



# SOUTHERN FEDERATION of MODEL ENGINEERING SOCIETIES

Formed from the Federation established in 1970

[www.sfm.es.co.uk](http://www.sfm.es.co.uk)

## SOUTHERN FEDERATION AGM 14 March 2015 At the Bursledon Brickworks



Can you name this loco and the location? The first person to find the Newsletter Editor at the AGM and correctly identify the loco and its location will win the Editor's prize of a vessel of the best Model Engineer's lubrication!



**Clubs and Societies now members of the CLG (Company Limited by Guarantee) reaches 66%**

### Anniversaries

#### Black Country Steamers 21st



#### Isle of Wight 80th



## ***In this issue we bring you . . .***

*The AGM is getting nearer 14 March (Get your CLG form in!!!)*

*Anniversary celebrations Black Country Steamers 21st & IOW 80th*

*Boiler Testers Seminar success with NAME at Perth, next one in planning*

*Reports from Summer activities*

*Southern Federation Spring Rally at Hereford*

*Time to think about your Polly Award Junior Model Engineer for AGM Presentation?*

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Views and comments expressed in this publication are not necessarily those of the Southern Federation of Model Engineering Societies

## EDITORIAL

I have yet to find out exactly what an editorial from the newsletter should do other than say some nice things occasionally. Or can one have an opinion?

We hear a lot about the decline in the Model Engineering world, lack of members and all that. I disagree, this is not written in stone. True the shape of clubs will change but I had two experiences this autumn that impressed me about the youth in ME societies, they were at Swindon and the IOW. At Swindon there were a group of teenagers 'mucking about' in the workshop and an older member asked one of them to sharpen a drill. That exchange ended up in an impromptu lesson in drill sharpening and the kids were absorbed and learnt something. The attitude toward the youngsters meant that they were made the feel part of the club, useful and worthwhile. With the IOW Society on their 80th there were nine young members doing things all around the club and

being encouraged by the older members.

So I suggest that the development of the next generation of model engineers is in our hands, it is an attitude of mind or club culture that will reverse the perceived trend of decay. Some people may say they are noisy little nuisances but others will make space for their development and produce some future model engineers who one day will be Polly winners.

Off the soap box now. The AGM beckons. It is the inaugural CLG AGM and your committee has worked hard to make this a worthwhile one to support. The location might be as geographically far away from many member societies as it can be but there are lots of other things to enjoy. The venue is being opened especially for us and it is important, nay, essential that your CLG form is sent in prior. So make a weekend of it and enjoy sights and sounds that you might not ordinarily see or hear.

*David Goyden*, Newsletter Editor

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## CHAIRMAN'S CHAT

**H**o Ho, and season's greetings to all members of the Southern Federation of Model Engineering Societies.

Your committee members have been beavering away at their duties and just like Santa's little helpers would like to rest over this holiday period, but we have a problem that is going to keep them busy for several weeks yet!

Nearly half of our affiliated clubs and societies have not yet responded to the application form to become a member of the new 'limited by guarantee' company that the Federation has now become. Clubs and Societies who have not returned the form will have restricted rights at the Annual General Meeting next year, so each committee member has been given an allocation of clubs and societies to contact to remind them about signing and returning the form.

In this process several problems have come to light but frequently it is that when key people like secretaries have changed, or indeed whole committees have changed, no-one has updated the Officers names and their contact details on the Southern Federation Website.

We have been told on several occasions that clubs have not heard from the Federation for a year or more, and all too often the answer is that we have out of date email details for the Officers of that club.

Please may I implore all secretaries and chairmen of affiliated clubs and societies to log onto the members area of the Federation website, [www.sfmesc.co.uk](http://www.sfmesc.co.uk) and check that the information about officers and committee members for their club is up to date. This is of up-most importance as it is the way we communicate with you nowadays, via email, the cost of postage is prohibitive to an organisation such as ours.

Now talking of the AGM, we are holding it at a heritage site near Southampton. It is an old Brickworks and in the Calling Notice for the meeting you will be given the option to go on a guided tour of the museum and to order lunch. Please return the forms in good time so that we can organise the day for you with the museum, who are opening especially for us. The stationary engine will be in steam.

The AGM is the opportunity for members to change some, or all, of the Directors of the Southern Federation if they so wish. Full details on the procedures, and nomination forms for individuals who wish to become an Officer of the Southern Federation will be attached to the Calling Notice.

Now, heater on in the workshop and get some modelling done before the daffodils start blooming.

*Brent Hudson*

Chairman: Southern Federation MES

## Southern Federation Annual General Meeting Bursledon Brickworks on 14 March 2015

The Annual General Meeting (AGM) of the Southern Federation of Model Engineering Societies will be held on Saturday 14<sup>th</sup> March 2015. All affiliated organisations are invited to attend the AGM which will be held at Bursledon Brickworks Industrial Museum, Swanwick Lane, Swanwick, Southampton, SO31 7HB.



**Formal notification of the meeting will be sent out early in the New Year, but please make note of the date and venue now.**

The venue will be open from 10:30 am to give time for delegates to see the stationary steam engine in operation,



the collection of brick making tools and machinery



and the Hampshire Narrow Gauge Railway Trust who share the site with the museum.



The museum's café will be open to delegates for the sale of hot drinks and confectionery and also a pre-ordered light lunch. Further details and ordering information will be provided with the formal notification of the meeting. A guided tour of the museum will be available at 12:00 pm with the AGM commencing in the meeting room at 2:00 pm.

It is important that every effort is made by affiliated clubs and societies to be represented at this meeting. It is your opportunity to appoint the Officers who you want to run the Federation for your benefit for the next year. **Photos courtesy of John Barrett**



## And before and after the AGM, why not try, *suggested your editor*

**B**y now you may be aware that the next AGM will be held in the Bursledon Brickworks near Southampton. This certainly lives up to the 'Southern' in the Southern Federation but might be a little inconvenient for those who live in Leeds, Llanelli, Loughborough or Liskeard; so you could consider an exploration down in the area and make a weekend of it. Southampton has some good inexpensive hotels if you feel brave, Premier Inn, Novotel etc. And then you need to consider what to do besides the AGM.

For Saturday evening entertainment try the Mayflower Theatre - Cirque Éloize – Cirkopolis the details of which can be found on the Mayflower website, [https://www.mayflower.org.uk/Whats\\_on/Cirkopolis2015Talk](https://www.mayflower.org.uk/Whats_on/Cirkopolis2015Talk)



For those, with a nautical interest there is a lot to do and see as Southampton is a major seaport and together with Portsmouth dominate the Solent.

Let's start with the Portsmouth Historic Dockyard with the Mary Rose, Warrior and HMS Victory. You can even see where Nelson left Portsmouth for the last time in his cutter to be rowed out to the Victory for the Battle of Trafalgar. Or where he died at Trafalgar.



Also at Portsmouth is Gun Wharf Quays or in Southampton, West Quay both fabulous retail therapy cen-

tres that will cost you thousands when you let your partners explore. When in Portsmouth, try the Spinaker Tower and have views for miles around the Solent.

Back in Southampton there is a continuing array of Queens and other Cruise ships. View them from Town Quay or Netley Shore and watch these stately ladies glide out for the Med, the Baltic or further afield. Continuing nautically, you could try the

Sea City Museum Southampton and a very special gem that few know about, the seaman's chapel in St Mary's church. If you are interested your editor will take you there himself. (He does not have a photo but it is special and known to only a few.)

Those who brave enough to venture further afield might like to try the New Forest and all its glories and of course a special trip is to see Queen Victoria's summer house, Osborne House on the Isle of Wight.

The Red Funnel car ferry to East Cowes is a mini cruise in itself.

And of course if you have a passing interest in railways you could try the Mid Hants (Watercress Line) or the Eastleigh 10¼"/7¼ " railway but then what could they add to a glorious AGM!!



*Photos courtesy of various websites.*

## Black Country Live Steamers celebrate their 21st

The 25<sup>th</sup> of September 2014 marked the 21<sup>st</sup> anniversary since the founding of the “Black Country Live Steamers” It may not be the oldest steam engine club, but it more than makes up for it with in depth steam knowledge and friendliness of members. Their interests cover full size road steam, some members actually own and operate full size engines. We also have within the club, 6” engines and all scales below of many varieties of road steam power. Plus stationary engines including internal combustion and hot air, 9 cylinder aero engine and Meccano to name some examples of interests. Members can be found at many events across the Midlands and beyond exhibiting their models. The club can also boast 2 different “Duke of Edinburgh” award winners at the London M E. exhibition.

The celebration took place at Dudley Canal Trust pump house: a wonderful historic building where our regular club meetings are held, and was attended by 60 members, family and friends of the club. The evening started with a welcoming speech by the chairman, followed by an overview of how the club was formed, written by a founder member and Treasurer Keith Turley.



After the report, five founder members, Keith Turley, Les Bromley, Steven Harbach, Ian Bromley and John Selway united to cut the celebration cake.

After the cake cutting ceremony each member was presented with a commemorative mug depicting the 21<sup>st</sup> anniversary. With our club president being ill in hospital, Mr Les Bromley, a stalwart of the club and our consultant boiler inspector made the presentations.

This was then followed by a short film show. Member Richard Betts had procured some

very early photographs, digitised them and gave a showing of the members (when they had hair and beards) attending events twenty years ago, much to the amusement of those present.

The whole evening then finished off with a sumptuous buffet all being donated by members, organised by Jill Turley and Sheila Cross.

I have every faith that this club will be around in another twenty-one years and beyond.

Further details of our clubs activities can be found at :-[www.blackcountrysteam.co.uk](http://www.blackcountrysteam.co.uk)

*Richard Cross Chairman*





## Celebrating 80 years of Model Engineering on the Isle of Wight by your editor

**M**y first visit to 'Broadfields', the home of the IOW Society was some three years ago when we took our two young grandchildren for the traditional IOW holiday. We went to the Wednesday public running day and soon were chatting with members about things 'mutual'. Invited to stay for a cuppa after the public running closed at 4 pm we found out just how friendly, welcoming and youth oriented the club is. A young lad asked if my grandson would like to drive his loco and that was how I met 'Charlie'.

Charlie took both Adam and Jack around the track a few times and they loved it.



We came away from Broadfields with a clear impression that this a vibrantly youth oriented club and certainly bucking the trend when we hear of the impending demise of model engineering.

So when we were invited to their 80th Anniversary party we knew it would be a good one and indeed it was. Two of us went with two locos in the one car, Jerry Lewis Southampton's Vice-chairman and myself. Upon arrival we were given the programme and invited to have a pre lunch run.



Broadfields has a raised 5" and 3½" track around the outside and a 5" & 7¼" inside it. Both are straight, smooth and obviously well laid and looked after. The raised track has a tunnel and a large red light just before to avoid anything unseemly happening in the tunnel. This club can boast of never having had an accident.

As you might have guessed it was Charlie who was helping us get our locos onto the track and who had to have first go?



*Charlie with the editor's Compound.*

Following close behind was Jerry with his Mountaineer. He told me that Mountaineer had never steamed and performed so well as on that day. It must be the return to its spiritual home where Don Young had been a member.



*Jerry Lewis (Southampton's Vice Chairman) with his mountaineer and IOW member Peter Bentley*

This was only the start of festivities. Alongside the boating pool was a fleet of boats, ships, yachts and other forms of marine life all watched over by a silent and brooding heron. And we had seen a tram being unloaded as we arrived.

But, first it was lunch!

There is a very dedicated group of members who produce the most wonderful of lunches as you can see below and we all tucked in. Thank you Carol and Estelle.



After that feast we had a parade of locos on each of the two tracks and then a 'fleet review'.



*Paddle Steamer 'Gracie Fields' owned by Derek Warman*



*A lovely Royal yacht an annual visitor to Cowes in days gone by*



*Resident family of ducks courtesy of Julie and Stuart Alexander*



*A bit of fun with the Society's flagship I hope P & O think so!*



## Southern Federation of Model Engineering Societies Newsletter

Now it was time to attend to the formal part of the day. Andy "Woody" Cole wrote,

"The ceremony was opened by Graham Akers with an improvised (but excellent) speech.

Keith Witting unveiled the name plate of Mitchells Hut, which is the new tractor/mower/gardening shed.

Roy Gardner did the planting of the Anniversary tree.



Tree planting able helped by two younger members



The young members but their names are withheld



The tram car finally turned up! Built by Howard Burford This runs on the owners 7/4 track with a pole and wire.

Gill Hughes did the cutting of the cake in the afternoon. The Anniversary mugs were handed out to the four guests who attended from 'abroad'. Most Members present on the day also received a mug until we ran out. On site an 'official' photographer took a photo of all members present (and some wives) in a big group."

And we can hardly leave a club so supportive and committed to its youth without a picture of the next generation of members running around the track.



This was a wonder celebration and a very large vote of thanks to the members and Carol and Estelle for the delicious lunch.

*David Goyder*





## BOILER TESTING SEMINAR IN SCOTLAND

The Scottish Model Engineering Trust's site at Methven, near Perth, was a hive of activity on Saturday 25<sup>th</sup> October, as the Trust generously hosted a seminar for boiler inspectors.

Held as a joint event with the Northern Association of Model Engineers, the seminar was attended by 39 people representing the 12 clubs/societies across Scotland and one from Mid-Wales MES.

Boiler design, test requirements and certification followed by a practical demonstration of a test were given by Nigel Thompson, Alan Reid, and David Veere respectively with the Federation Secretary, Peter Squire, acting as Chairman and timekeeper for the day.



The Trust's meeting room was made most comfortable for the delegates with the log burning stove, and the workshop area was utilised for a superb buffet lunch. The large workshop area proved most useful for the practical demonstrations as the heavy rain arrived in the afternoon so the demonstration could be held under cover. Most delegates managed a quick visit and ride around the tracks before the rain became too heavy.

Each delegate was presented with a pack of information supporting the day's proceedings, and a certificate of attendance.

Any clubs or societies who would like to send delegates to a future event are asked to contact either

the Secretary or the Boiler Registrar to confirm interest and likely number of delegates. The seminar will not be just for registered boiler inspectors, potential inspectors and those who regularly act as the witness are also welcome to attend.



The Federation would also like to hear from clubs and societies who are prepared to host a seminar so that a venue geographically convenient to the delegates may be selected.

*Peter Squire*



## EVENTS DIARY 2015

- |               |                                                                             |
|---------------|-----------------------------------------------------------------------------|
| 1 January     | Northampton Club Running Day.                                               |
| 1 January     | Southampton Frostbite Club Running day, Soup and goodies to warm the heart. |
| 16-18 January | London Model Engineering Exhibition—Alexandra Palace SFMES Stand attending. |
| 14 March      | SFMES Annual General Meeting                                                |
| May           | Southern Fed Spring Rally at Hereford                                       |
| July          | IMLEC Nottingham                                                            |
| 1 August      | 3½ Special day at Southampton                                               |
| 22 August     | Singles Day (Wheelers that is) at Southampton                               |

*And do send us your events and celebrations as we can give you publicity and tell the world about your days and get them into the SFMES website!*

## Southern Federation Spring Rally 2015—Hereford

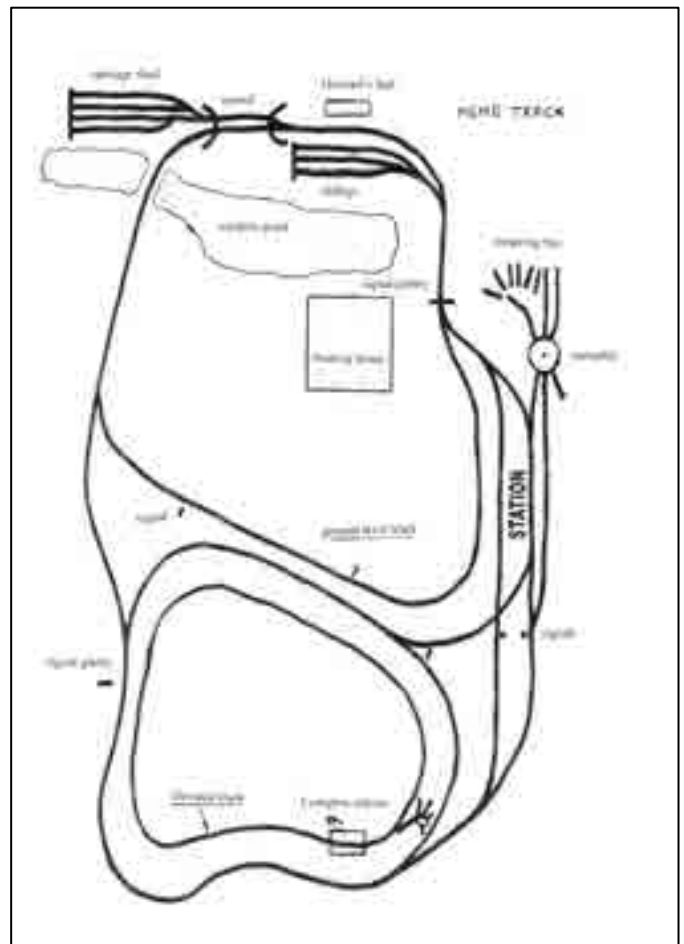
### Hereford Society of Model Engineers home at Broomy Hill

You may know by now that the Southern Federation spring rally in 2015 will be held at HSME in Hereford so this is to tell you a little bit about our site, and the facilities we have to offer.

Our Broomy Hill site is owned and maintained by HSME members. It is situated about a 10 minute walk alongside the river Wye, from the centre of the City of Hereford on about 4 ½ acres of land. The ground level track, which is 7¼ inch 5 inch dual gauge, is mainly flat but has enough gradients to make driving interesting. The station has a 70 ft long canopy over 2 platforms with a ticket office and signal box from where the pneumatic signals and points are operated. Locomotives enter the station on platform 1 from 6 steaming bays via a turntable. As you leave the station on a slight incline from platform 1 you join the main track, taking you alongside the river, passing the elevated track on your right which is 5 inch 3½ inch dual gauge. A bend brings you to the first gantry with two semaphore signals where you will be guided into the river loop line running around the elevated track. Trains on the jubilee loop will be running on your left in the opposite direction.

After being given the signal to leave the river loop, you re-join the main line alongside the river. This time the semaphore signals send you up the back straight through the nut grove with a gradient leading up to the tunnel which is dug into the hill side. As you enter the tunnel across the bridge over the wild life pond you will see the carriage shed and main workshop on your left. Leaving the tunnel you will drive alongside an embankment with Howard's Halt station on your left and the wild life pond on your right. You continue around the willow tree bend where signals on a gantry will offer you three tracks. There is the jubilee loop line back to the nut grove and tunnel or lines to platforms 1 and 2 at the station.

At the north end of the site on higher ground than the tracks there is the garden railway, young engineers workshops, projects building with '00' gauge layout, the club house with catering facilities, a toilet block and a maintenance area. Adjacent to our site is the Hereford Waterworks Museum. It is one of the finest small industrial museums in the country with a number of working steam engines and other fine exhibits. You should try to find time to visit the Museum. It is a must on your list, as well as the riverside walk from the site to the Hereford Cathedral and the Mappa Mundi.



### Boiler Testers Seminar in planning

Please let us know when Clubs and Societies have current or potential boiler testers and/or witnesses wishing to take training or refreshing so the Southern Fed can organise your next seminar. Location will be dictated by where the demand is located. Please contact Peter Squire or David Mayall or for that matter any committee members who will forward your needs on the proper person.



## Southern Federation Autumn Rally 2014 by Arthur Bellamy

The Southern Federation Autumn Rally 2014 was hosted by Leeds SMEE at their track at Eggborough Power Station, near Selby. The event was a success with 17 engines present, a good turnout when considering recent events. One engine came from the Harlington club situated at the end of the Heathrow airstrip and several others from not quite as far away. One visitor came from Wigan via public transport, bus to Preston, train to Manchester and Selby the Taxi to Eggborough. Michael Breeze came again from Peterborough. Others came from Brighouse, Coventry, Northampton, Rugby, Rugeley, Ryedale, Spenborough, Chesterfield and Hull. The Southern Federation Secretary, chairman and a committee member also came.

The Australian trophy was awarded to Dave Kerry of the Chesterfield club for his 5" gauge 9F "Evening Star" built to the Les Warnet drawings. A close contender was Bill Sharp with his LNER A1 class other contenders were considered but had either won the trophy before or were not built by the current owner, the Southern Railway River class was one such engine. The trophy was presented by Brent Hudson the chairman of Southern Federation. He also presented the me, as President of the host society, with a plaque to record the event.

As usual the event spilled over into Sunday with eleven engines present, two great engines came from Chesterfield, namely this years IMLEC winner, John Cottam with his 2-8-2 LNER P2 class locomotive "Wolf of Badenock" and Roger Holland with his A4 Pacific "Wild Swan". Both engines had 'guest' drivers throughout the day which was much appreciated by them and showed the real class of the engines and builders.



Australian trophy was awarded to Dave Kerry of the Chesterfield club

## Proposed Technical Library

By Martin Baker Membership and IT

We are creating a technical reference library on the website which captures hints, tricks and techniques related to model engineering. Over the years we have seen several excellent technical articles in club newsletters on how some particular thing was done or problem solved. We would like to share these for the benefit of the entire hobby where you are willing to do so.

We are not seeking full length articles which are the domain of respected journals such as Model Engineer or Engineering in Miniature, but those snippets such as the article on silver steel that we published in the June 2014 Federation Newsletter or that has appeared in guidance on how to convert a non-captive blowdown valve to be captive.

These will be typically half to one page with one or two diagrams or charts and maybe a picture.

If your club publishes such an article in its newsletter, please consider letting us use it. All you need to do is to send me the original article, e.g. in MS Word, Open Office, MS publisher format and with original high definitions drawings as .png, .jpg, .gif, and details of how you would like the credits to read, and will load the document and create indexes so that these can be search by various subjects. Please do not send me .pdfs as I cannot rework the content into a standard format.

## Good example of a brain study if you can read this you have a strong mind

7H15 M3554G3  
53RV35 7O PR0V3  
H0W 0UR M1ND5 C4N  
D0 4M4Z1NG 7H1NG5!  
1MPR3551V3 7H1NG5!  
1N 7H3 B3G1NN1NG  
17 WA5 H4RD BU7  
N0W, 0N 7H15 L1N3  
YOUR M1ND 1S  
R34D1NG 17  
4U70M471C4LLY  
W17H 0U7 3V3N  
7H1NK1NG 4B0U7 17,  
B3 PROUD! ONLY  
C3R741N P30PL3 C4N  
R3AD 7H15.  
PL3453 5H4R3 1F  
U C4N R34D 7H15.

## Wilton biannual Model Engineering Exhibition by Peter Parrish

**S**ome information about the model engineering exhibition that I hold in Wilton biannually. The next exhibition details are; Model Engineering and Hobbies exhibition 21st and 22nd March 2015 at The Michael Herbert Hall, South Street, Wilton SP2 0JS Open Saturday and Sunday 10 am to 5 pm. Free parking next to the hall. Disabled access. Light refreshments are available with home made cakes. The entrance fee will be £4.

After the success of the exhibitions held in 2003, 2005, 2007, 2009, 2011, 2013, I decided it was worth organising another event at Wilton next year. All profits from all the show were and are donated to local hospital charities. We have made several thousands of pounds over the years. At first we gave money several years running to Salisbury hospice because of the help they gave us when my mother died. We gave money to the urology department after I was treated for Prostate cancer. My wife had a malignant melanoma removed and money was donated to the Dermatology department. My wife also volunteers for Action on hearing loss so we have donated money to the local Wiltshire service. We like to feel we are supporting those who helped us so much.



Once again we are hoping to create the same high standard of exhibits as this is an invitation only event. Two local clubs support the show, the Salisbury Model Engineering society and the Sarum model

traction engine club with over a hundred individuals

from all over the South of England have come and supported us over the years. Trade stands associated with our hobby are always present. The 2 day event includes live steam locomotives, traction and road locos, marine modelling, horse drawn vehicles, fairground equipment (some of the finest in the country). In the last 6 events there can't be many areas of model engineering we have not invited.

This year the theme of the show is steam ploughing. If anyone has a ploughing engine exhibit please contact me so I can send an entry form.

All enquires can be made to Peter Parrish 01980 610346. E-mail

[p.parrish324@btinternet.com](mailto:p.parrish324@btinternet.com)



## GUIDANCE SHEETS

**T**he following Guidance Sheets are currently available but are in the process of being reviewed and made a little more user friendly through the website. The content is written within the framework of the requirements indicated in the booklet *Passenger Carrying Miniature Railways, Guidance on Safe Practice (HSG 216)* issued by the Health and Safety Executive. A copy of this publication can now be downloaded from the Southern Federation Website for free.

The following Guidance Sheets can be downloaded from our website [www.sfmes.co.uk](http://www.sfmes.co.uk):

No.	Description	Date of Publication
	Index	January 2014
1	An Inspector calls	October 2011
2	Passenger trolley gap covers	October 2011
3	Derailments: elevated track	October 2011
4	Derailments: ground level track	October 2013
5	Runaways and breakaways	January 2014
6	Safety Management Systems (SMS)	January 2014



## BOILER TESTING SEMINAR 2015 REGISTER YOUR NEEDS NOW?

**J**ohn Meaford, Chairman, HSME Ltd has asked the following:

*“The Hereford Society of Model Engineers would like more of its members to be boiler inspectors. Does the SFMES arrange training? How do I find details please?”*

The answer is, yes, SFMES can arrange this and following a further exchange of emails, Hereford have volunteered to host a potential seminar. John writes:

*“HSME would be delighted to host a Boiler Seminar. We have our own site of nearly 5 acres, with ample parking, a comfortable clubhouse with 60 chairs, wall mounted screen and ceiling mounted projector, and 2 metres away*

*is our new insulated and draught proof Training and Project Building with a 7.5 x 4.5m space available and three strong benches.*

*We have well equipped workshops on the site in addition to the facilities above. There is also another large bench nearby, roofed and walled on three sides, with good lighting, which we have used for welding courses etc..*

*Four of our members (so far) are interested in becoming Boiler Inspectors. I am sure there will be others who wish to ensure they are up to date with boiler testing.*

**Book your place through Peter Squire, SFMES Secretary**

## Model Engineering Tit Bits *from Aylesbury Link and Robin Howard*



### The Allen screw

Records suggest that ideas for a hexagon socket screw were probably conceived as early as the 1860s and other versions up to the 1890s, but such screws were probably not manufactured until around 1910.

In 1909/1910 William G Allen patented a method of cold-forming screw heads around a hexagonal die (U.S. Patent 960,244). Published advertisements for the 'Allen safety set screw' by the [Allen Manufacturing Company](#) of Hartford, Connecticut, exist from 1910 (see above). Although it is unlikely that Allen was the first person to think of a hex socket drive, his patent for a manufacturing method and his realised product appear to be the first. It is also claimed that the Standard Pressed Steel Company (SPS) developed a hex socket drive in-house for use on line shafts, independently of Allen, circa 1911. From this came the 'Unbrako' line of products.

As well as the hexagonal socket there were slightly earlier patents (1908) covering the manufacture of square and triangular sockets but these never really caught on. It was not until the demands of mass production, during the Second World War, came about that the hexagon socket screw came into everyday use in engineering applications.

The big advantage with using a socket rather than a square or hexagonal head is that it can take high tightening torques (much higher than a slotted screw) using a simple hexagonal key. Also, where space is limited, the tightening device fits inside the screw. It can also be sunk into a component leaving a flush face.

Ball ended drivers for hexagon socket screws were introduced in 1964 by the Bondhus Corporation and meant that screws could be accessed in all manner of difficult positions.

Modern variations on the socket theme include Torx (developed in 1967 by Camcar Textron) which has a 6 point star shaped pattern which lends itself better to automated assembly equipment and use with electric screwdrivers creating an increasing usage in the construction industry. Its geometry also allows a higher torque to be applied when tightening it allowing a smaller head to be used, if necessary, for a given size fixing. The official generic name is hexalobular internal (ISO 10664) which is usually shortened to 6lobe in catalogues. Torx Plus is an improved version introduced in 1990.

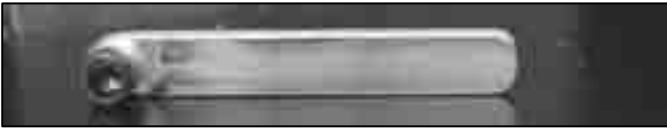
### The Allen screw in model applications

As well as the traditional use of hexagon socket screws as straight forward fixings they can be useful in various model engineering applications.



The first application is as a quick turn screw that can be spun up between the fingers and then nipped up tight. Just turn down the OD of a socket cap screw and make up a knurled bush to Loctite onto it. I use this on the stops for my transport rail in the car (see picture on previous page)

In this application the head of a socket cap screw is silver soldered into the bottom cap of a displacement lubricator so that an invisible means holding the body, whilst undoing the top filler cap, is provided. It saves relying on the strength of the  $\frac{3}{16}$ " pipework which would inevitably bend over a period of time or when the top cap sticks in place.



Because of the front overhang on Holmside the front guard irons have to be retracted when loading and unloading from the 'organ lift' at the track. I just needed a small short spanner to do this so silver soldered an M6 socket screw (5mm hex recess) into a piece of bar and hey presto a 6BA spanner.



So for the same application of retracting the guard irons I also needed a socket 'screwdriver' with a very thin shank to clear the drain cocks and their associated levers so made up the tool shown above.



Now for a commercial application on a small roller stand that I use. It employs a socket screw welded into the end of the actuating screw used to raise and lower the roller (just like a car jack) and the knob is connected to this using a ball ended hexagon key. The ball ended hexagon key is used as the knob sits at an angle to the actuating screw so that the roller can be lowered as far as possible.



Turning the lubricator on a loco to give a quick dose of oil can be tedious when you have to use the knurled knob on the end of it and it is mounted inside the frames. So why not silver solder the head of a socket screw to the end of the knob and use a ball ended driver?

So do you have any novel applications for the very versatile Allen screw or, as we should call it, hexagon socket screw or any of its derivatives such as the countersunk, socket set or button head?

## A useful Sign, don't you think?





## PUBLICATIONS AVAILABLE FROM SOUTHERN FEDERATION MES

The SFMES publications listed below are available from our stand at rallies and exhibitions or by post from David Mayall. Please make contact first by phone or email to get combined postage costs when ordering more than one item. (See note below). The figures shown here are for single items only. Please make cheques payable to 'Southern Federation MES'

Title	From Our Stand	By Post
Examination & Testing of Miniature Steam Boilers BTC 2012 - Green Book .....	£0.50 .....	£1.25
Ditto - Pack of 5 .....	£2.50 .....	£3.25
Boiler Test Certificates - Pad of 50 .....	£5.00 .....	£7.50
Written Scheme of Examination - Pad of 50 .....	£6.00 .....	£8.50
Small Boiler Test Certificate - Pad of 50 .....	£5.00 .....	£8.00
Boiler History Record Card - Pack of 10 .....	£3.50 .....	£4.70
Plastic wallets to hold certificates size A5 .....	£0.75 .....	£1.50
Ditto - Pack of 5 .....	£3.75 .....	£5.25
HSG216 Passenger-carrying miniature railways 'Guidance on safe practice' .....	£3.00 .....	£4.50

David Mayall  
Tel: + 44 1252 684 688  
Email: davidmayall@sfmes.co.uk

Or use <http://www.sfmes.co.uk/public/?action=publicpublications>

### Postal Charges

Following the very large increases in postal charges for packages from 2 April 2013, if you require more than one item please contact David Mayall first for advice concerning the postal charges

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## SOUTHERN FEDERATION MES COMMITTEE

Chairman	Brent Hudson
Vice Chairman	Ivan Hurst
Secretary	Peter Squire
Treasurer	Norman Rogers
Membership Secretary	Martin Baker
Boiler Registrar	David Mayall
Safety Officer	Robert Walker
Newsletter Editor	David Goyder
Vulnerable Groups	Roger Griffiths
Committee Members	Mike Chrisp, Bob Polly

### INSURANCE CLAIMS AND INCIDENTS

All claims and reports of incidents should be notified in the first instance to Walker Midgley.

FEDERATION INSURANCE BUSINESS Managed by Walker Midgley Insurance Ltd

Committee members' contact details can be found on the Southern Federation MES web site [www.sfmes.co.uk](http://www.sfmes.co.uk)

# Southern Federation Insurance Scheme

We are delighted to recently have been appointed to arrange the Southern Federation's insurance scheme and we look forward to working with everyone. Clubs and Societies should by now have received an information pack detailing the transitional arrangements.

For the first year only it will be necessary for those clubs, societies and members who have their policy via the Southern Federation scheme, to complete a fresh proposal form. For miniature traction engines and other road vehicles up to 6in scale you need Model Road Steam Insurance. For locomotives, rolling stock, boats and other models you need Southern Federation Members Insurance. Both policies include the facility to insure Road Trailers, Personal Accident, Home Workshops, Products Liability and Garden Railways & Portable Tracks

Cover is also available for Commercial Miniature Railways, Vintage Tractors, Modelling & Model Engineering Businesses, Stationary Engines, full size Traction Engines, Memorabilia Collectables & Bygones and a special policy for vans used for Social Domestic and Pleasure

plus we can quote for your Home Buildings and Contents Insurance your Car Insurance and Business Insurance

For full details contact:



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**Yorkshire Bank Chambers, Fargate, Sheffield S1 2HD**

**Tel 0114 250 2770 Fax 0114 250 2777**

**southernfed@walkermidgley.co.uk**

**www.walkermidgley.co.uk**





**Southern Federation Trophy & Polly Model Engineering Prize**

This award is made to a young person or persons who can be shown to have acquired the necessary skills in the use of metalworking hand tools and/or machinery, and the appropriate materials, to create a model or piece of workshop equipment/tooling - complete or otherwise. (See rules overleaf) Whilst pursuance of excellence by those in their late teens/early twenties is to be promoted, equally work by youngsters making their first steps in our wonderful hobby is also to be encouraged. Participation in club/society activities is advantageous.

Nominating Club/Society: .....

Name of Nominee: ..... Age at date of nomination: .....

Brief details of the modelling activities of the nominee: (Please supply photographic evidence)

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.....

Is this the sole work of the nominee? YES / NO If not please give details: (Supervisory input is permitted)

.....

Is the nominee an active member of your Club / Society? YES / NO

Brief outline of his/her involvement in Club / Society activities:

.....

.....

.....

Additional space for comments / details overleaf

For and on behalf of ..... Club / Society

Signed..... Print name .....

Position in Club / Society ..... Date .....

**Please note: nominations must be received by SFMES Secretary by 15 January 2015**

Please return to: 18 Wakefield Way, Nether Heyford, Northampton NN7 3LU

Additional comments / details:

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**SOUTHERN FEDERATION MEST TROPHY  
& POLLY MODEL ENGINEERING LTD PRIZE  
RULES**

- 1. Awarded with the aim of encouraging young persons to participate in the model engineering hobby with particular emphasis with regard to acquiring the necessary skills and the use of appropriate materials, metalworking tools and machinery. Also, to encourage active participation in the fraternity of club membership.
- 2. The person(s) nominated shall be 24 years of age or younger at the date of nomination.
- 3. The nominees shall be nominated by a club affiliated to the Southern Federation of Model Engineering Societies and shall be an active member of that club.
- 4. It will be demonstrated through both photographic and written evidence, that the person nominated has produced a model, workshop equipment/tooling or other mechanical item usually associated with the hobby (e.g. clock) in whole or in part, which has been constructed/fabricated by the use of metalworking hand tools or machinery to be found in the home or school workshop. Items specified as above built in commercial/college/ work environment as by way of 'apprentice pieces' are also acceptable.
- 5. The model/piece will have been the work of the nominee excepting for commercial fittings, bought in components, etc which are normally accepted to be purchased. It is accepted that some supervisory input may have been involved.
- 6. Nominations shall also show active participation by the nominee(s) in his/her club's activities.
- 7. Nominations shall be judged by the Committee of the Southern Federation of Model Engineering Societies.
- 8. The winner(s) will receive a prize donated by Polly Model Engineering Ltd. additionally, the winner(s) will receive a Southern Federation Trophy, suitable inscribed, which shall be retained.
- 9. The award(s) will be presented at the Southern Federation AGM, to which, it is hoped, the recipient(s) will be encouraged to attend.