed steel section pipe line (1½" ID bore) with thick walled custom shaped copper pipe sections. If we can get hold of a suitable brazing hearth we might be able to do this ourselves; the copper pipe is 1½" bore with an ⅛" wall. This size of copper pipe does bend but needs serious heat treatment to make it bend in the right places. We've had no problems bending thick wall ¾" bore pipe, so will just have to see.
- Finish the casting pattern work for the two period style combined check and shutoff cocks for the injectors, then have get cast and machined up.
- Stainless steel steam drier/superheat section for fitting in the smokebox.

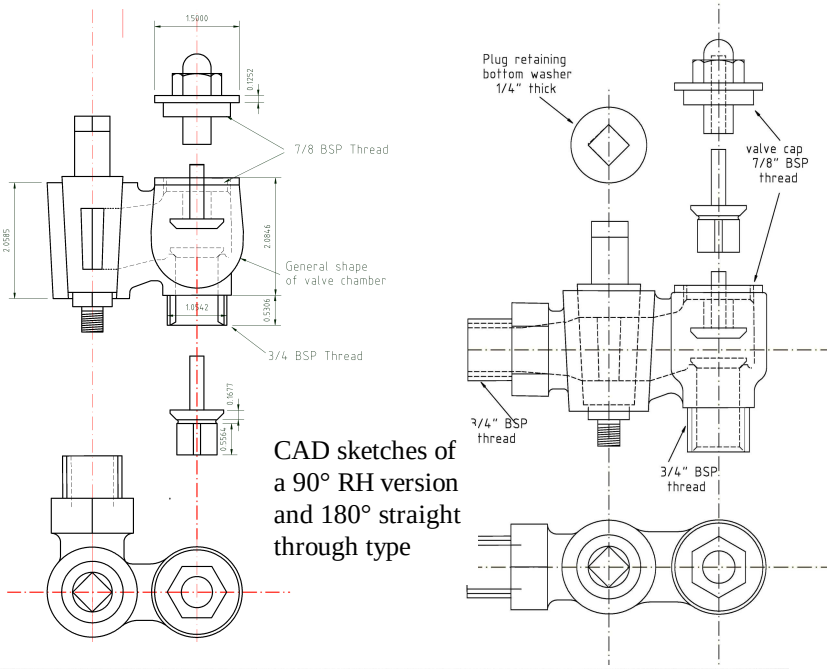
Many thanks for your continuing support.

Brian Smith on behalf of the Trustees.

I like this photo showing the crews rest area behind CYGNET's display marquee at the trad; the banner looks great.

Two versions of the proposed check and shut off cock

Either of these would look much better than those currently used on the backhead; see photo on page 4



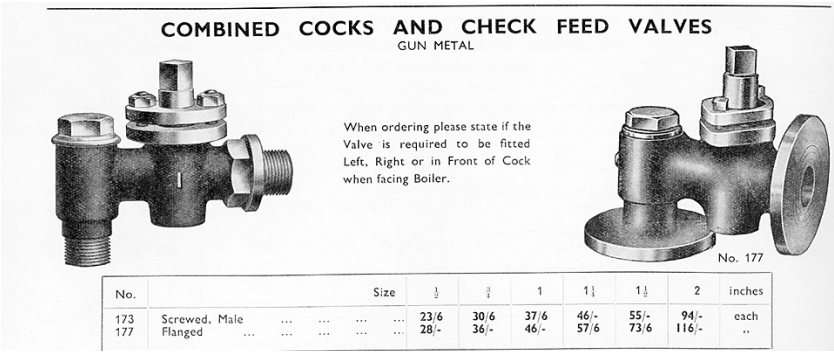
CAD sketches of a 90° RH version and 180° straight through type

Above shows the two check and shutoff cock on Donola, it seems it has had a bit of a leak over time.

Above left shows CAD sketches for two alternatives. The 90° version of course involves a little more pattern making work.

Left is an old advert showing the straight through version but the text says the check valve part can be either left or right as required.

I like the cost of the ¾" one priced at only 30/6 .



COMBINED COCKS AND CHECK FEED VALVES

GUN METAL

When ordering please state if the Valve is required to be fitted Left, Right or in Front of Cock when facing Boiler.

No. 177

No.		Size	½	¾	1	1¼	1½	2	inches
173	Screwed, Male		23/6	30/6	37/6	46/-	55/-	94/-	each
177	Flanged		28/-	36/-	46/-	57/6	73/6	116/-	,,