No. 1 'Thornhill'

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by GREG and STEVE THORNHILL

GREG and STEVE THORNHILL describe how they took a Roundhouse Lady Anne kit and produced a bespoke locomotive with a host of cosmetic improvements.

Photos by Greg and Steve Thornhill.

Greg Thornhill writes:

It all started one summer's day in 2013. Steve was musing over a couple of Roundhouse home builder kits he had been offered by a friend. I looked over his shoulder and my jaw wobbled and the words *"I wouldn't mind building something like that"* came out.

A few weeks later Steve had put his money were my mouth was and I was presented with the two kits and told *"well, you said"*. Now I normally work in 'OO' (4mm scale) so here I was presented with about as close on the real thing as I ever imagine I will get.

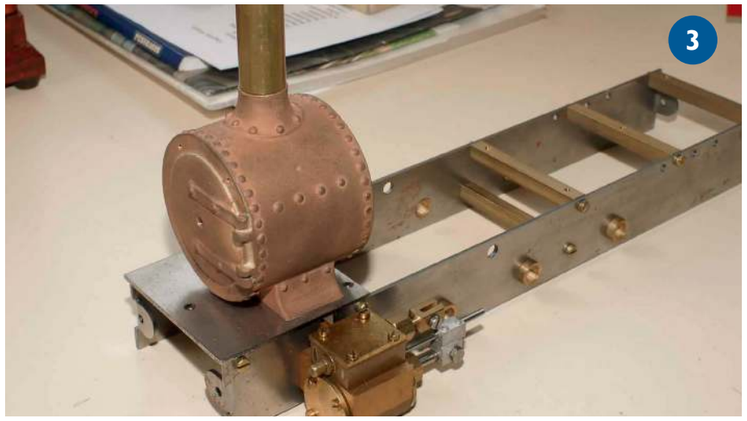
The bundle consisted of two kits, a HBK2 0-6-0 Lady Anne chassis kit and a HBK4 Lady Anne boiler kit. Now Steve and I had already discussed the merits of a previous Roundhouse model, the William, as a representative of a Russian field locomotive of the WW1 period. So we both looked at these as the possible basis for something in that direction. However, I went home with very unclear instructions as to what to do with our new acquisitions.

Speaking of direction, one thing in my favour is that I live about an hour's drive from the Roundhouse factory. Having spent some time looking over the Roundhouse drawings on their website I took a drive over to the factory shop to see what could be got to finish the job.

The basic locomotive

One thing became apparent. We had no idea how old the kits were. Now we all know that the 'Lady Anne' has been with us in its current form for a good few years now. So the impact of this should not be too great. There turned out to be four main areas of change, two concerning the chassis and two the boiler, the details of which I will discuss as we go along. None turned out to be major and none really impacted on the next decision. Having discussed the possibilities of what we could do with the kits, and more definitely what we could not, I took the decision to buy a HBK6 Lady Anne body kit and a HBK10 Lady Anne R/C fittings only kit and finish the kits in that fashion. So 'just another Lady Anne' would be born.

The decision was primarily taken on the basis that I had not built a Roundhouse loco before but expected a set of given parts would go together and work. One big thing that was missing was a dome. It transpired that the dome on the age of boiler we had was fixed via a boiler band. Instead of two nozzles on the modern boiler, one for the filler and one for ▶



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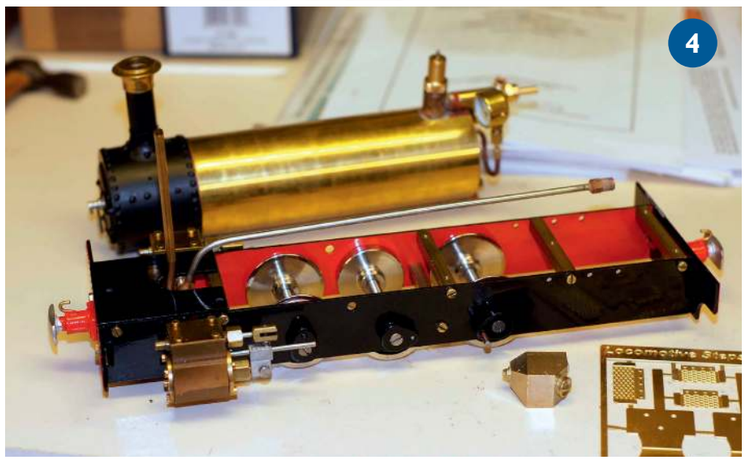

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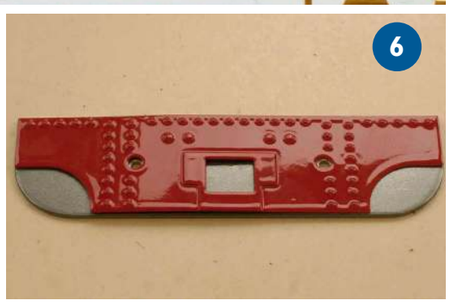

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Photos on the facing face and this page:

1 & 2 *– The finished article:'Thornhill' out on the line with name plates fitted.*

3 *– Yes its an old Lady Anne kit.*

4 *– The chassis nearing completion: Swift Sixteen sand boxes and steps are now to be fitted. Steve persuaded Greg to paint a nice red interior to the frames which is now entirely hidden – ho hum.*

5 *– By good luck, the Roundhouse brass tank filler fitted straight into the L&M dome. It was drilled and tapped, thus the dome is now held in place by bolting upwards through the boiler wrapper.*

6 *– The buffer beams now need to be re-profiled to match the overlay.*

the steam take-off/safety valve, our boiler only had the one at the rear for the steam take-off/safety valve. The filling of the boiler is achieved by removing the safety valve each time. So we could have the dome wherever we wanted to put it and it could be whatever one Roundhouse could supply. Now I like big domes (no sniggering please, this is a family magazine). Looking over the full range of locomotives on display in the factory shop I chose the one used on the Leek and Manifold 2-6-4T. Basically the biggest, fattest piece of brass you can imagine. I could have the dome but not the mock safety valve that screws into the top. That was not an issue as we had a safety valve at the rear. Quite how I would fix it wasn't considered until later. So I came home from the Roundhouse factory with a high opinion of the Roundhouse staff and basically enough parts to build a Lady Anne.

Whilst it may appear that Roundhouse simply talked me into taking what they thought was right, the conversation was quite long and with a high degree of understanding.

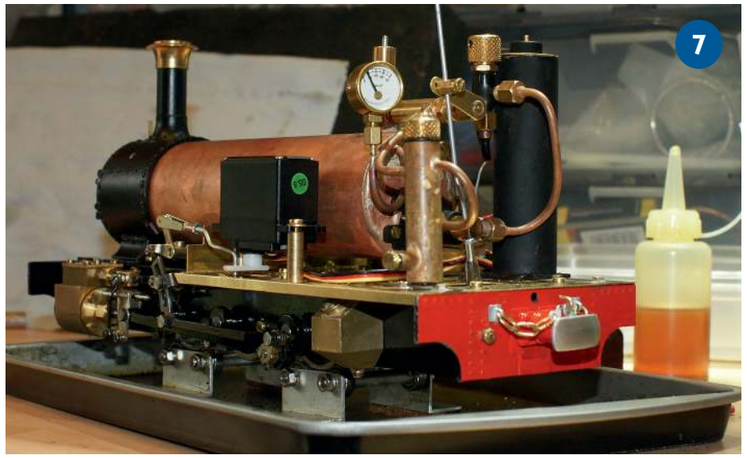
It was a very useful exercise as it set out in my mind just what degree of flexibility a home builder has. As I said earlier, a William, or close to it, was the initial target. The fact that we had a Lady Anne boiler rather forced our hand, as will be seen in a description of our next project. But what did come out of the discussion was a William tender (less doors, if that means any to you) which committed me to finding a way of making a loco to go with it. Hence our next project but that will have to wait. *(This will be the subject of a future article - Ed).*

The added details

Steve was not happy. Just another Lady Anne was not what he wanted. However, as a man in the know he knew of people who could provide the kind of details that move a basic locomotive well beyond the builder's shelf.

It started with Locoworks. He purchased super detailed foot plating, glazed fixed and open cab windows, clack valves and pipes and a pair of cab doors. I was introduced to Swift Sixteen and found new tank fillers, cab steps and sand boxes.

In addition to these, parts were 'discovered' in Steve's stores that provided cast steps for the tank fronts and a trumpet style safety valve cover from ACME Engineering left over from a job that it did not fit. In addition a vacuum



pipe was formed in aluminium and run from cab to smokebox.

Some detailing parts were acquired from Roundhouse such as buffer beam detail overlays and cylinder covers. The buffer beam detail overlays chosen led to concave corners being cut in the steel buffer beams. The cylinder covers did not fit due to the older pattern of cylinders so had to be adjusted. One of the differences referred to earlier.

I decided a second whistle would be provided. That was made from a scrap piece of brass.

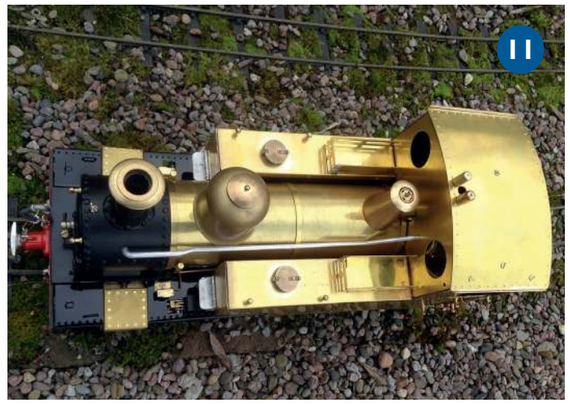
The build

Building started with the chassis. It always appears logical to me to start with the chassis. If the chassis works the loco works. If it doesn't the rest is a waste of time. Whilst the general construction follows that set out in the Roundhouse instructions one change Steve insisted on was hexagonal bolt heads visible on the buffer beams, in place of round cheese head screws. Whilst he suggested buying in a set of bolts I made some studs and used brass nuts which were filled and painted over.

One major difference that showed the age of the chassis was that the cylinder exhaust pipes were not crimped at the ends but left open. The two pipes were then brought together in a single, semi-flattened tube referred to as an enhancer pipe. Now Steve had mentioned fitting a chuff pipe. I insisted on leaving the original arrangement in place in order to assess its functionality before moving to such an 'enhancement', if enhancement is the right word. In operation the original arrangement does just what I wanted to see. It ejects the steam from the chimney in a strong vertical plume with resounding and audible chuffs. I fully understand the principle of a chuff pipe and applaud the design ingenuity of it. But, a chuff pipe directs the exhaust in a downward direction which is contrary to the normal arrangement of the beast. I agree the heat of the gas flame redirects the exhaust out of the chimney, but in a rather lack lustre way and totally lacking in the energy implied by the sound generated. Now my opinion is that of the builder. Steve is the operator. His opinion of the enhancer pipe is based on the initial heavy discharges of hot fluids and oil which accompanies starting. Standing well back from the engine whilst he starts her off, I have no problems at all.

I chose to fit the dome in a very forward position. I know that the position of a dome is a much commented point of locomotive aesthetics. I have always liked the way Great Eastern Railway locomotives have their domes close to the chimney, so hence my decision. As there is no boiler filler an alternative arrangement had to be made. Basically a circular piece of brass of similar proportions to the missing filler was made on which the dome would sit. This was fixed to the boiler wrapper by a very long countersunk screw. A Roundhouse circular brass tank filler was found to fit into the hole in the top of the dome. This was counter bored and tapped the same size as the screw that holds the dummy filler. The dome was put over the dummy filler and the tank filler screwed on from the top.

A standard Lady Anne is provided with two coal baskets and a rear bunker. The bunker is rather GW or LMS 'Jinty' in shape. It was decided that the three coal spaces were excessive and that leaving off the rear coal bunker changed the appearance considerably. So off it was left. The lamp irons usually fitted to ▶



Photos on the facing face and this page:

***7** – Chassis ready for steam test up on the roller bed in my workshop. I use individual separate rollers as these are low cost suit any type of loco and just sit easily in a baking tray.*

***8** – As delivered from Yorkshire. All body parts are together now.*

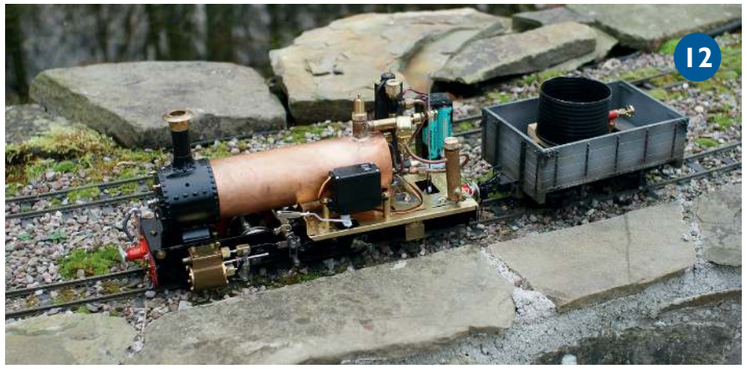
***9** – The rear bunker is not fitted allowing space for lots of other details like all those lamp irons and brackets. Spectacles are to be glazed but have been left off until painting is complete. Those Swift Sixteen steps look good.*

***10** – A visitor to Greg's MPD: King Kong it seems.*

***11** – Overhead view showing the Vacuum pipe and the Locoworks parts.*

***12** – Stripped down again ready for the first outing on the rails. Batteries are held in place with a large blob of blue-tack! The wagon is my patent-pending track cleaning wagon. It dribbles a controlled amount of paraffin onto the rails through two pipes directly over the top of the wheels and is very effective.*

***13** – Rounding Pot Corner with a steady plume of steam.*



ERECTING SHOP

the bunker were re-positioned on the now flat rear panel of the cab. In retrospect perhaps one coal basket could have been removed and a large tool box fitted. But that was considered at too late a date.

Whilst couplings of the normal narrow gauge single buffer type were fitted centrally it was decided that Brandbright vacuum pipes and check chains would be fitted. As vacuum pipes were fitted a vacuum ejector pipe was fitted between the smokebox and the cab.

Livery and naming

Although discussed form the outset the livery took a long time to be settled. Various shades of green and red were considered. But we came upon the very dark blue. Whilst the chassis and running gear was painted by me it was agreed that the areas requiring lining should be done by AN Other. Our AN Other of choice was Rhos Helyg Locomotive Works. What attracted us to him was his attitude to our build process. Basically you build, finish and get to work – then I paint. This meant we could build everything and put it all together or at least place all parts, to ensure we had a working locomotive before being stripped for painting. And all that was sent to him was those parts required by him, not the complete loco.

Well, what's in a name? You either like them or you don't. But if you do like them, and there is no previous history, the decision as to what it should be can be very difficult. This being a 'generic' loco it has no prototype and therefore no history. All (or mostly) the other locos on the Frome Valley Railway in deepest Herefordshire are based on prototypes, so this is an exception. As neither of us have family members that wish to see themselves recorded in this fashion, or children or dogs or pets or whatever, the naming process can be more difficult than building the loco!

So yes, we took an easy route. Well the Isle of Man had one so it must be right.

The final outcome – operation

'Thornhill' was thus named and plates ordered. Following our running session everything was stripped down again. I took advice and made sure I de-greased and cleaned down thoroughly all the parts we were going to paint. I used precision paint thinners, and did it outside using those silicone gloves. I got though a lot of gloves as the thinners makes them come apart quiet quickly!

Above: *Photo received from Tony of Rhos Helyg Locomotive Works – parts all ready to be sent back.*

I used etch primer then five coats of undercoat followed by six top coats. I left a good amount of time to dry between each.

Once all the parts were received back from Rhos Helyg Loco works, we were immediately impressed and very pleased with Tony's 'Rheidol Blue' and straw lining. Greg and I got together in Hull and collectively put it all together adding all the extra detail parts as we went. Those vacuum fittings are bolted together with 16BA bolts and were little whatsits to fit can I say. Trying to get the roof to swing right is also rather more of a challenge than we had considered and remains slightly awkward to this day.

Steve Thornhill writes:

At this point the loco passed form Greg and into in my hands here in the Herefordshire countryside. Once out in the sunlight the rather fetching livery of deep blue with straw lining comes alive. In fact this is far too smart for me. All of the stock on the line is very industrial, or working goods in nature. The only exception to this is the Darjeeling blue loco and coach set. But I digress.

So steaming up is undertaken in the normal way. A slow warm up was made but this was really not a critical issue as the paint had hardened long before being sent back to us. Immediately though it became clear that this was a different beast to fire. That chuff pipe has a special effect, the first movements eject a fierce spout of hot water high into the air or into the eye.

We experienced a little tightness, or was that the celebratory whisky? Still nothing that a little running has not sorted out. I noted that the gas was difficult to control. The burner control was almost non existent resulting in full gas pressure and very short run times. Previous steam tests had been made in near sub-zero conditions with little or no bodywork meaning the gas had to be at full bore just to maintain any working steam pressure. Thus I had not noted any issues. The control valve was stripped down to find another old, white looking and nearly perished O ring. This was replaced, the threads greased and so forth all to no avail. So at the next show a replacement regulator was obtained from Roundhouse. When fitted this immediately altered matters. So another lesson has been learnt about using very old parts.

As we all know each loco exhibits some characteristics that set it apart. They might be basically the same in principle but somehow different. In this case so far Thornhill had a pronounced 'boxing side to side effect'. On checking the wheels I found I had used my trusty old brass back to back gauge. On checking with the Roundhouse one the difference was clear and the wheels were very narrow to gauge. So lessons learnt again, always use the correct tool. However this has not entirely cleared this issue. Some further fine tuning of the valve timing must be made although we thought we had this all sorted.

We also note considerably shorter run times. On our line we like to generally both add weight to vehicles to give the engines work to do but also to maximise our steaming times. Thornhill stubbornly remains reluctant to boil up quickly and thus tends to have shorter run times than I had hoped for. Perhaps running in this coming season will help, it is after all early days for the loco made from a mixture of parts of uncertain vintage and without the benefit of the Roundhouse pre-delivery running in process.

Thornhill back from the paint shops, reassembled and out on the line and in service at last.

That said it must be noted that Thornhill is not shy of work. As ever the Roundhouse quality ensures plenty of pulling power.

After shooting hot steam into the eye a few times and after a particularly hot burst onto the top of the head, a contrivance has been built. This consists of a brass tube, a nice wooden box and a large bottle cap. This slips into the chimney when starting up, the large bottle cap lid acts as a baffle and the tube projects up about 20mm into the box. The body of the box catches what seems like a fluid ounce of condensate on start up.

So what of Greg's preferred / much heralded open piped ancient design of chuff pipe? Well I can report a clear improvement in sound. Not as distinct as modern offerings but certainly good. The steam plume is very nice with a clear jet rising in a very satisfactory way. It also has a marked effect on paintwork. The specially ordered satin and matt finish is now largely academic as it is fully and completely coated in steam oil every run.

So did I get just another Lady Anne? Well I think not. The altered profile, smart livery and additional detailing has altered appearances enough to give me, I believe, a very different look. Thornhill is very much a smart passenger loco, of which any railway might be proud.

Now of course we have embarked on a further backup plan. A set of five of those fine Brandbright Premier coaches. These have been provided with as many additional parts as the wallet can bear and turned out in an interesting dark purple and cream livery which I anticipate will work with several of our locos. I am 'letting' Greg build these on the grounds that he needs to look up from his (huge) 00 layout and get away from all that small stuff he is used to. There's lots to look forward too next running season. ■

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