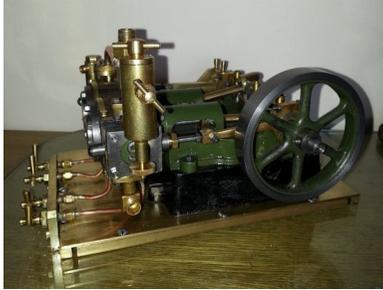


TIVVY BUMPER

The newsletter of the Tiverton & District
Model Engineering Society

Autumn 2016



Editorial

Welcome to the Autumn edition of 'Tivvy Bumper' for 2016.

As usual, we are featuring the last six 'Pictures of the Month' that have appeared on our web site. The first one is Bob, with his recently acquired 'Minx', although I understand the engine has been around the society for a long time. The second one is of Chairman Adrian's twin horizontal engine. Picture 3 is Steve K's 'Precursor' engine, shown at the Open Day this year. The next picture is also from the Open Day, and shows Steve, a visitor from Cornwall, with his 'Sweet Pea'. John W's jig for sharpening small end mills was shown at our Bits & Pieces evening in the spring of 2013, and is the fifth picture, whilst the last one is of a fine traction engine in steam at the club site.

Remember, all the previous 'Pictures of the Month' are available on the web site. Just follow the link at the bottom of the 'Home' page.

The club web site has all the latest information about the society, dates of meetings and presentations, steam-up days, as well as a bulletin board where members can share experiences, share information about events, etc. So if you have access to the Internet (or someone in your family does), have a look.

The web site address is: <http://www.tivertonmodelengineering.org.uk/>

In this edition, as well as the usual features, you will find the second part of Adrian's description of re-furbishing the 'Butch' locomotive that has been loaned to the society.

Steve

Chairman's Chatter

Track Maintenance Day September 10th

A great turnout of 13 members and one guest ensured that all the scheduled tasks were completed by early afternoon. Apart from 2 or 3 “A” frames that have started to deteriorate (will need replacing in due course) the track was found to be in good condition. A couple of signals needed some wires to be re-soldered in the connector and it was suggested that a signal tester would be useful. I will see if I can make one during the winter. Many thanks to all who made it a very successful day.

Sunday Running

This is proving to be very popular with good attendances at all meetings. It gives a chance to those who for whatever reason cannot make the Saturday running or when the weather was poor.

Taunton 60th Anniversary

Our club was well represented and we were made very welcome – we even had our own tent which we filled with a wide range of exhibits (see picture opposite). The weather was perfect and the event was very well attended. Let’s hope we can maintain our friendship with our neighbours.



Christmas Meal

I am pleased to confirm that the Mitre in Witheridge has been booked for Friday 16th December. I will forward the menu as soon as I receive it from the Mitre. Hoping we get similar numbers of members and guests as last year where we completely filled the restaurant.

Adrian

Treasurer's Musings

A quieter time of the year after the renewal season. I am pleased to report a steady stream of new members (some with locos) and they are all helping the funds. We are approaching our year end (on 31st December) and then I will do the accounts for 2016. These will then be presented at the AGM in March 2017.

Please remember to send me your payments and choices for the Christmas meal at the Mitre, Witheridge on Friday December 16th.

I send my best festive wishes to all members and hope Santa brings you the machine tool of your desires.

Chris

Secretary's Scribblings

Winter draws on - (None of your business, Vicar)

Looking back at the Spring edition of Tivvy Bumper, I see that I was bothered about the loss of feeling in my fingers. I am happy to say this has finally disappeared, but I seem to have got out of the habit of going into the workshop to do anything more creative than cut up firewood, ready for the wood-burning stove.

If you were at the Annual General Meeting in the middle of March, you will know that this will be my last year in the position of Secretary. I have been doing the job for ten years, and I feel that I ought to hand over the reins.

On comparing notes with my predecessor Tim Clarke, it is obvious how technology has made communications easier. Tim tells me that when he was Secretary, a mail-out meant getting about 35 copies of a letter, as

many envelopes and stamps, and spending all day stuffing them. Now I write my piece on the laptop, press SEND, and 95% of the membership has it. I only hope my successor can do the same – who would go back to those days?

John.

'Butch' restoration (Part 2)

To prepare for the boiler hydraulic test, all fittings were immersed in descaler to remove scale. All threaded bushes were cleaned, as there was a quite a lot of a putty type sealer. The superheater was removed for visual inspection and to ease the cleaning of the tubes and fire box. At this stage I decided to leave the dome in place. Although not necessary at this stage I cleaned the smoke box which had a large build up of oily soot. I forgot to mention in part one that the blower was removed when I separated the smoke box from the boiler. It is a “curly” type, but was somewhat straight!

The next thing to do was a basic water test, so blanks were fitted in the back head bushes, the superheater replaced and blanked off. I filled the boiler up via the safety valve bushes right up to overflowing and blanked them off. I noticed some water seeping from the base of the dome, but as I tipped the boiler forward, this turned into a flow. After draining the water I investigated the dome. It was clear that there was a problem with the studs as a number of these snapped the moment I tried to undo them. Fortunately there was sufficient length remaining to remove the broken ones after a liberal coating of penetrating oil.

Checking the intact studs, the diameter at the centre was slightly less than near the ends, and being made of phosphor bronze, I would think these had been over-stretched over time. After cleaning up the threads and making a new gasket, I replaced the dome and secured it with hex headed stainless steel bolts.

Repeating the basic water test, there were no leaks.

Now for my go at a hydraulic test. A clack and pressure gauge were fitted. I rigged up the hand pump, filled up via the safety valve bushes which were then blanked, and started pumping - increasing pressure in 10 psi steps, performing an inspection at each step. Up to 100 psi - so far so good, not a drop to be seen anywhere, apart from the hand pump, where water was starting to drip from the ram. The more I pumped, the more it dripped.

Stripping it down, I replaced the worn packing with an O ring after a small modification to the pump on the lathe. I then repeated the test and got to 120 psi. No leaks anywhere, but the pressure was slowly dropping. To cut a long story short, the problem was the clacks. I tried new balls, reseating, more de-scaling but to no avail. In the end I had to purchase two "off the shelf" clacks. I had no more problems and was able to take the pressure up to 160 psi (twice working pressure) with no leaks anywhere and the pressure holding.

It was now time for an official hydraulic test, so the boiler was Taken up to Worth Moor. The pressure was taken up to 160 psi, but was dropping slowly. A very small amount of water was seeping from a what was believed to be a (threaded) longitudinal stay on the backhead in a position that mirrored the blower pipe. After some discussion, it was agreed that a "beefier" nut was required. One was turned up and fitted and a few weeks later the boiler re-tested with no leaks and holding the test pressure. Passed. I now started re-assembly to get the engine ready for the steam test.

With a viable boiler, I decided to see how the chassis ran on compressed air. It ran well.



I took a video of the chassis running, and you can see it on YouTube at:

<https://www.youtube.com/watch?v=5WaYJzZXOj0>

It would run comfortably at 25 lbs. I had noticed that some bushes on the motion and valve gear were worn, so I turned up some new ones and retested. It ran a lot quieter.

Next I decided to see how the axle pump performed and rigged up some temporary pipework and a water tank. It worked perfectly - so well in fact, that I got soaked.

The next thing I tackled was the pipework on the left hand tank. I modified the pipework so that the tank can be removed and refitted without having to remove the boiler.

Now for me the worst job – repainting. Paint and I do not get on.

I contacted Stuart (the owner of the engine) informing him of that he could have any colour he wished, as long as it was Black and unlined! I would have liked to take the chassis and wheels back to bare metal, but this would have meant a major strip down and knowing that the chassis ran sweetly, decided to do the best I could with wet and dry. I hand brushed the chassis and wheels with Hammerite. Next I sprayed the smoke box with heat resistant paint (after preparation) followed by the backhead. For the rest of the engine – tanks, boiler cladding/bands, cylinder covers and cab the existing paint was flaking badly and required complete removal. This was quite time consuming as there were stubborn areas where the old paint still adhered. Finally, with all the paint removed, the brass was prepared with wet and dry for keying and then thoroughly degreased. With everything ready for spraying, I called upon the services of my son-in-law to do the spraying for me, and he did a first class job.

Back to more enjoyable things – bolting things back on! I secured the smoke box to the saddle; connected the underside steam pipes and exhaust to the cylinders and finally screwed down the blast pipe nozzle to the mark I made prior to dismantling.

Now back to the boiler. All the fittings were replaced and new insulation held in place with strong thread. The cladding was refitted with some difficulty, as the new insulation was quite a bit thicker than the old. Next the boiler bands, which just about went round – due to the thicker insulation. At last I could fit the boiler back in the chassis and to the smoke box. No major problems, all smoke box pipework was reconnected and the rear boiler clamps were fitted. Next were the tanks

which were straightforward as a result of the modified pipework referred to earlier.

Putting the cab back was not too problematic, apart from the bulkhead connectors mentioned in part 1. Finally the injector and lubricator were refitted. Butch was now ready for testing.

I will conclude this saga next time, with the final work to get the engine running satisfactorily.

Adrian

Track Trivia

Since the addition of the Sunday steam-up, two weeks after the normal first-Saturday-in-the-month, it has been decided to drop this feature.

Forthcoming events

Don't forget that we meet on the first Saturday of every month at Worthy Moor for a steam-up (and chat), and now on the Sunday 2 weeks later. Please come along.

As mentioned earlier in this edition, we now meet on Tuesdays to maintain our wonderful site. Please come along to that too.

Mark your diary for these other important dates for the next 6 months:

Nov 18th - Bits & Pieces evening (**note new date**)

Dec 16th - Club Christmas Dinner