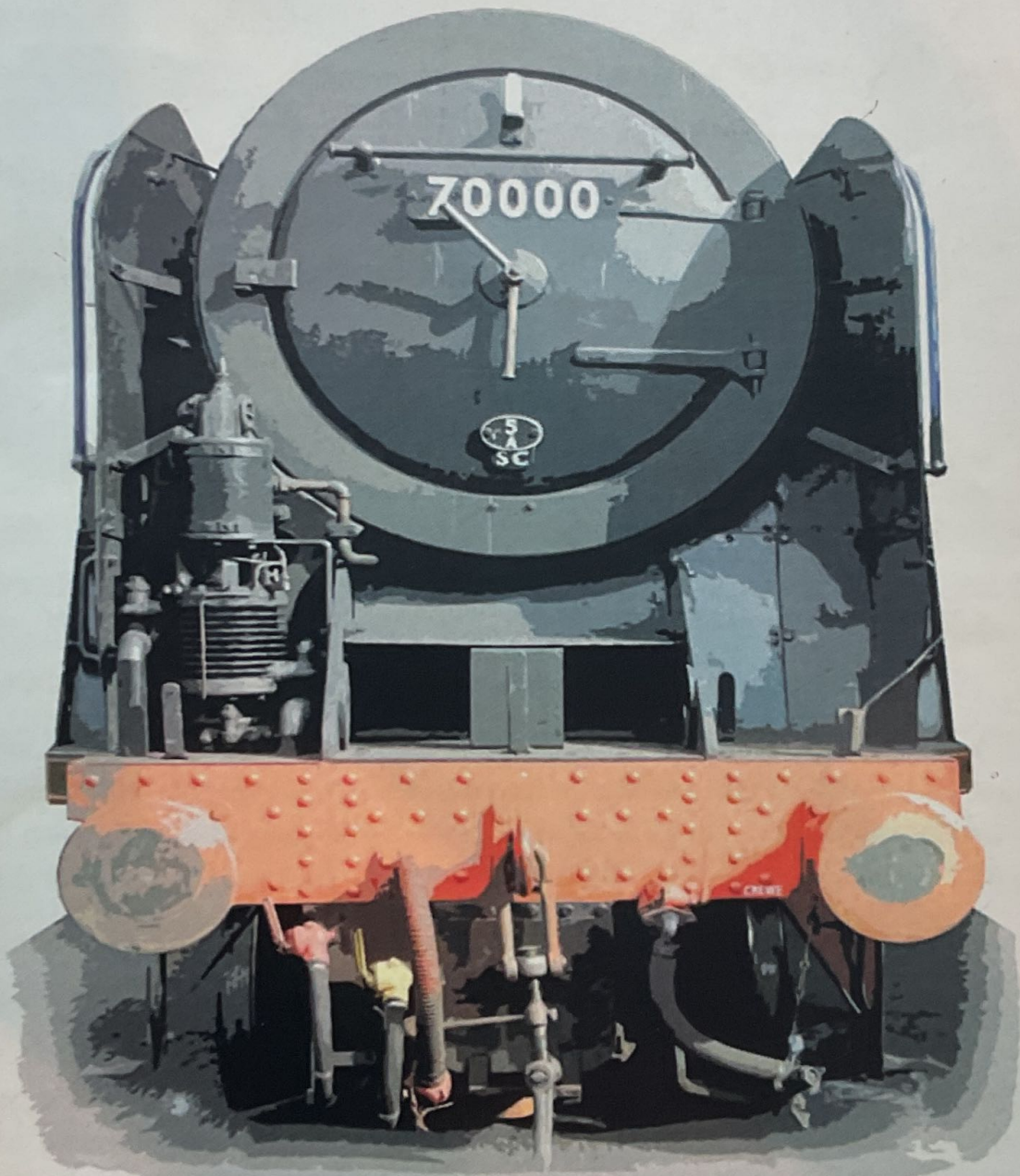


IMLEC

2013

souvenir program



Leyland Society of Model Engineers

STATION ROAD STEAM

Digital dynamometer/indicator (DDI)



*A 21st century approach to the investigation, analysis and improvement of
model steam engine performance*

First developed in conjunction with the Taylor Kellar partnership for use in our workshop, the original version of the DDI enabled us to record steam indicator diagrams from a running engine - in our case "Stafford", to see if the valve gear we'd designed worked anything like the simulator predicted.

To improve portability, allowing live monitoring of an engine under test out on the road or track, a production version was developed housed in a robust enclosure, communicating with an Android device - either a smart phone or tablet - via a wireless Bluetooth link.

A pair of strain gauges have been incorporated into the unit, allowing drawbar pull to be measured with speed, distance, work done and drawbar horsepower displayed - installed in a driving truck, the unit forms the basis of a fully functioned dynamometer, capable of storing several hours of data which can be downloaded to a PC for permanent storage and analysis.

A message from the Chairman

On behalf of the Leyland Society of Model Engineers may I extend a warm and hearty greeting to competitors and visitors alike and welcome all to I.M.L.E.C. 2013, the 45th International Model Locomotive Efficiency Competition.

This will be the 5th time that Leyland SME has hosted the event and although we think of ourselves as experienced in such matters, nevertheless still get nervous as our preparations and rehearsals are put to the test.

It is traditional in the opening address for the Chairman of the host club to recognise those persons directly associated with making it all happen and indeed I follow that custom by stating publicly a big **THANK YOU** to everyone involved. This is not to gloss over the levels of commitment, dedication and support that members, partners, sponsors and competitors have shown but more so to leave space on the page to pose the following thought.

It is Easter 2013 as I draft this missive and at the time of writing there are no confirmed hosts for IMLEC 2014, 2015 onwards although hopefully this will change, but why not let your club give it a go? The event is not as onerous a responsibility as you may think. Basic facilities are all that are required along with the willingness of several members to act as co-ordinators and sufficient bodies on the day to allow others to take a break. Providing you have the three "T's" - a track, toilets and plenty of tea..... you can host an IMLEC event! Leyland SME will loan the physical infrastructure of scoreboards, clock, software and if needs be the use of our Dynamometer car, plus plenty of moral support. Over the years our efforts as IMLEC hosts have been rewarded by a small contribution to club funds and the event can often galvanise members into completing those frequently "put on hold" club tasks. So why not, give it a go?

Enough of the hard sell and thank you very much for attending. We have a cracking field of "runners and riders" and the weather is set to Sun..... so sit back, take tea and a snack and enjoy the competition.

John Barr

STOP PRESS!! - IMLEC 2014
Bournemouth and District Society of Model Engineers.
Littledown Railway, Littledown Park, Bournemouth.
Saturday 12th July and Sunday 13th July 2014



The Prestigious Model Engineer Exhibition 2013

The 2013 Model Engineer Exhibition will be held at Sandown Park Racecourse 13 - 15 December 2013.

This will mark 106 years of this most highly respected exhibition, in conjunction with *Model Engineer and Model Engineers' Workshop*. This three day extravaganza will, once again, include the work of some of the best model engineers in the country and further afield, many competing for Gold, Silver and Bronze medals as well as the esteemed Duke Of Edinburgh Award. A dedicated website will soon be live giving information and contact details for clubs and traders.



Rules for Competitors

- 1 On arrival competitors will be required to register at Reception where all necessary information concerning the day's events will be available, including the approximate time of run. One hour before the start of the run the competitor / Driver will be called to prepare their locomotive and will be allocated an Observer.
- 2 Two sizes of coal will be available in pre-weighed bags, the Driver may select the size required which will be weighed in their presence and the weight recorded.
- 3 As much charcoal, wood, paraffin as required will be available in order to raise steam. The change to weighed coal will be at the Driver's discretion; however the locomotive must have a good coal fire before going onto the track. No fuel other than the weighed coal will be taken onto the track.
- 4 The train will be prepared in the steaming bays with the Dynamometer car and sufficient empty passenger cars to carry the number of passengers the Driver has nominated.
- 5 The Track Marshal will advise the driver when to go onto the track and will assist in coupling the locomotive to the train.
- 6 The locomotive and train will be driven light to the station with just the Driver and Observer on board
- 7 The passengers will board at the station from where the official timed run will start.
- 8 The Distance and Work Done measurements will start from the steaming bay area, therefore work done during the light run up to the station will be credited to the timed run.
- 9 Immediately before the timed run the Driver will be asked to confirm that the load is to their satisfaction so that any adjustments can be made.
- 10 The Timekeeper will advise the Driver when to start the timed run.
- 11 The duration of the run is a nominal 30 minutes. No time allowance will be made for stops, other than non-locomotive related occurrence, eg. truck derailment or track obstruction. The Driver may opt to stop once 25 minutes have been completed but the run must terminate in the station. Any competitor not completing 25 minutes will be deemed to have retired. A lineside clock will be provided so that drivers may see the progress of their run. Drivers will be advised when they have 10 and 5 minutes to go and when on the last lap. The total period of locomotive related stoppage during the run must not exceed 8 minutes. If this is exceeded the Driver will be deemed to have retired.

Rules for Competitors (contd)

- 12 The run will end at the station. Any competitor stopping short of the station because of lack of steam must raise sufficient steam to bring the train into the station before the run is deemed to be completed.
- 13 Reversing back to the station in order to terminate the run is not allowed.
- 14 Passengers may be dropped off at any time during the run but additional passengers may not be taken on board once the timed run has started.
- 15 The Observer will supervise the off-loading of passengers only on instruction from the Driver.
- 16 Passenger cars must not be dropped off or the train divided during the timed run, the load may be reduced by dropping passengers only.
- 17 The maximum speed will be 10 miles per hour. The Observer will tell the Driver when this speed is being approached and will give a warning if it is exceeded. Excessive speed may result in disqualification.
- 18 Drivers must not lean on the tender or locomotive in such a way as to increase the drawbar pull, infringement will result in disqualification. The use of the hand pump is not permitted except in emergencies in which case the locomotive must be retired.
- 19 Water in suitable containers will be handed to Drivers as required to enable the Driver to top up as required.
- 20 If the locomotive is fitted with sanding equipment then it may be used, other sanding will not be allowed.
- 21 At no time during the run may assistance be given, all work must be provided by the locomotive.
- 22 All unused coal will be collected and weighed in the driver's presence. No allowance will be made for un-burnt coal in the firebox.
- 23 The adding of ballast including water, fitted externally to the scale outline or likely outline of a freelance model, is not allowed.
- 24 Although the fitting of spark arrestors is no longer mandatory for locomotives operating in Worden Park, the organisers of IMLEC 2013 strongly recommend their use if there is a possibility of harmful sparks being thrown from the chimney. The responsibility rests with the driver but the observer will have the authority to stop the run if either he, or the passengers are endangered.
- 25 The decision of the Chief Judge is final on all matters.

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JULIET
KING
LILLA
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Previous IMLEC Winners

Year	Host Club	Locomotive	Gauge	Effy	Driver
1969	Birmingham	Royal Scot	5"	?	J Durry, B'gham
1970	Whitney	Firefly	5"	?	L Labram, B'gham
1971	Southampton	Dean Single	5"	?	A Haydon, Newton A
1972	Tyneside	GWR 57XX	5"	1.07	N Spink, Chesterfield
1973	Chingford	LNER L1 Tank	5"	1.6	B Longstaff, S Durham
1974	Bristol	Nigel Gresley	5"	2.54	F Winsall, Rugby
1975	Tyneside	GWR King	3½"	1.55	L Joyce, Chingford
1976	Kinver	Speedy	5"	1.58	B Perret, St'hampton
1977	Chingford	Speedy	5"	2.32	B Perret, S'thampton
1978	Guildford	Maid of Kent	5"	1.61	P Wood, Chingford
1979	Bristol	Sterling Single	5"	2.17	D Morris, Urmston
1980	Bedford	BR Class 7	3½"	1.37	P Wood, P/Entry
1981	Bournemouth	LNER J39	5"	2.41	P Wood, Chingford
1982	Leyland	GWR de Glen	5"	1.5	R Amesbury, Derby
1983	Guilford	Royal Scot	5"	1.35	L Pritchard Harlington
1984	Bristol	Royal Scot	5"	3.66	L Pritchard Harlington
1985	Urmston	Nigel Gresley	5"	1.85	A Crossfield, P/Entry
1986	Bournemouth	Nigel Gresley	5"	1.64	A Crossfield, P/Entry
1987	Birmingham	LSWR Adams	5"	2.29	K Moonie, Chingford
1988	Leeds	BR Prop. 2-8-2	5"	4.392	L Flippance, Guildford
1989	Leyland	BR Prop. 2-8-2	5"	3.02	L Flippance, Guildford
1990	Guildford	BR Prop. 2-8-2	5"	3.317	L Flippance, Guildford

ABOUT THE LEYLAND SOCIETY OF MODEL ENGINEERS

The society can trace its origin back to the thirties in the guise of the Preston Society of Model Engineers which more or less died out for lack of interest and members at the outbreak of the second world war, only to be re-formed after the war by eight or so of the original members as the Preston and District Society of Model Engineers. The society prospered, and grew to the point where it was able to stage an exhibition of models at the 1952 Preston Guild, but it was unable to find a site for a miniature railway track in the borough and had to turn to the neighbouring town of Leyland. Here a site was found in Towngate where members were able to build a small track, only to find that the land was to be re-developed for the Lancastria Co-op. The council then offered the club the use of part of the present site in Worden Park at a peppercorn rent on condition that 'Leyland' was incorporated into the name. This was quickly done and over the winter of 1952/53 members built a 300 foot loop of elevated track to accommodate the three popular gauges of the time, ready for the grand opening at Easter 1953 by Mrs Kelly, the then chairman of Leyland Urban District Council.

The rest is history, as they say. The original track has been extended and improved many times and now has a total main line length of around 1600 feet. Latest developments on this track include radial steaming bays and an elegant roundhouse enabling members to raise steam in comfort whatever the weather. A completely new 7¼" gauge ground level track over a kilometre in length was opened on 19th August 2007 after two years hard work by a hardy band of volunteers. This has proved enormously popular with visitors to the park and on a good day there are long queues for both railways. Funding for the new track came entirely from club resources with the exception of a grant towards the station from the Heritage Lottery Awards for All scheme and a loan from the Northern Association of Model Engineers. Work continues on a new 7¼" steaming bay cover, additional ground level disabled truck access and extra passenger trucks.



Previous IMLEC Winners

Year	Host Club	Locomotive	Gauge	Effy	Driver
1991	Bristol	BR Prop. 2-8-2	5"	1.733	K Ayling, Worthing
1992	Leeds	7F S&D	5"	1.886	D Sutcliffe, R Valley
1993	Leyland	LMS Stanier	5"	2.08	J Heslop, Ryedale
1994	Gravesend	LMS Stanier	5"	1.511	J Heslop, Ryedale
1995	Kinver	LNER Class P2	5"	3.32	J Heslop, Ryedale
1996	Northampton	GWR Manor	5"	2.437	A Crossfield, Leyland
1997	Llanelli	Britannia	5"	1.882	L Steel, STEAM
1998	Kinver	BR Proposed	5"	2.274	K Ayling, Worthing
1999	Northampton	Speedy	5"	1.78	J Elliot, Staines
2000	Leyland	BR Prop 2-8-2	5"	3.13	L. Flippance, SMEE
2001	Competition not held due to Foot and Mouth epidemic				
2002	Leeds	LNER B1 4-6-0	5"	1.82	G. Moore, Guildford
2003	Bristol	Minx 0-6-0	5"	2.456	J Ellis, Guildford
2004	Kinver	Thompson 01	5"	3.245	G Winsall, Rugby
2005	Northampton	LNER Mogul K1	5"	2.01	B. Baker, Ryedale
2006	Fareham	Aspinall 0-6-0	5"	1.641	L PritchardHarlington
2007	Llanelli	Britannia	5"	2.259	S. Eaton, Chesterfield
2008	Southport	N.G. 0-4-2 ST	5"	1.63	B. Remnant, Romney
2009	Bristol	Polly III	5"		N. MortimerIckenham
2010	Bournemouth	Britannia	5"	2.53	S. Eaton, Chesterfield
2011	Bromsgrove	Britannia	5"		B. Pavier, Southport
2012	Nottingham	BR Prop 2-8-2	5"	4.98	L. FlippanceGuildford

Paul Pavier

Llanelli & district Model Engineers

5-inch gauge Royal Scot 6102 "Black Watch"

The engine is thought to have been built in the 1950's and to the design of Henry Greenly. Its two cylinders are of the slide valve type and the loco is fitted with a very large axle pump. Paul has competed several times in this event, with various locomotives. He hopes to improve on his last year's performance and beat his son Ben. Ben and Paul were placed 2nd and 3rd respectively in IMLEC 2012.



Dave Roberts

Urmston & District Society of Model Engineers

5-inch gauge "Black Five"

This loco was built as one of a pair by Dave and fellow Urmston DSME member Jim Moyle. Working to their own design and before the publication of that by Don Young, the pair saw completion in the early 1980's. Although Dave describes his loco as a "no frills basic", he has enjoyed some success with it at previous IMLECs; notably Kinver's event in 2004 where Dave was placed third.

No picture

Karl Midgeley

Gravesend Model Marine & Engineering Society

5-inch gauge 4-6-4 Freelance Tank "Tomking"

Started in 1985, this large tank locomotive was designed and built by Karl's granddad Ben Healey. Its first entry into IMLEC was in 2007, although Karl had taken part previously with other locomotives. IMLEC 2013 will be Karl's 9th IMLEC and the 6th with "Tomking". Last year's event placed him 17th, with an efficiency of 1.25% **No picture**

Roger Holland

Chesterfield & District Model Engineering Society

A4 Pacific "Wild Swan"

Built over a period of 4 years by Roger Holland, this is one of several recently completed locomotives in this year's competition. The only castings used were those for the coupled wheels. Everything else was either from solid or fabricated by the builder. It ran for the first time on New Year's Day 2013. In Roger's own words – "It ran quite successfully although a little light on its feet. After some careful attention to balancing and springing it now grips quite well. Chesterfield track has some steep gradients and the engine deals with these quite well, even with a good load on."



Mike Richardson

Bristol Society of Model and Experimental Engineers

5-inch gauge BR 9F. 92219

Built in the early 1990's to the Les Wernett design. Purchased in 2000 and now fitted with a tender axle pump. Mike has competed in several previous IMLEC's and may be hoping to use less than 4.433 lbs of coal and better his 0.38% efficiency fig. achieved last year at Nottingham.

Saturday 13 July

Jason Pattinson

Rochdale Society of Model & Experimental Engineers
3-½ inch gauge 4-6-2 LBSC "Pamela"



At 60 years of age, this must be one of the oldest locomotives in this year's competition. It was built in the early 1950's by Eric Mills, a member of Chelmsford Society of Model Engineers. To quote the present owner, Jason - "It runs like a sewing machine, the motion work is tighter and better fitted than many five year old engines we see. Even back in the 1950s, the builder's distinctive ideas were surfacing - the engine is mightily ballasted out with lead, it's a substantial two-man lift; the injector steam valves are fast action push-pull types, arranged on a manifold off the backhead; the motion work and valve gear is mainly from silver steel, hardened and tempered which explains its extraordinary condition after sixty years of doing the job it was built for."

Tim Jenkins

Southport Model Engineering Club
Polly III "Katie"

This loco is a "Great Westernised" version, which Tim bought around 2 years ago from a fellow club member. Since then, Tim has stripped it down, repainted it and replaced all the fittings. Tim and "Katie" are regular passenger haulers on the track of their home club.



Stephen Warburton

Sale Area Model Engineering Society
G.W.R. Hall class "Alderney Hall"

This loco is thought to be around 60 years old. It was bought as "a rusty old wreck" in 2006 (see picture) by Stephen who has since restored the loco to running order. IMLEC 2013 will be the first time either Stephen or the loco has entered the competition.

Billy Stock

Urmston & District Society of Model Engineers
5-inch gauge 2-10-0 BR 9F "Evening Star"

Although Billy makes his debut into the competition as one of the youngest drivers, he has had previous experience in the Narrow-Gauge event. The locomotive is owned by Jim and Nigel Moyle who built it around 20 years ago. Jim reckons that during normal passenger carrying activities, it's a little heavy on coal.

No picture

John Cottam

Chesterfield & District Model Engineering Society
LNER P2 "Wolf of Badenoch"

The decision to build this model was made after a few drinks on New Year's Eve 2006. John has worked mainly to the Michael Breeze design but the boiler has an extended combustion chamber and extra superheater flues. Working pressure is 110 lbs/sq inch and water-feed is via two vertical injectors plus an axle-pump. The locomotive is equipped with an authentic Kylchap double blast-pipe and a three-note chime-whistle. Power to the track is delivered by eight-coupled driving wheels, which have steel tyres. John has spent an estimated 6000 hours on this model, which only saw completion as recent as May 2013 - this must be the newest locomotive in the competition.



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(Both the above designs were published in the Engineering in Miniature magazine)

Plus the "**Lady of the Lake**" 2-2-2 passenger engine, as seen at the exhibitions.

There is also another small 5" gauge early LNWR design in preparation.

Either call Chris Rayward on 01600 713913, Email hotspurdesigns@hotmail.com or write to 1 Highmeadow, Wyesham, Monmouth, NP25 3TB

IMLEC 2013

Bernard North – Chief Judge

Alan Crossfield – Competition Co-ordination

Trevor Collyer – Chairman IMLEC Committee

Richard Siddall – Secretary IMLEC Committee

Rick Rothwell – Graphs and Presentations

John Barr – Programme Publication

Dave Irvine – Wi-Fi interface

Dave Kane – Site Preparations

Bob Worthington – Visitor Information

Eamon Murphy – Axle Weighing

John Birbeck – Stills Photography

Andy & Cameron Stevenson – Public Address

LSME Ladies – Catering & "smiles"

Glyn Winsall
Rugby Model Engineering Society
5-inch gauge ex Southern Railway U class Mogul

The loco was started approximately 27 years ago and made its first public debut at the 2012 National Locomotive Rally at Birmingham. It has since been awarded the Australian Locomotive Association Trophy at the Southern Federation Autumn Rally and was also exhibited at the Midlands Model Engineering Exhibition earning a respectable 3rd prize.

It has cast-iron piston-valve cylinders with 2 rings per piston and valve heads. Driving wheels have steel tyres and driving and tender axles have leaf springs. The boiler has 3 superheater flues with 2 x 6mm radiant elements in each and works at 120 psi. Boiler feed is by two injectors only.

Glyn is a highly experienced IMLEC competitor who won the event in 2004 with his 01 class 2-8-0.



John Richardson
Brighouse and Halifax Model Engineers
G.N.R. Atlantic No.1442

John, a retired Machine Tool Manufacturer, has entered the competition on 5 previous occasions with a variety of locomotives. Earlier this year he completed No.1442 in time to exhibit at the Harrogate show. The loco was awarded a 1st certificate plus "Best Locomotive" and "Best Painted Model" awards. In order to achieve the required degree of authenticity, John carried out much of his own research. The model accurately represents No.1442 as running in 1913.



David Mayall
Bracknell Railway Society
5-inch gauge LBSC "Speedy"

This will be David's 15th appearance in the competition and the 5th with this particular locomotive. It was bought as a part-built chassis and a pile of bits. Completed in 2001, the loco has run in IMLECs at Leeds, Bristol, Bromsgrove and Southport. The boiler is smaller than that designed by LBSC, due to it being lagged; it has less tubes and one less flue but is fitted with radiant superheaters. The locomotive also carries the Don Young modified valve-gear. After seeing the full-size 1501 on the Severn Valley Railway, David set about adding many extra details.



Brian Cantwell
Urmston & District Society of Model Engineers
5-inch gauge GWR Saint class "Redgauntlet"

Built by Brian in 1977, with the aid of 4mm scale line-drawings, this is one of the older locos in the competition. The Edwardian 4-6-0 has two cylinders, piston valves and Churchward inside valve-gear. Previous IMLEC appearances have been Bedford 1980, Bournemouth 1981 and Leyland 2000. For IMLEC 2013, the loco will be driven by Steve Carter. Besides being a model engineer, Steve is a driver on the full-size railway at Llangollen.

No picture

Steve Eaton
Chesterfield & District Model Engineering Society
5-inch gauge "Black Five"

Only recently completed, this loco was acquired several years ago as part-built and to the Don Young design. When Steve continued the building process, he included numerous design details of his own. Steve has entered IMLEC on many occasions over the past twenty-one years with his own built locomotives in 3-1/2 and 5-inch gauge. He has won the Trophy twice with his 5-inch gauge Britannia and has had several "Best 3-1/2 inch gauge" wins.

No picture

Locomotive

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Dave Gregson
Southport Model Engineering Club
5-inch gauge A1 Pacific 60136 "Alcazar"

Dave is a highly experienced model locomotive builder and driver, with several IMLEC's under his belt. Last year's event placed him 4th with this locomotive. Built to the design by Michael Breeze, Dave began construction in the mid 1990's and steamed the loco for the first time in 2000. It has a grate area of 52 square inches with a built-in combustion chamber containing 6 cross tubes. Total heating area is 760 sq. inches and the working pressure is 110psi. Water feeds include two injectors, axle pump and an emergency hand pump. Further modifications include steel tyres fitted to the driving wheels and radiant superheaters. None of the class survived the cutters torch and all were extinct by the mid 1960's however a full-size new-build was completed in 2007 and this operates on the main line network and heritage lines of the UK.



Arthur Bellamy
Leeds Society of Model and Experimental Engineers
5-inch gauge 2-10-0 BR 9F "Brayton Star"

Several people have had a hand in the building of this locomotive and although only recently completed, Arthur acquired the frames around 15 years ago. Besides being President of Leeds SMEE, Arthur is a long-time enthusiast of MG motorcars and IMLEC, where he's probably best remembered for his informative and entertaining spells behind the microphone whenever the event has been staged at Eggborough Power Station. For this year's IMLEC, the green liveried 9F will be driven by Arthur's daughter Judith Bellamy.

Bruce Hope
Guildford Model Engineering Society
3-½ gauge S.A.R. Class 14F 4-8-2 Tender locomotive

Working to the scale of 1-inch to 1 foot, Bruce has produced a highly detailed model with the aid of "Craftmanship" and original works drawings. The result is a very large 3-½ gauge locomotive, measuring 6 feet long, 10 inches wide and thirteen inches high.

Built over a period of seven years, the locomotive's name is "MOSI OA TUNYA" which is the native name for Victoria Falls, but translates to "The smoke that thunders". Under the headlamp she carries the name "Clare" as SAR drivers always put their wives names on their locomotives. Bruce entered the loco in last year's IMLEC and was placed 7th overall, with an efficiency of 1.89%.

No picture

Sunday 14 July

John Williams
Southport Model Engineering Club
3-½ gauge "Princess Marina"

This model was built by the late Derick Plowman of Southport. It is now owned and maintained by Brian Horner. This year's event will be the first time for the locomotive and its driver - John Williams. The design by LBSC was based on the LMS 2-6-0, introduced in 1933. The class total was 40 and they were the first LMS locomotives to be designed by William Stanier.



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Keith Tilbury
Urmston & District Society of Model Engineers
5-inch gauge "Poly V" Freelance 2-6-0

This locomotive was built seven years ago and has made several IMLEC appearances with Keith's son James at the regulator. More recently Keith has taken over the driving and this will be the case for IMLEC 2013. Modifications so far include: new fire-grate, steel fire-arch, balanced slide-valves and an improved superheater. No doubt Keith will be hoping to better his last year's figure of 1.58%, which placed him eleventh.
No picture

David Kerry
Chesterfield & District Model Engineering Society
5-inch gauge 9F "Evening Star"

David has entered the competition on five previous occasions, twice with a Simplex, twice with a 3-1/2 inch 8F and once with his latest locomotive – "Evening Star". The locomotive was built by David himself over a period of 15 years. David worked to the design by Les Warnett and built his own boiler. The loco was finished in 2012 and competed at the Nottingham IMLEC in the same year. David had what he describes as "a fair run" but suffered water feed problems due to an injector clack.

Dave Tompkins
Guildford Model Engineering Society
5-inch gauge 0-8-0 "Netta"

This loco is loosely based on the LBSC design of 1954. Competed it in May 2003, Dave originally started to build it as a "Maid of Kent" but changed his mind early in the construction

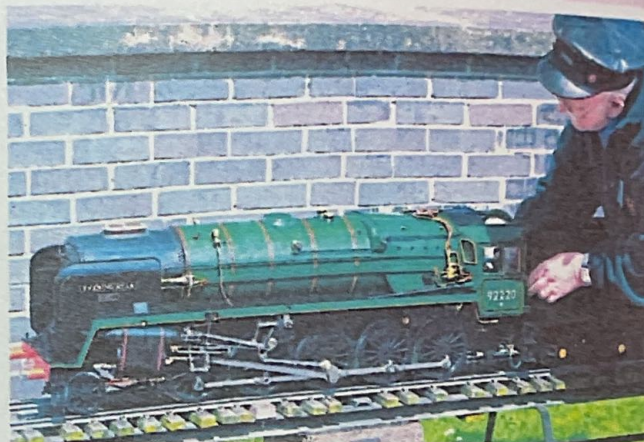
Alan Heywood
Urmston & District Model engineering Society
5-inch gauge Rebuilt Scot 46170 "British Legion"

The full size original "British Legion" was built on the chassis of "Fury", the ill-fated high-pressure experimental locomotive built by the North British Locomotive Company in the late 1920's. In its rebuilt form it was easily distinguished from the remainder of the rebuilt Scots by the Stanier cab and by the angularity of the outside cylinder steam pipes. Alan enters the competition for the first time with this model, which was built, generally to the Martin Evans "Royal Engineer" design.



Geoff Crank
Wigan & District Model Engineering Society
5-inch gauge GNR 01 class 2-8-0

Painted to represent GNR 01 No. 456. The loco was built by Dave Gregson and painted by the previous owner who is unknown to Geoff. The boiler has a thermic siphon and twin superheaters. Geoff has made some alterations to the regulator by fitting a PTFE slide insert. Injector water feeds have been converted to push/pull operation for his own preference; Otherwise the loco is straight Martin Evans. Geoff Competed in IMLEC 2008 with a 5" Gauge Horwich "Crab" Ex Norman Lowe and finished in 11th place. Norman would have been mortified; he would never have approved of entering IMLEC.
No picture.



process. Dave redesigned the Stephenson's valve-gear, and has more recently replaced the original cylinders with new ones of 1-7/8 inch diameter. The loco's first appearance in IMLEC was at Bristol in 2003 where it was driven by Dave's nephew Paul. Other IMLEC appearances have been 2005, 2006 and last year's event at Nottingham, returning an efficiency of 1%. **No picture**



Marcus Peel
Southport Model Engineering Club
Freelance 0-6-0 Polly IV

Marcus has had a good deal of success with this locomotive, both at the Sandown ME exhibition last November, where he gained "Best Kit Built Locomotive" shield and at the North Staffs club, where he won the Narrow Gauge LEC competition. Built in November / December 2009, she carries the number 1209 on the buffer beam.

Calculations

The dynamometer car measures and gives readings of the 'Total Work Done' in foot-pounds and 'Total Distance Travelled' in feet. In addition, the 'Overall Run Time' in minutes and 'Weight of Coal' in pounds are recorded.

Using that data the following calculations are made:-

$$\text{Overall Thermal Efficiency \%} = \frac{\text{Work Output} \times 100\%}{\text{Heat Input}}$$

Assume the calorific value of the coal is 14,000 B.T.U. per pound.

The number of foot / pounds per B.T.U. is 778. Thus:-

$$\text{Overall Thermal Efficiency \%} = \frac{\text{Total Work Done} \times 100}{\text{Weight of coal used} \times 14,000 \times 778}$$

The locomotive that returns the highest thermal efficiency is the winner.

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John Lloyd
Southampton Model Engineering Society
Merchant Navy class (original) 21C2 "Union Castle"

An authentic Bulleid Pacific in its original form, with chain driven valve-gear and oil bath. Other features include steam reverse and thermic siphons in the boiler. The loco carries the Southern Railway malachite green livery. John has competed in previous IMLEC's at Bristol and Fareham with this locomotive.



Ben Pavier
Southport Model Engineering Club
5-inch gauge LNER B1 "Bongo"

Owned, and built by Frank Nixon in a 4-½ year period, the loco was completed in 2007 and is mainly built to the Martin Evans design. Minor changes have been made for practicality and the valve-gear differs from the published design. The boiler is fitted with radiant stainless-steel superheaters and the water feed is by two injectors. This combination of driver and locomotive was placed 2nd with a figure of 1.562% in the 2008 IMLEC at Southport.

Kevan Ayling
Worthing & District Society of Model Engineers
2-8-0 - 0-8-2 Kitson-Meyer articulated freight locomotive

The full size original was built in 1935 by Kitsons of Leeds for the Columbian Railways 3ft gauge system. Kevan built the model over a 13-year period from a single 1/4inch to 1ft side-elevation drawing and two photographs. It has four 2-inch bore cylinders, which are supplied with steam via flexible stainless pipes. It has a steel boiler with an 11 inch x 5inch grate and weighs 720lbs in running order. Kevan has competed at Bournemouth and Nottingham with this locomotive whilst his previously IMLEC entries include a 5-inch gauge Bulleid "Leader" and a BR Proposed 2-8-2 "Octavia". With the latter locomotive, Kevan won the competition in 1991 and 1998.

David Beale
Leeds Society of Model and Experimental Engineers
5-inch gauge "Black Five" 45136

Using laser cut parts and a commercially built boiler, David managed to complete the loco in just 22 months! It's mainly to the Don Young design but with stainless-steel radiant superheaters. Water feed is by two home-made injectors. The locomotive will be driven by Stephen Botterill, a junior member of Leeds SMEE. In last year's IMLEC at Nottingham, Stephen had a faultless run which earned him a creditable 9th place.

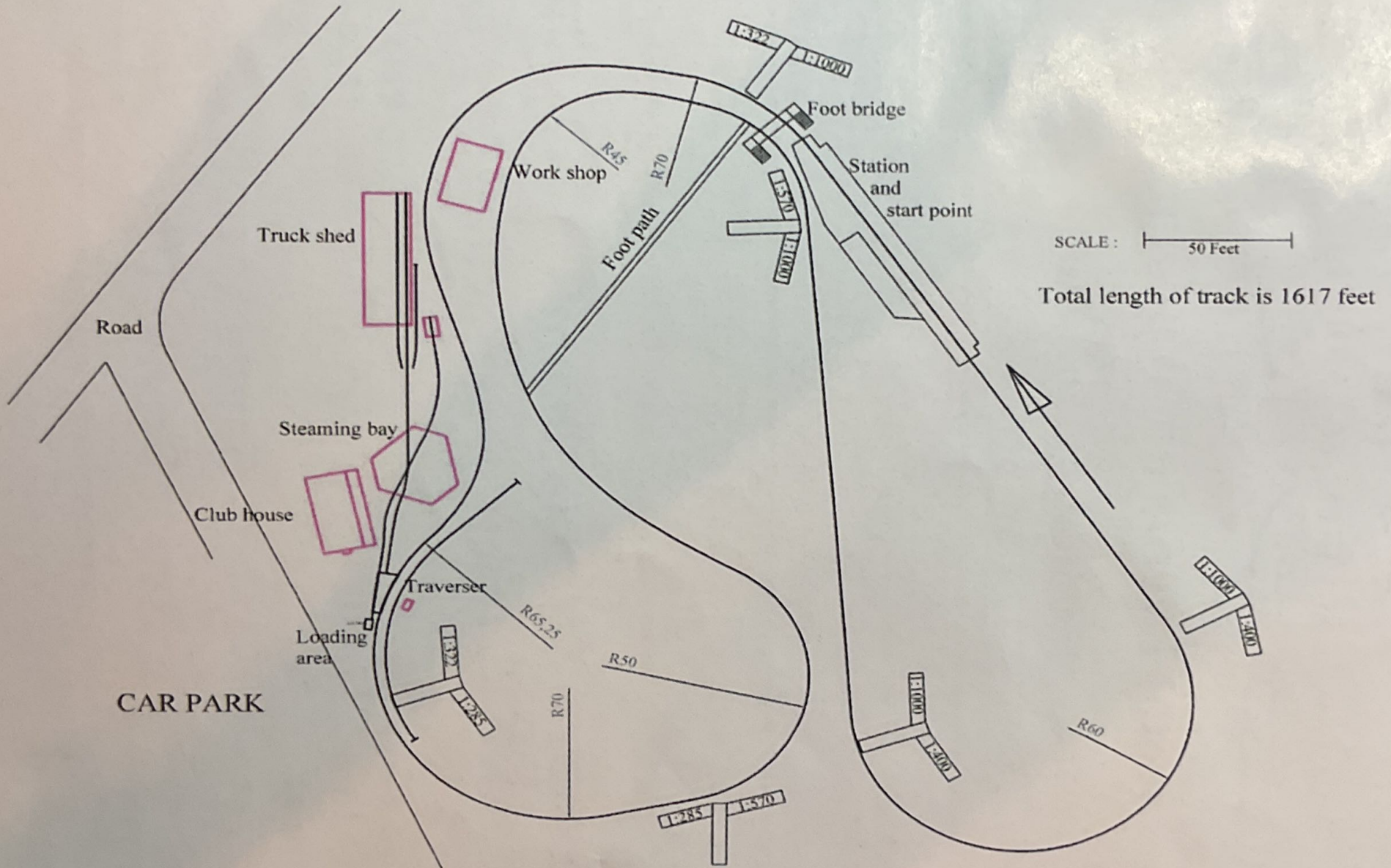


Neil Skellon
Urmston & District Society of Model Engineers
5-inch gauge BR 9F 92245

The loco was purchased from a builder in Kent as a new loco in 1994. It was built to the Les Warnett design, and initially took the identity of "Evening Star". Initially there were lots of teething problems resulting in - new regulator, injectors and pipework, return-cranks and safety valves. Under Neil's ownership the loco received a full rebuild and an identity change to 92245 - a "black un". Neil has had several successful IMLEC runs with this loco, his highest placing, so far being Bromsgrove in 2011.



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