

# Sussex Miniature Locomotive Society Ltd

Issue No. 399  
October 2012

## BEECH HURST NEWS



### **Cover picture: -**

*On The Road:* With Brian Joyce's latest creation now fully up and running, I took the opportunity to get a photograph of the loco prior to its departure to the Sandown Park exhibition. The model is based on a GWR 15xx class shunting locomotive.

### **Editor**

Andrew Brock  
189 The Welkin  
Lindfield  
RH16 2PW

[andy.brock15@btinternet.com](mailto:andy.brock15@btinternet.com)

SMLS Ltd, The Clubhouse, Bolnore Road, Haywards Heath,  
West Sussex, RH16 4BX.

Opinions expressed in the News are not necessarily those of the Society for which it cannot be held responsible

Copyright is that of the author or the S.M.L.S

## Editor's Notes

The last couple of months since the August BBQ night have come and gone with the blink of an eye, and with Bonfire Night already upon us we are now well into autumn. September proved to be a mixed month, not the settled and mild one we have experienced in the last few years. That said, only 1 day was lost to rain, we ended the season at a steady pace and are now well into the winter season. With this in mind, Winter Work has returned from its 'summer recess' (just like our friends at Westminster) along with many other articles for this edition.

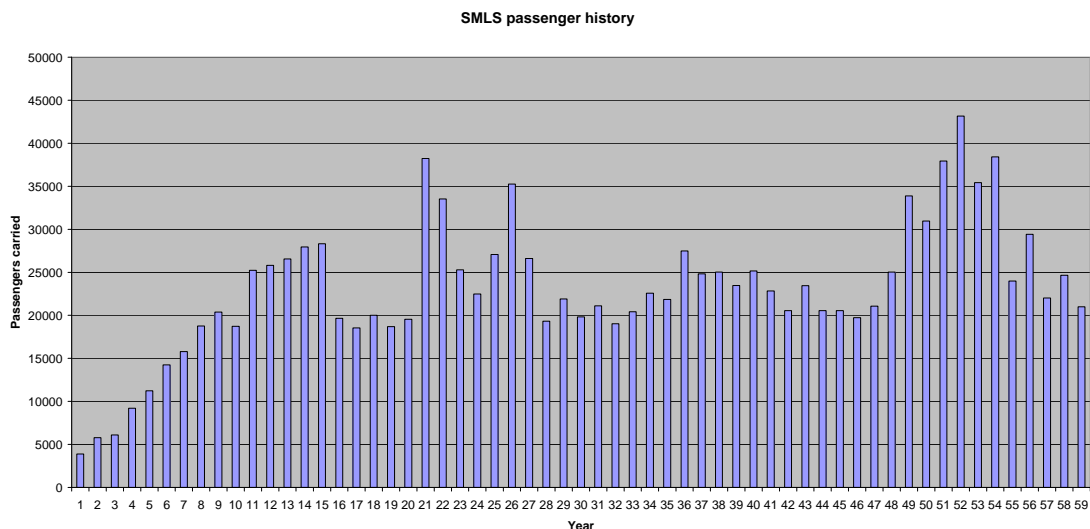
Thanks to Ray & Andrew S for their articles and pictures in the August edition. With this edition, I have kept it back to end of the month again so as to coincide with the Bonfire Night and try to generate maximum collection potential. Inside, there are articles by Chris Saunders (Passenger Stat's), Andrew S (Dougal) as well as an article by Andrew S & I about Whistles. There is also a report on the visit to Basingstoke, a progress update of our Winter Work programme, my usual writings and an updated Diary of Events, so please read on and enjoy...

**Andrew**

## Passenger Statistics 2012

This year I am analysing the long term trends of our passenger statistics. With 59 seasons completed we now have enough information to predict the likely loadings in the future. There will, however, be circumstances beyond our control but these will have to be dramatic in nature to have a major effect on us. One thing that is noticeable is the general development of Haywards Heath with new housing estates creeping ever nearer our fabulous park. This could affect us for good or bad. It increases the catchments of customers but the general urbanisation might cause folks to leave the area for their recreation.

**(Graph below: Passenger numbers bar graph up to 2012)**



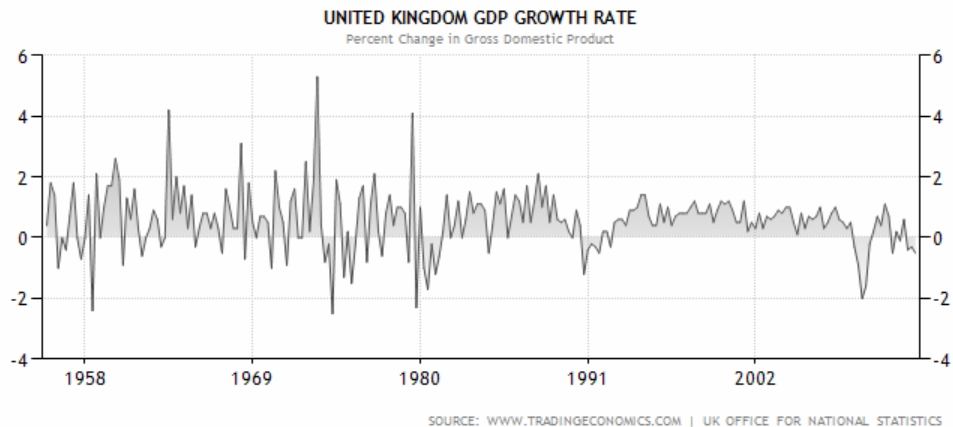
Some people expect that only the weather affects our levels of custom, while others hold the view that it is the financial situation. With both these views in mind I decided to investigate.

Firstly, are there any obvious trends or problems of our own making that might have affected the traffic levels? Well yes! When we opened in 1954 not many people knew of us and where we are, so a gradual increase in levels can be seen from 1954 up to 1968. In 1969 we doubled the fare from 2.5p to 5p and the numbers dropped about 40% for a few years, unfortunately in 1970 we ran into a recession as well so there was a bad dip in numbers from 1969 to 1973.

In 1974 we opened the extension and business rocketed! Again, there was a small recession that dragged the levels down around 1977, that, and another doubling of the fare to 10p. Since then nothing that we have done has appreciably affected traffic levels, be it fare increases, introduction of electric traction or Wednesday running. So what else causes the fluctuations?

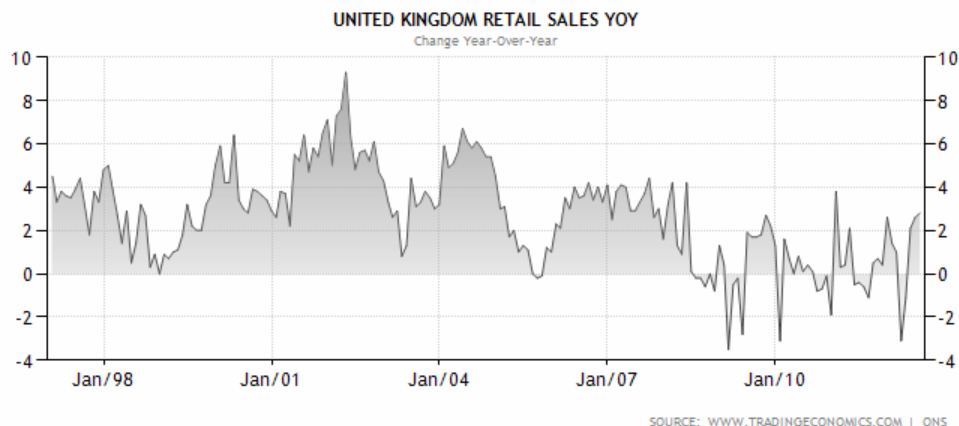
I downloaded some data from the government web sites showing the trends in GDP (boom & bust indicators) but this does not tie in very well as can be seen for 1958 to date.

### **UK Gross Domestic Product growth rate**



Then I downloaded the UK actual retail sales year on year index, which does match our levels of business somewhat, however only the years from 1998 are available. The consumer confidence index graph, however, was totally meaningless, so I have not included it.

### **UK Retail Sales, (actual) increase or decrease for each year**



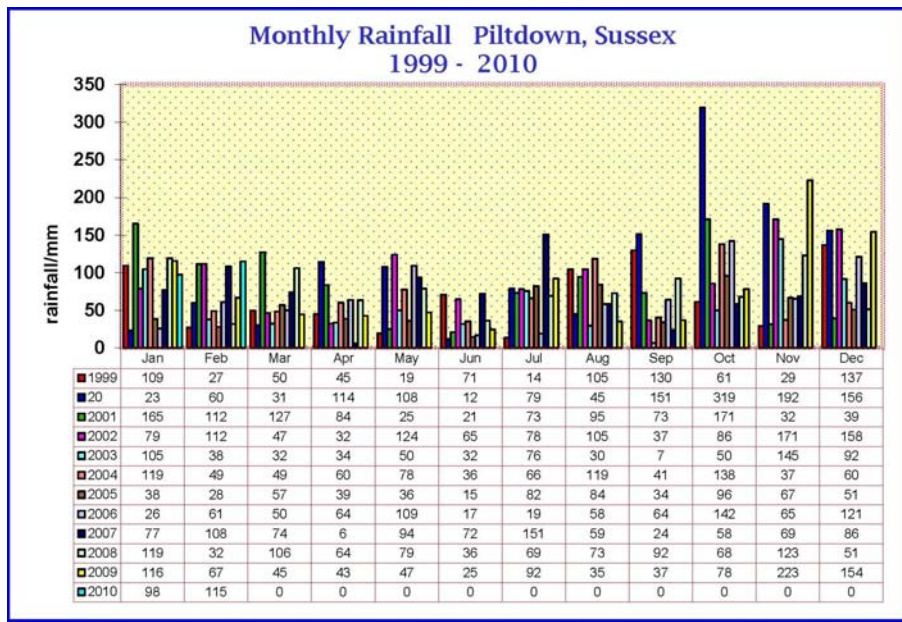
So what else is left? The weather statistics from the Met' Office for Piltdown (7 miles east) are the nearest to us. So rain or shine?

The rainfall data is a bit complicated but the wet months between 1999 and 2010 can easily be seen.

I am unable to see a connection between rainfall and our traffic levels, however if one of our busy months is a wet one it means low traffic levels. I do think that unless the whole summer is wet then things average themselves out.

The number of running days lost to rain is surprisingly low; the worst was 2006 with 5 lost days whereas 2003 and 2009 there were no losses.

**Measured rainfall at Piltdown (just to the east of Haywards Heath)**



So in conclusion, is there a trend?

Of all the indexes I checked only the ACTUAL retail sales index bore any relation to our levels of traffic. As to the underlying cause of the fluctuations I can find none, however, if we chose not to run for what ever reason we will take less. This shows the importance of running a reliable service when we advertise one!

Finally, this years total, in spite of some rotten weather and some grumbling about the recession we managed to finish the season with 20,388 passengers, only a few short of the all time average of 23,211 and only 4 days lost to rain.

The big number has gone up again and now stands at an incredible 1,369,446 passengers.

Considering what a miserable summer we had, not a bad result.

Well done to the teams who covered the damp days.

**Chris Saunders**

**Winter Work**

We find ourselves at Bonfire Night already and with that a month of winter work has passed since the 2012 running season closed at the beginning of October.





Roy P has led a team to replace a section of track from the jungle, partially up the straight towards the short tunnel. He has also scraped, wire brushed and repainted with bitumen about 75% of the steelwork around the track with a view to completing this task fully to give the whole ½ mile a refreshed look and weather protection for

several seasons to come. We have also taken delivery of 10 new pier slab bases, 10 base piers and 56 bags of granite chippings for the track from a company near Gatwick who Roy has been dealing with. This is with a view to them casting our piers and bases for us and saving the back breaking task of this work. The initial results are very good and having cast these myself in the past it is hard work and time consuming with the cure times between each weekend, so to get them cast externally is a good job done!

**(Picture above: The refurbished track stretching out from the jungle)**

Also outside, the mammoth gardening tasks have started in earnest with leaf clearance and tree pruning well underway in time for Bonfire Night. With the damp and mild weather of late many of the trees are still in full leaf, although the recent strong winds have started the 'fall' and I suspect this will continue well up to Christmas at least and possibly beyond into 2013.

Inside, Andrew S & I have started work on the trucks with bearing and brake pad replacements where necessary, although there are no plans for major truck works this year so it will be a case of general routine maintenance.

Also inside, Graham, Nick and Peter C have started work on installing battery chargers in lockers 21, 22 & 23. We already have 2 chargers in locker 24; however these will be split between lockers 23 and 24, with 2 new chargers for lockers 21 and 22. This will give independent charging for our 2 club electric locomotives as well as the 4-CEP and Graham's Class 33, saving the removal of batteries after each run. Progress and pictures will appear in December...

Along with these tasks, there have also been sleepers punched, truck seats & benches repaired and a general tidy up outside too. Further reports and pictures will appear in December...

**Andrew**

### **Whistle's – But Not as we've Ever Heard of Them**

There are certain fittings on a model locomotive that can be quite troublesome in terms of manufacture, which some builders tend to shy away from. I agree that a pressure gauge and an injector are more specialist but a whistle should be within the capability of most builders, maybe with this new idea even more so!

My first whistle for 'Railmotor' was made of the conventional copper tube, rear inlet hole, internal recess, slit and voice slot method, and to be honest works perfectly well (if perhaps a bit high pitched). Using this method, Andrew started to make a similar version for 'Dougal', albeit slightly smaller in diameter but slightly longer too. Starting with a piece of copper tube, a voice slot was cut using a normal 7mm (9/32") 'bastard' cut square file, making two passes to give a slot of approximate 9/16" width. Without thinking further I then fired up my compressor, placed a finger over the end of the 4 and bit inch long tube and aimed the air nozzle towards the voice slot at approximately 45 degrees. Sounding fine across a 40 – 80 psi range we considered that ok to start making the end fitting.

At this point I should have had my 'eureka' moment and it would have saved the next few hours but that they say is history!

Making the end piece should have been straightforward enough but after a couple of attempts the end result was just not pleasing to the ear. It was at this point that I was standing outside the shed blasting away with the air nozzle and I turned to Andrew and said why do we need a slit at all and not just a open ended pipe exactly as per the air nozzle? After some discussions, Andrew set about 'modifying' one of the newly made end pieces to take a curved copper pipe.



Using the air nozzle, we ascertained that an angle of approximately 45 degrees was necessary on the outlet pipe and the hole approximately half way between the end of the whistle and voice slot itself, with the outlet hole just off the inside body of the whistle tube. Andrew's test piece was made with 1/8" o.d. copper pipe of approximate 0.080" i.d. and proved unsuccessful.

**(Picture above: Our end piece, with conventional shoulder, coned & threaded fitting and curved inlet pipe instead of a slit).**

After a little more head scratching the only thing we could think of was that the bore of the pipe was insufficient for this method. The hole in the air nozzle was 0.102" i.d. so Andrew went back and made another version, exactly as above except that it was made from 5/32" o.d. copper pipe of approximate 0.110" i.d. This one was near perfect and confident all was ok we then silver soldered the end piece to the main whistle tube using a jig so that the outlet pipe was held at 45 degrees and in the middle of the voice slot. Cleaned up and ready to go the finished whistle sounded great on air across a 40 – 100psi range, much less and there was insufficient volume to create a note, so we have concluded that 40psi is pretty much the bottom end for effective usage with a voice slot of this width.

Spurred on by this discovery I have since set about making a new one for 'Railmotor' too. I decided to reduce the diameter but increase the length of the main copper tube and see if I could get away with a smaller inlet hole because the fittings on 'Railmotor' are already 7/32" x 40 so using 5/32" o.d. pipe is tricky without making custom nipples for the pipe ends. My whistle tube is an off cut from one of my boiler flues and is 7/16" o.d. x 20swg, so about 0.360" bore, and considerably less than the one Andrew used for 'Dougal'. Manufacture was identical to that of the whistle made for 'Dougal', except I initially cut a single width voice slot of 7mm (9/32"). This proved to have excellent results at breath pressure (about 5psi) but very screechy at anything much above this, which means there is a direct correlation between the width of the voice slot and the pressure at which the whistle is pleasing to the ear! I then took a second cut to make the voice slot just over 1/2" wide and this gave excellent results on air from about 25psi upwards to 100psi! At the time of writing I have yet to try it on the loco for real but I am hopeful to have done so by the December edition and I will duly report back with my findings.

**(Picture below: My new whistle tube and rear inlet fitting as described above, prior to silver soldering).**



Now for the usual disclaimers! We have to say that this is the first time we've heard of a whistle made in this way and, if this is true, hopefully fellow model engineers now have a different method of producing one. The photographs illustrate our recent versions; however it would be interesting to hear feedback from others who try this for themselves using

different sizes of whistle tube, voice slot lengths and inlet pipe bores. All components (except whistle / inlet pipes) are of PB102 Bronze construction (I do not use brass on my locomotive fittings) and all are silver soldered using JM Easi-Flo no.2 (soft solder is really not suitable for this and too weak for my liking). There are several methods of cutting the voice slot itself in the whistle body, however a square file as described above is by far the quickest and is quite accurate enough, although thorough de-burring and straightening of all edges is also essential – I do not recommend milling this slot.

**Andrew**



## Recent Social Events

A successful BBQ evening was held at the end of August. About 20 members and guests attended with several locomotives in steam and despite the initial rain, and the BBQ being lit under a canopy of umbrellas, it did turn out dry so we should be grateful for that! Very few of our BBQ evenings seem to be dry for some reason, so we either pick the wrong days or are just plain unlucky! Thanks to all those who attended and of course to Val & John for arranging the catering.

## Basingstoke Visit

Having hosted a visit from Basingstoke club at the end of 2011, it was our turn this year to visit their track at the Viables Craft Centre on the outskirts of the town. Neither Andrew S, Laurie, Norman, Stephen or I had visited the site before so it would be new to us and we were all looking forward to this day out. With Stephen heading east from Andover, it was decided that Andrew S, Laurie, Norman & I would take the train via Clapham Junction, oh and of course the locomotive too! For me, this would be the first time that I have tried this move via public transport since the visits to the Isle of Wight track so it would be interesting but great fun! We planned to take Andrew S' 'Dougal' which although not light is portable enough to be carried by 2 people and not so big as to cause problems on the trains! Anyway, apart from a slightly delayed start and a crazy taxi driver in Basingstoke who nearly destroyed a traffic island, we arrived safely a little before 10:00 and wasted no time in getting a fire in the loco to be first on the track!



The Club site is compact and occupies a position to one side of the Viables development, which is an out of town independent traders centre with a couple of dozen small shops, including an old fashioned sweet shop, which was frequented by several of us during the day! The track is of raised construction, carrying 5" & 3 1/2" rails, and is of approximate 1000 foot length, i.e. just

under 1/2 of Beech Hurst. It is partially signalled, has a short tunnel, station / steaming bay area and small clubhouse by the entrance. Speaking with the 'locals' there are possible plans to extend the track but at present they are using their existing set up, which is prone to acts of vandalism, however it is kept to a high standard nonetheless (**Picture above: The Station / Steaming Bays**).





With the locomotive ready, I took the first few laps and everything seemed to be fine. Being of small wheels, 'Dougal' and the track were ideally suited, and apart from a tricky incline from the station towards the tunnel, the loco coped well with the task and was fun to drive.

Thereafter, we all took it in turns to have a drive and after our excellent ploughman lunch we also attached a number of freight wagons to the train, which belonged to a member who brought a 'Railmotor' to Beech Hurst in 2011, along with this train of wagons. I think there were 9 in total and made for a nice sight as it slowly proceeded round the track, much to the annoyance of the driver of an electric 'City

of Truro' who seemed to drive at only one speed and it wasn't slow!

**(Picture top: Stephen at the controls of 'Dougal')**

**(Picture bottom: Laurie coasts along the back straight with the freight train)**

The locomotive was retired at about 14:30, having been on for the best part of 4 hours, and this gave us time to clean down and pack away before heading back to the station via a 'Stephen taxi' this time for the train home!

It was a very good day out, enjoyed by all, and I must take this opportunity to thank our hosts at Basingstoke who looked after us, the food was excellent and they even laid on a sunny day too, so it all worked out extremely well. Taking the train was perhaps a bit more of a challenge but beat driving for sure and to be honest didn't cost a great deal more nor took much longer and I have seen the sights of the A272 many a time before...!

**Andrew**

### **Building a 5" W&L Dougal**

Since the last report, Dougal has been racking up its mileage with a couple of runs at Beech Hurst and an exciting day out in Basingstoke (see above)!



Back in September, and after much deliberation and debate, a new manifold was made as neither Andrew nor I were quite happy with the original one. The slightly redesigned manifold allowed for the pressure gauge take off to be moved to the vertical upright and an improved blower valve to take its place,

symmetrically opposite the injector steam valve. A relatively simple task you may think, not quite, as all the fittings on the manifold had to line up with the holes in the spectacle plate, meaning that the new manifold had to be a precise copy of the original, which I am pleased to say it was!

**(Picture above: New (left) & old manifolds lie side by side for comparison)**

I briefly mentioned about making the whistle in my last article and between the two of us we appear to have come up with a new(?) method of making one (see separate report). After some initial tests, it was found that the steam supply to the whistle was being 'strangled' somewhere on route. This was found to be in the fitting mounted in the cab floor, so the bore was enlarged and it was interesting to note how much of a difference to the sound of the whistle this made.



With the whistle in situ, Dougal made the (train) journey to the Basingstoke Society in mid September. As reported elsewhere in this newsletter, the locomotive performed faultlessly (if only the same could be said for the drivers!) for the best part of four continuous hours. The trip was a great success.

**(Picture above: Basingstoke and Beech Hurst member Dave Mattingley takes Dougal off on another lap, with the goods train in tow)**

Having been 'under construction' for several months, two of the four side tanks are now almost complete. Work has concentrated on the two rear tanks, as these are the smallest, and I have milled a ¼" deep recess in both ends to allow for a wooden 'seat' to be placed in the top and for a base to be soldered in the bottom.





The two aforementioned base pieces were soldered with varying amounts of success and these have since been milled flat. The final job to do was to remove the thousands of machine marks with dubious amounts of emery paper, which has left a brilliant smooth finish.

**(Picture above: The almost finished side tanks showing the difference a bit of elbow grease and emery paper can make)**

The loco is currently in lots of pieces, as we are making a new regulator for it. The seating for the old one was mounted on the front tube plate, so when the boiler warmed up and expanded the seating moved away from the regulator rod, thus altering the position at which it was closed. As the loco is currently dismantled we are also increasing the size of the main steam pipes to the steam chest as well as making some modifications to the smoke box pipe work and blast pipe / blower ring arrangements.

**Andrew S**

### **Sandown Park Show Update**

I will write a full report about our stand at this year's exhibition for the December edition but just in time for this edition is a quick snap shot of our stand for 2012:



**(Picture above: Our 2012 stand at Sandown Park)**

## **Forthcoming Events**

Looking ahead towards Christmas and beyond, there are several items for inclusion this time and these are described below.

After Bonfire Night, which is this weekend just gone, we have planned another New Year's Day lunch for next year. The format will be the same as per this year with a cold meat salad buffet, puddings and drinks. The track will be available for those who wish to partake in running (hopefully better weather than this year) and for those wishing to attend, the day will start at about 10:00 with lunch from 12:00. If you wish to attend then please add your name on the blackboard ASAP and this must be limited to about 30 / 35 persons in order to allow for seating in the clubhouse.

Beyond the New Year, we have the Alexandra Palace show from 17<sup>th</sup> – 20<sup>th</sup> January. We are likely to have the same stand as per this year and there are already a number of models for display so if you wish to contribute a model or a day on the stand then please add your name to the list on the blackboard ASAP for inclusion.

Next year, we have also been invited to display at the Brighton exhibition in February. This is a provisional booking at present and further details should be known by the time the December edition is published. From what I understand thus far, we will have a comparatively small stand, although whether this is in the foyer or in the main hall has yet to be confirmed. Details will appear on the blackboard once they are known and if you wish to contribute a model or a day on the stand then please write your name down for this.

Details of any other forthcoming events will be added in the December edition.

## **Diary of Events**

6<sup>th</sup> December 2012 – Club Night – Will start at approx. 1900

1<sup>st</sup> January 2013 – New Year's Day run and lunch – from approx. 10:00

3<sup>rd</sup> January 2013 – Club Night – Will start at approx. 1900

17<sup>th</sup> – 20<sup>th</sup> January 2013 – SMLS display at Alexandra Palace – details above

7<sup>th</sup> February 2013 – Club Night – Will start at approx. 1900

22<sup>nd</sup> – 24<sup>th</sup> February 2013 – SMLS display at Brighton Model World – details TBC

**NB.** Certain events may be organised at short notice and will not therefore appear in the newsletter. Please check black / notice boards in the clubhouse for details of such events.

**Andrew**

**And finally..., to save 2 pages I have decided to remove the rear cover for this edition, it will however be back as normal in December!**